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APRIL 1997 NUMBER 632 - Part I

Solar-Geophysical Data prompt reports

Data for February, March 1997 and Late Data

International Standard Serial Number: 0038-0911
Library of Congress Catalog Number: 79-640375 //r81

NATIONAL GEOPHYSICAL DATA CENTER
Michael S. Loughridge, Director
Boulder, Colorado

Subscription information is on the inside back cover.

SOLAR-GEOPHYSICAL DATA

Number 632

(Issued in Two Parts)

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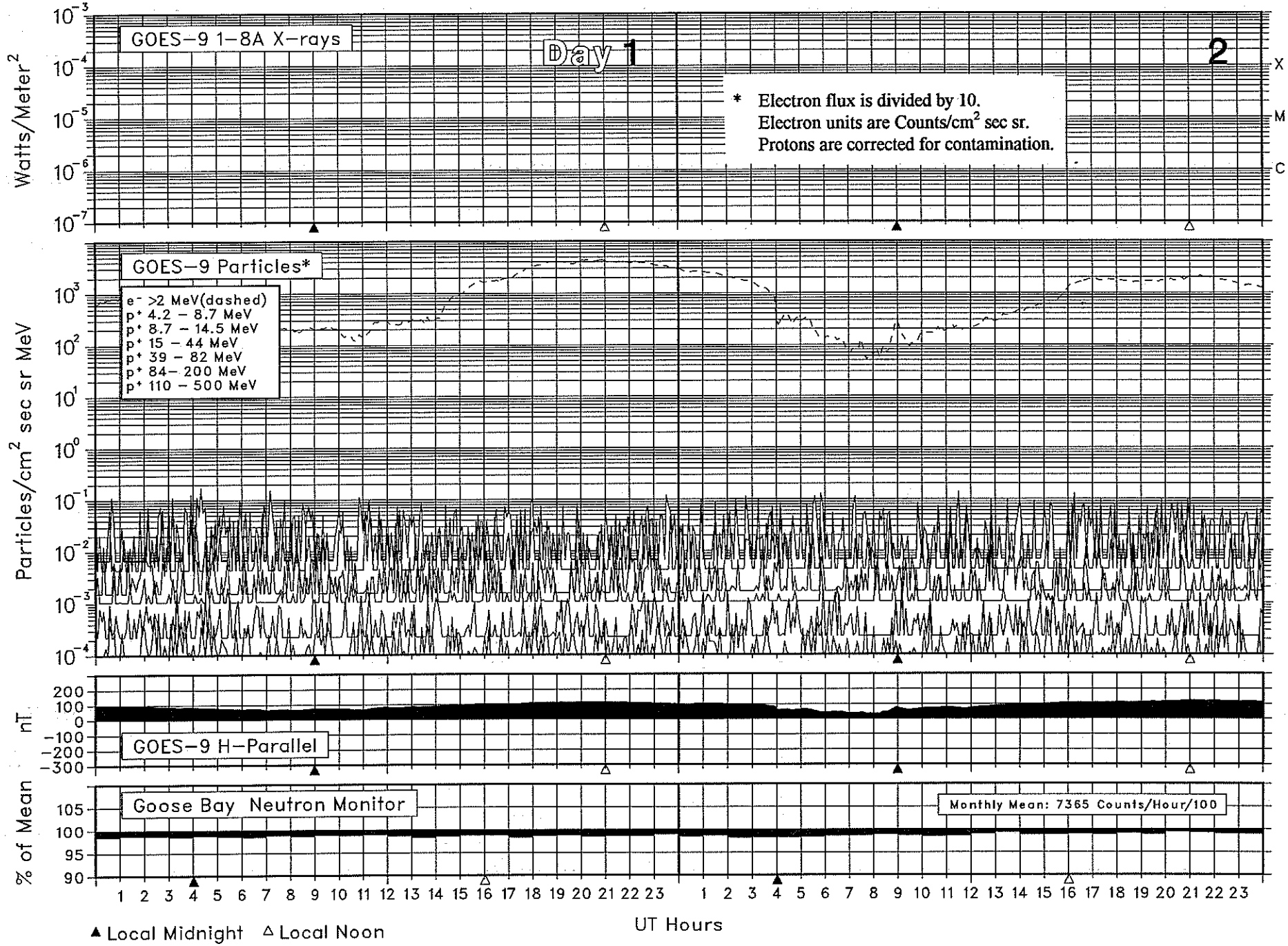

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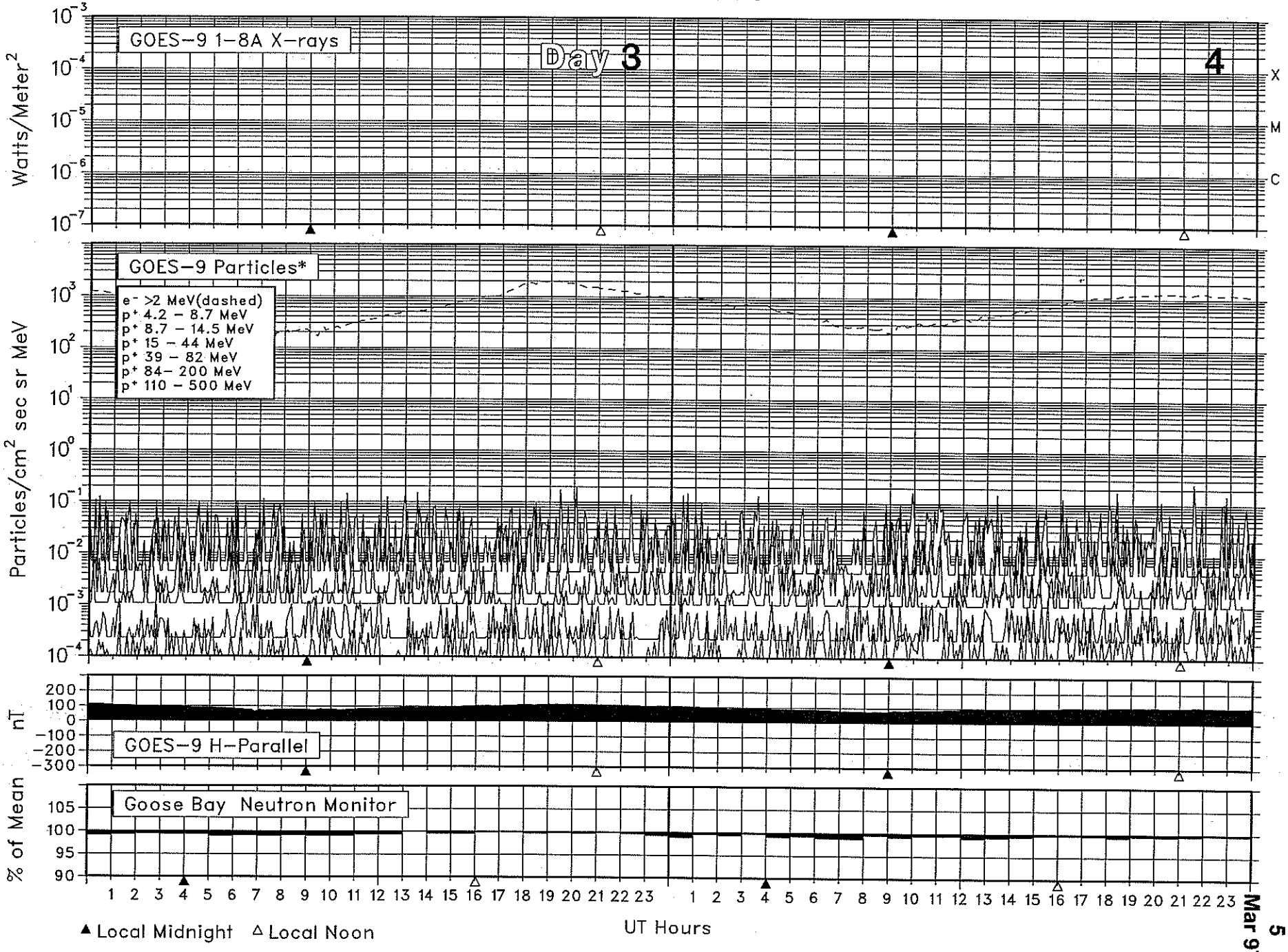

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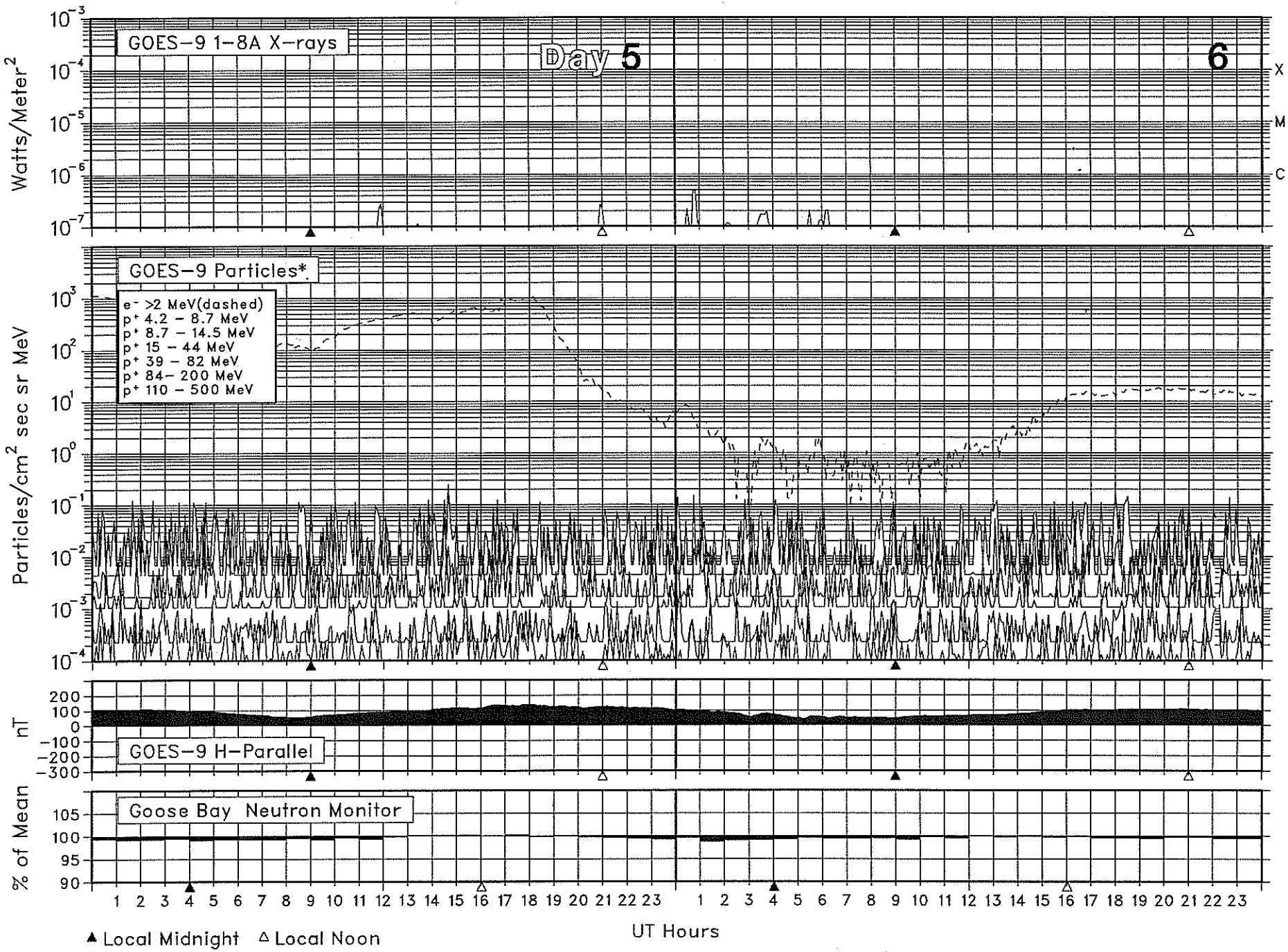

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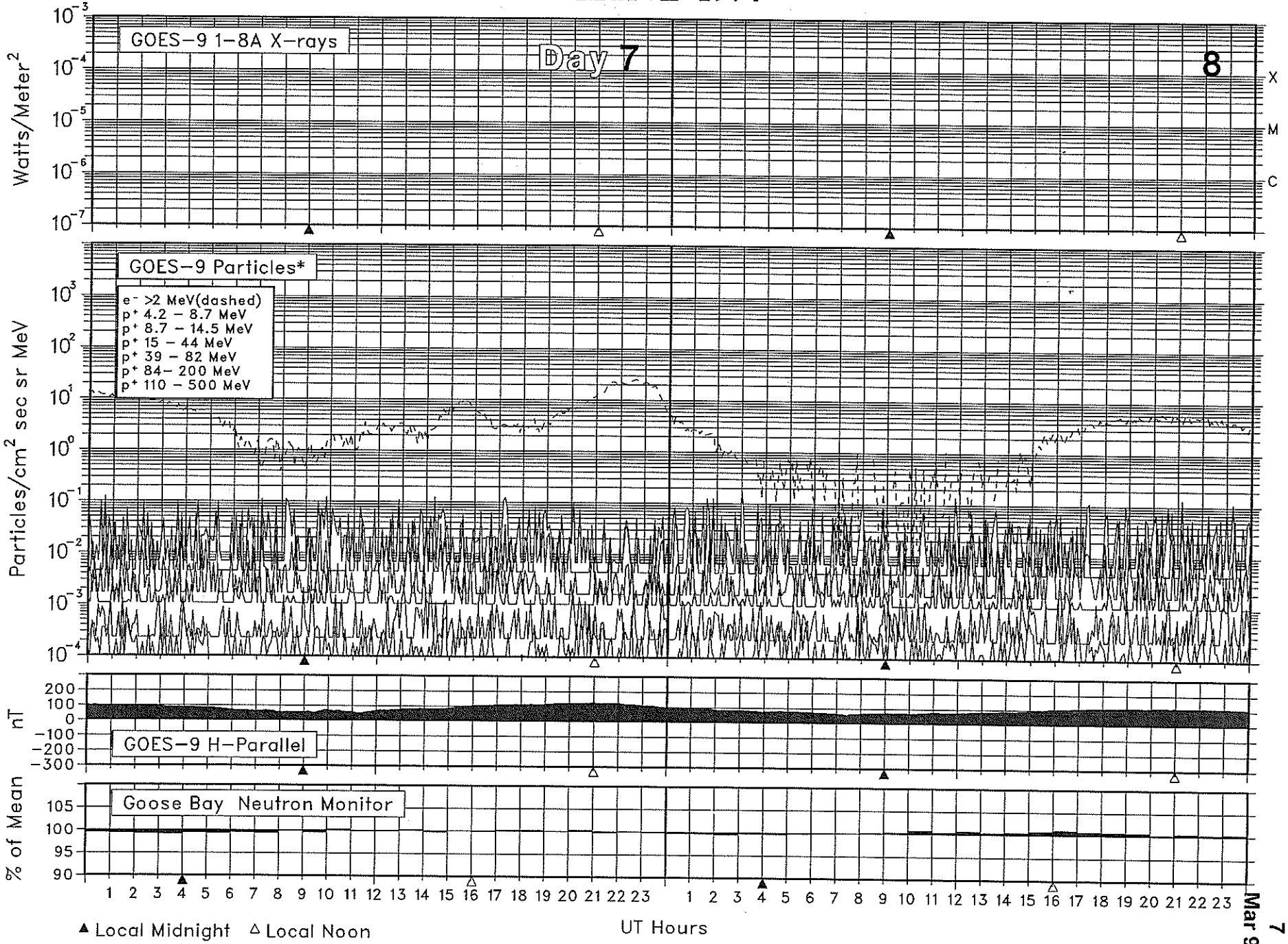

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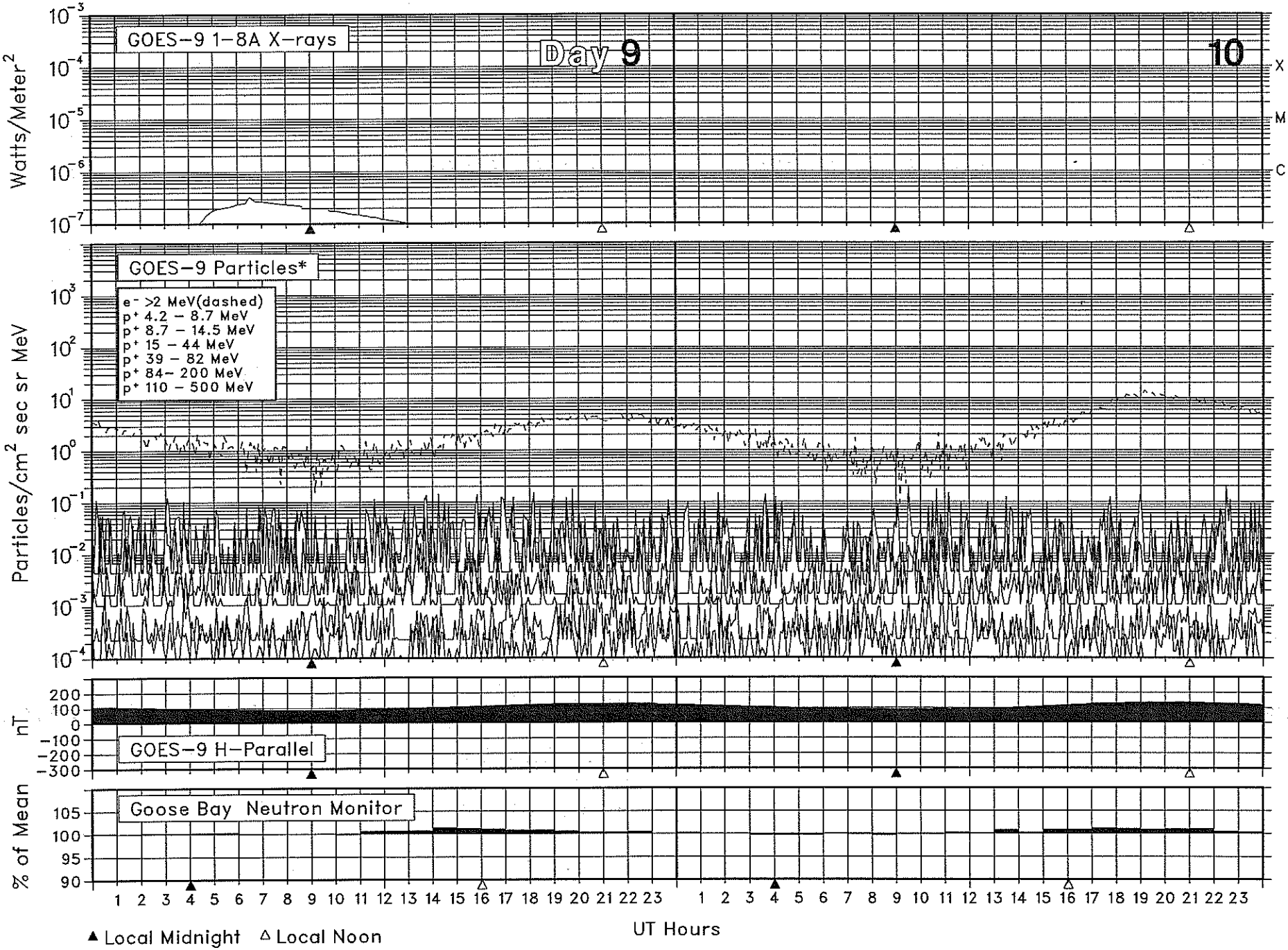

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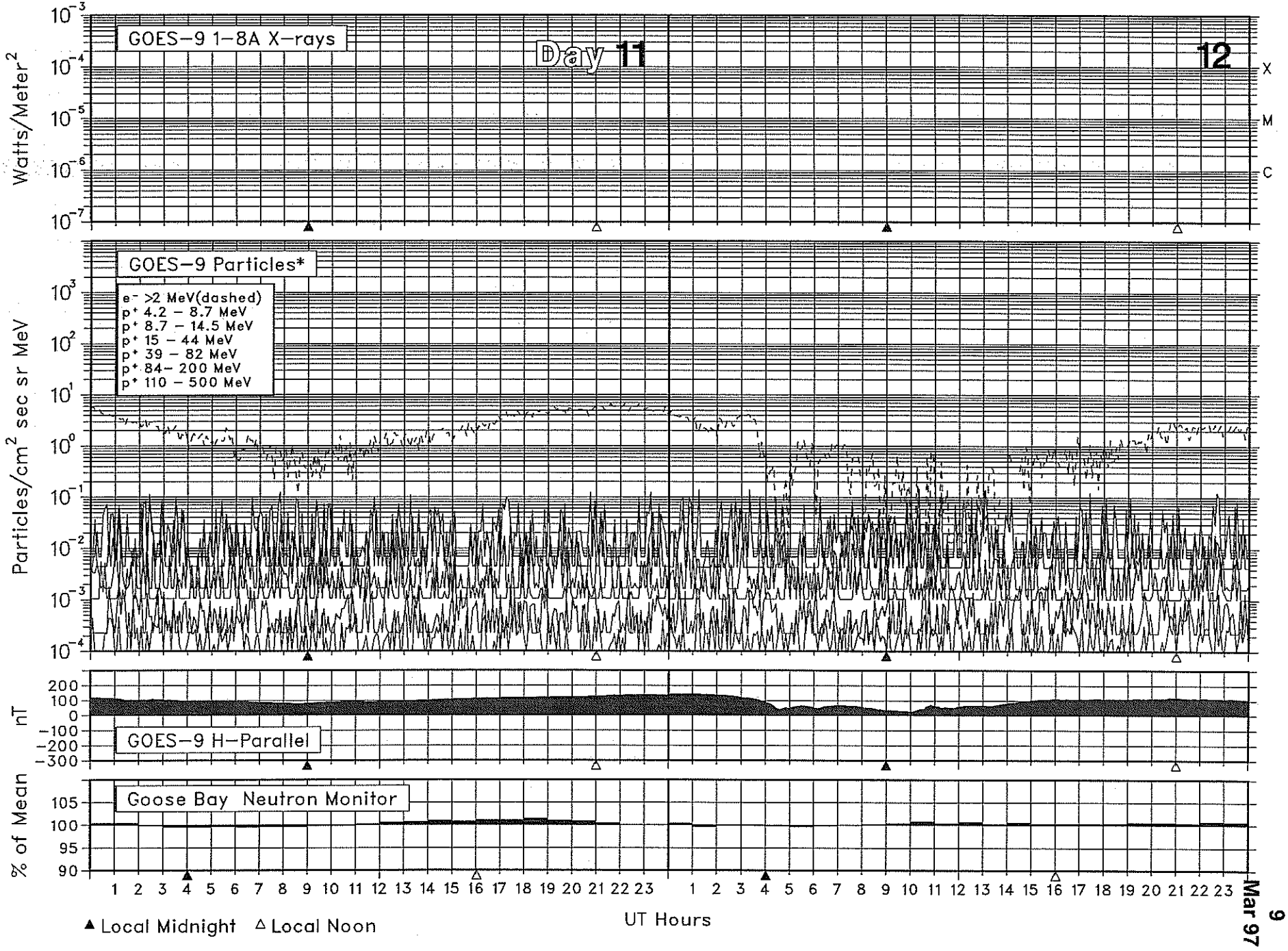
March 1997



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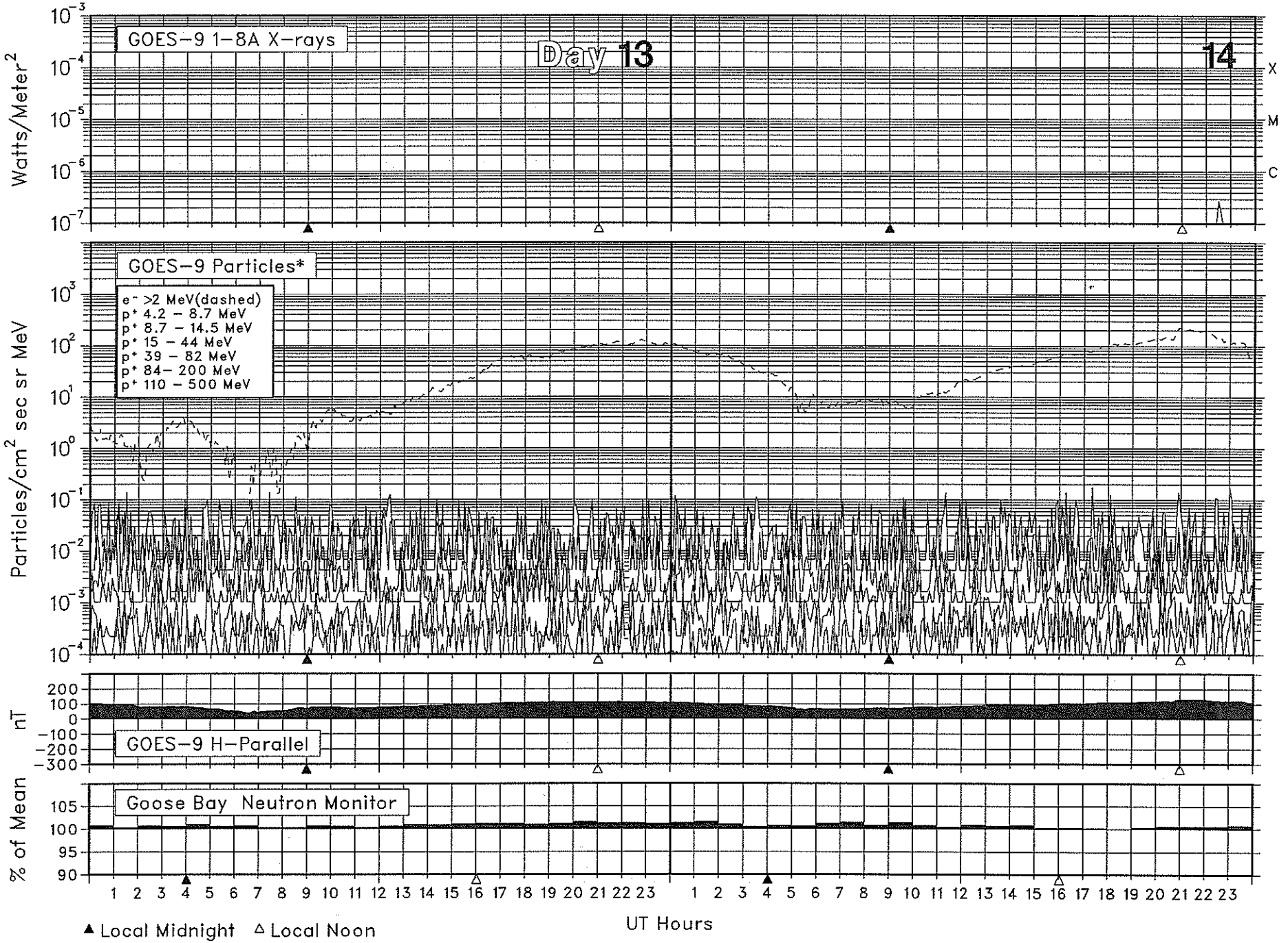

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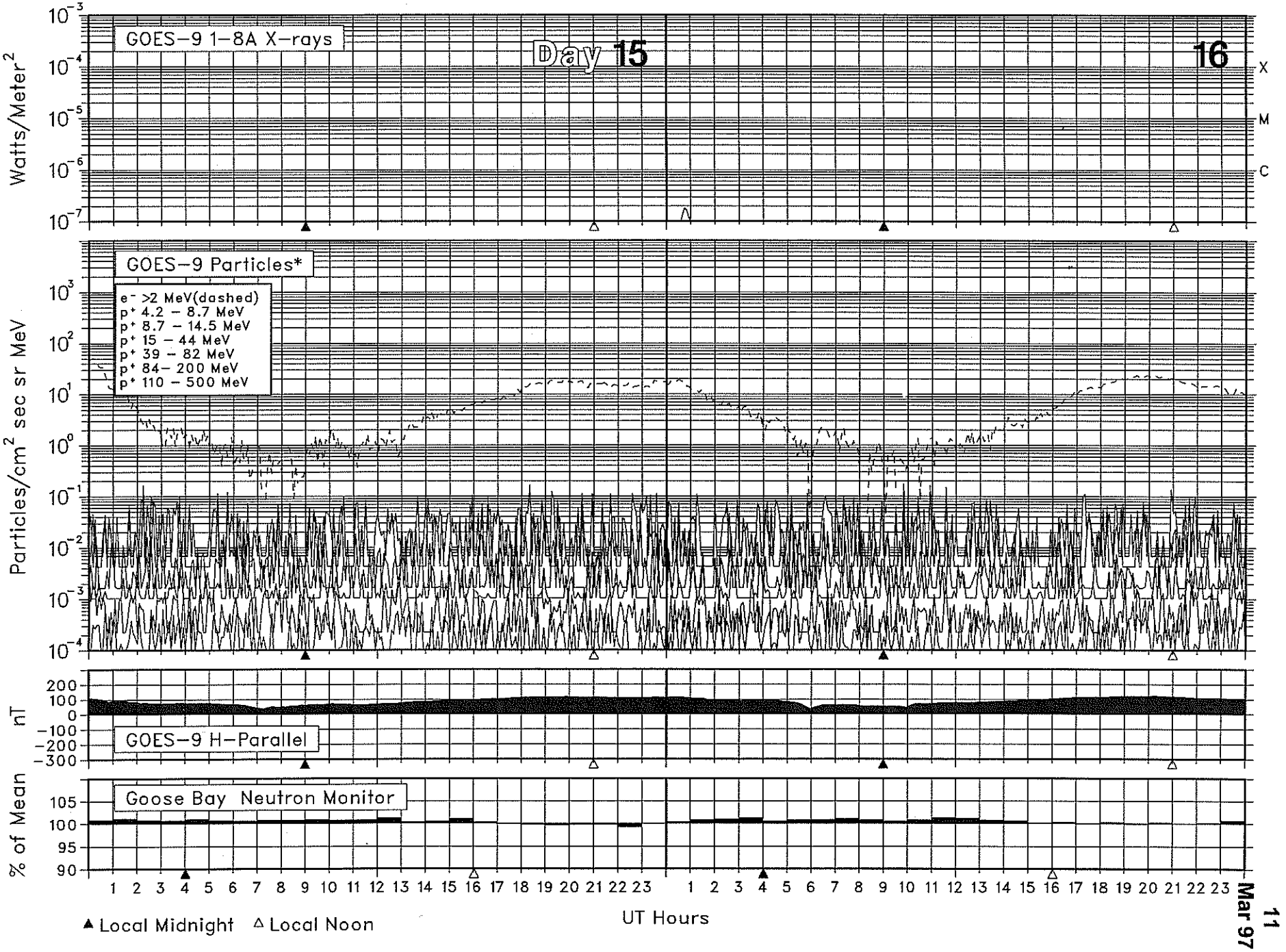

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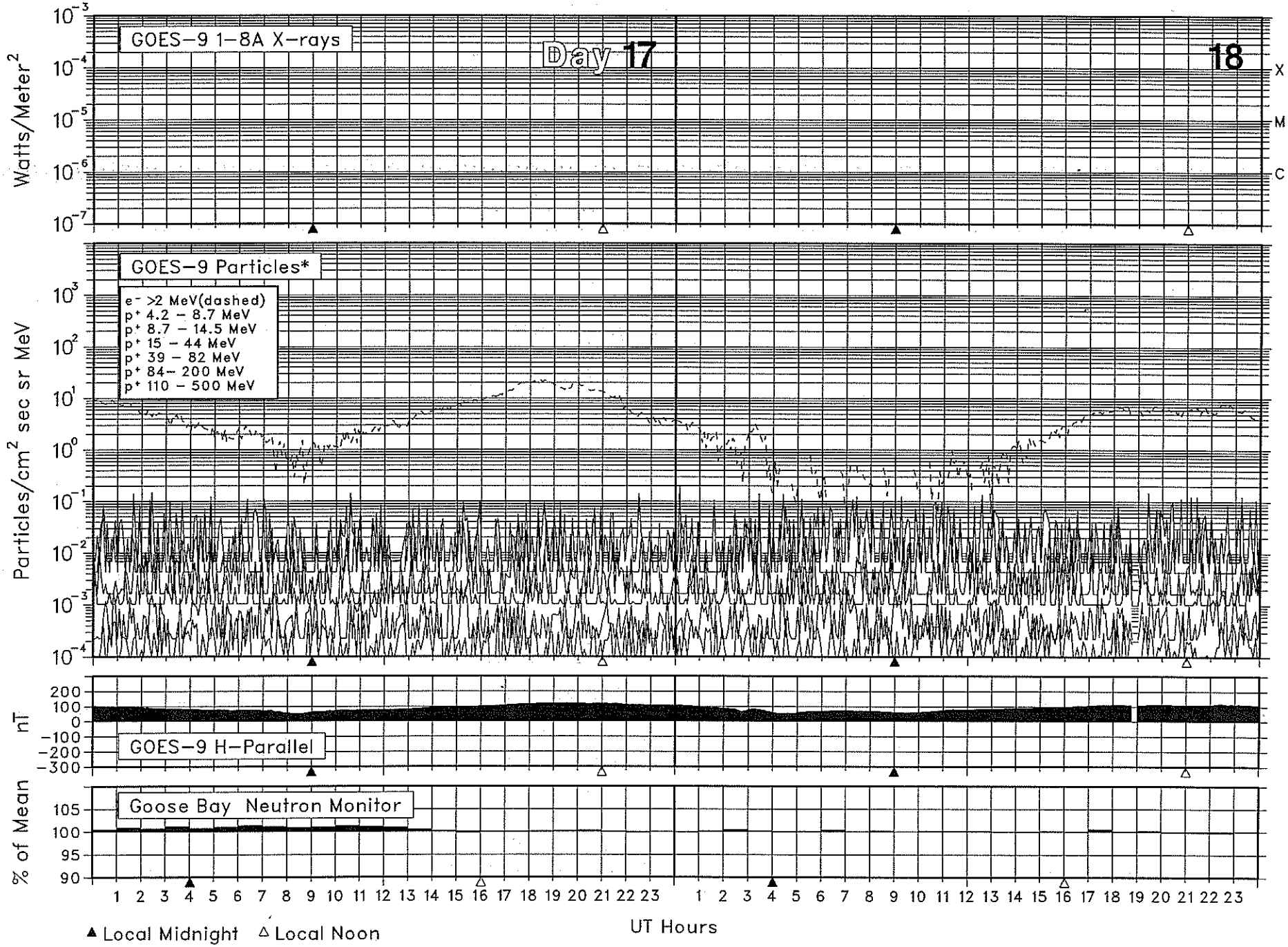

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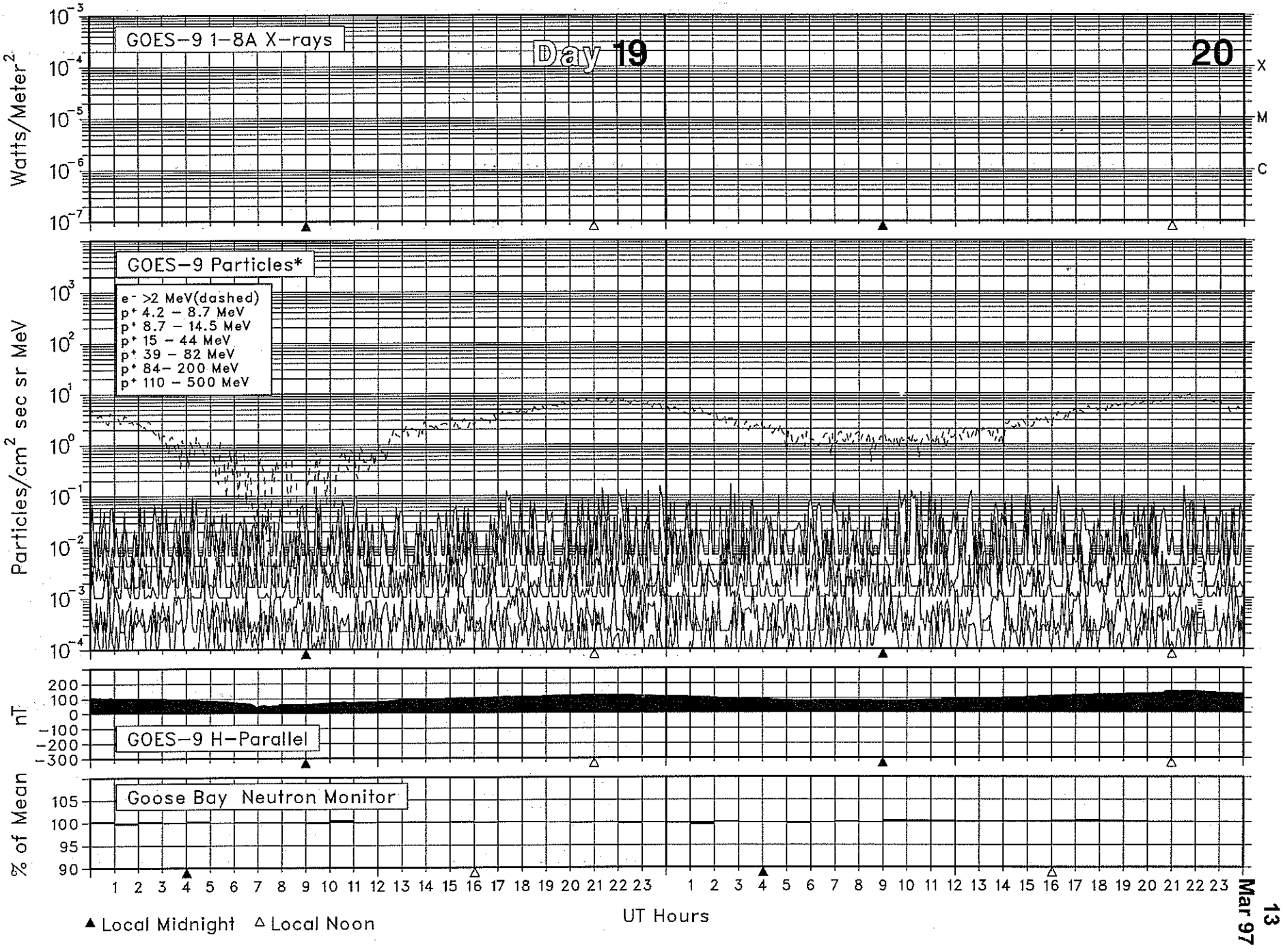

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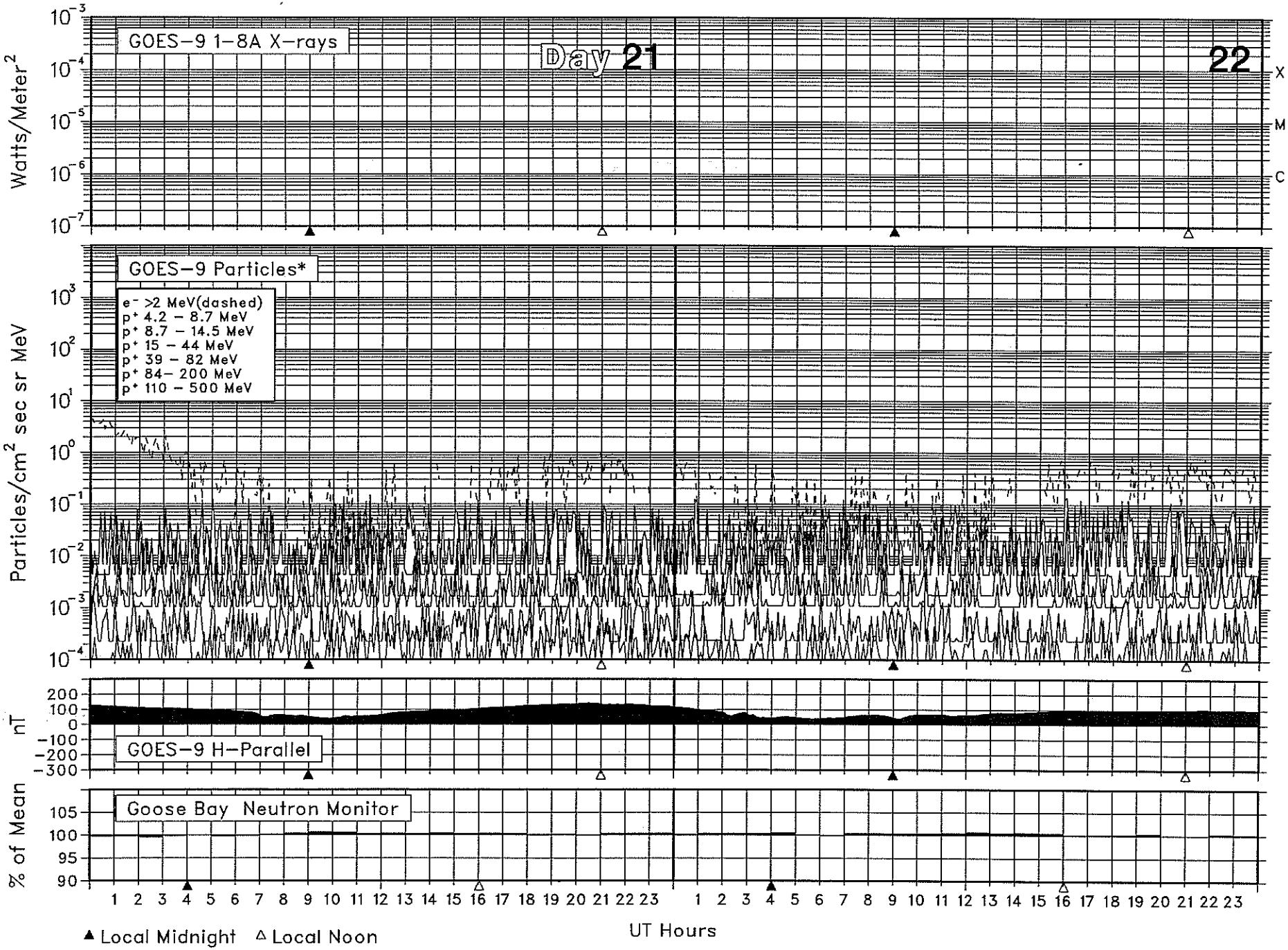

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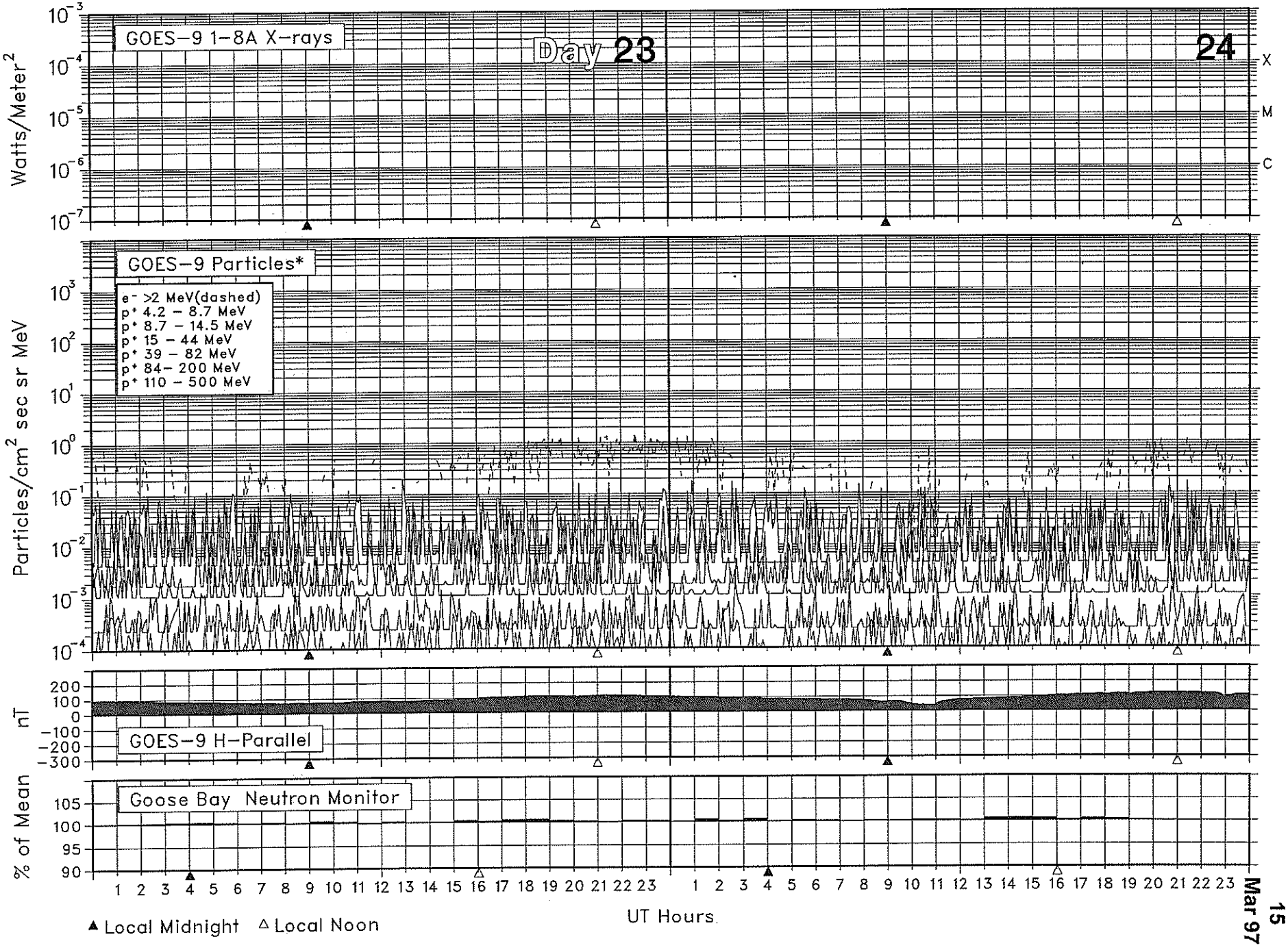
March 1997



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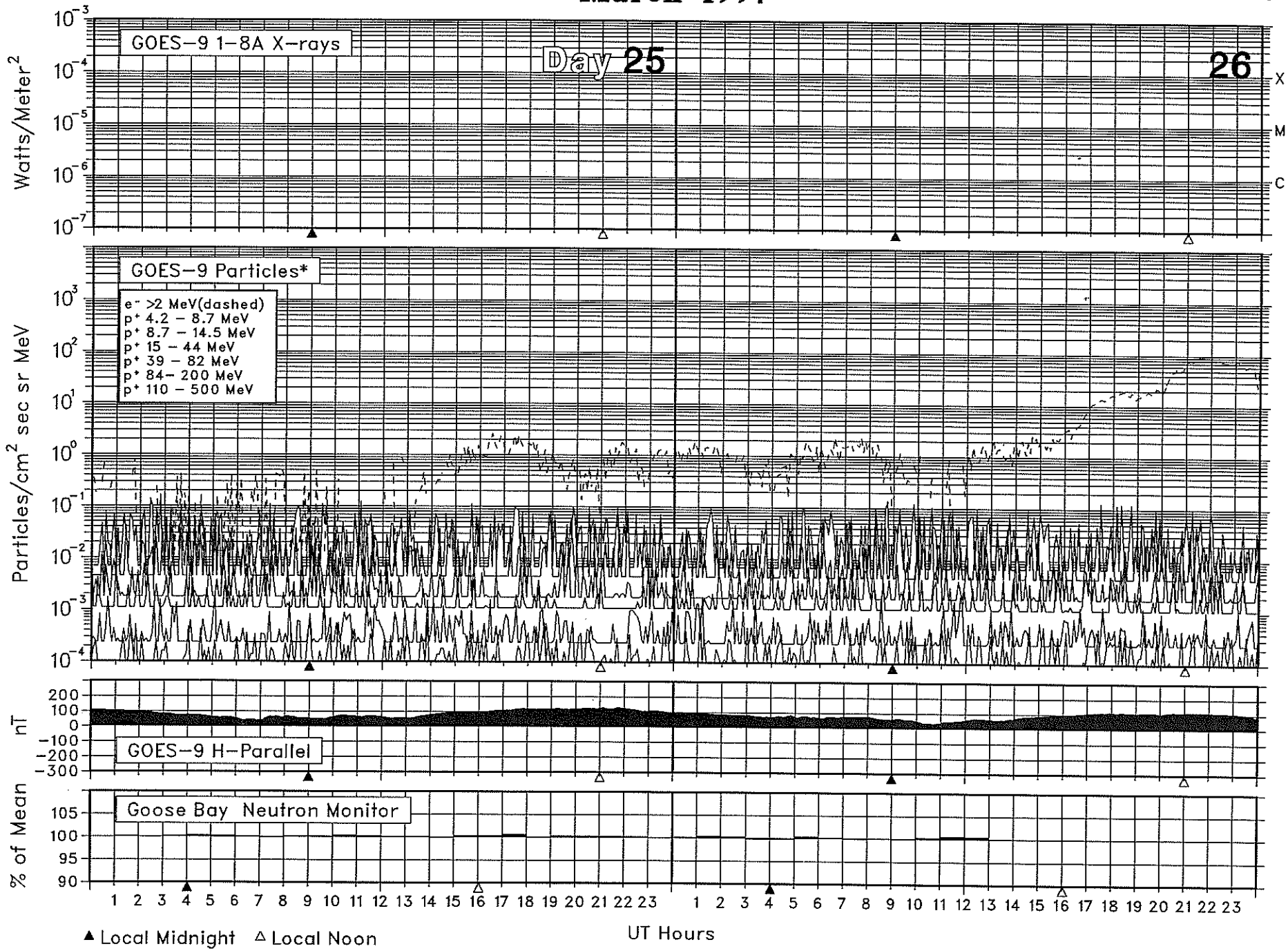

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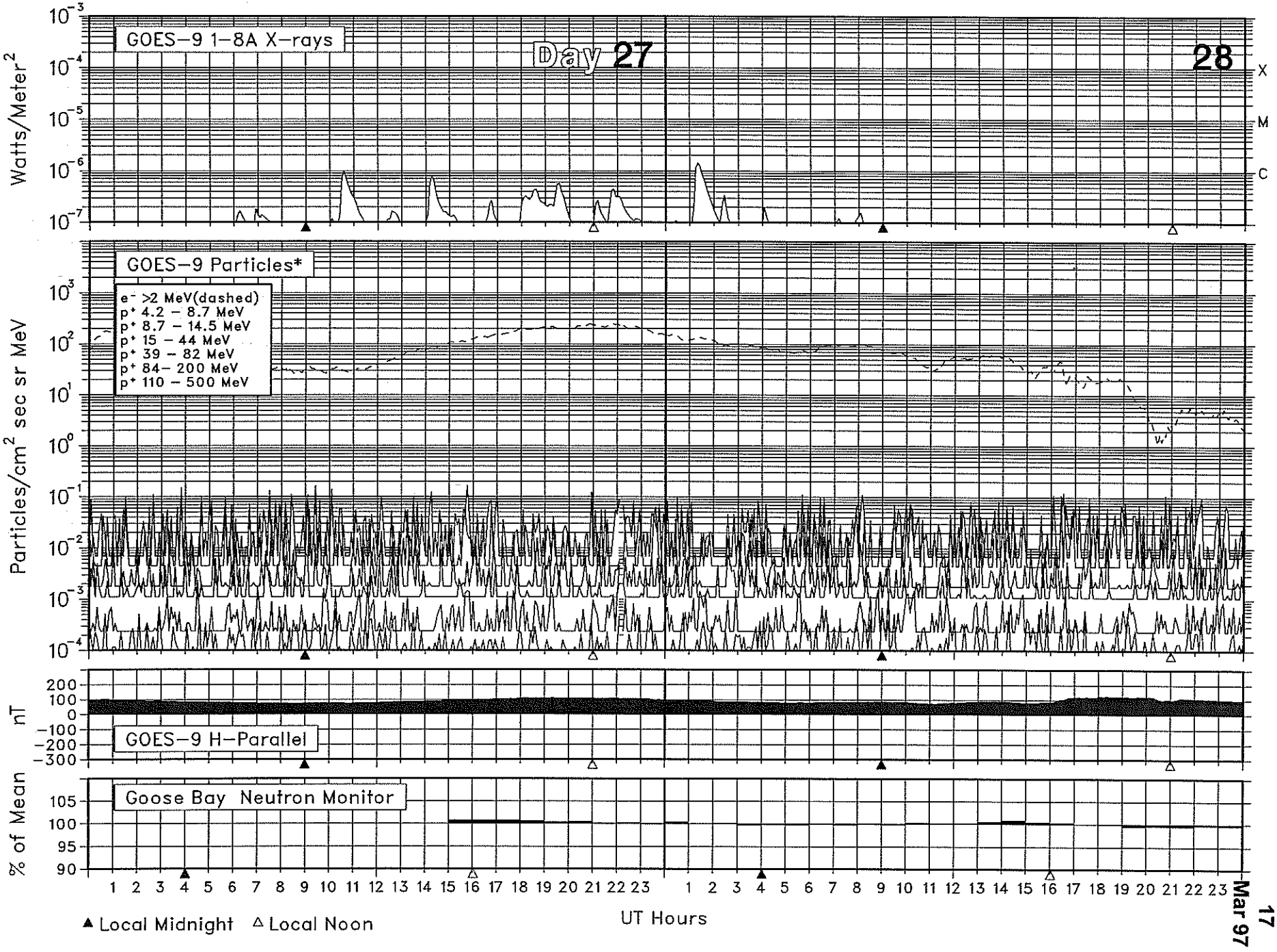

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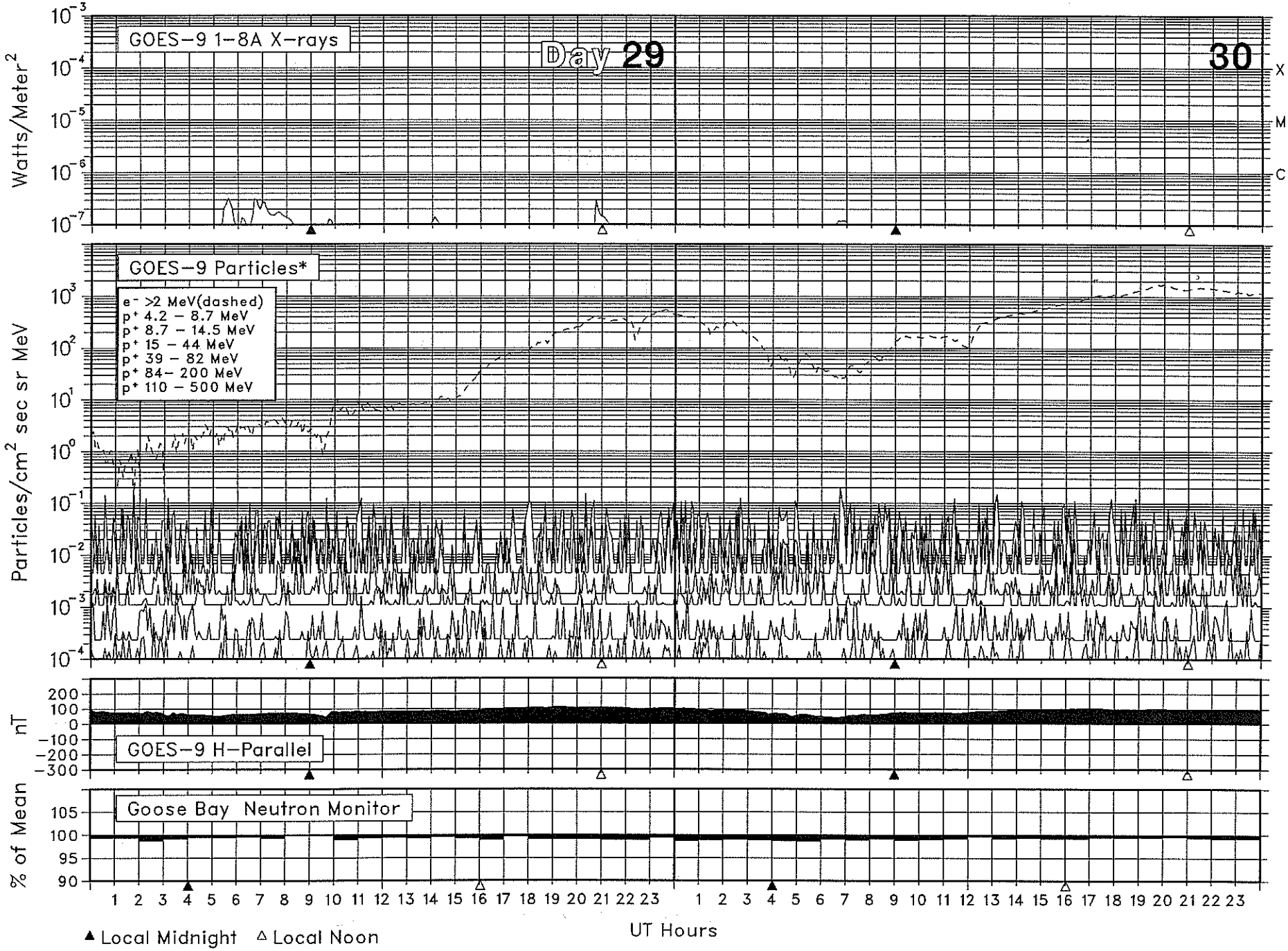
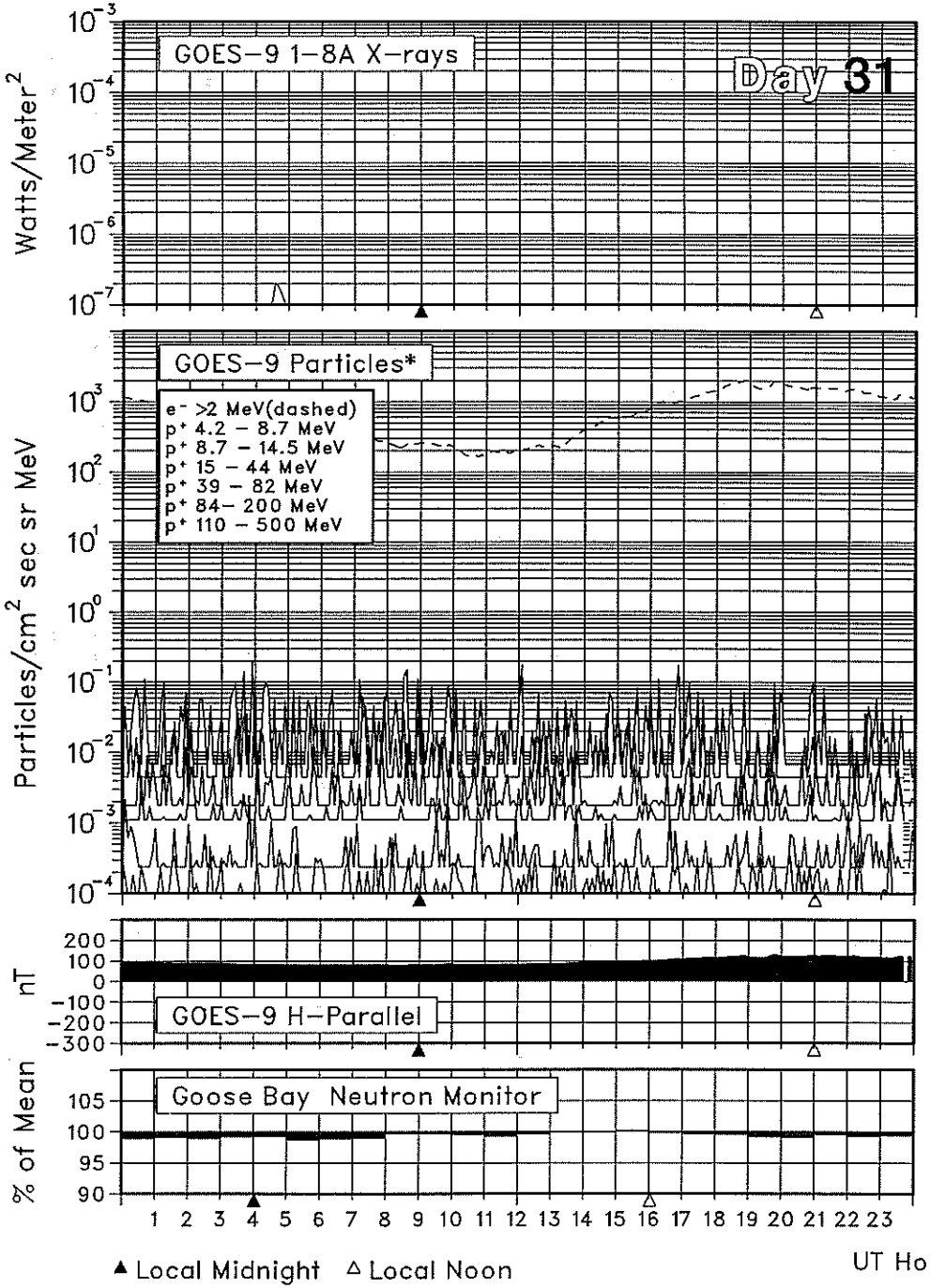


SOLAR-TERRESTRIAL ENVIRONMENT
March 1997



* Electron flux is divided by 10.
Electron units are Counts/cm^2 sec sr.
Protons are corrected for contamination.

