

**U.S. DEPARTMENT OF COMMERCE**

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**NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE**

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DECEMBER 1994 NUMBER 604 - Part I

# **Solar-Geophysical Data**

## **prompt reports**

Data for November, October 1994, and Late Data

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**NATIONAL GEOPHYSICAL DATA CENTER**

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# SOLAR-GEOPHYSICAL DATA

Number 604

(Issued in Two Parts)

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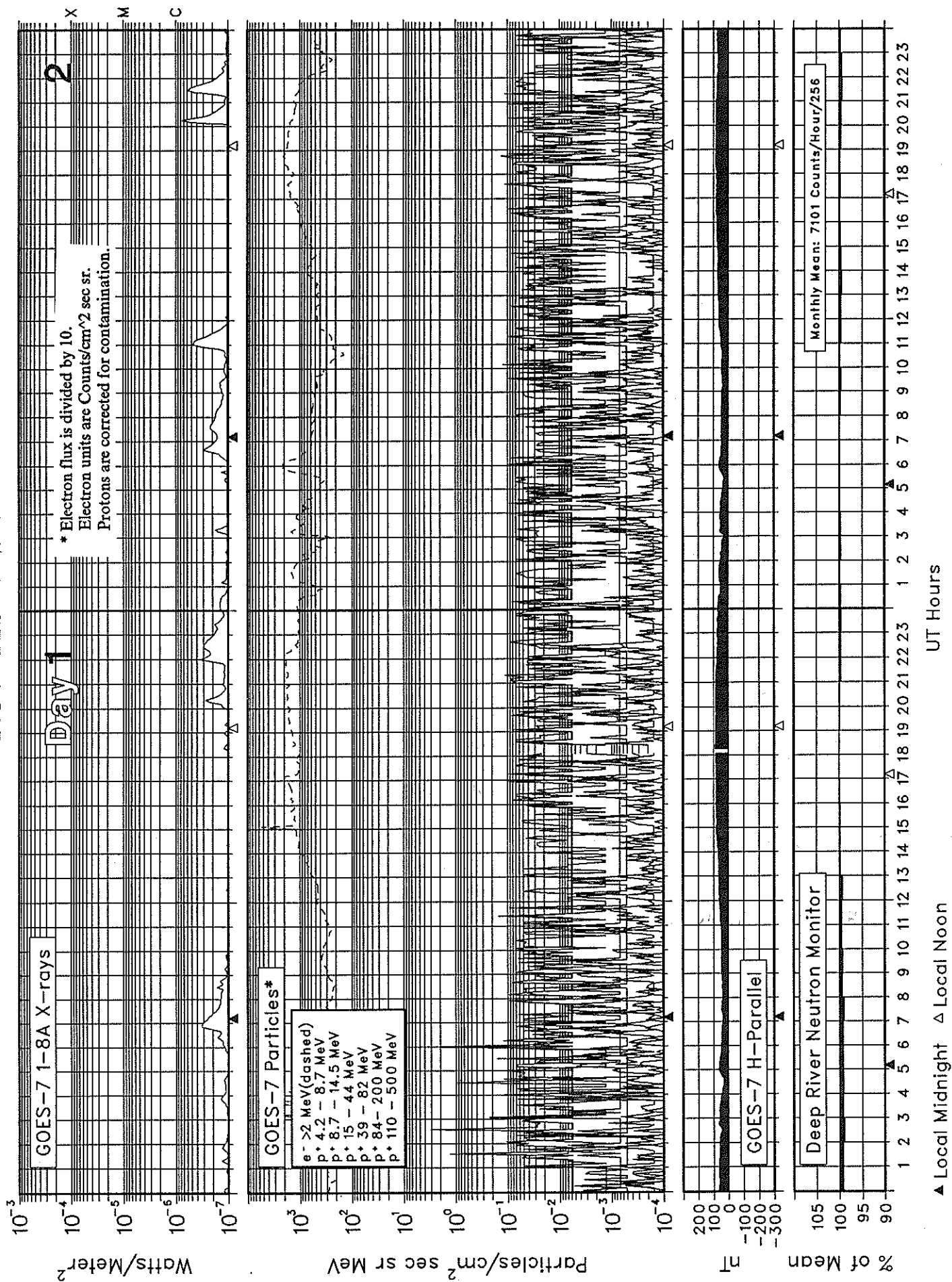
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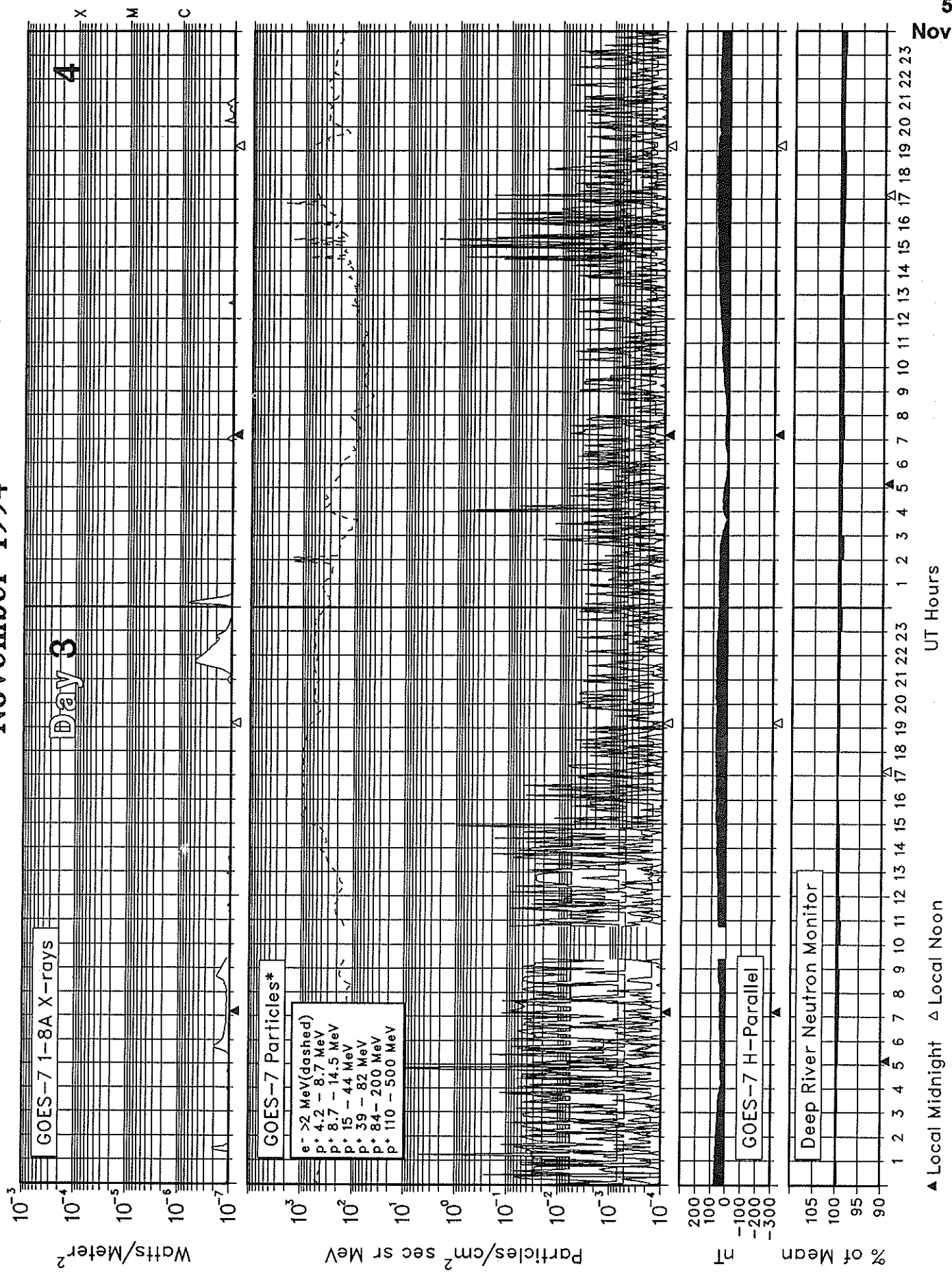
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## November 1994



# SOLAR-TERRESTRIAL ENVIRONMENT

November 1994



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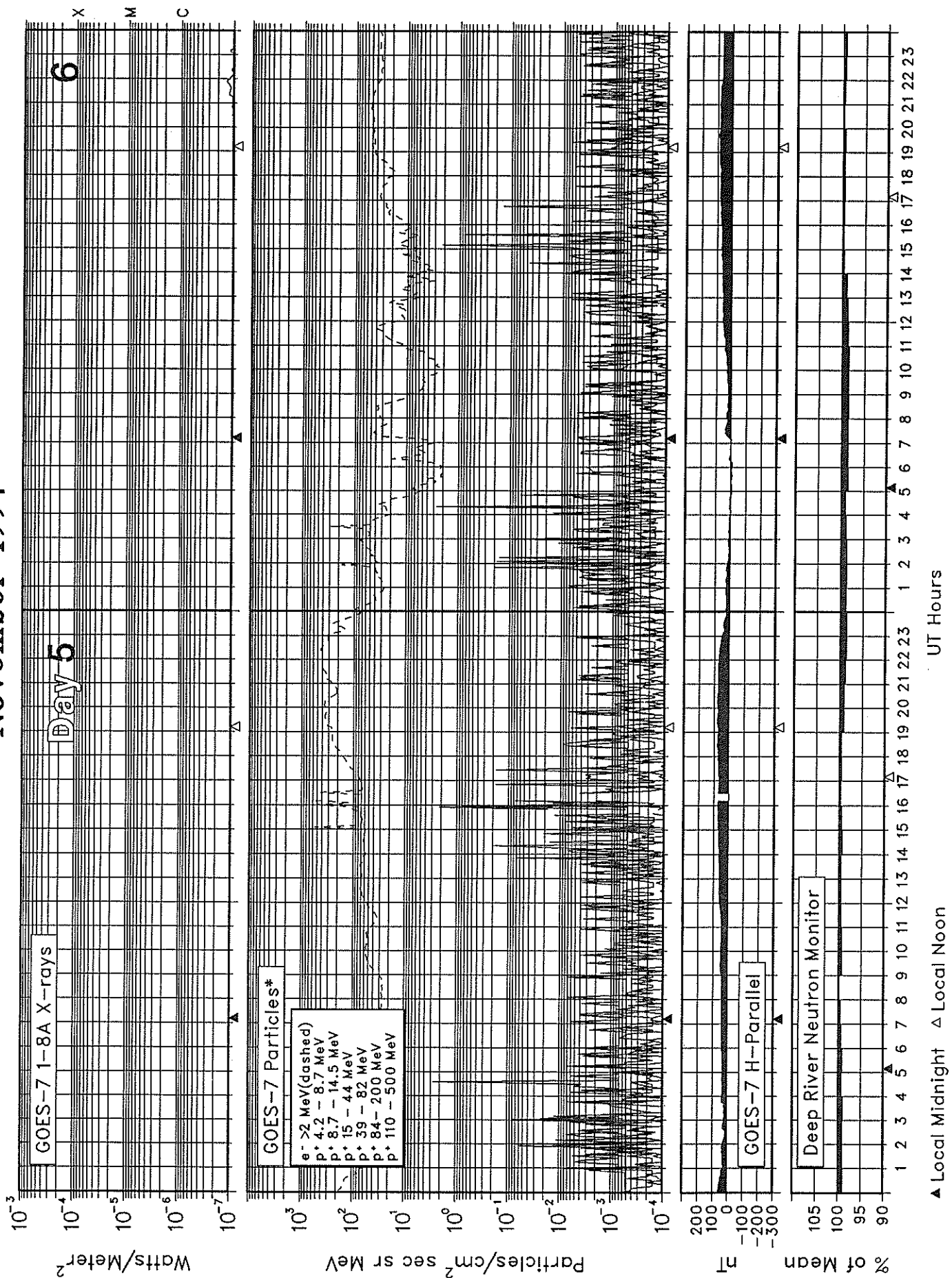
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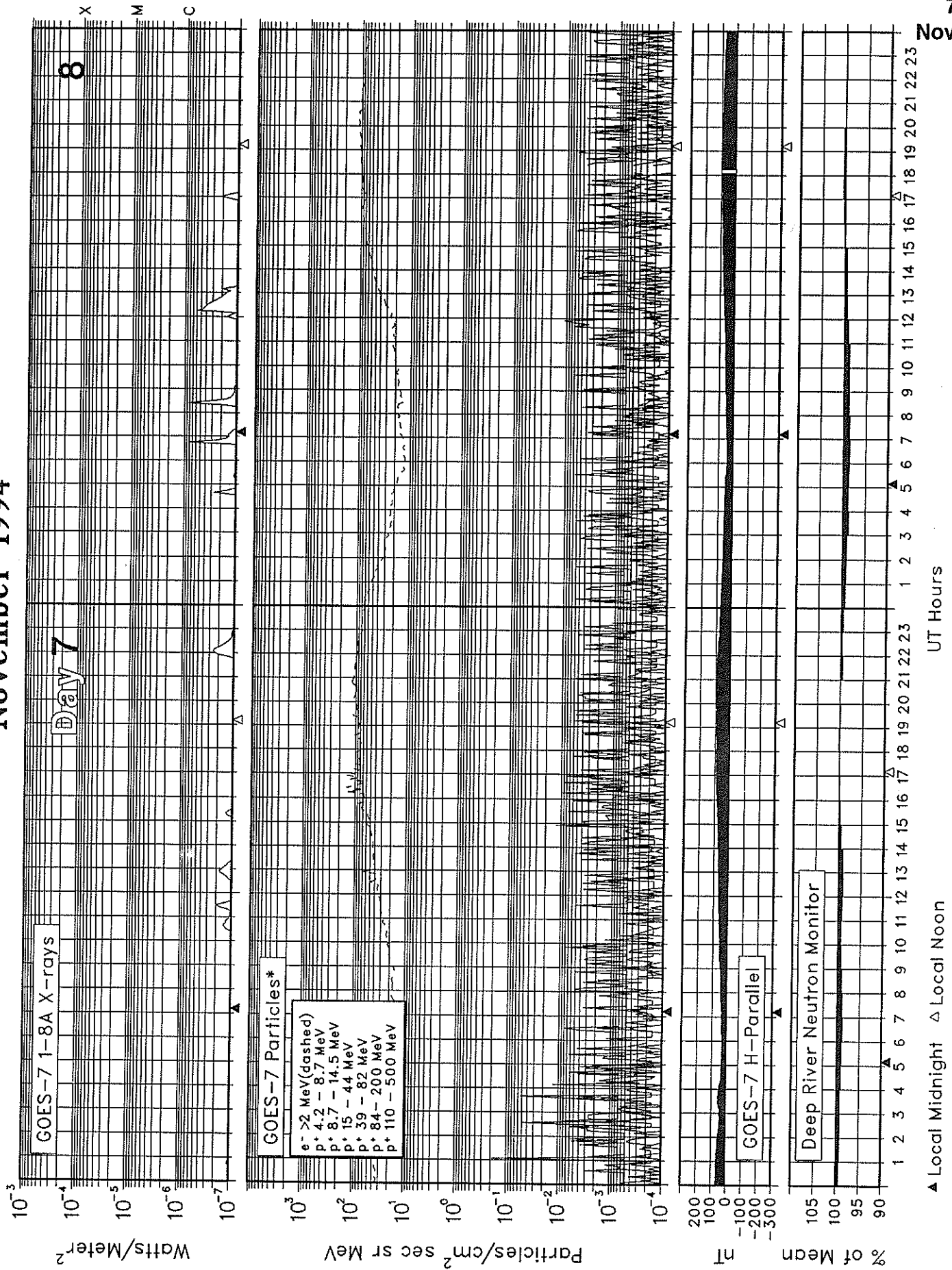
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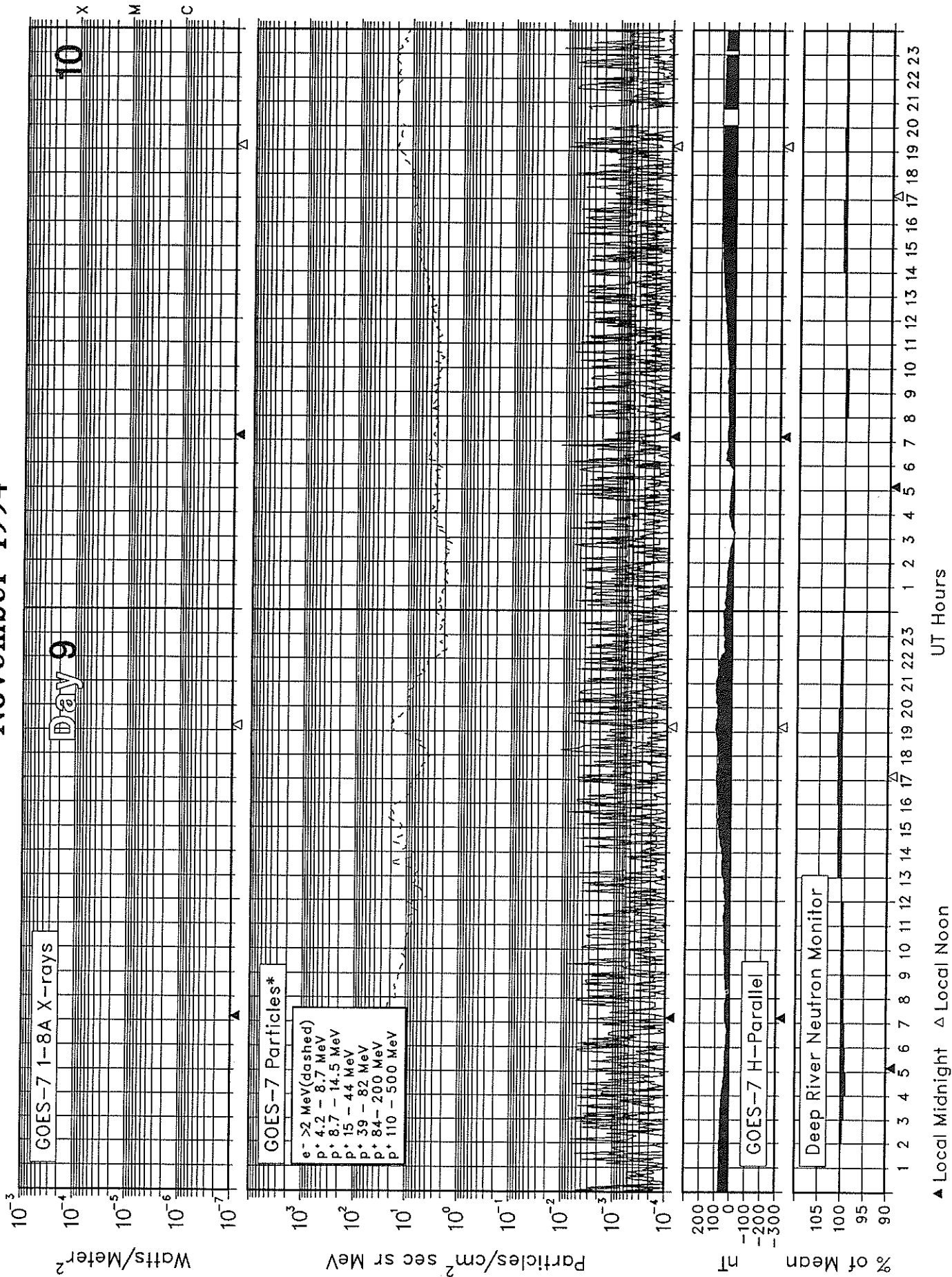
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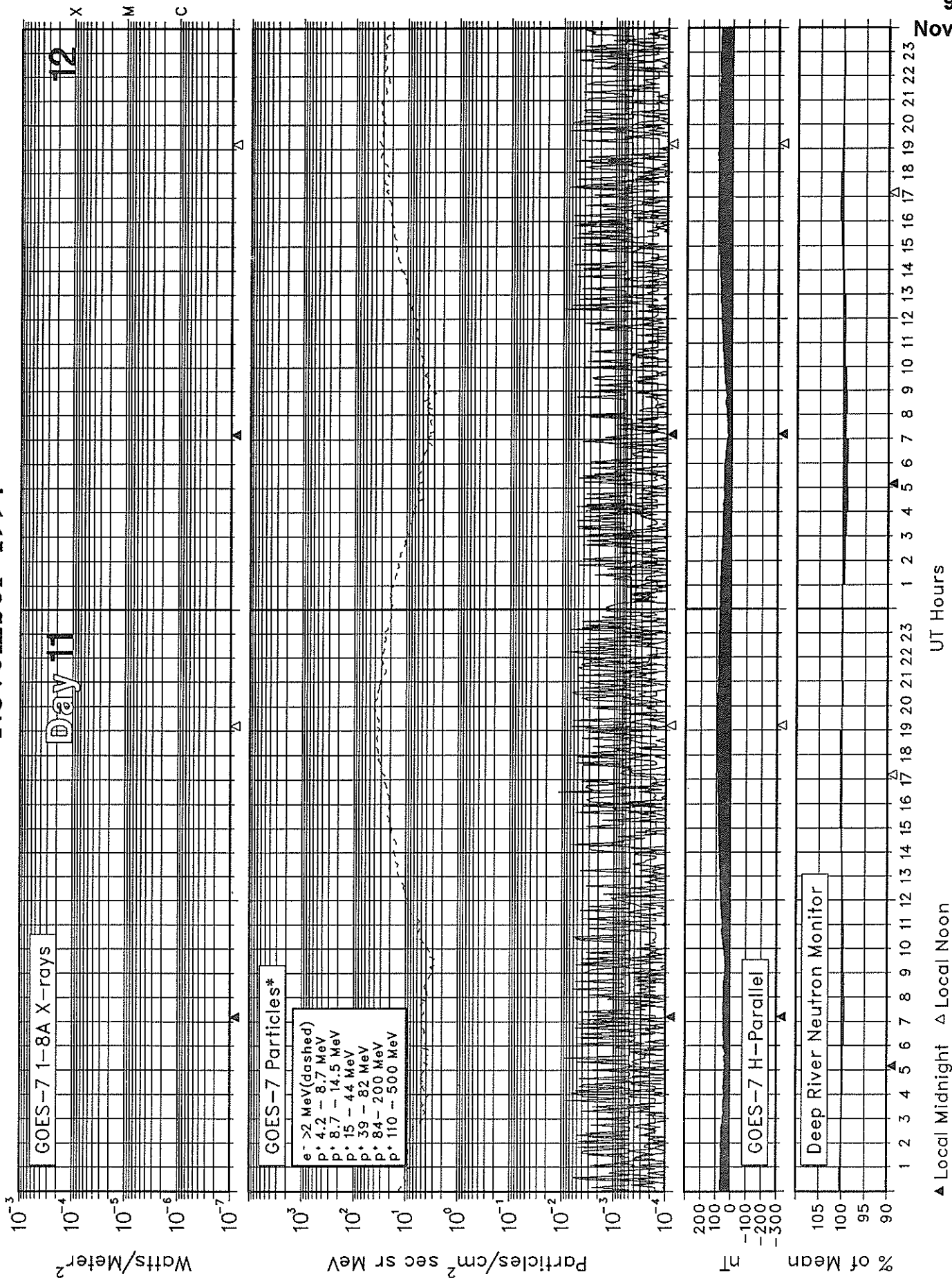
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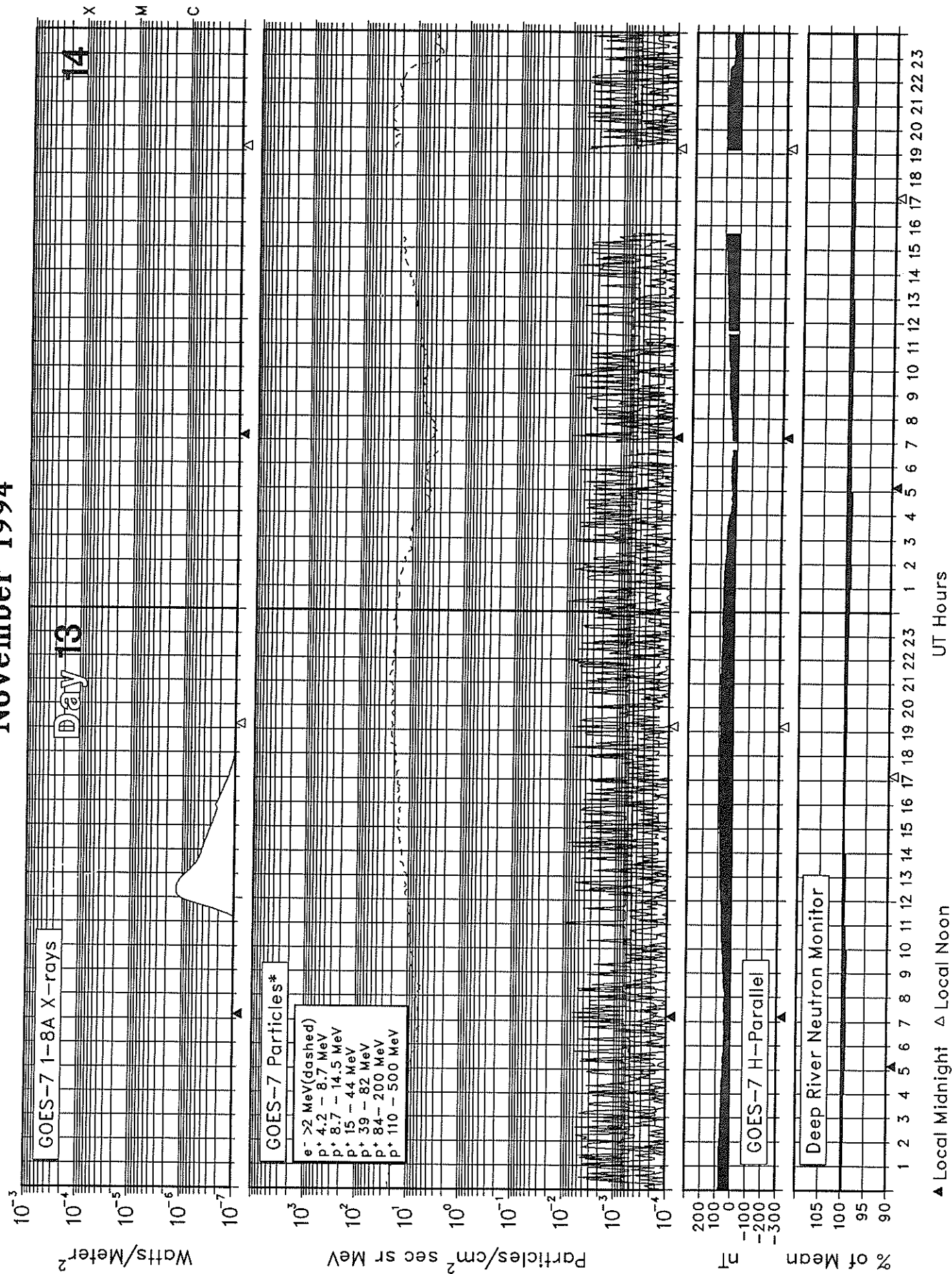
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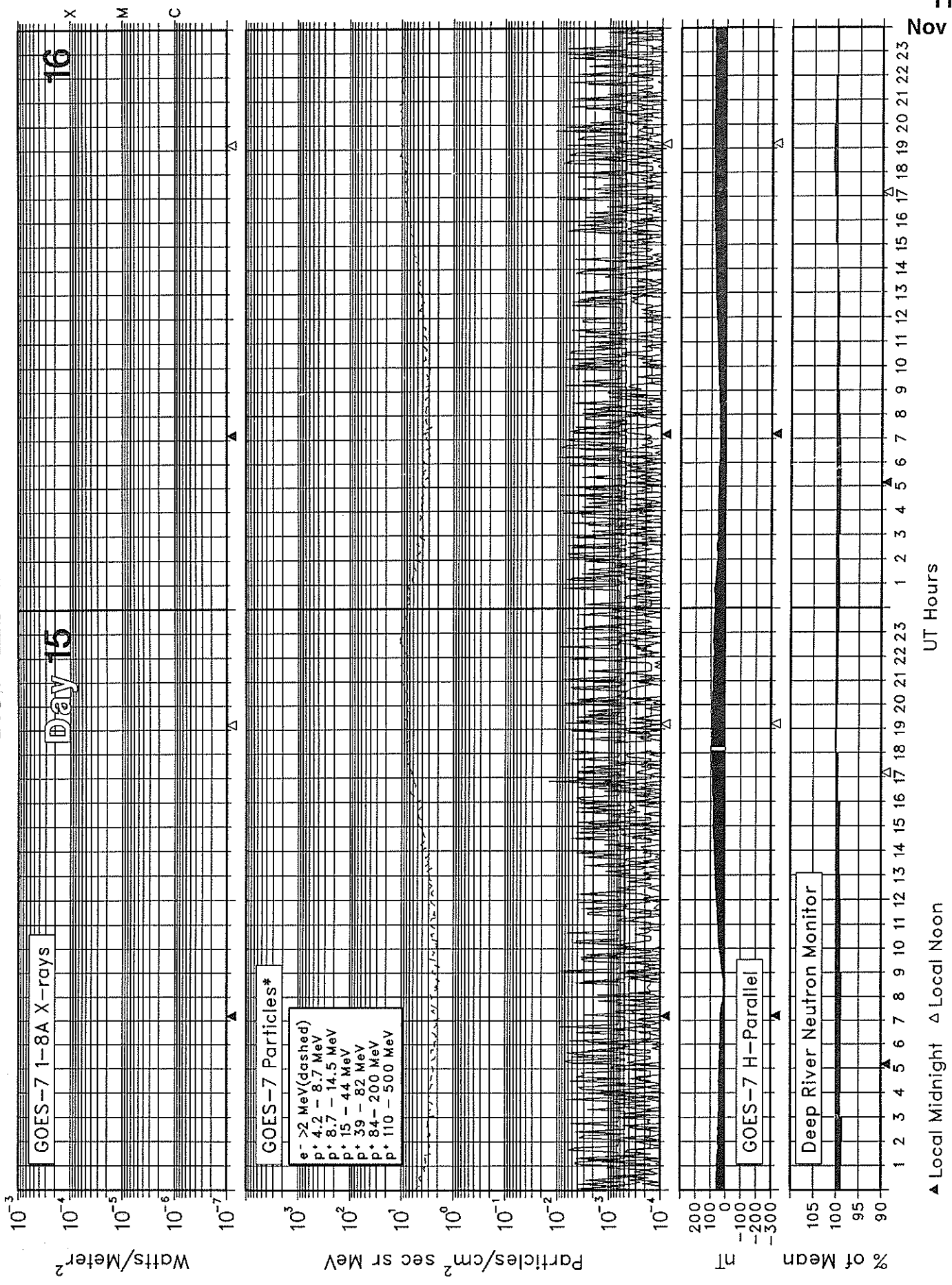
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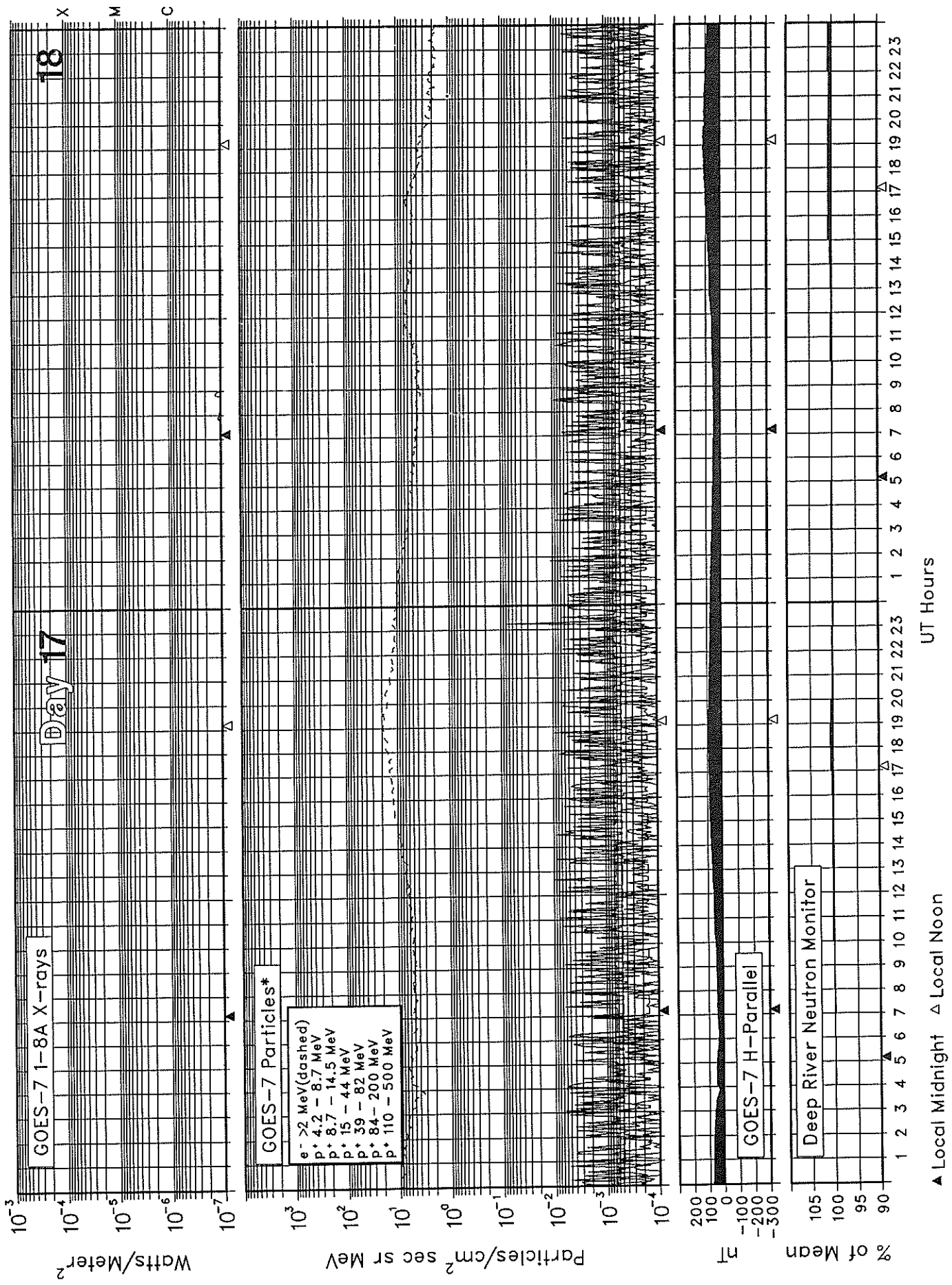
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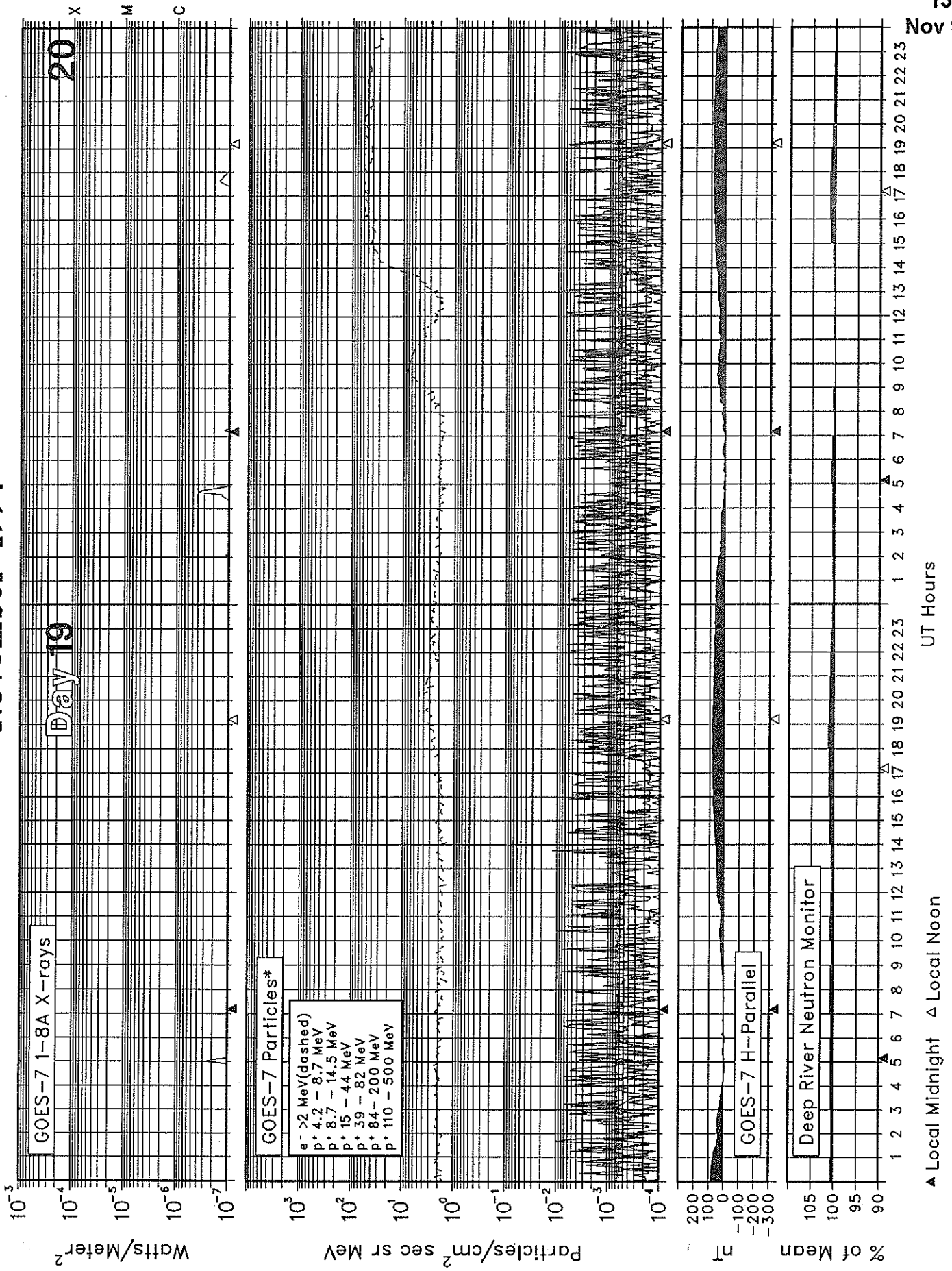
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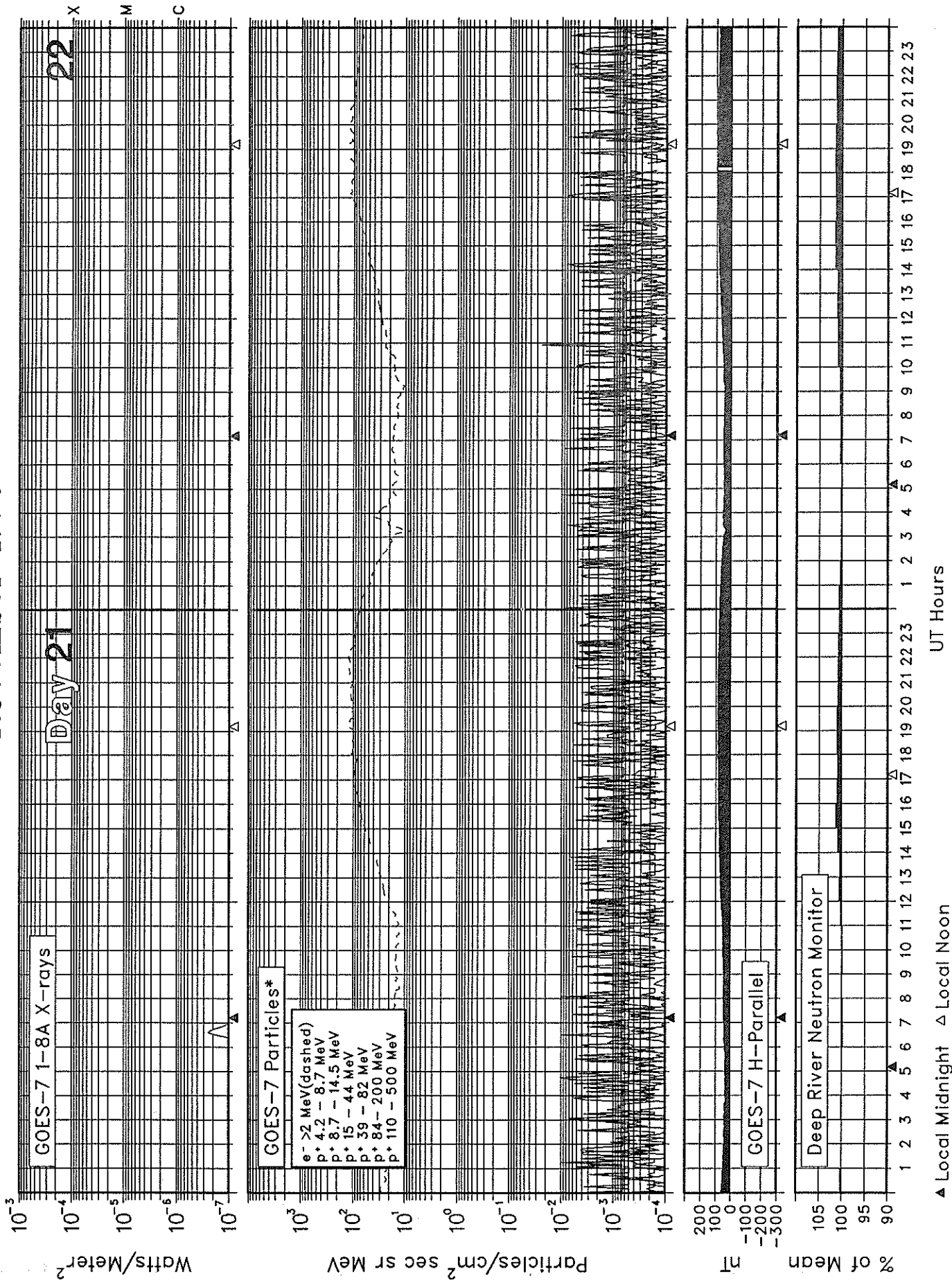
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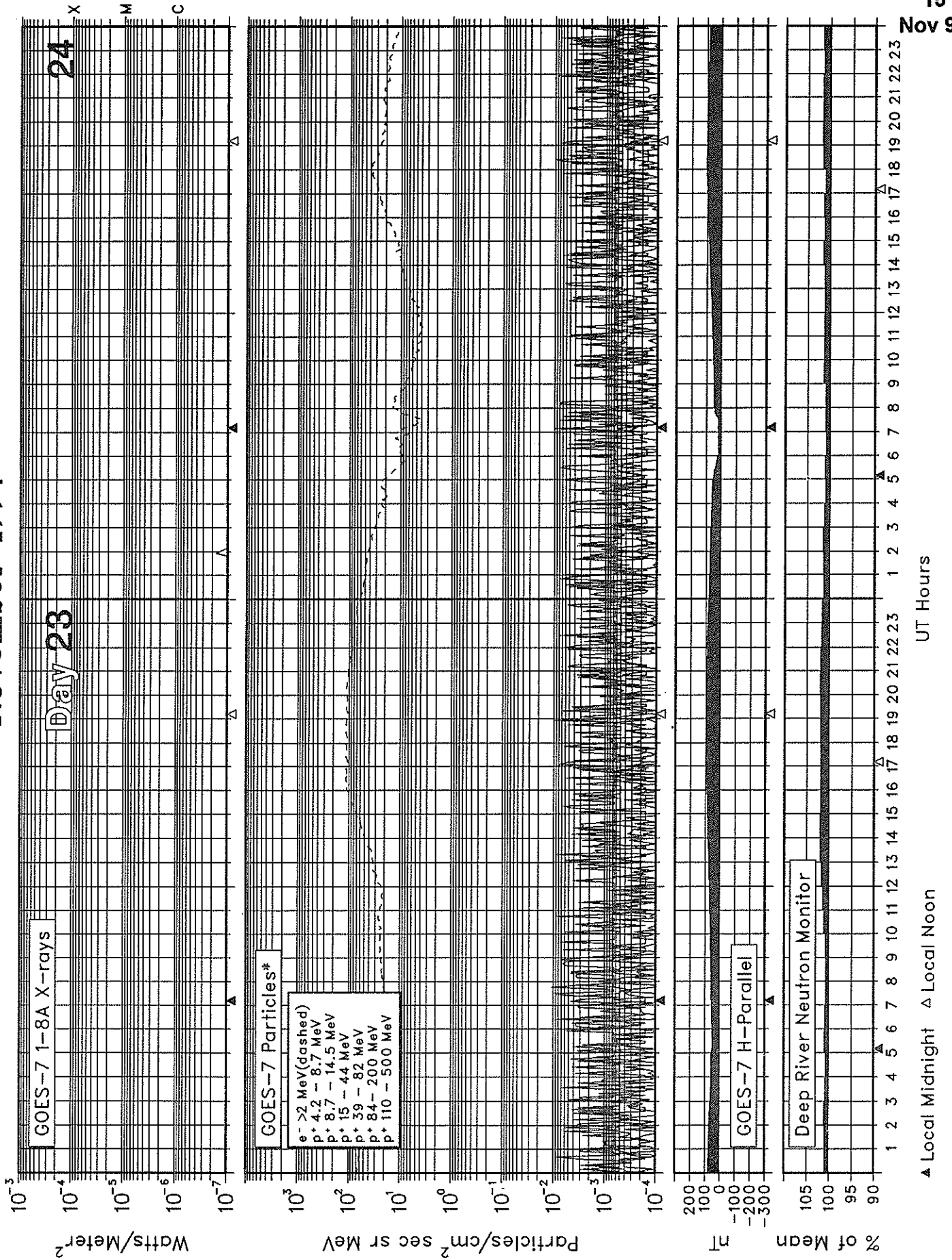
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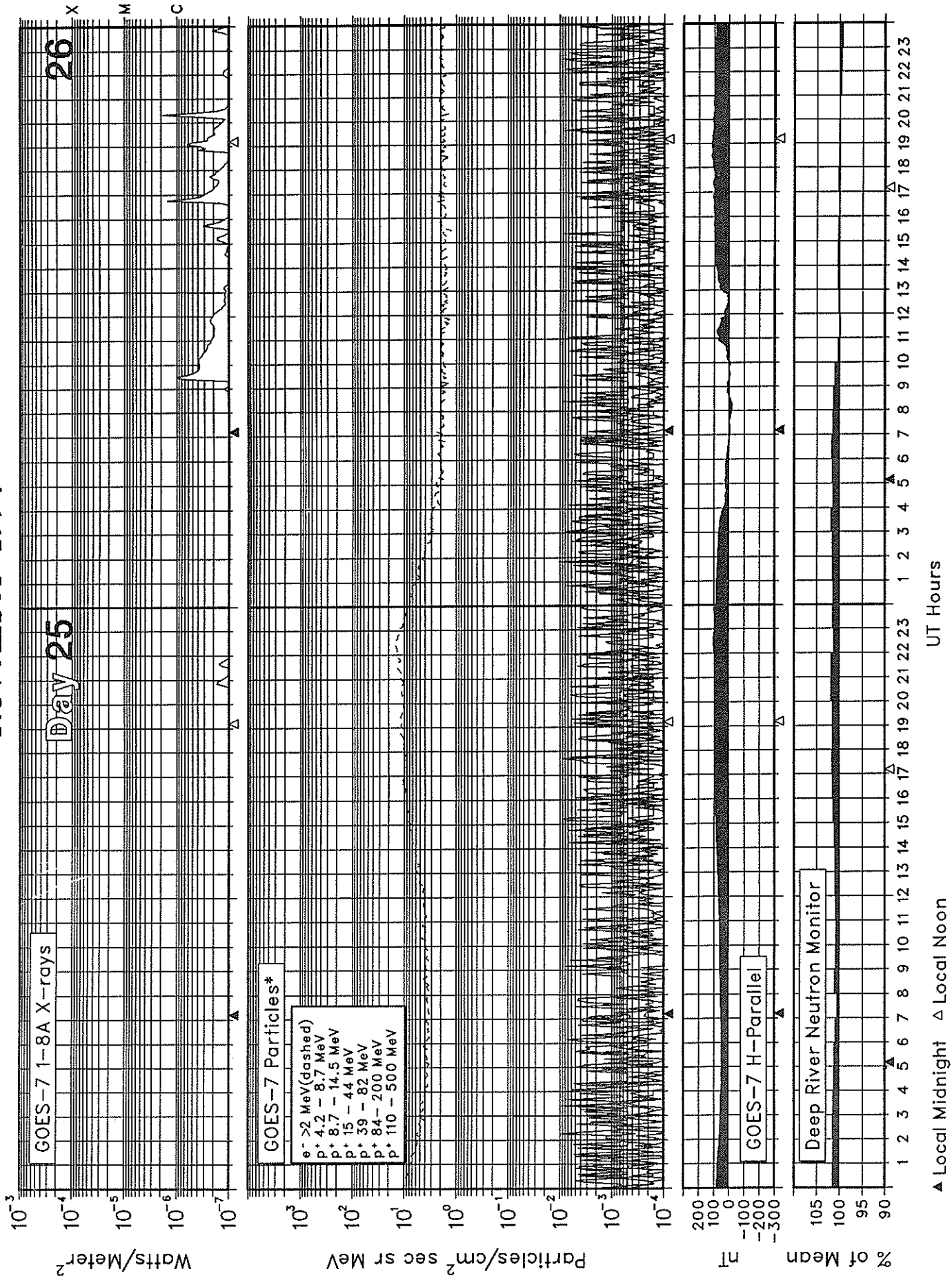
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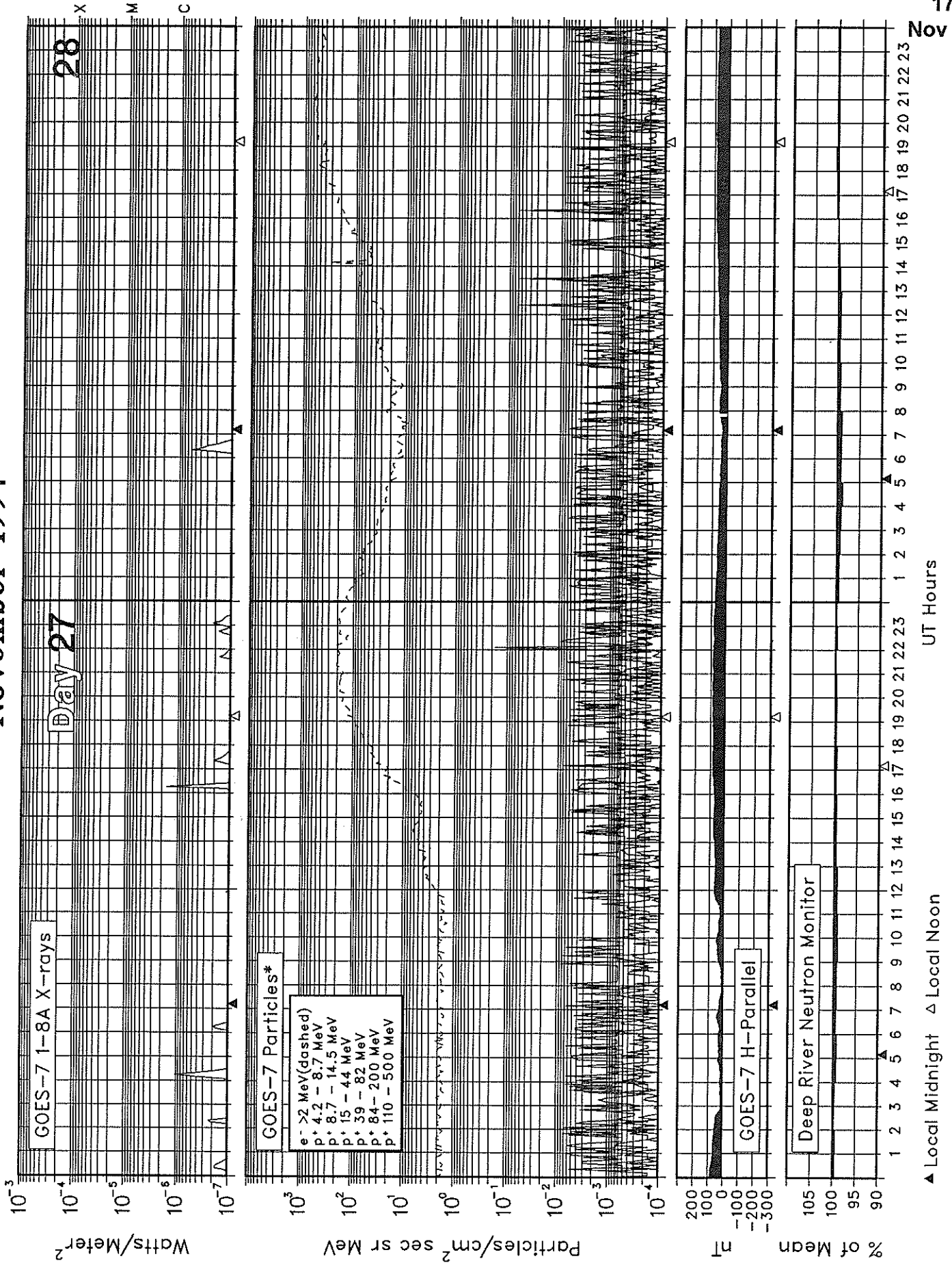
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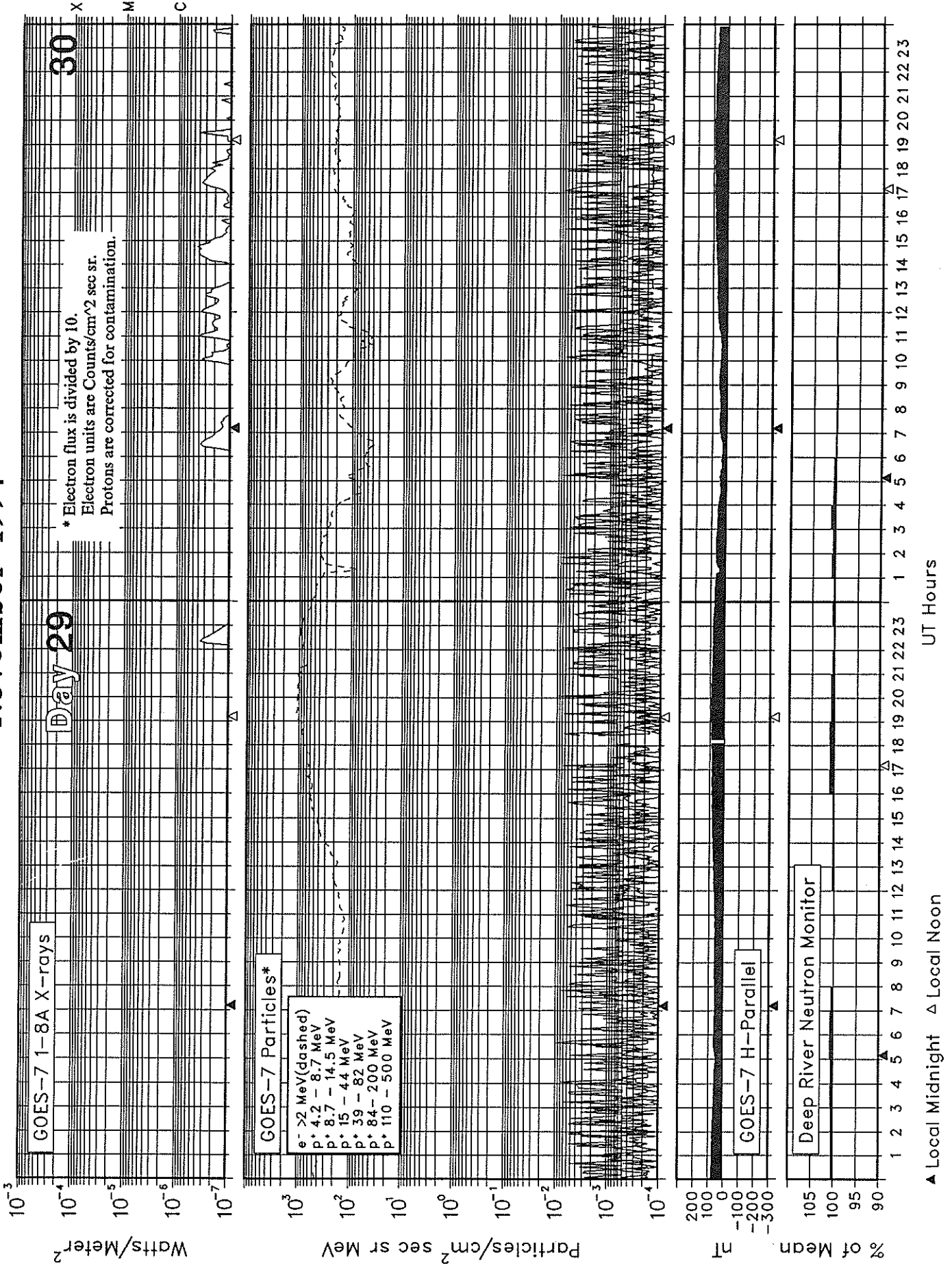
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# SOLAR-TERRESTRIAL ENVIRONMENT

## November 1994



**ALERT PERIODS**  
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

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**Summary of the Geoalert Messages**

**NOVEMBER 1994**

Julian Day	Date of Issue	Date of Observation	Wolf No.	10-cm Solar Flux	A-index	Location		Flares			Date of Forecast	Region Forecast <sup>1</sup>	Geoadvicel
						°Lat	°Long	Total	M	X			
305	01	31	089	097	34	N14	W07	4	0	0	01	Q	SOL: Eruptive MAG: Active PROTON: Quiet
						S08	W23	0	0	0	01	Q	
						S12	E06	1	0	0	01	Q	
						S13	E46	0	0	0	01	Q	
						S18	W38	0	0	0	01	Q	
306	02	01	081	092	16	N13	W19	2	0	0	02	Q	SOL: Eruptive MAG: Active PROTON: Quiet
						S09	W37	0	0	0	02	Q	
						S12	W08	0	0	0	02	Q	
						S12	E34	0	0	0	02	Q	
						S16	W55	0	0	0	02	Q	
307	03	02	067	091	17	N13	W32	3	0	0	03	Q	SOL: Eruptive MAG: Quiet PROTON: Quiet
						S13	W19	0	0	0	03	Q	
						S13	E22	0	0	0	03	Q	
						S16	W68	0	0	0	03	Q	
308	04	03	053	087	8	N13	W46	0	0	0	04	Q	SOL: Quiet MAG: Quiet PROTON: Quiet
						S12	W33	0	0	0	04	Q	
						S12	E08	0	0	0	04	Q	
						S16	W84	0	0	0	04	Q	
309	05	04	041	084	19	N12	W58	0	0	0	05	Q	SOL: Quiet MAG: Quiet PROTON: Quiet
						S12	W48	0	0	0	05	Q	
						S12	W06	0	0	0	05	Q	
310	06	05	046	083	14	N10	W67	0	0	0	06	Q	SOL: Quiet MAG: Quiet PROTON: Quiet
						S13	W61	0	0	0	06	Q	
						S13	W19	0	0	0	06	Q	
						N12	E67	0	0	0	06	Q	
311	07	06	046	081	24	N11	W81	0	0	0	07	Q	SOL: Quiet MAG: Quiet PROTON: Quiet
						S13	W74	0	0	0	07	Q	
						S13	W32	0	0	0	07	Q	
						N12	E55	0	0	0	07	Q	
312	08	07	023	082	11	S14	W46	0	0	0	08	Q	SOL: Quiet MAG: Quiet PROTON: Quiet
						N13	E42	0	0	0	08	Q	
						S13	W32	0	0	0	08	Q	
313	09	08	033	080	3	S14	W59	0	0	0	09	Q	SOL: Quiet MAG: Active PROTON: Quiet
						N12	E28	0	0	0	09	Q	
						S03	E75	1	0	0	09	Q	
314	10	09	034	079	13	S15	W73	1	0	0	10	Q	SOL: Quiet MAG: Active PROTON: Quiet
						N13	E15	0	0	0	10	Q	
						S03	E62	0	0	0	10	Q	
315	11	10	045	080	15	N11	E02	0	0	0	11	Q	SOL: Quiet MAG: Active PROTON: Quiet
						S05	E49	0	0	0	11	Q	
						S06	E36	0	0	0	11	Q	
						S16	E42	0	0	0	11	Q	
316	12	11	045	079	6	N12	W12	0	0	0	12	Q	SOL: Quiet MAG: Quiet PROTON: Quiet
						S02	E35	0	0	0	12	Q	
						S06	E23	0	0	0	12	Q	
						N05	E07	0	0	0	12	Q	

**ALERT PERIODS**  
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages

NOVEMBER 1994

Julian Day	Date of Issue	Date of Observation	Wolf No.	10-cm Solar Flux	A-index	Location		Flares			Date of Forecast	Region Forecast <sup>1</sup>	Geoadvicel
						°Lat	°Long	Total	M	X			
317	13	12	069	080	4	N12	W24	0	0	0	13	Q	SOL: Quiet
						S02	E25	0	0	0	13	Q	MAG: Quiet
						S14	E13	0	0	0	13	Q	PROTON: Quiet
						N04	W09	0	0	0	13	Q	
						S21	E02	0	0	0	13	Q	
						N07	E60	0	0	0	13	Q	
318	14	13	011	081	4	N06	E49	0	0	0	14	Q	SOL: Quiet
						S02	E25	0	0	0	14	Q	MAG: Quiet
						S14	E13	0	0	0	14	Q	PROTON: Quiet
319	15	14	011	079	6	N06	E34	0	0	0	15	Q	SOL: Quiet
						S02	E25	0	0	0	15	Q	MAG: Quiet
						S14	E13	0	0	0	15	Q	PROTON: Quiet
320	16	15	011	079	8	S12	W33	0	0	0	16	Q	SOL: Quiet
						S02	E25	0	0	0	16	Q	MAG: Quiet
						S14	E13	0	0	0	16	Q	PROTON: Quiet
321	17	16	036	079	2	N07	E08	0	0	0	17	Q	SOL: Quiet
						S11	W46	0	0	0	17	Q	MAG: Quiet
						S06	W16	0	0	0	17	Q	PROTON: Quiet
322	18	17	029	079	4	S11	W61	0	0	0	18	Q	SOL: Quiet
						S05	W43	0	0	0	18	Q	MAG: Quiet
						S06	W16	0	0	0	18	Q	PROTON: Quiet
323	19	18	028	080	5	S12	W73	2	0	0	19	Q	SOL: Quiet
						S06	W57	0	0	0	19	Q	MAG: Quiet
						S06	W16	0	0	0	19	Q	PROTON: Quiet
324	20	19	023	078	17	S14	W84	0	0	0	20	Q	SOL: Quiet
						S07	W72	0	0	0	20	Q	MAG: Quiet
						S06	W16	0	0	0	20	Q	PROTON: Quiet
325	21	20	022	079	25	S05	W86	1	0	0	21	Q	SOL: Quiet
						N12	E79	0	0	0	21	Q	MAG: Quiet
						S06	W16	0	0	0	21	Q	PROTON: Quiet
326	22	21	011	078	5	N13	E68	0	0	0	22	Q	SOL: Quiet
						N12	E79	0	0	0	22	Q	MAG: Quiet
						S06	W16	0	0	0	22	Q	PROTON: Quiet
327	23	22	011	076	3	N13	E54	0	0	0	23	Q	SOL: Quiet
						N12	E79	0	0	0	23	Q	MAG: Quiet
						S06	W16	0	0	0	23	Q	PROTON: Quiet
328	24	23	012	078	1	N14	E41	0	0	0	24	Q	SOL: Quiet
						N12	E79	0	0	0	24	Q	MAG: Quiet
						S06	W16	0	0	0	24	Q	PROTON: Quiet
329	25	24	012	079	3	N13	E29	1	0	0	25	Q	SOL: Quiet
						N12	E79	0	0	0	25	Q	MAG: Quiet
						S06	W16	0	0	0	25	Q	PROTON: Quiet

**ALERT PERIODS**  
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

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**Summary of the Geoalert Messages                      NOVEMBER 1994**

Julian Day	Date of Issue	Date of Observation	Wolf No.	10-cm Solar Flux	A- index	Location		Flares			Date of Forecast	Region Forecast <sup>1</sup>	Geoadvicel
						°Lat	°Long	Total	M	X			
330	26	25	041	082	1	N14	E17	0	0	0	26	Q	SOL: Quiet MAG: Active PROTON: Quiet
						S17	W00	0	0	0	26	Q	
						S15	E15	0	0	0	26	Q	
331	27	26	042	083	20	N13	E02	0	0	0	27	Q	SOL: Eruptive MAG: Active PROTON: Quiet
						S17	W11	7	0	0	27	Q	
						S15	E15	0	0	0	27	Q	
332	28	27	033	080	23	S17	W25	4	0	0	28	E	SOL: Eruptive MAG: Active PROTON: Quiet
						S17	W11	7	0	0	28	Q	
						S15	E15	0	0	0	28	Q	
333	29	28	032	080	11	S17	W38	2	0	0	29	E	SOL: Eruptive MAG: Quiet PROTON: Quiet
						S17	W25	0	0	0	29	Q	
						S15	E15	0	0	0	29	Q	
334	30	29	028	080	6	S17	W50	1	0	0	30	Q	SOL: Quiet MAG: Quiet PROTON: Quiet
						S16	W40	0	0	0	30	Q	
						S15	E15	0	0	0	30	Q	

<sup>1</sup> 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

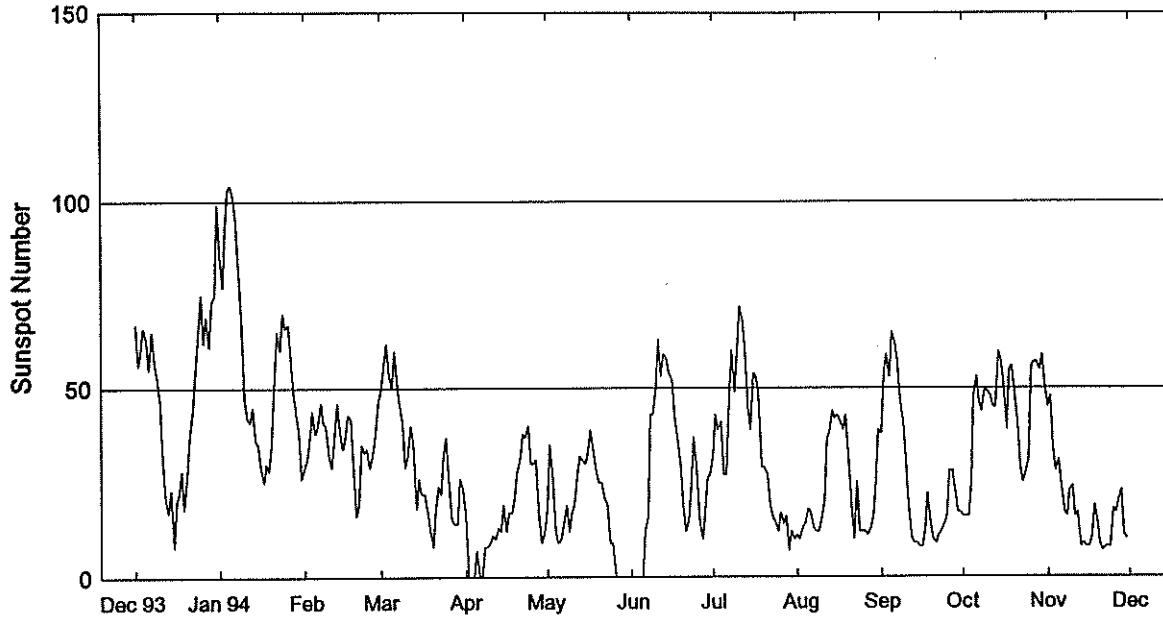
Proton Geoadvice

- 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 recorded

## International Relative Sunspot Numbers Dec 1993 - Nov 1994

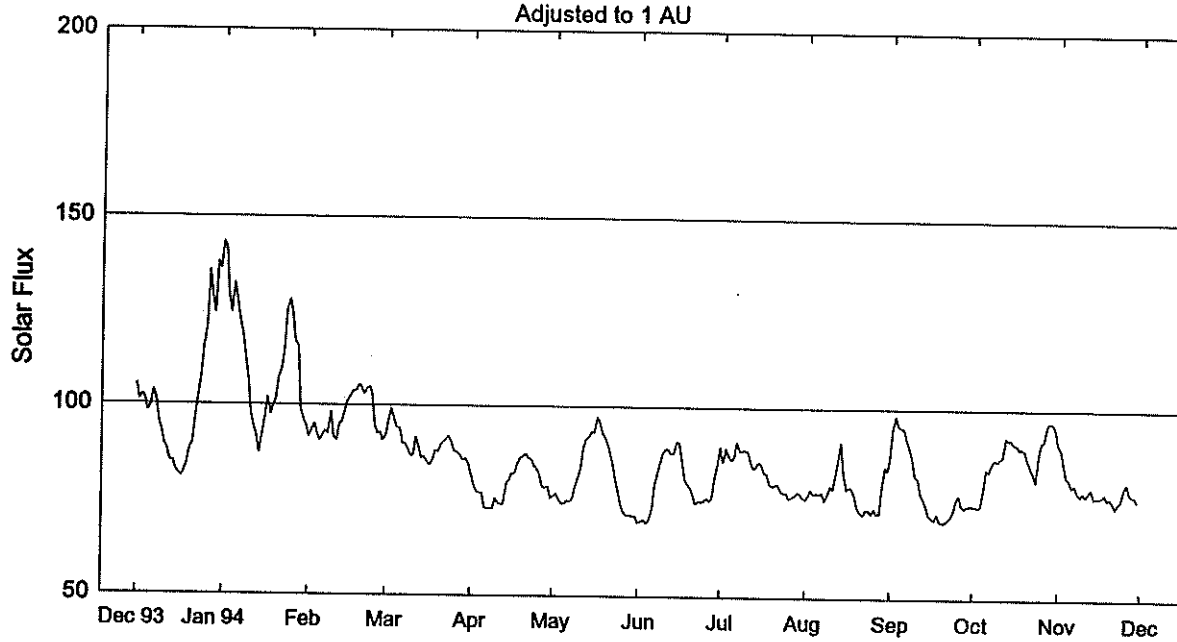


Day	Dec 93	Jan 94	Feb	Mar	Apr	May	Jun	Jul*	Aug*	Sep*	Oct*	Nov*
1	67	86	29	49	17	18	0	32	11	38	16	45
2	56	77	31	56	0	35	0	43	10	53	16	48
3	60	93	38	62	0	26	0	39	13	59	16	34
4	66	103	44	54	0	12	0	41	14	53	25	28
5	63	104	38	50	7	9	0	27	18	65	48	31
6	55	101	40	60	0	10	12	27	17	62	53	24
7	65	94	46	52	0	14	16	47	13	57	46	17
8	57	81	41	46	8	19	43	60	12	47	44	16
9	53	66	40	41	8	12	43	49	12	41	50	23
10	46	47	32	29	9	17	50	60	15	31	49	24
11	31	42	29	32	11	19	63	72	20	19	48	16
12	21	41	36	40	10	27	53	68	36	10	45	17
13	17	45	46	36	13	32	59	59	39	9	45	8
14	23	36	39	18	12	31	58	45	44	9	60	9
15	8	35	34	26	19	30	54	39	42	8	57	8
16	20	29	37	22	12	33	52	54	43	8	51	8
17	22	25	43	22	17	39	42	53	41	12	39	10
18	28	30	42	18	17	33	37	48	39	22	55	19
19	18	28	28	13	21	28	30	29	43	14	56	15
20	27	35	16	8	28	25	19	29	30	10	49	9
21	37	53	19	17	31	25	12	27	19	9	41	7
22	44	65	35	24	38	21	15	19	10	11	29	8
23	54	60	33	22	37	19	24	16	25	12	25	8
24	63	70	34	32	40	9	37	14	12	14	28	8
25	75	66	29	37	30	9	28	12	12	16	31	18
26	62	67	32	24	30	0	15	17	12	28	56	17
27	69	58	38	15	31	0	10	14	11	28	57	20
28	61	49	46	14	15	0	15	16	13	23	57	23
29	73	43	46	14	9	0	26	7	16	17	55	11
30	75	38	26	12	12	0	27	12	25	17	59	10
31	99	26	24	24	0	0	10	39	39	39	51	51
Mean	48.9	57.8	35.5	31.7	16.1	17.8	28.0	35.0	22.8	26.7	43.8	18.0

\* = Provisional. The definitive yearly mean sunspot number equals 54.6 for 1993.

# Penticton 2800 MHz (10.7cm) Solar Flux Dec 1993 - Nov 1994

23  
Nov 94



Day	Dec 93	Jan 94	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
1	105.6	143.4	91.7	92.4	82.4	76.3	69.6	89.7	76.2	87.3	74.7	90.9
2	101.3	141.4	93.5	96.3	79.3	77.1	69.9	85.6	77.2	94.9	74.6	90.0
3	102.6	128.7	95.1	99.2	77.4	75.6	70.3	89.3	78.7	98.2	74.3	85.9
4	101.6	124.6	92.7	96.3	77.2	74.4	69.5	87.4	77.4	95.8	74.7	82.6
5	98.3	132.4	90.6	94.2	77.2	74.4	70.3	86.2	77.8	95.1	79.4	82.0
6	99.9	127.7	92.2	94.1	73.3	75.3	72.7	87.1	77.5	95.0	84.2	79.7
7	103.8	122.1	93.3	90.0	73.0	75.2	79.4	91.1	77.9	92.1	83.7	80.4
8	101.9	118.9	92.6	89.9	72.9	75.8	82.9	88.7	75.9	89.6	86.0	78.6
9	95.4	113.1	98.3	88.7	72.9	78.8	85.5	88.8	77.4	87.3	86.9	77.4
10	93.2	106.5	91.8	86.8	75.7	81.4	88.0	88.9	79.7	82.8	86.6	78.5
11	89.7	97.8	90.7	87.0	74.6	83.6	89.1	88.5	78.7	82.0	87.2	77.5
12	88.1	94.6	95.1	91.7	74.2	89.2	89.0	85.7	82.9	78.2	87.7	78.5
13	85.1	91.9	95.4	89.1	74.3	91.4	87.7	84.1	86.7	76.5	92.7	79.5
14	85.1	87.3	98.9	86.2	79.9	92.1	88.0	84.6	91.2	74.8	92.1	77.0
15	82.8	92.6	101.3	86.5	80.6	93.4	91.0	85.7	83.5	72.3	92.2	77.2
16	81.9	97.0	102.3	85.3	82.3	93.3	90.8	85.1	78.8	71.6	90.9	77.2
17	81.1	102.0	103.9	84.3	82.5	97.2	86.6	83.0	79.5	71.0	91.0	77.3
18	82.4	97.5	103.9	85.9	84.9	95.8	80.9	82.7	79.3	72.5	89.8	78.1
19	84.2	99.5	105.6	88.3	86.2	92.7	79.8	80.1	77.1	70.8	89.9	76.6
20	88.1	101.6	105.2	87.9	87.0	91.9	78.9	79.4	74.0	70.3	89.3	76.9
21	89.9	107.3	103.1	90.0	87.6	89.9	76.8	79.8	72.7	70.4	87.0	76.0
22	96.6	109.5	104.4	90.5	86.3	86.7	74.6	80.1	72.2	71.2	84.7	74.5
23	101.6	114.6	105.1	91.2	86.1	83.6	75.5	78.2	73.5	71.8	83.3	75.6
24	107.5	125.1	102.9	92.1	84.3	79.9	75.2	77.7	73.5	73.3	81.3	76.6
25	115.2	128.1	94.8	90.4	83.8	76.1	75.5	77.8	72.5	76.6	88.5	79.4
26	120.5	123.9	92.6	88.1	82.0	73.4	76.3	76.3	73.7	77.4	91.5	81.0
27	135.8	116.8	93.0	88.0	79.0	72.1	75.4	76.6	72.5	75.0	91.9	78.3
28	129.2	115.7	90.8	87.3	78.4	71.4	76.4	77.1	72.5	74.2	96.1	77.6
29	124.4	98.9		85.8	78.9	71.4	81.4	78.0	79.1	74.7	96.9	77.4
30	138.0	96.1		86.1	76.0	71.3	85.4	77.6	84.7	74.7	96.4	76.1
31	136.2	94.7		84.9		71.1		76.8	83.8		95.2	
Mean	101.5	111.3	97.2	89.5	79.7	81.7	79.7	83.2	78.0	79.9	87.1	79.1

DAILY SOLAR INDICES

November 1994

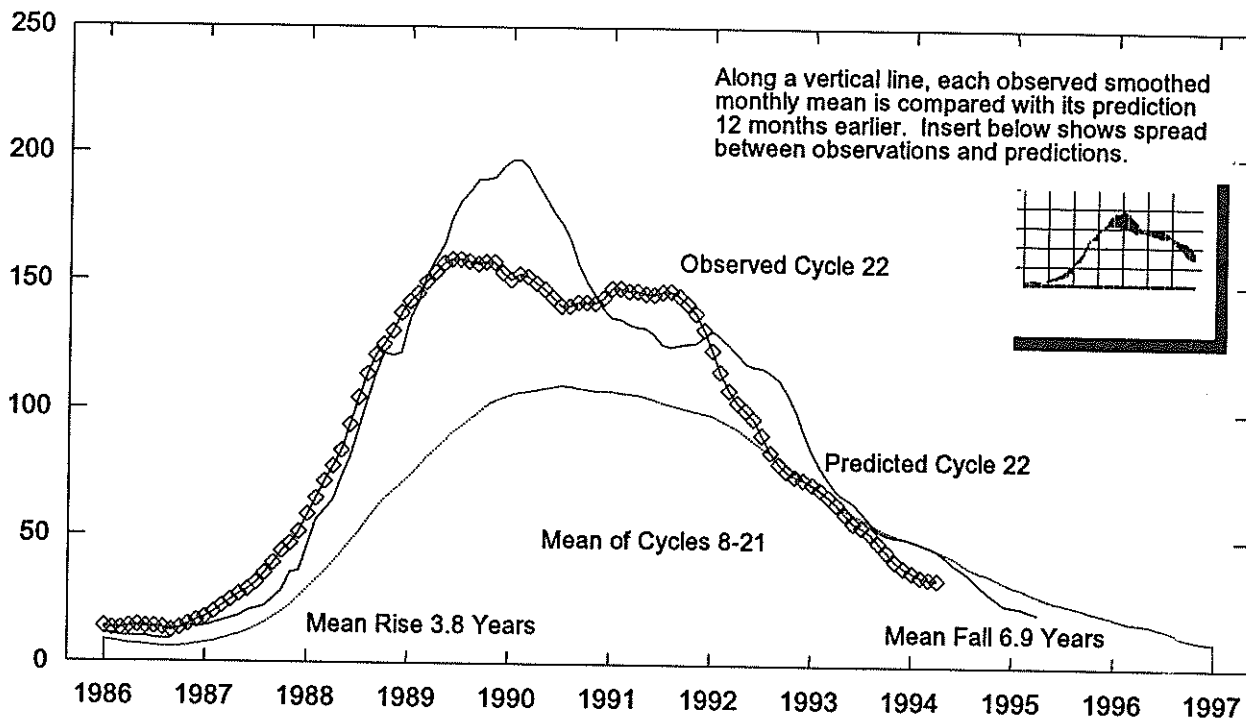
Day	Day of Year	Bartels Cycle Day	Sunspot Numbers		Obs Flux Penticton (2800)	Solar Flux Adjusted to 1 Astronomical Unit								
			Int	Amer		LEAR (15400)	LEAR (8800)	LEAR (4995)	Pentic (2800)	LEAR (2695)	LEAR (1415)	LEAR (610)	LEAR (410)	LEAR (245)
1	305	10	45	48	92.3	529	229	140	90.9	91	70	47	26	19
2	306	11	48	43	91.4	543	226	138	90.0	88	67	47	24	13
3	307	12	34	40	87.3	522	226	138	85.9	87	66	45	23	12
4	308	13	28	30	84.0	--	--	--	82.6	--	--	--	--	--
5	309	14	31	34	83.4	531	224	133	82.0	81	61	44	26	11
6	310	15	24	26	81.1	524	213	131	79.7	79	58	41	23	11
7	311	16	17	18	81.9	518	221	132	80.4	77	57	41	23	10
8	312	17	16	20	80.1	523	216	131	78.6	77	59	43	23	11
9	313	18	23	23	78.9	532	218	129	77.4	76	56	43	22	11
10	314	19	24	24	80.0	535	223	128	78.5	78	57	42	20	11
11	315	20	16	14	79.0	528	219	129	77.5	75	58	44	23	11
12	316	21	17	15	80.2	--	--	--	78.5	--	--	--	--	--
13	317	22	8	7	81.2	535	177	117	79.5	74	57	45	24	12
14	318	23	9	6	78.7	526	213	130	77.0	73	57	44	24	12
15	319	24	8	0	79.0	525	221	129	77.2	73	56	44	24	11
16	320	25	8	10	79.0	522	214	127	77.2	74	56	43	23	11
17	321	26	10	19	79.1	528	217	128	77.3	74	56	39	20	10
18	322	27	19	18	80.0	527	222	129	78.1	75	56	36	23	12
19	323	1	15	12	78.4	539	215	128	76.6	74	55	33	24	12
20	324	2	9	8	78.8	527	222	129	76.9	74	54	35	27	12
21	325	3	7	9	77.8	528	218	127	76.0	73	54	35	25	11
22	326	4	8	9	76.3	524	218	126	74.5	71	53	34	25	12
23	327	5	8	9	77.5	523	215	125	75.6	70	52	34	24	11
24	328	6	8	9	78.6	524	209	125	76.6	74	54	33	24	12
25	329	7	18	17	81.5	528	222	128	79.4	75	55	33	25	12
26	330	8	17	22	83.2	528	221	130	81.0	76	57	35	25	13
27	331	9	20	21	80.4	528	221	130	78.3	77	57	36	22	13
28	332	10	23	21	79.7	531	221	130	77.6	76	57	34	26	12
29	333	11	11	14	79.6	526	221	128	77.4	74	56	35	26	11
30	334	12	10	12	78.3	534	220	128	76.1	74	55	35	21	10
MEAN			18.0	18.6	80.9	528	217	129	79.1	76	57	39	23	11

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

The observed and the adjusted Penticton fluxes tabulated here are the "Series C" daily values reported by the Dominion Radio Astrophysical Observatory, Penticton, 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.

