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Solar-Geophysical Data prompt reports

Data for October, September 1994, and Late Data

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SOLAR-GEOPHYSICAL DATA

Number 603

(Issued in Two Parts)

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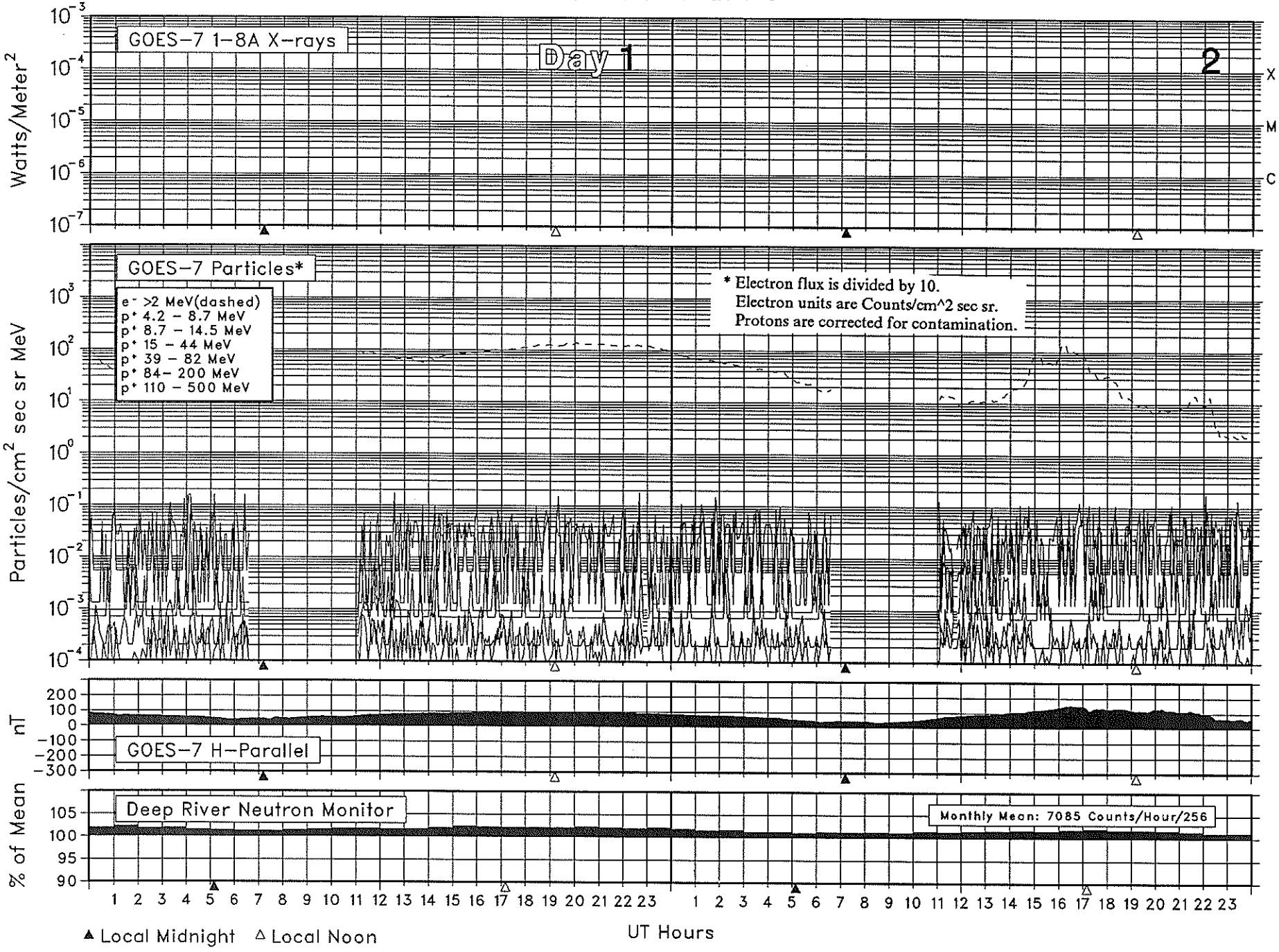

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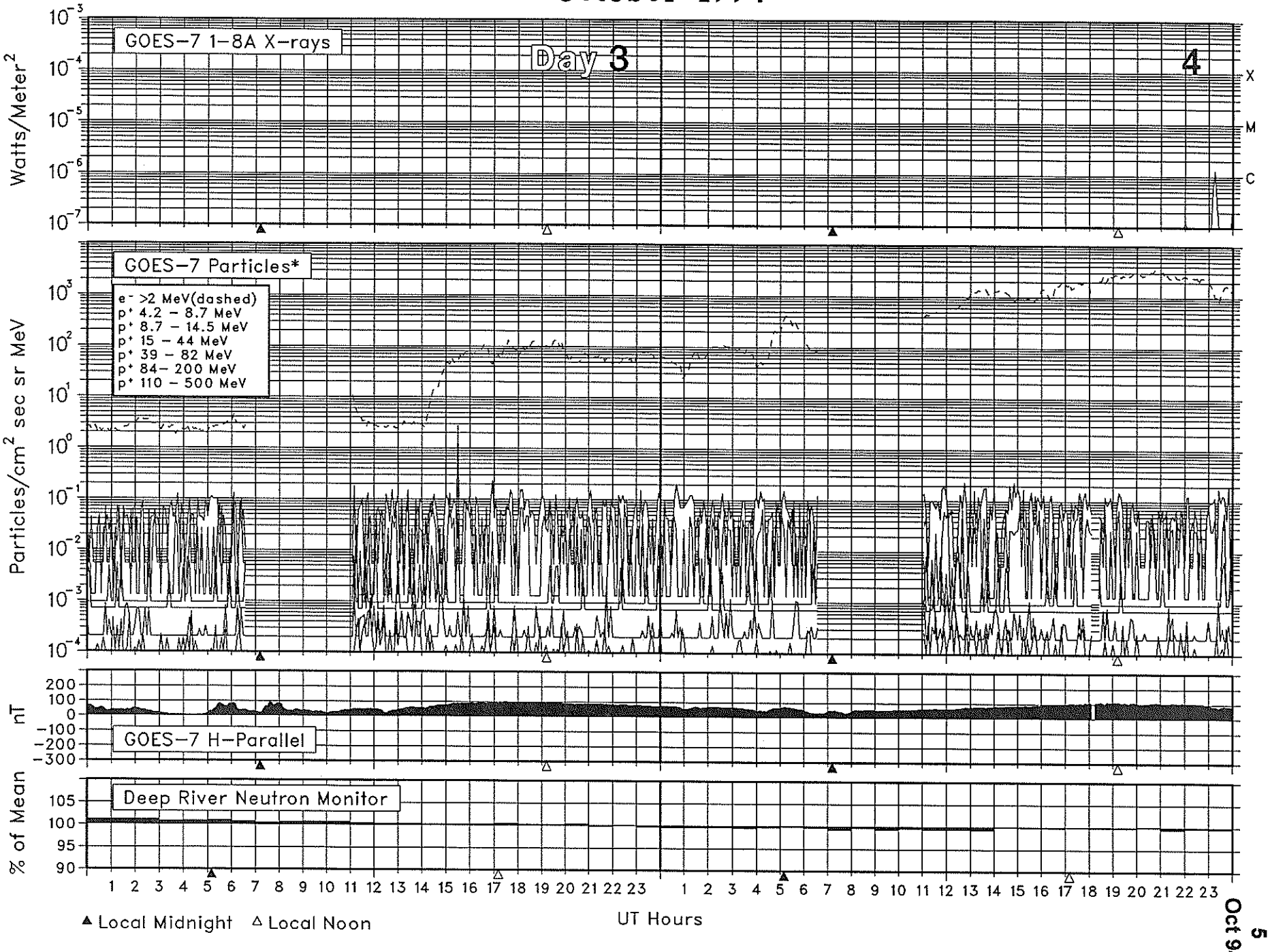

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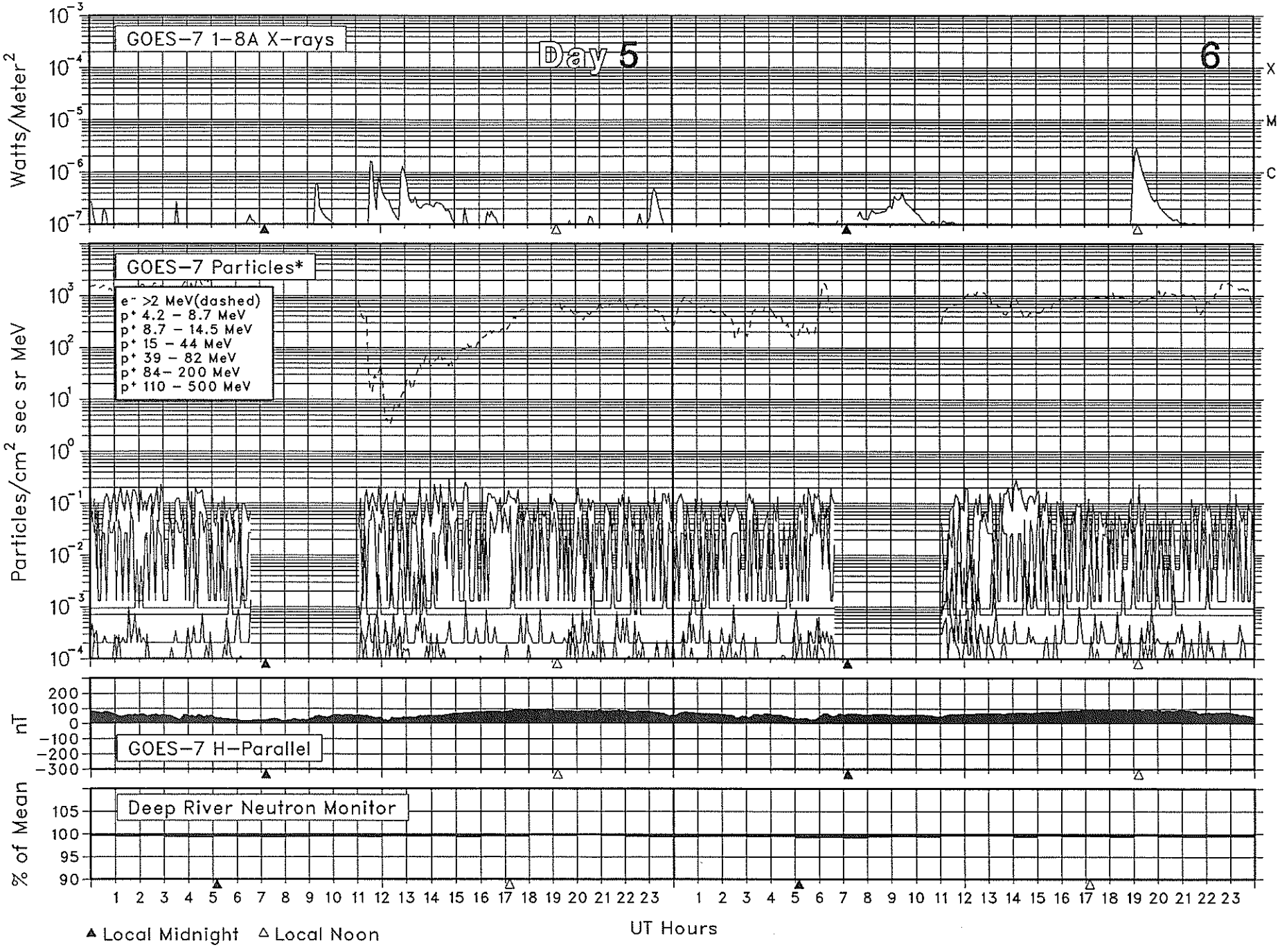

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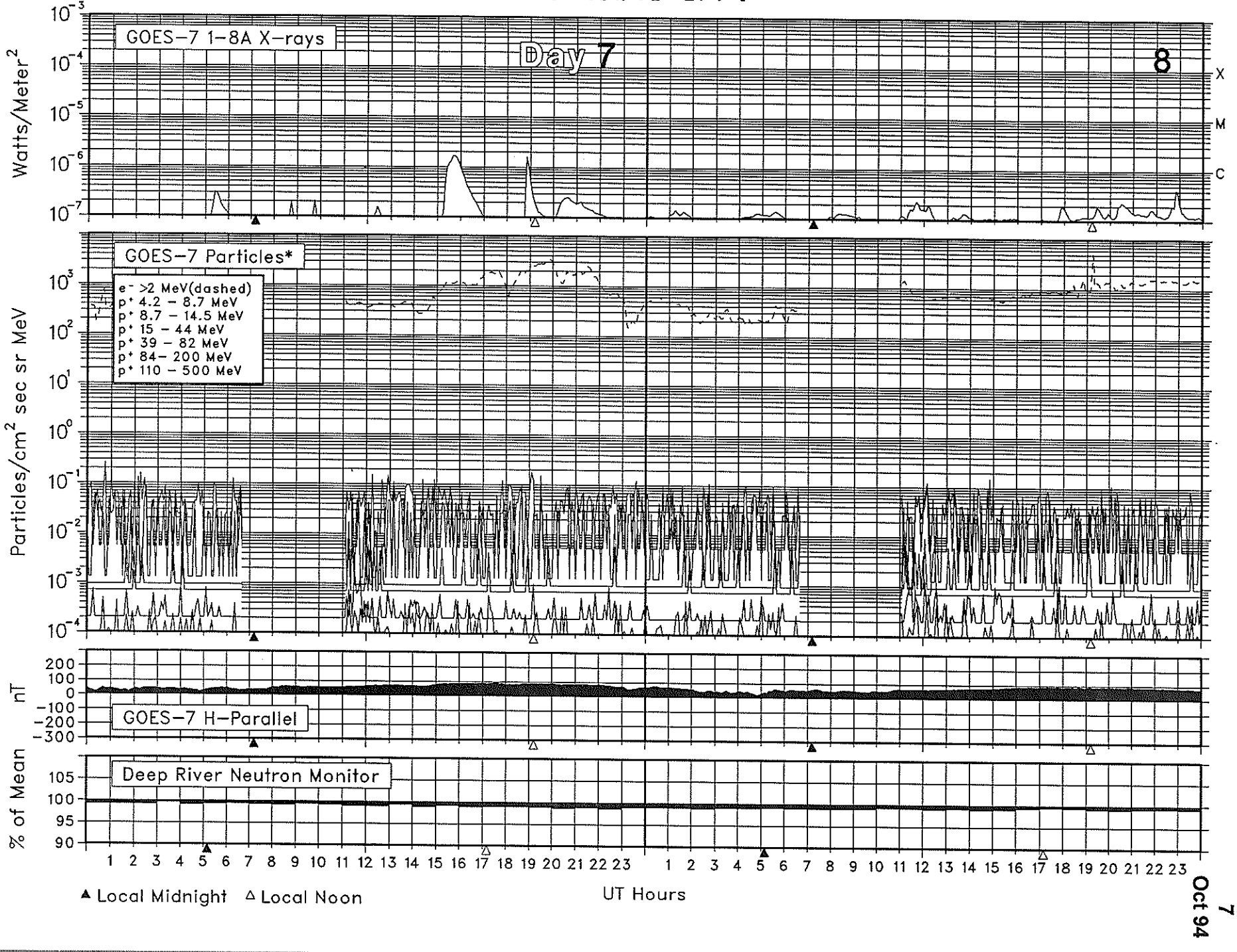

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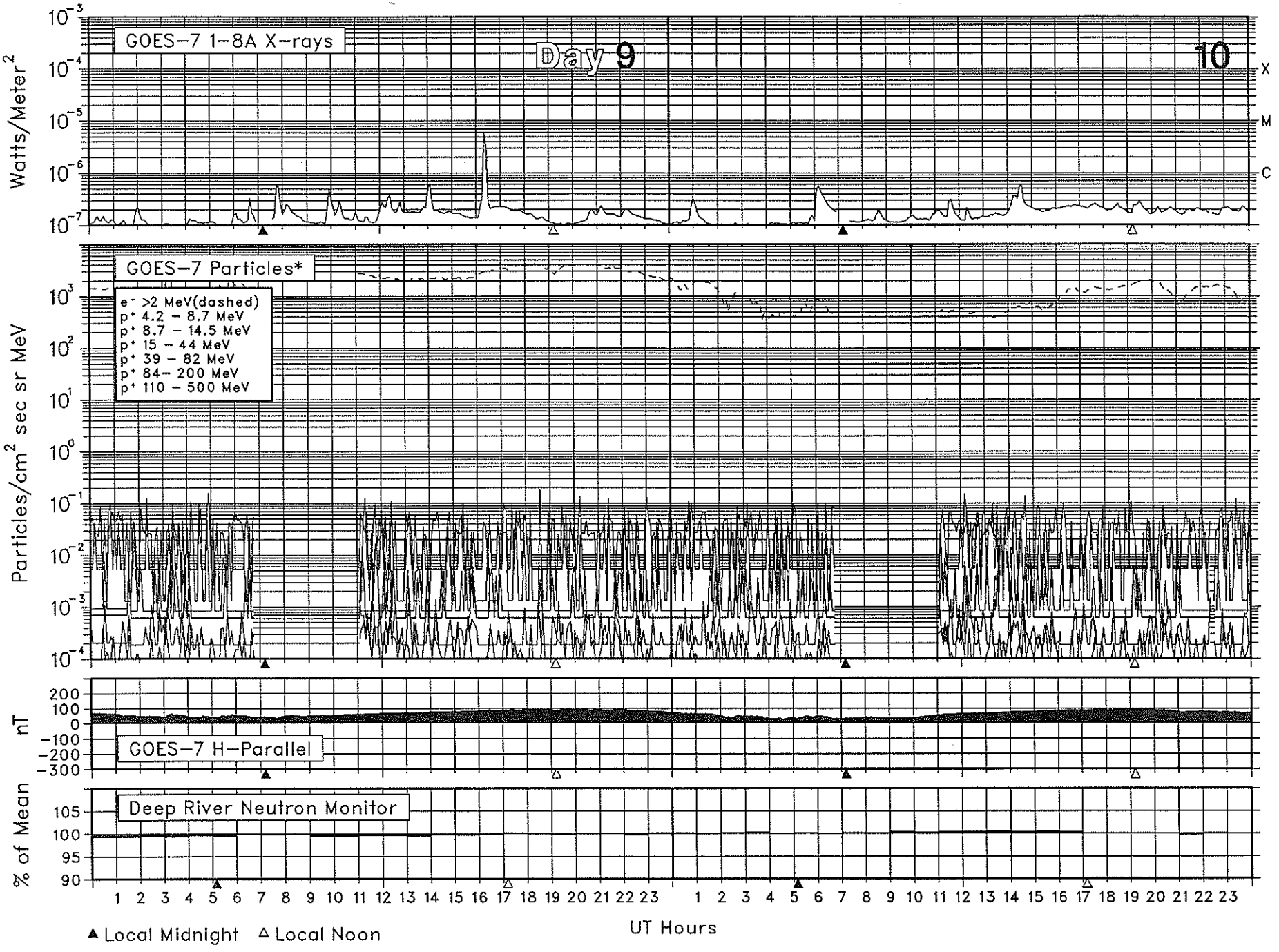

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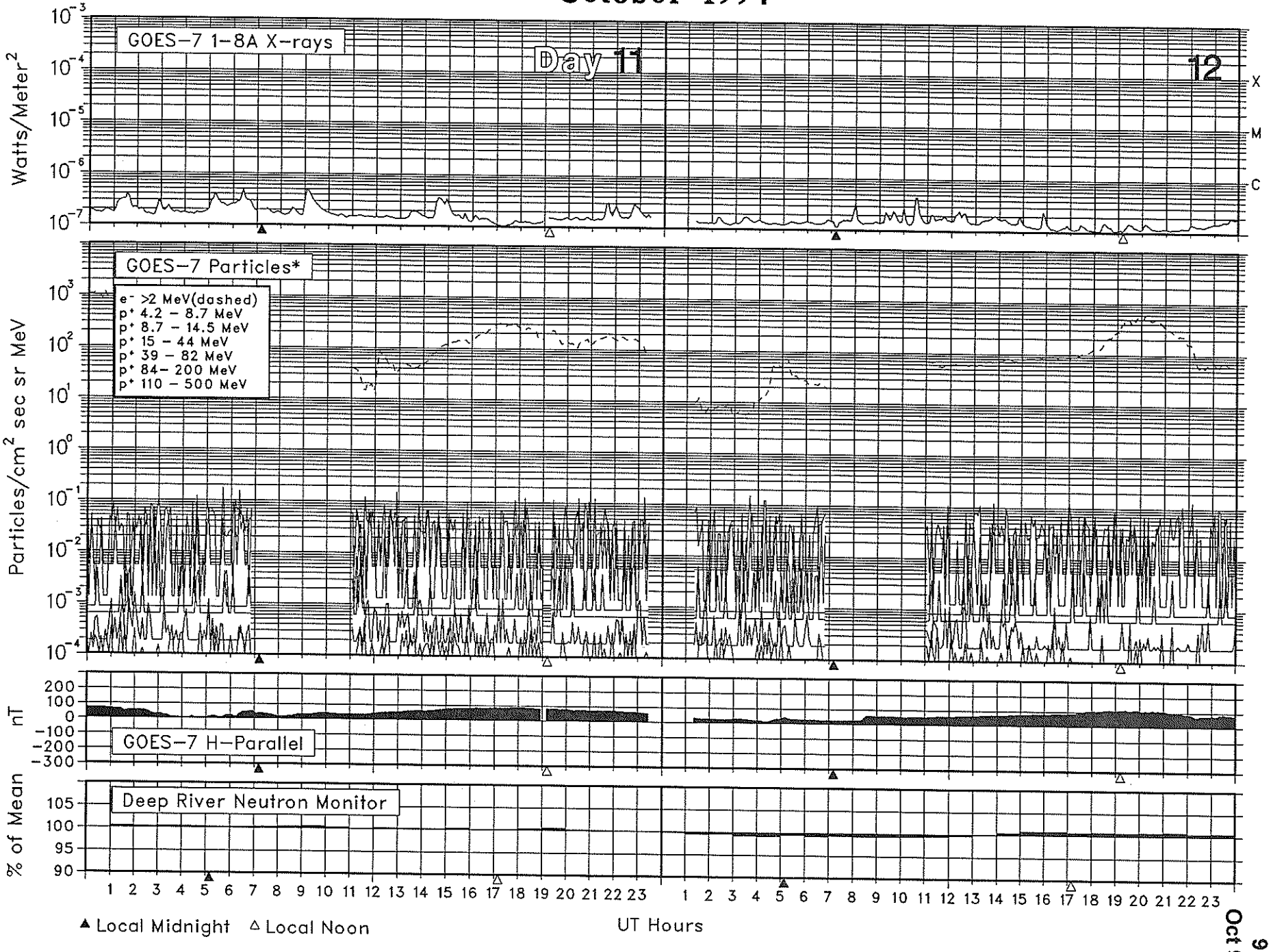

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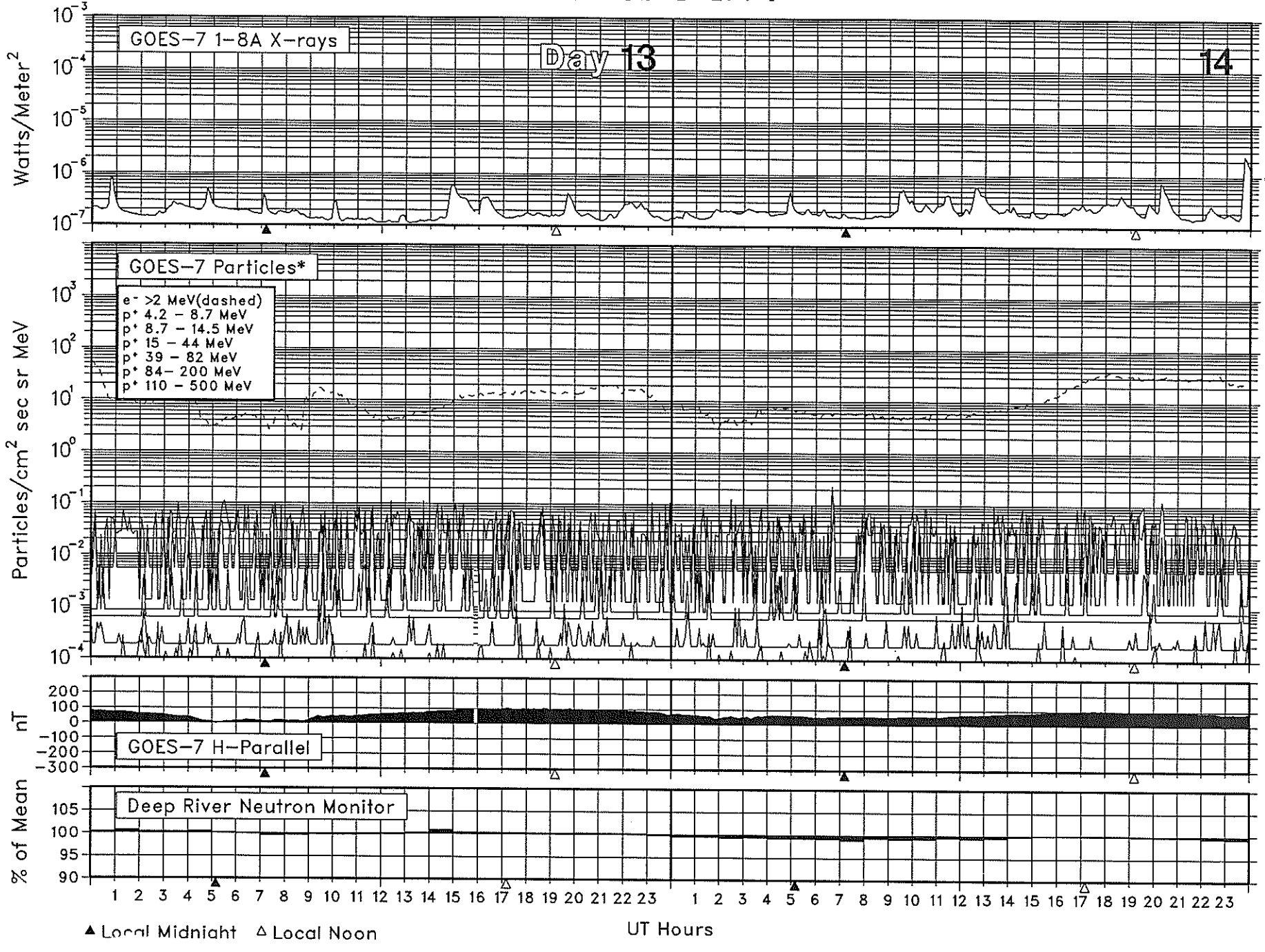

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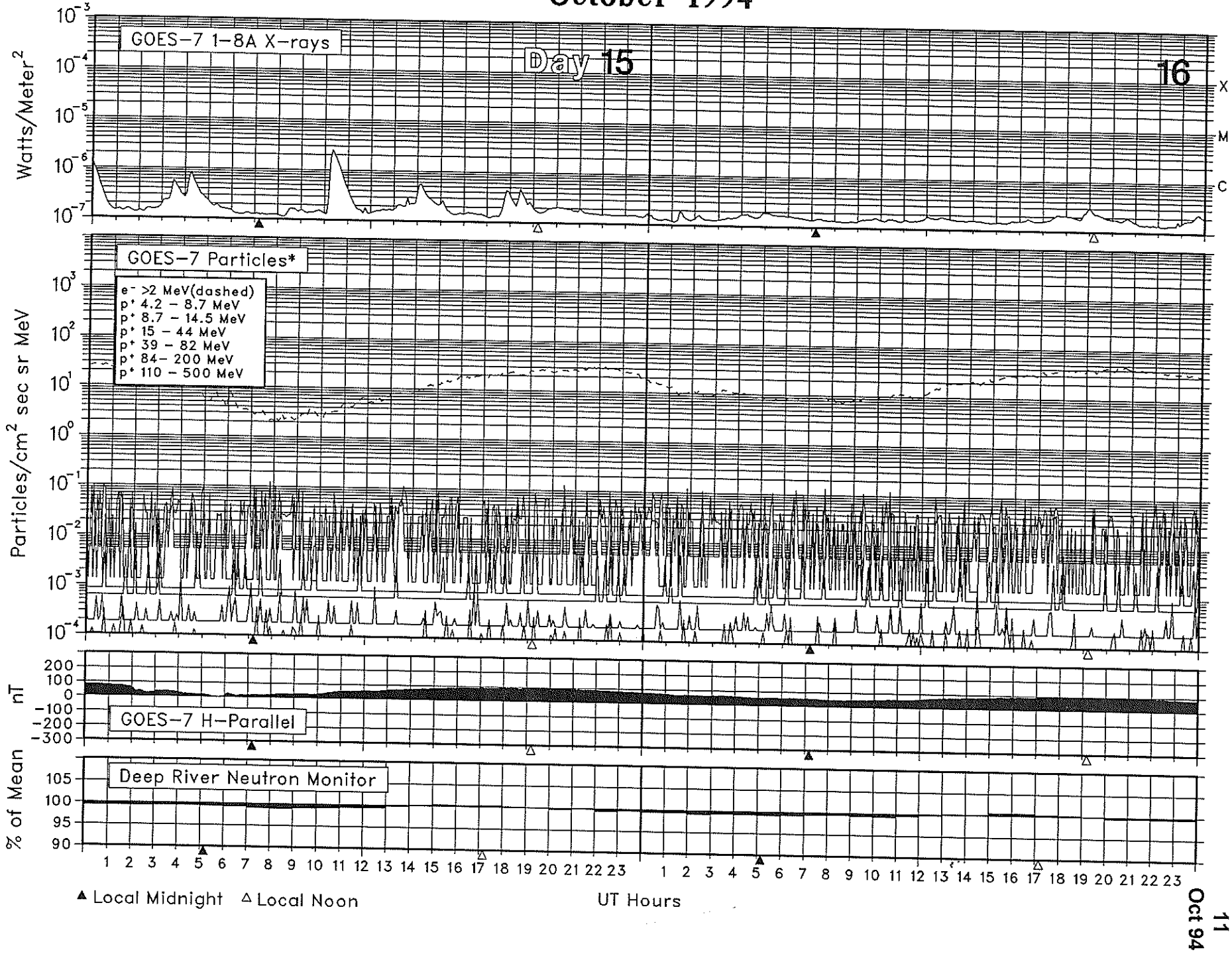

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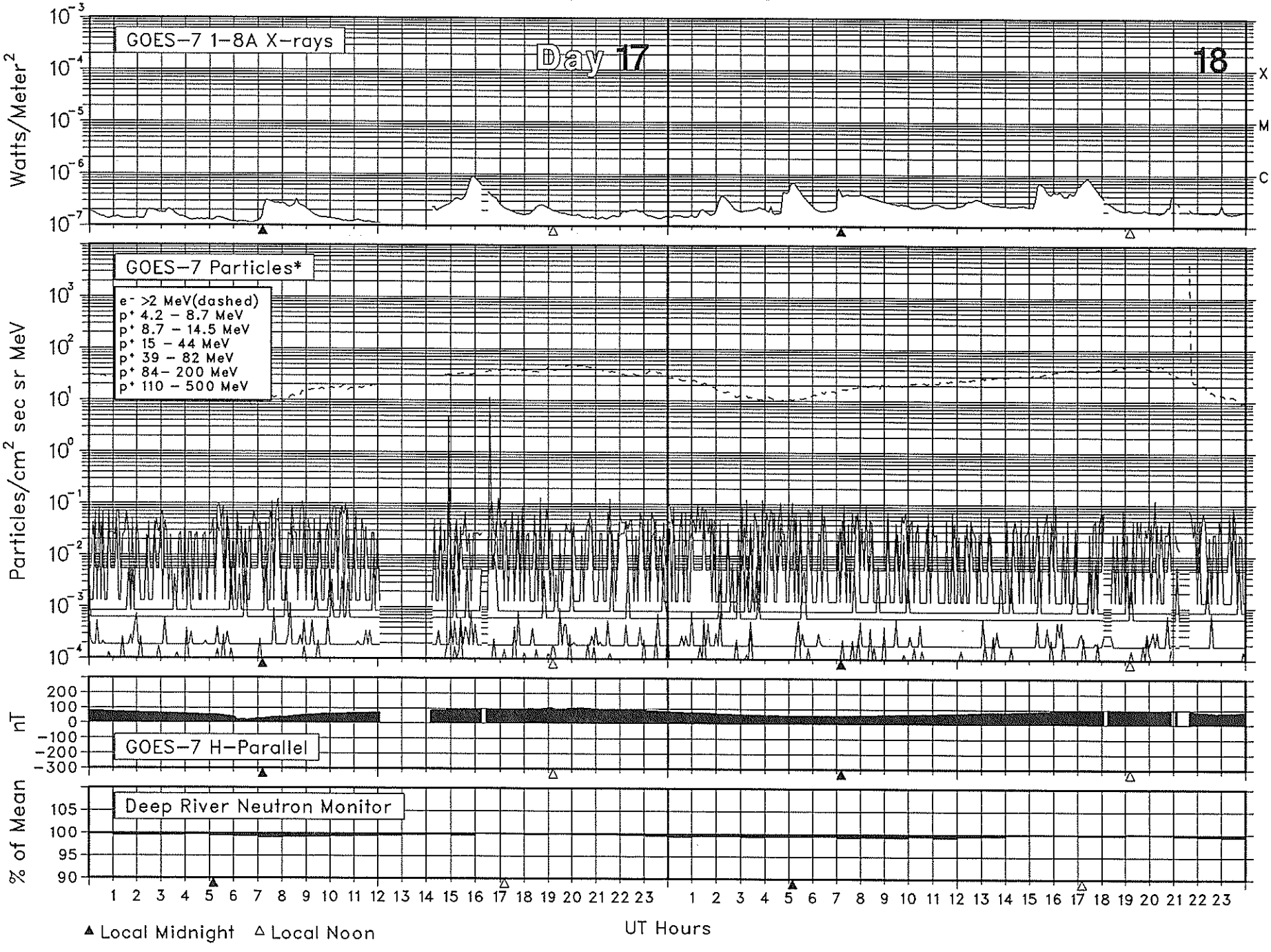

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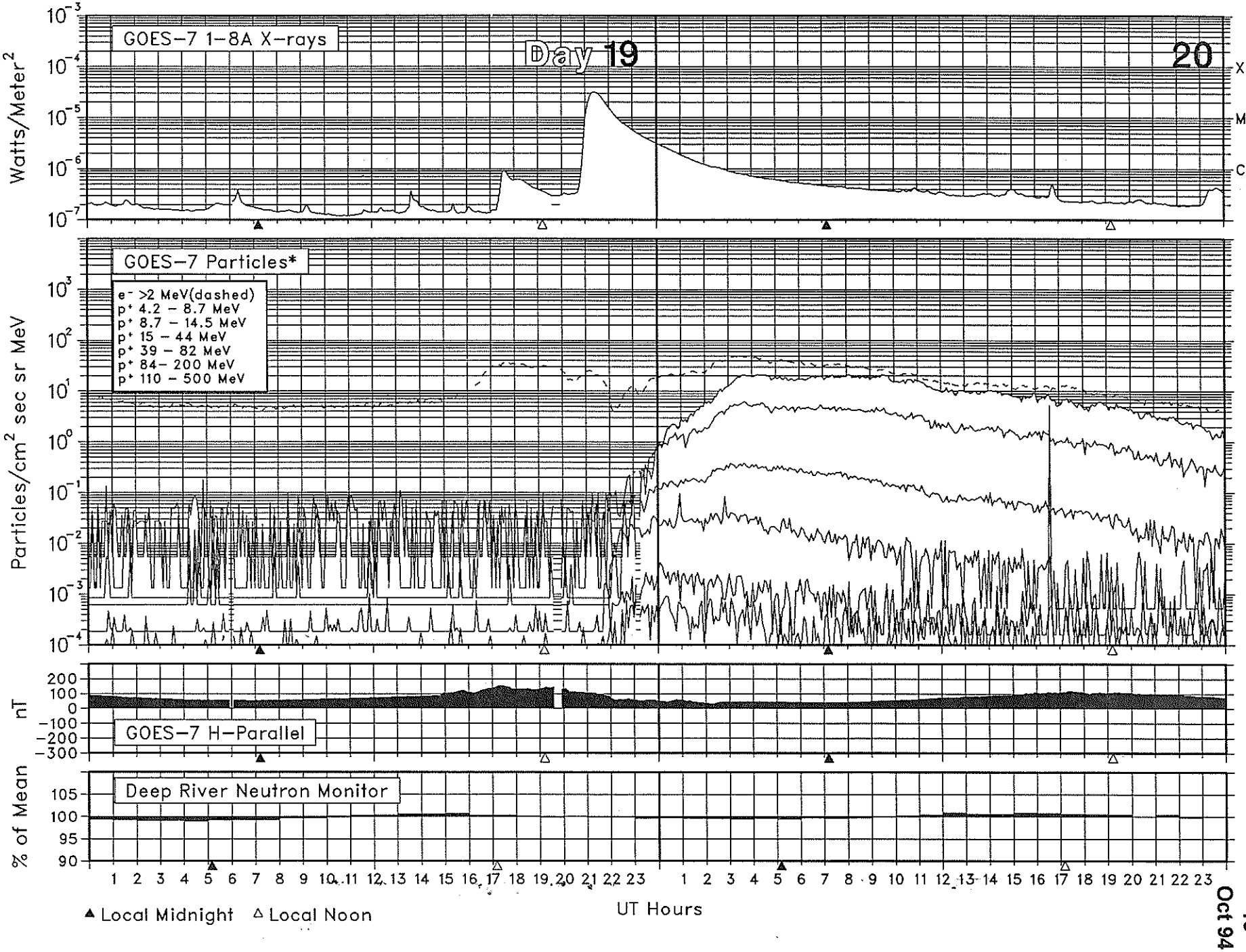

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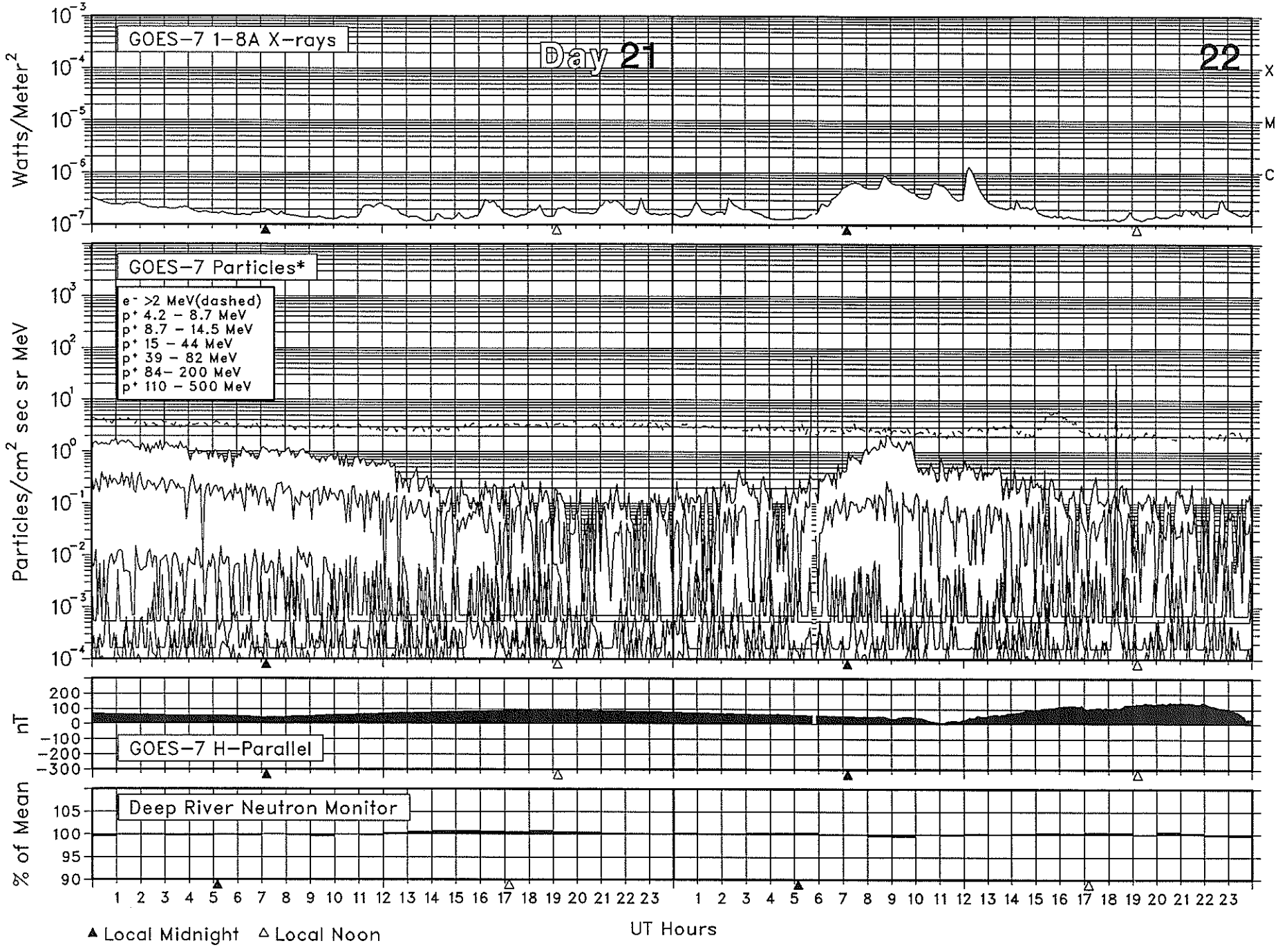

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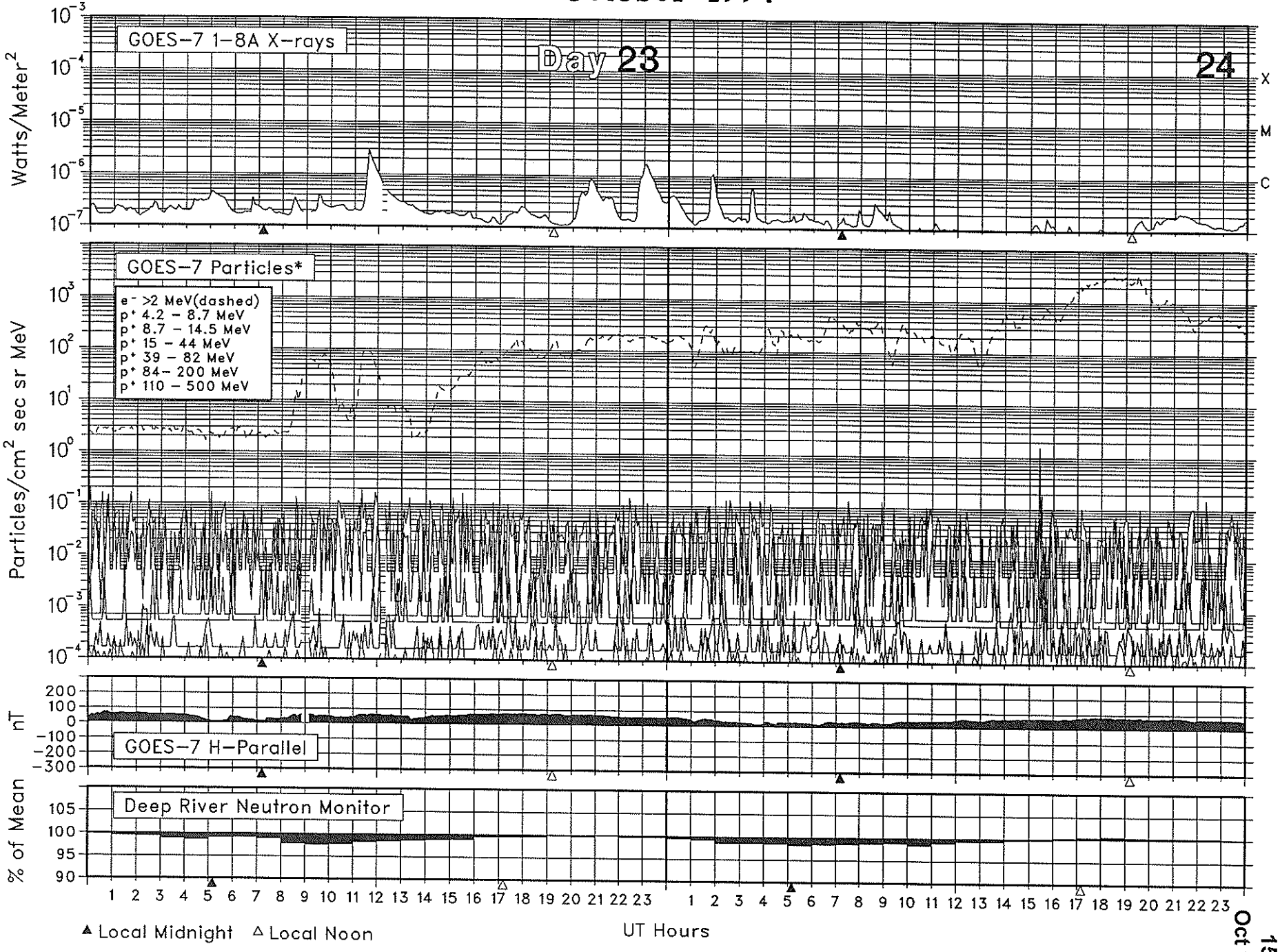

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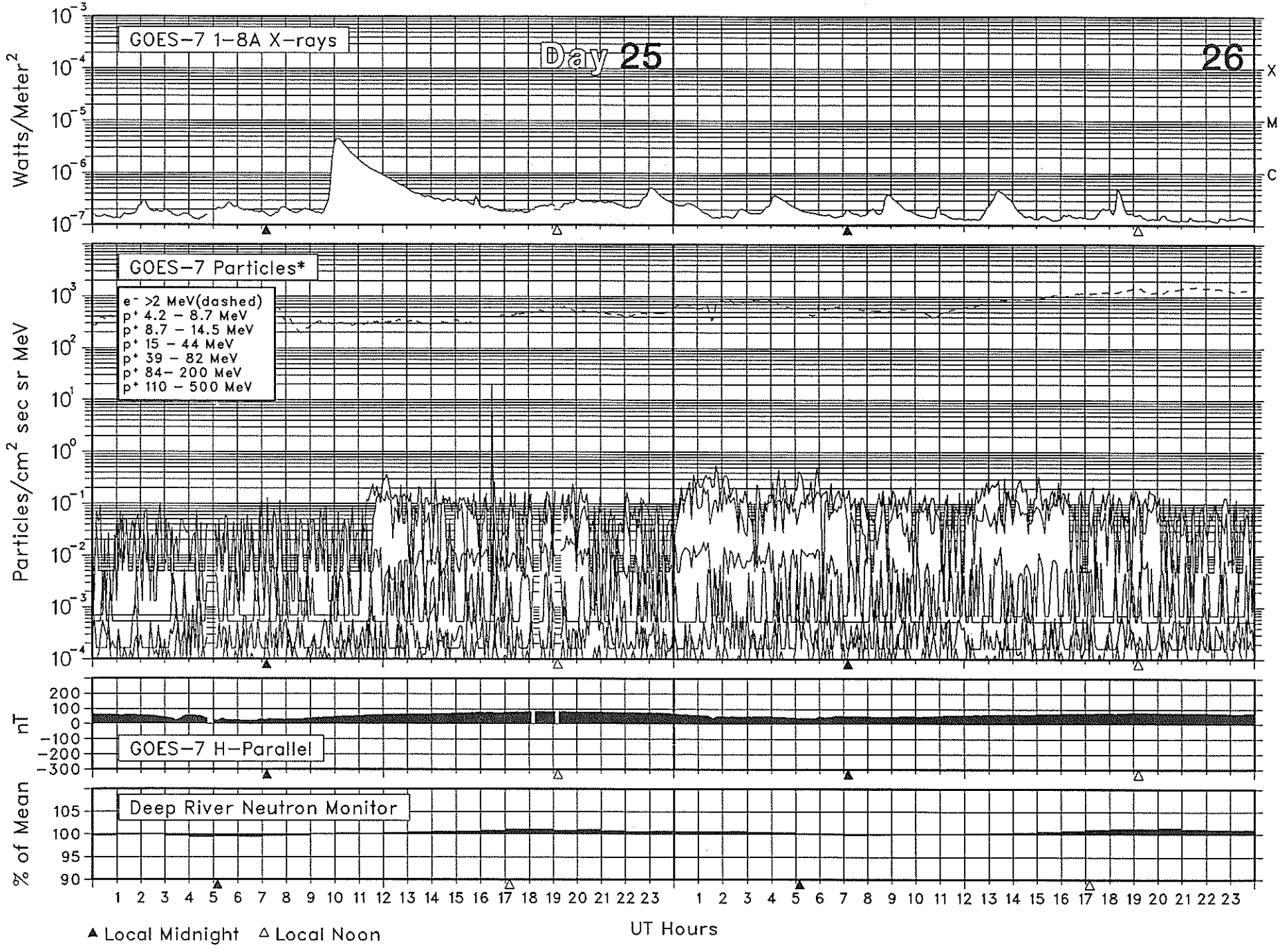

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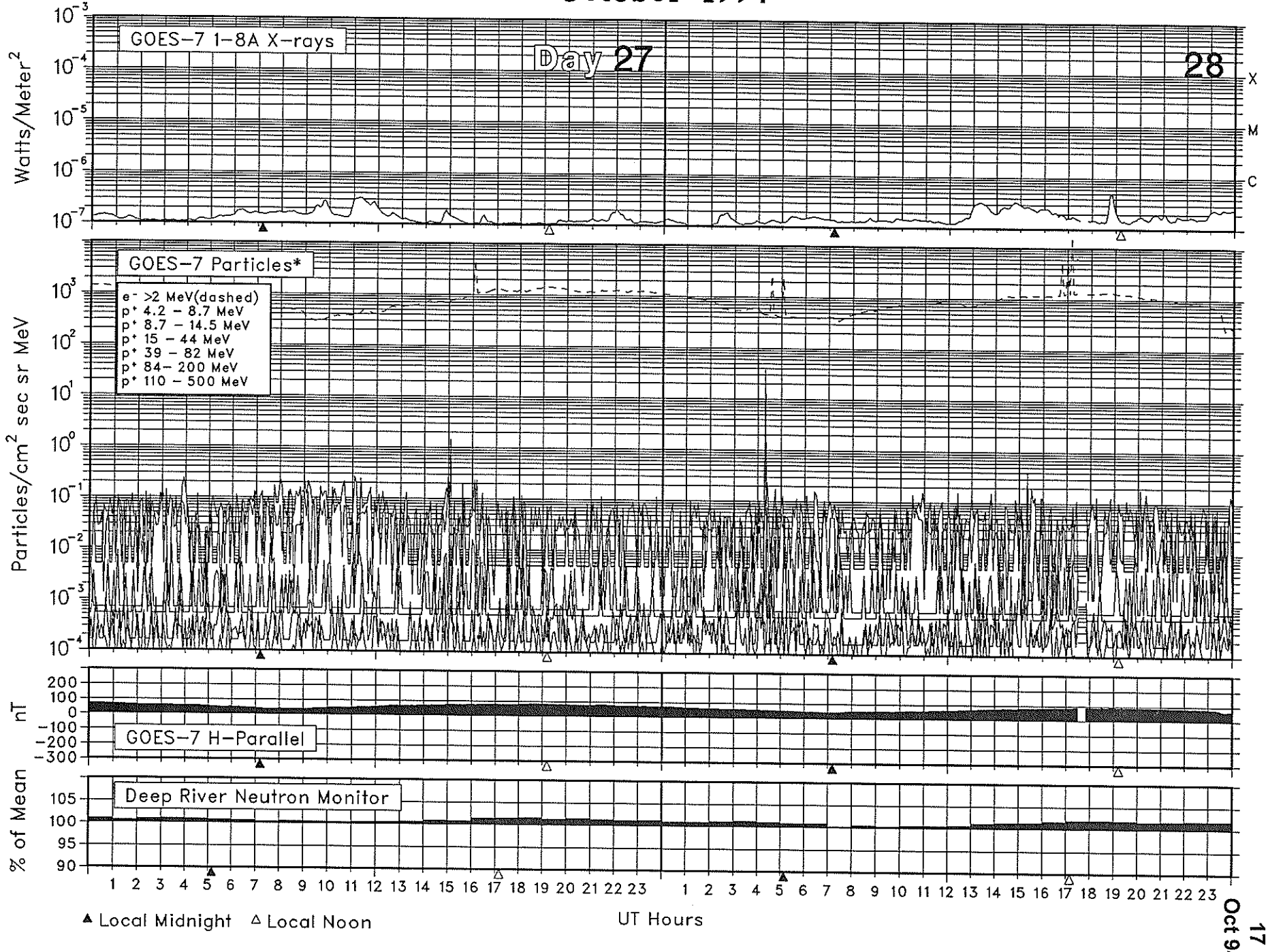

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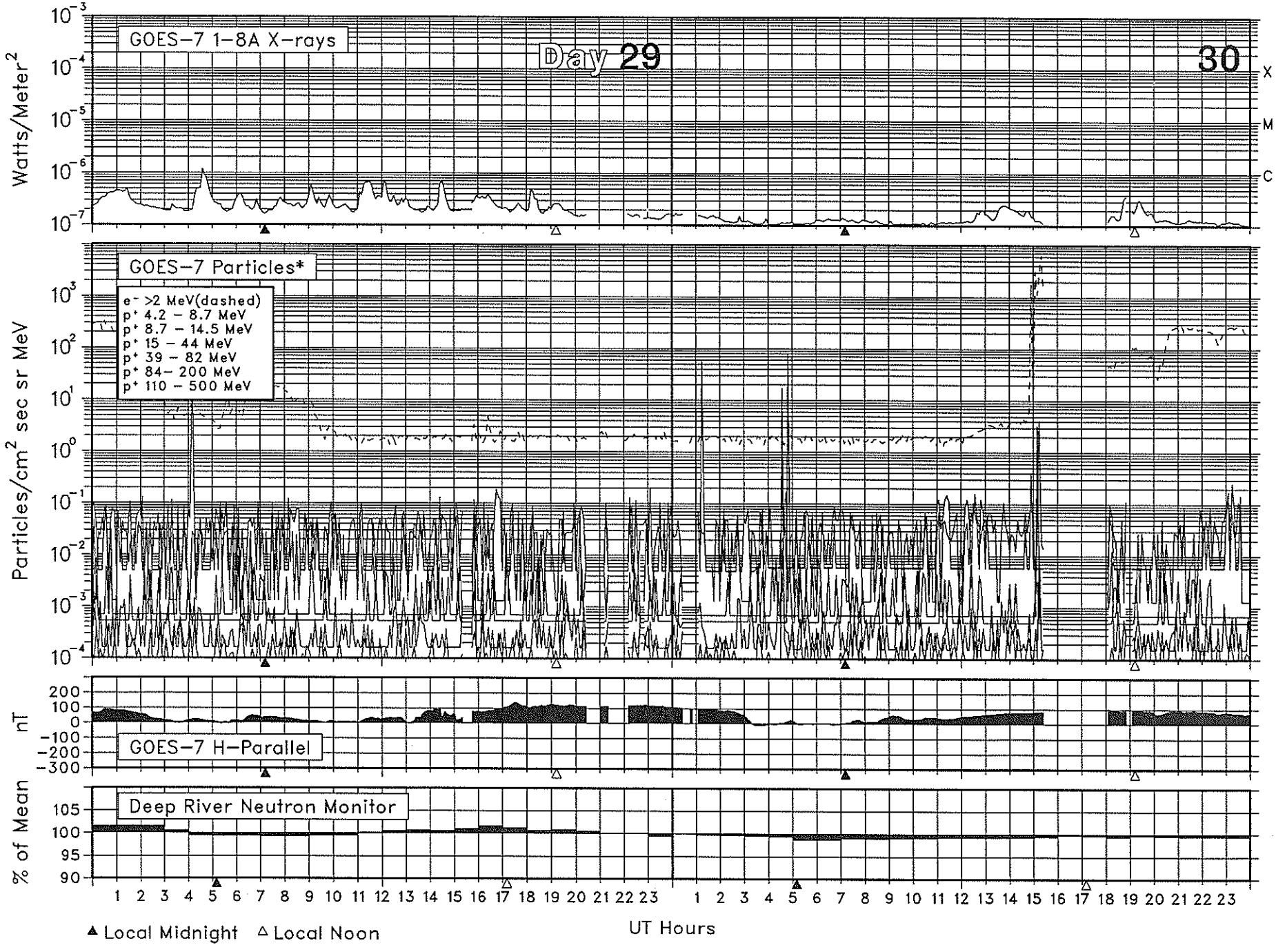

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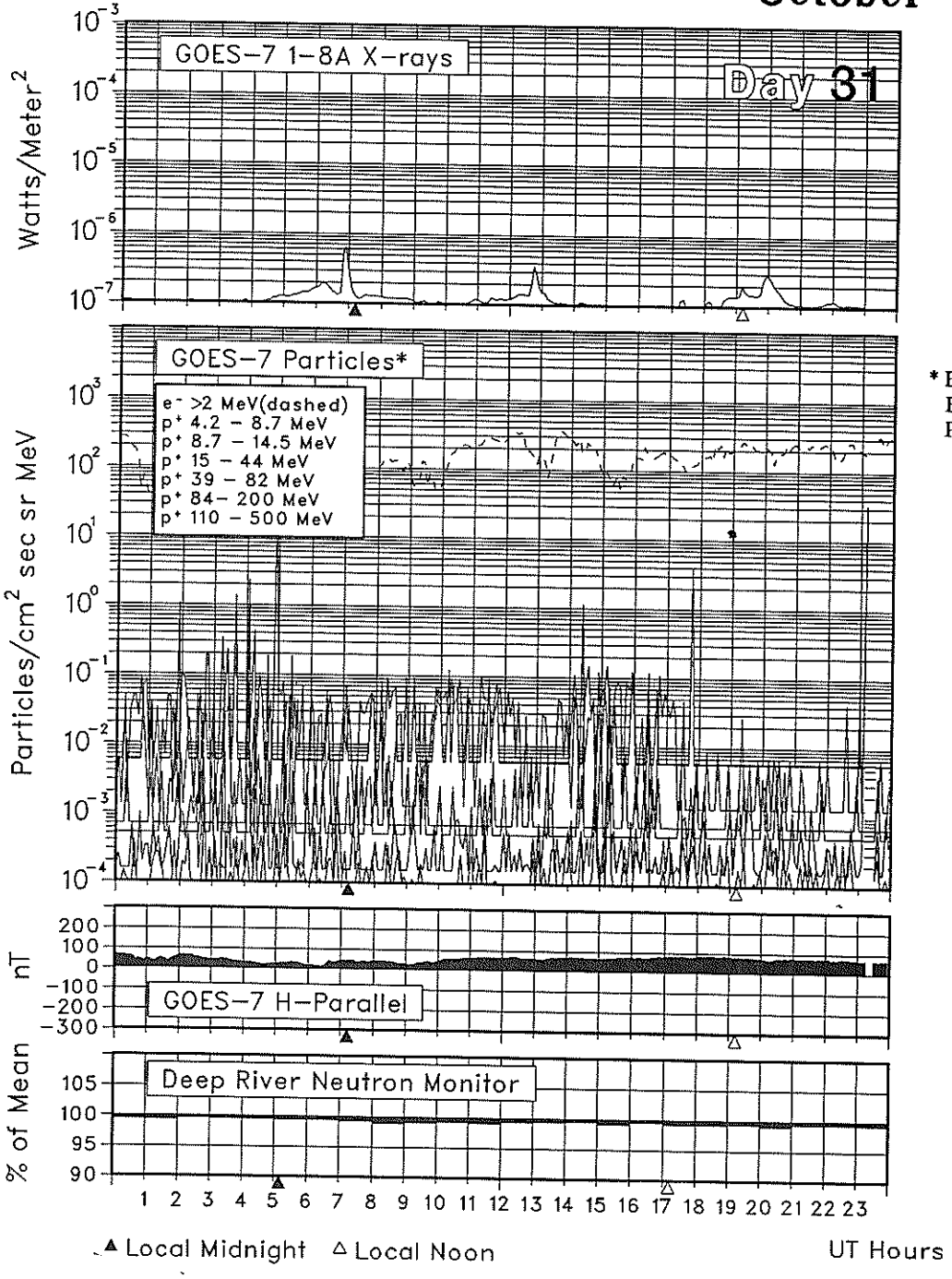


* Electron flux is divided by 10.
Electron units are Counts/cm^2 sec sr.
Protons are corrected for contamination.

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages **OCTOBER 1994**

Julian Day	Date of Issue	Date of Obser-vation	Wolf No.	10-cm Solar Flux	A-index	Location °Lat °Long	Flares Total	Flares M	Flares X	Date of Forecast	Region Forecast [1]	Geoadvice[1]
213	01	31	014	075	8	S07 W63	0	0	0	01	Q	SOL: Quiet
						0	0	0		01	Q	MAG: Quiet
						0	0	0		01	Q	PROTON: Quiet
214	02	01	033	074	6	N03 W17	0	0	0	02	Q	SOL: Quiet
						S07 W77	0	0	0	02	Q	MAG: Quiet
						S05 W03	0	0	0	02	Q	PROTON: Quiet
215	03	02	024	075	3	S05 W16	0	0	0	03	Q	SOL: Quiet
						N06 E71	3	0	0	03	Q	MAG: Quiet
						S05 W03	0	0	0	03	Q	PROTON: Quiet
216	04	03	019	076	6	N06 E60	0	0	0	04	Q	SOL: Quiet
						N06 E71	3	0	0	04	Q	MAG: Quiet
						S05 W03	0	0	0	04	Q	PROTON: Quiet
217	05	04	021	075	2	N06 E46	0	0	0	05	Q	SOL: Quiet
						N06 E71	3	0	0	05	Q	MAG: Quiet
						S05 W03	0	0	0	05	Q	PROTON: Quiet
218	06	05	027	076	5	N06 E32	0	0	0	06	Q	SOL: Quiet
						N06 E71	3	0	0	06	Q	MAG: Quiet
						S05 W03	0	0	0	06	Q	PROTON: Quiet
219	07	06	029	075	3	N06 E18	4	0	0	07	Q	SOL: Quiet
						N06 E71	3	0	0	07	Q	MAG: Quiet
						S05 W03	0	0	0	07	Q	PROTON: Quiet
220	08	07	018	076	1	N05 E04	3	0	0	08	Q	SOL: Quiet
						N06 E71	3	0	0	08	Q	MAG: Quiet
						S05 W03	0	0	0	08	Q	PROTON: Quiet
221	09	08	018	074	2	N05 W10	0	0	0	09	Q	SOL: Quiet
						N06 E71	3	0	0	09	Q	MAG: Quiet
						S05 W03	0	0	0	09	Q	PROTON: Quiet
222	10	09	018	075	3	N05 W25	0	0	0	10	Q	SOL: Quiet
						N06 E71	3	0	0	10	Q	MAG: Active
						S05 W03	0	0	0	10	Q	PROTON: Quiet
223	11	10	033	078	12	N04 W38	0	0	0	11	Q	SOL: Quiet
						S13 W17	0	0	0	11	Q	MAG: Active
						S05 W03	0	0	0	11	Q	PROTON: Quiet
224	12	11	037	077	17	N04 W52	0	0	0	12	Q	SOL: Quiet
						S12 W31	0	0	0	12	Q	MAG: Active
						S05 E67	1	0	0	12	Q	PROTON: Quiet
225	13	12	058	081	14	N04 W67	0	0	0	13	Q	SOL: Quiet
						S07 E54	0	0	0	13	Q	MAG: Active
						S11 E16	6	0	0	13	E	PROTON: Quiet
226	14	13	059	084	22	N04 W81	0	0	0	14	Q	SOL: Eruptive
						S06 E40	0	0	0	14	Q	MAG: Active
						S11 E02	5	0	0	14	E	PROTON: Quiet
227	15	14	075	089	26	N06 W95	0	0	0	15	Q	SOL: Eruptive
						S05 E27	0	0	0	15	Q	MAG: Active
						S10 W11	7	1	0	15	E	PROTON: Quiet
						N10 E46	0	0	0	15	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages — OCTOBER 1994

Julian Day	Date of Issue	Date of Obser-vation	Wolf No.	10-cm Solar Flux	A-index	Location °Lat	Location °Long	Flares Total	Flares M	Flares X	Date of Forecast	Region Forecast [1]	Geoadvice[1]
228	16	15	061	081	13	S06	E13	0	0	0	16	Q	SOL: Eruptive
						S12	W24	5	1	0	16	E	MAG: Quiet
						N10	E32	0	0	0	16	Q	PROTON: Quiet
229	17	16	064	077	8	S06	W01	0	0	0	17	Q	SOL: Eruptive
						S11	W38	4	0	0	17	E	MAG: Active
						N09	E19	0	0	0	17	Q	PROTON: Quiet
						S13	E46	0	0	0	17	Q	
230	18	17	073	078	6	S06	W13	0	0	0	18	Q	SOL: Eruptive
						S12	W52	3	1	0	18	E	MAG: Quiet
						N09	E04	0	0	0	18	Q	PROTON: Quiet
						S12	E31	0	0	0	18	Q	
						S13	E42	0	0	0	18	Q	
231	19	18	062	077	6	S06	W27	0	0	0	19	Q	SOL: Eruptive
						S12	W66	3	1	0	19	E	MAG: Quiet
						S12	E20	1	0	0	19	Q	PROTON: Quiet
						S13	E28	0	0	0	19	Q	
232	20	19	065	075	3	S06	W41	0	0	0	20	Q	SOL: Eruptive
						S12	W77	2	1	0	20	E	MAG: Quiet
						S12	E06	0	0	0	20	E	PROTON: Quiet
						S13	E14	0	0	0	20	Q	
233	21	20	058	072	6	S06	W55	0	0	0	21	Q	SOL: Eruptive
						S13	W90	0	0	0	21	Q	MAG: Quiet
						S13	W08	2	0	0	21	E	PROTON: Quiet
						S13	E01	0	0	0	21	Q	
234	22	21	040	071	4	S08	W68	0	0	0	22	Q	SOL: Quiet
						S12	W22	0	0	0	22	Q	MAG: Quiet
						S14	W15	0	0	0	22	Q	PROTON: Quiet
235	23	22	012	071	4	S14	W36	0	0	0	23	Q	SOL: Quiet
						S12	W22	0	0	0	23	Q	MAG: Quiet
						S14	W15	0	0	0	23	Q	PROTON: Quiet
236	24	23	038	072	5	S14	W35	0	0	0	24	Q	SOL: Quiet
						N10	W47	0	0	0	24	Q	MAG: Quiet
						S07	E40	0	0	0	24	Q	PROTON: Quiet
237	25	24	050	072	4	S15	W48	0	0	0	25	Q	SOL: Quiet
						S14	W55	0	0	0	25	Q	MAG: Quiet
						N10	W60	0	0	0	25	Q	PROTON: Quiet
						S08	E26	0	0	0	25	Q	
238	26	25	015	071	12	S08	E12	0	0	0	26	Q	SOL: Quiet
						S14	W55	0	0	0	26	Q	MAG: Quiet
						N10	W60	0	0	0	26	Q	PROTON: Quiet
239	27	26	018	072	7	S08	W02	1	0	0	27	Q	SOL: Quiet
						S14	W55	0	0	0	27	Q	MAG: Quiet
						N10	W60	0	0	0	27	Q	PROTON: Quiet
240	28	27	014	071	6	S08	W14	0	0	0	28	Q	SOL: Quiet
						S14	W55	0	0	0	28	Q	MAG: Quiet
						N10	W60	0	0	0	28	Q	PROTON: Quiet
241	29	28	022	071	7	S09	W27	0	0	0	29	Q	SOL: Quiet
						N08	E76	0	0	0	29	Q	MAG: Quiet
						N10	W60	0	0	0	29	Q	PROTON: Quiet

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages **OCTOBER 1994**

Julian Day	Date of Issue	Date of Obser-vation	Wolf No.	10-cm Solar Flux	A-index	Location °Lat	Location °Long	Flares Total	Flares M	Flares X	Date of Forecast	Region Forecast [1]	Geoadvice[1]
242	30	29	024	078	4	N07	E62	0	0	0	30	Q	SOL: Eruptive
						S22	E05	0	0	0	30	Q	MAG: Quiet
						N10	W60	0	0	0	30	Q	PROTON: Quiet
243	31	30	045	083	4	N07	E50	0	0	0	31	Q	SOL: Eruptive
						S23	W12	0	0	0	31	Q	MAG: Quiet
						S09	E71	9	2	0	31	A	PROTON: Quiet

[1] **Region Forecast and Flare Geoadvice**

Q =Quiet (<50% probability of C-class flares)
E =Eruptive (C-class flares expected, probability >=50%)
A =Active (M-class flares expected, probability >=50%)
M =Major (X-class flares expected, probabiljty >=50%)
P =Proton (Proton flares exptected, 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

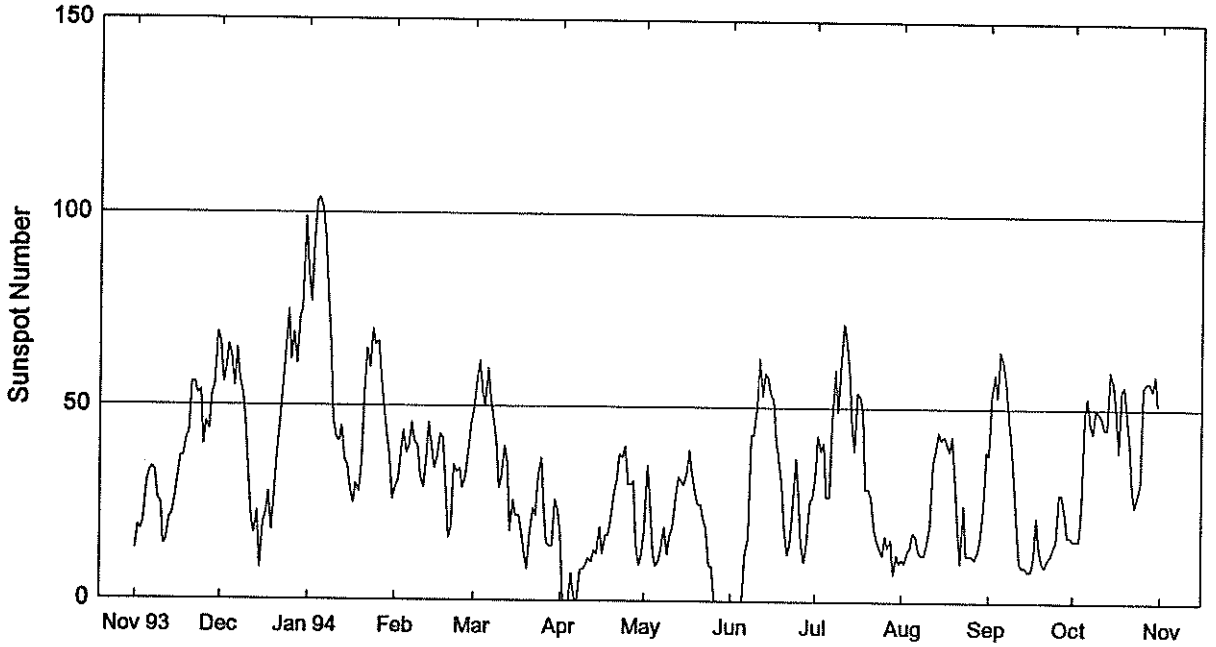
Proton Geoadvice

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

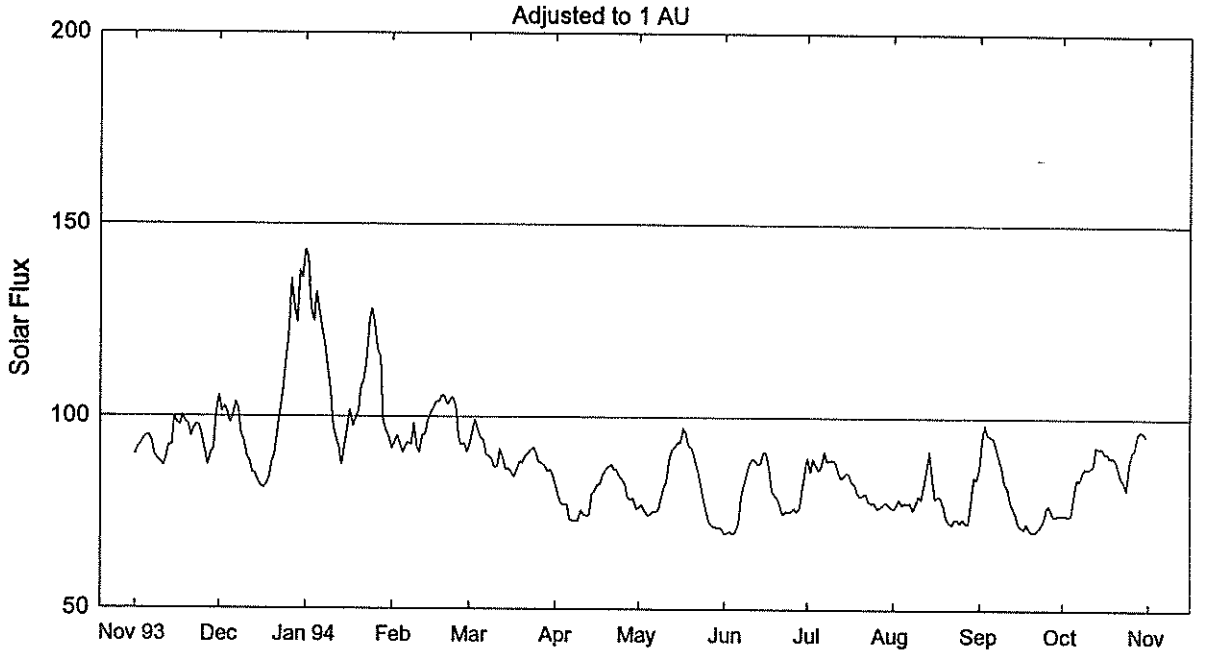
International Relative Sunspot Numbers
Nov 1993 - Oct 1994



Day	Nov 93	Dec	Jan 94	Feb	Mar	Apr	May	Jun	Jul*	Aug*	Sep*	Oct*
1	13	67	86	29	49	17	18	0	32	11	38	16
2	19	56	77	31	56	0	35	0	43	10	53	16
3	18	60	93	38	62	0	26	0	39	13	59	16
4	20	66	103	44	54	0	12	0	41	14	53	25
5	30	63	104	38	50	7	9	0	27	18	65	48
6	33	55	101	40	60	0	10	12	27	17	62	53
7	34	65	94	46	52	0	14	16	47	13	57	46
8	33	57	81	41	46	8	19	43	60	12	47	44
9	26	53	66	40	41	8	12	43	49	12	41	50
10	25	46	47	32	29	9	17	50	60	15	31	49
11	14	31	42	29	32	11	19	63	72	20	19	48
12	15	21	41	36	40	10	27	53	68	36	10	45
13	21	17	45	46	36	13	32	59	59	39	9	45
14	22	23	36	39	18	12	31	58	45	44	9	60
15	27	8	35	34	26	19	30	54	39	42	8	57
16	32	20	29	37	22	12	33	52	54	43	8	51
17	37	22	25	43	22	17	39	42	53	41	12	39
18	37	28	30	42	18	17	33	37	48	39	22	55
19	42	18	28	28	13	21	28	30	29	43	14	56
20	43	27	35	16	8	28	25	19	29	30	10	49
21	56	37	53	19	17	31	25	12	27	19	9	41
22	56	44	65	35	24	38	21	15	19	10	11	29
23	53	54	60	33	22	37	19	24	16	25	12	25
24	54	63	70	34	32	40	9	37	14	12	14	28
25	40	75	66	29	37	30	9	28	12	12	16	31
26	46	62	67	32	24	30	0	15	17	12	28	56
27	44	69	58	38	15	31	0	10	14	11	28	57
28	53	61	49	46	14	15	0	15	16	13	23	57
29	55	73	43		14	9	0	26	7	16	17	55
30	69	75	38		26	12	0	27	12	25	17	59
31		99	26		24		0		10	39		51
Mean	35.6	48.9	57.8	35.5	31.7	16.1	17.8	28.0	35.0	22.8	26.7	43.8

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

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



Day	Nov 93	Dec	Jan 94	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	90.0	105.6	143.4	91.7	92.4	82.4	76.3	69.6	89.7	76.2	87.3	74.7
2	91.8	101.3	141.4	93.5	96.3	79.3	77.1	69.9	85.6	77.2	94.9	74.6
3	92.4	102.6	128.7	95.1	99.2	77.4	75.6	70.3	89.3	78.7	98.2	74.3
4	94.1	101.6	124.6	92.7	96.3	77.2	74.4	69.5	87.4	77.4	95.8	74.7
5	94.8	98.3	132.4	90.6	94.2	77.2	74.4	70.3	86.2	77.8	95.1	79.4
6	94.9	99.9	127.7	92.2	94.1	73.3	75.3	72.7	87.1	77.5	95.0	84.2
7	93.5	103.8	122.1	93.3	90.0	73.0	75.2	79.4	91.1	77.9	92.1	83.7
8	90.2	101.9	118.9	92.6	89.9	72.9	75.8	82.9	88.7	75.9	89.6	86.0
9	88.7	95.4	113.1	98.3	88.7	72.9	78.8	85.5	88.8	77.4	87.3	86.9
10	88.2	93.2	106.5	91.8	86.8	75.7	81.4	88.0	88.9	79.7	82.8	86.6
11	87.0	89.7	97.8	90.7	87.0	74.6	83.6	89.1	88.5	78.7	82.0	87.2
12	88.9	88.1	94.6	95.1	91.7	74.2	89.2	89.0	85.7	82.9	78.2	87.7
13	92.2	85.1	91.9	95.4	89.1	74.3	91.4	87.7	84.1	86.7	76.5	92.7
14	92.3	85.1	87.3	98.9	86.2	79.9	92.1	88.0	84.6	91.2	74.8	92.1
15	99.9	82.8	92.6	101.3	86.5	80.6	93.4	91.0	85.7	83.5	72.3	92.2
16	98.2	81.9	97.0	102.3	85.3	82.3	93.3	90.8	85.1	78.8	71.6	90.9
17	97.7	81.1	102.0	103.9	84.3	82.5	97.2	86.6	83.0	79.5	71.0	91.0
18	100.2	82.4	97.5	103.9	85.9	84.9	95.8	80.9	82.7	79.3	72.5	89.8
19	98.7	84.2	99.5	105.6	88.3	86.2	92.7	79.8	80.1	77.1	70.8	89.9
20	98.0	88.1	101.6	105.2	87.9	87.0	91.9	78.9	79.4	74.0	70.3	89.3
21	94.8	89.9	107.3	103.1	90.0	87.6	89.9	76.8	79.8	72.7	70.4	87.0
22	96.8	96.6	109.5	104.4	90.5	86.3	86.7	74.6	80.1	72.2	71.2	84.7
23	97.9	101.6	114.6	105.1	91.2	86.1	83.6	75.5	78.2	73.5	71.8	83.3
24	97.5	107.5	125.1	102.9	92.1	84.3	79.9	75.2	77.7	73.5	73.3	81.3
25	94.7	115.2	128.1	94.8	90.4	83.8	76.1	75.5	77.8	72.5	76.6	88.5
26	90.8	120.5	123.9	92.6	88.1	82.0	73.4	76.3	76.3	73.7	77.4	91.5
27	87.3	135.8	116.8	93.0	88.0	79.0	72.1	75.4	76.6	72.5	75.0	91.9
28	90.7	129.2	115.7	90.8	87.3	78.4	71.4	76.4	77.1	72.5	74.2	96.1
29	91.2	124.4	98.9		85.8	78.9	71.4	81.4	78.0	79.1	74.7	96.9
30	100.8	138.0	96.1		86.1	76.0	71.3	85.4	77.6	84.7	74.7	96.4
31		136.2	94.7		84.9		71.1		76.8	83.8		95.2
Mean	93.8	101.5	111.3	97.2	89.5	79.7	81.7	79.7	83.2	78.0	79.9	87.1

DAILY SOLAR INDICES

October 1994

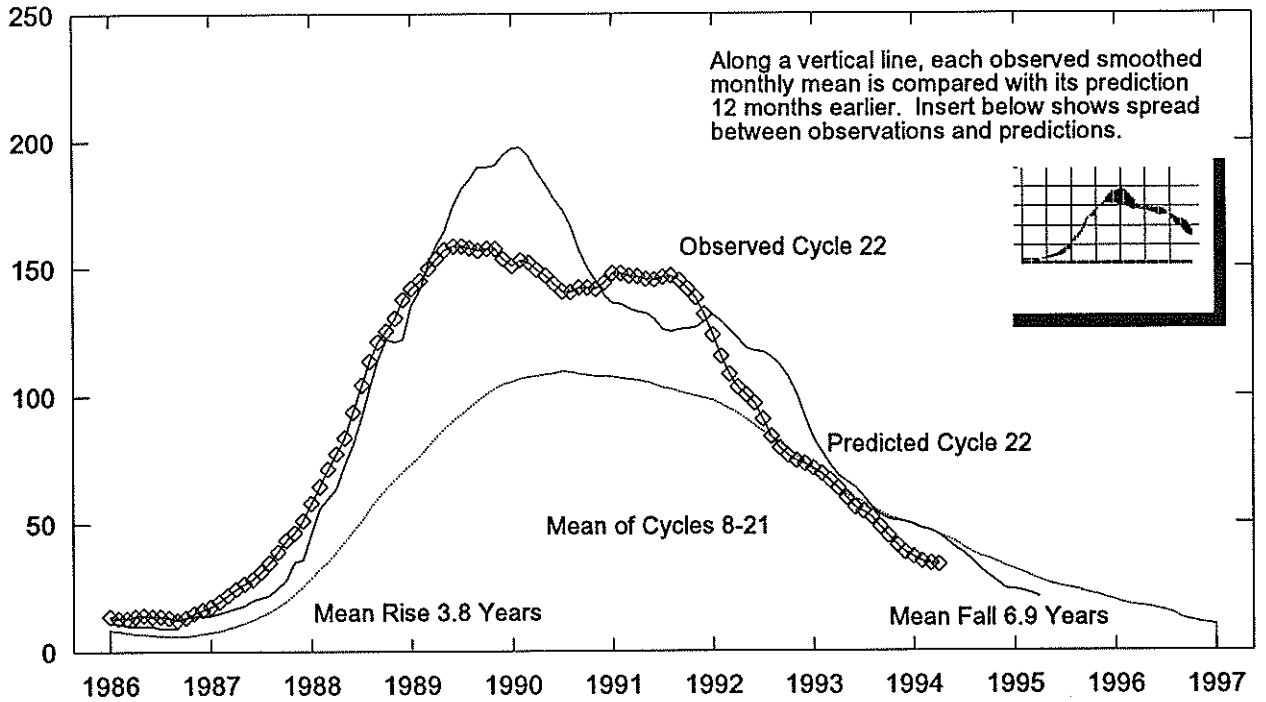
Day	Day of Year	Bartels Cycle Day	Sunspot Numbers Int	Amer	Obs Flux Penticton (2800)	Solar Flux Adjusted to 1 Astronomical Unit — LEAR (15400)	LEAR (8800)	LEAR (4995)	Pentic (2800)	LEAR (2695)	LEAR (1415)	LEAR (610)	LEAR (410)	LEAR (245)
1	274	6	16	17	74.6	516	217	125	74.7	71	53	41	22	12
2	275	7	16	18	74.5	527	217	125	74.6	73	53	41	22	12
3	276	8	16	19	74.2	519	215	126	74.3	71	54	41	22	12
4	277	9	25	29	74.7	521	215	125	74.7	71	53	41	22	11
5	278	10	48	41	79.4	530	215	127	79.4	74	54	41	21	11
6	279	11	53	54	84.2	524	217	131	84.2	76	56	43	22	14
7	280	12	46	48	83.8	526	219	133	83.7	80	58	43	23	13
8	281	13	44	43	86.1	523	222	135	86.0	80	59	43	23	14
9	282	14	50	50	87.2	523	223	136	86.9	83	60	43	22	16
10	283	15	49	52	86.9	519	217	137	86.6	83	60	41	21	13
11	284	16	48	49	87.6	508	221	139	87.2	84	60	42	22	15
12	285	17	45	44	88.1	520	224	139	87.7	83	60	43	25	33
13	286	18	45	44	93.1	525	228	143	92.7	87	63	42	24	16
14	287	19	60	60	92.6	529	223	147	92.1	90	65	46	27	33
15	288	20	57	56	92.7	537	224	145	92.2	90	64	--	24	18
16	289	21	51	52	91.5	516	220	139	90.9	88	64	41	24	20
17	290	22	39	44	91.6	532	223	138	91.0	88	66	47	29	--
18	291	23	55	51	90.5	526	227	139	89.8	88	67	48	33	20
19	292	24	56	60	90.7	533	224	139	89.9	86	67	49	29	17
20	293	25	49	51	90.1	522	223	140	89.3	87	65	46	25	14
21	294	26	41	38	87.8	520	221	137	87.0	87	65	46	24	14
22	295	27	29	33	85.5	522	218	134	84.7	82	63	45	30	12
23	296	1	25	28	84.2	520	222	134	83.3	82	61	42	23	12
24	297	2	28	17	82.2	522	224	133	81.3	80	60	45	22	12
25	298	3	31	25	89.5	544	224	134	88.5	81	61	45	26	14
26	299	4	56	50	92.6	533	228	140	91.5	87	63	46	29	--
27	300	5	57	56	93.1	524	201	135	91.9	90	65	46	24	19
28	301	6	57	56	97.4	539	228	142	96.1	92	66	44	24	13
29	302	7	55	57	98.3	539	225	145	96.9	94	69	49	31	26
30	303	8	59	56	97.8	522	226	142	96.4	94	69	48	26	14
31	304	9	51	56	96.6	529	229	142	95.2	93	70	51	28	17
MEAN			43.8	43.7	87.7	525	221	136	87.1	83	61	44	24	16

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	27	26	25	24	30
( )					(2)	(6)	(9)	(11)	(12)	(13)	(15)	(16)	(11)
1995	24	23	22	21	20	19	18	18	18	17	16	15	19
( )	(17)	(18)	(18)	(19)	(18)	(18)	(18)	(18)	(18)	(17)	(16)	(16)	(18)
1996	14	13	12	11	11	10	10	9	9	8	8	8	10
( )	(16)	(16)	(17)	(17)	(17)	(17)	(16)	(15)	(15)	(15)	(14)	(13)	(16)

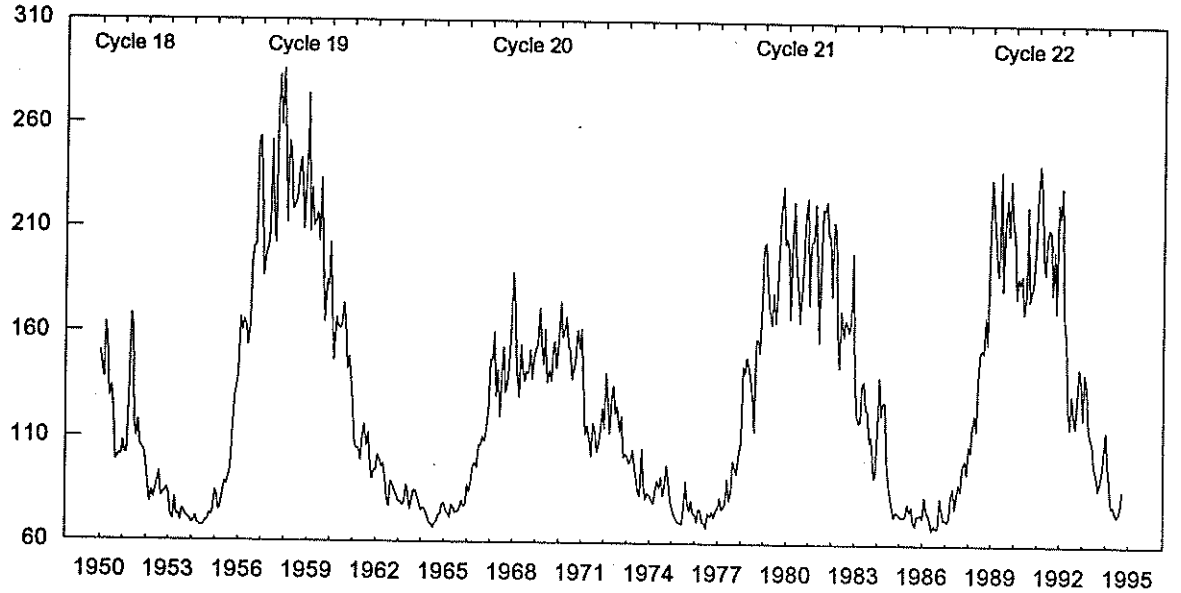
Solar Cycle 22 — Min, Max, and Predictions

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 April 1995 prediction. There exists a 90% chance that in April 1995, the actual smoothed number will fall somewhere between 2 and 40.