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

MARCH 1997

Julian Day	Date of Issue	Date of Obs	Wolf No.	10-cm Solar Flux	A-index	Location Lat	Location Long	Flares Optical	Flares M	Flares X	Date of Forecast	Region Forecast(1)	Geoadvice(1)
060	01	28	0	73	35			0	0	0	01		SOL: Quiet
								0	0	0	01		MAG: Active
								0	0	0	01		PRO: Quiet
061	02	01	0	74	10			0	0	0	02		SOL: Quiet
								0	0	0	02		MAG: Quiet
								0	0	0	02		PRO: Quiet
062	03	02	0	72	13			0	0	0	03		SOL: Quiet
								0	0	0	03		MAG: Quiet
								0	0	0	03		PRO: Quiet
063	04	03	0	74	5			0	0	0	04		SOL: Quiet
								0	0	0	04		MAG: Quiet
								0	0	0	04		PRO: Quiet
064	05	04	0	74	2			0	0	0	05		SOL: Quiet
								0	0	0	05		MAG: Quiet
								0	0	0	05		PRO: Quiet
065	06	05	0	75	6			0	0	0	06		SOL: Quiet
								0	0	0	06		MAG: Quiet
								0	0	0	06		PRO: Quiet
066	07	06	11	75	8	N06	E74	2	0	0	07	Q	SOL: Quiet
								0	0	0	07		MAG: Quiet
								0	0	0	07		PRO: Quiet
067	08	07	12	74	7	N07	E62	0	0	0	08	Q	SOL: Quiet
								0	0	0	08		MAG: Quiet
								0	0	0	08		PRO: Quiet
068	09	08	26	75	4	N06	E48	0	0	0	09	Q	SOL: Quiet
						S30	E42	0	0	0	09	Q	MAG: Quiet
								0	0	0	09		PRO: Quiet
069	10	09	26	75	0	N06	E32	0	0	0	10	Q	SOL: Quiet
						S29	E30	0	0	0	10	Q	MAG: Quiet
								0	0	0	10		PRO: Quiet
070	11	10	17	75	2			0	0	0	11		SOL: Quiet
								0	0	0	11		MAG: Active
								0	0	0	11		PRO: Quiet
071	12	11	15	74	3	N07	E08	0	0	0	12	Q	SOL: Quiet
								0	0	0	12		MAG: Quiet
								0	0	0	12		PRO: Quiet
072	13	12	20	74	14	N05	W07	0	0	0	13	Q	SOL: Quiet
								0	0	0	13		MAG: Quiet
								0	0	0	13		PRO: Quiet
073	14	13	18	74	5	N08	W19	0	0	0	14	Q	SOL: Quiet
								0	0	0	14		MAG: Quiet
								0	0	0	14		PRO: Quiet
074	15	14	43	76	4	N08	W31	0	0	0	15	Q	SOL: Quiet
						S29	W32	0	0	0	15	Q	MAG: Quiet
						S05	W21	0	0	0	15	Q	PRO: Quiet
075	16	15	42	76	6	N07	W26	0	0	0	16	Q	SOL: Quiet
						S31	W26	0	0	0	16	Q	MAG: Quiet
						S04	W23	0	0	0	16	Q	PRO: Quiet
076	17	16	25	76	7	S33	W54	1	0	0	17	Q	SOL: Quiet
						S04	W47	0	0	0	17	Q	MAG: Quiet
								0	0	0	17		PRO: Quiet

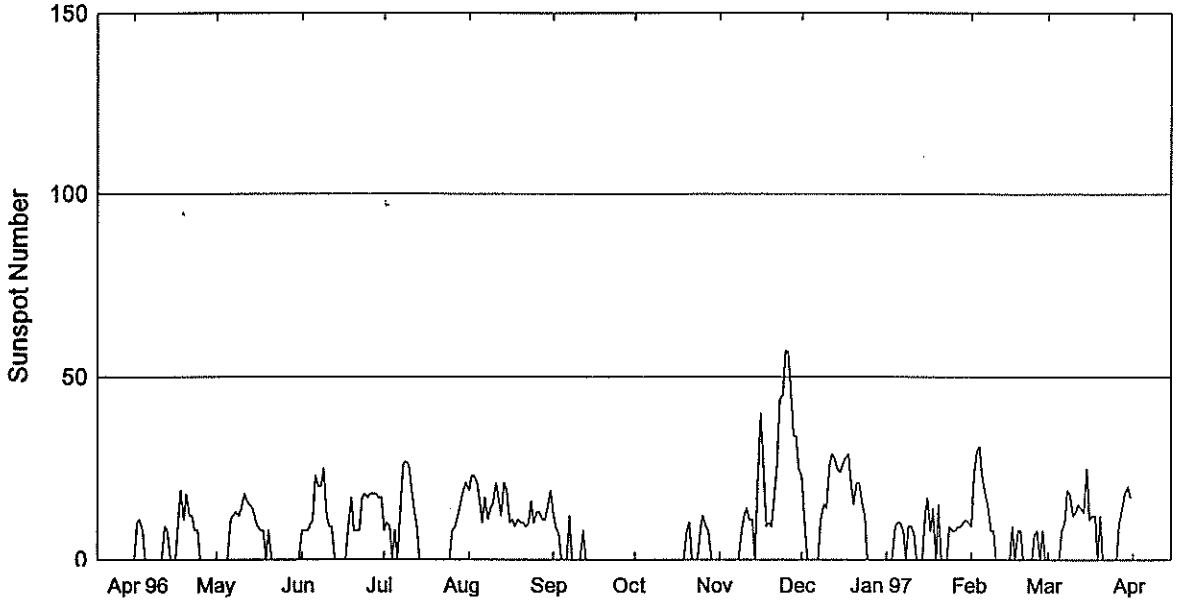
A L E R T P E R I O D S
The International Space Environment Service

MARCH 1997

Julian Day	Date of Issue	Date of Obs	Wolf No.	10-cm Solar Flux	A-index	Location Lat	Location Long	Flares Optical	Flares M	Flares X	Date of Forecast	Region Forecast(1)	Geoadvice(1)
077	18	'17	15	75	4	S04	W61	0	0	0	18	Q	SOL: Quiet
								0	0	0	18		MAG: Quiet
								0	0	0	18		PRO: Quiet
078	19	18	24	74	6	S06	W73	0	0	0	19	Q	SOL: Quiet
						S10	W22	0	0	0	19	Q	MAG: Quiet
								0	0	0	19		PRO: Quiet
079	20	19	0	74	3			0	0	0	20		SOL: Quiet
								0	0	0	20		MAG: Quiet
								0	0	0	20		PRO: Quiet
080	21	20	23	72	3	S05	W04	0	0	0	21	Q	SOL: Quiet
						N24	W55	0	0	0	21	Q	MAG: Quiet
								0	0	0	21		PRO: Quiet
081	22	21	0	71	4			0	0	0	22		SOL: Quiet
								0	0	0	22		MAG: Quiet
								0	0	0	22		PRO: Quiet
082	23	22	0	71	8			0	0	0	23		SOL: Quiet
								0	0	0	23		MAG: Quiet
								0	0	0	23		PRO: Quiet
083	24	23	0	71	4			0	0	0	24		SOL: Quiet
								0	0	0	24		MAG: Quiet
								0	0	0	24		PRO: Quiet
084	25	24	0	71	7			0	0	0	25		SOL: Quiet
								0	0	0	25		MAG: Quiet
								0	0	0	25		PRO: Quiet
085	26	25	0	71	9			0	0	0	26		SOL: Quiet
								0	0	0	26		MAG: Quiet
								0	0	0	26		PRO: Quiet
086	27	26	0	70	15			0	0	0	27		SOL: Quiet
								0	0	0	27		MAG: Active
								0	0	0	27		PRO: Quiet
087	28	27	13	72	6	S25	E73	3	0	0	28	Q	SOL: Quiet
								0	0	0	28		MAG: Active
								0	0	0	28		PRO: Quiet
088	29	28	18	73	11	S24	E59	5	0	0	29	Q	SOL: Quiet
								0	0	0	29		MAG: Quiet
								0	0	0	29		PRO: Quiet
089	30	29	26	75	13	S23	E46	1	0	0	30	Q	SOL: Quiet
								0	0	0	30		MAG: Quiet
								0	0	0	30		PRO: Quiet
090	31	30	29	74	8	S25	E32	0	0	0	31	Q	SOL: Eruptive
								0	0	0	31		MAG: Active
								0	0	0	31		PRO: Quiet

STRATWARM ALERTS - NONE

International Relative Sunspot Numbers
Apr 1996 - Mar 1997



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4	8	0	9	0	21	0	0	0	0	9	31	0
5	0	0	11	8	16	0	0	0	0	10	23	0
6	0	11	23	0	10	0	0	0	0	10	18	8
7	0	12	20	14	17	12	0	0	0	8	15	10
8	0	13	20	26	11	0	0	0	11	0	8	19
9	0	12	25	27	14	0	0	8	15	9	8	18
10	0	14	12	26	15	0	0	12	14	9	0	12
11	0	18	9	20	21	0	0	14	26	7	0	13
12	9	16	9	13	17	8	0	11	29	0	0	15
13	8	15	0	9	12	0	0	11	28	0	0	14
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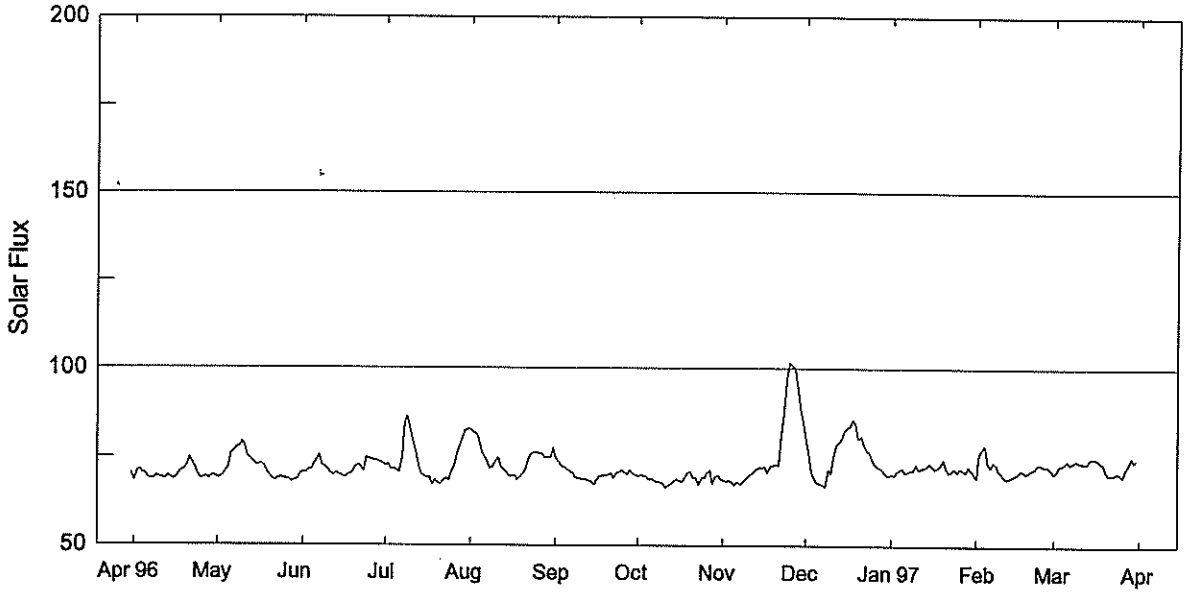
15	0	11	0	0	19	0	0	20	24	11	0	25
16	0	9	0	0	10	0	0	40	26	17	9	11
17	10	8	0	0	11	0	0	27	28	8	0	12
18	19	8	10	0	9	0	0	9	29	14	8	12
19	11	0	17	0	11	0	0	10	21	0	8	0
20	18	8	8	0	10	0	8	9	15	15	0	12
21	12	0	8	0	10	0	10	18	21	0	0	0
22	12	0	8	0	9	0	0	26	21	0	0	0
23	8	0	17	0	10	0	0	44	15	0	0	0
24	8	0	18	0	16	0	0	45	12	9	7	0
25	0	0	17	0	10	0	9	57	0	8	8	0
26	0	0	18	8	13	0	12	57	0	8	0	0
27	0	0	18	9	13	0	9	48	0	9	8	10
28	0	0	18	12	11	0	8	34	0	9	0	14
29	0	0	17	15	11	0	0	34	0	10		18
30	0	0	17	19	14	0	0	25	0	11		20
31		0		21	19		0		0	10		17
Mean	4.8	5.5	11.8	8.2	14.4	1.6	1.8	18.6	12.7	6.5	7.6	8.8

* = Provisional.

Penticton 2800 MHz (10.7cm) Solar Flux
Apr 1996 - Mar 97

Adjusted to 1 AU



Day	Apr 96	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 97	Feb	Mar
1	68.1	68.9	70.4	72.4	82.8	74.8	69.6	68.5	80.8	70.0	69.2	70.5*
2	70.6	69.0	70.2	72.8	81.9	73.6	69.8	67.9	75.7	69.7	76.2	71.1
3	71.1	69.5	71.2	71.3	81.6	72.4	69.6	68.3	70.7	70.8	77.4	72.8
4	70.2	70.6	71.2	71.5	79.9	72.0	69.4	67.8	68.6	71.4	78.4	72.8
5	70.0	72.0	72.8	71.0	76.2	71.4	68.5	67.1	67.6	71.9	73.3	73.4
6	68.8	76.0	73.8	70.5	75.1	70.8	68.8	68.0	67.6	70.6	72.2	74.2
7	68.6	76.3	75.4	74.3	73.7	70.5	68.2	67.3	67.1	70.9	73.7	73.1
8	68.6	77.5	72.4	84.3	71.7	69.2	67.7	67.8	66.6	71.3	73.2	73.6
9	69.3	77.7	72.0	86.5	72.1	68.8	67.7	68.9	71.5	71.3	71.2	74.1
10	69.1	79.1	71.1	82.5	73.6	68.9	67.4	69.6	70.2	72.9	70.4	73.8
11	68.8	78.0	70.2	79.6	74.8	68.5	66.4	70.0	75.2	71.6	69.3	73.4
12	68.7	75.1	69.5	76.2	72.0	68.6	66.9	70.7	78.6	72.1	69.1	73.4
13	69.3	74.3	70.3	72.5	71.4	68.1	67.3	71.5	79.2	72.1	69.3	73.3
14	69.1	73.4	69.8	70.0	70.5	67.9	68.2	72.1	80.0	72.4	69.6	74.7
15	68.5	72.5	69.5	69.3	69.3	67.1	68.6	71.9	82.3	73.3	70.1	75.0
16	68.8	72.6	69.0	69.1	69.3	68.7	68.1	72.2	83.5	72.4	70.3	75.0
17	69.9	72.9	69.6	69.0	69.5	69.6	68.0	70.4	83.6	71.7	71.4	74.4
18	70.8	72.0	69.9	67.0	68.4	69.6	69.0	72.4	85.6	72.2	71.2	73.7
19	71.2	70.4	70.7	68.3	69.3	69.8	70.4	72.6	84.6	72.9	70.4	73.1
20	72.3	69.6	71.9	67.5	70.1	69.7	70.6	72.7	80.3	74.3	71.0	71.0
21	74.8	68.5	72.6	67.2	71.3	70.3	69.0	72.6	80.9	71.8	71.6	70.0
22	73.2	68.1	72.0	68.2	74.5	69.1	69.1	80.6	78.9	70.7	71.9	70.1
23	71.9	68.9	70.9	68.9	75.8	70.4	67.1	88.7	76.9	71.1	73.0	70.3
24	69.5	69.0	74.7	68.3	76.2	70.4	69.1	97.3	76.4	71.9	73.1	70.6
25	68.7	68.7	74.3	70.4	76.3	71.2	69.1	101.7	74.7	70.9	72.6	70.2
26	69.1	68.7	74.2	72.4	75.8	70.4	70.3	100.8	73.0	71.9	72.4	69.5
27	69.2	68.4	73.8	75.6	75.9	70.1	71.2	100.0	72.2	71.3	72.4	71.9
28	68.6	67.8	73.8	77.8	74.7	71.2	67.5	95.4	71.8	70.8	71.5	72.9
29	69.5	68.3	73.3	80.3	75.0	70.3	69.4	88.5	71.4	72.4		75.1
30	69.6	68.4	73.1	82.3	74.7	69.7	69.7	85.1	70.1	71.5		73.8
31		69.9		82.7	77.6		68.6		69.8	70.3		74.6
Mean	69.9	71.7	71.8	73.5	74.2	70.1	68.7	76.9	75.3	71.6	72.0	72.8

NOTE: *=Average of 1700 and 2300UT readings. Snow on antennas at 2000UT.

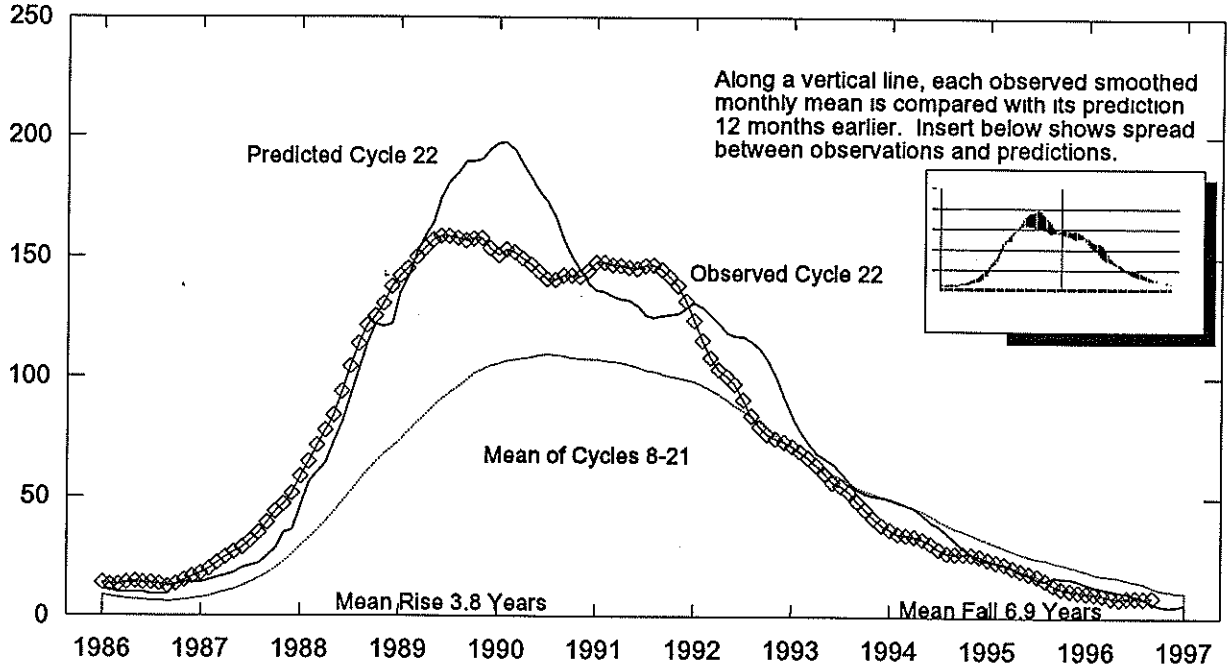
DAILY SOLAR INDICES

March 1997

Day	Day of Year	Bartels Cycle Day	Sunspot Numbers Int	Amer	Obs Flux Penticton (2800)	Solar Flux Adjusted to 1 Astronomical Unit — LEAR (15400)	LEAR (8800)	LEAR (4995)	Pentic (2800)	LEAR (2695)	LEAR (1415)	LEAR (610)	LEAR (410)	LEAR (245)
1	60	24	0	0	71.8*	516	257	120	70.5*	70	49	34	22	11
2	61	25	0	0	72.3	510	208	121	71.1	70	49	35	25	11
3	62	26	0	0	74.0	514	256	123	72.8	69	49	36	25	12
4	63	27	0	0	74.0	519	224	123	72.8	72	50	37	26	--
5	64	1	0	0	74.6	519	190	125	73.4	72	50	37	--	11
6	65	2	8	7	75.4	517	207	126	74.2	71	51	36	25	11
7	66	3	10	8	74.1	518	193	125	73.1	73	51	36	25	13
8	67	4	19	17	74.7	515	195	125	73.6	73	51	36	26	12
9	68	5	18	17	75.1	516	198	125	74.1	73	52	36	27	27
10	69	6	12	14	74.7	--	--	--	73.8	--	--	--	--	--
11	70	7	13	10	74.3	509	196	123	73.4	71	51	35	25	12
12	71	8	15	12	74.3	521	194	123	73.4	70	51	36	27	12
13	72	9	14	12	74.1	518	197	124	73.3	75	52	36	25	11
14	73	10	13	18	75.5	509	193	122	74.7	70	52	38	25	12
15	74	11	25	14	75.8	518	199	126	75.0	73	53	37	26	12
16	75	12	11	14	75.7	508	196	125	75.0	73	52	38	23	11
17	76	13	12	11	75.1	520	204	127	74.4	75	52	37	26	11
18	77	14	12	11	74.3	521	204	126	73.7	73	51	36	26	11
19	78	15	0	0	73.7	519	201	124	73.1	71	49	36	25	12
20	79	16	12	8	71.5	530	201	124	71.0	72	48	35	22	11
21	80	17	0	0	70.5	528	200	121	70.0	68	47	33	23	11
22	81	18	0	0	70.6	519	198	121	70.1	69	47	34	24	11
23	82	19	0	0	70.7	517	198	121	70.3	69	47	34	22	10
24	83	20	0	0	71.0	520	201	122	70.6	69	47	35	24	11
25	84	21	0	4	70.6	522	202	123	70.2	68	47	36	25	11
26	85	22	0	0	69.8	520	200	122	69.5	69	47	35	24	11
27	86	23	10	8	72.2	512	200	122	71.9	69	47	35	25	11
28	87	24	14	11	73.2	516	200	124	72.9	70	48	36	25	11
29	88	25	18	19	75.3	513	200	125	75.1	75	48	36	25	12
30	89	26	20	17	74.0	507	202	127	73.8	74	50	37	26	13
31	90	27	17	13	74.7	504	202	125	74.6	73	50	37	26	14
MEAN			8.8	7.9	73.5	516	203	123	72.8	71	49	35	24	12

The International numbers shown above are preliminary values; the American numbers are final.
*NOTE: Average of 1700 and 2300UT readings - snow on antennas at 2000UT.

Cycle 22 Smoothed Sunspot Numbers: Observed and Predicted



Smoothed Sunspot Numbers (observed and Predicted) for Parts of Solar Cycles 22 and 23

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
1989	142	145	150	154	157	158	158	158	157	157	158	154	154
1990	151	153	152	149	147	144	141	140	142	142	142	144	146
1991	148	148	147	146	146	145	146	147	145	142	138	132	144
1992	124	115	108	103	100	97	91	84	80	76	74	73	94
1993	71	69	67	64	60	56	55	52	48	45	41	38	56
1994	37	35	34	34	33	31	29	27	27	27	26	26	31
1995	24	23	22	21	19	18	17	16	13	12	11	11	17
1996	11	10	10	9	8	9	9	8	9	8	7	7	9
( )										(2)	(3)	(3)	(1)
1997	7	8	8	9	9	10	11	12	12	13	14	16	11
( )	(4)	(5)	(6)	(7)	(9)	(11)	(13)	(14)	(16)	(17)	(19)	(22)	(12)

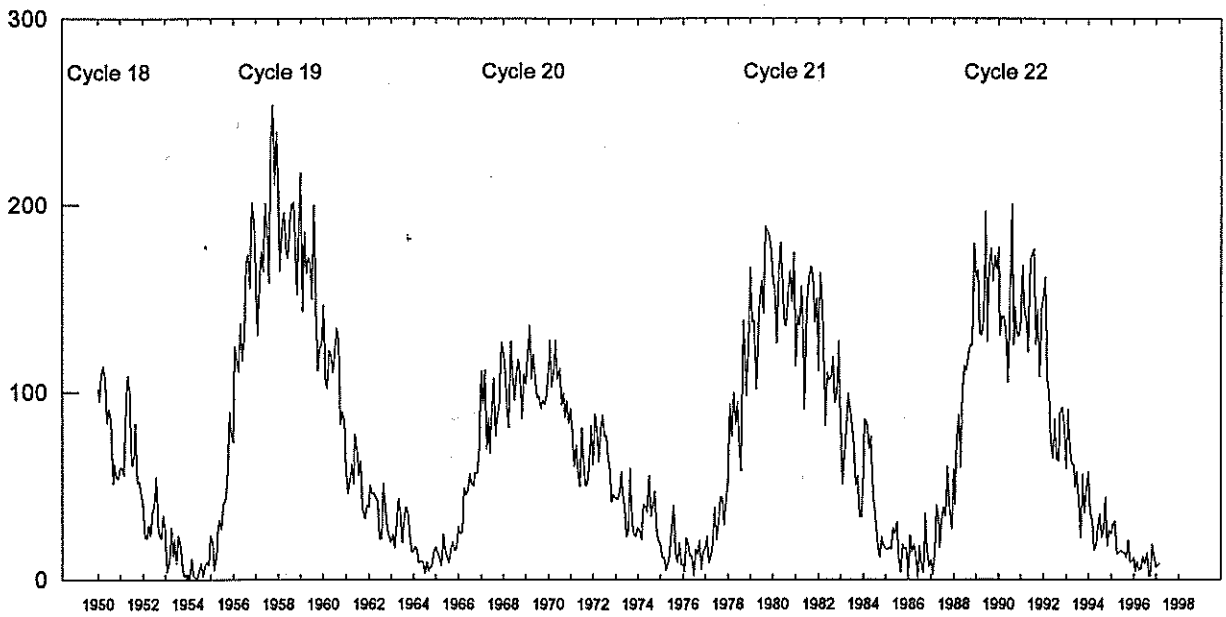
Solar Cycle 22 | Min, Max, and Predictions

September 1986 marks the minimum of Solar Cycle 21 and the onset of Cycle 22, which in turn, reached a maximum in July 1989.

Observed and Predicted Numbers. For the end of Cycle 21, and the rise and decline of Cycle 22, 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 Jun 1996 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 September 1997 prediction. There exists a 90% chance that in September 1997, the actual smoothed number 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 14 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 the minimum value of 12.3 that occurred in Sep 1986.

Mean Monthly Sunspot Numbers
Jan 1950 - Mar 1997



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean	
1950	101.6	94.8	109.7	113.4	106.2	83.6	91.0	85.2	51.3	61.4	54.8	54.1	83.9	
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	21.2	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	1.8	18.6	12.7	8.7	
1997	6.5	7.6	8.8										7.6	

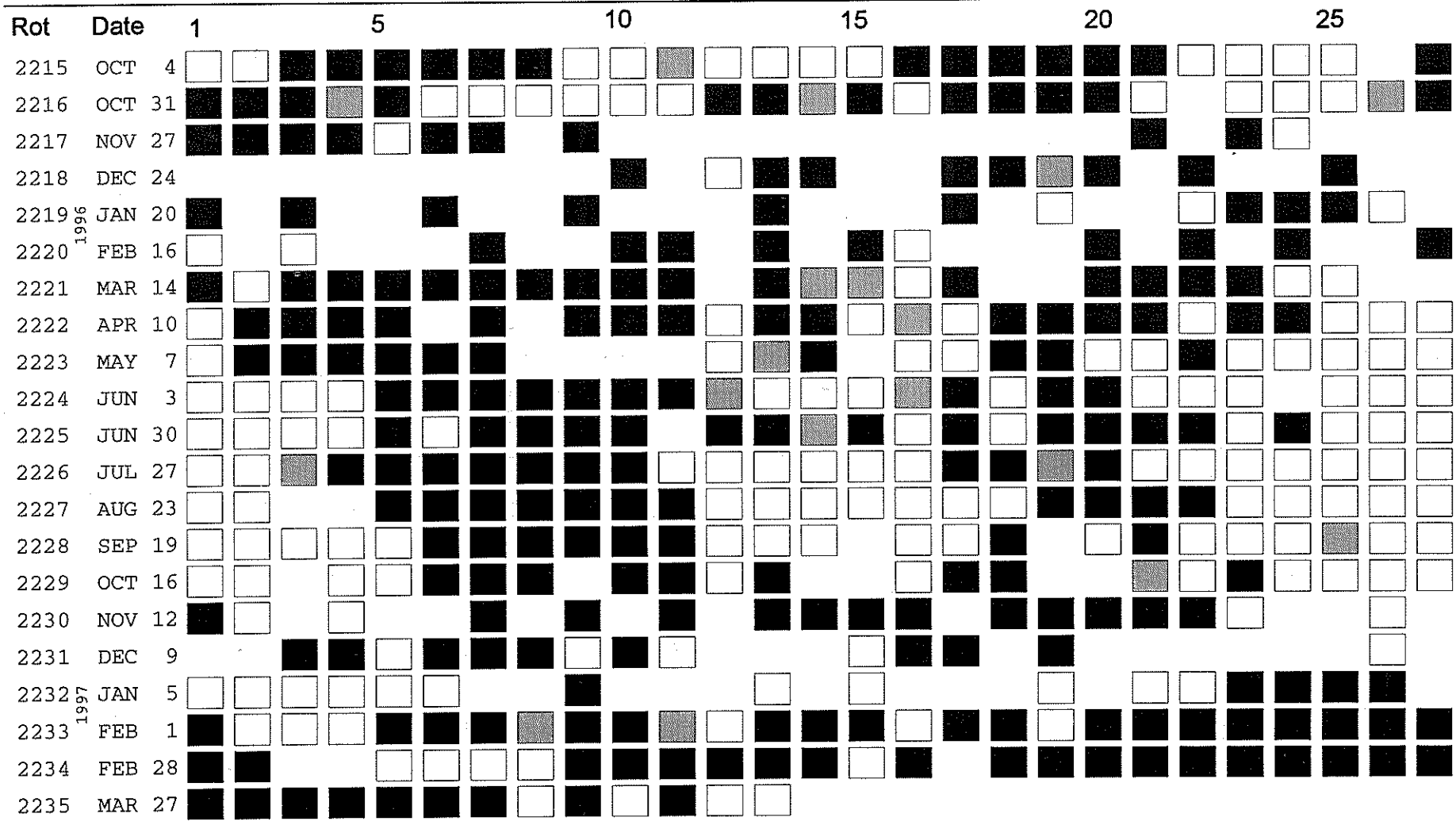
Values are preliminary after Sep 1996. For the yearly means, each 'M' marks a sunspot cycle maximum and each 'm' a minimum.

Hα SOLAR FLARES

MARCH 1997

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
GOES	05	1146	1157	1159						13		B 3.5						
GOES		1322	1326	1328						6		B 1.8						
GOES		1539	1545	1548						9		B 1.3						
GOES		2054	2059	2102						8		B 4.3						
GOES		2246	2250	2257						11		B 1.1						
GOES	06	0026	0030	0032						6		B 3.4						
LEAR		0047	0048	0055	N02	E78		03	11.8	8	SF	B 8.9	3	E		43		
GOES		0342	0346	0348						6		B 2.2						
GOES		0526	0530	0532						6		B 3.2						
GOES		0554	0559	0604						10		B 1.6						
LEAR		0611	0613	0617	N03	E77		03	12.0	6	SF	B 3.9	3	E		33		
SVTO		0615E	0615U	0618	N02	E78		03	12.1	3D	SF		2	E		78		
GOES	09	0340	0633	0945						365		B 3.2						T
GOES	14	2226	2231	2236						10		B 3.1						
LEAR	16	0042	0043	0045	S31	W44	8021	03	12.5	3	SF	B 1.8	3	E		15		F
GOES	27	0608	0616	0627						19		B 1.7						
GOES		0650	0656	0704						14		B 1.9						
GOES		1001	1005	1015						14		B 1.1						
GOES		1022	1035	1041						19		C 1.0						
GOES		1223	1238	1253						30		B 1.8						
RAMY		1410	1416	1422	S24	E81		04	2.8	12	SF	B 8.4	4	E		53		FH
SVTO		1412	1418	1420	S25	E79		04	2.7	8	SF		3	E		16		H
GOES		1553	1600	1602						9		B 1.1						
GOES		1630	1645	1649						19		B 3.4						
GOES		1756	1836	1850						54		B 4.5						
RAMY		1926	1927	1931	S24	E80	8026	04	3.0	5	SF	B 5.3	3	E		20		F
RAMY		1944	1951	1954	S24	E79	8026	04	2.9	10	SF		3	E		55		
HOLL		2157	2158	2205	S25	E79	8026	04	3.0	8	SF	B 4.6	4	E		22		
HOLL	28	0022	0023	0026	S25	E75	8026	04	2.8	4	SF	B 1.1	3	E		12		
GOES		0109	0120	0135						26		C 1.5						
GOES		0218	0225	0230						12		B 3.5						
GOES		0315	0319	0322						7		B 1.2						
GOES		0400	0405	0410						10		B 2.3						
GOES		0437	0440	0442						5		B 1.1						
GOES		0702	0705	0707						5		B 1.1						
SVTO		0855	0911	1000	S27	E69	8026	04	2.7	65	SF	B 2.2	3	E		31		FH
LEAR		0903	0909	0918	S23	E67	8026	04	2.5	15	SF		3	E		39		
LEAR		0918	0919	0922	S23	E67	8026	04	2.5	4	SF		3	E		20		
LEAR		0923	0929	0946	S23	E67	8026	04	2.5	23	SF		3	E		40		
LEAR		0948	0948	0957	S23	E66	8026	04	2.5	9	SF		3	E		66		
SVTO		1231	1231	1239	S28	E66	8026	04	2.7	8	SF		3	E		11		H
RAMY		1420	1426	1440	S24	E67	8026	04	2.8	20	SF		3	E		16		
SVTO		1446	1451	1502	S28	E66	8026	04	2.8	16	SF		3	E		11		
RAMY		1447	1452	1513	S24	E67	8026	04	2.8	26	SF		3	E		18		
GOES		1648	1651	1655						7		B 1.0						
GOES		1716	1719	1721						5		B 1.0						
GOES	29	0334	0337	0340						6		B 1.0						
GOES		0522	0535	0548						26		B 3.3						
GOES		0610	0613	0616						6		B 2.4						
GOES		0634	0645	0654						20		B 3.0						
GOES		0934	0948	0955						21		B 1.5						
GOES		1358	1406	1418						20		B 1.4						
GOES		2021	2024	2027						6		B 1.0						
HOLL		2045	2045	2048	S25	E49	8026	04	2.7	3	SF	B 3.4	3	E		12		
GOES	30	2253	2256	2258						5		B 1.8						
GOES	31	0431	0437	0447						16		B 2.1						

STANFORD MEAN SOLAR MAGNETIC FIELD

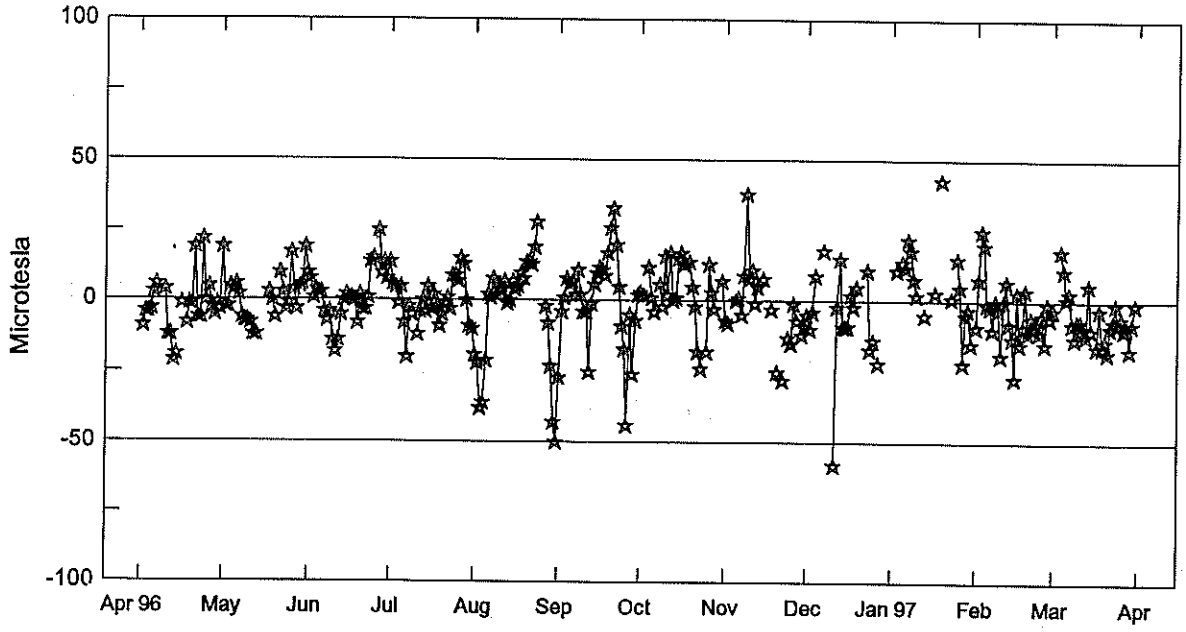


Mean Solar Magnetic Field Polarity: = field > 2 microT; = -2 microT ≤ field ≤ 2 microT

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

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

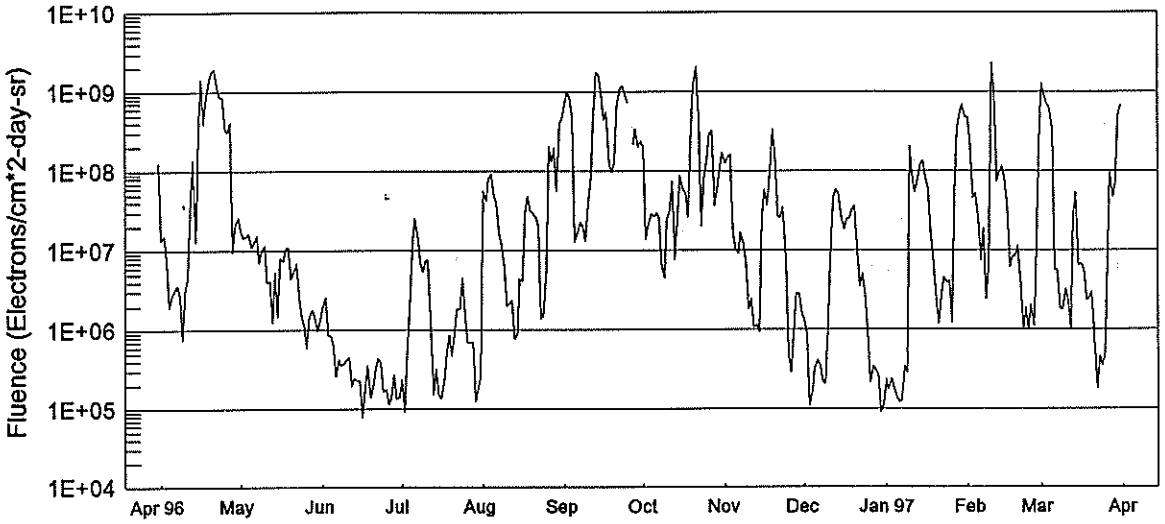
Stanford Mean Solar Magnetic Field (Microtesla)
"Sun-As-A-Star"



Day	Apr 96	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 97	Feb	Mar
1	---	19	10	14	-19	-27	3	-7	-5	---	-9	-3
2	-9	-2	8	6	-22	-4	2	-8	-10	---	8	---
3	-4	-2	1	5	-38	1	---	---	-4	11	25	---
4	-4	5	4	-1	-36	8	12	---	9	---	20	18
5	-3	4	3	5	-21	6	1	0	---	14	-1	11
6	3	6	3	-8	2	7	-4	1	---	12	-2	1
7	6	2	-4	-20	1	2	---	-5	18	22	-10	3
8	---	-6	-7	-2	8	11	6	9	---	18	0	-8
9	---	-7	-4	-5	2	2	-2	38	---	8	-3	-13
10	4	-7	-14	---	4	-4	16	8	---	2	-19	-7
11	-12	-8	-18	-12	4	-4	2	11	-58	---	0	-7
12	-12	-12	-14	-4	7	-25	17	-1	-2	---	7	-9
13	-21	-12	-5	0	-1	-1	0	5	15	-5	-8	-12
14	-19	---	0	-4	0	6	1	---	-9	---	-13	6
15	---	---	2	5	7	10	15	8	-9	---	-27	-10
16	-1	---	1	-3	4	12	17	---	-9	---	3	---
17	---	---	1	2	5	11	13	---	2	3	-15	-16
18	-8	3	0	-2	10	9	---	-3	-2	---	-9	-3
19	-1	0	-8	-9	8	17	14		5	43	4	-16
20	-1	-6	2	-5	14	26	5	-25	---	---	-11	-14
21	19	---	-3	-1	14	33	-2	---	---	---	-6	-18
22	-6	10	-3	1	13	20	-18	-28	---	---	-9	-9
23	-6	3	1	-3	19	5	-24	---	11	1	-8	-7
24	22	-3	14	9	28	-9	---	-13	-17	---	-11	-1
25	0	-1	15	9	---	-17	-18	-15	-14	15	-5	-8
26	5	17	---	7	---	-44	13	-1	---	5	-15	-6
27	-2	4	25	15	-2	-5	3	-7	-22	-22	-1	-10
28	-5	-3	10	13	-8	-26	-3	---	---	-5	-6	-9
29	-1	5	14	0	-23	-7	---	-12	---	-3		-17
30	-3	6	8	-9	-43	2	---	-9	---	-15		-8
31		19		-10	-50		7		---	---		-1

Note: --- Indicates no data available for the day.

GOES Daily Electron Fluence
Apr 96 - Mar 97



Day	Apr 96	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 97	Feb	Mar
1	1.3E+07	1.7E+07	1.9E+06	2.3E+05	5.6E+07	7.0E+08	2.0E+08	1.2E+08	1.3E+06	2.3E+05	4.7E+08	1.2E+09
2	1.5E+07	1.4E+07	2.5E+06	9.1E+04	4.2E+07	9.9E+08	1.3E+07	1.4E+08	8.8E+05	1.7E+05	2.0E+08	9.0E+08
3	7.5E+06	1.4E+07	8.5E+05	5.1E+05	7.8E+07	8.3E+08	2.1E+07	1.5E+08	1.0E+05	2.3E+05	4.5E+07	7.0E+08
4	1.9E+06	1.6E+07	8.6E+05	1.8E+06	9.1E+07	4.8E+08	2.8E+07	1.7E+07	1.7E+05	1.8E+05	5.3E+07	6.3E+08
5	2.6E+06	1.1E+07	6.6E+05	1.4E+07	5.1E+07	1.2E+07	2.7E+07	1.0E+07	3.1E+05	1.4E+05	2.4E+07	3.4E+08
6	3.1E+06	1.2E+07	2.5E+05	2.5E+07	3.9E+07	1.7E+07	2.9E+07	9.2E+06	4.1E+05	1.2E+05	7.5E+06	5.6E+06
7	3.6E+06	1.5E+07	4.2E+05	1.5E+07	1.7E+07	2.2E+07	2.6E+07	1.6E+07	3.4E+05	1.2E+05	1.9E+07	5.5E+06
8	2.6E+06	7.1E+06	3.5E+05	6.9E+06	1.2E+07	2.0E+07	6.5E+06	1.2E+07	2.1E+05	3.4E+05	2.4E+06	1.8E+06
9	7.5E+05	1.0E+07	3.7E+05	5.4E+06	6.2E+06	1.2E+07	4.6E+06	6.8E+06	2.0E+05	2.8E+05	6.0E+06	1.8E+06
10	3.0E+06	1.1E+07	4.1E+05	7.4E+06	2.0E+06	3.6E+07	2.4E+07	1.8E+06	9.7E+05	2.0E+08	2.3E+09	3.2E+06
11	4.3E+06	4.0E+06	4.4E+05	7.6E+06	2.1E+06	8.5E+07	3.1E+07	2.4E+06	1.1E+07	8.6E+07	9.7E+08	2.3E+06
12	4.9E+07	4.1E+06	1.9E+05	9.6E+05	2.3E+06	3.8E+08	7.3E+07	1.0E+06	4.7E+07	5.4E+07	7.4E+07	1.0E+06
13	1.3E+08	1.2E+06	2.4E+05	1.5E+05	7.6E+05	1.7E+09	7.7E+06	1.1E+06	5.8E+07	8.2E+07	9.6E+07	2.6E+07
14	1.2E+07	5.2E+06	2.2E+05	3.1E+05	9.2E+05	1.6E+09	2.3E+07	9.4E+05	5.1E+07	1.2E+08	1.1E+08	5.3E+07
15	2.9E+08	1.4E+06	2.2E+05	1.5E+05	4.4E+06	9.7E+08	8.5E+07	2.6E+07	2.7E+07	1.3E+08	8.2E+07	6.6E+06
16	1.4E+09	8.0E+06	7.7E+04	1.3E+05	4.2E+06	4.3E+08	5.8E+07	5.7E+07	1.8E+07	7.9E+07	3.4E+07	6.6E+06
17	3.9E+08	7.4E+06	1.7E+05	2.2E+05	3.0E+07	5.4E+08	5.3E+07	3.7E+07	2.4E+07	6.2E+07	6.1E+06	5.8E+06
18	8.2E+08	1.0E+07	3.6E+05	5.2E+05	4.8E+07	1.2E+08	2.6E+07	1.0E+08	2.5E+07	1.7E+07	8.3E+06	2.4E+06
19	1.3E+09	1.1E+07	1.3E+05	8.5E+05	3.1E+07	9.6E+07	2.2E+08	3.3E+08	3.2E+07	6.8E+06	8.4E+06	2.4E+06
20	1.8E+09	4.5E+06	1.9E+05	4.7E+05	2.9E+07	1.2E+08	1.1E+09	1.4E+08	3.6E+07	2.4E+06	1.1E+07	2.9E+06
21	1.9E+09	5.2E+06	3.2E+05	8.5E+05	2.6E+07	6.5E+08	2.0E+09	2.7E+07	1.1E+07	1.1E+06	3.7E+06	5.6E+05
22	1.2E+09	6.8E+06	4.3E+05	1.8E+06	2.0E+07	1.1E+09	5.0E+08	2.5E+07	3.4E+06	2.6E+06	9.9E+05	1.8E+05
23	8.6E+08	2.6E+06	3.9E+05	1.8E+06	1.3E+06	1.1E+09	2.0E+07	3.5E+07	5.1E+06	4.6E+06	1.8E+06	4.5E+05
24	8.3E+08	1.4E+06	1.6E+05	4.4E+06	1.5E+06	9.3E+08	8.1E+07	7.9E+06	2.8E+06	3.9E+06	1.0E+06	3.5E+05
25	3.3E+08	1.1E+06	1.7E+05	1.6E+06	5.9E+06	7.1E+08	1.4E+08	5.0E+05	9.5E+05	4.0E+06	2.0E+06	4.8E+05
26	3.0E+08	5.8E+05	1.1E+05	6.9E+05	1.9E+08	--	2.8E+08	2.8E+05	2.1E+05	1.2E+06	1.1E+06	1.2E+07
27	4.1E+08	1.4E+06	1.4E+05	6.8E+05	1.2E+08	2.2E+08	3.2E+08	8.9E+05	3.4E+05	5.2E+07	5.7E+06	9.4E+07
28	9.5E+06	1.8E+06	2.7E+05	6.9E+05	1.9E+08	3.4E+08	3.6E+07	2.8E+06	3.0E+05	3.3E+08	2.2E+08	4.7E+07
29	2.1E+07	1.4E+06	1.3E+05	1.2E+05	5.6E+07	2.0E+08	5.7E+07	2.8E+06	2.6E+05	5.7E+08		7.3E+07
30	2.6E+07	9.7E+05	1.4E+05	1.8E+05	4.1E+08	2.3E+08	1.0E+08	1.5E+06	9.0E+04	6.8E+08		4.9E+08
31		1.3E+06		2.5E+05	4.4E+08		1.6E+08		1.0E+05	4.7E+08		6.6E+08

NOTE: The electron detector responds significantly to protons above 32 MeV; therefore, electron data are contaminated when a proton event is in progress. These days are indicated with '-999' in the table and are not plotted. '--' indicates data not available. GOES9 data began April, 1996.

CONTENTS

Prompt Reports Number 632 Part I

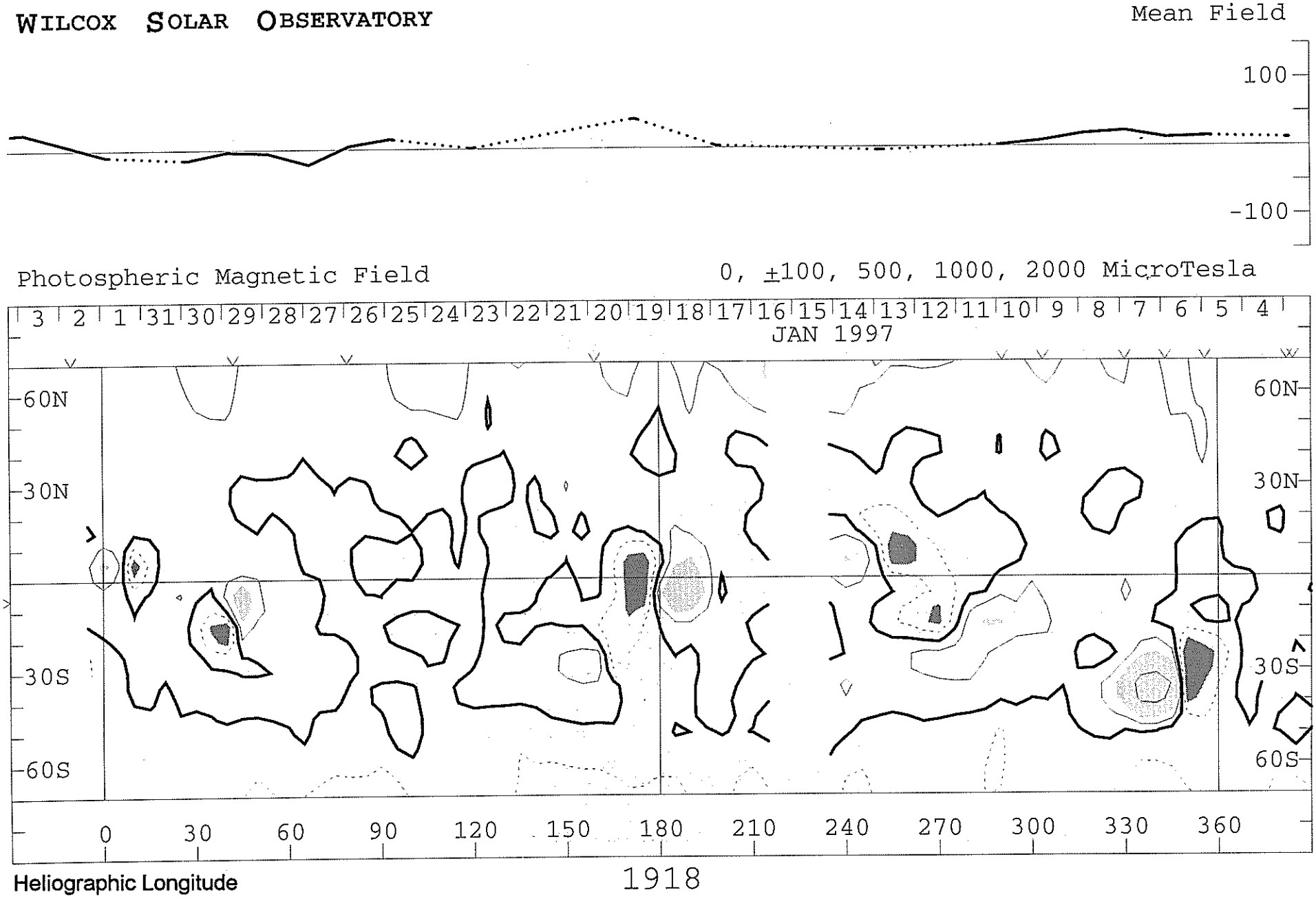
DATA FOR FEBRUARY 1997

SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1918

(5 January to 1 February 1997)

WILCOX SOLAR OBSERVATORY



SOLAR MAGNETIC FIELD SYNOPTIC CHART

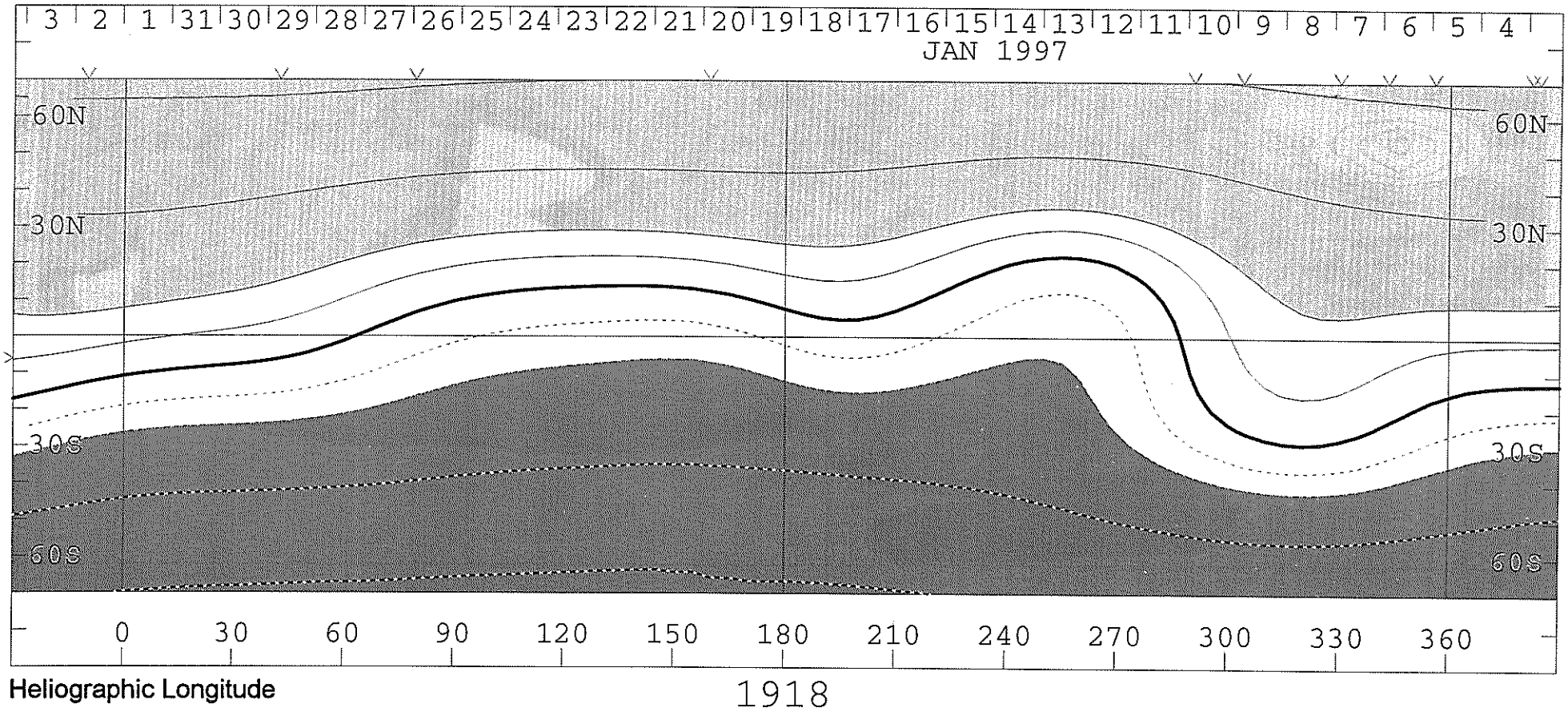
SOURCE SURFACE FIELD

CARRINGTON ROTATION NUMBER 1918

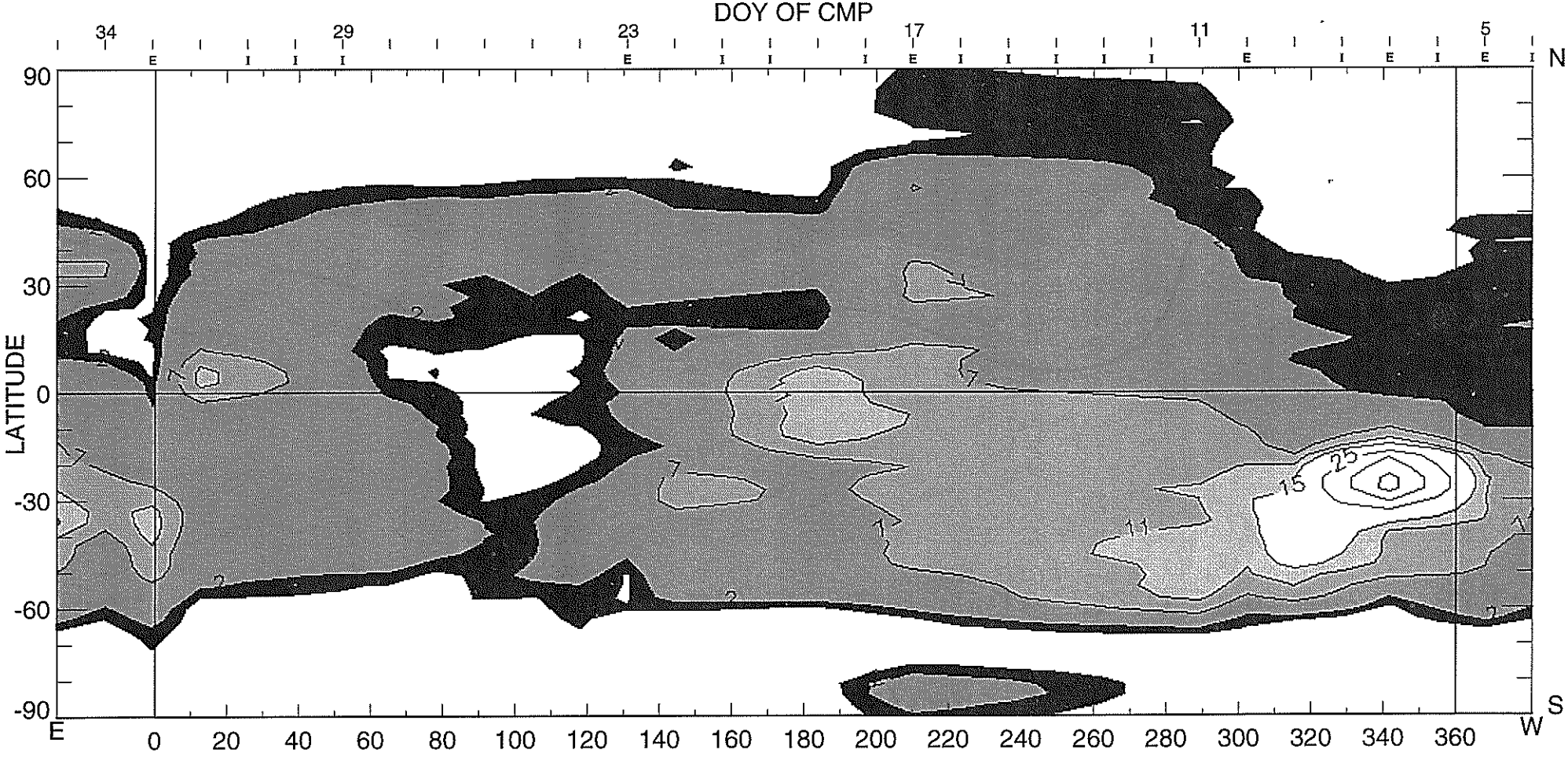
(5 January to 1 February 1997)

Wilcox Solar Observatory

0, ±1, 2, 5, 10, 20 microTesla



CARRINGTON ROTATION NUMBER 1918 ; NSO/SACRAMENTO PEAK FE XIV @ R = 1.15R_o



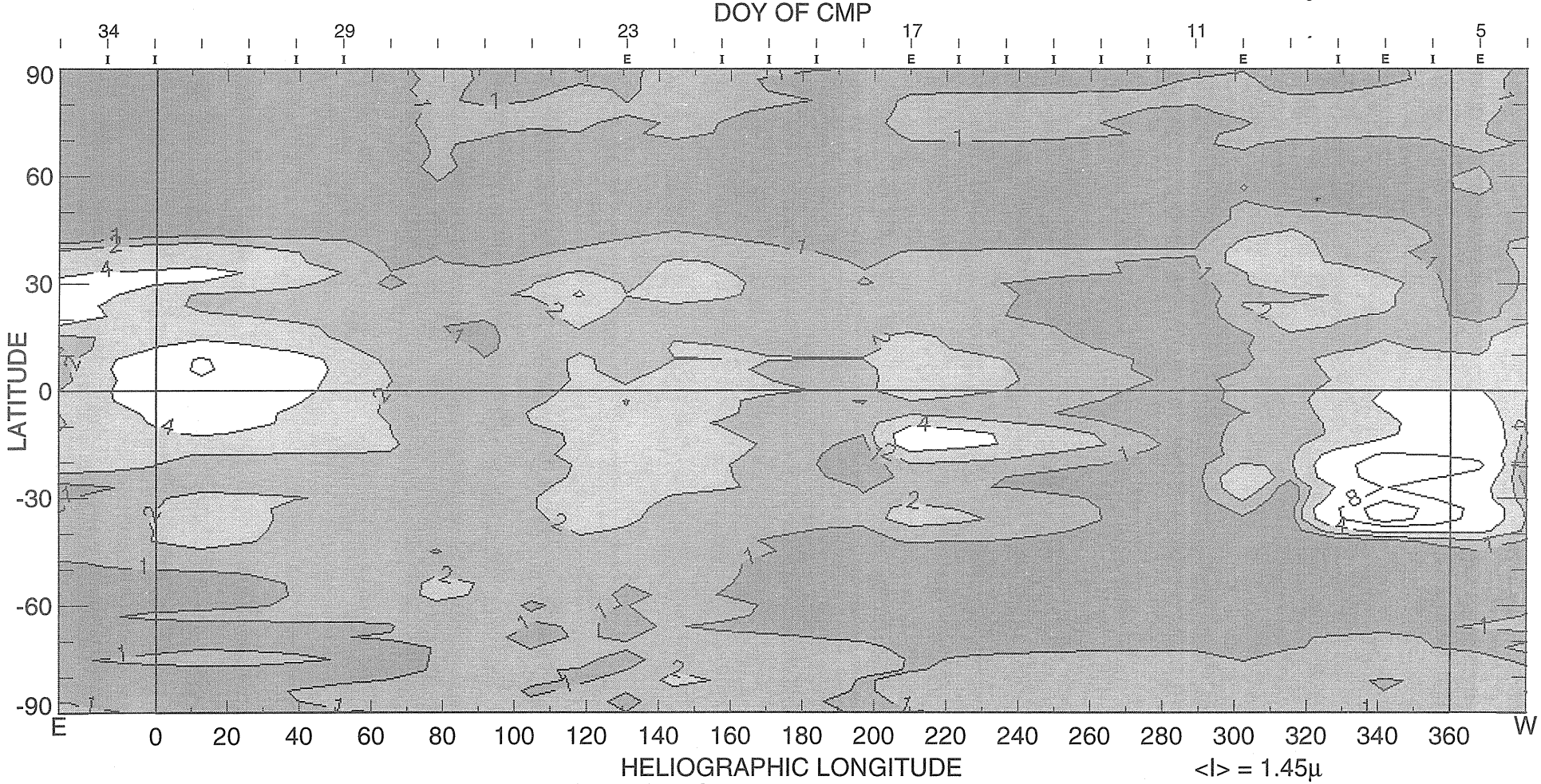
<I> = 3.46μ

(26-Mar-97)

1997 W+E LIMB CONTOURS: 1, 2, 7, 11, 15, 25, 35, 45 MILLIONTHS OF I_o

CORONAL HOLES ARE SHOWN AS WHITE BORDERED BY BLACK

CARRINGTON ROTATION NUMBER 1918 ; NSO/SACRAMENTO PEAK FE X @ R = 1.15R_o



<I> = 1.45μ

(26-Mar-97)

1997 W+E LIMB CONTOURS: 1, 2, 4, 8, 12, 16, 32, 48 MILLIONTHS OF I_o

NOTE: No Ca XV emission observed at Sacramento Peak for rotation 1918.