# Cycle 22 Smoothed Sunspot Numbers: Observed and Predicted



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	99
1989	142	145	150	154	157	158	158	158	157	157	158	154	154
1990	151	153	152	149	147	144	141	140	142	142	142	144	146
1991	148	148	147	146	146	145	146	147	145	142	138	132	144
1992	124	115	108	103	100	97	91	84	80	76	74	73	94
1993	71	69	67	64	60	56	55	52	48	45	41	38	56
1994	37	35	34	34	33	32	30	28	26	25	24	23	30
( )						(3)	(7)	(9)	(10)	(11)	(14)	(15)	(6)
1995	23	22	21	20	19	18	18	17	17	17	16	15	19
( )	(16)	(17)	(17)	(17)	(17)	(17)	(17)	(18)	(17)	(17)	(16)	(15)	(17)
1996	13	12	11	11	11	10	9	9	8	8	8	8	10
( )	(15)	(16)	(16)	(17)	(17)	(16)	(15)	(15)	(14)	(14)	(14)	(13)	(15)

■ Solar Cycle 22

□ Min, Max, and Predictions

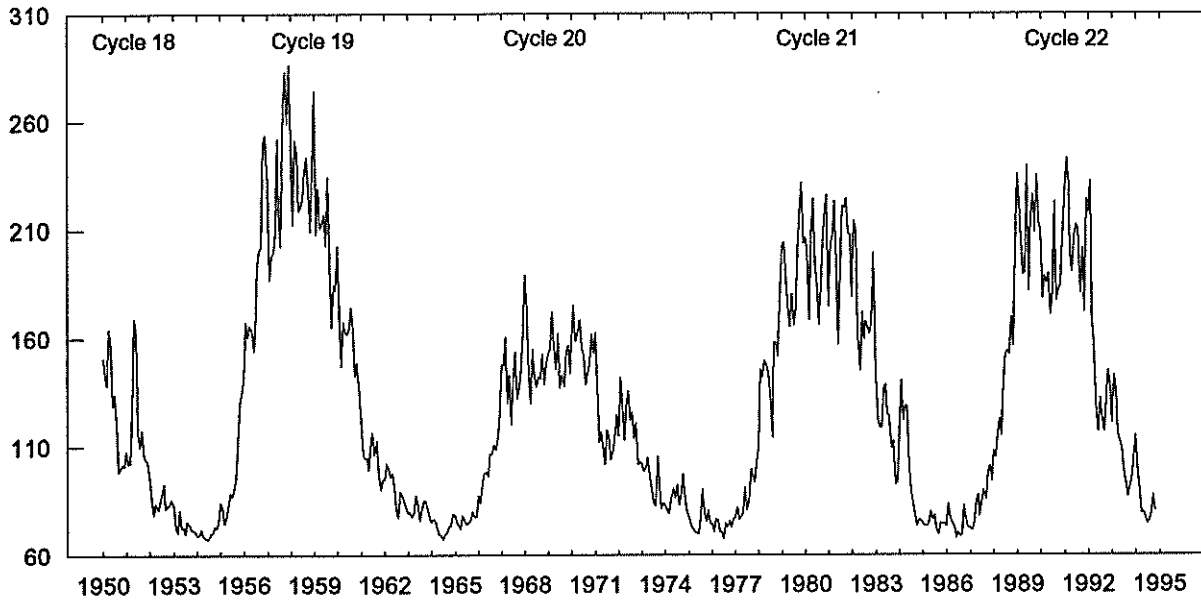
September 1986 marks the minimum of Solar Cycle 21 and the onset of Cycle 22, which in turn, reached a maximum in July 1989.

**Observed and Predicted Numbers.** For the end of Cycle 21, and the rise and decline of Cycle 22, the table above lists observed smoothed sunspot numbers up to the one that includes the most recent monthly mean. We based these smoothed values on final monthly means through Jun 1994 and on provisional numbers thereafter. Table entries with numbers in parentheses below them denote predictions by the McNish-Lincoln method. (See page 9 in the Jul 1987 supplement to *Solar-Geophysical Data*.) Adding the number in parentheses to the predicted value generates the upper limit of the 90% confidence interval. Subtracting the number from the predicted value generates the lower limit. Consider, for example, the May 1995 prediction. There exists a 90% chance that in May 1995, the actual smoothed number will fall somewhere between 2 and 36.

**Points to Ponder.** The McNish-Lincoln prediction method generates useful estimates of smoothed, monthly mean sunspot numbers for no more than 12 months ahead. Beyond 12 months, the predictions regress toward the mean of all 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.



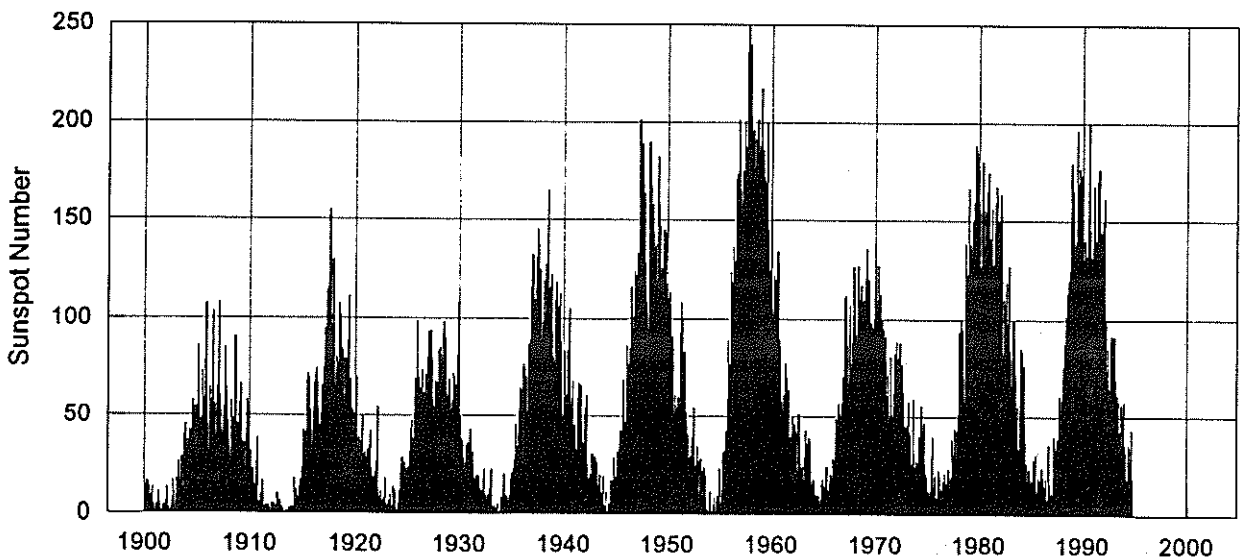
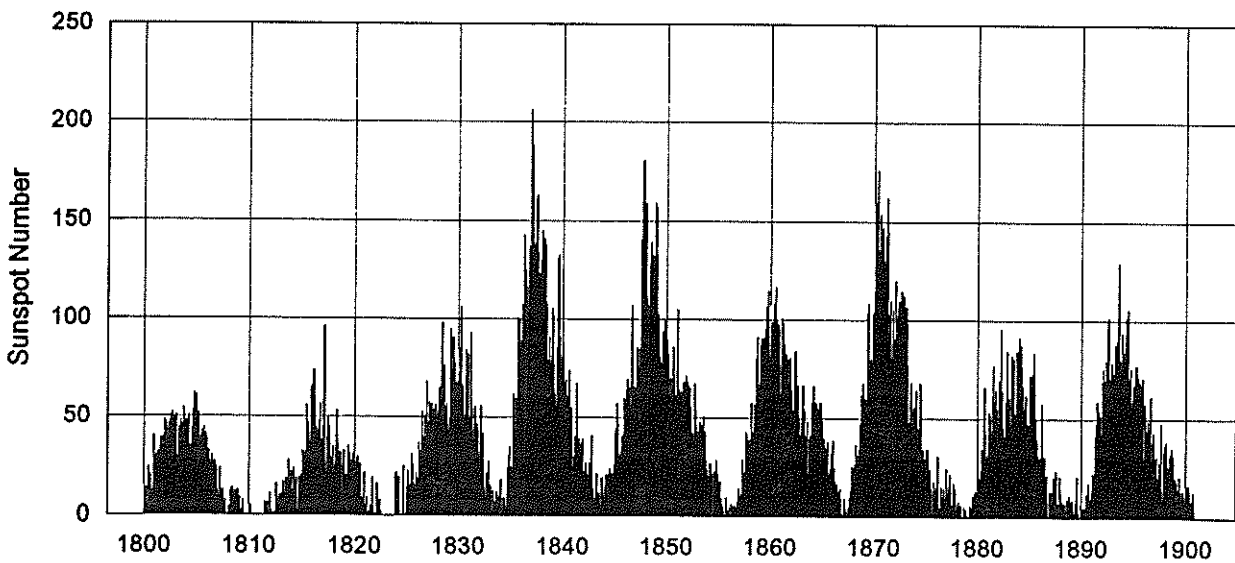
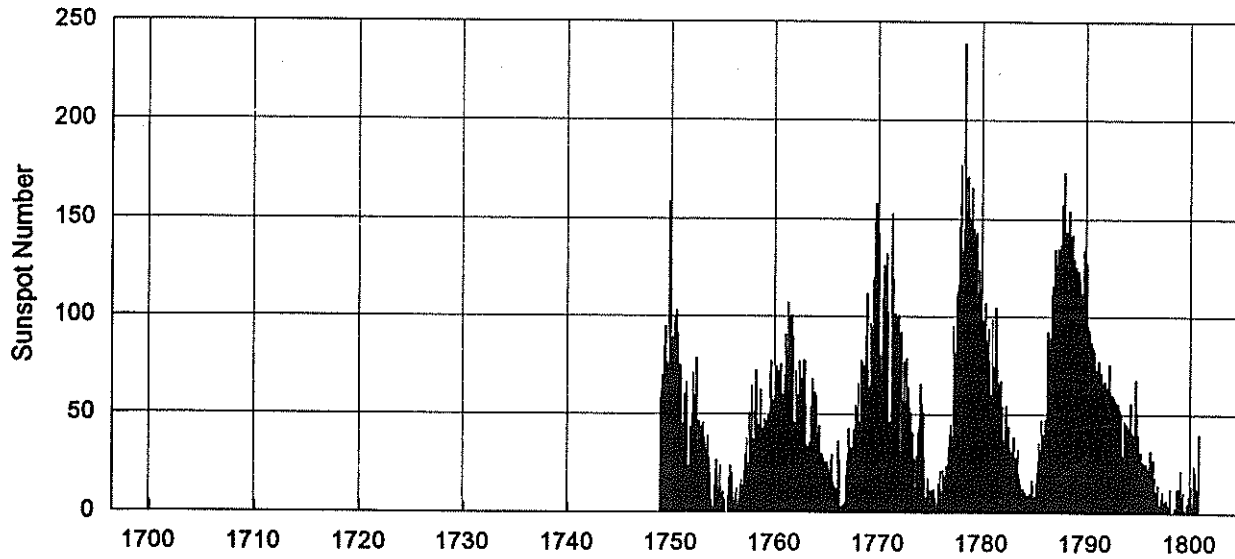
## Monthly Mean 2800 MHz Solar Flux (Observed) Jan 1950 - Nov 1994



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1950	150.7	143.3	137.8	164.3	157.1	128.7	134.1	120.9	98.6	99.9	101.9	101.1	128.2
1951	107.9	101.9	102.5	127.1	168.6	161.7	116.3	109.8	117.8	106.0	104.4	102.4	118.9
1952	95.4	86.2	78.5	84.0	80.9	84.8	88.8	93.3	81.5	82.8	83.4	85.7	85.4
1953	83.2	72.8	70.4	81.0	72.5	73.0	69.8	75.5	74.3	71.9	71.4	70.8	73.9
1954	68.7	69.2	71.9	68.7	68.0	67.3	67.7	69.9	70.1	73.2	72.6	75.5	70.2
1955	84.3	82.0	74.8	77.3	82.8	88.8	87.3	90.7	91.1	111.8	130.0	134.6	95.0
1956	141.2	167.2	160.6	165.9	163.4	154.0	162.8	193.8	200.9	201.6	250.4	253.7	184.6
1957	231.2	186.7	197.8	200.0	208.5	252.1	218.0	202.3	267.1	283.1	259.2	286.5	232.7
1958	251.5	212.2	251.5	245.9	218.6	220.5	224.1	237.0	243.5	228.0	209.2	238.2	231.7
1959	274.5	207.9	229.2	210.6	212.7	217.5	203.0	234.2	194.3	165.1	184.8	182.2	209.7
1960	202.6	170.9	146.8	167.6	162.7	161.9	163.9	174.4	164.5	142.3	148.9	138.1	162.0
1961	122.0	106.4	104.8	105.0	99.3	109.9	116.5	106.2	112.7	96.7	90.3	94.8	105.4
1962	94.9	102.2	100.3	96.2	97.9	91.0	80.7	77.3	89.5	87.8	84.9	82.0	90.4
1963	79.5	79.7	77.8	79.5	87.8	83.5	75.9	80.9	85.1	85.1	81.7	78.4	81.2
1964	75.4	76.8	75.9	72.6	69.5	69.0	67.0	69.3	70.2	73.4	73.7	78.8	72.6
1965	78.6	75.2	74.1	72.0	78.2	77.0	74.3	74.8	76.6	80.2	77.7	77.8	76.4
1966	87.9	84.2	90.3	97.2	98.5	96.3	106.7	106.6	110.9	108.6	113.3	124.6	102.1
1967	147.7	147.0	160.6	129.9	143.0	120.2	140.3	153.7	132.1	136.1	145.3	163.0	143.2
1968	189.1	173.2	142.6	129.5	154.9	142.3	137.2	142.2	141.0	152.5	138.5	148.4	149.3
1969	152.7	155.2	172.3	155.5	145.4	162.2	136.6	143.0	137.3	154.0	156.7	143.6	151.2
1970	158.3	175.4	158.4	162.0	168.4	154.9	152.0	138.2	143.2	148.3	162.0	152.8	156.2
1971	162.6	137.8	111.9	116.7	109.9	101.7	117.4	114.1	104.0	107.2	114.0	124.5	118.5
1972	114.8	141.8	128.5	112.9	129.6	135.4	122.0	125.7	113.6	121.1	101.6	102.9	120.8
1973	102.2	98.7	100.4	105.0	97.0	91.2	84.5	82.9	105.6	87.7	81.5	84.2	93.4
1974	83.1	80.9	79.2	86.1	90.6	86.3	92.5	83.0	87.8	97.6	90.3	81.1	86.5
1975	77.5	74.2	72.4	70.7	70.1	69.7	77.2	90.4	79.6	75.7	80.8	74.6	76.1
1976	74.7	70.5	76.7	76.3	70.6	70.6	67.5	74.8	73.1	75.9	72.9	76.7	73.4
1977	77.4	82.3	76.6	77.6	79.6	91.5	81.1	84.3	99.9	96.9	93.7	102.1	86.9
1978	109.6	145.4	141.8	149.4	146.5	142.2	131.1	114.0	157.9	158.2	151.5	175.5	143.6
1979	203.0	204.1	185.8	173.8	165.2	180.3	165.9	172.7	200.2	217.9	231.7	203.5	192.0
1980	206.2	200.0	168.1	207.9	224.0	193.2	184.8	166.2	183.9	204.2	218.1	225.8	198.5
1981	174.6	204.5	205.3	223.2	194.6	156.9	191.9	220.6	219.5	224.3	207.8	207.8	202.6
1982	179.0	214.2	210.5	161.8	144.7	171.9	159.6	167.9	165.3	161.9	167.4	199.4	175.3
1983	142.3	122.6	118.6	118.9	137.1	138.6	125.0	124.4	109.0	112.4	92.5	93.4	119.6
1984	116.1	140.6	122.0	128.7	128.3	100.3	89.3	83.7	78.1	73.5	76.3	75.9	101.1
1985	74.5	73.7	73.3	75.1	80.2	76.1	78.7	71.5	69.5	74.7	74.2	74.8	74.7
1986	73.2	83.6	77.0	75.1	72.6	67.6	70.2	68.4	68.7	83.0	77.1	72.6	74.1
1987	72.5	71.5	74.0	84.9	87.8	77.9	84.2	90.0	86.1	98.1	101.2	94.4	85.3
1988	108.0	105.0	114.9	122.7	115.2	139.4	152.7	154.2	152.5	169.8	156.2	199.8	141.0
1989	235.4	222.4	205.1	189.6	190.1	239.6	181.9	217.1	225.9	208.7	235.1	213.0	213.7
1990	210.1	178.3	188.8	185.3	189.7	170.9	180.7	222.6	177.4	182.0	184.3	204.9	189.6
1991	229.4	243.0	230.0	198.8	190.3	206.8	212.0	210.3	180.6	201.3	172.0	223.9	208.1
1992	217.6	232.1	171.3	158.5	125.4	116.7	132.2	122.1	116.8	130.8	145.2	139.1	150.7
1993	121.0	142.6	136.4	115.9	112.3	109.3	99.0	93.7	87.0	100.3	95.9	104.8	109.7
1994	115.0	99.6	90.4	79.1	79.9	77.3	74.5	76.1	79.0	87.7	80.9		85.4

# MONTHLY Sunspot Numbers: Jan 1749 - Nov 1994

27  
Nov 94



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Nov 94

H $\alpha$  SOLAR FLARES

NOVEMBER 1994

Sta	Day	Start (UT)	Max (UT)	End (UT)	NOAA/USAF			Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement		Remarks
					Region	Mo	Day						(UT)	(10-6 Disk)	
GOES	01	0116	0120	0124				8		B 1.4					
SVTO		0629	0630	0634	N14	W05	7794	10	31.9	5	SF	3	E	10	
GOES		0647	0653	0709						22		B 3.2			
HOLL		2019	2022	2037	N14	W16	7794	10	31.6	18	SF	B 3.0	3	E	31
GOES		2154	2202	2208						14		B 3.7			
GOES	02	0314	0319	0325						11		B 1.9			
GOES		0542	0545	0549						7		B 1.4			
GOES		0636	0641	0648						12		B 3.1			
SVTO		1054	1100	1121	N13	W26	7794	10	31.5	27	SF	B 4.6	3	E	62
RAMY		1058E	1059U	1125	N17	W23	7794	10	31.7	27D	SN		3	E	85
RAMY		1555	1555	1558	N17	W26	7794	10	31.7	3	SF	B 1.3	3	E	13
RAMY		2015	2018	2052D	N17	W29	7794	10	31.6	37D	SF	B 8.3	3	E	66
GOES		2120	2132	2145						25		B 5.8			
GOES	03	0123	0130	0134						11		B 2.5			
GOES		0355	0359	0401						6		B 1.3			
GOES		0540	0543	0548						8		B 2.3			
GOES		1328	1332	1344						16		B 1.1			
GOES		1456	1459	1501						5		B 1.1			
GOES		2135	2145	2158						23		B 5.1			
GOES	04	0005	0013	0018						13		B 8.8			
GOES		0653	0701	0717						24		B 1.3			
GOES		1238	1243	1246						8		B 1.3			
GOES		2011	2017	2021						10		B 1.7			
GOES	05	1523	1526	1528						5		B 1.2			
GOES	07	2151	2208	2219						28		B 2.5			
GOES	08	0439	0444	0446						7		B 5.5			
GOES		0641	0646	0649						8		C 1.3			
GOES		0820	0826	0830						10		C 1.0			
GOES		1153	1202	1209						16		B 1.6			
GOES		1215	1218	1220						5		C 1.3			
GOES		1656	1702	1706						10		B 2.3			
RAMY		1848	1849	1909D	S01	E78		11	14.6	21D	SF	B 1.4	3	E	13
SVTO	09	1439	1445	1450	S12	W70	7798	11	4.3	11	SF		2	E	36
HOLL		1440	1446	1449	S13	W70	7798	11	4.3	9	SF	B 1.2	3	E	23
SVTO	13	1141	1157U	1320D	N15	E10		11	14.2	99D	SF		3	E	38
RAMY		1209	1226	1342	N15	E09		11	14.2	93	SF	C 1.2	3	E	32
GOES	18	0747	0754	0816						29		B 1.2			
GOES		0847	0853	0900						13		B 1.4			
SVTO		1058	1104	1121D	S13	W67	7807	11	13.4	23D	SF		3	E	27
RAMY		1509	1521	1539	S12	W68	7807	11	13.5	30	SF		3	E	15
HOLL		1532	1534	1541	S11	W68	7807	11	13.5	9	SF		3	E	12
GOES	19	0457	0502	0507						10		B 2.9			
GOES	20	0159	0206	0209						10		B 1.3			
GOES		0438	0442	0449						11		B 4.3			
GOES		0710	0715	0720						10		B 1.5			
SVTO		1149	1152	1156	S07	W84	7809	11	14.2	7	SF		3	E	35
GOES		1714	1742	1757						43		B 1.5			
GOES		2234	2237	2239						5		B 1.0			
GOES	21	0441	0445	0447						6		B 1.3			
GOES		0623	0636	0649						26		B 2.4			
GOES	24	0149	0156	0206						17		B 1.6			
RAMY		1218	1221	1228	N15	E37	7810	11	27.3	10	SF		3	E	12
GOES	25	2044	2053	2107						23		B 1.7			
SVTO	26	0923	0930	0952	S17	W02	7811	11	26.2	29	SF		3	E	65

H $\alpha$  SOLAR FLARES

NOVEMBER 1994

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
															Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
LEAR	26	0927	0927	0942	S16	W05	7811	11	26.0	15	SF	C 1.2	3	E		20		F
RAMY		1515	1515	1523	S16	W10	7811	11	25.9	8	SF	B 1.9	3	E		12		
HOLL		1515	1516	1523	S17	W12	7811	11	25.7	8	SF		2	E		16		
HOLL		1543	1549	1551	S17	W10	7811	11	25.9	8	SF	B 3.4	3	E		10		F
RAMY		1547	1550	1552	S16	W06	7811	11	26.2	5	SF		3	E		12		
RAMY		1644E	1649	1657D	S17	W10	7811	11	25.9	13D	SF		3	E		92		F
HOLL		1645	1648	1657	S17	W11	7811	11	25.9	12	SF	C 2.0	3	E		61		F
HOLL		1743	1743	1747	S16	W13	7811	11	25.7	4	SF	B 2.5	3	E		19		
PALE		1851E	1852U	1906D	S17	W15	7811	11	25.6	15D	SF		2	E		23		
RAMY		1853	1854	1856D	S17	W14	7811	11	25.7	3D	SF		3	E		10		F
HOLL		1902	1902	1905	S17	W13	7811	11	25.8	3	SF	B 8.7	3	E		22		
PALE		2018E	2020U	2035D	S17	W16	7811	11	25.6	17D	SF		3	E		29		FH
HOLL		2018	2021	2032	S16	W16	7811	11	25.6	14	SN	C 2.1	3	E		90		H
GOES		2302	2306	2309						7		B 1.2						
GOES		2345	2350	2356						11		B 2.5						
GOES	27	0015	0024	0035						20		B 1.8						
GOES		0215	0219	0223						8		B 3.6						
LEAR		0415	0415	0421	S14	W20	7811	11	25.7	6	SF	C 1.2	3	E		14		
GOES		0607	0614	0623						16		B 2.1						
GOES		1455	1619	1621						86		B 8.8						
RAMY		1614	1617	1633	S16	W26	7811	11	25.7	19	1N	C 2.2	4	E		169		EH
RAMY		1719	1719	1724	S16	W24	7811	11	25.9	5	SF	B 2.2	3	E		12		F
GOES		1914	1918	1923						9		B 1.1						
GOES		2136	2141	2147						11		B 1.6						
GOES		2240	2245	2250						10		B 1.8						
HOLL		2303	2305	2312	S17	W21	7811	11	26.4	9	SF	B 2.2	3	E		16		
LEAR	28	0619	0621	0625	S15	W28	7811	11	26.1	6	SF	B 7.2	3	E		13		F
SVTO		1030	1032	1042	S18	W34	7811	11	25.8	12	SF		3	E		19		
HOLL	29	2216	2217	2240	S16	W51	7811	11	26.0	24	SF	B 3.5	3	E		31		F
GOES	30	0619	0632	0652						33		B 3.7						
SVTO		0906	1005U	1129	S18	W60	7811	11	25.8	143	SN		2	E		45		H
LEAR		0957	1005	1010	S15	W61	7811	11	25.8	13	SF		3	E		15		F
SVTO		1058	1101	1136	N14	W44	7810	11	27.1	38	SF	B 4.3	3	E		62		F
SVTO		1142	1205	1228	S18	W61	7811	11	25.8	46	SF	B 3.8	3	E		24		H
RAMY		1155	1205	1219	S17	W61	7811	11	25.9	24	SF		3	E		45		
RAMY		1223	1235	1335	S17	W61	7811	11	25.9	72	SF		3	E		19		
SVTO		1231	1234	1249	S18	W61	7811	11	25.9	18	SF		3	E		10		H
SVTO		1250	1302U	1311	S18	W61	7811	11	25.9	21	SF		3	E		18		H
RAMY		1447	1448	1454	S17	W62	7811	11	25.9	7	SF	B 4.5	3	E		34		
RAMY		1503	1504	1518	S17	W63	7811	11	25.8	15	SF		3	E		17		
GOES		1623	1629	1634						11		B 1.6						
RAMY		1803	1803	1807	S18	W65	7811	11	25.8	4	SF		3	E		13		
HOLL		1803	1803	1807	S17	W66	7811	11	25.7	4	SF	B 3.2	3	E		15		
RAMY		1929	1930	1937	S18	W66	7811	11	25.8	8	SF	B 7.4	3	E		20		
HOLL		1930	1931	1934	S17	W66	7811	11	25.8	4	SF		3	E		19		
RAMY		2007	2008	2017	S17	W66	7811	11	25.8	10	SF	B 1.4	3	E		16		
HOLL		2007	2009	2015	S17	W66	7811	11	25.8	8	SF		3	E		20		
GOES		2122	2125	2127						5		B 1.2						
GOES		2130	2134	2136						6		B 2.2						
GOES		2326	2329	2332						6		B 1.0						

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Nov 94

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

NOVEMBER 1994

Day	Freq Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
						Peak (10 -22 W/m 2 Hz)	Mean		
23	2695 SVTO	49 GB	0859.0	0903.0	901.0	53000.0			QL=4 ST=1 TYP=7

Reports are received routinely from the following observatories:

LEAR = Learmonth

PALE = Palehua

SGMR = Sagamore Hill

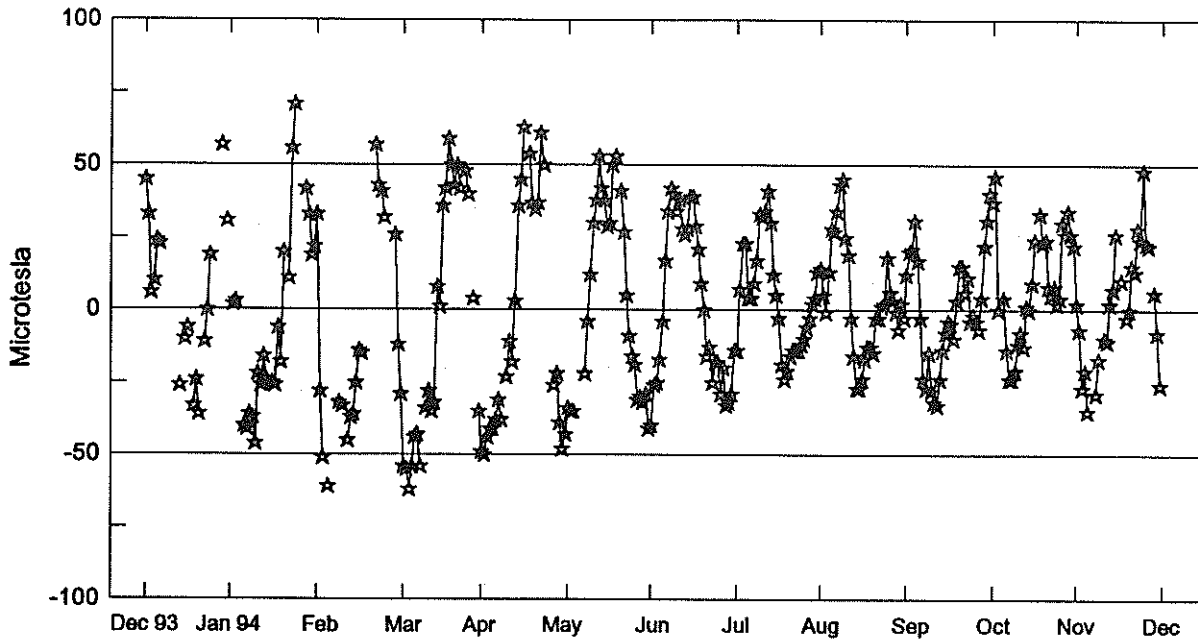
SVTO = San Vito

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; Hiraio, Japan 500 and 200 MHz; and Toyokawa, Japan 9400, 3750, 2000 and 1000 MHz.

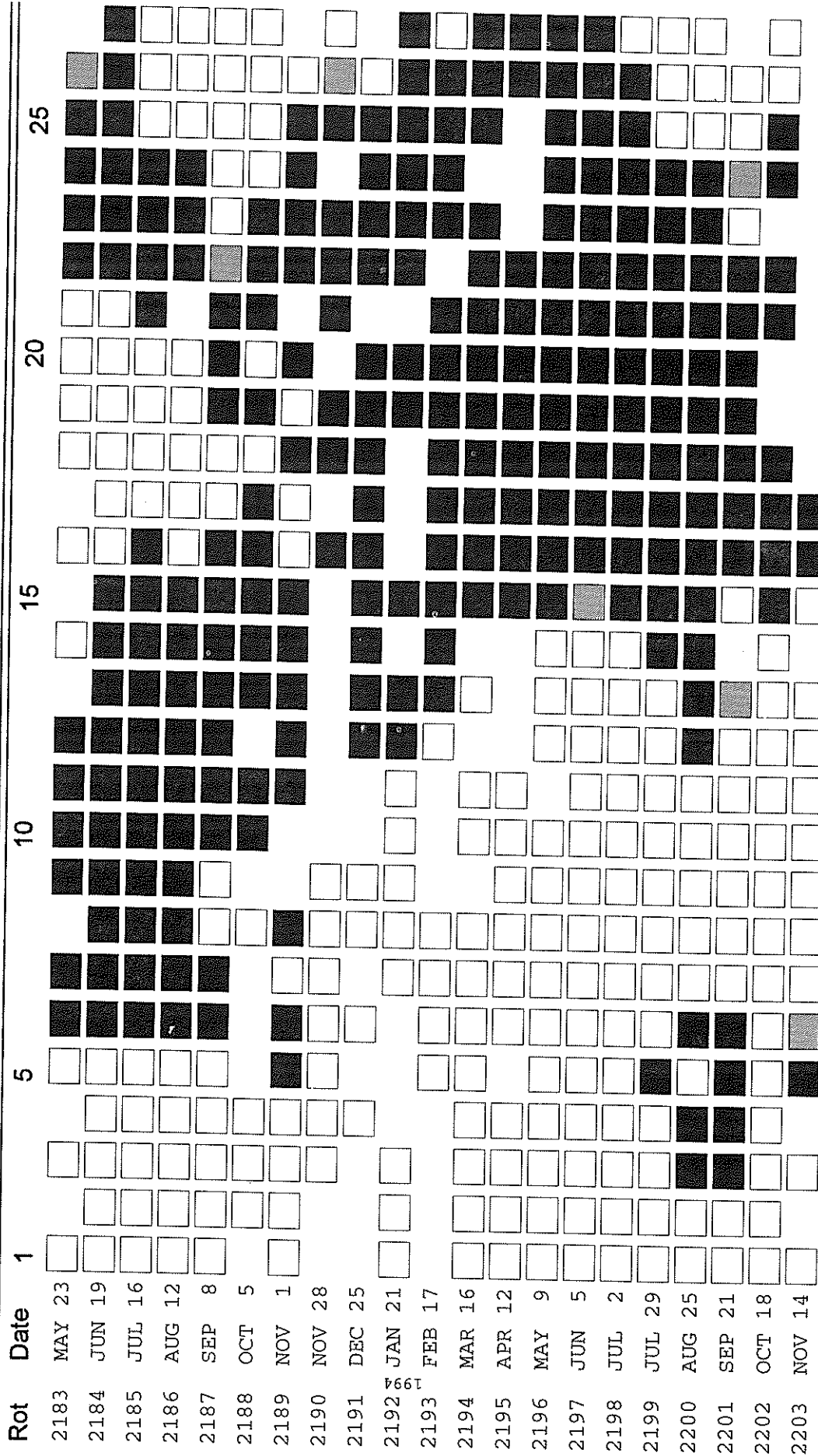
# Stanford Mean Solar Magnetic Field (Microtesla) "Sun-As-A-Star"



Day	Dec 93	Jan 94	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
1	45	2	-28	-12	-50	-34	-26	-14	5	20	37	-7
2	33	3	-51	-29	-44	-35	-25	7	-1	21	46	-27
3	6	---	---	-54	-41	-35	-17	23	13	31	0	-21
4	10	---	-61	-55	-41	---	-4	23	28	17	---	-35
5	24	-40	---	-62	-38	---	17	4	27	-3	4	---
6	23	-41	---	-54	-31	---	34	4	34	-24	-14	---
7	---	-36	---	-44	-38	-22	42	9	43	-27	-24	-29
8	---	-37	-32	-43	---	-4	40	17	45	-15	-24	-17
9	---	-46	-33	-54	-23	12	34	33	25	-28	-21	---
10	---	-22	---	---	-11	30	38	32	19	-32	-12	-10
11	---	-26	-45	-34	-18	38	28	34	-3	-33	-8	-11
12	---	-16	-37	-28	3	53	26	41	-16	-24	-13	2
13	-26	-24	-36	-35	36	42	28	30	-27	-14	1	7
14	---	---	-25	-32	45	38	39	15	-27	-8	0	26
15	-10	-25	-14	8	63	29	39	5	-24	-4	9	---
16	-6	-26	-15	1	---	30	29	-3	-17	-5	24	10
17	---	-6	---	36	54	50	21	-19	-13	-10	---	---
18	-33	-18	---	42	37	53	9	-24	-13	3	33	-3
19	-24	20	---	59	35	---	0	-21	-15	15	23	0
20	-36	---	---	50	37	41	-16	-16	-3	15	24	15
21	---	11	57	43	61	27	-13	-14	-3	6	8	13
22	-11	56	43	50	50	5	-25	-14	1	11	5	28
23	0	71	41	42	---	-9	-18	-14	2	-4	8	24
24	19	---	32	---	---	-16	-18	-12	18	-2	2	48
25	---	---	---	48	---	-19	-29	-10	6	-4	4	23
26	---	---	---	40	-26	-31	-20	-6	3	-7	30	22
27	---	42	---	---	-22	-30	-33	-3	-1	4	26	---
28	57	33	26	4	-39	-32	-32	2	-7	22	34	6
29	---	19	---	---	-48	-29	-29	4	2	31	26	-8
30	31	22	---	-35	-43	-41	-14	13	-3	40	22	-26
31	---	33	---	-49	---	-40	---	14	12	---	2	---

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

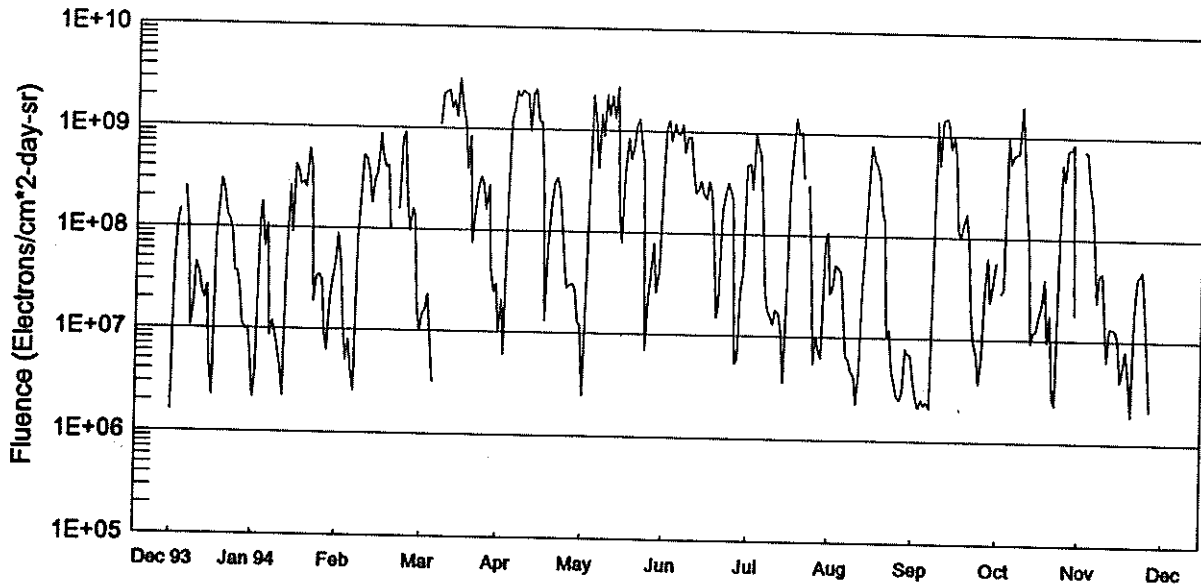
STANFORD MEAN SOLAR MAGNETIC FIELD



Mean Solar Magnetic Field Polarity:  
 White box = field > 2 microT;  
 Diagonal lines = -2 microT ≤ field ≤ 2 microT;  
 Solid black = field < -2 microT;  
 Stippled = 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.

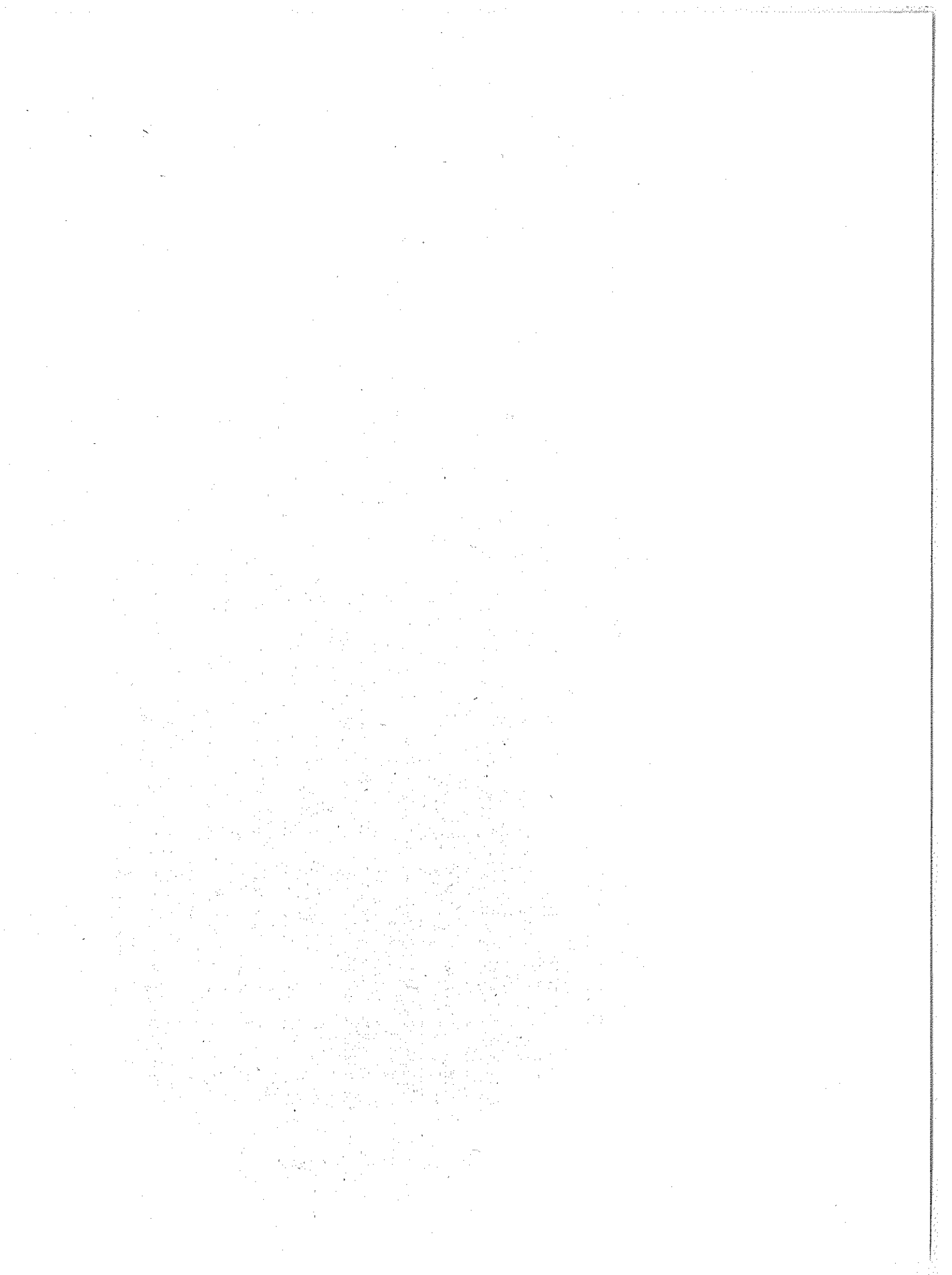
# GOES7 Daily Electron Fluence Dec 93 - Nov 94



Day	Dec 93	Jan 94	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
1	1.6E+06	3.8E+06	4.5E+07	1.6E+07	2.1E+07	2.5E+06	1.3E+09	5.0E+08	3.0E+07	2.5E+06	-	7.3E+08
2	4.1E+07	1.1E+08	1.1E+07	9.9E+06	5.9E+06	2.3E+07	8.1E+08	2.8E+08	5.1E+07	2.1E+06	2.8E+07	7.1E+08
3	1.1E+08	1.8E+08	5.0E+06	1.5E+07	1.9E+08	2.5E+08	1.2E+09	1.0E+09	4.9E+07	2.5E+06	3.0E+07	3.5E+08
4	1.5E+08	6.6E+07	8.1E+06	1.6E+07	1.2E+09	2.2E+09	9.6E+08	7.3E+08	4.3E+07	2.2E+06	9.7E+08	2.4E+08
5	-	1.1E+08	4.1E+06	2.3E+07	1.6E+09	1.4E+09	9.3E+08	6.1E+08	1.6E+07	2.4E+06	5.4E+08	1.0E+08
6	2.5E+08	8.5E+06	2.5E+06	7.5E+06	2.4E+09	4.3E+08	1.2E+09	1.7E+08	6.4E+06	2.1E+06	6.5E+08	2.3E+07
7	1.0E+08	1.2E+07	7.7E+07	3.1E+06	2.1E+09	1.5E+09	6.2E+08	2.7E+07	6.1E+06	5.4E+07	6.8E+08	4.4E+07
8	1.1E+07	9.2E+06	1.9E+08	-	2.4E+09	8.8E+08	9.0E+08	1.8E+07	4.6E+06	1.4E+09	6.7E+08	4.6E+07
9	1.6E+07	6.0E+06	5.3E+08	1.1E+09	2.3E+09	2.2E+09	9.0E+08	1.6E+07	4.2E+06	5.2E+08	2.0E+09	1.6E+07
10	4.5E+07	4.1E+06	5.1E+08	2.2E+09	2.2E+09	1.4E+09	4.2E+08	1.3E+07	2.2E+06	1.4E+09	8.8E+08	6.3E+06
11	3.6E+07	2.2E+06	3.5E+08	2.3E+09	9.6E+08	2.2E+09	2.5E+08	1.8E+07	4.6E+06	1.5E+09	1.9E+08	1.3E+07
12	2.3E+07	4.3E+07	1.8E+08	2.4E+09	2.3E+09	1.3E+09	2.7E+08	1.7E+07	3.0E+07	1.4E+09	9.8E+07	1.3E+07
13	2.0E+07	2.6E+08	3.0E+08	1.6E+09	2.5E+09	2.7E+09	3.3E+08	1.1E+07	9.1E+07	7.4E+08	9.1E+06	1.2E+07
14	2.7E+07	9.1E+07	3.6E+08	1.9E+09	1.2E+09	1.6E+08	2.4E+08	3.5E+06	3.9E+08	9.6E+08	1.2E+07	1.0E+07
15	4.8E+06	4.2E+08	8.8E+08	1.3E+09	1.2E+09	8.0E+07	2.2E+08	2.0E+07	8.0E+08	6.3E+08	1.2E+07	3.9E+06
16	2.2E+06	3.7E+08	5.4E+08	3.1E+09	3.6E+08	3.9E+08	3.3E+08	3.0E+08	5.6E+08	1.2E+08	1.8E+07	5.2E+06
17	7.5E+07	2.7E+08	4.1E+08	1.6E+09	1.3E+07	8.6E+08	2.5E+08	7.9E+08	4.9E+08	1.0E+08	2.2E+07	8.0E+06
18	1.6E+08	2.9E+08	4.2E+08	1.2E+09	6.8E+07	5.3E+08	9.1E+07	1.5E+09	3.8E+08	1.4E+08	4.0E+07	4.2E+06
19	3.0E+08	2.5E+08	1.0E+08	4.0E+08	1.9E+08	6.7E+08	1.5E+07	9.9E+08	1.8E+08	1.7E+08	9.4E+06	1.8E+06
20	2.4E+08	6.1E+08	-999	8.6E+08	3.0E+08	1.1E+09	2.0E+07	1.0E+09	1.4E+08	9.3E+07	-999	1.7E+07
21	1.3E+08	3.9E+08	-999	7.5E+07	3.4E+08	1.3E+09	1.7E+08	3.6E+08	1.0E+07	2.0E+07	2.7E+06	4.1E+07
22	1.2E+08	1.9E+07	1.6E+08	1.6E+08	2.7E+08	6.8E+08	2.4E+08	-	1.2E+07	9.6E+06	2.3E+06	4.5E+07
23	9.3E+07	3.3E+07	7.9E+08	2.7E+08	1.3E+08	4.9E+08	3.2E+08	3.1E+08	4.9E+06	7.0E+06	4.5E+07	4.9E+07
24	3.8E+07	3.5E+07	9.1E+08	3.4E+08	4.4E+07	6.8E+06	2.7E+08	4.8E+07	3.7E+06	3.6E+06	5.4E+08	1.7E+07
25	3.8E+07	3.1E+07	2.2E+08	2.9E+08	2.8E+07	2.3E+07	2.1E+08	5.4E+06	2.7E+06	6.8E+06	3.7E+08	6.1E+06
26	2.5E+07	9.3E+06	9.6E+07	1.6E+08	3.0E+07	4.3E+07	5.3E+06	1.0E+07	2.4E+06	3.0E+07	7.5E+08	2.0E+06
27	1.1E+07	6.2E+06	1.6E+08	2.8E+08	3.1E+07	8.0E+07	5.8E+06	7.2E+06	2.9E+06	6.4E+07	7.6E+08	-
28	9.9E+06	1.9E+07	1.4E+08	4.4E+07	2.7E+07	2.5E+07	2.8E+07	6.2E+06	7.9E+06	2.3E+07	8.6E+08	-
29	1.0E+07	3.1E+07	-	2.5E+07	1.3E+07	4.4E+07	4.3E+07	8.1E+07	6.9E+06	3.7E+07	1.7E+07	-
30	5.3E+06	4.9E+07	-	3.0E+07	1.2E+07	2.9E+08	4.8E+08	1.1E+08	6.8E+06	5.9E+07	-	1.6E+08
31	2.2E+06	9.0E+07	-	-	-	1.1E+09	-	2.7E+07	3.9E+06	-	-	-

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





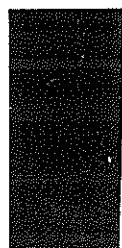
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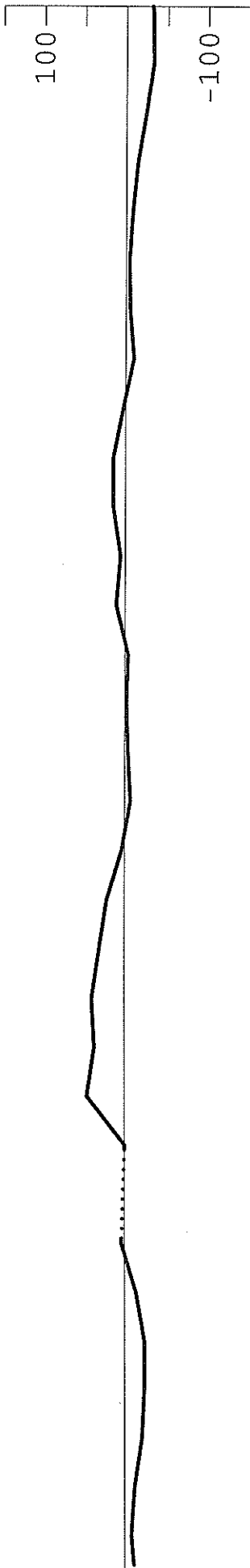
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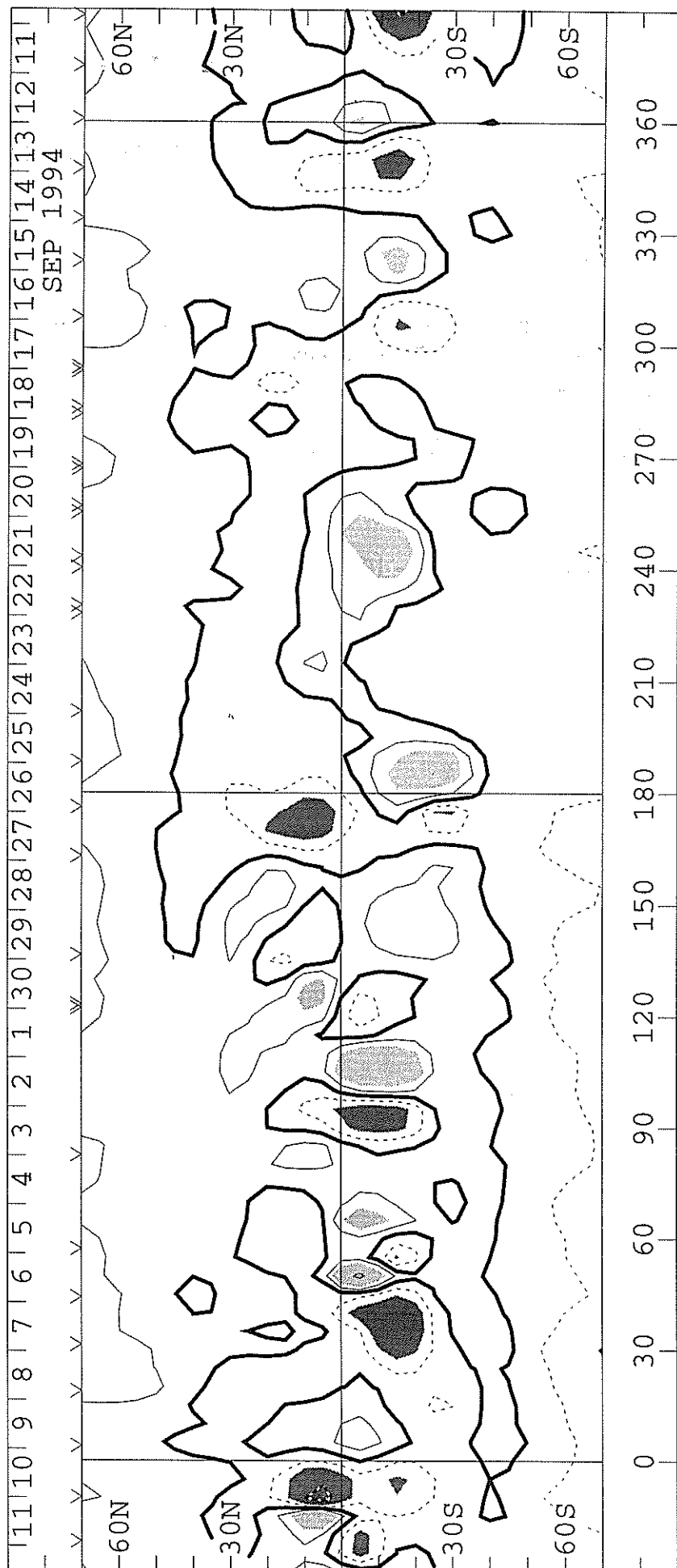
**SOLAR MAGNETIC FIELD SYNOPTIC CHART**  
CARRINGTON ROTATION NUMBER 1887  
(12 September to 10 October 1994)

**WILCOX SOLAR OBSERVATORY**

Mean Field



Photospheric Magnetic Field 0,  $\pm 100$ , 500, 1000, 2000 MicroTesla

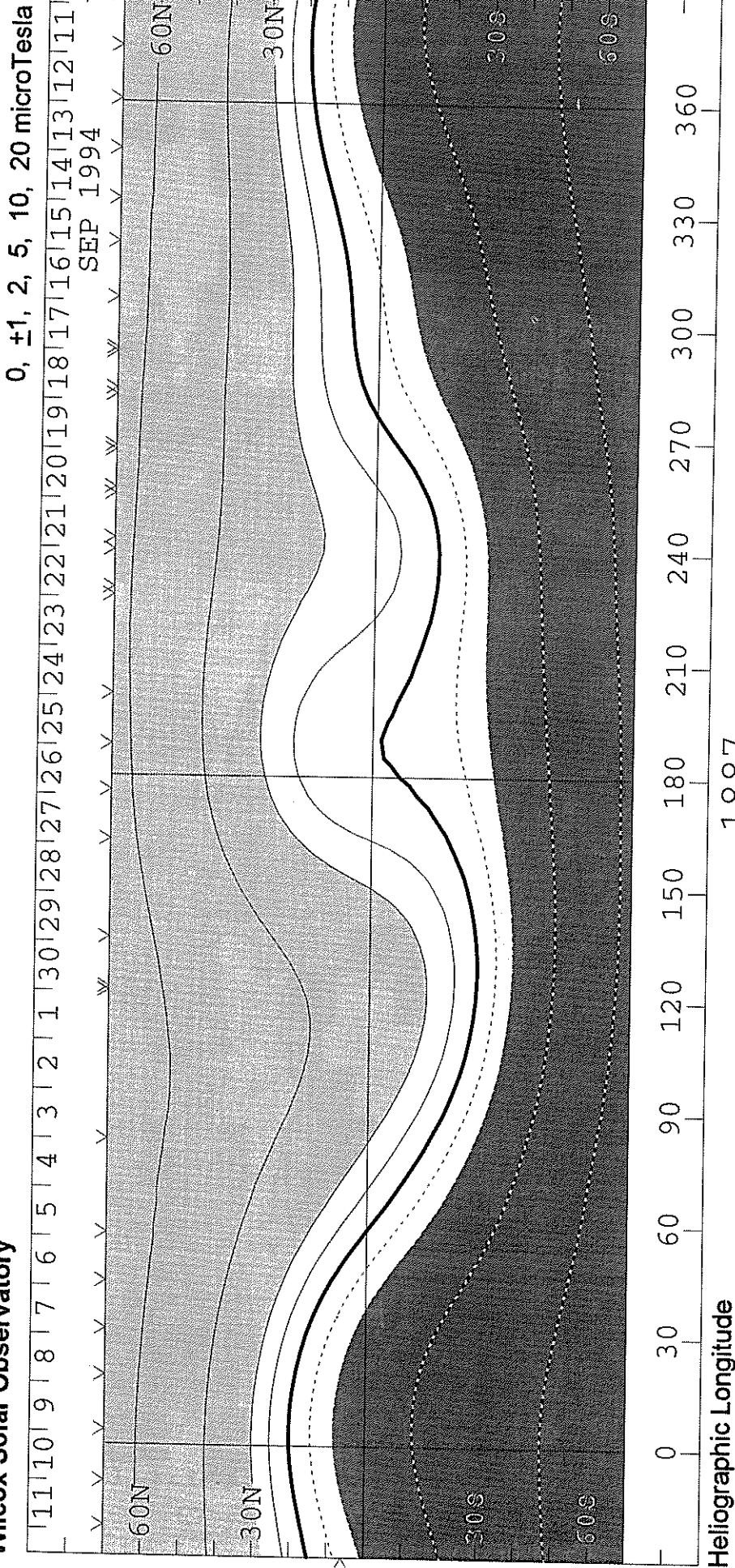


1887

Heliographic Longitude

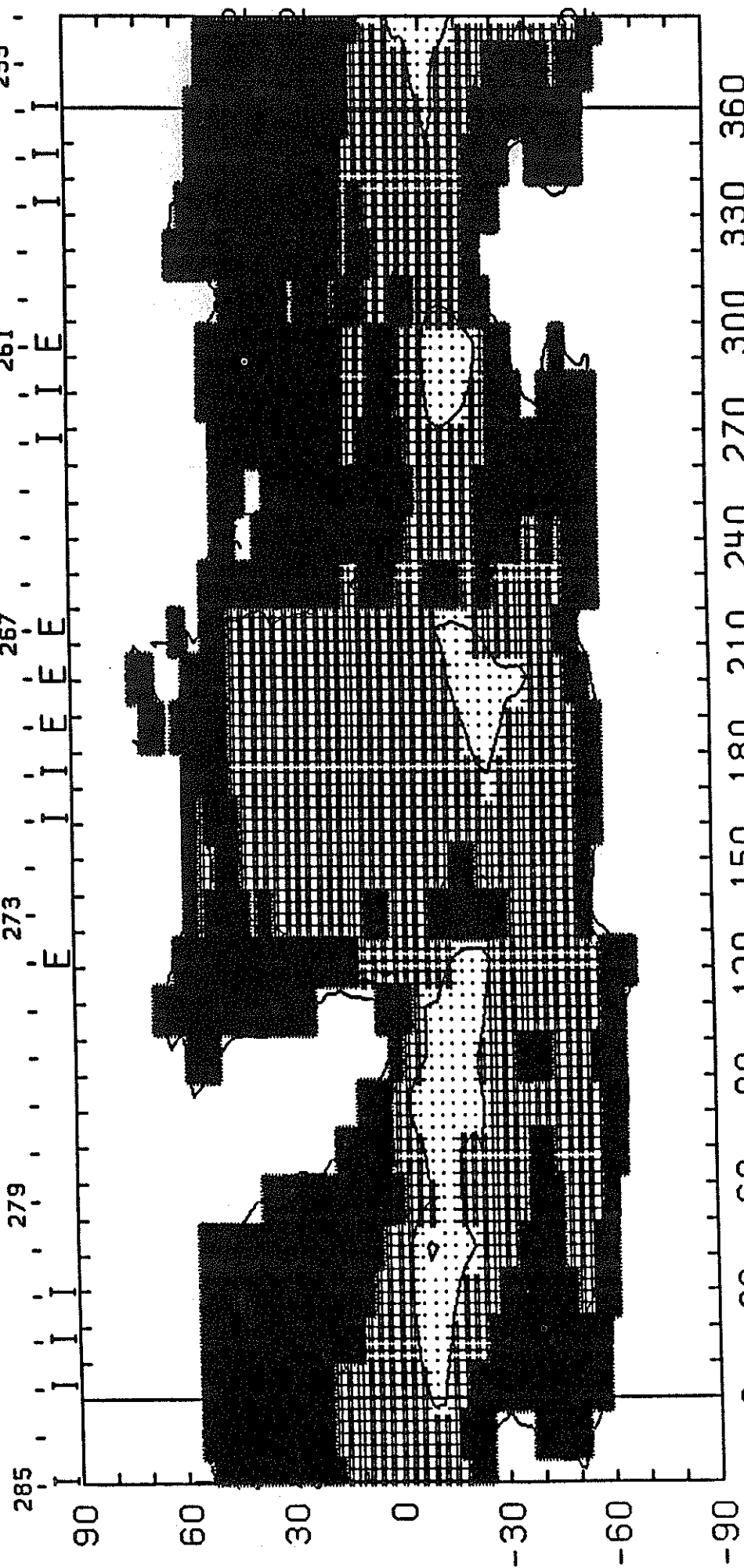
**SOLAR MAGNETIC FIELD SYNOPSIS CHART**  
**SOURCE SURFACE FIELD**  
**CARRINGTON ROTATION NUMBER 1887**  
 (12 September to 10 October 1994)

**Wilcox Solar Observatory**



CARRINGTON ROTATION NUMBER 1887 ; SAC. PEAK FE XIV AT R = 1.15

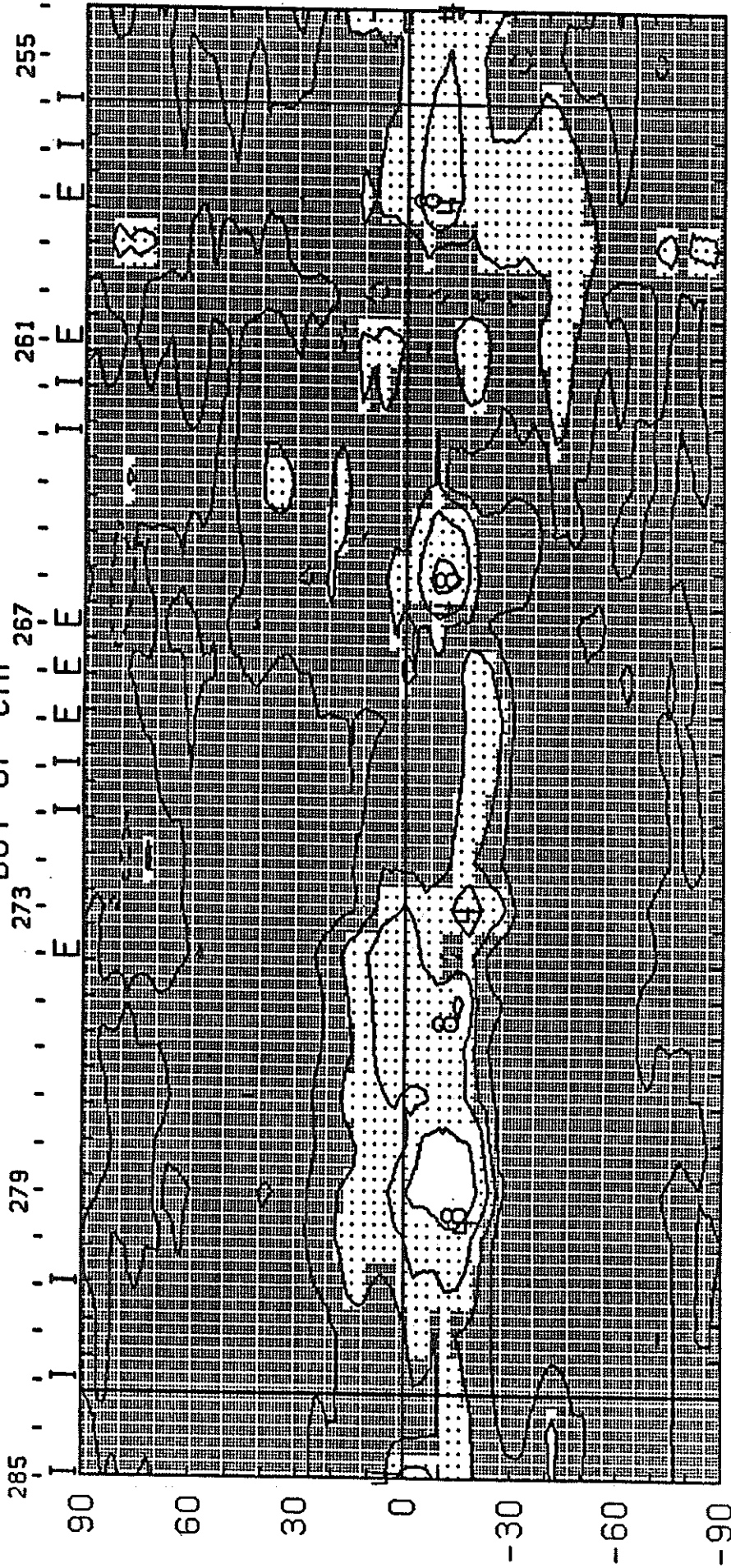
DOY OF CMP 267



E HELIOGRAPHIC LONGITUDE I<sub>ove</sub> = 2.12μ W

1994 W+E LIMB CONTOURS: 1,2,3,7,11,15,25,35,45 MILLIONTHS OF I<sub>o</sub>  
( 8-060-94) CORONAL HOLES ARE SHOWN AS WHITE SURROUNDED BY BLACK

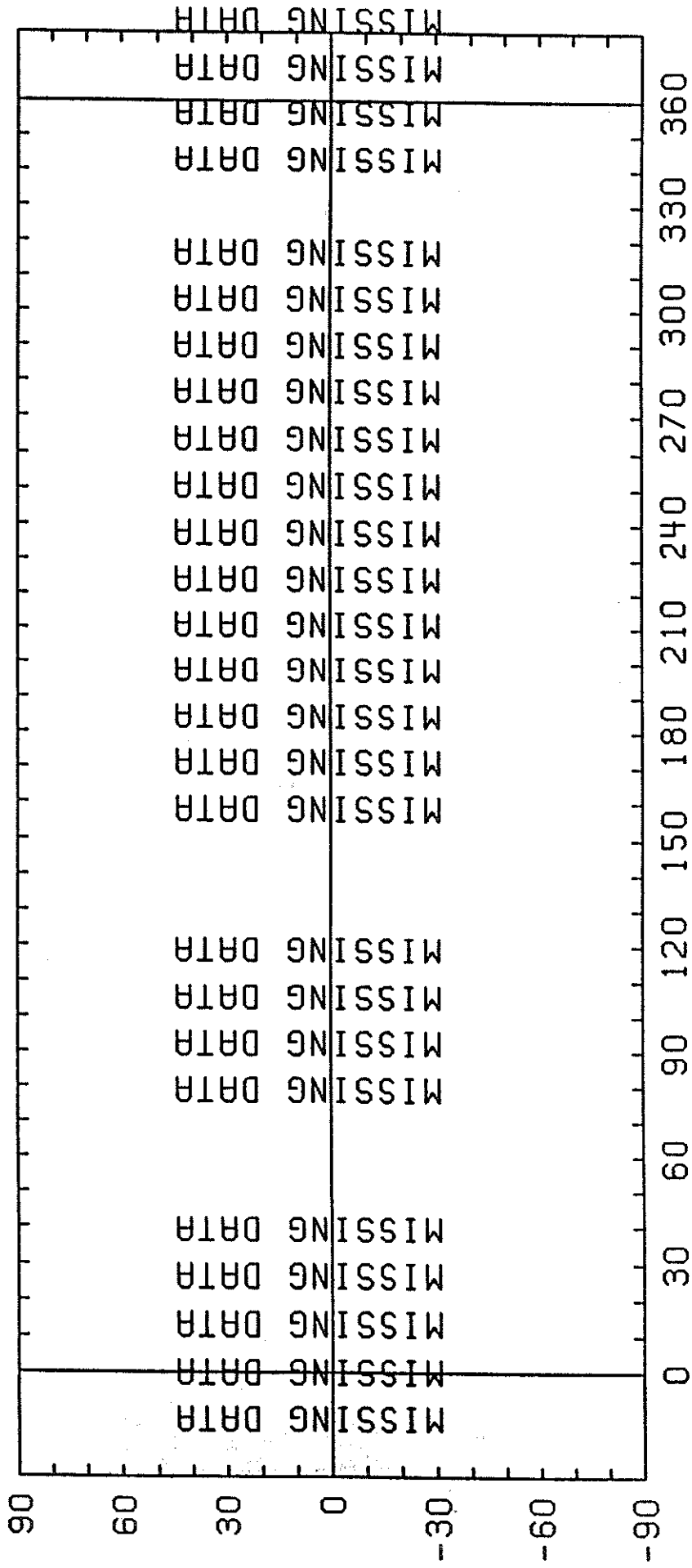
CARRINGTON ROTATION NUMBER 1887 ; SAC. PEAK FE X AT R = 1.15  
 DOY OF CMP 267 261 255



E  
 1994 W+E LIMB CONTOURS: 1, 2, 4, 8, 16, 32, 48, 64, 80 MILLIONTHS OF I<sub>0</sub>  
 HELIOGRAPHIC LONGITUDE I<sub>ave</sub> = 1.40 μ W  
 ( 8-Dec-94)

CARRINGTON ROTATION NUMBER 1887 ; SAC. PEAK CA XV at R = 1.13

285 . . . . . 279 . . . . . 273 . . . . . 267 . . . . . 261 . . . . . 255



E  
HELIOGRAPHIC LONGITUDE  
W  
1994 EAST LIMB CONTOURS: YELLOW-MINIMUM, 1, 2, 4, 8 MILLIONTHS OF I<sub>0</sub>  
( 8-Dec-94)

CARRINGTON ROTATION NUMBER 1887 ; SAC. PEAK CA XV  $\alpha$  + R = 1.13

DOY OF CM<sub>267</sub>

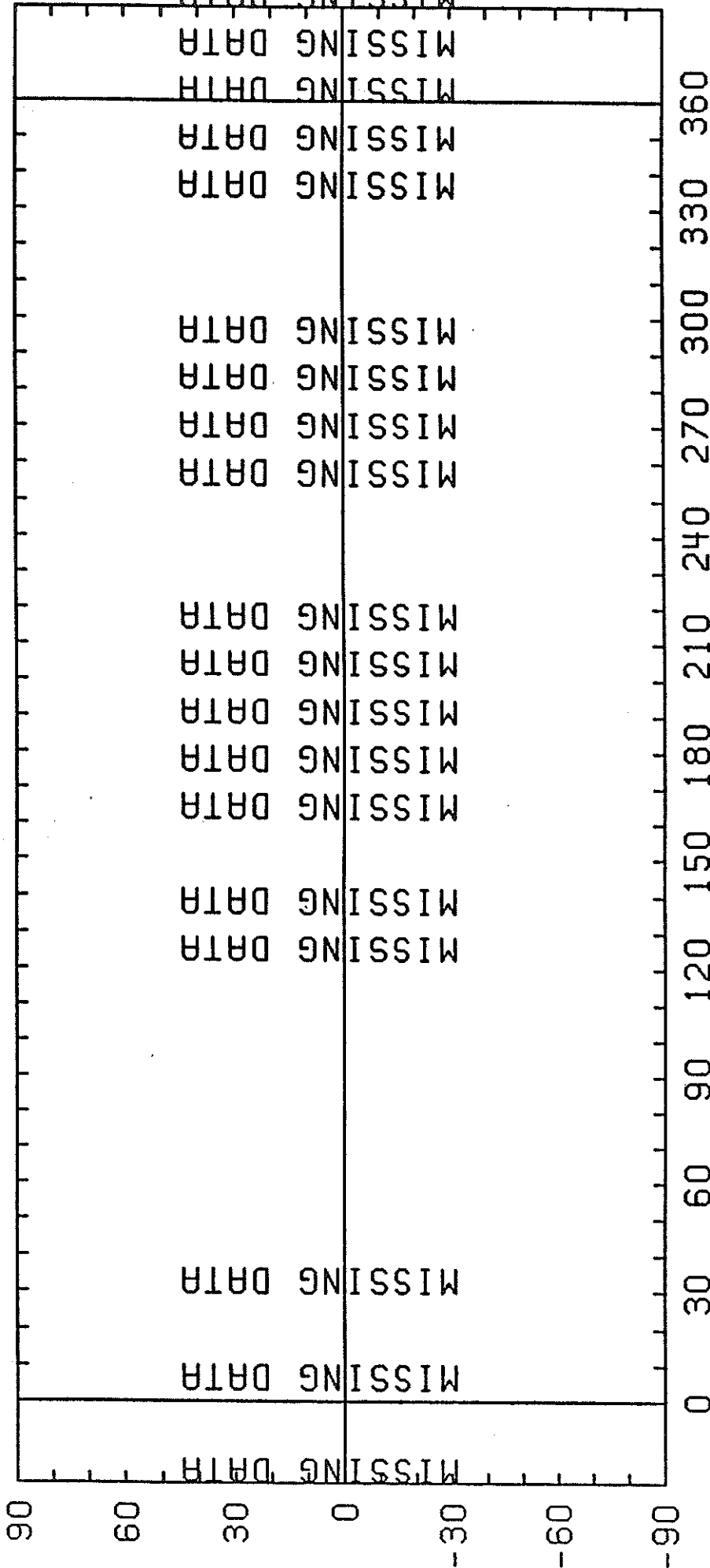
285

279

273

261

255



HELIOGRAPHIC LONGITUDE

1994 WEST LIMB CONTOURS: YELLOW-MINIMUM, 1, 2, 4, 8 MILLIONTHS OF Io

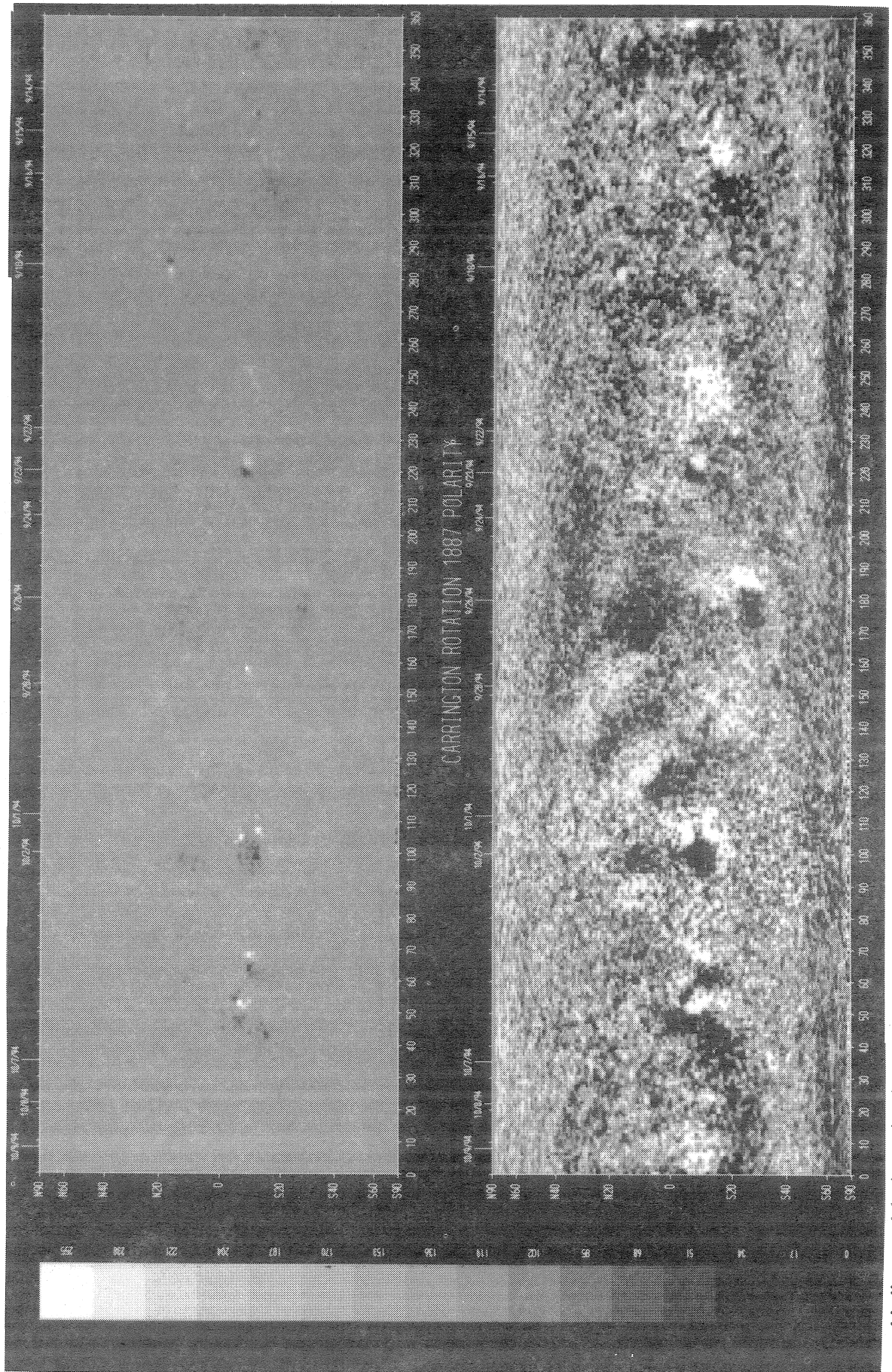
( 8-Dec-94)