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 - Oct 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			85.9

Hα S O L A R F L A R E S

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
GOES	01	0225	0229	0232						7		B 1.4						
GOES	04	2157	2201	2205						8		B 1.3						
GOES		2304	2316	2319						15		C 1.7						
GOES		2357	2407	2409						12		B 3.7						
GOES	05	0027	0031	0033						6		B 1.1						
GOES		0036	0039	0041						5		B 3.9						
GOES		0240	0243	0245						5		B 1.1						
GOES		0634	0637	0639						5		B 1.8						
GOES		0918	0924	0928						10		B 9.9						
SVTO		1136	1138	1152	S06	E12	7784	10	6.4	16	SF		3	E		61		FE
RAMY		1136	1138	1158	S07	E12	7784	10	6.4	22	SN	C 3.0	3	E		64		FE
RAMY		1137	1137	1146	N10	E75		10	11.1	9	SF		3	E		10		
RAMY		1154	1200	1216	N10	E75		10	11.1	22	SF		3	E		15		
RAMY		1155	1157	1222	S15	W58		10	1.1	27	SF	C 1.0	3	E		34		F
RAMY		1252	1255	1302	S15	W59		10	1.1	10	SF		3	E		29		F
SVTO		1252	1255	1307	S16	W57		10	1.2	15	SF	C 1.3	3	E		25		F
RAMY		1309	1309	1333	N10	E76		10	11.2	24	SF		3	E		10		FH
SVTO		1326	1326	1330	N12	E78		10	11.4	4	SF	B 4.2	3	E		22		
RAMY		1347	1347	1350	S15	W59		10	1.1	3	SF		3	E		14		
RAMY		1350	1350	1355	N10	E74		10	11.1	5	SF		3	E		12		
GOES		1520	1526	1530						10		B 2.4						
RAMY		1620	1624	1632	S15	W61	7786	10	1.1	12	SF	B 2.1	3	E		30		F
GOES		1628	1631	1635						7		B 1.9						
HOLL		1641	1641	1655	S12	W62	7786	10	1.0	14	SF		3	E		11		H
HOLL		1807	1808	1814	S11	W62	7786	10	1.1	7	SF	B 1.5	3	E		18		
GOES		1933	1949	1951						18		B 1.9						
GOES		2031	2039	2045						14		B 1.6						
GOES		2237	2241	2244						7		B 1.8						
GOES		2307	2318	2325						18		B 5.2						
GOES	06	0547	0551	0553						6		B 1.3						
GOES		0648	0746	0748						60		B 1.9						
GOES		0908	0914	0916						8		B 4.2						
GOES		0929	0932	0934						5		B 5.2						
RAMY		1806	1815	1823	N11	E60	7787	10	11.3	17	SF		3	E		22		R
HOLL		1814	1815	1821	N08	E59	7787	10	11.2	7	SF		3	E		22		
HOLL		1913	1913	1947	S07	W07	7784	10	6.3	34	SF	C 3.2	3	E		50		F
GOES		1957	2000	2002						5		B 4.0						
GOES	07	0459	0504	0506						7		B 1.2						
SVTO		0530E	0533U	0538	S06	W10	7784	10	6.5	8D	SN	B 3.1	2	E		28		H
GOES		0817	0820	0822						5		B 1.0						
GOES		0842	0848	0850						8		B 2.2						
GOES		0940	0946	0950						10		B 2.2						
RAMY		1152	1152	1204	S09	W66	7783	10	2.5	12	SF		4	E		13		
GOES		1219	1228	1232						13		B 1.7						
SVTO		1518	1523U	1537D	S16	W15	7784	10	6.5	19D	SN		1	E		35		F
RAMY		1520	1531	1615	S07	W16	7784	10	6.4	55	SF	C 1.7	4	E		44		FH
HOLL		1523	1535	1627	S06	W17	7784	10	6.4	64	SF		3	E		32		
RAMY		1849	1851	1859D	S09	W72	7783	10	2.4	10D	SF		3	E		68		H
HOLL		1850	1852	1903	S05	W71	7783	10	2.5	13	SF	C 1.9	3	E		71		
RAMY	08	1140	1143	1149	S02	E53	7788	10	12.4	9	SF	B 2.3	3	E		11		
GOES		1744	1757	1808						24		B 1.9						
GOES		2018	2031	2049						31		B 2.3						
GOES		2247	2253	2259						12		B 4.6						
GOES	09	0154	0200	0207						13		B 2.5						
SVTO		0606	0607	0609	S08	W39	7784	10	6.3	3	SF	B 1.8	3	E		14		
LEAR		0640	0641	0644	S09	W51	7785	10	5.4	4	SF		3	E		23		
SVTO		0640	0641	0645	S11	W46	7785	10	5.8	5	SF	B 4.2	3	E		26		
SVTO		0742E	0752U	0756D	S12	W47	7785	10	5.8	14D	SF		2	E		38		H
LEAR		0746	0751	0756	S09	W51	7785	10	5.5	10	SF	B 8.5	3	E		10		
SVTO		0954	0954U	1001D	S12	W48	7785	10	5.8	7D	SF	B 6.6	2	E		18		
GOES		1017	1021	1025						8		B 3.3						
GOES		1059	1102	1104						5		B 2.0						

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
RAMY	09	1117	1125	1144	S10	W55	7785	10	5.3	27	SF		3	E		10		
RAMY		1147	1147	1202	S10	W55	7785	10	5.3	15	SF		3	E		10		
SVTO		1225E	1225U	1234D	S12	W51	7785	10	5.7	9D	SF	B 4.8	3	E		18		
RAMY		1248	1250	1256	S11	W51	7785	10	5.7	8	SF	B 3.1	3	E		28		
SVTO		1250E	1250U	1255	S12	W51	7785	10	5.7	5D	SF		3	E		26		
GOES		1357	1407	1410						13		B 6.8						
RAMY		1612	1621	1634	S11	W54	7785	10	5.6	22	1N	C 7.3	3	E		121		FE
HOLL		1613	1625	1634	S10	W57	7785	10	5.4	21	SF		3	E		45		E
GOES	10	0052	0102	0108						16		B 3.3						
LEAR		0607	0608	0612	S08	W62	7785	10	5.6	5	SF		3	E		17		
SVTO		0607	0608	0614	S12	W61	7785	10	5.6	7	SF	B 6.3	3	E		49		
GOES		0837	0840	0846						9		B 2.1						
RAMY		1137	1137	1152	S11	W66	7785	10	5.5	15	SF	B 4.0	3	E		16		
GOES		1218	1222	1226						8		B 2.4						
RAMY		1334	1334	1339	S11	W69	7785	10	5.4	5	SF		3	E		11		
HOLL		1433	1434	1440	S07	W64	7785	10	5.8	7	SF		3	E		18		
RAMY		1433	1435	1442	S11	W69	7785	10	5.4	9	SF	B 9.6	3	E		62		
SVTO		1433	1436	1439	S12	W67	7785	10	5.5	6	SF		3	E		41		FH
GOES		1831	1835	1841						10		B 2.7						
GOES		1914	1918	1924						10		B 2.7						
GOES		1926	1929	1931						5		B 3.1						
GOES	11	0502	0516	0526						24		B 4.1						
GOES		0620	0625	0630						10		B 5.3						
GOES		0859	0908	0920						21		B 5.2						
GOES		1427	1440	1454						27		B 3.6						
RAMY		1456	1457	1501	N12	E55	7789	10	15.8	5	SF	B 3.8	3	E		36		
HOLL		1457	1458	1501	N10	E47	7789	10	15.1	4	SF		3	E		27		H
GOES		2134	2140	2144						10		B 3.5						
GOES		2156	2200	2204						8		B 2.9						
GOES	12	0756	0800	0802						6		B 5.1						
GOES		0914	0918	0921						7		B 3.1						
SVTO		0934	0936	0946	N01	W01	7788	10	12.3	12	SF		2	E		32		F
GOES		0958	1002	1005						7		B 3.4						
GOES		1028	1034	1038						10		B 6.2						
GOES		1210	1214	1218						8		B 2.4						
GOES		1450	1454	1456						6		B 2.3						
RAMY		1546	1549	1559	N11	E73	7790	10	18.1	13	SF	B 3.1	3	E		23		F
GOES	13	0041	0049	0054						13		B 9.7						
GOES		0442	0446	0452						10		B 5.4						
GOES		0703	0708	0712						9		B 5.2						
SVTO		0828	0828	0835	N11	E27	7789	10	15.4	7	SF		3	E		16		
SVTO		1000	1000	1010	N14	E67	7790	10	18.5	10	SF	B 3.1	3	E		21		
GOES		1243	1255	1300						17		B 1.6						
RAMY		1443	1501	1521	N10	E61	7790	10	18.2	38	SF	B 6.4	3	E		92		F
SVTO		1445	1501	1516	N13	E63	7790	10	18.4	31	SF		3	E		68		
SVTO		1508	1509	1540	S02	W18	7788	10	12.3	32	SF		3	E		14		
RAMY		1509	1509	1538	S02	W18	7788	10	12.3	29	SF		3	E		13		F
RAMY		1522	1531	1539	N10	E61	7790	10	18.2	17	SF		3	E		29		F
RAMY		1606	1618	1648D	N07	W32	7787	10	11.3	42D	SF	B 3.7	3	E		28		
RAMY		1948E	1948U	2000	N12	E60	7790	10	18.3	12D	SF	B 4.5	3	E		36		
GOES	14	0450	0455	0458						8		B 6.3						
GOES		0922	0935	0944						22		B 5.7						
RAMY		1120	1133	1211	N11	E50	7790	10	18.2	51	SF	B 4.3	3	E		61		F
RAMY		1212	1212	1221	N10	E49	7790	10	18.2	9	SF		3	E		21		
RAMY		1224	1230	1253	N09	E49	7790	10	18.2	29	SF	B 6.0	3	E		44		F
RAMY		1406	1408	1419	N10	E50	7790	10	18.3	13	SF		3	E		14		
GOES		1831	1836	1844						13		B 4.3						
GOES		1940	1944	1955						15		B 3.4						
GOES		2011	2018	2024						13		B 9.5						
GOES		2210	2221	2231						21		B 2.8						
LEAR		2304	2304	2307	N08	E41	7790	10	18.0	3	SF		3	E		13		
LEAR		2343	2345	2354	N08	E41	7790	10	18.1	11	SF	C 2.6	3	E		64		
LEAR		2354	2355	2359	N08	E41	7790	10	18.1	5	SF		3	E		19		

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
GOES	15	0326	0331	0342						16		B 5.9						
GOES		0409	0417	0426						17		B 8.7						
SVTO		1013	1018	1046	N11	E37	7790	10	18.2	33	SN	C 2.8	3	E		78		F
GOES		1334	1338	1340						6		B 3.5						
RAMY		1403	1403	1415	N09	E37	7790	10	18.4	12	SF		3	E		29		FH
SVTO		1406	1406	1416	N10	E35	7790	10	18.2	10	SF	B 6.1	3	E		10		F
RAMY		1745	1753	1808	S03	W48	7788	10	12.1	23	SF		3	E		32		F
RAMY		1824	1824	1828	N10	E34	7790	10	18.3	4	SF	B 5.2	3	E		29		F
LEAR		2236	2238	2241	N04	E26	7790	10	17.9	5	SF		3	E		37		
LEAR		2309	2309	2312	N04	E26	7790	10	17.9	3	SF		3	E		39		
GOES	16	0118	0123	0129						11		B 2.0						
GOES		2249	2252	2254						5		B 2.0						
GOES	17	0713	0722	0818						65		B 3.1						
GOES		1531	1557	1615						44		B 9.2						
GOES	18	0442	0515	0534						52		B 6.9						
SVTO		0706	0709U	0717	S04	E89		10	24.9	11	SF		2	E		64		H
LEAR		0708	0709	0714	S10	E79		10	24.2	6	SF	B 6.8	3	E		54		
GOES		1515	1524	1547						32		B 7.0						
RAMY		1701	1703	1709	N09	W08	7790	10	18.1	8	SF		3	E		53		
RAMY		1714	1721	1735D	N09	W08	7790	10	18.1	21D	1F	B 8.7	3	E		116		F
GOES		2053	2058	2105						12		B 4.7						
GOES	19	0616	0621	0625						9		B 4.1						
GOES		1337	1340	1344						7		B 4.4						
RAMY		1356	1357	1359	N09	W20	7790	10	18.1	3	SF		3	E		42		F
GOES		1523	1526	1529						6		B 2.3						
GOES		1719	1733	1830						71		B 9.4						
LEAR		2235	2313	2351	N12	W24	7790	10	18.1	76	1F	M 3.2	3	E		157		
GOES	21	2238	2242	2247						9		B 3.3						
GOES	22	0216	0222	0233						17		B 3.4						
GOES		0600	0614	0619						19		B 3.0						
GOES		0830	0848	0859						29		B 9.0						
GOES		1030	1054	1124						54		B 6.5						
RAMY		1110	1125	1207	N09	W54	7790	10	18.4	57	SF		3	E		35		H
RAMY		1213	1213	1245	N09	W58	7790	10	18.1	32	1F	C 1.3	3	E		100		FH
HOLL		1401	1406	1415	N12	W57	7790	10	18.3	14	SF	B 3.9	3	E		20		F
RAMY		1405	1405	1413	N09	W55	7790	10	18.4	8	SF		3	E		15		
HOLL		2048	2051	2056	N12	W61	7790	10	18.3	8	SF		3	E		23		
GOES		2238	2246	2253						15		B 3.2						
GOES	23	0642	0647	0650						8		B 4.2						
GOES		0825	0830	0837						12		B 3.8						
GOES		0928	0934	0939						11		B 4.6						
SVTO		1134	1134	1142	N10	W77	7790	10	17.7	8	SF	C 3.1	2	E		19		F
GOES		2037	2045	2056						19		B 8.9						
GOES		2241	2305	2321						40		C 1.8						
GOES	24	0141	0149	0157						16		C 1.2						
GOES		0324	0329	0333						9		B 8.4						
GOES		0753	0758	0802						9		B 3.0						
GOES		0830	0837	0846						16		B 3.5						
GOES		0909	0912	0914						5		B 3.0						
GOES		1025	1028	1030						5		B 1.4						
GOES		1503	1515	1522						19		B 1.4						
GOES		1537	1542	1545						8		B 2.2						
GOES		1631	1639	1644						13		B 1.4						
GOES		1747	1756	1811						24		B 1.1						
LEAR	25	1008E	1008U	1009D	S06	W11	7792	10	24.6	1D	SF	C 4.7	2	E		90		U
GOES		1549	1553	1556						7		B 4.6						
GOES	26	0843	0853	0913						30		B 3.9						
GOES		1055	1059	1101						6		B 3.7						

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
HOLL	26	1805	1820	1856	N15	E64	7794	10	31.6	51	SF	B 5.8	3	E		35		
RAMY		2006	2011	2024	N15	E64	7794	10	31.7	18	SF		3	E		33		
HOLL	28	1846	1848	1900	N16	E40	7794	10	31.8	14	SF	B 5.7	3	E		23		F
RAMY		1847	1847	1859	N17	E37	7794	10	31.6	12	SF		3	E		16		F
GOES	29	0122	0125	0128						6		B 5.6						
LEAR		0433	0437	0442	N13	E35	7794	10	31.8	9	SF	C 1.3	3	E		51		F
GOES		0646	0651	0656						10		B 3.2						
GOES		0900	0907	0913						13		B 6.0						
GOES		0922	0926	0930						8		B 3.6						
GOES		0945	0950	0958						13		B 3.9						
GOES		1102	1130	1140						38		B 7.3						
RAMY		1136	1208	1217	N17	E27	7794	10	31.5	41	SF	B 9.0	3	E		22		F
RAMY		1230	1232	1240	N16	E26	7794	10	31.5	10	SF	B 4.5	3	E		22		
HOLL		1425	1426	1448	N14	E24	7794	10	31.4	23	SF	B 7.6	3	E		20		
HOLL		1556	1600	1609	N17	E27	7794	10	31.7	13	SF		3	E		18		
GOES		1731	1734	1738						7		B 2.7						
HOLL		1812	1812	1819	N16	E25	7794	10	31.6	7	SF	B 6.1	3	E		21		
HOLL		2044	2047	2108	N17	E25	7794	10	31.8	24	SF		3	E		31		
GOES	30	0248	0251	0253						5		B 2.0						
GOES		0352	0356	0358						6		B 1.6						
RAMY		1845	1850	1908	N18	E13	7794	10	31.8	23	SF	B 3.9	3	E		23		
RAMY		1920	1927	1940	N17	E12	7794	10	31.7	20	SF		3	E		11		
LEAR	31	0652	0654	0703	N15	E04	7794	10	31.6	11	SF	B 8.1	3	E		16		F
SVTO		0700E	0700U	0704D	N15	E05	7794	10	31.7	4D	SF		1	E		12		F
SVTO		1245	1245	1257	N14	E01	7794	10	31.6	12	SF	B 3.7	3	E		14		F
RAMY		1718	1718	1728	N15	W01	7794	10	31.6	10	SF	B 1.5	3	E		10		
RAMY		1909	1910	1918	S10	E09	7797	11	1.5	9	SF	B 2.1	3	E		11		
HOLL		1953	1953	2004	N17	W02	7794	10	31.7	11	SF	B 2.9	3	E		12		FH
RAMY		1953	1957	2002D	N17	W02	7794	10	31.7	9D	SF		3	E		19		F

"Remarks"

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

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

SOLAR RADIO EMISSION
Selected Fixed Frequency Events

OCTOBER 1994

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
05	2695	SGMR	8	S	1137.0	1138.0	2.0	29.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	1138.0	1138.0	U	23.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	1138.0	1138.0	U	22.0			QL=4 ST=2 TYP=3
06	2695	PALE	8	S	1907.0	1907.0	U	33.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1907.0	1907.0	1.0	38.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1907.0	1907.0	2.0	19.0			QL=4 ST=2 TYP=3
09	2695	LEAR	8	S	0639.0	0640.0	1.0	62.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	0639.0	0640.0	1.0	61.0			QL=4 ST=2 TYP=3
12	8800	SVTO	8	S	0857.0	0857.0	1.0	170.0			QL=2 ST=2 TYP=3
13	8800	SVTO	8	S	1323.0	1323.0	2.0	99.0			QL=4 ST=2 TYP=3
19	2695	SGMR	4	S/F	2059.0	2103.0	16.0	93.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	2111.0	2111.0	3.0	27.0			QL=4 ST=2 TYP=3
24	2695	LEAR	4	S/F	0326.0	0326.0	4.0	35.0			QL=4 ST=3 TYP=3
	2695	PALE	8	S	0326.0	0326.0	1.0	40.0			QL=4 ST=2 TYP=3
25	2695	SVTO	20	GRF	1004.0	1006.0	2.0	25.0			QL=4 ST=2 TYP=2
	2695	LEAR	4	S/F	1006.0	1009.0	8.0	55.0			QL=4 ST=3 TYP=3
	8800	SVTO	20	GRF	1013.0	1013.0	U	27.0			QL=4 ST=2 TYP=2

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

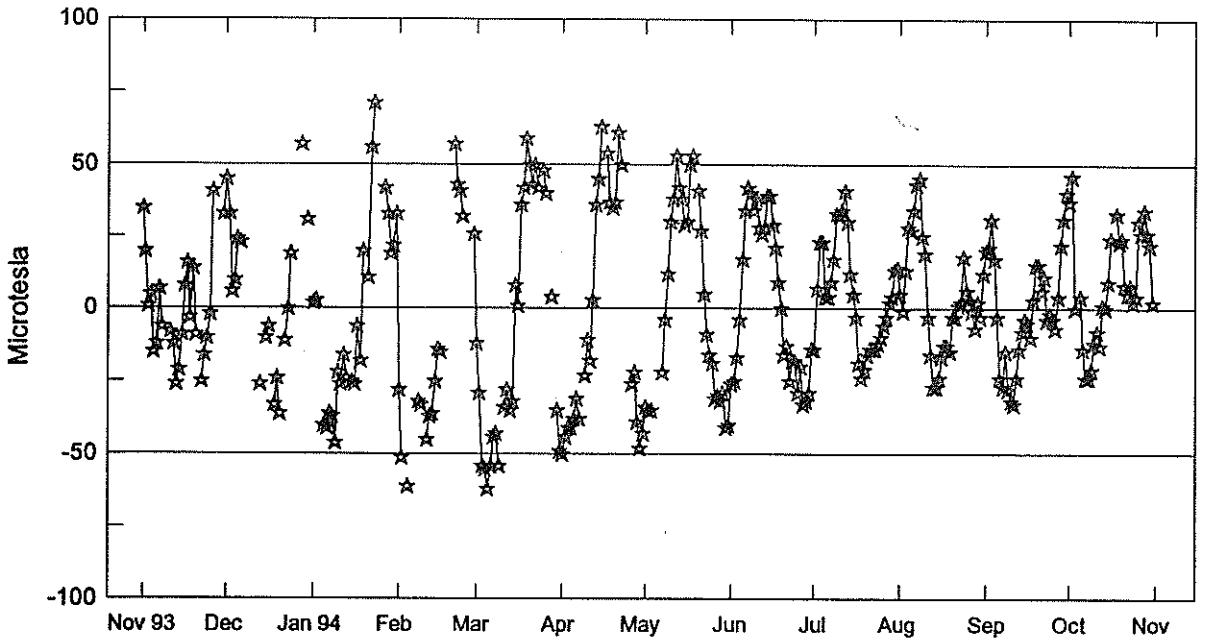
Explanation of Type Code:

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 Precusor	41 Group of Bursts	47 Great Burst
6 Minor	23 Simple 3AF	29 Post Burst Increase	42 Series of Bursts	48 Major

1A Simple 1A	4A Simple 2AF	24PF Post Rise F	27F Rise and Fall F
3A Simple 2A	40 Rise Only	16A Fall A	27AF Rise and Fall AF
21A Simple 3A GRF	40F Rise Only F	260 Fall Only	31A Post Burst Decrease A
2A Simple 1AF	4P Post Rise	26F Fall F	32A Absorption A

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

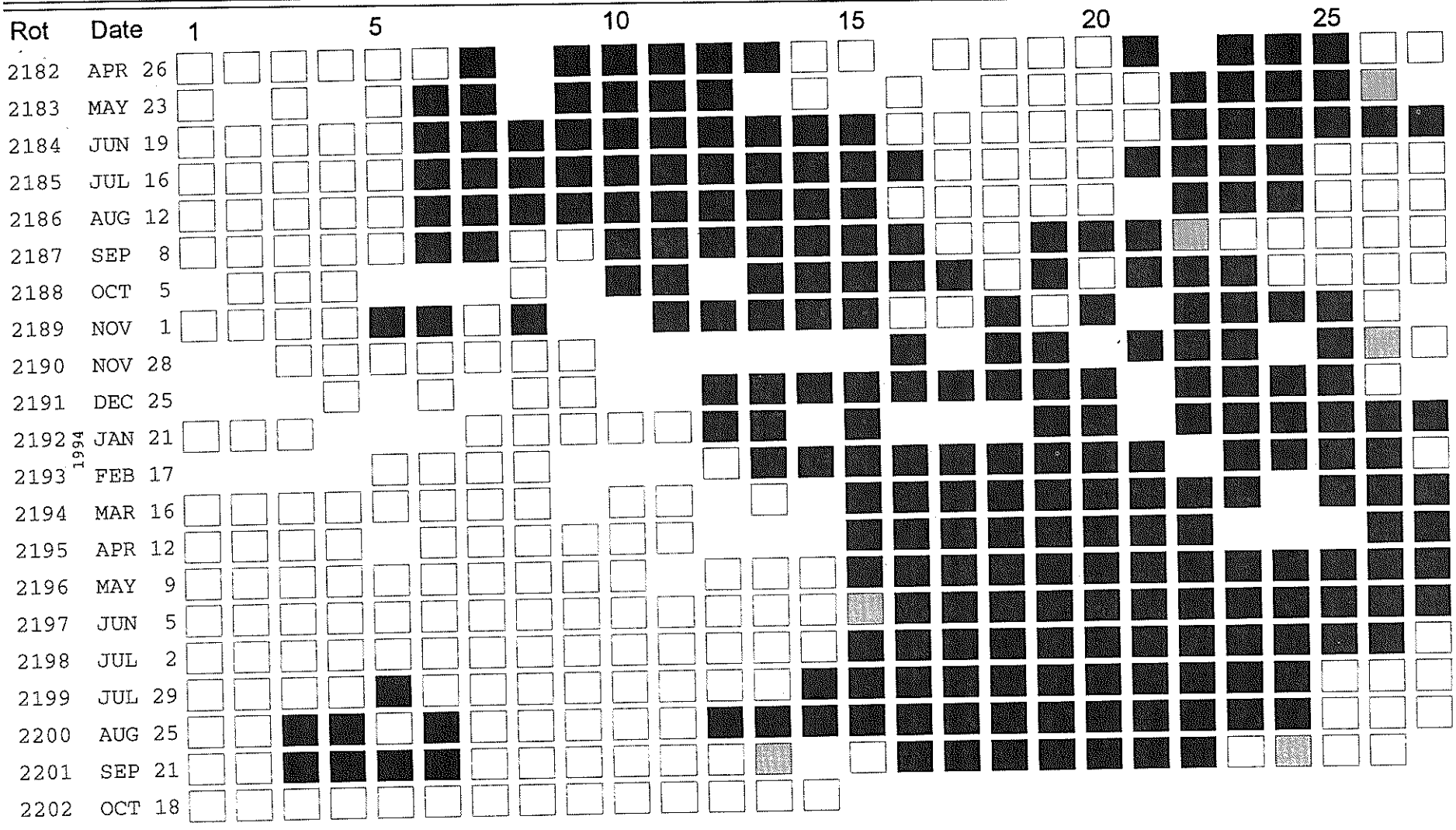
Stanford Mean Solar Magnetic Field (Microtesla)
"Sun-As-A-Star"



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

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

STANFORD MEAN SOLAR MAGNETIC FIELD

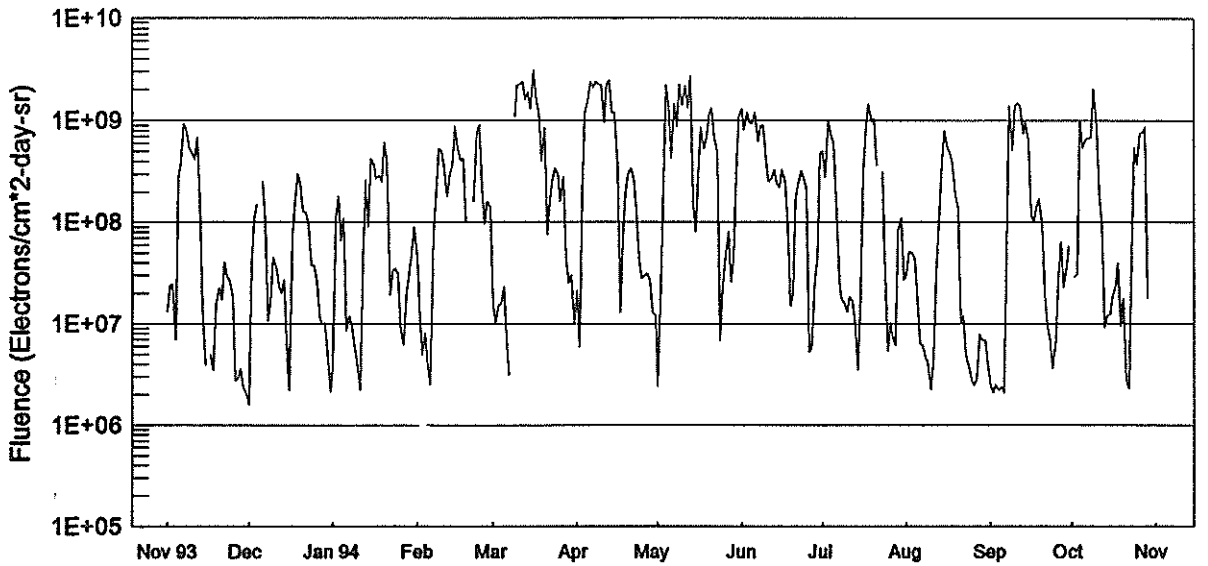


Mean Solar Magnetic Field Polarity: = field > 2 microT; = -2 microT ≤ field ≤ 2 microT

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

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

GOES7 Daily Electron Fluence
Nov 93 - Oct 94



Day	Nov 93	Dec	Jan 94	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	1.3E+07	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	--
2	2.4E+07	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
3	2.4E+07	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
4	6.9E+06	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
5	2.7E+08	--	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
6	3.9E+08	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
7	9.3E+08	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
8	8.2E+08	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
9	5.3E+08	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
10	5.0E+08	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
11	4.2E+08	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
12	6.9E+08	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
13	1.7E+08	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
14	1.5E+07	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
15	3.9E+06	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
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
17	5.0E+06	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
18	3.5E+06	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
19	1.5E+07	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
20	2.3E+07	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
21	1.7E+07	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
22	4.0E+07	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
23	2.9E+07	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
24	2.6E+07	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
25	1.8E+07	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
26	2.7E+06	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
27	2.9E+06	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	3.6E+06	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	2.3E+06	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	2.1E+06	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	--
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.

CONTENTS

Prompt Reports Number 603 Part I

DATA FOR SEPTEMBER 1994

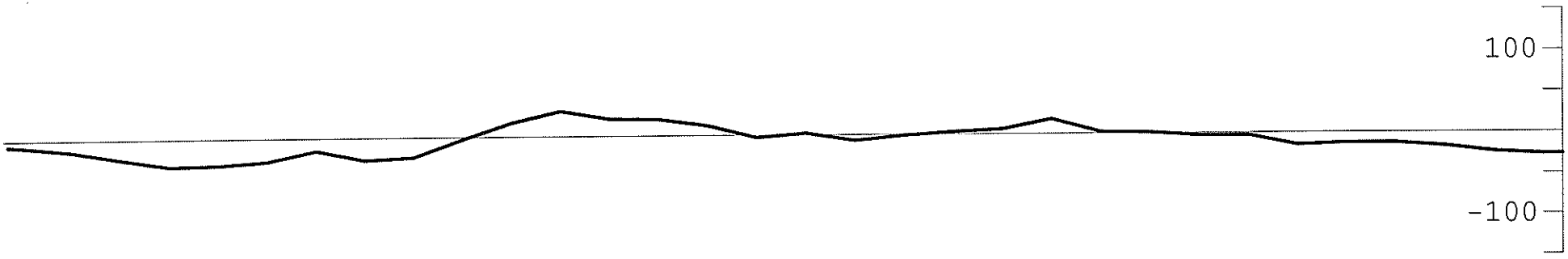
SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1886

(16 August to 12 September 1994)

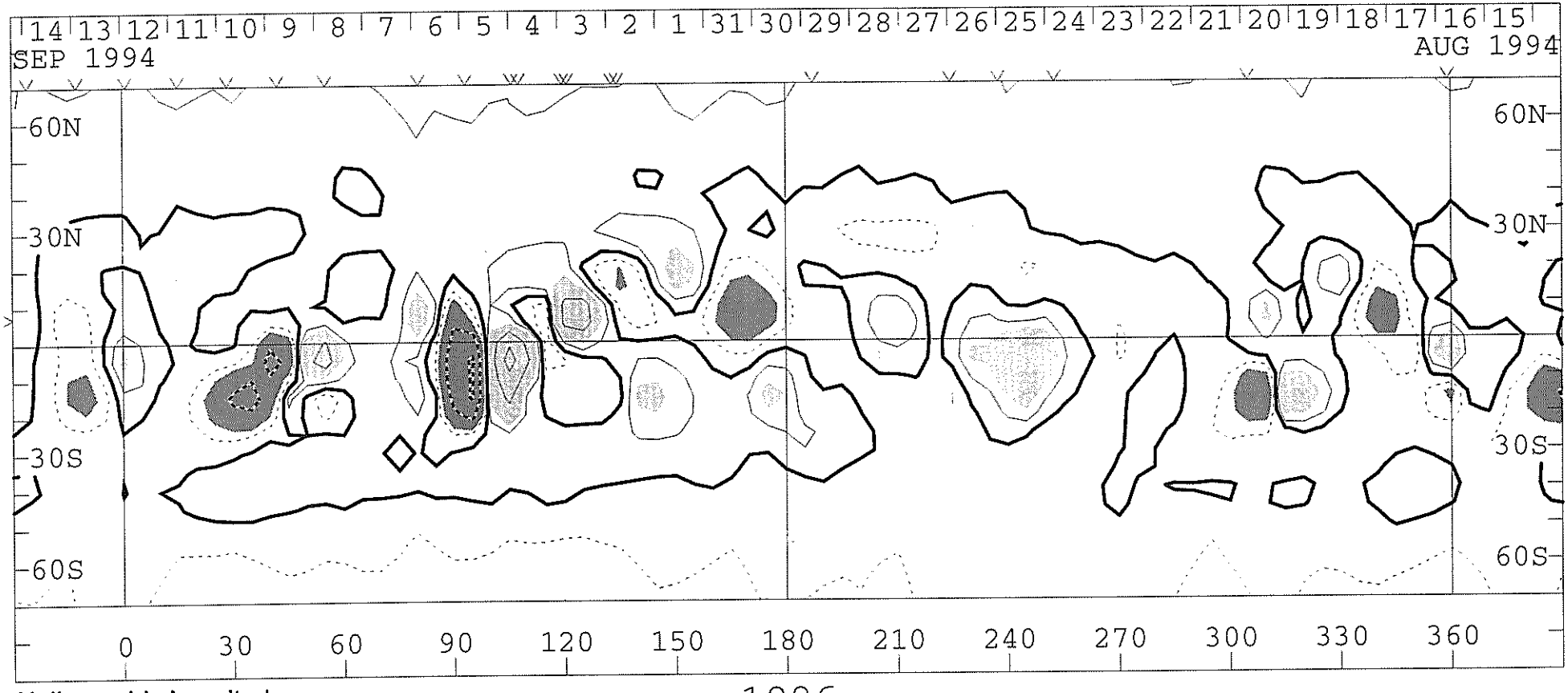
WILCOX SOLAR OBSERVATORY

Mean Field



Photospheric Magnetic Field

0, ±100, 500, 1000, 2000 MicroTesla



SOLAR MAGNETIC FIELD SYNOPTIC CHART

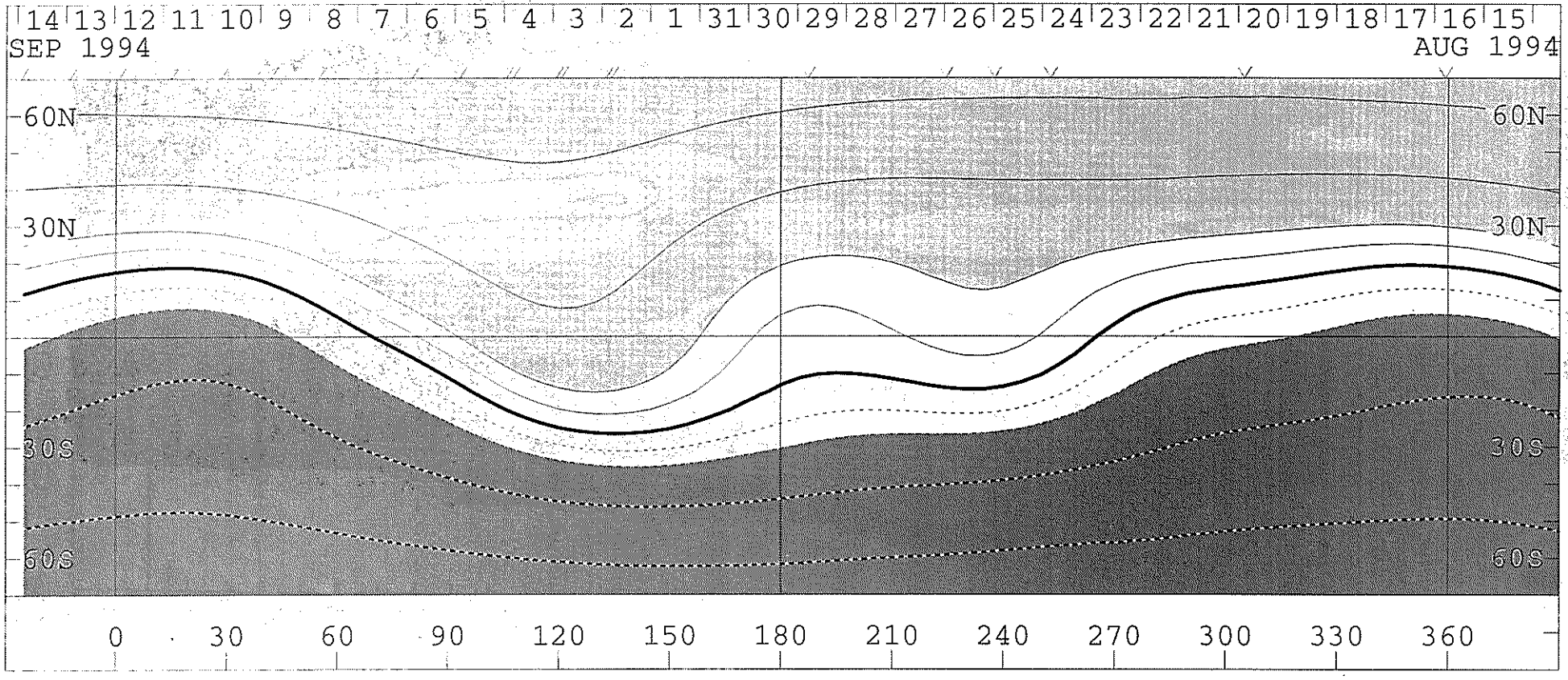
SOURCE SURFACE FIELD

CARRINGTON ROTATION NUMBER 1886

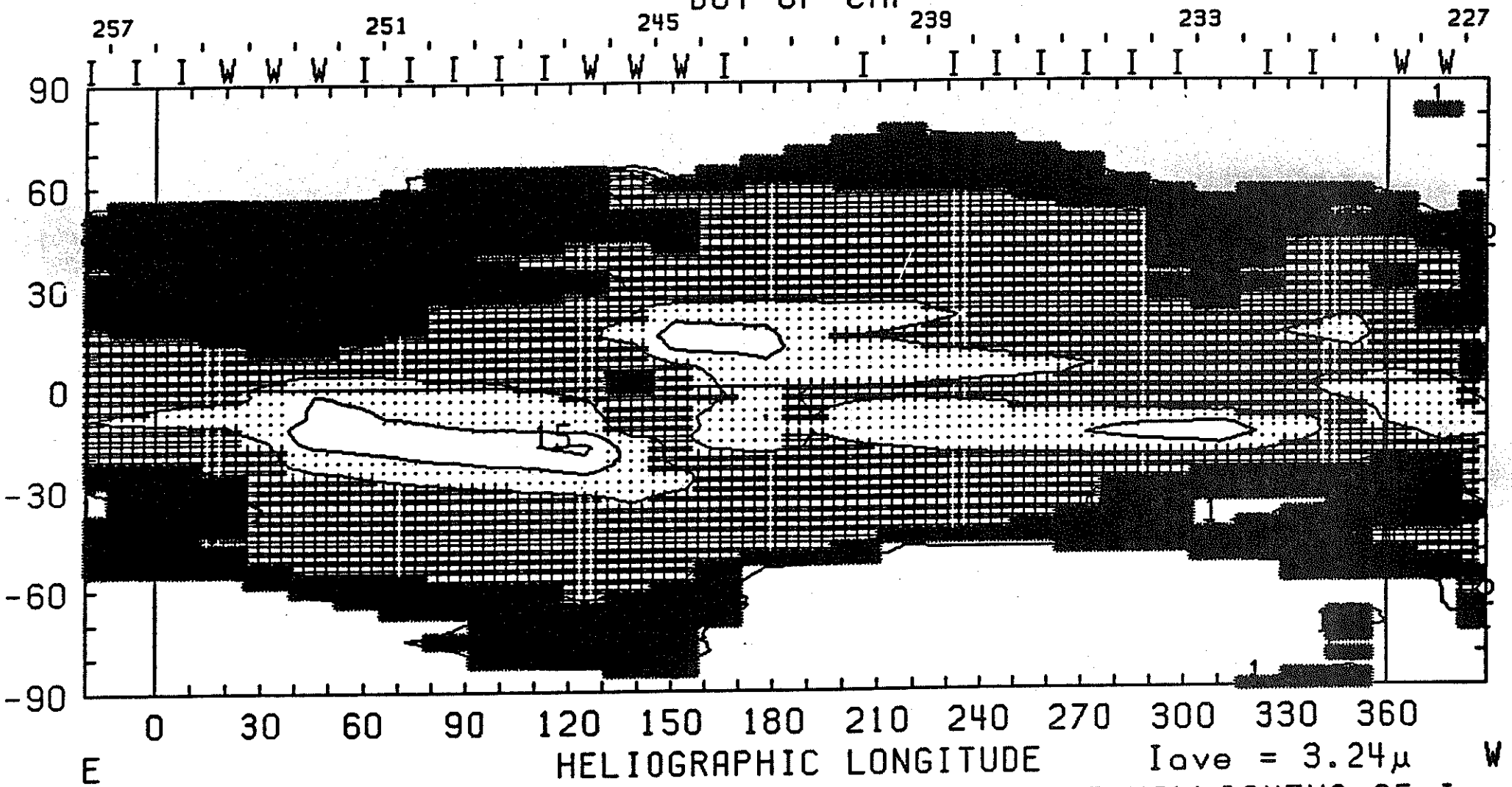
(16 August to 12 September 1994)

Wilcox Solar Observatory

0, ±1, 2, 5, 10, 20 microTesla

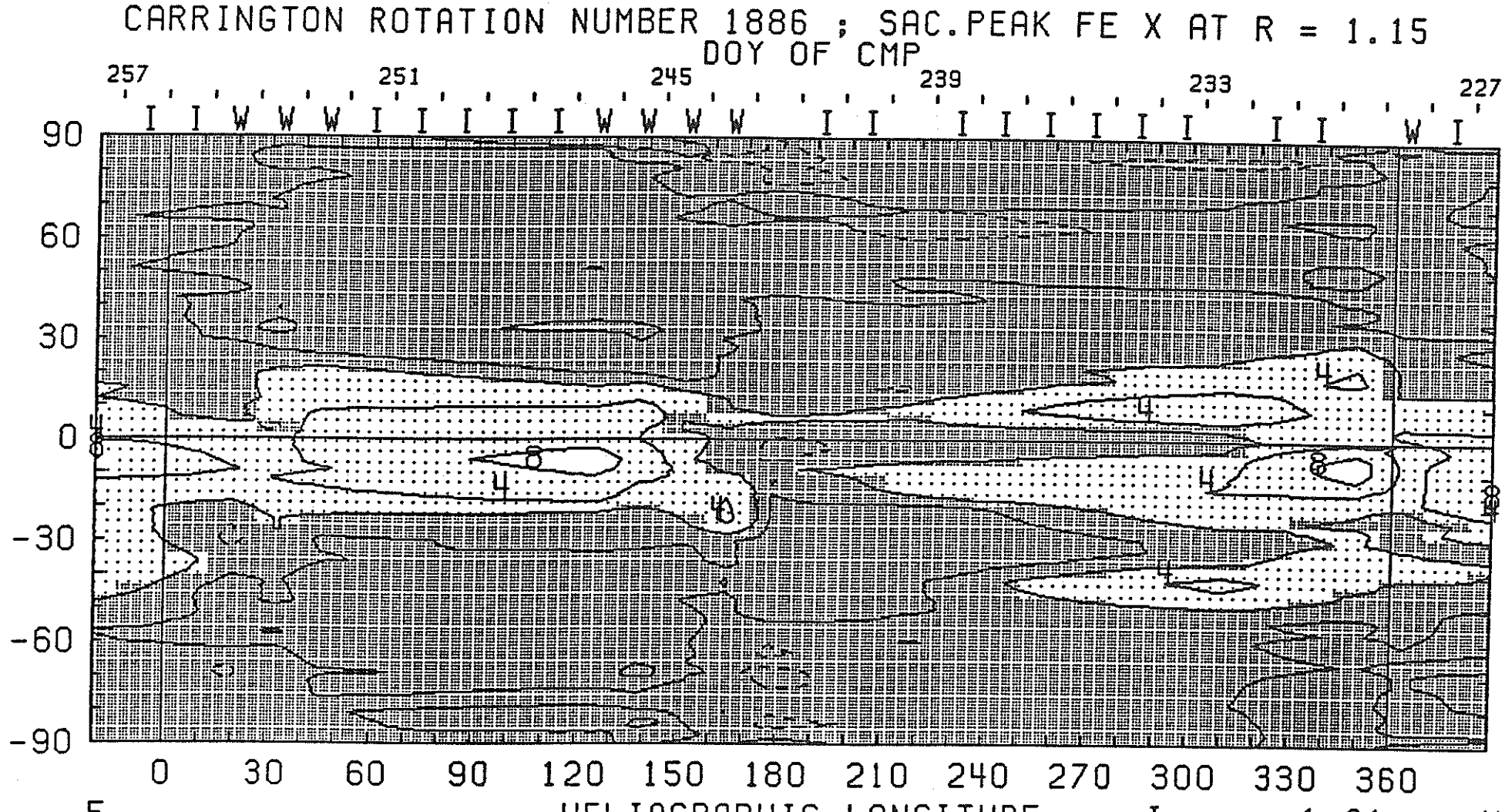


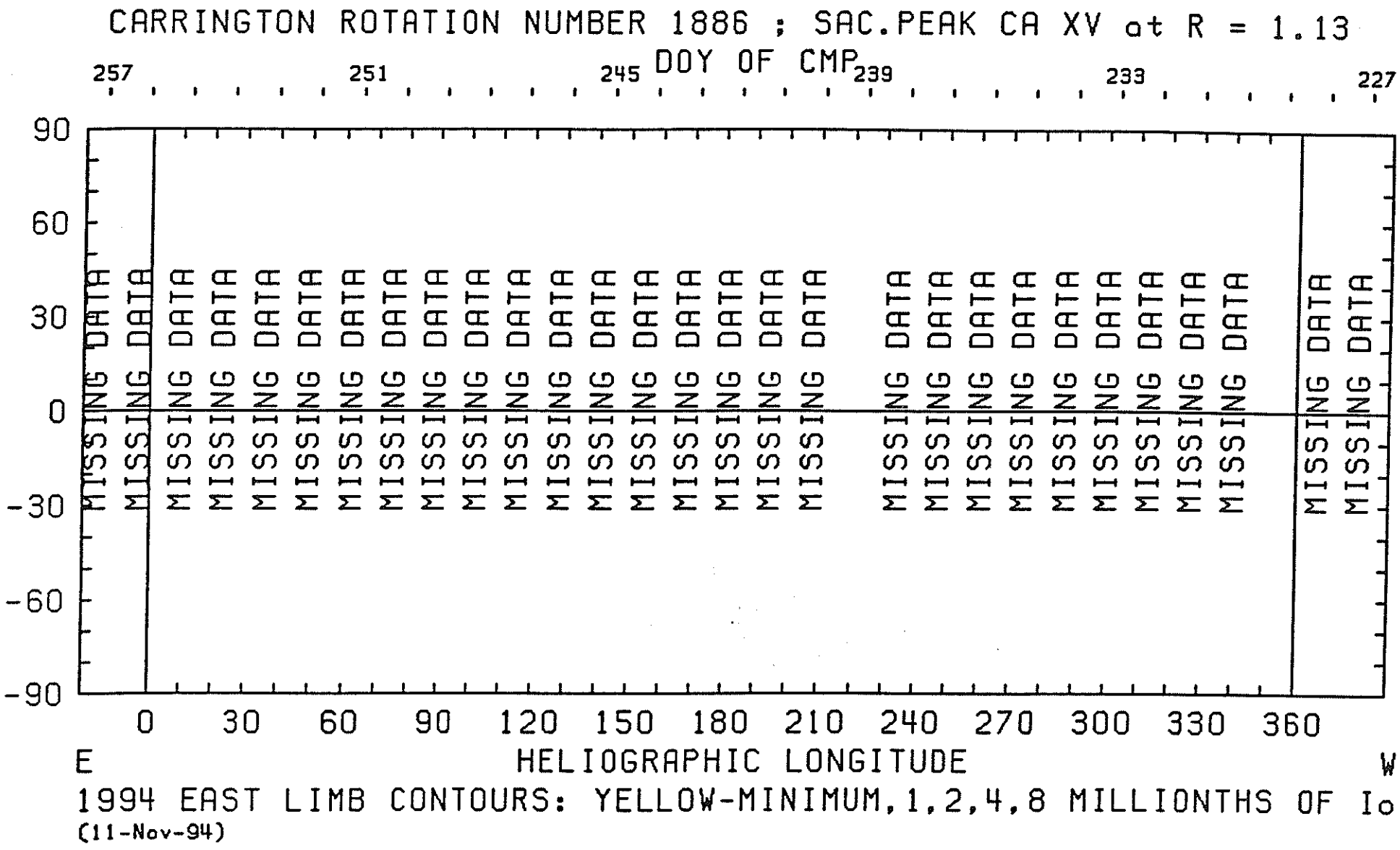
CARRINGTON ROTATION NUMBER 1886 ; SAC.PEAK FE XIV AT R = 1.15

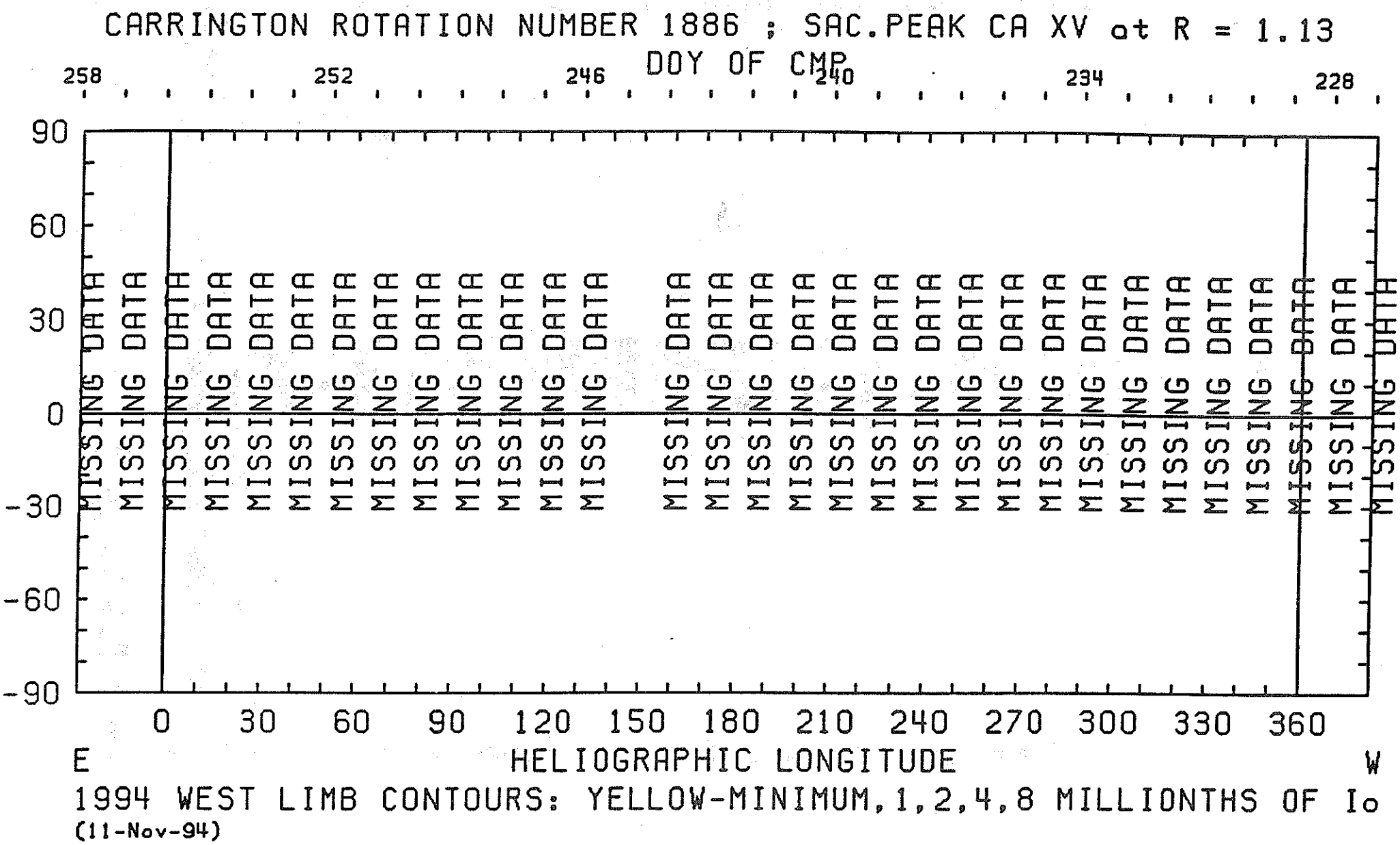


1994 E+W LIMB CONTOURS: 1,2,3,7,11,15,25,35,45 MILLIONTHS OF Io

(22-Nov-94) CORONAL HOLES ARE SHOWN AS WHITE SURROUNDED BY BLACK


CARRINGTON ROTATION NUMBER 1886 ; SAC.PEAK FE X AT R = 1.15
DOY OF CMP
257
251
245
239
233
227
I I W W W I I I I I W W W W I I I I I I I I I I W I
90
60
30
0
-30
-60
-90
EQE
4
8
4
4
4
8
4
0 30 60 90 120 150 180 210 240 270 300 330 360
E
HELIOGRAPHIC LONGITUDE
Iave = 1.61μ
W
1994 E+W LIMB CONTOURS: 1,2,4,8,16,32,48,64,80 MILLIONTHS OF Io
(11-Nov-94)


CARRINGTON ROTATION NUMBER 1886 ; SAC.PEAK CA XV at R = 1.13
DOY OF CMP
257
251
245
239
233
227
90
60
30
0
-30
-60
-90
MISSING DATA
0
30
60
90
120
150
180
210
240
270
300
330
360
E
HELIOGRAPHIC LONGITUDE
W
1994 EAST LIMB CONTOURS: YELLOW-MINIMUM,1,2,4,8 MILLIONTHS OF Io
(11-Nov-94)


CARRINGTON ROTATION NUMBER 1886 ; SAC.PEAK CA XV at R = 1.13
DOY OF CMP
258
252
246
240
234
228
90
60
30
0
-30
-60
-90
MISSING DATA
0
30
60
90
120
150
180
210
240
270
300
330
360
E
HELIOGRAPHIC LONGITUDE
W
1994 WEST LIMB CONTOURS: YELLOW-MINIMUM,1,2,4,8 MILLIONTHS OF Io
(11-Nov-94)

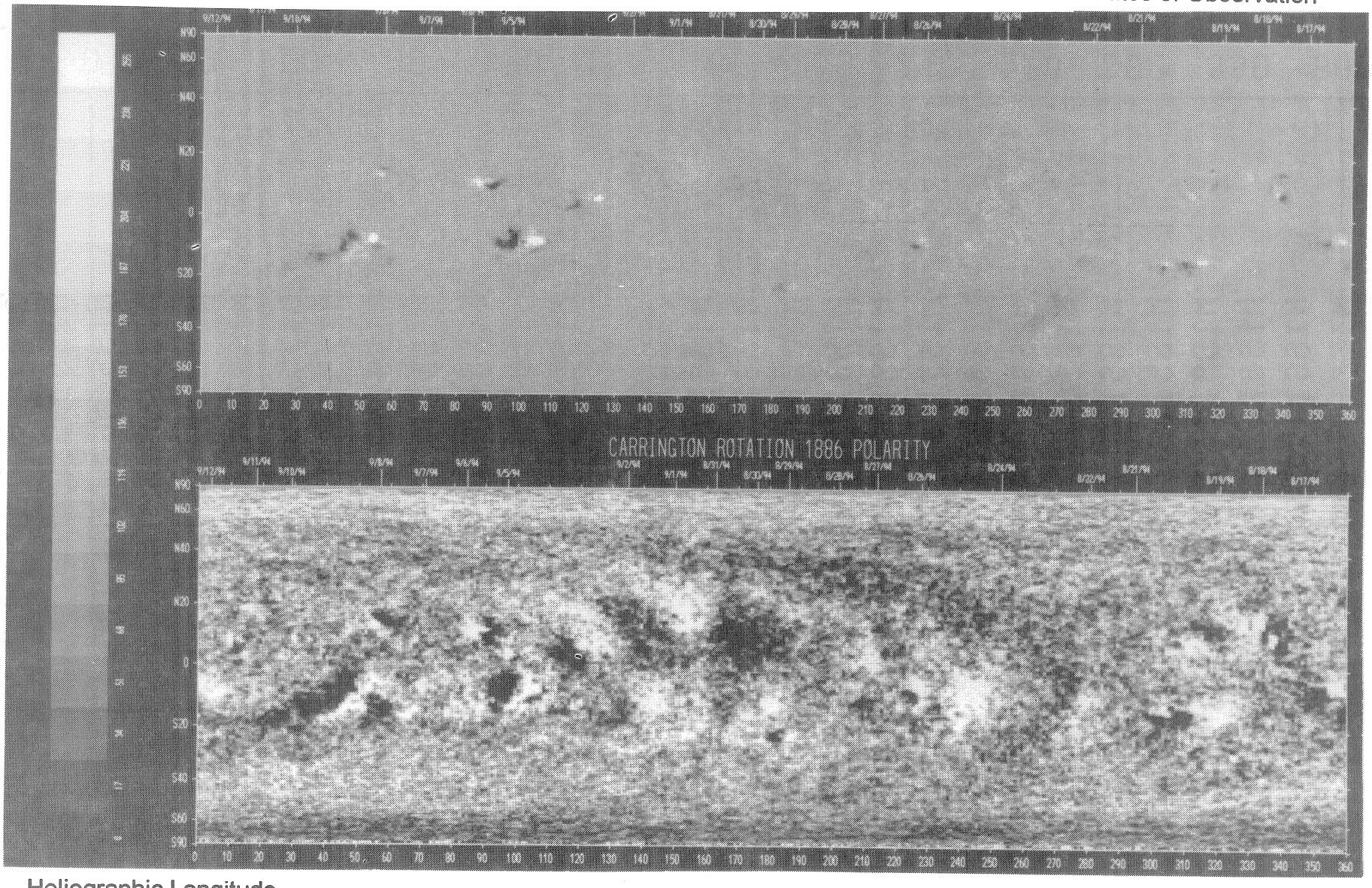
SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1886

(16 August to 12 September 1994)

National Solar Observatory/Kitt Peak

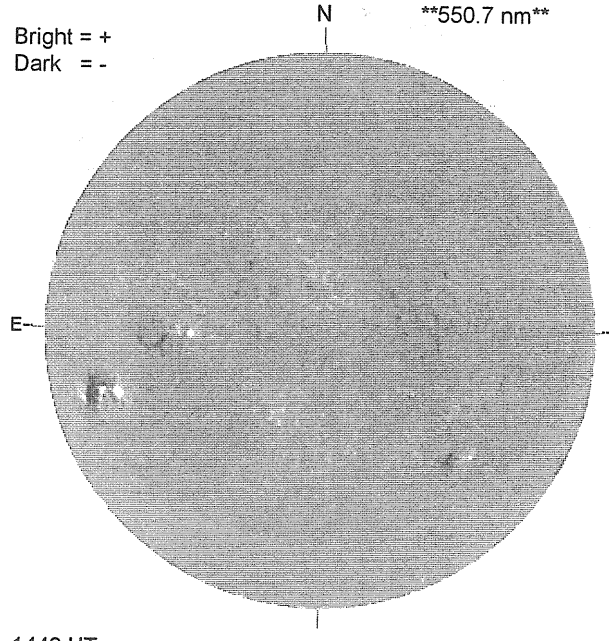
Dates of Observation



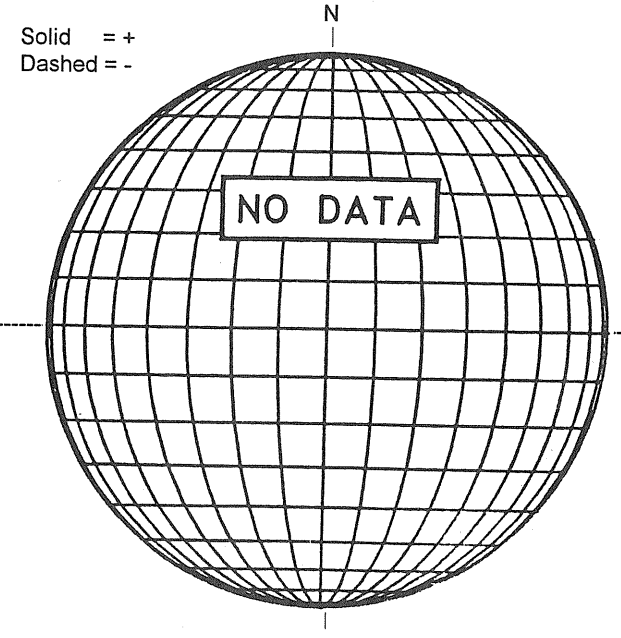
Heliographic Longitude

SEPTEMBER 1, 1994 (P= 21.01, Bo = 7.19, Lo = 157.89)

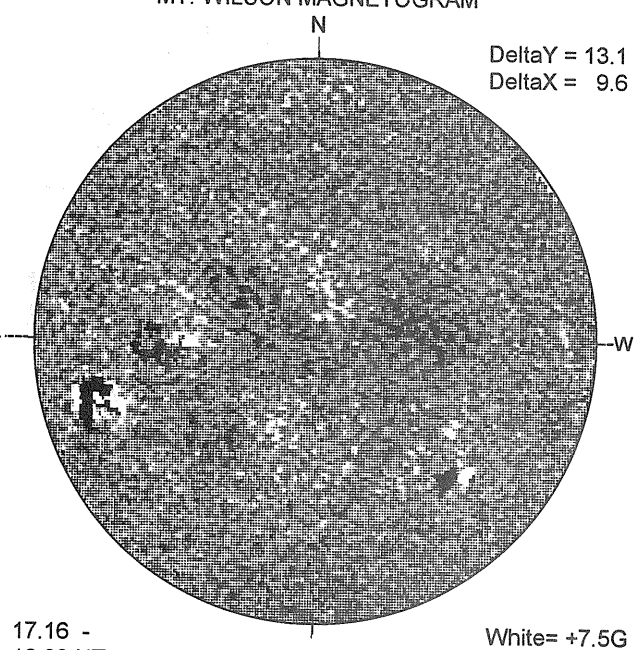
KITT PEAK MAGNETOGRAM



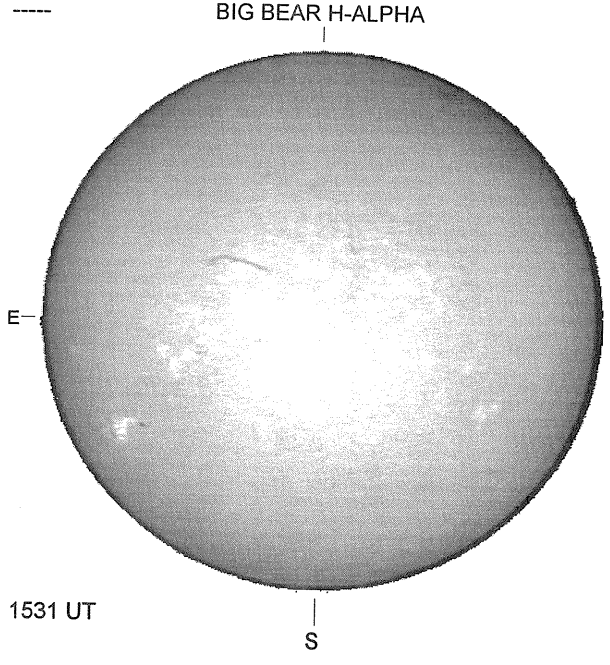
STANFORD MAGNETOGRAM



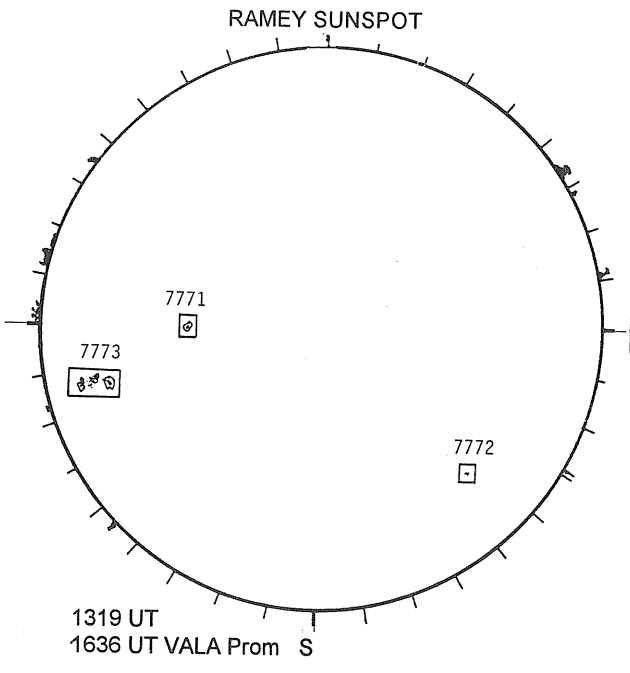
MT. WILSON MAGNETOGRAM



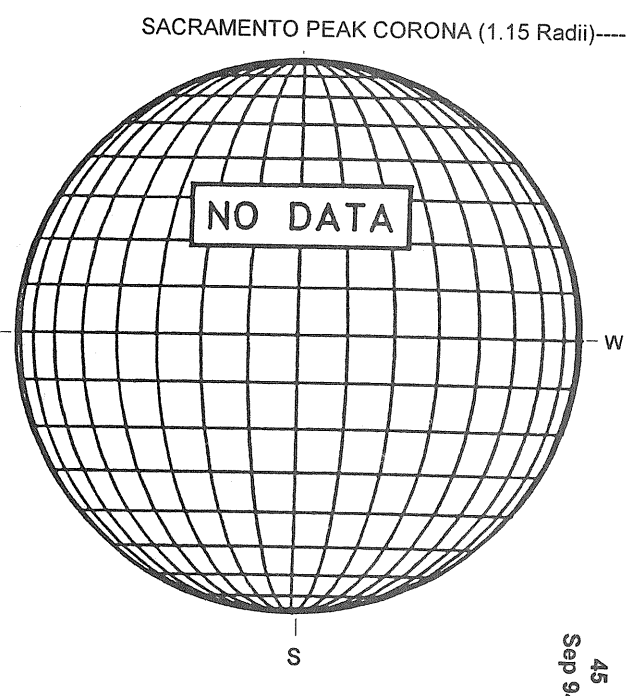
BIG BEAR H-ALPHA



RAMEY SUNSPOT



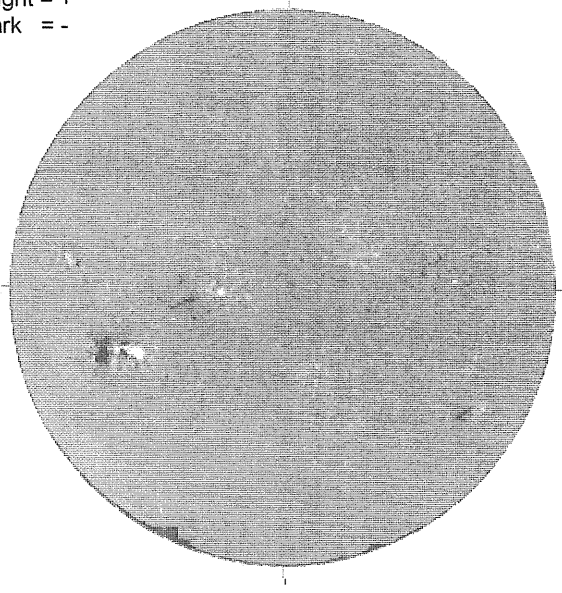
SACRAMENTO PEAK CORONA (1.15 Radii)----



SEPTEMBER 2, 1994 (P= 21.27, Bo = 7.21, Lo = 144.68)

