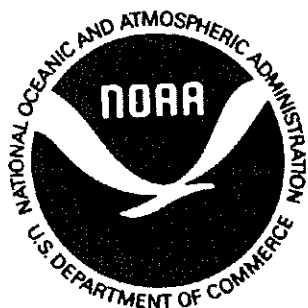




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NATIONAL ENVIRONMENTAL SATELLITE DATA, AND INFORMATION SERVICE

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Data for June, May 1993, and Late Data

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Number 587

(Issued in Two Parts)

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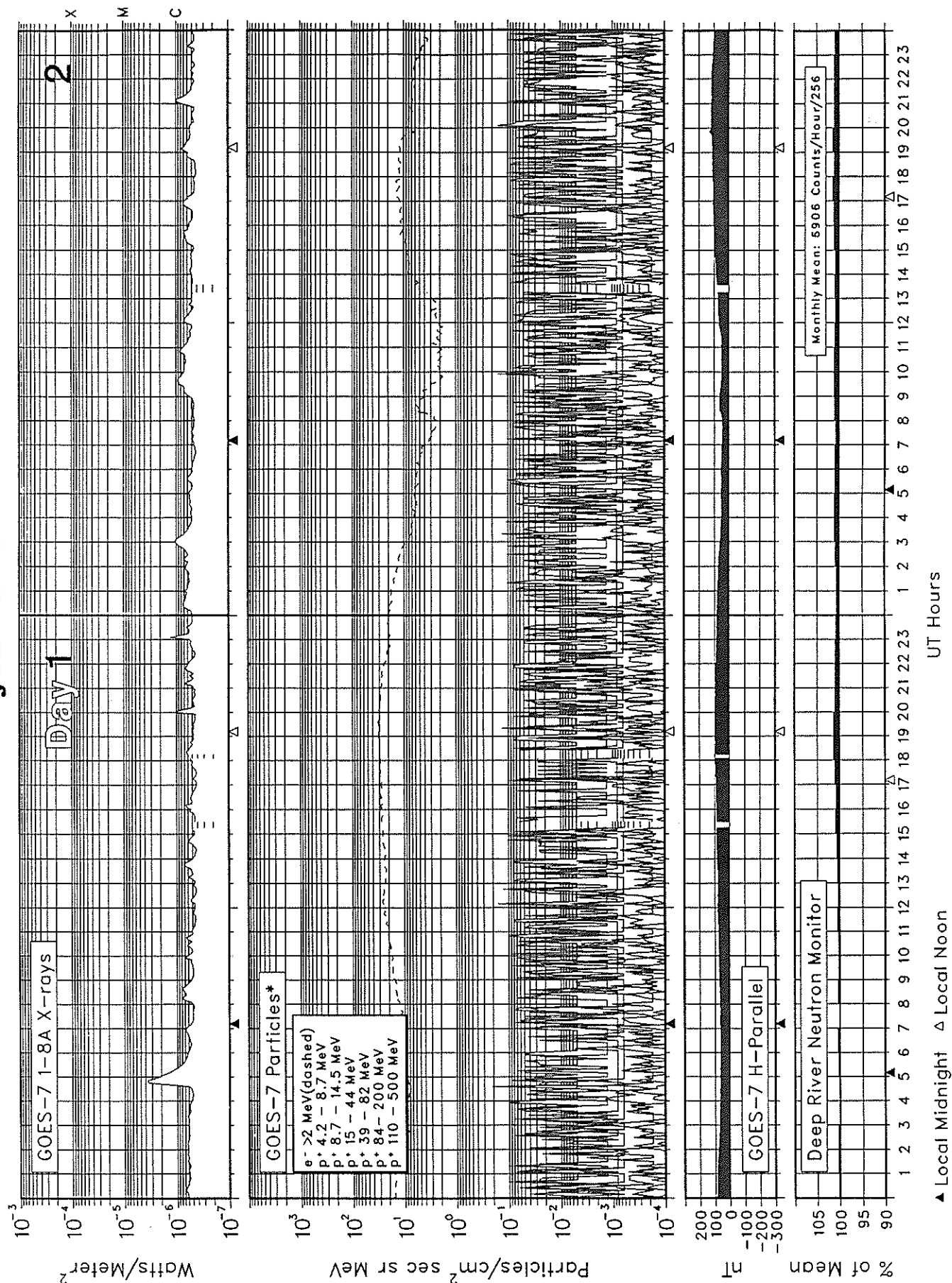
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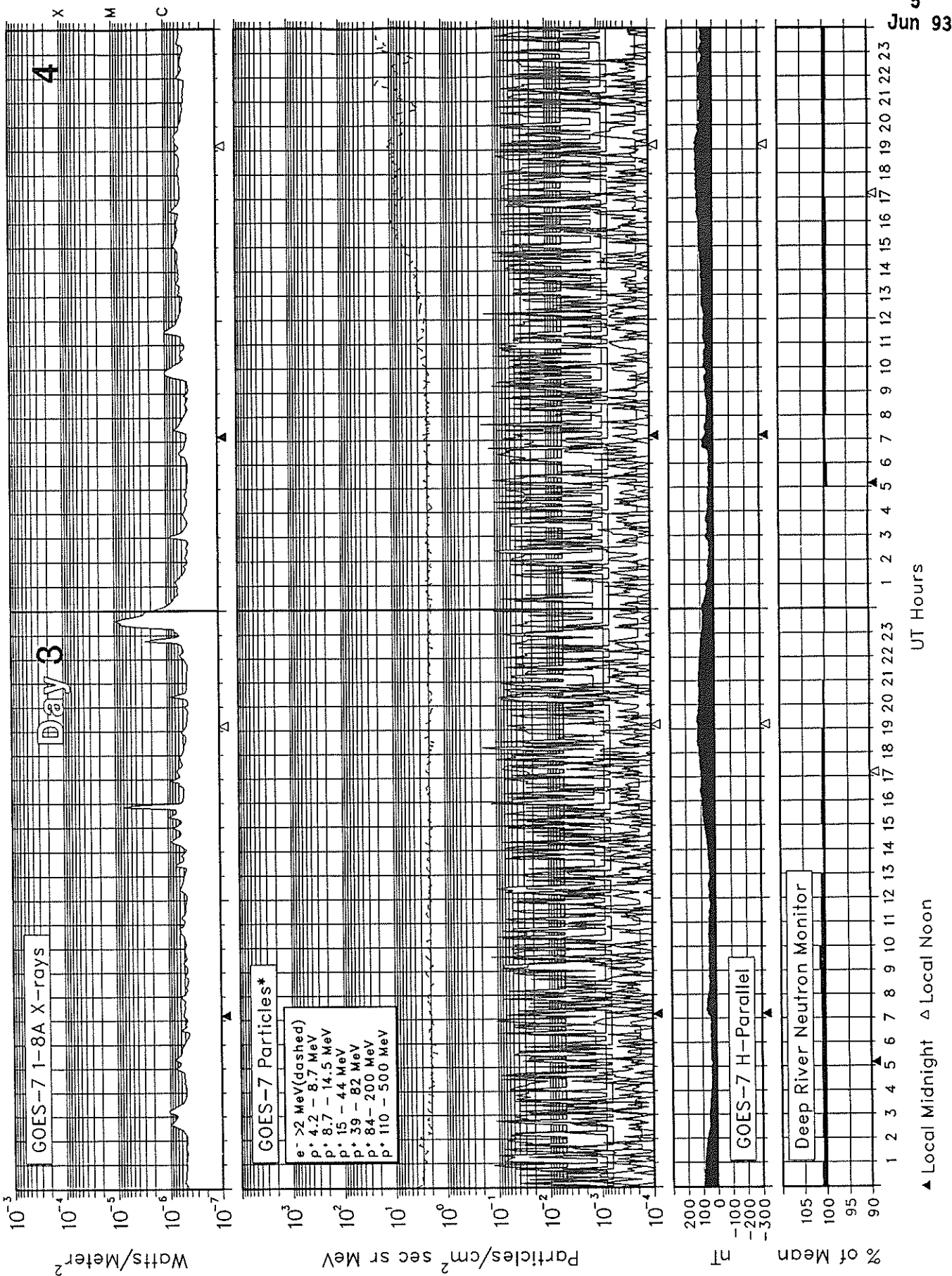
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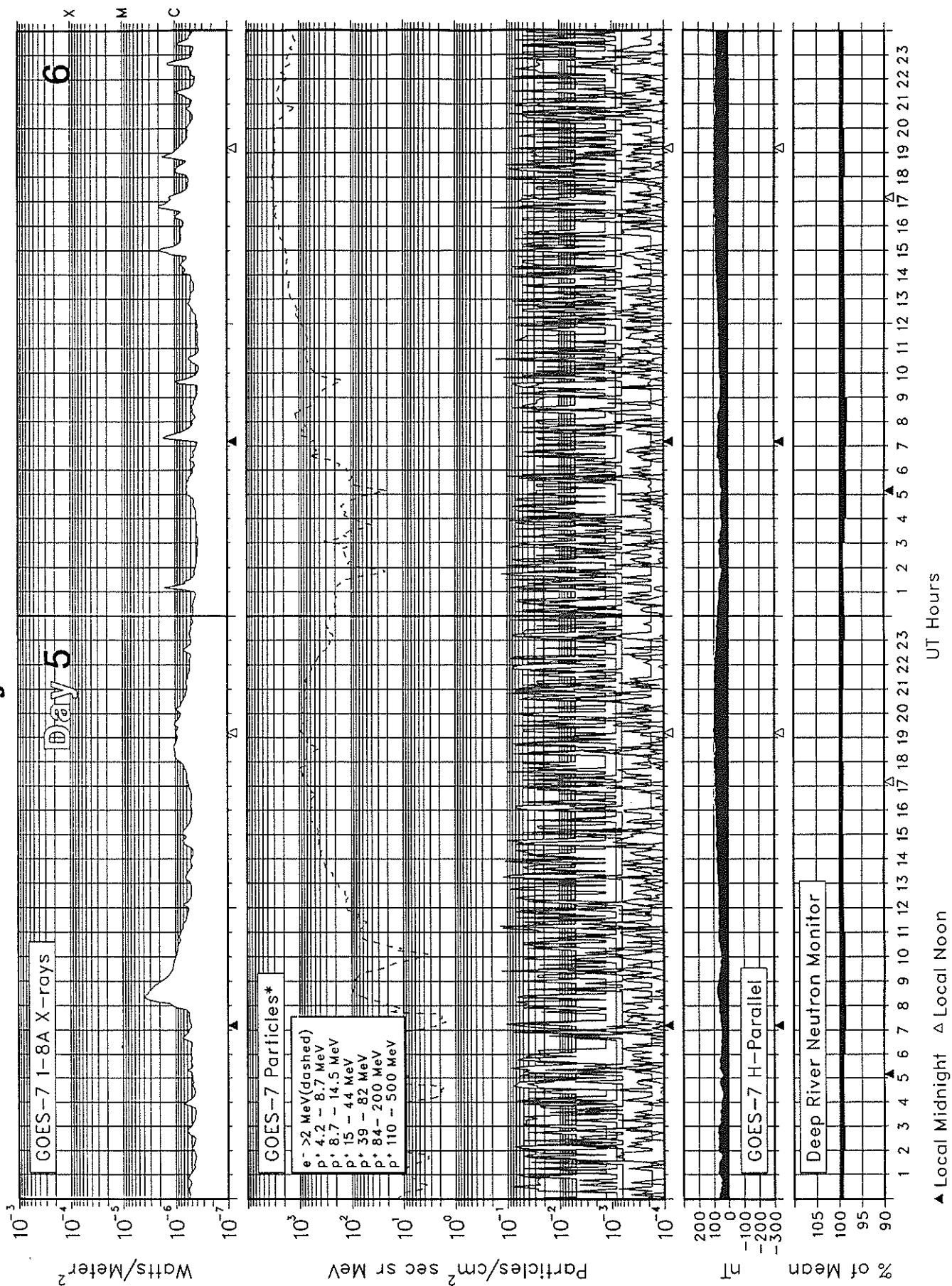
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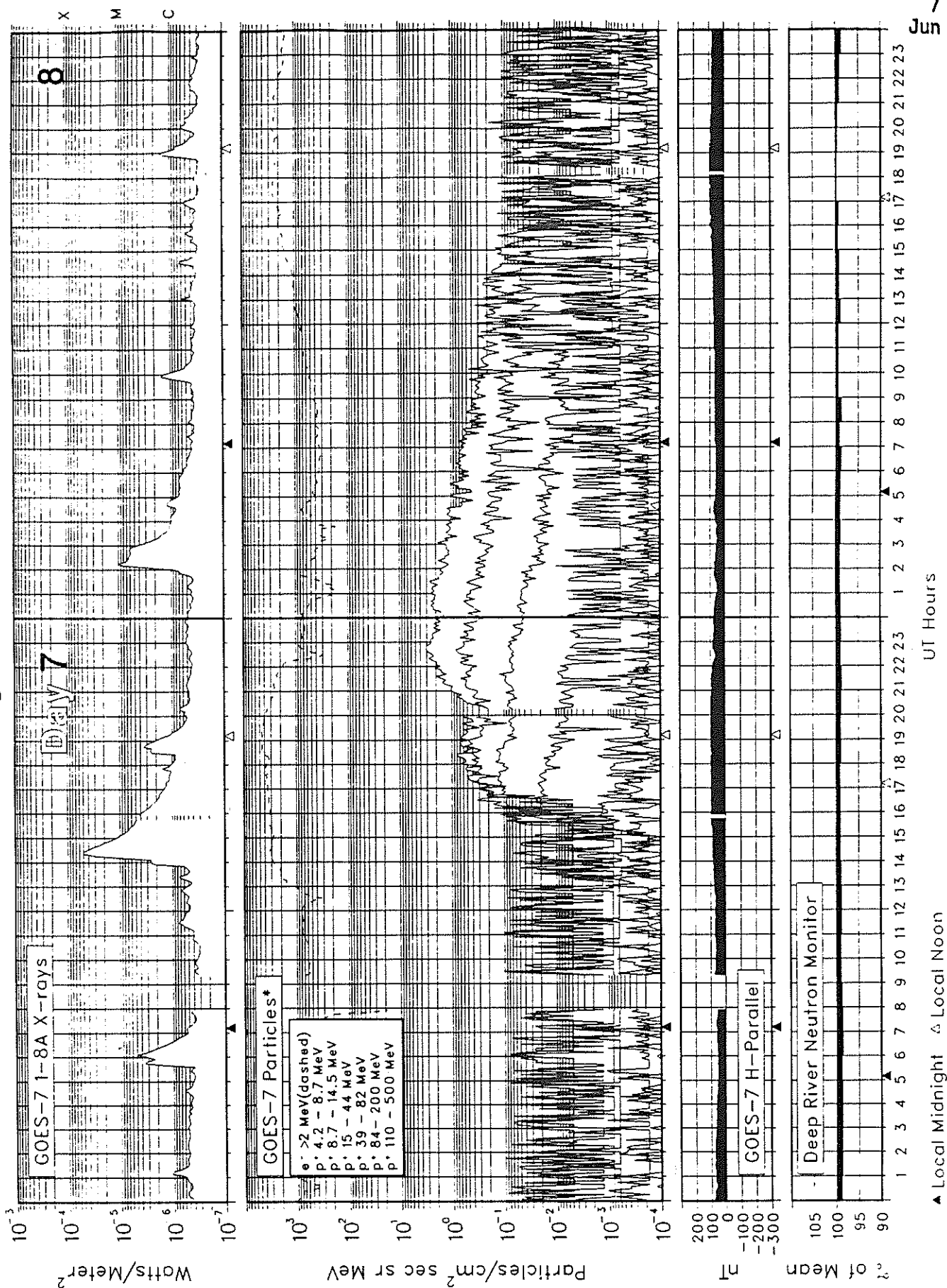
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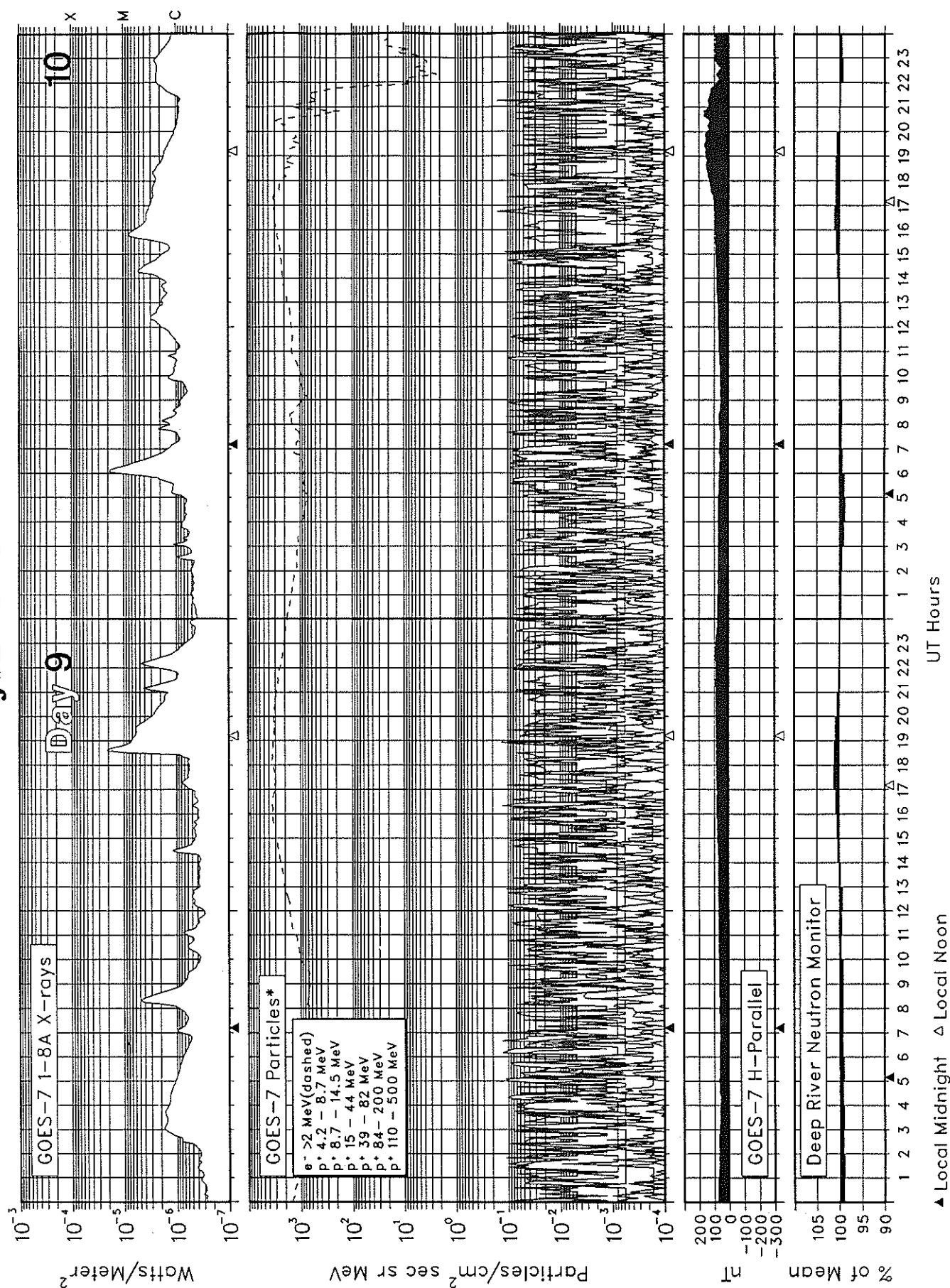
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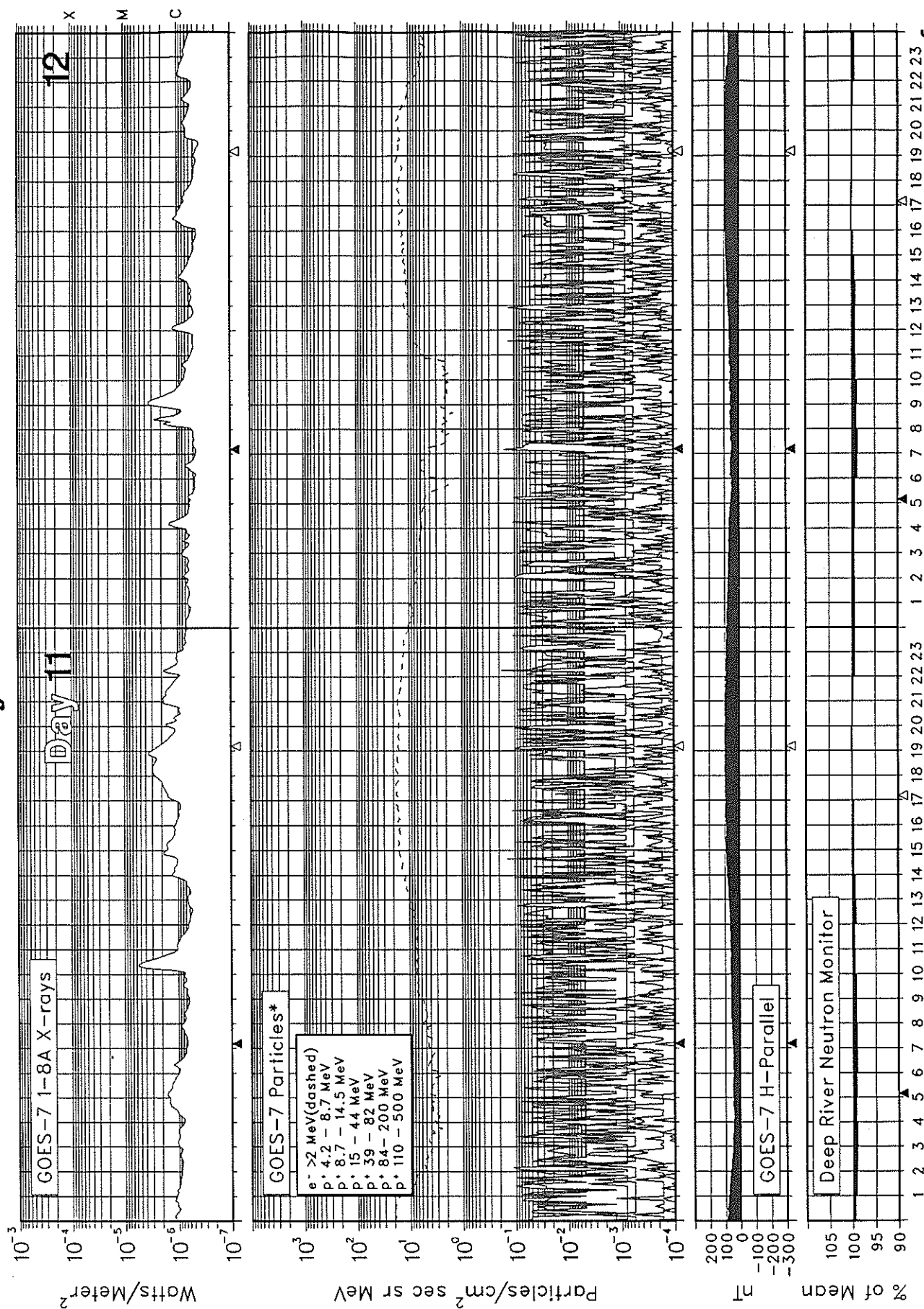
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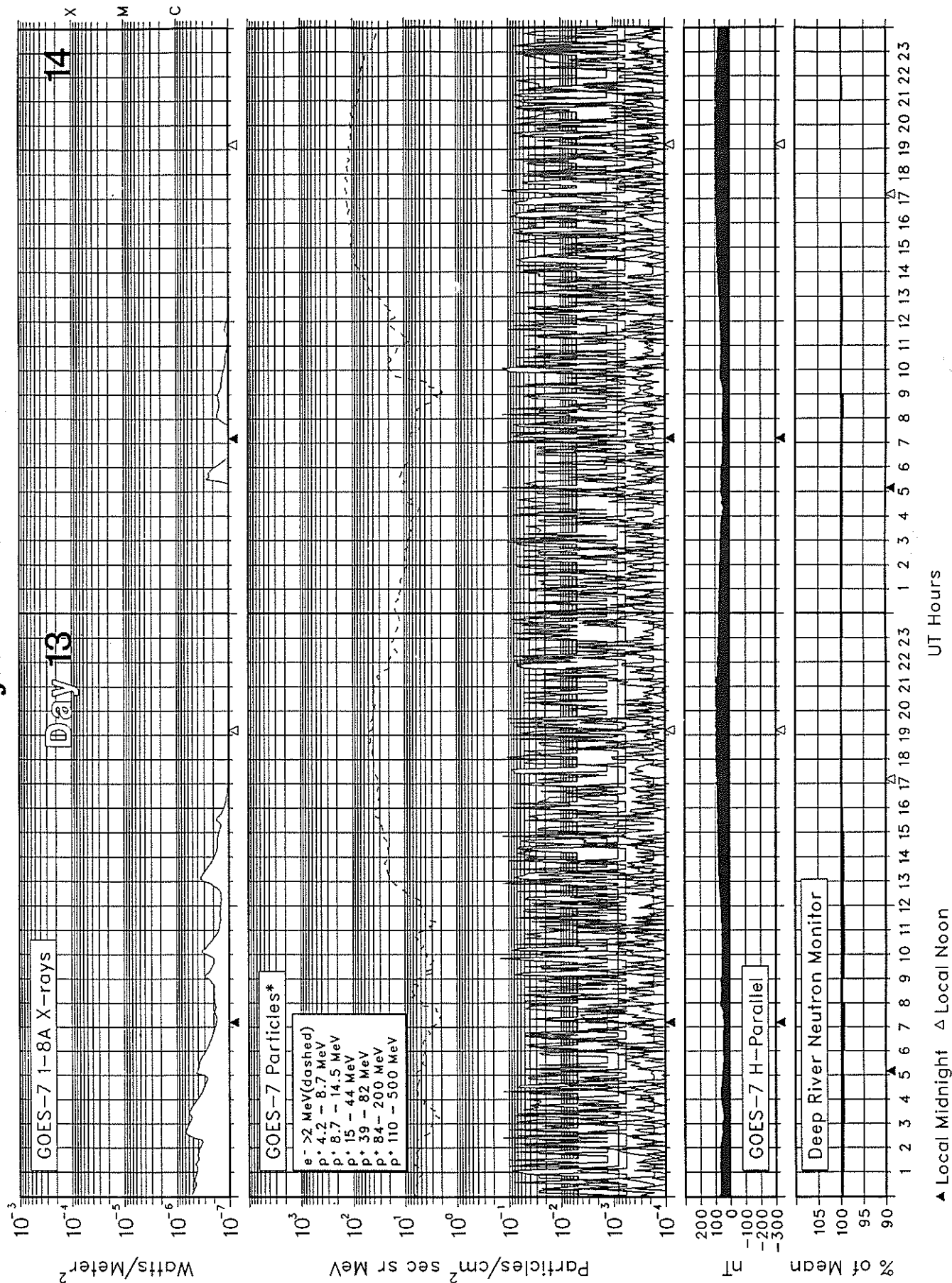


▲ Local Midnight Δ Local Noon

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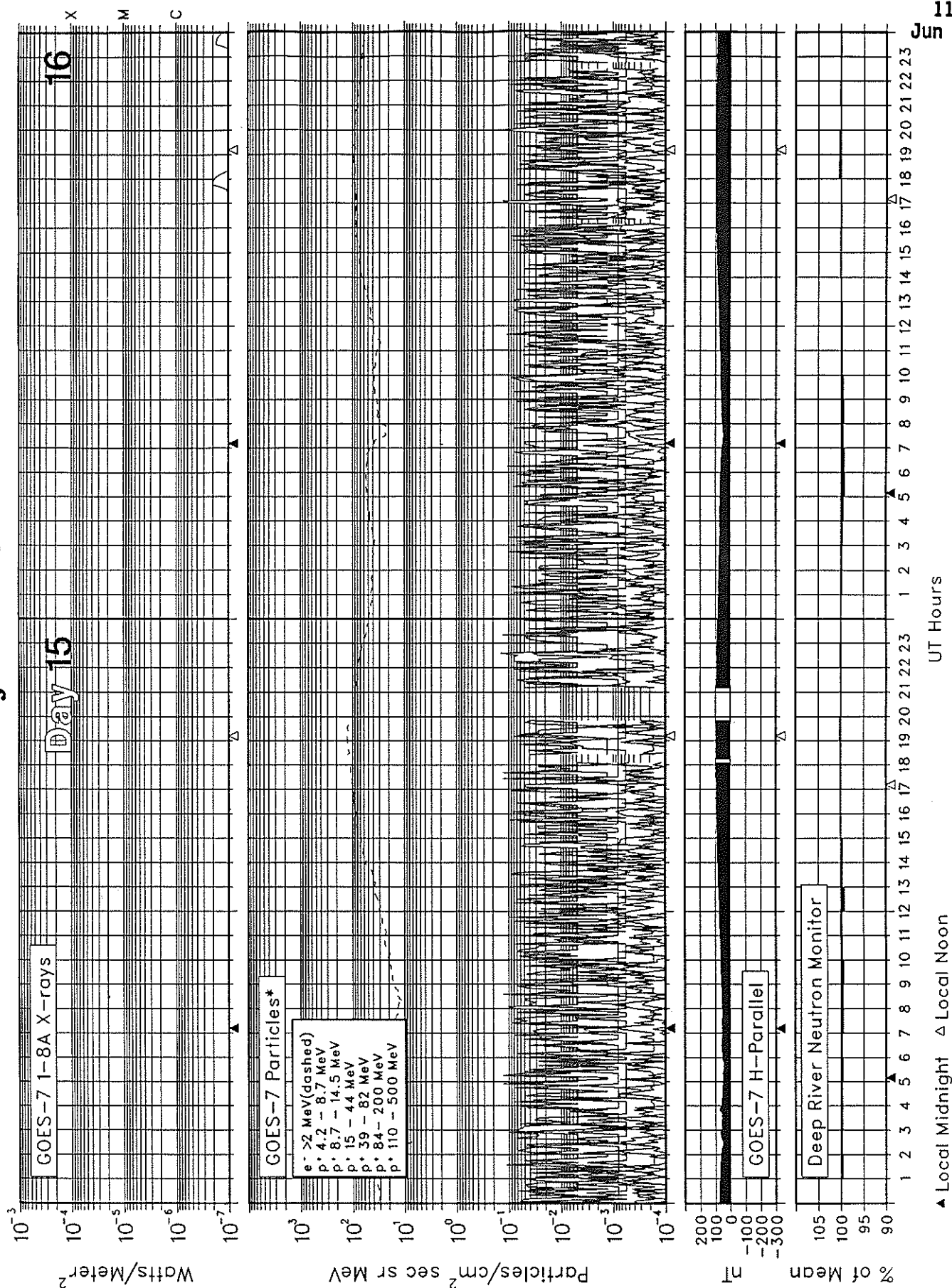
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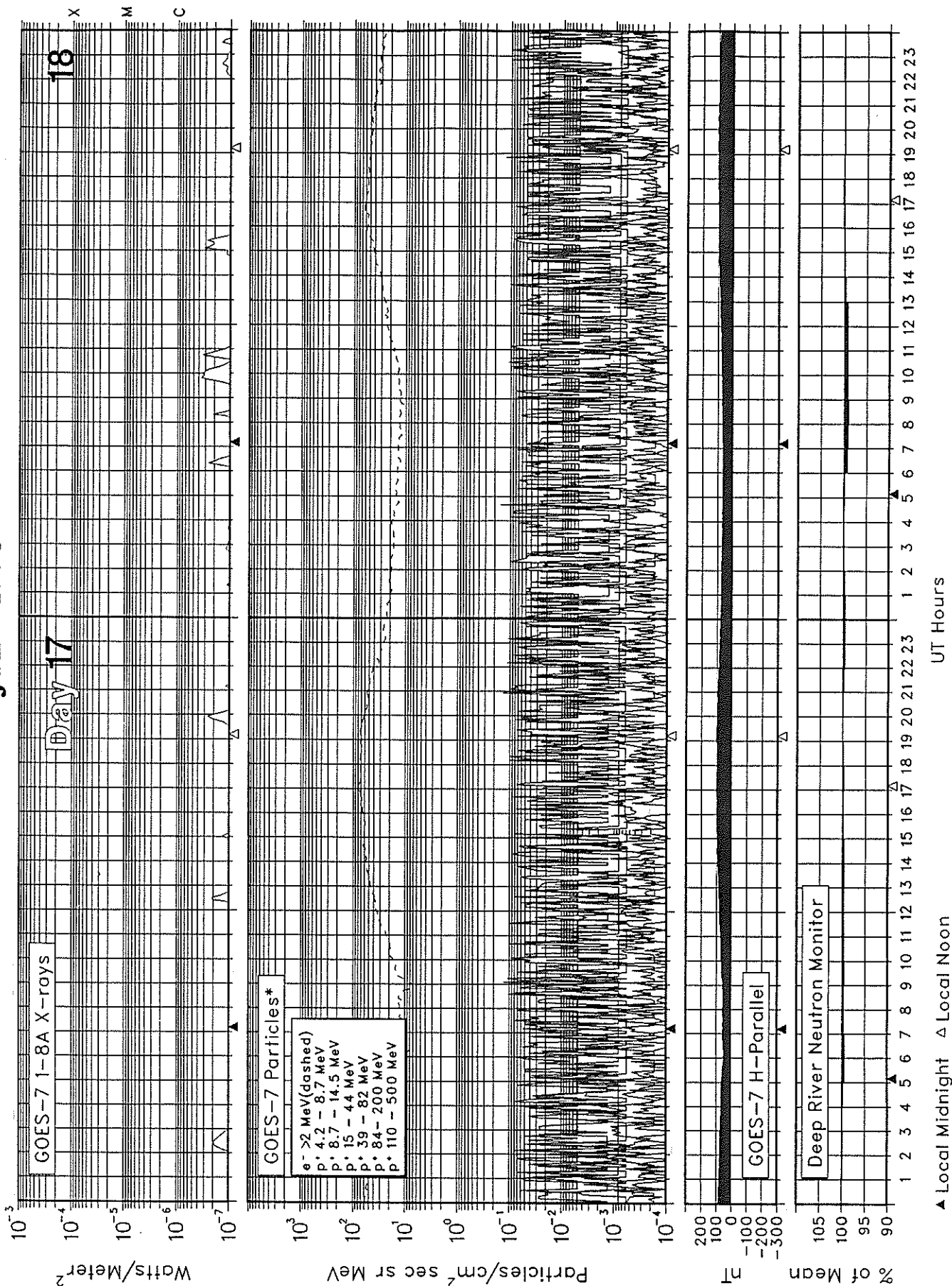
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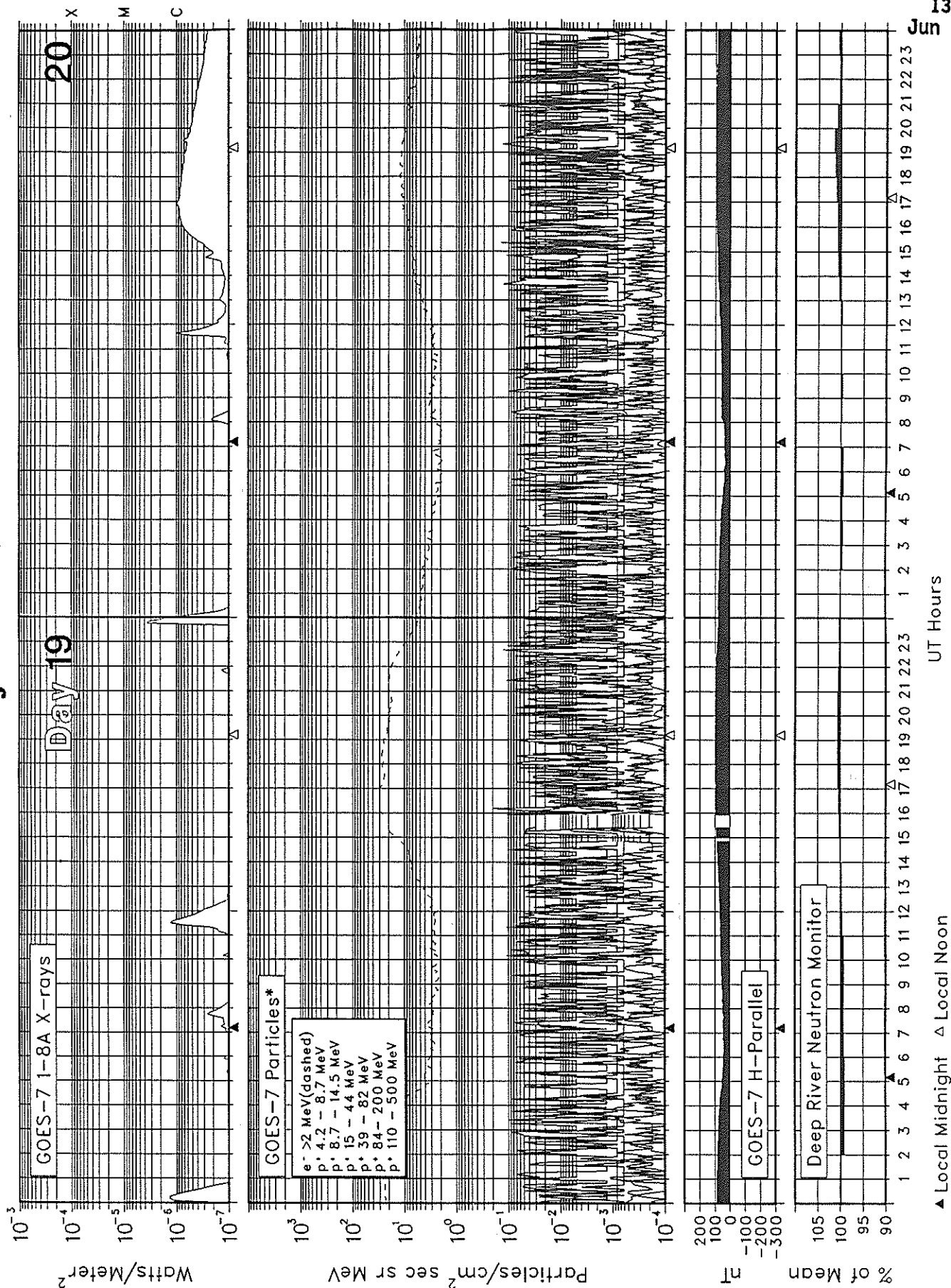
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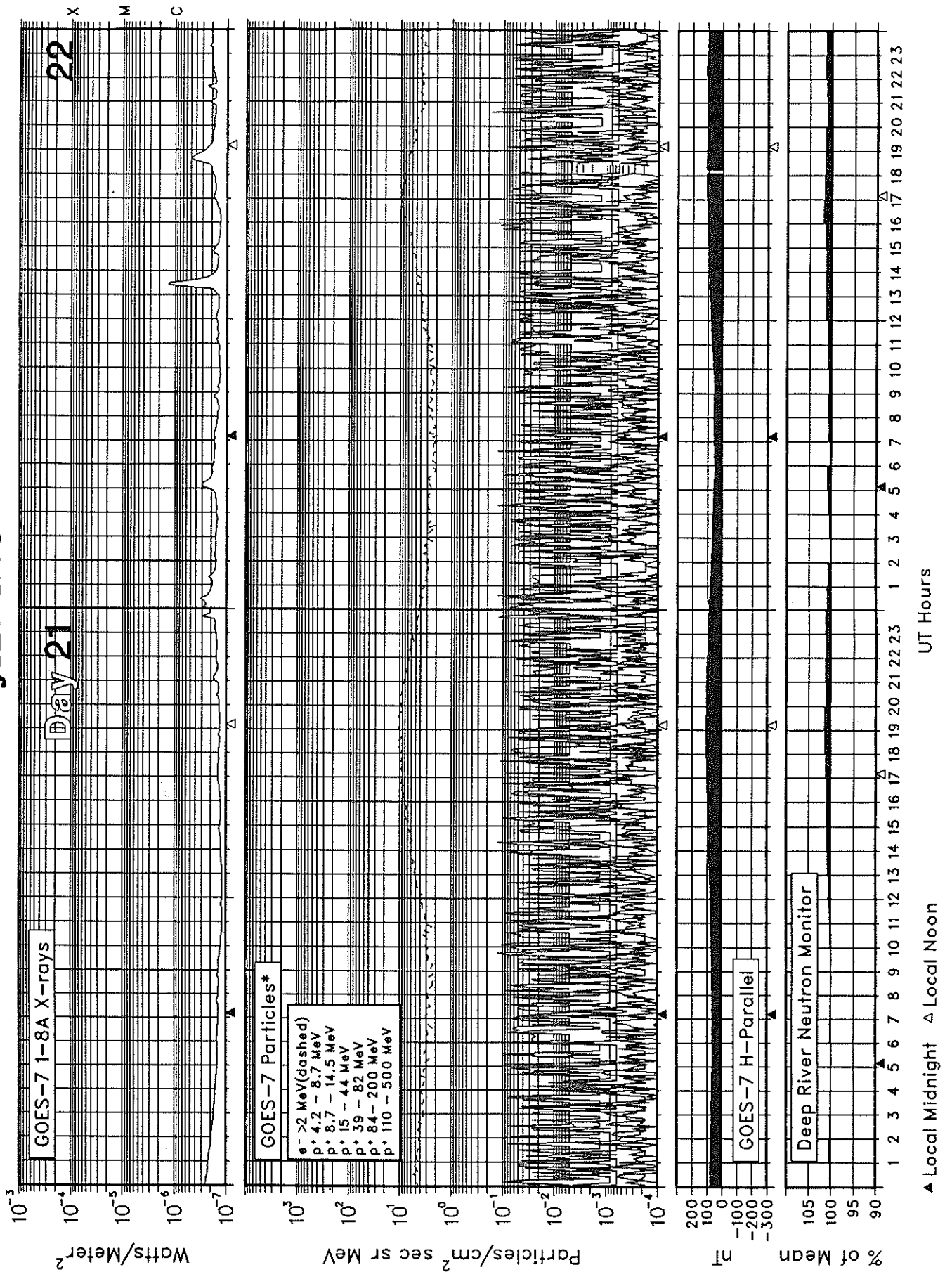
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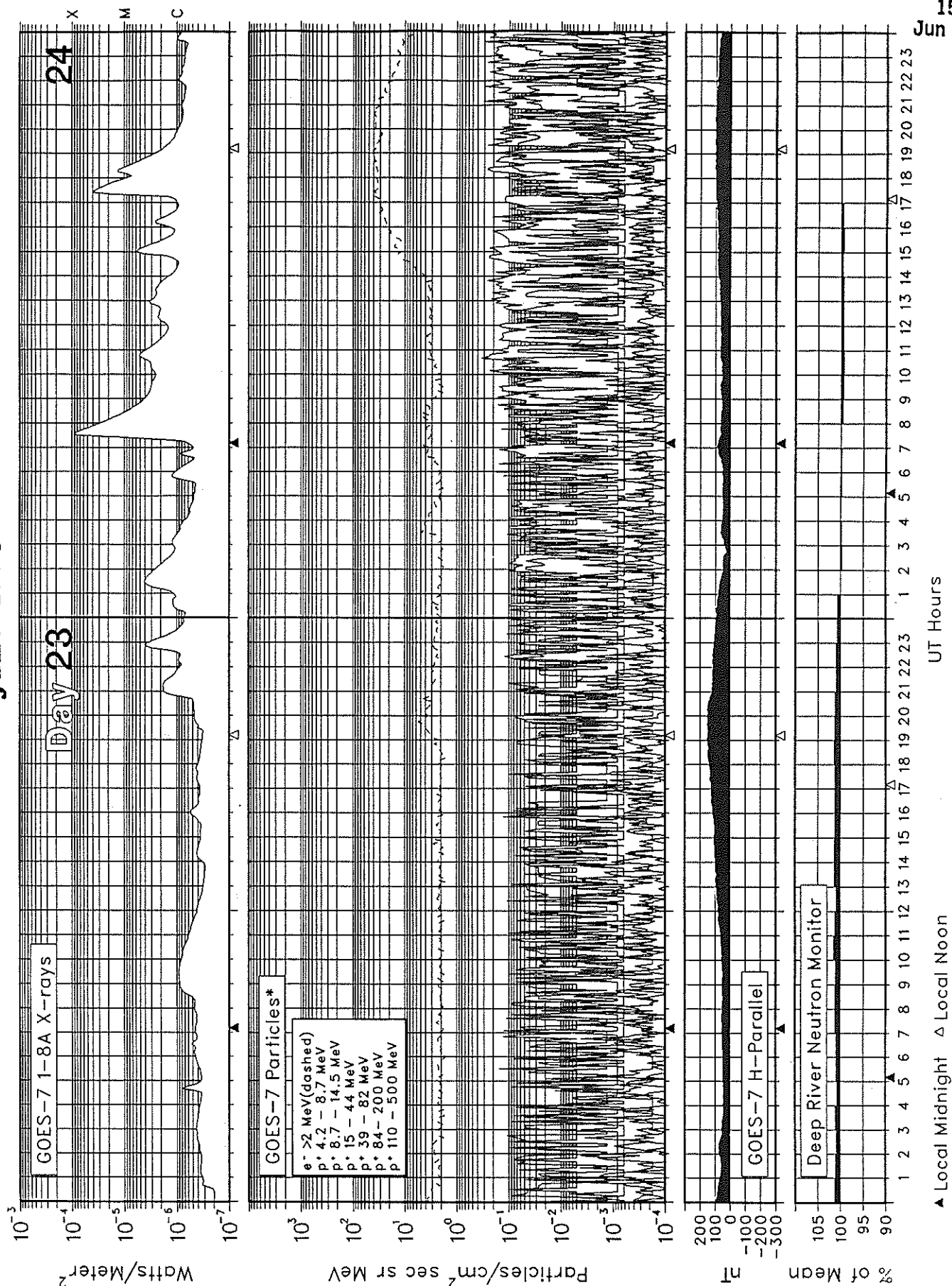
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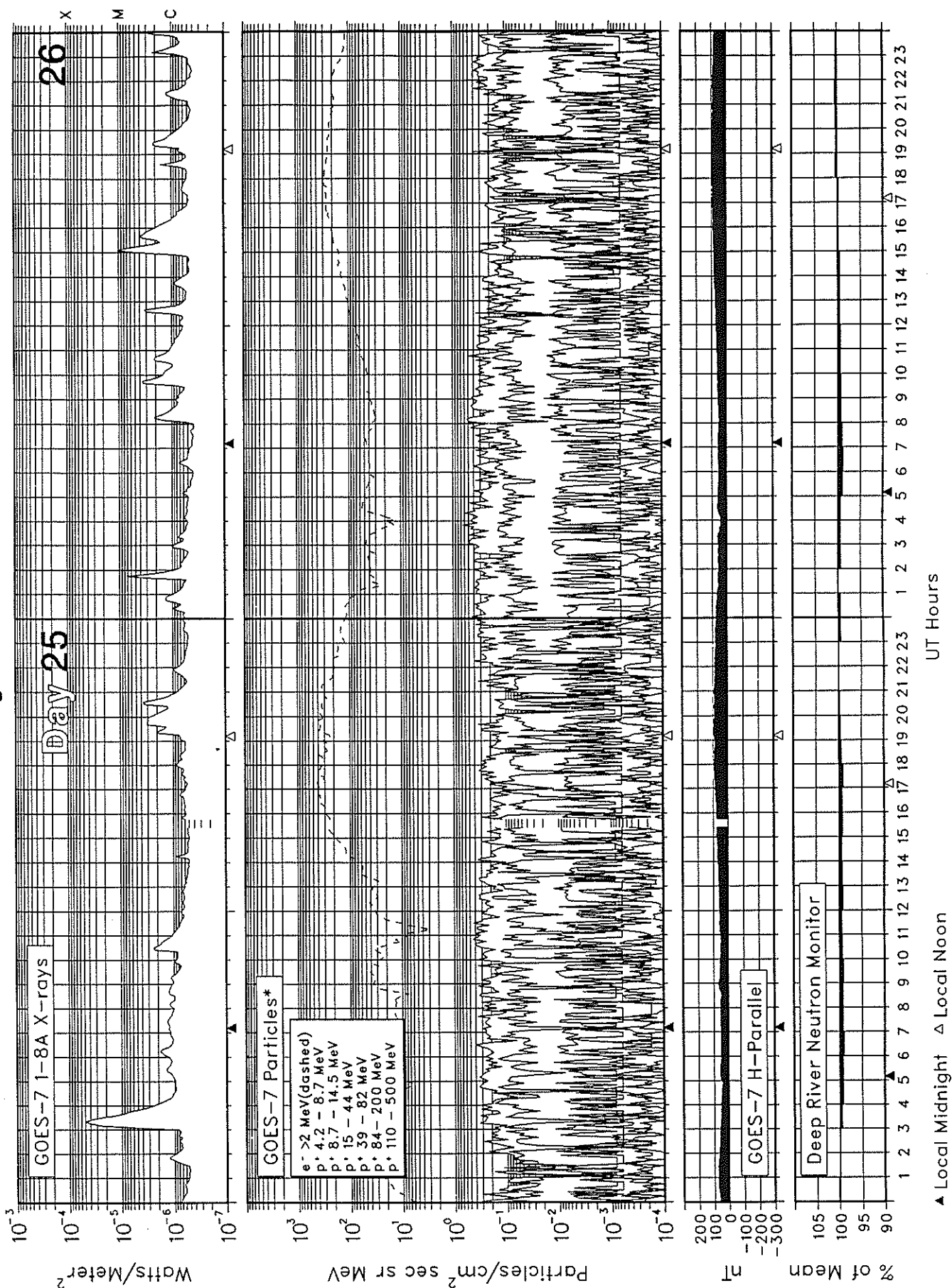
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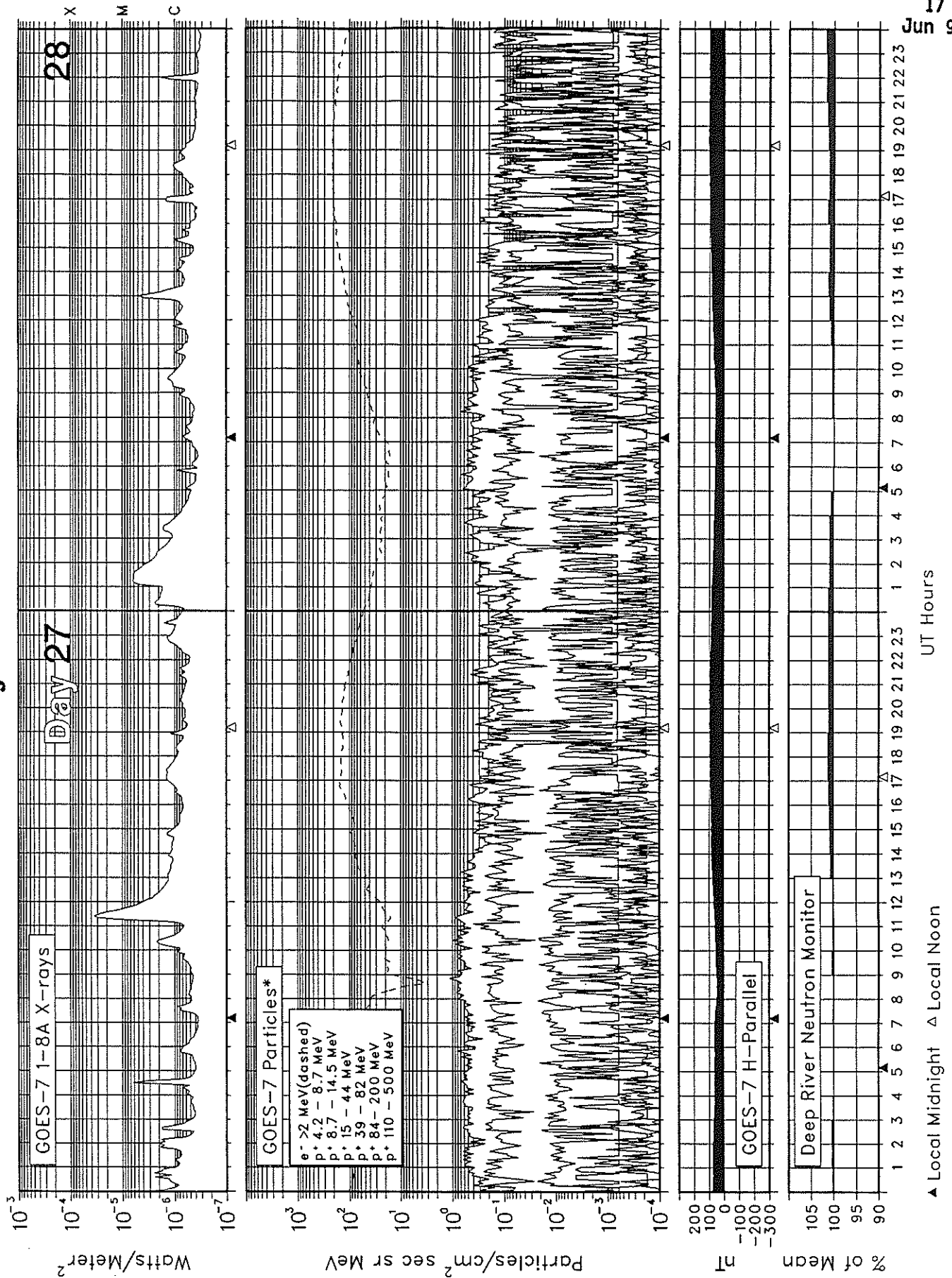
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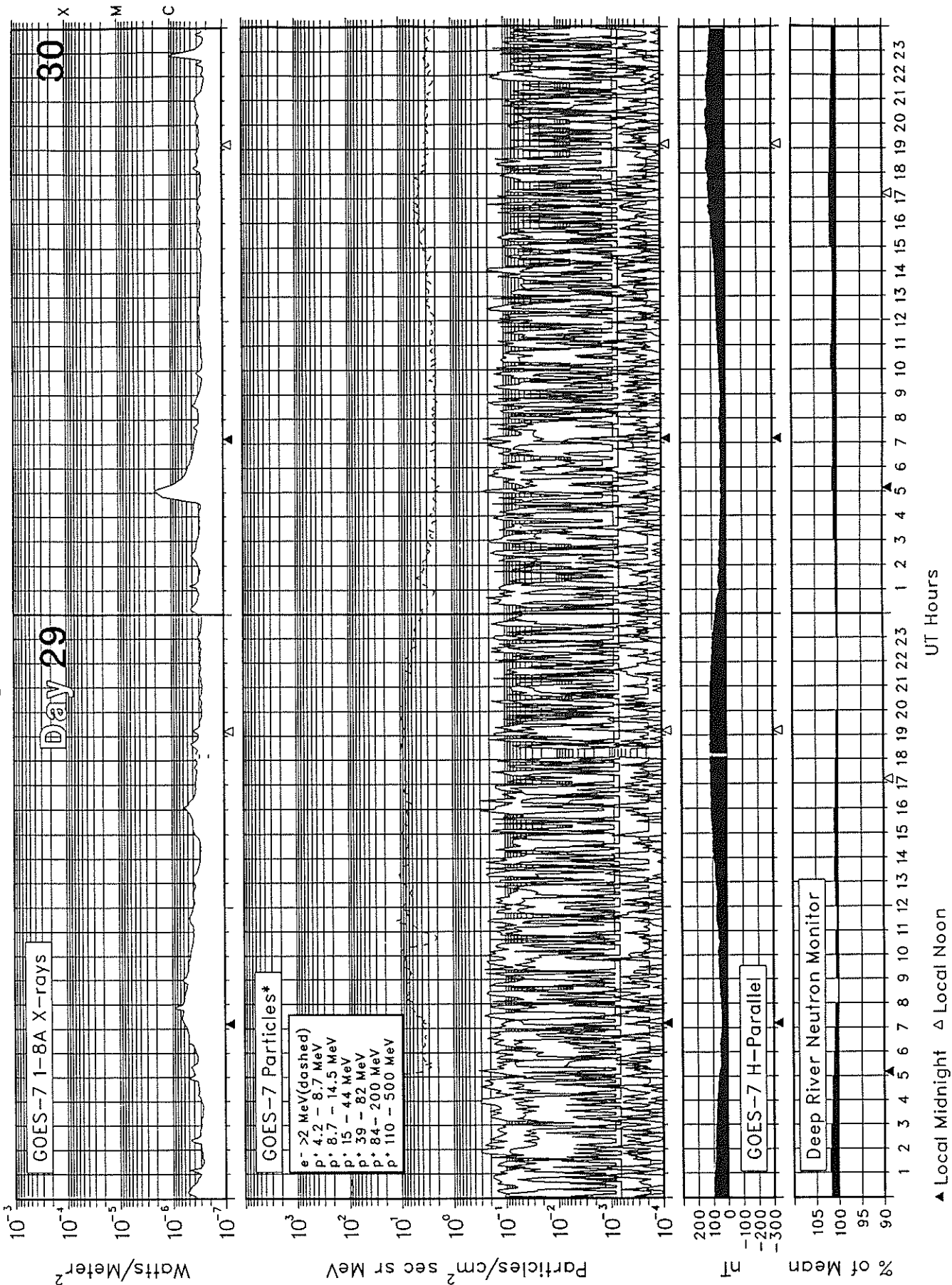
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ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

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Summary of the Geoalert Messages

JUNE 1993

Julian Day	Date of Issue	Date of Observation	Wolf No.	10-cm Solar Flux	A- index	Location		Flares			Date of Forecast	Region Forecast ¹	Geoadvice ¹
						°Lat	°Long	Total	M	X			
152	01	31	132	138	5	N08	W30	0	0	0	01	Q	SOL: Eruptive MAG: Quiet PROTON: Quiet
						N17	W10	1	0	0	01	Q	
						N15	W03	0	0	0	01	E	
						N08	E26	0	0	0	01	Q	
						S09	E59	1	0	0	01	Q	
						N04	E74	0	0	0	01	Q	
153	02	01	140	137	4	N08	W44	0	0	0	02	Q	SOL: Eruptive MAG: Quiet PROTON: Quiet
						N17	W23	0	0	0	02	Q	
						N14	W16	12	0	0	02	E	
						N08	E10	1	0	0	02	Q	
						S10	E45	3	0	0	02	Q	
						N04	E63	3	0	0	02	Q	
154	03	02	133	139	5	N09	W57	0	0	0	03	Q	SOL: Eruptive MAG: Quiet PROTON: Quiet
						N17	W35	0	0	0	03	Q	
						N15	W29	5	0	0	03	E	
						N09	W02	0	0	0	03	Q	
						S09	E32	3	0	0	03	Q	
						N05	E51	0	0	0	03	Q	
155	04	03	138	136	15	N17	W49	6	1	0	04	Q	SOL: Eruptive MAG: Quiet PROTON: Quiet
						N15	W43	0	0	0	04	E	
						N10	W16	1	0	0	04	Q	
						S10	E19	7	0	0	04	Q	
						N05	E37	0	0	0	04	Q	
						S09	W13	0	0	0	04	Q	
156	05	04	119	130	37	N12	E18	0	0	0	04	Q	SOL: Eruptive MAG: Active PROTON: Quiet
						N16	W62	1	0	0	05	Q	
						N14	W58	2	0	0	05	E	
						N10	W30	2	0	0	05	Q	
						S10	E05	1	0	0	05	E	
						N06	E24	4	0	0	05	Q	
157	06	05	104	134	37	N12	E05	0	0	0	05	Q	SOL: Eruptive MAG: Active PROTON: Quiet
						N12	W71	1	0	0	06	Q	
						N14	W69	1	0	0	06	E	
						N09	W43	1	0	0	06	Q	
						S09	W08	5	0	0	06	E	
						N06	E10	2	0	0	06	Q	
158	07	06	110	128	15	N11	W10	0	0	0	06	Q	SOL: Eruptive MAG: Active PROTON: Quiet
						N14	W84	1	0	0	07	E	
						N10	W56	0	0	0	07	Q	
						S09	W21	11	0	0	07	E	
						N05	W03	0	0	0	07	Q	
						N22	E70	0	0	0	07	Q	
159	08	07	089	112	16	N09	W69	0	0	0	08	Q	SOL: Eruptive MAG: Quiet PROTON: Warning
						S09	W35	8	1	0	08	E	
						N06	W15	2	0	0	08	Q	
						N23	E57	0	0	0	08	Q	
160	09	08	063	112	10	S10	W49	9	0	0	09	E	SOL: Eruptive MAG: Quiet PROTON: Quiet
						N06	W33	2	0	0	09	Q	
						N23	E44	1	0	0	09	Q	
161	10	09	062	115	6	S10	W63	12	1	0	10	E	SOL: Eruptive MAG: Active PROTON: Quiet
						N06	W47	0	0	0	10	Q	
						N22	E30	1	0	0	10	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages

JUNE 1993

Julian Day	Date of Issue	Date of Observation	Wolf No.	10-cm Solar Flux	A- index	Location		Flares			Date of Forecast	Region Forecast ¹	Geo advice ¹
						°Lat	°Long	Total	M	X			
162	11	10	061	113	19	S10	W75	9	1	0	11	E	SOL: Active
						N06	W61	0	0	0	11	Q	MAG: Minor
						N22	E18	0	0	0	11	Q	PROTON: Quiet
163	12	11	044	102	9	S11	W85	3	0	0	12	E	SOL: Eruptive
						N06	W73	0	0	0	12	Q	MAG: Quiet
						N22	E06	2	0	0	12	Q	PROTON: Quiet
164	13	12	033	093	14	N06	W84	0	0	0	13	Q	SOL: Quiet
						N22	W09	1	0	0	13	Q	MAG: Quiet
						N13	E62	1	0	0	13	Q	PROTON: Quiet
165	14	13	024	087	12	N22	W19	1	0	0	14	Q	SOL: Quiet
						N11	E50	0	0	0	14	Q	MAG: Quiet
						N13	E62	1	0	0	14	Q	PROTON: Quiet
166	15	14	011	084	11	N21	W34	1	0	0	15	Q	SOL: Quiet
						N11	E50	0	0	0	15	Q	MAG: Quiet
						N13	E62	1	0	0	15	Q	PROTON: Quiet
167	16	15	011	082	7	N21	W47	0	0	0	16	Q	SOL: Quiet
						N11	E50	0	0	0	16	Q	MAG: Quiet
						N13	E62	1	0	0	16	Q	PROTON: Quiet
168	17	16	011	082	2	N21	W59	0	0	0	17	Q	SOL: Quiet
						N11	E50	0	0	0	17	Q	MAG: Quiet
						N13	E62	1	0	0	17	Q	PROTON: Quiet
169	18	17	024	083	3	N21	W72	0	0	0	18	Q	SOL: Quiet
						N10	W03	0	0	0	18	Q	MAG: Quiet
						N13	E62	1	0	0	18	Q	PROTON: Quiet
170	19	18	011	085	2	N22	W86	0	0	0	19	Q	SOL: Quiet
						N10	W03	0	0	0	19	Q	MAG: Quiet
						N13	E62	1	0	0	19	Q	PROTON: Quiet
171	20	19	025	086	3	N07	W28	0	0	0	20	Q	SOL: Quiet
						N10	E63	4	0	0	20	E	MAG: Quiet
						N13	E62	1	0	0	20	Q	PROTON: Quiet
172	21	20	032	091	3	S17	W23	2	0	0	21	E	SOL: Eruptive
						N13	W25	0	0	0	21	Q	MAG: Quiet
						N13	E62	1	0	0	21	Q	PROTON: Quiet
173	22	21	048	091	1	S17	W37	1	0	0	22	Q	SOL: Eruptive
						N12	W38	0	0	0	22	Q	MAG: Quiet
						N10	E25	0	0	0	22	Q	PROTON: Quiet
174	23	22	045	097	2	S17	W48	2	0	0	23	E	SOL: Eruptive
						N09	E14	0	0	0	23	Q	MAG: Active
						N04	E21	0	0	0	23	Q	PROTON: Quiet
175	24	23	066	109	12	S17	W60	1	0	0	24	Q	SOL: Quiet
						N09	W00	0	0	0	24	Q	MAG: Active
						N03	E07	0	0	0	24	E	PROTON: Quiet
						S12	E66	0	0	0	24	Q	
176	25	24	066	121	23	S17	W75	0	0	0	25	Q	SOL: Active
						N10	W15	0	0	0	25	Q	MAG: Active
						N03	W07	2	0	0	25	E	PROTON: Quiet
						S13	E53	1	1	0	25	A	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

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Summary of the Geoalert Messages

JUNE 1993

Julian Day	Date of Issue	Date of Observation	Wolf No.	10-cm Solar Flux	A- index	Location		Flares			Date of Forecast	Region Forecast ¹	Geoadvice ¹
						° Lat	° Long	Total	M	X			
177	26	25	076	119	17	S17	W87	0	0	0	26	Q	SOL: Active MAG: Active PROTON: Quiet
						N09	W28	0	0	0	26	Q	
						N02	W20	2	0	0	26	E	
						S13	E40	0	0	0	26	E	
						S09	E70	6	0	0	26	A	
178	27	26	088	122	10	N02	W34	0	0	0	27	Q	SOL: Active MAG: Quiet PROTON: Quiet
						S12	E27	2	0	0	27	E	
						S11	E56	9	2	0	27	A	
						N01	W17	0	0	0	27	Q	
						N09	W23	0	0	0	27	Q	
179	28	27	100	128	6	N01	W48	0	0	0	28	Q	SOL: Active MAG: Quiet PROTON: Quiet
						S14	E15	2	0	0	28	E	
						S12	E44	14	1	0	28	A	
						S00	W31	0	0	0	28	Q	
						N20	W02	0	0	0	28	Q	
180	29	28	111	124	4	N02	W60	8	0	0	29	E	SOL: Active MAG: Quiet PROTON: Quiet
						S13	E02	4	0	0	29	E	
						S12	E32	6	0	0	29	A	
						S15	E49	2	0	0	29	E	
						N02	E55	1	0	0	29	E	
181	30	29	116	123	10	N03	W74	1	0	0	30	Q	SOL: Active MAG: Quiet PROTON: Quiet
						S12	W13	5	0	0	30	E	
						S10	E17	1	0	0	30	A	
						S13	E36	0	0	0	30	Q	
						N03	E42	0	0	0	30	Q	
						S07	E07	0	0	0	30	Q	

¹ Region Forecast and Flare Geoadvice

Q =Quiet (<50% probability of C-class flares)
 E =Eruptive (C-class flares expected, probability >=50%)
 A =Active (M-class flares expected, probability >=50%)
 M =Major (X-class flares expected, probability >=50%)
 P =Proton (Proton flares expected, probability >=50%)
 Warning condition (activity levels expected to increase, but no
 numeric forecast given)
 Nil (end of Alert period)
 No forecast

Magnetic Geoadvice

Quiet
 Active conditions expected (A>=20 or K=4)
 Minor storm expected (A>=30 or K=5)
 Major magstorm expected (A>=50 or K>=6)
 Severe magstorm expected (A>=100 or K>=7)
 Magstorm in progress (A>=30 or K>=4)
 Warning condition (activity levels expected
 to increase, but no numeric forecast given)
 Nil (end of Alert period)
 No forecast

Proton Geoadvice

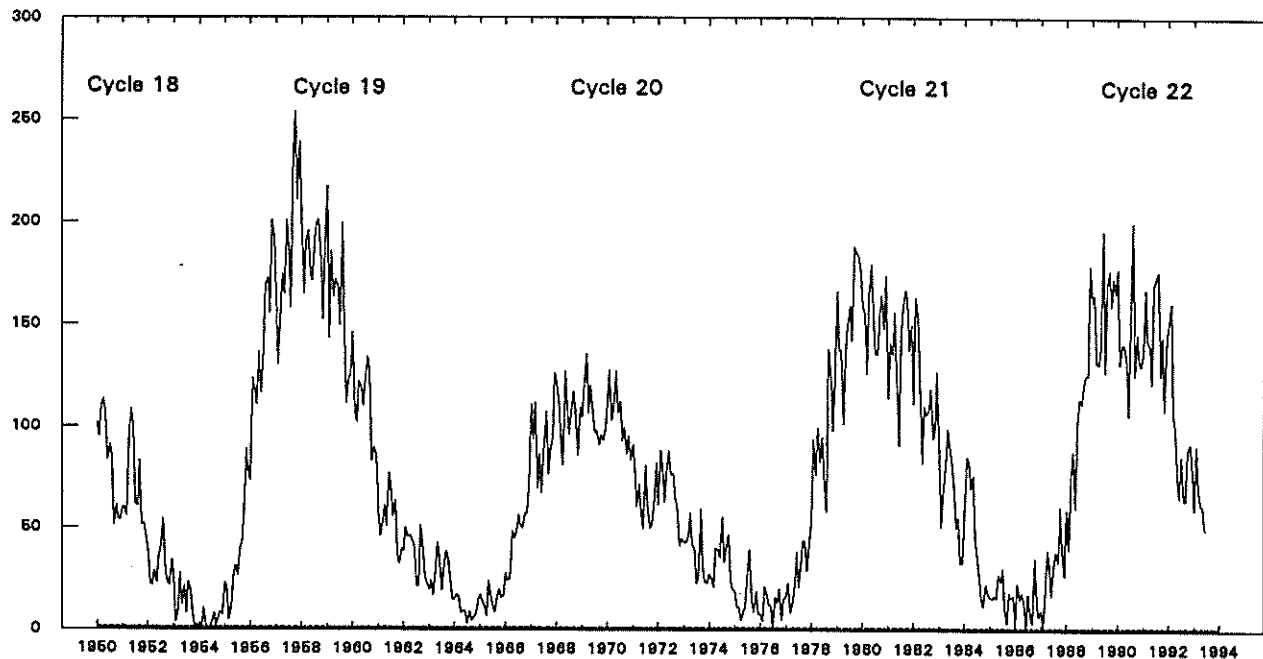
Quiet
 Proton event expected (10 pfu at >10 MeV)
 Major proton event expected (100 pfu at >100 MeV)
 Proton event in progress (>10 MeV)
 Warning condition (activity levels expected to increase, but no
 numeric forecast given)
 Nil (end of Alert period)
 No forecast

STRATWARM ALERTS

No Stratwarms this month.

Monthly Mean Sunspot Numbers Jan 1950 - Jun 1993

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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	112.3
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	19.8	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	61.9	61.2	49.1							68.6

Values are preliminary since Jan 1993. For the yearly means, each 'M' marks a sunspot cycle maximum and each 'm' a minimum.

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INTERNATIONAL RELATIVE SUNSPOT NUMBERS

Day	Jul 92	Aug	Sep	Oct	Nov	Dec	Jan 93	Feb	Mar	Apr [†]	May [†]	Jun [†]
01	78	65	47	85	104	65	46	22	76	67	33	105
02	66	90	49	98	88	56	41	34	80	67	30	102
03	63	103	44	95	68	59	38	73	84	75	42	101
04	71	103	46	105	86	59	52	85	93	67	69	82
05	78	94	47	122	95	51	71	119	105	75	80	74
06	77	89	52	113	95	48	84	121	96	89	71	83
07	79	86	44	103	96	34	81	128	93	79	74	70
08	83	93	38	88	74	63	89	134	82	81	81	55
09	102	93	57	91	76	91	94	126	85	87	87	46
10	129	74	54	73	74	99	100	114	81	74	120	47
11	133	60	59	57	84	116	91	95	86	55	125	35
12	132	53	63	41	83	109	94	97	77	37	111	18
13	126	61	77	36	62	113	96	92	67	19	85	10
14	151	82	77	43	69	115	69	82	56	15	59	8
15	161	76	75	40	70	112	58	73	60	15	51	9
16	159	96	76	54	84	109	59	88	56	15	37	10
17	140	90	62	55	100	105	62	68	60	36	32	17
18	102	71	54	73	102	98	66	80	69	49	29	13
19	88	69	63	92	108	97	68	88	72	51	13	15
20	66	59	62	75	98	97	52	97	70	89	33	21
21	65	48	65	98	85	84	47	92	78	98	27	25
22	67	44	66	104	95	91	34	100	73	93	20	27
23	54	36	89	95	115	79	30	101	63	96	23	51
24	43	38	90	114	122	78	45	90	42	98	33	50
25	37	20	75	113	125	81	51	88	40	88	53	55
26	54	30	84	125	116	90	37	86	46	50	66	62
27	61	34	86	138	116	73	43	86	51	62	59	67
28	53	33	62	131	99	86	37	88	51	51	74	69
29	39	40	72	111	92	78	35		54	41	88	75
30	47	35	81	100	74	69	36		58	38	97	70
31	53	36		82		56	32		61		96	
Mean	85.7	64.5	63.9	88.7	91.8	82.6	59.3	91.0	69.8	61.9	61.2	49.1

[†]=preliminary. The yearly mean sunspot number equals 94.3 for 1992.

Dominion Radio Observatory PENTICTON 2800 MHz (10.7 cm) SOLAR FLUX Adjusted to 1 AU

Day	Jul 92	Aug	Sep	Oct	Nov	Dec	Jan 93	Feb	Mar	Apr	May	Jun
01	134.1	113.6	101.6	118.2	144.8	127.1	118.3	121.5	129.6	123.5	104.2	140.4
02	141.2	128.2	106.3	119.5	138.8	126.0	117.4	124.7	141.0	120.7	104.7	143.4
03	141.1	135.1	108.9	120.2	132.9	121.3	120.6	133.0	148.6	117.0	108.9	140.4
04	141.3	134.7	106.4	126.1	140.4	115.9	117.1	143.2	163.8	116.4	112.4	133.7
05	150.6	134.3	121.2	130.1	133.6	112.4	120.8	155.6	162.5	118.9	120.0	137.7
06	155.4	141.9	141.3	137.3	130.5	115.9	125.8	178.8	164.0	133.1	122.2	131.3
07	159.9	145.4	133.6	135.8	132.4	116.1	126.3	171.2	150.9	130.0	133.0	115.7
08	156.6	147.5	130.8	125.4	129.7	124.8	128.6	183.4	144.3	143.5	131.2	115.2
09	165.0	141.1	118.5	121.0	129.9	129.6	124.5	180.3	140.6	136.0	131.5	118.9
10	175.7	136.3	118.4	112.1	133.7	137.5	127.7	175.0	146.7	139.2	136.8	116.0
11	173.9	133.9	120.1	110.0	132.0	159.0	127.4	168.8	148.0	119.4	134.7	104.9
12	177.8	131.7	118.7	106.5	124.7	163.1	135.6	144.9	158.7	103.7	129.0	96.2
13	181.4	132.3	128.8	108.2	122.2	167.6	136.6	131.7	139.9	97.7	122.4	89.4
14	181.3	132.0	123.1	104.9	123.4	161.8	128.8	137.9	134.2	92.8	114.6	86.4
15	173.3	133.8	121.5	97.8	124.1	150.4	121.9	131.6	129.7	88.8	106.7	84.6
16	162.8	140.0	127.9	99.9	133.7	145.8	129.1	130.5	120.5	90.0	101.1	85.0
17	140.4	137.1	120.6	105.8	148.9	145.5	121.9	121.4	122.4	96.5	98.4	86.1
18	130.2	132.7	118.5	111.4	158.2L	144.9	117.7	123.2	126.2	106.6	93.5	87.4
19	122.3	138.0	113.4	123.4	157.1	142.2	112.7	113.4	133.4	111.9	93.1	88.8
20	127.5	159.1	107.1	131.9	155.0	143.2	106.5	120.6	127.0	119.9	93.4	94.1
21	111.8	127.8	110.4	139.2	161.3K	140.8	103.3	120.3	129.7	120.5	93.3	94.0
22	107.7	124.4	112.3	149.2	162.0	137.6	101.0	130.3	126.6	118.4	94.1	99.8
23	101.9	113.2	112.6	140.3	171.7	139.3	102.7	129.6	120.1	122.9	97.3	113.1
24	103.2	104.0	112.6	145.1	169.4	132.0	101.6	132.7	114.4	130.3	100.9	125.4
25	101.5	100.1	116.5	159.4	162.4	132.0	102.6	125.5	116.0	126.2	102.4	122.6
26	104.3	94.4	117.3	167.9	158.2	127.2	103.3	123.8	116.4	125.0	110.4	126.0
27	103.4	95.8	121.6	168.9	152.6	121.2	107.6	121.6	122.4	119.6	122.7	131.7
28	98.5	97.6	116.6	172.3	144.7	123.4	108.6	121.4	125.8	115.2	129.2	127.8
29	101.1	97.1	117.7	161.6	136.0	121.3	110.7		128.3	108.1	132.5	126.7
30	99.9	96.6	116.2	225.8*	135.9	121.9	109.6		128.7	107.4	144.1	120.3
31	106.3	99.0		147.3		125.8	115.6		124.9		142.1	
Mean	136.5	125.1	118.0	130.0*	142.0	134.6	117.2	139.1	135.0	116.7	114.9	112.8

* = corrected for burst in progress; K = wet snow on antenna (2300 UT measurement); L = value enhanced by burst

DAILY SOLAR INDICES

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Jun 93

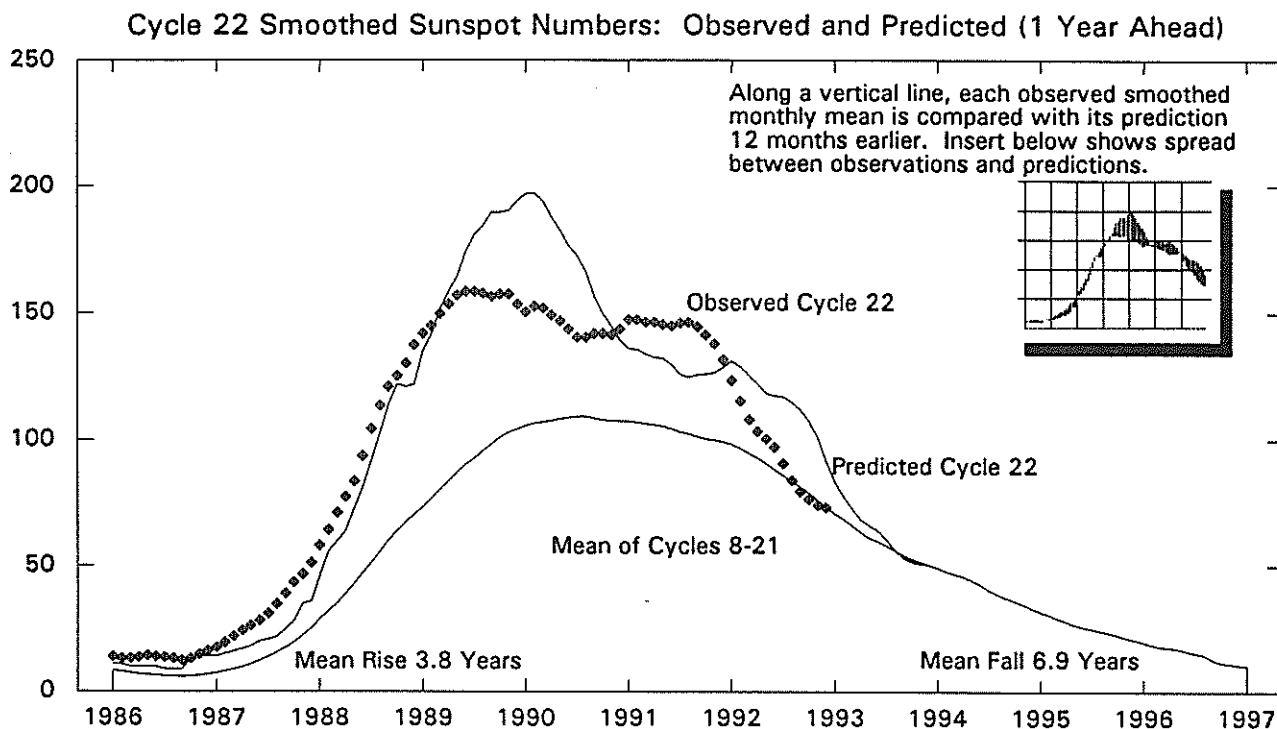
June 1993

Day	Day of Year	Bartels Cycle Day	Sunspot Numbers		Obs Flux Pentiction (2800)	Solar Flux Adjusted to 1 Astronomical Unit								
			Int	Amer		LEAR (15400)	LEAR (8800)	LEAR (4995)	Pentic (2800)	LEAR (2695)	LEAR (1415)	LEAR (610)	LEAR (410)	LEAR (245)
01	152	5	105	99	136.6	532	259	182	140.4	135	99	64	36	--
02	153	6	102	98	139.4	530	263	192	143.4	139	97	61	33	17
03	154	7	101	97	136.4	545	265	191	140.4	138	96	67	32	15
04	155	8	82	83	129.9	---	---	---	133.7	---	---	---	---	---
05	156	9	74	76	133.8	544	251	173	137.7	127	91	55	31	27
06	157	10	83	84	127.5	526	254	176	131.3	128	91	60	35	18
07	158	11	70	66	112.3	---	234	168	115.7	120	83	56	29	--
08	159	12	55	56	111.8	531	245	170	115.2	118	88	54	31	15
09	160	13	46	49	115.4	547	245	174	118.9	116	81	51	29	15
10	161	14	47	47	112.6	543	256	167	116.0	108	75	50	29	16
11	162	15	35	36	101.8	541	255	165	104.9	108	76	50	30	16
12	163	16	18	18	93.3	531	241	150	96.2	97	69	49	29	--
13	164	17	10	14	86.6	530	235	141	89.4	90	67	47	29	15
14	165	18	8	10	83.7	523	230	134	86.4	81	61	47	28	15
15	166	19	9	10	82.0	524	229	133	84.6	83	64	47	28	14
16	167	20	10	11	82.3	517	213	128	85.0	80	60	45	28	14
17	168	21	17	16	83.4	525	226	130	86.1	82	60	47	29	14
18	169	22	13	11	84.7	520	224	132	87.4	83	63	48	29	15
19	170	23	15	15	86.0	524	222	132	88.8	86	64	49	29	16
20	171	24	21	21	91.2	531	231	137	94.1	88	68	49	28	15
21	172	25	25	28	91.0	532	231	140	94.0	91	73	51	30	16
22	173	26	27	31	96.6	522	234	---	99.8	96	72	60	31	16
23	174	27	51	50	109.4	524	239	153	113.1	100	73	66	30	17
24	175	1	50	50	121.4	538	250	166	125.4	113	85	50	41	--
25	176	2	55	57	118.7	535	249	170	122.6	116	87	59	36	29
26	177	3	62	61	122.0	536	253	171	126.0	118	88	60	34	17
27	178	4	67	69	127.5	538	253	177	131.7	125	91	61	35	21
28	179	5	69	76	123.7	550	262	183	127.8	131	93	71	35	19
29	180	6	75	77	122.6	545	255	173	126.7	122	91	63	34	20
30	181	7	70	70	116.4	541	249	171	120.3	118	90	60	34	18
Mean			49.1	49.5	109.3	533	243	160	112.8	108	79	55	31	17

The International numbers shown above are preliminary values; the American numbers are final.

