JUNE 2001 NUMBER 682 - Part I

Solar-Geophysical Data prompt reports

Data for April and May 2001
Explanation of Data Reports Issued as Number 515 (Supplement) July 1987

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Data for April and May 2001

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Number 682

(Issued in Two Parts)

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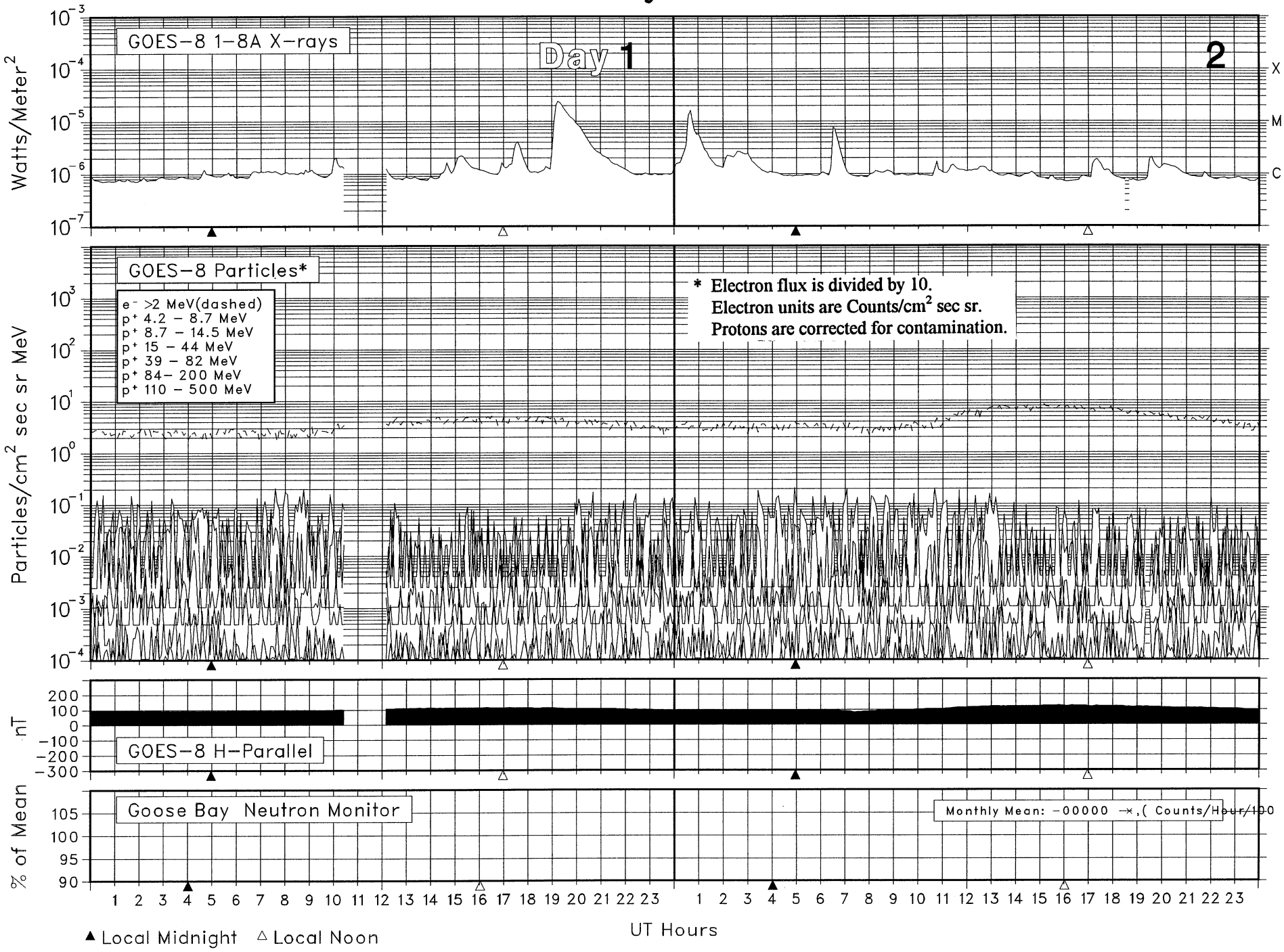
May 2001



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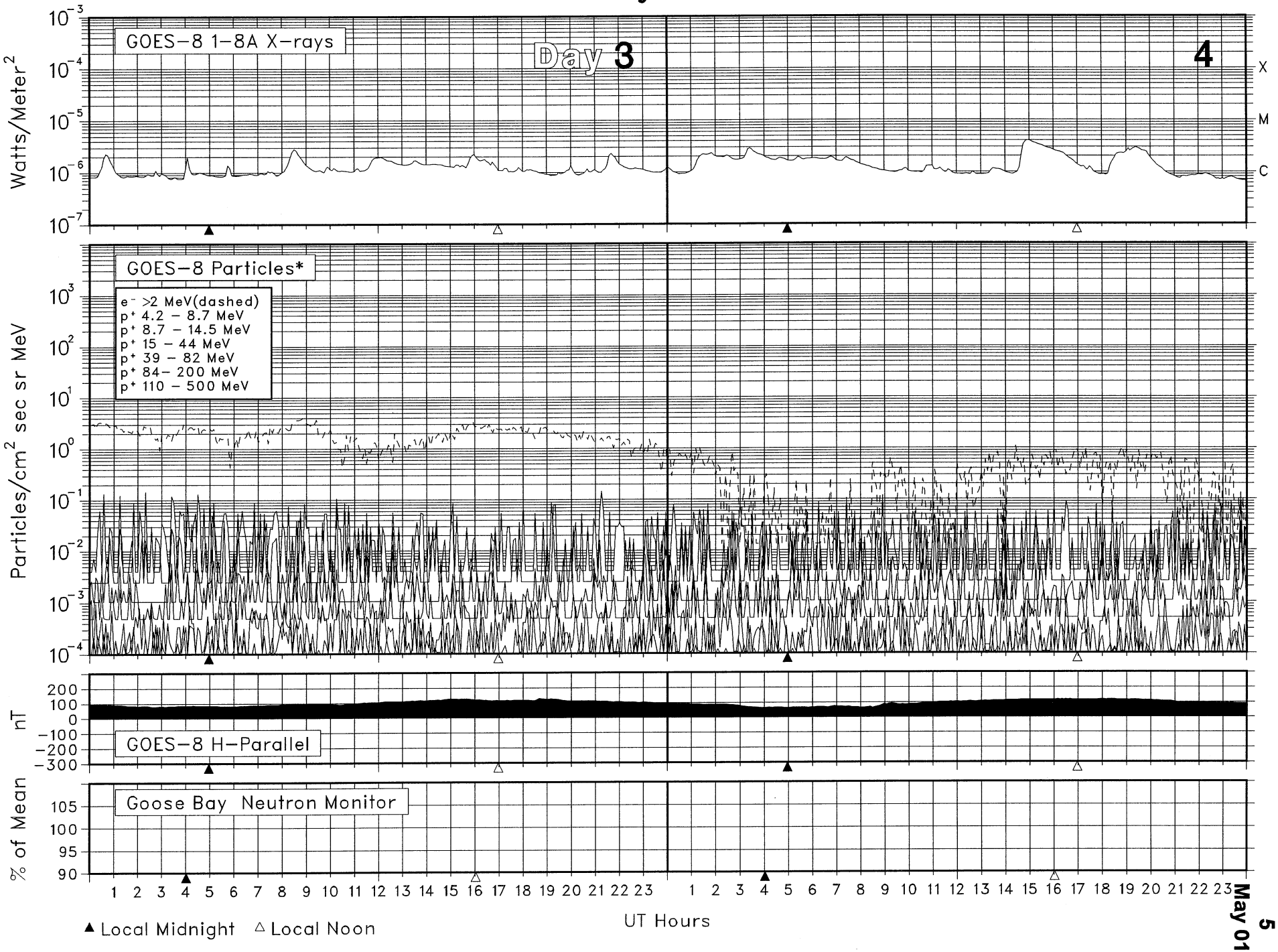

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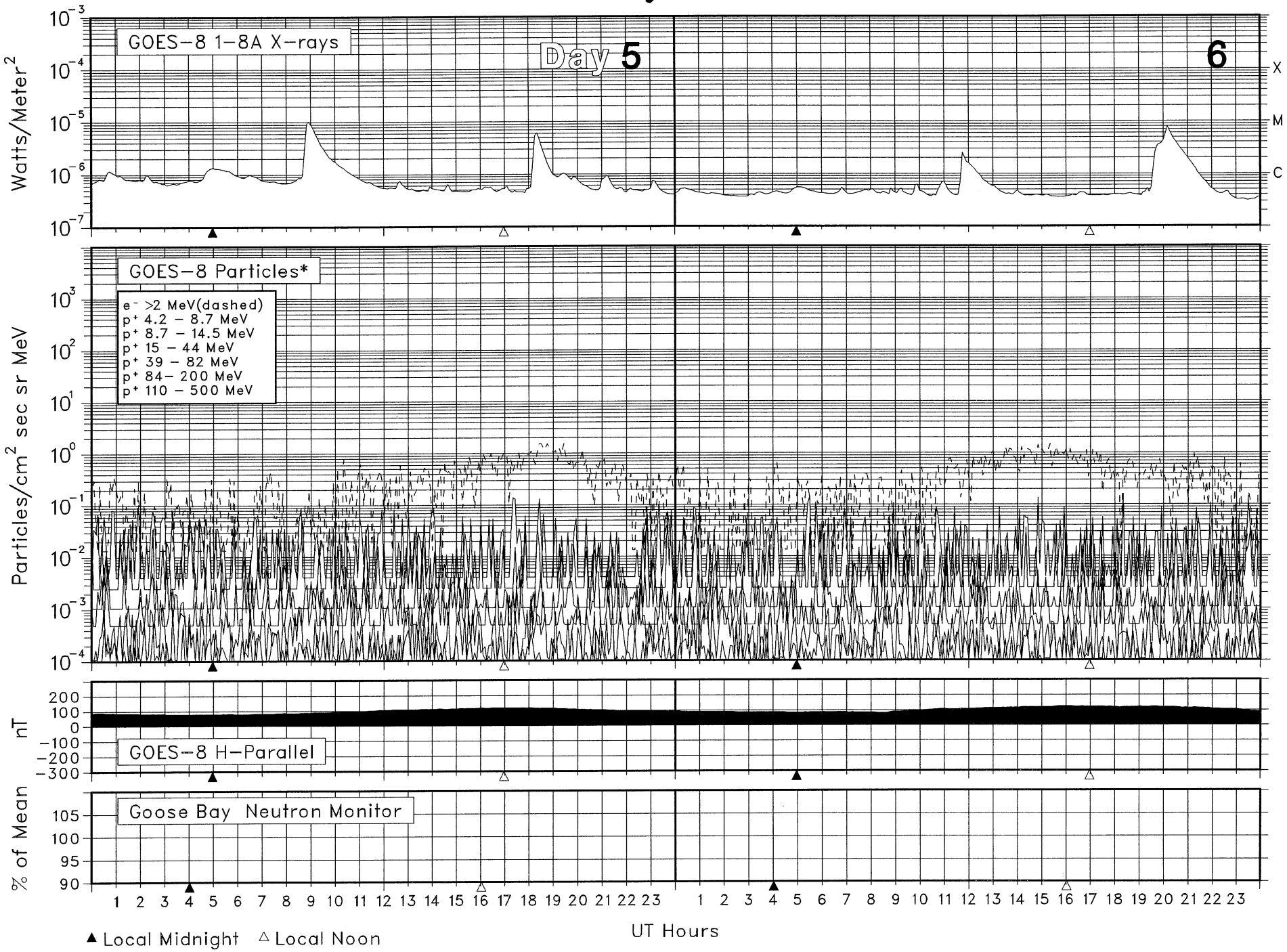

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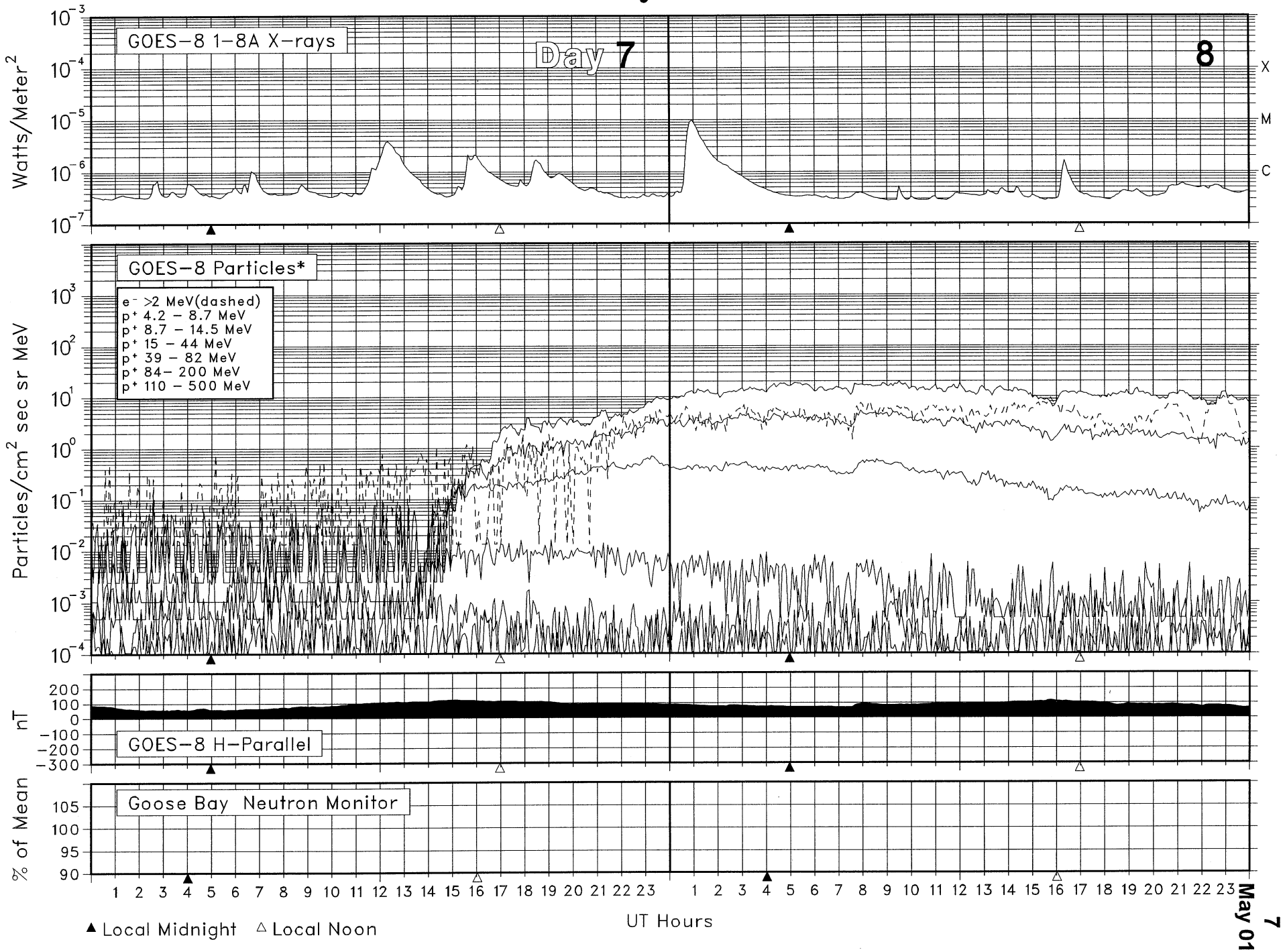

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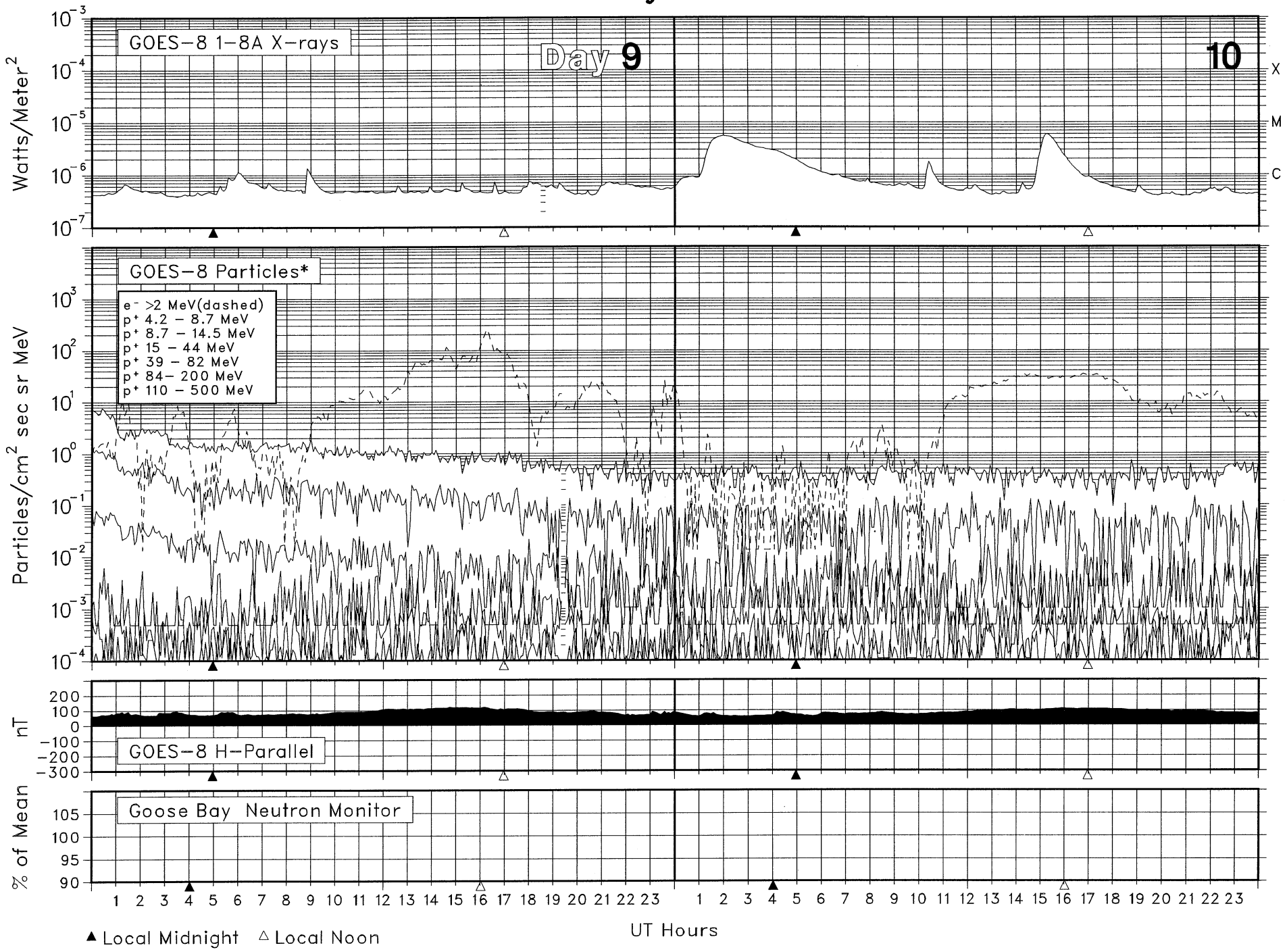

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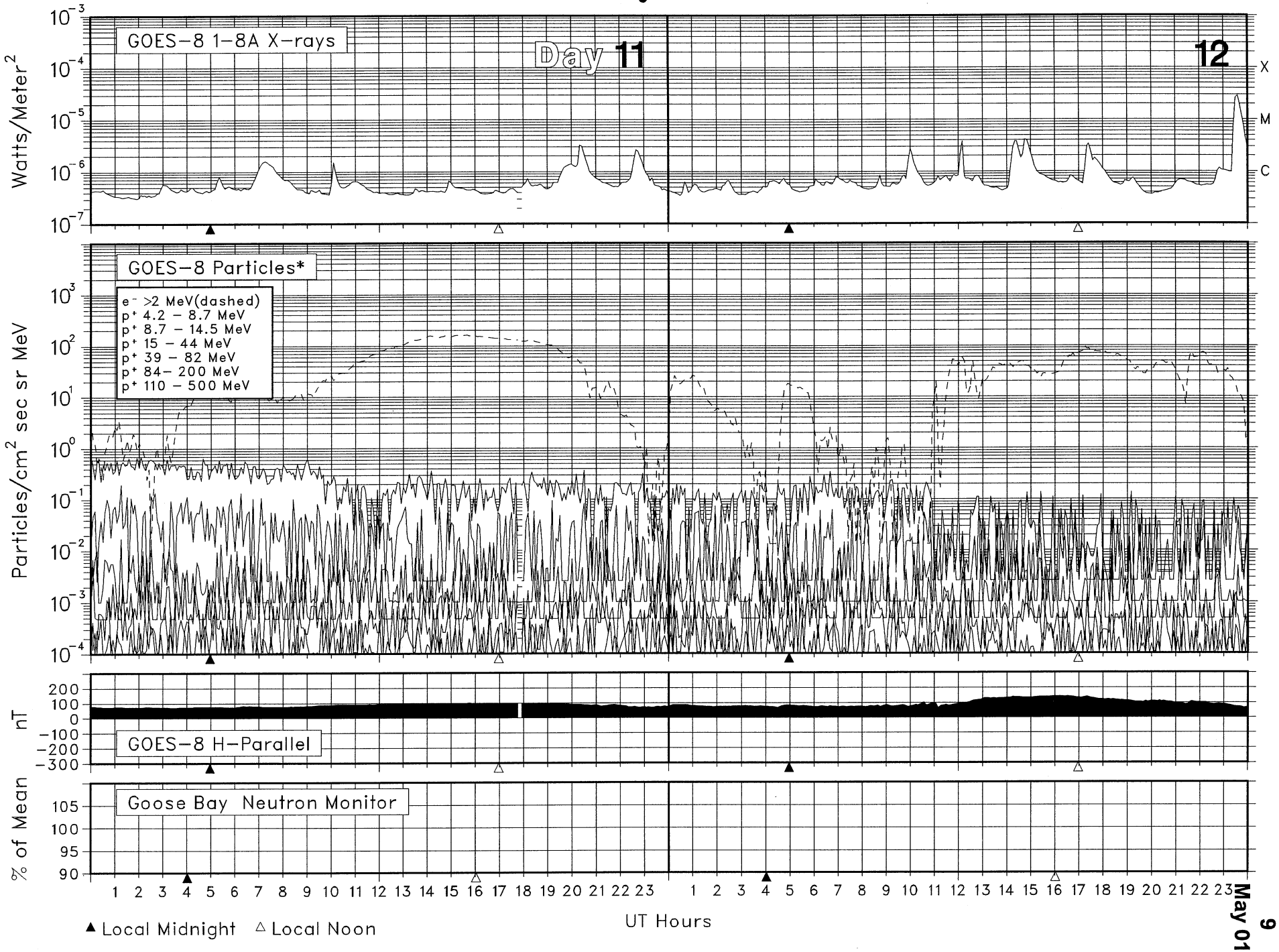
May 2001



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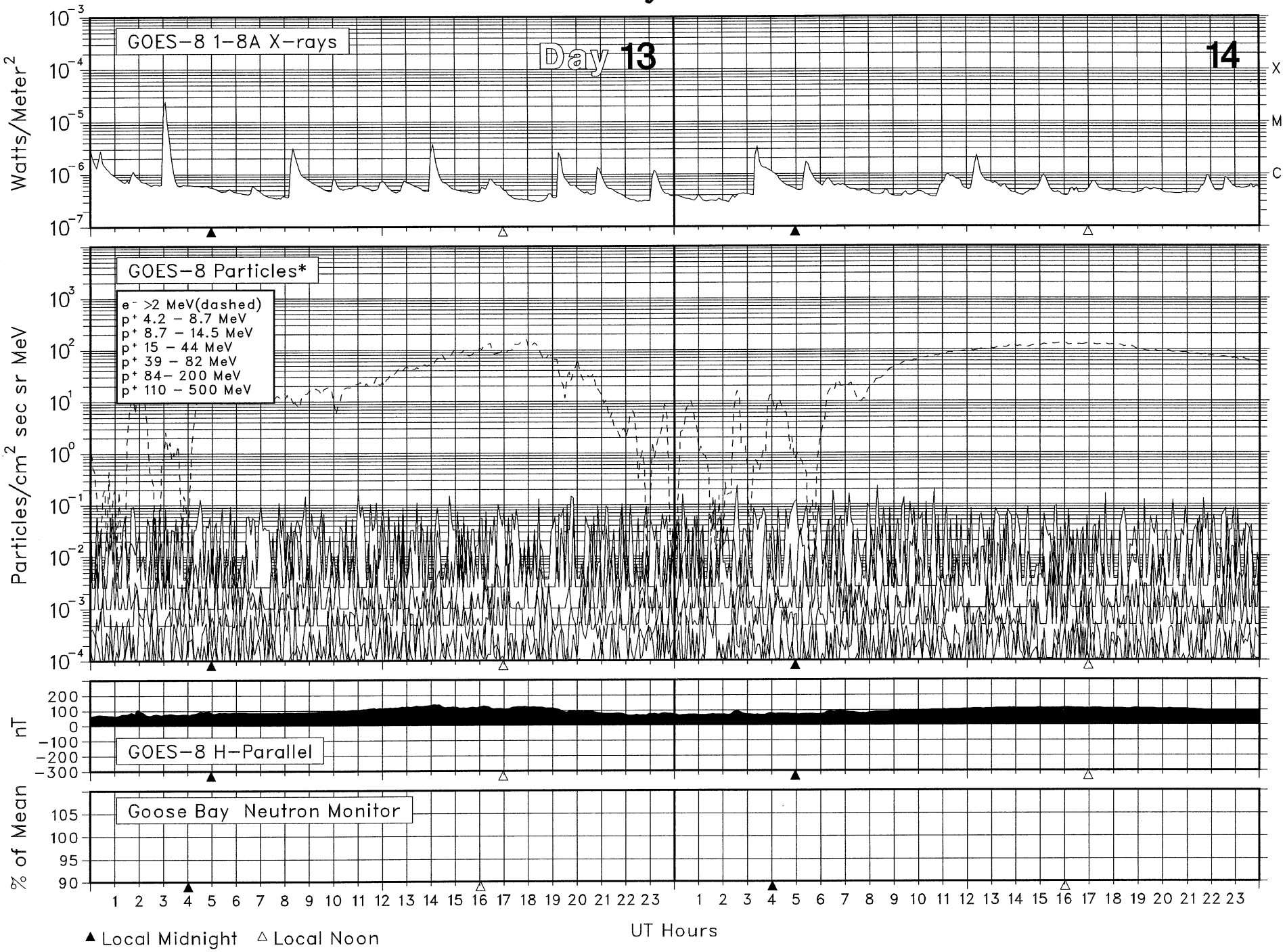
May 2001



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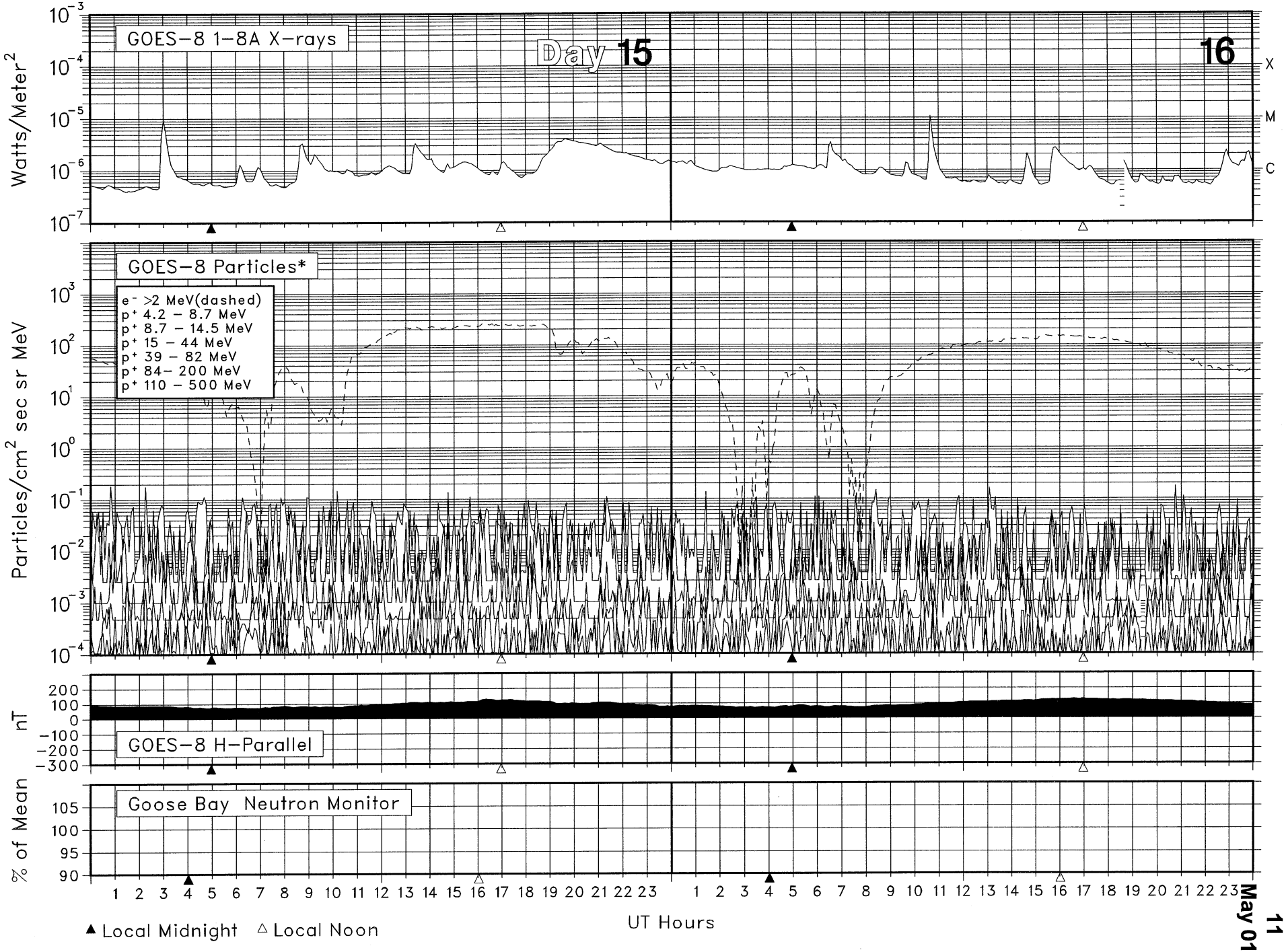

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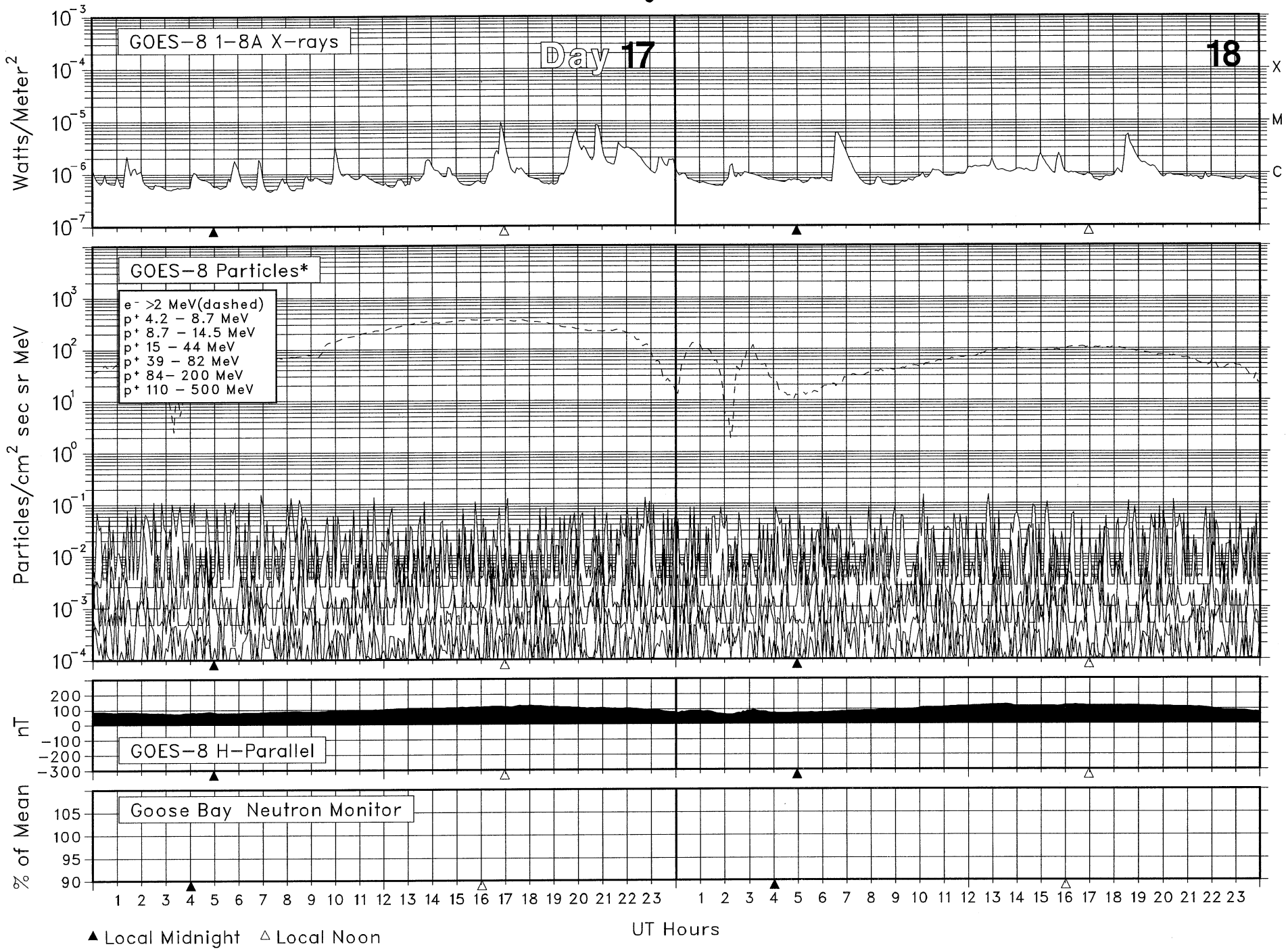

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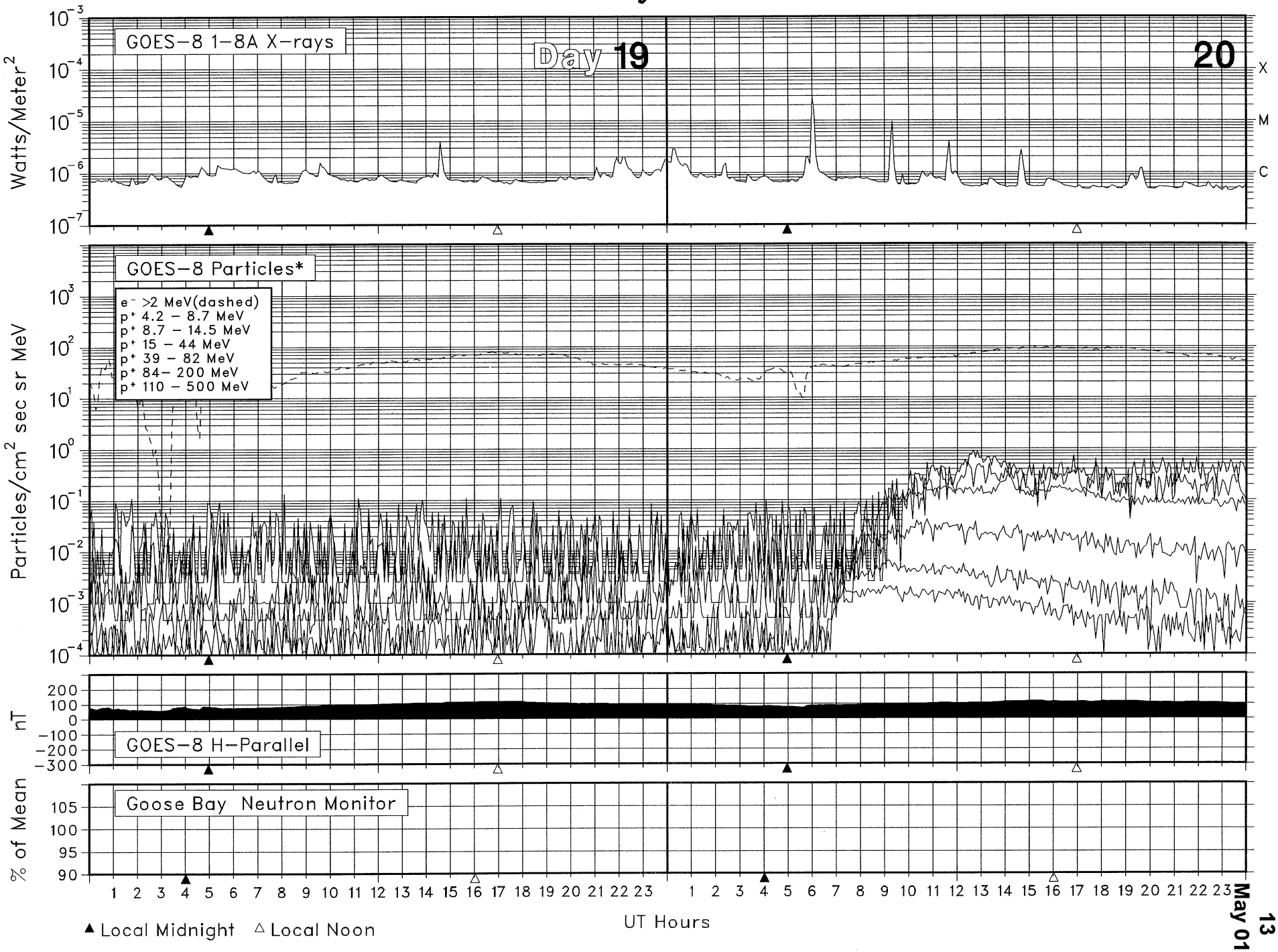

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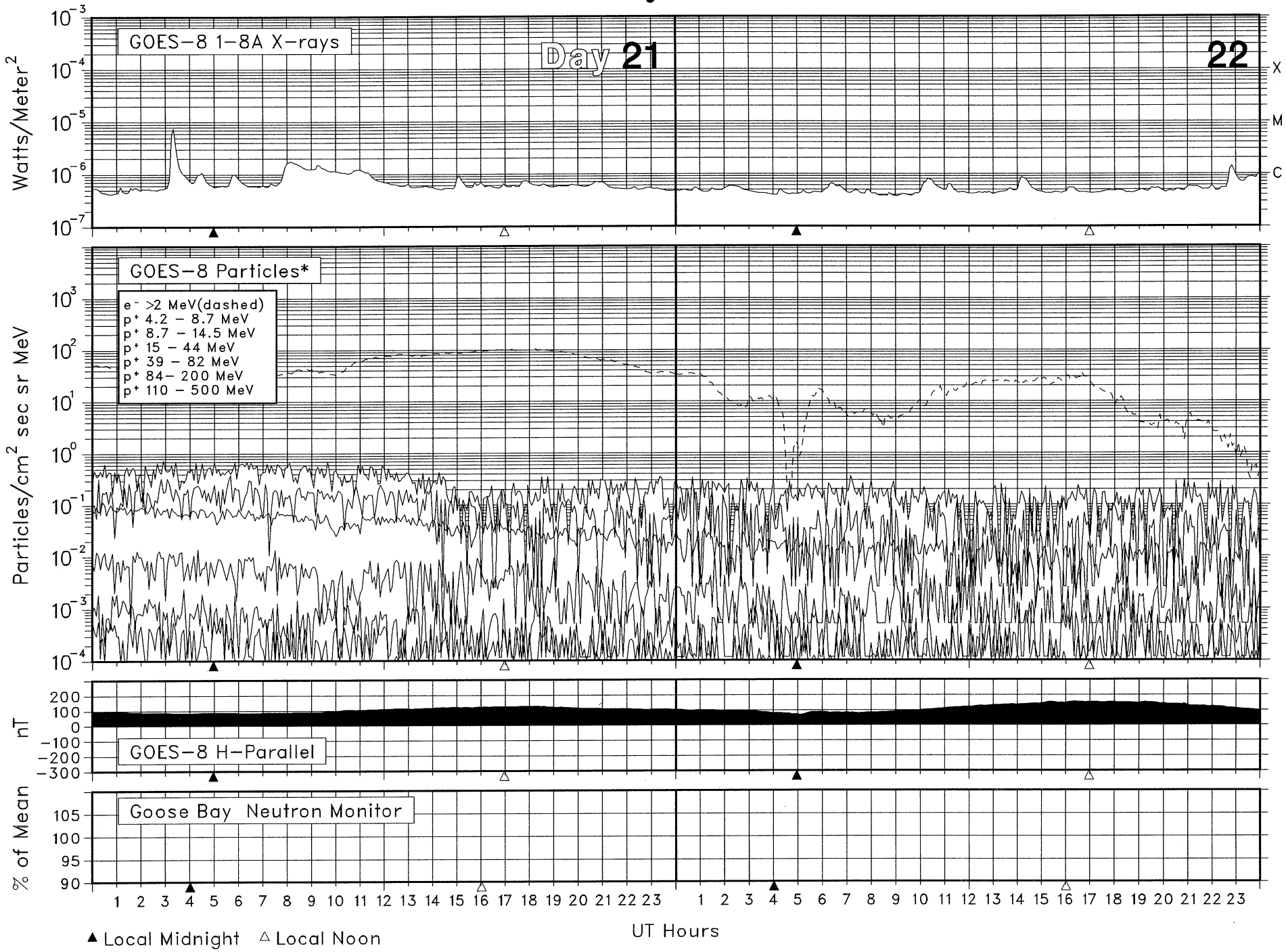

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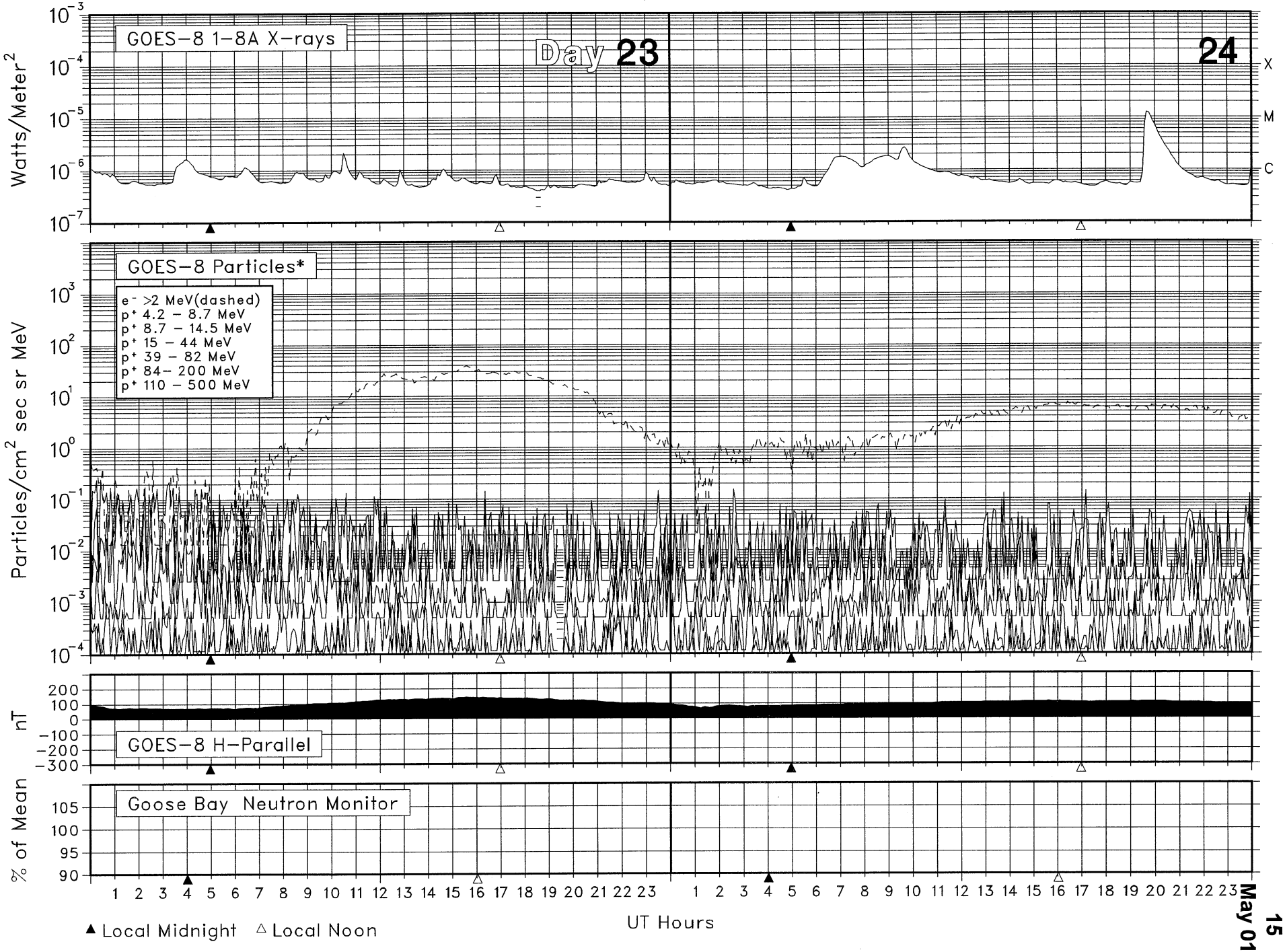

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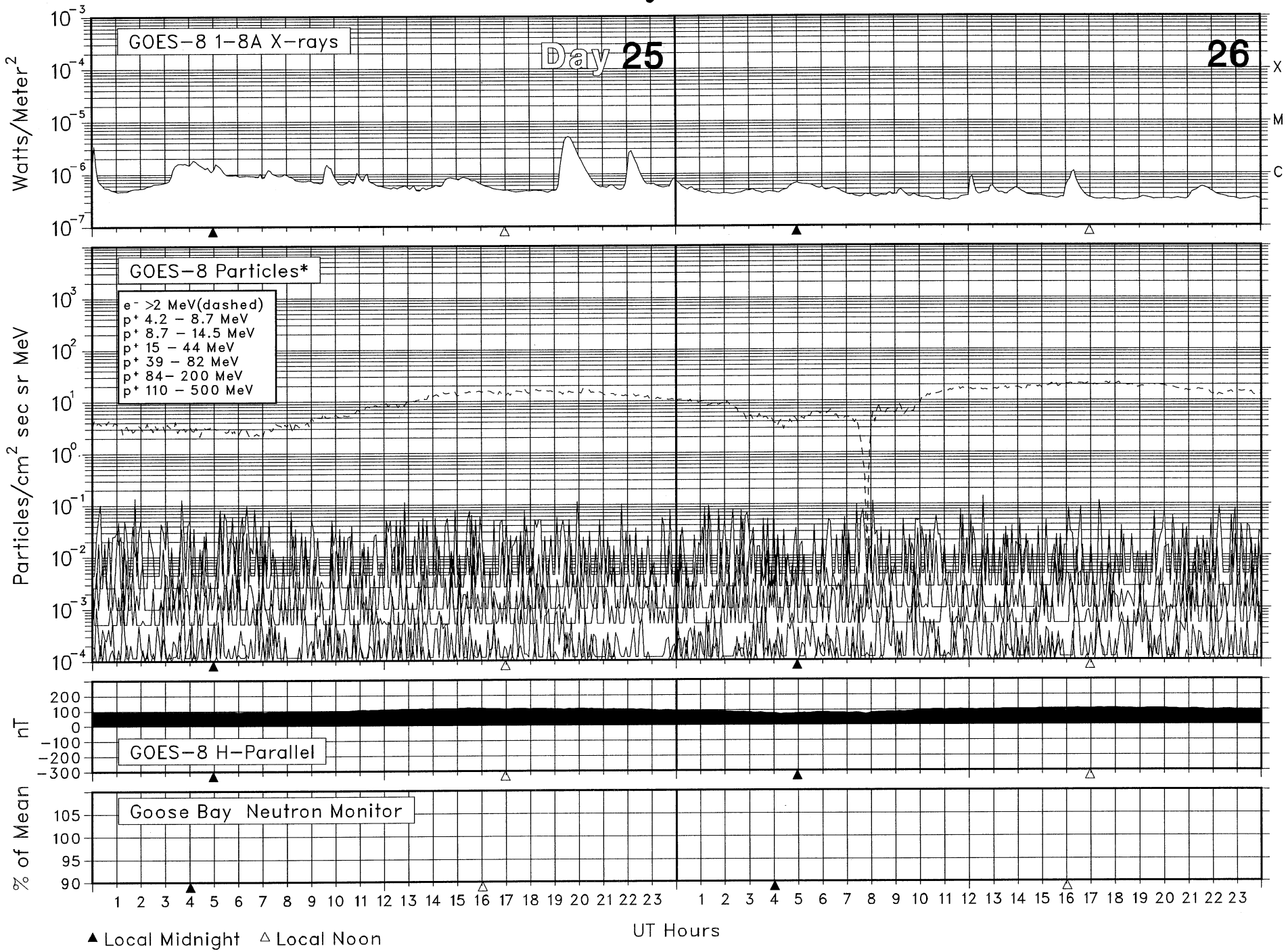

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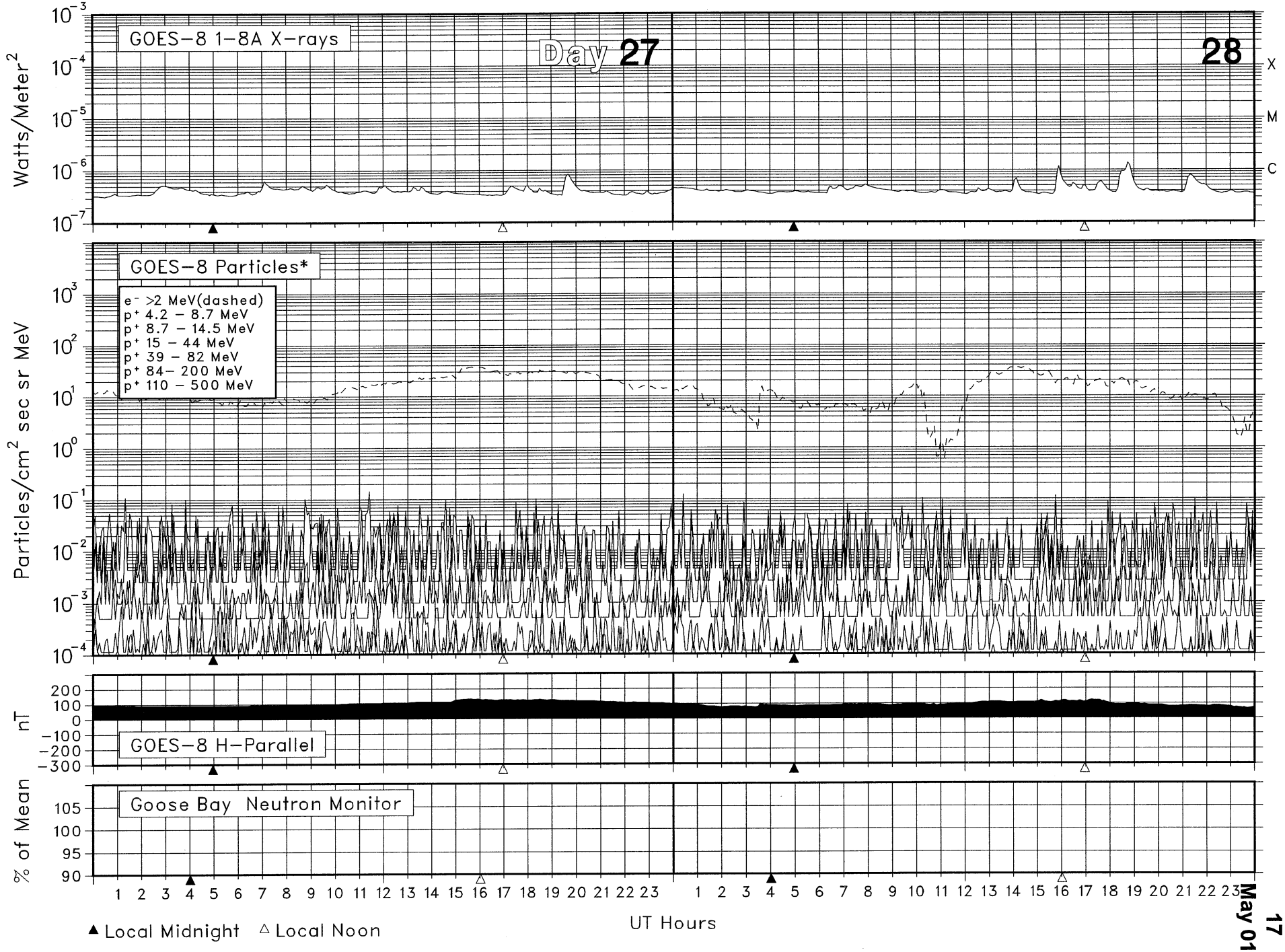

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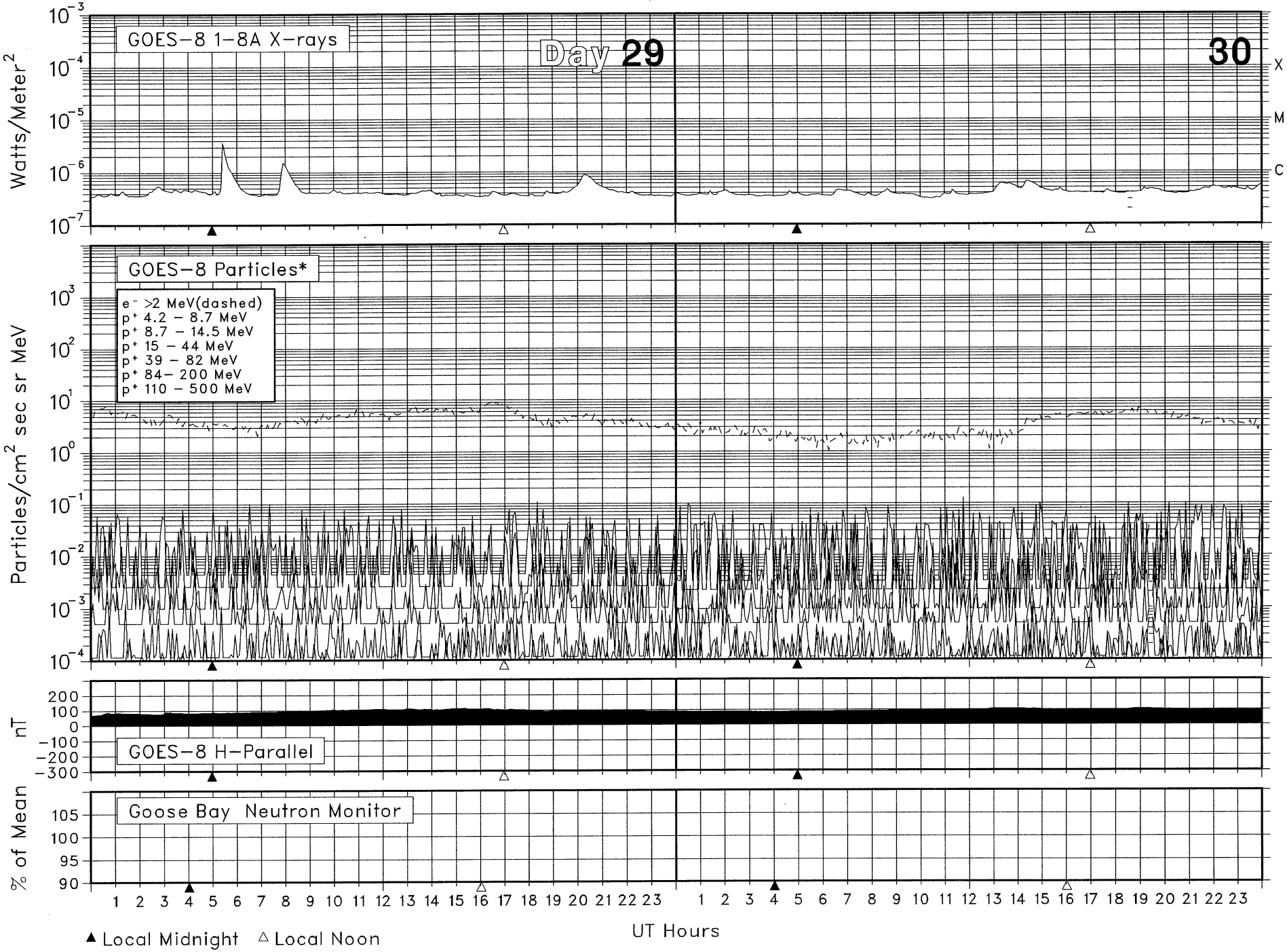

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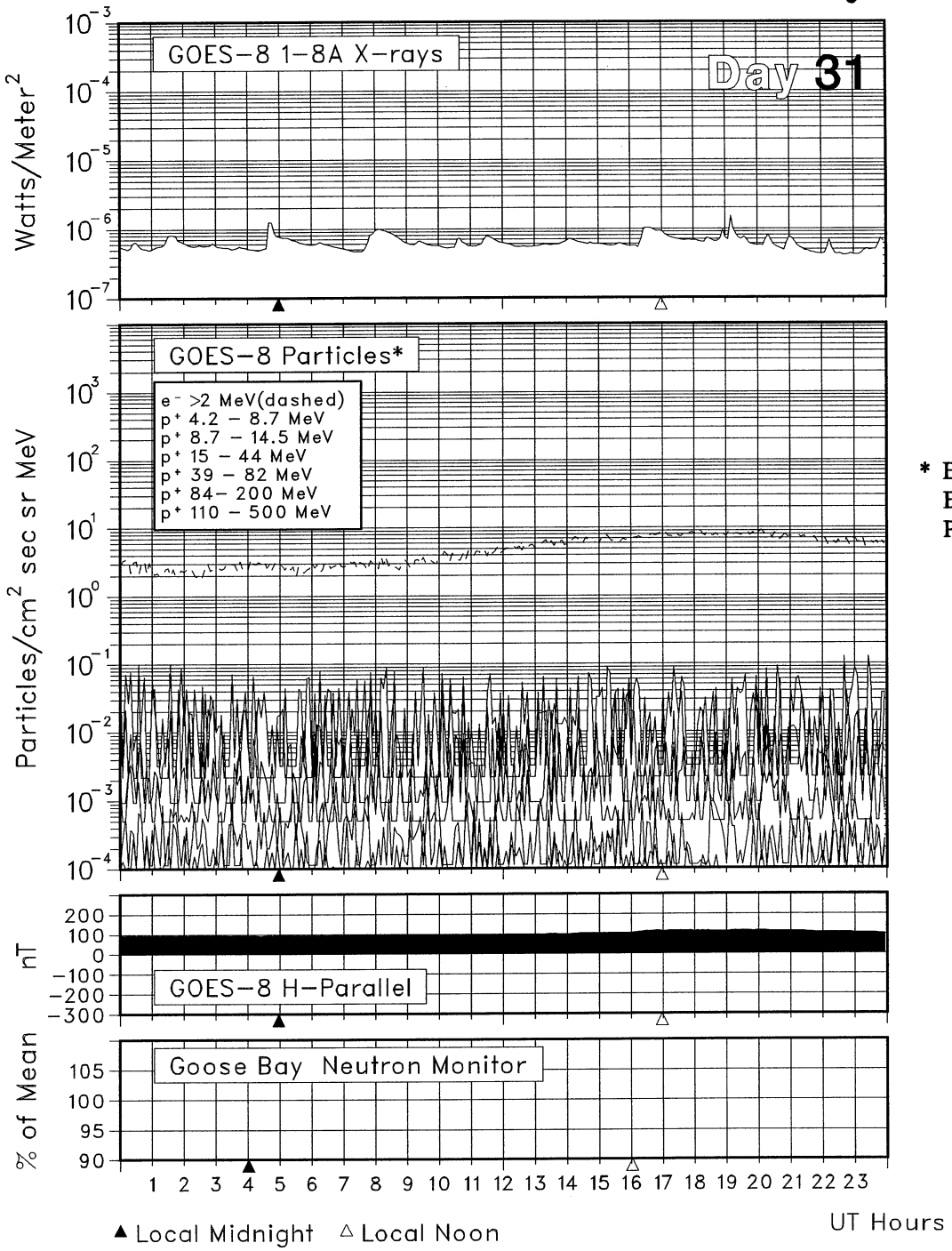

* Electron flux is divided by 10.
Electron units are Counts/cm^2 sec sr.
Protons are corrected for contamination.

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

MAY 2001

Julian Day	Date of Issue	Date of Obs	Wolf No.	10-cm Solar Flux	A-index	Rgn No.	Location Lat	Location Lon	Flares Opt	Flares M	Flares X	Date of Fcst	Region Fcst(1)	Geoadvice(1)
121	01	30	178	188	2	9433	N17	W74	6	0	0	01	A	SOL: Active
						9436	S10	W46	0	0	0	01	A	MAG: Quiet
						9437	N09	W45	0	0	0	01	A	PRO: Quiet
						9441	N07	W04	0	0	0	01	A	
						9442	N28	E09	0	0	0	01	A	
						9444	S11	E38	0	0	0	01	A	
						9445	N24	E48	8	0	0	01	A	
						9446	S05	W36	0	0	0	01	A	
						9447	N12	E15	0	0	0	01	A	
122	02	01	152	210	3	9433	N19	W82	7	1	0	02	A	SOL: Active
						9436	S11	W59	0	0	0	02	A	MAG: Quiet
						9441	N06	W16	5	0	0	02	A	PRO: Quiet
						9442	N29	W05	0	0	0	02	A	
						9444	S09	E24	0	0	0	02	A	
						9445	N26	E37	4	1	0	02	A	
						9447	N12	E01	0	0	0	02	A	
						9448	N22	E73	0	0	0	02	A	
123	03	02	179	176	4	9433	N20	W91	0	0	0	03	Q	SOL: Active
						9436	S11	W72	0	0	0	03	Q	MAG: Quiet
						9441	N07	W29	5	1	0	03	E	PRO: Quiet
						9442	N27	W17	0	0	0	03	Q	
						9444	S11	E13	0	0	0	03	Q	
						9445	N25	E23	5	0	0	03	E	
						9447	N12	W13	0	0	0	03	Q	
						9448	N22	E60	0	0	0	03	Q	
						9449	S15	E69	0	0	0	03	Q	
124	04	03	157	172	6	9436	S11	W85	0	0	0	04	Q	SOL: Eruptive
						9441	N07	W44	0	0	0	04	Q	MAG: Quiet
						9442	N27	W30	0	0	0	04	Q	PRO: Quiet
						9444	S11	W01	0	0	0	04	Q	
						9445	N25	E10	5	0	0	04	E	
						9447	N12	W27	6	0	0	04	E	
						9448	N21	E47	0	0	0	04	Q	
						9449	S16	E57	0	0	0	04	Q	
125	05	04	186	176	9	9436	S08	W99	0	0	0	05	Q	SOL: Eruptive
						9441	N06	W57	0	0	0	05	Q	MAG: Quiet
						9442	N27	W41	0	0	0	05	Q	PRO: Quiet
						9444	S11	W16	0	0	0	05	Q	
						9445	N25	W04	4	0	0	05	E	
						9447	N12	W41	2	0	0	05	E	
						9448	N20	E34	0	0	0	05	Q	
						9449	S17	E44	0	0	0	05	Q	
						9450	S03	W07	0	0	0	05	Q	
						9451	S22	E76	0	0	0	05	Q	
126	06	05	151	161	8	9441	N05	W73	0	0	0	06	Q	SOL: Eruptive
						9442	N27	W53	0	0	0	06	Q	MAG: Quiet
						9445	N24	W16	2	1	0	06	E	PRO: Quiet
						9447	N12	W55	0	0	0	06	E	
						9448	N21	E22	2	0	0	06	Q	
						9449	S17	E31	0	0	0	06	Q	
						9450	S03	W20	0	0	0	06	Q	
						9451	S22	E65	0	0	0	06	Q	
127	07	06	120	155	6	9442	N26	W69	0	0	0	07	Q	SOL: Eruptive
						9445	N23	W30	2	0	0	07	E	MAG: Quiet
						9447	N11	W71	0	0	0	07	Q	PRO: Quiet
						9448	N21	E07	0	0	0	07	Q	
						9449	S17	E17	0	0	0	07	Q	
						9450	S03	W36	0	0	0	07	Q	
						9451	S20	E52	0	0	0	07	Q	
128	08	07	103	138	17	9445	N25	W42	3	0	0	08	E	SOL: Eruptive

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

MAY 2001

Julian Day	Date of Issue	Date of Obs	Wolf No.	10-cm Solar Flux	A-index	Rgn No.	Location Lat	Location Lon	Flares Opt	Flares M	Flares X	Date of Fcst	Region Fcst(1)	Geoadvice(1)
						9447	N12	W84	0	0	0	08	Q	MAG: Quiet
						9448	N22	W06	0	0	0	08	Q	PRO: IP
						9449	S17	E04	0	0	0	08	Q	
						9450	S02	W49	0	0	0	08	Q	
						9451	S21	E38	0	0	0	08	Q	
						9452	S09	E67	0	0	0	08	Q	
129	09	08	88	129	10	9445	N24	W54	1	0	0	09	E	SOL: Eruptive
						9448	N22	W16	0	0	0	09	Q	MAG: Quiet
						9449	S16	W07	0	0	0	09	Q	PRO: Quiet
						9450	S02	W66	0	0	0	09	Q	
						9451	S21	E26	0	0	0	09	Q	
						9452	S09	E54	0	0	0	09	Q	
130	10	09	98	129	27	9445	N25	W67	3	0	0	10	E	SOL: Eruptive
						9448	N21	W30	0	0	0	10	Q	MAG: Active
						9449	S16	W21	0	0	0	10	Q	PRO: Quiet
						9450	S01	W78	0	0	0	10	Q	
						9451	S21	E13	0	0	0	10	Q	
						9452	S09	E41	0	0	0	10	Q	
						9453	S08	W28	0	0	0	10	Q	
131	11	10	94	130	26	9445	N21	W88	0	0	0	11	Q	SOL: Eruptive
						9448	N21	W44	0	0	0	11	Q	MAG: Quiet
						9449	S17	W34	1	0	0	11	Q	PRO: Quiet
						9451	S21	E00	0	0	0	11	Q	
						9452	S09	E27	0	0	0	11	Q	
						9453	S08	W41	0	0	0	11	Q	
						9454	N15	E74	0	0	0	11	E	
132	12	11	96	137	9	9448	N21	W57	0	0	0	12	Q	SOL: Eruptive
						9449	S16	W48	0	0	0	12	Q	MAG: Quiet
						9451	S22	W12	0	0	0	12	Q	PRO: Quiet
						9452	S09	E14	0	0	0	12	Q	
						9454	N13	E58	0	0	0	12	E	
						9455	S18	E17	1	0	0	12	E	
133	13	12	127	138	25	9448	N22	W71	0	0	0	13	Q	SOL: Eruptive
						9449	S16	W61	0	0	0	13	Q	MAG: Active
						9451	S21	W26	0	0	0	13	Q	PRO: Quiet
						9452	S10	E02	0	0	0	13	Q	
						9454	N13	E46	3	0	0	13	E	
						9455	S16	E03	7	1	0	13	E	
						9456	N06	W04	0	0	0	13	Q	
134	14	13	119	139	22	9448	N23	W84	0	0	0	14	Q	SOL: Eruptive
						9451	S22	W39	2	0	0	14	Q	MAG: Quiet
						9454	N12	E32	0	0	0	14	E	PRO: Quiet
						9455	S18	W11	6	1	0	14	E	
						9456	N06	W18	0	0	0	14	Q	
						9457	S19	E03	0	0	0	14	Q	
135	15	14	149	138	12	9451	S22	W52	0	0	0	15	Q	SOL: Eruptive
						9454	N12	E18	0	0	0	15	E	MAG: Quiet
						9455	S17	W24	5	0	0	15	E	PRO: Quiet
						9456	N06	W32	0	0	0	15	Q	
						9457	S21	W07	0	0	0	15	Q	
						9458	S11	W45	0	0	0	15	Q	
						9459	N26	W09	0	0	0	15	Q	
						9460	S24	E60	0	0	0	15	Q	
136	16	15	146	142	15	9451	S21	W68	0	0	0	16	Q	SOL: Eruptive
						9454	N12	E05	0	0	0	16	E	MAG: Quiet
						9455	S17	W38	4	1	0	16	E	PRO: Quiet
						9456	N07	W45	1	0	0	16	Q	
						9458	S12	W60	0	0	0	16	Q	
						9459	N26	W24	0	0	0	16	Q	

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Julian Day	Date of Issue	Date of Obs	Wolf No.	10-cm Solar Flux	A-index	Rgn No.	Location Lat	Location Lon	Flares Opt	Flares M	Flares X	Date of Fcst	Region Fcst(1)	Geoadvice(1)
						9460	S24	E48	0	0	0	16	Q	
						9461	N15	E76	0	0	0	16	Q	
137	17	16	125	138	9	9451	S20	W81	0	0	0	17	Q	SOL: Eruptive
						9454	N13	W08	1	0	0	17	E	MAG: Quiet
						9455	S17	W52	4	1	0	17	E	PRO: Quiet
						9456	N06	W60	0	0	0	17	Q	
						9458	S12	W72	1	0	0	17	Q	
						9461	N16	E63	1	0	0	17	Q	
138	18	17	137	147	9	9451	S20	W93	1	0	0	18	Q	SOL: Active
						9454	N14	W22	3	0	0	18	E	MAG: Quiet
						9455	S16	W66	6	1	0	18	E	PRO: Quiet
						9456	N07	W73	0	0	0	18	Q	
						9458	S11	W84	0	0	0	18	Q	
						9461	N18	E49	2	0	0	18	Q	
						9462	N18	E73	0	0	0	18	Q	
139	19	18	109	138	12	9454	N14	W33	0	0	0	19	Q	SOL: Active
						9455	S17	W80	0	0	0	19	Q	MAG: Quiet
						9459	N27	W60	0	0	0	19	Q	PRO: Quiet
						9461	N19	E39	0	0	0	19	Q	
						9462	N20	E62	0	0	0	19	Q	
						9463	N07	E72	0	0	0	19	Q	
140	20	19	92	141	12	9454	N14	W47	0	0	0	20	Q	SOL: Active
						9455	S17	W91	0	0	0	20	Q	MAG: Quiet
						9461	N19	E25	0	0	0	20	Q	PRO: Quiet
						9462	N19	E48	0	0	0	20	Q	
						9463	N07	E59	0	0	0	20	Q	
						9464	S11	E70	0	0	0	20	Q	
141	21	20	99	142	8	9454	N15	W60	0	0	0	21	Q	SOL: Eruptive
						9461	N22	E10	0	0	0	21	Q	MAG: Quiet
						9462	N20	E36	0	0	0	21	Q	PRO: Quiet
						9463	N09	E46	0	0	0	21	Q	
						9464	S07	E53	0	0	0	21	Q	
						9465	S08	E63	0	0	0	21	Q	
142	22	21	118	150	5	9461	N22	W06	2	0	0	22	Q	SOL: Eruptive
						9462	N22	E23	0	0	0	22	Q	MAG: Quiet
						9463	N12	E31	0	0	0	22	E	PRO: Quiet
						9464	S07	E38	0	0	0	22	Q	
						9465	S09	E48	1	0	0	22	Q	
						9466	S02	E40	0	0	0	22	Q	
						9467	S05	E55	0	0	0	22	Q	
						9468	N07	E65	0	0	0	22	Q	
143	23	22	159	152	9	9461	N22	W19	0	0	0	23	Q	SOL: Eruptive
						9462	N21	E09	0	0	0	23	Q	MAG: Quiet
						9463	N10	E18	0	0	0	23	E	PRO: Quiet
						9464	S08	E23	0	0	0	23	Q	
						9465	S10	E34	0	0	0	23	Q	
						9466	S02	E26	0	0	0	23	Q	
						9467	S05	E42	0	0	0	23	Q	
						9468	N07	E53	0	0	0	23	Q	
						9469	N08	W71	0	0	0	23	Q	
						9470	S15	W19	2	0	0	23	Q	
144	24	23	192	159	14	9461	N22	W31	1	0	0	24	Q	SOL: Eruptive
						9462	N19	W03	0	0	0	24	Q	MAG: Active
						9463	N07	E04	0	0	0	24	E	PRO: Quiet
						9464	S09	E11	0	0	0	24	Q	
						9465	S10	E19	0	0	0	24	Q	
						9466	S04	E14	0	0	0	24	Q	
						9467	S07	E29	0	0	0	24	Q	
						9468	N05	E39	2	0	0	24	E	