**SOLAR MAGNETIC FIELD SYNOPSIS CHART**  
**CARRINGTON ROTATION NUMBER 1887**  
**(12 September to 10 October 1994)**

National Solar Observatory/Kitt Peak

Dates of Observation

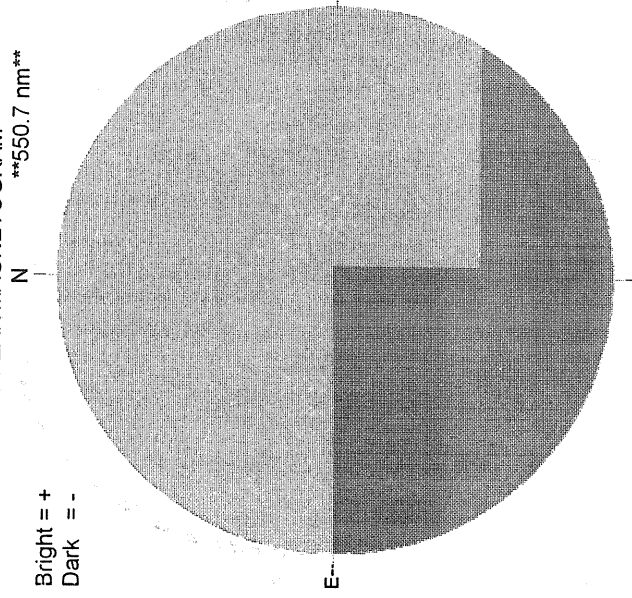


Heliographic Longitude

OCTOBER 1, 1994 ( P= 25.97, Bo = 6.73, Lo = 121.83)

KITT PEAK MAGNETOGRAM  
\*\*550.7 nm\*\*

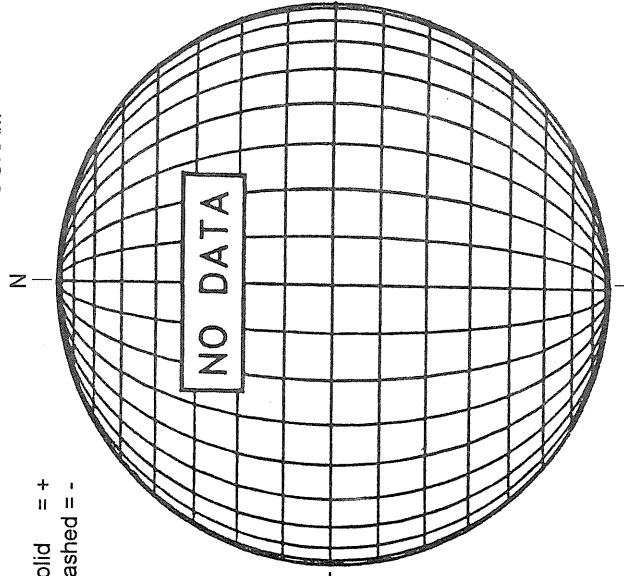
Bright = +  
Dark = -



1819 UT

STANFORD MAGNETOGRAM

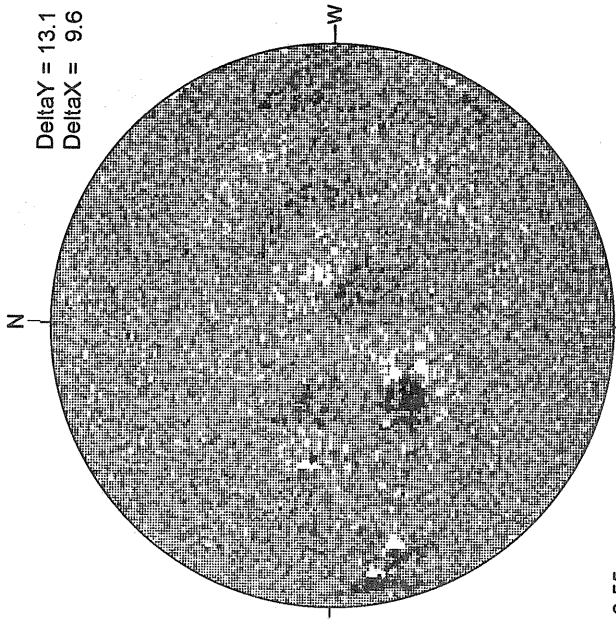
Solid = +  
Dashed = -



16.55 -  
17.49 UT

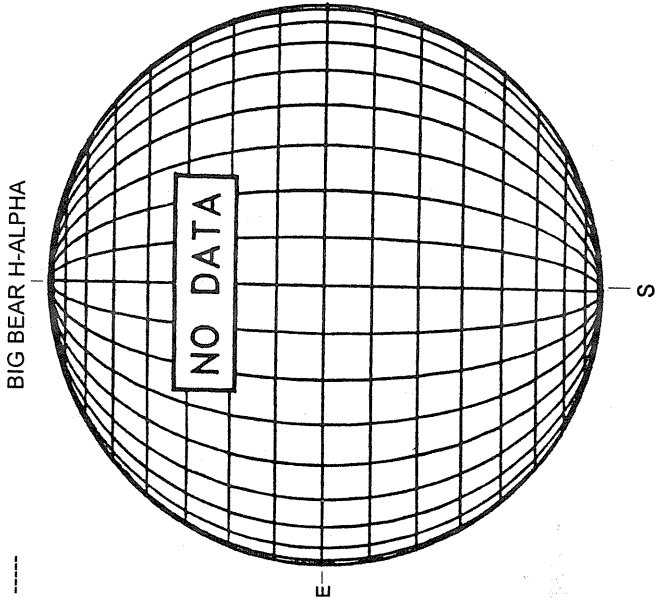
MT. WILSON MAGNETOGRAM

Delta Y = 13.1  
Delta X = 9.6

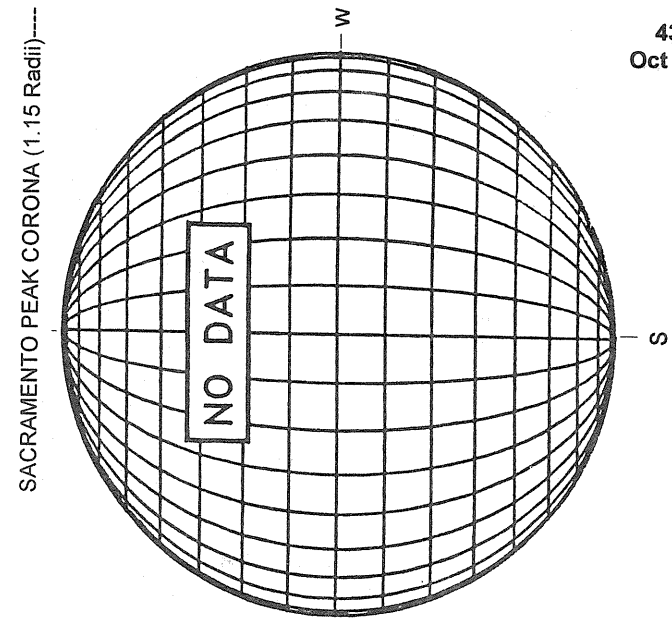
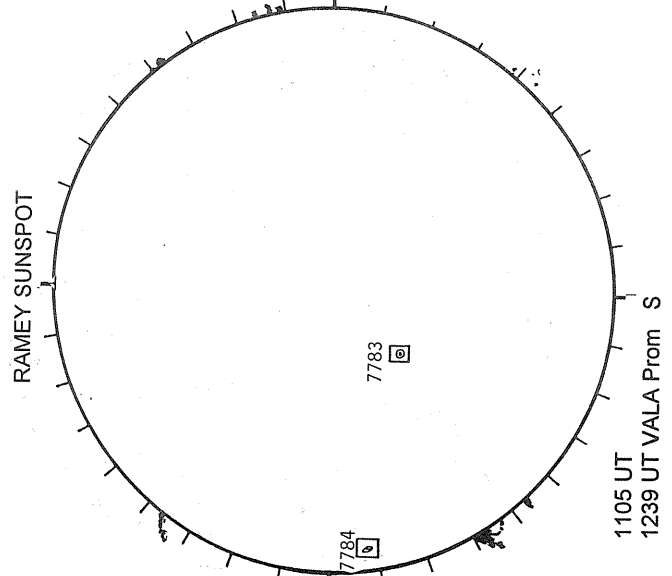


White = +7.5G  
Black = -7.5G

BIG BEAR H-ALPHA



RAMEY SUNSPOT

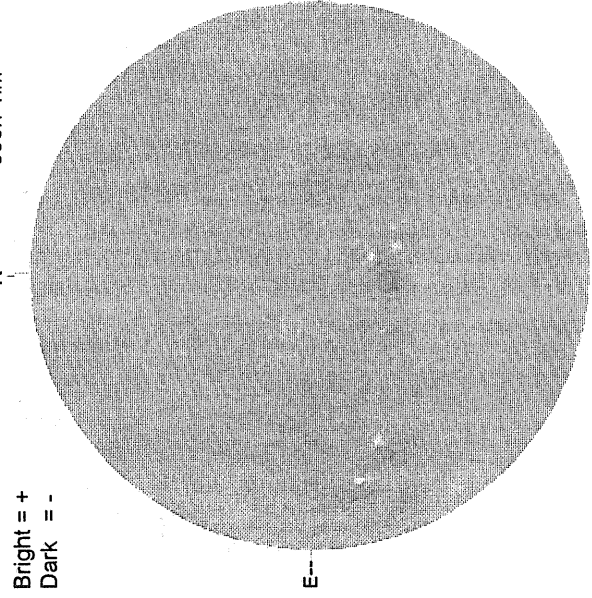


SACRAMENTO PEAK CORONA (1.15 Radii)----

1105 UT  
1239 UT VALA Prom S

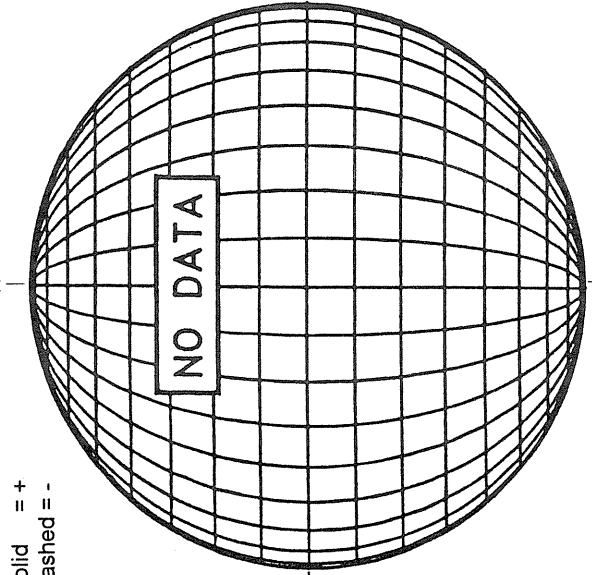
OCTOBER 2, 1994 ( P= 26.04, Bo = 6.68, Lo = 108.63)

KITT PEAK MAGNETOGRAM  
\*\*550.7 nm\*\*



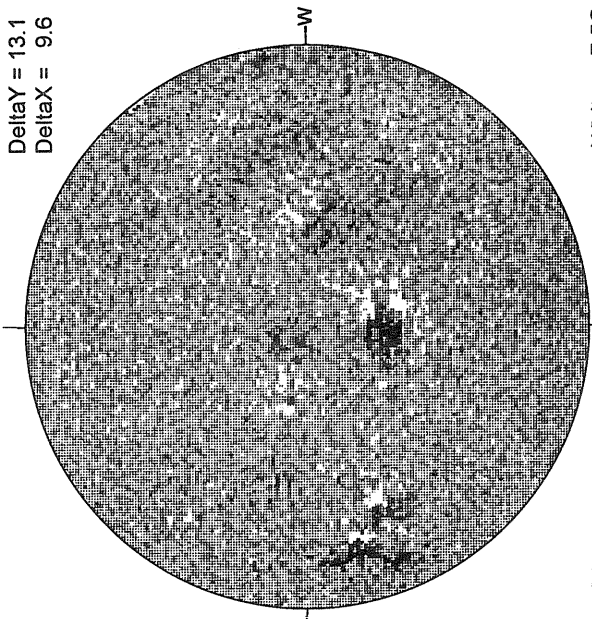
1514 UT

STANFORD MAGNETOGRAM

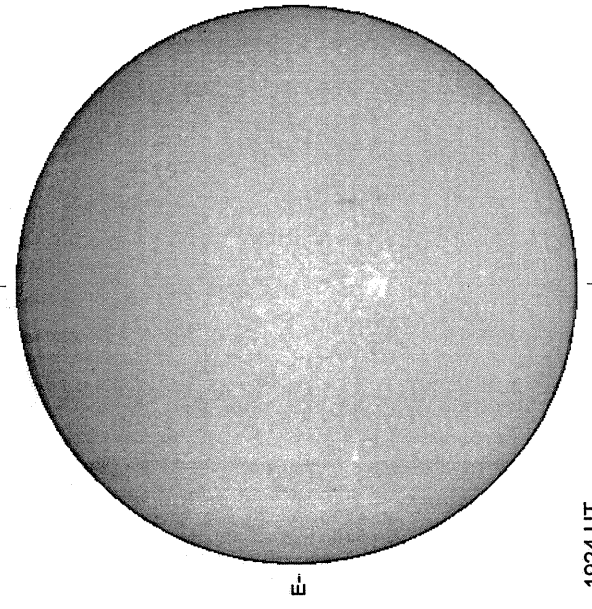


16.54 -  
17.47 UT

MT. WILSON MAGNETOGRAM

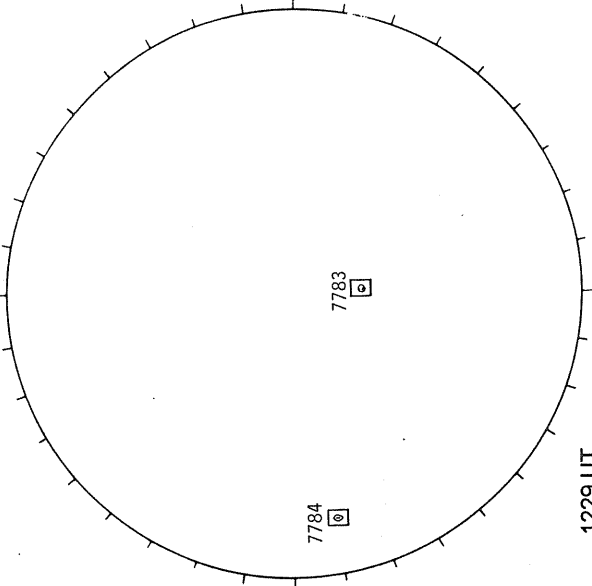


MAUNA LOA H-ALPHA



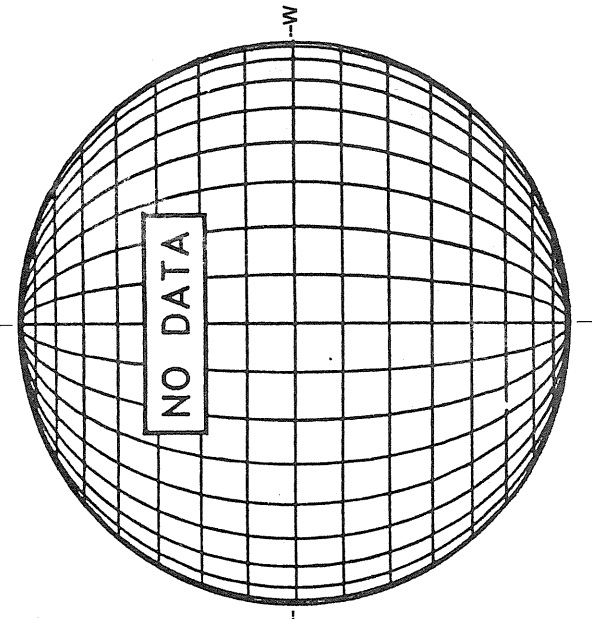
1924 UT

RAMEY SUNSPOT



1229 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

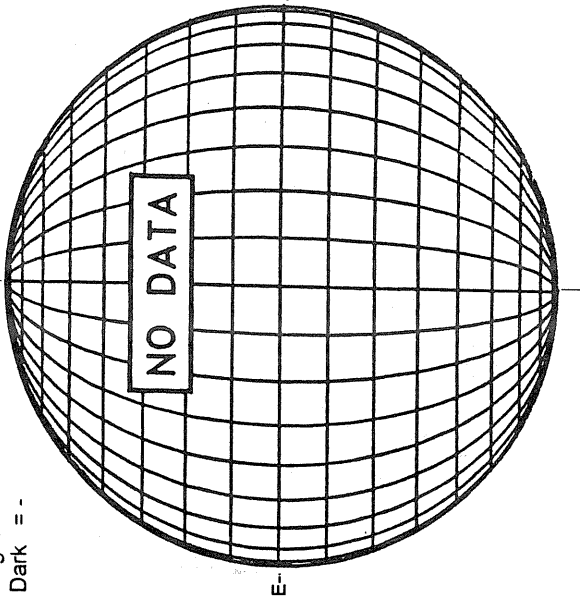




OCTOBER 3, 1994 ( P= 26.09, Bo = 6.63, Lo = 95.44)

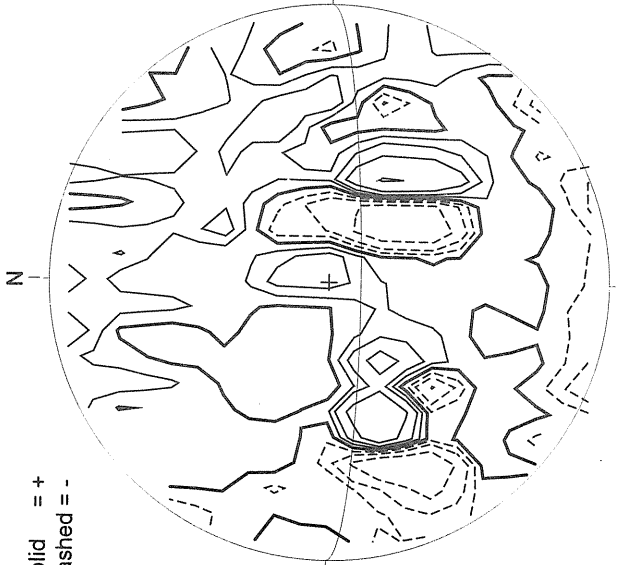
KITT PEAK MAGNETOGRAM  
\*\*\*550.7 nm\*\*

Bright = +  
Dark = -



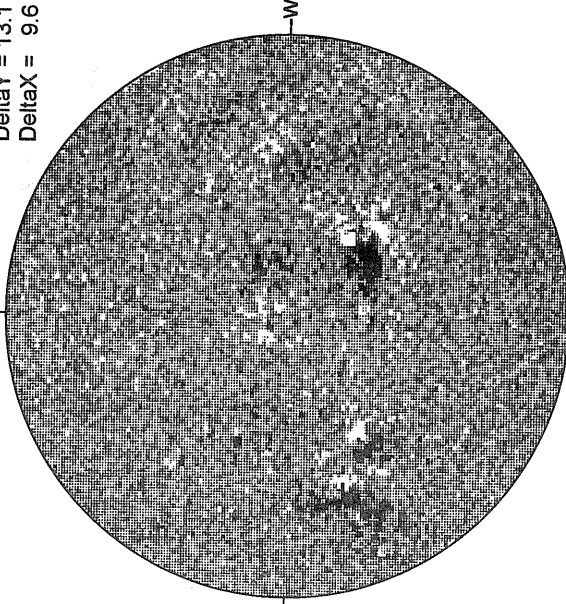
STANFORD MAGNETOGRAM

Solid = +  
Dashed = -



MT. WILSON MAGNETOGRAM

Delta Y = 13.1  
Delta X = 9.6

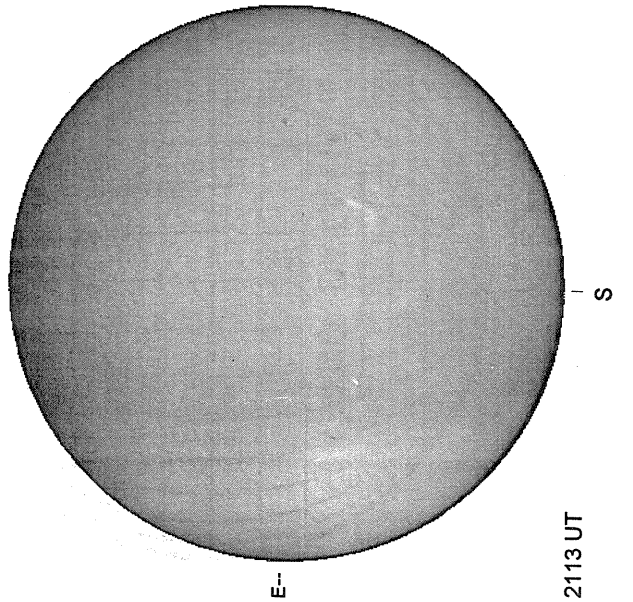


16.86 -  
17.80 UT

White = +7.5G  
Black = -7.5G

MAUNA LOA H-ALPHA

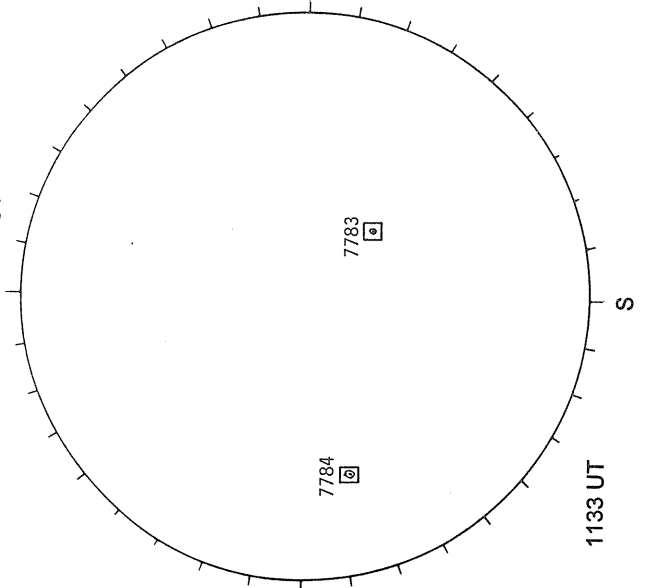
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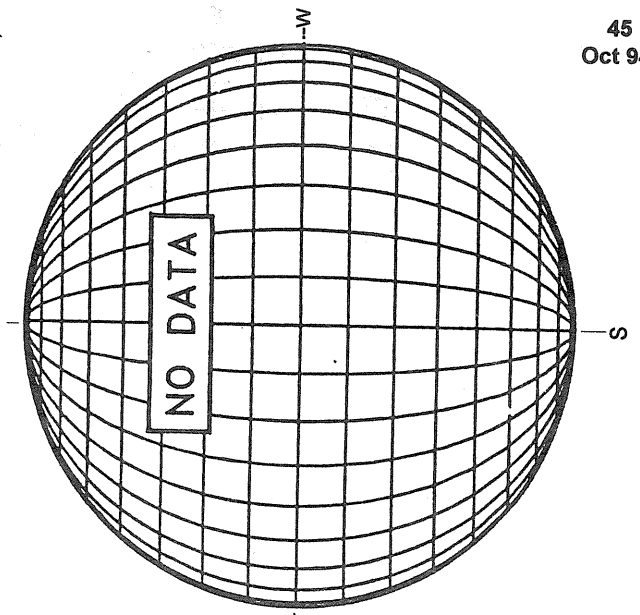
2113 UT

RAMEY SUNSPOT

SACRAMENTO PEAK CORONA (1.15 Radii)----



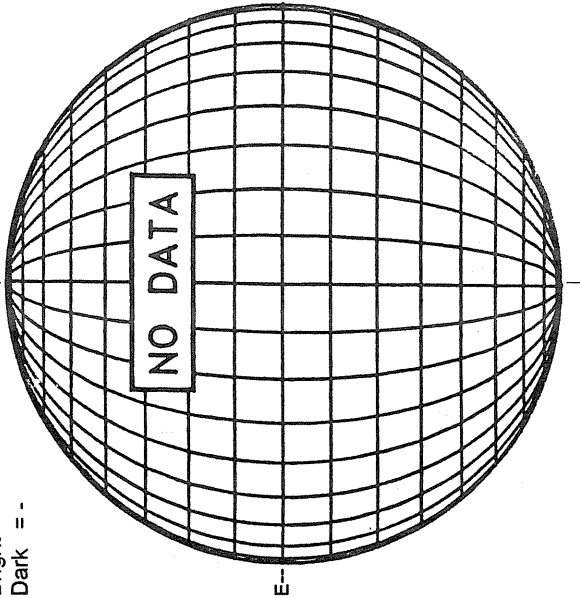
1133 UT



OCTOBER 4, 1994 ( P= 26.14, Bo = 6.58, Lo = 82.25)

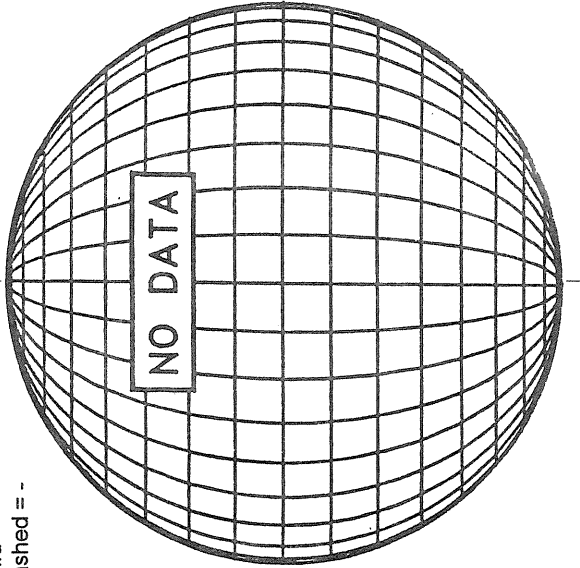
KITT PEAK MAGNETOGRAM  
\*\*550.7 nm\*\*

Bright = +  
Dark = -



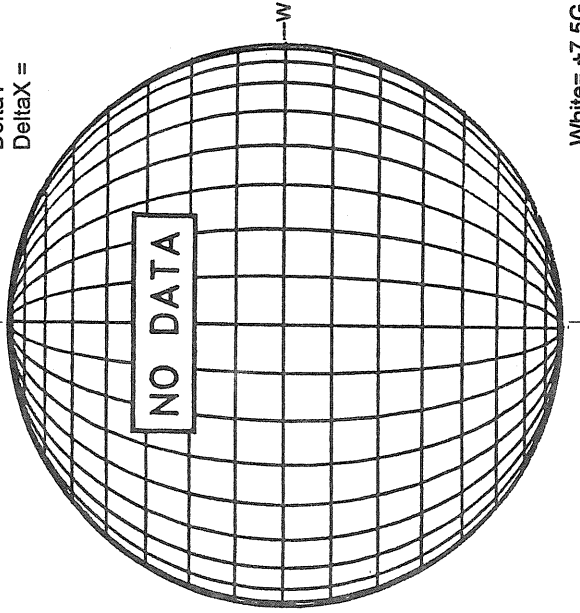
STANFORD MAGNETOGRAM

Solid = +  
Dashed = -



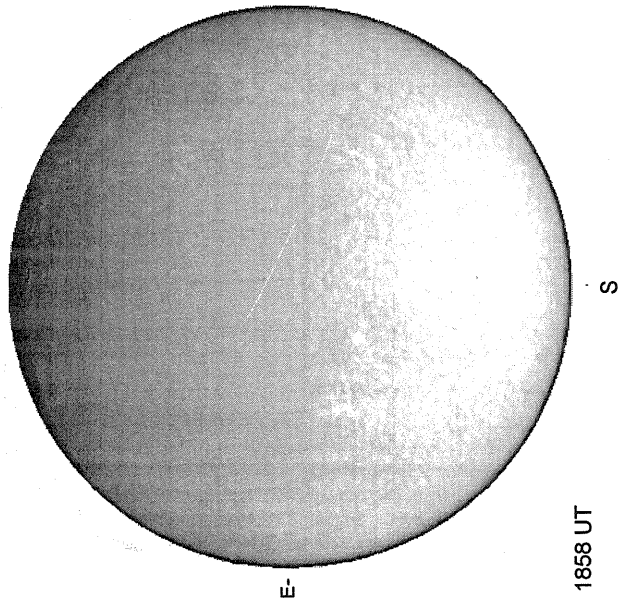
MT. WILSON MAGNETOGRAM

Delta Y =  
Delta X =



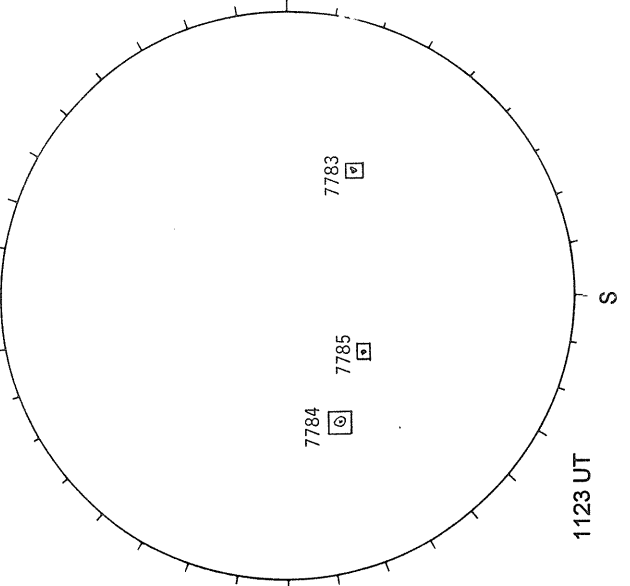
White = +7.5G  
Black = -7.5G

MAUNA LOA H-ALPHA



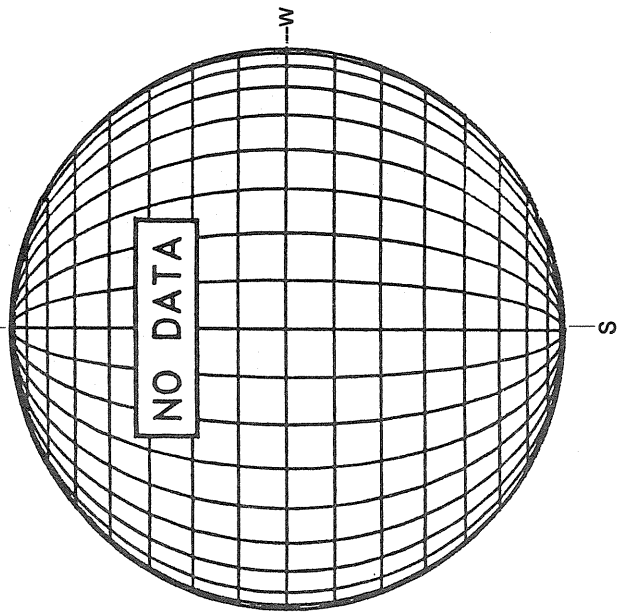
1858 UT

RAMEY SUNSPOT

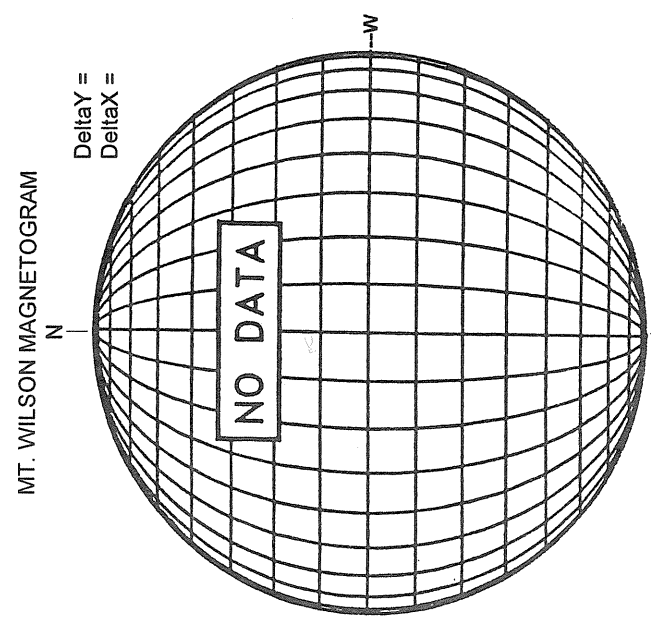
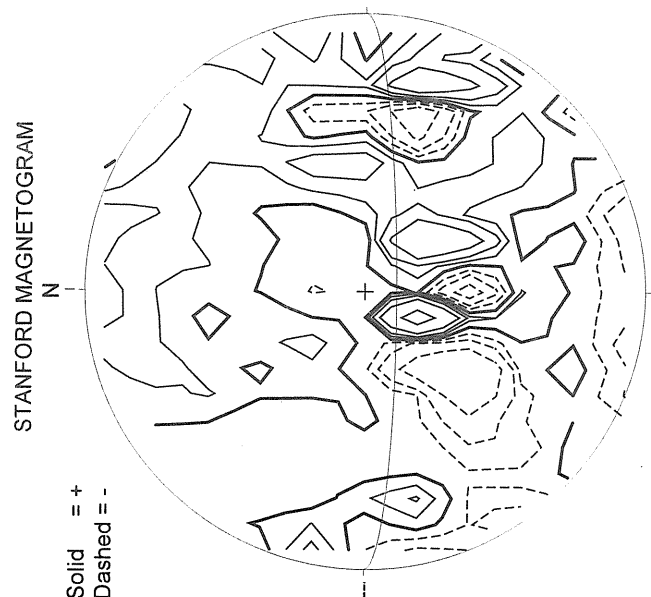
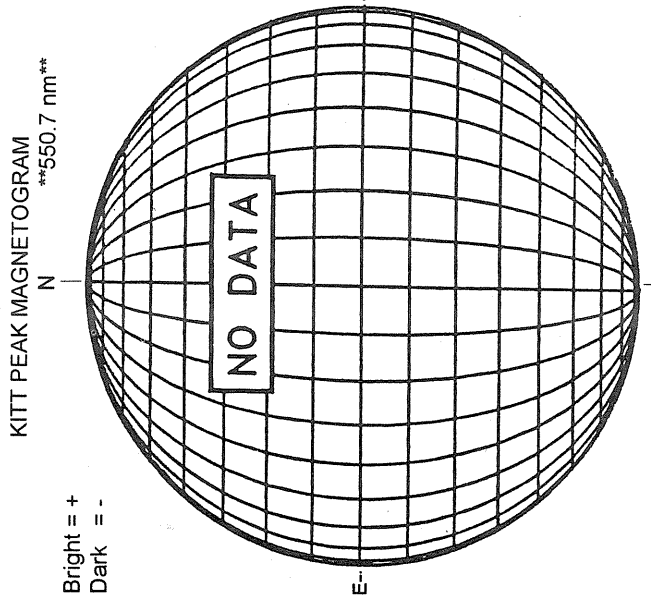


1123 UT

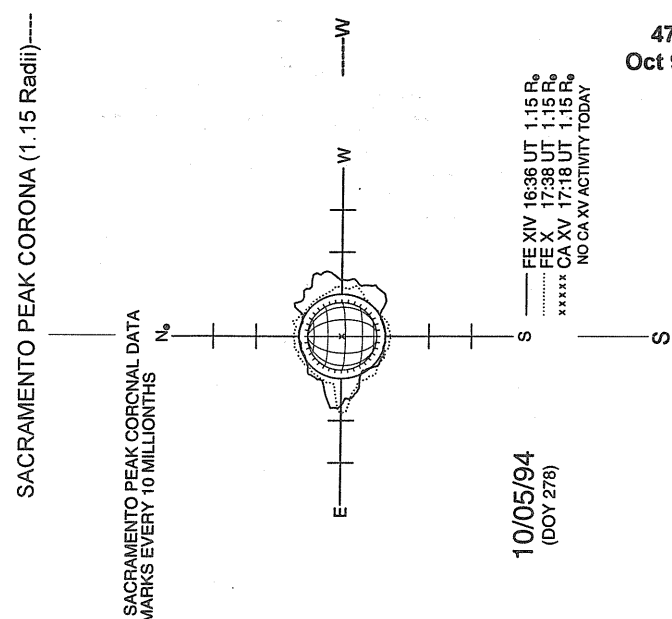
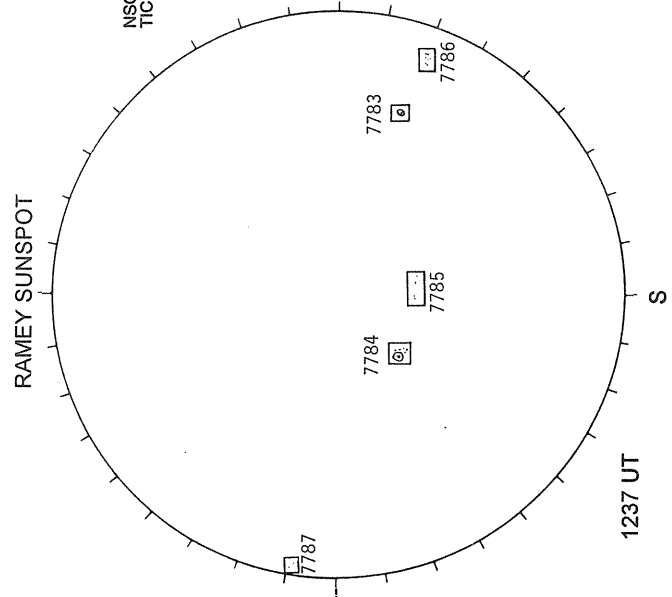
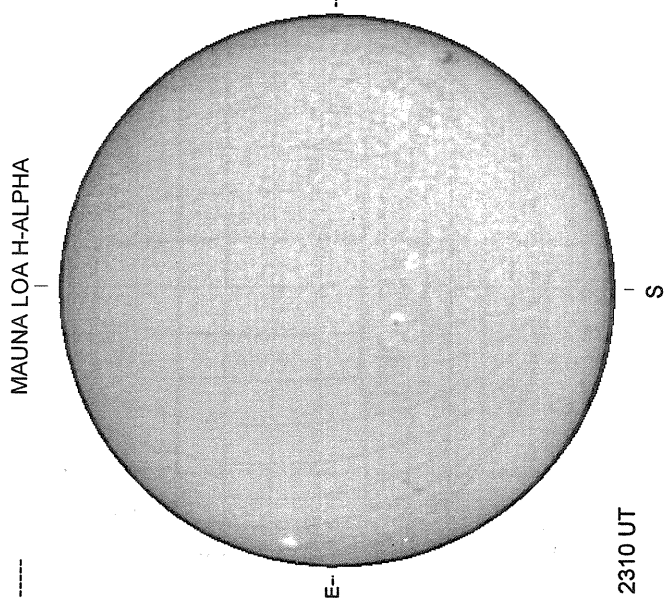
SACRAMENTO PEAK CORONA (1.15 Radii)----



OCTOBER 5, 1994 ( P= 26.19, Bo = 6.52, Lo = 69.05)



White = +7.5G  
Black = -7.5G

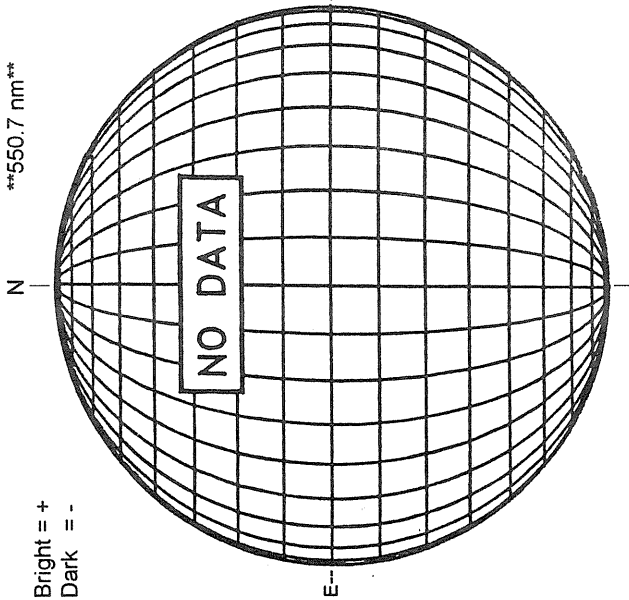


OCTOBER 6, 1994 ( P= 26.22 Bo = 6.47, Lo = 55.86)

KITT PEAK MAGNETOGRAM

\*\*550.7 nm\*\*

Bright = +  
Dark = -



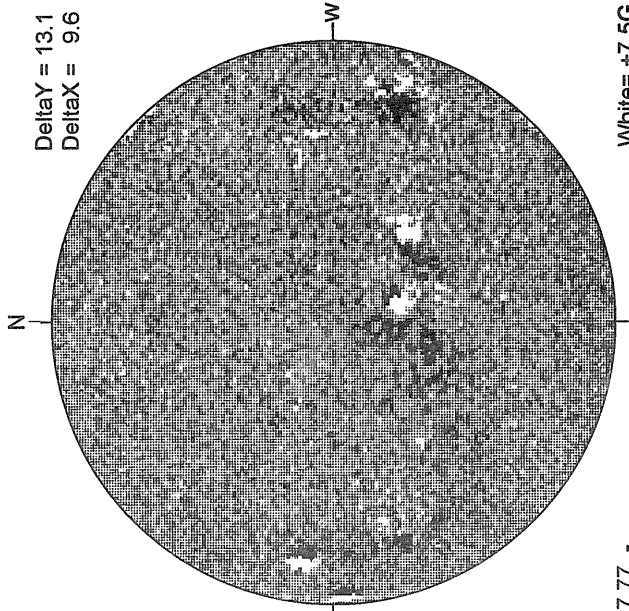
STANFORD MAGNETOGRAM

Solid = +  
Dashed = -



MT. WILSON MAGNETOGRAM

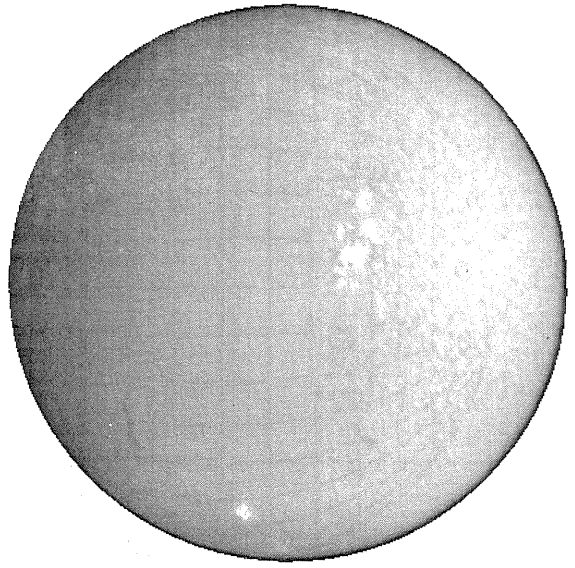
Delta Y = 13.1  
Delta X = 9.6



17.77 -  
18.71 UT

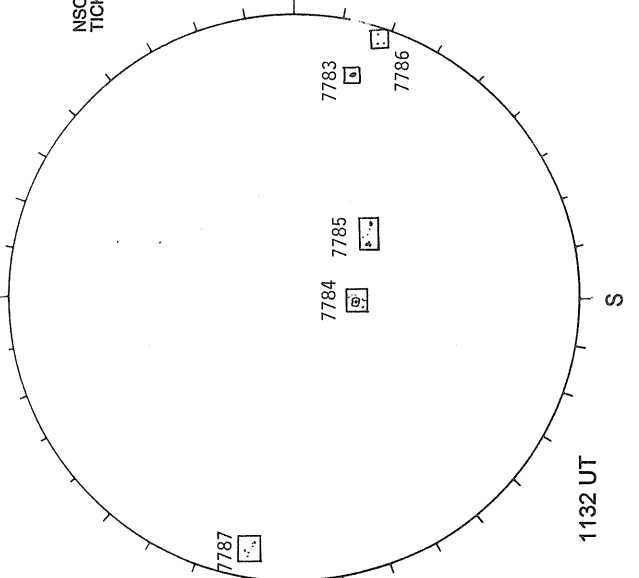
White = +7.5G  
Black = -7.5G

MAUNA LOA H-ALPHA



1916 UT

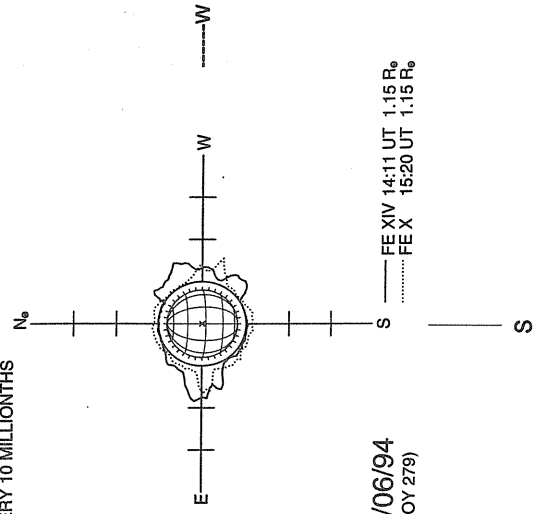
RAMEY SUNSPOT



1132 UT

SACRAMENTO PEAK CORONA (1.15 Radli)----

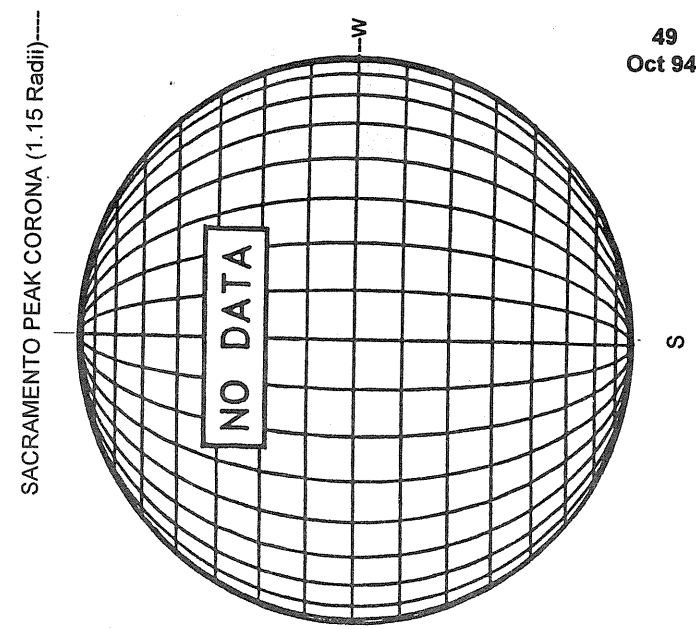
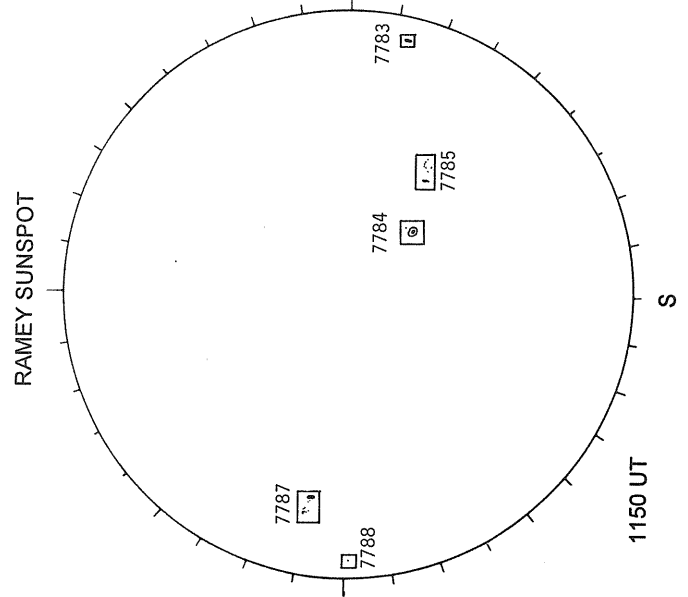
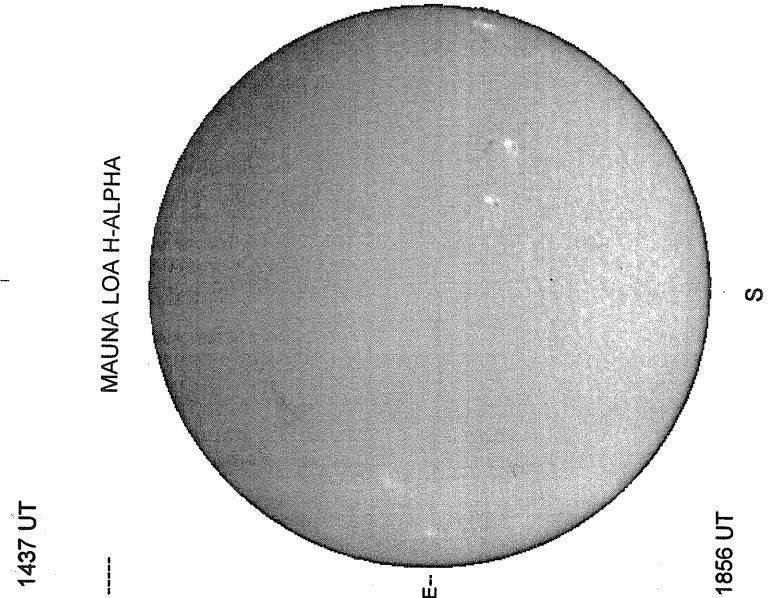
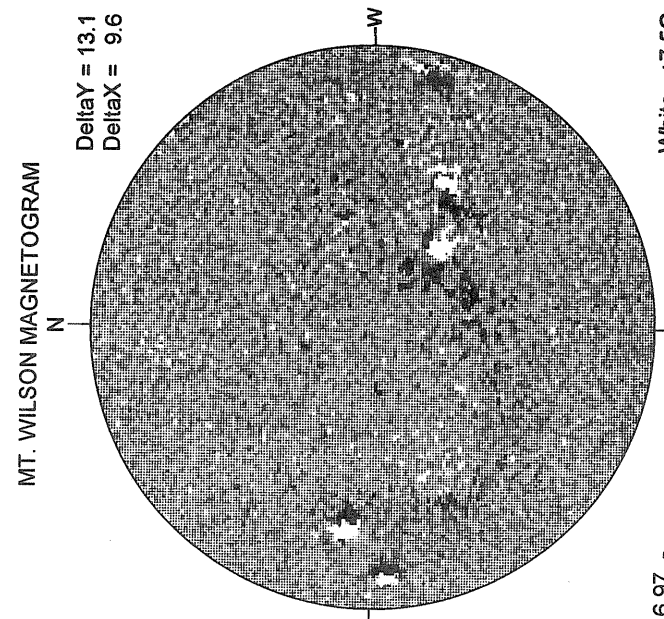
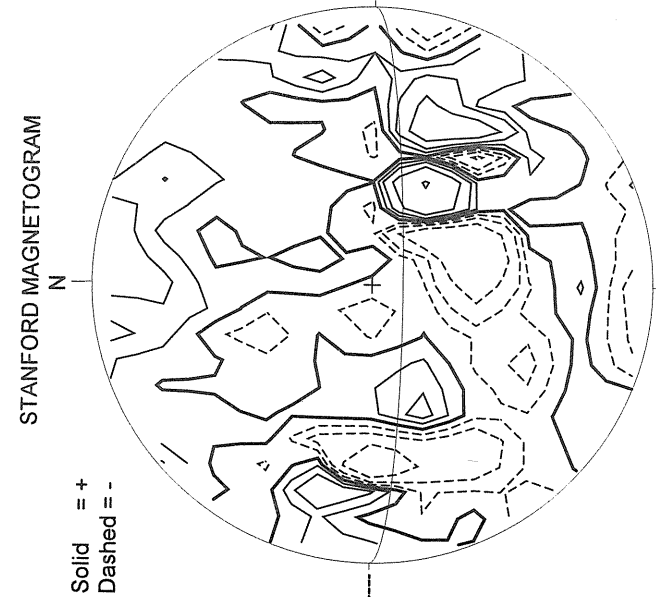
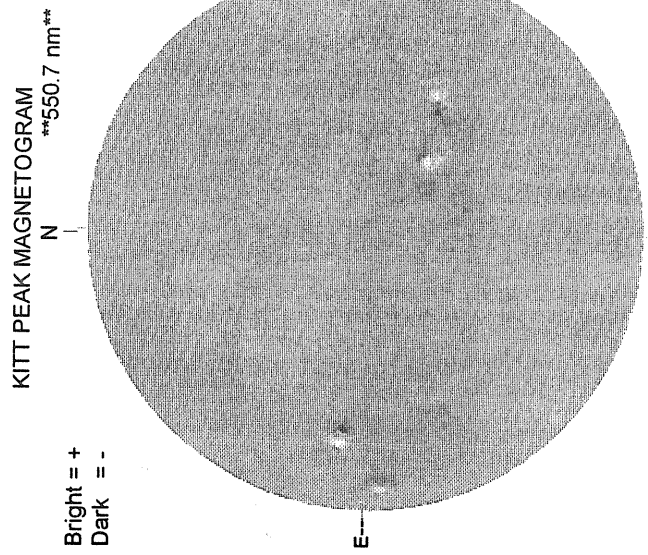
NSO / SACRAMENTO PEAK CORONAL DATA  
TICK MARKS EVERY 10 MILLIONTHS



10/06/94  
(DOY 279)

FE XIV 14:11 UT 1.15 R<sub>o</sub>  
FE X 15:20 UT 1.15 R<sub>o</sub>

OCTOBER 7, 1994 ( P= 26.25, Bo = 6.41, Lo = 42.66)



White = +7.5G  
Black = -7.5G

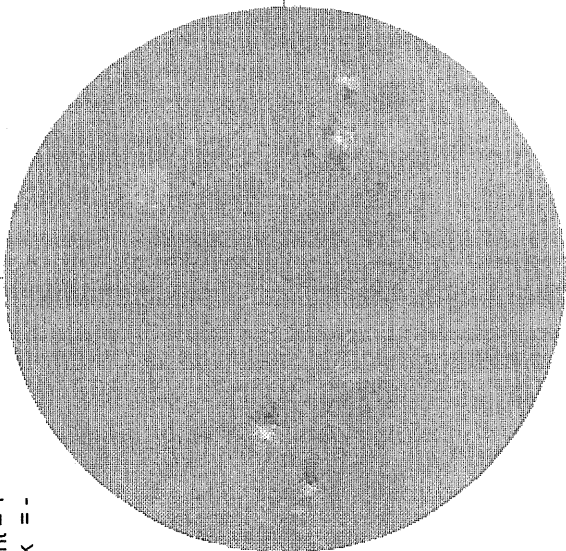


OCTOBER 8, 1994 ( P= 26.28, Bo = 6.35, Lo = 29.47)

KITT PEAK MAGNETOGRAM

\*\*550.7 nm\*\*

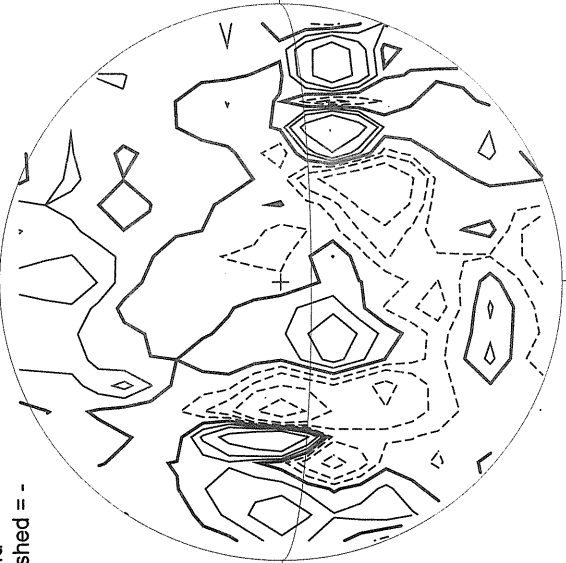
Bright = +  
Dark = -



1424 UT

STANFORD MAGNETOGRAM

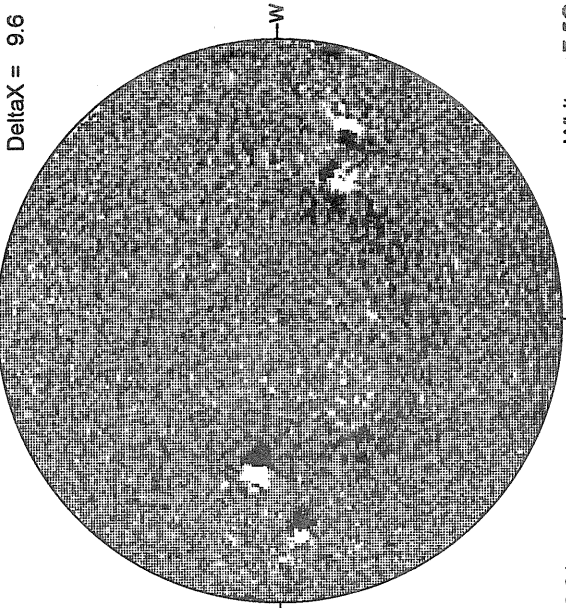
Solid = +  
Dashed = -



1930 UT

MT. WILSON MAGNETOGRAM

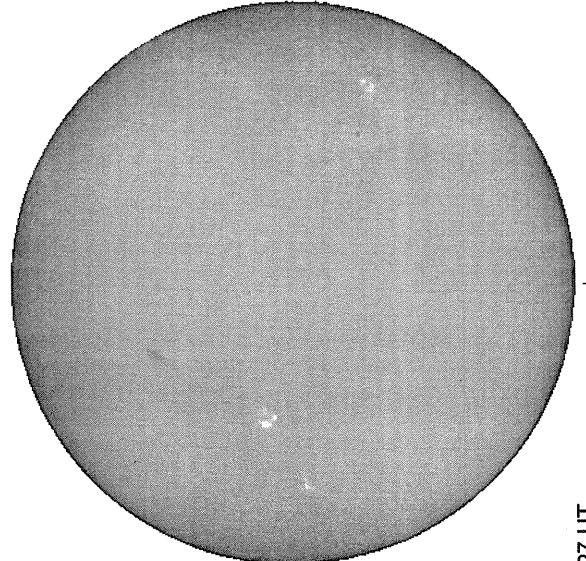
Delta Y = 13.1  
Delta X = 9.6



16.91 -  
17.85 UT

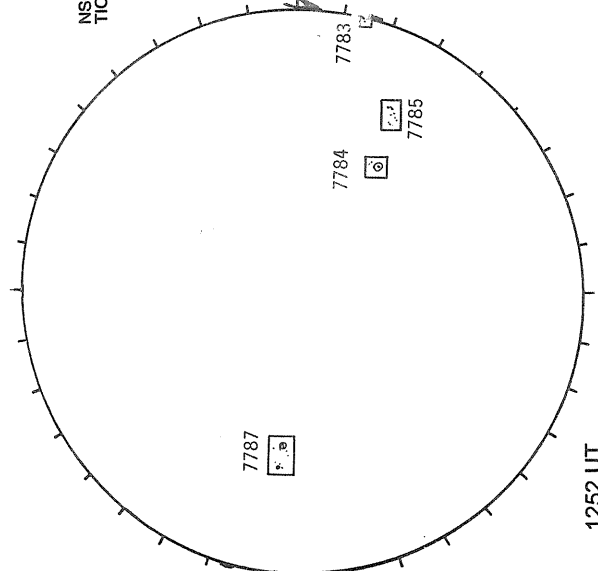
White = +7.5G  
Black = -7.5G

MAUNA LOA H-ALPHA



2127 UT

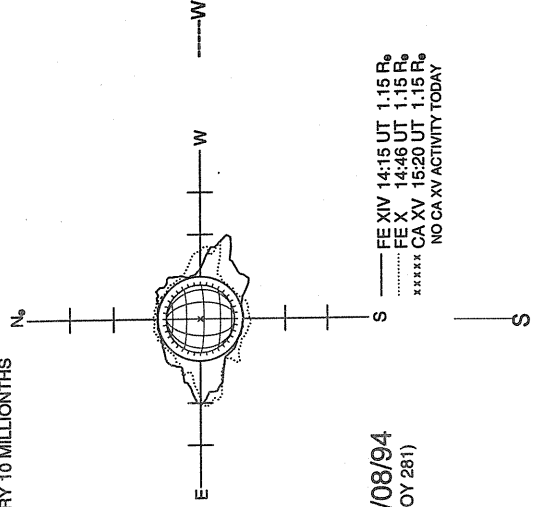
RAMEY SUNSPOT



1252 UT  
0649 UT LOMN Prom S

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

NSO / SACRAMENTO PEAK CORONAL DATA  
TICK MARKS EVERY 10 MILLIONTHS



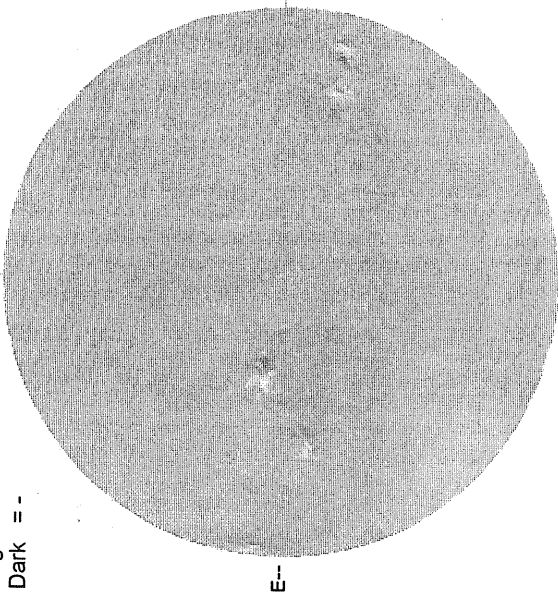
10/08/94  
(DOY 281)

----- FE XIV 14:15 UT 1.15 R<sub>o</sub>  
..... FE X 14:46 UT 1.15 R<sub>o</sub>  
\*\*\*\*\* CA XV 15:20 UT 1.15 R<sub>o</sub>  
NO CA XV ACTIVITY TODAY

OCTOBER 9, 1994 ( P = 26.29, Bo = 6.29, Lo = 16.28)

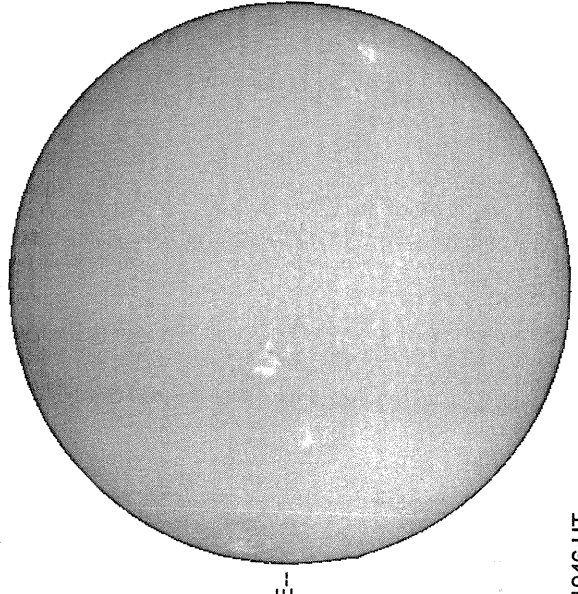
KITT PEAK MAGNETOGRAM  
\*\*550.7 nm

Bright = +  
Dark = -



1426 UT

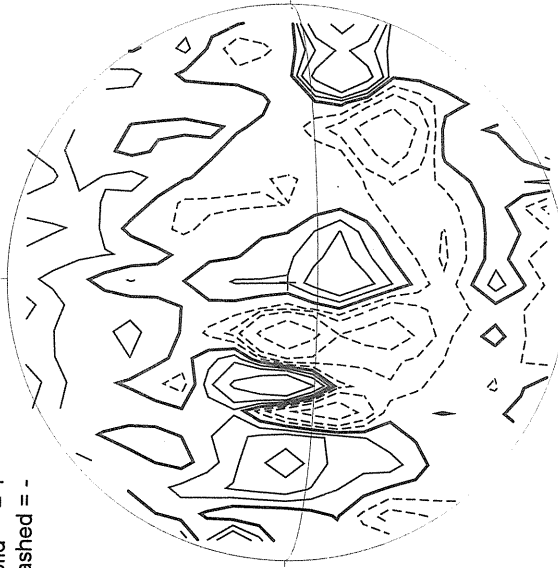
MAUNA LOA H-ALPHA



1946 UT

STANFORD MAGNETOGRAM

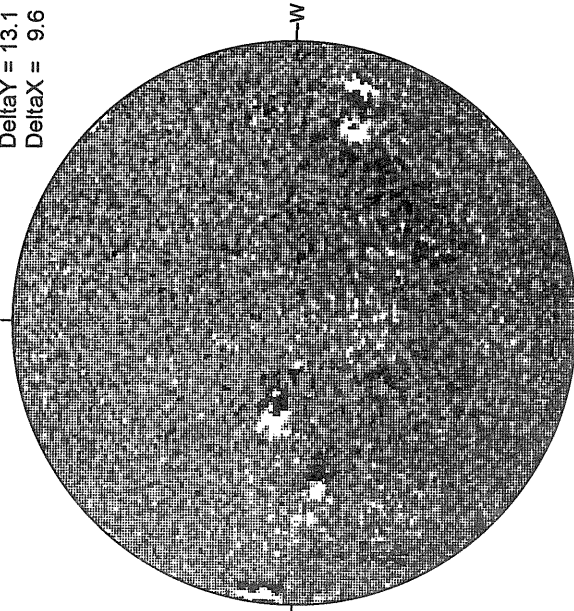
Solid = +  
Dashed = -



2227 UT

MT. WILSON MAGNETOGRAM

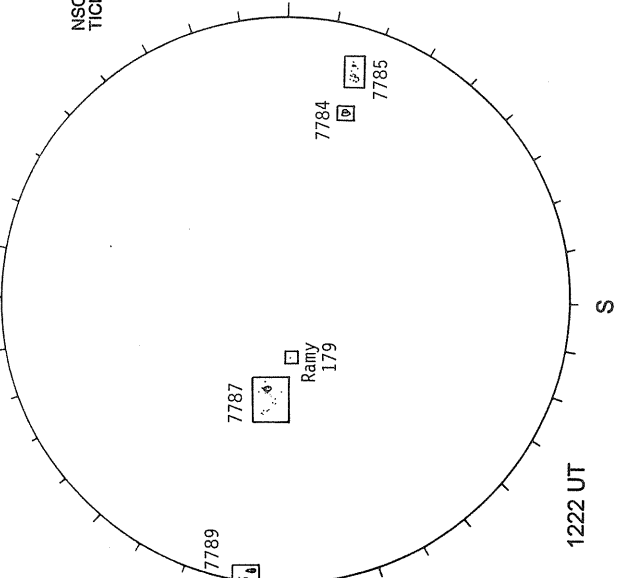
Delta Y = 13.1  
Delta X = 9.6



17.25 -  
18.19 UT

White = +7.5G  
Black = -7.5G

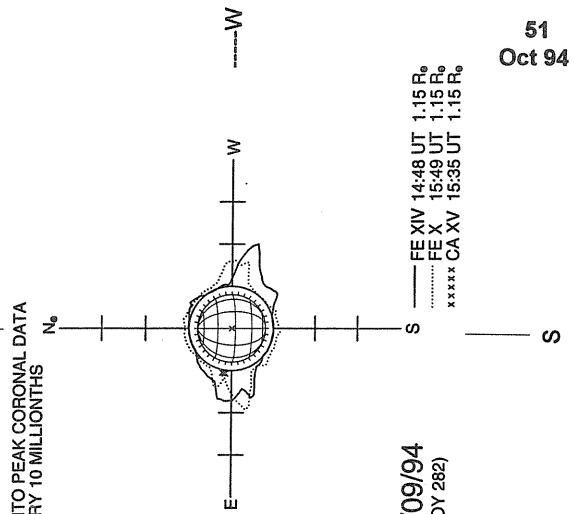
RAMEY SUNSPOT



1222 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA  
TICK MARKS EVERY 10 MILLIONTHS



10/09/94  
(DOY 282)

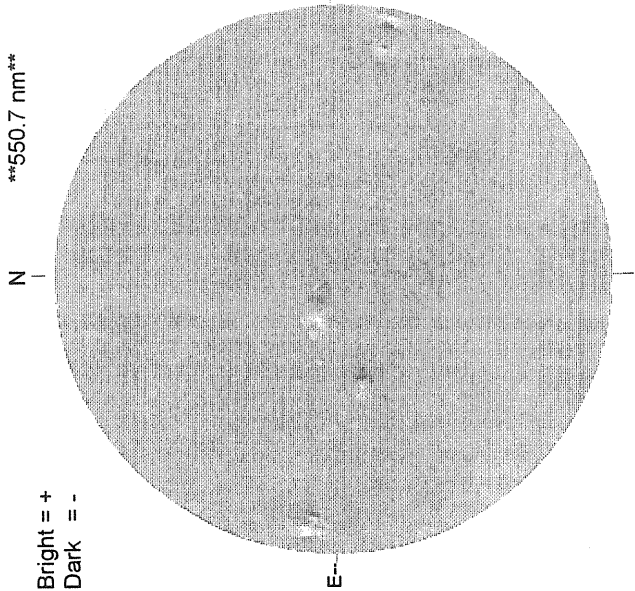
— FE XIV 14:48 UT 1.15 R<sub>o</sub>  
..... FE X 15:49 UT 1.15 R<sub>o</sub>  
xxxxx CA XV 15:35 UT 1.15 R<sub>o</sub>

OCTOBER 10, 1994 ( P= 26.30, Bo = 6.23, Lo = 3.09)

KITT PEAK MAGNETOGRAM

\*\*550.7 nm\*\*

Bright = +  
Dark = -



1513 UT

STANFORD MAGNETOGRAM

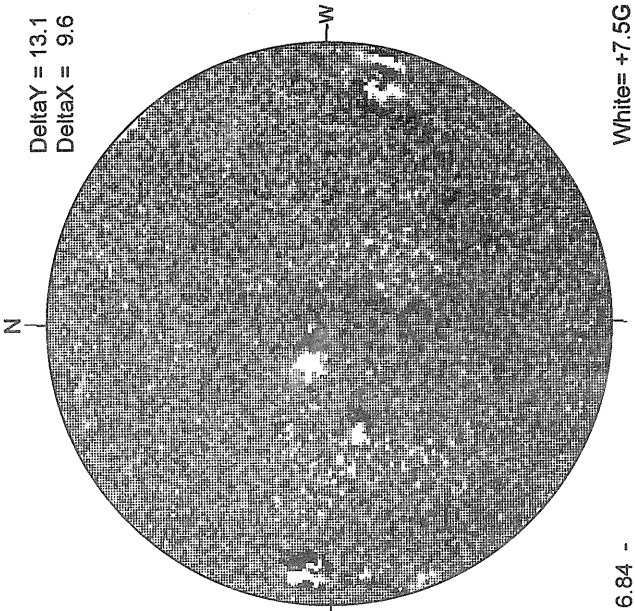
Solid = +  
Dashed = -



2339 UT

MT. WILSON MAGNETOGRAM

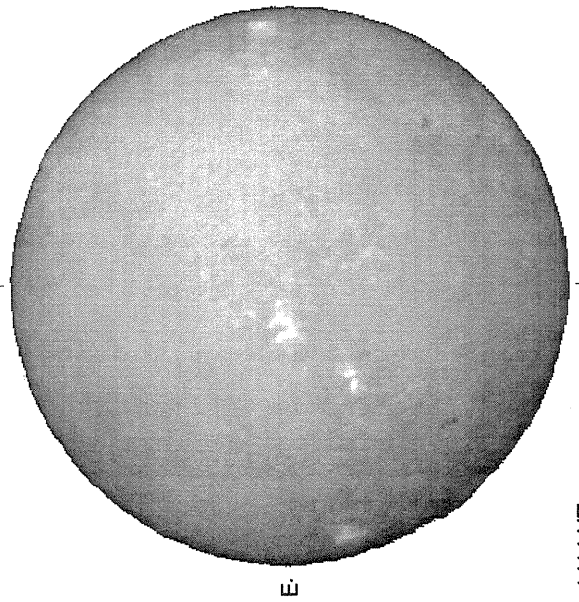
Delta Y = 13.1  
Delta X = 9.6



16.84 -  
17.78 UT

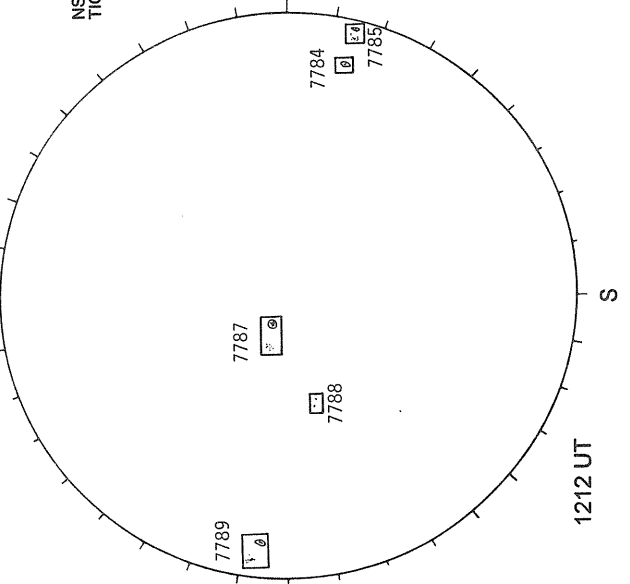
White = +7.5G  
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



1414 UT

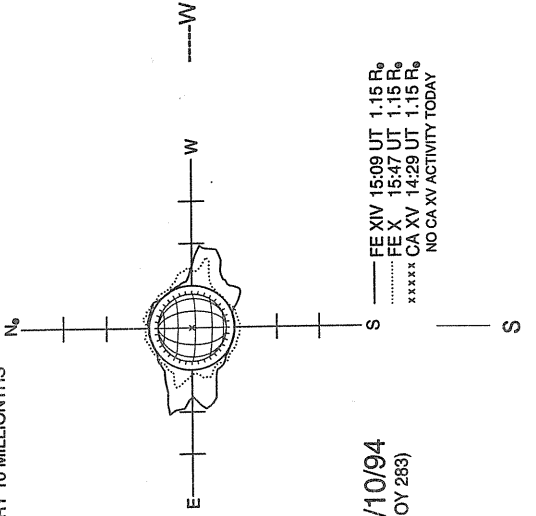
RAMEY SUNSPOT



1212 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

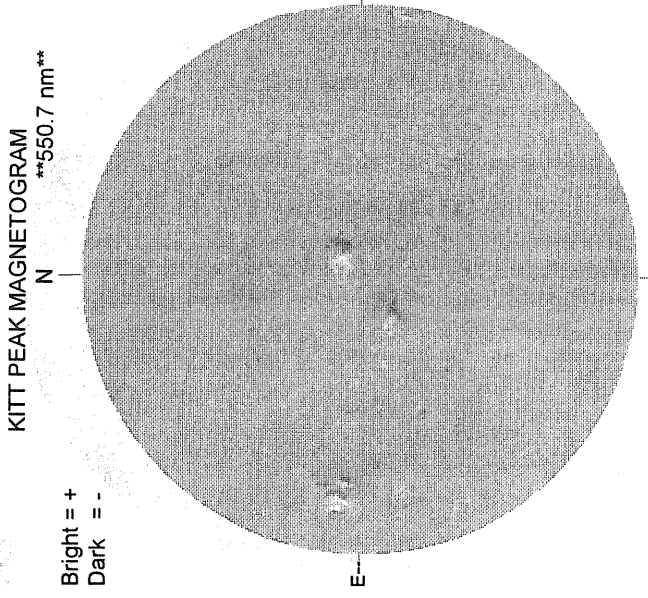
NSO / SACRAMENTO PEAK CORONAL DATA  
TICK MARKS EVERY 10 MILLIONTHS



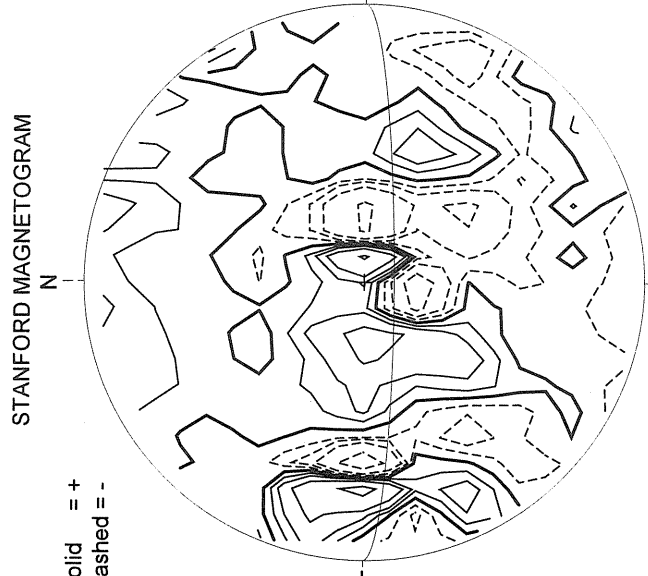
10/10/94  
(DOY 283)