The observed and the adjusted Pentiction fluxes tabulated here are the "Series C" daily values reported by the Dominion Radio Astrophysical Observatory, Pentiction, British Columbia, Canada. Numbers in parentheses in the column headings denote frequencies in MHz.

Equipment problems produced any gaps in the Air Weather Service's Learmonth (LEAR) observations.



Smoothed Sunspot Numbers (Observed and Predicted) for Parts of Solar Cycles 21 and 22

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
1987	18	20	22	24	26	28	31	35	39	44	47	51	32
1988	58	65	71	78	84	94	104	114	121	125	130	138	98
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	66	64	61	60	58	56	54	53	52	50	60
()	(2)	(4)	(6)	(8)	(9)	(10)	(11)	(13)	(15)	(16)	(18)	(19)	(12)
1994	49	48	47	46	44	43	40	38	37	36	35	33	41
()	(20)	(21)	(21)	(22)	(22)	(22)	(23)	(24)	(25)	(25)	(26)	(26)	(23)
1995	32	30	29	28	27	26	25	24	23	22	21	21	26
()	(25)	(25)	(24)	(24)	(23)	(23)	(23)	(23)	(22)	(20)	(19)	(19)	(23)

Solar Cycle 21
 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 Mar 1993 and on provisional numbers thereafter. Table entries with numbers in parentheses below them denote predictions by the McNish-Lincoln method. (See page 9 in the Jul 1987 supplement to *Solar-Geophysical Data*.) Adding the number in parentheses to the predicted value generates the upper limit of the 90% confidence interval. Subtracting the number from the predicted value generates the lower limit. Consider, for example, the December 1993 prediction. There exists a 90% chance that in December 1993 the actual smoothed number will fall somewhere between 32 and 70.

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.

H α SOLAR FLARES

JUNE 1993

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur Day (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
														Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
GOES	01	0439	0449	0501					22				C 4.0				
SVTO		0522	0522	0527	N14	W07	7515	05	31.7	5	SF	3	E		10		
SVTO		0540	0542	0551	N13	W06	7515	05	31.8	11	SF	3	E		13		F
SVTO		0654	0657	0719	N10	E23	7517	06	3.0	25	SF	3	E		15		F
SVTO		0955	0956	1007	N17	W12	7515	05	31.5	12	SF	B 7.4	3	E	16		
SVTO		1019	1027	1038	N14	W08	7515	05	31.8	19	SF	3	E		32		F
SVTO		1105	1109	1114	N02	E70	7519	06	6.7	9	SF	3	E		25		F
RAMY		1215	1219	1224	S10	E55	7518	06	5.6	9	SF	3	E		48		F
RAMY		1250	1255	1257	N14	W11	7515	05	31.7	7	SF	3	E		20		F
RAMY		1255	1257	1303	S11	E53	7518	06	5.5	8	SF	3	E		28		F
GOES		1311	1315	1319					8				B 6.5				
SVTO		1314	1334	1423	N14	W09	7515	05	31.9	69	SF	3	E		56		FE
SVTO		1439	1442	1449	N05	E73	7519	06	7.1	10	SF	3	E		20		
SVTO		1608	1609	1618	N14	W10	7515	05	31.9	10	SF	B 9.7	3	E	27		
HOLL		1819	1821	1826	N14	W11	7515	05	31.9	7	SF	3	E		13		
HOLL		1825	1827	1833	N03	E72	7519	06	7.1	8	SF	3	E		29		F
RAMY		1846	1847	1850	N14	W12	7515	05	31.9	4	SF	3	E		33		F
HOLL		1847	1847	1850	N14	W12	7515	05	31.9	3	SF	3	E		19		
RAMY		2002	2003	2012	N14	W12	7515	05	31.9	10	SF	C 1.7	3	E	36		F
HOLL		2002	2004	2012	N14	W12	7515	05	31.9	10	SN	C 1.7	3	E	78		F
GOES		2109	2112	2116					7				B 8.3				
HOLL		2128	2130	2135	S12	E46	7518	06	5.3	7	SF	3	E		35		
HOLL		2151	2151	2156	N14	W14	7515	05	31.8	5	SF	3	E		15		
HOLL		2305	2306	2314	N14	W13	7515	06	1.0	9	SF	C 1.5	3	E	65		F
RAMY	02	1144	1144	1152	N14	W22	7515	05	31.8	8	SF	3	E		18		F
GOES		1159	1203	1220					21				B 7.1				
SVTO		1245	1248	1342	S11	E37	7518	06	5.3	57	SF	3	E		12		
HOLL		1246	1249	1253	S13	E36	7518	06	5.2	7	SF	2	E		25		
HOLL		1514	1516	1523	N16	W25	7515	05	31.7	9	SF	3	E		15		
HOLL		1649	1653	1705	N16	W26	7515	05	31.7	16	SF	3	E		12		
HOLL		1702	1703	1706	S11	E35	7518	06	5.3	4	SF	3	E		19		
HOLL		1850	1850	1856	N14	W28	7515	05	31.7	6	SF	3	E		11		
RAMY		1904	1907	1927	S11	E34	7518	06	5.3	23	SF	3	E		11		F
HOLL		2059	2110	2120	N14	W29	7515	05	31.7	21	SF	C 1.1	3	E	35		F
RAMY		2103	2107	2122	N14	W26	7515	05	31.9	19	SF	3	E		13		F
GOES	03	0237	0241	0247					10				C 1.0				
GOES		0306	0313	0327					21				C 1.1				
LEAR		0458	0458	0507	N08	W10	7517	06	2.4	9	SF	3	E		34		F
SVTO		0458	0506	0513	N07	W10	7517	06	2.4	15	SF	3	E		12		FH
SVTO		0634	0637	0646	N15	W42	7514	05	31.1	12	SF	B 7.0	3	E	64		H
LEAR		0637	0638	0643	N17	W40	7514	05	31.2	6	SF	3	E		30		
LEAR		0754	0758	0813	S12	E27	7518	06	5.4	19	SF	3	E		19		F
SVTO		0758	0800	0808	S11	E27	7518	06	5.4	10	SF	3	E		19		F
SVTO		0811	0812	0815	N15	W44	7514	05	31.0	4	SF	3	E		21		
SVTO		0824	0825	0832	S10	E27	7518	06	5.4	8	SF	3	E		13		
SVTO		0924	0924U	0934D	N15	W42	7514	05	31.2	10D	SF	3	E		12		
SVTO		1044	1051	1056	N15	W42	7514	05	31.3	12	SF	2	E		16		
GOES		1324	1328	1331					7				C 1.0				
HOLL		1350	1351	1354	N17	E50		06	7.4	4	SF	3	E		35		F
SVTO		1351	1351U	1353D	N15	E46		06	7.0	2D	SF	2	E		33		F
SVTO		1421	1424	1445	N07	W69	7512	05	29.5	24	SF	3	E		21		
HOLL		1422	1423	1432	S12	E23	7518	06	5.3	10	SF	3	E		13		
SVTO		1455	1501	1504	N15	W46	7514	05	31.1	9	SF	3	E		30		
SVTO		1523	1525	1545	S11	E22	7518	06	5.3	22	SF	C 1.0	3	E	30		F
RAMY		1550E	1555	1604	N15	W46	7514	05	31.2	14D	SN	M 1.0	3	E	46		EH
RAMY		1653	1656	1709	S12	E22	7518	06	5.4	16	SF	B 9.9	3	E	14		F
HOLL		1717	1721	1723	S11	E22	7518	06	5.4	6	SF	3	E		35		F
RAMY		2000	2001	2004	S13	E16	7518	06	5.0	4	SF	3	E		14		F
RAMY		2027	2029	2034	N15	W50	7514	05	31.1	7	SF	C 1.0	3	E	16		FH
GOES		2241	2247	2252					11				C 2.8				
GOES		2317	2336	2345					28				M 1.0				
GOES	04	0256	0304	0308					12				C 1.0				
SVTO		0633E	0636U	0642	N09	W23	7517	06	2.5	9D	SF	3	E		10		
SVTO		0635E	0635U	0641	N05	E34	7519	06	6.8	6D	SF	3	E		13		F
LEAR		0730	0731	0810	N17	W53	7514	05	31.3	40	SF	B 7.1	3	E	24		F

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H α SOLAR FLARES

JUNE 1993

Sta	Day	Start (UT)	Max (UT)	End (UT)	NOAA/ USAF		CMP Mo	Day	Dur (Min)	Imp Opt	Xray	See	Obs Type	Time (UT)	Area Measurement		Remarks
					Lat	CMD									Apparent (10-6 Disk)	Corr (Sq Deg)	
SVTO	04	0941E	0949	0959D	N06	E35	7519	06	7.0	18D	SF	C 1.0	3	E	31		F
SVTO		1008E	1008U	1016	S09	E15	7518	06	5.5	8D	SF		3	E	10		
GOES		1126	1133	1143						17		C 1.0					
GOES		1628	1632	1634						6		B 8.9					
HOLL		1854	1856	1907	N10	W25	7517	06	2.9	13	SF		3	E	29		
HOLL		1858	1858	1906	N05	E29	7519	06	6.9	8	SF		3	E	18		
HOLL		1912	1920	1930	N06	E30	7519	06	7.0	18	SF		3	E	34		F
HOLL		2203	2203	2209	N15	W61	7515	05	31.3	6	SF	B 6.8	3	E	13		
HOLL		2244	2250	2427D	N17	W50	7515	06	1.1	103D	SN		2	E	60		H
HOLL	05	0004	0009	0027	N05	E26	7519	06	6.9	23	SF		3	E	13		
LEAR		0202	0205	0209	N17	W64	7514	05	31.2	7	SF		3	E	20		
SVTO		0755	0758	0817	N07	W32	7517	06	2.9	22	SF		3	E	48		F
SVTO		0802	0818	0933D	N06	E23	7519	06	7.0	91D	1N	C 3.9	3	E	139		FE
LEAR		0820E	0821U	0831D	N05	E20	7519	06	6.8	11D	1F		3	E	123		F
LEAR		0821	0824	0831	S12	E01	7518	06	5.4	10	SF		3	E	16		
SVTO		0822	0823	0832	S09	W03	7518	06	5.1	10	SF		3	E	12		
RAMY		1042E	1043U	1057D	S09	W04	7518	06	5.1	15D	SF		3	E	15		
SVTO		1209	1209	1212	N14	W62	7515	05	31.8	3	SF	B 9.0	3	E	20		
HOLL		1314	1314	1324	S10	W04	7518	06	5.2	10	SF		3	E	19		
HOLL		1342	1437	1545	S09	W09	7518	06	4.9	123	SF		3	E	40		F
SVTO		1437	1445	1454	S08	W07	7518	06	5.1	17	SF		3	E	20		F
HOLL		1931	1931	1935	S10	W07	7518	06	5.3	4	SF	C 1.0	3	E	17		F
HOLL	06	0108	0109	0120	S08	W15	7518	06	4.9	12	SN	C 1.8	3	E	54		FE
SVTO		0506E	0506U	0522	S09	W13	7518	06	5.2	16D	SF		2	E	22		
SVTO		0718	0722	0743	S09	W17	7518	06	5.0	25	SN	C 1.8	3	E	76		FE
SVTO		0833	0838	0856	N17	E11		06	7.2	23	SF		3	E	16		F
SVTO		0936	0937	0957	S09	W16	7518	06	5.2	21	SF	C 1.2	3	E	30		FE
SVTO		1027	1040	1055	S09	W17	7518	06	5.1	28	SF	B 6.1	3	E	25		F
RAMY		1030E	1042U	1116D	S09	W17	7518	06	5.2	46D	SF		3	E	30		F
SVTO		1405	1409	1422	S09	W17	7518	06	5.3	17	SF	B 7.7	3	E	26		F
SVTO		1453	1504	1518	N15	W78	7515	05	31.7	25	SF	C 2.0	3	E	15		F
RAMY		1459	1459	1506	S09	W22	7518	06	5.0	7	SF		3	E	28		F
SVTO		1459	1500	1506	S08	W22	7518	06	5.0	7	SF		3	E	25		F
SVTO		1620	1624	1639	S09	W21	7518	06	5.1	19	SF		3	E	17		
RAMY		1622	1625	1634	S10	W22	7518	06	5.0	12	SF		4	E	34		F
HOLL		1629	1629	1635	S09	W20	7518	06	5.2	6	SF		3	E	29		F
SVTO		1643	1651	1717	S10	W19	7518	06	5.3	34	SF	C 2.3	3	E	40		F
RAMY		1643	1653	1724	S11	W17	7518	06	5.4	41	SF		3	E	49		F
HOLL		1647	1647	1727	S10	W19	7518	06	5.3	40	SF		3	E	59		F
HOLL		1808	1821	1824	S09	W22	7518	06	5.1	16	SF	C 1.0	3	E	36		
GOES		1845	1852	1900						15		C 1.8					
GOES		2116	2120	2124						8		B 7.2					
HOLL		2118	2135	2152D	S09	W22	7518	06	5.2	34D	SF	C 1.1	2	E	45		F
HOLL		2242	2244	2256D	S09	W23	7518	06	5.2	14D	SN	C 1.8	3	E	62		F
GOES		2322	2328	2335						13		C 1.0					
GOES	07	0107	0112	0119						12		C 1.1					
HOLL		0120E	0120U	0138	S09	W24	7518	06	5.2	18D	SF		2	E	34		
SVTO		0435	0438	0446	S11	W23	7518	06	5.5	11	SF		2	E	17		FE
SVTO		0543	0606	0718	S09	W30	7518	06	5.0	95	1N	C 4.1	3	E	137		FH
GOES		0600	0604	0612						12		C 5.1					
SVTO		1119	1136	1152	S09	W30	7518	06	5.2	33	SF		3	E	37		F
SVTO		1156	1156	1210	N06	W12	7519	06	6.6	14	SF		3	E	25		
SVTO		1239	1242	1253	S10	W31	7518	06	5.2	14	SF		3	E	22		FE
HOLL		1249E	1300	1305	S10	W30	7518	06	5.3	16D	SF		3	E	15		F
HOLL		1318	1325	1334	S10	W30	7518	06	5.3	16	SF		3	E	30		F
HOLL		1319	1319	1337	N05	W11	7519	06	6.7	18	SF	B 8.4	3	E	10		FH
SVTO		1319	1319	1341	N04	W11	7519	06	6.7	22	SF	B 8.4	3	E	16		
SVTO		1319	1325	1331	S10	W29	7518	06	5.4	12	SF		3	E	34		F
HOLL		1354	1422	1712	S10	W30	7518	06	5.3	198	2B	M 5.4	3	E	271		UY
SVTO		1355	1428	1623	S11	W29	7518	06	5.4	148	2B		3	E	303		YF
RAMY		1358E	1423	1609	S09	W31	7518	06	5.2	131D	1B		3	E	245		FE
RAMY		1702	1732	1820	S09	W32	7518	06	5.3	78	SF	C 1.7	3	E	71		F
HOLL		1732	1732	1739	S10	W33	7518	06	5.2	7	SF		3	E	30		
RAMY		1825E	1825U	1854D	S10	W31	7518	06	5.4	29D	SF		3	E	50		F
GOES		1827	1834	1839						12		C 3.4					

H α SOLAR FLARES

JUNE 1993

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur Day	(Min)	Imp Opt	Xray	See	Obs Type	Area Measurement			Remarks
															Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
HOLL	07	1831	1844	1900	S11	W32	7518	06	5.4	29	SN	C 3.6	3	E		62		F
GOES		2015	2018	2021						6	B	8.5						
GOES	08	0147	0215	0241						54	M	1.1						
SVTO		0416E	0450U	0525	S13	W38	7518	06	5.3	69D	SN	C 1.2	2	E		35		F
SVTO		0420E	0420U	0451D	N23	E60	7522	06	12.8	31D	SF		2	E		12		
SVTO		0555	0605	0619	S11	W39	7518	06	5.3	24	SF		3	E		25		F
SVTO		0630	0633	0645	S11	W39	7518	06	5.3	15	SF		3	E		20		F
GOES		0727	0730	0732						5	B	6.3						
SVTO		0948	0953	1011	S14	W42	7518	06	5.2	23	SF	C 1.5	3	E		48		F
RAMY		1155	1156	1200D	S09	W44	7518	06	5.2	5D	SF		3	E		26		F
SVTO		1255	1301	1306	S12	W42	7518	06	5.4	11	SF		3	E		11		F
SVTO		1314	1317	1325	N09	W19	7519	06	7.1	11	SF		3	E		27		F
SVTO		1343	1343	1351	N09	W20	7519	06	7.1	8	SF		3	E		16		F
RAMY		1430	1432	1441	S11	W44	7518	06	5.3	11	SF		3	E		33		F
SVTO		1430	1436	1449	S12	W44	7518	06	5.3	19	SF	B 8.0	3	E		25		F
SVTO		1528	1544	1552	S10	W45	7518	06	5.3	24	SF	B 5.3	3	E		13		F
GOES		1646	1650	1653						7	B	5.0						
HOLL		1852	1858	1925	S09	W45	7518	06	5.4	33	SF	C 1.6	3	E		55		F
GOES		2255	2258	2300						5	B	4.2						
GOES	09	0227	0305	0456						149	C	1.7						
SVTO		0659	0704	0727	N23	E44	7522	06	12.7	28	SF		3	E		26		F
LEAR		0701	0702	0709	N23	E43	7522	06	12.6	8	SF		3	E		23		
SVTO		0724	0725	0739	S13	W52	7518	06	5.4	15	SF		3	E		14		F
SVTO		0757	0820	0857	S13	W53	7518	06	5.3	60	1N	C 5.0	3	E		131		F
LEAR		0815	0817	0855	S10	W53	7518	06	5.4	40	1F		3	E		143		F
RAMY		1036	1039	1048	S10	W54	7518	06	5.4	12	SF		2	E		32		F
RAMY		1103	1105	1117	S10	W55	7518	06	5.3	14	SF		3	E		24		F
SVTO		1103	1110	1117	S13	W56	7518	06	5.2	14	SF		3	E		25		F
SVTO		1137	1137	1144	S12	W56	7518	06	5.3	7	SF		3	E		10		F
RAMY		1139	1140	1144	S10	W55	7518	06	5.3	5	SF		3	E		20		
HOLL		1322	1332	1350	S12	W57	7518	06	5.3	28	SF		3	E		33		F
RAMY		1328	1334	1337	S12	W58	7518	06	5.2	9	SF		3	E		12		
RAMY		1427	1428	1433	S10	W57	7518	06	5.3	6	SF	C 1.8	3	E		16		F
SVTO		1610	1611	1625	S15	W59	7518	06	5.2	15	SF		3	E		18		F
HOLL		1613	1615	1619	S13	W60	7518	06	5.1	6	SF		3	E		10		
RAMY		1652	1657	1710	S12	W60	7518	06	5.2	18	SF		3	E		15		F
RAMY		1807	1835	1845D	S12	W59	7518	06	5.3	38D	2N	M 2.2	3	E		278		FE
HOLL		1829	1834	1855	S12	W59	7518	06	5.3	26	1B	M 2.2	3	E		173		F
HOLL		2106	2110	2124	S12	W61	7518	06	5.3	18	SN	C 4.8	3	E		60		F
HOLL		2206	2213	2221	S12	W62	7518	06	5.2	15	SF	C 4.9	3	E		34		F
HOLL		2242	2243	2307	N18	W35		06	7.3	25	SF		3	E		20		U
GOES	10	0229	0235	0239						10	C	1.1						
GOES		0301	0306	0310						9	C	1.3						
GOES		0320	0323	0325						5	B	9.5						
SVTO		0557	0612	0642	S12	W67	7518	06	5.2	45	SF	M 1.9	3	E		47		F
GOES		0746	0751	0758						12	C	2.3						
SVTO		0809	0809	0825	S11	W68	7518	06	5.2	16	SF	C 1.9	3	E		18		F
GOES		0949	0958	1007						18	C	1.4						
RAMY		1047	1052	1120	S11	W69	7518	06	5.2	33	SF	C 1.5	3	E		21		
SVTO		1050	1050	1057	S13	W70	7518	06	5.2	7	SF		3	E		14		F
RAMY		1128	1128	1134	S12	W71	7518	06	5.1	6	SF		3	E		22		
SVTO		1212	1214	1226	S13	W72	7518	06	5.1	14	SF		3	E		17		
RAMY		1216	1218	1247	S11	W71	7518	06	5.2	31	SF		3	E		32		
RAMY		1342	1343	1357	S11	W70	7518	06	5.3	15	SF		3	E		17		
HOLL		1342	1343	1404	S11	W71	7518	06	5.2	22	SF		3	E		22		F
SVTO		1343	1343	1357	S13	W72	7518	06	5.1	14	SF		3	E		18		
HOLL		1409	1411	1427	N17	W45		06	7.2	18	SF		3	E		23		
RAMY		1417	1418	1425	S10	W71	7518	06	5.3	8	SF		3	E		36		F
HOLL		1417	1418	1430	S11	W73	7518	06	5.1	13	SN	C 6.8	3	E		53		F
SVTO		1417	1419	1428	S14	W74	7518	06	5.0	11	SF		3	E		40		F
RAMY		1539	1554	1605	S12	W72	7518	06	5.2	26	SF	C 7.9	3	E		17		F
RAMY		1933	1937	1943	S12	W75	7518	06	5.2	10	SF		3	E		17		F
GOES		2131	2255	2322						111	C	2.5						
GOES	11	0421	0510	0524						63	C	1.6						

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	See	Obs Type	Area Measurement			Remarks
															Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
SVTO	11	0617	0623	0634	N15	W56		06	7.0	17	SF	C 1.2	3	E		49		F
SVTO		1015	1022	1037	S13	W80	7518	06	5.4	22	SF	C 5.7	3	E		31		F
GOES		1449	1453	1504						15		C 2.0						
GOES		1706	1856	1912						126		C 3.6						
GOES		2000	2005	2009						9		C 1.9						
HOLL		2019	2022	2025	S12	W90	7518	06	5.1	6	SN		3	E		56		
RAMY		2025E	2025U	2026	S14	W90	7518	06	5.0	10	SF		3	E		42		F
HOLL		2028	2029	2033	N22	E08	7522	06	12.5	5	SF		3	E		19		
GOES		2049	2108	2135						46		C 2.0						
HOLL		2210	2213	2216	S13	W90	7518	06	5.1	6	SF	C 2.1	3	E		80		
HOLL		2300	2302	2311	N22	E07	7522	06	12.5	11	SF		3	E		25		
HOLL		2339	2340	2345	N18	W65		06	7.0	6	SF		3	E		25		
GOES	12	0402	0414	0423						21		C 1.4						
GOES		0630	0634	0638						8		B 8.1						
GOES		0807	0816	0822						15		C 1.9						
LEAR		0819	0822U	0826	S13	W89	7518	06	5.6	7	SF	C 3.1	3	E		33		
GOES		0853	0906	0922						29		C 3.5						
GOES		1204	1209	1212						8		C 1.2						
GOES		1405	1412	1422						17		B 9.5						
SVTO		1446	1447	1450	N12	E68	7523	06	17.7	4	SF		3	E		12		
GOES		1610	1631	1658						48		C 1.2						
HOLL		1721	1723	1739	N23	W03	7522	06	12.5	18	SF		3	E		35		
SVTO		1722E	1724U	1726D	N22	W01	7522	06	12.6	40	SF		2	E		25		F
GOES	13	0222	0242	0320						58		B 6.9						
GOES		0502	0507	0537						35		B 4.5						
SVTO		0903	0905	0912	N25	W12	7522	06	12.4	9	SF	B 3.0	3	E		19		
GOES		0952	1009	1019						27		B 3.4						
GOES		1239	1310	1339						60		B 3.5						
LEAR	14	0527	0527	0531	N10	E48	7522	06	17.8	4	SF		3	E		18		FH
SVTO		0532E	0534	0542	N24	W23	7522	06	12.4	100	SF		3	E		30		
LEAR		0534	0535	0540	N22	W23	7522	06	12.5	6	SF	B 2.9	3	E		21		F
GOES		1935	1939	1941						6		B 1.2						
GOES	17	0156	0225	0250						54		B 1.9						
GOES		1136	1140	1143						7		B 1.0						
GOES		1221	1230	1236						15		B 2.3						
GOES		1459	1502	1507						8		B 1.6						
GOES		1922	1957	2008						46		B 2.7						
GOES		2105	2109	2115						10		B 1.3						
GOES	18	0116	0121	0125						9		B 1.2						
LEAR		0343	0343	0347	S05	E66		06	23.1	4	SF	B 1.4	3	E		12		
GOES		0615	0621	0625						10		B 2.8						
GOES		0758	0801	0805						7		B 1.1						
GOES		0814	0822	0826						12		B 2.4						
GOES		0942	0951	1013						31		B 3.6						
GOES		1038	1046	1053						15		B 3.5						
RAMY		1451	1451	1455	N06	E75		06	24.2	4	SF	B 1.2	3	E		18		
RAMY		1512	1514	1520	N07	E77		06	24.4	8	SF	B 3.8	3	E		18		
HOLL		2328	2331	2339	N07	E75		06	24.6	11	SF		3	E		13		
HOLL	19	0008	0017	0051	N09	E79		06	24.9	43	SF	C 1.4	3	E		37		
GOES		0740	0747	0754						14		B 2.6						
GOES		1008	1011	1015						7		B 1.4						
SVTO		1113	1123	1221	N10	E69		06	24.6	68	SF	C 1.3	3	E		54		
HOLL		2142	2147	2213	N09	E64	7524	06	24.7	31	SF	B 1.5	3	E		56		
HOLL		2345	2346	2415	N08	E62	7524	06	24.6	30	1N	C 5.1	3	E		216		
LEAR		2349	2351	2417	N08	E62		06	24.6	28	SF		3	E		71		F
SVTO	20	0805	0807	0813	S18	W12		06	19.4	8	SF	B 2.2	2	E		19		F
LEAR		0806	0807	0816	S18	W14		06	19.3	10	SF		3	E		17		FH
GOES		1132	1140	1144						12		C 1.2						
GOES		1440	1445	1452						12		B 2.9						
GOES		1455	1657	1941						286		B 9.8						T
HOLL		1654	1655	1705	N05	E55	7524	06	24.8	11	SF		3	E		21		F

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	See	Obs Type	Area Measurement			Remarks
															Time (UT)	Apparent (10 ⁻⁶ Disk)	Corr (Sq Deg)	
HOLL	20	1929	1931	1936	S18	W20	7525	06	19.3	7	SF		3	E		29		
HOLL	21	1845	1846	1850	S17	W31	7525	06	19.4	5	SF		3	E		10		
GOES		2337	2341	2347						10		B 3.3						
GOES	22	0453	0511	0521						28		B 3.1						
HOLL		1320	1328	1352	S17	W41	7525	06	19.4	32	SF	C 1.5	3	E		27		FH
SVTO		1324	1327	1345	S18	W41	7525	06	19.4	21	SF		3	E		20		F
RAMY		1330	1333	1346	S17	W40	7525	06	19.5	16	SF		3	E		22		F
HOLL		1835	1844	1852	S17	W44	7525	06	19.4	17	SF	B 4.8	3	E		12		F
GOES		2056	2059	2101						5		B 2.8						
GOES		2135	2140	2142						7		B 3.3						
LEAR	23	0438E	0438U	0458	S15	W52	7525	06	19.2	20D	SF	B 8.5	3	E		30		
SVTO		0440E	0444U	0448	S19	W49	7525	06	19.4	8D	SF		2	E		36		F
GOES		0824	0930	1040						136		B 9.2						
HOLL		1408	1443	1520	N09	W38		06	20.7	72	SF	B 4.2	3	E		39		E
SVTO		1419E	1421U	1447	N08	W38		06	20.7	28D	SF		3	E		17		
GOES		2046	2118	2139						53		C 1.8						
GOES		2239	2255	2308						29		C 4.0						
LEAR	24	0019	0033	0051	N03	E07	7528	06	24.5	32	SF		3	E		26		F
HOLL		0020	0026	0059	N02	E07	7528	06	24.5	39	SF		3	E		17		F
GOES		0107	0129	0200						53		C 4.1						
GOES		0539	0552	0610						31		C 1.2						
GOES		0639	0647	0652						13		B 9.3						
SVTO		0719	0741U	0946D	S11	E64	7529	06	29.1	147D	2B	M 9.7	2	E		333		ZY
LEAR		0721	0732	0852D	S14	E65	7529	06	29.2	91D	1B		3	E		249		YF
GOES		1029	1042	1100						31		C 5.2						
GOES		1451	1503	1517						26		C 5.9						
HOLL		1601	1601	1618	N02	W02	7528	06	24.5	17	SF	C 2.5	3	E		12		F
RAMY		1722	1724	1734	S12	E90		07	1.5	12	1F	M 4.2	3	E		176		
GOES		1810	1818	1828						18		M 1.3						
GOES		2336	2342	2402						26		C 1.0						
GOES	25	0135	0152	0202						27		C 1.3						
GOES		0302	0322	0332						30		M 5.1						
LEAR		0331E	0333U	0350D	S06	E90		07	1.9	19D	SF		2	E		60		YF
LEAR		0607	0607	0618	N02	W09	7528	06	24.6	11	SF	C 1.9	3	E		35		F
LEAR		0731E	0733U	0750D	S06	E90		07	2.0	19D	SF		2	E		60		YF
GOES		1022	1029	1041						19		C 2.8						
RAMY		1405	1407	1415	S11	E73		07	1.1	10	SF	B 9.8	3	E		35		
RAMY		1547	1550	1554	S12	E72	7530	07	1.1	7	SF		3	E		24		
HOLL		1547	1550	1555	S13	E75	7530	07	1.3	8	SF	B 7.5	3	E		27		
SVTO		1547	1551	1554	S10	E73	7530	07	1.1	7	SF		3	E		28		
HOLL		1917	1921	1926	S13	E83	7530	07	2.1	9	SF	C 2.2	3	E		45		
HOLL		1940	1944	1951	S12	E82	7530	07	2.0	11	SN	C 3.8	3	E		59		
HOLL		1943	1951	2046	N02	W20	7528	06	24.3	63	SF		3	E		21		
HOLL		2029	2032	2046	S09	E78	7530	07	1.7	17	SF	C 4.4	3	E		28		
GOES	26	0020	0026	0032						12		C 1.0						
GOES		0037	0046	0102						25		C 1.3						
LEAR		0147E	0148U	0151D	S10	E77	7530	07	1.9	4D	1N	M 1.1	2	E		128		F
GOES		0251	0258	0308						17		C 1.0						
SVTO		0809	0812	0847	S13	E39	7529	06	29.3	38	SF	C 2.2	3	E		98		FS
LEAR		0815	0818	0855	S14	E39	7529	06	29.3	40	1F		3	E		129		F
SVTO		0938	0942	1020	S08	E71	7530	07	1.7	42	1N	C 4.0	3	E		187		FE
SVTO		1032	1034	1103	S09	E69	7530	07	1.6	31	SF	C 2.1	3	E		50		F
SVTO		1229	1239	1252	S09	E68	7530	07	1.6	23	SF	C 3.6	3	E		37		E
RAMY		1232E	1237	1246	S11	E62	7530	07	1.2	14D	SN		3	E		75		F
HOLL		1235	1237U	1345D	S11	E61	7530	07	1.1	70D	SF		2	E		42		F
GOES		1329	1345	1357						28		B 9.3						
HOLL		1454	1535	1607	S11	E62	7530	07	1.3	73	SN	M 1.1	3	E		82		FE
SVTO		1455	1456	1524	S09	E64	7530	07	1.4	29	SF		3	E		15		F
RAMY		1455	1505	1520	S11	E70	7530	07	1.9	25	SF		3	E		42		F
GOES		1531	1540	1554						23		C 4.1						
RAMY		1612	1626	1629	S10	E66	7530	07	1.6	17	SF		3	E		17		F
HOLL		1829	1833	1849	S11	E59	7530	07	1.2	20	SF	C 1.7	3	E		21		F

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	See	Obs Type	Time (UT)	Area Measurement		Remarks	
																Apparent (10-6 Disk)	Corr (Sq Deg)		
L	RAMY	26	1833	1833	1850	S11	E66	7530	07	1.7	17	SF		3	E		13		F
	HOLL		1845	1845	1849	S11	E31	7529	06	29.1	4	SF		3	E		17		
	RAMY		1921	1921	2003	S10	E63	7530	07	1.5	42	SF	C 2.2	3	E		28		FE
	HOLL		2134	2134	2140	S12	E57	7530	07	1.2	6	SF	C 1.3	3	E		20		
	GOES		2309	2311	2314						5		C 2.9						
	GOES		2351	2401	2405						14		C 3.6						
	GOES	27	0034	0037	0040						6		C 3.2						
	GOES		0044	0047	0050						6		C 3.6						
	LEAR		0138	0210	0220	S12	E61	7530	07	1.7	42	SF	C 3.2	3	E		36		
	GOES		0145	0204	0206						21		C 2.1						
	GOES		0233	0237	0243						10		C 2.6						
	GOES		0417	0420	0423						6		B 8.4						
	LEAR		0431	0433	0446	S10	E52	7530	07	1.1	15	SN	C 9.8	3	E		71		E
	SVTO		0431	0433	0449	S10	E53	7530	07	1.2	18	SF	C 9.8	3	E		98		
	SVTO		0519	0530	0538	S10	E53	7530	07	1.2	19	SF		3	E		21		
	SVTO		0543	0547	0606	S13	E55	7530	07	1.4	23	SF	B 8.1	3	E		21		
	SVTO		0632	0633	0640	S09	E57	7530	07	1.5	8	SF		3	E		20		
	GOES		0726	0731	0734						8		B 8.7						
	GOES		0736	0740	0744						8		B 9.7						
	SVTO		0820	0822	0828	S10	E52	7530	07	1.2	8	SF		3	E		11		
	SVTO		0952	1011	1036	S10	E57	7530	07	1.7	44	SF	B 9.7	3	E		23		F
	SVTO		1015	1020	1024	S10	E21	7529	06	29.0	9	SF	C 2.3	3	E		12		
	RAMY		1115E	1128U	1243D	S10	E55	7530	07	1.6	88D	2N		3	E		271		FE
	SVTO		1115	1129	1214	S09	E58	7530	07	1.8	59	2N	M 3.6	3	E		296		UF
	HOLL		1354	1356	1400	S10	E52	7530	07	1.5	6	SF	C 1.4	3	E		66		H
	HOLL		1414	1414	1420	S14	E22	7529	06	29.2	6	SF		3	E		11		
	HOLL		1420	1421	1433	S09	E53	7530	07	1.6	13	SF		3	E		17		
	HOLL		1444	1447	1506	S11	E46	7530	07	1.1	22	SF	C 1.4	3	E		23		
	RAMY		1446	1447	1455	S11	E46	7530	07	1.1	9	SF	C 1.4	3	E		13		
	HOLL		1532	1532	1540	S11	E54	7530	07	1.7	8	SF		3	E		13		
	GOES		1648	1705	1734						46		C 1.4						
	HOLL		1649	1649	1655	N09	W27	7531	06	25.7	6	SF		3	E		11		H
	SVTO		1659	1710	1719	N04	E70		07	2.9	20	SF		3	E		15		F
	RAMY		1854	1855	1905	S11	E44	7530	07	1.1	11	SF		3	E		24		
	HOLL		1855	1856	1903	S11	E43	7530	07	1.0	8	SF	C 1.3	3	E		21		
	HOLL		2121	2125	2136	S14	E18	7529	06	29.2	15	SF		3	E		26		FS
	HOLL		2130	2140	2154	S11	E43	7530	07	1.1	24	SF		3	E		72		F
	GOES		2241	2255	2300						19		C 1.4						
	HOLL		2332	2332	2339	S12	E42	7530	07	1.1	7	SF	C 2.5	3	E		28		F
	HOLL	28	0012	0017	0051	S07	E49	7530	07	1.7	39	SF	C 2.4	3	E		52		F
	LEAR		0106	0107	0130	N03	E69		07	3.2	24	SF	C 6.5	3	E		57		
	LEAR		0156	0157	0201	S10	E44	7530	07	1.4	5	SF		3	E		21		
	LEAR		0317	0322	0347	S08	E54		07	2.2	30	SF	C 1.7	3	E		42		F
	GOES		0505	0509	0511						6		B 8.0						
	SVTO		0512E	0514U	0517	S15	E58		07	2.6	5D	SF		3	E		20		H
	SVTO		0549	0550	0554	S14	E60		07	2.8	5	SF	C 2.1	3	E		36		H
	LEAR		0550	0550	0552	S15	E58		07	2.6	2	SF		3	E		22		
	SVTO		0555	0612	0625	S14	E15	7529	06	29.4	30	SF		3	E		30		F
	SVTO		0913	0921	0944	S13	E12	7529	06	29.3	31	SF	C 1.3	3	E		56		FH
	SVTO		1144	1146	1149	N00	W59	7528	06	24.1	5	SF	C 1.2	3	E		12		F
	SVTO		1242	1259	1321	S10	E35	7530	07	1.1	39	SF	C 5.3	3	E		89		FH
	RAMY		1254	1256	1313	S07	E43	7530	07	1.7	19	SF		3	E		66		FH
	HOLL		1258	1302U	1320	S10	E40	7530	07	1.5	22	SF		2	E		85		FH
	HOLL		1312	1314	1322	N01	W60	7528	06	24.1	10	SF		3	E		16		
	HOLL		1325	1326	1337	S10	E38	7530	07	1.4	12	SF		3	E		12		
	HOLL		1402	1405	1408	S11	E30	7530	06	30.8	6	SF		3	E		27		
	SVTO		1405	1406	1408	S10	E31	7530	06	30.9	3	SF		3	E		30		FH
	GOES		1430	1434	1437						7		C 1.0						
	SVTO		1511	1511	1514	N00	W61	7528	06	24.1	3	SF		3	E		12		
	HOLL		1511	1520	1529	N02	W62	7528	06	24.0	18	SF	C 1.0	3	E		62		F
	SVTO		1518	1520	1529	N00	W61	7528	06	24.1	11	SF		3	E		62		F
	HOLL		1604	1605	1608	N02	W55	7528	06	24.6	4	SF		3	E		19		
	HOLL		1648	1649	1651	N03	W62	7528	06	24.1	3	SF		3	E		17		
	HOLL		1655	1656	1714	N03	W62	7528	06	24.1	19	SF	C 1.6	3	E		56		
	RAMY		1722	1724	1728	S12	E40	7530	07	1.7	6	SF	B 8.0	3	E		28		F
	HOLL		1821	1829	1835	S13	E06	7529	06	29.2	14	SF		3	E		23		F

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JUNE 1993

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Time (UT)	Area Measurement		Remarks
																Apparent (10-6 Disk)	Corr (Sq Deg)	
HOLL	28	2055	2100	2112	S16	E06	7529	06	29.3	17	SF		3	E		20		
HOLL		2157	2159	2208	N03	W65	7528	06	24.0	11	SF	C 2.0	3	E		54		H
HOLL	29	0013	0014	0027	S15	E03	7529	06	29.2	14	SF		3	E		26		FH
HOLL		0109	0111	0117	N03	W67	7528	06	24.0	8	SF	B 5.9	3	E		16		
GOES		0219	0223	0230						11		B 5.0						
GOES		0454	0457	0504						10		B 4.9						
LEAR		0752	0753	0801	S11	W02	7529	06	29.2	9	SF		3	E		37		F
SVTO		0752	0753	0805	S12	E00	7529	06	29.3	13	SF	C 1.3	3	E		61		
LEAR		0856	0900	0905	S10	W04	7529	06	29.1	9	SF		3	E		19		F
RAMY		1554	1605	1622	S13	E21	7530	07	1.2	28	SF		3	E		26		F
HOLL		1555	1605	1621	S12	E21	7530	07	1.2	26	SF		3	E		31		F
HOLL		1910	1910	1917	S12	W09	7529	06	29.1	7	SF		3	E		18		F
HOLL		1932	1935	1939	S12	W07	7529	06	29.3	7	SF		3	E		17		
LEAR	30	0110	0112	0115	N02	W56	7531	06	25.9	5	SF	B 4.8	3	E		17		
LEAR		0443	0452	0529	S13	E19	7530	07	1.6	46	SF	C 2.0	3	E		30		F
SVTO		0445E	0449U	0530	S12	E19	7530	07	1.6	45D	SF		2	E		40		F
GOES		2228	2231	2235						7		B 3.3						
GOES		2244	2254	2301						17		C 1.0						
GOES		2342	2346	2349						7		B 3.4						

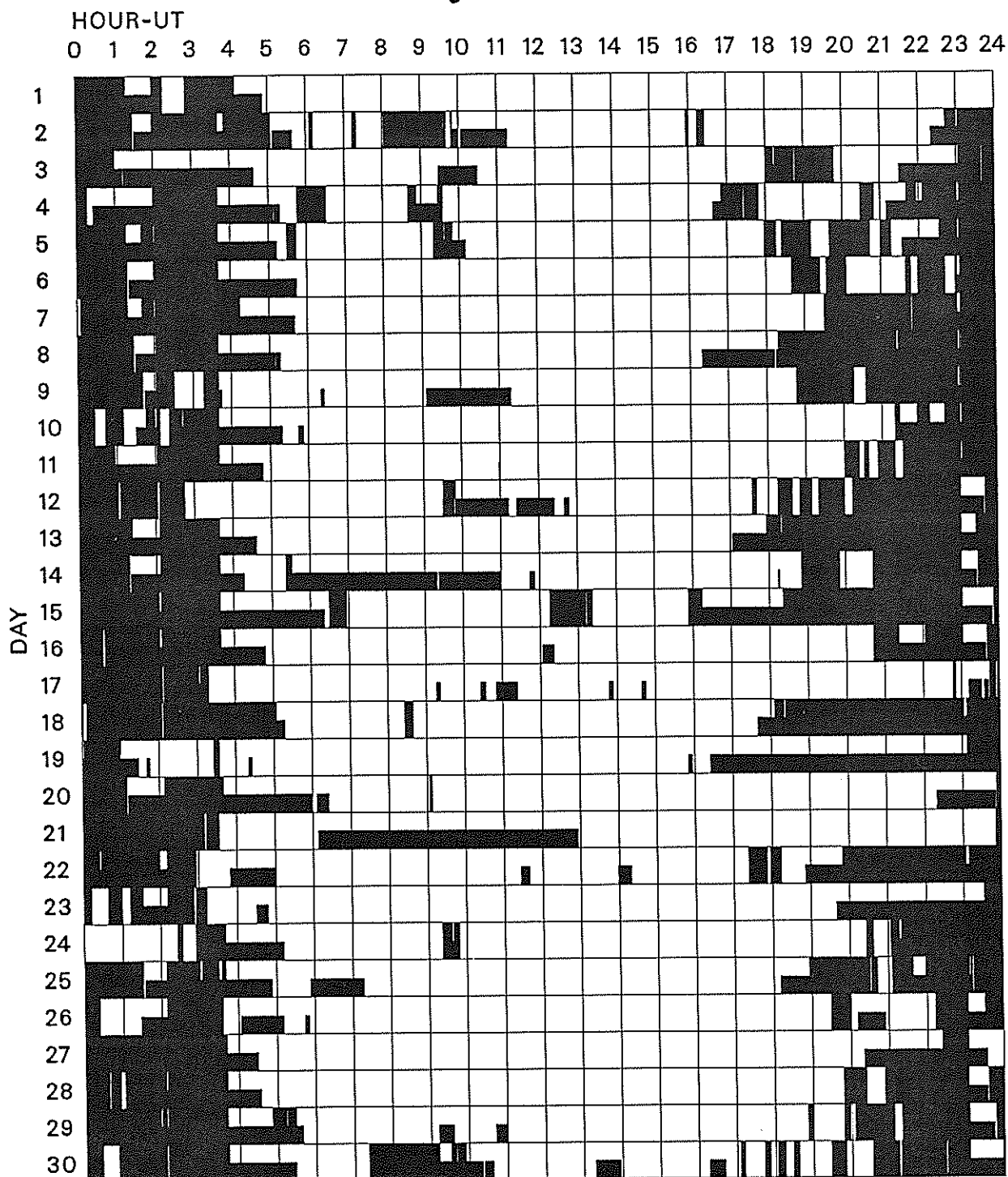
"Remarks"

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

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

INTERVALS OF NO FLARE PATROL OBSERVATION FOR PRECEDING SOLAR FLARE TABLE

JUNE 1993



Times of no flare patrol, shown here as shaded areas, combine reports from the observatories listed below. Portions of a panel completely shaded mark dates and times of no patrol of any kind, that is, of neither visual nor cinematographic; portions of a panel with only the bottom half shaded mark times of strictly visual patrol.

Holloman

Learmonth

Palehua

Ramey

San Vito

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

Selected Fixed Frequency Events

35
Jun 93

JUNE 1993

Day	Freq Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
						Peak (10 -22 W/m 2 Hz)	Mean		
03	2695 SGMR	4 S/F	1549.0	1550.0	6.0	110.0			QL=2 ST=2 TYP=3
	2695 SVTO	8 S	1549.0	1550.0	2.0	110.0			QL=2 ST=2 TYP=3
	8800 SGMR	4 S/F	1550.0	1550.0	5.0	42.0			QL=2 ST=2 TYP=3
	8800 PALE	8 S	2243.0	2244.0	2.0	22.0			QL=4 ST=2 TYP=3
	2695 PALE	4 S/F	2244.0	2244.0	3.0	38.0			QL=4 ST=2 TYP=3
	2695 SGMR	8 S	2244.0	2244.0	1.0	54.0			QL=2 ST=3 TYP=3
05	2695 SVTO	8 S	1714.0	1715.0	1.0	51.0			QL=2 ST=2 TYP=3
07	8800 LEAR	8 S	0542.0	0542.0	1.0	44.0			QL=4 ST=2 TYP=3
	2695 LEAR	8 S	0542.0	0543.0	2.0	53.0			QL=4 ST=2 TYP=3
	8800 SVTO	8 S	0542.0	0542.0	1.0	79.0			QL=4 ST=2 TYP=3
	2695 SVTO	8 S	0542.0	0543.0	2.0	86.0			QL=2 ST=2 TYP=3
	8800 SVTO	8 S	1409.0	1409.0	U	290.0			QL=4 ST=2 TYP=3
	2695 SVTO	49 GB	1409.0	1421.0	42.0	1100.0			QL=2 ST=2 TYP=7
	8800 SGMR	49 GB	1413.0	1421.0	27.0	900.0			QL=2 ST=3 TYP=7
08	2695 LEAR	4 S/F	0207.0	0208.0	3.0	89.0			QL=4 ST=2 TYP=3
	8800 LEAR	8 S	0207.0	0208.0	2.0	90.0			QL=4 ST=2 TYP=3
	8800 PALE	8 S	0207.0	0208.0	2.0	90.0			QL=4 ST=2 TYP=3
	2695 PALE	4 S/F	0207.0	0208.0	3.0	120.0			QL=4 ST=2 TYP=3
09	8800 PALE	4 S/F	1829.0	1831.0	6.0	100.0			QL=4 ST=2 TYP=3
	2695 PALE	4 S/F	1830.0	1833.0	5.0	23.0			QL=4 ST=2 TYP=3
	8800 SGMR	4 S/F	1830.0	1831.0	5.0	92.0			QL=2 ST=2 TYP=3
	2695 SGMR	8 S	1832.0	1833.0	1.0	27.0			QL=2 ST=2 TYP=3
10	8800 SVTO	4 S/F	0557.0	0602.0	12.0	370.0			QL=4 ST=3 TYP=5
	8800 LEAR	4 S/F	0559.0	0602.0	6.0	440.0			QL=4 ST=2 TYP=3
	8800 SVTO	4 S/F	0559.0	0602.0	7.0	370.0			QL=4 ST=2 TYP=5
	2695 SVTO	4 S/F	0602.0	0603.0	5.0	60.0			QL=2 ST=3 TYP=3
11	8800 SGMR	8 S	1014.0	1015.0	1.0	31.0			QL=4 ST=2 TYP=3
20	2695 SGMR	4 S/F	1444.0	1445.0	9.0	56.0			QL=2 ST=2 TYP=3
	2695 SVTO	4 S/F	1444.0	1445.0	3.0	43.0			QL=2 ST=2 TYP=3
24	8800 SVTO	8 S	0722.0	0724.0	2.0	22.0			QL=4 ST=2 TYP=3
	2695 LEAR	4 S/F	0722.0	0731.0	48.0	390.0			QL=4 ST=3 TYP=5
	2695 SVTO	4 S/F	0722.0	0731.0	48.0	450.0			QL=4 ST=2 TYP=5
	8800 LEAR	4 S/F	0725.0	0731.0	39.0	1100.0			QL=4 ST=3 TYP=5
	8800 LEAR	4 S/F	0726.0	0731.0	39.0	100.0			QL=/ ST=/ TYP=4
	2695 SVTO	8 S	0845.0	0846.0	2.0	150.0			QL=4 ST=2 TYP=3
	2695 LEAR	8 S	0846.0	0846.0	1.0	120.0			QL=4 ST=2 TYP=3
	8800 PALE	49 GB	1718.0	1720.0	402.0	79000.0			QL=4 ST=1 TYP=7
	8800 SGMR	4 S/F	1720.0	1720.0	3.0	56.0			QL=4 ST=2 TYP=3
	2695 SGMR	4 S/F	1720.0	1720.0	3.0	140.0			QL=2 ST=2 TYP=3
	2695 SVTO	4 S/F	1720.0	1721.0	3.0	130.0			QL=4 ST=2 TYP=3
	8800 SVTO	8 S	1720.0	1720.0	1.0	54.0			QL=4 ST=2 TYP=3
	2695 PALE	4 S/F	1810.0	1811.0	4.0	150.0			QL=4 ST=2 TYP=3
	2695 SGMR	4 S/F	1810.0	1811.0	4.0	100.0			QL=2 ST=2 TYP=3
	8800 PALE	8 S	1811.0	1811.0	1.0	45.0			QL=4 ST=2 TYP=3
	8800 SGMR	8 S	1811.0	1811.0	U	37.0			QL=4 ST=2 TYP=3
25	2695 LEAR	4 S/F	0303.0	0307.0	7.0	45.0			QL=4 ST=2 TYP=3
	8800 PALE	4 S/F	0305.0	0309.0	7.0	21.0			QL=4 ST=2 TYP=3
	2695 PALE	4 S/F	0305.0	0307.0	3.0	40.0			QL=4 ST=2 TYP=3
	8800 LEAR	8 S	0318.0	0318.0	U	29.0			QL=4 ST=2 TYP=3
	2695 PALE	8 S	0318.0	0318.0	U	22.0			QL=4 ST=2 TYP=3
	8800 PALE	4 S/F	0318.0	0321.0	5.0	48.0			QL=4 ST=2 TYP=5
	8800 PALE	4 S/F	2030.0	2033.0	4.0	82.0			QL=4 ST=2 TYP=3
	8800 SGMR	4 S/F	2032.0	2033.0	5.0	71.0			QL=4 ST=2 TYP=3
	2695 PALE	8 S	2152.0	2152.0	U	17.0			QL=4 ST=2 TYP=3
26	2695 LEAR	8 S	0143.0	0143.0	1.0	28.0			QL=4 ST=2 TYP=3
	8800 LEAR	8 S	0143.0	0143.0	U	26.0			QL=4 ST=2 TYP=3
	2695 PALE	8 S	0143.0	0143.0	1.0	28.0			QL=4 ST=2 TYP=3
	2695 PALE	8 S	1921.0	1921.0	1.0	30.0			QL=4 ST=2 TYP=3

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

Selected Fixed Frequency Events

JUNE 1993

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 ⁻²² W/m ² Hz)	Mean	Int	Remarks
27	8800	LEAR	4 S/F	0035.0	0036.0	4.0	30.0			QL=4 ST=2 TYP=3
	8800	LEAR	8 S	0146.0	0147.0	1.0	24.0			QL=4 ST=2 TYP=3
	2695	LEAR	8 S	0146.0	0147.0	1.0	33.0			QL=4 ST=2 TYP=3
	2695	PALE	8 S	0146.0	0147.0	1.0	35.0			QL=4 ST=2 TYP=3
	2695	PALE	4 S/F	0427.0	0430.0	6.0	87.0			QL=4 ST=2 TYP=3
	2695	LEAR	4 S/F	0429.0	0430.0	4.0	77.0			QL=4 ST=2 TYP=3
	8800	PALE	4 S/F	0429.0	0430.0	3.0	80.0			QL=4 ST=2 TYP=3
	8800	SVTO	4 S/F	0429.0	0430.0	4.0	63.0			QL=4 ST=2 TYP=3
	2695	SVTO	4 S/F	0429.0	0430.0	4.0	83.0			QL=4 ST=2 TYP=3
	2695	SVTO	20 GRF	1117.0	1123.0	9.0	74.0			QL=4 ST=2 TYP=2
	2695	SGMR	20 GRF	1117.0	1123.0	16.0	69.0			QL=2 ST=2 TYP=2
	8800	SGMR	4 S/F	1118.0	1119.0	15.0	58.0			QL=4 ST=2 TYP=3
	8800	SVTO	4 S/F	1118.0	1119.0	23.0	56.0			QL=4 ST=2 TYP=3
	8800	SVTO	8 S	1155.0	1155.0	1.0	34.0			QL=4 ST=2 TYP=3
28	2695	LEAR	4 S/F	0107.0	0111.0	6.0	70.0			QL=4 ST=2 TYP=3
	2695	PALE	4 S/F	0107.0	0111.0	6.0	59.0			QL=4 ST=2 TYP=3
	8800	PALE	4 S/F	0108.0	0111.0	4.0	24.0			QL=4 ST=2 TYP=3
	8800	LEAR	4 S/F	0109.0	0111.0	3.0	27.0			QL=4 ST=2 TYP=3
	8800	SVTO	4 S/F	0631.0	0632.0	4.0	180.0			QL=4 ST=2 TYP=3
	2695	PALE	4 S/F	1654.0	1659.0		38.0			QL=4 ST=3 TYP=3
	8800	PALE	4 S/F	1654.0	1703.0	10.0	19.0			QL=2 ST=3 TYP=3

Reports are received routinely from the following observatories:

LEAR = Learmonth

PALE = Palehua

SGMR = Sagamore Hill

SVTO = San Vito

Explanation of Type Code:

1 Simple 1	7 Minor +	24 Rise	30 Post Burst Increase A	43 Onset of Noise Storm
2 Simple 1F	8 Spike	25 Rise A	31 Post Burst Decrease	44 Noise Storm in Progress
3 Simple 2	20 Simple 3	26 Fall	33 Absorption	45 Complex
4 Simple 2F	21 Simple 3A	27 Rise and Fall	40 Fluctuation	46 Complex F
5 Simple	22 Simple 3F	28 Precursor	41 Group of Bursts	47 Great Burst
6 Minor	23 Simple 3AF	29 Post Burst Increase	42 Series of Bursts	48 Major
1A Simple 1A	4A Simple 2AF	24PF Post Rise F	27F Rise and Fall F	
3A Simple 2A	40 Rise Only	16A Fall A	27AF Rise and Fall AF	
21A Simple 3A GRF	40F Rise Only F	260 Fall Only	31A Post Burst Decrease A	
2A Simple 1AF	4P Post Rise	26F Fall F	32A Absorption A	

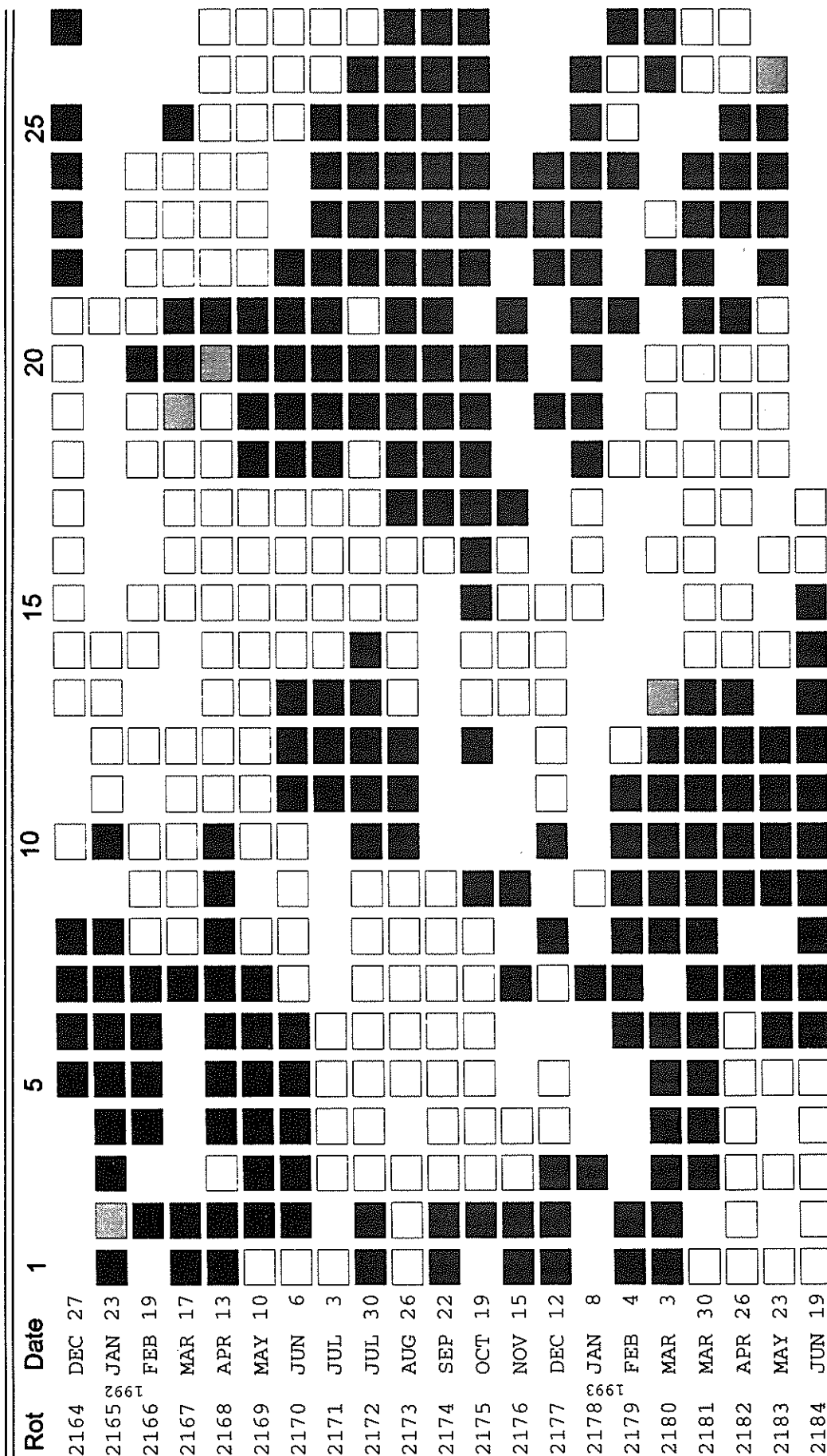
RSTN Site Information: Beginning in April 1986, the RSTN sites LEAR, PALE, SGMR, and SVTO fixed frequency solar radio data are periodically adjusted to several world standard stations. These world standard stations include: Kislovodsk, USSR 15,500 MHz; Penticton, Canada 2800 MHz; Hiraiso, Japan 500 and 200 MHz; and Toyokawa, Japan 9400, 3750, 2000 and 1000 MHz.

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

Day	1992						1993					
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
1	8	39	88	.	19	-16	.	-8	1	-1	4	-81
2	17	60	67	.	-5	.	-33	-25	-30	-11	-29	-84
3	13	58	43	.	-24	.	-28	.	-38	-11	.	-56
4	.	58	-22	.	-41	-39	-22	-61	-44	-25	-86	.
5	33	46	-27	.	-57	-38	.	-52	-56	-38	-85	3
6	39	38	-18	.	-47	.	.	.	-51	-63	-83	.
7	21	37	13	4	-48	-20	.	.	-58	-68	-48	60
8	18	-4	24	-17	.	.	.	.	-40	-59	-14	.
9	.	-45	19	-40	-29	.	.	-27	.	-55	9	56
10	.	-44	29	-68	-7	.	-38	-30	-25	-37	44	37
11	.	-10	-18	-57	-1	.	.	-28	-41	-14	.	21
12	.	-2	-25	-31	-5	-50	.	-51	-37	20	75	6
13	-52	10	-53	-38	-16	-41	.	-46	-50	44	41	-5
14	-46	9	-46	-29	-24	-15	-3	-36	-19	59	30	-17
15	-16	34	-33	-33	-23	8	.	21	0	64	7	-16
16	2	14	-30	-14	-19	11	1	.	.	53	-7	-22
17	8	-19	-26	-5	20	.	.	.	.	.	.	0
18	24	-4	-26	-13	57	6	.	.	65	13	-12	.
19	25	11	-9	.	.	-9	.	.	.	-1	-26	42
20	-31	-14	-13	-5	.	.	.	.	41	-11	-14	70
21	-56	-12	-22	.	-2	-3	.	48	36	-13	3	66
22	-55	-17	-23	24	.	11	67	.	4	-9	19	60
23	-59	-3	-1	50	-9	42	69	.	.	.	38	45
24	-55	-6	17	66	.	57	61	-43	-26	20	.	-12
25	-42	1	54	47	.	49	-14	.	4	1	60	-53
26	-26	4	79	20	.	40	-53	.	.	9	.	-61
27	-5	25	85	-7	60	.	-62	-1	.	18	21	-61
28	1	55	60	.	62	.	-44	13	-11	39	-15	-66
29	4	.	39	.	55	.	-19	.	-11	43	-42	-74
30	-1	101	7	-14	11	-59	-28	.	8	18	.	-44
31	-5	97	.	22	.	.	-2	.	.	.	-75	.

Dot symbol indicates no data available for the day.

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.

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Prompt Reports

Number 587 Part I

DATA FOR MAY 1993

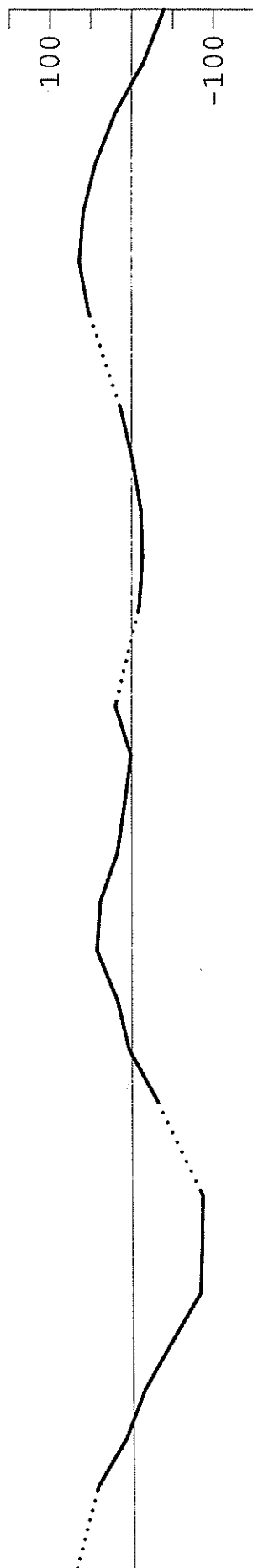
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40
May 93

SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION NUMBER 1868
(13 April to 10 May 1993)

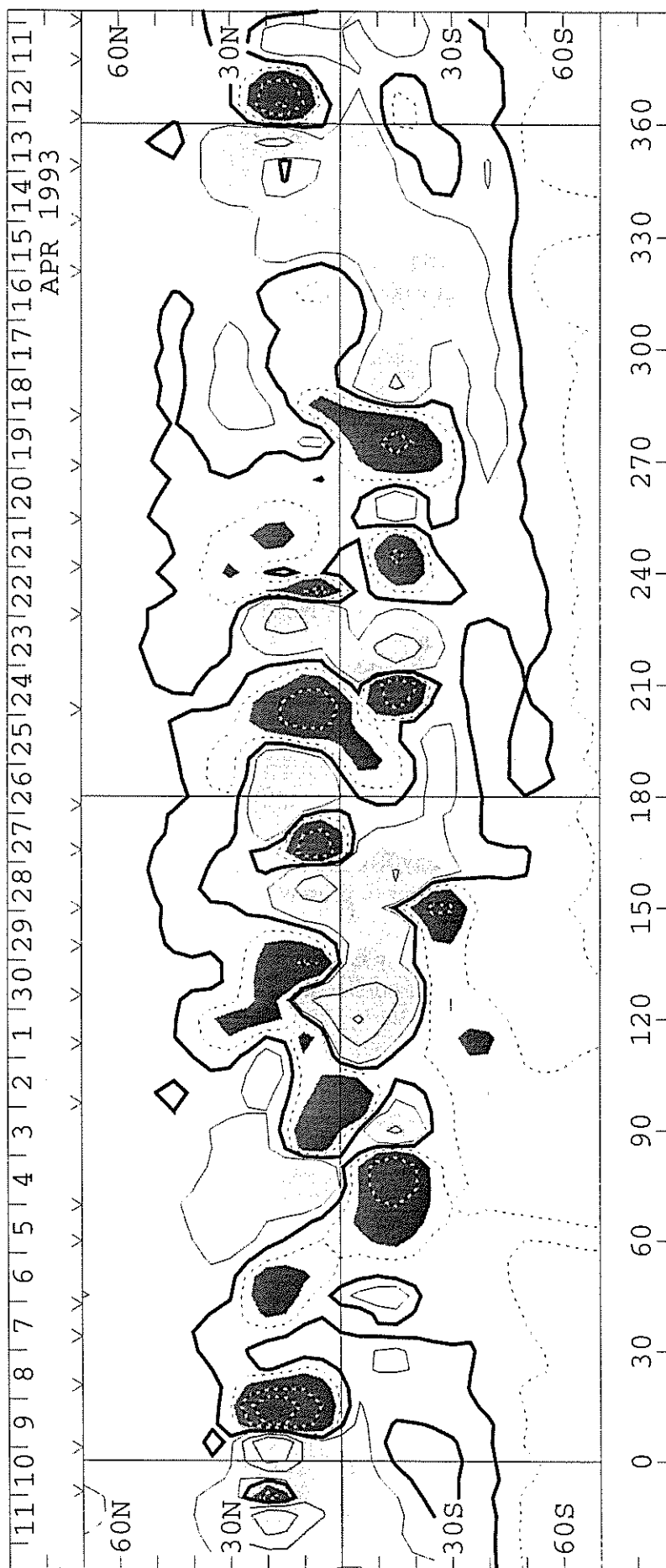
WILCOX SOLAR OBSERVATORY

Mean Field



Photospheric Magnetic Field

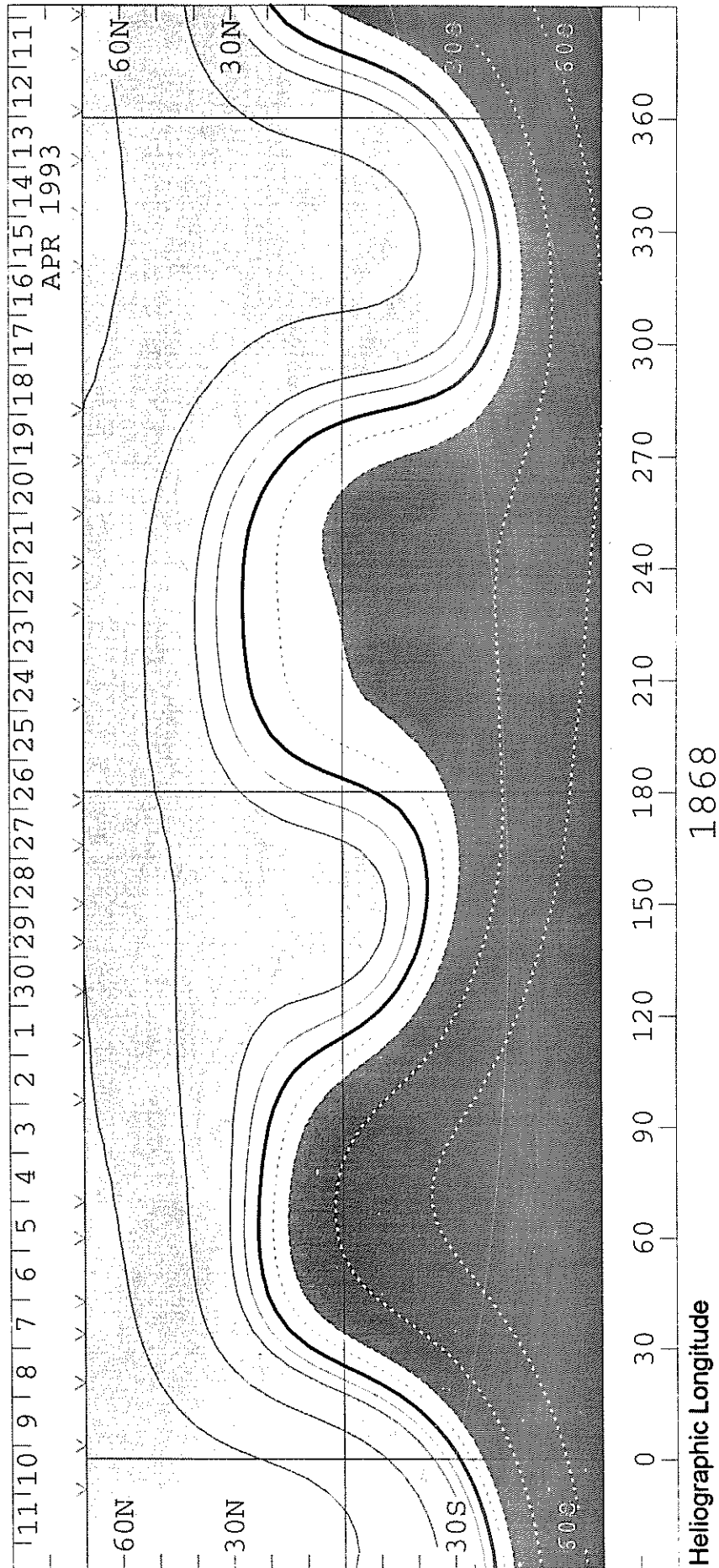
0, ± 100 , 500, 1000, 2000 MicroTesla



SOLAR MAGNETIC FIELD SYNOPTIC CHART
SOURCE SURFACE FIELD
CARRINGTON ROTATION NUMBER 1868
(13 April to 10 May 1993)

Wilcox Solar Observatory

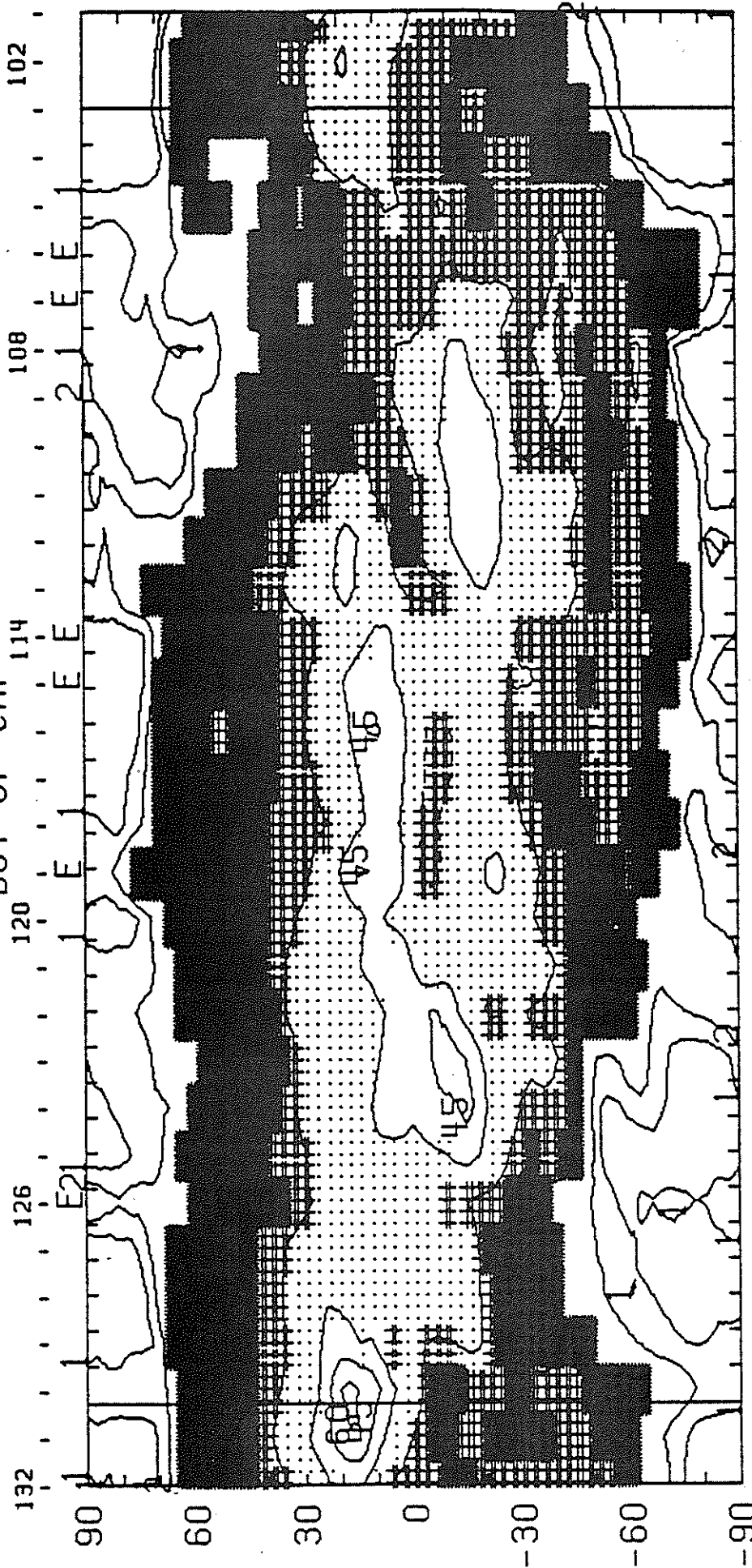
0, +1, 2, 5, 10, 20 microTesla



42
May 93

CARRINGTON ROTATION NUMBER 1868 ; SAC. PEAK FE XIV AT R = 1.15

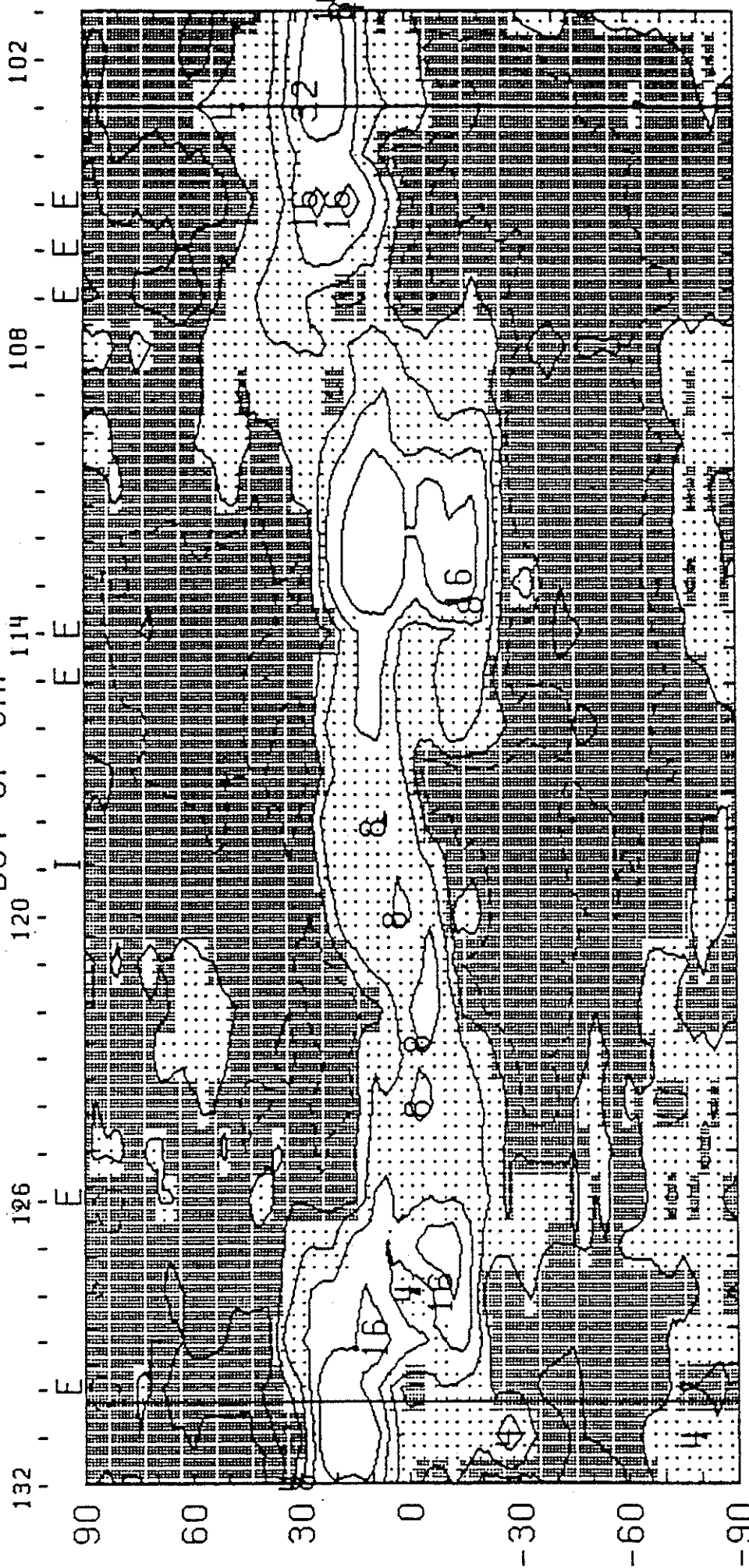
DOY OF CMP



E HELIOGRAPHIC LONGITUDE $I_{\text{ave}} = 10.60 \mu$ W

1993 W+E LIMB CONTOURS: 1, 2, 6, 10, 15, 30, 45, 60, 75 MILLIONTHS OF I
(9-Jun-93) CORONAL HOLES ARE SHOWN AS WHITE SURROUNDED BY BLACK

CARRINGTON ROTATION NUMBER 1868 ; SAC. PEAK FE X AT R = 1.15
DOY OF CMP

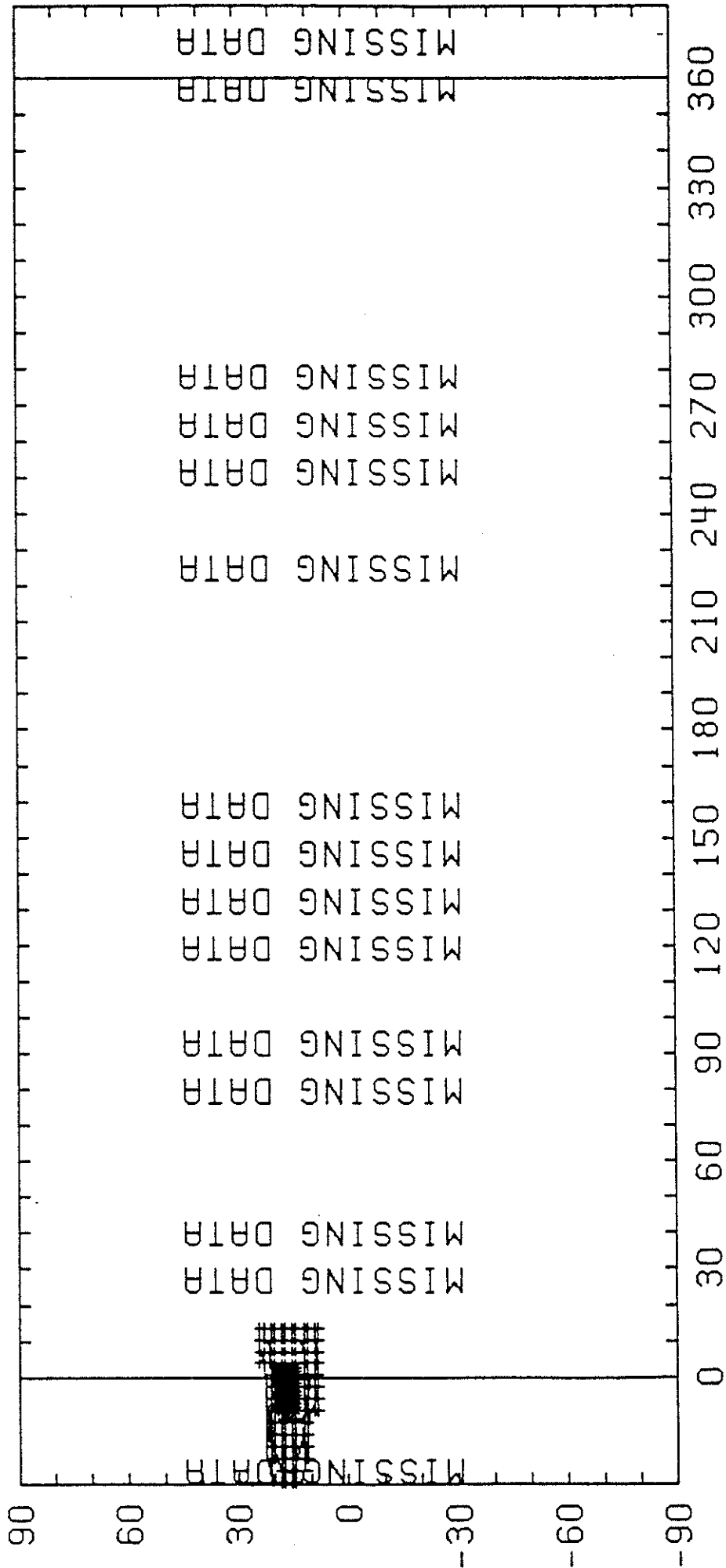


0 30 60 90 120 150 180 210 240 270 300 330 360
 HELIOGRAPHIC LONGITUDE Iove = 2.99μ W
 1993 W+E LIMB CONTOURS: 1,2,4,8,16,32,48,64,80 MILLIONTHS OF Io
 (9-Jun-93)