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Julian Day	Date of Issue	Date of Obs	Wolf No.	10-cm Solar Flux	A-index	Rgn No.	Location Lat	Location Lon	Flares Opt	Flares M	Flares X	Date of Fcst	Region Fcst(1)	Geoadvice(1)
						9469	N07	W83	0	0	0	24	Q	
						9470	S16	W32	0	0	0	24	Q	
						9471	S13	W02	0	0	0	24	Q	
						9472	N12	E61	0	0	0	24	Q	
145	25	24	171	170	7	9461	N22	W45	0	0	0	25	Q	SOL: Eruptive
						9462	N18	W16	0	0	0	25	Q	MAG: Quiet
						9463	N07	W09	0	0	0	25	E	PRO: Quiet
						9464	S09	W02	0	0	0	25	Q	
						9465	S11	E10	1	0	0	25	Q	
						9466	S05	W02	0	0	0	25	Q	
						9467	S08	E15	0	0	0	25	Q	
						9468	N05	E25	2	1	0	25	E	
						9471	S13	W16	0	0	0	25	Q	
						9472	N12	E47	0	0	0	25	Q	
146	26	25	146	162	10	9461	N22	W58	0	0	0	26	Q	SOL: Eruptive
						9462	N20	W28	0	0	0	26	Q	MAG: Quiet
						9463	N08	W23	2	0	0	26	E	PRO: Quiet
						9465	S13	W01	1	0	0	26	Q	
						9466	S04	W12	0	0	0	26	Q	
						9467	S08	E00	0	0	0	26	Q	
						9468	N07	E12	8	0	0	26	E	
						9472	N12	E34	0	0	0	26	Q	
147	27	26	167	147	10	9461	N22	W71	0	0	0	27	Q	SOL: Eruptive
						9462	N21	W40	0	0	0	27	Q	MAG: Quiet
						9463	N08	W38	0	0	0	27	E	PRO: Quiet
						9465	S10	W18	0	0	0	27	Q	
						9466	S04	W25	0	0	0	27	Q	
						9467	S07	W13	0	0	0	27	Q	
						9468	N06	W02	2	0	0	27	E	
						9472	N12	E21	0	0	0	27	Q	
						9473	N12	E12	0	0	0	27	Q	
						9474	N18	E53	0	0	0	27	Q	
						9475	N17	E71	0	0	0	27	Q	
148	28	27	189	147	5	9461	N22	W84	0	0	0	28	Q	SOL: Eruptive
						9462	N21	W54	0	0	0	28	Q	MAG: Quiet
						9463	N08	W51	0	0	0	28	Q	PRO: Quiet
						9465	S11	W33	0	0	0	28	Q	
						9467	S06	W26	0	0	0	28	Q	
						9468	N06	W16	0	0	0	28	Q	
						9472	N12	E08	0	0	0	28	Q	
						9473	N12	E00	0	0	0	28	Q	
						9474	N19	E42	0	0	0	28	Q	
						9475	N17	E59	0	0	0	28	Q	
						9476	S22	W68	0	0	0	28	Q	
						9477	S16	E20	0	0	0	28	Q	
						9478	N14	E15	0	0	0	28	Q	
149	29	28	190	143	18	9462	N21	W67	0	0	0	29	Q	SOL: Eruptive
						9463	N08	W64	0	0	0	29	Q	MAG: Active
						9465	S09	W47	0	0	0	29	Q	PRO: Quiet
						9467	S06	W39	0	0	0	29	Q	
						9468	N05	W29	0	0	0	29	Q	
						9472	N12	W05	0	0	0	29	Q	
						9474	N19	E29	0	0	0	29	Q	
						9475	N17	E48	0	0	0	29	Q	
						9476	S23	W82	0	0	0	29	Q	
						9477	S16	E07	0	0	0	29	Q	
						9478	N13	E04	0	0	0	29	Q	
						9479	N26	W56	0	0	0	29	Q	
						9480	S14	E52	0	0	0	29	Q	
						9481	N17	W44	0	0	0	29	Q	
150	30	29	131	139	9	9462	N20	W80	0	0	0	30	Q	SOL: Eruptive

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The International Space Environment Service

MAY 2001

Julian Day	Date of Issue	Date of Obs	Wolf No.	10-cm Solar Flux	A-index	Rgn No.	Location Lat	Location Lon	Flares Opt	Flares M	Flares X	Date of Fcst	Region Fcst(1)	Geoadvice(1)
						9463	N08	W81	0	0	0	30	Q	MAG: Quiet
						9467	S06	W53	0	0	0	30	Q	PRO: Quiet
						9468	N05	W43	0	0	0	30	Q	
						9472	N13	W17	0	0	0	30	Q	
						9474	N19	E15	0	0	0	30	Q	
						9475	N18	E34	2	0	0	30	Q	
						9477	S16	W08	0	0	0	30	Q	
						9479	N24	W71	0	0	0	30	Q	
						9480	S13	E36	0	0	0	30	Q	
151	31	30	105	132	4	9467	S06	W66	0	0	0	31	Q	SOL: Eruptive
						9468	N04	W58	0	0	0	31	Q	MAG: Quiet
						9472	N14	W31	0	0	0	31	Q	PRO: Quiet
						9474	N20	E02	0	0	0	31	Q	
						9475	N19	E19	0	0	0	31	E	
						9479	N18	W72	0	0	0	31	Q	
						9482	S16	E48	0	0	0	31	Q	

(1) Region Forecast and Flare (SOL) Advice

- Q = Quiet (<50% probability of C-class flares)
- E = Eruptive (C-class flares expected, probability >=50%)
- A = Active (M-class flares expected, probability >=50%)
- M = Major (X-class flares expected, probability >=50%)
- P = Proton (Proton flares expected, probability >=50%)
- W = Warning (activity levels are expected to increase, but no numerical forecast given)
- / = No forecast available

Magnetic (MAG) Geoadvice

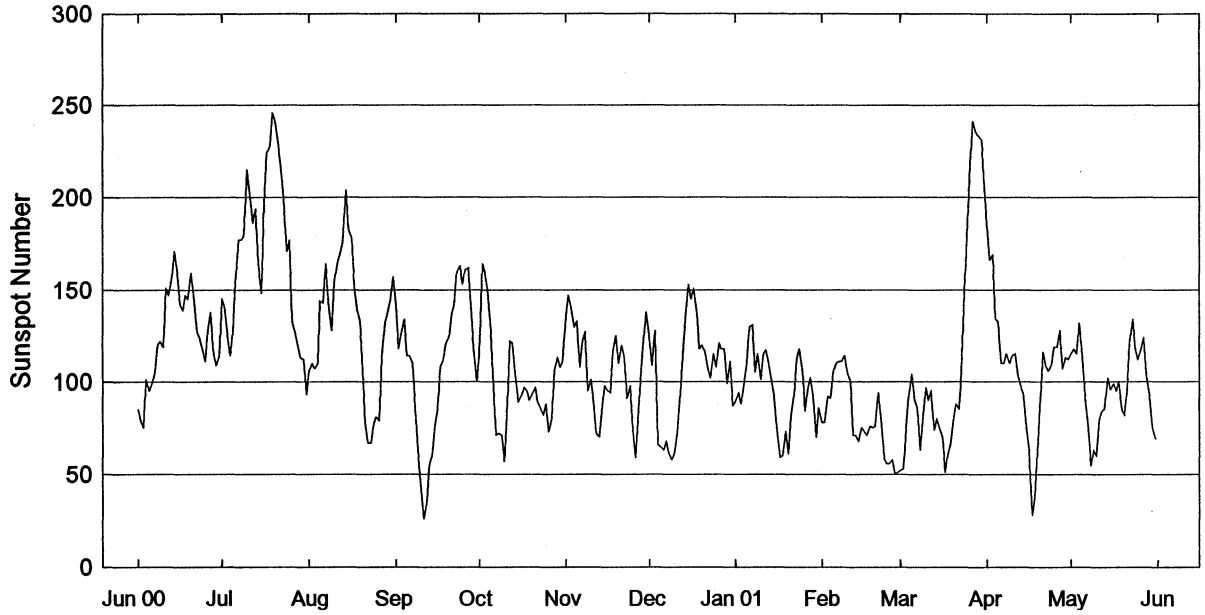
'Quiet'		
'Active'	conditions expected	(A>=20 or K=4)
'Minor'	storm expected	(A>=30 or K=5)
'Major'	storm expected	(A>=50 or K>=6)
'Severe'	storm expected	(A>=100 or K>=7)
'IP'	magstorm in progress	(A>=30 or K>=4)
'Warning'	(activity levels are expected to increase, but no numerical forecast given)	
'/'	no forecast available	

Proton (PRO) Geoadvice

'Quiet'		
'Proton'	event expected	(10pfu at >10MeV)
'Major'	proton event expected	(100pfu at >100 MeV)
'IP'	proton event in progress	(>10 MeV)
'Warning'	(activity levels are expected to increase, but no numerical forecast given)	
'/'	no forecast available	

STRATWARM ALERTS - NONE

International Relative Sunspot Numbers
Jun 2000 - May 2001

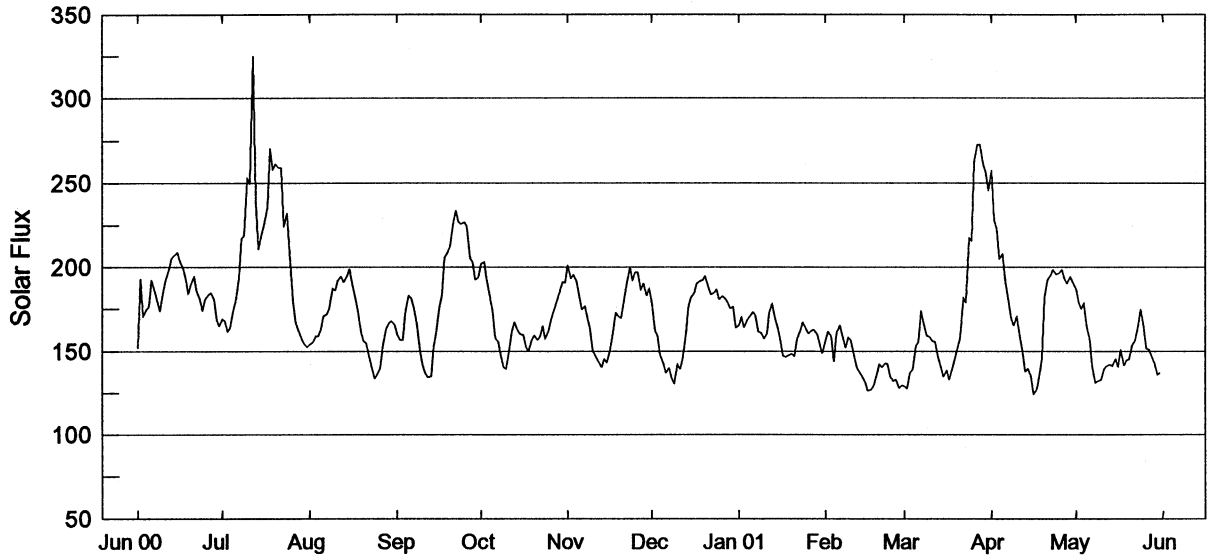


Day	Jun 00	Jul	Aug	Sep	Oct	Nov	Dec	Jan 01	Feb	Mar	Apr*	May*
1	85	145	106	142	115	140	116	89	78	52	186	115
2	79	141	110	118	153	147	109	94	78	53	166	118
3	75	124	107	128	159	141	118	88	92	75	169	115
4	101	114	110	134	150	130	72	98	91	92	134	132
5	95	127	144	114	128	133	65	110	105	104	133	118
6	99	154	143	114	97	108	57	130	110	91	110	92
7	105	177	164	110	66	122	68	131	111	85	110	79
8	120	177	140	85	72	127	57	105	111	63	115	55
9	122	179	128	55	71	95	58	115	114	79	110	63
10	119	215	154	42	57	101	62	101	105	97	114	60
11	151	202	165	26	82	90	72	115	100	90	115	80
12	147	186	170	35	122	72	89	117	71	95	103	84
13	156	194	176	63	121	70	114	111	71	74	98	85
14	171	164	204	60	104	84	135	100	68	80	92	102
15	158	148	183	77	83	98	153	92	75	75	75	96
16	142	197	178	85	92	95	145	75	73	70	63	99
17	139	224	152	108	97	94	151	59	71	51	28	95
18	147	228	140	112	95	116	138	60	76	61	38	100
19	145	246	133	121	90	125	118	73	75	66	62	85
20	159	241	106	124	94	110	127	61	76	80	86	82
21	147	231	77	137	97	120	116	81	94	88	116	95
22	127	216	67	142	89	113	107	93	81	85	109	121
23	124	199	67	160	85	91	102	112	59	113	106	134
24	119	171	77	163	82	98	115	118	56	149	109	118
25	111	177	81	153	88	74	108	106	56	186	119	112
26	129	133	79	161	73	59	121	84	58	218	119	118
27	138	126	113	162	80	84	118	97	50	241	128	124
28	115	120	132	142	106	106	118	102	51	235	107	103
29	109	113	138	119	113	123	110	90		233	113	92
30	114	112	144	100	108	138	111	70		231	112	75
31		93	157		111		87	86		205		69
Mean	124.9	170.1	130.5	109.7	99.4	106.8	104.4	95.6	80.6	113.5	108.2	97.3

* = Provisional.

Penticton 2800 MHz (10.7cm) Solar Flux
Jun 2000 - May 2001

Adjusted to 1 AU



Day	Jun 00	Jul	Aug	Sep	Oct	Nov	Dec	Jan 00	Feb	Mar	Apr	May
1	152.3	169.2	153.9	160.5	201.9	201.2	179.3	165.3	156.2	129.0	257.2	187.4~
2	192.7+	167.9	155.1	156.7	202.9	193.2	162.3	170.2	161.6	127.4	227.9	179.0
3	170.7	161.5	158.8	156.7	192.1	195.5	158.9	164.2	159.0	137.3	223.1	175.1
4	174.7	163.7	158.7	173.6	184.1	191.4	147.6	168.8	144.0	138.7	205.0	178.6
5	176.1	174.4	163.2	183.1	173.7	183.1	142.7	170.5	160.7	153.4	207.8*	163.5
6	192.0	180.1	170.8	181.5	157.9	174.9	136.9	173.4	165.3	155.4	192.0~	157.8
7	185.8	193.5	171.6	175.8	155.3	176.6	139.9	170.9	159.6	174.0	180.0	140.9
8	179.9	217.1	175.6	165.7	148.6	169.5	134.1	161.5	152.3	164.8	169.7	131.1
9	174.1	218.4	187.2	153.0	140.4	163.0	130.7	160.8	158.1	159.2	165.4	131.9
10	185.1	252.7	185.9	142.5	139.1	150.4	142.1	157.4	156.5	158.0	170.4	133.0
11	192.6	249.7	192.3	136.7	150.8	146.6	139.2	160.5	147.4	155.8	160.3	139.4
12	198.7	325.1+	194.3	134.2	161.9	143.6	145.2	172.5	140.9	155.7	149.8	141.0
13	205.5	239.6	190.9	134.8	167.2	140.6	159.5	178.3	137.8	145.6	137.8	141.9
14	206.9	210.6	194.3	152.5	162.3	145.4	176.5	170.6	134.6	140.7	139.6	141.2
15	208.9	220.1	198.9	161.1	160.1	143.2	181.9	163.8	131.8	134.7	135.1	145.2
16	203.8	226.1	190.3	176.4	159.8	150.7	184.4	156.6	126.5	138.5	124.3	140.9
17	199.4	235.8	181.5	183.2	153.0	159.6	190.4	147.0	126.8	132.9	127.1	150.8
18	193.7	270.5	173.6	205.7	149.9	172.9	191.6	146.6	129.0	138.5	133.0	141.5
19	184.2	258.0	160.8	208.8	156.5	170.7	192.2	147.7	134.0	145.7	145.8	144.6
20	189.7	261.1	156.0	213.1	159.3	169.6	194.8	148.3	142.3	152.1	182.2	144.9
21	194.2	259.0	154.9	226.7	156.5	180.9	188.2	146.7	140.5	158.2	193.0	153.8
22	185.6	259.0	147.5	233.8	158.6	190.1	183.8	157.1	142.7	181.8	194.6	155.8
23	181.0	224.3	139.9	226.7	164.8	200.1	184.7	162.0	142.2	178.9	198.6	162.8
24	173.9	232.0	133.5	225.8	157.5	192.1	186.7	167.2	134.6	217.5	195.8	174.7
25	180.9	208.2	136.0	226.8	162.0	197.0#	180.9	163.4	132.2	215.7	196.3	166.1
26	183.4	180.1	139.9	224.7	168.9	197.0	182.6	160.5	132.8	262.6	198.7	151.3
27	184.6	167.4	153.2	205.5	173.7	186.6	181.4	161.8	128.1	272.4	193.3	150.8
28	181.2	162.7	163.2	203.0	179.7	190.3	179.3	162.6	129.4	272.6	190.4	146.9
29	168.8	157.9	166.5	192.6	184.5	183.2	175.5	160.5		261.0	194.5	142.3
30	165.0	154.5	167.9	194.0	191.0	187.0	176.1	154.9		256.3	190.7	136.0
31		152.4	165.9		190.5		163.9	148.8		245.3		136.6
Mean	185.5	211.4	167.2	183.8	166.6	174.9	168.2	161.3	143.1	176.1	179.3	152.0

NOTE: #1800UT reading - burst IP at 2000UT; + Burst in progress.
~ 1700UT reading - burst IP at 2000UT; * 2300UT reading - burst IP at 2000UT.

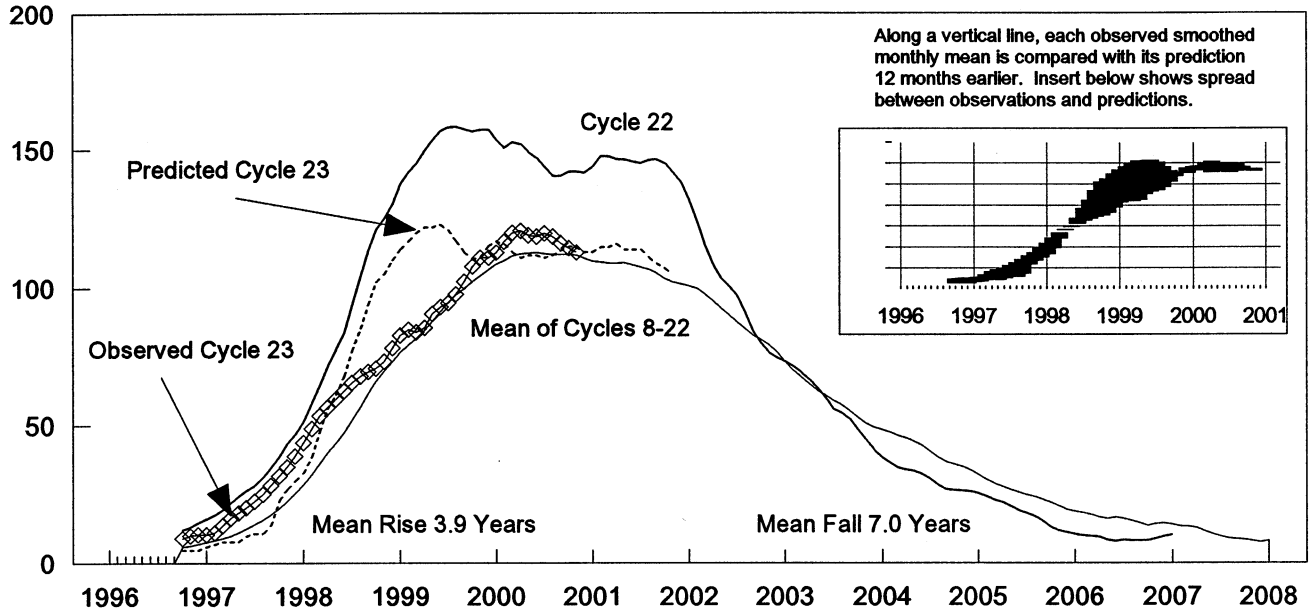
DAILY SOLAR INDICES

May 2001

Day	Day of Year	Bartels Cycle Day	Sunspot Numbers Int	Sunspot Numbers Amer	Obs Flux Penticton (2800)	Solar Flux Adjusted to 1 Astronomical Unit SGMR (15400)	SGMR (8800)	SGMR (4995)	Pentic (2800)	SGMR (2695)	SGMR (1415)	SGMR (610)	SGMR (410)	SGMR (245)
1	121	7	115	123	184.5#	545	307	241	187.4#	166	132	69	43	17
2	122	8	118	127	176.2	541	284	220	179.0	158	133	67	49	20
3	123	9	115	128	172.3	546	298	226	175.1	154	133	67	41	20
4	124	10	132	140	175.6	543	298	230	178.6	153	133	67	43	31
5	125	11	118	125	160.6	539	284	208	163.5	142	125	64	41	17
6	126	12	92	94	155.0	534	280	197	157.8	131	117	68	42	14
7	127	13	79	77	138.3	534	280	187	140.9	125	112	66	39	13
8	128	14	55	62	128.7	526	268	177	131.1	116	105	58	35	13
9	129	15	63	64	129.4	554	277	185	131.9	119	104	58	36	13
10	130	16	60	66	130.4	530	280	191	133.0	116	103	56	37	15
11	131	17	80	86	136.6	556	275	190	139.4	120	104	58	40	20
12	132	18	84	92	138.1	536	284	202	141.0	126	106	66	69	103
13	133	19	85	94	138.9	542	280	197	141.9	126	105	62	39	24
14	134	20	102	107	138.2	546	275	191	141.2	122	105	57	37	15
15	135	21	96	103	142.1	543	278	192	145.2	126	107	57	38	17
16	136	22	99	103	137.8	536	277	181	140.9	127	107	59	38	18
17	137	23	95	105	147.4	561	283	194	150.8	127	105	62	36	22
18	138	24	100	101	138.2	548	275	192	141.5	123	108	62	37	16
19	139	25	85	90	141.3	544	281	193	144.6	125	107	64	38	14
20	140	26	82	85	141.5	549	274	189	144.9	127	112	62	37	16
21	141	27	95	101	150.1	550	288	197	153.8	137	115	64	38	15
22	142	1	121	131	152.0	453	285	203	155.8	135	117	61	39	18
23	143	2	134	132	158.7	553	285	206	162.8	145	122	70	43	76
24	144	3	118	128	170.3	534	293	209	174.7	141	122	66	40	27
25	145	4	112	113	161.9	555	282	194	166.1	137	120	66	42	30
26	146	5	118	125	147.4	548	285	198	151.3	133	118	62	39	39
27	147	6	124	113	146.9	506	289	203	150.8	135	118	59	40	20
28	148	7	103	106	143.0	548	287	195	146.9	131	115	63	41	25
29	149	8	92	86	138.5	582	277	188	142.3	122	110	56	35	15
30	150	9	75	72	132.3	--	--	--	136.0	--	--	--	--	--
31	151	10	69	72	132.8	550	282	190	136.6	119	110	58	36	14
MEAN			97.3	101.6	147.9	541	283	198	152.0	132	114	62	40	23

The International and American sunspot numbers shown above are preliminary values.
NOTE: Radio flux values are from Sagamore Hill, Massachusetts, USA.
1700UT reading - burst in progress at 2000UT.

Cycle 23 Smoothed Sunspot Numbers: Observed and Predicted



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

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
1993	71	69	67	64	60	56	55	52	48	45	41	38	56
1994	37	35	34	34	33	31	29	27	27	27	26	26	31
1995	24	23	22	21	19	18	17	15	13	12	11	11	17
1996	10	10	10	9	8*	9	8	8	8	9**	10	10	8
1997	11	11	14	17	18	20	23	25	28	32	35	39	23
1998	44	49	53	57	59	63	65	68	69	71	73	78	62
1999	83	85	84	85	90	93	94	98	102	108	111	111	95
2000	113	117	120	121+	119	119	120	119	116	115	113	112	107
												(4)	(0)
2001	112	112	112	111	111	110	109	108	107	106	105	104	109
	(6)	(9)	(11)	(15)	(19)	(19)	(19)	(20)	(23)	(24)	(24)	(23)	(17)

Solar Cycle 22 | Solar Cycle 23 | Min, Max, and Predictions

*** May 1996 marks Cycle 22's mathematical minimum. ** October 1996 marks the consensus minimum NGDC is now using.**

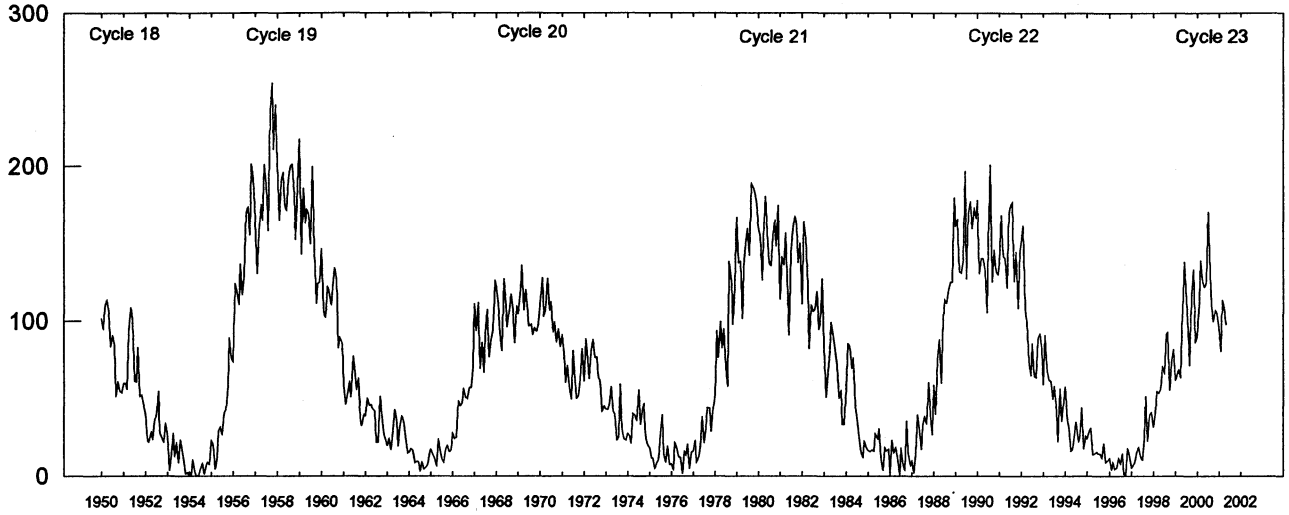
+ April 2000 marks Cycle 23 maximum.

Observed and Predicted Numbers. For the end of Cycle 22, and the rise and decline of Cycle 23, the table above lists observed smoothed sunspot numbers up to the one that includes the most recent monthly mean. We based these smoothed values on final monthly means through Mar 2001 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 November 2001 prediction. There exists a 90% chance that in November 2001, the actual smoothed number will fall somewhere between 81 and 129.

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 15 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 consensus minimum value of 8.8 that occurred in October 1996.

Note: Please visit http://www.sec.noaa.gov for solar minimum and Cycle 23 discussions.

Mean Monthly Sunspot Numbers
Jan 1950 - May 2001



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1950	101.6	94.8	109.7	113.4	106.2	83.6	91.0	85.2	51.3	61.4	54.8	54.1	83.9
1951	59.9	59.9	55.9	92.9	108.5	100.6	61.5	61.0	83.1	51.6	52.4	45.8	69.4
1952	40.7	22.7	22.0	29.1	23.4	36.4	39.3	54.9	28.2	23.8	22.1	34.3	31.5
1953	26.5	3.9	10.0	27.8	12.5	21.8	8.6	23.5	19.3	8.2	1.6	2.5	13.9
1954	0.2	0.5	10.9	1.8	0.8	0.2	4.8	8.4	1.5	7.0	9.2	7.6	4.4 m
1955	23.1	20.8	4.9	11.3	28.9	31.7	26.7	40.7	42.7	58.5	89.2	76.9	38.0
1956	73.6	124.0	118.4	110.7	136.6	116.6	129.1	169.6	173.2	155.3	201.3	192.1	141.7
1957	165.0	130.2	157.4	175.2	164.6	200.7	187.2	158.0	235.8	253.8	210.9	239.4	190.2 M
1958	202.5	164.9	190.7	196.0	175.3	171.5	191.4	200.2	201.2	181.5	152.3	187.6	184.8
1959	217.4	143.1	185.7	163.3	172.0	168.7	149.6	199.6	145.2	111.4	124.0	125.0	159.0
1960	146.3	106.0	102.2	122.0	119.6	110.2	121.7	134.1	127.2	82.8	89.6	85.6	122.3
1961	57.9	46.1	53.0	61.4	51.0	77.4	70.2	55.8	63.6	37.7	32.6	39.9	53.9
1962	38.7	50.3	45.6	46.4	43.7	42.0	21.8	21.8	51.3	39.5	26.9	23.2	37.6
1963	19.8	24.4	17.1	29.3	43.0	35.9	19.6	33.2	38.8	35.3	23.4	14.9	27.9
1964	15.3	17.7	16.5	8.6	9.5	9.1	3.1	9.3	4.7	6.1	7.4	15.1	10.2 m
1965	17.5	14.2	11.7	6.8	24.1	15.9	11.9	8.9	16.8	20.1	15.8	17.0	15.1
1966	28.2	24.4	25.3	48.7	45.3	47.7	56.7	51.2	50.2	57.2	57.2	70.4	47.0
1967	110.9	93.6	111.8	69.5	86.5	67.3	91.5	107.2	76.8	88.2	94.3	126.4	93.8
1968	121.8	111.9	92.2	81.2	127.2	110.3	96.1	109.3	117.2	107.7	86.0	109.8	105.9 M
1969	104.4	120.5	135.8	106.8	120.0	106.0	96.8	98.0	91.3	95.7	93.5	97.9	105.5
1970	111.5	127.8	102.9	109.5	127.5	106.8	112.5	93.0	99.5	86.6	95.2	83.5	104.5
1971	91.3	79.0	60.7	71.8	57.5	49.8	81.0	61.4	50.2	51.7	63.2	82.2	66.6
1972	61.5	88.4	80.1	63.2	80.5	88.0	76.5	76.8	64.0	61.3	41.6	45.3	68.9
1973	43.4	42.9	46.0	57.7	42.4	39.5	23.1	25.6	59.3	30.7	23.9	23.3	38.0
1974	27.6	26.0	21.3	40.3	39.5	36.0	55.8	33.6	40.2	47.1	25.0	20.5	34.5
1975	18.9	11.5	11.5	5.1	9.0	11.4	28.2	39.7	13.9	9.1	19.4	7.8	15.5
1976	8.1	4.3	21.9	18.8	12.4	12.2	1.9	16.4	13.5	20.6	5.2	15.3	12.6 m
1977	16.4	23.1	8.7	12.9	18.6	38.5	21.4	30.1	44.0	43.8	29.1	43.2	27.5
1978	51.9	93.6	76.5	99.7	82.7	95.1	70.4	58.1	138.2	125.1	97.9	122.7	92.5
1979	166.6	137.5	138.0	101.5	134.4	149.5	159.4	142.2	188.4	186.2	183.3	176.3	155.4 M
1980	159.6	155.0	126.2	164.1	179.9	157.3	136.3	135.4	155.0	164.7	147.9	174.4	154.6
1981	114.0	141.3	135.5	156.4	127.5	90.9	143.8	158.7	167.3	162.4	137.5	150.1	140.4
1982	111.2	163.6	153.8	122.0	82.2	110.4	106.1	107.6	118.8	94.7	98.1	127.0	115.9
1983	84.3	51.0	66.5	80.7	99.2	91.1	82.2	71.8	50.3	55.8	33.3	33.4	66.6
1984	57.0	85.4	83.5	69.7	76.4	46.1	37.4	25.5	15.7	12.0	22.8	18.7	45.9
1985	16.5	15.9	17.2	16.2	27.5	24.2	30.7	11.1	3.9	18.6	16.2	17.3	17.9
1986	2.5	23.2	15.1	18.5	13.7	1.1	18.1	7.4	3.8	35.4	15.2	6.8	13.4 m
1987	10.4	2.4	14.7	39.6	33.0	17.4	33.0	38.7	33.9	60.6	39.9	27.1	29.4
1988	59.0	40.0	76.2	88.0	60.1	101.8	113.8	111.6	120.1	125.1	125.1	179.2	100.2
1989	161.3	165.1	131.4	130.6	138.5	196.2	126.9	168.9	176.7	159.4	173.0	165.5	157.6 M
1990	177.3	130.5	140.3	140.3	132.2	105.4	149.4	200.3	125.2	145.5	131.4	129.7	142.6
1991	136.9	167.5	141.9	140.0	121.3	169.7	173.7	176.3	125.3	144.1	108.2	144.4	145.7
1992	150.0	161.1	106.7	99.8	73.8	65.2	85.7	64.5	63.9	88.7	91.8	82.6	94.3
1993	59.3	91.0	69.8	62.2	61.3	49.8	57.9	42.2	22.4	56.4	35.6	48.9	54.6
1994	57.8	35.5	31.7	16.1	17.8	28.0	35.1	22.5	25.7	44.0	18.0	26.2	29.9
1995	24.2	29.9	31.1	14.0	14.5	15.6	14.5	14.3	11.8	21.1	9.0	10.0	17.5
1996	11.5	4.4	9.2	4.8	5.5	11.8	8.2	14.4	1.6	0.9	17.9	13.3	8.6 m
1997	5.7	7.6	8.7	15.5	18.5	12.7	10.4	24.4	51.3	22.8	39.0	41.2	21.5
1998	31.9	40.3	54.8	53.4	56.3	70.7	66.6	92.2	92.9	55.5	74.0	81.9	64.3
1999	62.0	66.3	68.8	63.7	106.4	137.7	113.5	93.7	71.5	116.7	133.2	84.6	93.2
2000	90.1	112.9	138.5	125.5	121.6	124.9	170.1	130.5	109.7	99.4	106.8	104.4	119.6 M
2001	95.6	80.6	113.5	108.2	97.3								99.0

Values are preliminary after Mar 01. For the yearly means, each 'M' marks a sunspot cycle maximum and each 'm' a minimum.

Hα SOLAR FLARES

MAY 2001

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	Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
LEAR	01	0210	0211	0215	N21	W68	9433	04	26.0	5	SF		2	E		23		
LEAR		0528	0528	0531	N21	W71	9433	04	25.9	3	SF		3	E		27		
LEAR		0550	0552	0556	N20	W72	9433	04	25.8	6	SF		2	E		26		H
SVTO		0552	0553	0555	N19	W74	9433	04	25.7	3	SF		3	E		22		H
LEAR		0850	0851	0854	N20	W74	9433	04	25.8	4	SF		2	E		83		H
GOES		0959	1004	1010			9441			11		C 2.3						1.3E-03
SVTO		1429	1439	1520	N19	W78	9433	04	25.7	51	SF		3	E		46		FH
GOES		1436	1441	1445	N19	W78	9433			9	SF	C 1.7						8.2E-04
GOES		1455	1515	1533	N06	W13	9441			38	SF	C 2.2						4.2E-03
SVTO		1503	1516	1527	N06	W13	9441	04	30.6	24	SF		3	E		26		F
HOLL		1508	1516	1526	N07	W12	9441	04	30.7	18	SF		3	E		26		F
RAMY		1650	1650	1720D	N07	W12	9441	04	30.8	30D	SF		3	E		21		
RAMY		1650	1653	1713	N23	E42	9445	05	4.9	23	SF		3	E		82		
HOLL		1652	1654	1743	N23	E42	9445	05	4.9	51	SF		3	E		30		
GOES		1652	1656	1658	N23	E42	9445			6	SF	C 2.0						5.6E-04
HOLL		1656	1656	1659	N22	W77	9433	04	25.9	3	SF		3	E		49		
GOES		1723	1735	1745	N07	W13	9441			22	SF	C 4.2						4.4E-03
HOLL		1725	1727	1753	N07	W13	9441	04	30.7	28	SF		3	E		53		
HOLL		1844	1847	1903	N23	E41	9445	05	4.9	19	SF		3	E		31		
GOES		1858	1917	1945	N22	W77	9433			47	SF	M 2.4						4.5E-02
HOLL		1910	1911	2028	N22	W77	9433	04	26.0	78	SF		3	E		88		F
HOLL		1942	1943	1954	N22	E36	9445	05	4.6	12	SF		3	E		10		
HOLL		2012	2016	2027	N23	E40	9445	05	4.9	15	SF		3	E		13		
HOLL	02	0023	0029	0039	N25	E41	9445	05	5.2	16	SF		3	E		26		
LEAR		0024	0024	0036	N28	E41	9445	05	5.2	12	SF		2	E		17		F
HOLL		0031	0031	0036	N08	W17	9441	04	30.7	5	SF		3	E		13		
GOES		0032	0040	0047			9441			15		M 1.8						1.1E-02
HOLL		0043	0047	0054	N06	W19	9441	04	30.6	11	SF		3	E		21		
HOLL		0056	0058	0139D	N06	W18	9441	04	30.7	43D	SF		3	E		35		
LEAR		0057	0101	0110	N07	W16	9441	04	30.8	13	SF		2	E		26		F
LEAR		0118	0120	0123	N28	E40	9445	05	5.2	5	SF		2	E		15		F
GOES		0204	0236	0309	N24	E35	9445			65	SF	C 2.7						9.1E-03
LEAR		0233	0233	0300	N24	E35	9445	05	4.8	27	SF		2	E		15		F
GOES		0626	0633	0643	N06	W22	9441			17	1F	C 8.7						6.0E-03
LEAR		0628	0630	0700	N07	W21	9441	04	30.7	32	1N		3	E		159		FH
SVTO		0628	0630	0702	N06	W22	9441	04	30.6	34	1F		3	E		107		FH
GOES		1040	1046	1049						9		C 1.9						8.2E-04
SVTO		1051	1059	1110	N25	E30	9445	05	4.8	19	SF		3	E		17		
RAMY		1053	1056	1108	N23	E29	9445	05	4.7	15	SF		3	E		11		
RAMY		1119	1120	1129	N07	W23	9441	04	30.7	10	SF		3	E		17		F
SVTO		1120	1121	1128	N07	W22	9441	04	30.8	8	SF		3	E		18		H
RAMY		1127	1128	1134	N23	E30	9445	05	4.8	7	SF		3	E		17		
GOES		1708	1720	1734						26		C 1.9						2.6E-03
GOES		1928	1933	1943						15		C 2.4						1.6E-03
GOES	03	0018	0043	0056						38		C 2.3						3.6E-03
LEAR		0054	0056	0104	N11	W15	9447	05	1.9	10	SF		4	E		13		FH
GOES		0359	0405	0409	N26	E25	9445			10	SF	C 2.3						9.7E-04
LEAR		0402	0407	0420	N26	E25	9445	05	5.1	18	SF		3	E		38		
LEAR		0509E	0512U	0519	N11	W20	9447	05	1.7	10D	SF		3	E		19		H
GOES		0544	0548	0552						8		C 1.6						6.5E-04
SVTO		0739	0739	0743	N11	W22	9447	05	1.7	4	SF		3	E		18		
GOES		0754	0831	0849	N13	W21	9447			55	SF	C 2.9						5.9E-03
SVTO		0822	0830	0844	N13	W21	9447	05	1.8	22	SF		3	E		41		F
SVTO		1107	1108	1115	N12	W25	9447	05	1.6	8	SF		3	E		12		F
SVTO		1211	1218	1224	N29	E22	9445	05	5.2	13	SF		3	E		12		
HOLL		1356	1358	1359	N24	E19	9445	05	5.0	3	SF		3	E		12		
SVTO		1532	1533	1537	N29	E19	9445	05	5.1	5	SF		3	E		14		F
GOES		1546	1602	1609	N12	W28	9447			23	SF	C 2.3						2.7E-03
SVTO		1549	1551	1558D	N12	W28	9447	05	1.5	9D	SF		3	E		13		F
HOLL		2040	2040	2048	N24	E12	9445	05	4.8	8	SF		3	E		10		
GOES		2116	2141	2157						41		C 2.3						4.1E-03
GOES	04	1044	1058	1104	N25	E07	9445			20	SF	C 1.4						1.5E-03
SVTO		1046	1048	1058	N25	E07	9445	05	5.0	12	SF		3	E		21		
SVTO		1436	1504	1552	N25	E03	9445	05	4.8	76	SF		3	E		36		F
GOES		1440	1500	1555	N12	W35	9447			75	SF	C 4.1						1.5E-02

Hα SOLAR FLARES

MAY 2001

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	Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
SVTO	04	1442	1447	1510	N12	W35	9447	05	2.0	28	SF		3	E		53		F
HOLL		1442	1506	1529	N24	E03	9445	05	4.8	47	SF		3	E		54		UF
RAMY		1443	1450	1546D	N12	W35	9447	05	2.0	63D	SF		3	E		39		F
RAMY		1449	1500	1529D	N24	E06	9445	05	5.1	40D	SF		3	E		21		F
HOLL		1530	1530	1535	N25	E07	9445	05	5.2	5	SF		3	E		16		F
HOLL		1541	1549	1555	N24	W03	9445	05	4.4	14	SF		3	E		36		F
GOES		1818	1926	2000						102		C 3.0						1.5E-02
HOLL		1904	1905	1910	N12	W38	9447	05	1.9	6	SF		3	E		21		F
LEAR	05	0457	0458	0511	N29	E37	9448	05	8.1	14	SF		2	E		10		F
LEAR		0512	0514	0517	N30	E37	9448	05	8.1	5	SF		2	E		14		F
GOES		0842	0856	0915	N25	W06	9445			33	1F	M 1.0						1.4E-02
LEAR		0843	0853U	0856D	N29	W08	9445	05	4.7	13D	1F		2	E		226		F
SVTO		0845	0855	0920D	N25	W06	9445	05	4.9	35D	1F		2	E		146		F
GOES		1807	1820	1834	N24	W13	9445			27	SF	C 6.3						6.7E-03
HOLL		1811	1814	1853	N24	W13	9445	05	4.7	42	SF		3	E		78		UF
GOES		2100	2115	2121						21		B 9.3						1.1E-03
GOES	06	1046	1059	1108						22		B 8.0						8.4E-04
GOES		1140	1148	1158						18		C 2.8						2.0E-03
GOES		1917	1920	1923						6		B 5.9						1.9E-04
GOES		1931	2011	2031	N24	W28	9445			60	SF	C 7.9						1.5E-02
HOLL		1936	2011	2028	N24	W28	9445	05	4.6	52	SF		3	E		68		F
HOLL		2030	2030	2037	N25	W23	9445	05	5.1	7	SF		3	E		15		F
GOES	07	0231	0245	0250						19		B 7.7						6.8E-04
GOES		0358	0403	0422						24		B 6.2						8.1E-04
GOES		0620	0624	0627						7		B 7.7						2.6E-04
GOES		0632	0643	0656						24		C 1.0						1.2E-03
GOES		1136	1220	1243			9445			67		C 3.9						9.6E-03
RAMY		1138	1142	1148	N26	W32	9445	05	5.0	10	SF		3	E		28		F
RAMY		1205	1214	1241	N25	W35	9445	05	4.8	36	SF		3	E		62		F
GOES		1534	1559	1616	N24	W40	9445			42	SF	C 2.2						4.4E-03
RAMY		1538	1544	1613	N24	W40	9445	05	4.6	35	SF		3	E		28		F
SVTO		1539	1540U	1549D	N24	W40	9445	05	4.6	10D	SF		2	E		39		F
HOLL		1539	1540	1607	N24	W39	9445	05	4.6	28	SF		3	E		35		FH
GOES		1819	1831	1846						27		C 1.7						2.4E-03
GOES	08	0036	0055	0117	N23	W43	9445			41	1F	C 9.9						1.6E-02
HOLL		0041	0052	0108D	N24	W44	9445	05	4.6	27D	1F		3	E		147		
LEAR		0056E	0057U	0137	N23	W43	9445	05	4.7	41D	1F		3	E		209		UF
GOES		0929	0932	0935						6		B 6.4						1.8E-04
GOES		1610	1622	1631						21		C 1.6						1.4E-03
GOES	09	0512	0516	0520						8		B 6.7						2.9E-04
GOES		0532	0603	0620			9445			48		C 1.1						2.7E-03
LEAR		0533	0535	0544	N22	W60	9445	05	4.6	11	SF		3	E		64		
LEAR		0557	0558	0619	N26	W57	9445	05	4.8	22	SF		3	E		23		
SVTO		0559	0559	0614	N26	W57	9445	05	4.8	15	SF		3	E		18		
GOES		0847	0853	0902	N26	W56	9445			15	SF	C 1.5						1.0E-03
SVTO		0857E	0857	0909	N26	W56	9445	05	5.0	12D	SF		3	E		16		F
GOES		1234	1238	1241						7		B 7.2						2.6E-04
GOES		1513	1517	1519						6		B 8.8						2.4E-04
GOES		1633	1637	1640						7		B 8.5						2.9E-04
GOES		1800	1803	1807						7		B 8.4						3.2E-04
GOES	10	0105	0203	0443						218		C 5.6						4.9E-02T
GOES		1018	1026	1036	S18	W26	9449			18	SF	C 1.8						1.5E-03
SVTO		1020	1022	1034	S18	W26	9449	05	8.4	14	SF		3	E		26		F
GOES		1448	1519	1547			9454			59		C 6.1						1.5E-02
GOES	11	0642	0717	0745						63		C 1.6						4.5E-03
GOES		1000	1006	1013	S18	E25	9455			13	SF	C 1.6						8.6E-04
SVTO		1004	1005U	1018	S18	E25	9455	05	13.3	14	SF		3	E		58		FH
GOES		2017	2022	2031						14		C 3.7						2.4E-03
GOES		2231	2244	2254						23		C 2.7						2.8E-03
GOES	12	0036	0044	0047						11		B 7.4						3.7E-04

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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	Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
GOES	12	0603	0607	0611						8		B 7.5						3.2E-04
GOES		0841	0845	0849	N15	E56	9454			8	SF	B 9.5						3.7E-04
LEAR		0844	0844	0848	N15	E56	9454	05	16.6	4	SF		3	E		14		
SVTO		0942	1001	1035	S17	E11	9455	05	13.2	53	1F		3	E		110		FH
GOES		0954	1001	1010	S17	E11	9455			16	1F	C 2.8						2.0E-03
GOES		1202	1210	1213	N15	E53	9454			11	SF	C 5.7						1.8E-03
SVTO		1204	1211	1218	N15	E53	9454	05	16.5	14	SF		3	E		78		H
SVTO		1240	1242	1255	S14	E08	9455	05	13.1	15	SF		3	E		23		F
RAMY		1326	1347	1413	N12	E55	9454	05	16.7	47	SF		3	E		14		
RAMY		1326	1412	1440	S18	E08	9455	05	13.2	74	1N		3	E		82		
GOES		1408	1425	1434	S17	E08	9455			26	SF	C 4.0						4.4E-03
SVTO		1410	1412	1516	S17	E08	9455	05	13.2	66	SF		3	E		54		FH
GOES		1440	1448	1459	S18	E08	9455			19	SF	C 4.2						3.9E-03
RAMY		1443	1446	1503	S18	E08	9455	05	13.2	20	SF		3	E		25		
GOES		1714	1725	1734	S19	E04	9455			20	SF	C 3.5						3.0E-03
RAMY		1716	1721	1749	S19	E04	9455	05	13.0	33	SF		3	E		33		F
GOES		2242	2335	2345	S17	E00	9455			63	1B	M 3.0						2.9E-02
LEAR		2326	2335	2408	S17	E00	9455	05	13.0	42	1B		3	E		179		FH
GOES	13	0020	0025	0029	S15	E01	9455			9	SF	C 3.4						1.3E-03
LEAR		0022	0024	0033	S15	E01	9455	05	13.1	11	SF		3	E		54		F
GOES		0140	0145	0153	S17	E02	9455			13	SF	C 1.1						8.1E-04
LEAR		0143	0144	0147	S17	E02	9455	05	13.2	4	SF		3	E		19		F
GOES		0258	0304	0308	S18	W01	9455			10	SN	M 3.6						1.2E-02
LEAR		0301	0304	0322	S18	W01	9455	05	13.0	21	SN		4	E		82		F
GOES		0813	0820	0831	S17	W04	9455			18	SF	C 3.4						2.4E-03
LEAR		0816	0818	0837	S18	W04	9455	05	13.0	21	SF		2	E		86		EF
SVTO		0817	0818	0837	S17	W04	9455	05	13.0	20	SF		3	E		85		F
GOES		0958	1003	1008	S15	W04	9455			10	SF	B 9.7						4.7E-04
SVTO		1001	1001	1005	S15	W04	9455	05	13.1	4	SF		3	E		13		F
GOES		1358	1404	1411	S16	W04	9455			13	1F	C 4.9						2.3E-03
SVTO		1402	1404	1422	S16	W04	9455	05	13.3	20	1F		3	E		113		F
SVTO		1607	1607	1614	S21	W33	9451	05	11.1	7	SF		3	E		13		
SVTO		1620	1627	1642	S22	W34	9451	05	11.1	22	SF		3	E		33		F
GOES		1912	1918	1923						11		C 3.3						1.4E-03
GOES		2047	2052	2102						15		C 1.6						1.0E-03
GOES		2303	2309	2324						21		C 1.1						1.2E-03
GOES	14	0221	0224	0229						8		B 4.3						1.8E-04
GOES		0319	0324	0328	S15	W13	9455			9	SF	C 5.1						1.5E-03
LEAR		0322	0324	0337	S15	W13	9455	05	13.1	15	SF		3	E		58		F
GOES		0517	0528	0539	S17	W17	9455			22	SF	C 1.7						1.7E-03
SVTO		0524	0525	0536	S17	W17	9455	05	12.9	12	SF		3	E		12		F
GOES		1051	1113	1148	S17	W21	9455			57	SF	C 1.0						2.7E-03
SVTO		1112	1112	1119	S17	W21	9455	05	12.9	7	SF		3	E		16		
GOES		1213	1227	1233	S18	W22	9455			20	SF	C 2.3						1.8E-03
RAMY		1216	1227	1238	S18	W22	9455	05	12.8	22	SF		3	E		26		
SVTO		1224	1227	1237	S17	W22	9455	05	12.8	13	SF		3	E		20		
GOES		1455	1512	1519	S15	W21	9455			24	SF	B 9.7						1.1E-03
SVTO		1503	1507	1514	S15	W21	9455	05	13.0	11	SF		3	E		15		F
GOES		2232	2237	2250						18		B 8.8						8.3E-04
GOES	15	0253	0300	0308	S17	W29	9455			15	1N	M 1.0						5.6E-03
LEAR		0257	0300	0316	S17	W29	9455	05	12.9	19	1N		3	E		106		F
GOES		0604	0611	0620						16		C 1.3						1.1E-03
GOES		0834	0845	0854	S17	W34	9455			20	SF	C 3.5						3.0E-03
SVTO		0837	0844	0857	S17	W34	9455	05	12.8	20	SF		3	E		57		F
LEAR		0837	0915	0922D	S16	W34	9455	05	12.8	45D	SF		3	E		36		
GOES		0910	0916	0926	S18	W33	9455			16	SF	C 2.1						1.8E-03
SVTO		0912	0913	0920	S18	W33	9455	05	12.9	8	SF		3	E		32		
GOES		1316	1325	1344						28		C 3.4						4.3E-03
RAMY		1717	1717	1722	N06	W42	9456	05	12.6	5	SF		3	E		21		
GOES		1752	1940	2219						267		C 4.0						4.1E-02T
HOLL		2103	2107	2109	S16	W40	9455	05	12.8	6	SF		3	E		12		
LEAR	16	0206	0210	0217	S16	W38	9455	05	13.2	11	SF		3	E		13		
GOES		0628	0634	0640	S17	W45	9455			12	SF	C 4.2						2.1E-03
SVTO		0631	0633	0645	S17	W44	9455	05	12.9	14	SF		2	E		44		F

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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	Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
LEAR	16	0631	0633	0647	S17	W45	9455	05	12.8	16	SF		3	E		60		F
GOES		0824	0839	0848	N17	E58	9461			24	SF	C 1.1						1.5E-03
LEAR		0829	0840	0853	N17	E58	9461	05	20.8	24	SF		3	E		50		
GOES		0937	0944	0949						12		C 1.5						9.1E-04
GOES		1035	1042	1045	S17	W47	9455			10	SF	M 1.3						4.0E-03
SVTO		1039	1042	1103	S17	W47	9455	05	12.9	24	SF		3	E		93		F
GOES		1435	1442	1448						13		C 2.1						1.3E-03
GOES		1536	1550	1617	S11	W69	9458			41	SF	C 2.7						4.8E-03
SVTO		1547	1549	1554	S11	W69	9458	05	11.5	7	SF		3	E		14		F
GOES		1833	1840	1850	S17	W54	9455			17	SF	C 1.5						1.2E-03
HOLL		1838	1838	1842	S17	W54	9455	05	12.7	4	SF		3	E		15		F
GOES		1917	1922	1934						17		B 8.5						7.7E-04
GOES		2012	2016	2021						9		B 7.5						3.6E-04
GOES		2344	2349	2356	N14	W10	9454			12	SF	C 2.3						1.5E-03
LEAR		2348	2353	2403	N14	W10	9454	05	16.2	15	SF		3	E		32		F
GOES	17	0026	0030	0032						6		C 1.1						3.3E-04
GOES		0059	0104	0107						8		C 1.0						4.3E-04
GOES		0120	0124	0130	S16	W56	9455			10	SF	C 2.7						1.1E-03
LEAR		0123	0124	0129	S16	W56	9455	05	12.8	6	SF		3	E		12		
GOES		0404	0414	0425						21		C 1.1						1.2E-03
GOES		0533	0537	0540						7		B 9.3						3.3E-04
GOES		0544	0551	0602	S19	W87	9451			18	SF	C 1.8						1.6E-03
LEAR		0550E	0559U	0605	S19	W87	9451	05	10.6	15D	SF		3	E		55		
GOES		0647	0653	0658						11		C 2.2						1.0E-03
GOES		0845	0849	0853						8		C 1.2						4.5E-04
GOES		0957	1001	1006						9		C 4.0						1.5E-03
SVTO		1122	1123	1127	N16	W07	9454	05	16.9	5	SF		3	E		22		F
GOES		1309	1314	1318						9		B 9.8						4.7E-04
GOES		1341	1354	1402	S13	W60	9455			21	SF	C 1.9						2.1E-03
HOLL		1351	1356	1405	S13	W60	9455	05	13.0	14	SF		3	E		23		F
HOLL		1431	1431	1437	S17	W63	9455	05	12.8	6	SF		3	E		18		F
GOES		1439	1443	1448						9		C 1.4						7.0E-04
GOES		1616	1640	1646	S17	W64	9455			30	SF	C 3.2						2.9E-03
HOLL		1634	1635	1645	S17	W64	9455	05	12.8	11	SF		3	E		36		F
GOES		1646	1652	1657	S16	W64	9455			11	1F	M 1.2						4.6E-03
HOLL		1648	1652	1704	S16	W64	9455	05	12.8	16	1F		3	E		111		F
GOES		1730	1733	1735						5		C 1.6						4.0E-04
GOES		1936	1956	2004	N13	W19	9454			28	1F	C 7.0						7.3E-03
HOLL		1940	1957	2028	N13	W19	9454	05	16.4	48	1F		3	E		111		F
GOES		2041	2049	2059	N13	W19	9454			18	1F	C 9.1						7.3E-03
HOLL		2044	2045	2111	N13	W19	9454	05	16.4	27	1F		3	E		131		F
GOES		2136	2142	2213	N22	E52	9461			37	SF	C 4.0						7.1E-03
HOLL		2138	2141	2145	N22	E52	9461	05	21.9	7	SF		3	E		28		
GOES		2317	2324	2334	N20	E54	9461			17	SF	C 2.2						1.9E-03
HOLL		2324	2328	2335	N20	E54	9461	05	22.1	11	SF		3	E		22		
HOLL		2354	2354	2358	S16	W68	9455	05	12.8	4	SF		3	E		25		
GOES	18	0215	0219	0222						7		C 2.2						6.7E-04
GOES		0235	0238	0240						5		C 1.2						3.0E-04
GOES		0629	0640	0656						27		C 6.4						7.3E-03
GOES		0813	0816	0819						6		B 8.5						2.8E-04
GOES		0820	0824	0827						7		B 9.7						3.6E-04
GOES		1454	1501	1509						15		C 2.4						1.8E-03
GOES		1539	1549	1553						14		C 2.5						1.7E-03
GOES		1824	1835	1845						21		C 5.7						5.0E-03
GOES	19	0144	0148	0152						8		C 1.0						4.1E-04
GOES		0520	0524	0526						6		C 1.9						5.5E-04
GOES		0741	0745	0747						6		C 1.5						3.8E-04
GOES		0933	0937	0939						6		C 1.9						5.3E-04
GOES		1433	1438	1441						8		C 6.7						1.6E-03
GOES		2102	2107	2111						9		C 1.3						6.3E-04
GOES		2148	2155	2204						16		C 2.1						1.6E-03
GOES		2350	2419	2425						35		C 3.5						4.2E-03
GOES	20	0220	0225	0228						8		C 2.0						7.4E-04
GOES		0319	0323	0327						8		C 1.0						4.4E-04

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10-6 Disk)	Corr (Sq Deg)	Remarks
GOES	20	0543	0548	0554						11		C 2.5						1.3E-03
GOES		0600	0603	0606						6		M 6.4						1.2E-02
GOES		0912	0920	0923						11		M 1.5						3.8E-03
GOES		0943	0947	0950						7		B 9.7						3.4E-04
GOES		1031	1035	1042						11		C 1.0						6.5E-04
GOES		1135	1140	1143						8		C 6.1						1.5E-03
GOES		1150	1154	1203						13		C 1.1						7.6E-04
GOES		1319	1323	1335						16		B 8.0						7.0E-04
GOES		1432	1441	1446						14		C 2.9						1.6E-03
GOES		1907	1916	1923						16		B 9.2						8.0E-04
GOES		1930	1940	1945						15		C 1.3						9.6E-04
GOES	21	0311	0320	0325			9461			14	1N	C 9.0						4.3E-03
GOES		0411	0432	0437	N22	E08	9461			26	SF	C 1.1						1.5E-03
GOES		0531	0549	0604						33		C 1.0						1.6E-03
GOES		0735	0810	0907						92		C 1.7						7.3E-03
GOES		0908	0919	0924						16		C 1.5						1.4E-03
GOES		1456	1506	1516						20		B 9.6						9.5E-04
GOES		1541	1603	1607						26		B 7.0						1.0E-03
RAMY		1545	1546	1551	S13	E55	9465	05	25.8	6	SF		3	E		13		
GOES	22	1400	1413	1430	S18	W16				30	SF	B 8.8						1.3E-03
RAMY		1407	1410	1419	S18	W16		05	21.4	12	SF		3	E		18		
HOLL		1408	1412	1416	S19	W15		05	21.4	8	SF		3	E		23		
GOES		2241	2251	2301	S18	W20	9470			20	SF	C 1.4						1.4E-03
HOLL		2244	2245	2300	S18	W20	9470	05	21.4	16	SF		3	E		11		F
GOES	23	0329	0401	0420						51		C 1.6						4.2E-03
GOES		1026	1032	1038						12		C 2.4						1.2E-03
GOES		1105	1111	1119	N25	W21	9461			14	SF	B 9.6						7.4E-04
RAMY		1111	1112	1116	N25	W21	9461	05	21.8	5	SF		3	E		16		
GOES		1247	1252	1255	N08	E45	9468			8	SF	C 1.2						4.3E-04
HOLL		1250	1251	1259	N08	E45	9468	05	26.9	9	SF		3	E		23		
GOES		1425	1428	1431	N07	E44	9468			6	SF	C 1.0						3.1E-04
RAMY		1428	1431	1431	N06	E45	9468	05	27.0	3	SF		3	E		17		
SVTO		1428	1428	1431	N07	E44	9468	05	26.9	3	SF		3	E		11		
GOES		2103	2106	2108						5		B 7.0						1.8E-04
GOES		2259	2303	2307						8		C 1.0						4.3E-04
LEAR	24	0530	0533	0538	N08	E34	9468	05	26.8	8	SF		3	E		17		F
GOES		0609	0706	0801						112		C 1.8						9.0E-03
GOES		0802	0901	0925						83		C 1.8						7.9E-03
GOES		0926	0942	0951			9465			25		C 2.7						3.4E-03
SVTO		0947	0950	0950	S07	E09	9465	05	25.1	3	SF		3	E		12		H
GOES		1930	1944	2004	N07	E29	9468			34	1N	M 1.2						1.8E-02
HOLL		1934	1939	2021	N07	E29	9468	05	27.0	47	1N		3	E		238		FH
GOES		2357	2406	2410	N06	W13	9463			13	SF	C 4.0						1.6E-03
LEAR	25	0002	0006	0020	N06	W13	9463	05	24.0	18	SF		3	E		52		F
HOLL		0005	0007	0012	N05	W10	9463	05	24.2	7	SF		3	E		37		F
LEAR		0407	0407	0420	S09	E04	9465	05	25.5	13	SF		3	E		17		F
LEAR		0434	0434	0437	S17	W51	9470	05	21.3	3	SF		3	E		18		
LEAR		0446	0446	0450	N06	E21	9468	05	26.8	4	SF		3	E		11		F
LEAR		0504	0507	0510	N09	E21	9468	05	26.8	6	SF		3	E		12		
LEAR		0712	0712	0721	N03	E20	9468	05	26.8	9	SF		3	E		17		F
GOES		0933	0939	0956						23		C 1.5						1.8E-03
RAMY		1053	1054	1102	N03	E19	9468	05	26.9	9	SF		3	E		29		F
GOES		1116	1119	1123	N03	E19	9468			7	SF	C 1.2						4.4E-04
RAMY		1119	1120	1124	N03	E19	9468	05	26.9	5	SF		3	E		13		F
GOES		1912	1937	1957	N03	E16	9468			45	1F	C 5.2						9.8E-03
HOLL		1916	1928	2014	N03	E16	9468	05	27.0	58	1F		3	E		164		F
RAMY		1919	1929	2004	S08	W07	9468	05	25.3	45	1F		3	E		175		FH
HOLL		1936	1946	1956	N05	W23	9463	05	24.1	20	SF		3	E		23		F
HOLL		2014	2017	2019	N03	E16	9468	05	27.0	5	SF		3	E		10		
GOES		2200	2210	2223	N07	E15	9468			23	SF	C 2.8						3.0E-03
HOLL		2202	2204	2233	N07	E15	9468	05	27.0	31	SF		3	E		73		F
GOES	26	1204	1208	1214	N02	E00	9468			10	SF	C 1.1						5.0E-04

Hα SOLAR FLARES

MAY 2001

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	Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
SVTO	26	1207	1208U	1219D	N04	E00	9468	05	26.5	12D	SF		3	E		14		
RAMY		1207	1209	1216	N02	E00	9468	05	26.5	9	SF		3	E		45		
GOES		1559	1620	1628	N04	E03	9468			29	SF	C 1.1						1.4E-03
HOLL		1620	1623	1624	N04	E03	9468	05	26.9	4	SF		3	E		11		
GOES	27	1930	1941	1954						24		B 8.5						1.0E-03
GOES	28	1402	1410	1416						14		B 7.2						5.0E-04
GOES		1548	1556	1602						14		C 1.2						7.8E-04
GOES		1822	1848	1856						34		C 1.3						2.0E-03
GOES		2111	2123	2136						25		B 8.0						1.1E-03
GOES	29	0521	0526	0532	N20	E43	9475			11	SF	C 4.4						1.6E-03
LEAR		0524	0526	0544	N20	E43	9475	06	1.5	20	SF		3	E		44		
SVTO		0525	0529	0533	N20	E43	9475	06	1.5	8	SF		3	E		16		
GOES		0748	0755	0810	N19	E41	9475			22	SF	C 1.5						1.6E-03
SVTO		0753	0754	0802	N19	E41	9475	06	1.4	9	SF		3	E		12		F
GOES	31	0437	0444	0449						12		C 1.5						8.2E-04
GOES		1620	1632	1712						52		C 1.0						2.9E-03
GOES		1852	1856	1859						7		C 1.0						3.8E-04
GOES		1907	1911	1915						8		C 1.7						6.1E-04
GOES		2055	2101	2112	S16	W31	9477			17	SF	B 7.7						7.2E-04
HOLL		2057	2106	2108	S16	W31	9477	05	29.5	11	SF		3	E		15		
GOES		2212	2216	2219						7		B 7.2						2.7E-04

"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

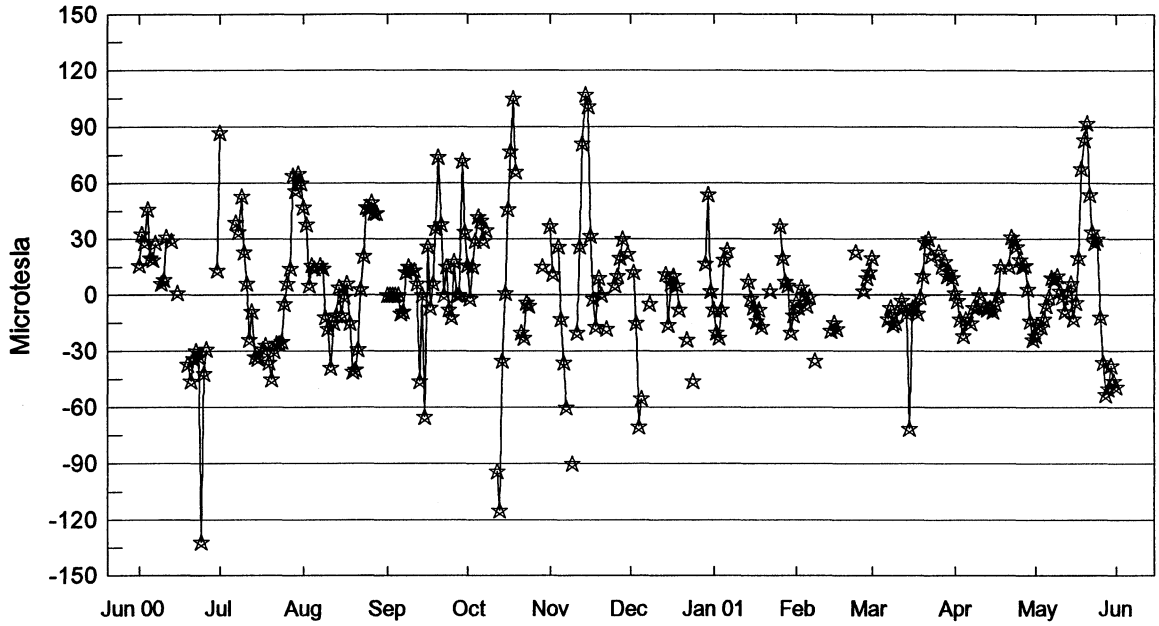
NOTE: Beginning July 1997, the times of all GOES X-ray events are now included in this table.