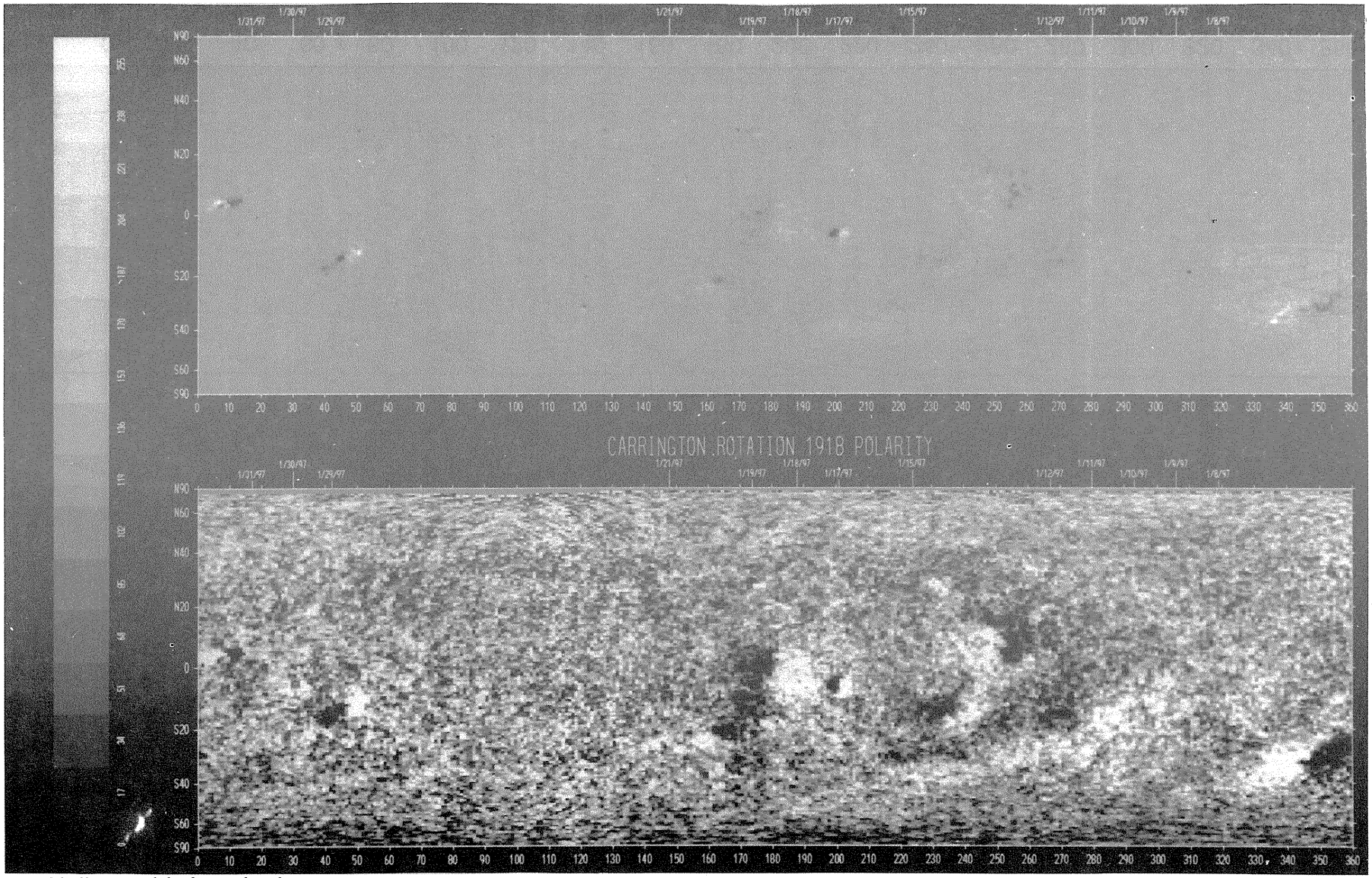
SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1918

(5 January to 1 February 1997)

National Solar Observatory/Kitt Peak

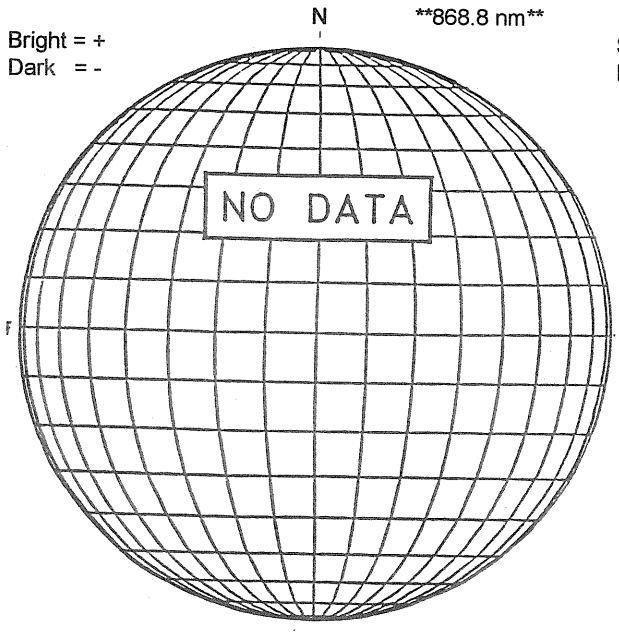
Dates of Observation



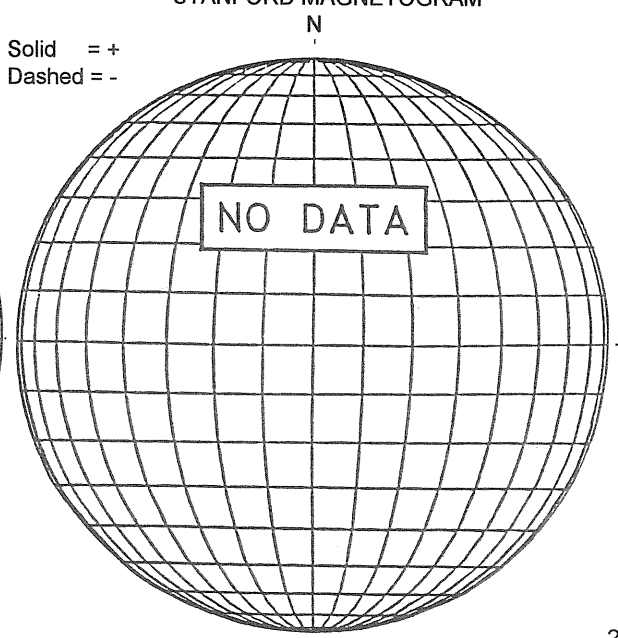
Heliographic Longitude

FEBRUARY 1, 1997 (P= - 12.20 , Bo = - 6.04 , Lo = 12.53)

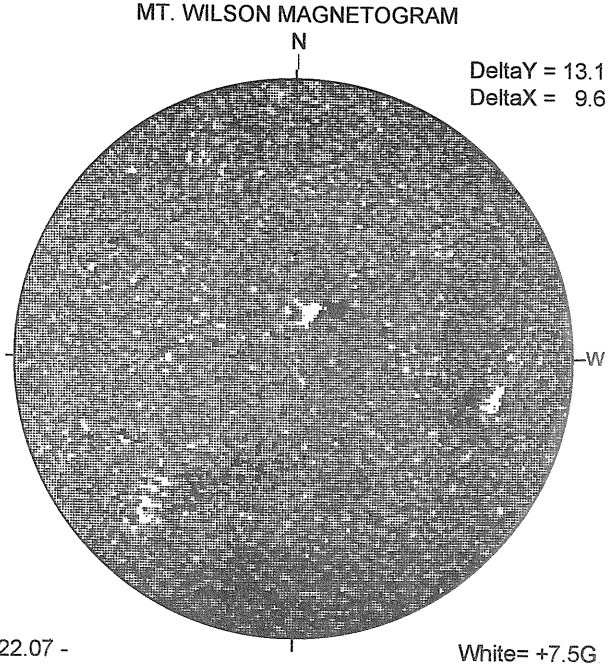
KITT PEAK MAGNETOGRAM



STANFORD MAGNETOGRAM



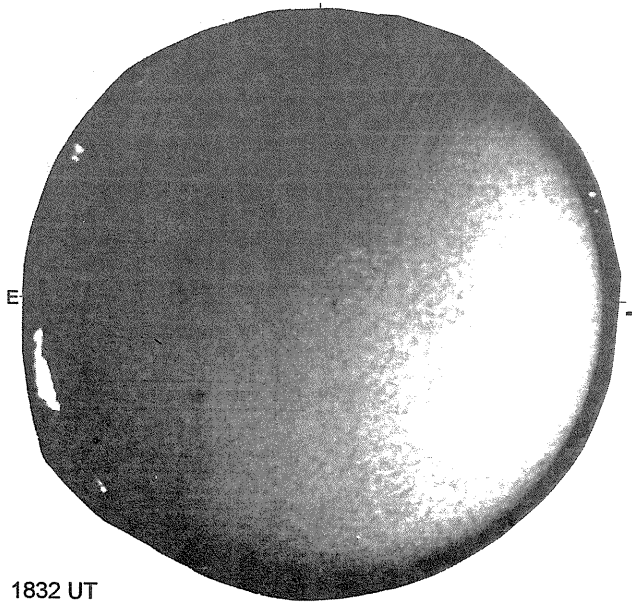
MT. WILSON MAGNETOGRAM



22.07 -
23.04 UT

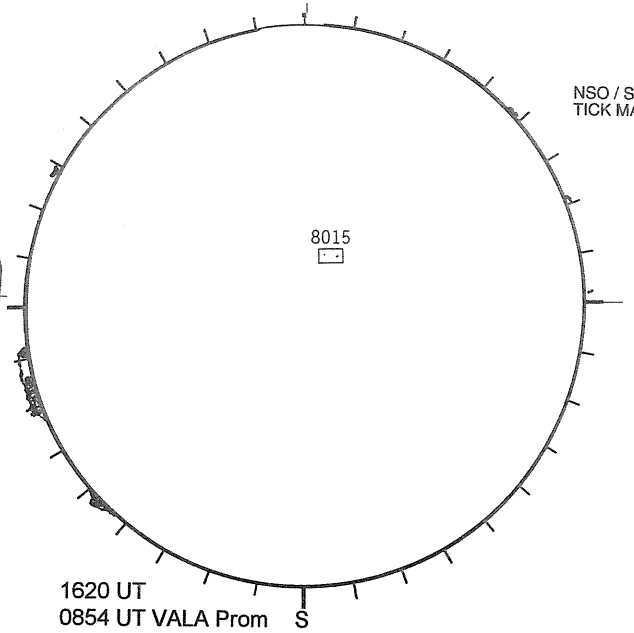
White= +7.5G
Black = -7.5G

MAUNA LOA H-ALPHA



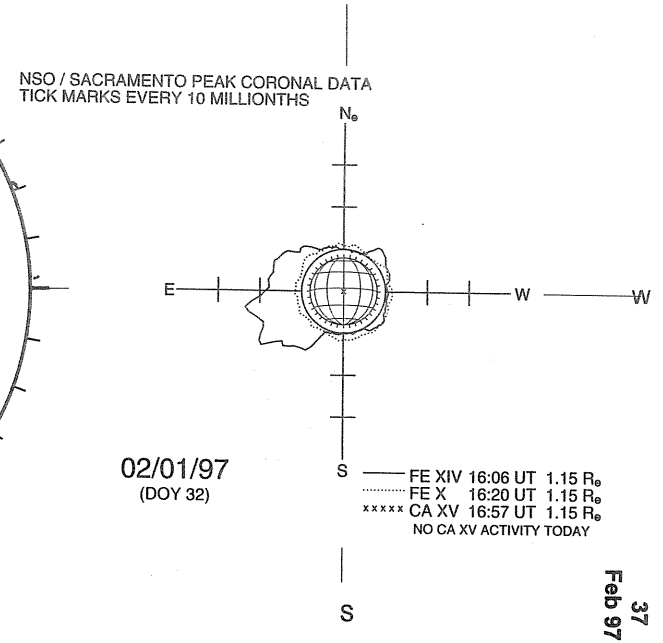
1832 UT
1932 UT Prom

HOLLOMAN SUNSPOT



1620 UT
0854 UT VALA Prom

SACRAMENTO PEAK CORONA (1.15 Radii)----



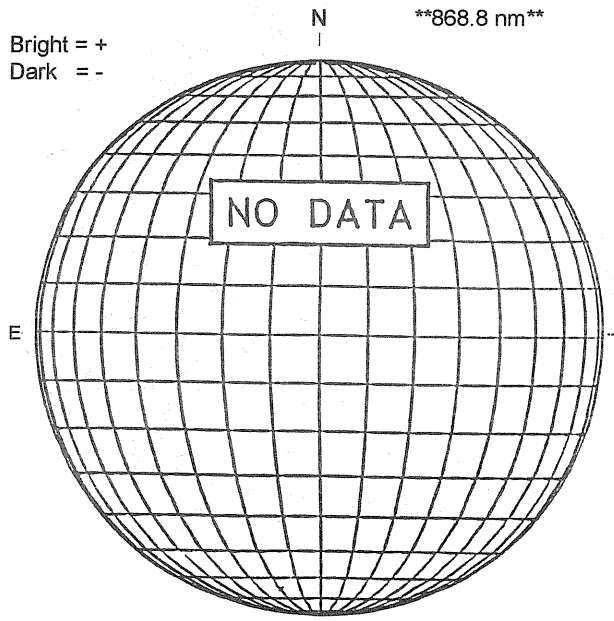
02/01/97
(DOY 32)

S

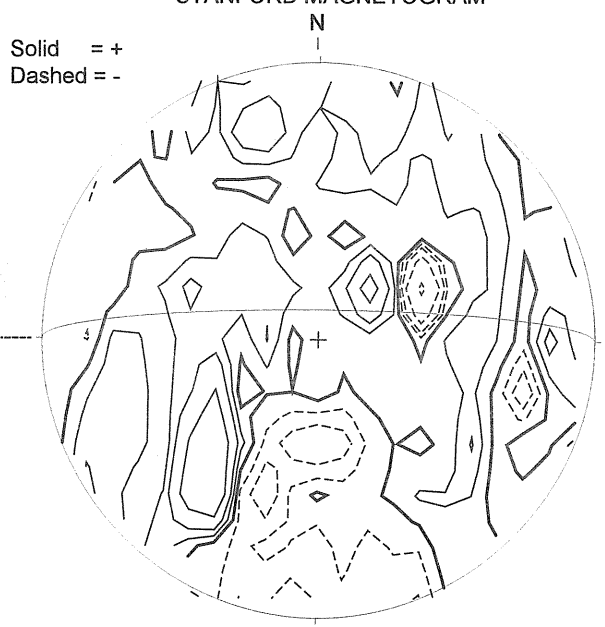
37
Feb 97

FEBRUARY 2, 1997 (P= - 12.61, Bo = - 6.11, Lo = 359.36)

KITT PEAK MAGNETOGRAM

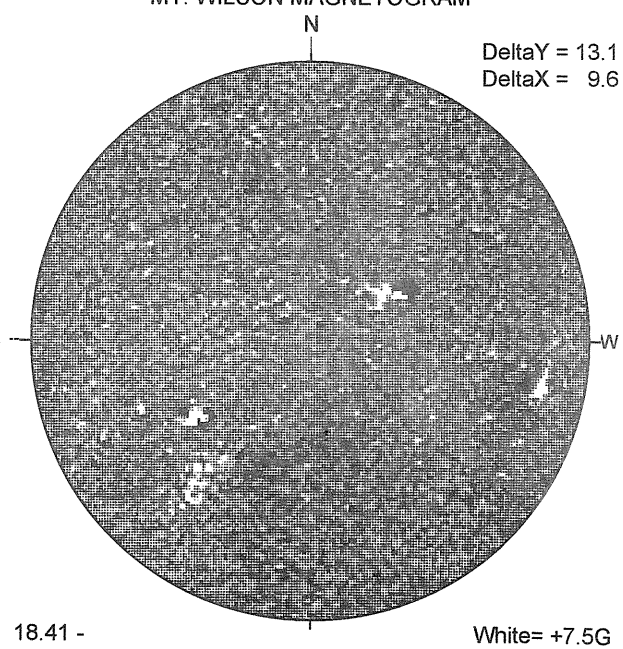


STANFORD MAGNETOGRAM



1730 UT

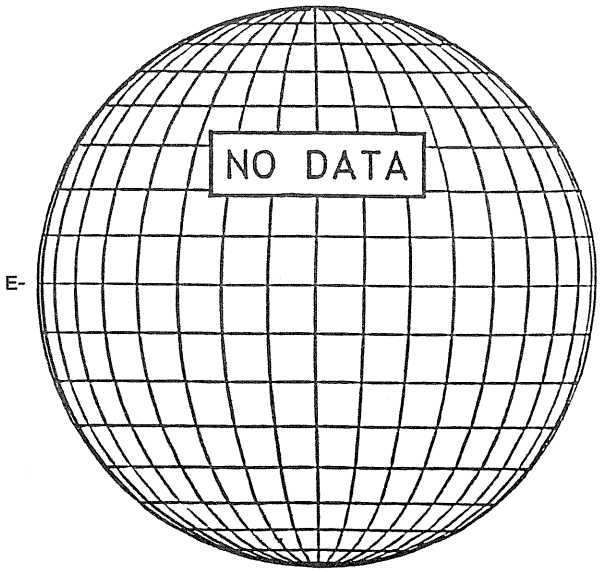
MT. WILSON MAGNETOGRAM



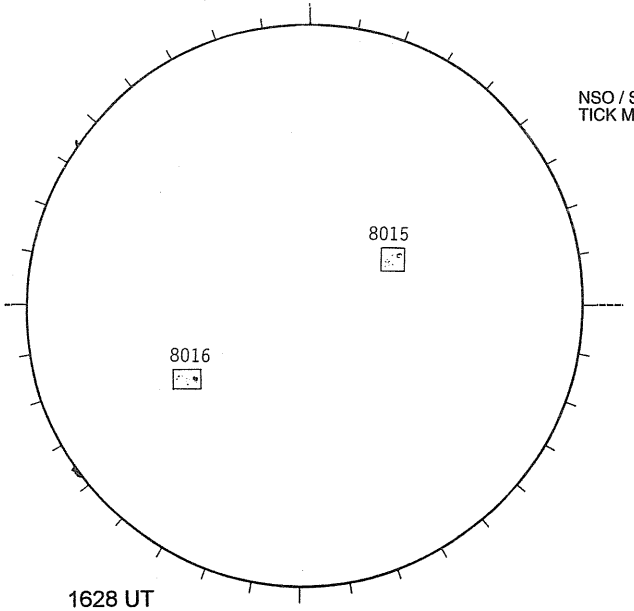
18.41 -
19.38 UT

White= +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA

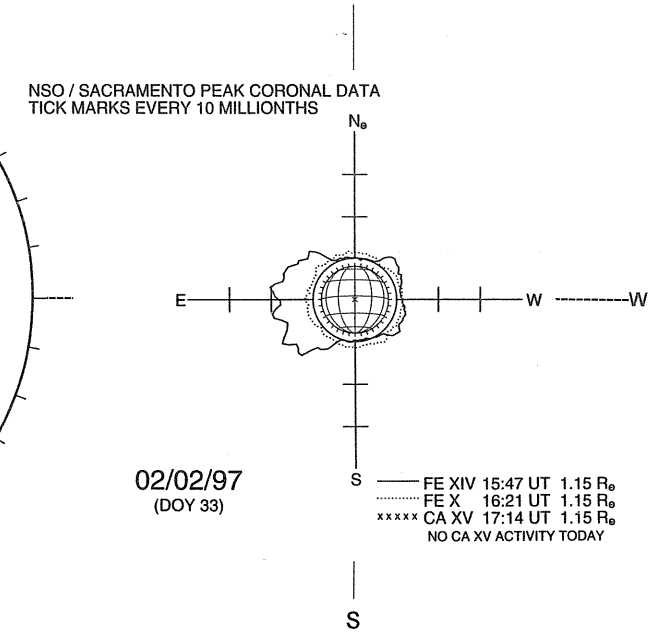


HOLLOMAN SUNSPOT



1628 UT
1229 UT LOMN Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----



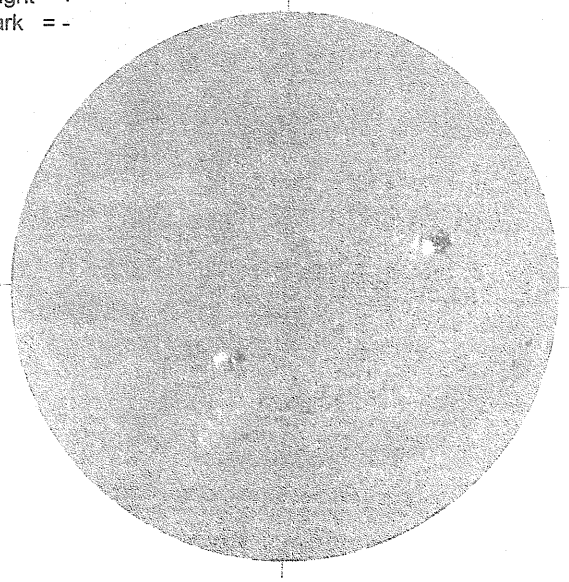
FEBRUARY 3, 1997 (P= - 13.01, Bo = - 6.18 , Lo = 346.19)

KITT PEAK MAGNETOGRAM

N

868.8 nm

Bright = +
Dark = -



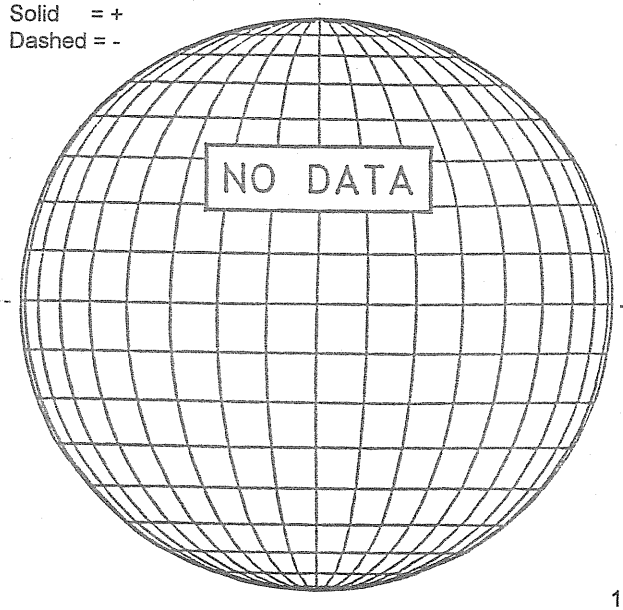
E--

1646 UT

STANFORD MAGNETOGRAM

N

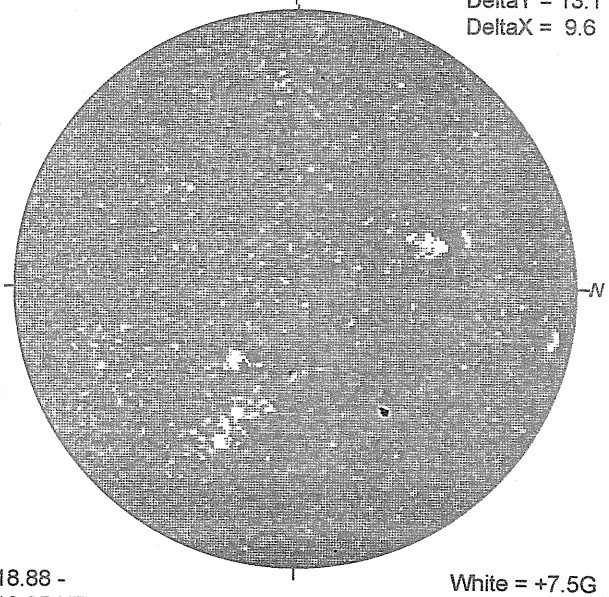
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

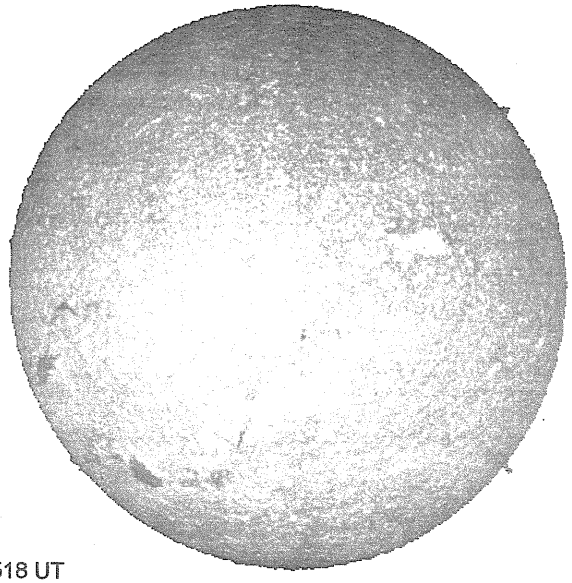


W

18.88 -
19.85 UT

White = +7.5G
Black = -7.5G

----- SACRAMENTO PEAK H-ALPHA

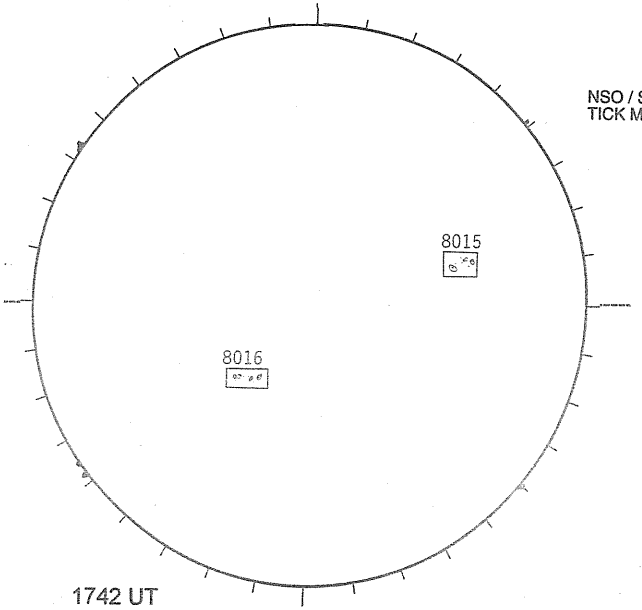


E

1518 UT

S

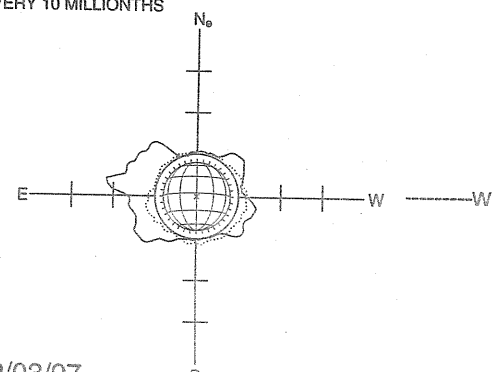
HOLLOMAN SUNSPOT



1742 UT
0815 UT LOMN Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 10 MILLIONTHS



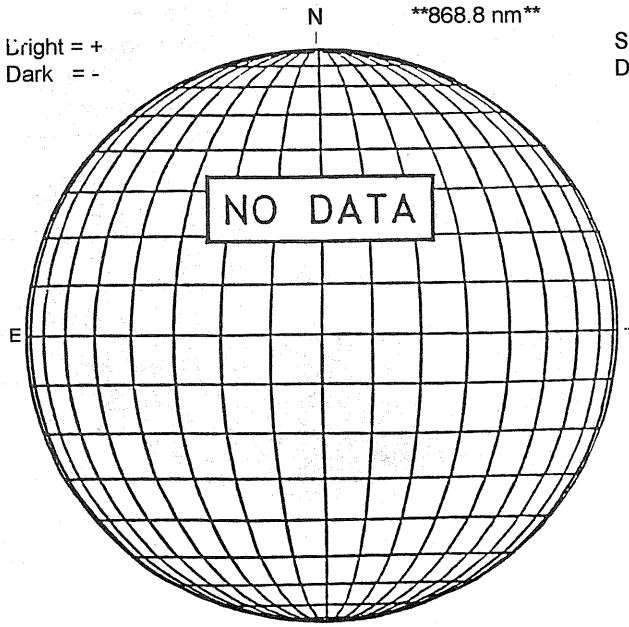
02/03/97
(DOY 34)

FE XIV 16:09 UT 1.15 $R_\odot$
FE X 16:37 UT 1.15 $R_\odot$
CA XV 16:27 UT 1.15 $R_\odot$
NO CA XV ACTIVITY TODAY

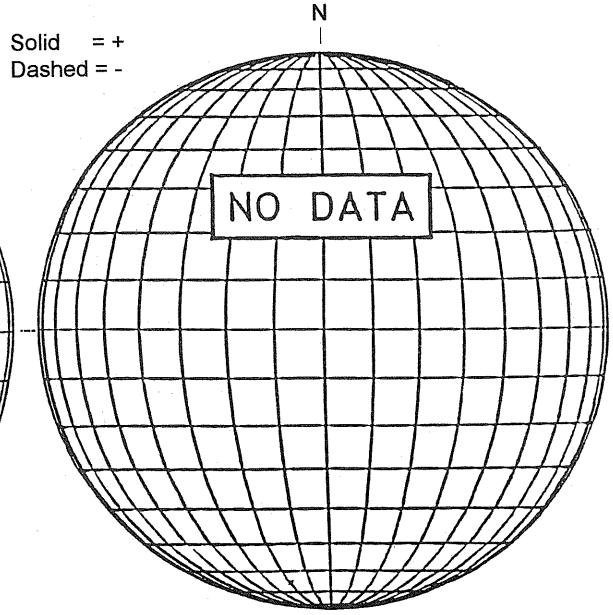
S

FEBRUARY 4, 1997 (P= - 13.41 , Bo = - 6.24 Lo = 333.03)

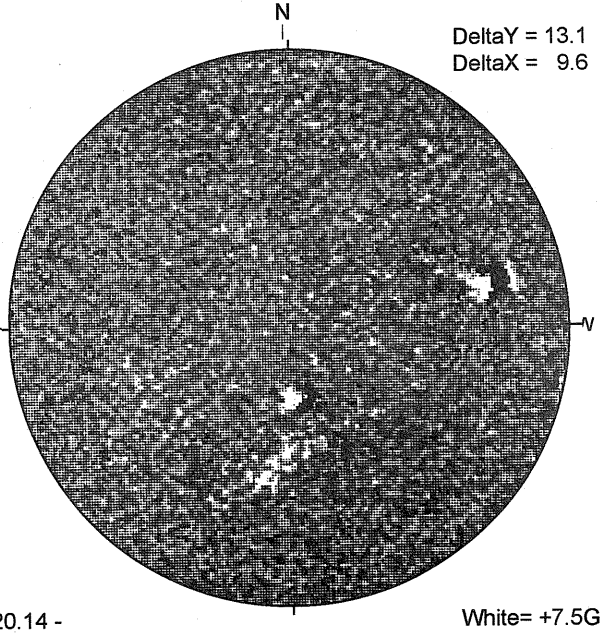
KITT PEAK MAGNETOGRAM
868.8 nm



STANFORD MAGNETOGRAM



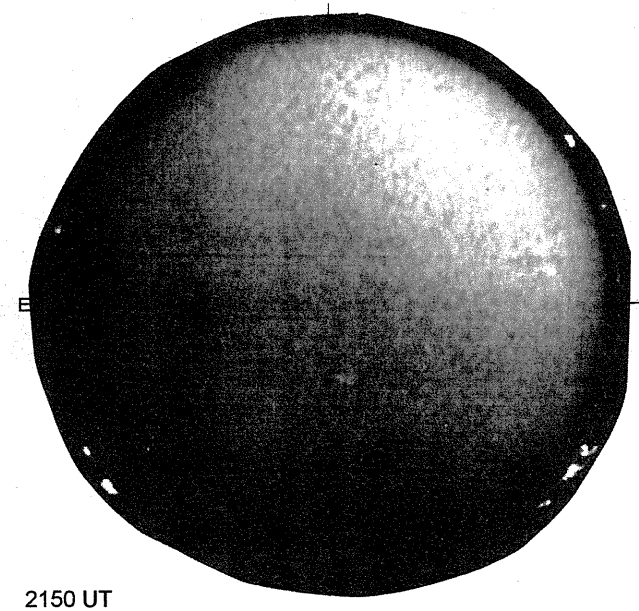
MT. WILSON MAGNETOGRAM



20.14 -
21.11 UT

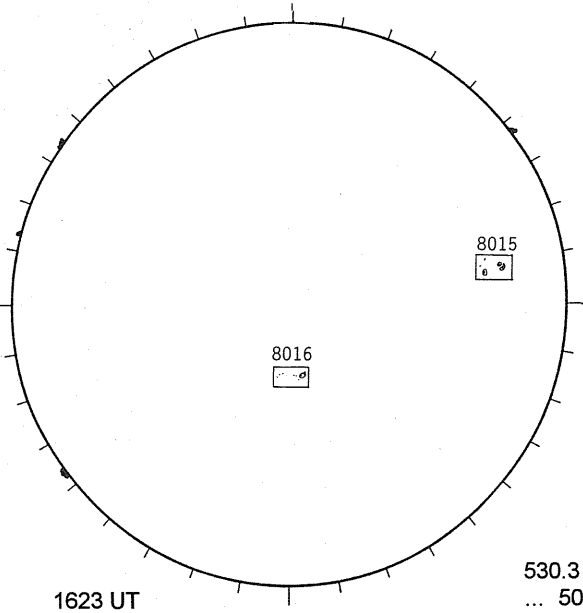
White= +7.5G
Black = -7.5G

MAUNA LOA PEAK H-ALPHA



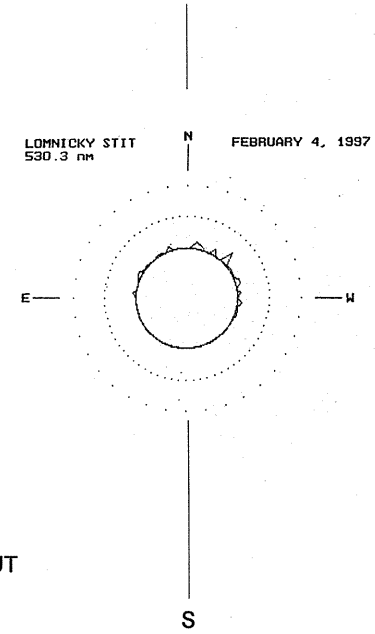
2150 UT
1932 UT Prom

HOLLOMAN SUNSPOT



1623 UT
0911 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)----



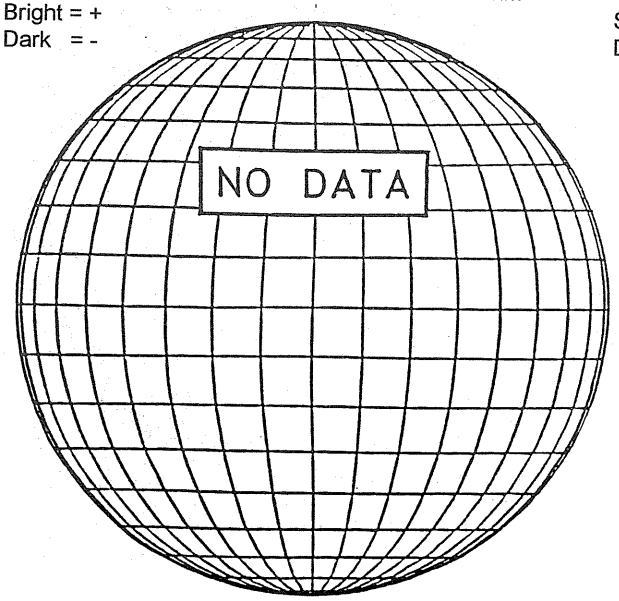
530.3 nm, 0919 UT
... 50 abs. units
. . 100 abs. units

FEBRUARY 5, 1997 (P= - 13.80 , Bo = - 6.31 , Lo = 319.86)

KITT PEAK MAGNETOGRAM

N **868.8 nm**

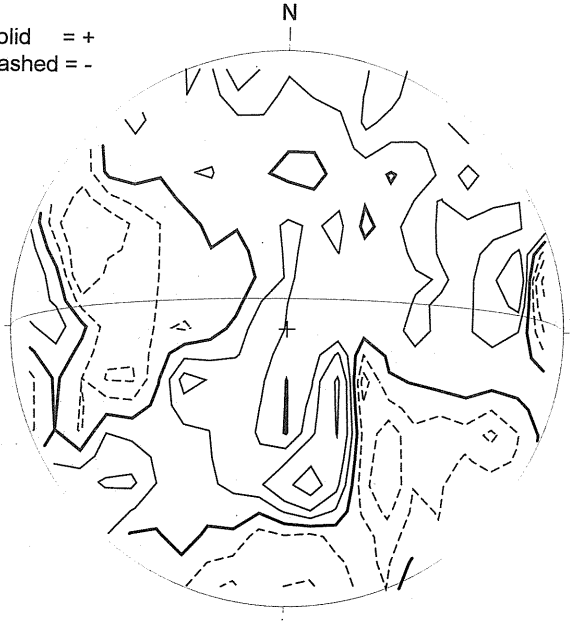
Bright = +
Dark = -



STANFORD MAGNETOGRAM

N

Solid = +
Dashed = -

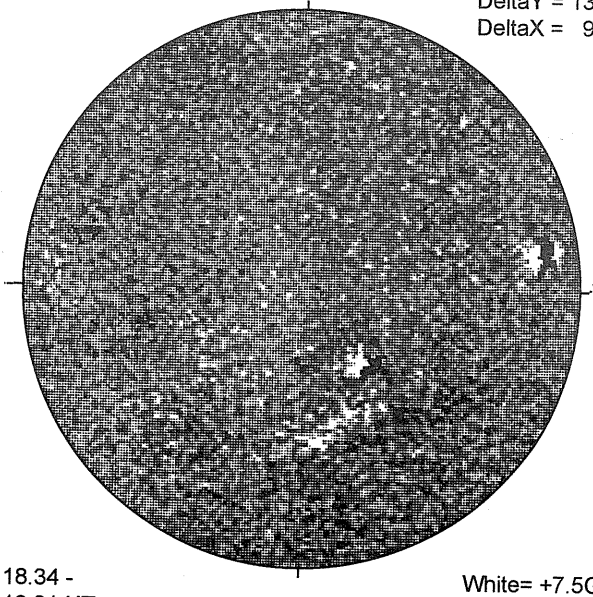


2105 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

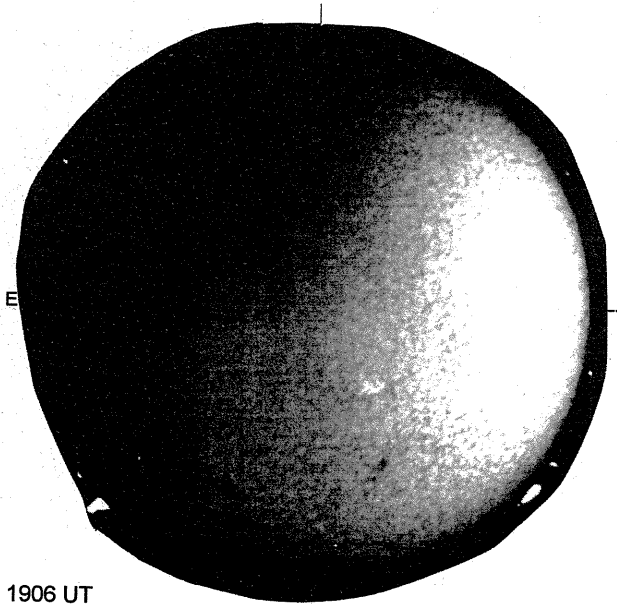


W

18.34 -
19.31 UT

White= +7.5G
Black = -7.5G

MAUNA LOA H-ALPHA

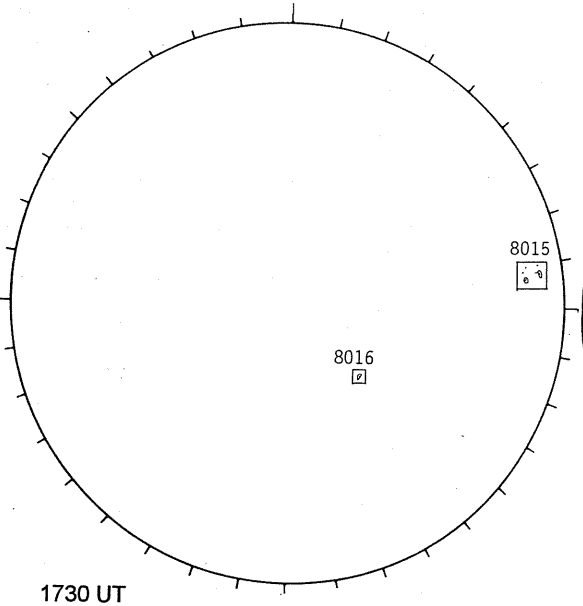


E

1906 UT
1851 UT Prom

S

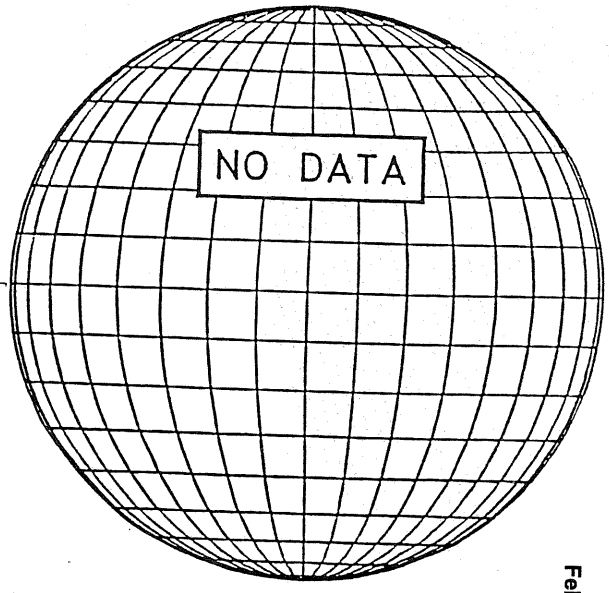
HOLLOMAN SUNSPOT



1730 UT

S

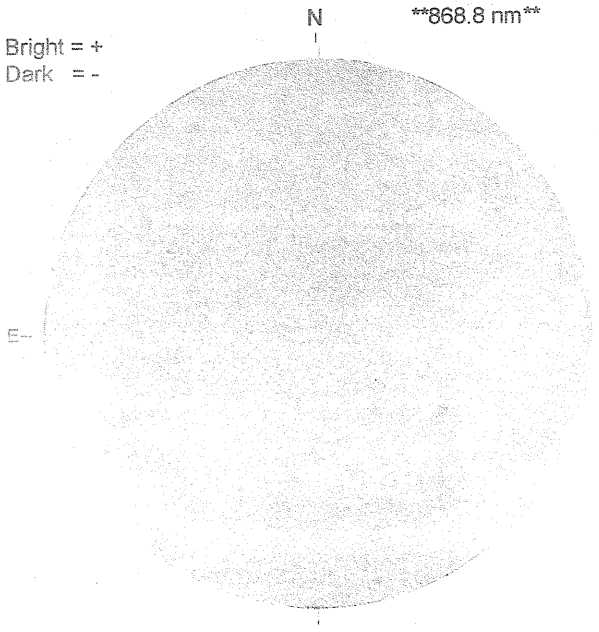
LOMNICKY PEAK CORONA (1.04 Radii)----



S

FEBRUARY 6, 1997 (P= - 14.18, Bo = - 6.37 , Lo = 306.70)

KITT PEAK MAGNETOGRAM

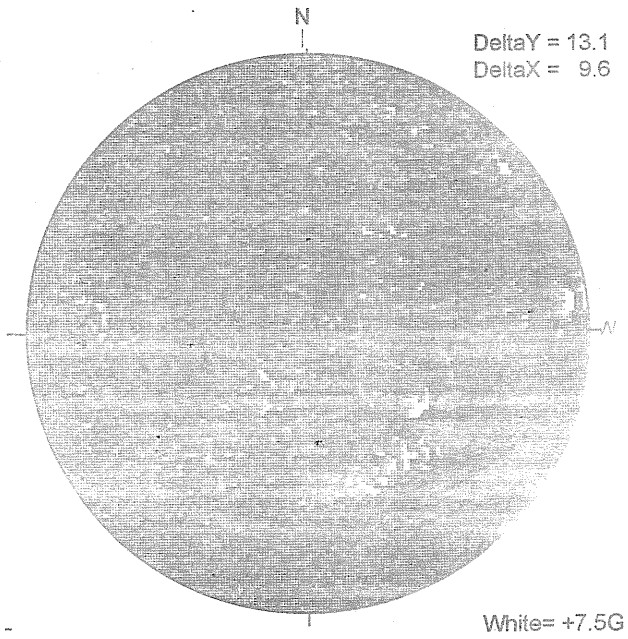


1730 UT

STANFORD MAGNETOGRAM

2123 UT

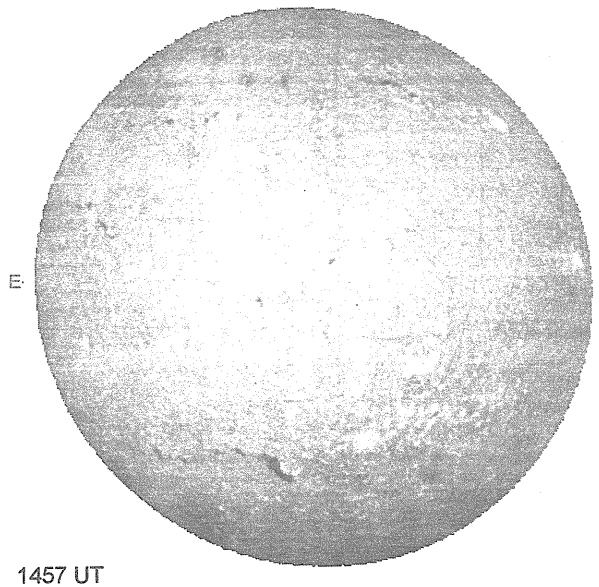
MT. WILSON MAGNETOGRAM



18.30 -
19.26 UT

White= +7.5G
Black = -7.5G

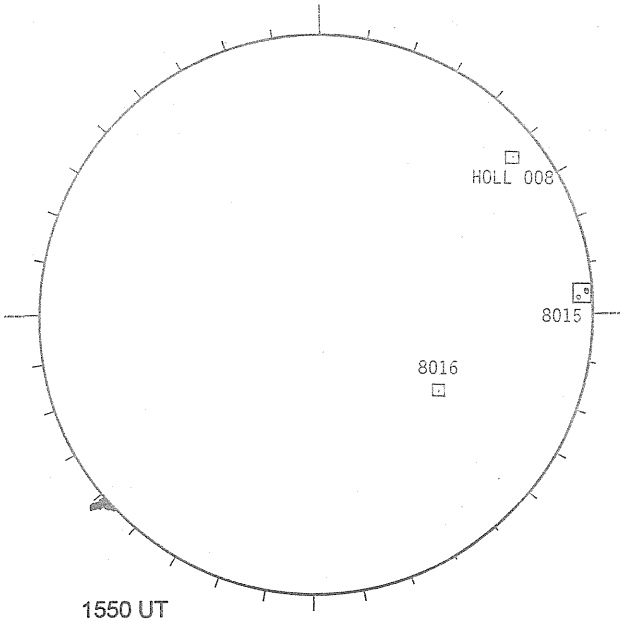
SACRAMENTO PEAK H-ALPHA



1457 UT

S

HOLLOMAN SUNSPOT



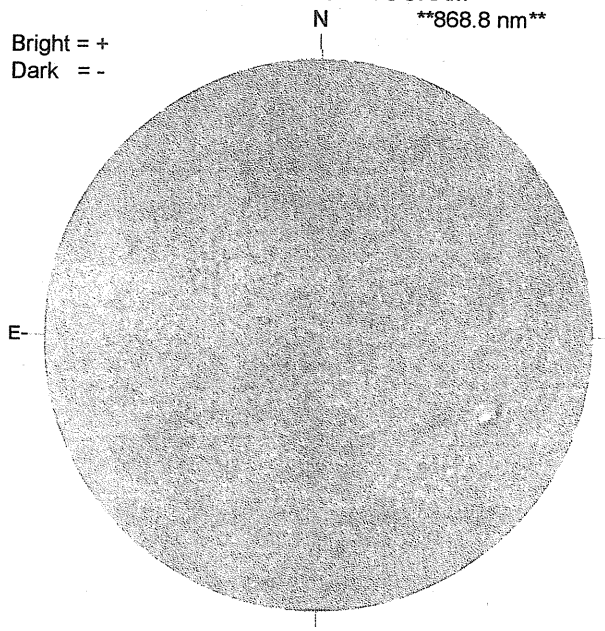
1550 UT
0941 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)

S

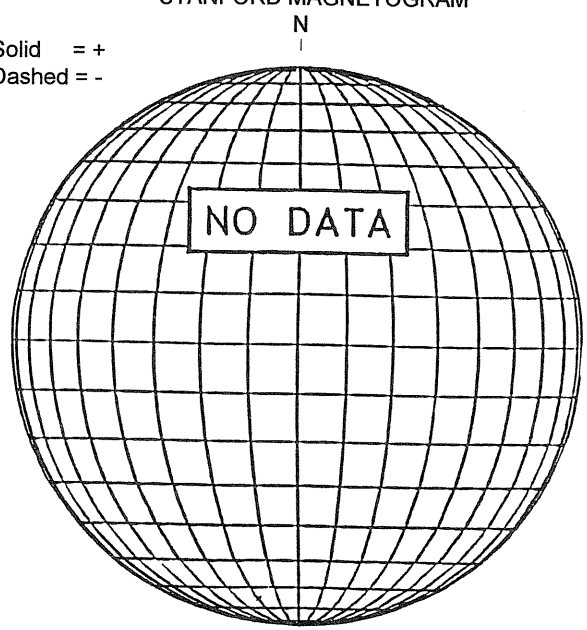
FEBRUARY 7, 1997 (P= - 14.56, Bo = - 6.43 Lo = 293.53)

KITT PEAK MAGNETOGRAM

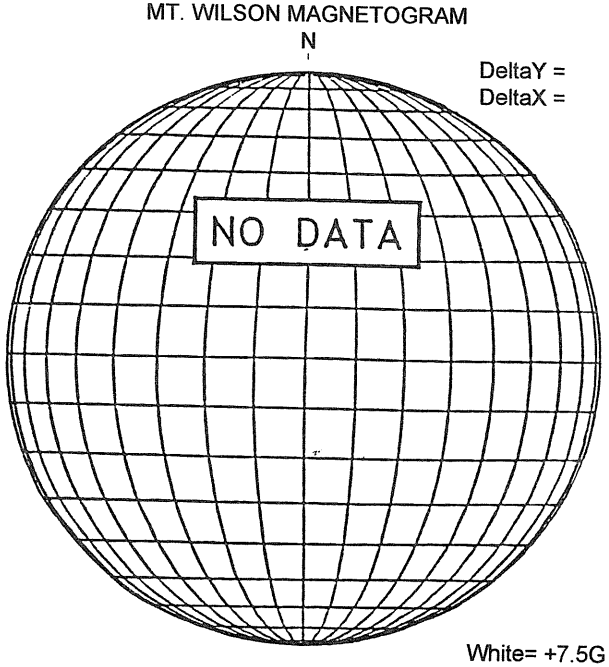


1758 UT

STANFORD MAGNETOGRAM

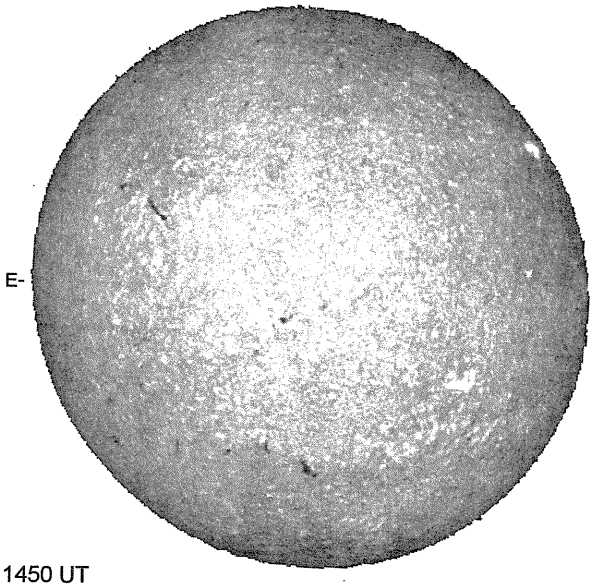


MT. WILSON MAGNETOGRAM



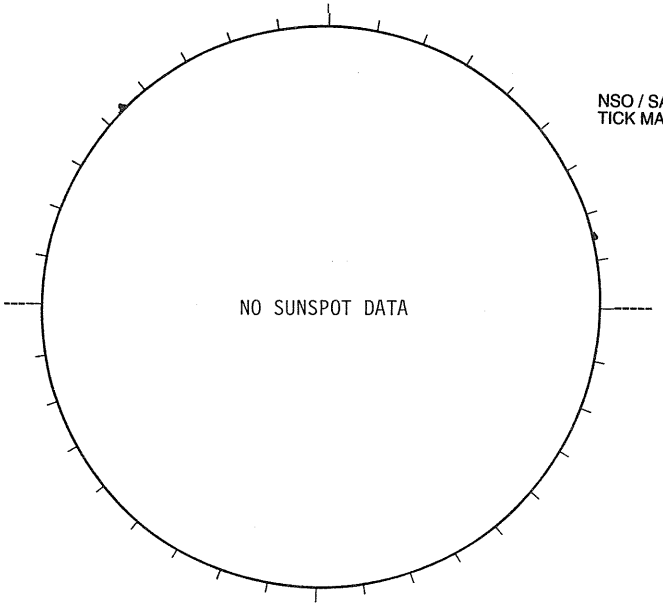
White= +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



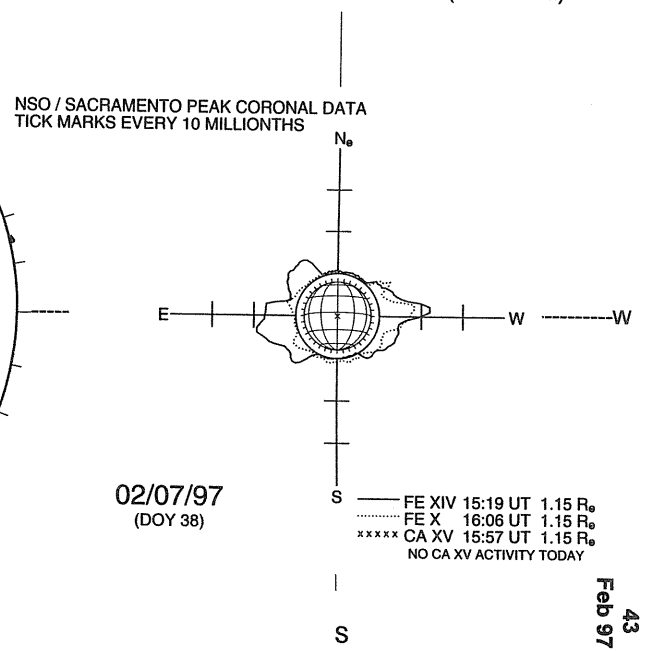
1450 UT

HOLLOMAN SUNSPOT



0721 UT LOMN Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----



S

43
Feb 97

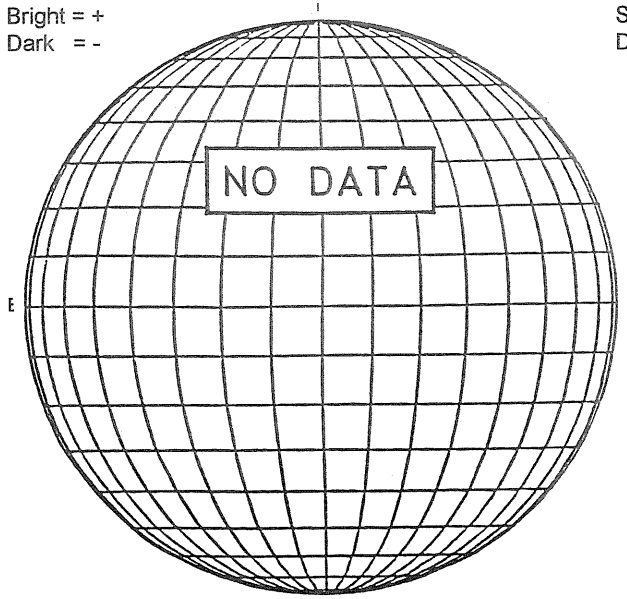
FEBRUARY 8, 1997 (P= - 14.94, Bo = - 6.49 , Lo = 280.36)

KITT PEAK MAGNETOGRAM

N

868.8 nm

Bright = +
Dark = -



STANFORD MAGNETOGRAM

N

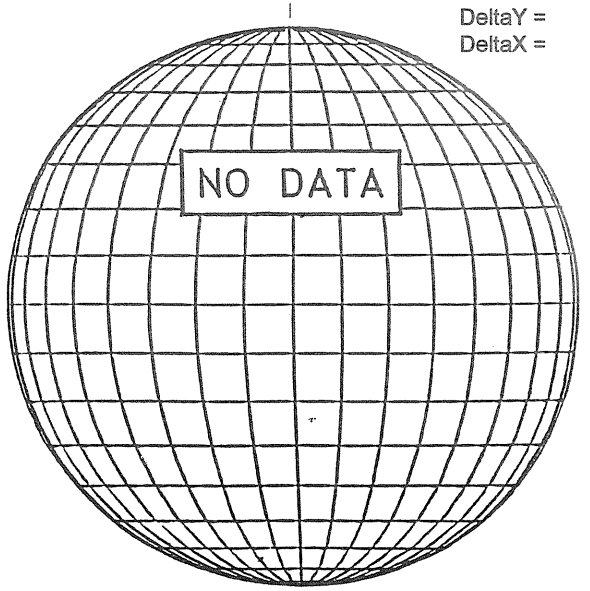
Solid = +
Dashed = -

1913 UT

MT. WILSON MAGNETOGRAM

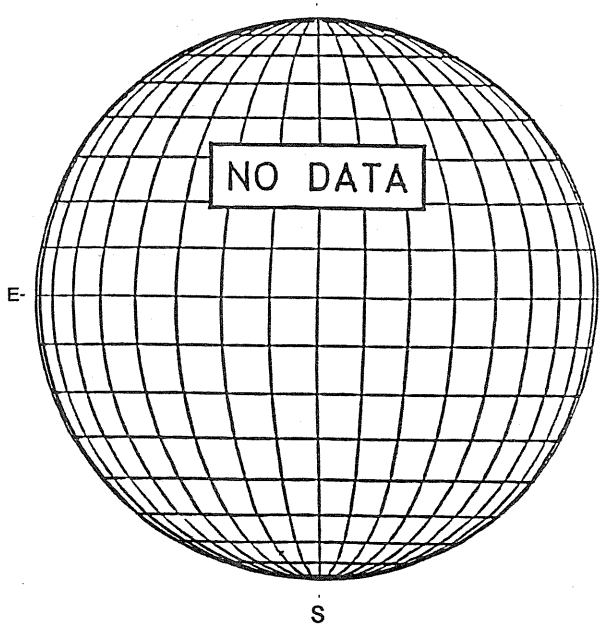
N

DeltaY =
DeltaX =

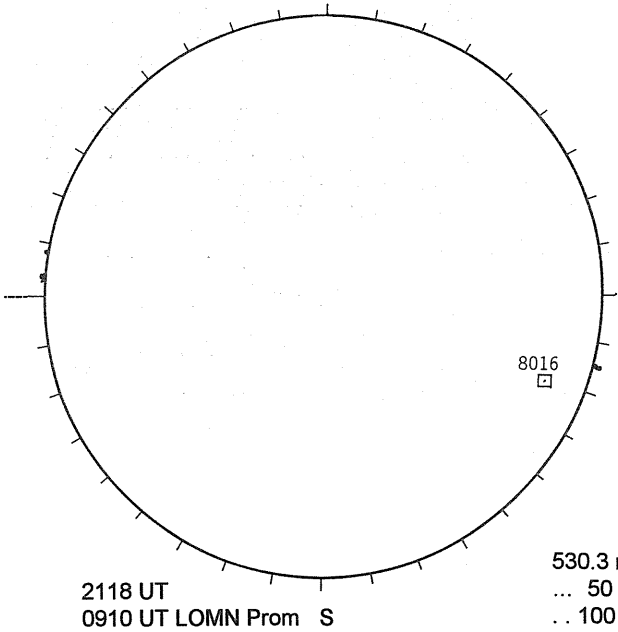


White= +7.5G
Black = -7.5G

MAUNA LOA H-ALPHA

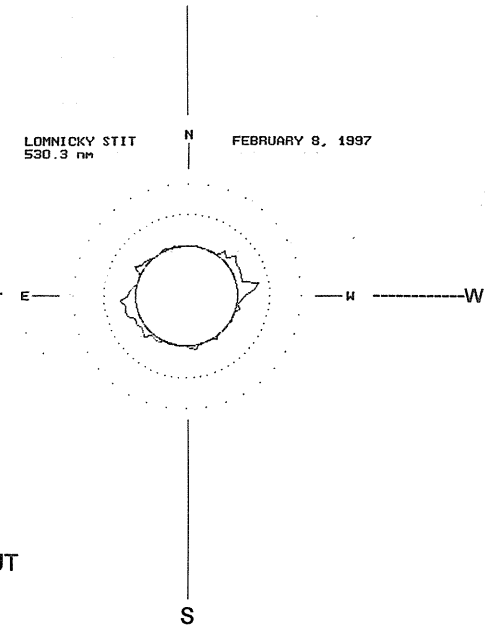


HOLLOMAN SUNSPOT



2118 UT
0910 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)----



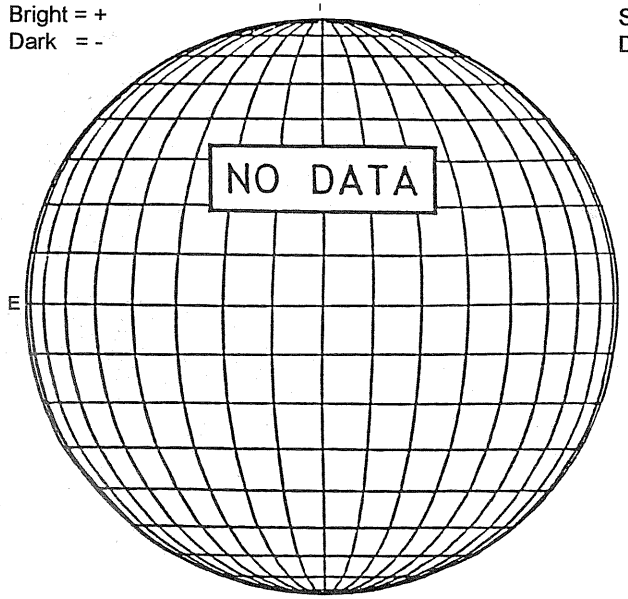
530.3 nm, 0923 UT
... 50 abs. units
. . 100 abs. units

FEBRUARY 9, 1997 (P= - 15.31, Bo = - 6.55, Lo = 267.20)

KITT PEAK MAGNETOGRAM

N **868.8 nm

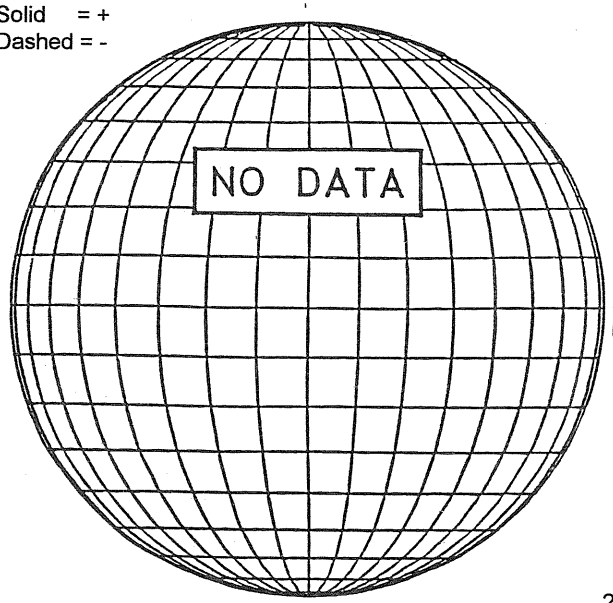
Bright = +
Dark = -



STANFORD MAGNETOGRAM

N

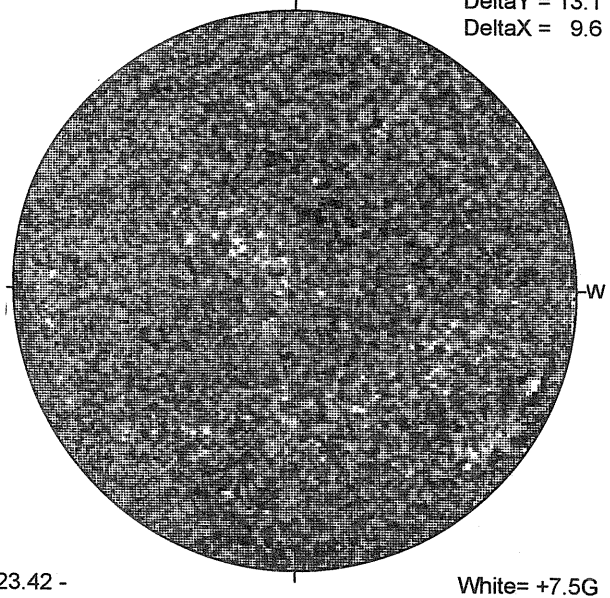
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