CARRINGTON ROTATION NUMBER 1868 ; SAC. PEAK CA XV at R = 1.13

120 DOY OF CMP₁₁₄

132 126 120 108 102

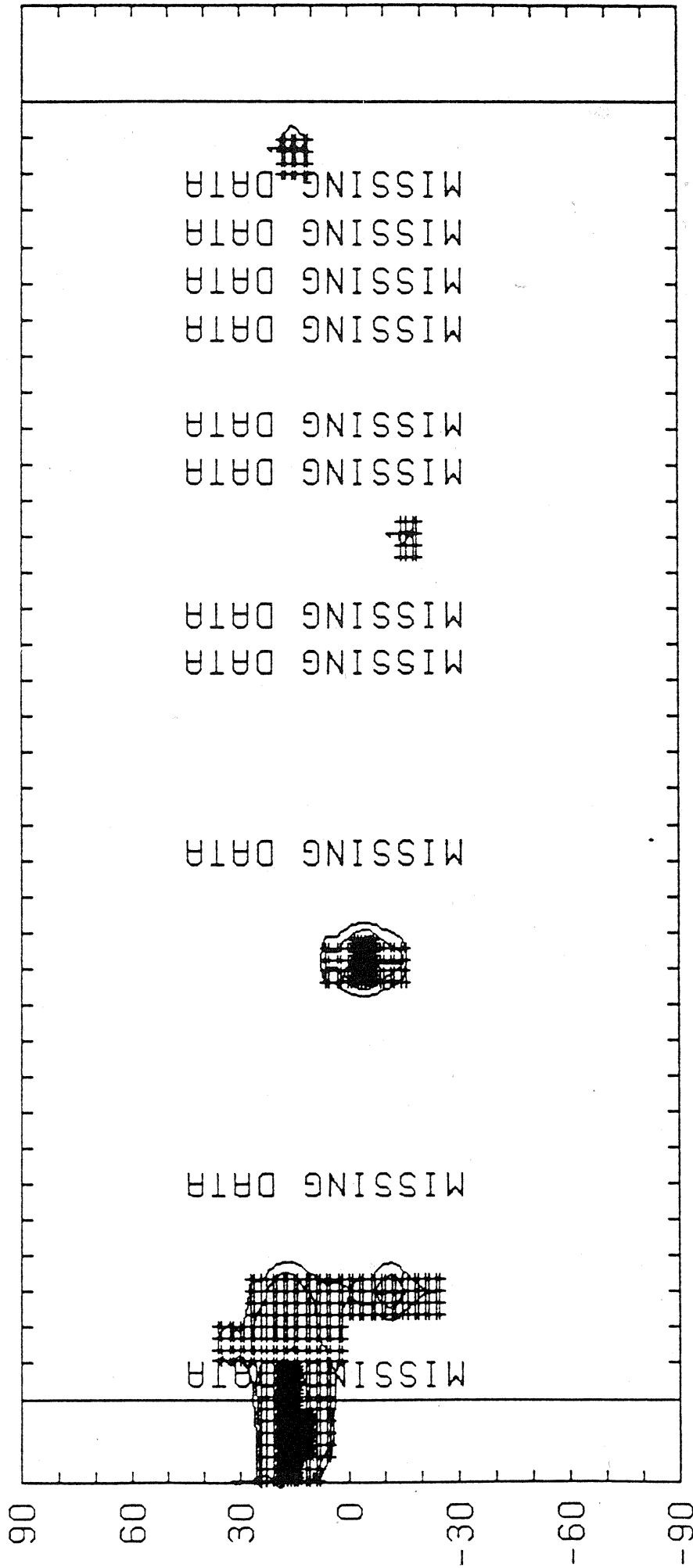


E
1993 EAST LIMB CONTOURS: YELLOW-MINIMUM, 1, 2, 4, 8 MILLIONTHS OF Io
(9-Jun-93)

CARRINGTON ROTATION NUMBER 1868 ; SAC. PEAK CA XV at R = 1.13

DOY OF CMP₁₄

132 126 120 108 102



HELIOGRAPHIC LONGITUDE

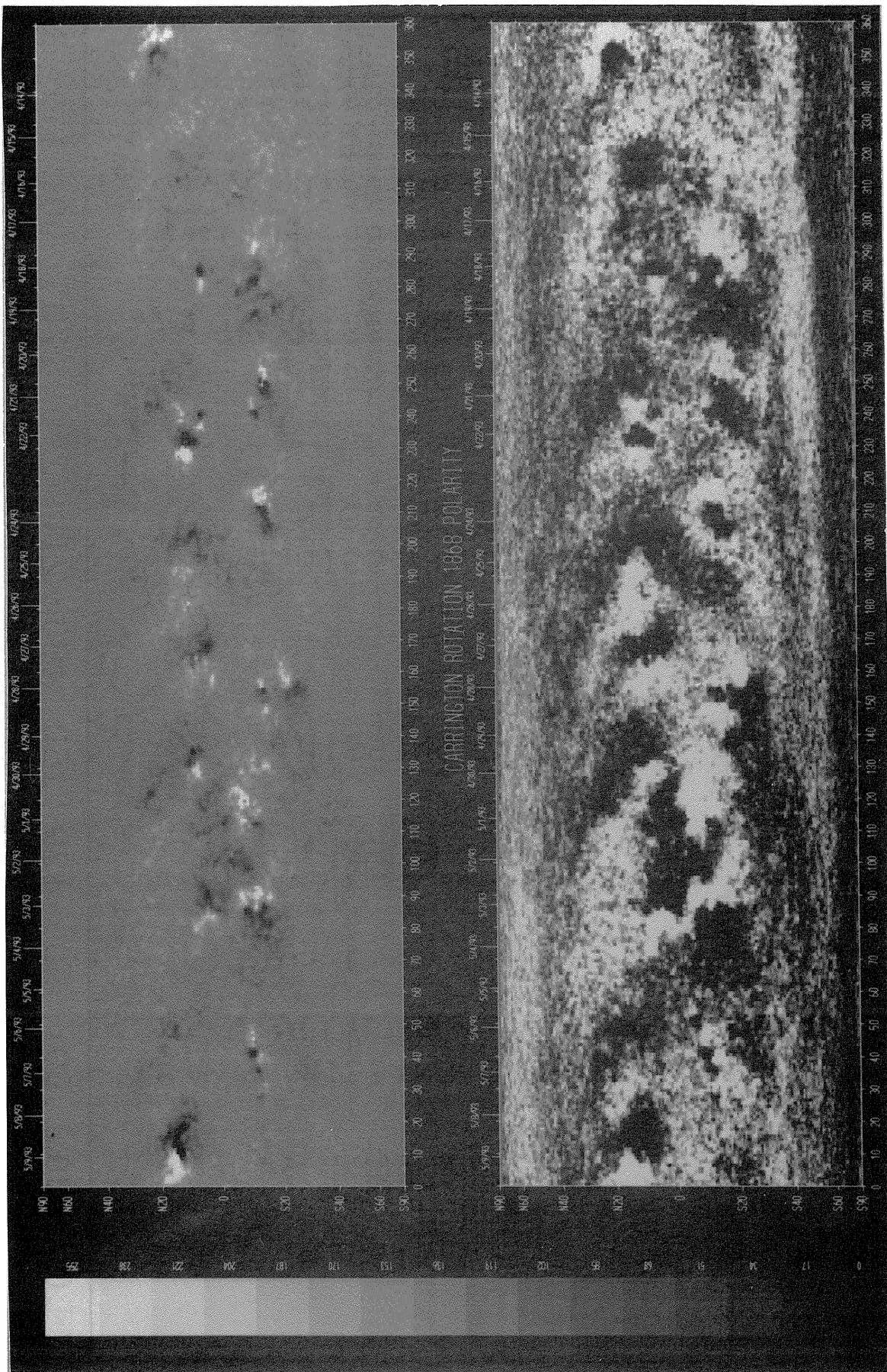
1993 WEST LIMB CONTOURS: YELLOW-MINIMUM, 1, 2, 4, 8 MILLIONTHS OF Io

(9-Jun-93)

SOLAR MAGNETIC FIELD SYNOPSIS CHART
CARRINGTON ROTATION NUMBER 1868
(13 April to 10 May 1993)

National Solar Observatory/Kitt Peak

Dates of Observation

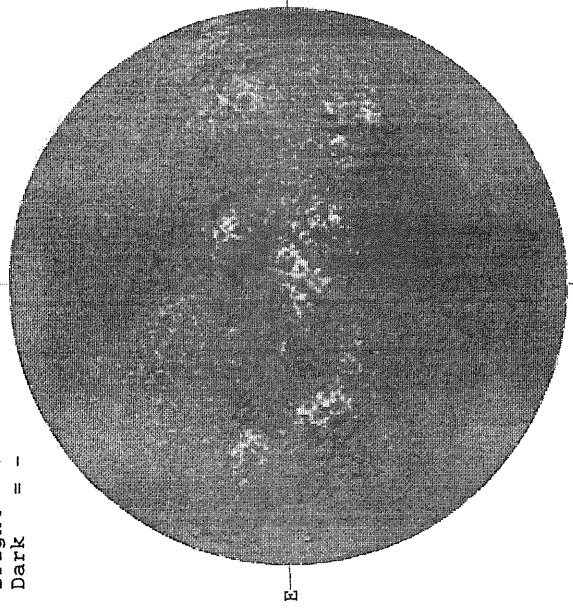


Heliographic Longitude

MAY 1, 1993 (P=-24.14, B₀ = -4.15, L₀ = 122.48)

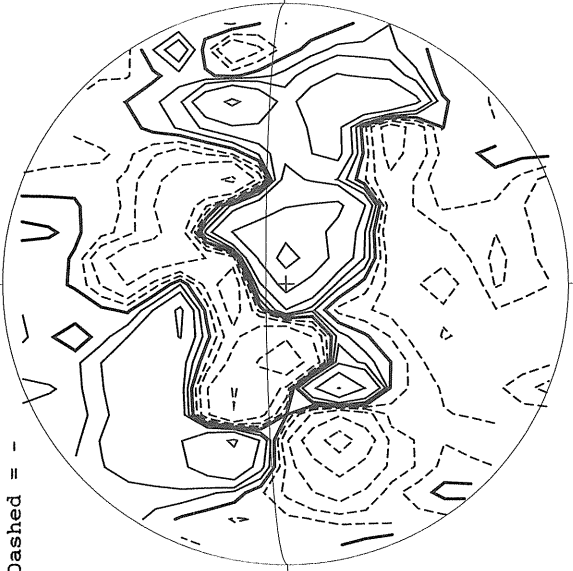
KITT PEAK MAGNETOGRAM
N **5507A**

Bright = +
Dark = -



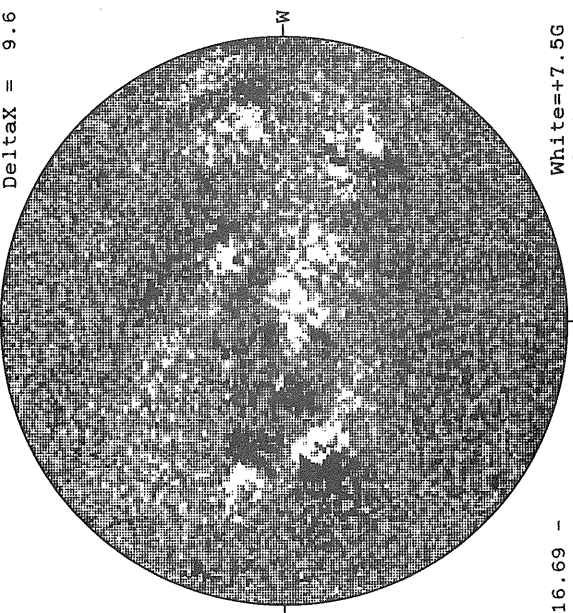
STANFORD MAGNETOGRAM
N

Solid = +
Dashed = -



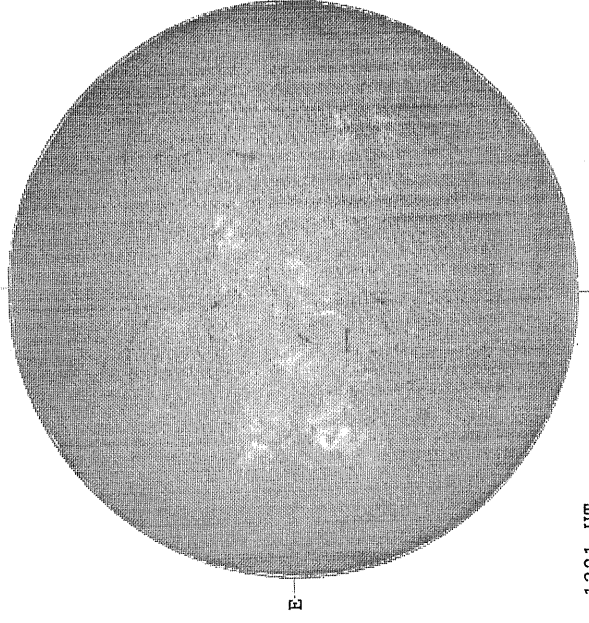
MT. WILSON MAGNETOGRAM
N

DeltaY = 13.1
DeltaX = 9.6

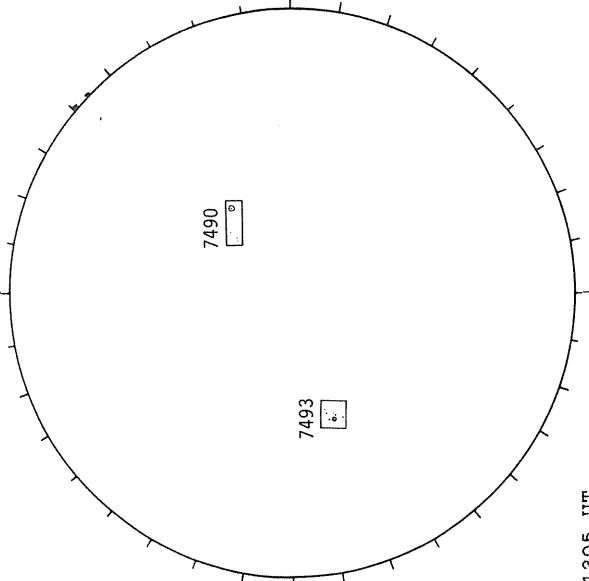


White = +7.5G
Black = -7.5G

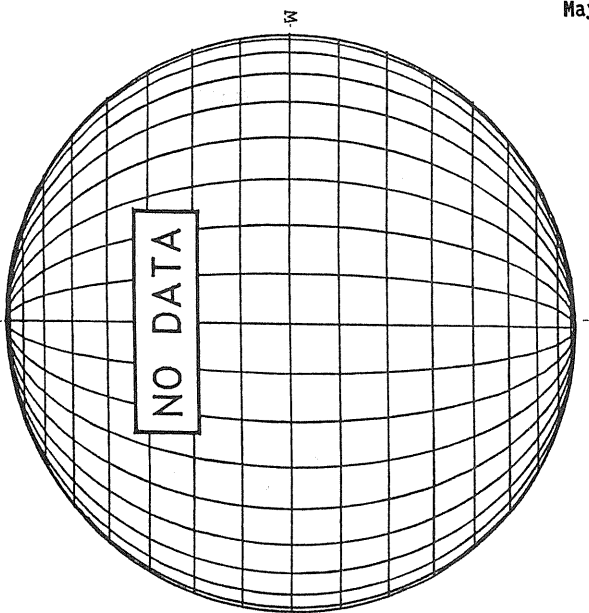
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

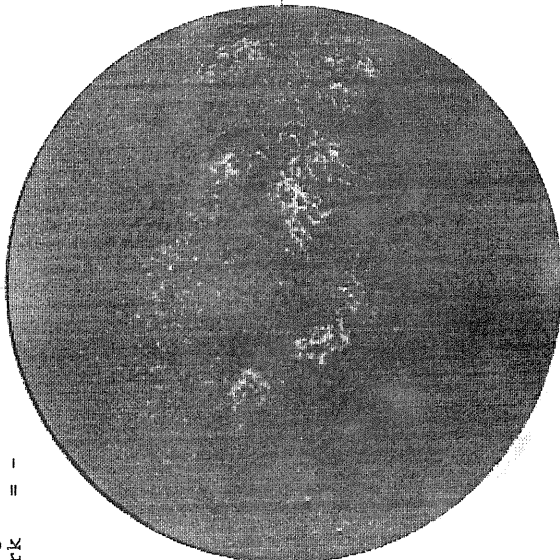


MAY 2, 1993 (P=-23.96, B₀ = -4.05, L₀ = 109.27)

KITT PEAK MAGNETOGRAM

N **5507A**

Bright = +
Dark = -

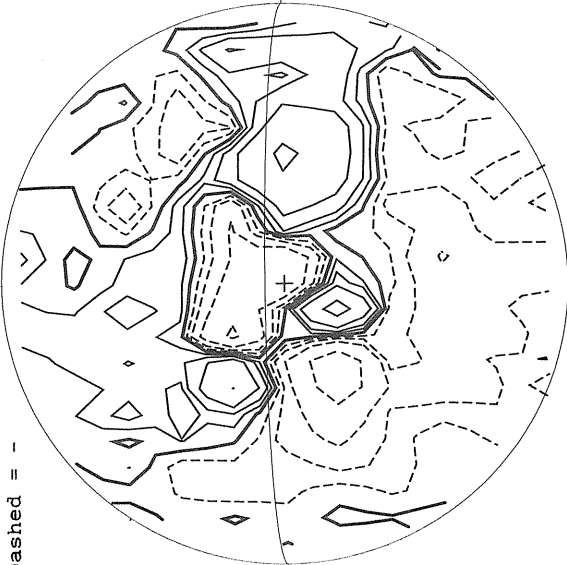


1425 UT

STANFORD MAGNETOGRAM

N

Solid = +
Dashed = -

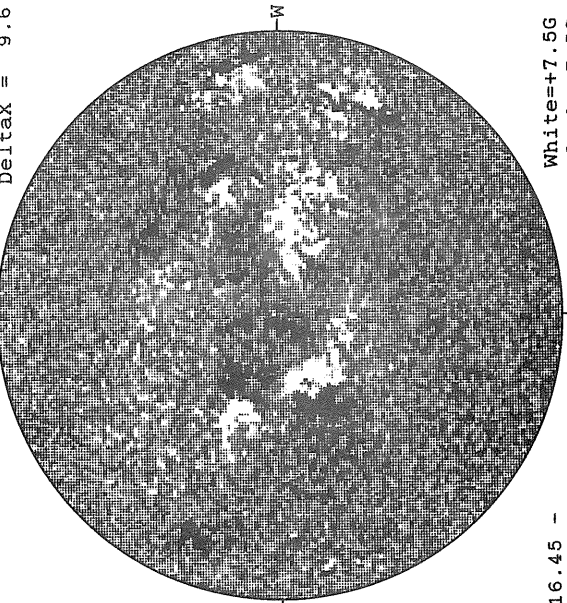


2154 UT

MT. WILSON MAGNETOGRAM

N

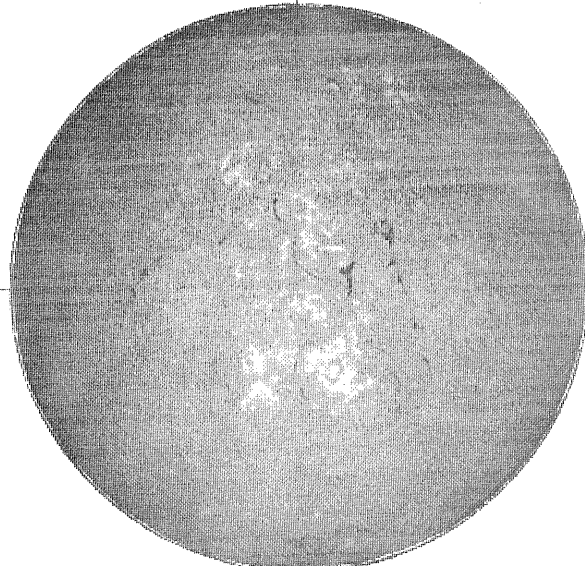
Delta_{ay} = 13.1
Delta_{ax} = 9.6



16.45 -
17.38 UT

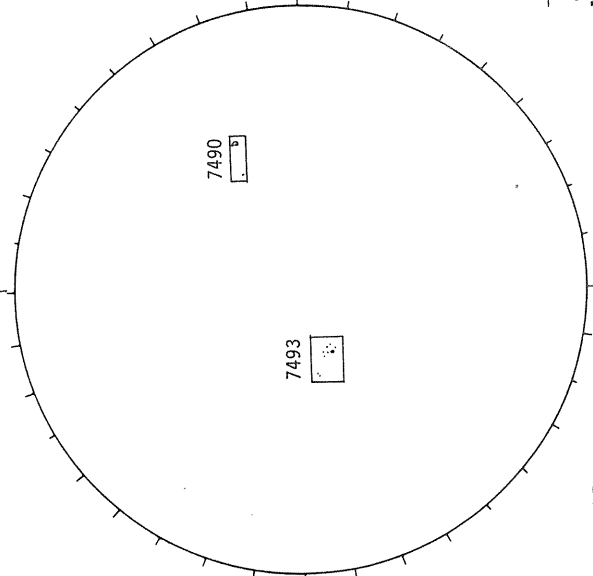
White = +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



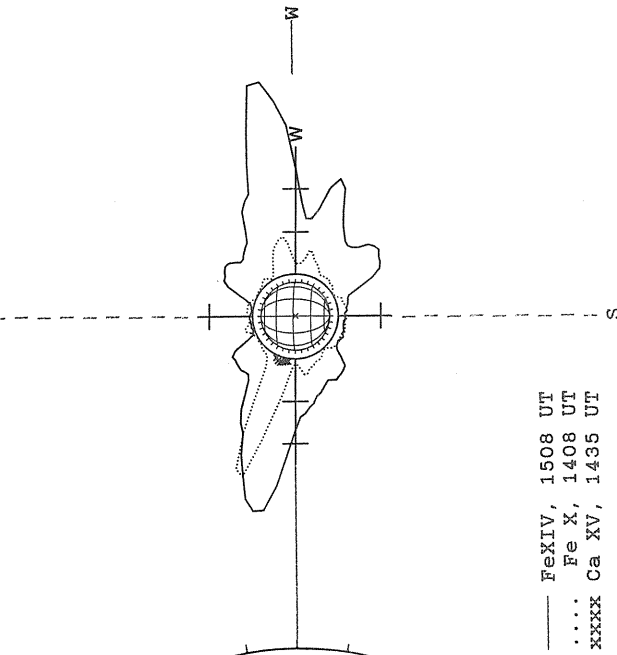
1346 UT

BOULDER SUNSPOT



1340 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

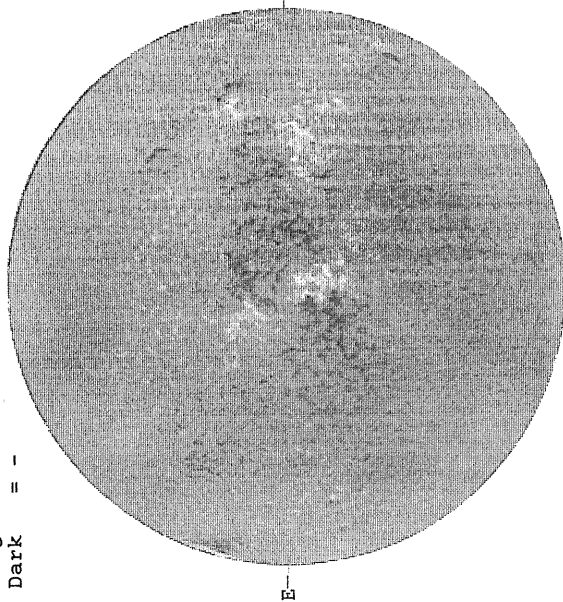


— Fe XIV, 1508 UT
.... Fe X, 1408 UT
xxxxx Ca XV, 1435 UT

MAY 3, 1993 (P=-23.77, B₀ = -3.95, L₀ = 96.05)

KITT PEAK MAGNETOGRAM
N

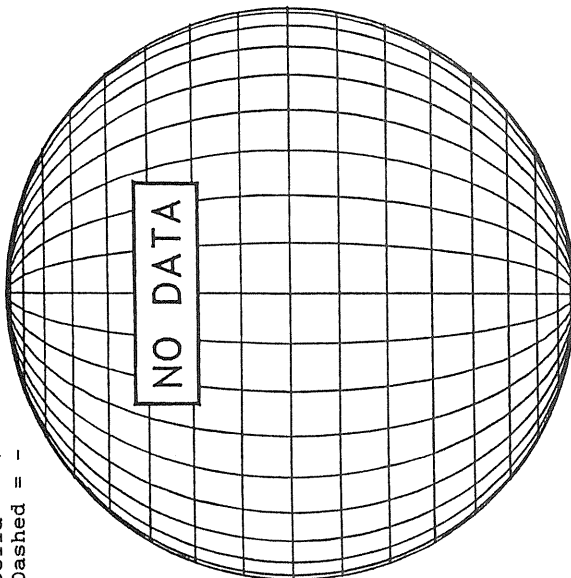
Bright = +
Dark = -



1557 UT

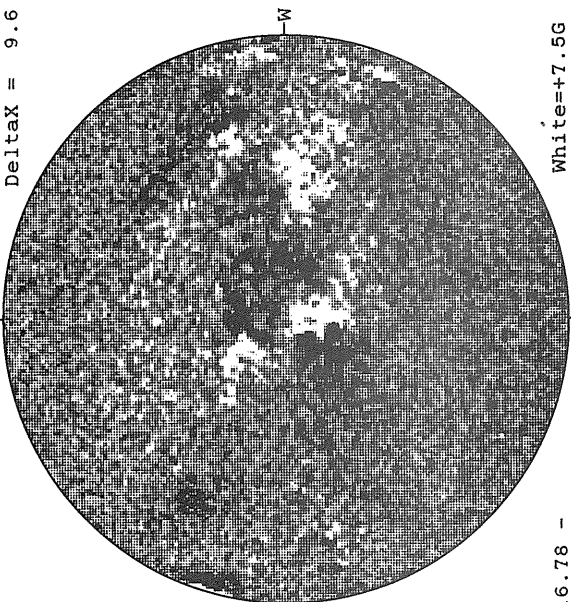
STANFORD MAGNETOGRAM
N

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM
N

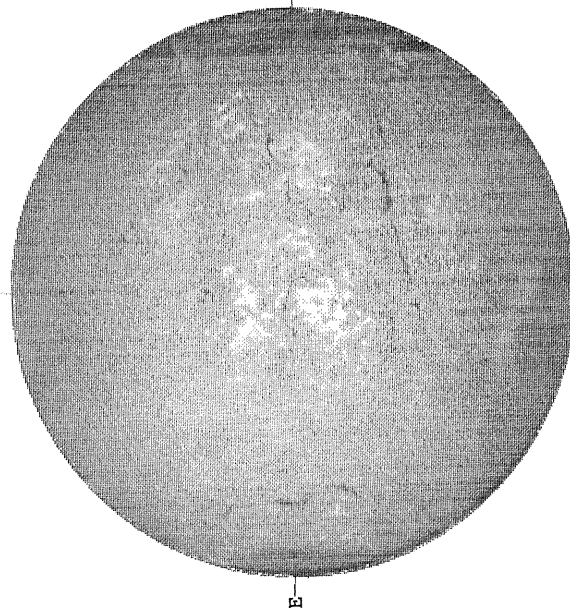
Delta_Y = 13.1
Delta_X = 9.6



16.78 -
17.71 UT

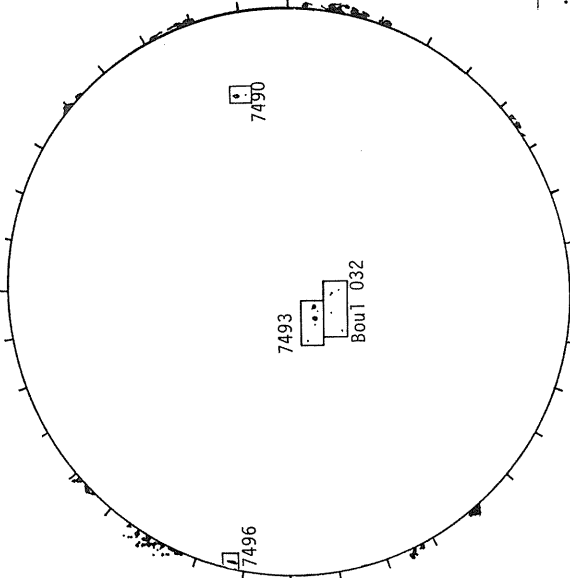
White = +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



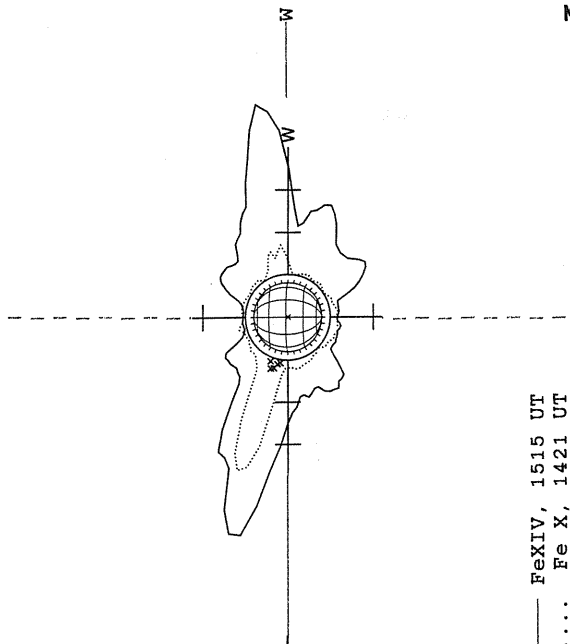
1329 UT

BOULDER SUNSPOT



1400 UT
0526 UT LOMN Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



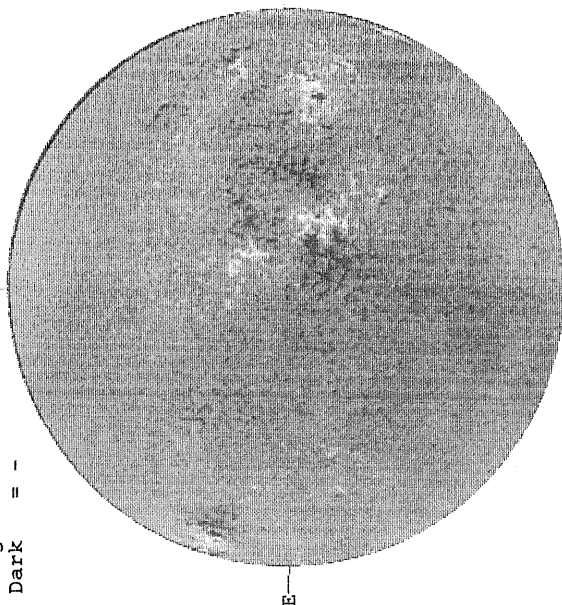
— Fe XIV, 1515 UT
.... Fe X, 1421 UT
xxxx Ca XV, 1449 UT

MAY 4, 1993 (P=-23.58, B₀ = -3.84, L₀ = 82.83)

KITT PEAK MAGNETOGRAM

N **5507A**

Bright = +
Dark = -

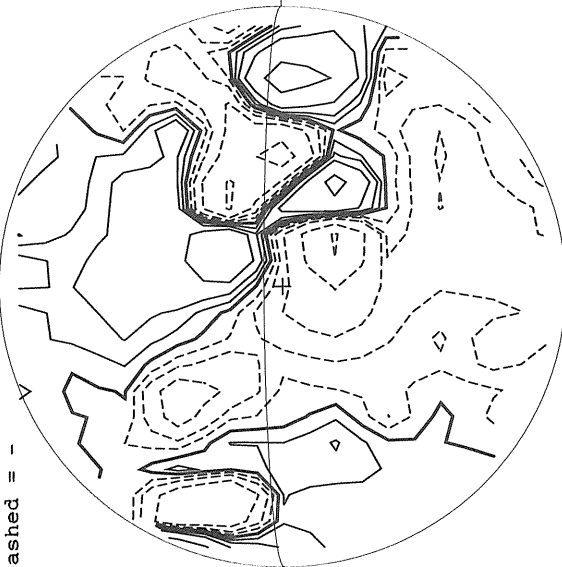


1552 UT

STANFORD MAGNETOGRAM

N

Solid = +
Dashed = -

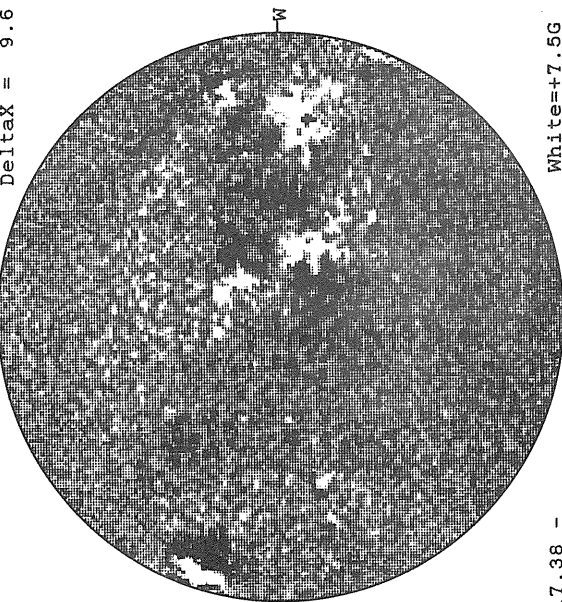


0002 UT
MAY 05

MT. WILSON MAGNETOGRAM

N

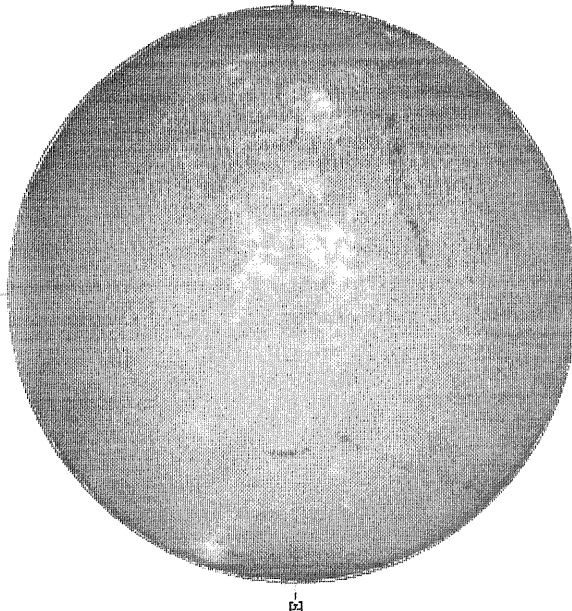
DeltaY = 13.1
DeltaX = 9.6



17.38 -
18.31 UT

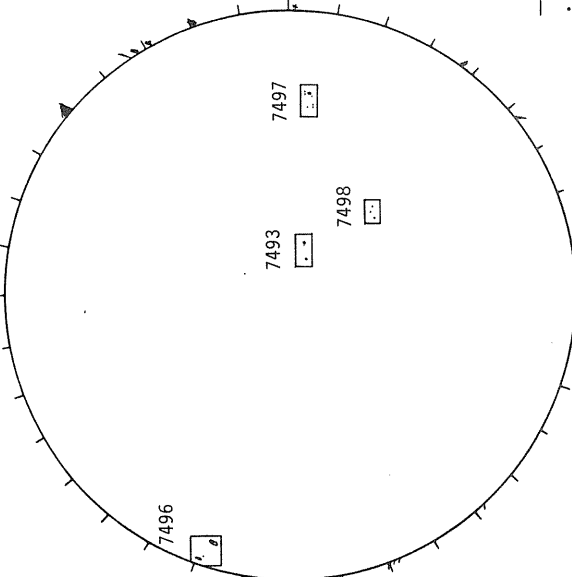
White = +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



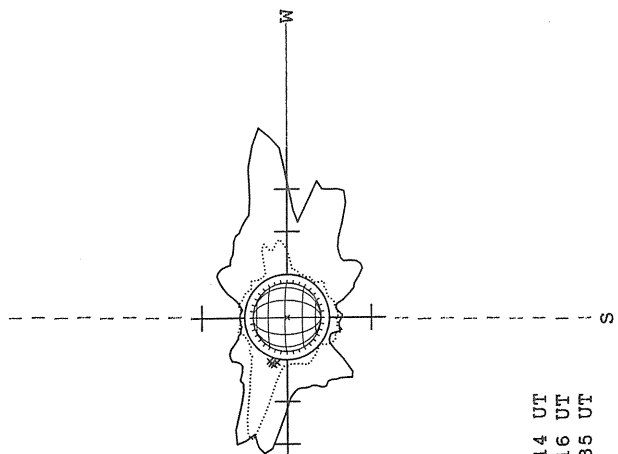
1316 UT

BOULDER SUNSPOT



1355 UT
1431 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



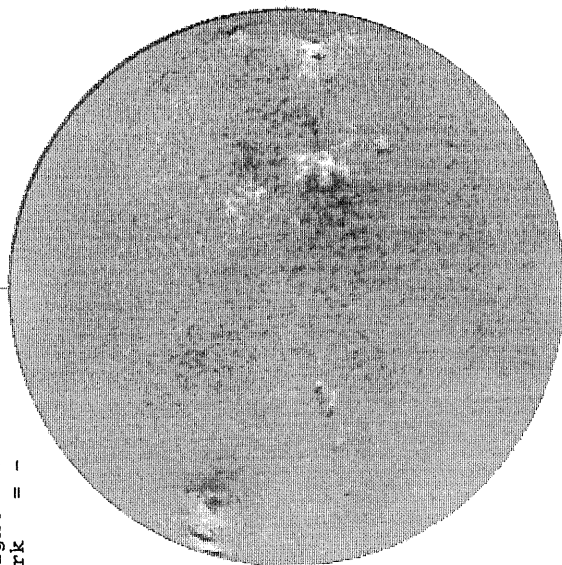
— Fe XIV, 1514 UT
... Fe X, 1416 UT
xxxx Ca XV, 1435 UT

MAY 5, 1993 (P=-23.38, B₀ = -3.74, L₀ = 69.61)

KITT PEAK MAGNETOGRAM

N **5507A**

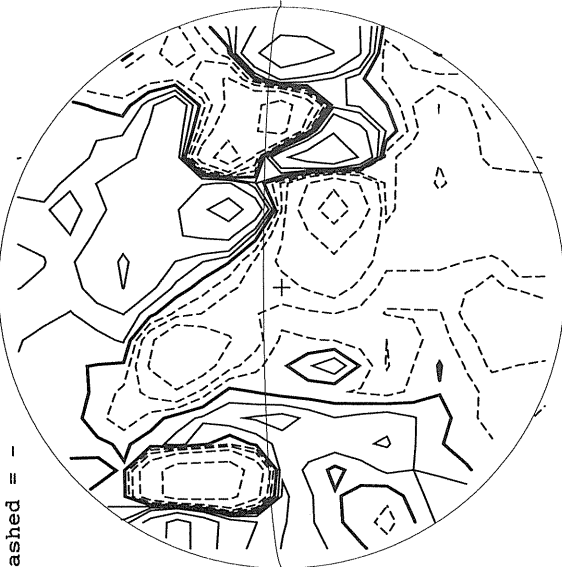
Bright = +
Dark = -



STANFORD MAGNETOGRAM

N

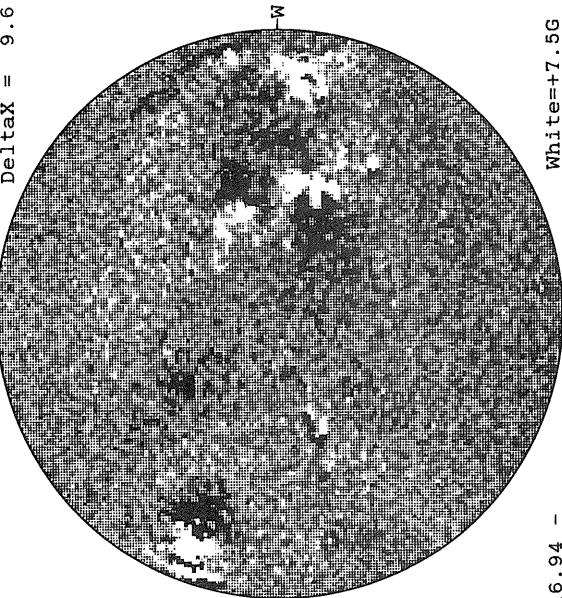
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

N

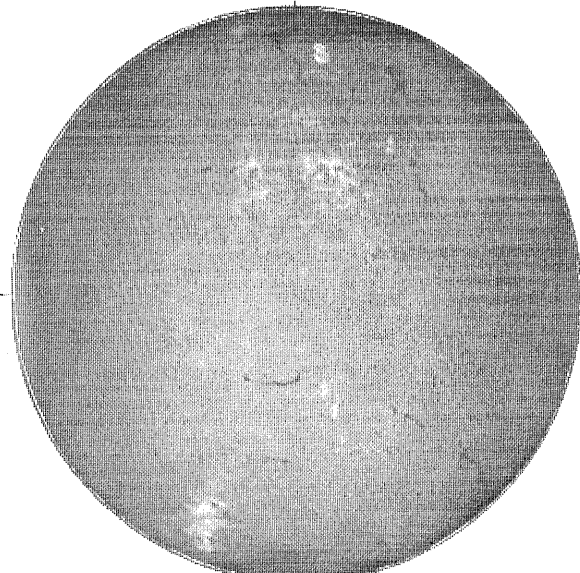
DeltaY = 13.1
DeltaX = 9.6



16.94 -
17.87 UT

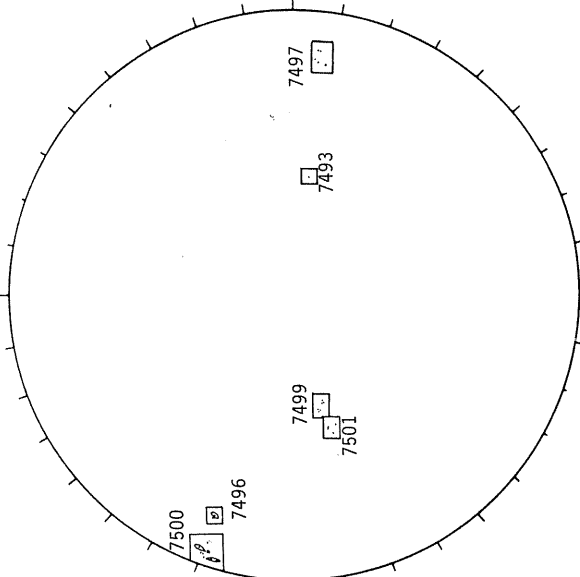
White = +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



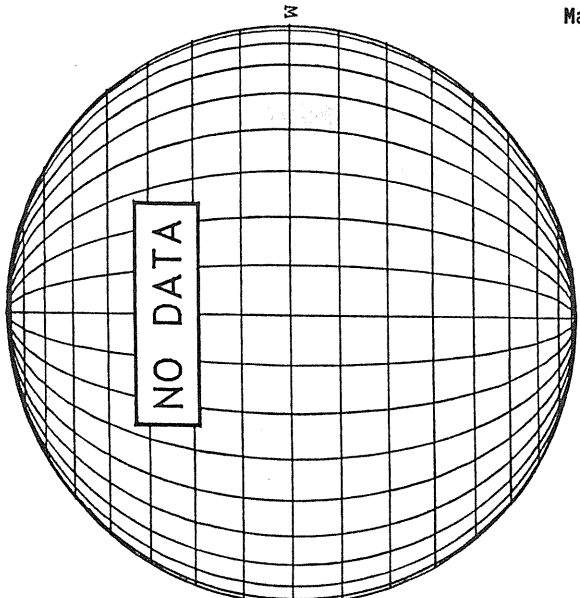
1715 UT

RAMEY SUNSPOT



1330 UT
0511 UT LOMN Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

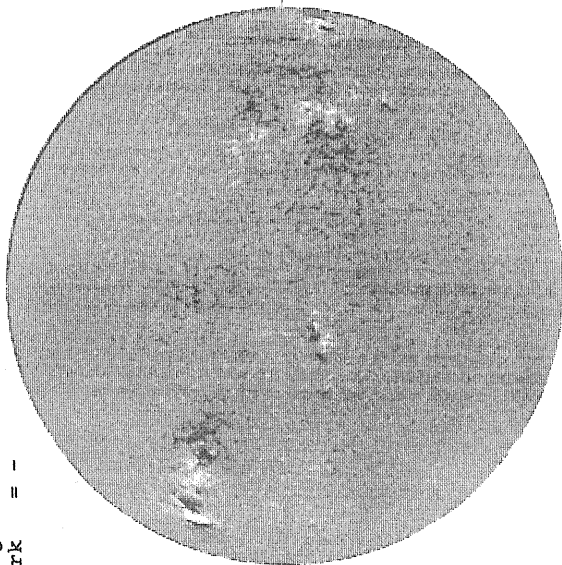


MAY 6, 1993 (P=-23.17, B₀ =-3.63, L₀ = 56.39)

KITT PEAK MAGNETOGRAM

5507A

Bright = +
Dark = -



1413 UT

STANFORD MAGNETOGRAM

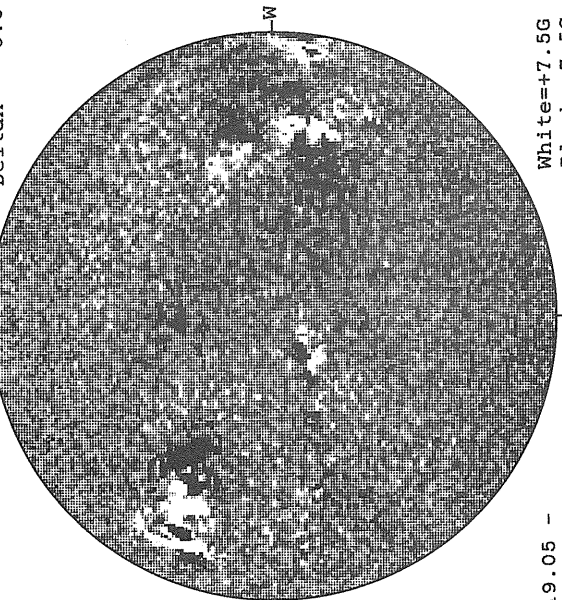
Solid = +
Dashed = -



0104 UT
MAY 07

MT. WILSON MAGNETOGRAM

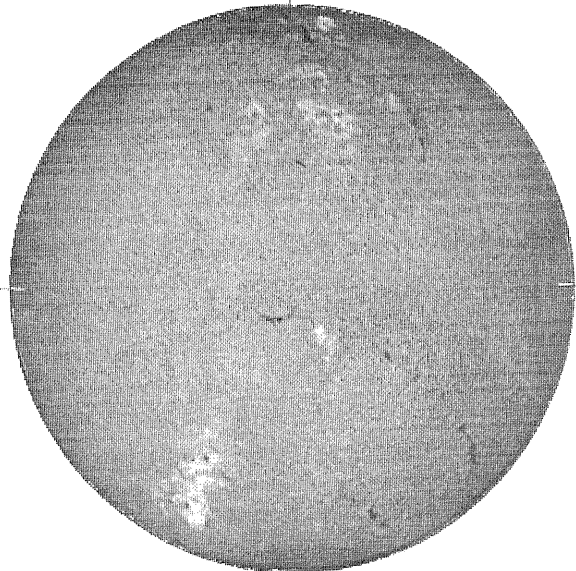
Delta Y = 13.1
Delta X = 9.6



19.05 -
19.98 UT

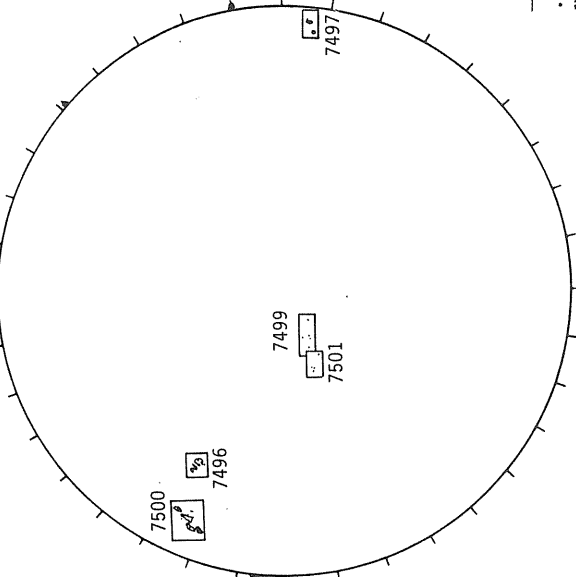
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



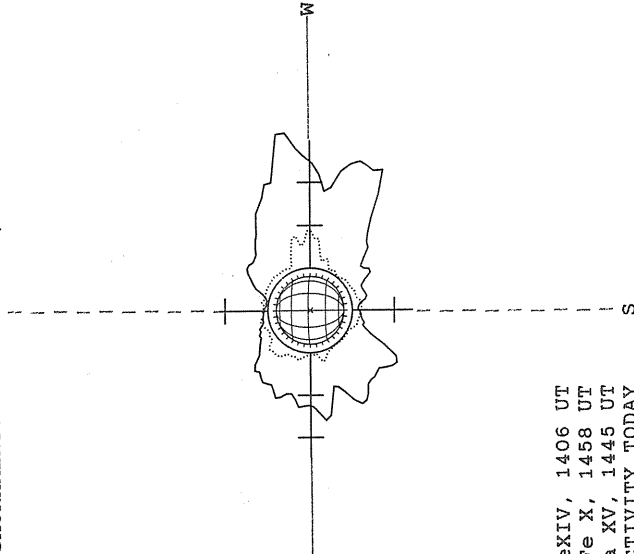
1435 UT

BOULDER SUNSPOT



1500 UT BOUL Prom
1435 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



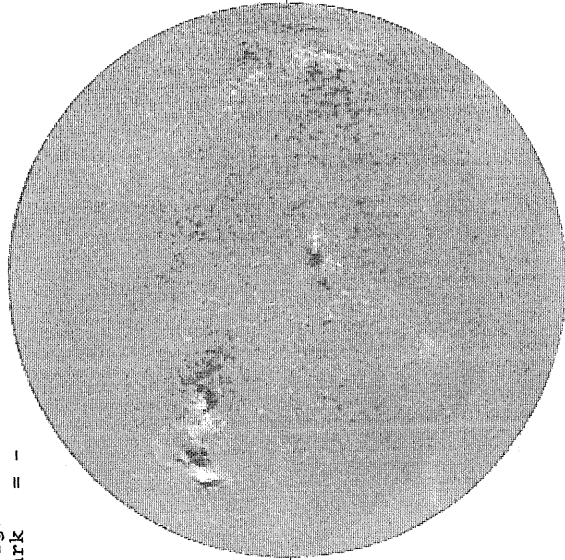
Fe XIV, 1406 UT
Fe X, 1458 UT
xxxx Ca XV, 1445 UT
NO CA XV ACTIVITY TODAY

MAY 7, 1993 (P=-22.95 B₀ = -3.53, I₀ = 43.17)

KITT PEAK MAGNETOGRAM

5507A

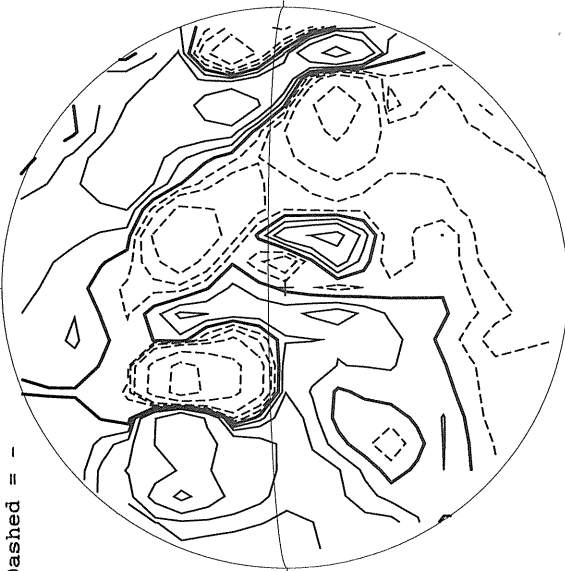
Bright = +
Dark = -



1401 UT

STANFORD MAGNETOGRAM

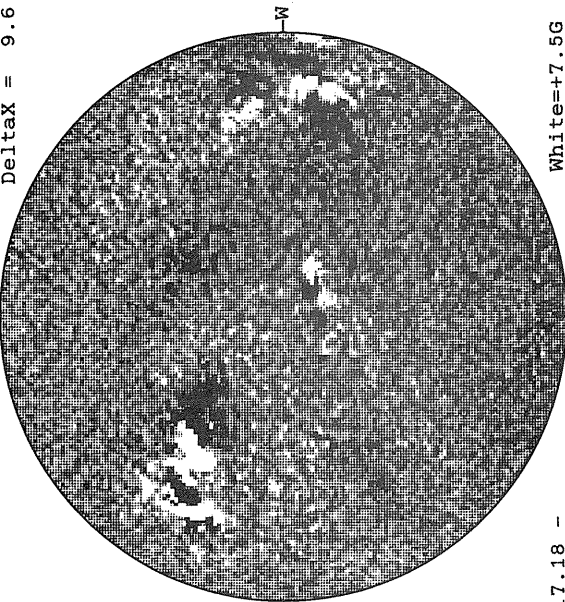
Solid = +
Dashed = -



1659 UT

MT. WILSON MAGNETOGRAM

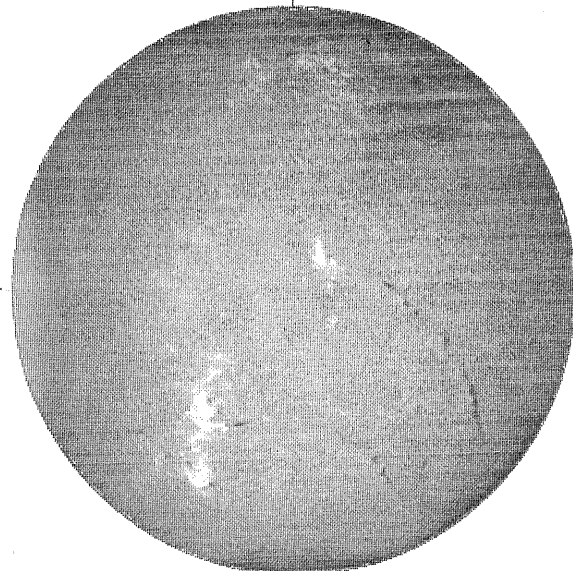
DeltaY = 13.1
DeltaX = 9.6



17.18 -
18.10 UT

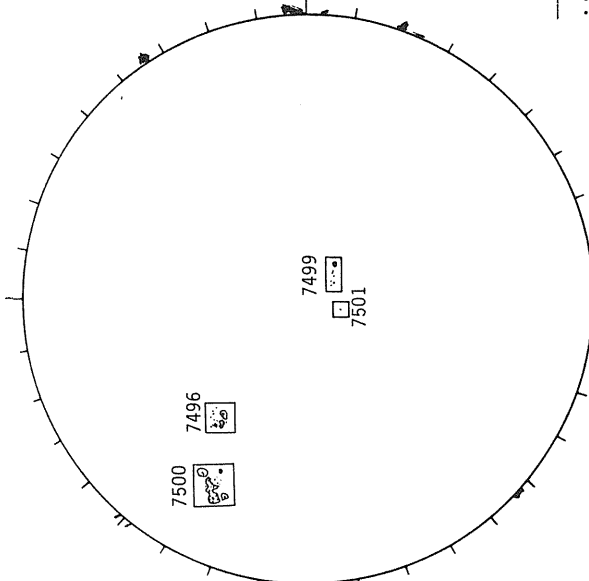
White = +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



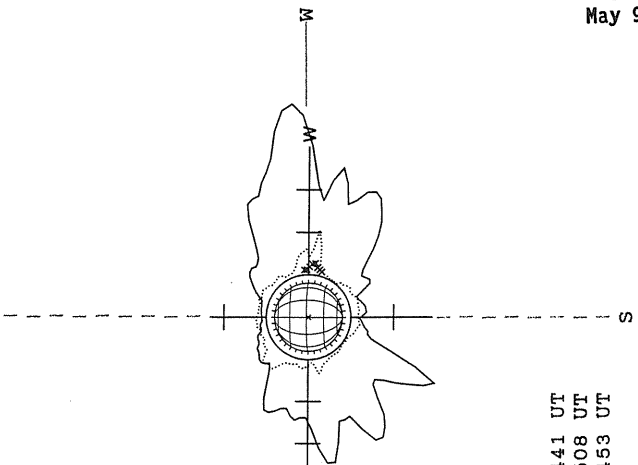
1810 UT

BOULDER SUNSPOT



1410 UT
1339 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



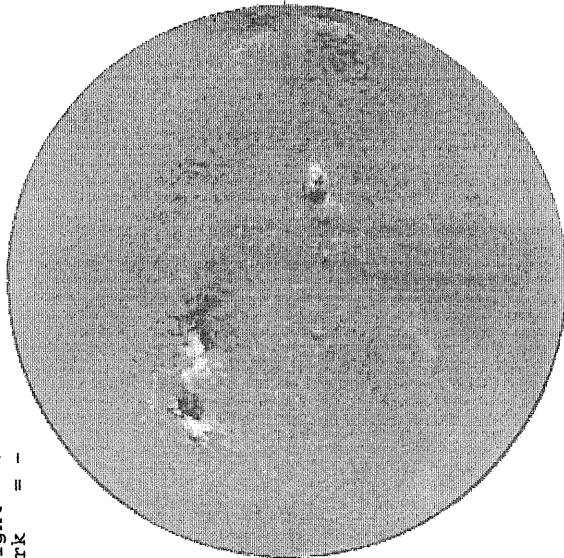
— Fe XIV, 1441 UT
.... Fe X, 1508 UT
xxxx Ca XV, 1453 UT

MAY 8, 1993 (P=-22.73, B_O = -3.42, L_O = 29.95)

KITT PEAK MAGNETOGRAM

5507A

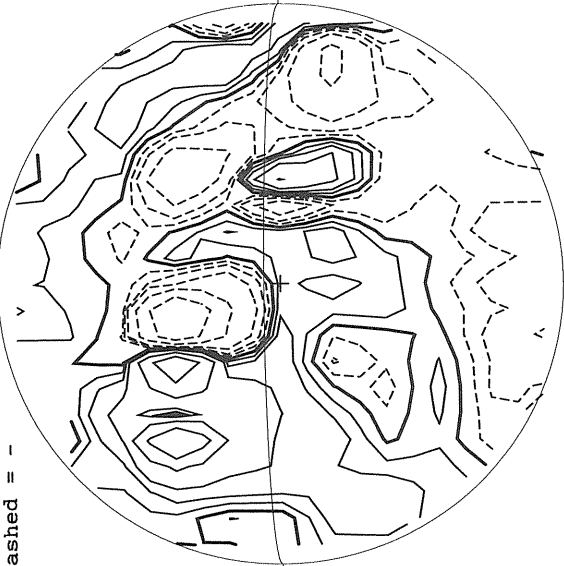
Bright = +
Dark = -



1359 UT

STANFORD MAGNETOGRAM

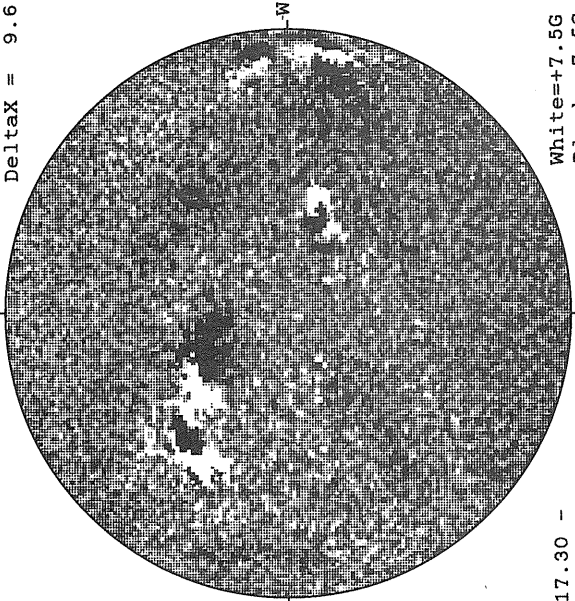
Solid = +
Dashed = -



1704 UT

MT. WILSON MAGNETOGRAM

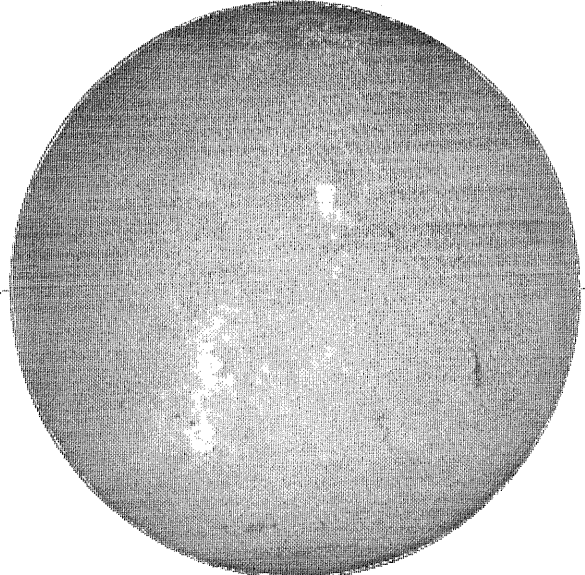
Deltay = 13.1
Deltax = 9.6



17.30 -
18.23 UT

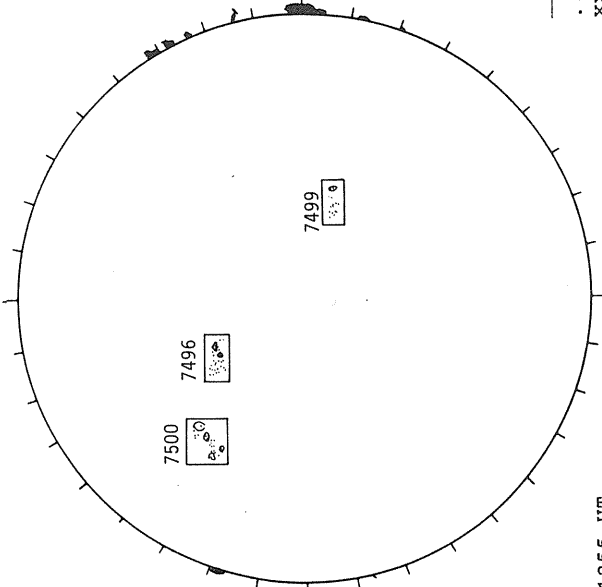
White = +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



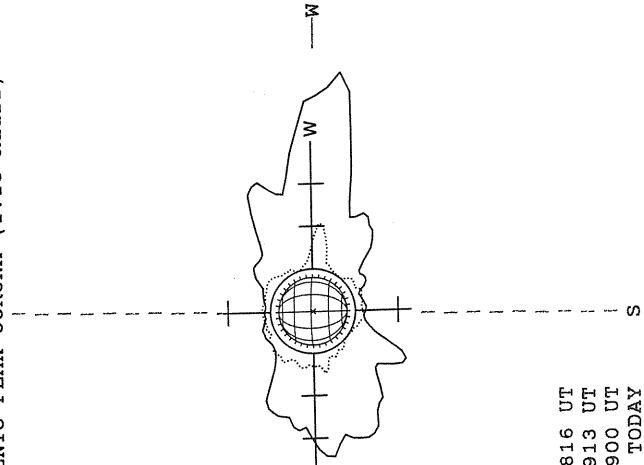
1318 UT

BOULDER SUNSPOT



1355 UT
1410 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



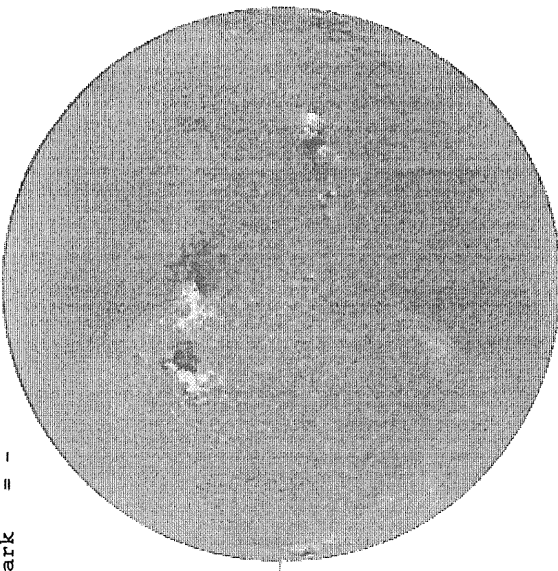
— Fe XIV, 1816 UT
.... Fe X, 1913 UT
xxxx Ca XV, 1900 UT
NO CA XV ACTIVITY TODAY

MAY 9, 1993 (P=-22.50 B₀ = -3.31, L₀ = 16.73)

KITT PEAK MAGNETOGRAM

5607A

Bright = +
Dark = -



1449 UT

STANFORD MAGNETOGRAM

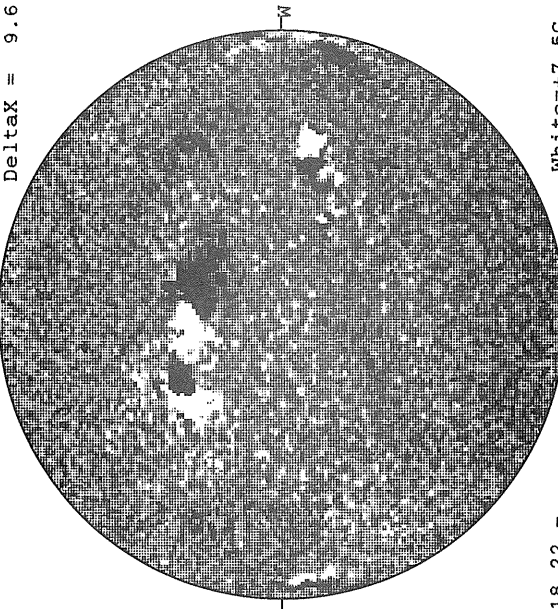
Solid = +
Dashed = -



0003 UT
MAY 10

MT. WILSON MAGNETOGRAM

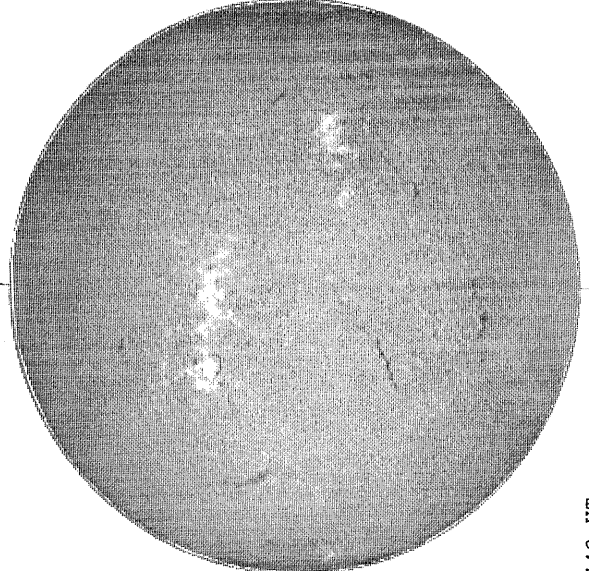
Delta_Y = 13.1
Delta_X = 9.6



18.22 -
19.17 UT

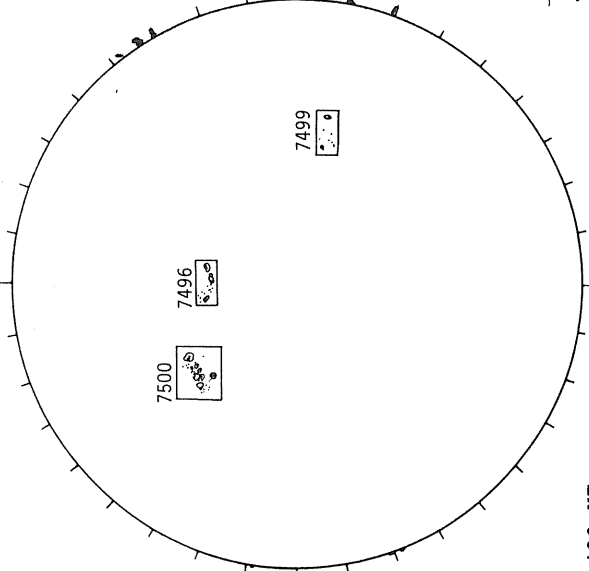
White = +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



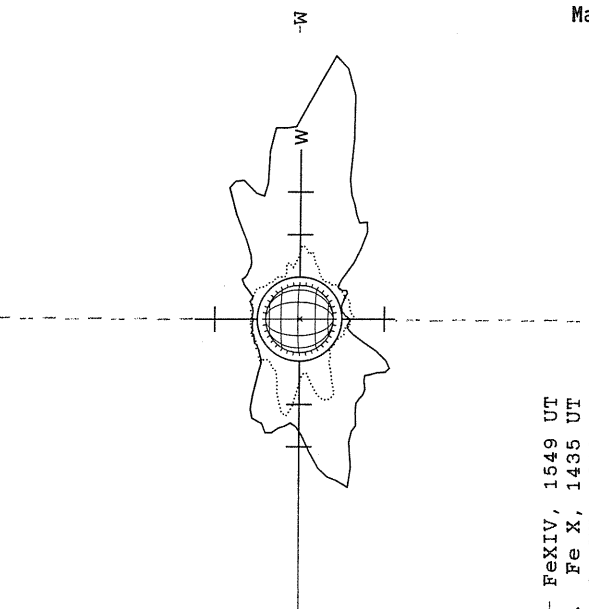
1443 UT

BOULDER SUNSPOT



1420 UT
1405 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



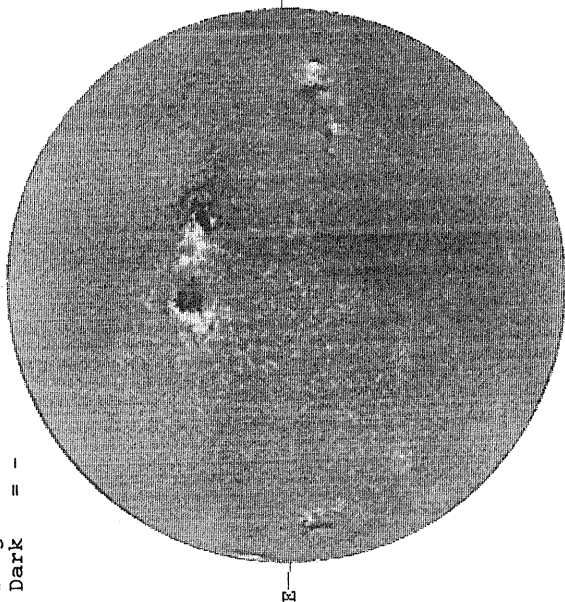
— FeXIV, 1549 UT
.... Fe X, 1435 UT
xxxx Ca XV, 1505 UT
NO CA XV ACTIVITY TODAY

MAY 10, 1993 (P=-22.26, B₀ =-3.20, L₀ = 3.51)

KITT PEAK MAGNETOGRAM

5507A

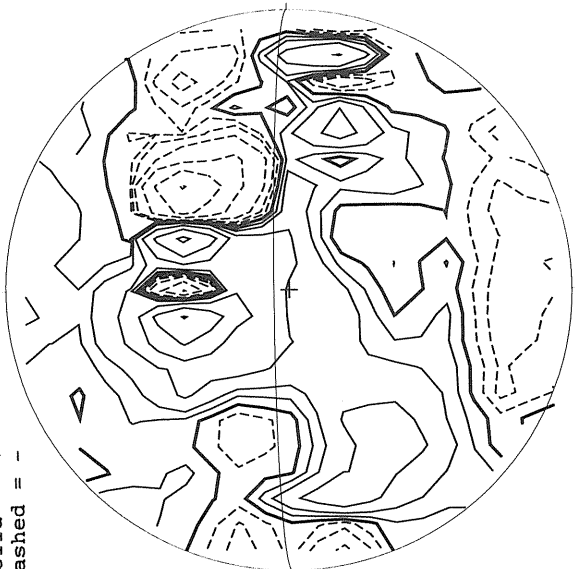
Bright = +
Dark = -



1537 UT

STANFORD MAGNETOGRAM

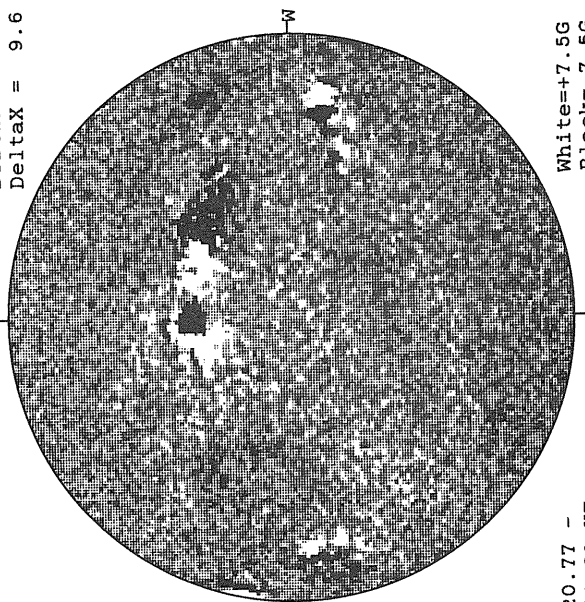
Solid = +
Dashed = -



2146 UT

MT. WILSON MAGNETOGRAM

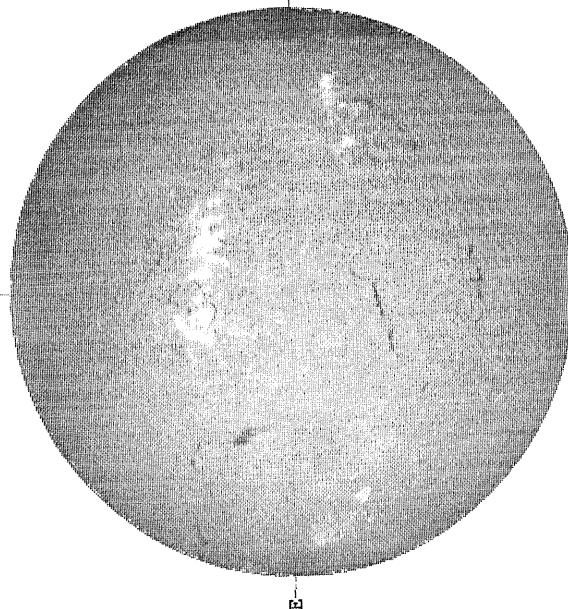
DeltaY = 13.1
DeltaX = 9.6



20.77 -
21.69 UT

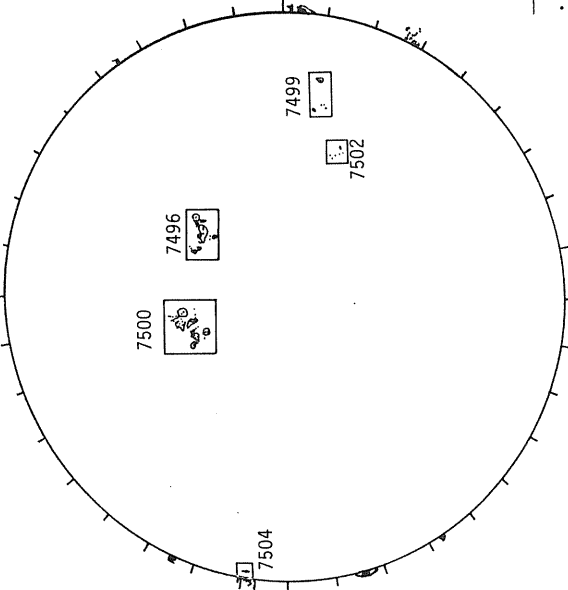
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



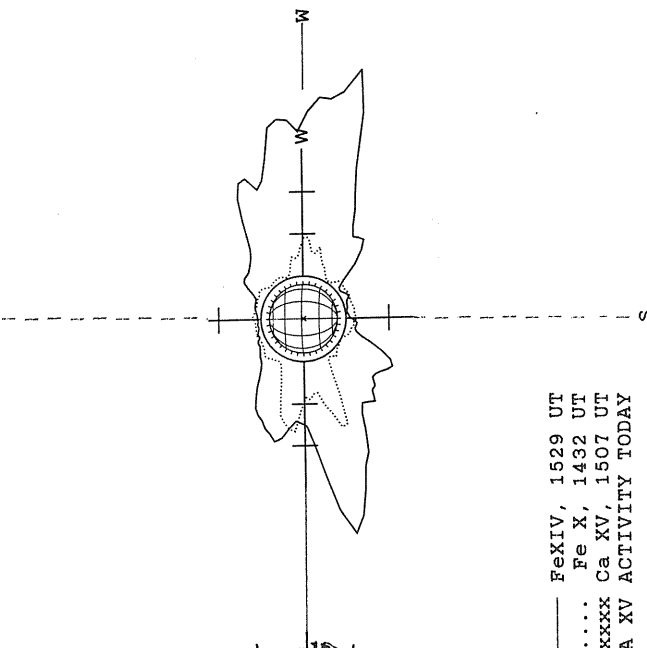
1318 UT

BOULDER SUNSPOT



1430 UT
1336 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



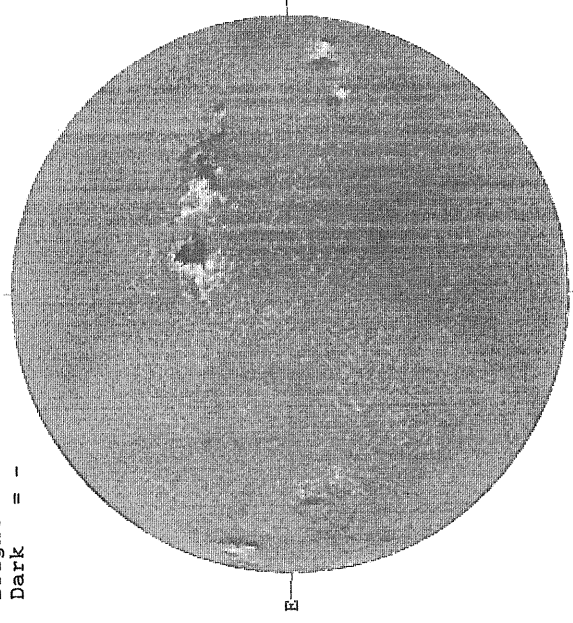
— FeXIV, 1529 UT
.... Fe X, 1432 UT
xxxx Ca XV, 1507 UT
NO CA XV ACTIVITY TODAY

MAY 11, 1993 (P=-22.02, B₀ =-3.09, L₀ = 350.28)