— FE XIV 15:09 UT 1.15 R<sub>0</sub>  
..... FE X 15:47 UT 1.15 R<sub>0</sub>  
xxxxx CA XV 14:29 UT 1.15 R<sub>0</sub>  
NO CA XV ACTIVITY TODAY

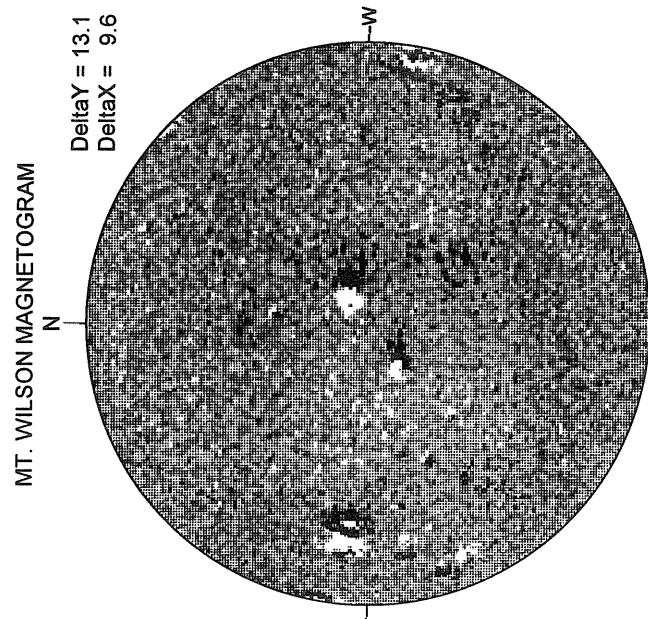
OCTOBER 11, 1994 ( P= 26.30 Bo = 6.16, Lo = 349.89)



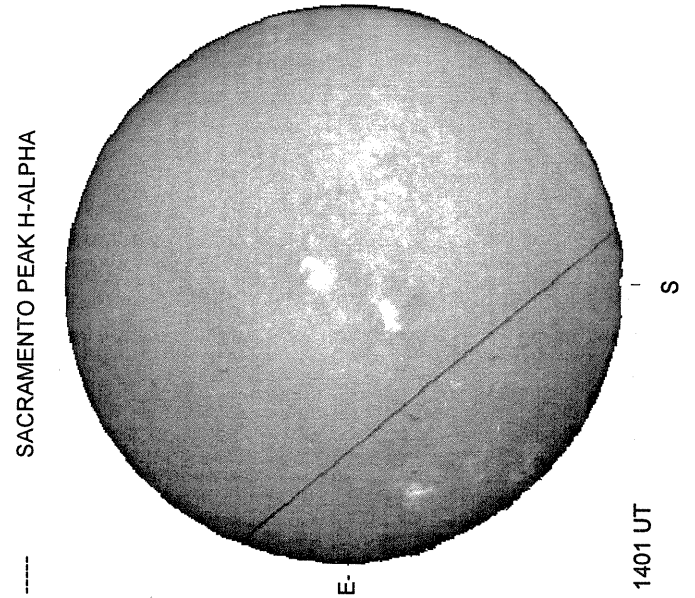
1428 UT



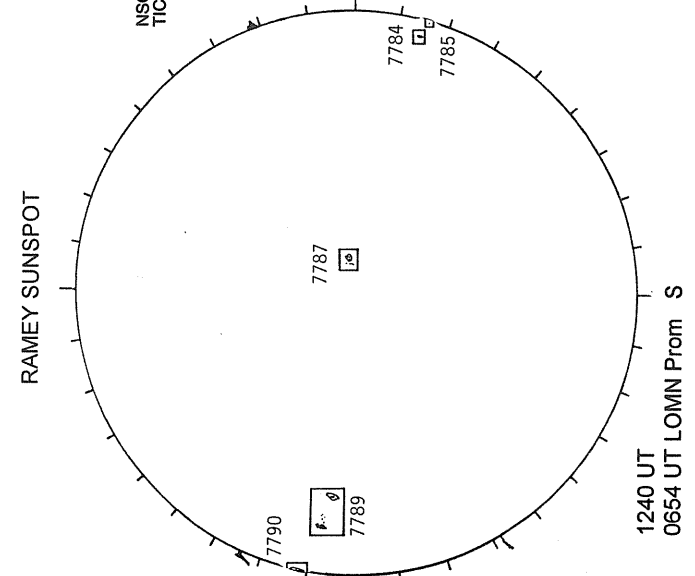
2127 UT



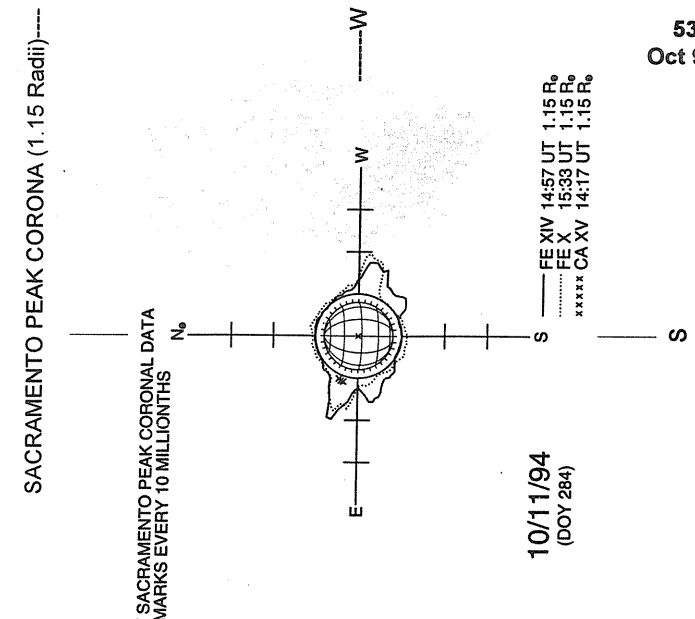
16.81 -  
17.75 UT



1401 UT



1240 UT  
0654 UT LOMN Prom S

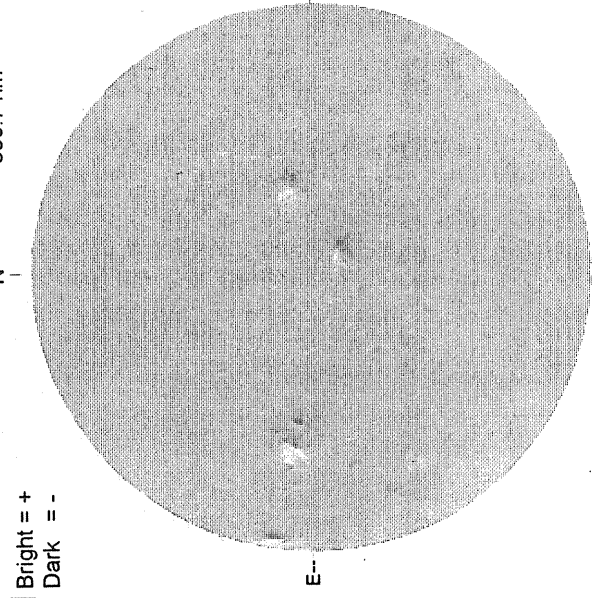


10/11/94  
(DOY 284)



OCTOBER 12, 1994 ( P= 26.29, Bo = 6.09, Lo = 336.70)

KITT PEAK MAGNETOGRAM  
\*\*550.7 nm\*\*



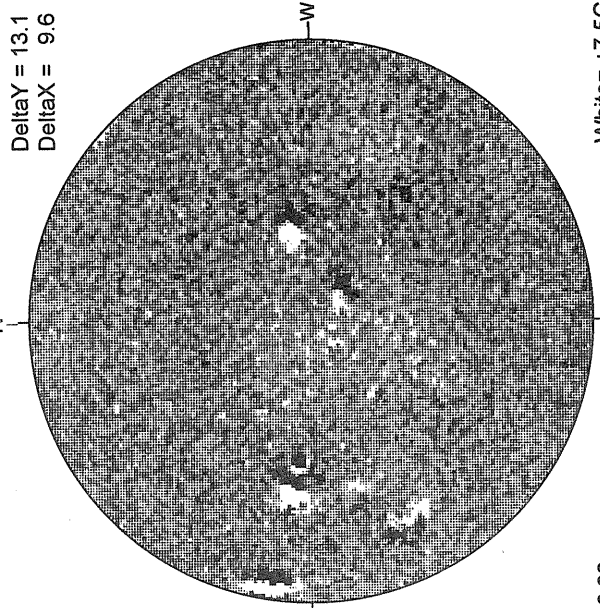
1418 UT

STANFORD MAGNETOGRAM



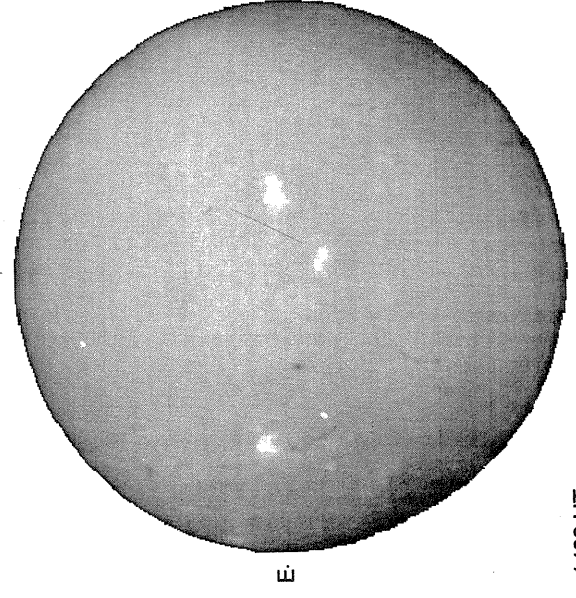
2035 UT

MT. WILSON MAGNETOGRAM



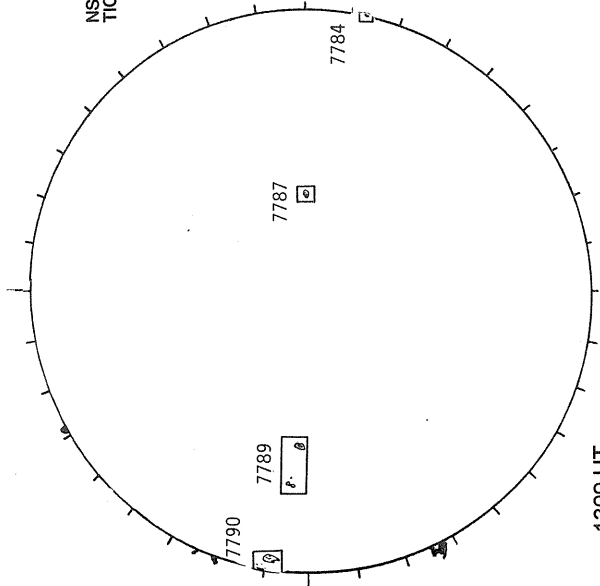
16.99 -  
17.93 UT

SACRAMENTO PEAK H-ALPHA



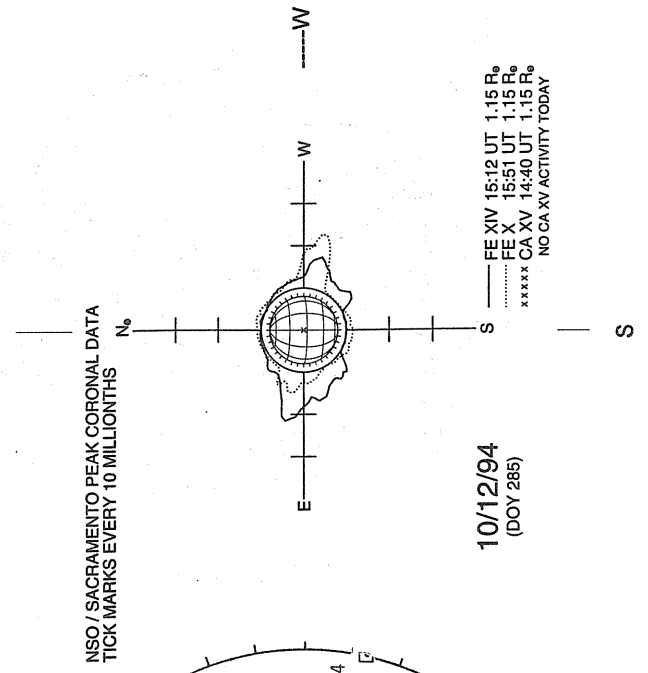
1402 UT

RAMEY SUNSPOT

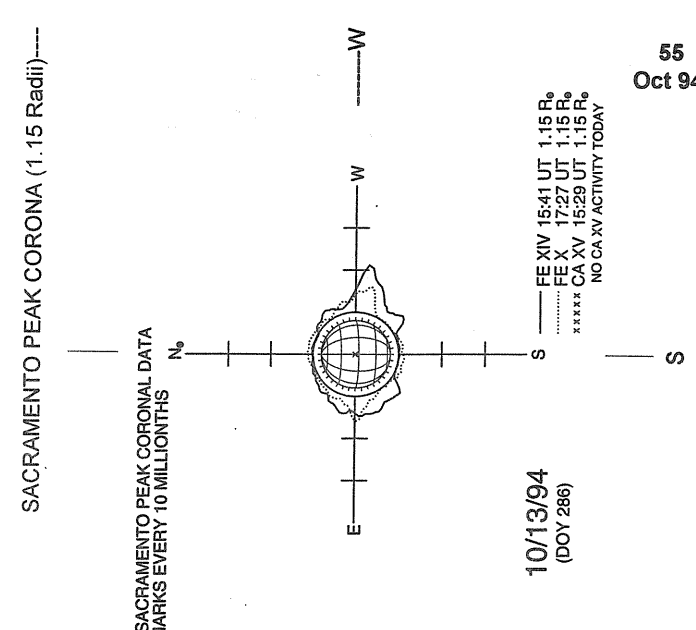
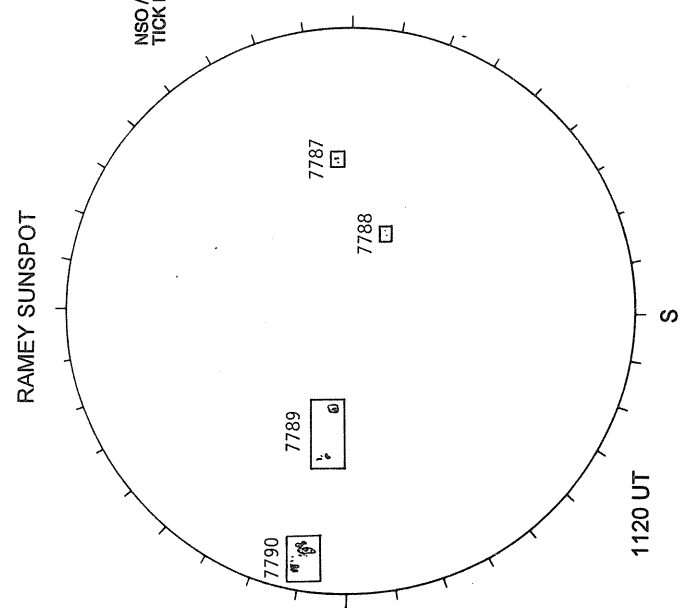
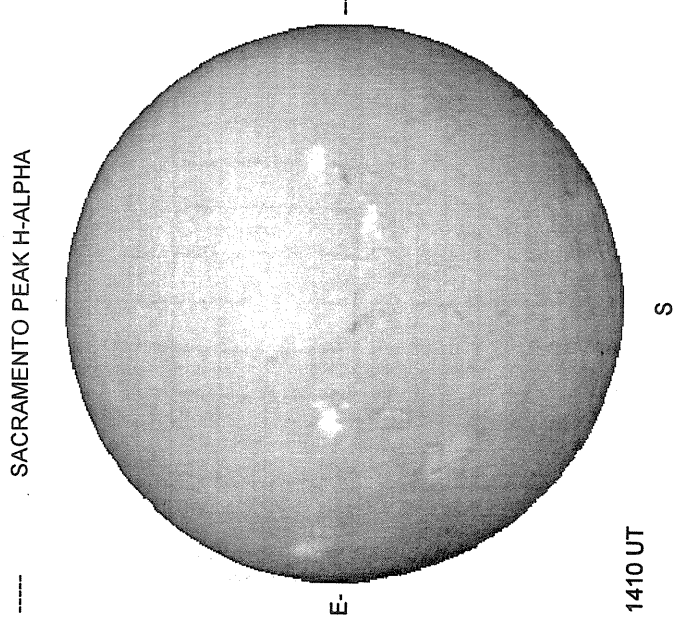
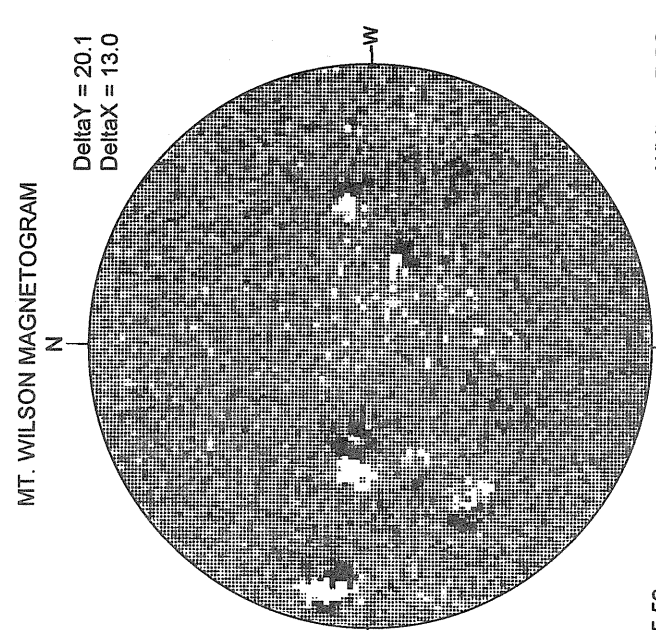
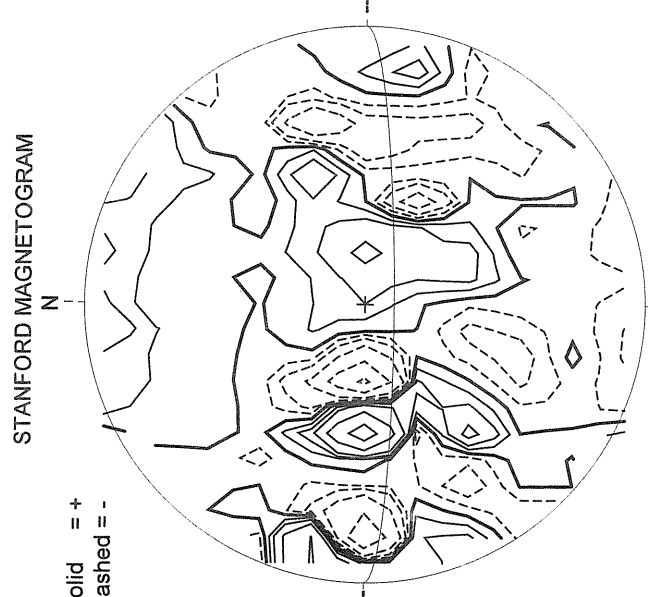
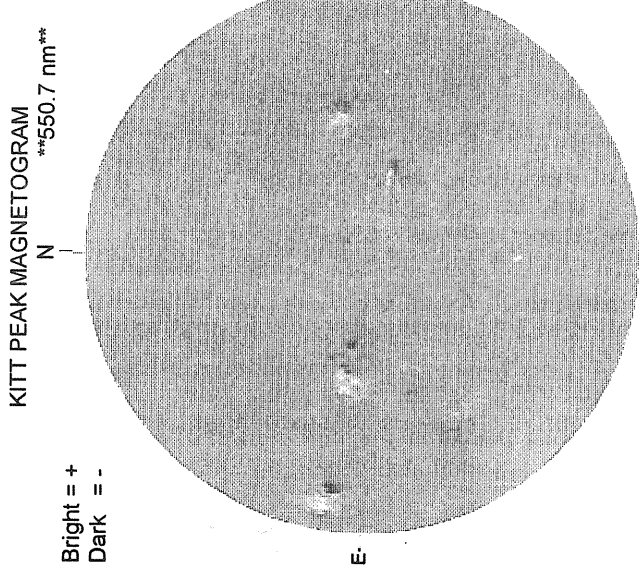


1309 UT  
0612 UT LOMN Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----



OCTOBER 13, 1994 ( P= 26.28, Bo = 6.03, Lo = 323.51)

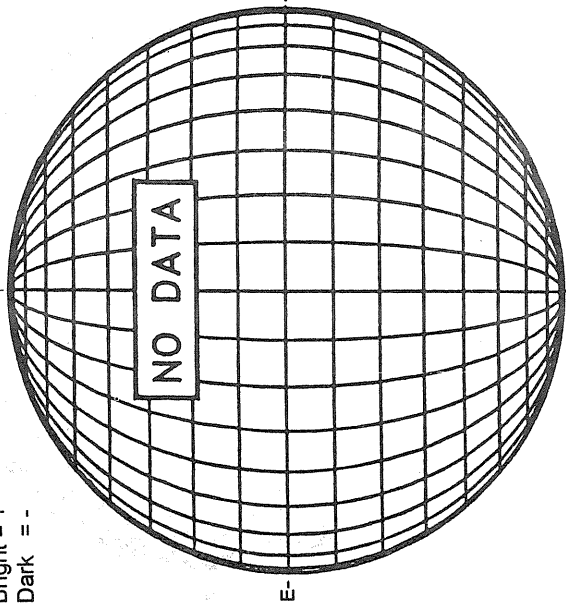


OCTOBER 14, 1994 ( P= 26.26, Bo = 5.95, Lo = 310.32)

KITT PEAK MAGNETOGRAM

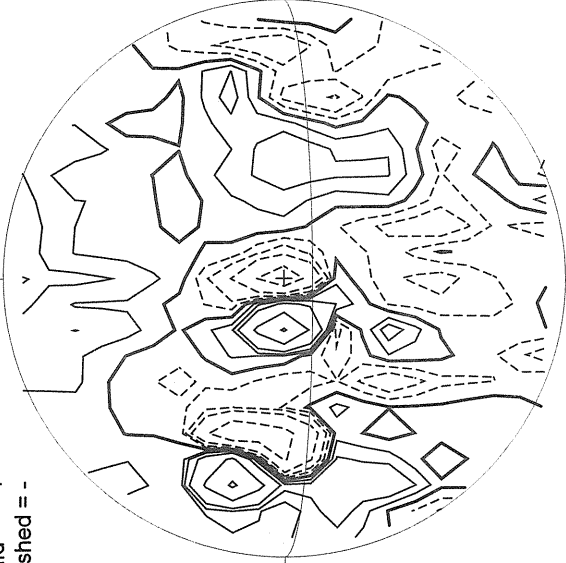
\*\*550.7 nm\*\*

Bright = +  
Dark = --



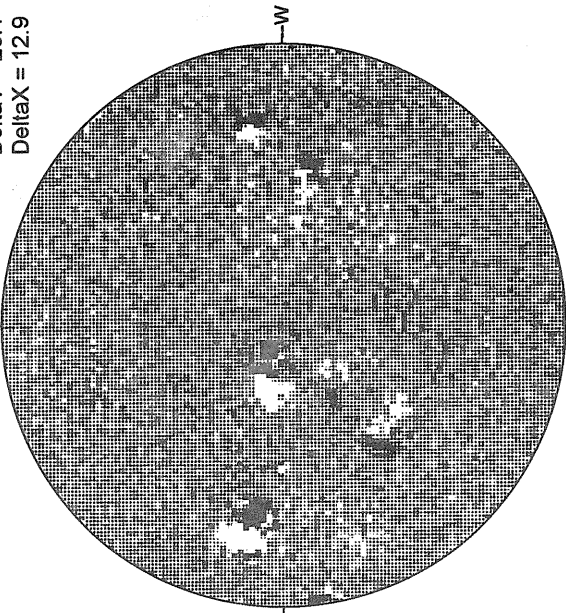
STANFORD MAGNETOGRAM

Solid = +  
Dashed = --



MT. WILSON MAGNETOGRAM

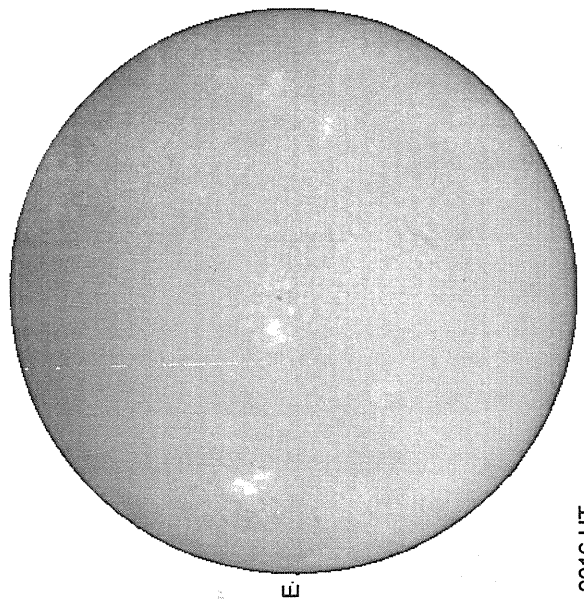
Delta Y = 20.1  
Delta X = 12.9



16.26 -  
16.68 UT

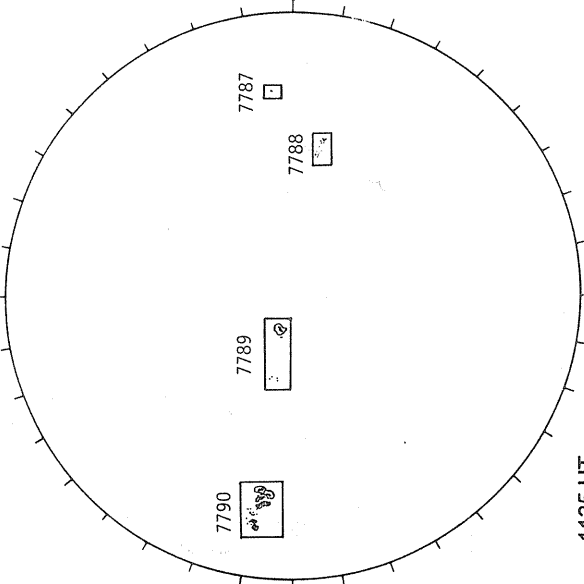
White = +7.5G  
Black = -7.5G

MAUNA LOA H-ALPHA



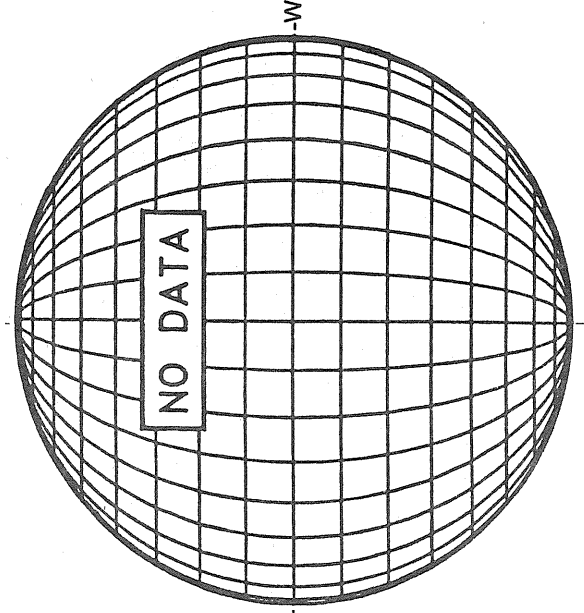
2016 UT

RAMEY SUNSPOT



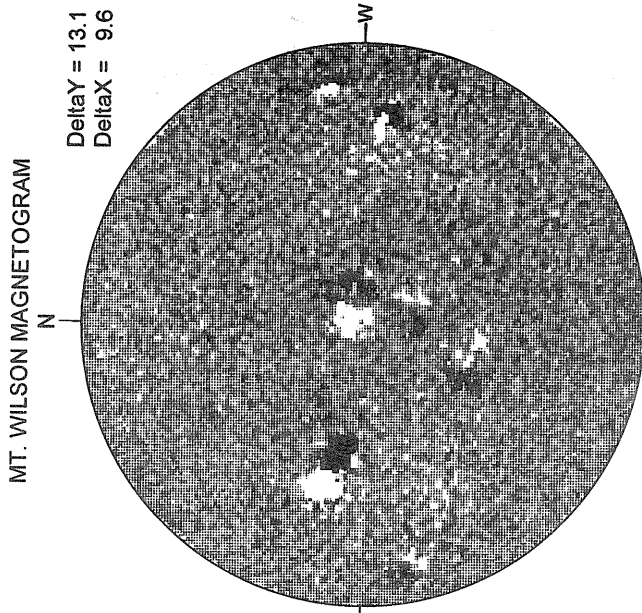
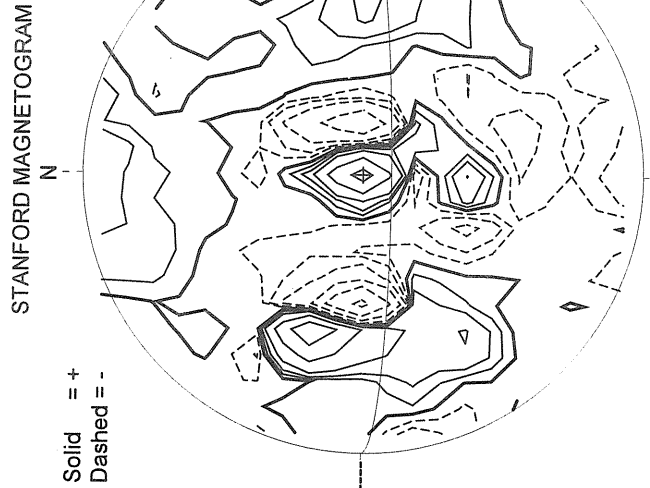
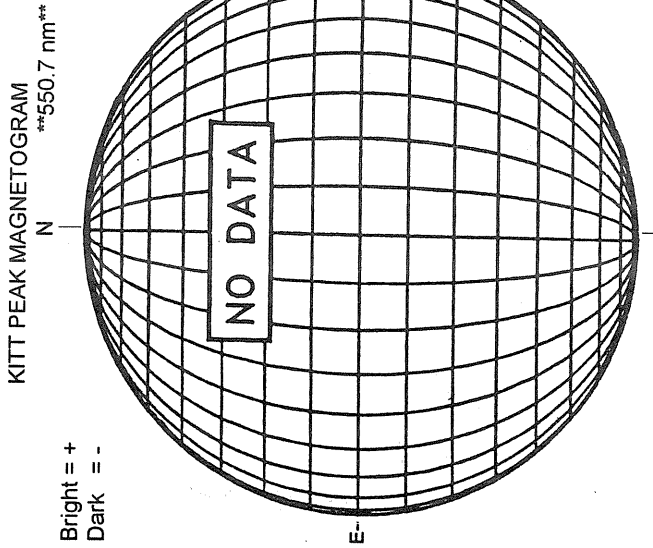
1135 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



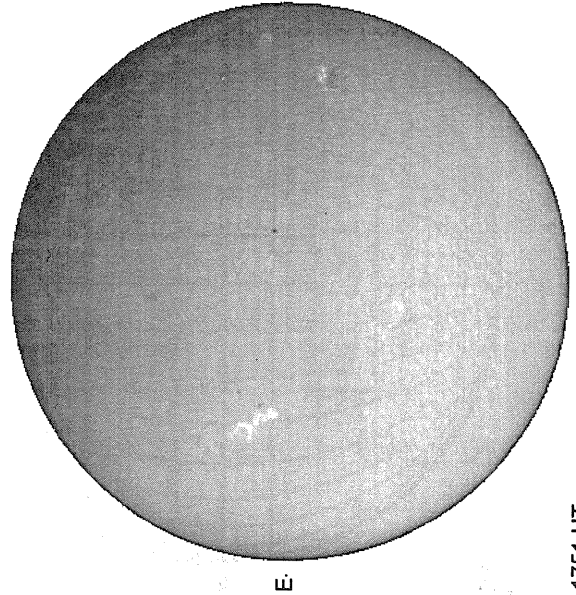
S

OCTOBER 15, 1994 ( P= 26.23, Bo = 5.88, Lo = 297.13)



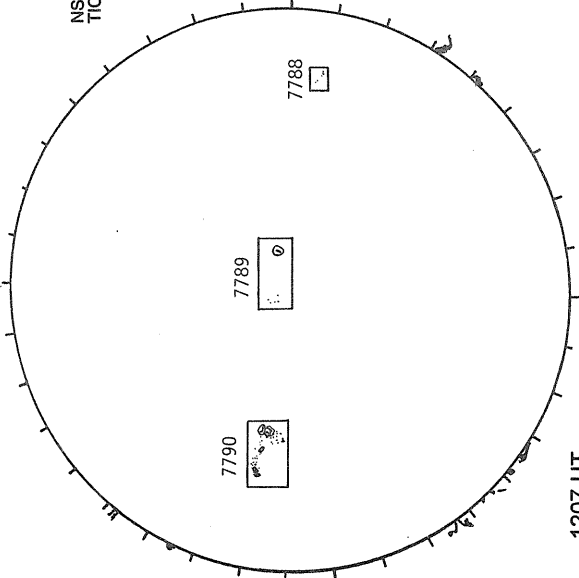
17.99 -  
18.94 UT

MAUNA LOA H-ALPHA



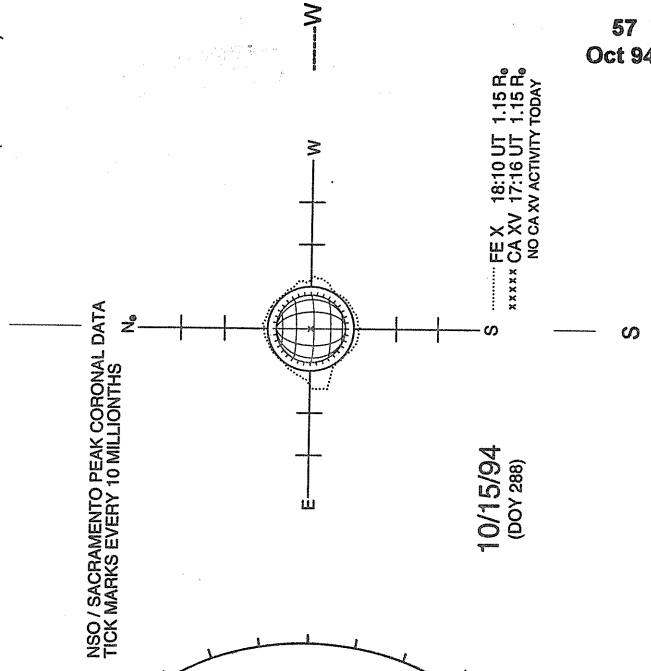
1751 UT

RAMEY SUNSPOT



1207 UT  
0606 UT LOMN Prom S

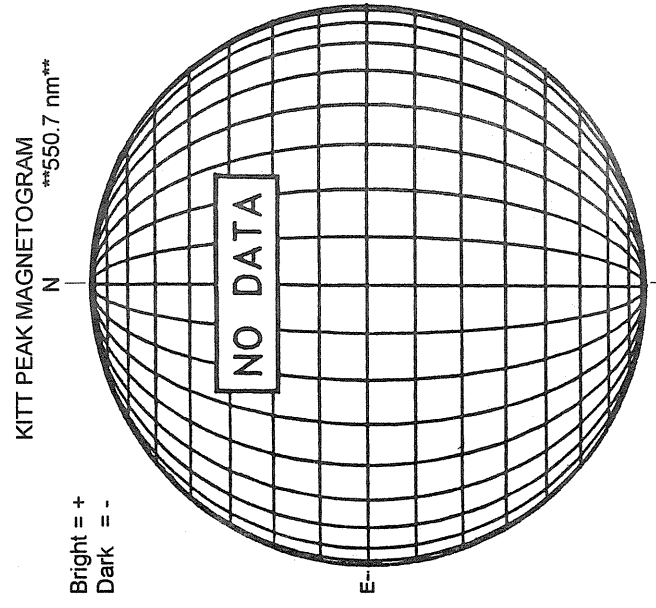
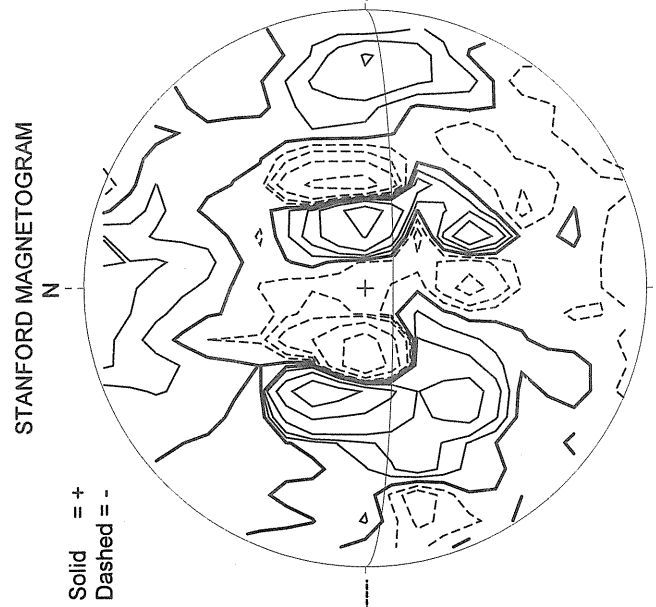
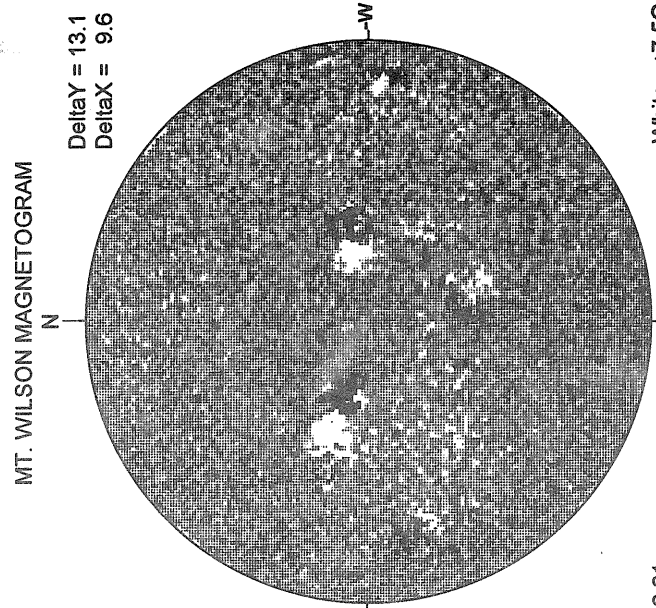
SACRAMENTO PEAK CORONA (1.15 Radii)---



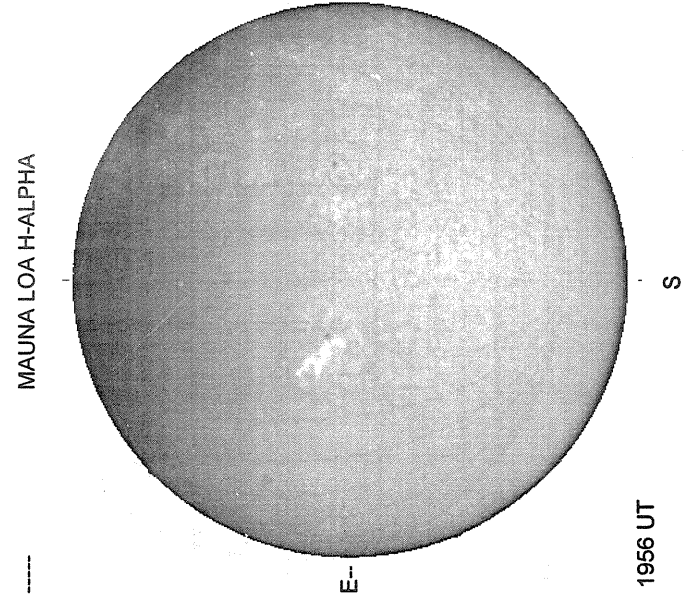
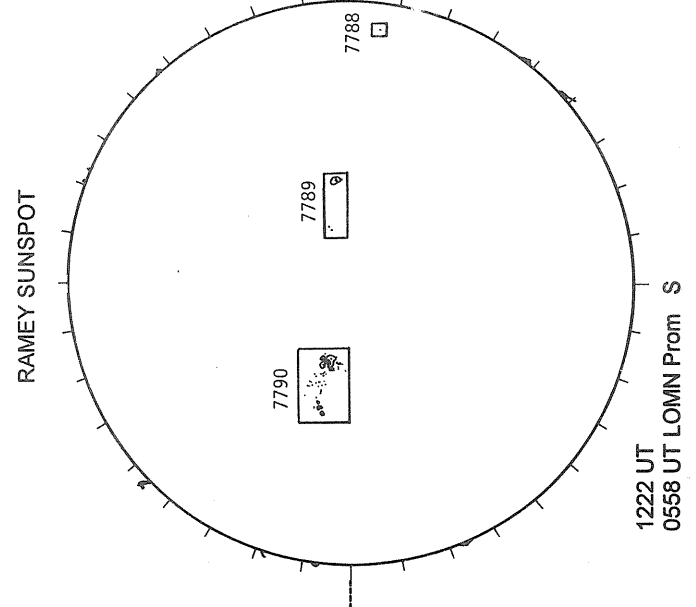
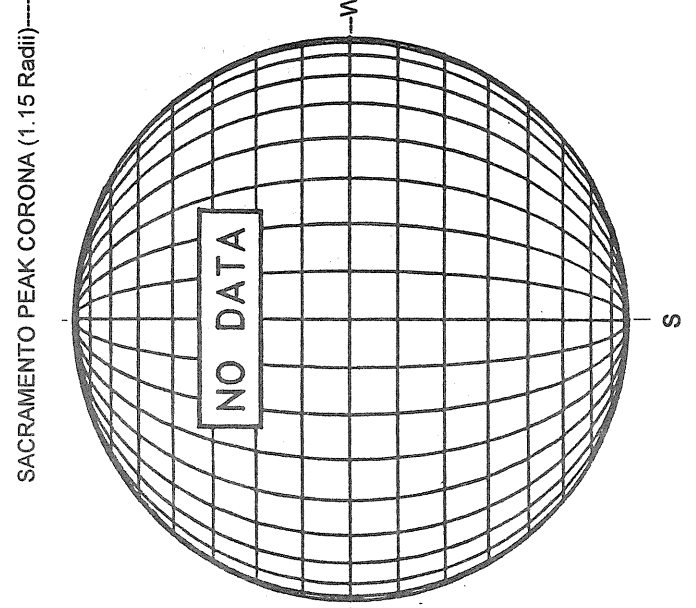
57  
Oct 94



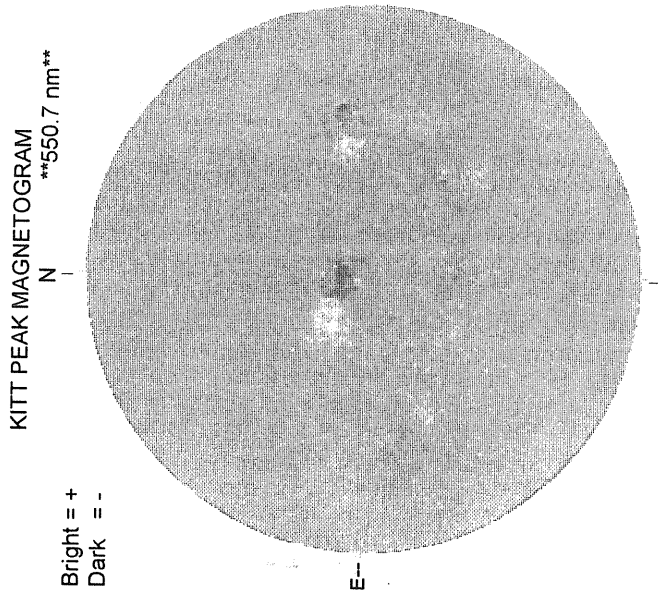
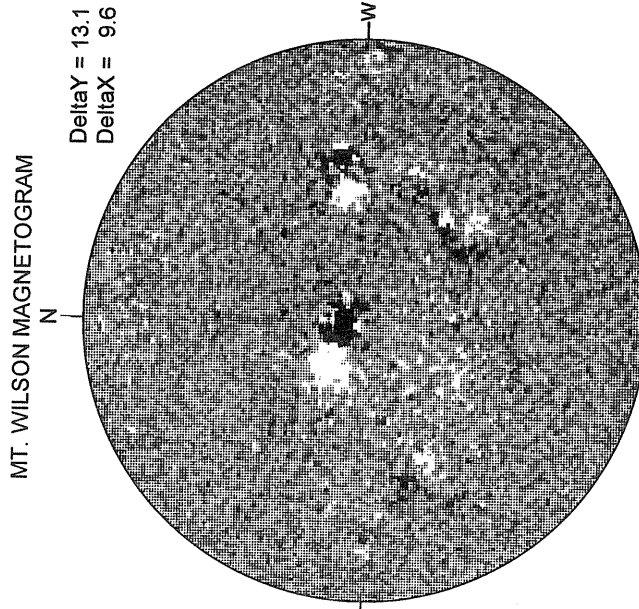
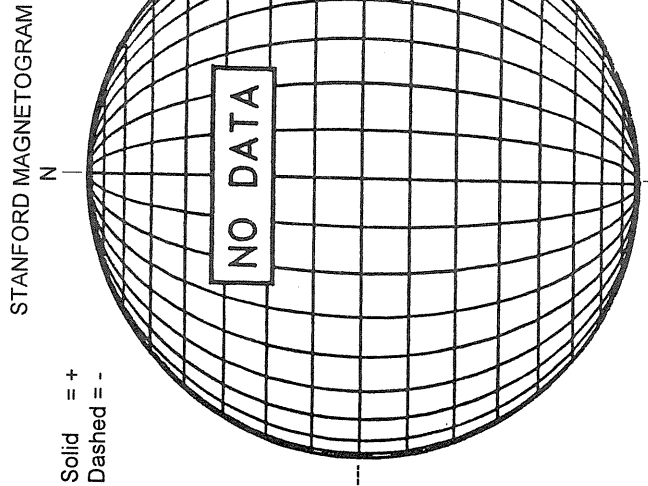
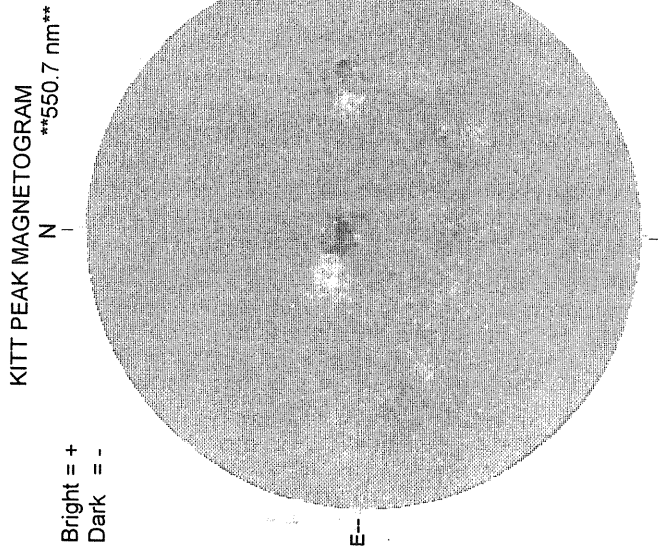
OCTOBER 16, 1994 ( P= 26.19, Bo = 5.81, Lo = 283.94)



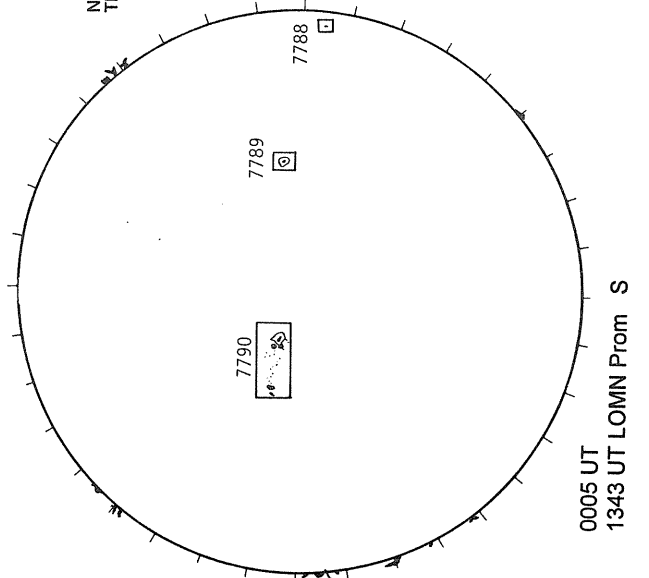
16.81 -  
17.75 UT



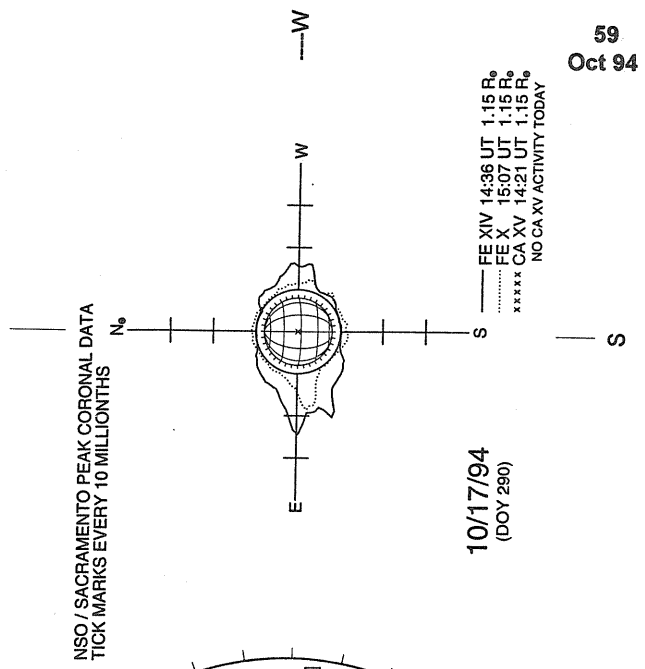
OCTOBER 17, 1994 (P = 26.15, Bo = 5.73, Lo = 270.75)



LEARMONTH SUNSPOT

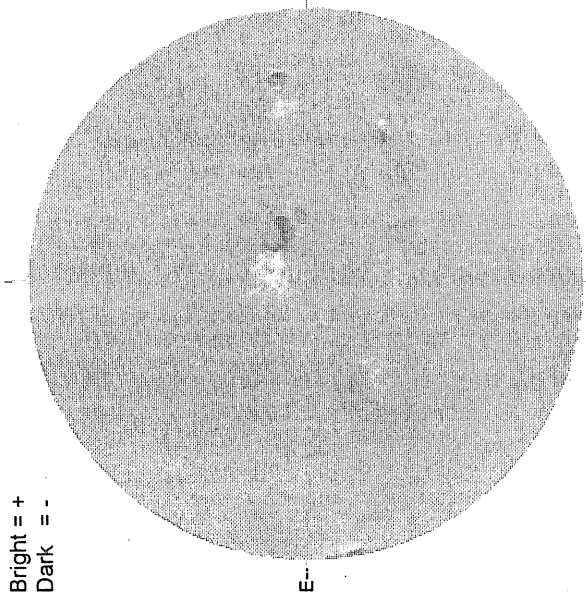


SACRAMENTO PEAK CORONA (1.15 Radii)----

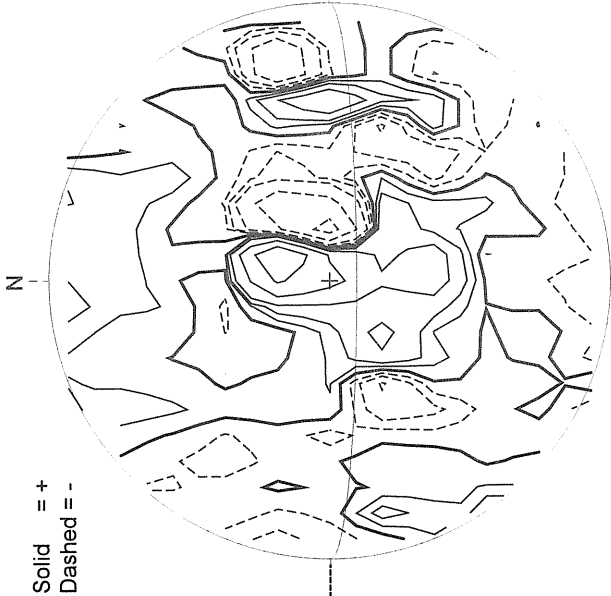


OCTOBER 18, 1994 ( P= 26.09, Bo = 5.65, Lo = 257.56)

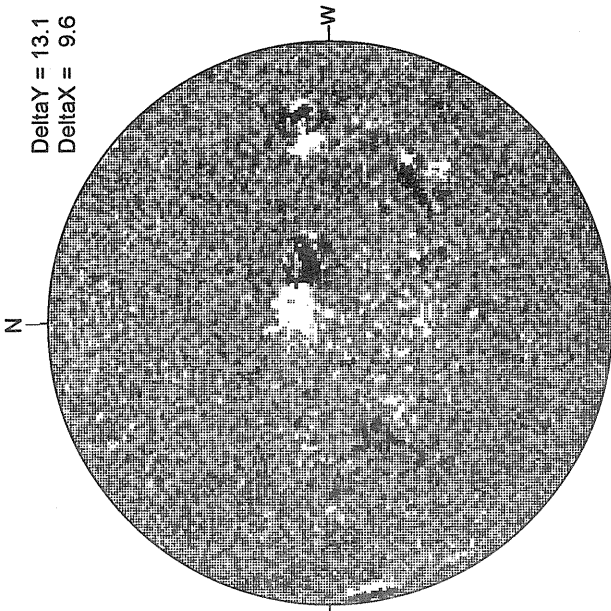
KITT PEAK MAGNETOGRAM  
\*\*550.7 nm\*\*



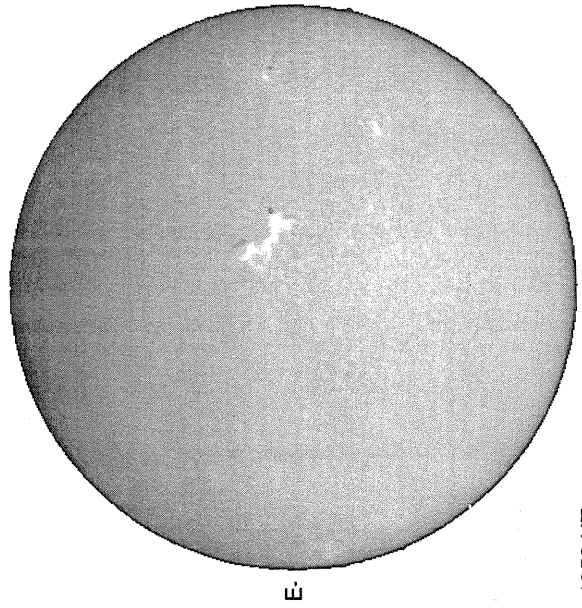
STANFORD MAGNETOGRAM



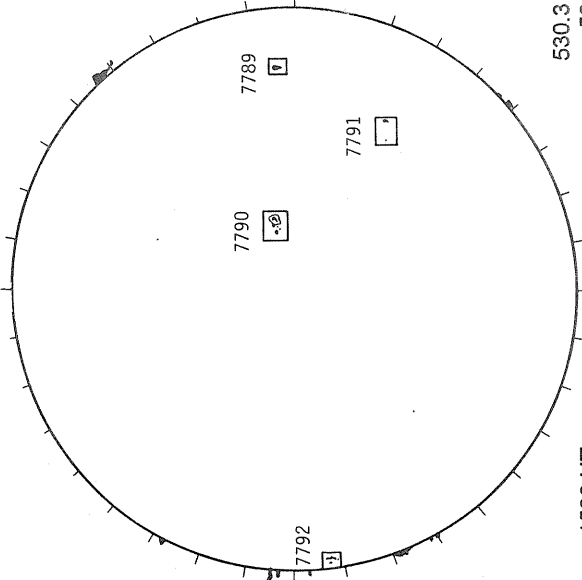
MT. WILSON MAGNETOGRAM



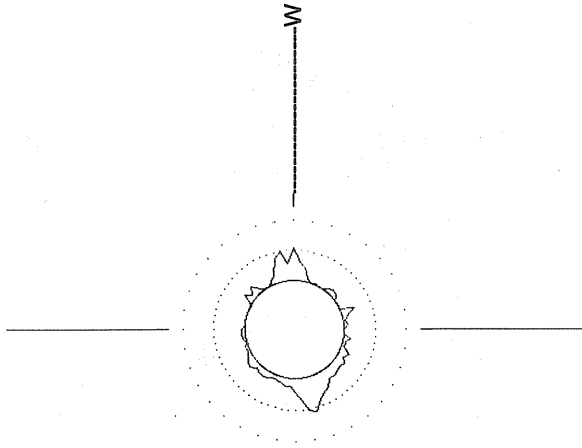
MAUNA LOA H-ALPHA



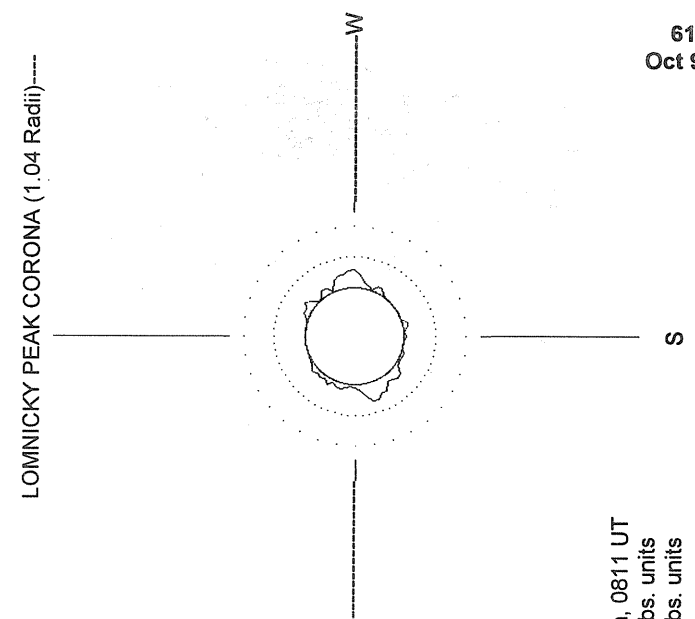
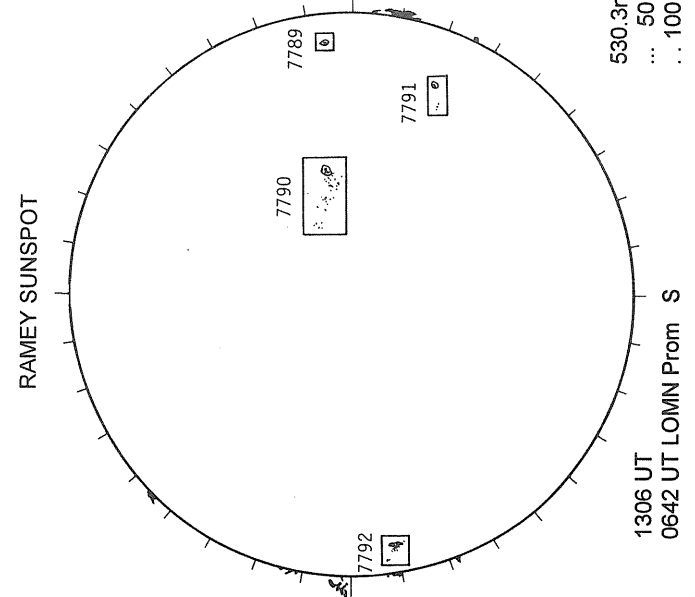
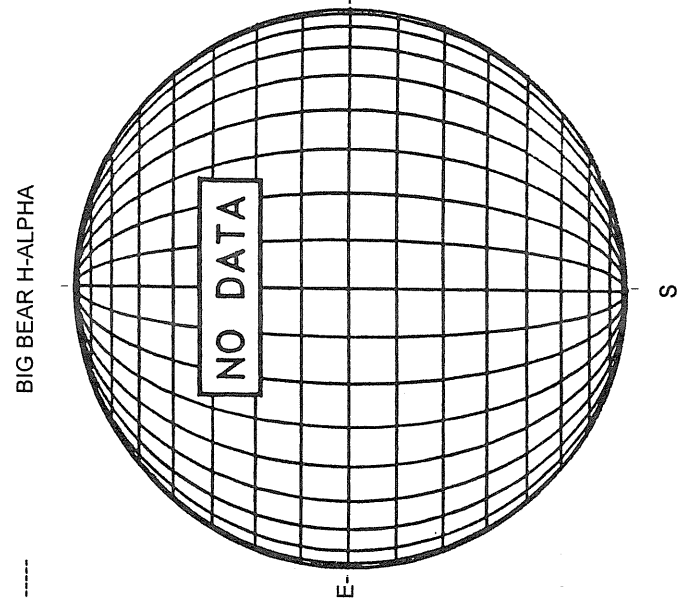
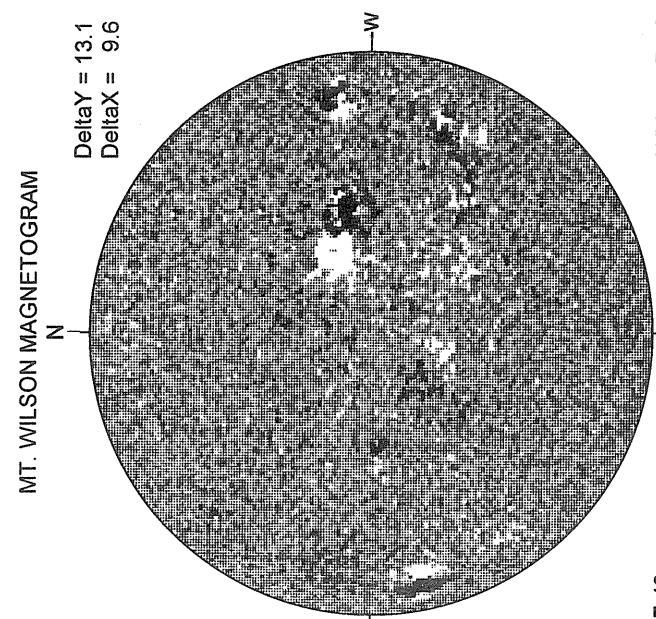
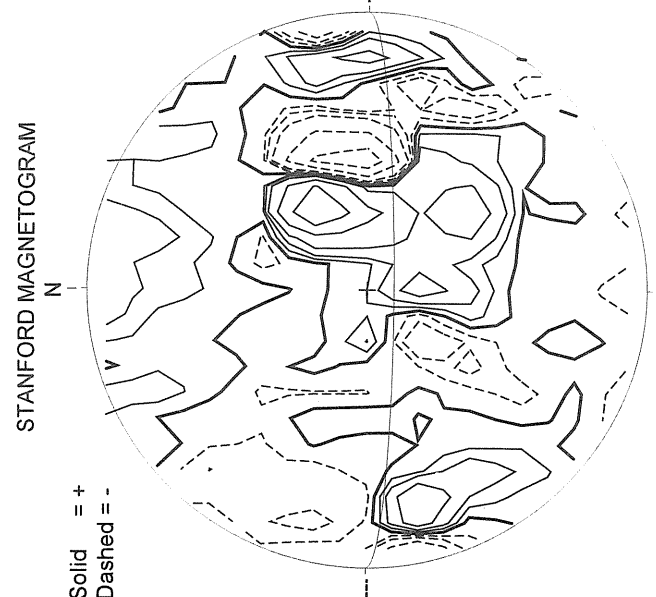
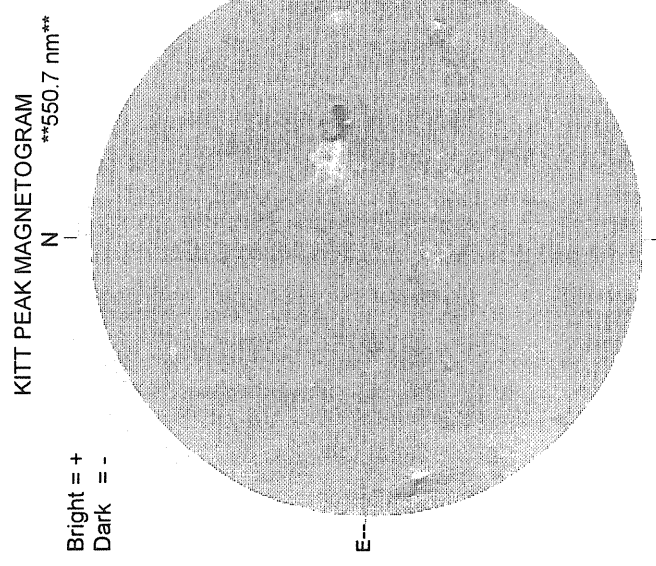
RAMEY SUNSPOT



LOMNICKY PEAK CORONA (1.04 Radii)----



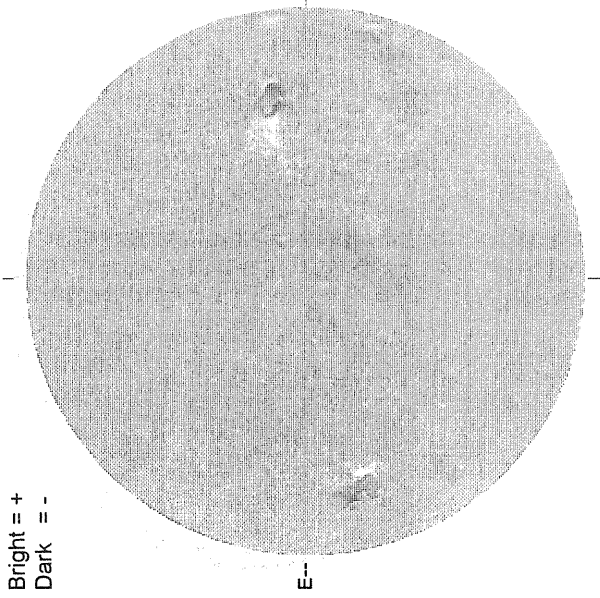
OCTOBER 19, 1994 ( P= 26.03, Bo = 5.57, Lo = 244.36)





OCTOBER 20, 1994 (P = 25.97, Bo = 5.49, Lo = 231.17)

KITT PEAK MAGNETOGRAM  
\*\*550.7 nm\*\*



Bright = +  
Dark = -

2002 UT

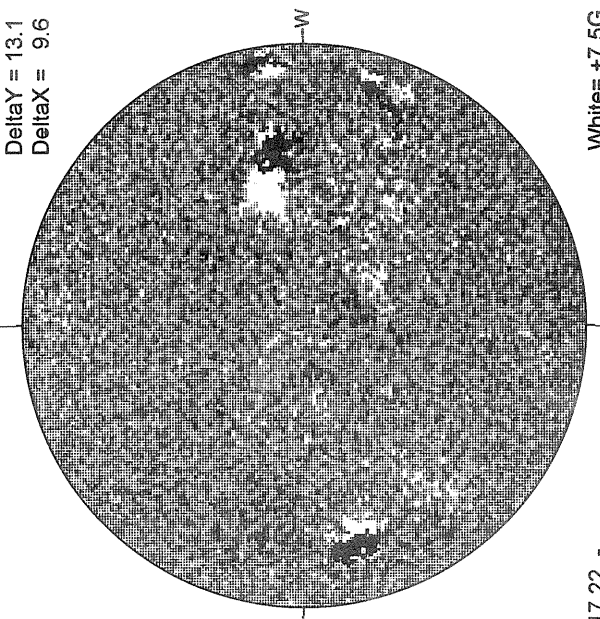
STANFORD MAGNETOGRAM



Solid = +  
Dashed = -

2337 UT

MT. WILSON MAGNETOGRAM

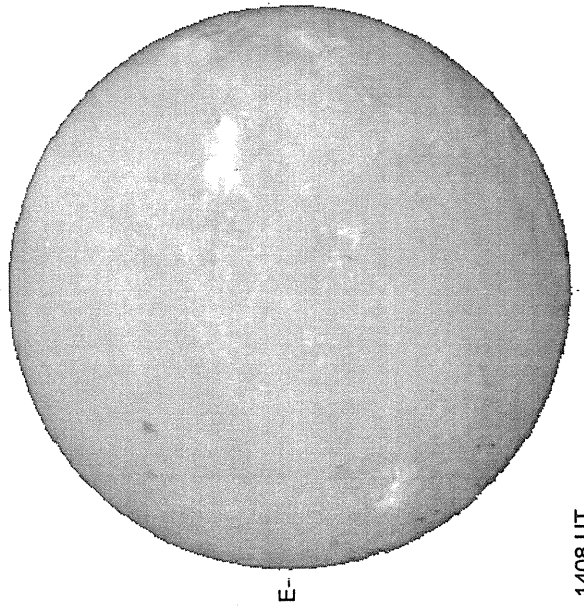


Delta Y = 13.1  
Delta X = 9.6

17.22 -  
18.17 UT

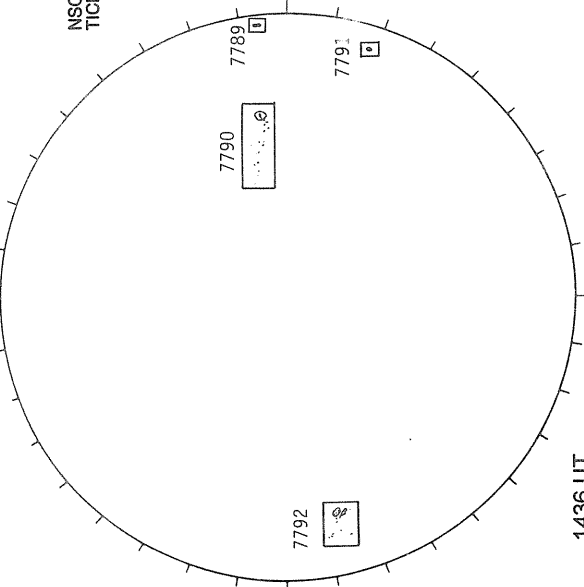
White = +7.5G  
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



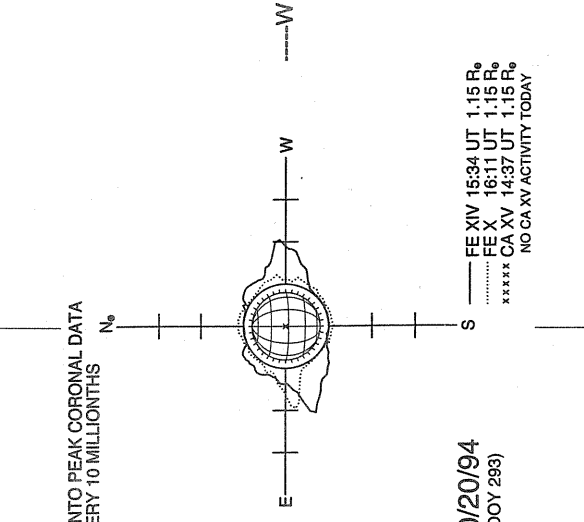
1408 UT

RAMEY SUNSPOT



1436 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

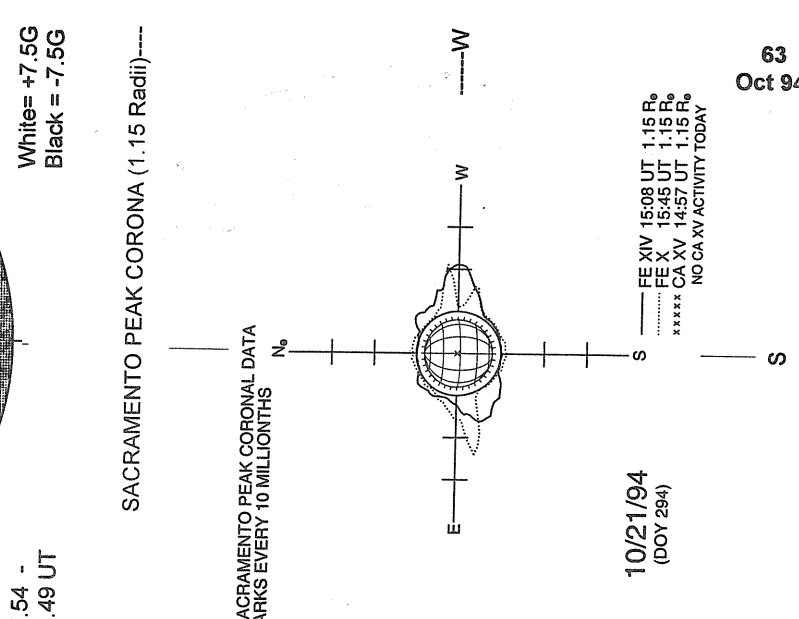
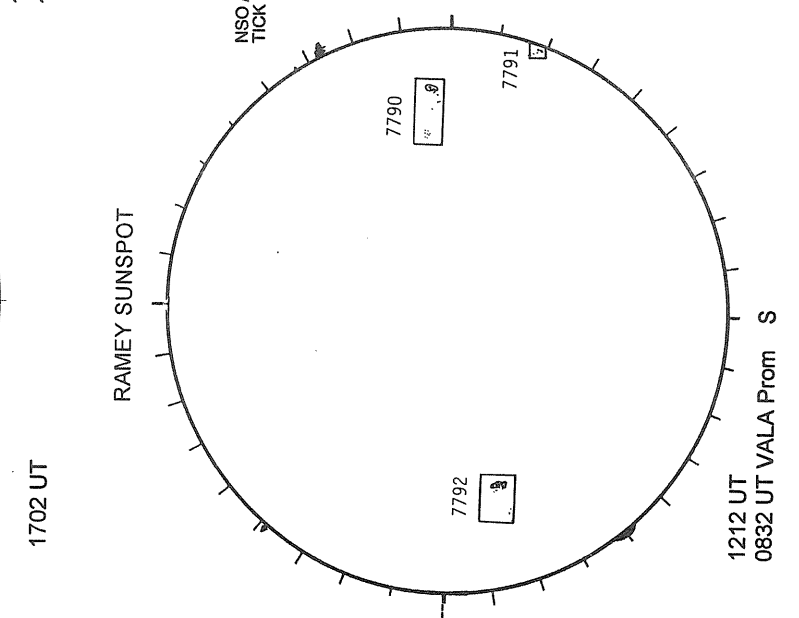
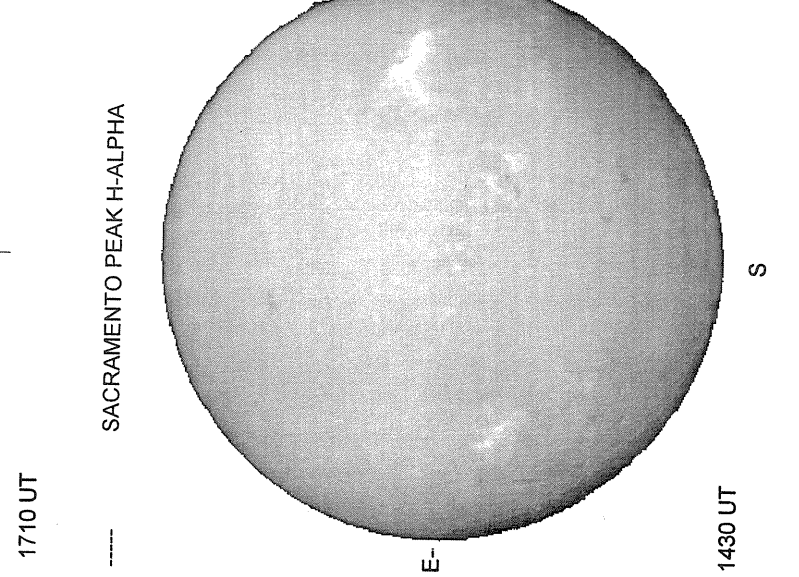
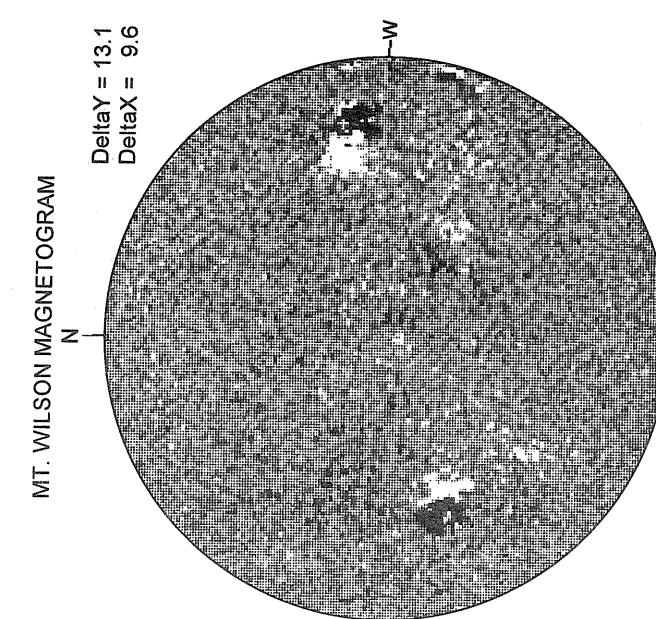
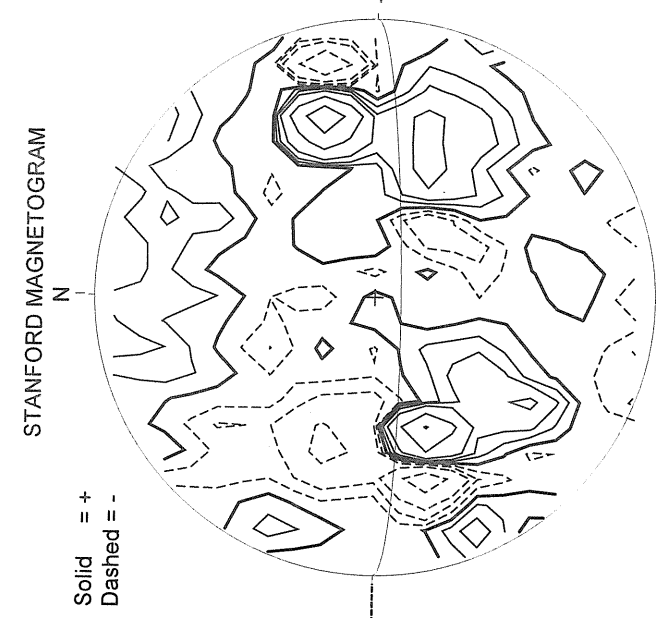
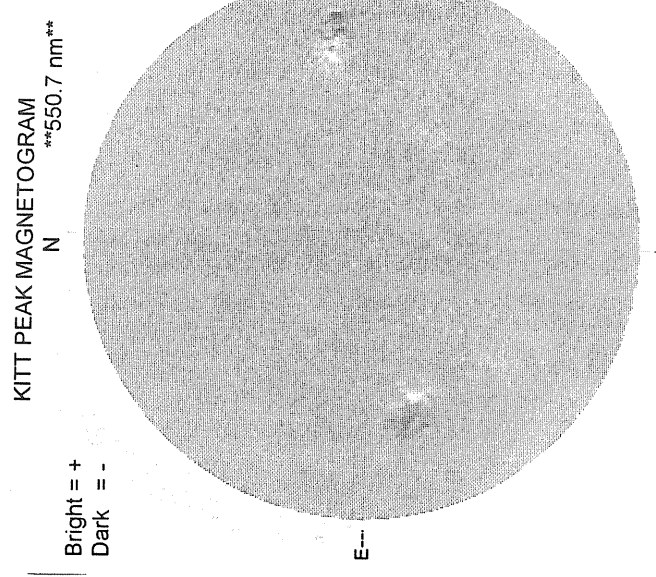