SOLAR RADIO EMISSION
Selected Fixed Frequency Events

MAY 2001

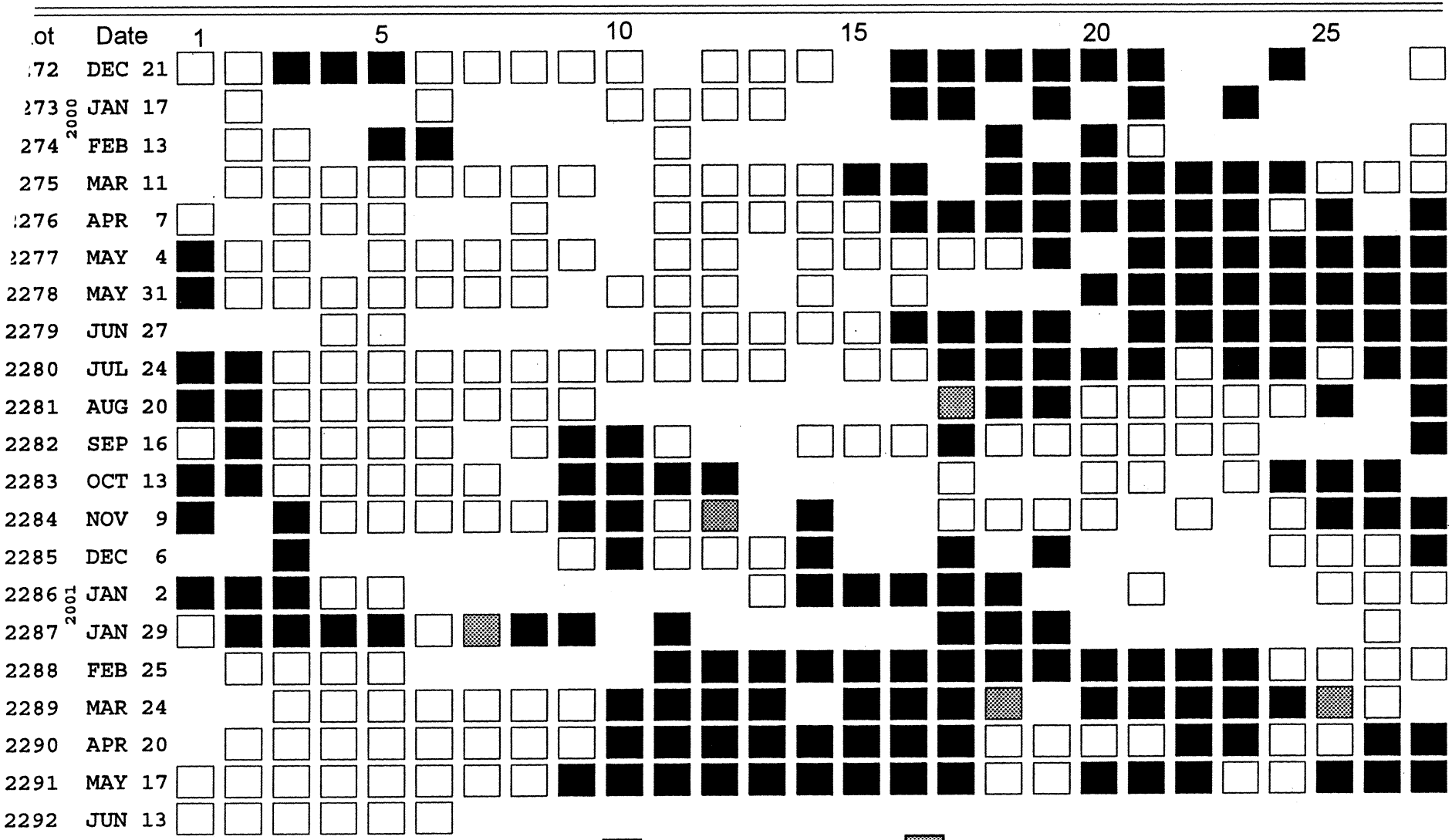
Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Mean	Int	Remarks
01	8800	SVTO	8	S	1001.0	1001.0	U	27.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	1001.0	1001.0	U	27.0			QL=4 ST=2 TYP=3
	8800	PALE	48	C	1904.0	1912.0	17.0	350.0			QL=4 ST=2 TYP=8
	8800	SGMR	48	C	1904.0	1912.0	18.0	300.0			QL=4 ST=2 TYP=8
	2695	PALE	20	GRF	1905.0	1912.0	26.0	150.0			QL=4 ST=2 TYP=2
	2695	SGMR	20	GRF	1906.0	1907.0	16.0	110.0			QL=4 ST=2 TYP=2
02	2695	LEAR	4	S/F	0034.0	0036.0	4.0	82.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0035.0	0036.0	1.0	55.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0629.0	0630.0	2.0	62.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0629.0	0630.0	2.0	26.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	0629.0	0630.0	2.0	42.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	0629.0	0630.0	2.0	53.0			QL=4 ST=2 TYP=3
12	2695	LEAR	8	S	0039.0	0040.0	1.0	40.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	1718.0	1718.0	5.0	34.0			QL=4 ST=2 TYP=3
	2695	SGMR	4	S/F	1718.0	1721.0	5.0	40.0			QL=4 ST=2 TYP=3
	2695	SVTO	48	C	1718.0	1718.0	3.0	50.0			QL=2 ST=2 TYP=8
	8800	SVTO	48	C	1719.0	1721.0	2.0	53.0			QL=2 ST=2 TYP=8
	8800	PALE	49	GB	2326.0	2327.0	5.0	520.0			QL=4 ST=2 TYP=6
	2695	PALE	4	S/F	2326.0	2327.0	3.0	130.0			QL=4 ST=2 TYP=3
	8800	LEAR	4	S/F	2326.0	2327.0	15.0	480.0			QL=4 ST=2 TYP=3
	2695	LEAR	4	S/F	2327.0	2336.0	13.0	230.0			QL=4 ST=2 TYP=3
	8800	PALE	4	S/F	2331.0	2336.0	9.0	360.0			QL=4 ST=2 TYP=3
	2695	PALE	4	S/F	2331.0	2336.0	8.0	190.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	2342.0	2343.0	2.0	100.0			QL=4 ST=3 TYP=3
	2695	PALE	8	S	2343.0	2343.0	U	56.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	2343.0	2343.0	U	24.0			QL=4 ST=2 TYP=3
	2695	LEAR	48	C	2347.0	2402.0	28.0	250.0			QL=4 ST=2 TYP=8
	2695	PALE	48	C	2347.0	2402.0	24.0	190.0			QL=4 ST=3 TYP=8
	8800	PALE	4	S/F	2349.0	2353.0	8.0	46.0			QL=4 ST=3 TYP=3
	8800	LEAR	4	S/F	2353.0	2354.0	14.0	48.0			QL=4 ST=2 TYP=3
13	8800	LEAR	48	C	0255.0	0308.0	18.0	240.0			QL=4 ST=2 TYP=8
	2695	LEAR	48	C	0300.0	0308.0	10.0	220.0			QL=4 ST=2 TYP=8
	2695	PALE	8	S	0301.0	0301.0	1.0	35.0			QL=4 ST=2 TYP=3
	8800	PALE	4	S/F	0301.0	0301.0	4.0	120.0			QL=4 ST=2 TYP=3
17	8800	SVTO	8	S	0959.0	0959.0	1.0	41.0			QL=4 ST=2 TYP=3
	2695	SGMR	4	S/F	2042.0	2045.0	8.0	87.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	2043.0	2044.0	7.0	110.0			QL=4 ST=2 TYP=3
20	8800	LEAR	4	S/F	0601.0	0602.0	4.0	350.0			QL=4 ST=2 TYP=3
	8800	SVTO	4	S/F	0601.0	0602.0	3.0	280.0			QL=4 ST=2 TYP=3
	2695	LEAR	4	S/F	0602.0	0602.0	4.0	360.0			QL=4 ST=2 TYP=3
	2695	SVTO	4	S/F	0602.0	0602.0	4.0	320.0			QL=4 ST=2 TYP=3
24	2695	PALE	48	C	1934.0	1938.0	9.0	110.0			QL=4 ST=2 TYP=8
	2695	SGMR	4	S/F	1934.0	1938.0	9.0	96.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	1936.0	1938.0	7.0	93.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	1937.0	1937.0	1.0	45.0			QL=4 ST=2 TYP=3

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



Day	Jun 00	Jul	Aug	Sep	Oct	Nov	Dec	Jan 01	Feb	Mar	Apr	May
1	16	87	47	---	16	37	---	-8	-4	20	1	-22
2	33	---	38	---	-2	11	12	-20	-7	---	-3	-16
3	28	---	5	---	15	---	-15	-23	4	---	-13	-17
4	46	---	16	---	29	26	-70	-8	0	---	-22	-13
5	20	---	14	0	42	-13	-55	19	-6	---	-13	-6
6	19	---	---	-10	40	-36	---	24	-1	---	---	-1
7	28	39	16	-9	29	-60	---	---	---	-13	-15	9
8	---	34	14	12	35	---	-5	---	-35	-7	-7	8
9	6	53	-12	15	---	-90	---	---	---	-16	-7	10
10	8	23	-18	13	---	---	---	---	---	-15	0	2
11	31	6	-39	13	---	-20	---	---	---	-7	---	-1
12	---	-24	-15	6	-94	26	---	---	---	-3	-6	-9
13	29	-9	-11	-46	-115	81	---	---	---	-7	-8	1
14	---	-33	4	---	-35	107	11	7	-19	-10	-7	6
15	1	-34	-11	-65	1	101	-16	-2	-15	-71	-9	-13
16	---	---	-1	26	46	32	6	-7	-18	-7	-5	-4
17	---	-29	6	-7	77	-2	10	-14	---	-6	0	20
18	---	-27	-15	6	105	-17	5	-8	---	-10	15	68
19	-37	-36	-41	36	66	9	-8	-17	---	-1	---	83
20	-46	-45	-40	74	---	0	---	---	---	10	---	92
21	-34	-30	-29	38	-20	---	---	---	---	28	15	54
22	-30	-26	3	---	-23	-18	-24	2	---	30	31	34
23	-33	-26	21	15	-4	---	---	---	23	21	29	28
24	-132	-25	47	-8	-6	---	-46	---	---	---	26	30
25	-42	-5	46	-12	---	5	---	---	---	---	19	-12
26	-29	6	50	18	---	10	---	37	2	23	15	-36
27	---	14	44	---	---	20	---	20	9	15	16	-53
28	---	64	44	---	---	30	---	7	12	18	3	-50
29	---	56	---	72	15	---	17	5		10	-14	-38
30	13	65	---	34	---	22	54	-20		12	-24	-46
31		60	---		---		2	-11		9		-49

STANFORD MEAN SOLAR MAGNETIC FIELD

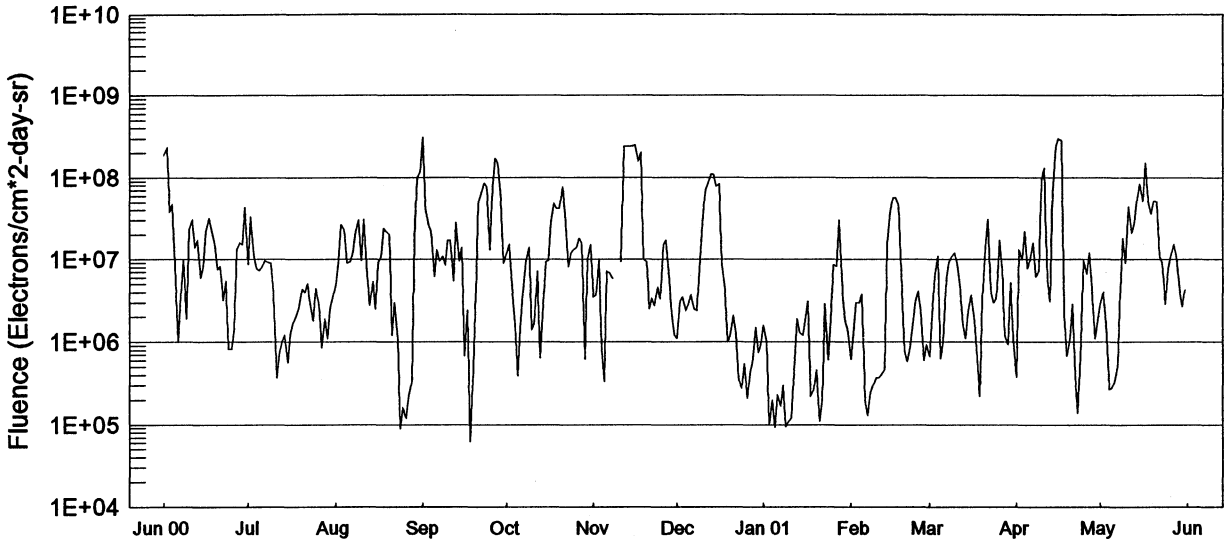


Mean Solar Magnetic Field Polarity: = field > 2 microT; = -2 microT ≤ field ≤ 2 microT

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

Rotation numbers given are the Bartels series, but the dates are not; these dates are five
the Sun that affect the Earth during the given Bartels Rotation.

GOES Daily Electron Fluence
Jun 2000 - May 2001



Day	Jun 00	Jul	Aug	Sep	Oct	Nov	Dec	Jan 01	Feb	Mar	Apr	May
1	1.9E+08	8.7E+06	5.0E+06	3.1E+08	1.2E+07	3.5E+06	1.1E+06	1.6E+06	6.2E+05	6.8E+05	3.8E+05	2.9E+06
2	2.3E+08	3.3E+07	9.5E+06	4.3E+07	1.5E+07	3.7E+06	3.1E+06	1.0E+06	1.3E+06	2.1E+06	1.3E+07	4.0E+06
3	3.8E+07	1.1E+07	2.7E+07	2.7E+07	4.8E+06	1.0E+07	3.5E+06	1.0E+05	3.0E+06	6.4E+06	1.0E+07	1.7E+06
4	4.7E+07	7.7E+06	2.3E+07	2.2E+07	1.6E+06	8.3E+05	2.4E+06	2.0E+05	3.0E+06	1.1E+07	2.2E+07	2.7E+05
5	5.5E+06	7.3E+06	9.0E+06	6.2E+06	3.9E+05	3.3E+05	2.9E+06	9.2E+04	3.8E+06	6.3E+05	7.8E+06	2.8E+05
6	1.0E+06	8.3E+06	9.4E+06	1.3E+07	1.5E+06	7.1E+06	3.7E+06	2.3E+05	1.9E+05	1.0E+06	9.8E+06	3.3E+05
7	3.7E+06	9.6E+06	1.2E+07	9.5E+06	4.8E+06	6.8E+06	2.5E+06	1.7E+05	1.3E+05	5.8E+06	1.6E+07	5.3E+05
8	1.0E+07	9.2E+06	2.1E+07	1.1E+07	9.5E+06	5.8E+06	2.4E+06	3.0E+05	2.4E+05	9.3E+06	6.2E+06	4.2E+06
9	1.9E+06	9.1E+06	3.0E+07	8.6E+06	1.4E+07	-999	7.6E+06	9.3E+04	3.0E+05	1.1E+07	7.4E+06	1.8E+07
10	2.3E+07	3.7E+06	9.7E+06	1.7E+07	1.4E+06	-999	2.8E+07	1.1E+05	3.7E+05	1.2E+07	9.5E+07	9.0E+06
11	3.0E+07	3.7E+05	3.1E+07	1.7E+07	1.7E+06	9.4E+06	6.9E+07	1.2E+05	3.7E+05	9.1E+06	1.3E+08	4.4E+07
12	1.4E+07	7.4E+05	6.3E+06	5.5E+06	7.1E+06	2.4E+08	8.9E+07	6.1E+05	4.2E+05	4.2E+06	5.6E+06	2.1E+07
13	1.7E+07	1.0E+06	2.8E+06	2.8E+07	6.4E+05	2.4E+08	1.1E+08	1.9E+06	4.7E+05	1.6E+06	3.1E+06	2.8E+07
14	6.0E+06	1.2E+06	5.4E+06	9.5E+06	2.1E+06	2.4E+08	1.1E+08	1.3E+06	1.5E+07	1.1E+06	6.5E+07	5.5E+07
15	8.2E+06	5.7E+05	2.5E+06	1.4E+07	9.4E+06	2.4E+08	7.8E+07	1.2E+06	3.9E+07	2.3E+06	2.4E+08	8.4E+07
16	2.2E+07	1.3E+06	9.1E+06	6.8E+05	9.7E+06	2.5E+08	8.3E+07	1.9E+06	5.7E+07	3.7E+06	3.0E+08	5.2E+07
17	3.2E+07	1.7E+06	1.1E+07	2.4E+06	2.9E+07	1.6E+08	8.9E+06	3.1E+06	5.6E+07	1.8E+06	2.8E+08	1.5E+08
18	2.3E+07	2.1E+06	2.4E+07	6.2E+04	4.8E+07	2.0E+08	4.3E+06	2.2E+05	4.7E+07	6.5E+05	2.2E+06	5.4E+07
19	1.5E+07	2.6E+06	2.2E+07	3.0E+05	4.2E+07	1.0E+07	1.0E+06	2.7E+05	6.8E+06	2.2E+05	6.8E+05	3.6E+07
20	7.6E+06	4.3E+06	2.0E+07	3.9E+06	4.2E+07	9.4E+06	1.2E+06	4.6E+05	7.7E+05	3.4E+06	1.1E+06	5.2E+07
21	8.3E+06	4.0E+06	1.2E+06	5.0E+07	7.6E+07	2.5E+06	2.1E+06	1.1E+05	5.9E+05	1.4E+07	2.9E+06	5.1E+07
22	3.2E+06	5.0E+06	3.0E+06	6.7E+07	3.7E+07	3.4E+06	1.3E+06	2.0E+05	8.2E+05	3.1E+07	3.9E+05	1.1E+07
23	5.5E+06	2.8E+06	1.1E+06	8.6E+07	8.1E+06	2.8E+06	3.5E+05	2.9E+06	1.7E+06	4.2E+06	1.4E+05	9.1E+06
24	8.3E+05	1.8E+06	8.9E+04	7.6E+07	1.2E+07	4.6E+06	2.8E+05	6.1E+05	3.1E+06	3.0E+06	1.0E+06	2.9E+06
25	8.3E+05	4.4E+06	1.6E+05	1.3E+07	1.3E+07	3.3E+06	5.5E+05	1.8E+06	4.1E+06	3.4E+06	9.6E+06	7.5E+06
26	1.4E+06	2.9E+06	1.2E+05	7.6E+07	1.4E+07	1.5E+07	2.1E+05	8.6E+06	2.5E+06	1.7E+07	6.6E+06	1.1E+07
27	1.3E+07	8.6E+05	2.2E+05	1.7E+08	1.8E+07	1.7E+07	4.3E+05	8.2E+06	6.0E+05	7.6E+06	1.2E+07	1.5E+07
28	1.6E+07	1.9E+06	3.3E+05	1.5E+08	1.6E+07	7.0E+06	5.8E+05	3.0E+07	9.3E+05	1.2E+06	4.5E+06	1.1E+07
29	1.5E+07	1.1E+06	1.8E+07	5.4E+07	6.2E+05	2.2E+06	1.5E+06	4.2E+06		9.4E+05	1.1E+06	4.2E+06
30	4.3E+07	2.6E+06	1.0E+08	9.0E+06	1.0E+07	1.2E+06	7.5E+05	1.8E+06		5.2E+06	1.8E+06	2.7E+06
31		3.7E+06	1.2E+08		1.5E+07		9.3E+05	1.4E+06		1.1E+06		4.3E+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.

NOTE: GOES9 data began April, 1996 and ended on 26 July, 1998. GOES8 is primary satellite as of 27 July, 1998.

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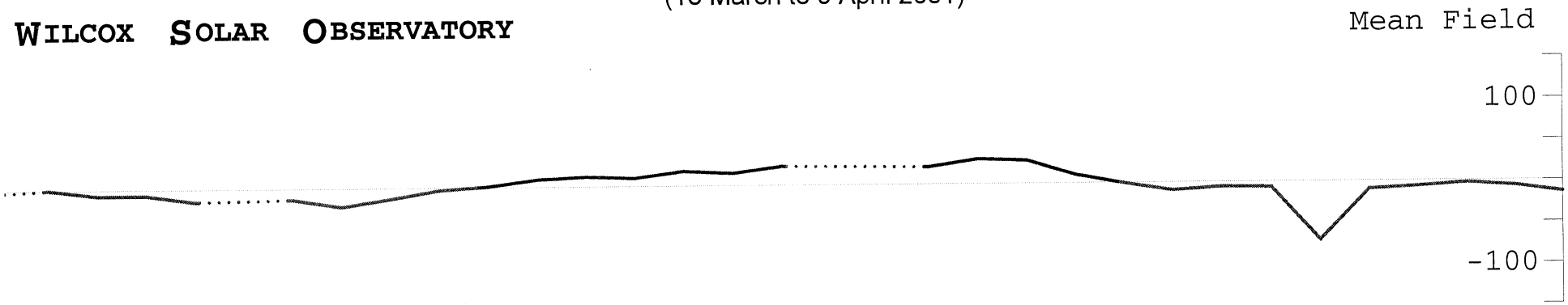
SOLAR MAGNETIC FIELD SYNOPTIC CHART

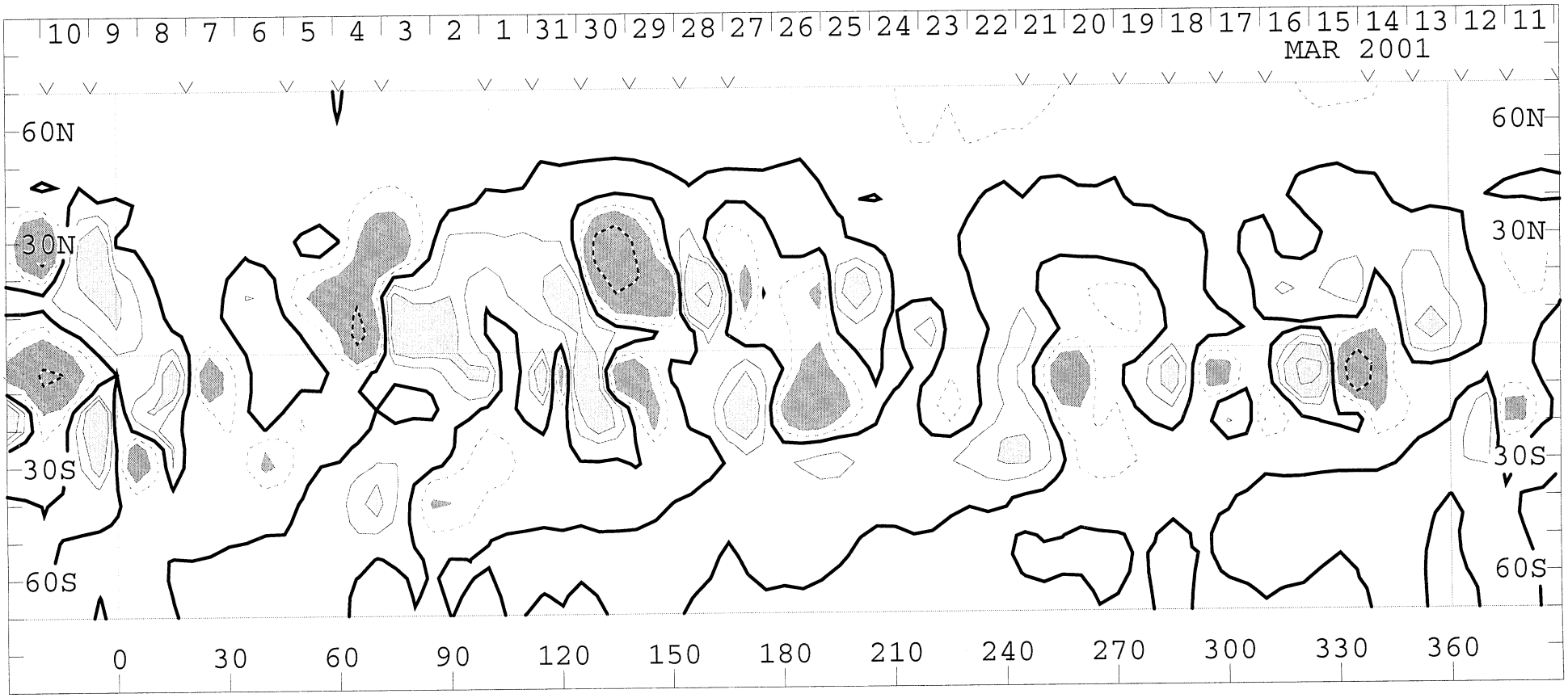
CARRINGTON ROTATION NUMBER 1974

(13 March to 9 April 2001)

WILCOX SOLAR OBSERVATORY



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



Heliographic Longitude

1974

SOLAR MAGNETIC FIELD SYNOPTIC CHART

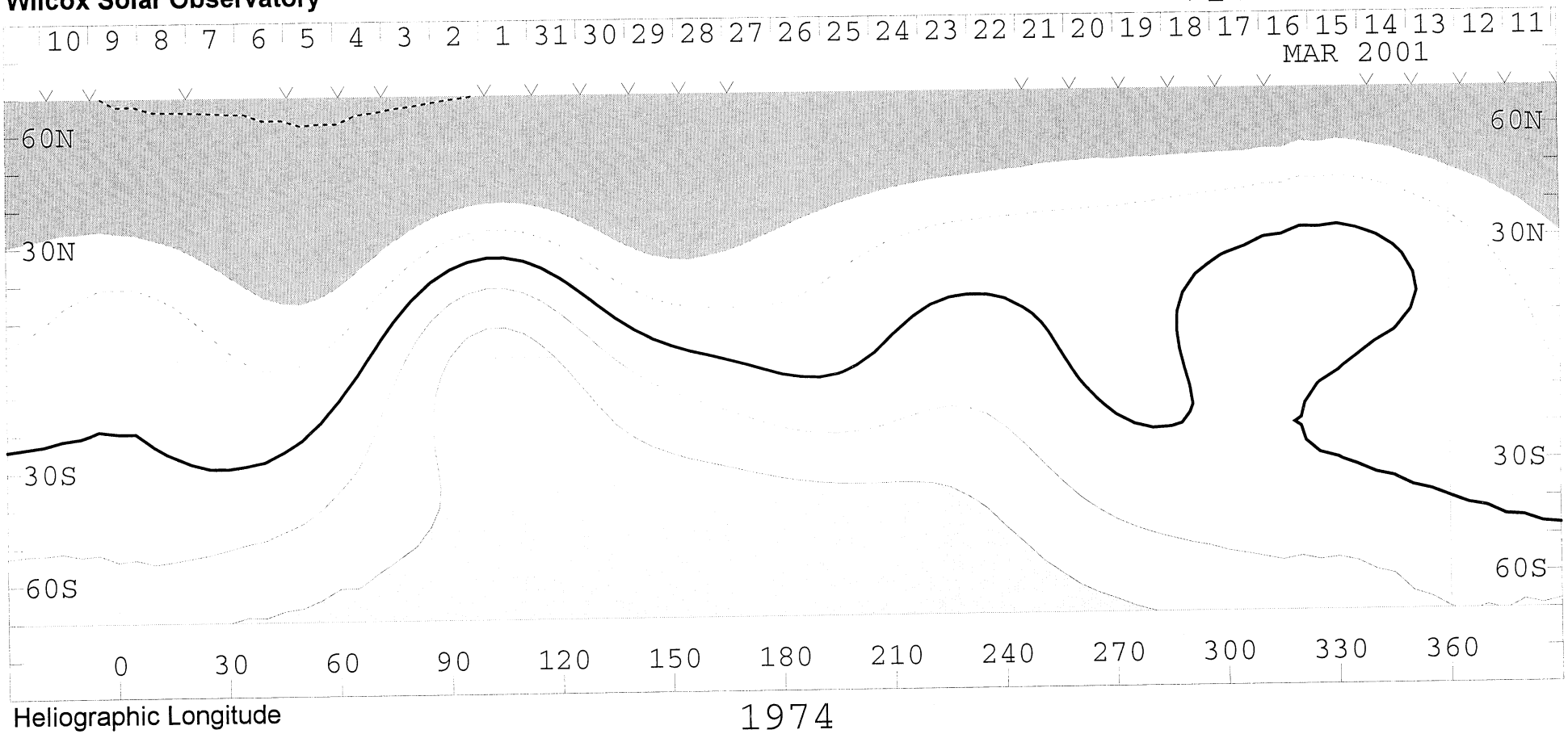
SOURCE SURFACE FIELD

CARRINGTON ROTATION NUMBER 1974

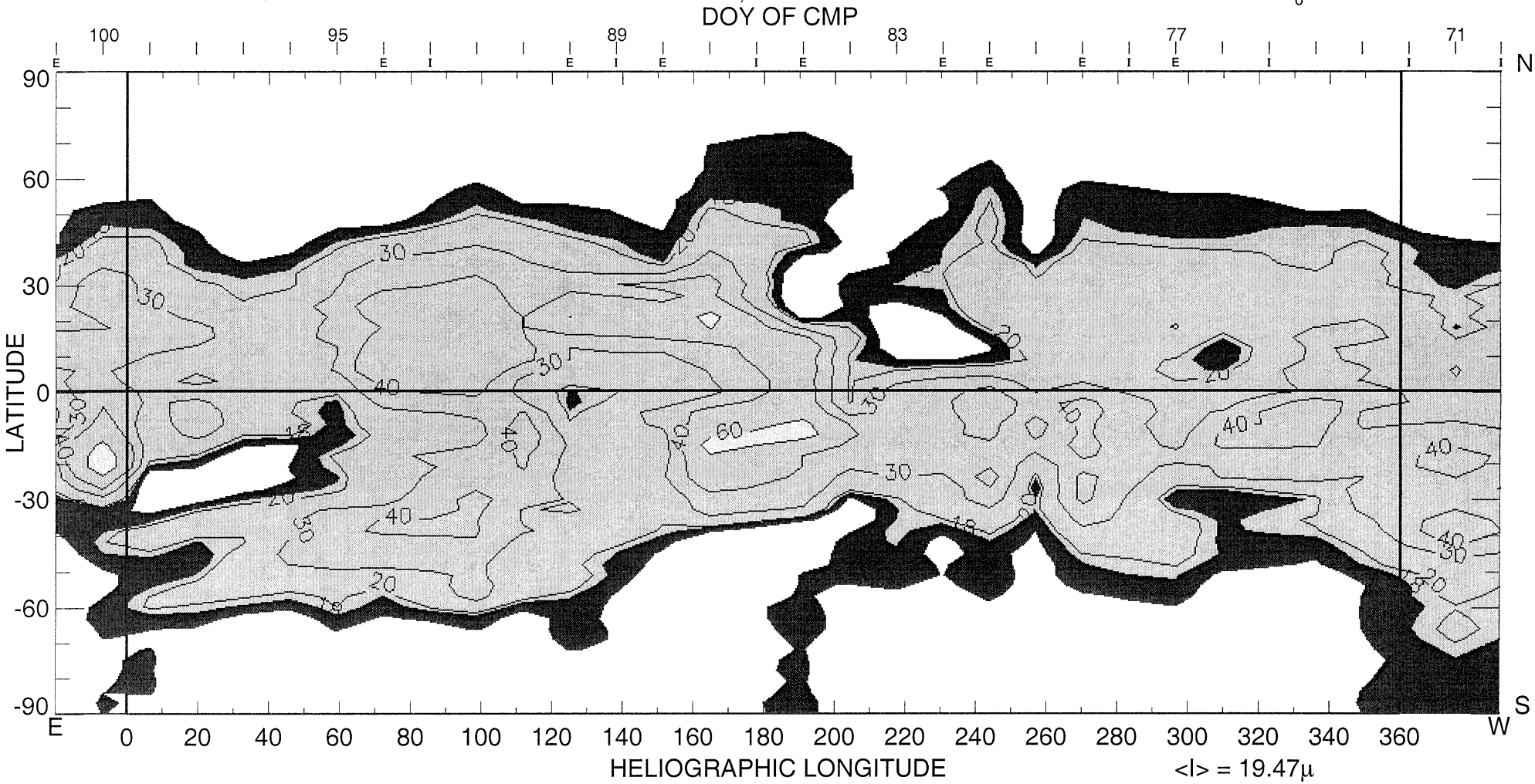
(13 March to 9 April 2001)

Wilcox Solar Observatory

0, ±1, 2, 5, 10, 20 microTesla



CARRINGTON ROTATION NUMBER 1974 ; NSO/SACRAMENTO PEAK FE XIV @ R = 1.15R_o

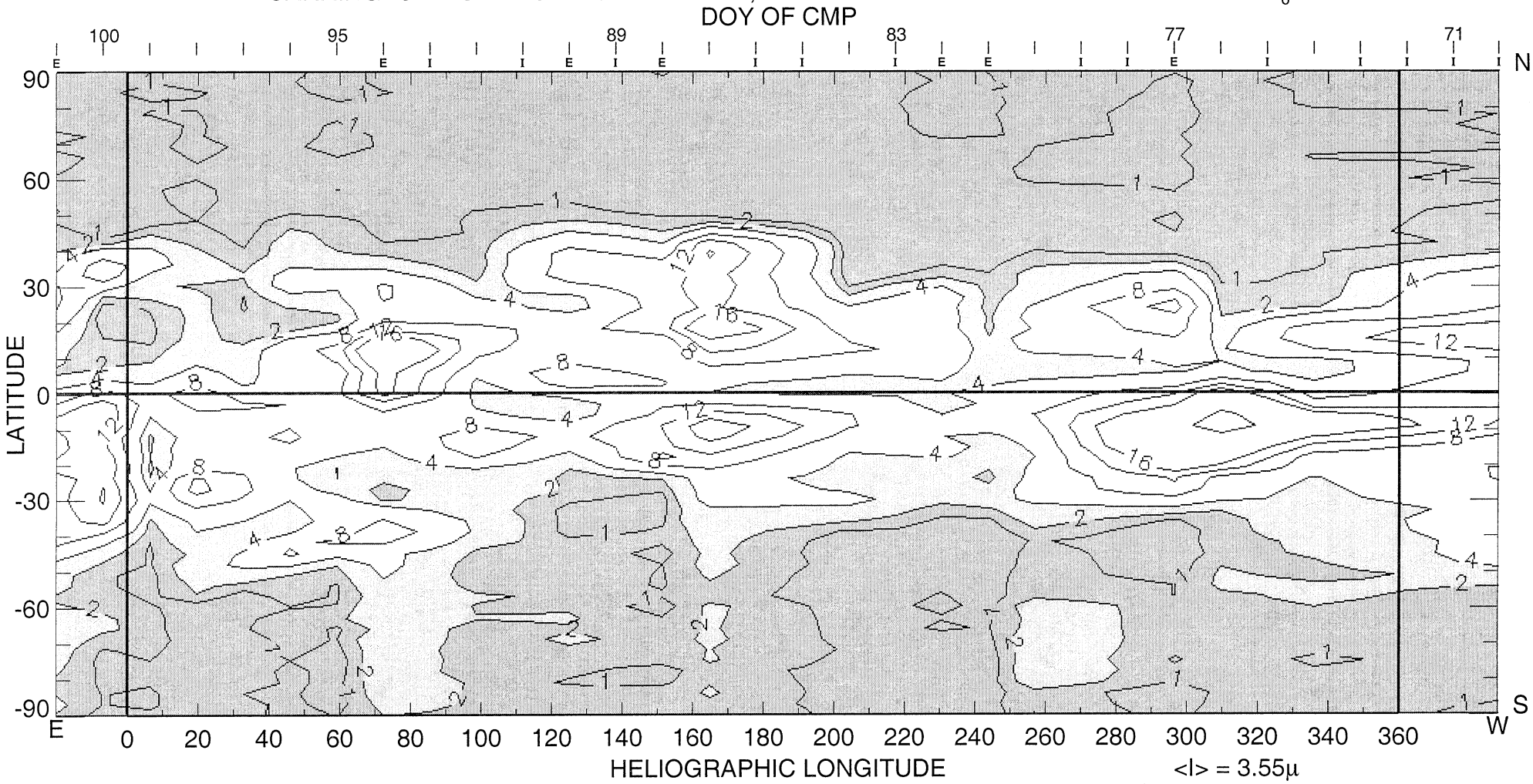


<I> = 19.47μ

(28-Jun-01) 2001 W+E LIMB CONTOURS: 14, 18, 20, 30, 40, 60, 80, 100, 120, 140, 160 MILLIONTHS OF I_o

CORONAL HOLES ARE SHOWN AS WHITE BORDERED BY BLACK

CARRINGTON ROTATION NUMBER 1974 ; NSO/SACRAMENTO PEAK FE X @ R = 1.15R_o

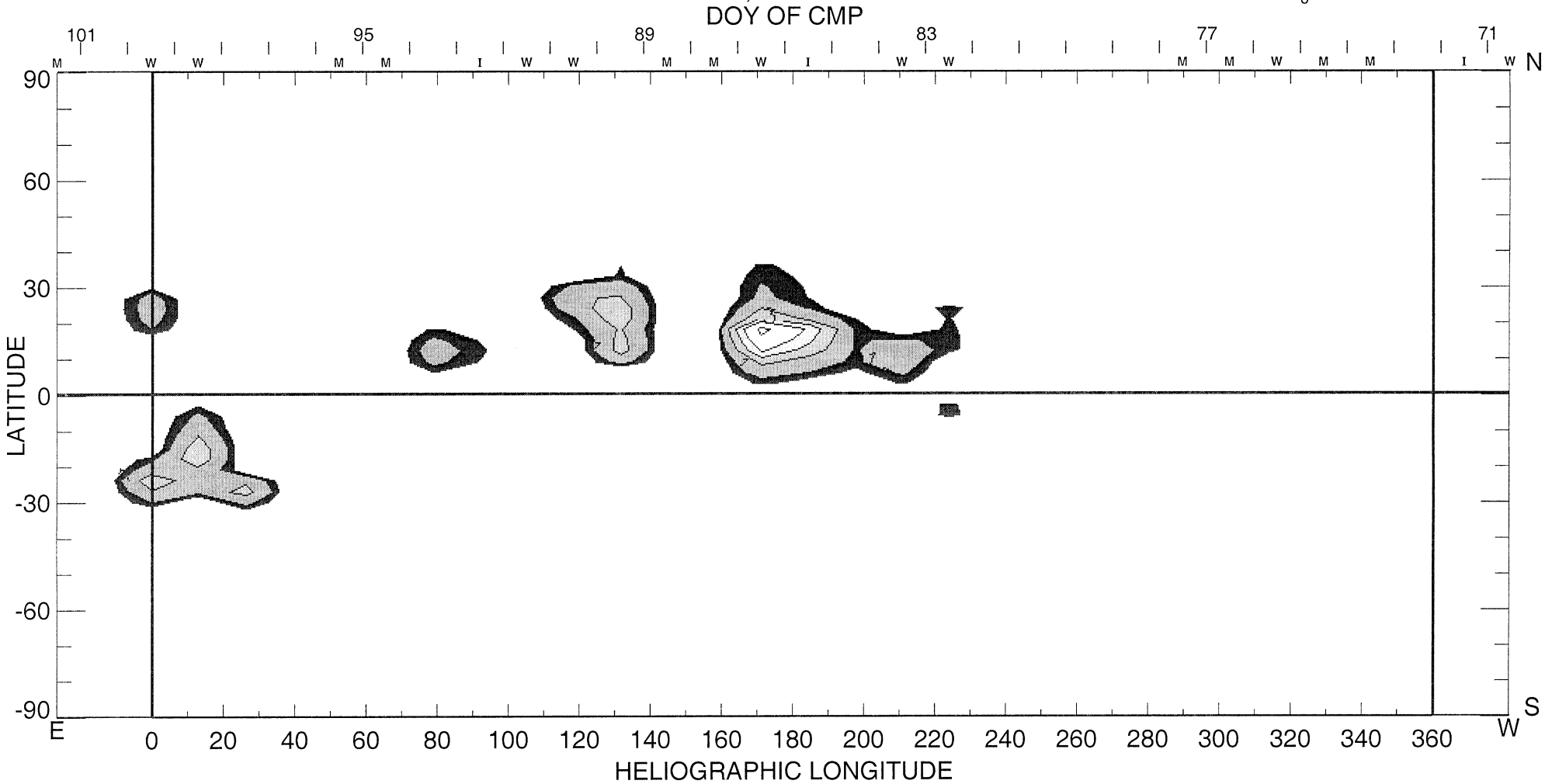


<I> = 3.55μ

(28-Jun-01)

2001 W+E LIMB CONTOURS: 1, 2, 4, 8, 12, 16, 32, 48 MILLIONTHS OF I_o

CARRINGTON ROTATION NUMBER 1974 ; NSO/SACRAMENTO PEAK CA XV @ R = 1.15R_o



(28-Jun-01) 2001 E+W LIMB CONTOURS: YELMIN, 1, 2, 3, 4, 6, 8, 10, 12, 14, 16, 18, 20 MILLIONTHS OF I_o

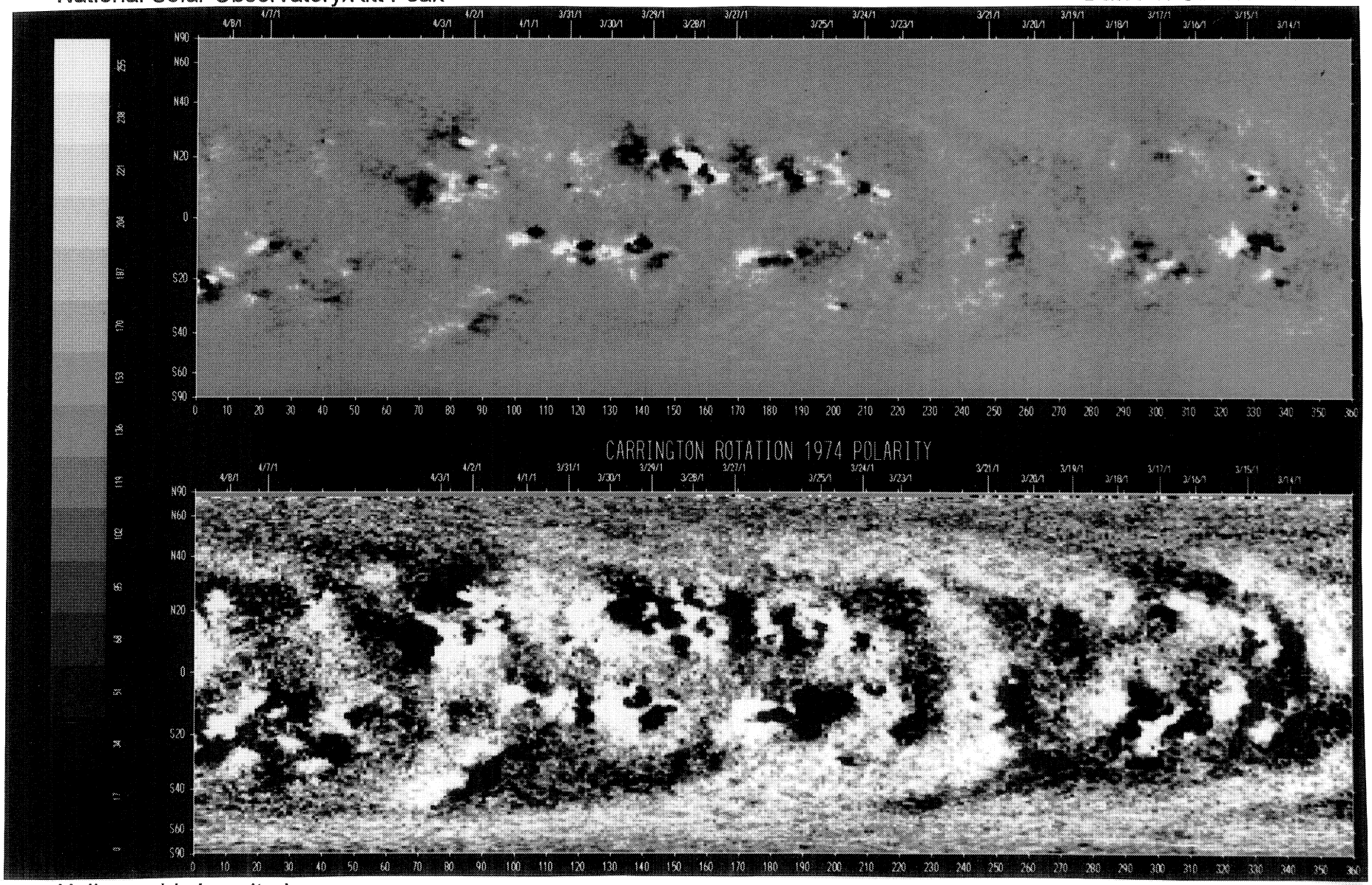
SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1974

(13 March to 9 April 2001)

National Solar Observatory/Kitt Peak

Dates of Observation



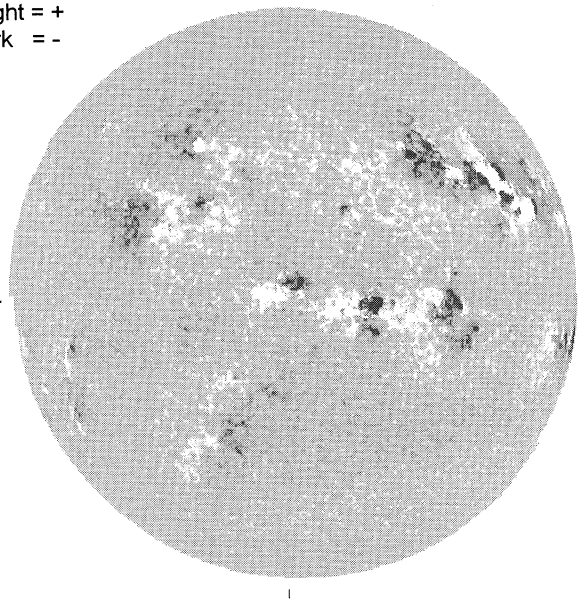
Heliographic Longitude

APRIL 1, 2001 (P= -26.17, Bo = -6.54, Lo = 111.73)

KITT PEAK MAGNETOGRAM

N **868.8 nm**

Bright = +
Dark = -



E---

1429 UT

STANFORD MAGNETOGRAM

N

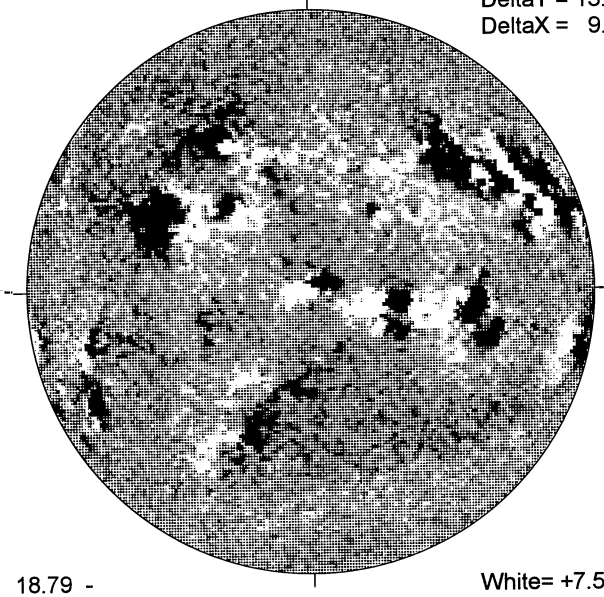
Solid = +
Dashed = -

2118 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

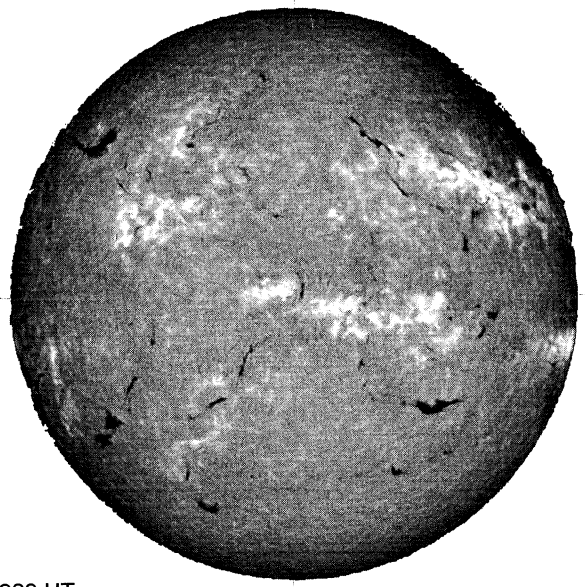


-W

18.79 -
19.74 UT

White= +7.5G
Black = -7.5G

MEUDON H-ALPHA



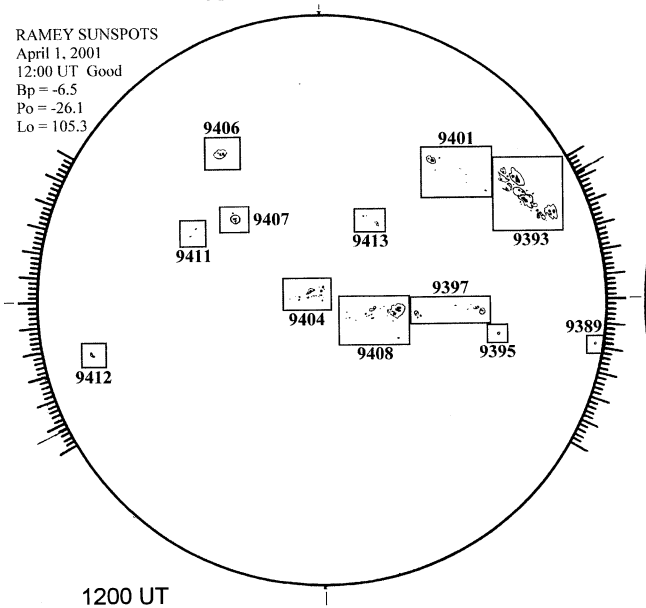
E--

0909 UT

S

RAMEY SUNSPOT

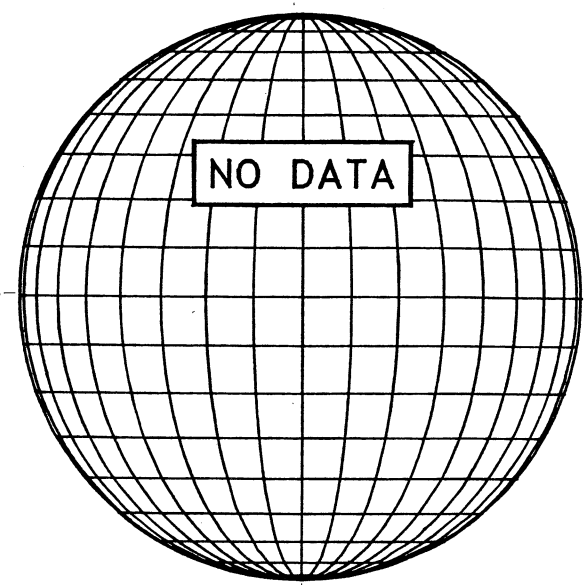
RAMEY SUNSPOTS
April 1, 2001
12:00 UT Good
Bp = -6.5
Po = -26.1
Lo = 105.3



1200 UT

S

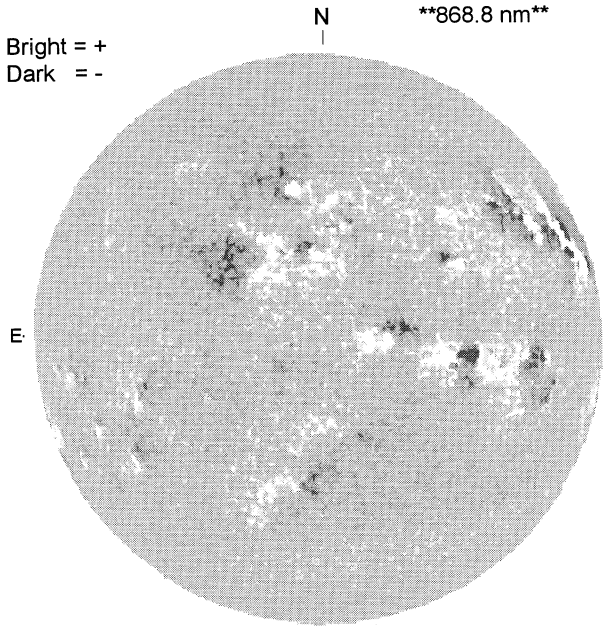
SACRAMENTO PEAK CORONA (1.15 Radii)----



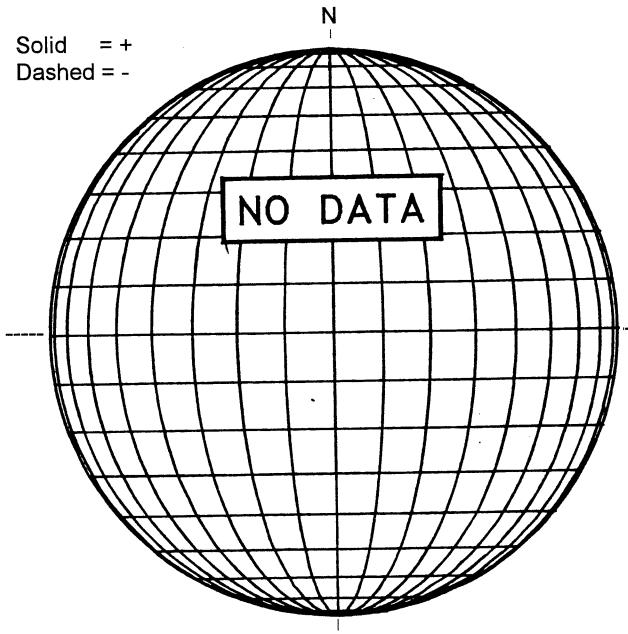
S

APRIL 2, 2001 (P= -26.21, Bo = -6.48, Lo = 98.54)

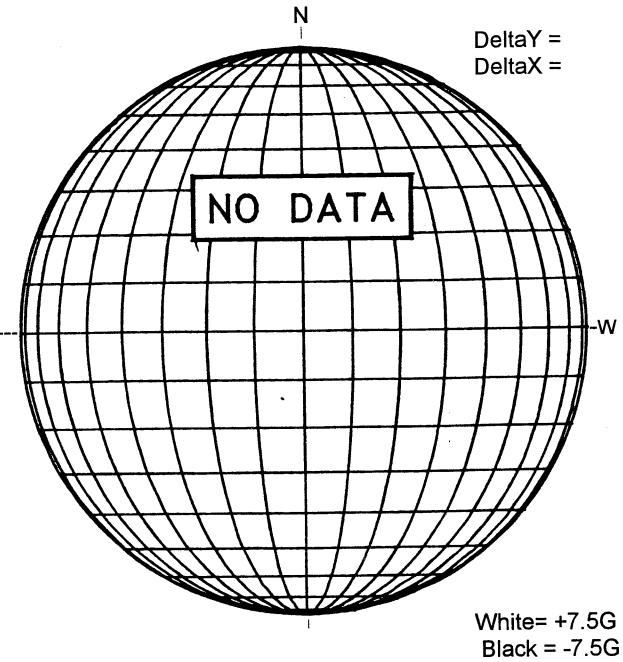
KITT PEAK MAGNETOGRAM



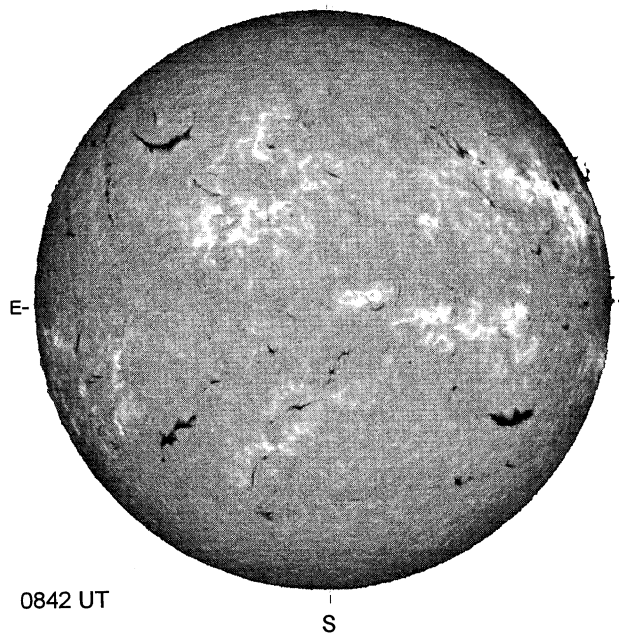
STANFORD MAGNETOGRAM



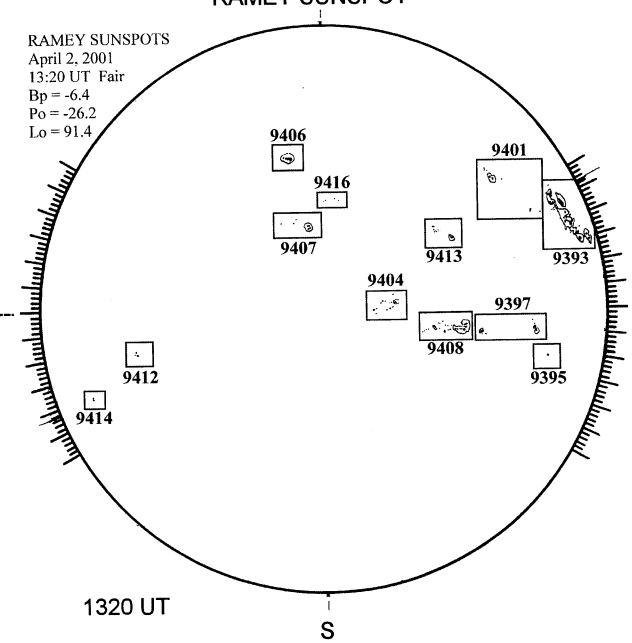
MT. WILSON MAGNETOGRAM



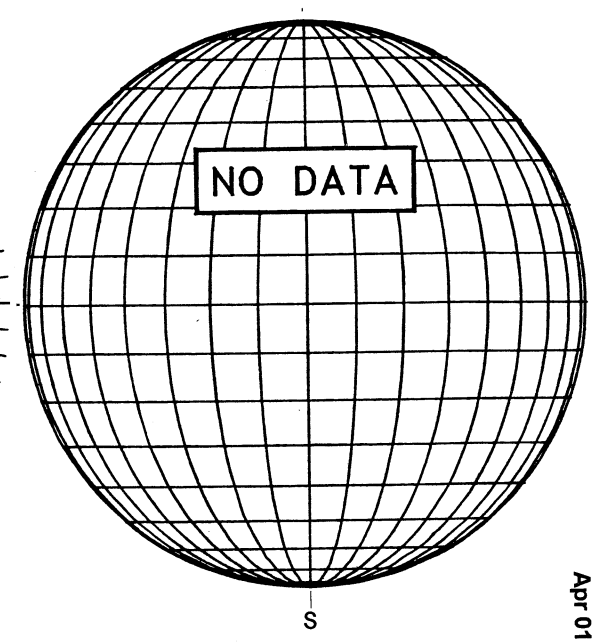
MEUDON H-ALPHA



RAMEY SUNSPOT

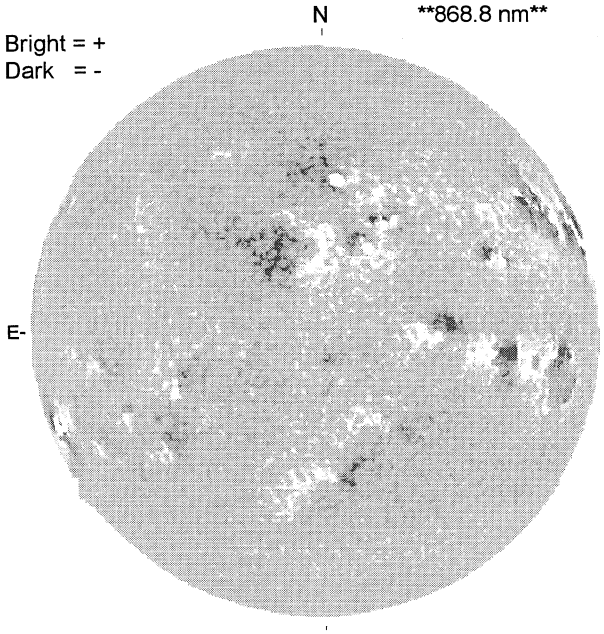


LOMNICKY PEAK CORONA (1.04 Radii)

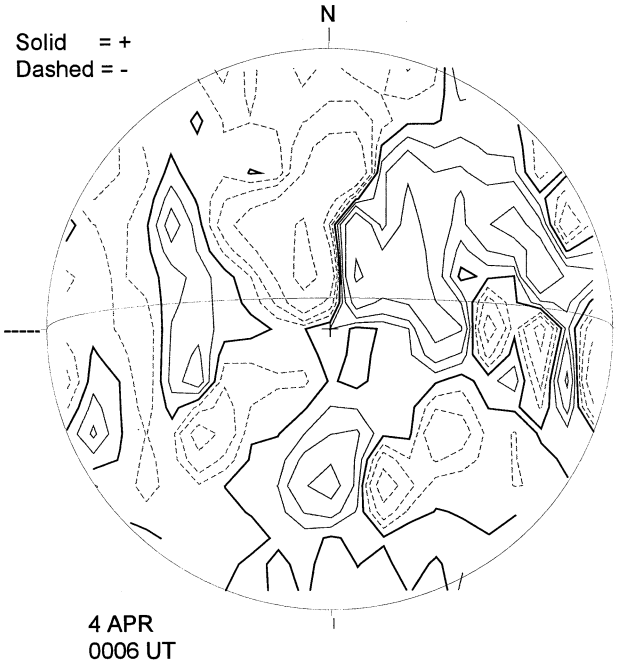


APRIL 3, 2001 (P= -26.24, Bo = -6.43, Lo = 85.34)

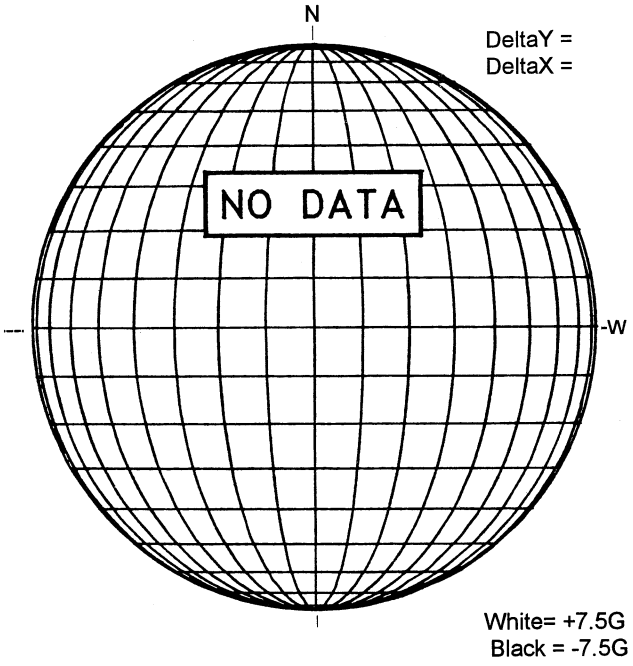
KITT PEAK MAGNETOGRAM



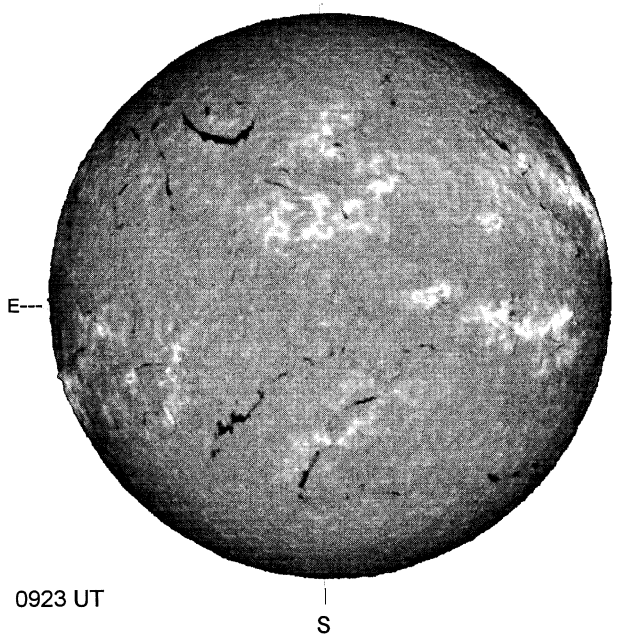
STANFORD MAGNETOGRAM



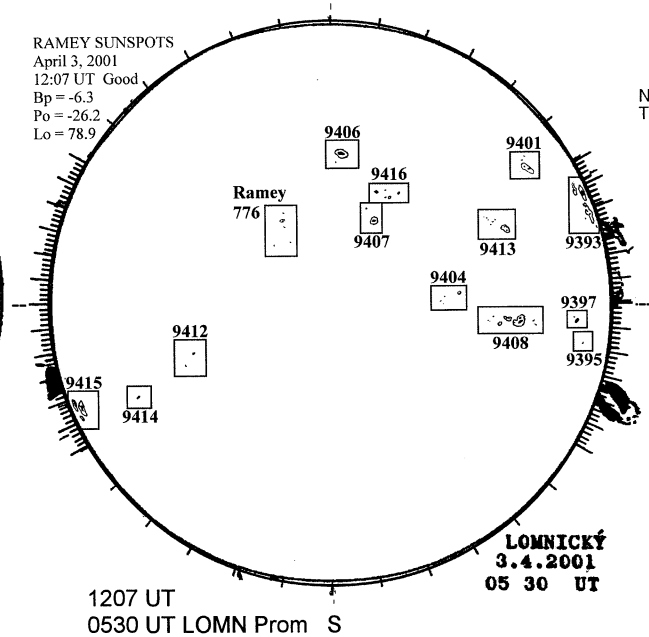
MT. WILSON MAGNETOGRAM



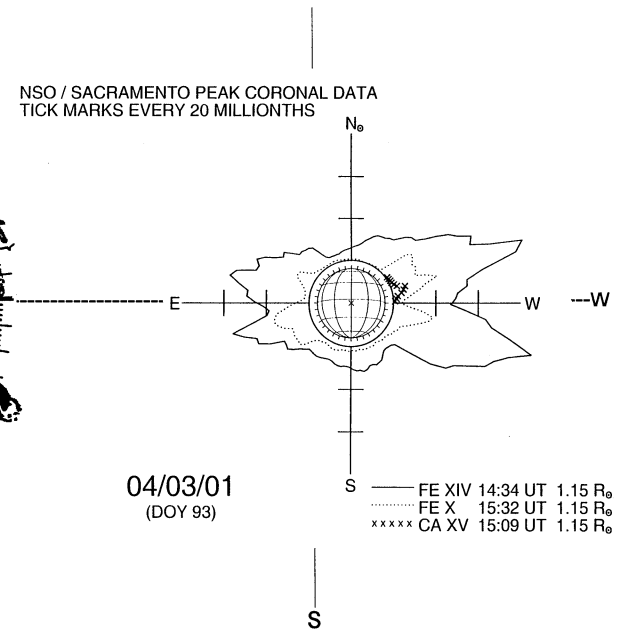
MEUDON H-ALPHA



RAMEY SUNSPOT

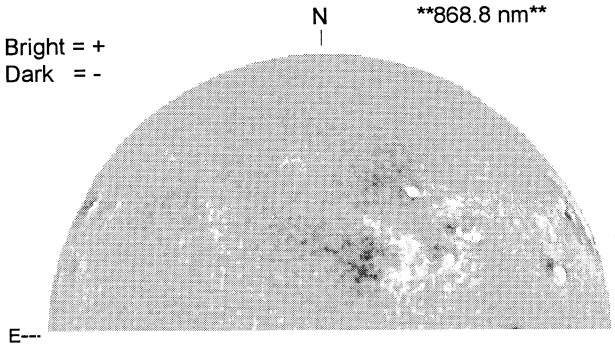


SACRAMENTO PEAK CORONA (1.15 Radii)----



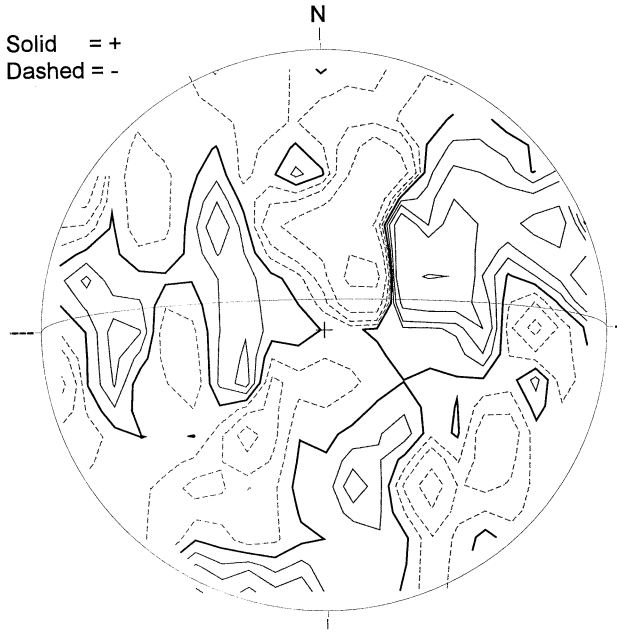
APRIL 4, 2001 (P= -26.26, Bo = -6.37, Lo = 72.15)

KITT PEAK MAGNETOGRAM



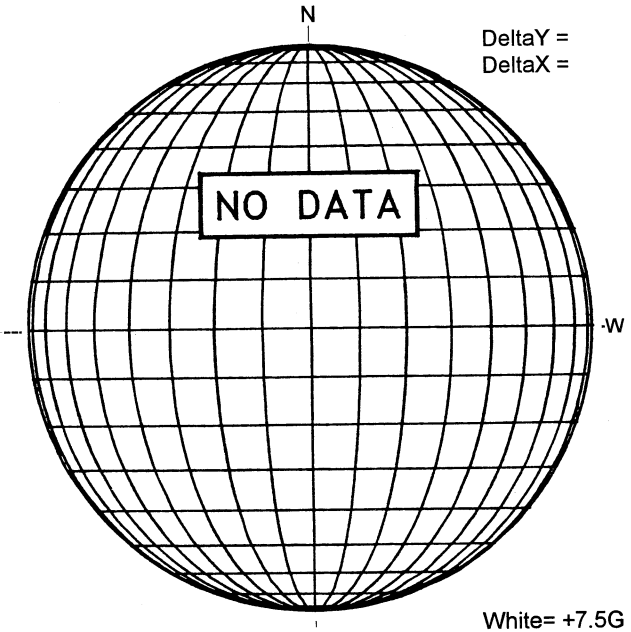
1811 UT

STANFORD MAGNETOGRAM

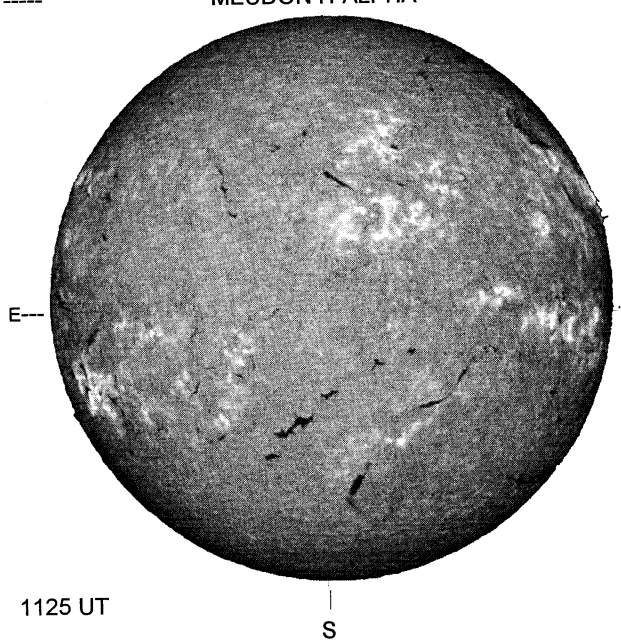


2117 UT

MT. WILSON MAGNETOGRAM

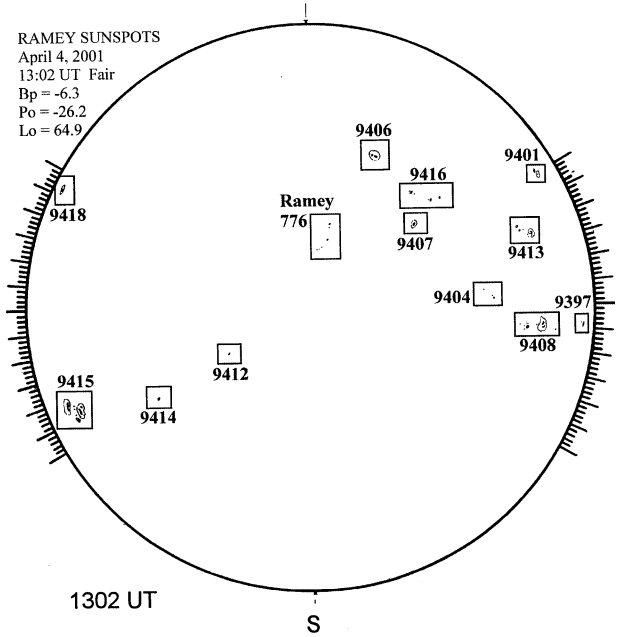


MEUDON H-ALPHA



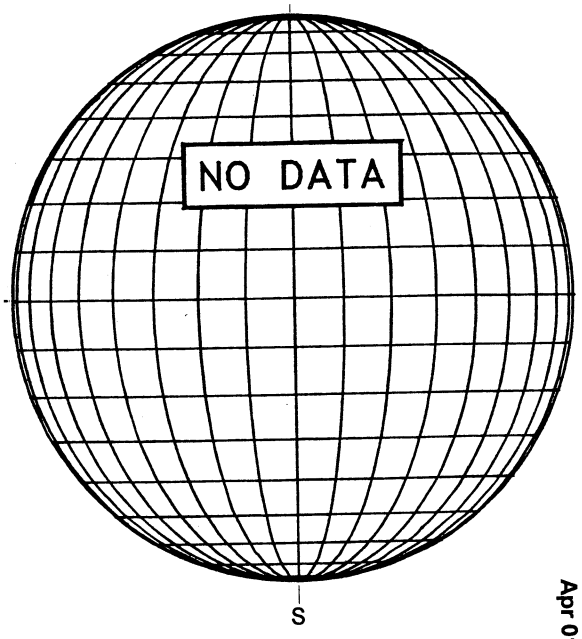
1125 UT

RAMEY SUNSPOT



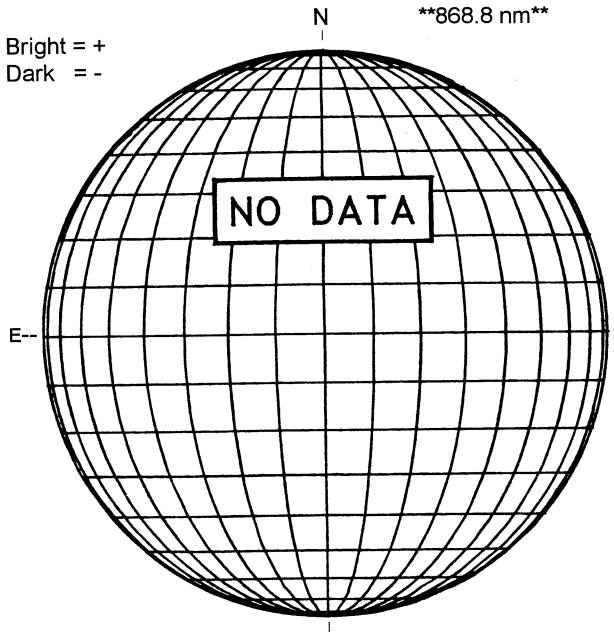
1302 UT

LOMNICKY PEAK CORONA (1.04 Radii)----

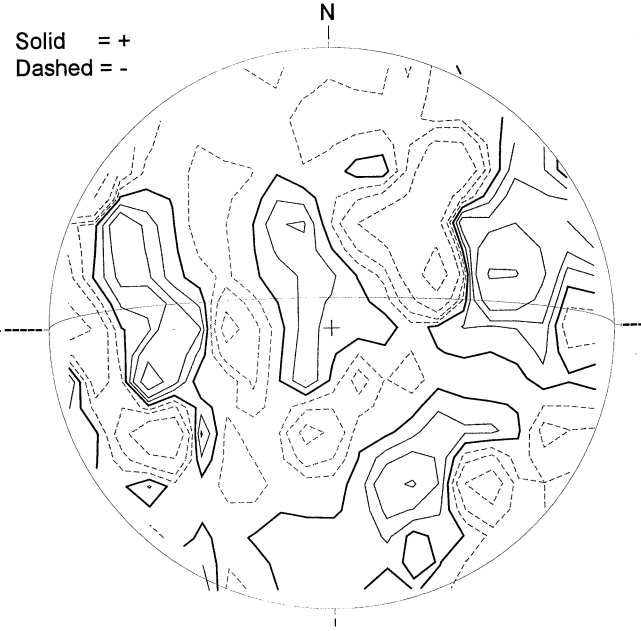


APRIL 5, 2001 (P= -26.28, Bo = -6.31, Lo = 58.95)