KITT PEAK MAGNETOGRAM

N
550.7 nm
Bright = +
Dark = -
E
1647 UT



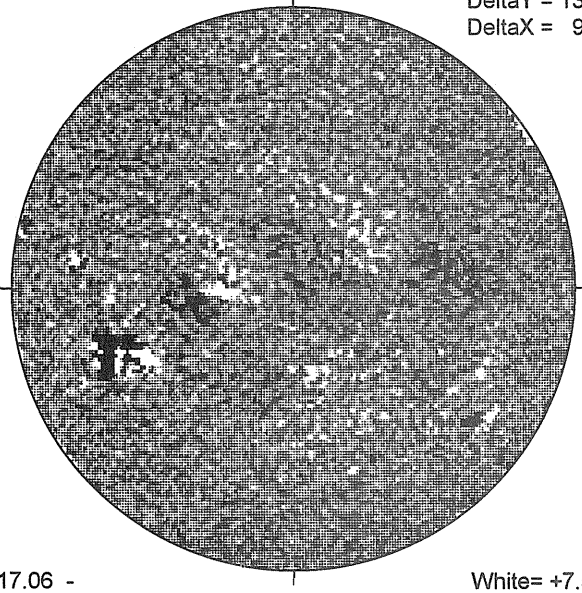
STANFORD MAGNETOGRAM

N
Solid = +
Dashed = -

2147 UT

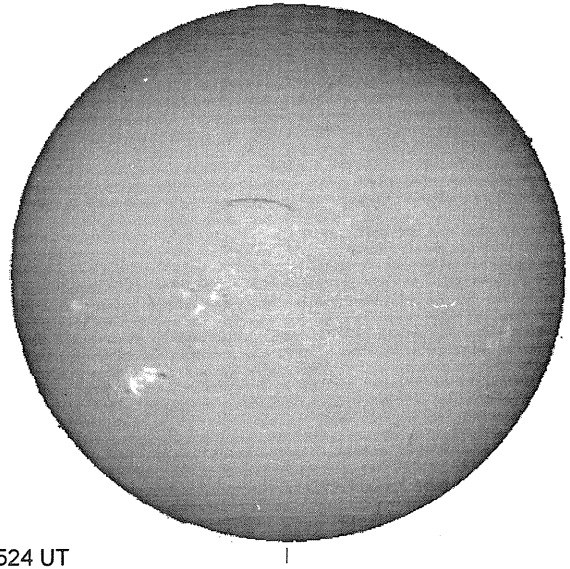
MT. WILSON MAGNETOGRAM

N
DeltaY = 13.1
DeltaX = 9.6
W
17.06 -
17.99 UT
White= +7.5G
Black = -7.5G

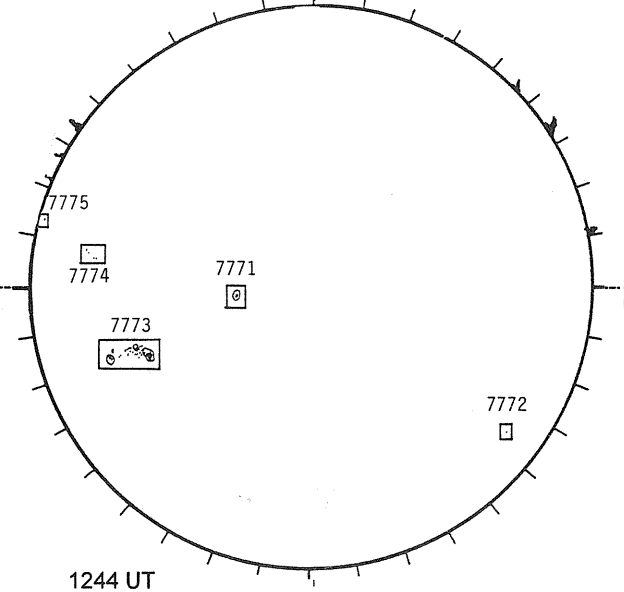


BIG BEAR H-ALPHA

E
S
1524 UT

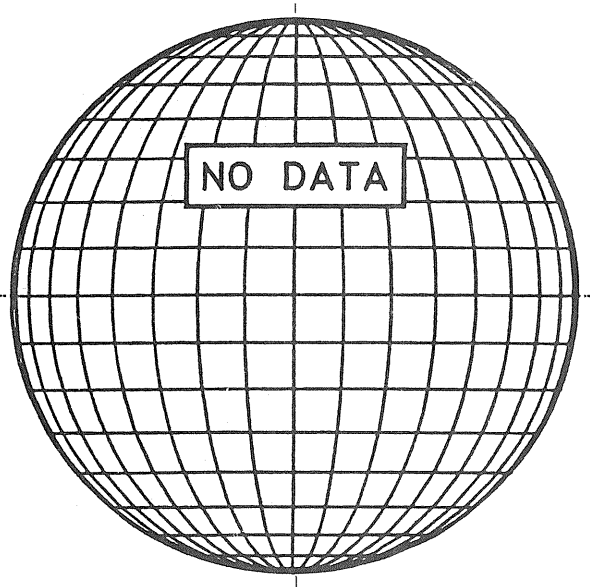


RAMEY SUNSPOT



1244 UT
0909 UT VALA Prom
S

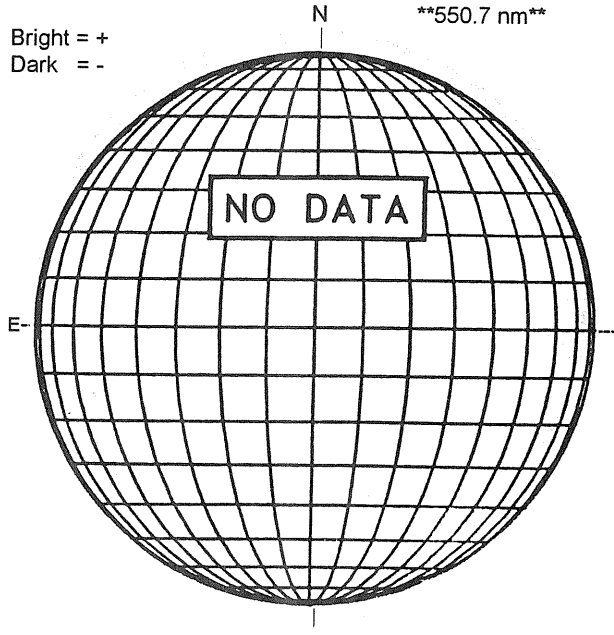
SACRAMENTO PEAK CORONA (1.15 Radii)----



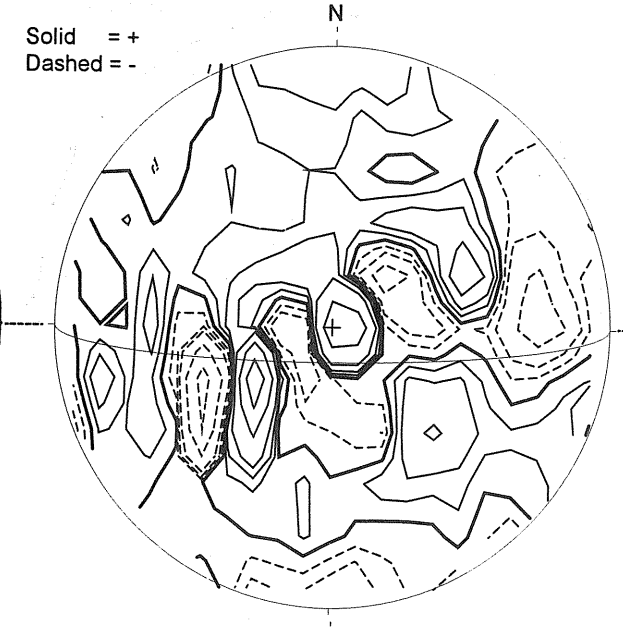
W
S

SEPTEMBER 3, 1994 (P= 21.51, Bo = 7.22, Lo = 131.48)

KITT PEAK MAGNETOGRAM

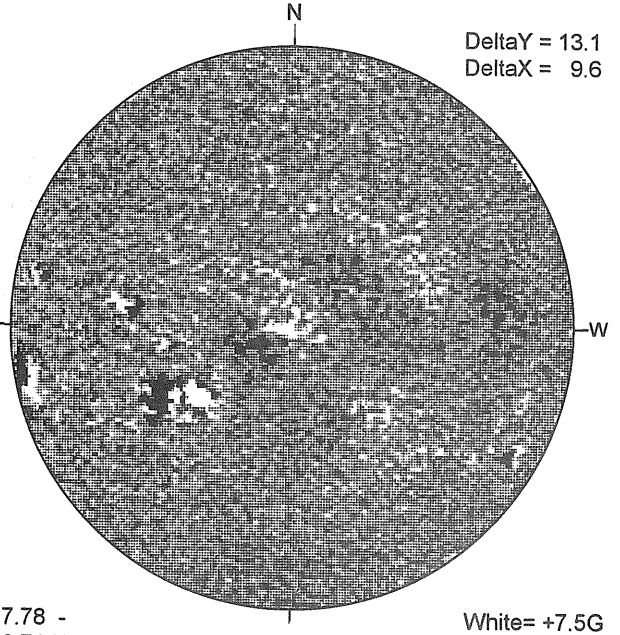


STANFORD MAGNETOGRAM



1943 UT

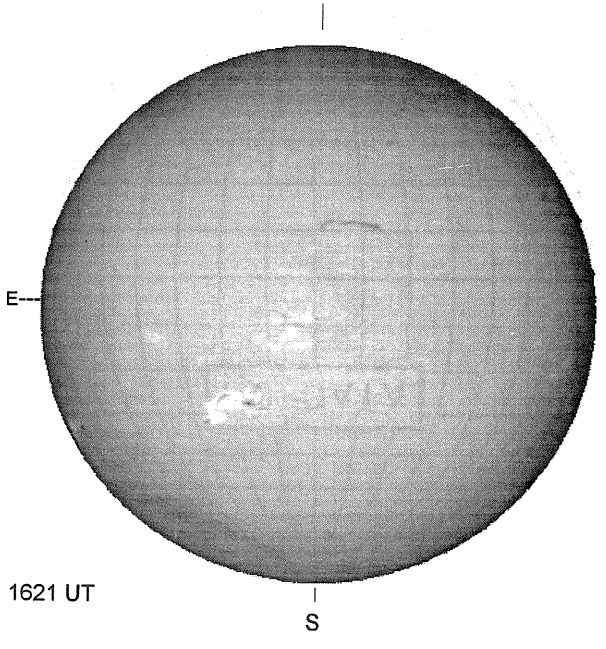
MT. WILSON MAGNETOGRAM



17.78 -
18.71 UT

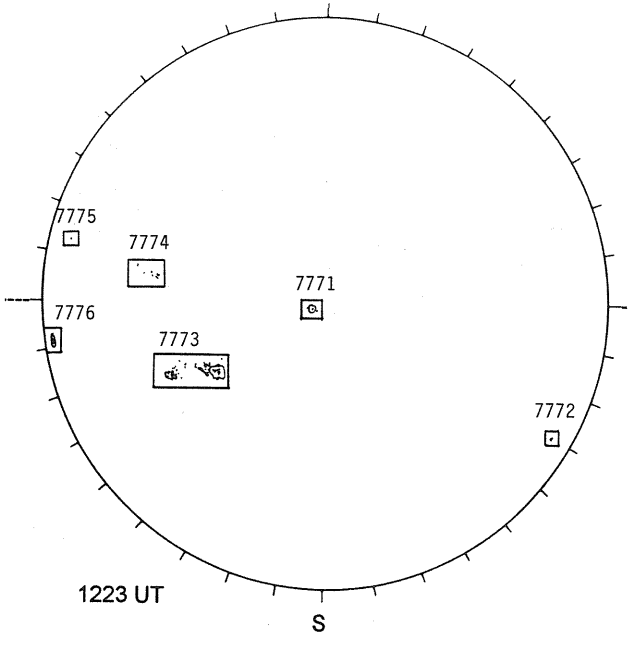
White= +7.5G
Black = -7.5G

BIG BEAR H-ALPHA



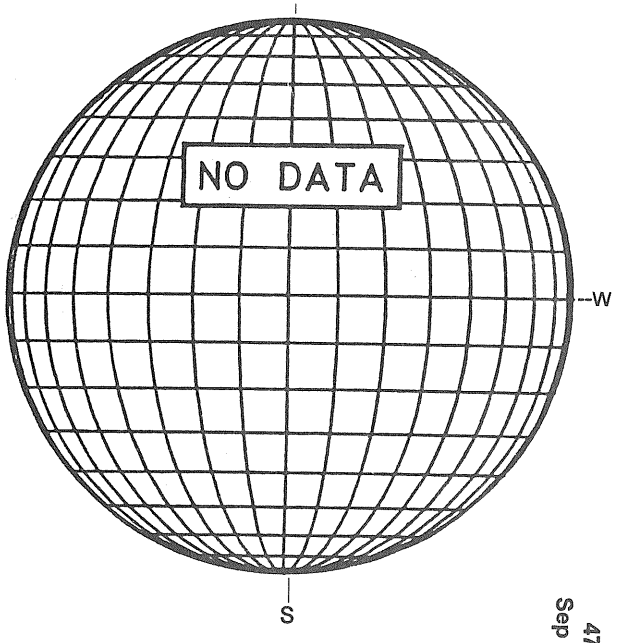
1621 UT

RAMEY SUNSPOT



1223 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



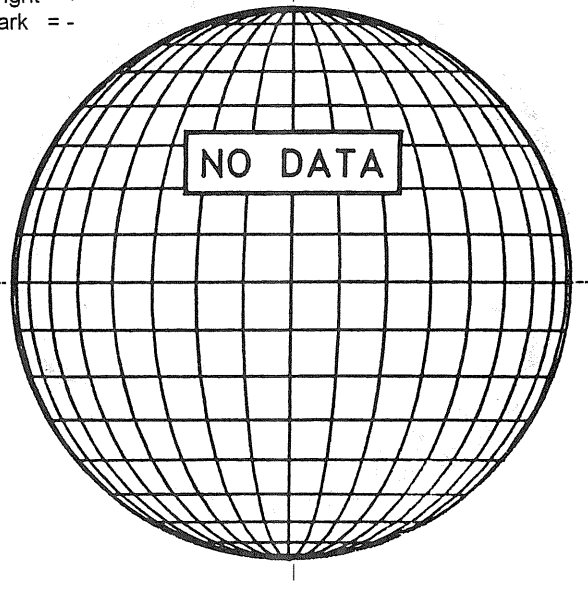
SEPTEMBER 4, 1994 (P= 21.75, Bo = 7.23, Lo = 118.27)

KITT PEAK MAGNETOGRAM

N

550.7 nm

Bright = +
Dark = -

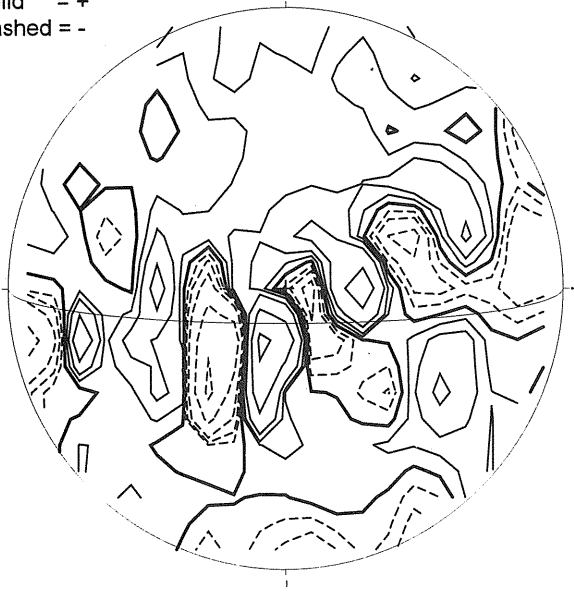


E

STANFORD MAGNETOGRAM

N

Solid = +
Dashed = -

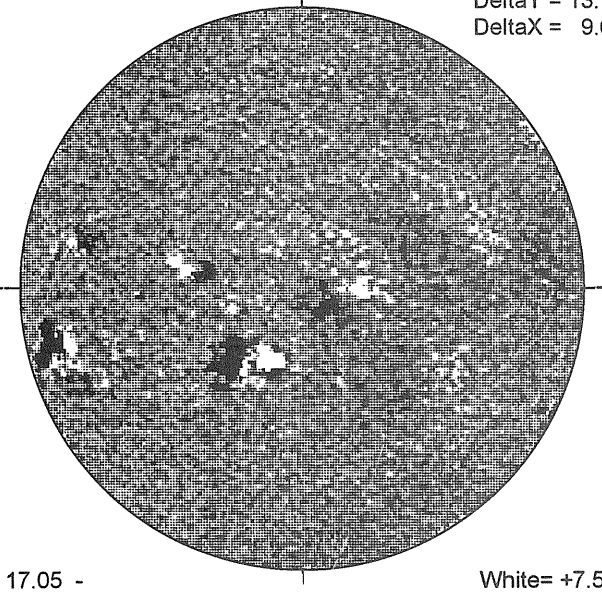


1926 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

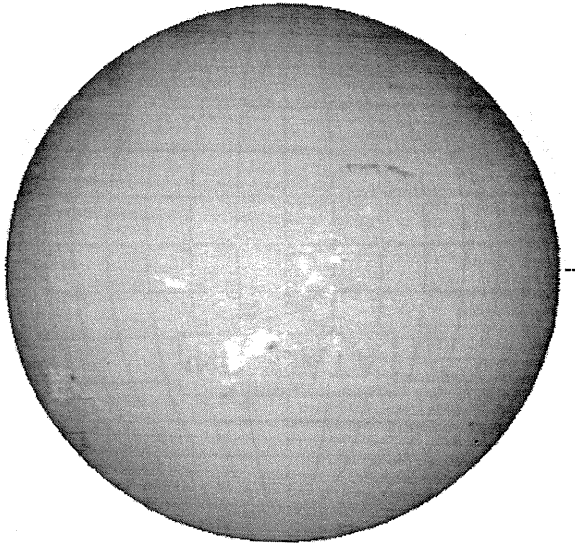


W

17.05 -
17.98 UT

White= +7.5G
Black = -7.5G

BIG BEAR H-ALPHA

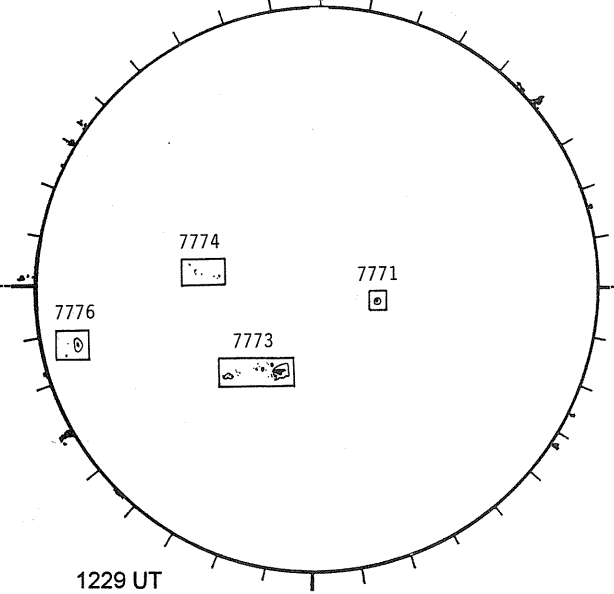


E

1656 UT

S

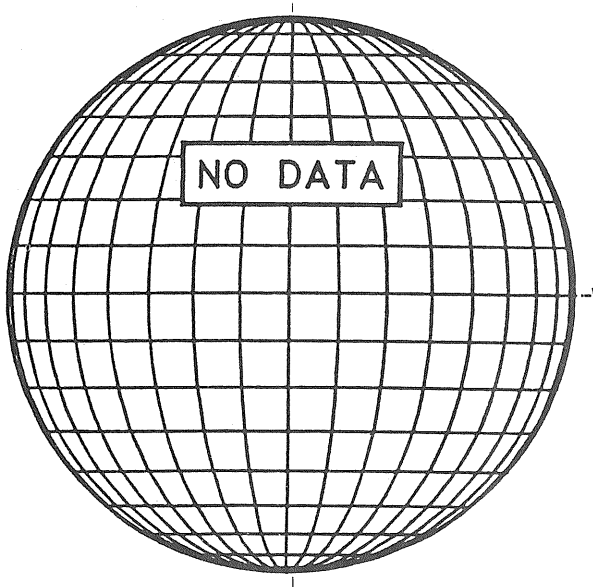
RAMEY SUNSPOT



1229 UT
1356 UT VALA Prom

S

SACRAMENTO PEAK CORONA (1.15 Radii)



W

S

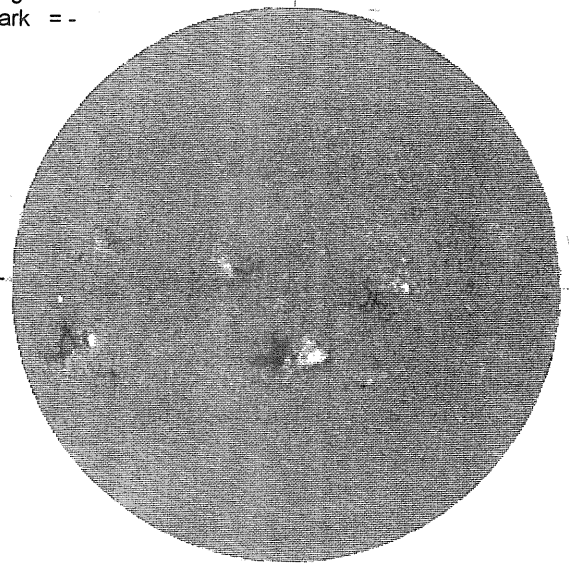
SEPTEMBER 5, 1994 (P= 21.99, Bo = 7.24, Lo = 105.06)

KITT PEAK MAGNETOGRAM

N

550.7 nm

Bright = +
Dark = -



E--

1434 UT

STANFORD MAGNETOGRAM

N

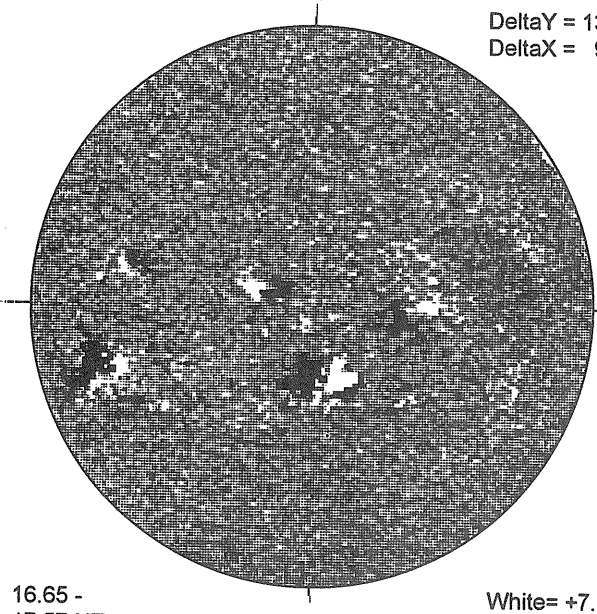
Solid = +
Dashed = -

2125 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

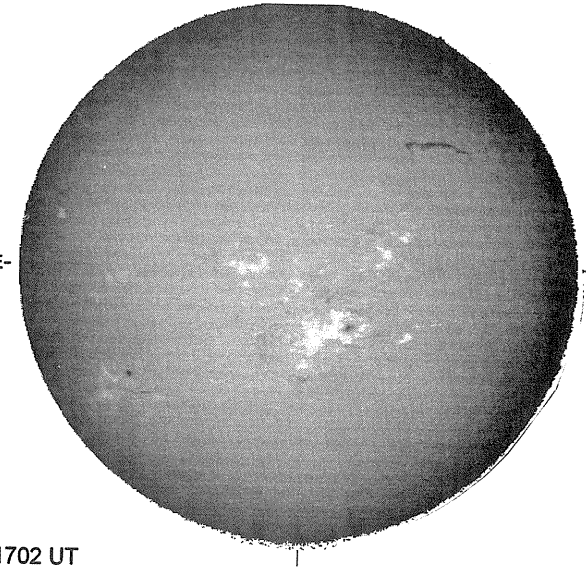


-W

16.65 -
17.57 UT

White= +7.5G
Black = -7.5G

BIG BEAR H-ALPHA

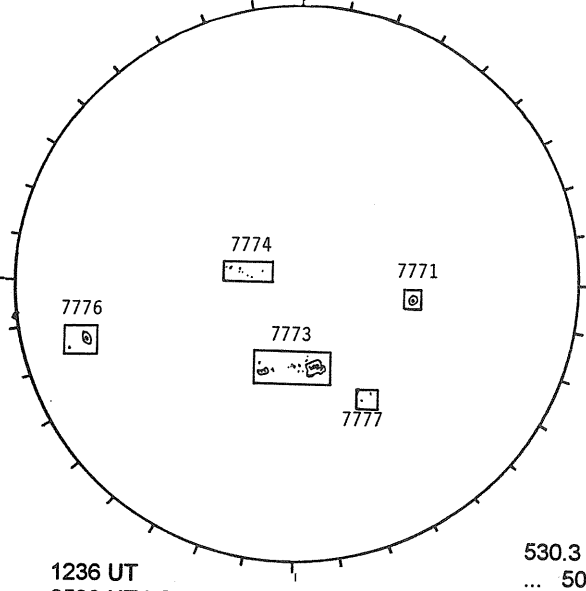


E-

1702 UT

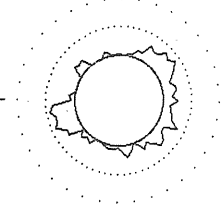
S

RAMEY SUNSPOT



1236 UT
0533 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)----



-W

S

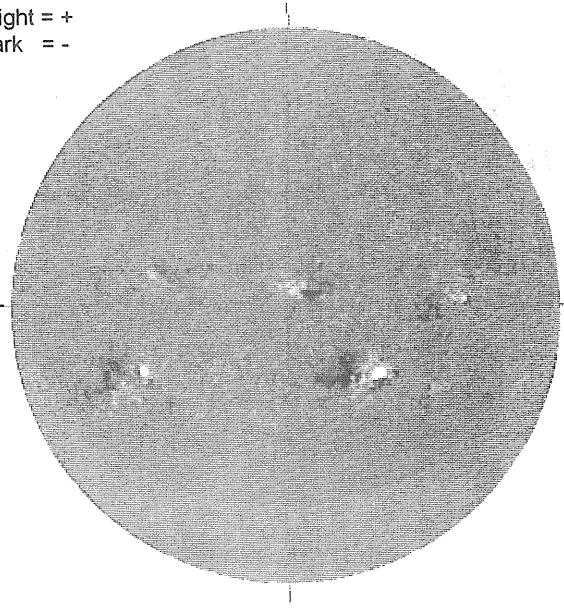
530.3 nm, 0553 UT
... 50 abs. units
. . 100 abs. units

SEPTEMBER 6, 1994 (P= 22.22 Bo = 7.24, Lo = 91.85)

KITT PEAK MAGNETOGRAM

N **550.7 nm**

Bright = +
Dark = -

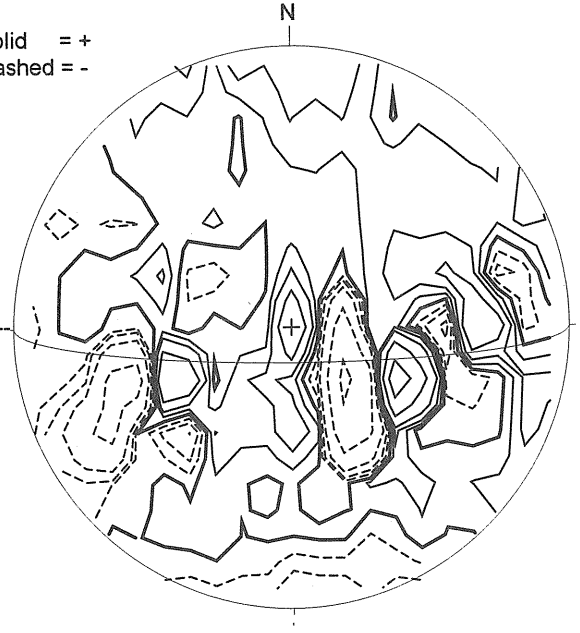


1451 UT

STANFORD MAGNETOGRAM

N

Solid = +
Dashed = -

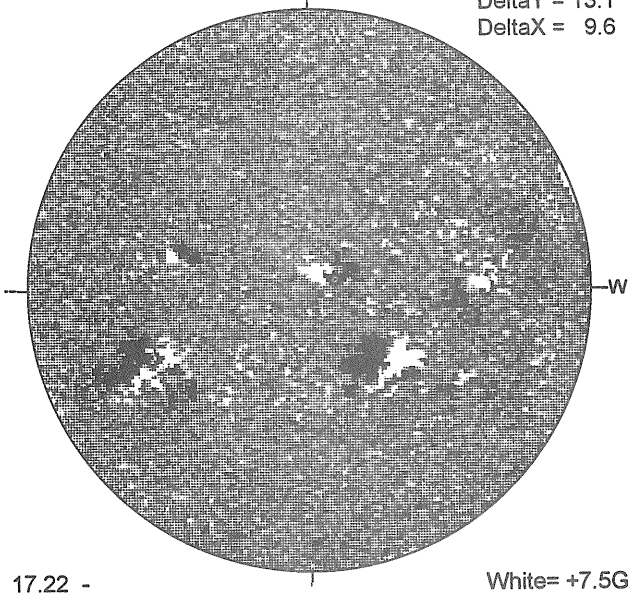


2053 UT

MT. WILSON MAGNETOGRAM

N

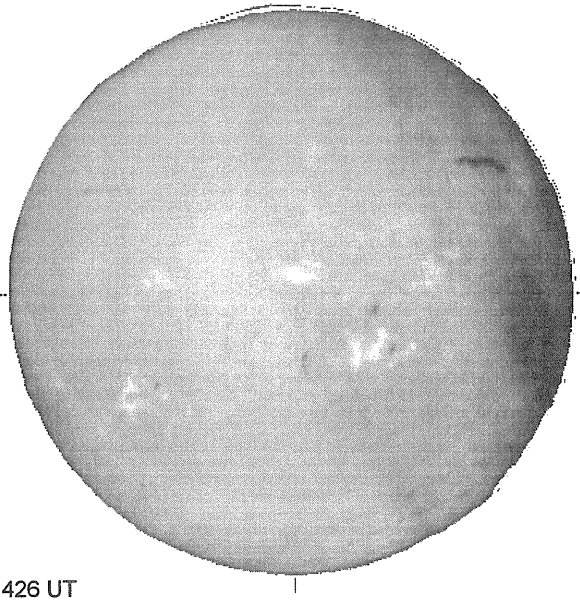
DeltaY = 13.1
DeltaX = 9.6



17.22 -
18.15 UT

White= +7.5G
Black = -7.5G

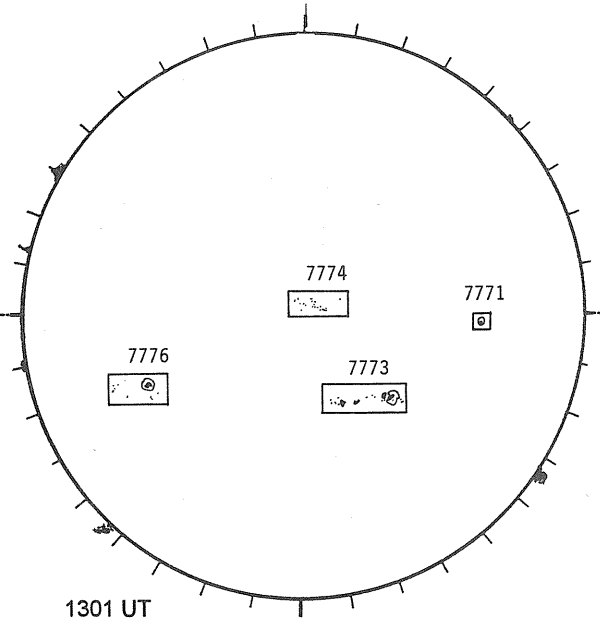
----- SACRAMENTO PEAK H-ALPHA



1426 UT

S

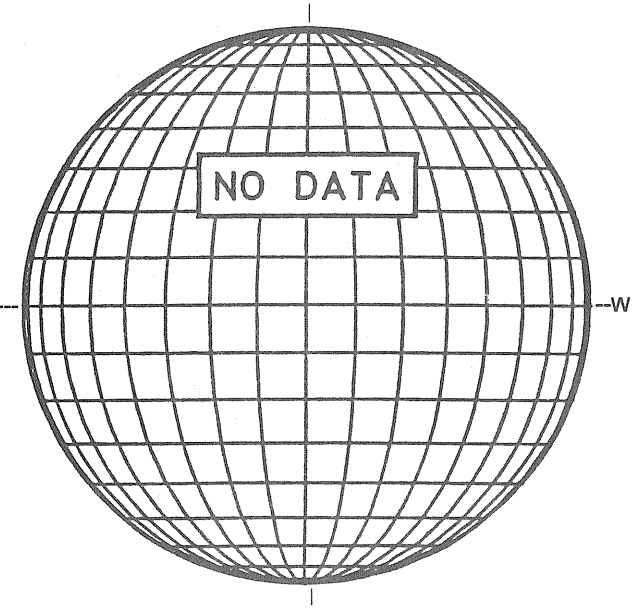
RAMEY SUNSPOT



1301 UT
1141 UT VALA Prom

S

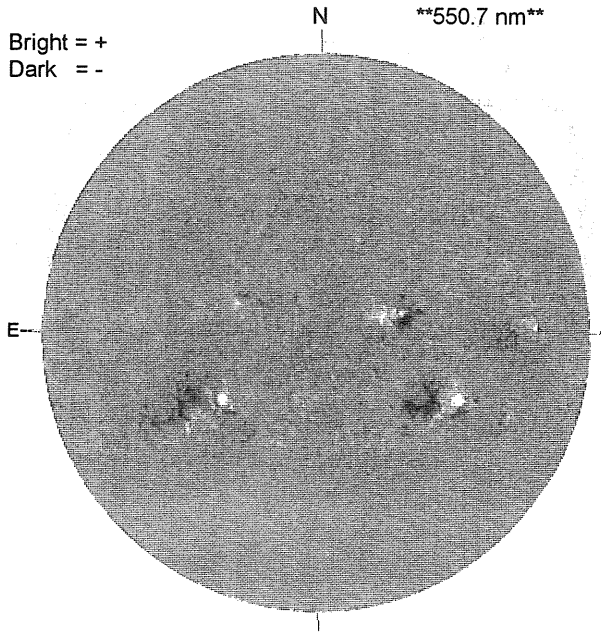
SACRAMENTO PEAK CORONA (1.15 Radii)----



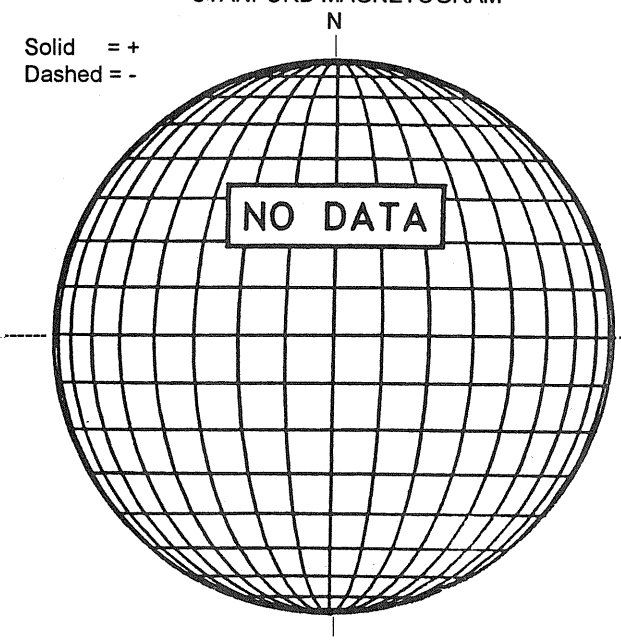
S

SEPTEMBER 7, 1994 (P= 22.44, Bo = 7.25, Lo = 78.65)

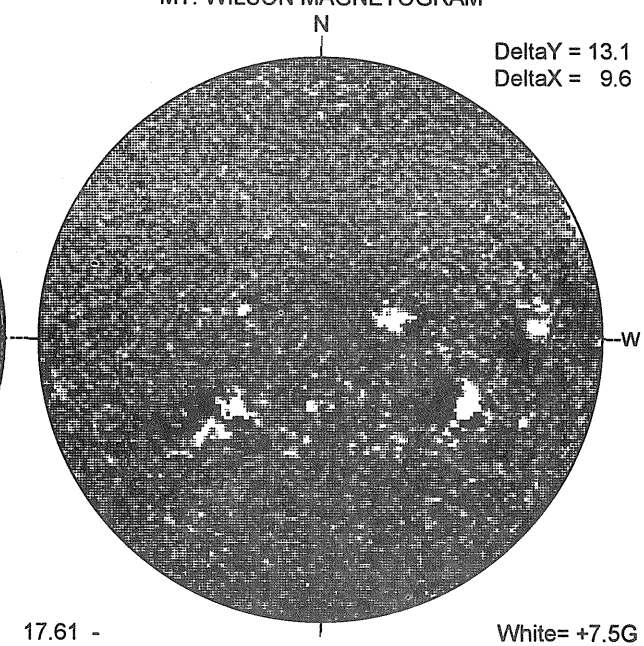
KITT PEAK MAGNETOGRAM



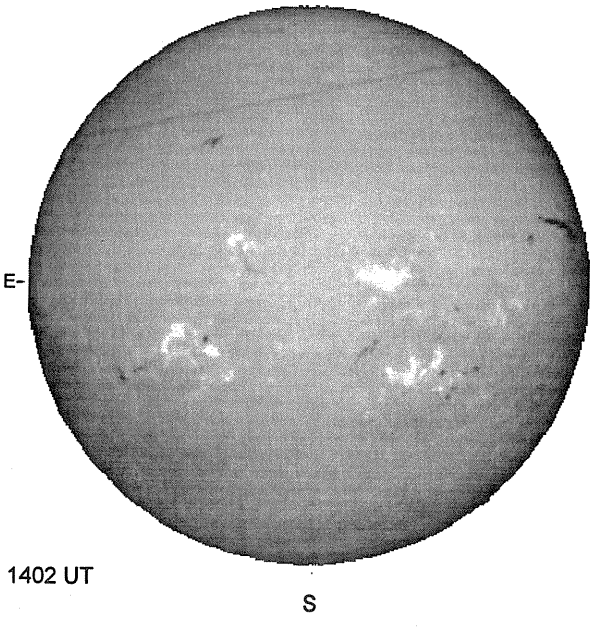
STANFORD MAGNETOGRAM



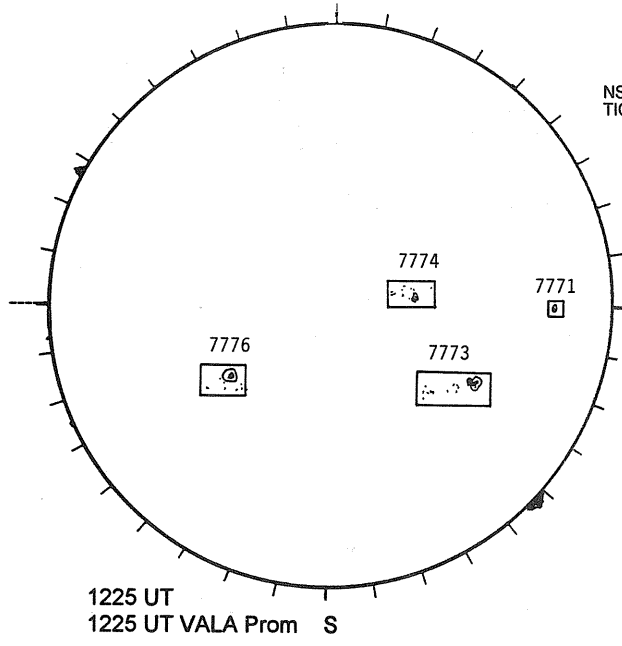
MT. WILSON MAGNETOGRAM



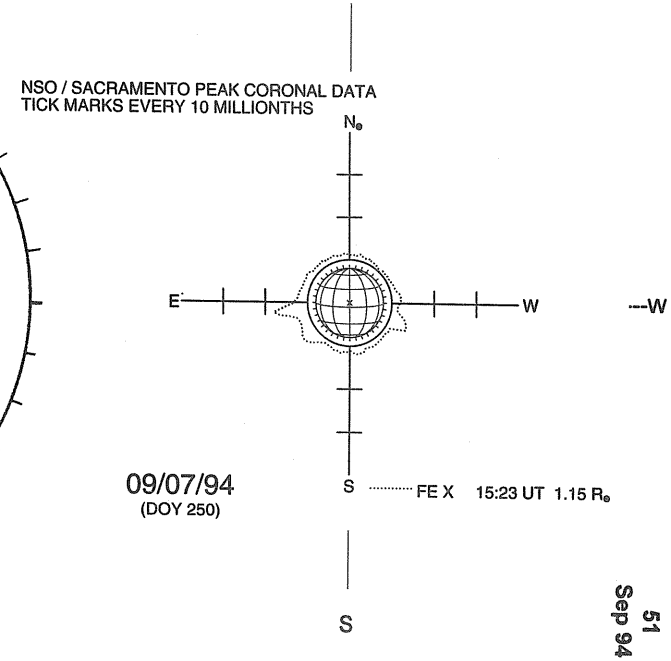
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOT

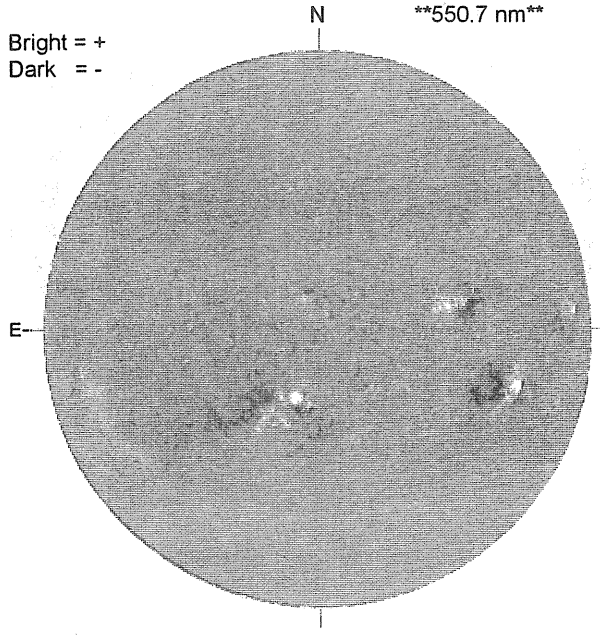


SACRAMENTO PEAK CORONA (1.15 Radii)----

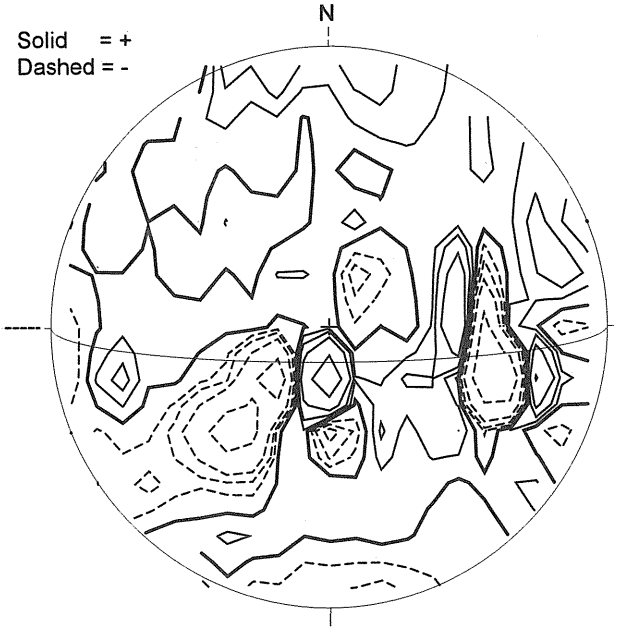


SEPTEMBER 8, 1994 (P= 22.66, Bo = 7.25, Lo = 65.44)

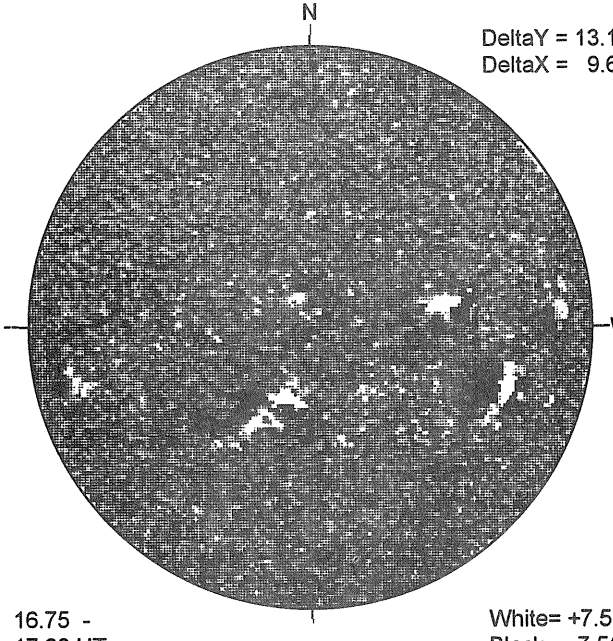
KITT PEAK MAGNETOGRAM



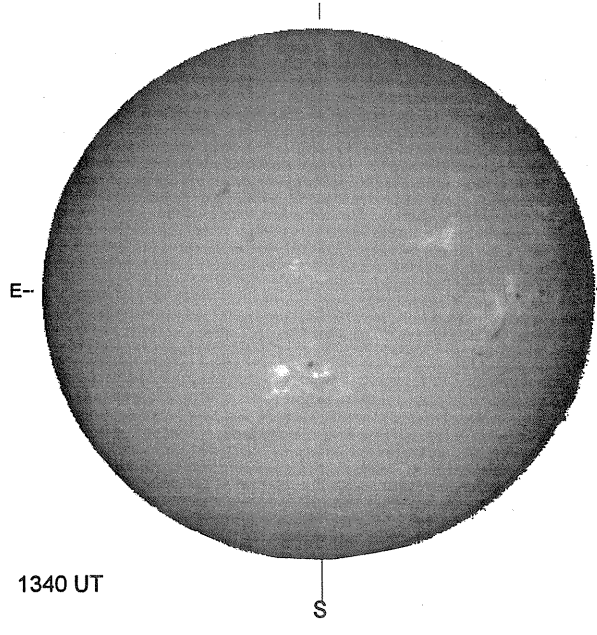
STANFORD MAGNETOGRAM



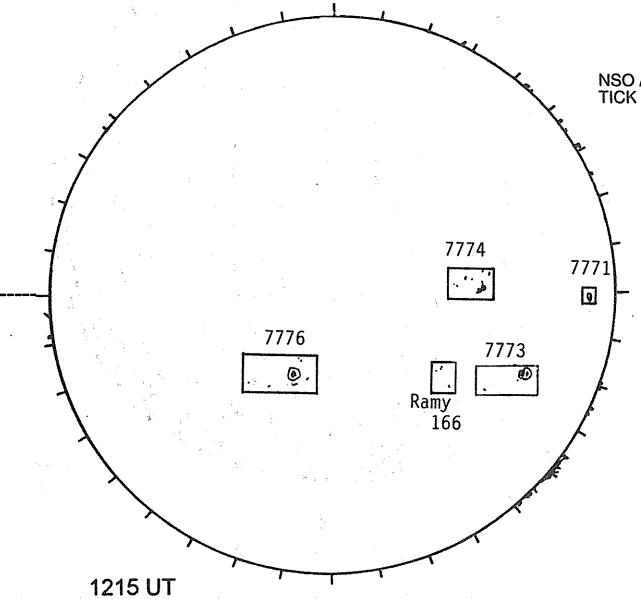
MT. WILSON MAGNETOGRAM

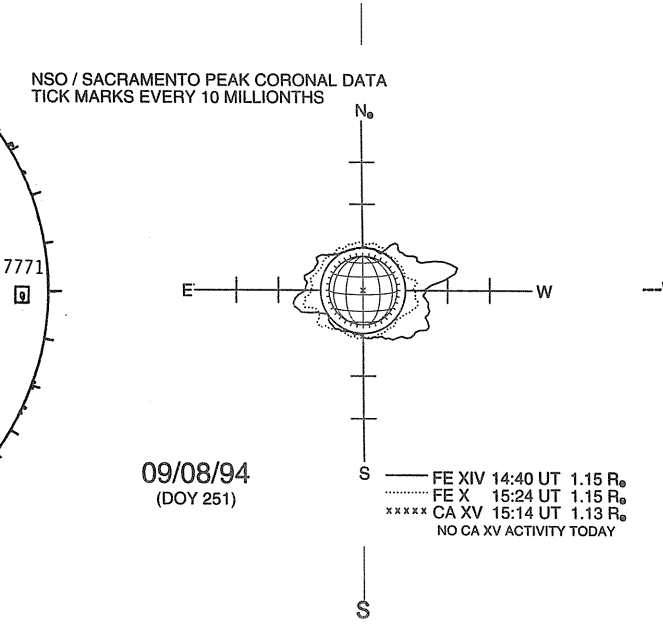


SACRAMENTO PEAK H-ALPHA



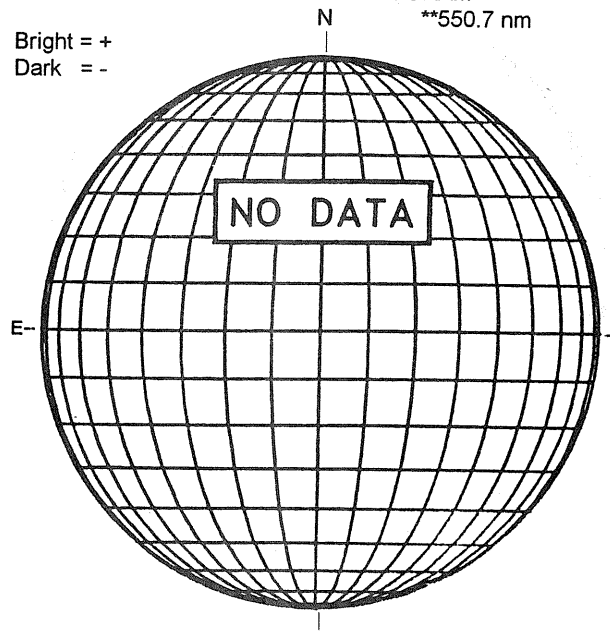
RAMEY SUNSPOT



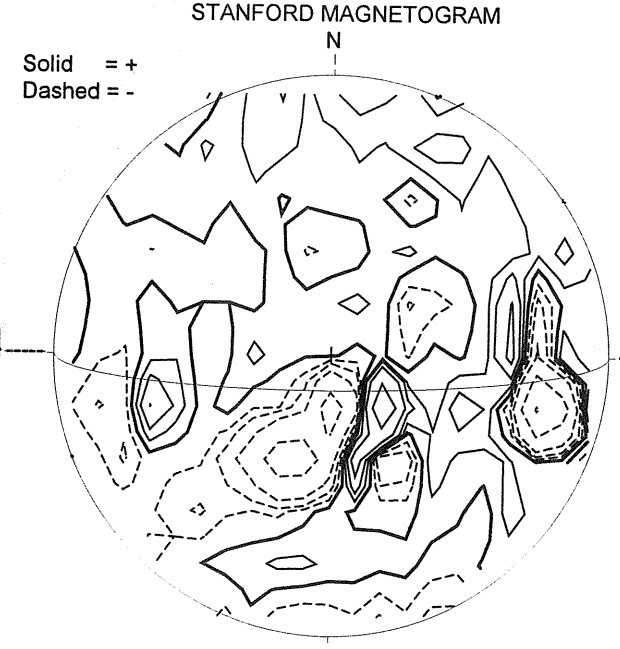


SEPTEMBER 9, 1994 (P= 22.87, Bo = 7.25, Lo = 52.24)

KITT PEAK MAGNETOGRAM

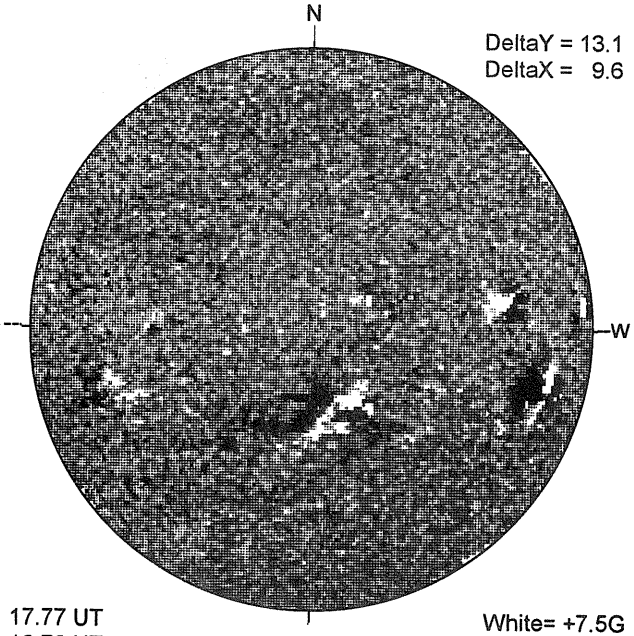


STANFORD MAGNETOGRAM



1827 UT

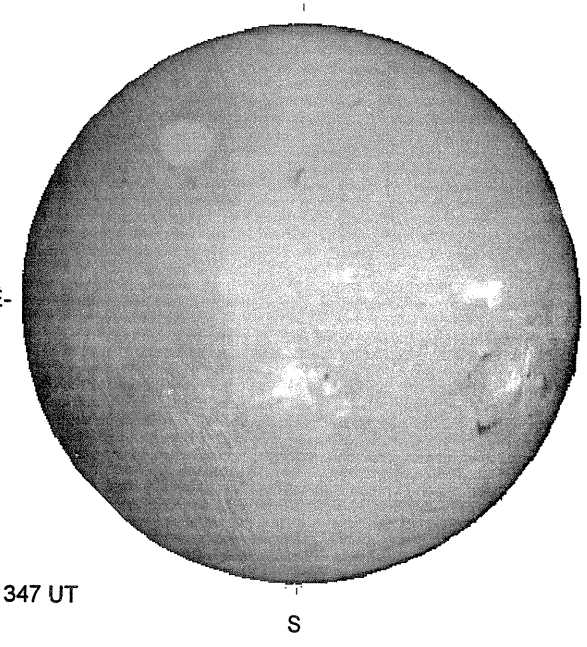
MT. WILSON MAGNETOGRAM



17.77 UT
18.70 UT

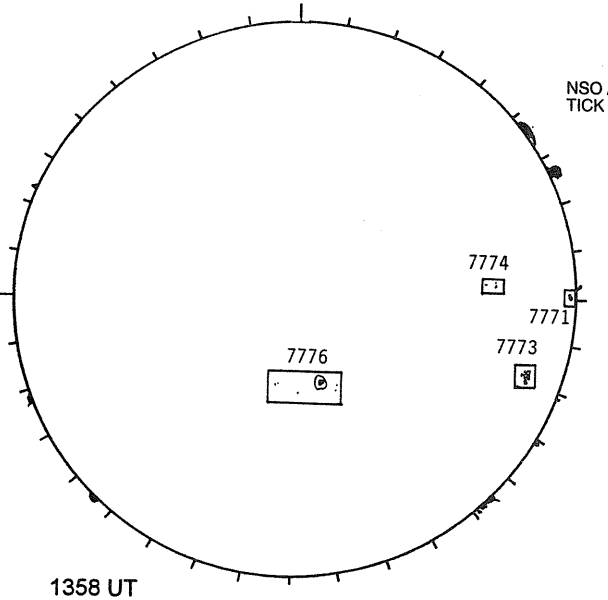
White= +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



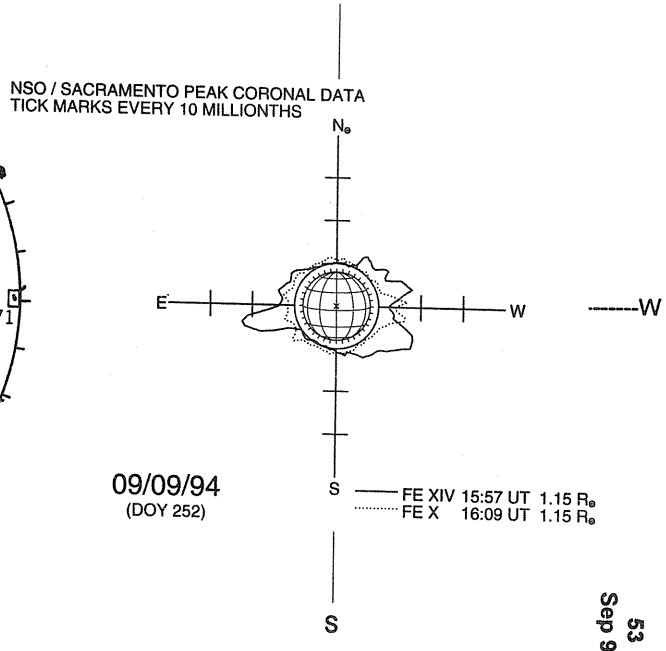
1347 UT

RAMEY SUNSPOT



1358 UT
0802 UT LOMN Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----



09/09/94
(DOY 252)

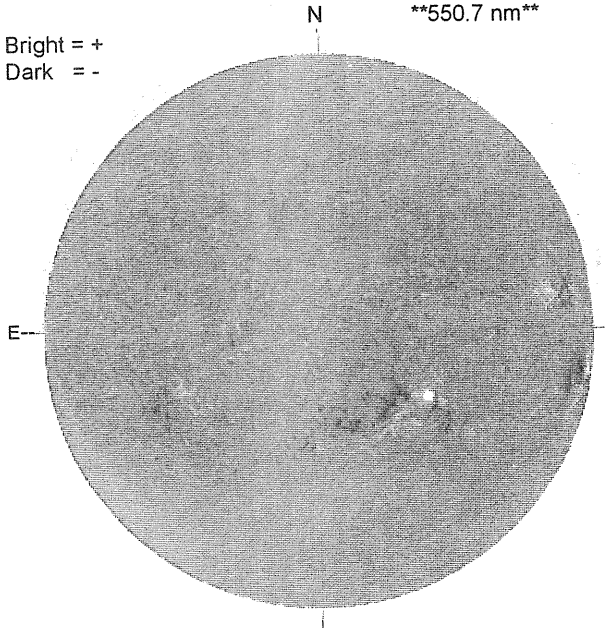
53
Sep 94

SEPTEMBER 10, 1994 (P= 23.08, Bo = 7.25, Lo = 39.03)

KITT PEAK MAGNETOGRAM

550.7 nm

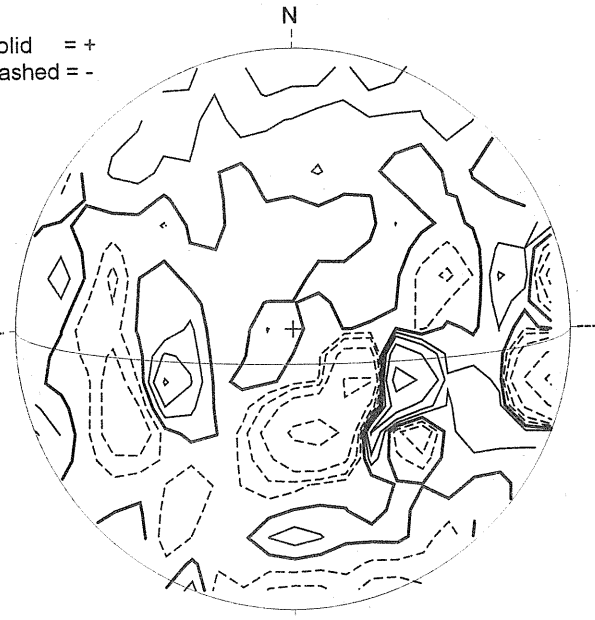
Bright = +
Dark = -



1739 UT

STANFORD MAGNETOGRAM

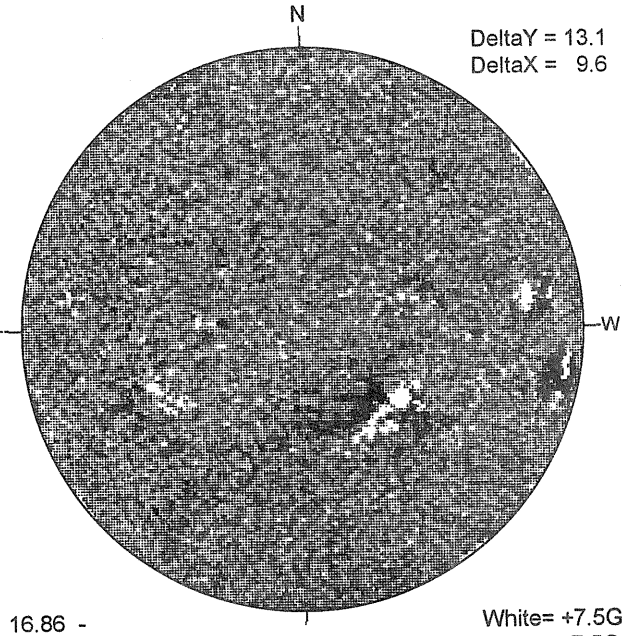
Solid = +
Dashed = -



1907 UT

MT. WILSON MAGNETOGRAM

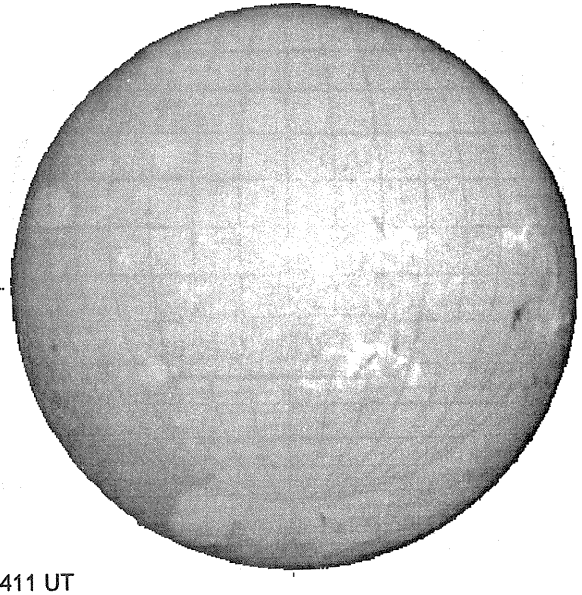
DeltaY = 13.1
DeltaX = 9.6



16.86 -
17.79 UT

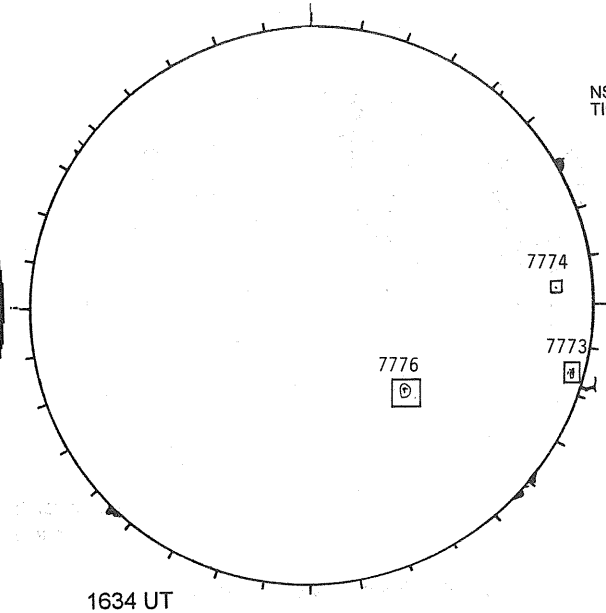
White= +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



1411 UT

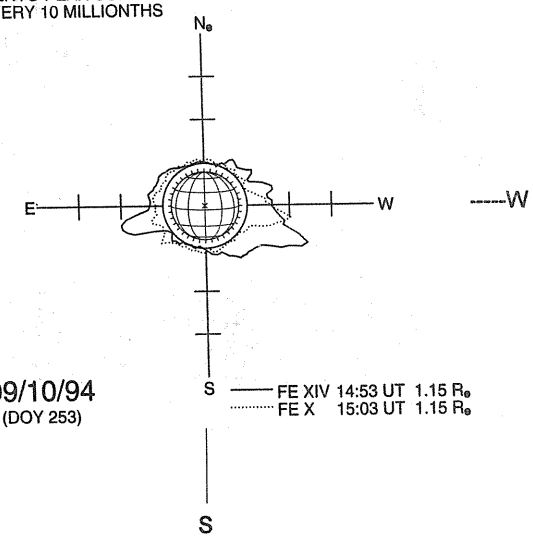
RAMEY SUNSPOT



1634 UT
1114 UT LOMN Prom S

NSO / SACRAMENTO PEAK CORONAL DATA

TICK MARKS EVERY 10 MILLIONTHS



09/10/94
(DOY 253)

FE XIV 14:53 UT 1.15 Re
FE X 15:03 UT 1.15 Re

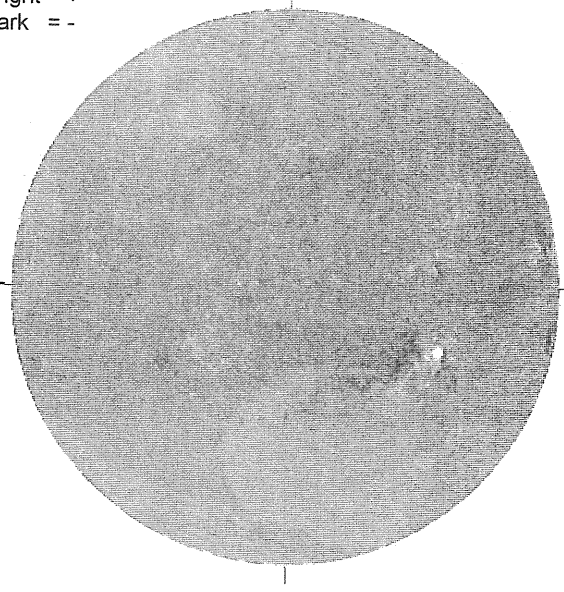
SEPTEMBER 11, 1994 (P= 23.28 Bo = 7.25, Lo = 25.83)

KITT PEAK MAGNETOGRAM

N

550.7 nm

Bright = +
Dark = -



E--

1433 UT

STANFORD MAGNETOGRAM

N

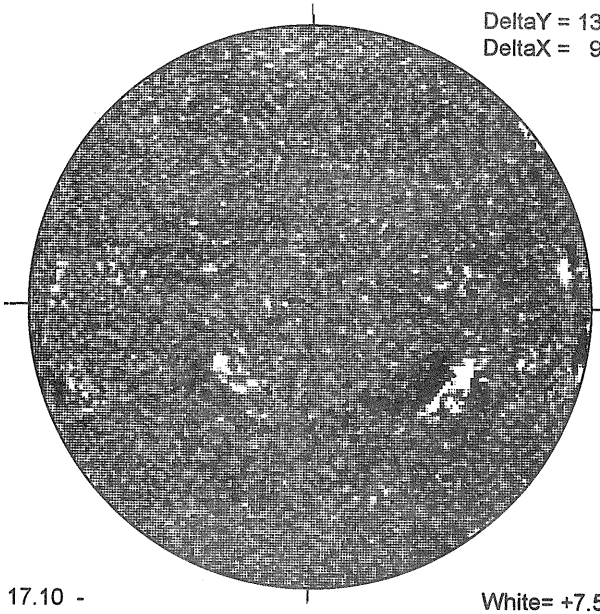
Solid = +
Dashed = -

1942 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

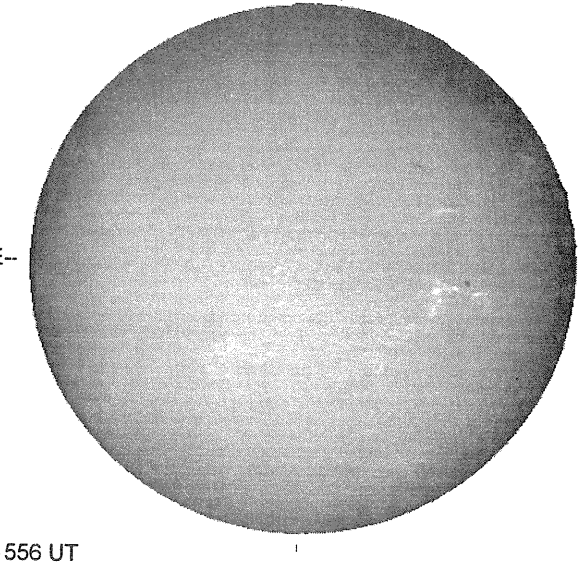


--W

17.10 -
18.03 UT

White= +7.5G
Black = -7.5G

BIG BEAR H-ALPHA



E--

1556 UT

S

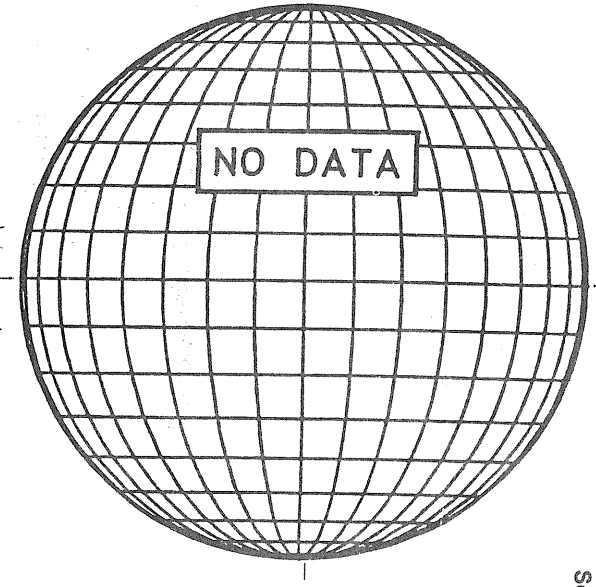
RAMEY SUNSPOT

NO OBSERVATIONS DUE TO WEATHER

2035 UT

S

SACRAMENTO PEAK CORONA (1.15 Radii)----



--W

S

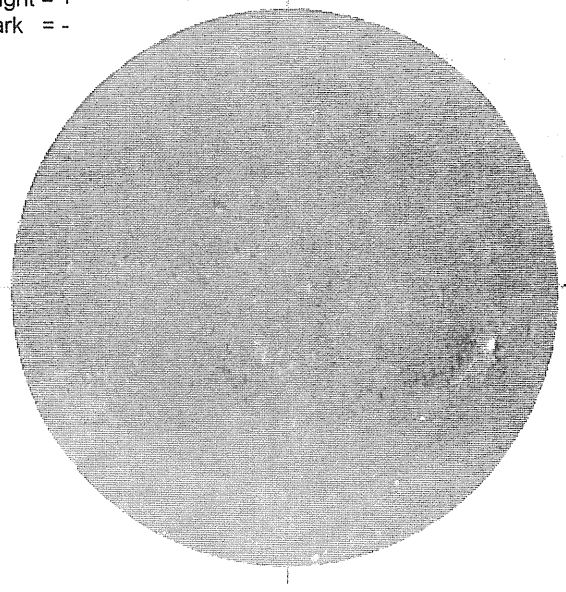
55
Sep 94

SEPTEMBER 12, 1994 (P= 23.48, Bo = 7.24, Lo = 12.62)

KITT PEAK MAGNETOGRAM

N **550.7 nm**

Bright = +
Dark = -



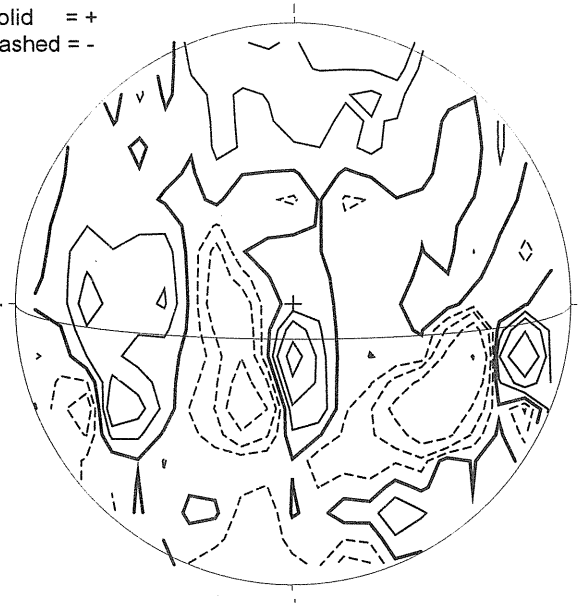
E--

1451 UT

STANFORD MAGNETOGRAM

N

Solid = +
Dashed = -

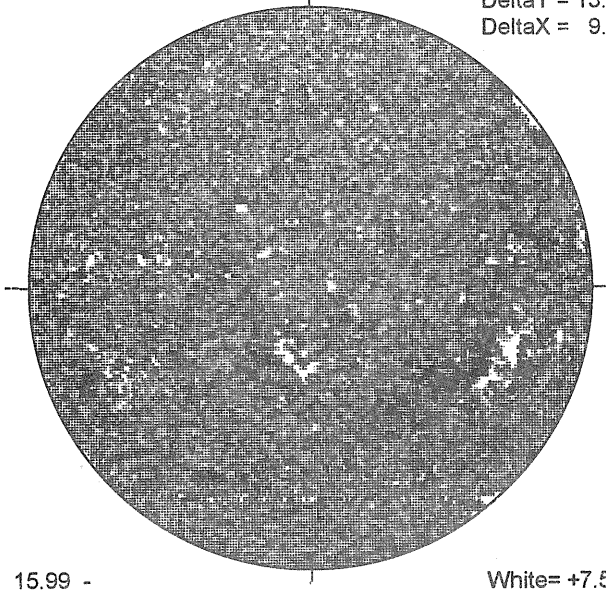


2139 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

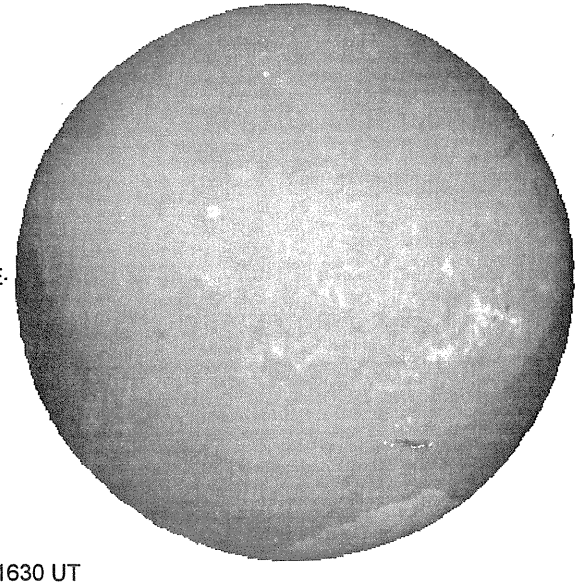


--W

15.99 -
16.92 UT

White= +7.5G
Black = -7.5G

----- SACRAMENTO PEAK H-ALPHA

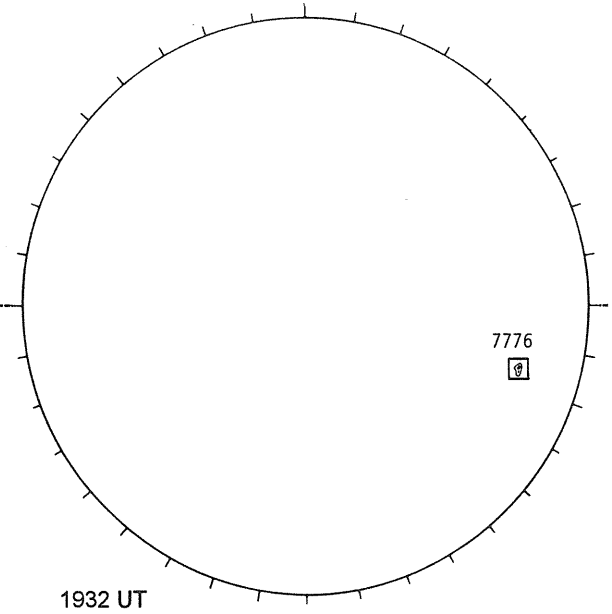


E-

1630 UT

S

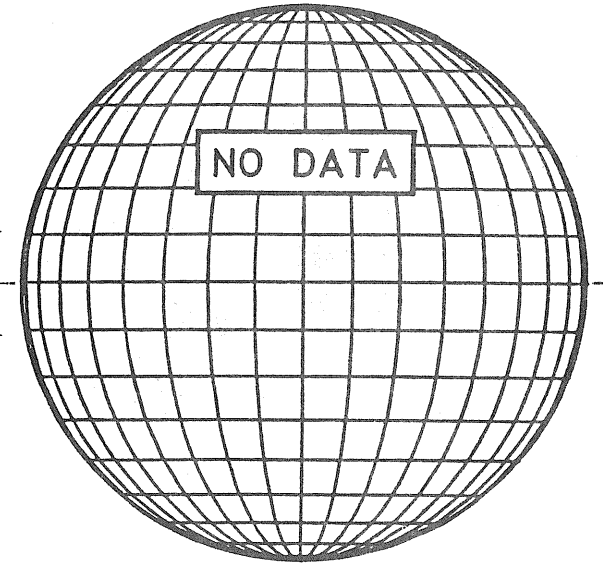
RAMEY SUNSPOT



1932 UT

S

SACRAMENTO PEAK CORONA (1.15 Radii)----

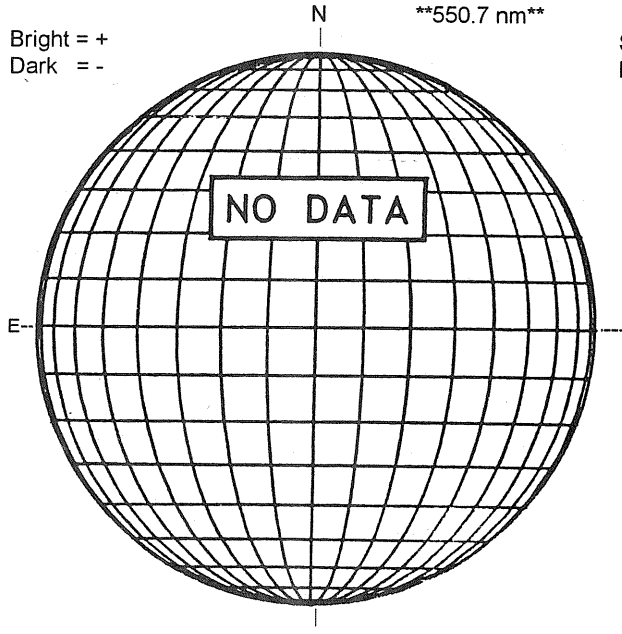


--W

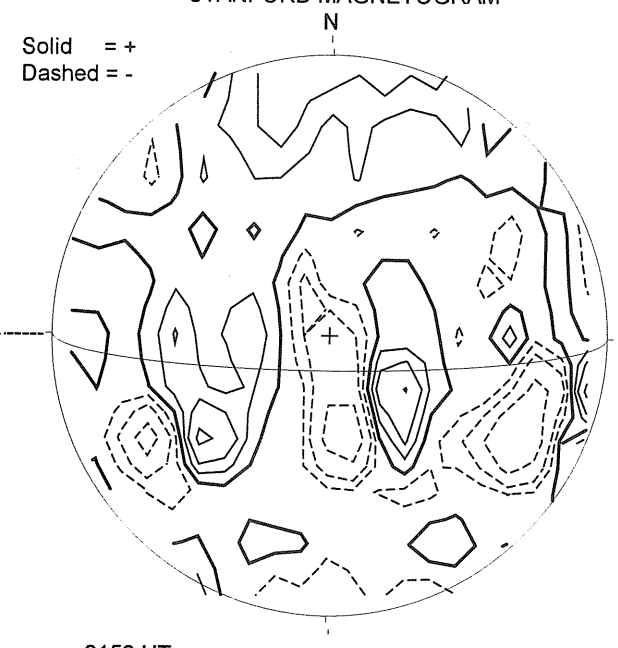
S

SEPTEMBER 13, 1994 (P= 23.66, Bo = 7.23, Lo = 359.42)