NSO / SACRAMENTO PEAK CORONAL DATA  
TICK MARKS EVERY 10 MILLIONTHS

10/20/94  
(DOY 299)

EE XIV 15:34 UT 1.15 R<sub>☉</sub>  
EE X 16:11 UT 1.15 R<sub>☉</sub>  
\*\*\*\*\* CA XV 14:37 UT 1.15 R<sub>☉</sub>  
NO CA XV ACTIVITY TODAY

OCTOBER 21, 1994 ( P= 25.89, Bo = 5.41, Lo = 217.99)

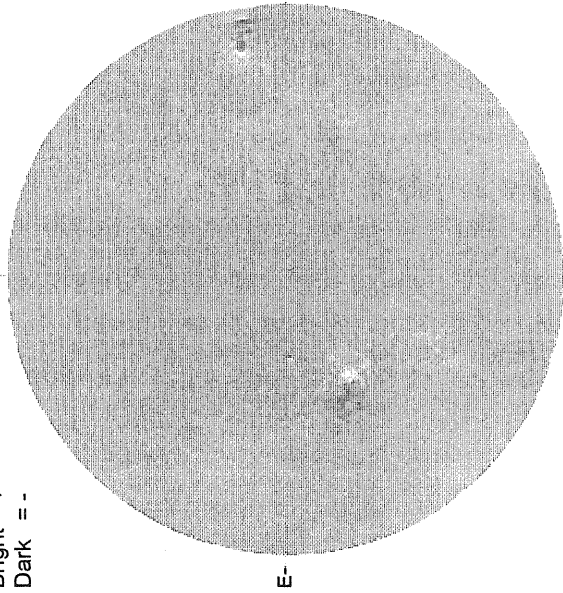


OCTOBER 22, 1994 ( P= 25.81, Bo = 5.33, Lo = 204.80)

KITT PEAK MAGNETOGRAM

\*\*\*550.7 nm\*\*

Bright = +  
Dark = -



1458 UT

STANFORD MAGNETOGRAM

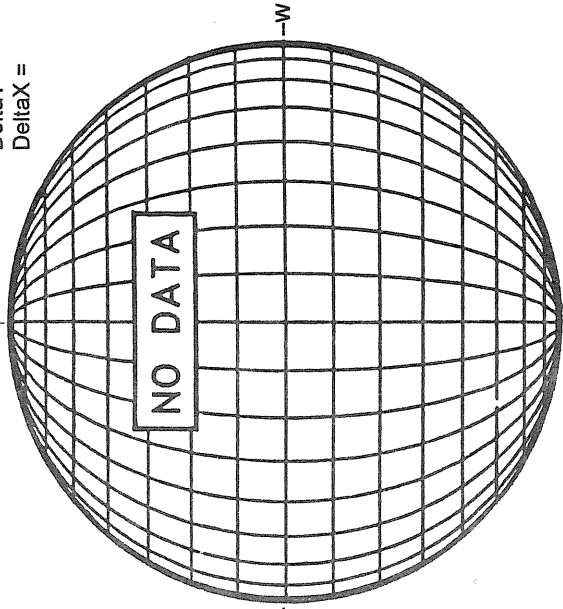
Solid = +  
Dashed = -



1903 UT

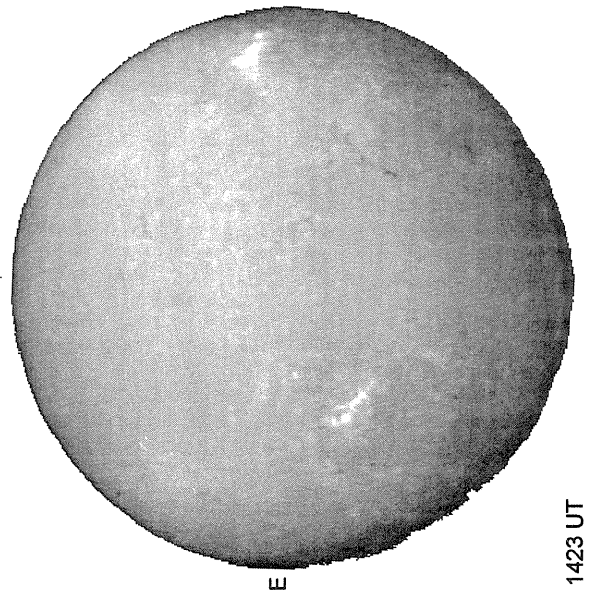
MT. WILSON MAGNETOGRAM

Delta Y =  
Delta X =



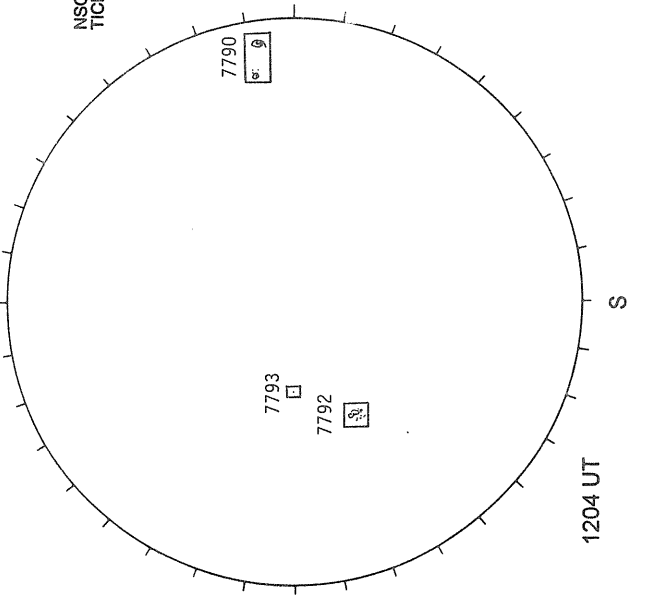
White = +7.5G  
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



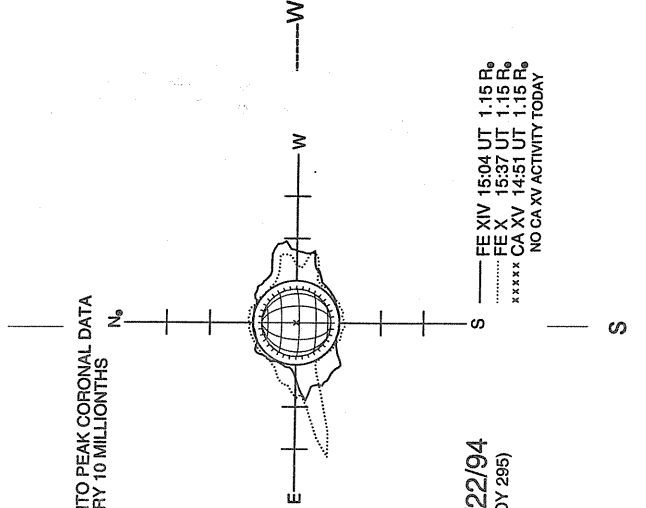
1423 UT

RAMEY SUNSPOT



1204 UT

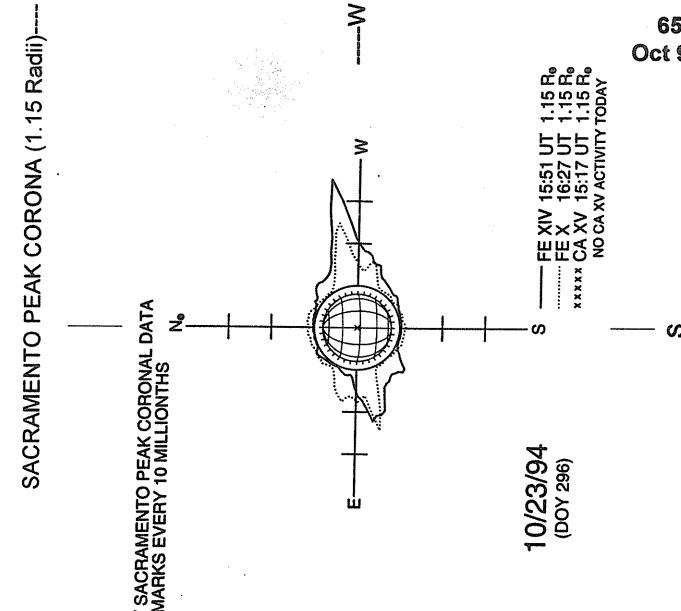
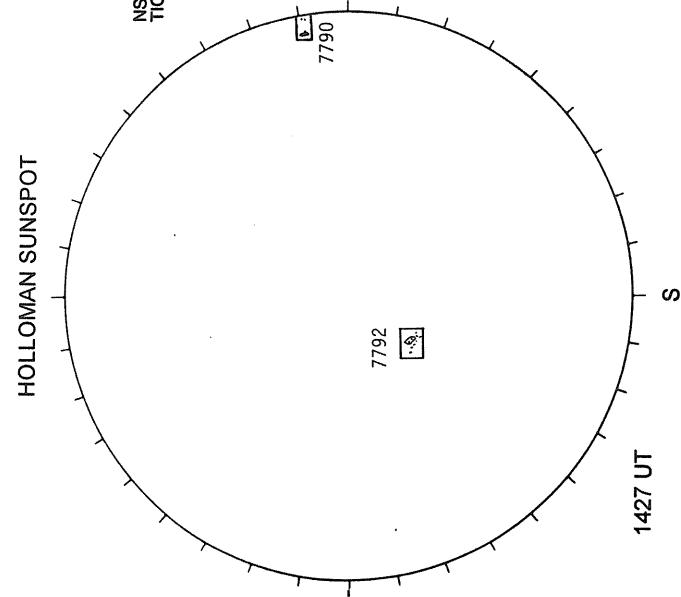
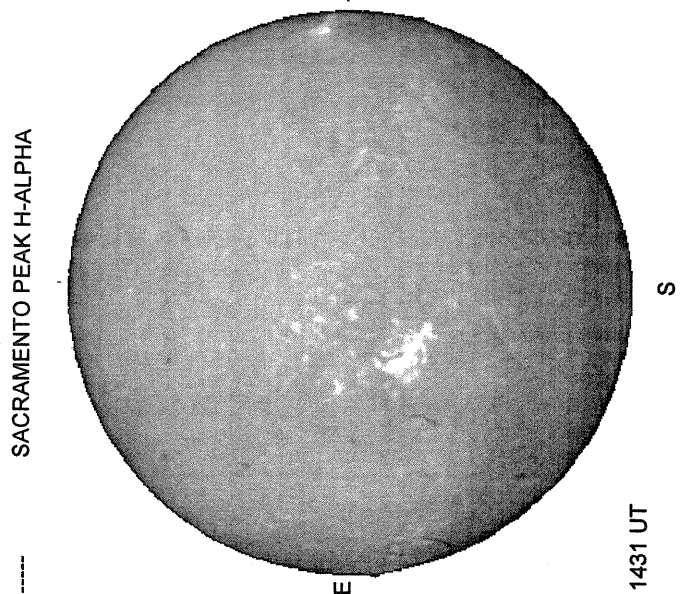
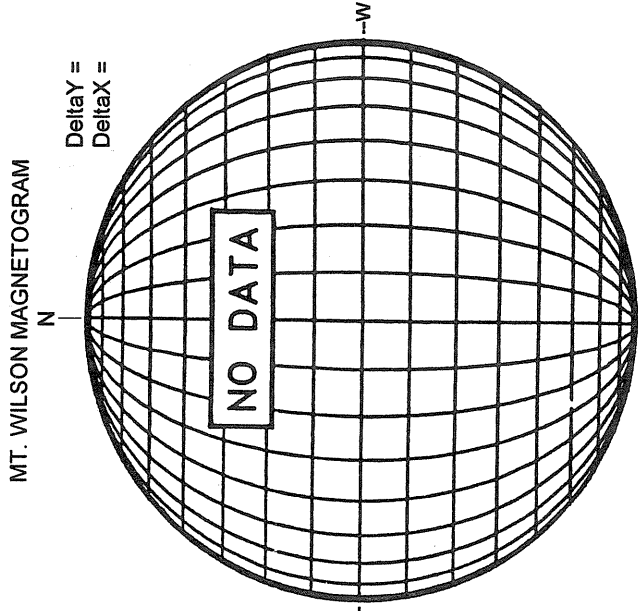
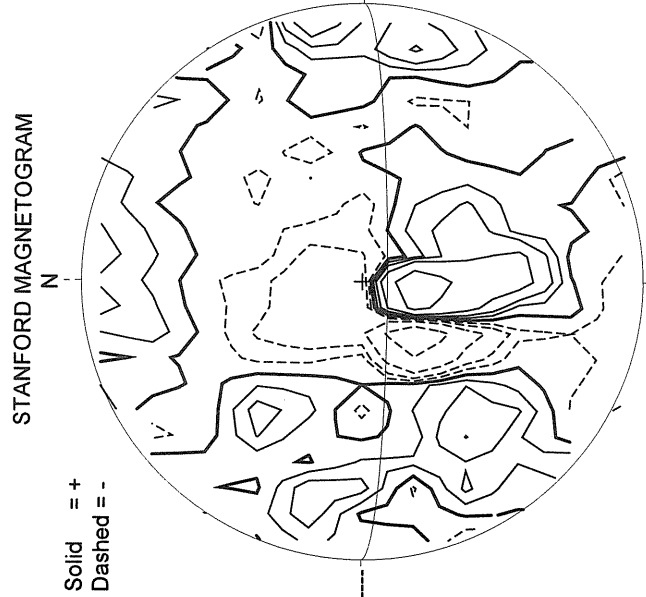
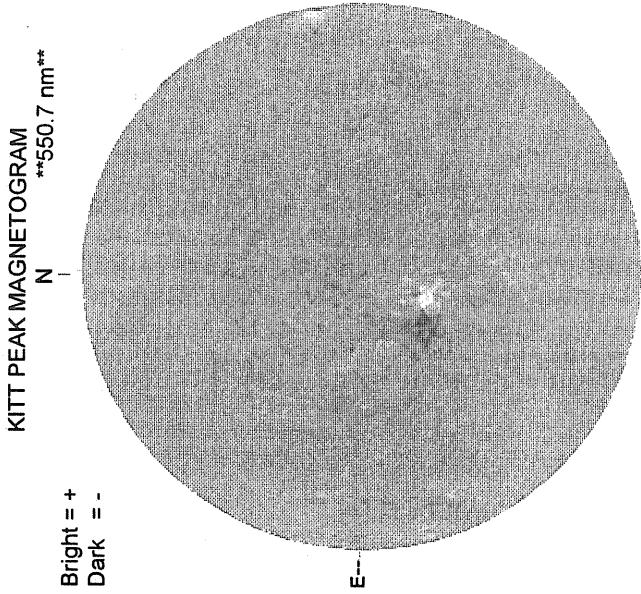
SACRAMENTO PEAK CORONA (1.15 Radii)----



10/22/94  
(DOY 295)

FE XIV 1504 UT 1.15 R<sub>☉</sub>  
FE X 1537 UT 1.15 R<sub>☉</sub>  
CA XV 1451 UT 1.15 R<sub>☉</sub>  
NO CA XV ACTIVITY TODAY

OCTOBER 23, 1994 ( P= 25.72, Bo = 5.24, Lo = 191.61)

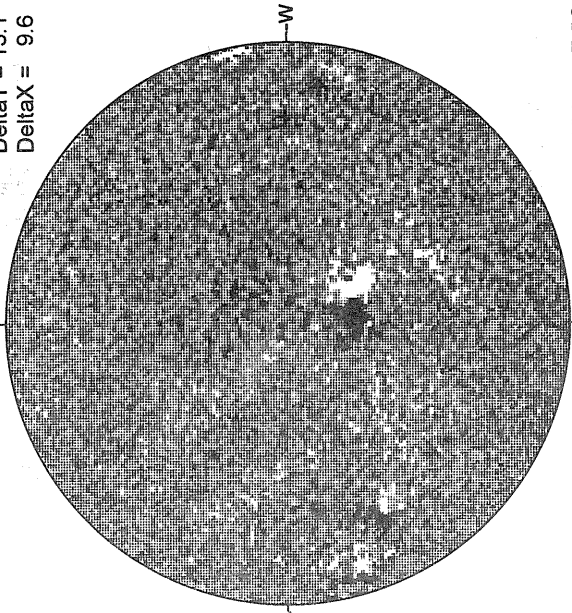




66  
Oct 94

MT. WILSON MAGNETOGRAM

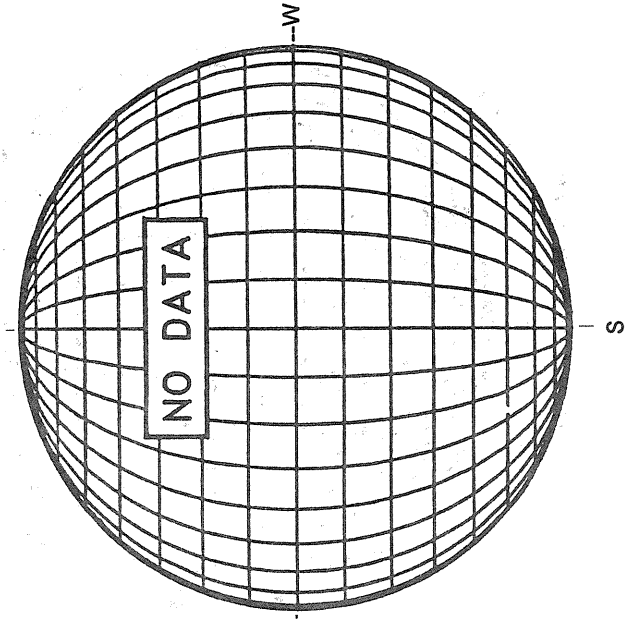
DeltaY = 13.1  
DeltaX = 9.6



White = +7.5G  
Black = -7.5G

20.32 -  
21.28 UT

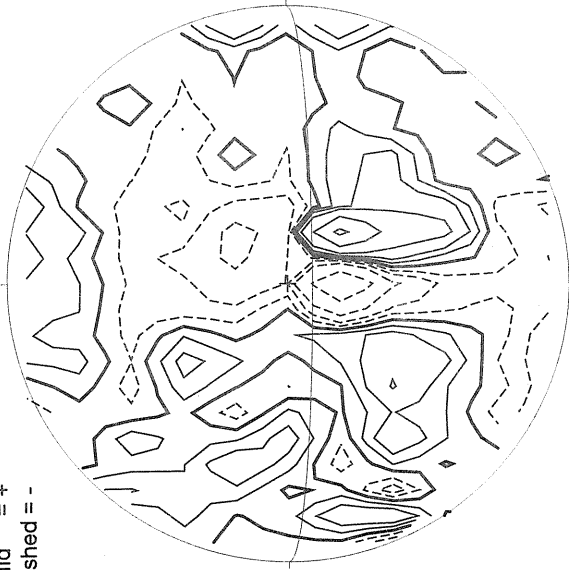
SACRAMENTO PEAK CORONA (1.15 Radii)----



OCTOBER 24, 1994 ( P = 25.5Z, B0 = 9.19, L0 = 178.42)

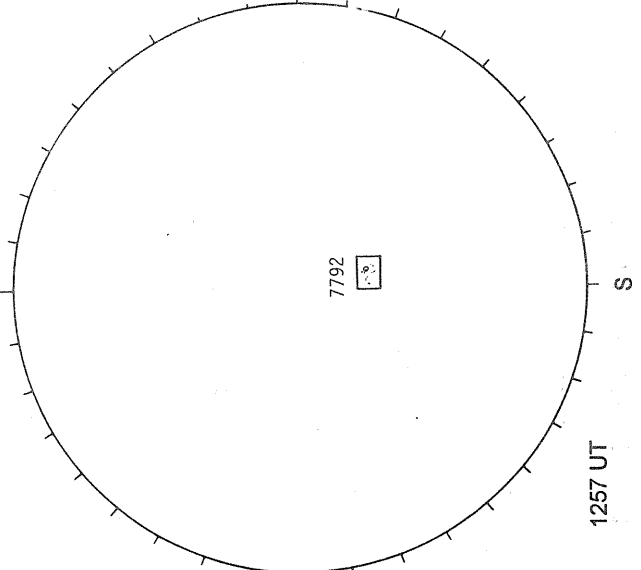
STANFORD MAGNETOGRAM

Solid = +  
Dashed = -



1838 UT

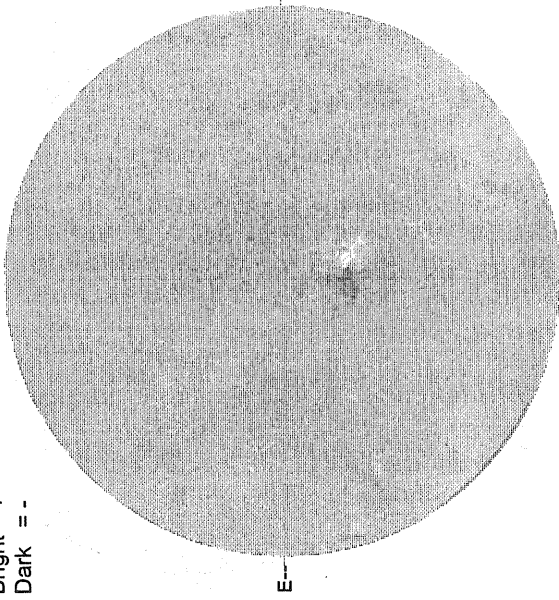
RAMEY SUNSPOT



1257 UT

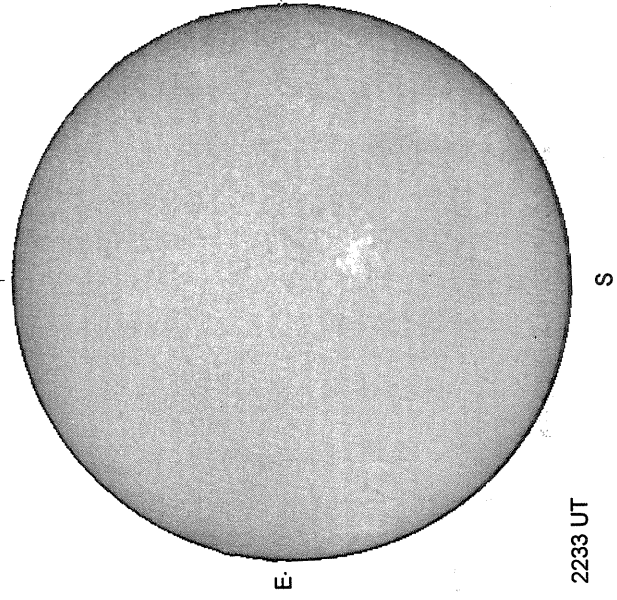
KITT PEAK MAGNETOGRAM  
\*\*550.7 nm\*\*

Bright = +  
Dark = -



1503 UT

MAUNA LOA H-ALPHA

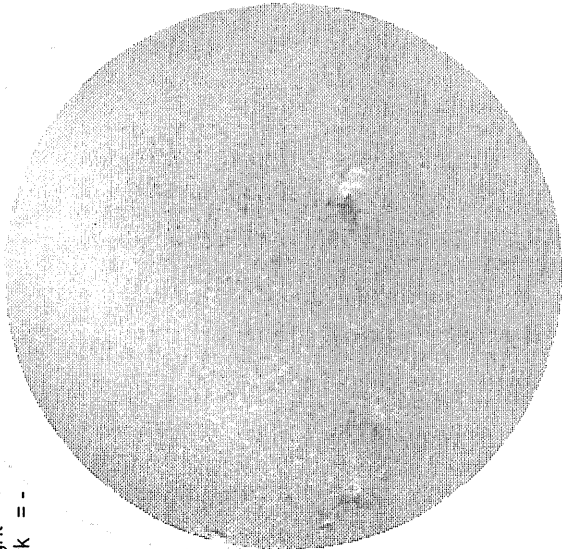


2233 UT

OCTOBER 25, 1994 ( P= 25.52, Bo = 5.06, Lo = 165.23)

KITT PEAK MAGNETOGRAM  
\*\*550.7 nm\*\*

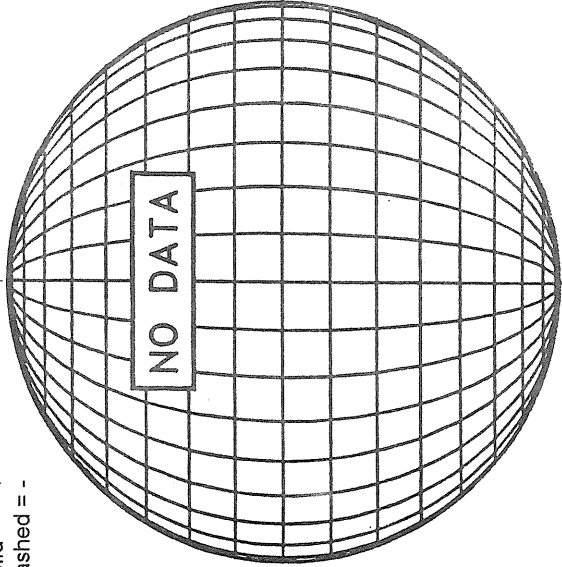
Bright = +  
Dark = -



1604 UT

STANFORD MAGNETOGRAM

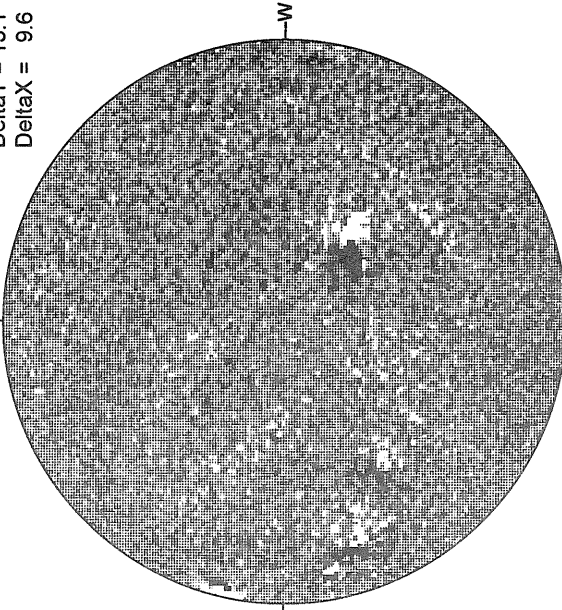
Solid = +  
Dashed = -



17.49 -  
18.44 UT

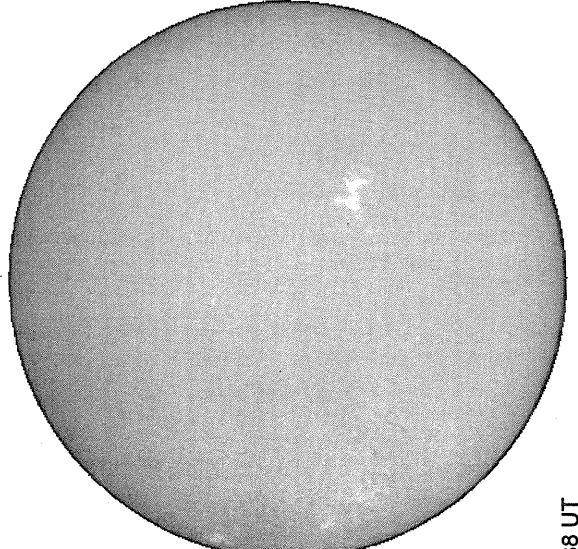
MT. WILSON MAGNETOGRAM

Delta Y = 13.1  
Delta X = 9.6



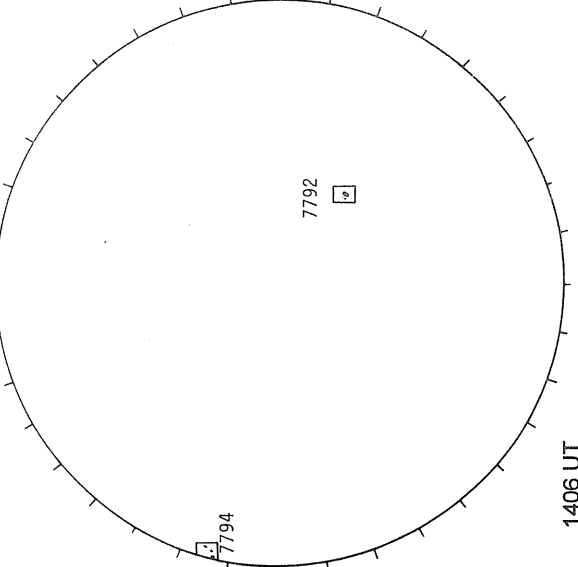
White = +7.5G  
Black = -7.5G

MAUNA LOA H-ALPHA



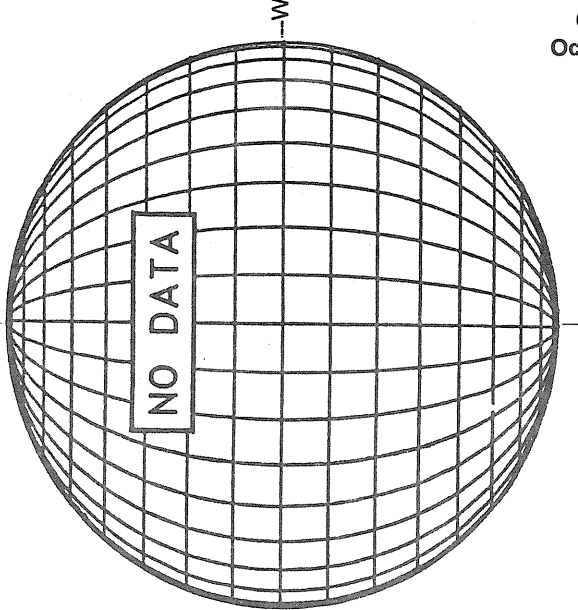
2138 UT

RAMEY SUNSPOT



1406 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

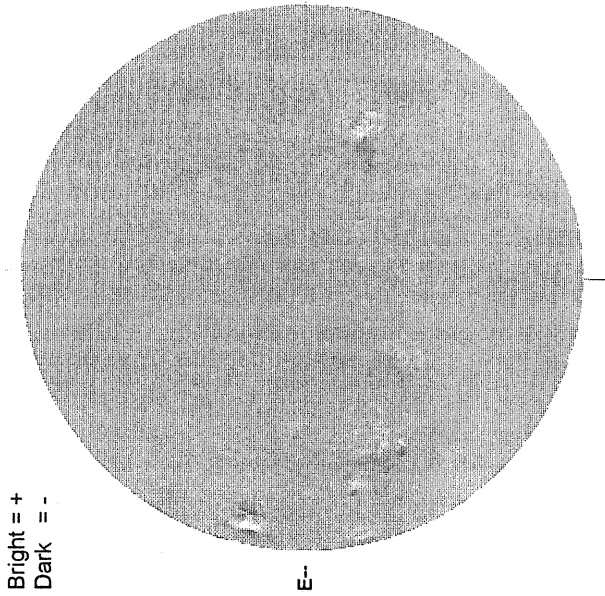


67  
Oct 94

OCTOBER 26, 1994 ( P= 25.40, Bo = 4.97, Lo = 152.04)

68  
Oct 94

KITT PEAK MAGNETOGRAM  
\*\*550.7 nm\*\*



Bright = +  
Dark = -

1442 UT

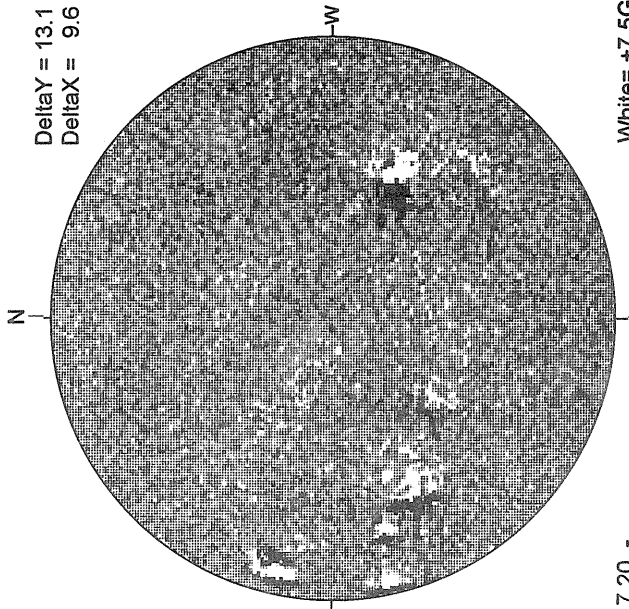
STANFORD MAGNETOGRAM



Solid = +  
Dashed = -

1913 UT

MT. WILSON MAGNETOGRAM

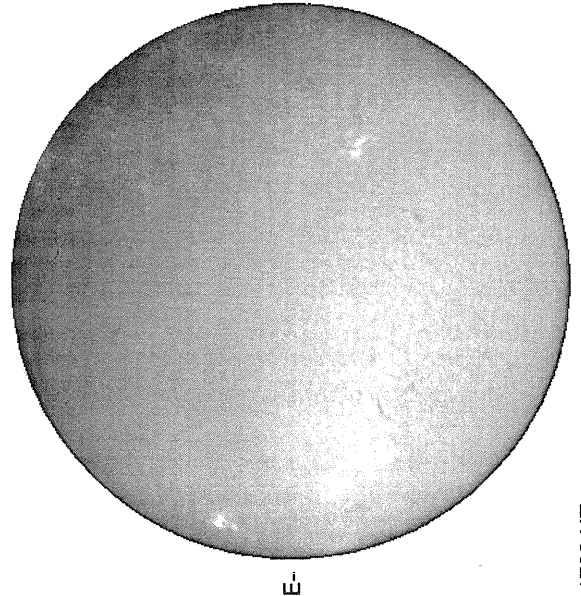


Delta Y = 13.1  
Delta X = 9.6

White = +7.5G  
Black = -7.5G

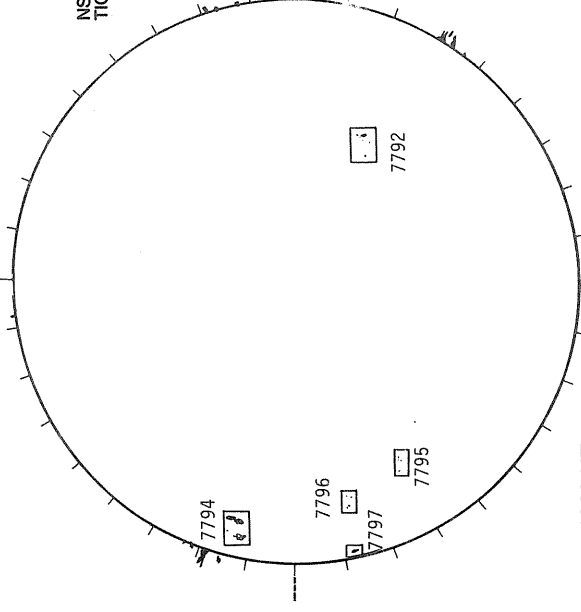
17.20 -  
18.15 UT

MAUNA LOA H-ALPHA



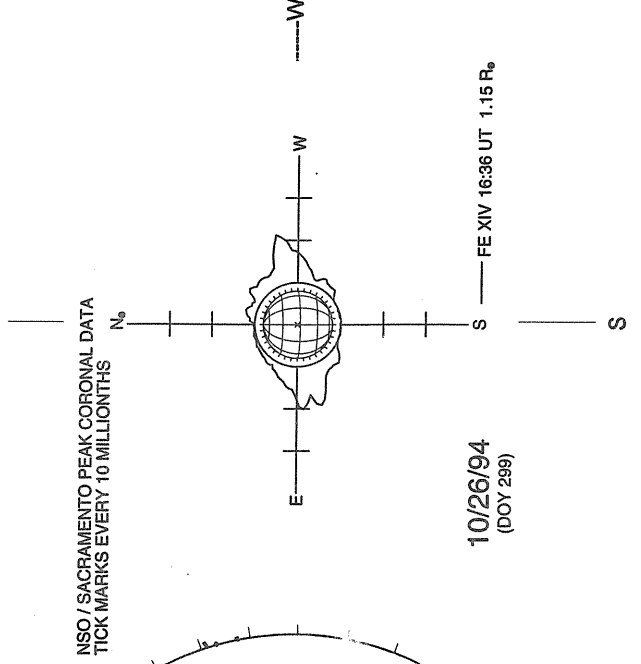
1732 UT

RAMEY SUNSPOT

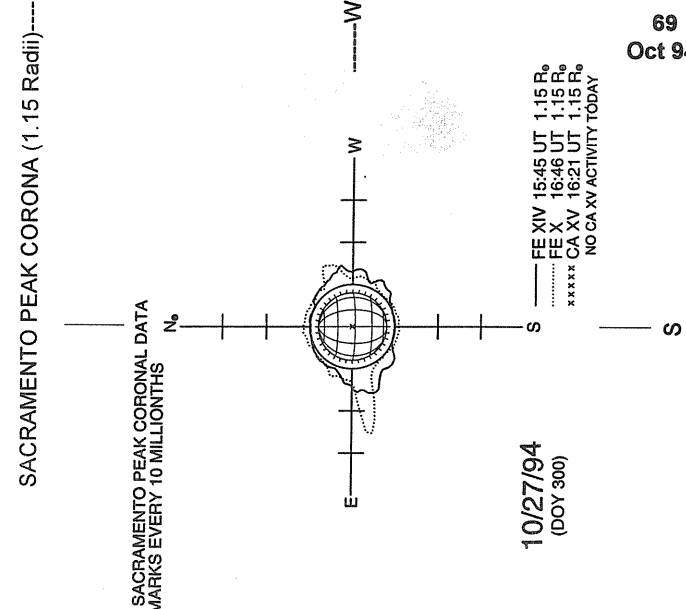
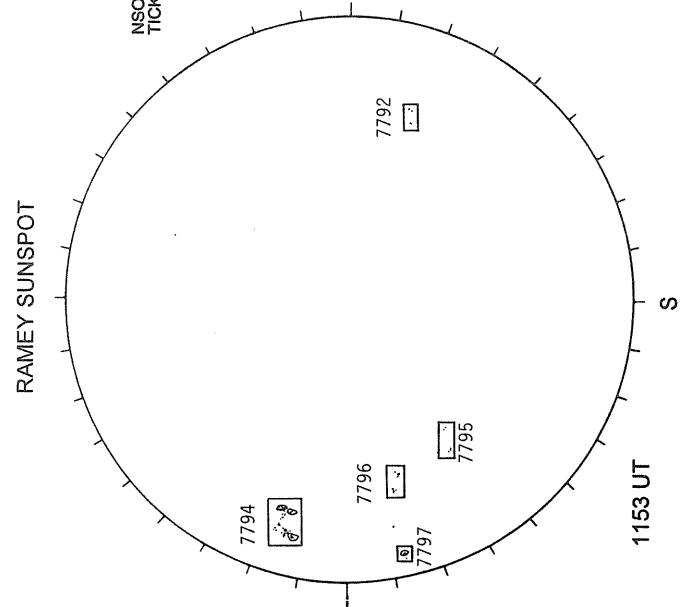
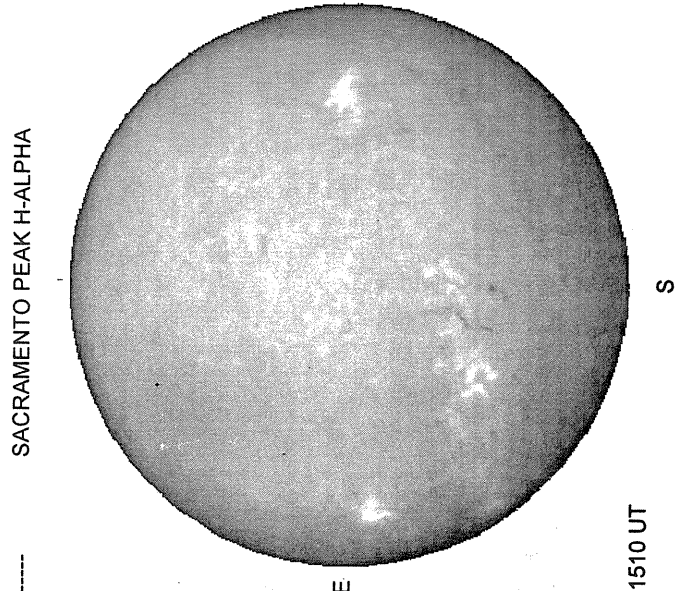
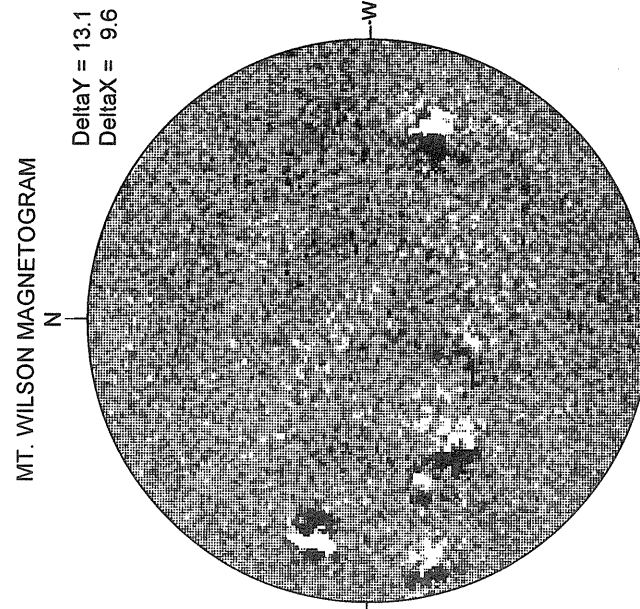
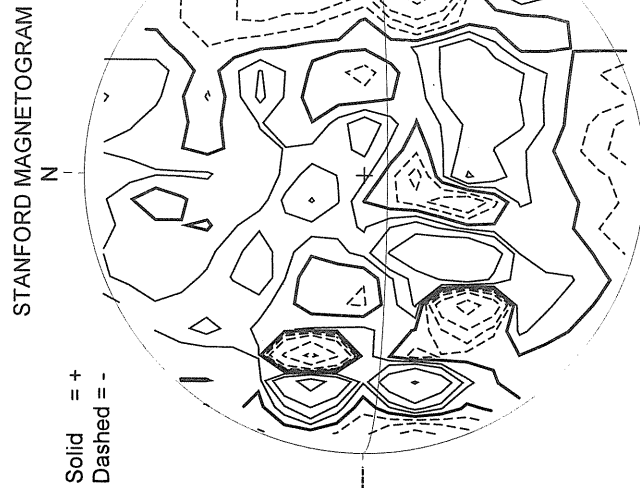
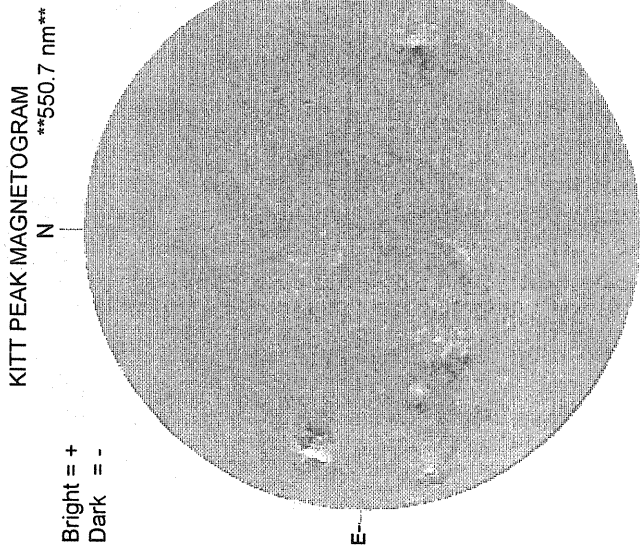


1303 UT  
0827 UT LOMN Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----



OCTOBER 27, 1994 ( P= 25.28, Bo = 4.88, Lo = 138.85)





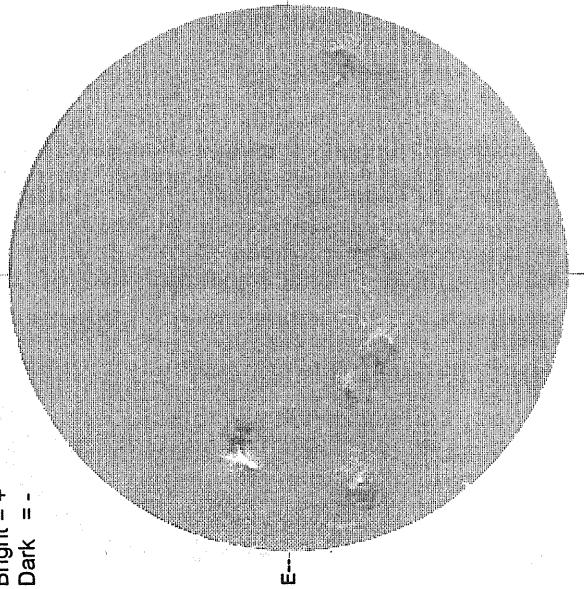
OCTOBER 28, 1994 ( P= 25.15, Bo = 4.78, Lo = 125.67)

70  
Oct 94

KITT PEAK MAGNETOGRAM

\*\*\*550.7 nm\*\*

Bright = +  
Dark = -



1427 UT

STANFORD MAGNETOGRAM

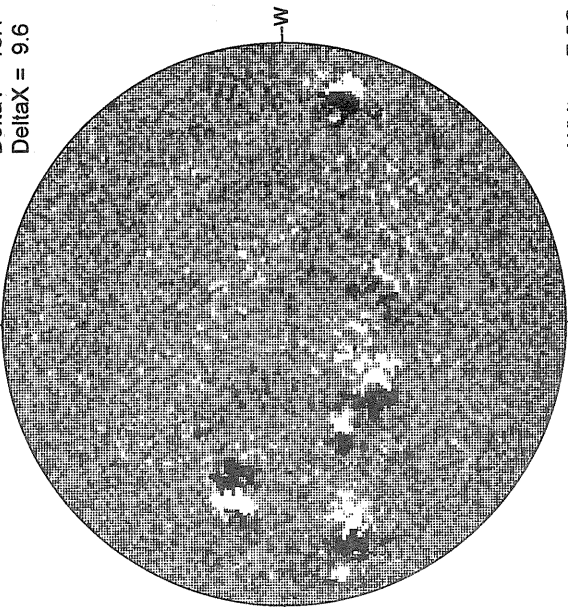
Solid = +  
Dashed = -



1905 UT

MT. WILSON MAGNETOGRAM

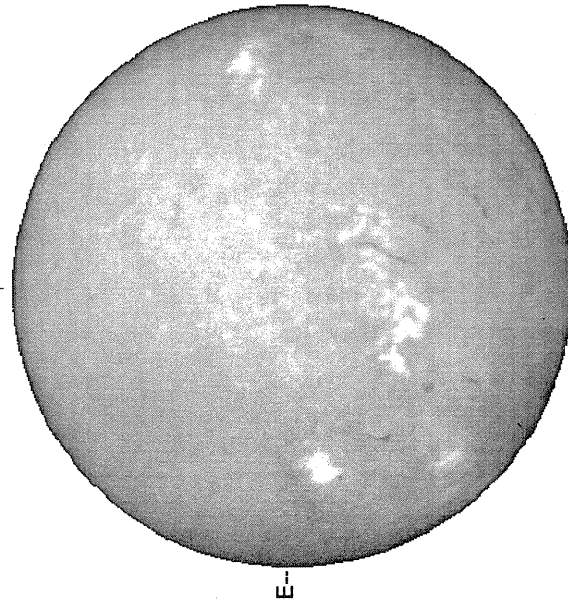
Delta Y = 13.1  
Delta X = 9.6



18.19 -  
19.14 UT

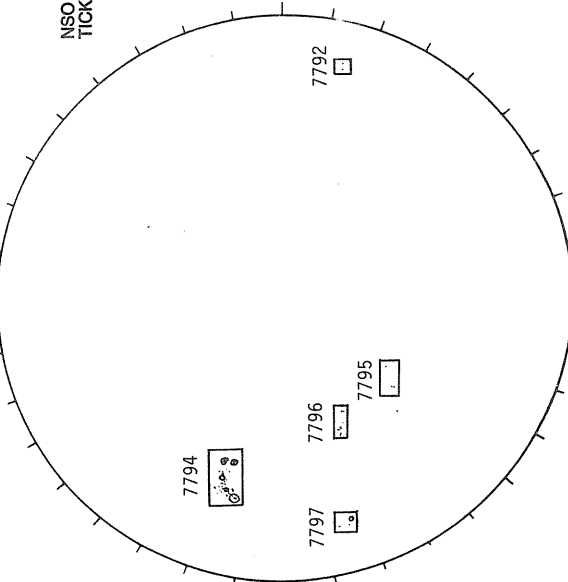
White = +7.5G  
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



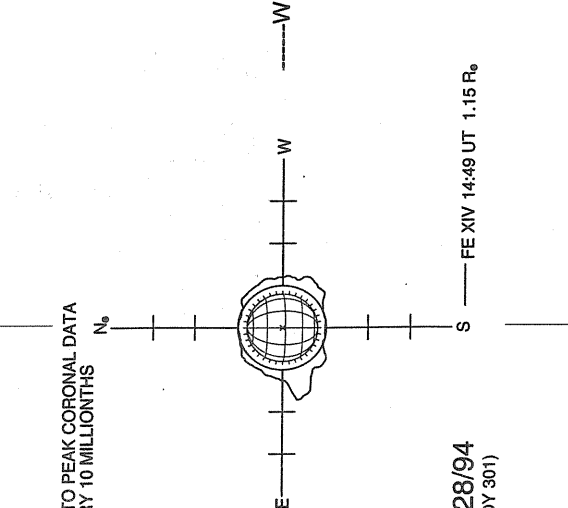
1425 UT

RAMEY SUNSPOT



1226 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

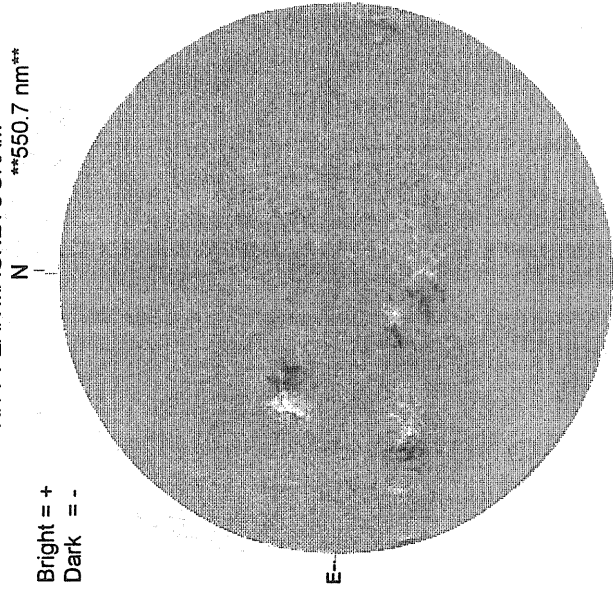


10/28/94  
(DOY 301)

FE XIV 14:49 UT 1.15 R<sub>o</sub>

OCTOBER 29, 1994 ( P = 25.01, Bo = 4.69, Lo = 112.48)

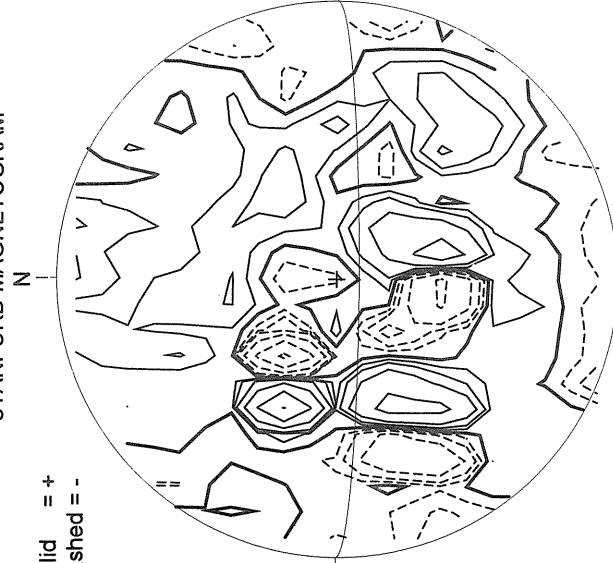
KITT PEAK MAGNETOGRAM  
\*\*550.7 nm\*\*



Bright = +  
Dark = -

1442 UT

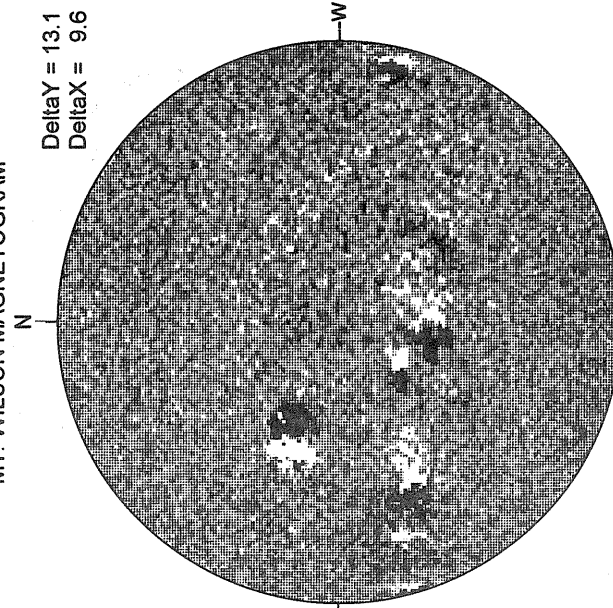
STANFORD MAGNETOGRAM



Solid = +  
Dashed = -

2159 UT

MT. WILSON MAGNETOGRAM

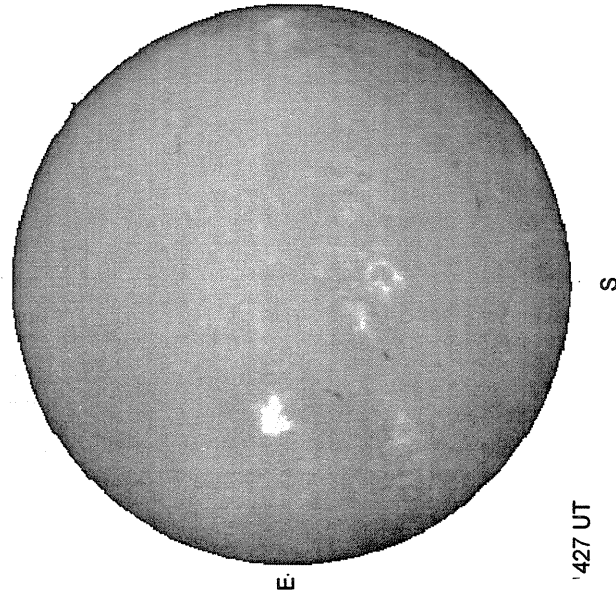


Delta Y = 13.1  
Delta X = 9.6

17 54 -  
18 50 UT

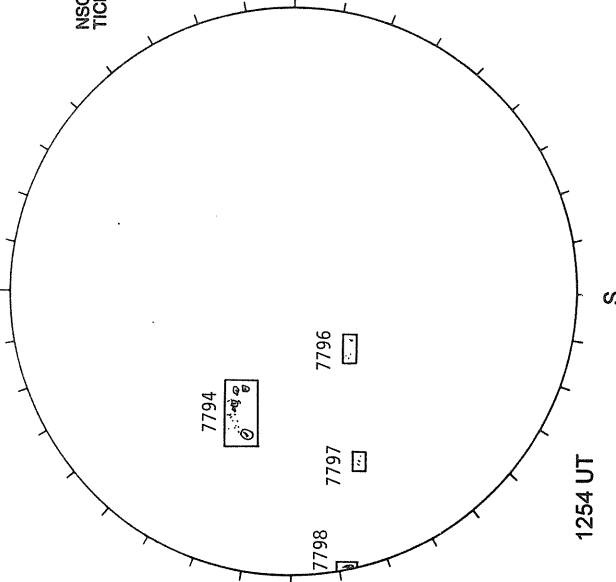
White = +7.5G  
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



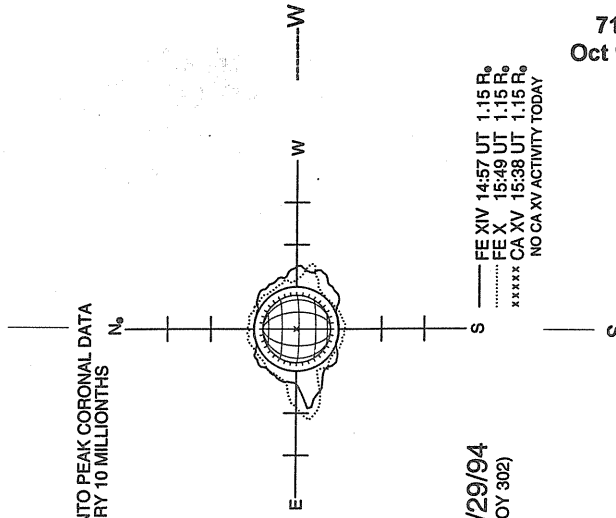
'427 UT

RAMEY SUNSPOT



1254 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



10/29/94  
(DOY 302)

FE XIV 14:57 UT 1.15 R<sub>0</sub>  
FE X 15:49 UT 1.15 R<sub>0</sub>  
\*\*\*\*\* CA XV 15:38 UT 1.15 R<sub>0</sub>  
NO CA XV ACTIVITY TODAY

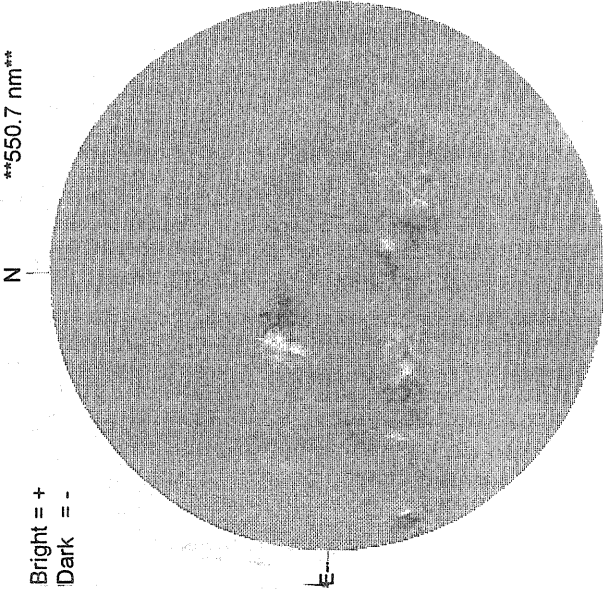
71  
Oct 94

72  
Oct 94

KITT PEAK MAGNETOGRAM

\*\*550.7 nm\*\*

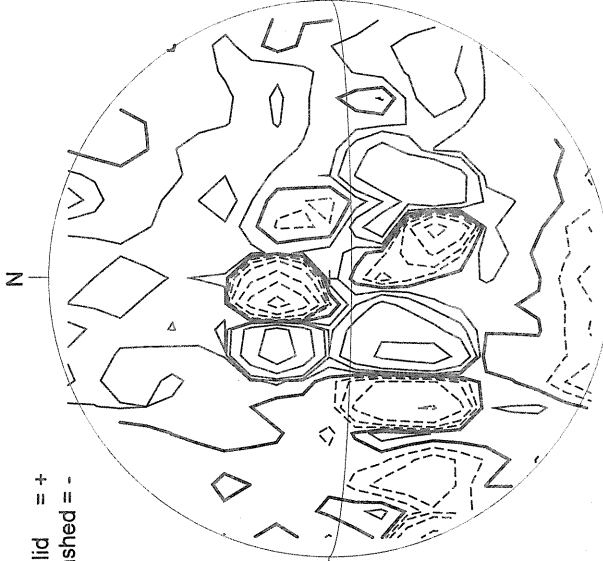
Bright = +  
Dark = -



1632 UT

STANFORD MAGNETOGRAM

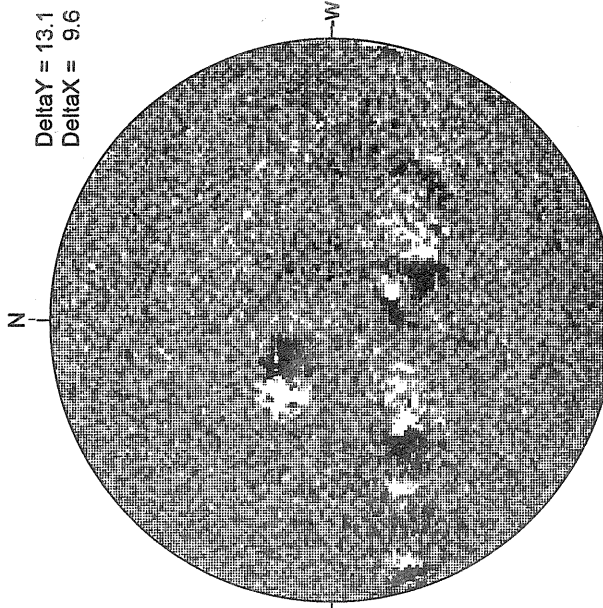
Solid = +  
Dashed = -



2149 UT

MT. WILSON MAGNETOGRAM

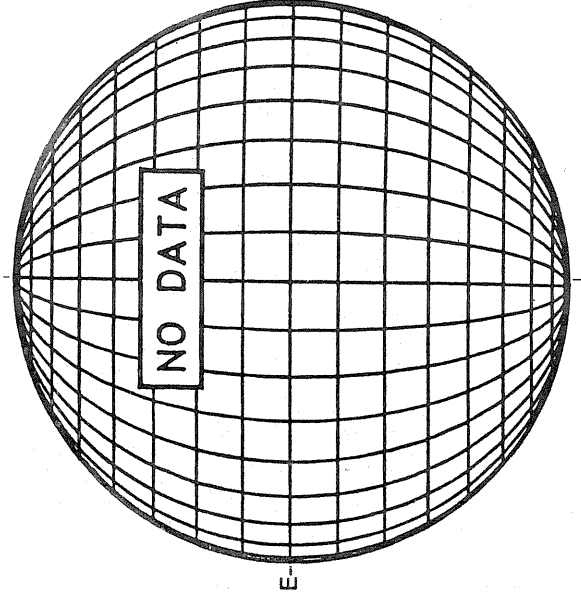
Delta Y = 13.1  
Delta X = 9.6



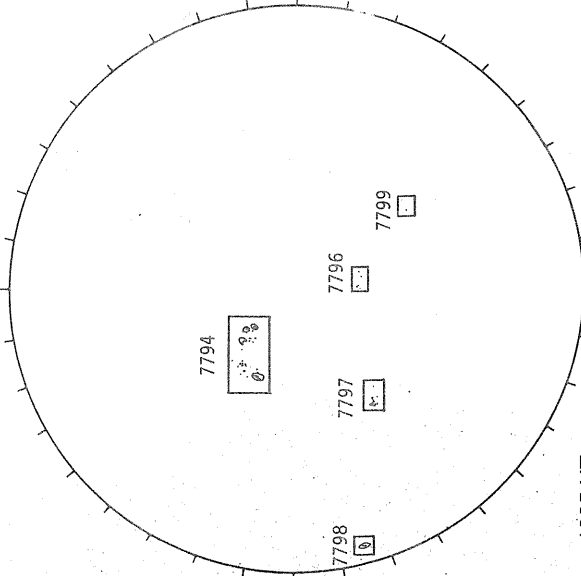
17.47 -  
18.43 UT

White = +7.5G  
Black = -7.5G

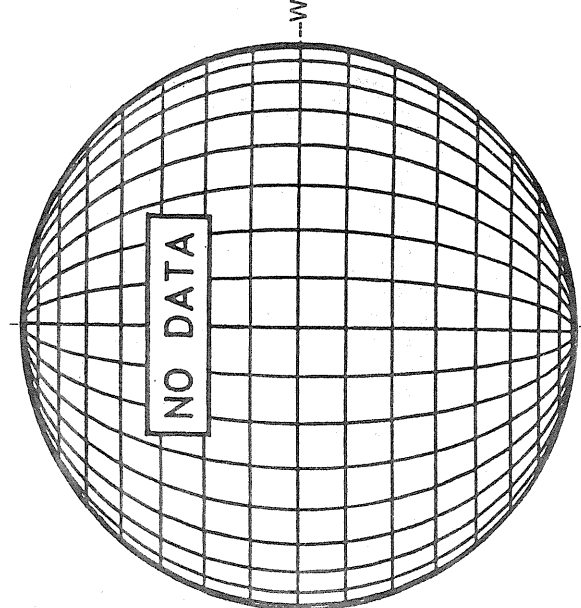
BIG BEAR H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

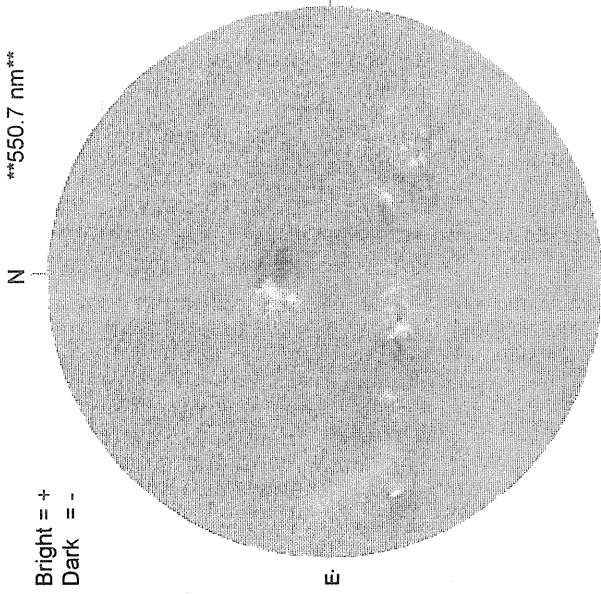


OCTOBER 31, 1994 ( P= 24.72, Bo = 4.49, Lo = 86.11)

KITT PEAK MAGNETOGRAM

\*\*\*550.7 nm\*\*

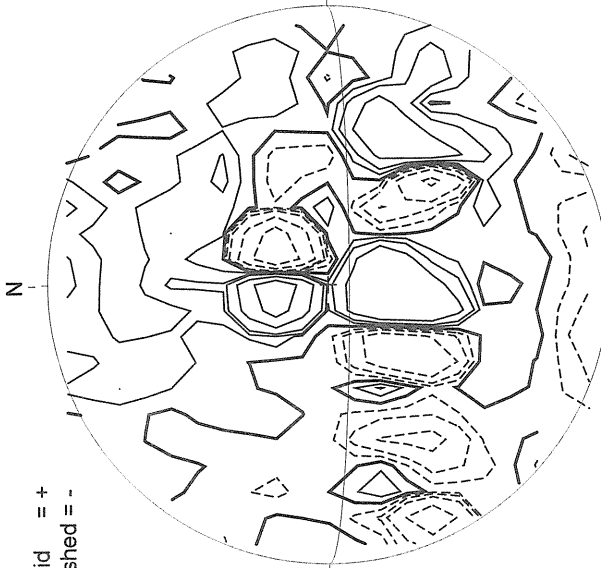
Bright = +  
Dark = -



1540 UT

STANFORD MAGNETOGRAM

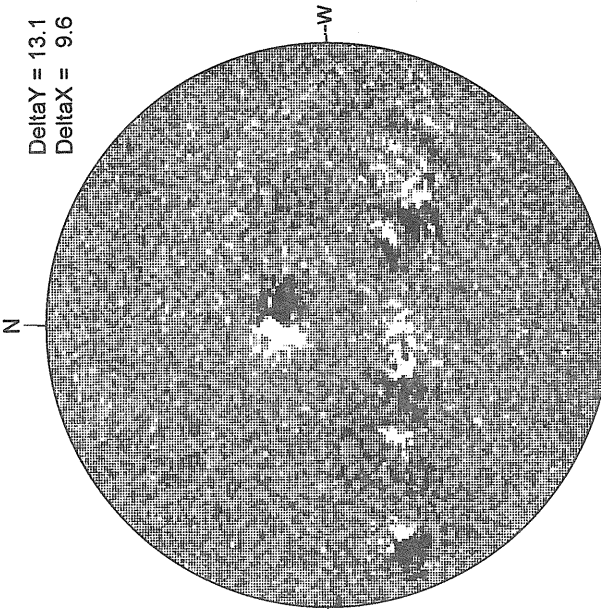
Solid = +  
Dashed = -



1923 UT

MT. WILSON MAGNETOGRAM

DeltaY = 13.1  
DeltaX = 9.6



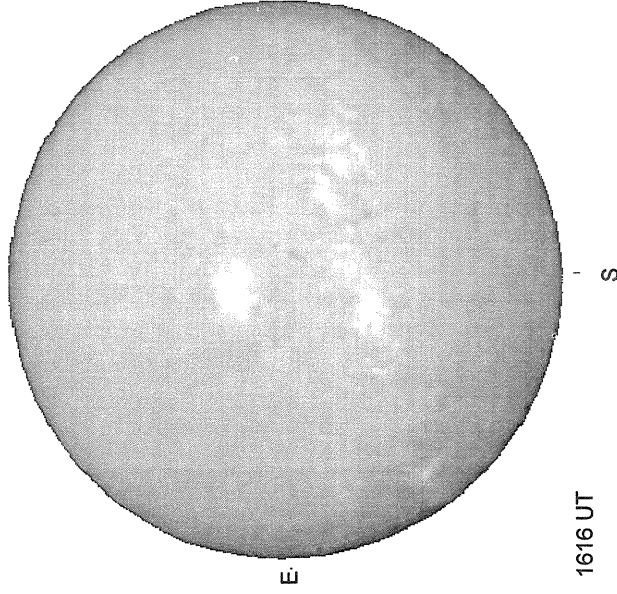
17.70 -  
18.66 UT

White= +7.5G  
Black = -7.5G

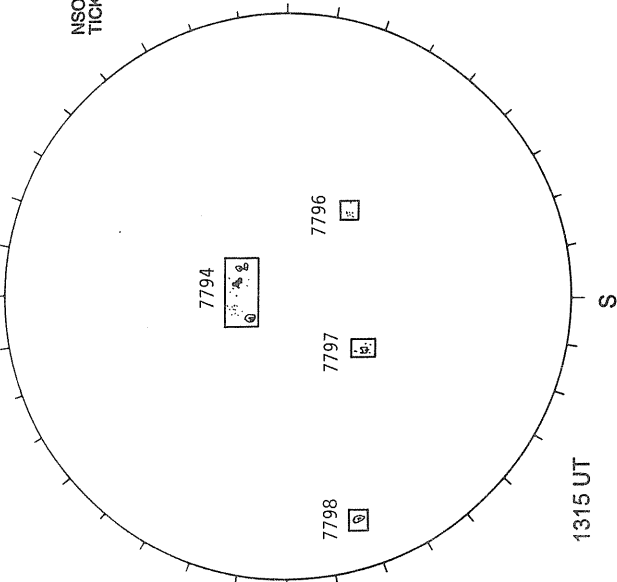
SACRAMENTO PEAK H-ALPHA

RAMEY SUNSPOT

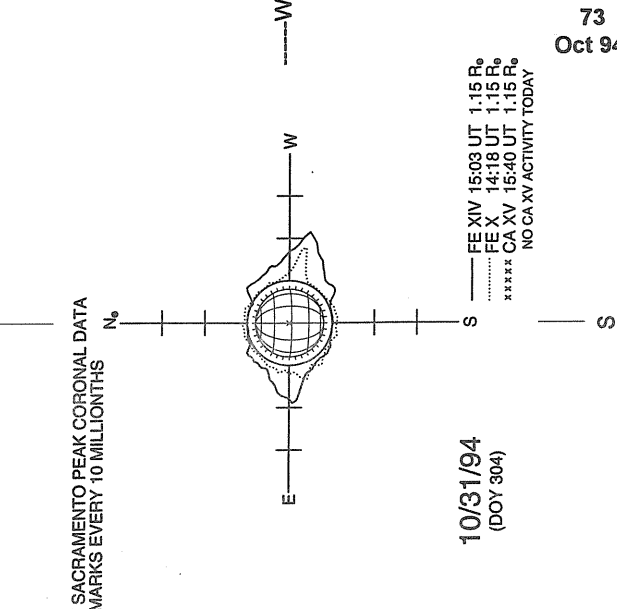
SACRAMENTO PEAK CORONA (1.15 Radii)----



1616 UT



1315 UT



NSO / SACRAMENTO PEAK CORONAL DATA  
TICK MARKS EVERY 10 MILLIONTHS

10/31/94  
(DOY 304)

FE XIV 15:03 UT 1.15 R<sub>o</sub>  
FE X 14:18 UT 1.15 R<sub>o</sub>  
\*\*\*\*\* CA XV 15:40 UT 1.15 R<sub>o</sub>  
NO CA XV ACTIVITY TODAY

73  
Oct 94

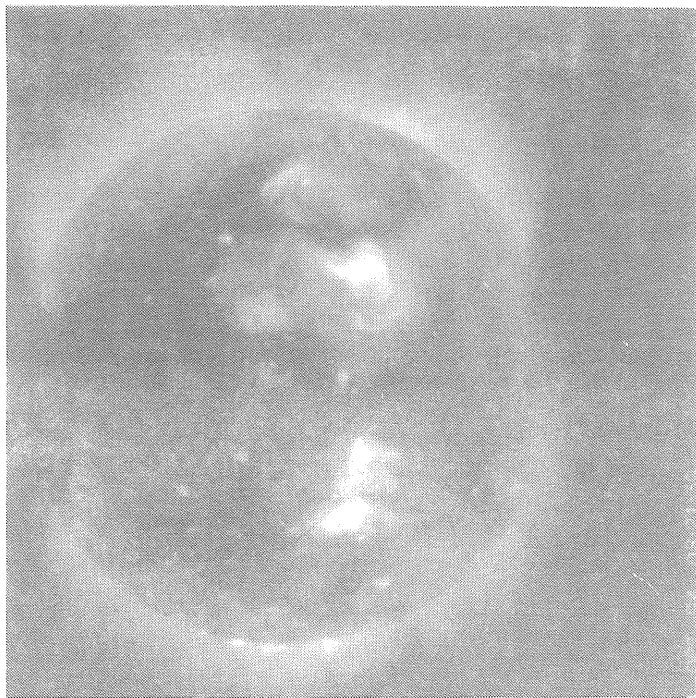
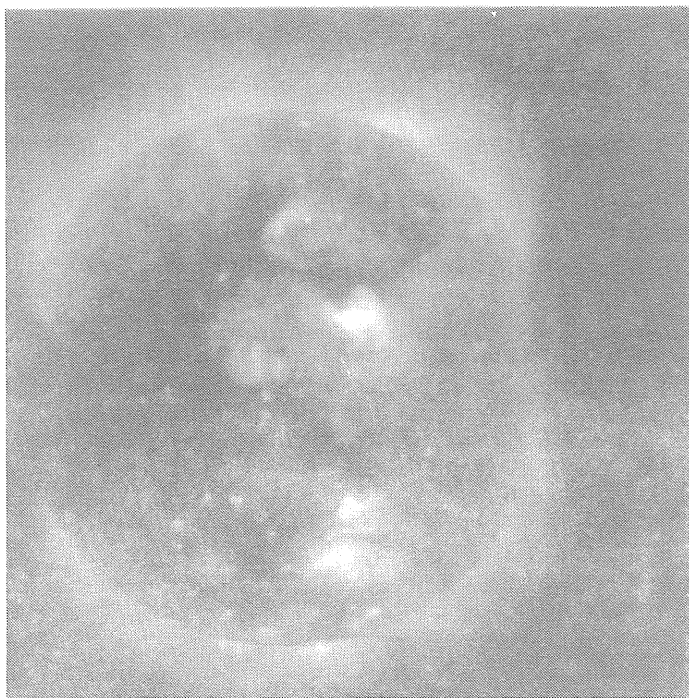
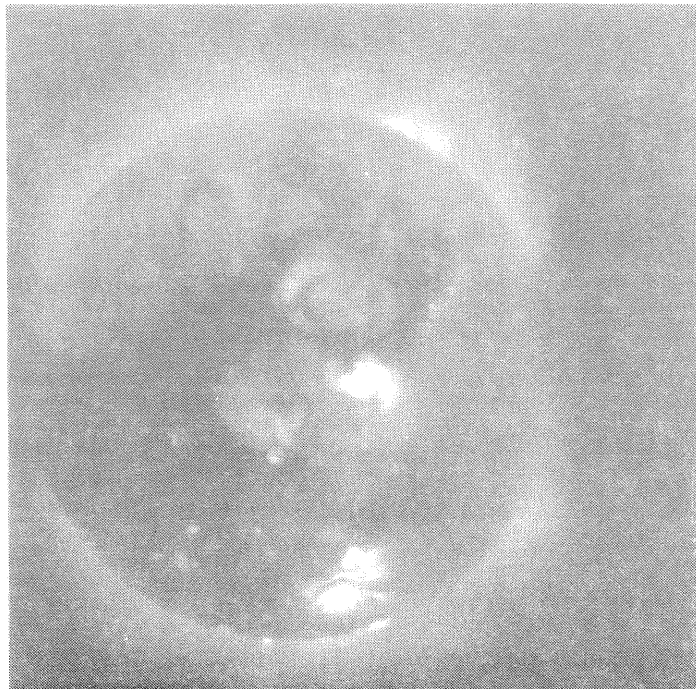
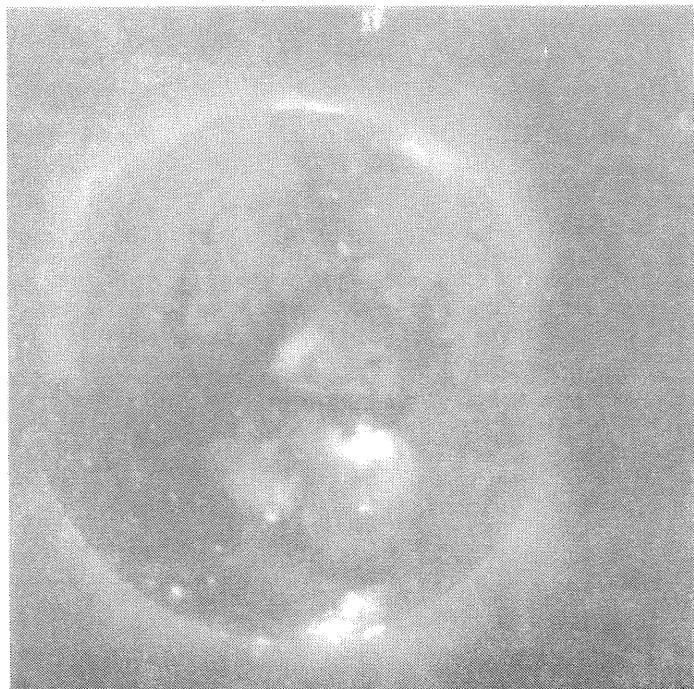