KITT PEAK MAGNETOGRAM

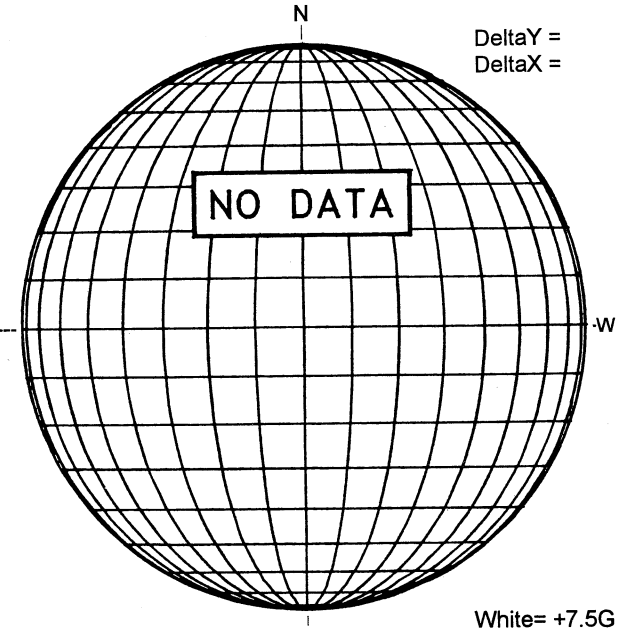


STANFORD MAGNETOGRAM

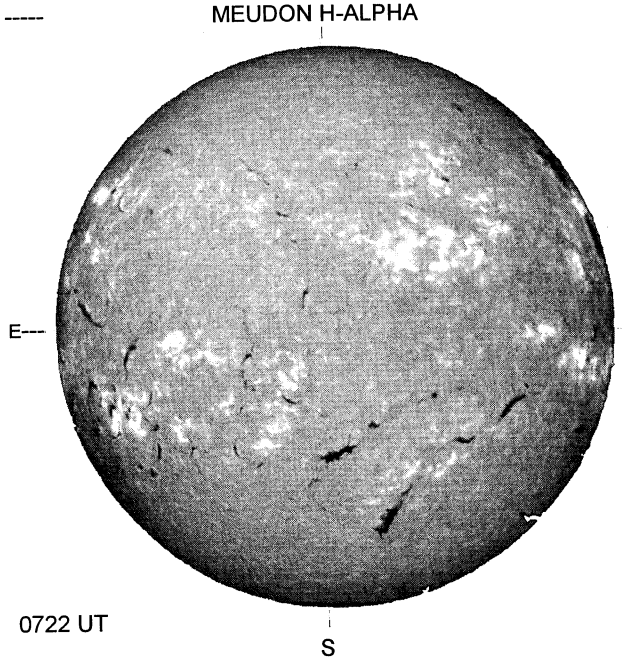


2231 UT

MT. WILSON MAGNETOGRAM

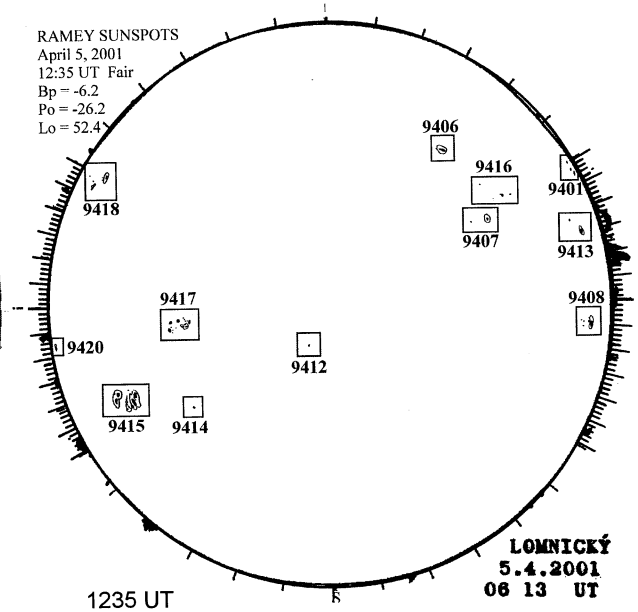


MEUDON H-ALPHA



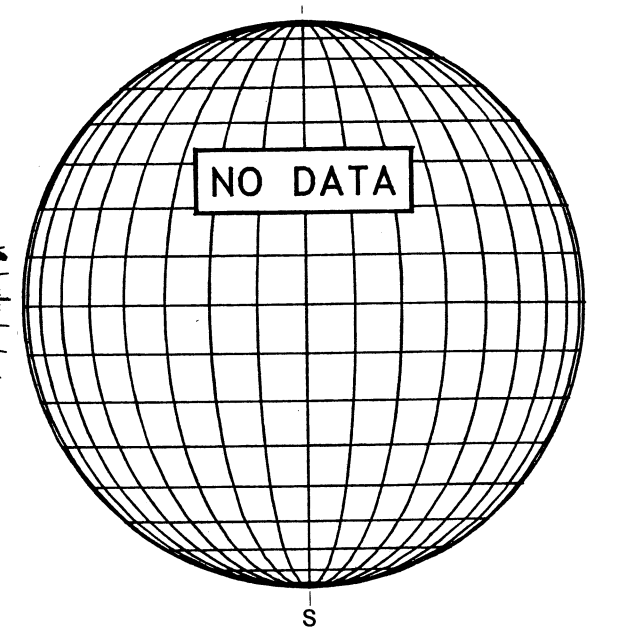
0722 UT

RAMEY SUNSPOT



1235 UT
0613 UT LOMN Prom

SACRAMENTO PEAK CORONA (1.15 Radii)----

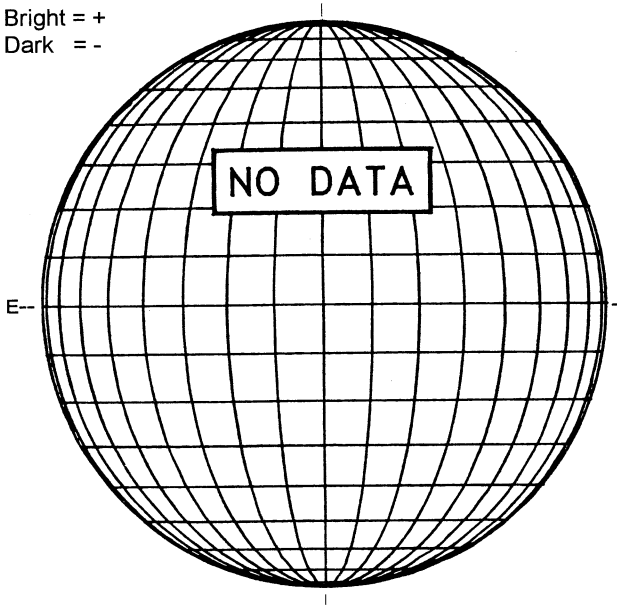


APRIL 6, 2001 (P= -26.29, Bo = -6.24, Lo = 45.76)

KITT PEAK MAGNETOGRAM

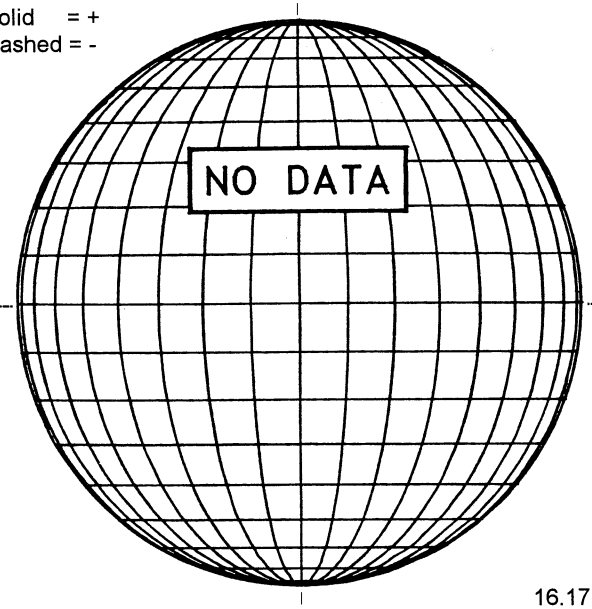
868.8 nm

Bright = +
Dark = -



STANFORD MAGNETOGRAM

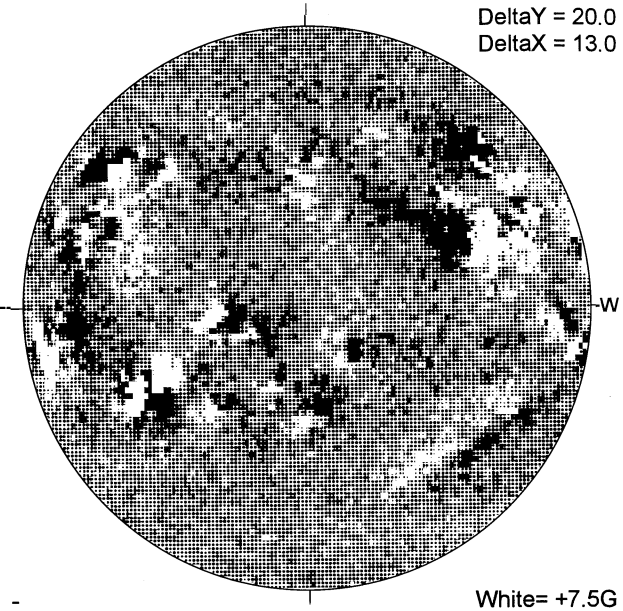
Solid = +
Dashed = -



16.17 -
16.58 UT

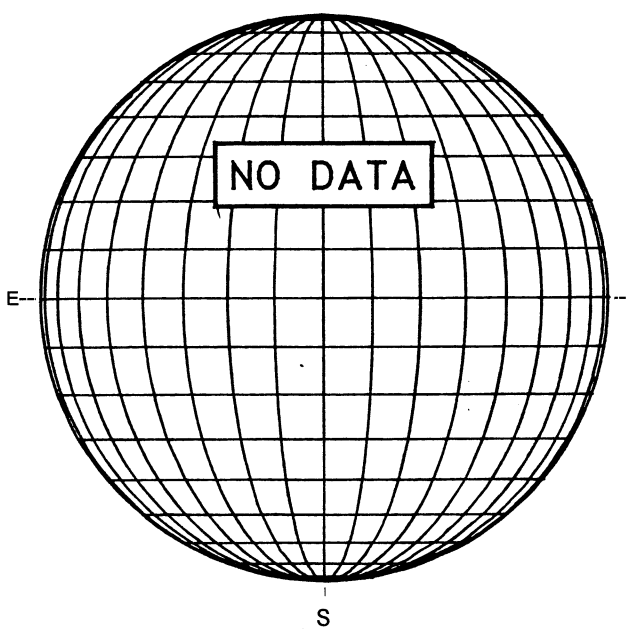
MT. WILSON MAGNETOGRAM

DeltaY = 20.0
DeltaX = 13.0

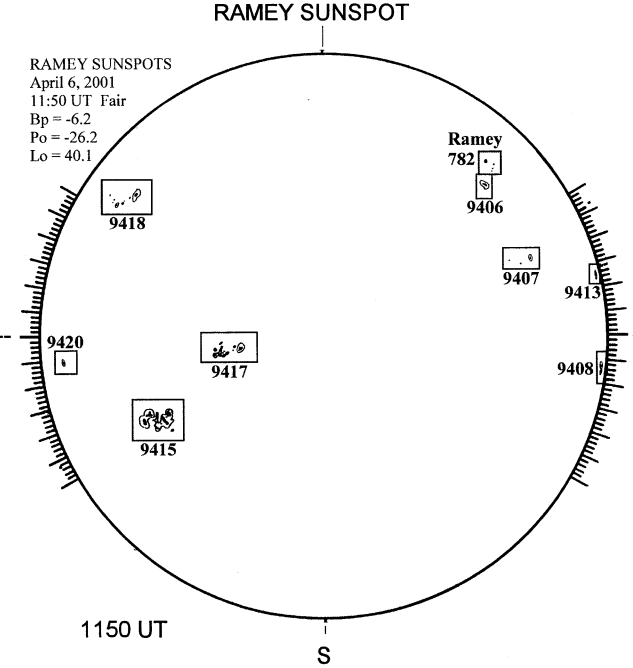


White= +7.5G
Black = -7.5G

----- MEUDON H-ALPHA

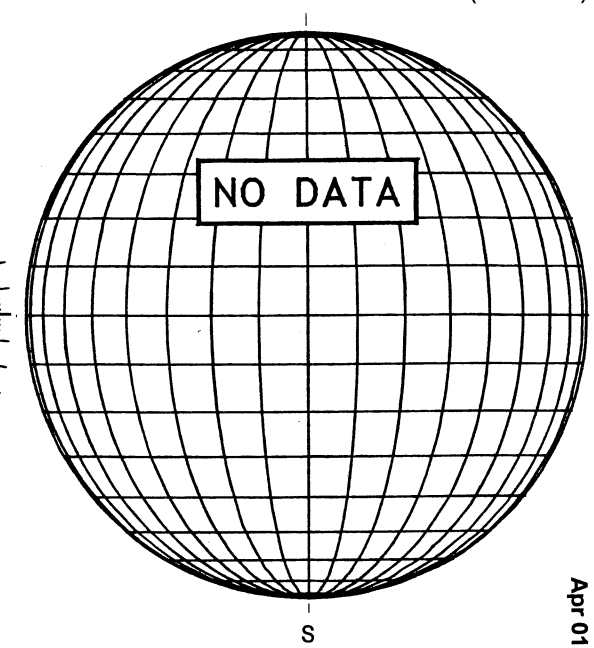


RAMEY SUNSPOT



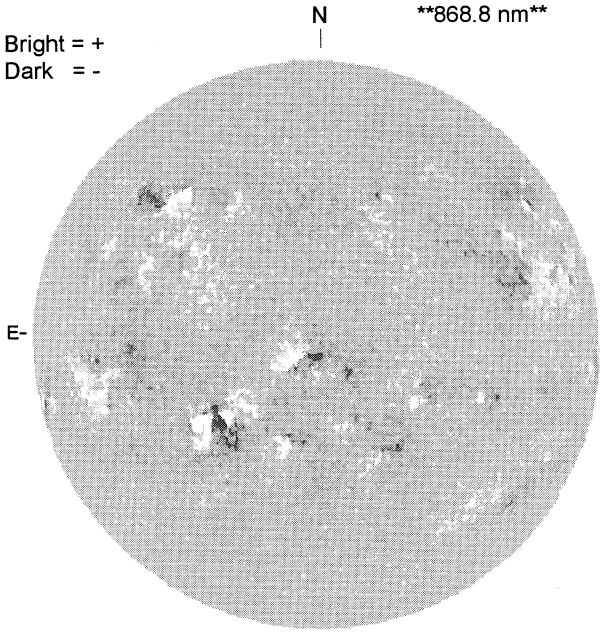
1150 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



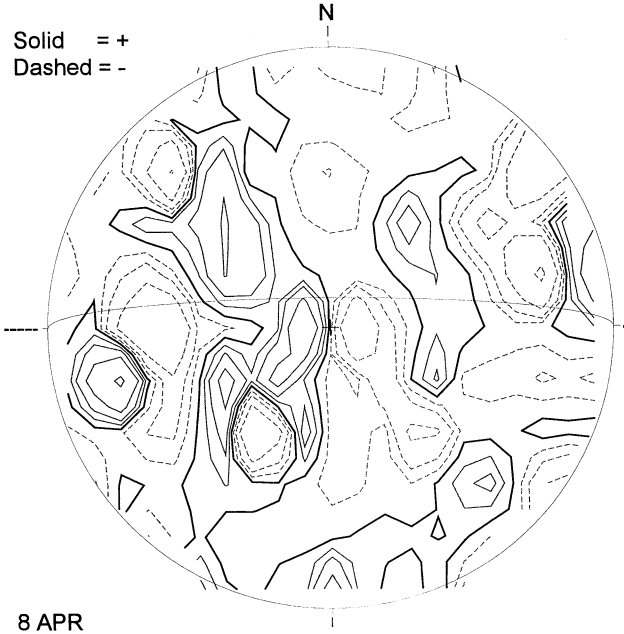
APRIL 7, 2001 (P= -26.29, Bo = -6.18, Lo = 32.56)

KITT PEAK MAGNETOGRAM



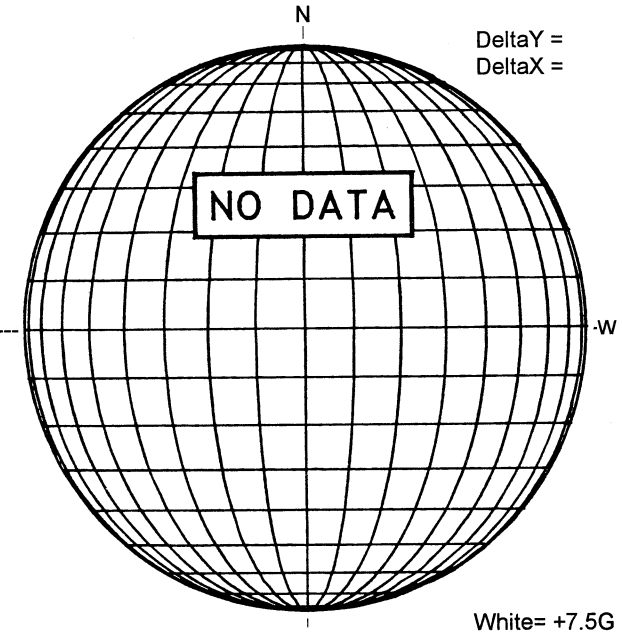
1733 UT

STANFORD MAGNETOGRAM



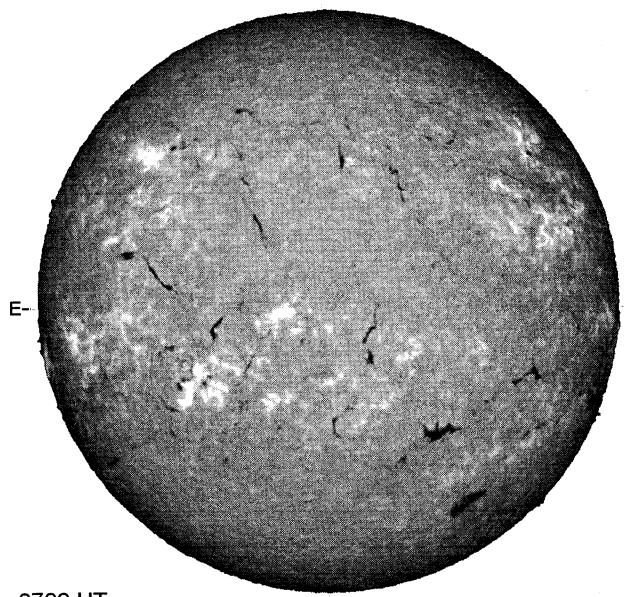
8 APR
0006 UT

MT. WILSON MAGNETOGRAM



White= +7.5G
Black = -7.5G

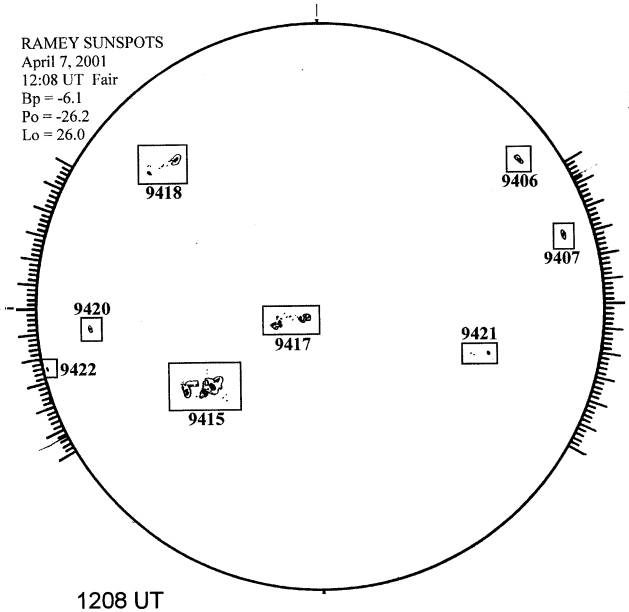
MEUDON H-ALPHA



0706 UT

S

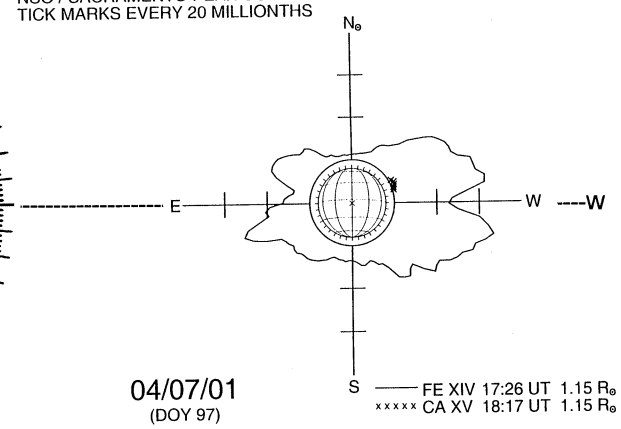
RAMEY SUNSPOTS



1208 UT

S

SACRAMENTO PEAK CORONA (1.15 Radii)----

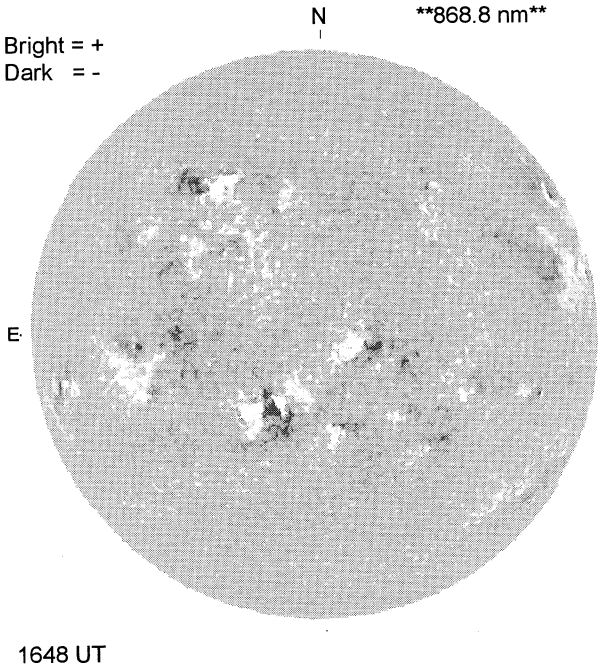


04/07/01
(DOY 97)

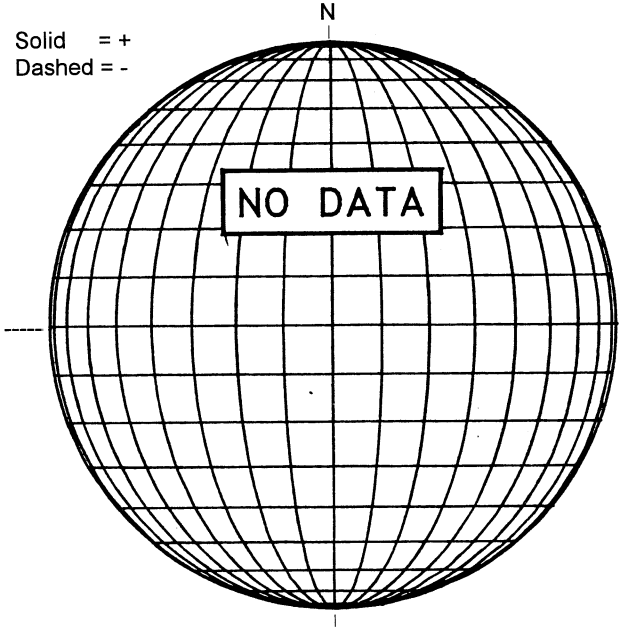
S

APRIL 8, 2001 (P= -26.29, Bo = -6.11, Lo = 19.36)

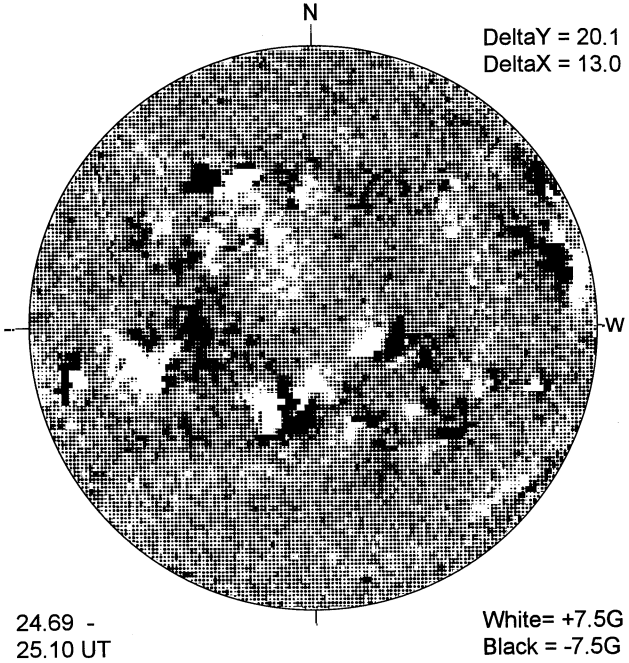
KITT PEAK MAGNETOGRAM



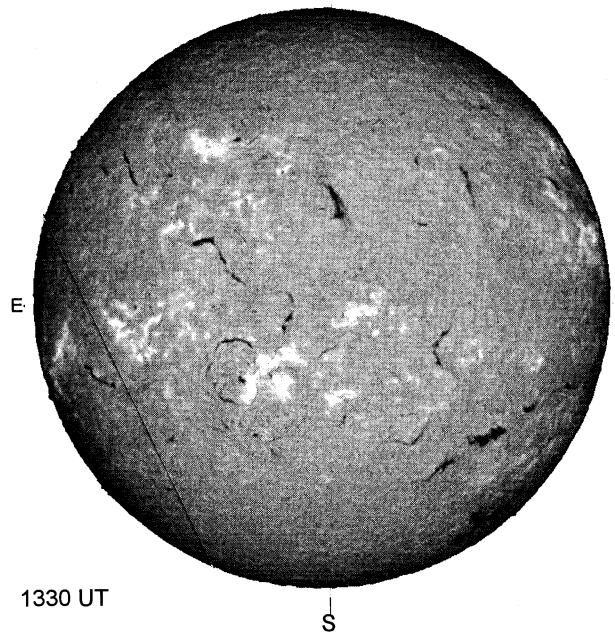
STANFORD MAGNETOGRAM



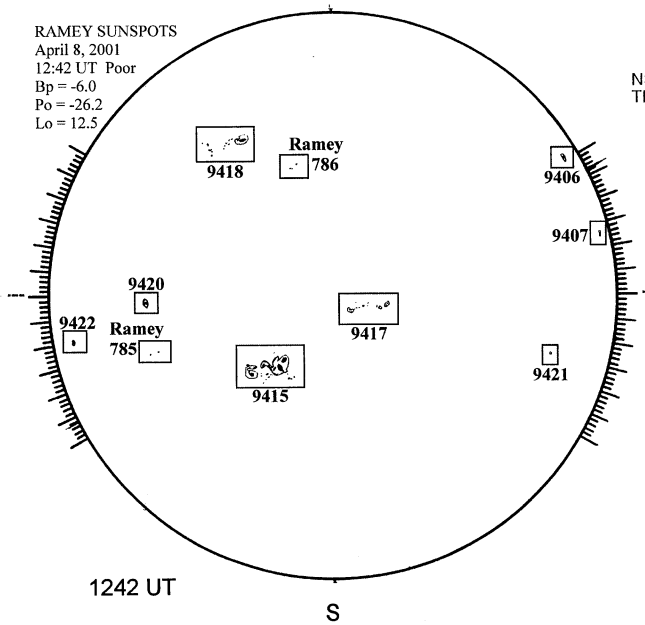
MT. WILSON MAGNETOGRAM



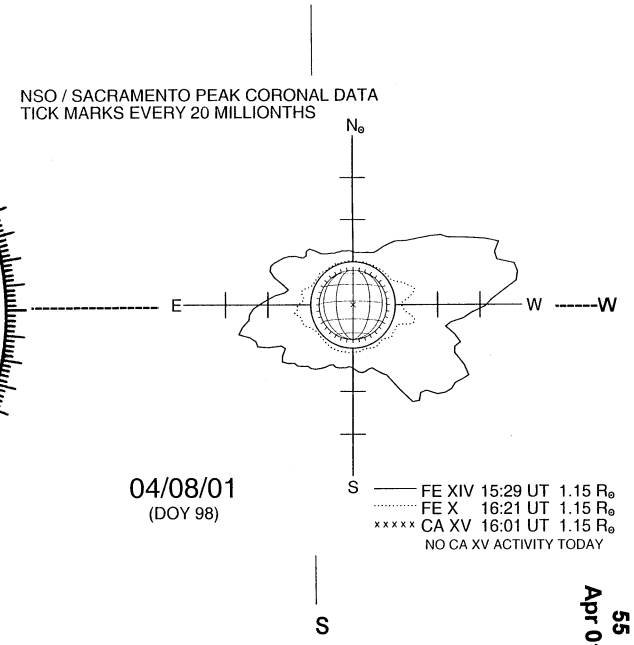
MEUDON H-ALPHA



RAMEY SUNSPOT

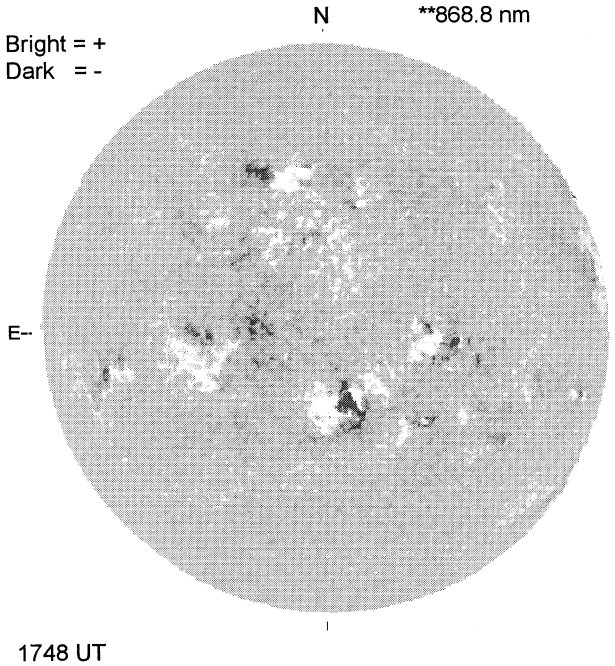


SACRAMENTO PEAK CORONA (1.15 Radii)----

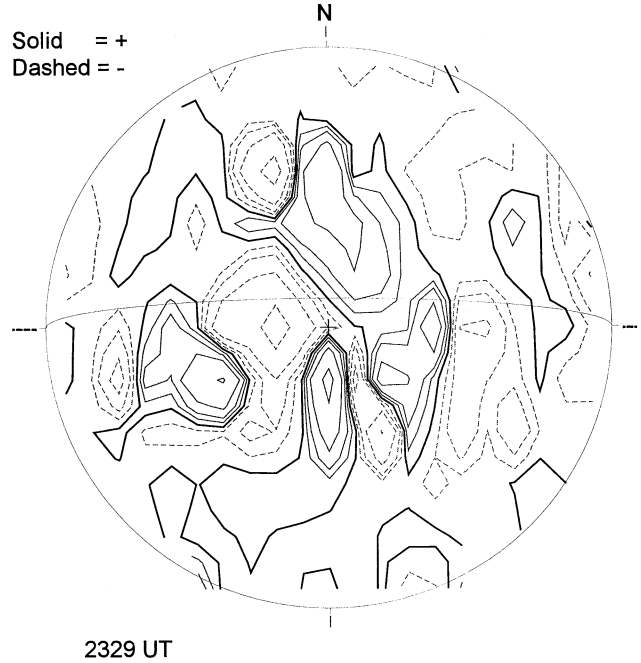


APRIL 9, 2001 (P= -26.27, Bo = -6.05, Lo = 6.16)

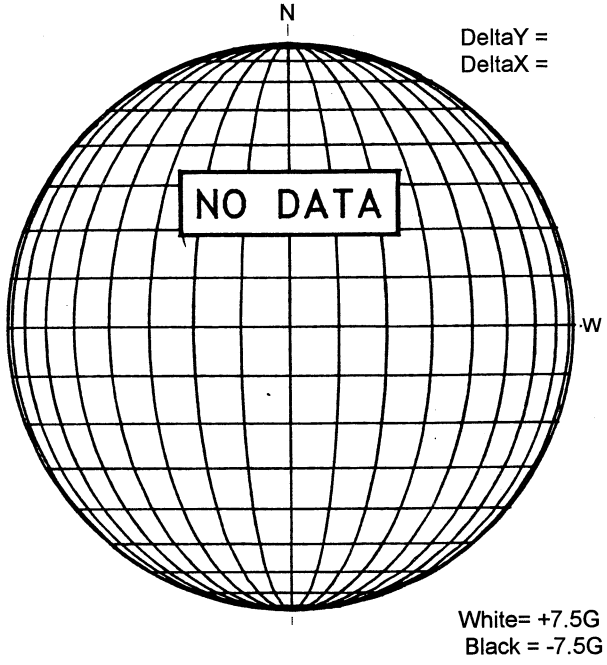
KITT PEAK MAGNETOGRAM



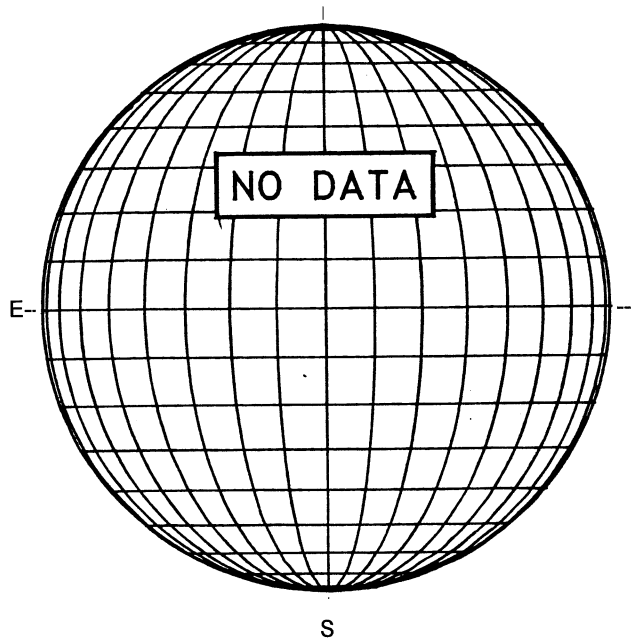
STANFORD MAGNETOGRAM



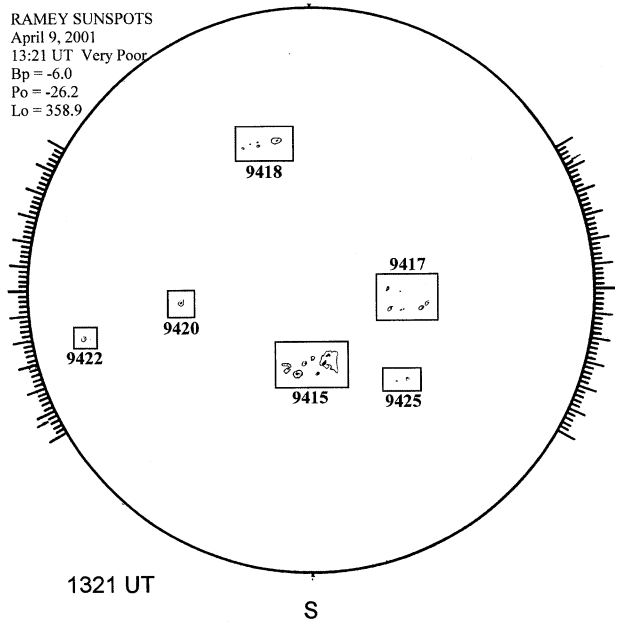
MT. WILSON MAGNETOGRAM



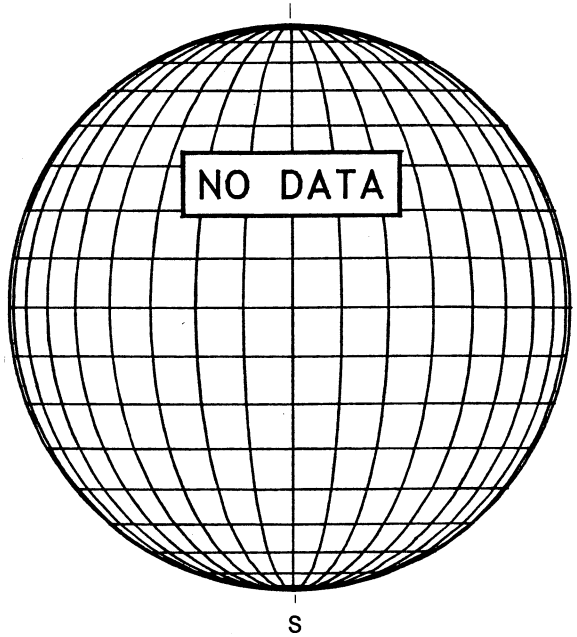
MEUDON H-ALPHA



RAMEY SUNSPOT

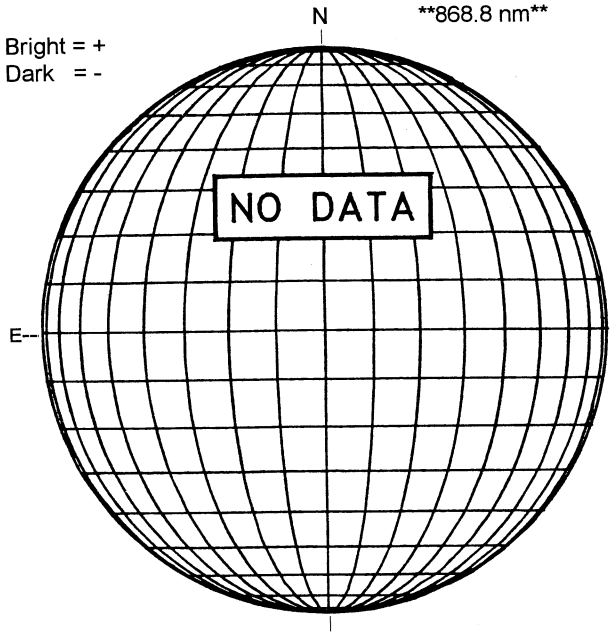


SACRAMENTO PEAK CORONA (1.15 Radii)----

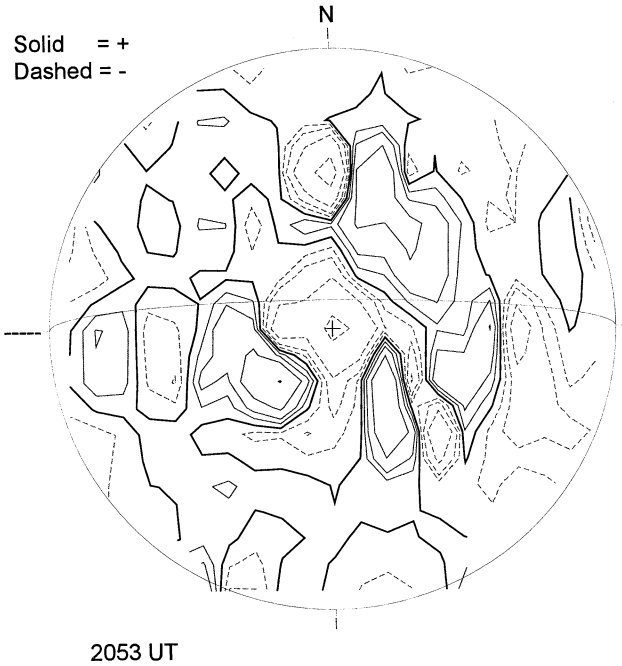


APRIL 10, 2001 (P= -26.25, Bo = -5.98 Lo = 352.96)

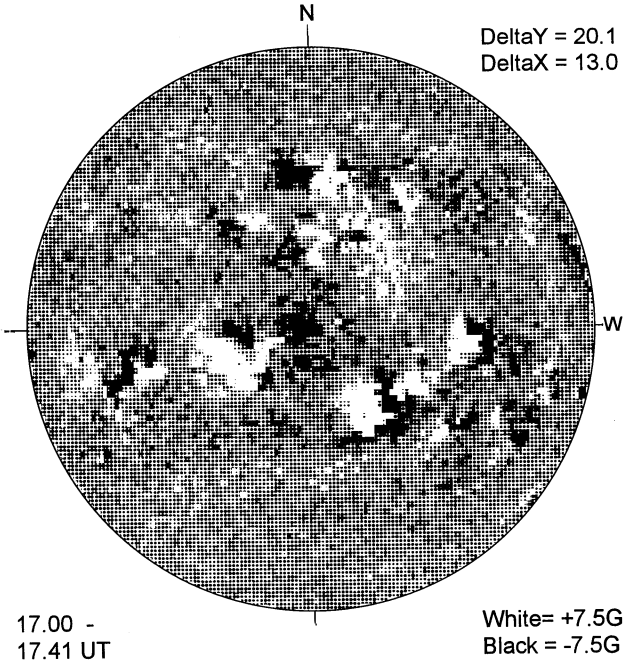
KITT PEAK MAGNETOGRAM



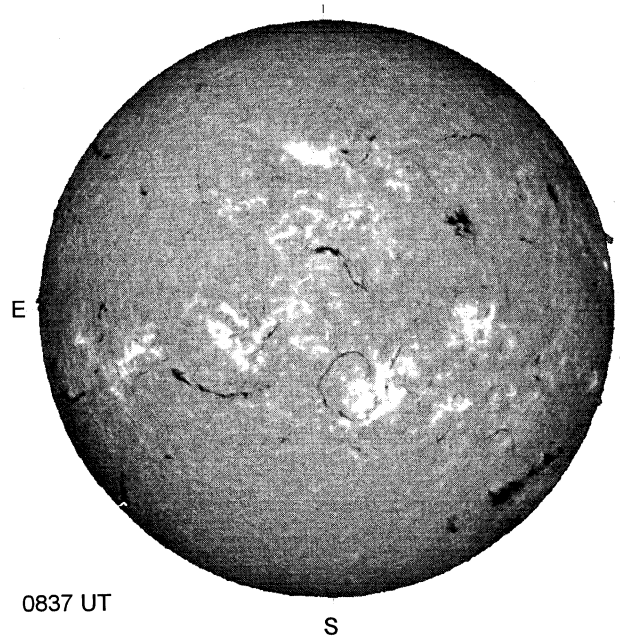
STANFORD MAGNETOGRAM



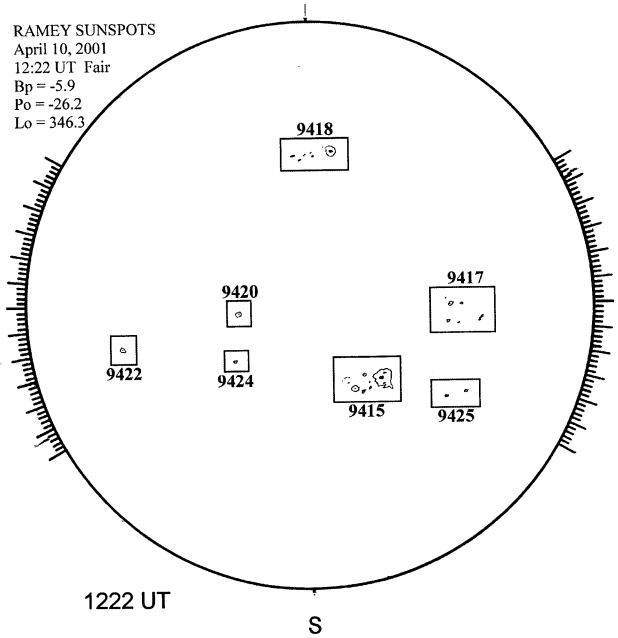
MT. WILSON MAGNETOGRAM



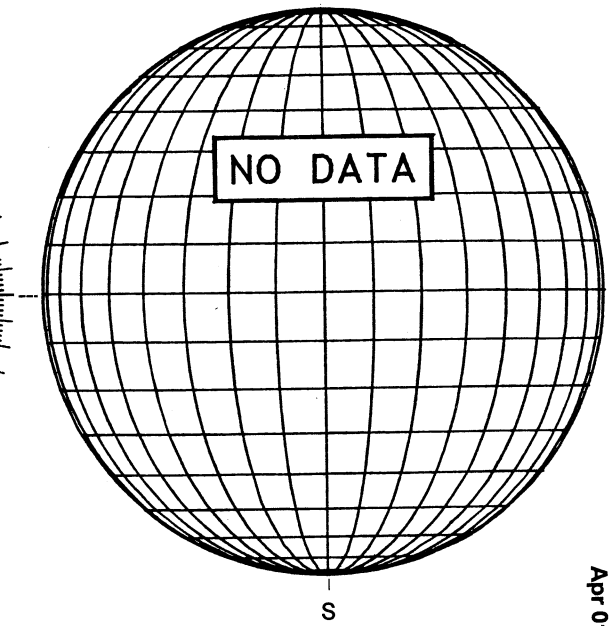
MEUDON H-ALPHA



RAMEY SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)----



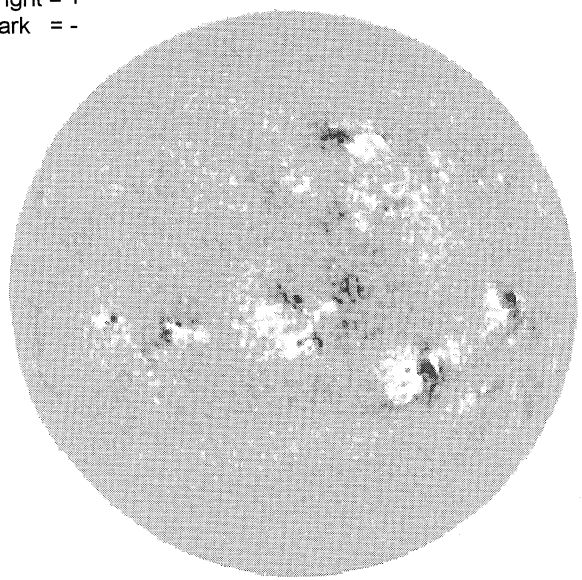
APRIL 11, 2001 (P= -26.23, Bo = -5.91, Lo = 339.76)

KITT PEAK MAGNETOGRAM

N

868.8 nm

Bright = +
Dark = -



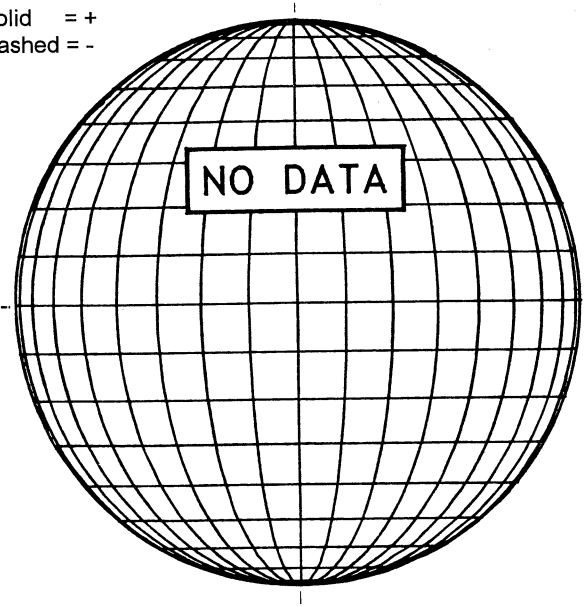
E

1614 UT

STANFORD MAGNETOGRAM

N

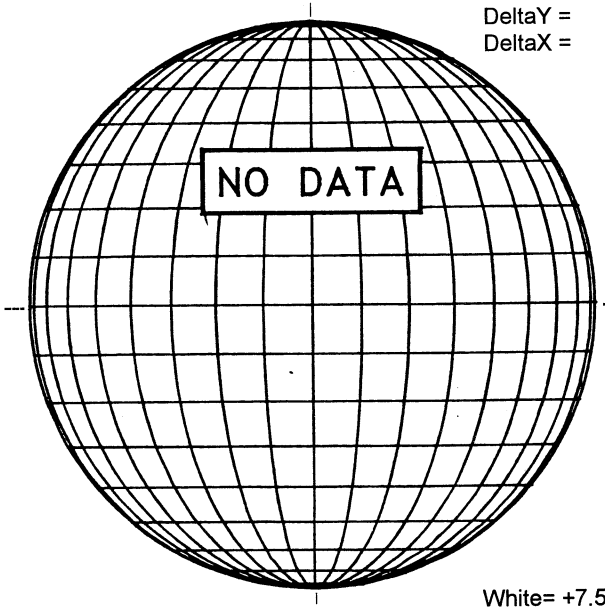
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

N

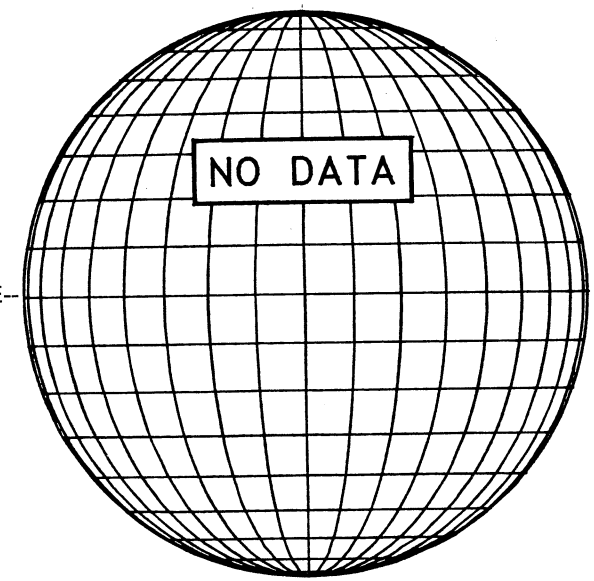
DeltaY =
DeltaX =



W

White= +7.5G
Black = -7.5G

MEUDON H-ALPHA

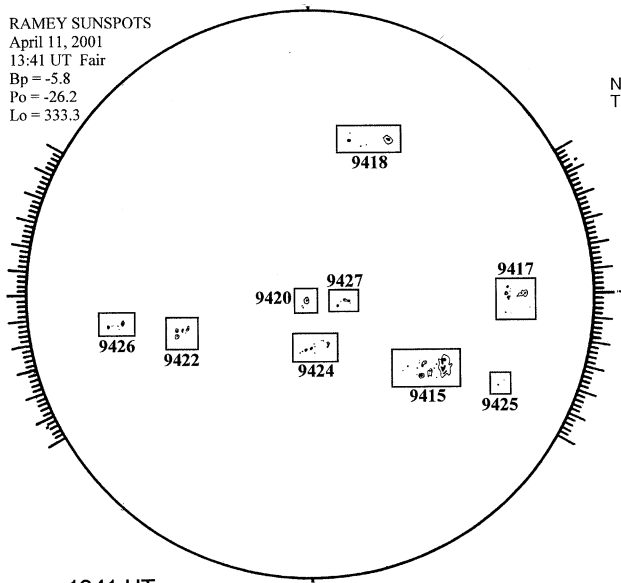


E

S

RAMEY SUNSPOTS

RAMEY SUNSPOTS
April 11, 2001
13:41 UT Fair
Bp = -5.8
Po = -26.2
Lo = 333.3

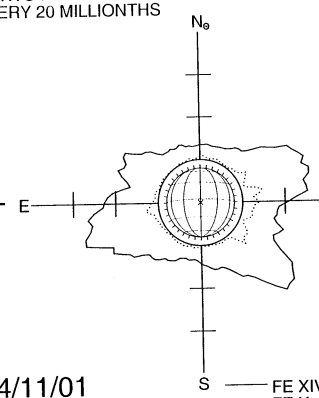


1341 UT

S

SACRAMENTO PEAK CORONA (1.15 Radii)

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS



W

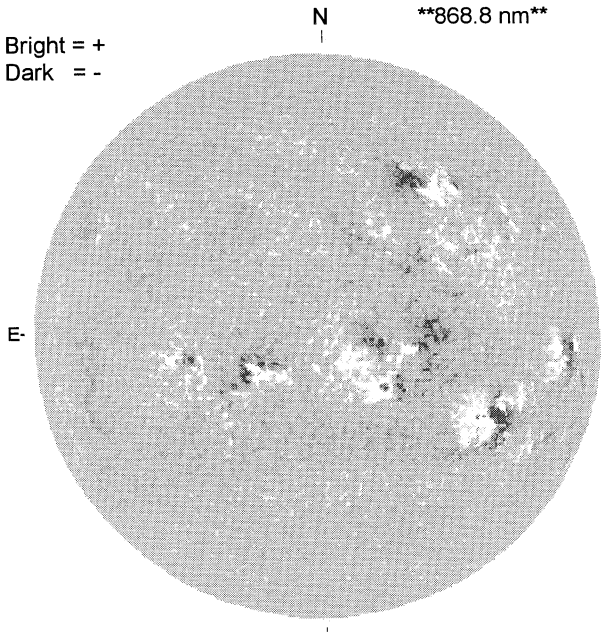
04/11/01
(DOY 101)

FE XIV 20:39 UT 1.15 R⊙
FE X 19:12 UT 1.15 R⊙

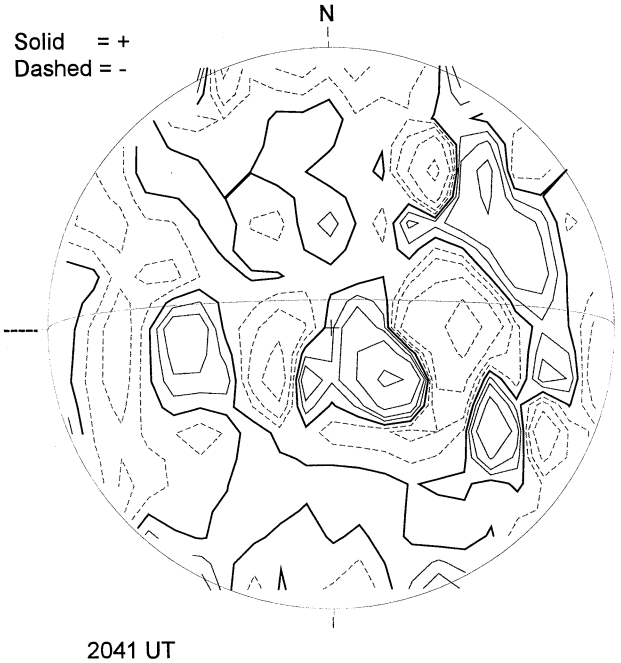
S

APRIL 12, 2001 (P= -26.19, Bo = -5.83, Lo = 326.56)

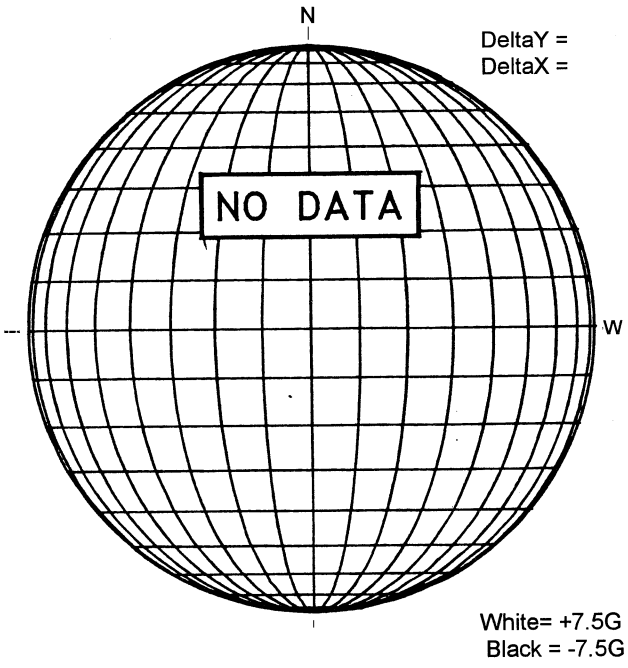
KITT PEAK MAGNETOGRAM



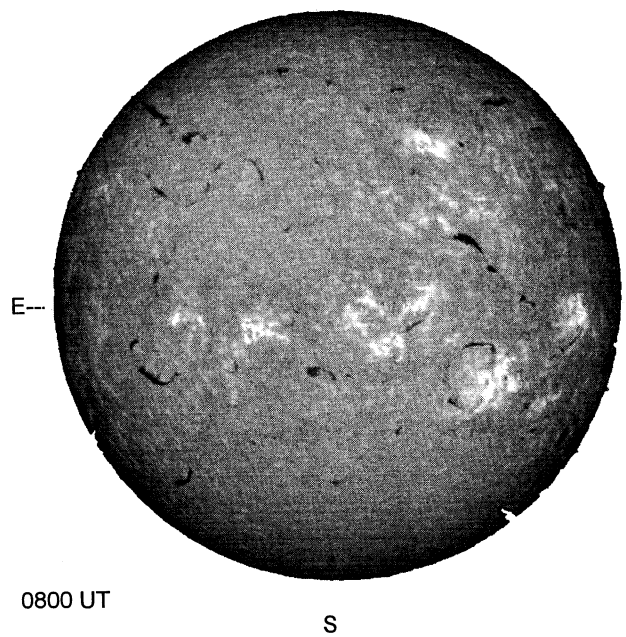
STANFORD MAGNETOGRAM



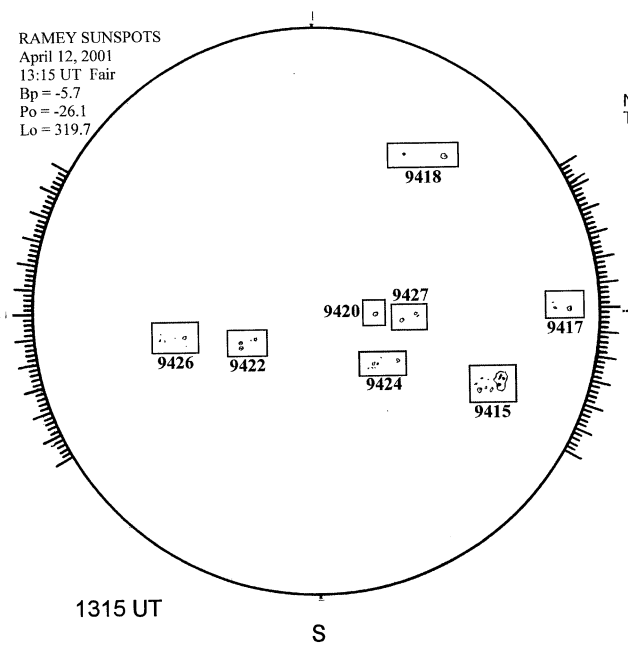
MT. WILSON MAGNETOGRAM



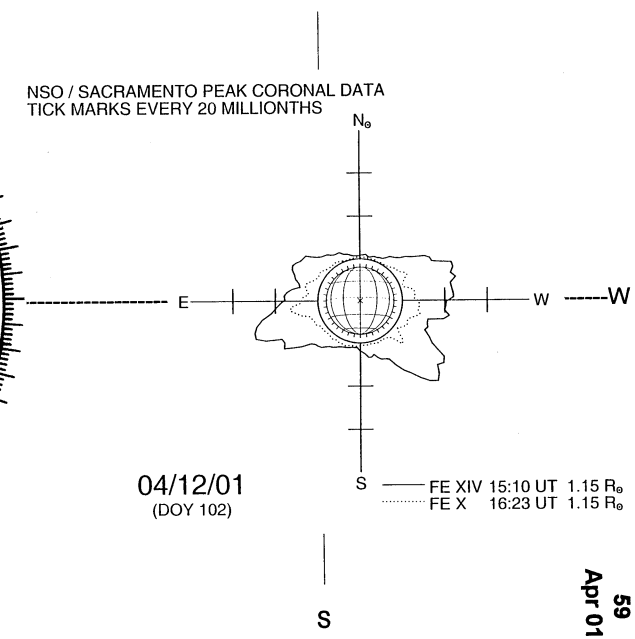
MEUDON H-ALPHA



RAMEY SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)----

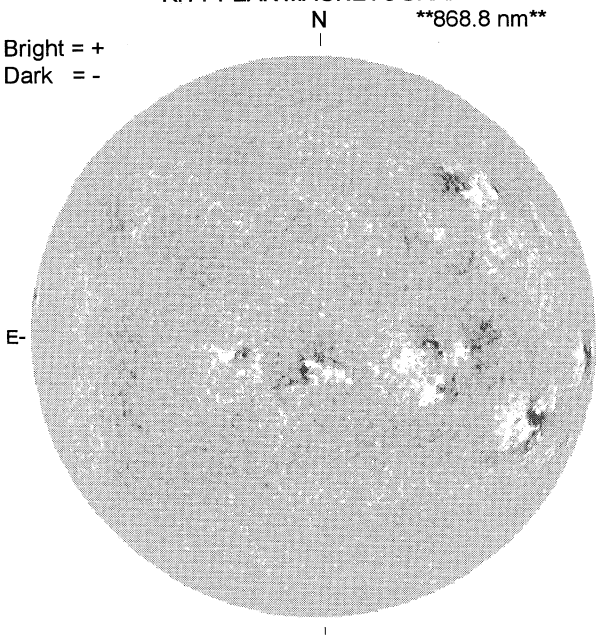


APRIL 13, 2001 (P= -26.15, Bo = -5.76, Lo = 313.36)

KITT PEAK MAGNETOGRAM

868.8 nm

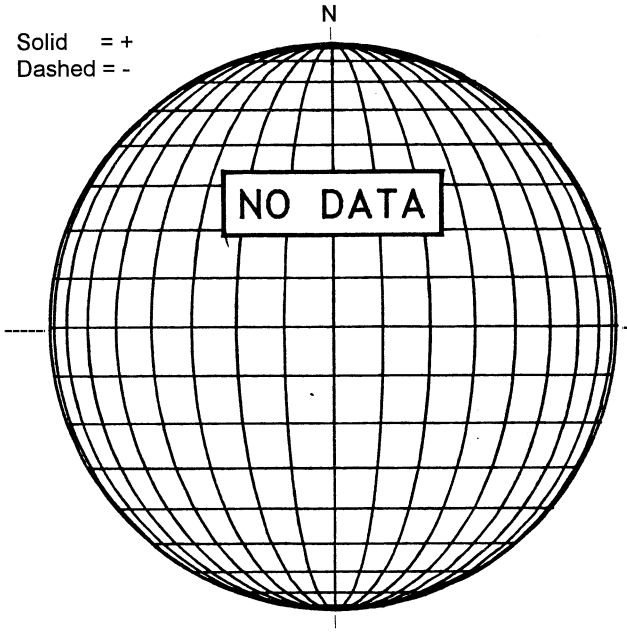
Bright = +
Dark = -



1419 UT

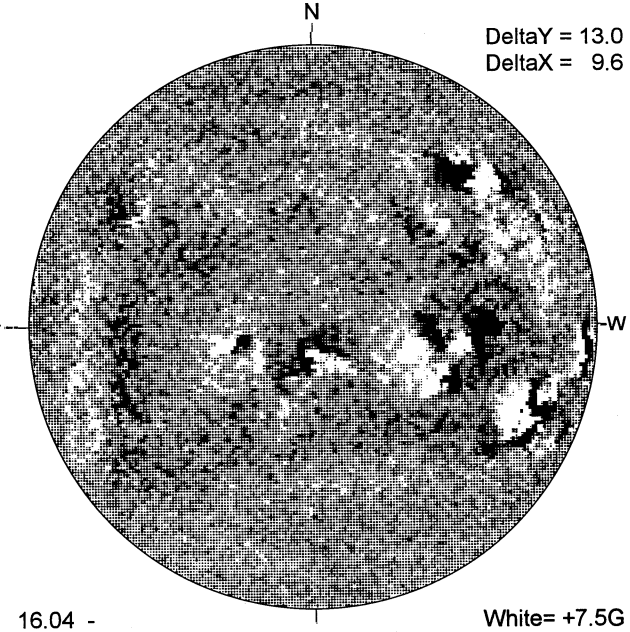
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

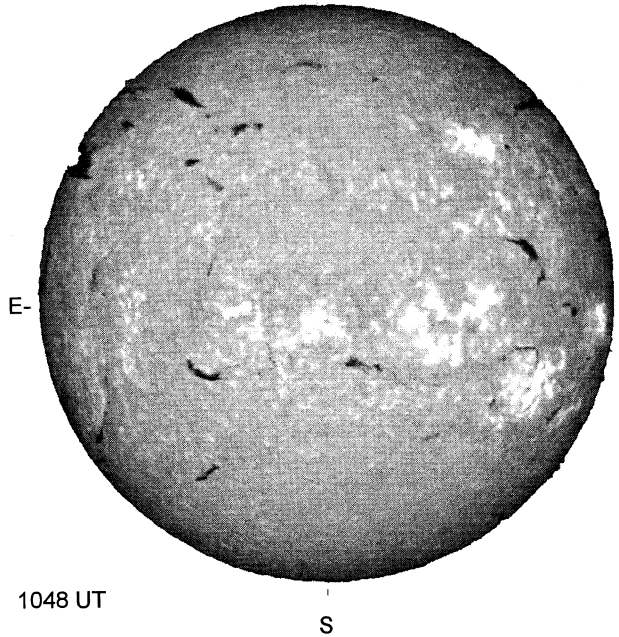
DeltaY = 13.0
DeltaX = 9.6



16.04 -
16.98 UT

White= +7.5G
Black = -7.5G

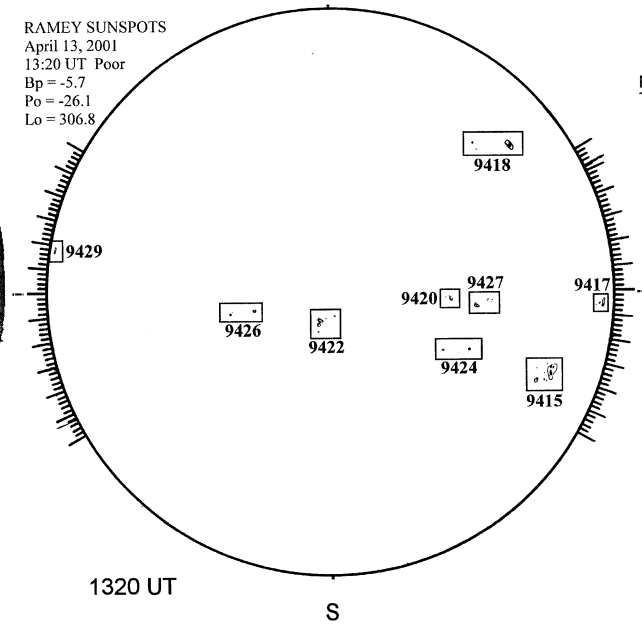
MEUDON H-ALPHA



1048 UT

RAMEY SUNSPOT

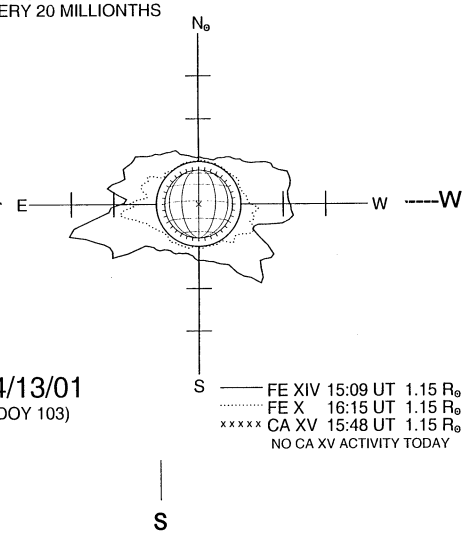
RAMEY SUNSPOTS
April 13, 2001
13:20 UT Poor
Bp = -5.7
Po = -26.1
Lo = 306.8



1320 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS



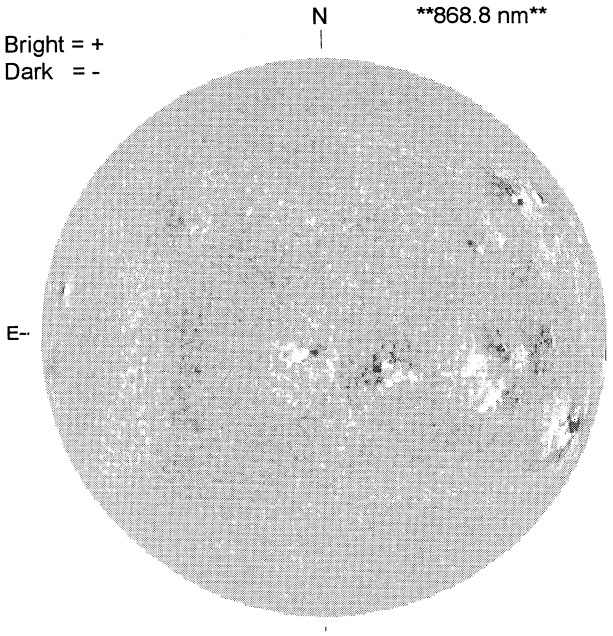
04/13/01
(DOY 103)

FE XIV 15:09 UT 1.15 R☉
FE X 16:15 UT 1.15 R☉
CA XV 15:48 UT 1.15 R☉
NO CA XV ACTIVITY TODAY

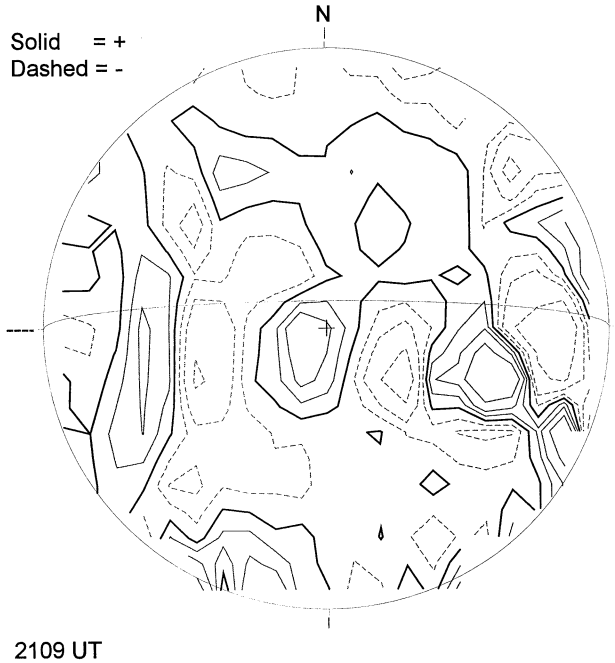
S

APRIL 14, 2001 (P= -26.10, Bo = -5.68, Lo = 300.16)