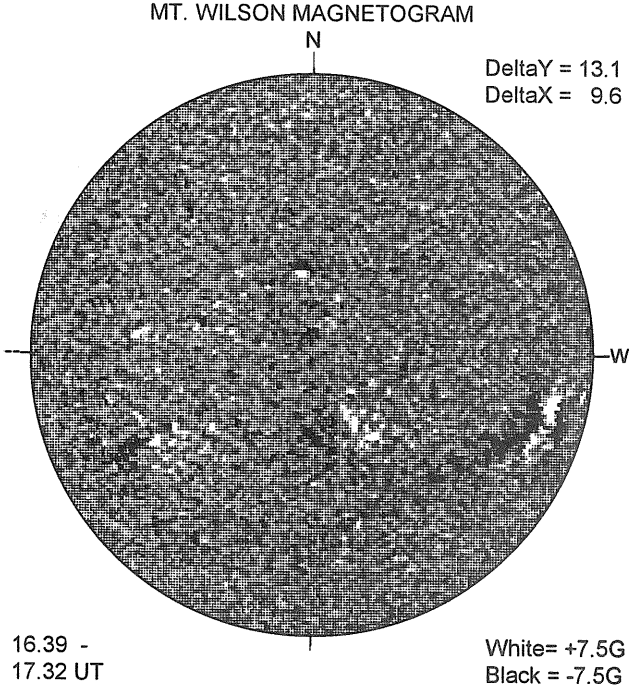
KITT PEAK MAGNETOGRAM



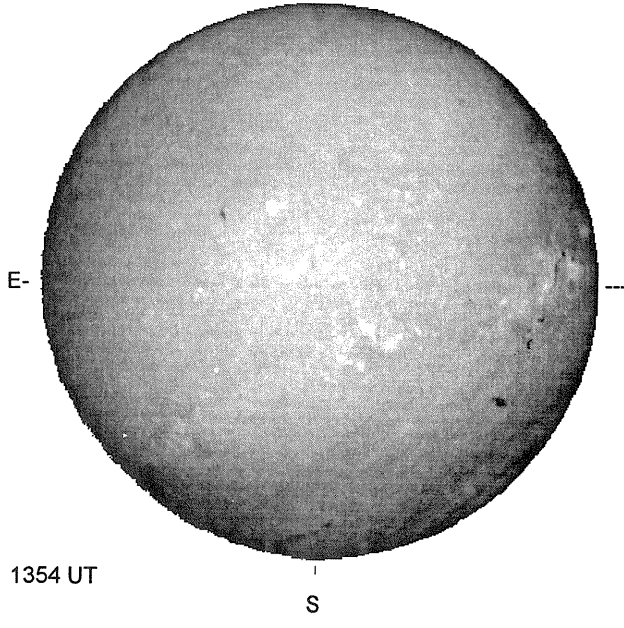
STANFORD MAGNETOGRAM



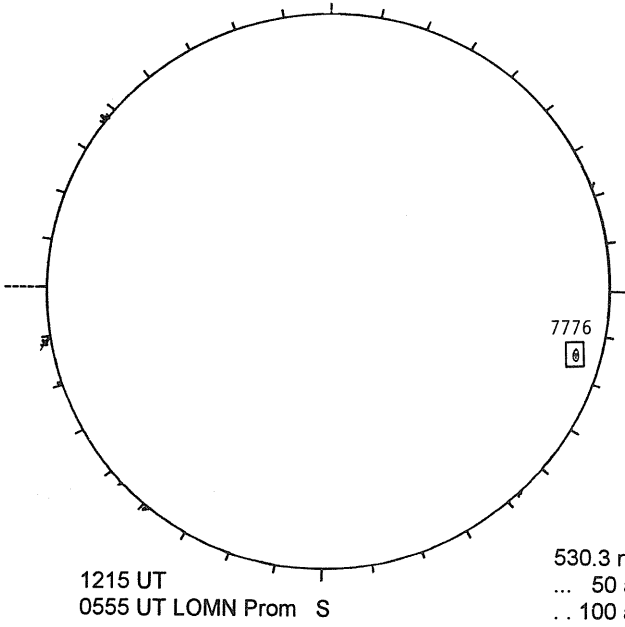
MT. WILSON MAGNETOGRAM



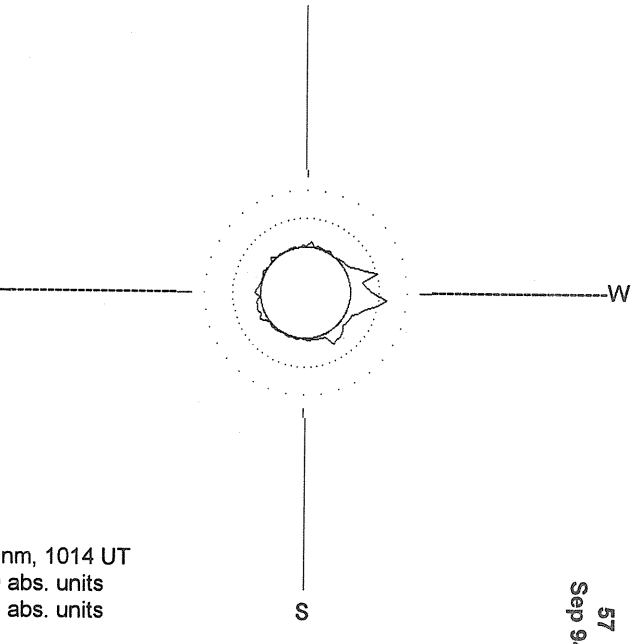
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOT

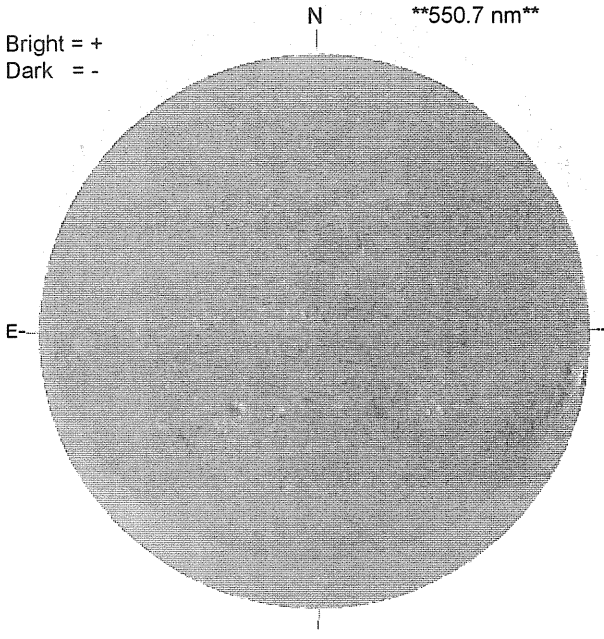


LOMNICKY PEAK CORONA (1.04 Radii)



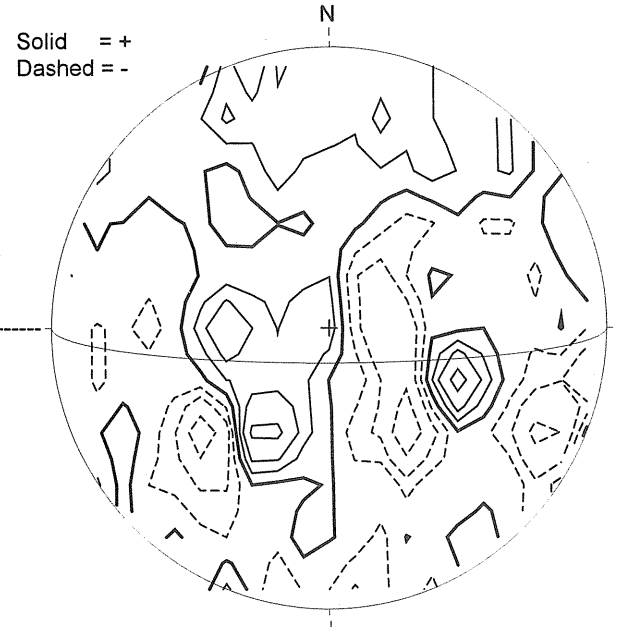
SEPTEMBER 14, 1994 (P= 23.85, Bo = 7.22, Lo = 346.22)

KITT PEAK MAGNETOGRAM



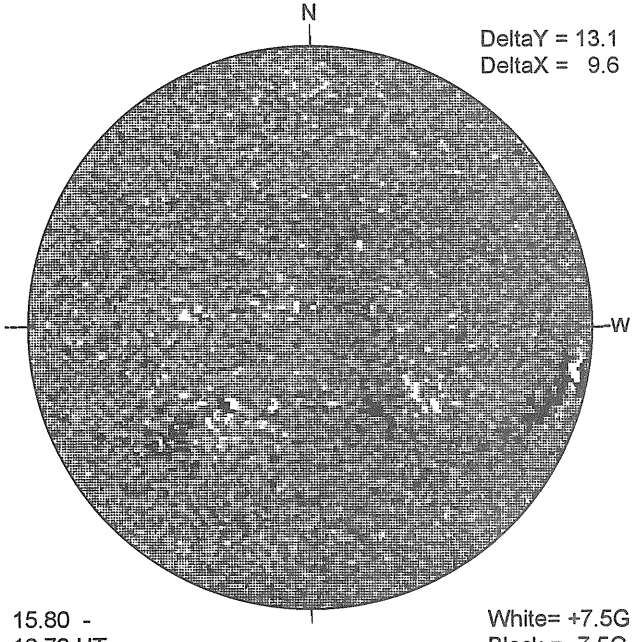
1437 UT

STANFORD MAGNETOGRAM



2210 UT

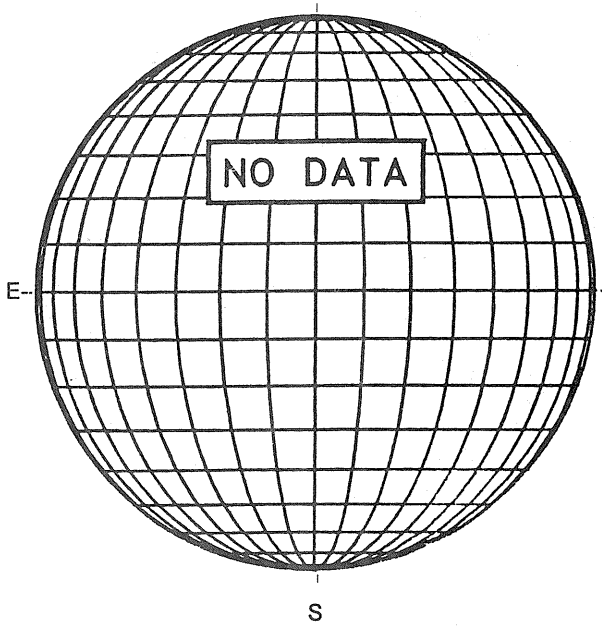
MT. WILSON MAGNETOGRAM



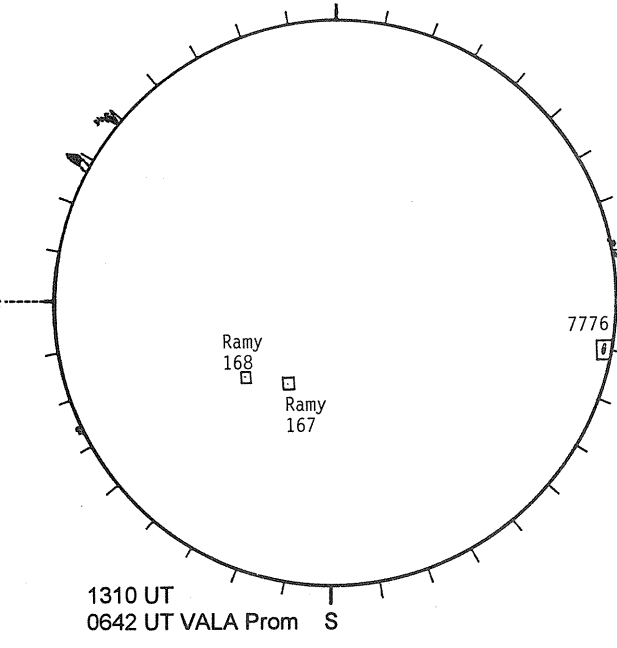
15.80 -
16.73 UT

White= +7.5G
Black = -7.5G

----- SACRAMENTO PEAK H-ALPHA

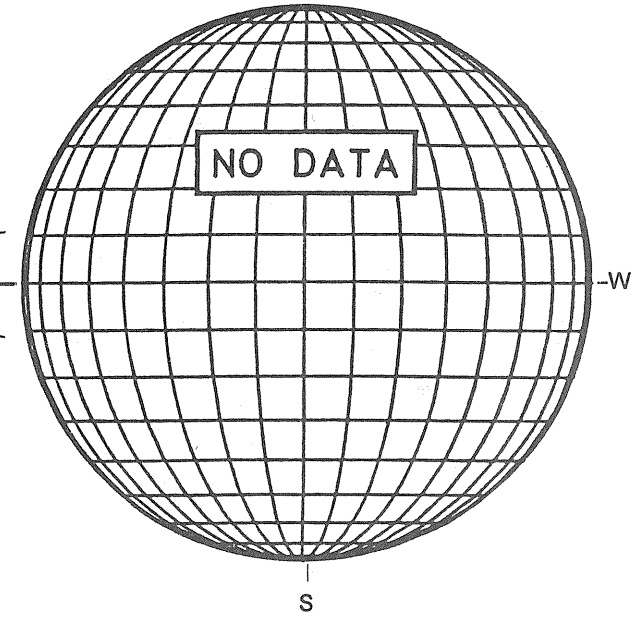


RAMEY SUNSPOT



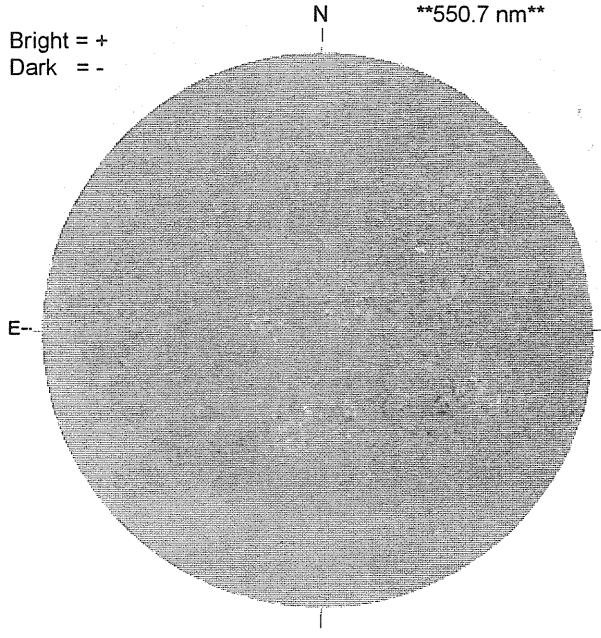
1310 UT
0642 UT VALA Prom

SACRAMENTO PEAK CORONA (1.15 Radii)----



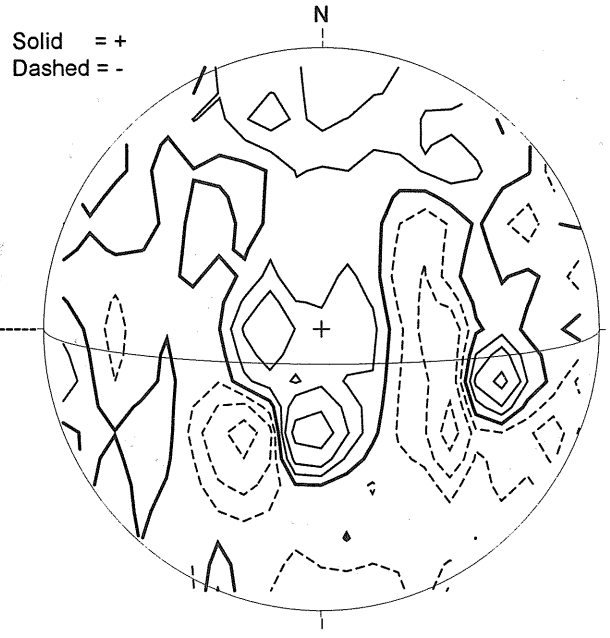
SEPTEMBER 15, 1994 (P= 24.02, Bo = 7.21, Lo = 333.02)

KITT PEAK MAGNETOGRAM



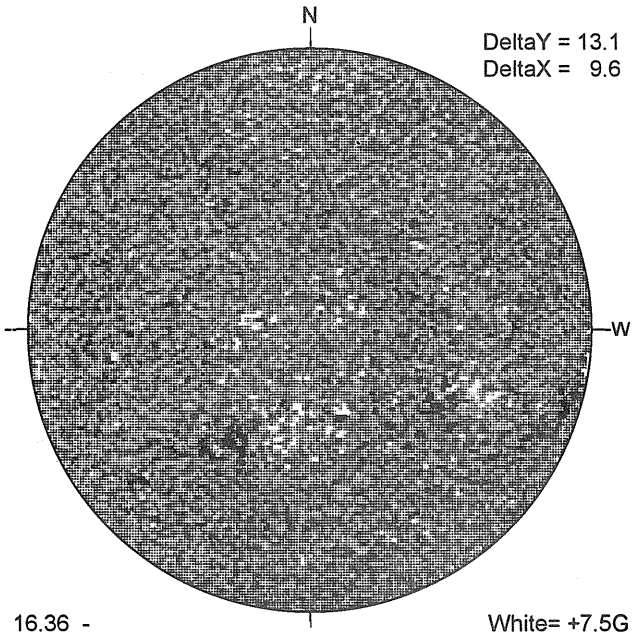
1411 UT

STANFORD MAGNETOGRAM



1901 UT

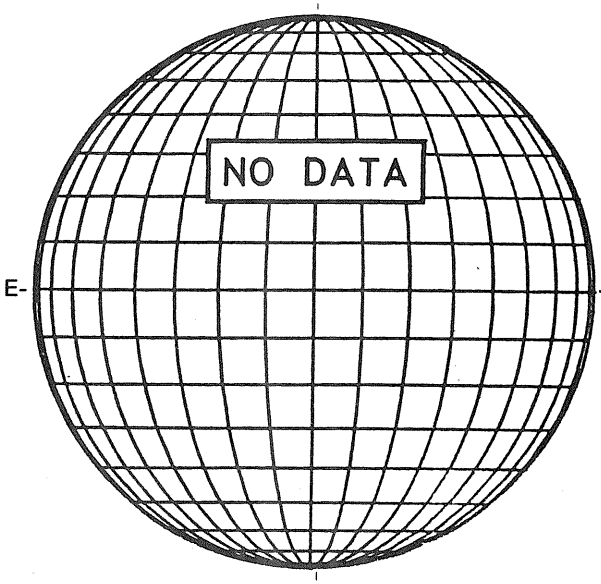
MT. WILSON MAGNETOGRAM



16.36 -
17.29 UT

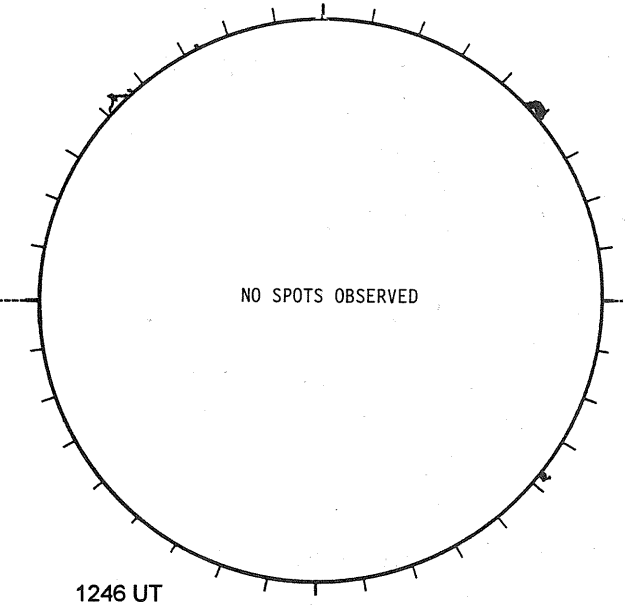
White= +7.5G
Black = -7.5G

BIG BEAR H-ALPHA



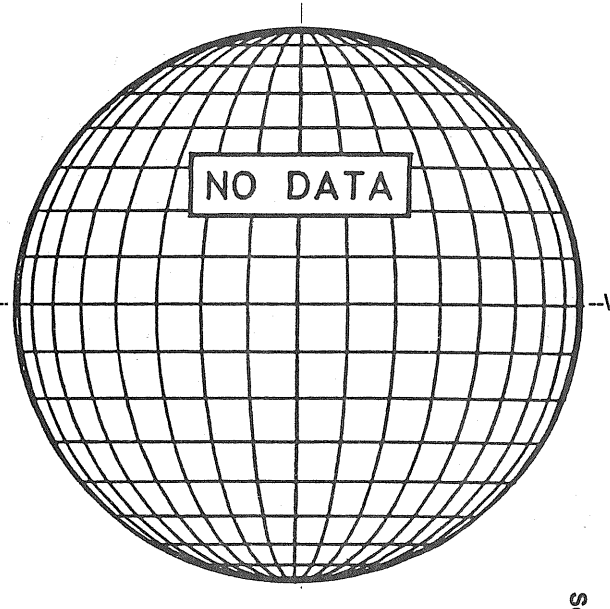
S

RAMEY SUNSPOT



1246 UT
1458 UT VALA Prom S

LOMNICKY PEAK CORONA (1.04 Radii)----



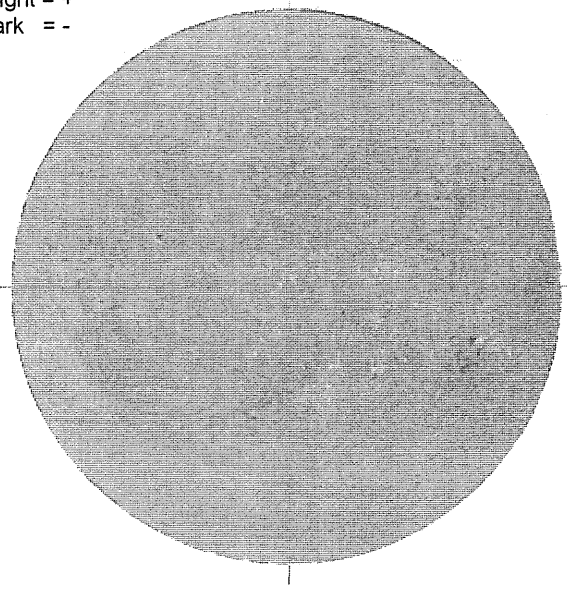
S

SEPTEMBER 16, 1994 (P= 24.19, Bo = 7.19, Lo = 319.81)

KITT PEAK MAGNETOGRAM

N
550.7 nm

Bright = +
Dark = -

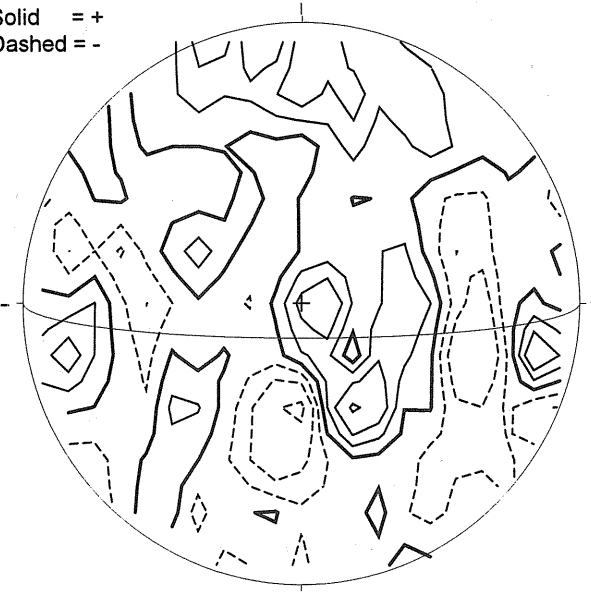


1447 UT

STANFORD MAGNETOGRAM

N

Solid = +
Dashed = -

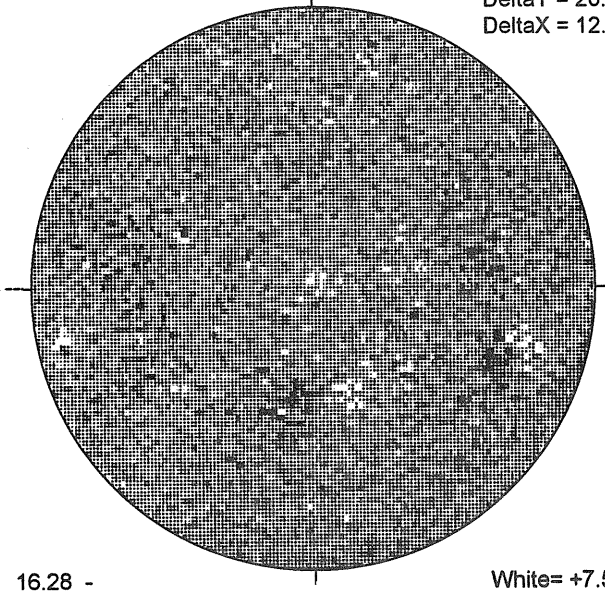


2209 UT

MT. WILSON MAGNETOGRAM

N

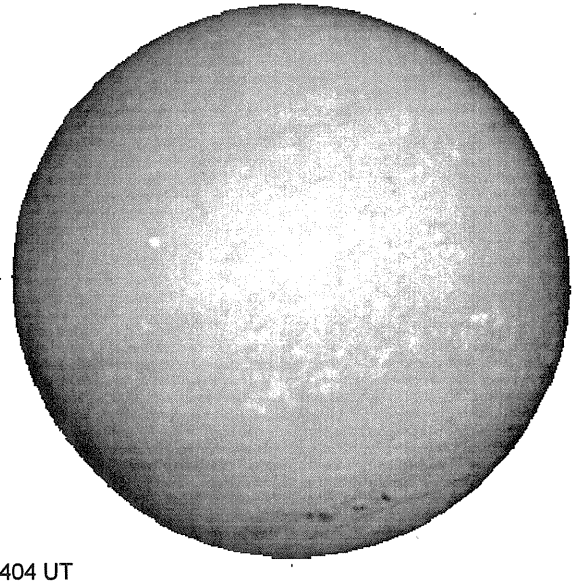
DeltaY = 20.1
DeltaX = 12.9



16.28 -
16.69 UT

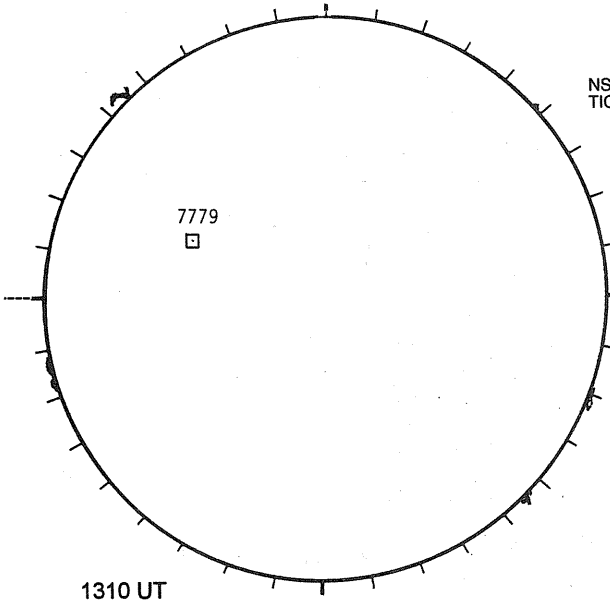
White= +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



1404 UT

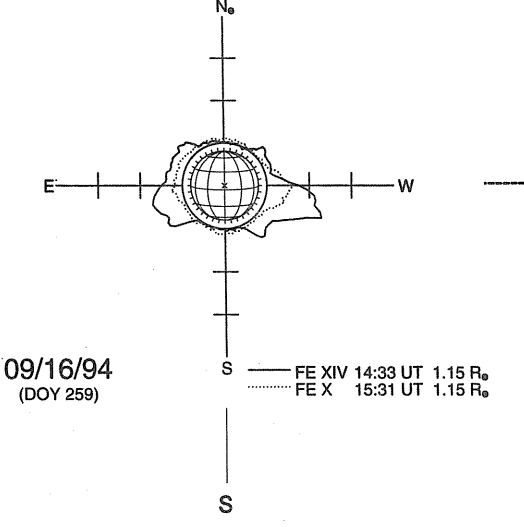
RAMEY SUNSPOT



1310 UT
0816 UT VALA Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 10 MILLIONTHS

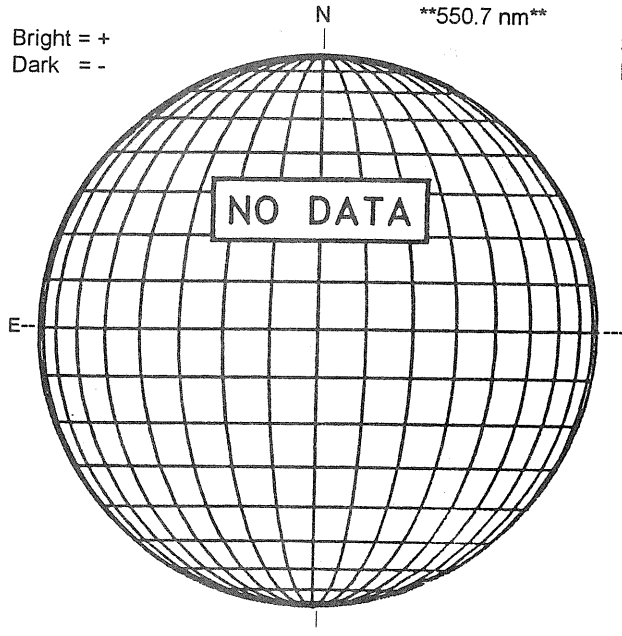


09/16/94
(DOY 259)

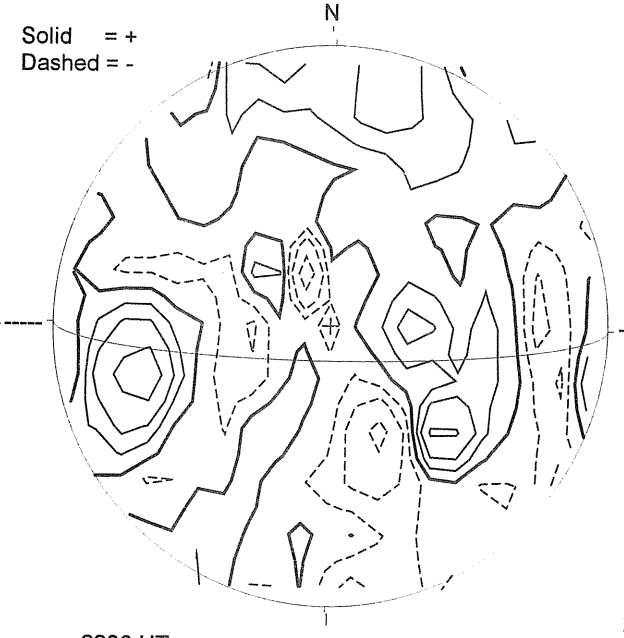
FE XIV 14:33 UT 1.15 R⊙
FE X 15:31 UT 1.15 R⊙

SEPTEMBER 17, 1994 (P= 24.36, Bo = 7.18, Lo = 306.61)

KITT PEAK MAGNETOGRAM

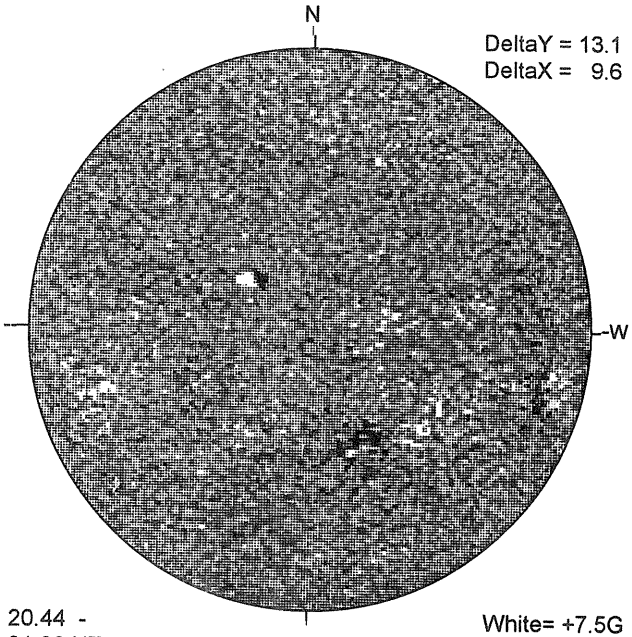


STANFORD MAGNETOGRAM



2236 UT

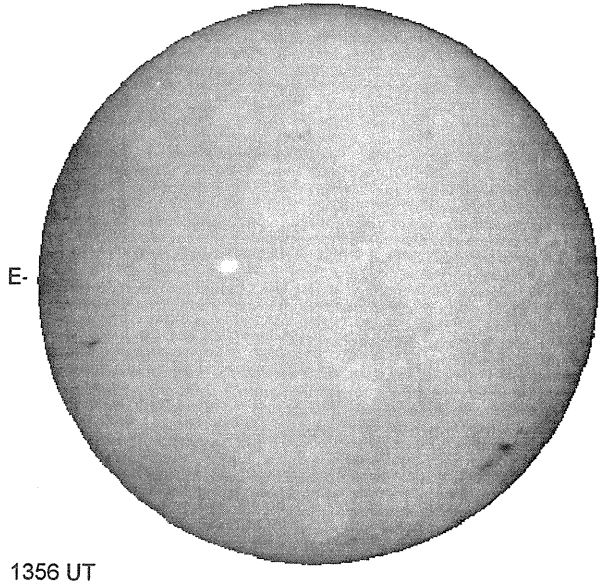
MT. WILSON MAGNETOGRAM



20.44 -
21.38 UT

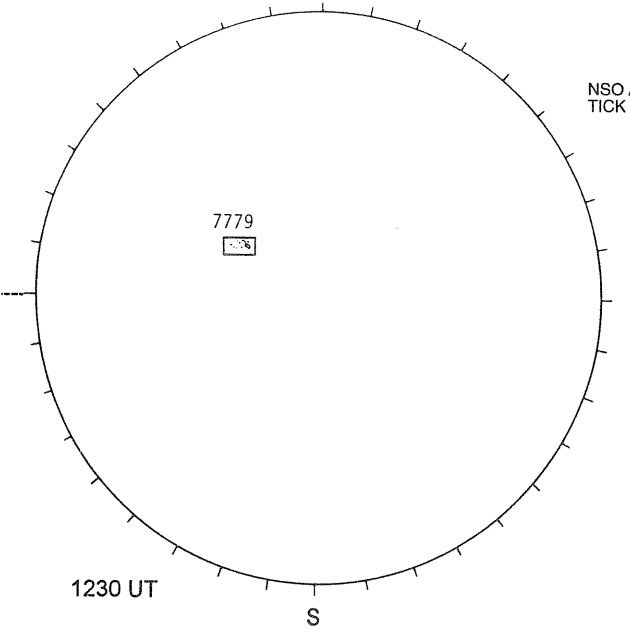
White= +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



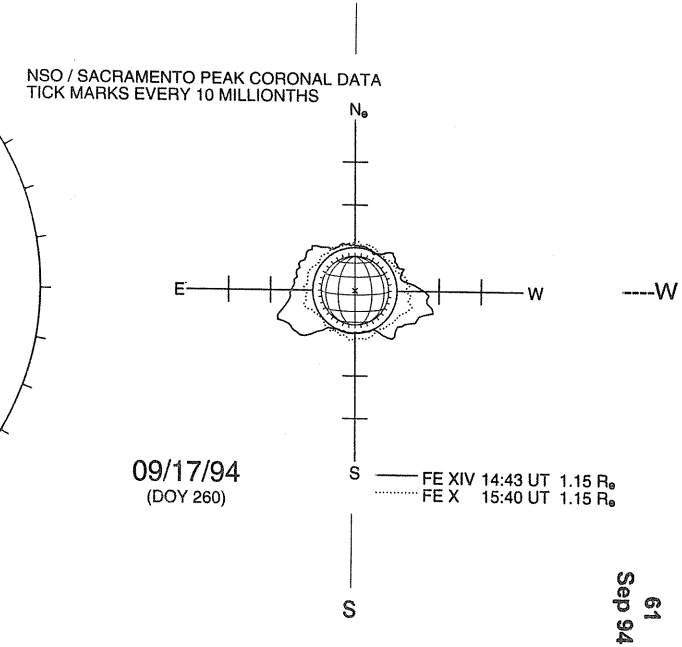
1356 UT

RAMEY SUNSPOT



1230 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

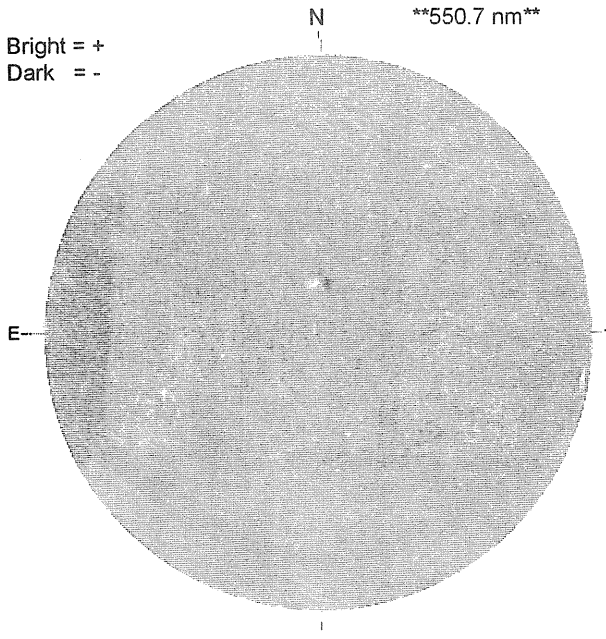


09/17/94
(DOY 260)

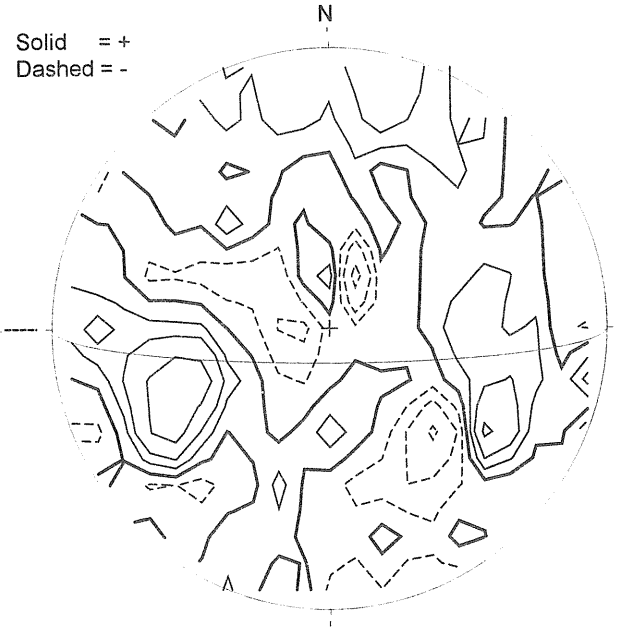
61
Sep 94

SEPTEMBER 18, 1994 (P= 24.52, Bo = 7.16, Lo = 293.41)

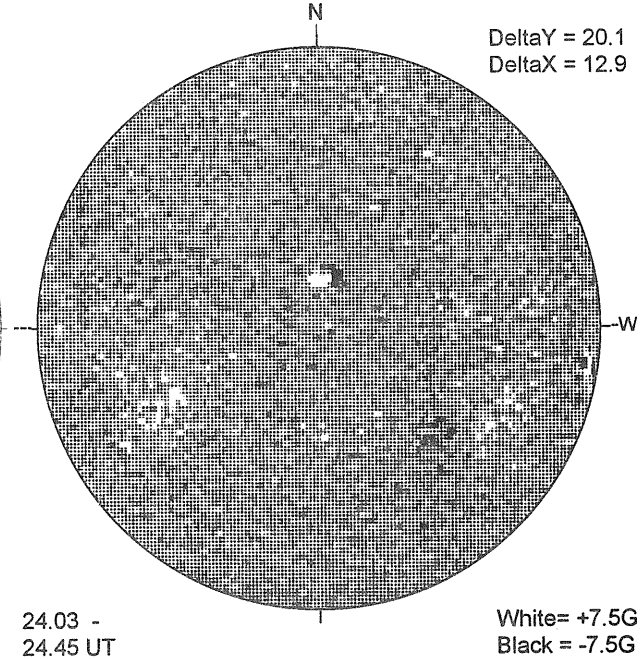
KITT PEAK MAGNETOGRAM



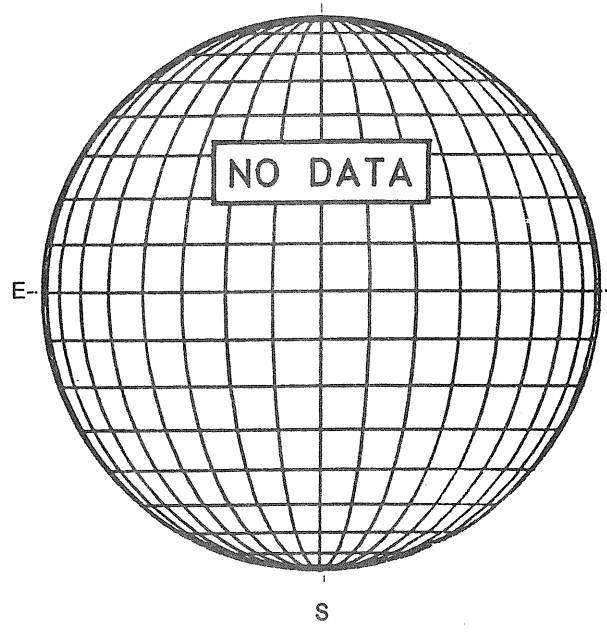
STANFORD MAGNETOGRAM



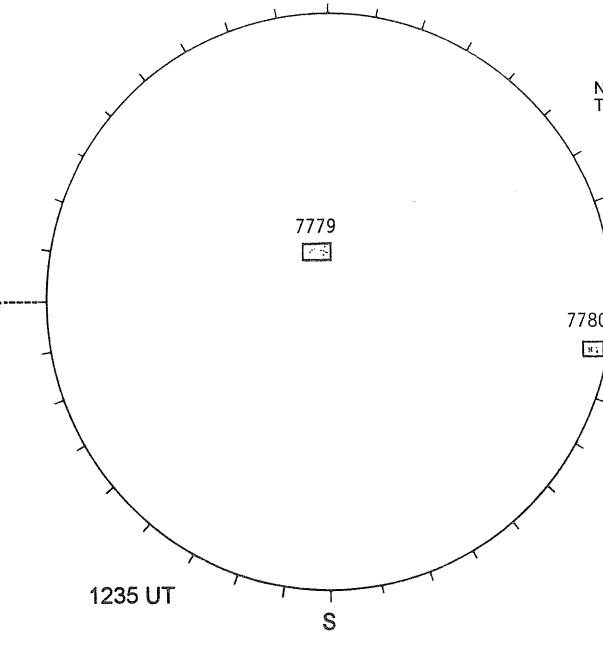
MT. WILSON MAGNETOGRAM



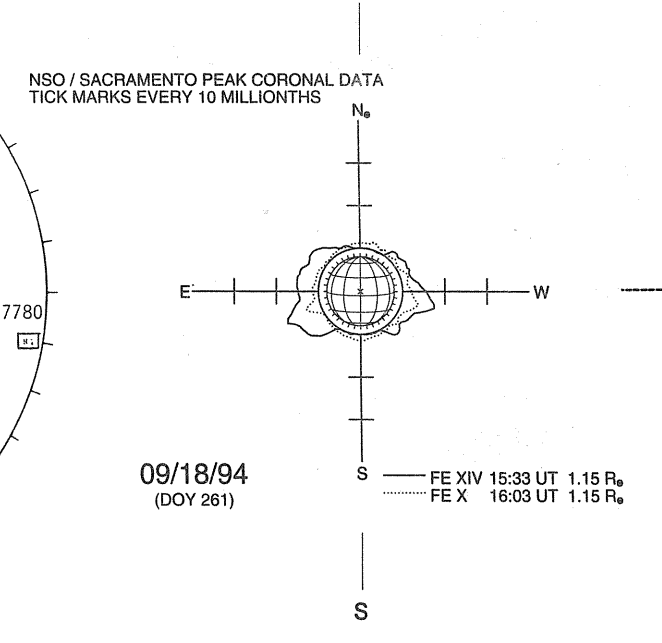
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOT

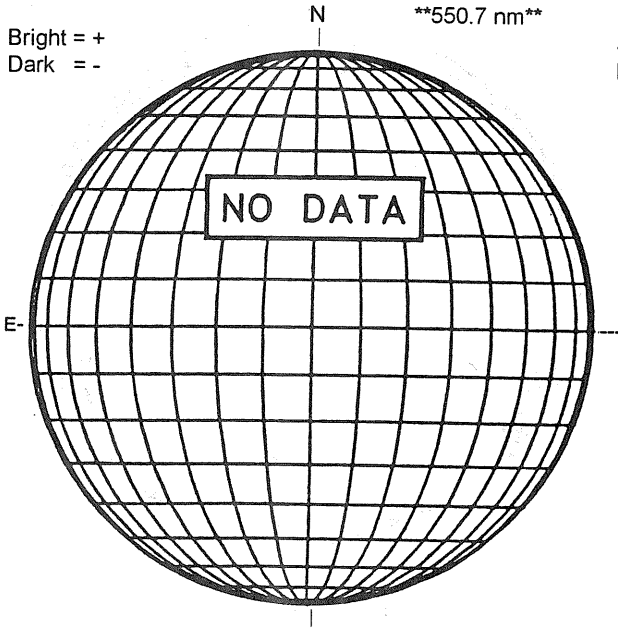


SACRAMENTO PEAK CORONA (1.15 Radii)

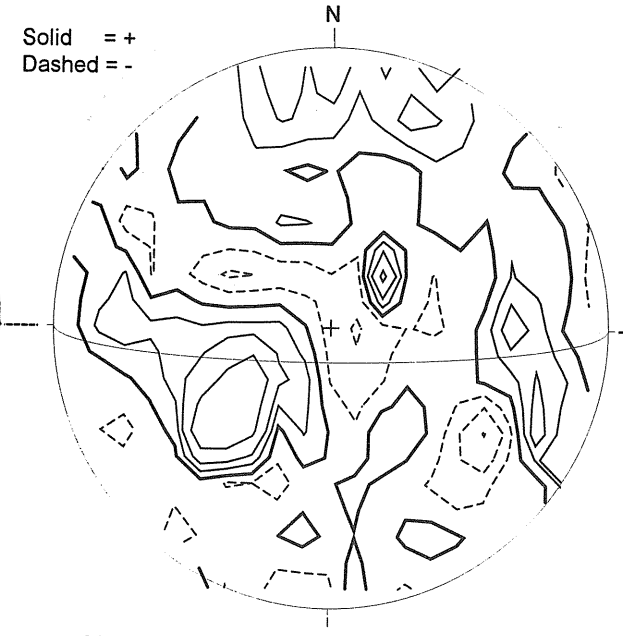


SEPTEMBER 19, 1994 (P= 24.67, Bo = 7.14, Lo = 280.21)

KITT PEAK MAGNETOGRAM

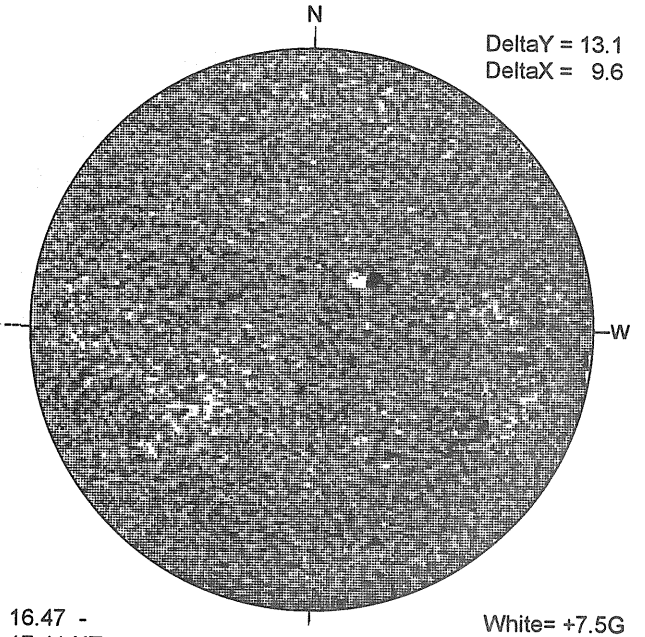


STANFORD MAGNETOGRAM



2206 UT

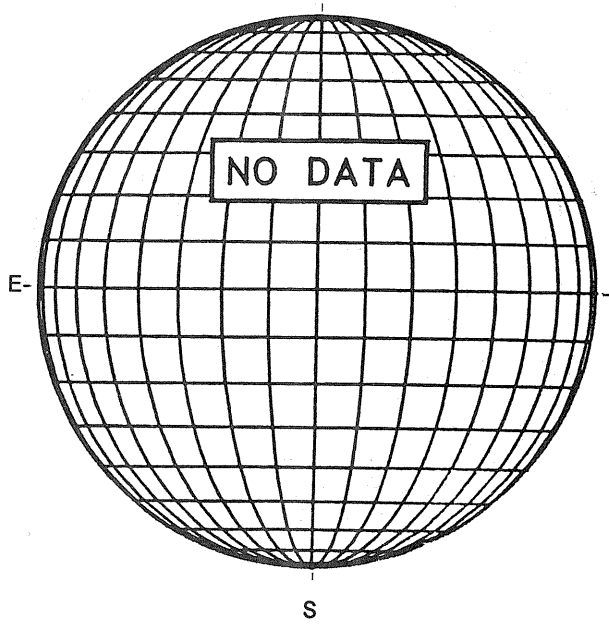
MT. WILSON MAGNETOGRAM



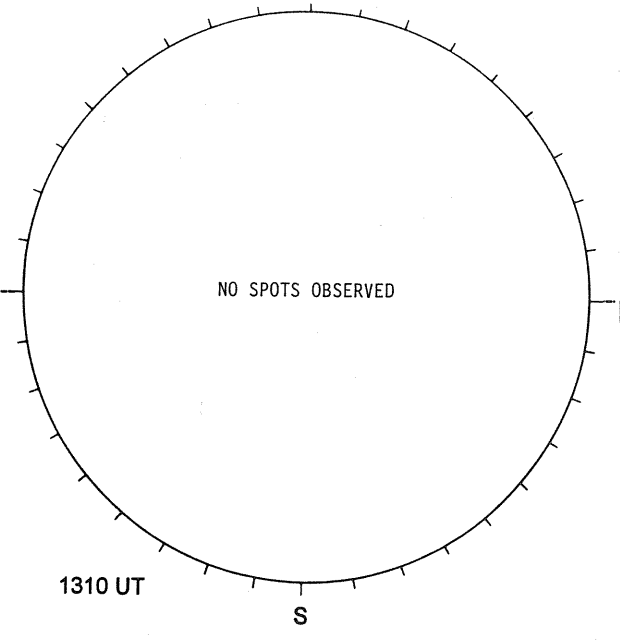
16.47 -
17.41 UT

White= +7.5G
Black = -7.5G

BIG BEAR H-ALPHA

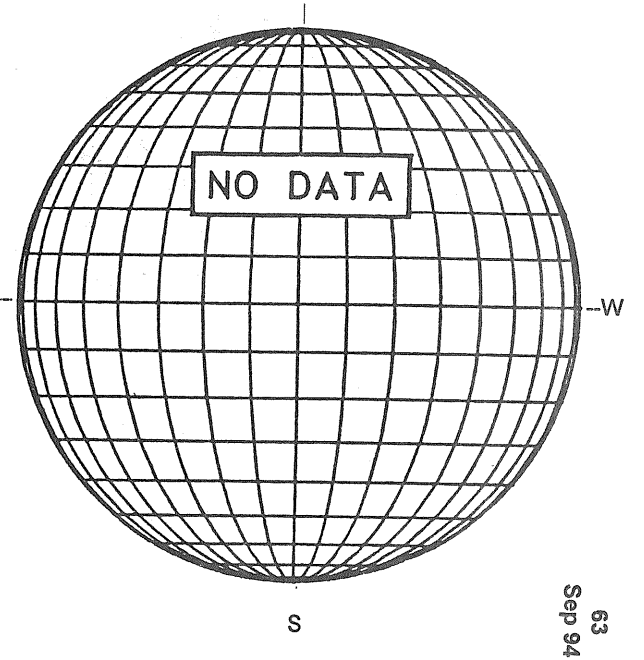


RAMEY SUNSPOT



1310 UT

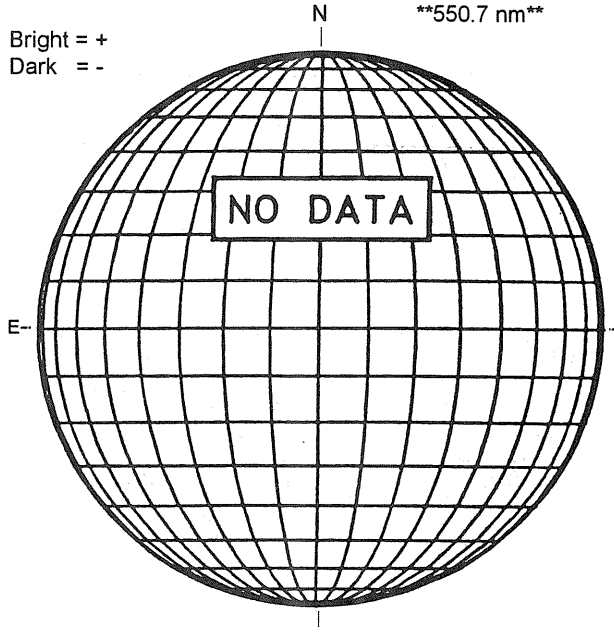
SACRAMENTO PEAK CORONA (1.15 Radii)----



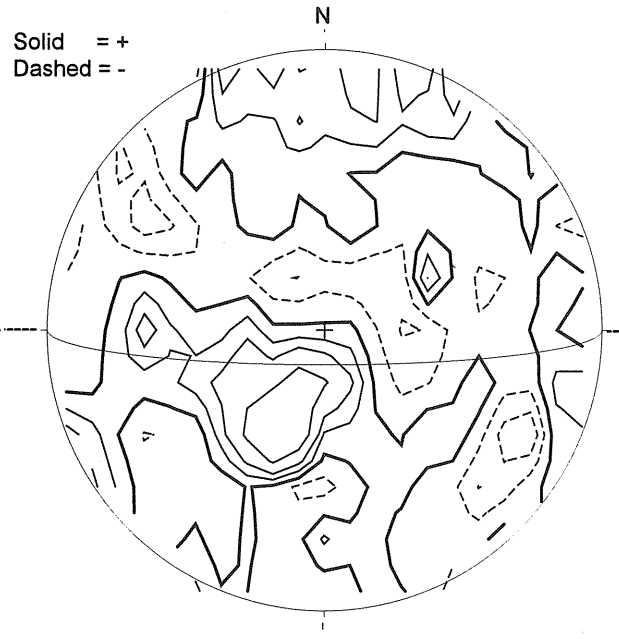
63
Sep 94

SEPTEMBER 20, 1994 (P= 24.81, Bo = 7.11, Lo = 267.01)

KITT PEAK MAGNETOGRAM

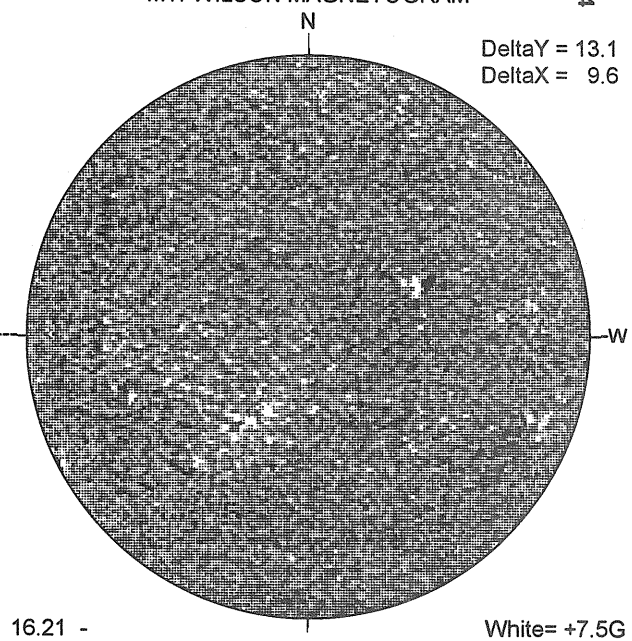


STANFORD MAGNETOGRAM



2128 UT

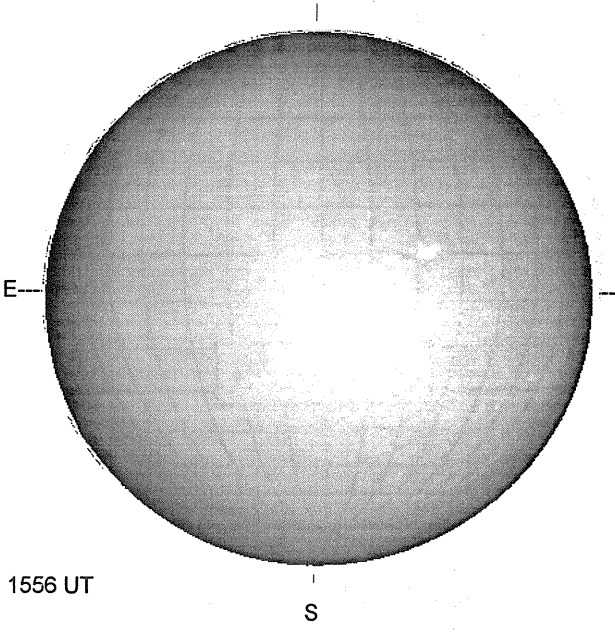
MT. WILSON MAGNETOGRAM



16.21 -
17.14 UT

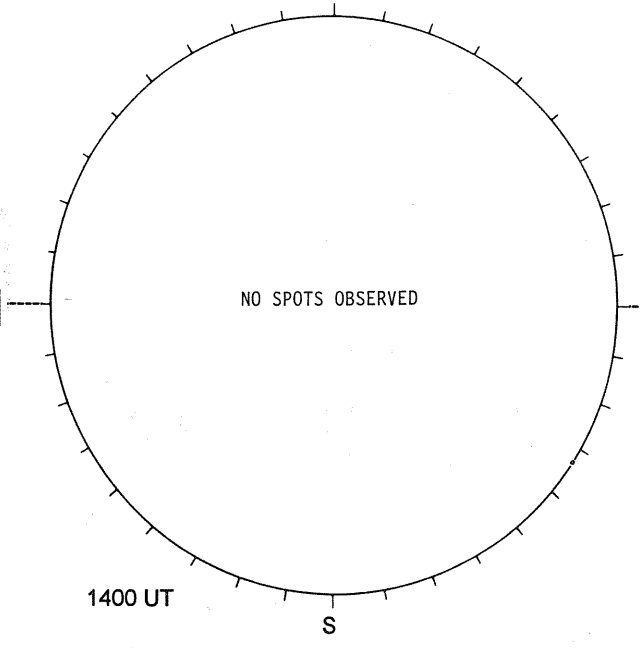
White= +7.5G
Black = -7.5G

----- BIG BEAR H-ALPHA



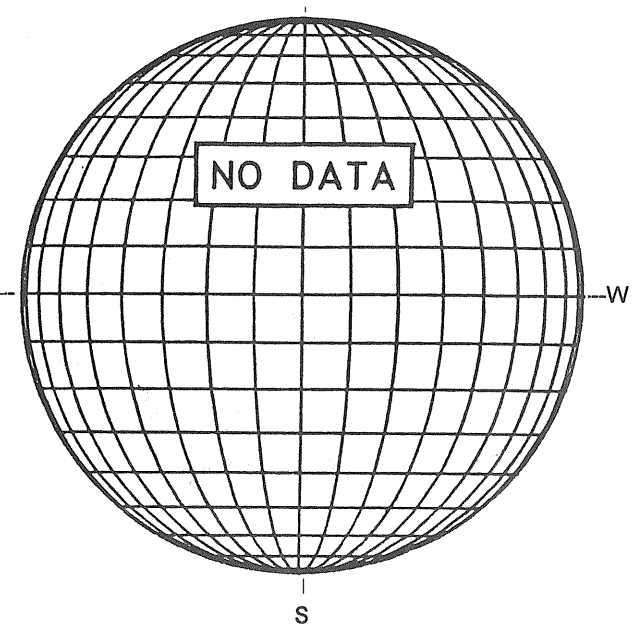
1556 UT

RAMEY SUNSPOT



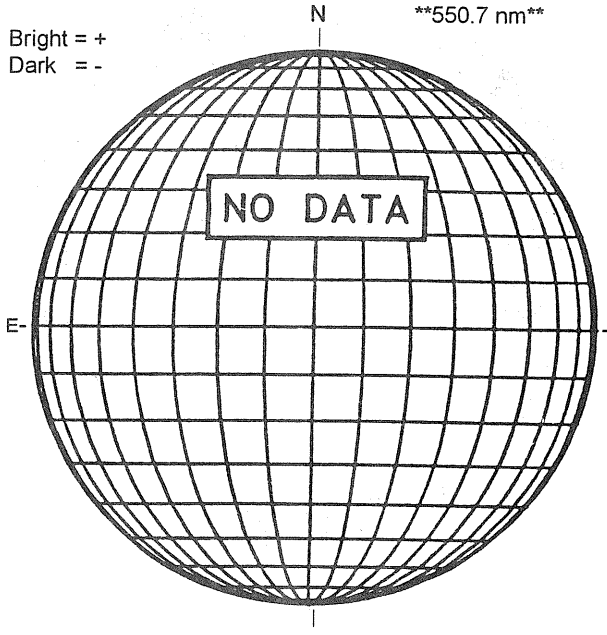
1400 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

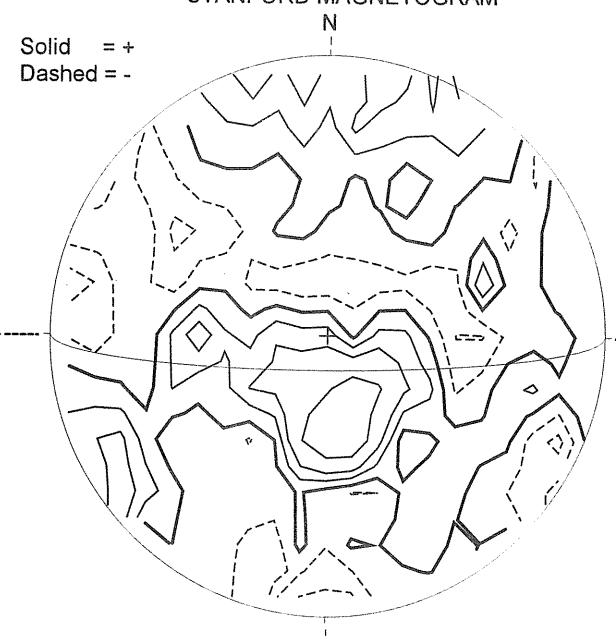


SEPTEMBER 21, 1994 (P= 24.95, Bo = 7.09, Lo = 253.81)

KITT PEAK MAGNETOGRAM

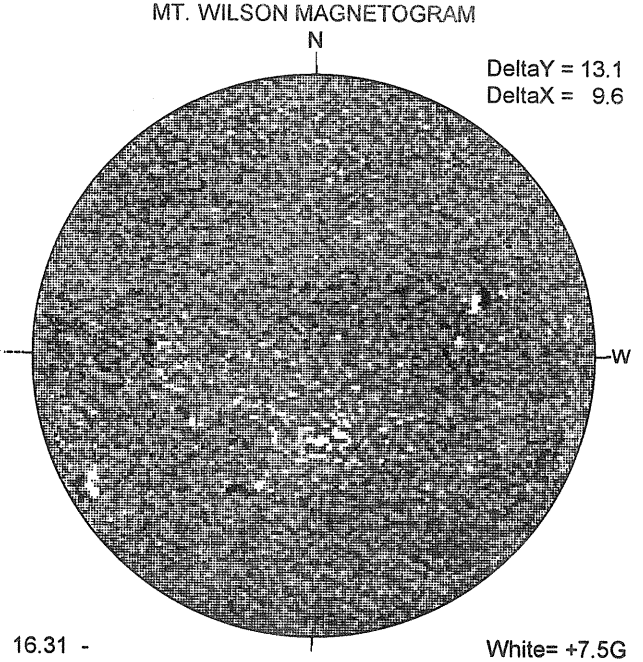


STANFORD MAGNETOGRAM



1852 UT

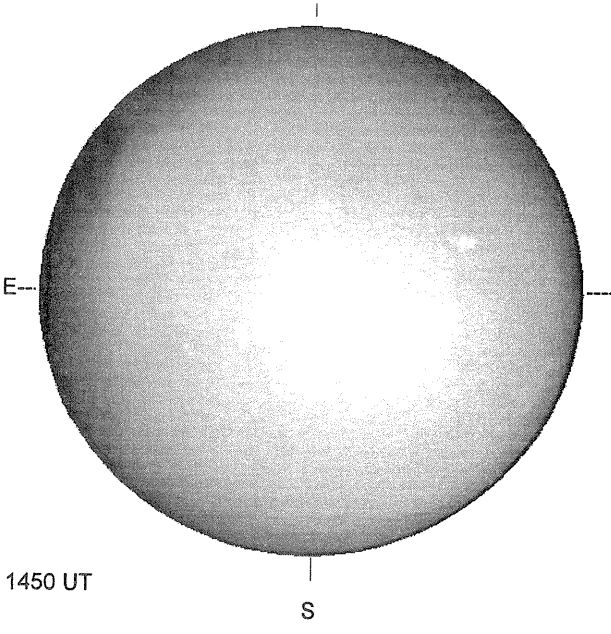
MT. WILSON MAGNETOGRAM



16.31 -
17.25 UT

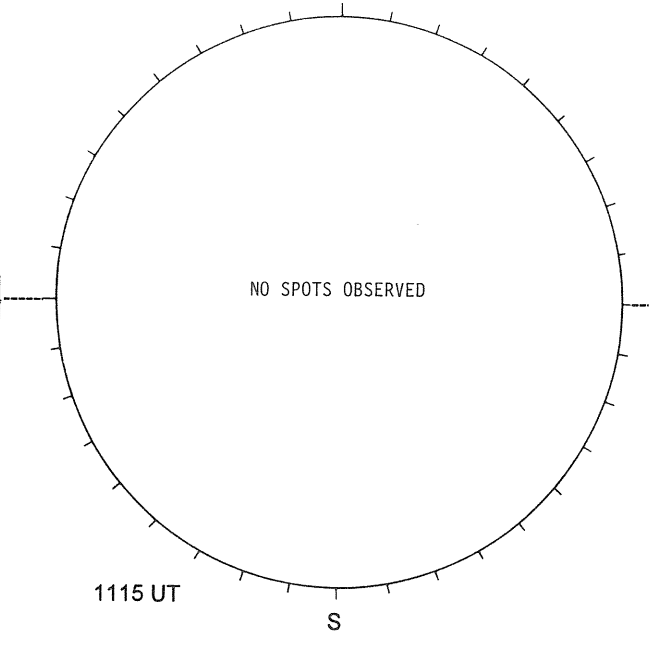
White= +7.5G
Black = -7.5G

BIG BEAR H-ALPHA



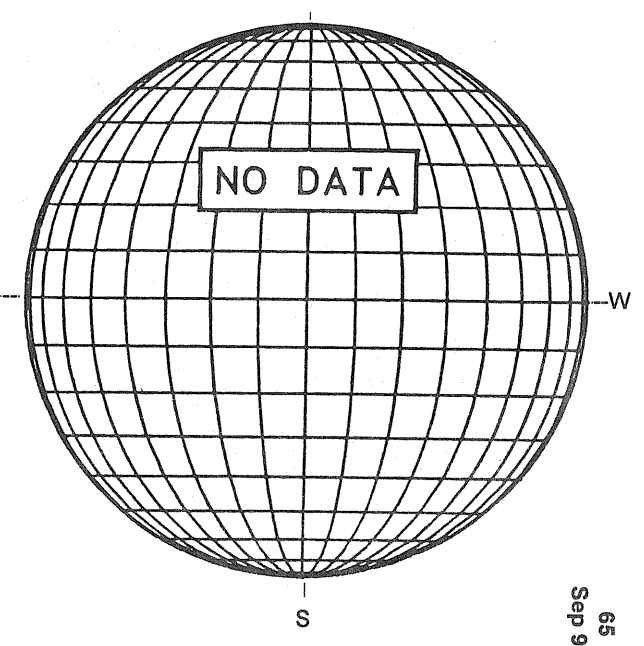
1450 UT

RAMEY SUNSPOT



1115 UT

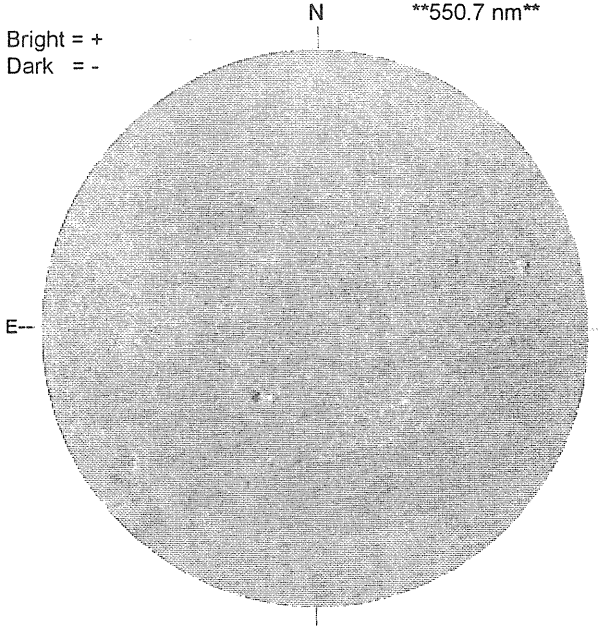
SACRAMENTO PEAK CORONA (1.15 Radii)----



65
Sep 94

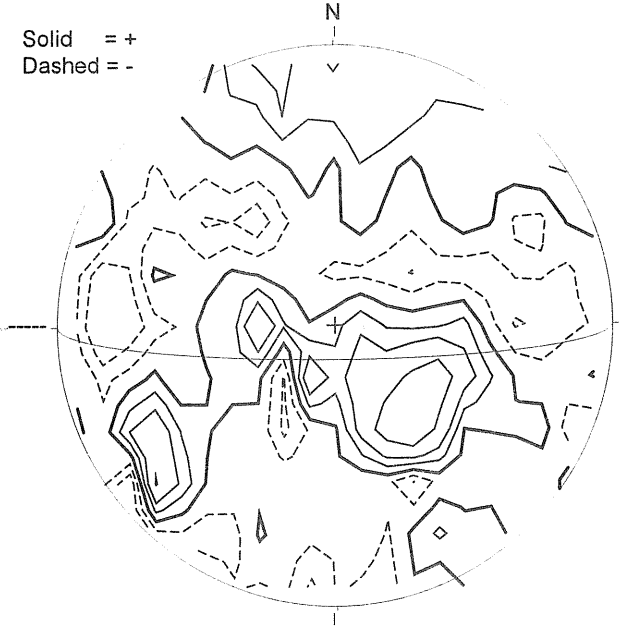
SEPTEMBER 22, 1994 (P= 25.08, Bo = 7.06, Lo = 240.61)

KITT PEAK MAGNETOGRAM



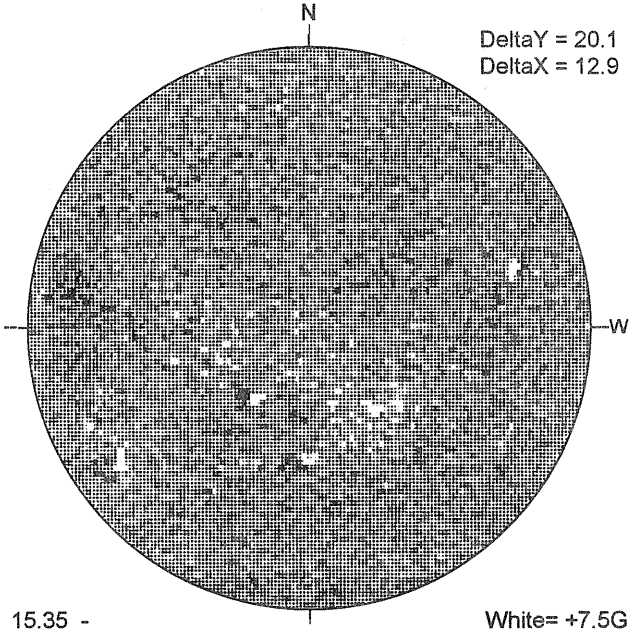
1431 UT

STANFORD MAGNETOGRAM



1848 UT

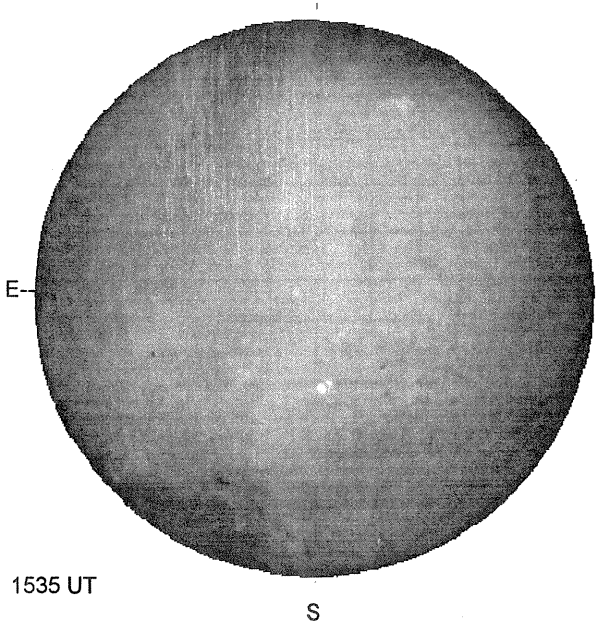
MT. WILSON MAGNETOGRAM



15.35 -
15.76 UT

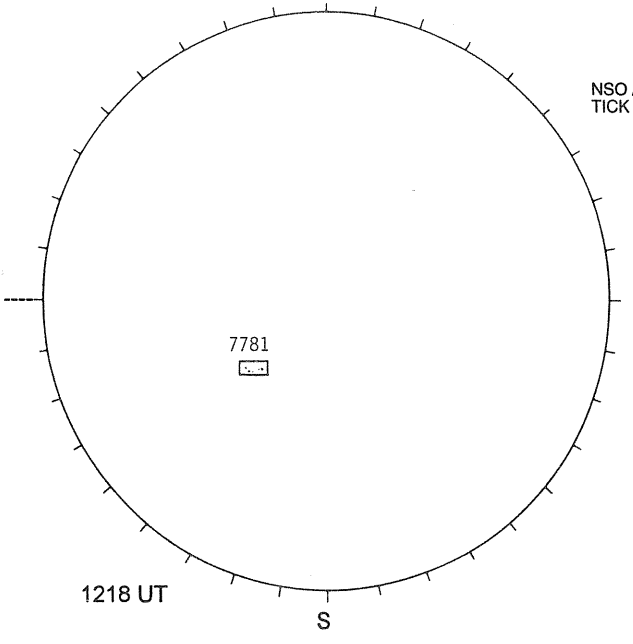
White= +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



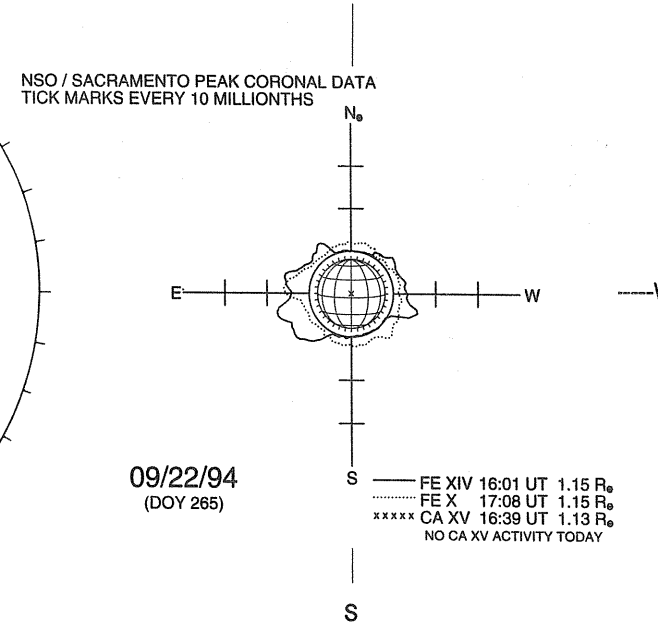
1535 UT

RAMEY SUNSPOT



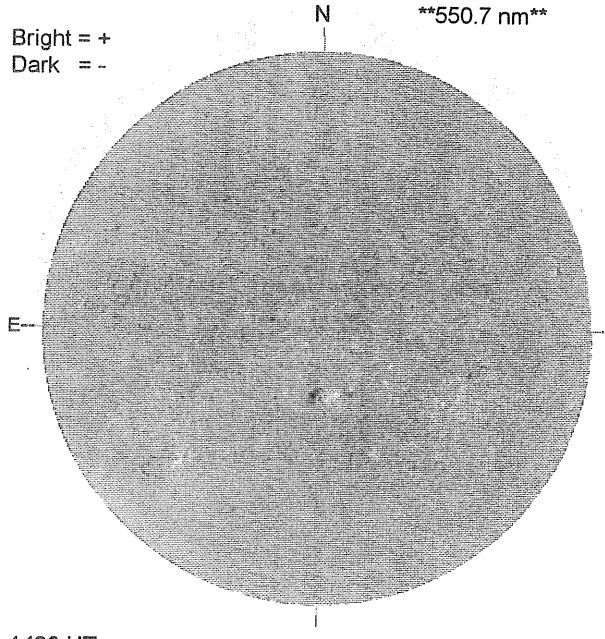
1218 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