**YOHKOH  
SOFT X-RAY  
TELESCOPE  
IMAGES**

**October  
1994**

Day 1 10:45:02 UT  
Day 3 14:06:45 UT

Day 2 11:55:02 UT  
Day 4 08:21:39 UT



**YOHKOH  
SOFT X-RAY  
TELESCOPE  
IMAGES**

**October  
1994**

Day 1 10:45:02 UT      Day 3 14:06:45 UT

1-OCT-94 10:45:02

3-OCT-94 14:06:45

Day 2 11:55:02 UT      Day 4 08:21:39 UT

2-OCT-94 11:55:02

4-OCT-94 08:21:39

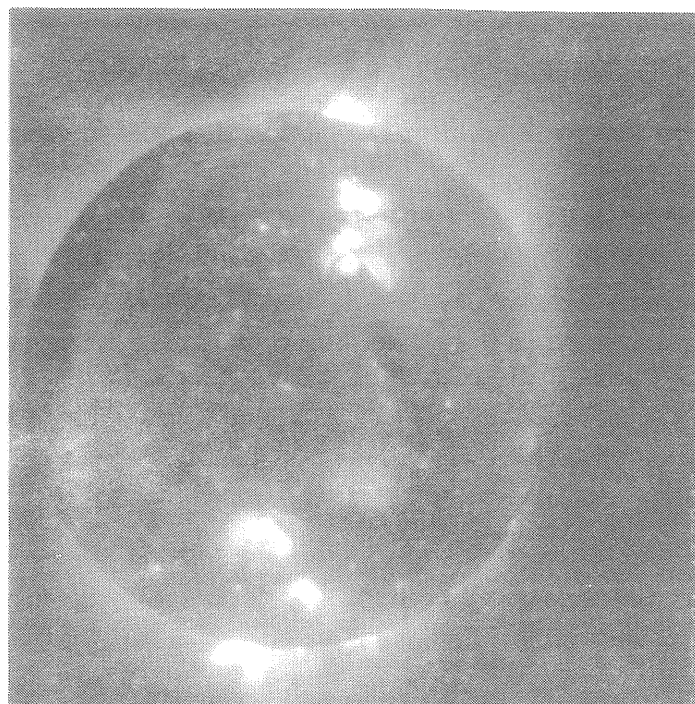
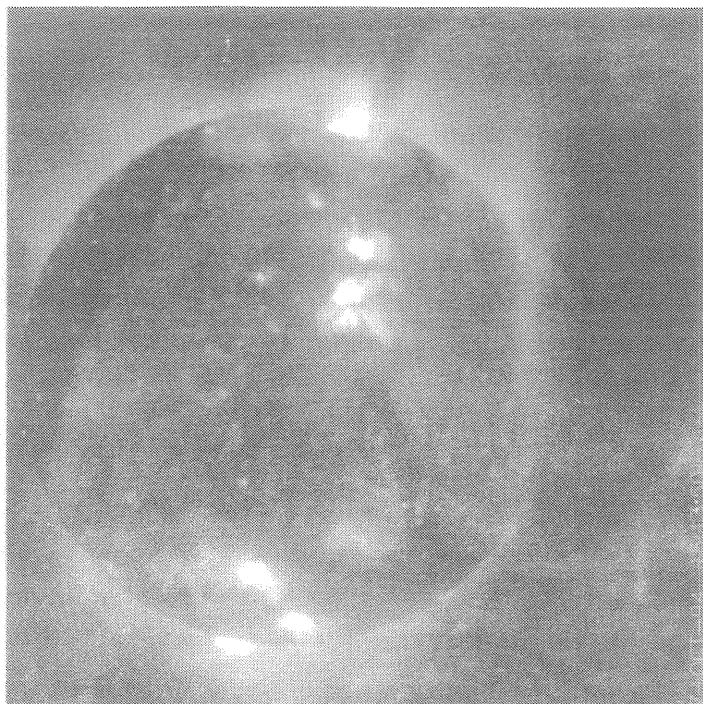
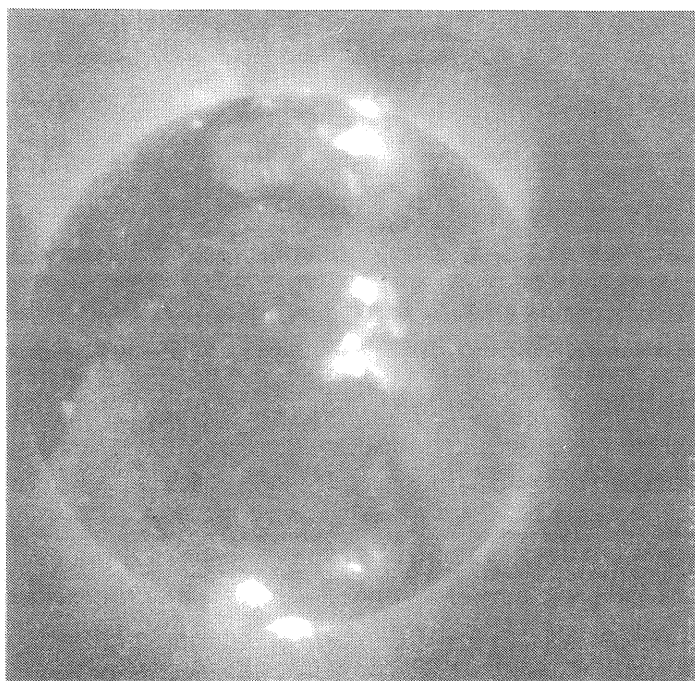
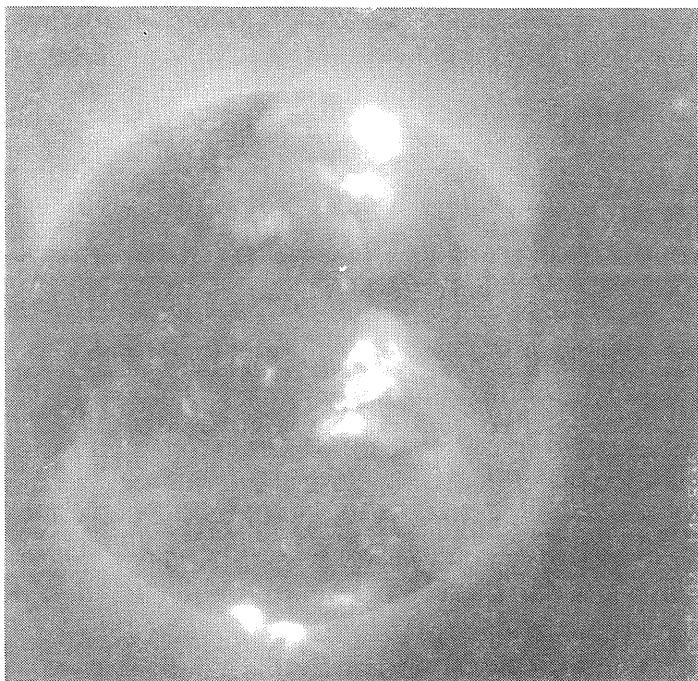


**YOHKOH  
SOFT X-RAY  
TELESCOPE  
IMAGES**

**October  
1994**

Day 5 14:28:35 UT      Day 7 15:13:50 UT

Day 6 14:46:33 UT      Day 8 13:52:16 UT



**YOHKOH  
SOFT X-RAY  
TELESCOPE  
IMAGES**

**October  
1994**

Day 5  
14:28:35 UT

Day 7  
15:13:50 UT

5-OCT-94 14:28:35

7-OCT-94 15:13:50

Day 6  
14:46:33 UT

Day 8  
13:52:16 UT

6-OCT-94 14:46:33

8-OCT-94 13:52:16

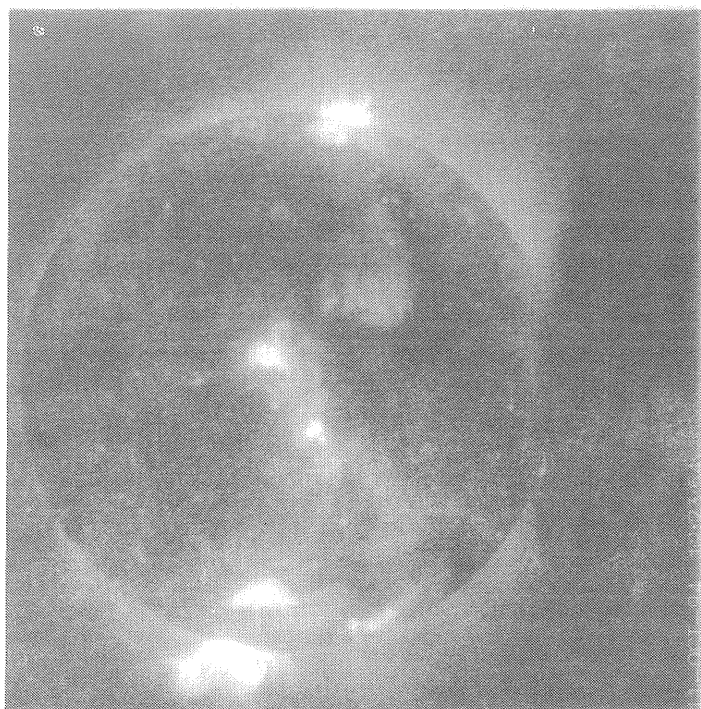
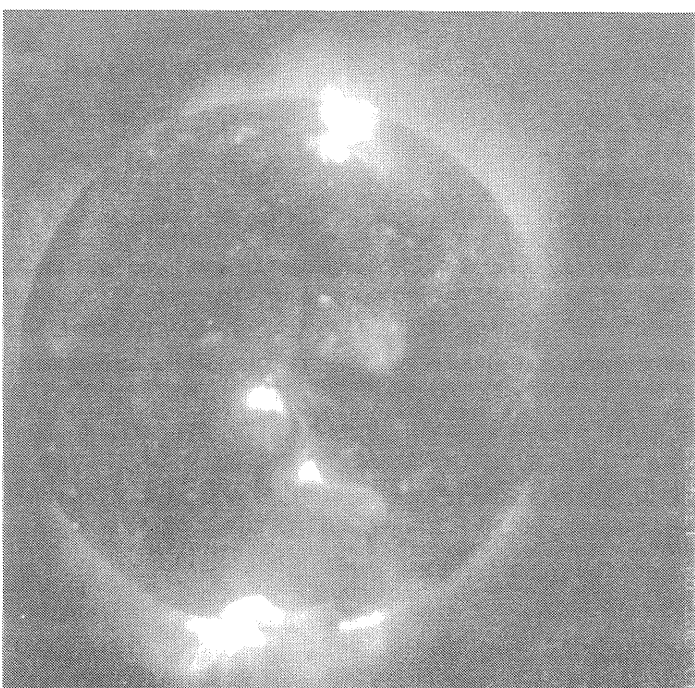
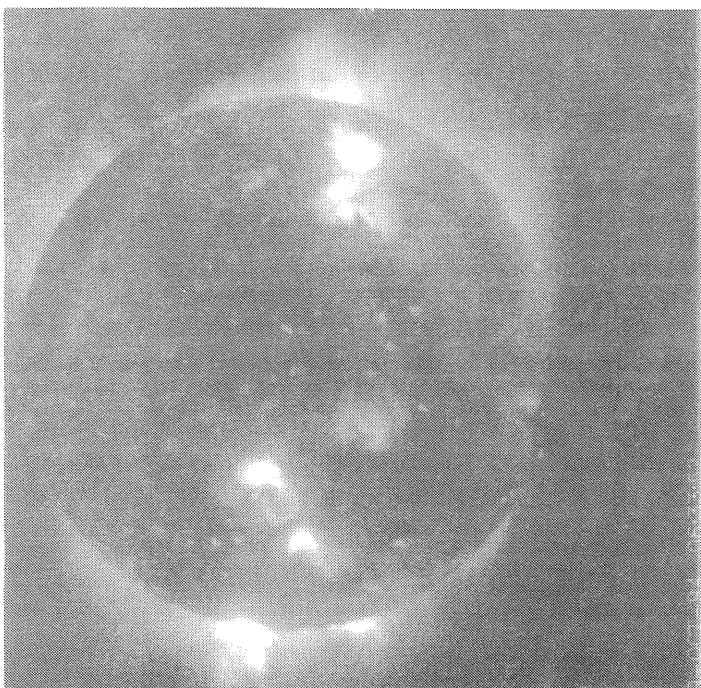


**YOHKOH  
SOFT X-RAY  
TELESCOPE  
IMAGES**

**October  
1994**

Day 9 06:33:52 UT      Day 11 12:23:54 UT

Day 10 13:36:32 UT      Day 12 12:31:22 UT



**YOHKOH  
SOFT X-RAY  
TELESCOPE  
IMAGES**

**October  
1994**

Day 9                      Day 11  
06:33:52 UT              12:23:54 UT

9-OCT-94 06:33:52

11-OCT-94 12:23:54

Day 10                      Day 12  
13:36:32 UT              12:31:22 UT

10-OCT-94 13:36:32

12-OCT-94 12:31:22

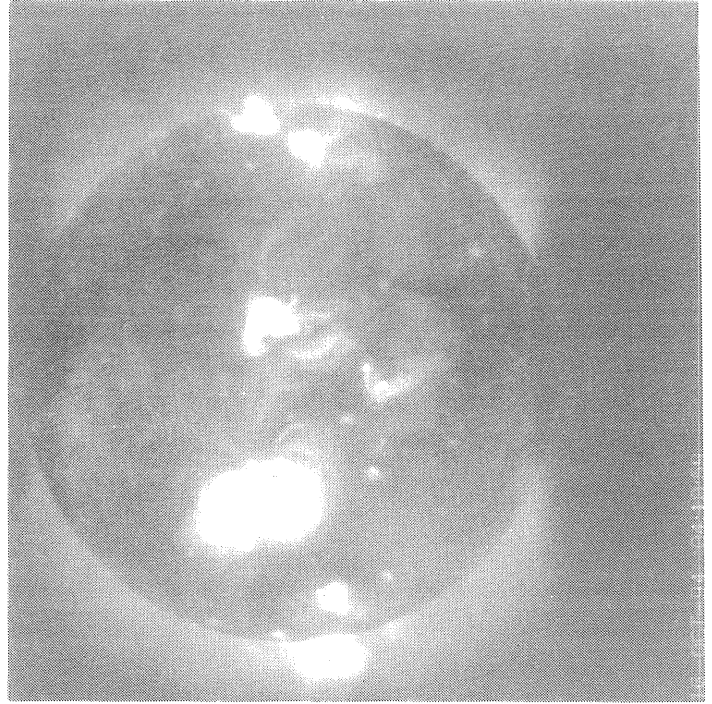
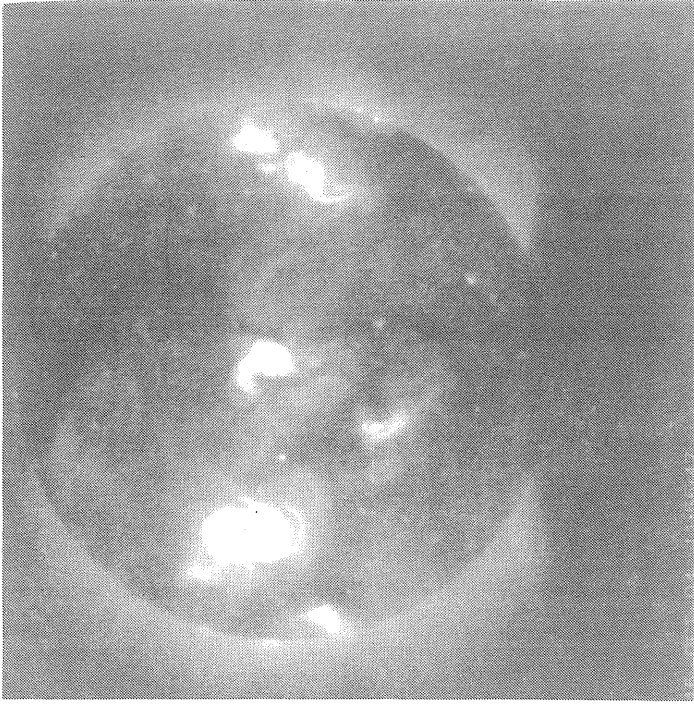
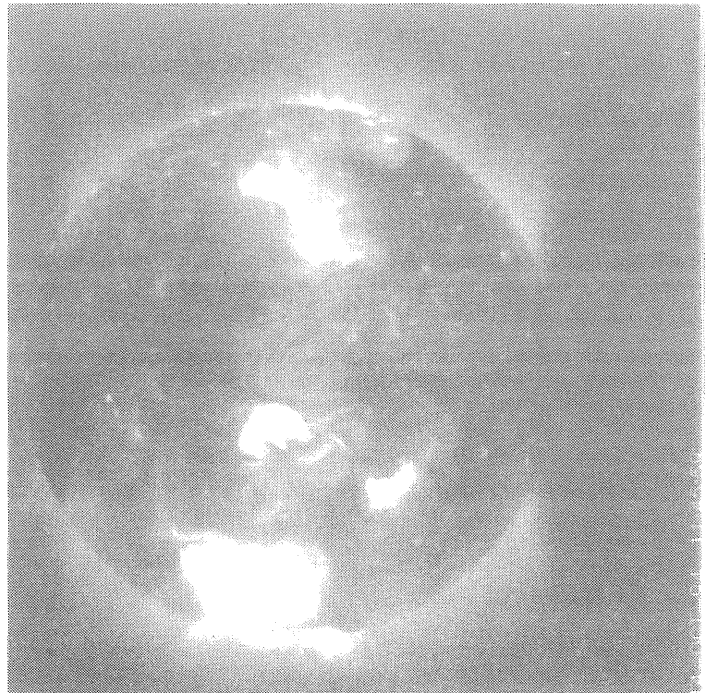
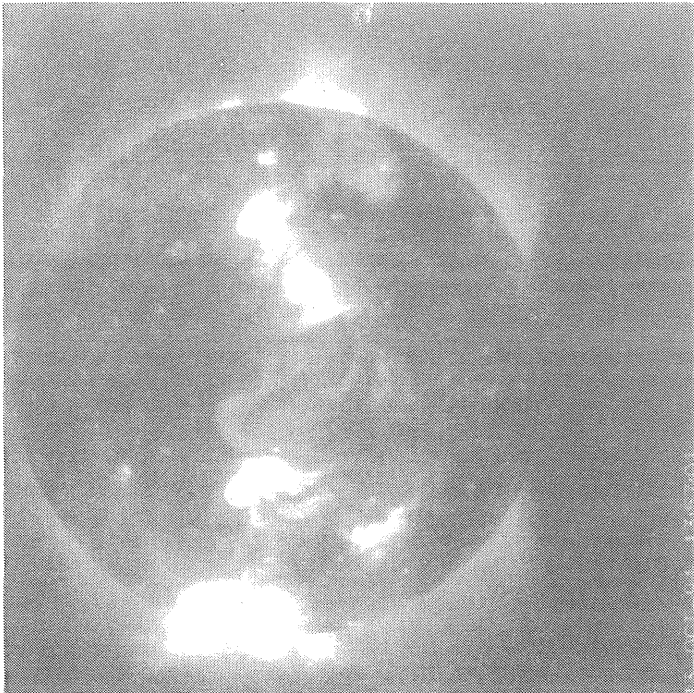


**YOHKOH  
SOFT X-RAY  
TELESCOPE  
IMAGES**

**October  
1994**

Day 13      Day 15  
13:57:01 UT      11:55:47 UT

Day 14      Day 16  
11:45:59 UT      04:10:59 UT



**YOHKOH  
SOFT X-RAY  
TELESCOPE  
IMAGES**

**October  
1994**

Day 13                      Day 15  
13:57:01 UT              11:55:47 UT

13-OCT-94 13:57:01

15-OCT-94 11:55:47

Day 14                      Day 16  
11:45:59 UT              04:10:59 UT

14-OCT-94 11:45:59

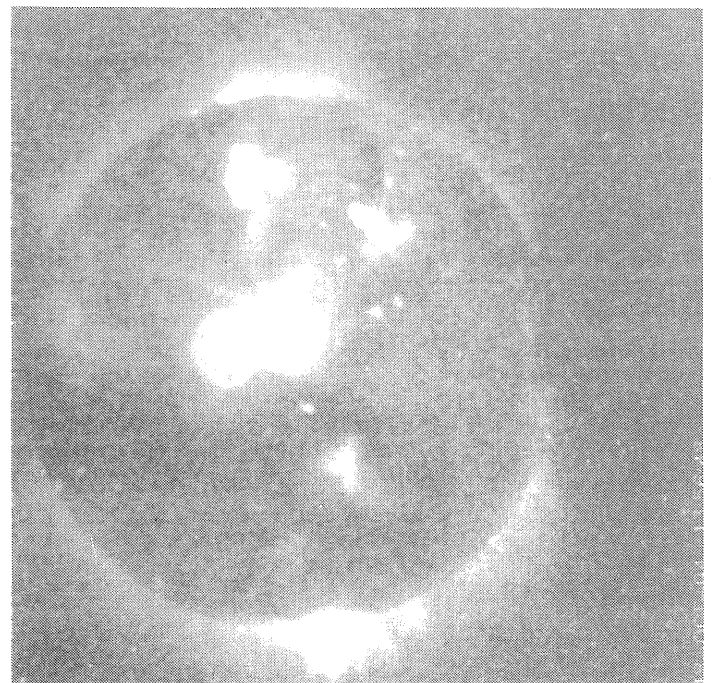
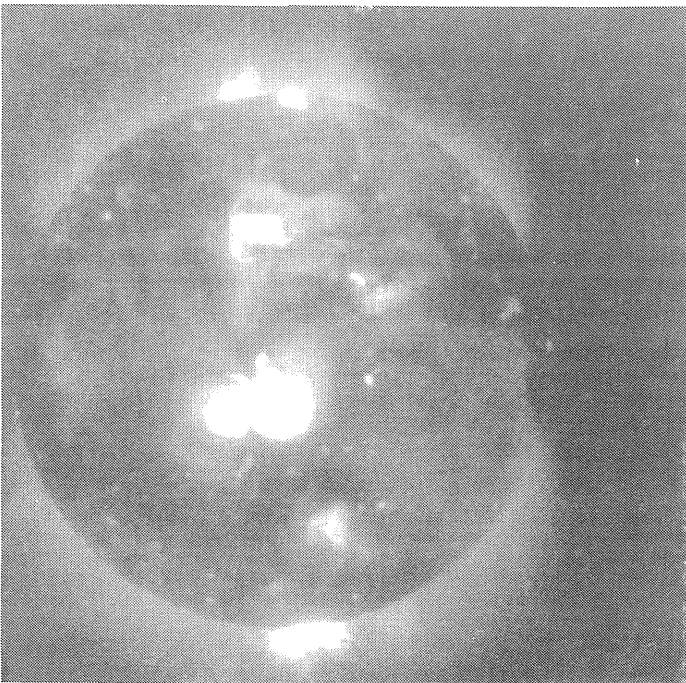
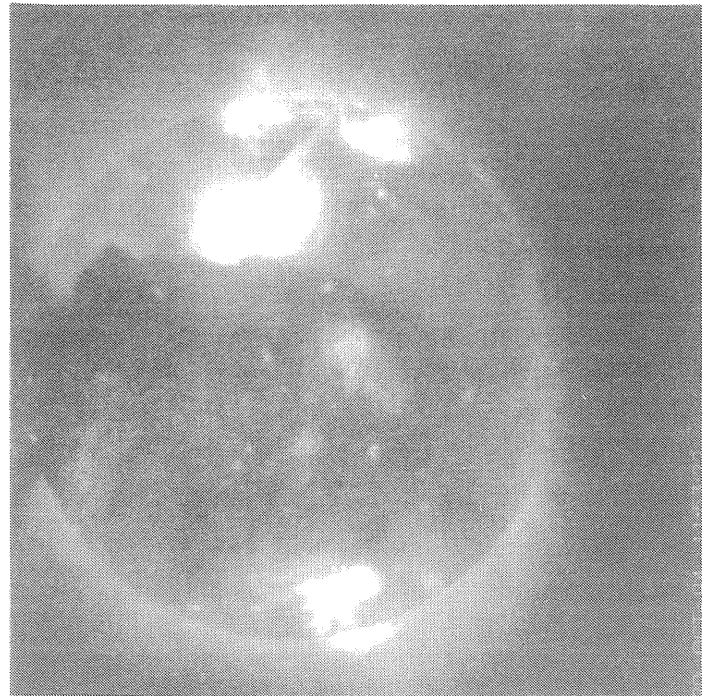
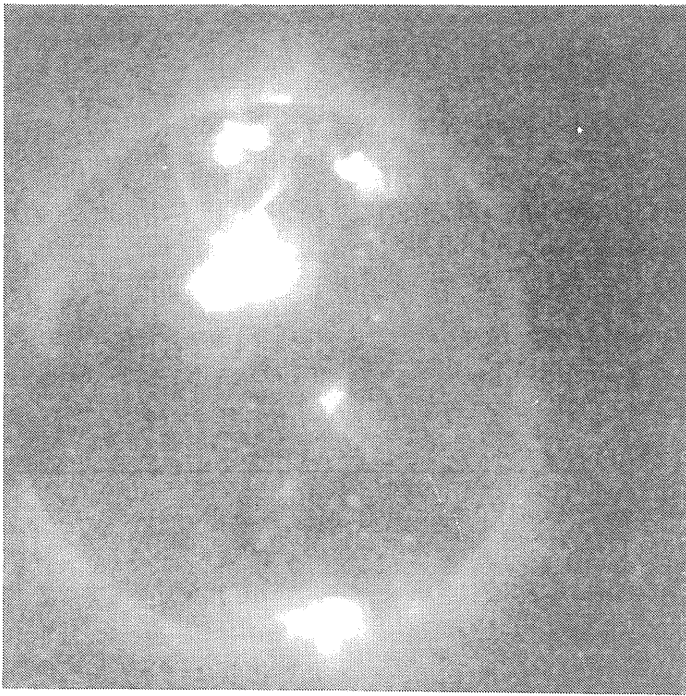
16-OCT-94 04:10:59

**YOHKOH  
SOFT X-RAY  
TELESCOPE  
IMAGES**

**October  
1994**

Day 17 10:55:25 UT      Day 19 17:33:52 UT

Day 18 13:56:48 UT      Day 20 11:53:22 UT





**YOHKOH  
SOFT X-RAY  
TELESCOPE  
IMAGES**

**October  
1994**

Day 17                      Day 19  
10:55:25 UT              17:33:52 UT

17-OCT-94 10:55:25

19-OCT-94 17:33:52

Day 18                      Day 20  
13:56:48 UT              11:53:22 UT

18-OCT-94 13:56:48

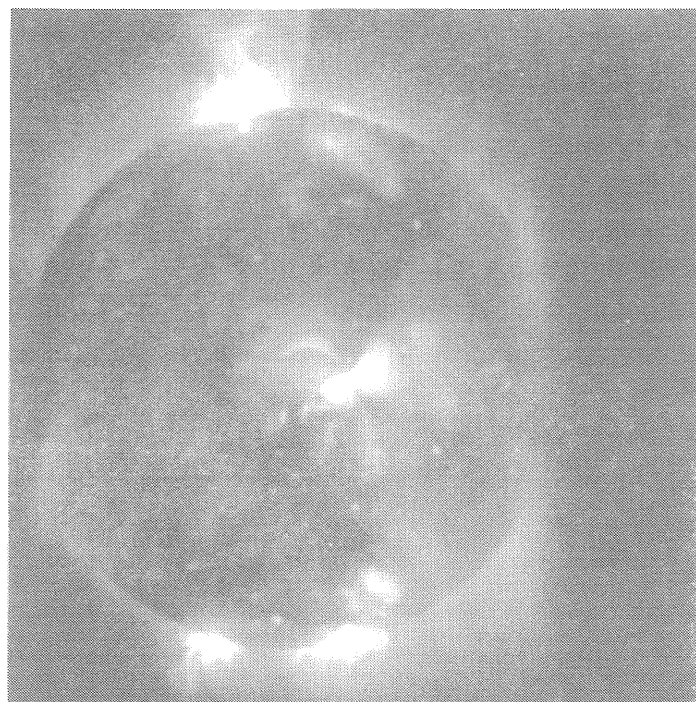
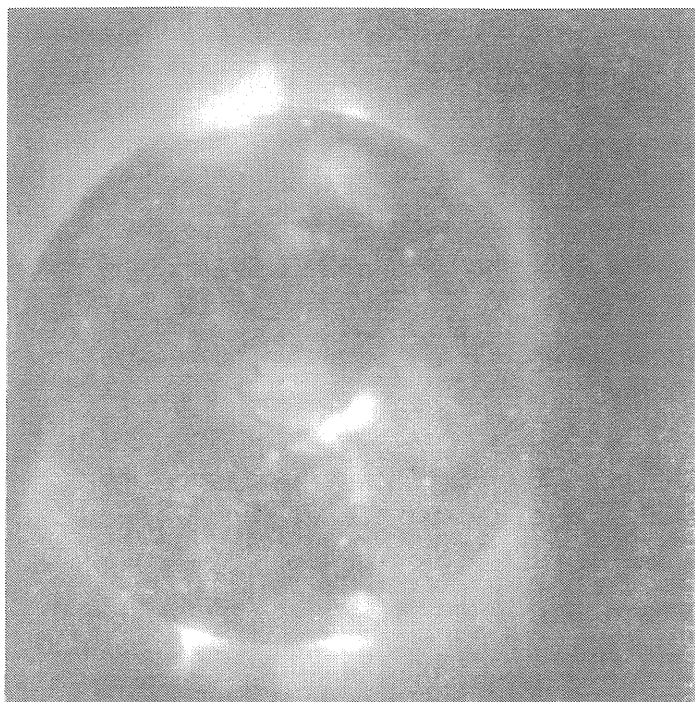
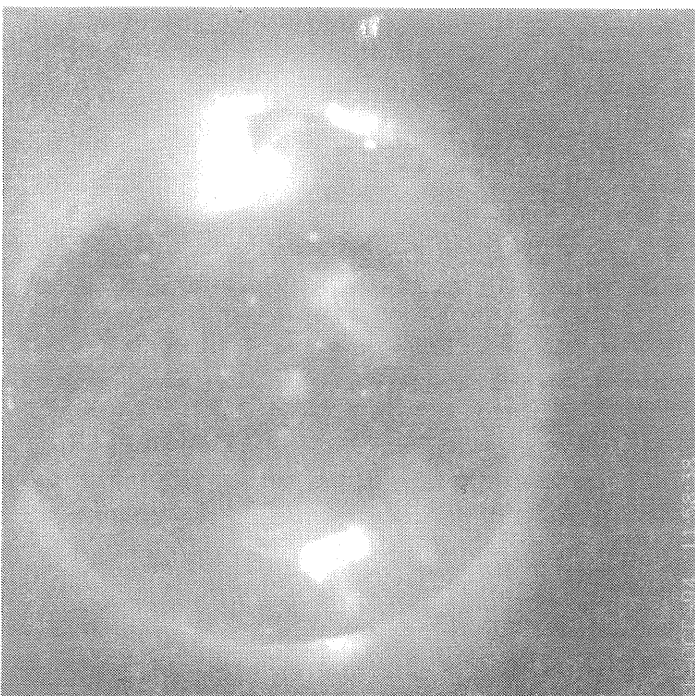
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**YOHKOH  
SOFT X-RAY  
TELESCOPE  
IMAGES**

**October  
1994**

Day 21 11:58:38 UT      Day 23 19:08:12 UT

Day 22 11:46:24 UT      Day 24 11:34:45 UT



**YOHKOH  
SOFT X-RAY  
TELESCOPE  
IMAGES**

**October  
1994**

Day 21                      Day 23  
11:58:38 UT              19:08:12 UT

21-OCT-94 11:58:38

23-OCT-94 19:08:12

Day 22                      Day 24  
11:46:24 UT              11:34:45 UT

22-OCT-94 11:46:24

24-OCT-94 11:34:45

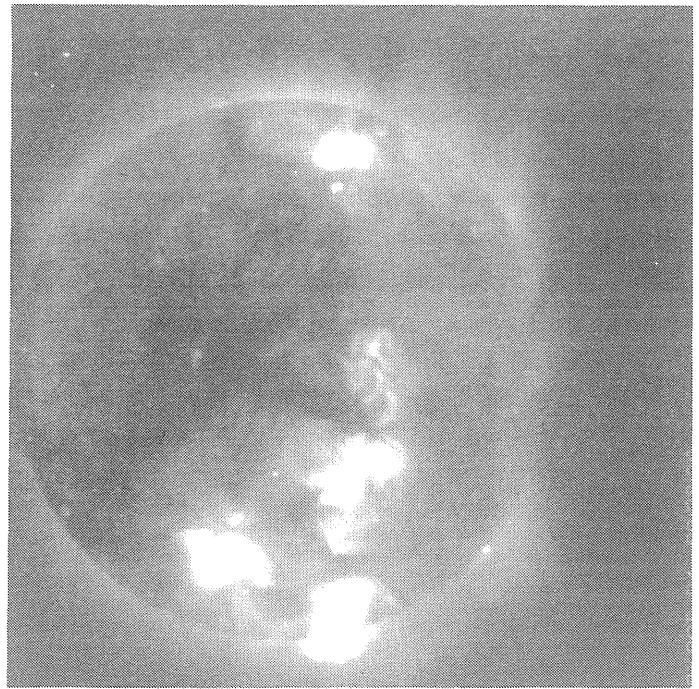
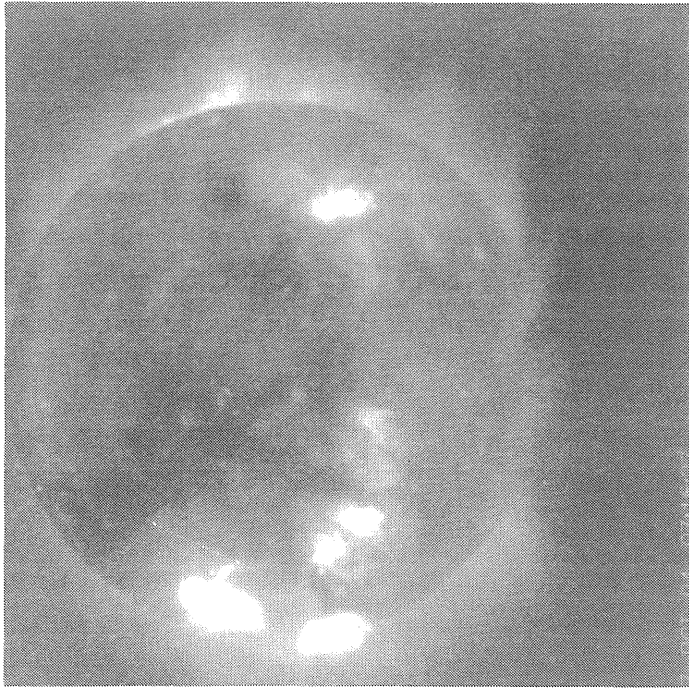
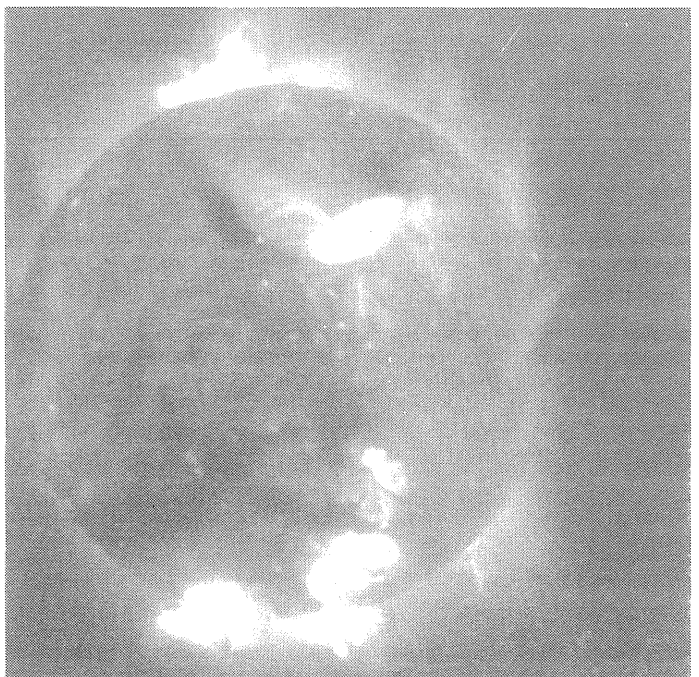
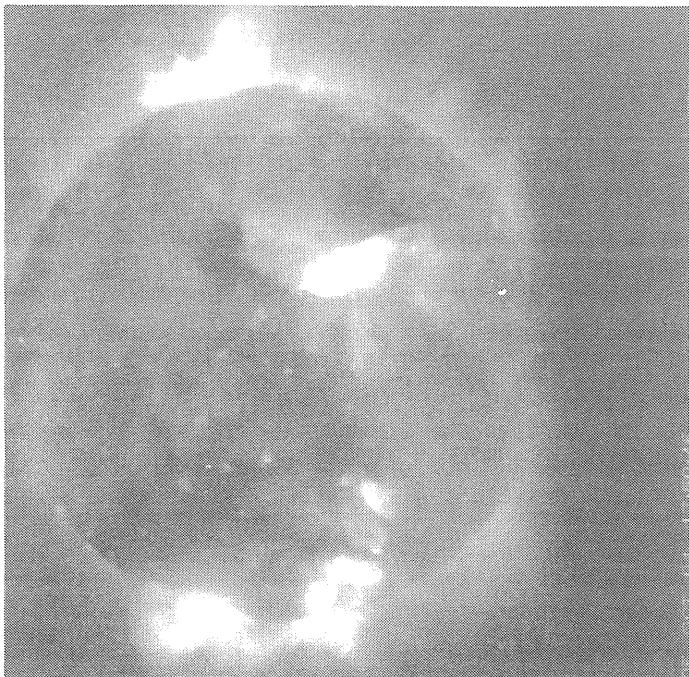


**YOHKOH  
SOFT X-RAY  
TELESCOPE  
IMAGES**

**October  
1994**

Day 25      Day 27  
17:59:45 UT      07:16:27 UT

Day 26      Day 28  
07:02:43 UT      09:28:26 UT



**YOHKOH  
SOFT X-RAY  
TELESCOPE  
IMAGES**

**October  
1994**

Day 25                      Day 27  
17:59:45 UT              07:16:27 UT

5-OCT-94 17:59:45

27-OCT-94 07:16:27

Day 26                      Day 28  
07:02:43 UT              09:28:26 UT

6-OCT-94 07:02:43

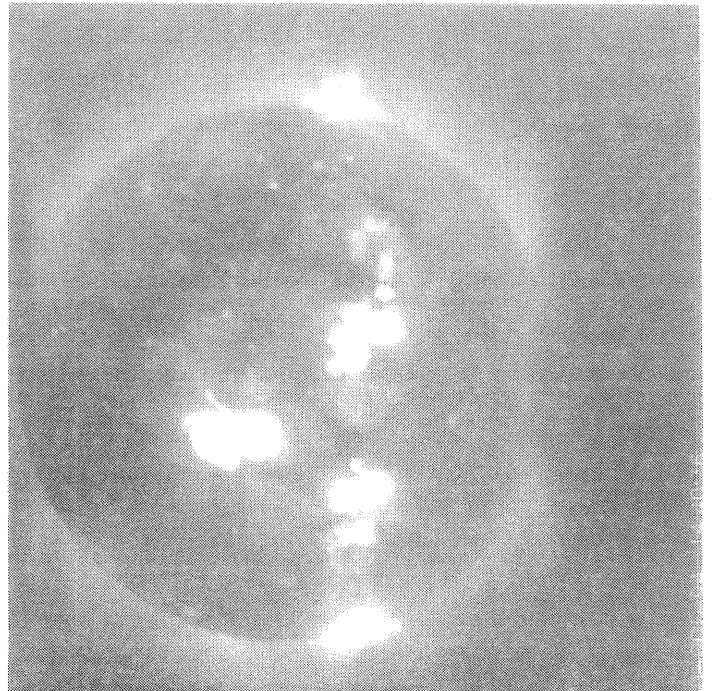
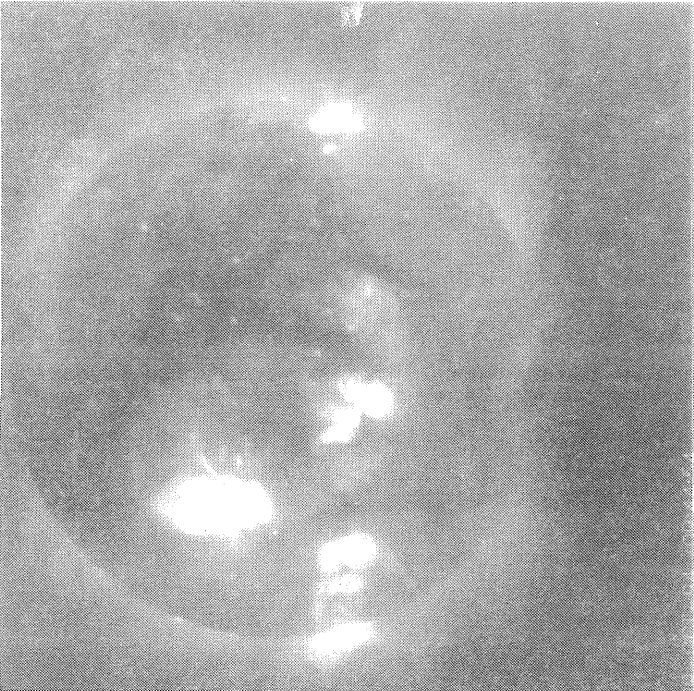
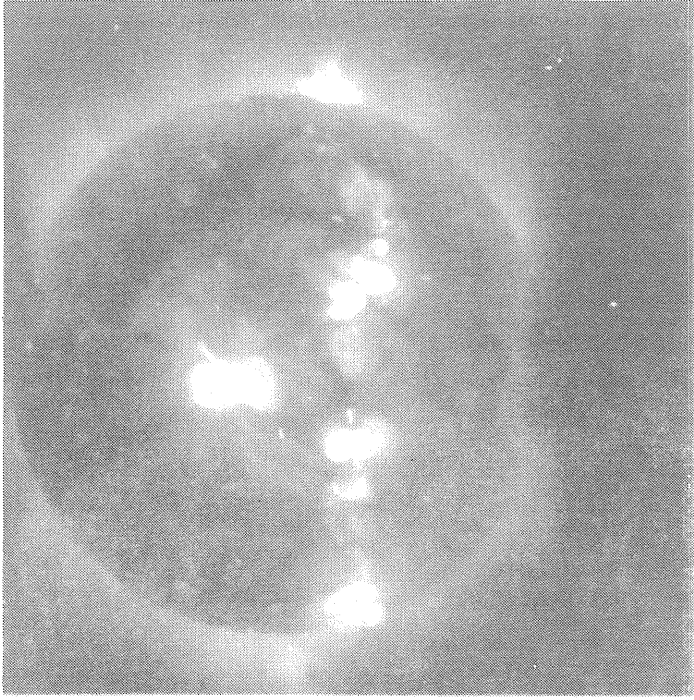
28-OCT-94 09:28:26

**YOHKOH  
SOFT X-RAY  
TELESCOPE  
IMAGES**

**October  
1994**

Day 29 09:44:54 UT  
Day 31 07:06:12 UT

Day 30 14:40:36 UT



**YOHKOH  
SOFT X-RAY  
TELESCOPE  
IMAGES**

**October  
1994**

Day 29 09:44:54 UT  
Day 31 07:06:12 UT

29-OCT-94 09:44:54

31-OCT-94 07:06:12

Day 30 14:40:36 UT

30-OCT-94 14:40:36



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Oct 94

SUNSPOT GROUPS  
(Ordered by Central Meridian Passage Date)

OCTOBER 1994

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
7786		LEAR	10 05 0340	S14 W55	10 1.0		A	AX	20	3	2	2
7786		SVTO	10 05 0720	S14 W56	10 1.1		B	CRO	20	4	4	3
7786		RAMY	10 05 1237	S14 W59	10 1.1		B	CRO	40	6	5	3
7786	28178	MWIL	10 05 1745	S13 W64	09 30.9	4	(B )					
7786		HOLL	10 05 1902	S12 W64	10 1.0		B	CRO	50	4	7	2
7786		LEAR	10 06 0005	S14 W66	10 1.0		B	BXO	30	3	6	3
7786		RAMY	10 06 1132	S15 W70	10 1.2		B	BXO	20	4	5	4
7786		SVTO	10 06 1449	S12 W72	10 1.2		A	AX		1		1
7786	28178	MWIL	10 06 1530	S12 W72	10 1.2	3	X					
7786		HOLL	10 06 1720	S12 W73	10 1.2		A	AX	10	1		2
7783		SVTO	09 26 0720	S06 E84	10 2.6		A	HS	50	1	3	3
7783		RAMY	09 26 1219	S05 E77	10 2.3		A	HS	50	1	1	3
7783	28176	MWIL	09 26 1530	S07 E76	10 2.3	4	(AP)					
7783		PALE	09 26 1800	S08 E78	10 2.6		A	HS	60	1	2	3
7783		HOLL	09 26 1812	S09 E77	10 2.5		A	HS	60	1	2	3
7783		LEAR	09 27 0040	S08 E73	10 2.5		A	HS	50	1	2	2
7783		SVTO	09 27 0810	S07 E69	10 2.5		A	HS	50	1	3	2
7783		RAMY	09 27 1324	S08 E65	10 2.4		A	HS	50	1	2	3
7783		HOLL	09 27 1630	S07 E62	10 2.3		A	HS	70	1	2	2
7783	28176	MWIL	09 27 1730	S07 E61	10 2.3	4	(AP)					
7783		LEAR	09 28 0305	S08 E56	10 2.3		A	HS	70	1	1	3
7783		SVTO	09 28 0702	S07 E55	10 2.4		A	HS	70	1	1	3
7783		RAMY	09 28 1245	S06 E52	10 2.4		A	HS	60	1	2	3
7783	28176	MWIL	09 28 1445	S07 E50	10 2.3	5	(AP)					
7783		HOLL	09 28 1549	S08 E50	10 2.4		A	HS	60	1	2	3
7783		LEAR	09 29 0030	S07 E45	10 2.4		A	HS	60	1	2	3
7783		SVTO	09 29 0800	S06 E41	10 2.4		A	HA	90	1	2	3
7783		RAMY	09 29 1249	S06 E38	10 2.4		A	HS	50	1	2	3
7783		HOLL	09 29 1745	S08 E36	10 2.4		A	HS	100	1	2	3
7783	28176	MWIL	09 29 2140	S08 E33	10 2.4	5	(AP)					
7783		LEAR	09 30 0030	S08 E32	10 2.4		A	HS	50	1	3	3
7783		SVTO	09 30 0805	S07 E29	10 2.5		A	HA	60	1	2	2
7783		RAMY	09 30 1121	S08 E26	10 2.4		A	HS	60	2	7	3
7783	28176	MWIL	09 30 1430	S07 E24	10 2.4	5	(AP)					
7783		HOLL	09 30 1528	S07 E23	10 2.4		A	HS	50	1	2	3
7783		LEAR	10 01 0007	S07 E18	10 2.3		A	HS	70	1	1	3
7783		SVTO	10 01 0750	S07 E15	10 2.4		A	HS	60	1	2	2
7783		RAMY	10 01 1105	S06 E13	10 2.4		A	HS	80	1	2	4
7783	28176	MWIL	10 01 1430	S07 E10	10 2.3	5	AP					
7783		HOLL	10 01 1752	S07 E08	10 2.3		A	HS	60	1	2	1
7783		LEAR	10 02 0130	S07 E04	10 2.4		A	HA	40	1	1	3
7783		SVTO	10 02 0800	S06 E03	10 2.5		A	HS	100	1	1	3
7783		RAMY	10 02 1229	S06 W01	10 2.4		A	HS	60	1	1	4
7783	28176	MWIL	10 02 1430	S06 W03	10 2.4	5	(AP)					
7783		HOLL	10 02 1607	S06 W04	10 2.4		A	HS	50	1	2	3
7783		LEAR	10 03 0030	S06 W08	10 2.4		A	HS	50	1	1	3
7783		SVTO	10 03 0702	S07 W11	10 2.5		A	HS	60	1	1	4
7783		RAMY	10 03 1133	S07 W13	10 2.5		A	HS	60	1	2	4
7783	28176	MWIL	10 03 1430	S06 W15	10 2.5	5	AP					
7783		HOLL	10 03 1832	S07 W17	10 2.5		A	HS	40	1	2	3
7783		RAMY	10 04 1123	S07 W26	10 2.5		A	HA	40	1	2	4
7783		SVTO	10 04 1125	S06 W27	10 2.4		A	HS	70	1	2	3
7783		LEAR	10 05 0340	S06 W37	10 2.4		A	HA	30	1	1	2
7783		SVTO	10 05 0720	S07 W37	10 2.5		A	HS	30	1	1	3
7783		RAMY	10 05 1237	S08 W41	10 2.4		A	HA	50	1	2	3
7783	28176	MWIL	10 05 1745	S06 W43	10 2.5	5	(AP)					
7783		HOLL	10 05 1902	S06 W45	10 2.4		A	HA	60	1	2	2
7783		LEAR	10 06 0005	S07 W47	10 2.5		A	HS	30	1	1	3
7783		RAMY	10 06 1132	S08 W52	10 2.6		A	HS	30	1	1	4
7783		SVTO	10 06 1449	S08 W54	10 2.6		A	HS	20	1	1	1
7783	28176	MWIL	10 06 1530	S06 W55	10 2.5	4	(AP)					
7783		HOLL	10 06 1720	S06 W57	10 2.4		A	HS	40	1	1	2
7783		LEAR	10 07 0023	S07 W61	10 2.4		A	HS	60	1	2	3
7783		SVTO	10 07 0755	S10 W64	10 2.5		A	HS	30	1	1	3
7783		RAMY	10 07 1150	S08 W66	10 2.5		A	HS	50	1	1	4
7783	28176	MWIL	10 07 1430	S06 W68	10 2.5	5	(AP)					
7783		HOLL	10 07 1640	S06 W69	10 2.5		A	HS	50	1	1	3
7783		LEAR	10 08 0130	S07 W74	10 2.5		A	HA	30	1	1	3

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

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Oct 94

OCTOBER 1994

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
7783		RAMY	10 08 1252	S08 W80	10 2.5		A	AX	10	1	1	4
7783		HOLL	10 08 1402	S06 W79	10 2.7		A	HS	30	1	1	3
7783		SVTO	10 08 1420	S08 W80	10 2.6		A	AX	20	1		2
7783	28176	MWIL	10 08 1445	S06 W81	10 2.5	4	(AP)					
7785		RAMY	10 04 1123	S08 E12	10 5.4		A	HA	20	1	1	4
7785		SVTO	10 04 1125	S08 E11	10 5.3		A	HR	10	1		3
7785		LEAR	10 05 0340	S09 E03	10 5.4		B	BXO	10	3	5	2
7785		SVTO	10 05 0720	S08 E02	10 5.4		B	CRO	20	6	5	3
7785		RAMY	10 05 1237	S09 W02	10 5.4		B	BXO	10	8	4	3
7785	28179	MWIL	10 05 1745	S08 W04	10 5.4	5	(B )					
7785		HOLL	10 05 1902	S09 W06	10 5.3		B	DRO	30	7	6	2
7785		LEAR	10 06 0005	S10 W08	10 5.4		B	CRO	30	8	5	3
7785		RAMY	10 06 1132	S09 W12	10 5.6		B	DAO	50	7	5	4
7785		SVTO	10 06 1449	S09 W15	10 5.5		B	DAO	90	6	5	1
7785	28179	MWIL	10 06 1530	S09 W16	10 5.4	4	(B )					
7785		HOLL	10 06 1720	S09 W17	10 5.4		B	DRO	50	8	6	2
7785		LEAR	10 07 0023	S09 W22	10 5.4		B	BXO	30	5	6	3
7785		SVTO	10 07 0755	S11 W24	10 5.5		B	DAO	60	15	8	3
7785		RAMY	10 07 1150	S11 W27	10 5.5		B	CAO	40	12	5	4
7785	28179	MWIL	10 07 1430	S09 W28	10 5.5	5	(B )					
7785		HOLL	10 07 1640	S08 W29	10 5.5		B	DAO	30	5	7	3
7785		LEAR	10 08 0130	S10 W35	10 5.4		B	CRO	20	8	6	3
7785		RAMY	10 08 1252	S11 W41	10 5.4		B	BXO	50	12	6	4
7785		HOLL	10 08 1402	S08 W42	10 5.4		B	BXO	40	9	6	3
7785		SVTO	10 08 1420	S11 W43	10 5.4		B	BXO	20	5	6	2
7785	28179	MWIL	10 08 1445	S10 W42	10 5.4	4	(B )					
7785		LEAR	10 09 0100	S08 W48	10 5.4		B	CAO	50	7	5	3
7785		SVTO	10 09 0657	S11 W50	10 5.5		B	BXO	40	12	9	2
7785		RAMY	10 09 1222	S09 W54	10 5.5		B	CRI	80	18	6	4
7785	28179	MWIL	10 09 1445	S09 W55	10 5.5	5	(D )					
7785		HOLL	10 09 1755	S08 W58	10 5.4		B	CAI	80	14	7	2
7785		LEAR	10 10 0230	S08 W61	10 5.5		B	DAO	90	8	9	3
7785		SVTO	10 10 1001	S11 W67	10 5.4		B	ESO	50	4	8	2
7785		RAMY	10 10 1212	S12 W68	10 5.4		B	CSO	120	12	8	4
7785	28179	MWIL	10 10 1445	S09 W68	10 5.5	5	(B )					
7785		HOLL	10 10 1745	S08 W70	10 5.5		B	DAO	150	5	10	2
7785		LEAR	10 11 0035	S10 W76	10 5.3		B	DRO	70	6	9	4
7785		RAMY	10 11 1240	S11 W78	10 5.6		A	AX	10	2	1	3
7785		SVTO	10 11 1306	S13 W80	10 5.5		B	CAO	40	2	7	2
7785	28179	MWIL	10 11 1745	S09 W80	10 5.7	4	(AF)					
7784	28177	MWIL	09 29 2140	S06 E85	10 6.3	4	AP					
7784		SVTO	09 30 0805	S04 E80	10 6.3		A	HS	50	1	7	2
7784		RAMY	09 30 1121	S03 E77	10 6.2		A	HS	90	2	2	3
7784	28177	MWIL	09 30 1430	S06 E75	10 6.2	4	(AP)					
7784		HOLL	09 30 1528	S06 E75	10 6.2		A	HS	120	1	2	3
7784		LEAR	10 01 0007	S07 E70	10 6.2		A	HS	110	1	2	3
7784		SVTO	10 01 0750	S05 E68	10 6.4		A	HA	100	2	3	2
7784		RAMY	10 01 1105	S04 E65	10 6.3		A	HS	150	2	2	4
7784	28177	MWIL	10 01 1430	S06 E62	10 6.2	5	AP					
7784		HOLL	10 01 1752	S06 E60	10 6.2		A	HS	120	1	2	1
7784		LEAR	10 02 0130	S08 E56	10 6.3		A	HA	70	1	1	3
7784		SVTO	10 02 0800	S04 E55	10 6.4		A	HS	60	1	1	3
7784		RAMY	10 02 1229	S04 E51	10 6.3		A	HS	90	1	2	4
7784	28177	MWIL	10 02 1430	S06 E49	10 6.3	5	(AP)					
7784		HOLL	10 02 1607	S07 E49	10 6.3		A	HS	110	1	2	3
7784		LEAR	10 03 0030	S06 E43	10 6.2		A	HS	80	1	2	3
7784		SVTO	10 03 0702	S04 E41	10 6.3		A	HS	90	1	1	4
7784		RAMY	10 03 1133	S04 E38	10 6.3		A	HS	100	1	2	4
7784	28177	MWIL	10 03 1430	S06 E37	10 6.4	5	AP					
7784		HOLL	10 03 1832	S07 E35	10 6.4		A	HS	120	1	2	3
7784		RAMY	10 04 1123	S04 E27	10 6.5		A	HS	120	2	2	4
7784		SVTO	10 04 1125	S05 E26	10 6.4		A	HS	100	2	2	3
7784		LEAR	10 05 0340	S06 E17	10 6.4		A	HS	80	1	2	2
7784		SVTO	10 05 0720	S05 E15	10 6.4		A	HS	80	4	2	3
7784		RAMY	10 05 1237	S07 E12	10 6.4		B	CSO	90	7	3	3
7784	28177	MWIL	10 05 1745	S06 E09	10 6.4	5	(BF)					
7784		HOLL	10 05 1902	S07 E08	10 6.4		B	CAO	100	7	3	2



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Oct 94

SUNSPOT GROUPS  
(Ordered by Central Meridian Passage Date)

OCTOBER 1994

NOAA/ USAF Group	Ht Wilson Group	Sta	Observation Time Mo Day (UT)	Lat	Chd	Chp Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7784		LEAR	10 06 0005	S08	E05	10 6.4		B	CAO	110	8	2	3
7784		RAMY	10 06 1132	S06	E01	10 6.5		B	CAO	120	8	4	4
7784		SVTO	10 06 1449	S06	W02	10 6.5		B	CSO	50	7	4	1
7784	28177	MWIL	10 06 1530	S07	W03	10 6.4	5	(BF)					
7784		HOLL	10 06 1720	S07	W04	10 6.4		B	CAO	110	8	3	2
7784		LEAR	10 07 0023	S08	W08	10 6.4		A	HS	70	7	4	3
7784		SVTO	10 07 0755	S07	W12	10 6.4		B	CSI	70	9	2	3
7784		RAMY	10 07 1150	S07	W13	10 6.5		B	CSO	110	3	3	4
7784	28177	MWIL	10 07 1430	S06	W16	10 6.4	5	(BF)					
7784		HOLL	10 07 1640	S06	W16	10 6.5		B	CSO	90	2	3	3
7784		LEAR	10 08 0130	S07	W23	10 6.3		B	CSO	90	4	3	3
7784		RAMY	10 08 1252	S06	W28	10 6.4		B	CSO	110	2	3	4
7784		HOLL	10 08 1402	S07	W28	10 6.5		B	CSO	90	2	3	3
7784		SVTO	10 08 1420	S06	W28	10 6.5		B	CSO	70	2	3	2
7784	28177	MWIL	10 08 1445	S06	W29	10 6.4	5	(BF)					
7784		LEAR	10 09 0100	S07	W36	10 6.3		A	HS	70	1	2	3
7784		SVTO	10 09 0657	S08	W38	10 6.4		A	HS	50	1	1	2
7784		RAMY	10 09 1222	S07	W42	10 6.4		A	HS	80	1	2	4
7784	28177	MWIL	10 09 1445	S06	W43	10 6.4	5	(AP)					
7784		HOLL	10 09 1755	S07	W45	10 6.4		A	HS	100	1	2	2
7784		LEAR	10 10 0230	S07	W48	10 6.5		A	HA	60	3	1	3
7784		SVTO	10 10 1001	S08	W54	10 6.4		A	HS	30	1	2	2
7784		RAMY	10 10 1212	S08	W55	10 6.4		A	HS	100	1	2	4
7784	28177	MWIL	10 10 1445	S06	W55	10 6.5	5	(AP)					
7784		HOLL	10 10 1745	S06	W58	10 6.4		A	HS	100	1	2	2
7784		LEAR	10 11 0035	S08	W62	10 6.4		A	HS	70	2	2	4
7784		RAMY	10 11 1240	S08	W67	10 6.5		A	HA	20	1	2	3
7784		SVTO	10 11 1306	S10	W68	10 6.4		A	HA	70	3	1	2
7784		HOLL	10 11 1434	S06	W69	10 6.4		A	HS	50	1	2	3
7784	28177	MWIL	10 11 1745	S07	W69	10 6.6	5	(AP)					
7784		LEAR	10 12 0015	S08	W75	10 6.4		A	HS	30	2	2	3
7784		RAMY	10 12 1309	S08	W80	10 6.5		A	HS	20	1	1	4
7784	28177	MWIL	10 12 1445	S06	W81	10 6.5	4	(AP)					
7784A		RAMY	10 09 1222	N05	E12	10 10.4		A	AX		1		4
7787		SVTO	10 05 0720	N12	E80	10 11.3		A	AX		1		3
7787		RAMY	10 05 1237	N11	E74	10 11.1		B	BXO	10	2	3	3
7787	28180	MWIL	10 05 1745	N10	E71	10 11.1	4	(B )					
7787		HOLL	10 05 1902	N07	E70	10 11.0		B	BXO	40	4	6	2
7787		LEAR	10 06 0005	N09	E67	10 11.0		B	BXO	30	5	5	3
7787		RAMY	10 06 1132	N12	E64	10 11.3		B	BXO	60	9	7	4
7787		SVTO	10 06 1449	N14	E60	10 11.1		B	DRO	80	9	8	1
7787	28180	MWIL	10 06 1530	N10	E59	10 11.1	4	(B )					
7787		HOLL	10 06 1720	N11	E58	10 11.1		B	DRO	60	9	7	2
7787		LEAR	10 07 0023	N10	E55	10 11.1		B	CRO	50	16	7	3
7787		SVTO	10 07 0755	N12	E52	10 11.2		B	DAI	50	9	7	3
7787		RAMY	10 07 1150	N12	E48	10 11.1		B	DAO	90	10	6	4
7787	28180	MWIL	10 07 1430	N09	E47	10 11.1	5	(B )					
7787		HOLL	10 07 1640	N08	E45	10 11.1		B	DAO	90	16	7	3
7787		LEAR	10 08 0130	N09	E41	10 11.1		B	CAO	140	9	7	3
7787		RAMY	10 08 1252	N09	E34	10 11.1		B	DSO	100	14	7	4
7787		HOLL	10 08 1402	N09	E34	10 11.1		B	DSO	110	13	7	3
7787		SVTO	10 08 1420	N11	E34	10 11.1		B	CAO	60	9	7	2
7787	28180	MWIL	10 08 1445	N09	E33	10 11.1	5	(B )					
7787		LEAR	10 09 0100	N08	E28	10 11.1		B	DAO	50	9	6	3
7787		SVTO	10 09 0657	N10	E25	10 11.2		B	DAO	70	17	7	2
7787		RAMY	10 09 1222	N09	E21	10 11.1		B	CSO	100	22	7	4
7787	28180	MWIL	10 09 1445	N09	E19	10 11.0	5	(BG)					
7787		HOLL	10 09 1755	N08	E18	10 11.1		B	DAO	120	11	7	2
7787		LEAR	10 10 0230	N09	E14	10 11.1		B	CSO	80	11	8	3
7787		SVTO	10 10 1001	N08	E09	10 11.1		B	CSC	120	4	7	2
7787		RAMY	10 10 1212	N09	E08	10 11.1		B	CSO	130	12	7	4
7787	28180	MWIL	10 10 1445	N09	E06	10 11.1	5	(B )					
7787		HOLL	10 10 1745	N08	E05	10 11.1		B	DAO	110	5	6	2
7787		LEAR	10 11 0035	N09	E01	10 11.1		B	CSO	80	6	5	4
7787		RAMY	10 11 1240	N08	W07	10 11.0		B	CAO	50	4	3	3
7787		SVTO	10 11 1306	N08	W08	10 10.9		A	HA	60	5	1	2
7787		HOLL	10 11 1434	N09	W08	10 11.0		A	HS	60	1	2	3

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

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OCTOBER 1994

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time (UT)	Lat	CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7787	28180	MWIL	10 11 1745	N08	W07	10 11.2	5	(BP)					
7787		LEAR	10 12 0015	N08	W13	10 11.0		B	CSO	60	5	3	3
7787		SVTO	10 12 1015	N07	W18	10 11.1		A	HS	60	2	2	2
7787		RAMY	10 12 1309	N08	W21	10 11.0		A	HA	40	2	2	4
7787	28180	MWIL	10 12 1445	N08	W22	10 11.0	5	(AP)					
7787		LEAR	10 13 0045	N09	W27	10 11.0		B	CAO	30	2	1	3
7787		RAMY	10 13 1120	N08	W32	10 11.1		A	HA	30	3	2	4
7787		SVTO	10 13 1123	N07	W34	10 10.9		B	BXO	30	3	2	3
7787	28180	MWIL	10 13 1500	N09	W34	10 11.1	4	(AP)					
7787		LEAR	10 14 0153	N09	W42	10 10.9		A	AXO	30	3	3	3
7787		SVTO	10 14 1010	N06	W45	10 11.0		A	AX	40	1	1	3
7787		RAMY	10 14 1135	N09	W47	10 10.9		A	AX	10	2	1	3
7787	28180	MWIL	10 14 1500	N09	W48	10 11.0	4	(AP)					
7787		LEAR	10 15 0230	N10	W55	10 11.0		A	AXO	10	3	2	3
7787		SVTO	10 15 0930	N07	W59	10 11.0		A	AX		1		3
7788		RAMY	10 10 1212	N00	E22	10 12.1		B	BXO	10	2	2	4
7788		LEAR	10 12 0015	N00	E05	10 12.4		A	AX		1		3
7788		RAMY	10 13 1120	S02	W16	10 12.3		A	AX		1		4
7788	28184	MWIL	10 13 1500	S01	W20	10 12.1	3	(AP)					
7788		LEAR	10 14 0153	N00	W28	10 12.0		B	CSO	30	7	5	3
7788		SVTO	10 14 1010	S03	W28	10 12.3		B	BXO	10	6	5	3
7788		RAMY	10 14 1135	S01	W31	10 12.2		A	BXO	40	16	6	3
7788	28184	MWIL	10 14 1500	S01	W33	10 12.2	4	(B )					
7788		LEAR	10 15 0230	N00	W40	10 12.1		B	BXO	20	4	6	3
7788		SVTO	10 15 0930	S01	W44	10 12.1		B	BXO	10	5	6	3
7788		RAMY	10 15 1207	S01	W46	10 12.1		B	BXO	30	7	3	4
7788	28184	MWIL	10 15 1600	S01	W50	10 11.9	4	(AF)					
7788		LEAR	10 16 0040	S01	W56	10 11.8		A	AX	20	1	1	3
7788		RAMY	10 16 1222	S03	W62	10 11.9		A	AX	10	1	1	3
7788	28184	MWIL	10 16 1500	S01	W62	10 12.0	4	(AF)					
7788		LEAR	10 17 0005	S02	W69	10 11.8		A	AX	10	1	1	3
7788	28184	MWIL	10 17 1445	S02	W77	10 11.9	3	AF					
7788A		SVTO	10 06 1449	N03	E80	10 12.6		A	AX		2	1	1
7788A	28181	MWIL	10 06 1530	S01	E76	10 12.3	3	X					
7788A		LEAR	10 07 0023	S02	E72	10 12.4		A	AX	10	1	1	3
7788A		RAMY	10 07 1150	N02	E67	10 12.5		A	AX	50	1		4
7788A	28181	MWIL	10 07 1430	S01	E64	10 12.4	4	(AP)					
7788A		HOLL	10 07 1640	S02	E65	10 12.6		A	AX		1		3
7789		LEAR	10 09 0100	N12	E79	10 15.0		A	HA	60	1	3	3
7789		SVTO	10 09 0657	N09	E79	10 15.2		A	HA	120	1	1	2
7789		RAMY	10 09 1222	N07	E77	10 15.3		B	CSO	140	3	7	4
7789	28182	MWIL	10 09 1445	N07	E74	10 15.1	5	(B )					
7789		HOLL	10 09 1755	N06	E75	10 15.4		B	CSO	210	3	10	2
7789		LEAR	10 10 0230	N08	E71	10 15.4		B	EAO	130	5	11	3
7789		SVTO	10 10 1001	N08	E63	10 15.1		A	HH	100	1	3	2
7789		RAMY	10 10 1212	N09	E65	10 15.4		B	ESO	200	13	12	4
7789	28182	MWIL	10 10 1445	N07	E62	10 15.2	5	(B )					
7789		HOLL	10 10 1745	N07	E62	10 15.4		B	ESO	260	5	12	2
7789		LEAR	10 11 0035	N08	E58	10 15.4		B	EAO	200	10	10	4
7789		RAMY	10 11 1240	N09	E52	10 15.4		B	EAO	150	10	12	3
7789		SVTO	10 11 1306	N11	E50	10 15.3		B	DKO	170	12	11	2
7789		HOLL	10 11 1434	N07	E47	10 15.1		B	ESO	200	9	11	3
7789	28182	MWIL	10 11 1745	N07	E49	10 15.4	6	(B )					
7789		LEAR	10 12 0015	N08	E45	10 15.4		B	EAO	150	11	11	3
7789		SVTO	10 12 1015	N10	E37	10 15.2		B	CSI	160	7	12	2
7789		RAMY	10 12 1309	N09	E37	10 15.3		B	EAO	120	6	11	4
7789	28182	MWIL	10 12 1445	N07	E36	10 15.3	5	(B )					
7789		LEAR	10 13 0045	N09	E31	10 15.3		B	EAO	170	11	12	3
7789		RAMY	10 13 1120	N10	E26	10 15.4		B	EAO	180	9	12	4
7789		SVTO	10 13 1123	N10	E25	10 15.3		B	ESO	110	6	12	3
7789	28182	MWIL	10 13 1500	N09	E22	10 15.3	5	(BP)					
7789		LEAR	10 14 0153	N08	E17	10 15.3		B	CAO	90	6	12	3
7789		SVTO	10 14 1010	N10	E13	10 15.4		B	CSO	130	8	12	3
7789		RAMY	10 14 1135	N09	E12	10 15.4		B	CSO	190	8	12	3
7789	28182	MWIL	10 14 1500	N09	E09	10 15.3	5	(BP)					
7789		LEAR	10 15 0230	N09	E02	10 15.2		B	CSO	90	5	12	3

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SUNSPOT GROUPS  
(Ordered by Central Meridian Passage Date)

OCTOBER 1994

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
7789		SVTO	10 15 0930	N09 E01	10 15.5		B	CSO	130	6	12	3
7789		RAMY	10 15 1207	N10 W02	10 15.3		B	CSO	120	5	11	4
7789	28182	MWIL	10 15 1600	N09 W08	10 15.1	5	(AP)					
7789		LEAR	10 16 0040	N10 W08	10 15.4		B	CSO	150	5	11	3
7789		RAMY	10 16 1222	N10 W16	10 15.3		B	CSO	110	3	11	3
7789	28182	MWIL	10 16 1500	N09 W22	10 15.0	5	(AP)					
7789		LEAR	10 17 0005	N09 W28	10 14.9		A	HS	110	1	2	3
7789		SVTO	10 17 0920	N12 W32	10 15.0		A	HS	120	1	3	2
7789	28182	MWIL	10 17 1445	N10 W35	10 15.0	5	(AP)					
7789		LEAR	10 18 0110	N12 W40	10 15.0		A	HS	80	3	4	3
7789		SVTO	10 18 0740	N09 W41	10 15.2		B	CSO	80	6	5	2
7789	28182	MWIL	10 18 1445	N10 W48	10 15.0	5	(BP)					
7789		RAMY	10 18 1530	N08 W50	10 14.9		A	HA	60	1	2	1
7789		LEAR	10 19 0530	N11 W60	10 14.7		A	HA	100	1	2	3
7789		RAMY	10 19 1306	N08 W63	10 14.8		A	HS	120	1	2	4
7789	28182	MWIL	10 19 1445	N09 W63	10 14.9	5	(AP)					
7789		LEAR	10 20 0045	N11 W70	10 14.8		A	HA	80	1	2	3
7789		SVTO	10 20 1102	N08 W73	10 15.0		A	HS	120	1	3	1
7789	28182	MWIL	10 20 1430	N09 W76	10 14.9	6	(AP)					
7789		RAMY	10 20 1436	N08 W73	10 15.1		A	HA	100	1	2	3
7789		HOLL	10 20 2232	N10 W81	10 14.8		A	HS	60	1	2	3
7789		LEAR	10 21 0105	N09 W85	10 14.7		A	HA	120	1	3	3
7791	28185	MWIL	10 17 1445	S11 W19	10 16.2	4	(B )					
7791		LEAR	10 18 0110	S11 W26	10 16.1		A	AX	20	3	3	3
7791		SVTO	10 18 0740	S11 W27	10 16.3		B	DRO	30	6	5	2
7791	28185	MWIL	10 18 1445	S11 W33	10 16.1	5	(B )					
7791		RAMY	10 18 1530	S12 W33	10 16.1		B	CAO	20	2	5	1
7791		LEAR	10 19 0530	S11 W42	10 16.1		B	CSO	60	6	8	3
7791		RAMY	10 19 1306	S12 W45	10 16.1		B	CSO	100	4	8	4
7791	28185	MWIL	10 19 1445	S12 W48	10 16.0	5	(B )					
7791		LEAR	10 20 0045	S11 W55	10 15.9		B	CAO	100	4	6	3
7791		SVTO	10 20 1102	S13 W63	10 15.7		A	HS	40	1	2	1
7791	28185	MWIL	10 20 1430	S12 W61	10 16.0	5	(B )					
7791		RAMY	10 20 1436	S14 W63	10 15.8		A	HS	40	1	2	3
7791		HOLL	10 20 2232	S13 W71	10 15.6		A	HA	30	1	1	3
7791		LEAR	10 21 0105	S12 W68	10 15.9		B	CAI	80	7	10	3
7791		RAMY	10 21 1212	S13 W74	10 15.9		B	CSO	50	3	6	3
7791	28185	MWIL	10 21 1445	S12 W77	10 15.8	4	(B )					
7790		RAMY	10 11 1240	N12 E82	10 17.7		A	HS	60	1	2	3
7790		SVTO	10 11 1306	N13 E85	10 17.9		A	HK	80	2	4	2
7790		HOLL	10 11 1434	N10 E82	10 17.8		A	HA	60	1	1	3
7790	28183	MWIL	10 11 1745	N12 E81	10 17.8	4	AP					
7790		LEAR	10 12 0015	N10 E78	10 17.9		A	HA	180	5	3	3
7790		SVTO	10 12 1015	N13 E75	10 18.1		B	ESI	190	10	8	2
7790		RAMY	10 12 1309	N12 E75	10 18.2		B	EKO	440	8	12	4
7790	28183	MWIL	10 12 1445	N11 E74	10 18.2	5	(B )					
7790		LEAR	10 13 0045	N11 E70	10 18.3		BD	EAI	610	15	16	3
7790		RAMY	10 13 1120	N13 E63	10 18.2		B	EKO	570	18	13	4
7790		SVTO	10 13 1123	N15 E62	10 18.2		B	EKO	390	14	12	3
7790	28183	MWIL	10 13 1500	N10 E60	10 18.1	4	(B )					
7790		LEAR	10 14 0153	N10 E54	10 18.1		BG	EKO	430	20	13	3
7790		SVTO	10 14 1010	N14 E51	10 18.3		B	EKI	320	21	13	3
7790		RAMY	10 14 1135	N11 E49	10 18.2		B	EAI	630	47	14	3
7790	28183	MWIL	10 14 1500	N10 E46	10 18.1	5	(B )					
7790		LEAR	10 15 0230	N09 E40	10 18.1		B	EAO	340	29	13	3
7790		SVTO	10 15 0930	N10 E37	10 18.2		B	EKC	410	43	13	3
7790		RAMY	10 15 1207	N11 E35	10 18.1		BG	EKI	520	58	15	4
7790	28183	MWIL	10 15 1600	N10 E33	10 18.1	5	(B )					
7790		LEAR	10 16 0040	N09 E28	10 18.1		B	ESO	100	24	13	3
7790		RAMY	10 16 1222	N12 E22	10 18.2		B	EKI	420	48	14	3
7790	28183	MWIL	10 16 1500	N10 E17	10 17.9	5	(BG)					
7790		LEAR	10 17 0005	N10 E15	10 18.1		B	EKI	290	28	13	3
7790		SVTO	10 17 0920	N12 E07	10 17.9		B	EAI	170	49	14	2
7790	28183	MWIL	10 17 1445	N11 E03	10 17.8	6	(BG)					
7790		LEAR	10 18 0110	N11 E01	10 18.1		B	FSI	210	21	16	3
7790		SVTO	10 18 0740	N12 W02	10 18.2		B	FAI	210	40	18	2
7790	28183	MWIL	10 18 1445	N11 W11	10 17.8	5	(BP)					

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(Ordered by Central Meridian Passage Date)