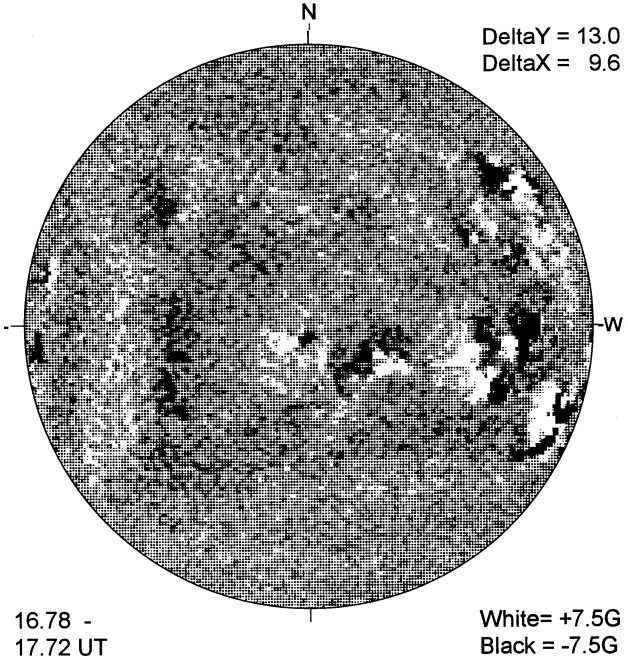
KITT PEAK MAGNETOGRAM



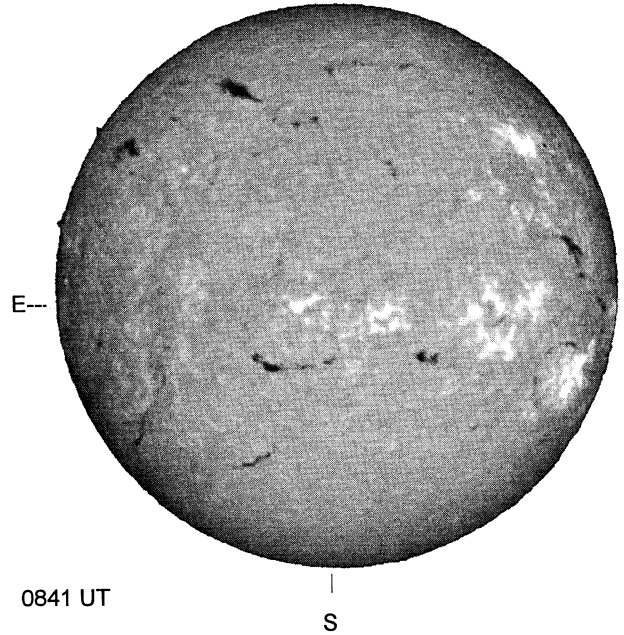
STANFORD MAGNETOGRAM



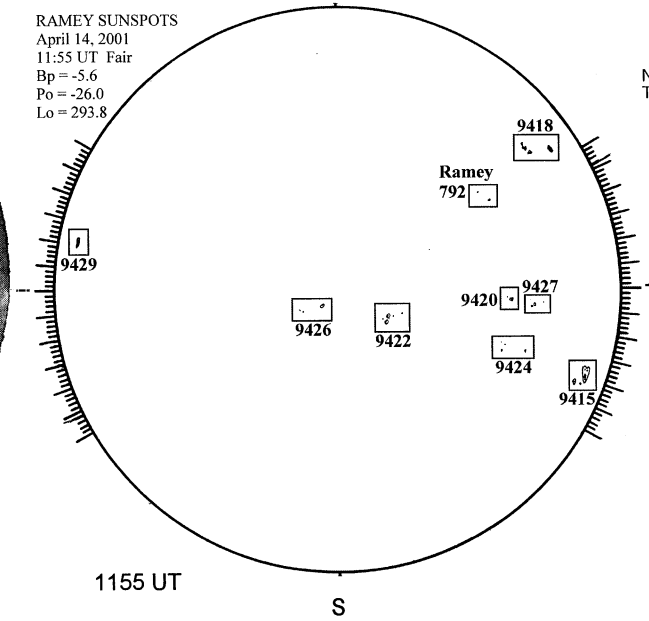
MT. WILSON MAGNETOGRAM



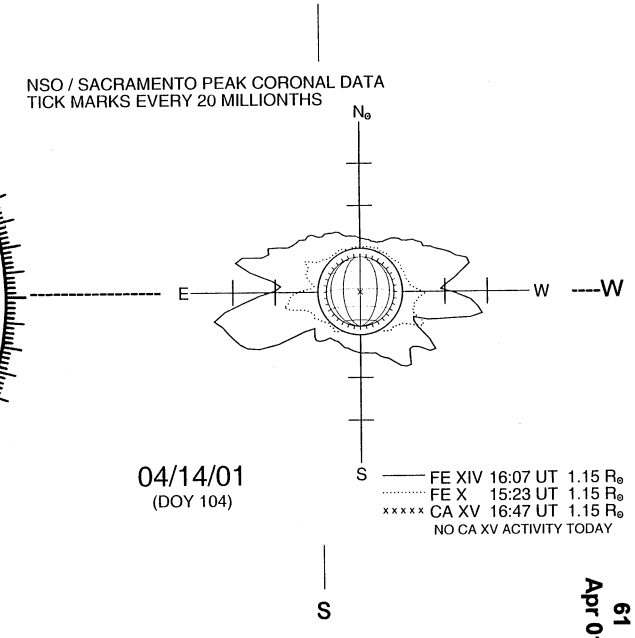
MEUDON H-ALPHA



RAMEY SUNSPOT

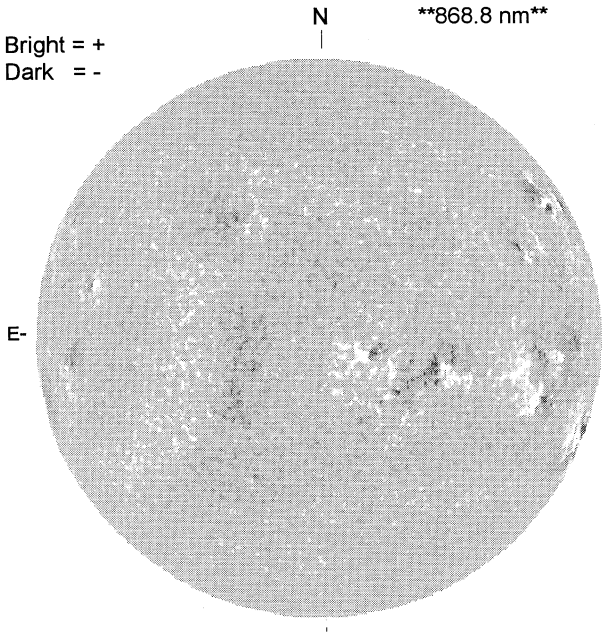


SACRAMENTO PEAK CORONA (1.15 Radii)----



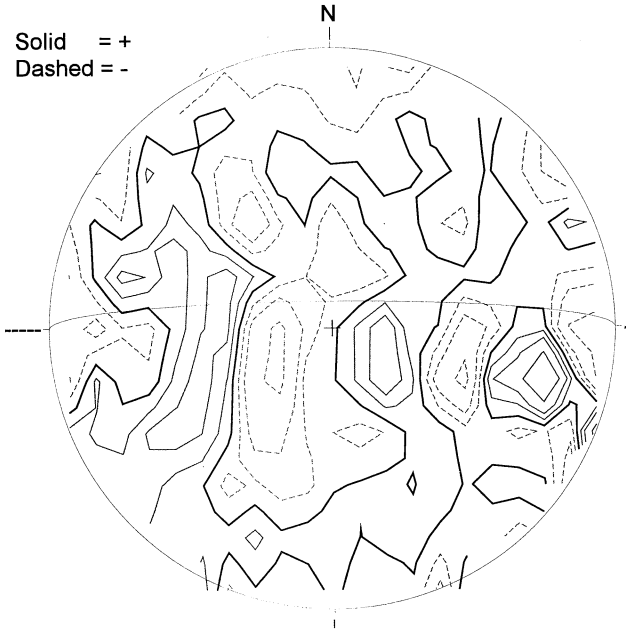
APRIL 15, 2001 (P= -26.05, Bo = -5.60, Lo = 286.95)

KITT PEAK MAGNETOGRAM



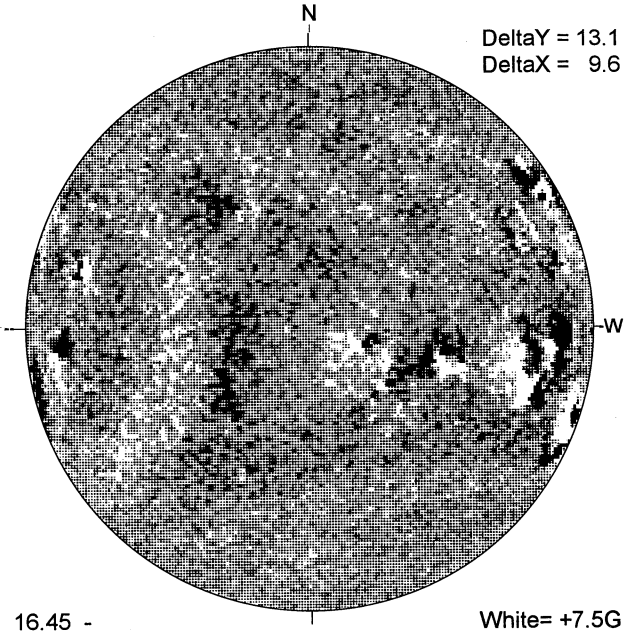
1522 UT

STANFORD MAGNETOGRAM



2146 UT

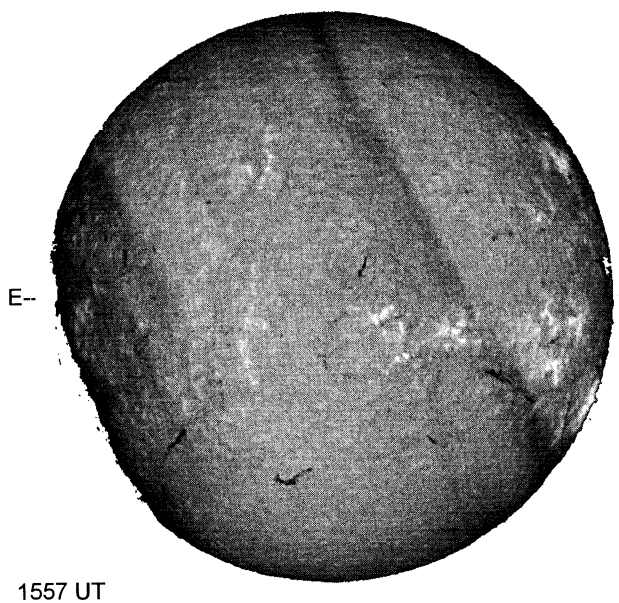
MT. WILSON MAGNETOGRAM



16.45 -
17.39 UT

White= +7.5G
Black = -7.5G

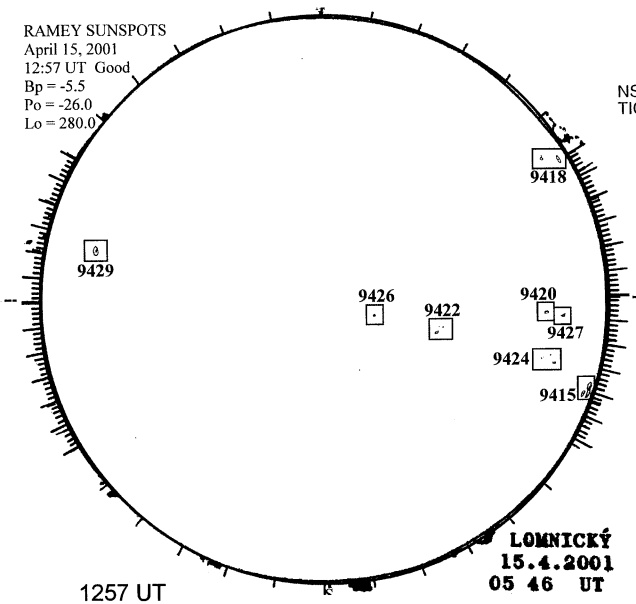
MEUDON H-ALPHA



1557 UT

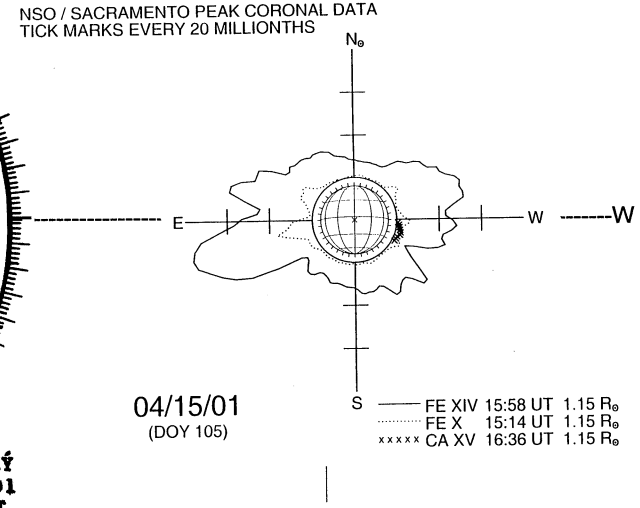
S

RAMEY SUNSPOT



1257 UT
0546 UT LOMN Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----

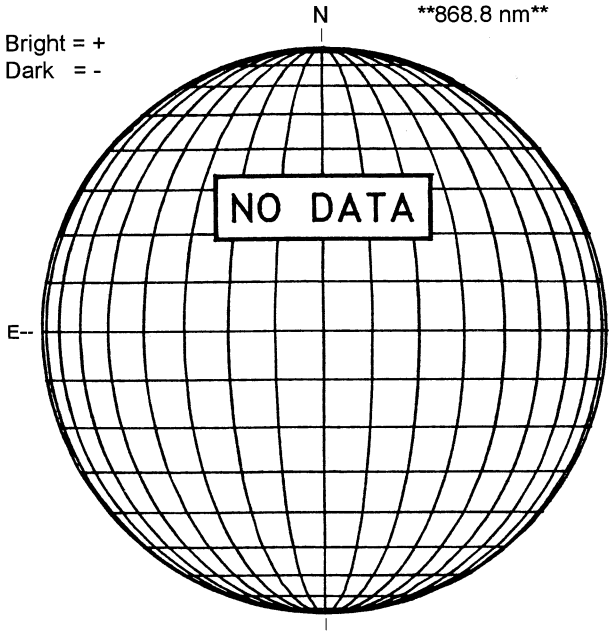


04/15/01
(DOY 105)

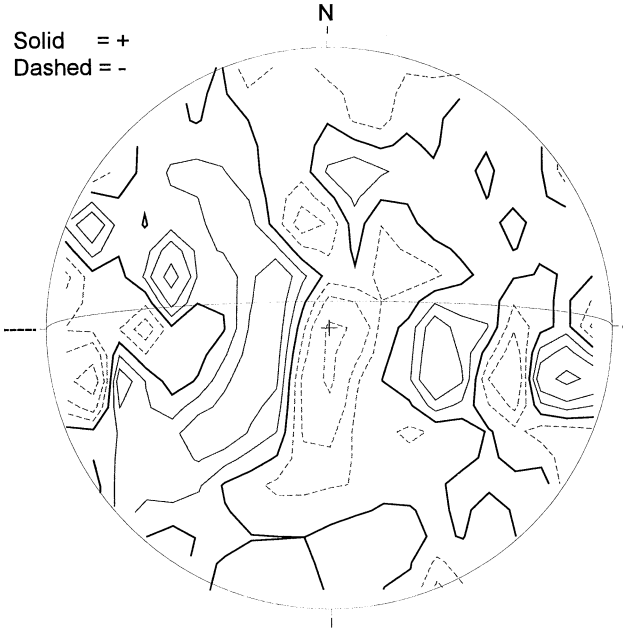
S

APRIL 16, 2001 (P= -25.98, Bo = -5.52, Lo = 273.75)

KITT PEAK MAGNETOGRAM

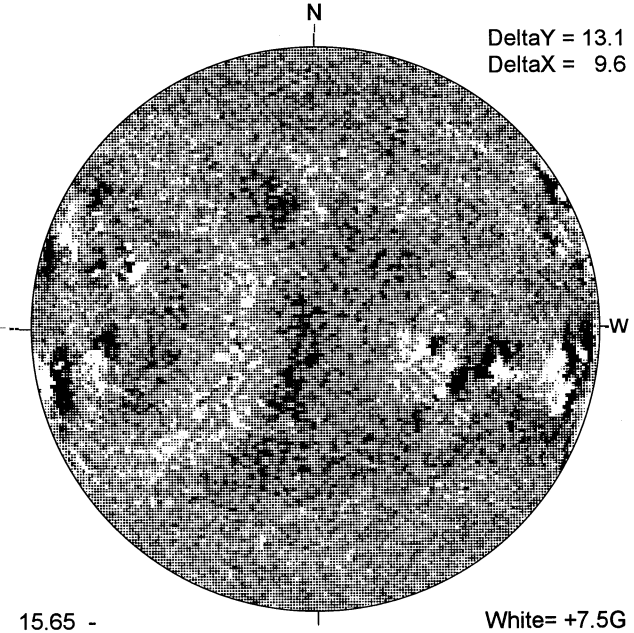


STANFORD MAGNETOGRAM



2118 UT

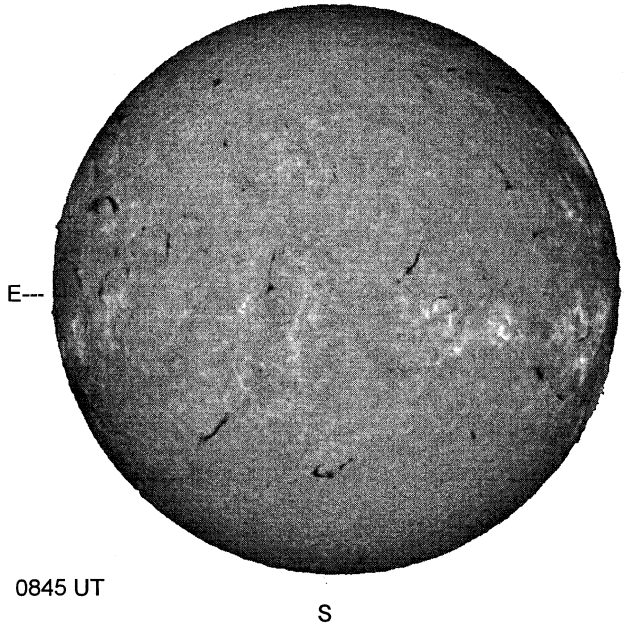
MT. WILSON MAGNETOGRAM



15.65 -
16.59 UT

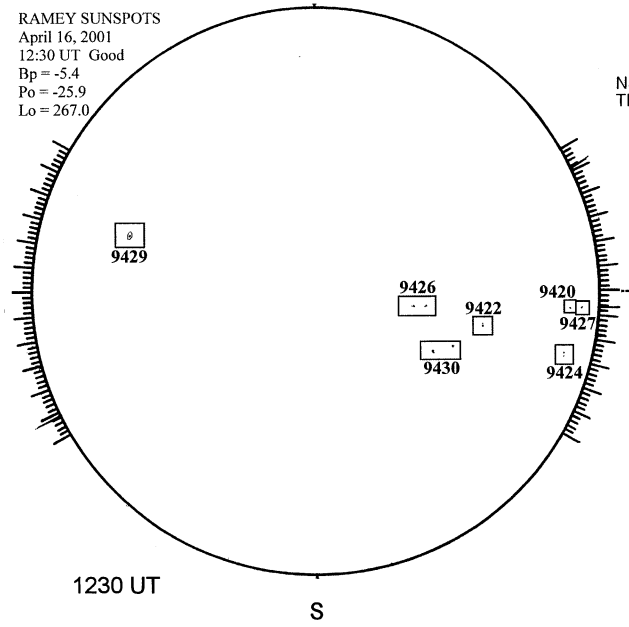
White= +7.5G
Black = -7.5G

MEUDON H-ALPHA



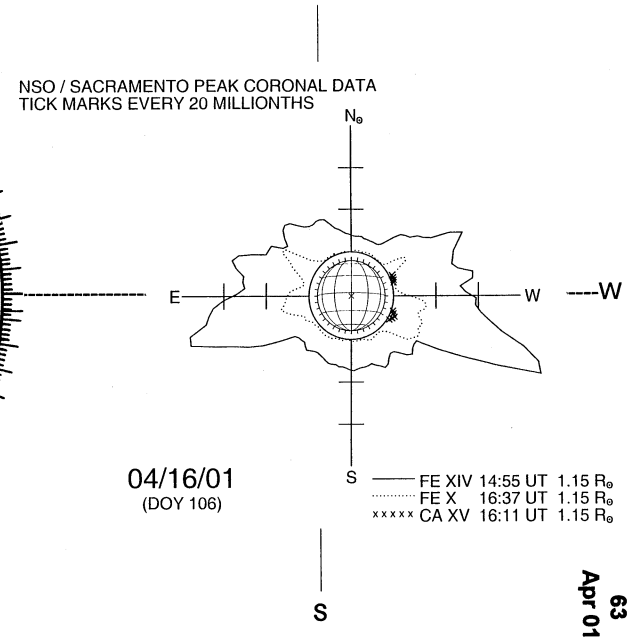
0845 UT

RAMEY SUNSPOT



1230 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



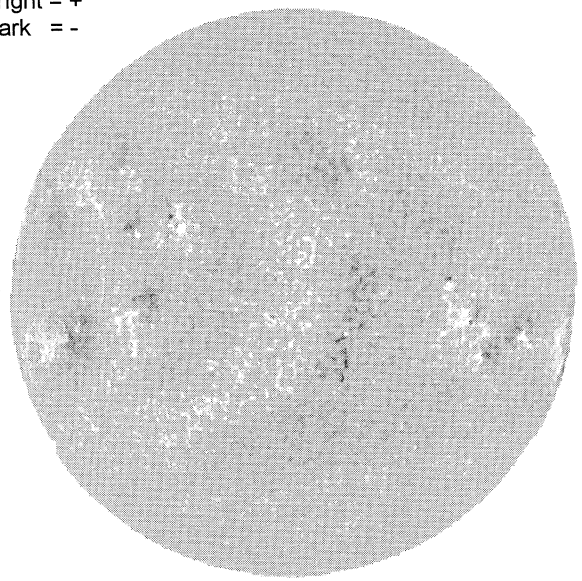
APRIL 17, 2001 (P= -25.91, Bo = -5.44, Lo = 260.54)

KITT PEAK MAGNETOGRAM

N

868.8 nm

Bright = +
Dark = -



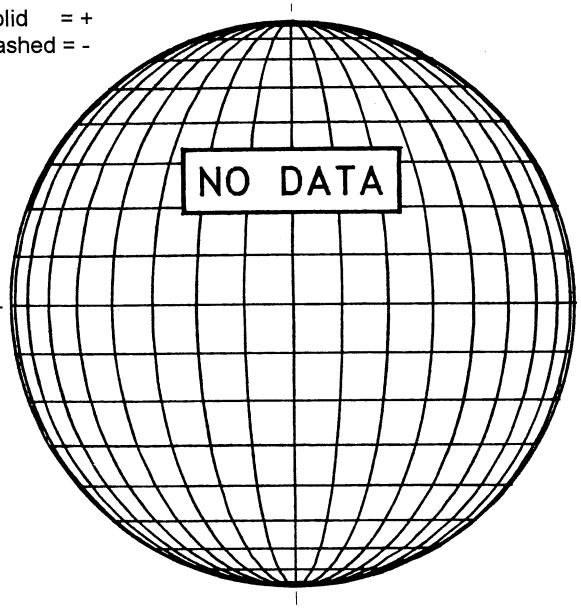
E

1919 UT

STANFORD MAGNETOGRAM

N

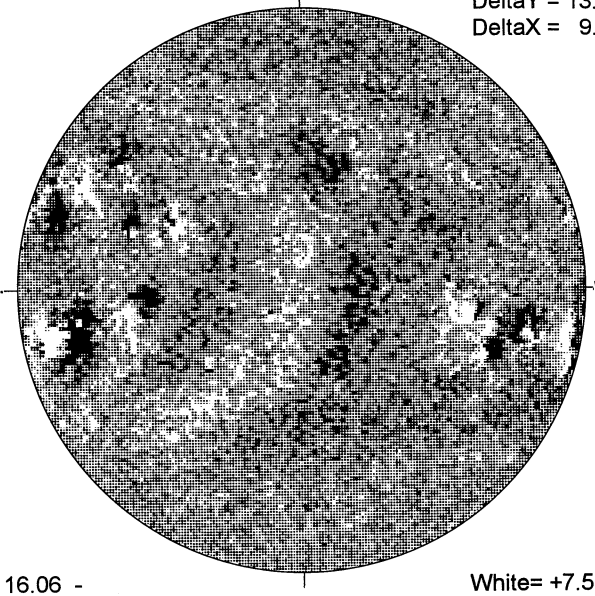
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

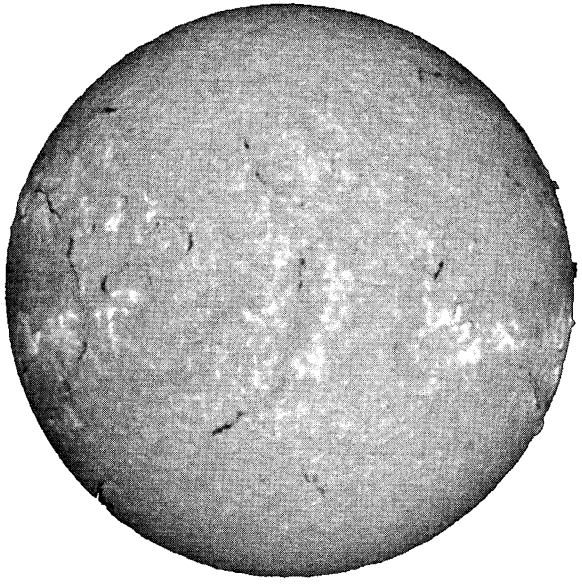


W

16.06 -
17.00 UT

White= +7.5G
Black = -7.5G

MEUDON H-ALPHA



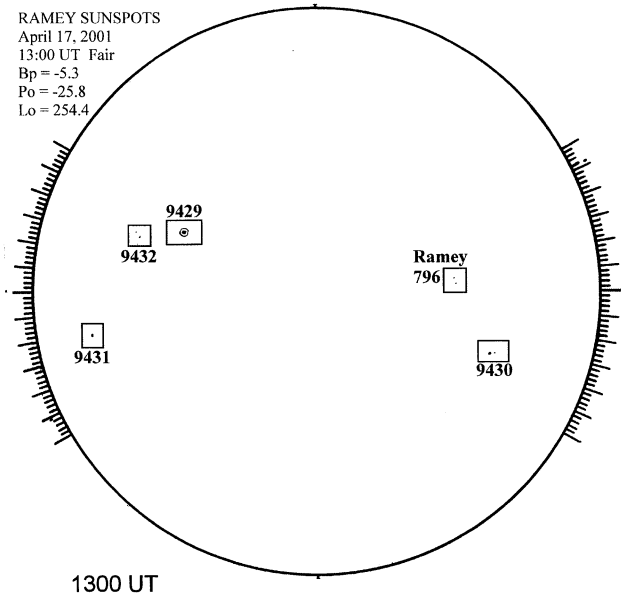
E

1223 UT

S

RAMEY SUNSPOT

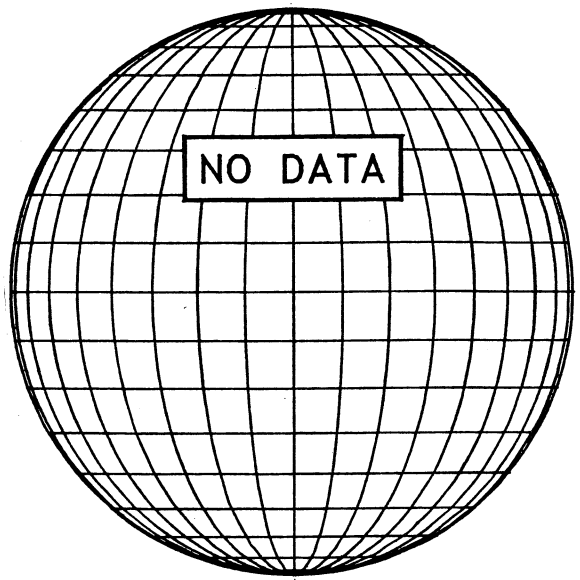
RAMEY SUNSPOTS
April 17, 2001
13:00 UT Fair
Bp = -5.3
Po = -25.8
Lo = 254.4



1300 UT

S

LOMNICKY PEAK CORONA (1.04 Radii)



S

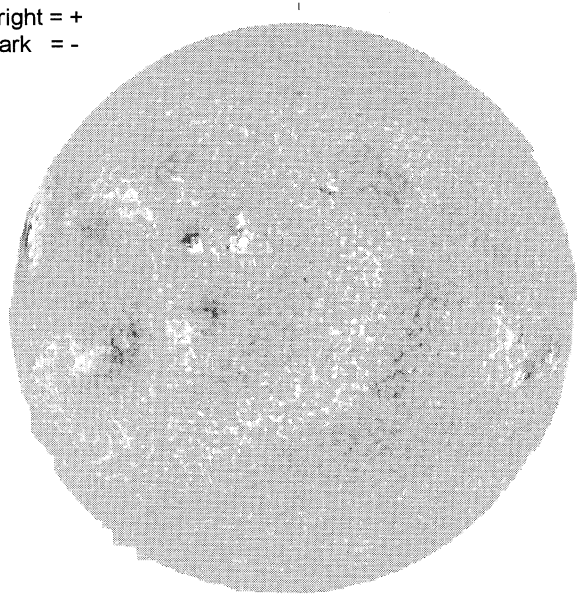
APRIL 18, 2001 (P= -25.83, Bo = -5.36, Lo = 247.34)

KITT PEAK MAGNETOGRAM

N

868.8 nm

Bright = +
Dark = -



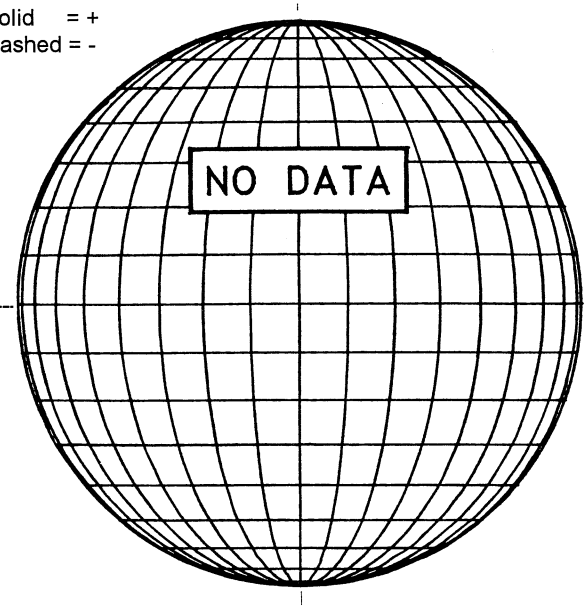
E

1928 UT

STANFORD MAGNETOGRAM

N

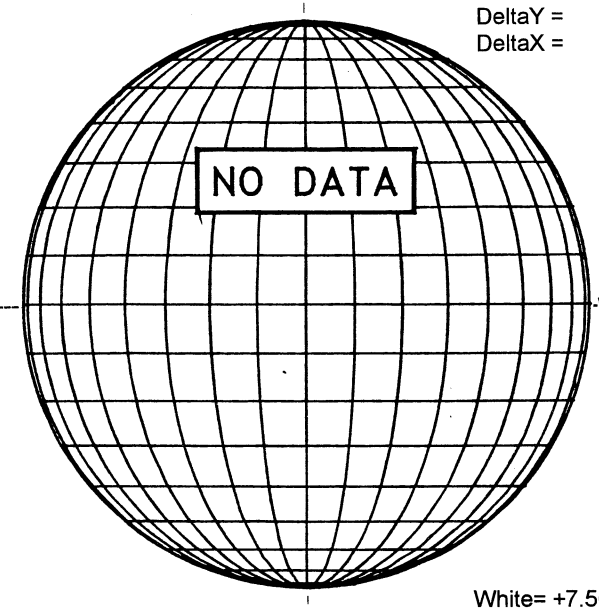
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

N

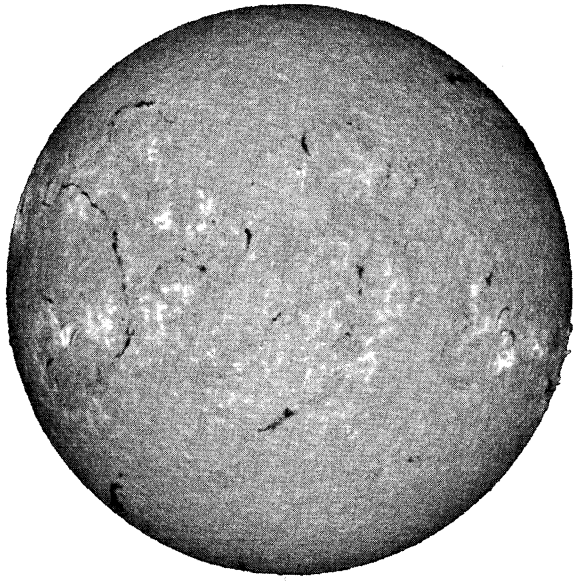
DeltaY =
DeltaX =



W

White= +7.5G
Black = -7.5G

MEUDON H-ALPHA

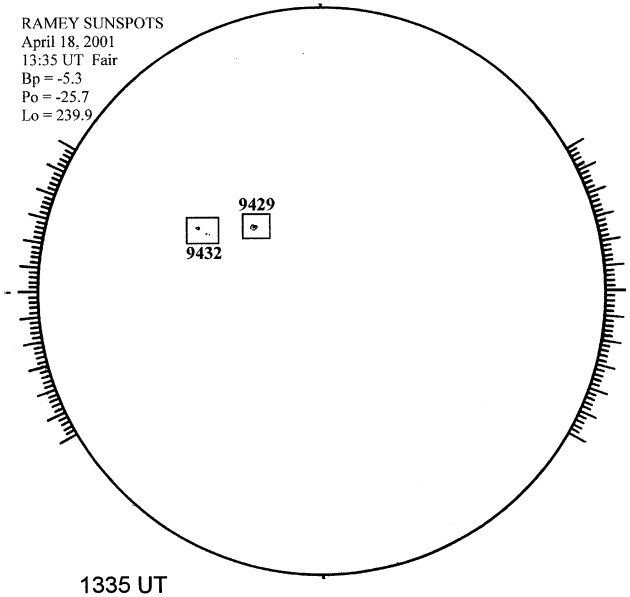


E

0945 UT

S

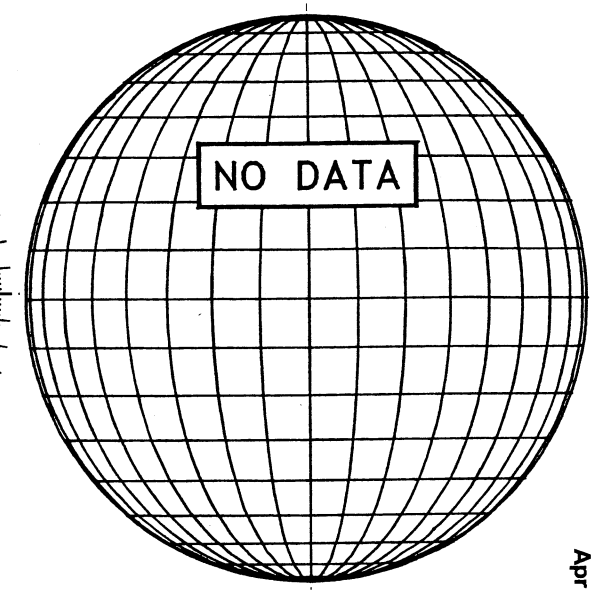
RAMEY SUNSPOT



1335 UT

S

SACRAMENTO PEAK CORONA (1.15 Radii)



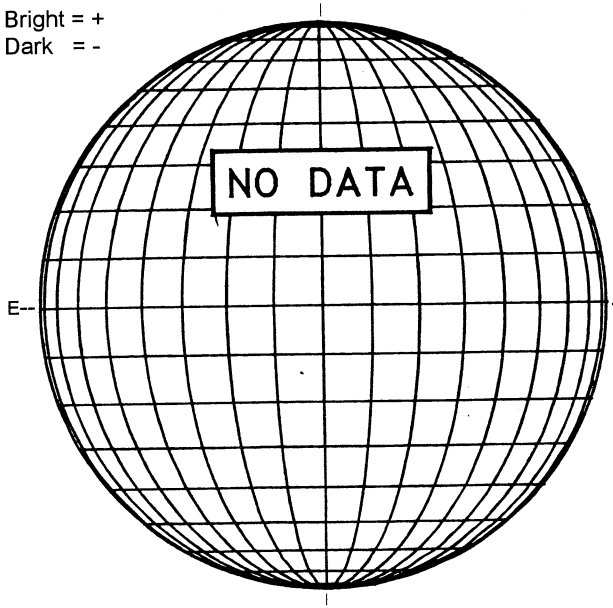
S

APRIL 19, 2001 (P= -25.75, Bo = -5.28, Lo = 234.13)

KITT PEAK MAGNETOGRAM

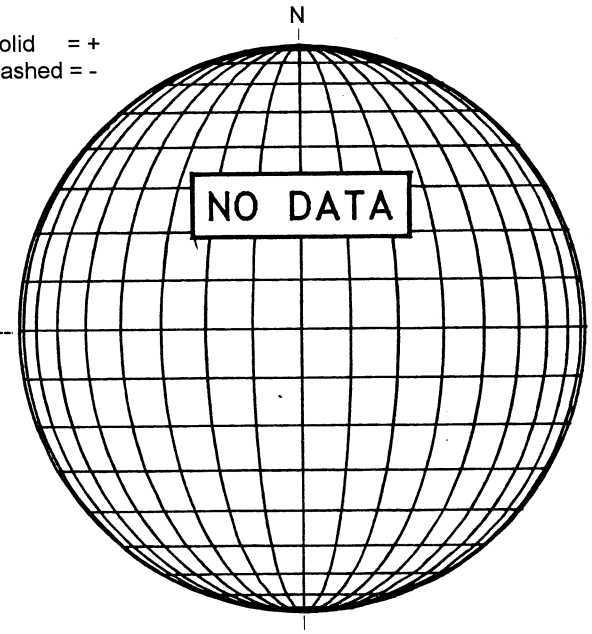
868.8 nm

Bright = +
Dark = -



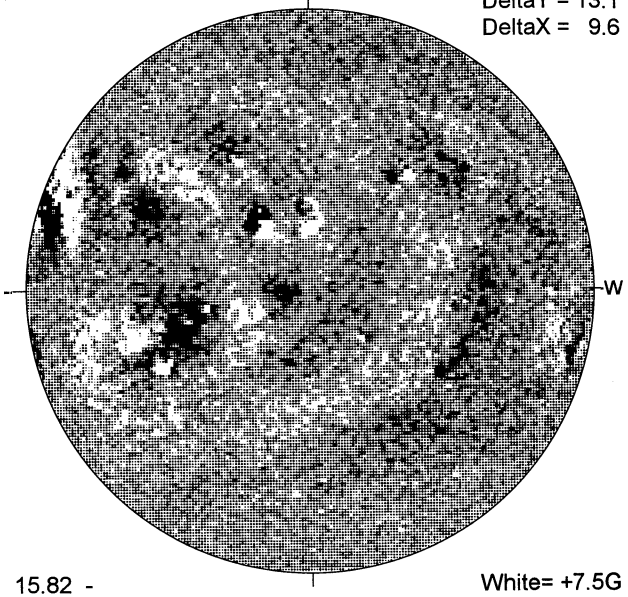
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

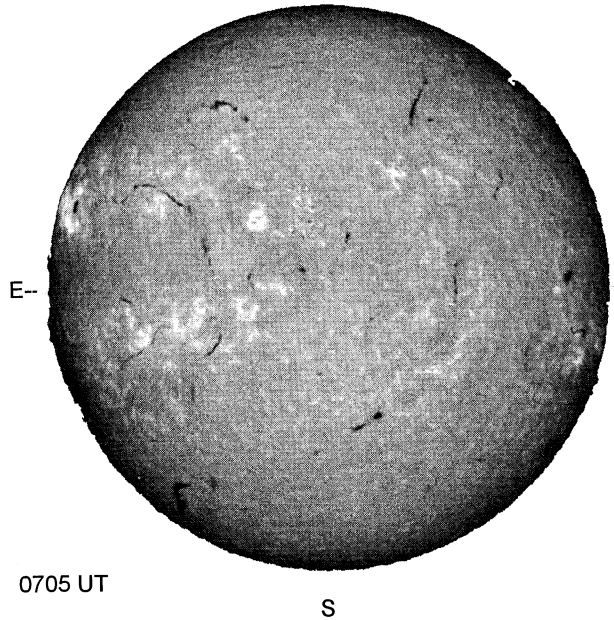
DeltaY = 13.1
DeltaX = 9.6



15.82 -
16.75 UT

White= +7.5G
Black = -7.5G

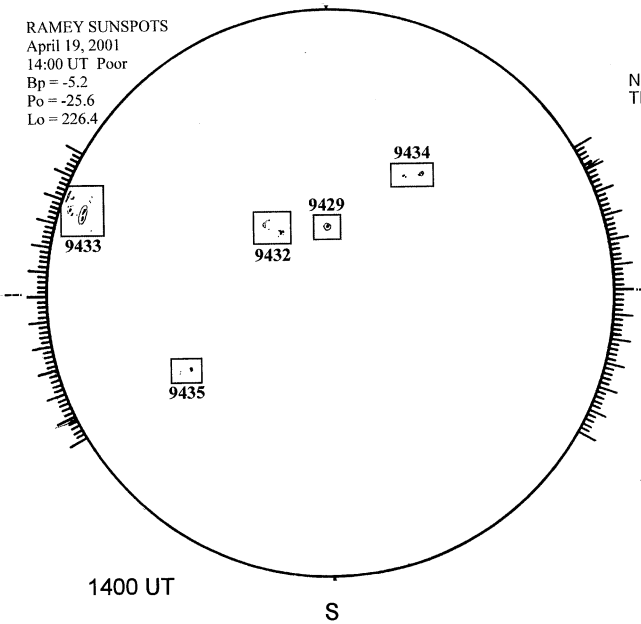
MEUDON H-ALPHA



0705 UT

RAMEY SUNSPOT

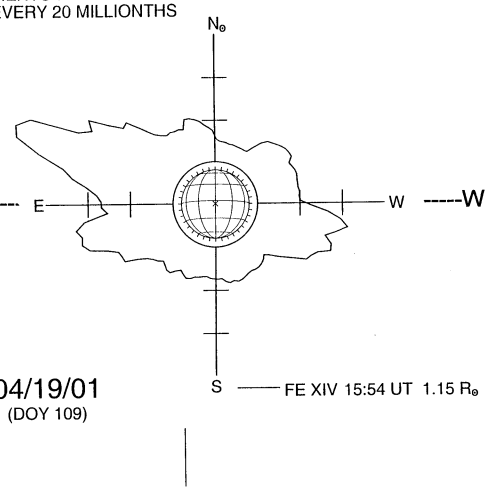
RAMEY SUNSPOTS
April 19, 2001
14:00 UT Poor
Bp = -5.2
Po = -25.6
Lo = 226.4



1400 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

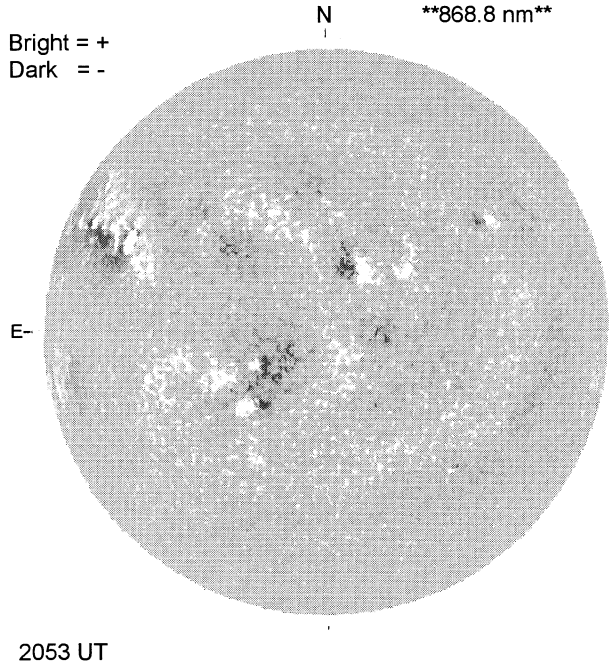
NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS



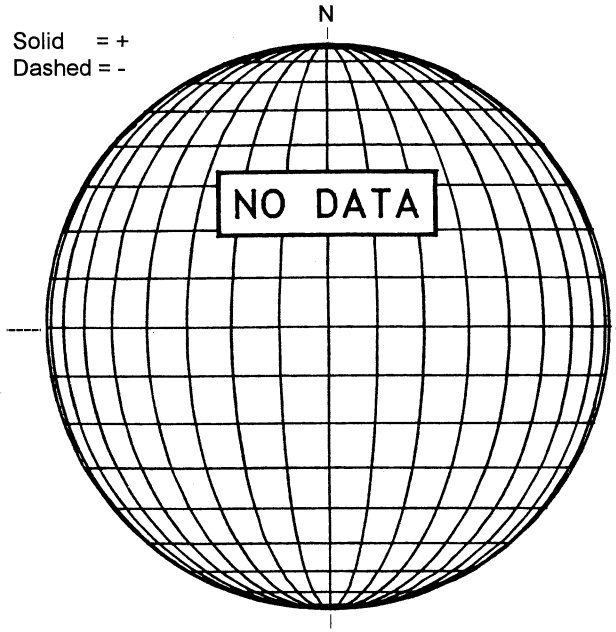
04/19/01
(DOY 109)

APRIL 20, 2001 (P= -25.65, Bo = -5.19, Lo = 220.92)

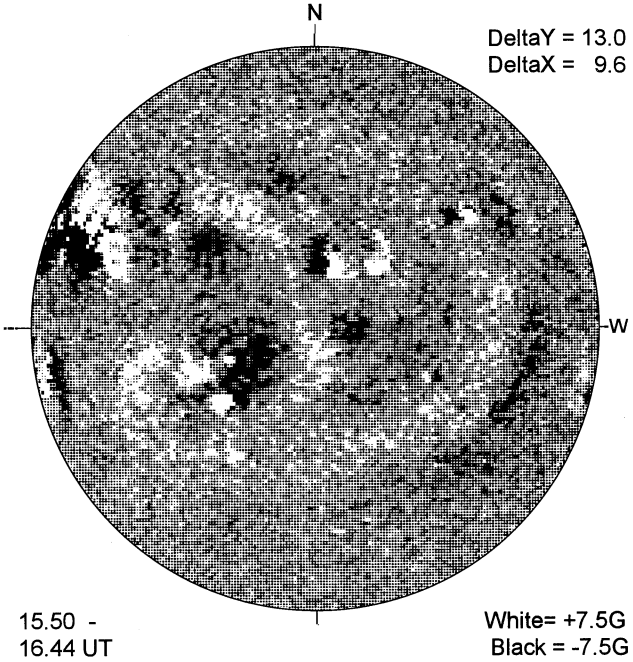
KITT PEAK MAGNETOGRAM



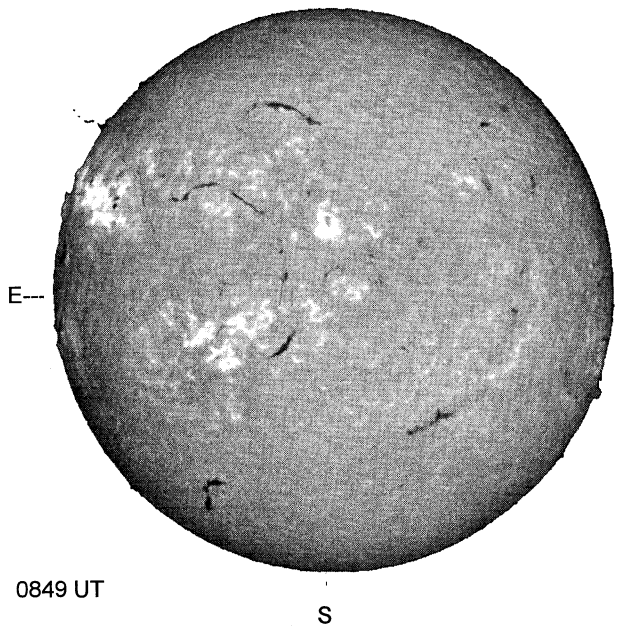
STANFORD MAGNETOGRAM



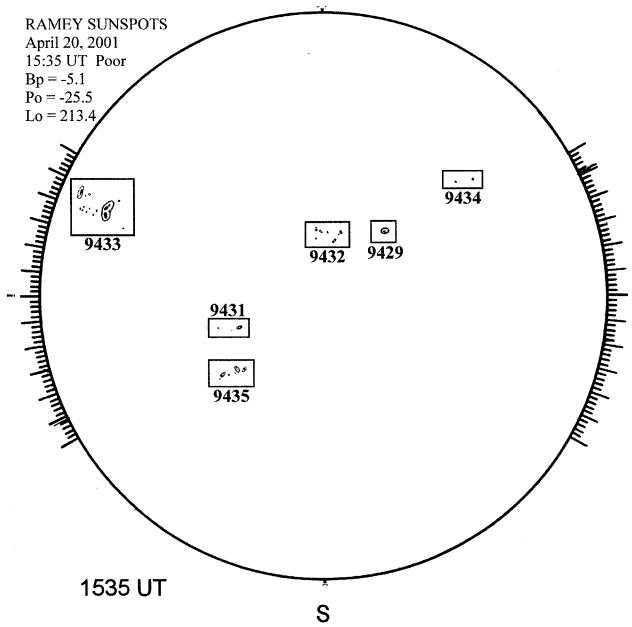
MT. WILSON MAGNETOGRAM



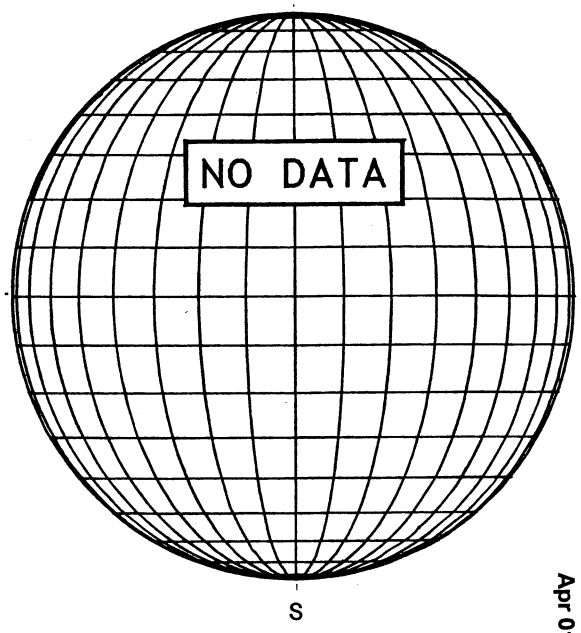
---- MEUDON H-ALPHA



RAMEY SUNSPOT

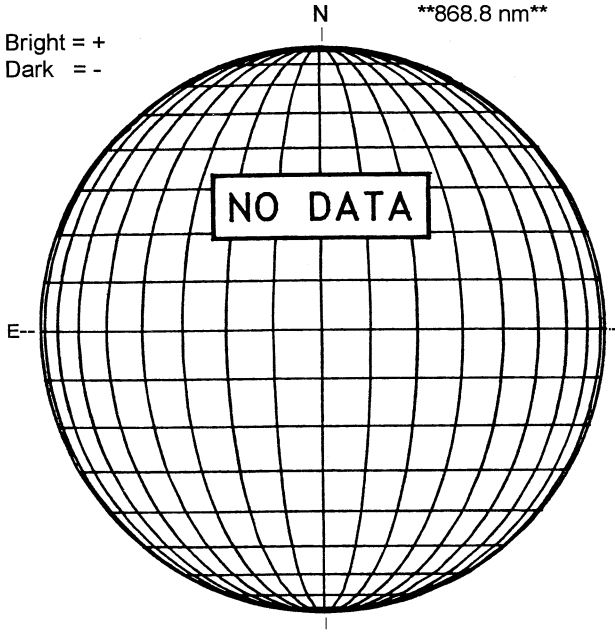


SACRAMENTO PEAK CORONA (1.15 Radii)----

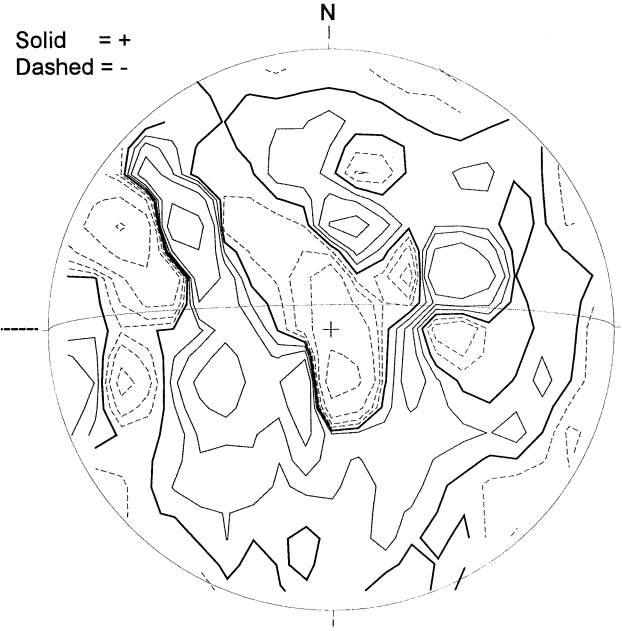


APRIL 21, 2001 (P= -25.55, Bo = -5.10, Lo = 207.72)

KITT PEAK MAGNETOGRAM

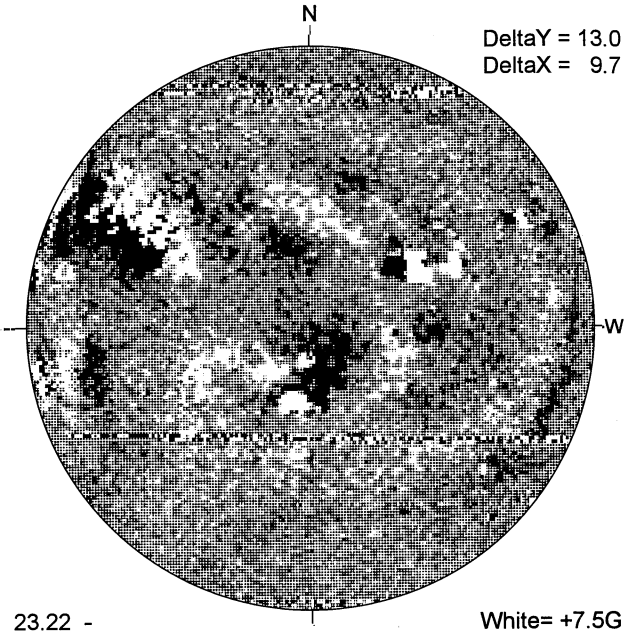


STANFORD MAGNETOGRAM



2158 UT

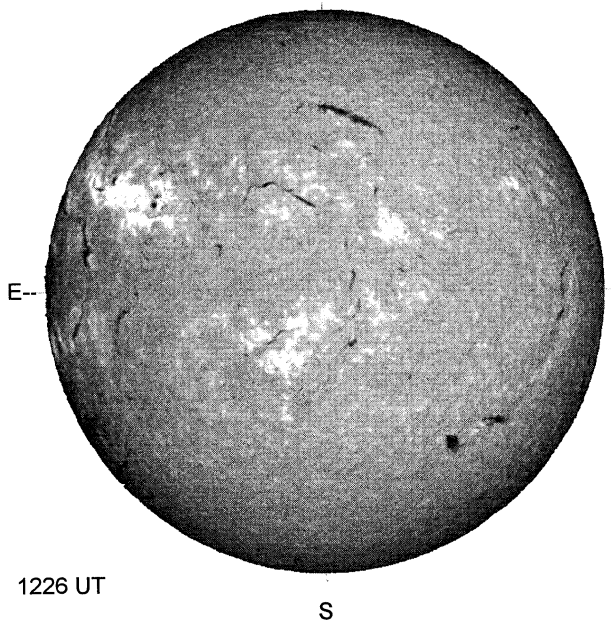
MT. WILSON MAGNETOGRAM



23.22 -
24.16 UT

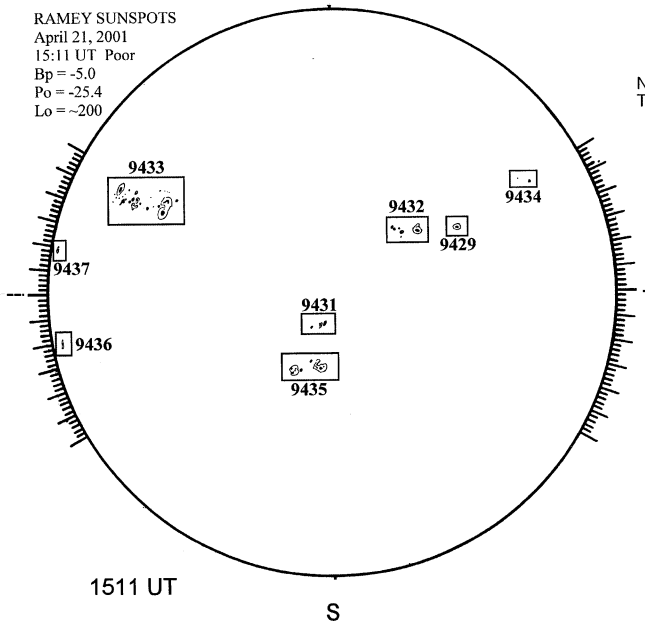
White= +7.5G
Black = -7.5G

MEUDON H-ALPHA



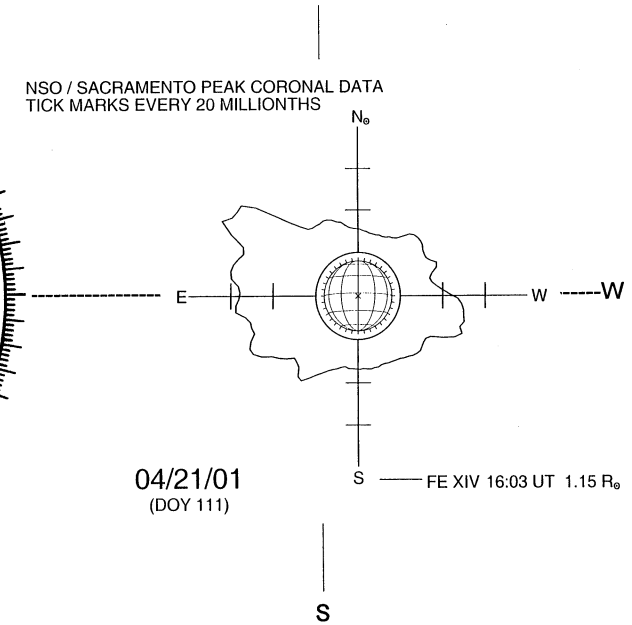
1226 UT

RAMEY SUNSPOT



1511 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



04/21/01
(DOY 111)

APRIL 22, 2001 (P= -25.44, Bo = -5.02, Lo = 194.51)

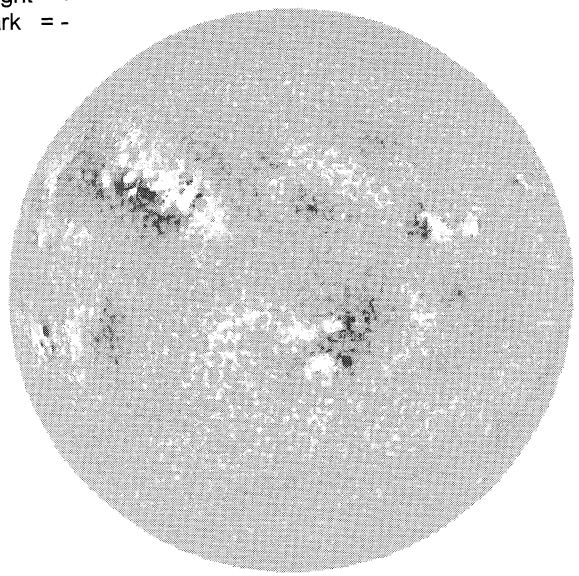
KITT PEAK MAGNETOGRAM

N

868.8 nm

Bright = +
Dark = -

E--



1706 UT

STANFORD MAGNETOGRAM

N

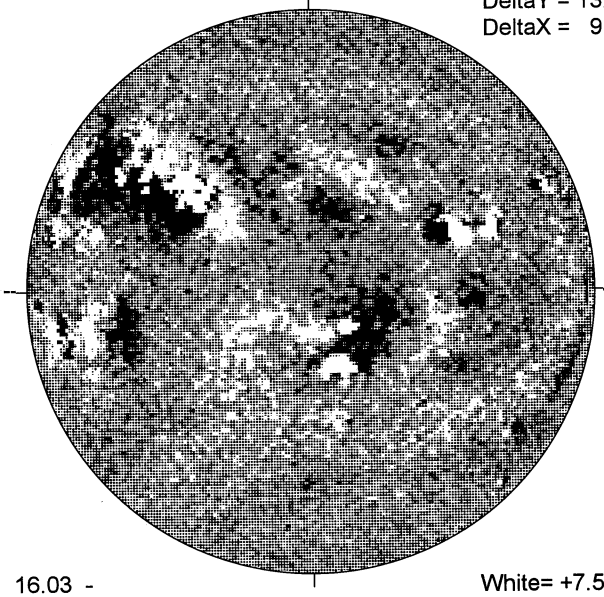
Solid = +
Dashed = -

2358 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 13.0
DeltaX = 9.6

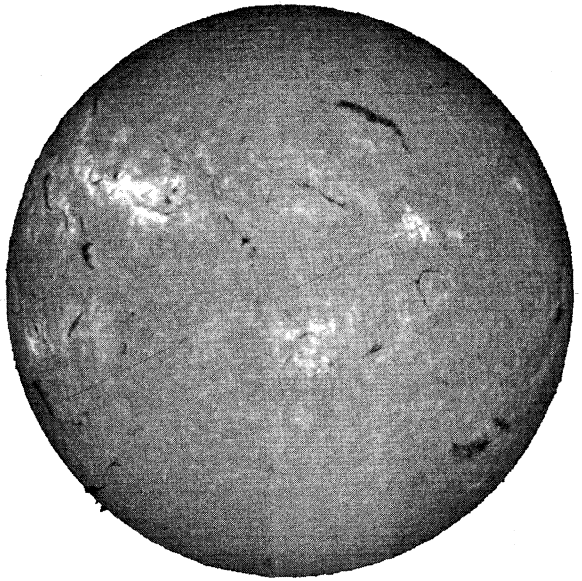


-W

16.03 -
16.97 UT

White= +7.5G
Black = -7.5G

MEUDON H-ALPHA



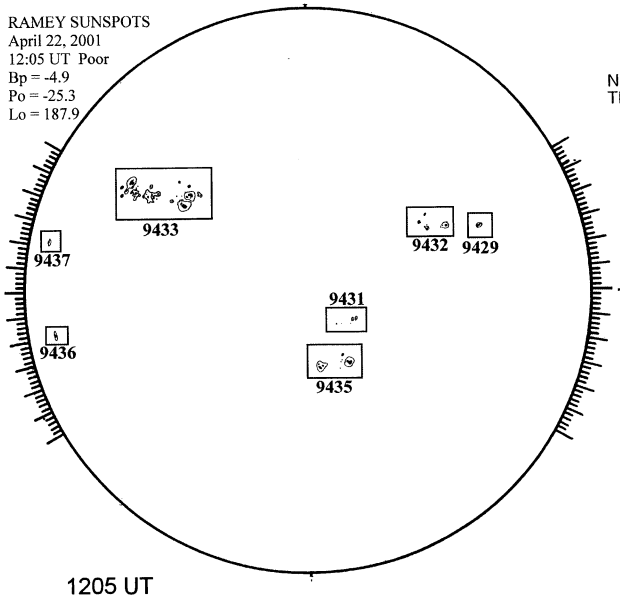
E--

1144 UT

S

RAMEY SUNSPOT

RAMEY SUNSPOTS
April 22, 2001
12:05 UT Poor
Bp = -4.9
Po = -25.3
Lo = 187.9

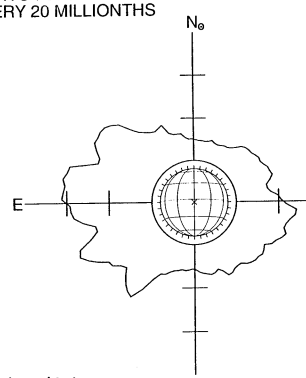


1205 UT

S

SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS



-----W

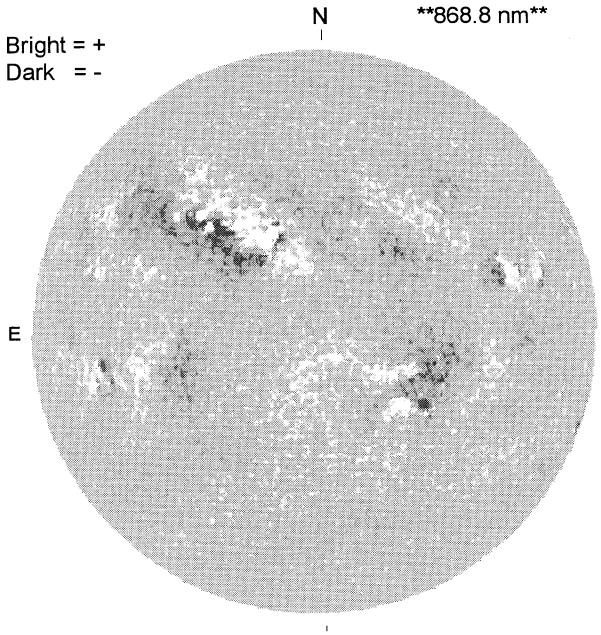
04/22/01
(DOY 112)

FE XIV 19:38 UT 1.15 R☉

S

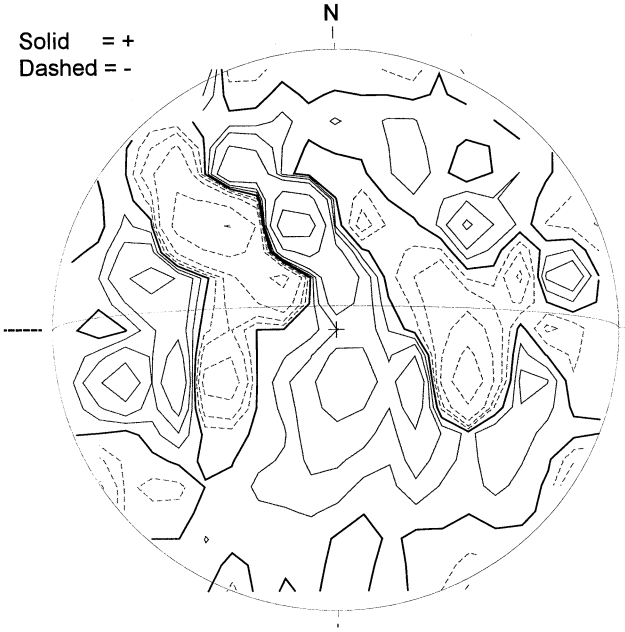
APRIL 23, 2001 (P= -25.33, Bo = -4.93, Lo = 181.30)

KITT PEAK MAGNETOGRAM



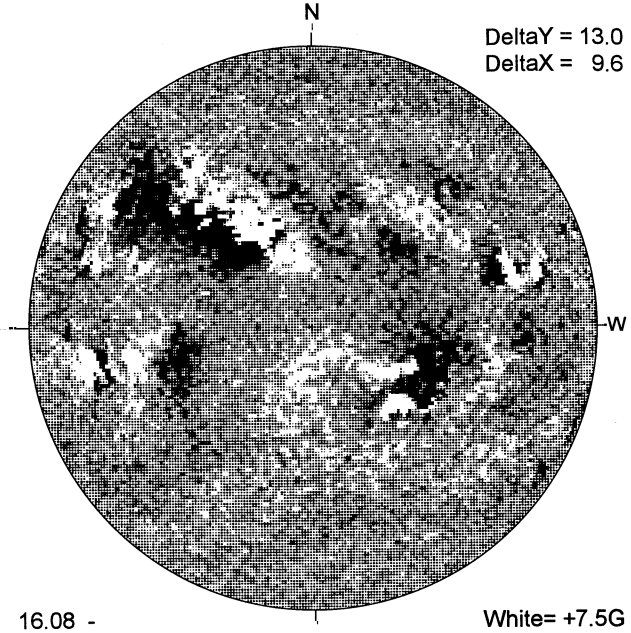
1553 UT

STANFORD MAGNETOGRAM



2105 UT

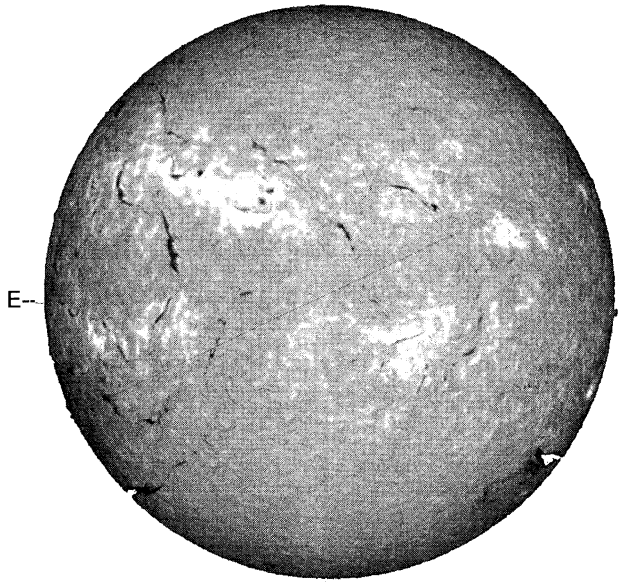
MT. WILSON MAGNETOGRAM



16.08 -
17.02 UT

White= +7.5G
Black = -7.5G

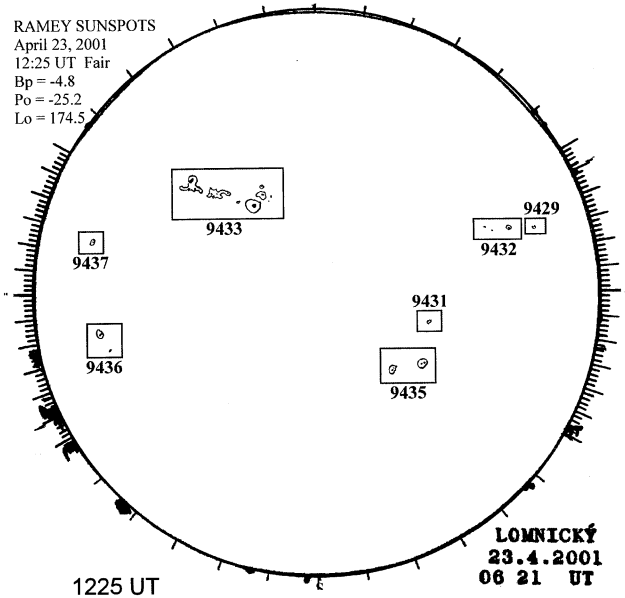
MEUDON H-ALPHA



0956 UT

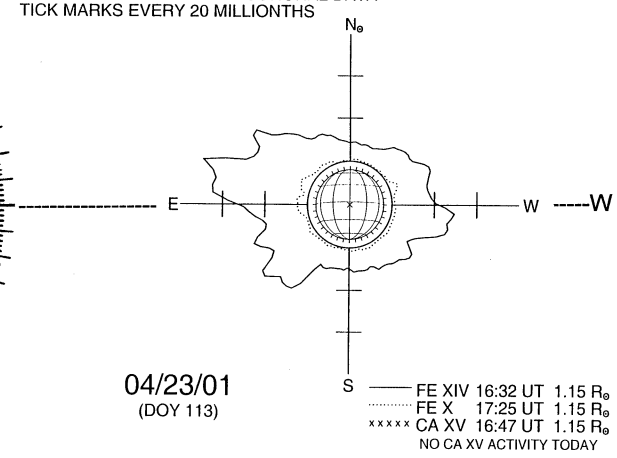
S

RAMEY SUNSPOT



1225 UT
0621 UT LOMN Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)

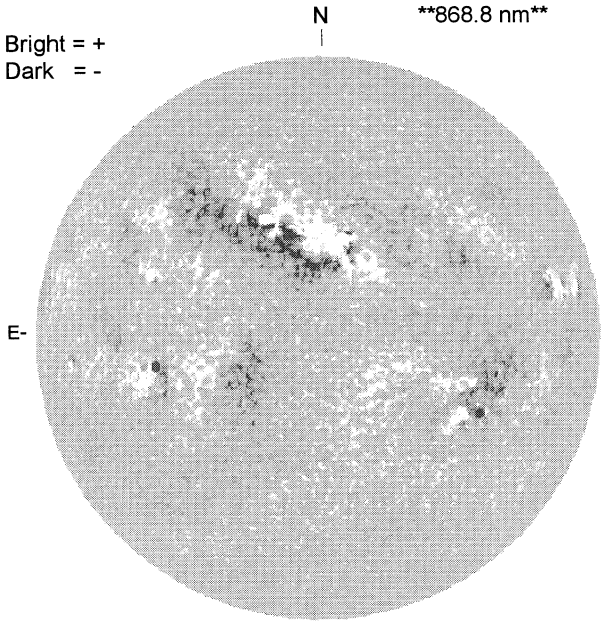


04/23/01
(DOY 113)

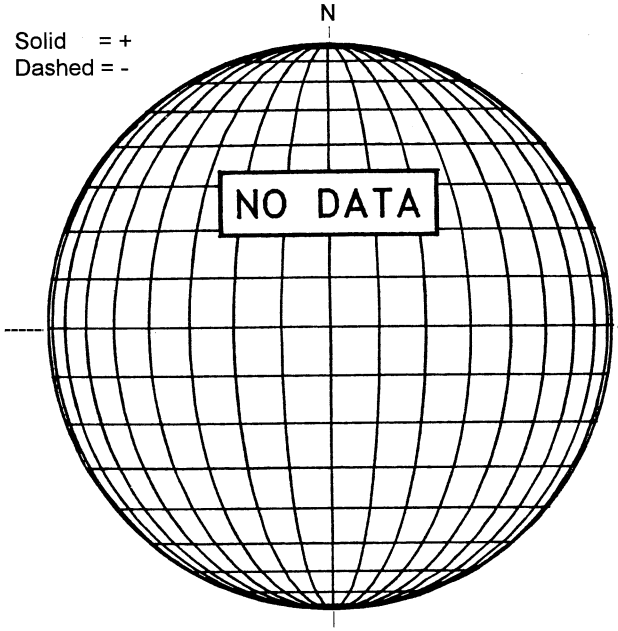
S

APRIL 24, 2001 (P= -25.21, Bo = -4.83, Lo = 168.09)