KITT PEAK MAGNETOGRAM

5507A

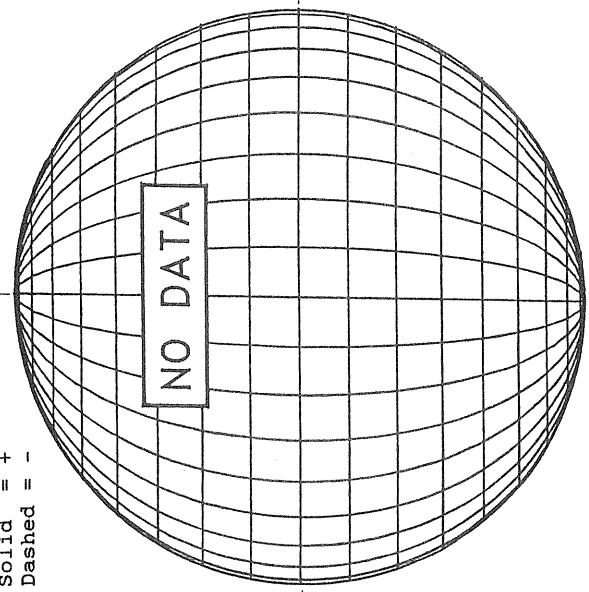
Bright = +
Dark = -



1422 UT

STANFORD MAGNETOGRAM

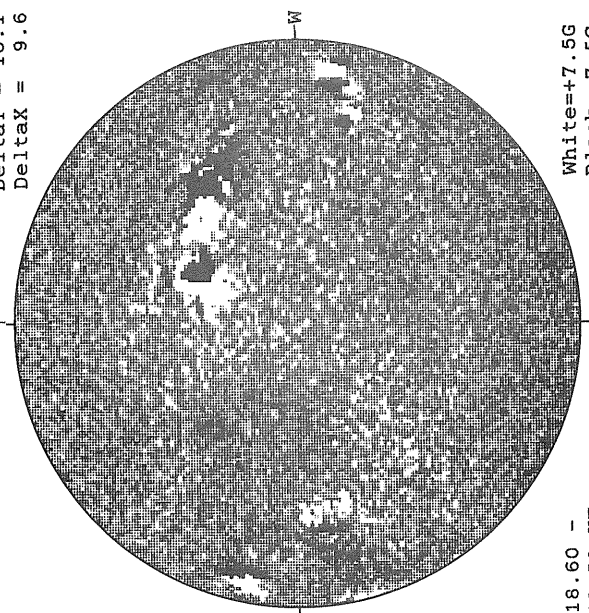
Solid = +
Dashed = -



18.60 -
19.52 UT

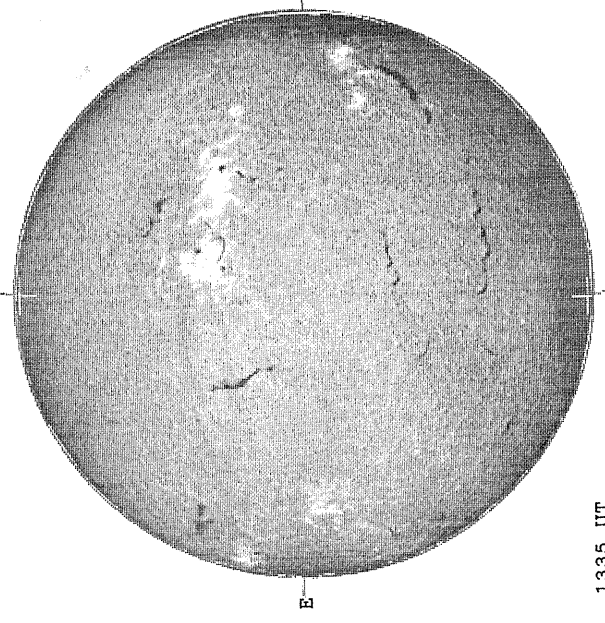
MT. WILSON MAGNETOGRAM

DeltaY = 13.1
DeltaX = 9.6



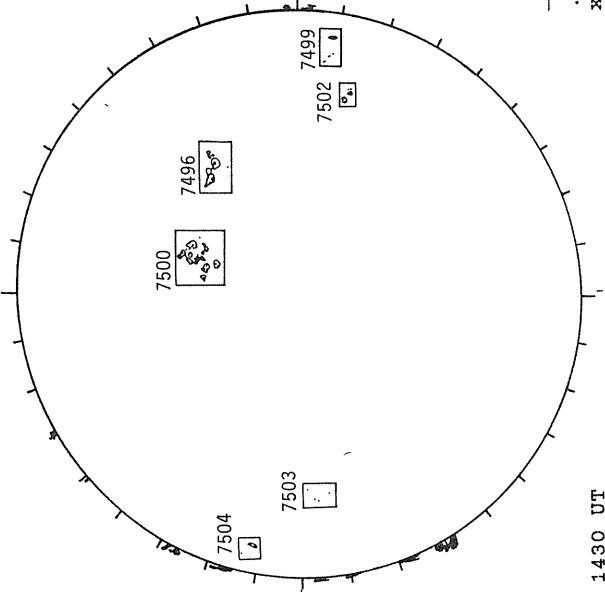
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



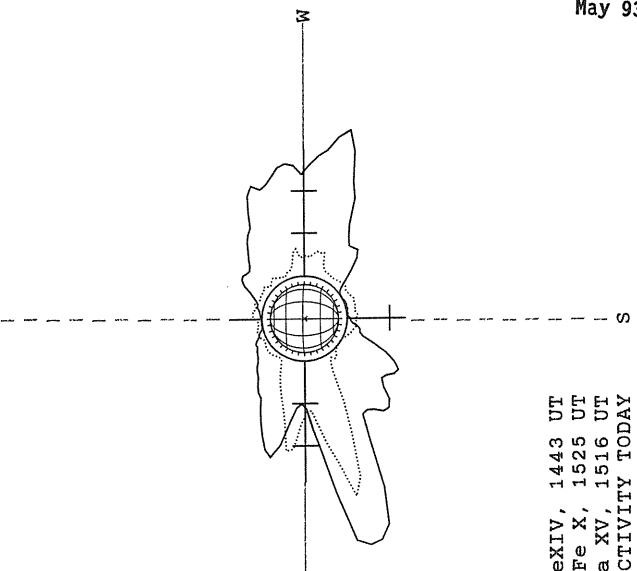
1335 UT

BOULDER SUNSPOT



1430 UT
0455 UT LOMN Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



— FeXIV, 1443 UT
... Fe X, 1525 UT
xxxx Ca XV, 1516 UT
NO CA XV ACTIVITY TODAY

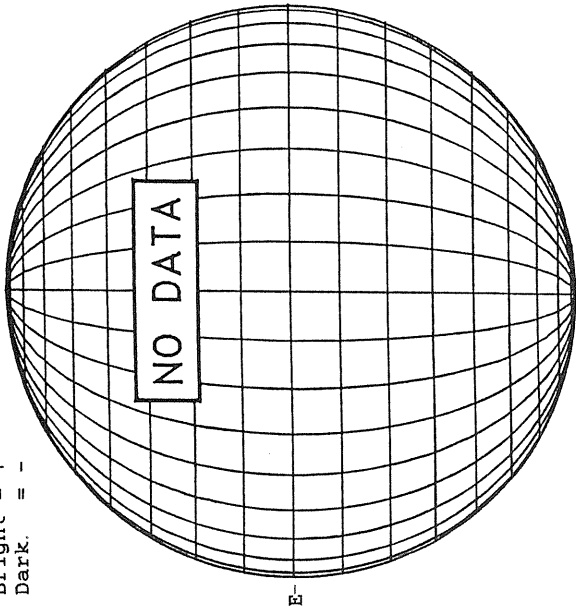
58
May 93

MAY 12, 1993 (P=-21.77, B₀ = -2.98, L₀ = 337.06)

KITT PEAK MAGNETOGRAM

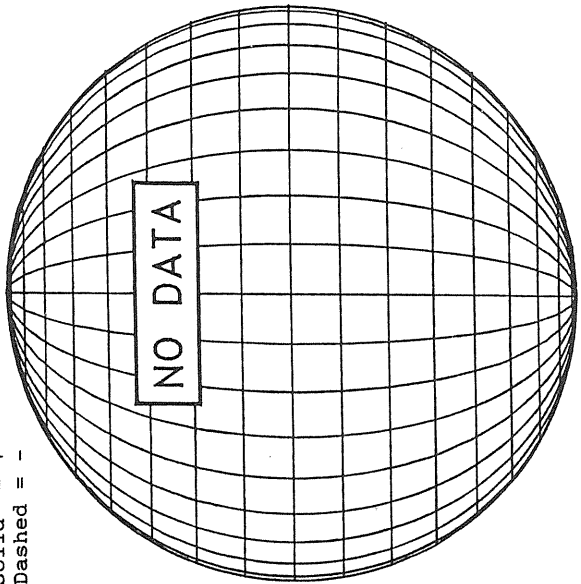
5507A

Bright = +
Dark = -



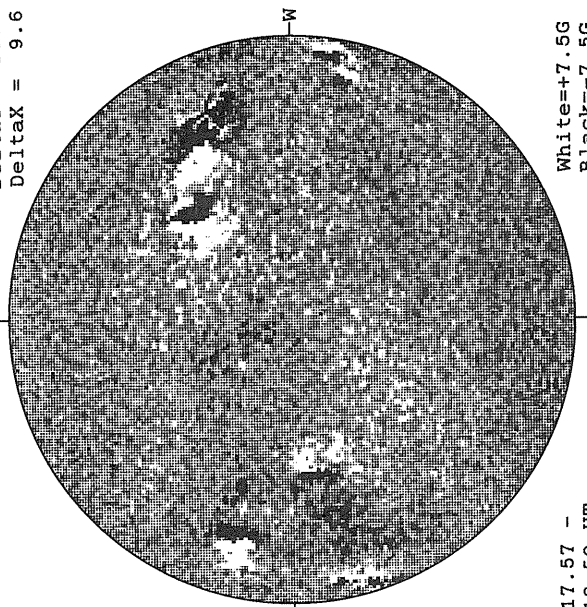
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

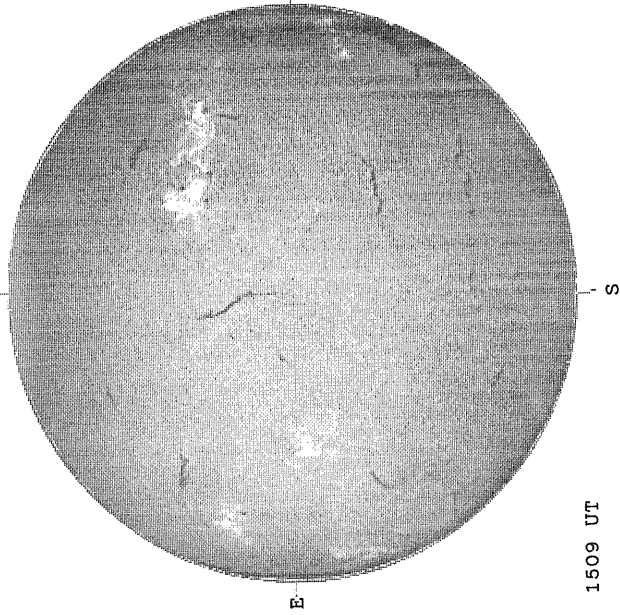
Delta_y = 13.1
Delta_x = 9.6



17.57 -
18.50 UT

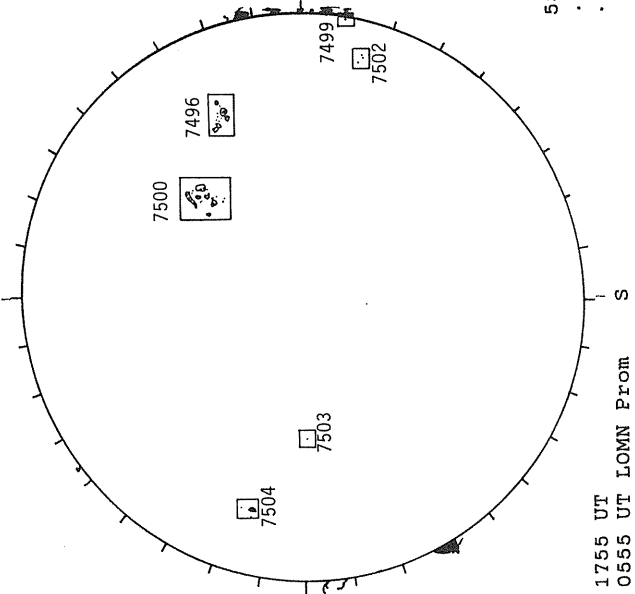
White = +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



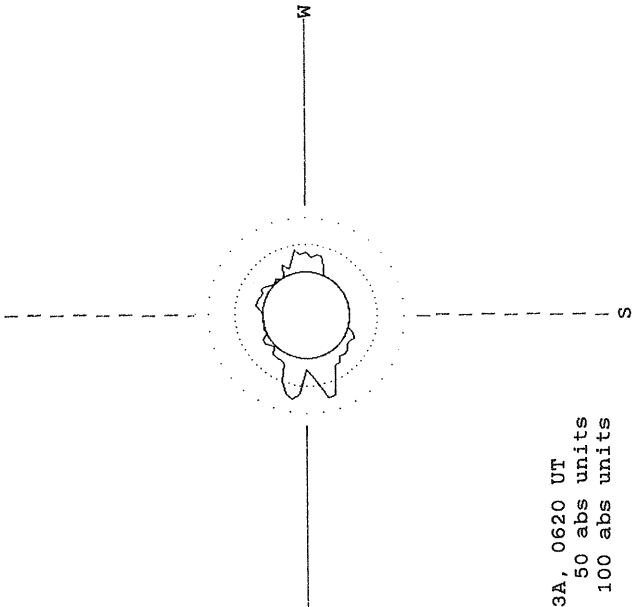
1509 UT

BOULDER SUNSPOT



1755 UT
0555 UT LOMN Prom

LOMNICKY PEAK CORONA (1.15 Radii)



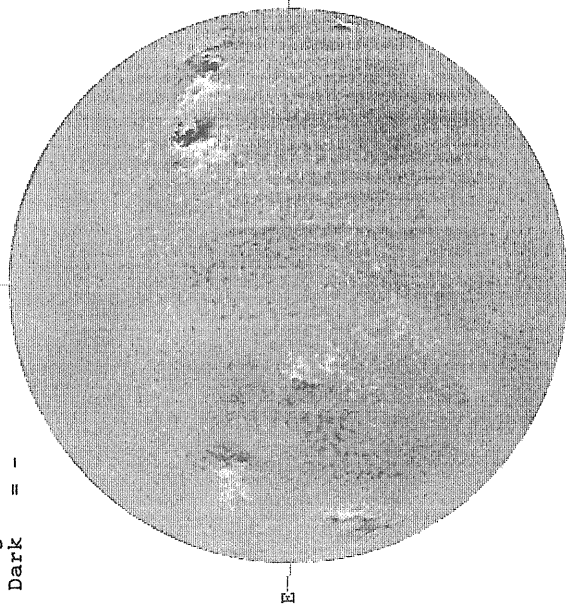
5303A, 0620 UT
... 50 abs units
... 100 abs units

MAY 13, 1993 (P=-21.51, B₀ = -2.87, L₀ = 323.83)

KITT PEAK MAGNETOGRAM

N **5507A**

Bright = +
Dark = -



1353 UT

STANFORD MAGNETOGRAM

N

Solid = +
Dashed = -

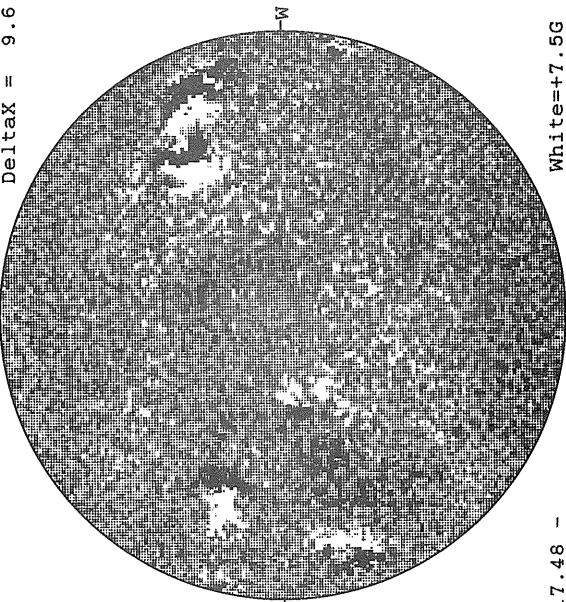


2211 UT

MT. WILSON MAGNETOGRAM

N

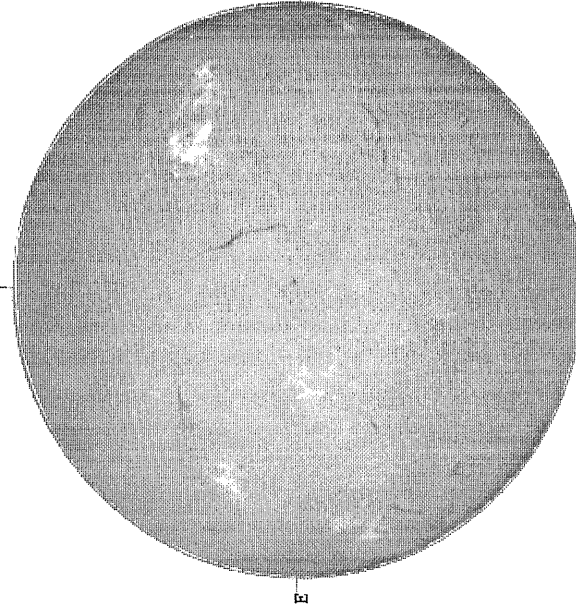
DeltaY = 13.1
DeltaX = 9.6



17.48 -
18.40 UT

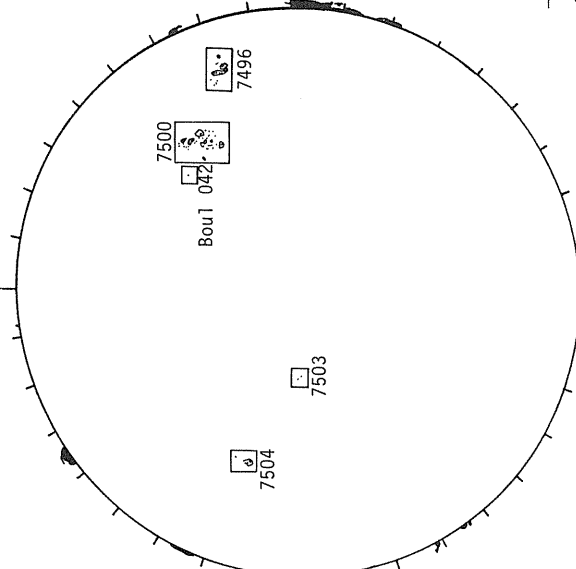
White = +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



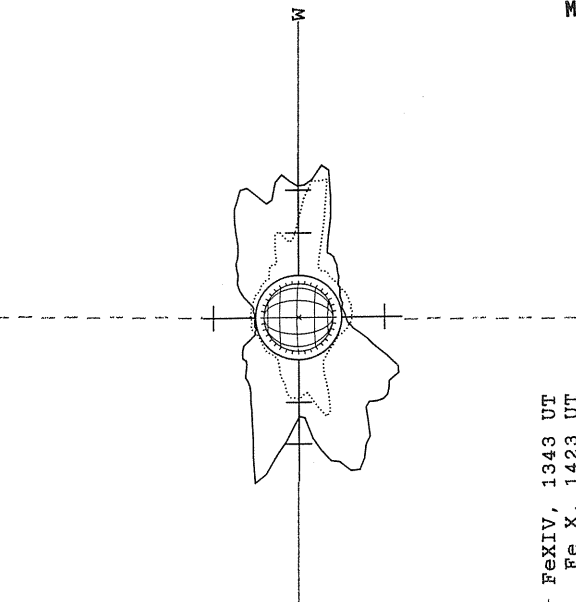
1506 UT

BOULDER SUNSPOT



1358 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



S

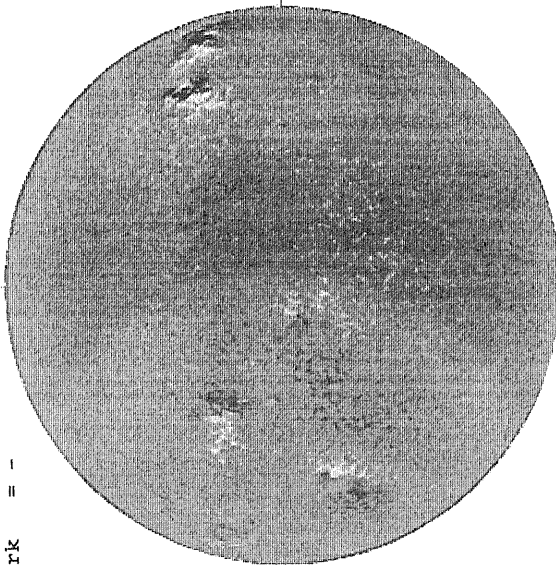
— Fe XIV, 1343 UT
.... Fe X, 1423 UT
xxxx Ca XV, 1409 UT
NO CA XV ACTIVITY TODAY

MAY 14, 1993 (P=-21.24, B₀ = -2.76, L₀ = 310.61)

KITT PEAK MAGNETOGRAM

N **5507A**

Bright = +
Dark = -



1339 UT

STANFORD MAGNETOGRAM

N

Solid = +
Dashed = -

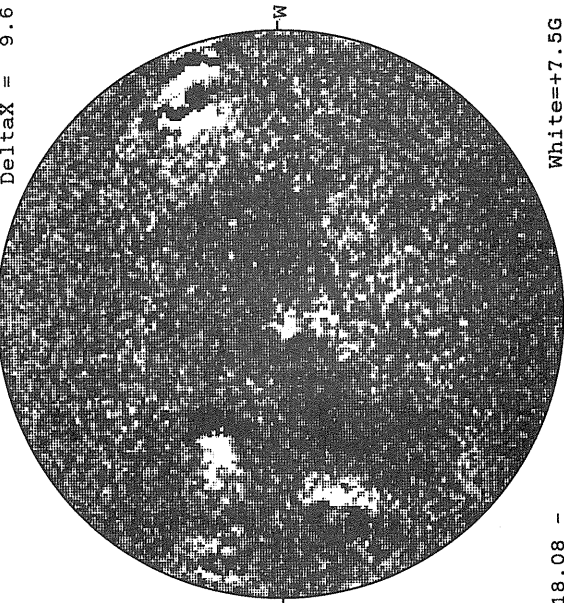


1656 UT

MT. WILSON MAGNETOGRAM

N

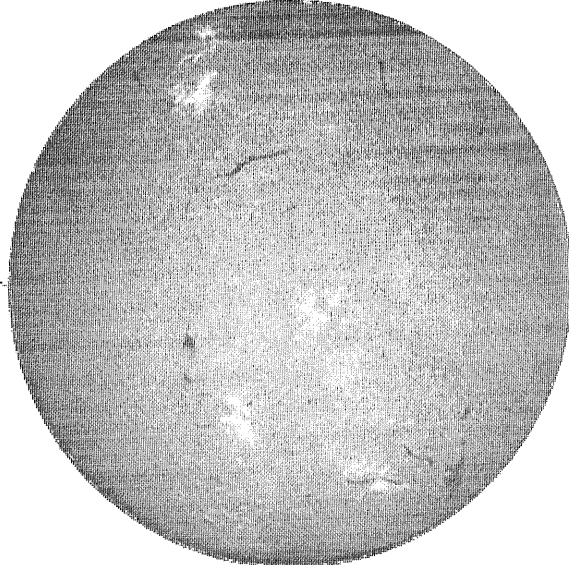
DeltaY = 13.1
DeltaX = 9.6



18.08 -
19.00 UT

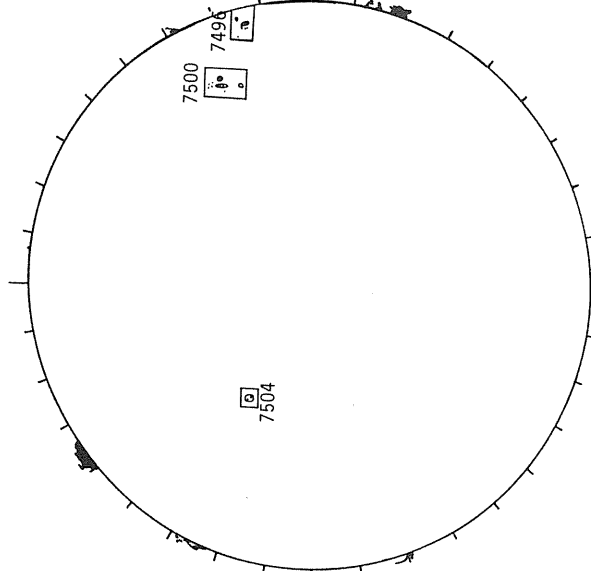
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



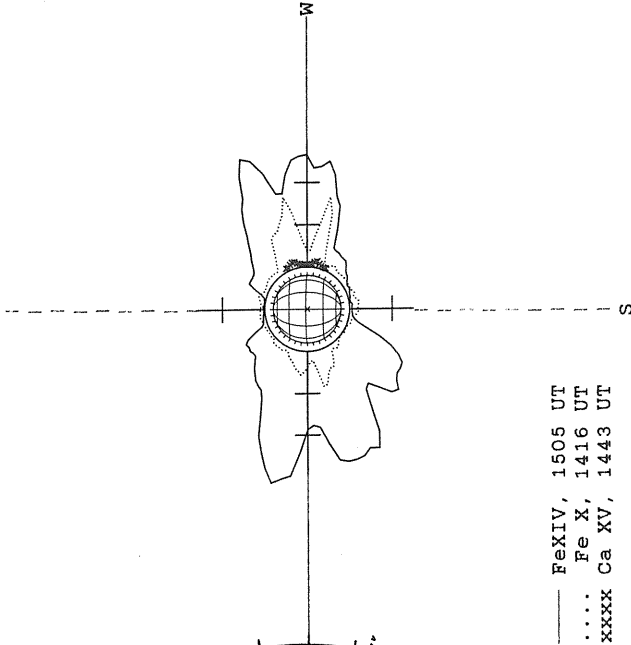
1316 UT

BOULDER SUNSPOT



1630 UT
0622 UT LOMN Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



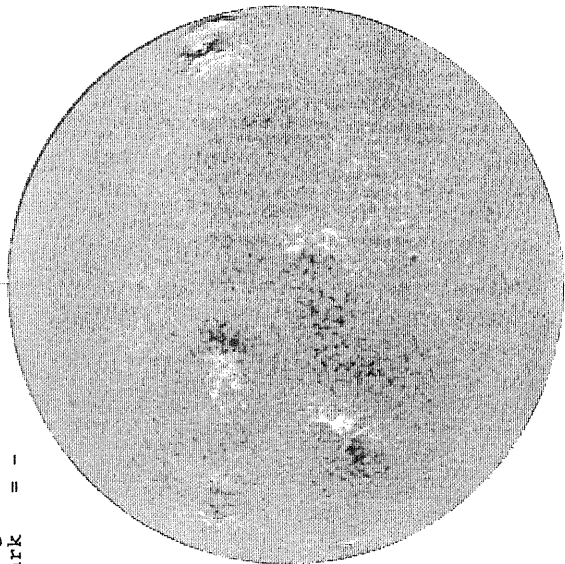
— FeXIV, 1505 UT
.... Fe X, 1416 UT
xxxx Ca XV, 1443 UT

MAY 15, 1993 (P=-20.97, B₀ = -2.65, I₀ = 297.38)

KITT PEAK MAGNETOGRAM

N **5507A**

Bright = +
Dark = -

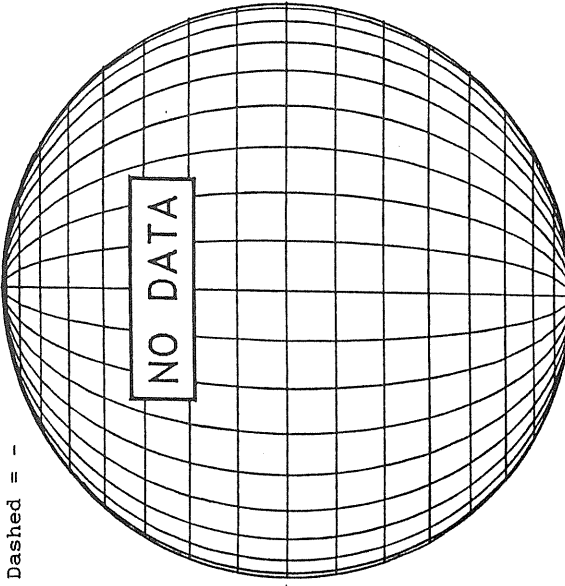


1344 UT

STANFORD MAGNETOGRAM

N

Solid = +
Dashed = -

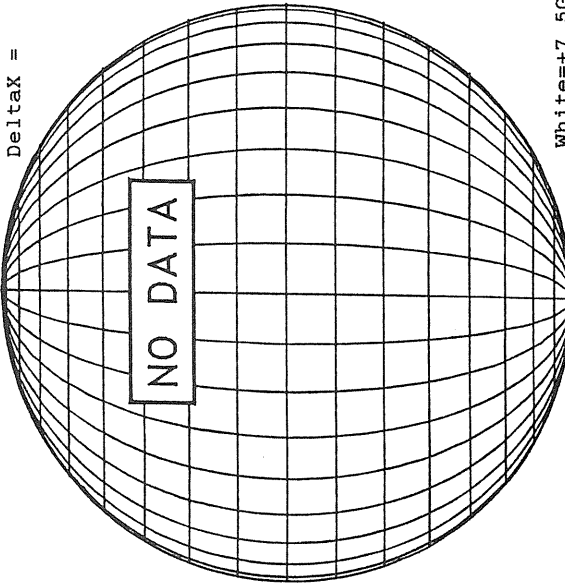


NO DATA

MT. WILSON MAGNETOGRAM

N

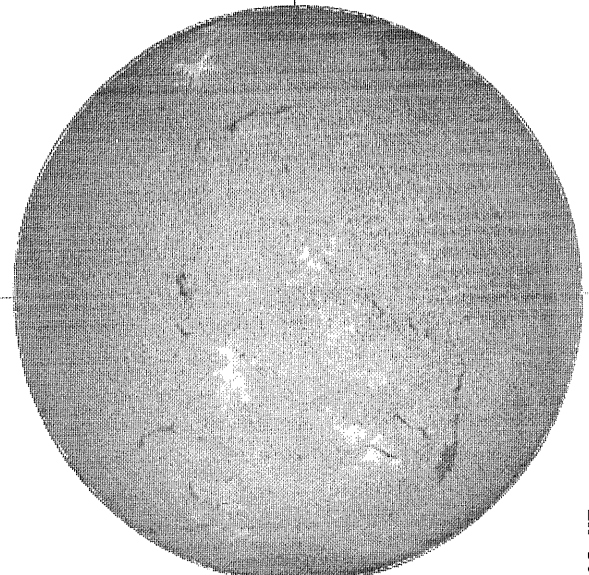
DeltaY =
DeltaX =



NO DATA

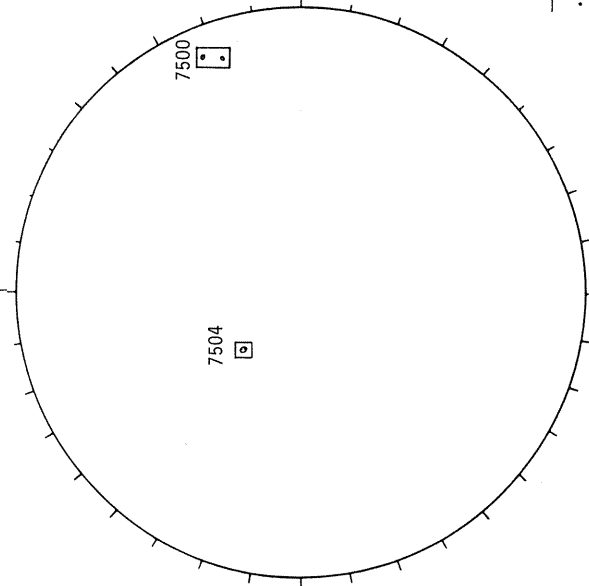
White = +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



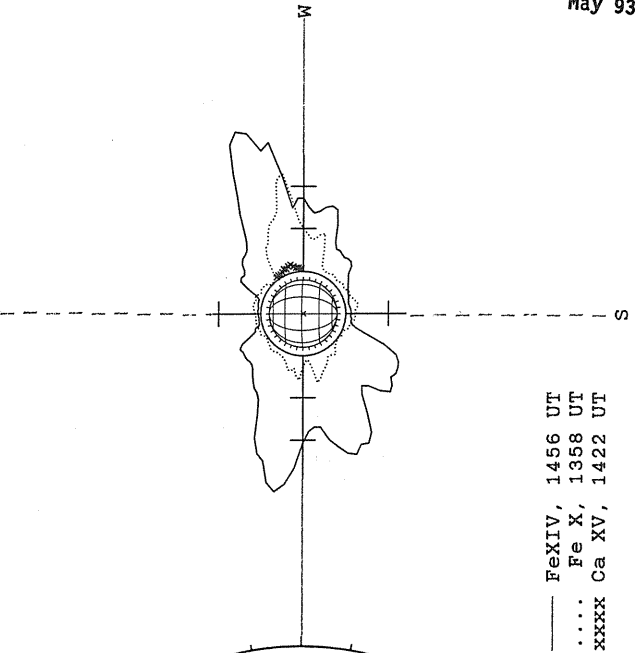
1405 UT

BOULDER SUNSPOT



1425 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



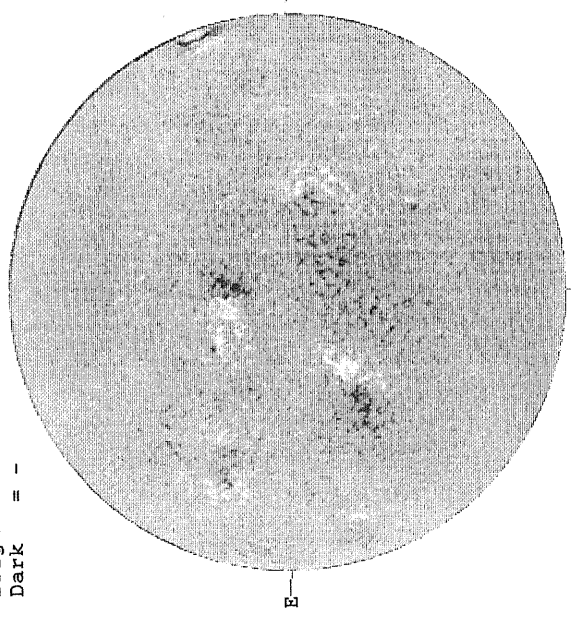
— FeXIV, 1456 UT
... Fe X, 1358 UT
xxxx Ca XV, 1422 UT

MAY 16, 1993 (P=-20.69, B₀ = -2.53, L₀ = 284.16)

KITT PEAK MAGNETOGRAM
N

5507A

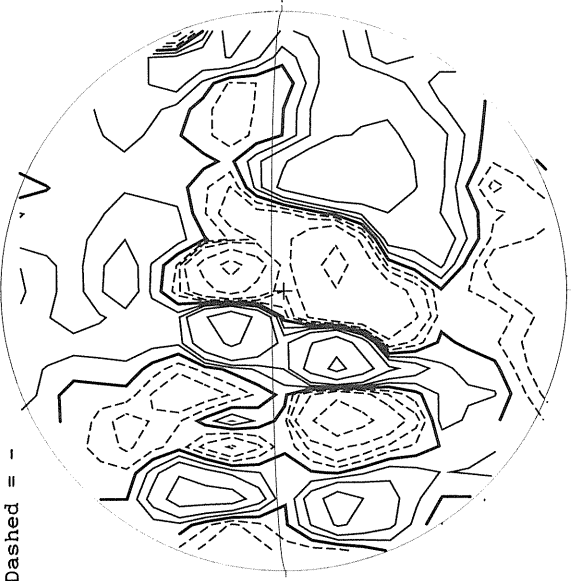
Bright = +
Dark = -



1446 UT

STANFORD MAGNETOGRAM
N

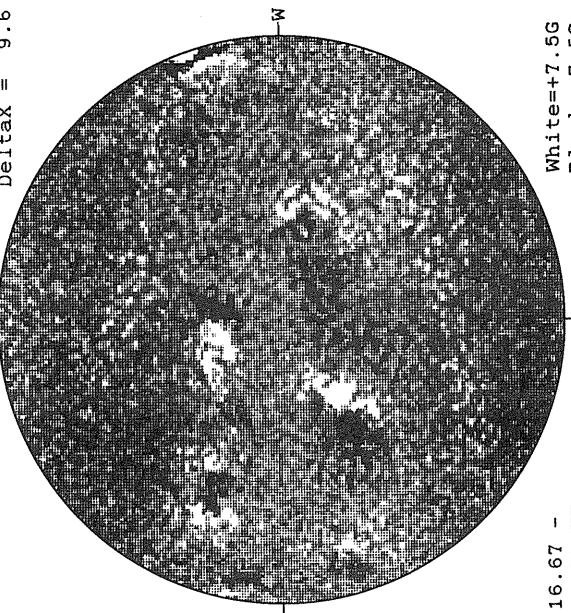
Solid = +
Dashed = -



1624 UT

MT. WILSON MAGNETOGRAM
N

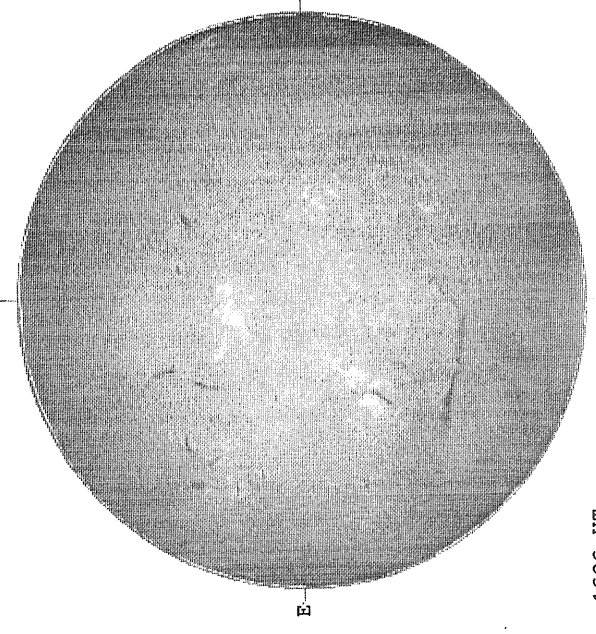
DeltaY = 13.1
DeltaX = 9.6



16.67 -
17.59 UT

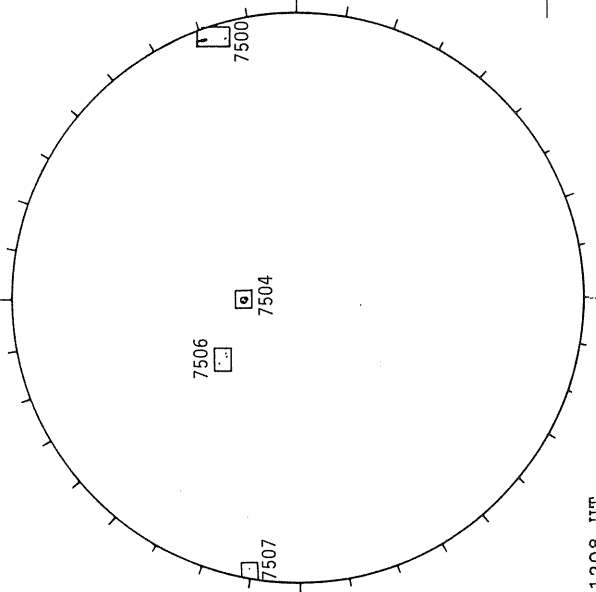
White = +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



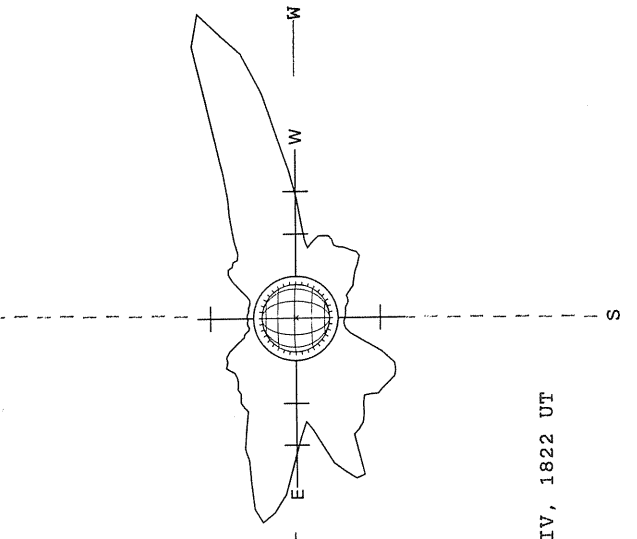
1606 UT

RAMEY SUNSPOT



1208 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



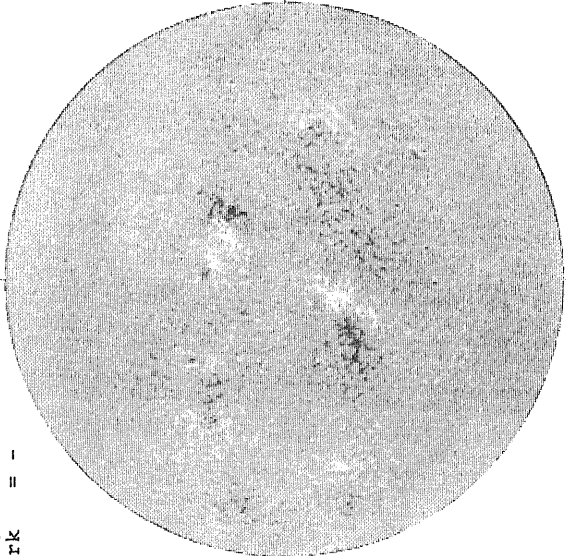
FeXIV, 1822 UT

MAY 17, 1993 (P=-20.41, B₀ =-2.42, L₀ = 270.93)

KITT PEAK MAGNETOGRAM

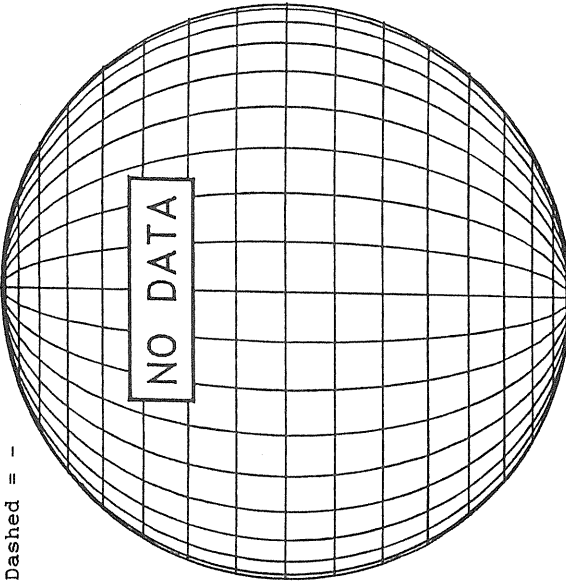
5507A

Bright = +
Dark = -



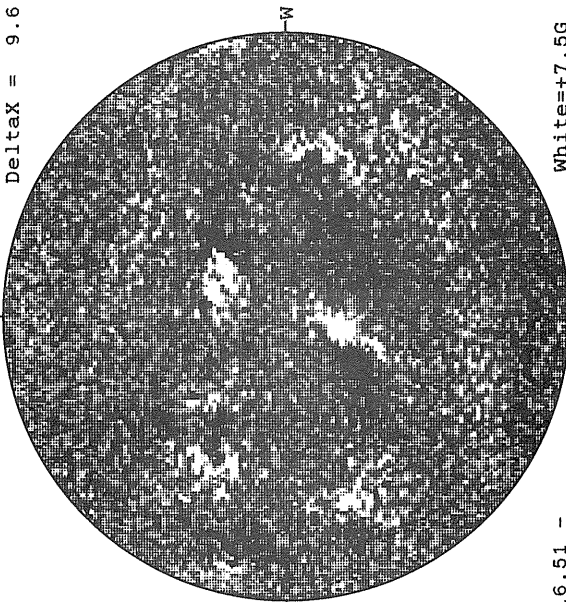
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

DeltaY = 14.3
DeltaX = 9.6



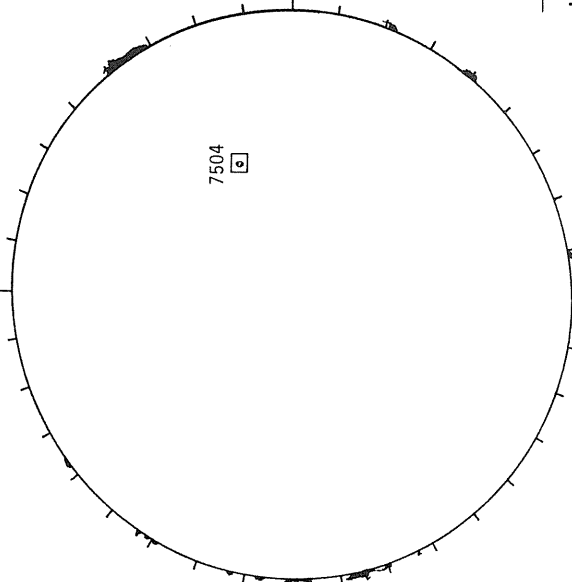
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



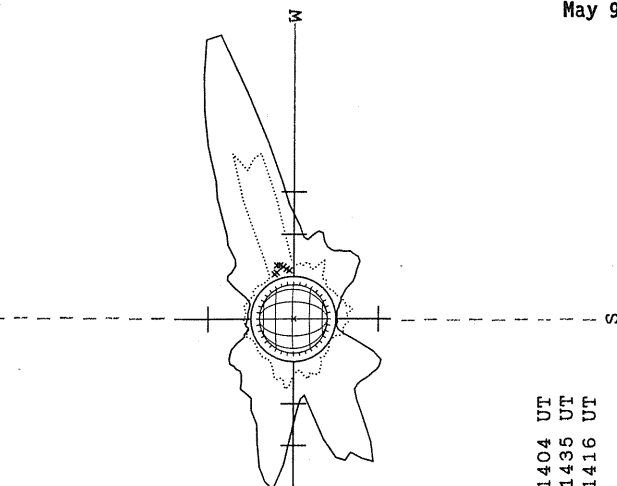
1816 UT

BOULDER SUNSPOT



1549 UT
0747 UT LOMN Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



— FeXIV, 1404 UT
... Fe X, 1435 UT
xxxx Ca XV, 1416 UT

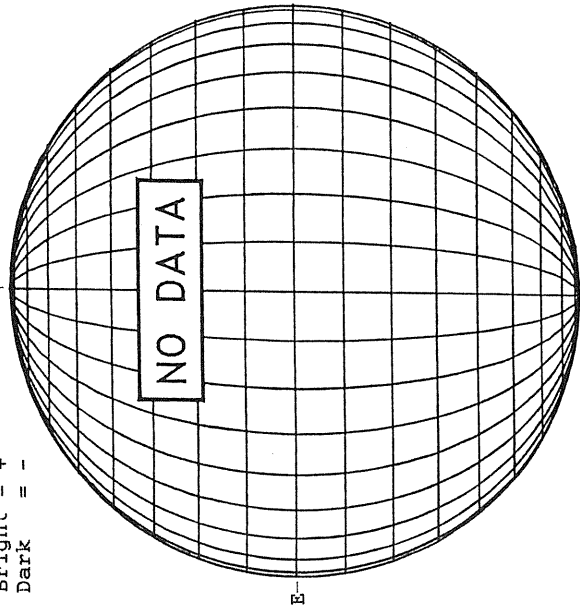
64
May 93

MAY 18, 1993 (P=-20.12, B₀ = -2.31, L₀ = 257.70)

KITT PEAK MAGNETOGRAM

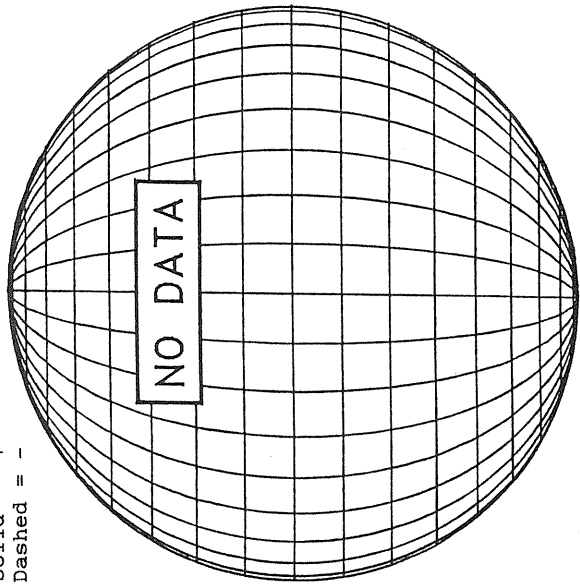
5507A

Bright = +
Dark = -



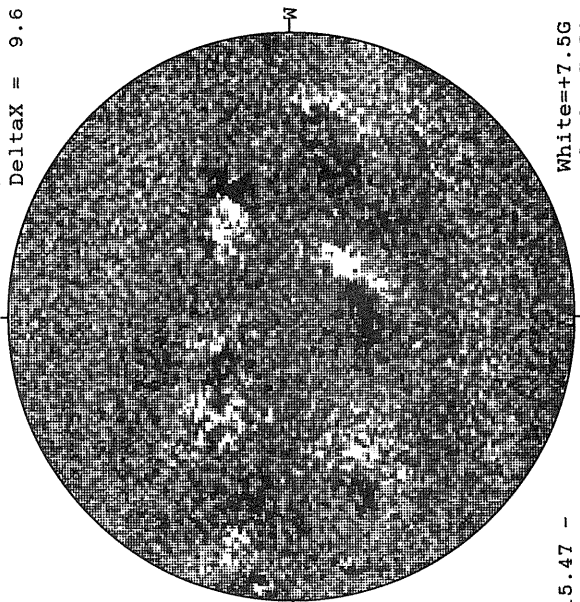
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

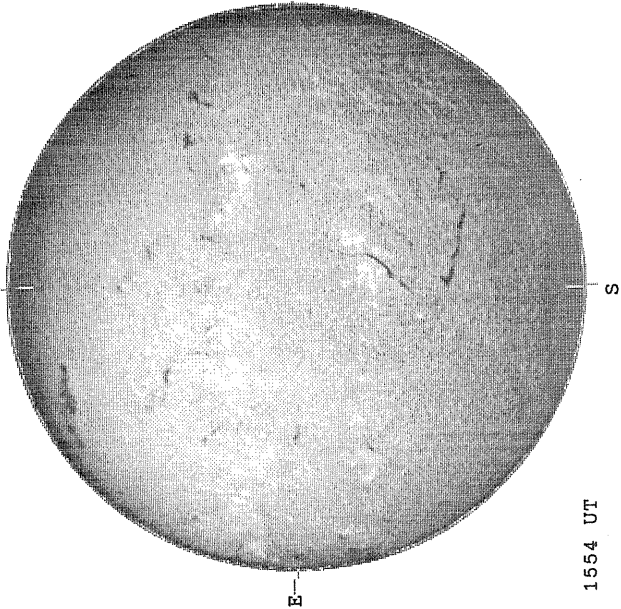
DeltaY = 13.1
DeltaX = 9.6



15.47 -
16.40 UT

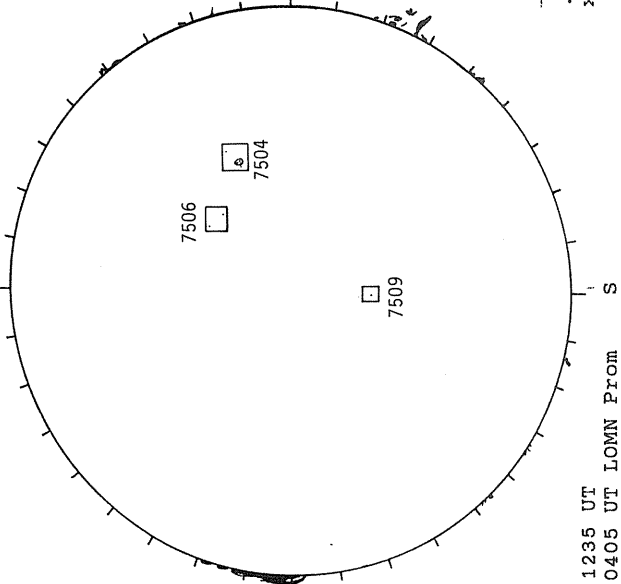
White = +7.5G
Black = -7.5G

BOULDER H-ALPHA



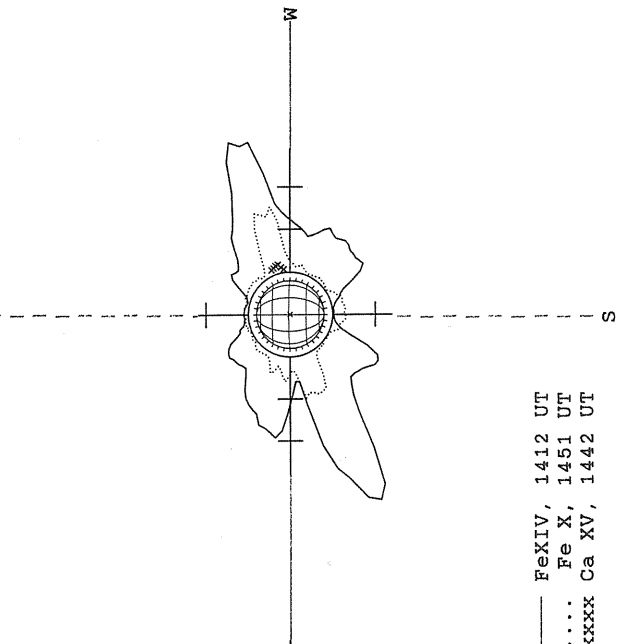
1554 UT

RAMEY SUNSPOT



1235 UT LOMN Prom
0405 UT LOMN Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



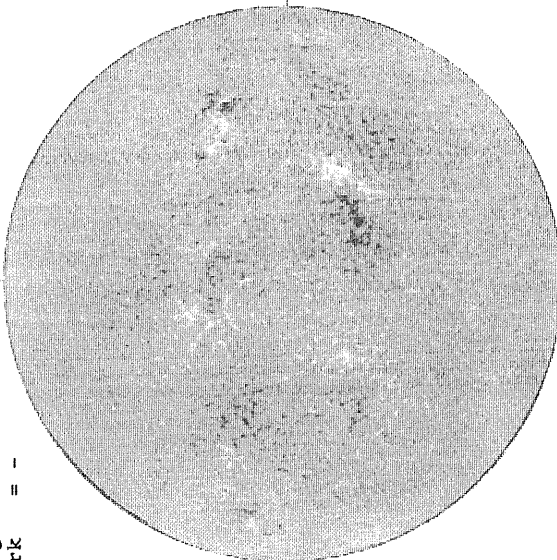
— Fe XIV, 1412 UT
... Fe X, 1451 UT
xxxx Ca XV, 1442 UT

MAY 19, 1993 (P=-19.82, B₀ = -2.19, L₀ = 244.48)

KITT PEAK MAGNETOGRAM

5507A

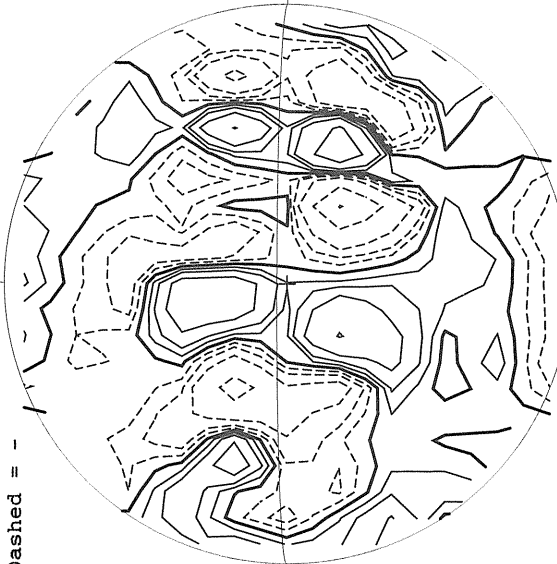
Bright = +
Dark = -



1344 UT

STANFORD MAGNETOGRAM

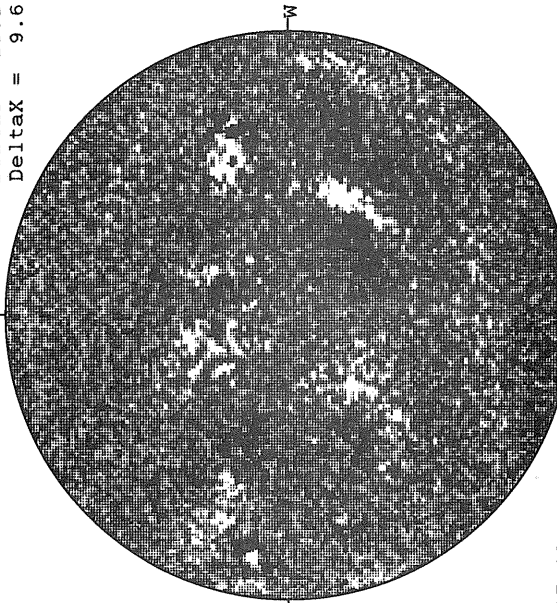
Solid = +
Dashed = -



0042 UT
MAY 20

MT. WILSON MAGNETOGRAM

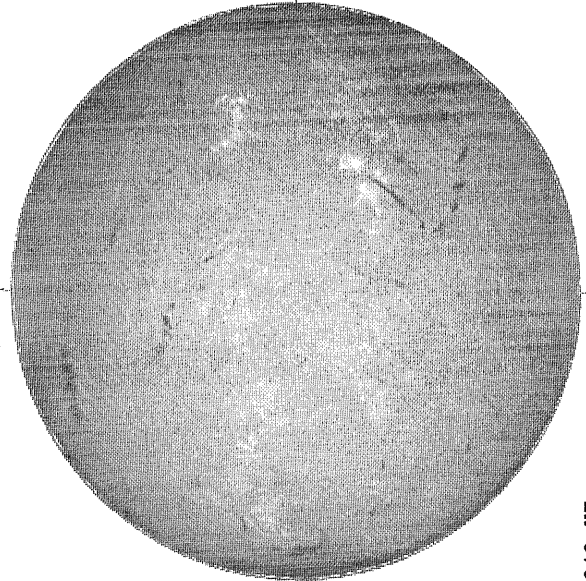
DeltaY = 13.1
DeltaX = 9.6



17.42 -
18.35 UT

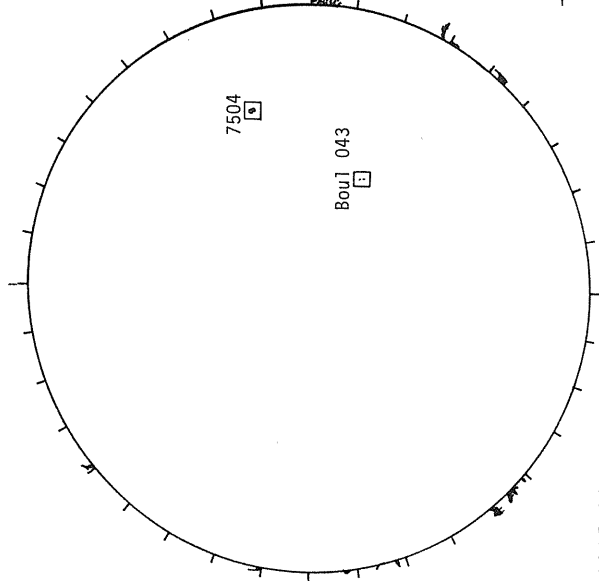
White = +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



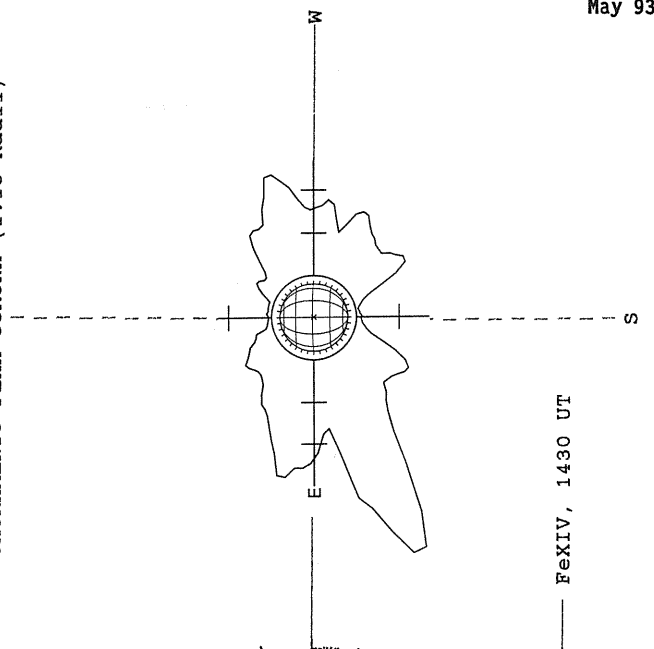
1849 UT

BOULDER SUNSPOT



1615 UT
0402 UT LOMN Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



— FeXIV, 1430 UT

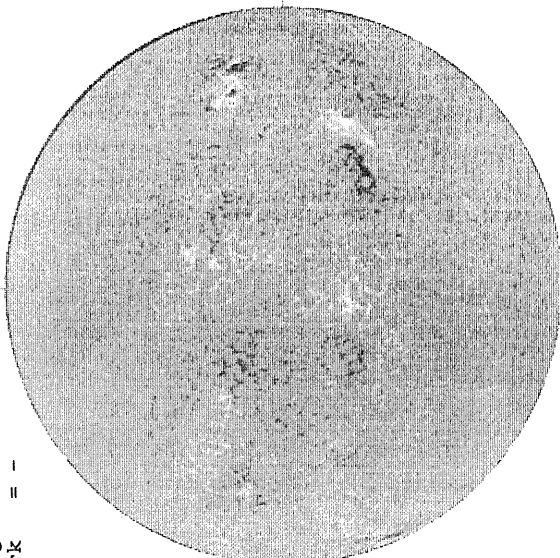
66
May 93

MAY 20, 1993 (P=-19.52, B₀ = -2.07, L₀ = 231.25)

KITT PEAK MAGNETOGRAM

N **5507A**

Bright = +
Dark = -



1335 UT

STANFORD MAGNETOGRAM

N

Solid = +
Dashed = -

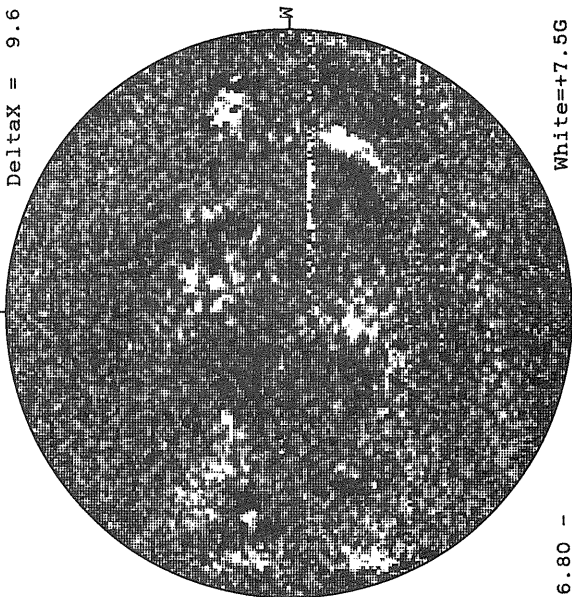


0051 UT
MAY 21

MT. WILSON MAGNETOGRAM

N

Delta Y = 13.1
Delta X = 9.6



16.80 -
17.74 UT

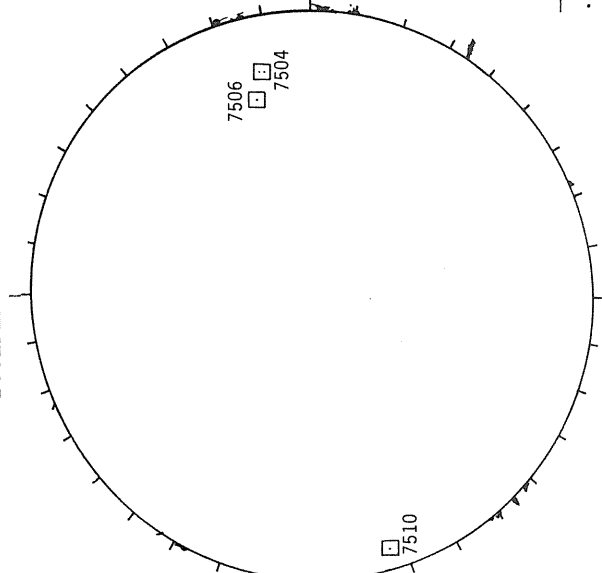
White = +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



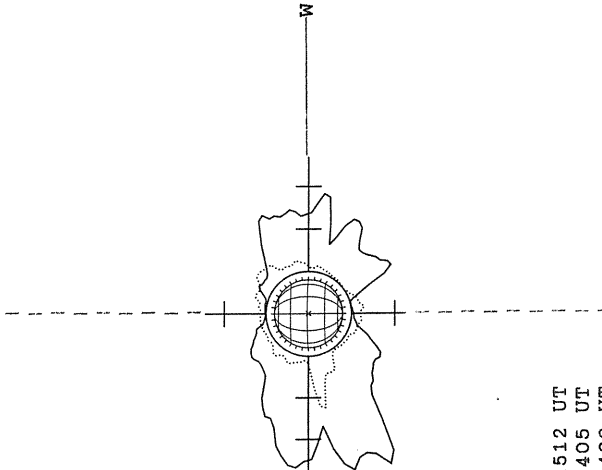
1308 UT

BOULDER SUNSPOT



1500 UT
0420 UT LOMN Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



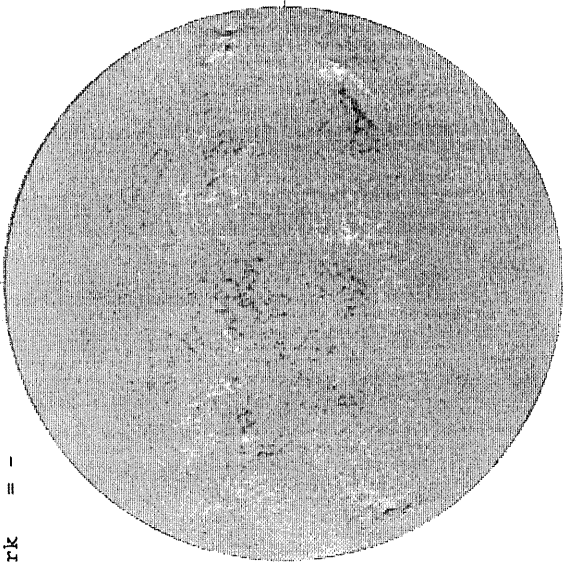
— Fe XIV, 1512 UT
.... Fe X, 1405 UT
xxxx Ca XV, 1428 UT
NO CA XV ACTIVITY TODAY

MAY 21, 1993 (P=-19.21, B_O =-1.96 L_O = 218.02)

KITT PEAK MAGNETOGRAM

5507A

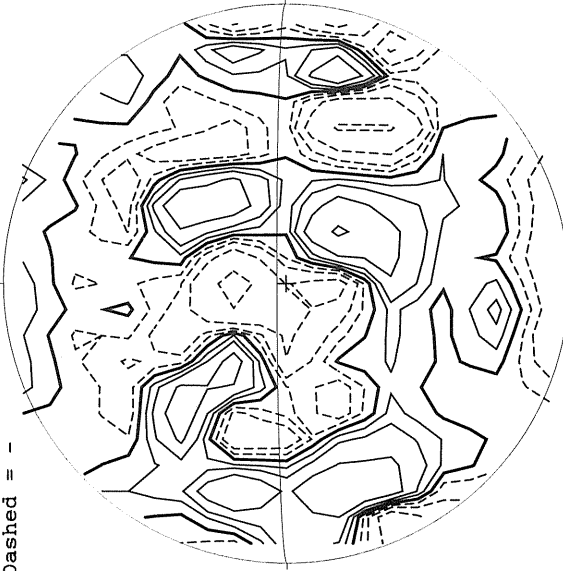
Bright = +
Dark = -



1336 UT

STANFORD MAGNETOGRAM

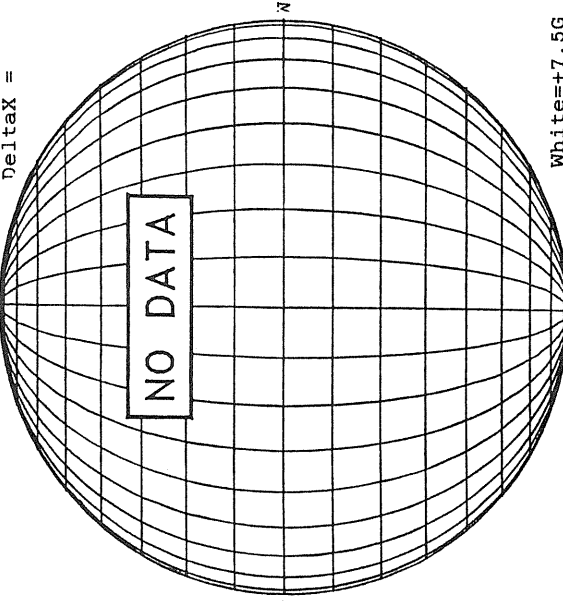
Solid = +
Dashed = -



1620 UT

MT. WILSON MAGNETOGRAM

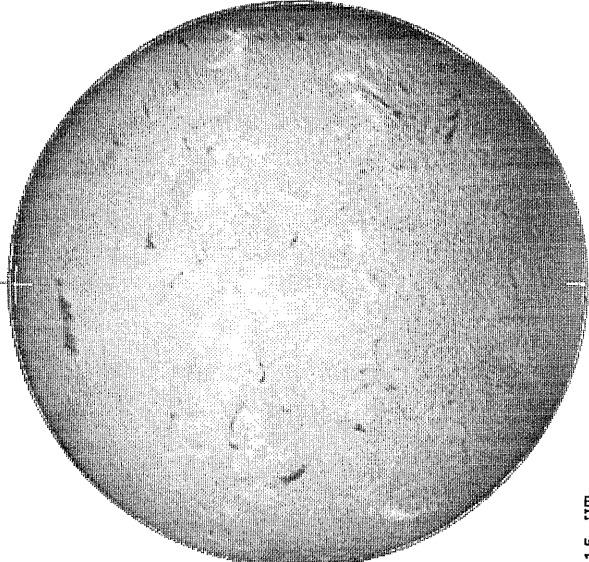
DeltaY =
DeltaX =



1620 UT

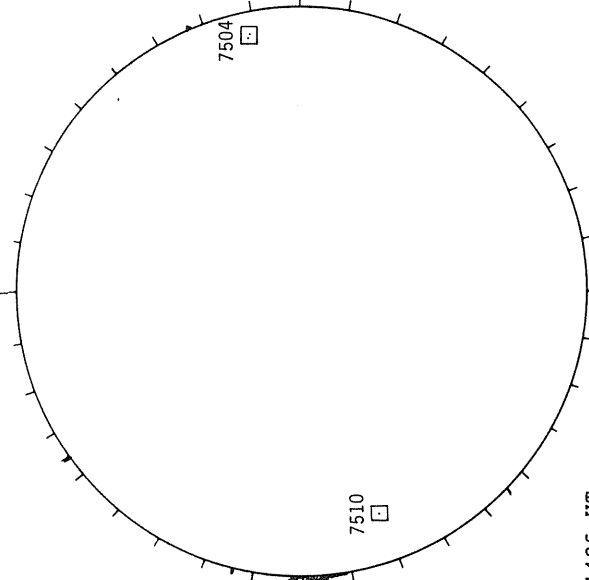
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



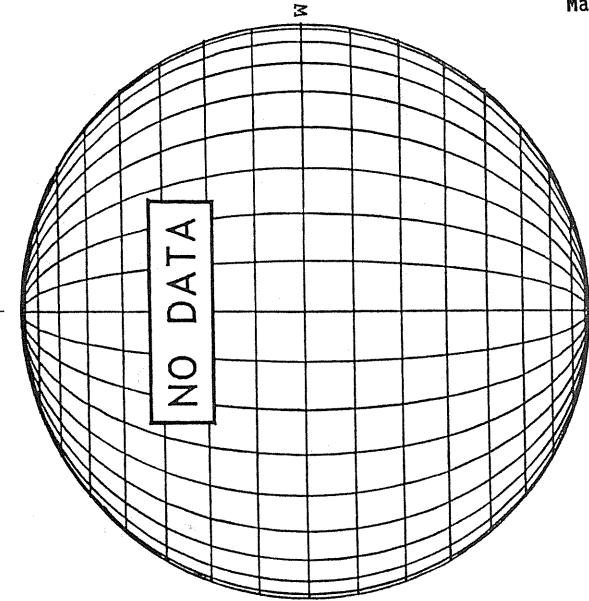
1415 UT

BOULDER SUNSPOT



1415 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



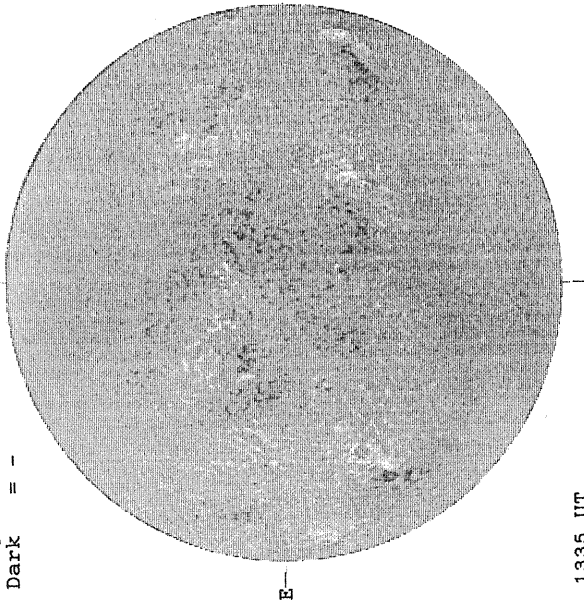
1415 UT

68
May 93

MAY 22, 1993 (P=-18.90, B₀ = -1.84, L₀ = 204.79)

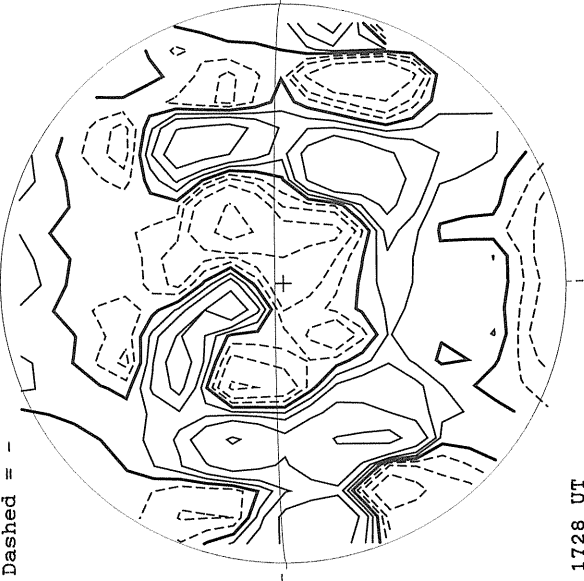
KITT PEAK MAGNETOGRAM
5507A

Bright = +
Dark = -



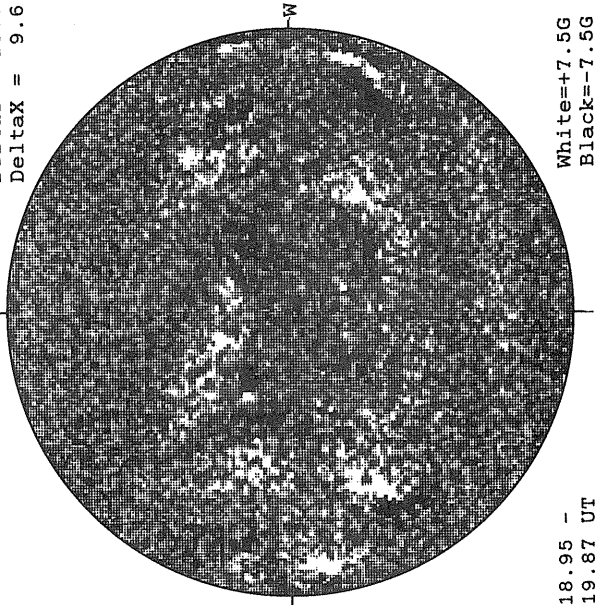
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



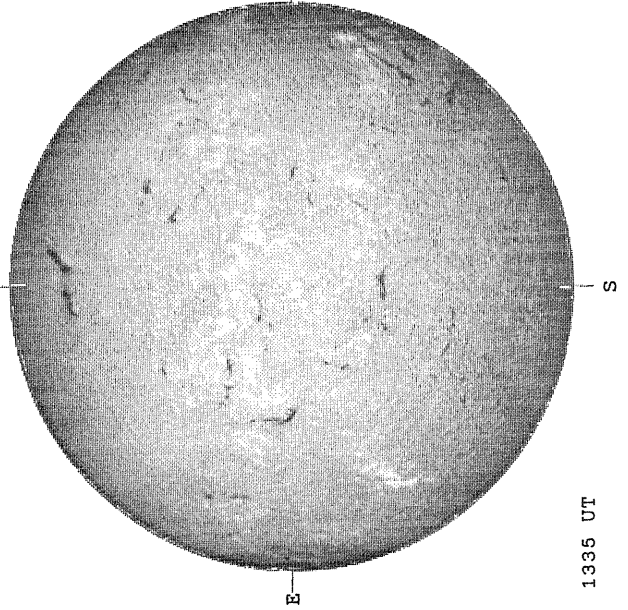
MT. WILSON MAGNETOGRAM

DeltaY = 13.1
DeltaX = 9.6

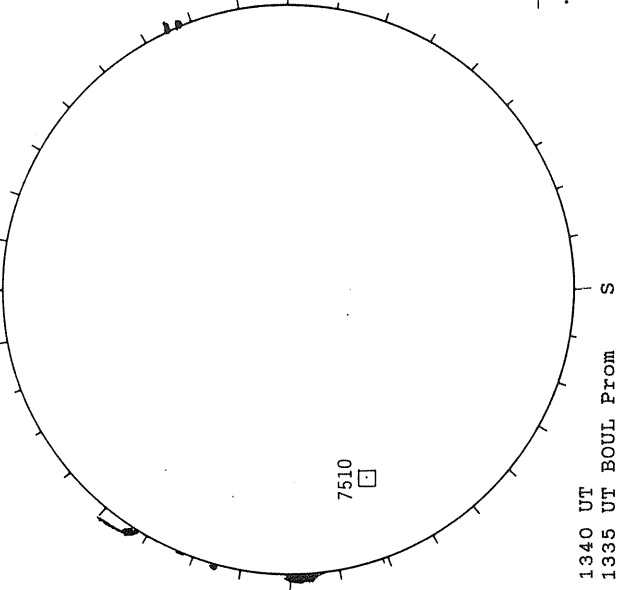


White = +7.5G
Black = -7.5G

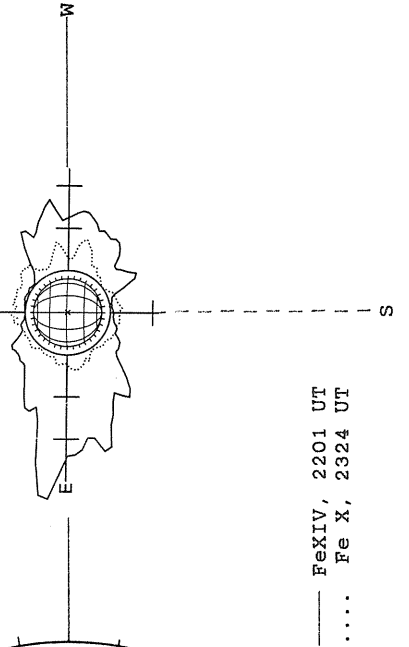
BOULDER H-ALPHA



BOULDER SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

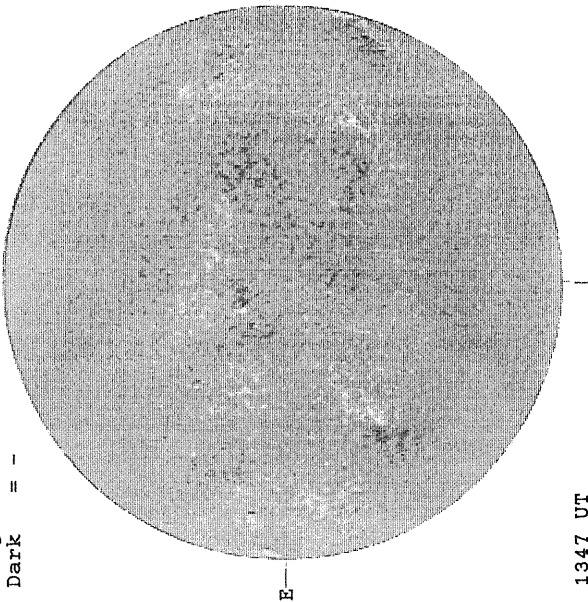


MAY 23, 1993 (P=-18.57, B₀ = -1.72, L₀ = 191.56)

KITT PEAK MAGNETOGRAM

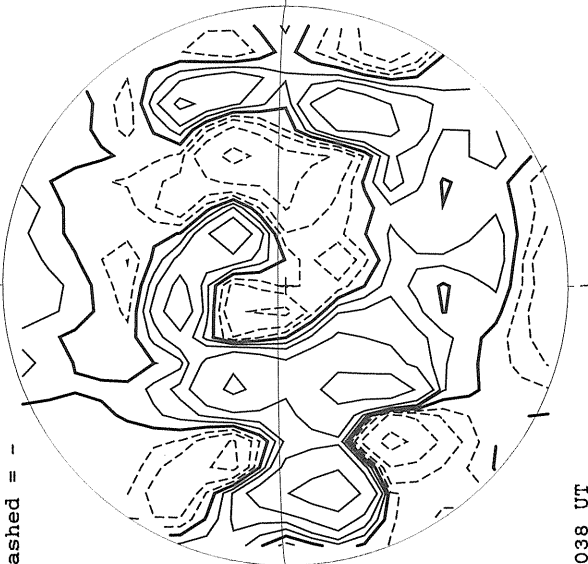
5507A

Bright = +
Dark = -



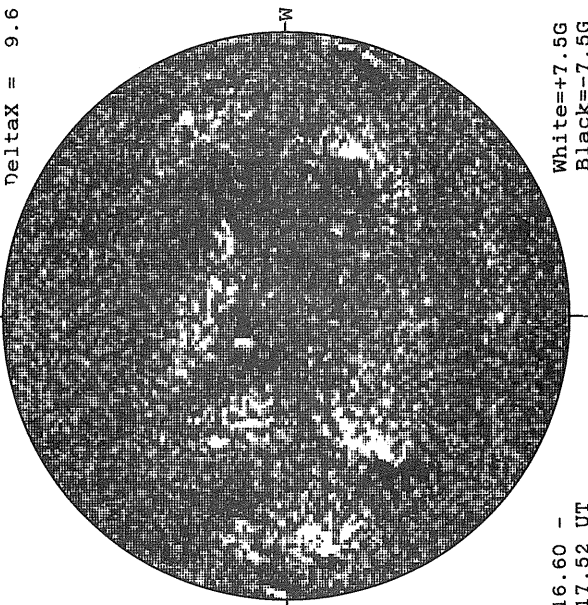
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