N

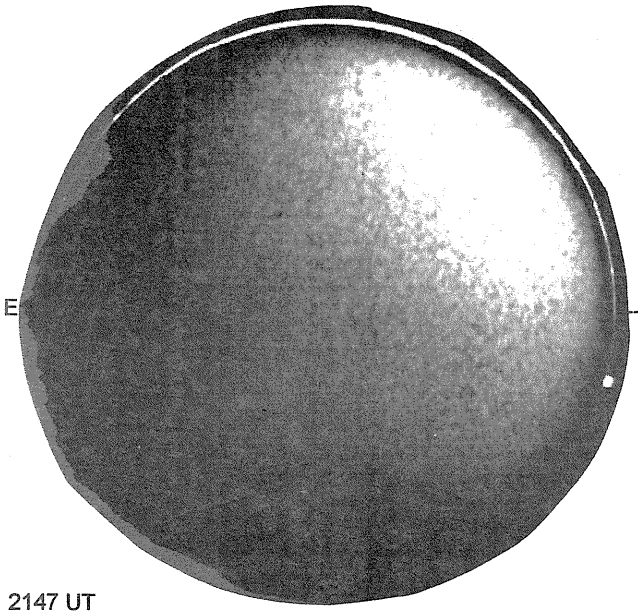
DeltaY = 13.1
DeltaX = 9.6



23.42 -
24.39 UT

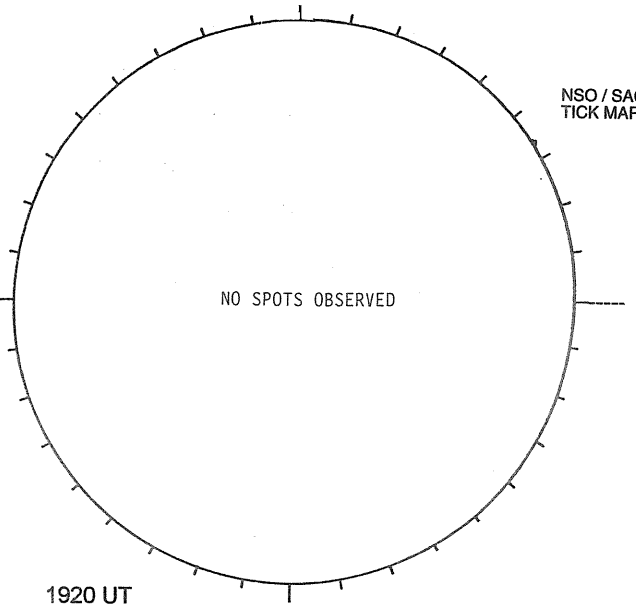
White= +7.5G
Black = -7.5G

----- MAUNA LOA H-ALPHA



2147 UT
2114 UT Prom

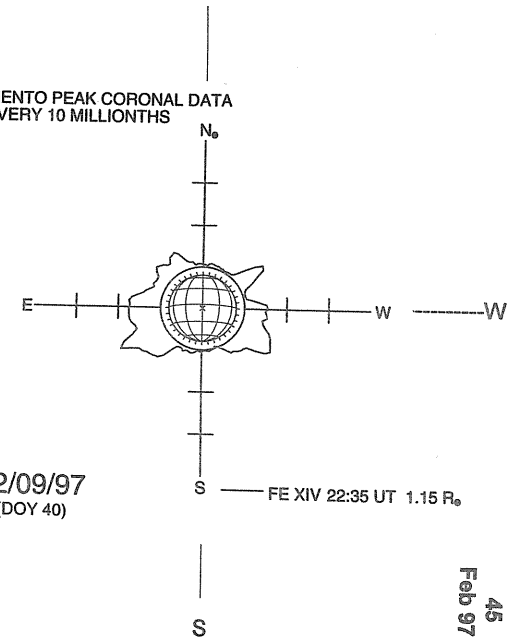
HOLLOMAN SUNSPOT



1920 UT
0917 UT LOMN Prom

SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 10 MILLIONTHS



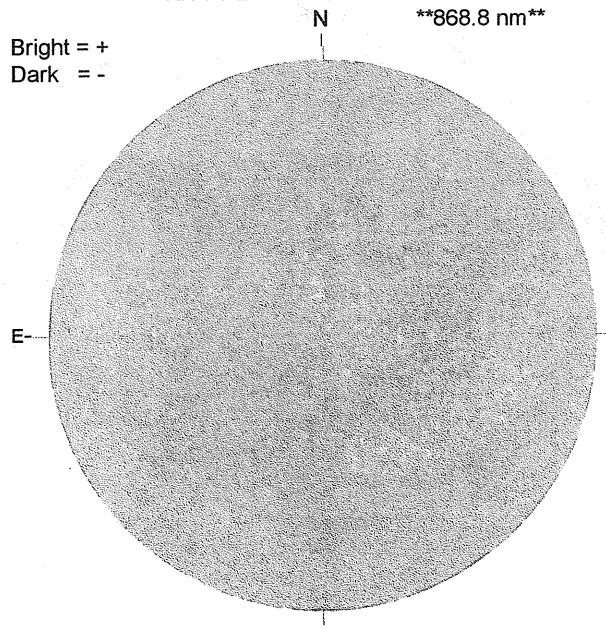
02/09/97
(DOY 40)

FE XIV 22:35 UT 1.15 $R_\odot$

45
Feb 97

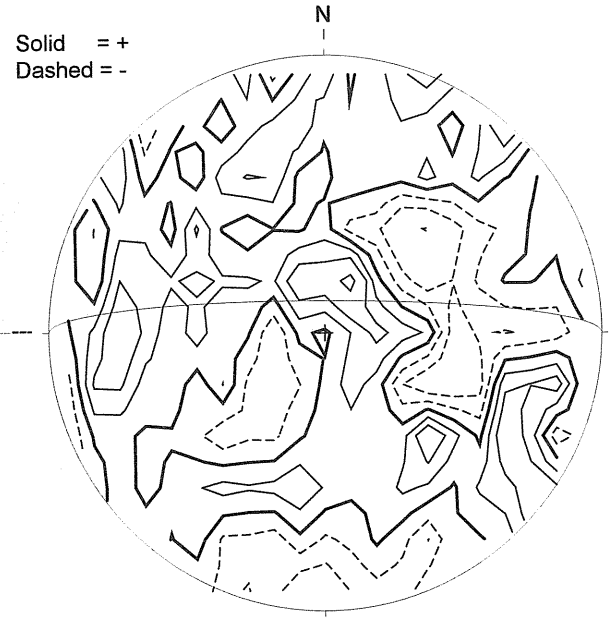
FEBRUARY 10, 1997 (P= - 15.68, Bo = - 6.60 Lo = 254.03)

KITT PEAK MAGNETOGRAM



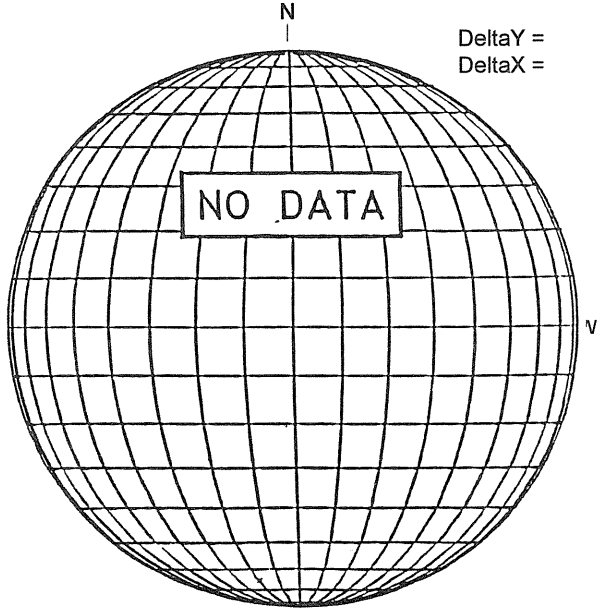
1717 UT

STANFORD MAGNETOGRAM



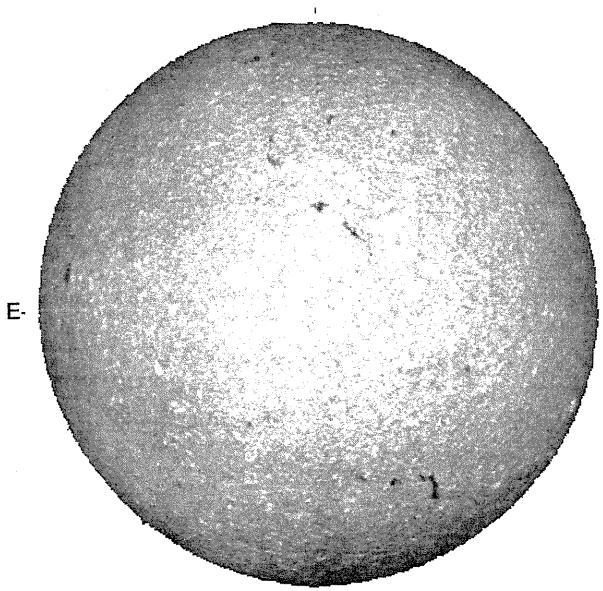
2255 UT

MT. WILSON MAGNETOGRAM



White= +7.5G
Black = -7.5G

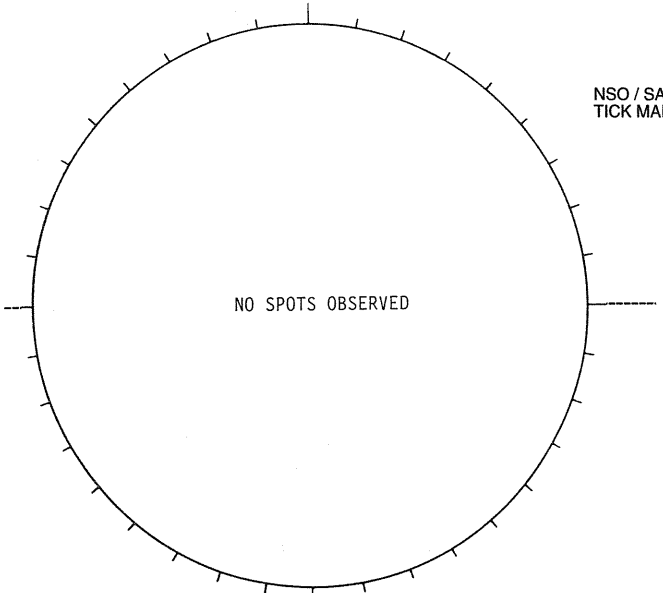
SACRAMENTO PEAK H-ALPHA



1449 UT

S

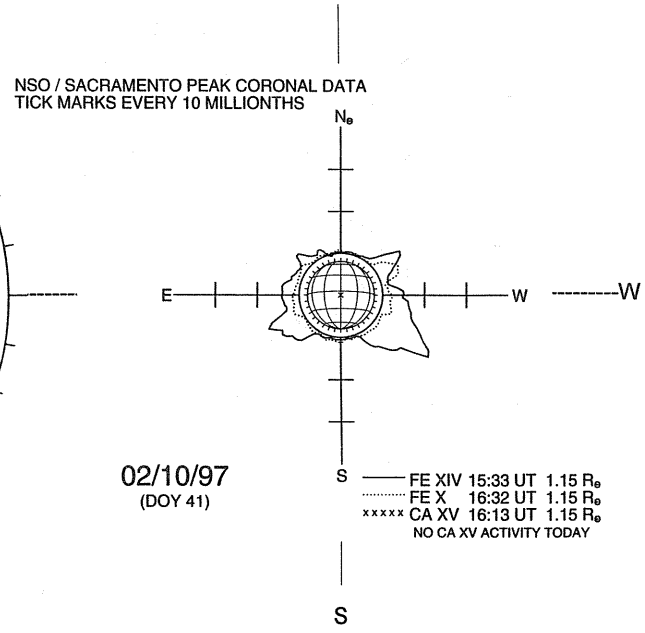
HOLLOMAN SUNSPOT



1940 UT

S

SACRAMENTO PEAK CORONA (1.15 Radii)----

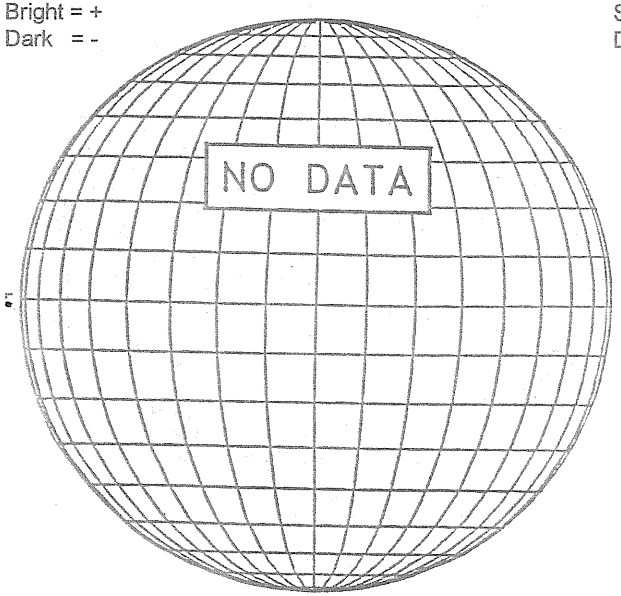


FEBRUARY 11, 1997 (P= - 16.04, Bo = - 6.65, Lo = 240.86)

KITT PEAK MAGNETOGRAM

N **868.8 nm**

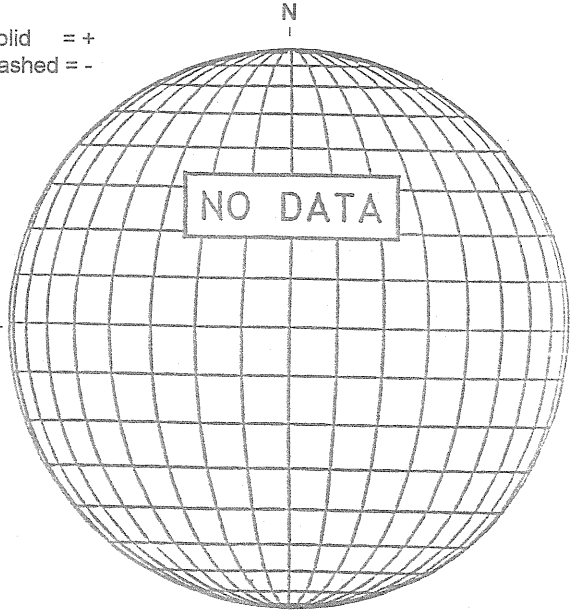
Bright = +
Dark = -



STANFORD MAGNETOGRAM

N

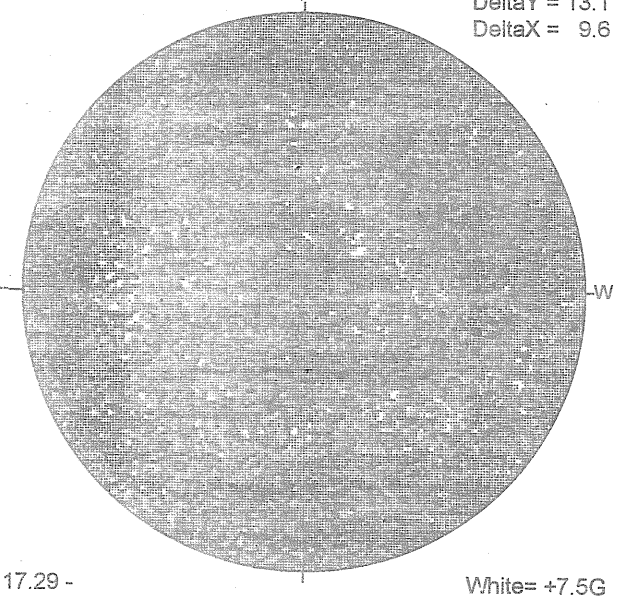
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

N

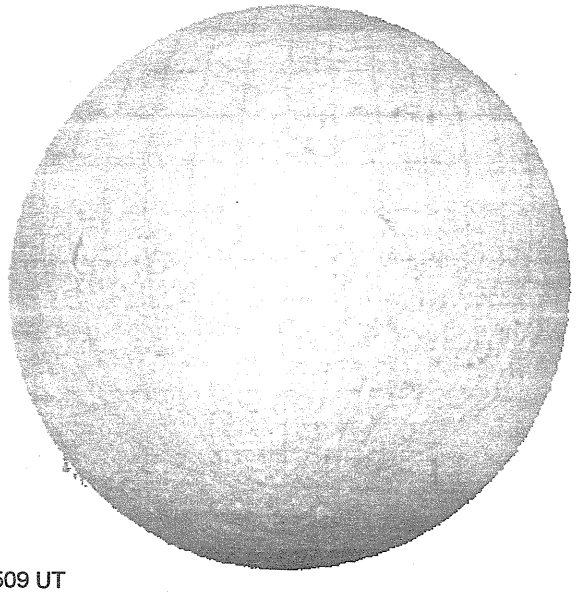
DeltaY = 13.1
DeltaX = 9.6



17.29 -
18.26 UT

White= +7.5G
Black = -7.5G

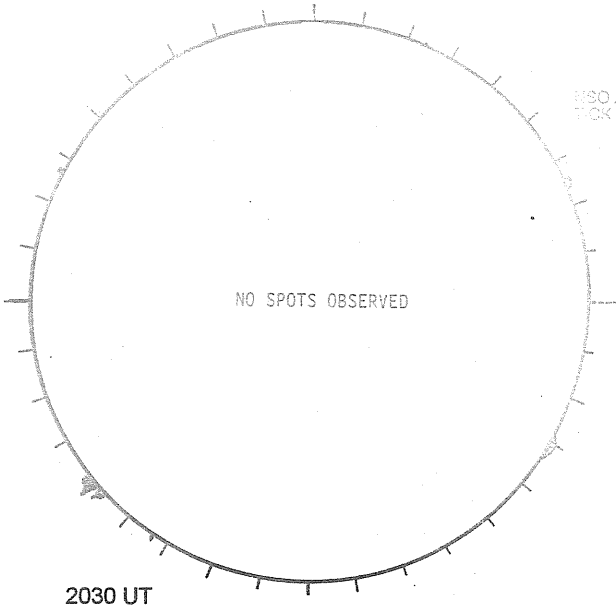
SACRAMEMTO PEAK H-ALPHA



1509 UT

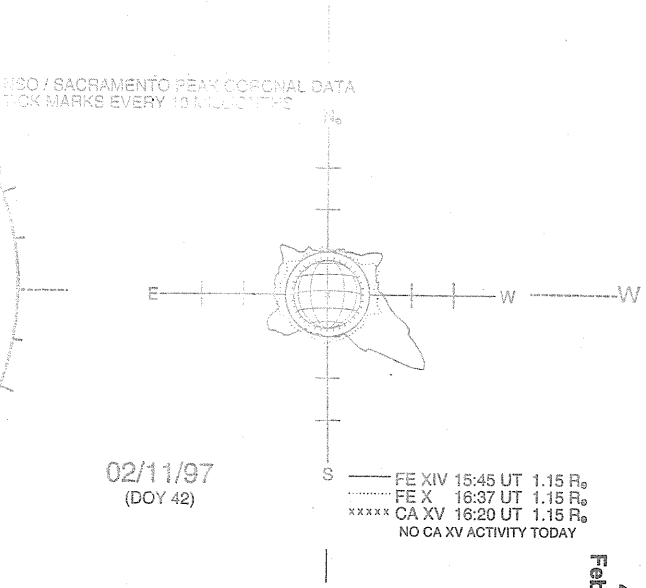
S

HOLLOMAN SUNSPOT



2030 UT
1242 UT VALA Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)



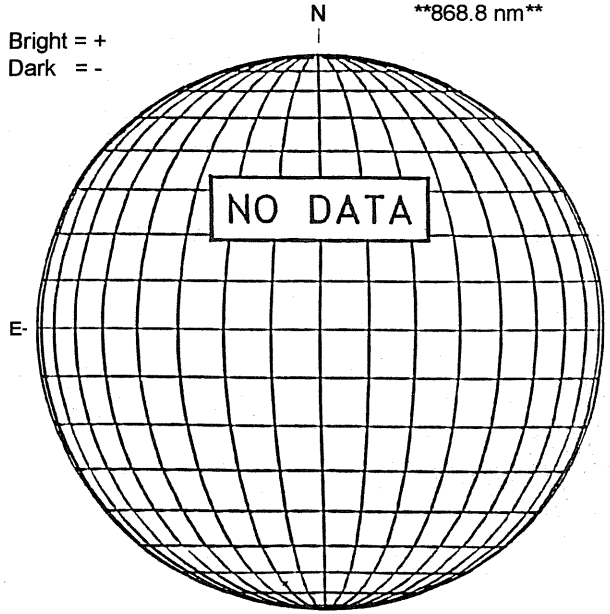
02/11/97
(DOY 42)

S

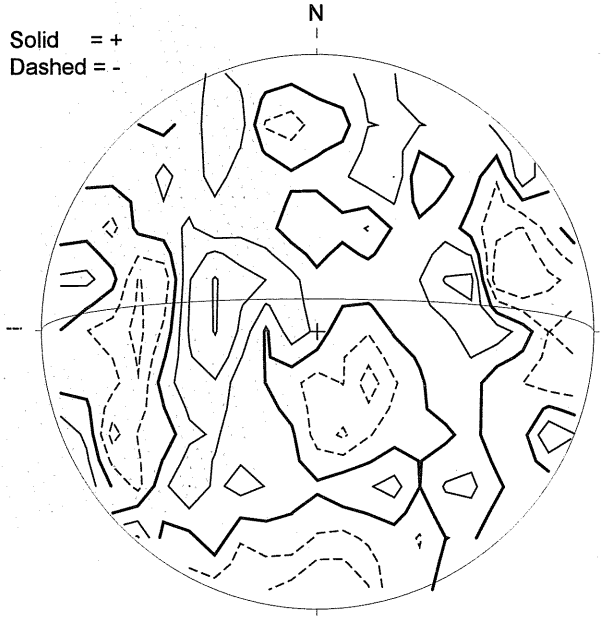
47
Feb 97

FEBRUARY 12, 1997 (P= - 16.39, Bo = - 6.70, Lo = 227.70)

KITT PEAK MAGNETOGRAM

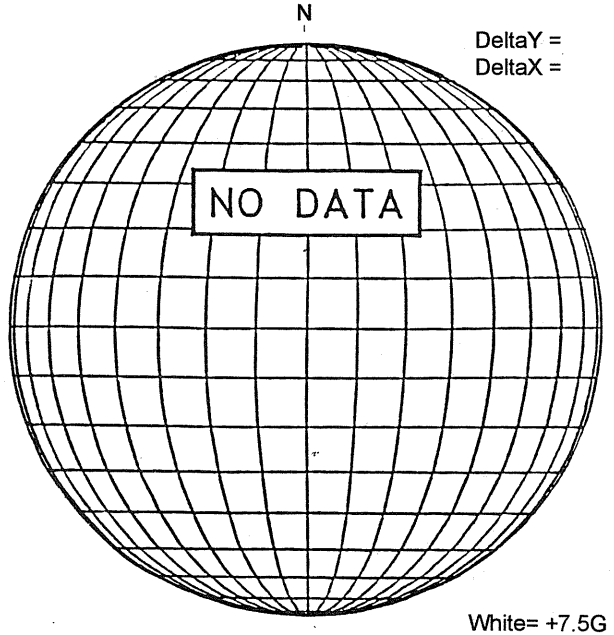


STANFORD MAGNETOGRAM



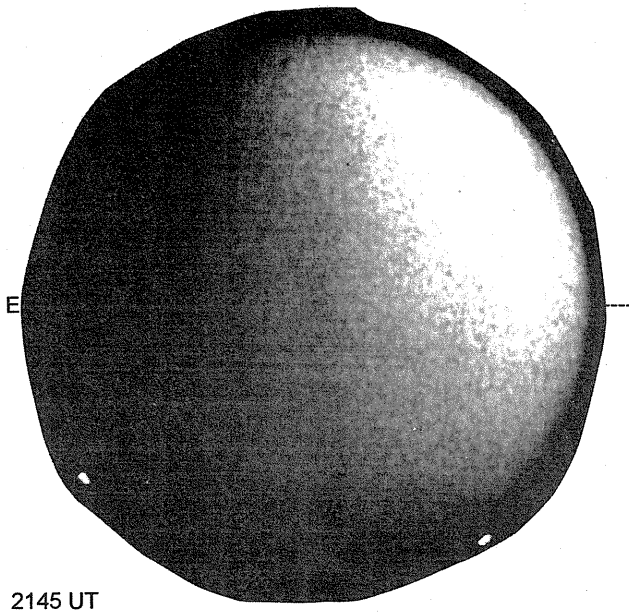
2108 UT

MT. WILSON MAGNETOGRAM



White= +7.5G
Black = -7.5G

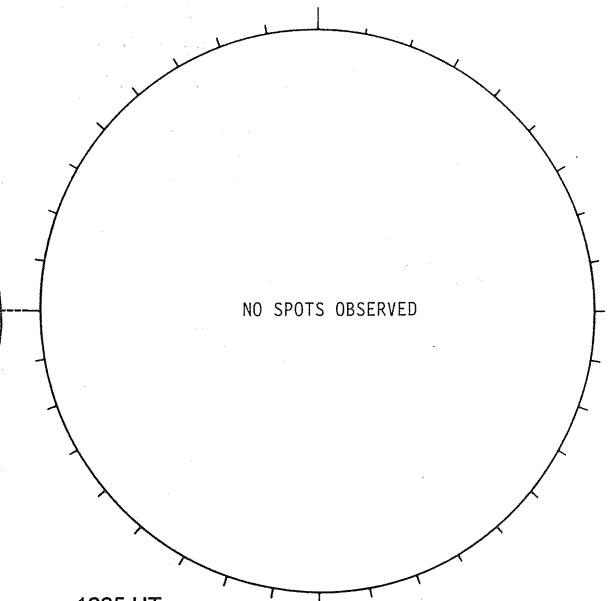
MAUNA LOA H-ALPHA



2145 UT
1812 UT Prom

S

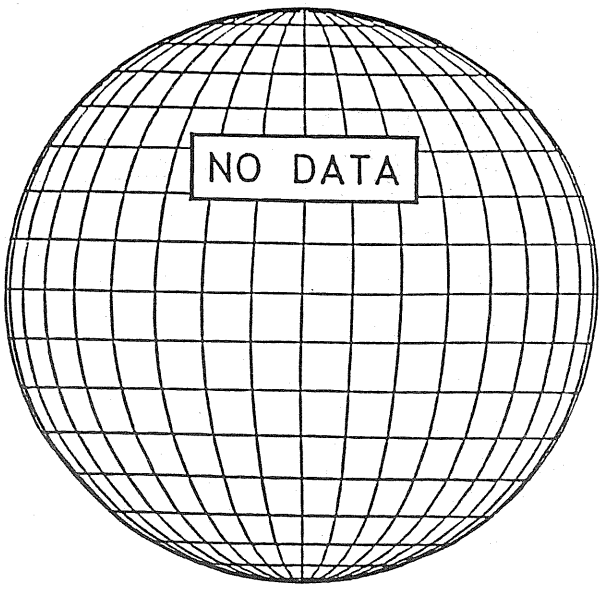
HOLLOMAN SUNSPOT



1605 UT

S

LOMNICKY PEAK CORONA (1.04 Radii)----



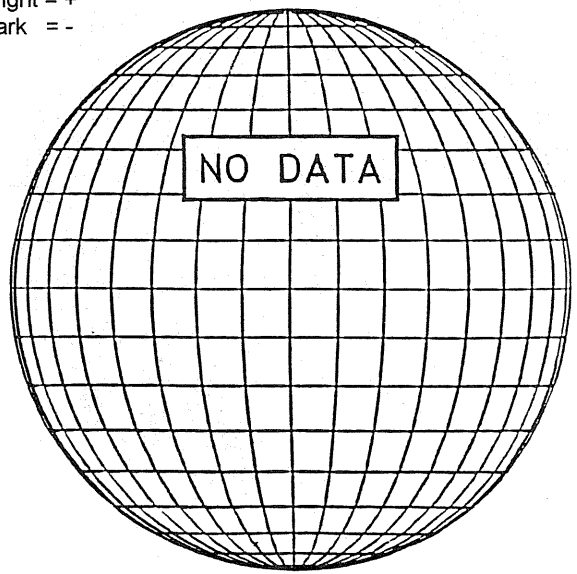
S

FEBRUARY 13, 1997 (P= - 16.74, Bo = - 6.75, Lo = 214.53)

KITT PEAK MAGNETOGRAM

N **868.8 nm**

Bright = +
Dark = -

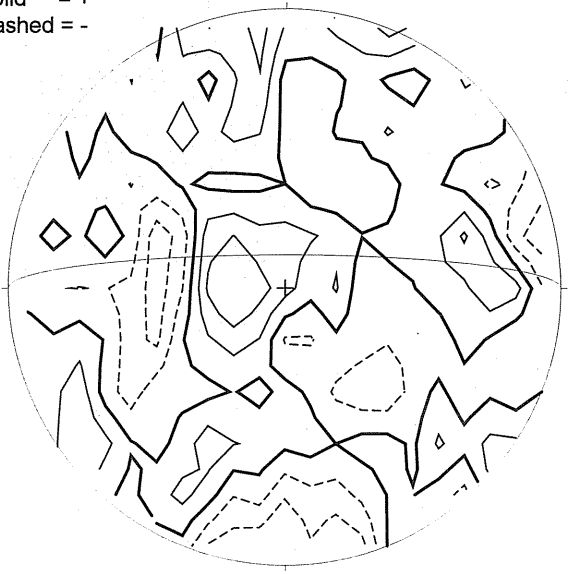


E

STANFORD MAGNETOGRAM

N

Solid = +
Dashed = -

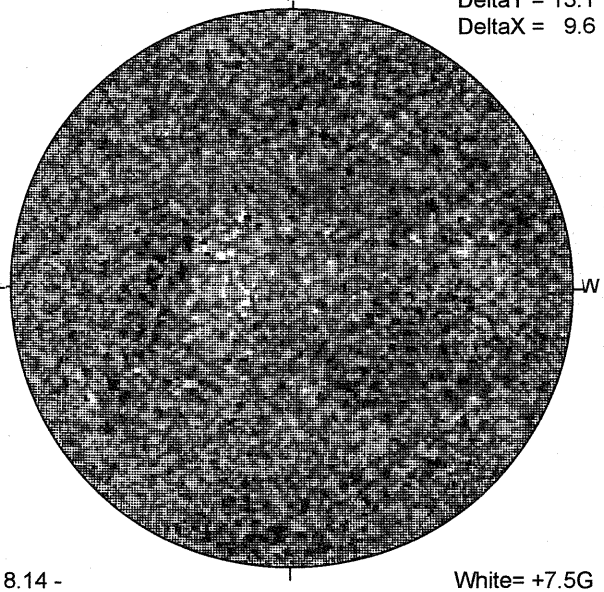


2113 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

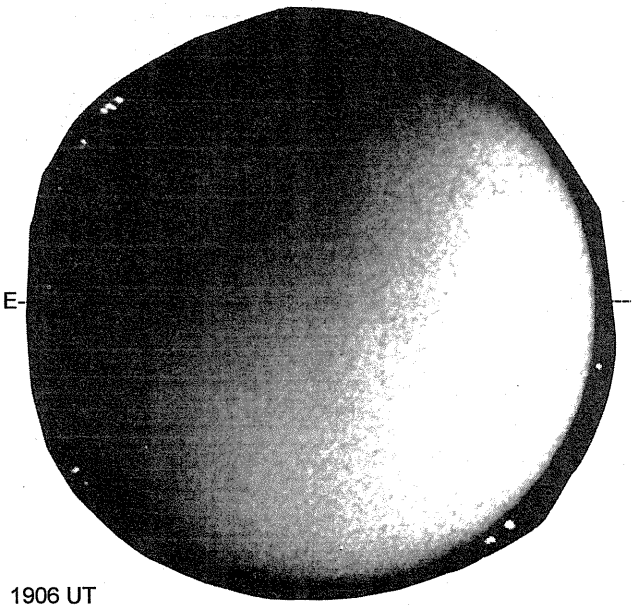


W

18.14 -
19.10 UT

White= +7.5G
Black = -7.5G

MAUNA LOA H-ALPHA

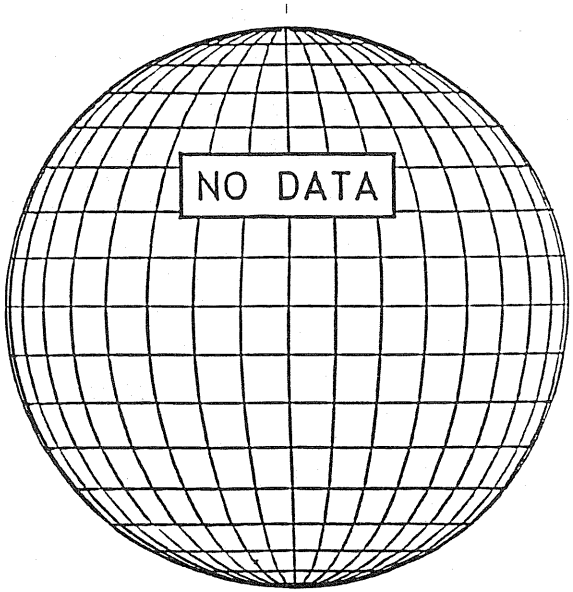


E

1906 UT
1748 UT Prom

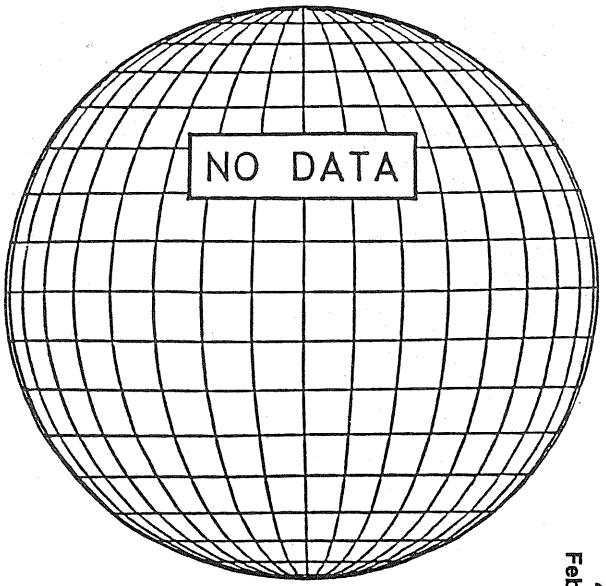
S

HOLLOMAN SUNSPOT



S

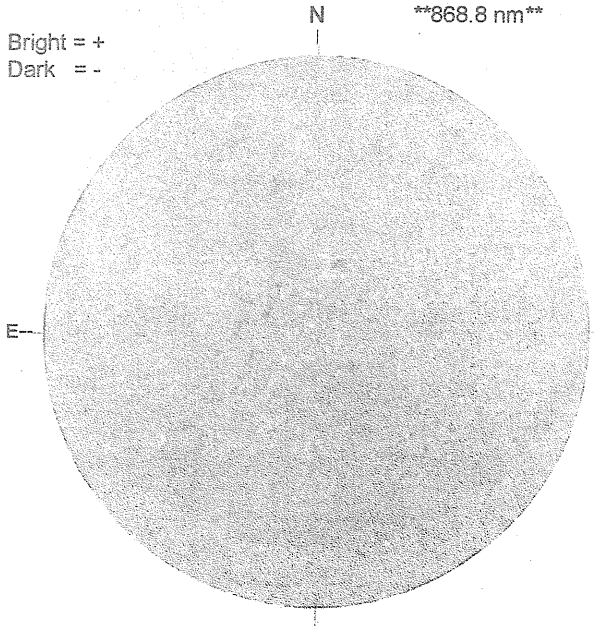
LOMNICKY PEAK CORONA (1.04 Radii)



S

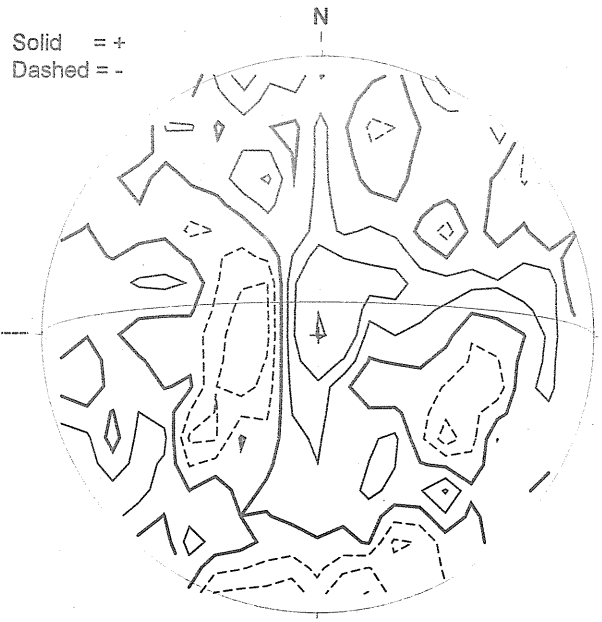
FEBRUARY 14, 1997 (P= - 17.09, Bo = - 6.80, Lo= 201.36)

KITT PEAK MAGNETOGRAM



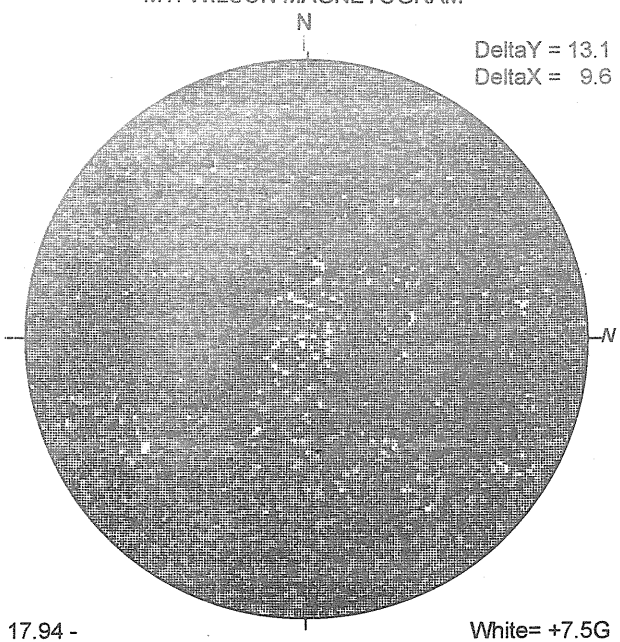
1514 UT

STANFORD MAGNETOGRAM



1851 UT

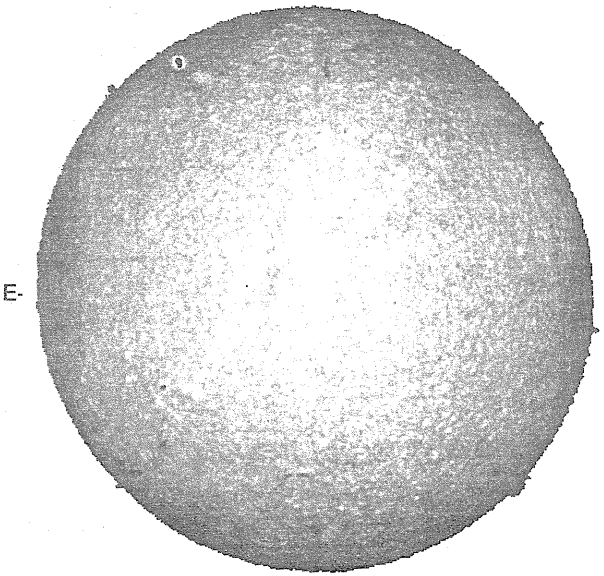
MT. WILSON MAGNETOGRAM



17.94 -
18.91 UT

White= +7.5G
Black = -7.5G

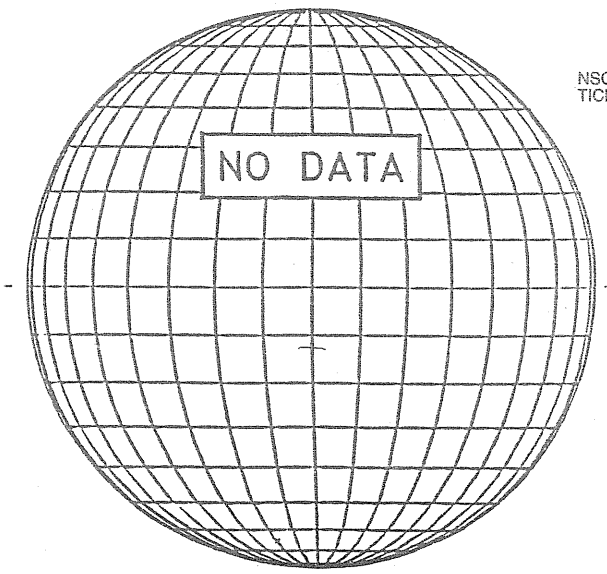
SACRAMENTO PEAK H-ALPHA



1557 UT

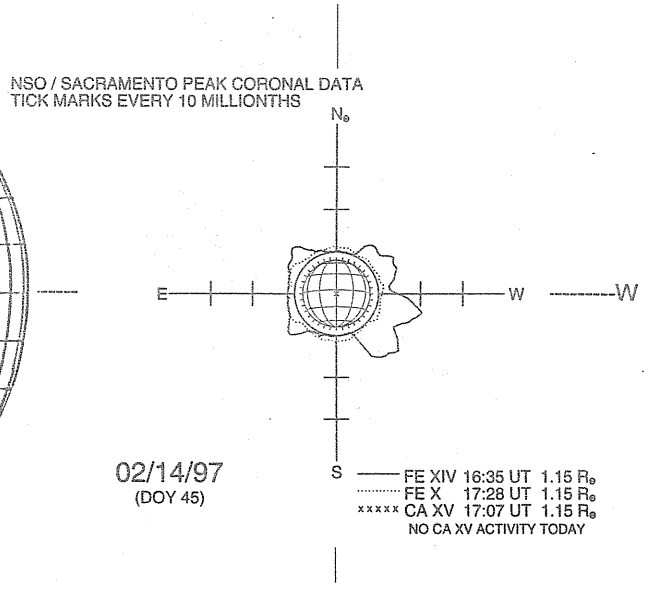
S

HOLLOMAN SUNSPOT



S

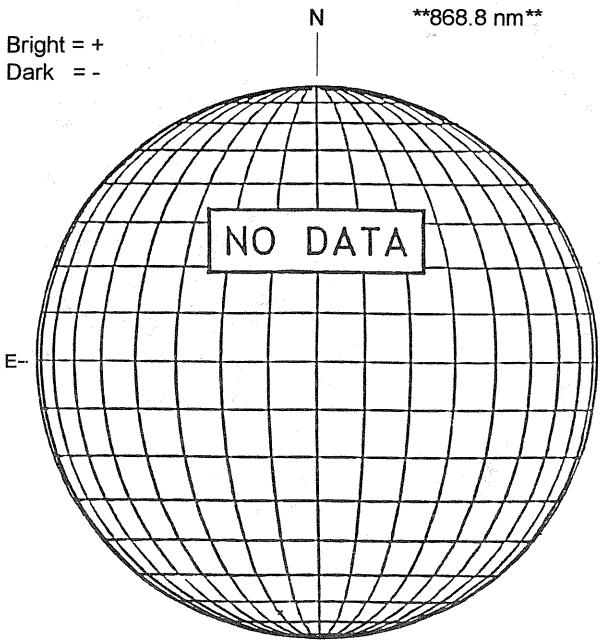
SACRAMENTO PEAK CORONA (1.15 Radii)----



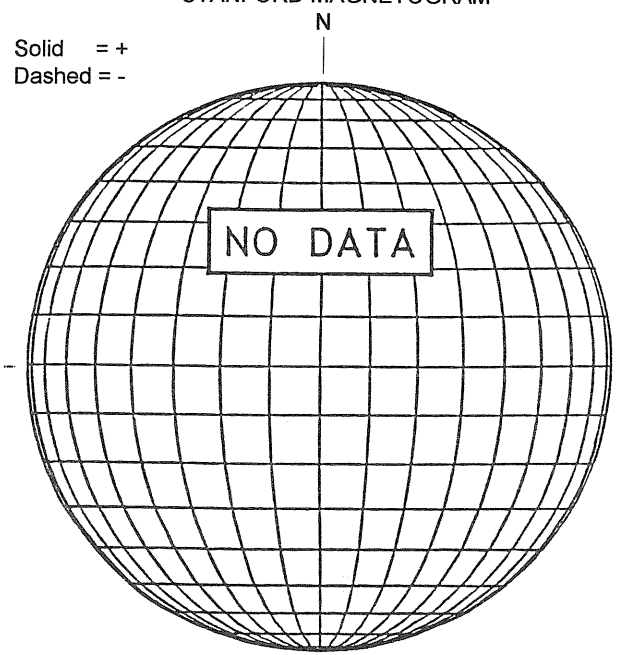
S

FEBRUARY 15, 1997 (P= - 17.43, Bo = - 6.84, Lo = 188.19)

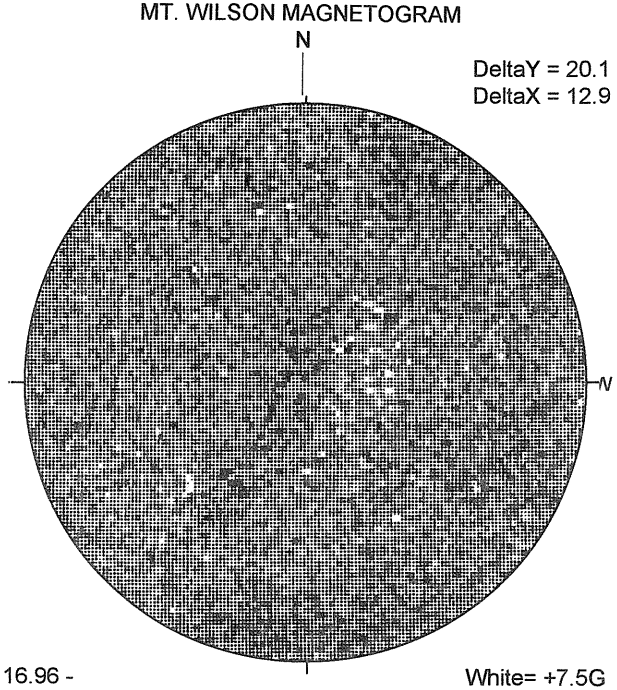
KITT PEAK MAGNETOGRAM



STANFORD MAGNETOGRAM



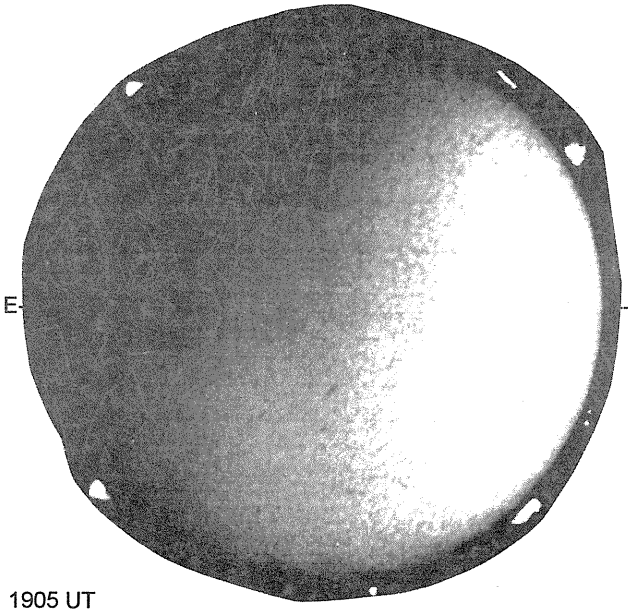
MT. WILSON MAGNETOGRAM



16.96 -
17.38 UT

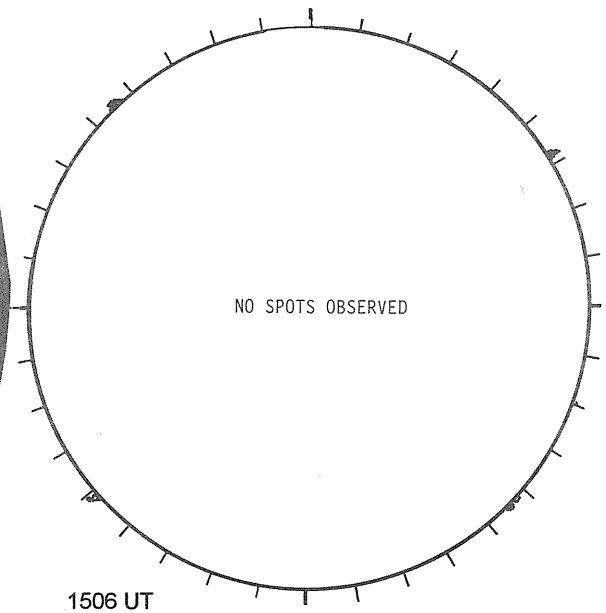
White= +7.5G
Black = -7.5G

MAUNA LOA H-ALPHA



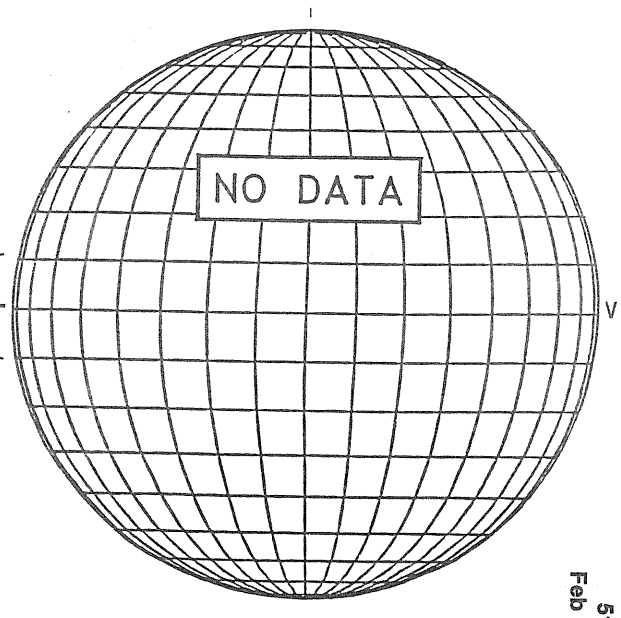
1905 UT
1859 UT Prom S

HOLLOMAN SUNSPOT



1506 UT
0846 UT VALA Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----



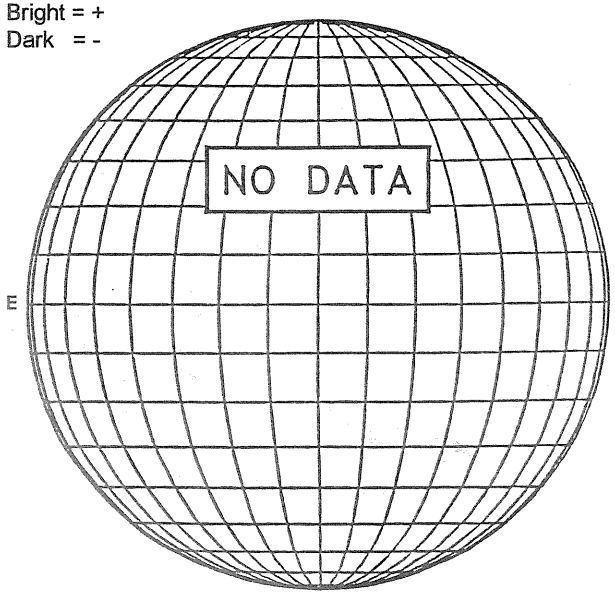
S

FEBRUARY 16, 1997 (P= - 17.76, Bo = - 6.88, Lo = 175.03)

KITT PEAK MAGNETOGRAM

N **868.8 nm**

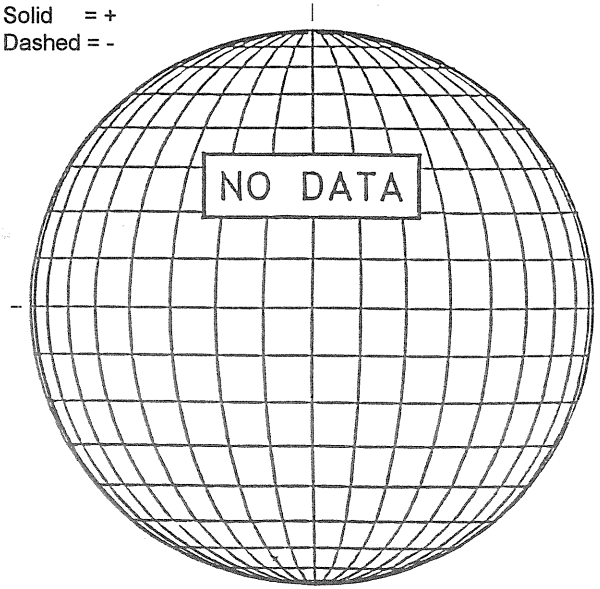
Bright = +
Dark = -



STANFORD MAGNETOGRAM

N

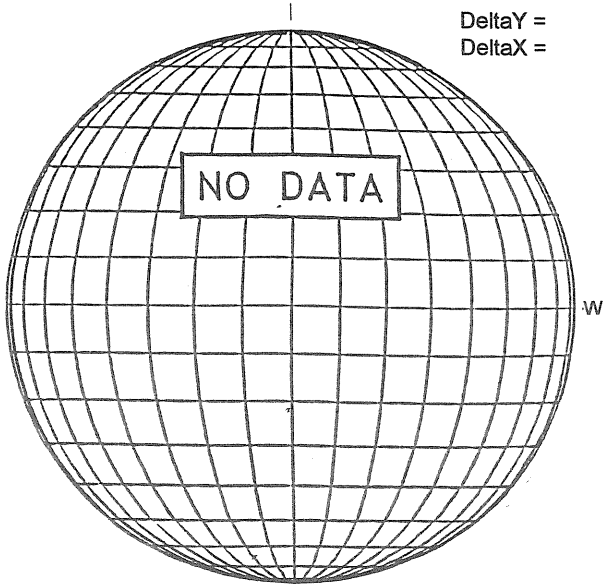
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

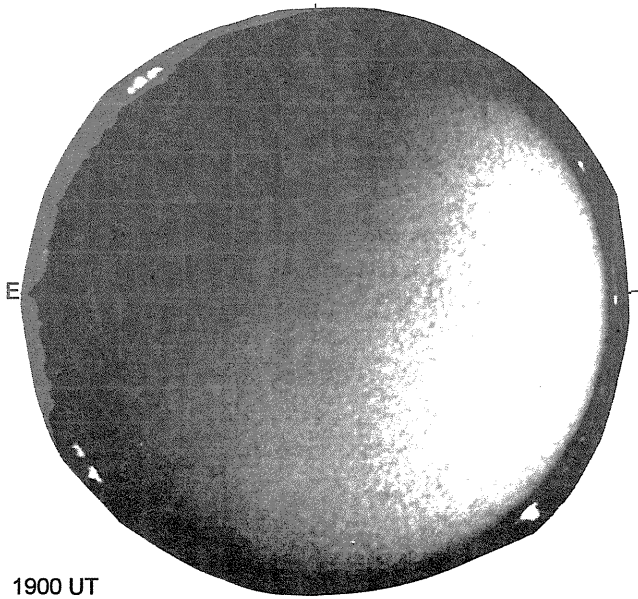
N

DeltaY =
DeltaX =



White= +7.5G
Black = -7.5G

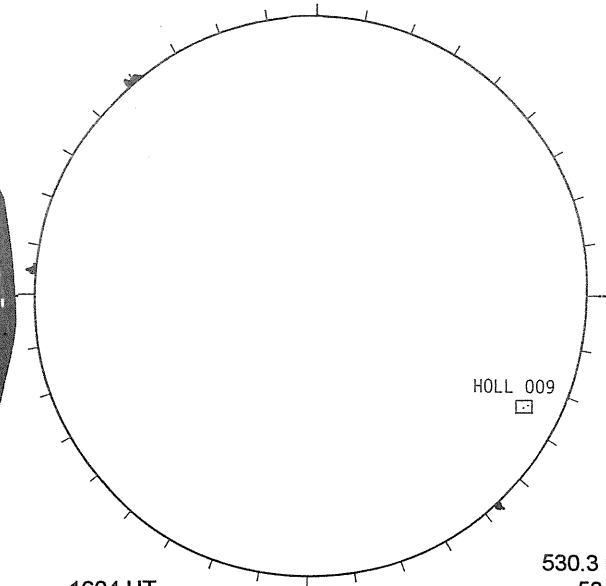
MAUNA LOA H-ALPHA



1900 UT
2042 UT Prom

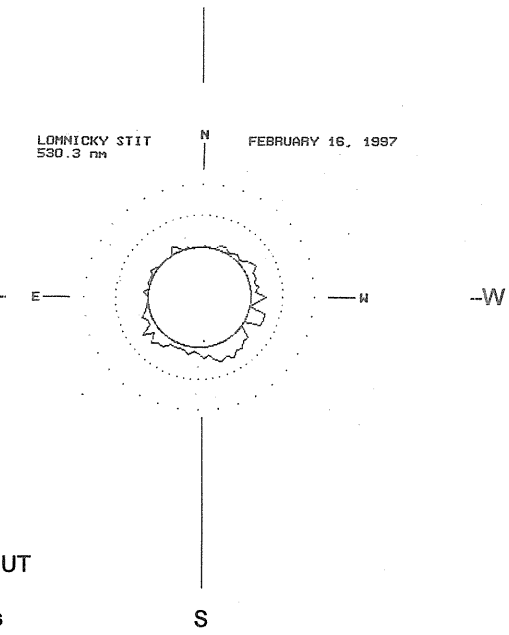
S

HOLLOMAN SUNSPOT



1604 UT
1328 UT LOMN Prom S

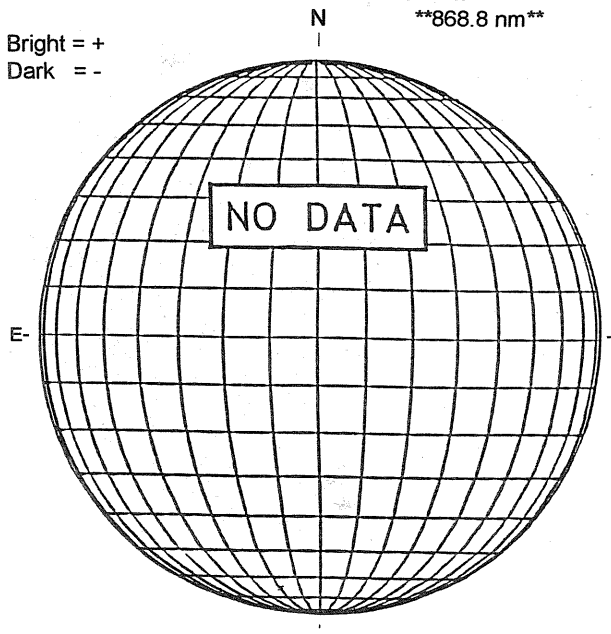
LOMNICKY PEAK CORONA (1.04 Radii)----



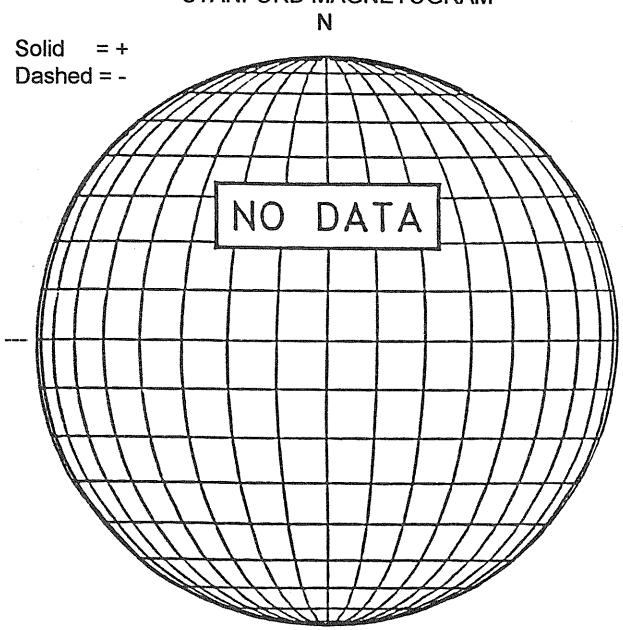
530.3 nm, 1345 UT
... 50 abs. units
. . 100 abs. units

FEBRUARY 17, 1997 (P= - 18.09, Bo = - 6.92, Lo = 161.86)

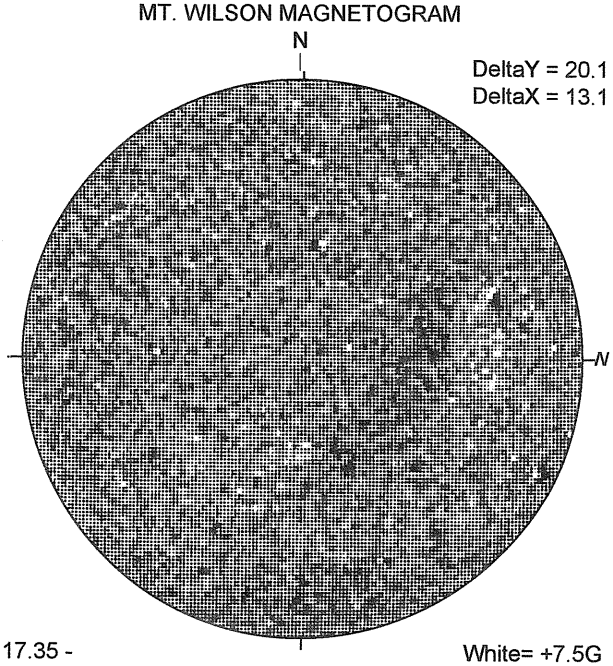
KITT PEAK MAGNETOGRAM



STANFORD MAGNETOGRAM



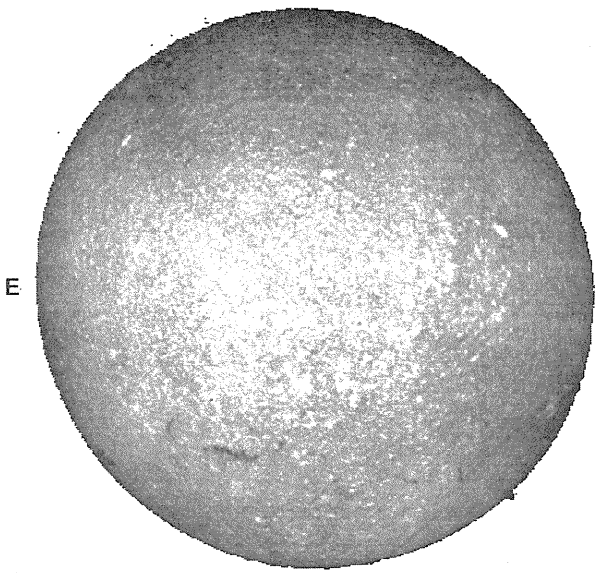
MT. WILSON MAGNETOGRAM



17.35 -
17.77 UT

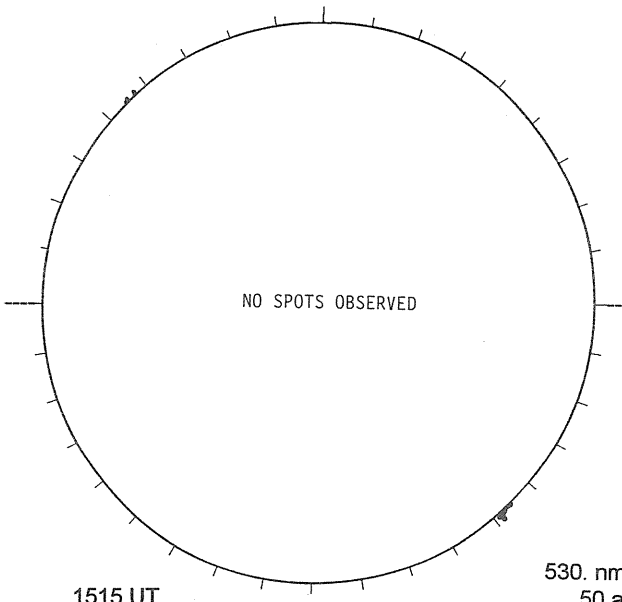
White= +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