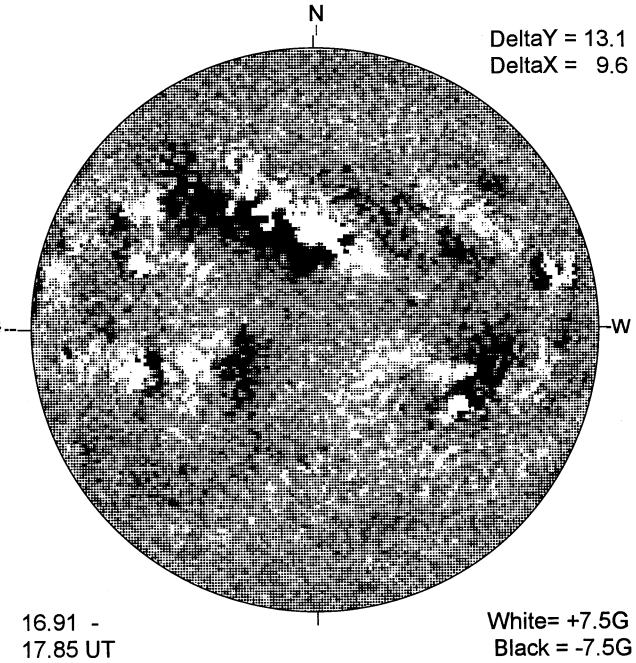
KITT PEAK MAGNETOGRAM



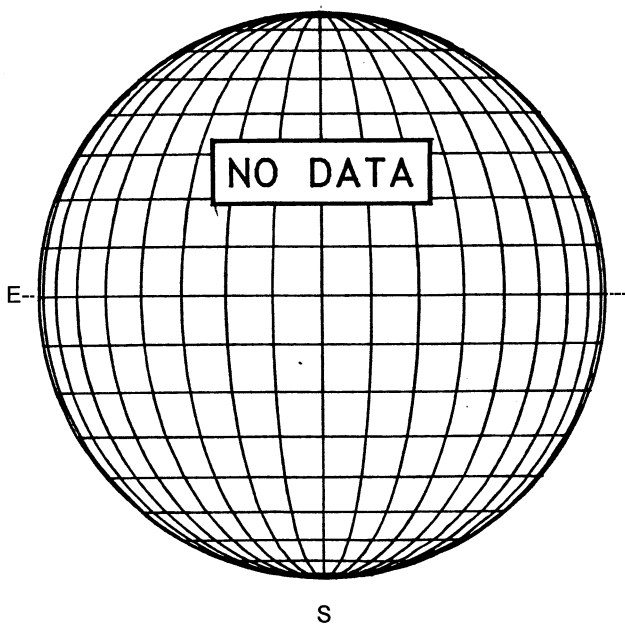
STANFORD MAGNETOGRAM



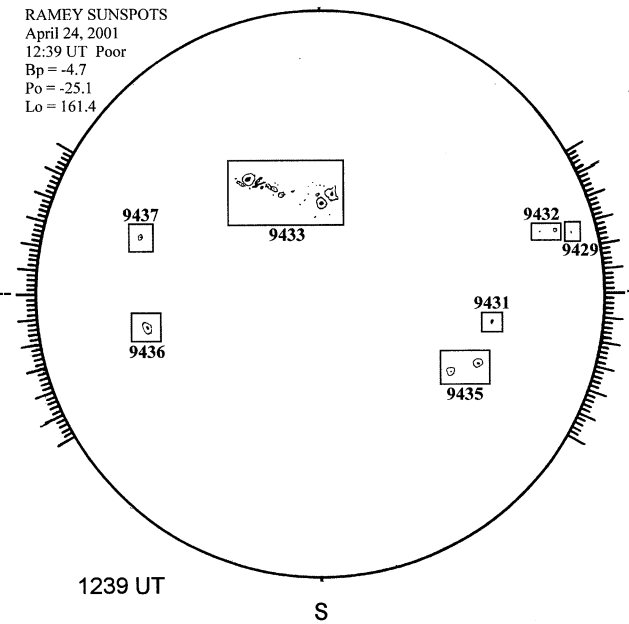
MT. WILSON MAGNETOGRAM



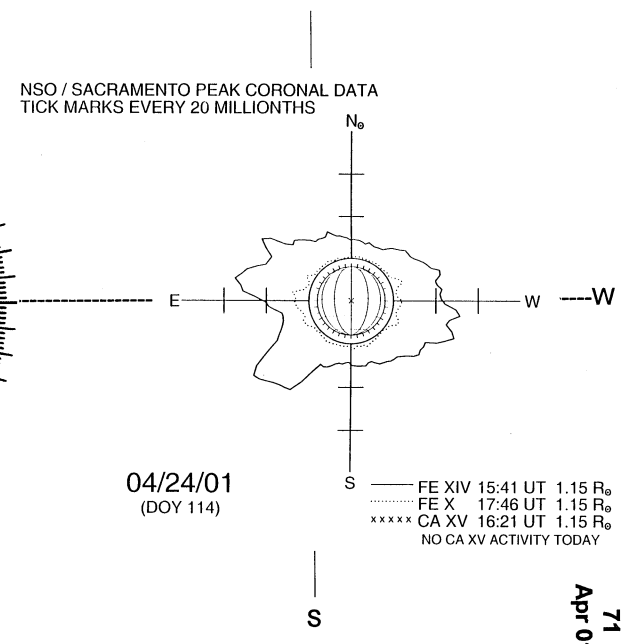
MEUDON H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)----

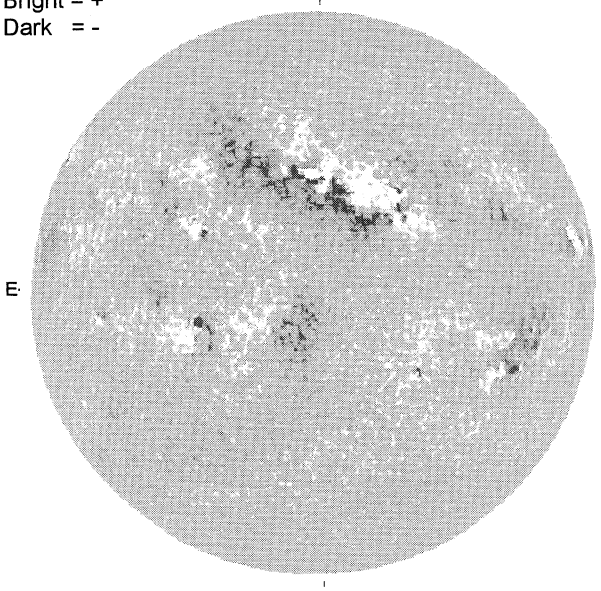


APRIL 25, 2001 (P= -25.08, Bo = -4.74, Lo = 154.88)

KITT PEAK MAGNETOGRAM

868.8 nm

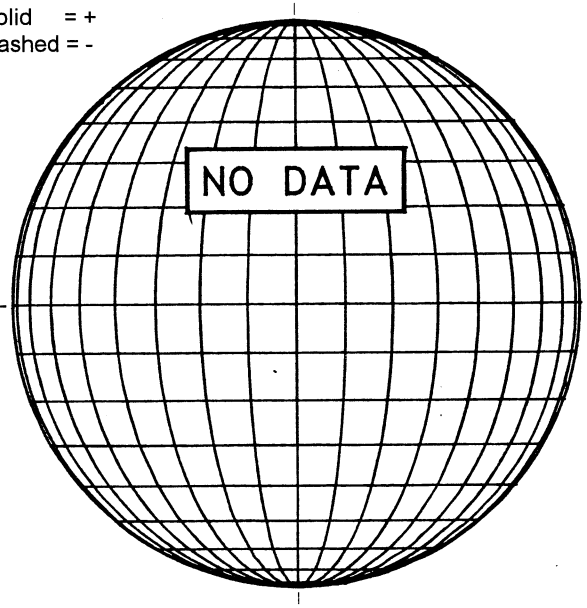
Bright = +
Dark = -



1436 UT

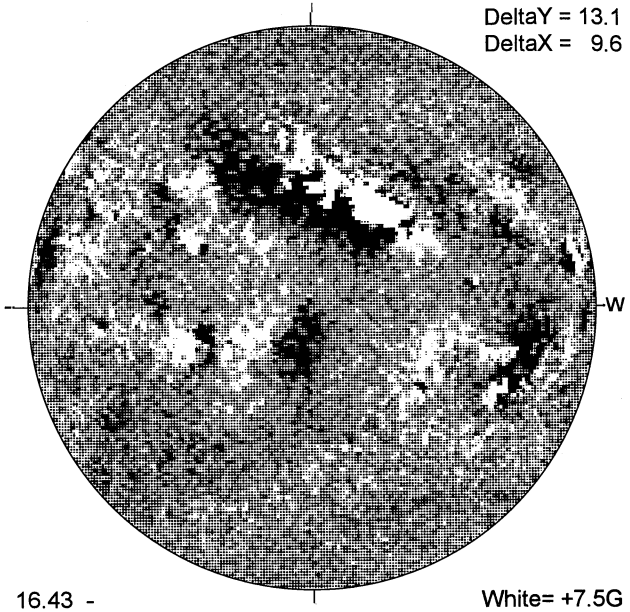
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

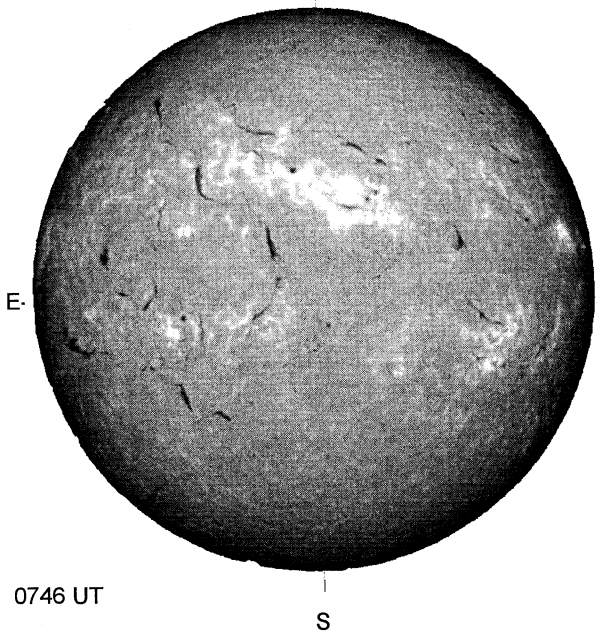
DeltaY = 13.1
DeltaX = 9.6



16.43 -
17.36 UT

White= +7.5G
Black = -7.5G

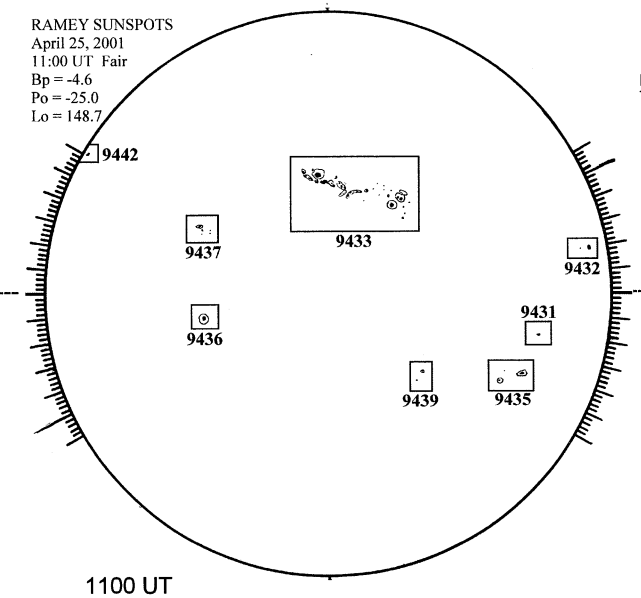
MEUDON H-ALPHA



0746 UT

RAMEY SUNSPOT

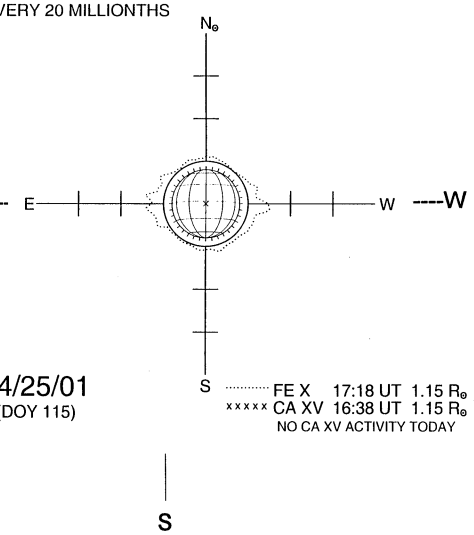
RAMEY SUNSPOTS
April 25, 2001
11:00 UT Fair
Bp = -4.6
Po = -25.0
Lo = 148.7



1100 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS

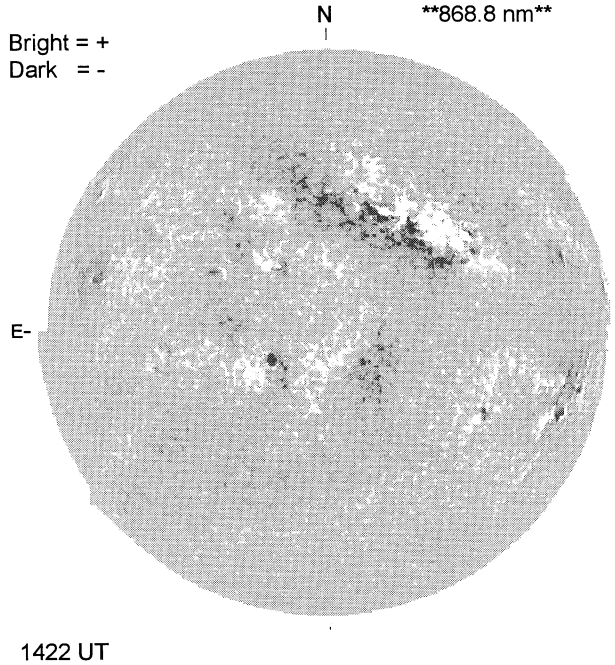


04/25/01
(DOY 115)

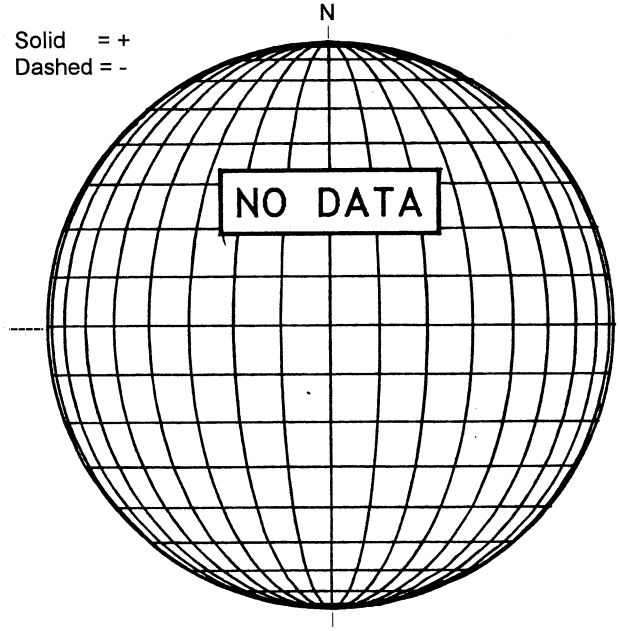
FE X 17:18 UT 1.15 R☉
CA XV 16:38 UT 1.15 R☉
NO CA XV ACTIVITY TODAY

APRIL 26, 2001 (P= -24.94, Bo = -4.65, Lo = 141.66)

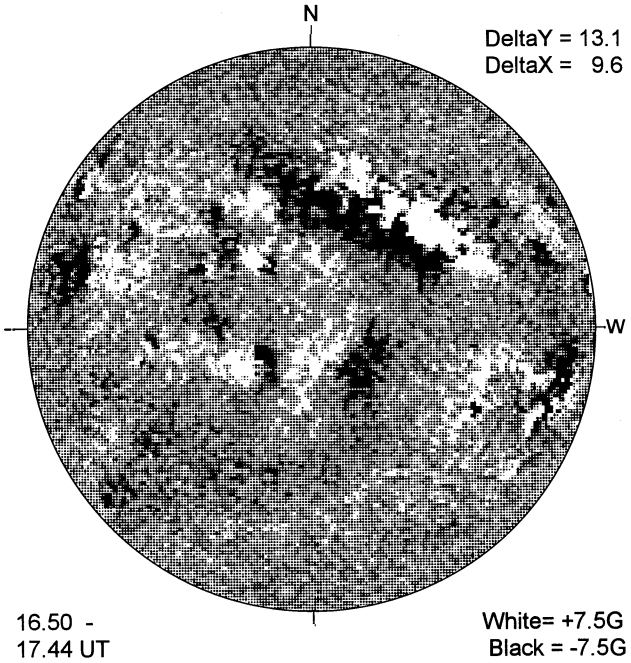
KITT PEAK MAGNETOGRAM



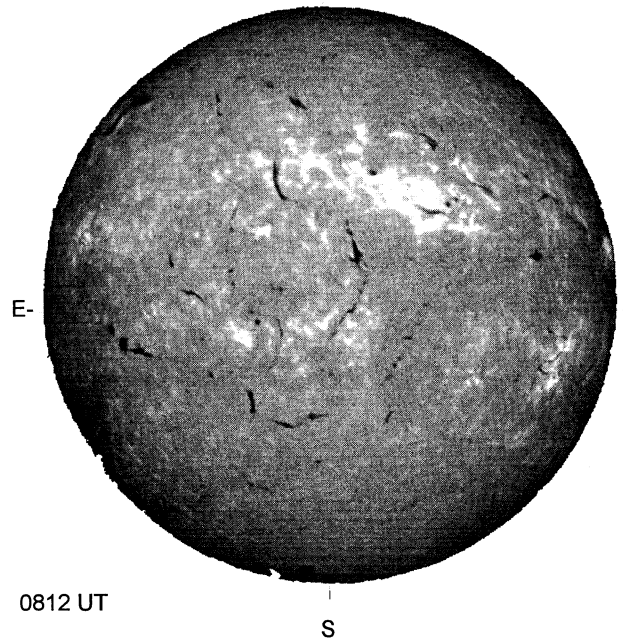
STANFORD MAGNETOGRAM



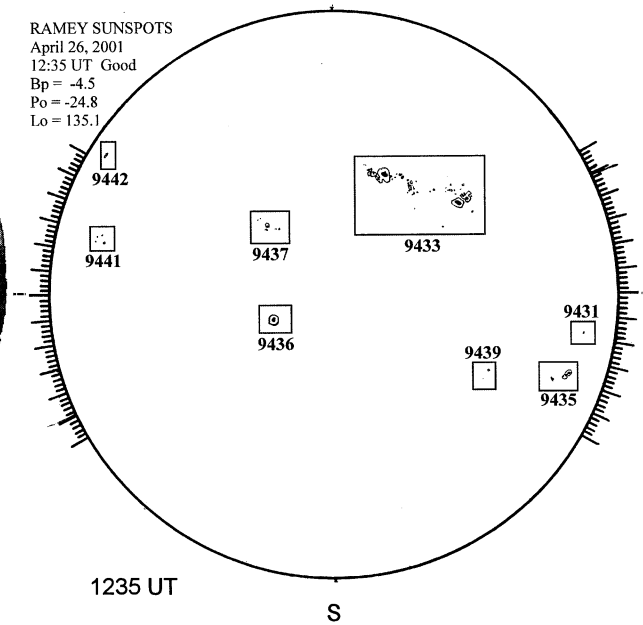
MT. WILSON MAGNETOGRAM



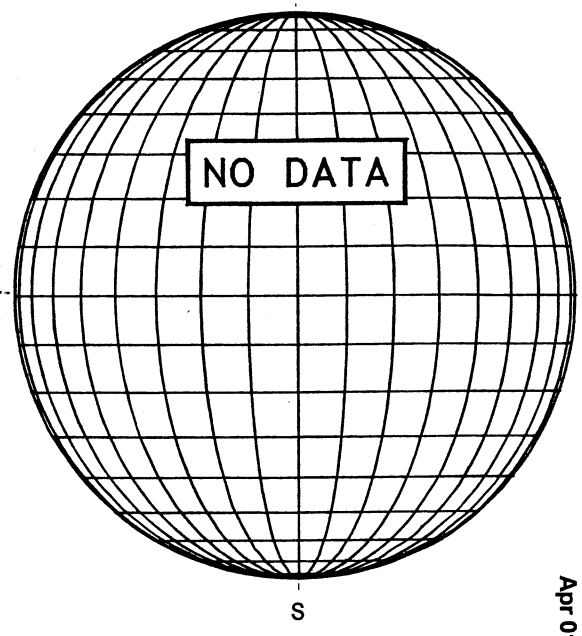
MEUDON H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)----



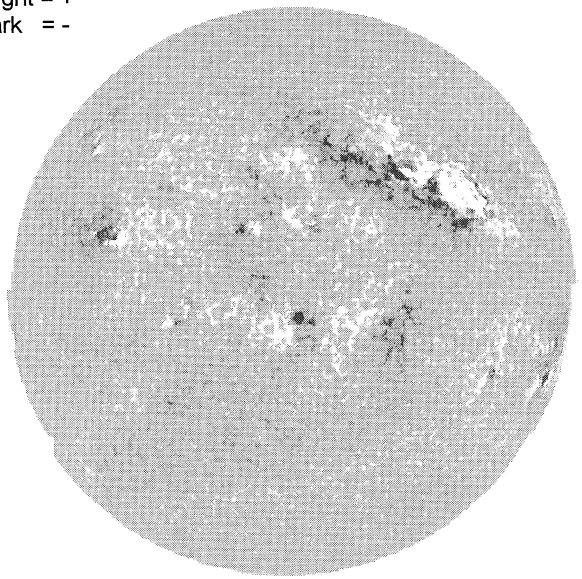
APRIL 27, 2001 (P= -24.79, Bo = -4.55, Lo = 128.45)

KITT PEAK MAGNETOGRAM

N

868.8 nm

Bright = +
Dark = -



E--

1439 UT

STANFORD MAGNETOGRAM

N

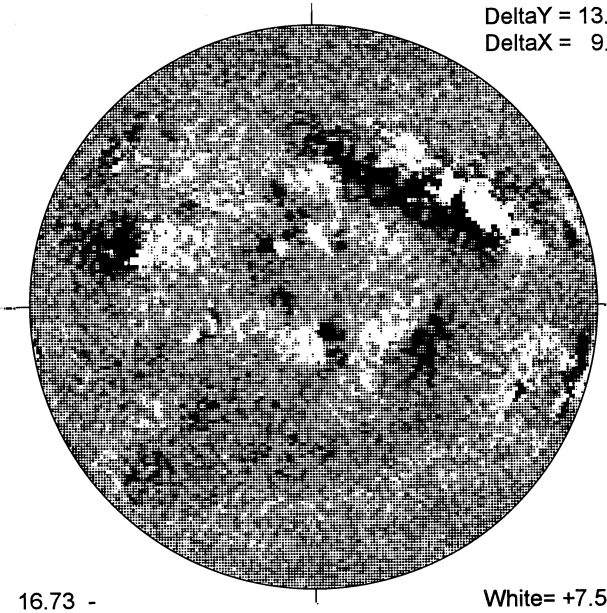
Solid = +
Dashed = -

2131 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

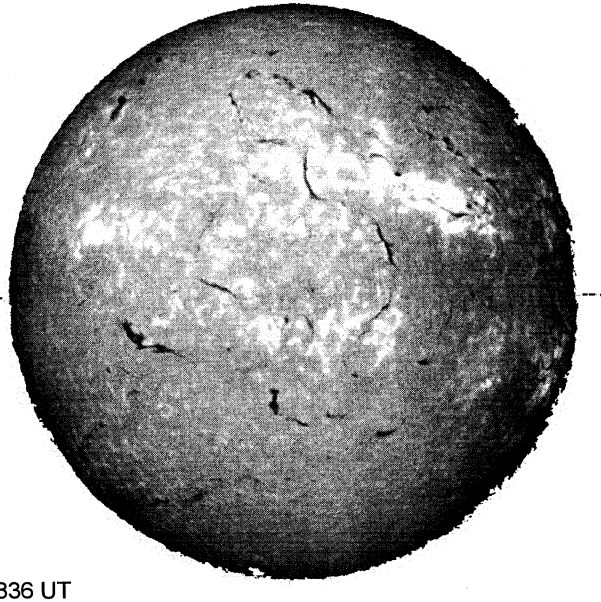


-W

16.73 -
17.67 UT

White= +7.5G
Black = -7.5G

MEUDON H-ALPHA

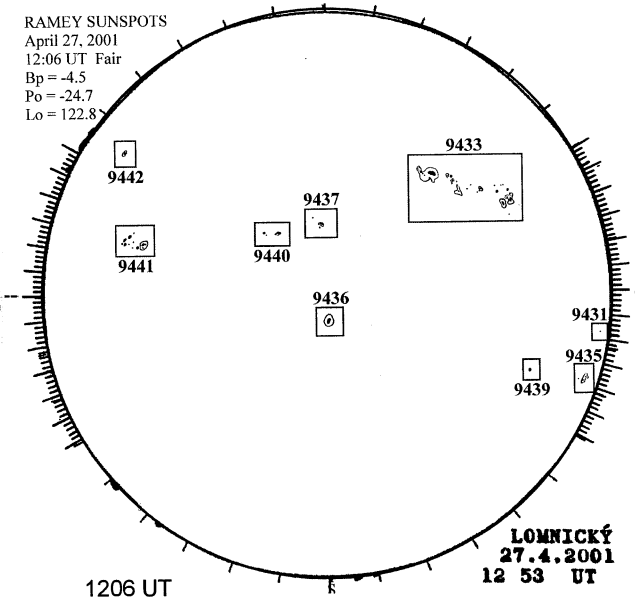


E--

0836 UT

S

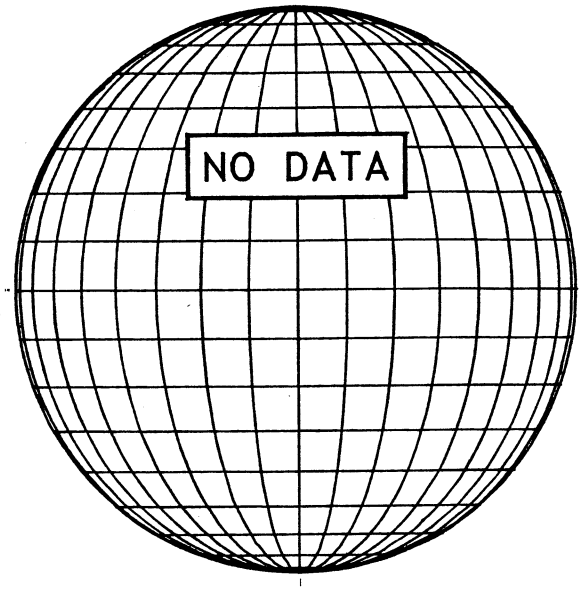
RAMEY SUNSPOT



1206 UT
1253 UT LOMN Prom

S

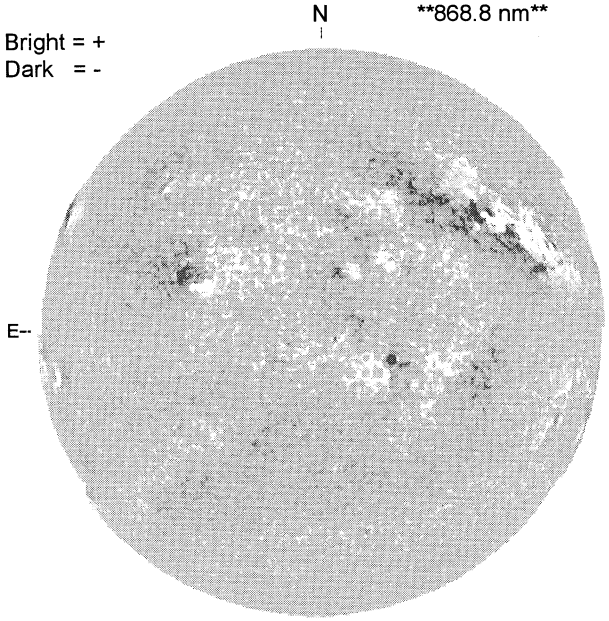
SACRAMENTO PEAK CORONA (1.15 Radii)



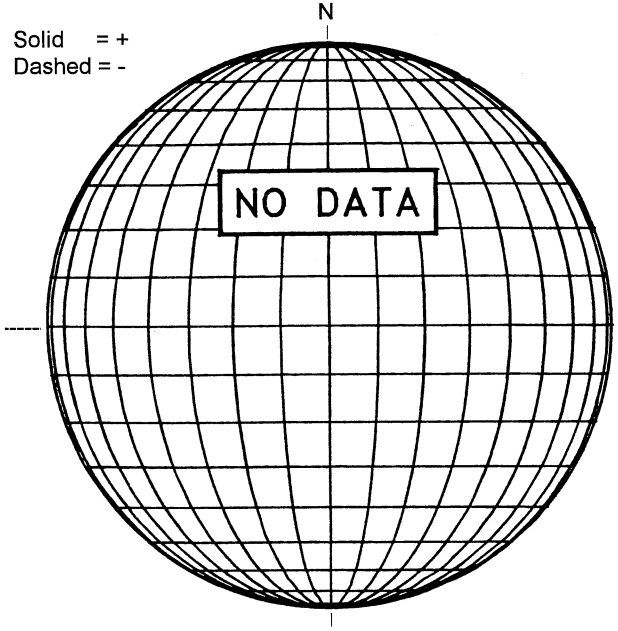
S

APRIL 28, 2001 (P= -24.64, Bo = -4.46, Lo = 115.24)

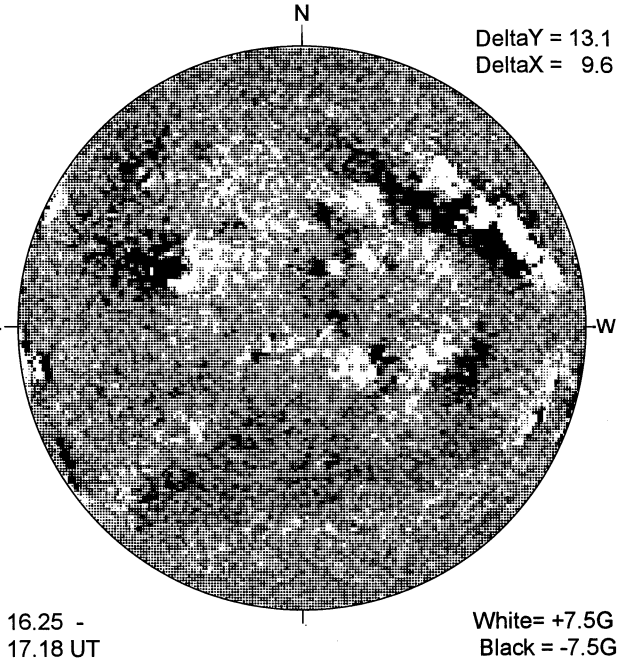
KITT PEAK MAGNETOGRAM



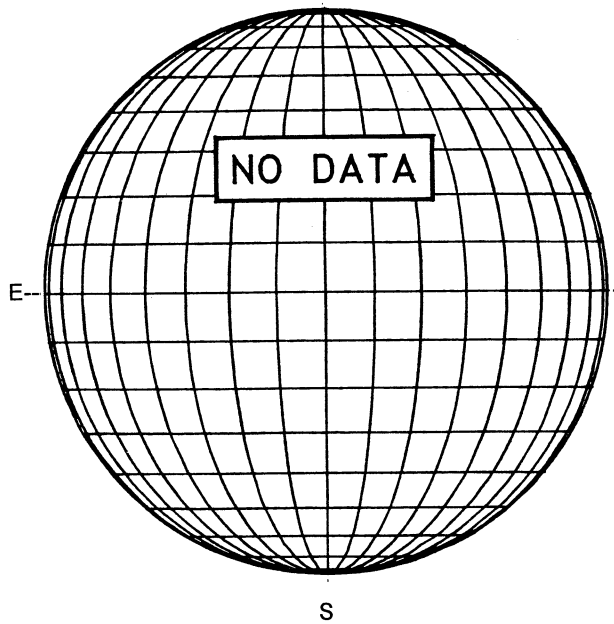
STANFORD MAGNETOGRAM



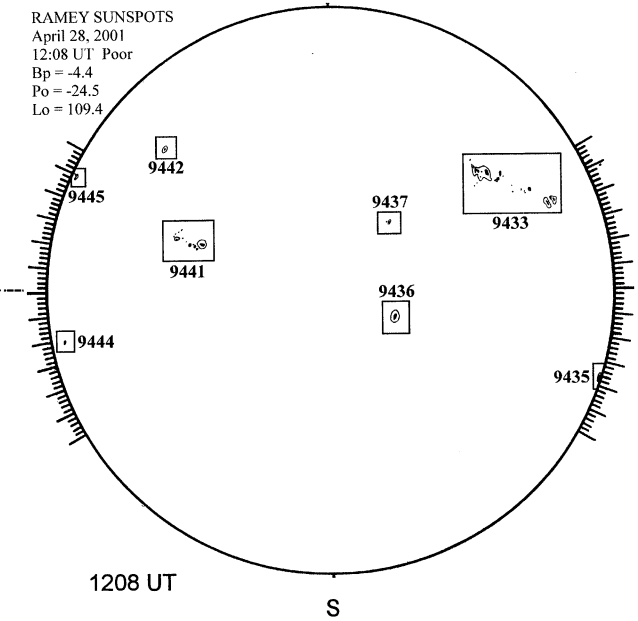
MT. WILSON MAGNETOGRAM



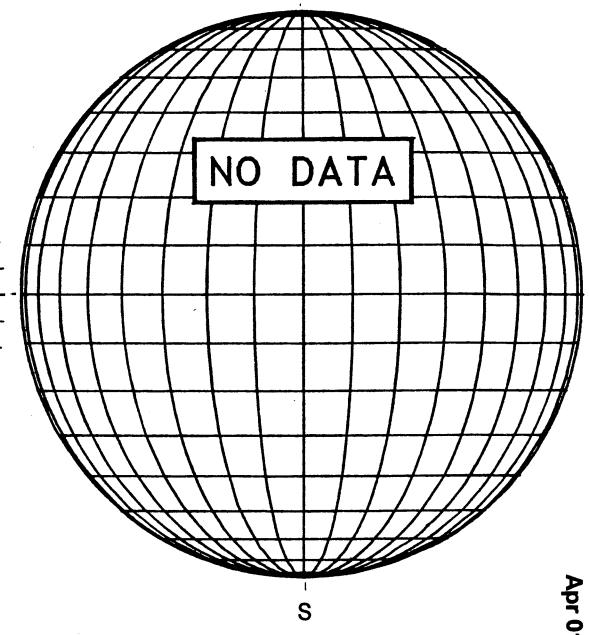
MEUDON H-ALPHA



RAMEY SUNSPOT



LOMNICKY PEAK CORONA (1.04 Radii)----

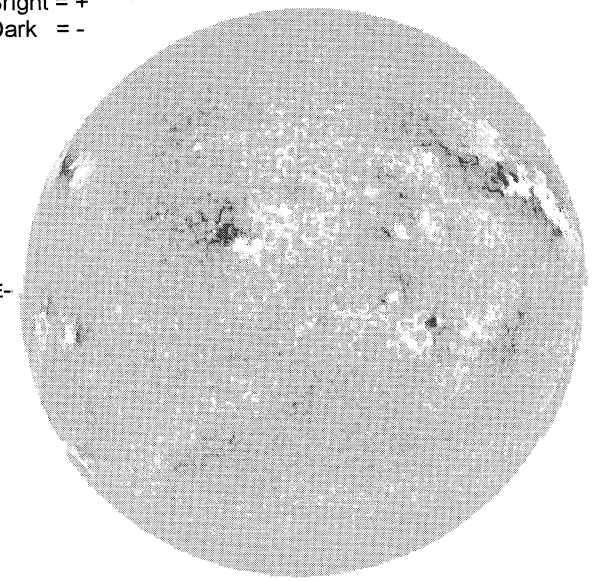


APRIL 29, 2001 (P= -24.48, Bo = -4.36, Lo = 102.02)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



1524 UT

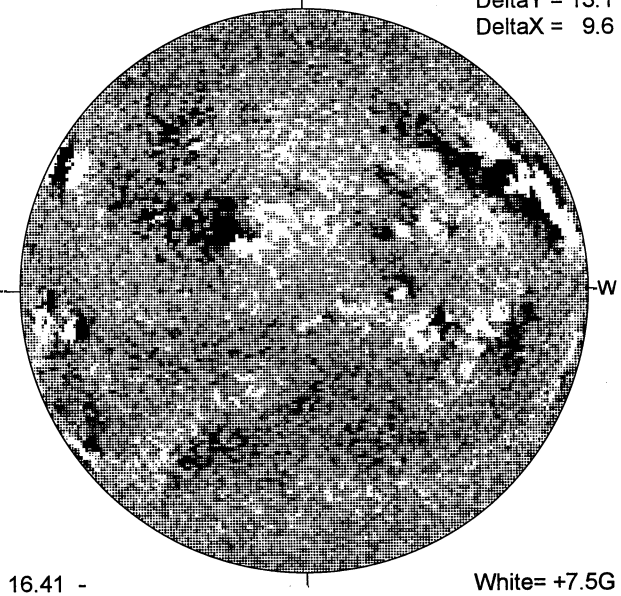
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

1956 UT

MT. WILSON MAGNETOGRAM

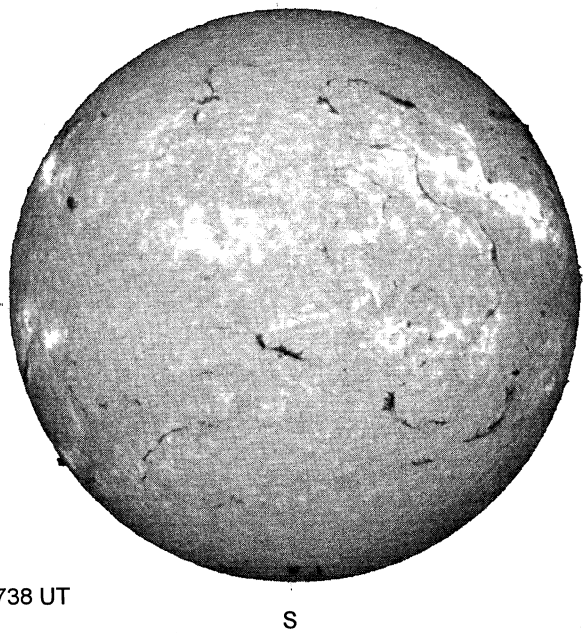
DeltaY = 13.1
DeltaX = 9.6



16.41 -
17.34 UT

White= +7.5G
Black = -7.5G

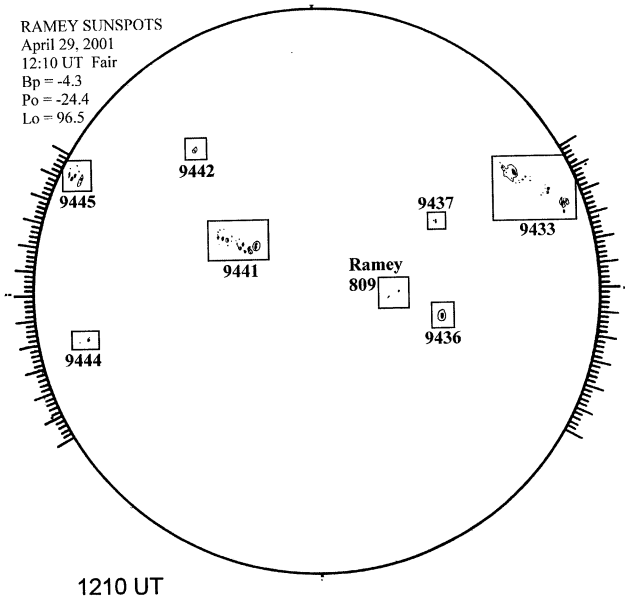
MEUDON H-ALPHA



0738 UT

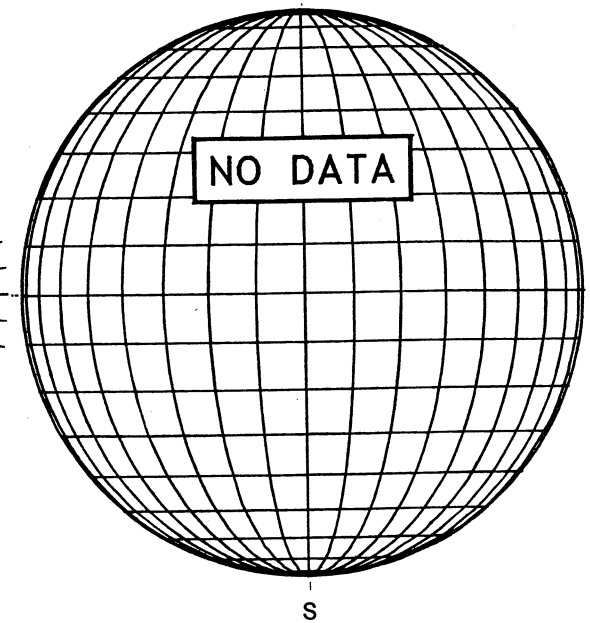
RAMEY SUNSPOT

RAMEY SUNSPOTS
April 29, 2001
12:10 UT Fair
Bp = -4.3
Po = -24.4
Lo = 96.5



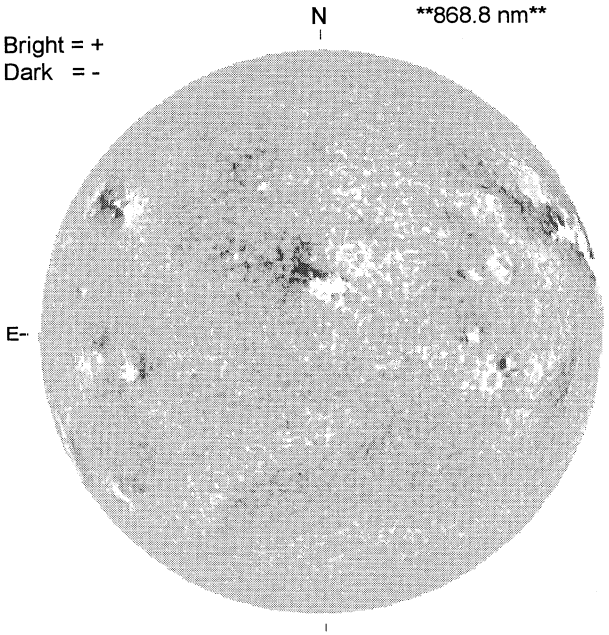
1210 UT

LOMNICKY PEAK CORONA (1.04 Radii)----

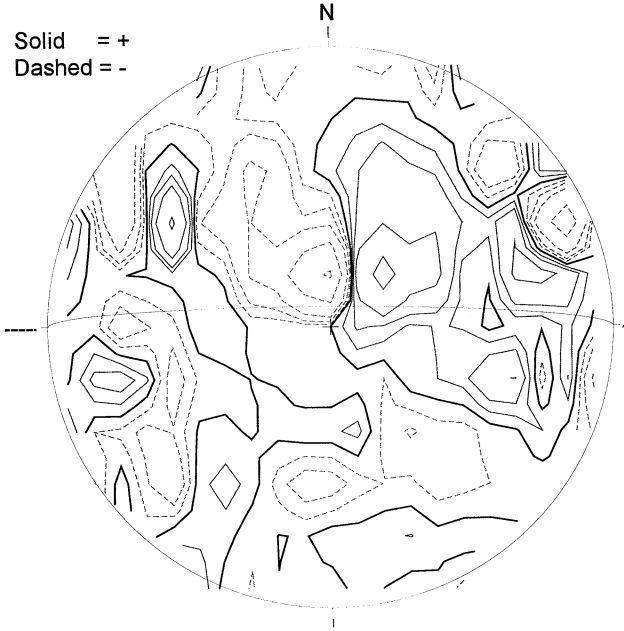


APRIL 30, 2001 (P= -24.31, Bo = -4.26, Lo = 88.81)

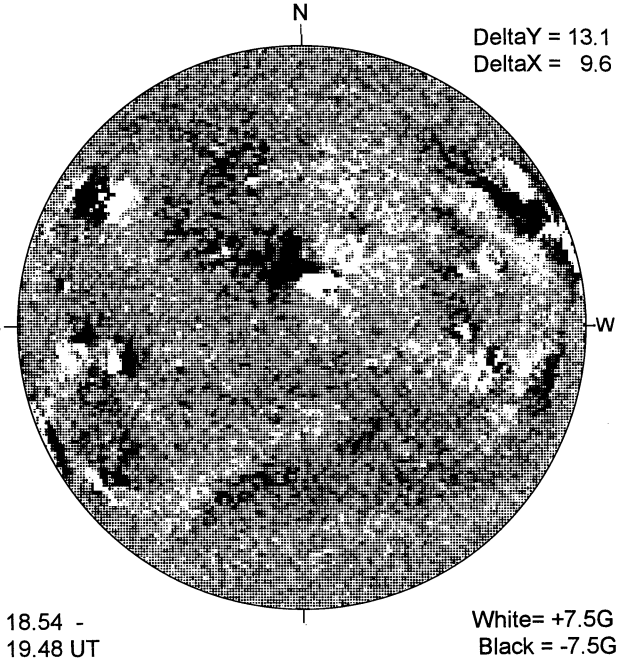
KITT PEAK MAGNETOGRAM



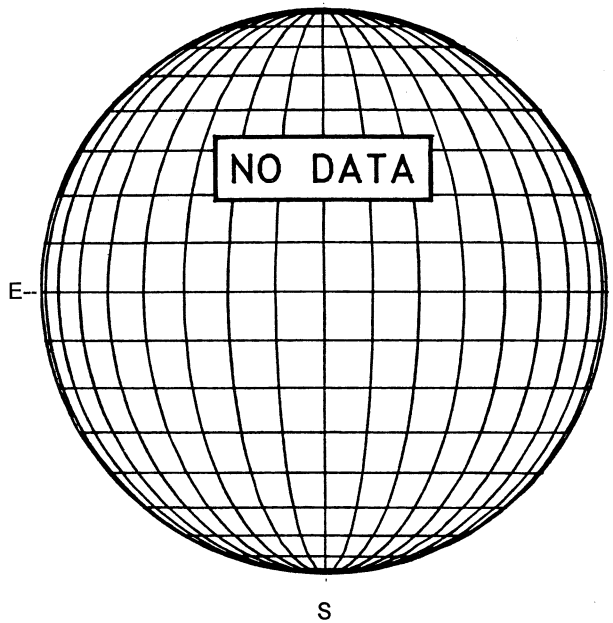
STANFORD MAGNETOGRAM



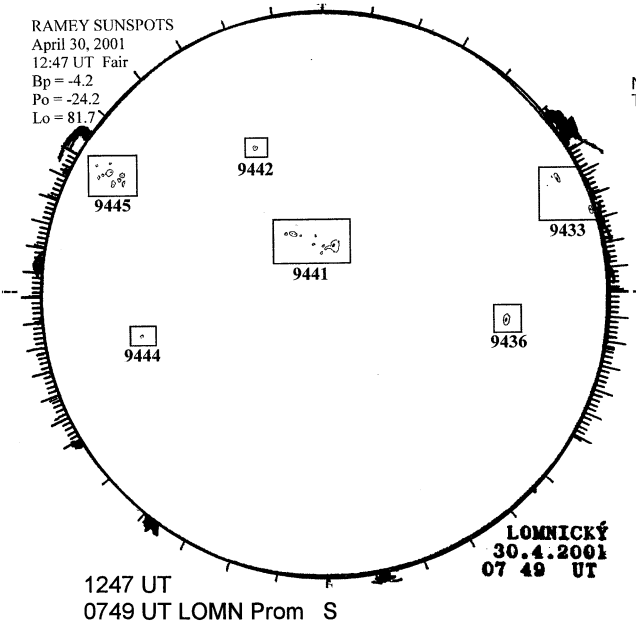
MT. WILSON MAGNETOGRAM



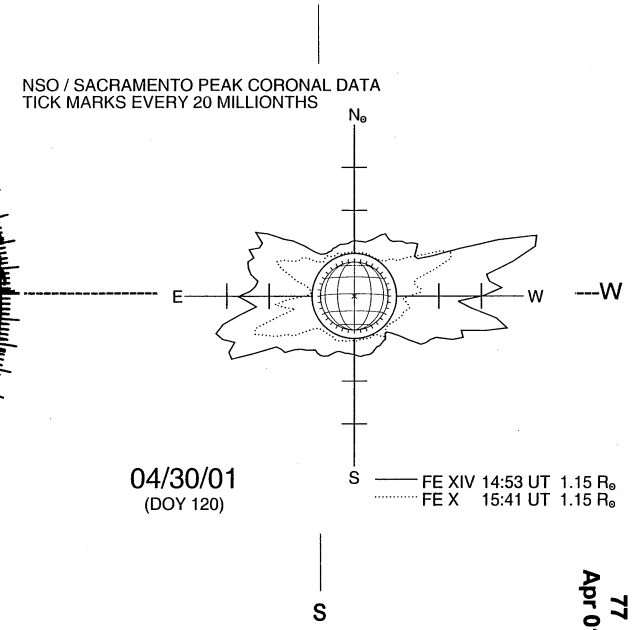
MEUDON H-ALPHA



RAMEY SUNSPOT



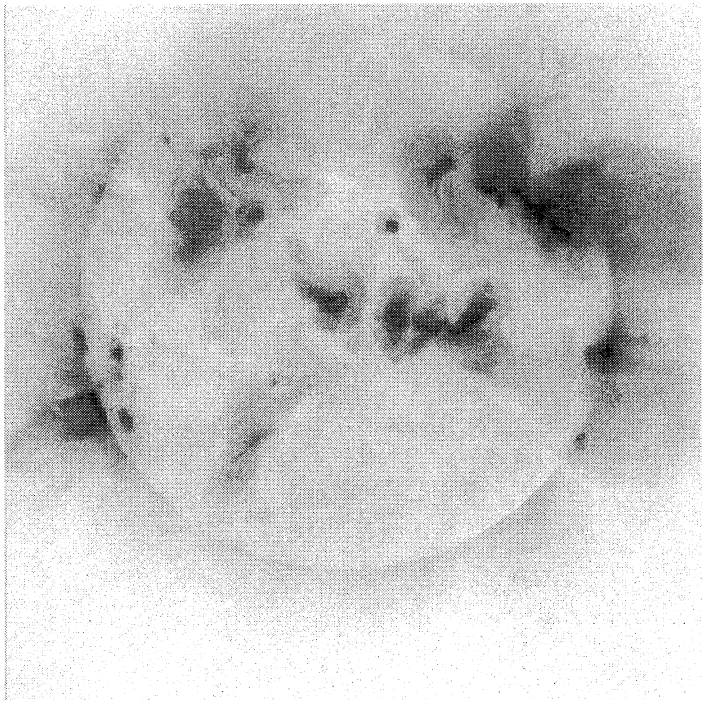
SACRAMENTO PEAK CORONA (1.15 Radii)----



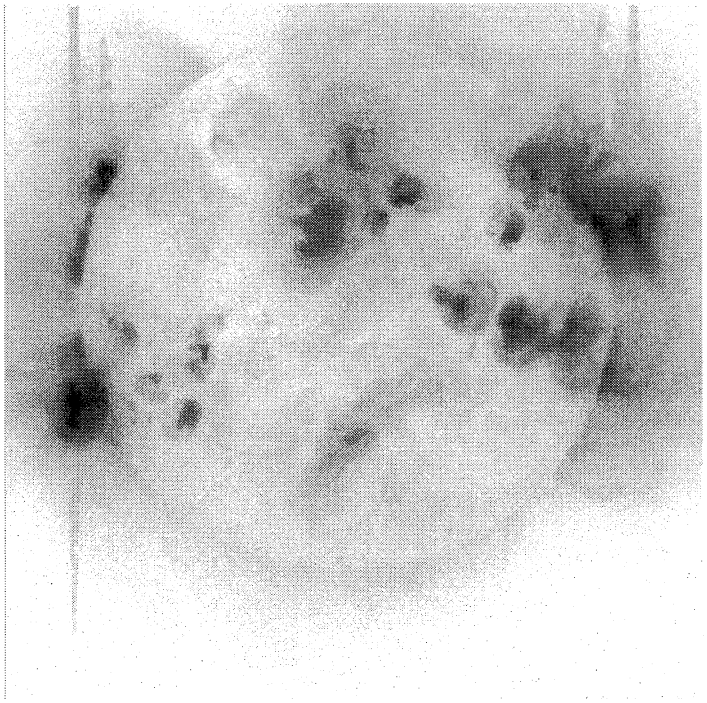
77
Apr 01

YOHKOH SOFT X-RAY TELESCOPE IMAGES

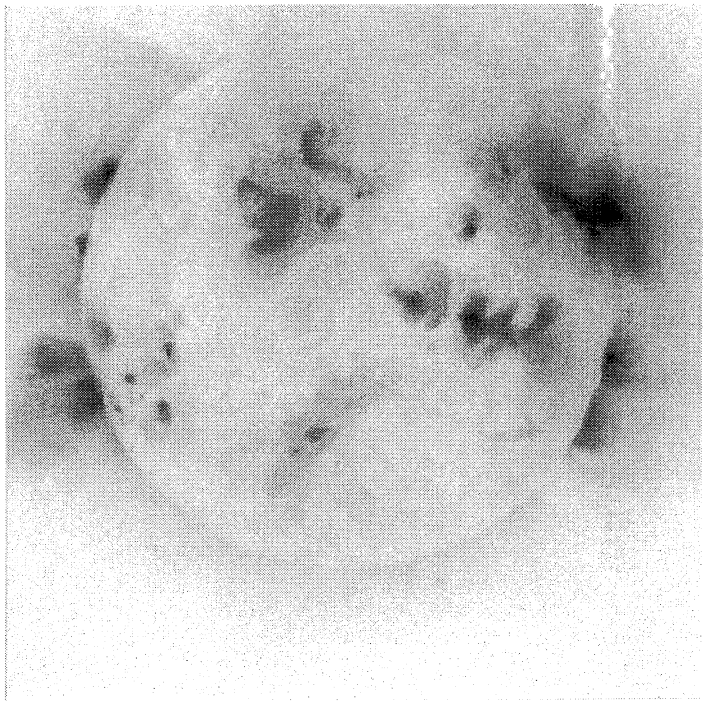
April
2001



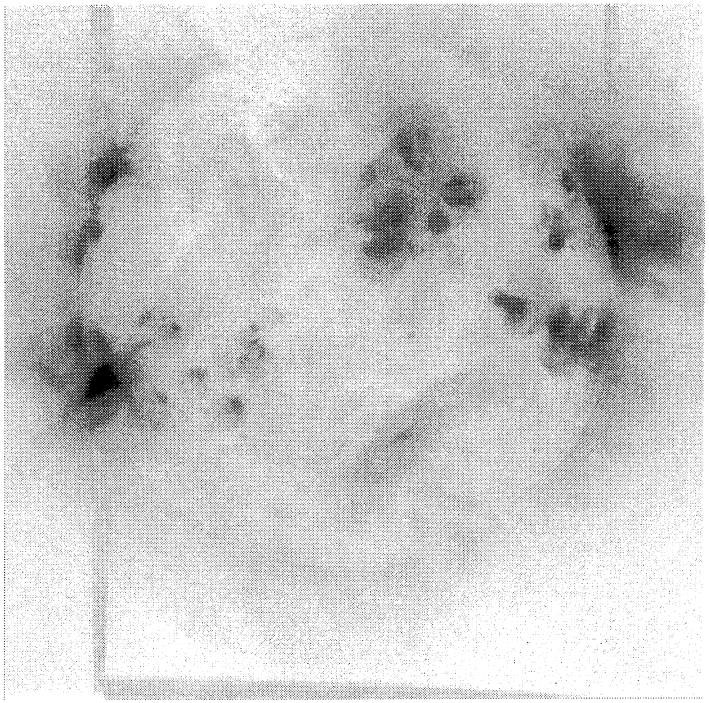
Day 1
10:17:51 UT



Day 3
11:58:32 UT



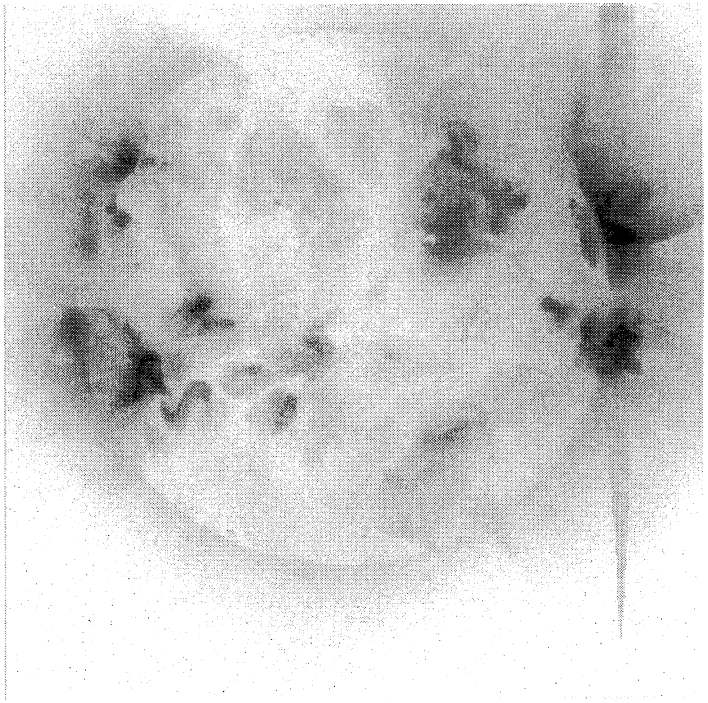
Day 2
17:46:50 UT



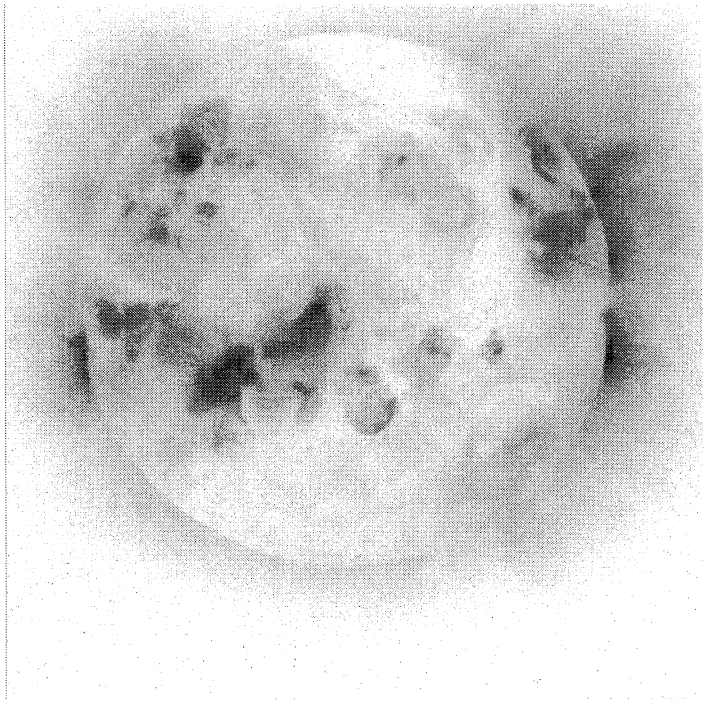
Day 4
11:45:06 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

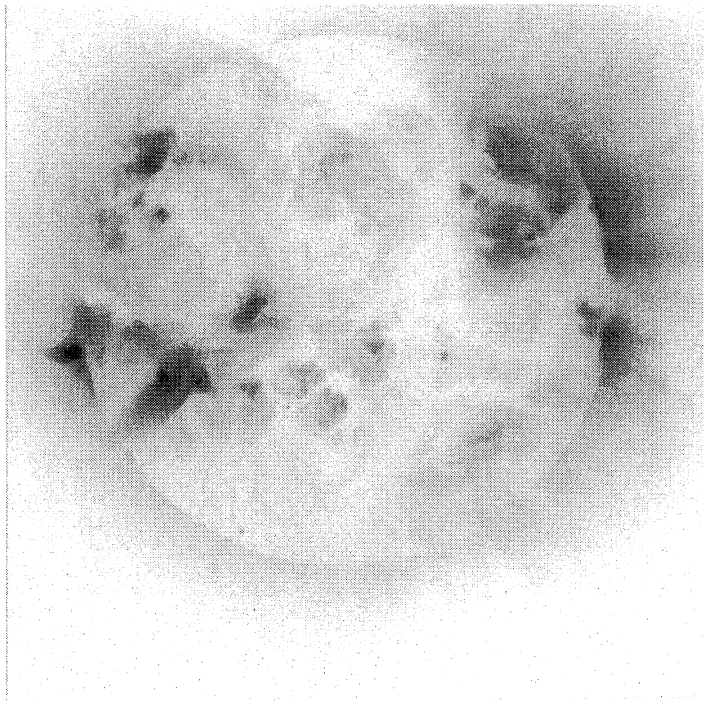
April 2001



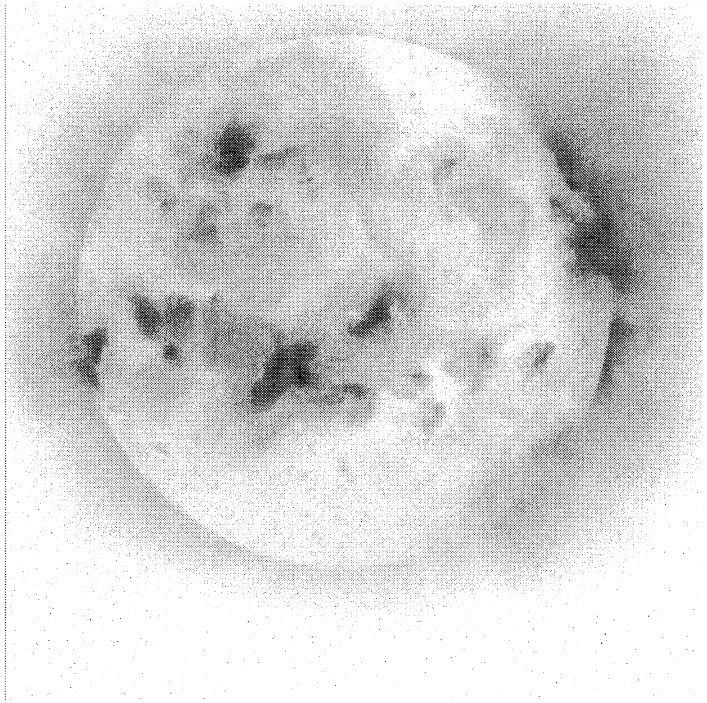
Day 5
13:33:16 UT



Day 7
11:59:35 UT



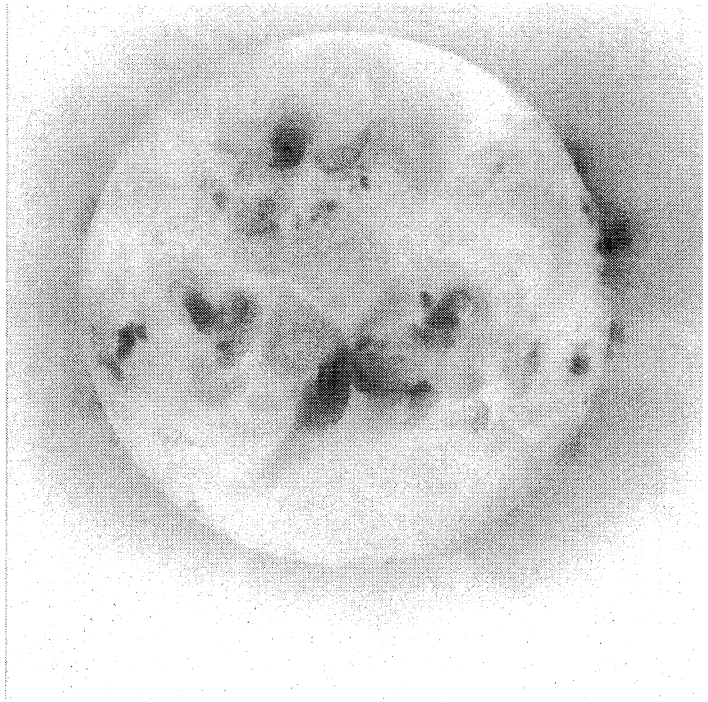
Day 6
11:59:10 UT



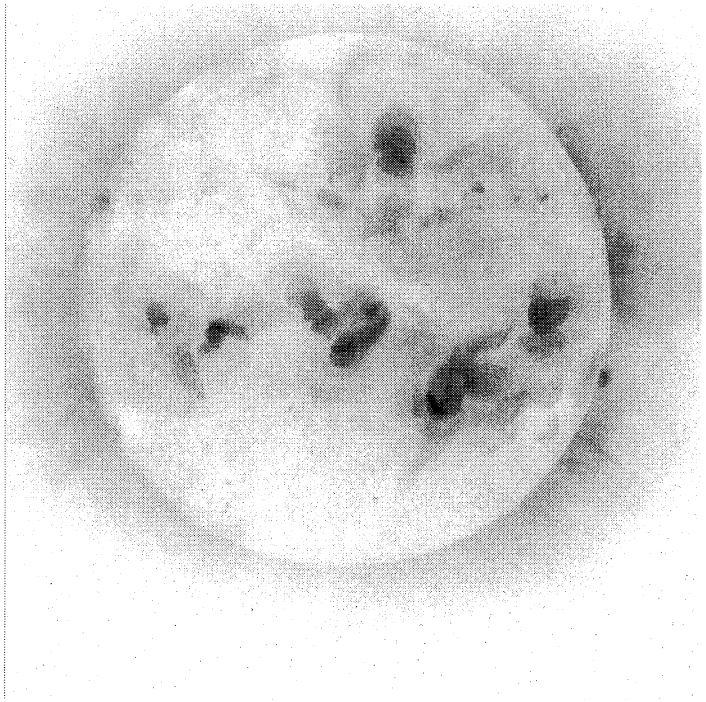
Day 8
11:14:41 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

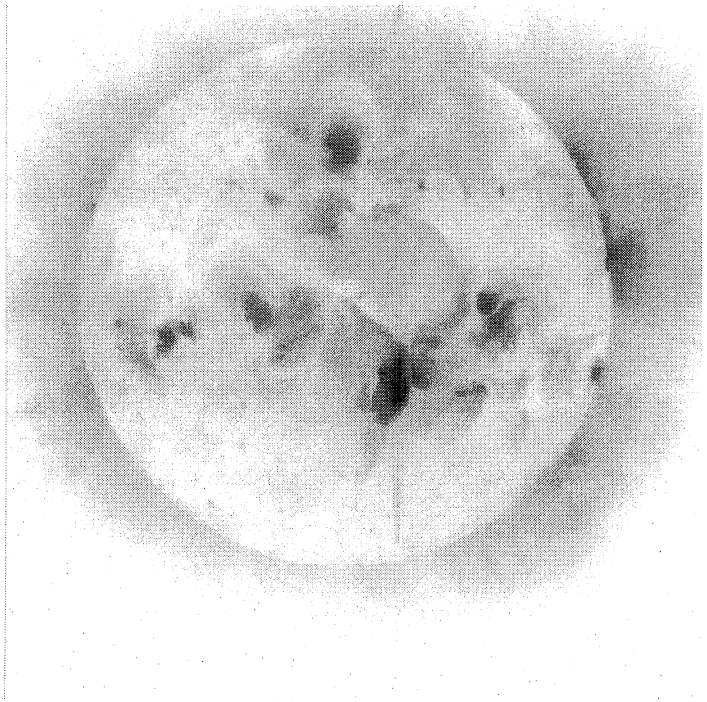
April
2001



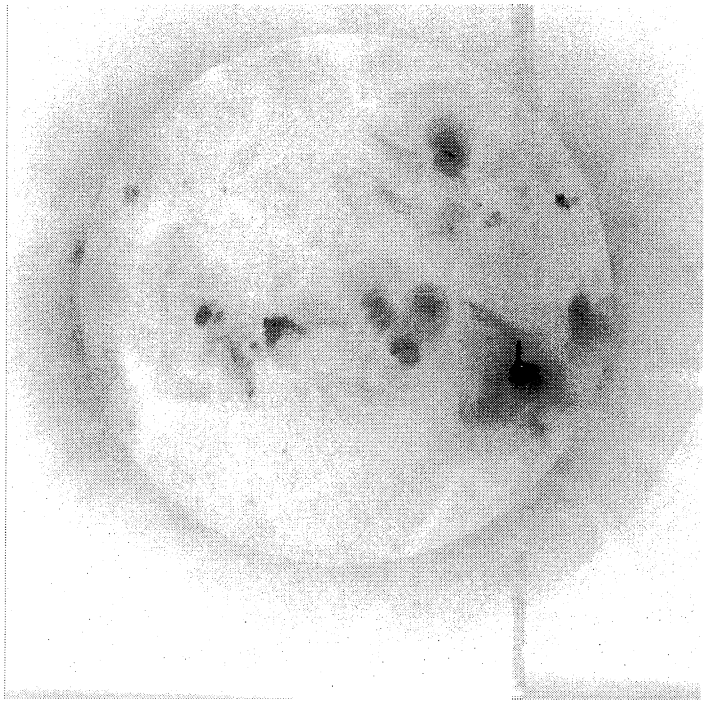
Day 9
12:00:01 UT



Day 11
12:00:49 UT



Day 10
12:06:23 UT



Day 12
11:45:28 UT

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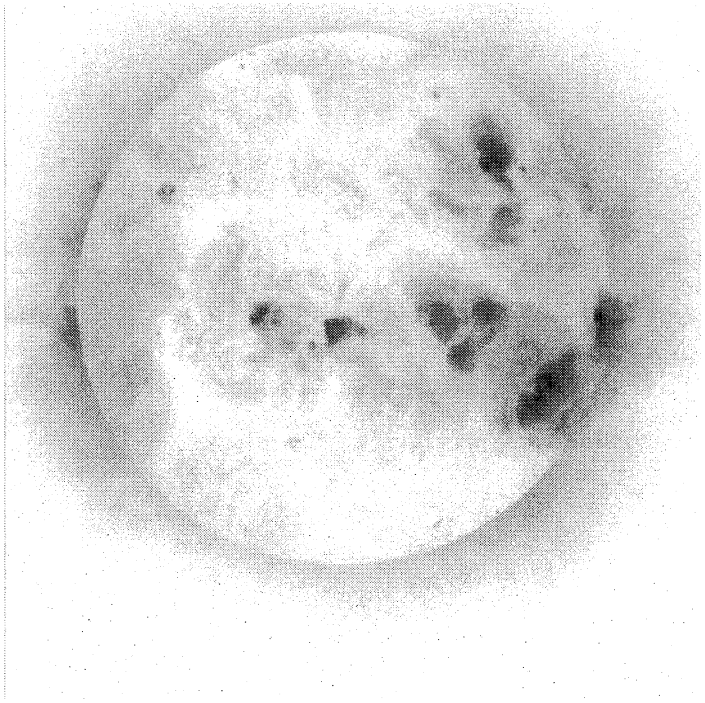
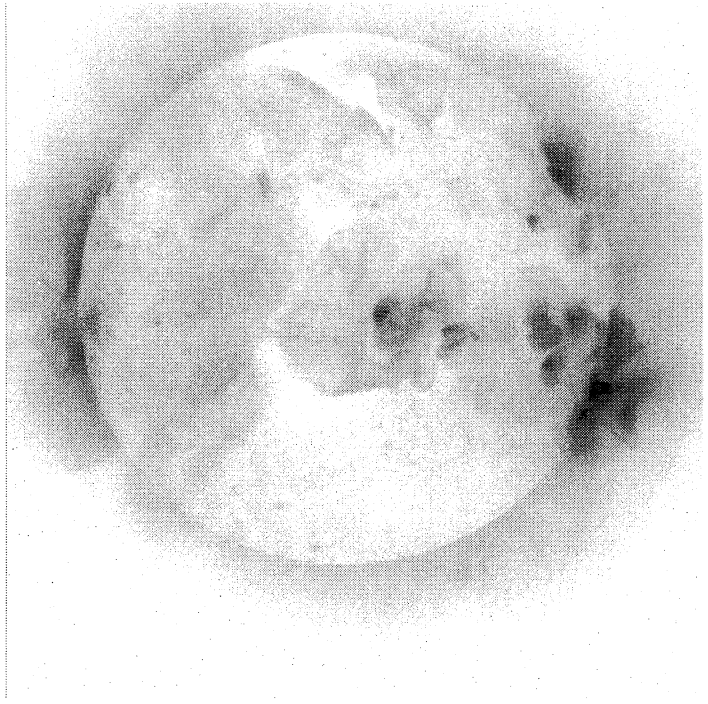
2001