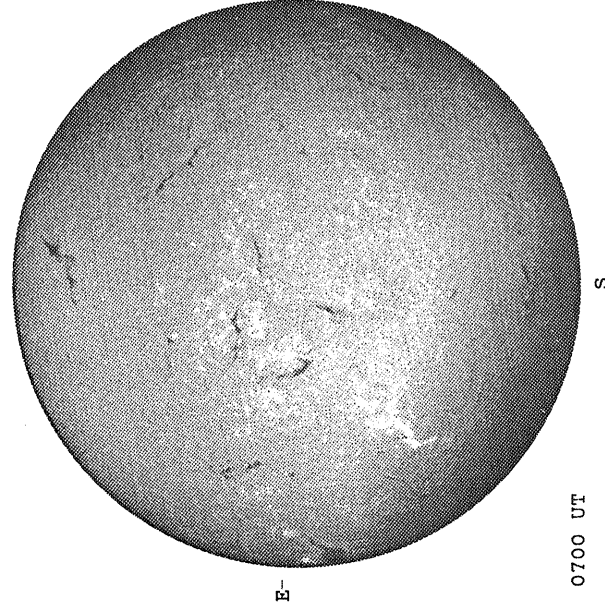
MT. WILSON MAGNETOGRAM

Delta Y = 13.1
Delta X = 9.6

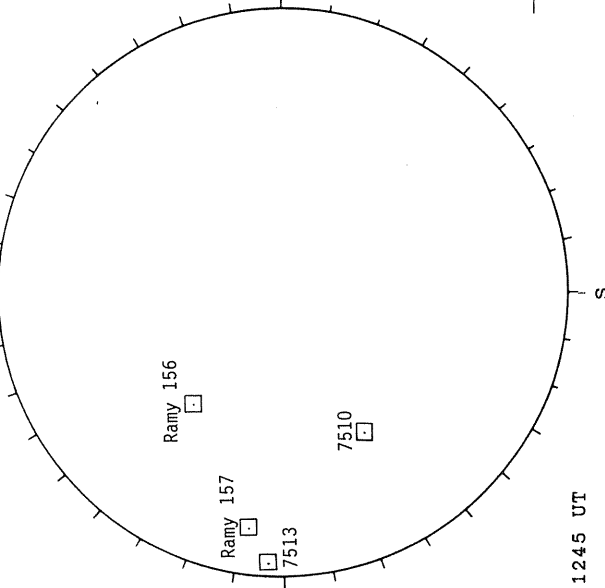


White = +7.5G
Black = -7.5G

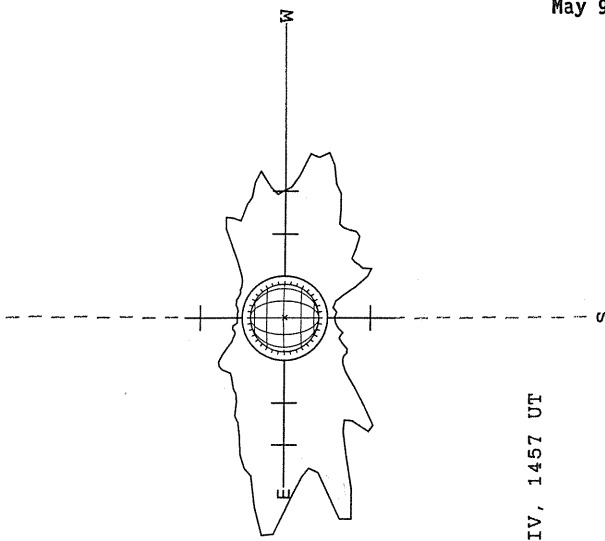
LARISSA H-ALPHA



RAMEY SUNSPOT



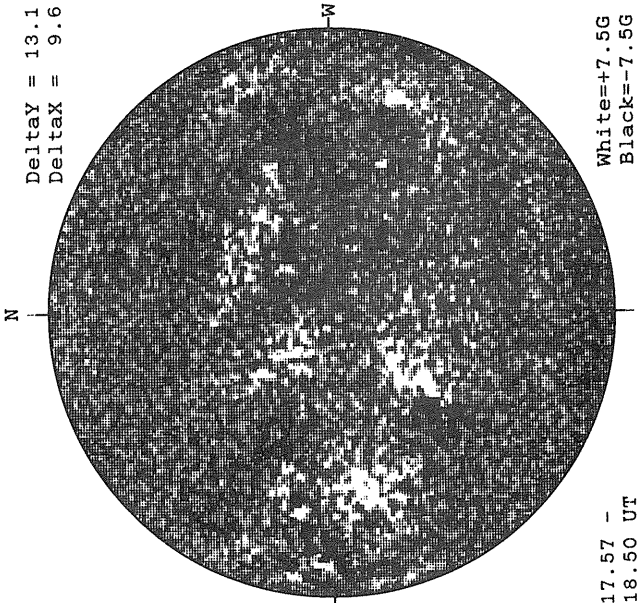
SACRAMENTO PEAK CORONA (1.15 Radii)



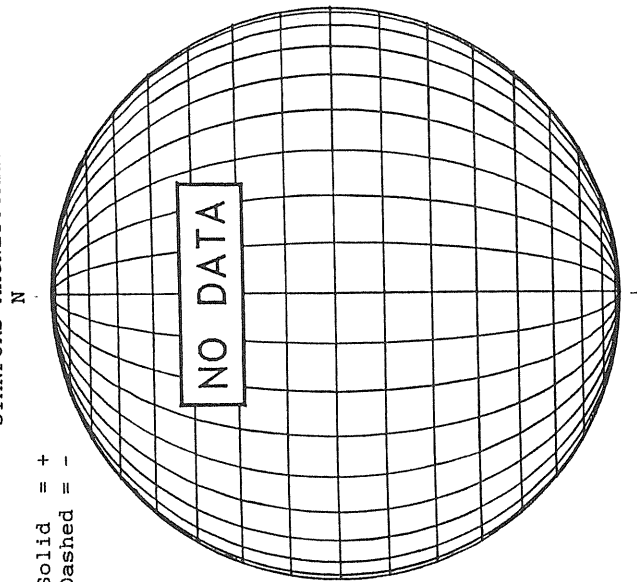
70
May 93

MAY 24, 1993 (P=-18.25 B₀ = -1.61, L₀ = 178.33)

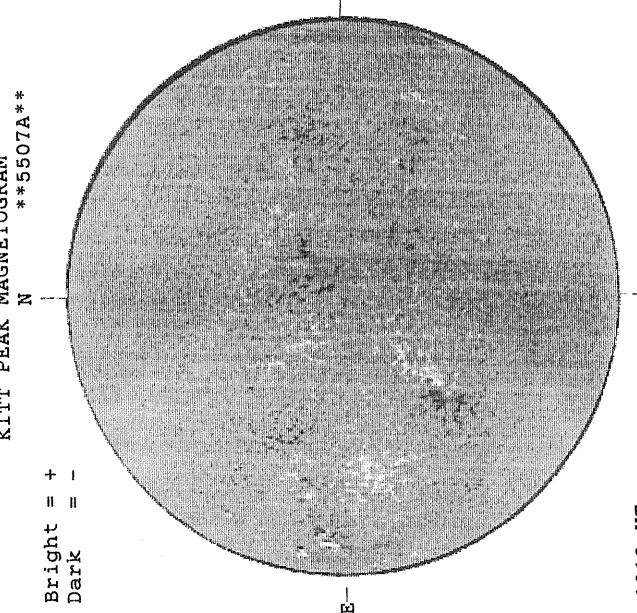
MT. WILSON MAGNETOGRAM



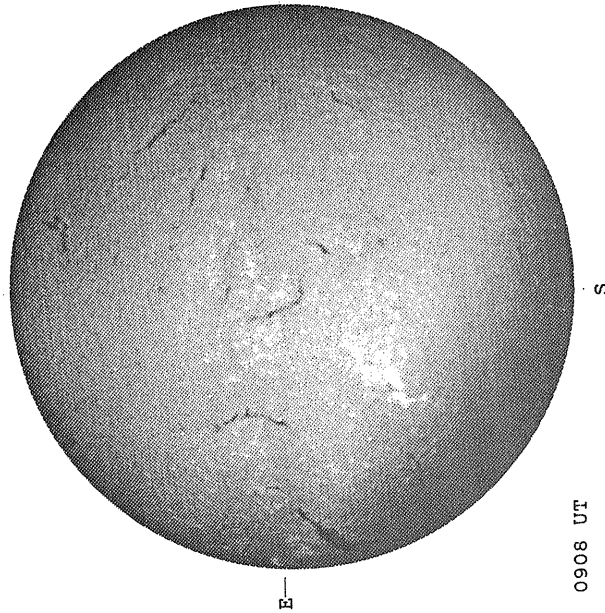
STANFORD MAGNETOGRAM



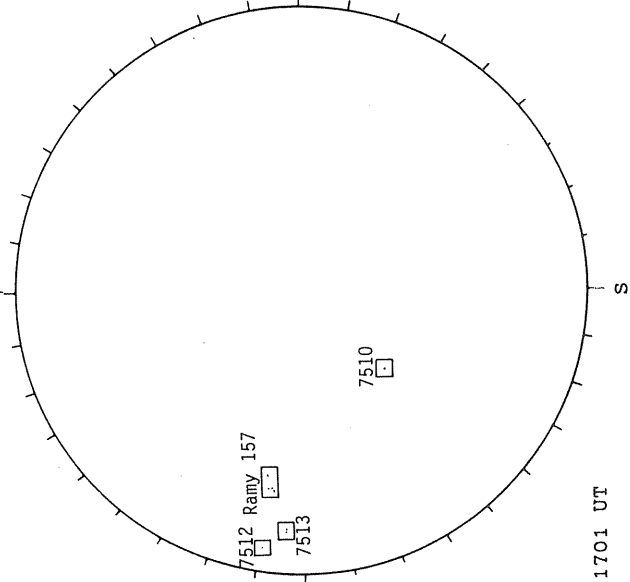
KITT PEAK MAGNETOGRAM



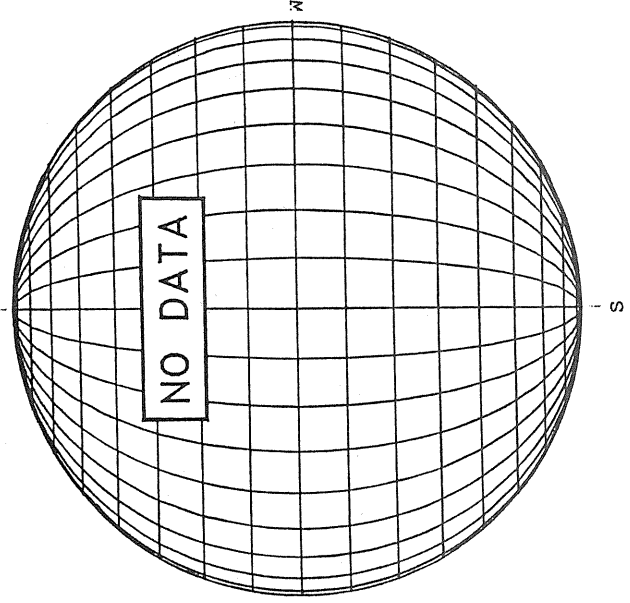
LARISSA H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)



Bright = +
Dark = -

5507A

Solid = +
Dashed = -

N

N

E

1319 UT

E

0908 UT

S

1701 UT

S

S

N

NO DATA

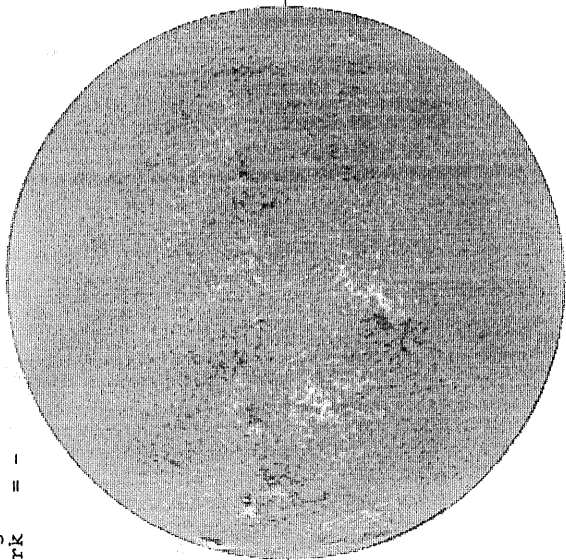
NO DATA

7512 Rany 157
7513
7510

MAY 25, 1993 (P=-17.91 B_O = -1.49, L_O = 165.10)

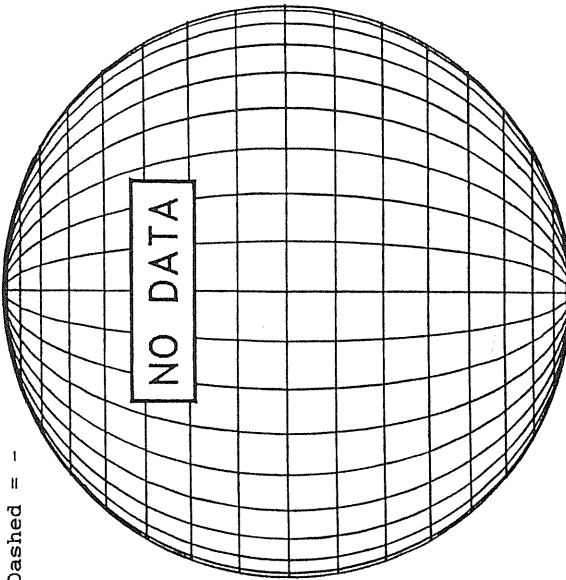
KITT PEAK MAGNETOGRAM
N **5507A**

Bright = +
Dark = -



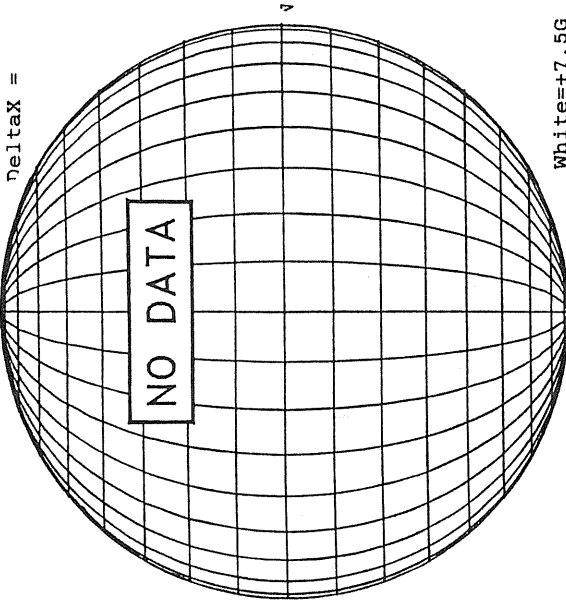
STANFORD MAGNETOGRAM
N

Solid = +
Dashed = -

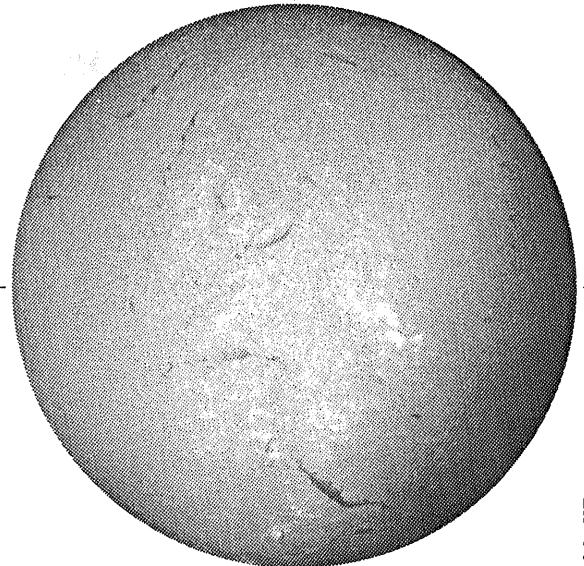


MT. WILSON MAGNETOGRAM
N

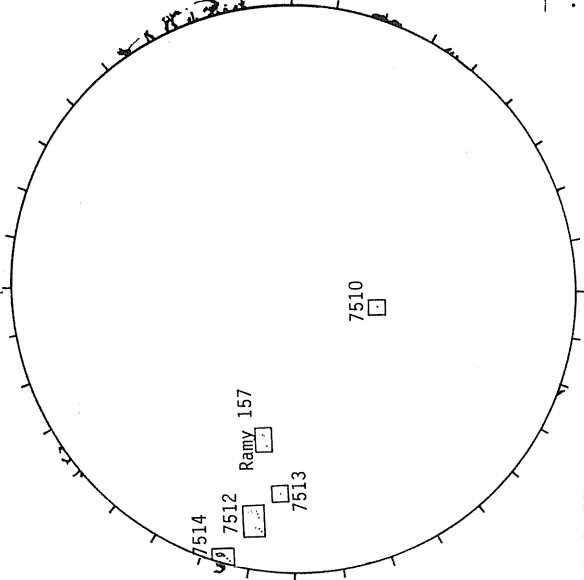
Delta_Y =
Delta_X =



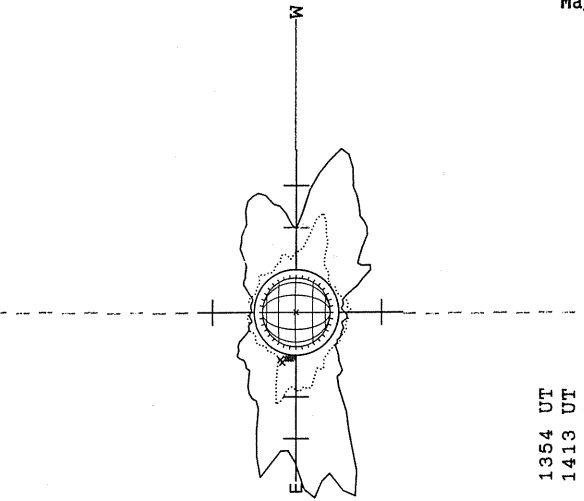
LARISSA H-ALPHA



BOULDER SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)



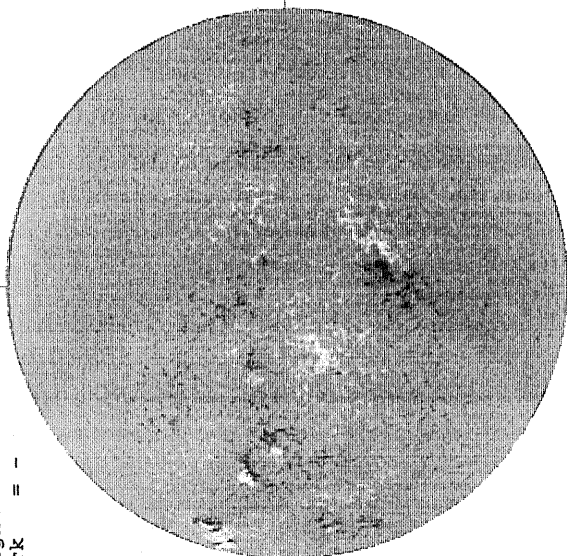
— Fe XIV, 1354 UT
... Fe X, 1413 UT
xxxx Ca XV, 1431 UT

MAY 26, 1993 (P=-17.58, B₀ =-1.37, L₀ = 151.87)

KITT PEAK MAGNETOGRAM

N **5507A**

Bright = +
Dark = -

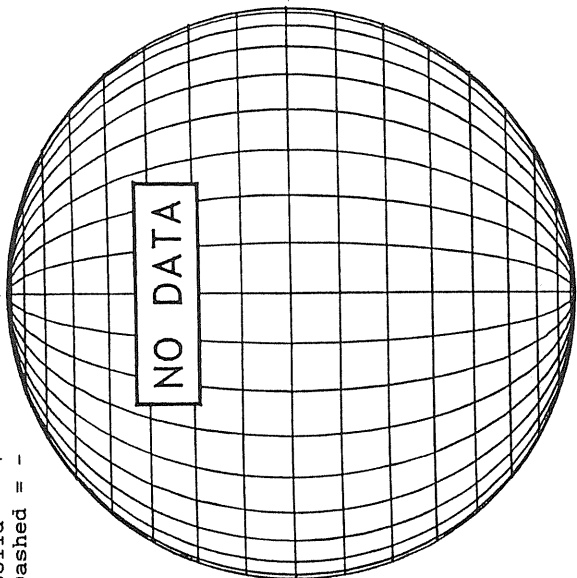


1411 UT

STANFORD MAGNETOGRAM

N

Solid = +
Dashed = -

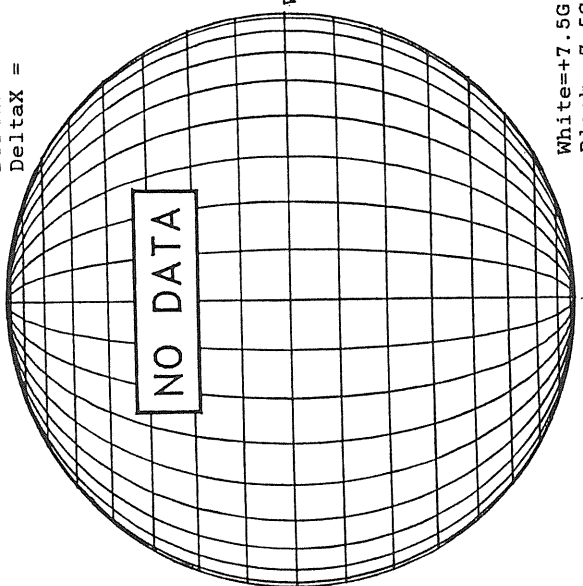


NO DATA

MT. WILSON MAGNETOGRAM

N

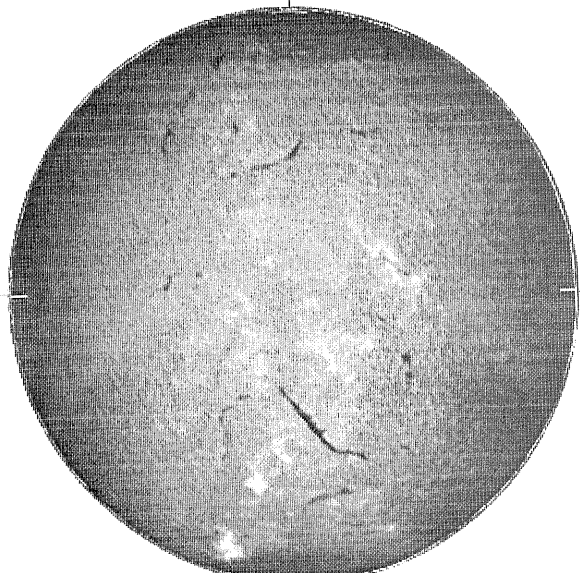
Deltay =
Deltax =



NO DATA

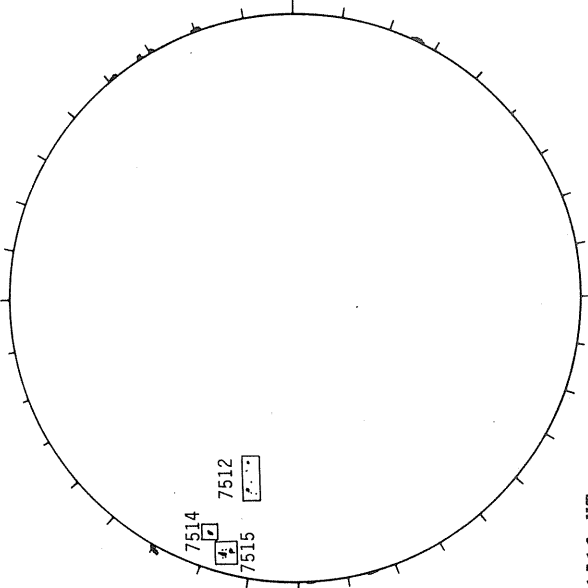
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



1545 UT

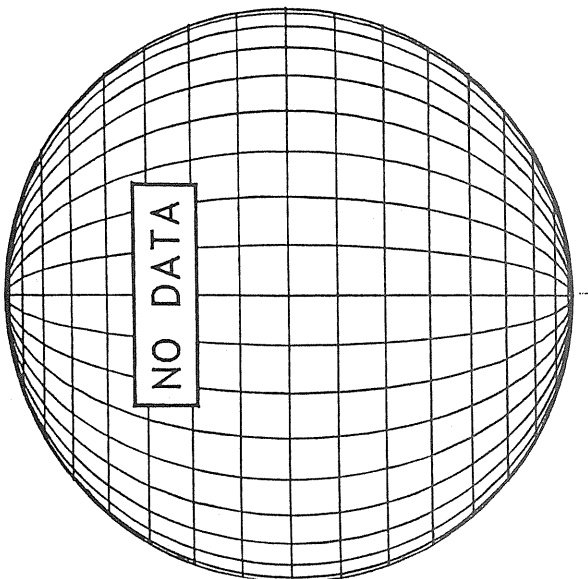
BOULDER SUNSPOT



7514
7515
7512
7513

1510 UT
1545 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

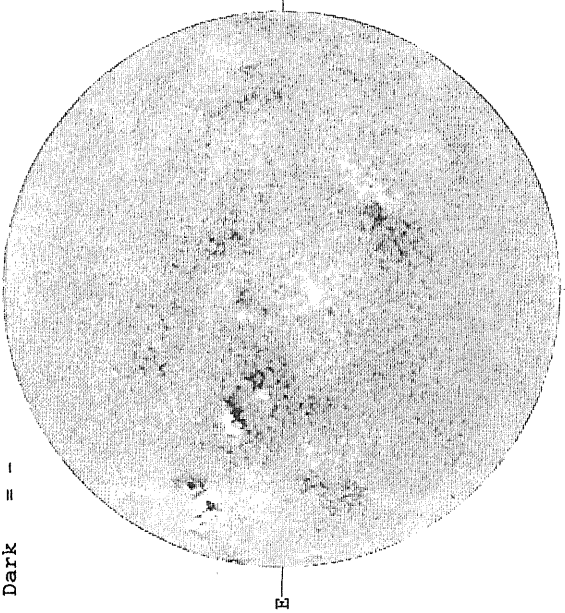


NO DATA

MAY 27, 1993 (P=-17.23, B₀ =-1.25, L₀ = 138.64)

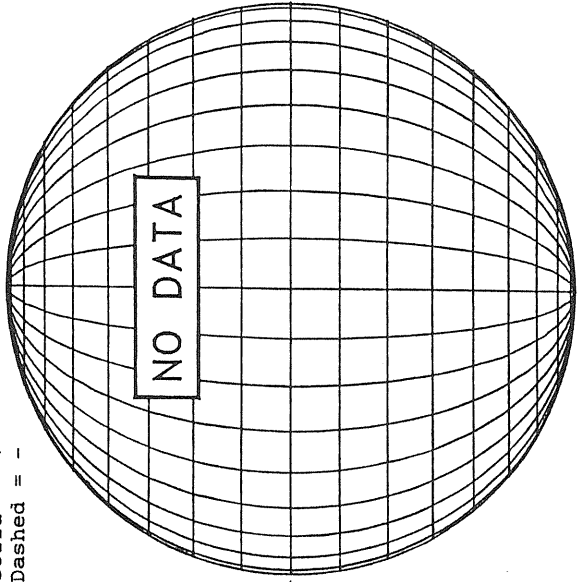
KITT PEAK MAGNETOGRAM
N **5507A**

Bright = +
Dark = -



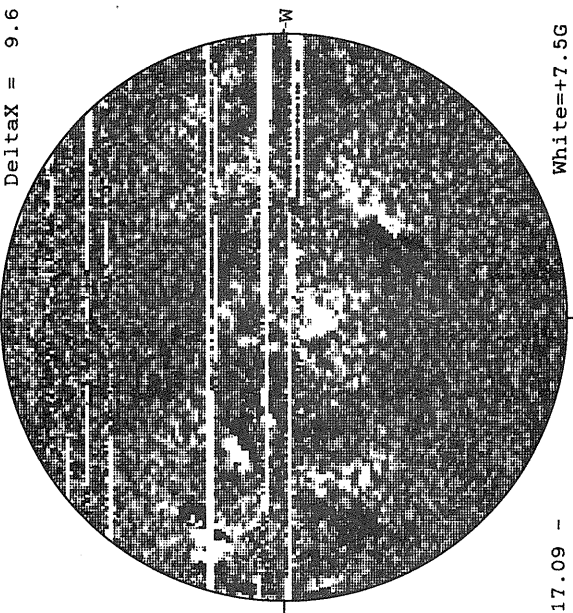
STANFORD MAGNETOGRAM
N

Solid = +
Dashed = -



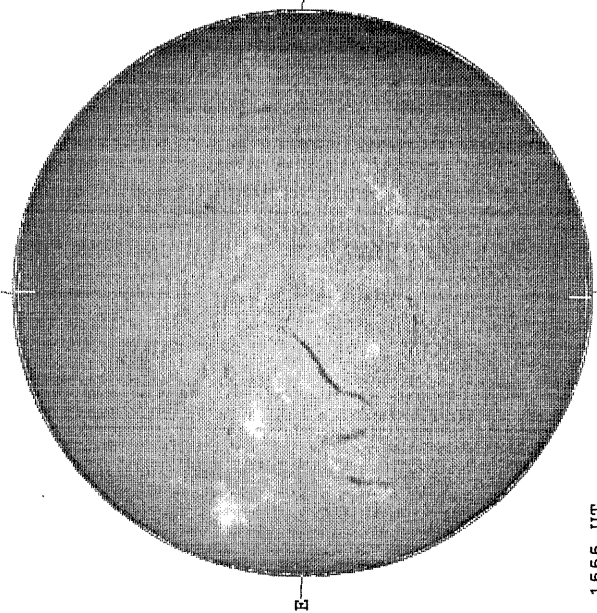
MT. WILSON MAGNETOGRAM
N

DeltaY = 13.1
DeltaX = 9.6



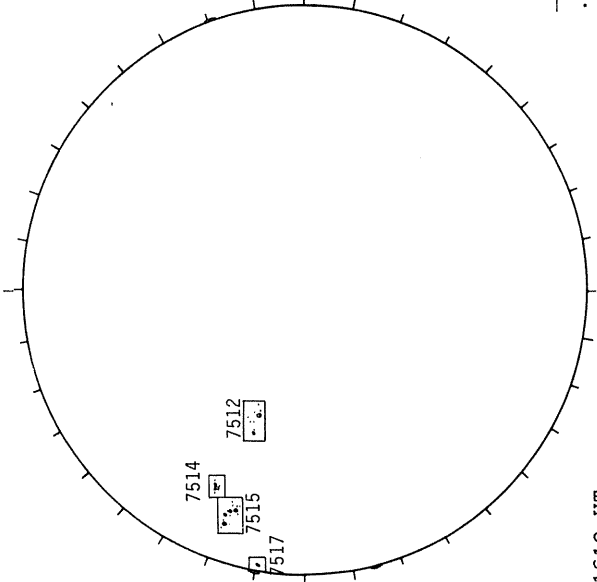
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



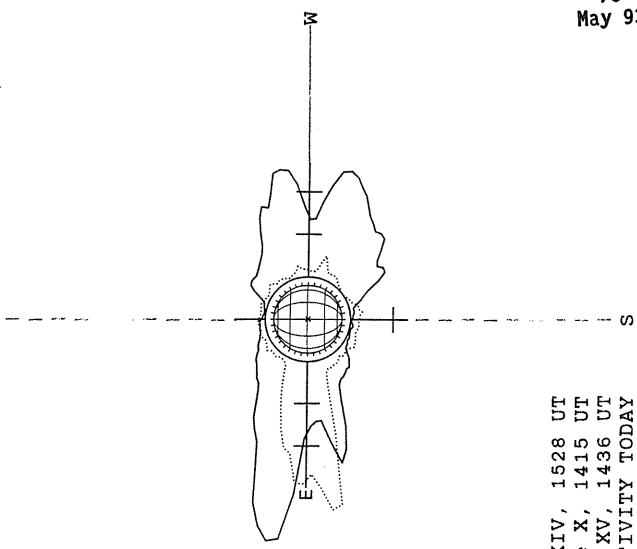
1555 UT

BOULDER SUNSPOT



1610 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



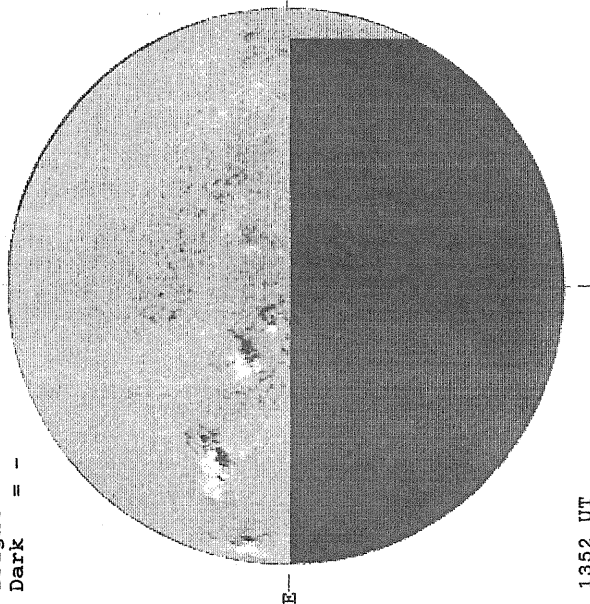
1555 UT BOUL Prom

— FeXIV, 1528 UT
.... Fe X, 1415 UT
xxxx Ca XV, 1436 UT
NO CA XV ACTIVITY TODAY

MAY 28, 1993 (P=-16.88 B₀ = -1.13, L₀ = 125.41)

KITT PEAK MAGNETOGRAM

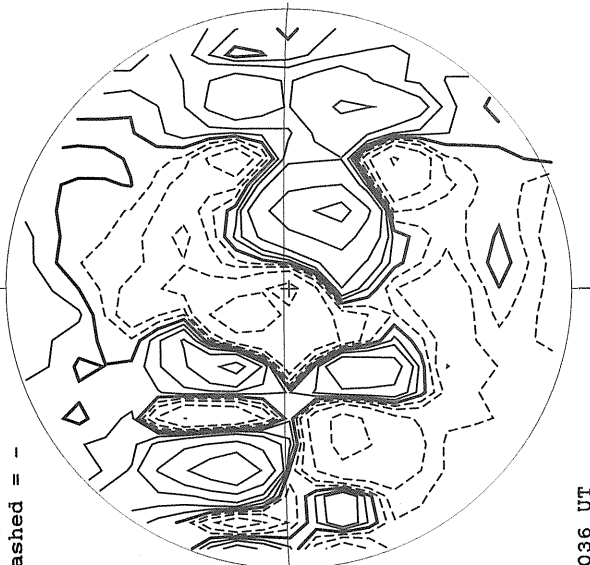
Bright = +
Dark = -



1352 UT

STANFORD MAGNETOGRAM

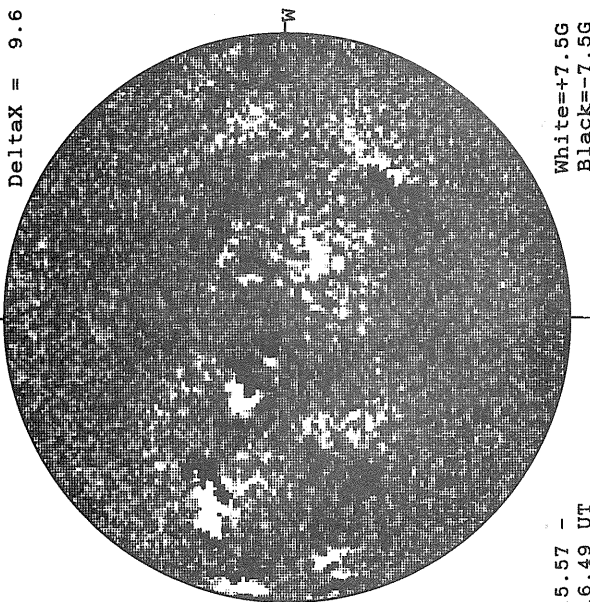
Solid = +
Dashed = -



2036 UT

MT. WILSON MAGNETOGRAM

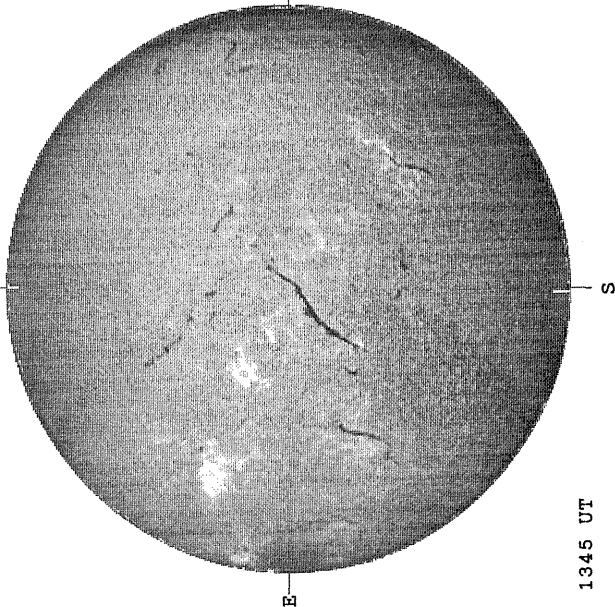
Delta Y = 13.1
Delta X = 9.6



15.57 -
16.49 UT

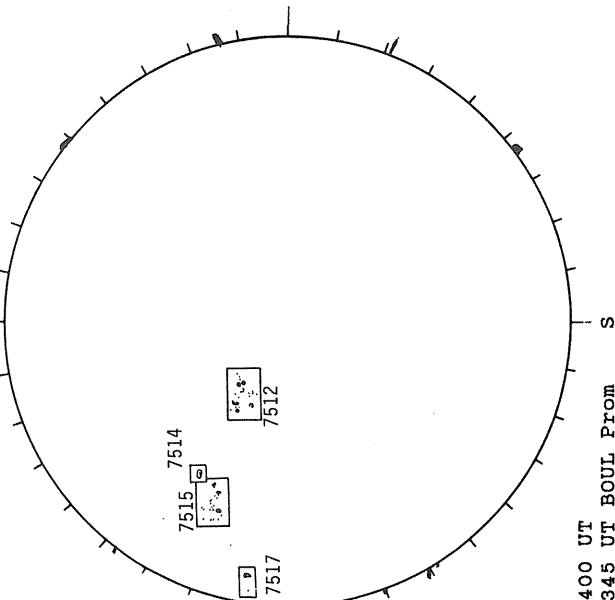
White = +7.5G
Black = -7.5G

BOULDER H-ALPHA



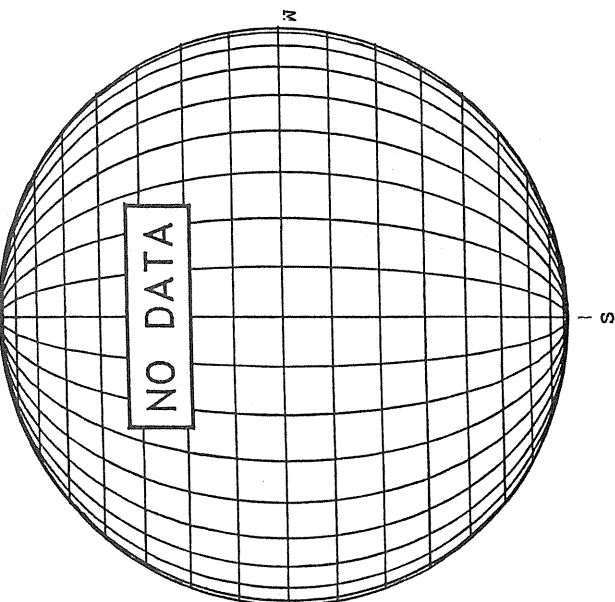
1345 UT

BOULDER SUNSPOT



1400 UT
1345 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

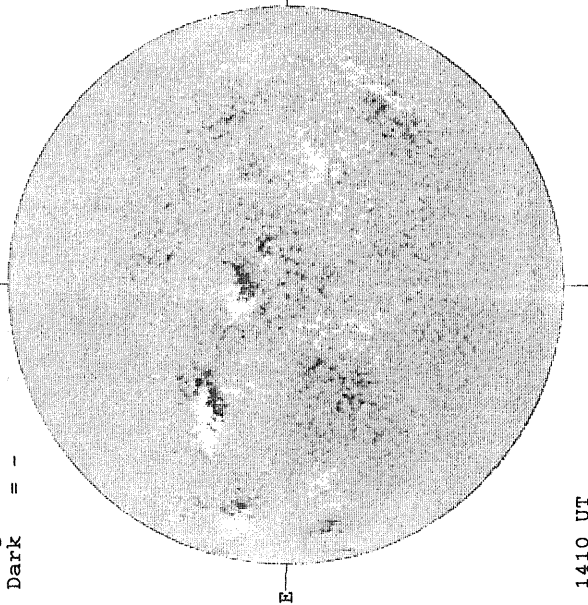


NO DATA

MAY 29, 1993 (P=-16.53, B₀ = -1.01, L₀ = 112.18)

KITT PEAK MAGNETOGRAM
5507A

Bright = +
Dark = -



1410 UT

STANFORD MAGNETOGRAM

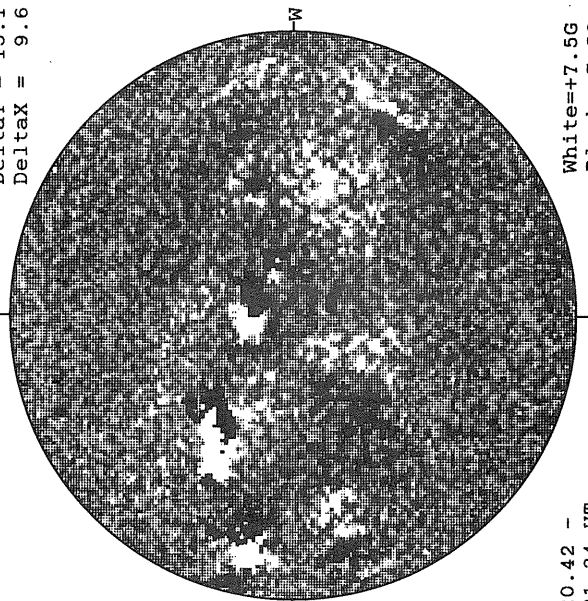
Solid = +
Dashed = -



1628 UT

MT. WILSON MAGNETOGRAM

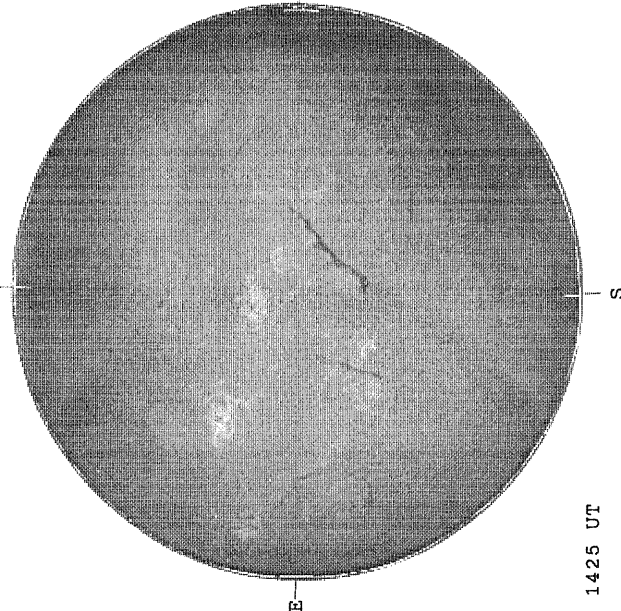
DeltaY = 13.1
DeltaX = 9.6



20.42 -
21.34 UT

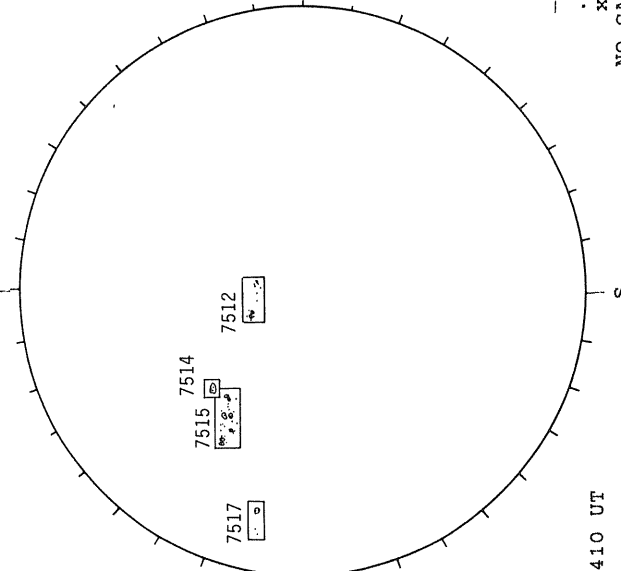
White = +7.5G
Black = -7.5G

BOULDER H-ALPHA



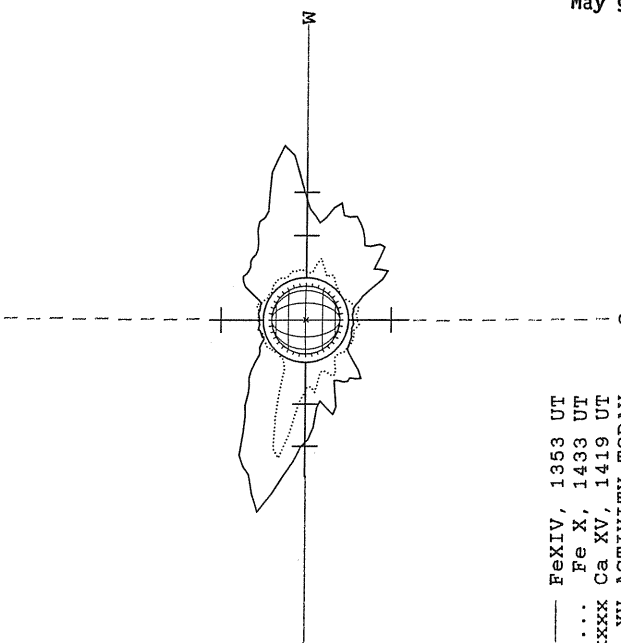
1425 UT

BOULDER SUNSPOT



1410 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



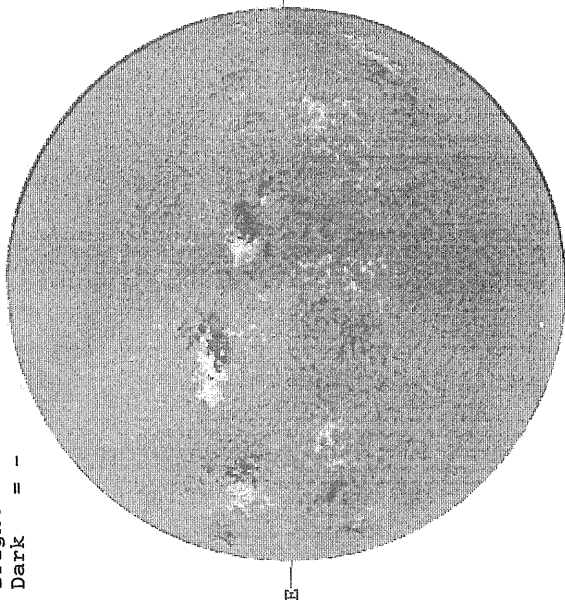
— Fe XIV, 1353 UT
.... Fe X, 1433 UT
xxxx Ca XV, 1419 UT
NO CA XV ACTIVITY TODAY

MAY 30, 1993 (P=-16.17, B₀=-0.89, L₀= 98.94)

KITT PEAK MAGNETOGRAM

5507A

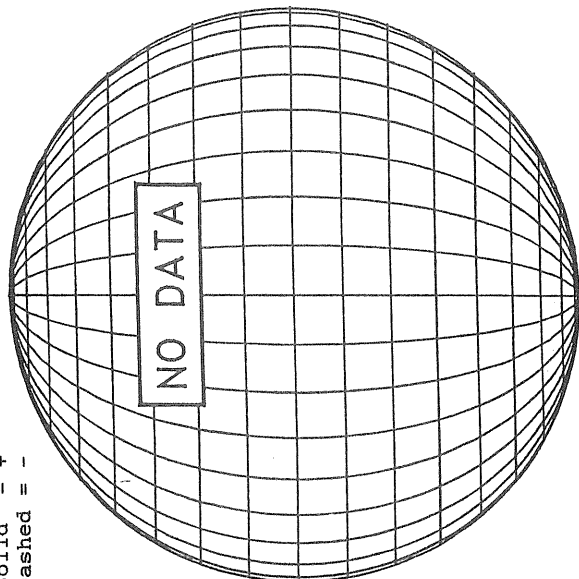
Bright = +
Dark = -



1400 UT

STANFORD MAGNETOGRAM

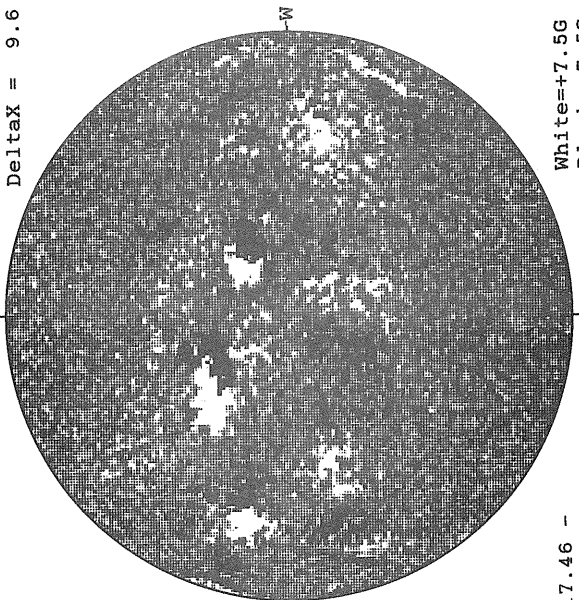
Solid = +
Dashed = -



17.46 -
18.37 UT

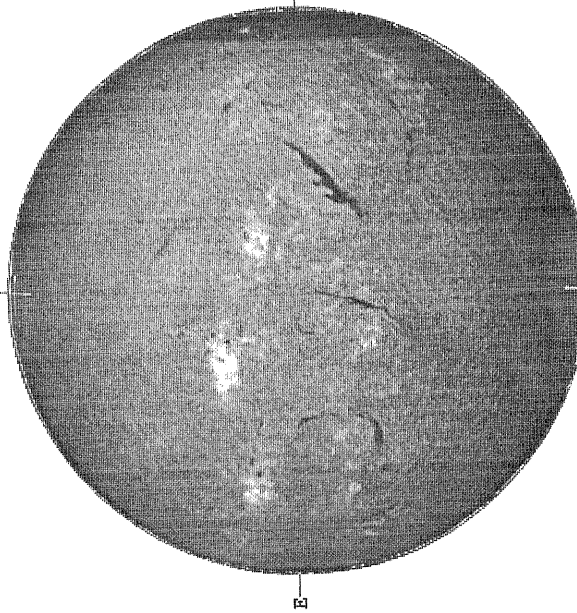
MT. WILSON MAGNETOGRAM

Delta Y = 13.1
Delta X = 9.6



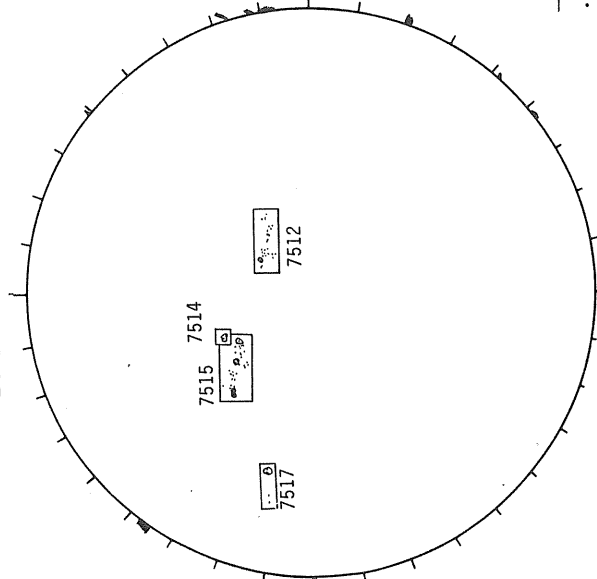
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



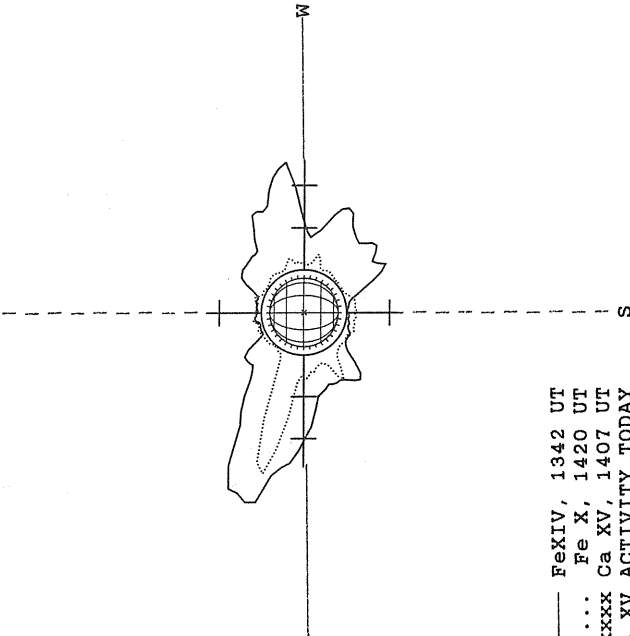
1350 UT

BOULDER SUNSPOT



1405 UT
1350 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



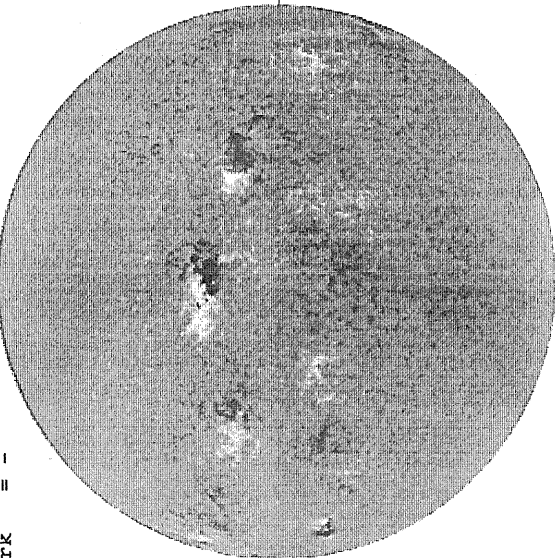
— Fe XIV, 1342 UT
.... Fe X, 1420 UT
xxxx Ca XV, 1407 UT
NO CA XV ACTIVITY TODAY

MAY 31, 1993 (P=-15.80, B₀ =-0.77 L₀ = 85.71)

KITT PEAK MAGNETOGRAM

5507A

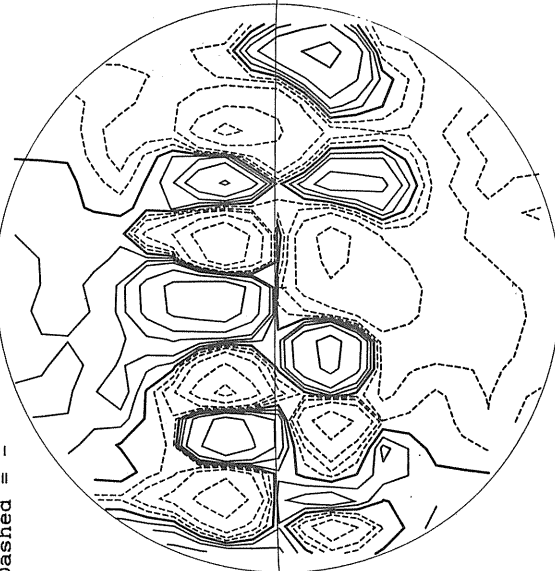
Bright = +
Dark = -



1446 UT

STANFORD MAGNETOGRAM

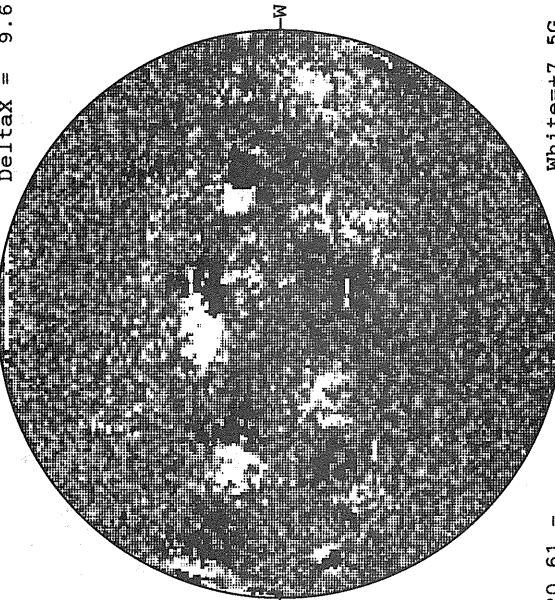
Solid = +
Dashed = -



0038 UT
JUN 01

MT. WILSON MAGNETOGRAM

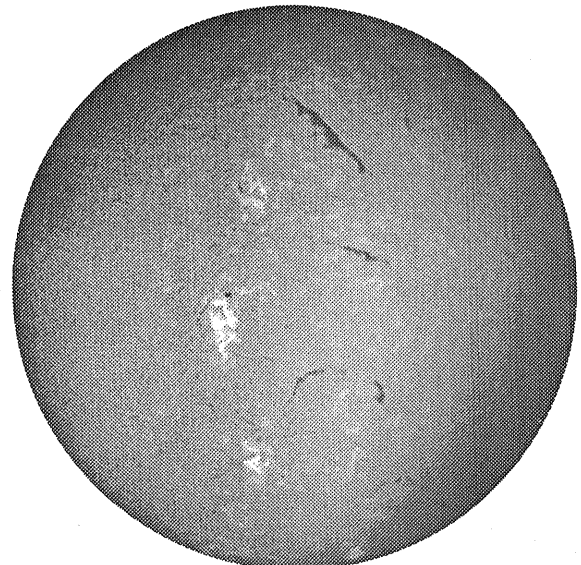
DeltaY = 13.1
DeltaX = 9.6



20.61 -
21.53 UT

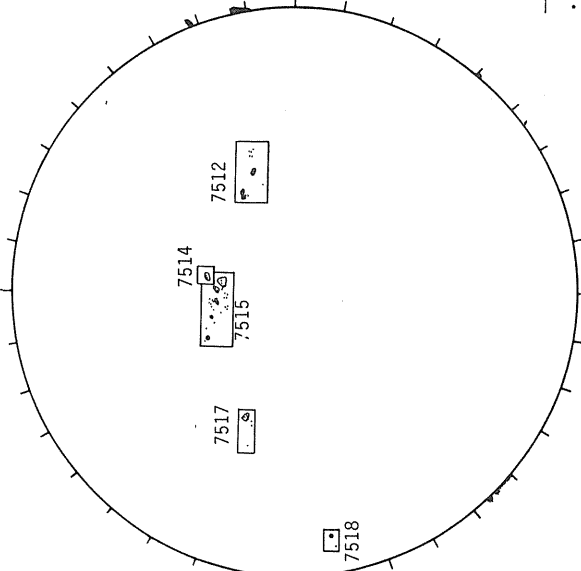
White=+7.5G
Black=-7.5G

LARISSA H-ALPHA



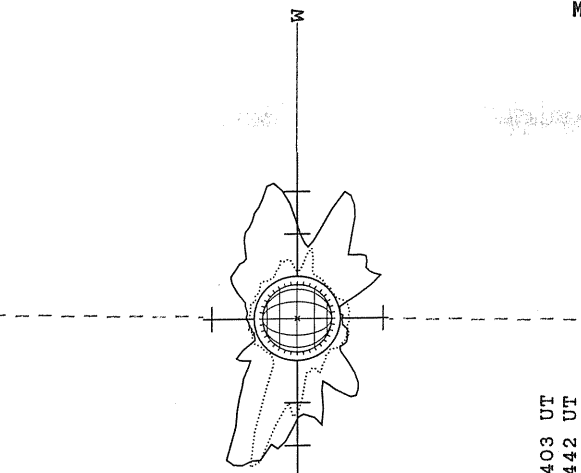
0648 UT

BOULDER SUNSPOT



1346 UT
1337 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



— FeXIV, 1403 UT
.... Fe X, 1442 UT
xxxx Ca XV, 1429 UT
NO CA XV ACTIVITY TODAY

YOHKOH
SOFT X-RAY
TELESCOPE
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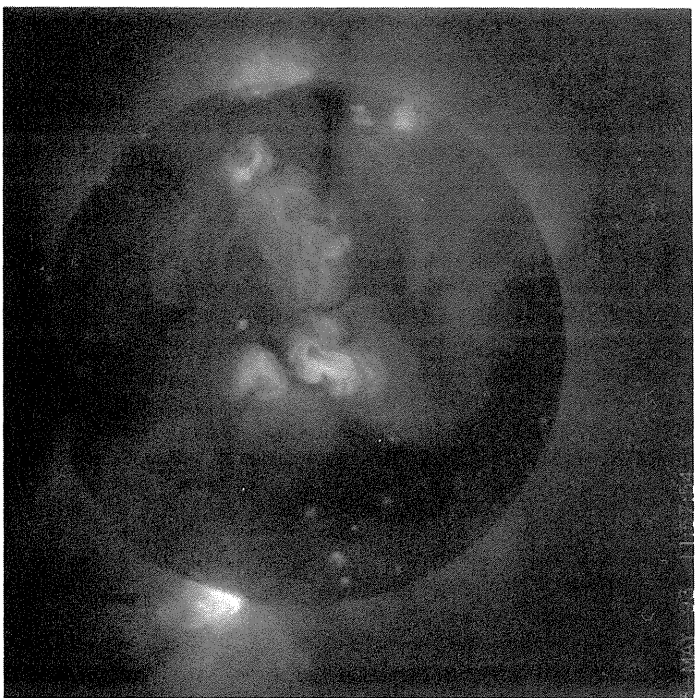
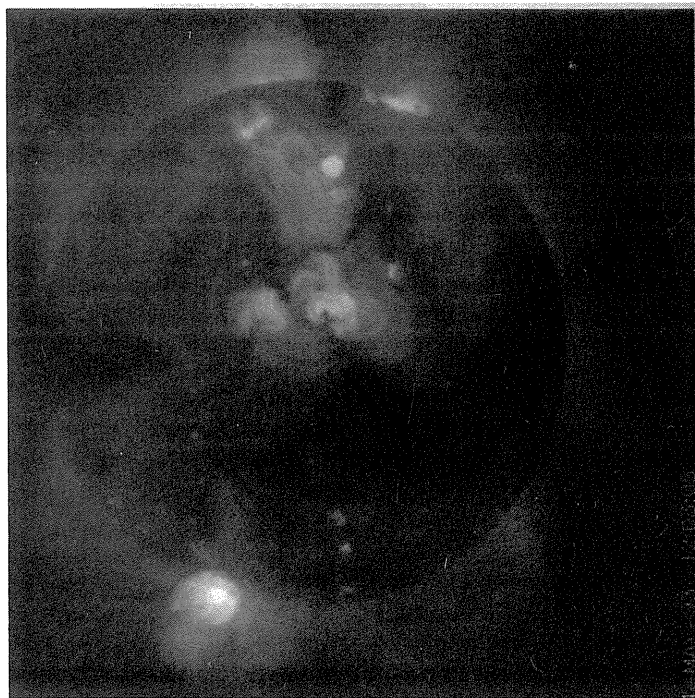
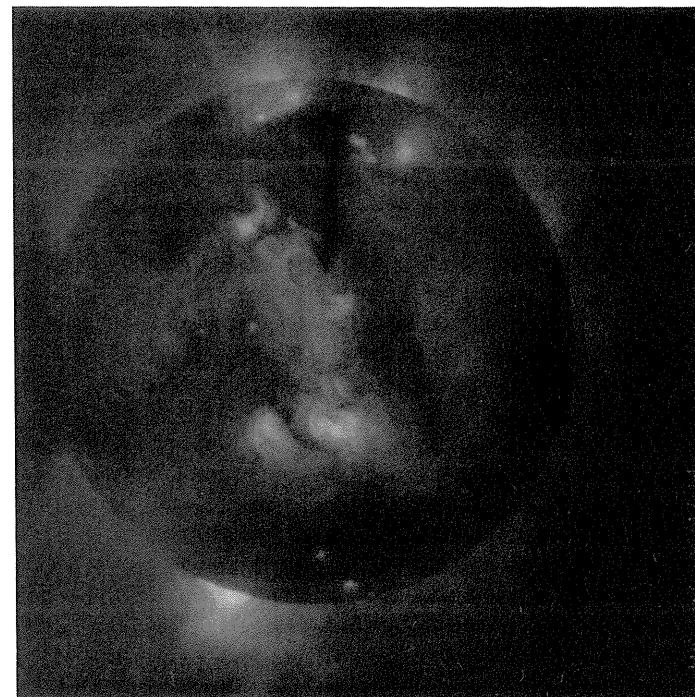
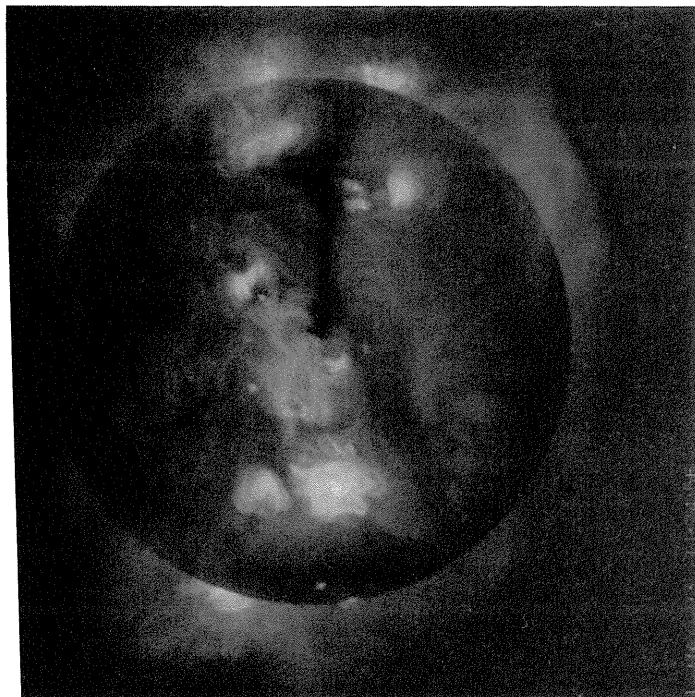
May
1993

Day 1
11:24:56 UT

Day 3
11:57:54 UT

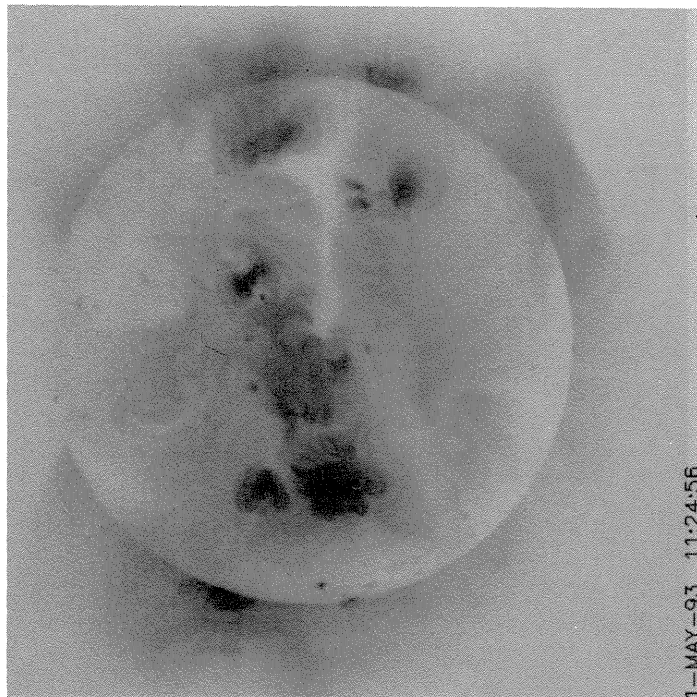
Day 2
11:47:14 UT

Day 4
12:03:05 UT

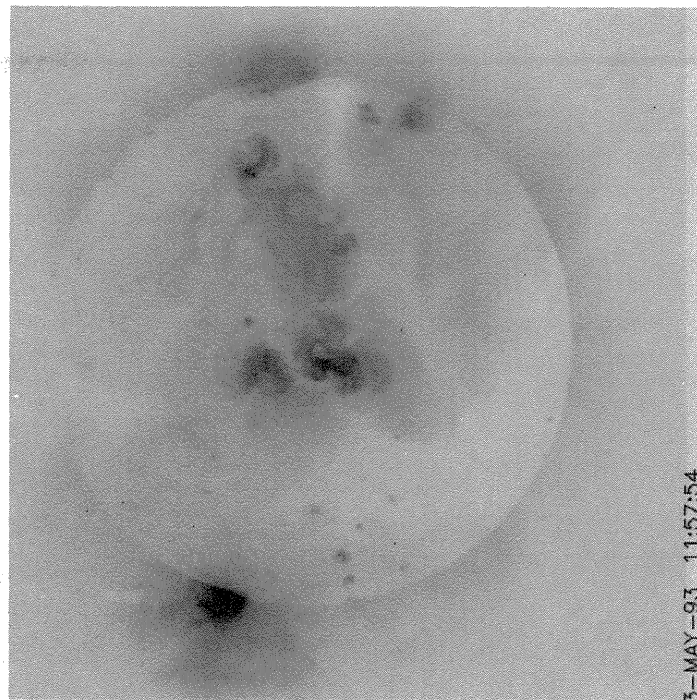


**YOHKOH
SOFT X-RAY
TELESCOPE
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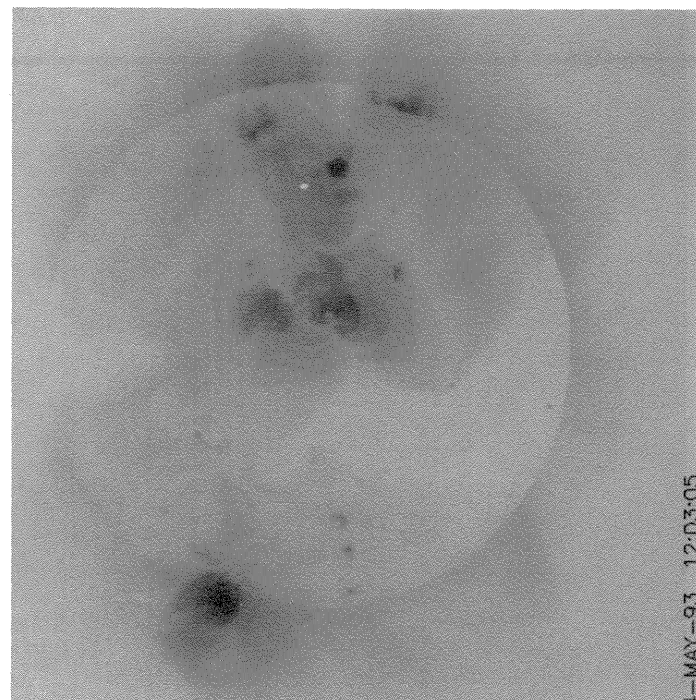
**May
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Day 1 Day 3
11:24:56 UT 11:57:54 UT



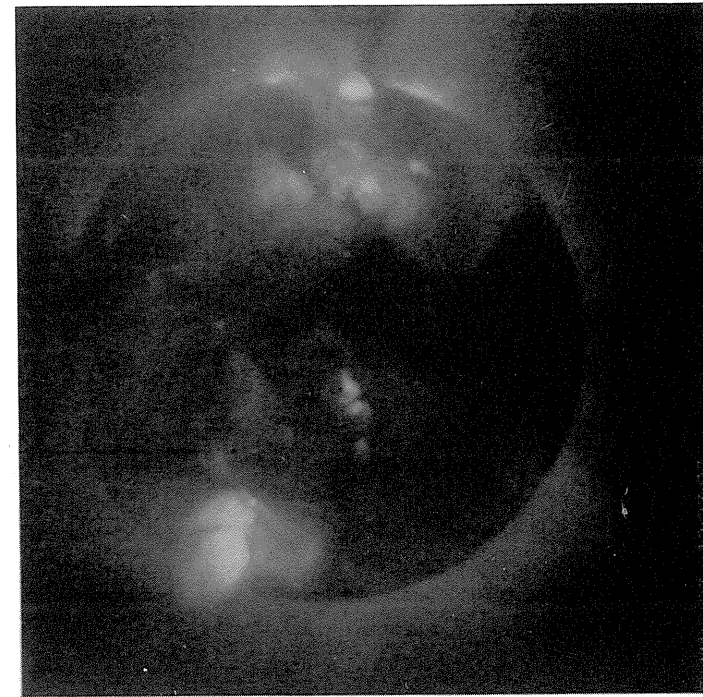
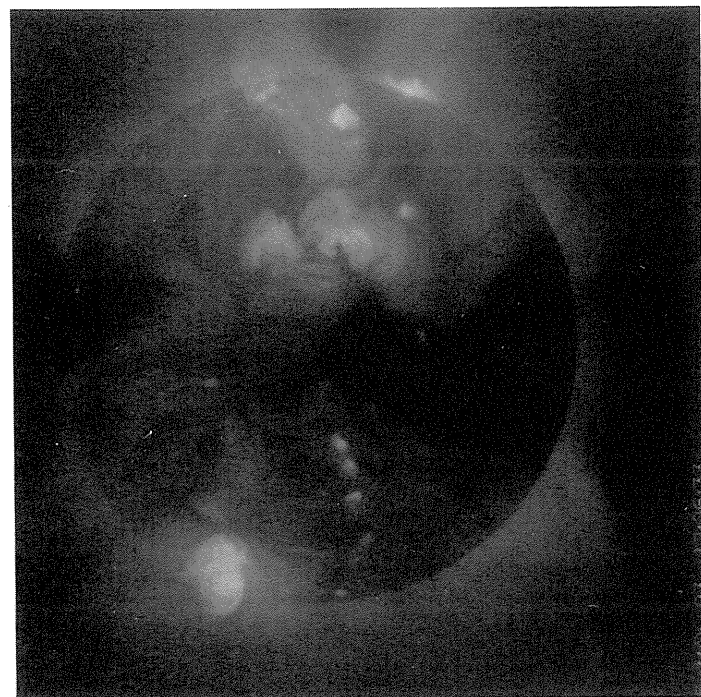
Day 2 Day 4
11:47:14 UT 12:03:05 UT



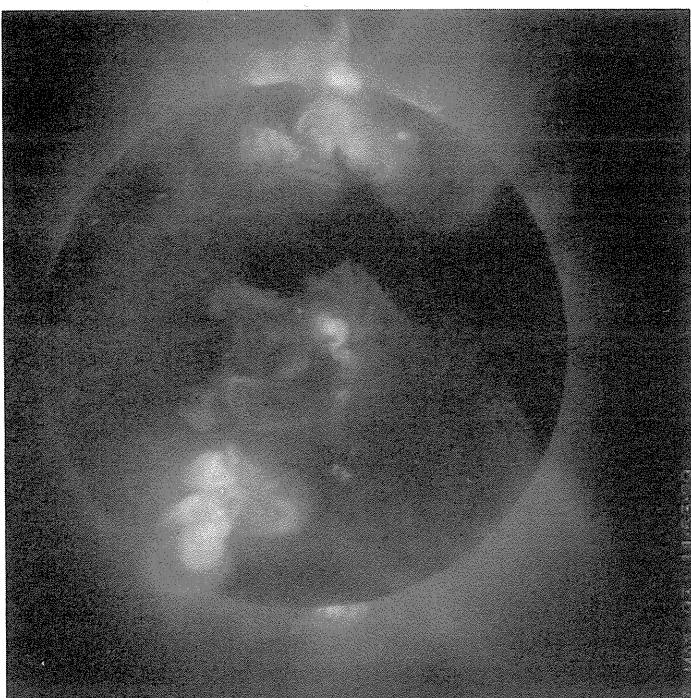
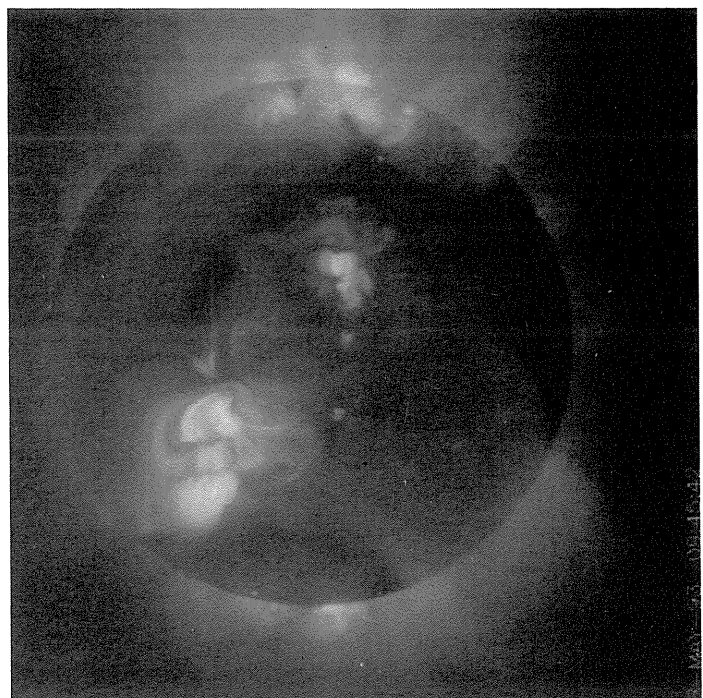
YOHKOH
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Day 5 Day 7
12:26:33 UT 11:53:29 UT



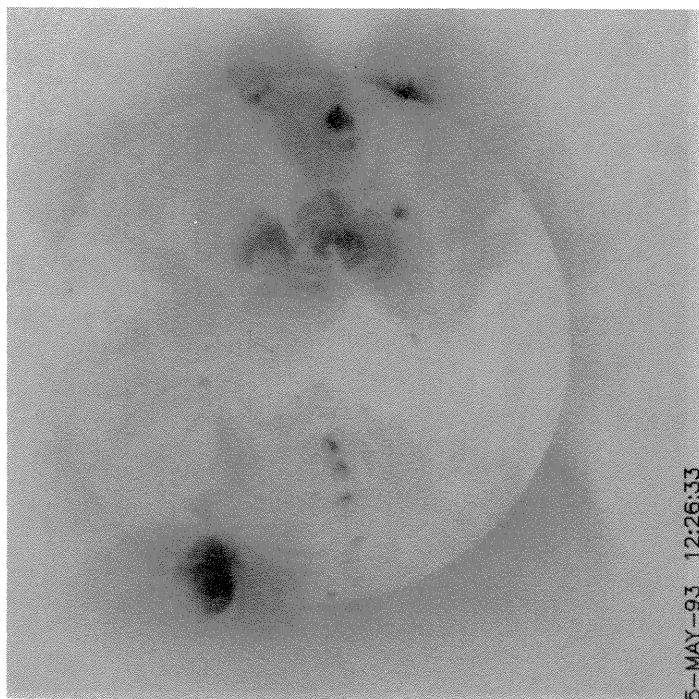
Day 6 Day 8
12:23:07 UT 09:45:42 UT



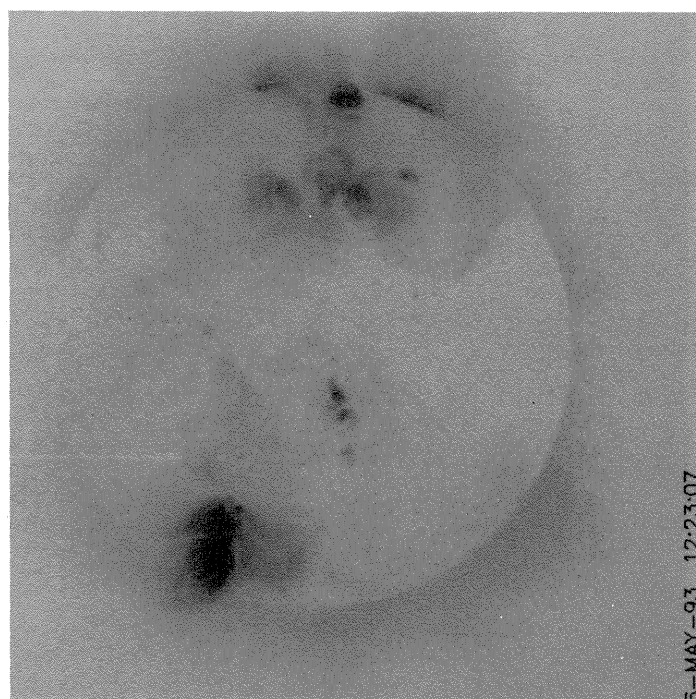
YOHKOH
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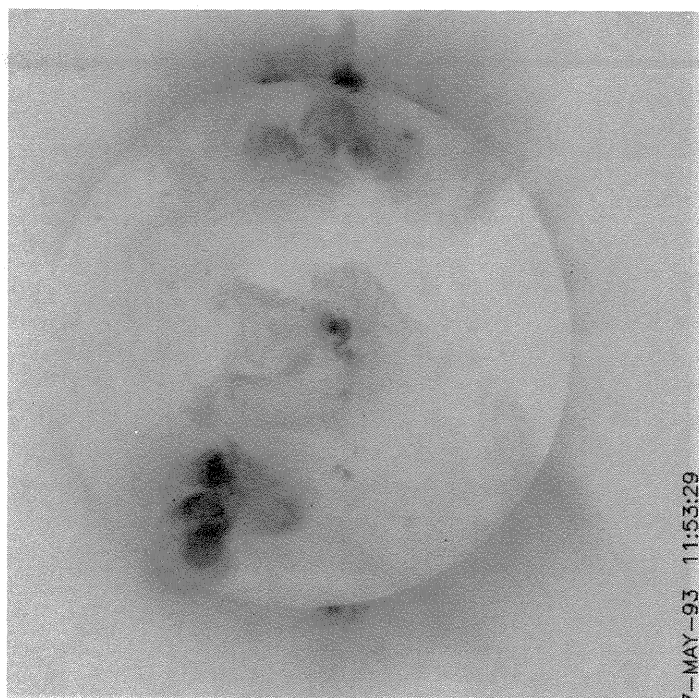
Day 5 Day 7
12:26:33 UT 11:53:29 UT