1526 UT

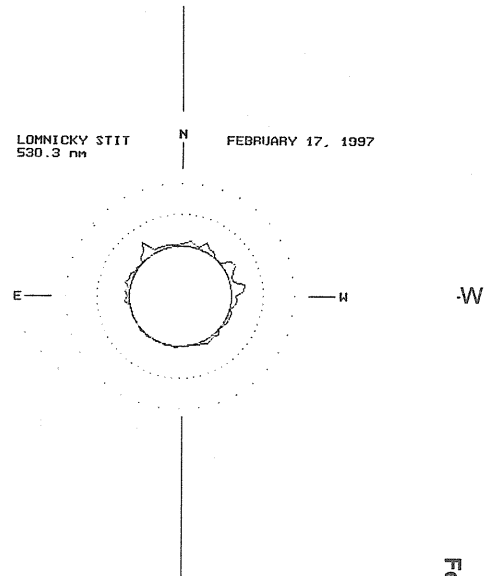
HOLLOMAN SUNSPOT



1515 UT
0757 UT LOMN Prom

530. nm, 0832 UT
... 50 abs. units
. . 100 abs. units

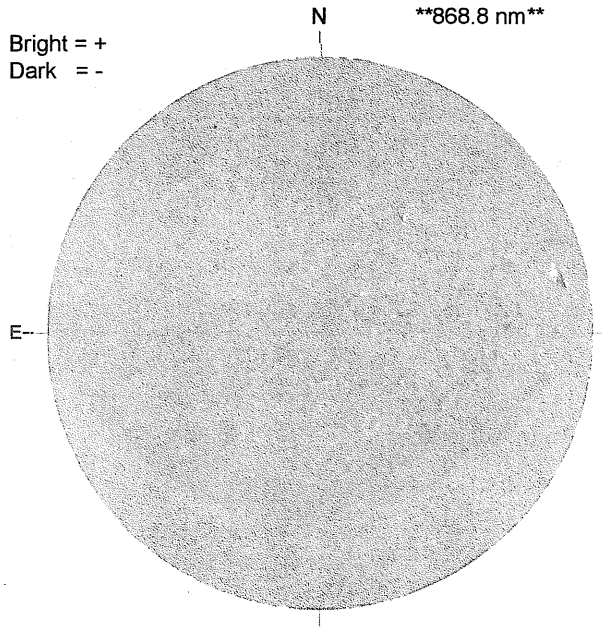
LOMNICKY PEAK CORONA (1.04 Radii)----



53
Feb 97

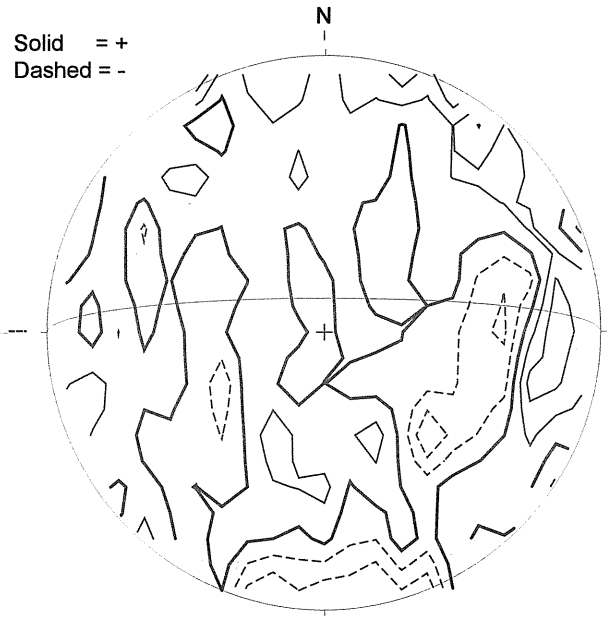
FEBRUARY 18, 1997 (P= - 18.41, Bo = - 6.96, Lo = 148.69)

KITT PEAK MAGNETOGRAM



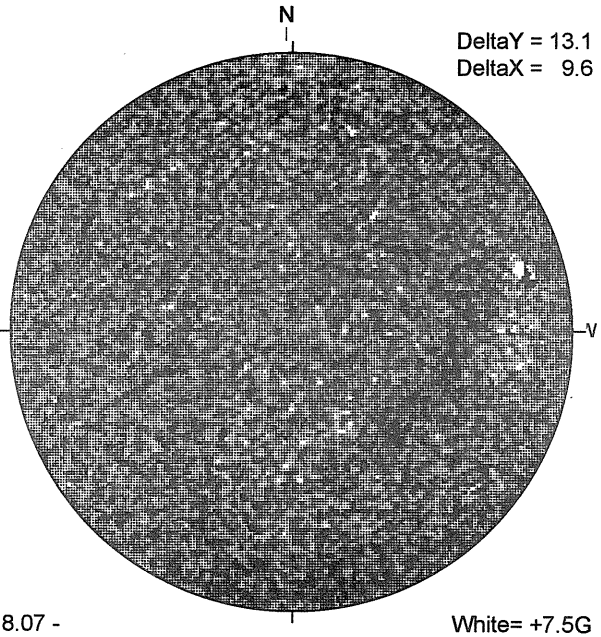
1631 UT

STANFORD MAGNETOGRAM



2100 UT

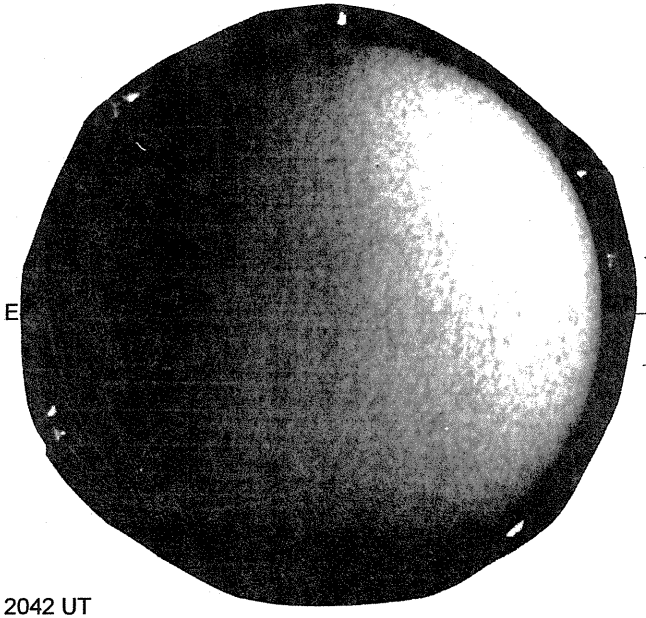
MT. WILSON MAGNETOGRAM



18.07 -
19.04 UT

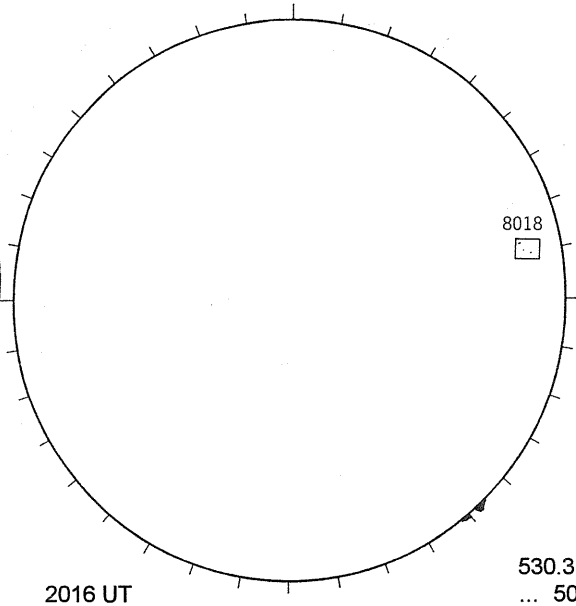
White= +7.5G
Black = -7.5G

MAUNA LOA H-ALPHA



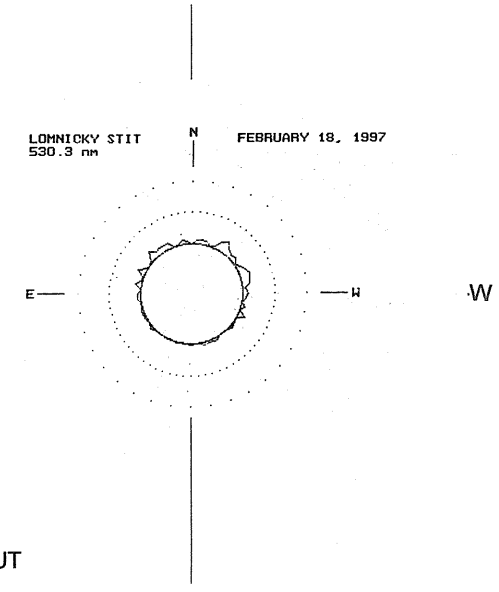
2042 UT
2112 UT Prom S

HOLLOMAN SUNSPOT



2016 UT
0727 UT LOMN Prom S

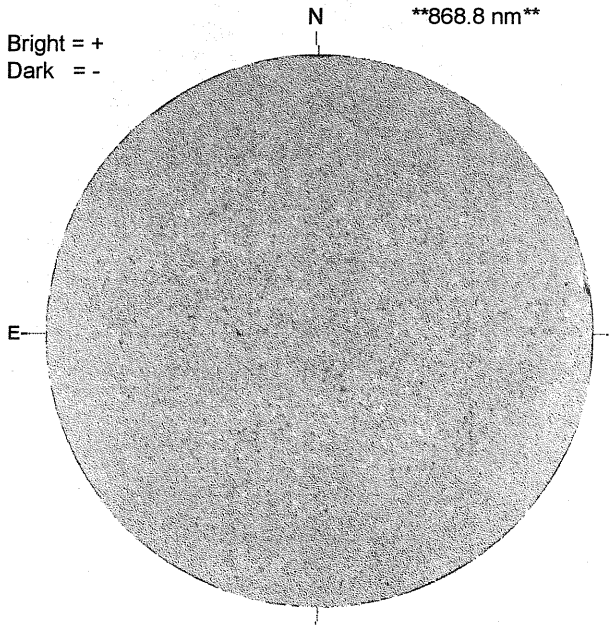
LOMNICKY PEAK CORONA (1.04 Radii)



530.3 nm, 0731 UT
... 50 abs. units
. . 100 abs. units

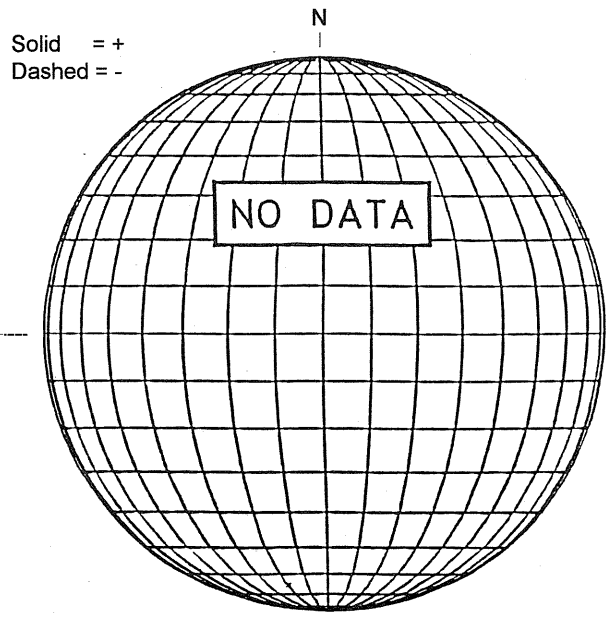
FEBRUARY 19, 1997 (P= - 18.72, Bo = - 6.99, Lo = 135.52)

KITT PEAK MAGNETOGRAM

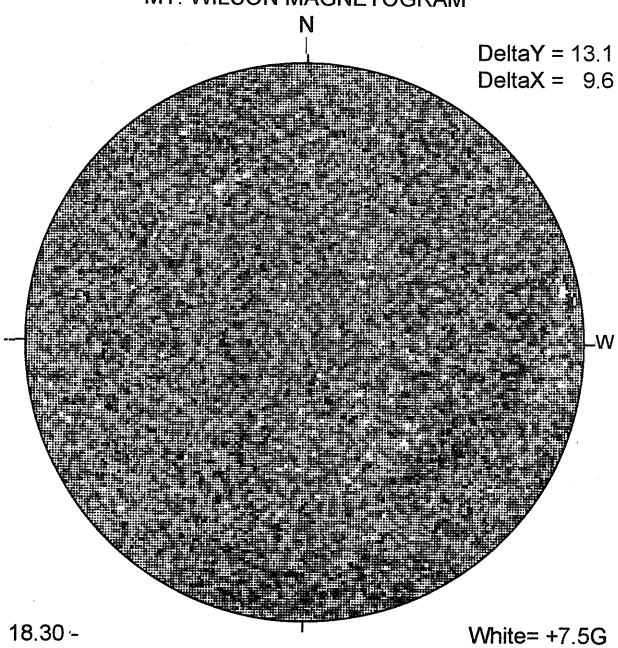


1742 UT

STANFORD MAGNETOGRAM



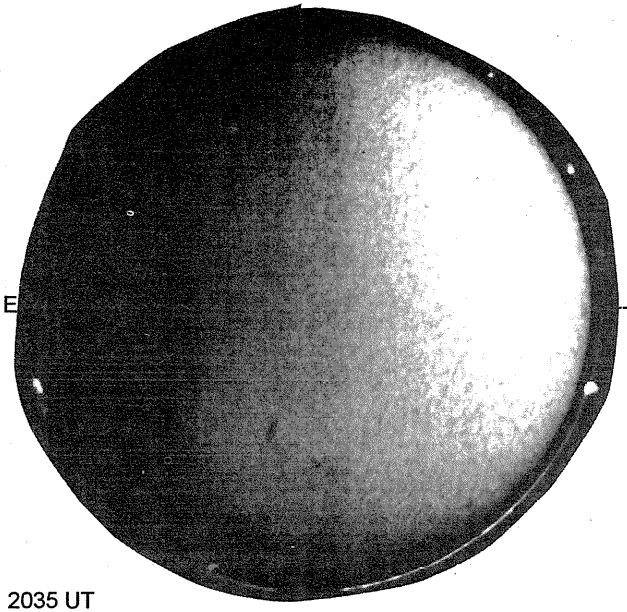
MT. WILSON MAGNETOGRAM



18.30 -
19.27 UT

White= +7.5G
Black = -7.5G

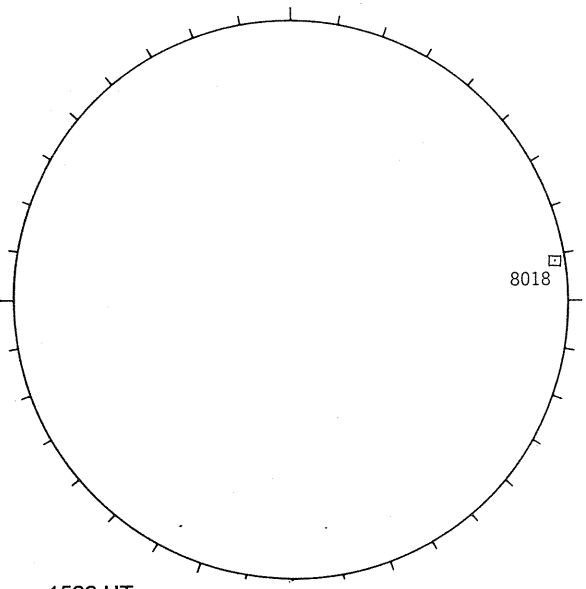
MAUNA LOA H-ALPHA



2035 UT
2011 UT Prom

S

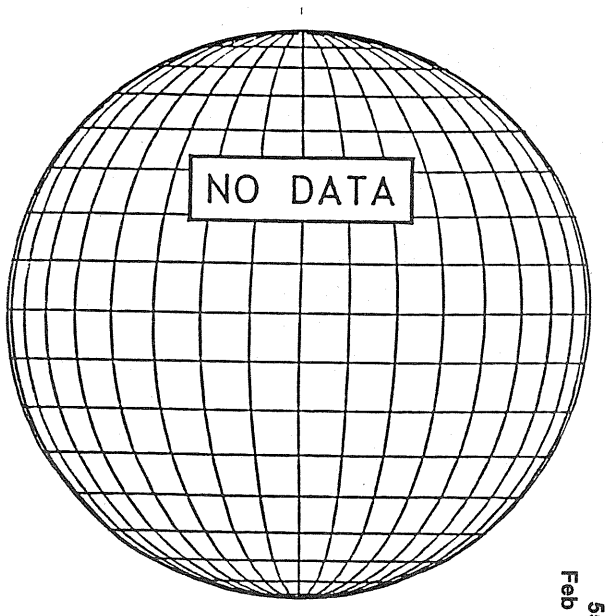
HOLLOMAN SUNSPOT



1526 UT

S

SACRAMENTO PEAK CORONA (1.15 Radii)----



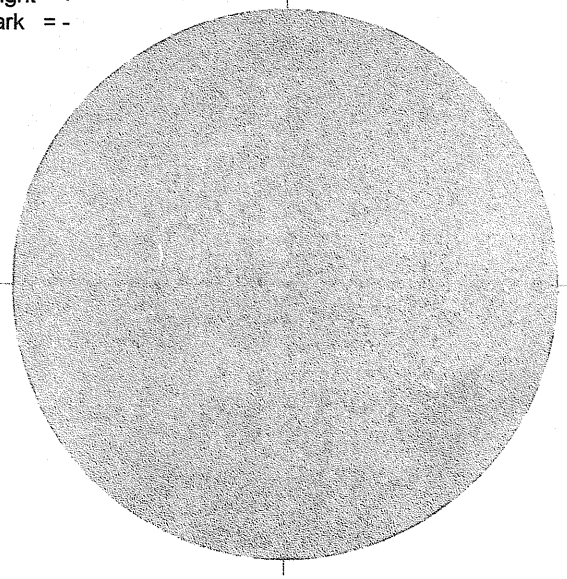
S

FEBRUARY 20, 1997 (P= - 19.03, Bo = - 7.02, Lo = 122.35)

KITT PEAK MAGNETOGRAM

N **868.8 nm**

Bright = +
Dark = -



1514 UT

STANFORD MAGNETOGRAM

N

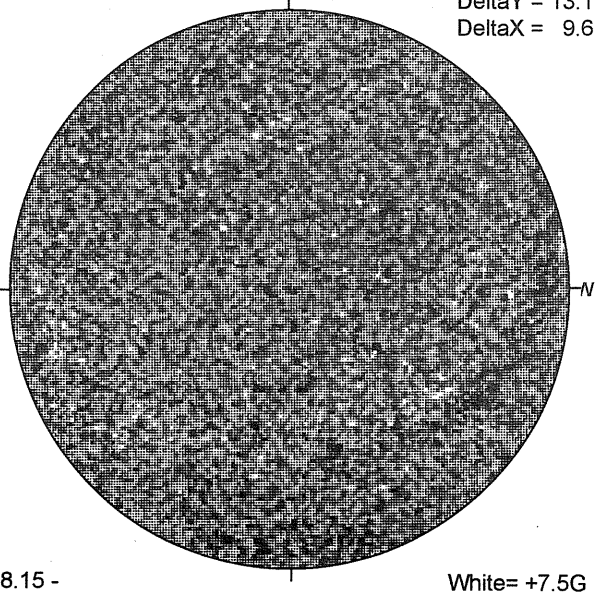
Solid = +
Dashed = -

2104 UT

MT. WILSON MAGNETOGRAM

N

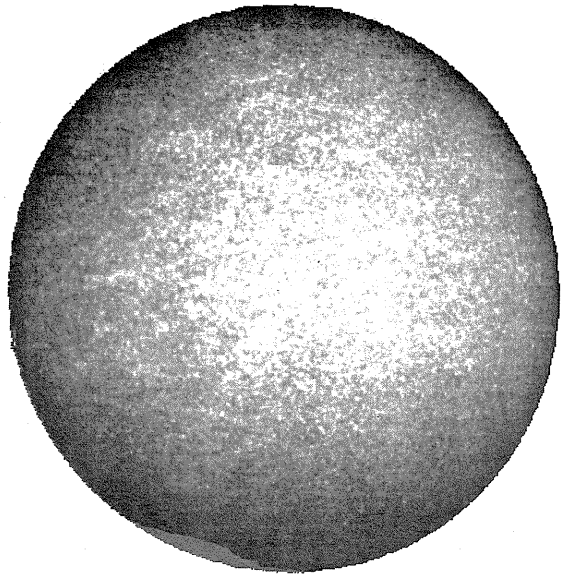
DeltaY = 13.1
DeltaX = 9.6



18.15 -
19.11 UT

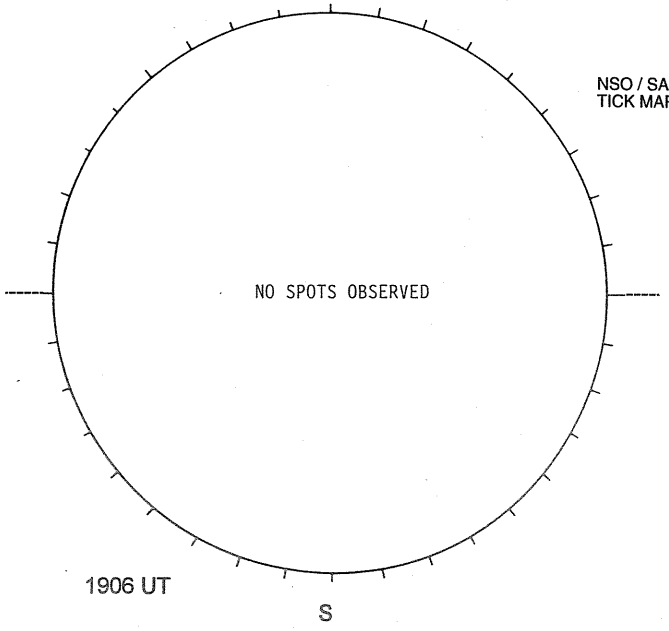
White= +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



1738 UT

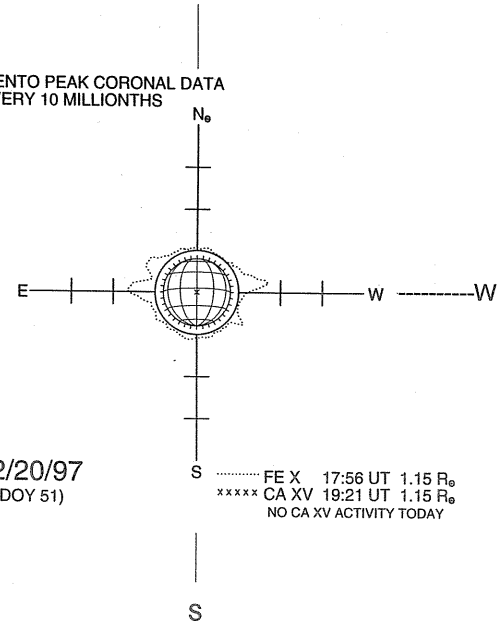
HOLLOMAN SUNSPOT



1906 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 10 MILLIONTHS

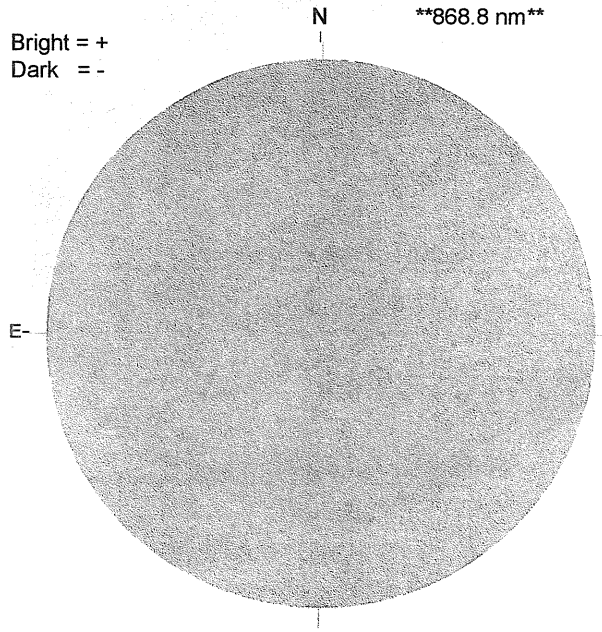


02/20/97
(DOY 51)

FE X 17:56 UT 1.15 R_e
CA XV 19:21 UT 1.15 R_e
NO CA XV ACTIVITY TODAY

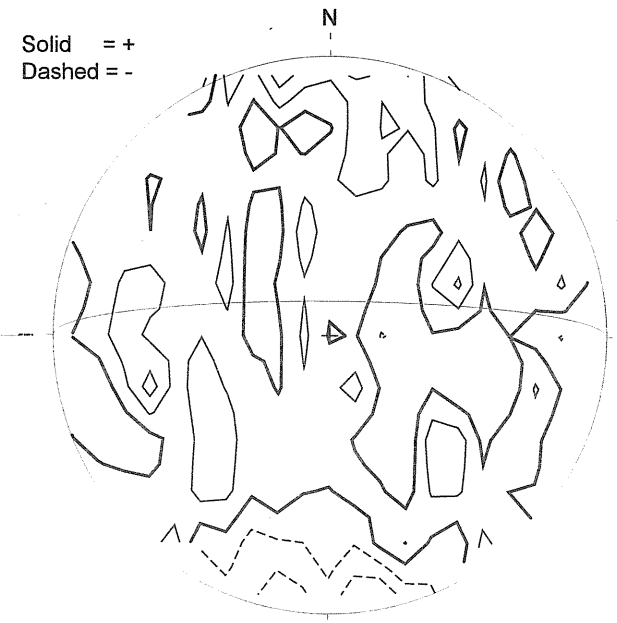
FEBRUARY 21, 1997 (P= - 19.34, Bo = - 7.06, Lo = 109.18)

KITT PEAK MAGNETOGRAM



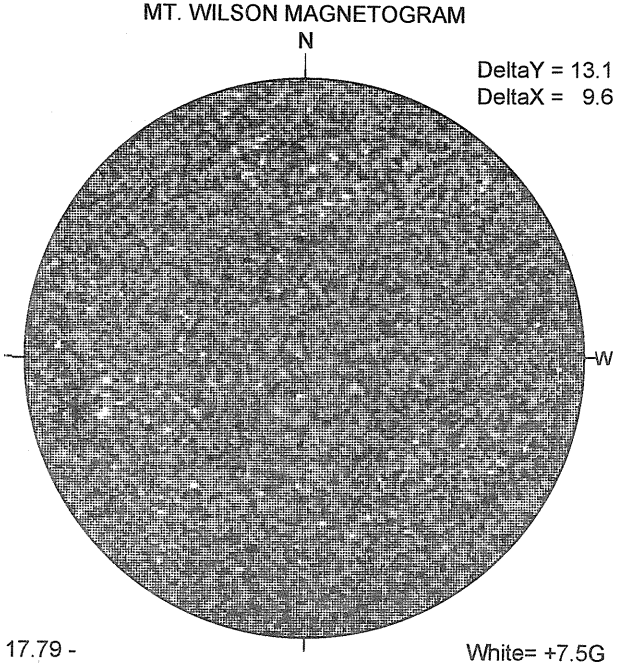
1527 UT

STANFORD MAGNETOGRAM



2144 UT

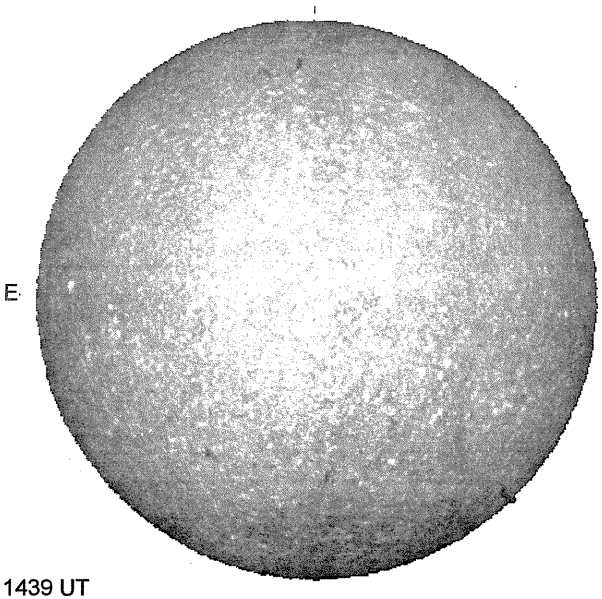
MT. WILSON MAGNETOGRAM



17.79 -
18.75 UT

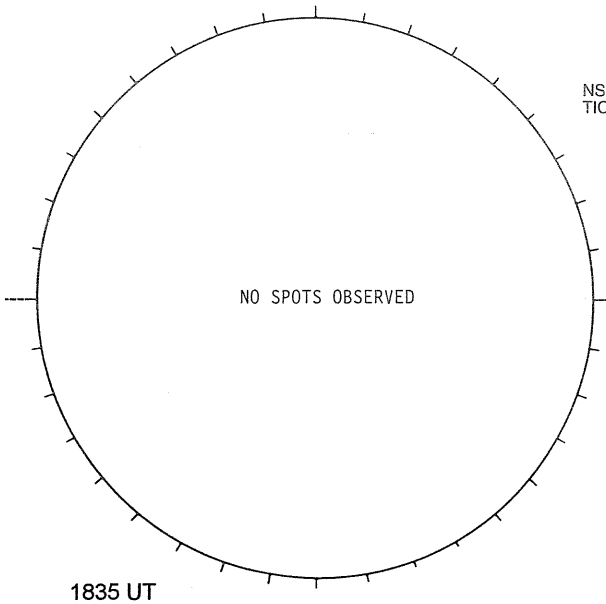
White= +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



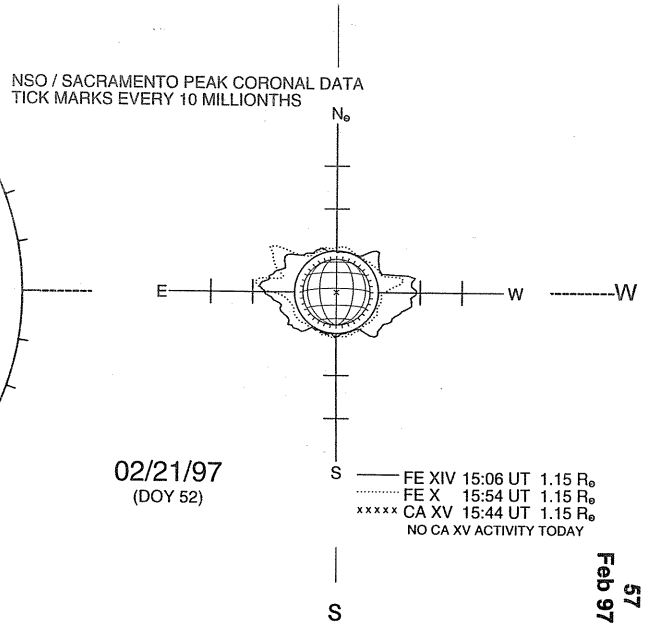
1439 UT

HOLLOMAN SUNSPOT



1835 UT

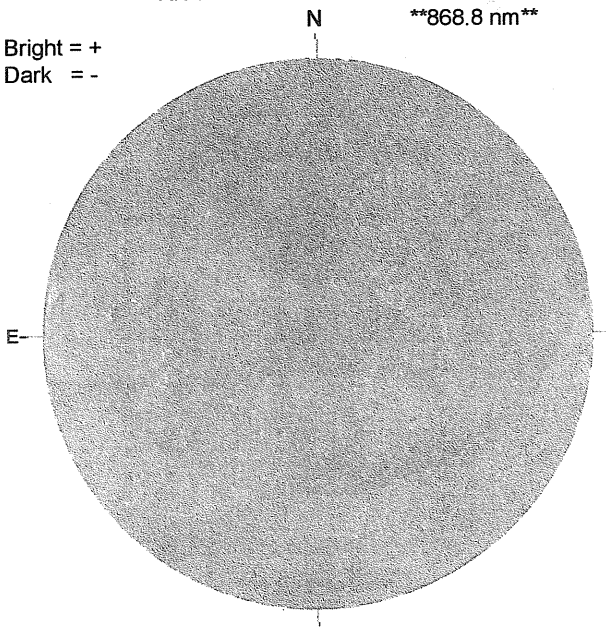
SACRAMENTO PEAK CORONA (1.15 Radii)--



57
Feb 97

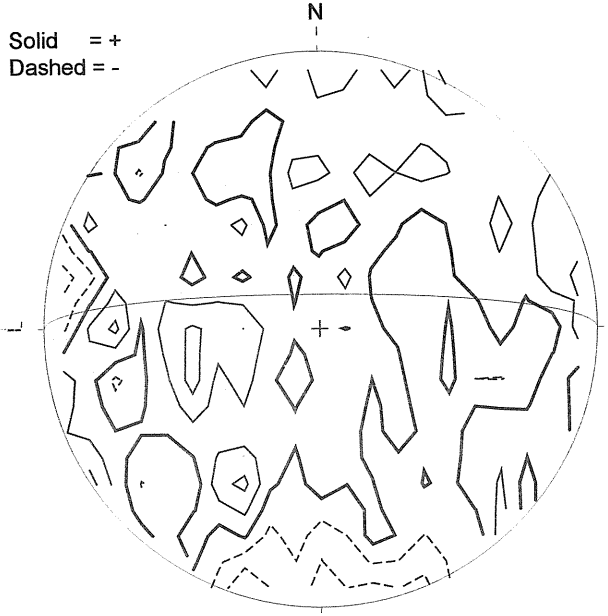
FEBRUARY 22, 1997 (P= - 19.63, Bo = - 7.08, Lo = 96.01)

KITT PEAK MAGNETOGRAM



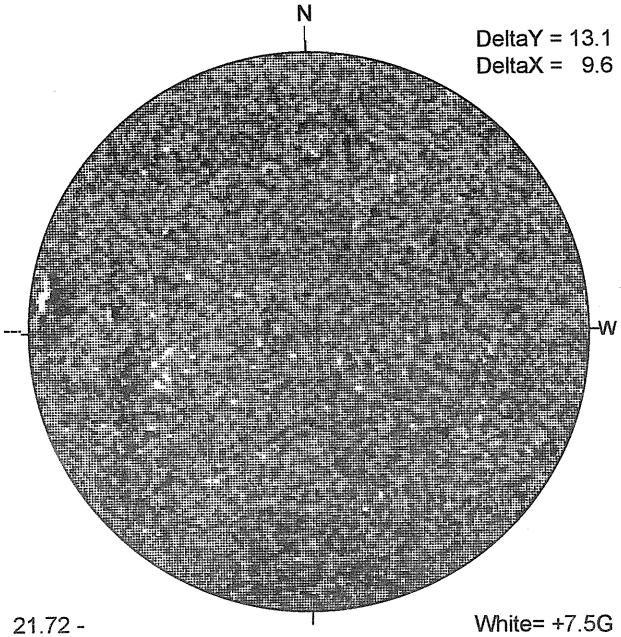
1518 UT

STANFORD MAGNETOGRAM



2226 UT

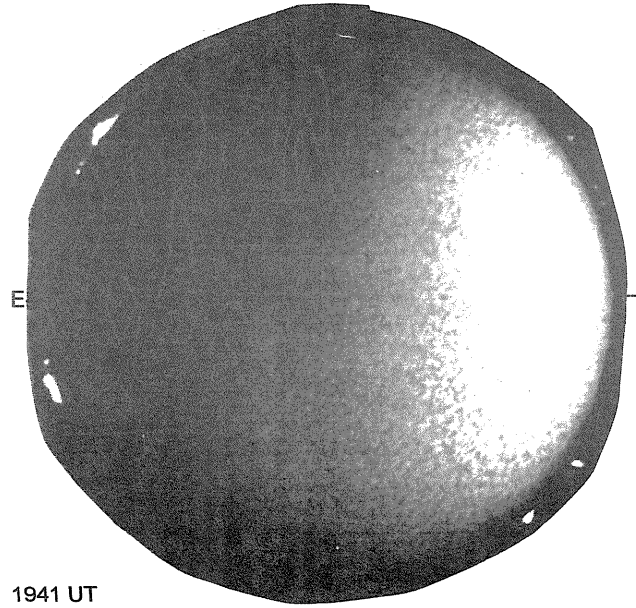
MT. WILSON MAGNETOGRAM



21.72 -
22.68 UT

White= +7.5G
Black = -7.5G

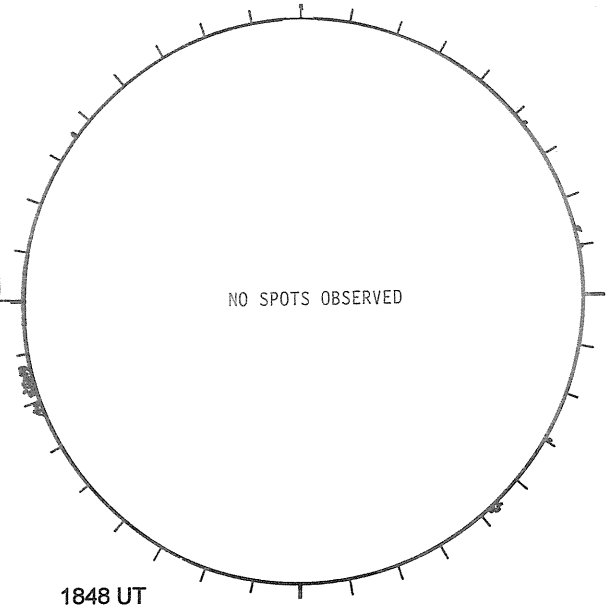
---- MAUNA LOA H-ALPHA



1941 UT
1900 UT Prom

S

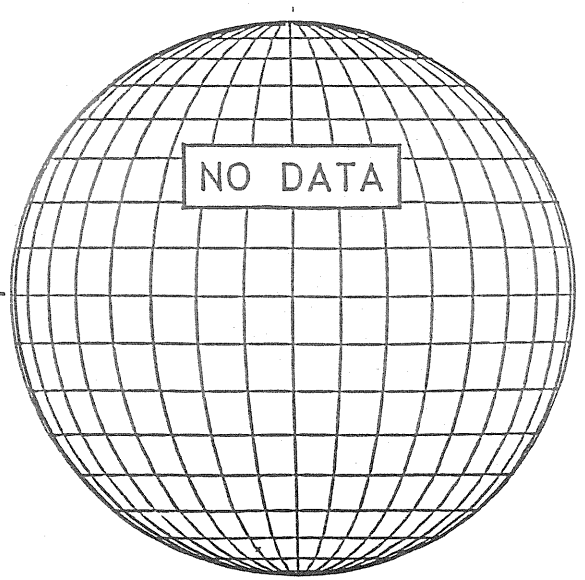
HOLLOMAN SUNSPOT



1848 UT
0835 UT VALA Prom

S

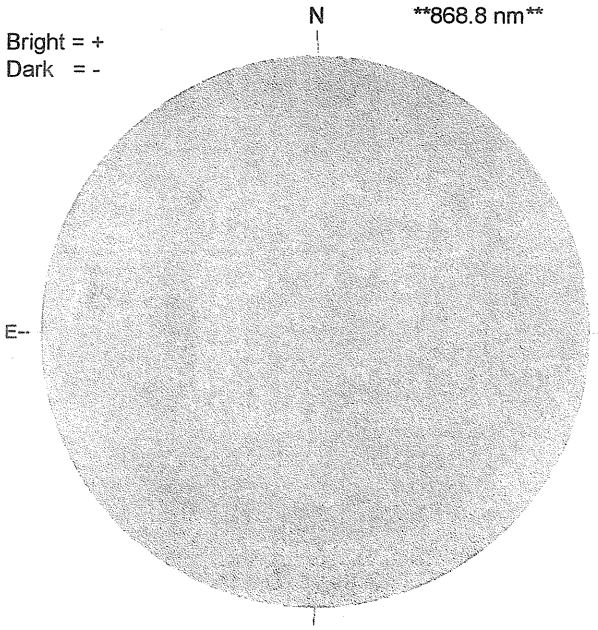
SACRAMENTO PEAK CORONA (1.15 Radii)----



S

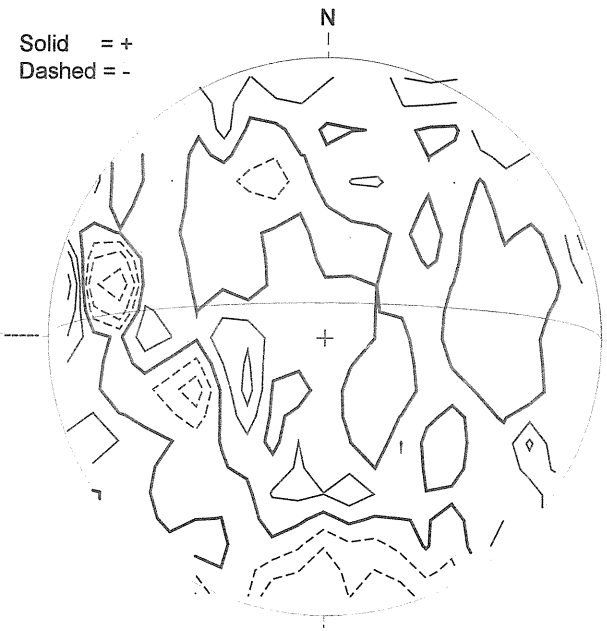
FEBRUARY 23, 1997 (P= - 19.93, Bo = - 7.11, Lo = 82.84)

KITT PEAK MAGNETOGRAM



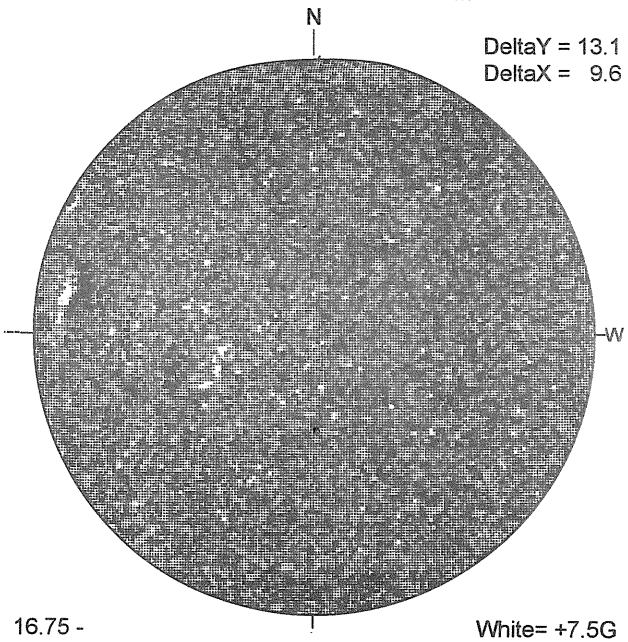
1653 UT

STANFORD MAGNETOGRAM



2119 UT

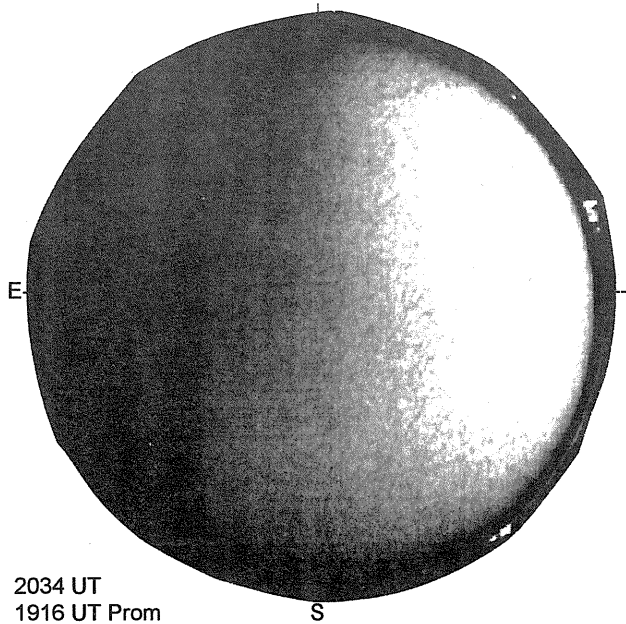
MT. WILSON MAGNETOGRAM



16.75 -
17.71 UT

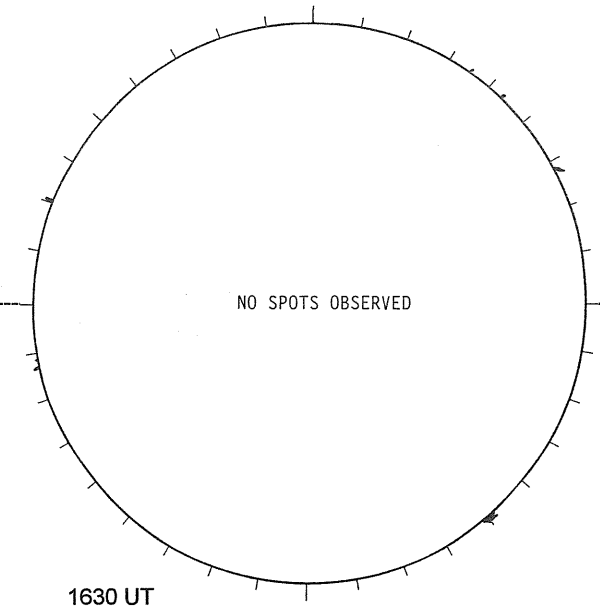
White= +7.5G
Black = -7.5G

MAUNA LOA H-ALPHA



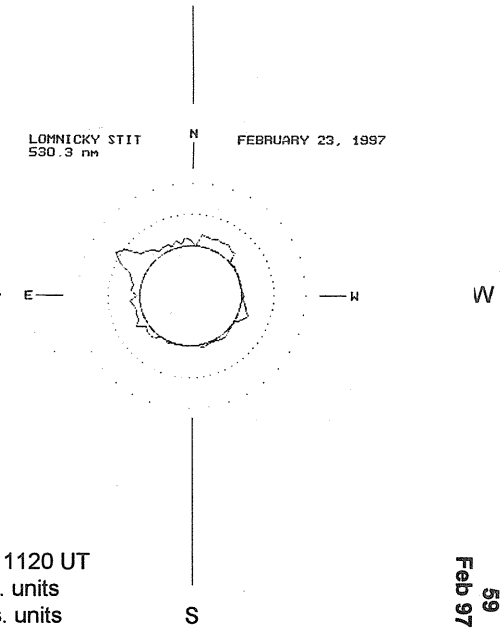
2034 UT
1916 UT Prom

HOLLOMAN SUNSPOT



1630 UT
1023 UT LOMN Prom

LOMNICKY PEAK CORONA (1.04 Radii)----



530.3 nm, 1120 UT
... 50 abs. units
. . 100 abs. units

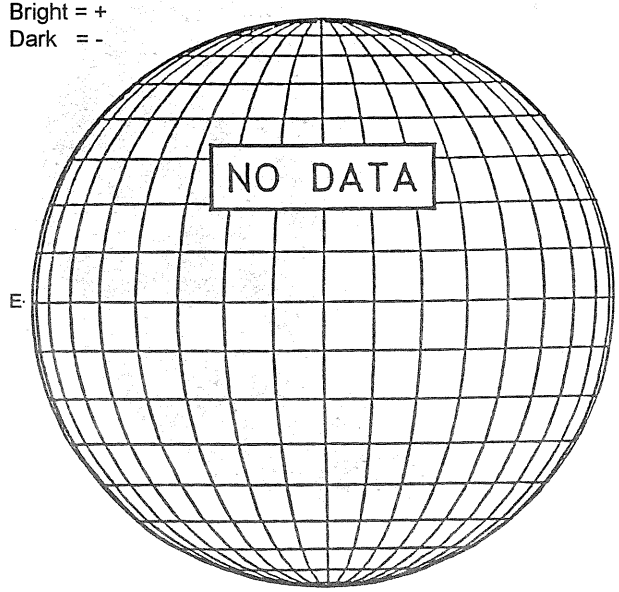
59
Feb 97

FEBRUARY 24, 1997 (P= - 20.21, Bo = - 7.13 Lo = 69.67)

KITT PEAK MAGNETOGRAM

N **868.8 nm**

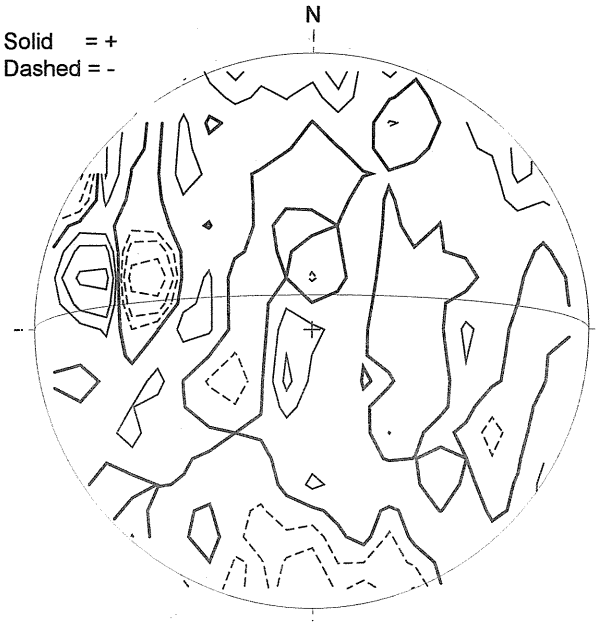
Bright = +
Dark = -



STANFORD MAGNETOGRAM

N

Solid = +
Dashed = -

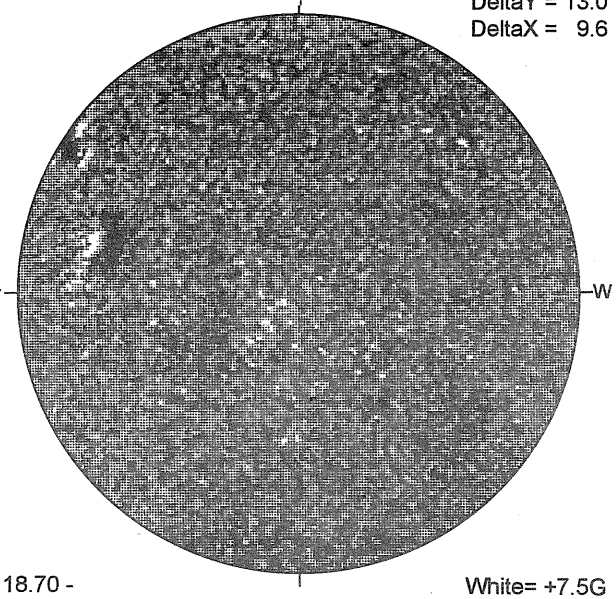


2148 UT

MT. WILSON MAGNETOGRAM

N

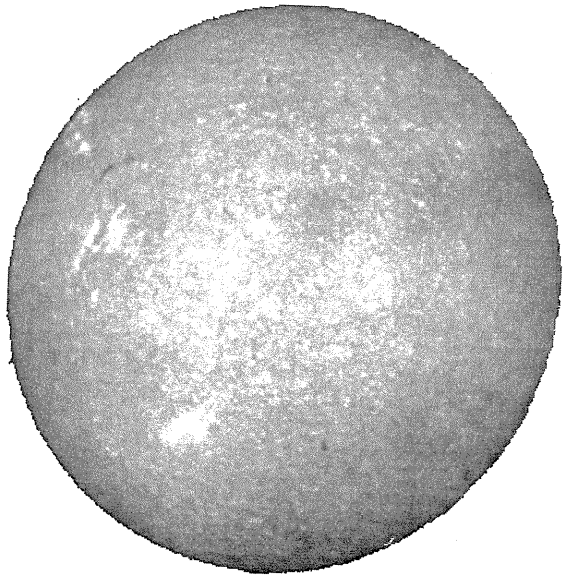
DeltaY = 13.0
DeltaX = 9.6



18.70 -
19.67 UT

White= +7.5G
Black = -7.5G

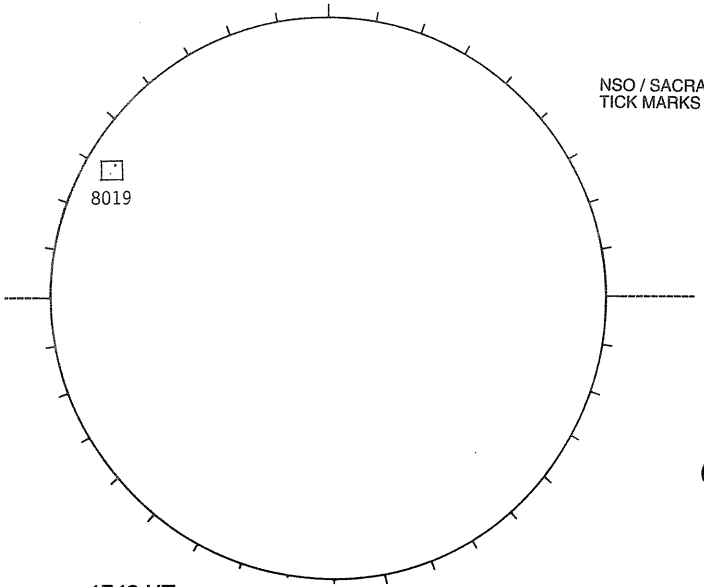
SACRAMENTO PEAK H-ALPHA



2035 UT

S

HOLLOMAN SUNSPOT

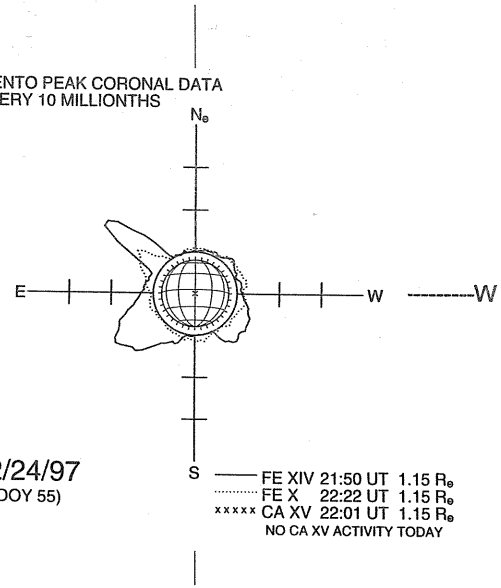


1742 UT

S

SACRAMENTO PEAK CORONA (1.15 Radii)

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 10 MILLIONTHS



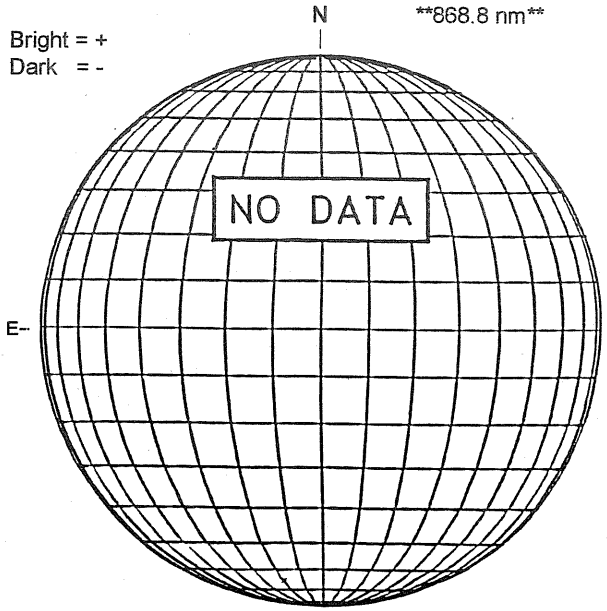
02/24/97
(DOY 55)

FE XIV 21:50 UT 1.15 R_e
FE X 22:22 UT 1.15 R_e
xxxxx CA XV 22:01 UT 1.15 R_e
NO CA XV ACTIVITY TODAY

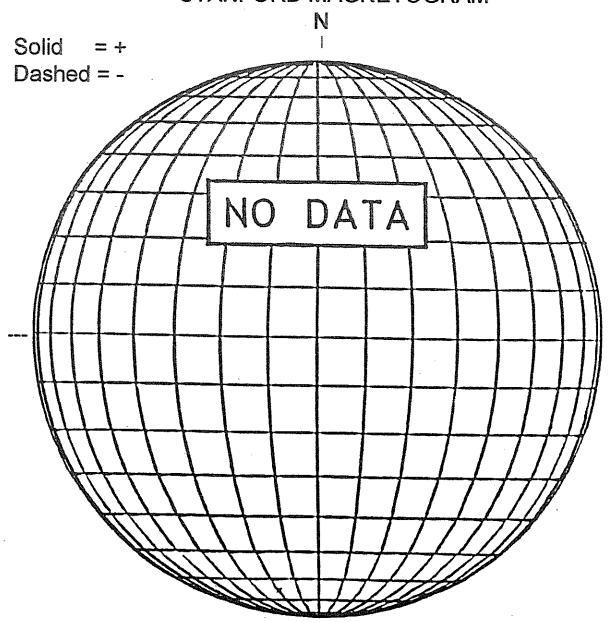
S

FEBRUARY 25, 1997 (P= - 20.49, Bo = - 7.16, Lo = 56.50)

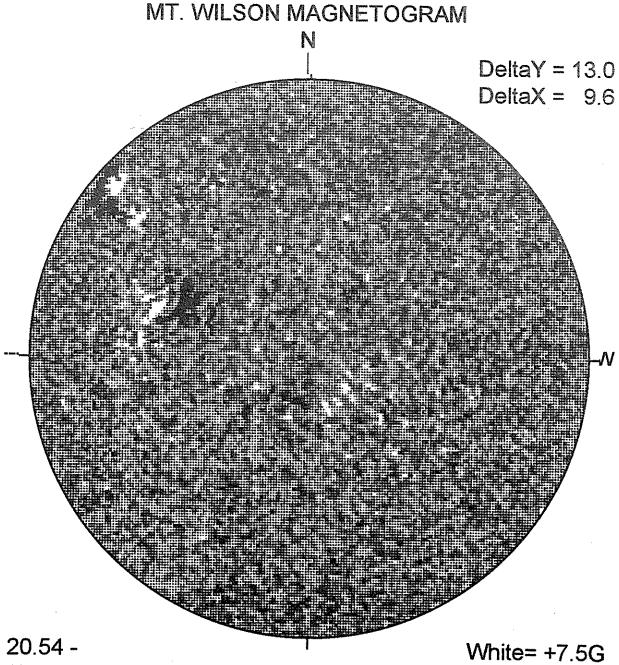
KITT PEAK MAGNETOGRAM



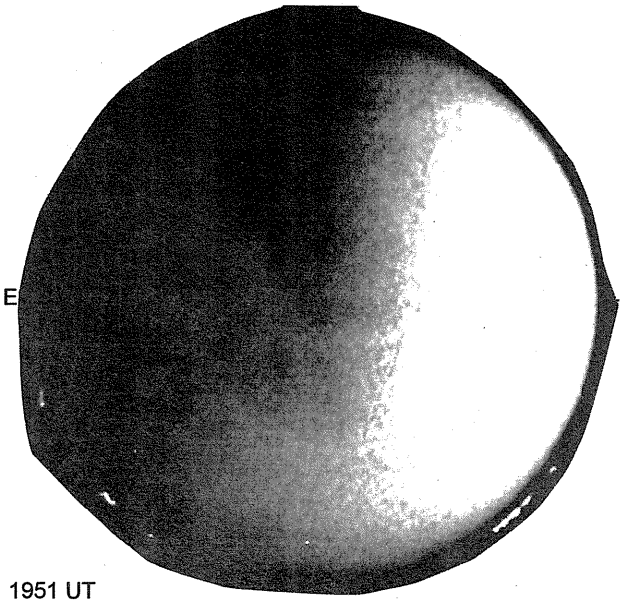
STANFORD MAGNETOGRAM



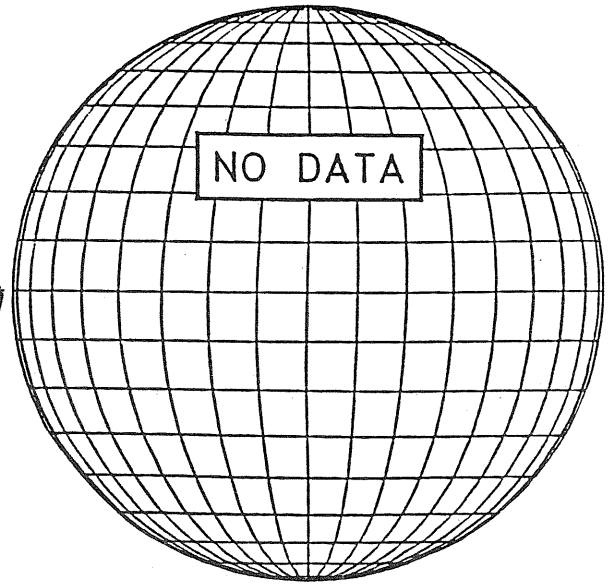
MT. WILSON MAGNETOGRAM



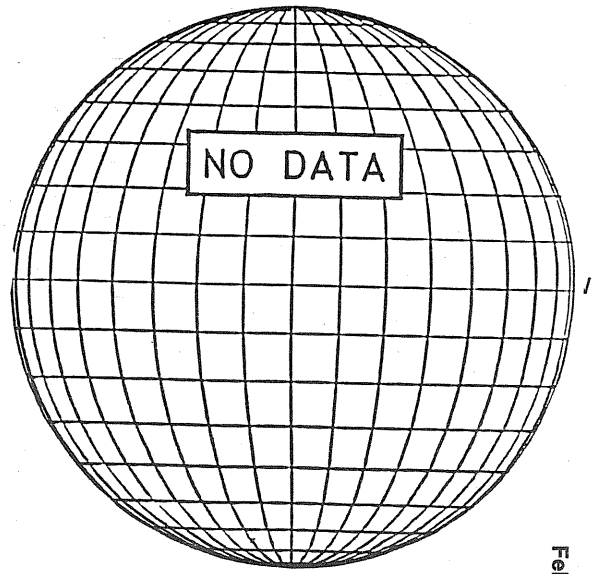
MAUNA LOA H-ALPHA



HOLLOMAN SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)----



61
Feb 97

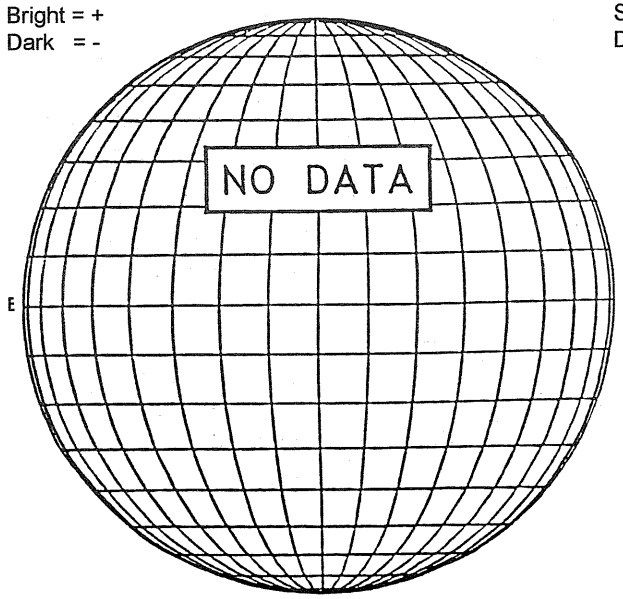
FEBRUARY 26, 1997 (P= - 20.77, Bo = - 7.18, Lo = 43.33)