Day 13
11:59:56 UT



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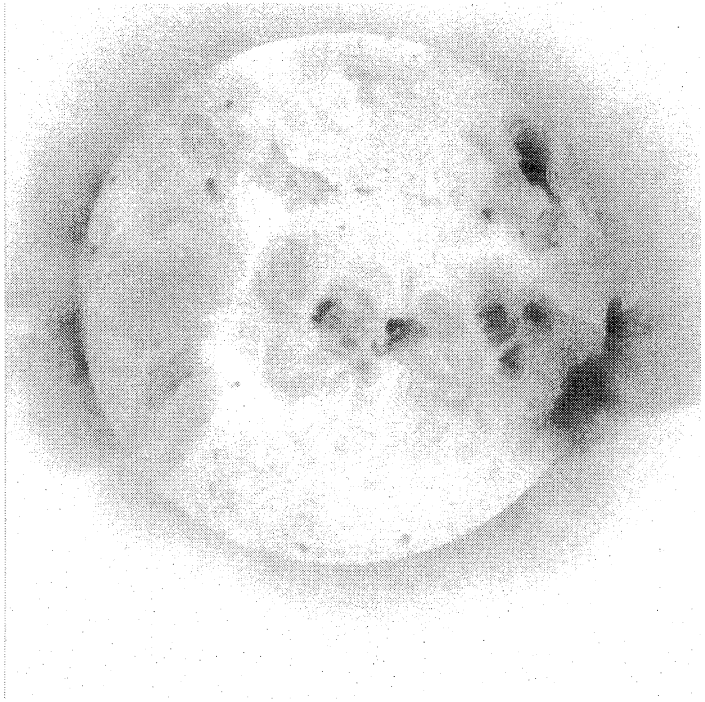
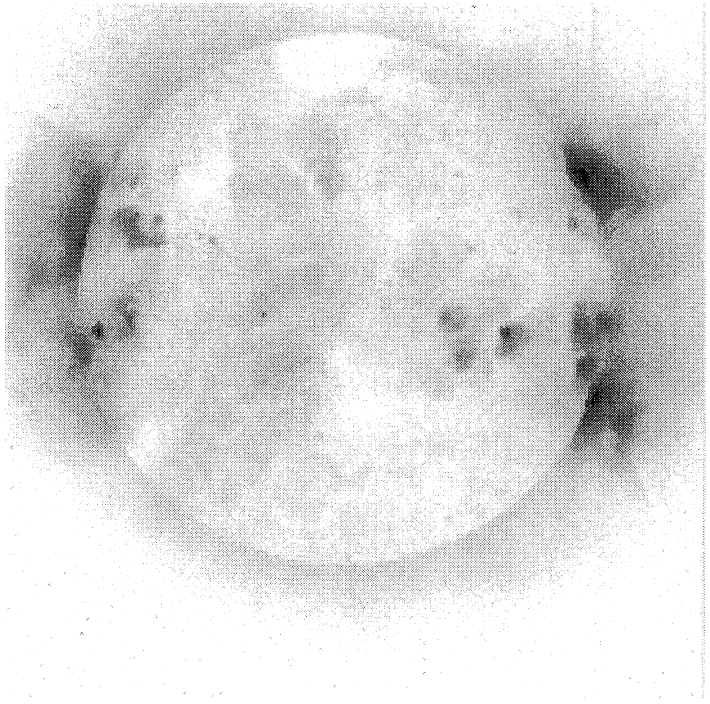
10:37:52 UT



Day 14
12:00:32 UT



Day 16
12:01:30 UT

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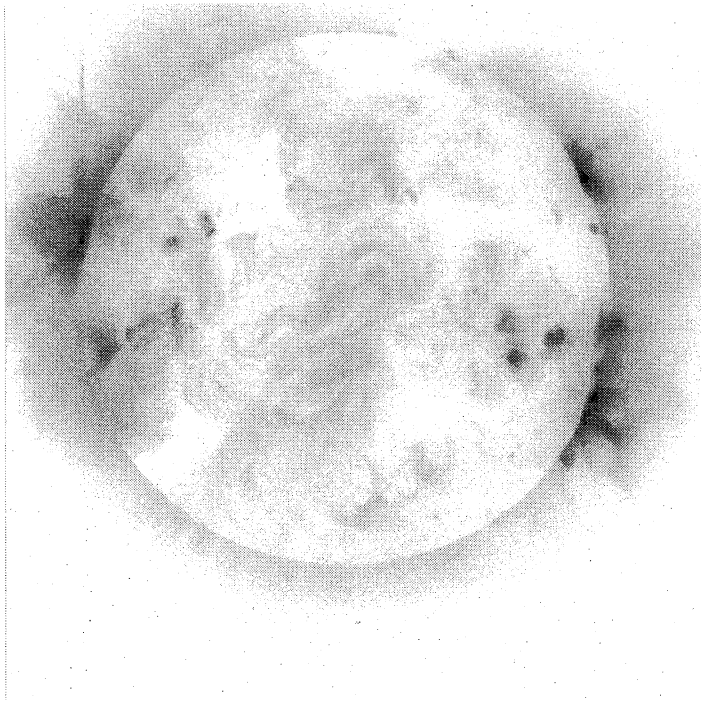
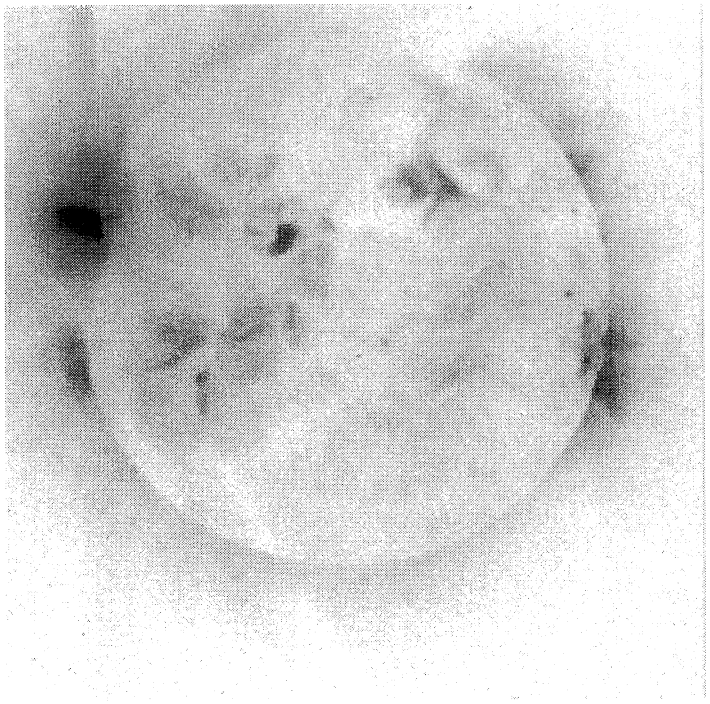
2001



Day 17
12:02:41 UT



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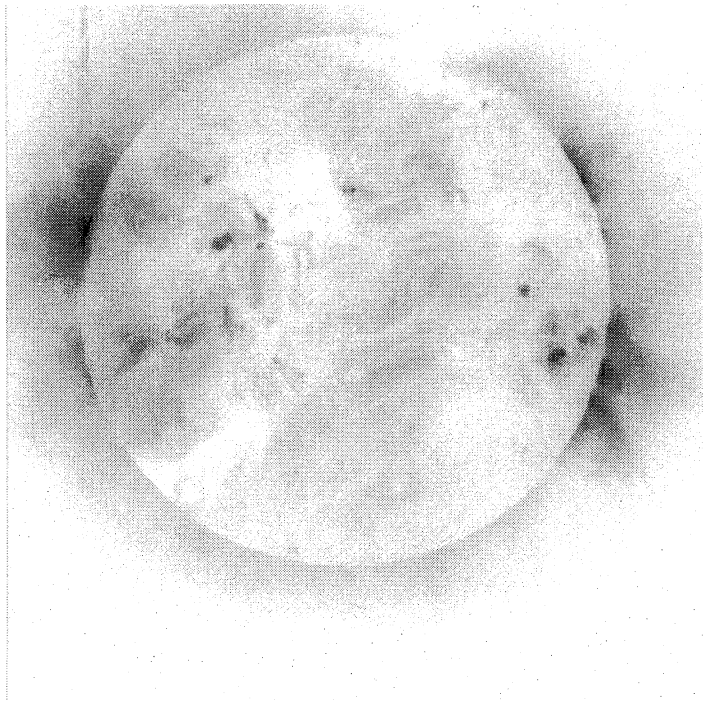

Day 18
10:38:23 UT

Day 20
12:10:01 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

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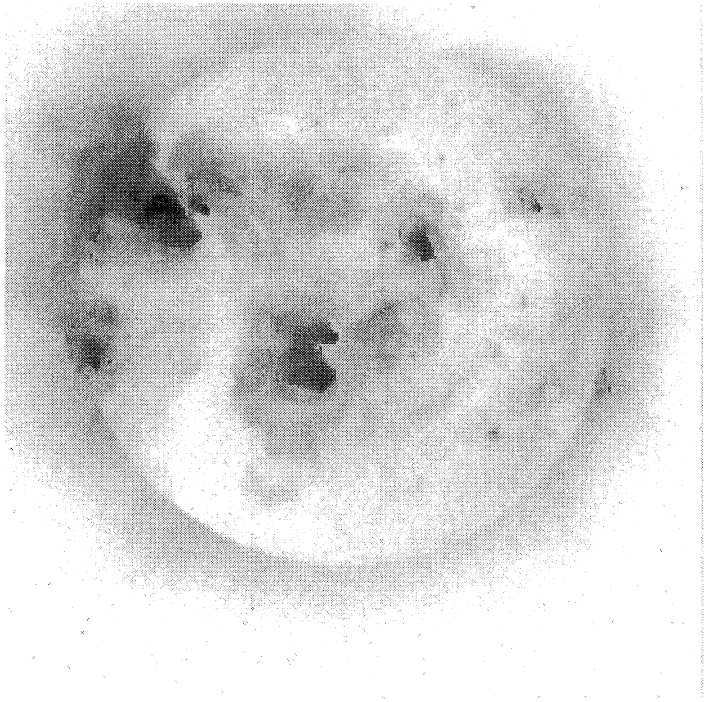
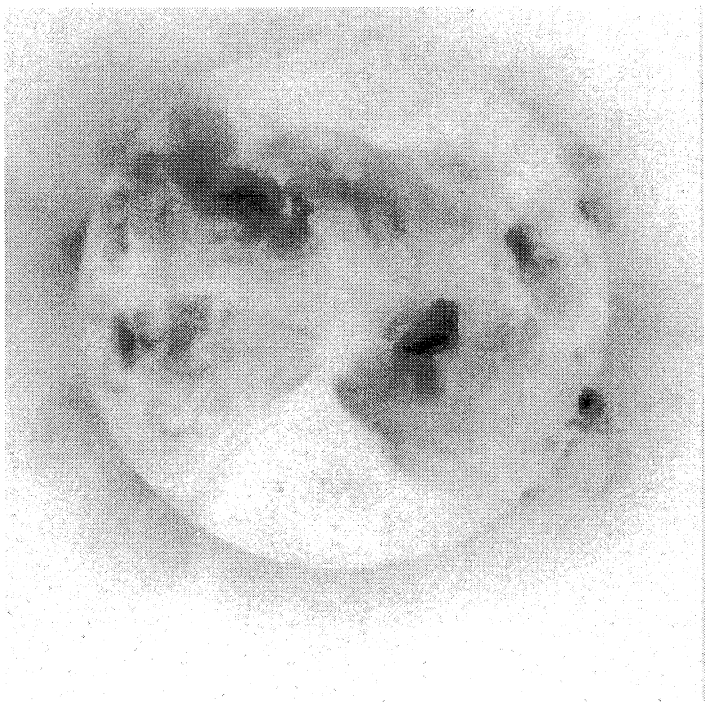
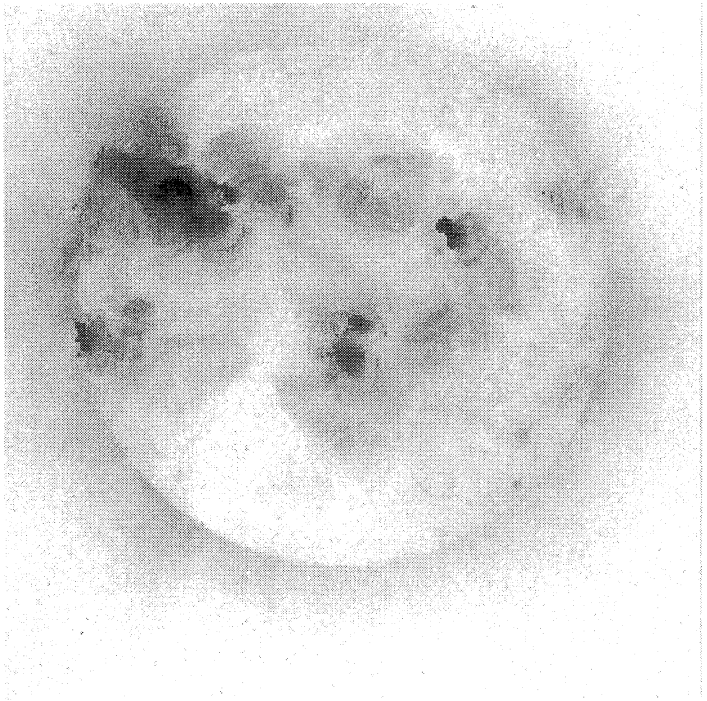
2001



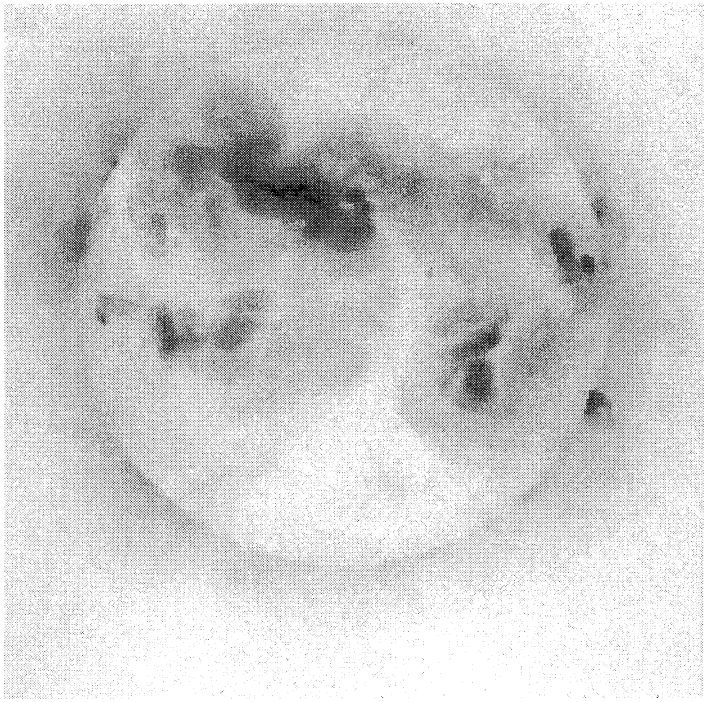
Day 21
13:24:09 UT



Day 23
13:15:04 UT



Day 22
10:46:48 UT



Day 24
12:01:44 UT

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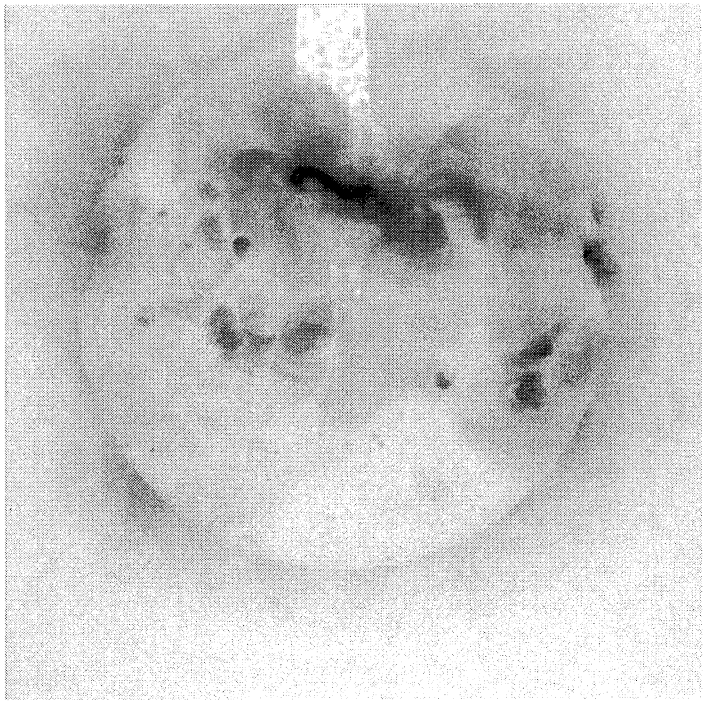
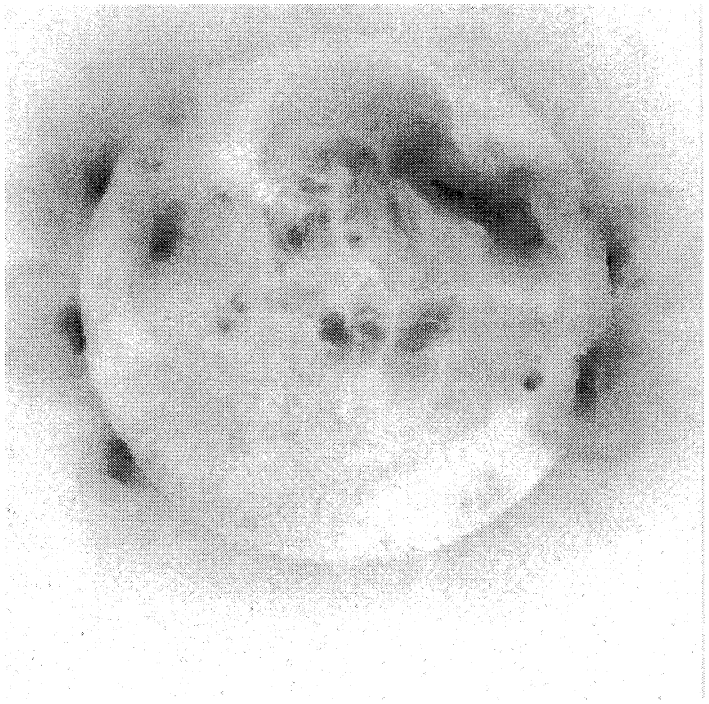
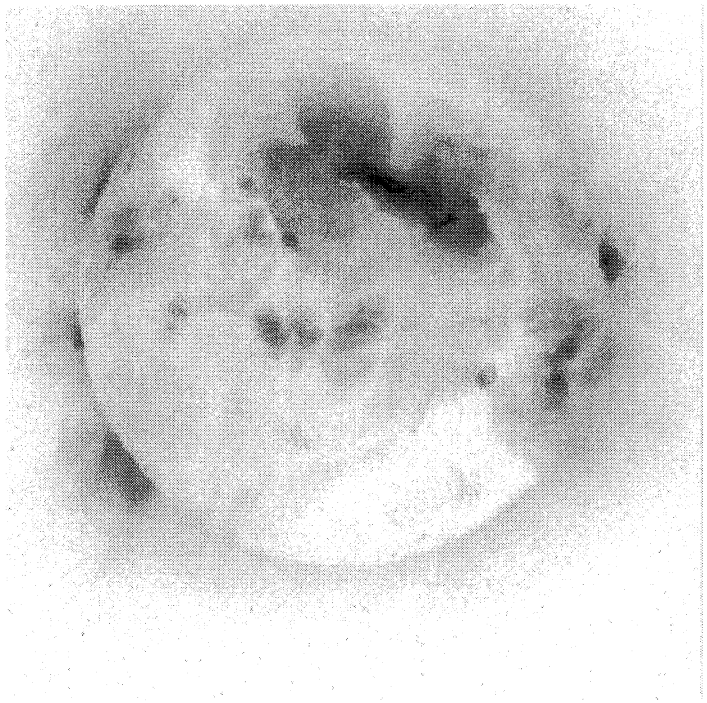
2001



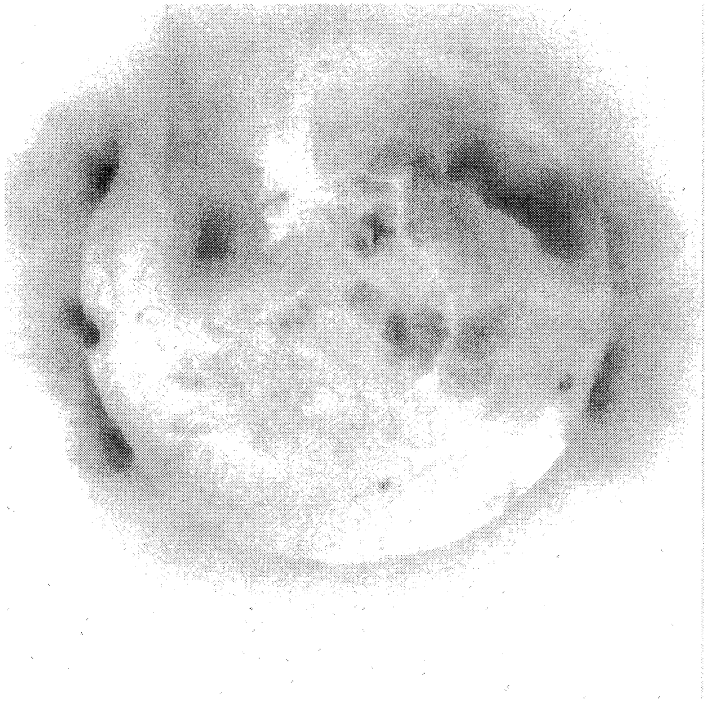
Day 25
16:23:06 UT



Day 27
11:56:07 UT



Day 26
11:40:08 UT



Day 28
12:05:43 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

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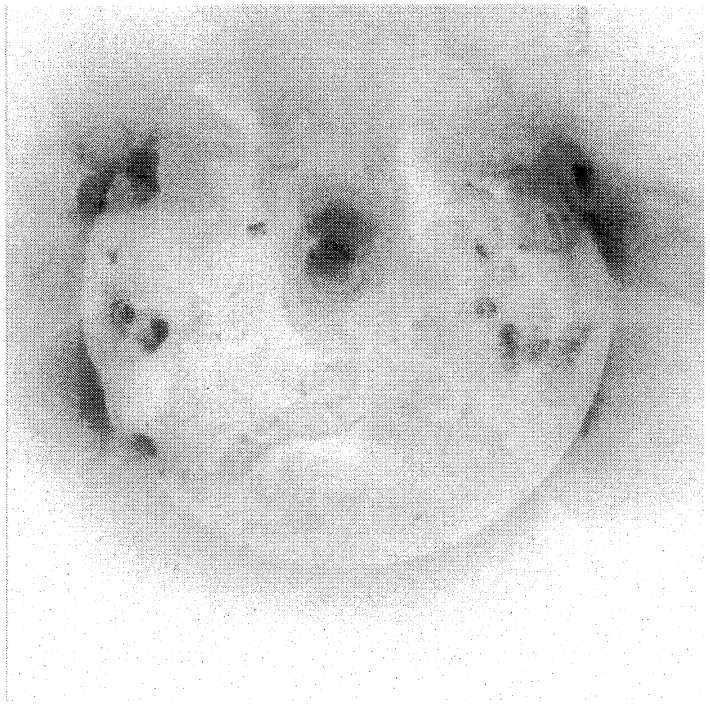
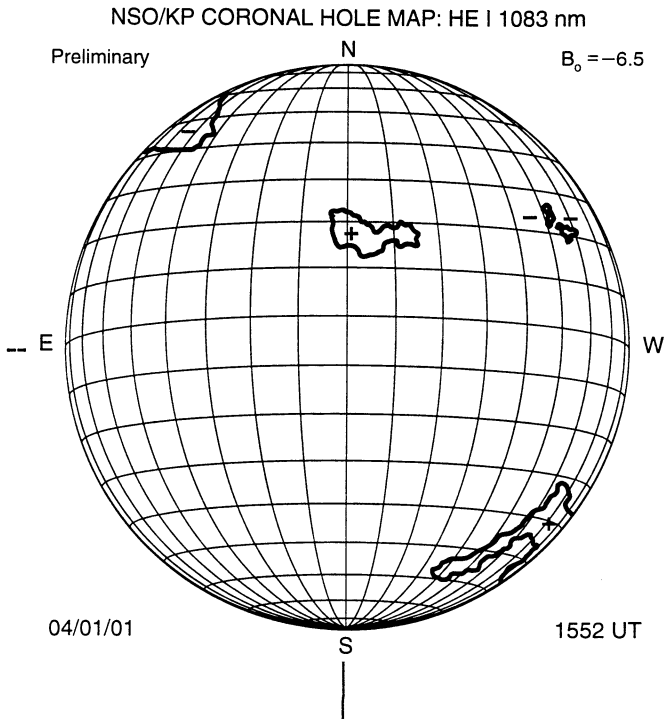
2001

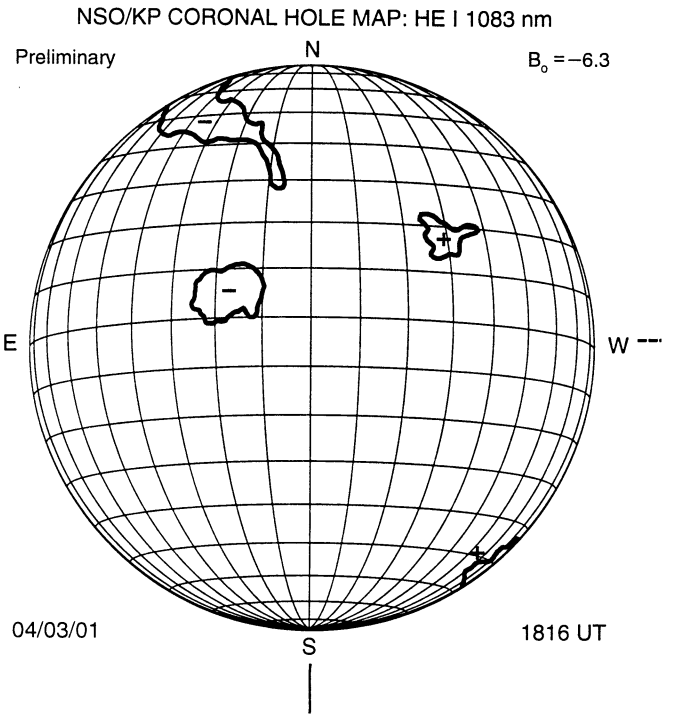
Day 29
12:22:47 UT

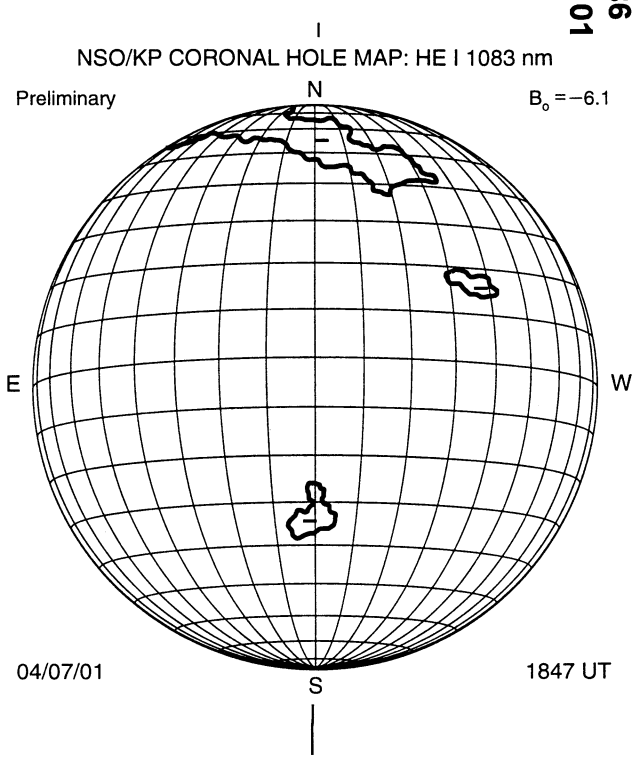


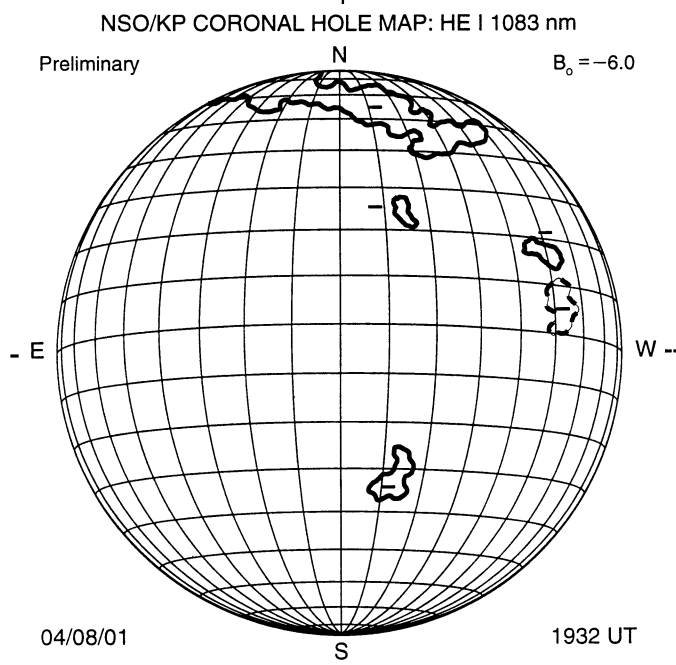
Day 30
11:39:09 UT

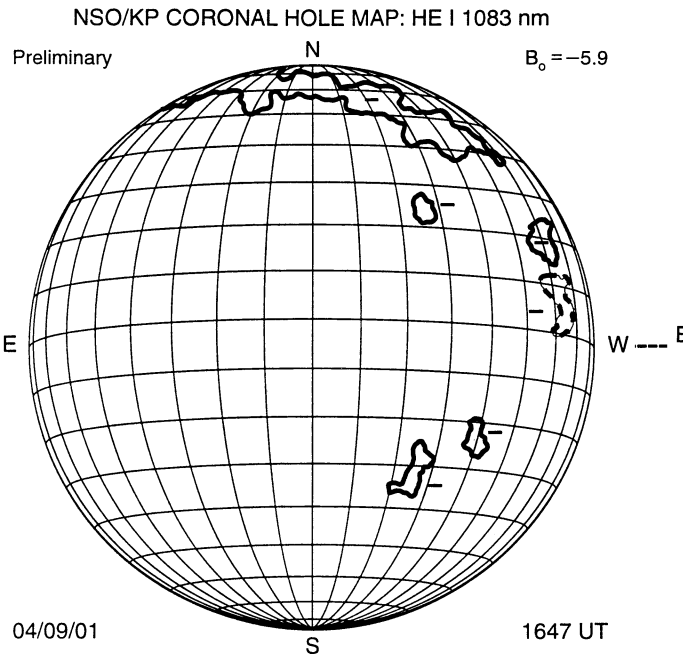
KITT PEAK CORONAL HOLE MAPS HE I 1083 nm
April 2001

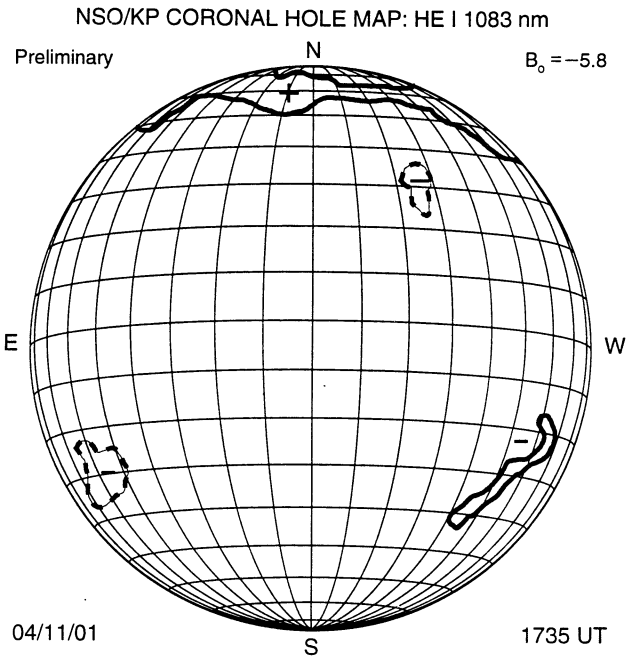




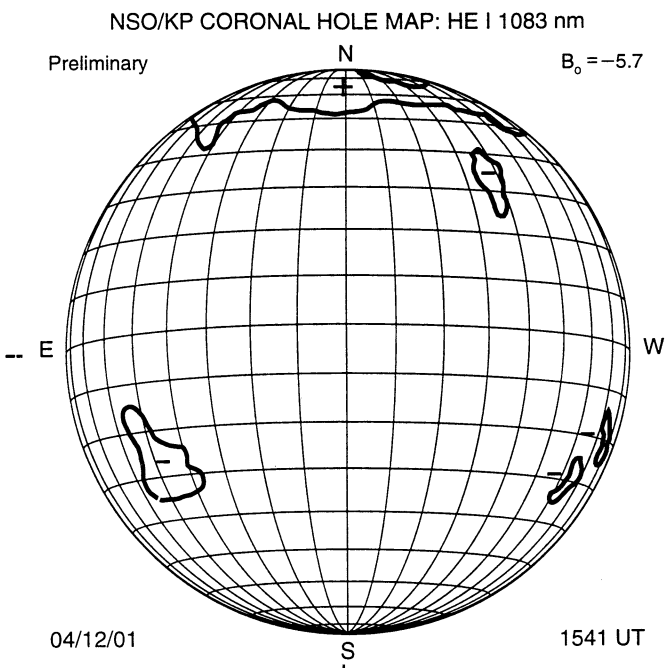


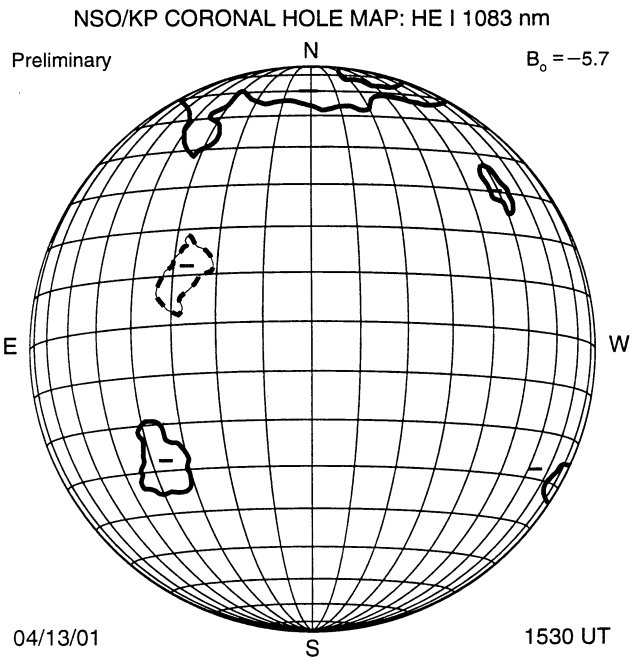


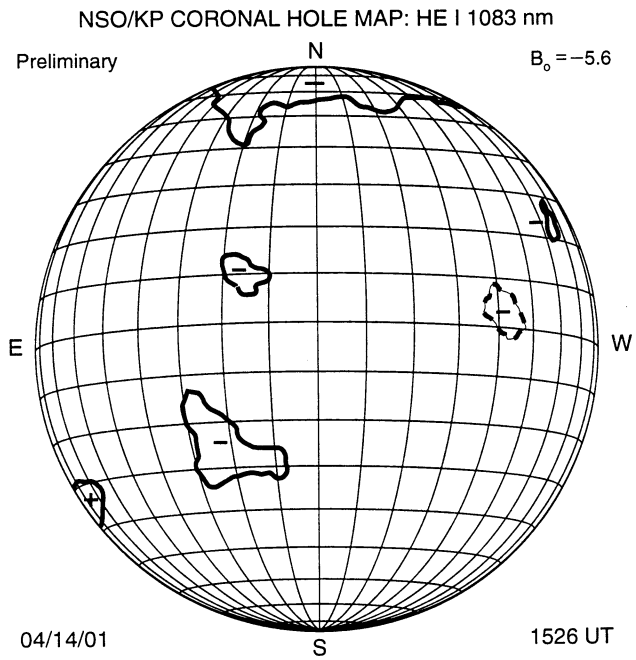


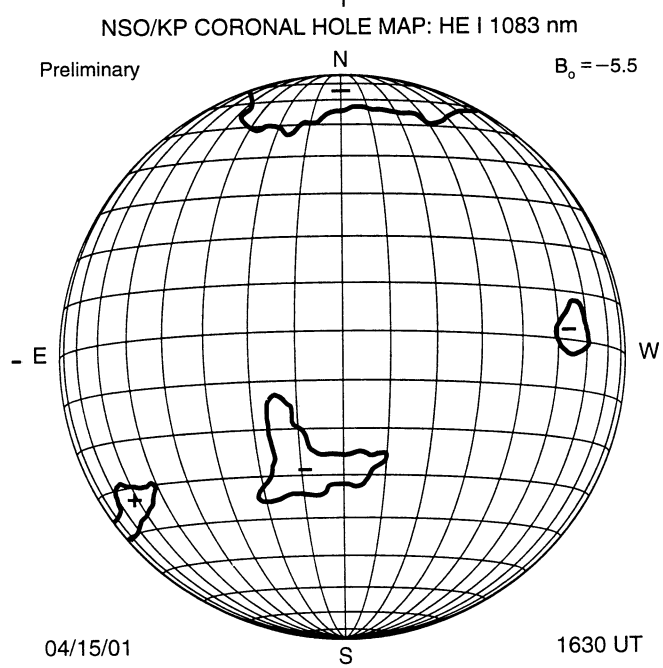


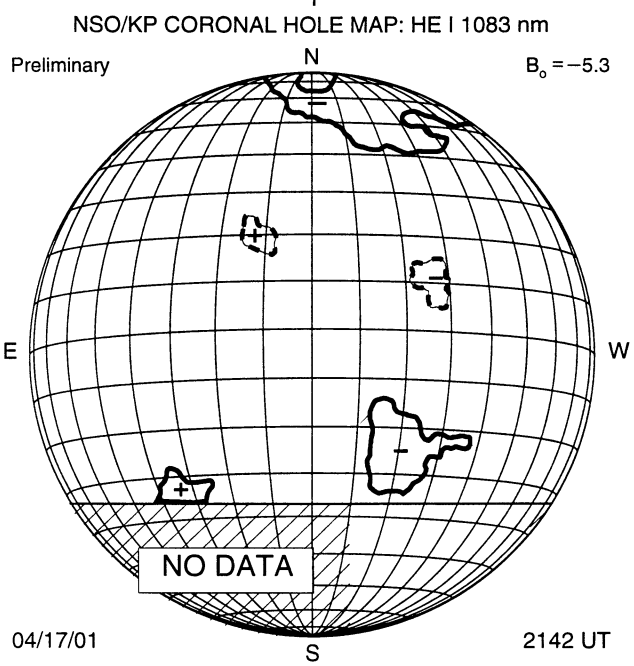
KITT PEAK CORONAL HOLE MAPS HE I 1083 nm
April 2001

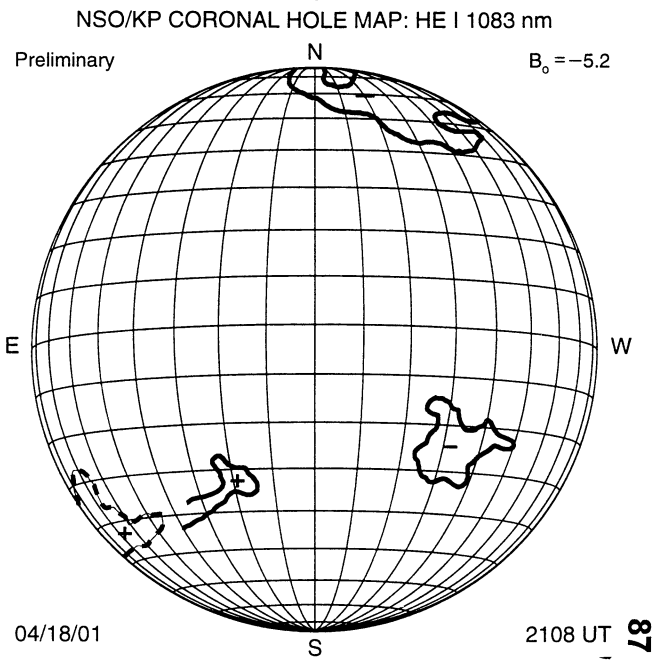




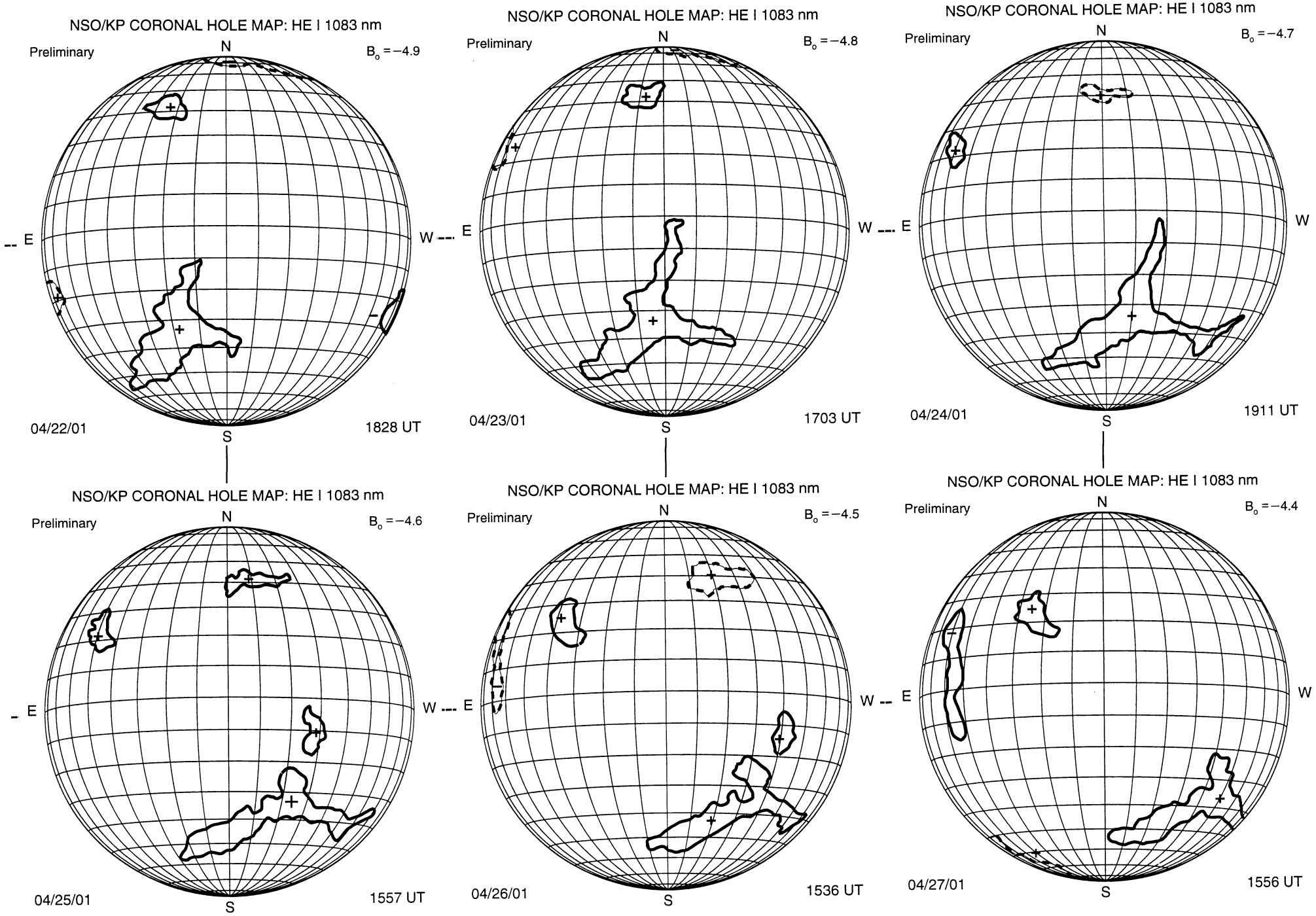




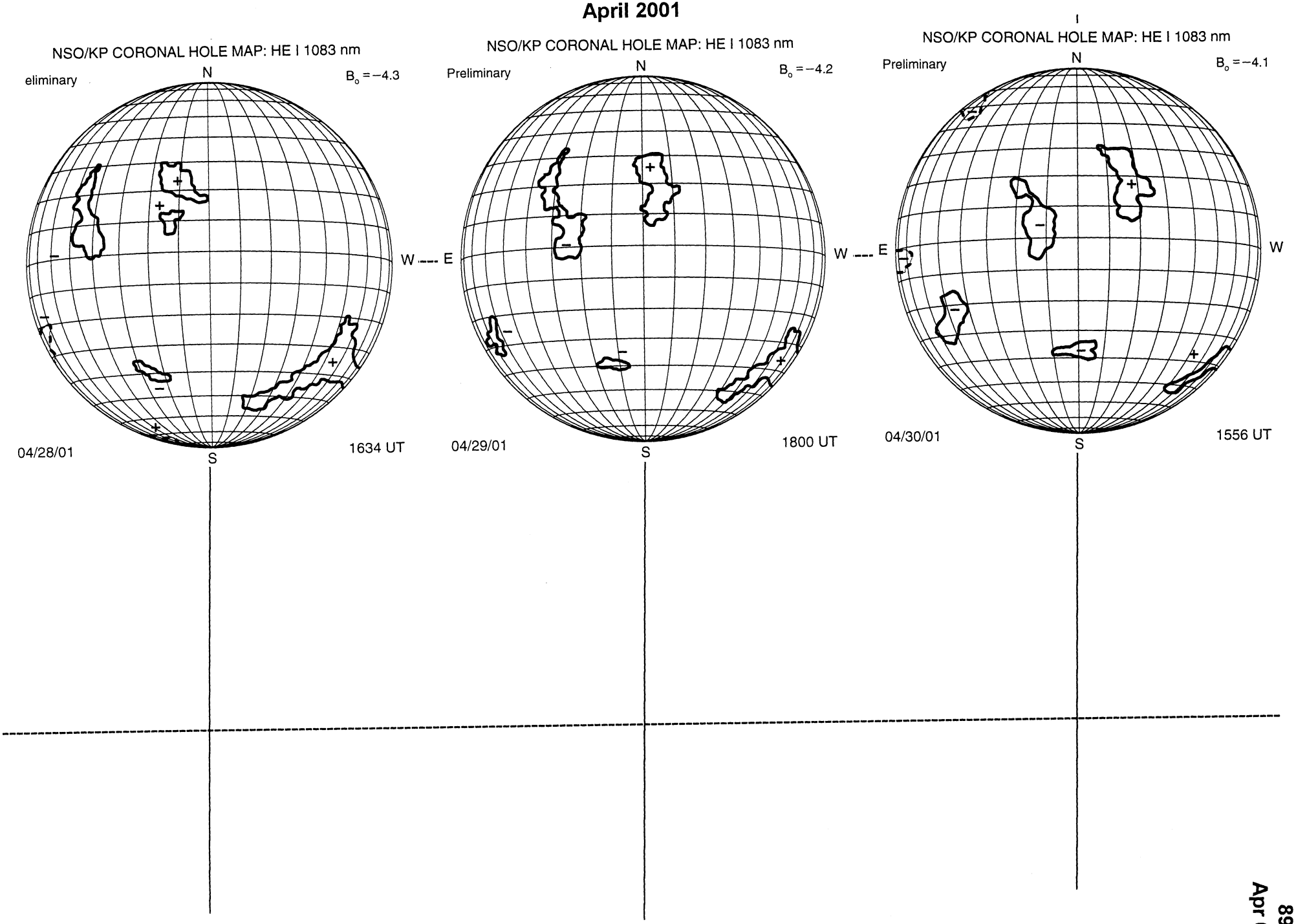




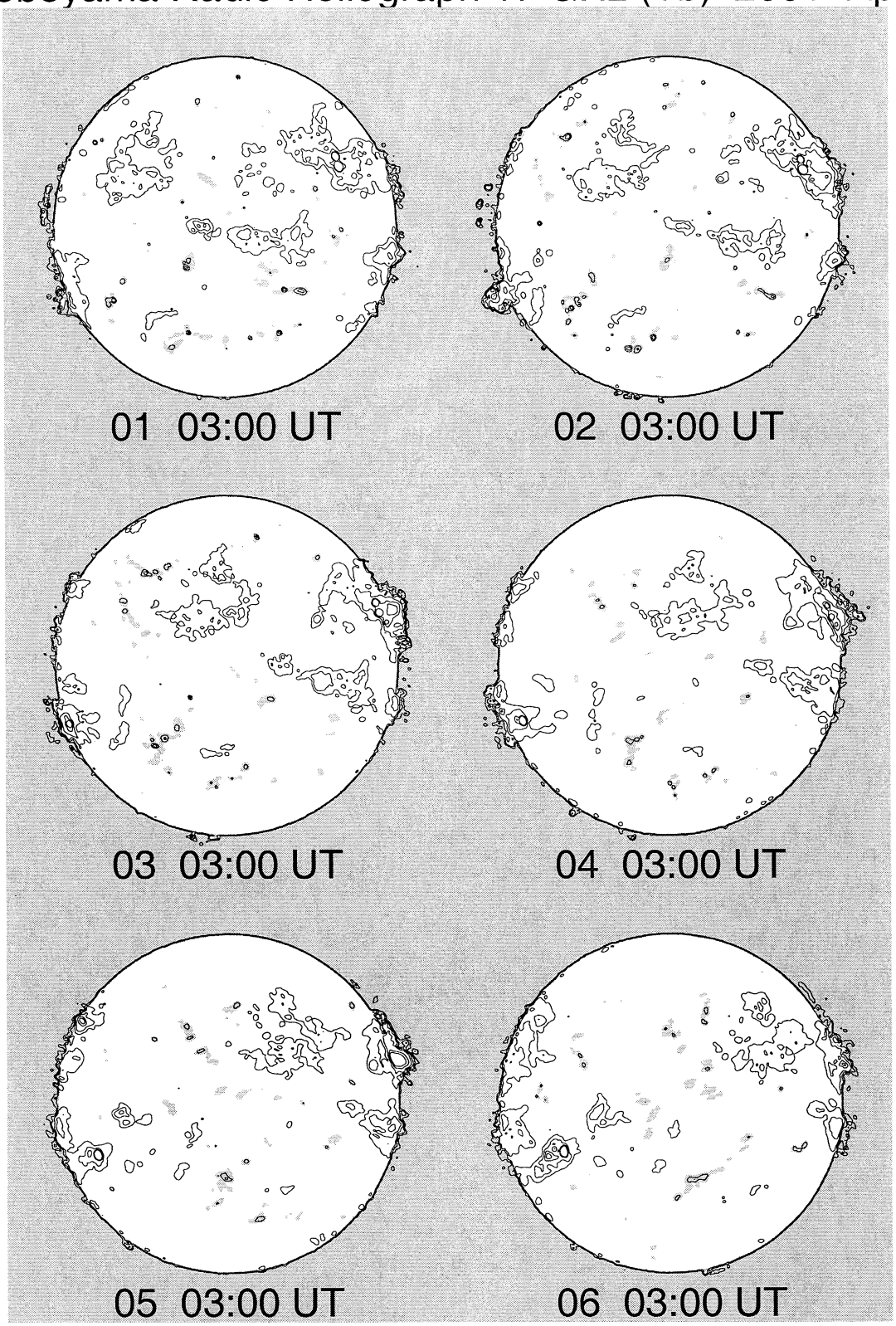
KITT PEAK CORONAL HOLE MAPS HE I 1083 nm
April 2001



KITT PEAK CORONAL HOLE MAPS HE I 1083 nm
April 2001

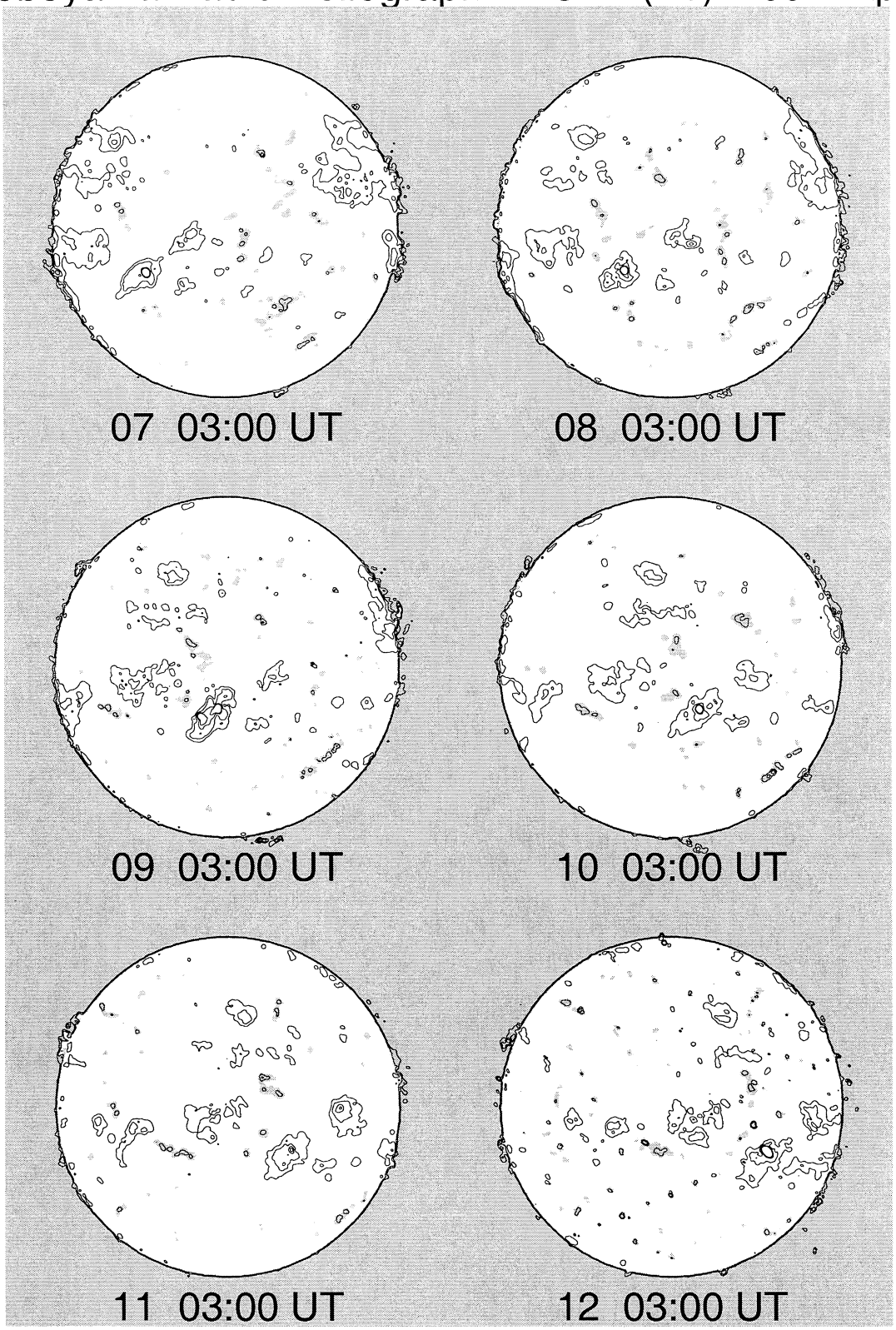


Nobeyama Radio Heliograph 17 GHz (Tb) 2001 April



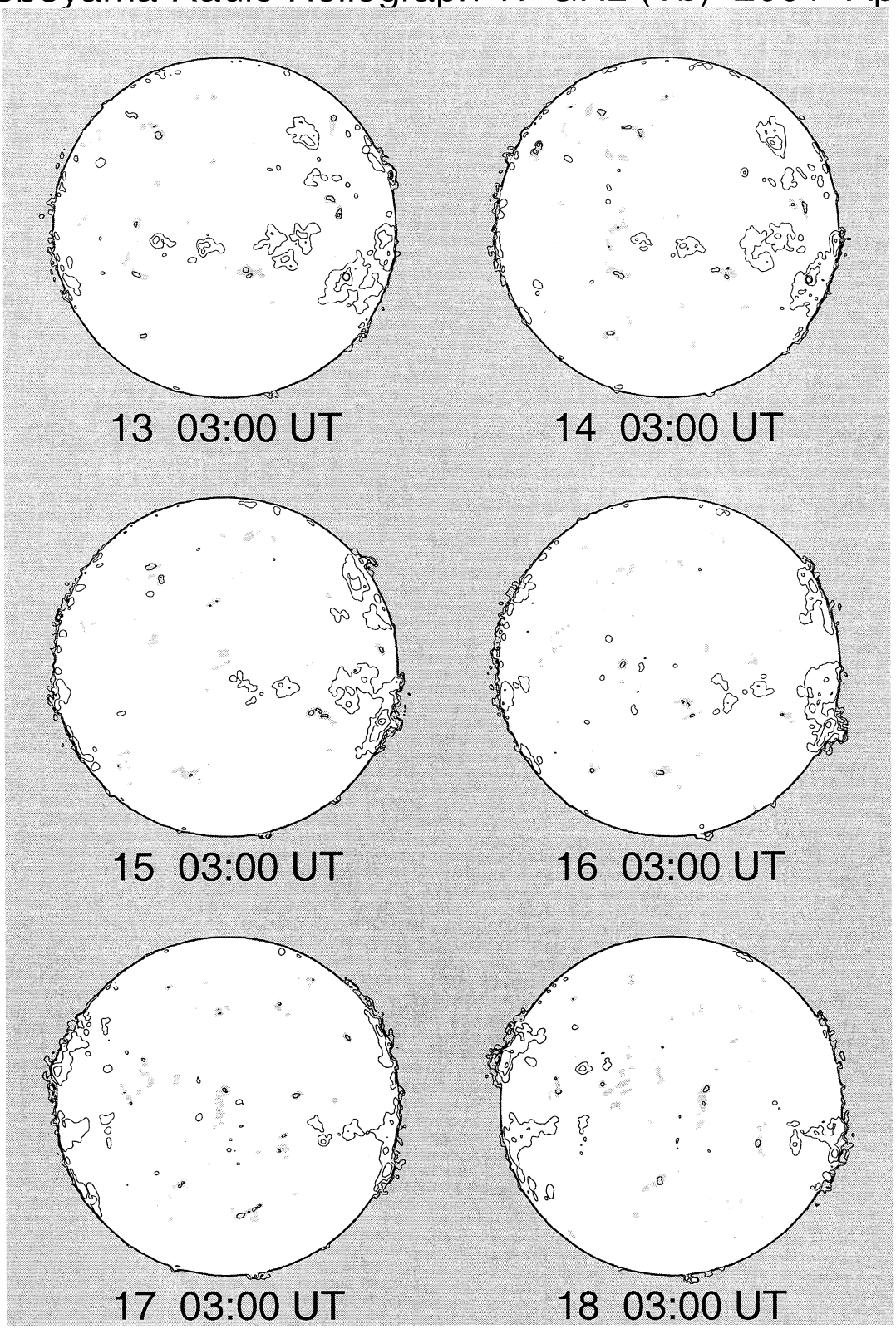
Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb <= 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2001 April



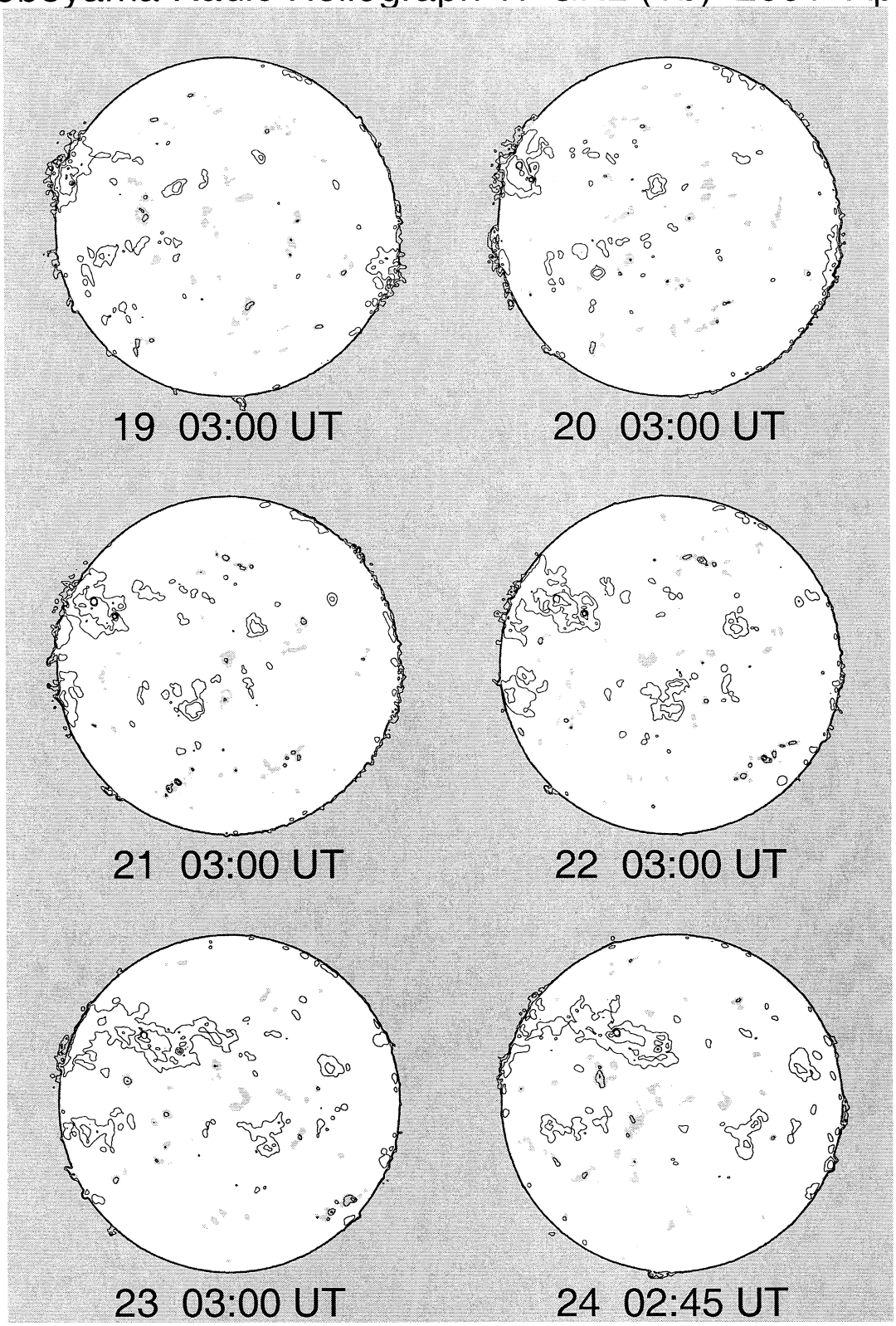
Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb <= 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2001 April



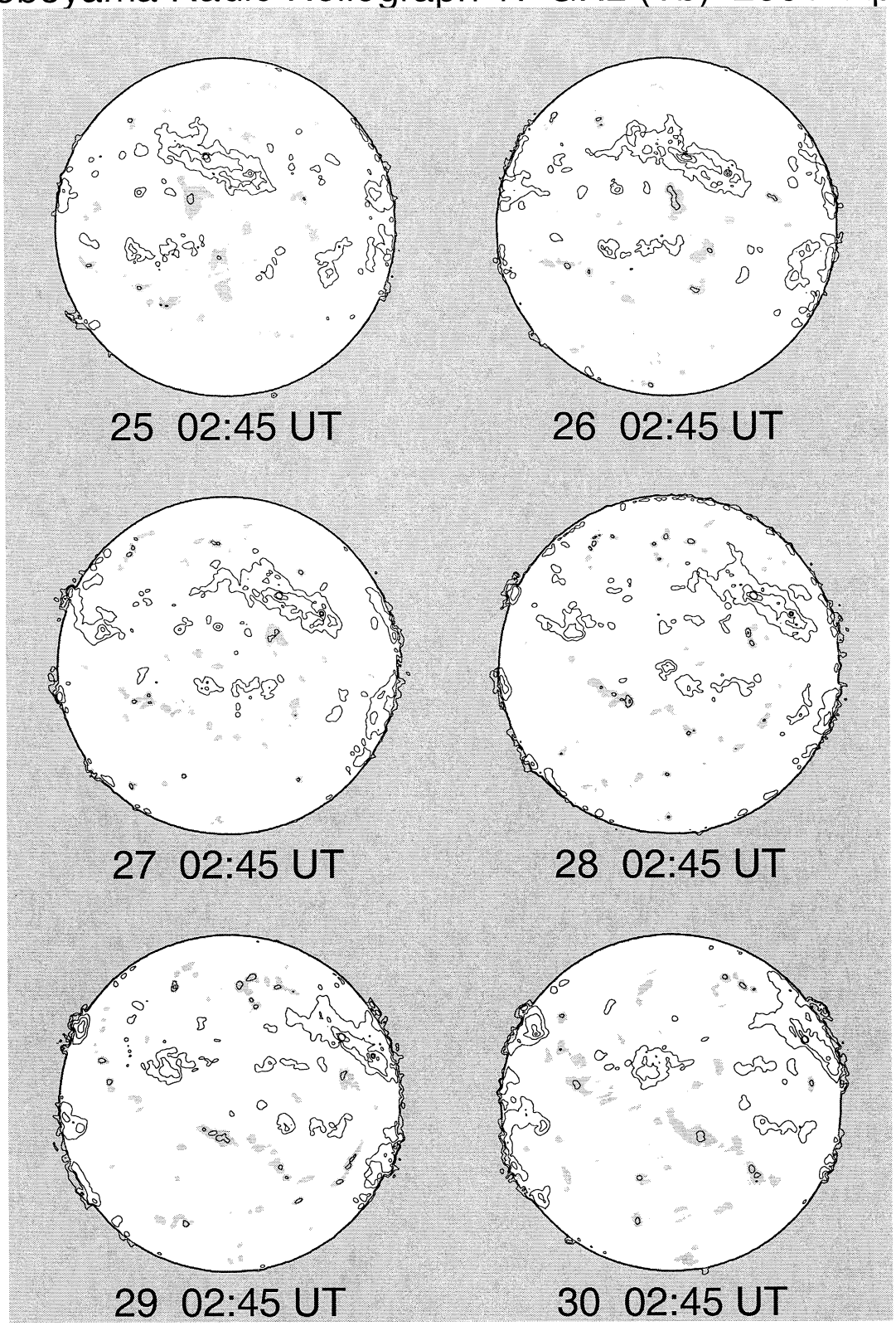
Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb <= 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2001 April



Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb <= 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2001 April



Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb <= 9,500 K

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

APRIL 2001

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
9404		HOLL	03	26	1515	S04	E84	04	1.9		A	HAX	60	1	2	3
9404	30388	MWIL	03	26	1515	S07	E80	04	1.6	3	AP					
9404		LEAR	03	27	0145	S05	E80	04	2.0		B	CSO	30	3	12	2
9404		RAMY	03	27	1150	S06	E72	04	1.9		B	DSO	70	2	8	4
9404		RAMY	03	27	1150	S09	E68	04	1.6		A	AXX		1	1	4
9404		SVTO	03	27	1400	S04	E71	04	1.9		B	DRO	20	2	10	2
9404	30388	MWIL	03	27	1500	S05	E69	04	1.8	4	(BP)					
9404		HOLL	03	27	1542	S06	E68	04	1.7		B	CSO	120	3	3	2
9404		VORO	03	27	2250	S05	E64	04	1.7			HAX	119	1		2
9404		LEAR	03	28	0026	S04	E63	04	1.7		A	HAX	80	2	1	3
9404		SVTO	03	28	0658	S04	E59	04	1.7		B	DAO	70	15	8	3
9404		KAND	03	28	0730	S05	E61	04	1.9			HS		2	2	1
9404		RAMY	03	28	1240	S06	E56	04	1.7		A	HSX	30	1	2	2
9404	30388	MWIL	03	28	1515	S05	E54	04	1.7	5	(AP)					
9404		HOLL	03	28	1605	S05	E53	04	1.6		A	HSX	100	1	3	2
9404		VORO	03	28	2250	S05	E50	04	1.7			HAX	126	1		2
9404		LEAR	03	29	0014	S05	E48	04	1.6		A	HAX	80	1	2	3
9404		KAND	03	29	0825	S05	E45	04	1.7			HA		2	2	2
9404		SVTO	03	29	1104	S04	E43	04	1.7		A	HAX	100	1	3	2
9404		RAMY	03	29	1158	S06	E42	04	1.6		A	HSX	50	1	2	3
9404	30388	MWIL	03	29	1530	S05	E40	04	1.6	5	(AP)					
9404		VORO	03	29	2230	S05	E37	04	1.7			HAX	172	1		2
9404		LEAR	03	30	0040	S04	E35	04	1.6		A	HSX	100	4	2	4
9404		TACH	03	30	0641	S04	E32	04	1.7			HSX	100	1	1	4
9404		RAMY	03	30	1205	S05	E28	04	1.6		B	CAO	70	4	3	3
9404		HOLL	03	30	1530	S06	E27	04	1.7		B	CHO	70	9	4	3
9404	30388	MWIL	03	30	1600	S04	E27	04	1.7	5	(BP)					
9404		LEAR	03	31	0150	S05	E21	04	1.6		B	CAO	100	15	5	4
9404		TACH	03	31	0447	S05	E21	04	1.8			CAI	229	5	3	4
9404		RAMY	03	31	1250	S06	E15	04	1.6		B	DAO	90	12	5	3
9404		HOLL	03	31	1445	S06	E12	04	1.5		B	DAO	90	17	5	3
9404	30388	MWIL	03	31	1500	S05	E13	04	1.6	4	(BP)					
9404		SVTO	03	31	1500	S07	E14	04	1.7		B	DAO	90	11	6	3
9404		LEAR	04	01	0020	S05	E09	04	1.7		B	CAI	80	26	7	4
9404		SVTO	04	01	0630	S06	E05	04	1.6		B	DAI	90	19	6	3
9404		RAMY	04	01	1200	S06	E03	04	1.7		B	DAI	60	23	6	4
9404	30388	MWIL	04	01	1500	S06	E00	04	1.6	4	(BG)					
9404		HOLL	04	01	1545	S06	W01	04	1.6		B	DAO	80	20	5	3
9404		LEAR	04	02	0020	S05	W04	04	1.7		B	DSO	50	13	6	4
9404		TACH	04	02	0539	S05	W07	04	1.7			BRI	46	6	4	2
9404		SVTO	04	02	0703	S04	W08	04	1.7		B	DSO	40	10	6	3
9404		LEAR	04	03	0033	S04	W18	04	1.7		B	CSO	20	11	6	4
9404		TACH	04	03	0508	S05	W20	04	1.7			CAO	60	7	4	4
9404		SVTO	04	03	0630	S05	W23	04	1.5		B	DAO	40	10	7	3
9404		KAND	04	03	0820	S03	W23	04	1.6			CAO		3	5	3
9404		RAMY	04	03	1207	S04	W25	04	1.6		B	CSO	20	4	6	4
9404		HOLL	04	03	1430	S06	W25	04	1.7		B	BXO	30	12	8	3
9404		LEAR	04	04	0044	S04	W34	04	1.5		A	AXX	10	4	2	4
9404		SVTO	04	04	0801	S03	W38	04	1.5		A	AXX		2	1	3
9404		RAMY	04	04	1302	S03	W39	04	1.6		B	BXO		3	3	3
9416		TACH	04	03	0508	N16	W08	04	2.6			BRO	42	5	4	4
9416		SVTO	04	03	0630	N17	W09	04	2.6		B	DRO	30	6	5	3
9416		KAND	04	03	0820	N17	W09	04	2.7			CAO		4	6	3
9416		RAMY	04	03	1207	N17	W12	04	2.6		B	DSO	60	5	6	4
9416		HOLL	04	03	1430	N16	W14	04	2.5		B	DAO	30	6	6	3
9416		LEAR	04	04	0044	N17	W20	04	2.5		B	DSO	40	8	7	4
9416		TACH	04	04	0620	N17	W22	04	2.6			BRO	66	4	6	3
9416		SVTO	04	04	0801	N17	W24	04	2.5		B	DSO	50	6	7	3
9416		RAMY	04	04	1302	N17	W26	04	2.6		B	DSO	30	6	8	3
9416		HOLL	04	04	1706	N16	W28	04	2.6		B	CSO	50	4	8	2
9416		LEAR	04	05	0013	N16	W33	04	2.5		B	DSO	50	4	8	4
9416		SVTO	04	05	0650	N17	W39	04	2.3		B	BXO	20	5	8	3
9416		TACH	04	05	0940	N16	W37	04	2.6			BRO	31	3	4	3
9416		KAND	04	05	1120	N16	W39	04	2.5			CAO		4	8	5
9416		RAMY	04	05	1235	N19	W39	04	2.5		B	CSO	20	4	6	3
9407	30391	MWIL	03	27	1500	N11	E82	04	2.8	4	AP					
9407		LEAR	03	28	0026	N10	E76	04	2.7		A	HSX	60	1	1	3