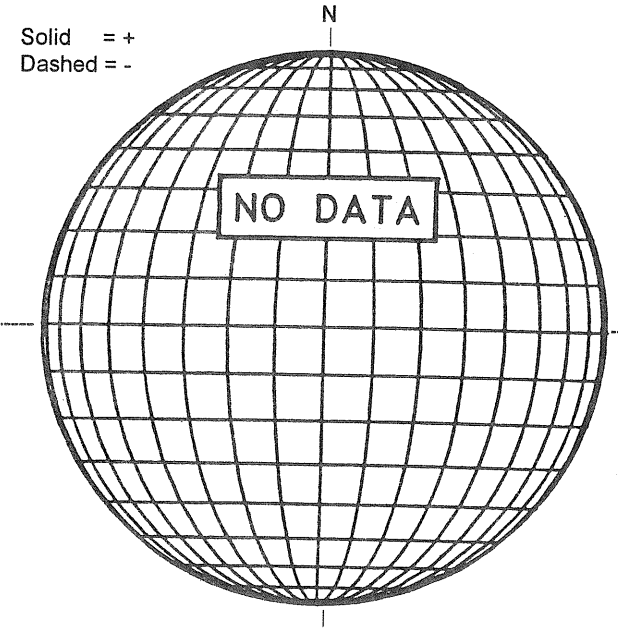
SEPTEMBER 23, 1994 (P= 25.21, Bo = 7.03, Lo = 227.41)

KITT PEAK MAGNETOGRAM

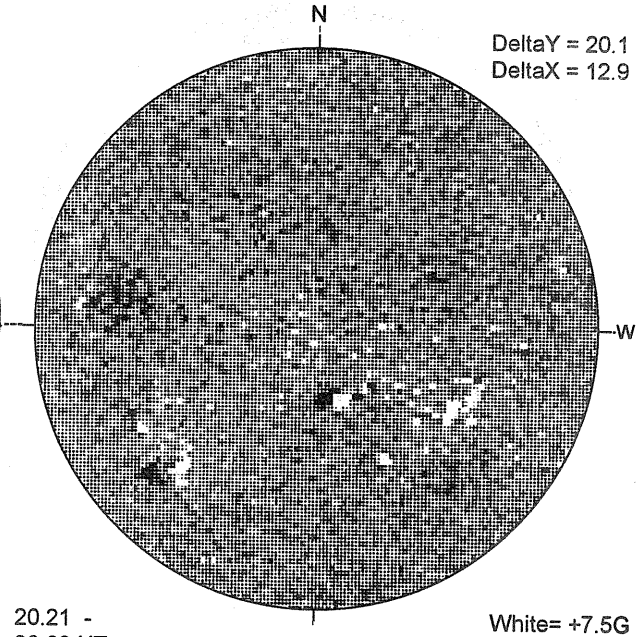


1420 UT

STANFORD MAGNETOGRAM



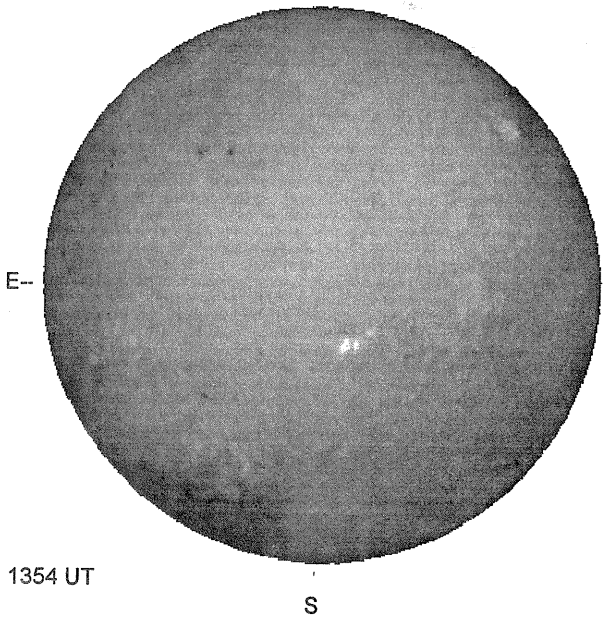
MT. WILSON MAGNETOGRAM



20.21 -
20.63 UT

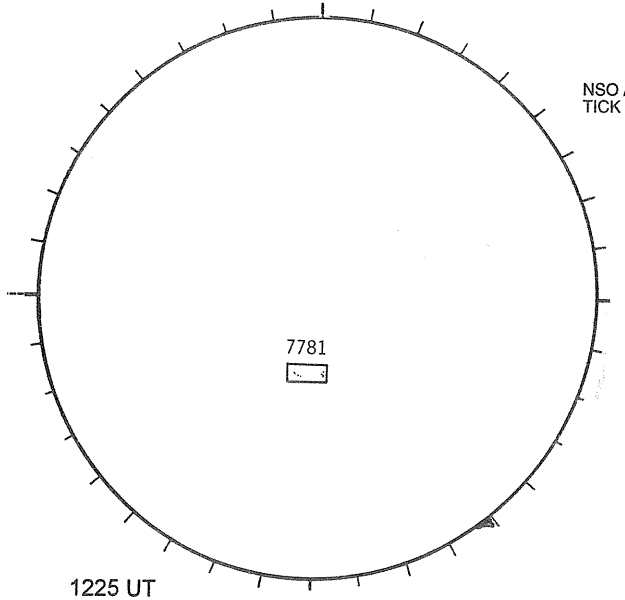
White= +7.5G
Black = -7.5G

----- SACRAMENTO PEAK H-ALPHA



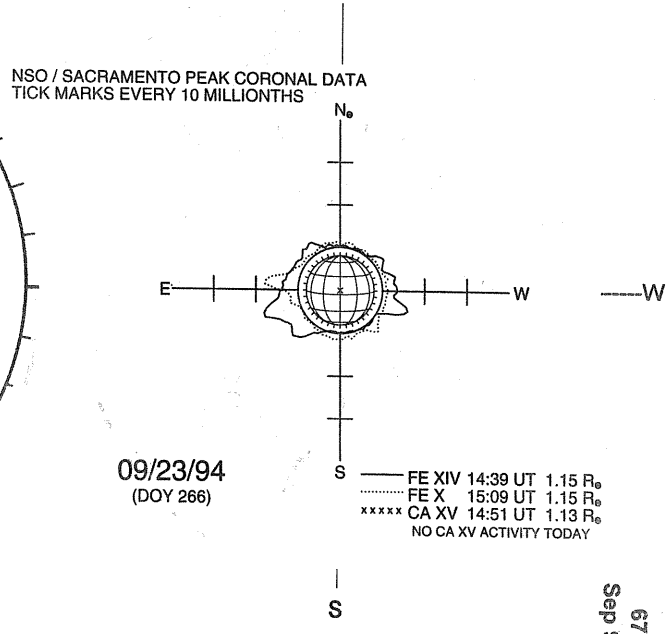
1354 UT

RAMEY SUNSPOT



1225 UT
0751 UT VALA Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----



67
Sep 94

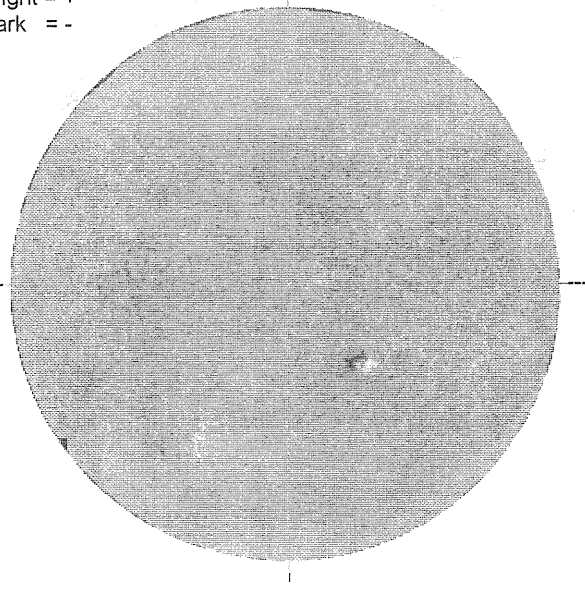
SEPTEMBER 24, 1994 (P= 25.33, Bo = 7.00, Lo = 214.21)

KITT PEAK MAGNETOGRAM

N

550.7 nm

Bright = +
Dark = -



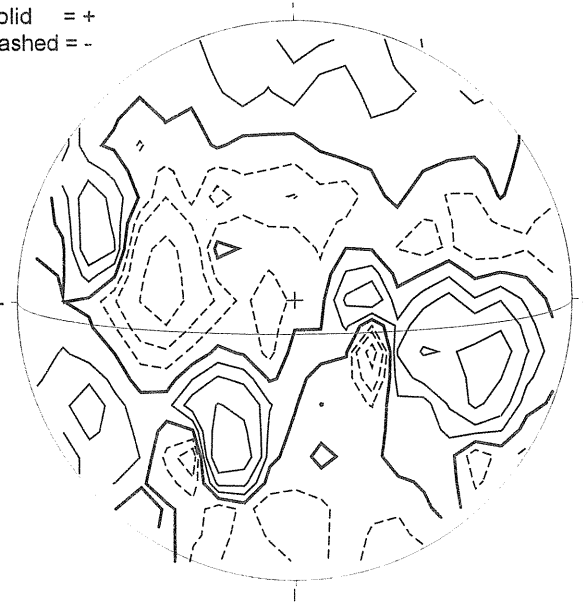
E--

1544 UT

STANFORD MAGNETOGRAM

N

Solid = +
Dashed = -

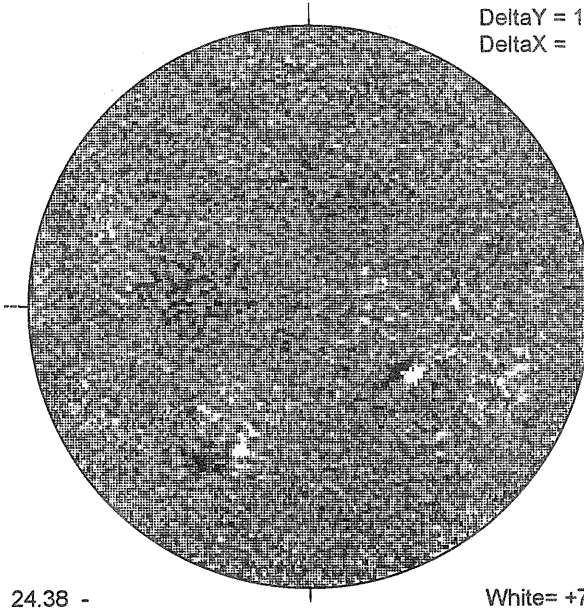


2227 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

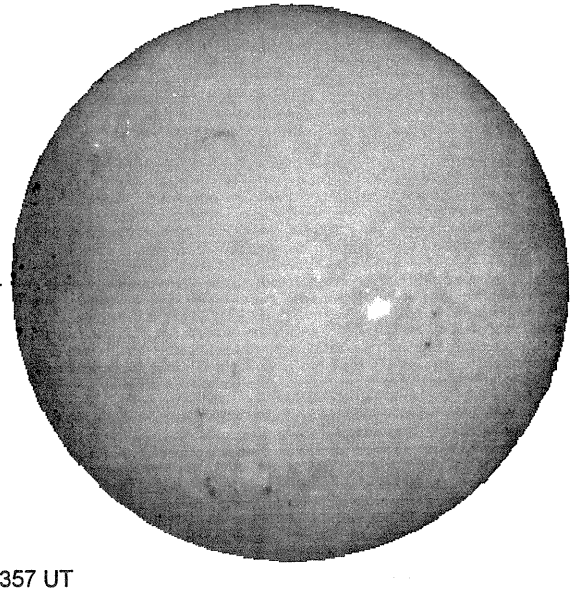


--W

24.38 -
25.32 UT

White= +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA

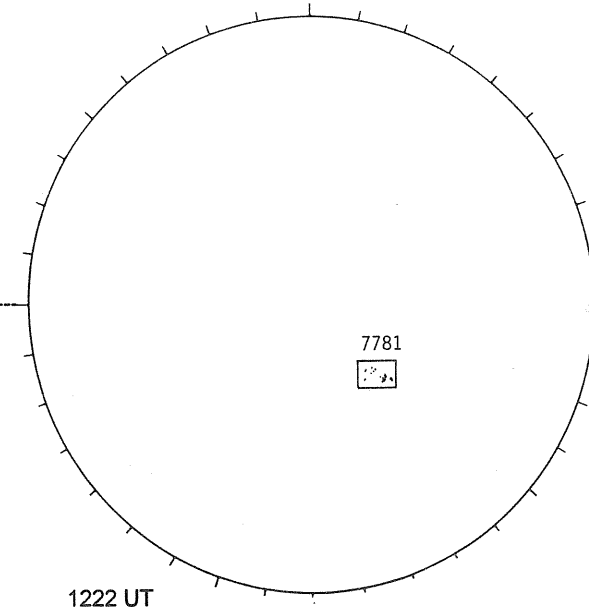


E-

1357 UT

S

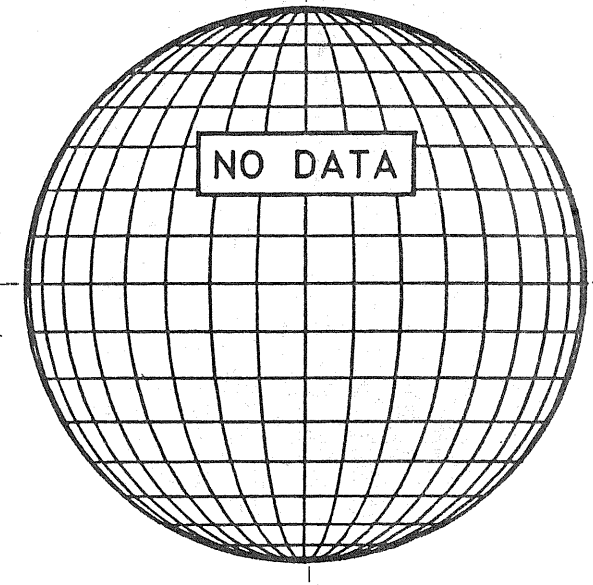
RAMEY SUNSPOT



1222 UT

S

SACRAMENTO PEAK CORONA (1.15 Radii)

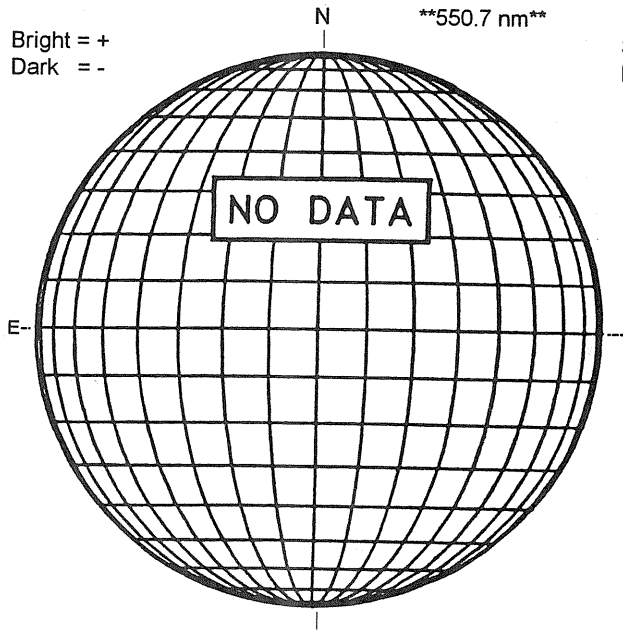


--W

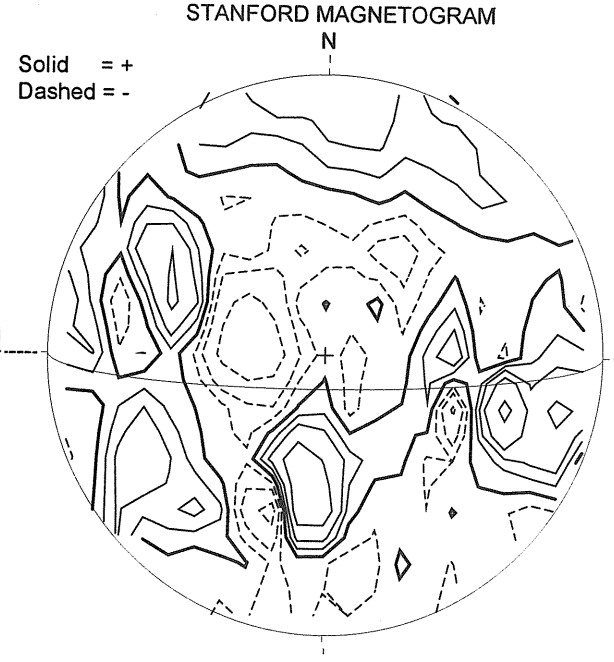
S

SEPTEMBER 25, 1994 (P= 25.44, Bo = 6.97, Lo = 201.01)

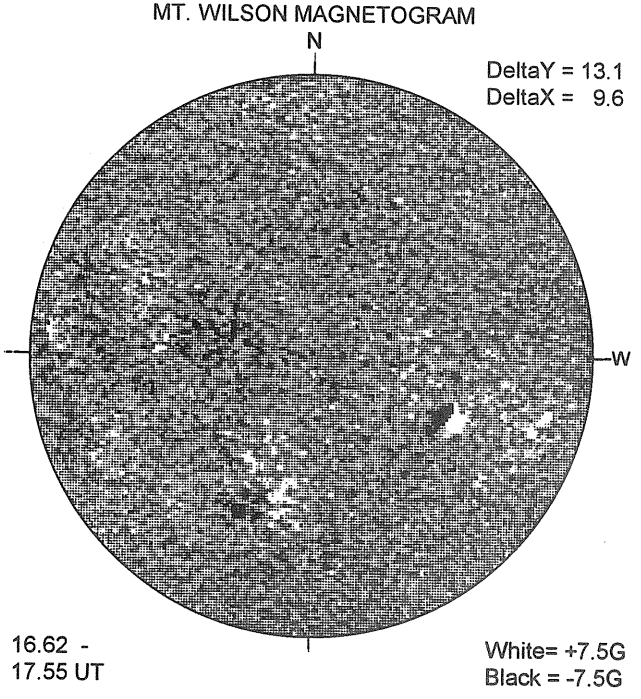
KITT PEAK MAGNETOGRAM



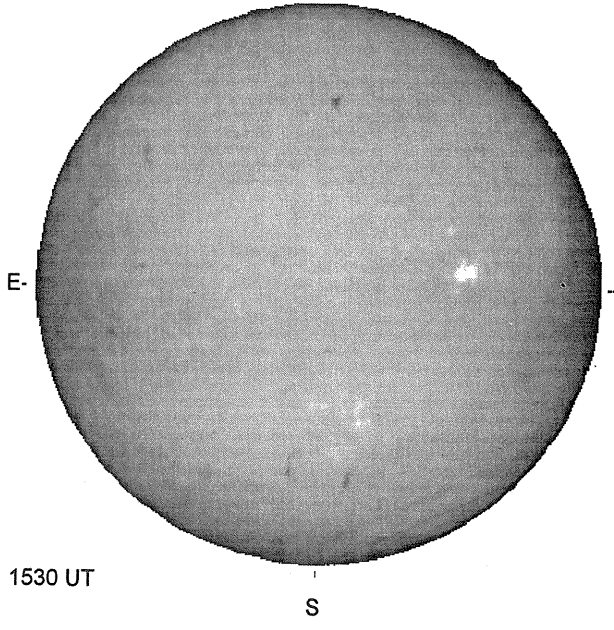
STANFORD MAGNETOGRAM



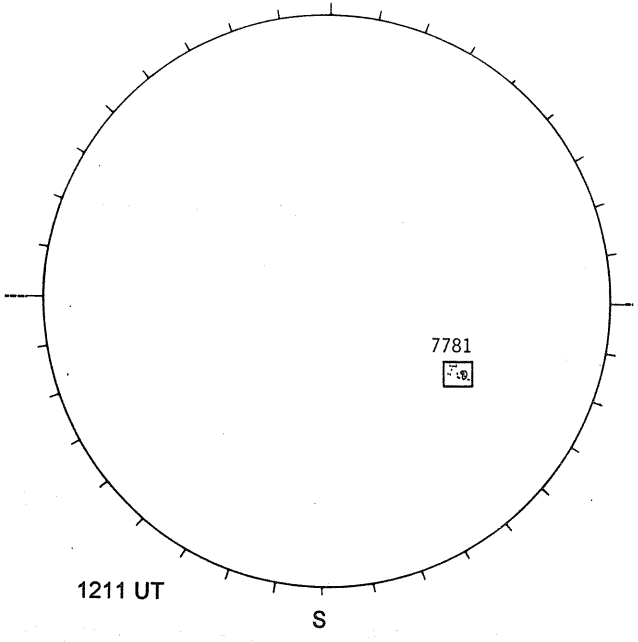
MT. WILSON MAGNETOGRAM



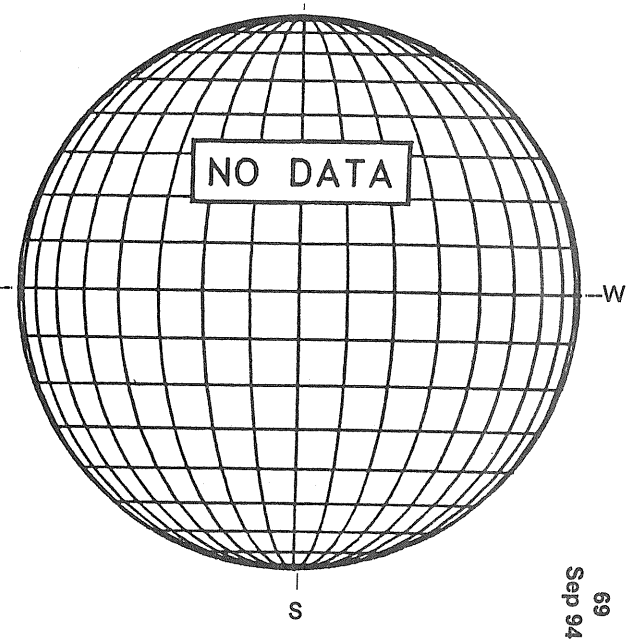
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOT

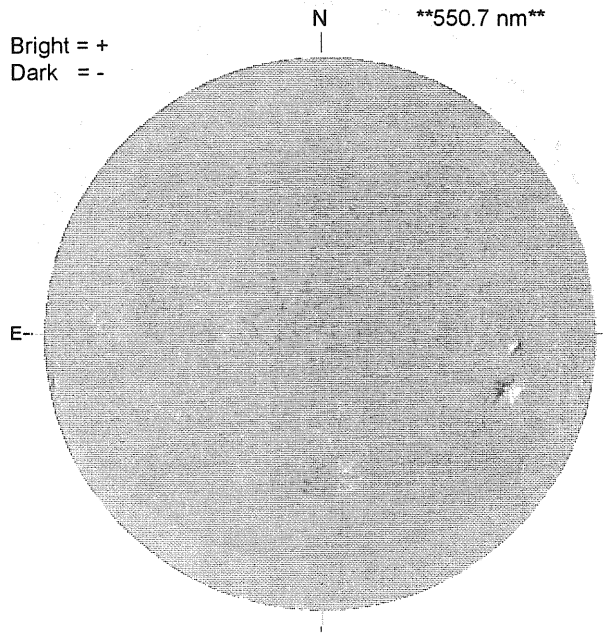


SACRAMENTO PEAK CORONA (1.15 Radii)----



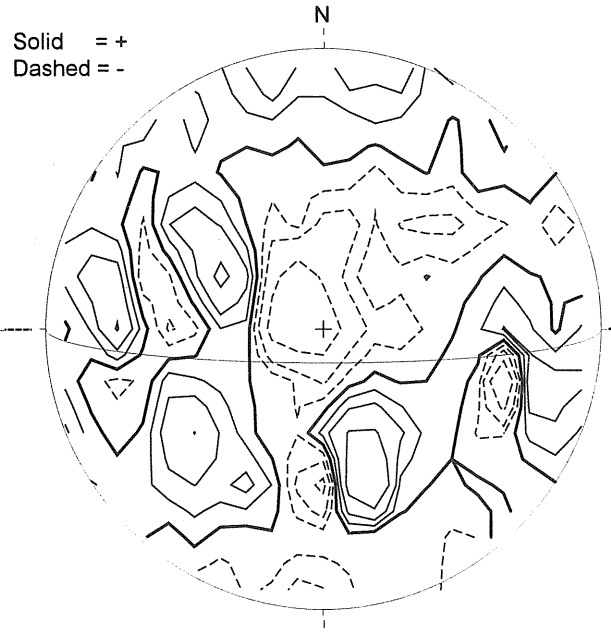
SEPTEMBER 26, 1994 (P= 25.54, Bo = 6.93, Lo = 187.81)

KITT PEAK MAGNETOGRAM



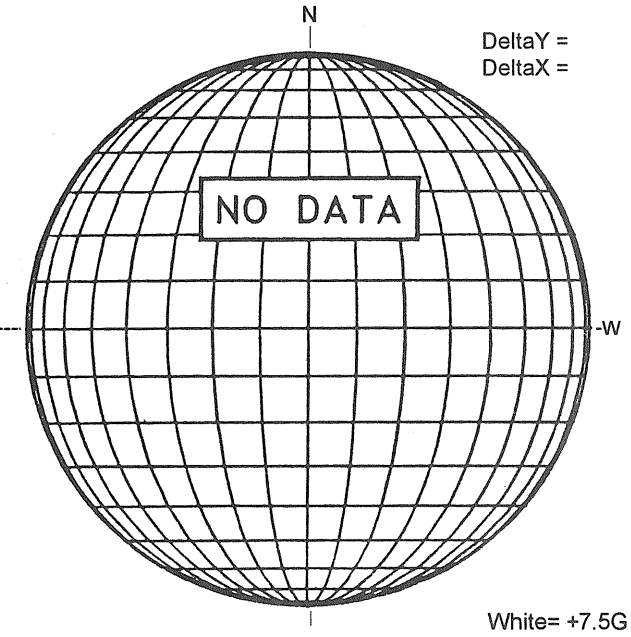
1510 UT

STANFORD MAGNETOGRAM



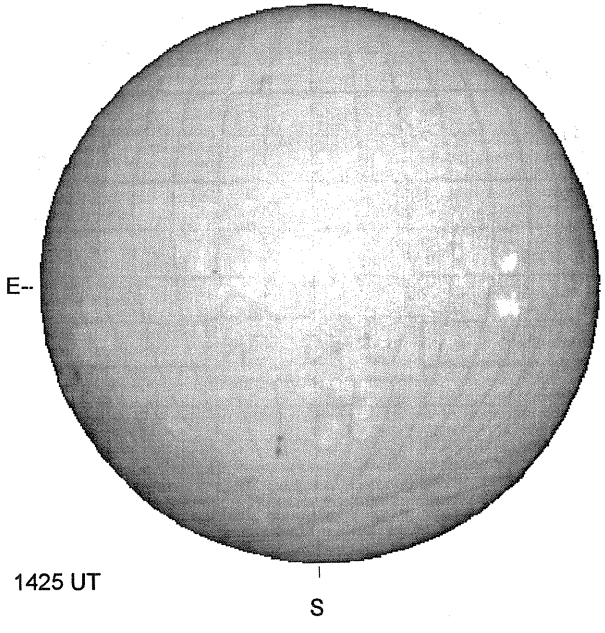
2124 UT

MT. WILSON MAGNETOGRAM



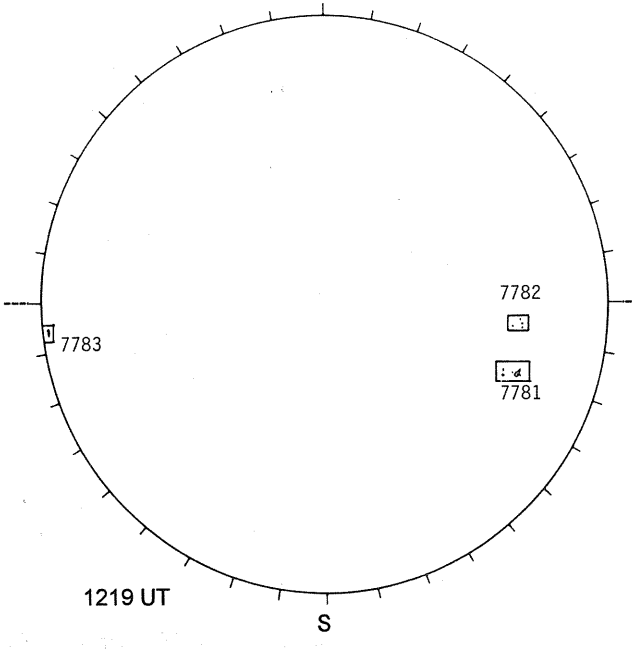
White= +7.5G
Black = -7.5G

----- SACRAMENTO PEAK H-ALPHA



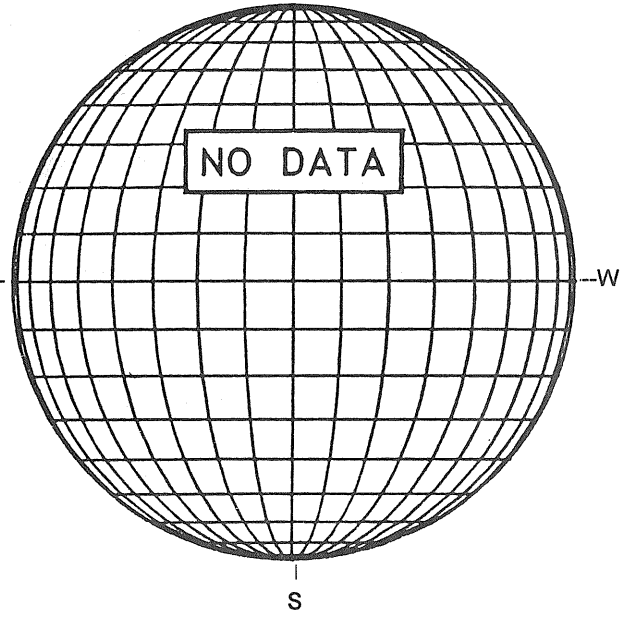
1425 UT

RAMEY SUNSPOT



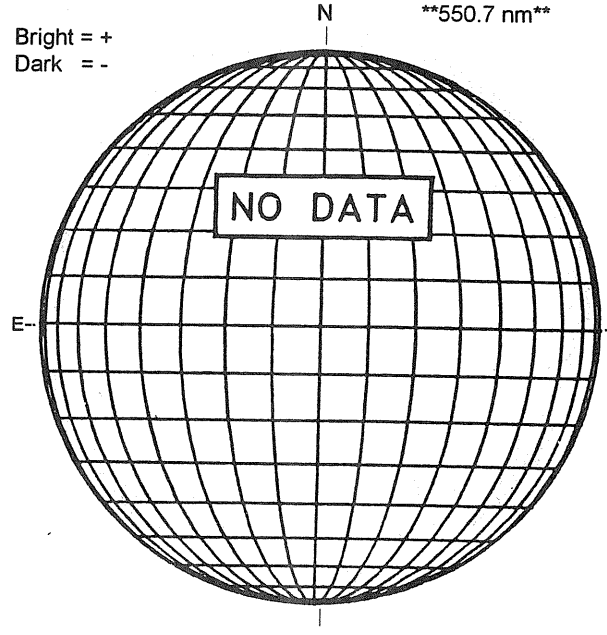
1219 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

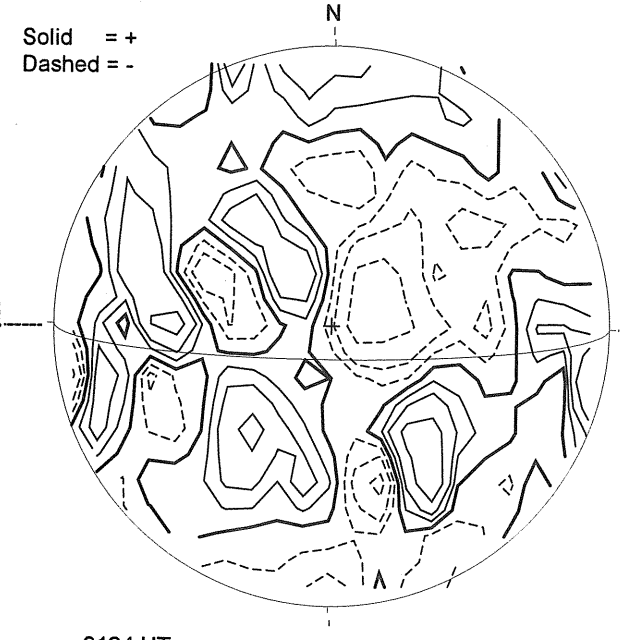


SEPTEMBER 27, 1994 (P= 25.64, Bo = 6.90, Lo = 174.61)

KITT PEAK MAGNETOGRAM

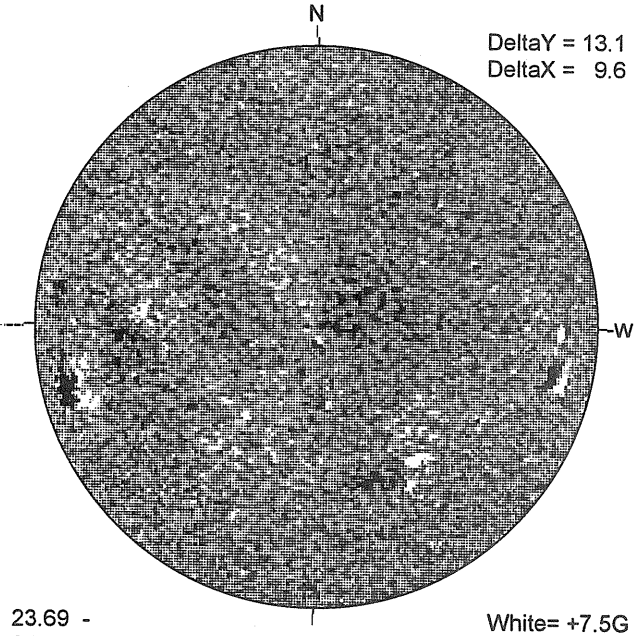


STANFORD MAGNETOGRAM



2124 UT

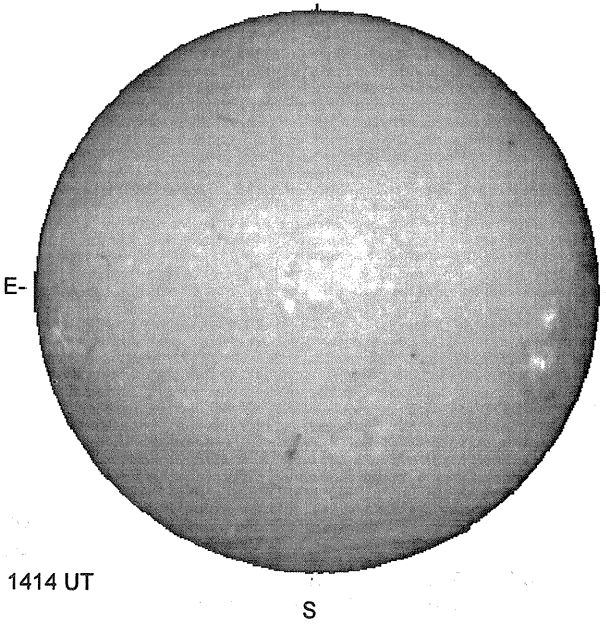
MT. WILSON MAGNETOGRAM



23.69 -
24.63 UT

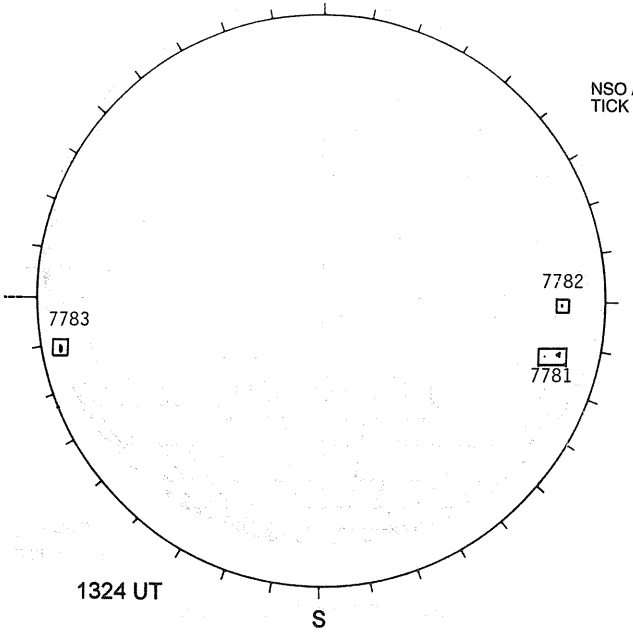
White= +7.5G
Black = -7.5G

----- SACRAMENTO PEAK H-ALPHA



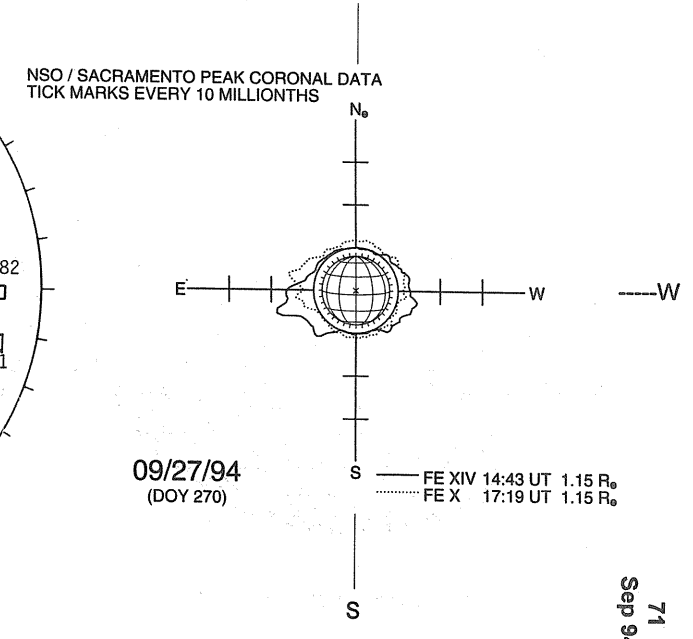
1414 UT

RAMEY SUNSPOT



1324 UT

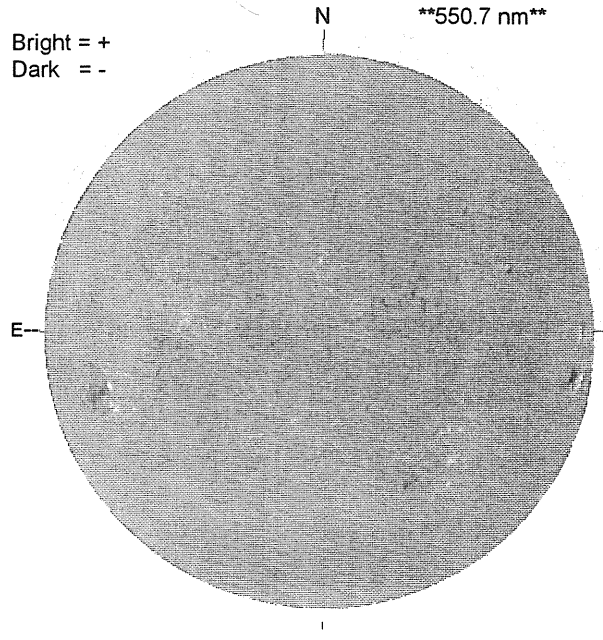
SACRAMENTO PEAK CORONA (1.15 Radii)----



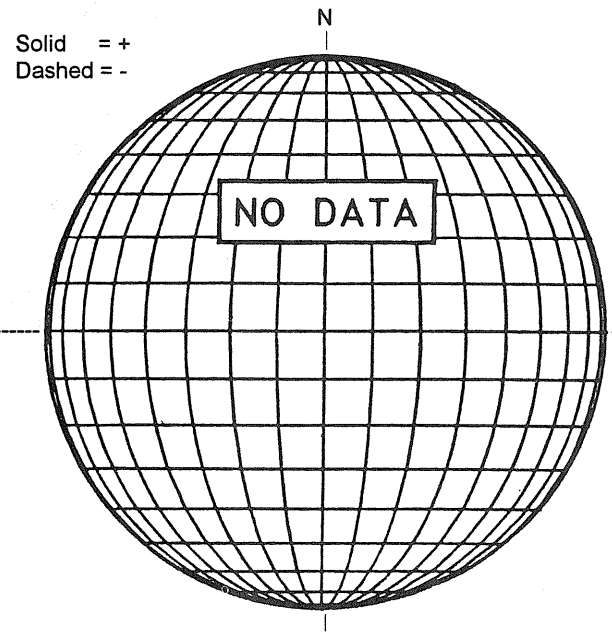
71
Sep 94

SEPTEMBER 28, 1994 (P= 25.74, Bo = 6.86, Lo = 161.42)

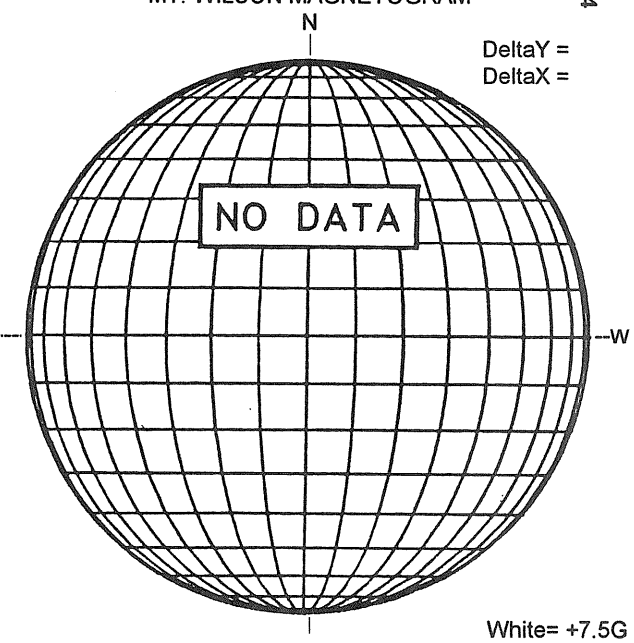
KITT PEAK MAGNETOGRAM



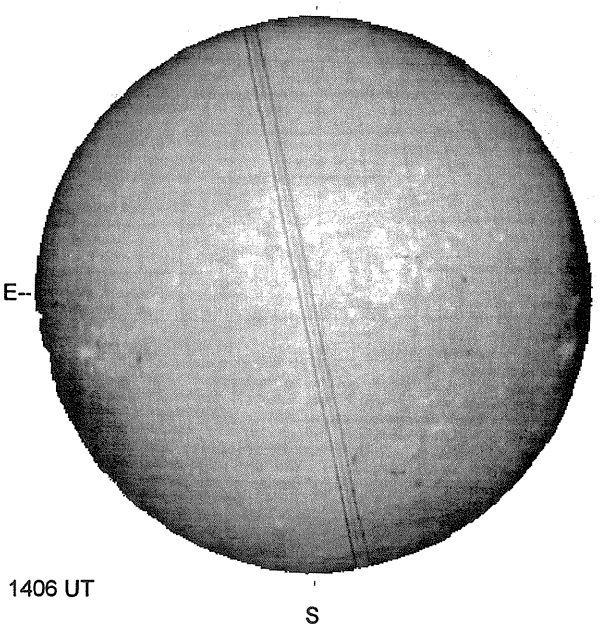
STANFORD MAGNETOGRAM



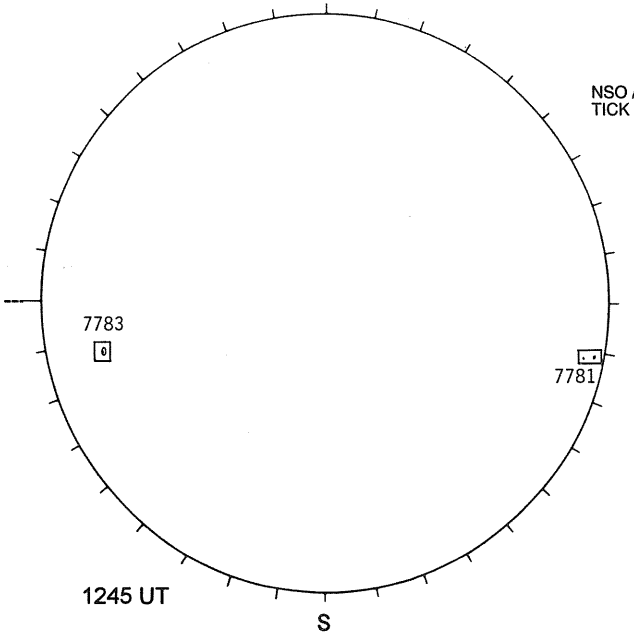
MT. WILSON MAGNETOGRAM



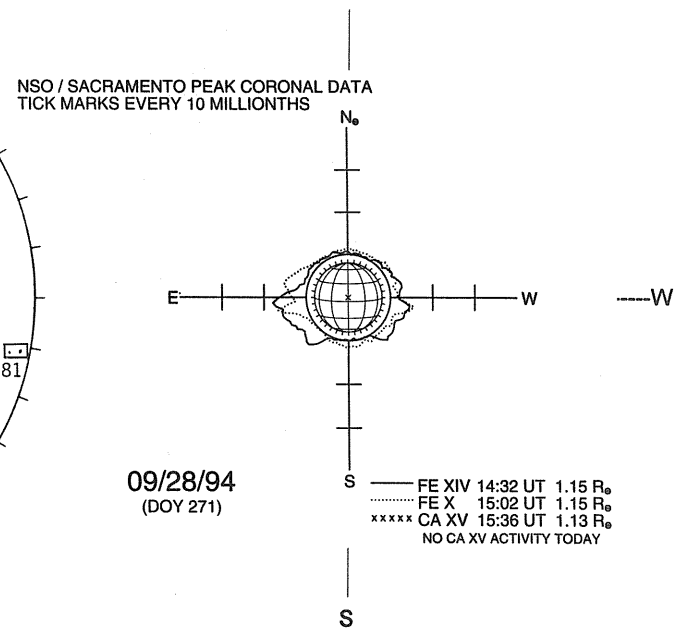
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOT

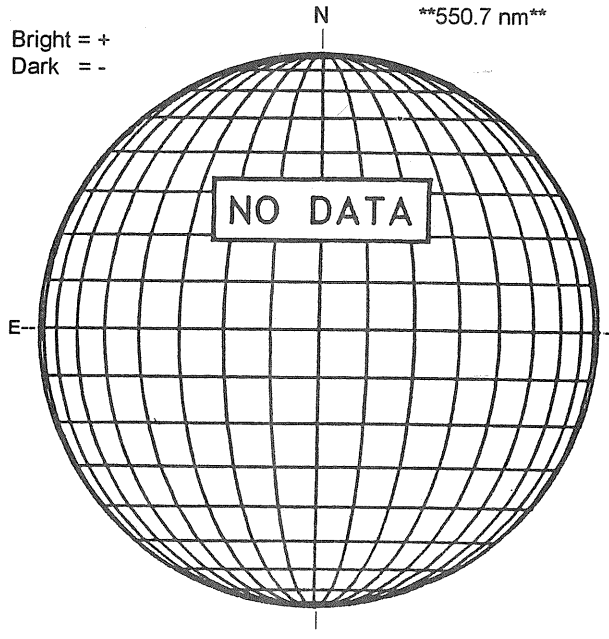


SACRAMENTO PEAK CORONA (1.15 Radii)

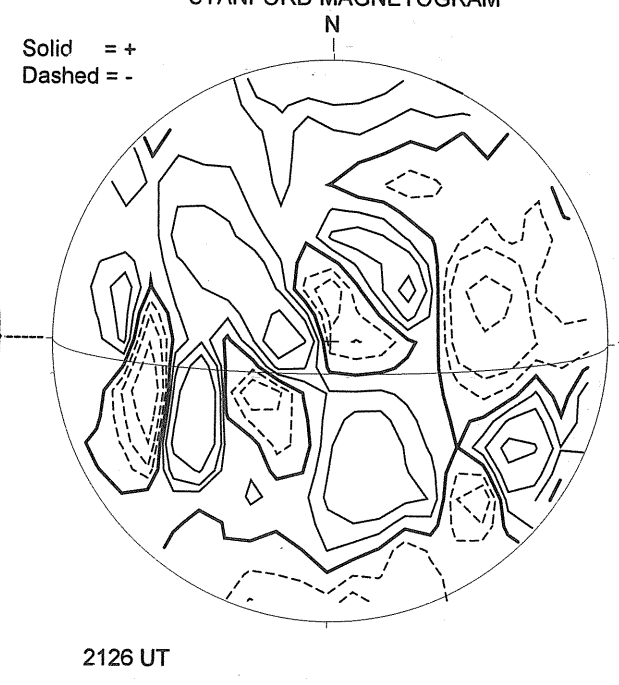


SEPTEMBER 29, 1994 (P= 25.82, Bo = 6.82, Lo = 148.22)

KITT PEAK MAGNETOGRAM

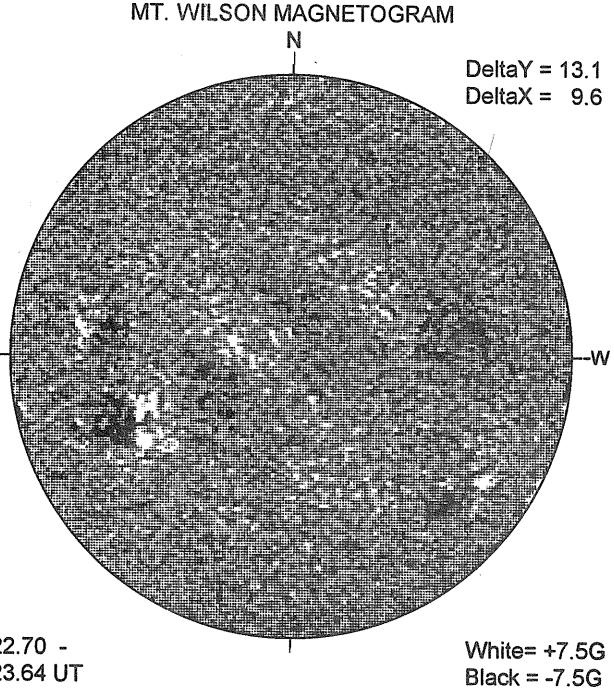


STANFORD MAGNETOGRAM



2126 UT

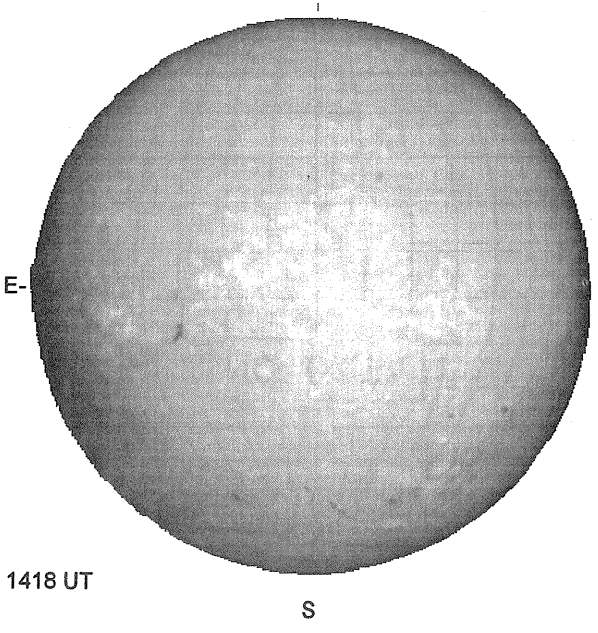
MT. WILSON MAGNETOGRAM



22.70 -
23.64 UT

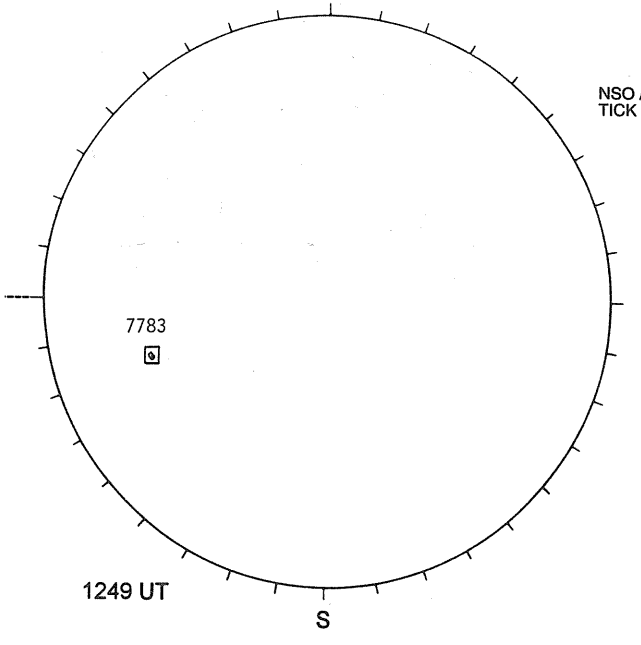
White= +7.5G
Black = -7.5G

----- SACRAMENTO PEAK H-ALPHA



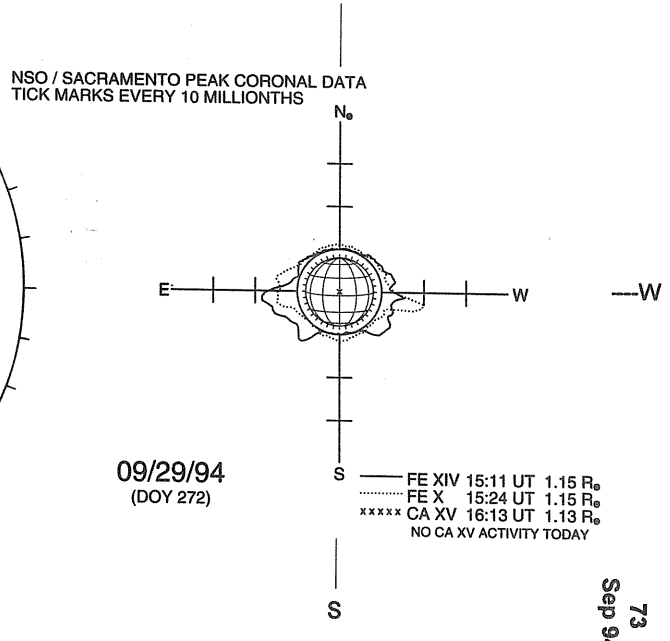
1418 UT

RAMEY SUNSPOT



1249 UT

LOMNICKY PEAK CORONA (1.04 Radii)----



09/29/94
(DOY 272)

73
Sep 94

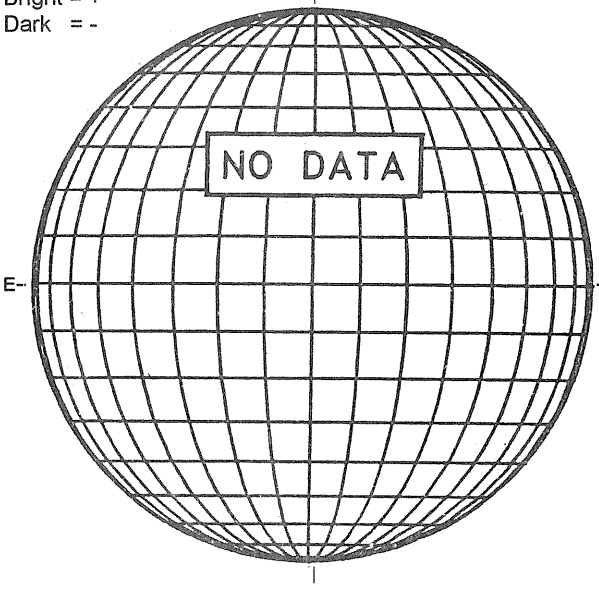
SEPTEMBER 30, 1994 (P= 25.90, Bo = 6.77, Lo = 135.03)

KITT PEAK MAGNETOGRAM

N

550.7 nm

Bright = +
Dark = -

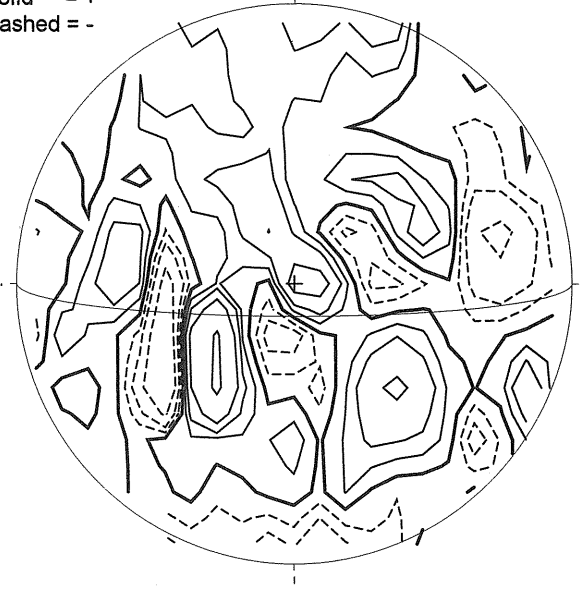


E

STANFORD MAGNETOGRAM

N

Solid = +
Dashed = -

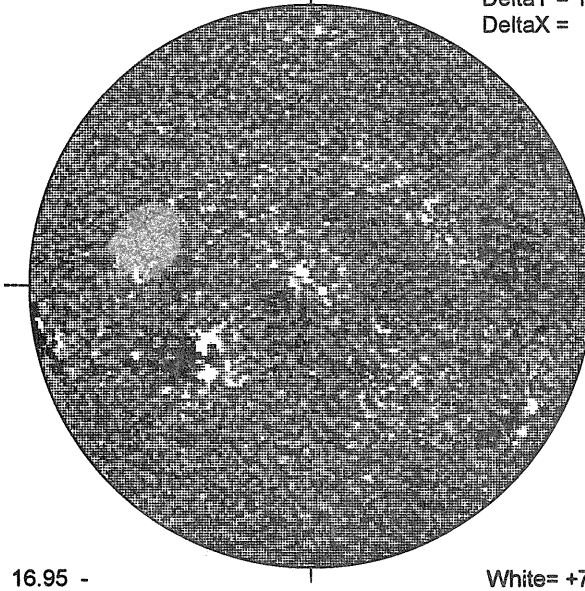


2131 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

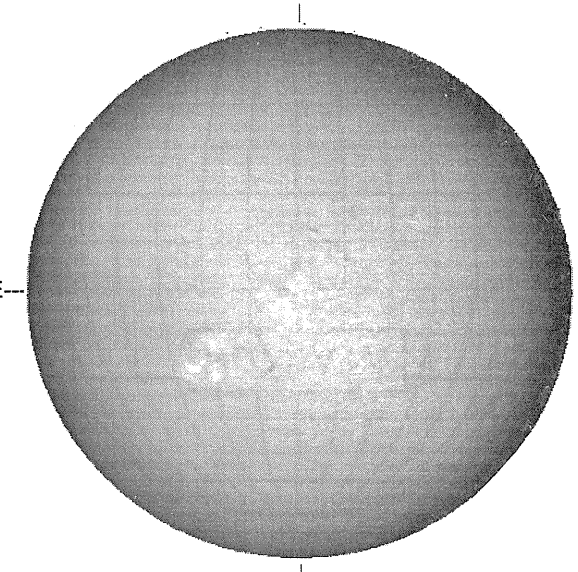


W

16.95 -
17.89 UT

White= +7.5G
Black = -7.5G

BIG BEAR H-ALPHA

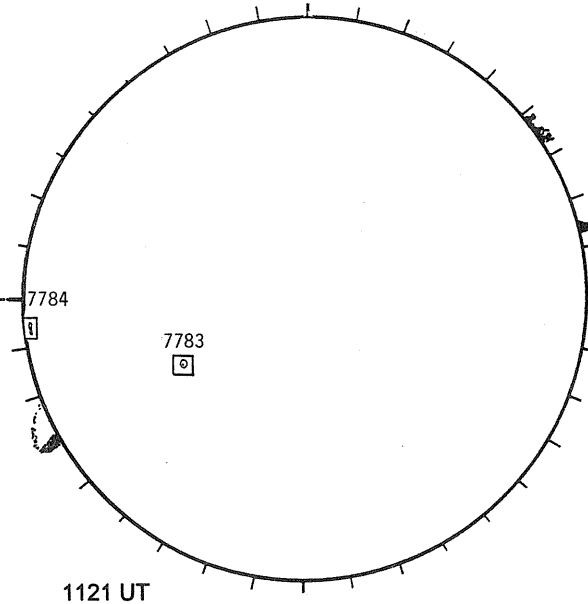


E

2043 UT

S

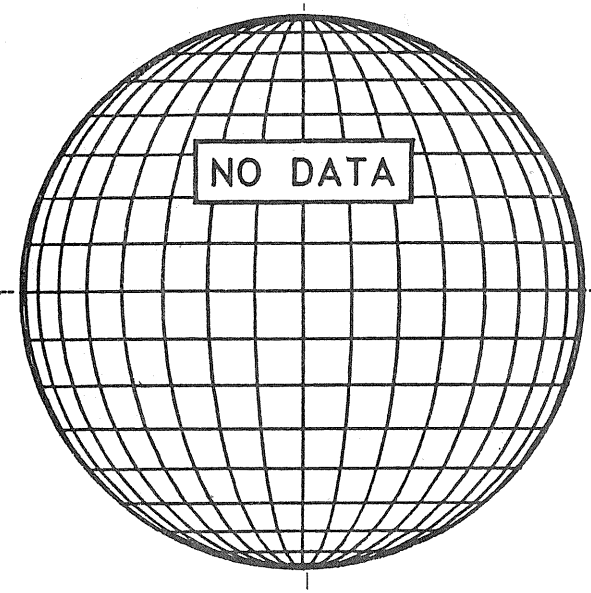
RAMEY SUNSPOT



1121 UT
0930 UT VALA Prom

S

SACRAMENTO PEAK CORONA (1.15 Radii)



W

S

DAILY SOFT X-RAY IMAGES FROM YOHKOH

The YOHKOH ("sunbeam") mission is a Japanese program designed to answer many questions in solar flare and coronal physics that have been raised by the highly successful Hinotori and SMM missions. It includes the United States and the United Kingdom as participating partners. The Japanese Institute for Space and Astronautical Sciences (ISAS) provided overall program management, the launch vehicle, the spacecraft, and two science instruments -- a Hard X-ray Telescope, one of the primary mission instruments, and a Wide Band Spectrometer. The other primary instrument, a Soft X-ray Telescope, was prepared by the Lockheed Palo Alto Research Laboratory, under NASA support, in collaboration with the National Astronomical Observatory of Japan and the University of Tokyo. The U.K., in collaboration with the E. O. Hulburt Center for Space Research, provided a Bragg Crystal Spectrometer. The NASA Deep Space Network cooperates in tracking Yohkoh.

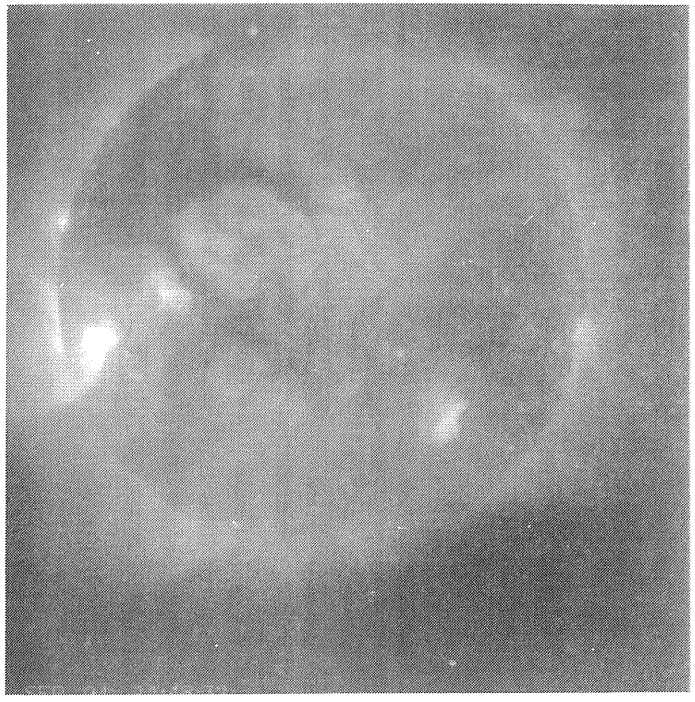
The Soft X-ray Telescope (SXT) uses low-scatter grazing incidence optics to form direct images on a CCD detector. It employs a Nariai-Werner design which differs from the more commonly used Wolter Type 1 in that both mirror segments have been made hyperbolic in order to gain better off-axis performance at the expense of a slight loss of on-axis resolution. The optical system includes an entrance aperture filter, the X-ray mirror, a filter wheel assembly, a rotating shutter, and the CCD camera. A detailed description of the SXT has been published in Tsuneta, et al., **Solar Physics, Vol. 136**, pp. 37-67, 1991.

ISAS bears full responsibility for YOHKOH operations. U.S. and U.K. investigators in residence at ISAS participate in mission operations and scientific analyses. With the approval of Professor Y. Ogawara, Yohkoh Program Manager, and the YOHKOH Science Committee, the Lockheed Palo Alto Research Laboratory is kindly providing daily digital SXT images for publication in SGD. The digital images are 512x512 (5" pixels) or 256x256 (10" pixels) in size. They combine two exposures differing by a factor of 35 in duration and are printed with a logarithmic intensity scale to cope with the great range in intensity of the X-ray corona. The brightest features are typically more than 100,000 times brighter than the faintest. The mean wavelength of the pictures is about 20 angstroms. We display these images of the solar corona in soft X-rays in both positive and negative forms. They are printed on a dye sublimation printer at NGDC.

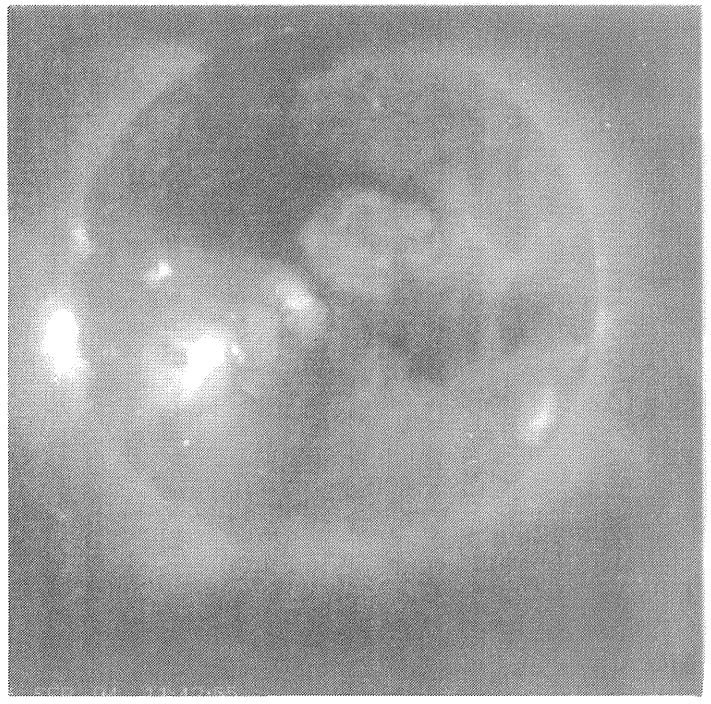
Editor's Note: YOHKOH SXT images for September 1991 through August 1992 are available through the NASA SolarDAC. Contact Joe Gurman for access information [gurman@uvsp.gsfc.nasa.gov, jgurman@solar, or uvsp::gurman. Telephone: (301)286-4767]. The YOHKOH team continues to invite collaborations in their analysis and are willing to assist those who wish to utilize the data in order to ensure the correct interpretation of the experimental results. Contact S. Tsuneta, ISAS, Yohkoh Operation Center, 3-1-1 Yoshinodai, Sagamihara, 229 Japan [tsuneta@sxt2.mtk.ioa.s.u-tokyo.ac.jp].