KITT PEAK MAGNETOGRAM

N

868.8 nm

Bright = +
Dark = -



STANFORD MAGNETOGRAM

N

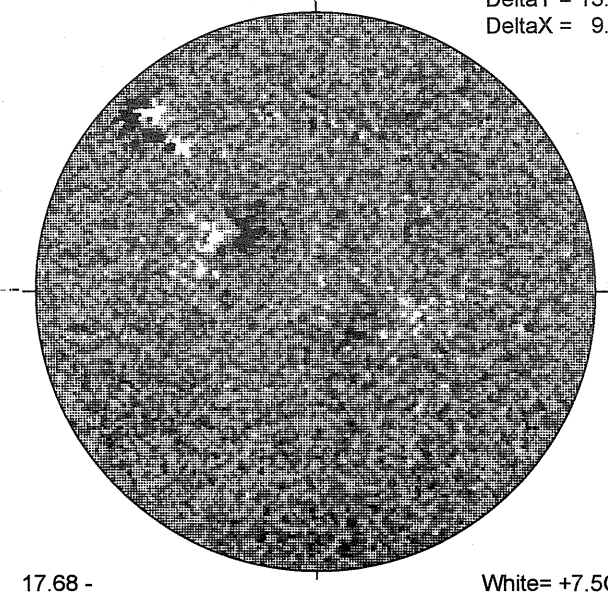
Solid = +
Dashed = -

2112 UT

MT. WILSON MAGNETOGRAM

N

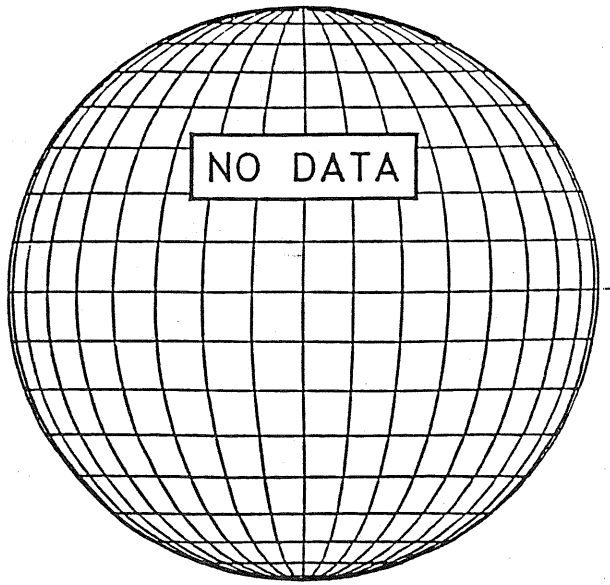
DeltaY = 13.1
DeltaX = 9.6



17.68 -
18.65 UT

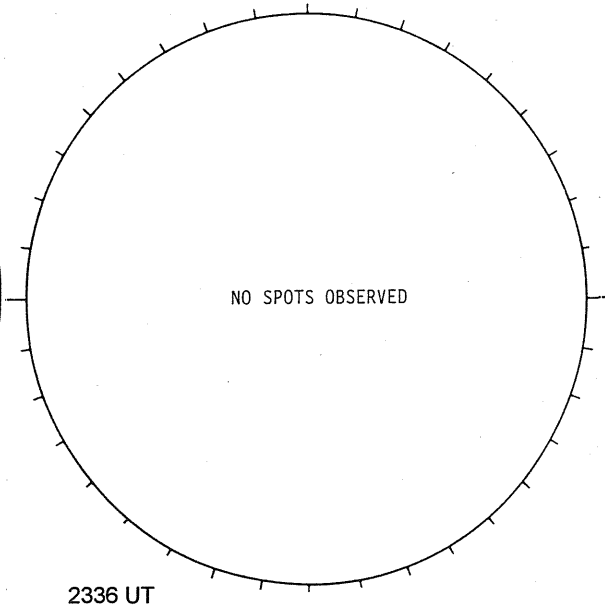
White= +7.5G
Black = -7.5G

MAUNA LOA H-ALPHA



S

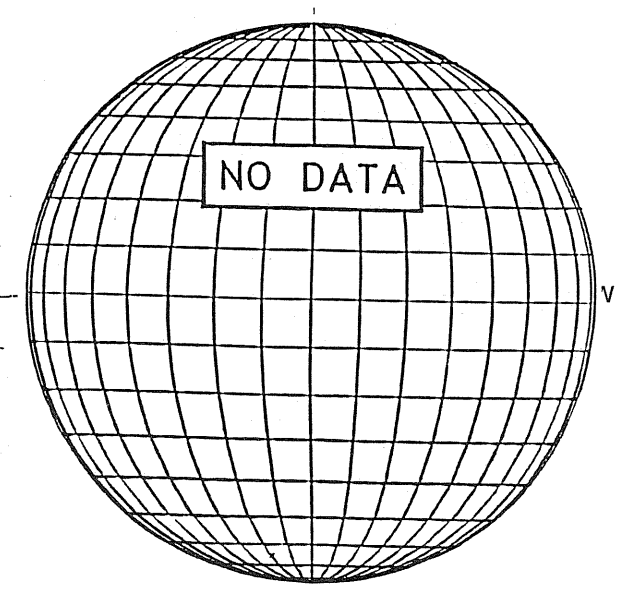
HOLLOMAN SUNSPOT



2336 UT

S

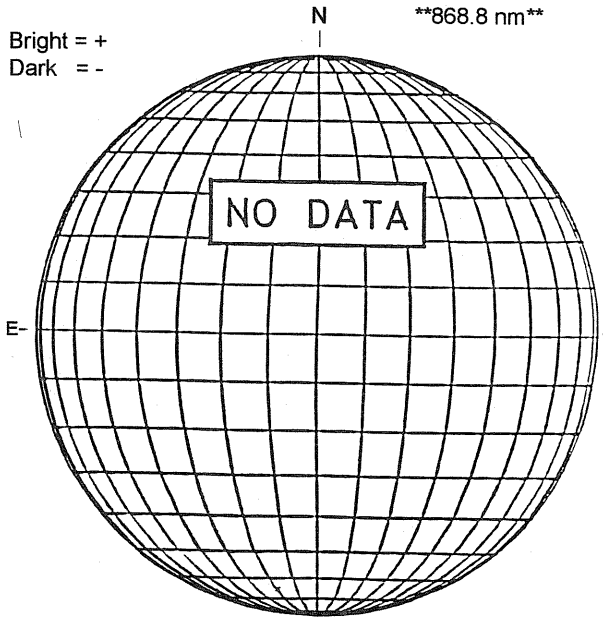
SACRAMENTO PEAK CORONA (1.15 Radii)----



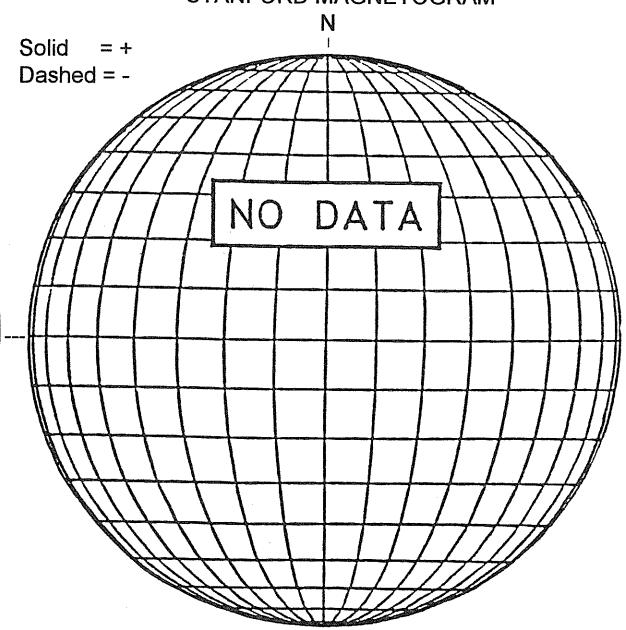
S

FEBRUARY 27, 1997 (P= - 21.03, Bo = - 7.19, Lo = 30.16)

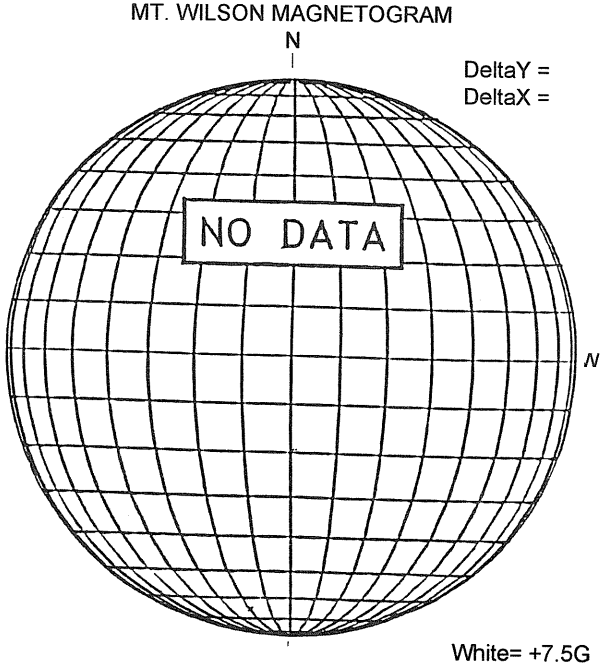
KITT PEAK MAGNETOGRAM



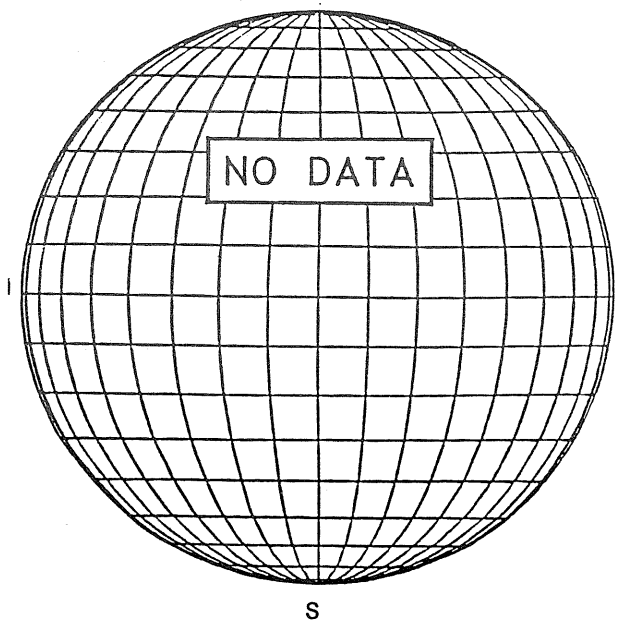
STANFORD MAGNETOGRAM



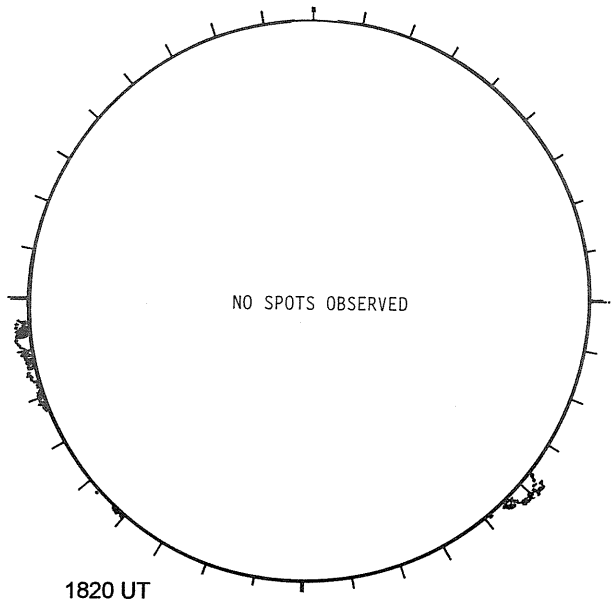
MT. WILSON MAGNETOGRAM



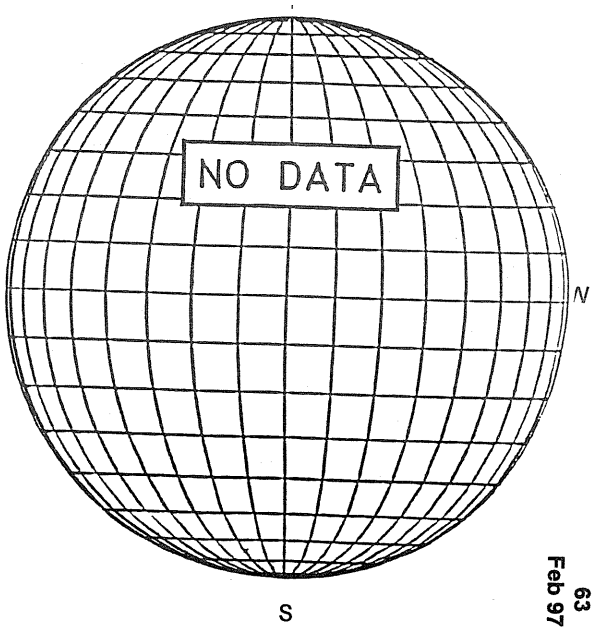
MAUNA LOA H-ALPHA



HOLLOMAN SUNSPOT



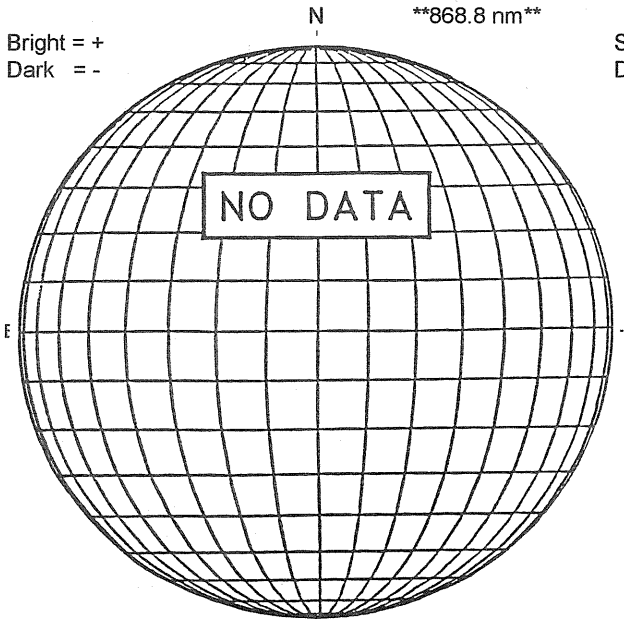
LOMNICKY PEAK CORONA (1.04 Radii)----



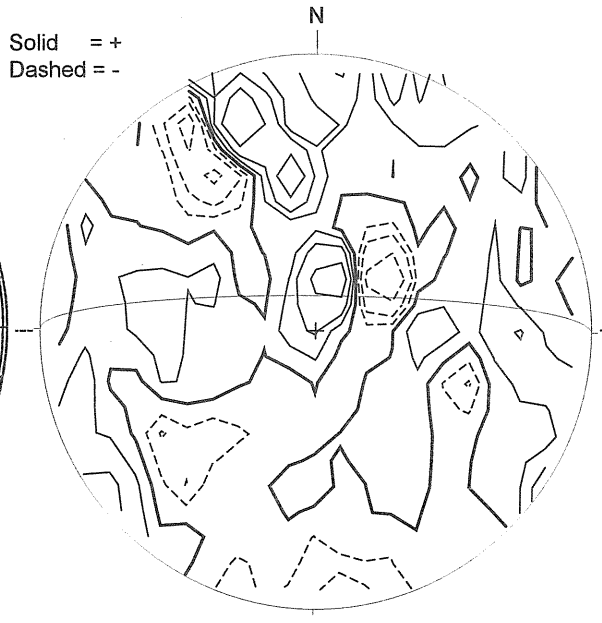
63
Feb 97

FEBRUARY 28, 1997 (P= - 21.29, Bo = - 7.21, Lo = 16.98)

KITT PEAK MAGNETOGRAM

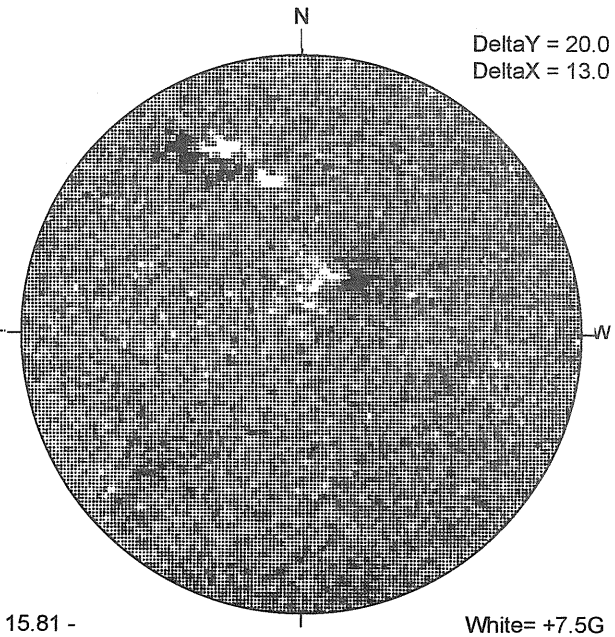


STANFORD MAGNETOGRAM



1848 UT

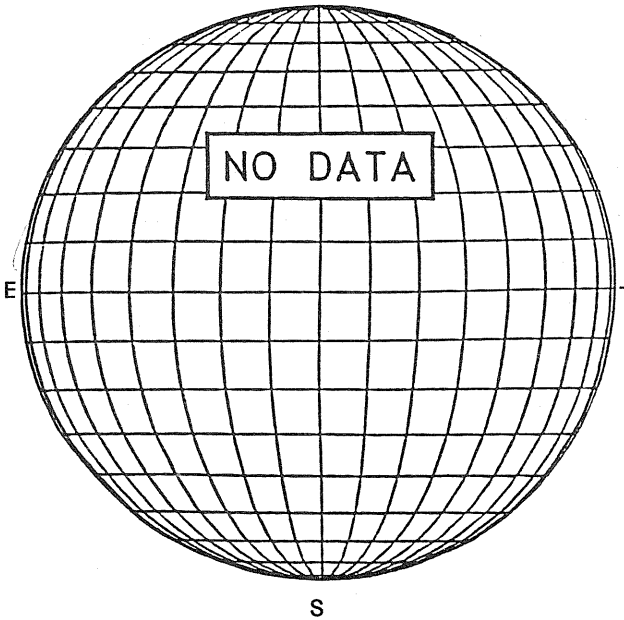
MT. WILSON MAGNETOGRAM



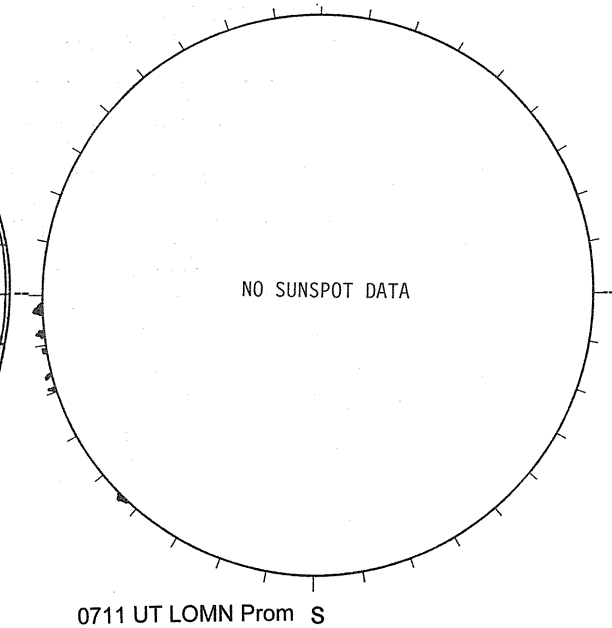
15.81 -
16.23 UT

White= +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA

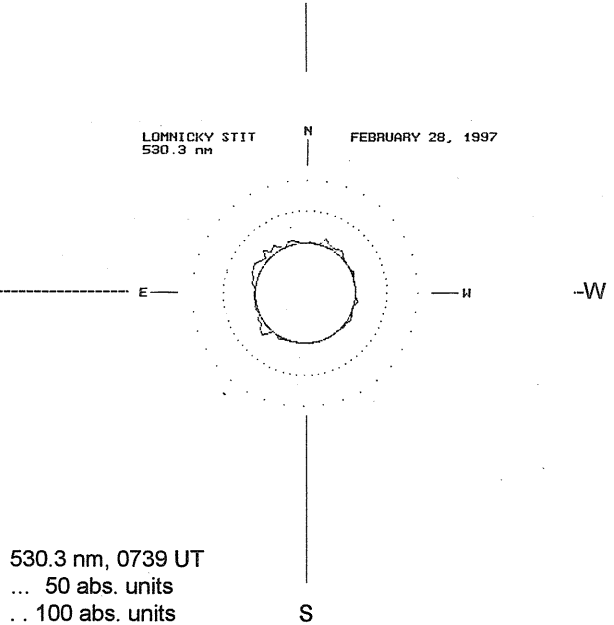


HOLLOMAN SUNSPOT



0711 UT LOMN Prom

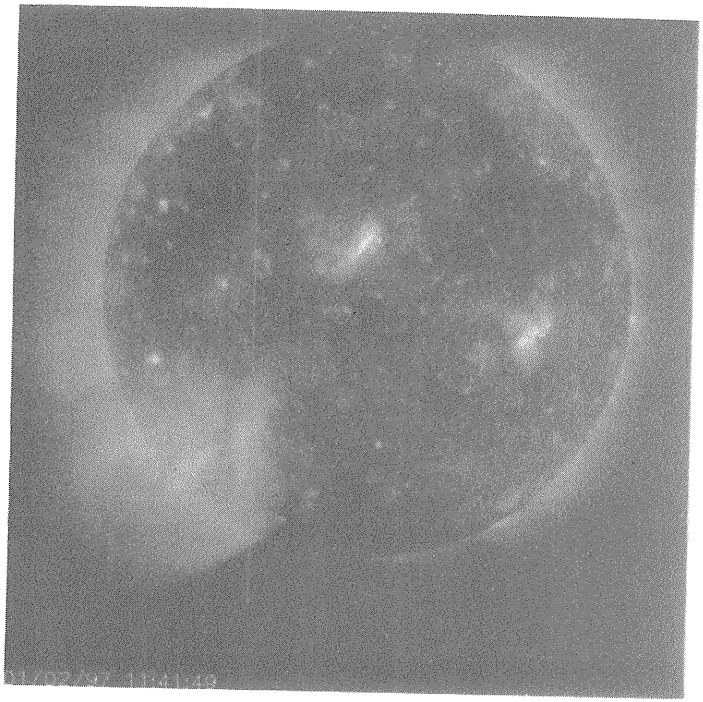
LOMNICKY PEAK CORONA (1.04 Radii)



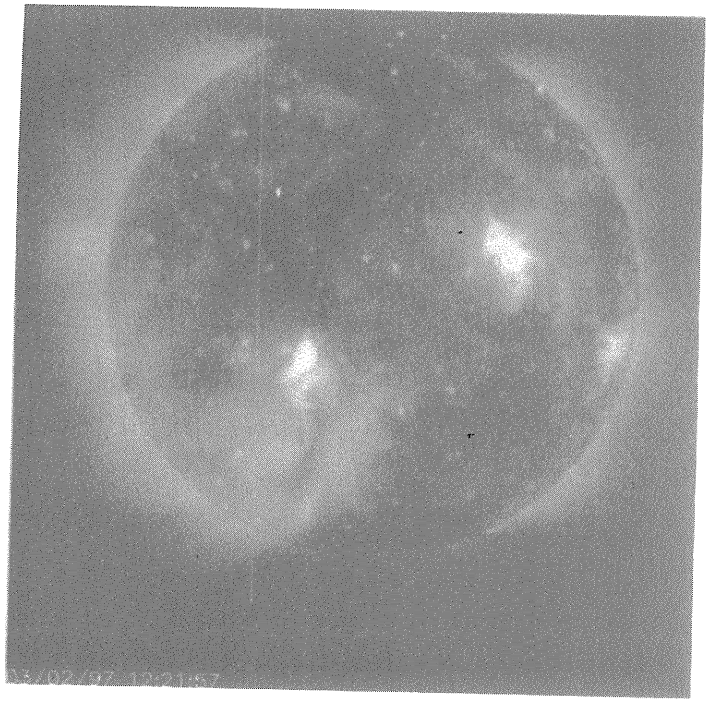
530.3 nm, 0739 UT
... 50 abs. units
. . 100 abs. units

YOHKOH SOFT X-RAY TELESCOPE IMAGES

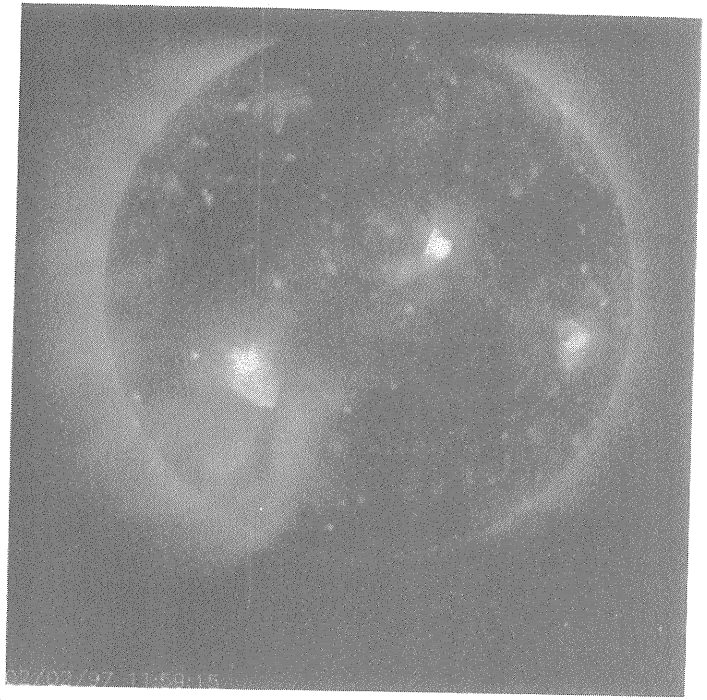
February 1997



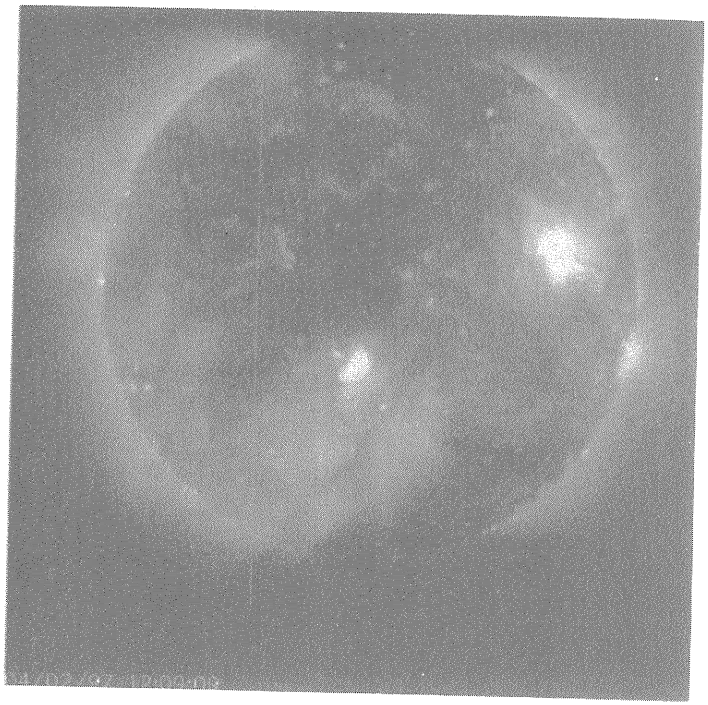
Day 1
11:41:49 UT



Day 3
12:21:57 UT



Day 2
11:59:15 UT

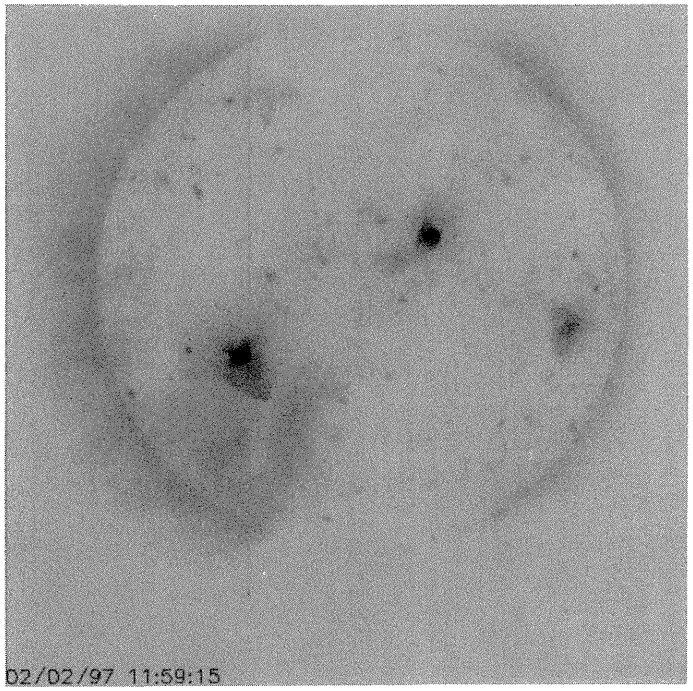


Day 4
12:09:09 UT

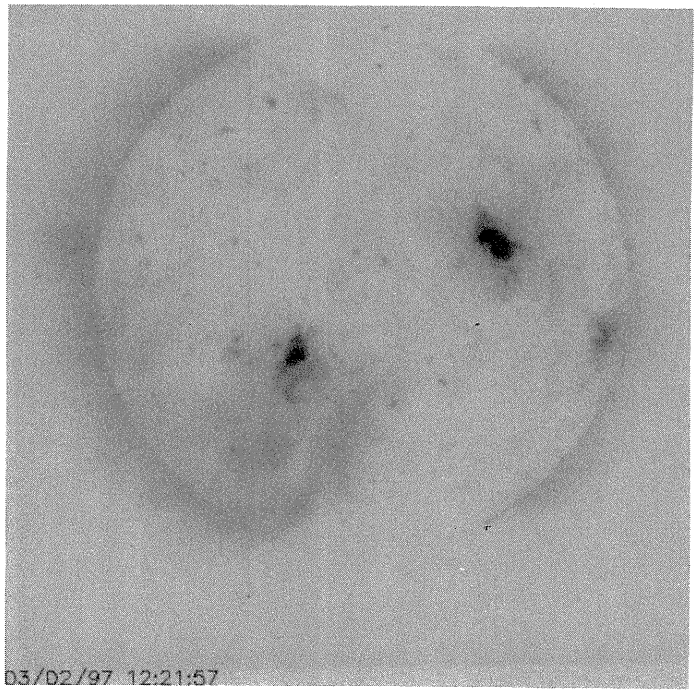
YOHKOH SOFT X-RAY TELESCOPE IMAGES

February
1997

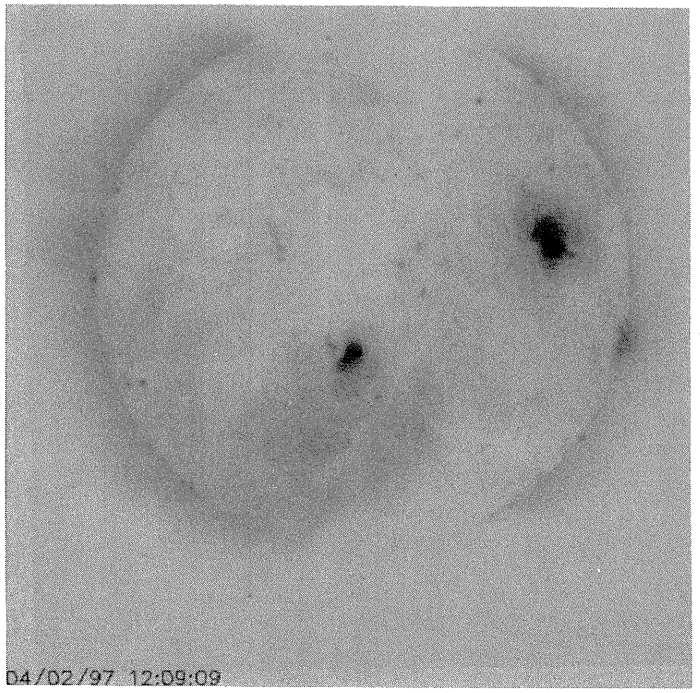
Day 1
11:41:49 UT



Day 2
11:59:15 UT



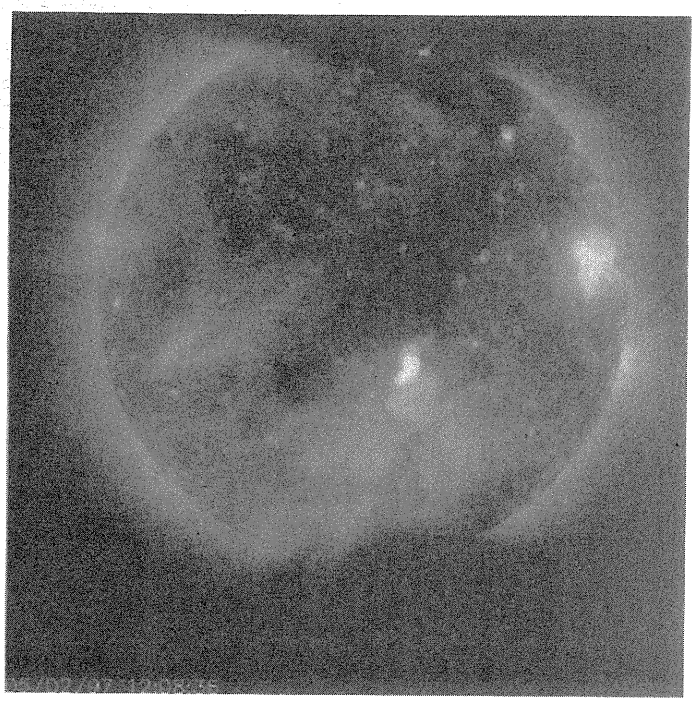
Day 3
12:21:57 UT



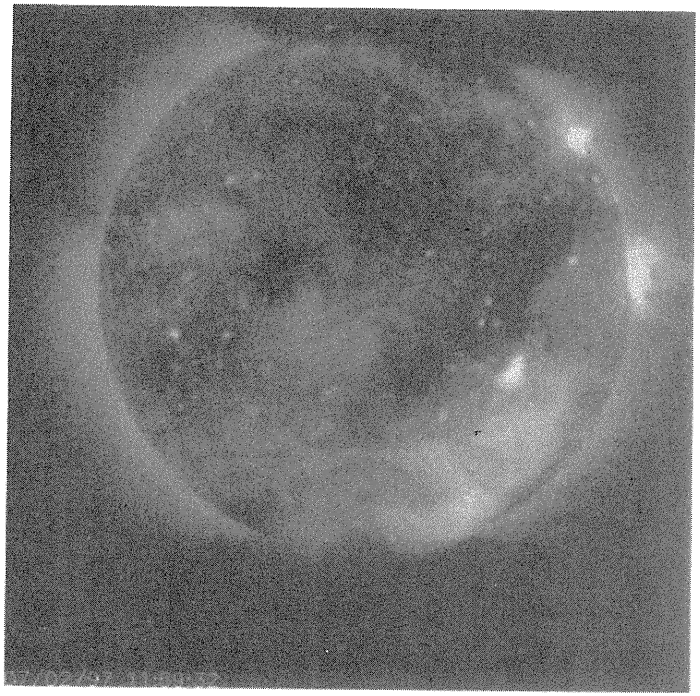
Day 4
12:09:09 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

February 1997

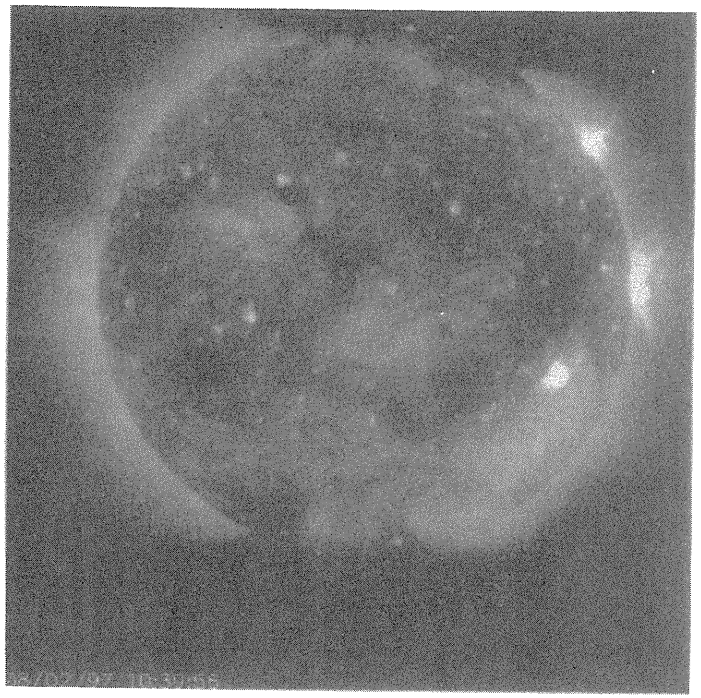


Day 5
12:08:36 UT



Day 7
11:59:32 UT

Day 6
17:29:38 UT



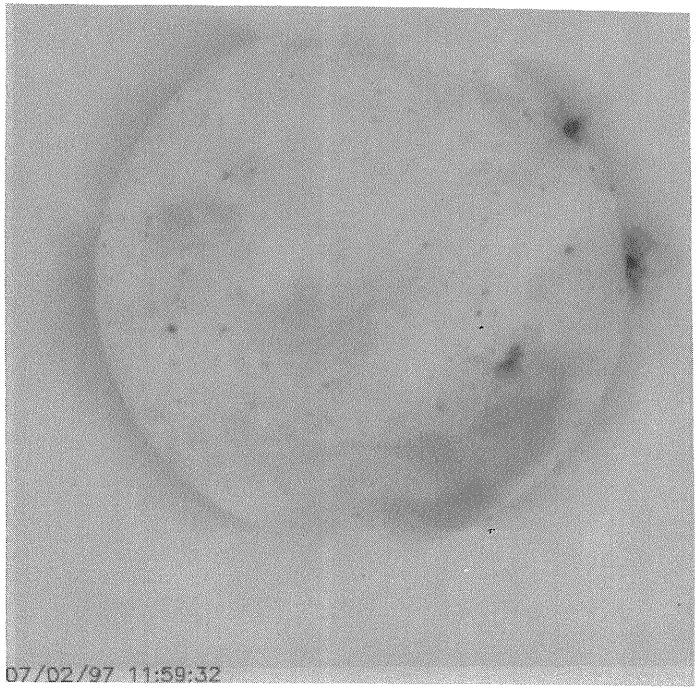
Day 8
10:39:56 UT

97
Feb 97

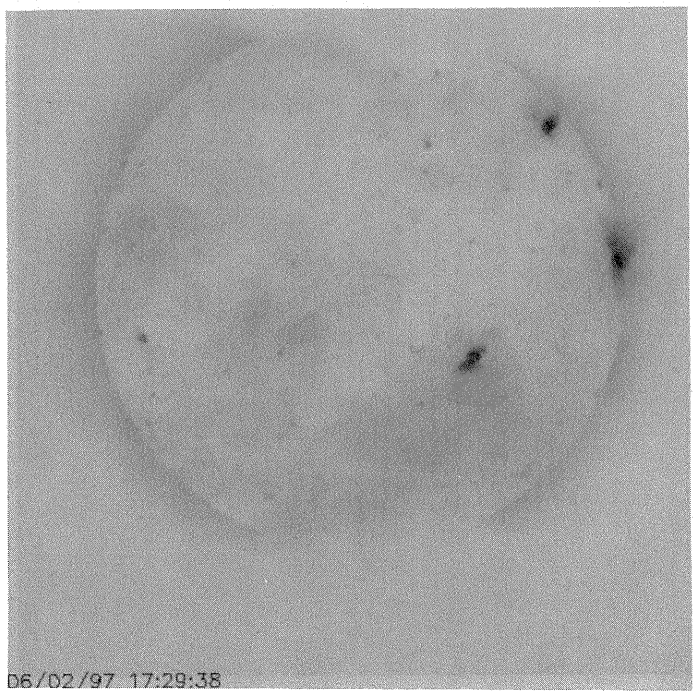
YOHKOH SOFT X-RAY TELESCOPE IMAGES

February
1997

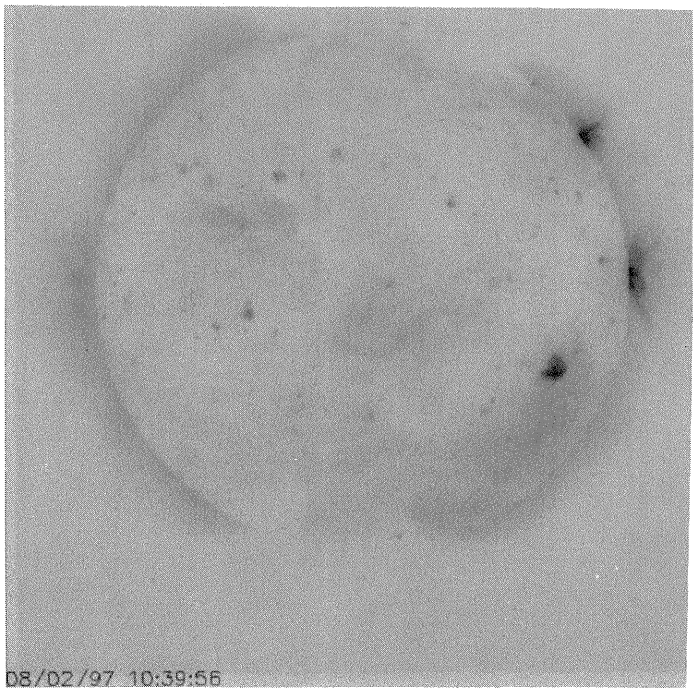
Day 5
12:08:36 UT



Day 7
11:59:32 UT



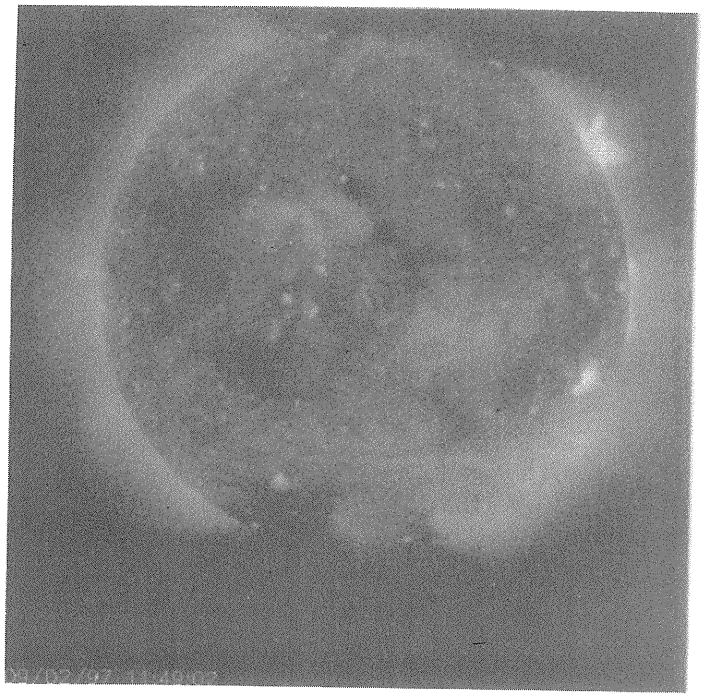
Day 6
17:29:38 UT



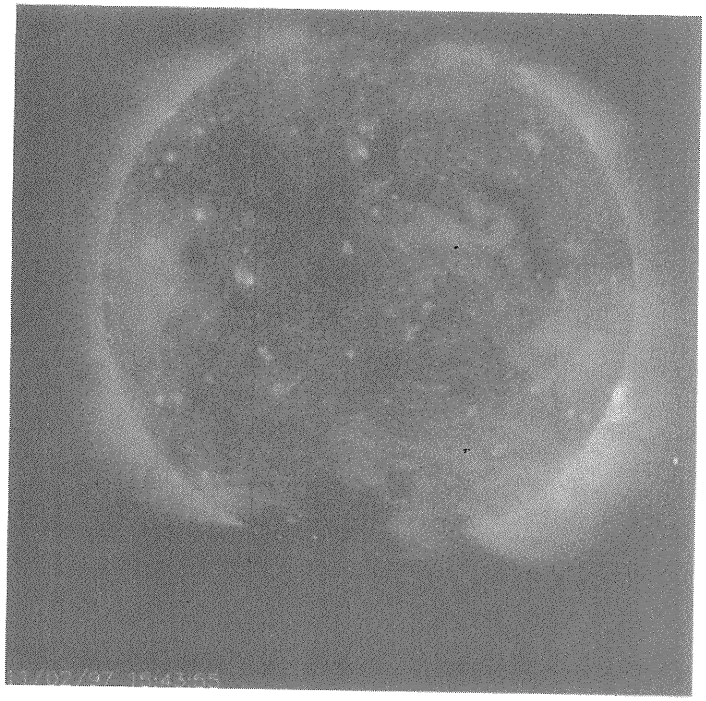
Day 8
10:39:56 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

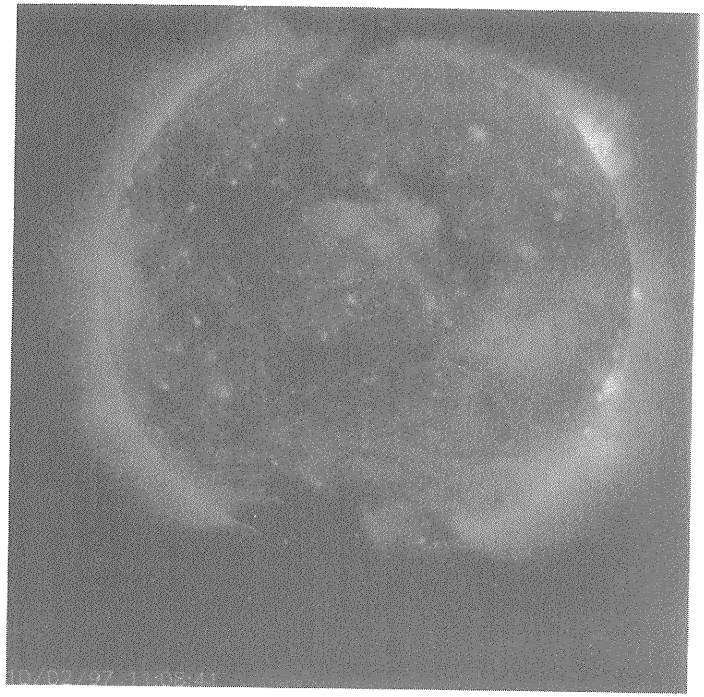
February 1997



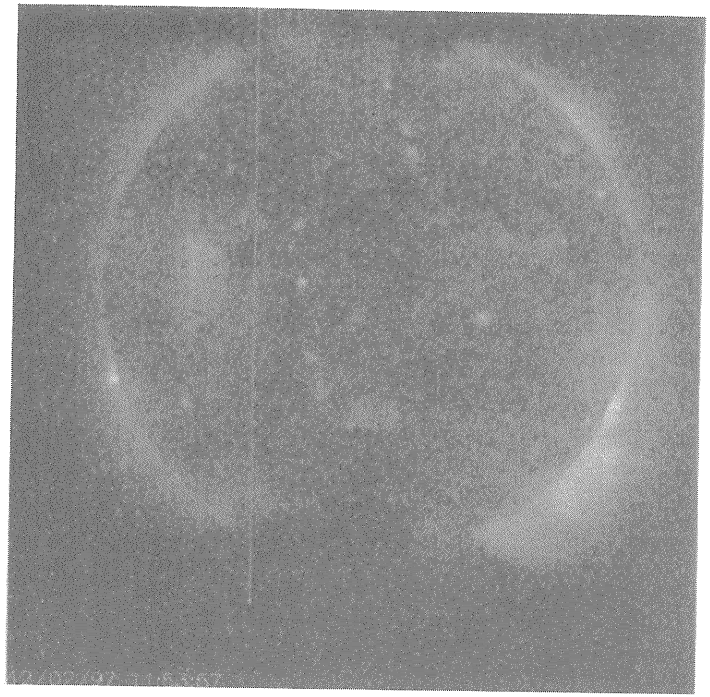
Day 9
11:49:02 UT



Day 11
15:43:55 UT



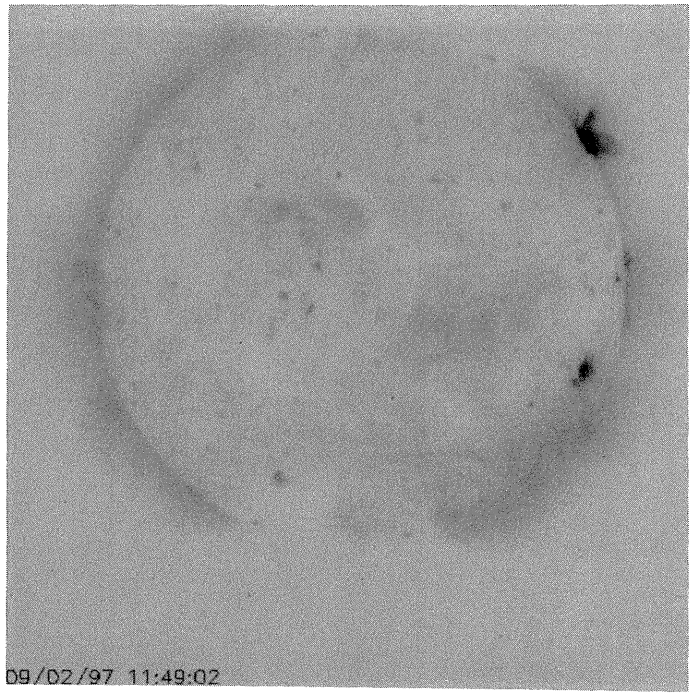
Day 10
11:08:41 UT



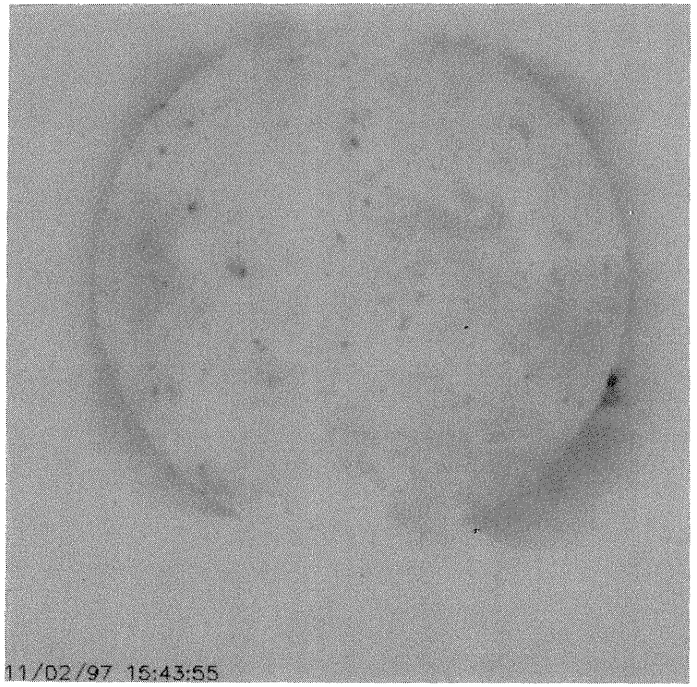
Day 12
11:53:57 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

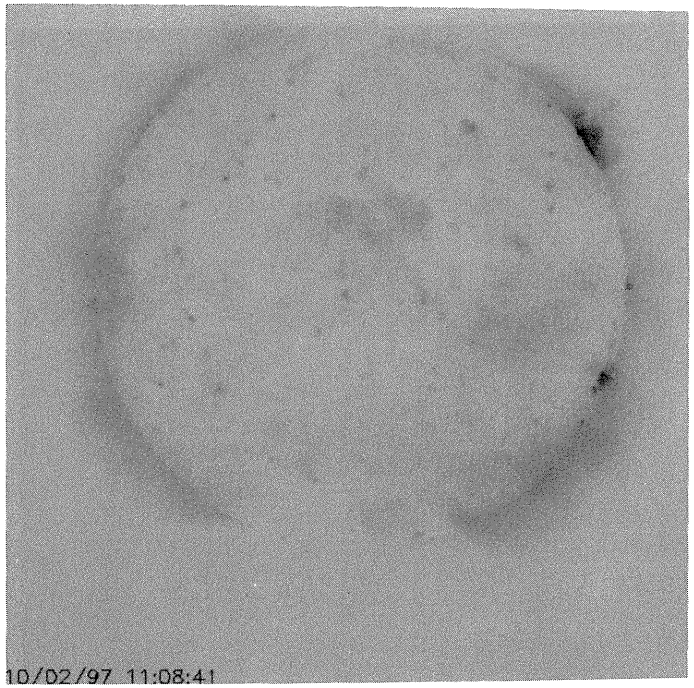
February
1997



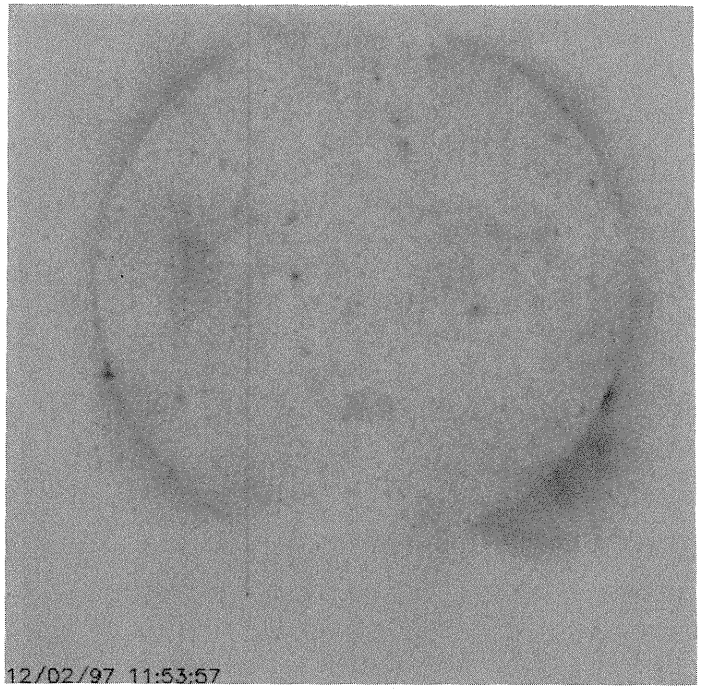
Day 9
11:49:02 UT



Day 11
15:43:55 UT



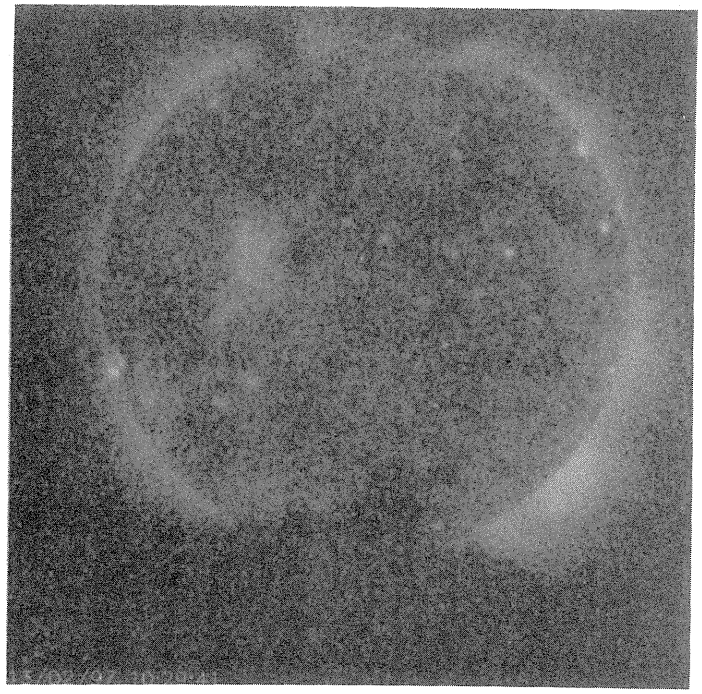
Day 10
11:08:41 UT



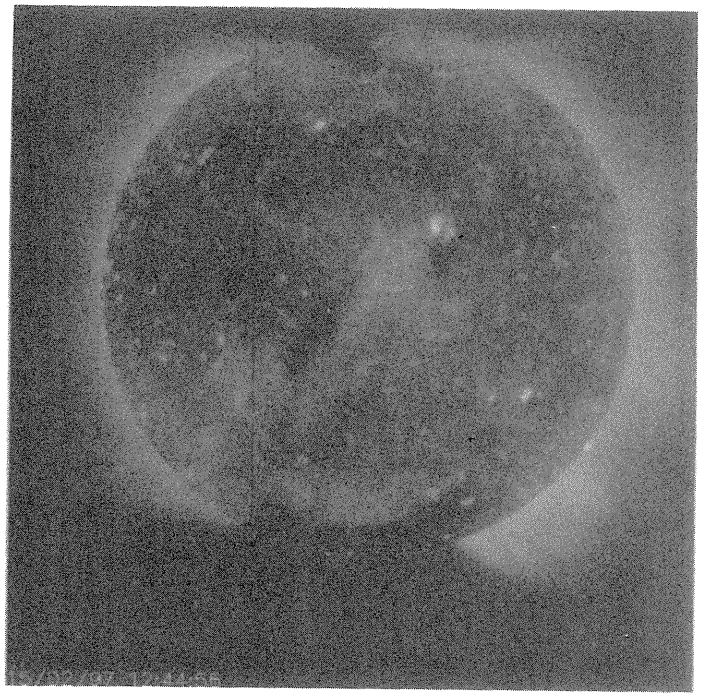
Day 12
11:53:57 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

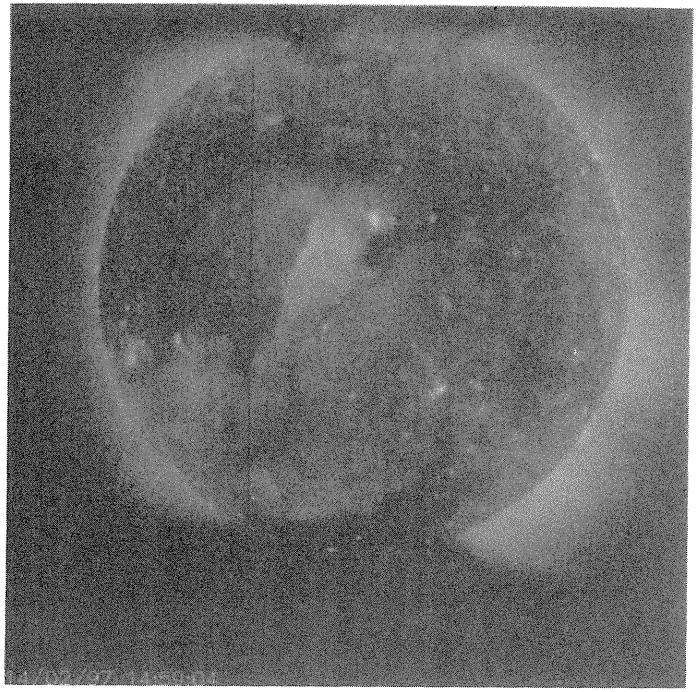
February
1997



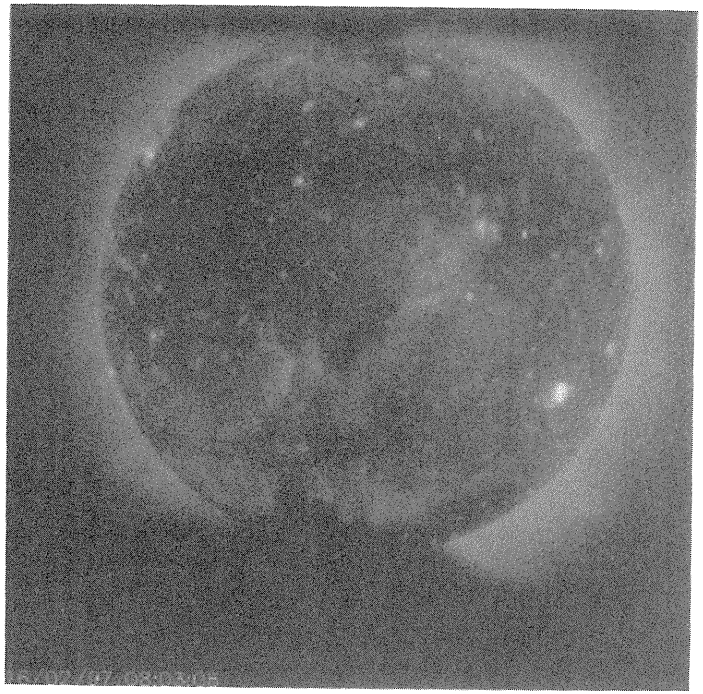
Day 13
10:29:41 UT



Day 15
12:44:56 UT



Day 14
14:59:04 UT



Day 16
08:03:06 UT

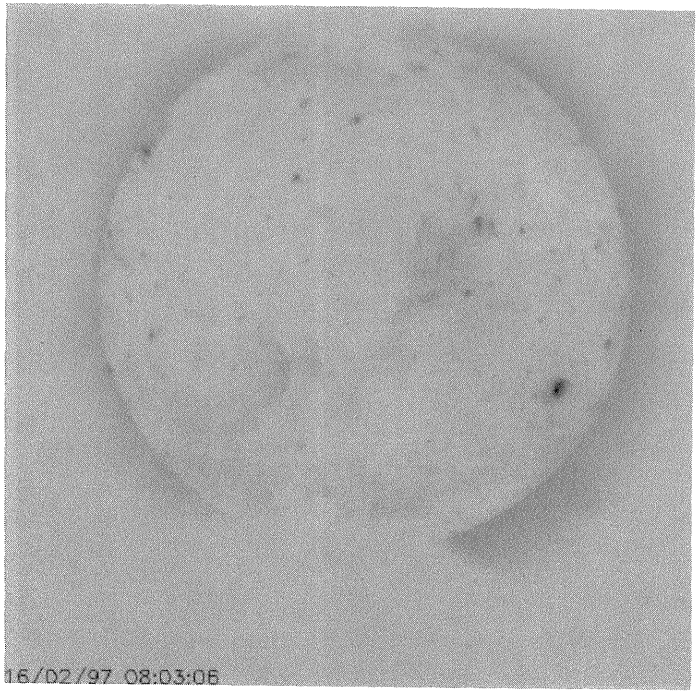
YOHKOH SOFT X-RAY TELESCOPE IMAGES

February
1997

Day 13
10:29:41 UT

Day 15
12:44:56 UT

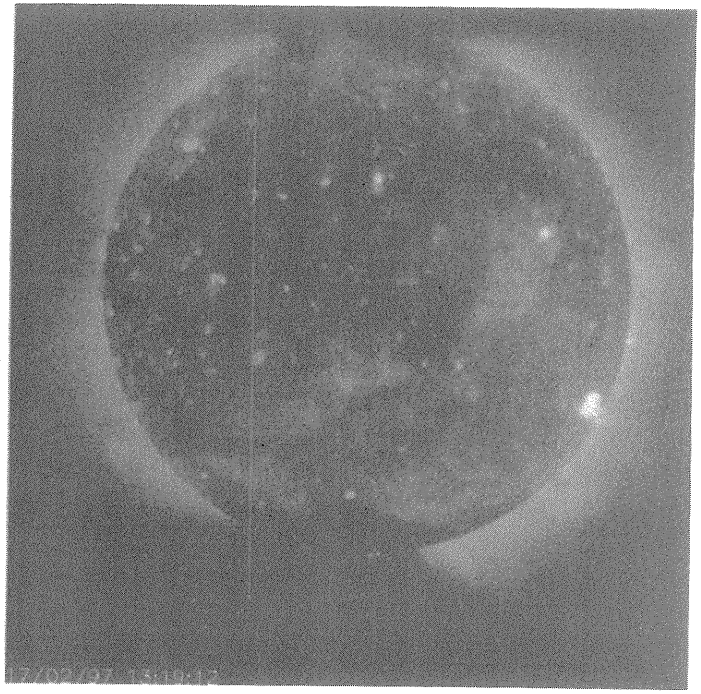
Day 14
14:59:04 UT



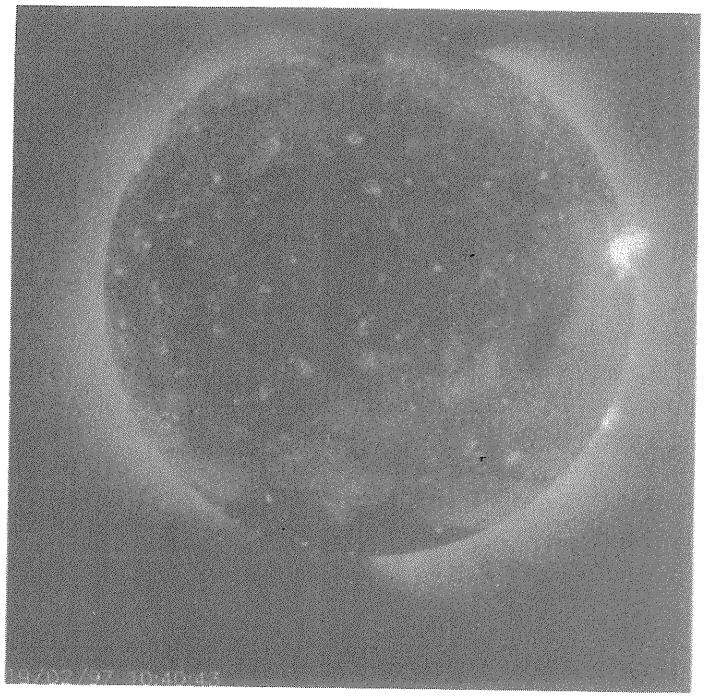
Day 16
08:03:06 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