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time (UT)	Lat Long	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7790		RAMY	10 18 1530	N11 W12	10 17.7		B	DAI	210	5	4	1
7790		LEAR	10 19 0530	N12 W15	10 18.1		B	FSI	160	22	16	3
7790		RAMY	10 19 1306	N11 W20	10 18.0		B	CSI	220	37	14	4
7790	28183	MWIL	10 19 1445	N10 W25	10 17.7	5	(BG)					
7790		LEAR	10 20 0045	N12 W27	10 18.0		B	FAO	140	19	16	3
7790		SVTO	10 20 1102	N09 W37	10 17.7		B	CSO	130	5	5	1
7790	28183	MWIL	10 20 1430	N11 W39	10 17.7	5	(BG)					
7790		RAMY	10 20 1436	N10 W32	10 18.2		B	CSI	210	19	17	3
7790		HOLL	10 20 2232	N11 W40	10 17.9		B	CHI	230	9	13	3
7790		LEAR	10 21 0105	N10 W40	10 18.0		B	FSI	240	18	16	3
7790		RAMY	10 21 1212	N10 W46	10 18.0		B	CAO	160	16	16	3
7790	28183	MWIL	10 21 1445	N12 W50	10 17.8	5	(BG)					
7790		HOLL	10 21 2043	N11 W49	10 18.2		B	CSO	150	11	18	2
7790		LEAR	10 22 0350	N10 W55	10 18.0		B	CAO	170	7	15	3
7790		RAMY	10 22 1204	N10 W60	10 18.0		B	EAO	210	15	15	3
7790		HOLL	10 22 1605	N13 W62	10 18.0		B	FSO	300	11	17	4
7790	28183	MWIL	10 22 1800	N12 W62	10 18.1	5	B					
7790		LEAR	10 23 0310	N11 W69	10 17.9		B	EAO	100	5	12	2
7790		SVTO	10 23 0610	N09 W68	10 18.1		B	EAO	90	6	15	3
7790		HOLL	10 23 1427	N11 W73	10 18.1		B	CSO	150	4	13	3
7790	28183	MWIL	10 23 1730	N12 W68	10 18.6	4	X					
7790		LEAR	10 24 0012	N11 W76	10 18.3		B	DAO	60	3	5	3
7791A		RAMY	10 22 1204	N05 E18	10 23.8		A	AX		1		3
7791A		HOLL	10 22 1605	N04 E17	10 23.9		A	AX		1		4
7792		LEAR	10 18 0110	S07 E79	10 24.0		B	BXO	20	4	2	3
7792		SVTO	10 18 0740	S05 E81	10 24.4		B	DAO	60	4	10	2
7792	28186	MWIL	10 18 1445	S07 E75	10 24.2	5	(B					
7792		RAMY	10 18 1530	S05 E76	10 24.3		B	DAO	90	4	5	1
7792		LEAR	10 19 0530	S08 E66	10 24.2		B	CAI	290	11	10	3
7792		RAMY	10 19 1306	S06 E64	10 24.3		B	CKO	270	19	13	4
7792	28186	MWIL	10 19 1445	S07 E62	10 24.2	5	(B )					
7792		LEAR	10 20 0045	S09 E58	10 24.4		B	EAI	260	14	12	3
7792		SVTO	10 20 1102	S08 E55	10 24.6		B	CAO	200	13	9	1
7792	28186	MWIL	10 20 1430	S09 E49	10 24.3	5	(B )					
7792		RAMY	10 20 1436	S08 E53	10 24.6		B	CAO	230	19	11	3
7792		HOLL	10 20 2232	S08 E44	10 24.2		B	CSO	130	10	5	3
7792		LEAR	10 21 0105	S08 E43	10 24.3		B	DAI	180	8	6	3
7792		RAMY	10 21 1212	S08 E40	10 24.5		B	CAO	140	12	10	3
7792	28186	MWIL	10 21 1445	S08 E34	10 24.2	5	(BP)					
7792		HOLL	10 21 2043	S08 E32	10 24.3		B	CAO	140	8	4	2
7792		LEAR	10 22 0350	S08 E28	10 24.2		B	DAO	100	7	3	3
7792		RAMY	10 22 1204	S08 E26	10 24.4		B	CAO	110	19	10	3
7792		HOLL	10 22 1605	S08 E23	10 24.4		B	CAO	120	13	5	4
7792	28186	MWIL	10 22 1800	S08 E19	10 24.2	5	X					
7792		LEAR	10 23 0310	S08 E15	10 24.2		B	CAO	60	6	3	2
7792		SVTO	10 23 0610	S09 E18	10 24.6		B	CAO	50	11	9	3
7792		HOLL	10 23 1427	S08 E09	10 24.3		B	CAO	90	11	6	3
7792	28186	MWIL	10 23 1730	S08 E06	10 24.2	5	X					
7792		LEAR	10 24 0012	S09 E04	10 24.3		B	DSO	40	12	5	3
7792		RAMY	10 24 1257	S08 W03	10 24.3		B	CAO	50	15	4	3
7792		SVTO	10 24 1432	S08 W05	10 24.2		B	CAO	40	15	4	1
7792	28186	MWIL	10 24 1800	S08 W06	10 24.3	5	(BP)					
7792		HOLL	10 24 2202	S07 W06	10 24.5		B	CSO	50	13	5	3
7792		LEAR	10 25 0031	S09 W10	10 24.3		B	DSO	30	4	3	3
7792		SVTO	10 25 0950	S09 W15	10 24.3		B	CSO	30	7	3	2
7792		RAMY	10 25 1406	S08 W17	10 24.3		A	HA	30	3	1	1
7792	28186	MWIL	10 25 1430	S08 W17	10 24.3	5	(AP)					
7792		HOLL	10 25 1930	S08 W19	10 24.4		B	CSO	30	7	4	2
7792		LEAR	10 26 0510	S08 W25	10 24.3		B	CAO	20	6	6	3
7792		SVTO	10 26 1010	S08 W27	10 24.4		B	CSO	40	6	6	2
7792		RAMY	10 26 1303	S08 W28	10 24.4		B	CRO	30	7	6	4
7792	28186	MWIL	10 26 1500	S08 W31	10 24.3	4	(B )					
7792		HOLL	10 26 1737	S10 W32	10 24.3		B	CSO	40	5	3	2
7792		LEAR	10 27 0030	S08 W36	10 24.3		B	CSO	20	3	3	2
7792		SVTO	10 27 0720	S09 W39	10 24.4		A	HS	10	1	1	2
7792		RAMY	10 27 1153	S08 W41	10 24.4		B	BXO	20	8	6	4
7792	28186	MWIL	10 27 1500	S07 W44	10 24.3	4	(B )					

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SUNSPOT GROUPS  
(Ordered by Central Meridian Passage Date)

OCTOBER 1994

NOAA/ USAF Group	Mt Wilson Group	Sta	Mo	Day	Observation Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7792		HOLL	10	27	1509	S08	W44	10	24.3		A	AX	10	2	1	3
7792		LEAR	10	28	0125	S08	W50	10	24.3		A	AX	10	1	1	3
7792		RAMY	10	28	1226	S09	W55	10	24.4		B	BXO	10	2	3	5
7792	28186	MWIL	10	28	1500	S07	W58	10	24.3	3	(AP)					
7799	28192	MWIL	10	30	1500	S17	W19	10	29.2	4	(B )					
7799		RAMY	11	01	1321	S16	W49	10	28.9		A	AX		1		4
7799		HOLL	11	01	1645	S17	W51	10	28.9		A	AX	10	1		3
7799		SVTO	11	02	0845	S17	W60	10	28.9		B	BXO	20	2	2	2
7799		RAMY	11	02	1217	S16	W61	10	29.0		B	BXO	20	2	2	3
7799		RAMY	11	03	1215	S16	W78	10	28.7		A	AX		1		3
7795		LEAR	10	26	0510	S18	E47	10	29.8		B	BXO	10	2	4	3
7795		SVTO	10	26	1010	S17	E45	10	29.8		B	DRO	30	3	4	2
7795		RAMY	10	26	1303	S16	E43	10	29.8		B	BXO	20	6	5	4
7795	28189	MWIL	10	26	1500	S17	E42	10	29.8	4	(B )					
7795		HOLL	10	26	1737	S16	E42	10	29.9		B	BXO	30	3	5	2
7795		LEAR	10	27	0030	S17	E37	10	29.8		B	BXO	20	2	5	2
7795		SVTO	10	27	0720	S16	E33	10	29.8		B	BXO	30	7	6	2
7795		RAMY	10	27	1153	S16	E30	10	29.8		B	BXO	20	6	6	4
7795	28189	MWIL	10	27	1500	S17	E28	10	29.7	4	(B )					
7795		HOLL	10	27	1509	S15	E27	10	29.7		B	BXO	20	4	5	3
7795		LEAR	10	28	0125	S16	E22	10	29.7		B	BXO	10	3	6	3
7795		SVTO	10	28	0900	S16	E17	10	29.7		B	DRO	40	2	7	1
7795		RAMY	10	28	1226	S17	E17	10	29.8		B	BXO	10	3	5	5
7795		HOLL	10	28	1424	S16	E14	10	29.7		B	BXO	10	2	5	3
7795	28189	MWIL	10	28	1500	S16	E15	10	29.8	4	(B )					
7795		LEAR	10	31	0020	S18	W15	10	29.9		B	BXO	10	2	3	3
7795	28195	MWIL	11	01	1500	S15	W38	10	29.8	4	(B )					
7795		RAMY	11	02	1217	S20	W56	10	29.3		A	AX		1		3
7796	28187	MWIL	10	25	1430	S08	E65	10	30.5	4	(B )					
7796		HOLL	10	25	1930	S06	E62	10	30.4		B	BXO	20	5	3	2
7796		LEAR	10	26	0510	S07	E56	10	30.4		B	BXO	20	5	4	3
7796		SVTO	10	26	1010	S08	E53	10	30.4		B	DRO	30	5	5	2
7796		RAMY	10	26	1303	S06	E53	10	30.5		B	BXO	20	4	5	4
7796	28187	MWIL	10	26	1500	S07	E51	10	30.4	5	(B )					
7796		HOLL	10	26	1737	S06	E53	10	30.7		B	BXO	30	8	6	2
7796		LEAR	10	27	0030	S07	E45	10	30.4		B	BXO	10	5	5	2
7796		SVTO	10	27	0720	S06	E42	10	30.4		B	BXO	30	5	6	2
7796		RAMY	10	27	1153	S06	E39	10	30.4		B	BXO	30	7	5	4
7796	28187	MWIL	10	27	1500	S08	E38	10	30.5	4	(B )					
7796		HOLL	10	27	1509	S06	E38	10	30.5		B	BXO	20	4	6	3
7796		LEAR	10	28	0125	S07	E31	10	30.4		B	BXO	10	3	6	3
7796		SVTO	10	28	0900	S08	E26	10	30.3		A	HR	40	1	2	1
7796		RAMY	10	28	1226	S07	E26	10	30.5		B	BXO	30	7	6	5
7796		HOLL	10	28	1424	S06	E25	10	30.5		B	BXO	20	6	6	3
7796	28187	MWIL	10	28	1500	S08	E24	10	30.4	4	(B )					
7796		LEAR	10	29	0320	S08	E18	10	30.5		B	CRO	20	4	4	2
7796	28187	MWIL	10	29	1500	S07	E10	10	30.4	4	(B )					
7796		HOLL	10	29	1613	S07	E10	10	30.4		B	CAO	30	11	4	3
7796		LEAR	10	30	0530	S08	E02	10	30.4		B	CRO	20	8	5	3
7796		SVTO	10	30	1200	S07	W02	10	30.3		B	BXO	40	3	3	1
7796		RAMY	10	30	1305	S08	W02	10	30.4		B	BXO	10	5	4	4
7796	28187	MWIL	10	30	1500	S08	W03	10	30.4	4	(B )					
7796		SVTO	10	31	0830	S08	W13	10	30.4		B	BXO	80	3	4	1
7796		RAMY	10	31	1315	S08	W18	10	30.2		B	BXO	20	6	4	4
7796	28187	MWIL	10	31	1500	S07	W18	10	30.3	4	(AP)					
7796		HOLL	10	31	1622	S08	W18	10	30.3		B	BXO	10	4	3	2
7796		LEAR	11	01	0058	S09	W24	10	30.3		A	AX		1		3
7796	28187	MWIL	11	01	1500	S08	W32	10	30.3	4	(AP)					
7794		HOLL	10	24	2202	N16	E86	10	31.4		A	HR	30	1	1	3
7794		LEAR	10	25	0031	N14	E80	10	31.1		A	HS	100	1	1	3
7794		SVTO	10	25	0950	N17	E79	10	31.4		B	CSO	120	4	10	2
7794		RAMY	10	25	1406	N16	E78	10	31.5		B	CAO	80	3	12	1
7794	28188	MWIL	10	25	1430	N13	E76	10	31.3	4	(B )					
7794		HOLL	10	25	1930	N16	E76	10	31.6		B	EAO	210	5	11	2
7794		LEAR	10	26	0510	N14	E69	10	31.4		B	EAO	210	9	12	3



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

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OCTOBER 1994

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time		Lat	CND	CHP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual	
			Mo	Day (UT)											
7794		SVTO	10	26	1010	N15 E69	10	31.6		B	DSO	220	5	9	2
7794		RAMY	10	26	1303	N16 E65	10	31.5		B	EAO	210	17	12	4
7794	28188	MWIL	10	26	1500	N13 E65	10	31.5	5	(B )					
7794		HOLL	10	26	1737	N14 E65	10	31.6		B	EAO	330	14	12	2
7794		LEAR	10	27	0030	N16 E60	10	31.6		B	EAO	240	11	13	2
7794		SVTO	10	27	0720	N15 E55	10	31.5		B	DSI	250	13	10	2
7794	28188	RAMY	10	27	1153	N16 E55	10	31.7		B	EAI	330	32	13	4
7794		MWIL	10	27	1500	N13 E53	10	31.6	5	(B )					
7794		HOLL	10	27	1509	N16 E55	10	31.8		B	ESI	320	15	12	3
7794		LEAR	10	28	0125	N16 E47	10	31.6		B	EAI	180	14	11	3
7794		SVTO	10	28	0900	N14 E44	10	31.7		B	ESI	280	16	13	1
7794		RAMY	10	28	1226	N16 E41	10	31.6		B	EAI	450	38	13	5
7794		HOLL	10	28	1424	N16 E40	10	31.6		B	ESC	290	29	12	3
7794	28188	MWIL	10	28	1500	N14 E40	10	31.6	6	(B )					
7794		LEAR	10	29	0320	N14 E33	10	31.6		B	EAI	250	30	12	2
7794	28188	MWIL	10	29	1500	N14 E26	10	31.6	5	(BG)					
7794		HOLL	10	29	1613	N16 E25	10	31.6		B	EAI	360	41	12	3
7794		LEAR	10	30	0530	N12 E18	10	31.6		B	EAI	250	28	13	3
7794		SVTO	10	30	1200	N15 E15	10	31.6		B	ESO	280	20	13	1
7794		RAMY	10	30	1305	N14 E13	10	31.5		B	EAI	270	29	12	4
7794	28188	MWIL	10	30	1500	N14 E13	10	31.6	5	(B )					
7794		HOLL	10	30	2042	N16 E08	10	31.5		B	ESI	340	27	14	2
7794		LEAR	10	31	0020	N13 E06	10	31.5		B	ESO	180	18	12	3
7794		SVTO	10	31	0830	N13 E04	10	31.6		B	EHO	300	19	13	1
7794		RAMY	10	31	1315	N14 W01	10	31.5		B	EAI	210	32	12	4
7794	28188	MWIL	10	31	1500	N13 W01	10	31.5	5	(BG)					
7794		HOLL	10	31	1622	N14 W02	10	31.5		B	ESI	280	17	13	2
7794		LEAR	11	01	0058	N12 W07	10	31.5		B	ESO	210	14	12	3
7794		SVTO	11	01	0930	N13 W11	10	31.6		A	CAO	80	6	12	1
7794		RAMY	11	01	1321	N13 W12	10	31.6		B	EAI	170	40	12	4
7794	28188	MWIL	11	01	1500	N13 W13	10	31.6	5	(B )					
7794		HOLL	11	01	1645	N13 W15	10	31.6		B	ESO	240	12	12	3
7794		LEAR	11	02	0009	N13 W21	10	31.4		B	ESO	1700	14	12	3
7794		SVTO	11	02	0845	N12 W25	10	31.5		B	ESO	90	8	12	2
7794		RAMY	11	02	1217	N13 W26	10	31.6		B	ESO	190	18	12	3
7794		LEAR	11	03	0120	N13 W34	10	31.5		B	ESO	70	4	13	3
7794		SVTO	11	03	1139	N11 W38	10	31.6		B	CAO	70	6	13	1
7794		RAMY	11	03	1215	N13 W40	10	31.5		B	EAO	90	13	13	3
7794	28188	MWIL	11	03	1500	N13 W41	10	31.5	5	(BG)					
7794		LEAR	11	04	0045	N12 W47	10	31.5		B	CSO	50	7	15	3
7794		SVTO	11	04	0723	N12 W50	10	31.5		B	CAO	60	7	13	3
7794		RAMY	11	04	1247	N11 W48	10	31.9		A	AX	10	2	2	3
7794	28188	MWIL	11	04	1515	N12 W48	11	1.0	5	(AF)					
7794		LEAR	11	05	0310	N11 W57	10	31.8		A	HR	30	1	1	3
7794		SVTO	11	05	0830	N12 W63	10	31.6		A	AX	20	1	1	2
7794		RAMY	11	05	1304	N11 W62	10	31.9		A	AX	20	1	1	3
7794	28188	MWIL	11	05	1510	N11 W62	11	1.0	4	(AF)					
7794		HOLL	11	05	1600	N10 W67	10	31.6		A	AX	10	1	1	2
7794		LEAR	11	06	0045	N12 W68	10	31.9		A	HR	30	2	1	3
7794		RAMY	11	06	1316	N09 W75	10	31.9		A	AX	10	1	1	3
7794	28188	MWIL	11	06	1500	N11 W75	11	1.0	4	(AF)					
7794A	28198	MWIL	11	06	1500	N15 W78	10	31.7	3	(AP)					

Stations reporting:

CULG = Culgoora  
HOLL = Holloman

LEAR = Learmonth  
MWIL = Mt. Wilson

PALE = Palehua  
RAMY = Ramey

SVTO = San Vito

SUDDEN IONOSPHERIC DISTURBANCES

OCTOBER 1994

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type					Flare (UT)	X-ray Class	NOAA Region
						SHF	SEA	SPA	LF-SPA	SES			
03	0802	0816	0837	1	1		1				No flare		
04	2314	2318	2332	1-	5			1		1	2304	C1.7	
05	0710	0722	0810	2	5		3	1			No flare		
05	1103	1142	1158	1	5		3			2	1136	C3.0	7784
05	1252	1311	1328	1-	1			1			1252	C1.3	
05	1346	1348	1400	1-	1					1	1347		
06	0929	0931	0940	1-	1					1	0929	B5.2	
06	1216	1227	1244	2	1		1				No flare		
06	1253	1303	1328	2	1		1				No flare		
06	1431	1440	1452	1	1		1				No flare		
06	1505	1511	1525	1	1		1				No flare		
06	1902	1913	1952	2-	5			2		10	1913	C3.2	7784
06	1948	2002	2024	1-	1			1			1957	B4.0	
07	0754	0809	0820	1	1		1				No flare		
07	0841	0848U	0925	1	1		1				0842	B2.2	
07	0938	0951	1002	1+	3		1			1	0940	B2.2	
07	1022	1033	1054	2	1		1				No flare		
07	1523	1541	1614	1	5			2		2	1520	C1.7	7784
07	1850	1854	1917	1-	5			1		5	1850	C1.9	7783
08	1050	1130U	1200	1	1		1				1140	B2.3	7788
08	1325	1350U	1400	1	1		1				No flare		
09	0712	0726U	0754	1	1		1				No flare		
09	0744	0756	0812	1-	1			1			0746	B8.5	7785
09	0924	0945	1001	1	1		1				0954	B6.6	7785
09	1225	1230	1244	1-	1					3	1225E	B4.8	7785
09	1356	1406	1436	1-	5			1		1	1357	B6.8	
09	1622	1626	1635	1-	5			3		14	1612	C7.3	7785
10	0806	0820	0901	2	1		1				No flare		
10	1032	1049	1114	1-	5		1	1			No flare		
10	1433	1434	1444	1-	1					1	1433	B9.6	7785
10	1721	1737	1737D	1-	1			1			No flare		
10	1743	1752	1812	1-	1			1			No flare		
11	0624	0630	0634	1-	5			1		1	0620	B5.3	
11	0726	0734	0805	2	1		1				No flare		
11	0900	0909	0929	1+	1					2	0859	B5.2	
12	0624	0626	0640	1-	1			1			No flare		
12	0914	0915	0928	1-	1					1	0914	B3.1	
12	1210	1214	1220	1-	1					1	1210	B2.4	
12	1447	1450	1457	1-	1					1	1450	B2.3	
13	1111	1120U	1212	1	1		1				No flare		
13	1401	1408	1432	1	1		1				No flare		
13	1503	1510	1536	2	1					1	1443	B6.4	7790
14	1122	1130	1145U	1	1					1	1120	B4.3	7790
14	1200	1210U	1230	1	1		1				1212		7790
14	1940	1944	1952U	1-	1					1	1940	B3.4	
14	2015	2016	2025	1-	1					1	2011	B9.5	
14	2344	2355	2450	1-	5		1	1		1	2343	C2.6	7790
15	0258	0334	0410D	1	1			1			0326	B5.9	
15	0410E	0416	0446	1-	1			1			0409	B8.7	
15	0919	0924	0933	1	1			2			No flare		
15	1020	1028	1104	1-	5		1	2	2	3	1013	C2.8	7790
17	0555	0620U	0705	2	1		1				No flare		
17	1542	1602	1625	1-	1			1			1531	B9.2	
17	1623	1628	1645	1-	1			1			*		

\* = no flare patrol.

## SUDDEN IONOSPHERIC DISTURBANCES

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Oct 94

OCTOBER 1994

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			
18	0740	0744	0802	1	1		1				No flare		
18	1030	1041	1105	1	1		1				No flare		
18	1333	1344	1356	1	1		1				No flare		
18	1846	1900	1926	1-	1			1			*		
19	0802	0810U	0838	1	1		1				No flare		
19	0844	0850	0902	1	1		1				No flare		
19	0906	0913	0930	1	1		1				No flare		
19	1127	1139	1145	1-	1			1			No flare		
19	1210	1218	1245	1	1		1				No flare		
19	1258	1308	1314	1	1		1				No flare		
19	1337	1339	1352	1-	1					1	1337	B4.4	
19	1352	1403	1431	1	1		1				1356		7790
19	1516	1520	1525	1-	1					1	1523	B2.3	
19	1722	1731	1817	2	1			1		3	1719	B9.4	
19	2051	2132	2506	2	5	1		3		6	*		
21	0934	0950	1029	2	1		1				No flare		
21	1126	1138	1201	2	1		1				No flare		
21	1228	1230U	1234	1	1		1				No flare		
21	1326	1328	1418	2	1		1				No flare		
22	0833	0910	0940	2	1		1				0830	B9.0	
22	0956	1015	1032	2	1		1				*		
22	1136	1142	1210	1	1		1				1110		7790
22	1231	1232	1248	1	1		1				1213	C1.3	7790
22	1302	1310	1332	1	1		1				No flare		
22	1400	1403	1415	1-	1					2	1401	B3.9	7790
23	0644	0645	0651	1-	1					1	0642	B4.2	
23	1132	1135	1148	1-	1					1	1134	C3.1	7790
23	1139	1150U	1207	1	1		1				1134	C3.1	7790
23	1221	1238	1305	2	1		1				No flare		
23	2039	2044	2057	1-	1					1	2037	B8.9	
23	2300	2307	2330	1-	5			1		1	2241	C1.8	
24	0136	0150	0204	1-	1			1			0141	C1.2	
25	0636	0644	0725	1	1		1				No flare		
25	0958	1014	1055	1-	5			1		1	1008E	C4.7	7792
25	1234	1250	1345	1-	1			1			No flare		
26	0849	0853	0913	1	1					1	0843	B3.9	
28	0834	0842	0854	1	1		1				No flare		
28	0932	0949	1013	2-	3		4				No flare		
28	1845	1847	1859	1-	1					1	1846	B5.7	7794
29	0432	0440	0517	1-	1			1			0433	C1.3	7794
29	0936	0945	0958	1	1		1				0945	B3.9	
29	1727	1730	1733	1-	1					1	1731	B2.7	
29	1812	1814	1829	1-	1					3	1812	B6.1	7794
30	0936	0952	1004	2	1		1				No flare		
30	1324	1330	1350	1	1		1				No flare		
30	1850	1851	1900	1-	1					1	1845	B3.9	7794
31	0654	0700	0721	1-	1			1			0652	B8.1	7794

\* = no flare patrol.

SUDDEN IONOSPHERIC DISTURBANCES

OBSERVATORIES REPORTING FOR OCTOBER 1994

Amherst, New Hampshire, USA	SES	Madison, Wisconsin, USA	SES
Brazilian Antarctic Station	SPA	McDonough, Georgia, USA	SES
Cambridge, England, UK	SES	Nampa, Idaho, USA	SES
Cranford, New Jersey, USA	SES	Nerja, Spain	SES
Durham, New Hampshire, USA	SES	Panska Ves, Czech Republic	SES, SEA, SWF
Fort Wayne, Indiana, USA	SES	Parma, OH, USA	SES
Gettysburg, Pennsylvania, USA	SES	Rimavska Sobota, Slovakia	SEA
Hiraiso, Japan	SWF	Rochester, New Hampshire, USA	SES
Houston, Texas, USA	SES	Tucson, Arizona, USA	SES
Hudson, Ohio, USA	SES	Upice, Czech Republic	SEA
Indianapolis, Indiana, USA	SES	Wellington, Ohio, USA	SES
Inubo, Japan	SPA	Windsor Locks, Connecticut, USA	SES
Itapetinga, Brazil	SPA	Ziar nad Hronom, Slovakia	SEA
Koniz, Switzerland	SES	Zilina, Slovakia	SEA
LaCrescenta, California, USA	SES		

Observations are not necessarily continuous.

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OBSERVATION		Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks	
Day (UT)	Start End (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)		
01	0000 0747	CULG	0231.0	0231.0	III	B	1	20	70		
		CULG	0437.0	0437.0	III	B	1	20	90		
		CULG	0456.0	0456.0	III	B	1	20	90		
		LEAR	0456.0	0456.0	III		1	30	51		
	0000 0825 0609 1521	HIRA	0456.2	0456.2	III	B	1	25	90		
		LEAR	0714.0	0715.0	III		2	30	80		
		SVTO	0714.0	0715.0	III		2	35U	64U		
	0600 1200	IZMI	0714.7	0714.8	III	B	1	95	162U		
		HIRA	0714.8	0715.0	III	B	1	25	280		
		CULG	0715.0	0715.0	III	B	1	20	180		
	2035 2400 2038 2400	HIRA									
		CULG									
02	0000 0747	CULG									
	0000 0825	HIRA									
	0600 1200	IZMI									
	0611 1527	ONDR									
	2030 2400	CULG									
	2035 2400	HIRA									
03	0000 0750	CULG									
	0000 0825	HIRA									
	0612 1525	ONDR									
	0700 1500	POTS	0837.4	0838.7	III	G	1	40X	130		
		POTS	0844.8	0844.9	III	B	1	40X	50		
		POTS	0858.0	0858.1	III	B	1	110U	250		
		POTS	1003.5	1003.6	III	G	1	40X	275		
		IZMI	1006.3	1006.4	III	B	1	100	120		
		IZMI	1101.8	1101.9	III	G	1	45	130X		
		POTS	1101.8	1102.0	III	G	2	60	170		
		POTS	1141.9	1142.2	III	G	1	40X	130		
		POTS	1321.8	1322.2	III	G	1	110U	140		
		LEAR	2228.0	2228.0	III		1	40	55		
		PALE	2228.0	2228.0	III		1	25	58		
		2030 2400	CULG	2228.0	2231.0	III	G	2	18X	350	
			HIRA	2228.7	2228.8	III	B	2	25X	400	
		2035 2400	LEAR	2241.0	2241.0	III		2	30	80	
			PALE	2241.0	2242.0	III		2	25	70	
			HIRA	2241.5	2241.9	III	B	2	25	80	
			CULG	2242.0	2242.0	III	B	2	20	140	
CULG	2310.0		2312.0	III	G	2	18X	180			
PALE	2310.0		2312.0	III		2	25	75			
HIRA	2310.7		2312.3	III	B	2	25	270			
CULG	2321.0		2322.0	III	G	2	20	160			
HIRA	2321.8		2322.2	III	B	2	25	200			
CULG	2336.0		2346.0	III	N	2	18X	180			
PALE	2336.0		2345.0	III		1	25	75			
HIRA	2336.4		2345.0	III	GG	2	25X	210			
04	0000 0750		PALE	0007.0	0027.0	III	N	1	25	75	
		CULG	0007.0	0028.0	III	N	2	18	180		
	0000 0820	HIRA	0007.5	0027.6	III	GG	2	25	180		
		CULG	0050.0	0052.0	III	G	1	40	150		
	CULG	0113.0	0115.0	III	G	2	20	220			
	LEAR	0113.0	0221.0	III	N	3	30	80			
	PALE	0113.0	0150.0	III	N	2	25	75			
	HIRA	0113.3	0114.5	III	B	2	25	250			
	CULG	0121.0	0122.0	III	B	3	18X	180			
	HIRA	0121.4	0121.6	III	B	2	25	310			
	CULG	0126.0	0126.0	III	B	1	18	60			
	CULG	0149.0	0152.0	III	G	1	20	180			
	HIRA	0149.6	0151.5	III	B	1	25	180			
	LEAR	0234.0	0235.0	III		2	30	80			
	PALE	0234.0	0239.0	III		1	25	70			
	HIRA	0234.6	0235.0	III	B	2	25	270			
	CULG	0235.0	0236.0	III	G	2	18X	180			
	LEAR	0238.0	0240.0	III		3	30	80			
	HIRA	0238.7	0239.9	III	B	2	25	210			



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OBSERVATION			EVENT					FREQUENCY		Remarks	
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	Lower (MHz)		Upper (MHz)
04			CULG	0239.0	0241.0	III	G	2	18X	180	
			CULG	0355.0	0355.0	III	B	1	18X	180	
			LEAR	0355.0	0355.0	III		1	30	60	
			HIRA	0355.3	0356.3	III	B	1	25	200	
			CULG	0503.0	0503.0	III	B	1	20	180	
	0614	1521	ONDR								
	0700	1500	POTS	0735	0915	I	S	1	130	325	
			POTS	1346.6	1347.1	III	G	1	40X	170U	
			POTS	1350.7	1350.9	III	B	1	40X	170U	
	2020	2400	CULG								
2035	2400	HIRA									
05	0000	0820	HIRA								
	0000	0750	CULG	0330.0	0330.0	III	B	1	20	80	
			CULG	0500.0	0500.0	III	B	1	24	90	
	0600	1200	IZMI								
	0700	0750	POTS	0700 E	0750 U	I	S	1	200U	350	
			POTS	0712.5	0725.0	IV	FS	2	200U	400	
			POTS	0722.0	0722.1	III	G	2	110U	300	
	0616	1519	ONDR	1135.8	1140.5	DCIM		3	1000	2000	
			ONDR	1136.4	1138.6	DCIM		3	2300	4500	
			SGMR	1339.0	1339.0	III		1	30	40	
2020	2400	CULG									
2040	2400	HIRA									
06	0000	0750	CULG								
	0000	0820	HIRA	0402.4	0402.4	III	B	1	150	400	
	0600	1200	IZMI								
	0618	1516	ONDR								
	0700	1500	POTS	0716.6	0717.4	III	G	2	160	400	
			POTS	0728.0	0730.0	DCIM	G	2	170U	750	
			POTS	0820.8	0821.2	DCIM		1	300	375	
			POTS	0822	1500 U	I	S	1	200U	375	
			POTS	1038.1	1038.4	DCIM		1	650	750	
			POTS	1249.6	1249.7	III	B,U	2	200U	350	
			POTS	1451.2	1451.3	III	G	1	200U	350	
	2020	2400	CULG								
	2040	2400	HIRA								
	07	0000	0820	HIRA							
			LEAR	0459.0	0459.0	III		1	30	53	
0000		0750	CULG	0459.0	0500.0	III	B	1	18	260	
0619		1516	ONDR								
0700		1500	POTS	0700 E	1400	I	S	1	120	400	
			POTS	0719.2	0719.6	DCIM		1	300	400	
			POTS	0719.6	0721.6	III	B	1	110U	170U	
			POTS	0746.9	0751.0	III	G	2	40X	350	
			POTS	0812.8	0815.6	III	GG	2	110U	250	
			POTS	0843.2	0847.1	III	GG	2	40X	500	
			LEAR	0844.0	0845.0	III		1	30	80	
			SVTO	0844.0	0845.0	III		1	35	79	
0600		1200	IZMI	0844.8	0845.1	III	G	2	90X	180U	
			POTS	0909.6	0911.8	III	G	1	110U	150	
			POTS	0927.8	0928.1	III	B	1	40X	300	
			POTS	0940.3	0942.8	III	GG	2	110U	170U	
			POTS	0947.1	0947.3	III	G	1	110U	350	
			POTS	1000.9	1001.0	III	B	1	110U	170U	
			POTS	1151.9	1152.3	DCIM		1	300	400	
			POTS	1154.4	1154.6	DCIM		1	300	500	
			POTS	1223.2	1223.7	III	G	1	110U	350	
			POTS	1226.5	1226.9	III	GG	1	110U	250	
			POTS	1321.8	1324.5	III	G	1	40X	250	
			SGMR	1541.0	1541.0	III		1	30	55	
			PALE	1849.0	1851.0	III		2	25	75	
			SGMR	1849.0	1851.0	V		2	30	80	
			PALE	2026.0	2027.0	III		1	25	41	
			LEAR	2305.0	2305.0	III		2	30	80	
		PALE	2305.0	2306.0	III		2	25	57		
2040	2400	HIRA	2305.8	2305.9	III	B	2	25	150		

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OBSERVATION			Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks	
Day	Start (UT)	End (UT)				Spectral Class	Event		Lower (MHz)	Upper (MHz)		
07	2020	2400	CULG	2306.0	2306.0	III	B	2	18X	90		
08	0000	0750	CULG	0000.0	0000.0	III	B	1	18	45		
			CULG	0007.0	0009.0	III	G	1	18	55		
	0000	0820	LEAR	0007.0	0009.0	III		1	30	55		
			HIRA	0007.8	0009.3	III	G	1	25	50		
			LEAR	0111.0	0115.0	III		1	30	55		
			HIRA	0111.8	0114.3	III	G	1	25	350		
			CULG	0112.0	0114.0	III	G	1	18	160		
			CULG	0121.0	0121.0	III	B	1	18	160		
			HIRA	0121.2	0121.8	III	B	1	25	250		
			CULG	0152.0	0152.0	III	B	1	20	180		
			CULG	0411.0	0415.0	III	G	1	18	85		
			HIRA	0412.5	0412.5	III	B	1	25	210		
			HIRA	0513.1	0516.8	III	G	1	25	70		
			CULG	0514.0	0514.0	III	B	1	18	65		
	LEAR	0544.0	0544.0	III		1	30	40				
	CULG	0545.0	0545.0	III	B	1	18	70				
	0600	1200		IZMI								
	0621	1511		ONDR								
			CULG	0638.0	0638.0	III	B	1	130	180		
			CULG	0639.0	0639.0	III	B	1	100	180		
CULG			0641.0	0641.0	III	B	2	28	520			
CULG			0642.0	0648.0	II	FN	1	55	110	ESS 500		
CULG			0642.0	0651.0	II	SH	2	65	230	ESS 500		
SGMR			1340.0	1340.0	III		1	30	75			
2020	2400		CULG									
2040	2400		HIRA									
09	0000	0750	CULG	0054.0	0054.0	III	B	1	80	160		
			HIRA	0054.1	0054.5	III	B	1	90	280		
	0000	0820	LEAR	0152.0	0154.0	III		1	30	62		
			HIRA	0152.1	0152.7	III	B	1	30	250		
			ONDR									
	0623	1510	0600	1200	IZMI	0637.5	0637.7	III	G,DP	1	120X	180
			HIRA	0637.8	0637.9	III	B	1	130	220		
			IZMI	0639.1	0639.7	III	G,RS	2	66X	180U		
			HIRA	0639.3	0639.5	III	B	1	100	450		
			LEAR	0640.0	0648.0	III		2	30	67		
			IZMI	0640.1	0640.9	III	G	2	45X	180U		
			IZMI	0640.3	0640.7	V		2	35X	180U		
			HIRA	0640.6	0641.2	III	B	2	30	2500		
			IZMI	0642.2	0648.5	II	HARM	2	40X	180		
			HIRA	0642.6	0643.1	III	B	2	80	250		
			HIRA	0642.6	0652.7	II		2	50	210		
			HIRA	0751.9	0752.1	III	B	1	90	270		
			HIRA	0754.5	0754.6	III	B	1	90	150		
			IZMI	0842.7	0843.0	III	G	1	90	145U		
			IZMI	0844.0	0844.4	III	G,RS	2	110X	180		
IZMI			1149.7	1149.8	III	G	1	90X	180			
2020			2400		CULG	2354.0	2354.0	III	B	1	35	160
2040			2400		HIRA	2354.1	2354.2	III	B	1	60	120
10	0000	0750	CULG									
			HIRA									
	0600	1200	IZMI									
			ONDR									
	0700	0848	POTS	0700 E	0848 U	I	S,C	2	110U	350		
			LEAR	2347.0	2348.0	III		1	30	68		
	2045	2400		HIRA	2347.8	2347.9	III	B	1	30	80	
	2020	2400	CULG	2348.0	2348.0	III	B	1	30	90		
			HIRA	2355.9	2356.0	III	B	1	50	500		
	11	0000	0750	CULG	0003.0	0003.0	III	B	1	35	290	
HIRA				0003.6	0003.7	III	B	1	40	280		
0000		0810	LEAR	0047.0	0048.0	III		1	30	68		
			LEAR	0156.0	0204.0	III		2	30	72		
CULG		0157.0	0159.0	III	G	1	18	170				
PALE		0157.0	0158.0	III		1	25	75				

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OBSERVATION			EVENT					FREQUENCY		Remarks	
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	Lower (MHz)		Upper (MHz)
11			HIRA	0157.1	0158.4	III	G	1	25	270	
			CULG	0204.0	0204.0	III	B	1	18	80	
			HIRA	0204.3	0204.5	III	B	1	25	110	
			LEAR	0225.0	0225.0	III		2	30	71	
			PALE	0225.0	0225.0	III		1	35	75	
			HIRA	0225.7	0225.9	III	B	1	25	170	
			CULG	0226.0	0226.0	III	B	1	18	85	
			HIRA	0419.6	0419.6	III	B	1	80	500	
			CULG	0451.0	0451.0	III	B	1	18	130	
			LEAR	0451.0	0451.0	III		2	30	70	
			HIRA	0451.5	0451.7	III	B	1	25	130	
0600	1200		IZMI	0614.4	0615.7	III	G	1	45X	180X	
			CULG	0615.0	0615.0	III	B	1	30	160	
			LEAR	0615.0	0615.0	III		1	45	65	
			HIRA	0615.3	0615.3	III	B	1	50	160	
			CULG	0625.0	0625.0	III	B	1	40	150	
			HIRA	0625.6	0625.8	III	B	1	50	150	
0626	1507		ONDR								
			POTS	0700 E	1333 U	I	S,C,DC	2	110U	350	
0700	1333		POTS	0700 E	1333 U	III	G	1	110U	350	
			POTS	0700.8	0701.2	III	G	1	40X	70	
			CULG	0701.0	0701.0	III	B	1	25	85	
			POTS	0718.5	0726.7	III	GG,RS	2	40X	375	
			IZMI	0718.8	0719.2	III	G	1	60	120	
			CULG	0719.0	0723.0	III	G	1	50	140	
			HIRA	0719.0	0719.6	III	B	1	60	250	
			HIRA	0721.8	0723.1	III	G	1	60	200	
			IZMI	0721.9	0722.2	III	G	2	60X	180	
			LEAR	0722.0	0726.0	III		2	33	80	
			SVTO	0722.0	0725.0	III		2	35	71	
			CULG	0725.0	0726.0	III	B	2	55	190	
			HIRA	0725.0	0726.8	III	B	2	30	300	
			IZMI	0725.0	0726.7	III	GG	2	45X	180X	
			IZMI	0725.1	0725.7	V		2	45	90X	
			POTS	0725.3	0725.9	V		1	40X	70	
			LEAR	0813.0	0813.0	III		2	30	75	
			IZMI	0813.3	0813.8	III	G	2	45	90X	
			POTS	0813.3	0817.8	III	G	2	40X	250	
			POTS	1159.9	1200.5	III	G,U	2	40X	250	
			SGMR	1200.0	1200.0	III		1	30	55	
			POTS	1200.1	1200.4	V		2	40X	60	
			SVTO	1412.0	1413.0	III		2	35U	61U	
			SGMR	1604.0	1605.0	III		2	30	70	
2020	2400		CULG								
2045	2400		HIRA								
			LEAR	2347.0	2348.0	III		1	30	68	
12	0000	0810	HIRA	0034	0810 D	I	S	1	110	250	
	0000	0750	CULG	0211.0	0734.0	I	S	1	120	160	
	0000	0750	CULG	0357.0	0357.0	III	B	1	35	160	
			CULG	0540.0	0540.0	III	B	1	75	220	
			HIRA	0540.2	0540.8	III	B	1	100	280	
0600	1200		IZMI	0600.0E	1200.00	I	S	2	90X	180U	
0628	1503		ONDR								
			CULG	0636.0	0636.0	III	B	1	50	90	
			HIRA	0636.8	0636.8	III	B	1	70	110	
			CULG	0650.0	0651.0	III	G	1	50	160	
			HIRA	0650.0	0650.9	III	DP	1	50	160	
0700	1500		POTS	0700 E	1500 U	I	S,C,DC	2	50	400	
			POTS	0715.7	0715.8	III	B	1	110U	160	
			POTS	0719.9	0720.2	III	G	1	40X	170U	
			POTS	0720.0	0720.1	V		1	45	50	
			LEAR	0729.0	0730.0	III		2	30	80	
			CULG	0730.0	0730.0	III	B	2	40	200	
			IZMI	0730.2	0731.1	III	G	2	45X	180X	
			POTS	0730.2	0731.1	III	G	2	40X	300	
			HIRA	0730.3	0730.5	III	B	2	40	200	
			LEAR	0741.0	0742.0	III		2	30	80	
			POTS	0741.9	0742.5	III	G	2	40X	400	

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Start Day (UT)	End (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
12		CULG	0742.0	0742.0	III	B	2	35	230	
		HIRA	0742.0	0742.1	III	B	2	40	260	
		IZMI	0742.0	0742.4	III	G	2	45X	180X	
		SVTO	0742.0	0751.0	III		2	35	78	
		POTS	0742.1	0742.5	V		2	40X	65	
		LEAR	0750.0	0751.0	III		2	45	80	
		POTS	0750.8	0754.6	III	GG	2	40X	275	
		HIRA	0750.9	0751.1	III	B	2	30	200	
		IZMI	0750.9	0751.4	III	G	2	45X	180X	
		IZMI	0752.6	0752.9	III	G	2	45	160X	
		LEAR	0754.0	0754.0	III		1	36	55	
		IZMI	0754.1	0755.6	III	G	1	45	150U	
		POTS	0828.2	0841.3	III	GG	2	40X	400	
		LEAR	0834.0	0834.0	III		2	30	80	
		SVTO	0834.0	0834.0	III		1	56	75	
		IZMI	0834.1	0834.4	III	G	3	45X	180X	
		IZMI	0839.1	0839.6	III	G	1	55X	180	
		IZMI	0840.5	0841.2	III	G	1	45X	180X	
		LEAR	0841.0	0842.0	III		1	40	70	
		POTS	0931.7	0941.6	III	GG	1	40X	450	
		IZMI	0939.5	0940.2	III	G	1	45U	90	
		POTS	0939.8	0941.5	DCIM		1	450	800X	
		IZMI	0941.1	0941.5	III	G	2	55X	180	
		POTS	0959.7	1001.8	III	GG	3	40X	800X	
		LEAR	1000.0	1001.0	III		2	30	80	
		SVTO	1000.0	1001.0	V		3	35	85	
		IZMI	1000.1	1001.5	III	GG	3	45X	180X	
		IZMI	1000.4	1001.7	V		2	45	120X	
		POTS	1000.5	1001.4	V		2	40X	80	
		IZMI	1024.5	1030.1	III	GG	2	45X	180X	
		POTS	1025.5	1030.1	III	GG	2	40X	750	
		IZMI	1119.5	1131.1	III	S	1	90X	180U	
		IZMI	1123.9	1125.5	III	GG	1	45X	180U	
		POTS	1130.4	1138.0	III	G	1	40X	750	
		POTS	1211.2	1211.8	III	GG	1	40X	350	
		POTS	1218.5	1218.8	UNCLF		1	400	750	
		POTS	1242.1	1242.3	III	G	1	300	450	
		POTS	1348.0	1349.7	III	G	3	40X	350	
		SGMR	1348.0	1349.0	III		2	30	80	
		SVTO	1348.0	1349.0	V		3	35	85	
		POTS	1348.3	1349.2	V		3	40X	60	
		POTS	1351.7	1356.9	III	GG	2	40X	370	
		POTS	1450.9	1455.3	III	GG	3	40X	600	
		SGMR	1547.0	1548.0	V		2	30	80	
	2045 2400	HIRA	2201.0	2201.2	III	B	1	25	60	
		HIRA	2239.0	2239.2	III	B	1	30	70	
	2020 2400	CULG	2239.0	2239.0	III	B	1	30	70	
13	0000 0805	HIRA	0013	0805 D	I	S	1	130	170	
	0000 0750	CULG	0017.0	0750.0D	I	S	1	140	170	
		HIRA	0527.8	0529.0	III	G	1	70	270	
		CULG	0528.0	0530.0	III	G	1	65	170	
	0630 1501	ONDR								
		POTS	0700 E	1500 U	I	S,C,DC	2	120	350	
	0700 1500	POTS	0700 E	1500 U	III	G	1	120	350	
		POTS	0717.3	0720.5	III	GG	2	110U	300	
		CULG	0718.0	0718.0	III	B	2	60	240	
		HIRA	0718.3	0718.5	III	B	1	60	240	
	0600 1200	IZMI	0718.4	0718.8	III	G	2	60X	180	
		IZMI	0720.2	0720.4	III	G	1	65X	180	
		POTS	0810.0	0810.3	III	G	1	110U	170U	
		IZMI	0822.5	1200.0D	I	N	1	90U	180U	
		POTS	1252.2	1302.0	III	GG	2	110U	375	
	2020 2400	CULG	2210.0	2400.0D	I	S	1	120	180	
	2050 2400	HIRA	2215	2400 D	I	S	1	100	250	
14	0000 0805	HIRA	0000 E	0805 D	I	S	1	110	200	
	0000 0750	CULG	0000.0E	0230.0	I	S	1	120	180	
		LEAR	0219.0	0221.0	III		2	30	80	

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Day	Start End (UT) (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)		
14		HIRA	0219.9	0220.4	III	B	2	25X	500		
		CULG	0220.0	0221.0	III	B	2	18	430		
		PALE	0220.0	0221.0	III		1	25	60		
		CULG	0240.0	0445.0	I	S	1	120	180		
	0632 1500	ONDR									
	0600 1200	IZMI	0910.0	1200.00	I	S	1	90X	180U		
		IZMI	1144.7	1144.8	III	B	2	90	135U		
		SGMR	1351.0	1351.0	III		1	30	80		
		SVTO	1351.0	1351.0	III		2	35	85		
	2050 2400	HIRA									
	2018 2400	CULG	2120.0	2400.00	I	S	1	130	160		
		CULG	2151.0	2153.0	III	G	1	50	85		
	15	0000 0748	CULG	0000.0E	0630.0	I	S	1	130	160	
			CULG	0219.0	0219.0	III	B	1	35	180	
		HIRA	0219.1	0219.1	III	B	1	50	280		
0634 1508		ONDR									
0700 1500		POTS	0700 E	1500 U	I	S,C,DC	2	110U	350		
0600 1200		IZMI	0801.0	1200.00	I	N	1	90U	180U		
		POTS	1332.2	1336.5	III	G	1	150	450		
		POTS	1445.3	1446.5	DCIM	RS	1	200U	400		
2018 2400		CULG									
2050 2400		HIRA									
16	0000 0748	CULG									
	0000 0800	HIRA									
	0636 1453	ONDR									
		POTS	0700 E	1500 U	I	S,C,DC	2	110U	450		
	0700 1500	POTS	0700 E	1500 U	III	G	1	110U	450		
		POTS	0705.8	0706.7	III	G	1	110U	170U		
		POTS	0735.2	0735.7	DCIM		1	250	450		
	0600 1200	IZMI	0800.0	1200.00	I	S	1	90U	180U		
		POTS	1017.5	1018.9	III	G	2	40X	400		
		IZMI	1018.8	1018.9	III	B	2	90	150		
		POTS	1057.9	1101.2	III	G	2	40X	170U		
		POTS	1447.5	1449.1	III	G	2	40X	170U		
	2048 2400	CULG	2018.0E	2234.0	I	S	1	120	280		
	2050 2400	HIRA	2050 E	2400 D	I	S	1	120	280		
	CULG	2247.0	2324.0	I	S	1	125	170			
	LEAR	2344.0	2345.0	III		1	44	53			
17	0000 0800	HIRA	0000 E	0506	I	S	1	140	280		
	0000 0748	CULG	0016.0	0241.0	I	S	1	140	230		
		HIRA	0142.8	0142.8	III	B	1	25	100		
		CULG	0143.0	0143.0	III	B	1	20	140		
		CULG	0446.0	0505.0	I	S	1	160	280		
	0600 1200	IZMI	0614.0	0614.2	III	B	1	45	90X		
	0637 1452	ONDR									
		POTS	0700 E	1500 U	I	S,C,DC	2	110U	350		
	0700 1500	POTS	0700 E	1500 U	III	G	1	110U	350		
		POTS	0752.2	0805.0	III	GG	1	40X	170U		
		POTS	0849.7	0851.8	III	GG	2	40X	350		
		IZMI	0849.8	0850.0	CONT		1	60U	90		
		IZMI	0851.5	0851.7	III	G	1	45U	90U		
		IZMI	0905.00	1200.00	I	N	1	90U	180U		
		POTS	0910.9	0912.1	III	G	1	40X	170U		
		POTS	1042.6	1043.1	III	B,HARM	2	40X	275		
		IZMI	1042.7	1042.8	III	G	2	55	165		
		POTS	1042.8	1043.0	V		1	40X	60		
		IZMI	1057.5	1058.2	III	GG	1	90	162U		
		POTS	1107.1	1108.7	III	GG,RS	2	40X	170U		
		IZMI	1107.4	1108.0	III	G	1	90	110		
		POTS	1143.3	1143.8	III	G	1	40X	275		
		POTS	1328.0	1333.1	III	GG	2	40X	250		
		POTS	1345.1	1403.3	III	GG	3	40X	500		
	SGMR	1402.0	1403.0	III		1	30	80			
	SVTO	1402.0	1402.0	III		2	35	76			
	POTS	1416.5	1425.0	III	GG	3	40X	800X			
	SGMR	1420.0	1423.0	V		2	30	80			

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OBSERVATION		Sta	EVENT		Spectral Class	Event Remarks	Int (1-3)	FREQUENCY		Remarks
Start Day (UT)	End Day (UT)		Start (UT)	End (UT)				Lower (MHz)	Upper (MHz)	
17		SVTO	1420.0	1421.0	V		3	35	85	
		POTS	1420.8	1422.5	V		3	40X	85	
		POTS	1435.4	1436.0	III	G	2	40X	350	
		POTS	1451.8	1453.0	III	G	2	40X	400	
		SGMR	1624.0	1625.0	III		1	30	70	
		SGMR	1649.0	1650.0	III		1	30	75	
2018	2400	CULG								
2050	2400	HIRA								
18		PALE	0043.0	0043.0	III		1	25	60	
0000	0748	CULG	0043.0	0043.0	III	B	1	18	160	
0000	0800	HIRA	0043.2	0043.6	III	B	2	25X	160	
		CULG	0417.0	0417.0	III	B	1	80	440	
		HIRA	0417.3	0417.9	III	B	1	90	320	
		POTS	0700 E	1500 U	III	G	1	110U	400	
0700	1500	POTS	0700 E	1500 U	I	S,C,DC	3	110U	400	
0639	1450	ONDR	0715.0	1403.0	I	N	3	100	450	
		POTS	0722.1	0722.4	III	B	2	110U	170U	
0600	1200	IZMI	0722.3	0722.6	III	G	1	80	165	
		IZMI	0723.0	1200.00	I	S	1	90U	180U	
		POTS	0753.1	0753.3	III	B	2	110U	170U	
		IZMI	0753.2	0753.3	III	B	2	80	175	
		LEAR	0837.0	0837.0	III		1	45	80	
		SVTO	0837.0	0837.0	III		2	62	85	
		POTS	0837.1	0837.5	III	B	2	40X	170U	
		IZMI	0837.2	0837.4	III	B	2	45	160X	
		POTS	0945.9	0946.3	III	B,U	2	40X	170U	
		IZMI	0946.0	0946.2	III	G,RS	2	45	165X	
		SVTO	1009.0	1010.0	III		2	35	85	
		POTS	1017.5	1017.7	III	B	1	40X	65	
		POTS	1105.7	1106.6	III	G	2	40X	400	
		IZMI	1105.8	1106.5	III	G	2	45	150X	
		POTS	1116.0	1116.5	III	G	2	40X	90U	
		POTS	1135.9	1136.1	III	B	1	60	90U	
		POTS	1225.9	1231.5	III	GG	2	110U	450	
		ONDR	1228.9	1231.2	III	GG	3	100	450	
		SVTO	1412.0	1413.0	V		3	36U	81U	
		POTS	1429.3	1429.8	III	G	1	40X	60	
		POTS	1446.3	1447.0	III	G	2	200U	350	
		POTS	1456.1	1456.3	III	B	1	40X	60	
		SGMR	1617.0	1618.0	III		1	30	55	
2018	2400	CULG	2018.0E	2234.0D	I	S	1	80	170	
2050	2400	HIRA	2050 E	2400 D	I	S	2	80	200	
		CULG	2114.0	2114.0	III	B	1	18	45	
		CULG	2256.0E	2334.0D	I	S	2	70	170	
		CULG	2256.0E	2400.0D	I	S	1	70	170	
19	0000 0800	HIRA	0000 E	0800 D	I	S	1	70	170	
0000	0748	CULG	0000.0E	0411.0	I	S	1	70	170	
		CULG	0010.0	0012.0	III	G	1	18	140	
		LEAR	0010.0	0012.0	III		1	30	75	
		HIRA	0010.6	0012.1	III	G	1	25	150	
		CULG	0504.0	0748.0D	I	S	1	100	150	
0600	1200	IZMI	0600.0E	1200.0D	I	S	2	45X	180U	
		CULG	0623.0	0623.0	III	B	1	60	90	
		IZMI	0626.6	0626.7	III	B	1	85U	180	
		CULG	0636.0	0639.0	III	G	1	50	80	
		IZMI	0637.1	0640.1	III	GG	1	45	90U	
		IZMI	0655.8	0655.9	III	B	1	45	90X	
		CULG	0656.0	0656.0	III	B	1	55	85	
		POTS	0700 E	1500 U	I	S,C,DC	2	70	400	
0700	1500	POTS	0700 E	1500 U	III	G	1	70	400	
		IZMI	0730.0	1200.0D	III	N	1	45U	90U	
0641	1447	ONDR	0825.0	1000.0	I	N	3	100	350	
		POTS	1424.5	1424.7	UNCLF		1	40X	70	
		PALE	2056.0	2059.0	III		2	25	75	
		SGMR	2056.0	2058.0	III		2	30	80	
		CULG	2057.0	2105.0	II	FN	3	18	50	ESS 750
2018	2400	CULG	2057.0	2111.0	II	SH	3	18	95	ESS 750



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Start Day (UT)	End Day (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
19	2050 2400	HIRA	2057.0	2115.0	II		3	25X	100	
		CULG	2100.0	2117.0	II	SH	2	25	80	ESS 550
		PALE	2100.0	0220.0	IV		3	25	75	
		PALE	2100.0	2108.0	II		3	25U	42U	ESS 1000
		HIRA	2106.0	2400.0D	IV		2	25	270	
		CULG	2107.0	2300.0D	IV	FS	2	18	180	
		LEAR	2159.0	0000.0	IV		1	40	80	
		CULG	2300.0E	2400.0D	IV	FS	2	25	120	
		CULG	2318.0	2318.0	III	B	1	85	180	
20	0000 0748	CULG	0000.0E	0047.0D	IV		2	25	120	
	0000 0800	HIRA	0000.0E	0235.0	IV		2	25	150	
		CULG	0019.0	0019.0	III	B	1	18	85	
		CULG	0024.0	0220.0	I	S	1	60	85	
		CULG	0047.0E	0238.0	IV		1	30	90	
	0643 1443	ONDR								
	0700 1500	POTS	0700 E	1500 U	I	S	2	110U	350	
		POTS	0706.2	0706.3	DCIM		1	200U	375	
		SVTO	0814.0	0814.0	III		2	35U	76U	
		POTS	1228.0	1238.6	III	GG	3	40X	350	
		SGMR	1237.0	1237.0	III		1	30	80	
		SVTO	1237.0	1237.0	III		2	35	85	
		POTS	1248.0	1253.8	III	GG	2	40X	350	
		POTS	1343.1	1348.1	III	G	1	40X	400	
	2018 2400	CULG								
	2055 2400	HIRA								
		LEAR	2159.0	0650.0	IV		3	30	80	
21	0000 0747	CULG								
	0000 0800	HIRA	0204.8	0204.9	III	B	1	25	190	
		HIRA	0217.2	0217.5	III	B	1	25	220	
	0645 1443	ONDR								
	0700 1500	POTS	0700 E	1500 U	I	S	1	120	400	
		POTS	0704.4	0706.3	III	G,U	2	110U	170U	
	0600 1200	IZMI	0706.1	0706.2	III	G	2	90	165U	
		POTS	0933.3	0933.4	III	RS	1	110U	150	
		POTS	1220.5	1220.8	III	RS	2	110U	325	
		POTS	1245.5	1245.6	UNCLF		1	120	325	
	2018 2400	CULG								
	2055 2400	HIRA								
22	0000 0748	CULG								
	0000 0755	HIRA								
	0700 1200	IZMI								
	0700 1500	POTS	0700 E	1500 U	I	S	1	120	400	
		POTS	0938.4	0938.5	III	B	1	40X	60	
		POTS	1210.3	1210.4	III	B	1	40X	140	
		POTS	1220.9	1221.2	UNCLF		1	110U	135	
		POTS	1237.4	1237.8	DCIM		1	325	500	
		POTS	1319.1	1319.5	DCIM		2	400	550	
		POTS	1319.1	1319.5	III	G	2	125	550	
	0647 1442	ONDR	1319.2	1319.6	III	G	3	200	600	
		POTS	1418.5	1420.0	III	G	1	120	375	
	2017 2400	CULG								
	2055 2400	HIRA								
23	0000 0747	CULG								
	0000 0755	HIRA								
	0700 1500	POTS	0700 E	1500 U	I	S	1	120	375	
		POTS	0802.6	0804.1	III	GG,RS	2	40X	375	
	0649 1437	ONDR	0803.0	0803.7	III	GG	3	100	300	
	0700 1200	IZMI	0803.3	0804.1	III	GG	2	45X	180X	
		POTS	0953.6	0953.8	III	G	1	110U	170U	
		POTS	1028.7	1029.1	III	G	1	110U	170U	
		ONDR	1204.1	1204.6	III	G	3	150	350	
		POTS	1204.1	1205.1	III	G,RS	3	80	400	
	2017 2400	CULG	2058.0	2300.0	III	G	1	57X	130	
	2055 2400	HIRA	2258.7	2300.0	III	G	1	60	150	

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OBSERVATION			Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Start Day (UT)	End (UT)	Spectral Class				Event Remarks	Lower (MHz)		Upper (MHz)		
24	0000 0755	HIRA	0324.8	0325.0	III	B	1	170	400	ESS 4000	
		CULG	0326.0	0330.0	V	B	1	57X	180		
		LEAR	0326.0	0336.0	II		1	35	80		
	0000 0747	CULG	0326.0	0327.0	III	G	3	57X	340		
		HIRA	0326.3	0326.6	III	B	2	50	400		
		HIRA	0326.4	0330.4	V		1	60	180		
		CULG	0330.0	0330.0	III	B	2	135	180		
		CULG	0422.0	0422.0	III	B	1	57X	90		
		HIRA	0422.8	0422.9	III	B	1	60	110		
		CULG	0435.0	0435.0	III	B	1	57X	90		
		HIRA	0435.1	0535.1	III	B	1	60	110		
		HIRA	0447.3	0447.3	III	B	1	100	150		
		CULG	0449.0	0449.0	III	B	1	110	160		
		HIRA	0449.0	0449.0	III	B	1	110	180		
		0651 1436	ONDR								
	0700 1500		POTS	0722.8	0731.1	III	G,RS	2	40X		400
	0700 1200	POTS	0804.8	0805.1	III	G	2	40X	170U		
		IZMI	0804.9	0805.0	III	B	1	60X	90		
		POTS	0835.8	0836.4	DCIM		1	300	550		
		POTS	0843.9	0850.0	III	GG	3	40X	350		
		LEAR	0847.0	0847.0	III		2	30	80		
		SVTO	0847.0	0847.0	III		2	35	85		
		POTS	0847.1	0847.3	DCIM		3	400	600		
		IZMI	0847.3	0849.0	III	GG	2	45X	90X		
		POTS	0900	1500 U	I	S	1	120	170U		
		POTS	0909.8	0912.2	III	G,RS,U	3	40X	400		
		LEAR	0910.0	0911.0	III		1	65	80		
		IZMI	0910.8	0911.4	III	G	2	45X	90X		
		SVTO	0911.0	0911.0	III		1	62	71		
		IZMI	0911.1	0911.4	CONT		1	55	75		
		POTS	0911.2	0911.5	V		2	45	70		
		POTS	0959.7	1000.2	III	G	1	40X	300		
		IZMI	1000.1	1000.2	III	B	1	100	170		
POTS		1037.2	1039.3	III	GG	2	40X	300			
IZMI		1038.9	1039.1	III	G	3	45X	180X			
POTS		1056.3	1056.4	III	G	1	110U	170U			
POTS		1112.1	1112.9	DCIM		1	300	700			
POTS		1207.4	1207.6	DCIM		1	325	400			
POTS		1228.4	1229.2	III	G	2	40X	250			
POTS		1255.0	1257.2	III	GG	3	40X	350			
SGMR		1255.0	1256.0	III		1	30U	60U			
SVTO		1255.0	1256.0	III		2	35	85			
POTS		1327.2	1327.7	III	G	1	110U	170U			
POTS		1420.1	1420.3	UNCLF		1	120	160			
SGMR		1505.0	1513.0	V		3	30	80			
SVTO		1506.0	1513.0	III		3	35	74			
SGMR		1537.0	1537.0	III		1	30	55			
PALE		1859.0	1900.0	III		1	25	55			
SGMR		1859.0	1859.0	III		1	30	50			
PALE	1944.0	1944.0	III		1	25	55				
SGMR	1944.0	1944.0	III		1	30	45				
2100 2400	HIRA										
2017 2400	CULG	2214.0	2225.0	I	S	1	110	150			
25	0000 0747	LEAR	0137.0	0137.0	III		1	30	61		
		CULG	0137.0	0139.0	III	B	1	18	90		
		CULG	0440.0	0440.0	III	B	3	18	250		
	0000 0750	LEAR	0440.0	0441.0	III		3	30	80		
		HIRA	0440.8	0440.9	III	B	2	25X	250		
		LEAR	0625.0	0627.0	III		3	30	62		
		CULG	0626.0	0626.0	III	B	3	18	180		
		SVTO	0626.0	0627.0	III		2	35	85		
		HIRA	0626.7	0626.9	III	B	2	25X	200		
		CULG	0638.0	0638.0	III	B	1	115	170		
		HIRA	0638.4	0638.5	III	B	1	120	170		
		0700 1500	POTS	0700 E	1500 U	I	S	2	110U	400	
		POTS	0718.2	0718.6	UNCLF		1	125	150		
		POTS	0720.3	0727.8	III	G	1	40X	170U		
		HIRA	0738.0	0738.1	III	B	1	25	500		

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OBSERVATION		Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks	
Start Day (UT)	End Day (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)		
25	0700	1200	LEAR	0738.0	0739.0	III		2	30	80	
			CULG	0739.0	0739.0	III	B	1	18	140	
			POTS	0739.0	0754.3	III	GG	2	40X	170U	
			SVTO	0739.0	0739.0	III		2	35	73	
			IZMI	0739.1	0739.3	III	G	2	45	120X	
			POTS	0804.4	0808.8	III	GG	3	40X	300	
			LEAR	0805.0	0807.0	III		3	30	80	
			SVTO	0805.0	0807.0	III		2	36	84	
			IZMI	0805.5	0807.0	III	GG	2	45X	180X	
			POTS	0818.4	0820.0	III	GG	2	40X	170U	
			POTS	0832.4	0837.3	III	G	2	40X	170U	
			LEAR	0836.0	0837.0	III		2	30	80	
			IZMI	0836.9	0837.1	III	G	1	45	135X	
			SVTO	0837.0	0837.0	III		2	35	47	
			POTS	0912.0	0913.7	III	GG	2	40X	170U	
	IZMI	0913.0	0913.6	III	G	2	45X	180X			
	POTS	0941.9	0943.0	III	G	2	40X	300			
	IZMI	0942.0	0942.3	III	G	2	45X	135X			
	POTS	0958 U	1150 U	III	GG	3	40X	800X			
	POTS	0958.8	1002 U	II	FN,H	3	40X	50			
	POTS	0958.8	1150 U	IV	RS,FS	2	40X	800X			
	IZMI	0959.0	1007.0	II		3	45U	90X			
	LEAR	0959.0	1013.0	II		2	30	80	ESS 1600		
	SVTO	0959.0	1019.0	II		3	35	85	ESS 3000		
	POTS	0959.8	1008.4U	II	SH,H	3	40X	80U			
	IZMI	1000.1	1014.5	III	N, RS	2	90U	180U			
	IZMI	1004.0	1012.0	CONT		1	45X	180U			
	0653	1434	ONDR	1006.5	1010.8	DCIM		3	1000	2000	
			ONDR	1008.1	1014.6	DCIM		2	2300	3500	
			POTS	1010.4	1013.5U	II	SH,H	3	40X	60	
			IZMI	1049.1	1050.0	III	G	2	90	135	
			POTS	1049.5	1053.3	III	GG	2	40X	170U	
			IZMI	1052.7	1053.2	III	G	2	90X	180U	
			POTS	1140.0	1145.5	III	GG,U,RS	3	40X	375	
			SGMR	1140.0	1145.0	V		2	30	75	
			SVTO	1140.0	1145.0	III		3	35	85	
			IZMI	1140.2	1141.2	III	GG	3	45X	180X	
			POTS	1140.3	1140.7	V		3	40X	65	
			POTS	1140.8	1141.3	V		3	40X	70	
			IZMI	1144.2	1145.0	III	GG	2	45X	180X	
			SGMR	1231.0	1232.0	III		1	30	50	
			SVTO	1231.0	1233.0	III		2	35	70	
			POTS	1231.2	1232.7	III	G,RS,U	3	40X	375	
			POTS	1247.7	1248.1	III	B	1	40X	170U	
			POTS	1322.3	1323.1	III	G	1	110U	170U	
POTS			1327.0	1335.5	III	GG,RS,U	3	40X	500		
SGMR			1327.0	1335.0	V		2	30	80		
SVTO			1327.0	1335.0	III		3	35	85		
POTS			1327.2	1327.5	V		3	40X	60		
POTS			1331.8	1332.2	V		3	40X	65		
POTS			1348.3	1348.6	III	G	1	40X	140		
POTS			1422.3	1429.3	III	G	2	40X	170U		
POTS	1445.9	1455.3	III	GG	2	40X	400				
SGMR	1453.0	1506.0	III	N	2	30	75				
SVTO	1454.0	1455.0	III		2	36	70				
SGMR	1544.0	1551.0	V		1	30	55				
2017	2400	CULG	2048.0	2122.0	I	S	1	120	170		
		2130	HIRA	2130 E	2400 D	I	S	1	120	200	
		CULG	2323.0	2354.0	I	S	1	120	170		
26	0000	0750	HIRA	0000 E	0600	I	S	1	120	200	
			CULG	0012.0	0012.0	III	B	1	18	150	
	CULG	0137.0	0137.0	III	B	1	30	90			
	LEAR	0137.0	0138.0	III		2	30	63			
	HIRA	0137.7	0138.0	III	B	1	30	80			
	CULG	0138.0	0251.0	I	S	1	120	170			
	CULG	0257.0	0257.0	III	B	1	18	250			
	LEAR	0257.0	0257.0	III		1	30	55			
	HIRA	0257.4	0257.6	III	B	1	50	300			

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OBSERVATION		Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Start Day (UT)	End Day (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
26		CULG	0305.0	0320.0	I	S	1	120	170	
		CULG	0517.0	0517.0	III	B	1	18	40	
		CULG	0625.0	0625.0	III	B	1	30	420	
		HIRA	0625.5	0625.6	III	B	1	40	280	
	0655 1430	ONDR								
		POTS	0700 E	1500 U	I	S,C,DC	2	110U	400	
	0700 1200	IZMI								
	0700 1500	POTS	0700 E	1500 U	III	G	1	110U	400	
		POTS	0840.6	0840.7	III	B	2	135	170	
		POTS	1057.1	1058.7	III	G	2	140	300	
		SGMR	1208.0	1209.0	III		1	30	70	
		SVTO	1208.0	1209.0	III		2	36	77	
		POTS	1208.1	1211.6	III	G	3	40X	170U	
		POTS	1223.3	1223.5	III	B	2	40X	120	
	2017 2400	CULG	2243.0	2243.0	III	B	1	18	75	
	2100 2400	HIRA	2243.9	2244.0	III	B	1	25	70	
27	0000 0747	CULG	0016.0	0159.0	I	S	1	120	160	
		HIRA	0033	0750 D	I	S	1	110	200	
		CULG	0041.0	0041.0	III	B	1	18	90	
		LEAR	0041.0	0041.0	III		2	30	65	
	0000 0750	HIRA	0041.5	0041.6	III	B	1	25	90	
		CULG	0230.0	0620.0	I	S	1	120	180	
		LEAR	0615.0	0908.0	III	N	1	45	80	
		CULG	0620.0	0715.0	I	S	1	65	180	
	0657 1429	ONDR								
		SVTO	0657.0	0926.0	III	N	1	55	85	
	0700 1500	POTS	0700 E	1500 U	I	S,C,DC	2	40X	400	
	0700 1200	IZMI	0700.0E	1200.0D	I	S	1	45X	180X	
		CULG	0715.0	0747.0D	I	S	2	45	160	
		POTS	0749.1	0801.0	III	GG	2	40X	60	
		POTS	0941.9	0942.3	III	G	2	40X	160	
	2017 2400	CULG								
	2100 2400	HIRA								
		LEAR	2227.0	2228.0	III		1	30	55	
28	0000 0745	HIRA								
	0000 0747	CULG	0526.0	0556.0	I	S	1	100	160	
	0659 1428	ONDR								
	0700 1500	POTS	0700 E	1500 U	I	S,C,DC	2	110U	400	
	0700 1200	IZMI	0700.0E	1200.0D	I	S	1	90X	180U	
	2100 2400	HIRA	2129	2340	I	S	2	100	200	
	2017 2400	CULG	2129.0	2148.0D	I	S	1	130	160	
		CULG	2148.0E	2235.0D	I	S	2	100	170	
		CULG	2235.0E	2341.0	I	S	1	130	160	
29	0000 0805	CULG	0022.0	0033.0	I	S	1	125	160	
		CULG	0332.0	0332.0	III	B	1	18	90	
	0000 0745	HIRA	0332.5	0332.7	III	B	1	25	100	
		HIRA	0346.8	0630	I	S	1	120	180	
		CULG	0405.0	0614.0	I	S	1	130	170	
	0700 1200	IZMI	0700.0E	1200.0D	I	N	1	90X	180U	
	0701 1426	ONDR								
		SVTO	0952.0	0952.0	III		2	35	71	
		IZMI	0952.2	0952.3	III	B	2	45	135X	
		IZMI	1052.0	1052.1	III	B	2	120X	180	
		SVTO	1053.0	1054.0	III		2	35	85	
		IZMI	1053.4	1054.1	III	GG	2	45X	180X	
	2017 2400	CULG								
	2100 2400	HIRA								
30	0000 0745	HIRA	0003.1	0003.2	III	B	1	25	50	
	0000 0805	CULG	0124.0	0127.0	III	G	1	70	160	
		CULG	0625.0	0625.0	III	B	1	18X	95	
		LEAR	0625.0	0625.0	III		1	30	58	
		HIRA	0625.3	0625.4	III	B	1	25	100	
	0703 1422	ONDR								
	0700 1200	IZMI	0826.5	1200.0D	I	N	1	90X	180U	
		SVTO	1101.0	1103.0	III		2	35	49	

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OBSERVATION			EVENT				FREQUENCY		Remarks	
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)		Lower (MHz)
30	2016	2400	SVTO	1229.0	1234.0	III		2	38	71
			CULG	2041.0	2114.0	III	N	1	20	100
	2110	2400	CULG	2057.0	2126.0	I	S	2	60	100
			HIRA	2321.0	2321.0	III	B	1	18	80
31	0000	0745	CULG	0051.0	0051.0	III	B	1	18	100
			HIRA	0052.0	0052.2	III	B	1	25	100
	0000	0600	HIRA	0110	0248	I	S	2	50	160
			CULG	0112.0	0245.0	I	S	2	40	160
	0700	1500	LEAR	0126.0	0252.0	III	N	1	30	80
			PALE	0140.0	0252.0	III	N	1	25	75
	0700	1200	HIRA	0305	0600 D	I	S	1	50	160
			CULG	0307.0	0705.0	I	S	1	50	160
	0705	1421	HIRA	0309	0600	III	GG	1	30	140
			CULG	0309.0	0600.0	III	N	1	30	140
	0705	1421	LEAR	0515.0	0535.0	III	N	1	55	80
			POTS	0700 E	1500 U	I	S,C,DC	2	40X	400
	2100	2400	IZMI	0700.0E	1200.0D	I	N	1	90X	180U
			ONDR	0713.8	0713.9	III	G	2	200U	325
	2016	2400	POTS	0751.6	0751.7	III	B	1	40X	70
			POTS	0812.4	0812.5	III	B	2	40X	70
			POTS	0956.3	0956.4	III	B	2	40X	70
			POTS	1046.0	1046.1	III	B	2	40X	90U
			POTS	1209.4	1209.5	III	B	2	40X	70
			POTS	1242.4	1323.3	III	GG	3	40X	300
			SGMR	1312.0	1314.0	III		1	30	55
			SVTO	1312.0	1313.0	III		1	35	43
			POTS	1334.5	1337.6	III	G	2	40X	90U
POTS			1350.6	1404.5	III	G	2	40X	90U	
POTS			1426.3	1428.5	III	G	2	40X	70	
CULG			2250.0	2303.0	III	N	1	20	75	

Event Remarks:

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

Frequency qualifiers:

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

Remarks:

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

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

NOTE:

Until recently, most radiospectrographs spanned only a narrow range of wavelengths. Most radio bursts would exceed this range and so only the broad wavelength range into which they fell could be stated with certainty. Several new radiospectrographs (e.g. Culgoora) cover wide wavelength ranges. This makes it feasible and desirable to record the actual wavelength (or frequency) of each burst. The high resolution of some new instruments also makes it possible to report more detailed information about radio bursts. This might prove particularly useful for bursts associated with terrestrial disturbances (e.g. Type II bursts). For these reasons, a new format for archiving radiospectrograph observations was developed. The new format began with spectral data for July, 1994.