YOHKOH SOFT X-RAY TELESCOPE IMAGES

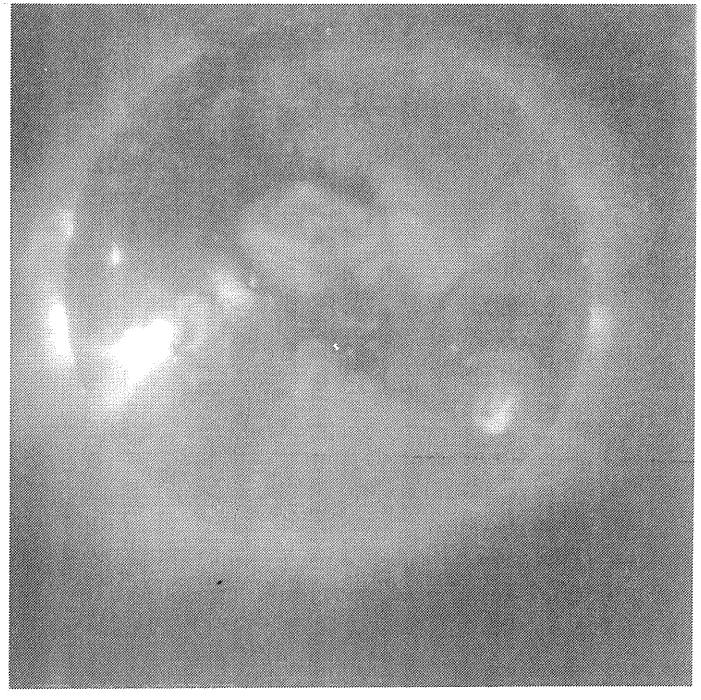
September 1994



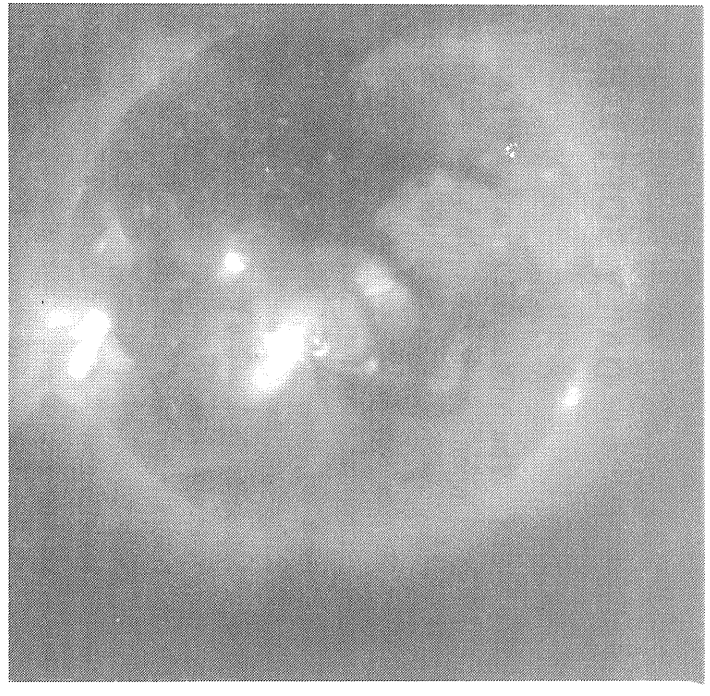
Day 1
11:48:32 UT



Day 3
11:42:55 UT



Day 2
12:07:57 UT

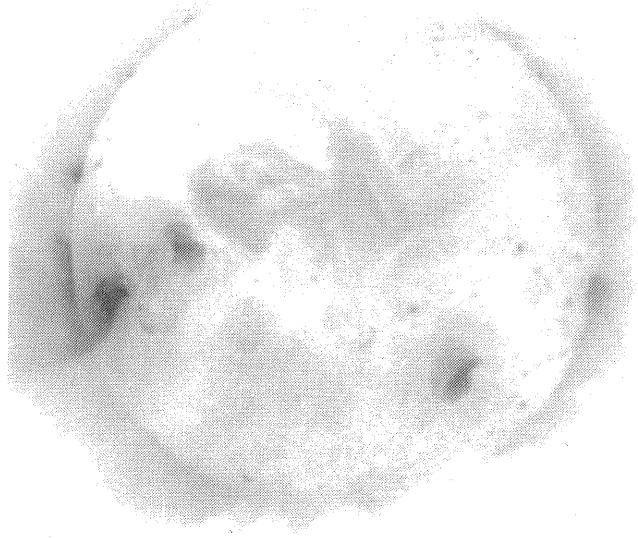


Day 4
19:31:35 UT

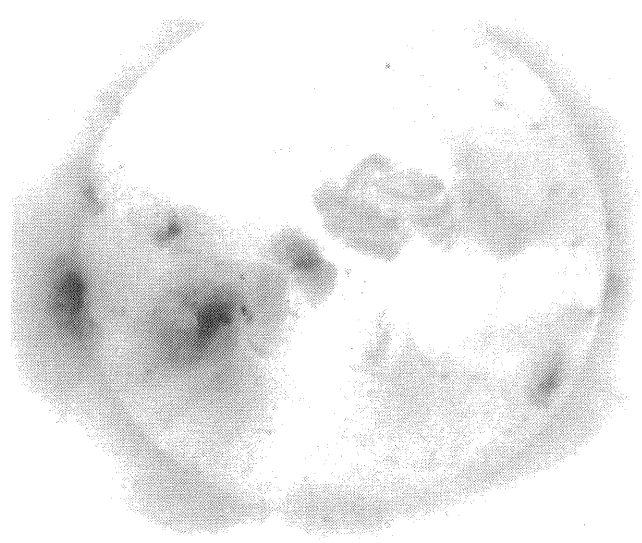
YOHKOH SOFT X-RAY TELESCOPE IMAGES

September 1994

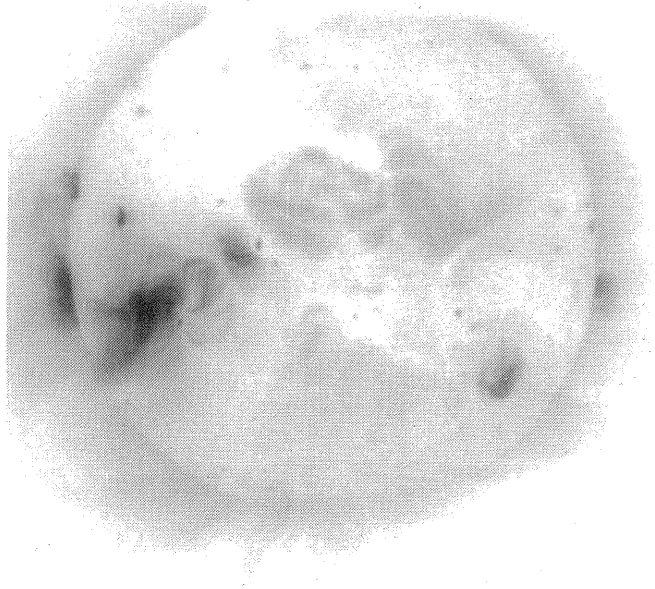
Day 1
11:48:32 UT



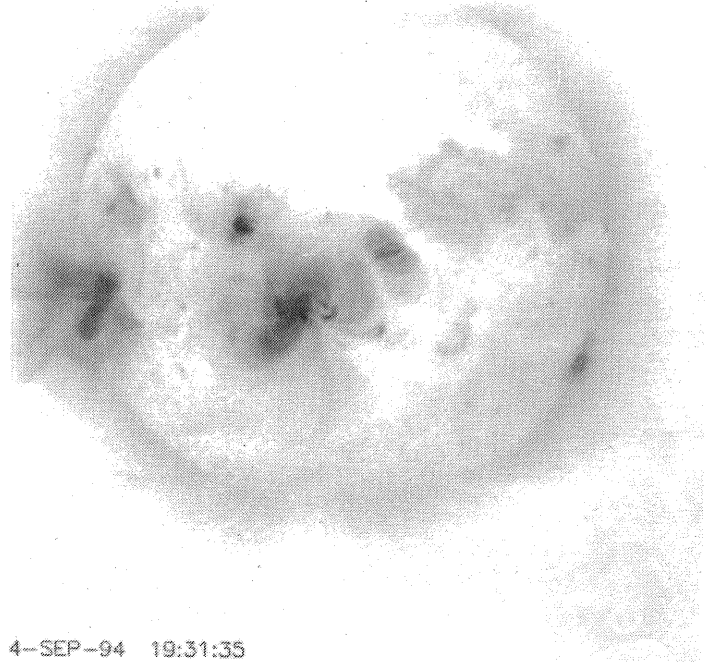
Day 3
11:42:55 UT



Day 2
12:07:57 UT

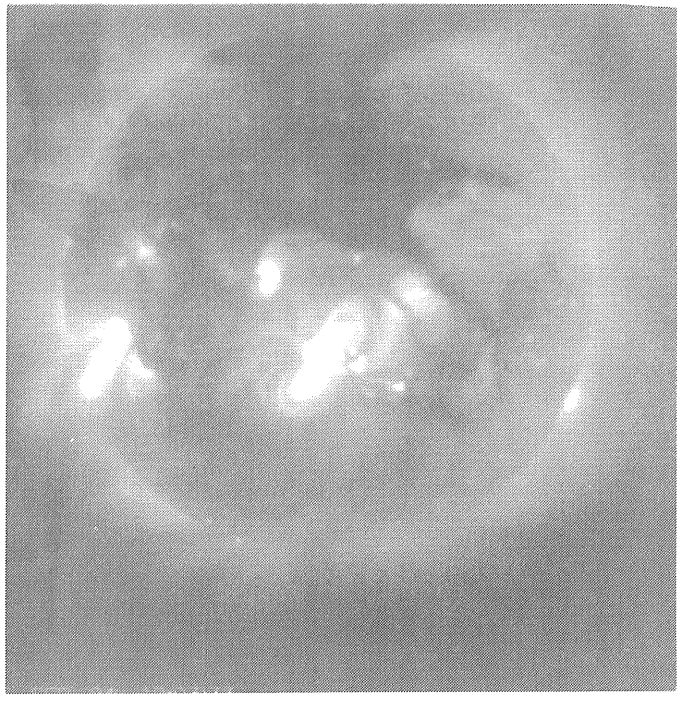


Day 4
19:31:35 UT

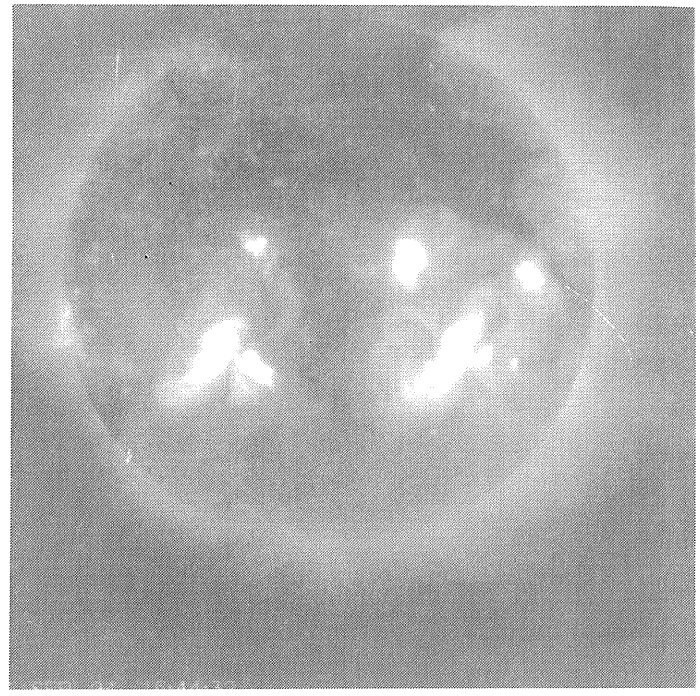


YOHKOH SOFT X-RAY TELESCOPE IMAGES

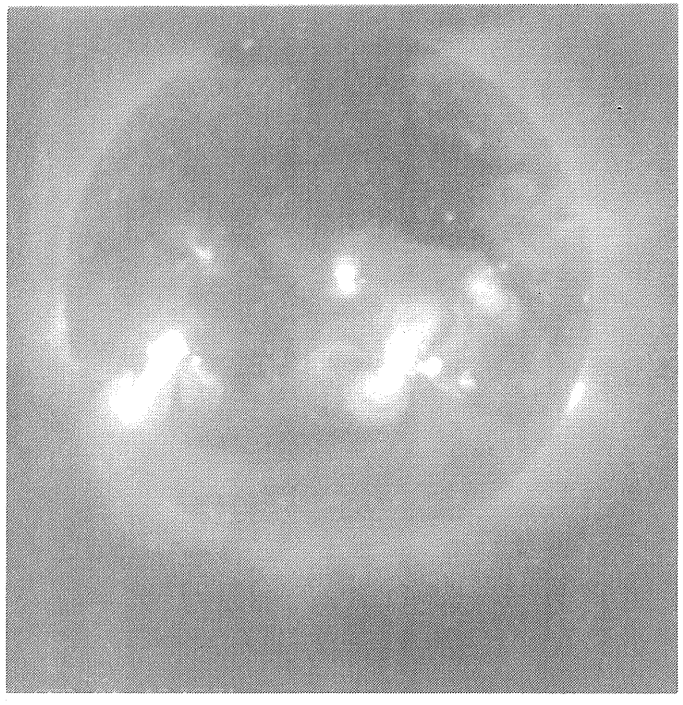
September 1994



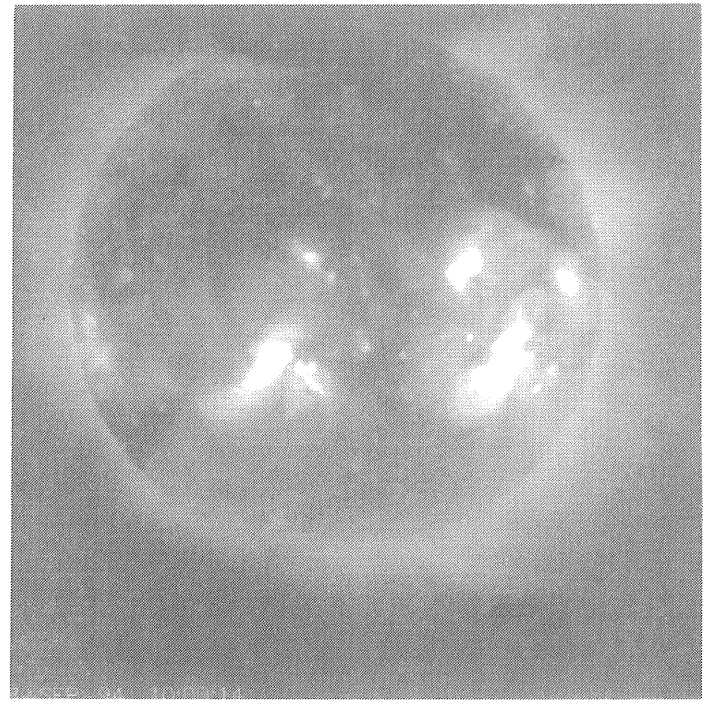
Day 5
12:03:33 UT



Day 7
15:44:32 UT



Day 6
16:36:31 UT

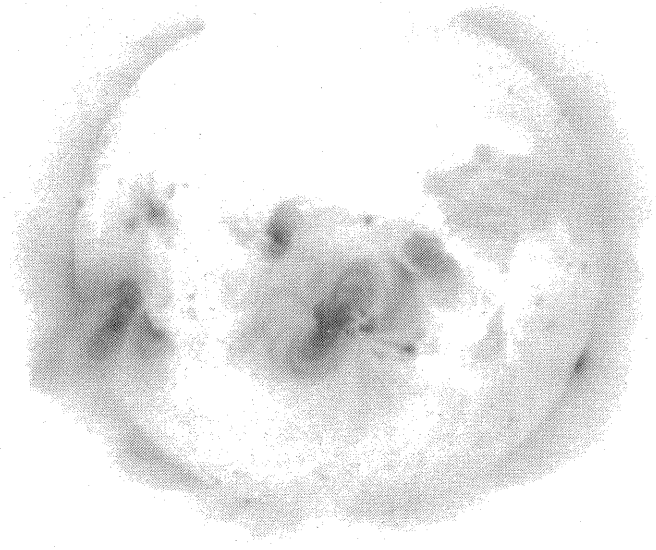


Day 8
10:00:14 UT

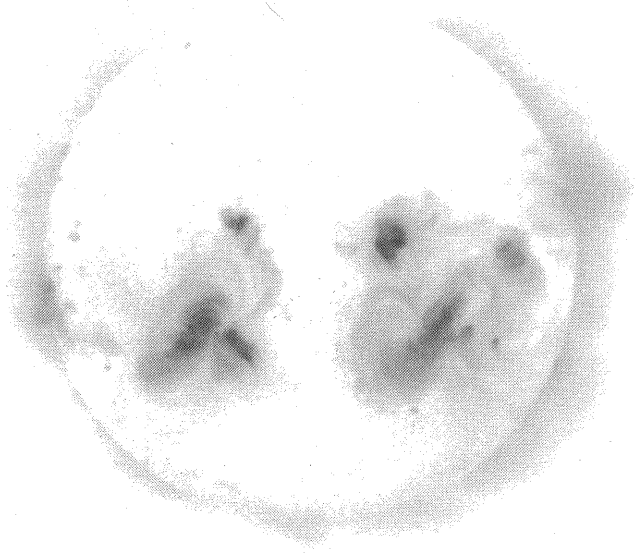
YOHKOH SOFT X-RAY TELESCOPE IMAGES

September 1994

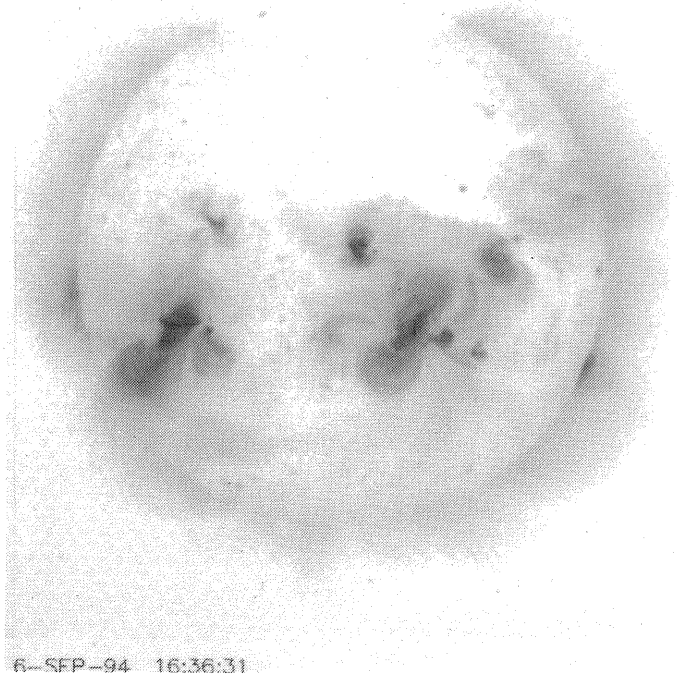
Day 5
12:03:33 UT



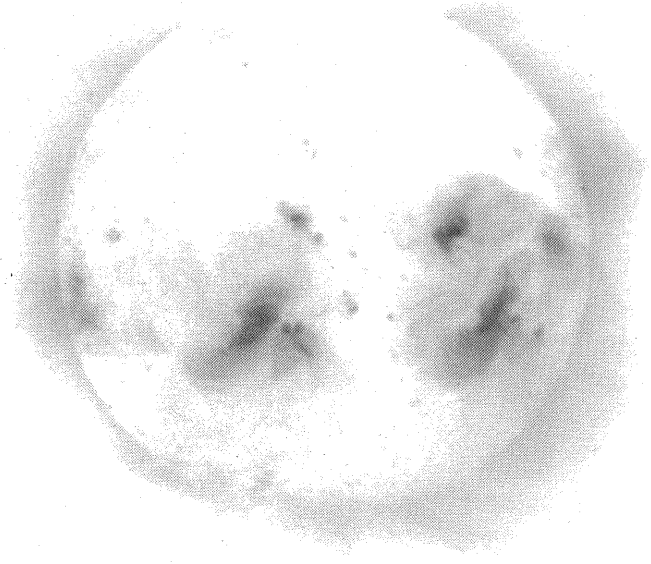
Day 7
15:44:32 UT



Day 6
16:36:31 UT

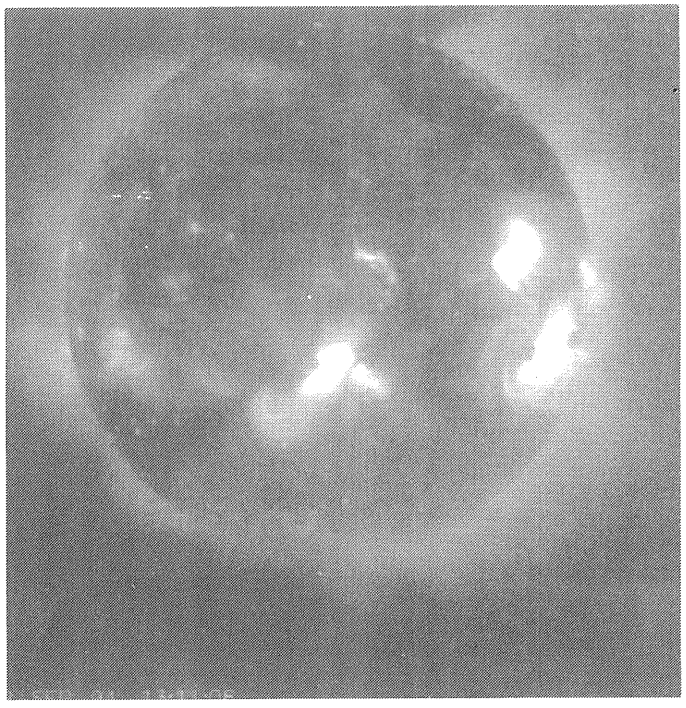


Day 8
10:00:14 UT

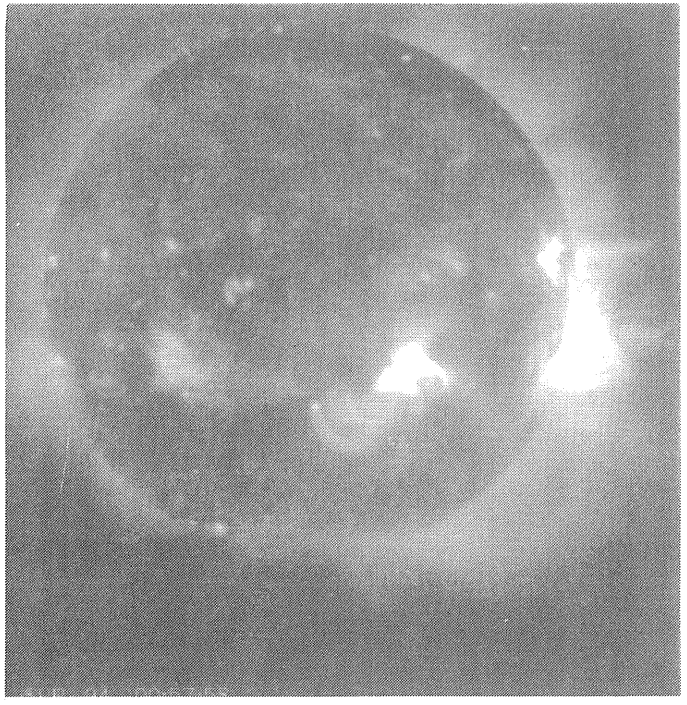


YOHKOH SOFT X-RAY TELESCOPE IMAGES

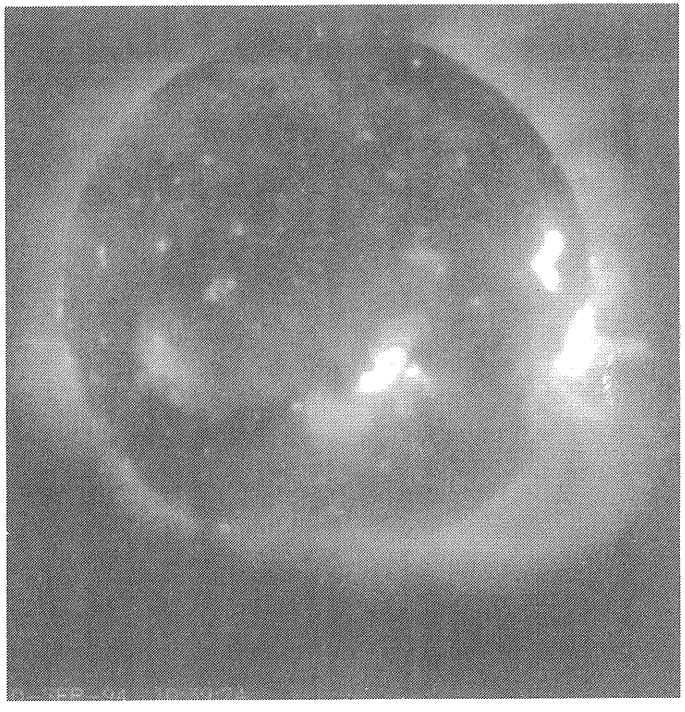
September 1994



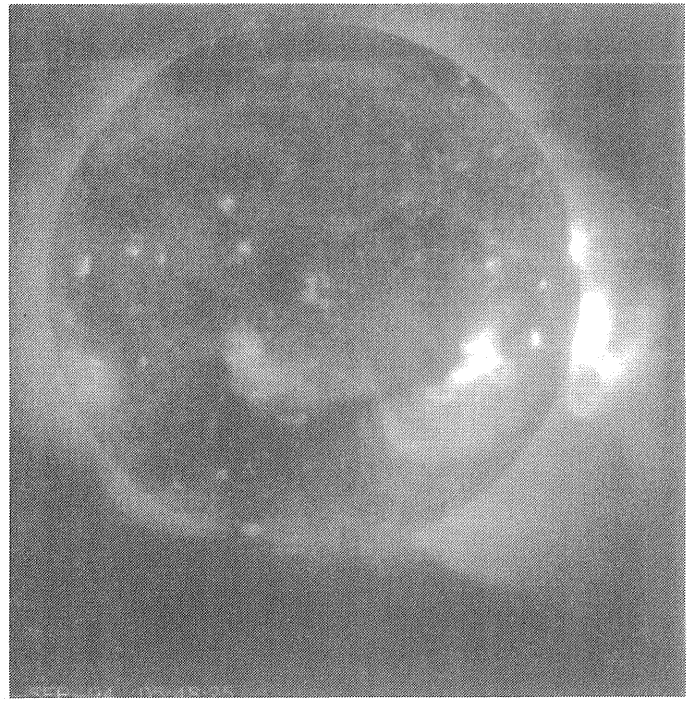
Day 9
13:11:06 UT



Day 11
00:57:58 UT



Day 10
10:39:24 UT

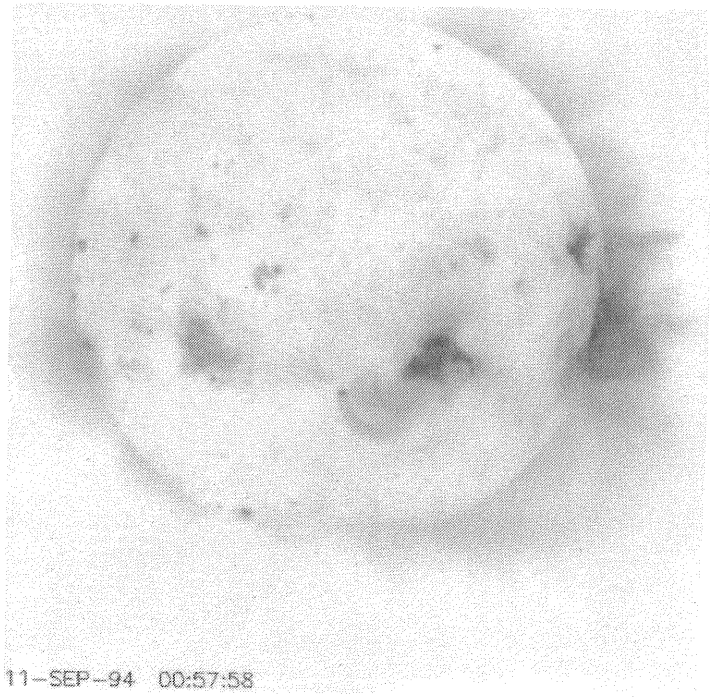


Day 12
05:48:25 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

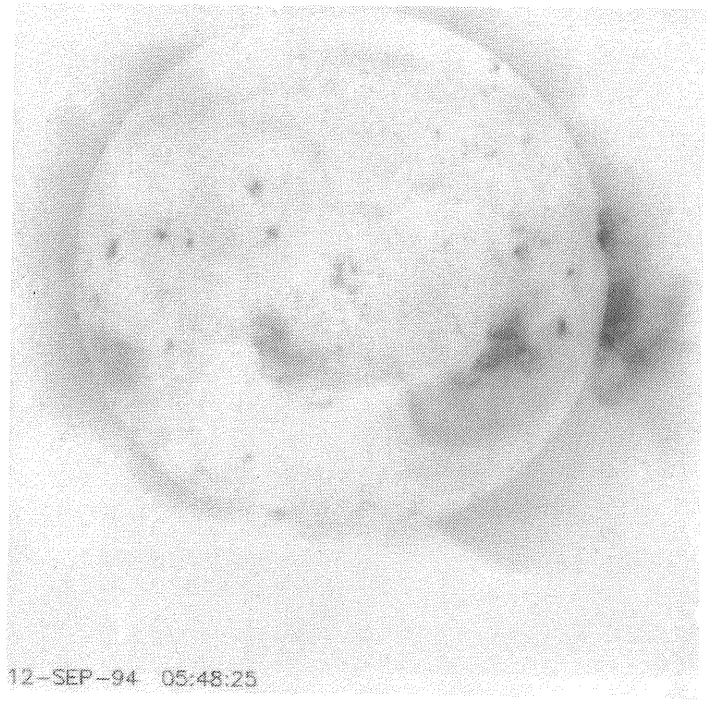
September 1994

Day 9
13:11:06 UT



Day 11
00:57:58 UT

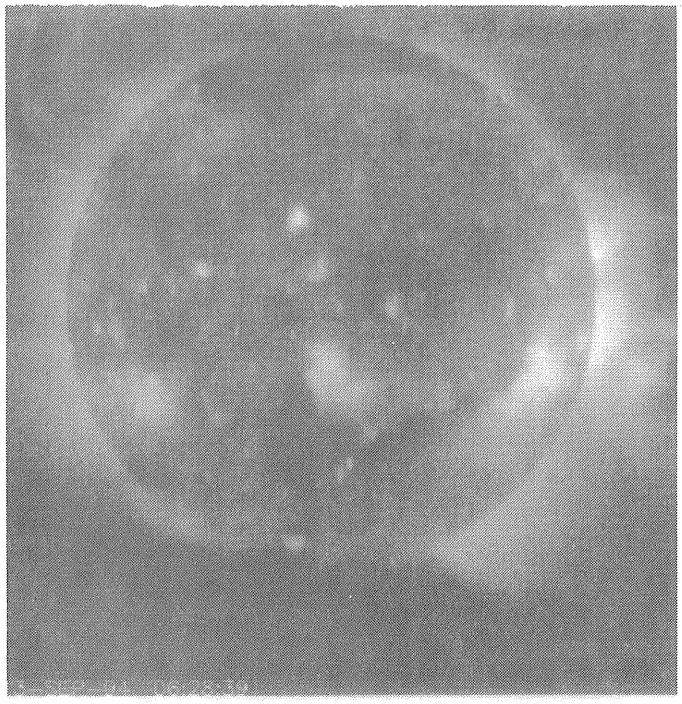
Day 10
10:39:24 UT



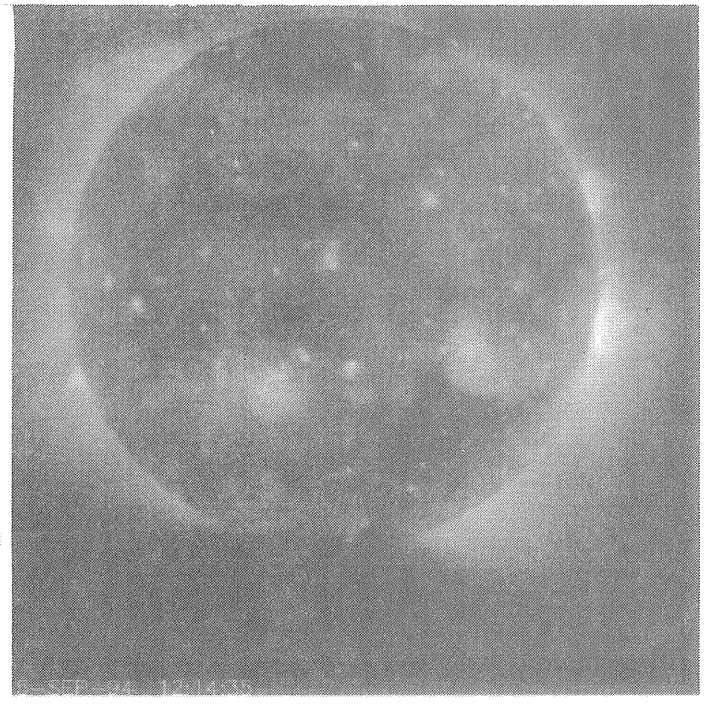
Day 12
05:48:25 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

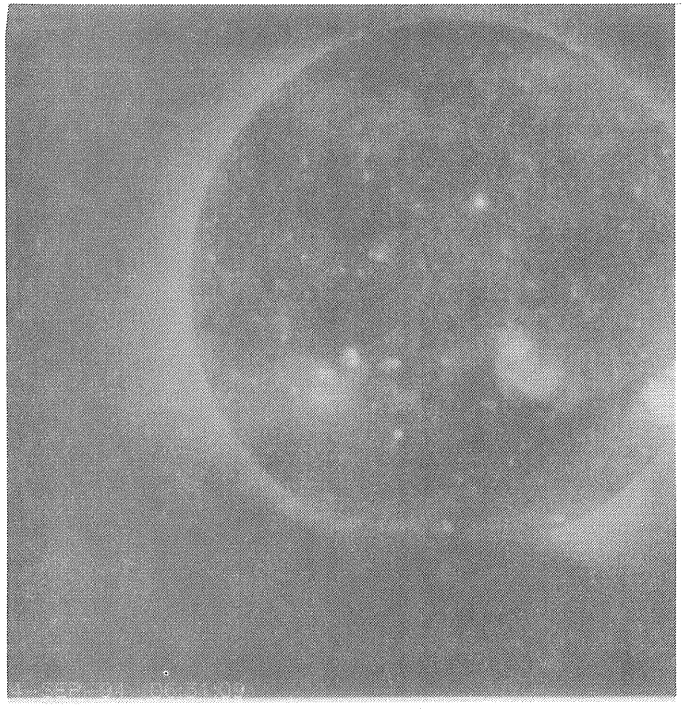
September 1994



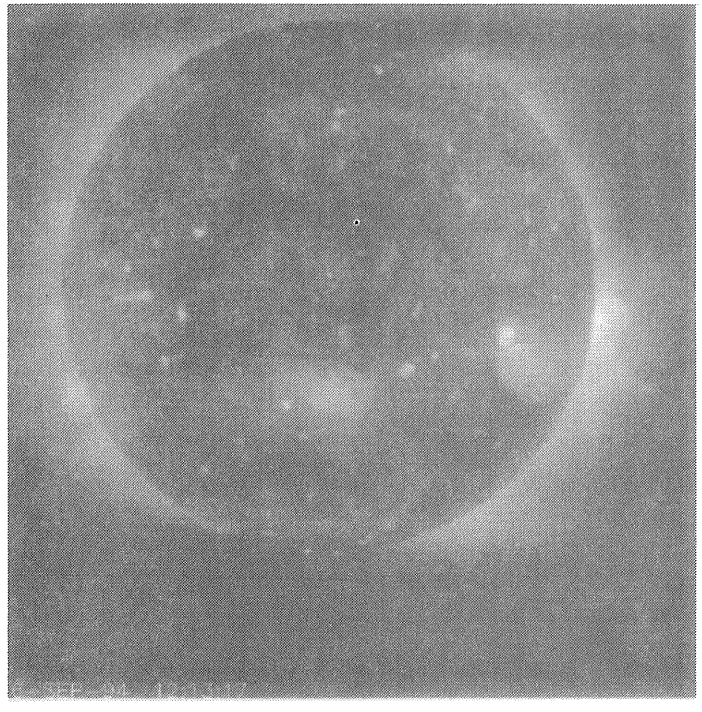
Day 13
06:28:39 UT



Day 15
12:14:35 UT



Day 14
06:31:09 UT

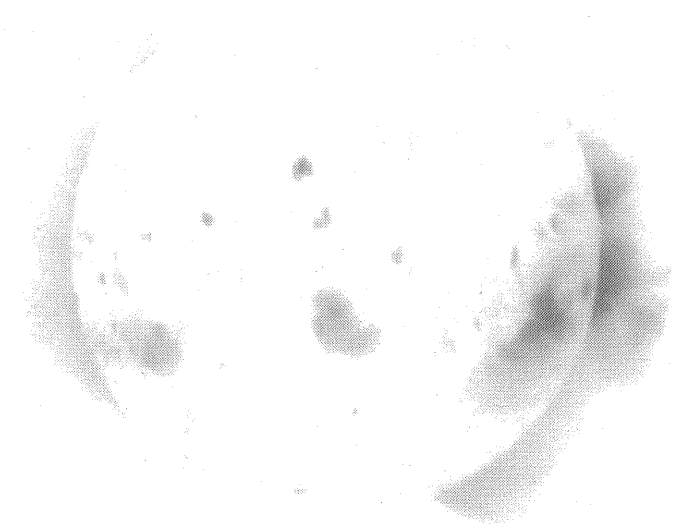


Day 16
12:13:17 UT

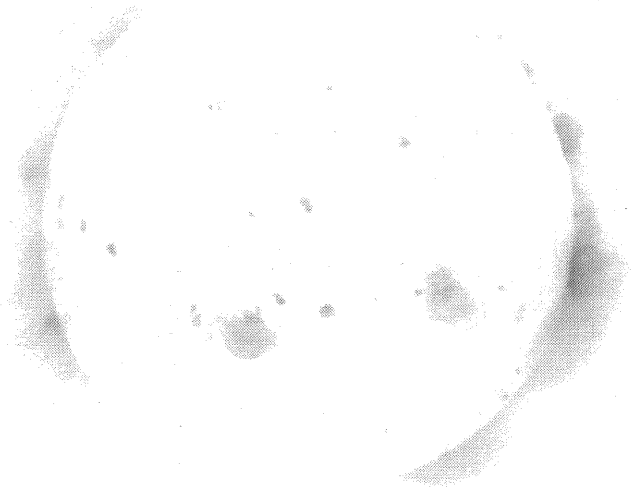
YOHKOH SOFT X-RAY TELESCOPE IMAGES

September 1994

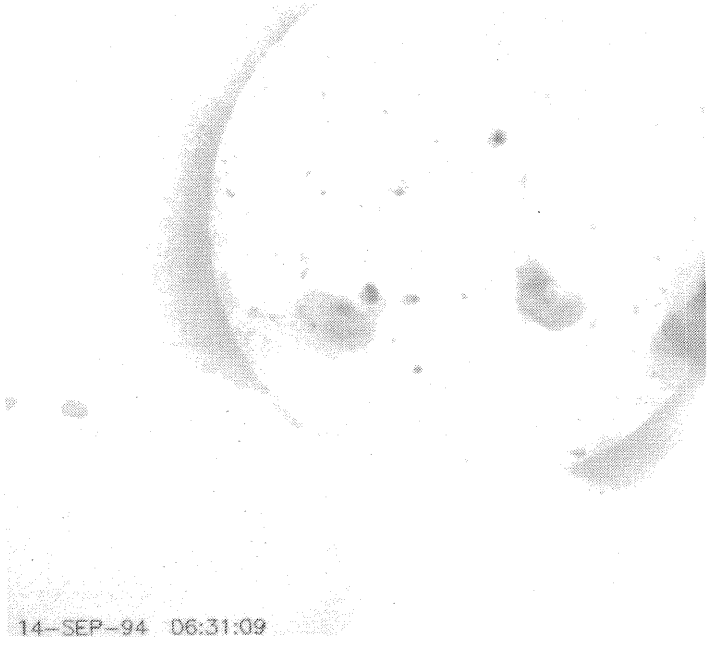
Day 13
06:28:39 UT



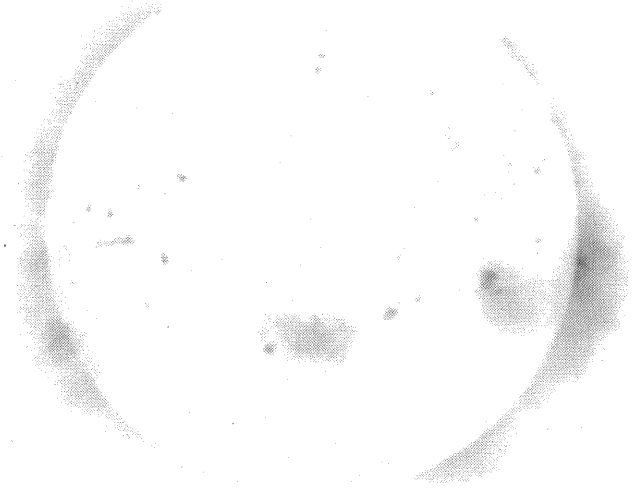
Day 15
12:14:35 UT



Day 14
06:31:09 UT



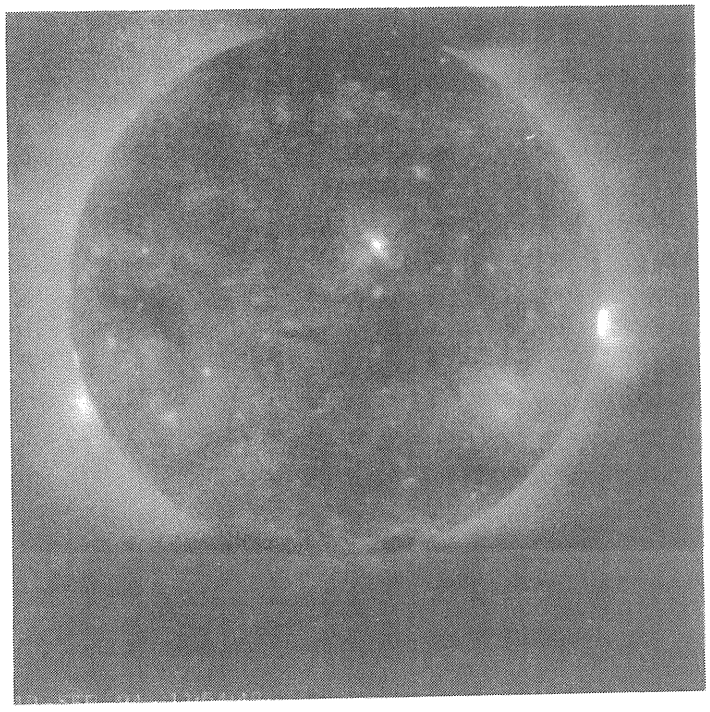
Day 16
12:13:17 UT



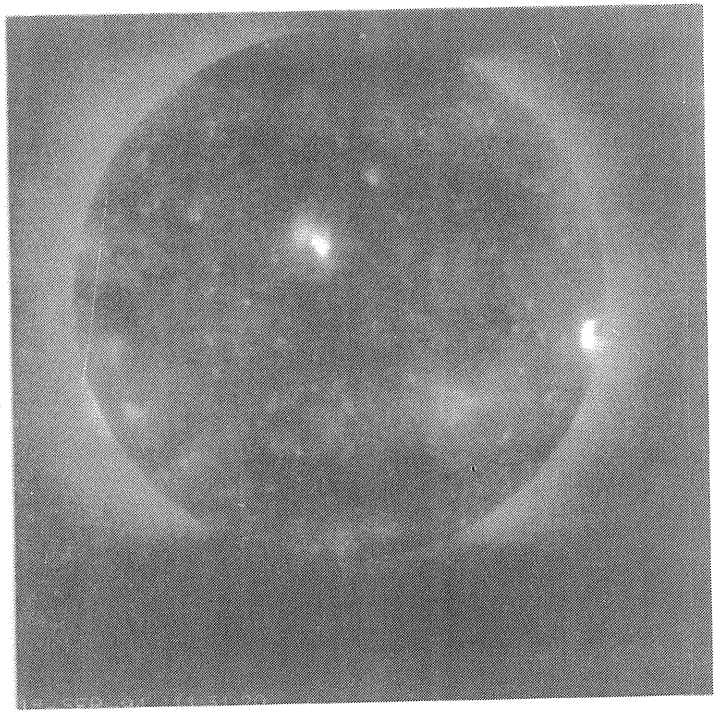
YOHKOH SOFT X-RAY TELESCOPE IMAGES

September 1994

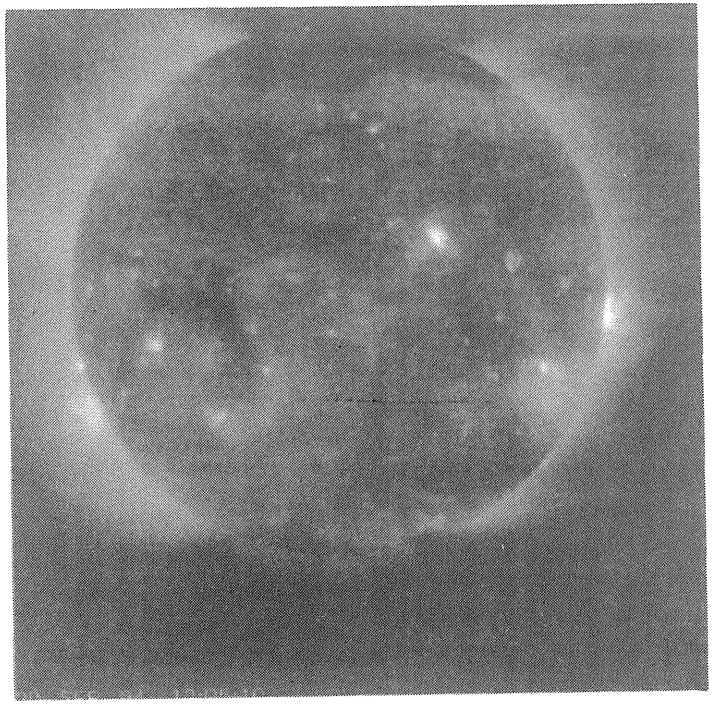
Day 17
12:25:36 UT



Day 19
11:54:42 UT



Day 18
11:31:20 UT



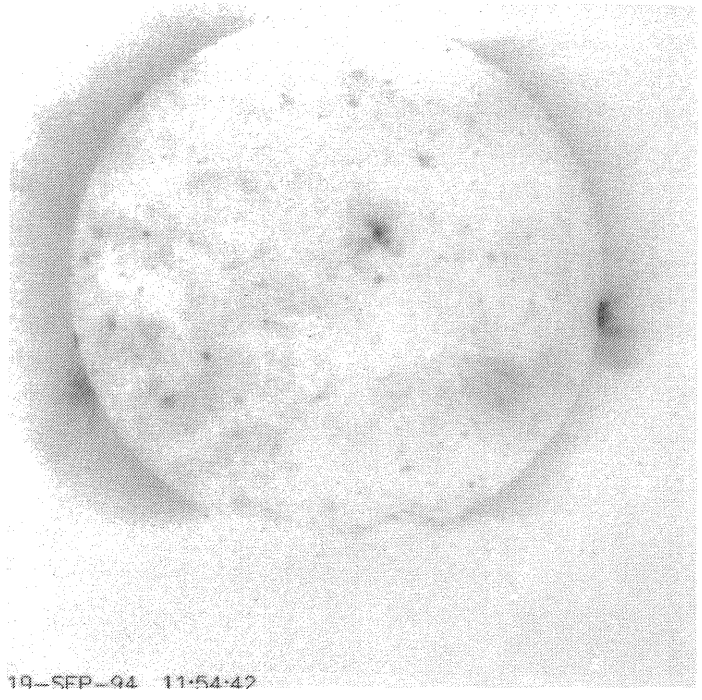
Day 20
12:05:10 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

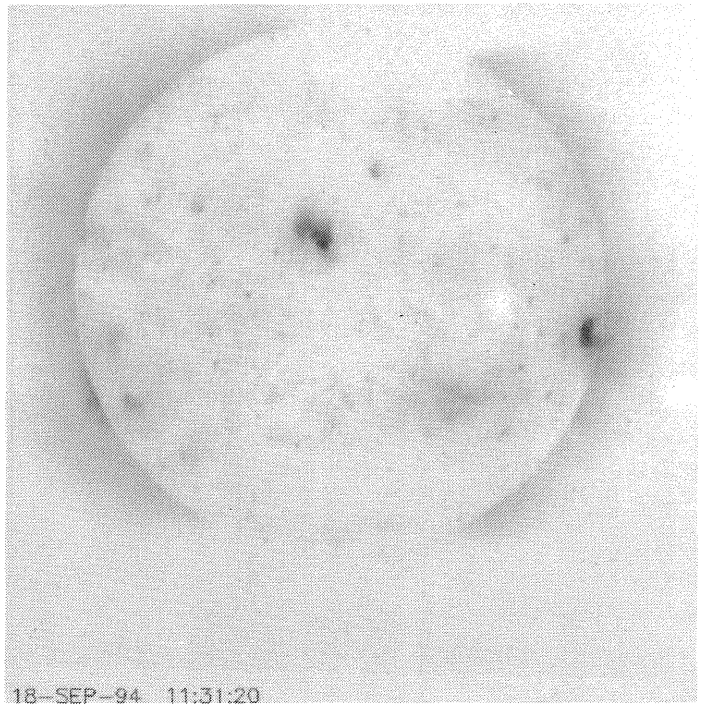
September 1994

Day 17
12:25:36 UT

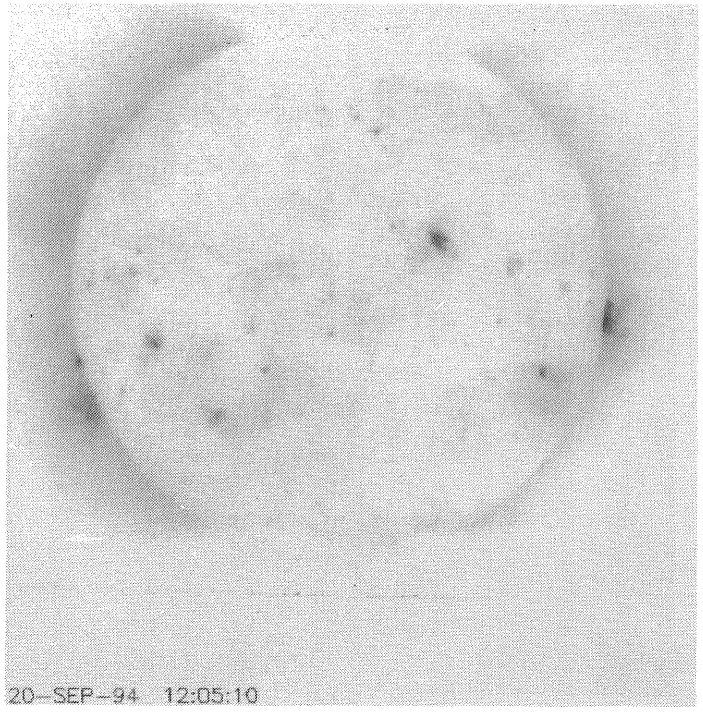
Day 19
11:54:42 UT



Day 18
11:31:20 UT

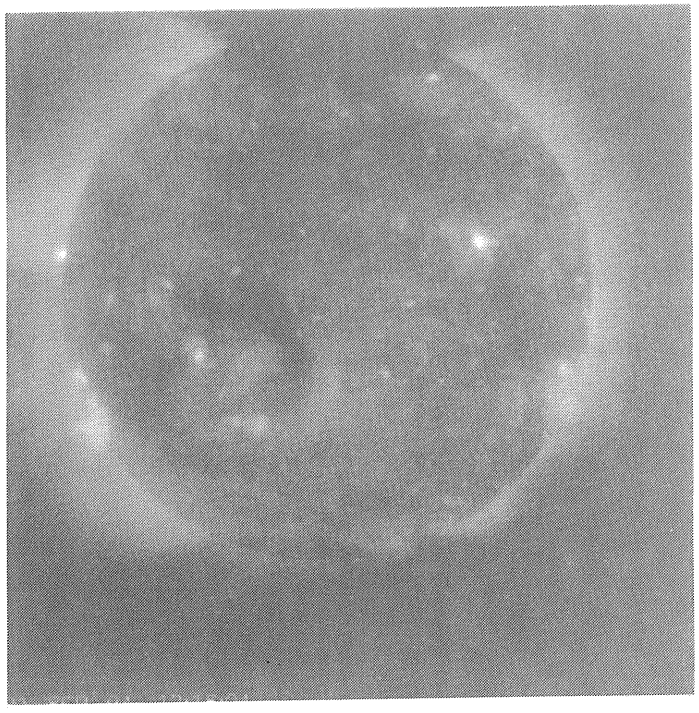


Day 20
12:05:10 UT

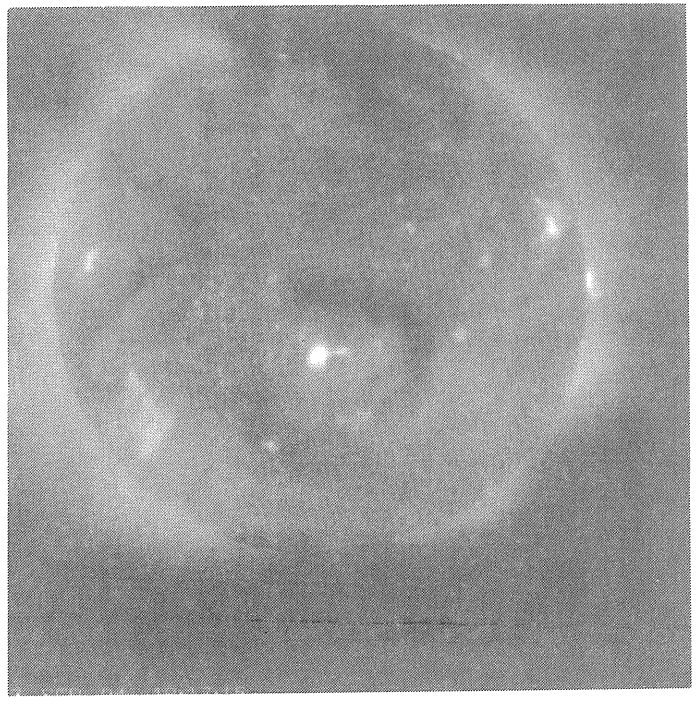


YOHKOH SOFT X-RAY TELESCOPE IMAGES

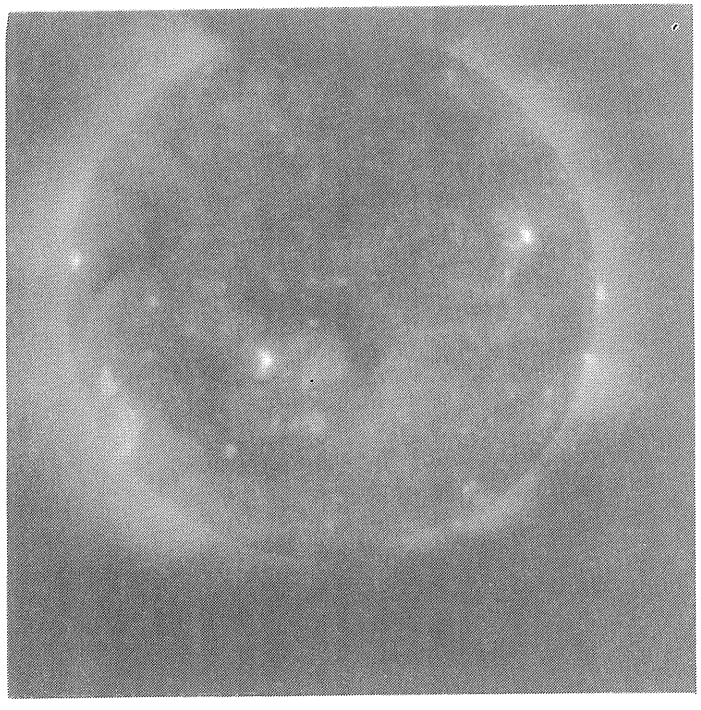
September 1994



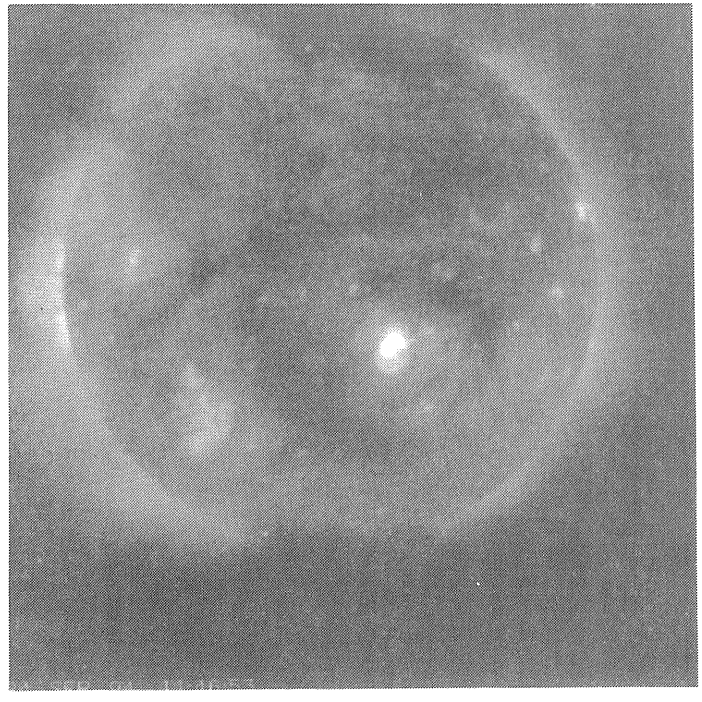
Day 21
12:16:04 UT



Day 23
12:17:15 UT



Day 22
11:59:17 UT

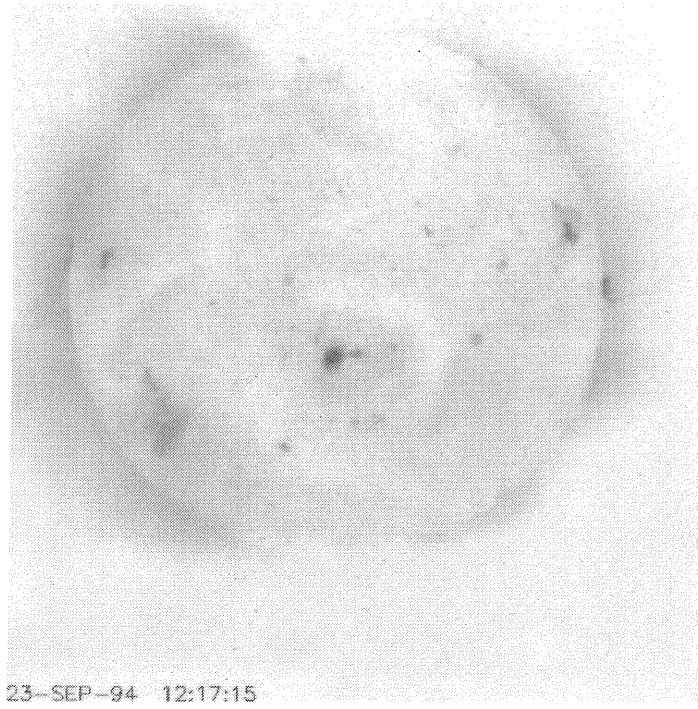


Day 24
11:46:53 UT

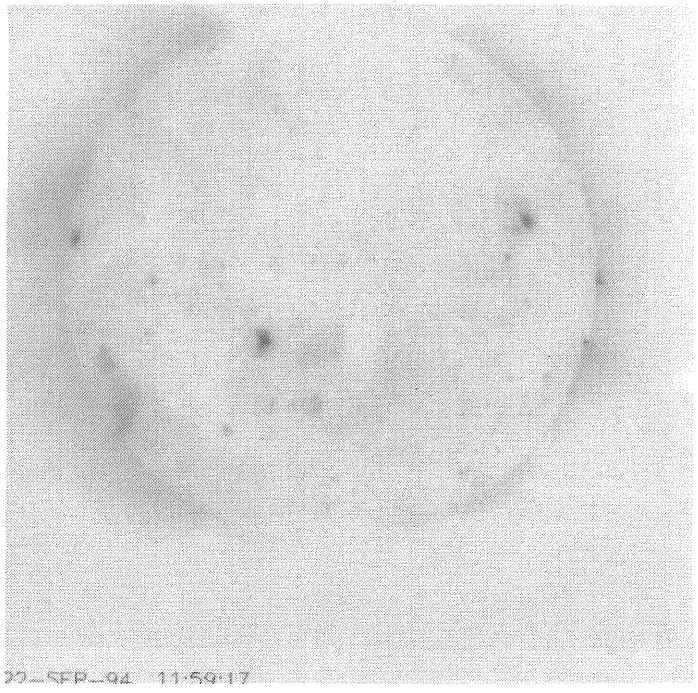
YOHKOH SOFT X-RAY TELESCOPE IMAGES

September 1994

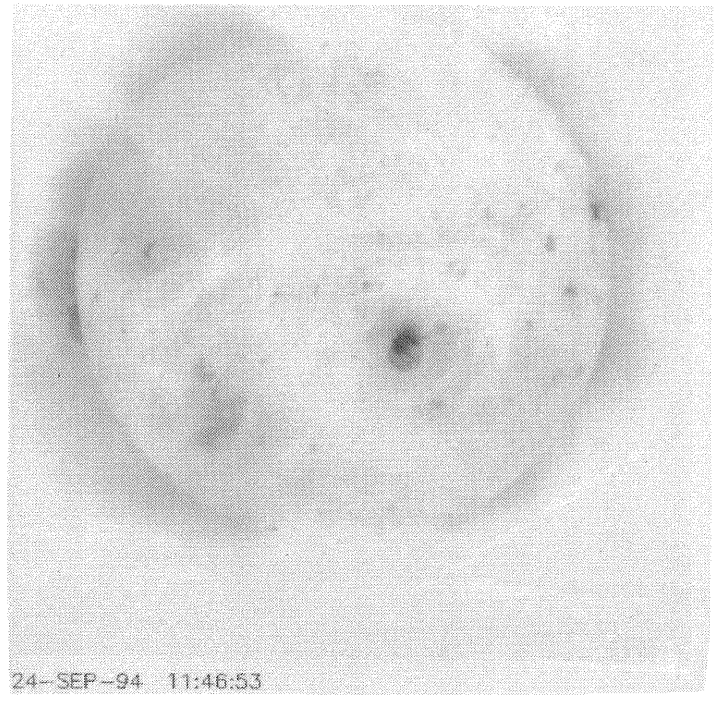
Day 21
12:16:04 UT



Day 23
12:17:15 UT



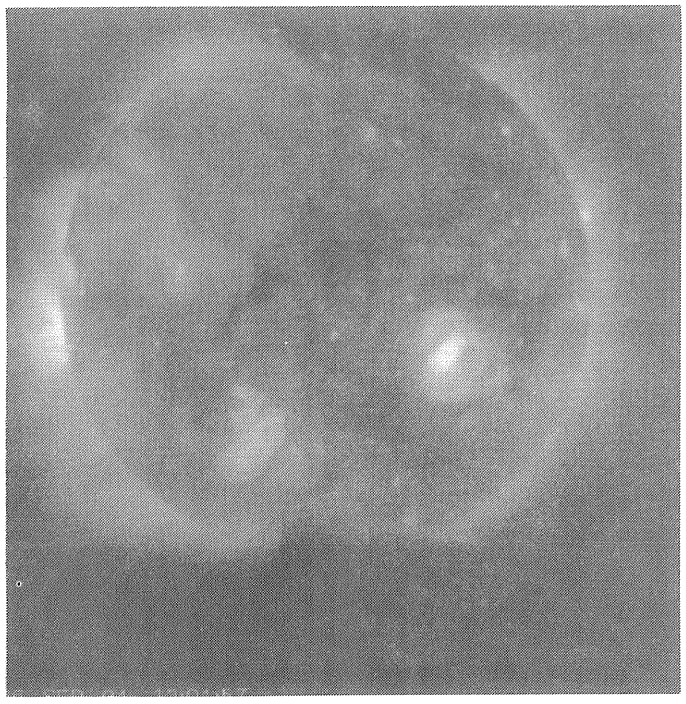
Day 22
11:59:17 UT



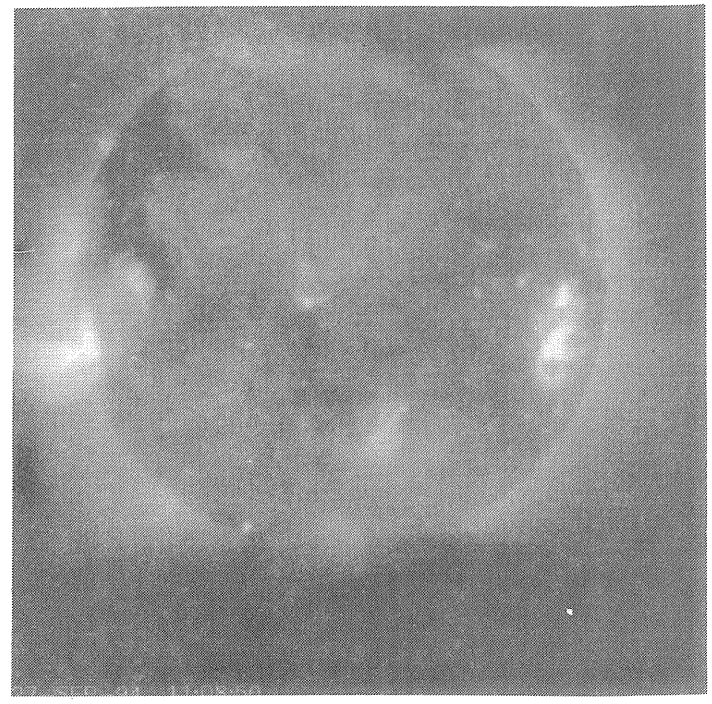
Day 24
11:46:53 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

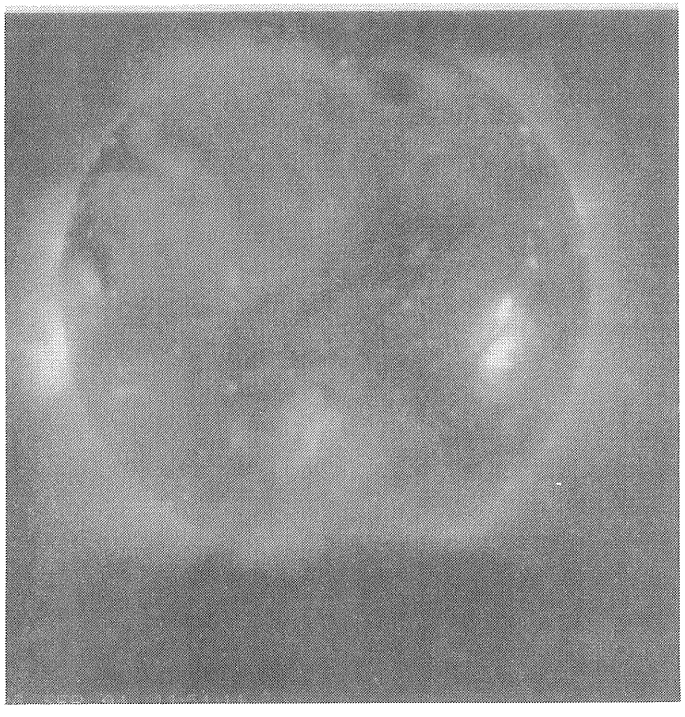
September 1994



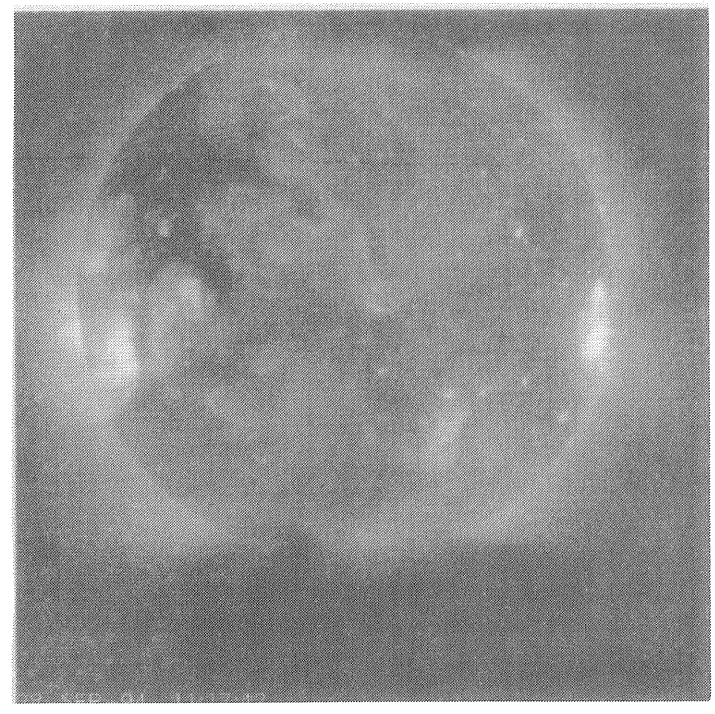
Day 25
12:01:57 UT



Day 27
11:08:50 UT



Day 26
11:51:11 UT

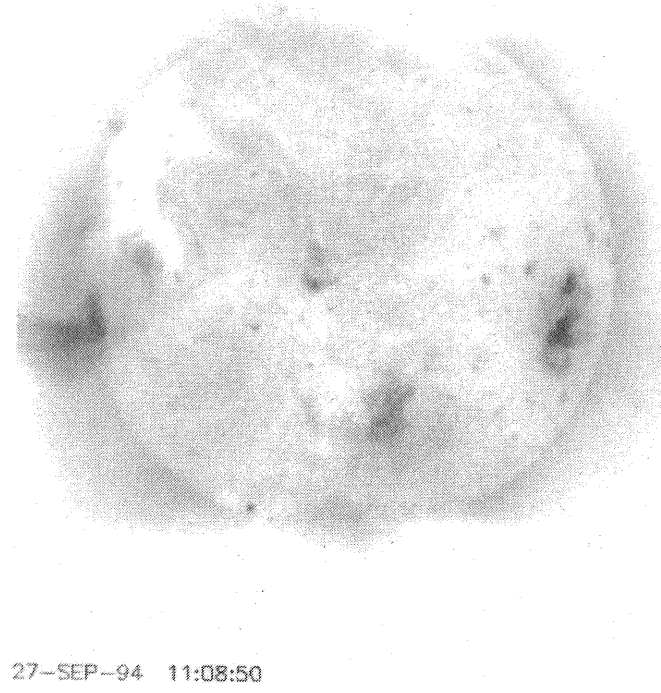


Day 28
11:17:42 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

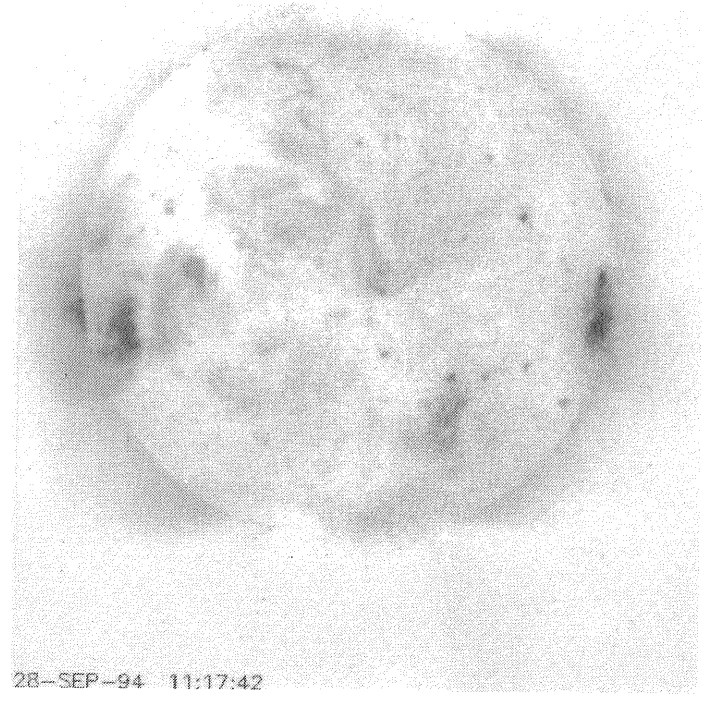
September 1994

Day 25
12:01:57 UT



Day 27
11:08:50 UT

Day 26
11:51:11 UT

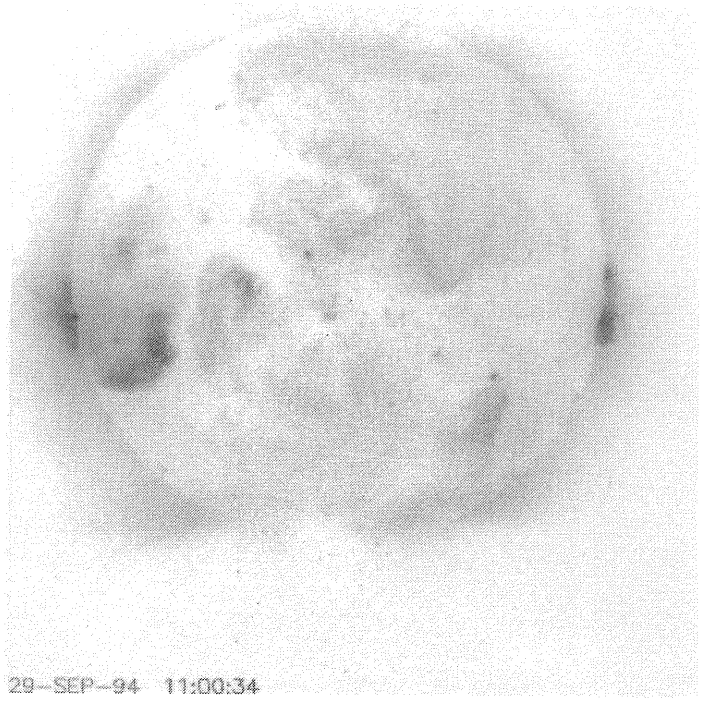


Day 28
11:17:42 UT

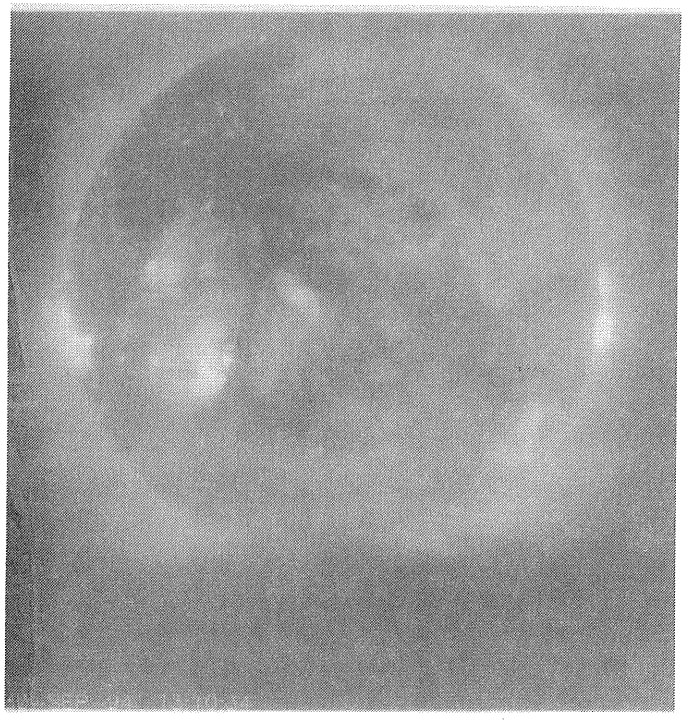
YOHKOH SOFT X-RAY TELESCOPE IMAGES

September 1994

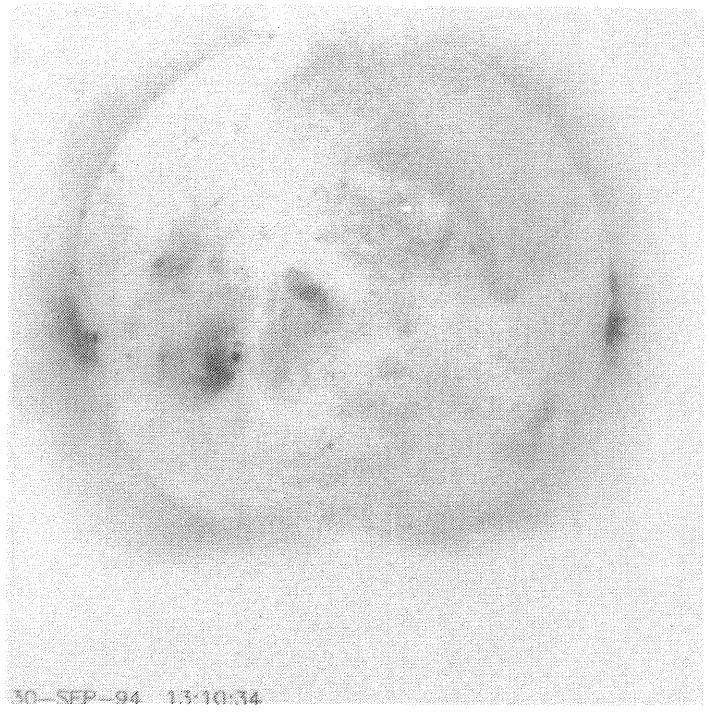
Day 29
11:00:34 UT



Day 29
11:00:34 UT



Day 30
13:10:34 UT



Day 30
13:10:34 UT

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 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
7771		RAMY	08	28	1243	N08	E80	09	3.5		A	HS	60	1	2	4
7771	28165	MWIL	08	28	1415	N06	E82	09	3.7	5	AF					
7771		SVTO	08	28	1432	N06	E81	09	3.7		A	HS	30	1	1	3
7771		HOLL	08	28	1440	N07	E82	09	3.7		A	HS	60	1	2	3
7771		PALE	08	28	1930	N06	E80	09	3.8		A	HS	50	1	1	3
7771		LEAR	08	29	0027	N06	E75	09	3.6		A	HS	60	1	2	3
7771		SVTO	08	29	0545	N07	E73	09	3.7		A	HS	60	1	1	3
7771		RAMY	08	29	1220	N08	E68	09	3.6		A	HS	70	1	2	3
7771	28165	MWIL	08	29	1430	N06	E68	09	3.7	5	(AP)					
7771		LEAR	08	30	0030	N07	E62	09	3.7		A	HS	50	1	2	3
7771		SVTO	08	30	0735	N07	E58	09	3.7		A	HS	80	1	2	3
7771		RAMY	08	30	1232	N07	E56	09	3.7		B	CSO	80	3	3	5
7771	28165	MWIL	08	30	1415	N05	E55	09	3.7	5	(AF)					
7771		PALE	08	30	1825	N05	E54	09	3.8		A	HS	130	1	3	4
7771		HOLL	08	30	1950	N07	E52	09	3.7		A	HS	90	1	1	2
7771		LEAR	08	31	0100	N06	E49	09	3.7		A	HS	60	1	1	3
7771		SVTO	08	31	0550	N06	E46	09	3.7		A	HS	60	1	2	3
7771		RAMY	08	31	1231	N07	E42	09	3.7		A	HS	130	1	2	4
7771	28165	MWIL	08	31	1415	N05	E42	09	3.7	5	(AF)					
7771		HOLL	08	31	1842	N06	E38	09	3.6		A	HS	100	1	1	3
7771		LEAR	09	01	0052	N05	E36	09	3.7		A	HS	20	1	2	3
7771		SVTO	09	01	0540	N07	E33	09	3.7		A	HS	50	1	2	3
7771		RAMY	09	01	1319	N07	E28	09	3.6		A	HS	90	1	2	3
7771	28165	MWIL	09	01	1430	N05	E28	09	3.7	5	(AF)					
7771		HOLL	09	01	1540	N07	E26	09	3.6		A	HS	70	2	2	3
7771		PALE	09	01	1740	N05	E27	09	3.7		A	HS	90	2	2	4
7771		LEAR	09	02	0032	N06	E22	09	3.7		A	HA	60	1	2	3
7771		SVTO	09	02	0655	N07	E19	09	3.7		A	HS	80	1	2	3
7771		RAMY	09	02	1244	N07	E16	09	3.7		A	HS	60	1	2	3
7771		HOLL	09	02	1422	N06	E15	09	3.7		A	HS	60	1	2	2
7771	28165	MWIL	09	02	1430	N06	E15	09	3.7	5	(AF)					
7771		PALE	09	02	1955	N06	E12	09	3.7		A	HS	80	1	2	2
7771		RAMY	09	03	1223	N06	E03	09	3.7		A	HS	80	3	2	4
7771		SVTO	09	03	1340	N07	E01	09	3.6		A	HS	80	1	2	3
7771	28165	MWIL	09	03	1430	N06	E01	09	3.7	5	(AF)					
7771		HOLL	09	03	1823	N06	W02	09	3.6		A	HS	80	1	2	2
7771		PALE	09	03	2200	N06	W02	09	3.8		A	HS	70	1	2	2
7771		LEAR	09	04	0030	N06	W04	09	3.7		A	HS	50	1	1	3
7771		SVTO	09	04	0725	N07	W08	09	3.7		B	CSO	90	3	3	3
7771		RAMY	09	04	1229	N06	W11	09	3.7		A	HS	60	1	2	3
7771	28165	MWIL	09	04	1430	N06	W12	09	3.7	5	(AF)					
7771		HOLL	09	04	1930	N07	W15	09	3.7		A	HS	60	1	2	1
7771		PALE	09	04	2140	N06	W14	09	3.8		A	HS	90	1	2	3
7771		LEAR	09	05	0030	N06	W17	09	3.7		A	HS	70	1	3	3
7771		SVTO	09	05	0912	N06	W22	09	3.7		A	HX	40	1	2	2
7771		RAMY	09	05	1236	N06	W23	09	3.8		A	HS	80	1	2	3
7771	28165	MWIL	09	05	1430	N06	W25	09	3.7	5	(AF)					
7771		HOLL	09	05	1453	N05	W26	09	3.7		A	HS	40	1	2	3
7771		PALE	09	05	1810	N07	W27	09	3.7		A	HS	40	1	2	3
7771		LEAR	09	06	0100	N06	W31	09	3.7		A	HS	40	1	2	3
7771		SVTO	09	06	0850	N06	W36	09	3.7		A	HS	80	1	2	3
7771		RAMY	09	06	1301	N06	W37	09	3.8		A	HS	100	1	1	2
7771	28165	MWIL	09	06	1430	N06	W38	09	3.7	5	(AF)					
7771		HOLL	09	06	1453	N06	W39	09	3.7		A	HS	50	1	2	3
7771		LEAR	09	07	0010	N06	W45	09	3.6		A	HS	60	1	2	3
7771		SVTO	09	07	0852	N05	W48	09	3.8		A	HA	90	1	2	3
7771		RAMY	09	07	1225	N06	W51	09	3.7		A	HS	60	1	1	3
7771		HOLL	09	07	1421	N06	W52	09	3.7		A	HS	60	1	1	4
7771	28165	MWIL	09	07	1530	N06	W52	09	3.7	5	(AF)					
7771		LEAR	09	08	0720	N07	W60	09	3.8		A	HA	80	1	1	3
7771		SVTO	09	08	0925	N05	W63	09	3.7		A	HS	120	1	2	2
7771		RAMY	09	08	1215	N06	W64	09	3.7		A	HA	30	1	2	4
7771	28165	MWIL	09	08	1415	N06	W66	09	3.6	5	(AF)					
7771		LEAR	09	09	0030	N08	W73	09	3.5		A	HA	120	1	3	3
7771		SVTO	09	09	0850	N05	W75	09	3.7		A	HA	60	1	2	2
7771		RAMY	09	09	1358	N06	W80	09	3.6		A	HS	50	1	1	4
7771	28165	MWIL	09	09	1500	N06	W79	09	3.7	5	(AF)					
7771		PALE	09	09	2130	N06	W82	09	3.7		A	HS	30	1	2	3

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 1994

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7777		SVTO	09	05	0912	S14	W14	09	4.3		B	CRO	10	3	3	2
7777		RAMY	09	05	1236	S14	W14	09	4.5		B	BXO	10	3	3	3
7777	28171	MWIL	09	05	1430	S14	W17	09	4.3	3	(B)					
7777		HOLL	09	05	1453	S15	W18	09	4.2		B	BXO	10	5	4	3
7777		PALE	09	05	1810	S14	W20	09	4.2		A	AX	10	2	1	3
7777		LEAR	09	07	0010	S12	W37	09	4.2		A	AX		1		3
7773		SVTO	08	30	0735	S06	E78	09	5.1		B	CAO	80	2	3	3
7773		RAMY	08	30	1232	S07	E78	09	5.4		B	DAO	220	5	8	5
7773	28167	MWIL	08	30	1415	S08	E78	09	5.4	6	B					
7773		PALE	08	30	1825	S09	E74	09	5.3		B	FHI	290	11	15	4
7773		HOLL	08	30	1950	S08	E77	09	5.6		B	FAC	240	6	16	2
7773		LEAR	08	31	0100	S09	E70	09	5.3		B	FHI	250	8	16	3
7773		SVTO	08	31	0550	S07	E71	09	5.6		B	EKC	510	31	14	3
7773		RAMY	08	31	1231	S07	E66	09	5.5		B	EKI	550	25	13	4
7773	28167	MWIL	08	31	1415	S09	E66	09	5.5	6	(D)					
7773		HOLL	08	31	1842	S08	E64	09	5.6		B	EHI	550	22	13	3
7773		LEAR	09	01	0052	S09	E60	09	5.5		B	ESI	130	21	11	3
7773		SVTO	09	01	0540	S08	E58	09	5.6		B	EKC	420	18	14	3
7773		RAMY	09	01	1319	S07	E53	09	5.5		B	EAC	560	22	13	3
7773	28167	MWIL	09	01	1430	S09	E52	09	5.5	5	(B)					
7773		HOLL	09	01	1540	S06	E52	09	5.5		B	EHC	540	32	14	3
7773		PALE	09	01	1740	S08	E52	09	5.6		B	FHI	590	34	16	4
7773		LEAR	09	02	0032	S08	E48	09	5.6		B	ESI	500	22	13	3
7773		SVTO	09	02	0655	S06	E45	09	5.6		B	EKC	420	25	14	3
7773		RAMY	09	02	1244	S07	E40	09	5.5		B	EKI	520	33	13	3
7773		HOLL	09	02	1422	S07	E38	09	5.4		B	EHI	520	29	13	2
7773	28167	MWIL	09	02	1430	S08	E39	09	5.5	5	(BG)					
7773		PALE	09	02	1955	S08	E36	09	5.5		B	EHI	470	18	14	2
7773		RAMY	09	03	1223	S07	E27	09	5.5		BG	EKI	500	38	13	4
7773		SVTO	09	03	1340	S07	E26	09	5.5		B	EHI	510	23	13	3
7773	28167	MWIL	09	03	1430	S09	E24	09	5.4	5	(D)					
7773		HOLL	09	03	1823	S07	E25	09	5.6		BG	EKI	500	23	14	2
7773		PALE	09	03	2200	S08	E24	09	5.7		BG	EHO	460	30	13	2
7773		LEAR	09	04	0030	S08	E19	09	5.4		BG	EKI	480	24	13	3
7773		SVTO	09	04	0725	S09	E17	09	5.6		B	EHI	470	22	13	3
7773		RAMY	09	04	1229	S08	E14	09	5.6		B	EKI	470	28	13	3
7773	28167	MWIL	09	04	1430	S09	E11	09	5.4	6	(BG)-					
7773		HOLL	09	04	1930	S08	E10	09	5.6		B	EKO	480	18	14	1
7773		PALE	09	04	2140	S09	E11	09	5.7		BG	EHI	460	32	12	3
7773		LEAR	09	05	0030	S08	E07	09	5.5		B	EKI	460	27	14	3
7773		SVTO	09	05	0912	S09	E03	09	5.6		B	EKI	380	15	14	2
7773		RAMY	09	05	1236	S08	E02	09	5.7		B	EKI	440	24	13	3
7773	28167	MWIL	09	05	1430	S09	W03	09	5.4	5	(D)					
7773		HOLL	09	05	1453	S09	W02	09	5.5		B	EKO	470	31	14	3
7773		PALE	09	05	1810	S09	W02	09	5.6		B	EKO	430	30	14	3
7773		LEAR	09	06	0100	S09	W05	09	5.7		B	EKI	460	20	14	3
7773		SVTO	09	06	0850	S08	W11	09	5.5		B	EKO	410	18	15	3
7773		RAMY	09	06	1301	S09	W11	09	5.7		B	EKI	400	19	14	2
7773	28167	MWIL	09	06	1430	S08	W16	09	5.4	6	(D)					
7773		HOLL	09	06	1453	S08	W13	09	5.6		B	EKI	340	29	14	3
7773		LEAR	09	07	0010	S08	W19	09	5.6		B	EKI	330	22	13	3
7773		SVTO	09	07	0852	S08	W22	09	5.7		B	CKO	310	15	15	3
7773		RAMY	09	07	1225	S10	W24	09	5.7		B	CKI	270	15	13	3
7773		HOLL	09	07	1421	S08	W27	09	5.6		B	EKO	250	10	12	4
7773	28167	MWIL	09	07	1530	S08	W30	09	5.4	6	(BG)					
7773		LEAR	09	08	0720	S08	W35	09	5.7		B	EAO	180	8	12	3
7773		SVTO	09	08	0925	S08	W41	09	5.3		B	DKI	270	6	3	2
7773		RAMY	09	08	1215	S10	W38	09	5.6		B	CAO	310	9	13	4
7773	28167	MWIL	09	08	1415	S08	W43	09	5.4	6	(BP)					
7773		LEAR	09	09	0030	S08	W49	09	5.3		B	DHI	180	8	5	3
7773		SVTO	09	09	0850	S08	W54	09	5.3		B	CAO	180	3	4	2
7773		RAMY	09	09	1358	S08	W58	09	5.2		A	HA	170	6	3	4
7773	28167	MWIL	09	09	1500	S08	W56	09	5.4	6	(BP)					
7773		HOLL	09	09	2033	S10	W56	09	5.6		B	CAO	180	8	11	3
7773		PALE	09	09	2130	S08	W61	09	5.3		B	CAO	200	6	11	3
7773		LEAR	09	10	0350	S08	W62	09	5.5		B	EAO	140	7	13	3
7773		SVTO	09	10	0845	S10	W63	09	5.6		B	CSO	110	5	12	3
7773		HOLL	09	10	1425	S06	W63	09	5.9		B	CAO	100	5	7	3