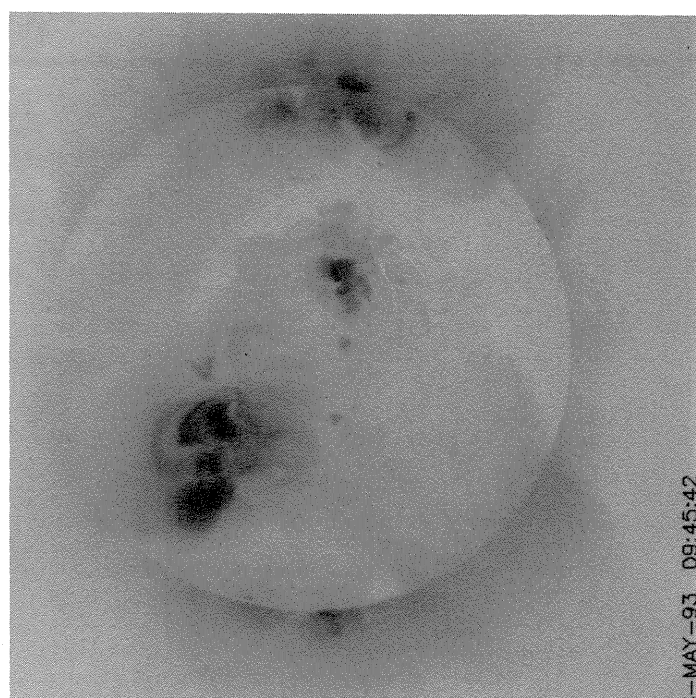
5-MAY-93 12:26:33



5-MAY-93 12:23:07



7-MAY-93 11:53:29



8-MAY-93 09:45:42

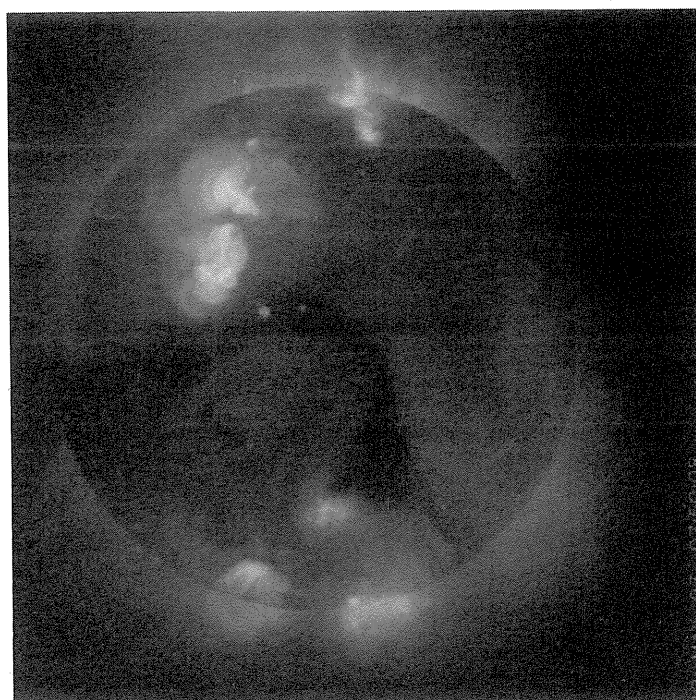
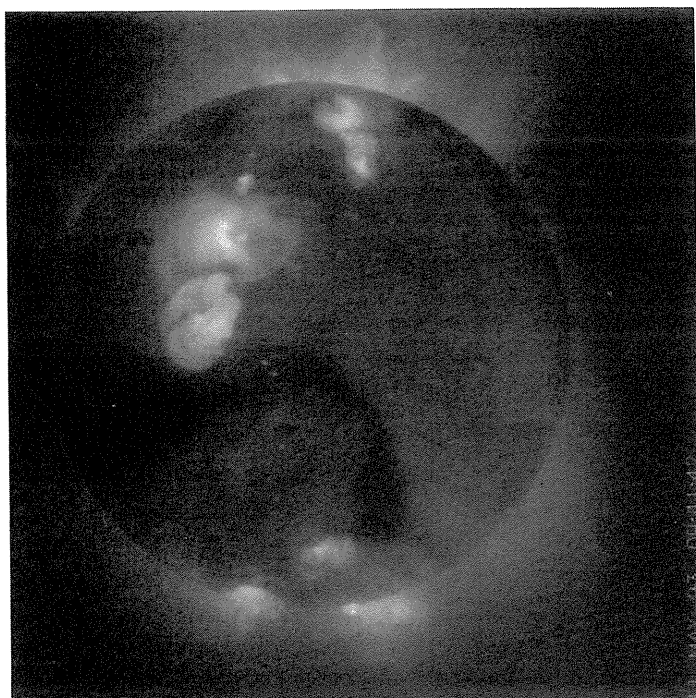
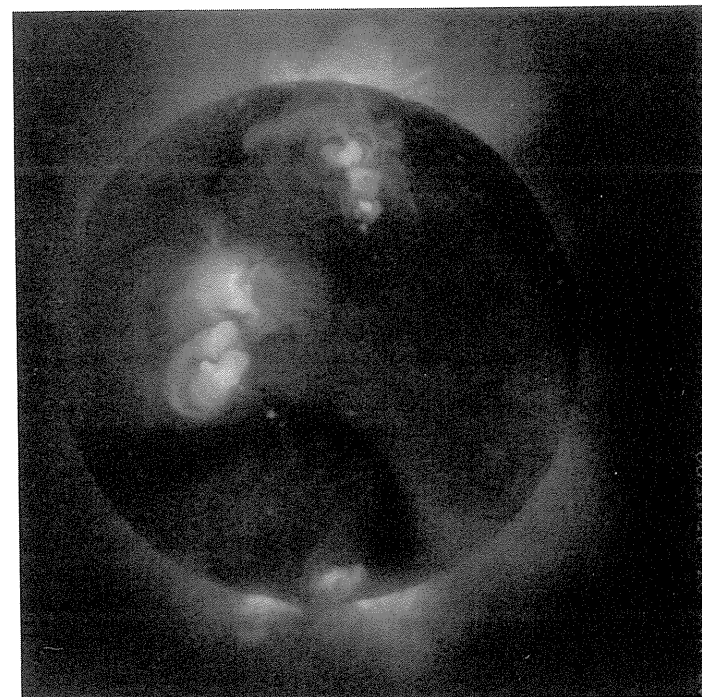
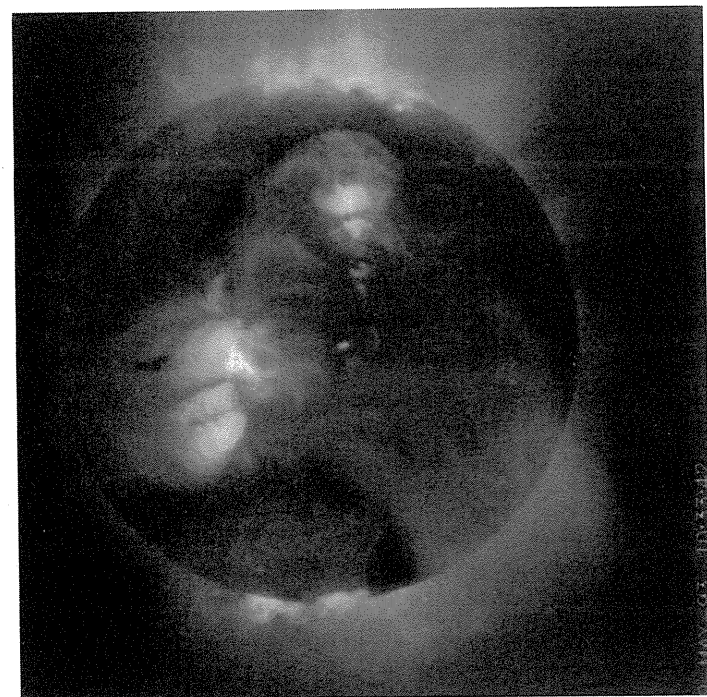
Day 6 Day 8
12:23:07 UT 09:45:42 UT

YOHKOH
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Day 9 10:33:42 UT Day 11 09:41:42 UT

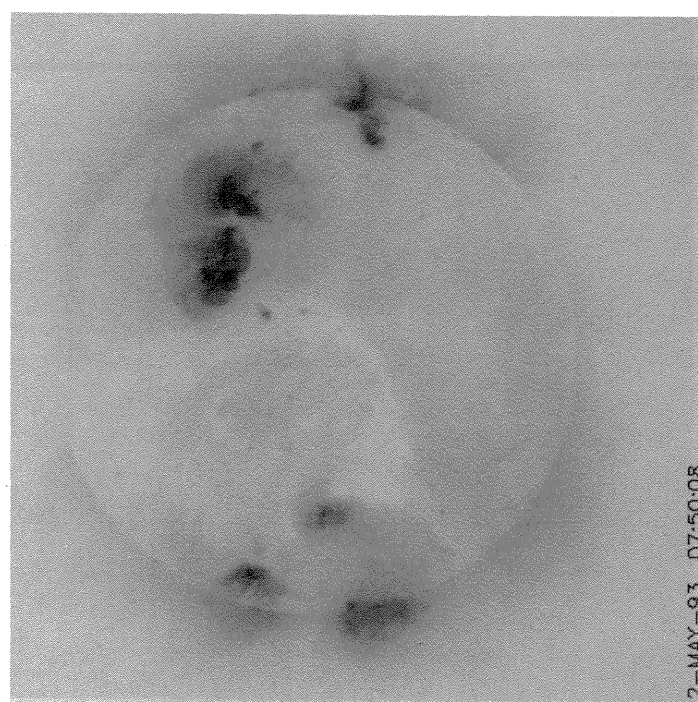
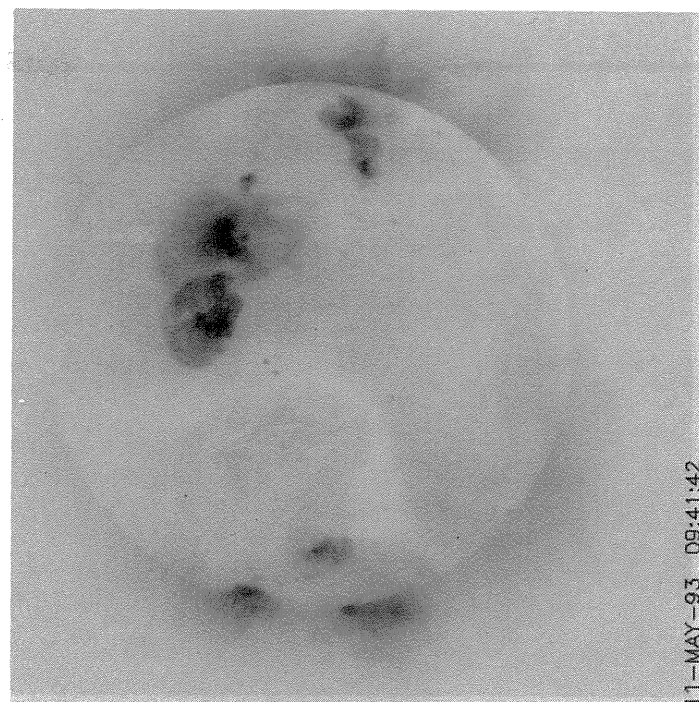
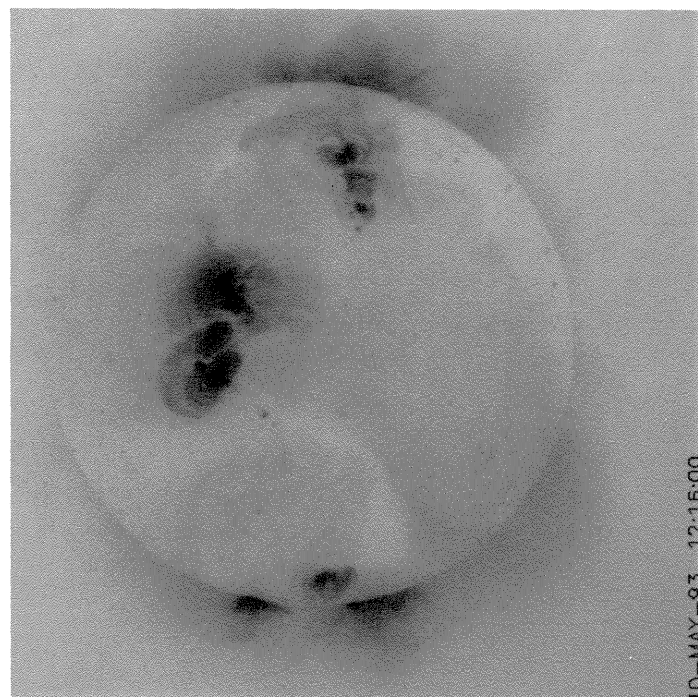
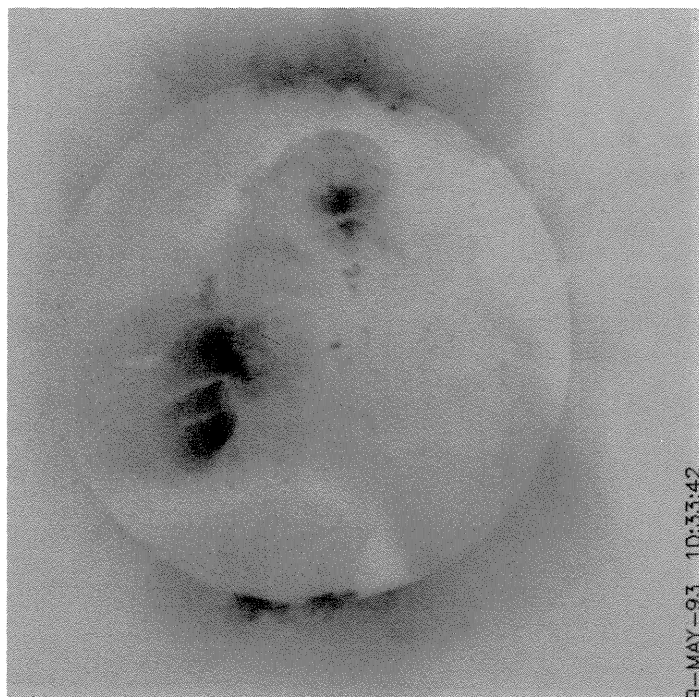
Day 10 12:16:00 UT Day 12 07:50:08 UT



YOHKOH
SOFT X-RAY
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Day 9 Day 11
10:33:42 UT 09:41:42 UT

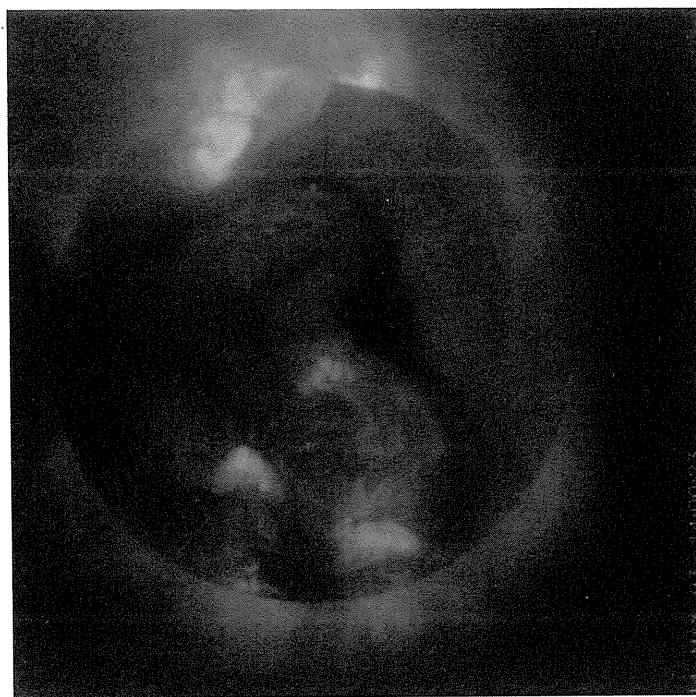
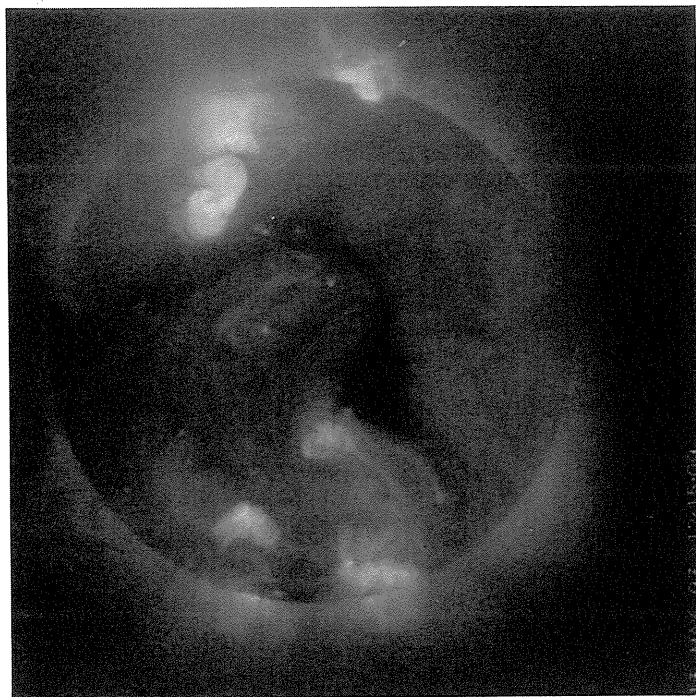
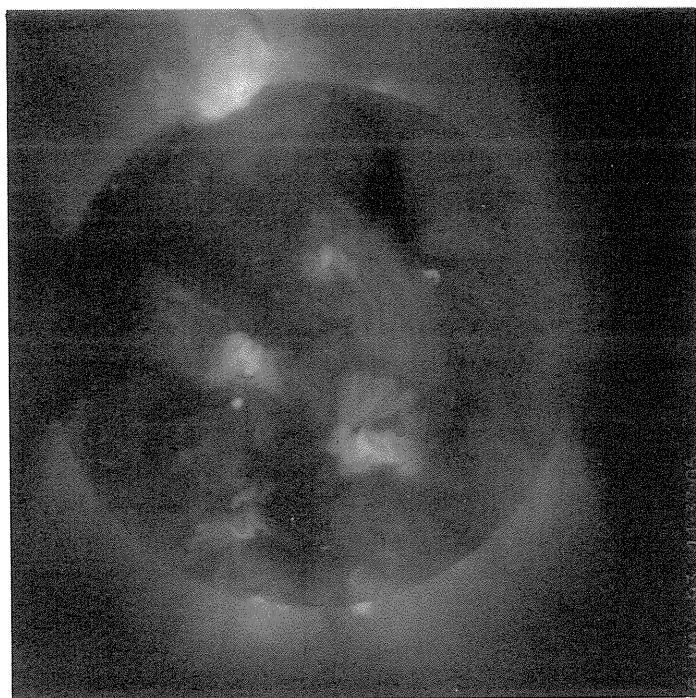
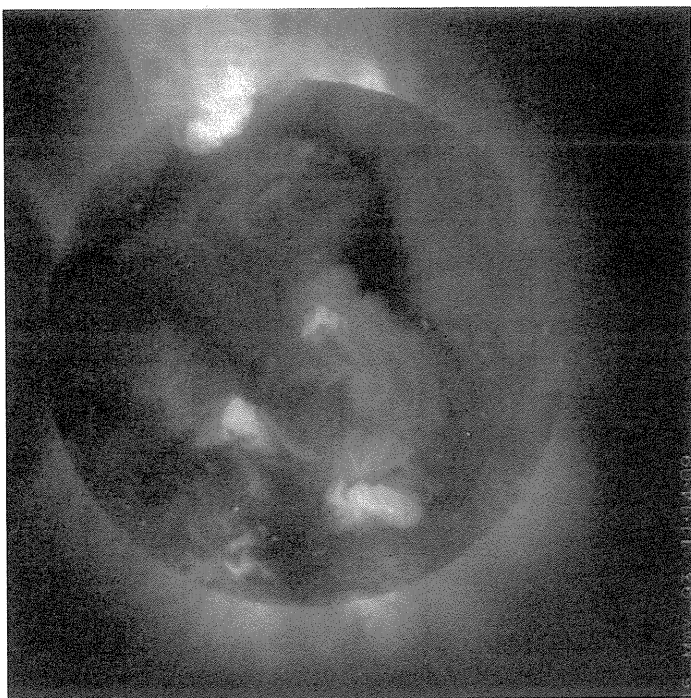


YOHKOH
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Day 13 12:15:09 UT
Day 15 11:14:09 UT

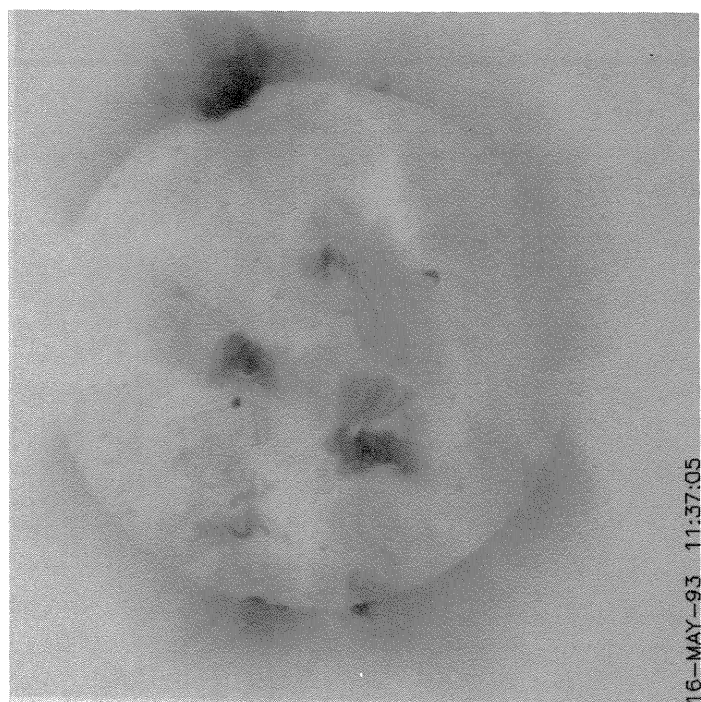
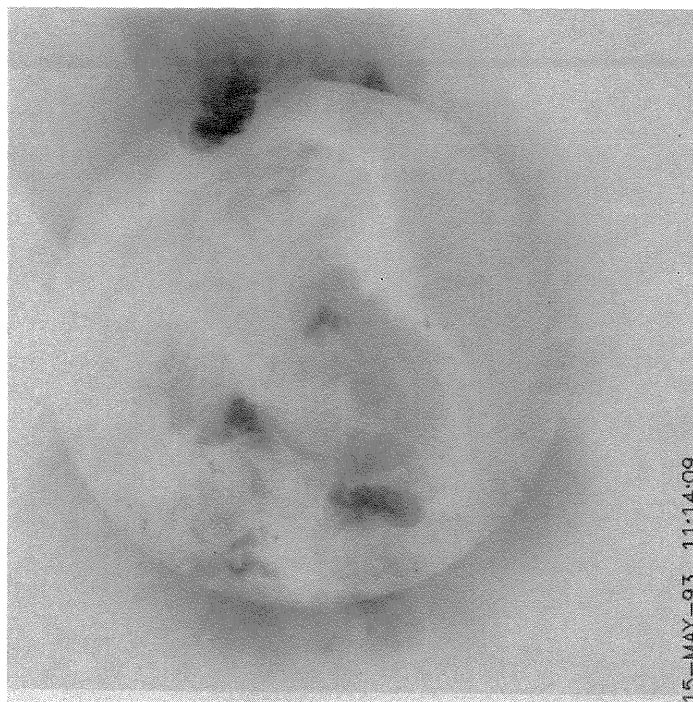
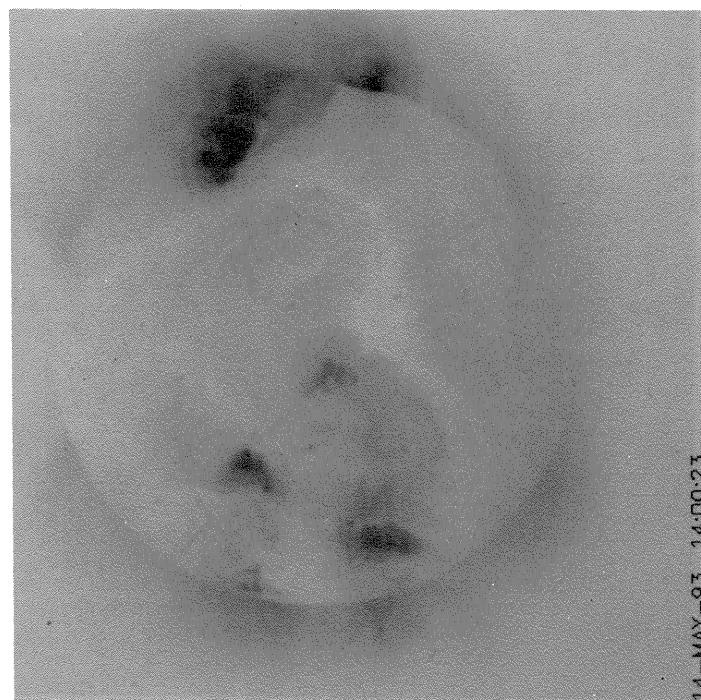
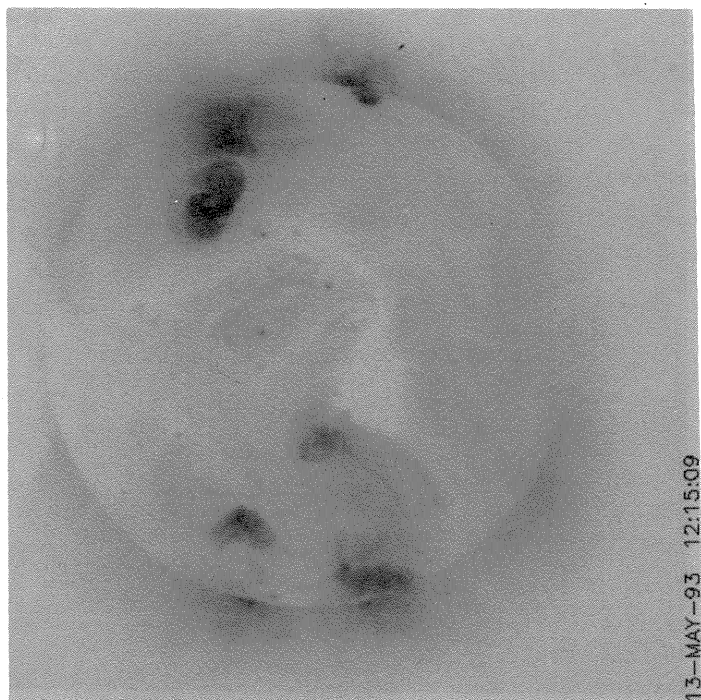
Day 14 14:00:23 UT
Day 16 11:37:05 UT



**YOHKOH
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1993**

Day 13 Day 15
12:15:09 UT 11:14:09 UT



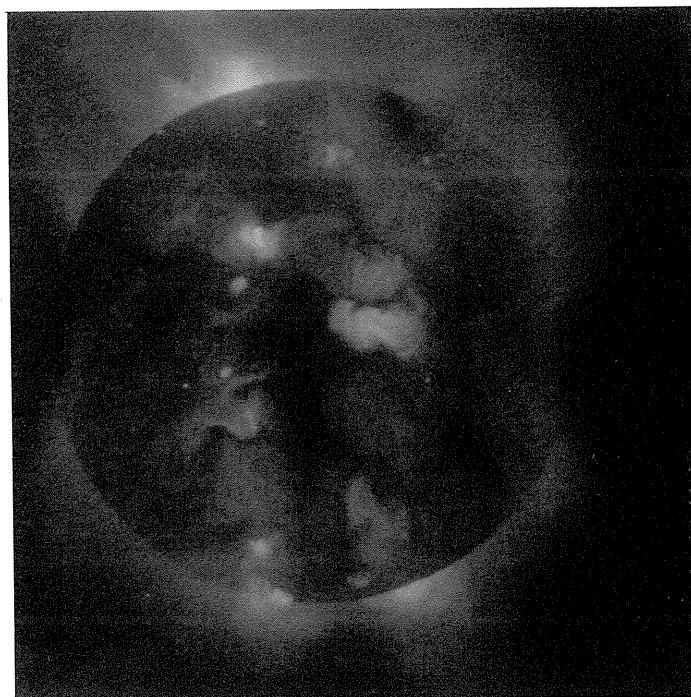
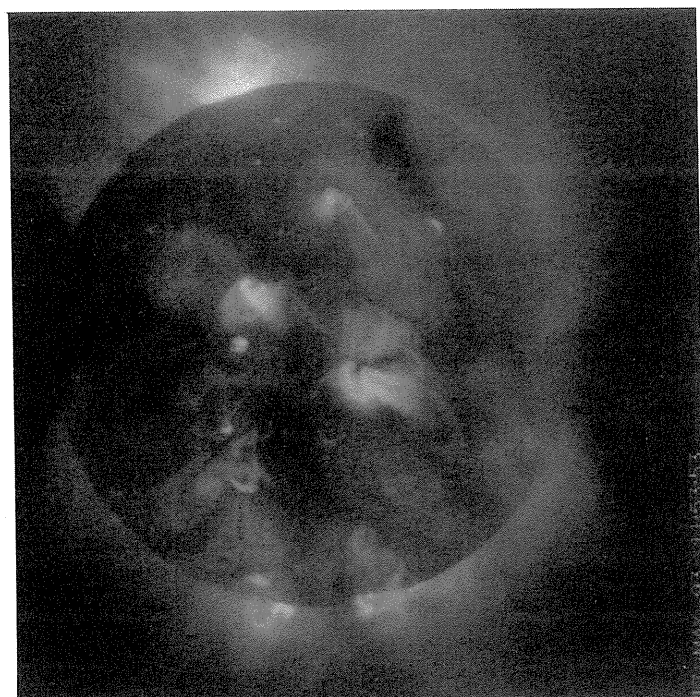
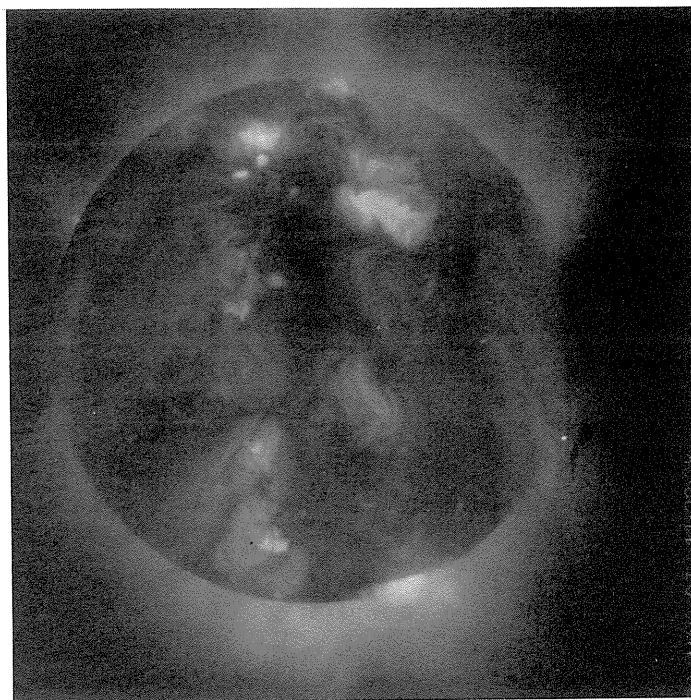
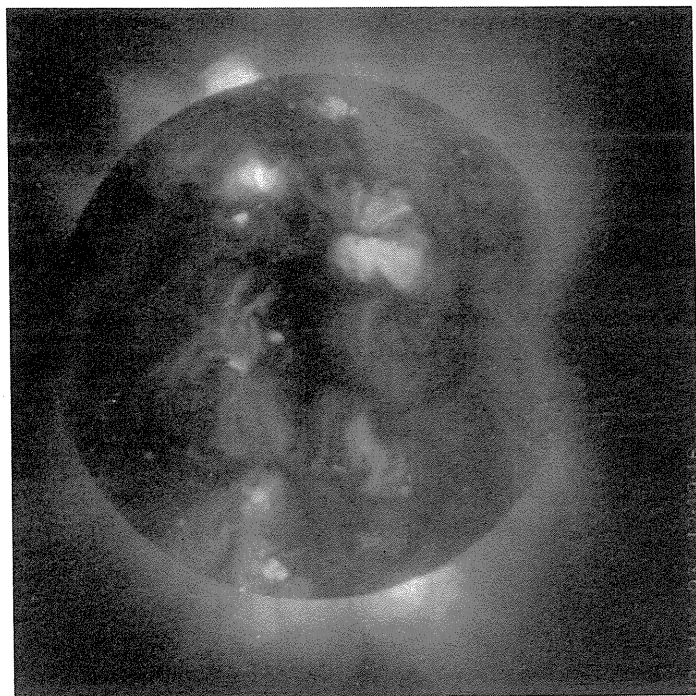
Day 14 Day 16
14:00:23 UT 11:37:05 UT

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Day 17 Day 19
11:53:53 UT 12:19:16 UT

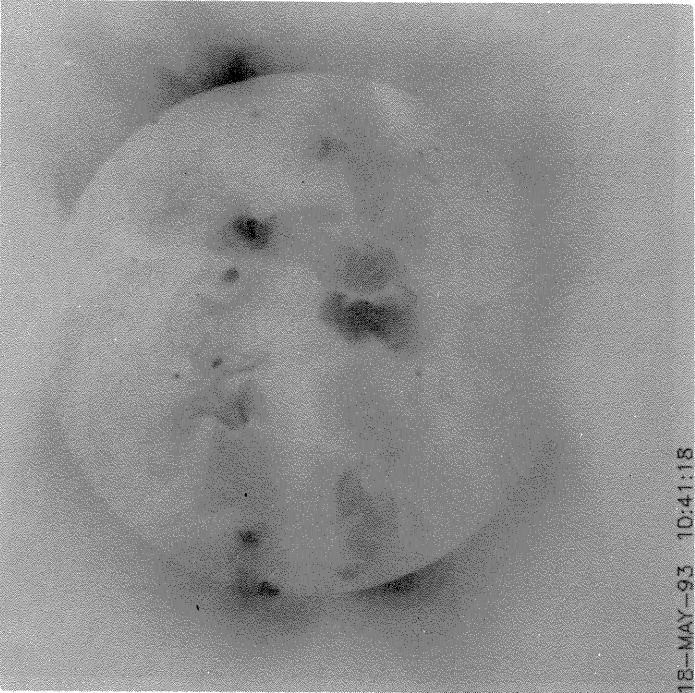
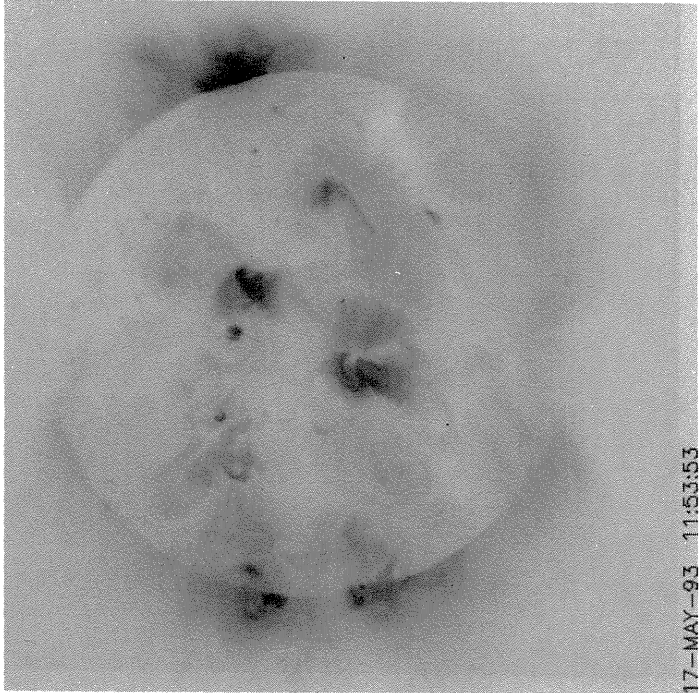
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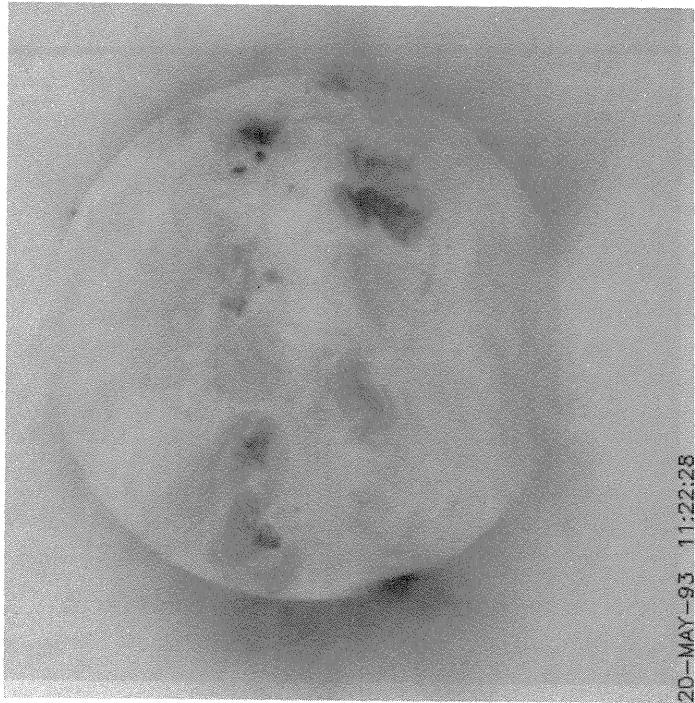
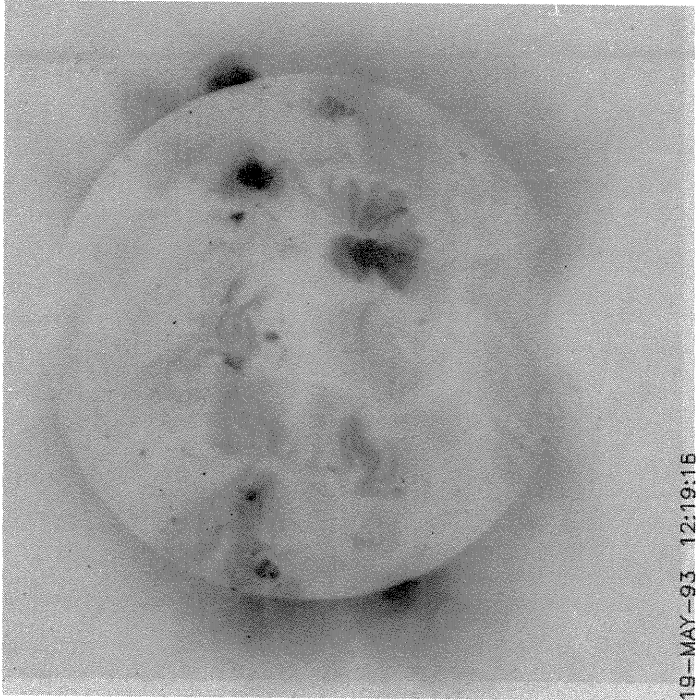
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IMAGES

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Day 17 Day 19
11:53:53 UT 12:19:16 UT



Day 18 Day 20
10:41:18 UT 11:22:28 UT

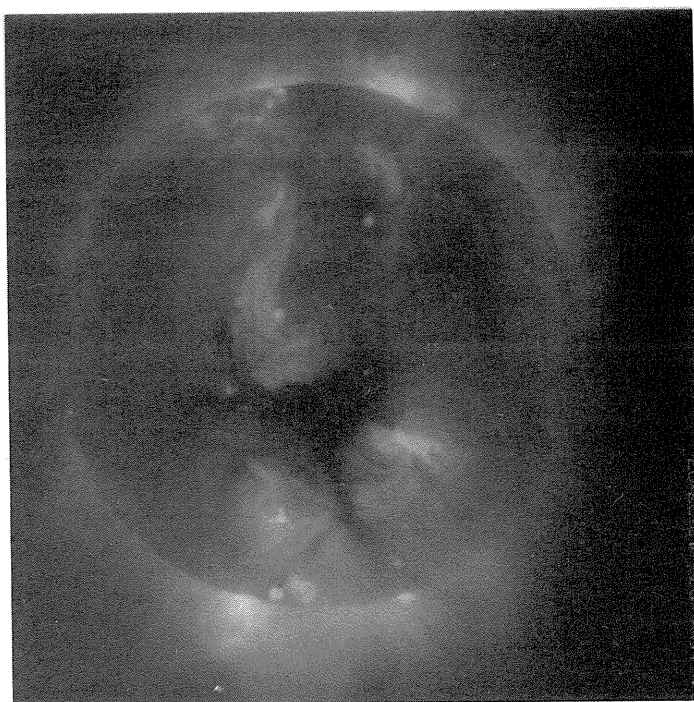
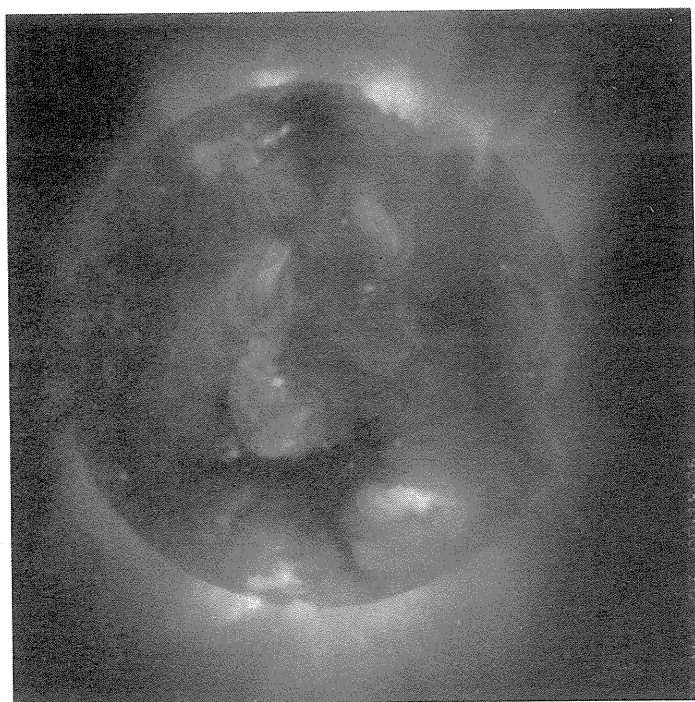
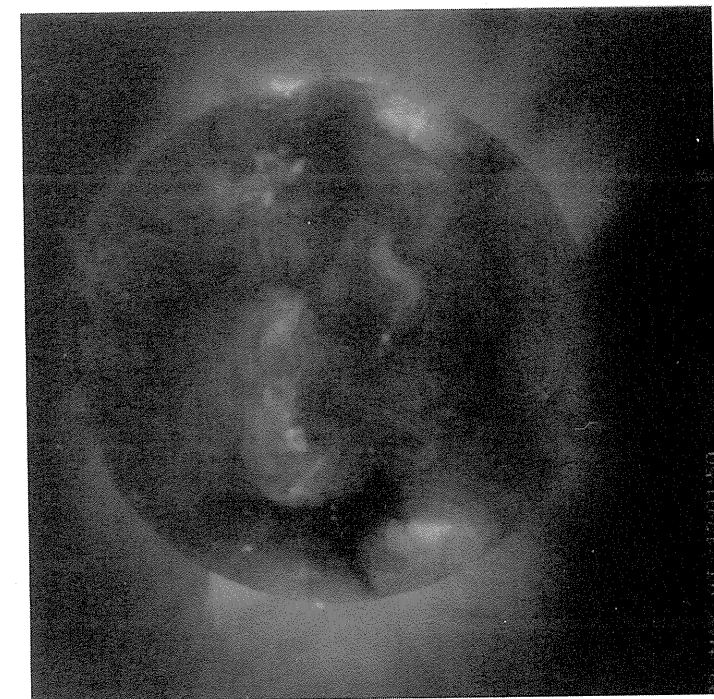
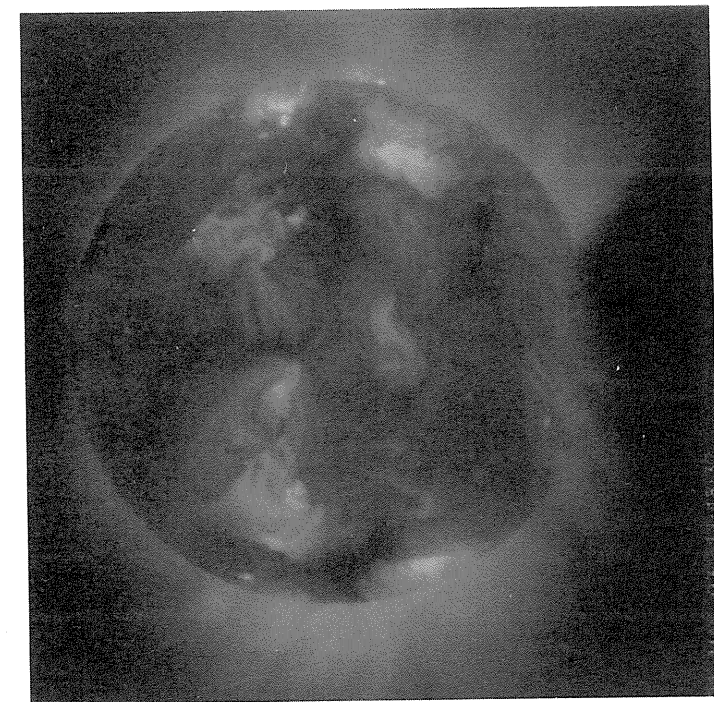


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Day 21 Day 23
11:48:32 UT 09:18:05 UT

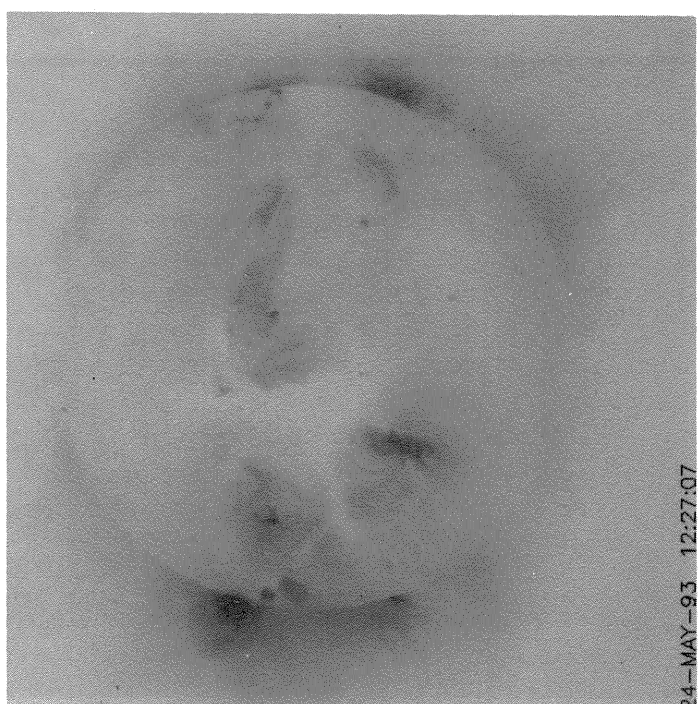
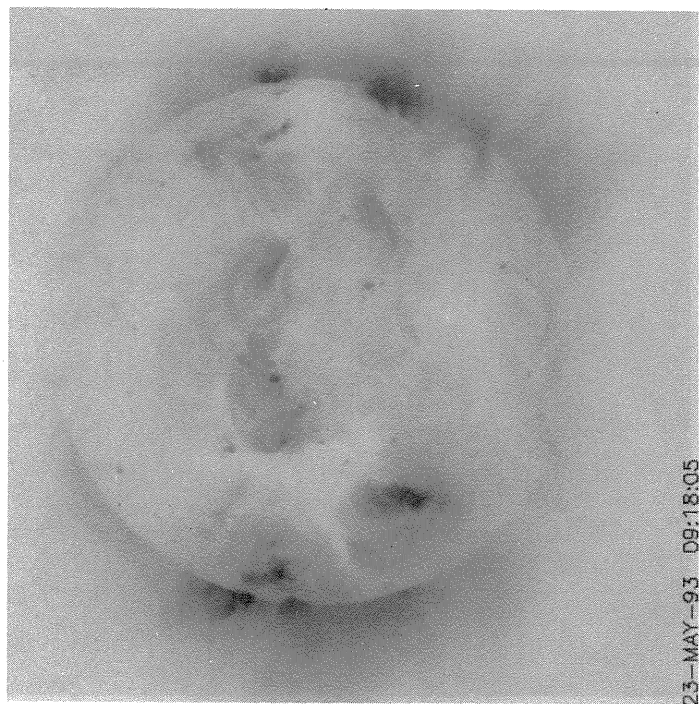
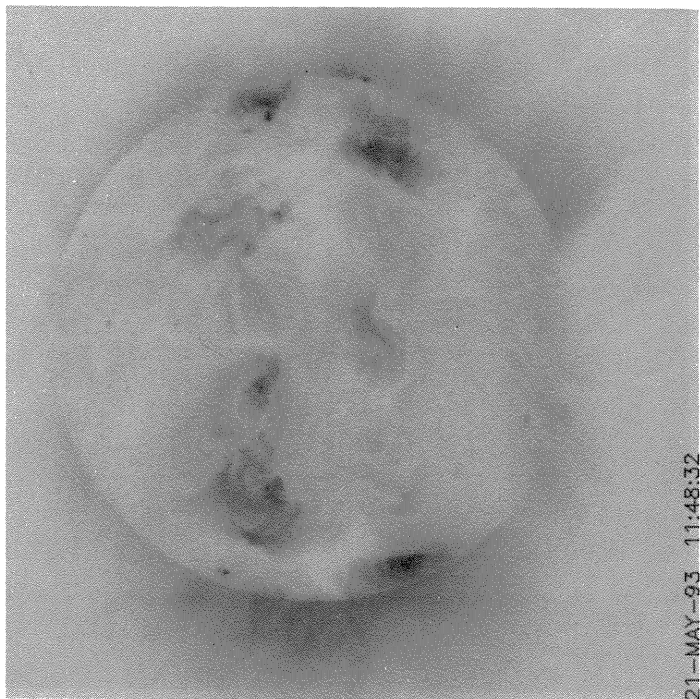
Day 22 Day 24
12:01:50 UT 12:27:07 UT



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Day 21 Day 23
11:48:32 UT 09:18:05 UT



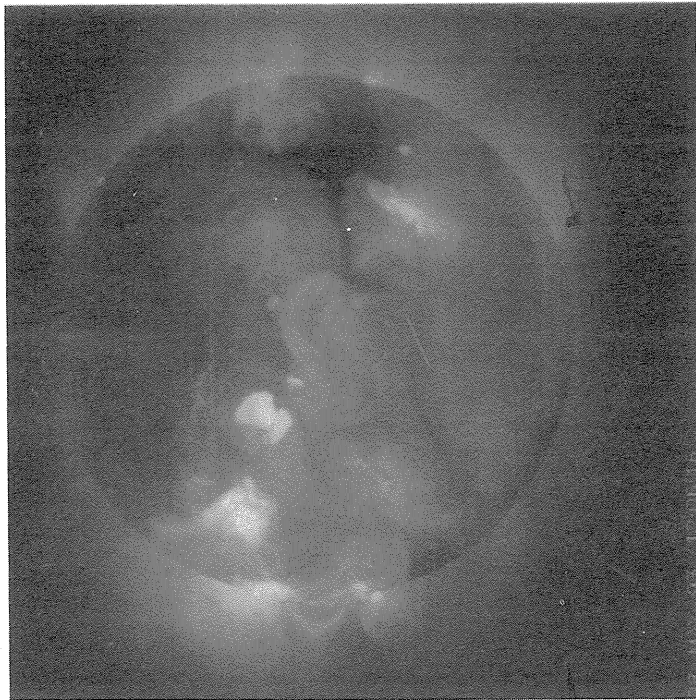
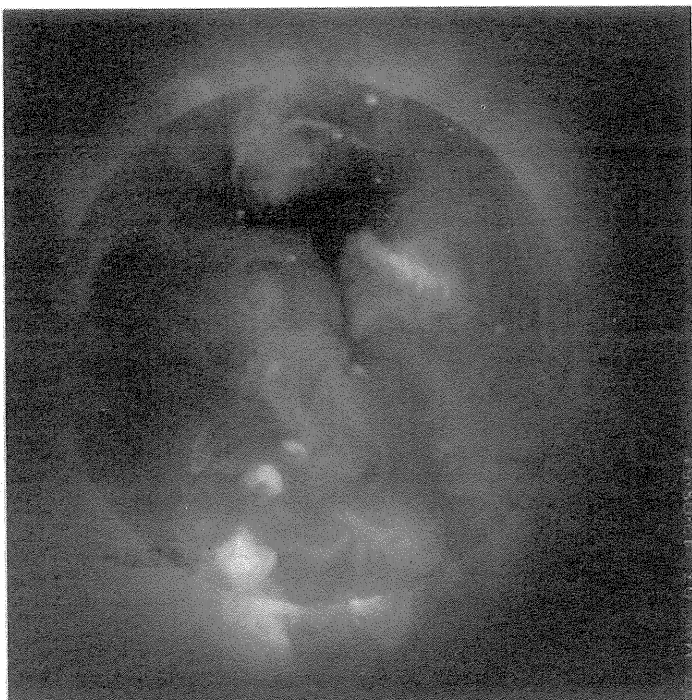
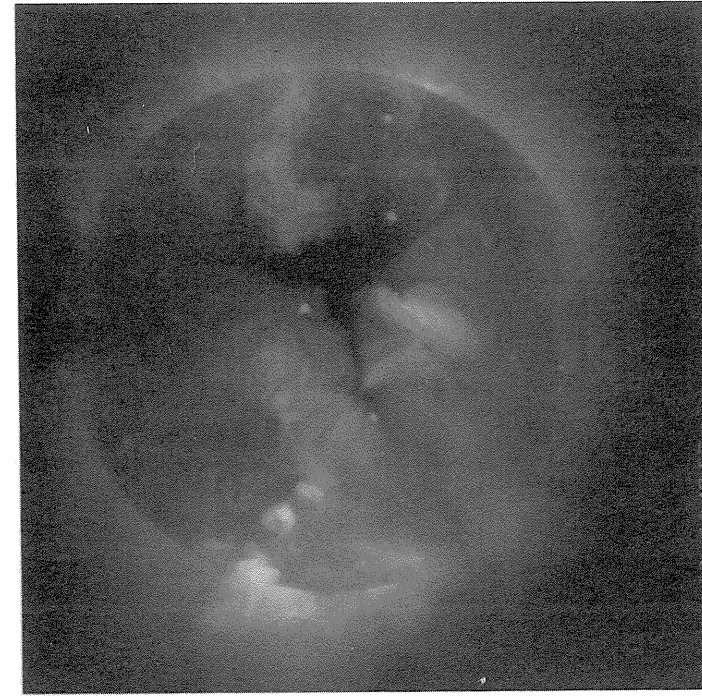
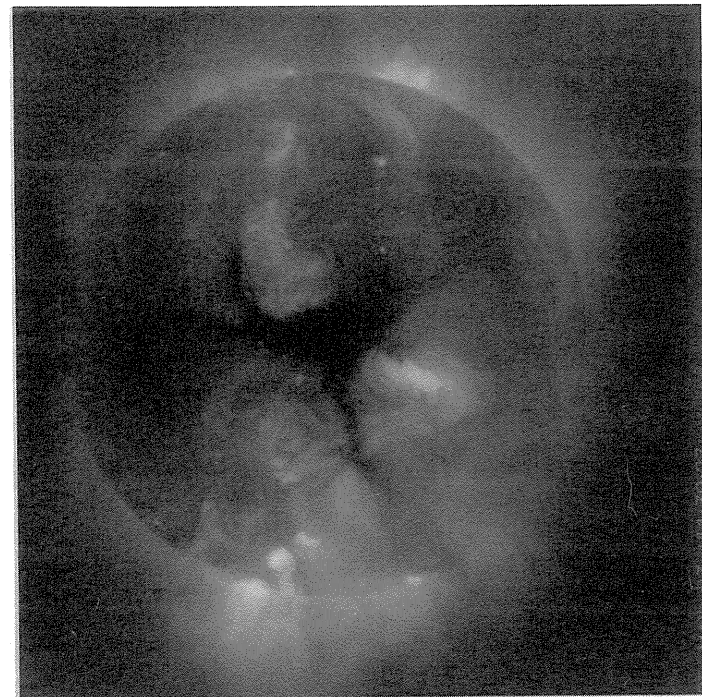
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12:01:50 UT 12:27:07 UT

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Day 25 Day 27
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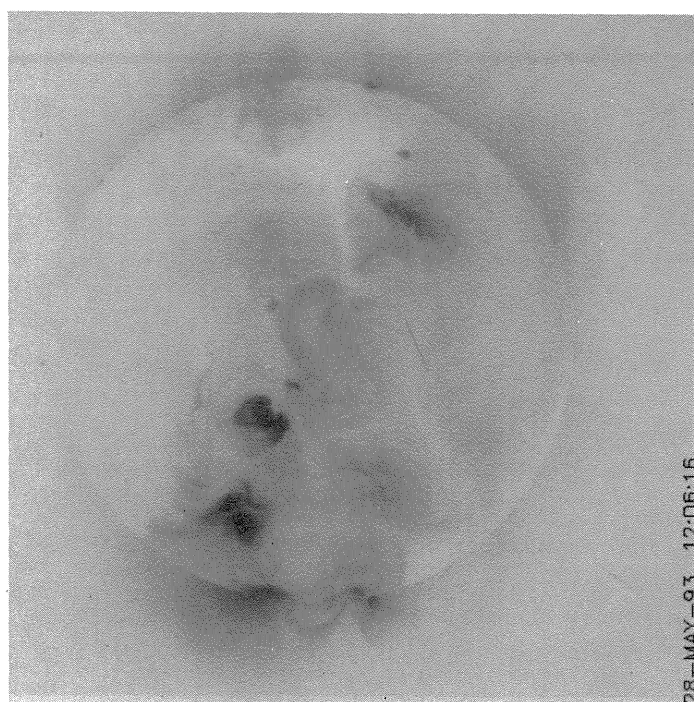
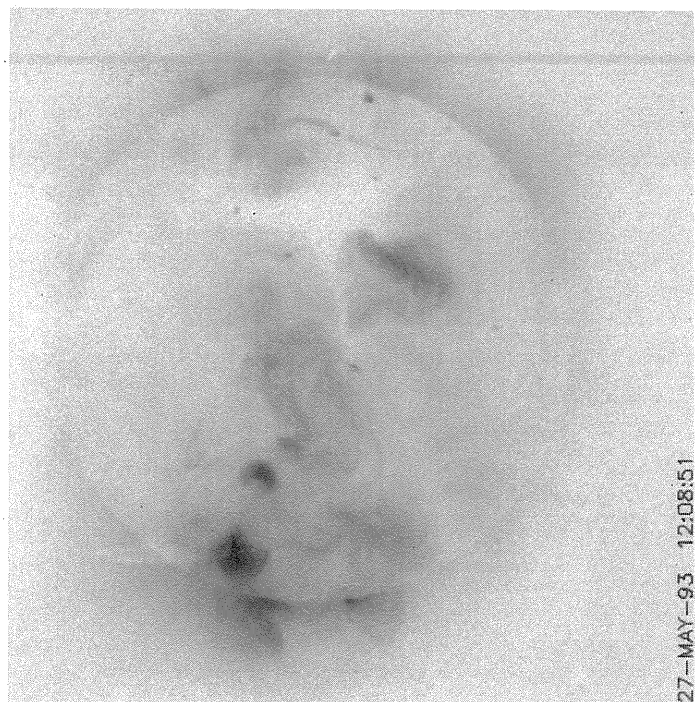
Day 26 Day 28
11:47:53 UT 12:06:16 UT



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Day 25 Day 27
11:30:27 UT 12:08:51 UT

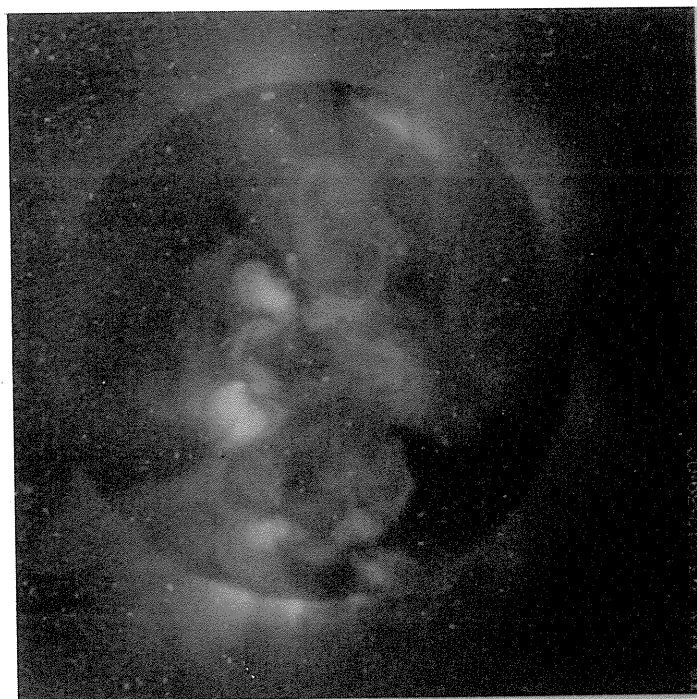
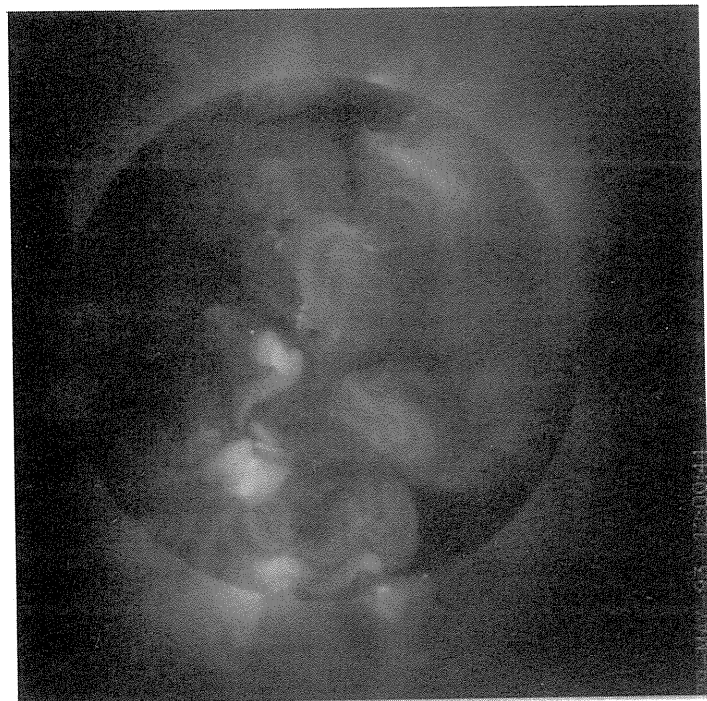


Day 26 Day 28
11:47:53 UT 12:06:16 UT

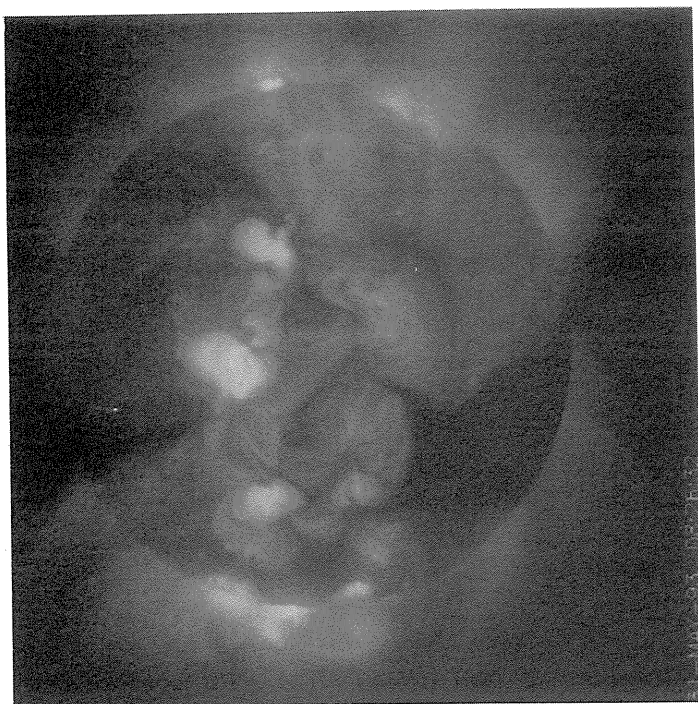
YOHKOH
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Day 29 Day 31
12:00:44 UT 08:26:32 UT



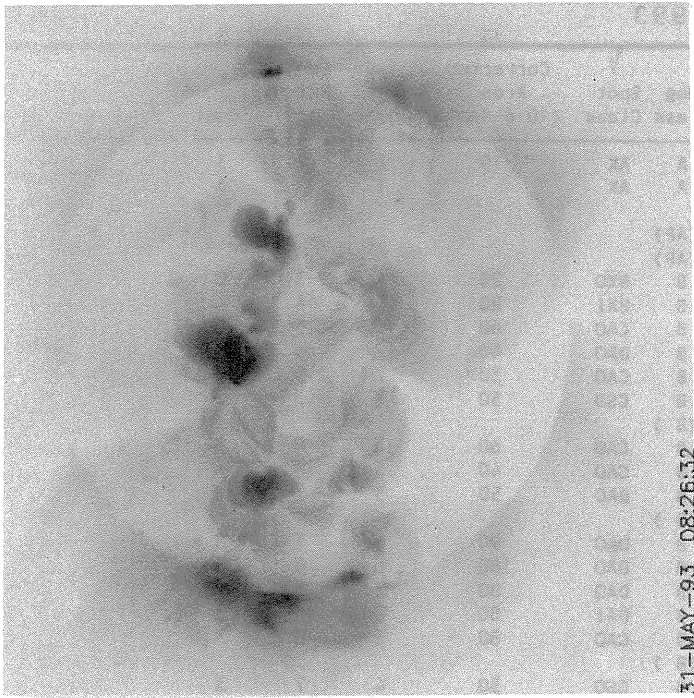
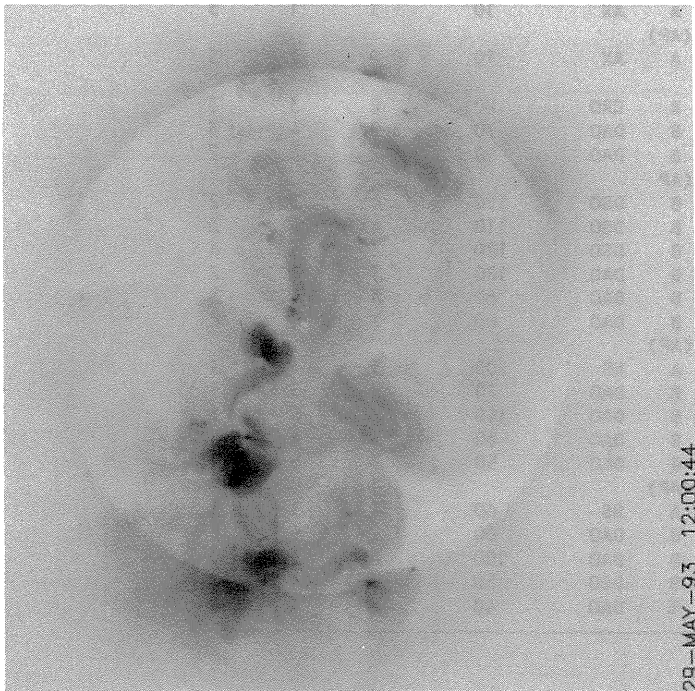
Day 30
12:39:02 UT



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Day 29 Day 31
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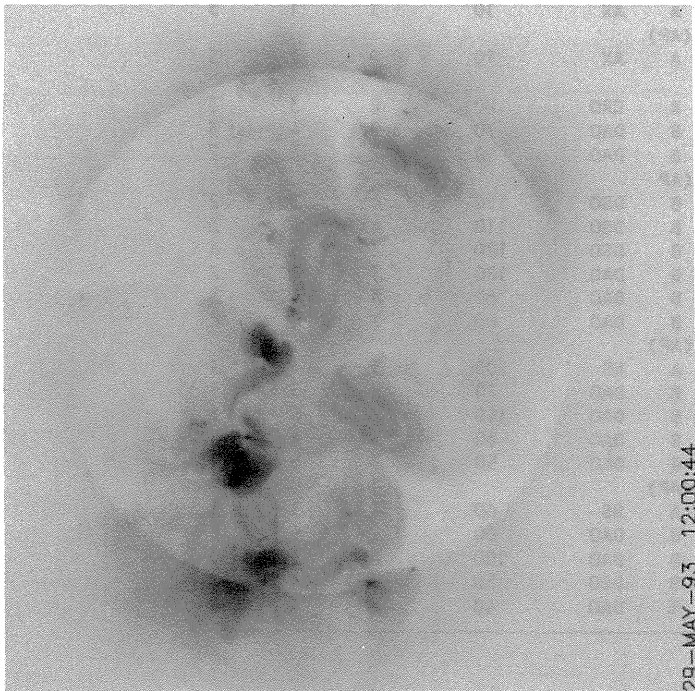
MAY 1993

NOAA/ USAF Group	Mt Wilson Group	Sta	Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7495		PALE	05	01	1927	S04	W10	05	1.1		A	AX	10	2	2	3
7495		HOLL	05	02	1430	S05	W25	04	30.7		A	AX		1		3
7497	27844	MWIL	04	29	1445	S08	E24	05	1.4	4	(AP)					
7497	27844	MWIL	05	01	1430	S08	W04	05	1.3	3	(AP)					
7497		SVTO	05	03	0620	S08	W27	05	1.2		B	BXO	20	4	3	3
7497		LEAR	05	04	0012	S07	W36	05	1.3		B	BXI	20	15	4	4
7497		SVTO	05	04	0720	S08	W40	05	1.3		B	CAO	60	11	5	3
7497		RAMY	05	04	1257	S08	W42	05	1.4		B	DAO	40	12	6	4
7497		BOUL	05	04	1355	S07	W43	05	1.3		B	CAO	30	7	5	3
7497		HOLL	05	04	1450	S08	W44	05	1.3		B	CSO	50	7	5	3
7497	27848	MWIL	05	04	1530	S07	W46	05	1.2	4	(B)					
7497		LEAR	05	05	0325	S08	W51	05	1.3		B	CAO	60	15	8	3
7497		SVTO	05	05	1202	S06	W56	05	1.3		B	CAO	40	5	5	4
7497		RAMY	05	05	1330	S08	W57	05	1.3		B	DAO	50	5	7	2
7497	27848	MWIL	05	05	1445	S07	W59	05	1.2	5	(B)					
7497		HOLL	05	05	1812	S06	W56	05	1.6		B	DAO	90	6	7	3
7497		LEAR	05	06	0200	S07	W65	05	1.2		B	DAO	180	6	8	3
7497		RAMY	05	06	1334	S07	W71	05	1.2		B	DAO	80	2	8	2
7497		HOLL	05	06	1418	S07	W68	05	1.5		B	DAI	80	2	10	3
7497		BOUL	05	06	1500	S07	W71	05	1.3		B	CAO	80	3	8	3
7497	27848	MWIL	05	06	1515	S07	W75	05	1.0	4	(B)					
7497		PALE	05	06	2045	S06	W74	05	1.3		B	CSO	30	4	7	3
7497		LEAR	05	07	0028	S08	W75	05	1.4		B	BXO	60	4	5	4
7497A		PALE	05	01	1927	S04	E06	05	2.2		A	AX		1		3
7497A		HOLL	05	02	1430	S01	W07	05	2.1		A	AX		1		3
7494		LEAR	04	29	0215	S05	E49	05	2.7		B	BXO	20	3	3	3
7494		RAMY	04	29	1328	S03	E42	05	2.7		B	BXO	10	2	4	3
7494		BOUL	04	29	1354	S02	E41	05	2.6		B	BXO	10	2	3	3
7494	27845	MWIL	04	29	1445	S03	E41	05	2.7	4	(B)					
7494		HOLL	04	29	1725	S05	E40	05	2.7		B	BXO	10	4	4	3
7494		PALE	04	29	2030	S04	E39	05	2.8		B	BXO	10	6	3	3
7494		LEAR	04	30	0350	S05	E35	05	2.8		A	AX	10	1	1	3
7494		SVTO	04	30	0830	S03	E32	05	2.7		B	BXO	10	3	4	3
7494	27845	MWIL	04	30	1420	S03	E28	05	2.7	4	(AP)					
7498		SVTO	05	04	0720	S23	W15	05	3.1		B	CAO	20	3	3	3
7498		RAMY	05	04	1257	S22	W18	05	3.1		B	BXO	10	4	3	4
7498		BOUL	05	04	1355	S21	W18	05	3.2		B	BXO	10	3	3	3
7498		HOLL	05	04	1450	S22	W19	05	3.1		B	BXO	20	3	3	3
7498	27849	MWIL	05	04	1530	S23	W19	05	3.2	4	(B)					
7498		LEAR	05	05	0325	S23	W25	05	3.2		A	AX	10	1	1	3
7498	27849	MWIL	05	05	1445	S24	W30	05	3.3	4	(AP)					
7498		HOLL	05	05	1812	S22	W31	05	3.4		A	AX	10	2	2	3
7493		SVTO	04	27	0720	S12	E78	05	3.2		B	CRO	80	2	3	3
7493		RAMY	04	27	1208	S12	E82	05	3.7		B	DAO	70	2	4	3
7493		BOUL	04	27	1428	S11	E77	05	3.4		B	DAO	90	2	6	2
7493	27843	MWIL	04	27	1445	S12	E78	05	3.5	5	(AP)					
7493		HOLL	04	27	1540	S13	E75	05	3.3		B	DSO	150	4	3	2
7493		PALE	04	27	2010	S11	E77	05	3.6		B	DSO	110	4	4	3
7493		LEAR	04	28	0018	S11	E75	05	3.6		B	DSO	120	2	5	3
7493		SVTO	04	28	0745	S11	E71	05	3.7		B	DAO	120	3	4	2
7493		RAMY	04	28	1326	S12	E64	05	3.4		B	DAO	60	3	4	3
7493		BOUL	04	28	1424	S09	E64	05	3.4		B	DAO	60	3	4	2
7493	27843	MWIL	04	28	1445	S11	E65	05	3.5	5	(AP)					
7493		HOLL	04	28	1520	S11	E65	05	3.5		A	HS	100	3	4	3
7493		PALE	04	28	1910	S12	E62	05	3.5		B	DAO	70	2	3	3
7493		LEAR	04	29	0215	S13	E59	05	3.5		B	DAO	140	3	6	3
7493		RAMY	04	29	1328	S11	E53	05	3.5		B	DAO	60	3	4	3
7493		BOUL	04	29	1354	S10	E51	05	3.4		B	DAO	50	3	4	3
7493	27843	MWIL	04	29	1445	S10	E51	05	3.4	5	(AP)					
7493		HOLL	04	29	1725	S12	E50	05	3.5		A	HS	60	3	3	3
7493		PALE	04	29	2030	S12	E50	05	3.6		B	DAO	60	2	3	3
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7493		SVTO	04	30	0830	S11	E42	05	3.5		B	DSO	50	6	4	3
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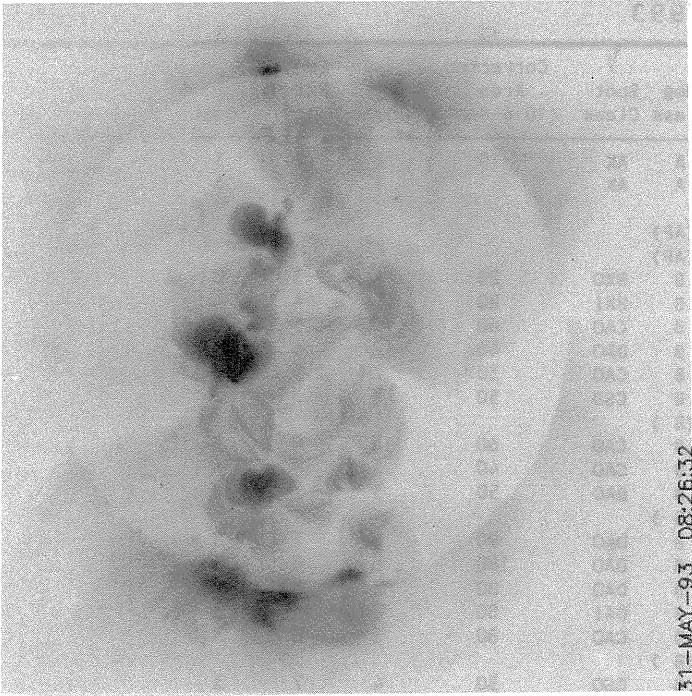
**YOHKOH
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Day 29 Day 31
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Day 30
12:39:02 UT