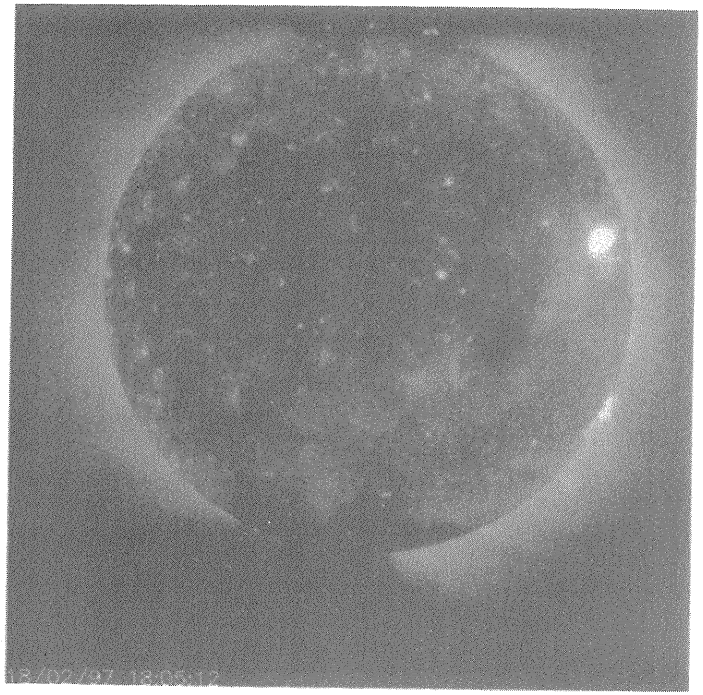
February 1997



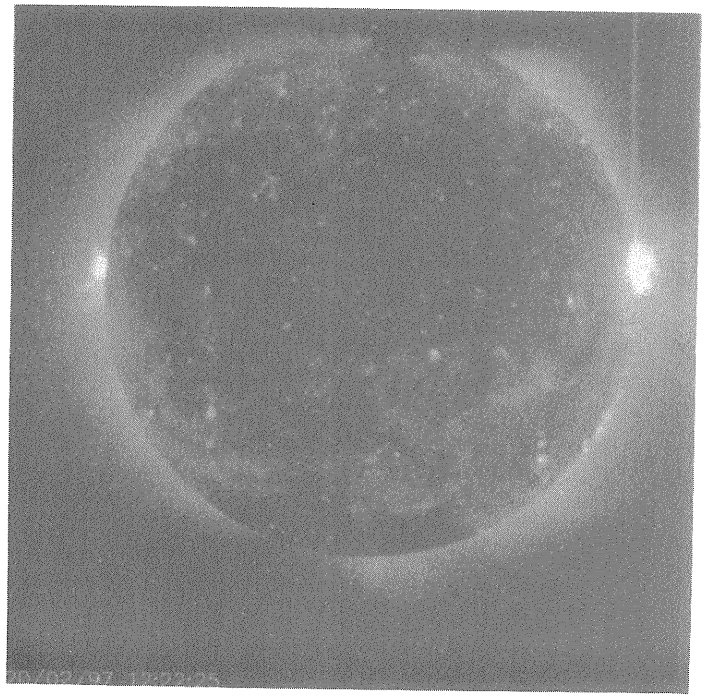
Day 17
13:19:12 UT



Day 19
10:40:43 UT



Day 18
18:05:12 UT

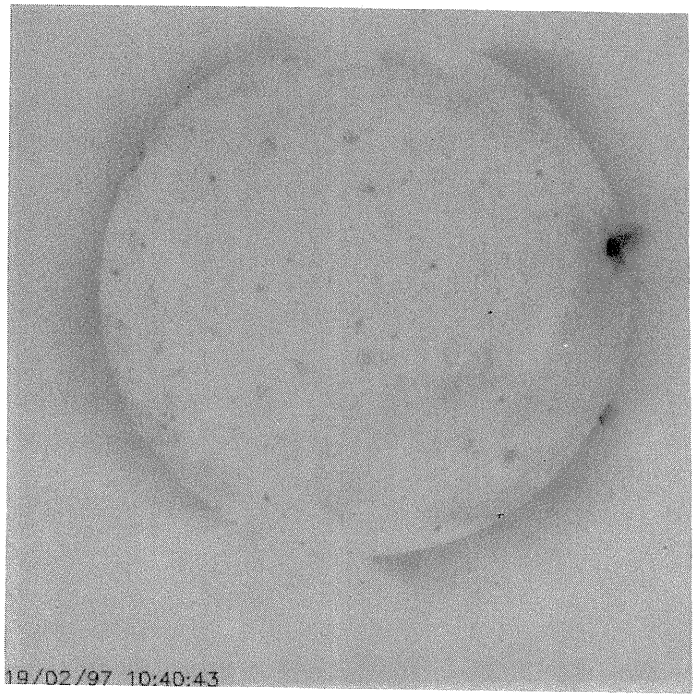


Day 20
12:22:25 UT

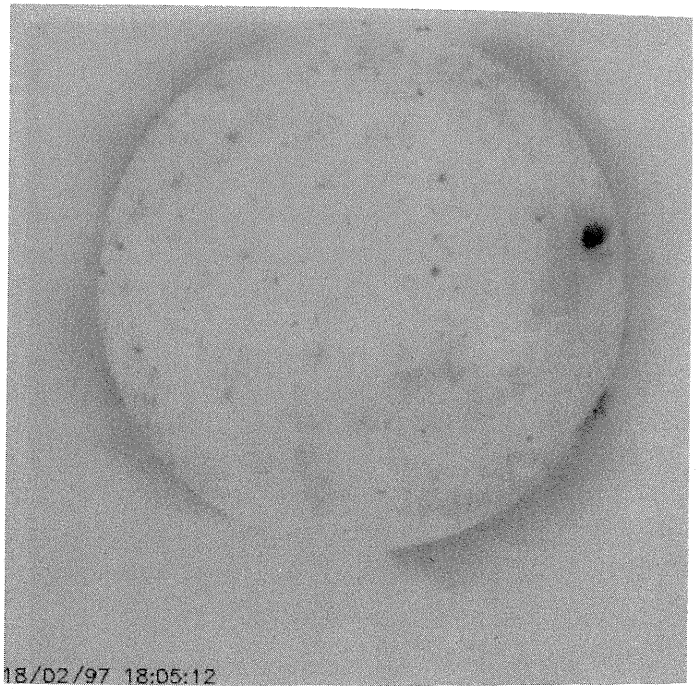
YOHKOH SOFT X-RAY TELESCOPE IMAGES

February 1997

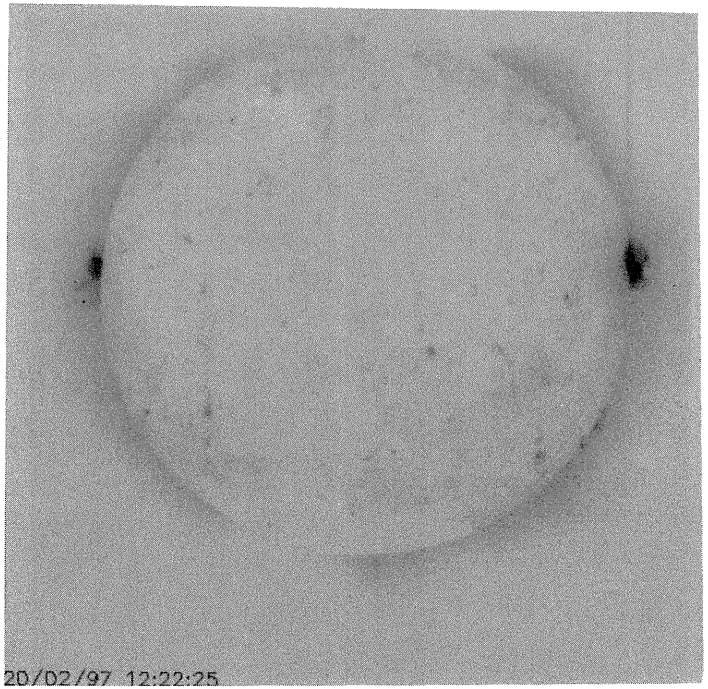
Day 17
13:19:12 UT



Day 19
10:40:43 UT



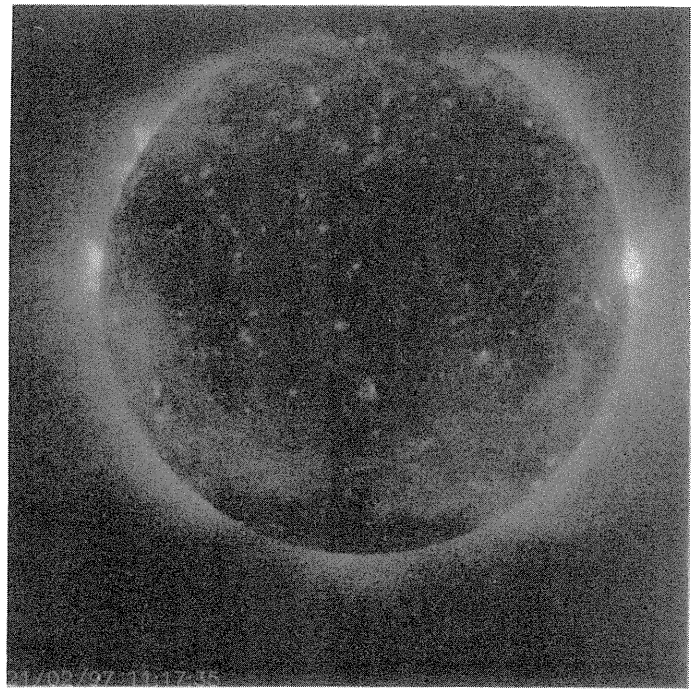
Day 18
18:05:12 UT



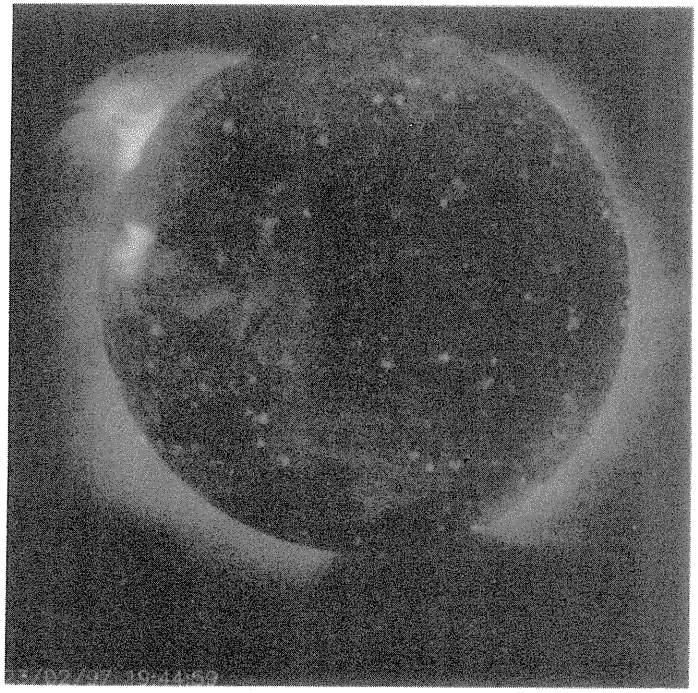
Day 20
12:22:25 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

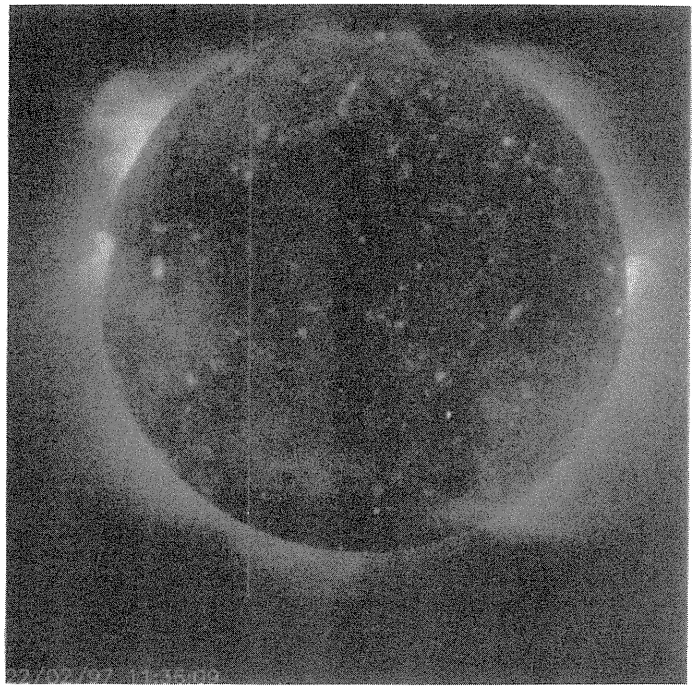
February
1997



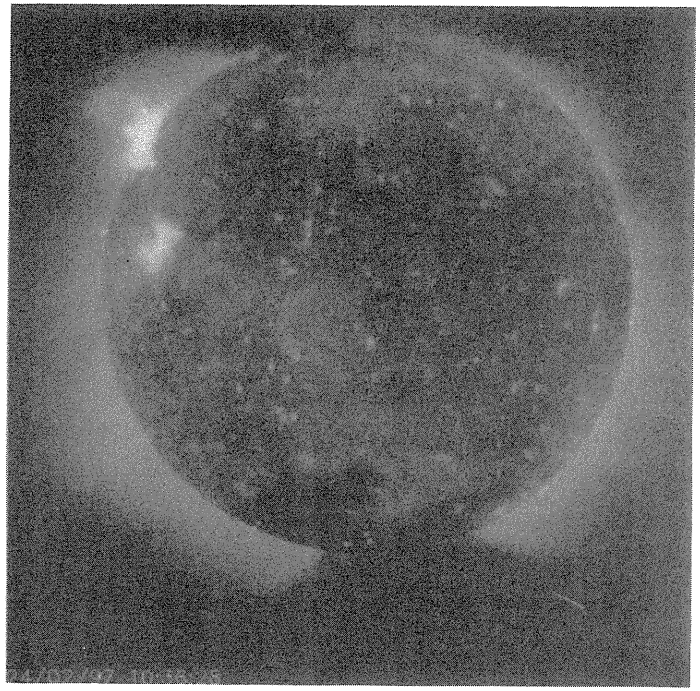
Day 21
11:17:35 UT



Day 23
19:44:59 UT



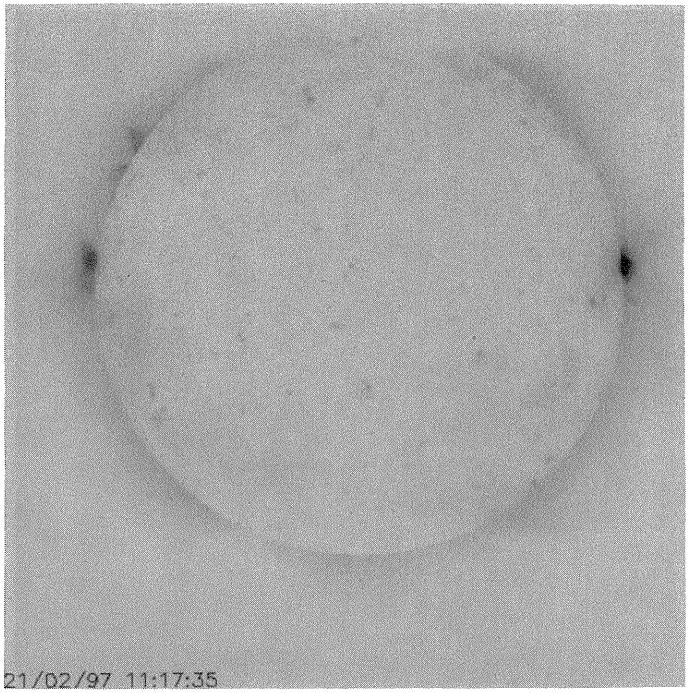
Day 22
11:36:09 UT



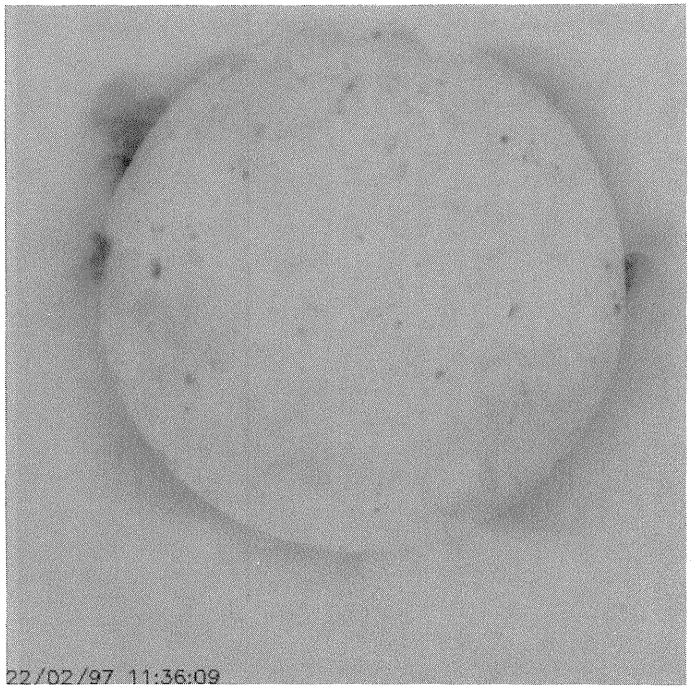
Day 24
10:36:28 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

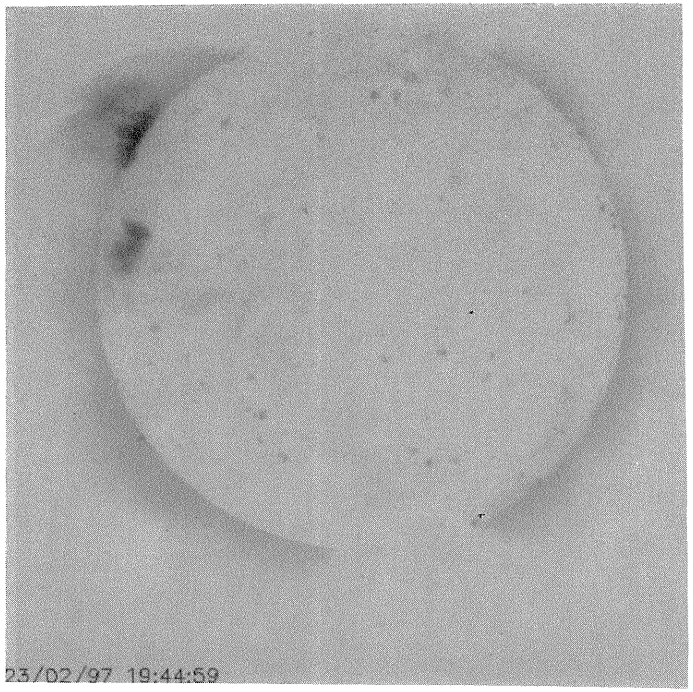
February
1997



Day 21
11:17:35 UT



Day 22
11:36:09 UT

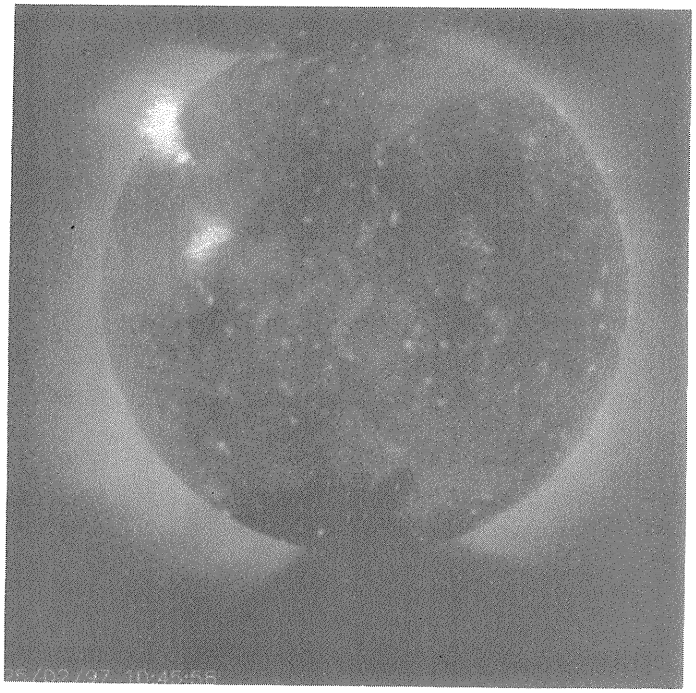


Day 23
19:44:59 UT

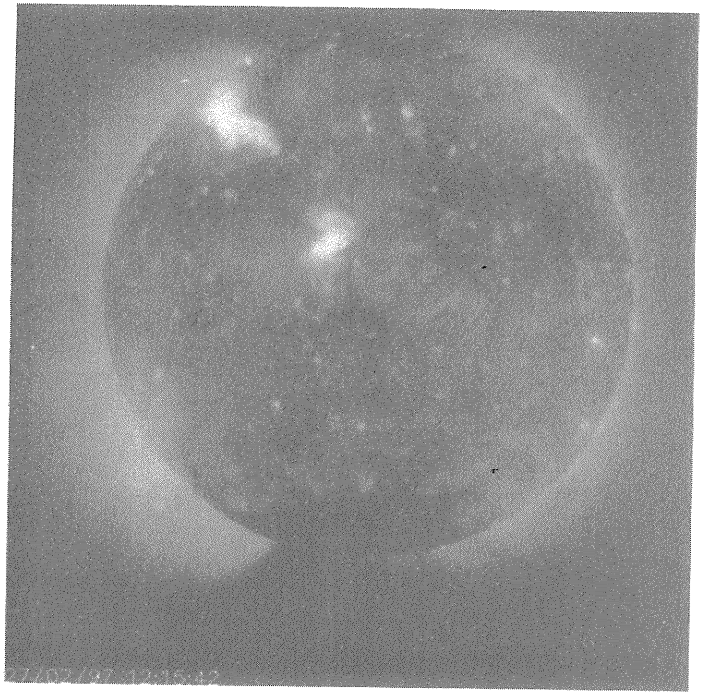
Day 24
10:36:28 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

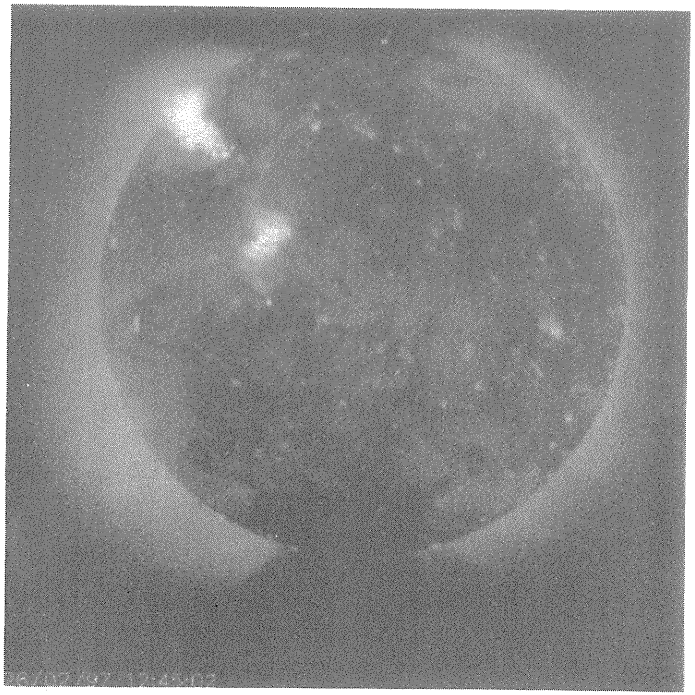
February 1997



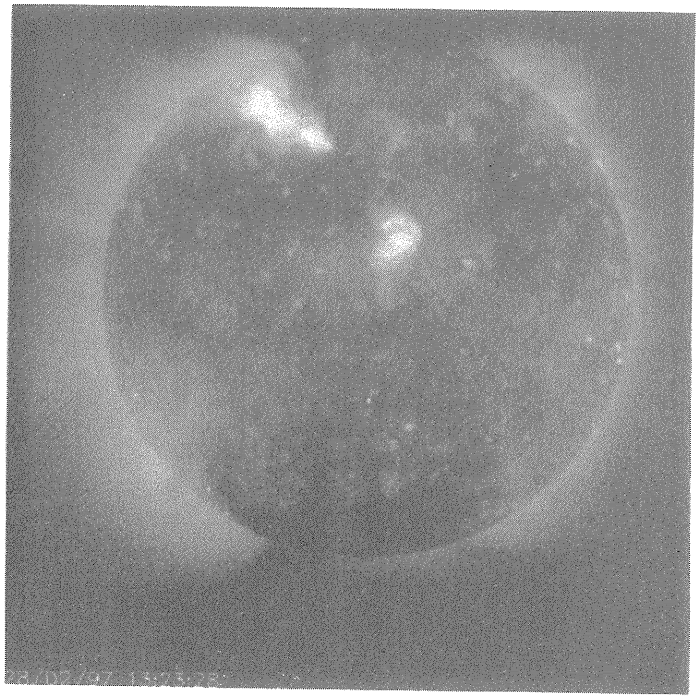
Day 25
10:45:56 UT



Day 27
12:15:42 UT



Day 26
12:45:02 UT

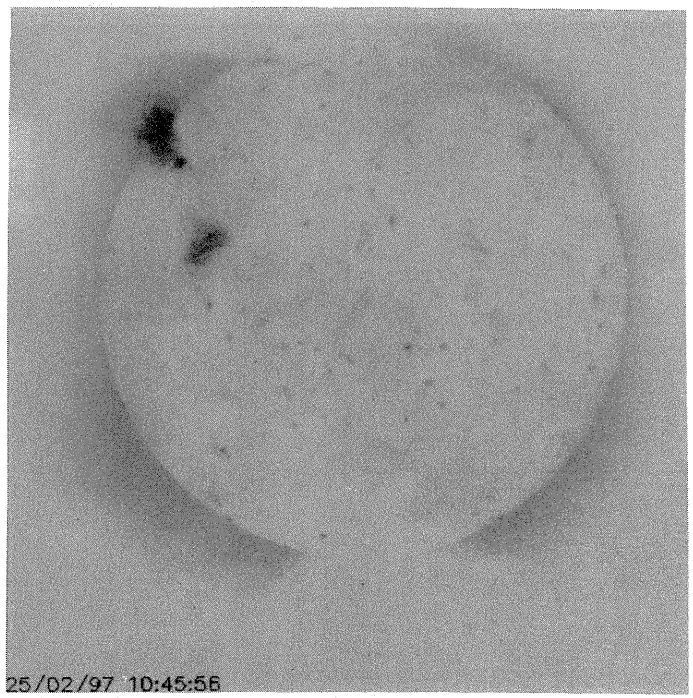


Day 28
13:23:28 UT

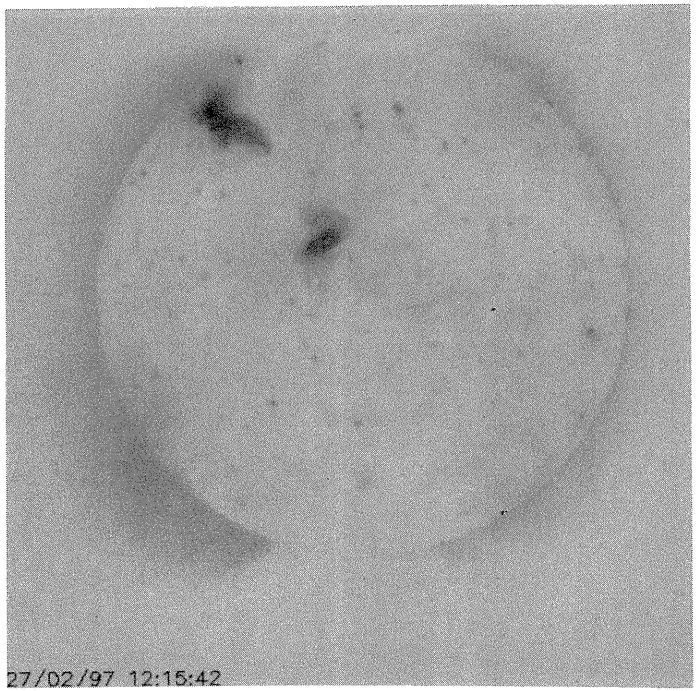
77
Feb 97

YOHKOH SOFT X-RAY TELESCOPE IMAGES

February 1997



Day 25
10:45:56 UT



Day 27
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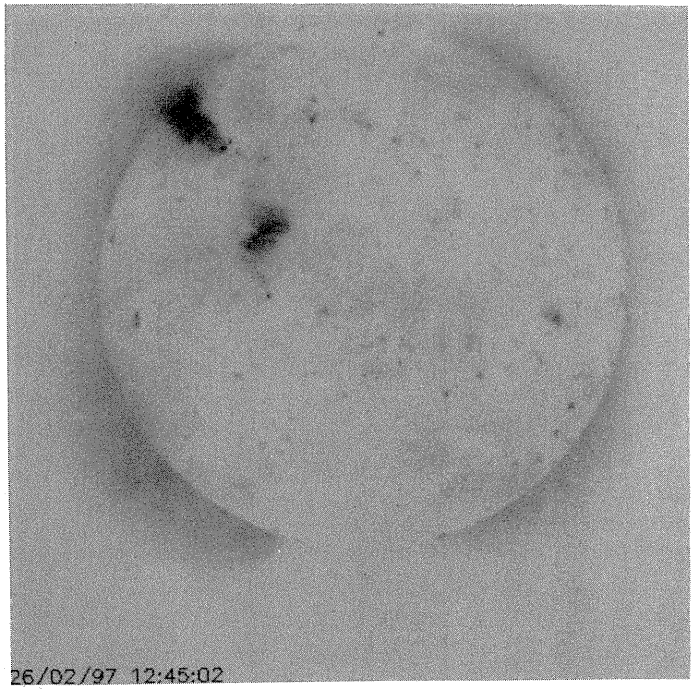
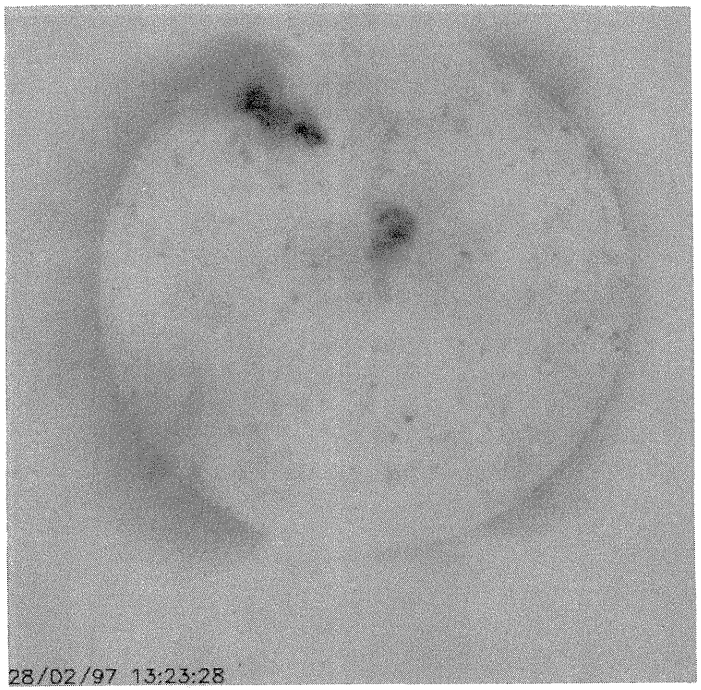


Day 26
12:45:02 UT



Day 28
13:23:28 UT

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

FEBRUARY 1997

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
8015		RAMY	01 28 1525	N03 E56	02 1.8		A	AX	10	2		3
8015	28403	MWIL	01 28 1630	N04 E54	02 1.7	3	(B)					
8015		SVTO	01 29 1015	N01 E44	02 1.7		A	AX		1		2
8015		KAND	01 29 1110	N04 E43	02 1.7			BXO		2	2	2
8015		RAMY	01 29 1336	N05 E38	02 1.4		B	BXO	20	6	5	3
8015	28403	MWIL	01 29 1545	N04 E38	02 1.5	3	(AP)					
8015		LEAR	01 30 0000	N06 E33	02 1.5		B	DSO	50	2	5	2
8015		VORO	01 30 0245	N04 E31	02 1.4			AXX	32	2		2
8015		TACH	01 30 0526	N05 E30	02 1.5			BRO	41	4	5	3
8015		SVTO	01 30 0710	N02 E30	02 1.5		B	CSO	30	5	4	3
8015		KAND	01 30 0810	N03 E29	02 1.5			CSO		2	5	2
8015		RAMY	01 30 1238	N03 E26	02 1.5		B	CRO	20	7	5	4
8015	28403	MWIL	01 30 1520	N03 E25	02 1.5	4	(B)					
8015		LEAR	01 31 0216	N05 E18	02 1.4		B	BXO	20	3	5	3
8015		TACH	01 31 0536	N04 E15	02 1.3			BRO	36	3	9	3
8015		SVTO	01 31 0745	N02 E16	02 1.5		B	BXO	10	4	6	4
8015		KAND	01 31 0840	N03 E16	02 1.5			CAO		2	5	1
8015		RAMY	01 31 1221	N03 E13	02 1.5		B	BXO	10	3	5	3
8015	28403	MWIL	01 31 1520	N04 E11	02 1.5	4	(B)					
8015		HOLL	01 31 1741	N04 E11	02 1.5		B	BXO	20	3	5	3
8015		PALE	01 31 1815	N04 E10	02 1.5		B	BXO	10	3	6	3
8015		LEAR	02 01 0052	N04 E05	02 1.4		B	BXO	20	5	6	3
8015		SVTO	02 01 0845	N04 W01	02 1.3		B	BXO	10	3	3	3
8015		KAND	02 01 1005	N03 W03	02 1.2			CSO		2	3	1
8015		RAMY	02 01 1247	N04 W03	02 1.3		B	BXO	10	3	3	4
8015	28403	MWIL	02 01 1530	N04 W06	02 1.2	4	(AP)					
8015		HOLL	02 01 1620	N04 W06	02 1.2		B	BXO	10	2	4	3
8015		PALE	02 01 2038	N05 W07	02 1.3		B	BXO	20	4	5	2
8015		LEAR	02 02 0140	N05 W11	02 1.2		B	BXO	10	5	4	3
8015		KAND	02 02 0830	N04 W14	02 1.3			CSO		4	4	2
8015		SVTO	02 02 0925	N04 W14	02 1.3		B	CSO	30	6	5	4
8015		RAMY	02 02 1319	N04 W16	02 1.3		B	CSO	20	5	4	2
8015	28403	MWIL	02 02 1530	N04 W17	02 1.4	4	(B)					
8015		HOLL	02 02 1628	N04 W18	02 1.3		B	CSO	40	10	4	3
8015		PALE	02 02 2113	N07 W20	02 1.4		B	CSO	30	12	5	2
8015		VORO	02 03 0022	N05 W23	02 1.3			AXX	49	5	2	2
8015		TACH	02 03 0519	N04 W26	02 1.3			BRO	129	10	3	2
8015		SVTO	02 03 0907	N05 W27	02 1.4		B	DAO	130	16	6	4
8015		KAND	02 03 0945	N04 W29	02 1.2			DAO		5	7	1
8015		RAMY	02 03 1303	N05 W30	02 1.3		B	DSO	80	13	6	3
8015	28403	MWIL	02 03 1530	N04 W32	02 1.2	5	(B)					
8015		HOLL	02 03 1742	N05 W32	02 1.3		B	DSO	130	10	7	3
8015		PALE	02 03 1830	N07 W34	02 1.2		B	DAI	150	17	7	3
8015		VORO	02 04 0004	N05 W37	02 1.2			BXI	52	8	5	3
8015		LEAR	02 04 0203	N02 W39	02 1.2		B	DAO	120	21	7	3
8015		TACH	02 04 0507	N05 W40	02 1.2			DAI	332	13	5	3
8015		KAND	02 04 0740	N03 W42	02 1.2			CSO		7	8	1
8015		SVTO	02 04 1045	N06 W43	02 1.2		B	DAO	190	7	8	2
8015		RAMY	02 04 1244	N05 W44	02 1.2		B	DSO	150	21	8	4
8015	28403	MWIL	02 04 1530	N04 W45	02 1.3	5	(B)					
8015		HOLL	02 04 1623	N04 W46	02 1.2		B	DSO	170	5	8	2
8015		PALE	02 04 1855	N09 W48	02 1.2		B	DAO	190	9	8	3
8015		VORO	02 05 0008	N04 W52	02 1.1			CRI	147	3	6	2
8015		LEAR	02 05 0013	N02 W52	02 1.1		B	DAO	120	10	8	4
8015		TACH	02 05 0451	N04 W54	02 1.2			BRO	87	7	6	3
8015		KAND	02 05 0755	N04 W55	02 1.2			DAO		10	10	4
8015		SVTO	02 05 0910	N06 W55	02 1.3		B	DSO	180	6	8	2
8015		RAMY	02 05 1305	N05 W58	02 1.2		B	DAO	90	10	7	4
8015	28403	MWIL	02 05 1530	N04 W60	02 1.2	4	(B)					
8015		HOLL	02 05 1730	N04 W62	02 1.1		B	DSO	100	7	8	2
8015		PALE	02 05 1820	N06 W60	02 1.3		B	DAO	120	6	9	3
8015		LEAR	02 06 0044	N03 W66	02 1.1		B	DSO	140	3	8	3
8015		TACH	02 06 0538	N05 W67	02 1.2			BRO	110	4	7	3
8015		KAND	02 06 0825	N04 W70	02 1.1			DAO		3	9	2
8015	28403	MWIL	02 06 1530	N04 W73	02 1.2	4	(B)					
8015		HOLL	02 06 1550	N04 W76	02 1.0		B	DSO	60	3	8	3
8015		PALE	02 06 1919	N06 W75	02 1.2		B	DAO	90	2	8	3
8015		LEAR	02 07 0055	N02 W78	02 1.2		B	DSO	10	4	7	3
8015		SVTO	02 07 0830	N06 W81	02 1.3		B	BXO	30	2	1	2

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

FEBRUARY 1997

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
8015A		TACH	02	06	0538	S41	W56	02	1.6			AX	5	1	1	3
8017	28405	MWIL	02	06	1530	N33	W55	02	2.3	3	(AP)					
8017		HOLL	02	06	1550	N33	W57	02	2.1		A	AX	10	1	1	3
8017		PALE	02	06	1919	N37	W57	02	2.2		A	AX	10	1		3
8017		LEAR	02	07	0055	N35	W60	02	2.2		B	BXO	80	4	7	3
8017		SVTO	02	07	0830	N35	W64	02	2.2		B	BXO	30	3	6	2
8017	28405	MWIL	02	07	1530	N33	W70	02	2.1	3	(AP)					
8016		LEAR	02	02	0140	S19	E35	02	4.7		B	BXO	10	5	2	3
8016		KAND	02	02	0830	S21	E31	02	4.7			CRO		9	4	2
8016		SVTO	02	02	0925	S23	E28	02	4.5		BG	CSI	40	13	6	4
8016		RAMY	02	02	1319	S21	E26	02	4.5		B	CRI	30	10	5	2
8016	28404	MWIL	02	02	1530	S21	E26	02	4.6	4	(B)					
8016		HOLL	02	02	1628	S21	E26	02	4.7		B	CRO	50	11	6	3
8016		PALE	02	02	2113	S23	E22	02	4.6		B	CSO	40	10	6	2
8016		VORO	02	03	0022	S21	E22	02	4.7			BXI	53	4	4	2
8016		TACH	02	03	0519	S20	E19	02	4.7			BRO	89	11	5	2
8016		SVTO	02	03	0907	S21	E17	02	4.7		B	DAI	60	14	7	4
8016		KAND	02	03	0945	S22	E18	02	4.8			DAC		4	7	1
8016		RAMY	02	03	1303	S21	E15	02	4.7		B	DSO	40	9	6	3
8016	28404	MWIL	02	03	1530	S21	E14	02	4.7	5	(D)					
8016		HOLL	02	03	1742	S21	E13	02	4.7		B	DSI	90	9	7	3
8016		PALE	02	03	1830	S21	E12	02	4.7		B	DAO	50	10	7	3
8016		VORO	02	04	0004	S21	E09	02	4.7			CRI	64	8	6	3
8016		LEAR	02	04	0203	S20	E09	02	4.8		B	CAO	60	12	6	3
8016		TACH	02	04	0507	S21	E07	02	4.7			BRO	54	9	8	3
8016		KAND	02	04	0740	S21	E04	02	4.6			CRO		7	8	1
8016		SVTO	02	04	1045	S21	E03	02	4.7		B	DAO	60	7	6	2
8016		RAMY	02	04	1244	S21	E02	02	4.7		B	CRO	30	12	6	4
8016	28404	MWIL	02	04	1530	S21	E01	02	4.7	4	(D)					
8016		HOLL	02	04	1623	S21	E00	02	4.7		B	CSO	40	8	7	2
8016		PALE	02	04	1855	S20	W04	02	4.5		B	BXO	20	9	7	3
8016		VORO	02	05	0008	S20	W07	02	4.5			AXX	15	1		2
8016		LEAR	02	05	0013	S20	W03	02	4.8		A	CRO	20	8	6	4
8016		TACH	02	05	0451	S20	W06	02	4.7			BRO	25	5	6	3
8016		KAND	02	05	0755	S20	W10	02	4.6			BXO		4	3	4
8016		SVTO	02	05	0910	S19	W11	02	4.5		B	CAO	50	3	3	2
8016		RAMY	02	05	1305	S21	W12	02	4.6		B	CRO	10	4	4	4
8016	28404	MWIL	02	05	1530	S21	W15	02	4.5	3	(AP)					
8016		HOLL	02	05	1730	S21	W17	02	4.4		A	HS	50	1	1	2
8016		PALE	02	05	1820	S18	W18	02	4.4		A	HR	20	2	1	3
8016		LEAR	02	06	0044	S21	W19	02	4.6		A	AX		1	1	3
8016		TACH	02	06	0538	S20	W22	02	4.5			AR	28	2	1	3
8016		KAND	02	06	0825	S20	W23	02	4.6			AX		1		2
8016	28404	MWIL	02	06	1530	S20	W28	02	4.5	4	(AP)					
8016		HOLL	02	06	1550	S21	W28	02	4.5		A	AX	20	1	1	3
8016		PALE	02	06	1919	S18	W31	02	4.4		A	AX	10	1		3
8016		VORO	02	06	2329	S21	W33	02	4.4			AXX	5	1		2
8016		LEAR	02	07	0055	S22	W32	02	4.6		A	AX		1	1	3
8016		SVTO	02	07	0830	S19	W38	02	4.4		A	AX		1		2
8016	28404	MWIL	02	07	1530	S20	W41	02	4.5	4	(AP)					
8016		PALE	02	07	2005	S19	W44	02	4.5		A	AX	10	1		2
8016		LEAR	02	08	0020	S22	W45	02	4.5		A	AX	10	1	1	4
8016		SVTO	02	08	0830	S21	W50	02	4.5		A	AX		1		3
8016	28404	MWIL	02	08	1645	S20	W55	02	4.5	4	(AP)					
8016		PALE	02	08	1920	S19	W57	02	4.4		A	AX	10	1	1	3
8016		HOLL	02	08	2118	S21	W58	02	4.4		A	AX	10	1		3
8016		VORO	02	08	2335	S21	W59	02	4.4			AXX	14	1		4
8016		LEAR	02	09	0356	S23	W61	02	4.5		A	AX	10	1	1	3
8016		SVTO	02	09	0740	S19	W62	02	4.6		A	AX		1		4
8016	28404	MWIL	02	09	1545	S20	W67	02	4.5	4	(AP)					
8016		PALE	02	09	1920	S15	W70	02	4.5		A	AX	10	1	1	3
8017A		SVTO	02	16	1015	S23	W56	02	12.1		B	BXO	10	2	3	3
8017A		HOLL	02	16	1604	S27	W58	02	12.1		B	BXO	10	2	3	3
8018		LEAR	02	14	0530	N08	E02	02	14.4		B	BXO		3	3	4
8018		VORO	02	17	2346	N07	W48	02	14.4			AXX	13	2		3

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

FEBRUARY 1997

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
8018		TACH	02 18 0604	N09 W50	02 14.5			BRO	25	2	3	3
8018		SVTO	02 18 0941	N06 W52	02 14.5		B	BXO	20	2	4	2
8018		HOLL	02 18 2016	N08 W59	02 14.4		B	BXO	20	3	5	2
8018		PALE	02 18 2240	N09 W60	02 14.4		B	BXO	30	2	8	3
8018		LEAR	02 19 0001	N05 W62	02 14.4		B	BXO	10	5	4	4
8018		VORO	02 19 0533	N06 W64	02 14.4			AXX	14	1		3
8018		TACH	02 19 0542	N08 W65	02 14.4			BRO	13	2	4	3
8018		KAND	02 19 0820	N07 W73	02 13.9			HS		1	1	3
8018		HOLL	02 19 1526	N06 W74	02 14.1		A	AX	10	1	1	3
8018	28406	MWIL	02 19 1600	N07 W74	02 14.1	4	(AP)					
8019		VORO	02 23 0005	N26 E78	02 29.1			AXX	12	1		3
8019	28407	MWIL	02 23 2310	N27 E66	02 29.1	3	X					
8019		LEAR	02 24 0205	N29 E67	02 29.3		A	AX		1	1	4
8019		KAND	02 24 1100	N26 E60	02 29.1			AX		1		3
8019		SVTO	02 24 1210	N24 E60	02 29.1		A	AX		1		3
8019	28407	MWIL	02 24 1600	N26 E56	02 29.0	4	(AP					
8019		HOLL	02 24 1742	N24 E59	02 29.3		B	BXO	30	2	4	2
8019		PALE	02 24 1840	N24 E58	02 29.2		A	AX		1		2
8019		LEAR	02 25 0000	N27 E52	02 29.0		B	BXO	20	2	3	3
8019		VORO	02 25 0051	N26 E54	02 29.2			AXX	14	1		2
8019		KAND	02 25 0815	N27 E48	02 29.1			AX		1	1	2
8019		SVTO	02 25 0856	N24 E48	02 29.1		A	AX		1		3
8019	28407	MWIL	02 25 1815	N26 E43	02 29.1	3	(AP)					

Stations reporting:

HOLL = Holloman
KAND = Kandilli
LEAR = Learmonth
MWIL = Mt. Wilson
PALE = Palehua
RAMY = Ramey
SVTO = San Vito
TACH = Tashkent
VORO = Voroshilov

FEBRUARY 1997

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	LF-SES	Flare (UT)	X-ray Class	NOAA Region
02	0634	0640	0717	1-	1			1			0636E	C2.6	
02	1056	1057	1102	1-	1					1	1056	B5.2	
02	1145	1145	1150	1-	1					1	1145		
02	1348	1349	1355	1-	1					2	1348	B6.4	
02	1928	1930	1945	1-	3					3	1928	B6.2	8016
02	2117	2120	2135	1-	1					1	2116	B9.0	
03	0842	0853U	0943	1	1		1				0912	B1.3	
03	1016	1023	1042	1-	3		1			1	1017	B4.2	8016
04	1111	1118	1131	1-	1					3	1116E	C1.8	8016
04	1846	1849	1900	1-	1					2	1846	B5.8	8015
10	1102	1118	1146	1	1		1				No flare		
10	1258	1319	1356	1	1		1				No flare		
16	1508	1515	1546	1	1		1				No flare		
17	0938	0940	0959	1	1		1				No flare		
17	1330	1338	1409	1	1		1				No flare		
19	2220	2224	2304	1-	5			1		4	2220	C3.9	8018
20	0130	0144	0200	1-	1			1			0134	C1.0	
20	0525	0533	0600	1-	1			1			0516	B9.0	
20	0757	0809	0840	1-	5			1		3	0758	C3.4	
20	1138	1147	1220	1	5		1	2		3	1137	C4.8	
21	1308	1320	1346	1	1		1			1	No flare		
22	1057	1117	1139	1	1		1				No flare		
22	1330	1339	1416	1	1		1				No flare		

* = no flare patrol.

OBSERVATORIES REPORTING FOR FEBRUARY 1997

Brazilian Antarctic Station	SPA	Koniz, Switzerland	SES
Cambridge, England, UK	SES	Nerja, Spain	SES
Cranford, New Jersey, USA	SES	Rimavska Sobota, Slovakia	SEA
Crystal Lake, Illinois, USA	SES	Rochester, New Hampshire, USA	SES
Edenvale, Rep of S. Africa	SES	Sofia, Bulgaria	SES
Fort Wayne, Indiana, USA	SES	Spring Green, Wisconsin, USA	SES
Gettysburg, Pennsylvania, USA	SES	Tucson, Arizona, USA	SES
Houston, Texas, USA	SES	Upice, Czech Republic	SEA
Hudson, Ohio, USA	SES	Wellington, Ohio, USA	SES
Indianapolis, Indiana, USA	SES	Windsor Locks, Connecticut, USA	SES
Inubo, Japan	SPA	Ziar nad Hronom, Slovakia	SEA
Itapetinga, Brazil	SPA	Zilina, Slovakia	SEA

Observations are not necessarily continuous.

SOLAR RADIO EMISSION
Spectral Observations

FEBRUARY 1997

Day	OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	EVENT Spectral Class	EVENT Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
01	0000	0809	HIRA								
	0000	0816	CULG								
	0715	1200	IZMI								
	0756	1432	ONDR								
	0734	1447	POTS	1218.6	1218.7	III	G	1	160	275	
	2054	2400	CULG								
	2137	2400	HIRA								
02			LEAR	0115.0	0116.0	III		2	42	80	
	0000	0815	CULG	0115.0	0116.0	III	G	1	57X	180	
	0000	0810	HIRA	0115.7	0116.3	III	G	1	50	230	
			CULG	0222.0	0222.0	III	B	2	57X	90	
			LEAR	0222.0	0222.0	III		2	30	75	
			HIRA	0222.1	0222.3	III	B	1	25X	80	
			HIRA	0432.6	0437.8	III	G	1	25X	1300	
			CULG	0433.0	0437.0	III	G	1	57X	110	
			LEAR	0433.0	0435.0	III		2	30	61	
			LEAR	0631.0	0634.0	III		2	30	80	
			HIRA	0631.3	0631.5	III	B	1	230	620	
			CULG	0632.0	0633.0	III	G	2	57X	130	
			HIRA	0632.1	0632.6	III	G	1	25X	200	
			HIRA	0632.6	0634.0	III	G	1	200	320	
	0734	1447	POTS	0743	1447 U	I	S,C,DC	2	110U	300	
			POTS	0840.8	0841.9	DCIM		1	200U	700	
			POTS	0842.5	0842.6	III	B	2	110U	150	
			POTS	0843.5	0843.8	DCIM		1	300	800X	
			POTS	0844.7	0847.5	III	GG,RS	3	110U	275	
			POTS	0845.6	0847.1	DCIM		2	200U	800X	
			POTS	0848.2	0848.3	DCIM		1	350	500	
			POTS	0948.4	0950.3	III	GG	3	40X	170U	
			LEAR	0949.0	0949.0	III		1	50	65	
			SVTO	0949.0	0949.0	III		1	55	65	
	0705	1200	IZMI	0949.1	0949.4	III	G	2	45	121	
			POTS	0956.1	0958.1	III	G	2	110U	170U	
			POTS	1008.9	1011.2	III	G	3	110U	170U	
	0705	1200	IZMI	1010.7	1011.0	III	B	2	48	145	
			SVTO	1053.0	1054.0	III		2	36	75	
			POTS	1053.4	1054.2	III	G	3	40X	275	
	0705	1200	IZMI	1053.5	1054.2	III	G	3	45X	176	
			POTS	1119.9	1120.2	III	G	3	110U	170U	
			POTS	1131.1	1131.5	III	G	2	110U	170U	
	0754	1434	ONDR	1144.4	1146.5	DCIM	G	2	2000X	4440X	
			POTS	1144.9	1146.8	DCIM		3	400	800X	
			POTS	1144.9	1146.9	IV		3	40X	800X	
			ONDR	1145.0	1147.0	DCIM	G	2	1000X	1990	
			SVTO	1145.0	1146.0	V		3	35	85	
			POTS	1145.1	1146.6	III	G,U,RSG	3	40X	400	
	0705	1200	IZMI	1145.7	1146.3	III	G	3	45X	270X	
			POTS	1146.1	1146.9	V		2	40X	60	
	0705	1200	IZMI	1146.1	1146.5	V		2	45X	70	
			POTS	1208.5	1208.6	III	G	2	110U	250	
			POTS	1210.4	1210.5	III	G,RS	2	110U	170U	
			POTS	1237.1	1237.5	III	G	1	110U	220	
			POTS	1319.8	1320.2	III	G	3	110U	250	
			POTS	1326.9	1327.3	III	G	1	110U	150	
			POTS	1341.9	1342.3	III	G	2	110U	170U	
			POTS	1349.9	1350.1	III	G	2	110U	250	
			POTS	1351.9	1352.3	III	G	2	110U	170U	
			POTS	1412.4	1412.6	III	G	2	110U	325	
			POTS	1413.5	1414.0	III	G	1	110U	275	
			POTS	1418.6	1418.7	III	B	2	110U	170U	
			SGMR	1459.0	1500.0	III		2	30	77	
			SVTO	1459.0	1500.0	V		2	35	77	
	2136	2400	HIRA								
	2143	2400	CULG	2352.0	2352.0	III	B	1	60	170	
03	0000	0811	HIRA								
	0000	0816	CULG								
	0759	1436	ONDR								

SOLAR RADIO EMISSION
Spectral Observations

FEBRUARY 1997

Day	OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	EVENT Spectral Class	EVENT Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
03	0700	1200	IZMI	0941.6	0941.8	III	B	1	230	243	
	0700	1200	IZMI	1024.0	1200.0D	I	N	1	135U	260	
			SGMR	1511.0	1514.0	III		1	30	70	
	2058	2400	CULG								
	2136	2400	HIRA								
04	0000	0200	HIRA								
	0000	0816	CULG								
	0700	1200	IZMI	0700.0E	0914.0U	I	N	1	45X	270	
	0734	1447	POTS	0734 E	0940 U	I	S,C,CD	2	110U	350	
	0750	1439	ONDR								
			POTS	0940 U	1440 U	I	S,W	1	110U	350	
			POTS	1440 U	1447 U	I	S	2	110U	350	
	2059	2400	CULG								
	2135	2400	HIRA								
05	0000	0813	HIRA								
	0000	0816	CULG								
	0705	1200	IZMI								
	0734	1447	POTS	0738	0750	I	S,W	1	130	250	
	0748	1440	ONDR								
			POTS	0759	0819	I	S,W	1	150	250	
			POTS	0850.8	0850.9	III	B	1	130	170U	
			POTS	0900	0907	I	S	1	120	170U	
			POTS	0922	0923	I	W	1	150	170U	
			POTS	0952	0954	I	S	1	200U	250	
			POTS	1109.0	1109.1	III	B	1	110U	170U	
			POTS	1255	1311	I	S,W	1	150	170U	
			POTS	1318	1320	I	S,W	1	150	170U	
	2059	2400	CULG								
	2134	2400	HIRA								
06	0000	0814	HIRA								
	0000	0816	CULG								
	0705	1200	IZMI								
	0746	1443	ONDR								
	0734	1447	POTS	1057	1058	I	W	1	150	170U	
	2059	2400	CULG								
	2133	2400	HIRA								
07	0000	0816	CULG								
	0000	0816	HIRA								
	0700	1210	IZMI								
	0734	1447	POTS	0734 E	1447 U	I	S	1	120	250	
	0744	1446	ONDR								
	2059	2400	CULG								
	2132	2400	HIRA								
08	0000	0817	CULG								
	0000	0817	HIRA								
	0710	1200	IZMI								
	0742	1447	ONDR								
	0734	1447	POTS	0838	0958	I	S,W	1	130	250	
			SGMR	1418.0	1419.0	III		1	30	58	
			SVTO	1418.0	1419.0	III		2	36U	42U	
			POTS	1418.6	1419.7	III	G	1	40X	300	
	2059	2400	CULG								
	2131	2400	HIRA								
09	0000	0817	CULG								
	0000	0818	HIRA								
	0705	1200	IZMI								
	0734	1447	POTS								
	0740	1449	ONDR								
	2059	2400	CULG								
	2130	2400	HIRA								
10	0000	0817	CULG								
	0000	0819	HIRA								

SOLAR RADIO EMISSION
Spectral Observations

FEBRUARY 1997

Day	OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	EVENT Spectral Class	EVENT Event Remarks	EVENT Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
10	0700	1200	IZMI								
	0734	1447	POTS								
	0738	1450	ONDR								
	2059	2400	CULG								
	2129	2400	HIRA								
11	0000	0817	CULG								
	0000	0820	HIRA								
	0700	1200	IZMI								
	0713	1506	POTS								
	0735	1453	ONDR								
	2059	2400	CULG								
	2128	2400	HIRA								
12	0000	0817	CULG								
	0000	0821	HIRA								
	0700	1200	IZMI								
	0713	1506	POTS								
	0733	1455	ONDR								
	2059	2400	CULG								
	2127	2400	HIRA								
13	0000	0817	CULG								
	0000	0822	HIRA								
	0700	1200	IZMI								
	0713	1506	POTS								
	0731	1458	ONDR								
	2059	2400	CULG								
	2126	2400	HIRA								
14	0000	0817	CULG								
	0000	0823	HIRA								
	0700	1200	IZMI								
	0713	1506	POTS								
	0729	1501	ONDR								
	2125	2400	HIRA								
15	0000	0824	HIRA								
	0710	1200	IZMI								
	0736	1501	ONDR								
	0749	1506	POTS	1146.2	1146.3	III	B,U	2	110U	170U	
	2124	2400	HIRA								
16	0000	0825	HIRA								
	0710	1200	IZMI								
	0713	1506	POTS								
	0725	1505	ONDR								
	2059	2400	CULG								
	2123	2400	HIRA								
17	0000	0817	CULG								
	0000	0826	HIRA								
	0655	1200	IZMI								
	0713	1506	POTS								
	0730	1505	ONDR								
	2059	2400	CULG								
	2122	2400	HIRA								
18	0000	0817	CULG								
	0000	0827	HIRA								
	0700	1200	IZMI								
	0713	1506	POTS								
	0720	1507	ONDR								
	2059	2400	CULG								
	2120	2400	HIRA								
19	0000	0817	CULG								
	0000	0828	HIRA								
	0700	1200	IZMI								

SOLAR RADIO EMISSION
Spectral Observations

FEBRUARY 1997

Day	OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	EVENT Spectral Class	EVENT Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
19	0713	1506	POTS								
	0718	1511	ONDR								
	2059	2400	CULG								
	2119	2400	HIRA								
20	0000	0817	CULG								
	0000	0829	HIRA								
	0700	1200	IZMI								
	0716	1512	ONDR								
	0713	1506	POTS	0802.8	0802.9	DCIM		1	550	800X	
			POTS	1031.4	1031.8	III	B	2	40X	225	
			POTS	1115.3	1115.4	III	G	1	110U	170U	
			PALE	2209.0	2213.0	V		2	25U	70U	
	2058	2400	CULG	2212.0	2212.0	III	B	2	57X	160	
	2118	2400	HIRA	2212.1	2212.4	III	B	2	25X	250	
			LEAR	2348.0	2349.0	III		1	30	63	
			PALE	2348.0	2349.0	III		1	25	42	
			HIRA	2348.8	2348.9	III	B	1	25X	160	
			CULG	2349.0	2349.0	III	B	1	57X	90	
21			LEAR	0235.0	0239.0	III		3	30	80	
			PALE	0235.0	0236.0	III		2	25	70	
	0000	0816	CULG	0235.0	0235.0	III	B	2	57X	160	
	0000	0830	HIRA	0235.5	0235.8	III	B	2	25X	250	
			LEAR	0331.0	0333.0	III		2	30	80	
			PALE	0331.0	0332.0	III		1	25	55	
			HIRA	0331.8	0332.2	III	B	2	25X	260	
			CULG	0332.0	0332.0	III	B	1	57X	87	
			LEAR	0537.0	0537.0	III		1	35	47	
	0700	0900	IZMI								
	0713	1515	ONDR								
	1000	1200	IZMI								
	0652	1526	POTS	1311.4	1311.6	III	B	1	40X	160	
			PALE	1818.0	1819.0	III		1	42	55	
			SGMR	1818.0	1819.0	III		1	30	70	
	2058	2400	CULG								
	2117	2400	HIRA								
			PALE	2348.0	2349.0	III		1	25	42	
22			LEAR	0014.0	0015.0	III		2	30	80	
			PALE	0014.0	0015.0	V		1	25	54	
	0000	0831	HIRA	0014.9	0015.2	III	B	1	25X	110	
	0000	0816	CULG	0015.0	0015.0	III	B	1	57X	87	
			LEAR	0135.0	0137.0	III		3	30	80	
			PALE	0135.0	0137.0	V		2	25	75	
			HIRA	0136.8	0137.2	III	B	2	25X	110	
			CULG	0137.0	0137.0	III	B	3	57X	140	
			LEAR	0243.0	0244.0	III		1	30	50	
			PALE	0243.0	0244.0	III		1	25	46	
			CULG	0547.0	0547.0	III	B	1	57X	120	
			LEAR	0547.0	0548.0	III		2	30	60	
			HIRA	0547.9	0548.3	III	B	1	25X	110	
	0711	1517	ONDR								
	0652	1526	POTS	0750.3	0750.9	III	G	1	110U	170U	
	2059	2400	CULG								
	2116	2400	HIRA								
23	0000	0816	CULG								
	0000	0832	HIRA								
	0700	1200	IZMI								
	0709	1518	ONDR								
	0652	1526	POTS	0834.0	0834.3	III	G	2	110U	250	
	0710	1200	IZMI	1032.6	1032.9	III	B	2	60	110	
	2059	2400	CULG								
	2114	2400	HIRA								
24	0000	0816	CULG								
	0000	0833	HIRA								
	0700	1200	IZMI								

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

FEBRUARY 1997

Day	OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	EVENT Spectral Class	EVENT Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
24	0707	1520	ONDR								
	0652	1526	POTS	1254.8	1254.9	III	B	1	110U	170U	
	2059	2400	CULG								
	2113	2400	HIRA								
25	0000	0816	CULG								
	0000	0834	HIRA								
	0648	1526	POTS								
	0700	1200	IZMI								
	0712	1523	ONDR								
	2059	2400	CULG								
	2112	2400	HIRA								
26	0000	0745	CULG								
	0000	0835	HIRA								
	0652	1526	POTS								
	0700	1200	IZMI								
	0710	1526	ONDR								
	2059	2400	CULG								
	2110	2400	HIRA								
27	0000	0731	CULG								
	0000	0836	HIRA								
	0652	1526	POTS								
	0700	1200	IZMI								
	0700	1526	ONDR								
	2059	2400	CULG								
	2109	2400	HIRA								
28	0000	0816	CULG								
	0000	0837	HIRA								
			LEAR	0541.0	0541.0	III		1	30	50	
	0658	1529	ONDR								
			LEAR	0905.0	0906.0	III		2	30	80	
			SVTO	0905.0	0906.0	III		2	35	78	
	0652	1526	POTS	0906.4	0908.7	III	GG	3	40X	400	
	0705	1158	IZMI	0906.6	0907.5	III	G	2	45X	180	
	2108	2400	HIRA								

Event Remarks:

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

Frequency qualifiers:

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

Remarks:

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

Stations Reporting: CULG = Culgoora, HIRA = Hiraiso, IZMI = Izmiran, LEAR = Learmonth, ONDR = Ondrejov, PALE = Palehua, POTS = Potsdam, SGMR = Sagamore Hill, SVTO = San Vito

SOLAR RADIO NOISE STORM AT 164 MHZ FROM NANÇAY RADIOHELIOGRAPH

FEBRUARY 1997

	HELIOGRAPHICS POSITIONS MEAN VALUES[1]		IMP[2]	OBSERVING TIME[3]	
DAY	E-W	S-N		START(UT)	END(UT)
02/02/97	-0.56	-0.32	1	E	D
02/02/97	+0.46	-0.05	1	13H30	D

SOLAR RADIO NOISE STORM AT 327 MHZ FROM NANÇAY RADIOHELIOGRAPH

FEBRUARY 1997

	HELIOGRAPHICS POSITIONS MEAN VALUES[1]		IMP[2]	OBSERVING TIME[3]	
DAY	E-W	S-N		START(UT)	END(UT)
02/02/97	-0.47	-0.28	1	E	D
02/02/97	+0.49	+0.10	1	E	D

03,04,05,06 FEBRUARY: NO DATA
OTHERS DAYS: NO DETECTABLE NOISE STORM

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

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

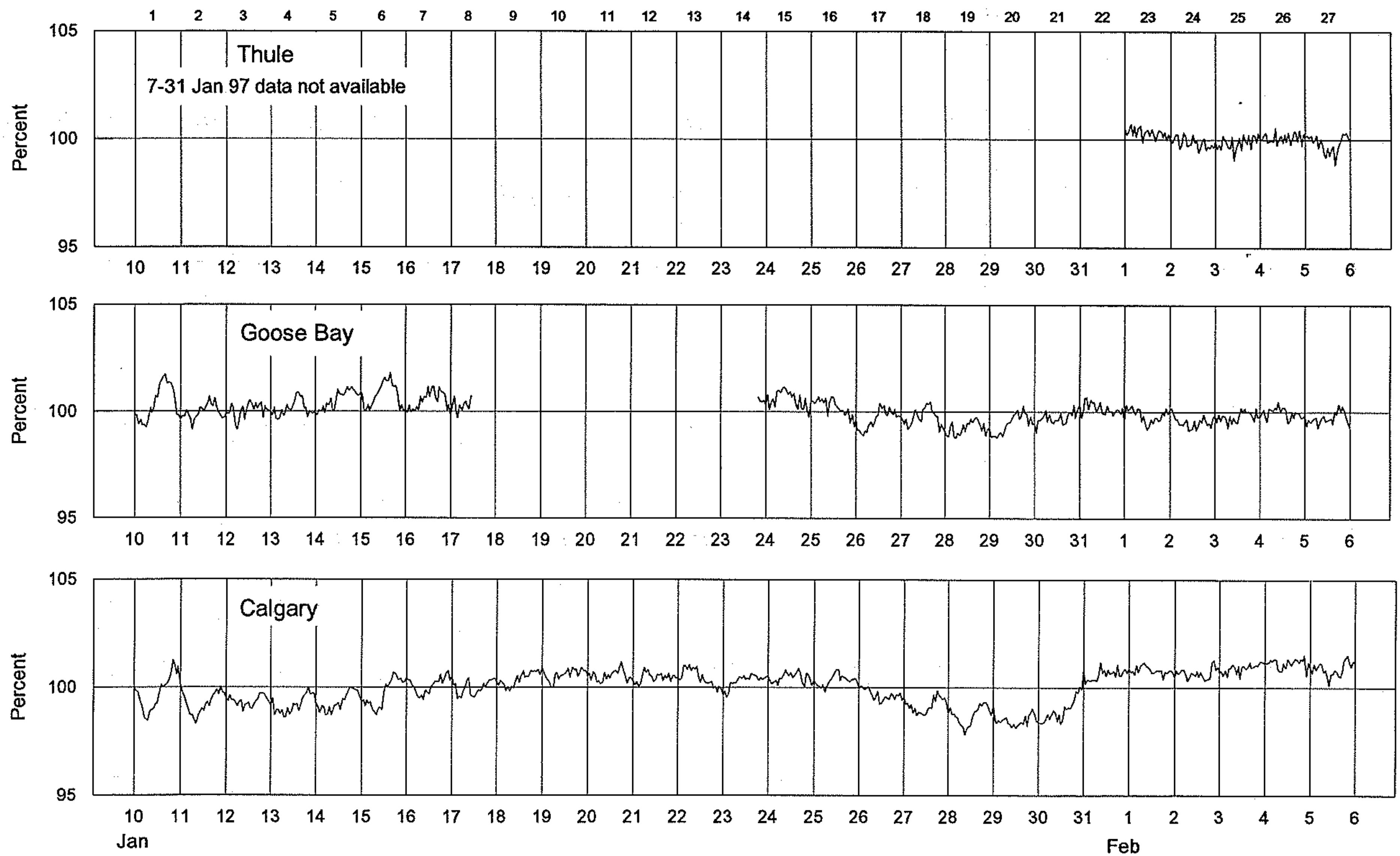
[3] E NOISE STORM IN PROGRESS AT THE BEGINNING OF THE NANÇAY OBSERVATIONS
D NOISE STORM IN PROGRESS AT THE END OF THE NANCAY OBSERVATIONS

COSMIC RAY INDICES
(Neutron Monitor)
FEBRUARY 1997

Day	THULE Average (cts/h)/100	GOOSE BAY 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	4504	7327.5	3992.0	6302.3	9265.0	4195.8	2032.4	3578.8
2	4484	7307.2	3986.2	6290.0	9224.7	4199.8	2037.8	3582.6
3	4484	7325.0	3995.8	6304.5	9191.7	4213.0	2038.8	3584.9
4	4494	7337.8	4005.3	6303.7	9188.2	4210.0	2037.8	3584.9
5	4483	7322.4	3995.0	6309.5	9209.7	4207.6	2037.8	3585.1
6	4486	7311.0	4001.7	6278.5	9209.2	4210.9	2039.0	3580.9
7	4501	7383.7	4016.2	6301.0	9242.5	4231.1	2039.7	3585.9
8	4514	7379.1	4014.3	6328.0	9276.2	4234.7	2043.7	3592.8
9	4503	7323.1	4007.5	6320.4	9306.7	4237.6	2045.0	3593.2
10	4508	7310.1	3998.0	6320.9	9293.0	4235.6	2050.7	3593.1
11	4505	7370.7	4027.2	6349.0	9315.0	4260.3	2049.0	3590.4
12	4536	7401.6	4044.5	6376.1	9380.4	4276.9	2043.1 (23)	3595.9
13	4542	7410.7	4048.3	6401.2	9374.1	4274.8	2037.4	3587.3
14	4564	7410.9	4058.0	6411.2	9392.4	4269.1	2038.5	3599.9
15	4563	7401.8	4038.8	6381.3	9375.1	4243.0	2038.9	3592.8
16	4565	7429.3	4032.3	6366.4	9392.2	4243.8	2042.2	3591.0
17	4556	7422.5	4032.5	6369.0	9425.6	4260.5	2043.5	3595.7
18	4532	7389.1	4039.0	6353.0	9385.2	4252.8	2037.2	3590.7
19	4525	7388.1	4034.5	6347.5	9357.5	4242.1	2023.1	3595.4
20	4531	7402.1	4051.2	6346.7	9363.5	4249.0	2020.9	3591.2
21	4519	7381.7	4040.0	6322.6	9345.9	4250.0	2026.7	3596.5
22	4524	7394.6	4052.0	6341.2	9386.6	4266.5	2035.6	3599.5
23	4533	7390.9	4037.0	6348.2	9344.2	4253.6	2032.7	---
24	4526	7389.1	4020.5	6345.8	9285.8	4234.1	2022.5	---
25	4537	7394.3	4022.0	6355.8	9285.5	4241.9	2019.7	---
26	4526	7376.7	4023.0	6363.1	9304.7	4250.7	2020.1	---
27	4534	7365.5	4028.7	6322.4	9310.5	4270.5 (36)	2021.5	---
28	4490	7307.1	3996.5	6272.3	9267.4	---	2026.3	3567.5
Mean	4520	7369.8	4022.8	6336.8	9310.7	4241.17	2035.1	3563.22

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.