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 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
7773	28167	MWIL	09 10 1430	S07 W70	09 5.4	5	(BP)					
7773		RAMY	09 10 1634	S08 W68	09 5.6		B	CSO	120	3	3	2
7773		PALE	09 10 1930	S09 W74	09 5.2		B	CAO	150	4	5	3
7773		LEAR	09 11 0015	S07 W78	09 5.2		B	CAO	120	3	2	3
7773	28167	MWIL	09 11 1430	S07 W88	09 5.0	4	AP					
7774		PALE	09 01 1740	N10 E64	09 6.5		A	AX		1		4
7774		LEAR	09 02 0032	N10 E58	09 6.4		B	BXO	20	2	5	3
7774		SVTO	09 02 0655	N13 E57	09 6.6		B	BXO	10	4	5	3
7774		RAMY	09 02 1244	N12 E53	09 6.5		B	BXO	10	4	5	3
7774		HOLL	09 02 1422	N12 E55	09 6.7		B	BXO	20	3	6	2
7774	28168	MWIL	09 02 1430	N10 E53	09 6.6	4	(B)					
7774		PALE	09 02 1955	N10 E48	09 6.4		A	AXO	20	2	2	2
7774		RAMY	09 03 1223	N12 E39	09 6.4		B	BXO	20	7	6	4
7774		SVTO	09 03 1340	N12 E38	09 6.4		B	CRO	20	3	6	3
7774	28168	MWIL	09 03 1430	N10 E38	09 6.4	5	(B)					
7774		HOLL	09 03 1823	N10 E33	09 6.2		B	CRO	20	2	1	2
7774		PALE	09 03 2200	N10 E35	09 6.5		B	DRO	30	6	5	2
7774		LEAR	09 04 0030	N09 E32	09 6.4		B	CRO	30	5	4	3
7774		SVTO	09 04 0725	N11 E28	09 6.4		B	CRO	30	6	7	3
7774		RAMY	09 04 1229	N11 E26	09 6.5		B	BXO	20	9	8	3
7774	28168	MWIL	09 04 1430	N10 E24	09 6.4	4	(B)					
7774		HOLL	09 04 1930	N10 E21	09 6.4		B	CRO	30	6	7	1
7774		PALE	09 04 2140	N09 E22	09 6.5		B	DSO	30	10	6	3
7774		LEAR	09 05 0030	N10 E18	09 6.4		B	DAO	20	6	6	3
7774		SVTO	09 05 0912	N10 E12	09 6.3		B	DRO	40	10	7	2
7774		RAMY	09 05 1236	N10 E11	09 6.3		B	CRO	30	8	8	3
7774	28168	MWIL	09 05 1430	N10 E10	09 6.3	4	(B)					
7774		HOLL	09 05 1453	N10 E08	09 6.2		B	DRI	30	9	8	3
7774		PALE	09 05 1810	N11 E08	09 6.3		B	DRO	30	7	7	3
7774		LEAR	09 06 0100	N10 E03	09 6.3		B	DAO	40	10	6	3
7774		SVTO	09 06 0850	N11 W02	09 6.2		B	BXO	50	8	6	3
7774		RAMY	09 06 1301	N11 W02	09 6.4		B	BX	50	20	11	2
7774	28168	MWIL	09 06 1430	N11 W02	09 6.4	4	(B)					
7774		HOLL	09 06 1453	N10 W05	09 6.2		B	DSO	40	20	9	3
7774		LEAR	09 07 0010	N11 W10	09 6.2		B	DRI	70	11	8	3
7774		SVTO	09 07 0852	N12 W14	09 6.3		B	CSO	40	9	9	3
7774		RAMY	09 07 1225	N10 W15	09 6.4		B	CAO	70	15	9	3
7774		HOLL	09 07 1421	N10 W18	09 6.2		B	CAO	120	15	9	4
7774	28168	MWIL	09 07 1530	N11 W16	09 6.4	5	(B)					
7774		LEAR	09 08 0720	N11 W25	09 6.4		B	DAO	40	7	7	3
7774		SVTO	09 08 0925	N11 W28	09 6.3		B	BXO	90	9	9	2
7774		RAMY	09 08 1215	N10 W29	09 6.3		B	CSI	70	13	10	4
7774	28168	MWIL	09 08 1415	N11 W31	09 6.3	5	(B)					
7774		LEAR	09 09 0030	N12 W38	09 6.1		B	CSO	40	7	5	3
7774		SVTO	09 09 0850	N10 W43	09 6.1		B	BXO	10	2	3	2
7774		RAMY	09 09 1358	N11 W46	09 6.1		B	BXO	30	3	3	4
7774	28168	MWIL	09 09 1500	N11 W47	09 6.1	5	(B)					
7774		HOLL	09 09 2033	N11 W52	09 5.9		A	HS	20	1	1	3
7774		PALE	09 09 2130	N11 W51	09 6.0		A	AX	20	1	1	3
7774		LEAR	09 10 0350	N11 W56	09 5.9		A	AX	10	1	1	3
7774		SVTO	09 10 0845	N09 W57	09 6.1		A	AX	20	1	1	3
7774		HOLL	09 10 1425	N12 W63	09 5.8		A	AX	20	2	1	3
7774	28168	MWIL	09 10 1430	N08 W61	09 6.0	4	(AP)					
7774		RAMY	09 10 1634	N09 W62	09 6.0		A	AX	10	1	1	2
7774		PALE	09 10 1930	N11 W65	09 5.9		A	AX	10	1	1	3
7774		LEAR	09 11 0015	N11 W68	09 5.9		A	AX	10	1	1	3
7774		LEAR	09 12 0030	N11 W82	09 5.8		A	AX		1	1	3
7774A		RAMY	09 08 1215	S07 W22	09 6.9		B	BXO	10	5	5	4
7778		HOLL	09 11 2015	S06 W51	09 8.0		B	BXO	10	2	3	3
7778		LEAR	09 12 0030	S06 W54	09 8.0		B	BXO	10	2	1	3
7775		RAMY	09 02 1244	N15 E80	09 8.6		A	AX	10	1	1	3
7775		HOLL	09 02 1422	N14 E81	09 8.7		A	AX	30	1	1	2
7775	28169	MWIL	09 02 1430	N13 E80	09 8.6	4	(AP)					
7775		PALE	09 02 1955	N14 E70	09 8.1		A	AX		1		2
7775		RAMY	09 03 1223	N16 E67	09 8.6		A	AX	20	1	1	4

S U N S P O T G R O U P S
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SEPTEMBER 1994

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7775		SVTO	09	03	1340	N16	E67	09	8.6		A	AX	10	1		3
7775	28169	MWIL	09	03	1430	N13	E67	09	8.6	4	(AP)					
7775		HOLL	09	03	1823	N15	E65	09	8.7		A	AX	10	1		2
7775		LEAR	09	04	0030	N16	E61	09	8.6		A	AX		1		3
7775		HOLL	09	11	2015	N11	W36	09	9.1		A	AX		1		3
7775		LEAR	09	12	0030	N11	W38	09	9.2		A	AX		1		3
7776	28170	MWIL	09	02	1430	S09	E87	09	9.1	5	AP					
7776		PALE	09	02	1955	S07	E89	09	9.5		A	HS	120	1	3	2
7776		RAMY	09	03	1223	S06	E73	09	9.0		A	HS	210	1	3	4
7776		SVTO	09	03	1340	S06	E75	09	9.2		B	CHO	240	2	7	3
7776	28170	MWIL	09	03	1430	S09	E71	09	8.9	5	(AP)					
7776		HOLL	09	03	1823	S07	E71	09	9.1		A	HH	240	1	4	2
7776		PALE	09	03	2200	S07	E76	09	9.6		B	CKO	270	4	11	2
7776		LEAR	09	04	0030	S08	E72	09	9.4		A	HH	260	1	4	3
7776		SVTO	09	04	0725	S08	E65	09	9.2		B	CHO	230	2	9	3
7776		RAMY	09	04	1229	S07	E65	09	9.4		B	CHO	320	4	11	3
7776	28170	MWIL	09	04	1430	S09	E60	09	9.1	5	(BP)					
7776		HOLL	09	04	1930	S09	E59	09	9.2		B	CHO	280	2	6	1
7776		PALE	09	04	2140	S09	E60	09	9.4		B	CHO	140	2	5	3
7776		LEAR	09	05	0030	S08	E56	09	9.2		B	CHO	260	2	8	3
7776		SVTO	09	05	0912	S08	E52	09	9.3		B	CSO	170	2	8	2
7776		RAMY	09	05	1236	S06	E51	09	9.3		B	CSO	240	3	7	3
7776	28170	MWIL	09	05	1430	S09	E48	09	9.2	6	(BP)					
7776		HOLL	09	05	1453	S08	E48	09	9.2		B	CSO	190	4	7	3
7776		PALE	09	05	1810	S08	E47	09	9.3		B	CSO	240	3	7	3
7776		LEAR	09	06	0100	S09	E43	09	9.3		B	CHO	260	4	5	3
7776		SVTO	09	06	0850	S09	E38	09	9.2		B	CSO	230	4	8	3
7776		RAMY	09	06	1301	S08	E38	09	9.4		B	ESO	400	11	12	2
7776	28170	MWIL	09	06	1430	S08	E34	09	9.1	6	(BG)					
7776		HOLL	09	06	1453	S07	E35	09	9.2		B	CHO	200	6	8	3
7776		LEAR	09	07	0010	S08	E29	09	9.2		B	CHO	180	6	7	3
7776		SVTO	09	07	0852	S06	E25	09	9.2		B	CHO	250	12	9	3
7776		RAMY	09	07	1225	S09	E23	09	9.2		B	CHO	350	8	8	3
7776		HOLL	09	07	1421	S08	E21	09	9.2		A	HH	290	7	9	4
7776	28170	MWIL	09	07	1530	S08	E19	09	9.1	6	(G)					
7776		LEAR	09	08	0720	S08	E13	09	9.3		B	CAO	220	4	8	3
7776		SVTO	09	08	0925	S08	E11	09	9.2		B	CHO	230	7	7	2
7776		RAMY	09	08	1215	S09	E12	09	9.4		BG	CSO	240	12	11	4
7776	28170	MWIL	09	08	1415	S07	E06	09	9.0	6	(BP)					
7776		LEAR	09	09	0030	S08	E02	09	9.2		B	CHO	210	6	5	3
7776		SVTO	09	09	0850	S08	W03	09	9.1		B	CHO	260	2	7	2
7776		RAMY	09	09	1358	S08	W03	09	9.3		B	CSO	240	6	12	4
7776	28170	MWIL	09	09	1500	S08	W06	09	9.2	6	(BP)					
7776		HOLL	09	09	2033	S07	W05	09	9.5		B	CHO	330	11	10	3
7776		PALE	09	09	2130	S08	W08	09	9.3		A	HS	230	1	2	3
7776		LEAR	09	10	0350	S12	W15	09	9.0		A	HA	180	1	2	3
7776		SVTO	09	10	0845	S07	W16	09	9.2		A	HS	210	1	2	3
7776		HOLL	09	10	1425	S07	W16	09	9.4		B	CHO	200	4	8	3
7776	28170	MWIL	09	10	1430	S08	W19	09	9.2	6	(BP)					
7776		RAMY	09	10	1634	S08	W20	09	9.2		A	HS	200	1	2	2
7776		PALE	09	10	1930	S08	W18	09	9.5		B	CHO	180	4	8	3
7776		LEAR	09	11	0015	S08	W26	09	9.1		A	HS	170	1	2	3
7776		SVTO	09	11	0745	S09	W29	09	9.1		A	HH	220	1	2	3
7776	28170	MWIL	09	11	1430	S08	W33	09	9.1	5	(BP)					
7776		PALE	09	11	1852	S08	W33	09	9.3		B	CHO	200	6	13	3
7776		HOLL	09	11	2015	S07	W37	09	9.1		A	HS	180	1	2	3
7776		LEAR	09	12	0030	S08	W40	09	9.0		A	HS	170	1	2	3
7776		SVTO	09	12	0647	S09	W37	09	9.5		A	HH	180	2	10	4
7776	28170	MWIL	09	12	1430	S07	W47	09	9.1	5	(BP)					
7776		HOLL	09	12	1650	S07	W49	09	9.0		A	HS	220	1	2	2
7776		PALE	09	12	1810	S07	W50	09	9.0		A	HH	240	1	3	3
7776		RAMY	09	12	1932	S08	W49	09	9.1		A	HA	140	2	2	2
7776		LEAR	09	13	0025	S07	W54	09	9.0		A	HS	130	2	3	3
7776		SVTO	09	13	0810	S09	W53	09	9.4		A	HH	180	1	3	3
7776		RAMY	09	13	1215	S08	W58	09	9.2		A	HS	150	2	2	4
7776		HOLL	09	13	1414	S06	W62	09	8.9		A	HS	160	2	2	3
7776	28170	MWIL	09	13	1430	S07	W60	09	9.1	5	(AP)					
7776		PALE	09	13	1910	S08	W65	09	8.9		A	HH	190	1	2	3

S U N S P O T G R O U P S
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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7776		LEAR	09	14	0115	S06	W68	09	9.0		A	HA	150	1	3	3
7776		SVTO	09	14	0910	S09	W69	09	9.2		A	HS	100	1	2	3
7776		RAMY	09	14	1310	S08	W75	09	8.9		A	HS	110	2	2	4
7776	28170	MWIL	09	14	1415	S07	W72	09	9.2	5	(AP)					
7776		HOLL	09	14	1431	S07	W75	09	9.0		A	HS	120	2	2	3
7776		PALE	09	14	1822	S08	W78	09	8.9		A	HS	120	1	2	3
7776		LEAR	09	15	0015	S05	W80	09	9.0		A	HS	130	1	4	4
7776		SVTO	09	15	0845	S09	W81	09	9.3		A	HS	60	1	1	1
7780		SVTO	09	16	0640	S06	W39	09	13.3		A	AX		1		3
7780		SVTO	09	18	0705	S06	W65	09	13.4		B	BXO	10	3	4	3
7780		RAMY	09	18	1235	S08	W69	09	13.3		B	DAO	40	5	4	3
7780		HOLL	09	18	1503	S04	W69	09	13.5		B	DSO	50	2	6	3
7780		PALE	09	18	1845	S07	W73	09	13.3		B	DAO	80	4	6	3
7780	28173	MWIL	09	18	2130	S05	W74	09	13.4	4	(B)					
7780		LEAR	09	19	0015	S04	W75	09	13.4		B	BXO	30	5	8	3
7780A		LEAR	09	13	0025	N24	E12	09	13.9		A	AX		2	2	3
7780B		RAMY	09	14	1310	S09	E09	09	15.2		A	AX		1	1	4
7780B		HOLL	09	14	1431	S10	E07	09	15.1		A	AX		1		3
7780C		SVTO	09	12	0647	N13	E42	09	15.4		B	BXO	10	2	3	4
7780D		RAMY	09	14	1310	S08	E17	09	15.8		A	AX		1	1	4
7779		RAMY	09	16	1310	N18	E29	09	18.7		A	AX		1		3
7779	28172	MWIL	09	16	1430	N17	E28	09	18.7	3	(AP)					
7779		HOLL	09	16	1530	N17	E28	09	18.8		A	AX		1		3
7779		PALE	09	16	1930	N18	E28	09	18.9		A	AX	20	2	2	3
7779		LEAR	09	17	0030	N16	E24	09	18.8		B	CAO	40	4	3	3
7779		SVTO	09	17	0615	N18	E20	09	18.8		B	CSO	20	5	4	3
7779		RAMY	09	17	1230	N17	E17	09	18.8		B	CRO	50	16	5	4
7779		HOLL	09	17	1435	N17	E15	09	18.7		B	CRO	30	8	4	3
7779	28172	MWIL	09	17	1530	N17	E14	09	18.7	4	(B)					
7779		PALE	09	17	1823	N17	E14	09	18.8		B	BXO	20	9	5	3
7779		LEAR	09	18	0030	N17	E10	09	18.8		B	CAO	20	5	3	3
7779		SVTO	09	18	0705	N17	E06	09	18.7		B	BXO	20	6	4	3
7779		RAMY	09	18	1235	N18	E03	09	18.7		B	BXO	20	9	4	3
7779		HOLL	09	18	1503	N17	E04	09	18.9		B	BXO	10	6	5	3
7779		PALE	09	18	1845	N17	E01	09	18.8		B	BXO	20	5	4	3
7779	28172	MWIL	09	18	2130	N17	W01	09	18.8	3	(B)					
7779		LEAR	09	19	0015	N17	W04	09	18.7		B	BXO	10	4	4	3
7779	28172	MWIL	09	19	1445	N16	W12	09	18.7	4	(B)					
7782		PALE	09	25	1735	N02	W33	09	23.3		A	AX	10	2	1	3
7782		LEAR	09	26	0120	N03	W35	09	23.4		B	CRO	20	7	4	3
7782		SVTO	09	26	0720	N02	W38	09	23.5		B	DRO	30	7	4	3
7782		RAMY	09	26	1219	N02	W42	09	23.4		B	BXO	10	4	3	3
7782	28175	MWIL	09	26	1530	N04	W44	09	23.3	4	(B)					
7782		PALE	09	26	1800	N03	W47	09	23.2		B	CSO	30	7	3	3
7782		HOLL	09	26	1812	N04	W46	09	23.3		B	BXO	20	5	4	3
7782		LEAR	09	27	0040	N03	W49	09	23.4		B	BXO	30	4	4	2
7782		SVTO	09	27	0810	N02	W55	09	23.2		A	AX	10	2	2	2
7782		RAMY	09	27	1324	N04	W58	09	23.2		A	AX	10	2	2	3
7782		HOLL	09	27	1630	N04	W61	09	23.1		A	AX	20	2	1	2
7782	28175	MWIL	09	27	1730	N04	W60	09	23.2	4	(AP)					
7782		LEAR	09	28	0305	N04	W68	09	23.0		A	AX	20	1	1	3
7782		SVTO	09	28	0702	N02	W69	09	23.1		A	AX		1		3
7782	28175	MWIL	09	28	1445	N04	W72	09	23.2	3	(AP)					
7781		SVTO	09	22	0620	S07	E18	09	23.6		B	CRO	10	5	3	3
7781		LEAR	09	22	0710	S08	E16	09	23.5		B	CRO	40	4	3	3
7781		RAMY	09	22	1218	S07	E14	09	23.6		B	BXO	20	5	4	3
7781	28174	MWIL	09	22	1430	S07	E12	09	23.5	5	(B)					
7781		HOLL	09	22	1734	S08	E10	09	23.5		B	BXO	20	5	5	3
7781		LEAR	09	23	0030	S08	E07	09	23.5		B	CRO	30	7	4	3
7781		SVTO	09	23	0830	S07	E01	09	23.4		B	BXO	40	7	8	3
7781		RAMY	09	23	1225	S08	W01	09	23.4		B	BXO	20	8	9	3

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

SEPTEMBER 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
7781	28174	MWIL	09 23 1430	S07 W02	09 23.4	5	(B)					
7781		HOLL	09 23 1500	S07 W02	09 23.5		B	CRO	40	7	6	3
7781		PALE	09 23 1645	S08 W03	09 23.5		B	BXO	30	6	4	3
7781		LEAR	09 24 0030	S07 W08	09 23.4		B	CRO	40	6	5	3
7781		SVTO	09 24 0610	S07 W10	09 23.5		B	CRO	20	7	5	3
7781		RAMY	09 24 1222	S07 W14	09 23.5		B	CRO	50	13	6	4
7781	28174	MWIL	09 24 1645	S07 W17	09 23.4	4	(B)					
7781		HOLL	09 24 1658	S06 W17	09 23.4		B	CRO	50	10	6	2
7781		PALE	09 24 1810	S07 W16	09 23.5		B	CSO	40	14	7	4
7781		LEAR	09 25 0135	S07 W22	09 23.4		B	CSO	30	10	5	3
7781		SVTO	09 25 0730	S08 W25	09 23.4		B	CRO	60	11	5	3
7781		RAMY	09 25 1211	S08 W28	09 23.4		B	CAI	70	18	5	4
7781		HOLL	09 25 1406	S06 W28	09 23.5		B	CAO	60	13	5	3
7781	28174	MWIL	09 25 1430	S07 W29	09 23.4	5	(B)					
7781		PALE	09 25 1735	S08 W31	09 23.4		B	CAO	40	12	7	3
7781		LEAR	09 26 0120	S07 W34	09 23.5		B	DAO	70	9	6	3
7781		SVTO	09 26 0720	S08 W37	09 23.5		B	DRO	60	7	5	3
7781		RAMY	09 26 1219	S08 W40	09 23.5		B	CAO	110	5	5	3
7781	28174	MWIL	09 26 1530	S06 W43	09 23.4	5	(B)					
7781		PALE	09 26 1800	S08 W45	09 23.4		B	CAO	30	6	4	3
7781		HOLL	09 26 1812	S06 W45	09 23.4		B	DAO	60	5	6	3
7781		LEAR	09 27 0040	S06 W48	09 23.4		B	DAO	50	4	6	2
7781		SVTO	09 27 0810	S08 W53	09 23.4		B	CRO	40	5	6	2
7781		RAMY	09 27 1324	S06 W55	09 23.4		B	CRO	20	2	5	3
7781		HOLL	09 27 1630	S06 W57	09 23.4		B	DRO	60	2	5	2
7781	28174	MWIL	09 27 1730	S06 W57	09 23.5	4	(B)					
7781		LEAR	09 28 0305	S07 W65	09 23.2		B	CAO	50	2	7	3
7781		SVTO	09 28 0702	S08 W65	09 23.4		B	CRO	30	4	7	3
7781		RAMY	09 28 1245	S08 W67	09 23.5		B	CRO	20	2	5	3
7781	28174	MWIL	09 28 1445	S06 W69	09 23.4	4	(B)					
7781		HOLL	09 28 1549	S05 W70	09 23.4		B	CSO	90	2	6	3
7781		LEAR	09 29 0030	S07 W74	09 23.5		B	CAO	30	3	5	3

Stations reporting:

CULG = Culgoora LEAR = Learmonth PALE = Palehua SVTO = San Vito
HOLL = Holloman MWIL = Mt. Wilson RAMY = Ramey

SEPTEMBER 1994

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Flare (UT)	X-ray Class	NOAA Region
01	0814	0824	0850	1+	3		1			1	0821	C1.5	7773
01	0914	0932	1025	2	1		1				0926	C2.1	7773
01	1210	1216	1229	1	1					1	1206	B1.8	7773
01	1618	1718	1739	1-	1			1			No flare		
01	1802	1806	1836	1-	5			2		7	1804	C2.2	7773
02	0036	0045	0055	1	1					1	0036	B3.2	
02	0956	1019	1222	2	1		1				No flare		
02	1312	1317	1342	1-	5			1		1	1314	B3.5	
02	1453	1458	1518	1-	1			1			No flare		
02	1650	1704	1909	1	5			2		8	1647	C2.7	
02	2002	2016	2053	1-	5			1		6	1958	C2.2	
03	0413	0422	0442	1-	1			1			0411	C1.4	
03	0856	0930	1020	2	1		1				0857		7773
03	1146	1148	1156	1-	1					1	1146	B3.6	7773
03	1252	1300	1328	1-	5			1		1	1240	C1.3	
03	1337	1341	1350	1-	1					1	1335	C1.0	
03	1400	1424	1522	1	1		1				No flare		
03	1552	1604	1630	1-	5			3		10	1553	C6.8	7776
03	1726	1735	1747	1-	5			1		1	1725	B9.3	
04	1411	1430	1447	1	1		1				No flare		
04	1450	1520U	1557	2	1		1				No flare		
05	0052	0055	0101	1-	1					1	0052E	B3.0	7773
05	0232	0242	0256	1-	1			1			0232	C1.1	7773
05	0534	0542	0720	2+	3	1		1			0531	C6.0	7773
06	0052	0104	0158	2	5	1		1		2	0032	C7.8	7773
06	0632	0642	0712	1-	1			1			0632	C1.5	7776
06	1044	1100U	1121	2	1					1	No flare		
06	1158	1200	1220	1	1					1	1158	B3.3	7773
06	1334	1348U	1418	1	1		1				No flare		
06	1438	1442	1452	1-	1					1	1436	B3.9	
06	1620	1624	1633	1-	1					1	1620	B2.2	
07	0824	0827	0835	1-	1					1	0823	B3.4	
07	0926	0942	0953	1	3		3				No flare		
07	2052	2058	2114	1	1					2	2051	B8.4	7775
08	0128	0134	0138	1-	5			1		1	0118	C1.3	
08	1351	1355	1415	1-	1			1			No flare		
08	2237	2242	2250	1-	1					1	2237	C1.1	
09	1815	1816	1829	1-	1					1	1813	B1.0	
10	0542	0550	0558	1-	1			1			0537	B7.0	
10	0945	0954	1007	1	1					1	0945	B7.3	7774
10	1418	1422	1430	1-	1					1	1418	B1.5	
10	1433	1445	1525	2	1					1	1439	B2.9	
11	0426	0500	0820D	2+	3	1		1			0450E	C8.7	7773
11	0638	0725U	0806	2	1		1				No flare		
11	1537	1540	1555	1-	1					1	1536	B2.8	7776
12	1329	1350	1413	1+	3		3				No flare		
13	1150	1235	1513	2	1		1				No flare		
14	0925	0933	1000	2+	3		2				No flare		
15	1926	1933	1948	1-	1			1			No flare		
16	0933	0938	1016	2	1		1				No flare		
16	1901	1914	1918	1-	1			1			No flare		

* = no flare patrol.

SUDDEN IONOSPHERIC DISTURBANCES

SEPTEMBER 1994

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Flare (UT)	X-ray Class	NOAA Region
17	1810	1817	1829	1-	1			1			No flare		
18	1219	1240	1300	1	1		1				No flare		
20	0811	0826	0906	2	1		1				*		
21	0610	0655	0721	3	3		3				No flare		
23	0648	0700	0734	1	1		1				No flare		
23	0958	1004	1020	1	1		1				No flare		
24	0657	0717	0745	1	1		1				No flare		
25	1211	1246U	1339	1	1		1				No flare		
25	1926	1927	1933	1-	1					1	1927	B1.3	
30	0800	0806	0815	1-	1					1	0759	B4.0	
30	1216	1224	1237	1	1					1	1215	B1.6	
30	1316	1320	1350	1	1		1				No flare		
30	1358	1400	1409	1-	1					1	1358	B1.0	

* = no flare patrol.

OBSERVATORIES REPORTING FOR SEPTEMBER 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, Slovakia	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.

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

SEPTEMBER 1994

OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	EVENT Spectral Class	EVENT Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
01		PALE	0031.0	0032.0	III		1	25	75	
		PALE	0110.0	0111.0	III		1	25	75	
		LEAR	0147.0	0148.0	III		2	30	76	
		PALE	0152.0	0153.0	III		2	25	75	
0000	0910	HIRA	0152.4	0152.5	III	B	2	25X	110	
0000	0733	CULG	0153.0	0153.0	III	B	2	20	90	
0500	1200	IZMI	0515.1	0658.5	I	N	1	100	150	
0515	1646	ONDR	0614.0E	1402.0	I	N	3	100	300	
		CULG	0630.0	0631.0	III	B	3	20	90	
		LEAR	0630.0	0631.0	III		3	30	80	
		SVTO	0630.0	0631.0	III		3	36	84	
		IZMI	0630.7	0631.1	III	G	1	95	125U	
0700	1500	POTS	0700 E	1500 U	I	S	1	110U	400	
		POTS	0725.5	0726.1	III	G	1	40X	60	
		SVTO	0736.0	0737.0	III		2	46	66	
		POTS	0736.7	0737.1	III	G	2	45	170U	
		POTS	0744.7	0744.8	III	B	1	40X	55	
		LEAR	0823.0	0824.0	III		2	32	80	
		IZMI	0823.5	0823.8	III	G	1	45	125X	
		IZMI	0823.5	0823.8	V		1	45	125X	
		POTS	0823.5	0823.9	III	G	2	40X	250	
		IZMI	0843.4	0843.8	III	G	1	50	120	
		POTS	0843.4	0844.0	III	G	1	40X	150	
		POTS	0949.8	0950.0	III	B	1	40X	70	
		SVTO	1005.0	1006.0	III		2	35	63	
		IZMI	1005.4	1005.7	III	G	2	50	125	
		POTS	1005.4	1005.7	III	G	1	40X	250	
		POTS	1219.5	1219.7	III	B	1	40X	70	
		SGMR	1227.0	1229.0	III		1	30	80	
		SVTO	1227.0	1229.0	III		1	35	62	
		POTS	1227.8	1228.1	III	G	2	40X	170U	
		POTS	1228.8	1229.7	III	G	2	40X	170U	
		POTS	1344.2	1344.3	III	B	1	40X	70	
		POTS	1403.7	1404.8	III	G	2	40X	300	
		POTS	1407.4	1408.6	III	GG	2	40X	250	
		SVTO	1411.0	1411.0	III		1	56	85	
		POTS	1411.5	1411.8	III	G	1	40X	70	
		POTS	1438.0	1438.1	III	B	1	40X	70	
		SGMR	1515.0	1515.0	III		1	30	60	
		SGMR	1723.0	1724.0	III		1	30	40	
2034	2400	CULG								
02		LEAR	0033.0	0039.0	III		2	30	75	
		PALE	0033.0	0039.0	III		2	25	75	
0000	0732	CULG	0034.0	0041.0	III	G	2	18	90	
		CULG	0216.0	0217.0	III	B	2	18	90	
		LEAR	0216.0	0217.0	III		2	30	80	
		PALE	0216.0	0217.0	III		2	25	75	
		LEAR	0326.0	0334.0	III		2	30	80	
		PALE	0326.0	0432.0	III	N	1	40	75	
		CULG	0327.0	0327.0	III	B	3	18	240	
		CULG	0334.0	0334.0	III	B	1	18	85	
		CULG	0406.0	0408.0	III	B	3	18	390	
		LEAR	0406.0	0407.0	III		3	30	80	
		LEAR	0427.0	0428.0	III		1	30	65	
		CULG	0428.0	0428.0	III	B	1	18	90	
		CULG	0519.0	0528.0	III	G	3	18	420	
		LEAR	0519.0	0520.0	III		2	30	80	
		SVTO	0519.0	0524.0	III		2	35	85	
		IZMI	0519.2	0523.6	V		3	45X	180X	
0500	1200	IZMI	0519.2	0523.6	III	G	3	45X	180X	
		LEAR	0523.0	0524.0	III		2	30	45	
		LEAR	0614.0	0616.0	III		2	30	57	
		SVTO	0614.0	0623.0	III		2	35	80	
		IZMI	0614.7	0616.3	III	G	2	45	120X	
		CULG	0615.0	0616.0	III	G	1	22	80	
0525	1633	ONDR	0615.0E	1403.0	I	N	3	100	300	
		CULG	0623.0	0623.0	III	B	1	24	85	
		LEAR	0623.0	0642.0	III	N	1	30	60	

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

SEPTEMBER 1994

OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	EVENT Spectral Class	EVENT Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
02		IZMI	0623.1	0623.3	III	G	2	45	120X	
		CULG	0639.0	0643.0	III	B	1	24	82	
		SVTO	0639.0	0642.0	III		2	35	57	
		IZMI	0639.2	0642.3	III	G	2	50	90	
0700	1500	POTS	0700 E	1500 U	I	S,C,DC,U?	2	40X	400	
		IZMI	0706.5	0706.6	III	B	1	55	80	
		POTS	0706.5	0706.7	III	G	1	40X	70U	
		IZMI	0740.2	1200.0D	I	S	1	95X	180	
		POTS	0812.7	0812.9	III	B	1	40X	90U	
		POTS	0820.8	0820.9	III	B	1	40X	70	
		POTS	0906.3	0906.7	III	G	1	40X	170U	
		IZMI	1018.2	1018.5	III	G	1	65	125	
		POTS	1018.2	1024.4	III	GG	2	40X	400	
		SVTO	1024.0	1024.0	III		1	35	56	
		IZMI	1024.1	1024.3	III	G	2	50	170	
		POTS	1043.7	1113.9	III	GG,U?	3	40X	400	
		IZMI	1056.0	1100.3	III	G	3	45X	180X	
		IZMI	1056.0	1100.3	V		3	45X	180X	
		ONDR	1056.0	1100.2	III	GG	3	100	300	
		SGMR	1057.0	1100.0	III		1	30	80	
		SVTO	1057.0	1100.0	V		2	35	85	
		POTS	1058.9	1059.8	V		2	40X	70	
		ONDR	1112.0	1112.5	III	G	3	150	300	
		SGMR	1112.0	1113.0	III		2	30	80	
		SVTO	1112.0	1113.0	V		2	35	85	
		IZMI	1112.3	1112.5	III	G	3	45X	180X	
		IZMI	1112.3	1112.5	V		3	45X	180X	
		POTS	1112.4	1112.7	V		3	40X	70	
		POTS	1114.8	1114.9	III	B	1	375	450	
		POTS	1152.9	1158.7	III	GG	1	40X	170U	
		POTS	1224.7	1235.6	III	GG	2	40X	275	
		SGMR	1226.0	1226.0	III		1	30	75	
		POTS	1246.0	1247.6	III	GG	2	40X	250	
		POTS	1310.5	1310.7	UNCLF		1	55	70	
		ONDR	1335.2	1335.5	III	G	3	180	300	
		POTS	1335.2	1335.8	III	G,RS,U	2	110U	275	
		POTS	1358.0	1358.1	III	G	1	40X	70	
		ONDR	1403.1	1403.4	III	G	3	280	300	
		POTS	1408.2	1408.3	III	B	1	375	450	
		POTS	1414.8	1421.1	III	GG	2	40X	275	
		SGMR	1415.0	1420.0	III		1	30	80	
		SVTO	1415.0	1416.0	III		2	35	85	
		SVTO	1419.0	1419.0	III		2	35	85	
		POTS	1419.7	1419.9	V		2	55	70	
		SGMR	1446.0	1447.0	III		1	30	80	
		SVTO	1446.0	1446.0	III		2	35	85	
		POTS	1446.4	1447.3	III	G	3	40X	250	
		SGMR	1639.0	1642.0	V		2	30	80	
		PALE	1640.0	1640.0	III		1	25	75	
		SVTO	1640.0	1640.0	III		2	35	85	
		SGMR	1714.0	1722.0	III		1	30	70	
		SGMR	1748.0	1755.0	III		1	30	65	
		PALE	1801.0	1801.0	III		2	25	75	
		SGMR	1801.0	1802.0	V		2	30	80	
		PALE	1835.0	1841.0	III		2	25	75	
		SGMR	1835.0	1837.0	III		1	30	70	
		SGMR	1840.0	1841.0	III		2	30	80	
		SGMR	1908.0	1947.0	III	N	1	30	80	
		PALE	1922.0	1927.0	III		1	40	58	
		PALE	1946.0	1947.0	III		2	25	75	
		PALE	2039.0	2039.0	III		1	25	45	
		SGMR	2039.0	2039.0	III		1	30	60	
2034	2400	CULG	2040.0	2040.0	III	B	1	20	70	
		CULG	2112.0	2115.0	III	G	1	60	85	
		CULG	2136.0	2137.0	III	G	1	18	70	
		PALE	2230.0	2312.0	III	N	1	25	60	
		CULG	2231.0	2234.0	III	G	1	30	130	
		CULG	2306.0	2312.0	III	G	1	18	90	
		CULG	2334.0	2400.0D	III	S	1	30	80	

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Day	OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	EVENT Spectral Class	EVENT Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
03	0000	0732	CULG	0000.0E	0018.0	III	S	1	40	90	
			CULG	0037.0	0038.0	III	B	1	20	40	
			CULG	0050.0	0051.0	III	G	1	20	90	
			LEAR	0050.0	0051.0	III		1	30	80	
			CULG	0059.0	0100.0	III	G	1	20	90	
	0527	1631	ONDR	0617.0E	1402.0	I	N	3	100	300	
			LEAR	0740.0	0741.0	III		1	30	70	
			SVTO	0740.0	0741.0	III		1	37	81	
			IZMI	0740.7	0744.3	V		2	50	135	
	0500	1200	IZMI	0740.7	0744.3	III	GG	2	50	135	
			SVTO	0811.0	0812.0	III		1	45	64	
			LEAR	0825.0	0826.0	III		2	30	70	
			SVTO	0825.0	0825.0	III		2	35	74	
			IZMI	0825.5	0825.7	III	B	2	45	90X	
			IZMI	0840.4	0841.2	III	G	1	60	125	
			IZMI	0915.1	1043.0	I	N	1	95	120	
			SGMR	1348.0	1348.0	III		1	30U	75U	
			SGMR	1418.0	1419.0	V		3	30	80	
			SVTO	1418.0	1419.0	III		3	35	85	
			SGMR	1633.0	1921.0	III	N	1	30	60	
			PALE	1920.0	1921.0	III		1	25	55	
			PALE	1952.0	2112.0	III	N	1	25	75	
	2010	2400	HIRA	2010	2400	I	S	1	80	200	
	2034	2400	CULG	2034.0E	2143.0D	I	C, S	1	120	160	
			CULG	2037.0	2400.0D	III	S	1	18	60	
			PALE	2112.0	0103.0	III	N	1	25	75	
			CULG	2125.0	2125.0	III	B	1	18	80	
			SGMR	2125.0	2125.0	III		1	30	65	
			HIRA	2125.5	2125.5	III	B	1	25	60	
			CULG	2143.0E	2206.0D	I	C, S	2	75	160	
			CULG	2206.0	2323.0	I	C, S	1	100	160	
			HIRA	2206.0	2321.8	CONT		2	60	500	
			CULG	2231.0	2238.0	III	G	1	20	80	
			HIRA	2231.1	2237.2	III	G	1	25	80	
			LEAR	2342.0	2342.0	III		1	30	60	
			CULG	2343.0	2343.0	III	B	2	18	140	
			HIRA	2343.2	2343.3	III	B	2	25X	150	
04	0000	0905	HIRA	0000	0905	I	S	1	100	200	
			CULG	0000.0	0300.0D	I	S	1	80	140	
	0000	0732	CULG	0000.0E	0142.0	III	S	1	18	80	
			LEAR	0101.0	0102.0	III		1	30	65	
			HIRA	0102.1	0102.3	III	B	1	25	80	
			LEAR	0134.0	0135.0	III		1	30	42	
			LEAR	0158.0	0159.0	III		1	30	40	
			CULG	0159.0	0159.0	III	B	1	18	60	
			HIRA	0159.0	0159.0	III	B	1	25	60	
			LEAR	0224.0	0224.0	III		1	30	45	
			CULG	0225.0	0225.0	III	B	1	18	60	
			HIRA	0225.0	0225.0	III	B	1	25	50	
			CULG	0300.0E	0317.0	I	S	1	120	150	
			CULG	0306.0	0306.0	III	B	1	18	70	
			LEAR	0306.0	0306.0	III		1	30	45	
			HIRA	0306.3	0306.3	III	B	1	25	60	
			CULG	0327.0	0327.0	III	B	1	30	90	
			CULG	0347.0	0417.0	I	S	1	120	150	
			LEAR	0348.0	0348.0	III		1	30	40	
	0500	1200	IZMI	0500.0E	1200.0	I	S	2	95X	180U	
			LEAR	0601.0	0602.0	III		2	30	80	
			SVTO	0601.0	0602.0	III		3	36	85	
			IZMI	0601.6	0602.3	III	G	3	45X	180X	
			HIRA	0601.8	0601.9	III	B	2	25	250	
			CULG	0602.0	0602.0	III	B	2	20	230	
			CULG	0605.0	0620.0	I	S	1	65	90	
	0528	1629	ONDR	0607.0E	1402.0	I	N	3	100	200	
			CULG	0711.0	0711.0	III	B	2	18	90	
			IZMI	0711.0	0713.2	III	G	3	45	150X	
			LEAR	0711.0	0711.0	III		3	30	80	
			SVTO	0711.0	0711.0	III		3	36	85	

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04			HIRA	0711.1	0711.2	III	B	2	25	190	
			SGMR	1344.0	1349.0	III		2	30	80	
			SVTO	1344.0	1349.0	III		2	35	73	
			SGMR	1426.0	1426.0	V		2	30	80	
			SVTO	1426.0	1426.0	III		2	35	85	
			SGMR	1436.0	1438.0	III		1	30	50	
			SGMR	1506.0	1506.0	III		1	30	45	
			SGMR	1550.0	1602.0	III	N	2	30	65	
			SVTO	1551.0	1552.0	III		2	38	78	
			SGMR	1600.0	1730.0	III	N	1	30	45	
			SGMR	1828.0	1829.0	III		1	30	65	
			PALE	1922.0	2230.0	III	N	2	25	75	
			SGMR	1922.0	1923.0	III		2	30	65	
			CULG	2100.0	2125.0	III	S	1	18	90	
	2015	2400	HIRA	2100.0	2125.0	III	GG	1	25	100	
			CULG	2322.0	2322.0	III	B	1	28	82	
			HIRA	2337.9	2337.9	III	B	1	25	60	
			CULG	2338.0	2338.0	III	B	1	20	65	
05	0000	0900	HIRA	0005.9	0005.9	III	B	1	25	250	
	0000	0732	CULG	0030.0	0034.0	III	G	1	20	85	
			CULG	0104.0	0110.0	III	G	1	18	145	
			LEAR	0106.0	0107.0	III		1	30	48	
			HIRA	0106.4	0106.4	III	B	1	25	140	
			HIRA	0127.8	0135.1	III	G	1	25	160	
			CULG	0135.0	0135.0	III	B	1	18	160	
			LEAR	0135.0	0135.0	III		2	30	65	
			PALE	0135.0	0135.0	III		1	25	75	
			CULG	0149.0	0405.0	III	S	1	20	75	
			LEAR	0152.0	0152.0	III		1	30	45	
			HIRA	0152.3	0152.3	III	B	1	25	70	
			CULG	0246.0	0246.0	III	B	3	18	170	
			LEAR	0246.0	0255.0	III		3	30	80	
			PALE	0246.0	0254.0	III		2	25	75	
			HIRA	0246.9	0247.0	III	B	3	25	200	
			CULG	0255.0	0255.0	III	B	3	18	150	
			HIRA	0255.2	0255.2	III	B	3	25	150	
			LEAR	0430.0	0630.0	III	N	1	30	60	
			HIRA	0435.1	0600.0	III	GG	1	25	90	
			CULG	0439.0	0559.0	III	S	1	20	90	
	0500	1200	IZMI	0500.0E	0507.3	I	N	2	95	120	
			CULG	0622.0	0626.0	III	G	1	24	80	
			LEAR	0623.0	0624.0	III		1	30	55	
			HIRA	0624.6	0626.7	III	G	1	25	80	
			LEAR	0643.0	0644.0	III		2	30	61	
			SVTO	0643.0	0643.0	III		2	35	85	
			IZMI	0643.3	0643.8	III	G	2	45	150X	
			HIRA	0643.9	0643.9	III	B	2	25	200	
			CULG	0644.0	0644.0	III	B	2	18	160	
			IZMI	0648.1	1101.4	I	S,DC	2	95	175U	
			LEAR	0655.0	0656.0	III		1	30	45	
			SVTO	0655.0	0656.0	III		1	35	49	
	0700	1500	POTS	0700 E	1500 U	I	S,C,DC	2	40X	400	
			SVTO	0729.0	0825.0	III	N	2	35	85	
			LEAR	0730.0	0731.0	III		1	30	42	
			LEAR	0742.0	0743.0	III		2	30	60	
			IZMI	0742.6	0743.8	III	G	1	50	75	
			POTS	0742.9	0743.7	III	G	2	40X	90U	
			IZMI	0750.7	0750.7	III	B	1	60	80	
	0529	1628	ONDR	0857.0	1404.0	I	N	2	100	200	
			IZMI	0933.9	1153.7	III	N	2	60	90	
			POTS	0937.9	0939.9	III	G	3	40X	250	
			LEAR	0938.0	0939.0	III		2	30	80	
			SVTO	0938.0	0940.0	III		3	35	85	
			IZMI	0938.5	0939.1	III	G	3	45	165X	
			POTS	1120.0	1120.4	III	G	2	40X	170U	
			POTS	1120.0	1120.4	V	G	2	40X	170U	
			IZMI	1120.1	1120.2	III	B	2	55	120	
			SGMR	1153.0	1153.0	III		1	30	70	

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05		SVTO	1153.0	1154.0	III		2	35	60	
		POTS	1153.6	1154.0	III	G	2	40X	150	
		SGMR	1249.0	1253.0	III		2	30	80	
		POTS	1249.6	1253.8	III	GG	3	40X	170U	
		SVTO	1252.0	1253.0	III		3	35	81	
		SGMR	1357.0	1357.0	III		1	30	55	
		SGMR	1422.0	1819.0	III	N	2	30	60	
		SVTO	1422.0	1422.0	III		1	35U	43U	
		SVTO	1444.0	1444.0	III		2	35	45	
		POTS	1444.6	1444.8	III	B	2	40X	70	
		POTS	1450.2	1450.7	III	G	2	110U	170U	
		POTS	1454.9	1456.0	III	G	2	110U	170U	
		SGMR	1855.0	1915.0	III	N	1	30	55	
		PALE	2014.0	2041.0	III	N	1	25	50	
		PALE	2150.0	2153.0	III		3	25	75	
		SGMR	2152.0	2153.0	III		2	30	80	
2015	2400	HIRA	2152.8	2153.3	III	B	3	25X	250	
2034	2400	CULG	2153.0	2153.0	III	B	3	18X	230	
		LEAR	2353.0	2356.0	III		2	30	80	
		PALE	2354.0	0115.0	III	N	1	25	75	
		CULG	2355.0	2357.0	III	G	2	18	160	
		HIRA	2355.1	2357.9	III	G	2	25X	500	
06		LEAR	0003.0	0004.0	III		1	30	45	
0000	0900	HIRA	0004.2	0006.0	III	G	1	25	200	
		HIRA	0034.1	0034.1	III	B	1	300	900	
		LEAR	0037.0	0828.0	III	N	2	30	80	
		HIRA	0038.0	0038.0	III	B	1	25X	60	
0000	0732	CULG	0038.0	0126.0	III	G	1	18	110	
		HIRA	0048.6	0048.6	III	B	1	25	80	
		HIRA	0049.9	0056.7	III	G	1	25	150	
		CULG	0337.0	0355.0	III	S	1	20	80	
		HIRA	0420.8	0432.7	III	G	3	25X	120	
		CULG	0421.0	0437.0	III	G	3	18	125	
		CULG	0427.0	0448.0	I	S	1	47	80	
		HIRA	0429.6	0448.4	I	S	1	55	200	
0531	1623	ONDR								
		LEAR	0546.0	0547.0	III		2	30	57	
0500	1200	IZMI	0546.5	1200.0D	I	N	1	80	120	
		IZMI	0549.0	0945.6	CONT		2	45	140X	
		IZMI	0549.0	0954.6	III	S	2	45	140X	
		LEAR	0556.0	0557.0	III		2	30	57	
		SVTO	0556.0	0556.0	III		2	41	57	
		HIRA	0556.9	0618.7	III	G	2	25X	200	
		CULG	0557.0	0636.0	III	S	2	90	170	
		LEAR	0602.0	0619.0	III	N	3	30	73	
		SVTO	0604.0	0604.0	III		2	35	51	
		SVTO	0608.0	0614.0	III		2	35	85	
		LEAR	0626.0	0659.0	III	N	2	30	57	
		CULG	0646.0	0654.0	III	G	2	18	170	
		SVTO	0647.0	0649.0	III		2	35	85	
		SVTO	0647.0	0835.0	III	N	2	35	85	
		HIRA	0648.6	0649.4	III	G	1	35	150	
		CULG	0659.0	0732.0D	III	S	3	24	90	
		HIRA	0659.3	0830	III	GG	1	30	160	
0700	1500	POTS	0700 E	1500 U	I	S	2	40X	400	
		IZMI	0708.6	0710.3	III	G	3	45	160X	
		IZMI	0708.6	0710.3	V		3	45	160X	
		POTS	1156.4	1158.5	III	GG	2	200	500	
		SGMR	1347.0	1347.0	III		1	30	40	
		SGMR	1406.0	1407.0	III		1	30	40	
		SGMR	1414.0	1415.0	III		2	30	80	
		SVTO	1414.0	1416.0	III		2	36U	59U	
		SGMR	1620.0	1622.0	III		1	30	60	
		SGMR	1731.0	1746.0	III	N	1	30	60	
		SGMR	1832.0	1832.0	III		1	30	70	
		SGMR	1906.0	1907.0	III		1	30	80	
		PALE	2006.0	0000.0	III		2	25	75	
		PALE	2010.0	2013.0	III		2	25	75	

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06		SGMR	2010.0	2013.0	III		2	30	80	
		PALE	2134.0	2135.0	III		2	25	75	
		SGMR	2134.0	2135.0	III		1	30	60	
2034	2400	CULG	2135.0	2135.0	III	B	1	18	180	
2015	2400	HIRA	2135.3	2135.3	III	B	1	25X	55	
		CULG	2345.0	2345.0	III	B	1	21	160	
		HIRA	2345.0	2349.4	III	G	1	25	400	
		LEAR	2347.0	2348.0	III		2	30	60	
		PALE	2347.0	2349.0	III		1	25	68	
		CULG	2348.0	2349.0	III	B	1	18	230	
07		LEAR	0200.0	0201.0	III		2	30	65	
		PALE	0200.0	0201.0	III		1	37	60	
0000	0732	CULG	0201.0	0202.0	III	B	1	18	170	
0000	0900	HIRA	0201.0	0201.0	III	B	1	25	180	
		LEAR	0257.0	0308.0	III	N	1	30	60	
0500	1200	IZMI	0526.0	1035.5	III	S	2	50	90	
0532	1623	ONDR								
		CULG	0557.0	0602.0	III	G	1	26	80	
		SVTO	0602.0	0602.0	III		1	46	61	
		CULG	0607.0	0617.0	III	G	1	24	75	
		IZMI	0633.7	0634.2	III	G	3	45X	180X	
		LEAR	0634.0	0643.0	III		3	30	80	
		SVTO	0634.0	0809.0	III	N	3	35	85	
		CULG	0635.0	0647.0	III	G	2	20	230	
		HIRA	0635.5	0635.5	III	B	2	25	170	
		IZMI	0640.8	0640.9	III	B	2	45	100X	
0700	1500	POTS	0700 E	1500 U	I	S	2	40X	200	
		CULG	0708.0	0726.0	III	G	2	31	90	
		LEAR	0709.0	0727.0	III	N	3	30	80	
		IZMI	0711.0	1200.0D	I	N	2	95	140	
		POTS	0718.0	0723.6	III	G	3	40X	90U	
		CULG	0721.0	0721.0	III	B	3	20	80	
		HIRA	0721.0	0721.5	III	B	3	25	80	
		IZMI	0721.2	0721.8	III	G	2	45	90X	
		POTS	0741.0	0741.8	III	G	2	110U	300	
		POTS	0808.5	0810.0	III	GG	3	40X	400	
		LEAR	0809.0	0810.0	III		2	30	80	
		IZMI	0809.2	0809.5	III	G	3	115X	180X	
		POTS	0809.3	0809.7	V		3	40X	60	
		HIRA	0809.6	0809.6	III	B	2	25	280	
		POTS	0825.8	0827.7	III	G,RS	2	110U	400	
		LEAR	0853.0	0857.0	III		2	30	80	
		SVTO	0853.0	0857.0	III		2	36	80	
		POTS	0853.1	0858.5	III	GG,RS	2	40X	400	
		IZMI	0853.3	0857.1	III	GG	3	45X	180X	
		SVTO	0907.0	0956.0	III	N	2	35	60	
		POTS	1106.7	1115.0	III	GG	2	40X	400	
		IZMI	1108.0	1112.2	III	G	2	50	160	
		POTS	1129.2	1130.6	III	GG	2	40X	375	
		SGMR	1405.0	1408.0	III		1	30	55	
		POTS	1432.7	1437.0	III	GG,RS	3	40X	500	
		SGMR	1434.0	1437.0	V		2	30	80	
		SVTO	1435.0	1436.0	V		3	35	85	
		POTS	1435.2	1436.2	V		2	40X	55	
		SGMR	1459.0	1504.0	III		1	30	60	
		SGMR	1622.0	1622.0	III		2	30	65	
		SGMR	1643.0	1645.0	V		2	30	63	
		CULG	2052.0	2055.0	II	FN	2	58	90	ESS 470
2034	2400	CULG	2052.0	2055.0	II	SH	2	100	170	ESS 400
2015	2400	HIRA	2052.8	2058.1	II	B	2	60	200	
		CULG	2056.0	2104.0	II	FN	1	28	60	ESS 300
		CULG	2056.0	2104.0	II	SH	2	58	110	ESS 200
		PALE	2101.0	2102.0	III		1	25	45	
08	0000 0732	CULG	0249.0	0250.0	III	B	1	18	50	
	0000 0900	HIRA	0252.3	0258.4	III	G	1	25	150	
		CULG	0257.0	0258.0	III	G	1	18	140	
		LEAR	0257.0	0258.0	III		2	30	57	

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08		PALE	0257.0	0258.0	III		1	25	57	
		CULG	0316.0	0319.0	III	G	1	18	140	
		LEAR	0316.0	0319.0	III		3	30	55	
		PALE	0316.0	0318.0	III		2	25	65	
		HIRA	0316.7	0318.6	III	G	1	25X	200	
		CULG	0318.0	0319.0	III	B	2	18	140	
		CULG	0343.0	0344.0	III	B	2	18	70	
		LEAR	0343.0	0343.0	III		2	30	53	
		HIRA	0343.6	0343.6	III	B	2	25X	70	
		LEAR	0518.0	0520.0	III		2	30	41	
		CULG	0519.0	0522.0	III	G	1	20	80	
	0534 1622	ONDR								
		CULG	0558.0	0558.0	III	B	1	30	75	
		IZMI	0558.3	1200.0	III	N	2	50	120	
		HIRA	0606.9	0606.9	III	B	1	25	70	
		CULG	0610.0	0611.0	III	B	1	18	90	
		LEAR	0610.0	0610.0	III		2	30	61	
		SVTO	0610.0	0611.0	III		1	35	58	
		LEAR	0629.0	0629.0	III		1	30	55	
		SVTO	0629.0	0629.0	III		1	45	53	
		CULG	0630.0	0630.0	III	B	1	20	85	
	0700 1500	POTS	0700 E	1500 U	I	S	2	120	400	
		POTS	1014.6	1017.6	III	G	2	40X	300	
		POTS	1328.8	1329.6	III	G	2	40X	170U	
	2015 2400	HIRA								
	2034 2400	CULG								
09	0000 0731	CULG	0046.0	0046.0	III	B	1	60	160	
	0000 0900	HIRA	0046.4	0046.4	III	B	1	70	200	
	0500 1200	IZMI	0606.5	0606.8	III	G	2	95	165	
	0700 1500	POTS	0700 E	1500 U	I	S	2	120	375	
		LEAR	0741.0	0741.0	III		2	30	55	
		SVTO	0741.0	0741.0	III		2	35	85	
		POTS	0741.1	0742.4	III	GG,RS	2	40X	400	
		HIRA	0741.2	0741.3	III	B	1	30	160	
		IZMI	0741.3	0741.6	III	G	2	45	140	
		SVTO	1016.0	1017.0	III		2	37	75	
		POTS	1016.2	1017.8	III	GG	3	40X	300	
		IZMI	1016.3	1017.3	III	GG	3	45	175X	
		POTS	1257.2	1257.8	III	G	1	110U	170U	
		POTS	1343.0	1345.3	III	GG,RS	3	60	400	
	0535 1625	ONDR	1343.2	1344.5	III	GG	3	200	300	
		ONDR	1344.0	1344.2	III	G	3	200	400	
		SVTO	1344.0	1344.0	III		2	38	85	
		POTS	1344.2	1344.6	V		3	60	70	
		SGMR	1409.0	1410.0	III		1	30	75	
		POTS	1409.7	1410.1	III	G	2	40X	170U	
		SVTO	1410.0	1410.0	III		1	35	62	
		SGMR	1545.0	1546.0	III		1	30	40	
		PALE	1658.0	1659.0	III		1	25	65	
		SGMR	1814.0	1816.0	V		2	30	80	
		PALE	1815.0	1816.0	III		2	25	75	
		SGMR	2000.0	2000.0	III		1	30	70	
		PALE	2120.0	2203.0	III	N	2	25	75	
	2034 2400	CULG	2120.0	2120.0	III	B	1	18	140	
	2015 2400	HIRA	2120.2	2120.2	III	B	1	25	140	
		CULG	2130.0	2131.0	III	G	2	18	170	
		SGMR	2130.0	2202.0	III	N	2	30	80	
		HIRA	2130.4	2131.0	III	DP	2	25X	200	
		CULG	2135.0	2136.0	III	G	1	20	160	
		HIRA	2136.3	2136.3	III	DP	1	25	150	
		CULG	2143.0	2145.0	III	G	2	18	170	
		HIRA	2143.7	2145.3	III	G	2	25X	360	
		HIRA	2150.9	2150.9	III	B	1	25	270	
		CULG	2151.0	2151.0	III	B	1	25	140	
		CULG	2202.0	2203.0	III	G	2	18	450	
		HIRA	2202.4	2202.4	III	G	2	25	450	
10		PALE	0052.0	0052.0	V		2	25	75	

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Day	OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	EVENT Spectral Class	EVENT Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
10			LEAR	0053.0	0053.0	III		3	30	80	
	0000	0731	CULG	0053.0	0053.0	III	B	2	18	140	
	0000	0855	HIRA	0053.3	0053.3	III	B	2	25X	110	
			CULG	0119.0	0120.0	III	B	1	18	65	
			LEAR	0119.0	0120.0	III		1	30	61	
			PALE	0119.0	0120.0	III		2	25	75	
			HIRA	0119.6	0119.6	III	B	1	25	50	
			LEAR	0142.0	0143.0	III		1	30	50	
			CULG	0143.0	0149.0	III	G	1	20	70	
			HIRA	0143.5	0143.6	III	B	1	25	120	
			CULG	0211.0	0211.0	III	B	1	120	170	
			HIRA	0211.3	0211.3	III	B	1	120	170	
			CULG	0356.0	0357.0	III	G	1	30	170	
			LEAR	0356.0	0412.0	III	N	3	30	80	
			HIRA	0356.9	0357.2	III	G	1	30	170	
			CULG	0409.0	0411.0	III	G	2	18	160	
			HIRA	0409.4	0411.1	III	G	2	25X	270	
			CULG	0450.0	0454.0	III	G	1	18	90	
			LEAR	0450.0	0453.0	III		2	30	65	
			HIRA	0450.6	0453.0	III	G	1	25	80	
			CULG	0519.0	0520.0	III	B	1	20	70	
			LEAR	0519.0	0519.0	III		1	30	58	
			HIRA	0519.7	0519.7	III	B	1	25	60	
			LEAR	0539.0	0607.0	III	N	2	30	80	
			IZMI	0539.7	0549.3	V		3	45X	180X	
	0500	1200	IZMI	0539.7	0549.3	III	GG	3	45X	180X	
			CULG	0540.0	0546.0	III	G	2	25	180	
			SVTO	0540.0	0546.0	III		2	35	85	
			HIRA	0540.2	0546.3	III	G	2	25	230	
			IZMI	0549.6	1025.0	I	N	2	95	120	
			IZMI	0557.5	0557.7	III	G	1	60	80	
			IZMI	0605.9	0607.7	III	GG	2	45	120X	
			CULG	0606.0	0607.0	III	G	2	18	90	
			SVTO	0606.0	0607.0	III		2	35	85	
			HIRA	0606.9	0607.2	III	G	2	25	140	
			IZMI	0858.7	0919.9	III	GG	2	45	165X	
			SVTO	0900.0	0910.0	III		2	35	64	
			LEAR	0910.0	0910.0	III		2	30	67	
			IZMI	1025.0	1028.8	III	GG,Y	3	45	180X	
			IZMI	1025.0	1028.8	V		3	45	180X	
			SGMR	1026.0	1028.0	V		/	30	70	
			SVTO	1026.0	1029.0	III		3	35	85	
	0537	1618	ONDR	1026.6	1028.3	III	GG	3	200	500	
			IZMI	1046.6	1046.8	III	G	2	95	145	
			SGMR	1517.0	1517.0	III		1	30	60	
			SGMR	2011.0	2011.0	III		1	45	60	
	2015	2400	HIRA								
	2034	2400	CULG								
11	0000	0731	CULG	0437.0	0439.0	III	G	1	20	60	
	0000	0855	HIRA	0437.5	0439.9	III	G	1	25	60	
			LEAR	0438.0	0438.0	III		1	30	55	
			CULG	0443.0	0444.0	II	FN	1	23	30	
			CULG	0443.0	0455.0	II	SH	1	23	80	ESS 700, FLA
			LEAR	0443.0	0658.0	III	N	1	30	65	
			HIRA	0443.6	0453.3	II	B	1	25	80	
			CULG	0446.0	0508.0	I	S	1	130	170	
			CULG	0501.0	0615.0	III	S	1	20	120	
	0500	1200	IZMI	0508.0E	0849.4	I	S	1	95	160	
			CULG	0530.0	0533.0	II	SH	1	55	85	ESS 800, FLA
			CULG	0530.0	0535.0	II	FN	1	25	40	
			CULG	0634.0	0638.0	III	G	1	30	60	
	0538	1613	ONDR	0709.0	1002.0	I	N	3	100	300	
			SVTO	0730.0	0929.0	III	N	1	61	85	
			SGMR	1853.0	1854.0	III		1	30	45	
	2015	2400	HIRA								
	2034	2400	CULG	2146.0	2146.0	III	B	1	70	180	
12	0000	0731	CULG	0049.0	0049.0	III	B	1	50	150	

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Day	OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	EVENT Spectral Class	EVENT Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
12	0000	0855	HIRA	0049.4	0049.4	III	B	1	80	150	
			CULG	0105.0	0105.0	III	B	1	50	150	
			HIRA	0105.0	0105.0	III	B	1	50	170	
			LEAR	0457.0	0458.0	III		1	35	78	
	0500	1200	IZMI	0457.2	0458.1	III	G	3	90X	180X	
			HIRA	0457.5	0457.6	III	B	2	50	210	
			CULG	0458.0	0458.0	III	B	2	45	180	
			IZMI	0500.2	0500.3	III	B	1	60	140	
	0541	1611	ONDR								
	0700	1500	POTS	0700 E	1430	I	S	1	250	375	
			LEAR	0720.0	0721.0	III		1	50	80	
			SVTO	0720.0	0721.0	III		2	43U	85U	
			POTS	0720.6	0721.1	III	G	2	40X	170U	
			IZMI	0720.7	0721.0	III	G	2	50	130	
			HIRA	0720.8	0720.8	III	B	1	40	130	
			CULG	0721.0	0721.0	III	B	2	30	130	
			POTS	0852.3	0852.6	III	B	1	40X	70	
			POTS	0927.5	0927.8	III	G	2	50	170U	
			IZMI	0927.7	0927.8	III	G	1	55	120	
			POTS	1104.3	1106.5	III	GG	2	50	170U	
			IZMI	1104.7	1106.1	III	GG	2	55	120	
			POTS	1216.4	1219.5	III	GG	2	50	300	
			SGMR	1218.0	1219.0	III		2	30	80	
			SVTO	1218.0	1219.0	III		2	35	77	
			POTS	1233.6	1233.9	III	G	1	50	160	
			POTS	1345.4	1345.6	III	G	2	40X	170U	
			SGMR	2006.0	2006.0	III		1	55U	75U	
	2020	2400	HIRA								
	2034	2400	CULG								
13	0000	0730	CULG								
	0000	0855	HIRA								
	0500	1200	IZMI								
	0541	1611	ONDR								
	0718	1500	POTS	0830	1500 U	I	S	1	130	400	
	2034	2400	CULG	2226.0	2227.0	III	G	2	30	90	
	2020	2400	HIRA	2226.3	2227.6	III	G	2	30	100	
			CULG	2246.0	2246.0	III	B	1	55	75	
			CULG	2307.0	2307.0	III	B	1	55	90	
			HIRA	2307.5	2307.5	III	B	1	60	90	
14	0000	0855	HIRA	0100	0855	I	S	1	60	180	
	0000	0730	CULG	0405.0	0625.0D	I	S	1	60	160	
	0500	1200	IZMI	0500.0E	0718.5	I	S	2	60	150	
	0542	1608	ONDR								
			CULG	0625.0E	0730.0D	I	S	1	130	160	
	0700	1500	POTS	0700 E	1500 U	I	S	2	110U	170U	
			POTS	0858.6	0858.7	UNCLF		1	250	325	
	2020	2400	HIRA								
	2034	2400	CULG								
15	0000	0730	CULG								
	0000	0855	HIRA								
	0500	1200	IZMI								
	0544	1606	ONDR								
	0700	1500	POTS								
			CULG	2354.0	2400.0D	II	SH	1	30	60	ESS 600
	2034	2400	CULG	2354.0	2356.0	II	FN	1	25	29	
	2020	2400	HIRA	2354.5	0026.6	II	B	1	25	60	
16	0000	0825	HIRA								
			CULG	0000.0	0001.0	III	G	1	20	35	
	0000	0729	CULG	0000.0E	0002.0	II	SH	1	30	42	
			CULG	0004.0	0009.0	II	FN	1	20	29	
			CULG	0004.0	0015.0	II	SH	1	22	62	ESS 600
			CULG	0015.0	0027.0	UNCLF		1	18X	50	
	0500	1200	IZMI								
	0545	1604	ONDR								
	0700	1500	POTS	0724.5	0724.8	III	G	1	110U	170U	

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Day	OBSERVATION Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
16	2020	2400	HIRA								
	2034	2400	CULG								
17	0000	0729	CULG								
	0000	0845	HIRA								
	0500	1200	IZMI								
	0547	1601	ONDR								
	2025	2400	HIRA								
	2029	2400	CULG								
			PALE	2048.0	2048.0	III		2	25	60	
18	0000	0728	CULG								
	0000	0845	HIRA								
	0500	1200	IZMI								
	0548	1549	ONDR								
	2025	2400	HIRA								
	2029	2400	CULG								
19	0000	0728	CULG								
	0000	0845	HIRA								
	0500	1200	IZMI								
	0549	1559	ONDR								
	0700	1500	POTS								
	2025	2400	HIRA								
	2029	2400	CULG								
20	0000	0728	CULG								
	0000	0835	HIRA								
	0500	1200	IZMI								
	0552	1555	ONDR								
	0700	1500	POTS	1129.4	1130.9	III	GG,RS	1	110U	170U	
			POTS	1225.8	1226.0	UNCLF		1	40X	70	
			POTS	1434.0	1434.2	III	B	1	40X	170U	
	2025	2400	HIRA								
	2030	2400	CULG								
21	0000	0728	CULG								
	0000	0835	HIRA								
	0500	1200	IZMI								
	0553	1552	ONDR								
	0700	1308	POTS								
			SVTO	1351.0	1352.0	III		2	35U	59U	
			PALE	1819.0	1819.0	III		1	25	58	
	2030	2400	CULG								
	2030	2400	HIRA								
22	0000	0727	CULG								
	0000	0835	HIRA								
	0500	1200	IZMI								
	0555	1550	ONDR								
	0700	1500	POTS								
			SGMR	1707.0	1718.0	III	N	1	30	60	
	2030	2400	CULG								
	2030	2400	HIRA								
23	0000	0727	CULG								
	0000	0835	HIRA								
	0500	1200	IZMI								
			SVTO	0600.0	0601.0	III		3	36	85	
	0604	1546	ONDR								
	0700	1500	POTS	1339.1	1339.2	UNCLF		1	50	110U	
			PALE	1745.0	0000.0	III		3	25	75	
	2030	2400	HIRA								
	2045	2400	CULG								
24	0558	1545	ONDR								
	0500	1200	IZMI	0606.9	0607.1	III	B	2	45U	90X	
			LEAR	0607.0	0607.0	III		2	30	80	
			SVTO	0607.0	0607.0	III		2	35	60	

SOLAR RADIO EMISSION
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Day	OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	EVENT Spectral Class	EVENT Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
24	0000	0742	CULG	0607.0	0607.0	V	B	2	18	90	
	0000	0835	HIRA	0607.3	0607.5	III	B	1	25	80	
			LEAR	0630.0	0631.0	III		1	30	50	
			CULG	0631.0	0631.0	III	B	1	28	40	
	2030	2400	CULG								
	2030	2400	HIRA								
25	0000	0745	CULG								
	0000	0835	HIRA								
	0559	1542	ONDR								
	0600	1200	IZMI								
			PALE	1924.0	1926.0	III		1	25	57	
			SGMR	1924.0	1926.0	III		2	30	80	
	2030	2400	CULG	2214.0	2214.0	III	B	1	20	60	
	2030	2400	HIRA	2214.4	2214.4	III	B	1	25	60	
26			LEAR	0011.0	0014.0	III		2	30	80	
	0000	0745	CULG	0012.0	0012.0	III	B	1	20	70	
	0000	0835	HIRA	0012.2	0012.2	III	B	1	25	70	
			CULG	0014.0	0015.0	III	G	1	20	150	
			HIRA	0014.5	0014.6	III	B	1	25	200	
			CULG	0137.0	0137.0	III	B	1	18X	60	
			LEAR	0137.0	0137.0	III		1	30	40	
	0601	1540	ONDR								
			SVTO	0954.0	0954.0	III		2	37	69	
	0700	1500	POTS	0954.0	0954.9	III	G	2	40X	400	
	0600	1200	IZMI	0954.5	0954.6	III	B	2	45	120X	
	2030	2400	CULG								
	2035	2400	HIRA								
27	0000	0745	CULG								
	0000	0835	HIRA								
	0600	1200	IZMI								
	0603	1538	ONDR								
	0700	1500	POTS	1425.6	1425.7	III	B	1	110U	170U	
	2030	2400	CULG								
	2030	2400	HIRA								
28	0000	0745	CULG								
	0000	0835	HIRA								
	0600	1200	IZMI								
	0604	1537	ONDR								
	0700	1500	POTS								
	2030	2400	CULG								
	2030	2400	HIRA								
			PALE	2058.0	2059.0	III		1	25	48	
29	0000	0745	CULG								
	0000	0835	HIRA								
	0600	1200	IZMI								
	0606	1535	ONDR								
	0700	1500	POTS	1203.4	1204.1	III	G	1	40X	350	
			POTS	1258.1	1258.3	III	G	2	40X	300	
			PALE	1945.0	1945.0	III		1	25	65	
			SGMR	1945.0	1945.0	III		1	30	55	
	2030	2400	HIRA								
	2038	2400	CULG								
30			LEAR	0322.0	0326.0	III		1	30	55	
	0000	0747	CULG	0322.0	0328.0	III	G	1	18	85	
	0000	0835	HIRA	0323.0	0329.0	III	G	1	25	200	
	0600	1200	IZMI								
			CULG	0603.0	0604.0	III	B	2	18	170	
			LEAR	0603.0	0608.0	III		3	30	80	
			SVTO	0603.0	0607.0	III		2	35	85	
			HIRA	0603.7	0604.6	III	B	2	25	200	
	0607	1543	ONDR								
			HIRA	0607.8	0608.4	III	G	2	25	200	
			CULG	0608.0	0609.0	III	G	2	18	170	

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OBSERVATION Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
30		HIRA	0619.8	0620.8	III	G	1	25	200	
		CULG	0620.0	0621.0	III	G	1	18	140	
		LEAR	0620.0	0621.0	III		1	30	70	
0700	1500	POTS	0933.0	0933.3	III	G	1	40X	170U	
		POTS	1008.4	1011.2	III	G	1	40X	170U	
		POTS	1107.6	1107.8	UNCLF		1	50	65	
		POTS	1244.1	1244.2	III	B	1	110U	170U	
		SGMR	1338.0	1341.0	V		2	30	80	
		SVTO	1338.0	1341.0	III		2	35	75	
		POTS	1338.2	1345.0	III	GG,C	2	40X	325	
		SGMR	1505.0	1554.0	III	N	1	30	55	
		PALE	2156.0	2156.0	III		1	25	55	
2035	2400	HIRA	2156.9	2158.7	III	G	1	25	210	
2038	2400	CULG	2157.0	2159.0	III	G	1	18	85	
		PALE	2216.0	2216.0	III		1	25	45	
		HIRA	2216.9	2216.9	III	B	1	25	100	
		CULG	2217.0	2217.0	III	G	1	18	85	

Event Remarks:

B = Single burst
C = Underlyling 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

September 1994

DAY	HELIOGRAPHIC POSITIONS MEAN VALUES* E-W	S-N	IMP**	OBSERVING TIME*** START (UT)	END (UT)
01/09/94	-1.14	+0.12	1	0751 E	1441 D
02/09/94	-0.94	-0.10	1	0815 E	1548 D
02/09/94	-0.89	-0.54	1	0815 E	1548 D
03/09/94	-0.97	-0.64	1	0800 E	1548 D
03/09/94	-0.06	-0.40	1	0800 E	1548 D
04/09/94	-0.84	-0.73	1	1030	1130
04/09/94	-0.16	-0.16	1	0753 E	1547 D
04/09/94	+0.08	-0.28	1	0753 E	1130
04/09/94	+0.32	-0.34	1	0753 E	1330
05/09/94	+0.36	-0.16	3	0747 E	1155
05/09/94	+0.36	-0.16	1	1300	1548 D
05/09/94	+0.45	-0.16	3	0747 E	1155
05/09/94	+0.13	-0.56	1	1130	1548 D
06/09/94	-0.47	-0.06	1	0803 E	1251 D
06/09/94	+0.46	-0.14	2	0803 E	1251 D
06/09/94	+0.42	-0.23	1	0803 E	1251 D
07/09/94	-0.36	+0.05	1	1230	1547 D
07/09/94	+0.65	-0.52	1	0751 E	1547 D
08/09/94	+0.99	+0.03	1	0824 E	1548 D
09/09/94	+1.10	-0.02	1	0751 E	1547 D
09/09/94	+1.10	-0.51	1	0751 E	1547 D
10/09/94	+1.50	-0.45	1	0930	1130
10/09/94	+1.08	-0.99	1	1230	1547 D
11/09/94	+1.35	+0.14	1	0751 E	1055
14/09/94	+1.38	-0.36	1	0751 E	0859

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

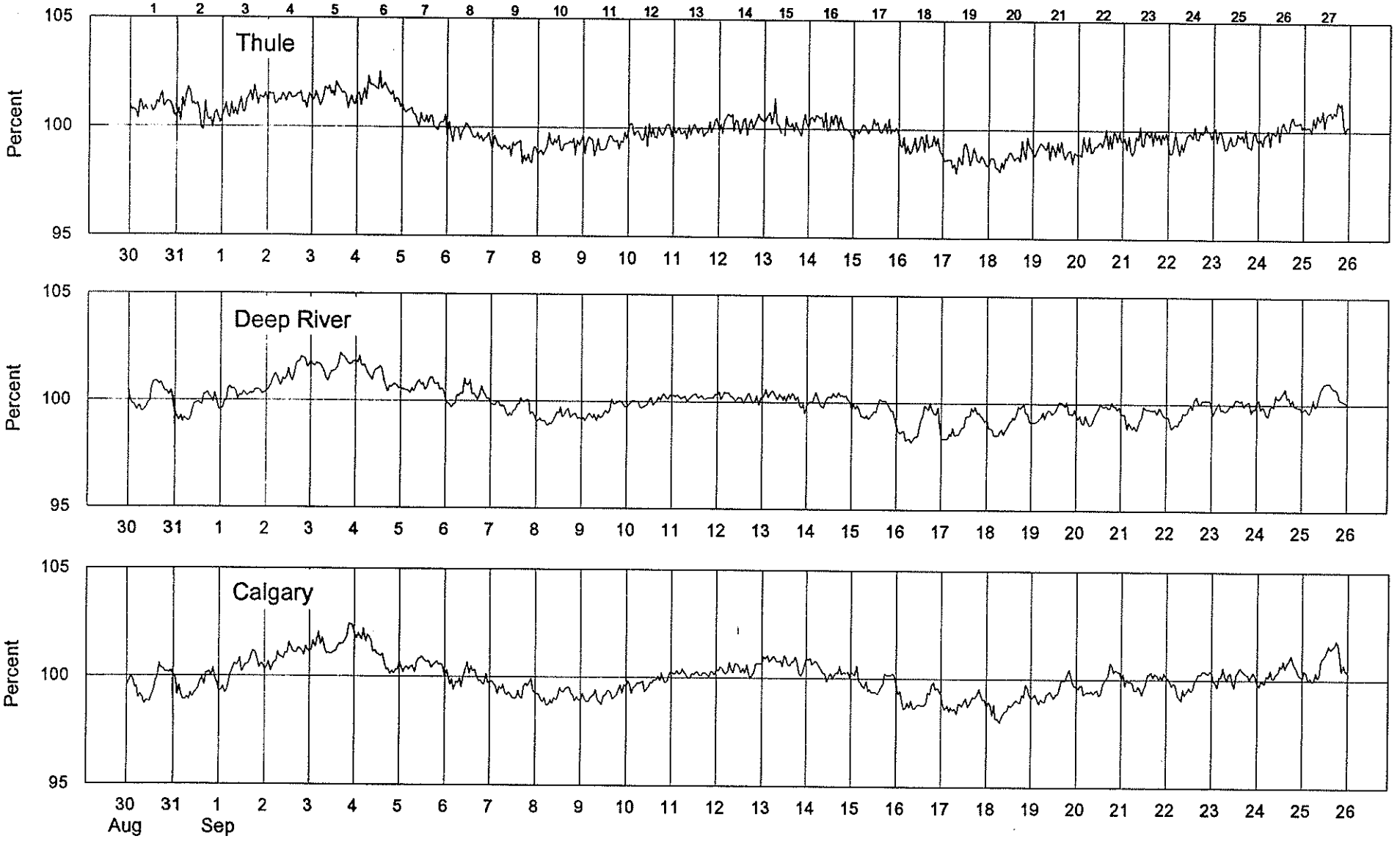
*** E NOISE STORM IN PROGRESS AT THE BEGINNING OF THE NANCAY OBSERVATIONS
D NOISE STORM IN PROGRESS AT THE END OF THE NANCAY OBSERVATIONS

COSMIC RAY INDICES
(Neutron Monitor)
SEPTEMBER 1994

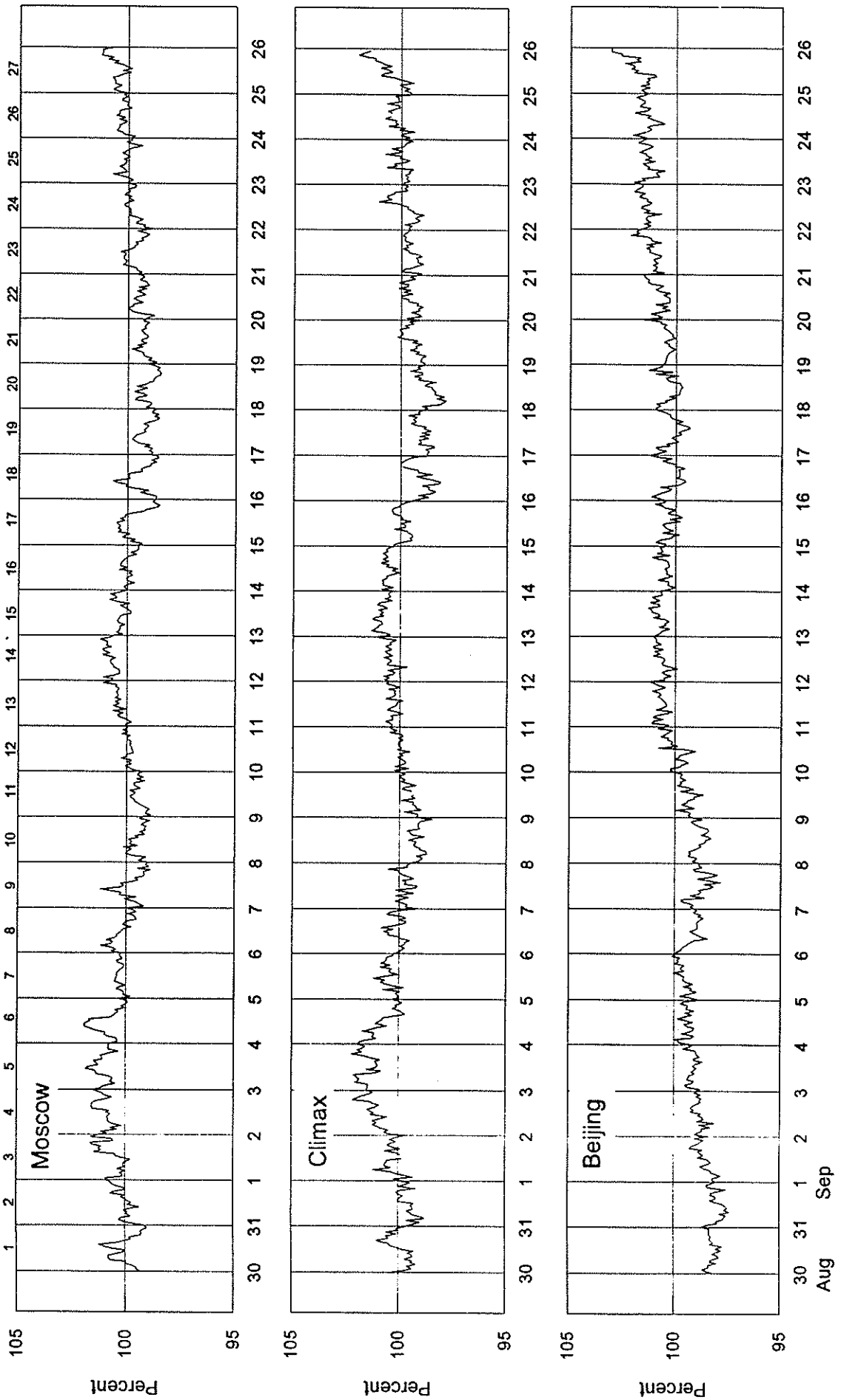
Day	THULE Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	CALGARY Average (cts/h)/300	MOSCOW Average (cts/h)/64	CLIMAX Average (cts/h)/100	BEIJING Average (cts/h)/256	TOKYO Average (cts/h)/256	HALEAKALA Average (cts/h)/1000
1	4534	7111.3	3885.5	9141.4	4120.5	1901.6	3525.6	3535.2
2	4547	7179.2	3911.0	9174.0	4154.1	1906.8	3542.5	3547.2
3	4552	7206.4	3933.8	9183.1	4171.3	1912.7	3558.2	3551.8
4	4561	7176.9	3918.5	9160.7	4141.3	1918.7	3550.4	3551.8
5	4507	7139.8	3896.2	9110.8	4128.0	1921.1	3547.5	3556.8
6	4474	7111.7	3873.0	9106.5	4112.8	1913.0	3524.0	3549.7
7	4442	7072.7	3851.5	9062.0	4099.0	1906.9	3507.1	3531.7
8	4451	7038.8	3839.8	9039.3	4073.9	1907.6	3511.5	3522.0
9	4455	7058.7	3841.3	9034.9	4089.4	1919.0	3508.6	3522.0
10	4479	7092.1	3864.8	9076.2	4108.8	1930.5	3515.7	3527.5
11	4485	7107.7	3881.3	9118.9	4122.8	1943.0	3526.1	3539.5
12	4499	7107.2	3889.8	9156.8	4129.1	1942.7	3528.8	3541.5
13	4500(23)	7107.1	3902.8	9115.5	4144.7	1945.3	3536.7	3539.5
14	4500	7104.0	3889.3	9081.3	4134.2	1939.5	3533.7	3528.2
15	4489	7069.3	3868.2	9065.7	4106.4	1936.9	3527.2	3526.9
16	4456	7020.6	3838.8	9029.2	4070.8	1934.0	3516.4	3517.9
17	4428	7019.8	3832.0	9006.8	4068.0	1933.5	3515.9	3528.3
18	4431	7029.4	3827.5	8997.1	4056.2	1936.8	3514.9	3510.5
19	4445	7062.2	3853.8	9017.4	4086.4	1937.8	3523.3	3510.6
20	4460	7061.8	3866.7	9034.9	4090.5	1946.0	3523.5	3521.1
21	4469	7050.9	3872.0	9063.2	4090.9	1953.2	3527.3	3523.8
22	4470	7068.2	3868.0	9066.7	4102.5	1958.8	3528.5	3533.5
23	4471	7085.6	3881.3	9093.1	4107.0	1956.7	3530.8	3542.4
24	4489	7097.0	3888.5	9106.8	4117.3	1958.2	3531.9	3545.0
25	4513	7115.7	3904.2	9137.6	4132.8	1965.5	3538.2	3545.6
26	4504	7127.3	3900.8(16)	9161.0	4156.4	1973.3	3542.0	3559.2
27	4527	7170.5	3933.8	9210.4	4186.0	1981.4	3551.7	3567.2
28	4529	7198.4	3934.3	9221.2	4180.8	1982.3	3550.1	3567.8
29	4548	7225.1	3951.0	9255.6	4192.6	1985.1	3555.5	3566.2
30	4554	7237.9	3962.7	9266.2	4212.5	1985.2	3555.6	3573.3
Mean	4492	7108.4	3885.4	9109.8	4122.9	1941.1	3531.6	3539.5

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.