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

MAY 1993

NOAA/ USAF Group	Mt Wilson Group	Sta	Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7495		PALE	05	01	1927	S04	W10	05	1.1		A	AX	10	2	2	3
7495		HOLL	05	02	1430	S05	W25	04	30.7		A	AX		1		3
7497	27844	MWIL	04	29	1445	S08	E24	05	1.4	4	(AP)					
7497	27844	MWIL	05	01	1430	S08	W04	05	1.3	3	(AP)					
7497		SVTO	05	03	0620	S08	W27	05	1.2		B	BXO	20	4	3	3
7497		LEAR	05	04	0012	S07	W36	05	1.3		B	BXI	20	15	4	4
7497		SVTO	05	04	0720	S08	W40	05	1.3		B	CAO	60	11	5	3
7497		RAMY	05	04	1257	S08	W42	05	1.4		B	DAO	40	12	6	4
7497		BOUL	05	04	1355	S07	W43	05	1.3		B	CAO	30	7	5	3
7497		HOLL	05	04	1450	S08	W44	05	1.3		B	CSO	50	7	5	3
7497	27848	MWIL	05	04	1530	S07	W46	05	1.2	4	(B)					
7497		LEAR	05	05	0325	S08	W51	05	1.3		B	CAO	60	15	8	3
7497		SVTO	05	05	1202	S06	W56	05	1.3		B	CAO	40	5	5	4
7497		RAMY	05	05	1330	S08	W57	05	1.3		B	DAO	50	5	7	2
7497	27848	MWIL	05	05	1445	S07	W59	05	1.2	5	(B)					
7497		HOLL	05	05	1812	S06	W56	05	1.6		B	DAO	90	6	7	3
7497		LEAR	05	06	0200	S07	W65	05	1.2		B	DAO	180	6	8	3
7497		RAMY	05	06	1334	S07	W71	05	1.2		B	DAO	80	2	8	2
7497		HOLL	05	06	1418	S07	W68	05	1.5		B	DAI	80	2	10	3
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7497	27848	MWIL	05	06	1515	S07	W75	05	1.0	4	(B)					
7497		PALE	05	06	2045	S06	W74	05	1.3		B	CSO	30	4	7	3
7497		LEAR	05	07	0028	S08	W75	05	1.4		B	BXO	60	4	5	4
7497A		PALE	05	01	1927	S04	E06	05	2.2		A	AX		1		3
7497A		HOLL	05	02	1430	S01	W07	05	2.1		A	AX		1		3
7494		LEAR	04	29	0215	S05	E49	05	2.7		B	BXO	20	3	3	3
7494		RAMY	04	29	1328	S03	E42	05	2.7		B	BXO	10	2	4	3
7494		BOUL	04	29	1354	S02	E41	05	2.6		B	BXO	10	2	3	3
7494	27845	MWIL	04	29	1445	S03	E41	05	2.7	4	(B)					
7494		HOLL	04	29	1725	S05	E40	05	2.7		B	BXO	10	4	4	3
7494		PALE	04	29	2030	S04	E39	05	2.8		B	BXO	10	6	3	3
7494		LEAR	04	30	0350	S05	E35	05	2.8		A	AX	10	1	1	3
7494		SVTO	04	30	0830	S03	E32	05	2.7		B	BXO	10	3	4	3
7494	27845	MWIL	04	30	1420	S03	E28	05	2.7	4	(AP)					
7498		SVTO	05	04	0720	S23	W15	05	3.1		B	CAO	20	3	3	3
7498		RAMY	05	04	1257	S22	W18	05	3.1		B	BXO	10	4	3	4
7498		BOUL	05	04	1355	S21	W18	05	3.2		B	BXO	10	3	3	3
7498		HOLL	05	04	1450	S22	W19	05	3.1		B	BXO	20	3	3	3
7498	27849	MWIL	05	04	1530	S23	W19	05	3.2	4	(B)					
7498		LEAR	05	05	0325	S23	W25	05	3.2		A	AX	10	1	1	3
7498	27849	MWIL	05	05	1445	S24	W30	05	3.3	4	(AP)					
7498		HOLL	05	05	1812	S22	W31	05	3.4		A	AX	10	2	2	3
7493		SVTO	04	27	0720	S12	E78	05	3.2		B	CRO	80	2	3	3
7493		RAMY	04	27	1208	S12	E82	05	3.7		B	DAO	70	2	4	3
7493		BOUL	04	27	1428	S11	E77	05	3.4		B	DAO	90	2	6	2
7493	27843	MWIL	04	27	1445	S12	E78	05	3.5	5	(AP)					
7493		HOLL	04	27	1540	S13	E75	05	3.3		B	DSO	150	4	3	2
7493		PALE	04	27	2010	S11	E77	05	3.6		B	DSO	110	4	4	3
7493		LEAR	04	28	0018	S11	E75	05	3.6		B	DSO	120	2	5	3
7493		SVTO	04	28	0745	S11	E71	05	3.7		B	DAO	120	3	4	2
7493		RAMY	04	28	1326	S12	E64	05	3.4		B	DAO	60	3	4	3
7493		BOUL	04	28	1424	S09	E64	05	3.4		B	DAO	60	3	4	2
7493	27843	MWIL	04	28	1445	S11	E65	05	3.5	5	(AP)					
7493		HOLL	04	28	1520	S11	E65	05	3.5		A	HS	100	3	4	3
7493		PALE	04	28	1910	S12	E62	05	3.5		B	DAO	70	2	3	3
7493		LEAR	04	29	0215	S13	E59	05	3.5		B	DAO	140	3	6	3
7493		RAMY	04	29	1328	S11	E53	05	3.5		B	DAO	60	3	4	3
7493		BOUL	04	29	1354	S10	E51	05	3.4		B	DAO	50	3	4	3
7493	27843	MWIL	04	29	1445	S10	E51	05	3.4	5	(AP)					
7493		HOLL	04	29	1725	S12	E50	05	3.5		A	HS	60	3	3	3
7493		PALE	04	29	2030	S12	E50	05	3.6		B	DAO	60	2	3	3
7493		LEAR	04	30	0350	S13	E45	05	3.5		B	DAO	100	2	3	3
7493		SVTO	04	30	0830	S11	E42	05	3.5		B	DSO	50	6	4	3
7493		RAMY	04	30	1410	S11	E39	05	3.5		B	DAO	40	4	4	3

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

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MAY 1993

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
7493	27843	MWIL	04 30 1420	S10 E39	05 3.5	4	(AP)					
7493		BOUL	04 30 1441	S10 E37	05 3.4		B	CAO	40	3	3	3
7493		HOLL	04 30 1520	S11 E38	05 3.5		A	HA	40	4	3	3
7493		LEAR	05 01 0032	S13 E33	05 3.5		B	DSO	50	3	3	3
7493		SVTO	05 01 0815	S12 E29	05 3.5		B	DSO	70	12	5	3
7493		RAMY	05 01 1305	S11 E27	05 3.6		B	DAO	40	6	4	4
7493	27843	MWIL	05 01 1430	S11 E26	05 3.6	5	(AP)					
7493		PALE	05 01 1927	S11 E23	05 3.5		B	CSO	50	5	3	3
7493		LEAR	05 02 0012	S12 E21	05 3.6		B	DSO	30	5	3	2
7493		HOLL	05 02 0035	S11 E21	05 3.6		B	CSO	50	7	5	3
7493		SVTO	05 02 0840	S12 E16	05 3.6		B	CRO	30	6	3	3
7493		RAMY	05 02 1203	S11 E16	05 3.7		B	CAO	20	7	4	3
7493		BOUL	05 02 1340	S09 E14	05 3.6		B	CSO	30	9	7	4
7493		HOLL	05 02 1430	S07 E14	05 3.6		B	CAO	20	10	6	3
7493	27843	MWIL	05 02 1430	S09 E14	05 3.6	5	(B)					
7493		PALE	05 02 2010	S08 E13	05 3.8		B	CSO	30	8	8	3
7493		LEAR	05 03 0339	S09 E08	05 3.7		B	DSO	40	4	6	1
7493		SVTO	05 03 0620	S09 E07	05 3.8		B	CRO	40	5	7	3
7493		RAMY	05 03 1159	S09 E03	05 3.7		B	DAO	20	9	8	4
7493		BOUL	05 03 1400	S07 E06	05 4.0		B	DSO	40	6	7	4
7493		HOLL	05 03 1523	S10 E03	05 3.9		B	CSO	40	13	9	4
7493	27843	MWIL	05 03 1545	S07 E03	05 3.9	5	(B)					
7493	27846	MWIL	05 03 1545	S12 E01	05 3.7	4	(B)					
7493		LEAR	05 04 0012	S07 W03	05 3.8		B	DSO	50	8	7	4
7493		SVTO	05 04 0720	S07 W06	05 3.8		B	DAO	50	6	6	3
7493		RAMY	05 04 1257	S07 W10	05 3.8		B	DAO	30	8	7	4
7493		BOUL	05 04 1355	S07 W09	05 3.9		B	DSO	20	3	4	3
7493		HOLL	05 04 1450	S08 W10	05 3.9		B	DSO	40	8	6	3
7493	27843	MWIL	05 04 1530	S07 W11	05 3.8	4	(B)					
7493	27846	MWIL	05 04 1530	S12 W12	05 3.7	4	(B)					
7493		LEAR	05 05 0325	S09 W17	05 3.9		B	CAO	20	3	4	3
7493		SVTO	05 05 1202	S07 W23	05 3.8		A	AX	10	1	1	4
7493		RAMY	05 05 1330	S07 W23	05 3.8		A	AX	10	1		2
7493	27843	MWIL	05 05 1445	S07 W26	05 3.7	4	(B)					
7493		HOLL	05 05 1812	S06 W26	05 3.8		B	BXO	10	2	3	3
7493	27843	MWIL	05 06 1515	S08 W39	05 3.7	4	(AF)					
7493A		LEAR	05 05 0325	S15 W07	05 4.6		A	AX	10	1	1	3
7493A	27851	MWIL	05 05 1445	S15 W16	05 4.4	3	(B)					
7493B		SVTO	05 01 0815	S05 E70	05 6.6		A	AX		1		3
7499		SVTO	05 05 1202	S09 E22	05 7.1		B	BXO	20	3	3	4
7499		RAMY	05 05 1330	S09 E23	05 7.3		B	BXO	10	6	3	2
7499	27852	MWIL	05 05 1445	S09 E21	05 7.2	4	(B)					
7499		HOLL	05 05 1812	S09 E19	05 7.2		B	BXO	10	3	3	3
7499		LEAR	05 06 0200	S09 E15	05 7.2		B	BXO	20	4	4	3
7499		RAMY	05 06 1334	S10 E09	05 7.2		B	CRO	10	5	5	2
7499		HOLL	05 06 1418	S08 E08	05 7.2		B	BXI	20	5	6	3
7499		BOUL	05 06 1500	S08 E08	05 7.2		B	BXO	20	5	6	3
7499	27852	MWIL	05 06 1515	S10 E07	05 7.2	4	(B)					
7499		PALE	05 06 2045	S11 E06	05 7.3		B	BXO	20	9	6	3
7499		LEAR	05 07 0028	S09 E02	05 7.2		B	CRO	20	6	4	4
7499		SVTO	05 07 0953	S09 W03	05 7.2		B	CSO	30	9	5	2
7499		RAMY	05 07 1405	S08 W06	05 7.1		B	DAO	30	6	5	2
7499		BOUL	05 07 1410	S08 W05	05 7.2		B	CRO	30	7	5	3
7499	27852	MWIL	05 07 1445	S10 W06	05 7.2	4	(B)					
7499		HOLL	05 07 1518	S08 W06	05 7.2		B	CSO	30	11	5	3
7499		PALE	05 07 1910	S08 W08	05 7.2		B	CSO	130	8	6	3
7499		LEAR	05 08 0103	S09 W14	05 7.0		B	CSO	20	4	3	3
7499		SVTO	05 08 0658	S08 W16	05 7.1		B	CAO	40	7	7	3
7499		BOUL	05 08 1355	S08 W20	05 7.1		B	CAI	70	15	7	4
7499	27852	MWIL	05 08 1445	S09 W21	05 7.0	5	(BP)					
7499		LEAR	05 09 0030	S08 W28	05 6.9		B	CSO	50	14	5	3
7499		SVTO	05 09 0845	S08 W30	05 7.1		B	DSO	140	23	8	3
7499		BOUL	05 09 1420	S08 W33	05 7.1		B	DSO	80	9	9	3
7499	27852	MWIL	05 09 1430	S09 W34	05 7.0	4	(BP)					
7499		HOLL	05 09 1512	S08 W34	05 7.1		B	DAO	70	8	8	2
7499		RAMY	05 09 1702	S08 W35	05 7.1		B	DAO	130	13	9	2

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SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time (UT)	Lat	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7499		PALE	05 09 1750	S08 W35	05 7.1		B	DSO	80	14	9	3
7499		LEAR	05 10 0035	S08 W38	05 7.2		B	DSO	120	12	9	3
7499		SVTO	05 10 0745	S08 W43	05 7.1		B	DSO	130	9	10	2
7499		HOLL	05 10 1345	S07 W47	05 7.0		B	DSO	80	3	9	3
7499		BOUL	05 10 1430	S08 W46	05 7.1		B	DSO	80	5	10	3
7499	27852	MWIL	05 10 1500	S08 W48	05 7.0	5	(B)					
7499		LEAR	05 11 0300	S08 W52	05 7.2		B	EAO	140	5	11	3
7499		SVTO	05 11 0830	S08 W55	05 7.2		B	DSO	110	4	10	3
7499		BOUL	05 11 1430	S09 W59	05 7.2		B	ESO	80	4	11	4
7499		HOLL	05 11 1440	S08 W60	05 7.1		B	CAO	60	9	9	4
7499	27852	MWIL	05 11 1500	S09 W62	05 7.0	5	(BP)					
7499		RAMY	05 11 1525	S09 W60	05 7.1		B	DAO	90	9	10	2
7499		LEAR	05 12 0250	S08 W68	05 7.0		B	CAO	100	5	9	3
7499		RAMY	05 12 1357	S08 W75	05 6.9		B	CSO	40	2	12	3
7499		HOLL	05 12 1431	S07 W77	05 6.8		A	HA	30	1	1	3
7499	27852	MWIL	05 12 1500	S09 W80	05 6.6	4	(B)					
7501		LEAR	05 05 0325	S10 E28	05 7.2		B	BXO	20	3	3	3
7501		SVTO	05 05 1202	S12 E28	05 7.6		B	BXO	10	2	2	4
7501		RAMY	05 05 1330	S12 E28	05 7.7		B	BXO		4	2	2
7501	27853	MWIL	05 05 1445	S12 E27	05 7.6	4	(B)					
7501		LEAR	05 06 0200	S12 E22	05 7.7		B	CAO	30	4	4	3
7501		RAMY	05 06 1334	S12 E15	05 7.7		B	CRO	10	3	4	2
7501		HOLL	05 06 1418	S11 E15	05 7.7		B	BXO	20	3	5	3
7501		BOUL	05 06 1500	S10 E13	05 7.6		B	BXO	20	4	4	3
7501	27853	MWIL	05 06 1515	S12 E13	05 7.6	4	(B)					
7501		PALE	05 06 2045	S11 E12	05 7.8		B	BXO	20	3	3	3
7501		LEAR	05 07 0028	S12 E08	05 7.6		B	BXO	20	3	4	4
7501		SVTO	05 07 0953	S12 E02	05 7.6		A	HR	10	1		2
7501		RAMY	05 07 1405	S10 E02	05 7.7		A	AX		2	1	2
7501		BOUL	05 07 1410	S10 E02	05 7.7		A	AX		1	1	3
7501	27853	MWIL	05 07 1445	S13 E01	05 7.7	3	(B)					
7501		HOLL	05 07 1518	S10 E01	05 7.7		A	AX	10	2	1	3
7501		LEAR	05 08 0103	S10 W10	05 7.3		B	BXO	10	2	2	3
7501		LEAR	05 09 0030	S08 W22	05 7.4		B	CRO	20	12	3	3
7502	27854	MWIL	05 09 1430	S13 W19	05 8.2	3	(B)					
7502		HOLL	05 09 1512	S12 W19	05 8.2		A	AX	10	2	2	2
7502		RAMY	05 09 1702	S12 W20	05 8.2		B	BXO	10	3	2	2
7502		PALE	05 09 1750	S12 W21	05 8.2		A	AX	10	3	2	3
7502		LEAR	05 10 0035	S13 W25	05 8.1		B	CSO	20	4	3	3
7502		SVTO	05 10 0745	S11 W28	05 8.2		B	CRO	30	6	3	2
7502		HOLL	05 10 1345	S13 W32	05 8.1		B	DSO	50	5	4	3
7502		BOUL	05 10 1430	S12 W32	05 8.2		B	CRO	30	6	3	3
7502	27854	MWIL	05 10 1500	S13 W34	05 8.0	5	(B)					
7502		LEAR	05 11 0300	S12 W38	05 8.3		B	DAO	60	4	3	3
7502		SVTO	05 11 0830	S12 W42	05 8.2		B	DRO	80	5	5	3
7502		BOUL	05 11 1430	S12 W45	05 8.2		B	DAO	40	5	4	4
7502		HOLL	05 11 1440	S13 W45	05 8.2		B	DAO	110	8	4	4
7502	27854	MWIL	05 11 1500	S13 W47	05 8.1	5	(B)					
7502		RAMY	05 11 1525	S13 W46	05 8.2		B	DAO	50	9	4	2
7502		LEAR	05 12 0250	S12 W51	05 8.3		B	CAO	40	3	4	3
7502		RAMY	05 12 1357	S12 W58	05 8.2		B	CAO	50	6	4	3
7502		HOLL	05 12 1431	S12 W58	05 8.2		B	BXO	40	4	3	3
7502	27854	MWIL	05 12 1500	S13 W60	05 8.1	4	(B)					
7502	27854	MWIL	05 13 1430	S14 W75	05 7.9	3	(AP)					
7502A		HOLL	05 11 1440	N13 W43	05 8.4		A	AX		1		4
7502A		RAMY	05 11 1525	N12 W43	05 8.4		A	AX		1		2
7496		RAMY	05 03 1159	N14 E80	05 9.5		A	HS	60	1	2	4
7496		BOUL	05 03 1400	N15 E75	05 9.3		A	HS	60	1	2	4
7496		HOLL	05 03 1523	N15 E78	05 9.5		A	HS	60	1	1	4
7496	27847	MWIL	05 03 1545	N15 E79	05 9.6	5	(AP)					
7496		LEAR	05 04 0012	N16 E76	05 9.8		A	HS	180	1	2	4
7496		SVTO	05 04 0720	N14 E70	05 9.6		B	CAO	120	3	4	3
7496		RAMY	05 04 1257	N16 E67	05 9.6		B	EAO	250	7	14	4
7496		BOUL	05 04 1355	N18 E62	05 9.3		B	FAO	140	3	16	3
7496		HOLL	05 04 1450	N16 E65	05 9.5		B	FAO	210	5	21	3

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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
7496	27847	MWIL	05 04 1530	N15 E65	05 9.6	5	(AP)					
7496		LEAR	05 05 0325	N15 E60	05 9.7		B	FAO	750	12	22	3
7496		SVTO	05 05 1202	N15 E50	05 9.3		B	FAI	40	17	19	4
7496		RAMY	05 05 1330	N14 E52	05 9.5		A	HA	70	1	2	2
7496	27847	MWIL	05 05 1445	N14 E52	05 9.5	5	(BF)					
7496		HOLL	05 05 1812	N13 E49	05 9.4		B	CAO	120	4	3	3
7496		LEAR	05 06 0200	N14 E45	05 9.5		B	CAO	130	6	5	3
7496		RAMY	05 06 1334	N13 E40	05 9.6		B	DAO	120	10	8	2
7496		HOLL	05 06 1418	N16 E40	05 9.6		B	CAO	120	10	6	3
7496		BOUL	05 06 1500	N15 E38	05 9.5		B	DAO	120	6	4	3
7496	27847	MWIL	05 06 1515	N14 E39	05 9.6	5	(BG)					
7496		PALE	05 06 2045	N13 E37	05 9.6		B	DAO	130	9	6	3
7496		LEAR	05 07 0028	N14 E36	05 9.7		B	DAO	140	19	5	4
7496		SVTO	05 07 0953	N15 E30	05 9.7		B	DAI	140	27	5	2
7496		RAMY	05 07 1405	N16 E27	05 9.6		B	DAI	170	16	6	2
7496		BOUL	05 07 1410	N16 E26	05 9.6		BG	DAC	170	17	5	3
7496	27847	MWIL	05 07 1445	N15 E26	05 9.6	5	(D)					
7496		HOLL	05 07 1518	N16 E27	05 9.7		B	DAC	230	24	6	3
7496		PALE	05 07 1910	N15 E25	05 9.7		BG	DSO	60	15	8	3
7496		LEAR	05 08 0103	N15 E20	05 9.5		BG	DAI	230	29	6	3
7496		SVTO	05 08 0658	N15 E17	05 9.6		BG	DAI	300	13	7	3
7496		BOUL	05 08 1355	N15 E12	05 9.5		B	CAI	160	28	8	4
7496	27847	MWIL	05 08 1445	N15 E15	05 9.7	5	(D)					
7496		LEAR	05 09 0030	N15 E08	05 9.6		BG	DAI	250	28	8	3
7496		SVTO	05 09 0845	N15 E04	05 9.7		B	DKI	360	43	9	3
7496		BOUL	05 09 1420	N15 W01	05 9.5		B	DSI	150	16	8	3
7496	27847	MWIL	05 09 1430	N15 W00	05 9.6	5	(D)					
7496		HOLL	05 09 1512	N16 E00	05 9.6		B	DKC	310	28	8	2
7496		RAMY	05 09 1702	N16 W02	05 9.5		BG	DAI	330	32	9	2
7496		PALE	05 09 1750	N15 W02	05 9.6		B	DAC	330	30	9	3
7496		LEAR	05 10 0035	N15 W05	05 9.6		B	DAI	280	30	9	3
7496		SVTO	05 10 0745	N15 W12	05 9.4		B	DAI	300	18	7	2
7496		HOLL	05 10 1345	N14 W15	05 9.4		BGO	DKI	280	23	8	3
7496		BOUL	05 10 1430	N15 W14	05 9.5		BD	DAC	330	23	8	3
7496	27847	MWIL	05 10 1500	N15 W14	05 9.6	5	(D)					
7496		LEAR	05 11 0300	N16 W18	05 9.7		BD	EAI	350	20	11	3
7496		SVTO	05 11 0830	N13 W25	05 9.5		BD	EKI	480	29	12	3
7496		BOUL	05 11 1430	N14 W27	05 9.6		BGO	DKI	350	14	8	4
7496		HOLL	05 11 1440	N15 W27	05 9.6		BGO	DAI	310	19	10	4
7496	27847	MWIL	05 11 1500	N15 W27	05 9.6	5	(D)					
7496		RAMY	05 11 1525	N14 W27	05 9.6		B	DAI	430	21	8	2
7496		LEAR	05 12 0250	N17 W33	05 9.6		BGO	DAI	410	20	9	3
7496		RAMY	05 12 1357	N15 W40	05 9.5		B	DAI	260	27	10	3
7496		HOLL	05 12 1431	N16 W40	05 9.6		B	EAI	230	23	11	3
7496	27847	MWIL	05 12 1500	N15 W41	05 9.5	5	(D)					
7496		BOUL	05 13 1358	N15 W52	05 9.6		B	DAO	260	17	10	4
7496		RAMY	05 13 1420	N15 W55	05 9.4		B	DAI	200	10	9	2
7496	27847	MWIL	05 13 1430	N15 W55	05 9.4	5	(B)					
7496		HOLL	05 13 1430	N17 W53	05 9.6		B	DAI	200	12	10	3
7496		LEAR	05 14 0122	N16 W58	05 9.6		BG	DAO	200	11	8	3
7496	27847	MWIL	05 14 1430	N14 W67	05 9.5	5	(BP)					
7496		RAMY	05 14 1458	N14 W65	05 9.7		B	DAO	160	10	10	3
7496		BOUL	05 14 1630	N14 W68	05 9.5		B	EAI	170	6	13	2
7496		HOLL	05 14 1740	N15 W70	05 9.4		B	CSO	130	6	8	2
7496		LEAR	05 15 0026	N15 W73	05 9.5		B	CSO	150	5	9	3
7496		SVTO	05 15 1118	N15 W80	05 9.4		B	CSO	90	2	10	3
7496		RAMY	05 15 1119	N15 W77	05 9.6		B	CAO	70	2	6	3
7496		HOLL	05 15 1407	N14 W78	05 9.7		B	CSO	60	2	7	3
7496	27847	MWIL	05 15 1430	N14 W83	05 9.3	4	BP					
7496A		LEAR	05 09 0030	N18 E16	05 10.2		A	AX	10	1	1	3
7496A		SVTO	05 09 0845	N18 E11	05 10.2		A	AX	10	3	2	3
7496A		LEAR	05 10 0035	N18 E04	05 10.3		A	AX	10	2	1	3
7496A		HOLL	05 10 1345	N18 W05	05 10.2		A	AX		2	1	3
7496A		HOLL	05 11 1440	N18 W18	05 10.2		A	AX		2	2	4
7500	27850	MWIL	05 04 1530	N18 E80	05 10.7	5	X					
7500		RAMY	05 05 1330	N17 E68	05 10.7		B	EAO	480	9	11	2
7500	27850	MWIL	05 05 1445	N17 E71	05 11.0	5	(BF)					

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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
7500		HOLL	05 05 1812	N17	E68	05 10.9		B	DAI	360	10	9	3
7500		LEAR	05 06 0200	N17	E62	05 10.8		B	DAI	550	16	12	3
7500		RAMY	05 06 1334	N16	E60	05 11.1		B	DKI	560	15	9	2
7500		HOLL	05 06 1418	N16	E57	05 10.9		B	DHC	530	15	9	3
7500		BOUL	05 06 1500	N18	E56	05 10.9		B	DKI	430	10	9	3
7500	27850	MWIL	05 06 1515	N17	E57	05 11.0	5	(D)					
7500		PALE	05 06 2045	N16	E54	05 11.0		B	DAI	450	19	9	3
7500		LEAR	05 07 0028	N16	E50	05 10.8		BG	DKI	680	20	10	4
7500		SVTO	05 07 0953	N16	E47	05 11.0		BD	DKI	540	28	10	2
7500		RAMY	05 07 1405	N17	E46	05 11.1		B	DAC	590	18	9	2
7500		BOUL	05 07 1410	N17	E44	05 10.9		BG	DKC	640	23	10	3
7500	27850	MWIL	05 07 1445	N17	E45	05 11.0	5	(D)					
7500		HOLL	05 07 1518	N18	E44	05 11.0		B	DKC	640	32	10	3
7500		PALE	05 07 1910	N17	E45	05 11.2		BG	DAO	300	27	10	3
7500		LEAR	05 08 0103	N16	E41	05 11.1		BG	DKI	520	27	8	3
7500		SVTO	05 08 0658	N16	E35	05 10.9		BG	DAI	460	23	10	3
7500		BOUL	05 08 1355	N17	E32	05 11.0		B	DSI	350	20	10	4
7500	27850	MWIL	05 08 1445	N17	E32	05 11.0	5	(D)					
7500		LEAR	05 09 0030	N17	E27	05 11.1		B	DKI	460	25	10	3
7500		SVTO	05 09 0845	N17	E23	05 11.1		BG	EKI	540	43	11	3
7500		BOUL	05 09 1420	N17	E19	05 11.0		B	DAC	410	38	10	3
7500	27850	MWIL	05 09 1430	N18	E19	05 11.0	5	(D)					
7500		HOLL	05 09 1512	N18	E20	05 11.1		BGD	EKC	590	32	11	2
7500		RAMY	05 09 1702	N17	E18	05 11.1		BD	DKC	450	38	10	2
7500		PALE	05 09 1750	N17	E18	05 11.1		BGD	DAC	560	42	9	3
7500		LEAR	05 10 0035	N17	E15	05 11.2		BGD	DKC	510	42	9	3
7500		SVTO	05 10 0745	N17	E10	05 11.1		BGD	DKI	780	32	9	2
7500		HOLL	05 10 1345	N17	E08	05 11.2		BD	EAI	500	31	11	3
7500		BOUL	05 10 1430	N18	E06	05 11.1		BGD	DKO	600	46	8	3
7500	27850	MWIL	05 10 1500	N18	E05	05 11.0	5	(D)					
7500		LEAR	05 11 0300	N17	E01	05 11.2		BGD	DAI	550	25	9	3
7500		SVTO	05 11 0830	N15	W05	05 11.0		BGD	DHI	470	27	9	3
7500		BOUL	05 11 1430	N17	W08	05 11.0		BGD	DKI	500	33	10	4
7500		HOLL	05 11 1440	N18	W06	05 11.1		B	DSI	400	49	10	4
7500	27850	MWIL	05 11 1500	N18	W07	05 11.1	6	(D)					
7500		RAMY	05 11 1525	N16	W08	05 11.0		BG	DKI	480	41	9	2
7500		LEAR	05 12 0250	N18	W12	05 11.2		BGD	DAI	490	32	9	3
7500		RAMY	05 12 1357	N17	W19	05 11.1		B	EAI	380	30	11	3
7500		HOLL	05 12 1431	N19	W21	05 11.0		B	EAI	290	24	11	3
7500	27850	MWIL	05 12 1500	N17	W21	05 11.0	5	(D)					
7500		BOUL	05 13 1358	N18	W32	05 11.1		B	DAI	360	41	8	4
7500		RAMY	05 13 1420	N18	W34	05 11.0		B	DAI	260	28	10	2
7500	27850	MWIL	05 13 1430	N17	W33	05 11.1	5	(BG)					
7500		HOLL	05 13 1430	N19	W32	05 11.2		B	EAI	260	31	12	3
7500		LEAR	05 14 0122	N18	W38	05 11.2		BG	DAO	220	19	8	3
7500	27850	MWIL	05 14 1430	N17	W46	05 11.1	5	(BG)					
7500		RAMY	05 14 1458	N18	W46	05 11.1		B	DAI	200	22	8	3
7500		BOUL	05 14 1630	N17	W46	05 11.2		B	DAI	180	14	6	2
7500		HOLL	05 14 1740	N18	W48	05 11.1		B	DSO	140	17	9	2
7500		LEAR	05 15 0026	N16	W50	05 11.2		B	DSO	110	10	8	3
7500		SVTO	05 15 1118	N17	W57	05 11.1		B	DAO	120	6	8	3
7500		RAMY	05 15 1119	N18	W59	05 11.0		B	DAO	80	8	6	3
7500		HOLL	05 15 1407	N17	W58	05 11.2		B	DSO	100	9	9	3
7500		BOUL	05 15 1425	N17	W57	05 11.3		B	DSO	60	2	5	2
7500	27850	MWIL	05 15 1430	N17	W60	05 11.0	5	BG					
7500		LEAR	05 16 0005	N16	W64	05 11.1		B	DSO	90	4	6	3
7500		SVTO	05 16 0724	N17	W70	05 11.0		B	DAO	120	2	6	3
7500		RAMY	05 16 1208	N17	W72	05 11.0		B	DAO	60	2	6	3
7500	27850	MWIL	05 16 1430	N16	W73	05 11.1	5	(B)					
7500		HOLL	05 16 1525	N16	W78	05 10.7		B	DAO	90	4	7	3
7500		LEAR	05 17 0100	N16	W79	05 11.0		B	BXO	70	2	7	3
7500		SVTO	05 17 0700	N18	W82	05 11.0		B	DAO	50	2	5	/
7500A		BOUL	05 13 1358	N20	W25	05 11.7		A	AX		1		4
7503	27855	MWIL	05 09 1430	S05	E77	05 15.4	3	(AF)					
7503		RAMY	05 09 1702	S05	E71	05 15.0		A	AX	10	1		2
7503		PALE	05 09 1750	S08	E73	05 15.2		A	AX	20	1	1	3
7503		LEAR	05 10 0035	S07	E68	05 15.1		B	BXO	10	2	5	3

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(Ordered by Central Meridian Passage Date)

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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
7503		SVTO	05 10 0745	S05	E62	05 15.0		B	BXO	10	3	4	2
7503		HOLL	05 10 1345	S07	E58	05 14.9		B	BXO		2	4	3
7503	27855	MWIL	05 10 1500	S06	E61	05 15.2	5	(B)					
7503		LEAR	05 11 0300	S06	E55	05 15.2		B	BXO	20	2	4	3
7503		SVTO	05 11 0830	S05	E48	05 14.9		B	BXO	30	3	3	3
7503		BOUL	05 11 1430	S06	E45	05 15.0		B	BXO	10	4	4	4
7503		HOLL	05 11 1440	S07	E47	05 15.1		B	CSO	30	3	6	4
7503	27855	MWIL	05 11 1500	S06	E48	05 15.2	4	(B)					
7503		RAMY	05 11 1525	S05	E46	05 15.1		B	BXO	30	3	4	2
7503		LEAR	05 12 0250	S06	E41	05 15.2		B	BXO	20	3	4	3
7503		RAMY	05 12 1357	S03	E32	05 15.0		A	HR	10	1	1	3
7503		HOLL	05 12 1431	S04	E32	05 15.0		A	AX		1		3
7503	27855	MWIL	05 12 1500	S04	E32	05 15.0	4	(B)					
7503		BOUL	05 13 1358	S03	E18	05 14.9		B	BXO	10	2	2	4
7503		RAMY	05 13 1420	S03	E18	05 14.9		A	AX	10	2	1	2
7503		HOLL	05 13 1430	S03	E19	05 15.0		A	AX	10	2	1	3
7503	27855	MWIL	05 13 1430	S03	E19	05 15.0	4	(AP)					
7503		LEAR	05 16 0005	S04	W12	05 15.1		A	AX	10	2	2	3
7504		SVTO	05 10 0745	N07	E77	05 16.1		A	HR	20	1	2	2
7504		HOLL	05 10 1345	N06	E77	05 16.3		A	HS	60	1	2	3
7504		BOUL	05 10 1430	N09	E75	05 16.2		A	HS	30	1	1	3
7504	27856	MWIL	05 10 1500	N08	E79	05 16.5	5	(AP)					
7504		LEAR	05 11 0300	N08	E71	05 16.4		A	AX	120	1	2	3
7504		SVTO	05 11 0830	N10	E70	05 16.6		B	CSO	90	2	7	3
7504		BOUL	05 11 1430	N09	E66	05 16.5		B	DSO	50	2	7	4
7504		HOLL	05 11 1440	N08	E69	05 16.8		B	CSO	100	2	7	4
7504	27856	MWIL	05 11 1500	N09	E66	05 16.6	5	(AP)					
7504		RAMY	05 11 1525	N08	E65	05 16.5		B	CAO	80	2	9	2
7504		LEAR	05 12 0250	N09	E62	05 16.8		B	CAO	110	2	7	3
7504		RAMY	05 12 1357	N09	E55	05 16.7		B	CAO	90	4	8	3
7504		HOLL	05 12 1431	N10	E53	05 16.6		B	CAO	70	3	3	3
7504	27856	MWIL	05 12 1500	N09	E52	05 16.5	5	(BP)					
7504		BOUL	05 13 1358	N09	E38	05 16.4		B	CAO	80	3	2	4
7504		RAMY	05 13 1420	N08	E38	05 16.4		A	HA	70	2	2	2
7504		HOLL	05 13 1430	N08	E39	05 16.5		A	HA	50	2	1	3
7504	27856	MWIL	05 13 1430	N08	E39	05 16.5	5	(AP)					
7504		LEAR	05 14 0122	N07	E33	05 16.5		A	HS	70	2	2	3
7504	27856	MWIL	05 14 1430	N08	E26	05 16.5	5	(AP)					
7504		RAMY	05 14 1458	N08	E25	05 16.5		A	HS	90	3	3	3
7504		BOUL	05 14 1630	N08	E24	05 16.5		A	HA	80	2	2	2
7504		HOLL	05 14 1740	N08	E25	05 16.6		A	HS	110	3	3	2
7504		LEAR	05 15 0026	N09	E21	05 16.6		A	HS	60	3	3	3
7504		SVTO	05 15 1118	N08	E13	05 16.4		A	HS	60	2	3	3
7504		RAMY	05 15 1119	N09	E15	05 16.6		B	CAO	80	3	3	3
7504		HOLL	05 15 1407	N08	E13	05 16.6		A	HS	80	2	2	3
7504		BOUL	05 15 1425	N09	E12	05 16.5		A	HA	30	2	1	2
7504	27856	MWIL	05 15 1430	N08	E12	05 16.5	5	AP					
7504		LEAR	05 16 0005	N08	E08	05 16.6		A	HS	60	4	3	3
7504		SVTO	05 16 0724	N09	E04	05 16.6		B	CSO	80	7	5	3
7504		RAMY	05 16 1208	N09	E01	05 16.6		A	HA	60	2	2	3
7504	27856	MWIL	05 16 1430	N09	W01	05 16.5	4	(AP)					
7504		HOLL	05 16 1525	N09	W02	05 16.5		A	HS	60	2	2	3
7504		LEAR	05 17 0100	N09	W07	05 16.5		A	HS	80	2	2	3
7504		SVTO	05 17 0700	N12	W08	05 16.7		B	CSO	70	4	5	/
7504		HOLL	05 17 1250	N10	W12	05 16.6		B	CAO	60	4	3	3
7504		RAMY	05 17 1340	N10	W13	05 16.6		B	CSO	60	2	3	3
7504	27856	MWIL	05 17 1430	N10	W14	05 16.5	5	(BP)					
7504		LEAR	05 18 0100	N10	W18	05 16.7		B	CAO	70	4	3	3
7504		SVTO	05 18 0609	N09	W22	05 16.6		B	CSO	60	4	2	3
7504		RAMY	05 18 1235	N11	W28	05 16.4		B	CAO	70	5	4	2
7504		HOLL	05 18 1432	N11	W27	05 16.6		A	HA	70	4	2	3
7504	27856	MWIL	05 18 1445	N09	W28	05 16.5	5	(AP)					
7504		BOUL	05 18 1549	N09	W28	05 16.5		A	HS	60	2	1	2
7504		LEAR	05 19 0106	N10	W33	05 16.6		B	CAO	60	3	3	2
7504		SVTO	05 19 0813	N10	W35	05 16.7		B	CSO	60	4	3	3
7504		RAMY	05 19 1140	N09	W39	05 16.5		A	HA	60	4	2	3
7504	27856	MWIL	05 19 1430	N09	W41	05 16.5	5	(AP)					
7504		HOLL	05 19 1450	N10	W40	05 16.6		A	HS	50	2	2	4

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(Ordered by Central Meridian Passage Date)

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NOAA/ USAF	Mt Wilson Group	Sta	Observation Time			CHP	Max	Mag	Spot	Corrected	Spot	Long.				
Group	Group		Mo	Day	(UT)	Lat	CMD	Mo	Day	H	Class	Class	(10-6 Hemi)	Count	(Deg)	Qual
7504		BOUL	05	19	1615	N10 W39		05	16.7		A	HA	30	2	1	2
7504		LEAR	05	20	0116	N10 W46		05	16.6		B	DAO	50	2	3	3
7504		SVTO	05	20	0800	N11 W44		05	17.0		B	DAO	60	4	12	3
7504	27856	MWIL	05	20	1445	N09 W55		05	16.5	5	(AP)					
7504		BOUL	05	20	1500	N09 W53		05	16.6		A	AX	20	2	1	2
7504		HOLL	05	20	1722	N10 W55		05	16.6		A	HS	40	2	1	3
7504		LEAR	05	21	0146	N10 W60		05	16.6		B	DSO	40	2	3	2
7504		SVTO	05	21	0601	N10 W60		05	16.7		A	HR	40	2	2	4
7504		BOUL	05	21	1425	N10 W65		05	16.7		A	AX	20	2	2	3
7504		HOLL	05	21	1427	N09 W65		05	16.7		A	HR	30	2	1	3
7504	27856	MWIL	05	21	1445	N10 W68		05	16.5	4	(AP)					
7504		SVTO	05	22	0824	N10 W75		05	16.7		A	AX		1		3
7506		SVTO	05	16	0724	N13 E15		05	17.4		B	BXO	20	4	3	3
7506		RAMY	05	16	1208	N13 E13		05	17.5		B	BXO	10	4	3	3
7506		HOLL	05	16	1525	N13 E09		05	17.3		A	AX		2	1	3
7506		LEAR	05	17	0100	N12 E07		05	17.6		B	BXO	10	2	3	3
7506		SVTO	05	17	0700	N15 E03		05	17.5		B	BXO	20	3	2	/
7506		HOLL	05	17	1250	N14 W01		05	17.4		B	BXO	10	3	2	3
7506		RAMY	05	17	1340	N14 W01		05	17.5		B	DAO	10	4	3	3
7506	27860	MWIL	05	17	1430	N14 W02		05	17.4	5	(B)					
7506		LEAR	05	18	0100	N14 W07		05	17.5		B	CRO	10	3	3	3
7506		SVTO	05	18	0609	N15 W09		05	17.6		B	BXO	10	4	4	3
7506		RAMY	05	18	1235	N13 W13		05	17.5		B	CAO	70	5	4	2
7506		HOLL	05	18	1432	N14 W16		05	17.4		A	AX	10	2	1	3
7506	27860	MWIL	05	18	1445	N14 W16		05	17.4	4	(B)					
7506		LEAR	05	20	0116	N10 W37		05	17.3		A	AX	10	1	1	3
7506		SVTO	05	20	0800	N11 W38		05	17.5		B	CAO	20	2	3	3
7506	27864	MWIL	05	20	1445	N09 W46		05	17.2	4	(B)					
7506		BOUL	05	20	1500	N11 W44		05	17.3		A	HA	10	1	1	2
7506		HOLL	05	20	1722	N10 W47		05	17.2		A	AX	10	1		3
7506		LEAR	05	21	0146	N10 W53		05	17.1		A	AX	20	1	1	2
7506		SVTO	05	21	0601	N10 W53		05	17.3		A	AX	10	1	1	4
7509		RAMY	05	15	1119	S12 E33		05	17.9		A	AX		2	1	3
7509	27858	MWIL	05	16	1430	S14 E16		05	17.8	3	(AP)					
7509		SVTO	05	17	0700	S13 E02		05	17.4		B	BXO	10	2	1	/
7509		HOLL	05	17	1250	S13 E03		05	17.8		A	AX		1		3
7509	27858	MWIL	05	17	1430	S14 E03		05	17.8	4	(AP)					
7509		LEAR	05	18	0100	S13 W03		05	17.8		A	AX	10	3	2	3
7509		RAMY	05	18	1235	S14 W10		05	17.8		A	AX		2		2
7509		HOLL	05	18	1432	S13 W11		05	17.8		B	BXO	10	3	3	3
7509	27858	MWIL	05	18	1445	S11 W13		05	17.6	4	(AP)					
7509		SVTO	05	19	0813	S13 W23		05	17.6		A	AX	10	1		3
7509		RAMY	05	19	1140	S13 W27		05	17.4		A	AX		2	1	3
7509		HOLL	05	19	1450	S13 W24		05	17.8		A	AX	10	2	1	4
7509		BOUL	05	19	1615	S13 W23		05	17.9		A	AX	10	2	1	2
7509		SVTO	05	20	0800	S12 W33		05	17.8		A	AX	10	5	2	3
7509		HOLL	05	20	1722	S13 W38		05	17.8		A	AX	10	2	1	3
7509A	27861	MWIL	05	17	1430	S17 E13		05	18.6	4	(AF)					
7509A	27861	MWIL	05	18	1445	S18 W00		05	18.6	4	(AF)					
7509A	27861	MWIL	05	19	1430	S17 W15		05	18.5	4	(AP)					
7509B	27862	MWIL	05	17	1430	N17 E17		05	18.9	4	(AP)					
7505		LEAR	05	14	0122	N12 E76		05	19.8		A	AX	30	1	1	3
7505	27857	MWIL	05	14	1430	N12 E70		05	19.9	4	(AP)					
7505		RAMY	05	14	1458	N13 E66		05	19.6		A	AX	10	1	1	3
7505		HOLL	05	14	1740	N12 E68		05	19.8		A	AX		1		2
7505		LEAR	05	15	0026	N13 E64		05	19.8		A	AX	10	1	1	3
7505		RAMY	05	15	1119	N13 E58		05	19.8		A	AX		1		3
7505		HOLL	05	15	1407	N12 E56		05	19.8		A	AX	10	1	1	3
7505	27857	MWIL	05	15	1430	N13 E57		05	19.9	4	AP					
7505		LEAR	05	16	0005	N13 E51		05	19.8		A	AX	10	1	1	3
7505		SVTO	05	16	0724	N12 E46		05	19.8		A	AX	10	1		3
7505A		RAMY	05	19	1140	S18 E08		05	20.1		A	AX		1		3

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(Ordered by Central Meridian Passage Date)

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time		Lat	CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7507	27859	RAMY	05 16	1208	N11	E77	05 22.3		A	AX	10	1		3
7507		MWIL	05 16	1430	N10	E75	05 22.2	3	X					
7507		HOLL	05 16	1525	N11	E74	05 22.2		A	AX		1		3
7507		LEAR	05 17	0100	N09	E69	05 22.2		A	AX	10	1	1	3
7507		SVTO	05 17	0700	N11	E65	05 22.2		A	AX	10	1	1	/
7507	27865	MWIL	05 22	1430	N13	W03	05 22.4	4	(B)					
7507A	27866	RAMY	05 23	1245	N17	E24	05 25.3		A	AX		1		2
7507A		MWIL	05 23	1445	N17	E23	05 25.4	4	(AP)					
7510	27863	RAMY	05 19	1140	S18	E82	05 25.7		A	HR	10	1	2	3
7510		MWIL	05 19	1430	S17	E81	05 25.7	4	AP					
7510		HOLL	05 19	1450	S18	E79	05 25.6		A	AX		1		4
7510		LEAR	05 20	0116	S19	E77	05 25.9		A	AX	30	1	1	3
7510		SVTO	05 20	0800	S18	E74	05 26.0		A	AX	20	1	1	3
7510	27863	MWIL	05 20	1445	S17	E69	05 25.8	5	(AP)					
7510		BOUL	05 20	1500	S17	E67	05 25.7		A	AX	10	1	1	2
7510		HOLL	05 20	1722	S18	E68	05 25.9		A	AX	10	1		3
7510		LEAR	05 21	0146	S19	E61	05 25.7		A	HR	30	1	1	2
7510		SVTO	05 21	0601	S18	E60	05 25.8		A	AX	10	1	1	4
7510		BOUL	05 21	1425	S17	E55	05 25.8		A	AX	10	1		3
7510	27863	HOLL	05 21	1427	S18	E57	05 25.9		A	AX	20	1	1	3
7510	27863	MWIL	05 21	1445	S18	E56	05 25.9	4	(AP)					
7510		SVTO	05 22	0824	S18	E47	05 25.9		A	AX	20	1	1	3
7510		BOUL	05 22	1340	S17	E43	05 25.8		A	AX	10	1		3
7510		MWIL	05 22	1430	S18	E43	05 25.9	5	(AP)					
7510		RAMY	05 22	1544	S17	E43	05 25.9		A	HA	10	1	1	2
7510		HOLL	05 22	1545	S17	E43	05 25.9		A	HR	10	1	1	2
7510		SVTO	05 23	0742	S21	E35	05 26.0		B	BXO	20	3	7	4
7510		RAMY	05 23	1245	S18	E32	05 26.0		A	AX	10	1	1	2
7510		HOLL	05 23	1435	S19	E30	05 25.9		A	HR	10	1		3
7510	27863	MWIL	05 23	1445	S18	E31	05 26.0	5	(AP)					
7510	27863	LEAR	05 24	0225	S20	E24	05 25.9		B	BXO	20	3	5	3
7510		HOLL	05 24	1447	S17	E17	05 25.9		A	HS	10	1	1	3
7510		MWIL	05 24	1500	S18	E17	05 25.9	4	(AP)					
7510		RAMY	05 24	1701	S19	E16	05 25.9		A	HR	10	1	1	3
7510		LEAR	05 25	0045	S18	E12	05 25.9		A	AX	10	1	1	3
7510		SVTO	05 25	0526	S17	E08	05 25.8		A	AX	10	1	1	3
7510		HOLL	05 25	1335	S18	E05	05 25.9		A	HR	20	2	1	3
7510		RAMY	05 25	1418	S17	E03	05 25.8		A	HR	10	1	1	3
7510		LEAR	05 26	0001	S17	W02	05 25.8		A	AX		1	1	3
7510		SVTO	05 26	0745	S19	W07	05 25.8		B	BXO	10	2	3	3
7510		RAMY	05 26	1400	S17	W07	05 26.0		B	BXO		2	3	2
7510		HOLL	05 26	1600	S18	W08	05 26.0		A	AX	10	2	2	3
7510		RAMY	05 29	1234	S18	W46	05 26.0		A	AX		1		3
7510		HOLL	05 29	1315	S18	W46	05 26.0		A	AX		1		4
7510A		LEAR	05 26	0001	N04	E03	05 26.2		B	BXO	10	2	2	3
7510A		SVTO	05 26	0745	N02	W02	05 26.2		B	BXO	10	3	3	3
7510B	27867	MWIL	05 23	1445	S21	E36	05 26.4	3	(AF)					
7510D		LEAR	05 26	0001	S10	E23	05 27.7		B	BXO	20	7	5	3
7510D		SVTO	05 26	0745	S11	E21	05 27.9		B	BXO	40	6	4	3
7510D		RAMY	05 26	1400	S11	E17	05 27.9		B	BXO	10	3	4	2
7510D		HOLL	05 26	1600	S10	E16	05 27.9		A	AX	10	2	2	3
7510C	27868	SVTO	05 23	0742	N06	E59	05 27.7		B	BXO	10	2	3	4
7510C		RAMY	05 23	1245	N06	E56	05 27.7		A	AX	10	1	1	2
7510C		MWIL	05 23	1445	N06	E57	05 27.9	4	(AP)					
7510C		MWIL	05 24	1500	N07	E42	05 27.8	4	(AP)					
7510C		RAMY	05 24	1701	N05	E42	05 27.8		B	BXO	10	4	5	3
7510C		LEAR	05 25	0045	N06	E38	05 27.9		B	BXO	10	2	1	3
7510C		SVTO	05 25	0526	N07	E39	05 28.1		B	CRO	20	5	7	3
7510C		RAMY	05 25	1418	N07	E32	05 28.0		B	BXO	10	3	3	3
7510C		SVTO	05 26	0745	N10	E26	05 28.3		A	AX	10	1	1	3
7510C	27876	MWIL	06 01	1515	N06	W66	05 27.8	4	(AP)					
7513		RAMY	05 23	1245	N03	E71	05 28.8		A	AX	10	1	1	2

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat	CMD	CHP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7513		HOLL	05 23 1435	N02	E72	05 29.0		A	AX		1		3
7513	27869	MWIL	05 23 1445	N03	E73	05 29.1	4	(AP)					
7513		LEAR	05 24 0225	N02	E69	05 29.2		B	BXO	30	2	6	3
7513		HOLL	05 24 1447	N04	E57	05 28.9		A	AX	20	3	1	3
7513	27869	MWIL	05 24 1500	N03	E58	05 28.9	4	(AP)					
7513		RAMY	05 24 1701	N03	E57	05 29.0		A	AX	10	2	2	3
7513		LEAR	05 25 0045	N04	E53	05 29.0		A	AX	10	1	1	3
7513		SVTO	05 25 0526	N05	E50	05 29.0		B	BXO	10	2	3	3
7513		HOLL	05 25 1335	N03	E46	05 29.0		A	AX	10	2	1	3
7513		RAMY	05 25 1418	N03	E46	05 29.0		A	AX	10	2	1	3
7513		LEAR	05 26 0001	N03	E41	05 29.1		B	BXO	10	3	5	3
7513		SVTO	05 26 0745	N03	E39	05 29.2		A	AX	10	1	1	3
7513		RAMY	05 26 1400	N03	E33	05 29.0		A	AX		1		2
7513		HOLL	05 26 1600	N03	E32	05 29.0		A	AX		1		3
7513		HOLL	05 27 1420	N02	E23	05 29.3		A	AX		1		4
7513	27869	MWIL	05 27 2000	N01	E20	05 29.3	2	(AF)					
7513		RAMY	05 28 1213	N02	E11	05 29.3		A	AX		1		3
7513	27869	MWIL	05 28 1400	N02	E10	05 29.3	3	(AF)					
7513		RAMY	05 29 1234	N03	W07	05 29.0		A	AX	10	5	2	3
7513		HOLL	05 29 1315	N02	W08	05 28.9		B	BXO	10	5	2	4
7513	27869	MWIL	05 29 1430	N03	W09	05 28.9	4	(AP)					
7512		SVTO	05 23 0742	N08	E89	05 30.0		A	AX	10	1	1	4
7512		HOLL	05 23 1435	N08	E89	05 30.3		A	AX		1		3
7512		LEAR	05 24 0225	N08	E76	05 29.8		A	AX	20	2	2	3
7512		HOLL	05 24 1447	N09	E68	05 29.7		B	BXO	30	4	4	3
7512	27870	MWIL	05 24 1500	N08	E66	05 29.6	4	(AP)					
7512		RAMY	05 24 1701	N07	E65	05 29.6		A	HR	10	1	1	3
7512		LEAR	05 25 0045	N08	E60	05 29.5		A	AX	10	1	1	3
7512		SVTO	05 25 0526	N08	E59	05 29.6		B	BXO	20	5	5	3
7512		HOLL	05 25 1335	N08	E55	05 29.7		B	BXO	50	7	6	3
7512		RAMY	05 25 1418	N08	E55	05 29.7		B	DRO	40	7	6	3
7512		LEAR	05 26 0001	N07	E47	05 29.5		B	BXO	10	6	7	3
7512		SVTO	05 26 0745	N08	E45	05 29.7		B	CSO	100	10	8	3
7512		RAMY	05 26 1400	N08	E42	05 29.7		B	CAO	30	9	9	2
7512		BOUL	05 26 1510	N08	E39	05 29.5		B	DSO	40	6	9	2
7512		HOLL	05 26 1600	N08	E41	05 29.7		B	CAO	40	8	8	3
7512		SVTO	05 27 0825	N08	E31	05 29.7		B	CSO	70	13	8	3
7512		RAMY	05 27 1136	N08	E31	05 29.8		B	DAO	60	22	6	3
7512		HOLL	05 27 1420	N08	E29	05 29.8		B	DSI	80	29	7	4
7512		BOUL	05 27 1610	N09	E26	05 29.6		B	DSO	60	10	7	2
7512	27870	MWIL	05 27 2000	N07	E26	05 29.8	5	(B)					
7512		LEAR	05 28 0205	N08	E23	05 29.8		B	DSO	80	22	7	2
7512		SVTO	05 28 0845	N08	E18	05 29.7		B	DAI	210	22	7	2
7512		RAMY	05 28 1213	N08	E17	05 29.8		B	DAI	190	36	8	3
7512		BOUL	05 28 1400	N08	E14	05 29.6		B	DSI	110	22	8	2
7512	27870	MWIL	05 28 1400	N08	E15	05 29.7	4	(B)					
7512		LEAR	05 29 0300	N08	E09	05 29.8		B	DAI	100	26	9	2
7512		SVTO	05 29 0742	N08	E05	05 29.7		B	DAI	120	28	9	4
7512		RAMY	05 29 1234	N08	E03	05 29.7		B	DAI	140	34	8	3
7512		HOLL	05 29 1315	N09	E02	05 29.7		B	DAO	100	21	8	4
7512		BOUL	05 29 1410	N08	E01	05 29.7		B	DSO	70	12	8	2
7512	27870	MWIL	05 29 1430	N08	E02	05 29.7	5	(B)					
7512		LEAR	05 30 0400	N08	W06	05 29.7		B	DAI	110	18	9	2
7512		SVTO	05 30 0827	N08	W07	05 29.8		B	DAI	150	32	9	3
7512		RAMY	05 30 1220	N08	W10	05 29.8		B	DAI	160	21	9	4
7512		BOUL	05 30 1405	N08	W11	05 29.8		B	ESI	100	26	12	3
7512	27870	MWIL	05 30 1430	N08	W11	05 29.8	5	(B)					
7512		HOLL	05 30 1619	N08	W13	05 29.7		B	EAO	80	24	12	3
7512		SVTO	05 31 1140	N07	W23	05 29.8		B	EAI	120	16	11	4
7512		RAMY	05 31 1242	N08	W24	05 29.7		B	EAO	100	13	11	4
7512		BOUL	05 31 1346	N10	W24	05 29.8		B	ESO	130	9	11	2
7512		HOLL	05 31 1646	N08	W27	05 29.7		B	CAO	80	9	12	2
7512	27870	MWIL	05 31 1730	N08	W27	05 29.7	5	(B)					
7512		LEAR	06 01 0231	N09	W33	05 29.7		B	DAO	70	7	10	2
7512		SVTO	06 01 0744	N08	W35	05 29.8		B	EAO	100	13	12	3
7512		RAMY	06 01 1202	N08	W39	05 29.7		B	EAO	50	12	12	3
7512		BOUL	06 01 1415	N09	W38	05 29.8		B	DSO	80	6	10	3
7512	27870	MWIL	06 01 1515	N08	W38	05 29.9	5	(B)					

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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
7512		HOLL	06 01 1717	N08	W40	05 29.8		B	CAO	50	6	12	3
7512		RAMY	06 02 1235	N09	W52	05 29.7		B	CRO	20	7	12	2
7512		BOUL	06 02 1420	N09	W52	05 29.8		B	BXO	20	6	11	2
7512		HOLL	06 02 1456	N08	W51	05 29.9		B	BXO	30	4	10	3
7512	27870	MWIL	06 02 1500	N08	W52	05 29.8	5	(B)					
7514		LEAR	05 25 0045	N16	E82	05 31.2		A	HS	20	1	1	3
7514		SVTO	05 25 0526	N15	E85	05 31.7		B	CRO	40	2	8	3
7514		HOLL	05 25 1335	N15	E76	05 31.3		B	CSO	120	5	9	3
7514		RAMY	05 25 1418	N15	E80	05 31.6		B	ESO	90	6	12	3
7514		LEAR	05 26 0001	N16	E68	05 31.1		B	CSO	50	2	2	3
7514		SVTO	05 26 0745	N15	E65	05 31.2		B	CSO	150	5	7	3
7514		RAMY	05 26 1400	N16	E64	05 31.4		B	CAO	90	5	4	2
7514		BOUL	05 26 1510	N17	E60	05 31.2		A	HS	20	1	1	2
7514		HOLL	05 26 1600	N17	E60	05 31.2		A	HS	120	1	2	3
7514		SVTO	05 27 0825	N17	E53	05 31.4		B	CSO	140	5	7	3
7514		RAMY	05 27 1136	N17	E50	05 31.3		B	CAO	70	3	4	3
7514		HOLL	05 27 1420	N17	E48	05 31.2		A	HS	90	1	2	4
7514		BOUL	05 27 1610	N18	E47	05 31.2		A	HS	60	4	4	2
7514	27871	MWIL	05 27 2000	N16	E45	05 31.2	4	(AP)					
7514		LEAR	05 28 0205	N17	E43	05 31.3		A	HS	80	2	2	2
7514		SVTO	05 28 0845	N17	E38	05 31.2		B	CSO	60	2	2	2
7514		RAMY	05 28 1213	N17	E36	05 31.2		A	HA	50	2	2	3
7514		BOUL	05 28 1400	N17	E34	05 31.2		A	HA	50	2	2	2
7514	27871	MWIL	05 28 1400	N17	E35	05 31.2	5	(AP)					
7514		LEAR	05 29 0300	N18	E29	05 31.3		A	HA	80	2	2	2
7514		SVTO	05 29 0742	N16	E25	05 31.2		A	HA	60	1	2	4
7514		RAMY	05 29 1234	N17	E23	05 31.3		A	HA	50	2	2	3
7514		HOLL	05 29 1315	N17	E22	05 31.2		A	HA	70	2	2	4
7514		BOUL	05 29 1410	N17	E21	05 31.2		A	HA	70	2	2	2
7514	27871	MWIL	05 29 1430	N17	E22	05 31.3	5	(AP)					
7514		LEAR	05 30 0400	N17	E14	05 31.2		A	HA	80	2	2	2
7514		SVTO	05 30 0827	N16	E13	05 31.3		A	HA	60	1	3	3
7514		RAMY	05 30 1220	N17	E10	05 31.3		A	HA	80	3	2	4
7514		BOUL	05 30 1405	N17	E09	05 31.3		A	HA	70	2	2	3
7514	27871	MWIL	05 30 1430	N17	E09	05 31.3	5	(AP)					
7514		HOLL	05 30 1619	N17	E07	05 31.2		A	HS	90	1	2	3
7514		SVTO	05 31 1140	N16	W03	05 31.2		A	HS	90	1	2	4
7514		RAMY	05 31 1242	N16	W03	05 31.3		A	HA	80	1	2	4
7514		BOUL	05 31 1346	N18	W04	05 31.3		A	HS	60	2	1	2
7514		HOLL	05 31 1646	N17	W06	05 31.2		A	HS	80	1	1	2
7514	27871	MWIL	05 31 1730	N16	W06	05 31.3	5	(AP)					
7514		LEAR	06 01 0231	N17	W11	05 31.3		A	HS	70	1	2	2
7514		SVTO	06 01 0744	N17	W13	05 31.3		A	HS	60	1	2	3
7514		RAMY	06 01 1202	N16	W16	05 31.3		A	HS	60	2	2	3
7514		BOUL	06 01 1415	N16	W17	05 31.3		A	HS	40	2	2	3
7514	27871	MWIL	06 01 1515	N16	W18	05 31.3	5	(AP)					
7514		HOLL	06 01 1717	N17	W19	05 31.3		A	HS	70	1	1	3
7514		RAMY	06 02 1235	N17	W29	05 31.3		A	HA	80	2	2	2
7514		BOUL	06 02 1420	N17	W30	05 31.3		A	HA	50	2	2	2
7514		HOLL	06 02 1456	N17	W30	05 31.3		A	HA	80	3	3	3
7514	27871	MWIL	06 02 1500	N17	W32	05 31.2	5	(AP)					
7514		LEAR	06 03 0135	N18	W37	05 31.2		A	HS	60	4	2	3
7514		SVTO	06 03 0800	N16	W40	05 31.3		B	CAI	50	6	5	3
7514		RAMY	06 03 1230	N16	W42	05 31.3		A	HS	30	8	2	3
7514		HOLL	06 03 1457	N17	W45	05 31.2		A	HA	40	5	2	3
7514	27871	MWIL	06 03 1500	N17	W45	05 31.2	5	(AP)					
7514		BOUL	06 03 1635	N17	W45	05 31.3		A	HA	30	5	2	2
7514		SVTO	06 04 0750	N15	W57	05 31.0		A	AX	20	2	2	3
7514		RAMY	06 04 1228	N15	W55	05 31.3		A	AX		1		3
7514	27871	MWIL	06 04 1445	N17	W59	05 31.1	4	(AP)					
7514		HOLL	06 04 1448	N17	W58	05 31.2		A	AX	10	1	1	3
7514		LEAR	06 05 0425	N17	W65	05 31.2		A	AX	10	1	2	3
7515		LEAR	05 26 0001	N13	E76	05 31.7		B	CAO	60	4	3	3
7515		SVTO	05 26 0745	N12	E75	06 1.0		B	CSO	140	6	6	3
7515		RAMY	05 26 1400	N15	E72	06 1.0		B	EAO	170	11	11	2
7515		BOUL	05 26 1510	N14	E67	05 31.7		B	DAO	60	7	5	2
7515		HOLL	05 26 1600	N15	E70	06 1.0		B	DAO	150	9	10	3

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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
7515		SVTO	05 27 0825	N14	E58	05 31.7		BG	CAI	220	20	9	3
7515		RAMY	05 27 1136	N15	E58	05 31.9		BG	EA0	160	28	12	3
7515		HOLL	05 27 1420	N13	E57	05 31.9		BG	DAI	220	27	10	4
7515		BOUL	05 27 1610	N15	E55	05 31.8		B	ESI	110	14	11	2
7515	27872	MWIL	05 27 2000	N13	E54	05 31.9	4	(B)					
7515		LEAR	05 28 0205	N14	E49	05 31.8		BG	EAI	220	19	11	2
7515		SVTO	05 28 0845	N13	E45	05 31.7		BG	DAI	320	16	10	2
7515		RAMY	05 28 1213	N13	E43	05 31.7		BG	EAI	250	31	12	3
7515		BOUL	05 28 1400	N13	E40	05 31.6		B	ESI	110	17	12	2
7515	27872	MWIL	05 28 1400	N15	E43	05 31.8	5	(D)					
7515		LEAR	05 29 0300	N14	E35	05 31.8		BGD	EAI	270	21	11	2
7515		SVTO	05 29 0742	N15	E33	05 31.8		BGD	EKO	280	30	14	4
7515		RAMY	05 29 1234	N14	E31	05 31.9		BD	EAI	270	44	13	3
7515		HOLL	05 29 1315	N13	E29	05 31.7		BD	DAI	310	30	11	4
7515		BOUL	05 29 1410	N14	E28	05 31.7		B	ESI	150	21	12	2
7515	27872	MWIL	05 29 1430	N14	E28	05 31.7	5	(D)					
7515		LEAR	05 30 0400	N13	E21	05 31.7		BGD	EAI	330	23	13	2
7515		SVTO	05 30 0827	N14	E19	05 31.8		BG	EAI	270	52	14	3
7515		RAMY	05 30 1220	N14	E18	05 31.9		B	EAI	320	58	13	4
7515		BOUL	05 30 1405	N14	E15	05 31.7		B	ESI	280	33	13	3
7515	27872	MWIL	05 30 1430	N14	E15	05 31.7	5	(BG)					
7515		HOLL	05 30 1619	N14	E15	05 31.8		B	EAI	310	47	14	3
7515		SVTO	05 31 1140	N15	E04	05 31.8		BG	EAI	500	39	14	4
7515		RAMY	05 31 1242	N14	E03	05 31.7		B	EKI	400	40	13	4
7515		BOUL	05 31 1346	N15	E04	05 31.9		B	ESI	370	28	13	2
7515		HOLL	05 31 1646	N14	E02	05 31.8		B	EAI	370	33	13	2
7515	27872	MWIL	05 31 1730	N14	W02	05 31.6	6	(B)					
7515		LEAR	06 01 0231	N14	W04	05 31.8		B	EHI	350	23	15	2
7515		SVTO	06 01 0744	N14	W06	05 31.9		B	EAI	490	44	15	3
7515		RAMY	06 01 1202	N15	W09	05 31.8		B	EKO	420	67	13	3
7515		BOUL	06 01 1415	N14	W10	05 31.8		B	EAI	410	42	14	3
7515	27872	MWIL	06 01 1515	N14	W13	05 31.6	5	(B)					
7515		HOLL	06 01 1717	N14	W12	05 31.8		B	ESI	360	45	15	3
7515		RAMY	06 02 1235	N16	W23	05 31.8		B	EKO	450	42	14	2
7515		BOUL	06 02 1420	N15	W23	05 31.8		B	EAI	460	39	14	2
7515		HOLL	06 02 1456	N14	W24	05 31.8		B	EAI	510	37	14	3
7515	27872	MWIL	06 02 1500	N14	W26	05 31.7	5	(B)					
7515		LEAR	06 03 0135	N15	W32	05 31.6		B	EAI	450	35	13	3
7515		SVTO	06 03 0800	N13	W35	05 31.7		BGD	EKI	490	26	12	3
7515		RAMY	06 03 1230	N15	W36	05 31.8		BG	EKI	350	31	14	3
7515		HOLL	06 03 1457	N16	W37	05 31.8		B	EKI	420	36	15	3
7515	27872	MWIL	06 03 1500	N15	W40	05 31.6	5	(B)					
7515		BOUL	06 03 1635	N15	W38	05 31.8		BG	EAI	450	32	13	2
7515		SVTO	06 04 0750	N13	W50	05 31.5		BG	EKI	390	17	12	3
7515		RAMY	06 04 1228	N14	W50	05 31.7		BG	EAI	310	18	11	3
7515	27872	MWIL	06 04 1445	N15	W54	05 31.5	5	(BP)					
7515		HOLL	06 04 1448	N14	W53	05 31.6		B	EAC	370	31	12	3
7515		LEAR	06 05 0425	N15	W56	05 31.9		BG	EAI	340	12	11	3
7515		SVTO	06 05 0745	N15	W61	05 31.7		BG	EKI	400	9	12	3
7515		BOUL	06 05 1345	N14	W65	05 31.7		B	CAO	80	7	6	2
7515		RAMY	06 05 1458	N14	W66	05 31.6		BG	EA0	340	16	12	3
7515		HOLL	06 05 1500	N13	W63	05 31.9		B	DAO	290	9	10	4
7515		RAMY	06 06 1215	N14	W80	05 31.5		B	DAO	150	8	10	3
7515		SVTO	06 06 1230	N15	W79	05 31.5		B	DAO	130	9	7	3
7515		BOUL	06 06 1410	N15	W77	05 31.8		B	CAO	40	2	3	2
7515		HOLL	06 06 1535	N13	W77	05 31.8		B	DSO	210	3	9	2

Stations reporting:

BOUL = Boulder
CULG = Culgoora

HOLL = Holloman
LEAR = Learmonth

MWIL = Mt. Wilson
PALE = Palehua

RAMY = Ramey
SVTO = San Vito

SUDDEN IONOSPHERIC DISTURBANCES

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May 93

MAY 1993

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type					Flare (UT)	X-ray Class	NOAA Region
						SWF	SEA	SPA	LF- SPA	SES			
01	2227	2236	2236D	1	1					1	*		
01	2252	2314	2440	2	5	1		1		6	2249	C5.9	
02	1919	1923	1932	1-	1					1	1919		7493
03	0116	0122	0132	1-	5			1		2	0055	C1.1	
03	0551	0559	0622	1+	3		2				No flare		
03	0636	0644	0716	1-	5			1		2	0632	C1.6	
03	0740	0746	0802	1-	1			1			0728	C1.3	
03	1028	1030	1038	1-	1					1	1026	B6.5	
03	1243	1245	1256	1-	3					3	1243	C1.1	
03	1354	1359	1411	1-	5					3	1353	C1.3	
04	0252	0322	0404	2	5	1		1		3	0250	C8.3	
04	0444	0454	0552	1+	5			1		2	0442	C5.0	
04	1041	1057	1104	1	1					1	1041	C1.8	7496
05	0935	0950	1025	2	1		1				1017	B8.9	7496
05	1344	1350	1407U	1	1					1	1344	B7.9	
05	1825	1834	1909	2	5					10	1824	C2.9	7500
05	2024	2026	2032	1-	1					1	2004	B8.9	
05	2358	2401	2408U	1-	1					1	2359	C1.3	7496
06	0238	0242	0256	1-	1			1			0233	C1.2	
06	0853	0903U	0943	1	1		1				No flare		
06	1037	1051	1120	3-	3		2				No flare		
06	1542	1544	1556	1-	5					2	1542	B9.7	
06	1828	1831	1854	1	3					8	1829	C2.2	7500
06	2017	2020	2035	1-	1					1	2017	C1.0	
06	2232	2238	2258	1-	5			1		3	2203	C1.9	7500
07	0152	0158	0210	1-	5			1		1	0154	C1.5	7500
07	0212	0215	0222	1-	3					2	0212	C1.0	
07	0456	0518	0600	1-	5		1	1			0506	C3.0	7496
07	0732	0750	0822	1-	5		1	1		2	0731	C1.1	
07	1205	1240	1300	1	5	1				4	1229E	C5.3	7500
07	1337	1354	1503	2	3		2				1345		7493
07	1412	1415	1436	1	1					1	1412	C1.4	7493
07	1423	1433	1451	1-	5		1			1	1427		7496
07	1457	1459	1505	1-	1					1	1457	C1.0	7496
07	1515	1521	1532	1	1		1				No flare		
07	2048	2136	2350	2	5	1		1		11	2047	M1.6	7500
08	0312	0318	0344	1-	5			1		1	0311	C2.8	7496
08	0346	0350	0404	1-	1			1			*		
08	0530	0540	0608	1-	5			1		1	0532	C2.3	7496
08	1217	1230	1304	2	5					4	1213	C2.8	7496
09	1037	1040	1100	1	1					1	1037	C6.9	
09	2351	2355	2359U	1-	1					1	2351		7500
10	1001	1008	1014	1-	1					1	1005	C1.7	7496
10	1333	1347	1417	1	5		1			1	1335	C1.9	7496
10	1705	1718	1736	1	1		1				No flare		
10	1915	1915	1922	1-	1					1	1914	C1.0	7496
10	1951	1957	2022	1+	3					5	1952	C2.4	7496
11	0000	0004	0012	1-	5			1		1	*		
11	0416	0420	0434	1-	5			1		1	0411	C1.1	
11	1617	1618	1630	1-	1					1	1618	C1.4	7500
11	2016	2035	2130	1	1					1	*		
11	2152	2202	2214	1-	5			1		2	2132	C2.1	7500
12	0313	0314	0329	1-	1					1	0314	C1.0	7496
12	1325	1344	1425	1	1		1				1341		7500
12	1636	1640	1658	1-	3					5	1633	C1.3	7496
12	1730	1734	1741	1-	3					5	1730	C1.0	7500

* = no flare patrol.

SUDDEN IONOSPHERIC DISTURBANCES

MAY 1993

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type					Flare (UT)	X-ray Class	NOAA Region
						SWF	SEA	SPA	LF- SPA	SES			
12	1749	1800	1833	2	3					8	1754	C3.2	7500
12	2055	2106	2130	1	1					1	*		
12	2140	2147	2220	1+	1					2	2143	B7.5	
13	0112	0124	0148	1-	5			1		1	0109	C1.5	
13	0308	0320	03400	1-	1			1			0304	C2.0	7500
13	0340E	0350	0424	1-	1			1			0304	C2.0	7500
13	0422	0448	0518	1-	1			1			0441	C1.8	7500
13	0616	0622	0638	1-	5			1			0601	C1.4	
13	0806	0811	0831	2	1					1	*		
13	1034	1040	1052	1-	1			1			1029	C2.4	
13	1122	1136	1152	1+	5	2	4	1		6	1116	C9.7	
13	1248	1324	1343	1	3		3				No flare		
13	1405	1410	1429	1	3					7	1405	C3.6	7500
13	1436	1437	1500	1	1					1	1436	B8.7	
13	1455	1501	1525	1	1					1	1502		7500
14	0034	0042	0100	1-	5			1		2	0031	C1.2	7500
14	1020	1030	1043	2	1					1	No flare		
14	1554	1600	1614	1-	1			1			1545		7500
14	2200	2218	22340	2	5	2		1		10	2154	M4.4	7500
14	2234E	2258	2552	3-	5			1		8	2154	M4.4	7500
16	0500	0506	0518	1-	5			1		1	0451	C1.1	
16	0732	0739	0806	1	1		1				No flare		
16	1700	1712U	1729	1	1		1				No flare		
17	0622	0642	0709	1	1		1				*		
17	1917	1920	1932	1-	1					1	1918	B2.7	
17	1954	1959	2019	1	3					2	1953	B3.7	
19	0752	0806	0830	1-	1			1			0746	C1.1	
19	1023	1024	1101	2	3					2	1023	B5.7	7504
20	0827	0845	0911	1	1		1				No flare		
21	0752	0806	0845	2+	3		2				0802		7504
23	0407	0416	0504	1-	5			1		1	0400	C2.6	
23	0818	0826	0846	2	1					1	No flare		
23	0849	0859	0940U	2+	1					1	0849	B2.4	
23	1136	1143	1225	1	1		1				*		
23	1410	1413	1438	1	1		1				*		
24	1314	1333	1356	1	3		2				No flare		
24	1555	1602	1633	2	1					1	1550	C1.7	
25	0114	0120	0148	1-	1			1			0112	C2.1	
26	0017	0022	0042	1-	1			1			0013	C1.3	
26	0200	0204	0240	1-	1			1			0154	C3.2	
26	0930	0934	0956	1-	1			1			0927	C2.5	
26	1222	1227	1245	1	1					1	1220	C1.3	
26	1406	1410	1425	1	1					1	1408		
26	1544	1551	1625	1	1		1				1542E		7515
26	1936	1945	2005	1+	1					1	1936	C2.2	7515
26	2106	2112	2128	1-	5			1		3	2105	C2.2	7515
26	2156	2202	2226	1-	5			1		3	2155	C2.8	7515
27	0010	0016	0028	1-	1			1			0010	C1.5	7515
27	0104	0124	0152	1-	1			1		1	0054	C5.4	7515
27	0220	0226	0246	1-	1			1			0219	C1.9	
27	0342	0348	0400	1-	1			1			0339	C1.2	
27	0424	0434	0454	1-	1			1			0422	C1.6	
27	0510	0518	0534	1-	1			1			0507	C1.4	
27	0800	0808	0834	1-	1			1			0804	C1.8	7515
27	0802	0843	0852	1+	1		1				0804	C1.8	7515

* = no flare patrol.

MAY 1993

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type					Flare (UT)	X-ray Class	NOAA Region
						SWF	SEA	SPA	LF- SPA	SES			
27	1500	1507	1522	1	1					1	1447	C1.1	7515
27	1538	1543	1600	1	1					2	1524	C1.7	7515
27	1643	1647	1700	1-	3					6	1644	C1.6	7515
27	1716	1718	1743	1+	3					3	1720	C3.5	7515
27	1720	1725	1741	1	3					5	1720	C3.5	7515
27	1746	1755	1833	2	3					8	1747	M1.2	7515
27	1913	1918	1941	1-	3					8	1914	C3.7	7515
27	2005	2007	2020	1-	1					1	2010		7512
27	2132	2138	2200	1-	5	1		1		6	2131	C5.2	7515
27	2226	2234	2310	1-	5	1		1		2	2226	C4.2	7515
28	0023	0031	0106	1	5	2		1		1	0021	C7.4	7515
28	0110	0132	0156	1-	5			1		1	0125	C2.4	
28	0202	0208	0248	2-	5	2		1		1	0158	C9.1	7515
28	0259	0309	0324	2-	5	1				1	0255	M1.4	
28	0733	0755	0832	1	1		1				No flare		
28	0848	0950	1020	1	1		1				No flare		
28	1056	1105	1114	1-	3		1			1	1059	C1.1	
28	1530	1530	1550	1	3					2	1530	B9.4	7515
28	2044	2106	2216	1+	5	2		1		9	2053	C7.3	7515
29	0110	0116	0138	1-	5			1		1	0100	C1.6	7515
29	0801	0804	0815	1-	1					1	0754		7517
29	1023	1029	1044	1	3					2	1024	C1.2	
29	1136	1139	1158	1	5		1			4	1136	C2.4	7515
29	1323	1341	1425	2+	3		2				1323		7515
29	1449	1505	1540	2-	5		1			6	1452	C3.4	7515
29	1710	1715	1729	1-	5					4	1709	C1.3	
30	0045	0047	0100	1-	1					1	0045	B6.1	
30	0214	0218	0232	1-	1			1			0201	C1.3	
30	0405	0416	0450	1-	1			1			0408	C3.1	7515
30	0508	0534	0624	2+	5	1	1	1		1	0501E	M1.0	7515
30	0648	0656	0704	1-	5		1	1		1	0647	C2.8	7515
30	0708	0716	0738	1-	5		1	1			0706	C3.1	
30	1021	1035	1052	1	1		1				No flare		
30	1205	1215	1306	1	1		1				No flare		
30	1336	1345U	1441	1	1		1				No flare		
30	1757	1757	1805	1-	1					1	1757	C1.1	7515
31	0335	0339	0414	1	1		1				0349	C1.0	
31	0352	0356	0408	1-	1			1			0349	C1.0	
31	1539	1543	1602	1	5					8	1537	C1.8	

* = no flare patrol.

OBSERVATORIES REPORTING FOR MAY 1993

Amherst, New Hampshire, USA	SES	Madison, Wisconsin, USA	SES
Athens, Georgia, USA	SES	Manahawkin, New Jersey, USA	SES
Boksborg, Rep of S. Africa	SES	Maui, Hawaii, USA	SWF
Cambridge, England, UK	SES	Nampa, Idaho, USA	SES
Cranford, New Jersey, USA	SES	Nerja, Spain	SES
Darmstadt, Germany	SWF	Panska Ves, Czechoslovakia	SES, SEA, SWF
Durham, New Hampshire, USA	SES	Rimavska Sobota, Slovakia	SEA
Gettysburg, Pennsylvania, USA	SES	Rochester, New Hampshire, USA	SES
Hiraiso, Japan	SWF	San Francisco, California, USA	SES
Houston, Texas, USA	SES	Tucson, Arizona, USA	SES
Hudson, Ohio, USA	SES	Upice, Czechoslovakia	SEA
Huntsville, Alabama, USA	SES	Wellington, Ohio, USA	SES
Inubo, Japan	SPA	Windsor Locks, Connecticut, USA	SES
Itapetinga, Brazil	SPA, SES	Ziar nad Hronom, Slovakia	SEA
LaCrescenta, California, USA	SES	Zilina, Slovakia	SEA
Locust Grove, Georgia, USA	SES		

Observations are not necessarily continuous.