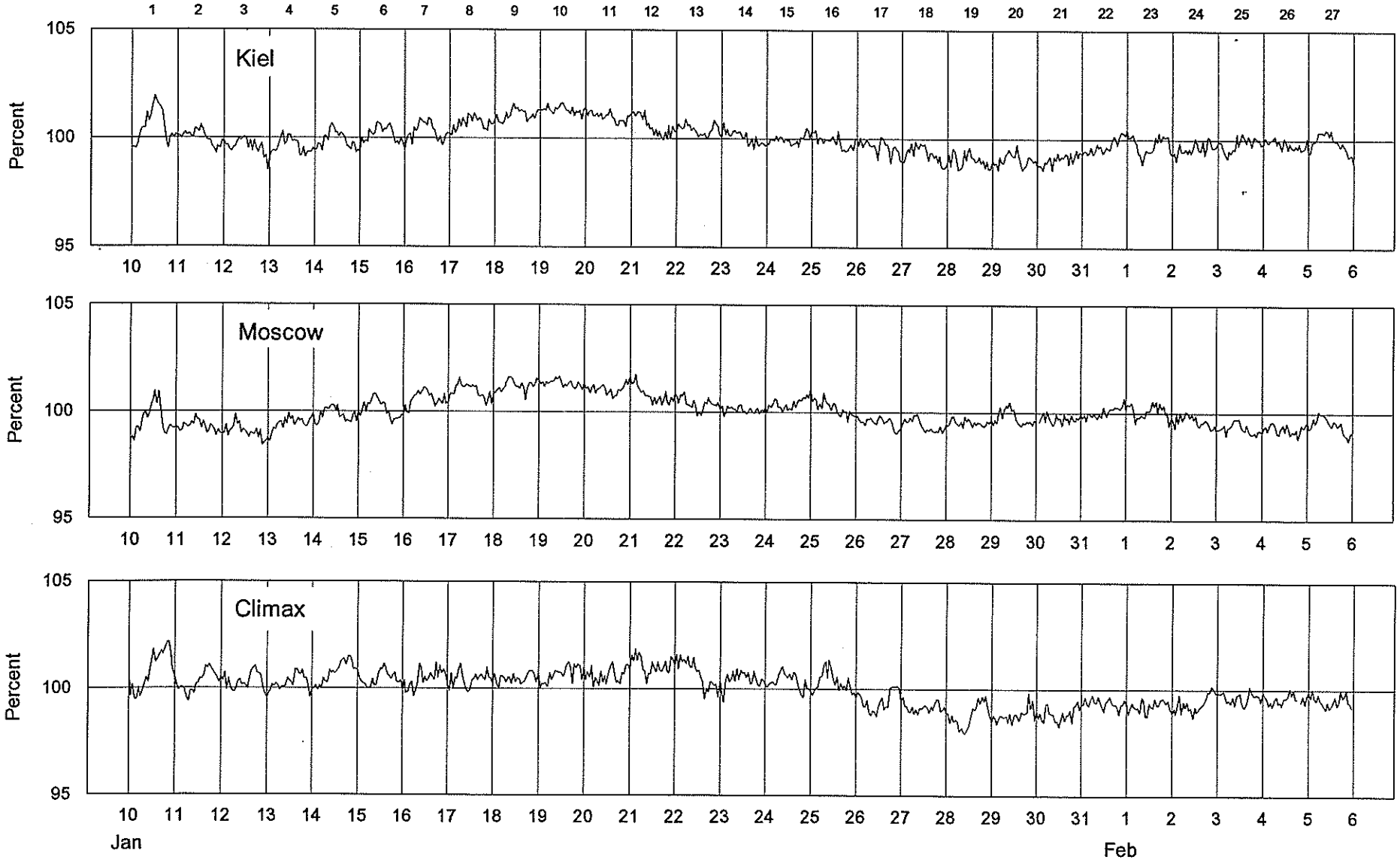
COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2232 - Beginning 10 Jan 97



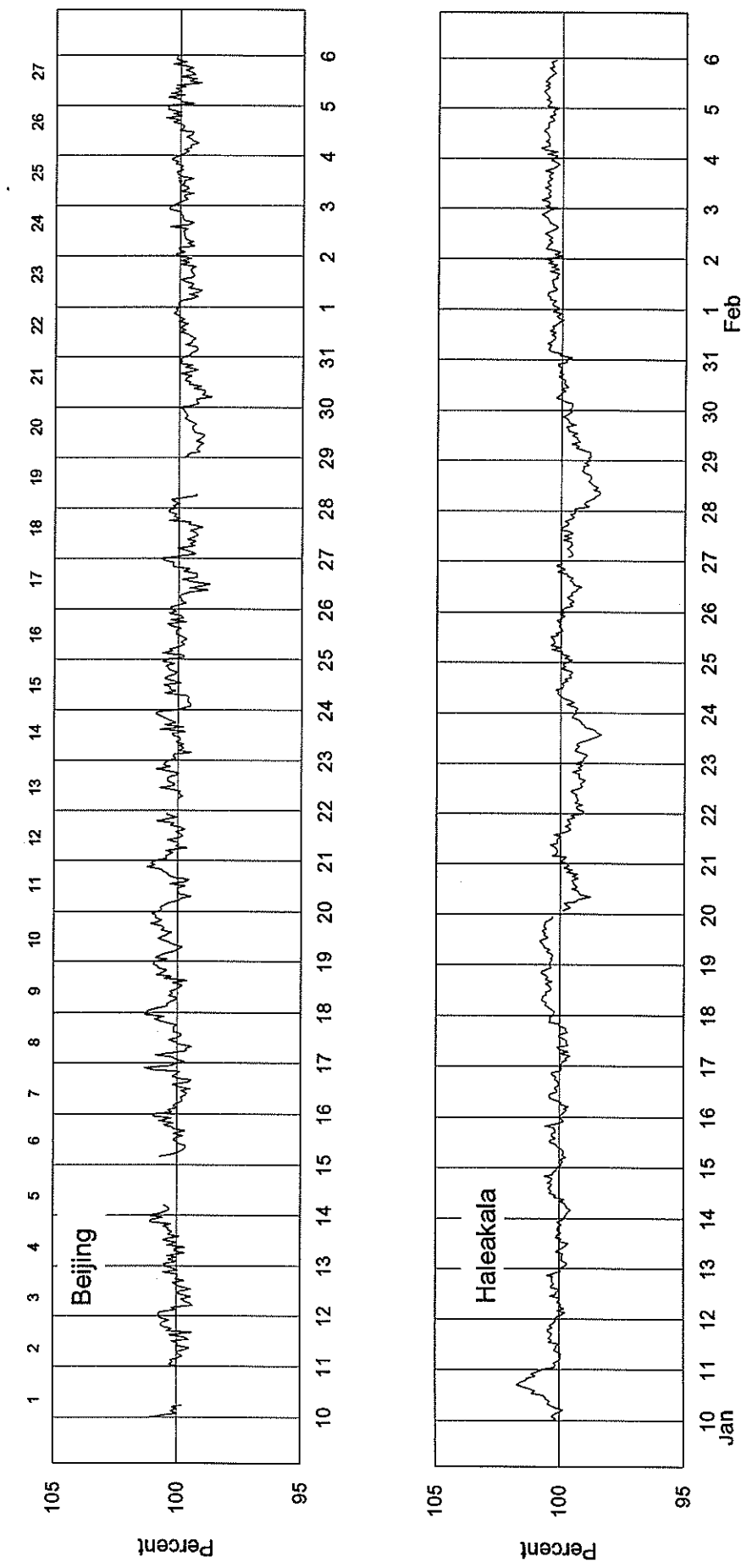
COSMIC RAY INDICES

(Neutron Monitor)

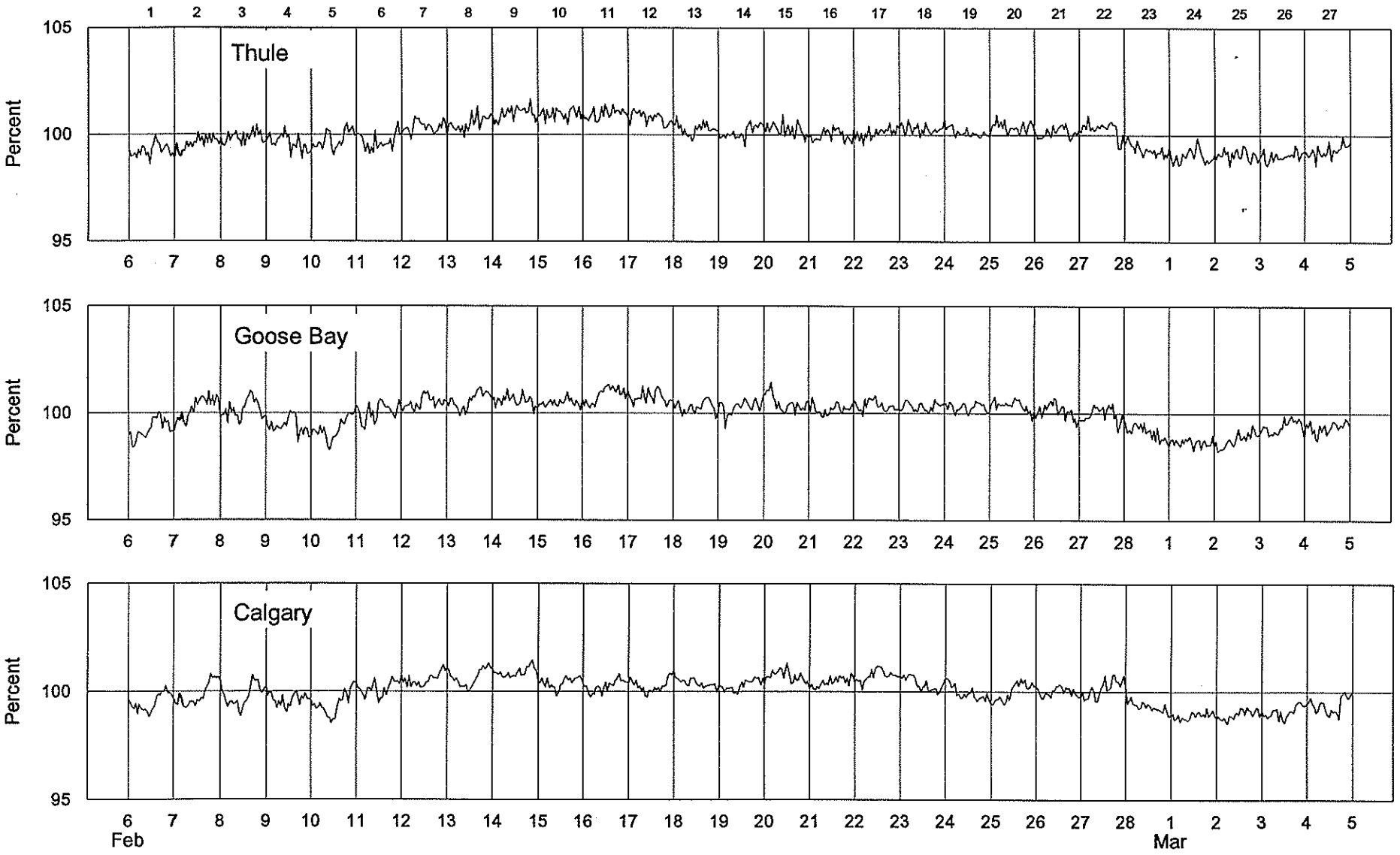
Bartels Rotation 2232 - Beginning 10 Jan 97



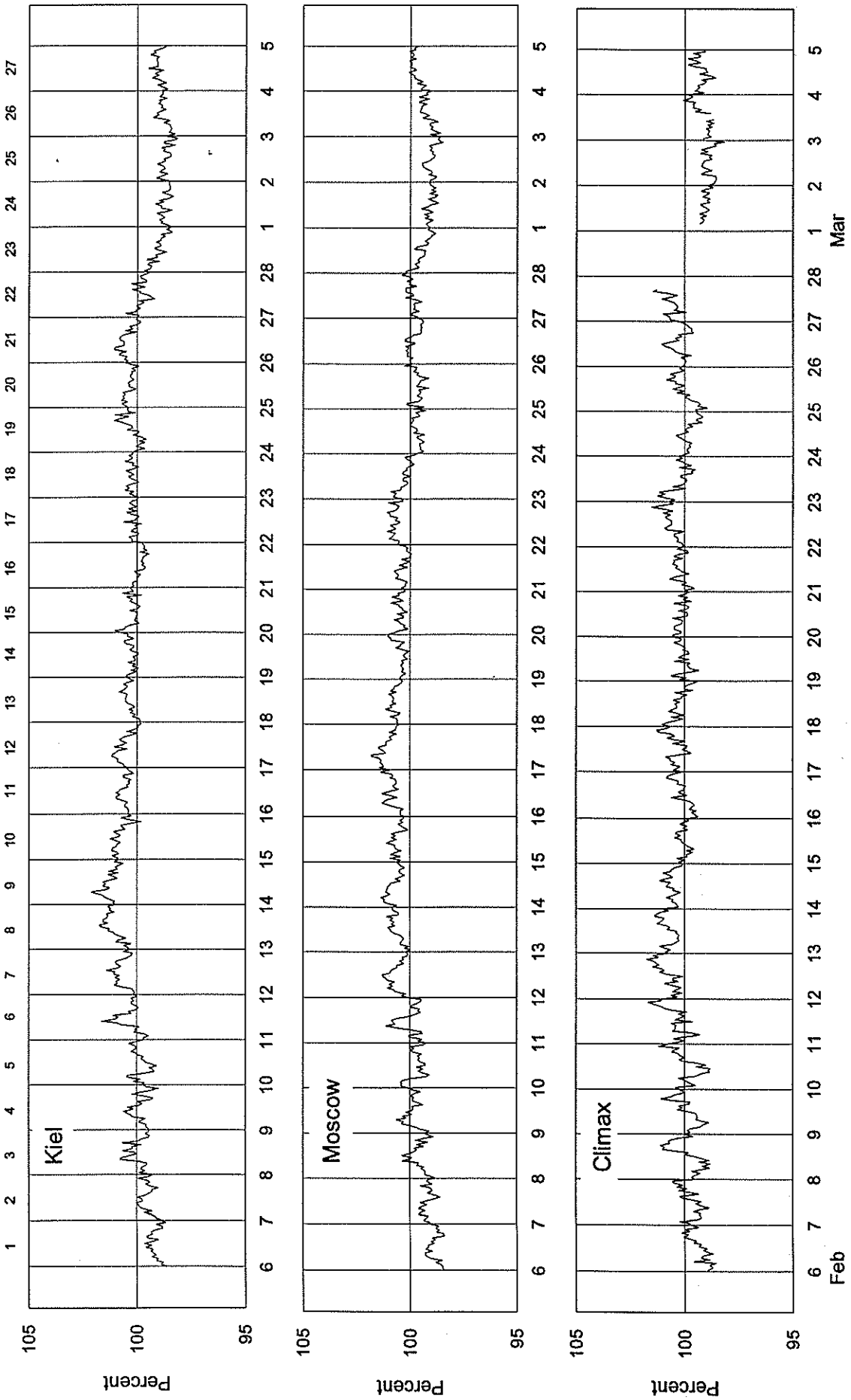
COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2232 - Beginning 10 Jan 97



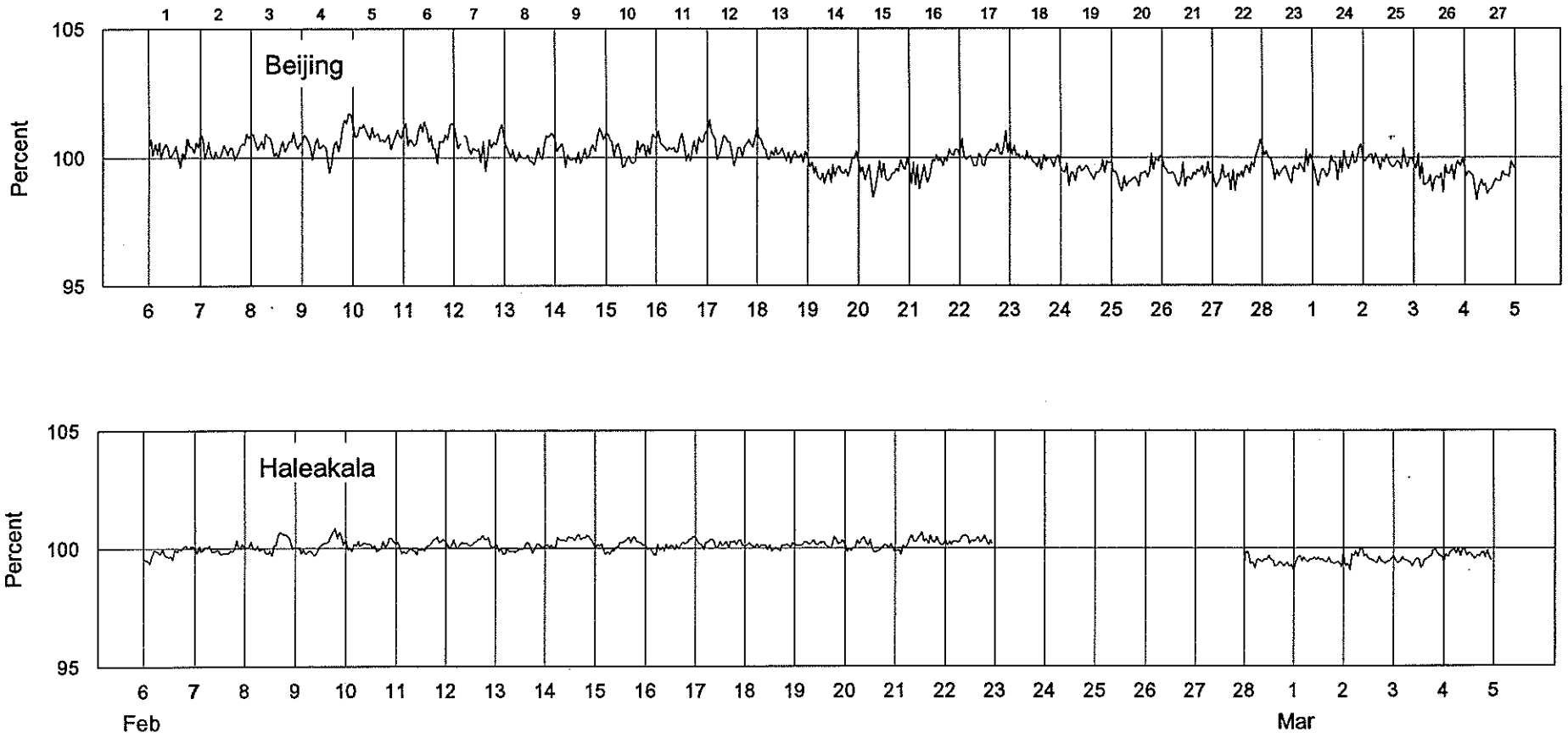
COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2233 - Beginning 6 Feb 97



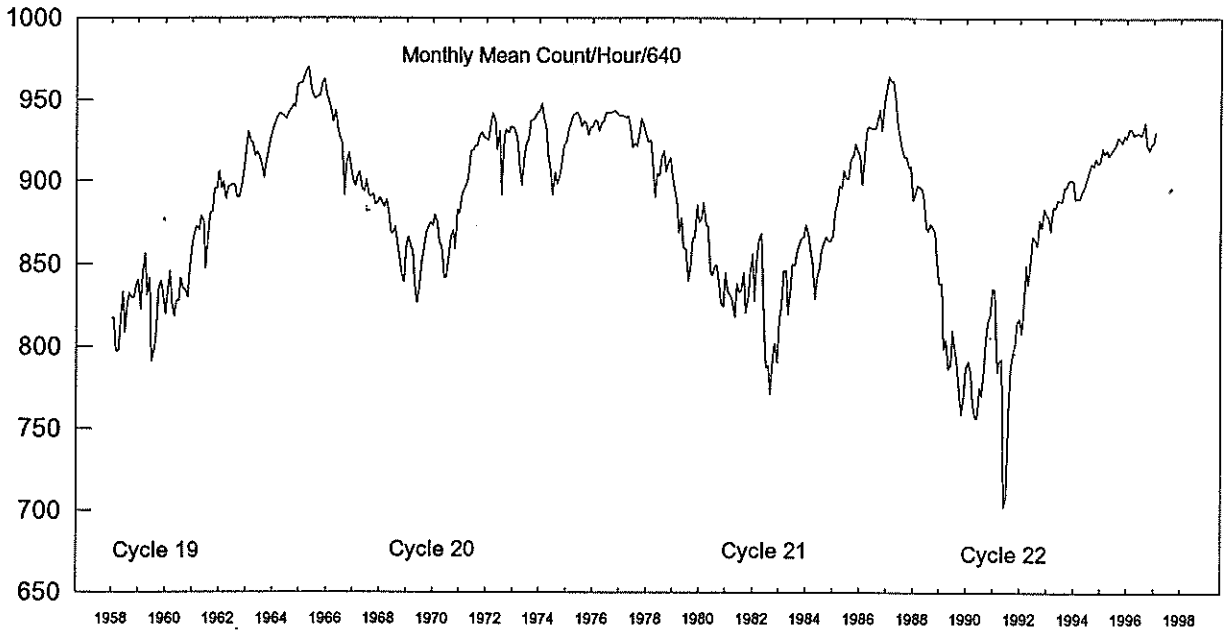
COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2233 - Beginning 6 Feb 97



COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2233 - Beginning 6 Feb 97



Moscow Neutron Monitor Pressure-Corrected Values
Jan 1958 - Feb 1997



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											9276

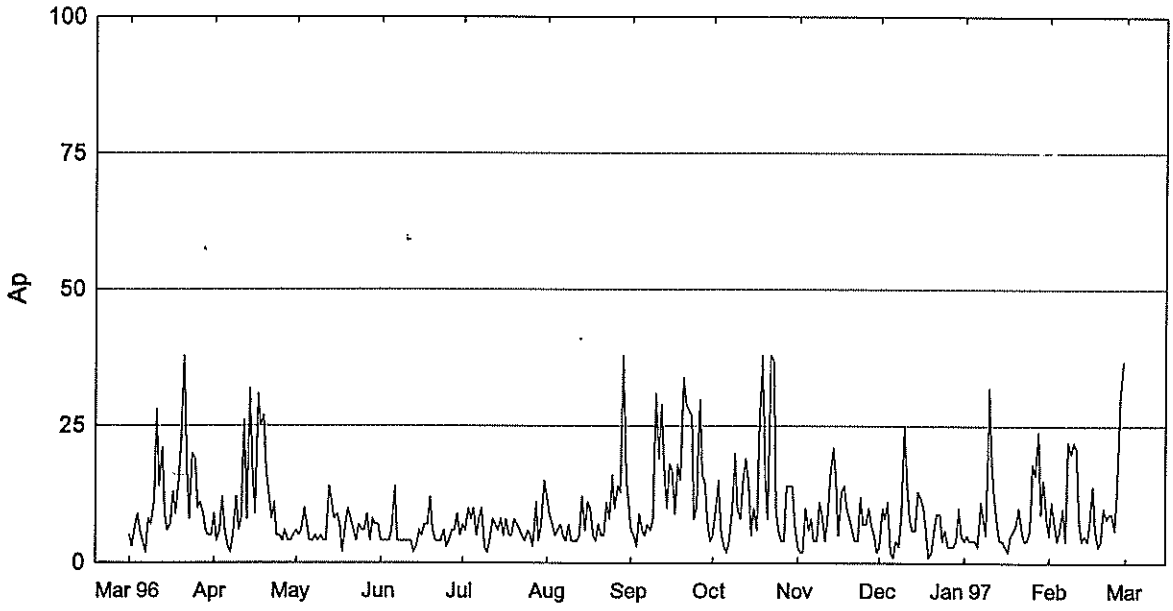
Multiply table entries by 64 to obtain hourly counting rate. Moscow, Russia: N55, E37, Alt= 200 m, Cutoff Rigidity= 2.42GV.
NOTE: * Indicates data have been restored using the corresponding data of other cosmic ray stations.

Geomagnetic Activity Indices
February 1997

Day		Kp Three-Hourly Indices 1	2	3	4	5	6	7	8	Sum	Ap	Cp	Km Three-Hourly Indices 1	2	3	4	5	6	7	8	aa Provisional Am	N	S	M	
1	Q7	2	1-	1-	1	2	2	1-	1-	10-	5	0.2	2-	1-	1-	1+	2+	2-	1-	1+	9	10	13	9	14 CC
2		2-	2+	2+	1	2-	3+	3+	3	19-	11	0.6	2-	2+	2o	1+	2-	3+	3+	3-	20	26	17	13	31
3		4-	1	1-	1-	0+	1	1+	3-	11+	7	0.3	3o	1+	1-	1o	1-	1o	1+	2+	11	15	9	14	10 K
4	Q3	1-	0+	1	2	1+	1-	1-	1	8-	4	0.1	0+	0+	1o	2+	2o	1+	1o	1o	9	7	11	10	8 CC
5	Q10K	1-	0	0+	1	2+	3	2+	1	11-	6	0.3	0+	0+	0o	1+	2+	3o	2+	1+	11	13	11	5	19 KK
6		1+	4-	3	2+	3	1	1	2-	17	10	0.6	2-	3o	3-	3-	3-	1o	1o	2o	18	22	19	21	20
7	Q5	1+	1	0+	0+	0+	0+	2-	3-	8	4	0.2	1o	1o	0o	0+	0+	0+	2-	3-	7	13	5	5	13 KK
8	D5	2+	2-	1	3-	6-	5	4-	2+	24+	22	1.1	2+	2-	1+	3o	5o	5-	3o	2+	38	44	31	14	61
9		2+	2+	2	2+	3+	4	5+	4	26-	20	1.0	2+	2o	2-	2+	3+	4-	5-	4o	36	39	30	15	54
10	D3	4-	4-	4	3+	3+	3+	4	4-	29	22	1.1	3o	3+	3+	3+	3o	3o	4o	3o	36	38	30	29	38
11	D4	3	3+	4	4-	3+	3	3+	4+	28	21	1.1	3-	3o	4-	4o	3o	3o	3+	4o	40	42	53	44	51
12		3+	3	3-	1	0+	0	0	0+	11-	7	0.3	3o	2+	3-	1+	0+	0o	0+	1-	11	13	10	20	3 K
13	Q4	1-	1+	1	1-	2-	1+	1-	1	8+	4	0.1	1-	1o	1o	1o	2o	2-	1o	1+	8	8	11	7	13 CC
14	Q8	2-	1+	2+	2-	1-	1-	1+	1	11-	5	0.2	2-	1+	2+	1+	1o	1+	1+	1o	10	12	9	11	9 CC
15	Q6	0	0	1	2-	2-	3-	1	0	8	4	0.1	0o	0o	1-	2-	2-	3o	1o	0+	9	11	14	6	18 KK
16		0+	1+	2-	2	3	1+	2+	3-	15-	8	0.4	0o	1-	2-	3-	3+	1o	2+	3-	16	15	22	11	26
17		2+	3-	4+	4	2+	1-	2+	2+	21	14	0.8	2o	2o	4+	4+	3-	1+	3-	2+	30	23	38	42	19
18		3-	2+	2-	1+	1	2-	1-	1	12+	6	0.3	2+	2o	2o	2-	2-	2-	1o	1o	12	9	15	14	10 CC
19	Q1	2-	1-	1-	0+	0+	0+	0+	1	5+	3	0.1	1+	1o	1-	0+	0+	0+	0+	2-	5	6	8	9	5 CC
20	Q2	1	2-	1	1	1+	1-	1-	1-	8	4	0.1	1o	1+	1+	1o	1+	1o	1-	1-	7	9	9	9	9 CK
21		1-	3+	3	3+	3-	2	0+	2-	17	10	0.6	0+	3-	3-	4-	3o	2o	0+	1+	19	17	22	23	15
22		3-	2	0+	1	2-	3+	2	3-	16-	8	0.5	2+	2o	0o	2-	2o	3o	2o	3-	16	19	20	12	27
23		2+	3+	2+	3-	2+	2-	1	2	18-	9	0.5	2+	3-	2o	3-	2+	2-	1+	2o	17	17	19	19	17
24		0+	2+	3-	3	3	1-	1-	3-	15+	9	0.5	1-	2+	2+	3o	3o	1-	1-	3-	17	15	19	17	17
25	Q9K	3	1+	1-	1	1-	2-	1+	1+	11	6	0.3	2+	1+	1o	1+	1o	2-	2-	2-	11	13	10	12	11 C
26		3	3+	2+	4-	4	4-	2-	1	23-	15	0.9	3o	3-	2+	3o	4o	3+	2-	2-	28	35	28	29	33
27	D2	3+	3-	2	1+	3+	3+	4	7	27	30	1.3	3o	2+	2o	2-	3+	3o	4-	6o	43	45	54	19	81
28	D1	5+	6+	5-	3+	3	4	4	3+	34	37	1.4	5-	5+	4o	3+	3+	4-	3+	3-	53	56	49	65	40
Mean											11	0.54									19.5	21.2	21.0		21.0

Day	Kn Three-Hourly Indices 1	2	3	4	5	6	7	8	An	Ks Three-Hourly Indices 1	2	3	4	5	6	7	8	As	Sa	Prov Ri	Ra	Rs	IMF
1	1+	1-	1-	1o	2o	2-	0+	1o	8	2o	1-	1o	1+	2+	2-	1+	1+	11	69.2	9	9	13	
2	1+	2o	2o	1o	2-	4-	3+	3-	20	2-	3-	2-	1+	2-	3o	3o	3o	20	76.2	23	23	20	
3	3+	1o	0+	1-	1-	1+	1+	2o	11	3-	2-	1o	1+	1-	1o	2-	2+	11	77.4	30	27	22	
4	0+	0o	1o	2+	2+	1+	1-	0+	8	0+	1o	1o	2+	2-	1+	1o	1+	9	78.4	31	25	23	
5	0+	0o	0o	1o	3-	3o	3-	1-	11	1-	1-	0o	2-	2o	3o	2o	1+	11	73.3	23	20	17	
6	1+	3o	3o	2+	3-	1o	1-	2-	17	2-	3o	3-	3-	3o	1+	1+	2+	19	72.2	18	21	16	
7	1-	1-	0o	0o	0o	1-	1+	3-	6	1+	1+	0+	1o	0+	0+	2-	2+	7	73.7	15	22	18	
8	2o	1+	1+	3-	5+	5o	3+	3-	39	2+	2+	2-	3+	5o	4+	3o	2+	37	73.2	8	8	17	
9	2o	2o	1+	3-	4-	4-	4+	4-	34	2+	2+	2o	2o	3o	4-	5o	4+	39	71.2	8	7	15	
10	3+	4-	3+	3o	3+	3+	4o	3+	38	3-	3o	3+	4-	3o	3o	4-	3o	33	70.4	0	0	14	
11	3o	3o	4o	4o	3+	3+	4-	4o	42	3-	3+	4-	4o	3o	3o	3o	4o	37	69.3	0	0	13	
12	3o	3-	3-	1+	0+	0o	0o	0o	12	3-	2-	3-	2-	0+	0o	0+	1o	10	69.1	0	0	13	
13	1-	1+	1+	1+	2+	2o	1-	1o	9	1-	1-	1o	1o	2o	1+	1o	1+	8	69.3	0	0	13	
14	2-	1+	2o	1+	1+	1o	1+	1-	9	2o	1+	2+	1+	1-	1+	1+	1o	10	69.6	0	0	13	
15	0o	0o	1o	1+	2-	3o	1-	0o	9	0o	0o	1-	2-	2-	3o	1o	0+	9	70.1	0	0	14	
16	0o	0+	2-	3-	3+	1+	2+	3-	15	0+	1-	1+	3-	3+	1o	3-	3-	17	70.3	9	6	14	
17	2-	2+	5-	4+	3o	1+	3-	2-	30	2o	2o	4o	4o	2+	1+	3-	3-	28	71.4	0	7	15	
18	2+	2o	2o	2-	2o	2-	1-	1o	13	2+	2-	2o	2-	1+	2-	1+	1o	12	71.2	8	8	15	
19	1o	1-	1-	0o	0o	0o	0o	1+	4	1+	1+	0+	1-	0+	1-	1-	2-	6	70.4	8	7	14	
20	1-	1+	1+	1o	1+	1o	0+	0+	7	1o	1+	1+	1+	2-	1o	1-	1o	8	71.0	0	6	15	
21	0+	3-	2+	4-	3-	2-	0o	2-	17	0+	3-	3o	4-	3o	2+	1-	1+	20	71.6	0	0	15	
22	2+	2-	0o	2-	2-	3o	2o	3-	15	3-	2+	0+	2-	2+	3o	2o	3-	17	71.9	0	0	16	
23	3-	3-	2o	3-	2+	2-	1+	2o	17	2+	3-	2o	2+	2+	1+	2-	2-	16	73.0	0	5	17	
24	0+	3-	3-	3o	3+	1-	0+	2+	17	1-	2+	2+	3o	2+	1o	1+	3-	17	73.1	7	7	17	
25	3-	1o	1o	1+	1+	2+	1+	2-	11	2+	2-	1o	1o	1-	1+	2-	2-	10	72.6	8	7	16	
26	3-	3o	2+	3o	4o	4-	2o	1+	29	3o	3-	2+	3o	4o	3o	2-	2-	27	72.4	0	4	16	
27	3o	2+	2o	2-	4-	3+	4-	6-	43	3o	2+	2o	2-	3o	3-	4-	6o	42	72.4	8	3	16	
28	4+	6-	4o	4-	3+	3+	3+	3-	55	5-	5o	4o	3+	3+	4-	3+	3-	52	71.5	0	0	15	
Mean									19.5									19.4	72.0	7.6	7.9	15.8	

Daily Average Indices Ap
Mar 1996 - Feb 1997

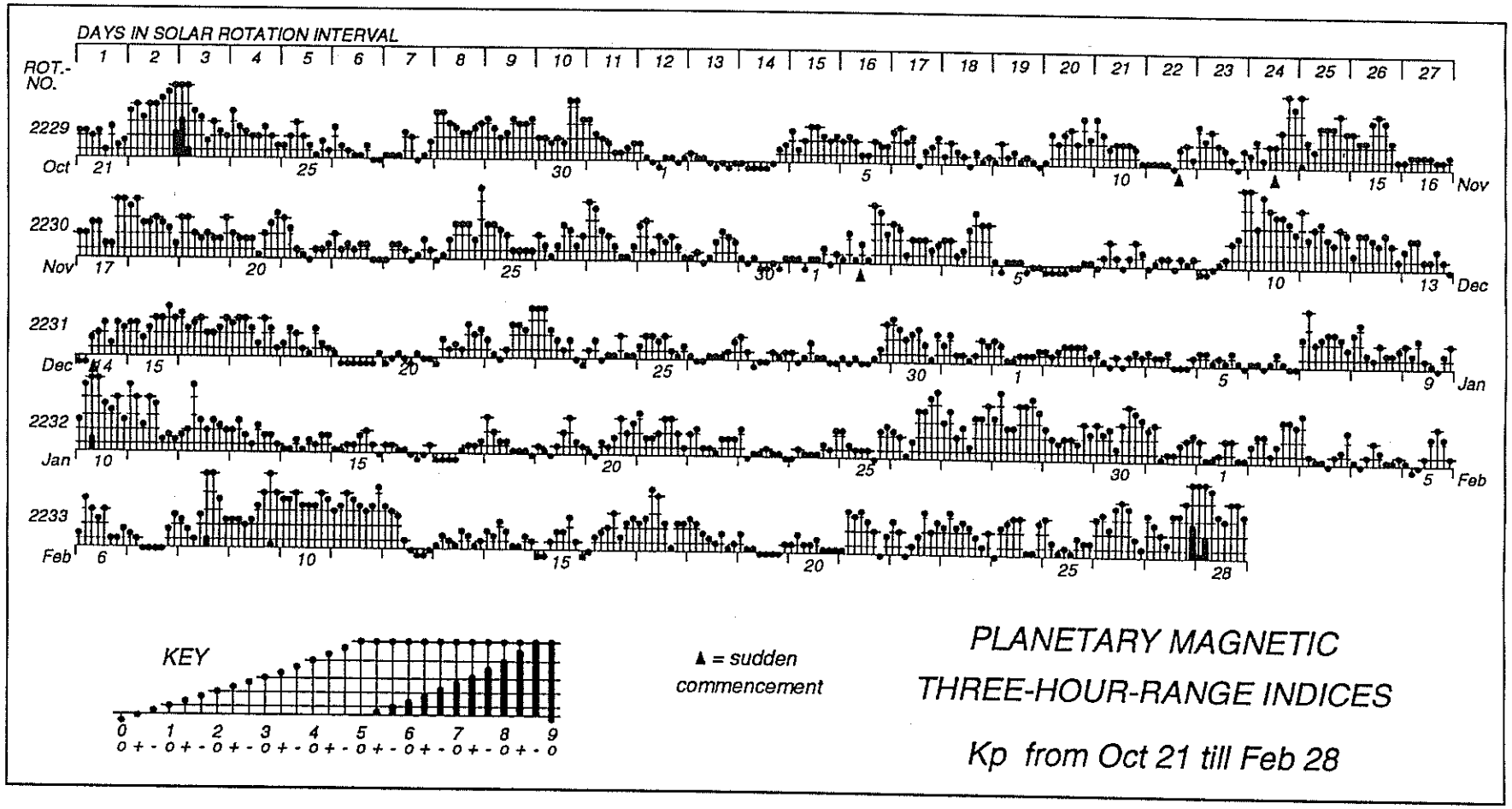


Day	Mar 96	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 97	Feb
1	5	9	6	4	7	12	6	5	3	3	4	5
2	3	4	5	4	6	9	5	10	2	10	5	11
3	6	6	6	4	10	7	3	15	2	8	4	7
4	9	12	10	4	8	5	9	6	10	11	4	4
5	6	6	7	6	10	6	6	3	6	2	4	6
6	4	3	4	14	5	7	5	2	8	1	3	10
7	2	2	4	4	8	5	7	4	4	4	11	4
8	8	5	5	4	10	4	6	10	4	3	8	22
9	7	12	4	4	3	7	8	20	11	9	5	20
10	11	6	5	4	2	4	31	10	9	25	32	22
11	28	8	4	4	4	4	19	8	4	14	18	21
12	14	26	4	4	8	4	29	15	8	8	12	7
13	21	8	14	2	7	5	18	19	16	6	7	4
14	9	32	11	3	6	12	10	14	21	6	4	5
15	6	18	8	6	8	6	18	5	15	13	4	4
16	7	9	9	5	5	11	17	10	5	12	3	8
17	13	31	7	7	8	10	9	6	13	10	2	14
18	9	25	2	7	5	5	18	27	14	6	5	6
19	15	27	7	12	5	4	15	38	10	1	6	3
20	23	17	10	6	8	7	34	16	8	2	7	4
21	38	13	8	4	7	5	29	8	6	6	10	10
22	17	8	6	4	6	5	28	38	4	9	6	8
23	8	11	4	4	5	11	27	37	4	9	4	9
24	20	5	7	6	4	8	8	10	12	4	4	9
25	19	5	6	3	6	16	10	6	7	6	6	6
26	10	4	6	4	5	10	30	4	7	3	18	15
27	11	6	9	6	3	14	16	4	10	3	16	30
28	9	4	4	6	11	13	15	14	7	3	24	37
29	6	4	8	9	4	38	7	14	5	4	9	
30	5	5	7	5	7	16	4	14	2	10	15	
31	5		7		15	11		7		5	8	
Mean	11	11	7	5	7	9	15	13	8	7	9	11

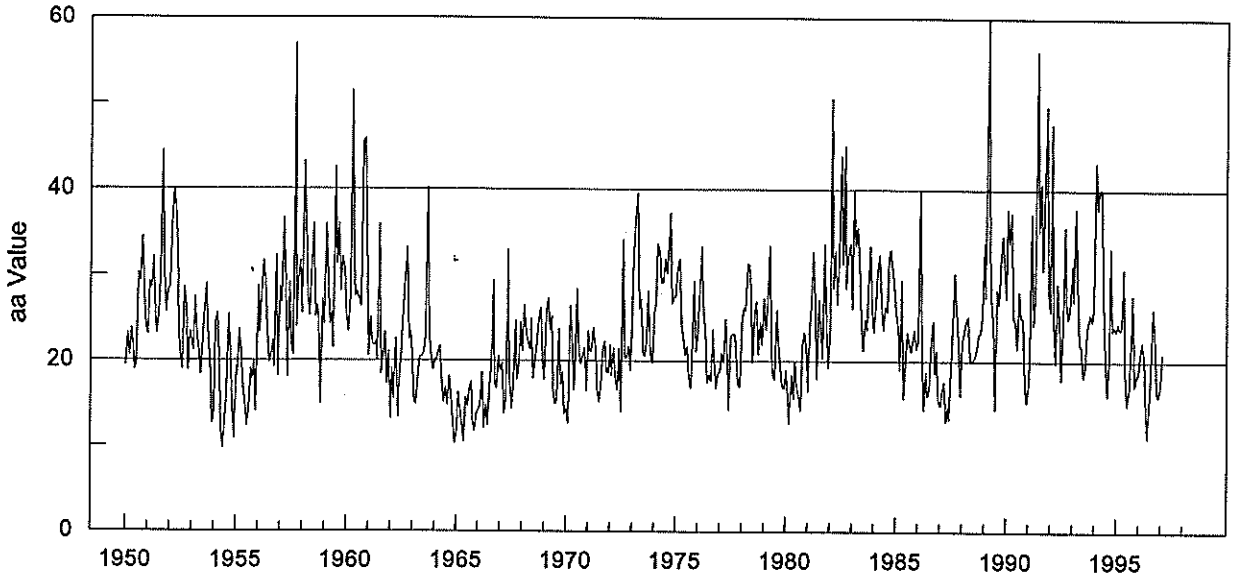
PLANETARY 3-HOUR-RANGE INDICES (Kp) BY 27-DAY SOLAR ROTATION INTERVAL

University of Gottingen

Kp through February 28, 1997



Monthly Mean aa Index Jan 1950 - Feb 1997



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											19.2

PLANETARY GEOMAGNETIC ACTIVITY

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

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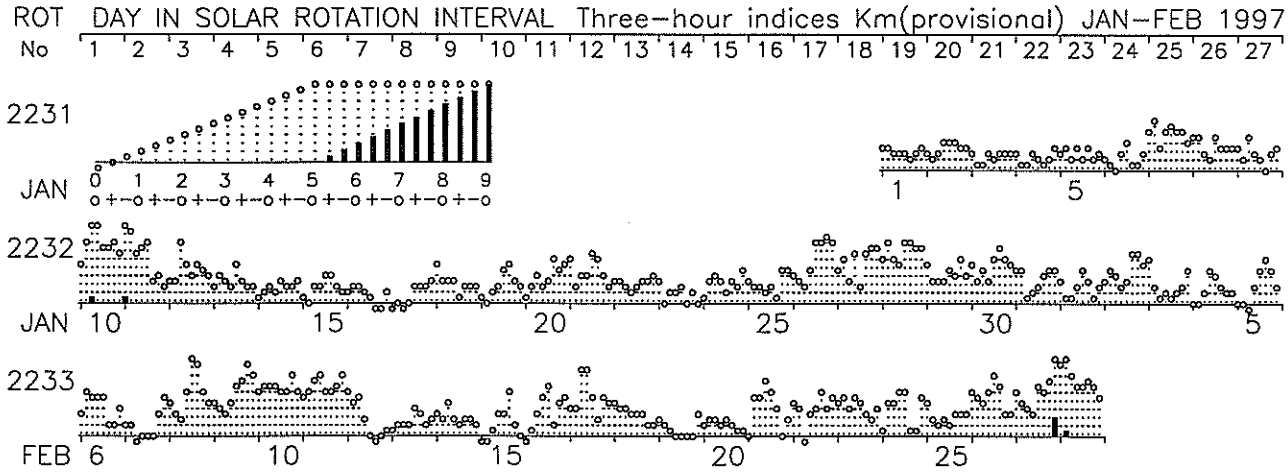
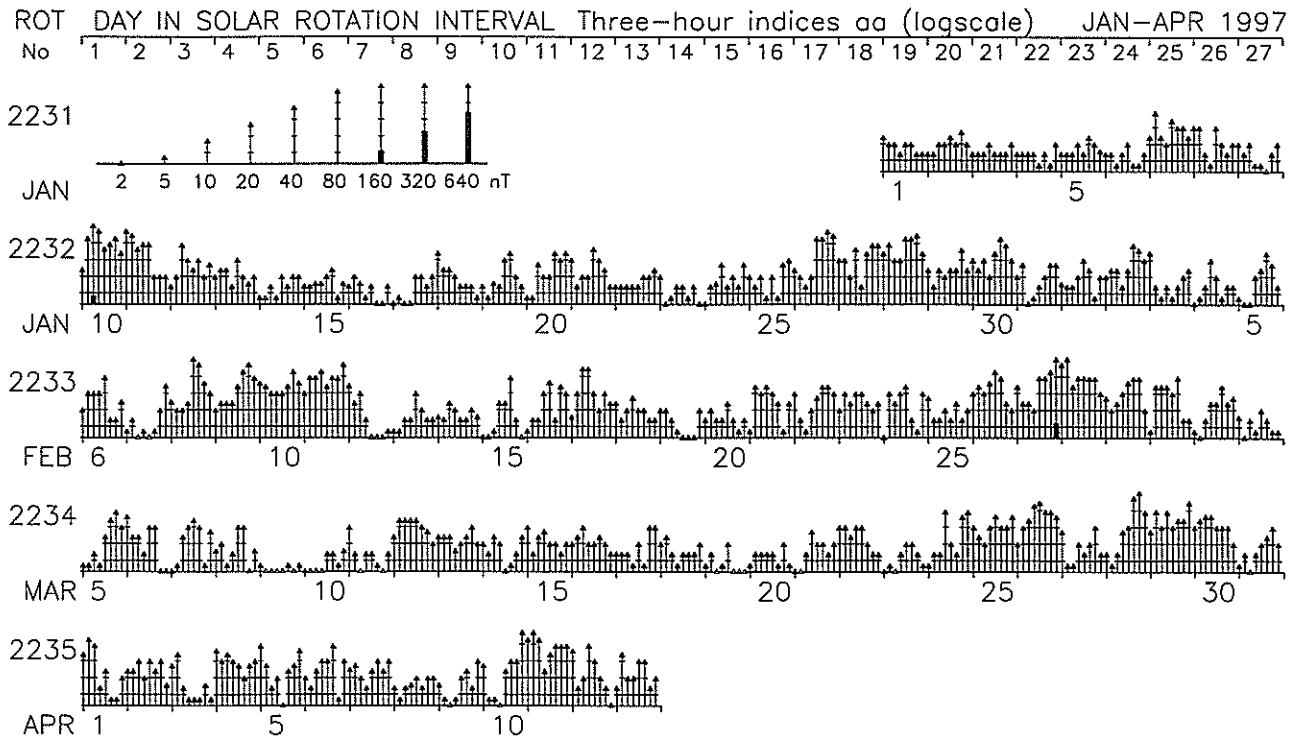


Indices Derivation at Universite Paris Sud; Graph Prepared at ISGI Publication Office.



Indices Derivation at Universite Paris Sud; Graph Prepared at ISGI Publication Office.

102
Feb 97

PC-INDEX

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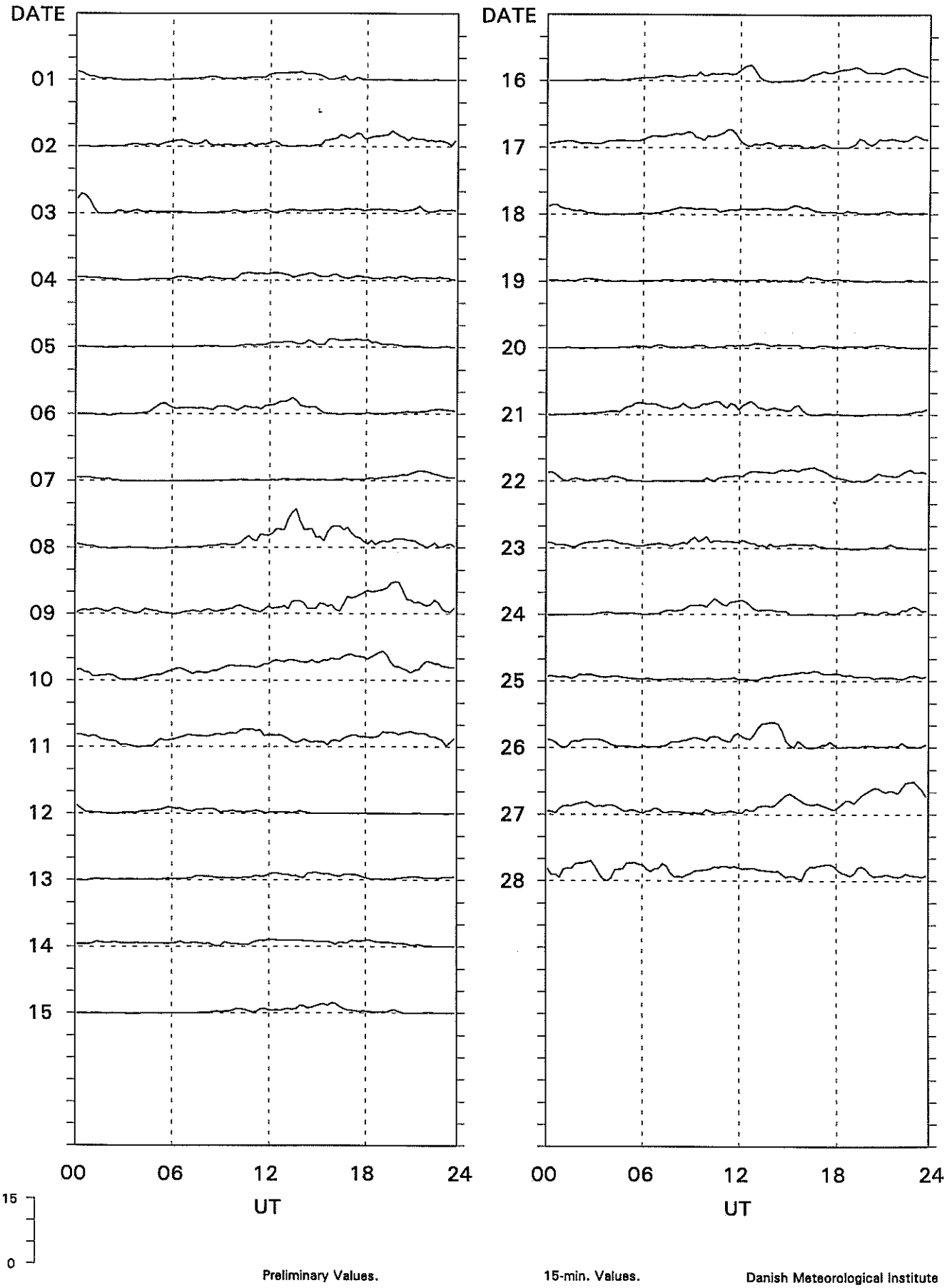
February, 1997



Preliminary Values.

15-min. Values.

Danish Meteorological Institute

PRINCIPAL MAGNETIC STORMS

FEBRUARY 1997

Sta	Geomag Lat	Commencement Time Day	(UT)	Type	SC Amplitudes D (Min)	H (Gamma)	Z (Gamma)	Maximum 3-Hour K Index Day(3-Hour Periods)	K	Ranges D (Min)	H (Gamma)	Z (Gamma)	End Day	Hour (UT)
HYB	07.6N	07	1600	..	..	..	..	08(5)	6	4	144	11	09	05
FRD	49.4N	08	09--	..	..	..	..	08(5,6)	5	22	157	41	12	12
KRC	16.4N	08	0437	..	..	..	..	08(5)	6	7	129	56	09	05
UJJ	13.6N	08	0400	..	..	..	..		-	4	126	13	08	24
NGP	11.3N	08	0400	..	..	..	..		-	4	150	7	08	24
ABG	09.4N	08	0400	..	..	..	..	08(5)	6	4	135	17	08	24
GUA	04.3N	08	11--	..	..	..	..	08(5)	5	--	70	10	08	21
PND	02.0N	08	0400	..	..	..	..		-	4	145	70	08	24
TRD	01.1S	08	0400	..	..	..	..		-	3	162	93	08	24
AMS	46.8S	08	11--	..	..	..	..	08(5,6)	5	23	147	65	08	22
CZT	51.5S	08	11--	..	..	..	..	08(5,6)	5	38	112	68	08	21
PAF	57.2S	08	11--	..	..	..	..	08(5,6)	5	44	179	149	08	21
UJJ	13.6N	09	1319	SC	- 0.3	25	- 7		-	5	96	12	12	01
NGP	11.3N	09	1319	SC	- 0.1	24	- 4		-	4	110	16	12	01
ABG	09.4N	09	1319	SC	- 0.4	21	- 4	10(7,8) 11(6,8)	4	4	107	15	12	01
HYB	07.6N	09	1320	SC	- 0.3	23	- 3	09(7)	5	4	113	9	12	01
PND	02.0N	09	1319	SC	--	22	22		-	3	120	38	12	01
ETT	00.7S	09	1320	SC	- 0.3	23	20		-	--	122	44	12	01
TRD	01.1S	09	1319	SC	- 0.1	22	29		-	3	140	76	12	01
HER	33.6S	09	1321	SC	2	14	10	09(7)	6	32	76	119	10	02
AMS	46.8S	09	1321	SC	1	15	- 5	09(7)	5	19	75	55	10	06
CZT	51.5S	09	1321	SC	2.5	20.0	5.0	09(7)	6	29	112	80	09	23
PAF	57.2S	09	1321	SC*	2.5	44.2*	14.8*	09(7)	7	65	416	290	12	02
GUA	04.3N	10	03--	..	..	..	..	10(2)	5	--	110	10	10	10
GUA	04.3N	11	04--	..	..	..	..	11(4)	5	--	80	30	12	00
UJJ	13.6N	16	1000	..	..	..	..		-	2	52	13	17	22
NGP	11.3N	16	1000	..	..	..	..		-	3	60	14	17	22
ABG	09.4N	16	1000	..	..	..	..	16(4,5) 17(4)	4	2	63	15	17	22
PND	02.0N	16	1000	..	..	..	..		-	2	72	33	17	22
TRD	01.1S	16	1000	..	..	..	..		-	2	87	46	17	22
UJJ	13.6N	22	1200	..	..	..	..		-	2	57	15	23	23
NGP	11.3N	22	1200	..	..	..	..		-	2	45	11	23	23
ABG	09.4N	22	1200	..	..	..	..	21(4) 24(4)	4	2	64	13	23	23
PND	02.0N	22	1200	..	..	..	..		-	1	65	20	23	23
TRD	01.1S	22	1200	..	..	..	..		-	2	99	35	23	23
KRC	16.4N	26	0445	..	..	..	..	26(6)	5	5	76	44	27	00
UJJ	13.6N	26	0800	..	..	..	..		-	4	78	24	28	22
NGP	11.3N	26	0800	..	..	..	..		-	4	57	27	28	22
ABG	09.4N	26	0800	..	..	..	..	27(7)	5	4	98	31	28	22
PND	02.0N	26	0800	..	..	..	..		-	3	113	41	28	22
ETT	00.7S	26	0500	..	..	..	..		-	--	134	52	28	22
TRD	01.1S	26	0800	..	..	..	..		-	3	140	70	28	22
FRD	49.4N	27	1810	SC*	0.5	4	1	27(8) 28(2)	6	24	150	73	01	09
KRC	16.4N	27	1540	..	..	..	..	27(7,8) 28(1,2)	5	8	81	41	28	22
HYB	07.6N	27	0100	..	..	..	..	27(7,8) 28(2)	5	3	84	19	28	23
GUA	04.3N	27	18--	..	..	..	..	27(8)	6	--	90	10	28	15
HER	33.6S	27	1809	SC	1	5	2	27(8)	6	26	70	98	28	15
AMS	46.8S	27	11--	..	..	..	..	27(8) 28(2)	5	18	133	93	28	23
CZT	51.5S	27	11--	..	..	..	..	27(8)	5	24	106	114	28	23
PAF	57.2S	27	11--	..	..	..	..	27(8)	7	81	541	330	28	23

Station reporting no storms observed: DRV

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

FEBRUARY 1997

Storm Sudden Commencements (SSC)			Solar Flare Effects (sfe)		
Day	Time	Quality: Station Group*	Day	Begin-End	Station(s)
09	1321	A: DOB* HRB* COI* HER	08	1356-1408	TEN
		B: BDV* NAG MMB EBR* SPT* TEN	23	1028-1044	TEN
		LNP HYB ETT CNB AMS CZT PAF*	23	1400-1418	TEN
09	1810	A: HRB			
		C: BDV* NAG MMB* SPT* FRD* KAK			
		KNY QUE TEN LNP HER			

REPORTING OBSERVATORIES (up to the 4th of April 1997):
SOD DOB NUR WNG NGK BDV CLF HRB NAG GCK MMB EBR COI BJI SPT FRD KAK KNY QUE TEN LNP HYB ETT HER CNB AMS CZT PAF DRV

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 (+).

*U.S. GOVERNMENT PRINTING OFFICE: 1997 573-001/29000

WORLD DATA CENTER A
FOR
SOLAR-TERRESTRIAL PHYSICS

The ICSU Panel on WDCs has recommended that it would be appropriate courtesy to acknowledge in publications that data were obtained from the originating station or investigator through the intermediary of the WDCs. The following statement is suggested:

"Data used in this study were provided by WDC-A for Solar-Terrestrial Physics, NOAA E/GC2, 325 Broadway, Boulder Colorado 80303, USA."