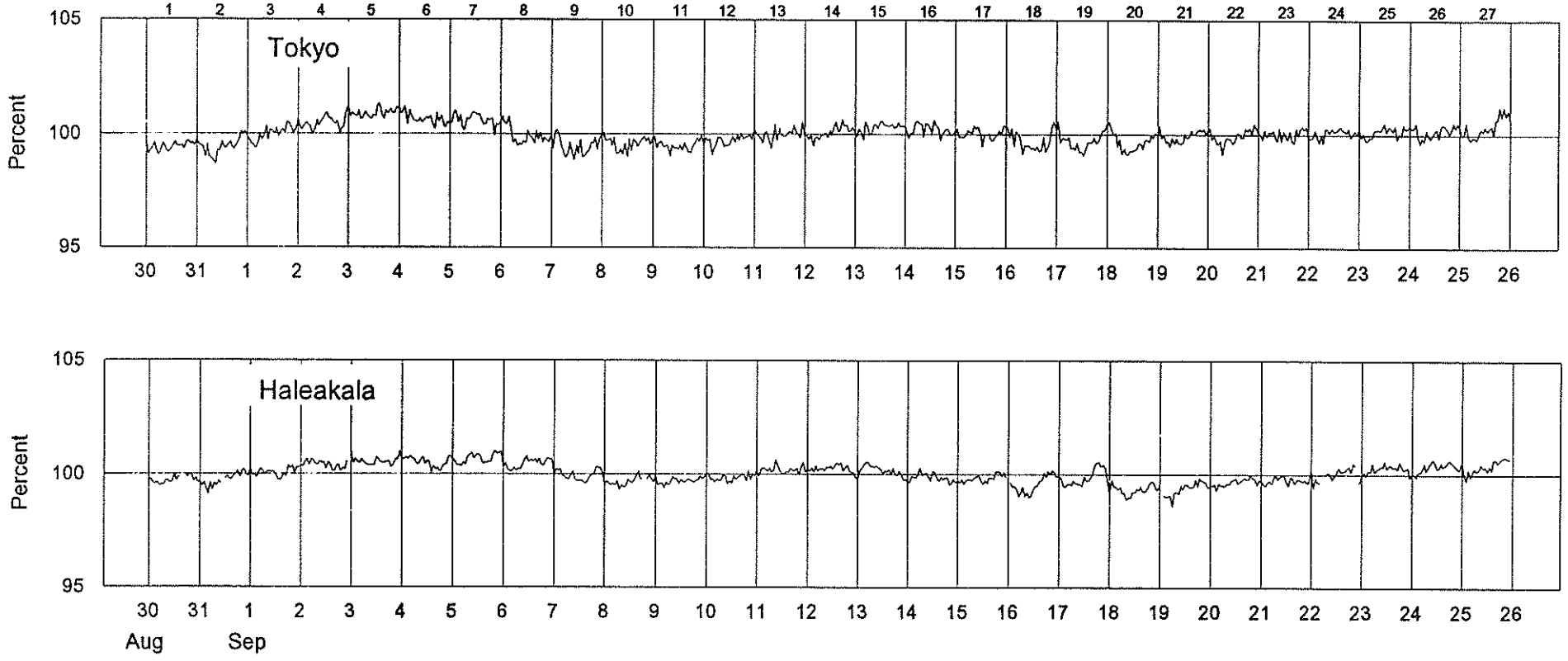
COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2200 - Beginning 30 Aug 94



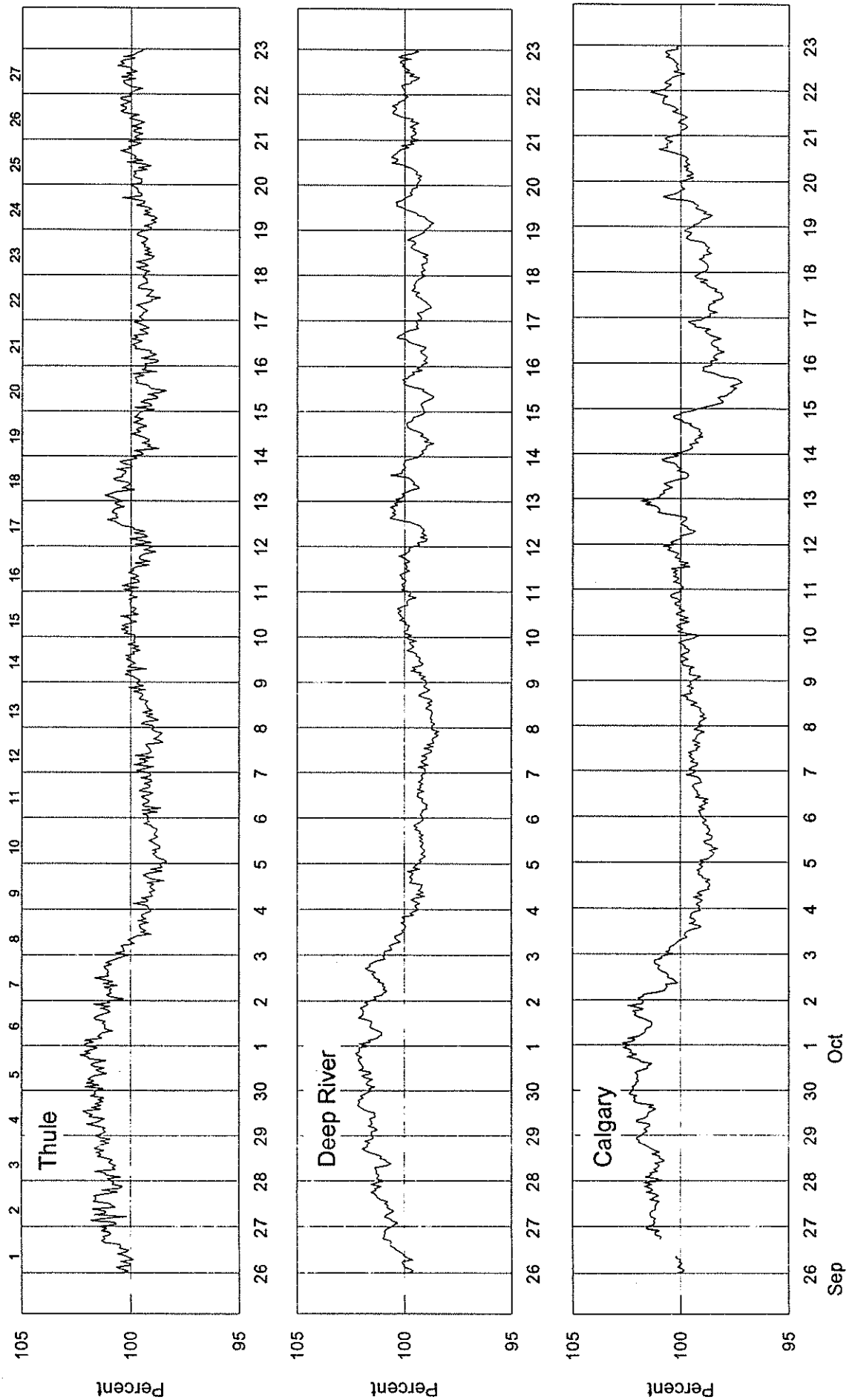
COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2200 - Beginning 30 Aug 94



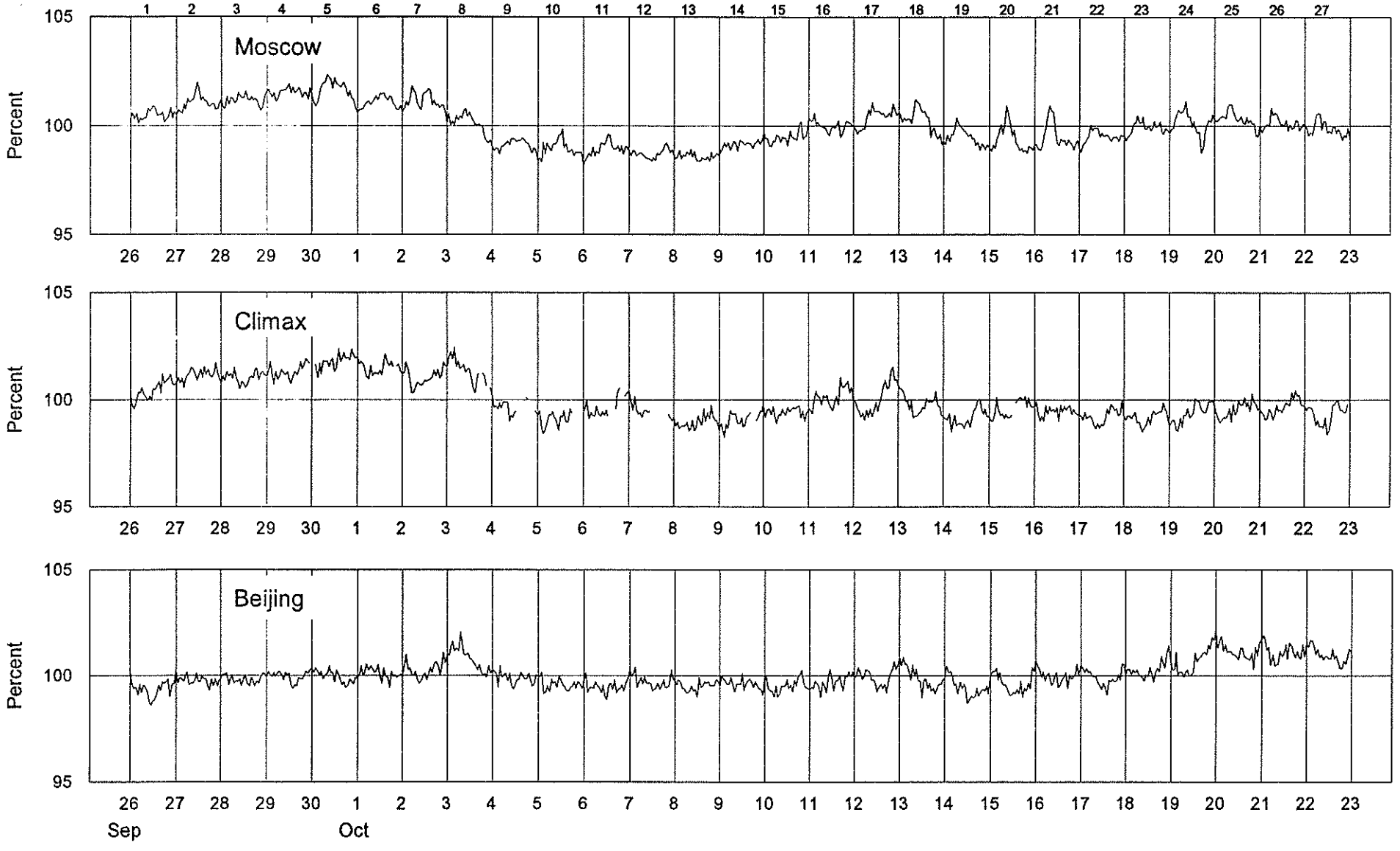
COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2200 - Beginning 30 Aug 94



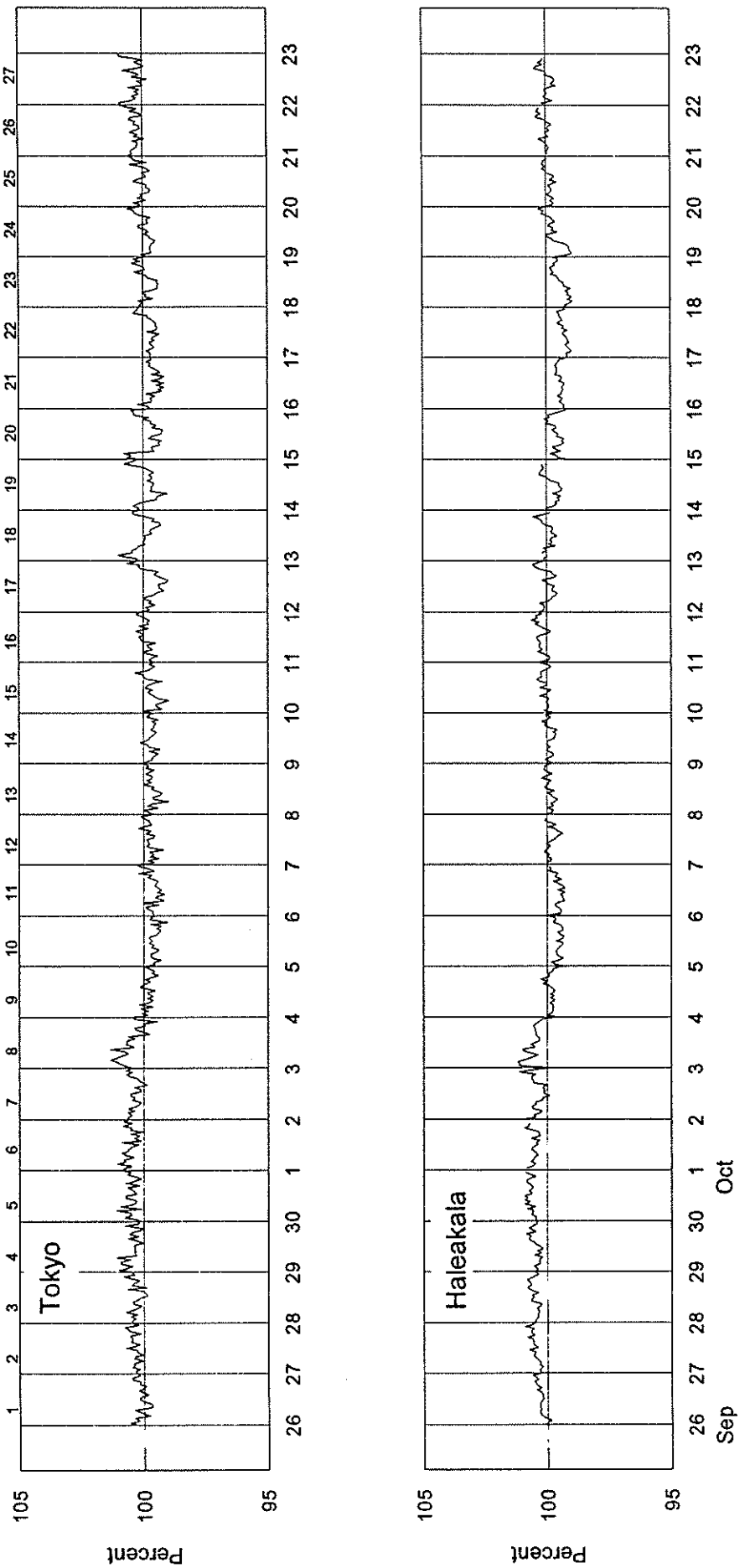
COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2201 - Beginning 26 Sep 94



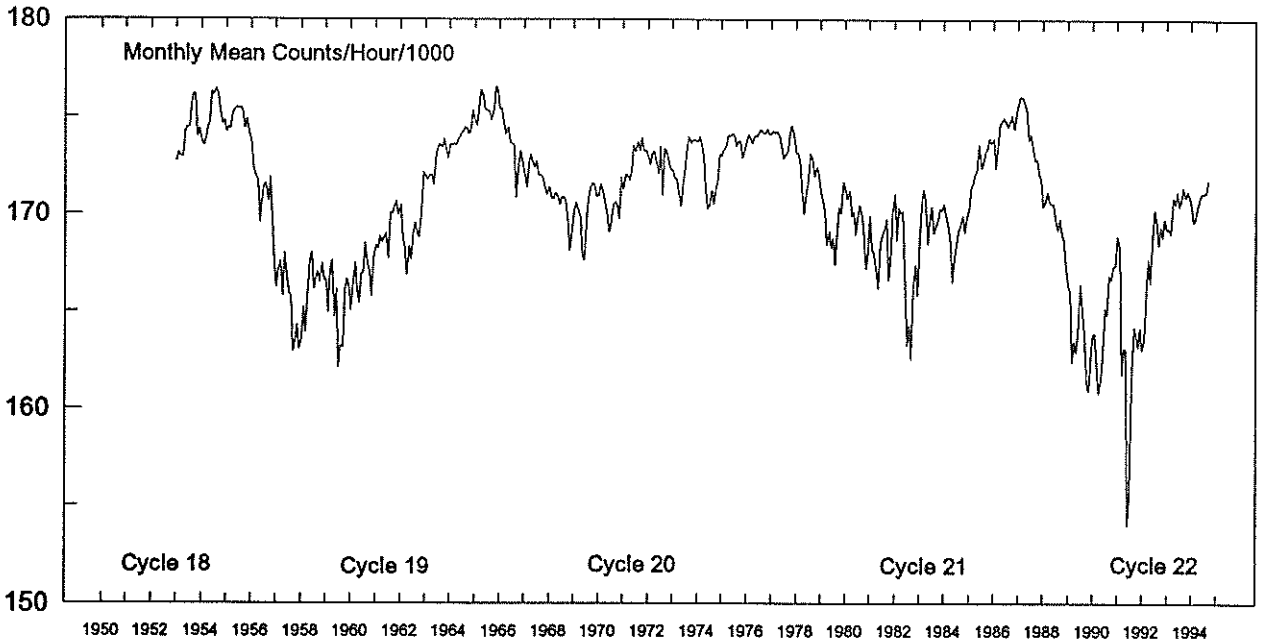
COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2201 - Beginning 26 Sep 94



COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2201 - Beginning 26 Sep 94



Huancayo* Neutron Monitor Pressure-Corrected/Adjusted Values
Jan 1953 - Sep 1994



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1953	1727	1732	1730	1729	1742	1744	1744	1756	1762	1761	1740	1744	1743
1954	1737	1735	1738	1744	1747	1763	1761	1764	1762	1754	1746	1748	1750
1955	1742	1744	1744	1751	1754	1755	1754	1755	1753	1744	1749	1741	1749
1956	1738	1724	1719	1718	1696	1707	1715	1716	1706	1719	1697	1675	1711
1957	1663	1671	1675	1658	1680	1670	1659	1658	1630	1633	1643	1630	1656
1958	1635	1652	1639	1657	1677	1680	1661	1667	1670	1665	1675	1666	1662
1959	1666	1649	1671	1676	1647	1661	1621	1632	1632	1661	1666	1663	1654
1960	1650	1663	1675	1660	1654	1669	1669	1685	1674	1670	1657	1677	1667
1961	1684	1682	1688	1685	1688	1690	1677	1701	1700	1704	1706	1699	1692
1962	1704	1687	1683	1668	1683	1677	1690	1695	1690	1688	1703	1721	1691
1963	1720	1718	1720	1720	1715	1729	1734	1736	1734	1739	1732	1729	1727
1964	1735	1736	1736	1736	1739	1741	1742	1744	1744	1741	1743	1753	1741
1965	1748	1745	1756	1764	1762	1754	1753	1753	1748	1754	1765	1764	1755
1966	1754	1754	1747	1741	1744	1737	1736	1736	1708	1725	1732	1727	1737
1967	1721	1714	1726	1731	1727	1724	1727	1720	1720	1718	1713	1710	1721
1968	1714	1708	1708	1710	1710	1705	1708	1709	1706	1698	1681	1689	1704
1969	1702	1706	1702	1698	1678	1676	1695	1708	1714	1716	1714	1709	1701
1970	1709	1715	1712	1707	1701	1691	1695	1705	1706	1705	1697	1719	1705
1971	1712	1720	1720	1718	1722	1735	1732	1737	1732	1739	1732	1732	1728
1972	1730	1726	1731	1732	1728	1721	1734	1710	1733	1733	1726	1723	1727
1973	1723	1719	1718	1709	1704	1716	1723	1733	1740	1737	1738	1738	1725
1974	1730	1733	1734	1740	1740	1742	1740	1735	1737	1738	1729	1733	1736
1975	1737	1740	1736	1729	1713	1703	1704	1712	1705	1713	1718	1731	1720
1976	1738	1741	1739	1737	1740	1740	1742	1743	1742	1742	1744	1741	1741
1977	1741	1743	1742	1742	1740	1735	1729	1730	1732	1742	1745	1741	1739
1978	1731	1731	1726	1710	1700	1710	1717	1731	1729	1719	1724	1720	1721
1979	1711	1707	1702	1684	1691	1682	1688	1674	1689	1703	1700	1717	1696
1980	1713	1708	1712	1699	1701	1690	1698	1705	1699	1688	1672	1680	1697
1981	1699	1682	1680	1671	1662	1685	1690	1693	1697	1666	1675	1700	1683
1982	1710	1687	1703	1700	1702	1662	1632	1643	1625	1662	1674	1658	1671
1983	1688	1703	1713	1709	1685	1697	1704	1690	1694	1697	1703	1702	1699
1984	1705	1699	1693	1685	1665	1677	1684	1691	1695	1699	1691	1698	1690
1985	1703	1714	1716	1721	1723	1736	1724	1727	1732	1734	1739	1737	1725
1986	1739	1724	1734	1746	1748	1750	1748	1745	1747	1751	1744	1752	1744
1987	1757	1760	1760	1757	1754	1738	1741	1735	1728	1728	1721	1718	1741
1988	1704	1706	1711	1706	1705	1705	1696	1692	1698	1690	1688	1674	1698
1989	1663	1660	1624	1635	1629	1638	1664	1650	1640	1611	1609	1627	1637
1990	1638	1638	1623	1608	1616	1630	1651	1648	1668	1666	1673	1673	1644
1991	1689	1682	1617	1631	1630	1540	1555	1611	1642	1638	1632	1641	1626
1992	1630	1635	1659	1677	1665	1689	1702	1696	1684	1693	1688	1697	1676
1993	1692	1692	1690	1708	1705	1711	1704	1707	1714	1709	1712	1709	1705
1994	1705	1696	1697	1703	1708	1711	1711	1711	1718				1707

Multiply table entries by 100 to obtain hourly counting rate for Huancayo, Peru: S12 W75, Alt=3400m, Cutoff Rigidity=12.92GV (1980). NOTE: Secular changes in the Earth's magnetic field resulted in a slow lowering of the geomagnetic cutoff rigidity at Huancayo over the 40 year period. This dataset was adjusted by applying a linear time-correction based on the calculated change in response to the change in the vertical cutoff. * Data from Jan 92 on are from the 18-NM64 at Haleakala, Hawaii: N20 W156, Alt=3030m, Cutoff Rigitity=12.91GV (1980). Multiply table entries by 2057.6 to obtain equivalent Haleakala counting rate.

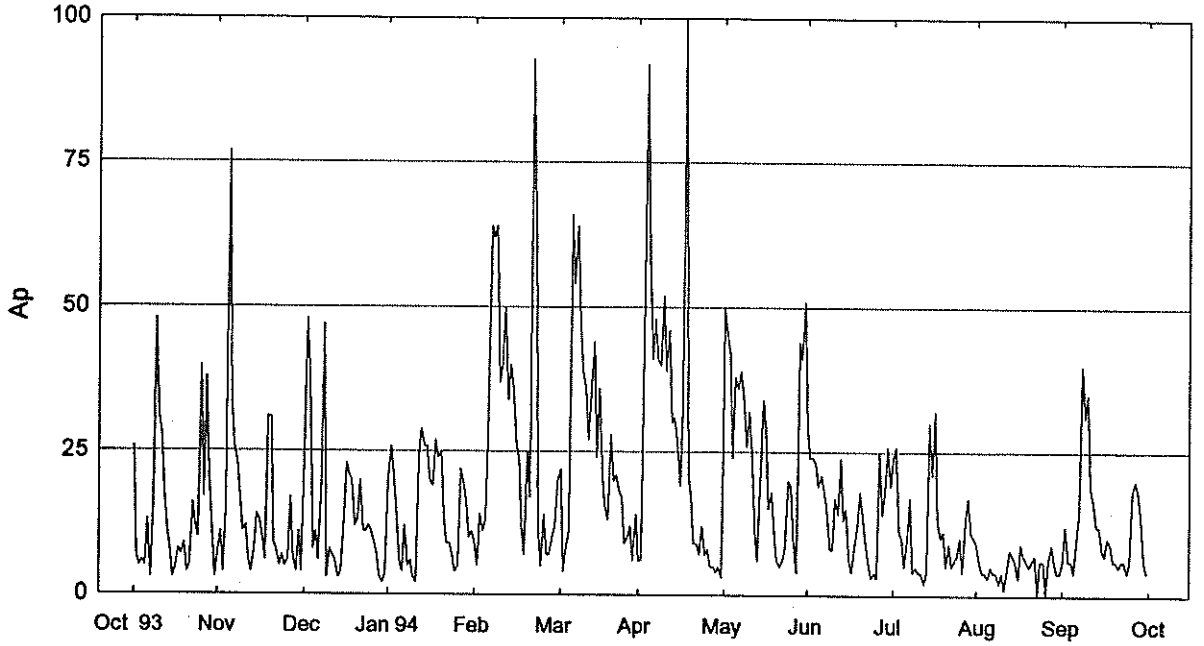
GEOMAGNETIC ACTIVITY INDICES

September 1994

Day		Kp Three-Hourly Indices 1	2	3	4	5	6	7	8	Sum	Ap	Cp	Km Three-Hourly Indices 1	2	3	4	5	6	7	8	aa Provisional Am	N	S	N	
1		4	4-	1+	2	1	1+	3	3-	19	12	0.7	3+	3-	1+	2+	1o	1+	2+	2+	18	26	14	26	15	
2	Q6K	3-	3+	0+	1-	1+	1	0+	1-	10+	6	0.3	2+	3-	0+	1-	1+	1-	0o	1-	8	13	6	11	8	CC
3	Q9	2	2+	2	1+	2-	2-	1-	2-	13+	6	0.3	1+	2o	2+	2-	1+	1o	1-	1+	10	14	9	12	10	CC
4	Q3	2+	1-	1	1	1	1+	1-	1	9	4	0.2	2o	0+	1o	1o	1-	1-	0+	1o	6	11	5	9	8	CK
5		2-	2+	2+	3+	3	2-	2-	2	18	10	0.5	2-	2+	3-	3o	3-	1+	2-	1+	17	19	17	21	15	
6		1+	4-	2+	5-	3-	3	2+	2	22	15	0.8	2-	3+	3-	4o	3o	2+	2+	2o	26	29	22	28	23	
7	D1	2	4-	4+	5+	5	4	6	5	35+	40	1.4	2-	3+	4o	5-	5-	4-	5-	4+	56	66	53	42	77	
8	D3	4-	5	5	5	3-	4	4	3+	33-	31	1.3	3o	4o	4o	4+	2+	3o	4-	3o	41	50	36	43	43	
9	D2	4-	4+	5-	4-	5+	5-	5-	4+	35+	35	1.4	3+	4-	4-	4-	5-	4o	4-	4-	49	59	51	42	68	
10	D4*	5-	4-	4-	3+	4-	3	2+	2	26+	19	1.0	4-	3o	3+	3+	3o	3-	2o	2o	29	31	28	37	22	
11		3+	4+	4-	3-	3	2+	3	2	24+	16	0.9	2+	3o	4-	3o	2+	2o	3-	2+	24	26	25	31	20	
12		2	1+	2	4-	3-	3+	3+	2	20+	12	0.7	1+	1o	2o	3o	3-	3+	3-	2-	19	26	19	17	28	
13		1+	4-	3+	2-	2-	2	2	4	20-	12	0.7	2-	3+	3-	2-	2-	2-	2-	3+	20	25	13	17	21	
14		3	3-	1+	1	3+	1+	1-	1-	14	8	0.4	2+	3-	2-	1+	3o	1o	1-	0+	13	15	15	14	16	
15		2	2-	1+	2-	2	2-	2-	3-	15-	7	0.3	2-	1o	1+	1+	1+	2-	2-	2+	11	16	9	10	15	C
16		3-	3	3-	2	2	3-	2	2	19	10	0.6	3-	3o	3-	2o	2o	2o	2-	2o	18	22	13	19	16	
17		2	3-	3-	3-	1+	2+	2-	2+	18-	9	0.5	2-	3-	3-	3-	1+	2-	1+	2+	16	15	18	18	14	
18	Q7	2+	2-	1+	1	2	1+	1-	2	12+	6	0.3	2-	1+	2-	1+	1+	1o	1-	2o	10	12	6	9	9	CC
19	Q8K	3+	1	2-	0	1	2-	2-	1+	12-	6	0.3	3-	1-	1+	0+	1o	1+	1+	1o	9	13	7	9	11	CC
20	Q4	2-	2	1-	1	1	1+	2-	2	11+	5	0.2	1+	2-	1+	1+	1-	1+	1+	2-	9	11	7	7	11	CC
21		2	1+	1	1	2	2-	2-	3-	13+	6	0.3	2o	1o	2o	1-	2-	2-	1o	2o	11	15	9	9	14	CC
22	Q5K	3	2-	1	1-	1-	1-	1+	1+	10+	6	0.2	2+	2o	1-	1-	0o	1o	1o	1o	8	14	7	13	8	CC
23	Q2	1+	2	0+	1-	0+	1	1	2-	8+	4	0.1	1o	2-	0+	0+	0o	1+	1-	1+	6	11	4	8	7	CC
24	Q10K	3-	3	1+	1	0+	2-	1-	1+	12	6	0.3	2o	3-	1+	1o	0+	1-	1-	1+	9	15	6	14	7	CC
25		2+	1	1+	0+	1+	2+	5+	5+	19+	18	1.0	2+	1+	2-	0+	1+	2+	5-	5-	28	34	24	12	46	
26	D5	4-	5-	4	4-	3	3+	2	2-	26	20	1.0	3o	4o	3+	4o	3-	3-	2-	2-	30	32	30	37	25	
27		4	4-	3	3+	2	3+	2+	4	26-	18	1.0	3o	3-	3-	3+	2+	3-	2+	3o	25	34	21	29	26	
28		4+	4-	3	4-	1+	2	1+	2-	21	14	0.8	4-	3o	3o	3+	1+	2o	1o	1+	23	25	17	29	12	
29		3-	2-	2+	1+	1+	1	1	2	13+	6	0.3	2o	1o	2+	1o	2-	1o	1o	2-	11	15	10	13	12	CC
30	Q1	1-	1	1+	1	1	1+	1-	2-	9-	4	0.1	1o	1o	1+	1+	1o	1o	1+	2-	8	8	9	8	9	CC
Mean											12	0.60									18.9	23.4	16.9		20.2	

Day	Kn Three-Hourly Indices 1	2	3	4	5	6	7	8	An	Ks Three-Hourly Indices 1	2	3	4	5	6	7	8	As	Sa	Prov Ri	Ra	Rs	IMF
1	3+	3o	1+	3-	1o	1+	2+	2+	19	3o	3-	1+	2+	1-	1o	2o	2o	16	87.3	38	42	32		
2	2o	3-	0+	1-	1+	1-	0+	1o	9	3-	2+	0+	0+	1+	0+	0o	0+	7	94.9	53	50	40		
3	1+	2-	2o	2-	2-	1+	1-	1+	11	1o	2o	3-	1+	1o	0+	0+	1+	9	98.2	59	58	44		
4	2-	0+	1-	1-	1-	1+	0+	1o	6	2o	1-	1o	1o	1-	0o	0+	1-	6	95.8	53	58	41		
5	2-	2+	3-	3o	3-	1+	2-	2-	18	2-	3-	3o	3o	2o	1+	1+	1o	16	95.1	65	63	41		
6	1+	3o	3-	4+	3o	3-	3-	2+	28	2-	4-	2+	4-	3-	2o	2o	2-	24	95.0	62	60	41		
7	2-	3o	4o	5-	5o	4-	5o	4o	58	2-	3+	4-	5-	5-	3+	4o	5-	53	92.1	57	56	37		
8	3o	4+	4+	5-	3-	3+	4-	3o	46	3-	4-	4-	4-	2o	3o	4-	3o	37	89.6	47	49	35		
9	3+	4-	4+	4-	5o	4+	4o	3+	55	3+	3+	3+	3+	4o	4-	4-	4o	44	87.3	41	45	32		
10	4-	3+	4-	3+	3o	3-	2o	2o	30	4o	3-	3o	4-	3o	3-	2-	2-	27	82.8	31	31	27		
11	3-	3o	4-	3+	3-	2+	3o	2o	27	2+	3o	4-	3o	2-	1+	2+	3-	23	82.0	19	15	27		
12	1+	1-	2o	3+	3-	3+	3o	2-	21	1+	1o	2o	3o	3o	3o	2o	1+	18	78.2	10	10	22		
13	2o	3+	3-	2-	2+	2o	2-	3+	22	1o	3o	3o	1+	1+	1+	2-	3+	18	76.5	9	10	21		
14	2+	2+	2-	1+	3-	1+	1-	1-	12	3-	3-	2o	1+	3+	1-	1-	0o	15	74.8	9	10	19		
15	2-	1o	1+	2-	2-	2o	2-	2+	12	1+	1o	1o	1o	1o	1+	1+	3-	10	72.3	8	9	16		
16	2o	3o	3-	2o	2o	2+	2o	2o	19	3-	3o	3-	2-	2-	1+	1o	2-	16	71.6	8	9	15		
17	2-	3-	2+	3-	2-	2o	1+	3-	17	1+	3-	3-	3-	1-	1+	1+	2o	14	71.0	12	13	15		
18	2-	1+	2o	1+	2-	2-	1-	2-	11	2-	2-	2-	1o	1o	0+	0+	2+	9	72.5	22	22	16		
19	3-	1-	1+	0o	1+	2-	2-	1+	10	3-	1-	1+	0+	1o	1o	1+	1-	8	70.8	14	15	14		
20	1+	2-	1+	1+	1o	2-	2-	2+	11	1o	1+	1o	1o	0+	1-	1o	1o	7	70.3	10	0	14		
21	1+	1-	2+	1o	2-	2-	1+	2+	11	2+	1o	2o	1-	2-	1+	1-	2-	10	70.4	9	0	14		
22	2o	2-	1o	1o	0+	1+	1+	1o	8	3-	3-	1-	1-	0o	1-	1-	1-	8	71.2	11	10	15		
23	1o	1+	1-	0+	0o	1+	1o	2-	6	1o	2-	0o	0+	0o	1o	1-	1o	5	71.8	12	13	16		
24	2-	3-	2-	1+	1-	1+	1-	2-	11	2+	3-	1+	1-	0o	0+	1-	1o	8	73.3	14	14	17		
25	2+	1o	2-	1-	2-	2o	5-	5-	27	3-	1+	2o	0+	1o	2+	5-	5-	30	76.6	16	20	21		
26	3-	4-	4-	4o	3o	3-	2-	2-	30	3o	4+	3o	4-	3-	3-	1+	2-	30	77.4	28	26	22		
27	3+	3o	3-	3+	3-	3o	2+	4-	30	3-	3-	3-	3+	2-	2-	2o	3-	21	75.0	28	28	19		
28	4-	3o	3o	4-	2-	2+	1o	1o	23	4-	3o	3o	3o	1o	2-	1o	1+	22	74.2	23	22	18		
29	2o	1+	2+	1o	2+	1+	1+	2o	13	2+	1o	2+	1o	1o	1-	1-	2-	10	74.7	17	12	19		
30	1o	1o	2-	1+	1o	1+	1o	1+	9	1-	1-	1o	1+	1o	0+	1+	2-	7	74.7	17	18	19		
Mean									20.3									17.6	79.9	26.7	26.3	24.3		

Daily Average Indices Ap
Oct 1993 - Sep 1994

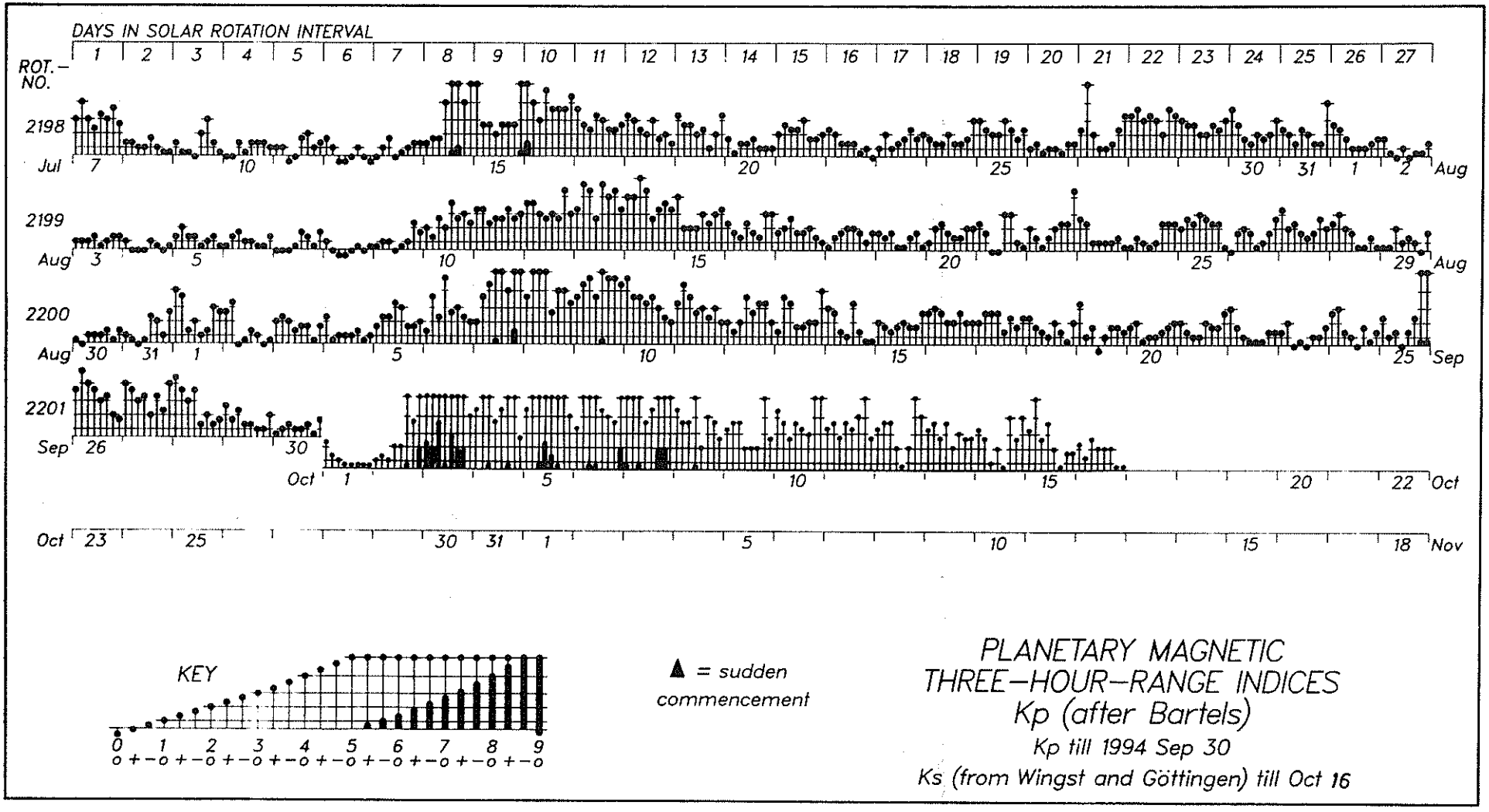


Day	Oct 93	Nov	Dec	Jan 94	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	26	11	29	26	5	12	6	50	24	24	6	12
2	7	4	48	21	14	20	53	46	24	26	4	6
3	5	15	37	15	11	22	92	42	23	11	4	6
4	6	77	8	6	13	4	59	24	19	10	3	4
5	5	34	11	4	32	8	41	38	21	5	5	10
6	13	26	6	12	64	11	48	36	18	10	4	15
7	3	23	20	5	62	66	41	39	15	17	4	40
8	16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

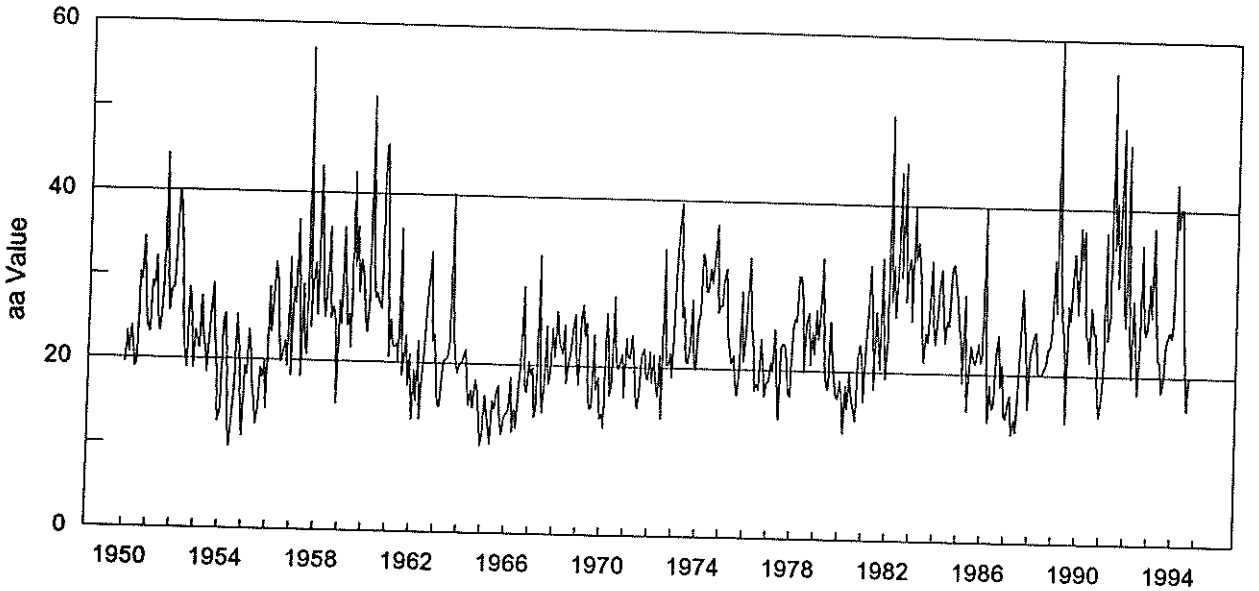
PLANETARY 3-HOUR-RANGE INDICES (Kp) BY 27-DAY SOLAR ROTATION INTERVAL

University of Gottingen

Kp through September 30, 1994



Monthly Mean aa Index Jan 1950 - Sep 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				30.2

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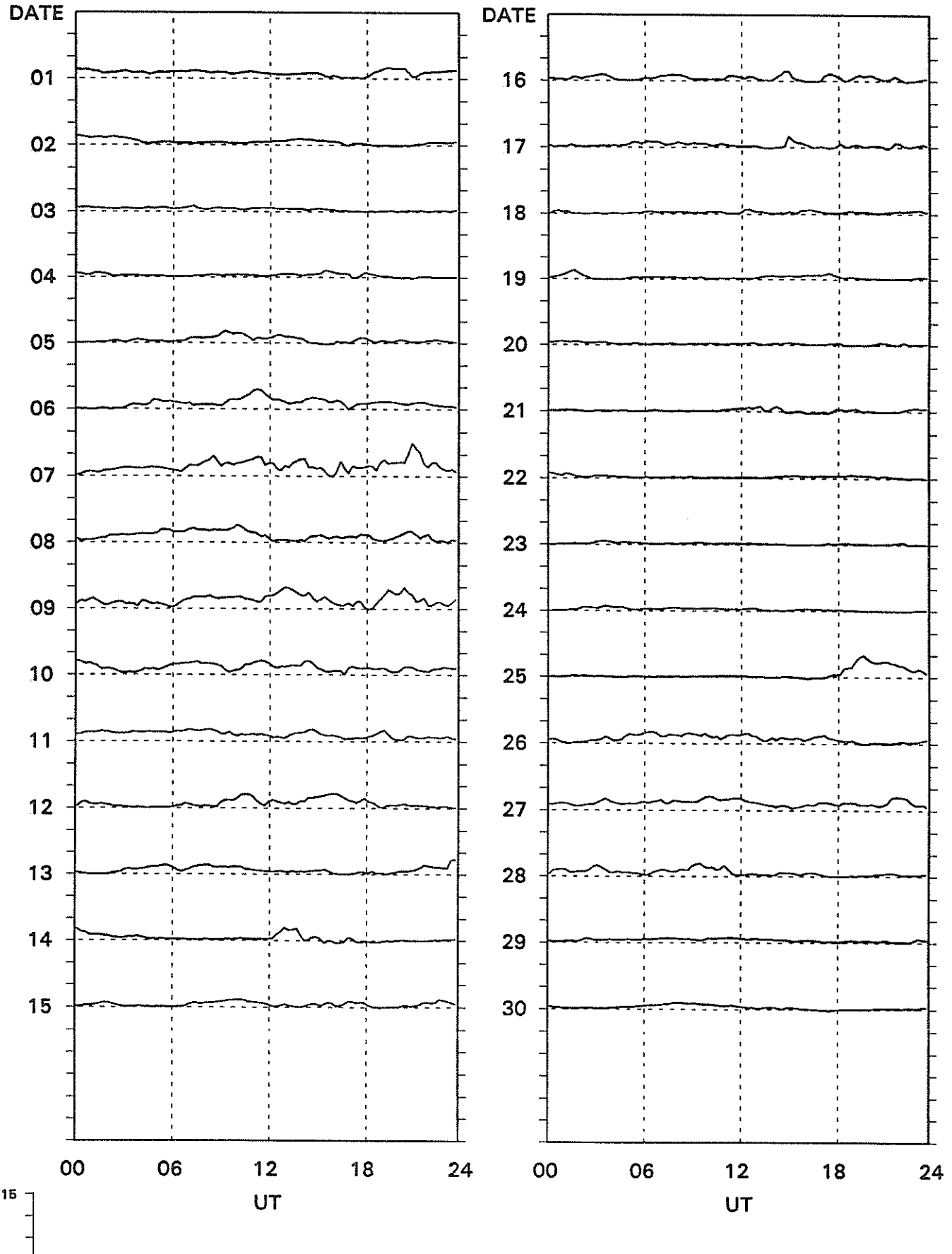
Sep 94

PC-INDEX

Thule

September, 1994



Preliminary Values.

15-min. Values.

Div. Geophys. D M I

P R I N C I P A L M A G N E T I C S T O R M S

SEPTEMBER 1994

Sta	Geomag Lat	Commencement Day	Commencement Time (UT)	Type	SC Amplitudes D (Min)	SC Amplitudes H (Gamma)	SC Amplitudes Z (Gamma)	Maximum 3-Hour K Index Day(3-Hour Periods)	K	Ranges D (Min)	Ranges H (Gamma)	Ranges Z (Gamma)	End Day	End Hour (UT)
UJJ	13.6N	05	0500	..	..	..	..		-	5	67	31	06	18
ABG	09.4N	05	0500	..	..	..	..	06(4)	5	5	89	43	06	18
TRD	01.1S	05	0500	..	..	..	..		-	4	156	59	06	18
HYB	07.6N	06	0700	..	..	..	..	06(4) 07(4,7) 09(5,6)	5	6	117	36	09	23
GUA	04.3N	06	09--	..	..	..	..	06(4)	5	--	50	10	06	20
FRD	49.4N	07	00--	..	..	..	..	07(4,5)08(2,3,4)09(5)	5	23	116	63	12	03
BJI	28.8N	07	04--	..	..	..	..	09(5)	6	12	111	31	10	18
UJJ	13.6N	07	0430	..	..	..	..		-	6	90	42	09	22
ABG	09.4N	07	0430	..	..	..	..	07(5,8) 09(3,5,6)	5	--	--	--	09	22
GUA	04.3N	07	04--	..	..	..	..	07(5)	5	10	60	20	08	02
ETT	00.7S	07	0200	..	..	..	..		-	7	187	70	10	18
TRD	01.1S	07	0430	..	..	..	..		-	4	154	72	09	22
HER	33.6S	07	03--	..	..	..	..	07(7,8)	5	17	79	71	08	02
CAN	43.6S	07	04--	..	..	..	..	07(4,5) 09(5)	5	17	102	45	11	21
AMS	46.8S	07	06--	..	..	..	..	07(5) 09(5)	5	18	136	64	10	15
CZT	51.5S	07	09--	..	..	..	..	07(7,8) 09(7)	5	29	108	68	14	03
PAF	57.2S	07	02--	..	..	..	..	07(7,8) 09(7)	6	33	330	190	12	00
DRV	75.2S	07	1413	SC	-192	24	32	07(5) 08(4) 09(2)	5	427	526	465	13	12
HYB	07.6N	24	2200	..	..	..	..	25(7)	6	5	122	28	26	23
ETT	00.7S	24	2200	..	..	..	..		-	5	165	53	26	18
KRC	16.4N	25	1412	..	..	..	..	25(7,8)	6	72	120	63	26	19
UJJ	13.6N	25	1800	..	..	..	..		-	6	88	28	26	18
ABG	09.4N	25	1800	..	..	..	..	25(7) 26(2,6) 27(1,6)	6	5	92	41	26	18
GUA	04.3N	25	14--	..	..	..	..	25(8)	5	--	90	10	26	16
TRD	01.1S	25	1800	..	..	..	..		-	3	142	69	26	18
HER	33.6S	25	18--	..	..	..	..	25(7)	6	24	133	125	26	13
AMS	46.8S	25	18--	..	..	..	..	25(8)	6	23	118	56	28	12
CZT	51.5S	25	18--	..	..	..	..	25(7)	5	22	82	64	28	12
PAF	57.2S	25	18--	..	..	..	..	25(7,8)	6	50	373	195	28	18
DRV	75.2S	25	1759	SC	8	- 2	15	25(7)	5	402	409	422	28	15

Stations:

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

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

September 1994

Storm Sudden Commencements (SSC)			Solar Flare Effects (sfe)		
Day	Time	Quality: Station Group*	Day	Begin-End	Station(s)
	None		03	0709-0735	HYB ETT
			04	0712-0718	MPO
			11	0403-0409	MPO
			12	0633-0642	CLF MPO
			15	1118-1127	MPO
			21	0622-0635	ETT
			21	1201-1206	MPO
			21	1230-1236	MPO
			21	1348-1351	MPO
			22	0430-0442	MPO
			23	1712-1718	MPO ssc: BDV BJI
			25	0433-0445	MPO

REPORTING OBSERVATORIES (up to the 3rd of November):
SOD DOB NUR LER ESK WNG NGK HAD BDV CLF HRB NAG GCK MMB AQU EBR COI BJI SPT FRD KAK HTY KNY QUE 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.

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LATE DATA

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International Geophysical Calendar 1995 (Final)

EXPLANATIONS

This Calendar continues the series begun for the IGY years 1957-58, and is issued annually to recommend dates for solar and geophysical observations which cannot be carried out continuously. Thus, the amount of observational data in existence tends to be larger on Calendar days. The recommendations on data reduction and especially the flow of data to **World Data Centers (WDCs)** in many instances emphasize Calendar days. The Calendar is prepared by the **International Ursigram and World Days Service (IUWDS)** with the advice of spokesmen for the various scientific disciplines. For some programs, greater detail concerning recommendations appears from time to time published in **IAGA News, IUGG Chronicle, URSI Information Bulletin** or other scientific journals or newsletters.

The definitions of the designated days remain as described on previous Calendars. **Universal Time (UT)** is the standard time for all world days. **Regular Geophysical Days (RGD)** are each Wednesday. **Regular World Days (RWD)** are three consecutive days each month (always Tuesday, Wednesday and Thursday near the middle of the month). **Priority Regular World Days (PRWD)** are the **RWD** which fall on Wednesdays. **Quarterly World Days (QWD)** are one day each quarter and are the **PRWD** which fall in the **World Geophysical Intervals (WGI)**. The **WGI** are fourteen consecutive days in each season, beginning on Monday of the selected month, and normally shift from year to year. In 1995 the **WGI** will be February, May, August and November.

The Solar Eclipses are:

a.) 29 April 1995 (annular) eclipse will cross northern Peru, southern Colombia, and northern Brazil. Maximum annularity of 6 minutes 37 seconds will occur in Peru, with the sun at altitude 70 degrees. The path of annularity will be 195 miles across. The partial phases will be seen as far north as Mexico City and most of the Florida peninsula. All of South America except for its southern tip will also see a partial eclipse. The moon's diameter will be 95 percent that of the sun.

b.) 24 October 1995 (total) solar eclipse crosses Iran, Afghanistan, Pakistan, India, Bangladesh, Myanmar, Thailand, Cambodia and Vietnam. Its maximum duration of 2 minutes 10 seconds will be reached in the ocean north of Borneo. Weather forecasts are predicted to be 85-90 percent for clear weather in northwestern India, the most favorable region. The path of totality crosses just south of Agra and then includes Varanasi and Calcutta. Totality there is only about 1 minute in duration, and lengthens toward the east, though the weather forecasts worsen. The path of totality will be only 78 km wide. (Description by Dr. Jay Pasachoff)

Meteor Showers (selected by R. Hawkes, Canada) include the most prominent regular showers. The dates for Northern Hemisphere meteor showers are: Jan 3-5 (Quadrantid); Apr 21-23 (Lyrid); May 3-5 (Eta-Aquarid); Jun 6-11 (Arietid, Zeta-Perseid); Jun 27-29 (Beta-Taurid); Aug 10-15 (Perseid); Oct 21-23 (Orionid); Nov 17-19 (Leonid); Dec 13-15 (Geminid); Dec 22-23, 1995 (Ursid); and Jan 3-5, 1996 (Quadrantid). The dates for Southern Hemisphere meteor showers are: May 3-5 (Eta-Aquarid); Jun 6-11 (Arietid, Zeta-Perseid); Jun 27-29 (Beta-Taurid); Jul 28-31 (S. Delta-Aquarid, Alpha-Aurigid); Oct 21-23 (Orionid); Nov 17-19 (Leonid); and Dec 13-15, 1995 (Geminid). Particular attention is drawn to observations of the Leonid shower as part of the International Leonid Watch which will continue throughout the decade.

The occurrence of unusual solar or geophysical conditions is announced or forecast by the IUWDS through various types of geophysical **"Alerts"** (which are widely distributed by telegram and radio broadcast on a current schedule). Stratospheric warmings (**STRATWARM**) are also designated. The meteorological telecommunications network coordinated by WMO carries these worldwide Alerts once daily soon after 0400 UT. For definitions of Alerts see IUWDS "Synoptic Codes for Solar and Geophysical Data", March 1990 and its amendments. **Retrospective World Intervals** are selected and announced by MONSEE and elsewhere to provide additional analyzed data for particular events studied in the ICSU Scientific Committee on Solar-Terrestrial Physics (SCOSTEP) programs.

RECOMMENDED SCIENTIFIC PROGRAMS

OPERATIONAL EDITION

(The following material was reviewed in 1994 by spokesmen of IAGA, WMO and URSI as suitable for coordinated geophysical programs in 1995.)

Airglow and Aurora Phenomena. Airglow and auroral observatories operate with their full capacity around the New Moon periods. However, for progress in understanding the mechanism of many phenomena, such as low latitude aurora, the coordinated use of all available techniques, optical and radio, from the ground and in space is required. Thus, for the airglow and aurora 7-day periods on the Calendar, ionosonde, incoherent scatter, special satellite or balloon observations, etc., are especially encouraged. Periods of approximately one weeks' duration centered on the New Moon are proposed for high resolution of ionospheric, auroral and magnetospheric observations at high latitudes during northern winter.

Atmospheric Electricity. Non-continuous measurements and data reduction for continuous measurements of atmospheric electric current density, field, conductivities, space charges, ion number densities, ionosphere potentials, condensation nuclei, etc.; both at ground as well as with radiosondes, aircraft, rockets; should be done with first priority on the **RGD** each Wednesday, beginning on 4 January 1995 at 0000 UT, 11 January at 0600 UT, 18 January at 1200 UT, 25 January at 1800 UT, etc. (beginning hour shifts six hours each week, but is always on Wednesday). Minimum program is at the same time on **PRWD** beginning with 11 January at 0600 UT. Data reduction for continuous measurements should be extended, if possible, to cover at least the full RGD including, in addition, at least 6 hours prior to indicated beginning time. Measurements prohibited by bad weather should be done 24 hours later. Results on sferics and ELF are wanted with first priority for the same hours, short-period measurements centered around the minutes 35-50 of the hours indicated. **Priority Weeks** are the weeks which contain a PRWD; minimum priority weeks are the ones with a QWD. The World Data Centre for Atmospheric Electricity, 7 Karbysheva, Leningrad 194018, USSR, is the collection point for data and information on measurements.

Geomagnetic Phenomena. It has always been a leading principle for geomagnetic observatories that operations should be as continuous as possible and the great majority of stations undertake the same program without regard to the Calendar.

Stations equipped for making magnetic observations, but which cannot carry out such observations and reductions on a continuous schedule are encouraged to carry out such work at least on RWD (and during times of **MAGSTORM** Alert).

Ionospheric Phenomena. Special attention is continuing on particular events which cannot be forecast in advance with reasonable certainty. These will be identified by Retrospective World Intervals. The importance of obtaining full observational coverage is therefore stressed even if it is possible to analyze the detailed data only for the chosen events. In the case of vertical incidence sounding, the need to obtain quarter-hourly ionograms at as many stations as possible is particularly stressed and takes priority over recommendation (a) below when both are not practical.

For the vertical incidence (VI) sounding program, the summary recommendations are: (a) All stations should make soundings on the hour and every quarter hour; (b) On **RWDs**, ionogram soundings should be made at least every quarter hour and preferably every five minutes or more frequently, particularly at high latitudes; (c) All stations are encouraged to make f-plots on **RWDs**; f-plots should be made for high latitude stations, and for so-called "representative" stations at lower latitudes for all days (i.e., including **RWDs** and **WGIs**) (Continuous records of ionospheric parameters are acceptable in place of f-plots at temperate and low latitude stations); (d) Copies of hourly ionograms with appropriate scales for **QWDs** are to be sent to WDCs; (e) Stations in the eclipse zone and its conjugate area should take continuous observations on solar eclipse days and special observations on adjacent days. See also recommendations under **Airglow and Aurora Phenomena.**

For the incoherent scatter observation program, every effort should be made to obtain measurements at least on the **Incoherent Scatter Coordinated Observation Days**, and intensive series should be attempted whenever possible in **WGIs**, on Dark Moon Geophysical Days (DMGD) or the **Airglow and Aurora Periods.** The need for collateral VI observations with not more than quarter-hourly spacing at least during all observation periods is stressed. Special programs include: CADITS/MLTCS (Coupling and Dynamics of the Ionosphere-Thermosphere System/Mesosphere, Lower-Thermosphere Coupling Study -- combined local E and F region measurements, including vector velocities, with 15 minute time resolution. Latitudinal coverage may be sacrificed to meet this goal); DATABASE (Incoherent Scatter Database -- emphasis on broad latitudinal coverage of the F region); FAST (Fast Auroral Snapshot -- coordinated FAST satellite observations with GISMOS); GISMOS (Global Ionospheric Simultaneous Measurements of Substorms -- wide latitudinal coverage of convection with highest possible time resolution); JOULE (coordinated radar/ground-based optics/satellite (MSX) campaign to measure Joule heating and its effects on the atmosphere); SUNDIAL (coordinated weather and climatology study of the global ionosphere/magnetosphere system -- full 30 day round-the-clock ionosonde coverage of E- and F-region characteristics including intermediate, descending and sequential layers. Special programs: Dr. J. Holt, M.I.T. Haystack Observatory, Route 40, Westford, MA 01886 U.S.A., URSI Working Group G.5. Phone: (617)981-5625, e-mail address: "jmh@chaos.haystack.edu".

For the ionospheric drift or wind measurement by the various radio techniques, observations are recommended to be concentrated on the weeks including **RWDs.**

For traveling ionosphere disturbances, propose special periods for coordinated measurements of gravity waves induced by magnetospheric activity, probably on selected **PRWD** and **RWD.**

For the ionospheric absorption program half-hourly observations are made at least on all **RWDs** and half-hourly tabulations sent to WDCs. Observations should be continuous on **solar eclipse** days for stations in eclipse zone and in its conjugate area. Special efforts should be made to obtain daily absorption measurements at temperate latitude stations during the period of Absorption Winter Anomaly, particularly on days of abnormally high or abnormally low absorption (approximately October-March, Northern Hemisphere; April-September, Southern Hemisphere).

For back-scatter and forward scatter programs, observations should be made and analyzed on all **RWDs** at least.

For synoptic observations of mesospheric (D region) electron densities, several groups have agreed on using the **RGD** for the hours around noon.

For ELF noise measurements involving the earth-ionosphere cavity resonances any special effort should be concentrated during the **WGIs.**

It is recommended that more intensive observations in all programs be considered on days of **unusual meteor activity.**

Meteorology. Particular efforts should be made to carry out an intensified program on the **RGD** -- each Wednesday, UT. A desirable goal would be the scheduling of meteorological rocketsondes, ozone sondes and radiometer sondes on these days, together with maximum-altitude rawinsonde ascents at both 0000 and 1200 UT.

During **WGI** and **STRATWARM** Alert Intervals, intensified programs are also desirable, preferably by the implementation of RGD-type programs (see above) on Mondays and Fridays, as well as on Wednesdays.

Global Atmosphere Watch (GAW) WMOs GAW integrates many monitoring and research activities involving measurement of atmospheric composition. Serves as an early warning system to detect further changes in atmospheric concentrations of greenhouse gases, changes in the ozone layer and in the long range transport of pollutants, including acidity and toxicity of rain as well as of atmospheric burden of aerosols (dirt and dust particles). Contact WMO, 41, avenue Giuseppe-Motta, P.O. Box 2300, 1211 Geneva 2, Switzerland.

Solar Phenomena. Observatories making specialized studies of solar phenomena, particularly using new or complex techniques, such that continuous observation or reporting is impractical, are requested to make special efforts to provide to WDCs data for **solar eclipse** days, **RWDs** and during **PROTON/FLARE ALERTS.** The attention of those recording solar noise spectra, solar magnetic fields and doing specialized optical studies is particularly drawn to this recommendation.

FLARES22(FLAre RESearch at the maximum of solar cycle 22). 1990-1997 worldwide Solar-Terrestrial Energy Program (STEP) project. Aimed at understanding basic physical processes of transient solar activity and its coupling with the solar-terrestrial environment, including times of the various solar **ALERTS**. Coordinates satellite and ground-based observations. Observational campaigns are driven by specific scientific objectives rather than observations per se. Satellites include SOLAR-A, GRO, CORONAS, WIND, GEOTAIL, ULYSSES, etc. Program will focus on international collaboration of data analyses and theoretical work via electronic mail and workshops. For more information, contact Dr. M. Machado, Department of Physics, The University of Alabama in Huntsville, Huntsville, AL 35899 USA. Phone: (205)895-6676; FAX number is (205)895-6790; SPAN e-mail address is SSL::MACHADO or SOLAR::MMACHADO.

SOLTIP (SOlar connection with Transient Interplanetary Processes). Program within the SCOSTEP STEP (Solar-Terrestrial Energy Program) project: 1990-1997. Its focus is on remote and in situ observations and analyses of solar-generated phenomena and their propagation throughout the heliosphere, including times following the various solar **ALERTS**. Desired goals include: (1) interplanetary scintillation observation of remote radio galaxies as well as telemetry signals to/from interplanetary spacecraft; (2) coordination of Earth-orbiting spacecraft such as IMP-8 in the solar wind and solar-orbiting spacecraft such as ICE, GIOTTO, SAKIGAKE, VOYAGER 1/2, PIONEER 10/11, ULYSSES, RELICT, WIND, SOHO, Galileo, and ACE. Contact is Dr. M. Dryer, NOAA R/E/SE, 325 Broadway, Boulder, CO 80303 USA. Phone: (303)497-3978; FAX number (303)497-3645; SPAN e-mail address SELVAX::MDRYER.

Space Research, Interplanetary Phenomena, Cosmic Rays, Aeronomy. Experimenters should take into account that observational effort in other disciplines tends to be intensified on the days marked on the Calendar, and schedule balloon and rocket experiments accordingly if there are no other geophysical reasons for choice. In particular it is desirable to make rocket measurements of ionospheric characteristics on the same day at as many locations as possible; where feasible, experimenters should endeavor to launch rockets to monitor at least normal conditions on the **Quarterly World Days (QWD)** or on **RWDs**, since these are also days when there will be maximum support from ground observations. Also, special efforts should be made to assure recording of telemetry on **QWD** and **Airglow and Aurora Periods** of experiments on satellites and of experiments on spacecraft in orbit around the Sun.

The **International Ursigram and World Days Service (IUWDS)** is a permanent scientific service of the **International Union of Radio Science (URSI)**, with the participation of the **International Astronomical Union** and the **International Union Geodesy and Geophysics. IUWDS** adheres to the **Federation of Astronomical and Geophysical Data Analysis Services (FAGS)** of the **International Council of Scientific Unions (ICSU)**. The **IUWDS** coordinates the international aspects of the world days program and rapid data interchange.

This Calendar for 1995 has been drawn up by H.E. Coffey, of the IUWDS Steering Committee, in association with spokesmen for the various scientific disciplines in SCOSTEP, IAGA and URSI and other ICSU organizations. Similar Calendars are issued annually beginning with the IGY, 1957-58, and are published in various widely available scientific publications.

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Additional copies are available upon request to IUWDS Chairman, Dr. R. Thompson, IPS Radio and Space Services, Department of Administrative Services, P.O. Box 5606, West Chatswood, NSW 2057, Australia (FAX number (61)(2)414 8331; e-mail address is richard@ips.oz.au), or IUWDS Secretary for World Days, Miss H.E. Coffey, WDC-A for Solar-Terrestrial Physics, NOAA E/GC2, 325 Broadway, Boulder, Colorado 80303, USA (FAX number (303)497-6513; e-mail address is hcoffey@ngdc.noaa.gov).

Footnotes to front of calendar --

NOTES on other dates and programs of interest:

1. Days with unusual meteor shower activity are: Northern Hemisphere 3-5 Jan; 21-23 Apr; 3-5 May; 6-11, 27-29 Jun; 10-15 Aug; 21-23 Oct; 17-19 Nov; 13-15, 22-23 Dec 1995; 3-5 Jan 1996. Southern Hemisphere 3-5 May; 6-11, 27-29 Jun; 28-31 Jul; 21-23 Oct; 17-19 Nov; 13-15 Dec 1995.

2. GAW (Global Atmosphere Watch). WMO program to measure atmospheric composition -- early warning system to detect further changes in atmospheric concentrations. (See Explanations.)

3. SOLTIP (Solar connection with Transient Interplanetary Processes). Observing Program 1990 - 1997: solar-generated phenomena and their propagation throughout the heliosphere. (See Explanations.)

4. FLARES22 (FLAre RESearch at solar cycle 22 maximum). Observing Program 1990-1997: basic physical processes of transient solar activity and its coupling with solar-terrestrial environment. (See Explanations.)

5. Day intervals that IMP 8 satellite is in the solar wind (begin and end days are generally partial days): 26 Dec 1994-1 Jan 1995; 7-14 Jan; 20-26 Jan; 1-8 Feb; 14-21 Feb; 26 Feb-6 Mar; 11-18 Mar; 23-31 Mar; 4-12 Apr; 16-25 Apr; 28 Apr-7 May; 11-20 May; 24 May-1 Jun; 5-14 Jun; 18-26 Jun; 1-8 Jul; 13-20 Jul; 26 Jul-1 Aug; 7-14 Aug; 20-26 Aug; 1-8 Sep; 14-21 Sep; 26 Sep-3 Oct; 9-16 Oct; 22-28 Oct; 4-10 Nov; 16-22 Nov; 29 Nov-5 Dec; 11-18 Dec; 24-30 Dec 1995. Note that there will not necessarily be total IMP 8 data monitoring coverage during these intervals. (Information kindly provided by the WDC-A for Rockets and Satellites, NASA GSFC, Greenbelt, MD 20771 U.S.A.).

6. + Incoherent Scatter Coordinated Observations Days (see Explanations) starting at 1600 UT on the first day of the intervals indicated, and ending at 1600 UT on the last day of the intervals: 1-4 Feb 1995 JOULE; 28 Feb-2 Mar GISMOS; 28-29 Mar DATABASE; 1-5 May CADITS/MLTCS; 20-21 Jun DATABASE; 22-24 Aug GISMOS; 27-28 Sep SUNDIAL; 23-27 Oct CADITS/MLTCS; 21-22 Nov 1995 GISMOS; 22-24 Jan 1996 GISMOS/FAST,

   where CADITS = Coupling and Dynamics of the Ionosphere-Thermosphere System;
   DATABASE = Incoherent Scatter Database;
   FAST = Fast Auroral Snapshot (with FAST satellite);
   GISMOS = Global Ionospheric Simultaneous Measurements of Substorms;
   JOULE = Joule Heating;
   MLTCS = Mesosphere, Lower-Thermosphere Coupling Study;
   SUNDIAL = Coordinated study of the ionosphere/magnetosphere.

OPERATIONAL EDITION, September 1994

Editor's Note: On the printed International Geophysical Calendar 1995 (Final), the footnote number 6 lists Incoherent Scatter Coordinated Observations Days including 23-27 Jan 1995 JOULE. This was in error. The only JOULE observing program is the 1-4 Feb 1995 period. We apologize for this oversight.

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."