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May 93

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

MAY 1993

Observation				Decimetric Band			Metric Band			Dekametric Band			Spectral Type
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	
01	0447	1708	ONDR										
02	0448	1708	ONDR										
03	0447	1530	ONDR										
	0605	1527	POTS				1052.8	1053.0	1				IIIB
			SVTO				1201.0	1201.0	2				III
04	0603	1527	POTS										
	0600	1200	IZMI				0658.8	0659.3	1				IGG
	0704	1708	ONDR										
			IZMI				0724.8	0725.1	1				IG
05	0443	1530	ONDR										
	0600	1200	IZMI				0600.0E	1200.00	1				IS
	0611	1527	POTS				0611.0E	1527.00	1				I,S,C,DC
			POTS				1001.5	1002.8	1				IIIG
			POTS				1018.6	1018.7	1				IIIB
			POTS				1047.1	1047.2	1				RS
			POTS				1110.7	1113.6	1				IIIG
			POTS				1135.2	1135.7	1				RSG
06	0527	1527	POTS				0527.0E	1527.00	1				I,S,C,DC
	0441	1712	ONDR	0625.2	0625.3	1							IIIG
			POTS				0625.3	0627.9	2				IIIGG,RS
			POTS				0859.9	0900.0	1				RS
			POTS				0923.2	0923.3	1				IIIB
			POTS				1020.9	1021.0	2				UNCLF
			POTS				1121.1	1121.3	1				IIIB
	0600	1200	IZMI				1123.5	1200.00	1				IS
			POTS				1136.4	1136.5	1				UNCLF
			POTS				1259.1	1259.2	1				IIIB
			POTS				1336.8	1336.9	1				IIIB
			POTS				1339.2	1339.3	1				UNCLF
			POTS	1401.0U	1405.81								DCIM
			POTS				1424.0	1424.1	1				IIIB
			POTS				1507.7	1507.9	1				IIIB
			PALE				2218.0	2219.0	1				III
07	0600	1200	IZMI				0600.0E	1144.0	1				IS
			POTS				0624.0E	1529.00	1				DCIM
	0624	1529	POTS				0624.0E	1529.00	1				I,S,C
			POTS				0632.7	0632.8	1				IIIG
			SVTO				0651.0	0654.0	1				III
			POTS				0651.7	0654.2	1				IIIG
			POTS				0653.5	0654.2	1				IIIG
			LEAR				0708.0	0709.0	1				III
			SVTO				0708.0	0708.0	1				III
			POTS				0708.6	0708.8	1				IIIB
			POTS				0742.9	0743.0	1				IIIB
			POTS				0753.7	0804.4	2				IIIG,RS
			IZMI				0803.6	0803.8	1				IIIG
			POTS				0823.8	0823.9	1				IIIB
			POTS				0830.6	0830.7	1				IIIB
			SVTO				0838.0	0838.0	1				III
			POTS				0838.6	0838.7	1				IIIB,V
			POTS				0904.4	0914.5	2				IIIGG,RS
			POTS				1017.6	1019.3	3				IIIGG
	0440	1530	ONDR	1017.8	1018.6	2	1017.8	1018.6	2				IIIGG
			POTS				1028.3	1028.4	1				IIIB
			POTS				1043.3	1045.8	3				IIIGG,V
			ONDR	1043.4	1044.0	2	1043.4	1044.0	2				IIIG
			ONDR				1146.0	1401.0	1				IN
			POTS				1217.9	1219.0	1				IIIG
			POTS				1237.0	1238.3	2				IIIGG,RS
			SGMR				1252.0	1253.0	1				III
			SVTO				1252.0	1253.0	1				III
			POTS				1252.3	1252.6	1				IIIG
			POTS				1257.7	1257.9	1				IIIG

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

Spectral Observations

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May 93

MAY 1993

Observation			Decimetric Band			Metric Band			Dekametric Band			Spectral Type
Day (UT)	Start (UT)	End (UT)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	
07						1308.0	1315.8	1				IIIG
												DCIM
			1426.6	1429.0	1	1445.1	1446.4	1				IIIG,RS
						1455.6	1503.3	3				IIIGG,V,RS
						1457.0	1459.0	2				III
			1526.4	1529.0	1							DCIM
						2108.0	2301.0	2				IV
						2112.0	2330.0	2				IV
08						0239.0	0240.0	2				MWB
	0600	1200				0600.0E	1040.0	1				IS
						0754.0	0754.7	1				IIIG
						0945.7	0945.8	1				III
	0604	1716	1216.0	1216.3	2							IIIG
09	0437	1715										
	0600	1200				0600.0E	1200.00	1				IS,CONT
						1453.0	1535.0	1				CONT
						1500.0	1501.0	1				III
						2111.0	2111.0	1				III
						2111.0	2111.0	1				III
						2301.0	2303.0	2				III
10						0034.0	0059.0	1				S
						0058.0	0059.0	1				III
						0416.0	0417.0	2				III
	0435	1717										
	0600	1200				0600.0E	1200.00	1				IS
	0607	1527				0607.0E	1527.00	1				I,S,W
						0658.0	0700.0	1				III
						0658.0	0700.0	2				III
						0658.1	0701.5	1				IIIGG
						0658.4	0700.4	1				IIIGG
						0717.0	0720.0	2				III
						0717.0	0720.0	2				III
	0600	1200				0717.5	0717.9	2				IIIG
						0717.5	0720.5	1				IIIG,RS
						0720.3	0720.6	2				IIIG
						0958.1	0959.2	1				IIIG
						1026.5	1026.8	1				IIIG
						1117.9	1118.1	1				IIIB
						1143.0	1144.0	1				III
						1143.1	1144.2	1				IIIG
						1143.2	1144.6	1				IIIGG
						1144.0	1144.0	2				III
						1159.0	1159.1	2				IIIB
						1242.2	1242.3	1				RS
						1247.0	1248.0	2				III
						1247.0	1248.0	2				III
						1247.7	1247.9	1				IIIG,RS
						1306.8	1307.3	1				IIIG
						1308.0	1309.0	1				III
						1308.0	1308.0	1				III
						1308.7	1308.8	1				IIIB
						1348.0	1519.0	1				S
						1348.1	1413.7	2				IIIGG
						1413.5	1413.6	1				IIIG
						1438.0	1440.0	1				IIIGG
						1448.0	1521.0	1				S
						1514.6	1520.8	1				IIIG
						1633.0	1634.0	1				III
						1738.0	1754.0	2				S
						2130.0	2132.0	1				III
						2130.0	2130.0	1				III
11	0434	1719										
	0601	1527				0746.0	0746.2	1				IIIB
						0938.0	0938.1	1				UNCLF
						1016.9	1017.0	1				UNCLF

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

MAY 1993

Observation				Decimetric Band			Metric Band			Dekametric Band			Spectral Type	
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)		
11			POTS				1130.8	1151.0	1				I,S	
			POTS				1236.7	1239.0	1				IIIGG	
			POTS				1506.8	1511.1	1				IIIG	
			SGMR				1507.0	1508.0	1				III	
			SVTO				1507.0	1508.0	2				III	
			SGMR				1720.0	1721.0	1				III	
			PALE				2221.0	0000.0	1				CONT	
12	0607	1529	POTS	0640.9	0641.9	2							DCIM	
			POTS				0833.0	0848.7	3				DCIM	
			POTS				0833.0	0848.7	3				IIIGG,RS	
	0433	1719	ONDR	0837.7	0837.9	1	0837.8	0837.9	1				IIIG	
			POTS				1028.0	1029.1	1				I	
			POTS				1028.6	1028.7	1				IIIB	
			POTS				1121.6	1130.5	2				IIIG,DCIM	
			POTS				1149.4	1529.00	1				I,S,W	
			POTS				1342.6	1359.2	3				IIIGG,DCIM	
			POTS				1448.3	1448.4	2				DCIM	
			PALE				2221.0	0010.0	2				CONT	
13	0605	1529	POTS				0851.7	0851.9	1				UNCLF	
			POTS				0913.9	0928.4	2				IIIGG,DCIM	
	0432	1721	ONDR	0916.1	0917.0	1	0916.1	0917.0	1				IIIGG	
			POTS				1142.0	1142.5	1				IIIG	
			POTS				1156.6	1157.5	1				IIIG	
			POTS				1227.6	1227.7	1				IIIB	
			POTS				1329.5	1330.1	1				IIIG,I	
			POTS				1405.3	1407.50	2				IIIG,I	
14			LEAR				0210.0	0212.0	1				III	
			LEAR				0440.0	0440.0	2				III	
	0601	1519	POTS				0643.4	0645.4	1				IIIG	
			LEAR				0645.0	0645.0	1				III	
			SVTO				0645.0	0645.0	1				III	
	0431	1721	ONDR	0905.7	0905.8	1							IIIG	
			POTS				0910.2	0910.3	1				IIIB	
			POTS				0921.3	0921.8	2				IIIB,U	
			ONDR	0921.4	0921.8	2							IIIG	
			POTS				1057.1	1057.4	1				IIIG	
			ONDR	1158.9	1159.1	2	1158.9	1159.1	2				IIIG	
			POTS				1158.9	1202.6	2				IIIGG,DCIM	
			POTS				1244.8	1245.2	1				DCIM	
			POTS				1254.0	1254.1	1				IIIB	
			POTS				1423.3	1423.6	1				IIIG	
			POTS				1453.1	1454.0	1				IIIG,RS	
			SGMR				1527.0	1527.0	1				III	
			SGMR				1549.0	1550.0	1				III	
			SVTO				1549.0	1550.0	2				III	
			PALE				2241.0	2241.0	2				III	
			SGMR				2241.0	2302.0	2				S	
			PALE				2244.0	2328.0	3				IV	
			LEAR				2305.0	0001.0	1				IV	
15	0422	1722	ONDR										II	
	0600	1200	IZMI				0841.2	0844.0	2				CONT	
			IZMI				1033.5	1033.9	2				IIIG	
16	0428	1724	ONDR											
17	0427	1726	ONDR											
	0605	1527	POTS											
18	0426	1727	ONDR											
	0601	1527	POTS											
19	0603	1527	POTS											
	0725	1535	ONDR											
20	0424	1729	ONDR											

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

Spectral Observations

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May 93

MAY 1993

Observation			Decimetric Band			Metric Band			Dekametric Band			Spectral Type	
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)		Int (1-3)
20			SGMR				1130.0	1131.0	1				III
			SVTO				1130.0	1132.0	1				V
	0600	1200	IZMI				1130.1	1132.5	2				IIIG
	0605	1527	POTS				1130.2	1132.5	2				IIIG
			POTS				1406.3	1406.8	1				UNCLF
21			LEAR				0350.0	0351.0	1				III
	0423	1657	ONDR										
			SGMR				1337.0	1338.0	2				III
			SVTO				1337.0	1338.0	2				III
	0527	1527	POTS				1337.1	1337.9	2				IIIG
22	0552	1729	ONDR										
			LEAR				0740.0	0741.0	2				III
			SVTO				0740.0	0741.0	2				III
	0600	1200	IZMI				0740.9	0741.2	1				IIIG
			IZMI				0754.0	0754.7	1				IIIG
			SGMR				1402.0	1404.0	2				III
			SVTO				1402.0	1404.0	2				III
			SGMR				1437.0	1439.0	1				III
			SVTO				1438.0	1450.0	2				S
			SGMR				1450.0	1450.0	1				III
			SGMR				1538.0	1543.0	1				III
			SGMR				1612.0	1612.0	1				III
			SGMR				1715.0	1716.0	1				V
23			LEAR				0307.0	0316.0	2				III
			PALE				0315.0	0316.0	1				III
	0421	1733	ONDR										
			LEAR				0530.0	0530.0	1				III
			LEAR				0635.0	0636.0	3				V
			SVTO				0635.0	0636.0	3				V
	0600	1200	IZMI				0635.5	0636.1	2				IIIG
			SVTO				0911.0	0911.0	2				III
			IZMI				0941.4	0941.9	2				IIIG,V
			SGMR				1430.0	1432.0	2				V
			SVTO				1430.0	1432.0	2				V
			SGMR				1509.0	1510.0	2				V
			SVTO				1509.0	1509.0	2				III
			SGMR				1544.0	1546.0	1				III
			SGMR				1657.0	1703.0	1				V
			PALE				1905.0	1907.0	2				III
			SGMR				1905.0	1907.0	2				III
			PALE				2245.0	2246.0	1				III
24			LEAR				0006.0	0006.0	1				III
			PALE				0006.0	0006.0	1				III
			LEAR				0408.0	0417.0	2				V
			SVTO				0413.0	0415.0	1				III
	0420	1734	ONDR	0506.8	0507.0	3							DCIM
	0600	1200	IZMI				0604.8	0604.9	1				III
			LEAR				0617.0	0618.0	1				III
			SVTO				0617.0	0618.0	1				III
			IZMI				0617.1	0618.0	1				IIIG
	0608	1527	POTS				0617.2	0617.6	2				IIIG,C
			LEAR				0651.0	0652.0	1				III
			IZMI				0652.0	0652.4	1				IIIG
			SVTO				0652.0	0652.0	1				III
			LEAR				0656.0	0702.0	2				V
			SVTO				0657.0	0702.0	2				V
			POTS				0659.0	0700.7	1				I
			IZMI				0734.0	0734.2	1				IIIG
			SVTO				0734.0	0734.0	1				III
			POTS				0811.3	0811.5	1				UNCLF
			ONDR	1031.9	1032.2	3							UNCLF
			POTS				1311.3	1317.0	2				IIIG
			SGMR				1316.0	1316.0	1				III
			SVTO				1316.0	1316.0	1				III
			SGMR				1410.0	1414.0	1				III

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MAY 1993

Observation				Decimetric Band			Metric Band			Dekametric Band				
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Spectral	Type
24			SVTO				1410.0	1410.0	1				III	
			POTS				1415.7	1415.9	1				RSG	
			POTS				1429.0	1429.2	2				U	
			POTS				1457.8	1459.2	3				IIIGG	
			SGMR				1458.0	1459.0	2				III	
			SVTO				1458.0	1459.0	2				III	
			PALE				1725.0	1726.0	1				III	
			SGMR				1829.0	1830.0	1				III	
			PALE				1907.0	1907.0	1				III	
			SGMR				1907.0	1907.0	2				III	
			PALE				2114.0	2116.0	3				III	
			SGMR				2114.0	2116.0	2				III	
			PALE				2136.0	2143.0	2				III	
			SGMR				2136.0	2143.0	2				III	
25	0419	1735	ONDR											
			SVTO				0437.0	0438.0	1				III	
			SVTO				0539.0	0539.0	1				III	
	0605	1527	POTS				0605.0E	0817.0U	1				I,S,W	
	0600	1200	IZMI				0618.8	0618.9	1				III	
			POTS				0618.8	0618.9	1				IIIB	
			POTS				0740.4	0758.2	1				IIIG	
			POTS				0740.8	0742.0	1				IIIG	
			SVTO				0846.0	0848.0	2				III	
			IZMI				0846.6	0847.6	1				IIIG	
			POTS				0846.6	0847.3	2				IIIG	
			POTS				1513.0	1516.3	2				II	
			SGMR				1513.0	1521.0	1				II	1000km/s
			PALE				1702.0	1703.0	1				III	
			SGMR				1702.0	1703.0	2				III	
			SGMR				1922.0	1922.0	1				III	
			PALE				1952.0	1952.0	1				III	
			SGMR				1952.0	1952.0	1				III	
			PALE				2145.0	2149.0	1				III	
			PALE				2317.0	2322.0	2				III	
26			LEAR				0004.0	0044.0	2				S	
			PALE				0004.0	0017.0	2				S	
			LEAR				0040.0	0044.0	2				S	
			PALE				0040.0	0046.0	1				III	
			LEAR				0119.0	0326.0	3				S	
			PALE				0119.0	0147.0	2				S	
			PALE				0215.0	0256.0	1				S	
			LEAR				0418.0	0411.0	3				III	
			PALE				0418.0	0420.0	2				III	
			SVTO				0418.0	0419.0	3				III	
			LEAR				0434.0	0725.0	2				S	
			LEAR				0448.0	0451.0	3				III	
			SVTO				0507.0	0728.0	3				S	
	0419	1735	ONDR	0541.9	0542.7	2	0541.9	0542.7	2				IIIG	
			LEAR				0542.0	0544.0	3				III	
	0555	1527	POTS				0558.6	0608.6	1				IIIG	
	0600	1200	IZMI				0614.3	0619.8	1				IIIG	
			POTS				0614.3	0624.0	3				IIIG,V,RS	
			LEAR				0616.0	0617.0	3				III	
			POTS				0635.8	0728.7	3				IIIGG,RS	
			IZMI				0637.7	0637.8	1				III	
			IZMI				0640.8	0641.2	1				IIIG	
	0600	1200	IZMI				0642.5	0642.6	2				III	
			IZMI				0650.8	0650.9	2				IIIG	
	0600	1200	IZMI				0702.4	0702.5	1				III	
			IZMI				0704.3	0705.7	2				III	
			IZMI				0713.8	0714.4	1				IIIG	
			IZMI				0718.3	0721.0	2				IIIG	
	0600	1200	IZMI				0723.9	0725.1	2				IIIG	
			IZMI				0728.5	0728.6	2				IIIG	
	0600	1200	IZMI				0734.9	0738.5	2				IIIGG,CONT	
			POTS				0734.9	0744.1	3				IIIGG,C,RS	
			LEAR				0735.0	0739.0	3				III	

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Observation			Decimetric Band			Metric Band			Dekametric Band			Spectral Type	
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)		Int (1-3)
26			SVTO				0735.0	0739.0	3				V
			IZMI				0739.1	0739.2	2				III
	0600	1200	IZMI				0741.3	0746.0	1				IIIGG
			POTS				0813.2	0815.4	1				IIIG
			POTS				0823.3	0823.7	1				IIIG
			POTS				0852.9	0853.7	1				IIIG
			IZMI				0903.9	0904.1	1				IIIG
			POTS				0903.9	0904.1	1				IIIG
			SVTO				0904.0	0922.0	2				S
			POTS				0921.3	0921.7	2				IIIG
			IZMI				0921.5	0921.6	1				IIIG
			POTS				0941.9	0948.7	3				IIIGG
			IZMI				0942.0	0948.4	2				IIIGG
			SVTO				0942.0	0948.0	2				V
			POTS				1029.2	1033.8	3				II ? IIIGG
			POTS				1029.2	1033.8	3				RS, I
			POTS				1106.0	1107.0	2				IIIG, I
			SGMR				1106.0	1107.0	1				III
			SVTO				1106.0	1107.0	2				III
			IZMI				1106.5	1106.7	1				IIIG
			POTS				1128.0	1130.8	2				IIIGG
			IZMI				1132.7	1132.8	1				III
			POTS				1132.7	1132.8	1				IIIG
			POTS				1135.8	1135.9	1				I
			POTS				1206.6	1207.7	2				DCIM
			POTS				1219.1	1219.2	1				IIIB
			SGMR				1221.0	1225.0	3				III
			SVTO				1221.0	1226.0	3				III
			POTS				1221.5	1226.2	3				IIIGG, V, RS
			POTS				1243.8	1243.9	1				IIIB
			POTS				1318.9	1319.0	1				IIIB
			POTS				1324.0	1324.1	1				IIIG
			SGMR				1330.0	1400.0	2				S
			SVTO				1330.0	1333.0	2				III
			POTS				1333.0	1338.9	1				IIIGG, I
			SVTO				1349.0	1357.0	2				III
			POTS				1349.3	1400.2	3				IIIGG, V, C
			POTS				1349.3	1400.2	3				RS
			SVTO				1358.0	1400.0	3				III
			SVTO										

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May 93

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

MAY 1993

Observation				Decimetric Band			Metric Band			Dekametric Band			Spectral Type
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	
30	0416	1740	ONDR	0518.1	0524.1	3							DCIM
			ONDR	1202.5	1202.9	2	1202.5	1202.9	2				IIIG
31	0415	1739	ONDR										
	0545	1523	POTS				0545.0E	1523.0U	2				I,S,C,DC
			POTS				1351.3	1351.5	2				IIIG

The symbols used under the column heading SPECTRAL TYPE have the following definitions:

B = Single burst	RS = Reverse slope burst
G = Small group (< 10) of bursts	DP = Drifting pairs
GG = Large group (> 10) of burst	DC = Drifting Chains
C = Underlying continuum (particularly with Type I)	H = Herringbone
S = Storm in the sense of intermittent but apparently connected activity	W = Weak
N = Intermittent activity in this period	P = Pulsations
U = U-shaped burst of Type III	CONT = Continuum
SP = SPIKES	UNCLF = Unclassified activity
	DCIM = Fast drift

Stations Reporting:

IZMI = IZMIRAN	LEAR = Learmonth	ONDR = Ondrejov	PALE = Palehua	POTS = Potsdam
SGMR = Sagamore Hill	SVTO = San Vito			

SOLAR RADIO NOISE STORMS AT 164 MHZ FROM NANCAY RADIOHELIOGRAPH

MAY 1993

	HELIOGRAPHIC POSITIONS				
DAY	MEAN VALUES*		IMP**	OBSERVING TIME***	
	E-W	S-N		START(UT)	END (UT)
04/05/93	+0.74	-0.08	1	0810E	1000
04/05/93	+0.67	-0.03	1	1330	1545D
05/05/93	-1.24	+0.58	1	0800E	1545D
06/05/93	-1.06	+0.59	1	0850E	1430D
07/05/93	-0.91	+0.64	1	0800E	1345D
08/05/93	-0.83	+0.43	2	0800E	1530D
08/05/93	-0.69	+0.51	1	0800E	1530D
08/05/93	+0.28	-0.06	1	1300	1530D
09/05/93	+0.59	-0.08	3	0800E	1545D
10/05/93	+0.71	-0.13	2	0830E	1545D

1,2, 20, 21, 22, 23 MAY NO DATA

OTHER DAYS : NO DETECTABLE NOISE STORMS

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

** IMP 1: FLUX<5 SFU IMP 2 : 5<FLUX<20 SFU IMP 3: 20<FLUX<100 SFU
IMP 4: 100<FLUX<300 SFU IMP 5: FLUX>300 SFU

*** E NOISE STORM IN PROGRESS AT THE BEGINNING OF THE NANCAY OBSERVATIONS
D NOISE STORM IN PROGRESS AT THE END OF THE NANCAY OBSERVATIONS

COSMIC RAY INDICES
(Neutron Monitor)
MAY 1993

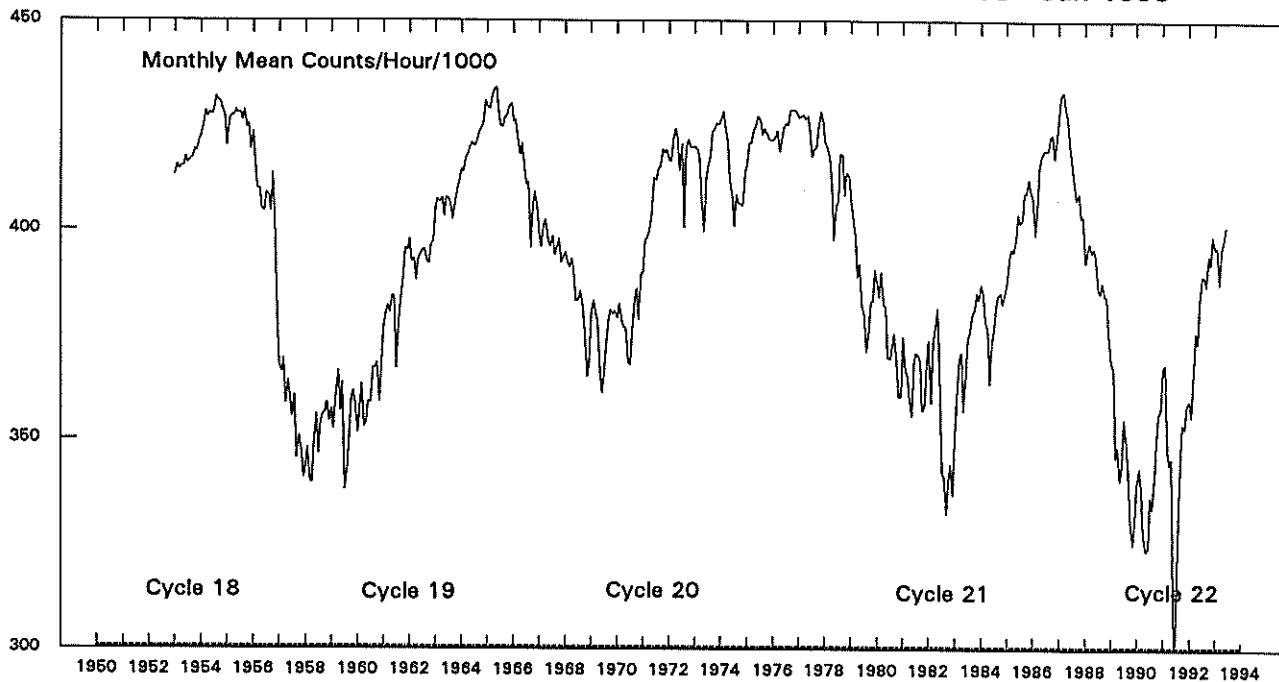
Day	THULE Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	BEIJING Average (cts/h) 256	TOKYO Average (cts/h)/256	HALEAKALA Average (cts/h)/100
1	4330	6871.2	6050.0	3974.8	1893.1	3529.6	
2	4313	6847.3	6037.4	3942.8	1894.0	3516.3	
3	4342	6859.0	6033.8	3960.2	1891.3	3522.3	
4	4342	6865.7	6030.8	3974.8	1880.3	3518.3	
5	4335	6854.0	6026.4	3972.0	1879.1	3511.3	
6	4352	6871.9	6020.9	3969.2	1882.2	3502.5	
7	4337	6865.0	6009.6	3953.0	1882.6	3505.0	
8	4338	6869.9	6036.5	4006.5	1889.0	3508.4	
9	4362	6868.9	6041.0	3996.7	1883.1	3498.4	
10	4333	6812.5	5985.8	3949.2	1870.0	3509.8	
11	4297	6830.9	5997.2	3936.7	1858.9	3503.4	
12	4265	6860.8	6029.5	3952.9	1868.3	3495.7	
13	4295	6915.8	6108.0	3981.5	1887.1	3506.9	
14	4357	6968.5	6139.7	4008.8	1895.4	3540.3	
15	4393	6977.8	6125.5	4015.5	1893.7	3550.0	
16	4362	6952.9	6098.8	4002.9	1897.5	3543.3	
17	4360	6940.3	6075.0	3995.4	1887.6	3529.1	
18	4362	6916.5	6072.1	3976.7	1877.2	3524.3	
19	4349	6913.9	6061.7	3979.5	1870.9	3523.6	
20	4347	6924.8	6067.0	3979.2	1868.2	3530.4	
21	4360	6933.8	6078.6	3987.4	1870.7	3518.0	
22	4369	6936.8	6065.5	3988.3	1868.0	3510.8	
23	4364	6916.7	6060.5	3985.2	1863.7	3514.9	
24	4372	6910.3	6073.1	3992.0	1864.1	3525.1	
25	4391	6939.2	6014.2	3994.0	1872.4	3530.7	
26	4402	6962.1	6119.2	3999.0	1876.0	3540.7	
27	4387	6932.3	6112.9	4001.4	1869.8	3535.4	
28	4346	6867.1	6062.6	3970.9	1859.9	3525.8	
29	4339	6856.5	6038.5	3956.5	1851.7	3510.3	
30	4367	6888.3	6060.5	3969.1	1849.0	3513.8	
31	4392	6908.6	6073.0	3987.2	1848.3	3514.3	
Mean	4350	6898.0	6058.2	3979.3	1875.6	3519.6	

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

* = A&B includes only hours when both A&B sections are available.

Climax Neutron Monitor Pressure-Corrected Values Jan 1953 - Jun 1993

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May 93

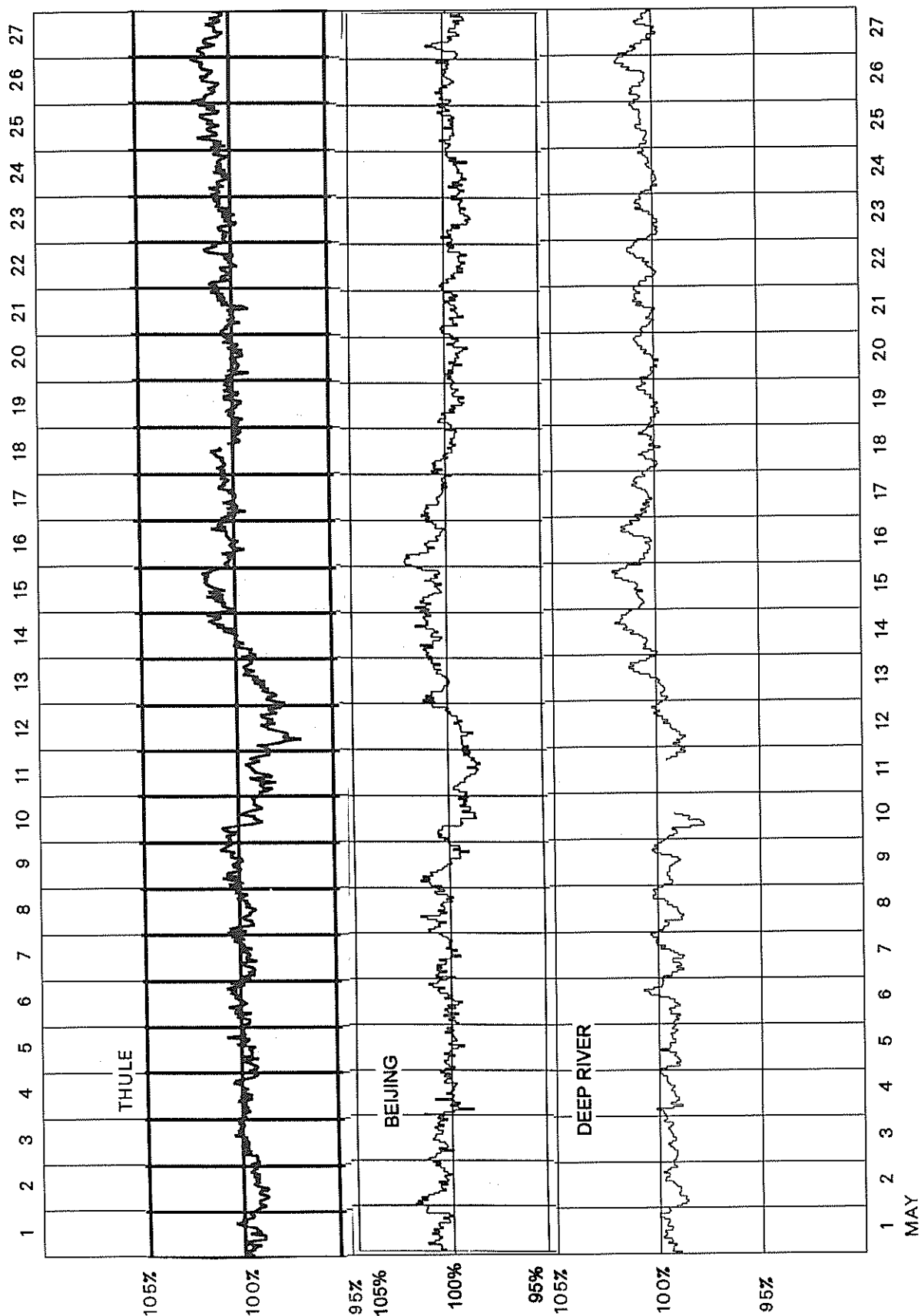


Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1950													
1951													
1952													
1953	4131	4155	4143	4152	4152	4175	4158	4168	4173	4192	4188	4213	4167
1954	4224	4248	4283	4269	4280	4276	4287	4319	4308	4307	4287	4269	4280
1955	4201	4266	4272	4273	4287	4278	4279	4263	4286	4245	4252	4192	4258
1956	4234	4160	4099	4097	4049	4044	4089	4083	4044	4136	3979	3800	4068
1957	3676	3661	3693	3586	3640	3602	3555	3605	3456	3508	3482	3409	3573
1958	3437	3480	3401	3396	3489	3560	3467	3537	3561	3564	3588	3542	3502
1959	3573	3526	3606	3663	3567	3634	3380	3419	3483	3597	3614	3574	3554
1960	3517	3573	3631	3531	3537	3589	3588	3670	3669	3681	3588	3682	3605
1961	3763	3802	3819	3801	3843	3838	3668	3784	3833	3872	3955	3950	3827
1962	3977	3922	3930	3878	3927	3941	3951	3953	3922	3919	3962	3971	3938
1963	4049	4073	4065	4077	4034	4075	4073	4060	4024	4067	4093	4113	4067
1964	4145	4139	4168	4181	4198	4208	4200	4212	4232	4240	4254	4307	4207
1965	4294	4289	4314	4334	4340	4289	4247	4246	4268	4271	4295	4300	4291
1966	4258	4262	4211	4179	4206	4143	4107	4112	3956	4056	4090	4053	4136
1967	3990	3959	4013	4024	3974	3960	3986	3940	3955	3979	3923	3933	3970
1968	3946	3923	3911	3931	3894	3830	3830	3853	3817	3756	3650	3684	3835
1969	3790	3831	3798	3783	3659	3611	3652	3734	3784	3807	3799	3806	3755
1970	3790	3823	3780	3766	3765	3682	3679	3753	3831	3859	3785	3896	3784
1971	3894	3975	3982	4002	4032	4124	4118	4148	4149	4193	4184	4192	4083
1972	4166	4165	4215	4244	4215	4141	4206	4005	4198	4215	4197	4198	4180
1973	4201	4193	4173	4074	3996	4119	4149	4178	4235	4240	4255	4253	4172
1974	4262	4283	4237	4207	4121	4077	4009	4083	4062	4062	4058	4138	4133
1975	4158	4206	4210	4238	4247	4272	4263	4228	4243	4230	4218	4214	4227
1976	4216	4222	4236	4187	4217	4244	4254	4251	4284	4287	4285	4280	4247
1977	4268	4272	4274	4266	4271	4233	4175	4195	4196	4244	4282	4264	4245
1978	4214	4198	4173	4107	3977	4058	4068	4182	4179	4084	4137	4129	4125
1979	4071	4035	3983	3887	3919	3816	3806	3709	3745	3829	3829	3905	3878
1980	3871	3840	3900	3820	3817	3695	3692	3718	3752	3687	3604	3604	3750
1981	3744	3663	3656	3601	3557	3683	3706	3701	3688	3570	3581	3682	3653
1982	3735	3589	3732	3773	3814	3608	3420	3415	3324	3402	3441	3367	3552
1983	3507	3601	3700	3708	3569	3656	3744	3755	3799	3813	3851	3833	3711
1984	3870	3850	3784	3761	3633	3727	3766	3818	3845	3851	3825	3843	3798
1985	3872	3937	3954	3947	3978	4039	4018	4026	4088	4090	4122	4091	4013
1986	4080	3988	4048	4148	4180	4191	4191	4193	4226	4228	4172	4226	4156
1987	4277	4324	4332	4294	4271	4204	4164	4120	4073	4089	4031	4035	4184
1988	3922	3947	3970	3948	3957	3934	3859	3849	3877	3845	3841	3752	3892
1989	3686	3670	3458	3485	3404	3437	3549	3493	3423	3306	3251	3309	3491
1990	3392	3434	3384	3277	3236	3244	3365	3337	3409	3497	3565	3575	3393
1991	3675	3680	3473	3443	3456	3003	3025	3253	3440	3538	3529	3585	3425
1992	3595	3557	3640	3757	3730	3830	3892	3890	3868	3941	3919	3987	3800
1993	3958	3960	3872	3955	3979	4012							3956

Multiply table entries by 100 to obtain hourly counting rate. Climax, Colorado: N39, W106, Alt=3400 m, Cutoff Rigidity=2.96 GV.

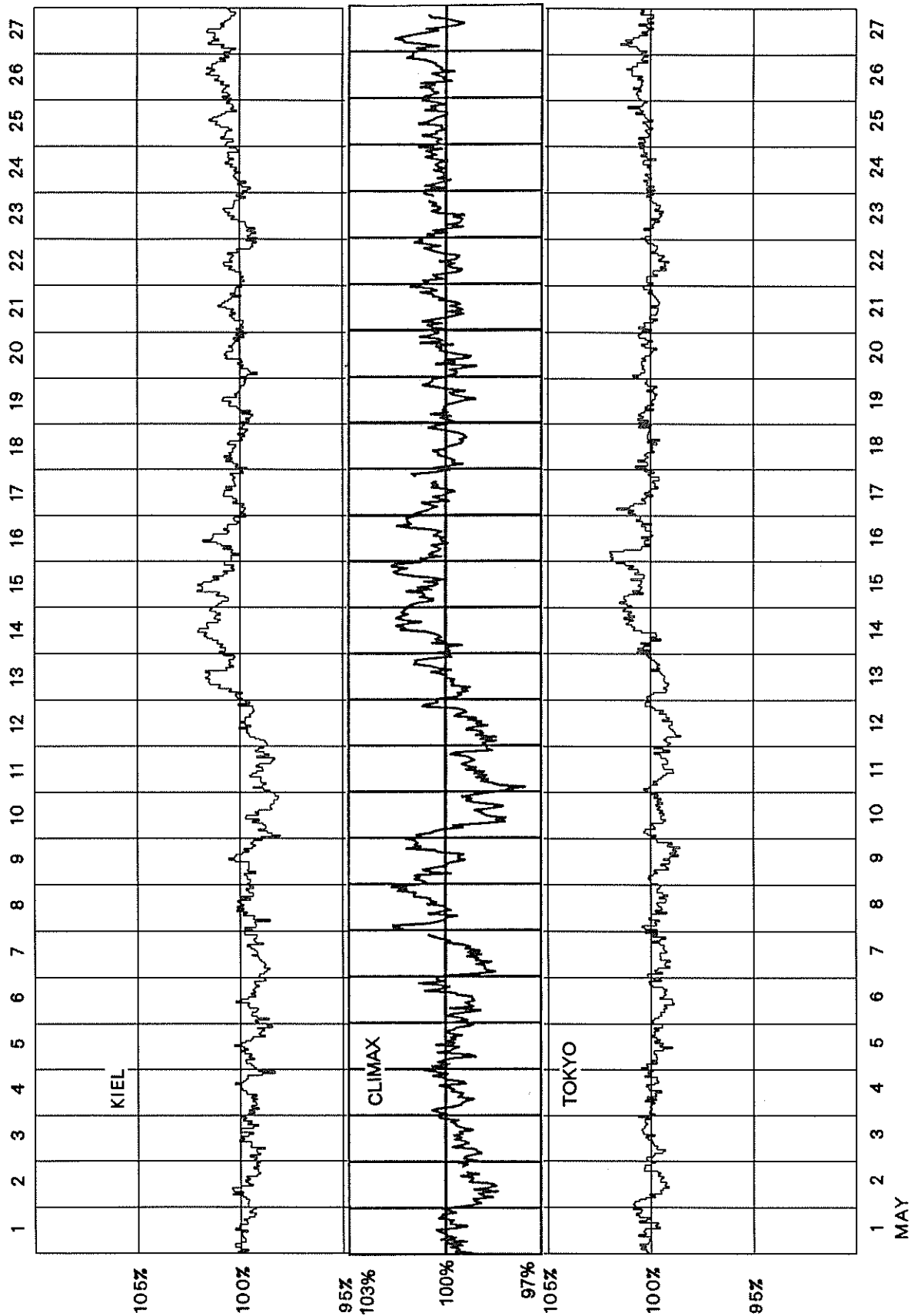
COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2182 (May 1993)



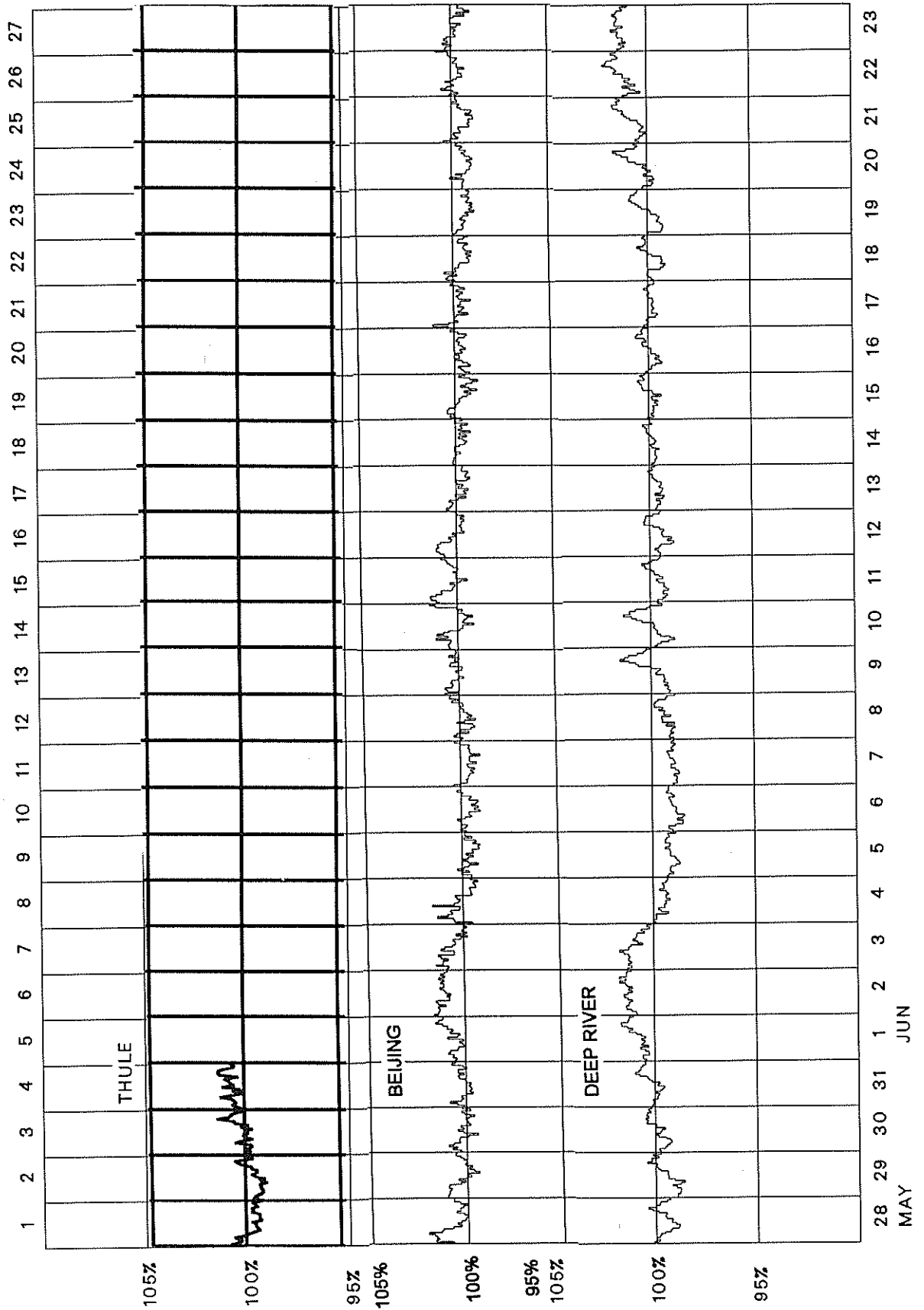
COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2182 (May 1993)



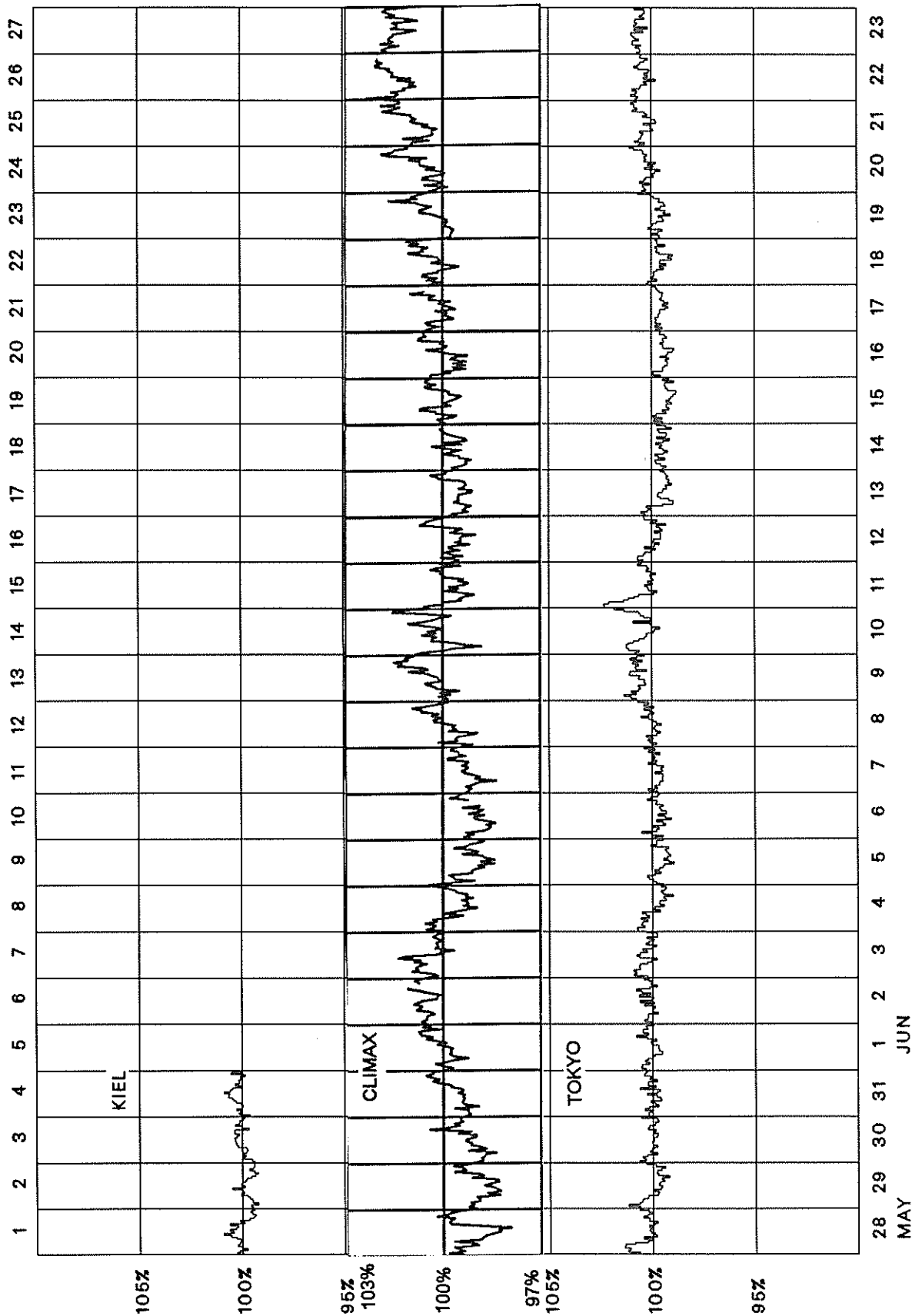
COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2183 (May 1993-June 1993)



COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2183 (May 1993-June 1993)



GEOMAGNETIC ACTIVITY INDICES

May 1993

Kp Three-Hourly Indices											Km Three-Hourly Indices								aa Provisional				
Day	1	2	3	4	5	6	7	8	Sum	Ap	Cp	1	2	3	4	5	6	7	8	Am	M	S	M
1	3	3+	1+	2+	2-	0+	0+	0+	13-	7	0.4												
2		0+	1	1+	1+	1+	1+	3-	11+	6	0.3												
3		2+	1+	2	2+	3	2	1-	15	8	0.4												
4	Q9	1-	1+	2-	0+	1+	2+	1-	9+	5	0.2												
5		1	2-	2	1+	3	1-	0+	11	6	0.3												
6		2+	2	2	2	2+	3-	3	18+	9	0.5												
7		1	3-	2	2	3+	3+	4	23+	18	1.0												
8	D3	6-	4-	5	5-	5-	4-	5-	37	40	1.5												
9	D1	5+	6	5	4	4+	4	5+	39+	48	1.6												
10	D2	5+	6+	6-	6-	5	3	3-	38-	48	1.6												
11	Q8	1+	2-	1+	1-	1	1-	1	9+	4	0.2												
12		2	3	3-	3	3-	3	4	24+	16	0.9												
13		4	2+	0+	0+	1-	2-	4-	16-	10	0.6												
14		2	3-	2	4-	5-	2+	2	21+	14	0.8												
15		2+	2-	2+	2+	3	3	4+	22-	13	0.8												
16		3-	4+	2	2-	2+	2-	2	19+	12	0.7												
17	D5*	3	4	3	2-	2+	2+	5	24+	18	1.0												
18		1-	1	1	1+	2	2-	2	13+	7	0.4												
19		2-	2+	3-	2	3	3-	3+	19+	11	0.6												
20		1+	2+	3+	2-	2	2-	1+	14	7	0.4												
21	Q3	1	0+	0+	1-	0+	1-	1	5	3	0.1												
22	Q5	1-	1+	1-	1+	1	1+	1+	8	4	0.1												
23	Q2	0+	0+	0+	0+	1+	0+	1-	4-	2	0.0												
24	Q4	1-	1-	1+	1	0+	0+	0+	5	3	0.1												
25	Q1	1-	1-	0	0	0+	0+	0+	3-	2	0.0												
26	Q6	0+	1-	1-	1-	1-	1	1	7+	4	0.1												
27		2+	4	4	3+	3+	2	3+	26-	18	1.0												
28	D4	3+	4+	3-	4-	3	4+	4+	29+	23	1.1												
29		4-	2	2	3+	1	2-	2-	17+	10	0.5												
30	Q7	1-	2	1	1-	1+	1	1	8	4	0.1												
31	Q10	1	1-	1-	1+	2+	1+	2-	10-	5	0.2												
Mean									12	0.56													
Day	Kn Three-Hourly Indices								An	Ks Three-Hourly Indices								As	Sa	Prov Ri	Ra	Rs	IMF
	1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8						
1																		104.2	33	28	51		
2																		104.7	30	24	51		
3																		108.9	42	42	56		
4																		112.4	69	61	59		
5																		120.0	80	64	68		
6																		122.2	71	65	70		
7																		133.0	74	67	82		
8																		131.2	81	79	80		
9																		131.5	87	93	80		
10																		136.8	120	105	86		
11																		134.7	125	106	83		
12																		129.0	111	99	77		
13																		122.4	85	77	70		
14																		114.6	59	50	62		
15																		106.7	51	39	53		
16																		101.1	37	31	47		
17																		98.4	32	28	44		
18																		93.5	29	17	39		
19																		93.1	13	20	39		
20																		93.4	33	30	39		
21																		93.3	27	22	39		
22																		94.1	20	12	40		
23																		97.3	23	14	43		
24																		100.9	33	28	47		
25																		102.4	53	41	49		
26																		110.4	66	51	57		
27																		122.7	59	62	71		
28																		129.2	74	78	78		
29																		132.5	88	86	81		
30																		144.1	97	90	94		
31																		142.1	96	92	91		
Mean																		114.9	61.2	54.9	62.1		

DAILY AVERAGE INDICES Ap

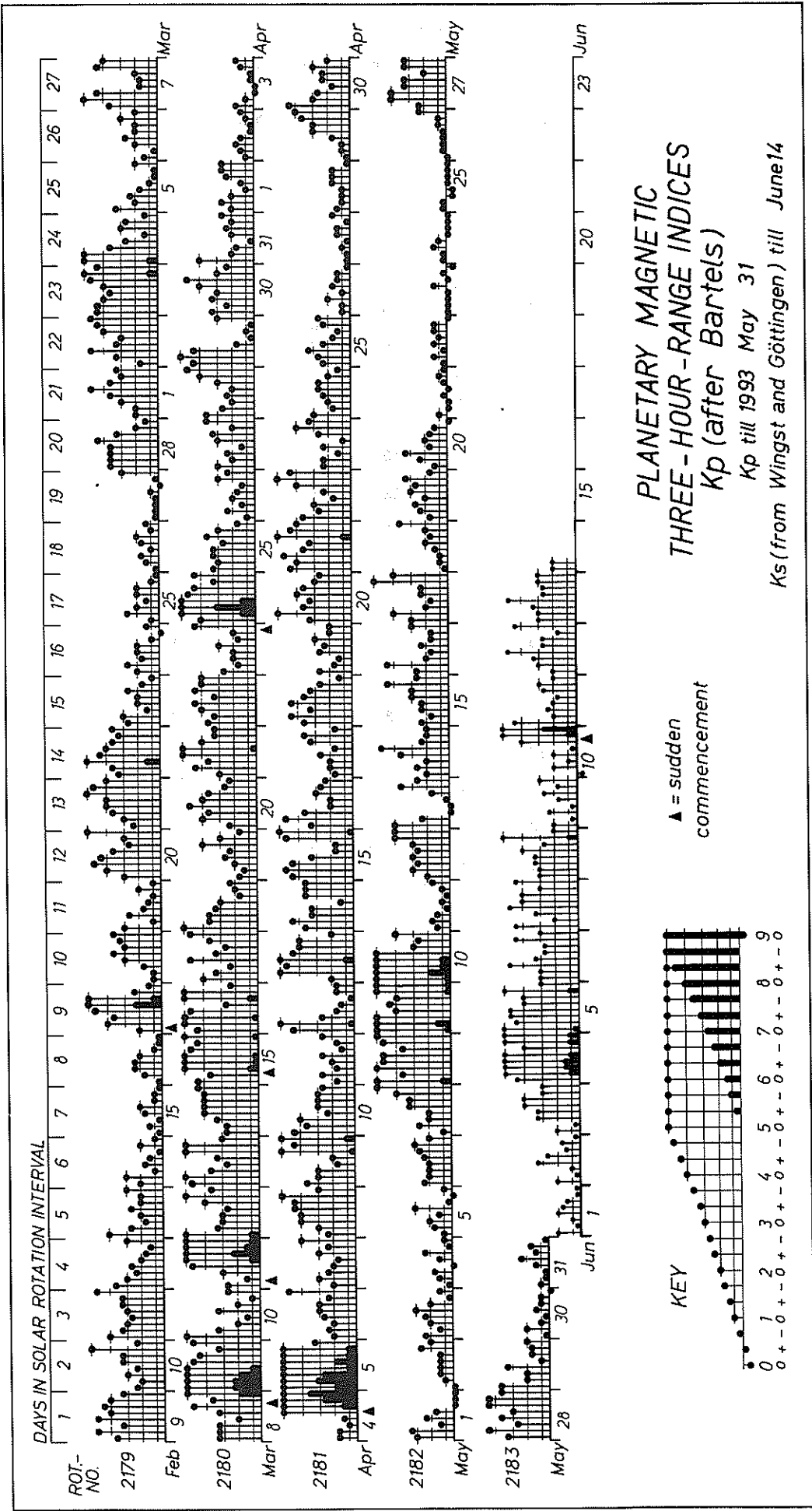
June 1992 to May 1993

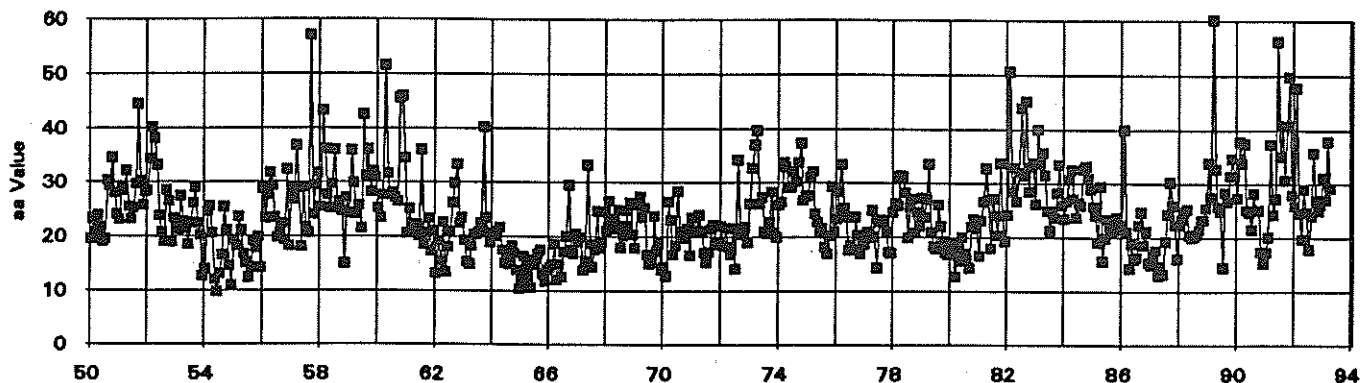
DAY	1992 JUN	JUL	AUG	SEP	OCT	NOV	DEC	1993 JAN	FEB	MAR	APR	MAY
1	8	19	8	2	26	16	17	10	31	18	8	7
2	5	16	5	23	9	23	9	24	21	24	4	6
3	6	5	4	48	6	17	15	33	10	35	4	8
4	4	4	15	33	7	25	15	31	7	23	58	5
5	6	9	35	28	5	15	7	17	6	7	87	6
6	5	5	16	17	10	14	5	16	5	8	14	9
7	12	4	26	22	8	12	16	23	27	22	12	18
8	46	5	16	18	8	11	26	15	40	29	26	40
9	17	4	12	84	26	42	19	16	28	64	28	48
10	20	6	7	88	10	12	17	25	17	15	18	48
11	26	4	13	32	24	19	10	21	20	50	8	4
12	40	15	6	5	34	16	8	12	11	28	16	16
13	12	23	11	5	23	17	8	12	12	31	32	10
14	6	12	15	8	25	12	10	22	6	23	20	14
15	10	6	8	10	35	19	14	14	4	45	28	13
16	4	12	8	12	22	10	6	11	6	39	16	12
17	5	5	4	93	16	8	25	13	36	23	10	18
18	27	5	6	31	12	7	9	11	13	18	20	7
19	12	4	9	13	16	7	11	22	7	11	9	11
20	7	8	26	8	12	4	13	14	26	21	23	7
21	9	11	20	7	6	7	14	7	27	30	33	3
22	10	34	39	17	9	17	7	7	30	25	21	4
23	13	16	73	9	5	31	8	4	8	12	12	2
24	22	7	10	4	3	12	8	10	6	58	9	3
25	14	11	5	11	7	12	5	25	6	16	10	2
26	8	4	11	8	14	10	4	22	5	8	5	4
27	11	7	14	4	31	5	8	11	4	12	4	18
28	15	17	5	16	19	6	39	7	19	17	5	23
29	38	5	16	62	27	5	42	5		18	12	10
30	37	9	6	35	16	13	10	12		19	13	4
31		10	4		10		11	59		10		5
MEAN	15	10	15	25	15	14	13	17	16	24	19	12

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

Kp through May 31, 1993

University of Gottingen





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	38.0	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									31.4

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May 93

PRINCIPAL MAGNETIC STORMS

MAY 1993

Sta	Geomag Lat	Commencement Time		Type	SC Amplitudes			Maximum 3-Hour K Index Day(3-Hour Periods)	Ranges			End Hour	
		Day	(UT)		D (Min)	H (Gamma)	Z (Gamma)		D (Min)	H (Gamma)	Z (Gamma)	Day	(UT)
FRD	49.4N	07	19--	..	..	..	..	10(2)	6	30	129	11	--
BJI	28.8N	07	04--	..	..	..	..	09(2)	7	13	159	48	10 24
UJJ	13.6N	07	1900	..	..	..	..			8	107	36	09 01
ABG	09.4N	07	1900	..	..	..	..	08(1,3,5)	5	8	118	55	09 01
HYD	07.6N	07	0600	..	..	..	..	08(1,3,5) 09(3,7) 10(1,5)	5	9	171	43	10 24
GUA	04.3N	07	23--	..	..	..	..	08(1)	5	--	60	10	08 05
ANN	01.5N	07	1900	..	..	..	..			8	179	79	09 01
TRD	01.1S	07	1900	..	..	..	..			6	229	105	09 01
PMG	18.3S	07	23--	..	..	..	..	10(5)	6	7	150	70	11 00
HER	33.6S	07	23--	..	..	..	..	07(8) 08(1)	5	17	52	79	08 03
CNB	43.6S	07	14--	..	..	..	..	08(5)	6	29	195	80	10 14
KGL	57.2S	07	1300	..	..	..	..	07(8)	7	55	429	338	10 18
GUA	04.3N	08	07--	..	..	..	..	08(3)	6	--	70	10	08 18
GUA	04.3N	08	21--	..	..	..	..	09(1)	5	--	110	20	09 18
HER	33.6S	08	19--	..	..	..	..	08(7,8) 09(1,2)	5	34	74	81	09 06
UJJ	13.6N	09	1800	..	..	..	..			7	108	45	10 23
ABG	09.4N	09	1800	..	..	..	..	09(7) 10(1,5)	5	7	108	64	10 23
GUA	04.3N	09	20--	..	..	..	..	09(8)	5	10	130	40	10 13
ANN	01.5N	09	1800	..	..	..	..			6	118	94	10 23
TRD	01.1S	09	1800	..	..	..	..			5	187	83	10 23
HER	33.6S	09	18--	..	..	..	..	09(7)	5	20	62	65	10 02
GUA	04.3N	10	22--	..	..	..	..	10(8)	5	--	30	20	11 04
HER	33.6S	12	19--	..	..	..	..	12(8)	5	20	68	85	13 03
HYD	07.6N	13	1700	..	..	..	..	14(5)	5	6	85	32	15 20
GUA	04.3N	14	08--	..	..	..	..	14(5)	5	--	40	10	14 20
HYD	07.6N	26	2259	SC	- 0.1	11	0	27(1)	5	5	131	23	29 04
GUA	04.3N	26	23--	..	..	..	..	27(2)	6	--	180	30	27 15
KGL	57.2S	26	2300	SC	1	4	1	28(6)	5	29	120	79	29 05
GUA	04.3N	29	00--	..	..	..	..	29(1)	5	--	40	10	29 06

Stations:

ABG = ALIBAG
ANN = ANNAMALAINAGAR
API = APIA
BJI = BEIJING
CNB = CANBERRA
CMO = COLLEGE

ETT = ETAIYAPURAM
FRD = FREDERICKSBURG
GNA = GNANGARA
GUA = GUAM
HER = HERMANUS

HON = HONOLULU
HYB = HYDERABAD
JAI = JAIPUR
KGL = KERGUELEN
KRC = KARACHI

PMG = PORT MORESBY
SHL = SHILLONG
SIT = SITKA
TRD = TRIVANDRUM
UJJ = UJJAIN
WIT = WITTEVEEN

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Prompt Reports

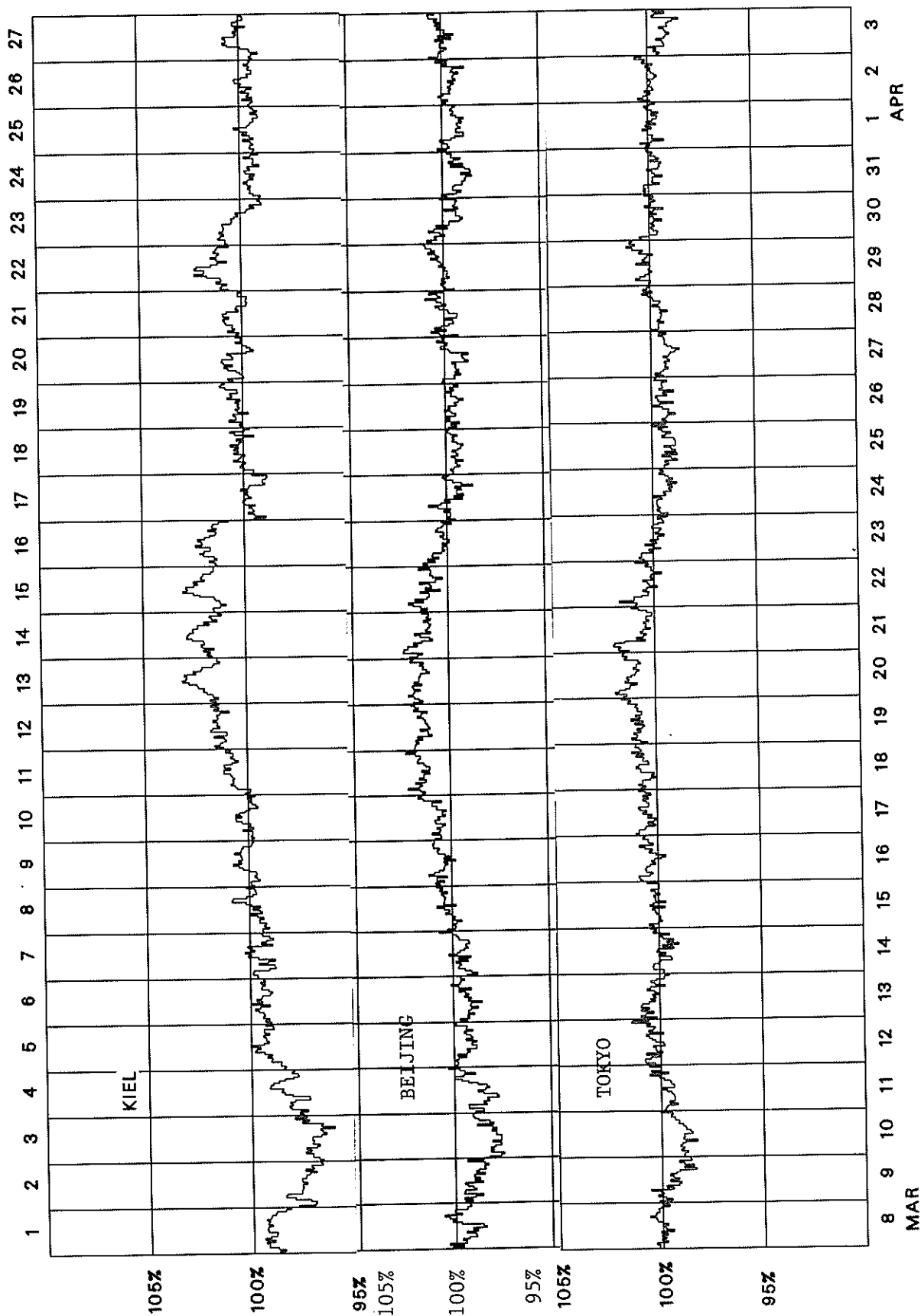
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LATE DATA

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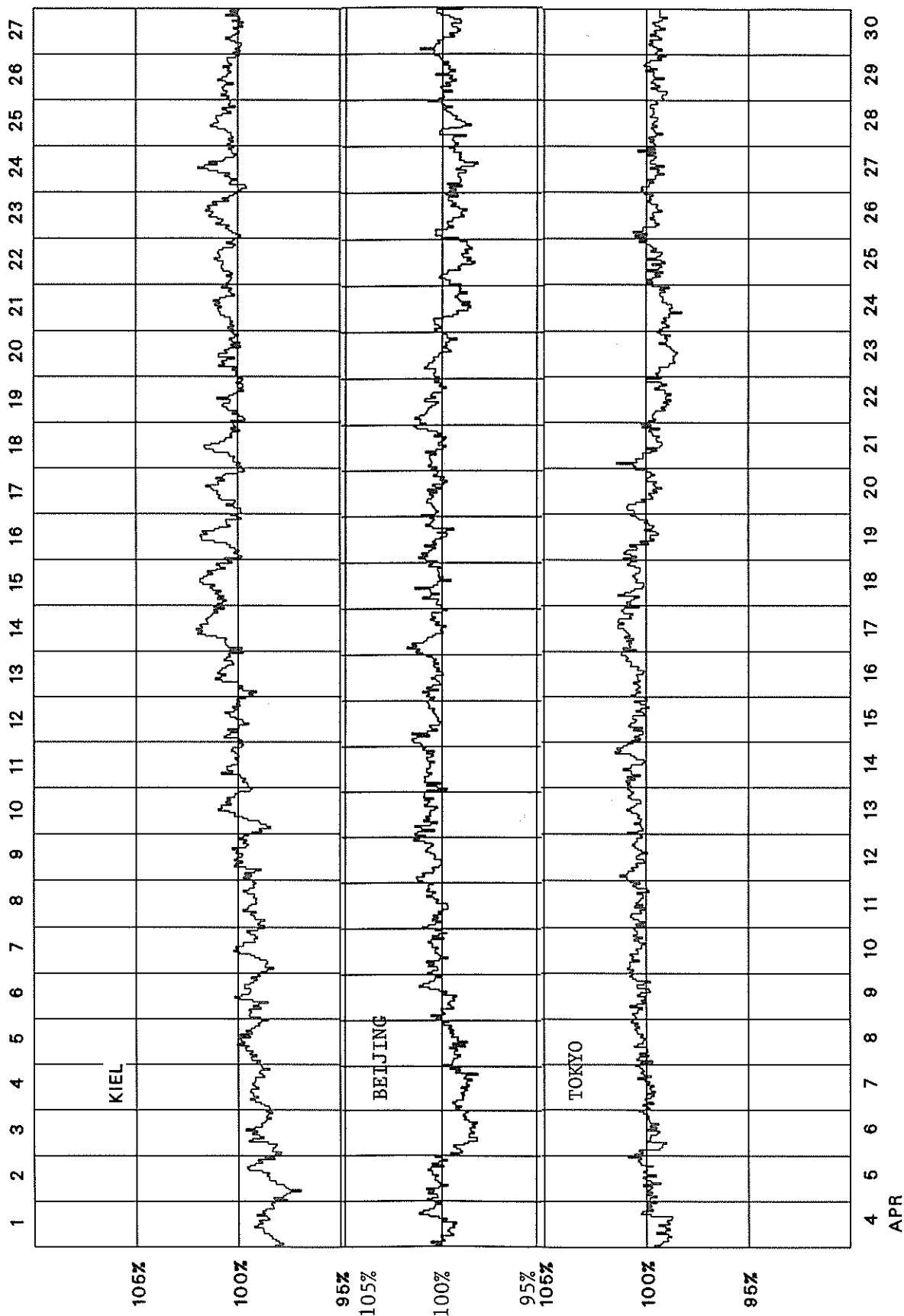
COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2180 (March 1993-April 1993)



COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2181 (April 1993)



130
Late
Apr 93

C O S M I C R A Y I N D I C E S
(Neutron Monitor)

APRIL 1993

Day	THULE Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	BEIJING Average (cts/h) 256	TOKYO Average (cts/h)/256	HALEAKALA Average (cts/h)/100
1	4253	6743.3	5917.2	3861.9	1965.4	3526.0	
2	4253	6727.7	5927.0	3877.1	1970.0	3529.8	
3	4267	6755.0	5948.5	3878.4	1979.3	3505.3	
4	4255	6749.9	5949.7	3886.6	1992.9	3518.7	
5	4220	6709.2	5937.0	3893.9	1998.3	3540.7	
6	4253	6755.2	5958.0	3908.9	1998.9	3534.2	
7	4263	6790.3	5975.9	3926.9	2005.0	3540.7	
8	4294	6815.7	5998.2	3944.6	2007.5	3552.0	
9	4300	6806.9	5996.5	3930.4	2004.6	3554.1	
10	4289	6797.0	5988.1	3919.6	2005.6	3560.9	
11	4286	6824.2	5990.5	3924.7	2000.3	3554.2	
12	4303	6846.5	6020.4	3938.2	2003.7	3560.1	
13	4303	6835.8	6024.9	3951.7	1998.5	3560.9	
14	4323	6865.1	6038.2	3979.6	2000.5	3569.0	
15	4334	6872.8	6042.4	3989.5	1957.9	3554.8	
16	4336	6890.2	6053.3	3994.7	2000.4	3562.4	
17	4389	6964.2	6106.3	4009.8	2003.3	3575.4	
18	4401	6985.2	6103.0	4031.0	1994.2	3562.3	
19	4361	6939.8	6077.2	4014.5	1980.0	3549.7	
20	4361	6904.4	6071.2	3995.8	1973.3	3542.4	
21	4339	6897.2	6066.5	3982.6	1981.8	3538.9	
22	4339	6912.0	6045.4	3969.4	1973.8	3517.6	
23	4362	6939.8	6058.0	3991.0	1982.1	3505.7	
24	4365	6938.6	6073.2	3998.1	1988.2	3508.1	
25	4377	6930.6	6072.9	3986.5	1988.0	3528.8	
26	4403	6966.8	6081.2	3984.9	1981.0	3534.7	
27	4385	6932.5	6067.7	3973.6	1983.3	3532.6	
28	4382	6921.2	6074.0	3971.7	1980.6	3528.5	
29	4373	6899.2	6067.4	3967.1	1978.1	3524.4	
30	4329	6861.2	6041.4	3957.4	1976.7	3523.0	
Mean	4323	6859.3	6025.7	3954.8	1988.4	3539.9	

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

* = A&B includes only hours when both A&B sections are available.

GEOMAGNETIC ACTIVITY INDICES

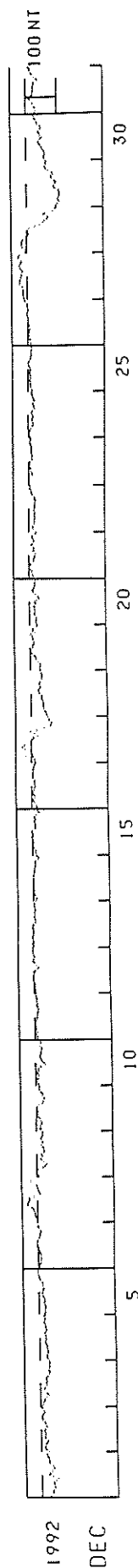
April 1993

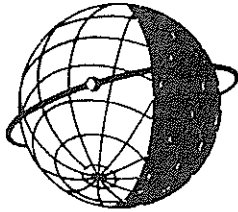
Kp Three-Hourly Indices																									
Day	1	2	3	4	5	6	7	8	Sum	Ap	Cp	Km Three-Hourly Indices								aa Provisional					
	1	2	3	4	5	6	7	8				1	2	3	4	5	6	7	8	Am	M	S	M		
1	Q7A	2	3-	2	1	1+	2+	3-	3-	17-	8	0.5	2	2+	3-	1+	2-	2+	2+	3-	17	19	13	12	20
2	Q3	1	1+	2-	1+	1-	1-	1	1+	9	4	0.2	1	2-	2-	1+	1-	1-	1+	1+	8	10	7	10	7 CC
3	Q2	2-	1	0+	0+	1-	1-	1+	2-	8-	4	0.1	1+	1	1-	1-	1-	1+	1+	2-	7	10	4	6	8 CC
4	D2	2-	2-	1	1+	5	6	7	8-	31+	58	1.7	1+	1+	1	2-	4+	6-	6-	7-	73	83	64	9	137
5	D1	6+	7+	7	6-	6+	6-	6-	3+	47+	87	1.8	6-	6	6-	5-	5+	5	5-	3+	103	90	83	97	77
6		2	2+	2	3-	3	3	2+	5-	22	14	0.8	2	3-	2+	3	3-	2+	2	4+	25	27	22	20	30
7		2	3	2	2	2-	3	2+	4	20+	12	0.7	2	3	2+	2-	2	3-	2+	3+	21	25	19	16	28
8		2+	3	4	4	4+	4	5	3	30	26	1.2	2	3	4-	4-	4-	4	4+	3-	40	55	34	33	56
9		4-	3	3	2-	2	5+	4+	6-	29-	28	1.2	3	3-	3	1+	2-	5-	4-	5	40	43	37	19	61
10		4+	4-	4	2+	3	3	3	3-	26	18	1.0	4	3+	4-	2+	3	3-	3	2+	33	32	36	39	29
11	Q6A	2-	3-	2-	2	3-	1+	2-	3-	16+	8	0.4	2-	2+	2	2-	2+	1+	2-	2+	14	19	11	12	18
12		4+	5	5-	3-	2-	1+	1-	2-	19+	16	0.9	4-	4	2+	2-	1	1-	2-	2-	22	32	16	38	10
13	D4	2	5	5-	6-	4+	4	4	2	32-	32	1.3	2	5-	4+	5-	4+	3+	4-	2+	50	60	61	78	44
14		4-	4+	3+	3+	1+	4-	4-	4-	27	20	1.0	3	4-	3+	3	1	3	3-	4-	30	31	22	25	29
15	D5	4+	5-	4+	3+	2-	2-	5-	5+	30	28	1.2	4-	4	4	3+	2-	2-	5-	4+	46	43	51	37	57
16		3+	5-	4-	2	2	3	3-	2+	24-	16	0.9	3	4	3+	2+	2	3-	2+	2+	28	38	21	33	26
17		2-	2	2	3-	2-	3+	4-	2-	19-	10	0.6	2-	2	2+	3-	2	3	3+	2-	21	21	28	18	32
18		4-	4+	3+	4+	4-	3+	3-	1+	27-	20	1.0	4-	4	3	4-	3	3-	2	1+	32	35	28	42	21
19	Q8A	3-	2-	1+	3-	2+	3	2	2	18-	9	0.5	3-	2	1+	3-	2+	3-	2	2	18	18	21	15	24
20		3+	5	4-	3+	4	4-	3	3-	29-	23	1.1	4-	4+	4-	3+	4-	3	3-	2+	40	34	35	35	35
21	D3	4+	4	5-	4-	3+	6-	4+	4	34	33	1.3	4	3+	4	4	3-	5-	4-	4-	49	54	37	42	49
22		4-	3-	3	2-	2+	4	5	4+	27-	21	1.1	3+	3-	3	2	2+	4-	4-	4-	33	42	25	22	45
23		2+	2+	1+	2+	1	3-	4	3+	19+	12	0.7	2	2	2-	2+	1	2	3+	3+	19	24	17	17	24
24	Q9A	3	2-	2	2+	3-	3-	2	1+	18-	9	0.5	3	2-	2	2+	3-	3-	2	1+	17	21	16	18	19
25	Q10A	2+	3-	3+	2+	2-	1+	2+	3-	19-	10	0.6	2	3	3+	3	2-	1	2	3-	21	19	16	23	12
26	Q5	1	1	2	1	2-	1+	1+	1-	10	5	0.2	1	1+	2-	1+	2-	1+	1+	1-	9	11	11	10	11 CC
27	Q1	1-	1-	1	1-	1+	1+	1-	2-	8	4	0.1	1	1-	1	0+	1	1+	1-	2-	7	9	7	5	11 CC
28	Q4	1+	1	1	1	2-	2-	2-	1-	10	5	0.2	1+	1-	1-	1	2-	1+	2-	1-	7	11	6	7	10 CC
29		1-	1	1	2-	3	3	4-	4	18	12	0.7	1	1+	1+	2	2+	3-	3	4-	20	27	14	9	33
30		4+	3	3-	2-	2+	2+	3	2	21+	13	0.8	4	3-	3-	2+	2+	3-	2+	2-	24	22	23	26	19
Mean										19	0.81									29.1	32.2	26.2	29.2		
Ks Three-Hourly Indices																									
Day	1	2	3	4	5	6	7	8	An	1	2	3	4	5	6	7	8	As	Sa	Prov	Ri	Ra	Rb	INF	
1	2-	2+	2	1+	2-	2+	2+	3-	15	2	2	3	2-	2-	2	2	3-	18	123.5	67	70	71			
2	1	1	2	1+	1	1-	2-	2-	9	1	2	2-	1	0+	0+	1-	1	7	120.7	67	64	68			
3	1+	1-	1-	1-	1-	1	1+	2-	7	1+	1	1-	1-	0+	0+	1	2-	6	117.0	75	85	64			
4	1+	1+	1	1+	5-	5+	6-	6+	68	1	1+	1	2+	4+	6-	6-	7-	77	116.4	67	67	64			
5	5+	6	6-	5-	5	5	5-	4-	102	6	6+	5	4+	6-	5	5-	3-	104	118.9	75	79	66			
6	2+	2+	2+	3+	3	3-	2+	4	27	2-	3-	2	3-	2	2-	2-	5-	23	133.1	89	92	82			
7	2	3	3-	2	2	3-	3-	4	25	2	3	2-	1+	2	3-	2+	3-	18	130.0	79	82	78			
8	2	3+	4-	4-	4	4-	4	3-	40	2	3-	3+	3+	3+	4	5-	3-	39	143.5	81	91	93			
9	3	3-	3-	2-	2	5-	4-	5-	40	3	2+	3	1	1+	5-	4-	5	40	136.0	87	90	85			
10	4	3+	3+	2+	3	3-	3	2+	31	4+	3+	4-	2	3	3	3	2+	35	139.2	74	78	88			
11	2-	2+	2+	2-	2+	2-	2	3-	16	1+	2+	2	2-	2	1-	1	2-	12	119.4	55	63	67			
12	4-	4	2+	2+	2-	1	2	2	24	4-	4+	2+	1	0+	0+	1	1	20	103.7	37	36	50			
13	2	5-	4+	4+	4	4-	4-	2	47	2	5	4+	5	4+	3+	4-	3-	53	97.7	19	20	44			
14	3-	4-	3	3+	1	3	3-	3+	29	3+	4-	4-	3-	1	3	3-	4-	30	92.8	15	15	38			
15	4-	4+	4	4-	2-	2	4+	4+	46	4-	4-	4+	3+	2-	1+	5	4+	47	88.8	15	14	34			
16	3	4+	3	2+	2	2	3	2+	27	3+	4	4-	2+	2	2+	2+	2+	28	90.9	15	26	36			
17	2-	2-	2+	3-	2+	3	4-	2-	21	2-	2+	2+	3	2	3+	3	1+	20	96.5	36	39	42			
18	3+	4	3+	4	3	3	3-	2-	34	4	4	3	4-	3-	2+	2-	1	30	106.6	49	54	53			
19	2+	2-	1	3-	3-	3	2+	2+	18	3	2+	1+	3-	2+	3-	1+	2-	18	111.9	51	70	59			
20	3+	4+	4-	4-	4-	3+	3	2+	40	4-	4+	4	3	4-	3	2+	2+	39	119.9	89	96	67			
21	4	3+	4+	4+	3	5	4-	4-	53	4	3+	4-	4-	2+	4+	4-	4-	46	120.5	98	98	68			
22	3+	3	3	2+	3-	4-	4	4	36	3+	2+	3-	2-	2	4	3+	3+	29	118.4	93	96	66			
23	2	2	2-	2+	1+	2+	3+	3+	20	2	2+	2-	2	0+	2	3	3+	18	122.9	96	104	71			
24	3-	2-	2	3-	3-	3	2+	2	20	3	2-	2	2-	2	2	2-	1	15	130.3	98	106	79			
25	2	3	3+	3+	2	1+	2+	3	22	2+	3	3	3	1+	1-	2-	3-	20	126.2	88	88	74			
26	1+	2-	2	1+	2	1+	2-	1	11	0+	1-	1+	1-	1+	1	1	1-	7	125.0	50	57	73			
27	1-	0+	1	0+	1+	1+	0+	2-	6	1	1	1+	1-	1	1+	1-	2-	7	119.6	62	62	67			
28	1+	1	1	1	2	2-	2	1-	10	1+	0+	0+	1-	1	1-	1	1-	5	115.2	51	52	62			
29	1	1+	2-	2+	3	3	3+	4	24	1-	1	1+	1+	1+	2	3-	4-	16	108.1	41	43	55			
30		4+	3	3-	2+	2+	3-	3-	27	4-	3-	3-	2+	2	2+	2	2-	22	107.4	38	34	54			
Mean										29.8									28.3	116.7	61.9	65.7	64.0		

HOURLY EQUATORIAL DST VALUES (PROVISIONAL)

DECEMBER 1992

DAY	UNIT=NT										UNIT=ST										U.T.			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-30	-36	-37	-38	-42	-44	-41	-39	-47	-54	-38	-25	-27	-35	-43	-43	-38	-27	-25	-25	-23	-20	-19	-25
2	-19	-14	-14	-15	-20	-22	-15	-14	-16	-16	-12	-14	-19	-18	-15	-25	-7	-5	-6	-8	-14	-11	-6	-6
3	-8	-10	-14	-15	-21	-27	-22	-17	-14	-15	-22	-21	-22	-20	-20	-25	-30	-33	-27	-30	-31	-31	-30	-30
4	-25	-23	-24	-28	-27	-25	-23	-23	-18	-19	-22	-21	-20	-16	-21	-24	-20	-20	-18	-16	-18	-19	-15	-19
5	-20	-20	-21	-22	-21	-17	-19	-19	-17	-14	-12	-13	-16	-17	-14	-13	-13	-6	-4	-2	0	1	1	-3
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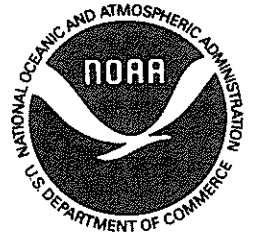




WORLD DATA CENTER A

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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."