**SOLAR RADIO NOISE STORM AT 164 MHZ  
FROM NANCAY RADIOHELIOGRAPH**

**October 1994**

DAY	HELIOGRAPHIC POSITIONS MEAN VALUES*		IMP**	OBSERVING TIME***	
	E-W	S-N		START (UT)	END (UT)
08/10/94	-1.25	+0.49	1	0753E	1224D
10/10/94	-0.98	+0.31	1	0750E	1550D
11/10/94	-1.39	+0.09	1	0800E	1547D
12/10/94	-1.09	+0.25	3	0752E	1548D
13/10/94	-0.91	+0.13	2	0751E	1547D
14/10/94	-0.60	+0.06	2	0751E	1547D
15/10/94	-0.96	+0.21	1	0743E	1548D
15/10/94	-0.40	-0.11	1	0743E	1548D
16/10/94	-0.27	-0.07	2	0747E	1547D
17/10/94	-0.35	+0.12	1	0820E	1548D
17/10/94	+0.36	+0.00	2	1052	1548D
18/10/94	+0.65	+0.04	4	0751E	1547D
18/10/94	+0.53	+0.07	1	1230E	1547D
19/10/94	+0.86	+0.06	2	0841E	1548D
20/10/94	+0.41	+0.27	1	0750E	1000
20/10/94	+0.41	+0.27	1	1145	1518D
25/10/94	+0.33	-0.25	1	1000	1230
25/10/94	-1.08	-0.42	1	1330	1550D
26/10/94	-1.20	+0.21	1	0750E	1550D
27/10/94	-0.86	+0.02	1	0750E	1550D
27/10/94	-1.12	+0.17	1	0750E	1550D
28/10/94	-0.92	+0.15	2	0750E	1547D
29/10/94	-0.71	+0.29	2	0750E	1550D
29/10/94	-0.45	+0.38	2	0750E	1030
30/10/94	-0.23	+0.12	2	0750E	1549D
30/10/94	-0.07	+0.24	1	0750E	1550D

9, 21 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      IMP 3: 20<FLUX<100 SFU  
IMP 4: 100FLUX<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



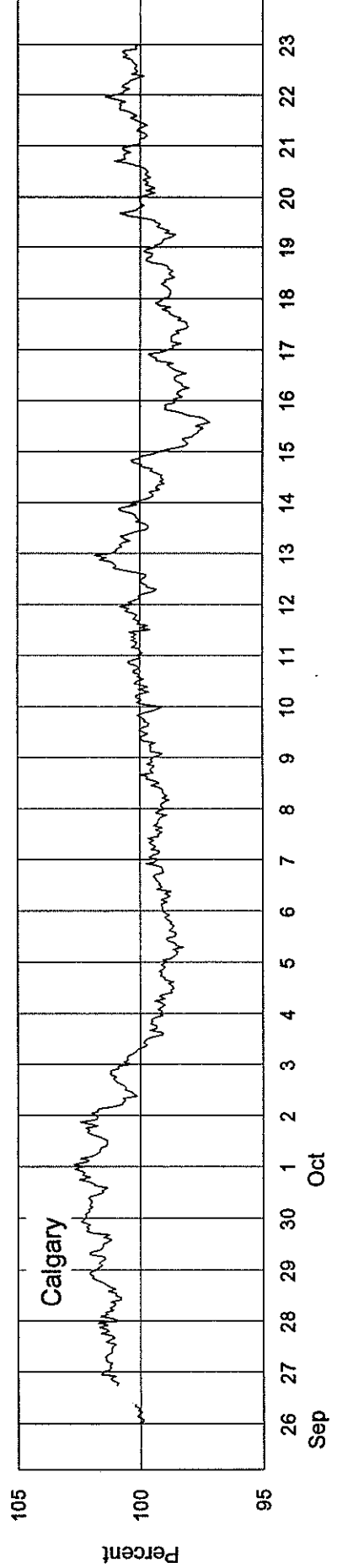
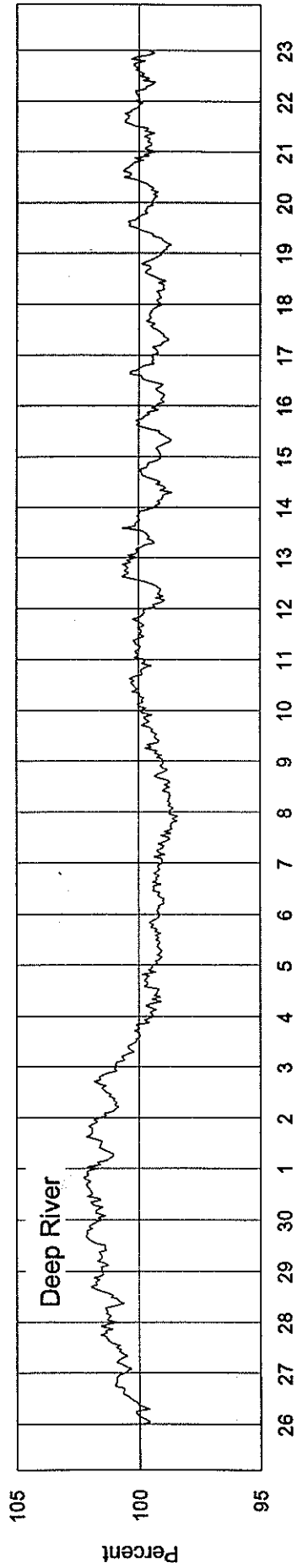
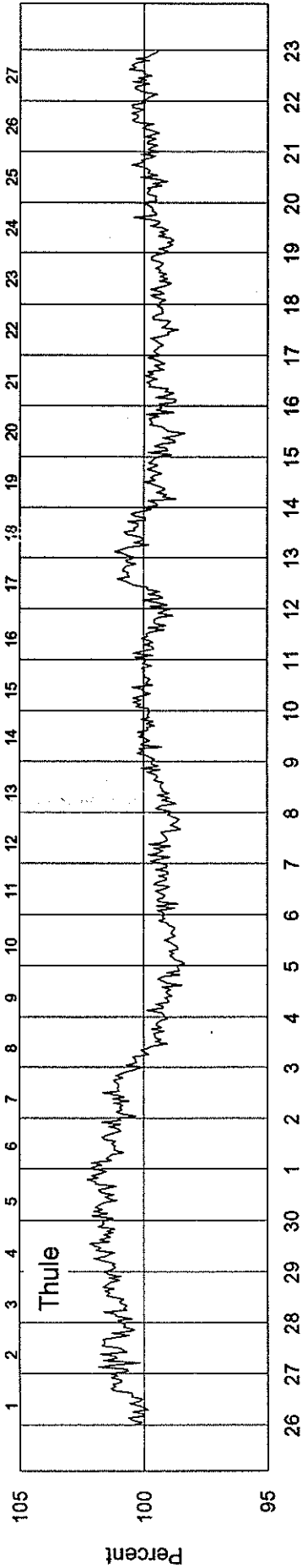
COSMIC RAY INDICES  
(Neutron Monitor)  
OCTOBER 1994

Day	THULE Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	CALGARY Average (cts/h)/300	MOSCOW Average (cts/h)/64	CLIMAX Average (cts/h)/100	BEIJING Average (cts/h)/256	TOKYO Average (cts/h)/256	HALEAKALA Average (cts/h)/1000
1	4541	7221.2	3957.2	9212.8	4199.7	1988.0	3558.8	3568.7
2	4522	7194.2	3920.2	9219.5	4181.1	1990.9	3552.2	3563.5
3	4467	7121.6	3874.8	9127.3	4194.9	2002.0	3557.3	3571.6
4	4437	7065.9	3845.0	9036.2	4121.8(30)	1983.7	3532.6	3544.6
5	4428	7050.2	3833.0	9021.2	4098.2(26)	1977.6	3523.4	3532.8
6	4444	7046.6	3850.5	9017.8	4118.1(32)	1975.5	3524.7	3533.0
7	4439	7023.2	3857.0	8999.3	4118.5(30)	1980.3	3530.7	3544.0
8	4448	7023.4	3857.0	8987.7	4096.0	1976.4	3526.0	3546.0
9	4473	7063.2	3870.3	9036.0	4098.8	1978.3	3527.1	3545.8
10	4479	7100.8	3884.2	9066.7	4114.6	1977.0	3526.4	3551.3
11	4464	7101.8	3889.8	9116.5	4143.6	1979.8	3534.6	3556.3
12	4485	7088.0	3896.7	9151.0	4139.0	1984.3	3526.1	3548.9
13	4495	7098.2	3899.0	9139.4	4131.1	1983.8	3538.8	3548.5
14	4457	7055.1	3867.5	9068.3	4103.9	1974.9	3532.8	3542.3
15	4446	7057.2	3810.3	9059.2	4120.7	1978.5	3531.6	3536.2
16	4453	7064.6	3831.5	9069.5	4116.8	1985.7	3523.2	3529.1
17	4449	7052.5	3830.3	9070.3	4106.5	1984.5	3528.3	3523.2
18	4450	7053.3	3847.7	9107.3	4104.4	1991.0	3534.9	3527.3
19	4451	7071.5	3865.0	9126.4	4111.5	1999.3	3534.5	3536.2
20	4469	7094.3	3885.2	9144.2	4119.6	2009.1	3539.5	3544.6
21	4476	7098.5	3894.7	9126.1	4124.2	2007.9	3549.1	3551.2
22	4481	7095.7	3899.2	9104.9	4110.0	2005.6	3549.2	3548.9
23	4391	7018.8	3847.2	9048.1	4093.3	2003.3	3542.9	3550.1
24	4415	7043.8	3866.0	9063.0	4105.1	2001.6	3557.5	3553.1
25	4470	7107.2	3890.0	9088.2	4130.4	2006.3	3564.2	3557.0
26	4487	7126.8	3899.3	9104.3	4139.0	2007.7	3572.8	3560.8
27	4511	7150.2	3919.7	9165.5	4150.2	2015.0	3571.7	3561.8
28	4530(23)	7171.5	3951.0	9217.7	4168.4	2024.1	3569.8	3563.7
29	4492	7112.2	3931.2	9154.2	4162.7	2023.3	3566.5	3553.2
30	4447	7044.3	3885.2	9100.0	4143.1	2014.0	3554.4	3543.0
31	4438	7040.4	3870.7	9082.5	4123.3	2009.3	3546.0	3537.1
Mean	4466	7085.7	3878.3	9097.8	4128.7	1994.2	3542.8	3547.5

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

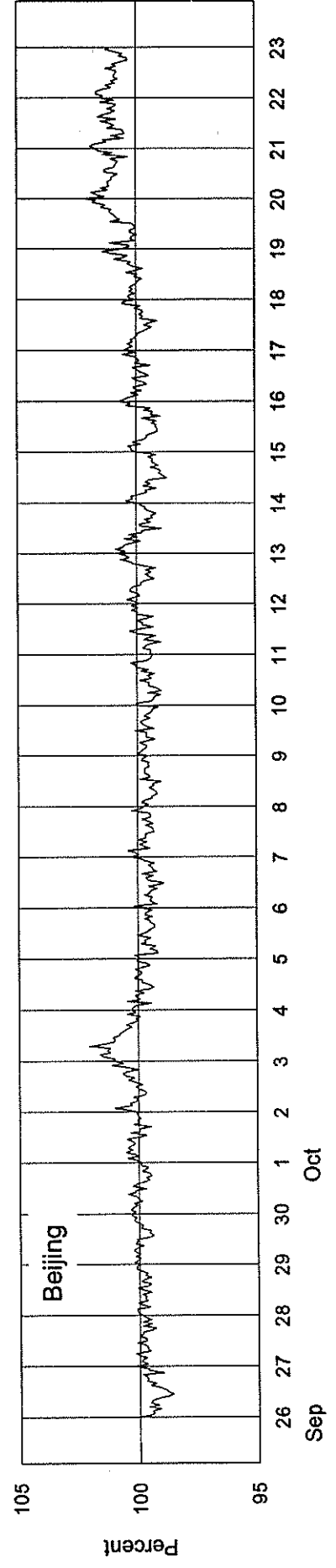
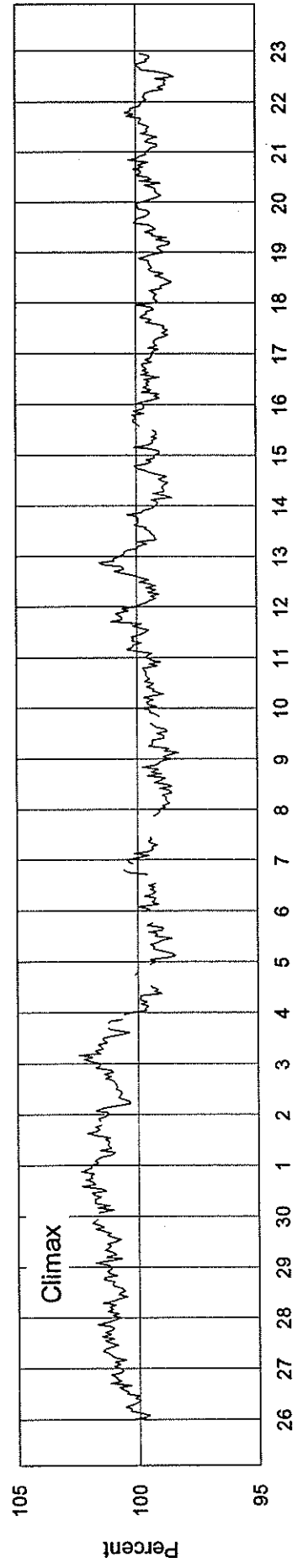
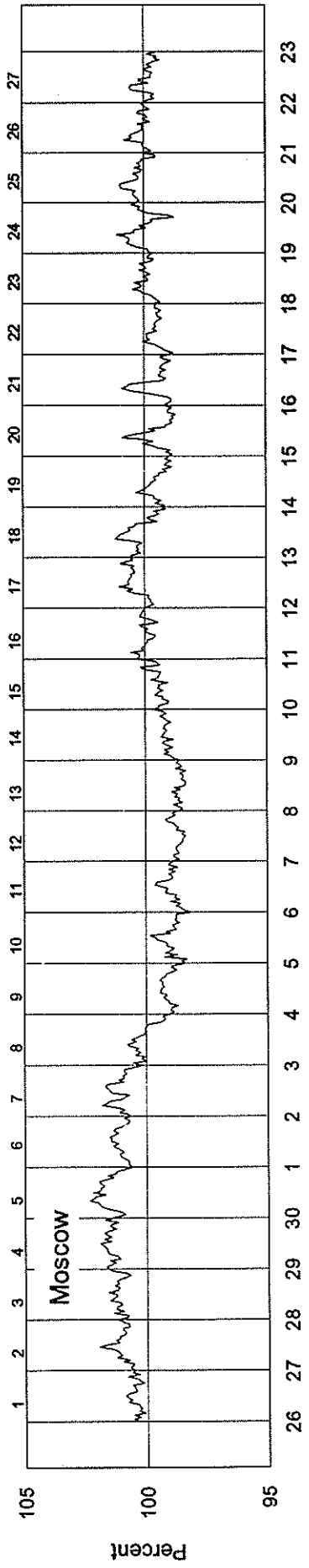
# COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2201 - Beginning 26 Sep 94



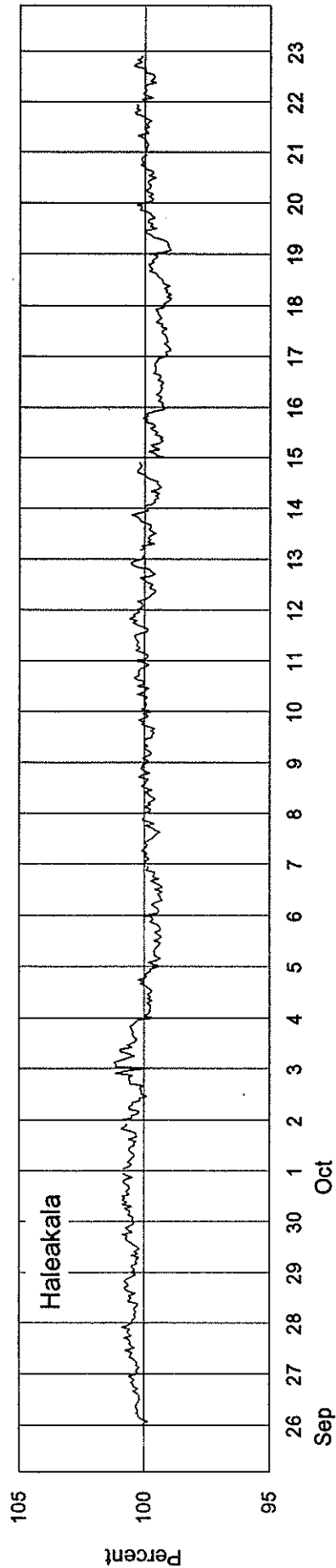
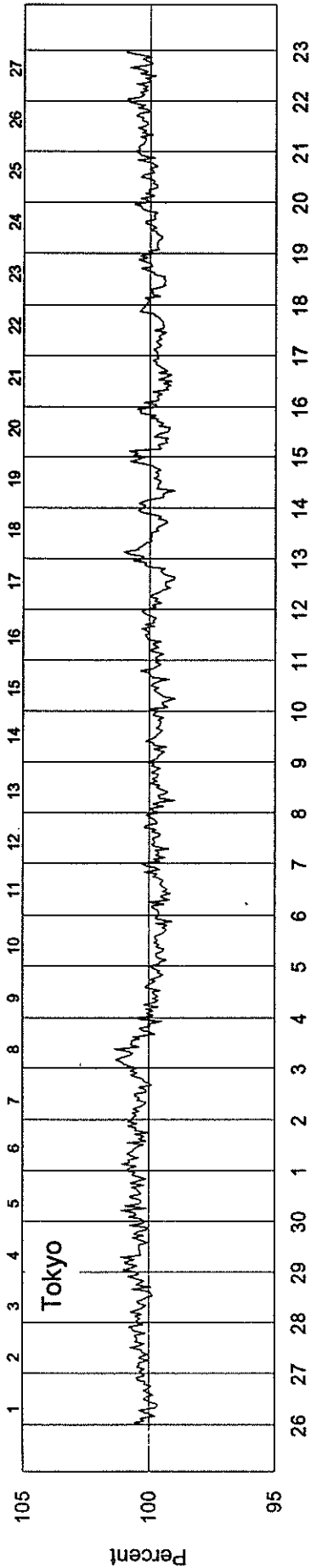
# COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2201 - Beginning 26 Sep 94



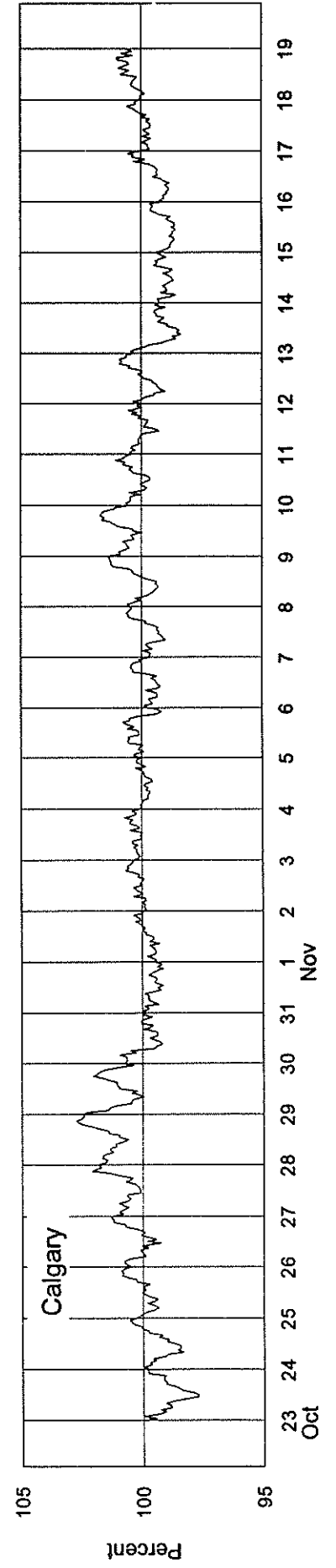
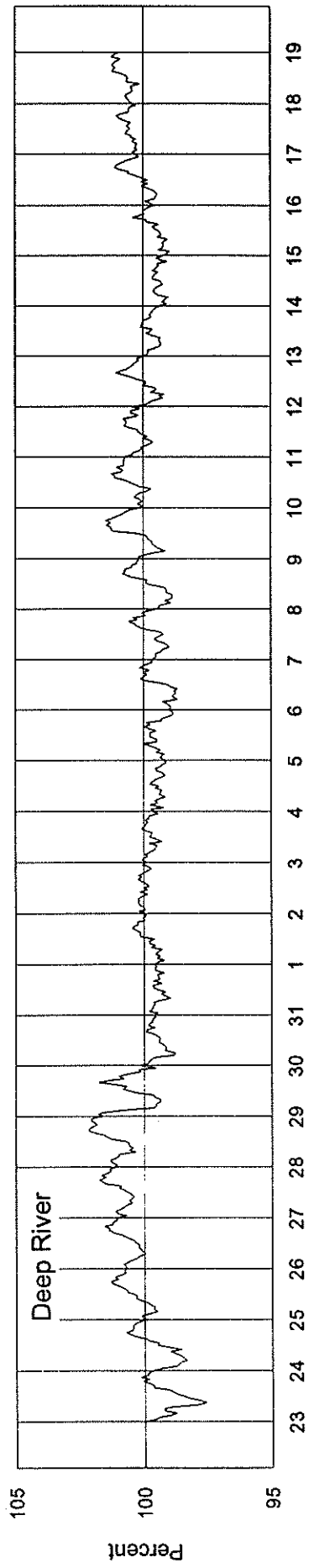
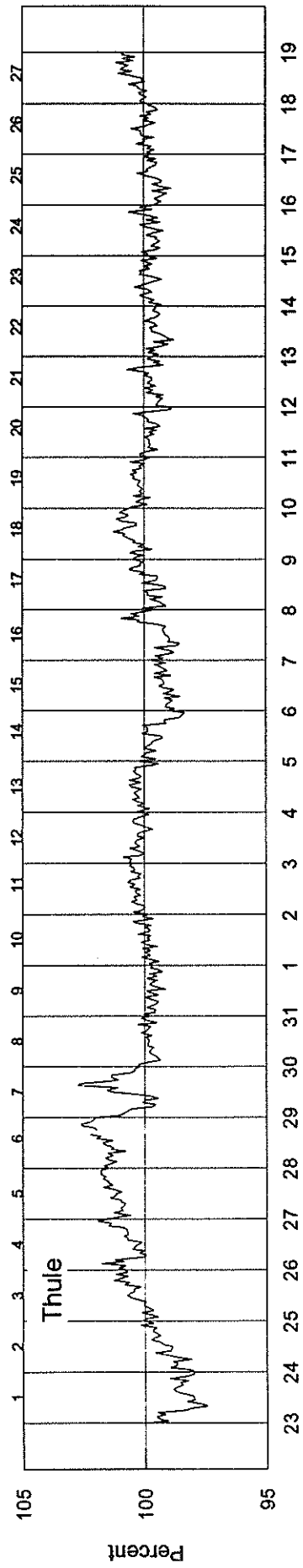
# COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2201 - Beginning 26 Sep 94



# COSMIC RAY INDICES (Neutron Monitor)

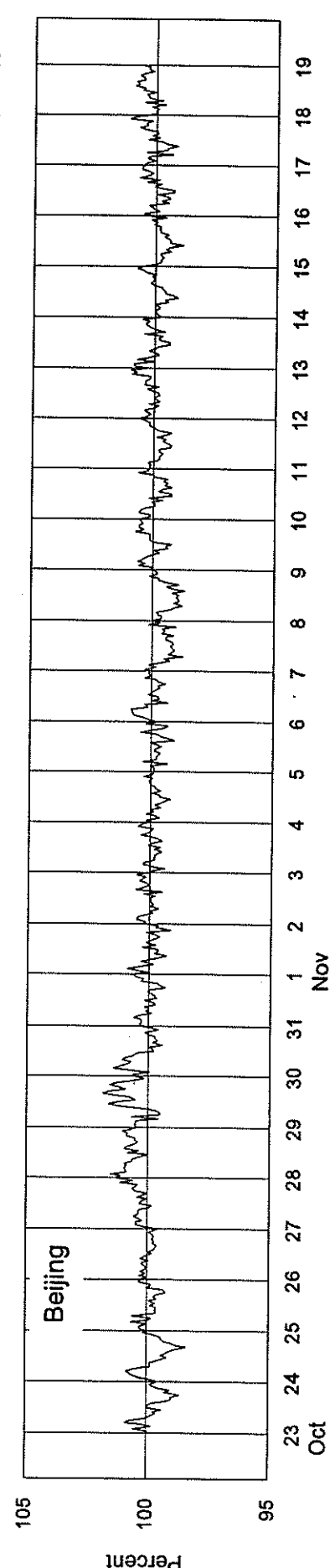
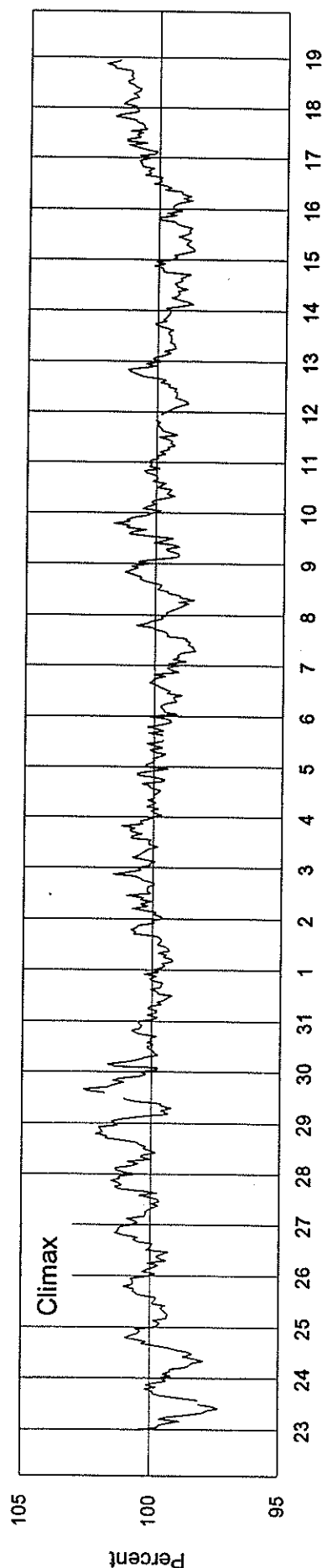
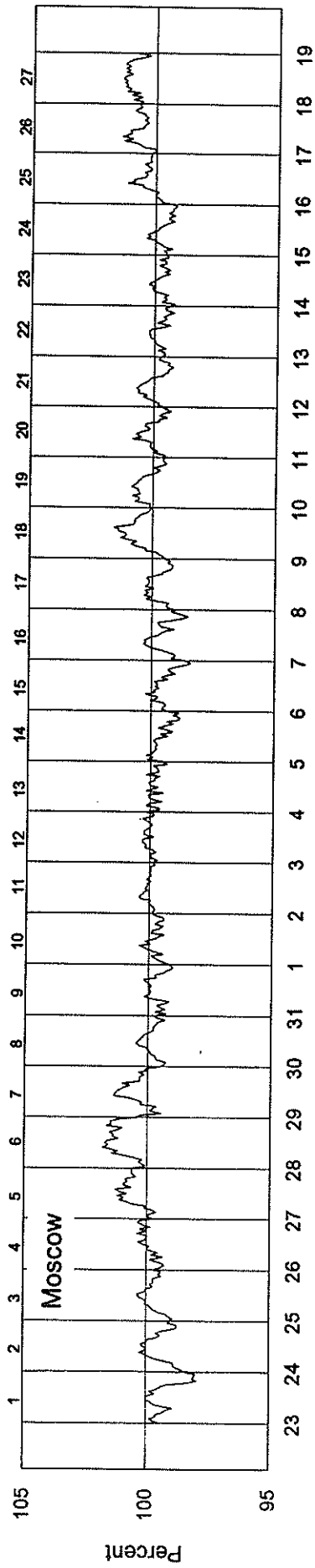
Bartels Rotation 2202 - Beginning 23 Oct 94



# COSMIC RAY INDICES

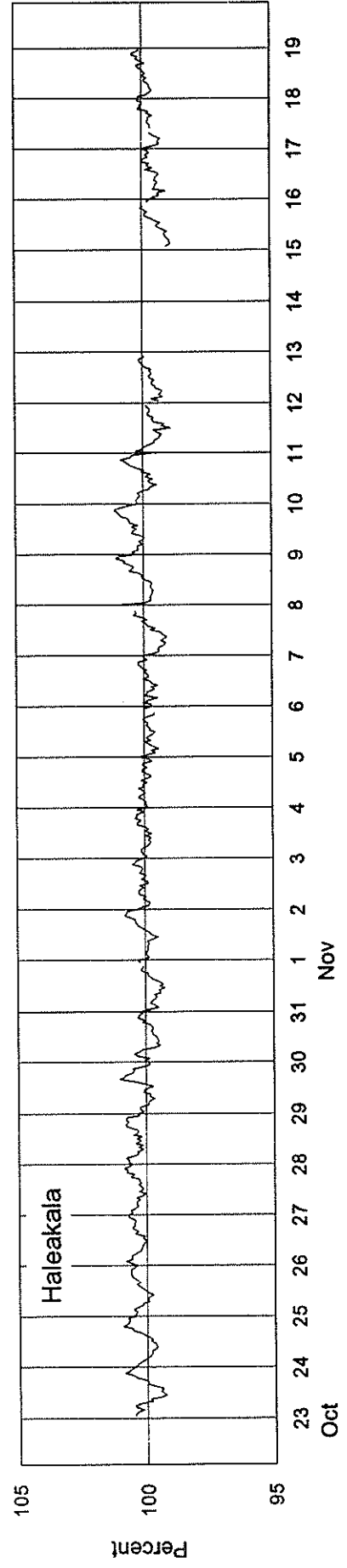
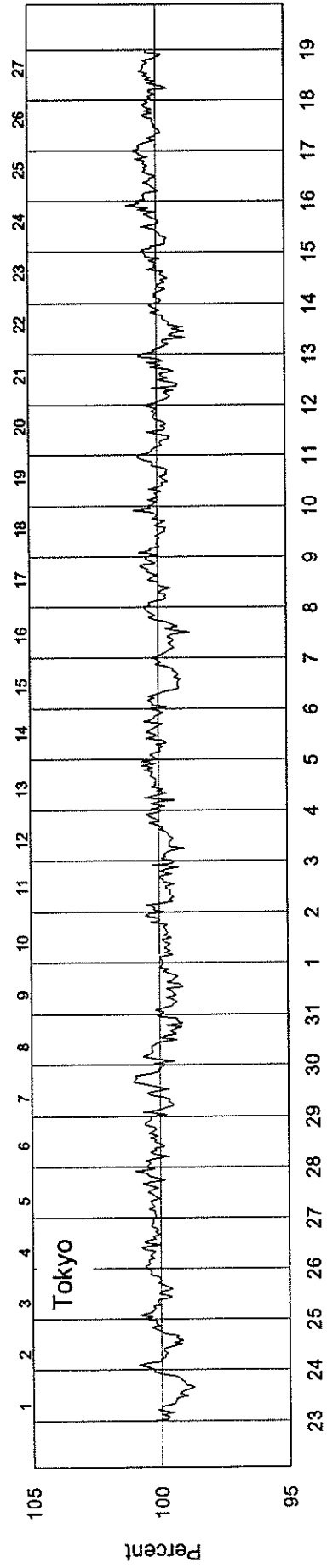
(Neutron Monitor)

Bartels Rotation 2202 - Beginning 23 Oct 94



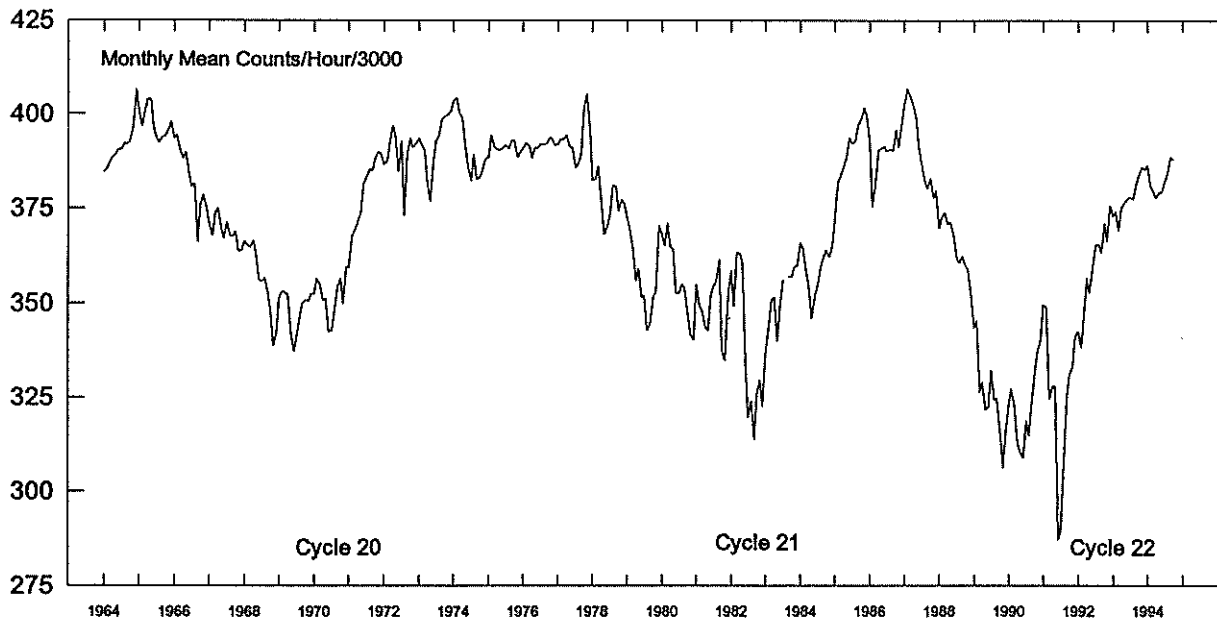


# COSMIC RAY INDICES (Neutron Monitor) Bartels Rotation 2202 - Beginning 23 Oct 94



# Calgary Neutron Monitor Pressure-Corrected Values Jan 1964 - Oct 1994

121  
Oct 94



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1964	3847	3852	3872	3883	3892	3905	3905	3921	3920	3926	3966	4064	3913
1965	4006	3968	4007	4040	4040	3967	3935	3923	3938	3942	3960	3980	3976
1966	3935	3943	3906	3881	3899	3844	3807	3814	3663	3758	3785	3750	3832
1967	3710	3678	3741	3750	3697	3671	3713	3679	3675	3691	3638	3639	3690
1968	3663	3653	3647	3665	3632	3561	3556	3567	3529	3482	3386	3420	3563
1969	3515	3531	3529	3520	3417	3370	3408	3464	3500	3507	3506	3524	3483
1970	3523	3565	3548	3505	3512	3424	3426	3477	3543	3564	3497	3596	3515
1971	3593	3678	3693	3712	3737	3813	3832	3853	3851	3883	3899	3893	3786
1972	3865	3875	3924	3969	3942	3847	3926	3731	3895	3935	3912	3920	3895
1973	3935	3919	3903	3819	3768	3875	3926	3944	3986	3995	3997	4008	3923
1974	4036	4043	4005	3988	3906	3861	3822	3890	3827	3831	3850	3881	3912
1975	3883	3943	3914	3905	3904	3910	3918	3907	3929	3927	3884	3897	3910
1976	3908	3923	3915	3881	3909	3909	3921	3918	3920	3936	3935	3916	3916
1977	3919	3933	3933	3943	3911	3911	3857	3865	3895	4010	4055	3961	3933
1978	3823	3826	3860	3773	3681	3697	3730	3811	3808	3744	3772	3764	3774
1979	3726	3696	3647	3559	3592	3516	3521	3427	3447	3519	3528	3705	3573
1980	3681	3652	3711	3649	3643	3527	3525	3550	3540	3471	3414	3403	3564
1981	3550	3491	3483	3440	3426	3522	3546	3560	3615	3374	3348	3520	3490
1982	3586	3492	3634	3632	3608	3344	3196	3239	3137	3257	3296	3225	3387
1983	3364	3421	3510	3515	3399	3487	3563	No Data	3571	3569	3597	3599	3216
1984	3661	3646	3586	3551	3460	3515	3551	3593	3623	3641	3623	3652	3592
1985	3723	3821	3834	3858	3888	3936	3921	3929	3971	3987	4017	3997	3907
1986	3923	3755	3814	3905	3906	3915	3902	3907	3902	3958	3912	3974	3898
1987	4025	4068	4047	4028	3993	3914	3866	3822	3802	3827	3779	3796	3914
1988	3698	3729	3739	3709	3714	3682	3621	3608	3624	3603	3590	3520	3653
1989	3436	3454	3263	3290	3216	3222	3321	3224	3246	3164	3063	3152	3254
1990	3227	3272	3232	3129	3099	3089	3188	3147	3237	3317	3375	3401	3226
1991	3496	3489	3244	3279	3280	2873	2896	3078	3253	3311	3330	3412	3245
1992	3425	3382	3463	3566	3528	3593	3655	3655	3636	3711	3665	3758	3586
1993	3730	3741	3693	3753	3765	3775	3780	3775	3815	3836	3859	3852	3781
1994	3864	3807	3798	3779	3793	3793	3822	3841	3885	3878			3826

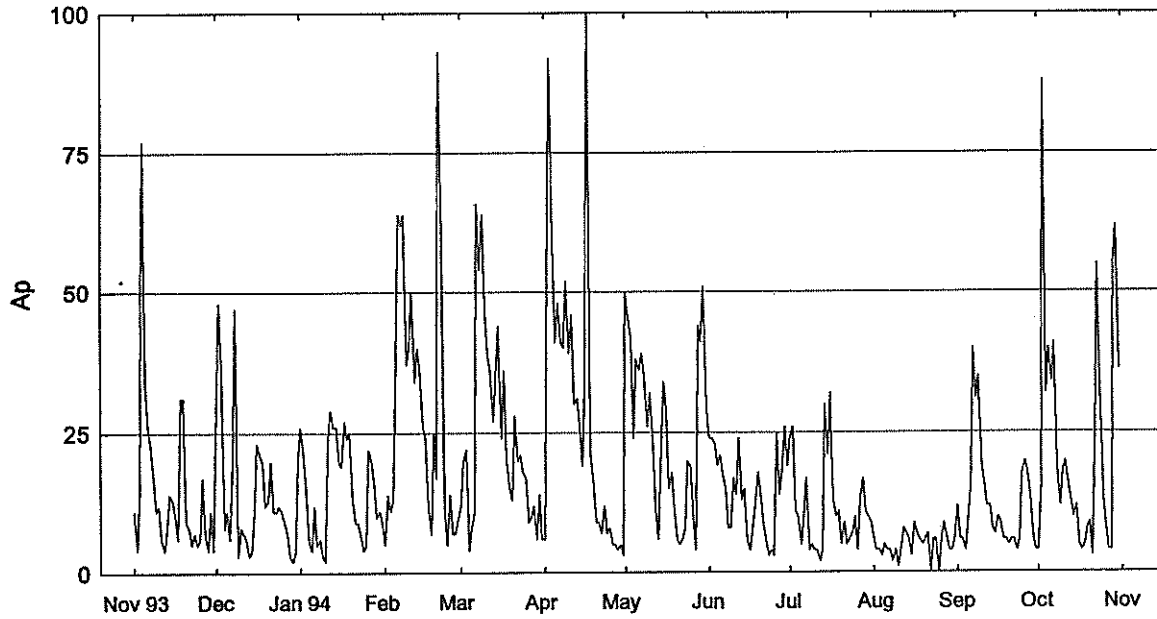
Multiply table entries by 300 to obtain hourly counting rate. Calgary, Canada: N51 W114, Alt=1128m, Cutoff Rigidity=1.09GV.

G E O M A G N E T I C   A C T I V I T Y   I N D I C E S

October 1994

Day	Kp Three-Hourly Indices								Sum	Ap	Cp	Km Three-Hourly Indices								aa Provisional							
	1	2	3	4	5	6	7	8				1	2	3	4	5	6	7	8	Am	H	S	M				
1	q2	2-	1+	1+	1	1-	0+	1-	1-	8-	4	0.1	2-	1+	1+	1+	1-	0+	1-	1-	0	7	9	10	12	7	CC
2		0+	1	1	1+	2-	4	4	5+	18+	16	0.9	0+	1+	1+	0	2-	4	3+	4+	23	32	20	7	45		
3	D1	6+	7	7	6-	7-	6	6-	4-	48	88	1.8	5+	5+	6+	5+	6-	5-	5-	3+	102	99	96	118	77		
4		5-	4+	5-	4-	4+	5-	4	4-	34	32	1.3	4+	4-	4+	4-	4+	4+	3+	4-	48	54	55	49	60		
5		5-	4+	4	5+	5+	5-	5-	4+	37+	40	1.4	4+	4-	3+	4+	4+	4+	4+	4+	54	66	51	54	63		
6		4	4+	5-	5-	5-	4	4-	5	35	34	1.3	4-	3+	4-	4+	4+	3+	3+	4+	48	57	46	46	58		
7	D5	5-	5-	5-	3+	5-	5	5+	5	37+	41	1.5	4-	4-	4-	3+	5-	4+	5-	4+	53	69	48	43	74		
8		4-	4	4-	4	2-	3	4-	2+	26	19	1.0	3+	3+	3+	4-	2-	3-	3+	3-	29	35	23	37	22		
9		3	3+	3	1+	2-	2+	4-	2	20+	12	0.7	2+	3-	3-	1+	2+	2+	3+	1+	19	22	15	17	20		
10		4-	3+	3-	3-	2	3	4	4+	26-	18	1.0	3+	3-	3-	3-	3-	3+	3+	3+	28	34	25	22	37		
11		3	4	3+	4-	3+	3	4+	3-	27+	20	1.0	3-	3+	3+	4-	4-	3+	4-	2+	34	36	29	29	37		
12		3-	4	4-	2+	1+	2-	4	4-	23+	16	0.9	2+	3+	3+	3-	2+	2+	4-	3+	26	28	19	23	24		
13		3-	3	3-	3+	2	3-	3-	3-	22	13	0.7	2+	3-	3-	3+	2-	3-	2+	3-	22	20	22	24	18		
14		3	2+	1-	2	2-	3	2	3	18	10	0.6	2+	2+	1+	2-	1+	3-	2-	3+	16	25	12	14	24		
15		4-	4	2+	3-	2+	1+	2	2	20+	12	0.7	4-	3+	3-	3-	3-	1+	2-	2-	23	24	27	37	14		
16	q7	2	1+	2-	2	1+	1	1	1	11+	5	0.2	2+	1+	2-	2+	1+	1+	1-	1+	10	10	11	13	8	CC	
17	q4	1+	1	0+	1+	1	0+	1+	2	9+	4	0.2	1+	1+	1+	1+	1+	0+	1+	2-	8	9	9	9	9	CC	
18	q6	2-	0+	0+	0+	0	1+	2	3-	9	5	0.2	2-	0+	0+	0+	0+	1+	2+	3-	9	11	5	5	11	CC	
19	q8A	1+	1-	1-	0	2	3-	3	3+	14-	8	0.4	1+	1+	1-	0+	2+	3-	3-	3+	14	16	17	8	24		
20	q10A	3+	1	1	1	2-	3-	3-	2+	16-	9	0.5	3+	1+	1+	1+	2-	2+	2+	2+	16	21	12	13	20		
21	q1	2-	1-	1-	1	0+	0+	1-	1-	6	3	0.1	2-	1-	1-	1+	0+	0+	1-	1-	5	8	5	8	5	C	
22		1-	1-	2	4-	4	4	4-	6+	25	26	1.2	1-	1-	3-	4+	4-	4-	3+	5+	39	42	46	25	63		
23	D3	6	5+	6+	5	6-	4	5-	4	41	55	1.6	5+	5-	5+	5-	5-	4-	4+	3+	75	79	71	97	54		
24		4	5	5-	4-	4-	5+	4	4-	34	33	1.3	3+	4-	4-	4-	3+	4+	3+	3+	42	54	32	37	49		
25		3-	5-	4+	2-	1	1-	2-	1-	17+	13	0.8	2+	4-	3+	2-	1+	1-	2-	1+	17	19	18	30	8		
26	q9A	3+	2+	2-	2-	2-	1	2+	1+	15+	8	0.4	3-	2+	2-	2+	2-	1+	2+	1+	14	16	13	16	13	C	
27	q3	1-	2-	1+	2-	2-	1	1-	1-	9+	4	0.2	1-	1+	2+	2+	2-	1-	0+	0+	9	9	7	8	8	CC	
28	q5	1+	1-	2-	1	1+	0+	1	2	9+	4	0.2	1+	1-	2-	1+	2+	0+	1-	2+	9	11	9	8	12	C	
29	D4	4	3	4	6	7	7	3	3-	37	55	1.6	4-	3-	4-	5+	6+	6+	3+	3+	79	56	79	51	84		
30	D2	3+	5+	7-	6	5+	4+	7-	4+	42	62	1.7	4-	4-	5+	5+	5-	4-	5+	4-	71	79	75	77	77		
31		5-	4-	4+	6-	5-	4+	5-	4-	36-	36	1.4	4-	3+	4-	5+	5-	4+	4+	3+	53	54	51	51	54		
Mean										23	0.87									32.3	35.6	31.0	33.3				
Day	Kn Three-Hourly Indices								An	Ks Three-Hourly Indices								Prov									
	1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8	As	Sa	R1	Ra	Rs	INF				
1	2-	2-	1+	1+	1-	1-	1-	1+	0	8	2-	1+	1+	1+	1-	0+	0+	1-	6	74.7	16	17	19				
2	0+	1+	1-	2-	2+	4-	3+	5-	25	114	5-	1+	1+	1+	1+	3+	3+	4+	22	74.6	16	18	19				
3	5+	6-	6+	5+	6+	5+	5+	3+	52	40	3+	4-	3+	3+	4-	4+	3+	4+	45	74.3	16	19	18				
4	4-	4+	4+	4+	4+	4+	4+	3+	3+	55	4+	4-	3+	3+	4-	4+	4+	4+	52	74.7	25	29	19				
5	4-	4-	3+	4+	5-	4+	4+	4-	55	4+	4-	3+	5-	4+	4-	4+	4+	4+	52	79.4	48	41	24				
6	3+	4-	4+	4+	4+	3+	3+	4+	50	4+	3+	3+	4-	4+	3+	3-	5-	46	84.2	53	54	29					
7	4-	4+	4+	4+	3+	4+	4+	4+	58	3+	3+	4-	3-	4+	4-	5-	4+	48	83.7	46	48	28					
8	3+	3+	3+	4-	2-	3-	3+	3-	31	3+	3+	3-	4-	2-	3-	3-	3-	29	86.0	44	43	31					
9	3-	3-	3-	2-	2+	2+	4-	2-	21	2+	3-	3-	1+	2+	2+	3+	1+	18	86.9	50	50	32					
10	3-	3-	3+	3+	3-	3+	4-	3+	31	3+	2+	3-	3-	2+	3+	3+	3+	26	86.6	49	52	32					
11	3-	3+	4-	4+	4-	3+	4+	2+	38	3-	3+	3+	3+	3+	3-	4-	2+	31	87.2	48	49	32					
12	2+	3+	3+	3+	2+	2+	4-	3+	28	2+	3+	3+	3-	1+	2+	3+	3-	23	87.7	45	44	33					
13	2+	2+	3-	3+	2+	3-	2+	3-	22	2+	3+	3+	3+	1+	2+	2+	3-	21	92.7	45	44	38					
14	2+	2+	1+	2-	2-	3+	2+	3+	17	3-	2+	1+	2+	1+	2+	1+	3+	16	92.1	60	60	37					
15	3+	3+	2+	3+	3-	2-	2-	2-	21	4+	4-	3-	3-	3-	1+	2-	2-	25	92.2	57	56	38					
16	2+	1+	2-	3-	1+	1+	1+	1+	11	2+	2-	2-	2+	1+	1+	1-	1+	10	90.9	51	52	36					
17	1+	1-	1+	1+	1+	0+	1+	1+	8	1+	1+	1+	1+	1+	0+	1+	2-	8	91.0	39	44	36					
18	2-	0+	0+	0+	0+	1+	2+	2+	8	2-	1-	0+	1-	0+	1+	2-	3-	9	89.8	55	51	35					
19	1+	1+	1-	0+	2+	3+	3-	3+	15	1+	1+	1+	0+	2-	2+	3-	3+	14	89.9	56	60	35					
20	3+	2-	1+	1+	2-	3-	3-	2+	16	3+	1+	1+	1+	1+	2+	2+	2+	15	89.3	49	51	34					
21	1+	0+	0+	1-	0+	1-	1-	1-	5	2-	1-	1+	1+	0+	0+	1-	0+	4	87.0	41	38	32					
22	1+	1-	2+	4-	4-	3+	3+	5+	39	0+	0+	3-	4-	4-	4-	3+	5+	40	84.7	29	33	29					
23	5+	5-	6-	5+	5+	4-	4+	3+	81	6-	5-	5-	5-	5-	3+	4-	4-	69	83.3	25	28	28					
24	4-	4+	4-	4+	4-	4+	4-	3+	50	3+	3+	3+	3+	3+	4-	3+	3-	33	81.3	28	17	26					
25	2-	4-	3+	1+	1+	1+	2-	1-	18	2+	3+	3+	2-	1-	1-	2-	1+	16	88.5	31	25	34					
26	3-	2-	2-	2+	2+	1+	2+	1+	15	3-	2+	2-	1+	2-	1+	2+	1+	13	91.5	56	50	37					
27	1-	1+	2+	2+	2+	1-	1-	1-	9	1-	1+	2+	2+	1+	0+	0+	0+	8	91.9	57	56	37					
28	1+	1-	2+	1+	2+	1-	1+	2-	10	1-	1+	1+	1+	2-	0+	1-	2+	8	96.1	57	56	42					
29	3+	3-	4+	5+	6+	6-	3+	3+	78	4-	3+	4-	5+	7-	6+	3-	3+	80	96.9	55	57	43					
30	3+	4+	5+	5+	5+	4+	5+	4-	76	4-	5-	5+	4+	4+	3+	5+	4-	66	96.4	59	56	42					
31	4+	3+	4-	5+	5+	4+	4+	3+	62	3+	3-	3+	5-	4+	4-	4-	3+	45	95.2	51	56	41					
Mean									34.6									30.2	87.1	43.8	43.7	32.1					

# Daily Average Indices Ap Nov 1993 - Oct 1994

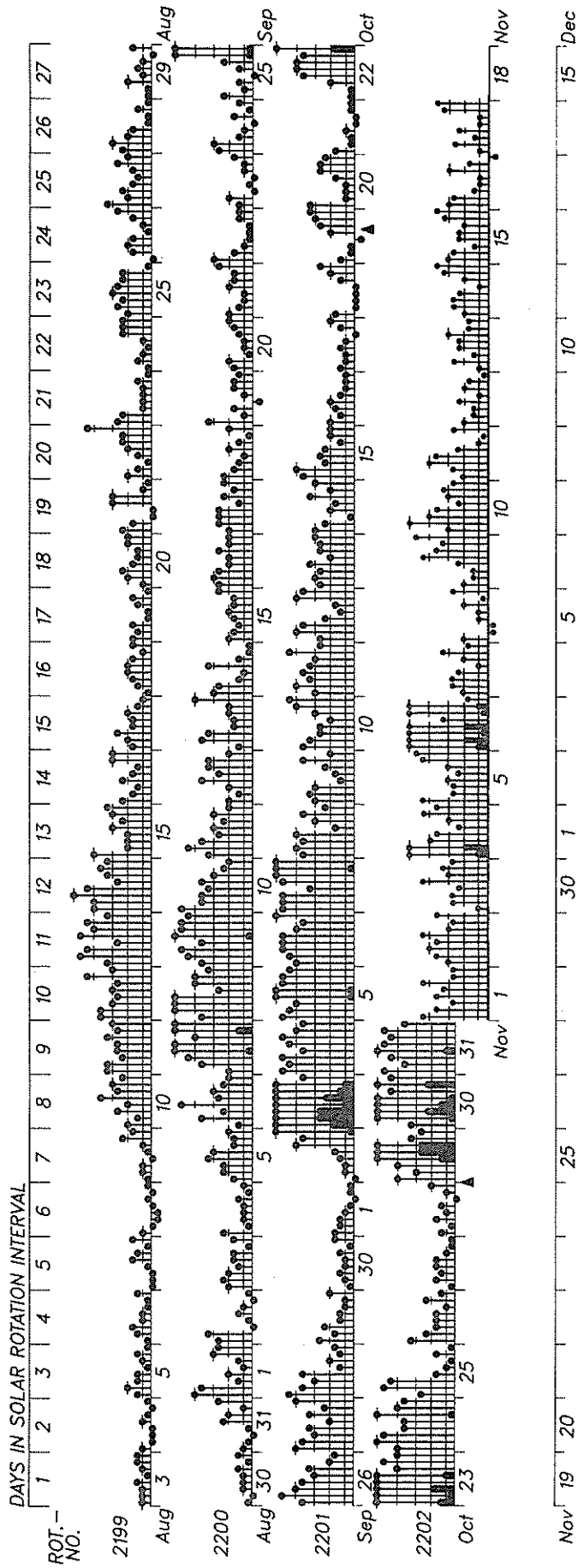


Day	Nov 93	Dec	Jan 94	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	11	29	26	5	12	6	50	24	24	6	12	4
2	4	48	21	14	20	53	46	24	26	4	6	16
3	15	37	15	11	22	92	42	23	11	4	6	88
4	77	8	6	13	4	59	24	19	10	3	4	32
5	34	11	4	32	8	41	38	21	5	5	10	40
6	26	6	12	64	11	48	36	18	10	4	15	34
7	23	20	5	62	66	41	39	15	17	4	40	41
8	17	47	6	64	54	40	35	8	4	2	31	19
9	11	3	3	37	64	52	26	8	5	4	35	12
10	12	8	2	40	47	39	32	17	4	1	19	18
11	6	7	24	50	39	46	25	14	4	4	16	20
12	4	6	29	34	36	30	11	24	2	8	12	16
13	8	3	26	40	27	31	6	13	4	7	12	13
14	14	4	26	36	35	26	19	15	30	6	8	10
15	13	11	20	26	44	19	34	6	21	3	7	12
16	10	23	19	24	24	33	29	4	32	9	10	5
17	6	21	27	12	36	100	15	8	13	7	9	4
18	31	20	24	7	20	21	18	12	10	6	6	5
19	31	12	25	25	15	17	11	18	11	5	6	8
20	9	13	14	17	13	9	6	14	5	6	5	9
21	8	20	9	93	28	9	5	9	9	7	6	3
22	5	11	9	60	20	7	6	6	5	0	6	26
23	7	11	7	12	21	12	8	3	6	6	4	55
24	5	12	4	5	18	7	20	4	7	6	6	33
25	6	11	5	14	17	8	19	3	10	0	18	13
26	17	9	22	7	9	5	10	25	4	6	20	8
27	7	7	20	7	10	5	4	14	13	9	18	4
28	4	3	16	10	12	4	44	18	17	6	14	4
29	11	2	10		6	5	41	26	11	4	6	55
30	4	4	11		14	3	51	19	10	4	4	62
31		20	9		6		29		9	6		36
Mean	15	14	15	29	24	29	25	14	11	8	12	23

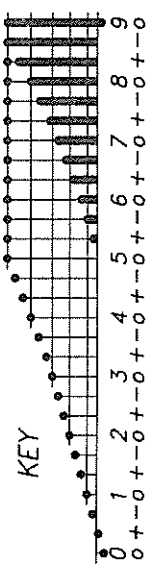
PLANETARY 3-HOUR-RANGE INDICES (Kp) BY 27-DAY SOLAR ROTATION INTERVAL

University of Göttingen

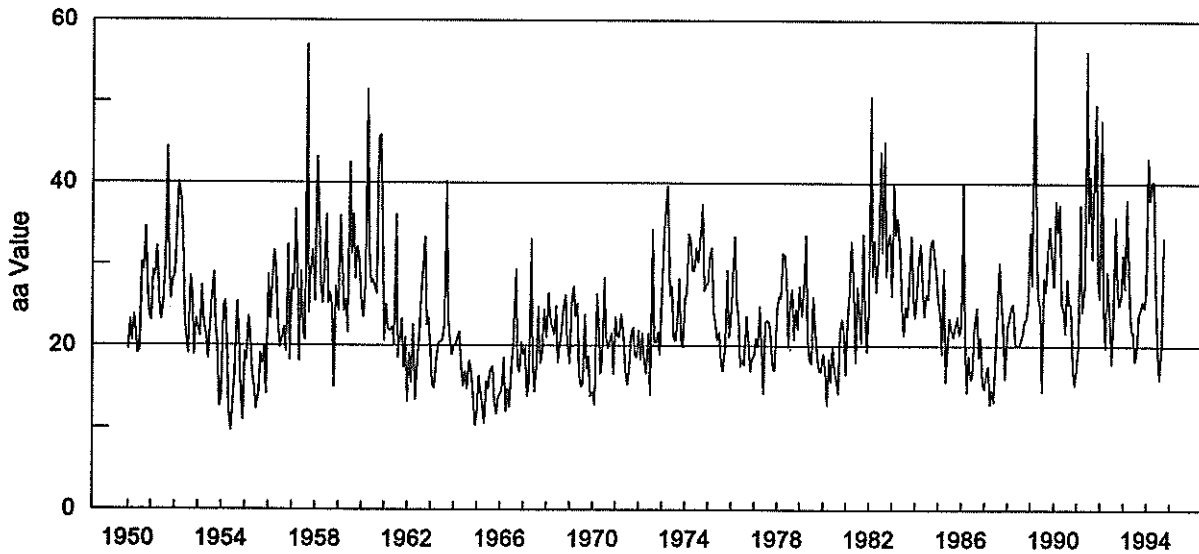
Kp through October 31, 1994



PLANETARY MAGNETIC  
THREE-HOUR-RANGE INDICES  
Kp (after Bartels)  
Kp fill 1994 Oct 31  
Ks (from Wingst and Göttingen) fill Nov 17



# Monthly Mean aa Index Jan 1950 - Oct 1994



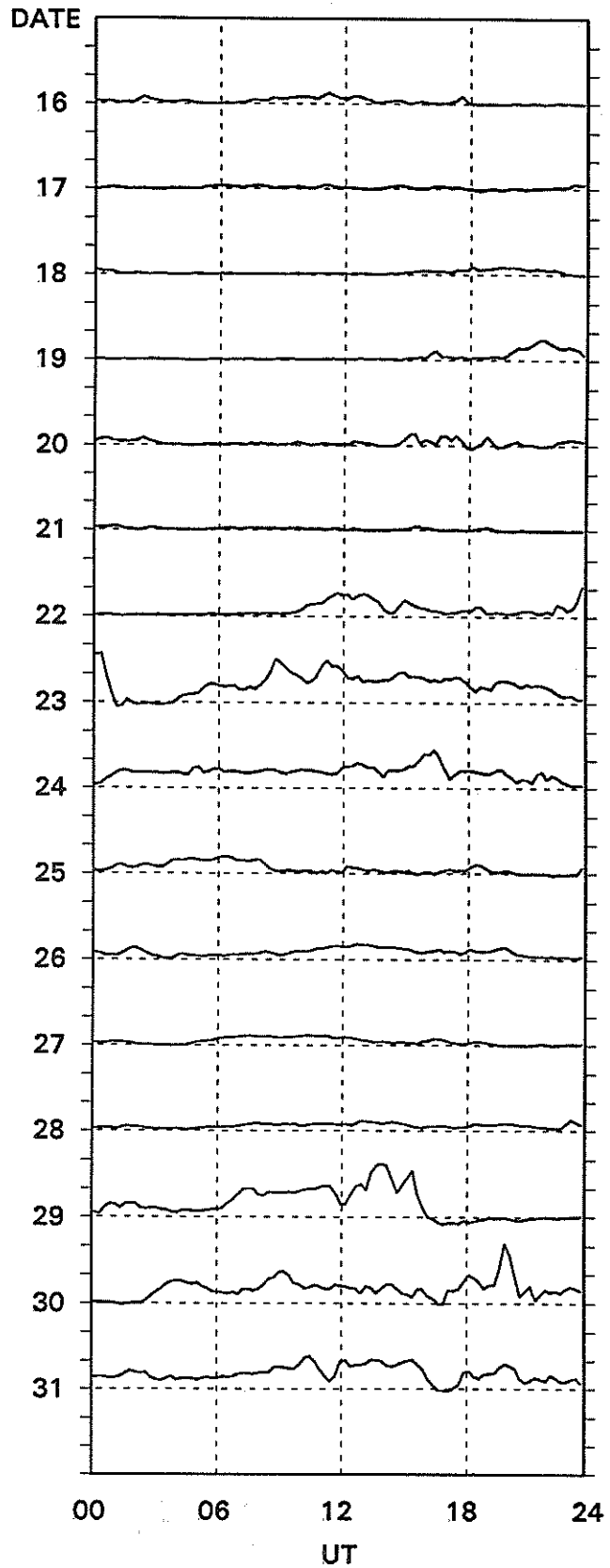
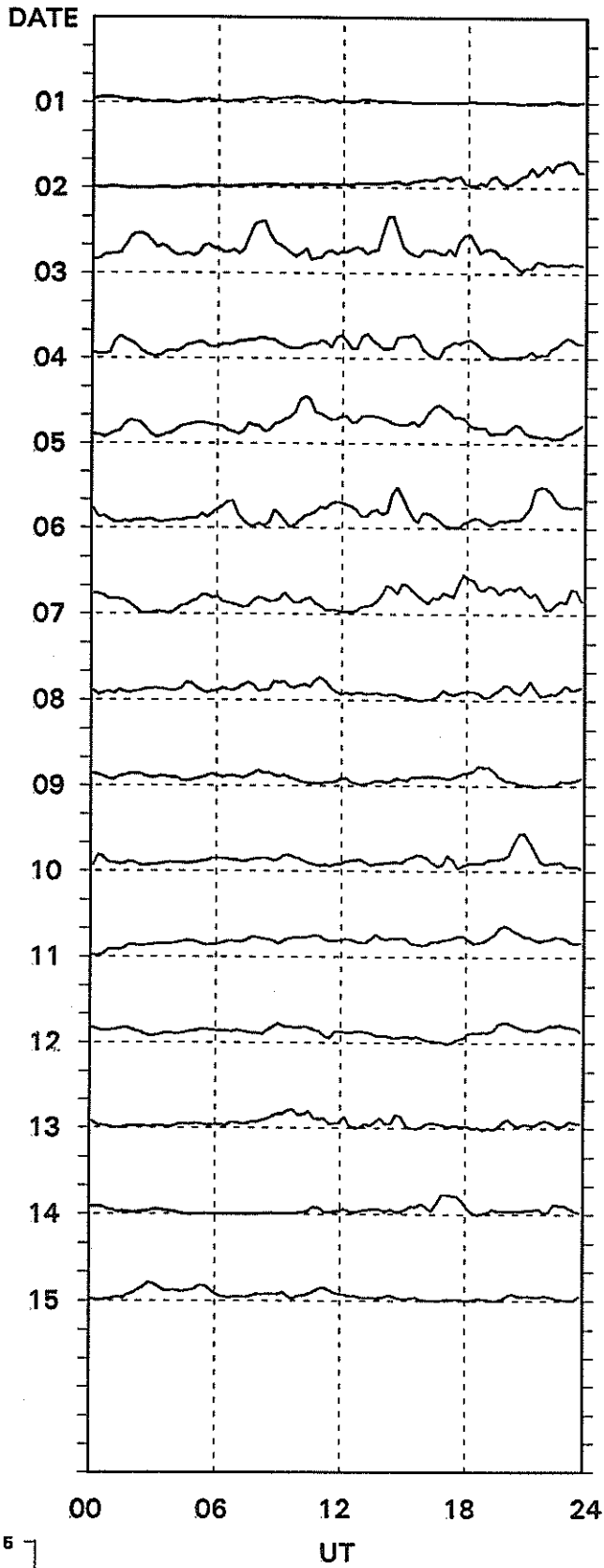
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1950	19.5	23.2	20.6	23.8	21.7	19.0	19.5	30.2	29.3	34.5	28.0	24.0	24.4
1951	23.1	29.2	28.5	32.1	25.5	23.2	25.2	29.7	44.4	30.3	25.7	28.2	28.8
1952	28.5	34.3	40.1	38.0	33.1	23.8	20.7	19.0	28.5	26.4	18.9	23.4	27.9
1953	22.3	21.2	27.4	22.7	21.4	18.4	22.5	26.1	29.0	22.4	20.2	12.6	22.2
1954	13.9	24.5	25.5	20.6	12.0	9.7	13.1	16.5	25.4	21.1	14.5	10.9	17.3
1955	19.3	18.2	23.6	21.1	16.7	15.1	12.3	14.3	19.1	17.8	19.9	14.1	17.6
1956	28.7	23.3	27.6	31.7	29.3	23.5	19.8	20.7	22.4	19.3	32.3	18.2	24.7
1957	28.7	26.8	36.7	28.8	18.1	29.1	21.7	20.7	57.0	24.0	29.5	31.7	29.4
1958	25.5	43.2	36.1	27.6	25.2	29.7	36.0	25.1	26.5	24.7	15.0	27.2	28.5
1959	24.3	35.9	29.9	24.2	25.7	21.6	42.5	31.2	36.1	28.2	32.1	30.8	30.2
1960	25.2	23.5	27.6	51.5	31.6	27.6	28.1	27.2	26.4	45.6	45.9	34.5	32.9
1961	20.6	25.1	22.0	21.8	22.3	20.1	36.0	18.5	20.7	23.3	17.3	21.1	22.4
1962	13.2	19.2	15.5	22.6	13.4	18.1	21.0	26.2	29.8	33.3	22.5	23.5	21.5
1963	19.3	15.3	14.9	18.2	20.4	20.5	20.8	22.5	40.2	23.5	20.7	18.9	21.3
1964	20.1	20.1	21.0	21.7	17.5	15.1	16.9	14.8	18.2	16.9	13.8	10.3	17.2
1965	11.8	16.3	14.3	12.6	10.5	15.7	14.7	16.8	17.5	13.1	11.7	13.8	14.1
1966	14.2	14.8	18.6	12.0	14.8	12.5	17.1	20.0	29.4	17.5	16.8	20.5	17.3
1967	18.9	19.8	13.8	15.5	33.1	18.6	14.4	17.5	24.7	17.8	18.9	24.5	19.8
1968	21.1	26.5	23.3	22.2	21.4	24.9	18.0	20.1	22.0	24.8	26.2	20.3	22.6
1969	17.8	25.8	27.3	23.6	25.2	16.7	15.0	15.3	23.8	17.2	18.7	13.8	20.0
1970	14.4	12.7	26.4	23.1	16.6	18.3	28.4	21.0	19.7	20.6	21.6	16.5	19.9
1971	23.5	21.2	21.1	23.9	21.1	17.0	15.2	17.1	21.4	22.2	18.8	18.6	20.1
1972	21.9	18.3	21.5	18.1	16.6	21.5	14.0	34.2	20.4	20.4	21.8	18.9	20.6
1973	26.1	32.7	36.9	39.6	26.1	27.3	20.9	20.6	22.8	28.2	20.7	19.9	26.8
1974	25.8	26.4	33.7	32.9	29.2	29.2	32.0	30.2	33.7	37.3	26.8	27.5	30.4
1975	27.6	31.1	32.0	24.3	22.7	20.7	21.7	18.1	16.9	20.2	29.3	21.1	23.8
1976	23.3	28.5	33.4	25.4	23.7	17.5	18.4	17.7	23.7	20.4	16.9	18.6	22.3
1977	18.7	21.0	19.9	24.9	20.1	14.2	22.9	23.2	23.0	20.9	17.3	17.0	20.3
1978	24.6	26.2	25.9	31.3	31.2	28.3	19.9	25.6	27.0	20.8	24.6	22.0	25.6
1979	27.3	23.7	26.9	33.5	21.0	18.3	17.9	26.0	22.0	19.3	17.1	16.8	22.5
1980	19.0	17.3	12.7	18.4	15.6	20.0	17.0	15.9	14.2	21.9	23.3	21.7	18.1
1981	16.5	23.1	26.6	32.8	26.9	18.0	27.2	24.0	20.4	33.7	24.1	19.3	24.4
1982	24.2	50.6	28.5	32.9	26.7	32.1	43.9	31.4	45.1	28.5	33.0	33.8	34.2
1983	26.2	40.0	33.6	35.7	31.6	24.9	21.3	24.9	23.7	28.3	33.5	26.0	29.1
1984	23.5	26.7	30.7	32.5	27.2	23.7	26.4	25.8	32.6	33.1	31.0	29.0	28.5
1985	25.7	24.1	19.0	29.5	15.6	19.9	23.4	22.0	21.2	22.2	23.7	21.4	22.3
1986	22.4	40.0	21.1	14.3	18.8	15.9	16.3	22.3	24.7	18.6	21.2	15.3	20.9
1987	14.8	16.6	17.6	12.9	14.7	13.2	19.3	24.3	30.3	25.8	22.4	16.0	19.0
1988	22.4	23.4	24.8	25.2	20.5	20.0	20.2	20.6	21.4	23.2	23.3	25.5	22.5
1989	33.9	27.5	60.1	32.8	25.7	24.9	14.4	28.4	26.7	31.4	34.7	31.4	31.0
1990	27.4	37.8	33.9	37.4	25.1	24.6	21.6	28.2	25.1	25.1	17.4	15.2	26.6
1991	17.2	20.1	37.3	24.3	27.3	56.2	35.2	40.8	30.7	44.1	49.7	28.0	34.2
1992	25.9	47.7	24.5	19.8	29.1	24.8	17.9	24.1	35.8	27.0	25.0	26.1	27.3
1993	31.2	27.1	37.9	29.2	22.1	21.8	18.2	19.2	23.8	24.6	25.5	24.8	25.5
1994	26.5	43.2	37.9	40.2	40.2	27.2	20.6	16.0	20.2	33.3			30.5



# PC-INDEX

Thule

October, 1994



15  
0

Preliminary Values.

15-min. Values.

Div. Geophys. D M I

PRINCIPAL MAGNETIC STORMS

OCTOBER 1994

Sta	Geomag Lat	Commencement			SC Amplitudes			Maximum 3-Hour K Index Day(3-Hour Periods)	Ranges			End		
		Day	Time (UT)	Type	D (Min)	H (Gamma)	Z (Gamma)		D (Min)	H (Gamma)	Z (Gamma)	Day	Hour (UT)	
FRD 49.4N	02	17--	..	..	..	..	03(2,3)	6	28	166	93	12	13	
BJI 28.8N	02	11--	..	..	..	..	03(5)	7	14	191	25	04	19	
KRC 16.4N	02	1044	..	..	..	..	03(3,5,6)	6	81	177	92	03	21	
UJJ 13.6N	02	1700	..	..	..	..		-	6	136	31	04	20	
ABG 09.4N	02	1700	..	..	..	..	02(5,6,8) 03(1,2,3,4) 03(5,6,7) 04(4,5,6)	6	5	120	46	04	20	
HYB 07.6N	02	1000	..	..	..	..	03(3,5,6)	6	5	161	28	04	21	
ETT 00.7S	02	1200	..	..	..	..		-	5	188	117	04	21	
TRD 01.1S	02	1700	..	..	..	..		-	3	188	39	04	20	
PMG 18.3S	02	12--	..	..	..	..	03(4,5)	6	8	160	90	05	00	
HER 33.6S	02	17--	..	..	..	..	03(5,6,7)	5	32	156	102	04	04	
CAN 43.6S	02	17--	..	..	..	..	03(3,4)	6	26	151	73	03	21	
AMS 46.8S	02	1713	SC	-	.6	- 18	03(5)	7	45	214	136	08	12	
CZT 51.5S	02	15--	..	..	..	..	03(5)	6	37	228	138	12	00	
PAF 57.2S	02	16--	..	..	..	..	03(5)	9	108	1053	306	08	13	
DRV 75.2S	02	1713	SC	-	52	- 35	88	03(2)	6	616	712	698	11	06
GUA 04.3N	03	00--	..	..	..	..	03(4)	6	--	--	--	03	21	
KRC 16.4N	04	0736	..	..	..	..	04(6) 05(4,6,7) 06(3,4,8) 07(6,7)	5	90	139	77	08	13	
UJJ 13.6N	05	0900	..	..	..	..		-	5	118	33	07	21	
ABG 09.4N	05	0900	..	..	..	..	05(5,6,7) 06(3,5,8) 07(2,5,6)	5	5	118	41	07	21	
HYB 07.6N	05	0500	..	..	..	..	05(4,5,6) 07(6)	5	5	123	32	07	24	
GUA 04.3N	05	21--	..	..	..	..	06(5)	5	--	60	40	06	17	
ETT 00.7S	05	0100	..	..	..	..		-	5	177	74	08	12	
TRD 01.1S	05	0900	..	..	..	..		-	3	174	90	07	21	
HER 33.6S	05	08--	..	..	..	..	05(7)	5	21	92	69	06	01	
HER 33.6S	06	17--	..	..	..	..	06(8)	5	10	69	54	07	02	
GUA 04.3N	07	13--	..	..	..	..	07(5)	5	--	50	10	07	17	
HER 33.6S	07	13--	..	..	..	..	07(7)	5	22	62	66	08	01	
GUA 04.3N	11	09--	..	..	..	..	11(5)	5	--	40	10	11	17	
HYB 07.6N	12	1729	SC	-	0.2	8	0	12(7) 13(2,4)	4	3	78	22	14	04
ETT 00.7S	12	1728	SC	-	0.5	11	7		-	4	129	35	14	04
HYB 07.6N	19	1451	SC	-	0.2	12	- 1	19(7)	4	4	62	20	20	22
ETT 00.7S	19	1451	SC	-	0.3	15	13		-	4	143	38	20	21
FRD 49.4N	22	08--	..	..	..	..	22(8) 23(1,3)	6	40	113	74	25	12	
BJI 28.8N	22	0848	SC	..	0.8	14	0	22(8)	6	13	136	28	23	24
KRC 16.4N	22	0848	..	..	..	..	23(5,7)	6	78	145	98	23	23	
UJJ 13.6N	22	1210	SC	-	1	38	- 28		-	4	102	23	23	21
ABG 09.4N	22	1210	SC	-	1	32	- 12	22(4,5,6,8) 23(1,2,5,6,7)	5	3	108	27	23	21
HYB 07.6N	22	0849	SC	..	0	12	- 2		-	--	--	--	--	--
HYB 07.6N	22	1215	SC	-	0.9	30	- 2		-	--	--	--	--	--
GUA 04.3N	22	08--	..	..	..	..	22(4)	5	--	60	10	22	20	
GUA 04.3N	22	21--	..	..	..	..	23(1)	6	--	150	30	23	21	
ETT 00.7S	22	0849	SC	..	0.0	12	10		-	--	--	--	25	13
ETT 00.7S	22	1215	SC	-	1.3	29	32		-	6	170	65	25	13
TRD 01.1S	22	1210	SC	-	1	35	- 47		-	3	167	84	23	21
PMG 18.3S	22	08--	..	..	..	..	23(2)	6	7	140	80	24	00	
HER 33.6S	22	08--	..	..	..	..	23(1)	6	31	74	105	23	02	
CAN 43.6S	22	08--	..	..	..	..	22(4,8) 23(1,2,3,4)	5	16	138	59	23	20	
AMS 46.8S	22	09--	..	..	..	..	22(8) 23(1,5)	5	29	116	96	25	00	
CZT 51.5S	22	06--	..	..	..	..	22(8) 23(1,5) 24(5)	5	29	136	96	25	09	
PAF 57.2S	22	09--	..	..	..	..	23(1)	7	49	451	51	24	23	
DRV 75.2S	22	0850	SC	..	20	16	- 42	23(1)	6	450	673	614	25	15
FRD 49.4N	29	0025	SC*	..	3	27	6	29(5)	6	26	197	69	03	01
BJI 28.8N	29	0025	SC	..	0.2	23	1	29(4)	7	18	230	32	29	24
KRC 16.4N	29	0024	SC	-	2.7	43	27	29(4,5,6)	7	66	260	100	31	21
UJJ 13.6N	29	0024	SC	-	1	29	- 8		-	7	247	27	30	21

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Oct 94

PRINCIPAL MAGNETIC STORMS

OCTOBER 1994

Sta	Geomag Lat	Commencement		SC Amplitudes			Maximum 3-Hour K Index Day(3-Hour Periods)	Ranges			End Hour Day (UT)	
		Day (UT)	Type	D (Min)	H (Gamma)	Z (Gamma)		D K (Min)	H (Gamma)	Z (Gamma)		
ABG 09.4N	29	0024	SC	- 1	32	- 12	29(1,3,4,5,6) 30(1,3,5,6,7)	7	6	268	34	30 21
HYB 07.6N	29	0025	SC	- 0.9	29	- 2	29(4,5,6)	7	6	288	33	31 22
GUA 04.3N	29	0025	SC*	.. -	27	- 9	29(4)	7	--	250	40	29 22
ETT 00.7S	29	0025	SC	- 1.0	25	26		-	8	317	99	30 22
TRD 01.1S	29	0024	SC	- 1	24	- 31		-	4	307	133	30 21
PMG 18.3S	29	0025	SC*	- 0.7*	32	27	29(4)	7	11	230	120	31 23
HER 33.6S	29	0026	SC	2	34	24	29(5,6)	6	45	228	178	31 03
CAN 43.6S	29	0026	SC*	- 2.7*	- 3	10	29(5)	7	28	200	89	29 18
AMS 46.8S	29	0025	SC	4	13	- 14	29(6)	6	45	208	208	03 00
CZT 51.5S	29	0625	SC	6	30	--	29(6)	8	76	460	244	04 03
PAF 57.2S	29	0025	SC*	- 5 *	8	--	29(5)	9	119	985	489	06 23
DRV 75.2S	29	0025	SC	-132	136	40	30(1)	7	648	847	936	07 09
BJI 28.8N	30	01--	..	..	..	..	30(3)	5	12	126	21	30 24
GUA 04.3N	30	01--	..	..	..	..	30(2)	5	--	150	20	30 16
CAN 43.6S	30	01--	..	..	..	..	30(3)	6	25	110	56	31 22
GUA 04.3N	31	07--	..	..	..	..	31(5)	5	--	60	10	31 17

Stations:

ABG = ALIBAG	CZT = PORT ALFRED	HER = HERMANUS	PMG = PORT MORESBY
AMS = MARTIN DE VIVIES	DRV = DUMONT D'URVILLE	HON = HONOLULU	SHL = SHILLONG
ANN = ANNAMALAINAGAR	ETT = ETAIYAPURAM	HYB = HYDERABAD	SIT = SITKA
BJI = BEIJING	FRD = FREDERICKSBURG	JAI = JAIPUR	TRD = TRIVANDRUM
CAN = CANBERRA	GNA = GNANGARA	KRC = KARACHI	UJJ = UJJAIN
CMO = COLLEGE	GUA = GUAM	PAF = PORT AUX FRANCAIS	

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

OCTOBER 1994

Storm Sudden Commencements (SSC)			Solar Flare Effects (sfe)		
Day	Time	Quality: Station Group*	Day	Begin-End	Station(s)
02	1712	C: BDV* COI* QUE* MPO AMS DRV	02	0432-0436	MPO
12	1727	B: WNG* HRB* QUE MPO	02	1434-1442	QUE
		C: BDV* GCK BJI HYB	05	0708-0714	MPO
		-: ETT	07	0309-0315	MPO
19	1452	A: TEN	07	0533-0539	MPO
		B: LER* ESK* WNG* HRB GCK AQU COI	12	0345-0349	MPO
		BJI QUE MPO	12	0439-0448	MPO
		C: NGK HAD* DOU BDV CLF SPT HYB CNB	17	1046-1054	BDV
		-: ETT	18	2036-2042	MPO
22	0849	A: COI	21	1058-1107	BDV
		B: LER* ESK* WNG HRB NAG BJI SPT TEN	22	1148-1154	MPO
		C: HAD* BDV CLF GCK EBR HYB MPO DRV	22	1705-1709	MPO
		-: ETT	22	1751-1756	MPO
29	0025	A: HRB* NAG* GCK AQU COI BJI SPT	25	0409-0415	MPO
		QUE TEN LNP HYB HER	30	0930-0939	QUE
		B: LER ESK WNG* NGK DOU* BDV* EBR*			
		FRD* KAK* KNY* CNB* AMS PAF*			
		C: CLF DRV			
		-: ETT			

**REPORTING OBSERVATORIES** (up to the 2nd of December):

SOD DOB NUR LER ESK WNG NGK HAD DOU BDV CLF HRB NAG GCK MMB AQU EBR COI BJI SPT  
FRD KAK KNY QUE TEN LNP HYB ETT MPO HER CNB AMS CZT PAF DRV

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



**WORLD DATA CENTER A**  
**FOR**  
**SOLAR-TERRESTRIAL PHYSICS**



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

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