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
9407		SVTO	03	28	0658	N12	E73	04	2.8		A	HSX	90	1	1	3
9407		KAND	03	28	0730	N11	E72	04	2.7			HS		1	2	1
9407		RAMY	03	28	1240	N10	E70	04	2.8		A	HSX	60	1	2	2
9407	30391	MWIL	03	28	1515	N11	E68	04	2.7	5	(AP)					
9407		HOLL	03	28	1605	N10	E68	04	2.8		A	HAX	90	2	3	2
9407		LEAR	03	29	0014	N08	E67	04	3.0		B	CSO	130	3	7	3
9407		KAND	03	29	0825	N11	E62	04	3.0			CAO		4	5	2
9407		SVTO	03	29	1104	N11	E58	04	2.8		B	DSO	90	2	7	2
9407		RAMY	03	29	1158	N10	E60	04	3.0		B	CSO	120	2	3	3
9407	30391	MWIL	03	29	1530	N11	E56	04	2.8	5	(BP)					
9407		LEAR	03	30	0040	N10	E55	04	3.2		B	CSO	110	7	13	4
9407		TACH	03	30	0641	N12	E49	04	3.0			CSO	106	3	5	4
9407		RAMY	03	30	1205	N11	E46	04	3.0		B	CAO	90	3	6	3
9407		HOLL	03	30	1530	N12	E43	04	2.9		B	CSO	110	4	6	3
9407	30391	MWIL	03	30	1600	N11	E43	04	2.9	5	(BP)					
9407		LEAR	03	31	0150	N12	E39	04	3.0		B	DSO	90	3	7	4
9407		TACH	03	31	0447	N11	E38	04	3.0			CAO	132	2	5	4
9407		RAMY	03	31	1250	N10	E32	04	2.9		B	CSO	80	3	6	3
9407		HOLL	03	31	1445	N10	E30	04	2.9		B	CSO	110	4	8	3
9407		SVTO	03	31	1500	N11	E30	04	2.9		B	CSO	110	2	6	3
9407	30391	MWIL	03	31	1500	N11	E30	04	2.9	5	(BP)					
9407		LEAR	04	01	0020	N11	E27	04	3.0		B	CSO	110	10	10	4
9407		SVTO	04	01	0630	N13	E24	04	3.1		B	CSO	110	7	10	3
9407		RAMY	04	01	1200	N10	E18	04	2.8		B	CSO	100	4	2	4
9407	30391	MWIL	04	01	1500	N10	E16	04	2.8	4	(BP)					
9407		HOLL	04	01	1545	N10	E16	04	2.8		A	HAX	100	3	2	3
9407		LEAR	04	02	0020	N12	E12	04	2.9		A	HSX	100	2	2	4
9407		TACH	04	02	0539	N10	E09	04	2.9			HSX	200	1	1	2
9407		SVTO	04	02	0703	N11	E07	04	2.8		A	HSX	60	2	2	3
9407		LEAR	04	03	0033	N14	W04	04	2.7		B	CSO	110	7	6	4
9407		TACH	04	03	0508	N12	W04	04	2.9			CSO	205	2	2	4
9407		SVTO	04	03	0630	N12	W05	04	2.9		B	CAO	90	5	5	3
9407		KAND	04	03	0820	N12	W04	04	3.0			CSO		2	2	3
9407		RAMY	04	03	1207	N12	W09	04	2.8		B	CSO	100	2	3	4
9407		HOLL	04	03	1430	N12	W10	04	2.8		B	CAO	80	2	3	3
9407		LEAR	04	04	0044	N12	W17	04	2.7		A	HSX	90	1	2	4
9407		TACH	04	04	0620	N11	W19	04	2.8			HSX	170	1	1	3
9407		SVTO	04	04	0801	N11	W20	04	2.8		A	HSX	70	1	2	3
9407		RAMY	04	04	1302	N11	W22	04	2.9		A	HAX	40	1	1	3
9407		HOLL	04	04	1706	N10	W25	04	2.8		A	HAX	20	2	2	2
9407		LEAR	04	05	0013	N10	W29	04	2.8		A	HSX	100	2	1	4
9407		SVTO	04	05	0650	N11	W33	04	2.8		B	DAO	70	2	7	3
9407		TACH	04	05	0940	N10	W32	04	3.0			CSO	102	2	5	3
9407		KAND	04	05	1120	N10	W31	04	3.1			CAO		2	5	5
9407		RAMY	04	05	1235	N12	W34	04	3.0		B	CSO	80	2	5	3
9407		LEAR	04	06	0135	N10	W40	04	3.1		B	CSO	60	3	6	3
9407		TACH	04	06	0509	N10	W41	04	3.1			CSO	93	2	6	3
9407		KAND	04	06	0645	N09	W44	04	3.0			CSO		2	7	5
9407		SVTO	04	06	0738	N09	W45	04	2.9		B	DSO	70	3	8	3
9407		RAMY	04	06	1150	N12	W47	04	2.9		B	CSO	30	3	7	3
9407	30391	MWIL	04	06	1445	N09	W48	04	3.0	5	(BP)					
9407		HOLL	04	06	1505	N12	W54	04	2.6		A	HSX	50	1	2	2
9407		LEAR	04	07	0048	N10	W57	04	2.7		A	HSX	110	1	2	4
9407		SVTO	04	07	0607	N11	W60	04	2.7		A	HSX	80	1	2	2
9407		RAMY	04	07	1208	N11	W61	04	2.9		A	HSX	110	1	2	3
9407		KAND	04	07	1210	N10	W62	04	2.8			HS		1	1	3
9407		HOLL	04	07	1406	N11	W64	04	2.8		A	HSX	100	1	2	3
9407		LEAR	04	08	0100	N11	W68	04	2.9		A	HSX	90	1	1	4
9407		TACH	04	08	0449	N11	W72	04	2.8			AXX	10	1	1	4
9407		RAMY	04	08	1242	N11	W76	04	2.8		A	HSX	30	1	2	2
9407		HOLL	04	08	1406	N10	W78	04	2.7		A	HSX	60	1	2	3
9407		LEAR	04	09	0006	N11	W81	04	2.9		A	HSX	60	1	2	4
9407A		HOLL	03	31	1445	S24	E29	04	2.8		A	AXX	10	2	1	3
9407A	30397	MWIL	03	31	1500	S24	E28	04	2.8	3	(AF)					
9404A		KAND	04	06	0645	N32	W42	04	2.9			HR		1	1	5
9404A		RAMY	04	06	1150	N33	W46	04	2.8		B	CSO	20	4	4	3
9404A	30401	MWIL	04	06	1445	N31	W46	04	3.0	4	(B)					

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9404A		HOLL	04	06	1505	N33	W50	04	2.6		A	AXX	10	1	1	2
9406		LEAR	03	28	0026	N26	E78	04	3.1		A	HKX	180	1	3	3
9406		SVTO	03	28	0658	N26	E79	04	3.4		A	HSX	180	1	6	3
9406		KAND	03	28	0730	N26	E76	04	3.2			HS		1	2	1
9406		RAMY	03	28	1240	N24	E72	04	3.1		A	HSX	120	1	4	2
9406	30393	MWIL	03	28	1515	N25	E70	04	3.0	5	(AP)					
9406		HOLL	03	28	1605	N25	E69	04	3.0		A	HAX	90	2	4	2
9406		LEAR	03	29	0014	N26	E65	04	3.0		A	HSX	150	1	2	3
9406		KAND	03	29	0825	N25	E63	04	3.2			HA		1	3	2
9406		SVTO	03	29	1104	N26	E60	04	3.1		A	HAX	180	1	3	2
9406		RAMY	03	29	1158	N24	E61	04	3.2		A	HSX	80	1	2	3
9406	30393	MWIL	03	29	1530	N25	E57	04	3.1	5	(AP)					
9406		LEAR	03	30	0040	N27	E52	04	3.1		A	HSX	160	1	3	4
9406		TACH	03	30	0641	N26	E51	04	3.2			HSX	140	1	2	4
9406		RAMY	03	30	1205	N25	E48	04	3.2		A	HAX	180	1	2	3
9406		HOLL	03	30	1530	N26	E46	04	3.2		A	HHX	170	1	3	3
9406	30393	MWIL	03	30	1600	N25	E46	04	3.2	5	(AP)					
9406		LEAR	03	31	0150	N26	E40	04	3.2		A	HAX	150	3	3	4
9406		TACH	03	31	0447	N24	E40	04	3.3			HSX	310	1	2	4
9406		RAMY	03	31	1250	N24	E35	04	3.2		A	HAX	150	2	3	3
9406		HOLL	03	31	1445	N25	E32	04	3.1		A	HHX	160	1	3	3
9406	30393	MWIL	03	31	1500	N24	E34	04	3.2	5	(AP)					
9406		SVTO	03	31	1500	N25	E34	04	3.2		A	HHX	150	1	3	3
9406		LEAR	04	01	0020	N25	E27	04	3.1		A	HAX	150	3	3	4
9406		SVTO	04	01	0630	N26	E24	04	3.1		A	HHX	160	1	4	3
9406		RAMY	04	01	1200	N25	E23	04	3.3		A	HAX	180	3	3	4
9406	30393	MWIL	04	01	1500	N25	E21	04	3.2	5	(AP)					
9406		HOLL	04	01	1545	N25	E21	04	3.3		A	H X	160	3	3	3
9406		LEAR	04	02	0020	N27	E17	04	3.3		A	HAX	190	2	2	4
9406		TACH	04	02	0539	N25	E14	04	3.3			HA	400	2	2	2
9406		SVTO	04	02	0703	N26	E13	04	3.3		A	HAX	210	1	4	3
9406		LEAR	04	03	0033	N26	E03	04	3.2		A	HSX	240	2	3	4
9406		TACH	04	03	0508	N26	E01	04	3.3			HSX	350	1	1	4
9406		SVTO	04	03	0630	N26	E01	04	3.3		A	HSX	20	2	4	3
9406		KAND	04	03	0820	N26	W01	04	3.3			HA		3	3	3
9406		RAMY	04	03	1207	N26	W03	04	3.3		B	CSO	180	2	3	4
9406		HOLL	04	03	1430	N25	W04	04	3.3		A	HAX	170	2	3	3
9406		LEAR	04	04	0044	N27	W11	04	3.2		A	HAX	240	1	3	4
9406		TACH	04	04	0620	N26	W13	04	3.2			HSX	300	1	1	3
9406		SVTO	04	04	0801	N26	W13	04	3.3		A	HAX	180	3	3	3
9406		RAMY	04	04	1302	N27	W16	04	3.3		A	HSX	180	3	3	3
9406		HOLL	04	04	1706	N27	W18	04	3.3		A	HSX	100	2	3	2
9406		LEAR	04	05	0013	N26	W23	04	3.2		B	CAO	170	4	4	4
9406		SVTO	04	05	0650	N27	W27	04	3.2		B	DSO	150	2	3	3
9406		TACH	04	05	0940	N25	W26	04	3.4			HSX	250	1	2	3
9406		KAND	04	05	1120	N25	W29	04	3.2			HS		1	3	5
9406		RAMY	04	05	1235	N28	W28	04	3.3		A	HAX	100	1	3	3
9406		LEAR	04	06	0135	N27	W37	04	3.2		B	CAO	110	2	2	3
9406		TACH	04	06	0509	N30	W40	04	3.1			CSO	230	2	6	3
9406		KAND	04	06	0645	N25	W38	04	3.3			HS		1	3	5
9406		SVTO	04	06	0738	N29	W43	04	2.9		B	ESO	210	5	11	3
9406		RAMY	04	06	1150	N29	W41	04	3.3		A	HAX	90	1	2	3
9406	30393	MWIL	04	06	1445	N25	W42	04	3.4	5	(AP)					
9406		HOLL	04	06	1505	N27	W46	04	3.0		A	HSX	170	1	3	2
9406		LEAR	04	07	0048	N27	W49	04	3.2		A	HSX	180	1	3	4
9406		SVTO	04	07	0607	N27	W53	04	3.1		B	CAO	140	2	4	2
9406		RAMY	04	07	1208	N28	W52	04	3.4		A	HAX	110	1	2	3
9406		KAND	04	07	1210	N26	W54	04	3.3			HS		3	4	3
9406		HOLL	04	07	1406	N27	W55	04	3.3		A	HAX	160	2	3	3
9406		LEAR	04	08	0100	N27	W60	04	3.4		A	HAX	100	3	2	4
9406		TACH	04	08	0449	N27	W63	04	3.3			HSX	100	1	2	4
9406		RAMY	04	08	1242	N27	W68	04	3.2		A	HSX	90	1	2	2
9406		HOLL	04	08	1406	N26	W68	04	3.3		A	HAX	180	1	2	3
9406		LEAR	04	09	0006	N27	W72	04	3.4		A	HSX	60	1	1	4
9406		TACH	04	09	0633	N26	W72	04	3.7			HSX	25	1	2	3
9406		KAND	04	09	0645	N27	W78	04	3.2			HS		1	2	3
9406		SVTO	04	09	0655	N28	W80	04	3.0		A	HAX	120	1	8	3
9406		HOLL	04	09	1609	N26	W80	04	3.4		A	HSX	60	1	2	2

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9410		LEAR	03	28	0026	S36	E76	04	3.1		A	HRX	30	1		3
9410	30392	MWIL	03	28	1515	S37	E68	04	3.1	4	(AP)					
9410		HOLL	03	28	1605	S37	E67	04	3.1		A	AXX	10	2	1	2
9410		LEAR	03	29	0014	S37	E64	04	3.2		A	AXX	10	1		3
9410		KAND	03	29	0825	S36	E62	04	3.3			AX		1	1	2
9410		SVTO	03	29	1104	S37	E59	04	3.2		B	CRO	10	2	1	2
9410	30392	MWIL	03	29	1530	S36	E55	04	3.1	3	(AP)					
9410		LEAR	03	30	0040	S36	E49	04	3.0		A	AXX		2	1	4
9410		HOLL	03	30	1530	S37	E43	04	3.1		B	BXO	30	4	3	3
9410	30392	MWIL	03	30	1600	S38	E43	04	3.1	3	(AP)					
9410		LEAR	03	31	0150	S36	E38	04	3.1		A	AXX		1		4
9410	30392	MWIL	03	31	1500	S38	E29	04	3.0	3	(AP)					
9410		LEAR	04	01	0020	S36	E31	04	3.5		A	AXX		1		4
9410		SVTO	04	01	0630	S36	E27	04	3.4		A	AXX		1		3
9411	30394	MWIL	03	28	1515	N07	E80	04	3.6	3	AP					
9411		KAND	03	29	0825	N08	E73	04	3.8			AX		1	1	2
9411	30394	MWIL	03	29	1530	N07	E66	04	3.6	3	(AP)					
9411		TACH	03	30	0641	N07	E59	04	3.7			AXX	5	1	1	4
9411		HOLL	03	30	1530	N07	E53	04	3.6		A	AXX	20	2	2	3
9411	30394	MWIL	03	30	1600	N06	E52	04	3.5	4	(AP)					
9411		LEAR	03	31	0150	N08	E47	04	3.6		A	AXX		1		4
9411	30394	MWIL	03	31	1500	N08	E39	04	3.5	3	(AP)					
9411		RAMY	04	01	1200	N08	E27	04	3.5		B	BXO		2	2	4
9411	30394	MWIL	04	01	1500	N10	E22	04	3.3	3	AP					
9411		LEAR	04	05	0013	N10	W20	04	3.5		A	AXX		1		4
9411A		LEAR	04	07	0048	N33	W43	04	3.6		A	AXX		1		4
9419		SVTO	04	03	0630	N12	E13	04	4.2		A	AXX		1		3
9419		RAMY	04	03	1207	N08	E10	04	4.2		B	CSO	30	5	4	4
9419		HOLL	04	03	1430	N09	E08	04	4.2		B	BXO	20	7	3	3
9419		TACH	04	04	0620	N06	E02	04	4.4			AXX	3	1	1	3
9419		SVTO	04	04	0801	N07	E00	04	4.3		A	AXX		2	1	3
9419		RAMY	04	04	1302	N08	W03	04	4.3		B	CSO	10	6	4	3
9419		HOLL	04	04	1706	N10	W05	04	4.3		B	CSO	20	3	3	2
9419		SVTO	04	07	0607	N08	W42	04	4.1		A	AXX	10	2	1	2
9419		HOLL	04	10	1438	N08	W79	04	4.7		A	AXX	10	1	1	4
9421		SVTO	04	07	0607	S15	W33	04	4.7		B	CSO	10	2	4	2
9421		RAMY	04	07	1208	S14	W35	04	4.9		B	CRO	10	3	5	3
9421		KAND	04	07	1210	S16	W35	04	4.8			CRO		4	5	3
9421		HOLL	04	07	1406	S15	W37	04	4.8		B	CAO	20	2	4	3
9421		LEAR	04	08	0100	S15	W43	04	4.8		B	CSO	20	2	6	4
9421		TACH	04	08	0449	S16	W47	04	4.6			AXX	5	1	1	4
9421		RAMY	04	08	1242	S16	W53	04	4.5		A	HSX	10	1	1	2
9421		HOLL	04	08	1406	S16	W54	04	4.5		A	HSX	20	1	1	3
9421		LEAR	04	09	0006	S16	W58	04	4.6		B	CSO	30	2	4	4
9421		TACH	04	09	0633	S16	W62	04	4.6			AXX	10	1	1	3
9421		KAND	04	09	0645	S16	W63	04	4.5			AX		1	1	3
9421		SVTO	04	09	0655	S15	W64	04	4.4		A	HSX	20	1	1	3
9421		HOLL	04	09	1609	S16	W68	04	4.5		A	HSX	50	1	2	2
9412		HOLL	03	30	1530	S14	E83	04	5.9		B	BXO	30	2	2	3
9412	30396	MWIL	03	30	1600	S14	E80	04	5.7	4	AP					
9412		LEAR	03	31	0150	S13	E77	04	5.9		B	DSO	60	2	2	4
9412		TACH	03	31	0447	S14	E77	04	6.0			AXX	10	2	1	4
9412		RAMY	03	31	1250	S16	E69	04	5.8		B	DSO	60	2	3	3
9412		HOLL	03	31	1445	S15	E69	04	5.8		A	HAX	40	2	2	3
9412	30396	MWIL	03	31	1500	S14	E69	04	5.8	4	(AP)					
9412		SVTO	03	31	1500	S14	E70	04	5.9		A	HAX	30	2	2	3
9412		LEAR	04	01	0020	S13	E64	04	5.8		B	DRO	50	3	2	4
9412		SVTO	04	01	0630	S14	E59	04	5.7		B	DSO	40	2	2	3
9412		RAMY	04	01	1200	S14	E57	04	5.8		B	DSO	30	2	2	4
9412	30396	MWIL	04	01	1500	S14	E56	04	5.8	4	(AP)					
9412		HOLL	04	01	1545	S14	E56	04	5.9		B	CSO	30	3	1	3
9412		LEAR	04	02	0020	S13	E51	04	5.9		A	HAX	60	2	1	4
9412		TACH	04	02	0539	S14	E49	04	5.9			AR	20	2	1	2
9412		SVTO	04	02	0703	S14	E47	04	5.8		B	BXO	10	2	1	3

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

APRIL 2001

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
9412		LEAR	04	03	0033	S13	E37	04	5.8		A	AXX	10	3	1	4
9412		TACH	04	03	0508	S15	E35	04	5.9			AXX	20	1	1	4
9412		SVTO	04	03	0630	S14	E35	04	5.9		B	CRO	10	2	1	3
9412		KAND	04	03	0820	S13	E33	04	5.8			AX		1	1	3
9412		RAMY	04	03	1207	S17	E31	04	5.9		B	CSO	20	2	3	4
9412		HOLL	04	03	1430	S14	E30	04	5.9		A	AXX	10	1	1	3
9412		LEAR	04	04	0044	S13	E24	04	5.8		A	HRX	10	1		4
9412		TACH	04	04	0620	S13	E21	04	5.8			AXX	5	1	1	3
9412		SVTO	04	04	0801	S14	E21	04	5.9		A	AXX		1		3
9412		RAMY	04	04	1302	S15	E18	04	5.9		A	AXX		1	1	3
9412		HOLL	04	04	1706	S14	E16	04	5.9		A	AXX	10	1	1	2
9412		LEAR	04	05	0013	S15	E12	04	5.9		A	AXX		1		4
9412		SVTO	04	05	0650	S14	E08	04	5.9		A	AXX		1		3
9412		TACH	04	05	0940	S13	E07	04	5.9			AXX	5	1	1	3
9412		KAND	04	05	1120	S13	E07	04	6.0			AX		1		5
9412		RAMY	04	05	1235	S14	E05	04	5.9		A	AXX		1	1	3
9412		LEAR	04	06	0135	S16	W01	04	6.0		B	BXX	10	2	3	3
9412B	30402	MWIL	04	06	1445	S28	W02	04	6.4	4	(AP)					
9412A		LEAR	04	06	0135	N27	E07	04	6.6		A	AXX		1		3
9412A	30403	MWIL	04	06	1445	N24	W01	04	6.5	3	(B)					
9412A		HOLL	04	06	1505	N27	W06	04	6.2		B	BXO	10	3	3	2
9414A		LEAR	04	03	0033	S10	E55	04	7.1		A	AXX		1		4
9414A		LEAR	04	04	0044	S10	E41	04	7.1		A	AXX		1		4
9414	30400	MWIL	04	01	1500	S21	E75	04	7.4	2	(AF)					
9414		HOLL	04	01	1545	S21	E75	04	7.4		A	AXX		1		3
9414		LEAR	04	02	0020	S21	E70	04	7.4		A	HSX	30	1	1	4
9414		TACH	04	02	0539	S22	E67	04	7.4			AXX	10	1	1	2
9414		SVTO	04	02	0703	S22	E67	04	7.4		A	HRX	10	1	1	3
9414		LEAR	04	03	0033	S20	E55	04	7.2		A	HRX	10	1		4
9414		TACH	04	03	0508	S22	E52	04	7.2			AXX	20	1	1	4
9414		SVTO	04	03	0630	S22	E54	04	7.4		A	HRX	20	1	1	3
9414		KAND	04	03	0820	S21	E51	04	7.2			AX		1	1	3
9414		RAMY	04	03	1207	S24	E49	04	7.3		A	HSX	20	1	1	4
9414		HOLL	04	03	1430	S22	E48	04	7.3		A	AXX	10	1	1	3
9414		LEAR	04	04	0044	S21	E43	04	7.3		A	HRX	10	1		4
9414		TACH	04	04	0620	S21	E40	04	7.3			AXX	3	1	1	3
9414		SVTO	04	04	0801	S22	E39	04	7.3		A	AXX		1		3
9414		RAMY	04	04	1302	S23	E36	04	7.3		A	HSX	10	1	1	3
9414		HOLL	04	04	1706	S22	E34	04	7.3		A	AXX	10	1	1	2
9414		LEAR	04	05	0013	S22	E31	04	7.4		A	AXX		1		4
9414		SVTO	04	05	0650	S22	E30	04	7.6		A	AXX		1		3
9414		RAMY	04	05	1235	S25	E29	04	7.8		A	AXX		1	1	3
9414	30400	MWIL	04	06	1445	S27	E08	04	7.2	3	(B)					
9417		SVTO	04	03	0630	S11	E62	04	7.9		A	AXX		1		3
9417		KAND	04	03	0820	S10	E61	04	7.9			AX		1	1	3
9417		HOLL	04	03	1430	S10	E57	04	7.9		A	AXX	10	1	1	3
9417		HOLL	04	04	1706	S08	E43	04	7.9		A	AXX	10	1	1	2
9417		LEAR	04	05	0013	S08	E41	04	8.1		B	DSO	60	12	5	4
9417		SVTO	04	05	0650	S08	E36	04	8.0		B	DSO	60	10	6	3
9417		TACH	04	05	0940	S07	E35	04	8.0			CAI	160	5	5	3
9417		KAND	04	05	1120	S07	E34	04	8.0			CAO		9	6	5
9417		RAMY	04	05	1235	S09	E33	04	8.0		B	DAO	40	16	6	3
9417		LEAR	04	06	0135	S08	E27	04	8.1		B	DSO	110	11	6	3
9417		TACH	04	06	0509	S08	E23	04	7.9			DAO	300	3	5	3
9417		KAND	04	06	0645	S08	E22	04	7.9			DAO		15	8	5
9417		SVTO	04	06	0738	S07	E23	04	8.0		B	DAO	280	13	8	3
9417		RAMY	04	06	1150	S09	E20	04	8.0		B	DAO	160	11	6	3
9417	30404	MWIL	04	06	1445	S09	E19	04	8.0	5	(BF)					
9417		HOLL	04	06	1505	S08	E14	04	7.7		B	DAI	190	17	8	2
9417		LEAR	04	07	0048	S08	E13	04	8.0		B	DAI	140	18	8	4
9417		SVTO	04	07	0607	S08	E10	04	8.0		B	DAI	190	18	8	2
9417		RAMY	04	07	1208	S09	E07	04	8.0		B	DAO	170	17	8	3
9417		KAND	04	07	1210	S08	E06	04	7.9			DAO		19	9	3
9417		HOLL	04	07	1406	S08	E05	04	8.0		B	DAO	160	25	10	3

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APRIL 2001

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
9417		LEAR	04	08	0100	S09	E01	04	8.1		B	DAO	190	24	10	4
9417		TACH	04	08	0449	S09	W02	04	8.0			CAI	117	10	6	4
9417		RAMY	04	08	1242	S09	W07	04	8.0		B	DAO	60	15	8	2
9417		HOLL	04	08	1406	S08	W08	04	8.0		B	DAO	120	20	8	3
9417		LEAR	04	09	0006	S09	W15	04	7.9		B	DAO	120	13	9	4
9417		TACH	04	09	0633	S09	W17	04	8.0			CAO	165	4	7	3
9417		KAND	04	09	0645	S08	W17	04	8.0			DAO		6	9	3
9417		SVTO	04	09	0655	S08	W16	04	8.1		B	DAO	150	5	9	3
9417		RAMY	04	09	1321	S07	W20	04	8.0		B	DSO	90	7	8	1
9417		HOLL	04	09	1609	S07	W23	04	7.9		B	DAO	80	11	9	2
9417		LEAR	04	10	0105	S08	W26	04	8.1		BG	DAO	80	14	10	3
9417		TACH	04	10	0524	S08	W25	04	8.3			DAI	193	17	6	4
9417		SVTO	04	10	1130	S07	W32	04	8.1		B	DAO	40	10	10	3
9417		RAMY	04	10	1222	S07	W34	04	8.0		B	EAO	80	6	11	3
9417		HOLL	04	10	1438	S08	W35	04	8.0		B	ESO	130	14	11	4
9417	30408	MWIL	04	10	1515	S05	W33	04	8.2	4	(B)					
9417	30404	MWIL	04	10	1515	S09	W36	04	7.9	4	(B)					
9417		LEAR	04	11	0224	S07	W41	04	8.0		B	DAO	80	18	8	3
9417		TACH	04	11	0649	S08	W43	04	8.1			CAI	197	12	6	2
9417		SVTO	04	11	0750	S07	W47	04	7.8		B	DAO	130	18	11	2
9417		KAND	04	11	0930	S05	W45	04	8.0			DAO		9	9	3
9417		KAND	04	11	0930	S10	W41	04	8.3			AX		1		3
9417		RAMY	04	11	1341	S06	W48	04	8.0		B	DAO	110	11	8	3
9417		HOLL	04	11	1458	S07	W48	04	8.0		B	DSO	130	10	7	2
9417		LEAR	04	12	0018	S07	W53	04	8.0		B	DAO	120	12	8	5
9417		TACH	04	12	0557	S07	W56	04	8.0			CSI	150	4	6	3
9417		KAND	04	12	0710	S05	W56	04	8.1			DSO		3	7	3
9417		KAND	04	12	0710	S10	W55	04	8.2			AX		1		3
9417		SVTO	04	12	0815	S06	W58	04	8.0		B	DAO	110	9	7	2
9417		RAMY	04	12	1315	S03	W63	04	7.8		B	DAO	80	3	10	3
9417	30408	MWIL	04	12	1500	S05	W60	04	8.1	5	(B)					
9417		HOLL	04	12	1530	S06	W62	04	8.0		B	DSO	160	3	7	2
9417		LEAR	04	13	0002	S08	W67	04	8.0		BG	DAO	110	9	7	5
9417		TACH	04	13	0523	S05	W68	04	8.1			CSI	98	5	8	4
9417		SVTO	04	13	1317	S05	W75	04	7.9		B	DAO	120	4	9	2
9417		HOLL	04	13	1430	S06	W78	04	7.8		B	EAO	120	6	11	3
9417	30408	MWIL	04	13	2030	S04	W78	04	8.0	5	B					
9417		LEAR	04	14	0016	S05	W79	04	8.1		BG	DAO	90	4	6	4
9417A		LEAR	04	12	0018	N18	W50	04	8.2		A	AXX		1		5
9425		SVTO	04	04	0801	S26	E51	04	8.3		A	AXX		2	1	3
9425		HOLL	04	04	1706	S27	E46	04	8.3		A	AXX	10	1	1	2
9425		LEAR	04	05	0013	S27	E43	04	8.3		B	CRO	20	4	3	4
9425		SVTO	04	05	0650	S25	E37	04	8.1		A	AXX		1		3
9425		KAND	04	05	1120	S24	E34	04	8.1			AX		1	1	5
9425		LEAR	04	06	0135	S24	E26	04	8.1		A	AXX	10	1	1	3
9425		HOLL	04	07	1406	S26	E09	04	8.3		B	BXO	10	5	3	3
9425		RAMY	04	09	1321	S25	W21	04	7.9		B	CSO	30	2	3	1
9425		HOLL	04	09	1609	S24	W22	04	8.0		B	BXO	10	5	3	2
9425		LEAR	04	10	0105	S24	W27	04	7.9		B	BHO	30	5	5	3
9425		TACH	04	10	0524	S24	W28	04	8.1			BRO	23	3	4	4
9425		SVTO	04	10	1130	S25	W32	04	8.0		B	HRX	20	2	6	3
9425		RAMY	04	10	1222	S24	W34	04	7.9		B	DSO	20	2	7	3
9425		HOLL	04	10	1438	S25	W34	04	8.0		B	CSO	40	4	4	4
9425	30400	MWIL	04	10	1515	S24	W34	04	8.0	4	(B)					
9425		LEAR	04	11	0224	S25	W39	04	8.1		A	AXX	10	1		3
9425		TACH	04	11	0649	S25	W40	04	8.2			AXX	5	1	1	2
9425		SVTO	04	11	0750	S24	W43	04	8.0		A	HSX	10	1	1	2
9425		RAMY	04	11	1341	S23	W47	04	7.9		B	BXO		2	3	3
9423		LEAR	04	08	0100	N21	E15	04	9.2		B	BXO		2		4
9423		RAMY	04	08	1242	N21	E09	04	9.2		B	BXO		3	2	2
9423		HOLL	04	08	1406	N21	E08	04	9.2		B	BXO	10	5	3	3
9423		LEAR	04	09	0006	N20	E03	04	9.2		B	BXO	10	4	3	4
9423		KAND	04	09	0645	N19	W01	04	9.2			BXO		2	2	3
9423		SVTO	04	09	0655	N21	W01	04	9.2		B	CSO	20	3	4	3
9423		HOLL	04	09	1609	N20	W07	04	9.1		A	AXX	10	3	2	2
9423		LEAR	04	10	0105	N19	W12	04	9.1		A	HRX	10	2	2	3

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
9423		LEAR	04	11	0224	N19	W27	04	9.0		B	BXO	10	2	2	3
9423		TACH	04	11	0649	N20	W28	04	9.1			AR	4	2	2	2
9423		SVTO	04	11	0750	N22	W31	04	8.9		B	DSO	30	2	2	2
9423		LEAR	04	12	0018	N20	W39	04	9.0		B	BXO	10	3	2	5
9415		LEAR	04	03	0033	S21	E81	04	9.2		A	HSX	180	2	4	4
9415		TACH	04	03	0508	S21	E84	04	9.6			DAO	220	3	6	4
9415		SVTO	04	03	0630	S22	E85	04	9.8		B	EAO	330	3	11	3
9415		KAND	04	03	0820	S19	E82	04	9.6			DKO		2	10	3
9415		RAMY	04	03	1207	S23	E78	04	9.5		B	DKO	660	3	10	4
9415		HOLL	04	03	1430	S21	E76	04	9.4		B	DKI	720	11	8	3
9415		LEAR	04	04	0044	S20	E71	04	9.5		B	DKO	750	8	10	4
9415		TACH	04	04	0620	S20	E69	04	9.5			DAO	510	3	5	3
9415		SVTO	04	04	0801	S21	E70	04	9.7		B	DKO	890	10	10	3
9415		RAMY	04	04	1302	S23	E65	04	9.5		B	DKO	580	8	10	3
9415		HOLL	04	04	1706	S21	E64	04	9.6		B	EKI	360	12	11	2
9415		LEAR	04	05	0013	S20	E60	04	9.6		BG	EKI	760	19	11	4
9415		SVTO	04	05	0650	S21	E57	04	9.6		BG	DKI	720	30	10	3
9415		TACH	04	05	0940	S20	E55	04	9.6			DAI	605	6	5	3
9415		KAND	04	05	1120	S20	E54	04	9.6			DKC		11	10	5
9415		RAMY	04	05	1235	S22	E52	04	9.5		BG	DKO	630	9	10	3
9415		LEAR	04	06	0135	S22	E46	04	9.6		BG	DKI	530	11	10	3
9415		TACH	04	06	0509	S21	E45	04	9.7			DAO	1304	6	7	3
9415		KAND	04	06	0645	S22	E42	04	9.5			DKO		12	10	5
9415		SVTO	04	06	0738	S21	E42	04	9.5		BG	EKI	1010	11	11	3
9415		RAMY	04	06	1150	S21	E39	04	9.5		BG	DKO	620	10	10	3
9415	30407	MWIL	04	06	1445	S22	E39	04	9.6	6	(D)					
9415		HOLL	04	06	1505	S22	E35	04	9.3		BG	DKO	990	14	10	2
9415		LEAR	04	07	0048	S21	E34	04	9.6		BG	EKO	980	16	11	4
9415		SVTO	04	07	0607	S21	E31	04	9.6		BG	EKO	750	16	12	2
9415		RAMY	04	07	1208	S22	E26	04	9.5		BG	DKO	850	22	10	3
9415		KAND	04	07	1210	S21	E26	04	9.5			DKO		22	10	3
9415		HOLL	04	07	1406	S21	E26	04	9.6		BG	EKI	850	39	12	3
9415		LEAR	04	08	0100	S21	E21	04	9.6		BG	EKO	820	37	11	4
9415		TACH	04	08	0449	S21	E19	04	9.6			DAI	1166	13	7	4
9415		RAMY	04	08	1242	S21	E15	04	9.7		BG	EKO	700	21	11	2
9415		HOLL	04	08	1406	S22	E13	04	9.6		BG	EKI	820	39	13	3
9415		LEAR	04	09	0006	S22	E08	04	9.6		BGD	EKI	670	37	12	4
9415		TACH	04	09	0633	S20	E05	04	9.6			DAI	1655	12	8	3
9415		KAND	04	09	0645	S21	E05	04	9.7			EKI		19	13	3
9415		SVTO	04	09	0655	S22	E04	04	9.6		BG	EKI	870	33	15	3
9415		RAMY	04	09	1321	S23	E01	04	9.6		BG	EKO	790	8	11	1
9415		HOLL	04	09	1609	S22	W02	04	9.5		BG	EKI	760	34	12	2
9415		LEAR	04	10	0105	S23	W06	04	9.6		BGD	EKI	450	38	12	3
9415		TACH	04	10	0524	S22	W06	04	9.8			DAI	911	39	8	4
9415		SVTO	04	10	1130	S22	W12	04	9.5		BG	EKI	540	30	13	3
9415		RAMY	04	10	1222	S22	W12	04	9.6		BG	EKO	680	12	11	3
9415		HOLL	04	10	1438	S23	W15	04	9.4		BG	EKI	490	49	12	4
9415	30407	MWIL	04	10	1515	S21	W14	04	9.6	5	(D)					
9415		LEAR	04	11	0224	S22	W20	04	9.6		BGD	EKI	660	25	12	3
9415		SVTO	04	11	0750	S22	W25	04	9.4		BG	FKI	580	30	16	2
9415		KAND	04	11	0930	S22	W24	04	9.5			EKO		15	12	3
9415		RAMY	04	11	1341	S21	W26	04	9.6		BG	EKI	450	17	11	3
9415		HOLL	04	11	1458	S21	W27	04	9.5		BGD	EKI	500	20	12	2
9415		LEAR	04	12	0018	S22	W33	04	9.5		BGD	EKI	530	30	11	5
9415		KAND	04	12	0710	S21	W35	04	9.6			EKC		16	11	3
9415		SVTO	04	12	0815	S21	W38	04	9.4		B	DKI	460	18	10	2
9415		RAMY	04	12	1315	S20	W41	04	9.4		B	DKO	580	9	10	3
9415	30407	MWIL	04	12	1500	S21	W41	04	9.5	5	(D)					
9415		HOLL	04	12	1530	S23	W41	04	9.5		BGD	DKI	450	28	8	2
9415		LEAR	04	13	0002	S22	W46	04	9.5		BGD	DKI	320	19	9	5
9415		TACH	04	13	0523	S21	W47	04	9.6			DAI	461	17	5	4
9415		SVTO	04	13	1317	S21	W54	04	9.4		BGD	DKI	440	9	9	2
9415		HOLL	04	13	1430	S22	W55	04	9.4		BGD	DKI	470	22	8	3
9415	30407	MWIL	04	13	2030	S21	W58	04	9.4	5	(B)					
9415		LEAR	04	14	0016	S22	W58	04	9.5		BGD	DKI	290	11	7	4
9415		RAMY	04	14	1155	S20	W67	04	9.4		BG	DKO	390	6	7	3
9415		HOLL	04	14	1358	S23	W68	04	9.3		BG	DKO	410	8	7	3
9415	30407	MWIL	04	14	1500	S21	W68	04	9.4	4	(B)					

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
9415		LEAR	04	15	0121	S22	W74	04	9.4		BG	DKO	530	4	8	3
9415		KAND	04	15	0800	S22	W77	04	9.4			DAO		3	6	3
9415		TACH	04	15	0850	S22	W76	04	9.5			DAI	253	5	5	4
9415		SVTO	04	15	1030	S21	W81	04	9.2		B	DKO	360	6	10	2
9415		RAMY	04	15	1257	S20	W79	04	9.5		B	DKO	300	3	10	4
9415	30407	MWIL	04	15	1400	S21	W80	04	9.4	5	B					
9415		HOLL	04	15	1436	S22	W84	04	9.1		B	EKO	240	5	11	3
9415		LEAR	04	16	0045	S22	W87	04	9.3		BG	DKO	210	3	10	4
9415B		TACH	04	11	0649	S11	W20	04	9.8			DAI	870	19	10	2
9415B		TACH	04	12	0557	S11	W36	04	9.5			DAI	926	6	5	3
9415A		LEAR	04	09	0006	N12	E14	04	10.0		A	AXX		1		4
9415A		LEAR	04	12	0018	N15	W25	04	10.1		A	AXX		2	1	5
9418		LEAR	04	04	0044	N26	E81	04	10.3		A	HSX	120	1	7	4
9418		TACH	04	04	0620	N27	E75	04	10.1			HSX	20	1	2	3
9418		SVTO	04	04	0801	N26	E78	04	10.4		A	HSX	180	1	2	3
9418		RAMY	04	04	1302	N24	E74	04	10.3		A	HSX	120	1	3	3
9418		HOLL	04	04	1706	N26	E71	04	10.2		B	CAO	110	4	2	2
9418		LEAR	04	05	0013	N27	E69	04	10.4		B	EKO	330	9	11	4
9418		SVTO	04	05	0650	N28	E68	04	10.6		B	DAO	190	7	12	3
9418		TACH	04	05	0940	N26	E63	04	10.3			DSO	160	3	6	3
9418		KAND	04	05	1120	N27	E64	04	10.4			DSO		3	8	5
9418		RAMY	04	05	1235	N25	E66	04	10.6		B	EAO	150	7	11	3
9418		LEAR	04	06	0135	N26	E56	04	10.4		B	DAO	130	8	10	3
9418		TACH	04	06	0509	N26	E52	04	10.2			DSO	200	4	7	3
9418		KAND	04	06	0645	N27	E53	04	10.4			EAO		5	11	5
9418		SVTO	04	06	0738	N28	E55	04	10.6		B	DAO	240	6	10	3
9418		RAMY	04	06	1150	N26	E53	04	10.6		B	EAO	210	8	13	3
9418	30405	MWIL	04	06	1445	N26	E49	04	10.4	5	(BP)					
9418		HOLL	04	06	1505	N26	E47	04	10.3		B	ESO	240	10	12	2
9418		LEAR	04	07	0048	N26	E44	04	10.4		B	ESO	190	13	11	4
9418		SVTO	04	07	0607	N27	E42	04	10.5		B	ESO	180	6	13	2
9418		RAMY	04	07	1208	N26	E38	04	10.4		B	DAO	240	8	9	3
9418		KAND	04	07	1210	N27	E36	04	10.3			DAO		9	8	3
9418		HOLL	04	07	1406	N27	E37	04	10.5		B	EAO	230	16	11	3
9418		LEAR	04	08	0100	N27	E31	04	10.4		B	EAO	230	22	12	4
9418		TACH	04	08	0449	N26	E28	04	10.4			CAI	178	8	7	4
9418		RAMY	04	08	1242	N27	E25	04	10.5		B	EAO	210	15	12	2
9418		HOLL	04	08	1406	N27	E24	04	10.4		B	EAO	250	19	13	3
9418		LEAR	04	09	0006	N27	E19	04	10.5		B	EAO	200	19	12	4
9418		TACH	04	09	0633	N27	E14	04	10.4			CAI	171	10	9	3
9418		KAND	04	09	0645	N26	E15	04	10.4			ESO		11	11	3
9418		SVTO	04	09	0655	N27	E17	04	10.6		BG	EAO	250	17	12	3
9418		RAMY	04	09	1321	N26	E11	04	10.4		B	DSO	130	5	8	1
9418		HOLL	04	09	1609	N27	E10	04	10.4		B	EAO	190	12	11	2
9418		LEAR	04	10	0105	N27	E04	04	10.3		B	DAO	190	11	10	3
9418		TACH	04	10	0524	N26	E03	04	10.4			CAI	237	14	6	4
9418		SVTO	04	10	1130	N25	W01	04	10.4		B	EAO	160	15	11	3
9418		RAMY	04	10	1222	N26	W01	04	10.4		B	DSO	240	7	9	3
9418		HOLL	04	10	1438	N27	W02	04	10.4		B	DHO	170	16	9	4
9418	30405	MWIL	04	10	1515	N27	W04	04	10.3	5	(BP)					
9418		LEAR	04	11	0224	N27	W09	04	10.4		B	ESO	210	9	12	3
9418		TACH	04	11	0649	N26	W12	04	10.3			DSO	263	4	8	2
9418		SVTO	04	11	0750	N27	W13	04	10.3		B	EAO	240	7	14	2
9418		KAND	04	11	0930	N26	W14	04	10.3			ESO		3	11	3
9418		RAMY	04	11	1341	N27	W14	04	10.5		B	ESO	90	5	11	3
9418		HOLL	04	11	1458	N27	W15	04	10.4		B	ESO	120	7	11	2
9418		LEAR	04	12	0018	N26	W21	04	10.4		B	ESO	120	7	12	5
9418		TACH	04	12	0557	N26	W21	04	10.6			CAO	117	3	10	3
9418		KAND	04	12	0710	N26	W25	04	10.3			DSO		2	10	3
9418		SVTO	04	12	0815	N28	W24	04	10.5		B	EAO	140	3	12	2
9418		RAMY	04	12	1315	N28	W27	04	10.4		B	ESO	90	2	11	3
9418	30405	MWIL	04	12	1500	N27	W28	04	10.4	5	(BP)					
9418		HOLL	04	12	1530	N25	W30	04	10.3		B	EAO	100	3	12	2
9418		LEAR	04	13	0002	N26	W33	04	10.4		BG	ESO	100	5	11	5
9418		TACH	04	13	0523	N26	W35	04	10.5			CAO	232	5	11	4
9418		SVTO	04	13	1317	N27	W41	04	10.3		BG	ESO	120	4	13	2

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
9418		HOLL	04	13	1430	N25	W42	04	10.3		B	EAO	140	5	12	3
9418	30405	MWIL	04	13	2030	N27	W45	04	10.3	5	(BP)					
9418		LEAR	04	14	0016	N25	W45	04	10.5		BG	EAO	210	9	11	4
9418		RAMY	04	14	1155	N27	W54	04	10.3		B	EAO	150	5	11	3
9418		HOLL	04	14	1358	N25	W55	04	10.3		B	ESO	220	7	12	3
9418	30405	MWIL	04	14	1500	N26	W55	04	10.3	5	(BG)					
9418		LEAR	04	15	0121	N25	W60	04	10.4		BG	ESO	180	6	11	3
9418		KAND	04	15	0800	N24	W62	04	10.5			ESO		5	12	3
9418		TACH	04	15	0850	N25	W61	04	10.6			DAO	42	3	11	4
9418		SVTO	04	15	1030	N27	W68	04	10.1		B	EAO	160	5	13	2
9418		RAMY	04	15	1257	N27	W66	04	10.4		B	EHO	150	2	12	4
9418	30405	MWIL	04	15	1400	N26	W66	04	10.4	4	(BG)					
9418		HOLL	04	15	1436	N25	W67	04	10.4		B	EAO	180	4	13	3
9418		LEAR	04	16	0045	N27	W72	04	10.4		BG	EAO	120	5	13	4
9418		KAND	04	16	0650	N24	W68	04	11.0			HS		3	3	4
9418	30405	MWIL	04	16	1430	N26	W75	04	10.8	4	(B)					
9418		HOLL	04	16	1526	N25	W72	04	11.1		A	HSX	30	1	1	1
9427		TACH	04	11	0649	S07	E01	04	11.3			CSO	105	4	7	2
9427		SVTO	04	11	0750	S03	W04	04	11.0		B	DRO	30	4	2	2
9427		KAND	04	11	0930	S08	W04	04	11.1			AX		3	1	3
9427		RAMY	04	11	1341	S08	W07	04	11.0		B	DAO	20	5	3	3
9427		HOLL	04	11	1458	S07	W08	04	11.0		B	CAO	30	7	4	2
9427		LEAR	04	12	0018	S08	W13	04	11.0		B	DSO	20	5	4	5
9427		KAND	04	12	0710	S08	W15	04	11.2			DSO		4	5	3
9427		SVTO	04	12	0815	S08	W17	04	11.1		B	DAO	80	6	5	2
9427		RAMY	04	12	1315	S07	W20	04	11.0		B	DSO	40	3	7	3
9427	30411	MWIL	04	12	1500	S08	W21	04	11.0	4	(B)					
9427		HOLL	04	12	1530	S07	W22	04	11.0		B	DAO	70	4	4	2
9427		HOLL	04	12	1530	S09	W19	04	11.2		B	DAO	110	5	10	2
9427		LEAR	04	13	0002	S08	W27	04	11.0		B	DAO	50	9	5	5
9427		SVTO	04	13	1317	S08	W34	04	11.0		B	DAO	80	3	6	2
9427		HOLL	04	13	1430	S09	W31	04	11.3		B	CAO	60	7	5	3
9427	30411	MWIL	04	13	2030	S07	W36	04	11.1	4	(BF)					
9427		LEAR	04	14	0016	S08	W38	04	11.2		B	CSO	50	6	5	4
9427		RAMY	04	14	1155	S07	W47	04	11.0		B	CSO	10	3	3	3
9427		HOLL	04	14	1358	S08	W46	04	11.1		A	AXX	10	3	1	3
9427	30411	MWIL	04	14	1500	S07	W47	04	11.1	5	(BF)					
9427		LEAR	04	15	0121	S09	W52	04	11.1		A	HSX	20	1	1	3
9427		KAND	04	15	0800	S09	W54	04	11.3			AX		3	2	3
9427		SVTO	04	15	1030	S07	W58	04	11.1		A	AXX	20	2	2	2
9427		RAMY	04	15	1257	S07	W57	04	11.3		A	HSX	20	1	2	4
9427	30411	MWIL	04	15	1400	S08	W59	04	11.1	3	(AF)					
9427		HOLL	04	15	1436	S08	W60	04	11.1		A	AXX	10	2	1	3
9427		LEAR	04	16	0045	S06	W68	04	10.9		A	AXX	20	2	4	4
9427		KAND	04	16	0650	S07	W72	04	10.9			AX		1	1	4
9427		RAMY	04	16	1230	S04	W72	04	11.1		A	HSX	10	1	2	4
9424		LEAR	04	08	0100	S16	E45	04	11.4		A	AXX		1		4
9424		RAMY	04	08	1242	S16	E41	04	11.6		B	BXO		2	2	2
9424		HOLL	04	08	1406	S16	E39	04	11.5		B	BXO	10	7	6	3
9424		LEAR	04	09	0006	S16	E34	04	11.6		B	CSO	20	2	5	4
9424		KAND	04	09	0645	S16	E32	04	11.7			AX		1		3
9424		SVTO	04	09	0655	S17	E32	04	11.7		A	HRX	10	1	1	3
9424		LEAR	04	10	0105	S16	E21	04	11.6		A	AXX		1		3
9424		SVTO	04	10	1130	S17	E16	04	11.7		A	HAX	30	2	3	3
9424		RAMY	04	10	1222	S17	E16	04	11.7		A	HSX	20	1	1	3
9424		HOLL	04	10	1438	S18	E17	04	11.9		A	HSX	20	3	2	4
9424	30409	MWIL	04	10	1515	S17	E15	04	11.8	4	(AF)					
9424		LEAR	04	11	0224	S17	E08	04	11.7		B	BXO	10	7	6	3
9424		TACH	04	11	0649	S15	E02	04	11.4			BXO	30	2	2	2
9424		SVTO	04	11	0750	S17	E03	04	11.5		B	DRO	50	4	3	2
9424		RAMY	04	11	1341	S17	W02	04	11.4		B	DAO	40	11	6	3
9424		HOLL	04	11	1458	S17	W04	04	11.3		B	DAO	70	7	5	2
9424		LEAR	04	12	0018	S17	W07	04	11.5		B	DSO	50	18	8	5
9424		TACH	04	12	0557	S16	W08	04	11.6			BRI	60	6	6	3
9424		KAND	04	12	0710	S17	W10	04	11.5			DSO		6	6	3
9424		SVTO	04	12	0815	S17	W13	04	11.3		B	DAO	70	8	7	2
9424		RAMY	04	12	1315	S17	W14	04	11.5		B	DSO	50	7	6	3

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9424	30409	MWIL	04	12	1500	S17	W15	04	11.5	4	(B)					
9424		HOLL	04	12	1530	S18	W16	04	11.4		B	DAO	80	9	8	2
9424		LEAR	04	13	0002	S17	W21	04	11.4		B	DSO	20	10	7	5
9424		TACH	04	13	0523	S17	W22	04	11.5			BRO	38	5	6	4
9424		SVTO	04	13	1317	S18	W27	04	11.5		B	DSO	20	2	6	2
9424		HOLL	04	13	1430	S18	W29	04	11.4		B	DAO	40	2	7	3
9424	30409	MWIL	04	13	2030	S17	W32	04	11.4	3	(B)					
9424		LEAR	04	14	0016	S18	W33	04	11.5		B	DSO	20	3	8	4
9424		RAMY	04	14	1155	S17	W40	04	11.4		B	DSO	10	4	7	3
9424		HOLL	04	14	1358	S18	W42	04	11.4		B	BXO	10	4	8	3
9424	30409	MWIL	04	14	1500	S18	W42	04	11.4	4	(B)					
9424		LEAR	04	15	0121	S18	W51	04	11.2		A	HRX	10	1	1	3
9424		KAND	04	15	0800	S19	W54	04	11.2			HR		1	1	3
9424		TACH	04	15	0850	S18	W54	04	11.2			AXX	1	1	1	4
9424		SVTO	04	15	1030	S16	W55	04	11.3		B	CRO	30	2	4	2
9424		RAMY	04	15	1257	S16	W55	04	11.4		B	CSO	30	3	7	4
9424	30409	MWIL	04	15	1400	S17	W55	04	11.4	4	(B)					
9424		HOLL	04	15	1436	S17	W56	04	11.3		B	BXO	20	5	8	3
9424		LEAR	04	16	0045	S16	W60	04	11.5		B	CRO	40	5	5	4
9424		TACH	04	16	0547	S17	W59	04	11.7			AXX	10	1	1	3
9424		KAND	04	16	0650	S19	W60	04	11.7			AX		2	1	4
9424		RAMY	04	16	1230	S15	W67	04	11.4		B	CSO		2	1	4
9424	30409	MWIL	04	16	1430	S16	W68	04	11.4	4	(BF)					
9424		HOLL	04	16	1526	S18	W66	04	11.6		A	AXX	20	2	1	1
9424		LEAR	04	17	0050	S15	W73	04	11.5		B	BXO	20	2	1	4
9424		TACH	14	10	0524	S16	E20	14	11.7			AR	6	2	2	4
9420		SVTO	04	05	0650	S06	E85	04	11.6		A	HRX	60	1	3	3
9420		KAND	04	05	1120	S06	E83	04	11.7			HS		1	2	5
9420		RAMY	04	05	1235	S09	E81	04	11.6		A	HSX	30	1	2	3
9420		LEAR	04	06	0135	S06	E75	04	11.7		A	HSX	60	2	2	3
9420		TACH	04	06	0509	S04	E71	04	11.5			HSX	40	1	2	3
9420		KAND	04	06	0645	S06	E72	04	11.7			HA		1	2	5
9420		SVTO	04	06	0738	S05	E70	04	11.5		A	HAX	110	1	2	3
9420		RAMY	04	06	1150	S07	E69	04	11.7		A	HSX	50	1	2	3
9420	30406	MWIL	04	06	1445	S07	E67	04	11.6	5	(AP)					
9420		HOLL	04	06	1505	S07	E64	04	11.4		A	HAX	60	3	2	2
9420		LEAR	04	07	0048	S07	E62	04	11.7		A	HSX	120	1	2	4
9420		SVTO	04	07	0607	S06	E58	04	11.6		A	HSX	40	1	1	2
9420		RAMY	04	07	1208	S07	E56	04	11.7		A	HSX	60	1	1	3
9420		KAND	04	07	1210	S07	E54	04	11.5			HA		3	2	3
9420		HOLL	04	07	1406	S07	E54	04	11.6		A	HAX	100	3	2	3
9420		LEAR	04	08	0100	S06	E48	04	11.6		A	HSX	80	2	2	4
9420		TACH	04	08	0449	S06	E46	04	11.6			HSX	50	1	1	4
9420		RAMY	04	08	1242	S06	E42	04	11.7		A	HSX	70	1	1	2
9420		HOLL	04	08	1406	S06	E41	04	11.6		A	HSX	80	1	2	3
9420		LEAR	04	09	0006	S06	E35	04	11.6		A	HSX	50	1	1	4
9420		TACH	04	09	0633	S06	E31	04	11.6			HSX	50	1	1	3
9420		KAND	04	09	0645	S06	E31	04	11.6			HA		1	1	3
9420		SVTO	04	09	0655	S07	E32	04	11.7		A	HSX	40	1	1	3
9420		RAMY	04	09	1321	S08	E28	04	11.6		A	HSX	40	1	2	1
9420		HOLL	04	09	1609	S07	E26	04	11.6		A	HSX	40	1	2	2
9420		LEAR	04	10	0105	S07	E22	04	11.7		B	CSO	80	3	4	3
9420		TACH	04	10	0524	S07	E18	04	11.6			HSX	100	1	1	4
9420		SVTO	04	10	1130	S07	E16	04	11.7		B	CAO	50	2	4	3
9420		RAMY	04	10	1222	S07	E15	04	11.6		A	HSX	40	1	2	3
9420		HOLL	04	10	1438	S08	E16	04	11.8		B	CSO	50	4	5	4
9420	30406	MWIL	04	10	1515	S06	E14	04	11.7	5	(AP)					
9420		LEAR	04	11	0224	S07	E07	04	11.6		A	HSX	40	1	2	3
9420		SVTO	04	11	0750	S07	E04	04	11.6		B	CAO	60	3	4	2
9420		KAND	04	11	0930	S07	E04	04	11.7			HS		1	2	3
9420		RAMY	04	11	1341	S08	W01	04	11.5		B	CSO	40	3	2	3
9420		HOLL	04	11	1458	S06	E00	04	11.6		B	CSO	50	5	2	2
9420		LEAR	04	12	0018	S07	W06	04	11.6		A	HSX	60	1	2	5
9420		TACH	04	12	0557	S07	W12	04	11.3			CAI	158	5	9	3
9420		KAND	04	12	0710	S07	W07	04	11.8			HS		1	2	3
9420		SVTO	04	12	0815	S08	W09	04	11.7		A	HSX	40	1	1	2
9420		RAMY	04	12	1315	S07	W13	04	11.6		A	HSX	10	1	1	3
9420	30406	MWIL	04	12	1500	S07	W13	04	11.6	5	(AP)					

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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
9420		HOLL	04	12	1530	S07	W14	04	11.6		A	HAX	40	1	2	2
9420		LEAR	04	13	0002	S08	W18	04	11.6		A	HSX	40	3	3	5
9420		TACH	04	13	0523	S08	W24	04	11.4			DAI	153	15	10	4
9420		SVTO	04	13	1317	S07	W25	04	11.7		B	CAO	20	2	2	2
9420		HOLL	04	13	1430	S08	W26	04	11.6		B	CAO	40	4	3	3
9420	30406	MWIL	04	13	2030	S07	W29	04	11.7	4	(AP)					
9420		LEAR	04	14	0016	S08	W32	04	11.6		A	HRX	20	4	3	4
9420		RAMY	04	14	1155	S07	W38	04	11.6		B	CSO	10	2	2	3
9420		HOLL	04	14	1358	S07	W39	04	11.7		A	AXX	10	3	2	3
9420	30406	MWIL	04	14	1500	S07	W39	04	11.7	4	(AP)					
9420		LEAR	04	15	0121	S08	W46	04	11.6		A	HSX	10	1	1	3
9420		KAND	04	15	0800	S09	W48	04	11.7			AX		1	1	3
9420		TACH	04	15	0850	S07	W51	04	11.5			BXO	2	2	7	4
9420		SVTO	04	15	1030	S07	W51	04	11.6		A	HRX	20	1	1	2
9420		RAMY	04	15	1257	S07	W53	04	11.6		A	HSX	20	1	2	4
9420	30406	MWIL	04	15	1400	S07	W53	04	11.6	4	(AP)					
9420		HOLL	04	15	1436	S07	W54	04	11.6		A	AXX	10	1	1	3
9420		LEAR	04	16	0045	S07	W58	04	11.7		A	HRX	40	1	1	4
9420		TACH	04	16	0547	S08	W58	04	11.9			AXX	20	1	1	3
9420		KAND	04	16	0650	S09	W60	04	11.8			AX		1		4
9420		RAMY	04	16	1230	S05	W67	04	11.5		A	HSX		1	1	4
9420	30406	MWIL	04	16	1430	S07	W66	04	11.7	4	(AP)					
9420		LEAR	04	17	0050	S07	W71	04	11.7		A	AXX		1		4
9420A		LEAR	04	14	0016	N14	W26	04	12.0		B	BXO	10	4	2	4
9420A		RAMY	04	14	1155	N14	W33	04	12.0		A	BXO	10	2	3	3
9420A		HOLL	04	14	1358	N14	W34	04	12.0		B	BXO	10	2	3	3
9420A	30414	MWIL	04	14	1500	N14	W34	04	12.0	4	(B)					
9420B		RAMY	04	08	1242	S16	E51	04	12.4		B	BXO		2	2	2
9422		RAMY	04	07	1208	S13	E84	04	13.8		A	HSX	30	1	2	3
9422		KAND	04	07	1210	S12	E86	04	14.0			AX		2	1	3
9422		HOLL	04	07	1406	S13	E82	04	13.8		A	HAX	60	1	2	3
9422		LEAR	04	08	0100	S12	E77	04	13.8		A	HSX	60	1	2	4
9422		TACH	04	08	0449	S12	E76	04	13.9			AXX	10	1	1	4
9422		RAMY	04	08	1242	S11	E69	04	13.7		A	HSX	50	1	1	2
9422		HOLL	04	08	1406	S12	E68	04	13.7		A	HSX	50	1	2	3
9422		LEAR	04	09	0006	S12	E63	04	13.7		A	HAX	80	2	2	4
9422		TACH	04	09	0633	S11	E59	04	13.7			HSX	45	1	2	3
9422		KAND	04	09	0645	S11	E61	04	13.9			HS		1	1	3
9422		SVTO	04	09	0655	S12	E61	04	13.9		A	HAX	70	1	1	3
9422		RAMY	04	09	1321	S13	E56	04	13.8		A	HSX	30	1	2	1
9422		HOLL	04	09	1609	S12	E54	04	13.7		A	HAX	70	3	2	2
9422		LEAR	04	10	0105	S13	E49	04	13.7		A	HAX	40	2	1	3
9422		TACH	04	10	0524	S12	E46	04	13.7			HA	105	4	2	4
9422		SVTO	04	10	1130	S13	E43	04	13.7		A	HAX	40	2	1	3
9422		RAMY	04	10	1222	S13	E43	04	13.7		A	HSX	40	1	1	3
9422		HOLL	04	10	1438	S12	E42	04	13.8		A	HSX	60	3	2	4
9422	30410	MWIL	04	10	1515	S12	E41	04	13.7	5	(AP)					
9422		LEAR	04	11	0224	S12	E34	04	13.7		B	DSO	60	5	4	3
9422		TACH	04	11	0649	S12	E33	04	13.8			AR	47	4	2	2
9422		SVTO	04	11	0750	S13	E32	04	13.7		B	DSO	70	6	4	2
9422		KAND	04	11	0930	S12	E31	04	13.7			CSO		3	3	3
9422		RAMY	04	11	1341	S12	E28	04	13.7		B	DSO	60	5	4	3
9422		HOLL	04	11	1458	S11	E27	04	13.6		B	DSO	50	6	3	2
9422		LEAR	04	12	0018	S11	E22	04	13.7		B	DAO	60	7	4	5
9422		TACH	04	12	0557	S11	E20	04	13.7			BRO	85	3	3	3
9422		KAND	04	12	0710	S11	E19	04	13.7			DAO		6	5	3
9422		SVTO	04	12	0815	S13	E17	04	13.6		B	DAO	70	4	6	2
9422		RAMY	04	12	1315	S12	E14	04	13.6		B	DSO	60	4	4	3
9422	30410	MWIL	04	12	1500	S12	E14	04	13.7	5	(D)					
9422		HOLL	04	12	1530	S11	E13	04	13.6		B	DAO	80	9	4	2
9422		LEAR	04	13	0002	S12	E08	04	13.6		BG	DAO	40	5	5	5
9422		TACH	04	13	0523	S11	E06	04	13.7			CAI	191	9	4	4
9422		SVTO	04	13	1317	S12	E02	04	13.7		B	DSO	60	4	5	2
9422		HOLL	04	13	1430	S13	E01	04	13.7		B	DAO	60	9	6	3
9422	30410	MWIL	04	13	2030	S12	W02	04	13.7	4	(BG)					
9422		LEAR	04	14	0016	S12	W04	04	13.7		BG	DAO	40	8	5	4

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
9422		RAMY	04	14	1155	S11	W12	04	13.6		B	CSO	40	6	5	3
9422		HOLL	04	14	1358	S12	W12	04	13.7		B	CAO	30	8	5	3
9422	30410	MWIL	04	14	1500	S12	W12	04	13.7	4	(BG)					
9422		LEAR	04	15	0121	S13	W18	04	13.7		A	HSX	20	4	3	3
9422		KAND	04	15	0800	S13	W20	04	13.8			CSO		2	2	3
9422		TACH	04	15	0850	S12	W20	04	13.9			AR	11	2	1	4
9422		SVTO	04	15	1030	S12	W23	04	13.7		B	CRO	40	3	3	2
9422		RAMY	04	15	1257	S12	W24	04	13.7		B	CSO	20	3	3	4
9422	30410	MWIL	04	15	1400	S12	W25	04	13.7	4	(B)					
9422		HOLL	04	15	1436	S12	W25	04	13.7		A	AXX	10	4	2	3
9422		LEAR	04	16	0045	S12	W31	04	13.7		B	CSO	20	4	2	4
9422		TACH	04	16	0547	S12	W32	04	13.8			AXX	15	1	1	3
9422		KAND	04	16	0650	S14	W32	04	13.9			AX		1		4
9422		RAMY	04	16	1230	S11	W38	04	13.7		A	HSX		2	1	4
9422	30410	MWIL	04	16	1430	S12	W38	04	13.7	4	(AP)					
9422		HOLL	04	16	1526	S13	W37	04	13.8		B	CSO	20	2	4	1
9422		LEAR	04	17	0050	S12	W44	04	13.7		B	BXO	10	3	3	4
9422		SVTO	04	17	0745	S16	W43	04	14.1		A	AXX		1		2
9430		LEAR	04	16	0045	S17	W21	04	14.4		B	DRO	40	6	5	4
9430		TACH	04	16	0547	S16	W23	04	14.5			BXO	60	2	4	3
9430		KAND	04	16	0650	S15	W22	04	14.6			DRO		3	8	4
9430		RAMY	04	16	1230	S16	W28	04	14.4		B	DRO	10	3	5	4
9430	30415	MWIL	04	16	1430	S17	W29	04	14.4	5	(BF)					
9430		HOLL	04	16	1526	S17	W28	04	14.5		B	CAO	50	4	6	1
9430		LEAR	04	17	0050	S16	W35	04	14.4		B	DRO	40	7	8	4
9430		KAND	04	17	0650	S17	W39	04	14.3			BXO		2	6	3
9430		SVTO	04	17	0745	S17	W38	04	14.4		B	CSO	20	5	5	2
9430	30415	MWIL	04	17	1430	S17	W41	04	14.5	4	(BF)					
9430		HOLL	04	17	1925	S18	W42	04	14.6		A	AXX	10	4	2	2
9430		LEAR	04	18	0037	S17	W47	04	14.4		B	CRO	20	3	3	3
9430		SVTO	04	18	0540	S17	W49	04	14.5		A	AXX	20	2	2	2
9430		TACH	04	18	0545	S17	W48	04	14.6			AXX	5	1	1	3
9426		LEAR	04	11	0224	S08	E51	04	14.9		B	CSO	20	7	4	3
9426		TACH	04	11	0649	S08	E48	04	14.9			CSO	75	2	4	2
9426		SVTO	04	11	0750	S12	E47	04	14.9		B	CAO	40	5	4	2
9426		KAND	04	11	0930	S08	E46	04	14.8			CSO		2	4	3
9426		RAMY	04	11	1341	S10	E44	04	14.9		B	DSO	50	6	6	3
9426		HOLL	04	11	1458	S09	E43	04	14.8		B	CSO	50	5	3	2
9426		LEAR	04	12	0018	S08	E38	04	14.9		B	DSO	60	9	6	5
9426		TACH	04	12	0557	S09	E37	04	15.0			CSO	60	2	6	3
9426		KAND	04	12	0710	S09	E35	04	14.9			CAO		7	6	3
9426		SVTO	04	12	0815	S11	E34	04	14.9		B	CAO	70	8	6	2
9426		RAMY	04	12	1315	S10	E31	04	14.9		B	CSO	40	5	7	3
9426	30412	MWIL	04	12	1500	S10	E30	04	14.9	4	(B)					
9426		HOLL	04	12	1530	S10	E29	04	14.8		B	DAO	70	8	6	2
9426		LEAR	04	13	0002	S10	E26	04	14.9		B	DSO	80	8	7	5
9426		TACH	04	13	0523	S09	E22	04	14.9			CAO	80	5	5	4
9426		SVTO	04	13	1317	S09	E18	04	14.9		B	DSO	30	2	6	2
9426		HOLL	04	13	1430	S10	E17	04	14.9		B	DAO	60	5	6	3
9426	30412	MWIL	04	13	2030	S10	E14	04	14.9	4	(B)					
9426		LEAR	04	14	0016	S10	E12	04	14.9		B	CSO	10	4	6	4
9426		RAMY	04	14	1155	S10	E05	04	14.9		B	CSO	20	5	6	3
9426		HOLL	04	14	1358	S09	E02	04	14.7		A	HAX	30	3	2	3
9426	30412	MWIL	04	14	1500	S09	E02	04	14.8	4	(AP)					
9426		LEAR	04	15	0121	S09	W04	04	14.7		A	HSX	10	3	1	3
9426		KAND	04	15	0800	S10	W06	04	14.9			AX		2	1	3
9426		TACH	04	15	0850	S08	W07	04	14.8			AXX	1	1	1	4
9426		SVTO	04	15	1030	S09	W09	04	14.8		A	HRX	10	1	1	2
9426		RAMY	04	15	1257	S09	W10	04	14.8		A	HSX	10	1	1	4
9426	30412	MWIL	04	15	1400	S10	W11	04	14.7	4	(AP)					
9426		HOLL	04	15	1436	S09	W12	04	14.7		A	AXX	10	2	1	3
9426		LEAR	04	16	0045	S09	W15	04	14.9		B	CSO	30	5	4	4
9426		KAND	04	16	0650	S10	W17	04	15.0			BXO		6	4	4
9426		RAMY	04	16	1230	S08	W22	04	14.9		B	CSO	10	4	3	4
9426	30412	MWIL	04	16	1430	S08	W23	04	14.9	4	(BF)					
9426		HOLL	04	16	1526	S09	W22	04	15.0		B	CSO	20	3	3	1
9426		LEAR	04	17	0050	S08	W28	04	14.9		B	BXO	10	4	2	4

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9426	30417	MWIL	04	17	1430	S03	W30	04	15.4	4	(AP)					
9426		HOLL	04	17	1925	S03	W33	04	15.3		A	AXX	10	2	1	2
9426		LEAR	04	18	0037	S03	W37	04	15.3		A	AXX	10	2	1	3
9426		SVTO	04	18	0540	S02	W38	04	15.4		A	AXX	10	2	1	2
9426		TACH	04	18	0545	S02	W37	04	15.5			AXX	2	1	1	3
9426B		VORO	04	21	0453	S45	W61	04	16.1			AXX	20	1		2
9434		HOLL	04	18	1830	N18	W08	04	18.2		A	AXX	10	1	1	3
9434	30419	MWIL	04	18	1830	N20	W07	04	18.2	4	(AP)					
9434		LEAR	04	19	0035	N18	W12	04	18.1		B	DAO	30	4	3	3
9434		KAND	04	19	0715	N20	W15	04	18.1			CAO		3	4	4
9434		SVTO	04	19	1230	N20	W17	04	18.2		B	DAO	40	3	5	2
9434		RAMY	04	19	1400	N19	W18	04	18.2		B	DSO	50	5	5	3
9434		HOLL	04	19	1430	N18	W18	04	18.2		B	DAO	70	4	5	3
9434	30419	MWIL	04	19	1430	N19	W19	04	18.1	5	(B)					
9434		LEAR	04	20	0015	N18	W26	04	18.0		B	DAO	30	3	4	3
9434		TACH	04	20	0438	N19	W26	04	18.2			BRO	52	4	4	4
9434		KAND	04	20	0710	N20	W29	04	18.1			DSO		4	6	4
9434		SVTO	04	20	1418	N20	W33	04	18.1		B	DSO	30	3	7	2
9434	30419	MWIL	04	20	1430	N20	W32	04	18.1	4	(B)					
9434		RAMY	04	20	1535	N20	W32	04	18.2		B	DSO	20	2	5	2
9434		TACH	04	21	0650	N18	W41	04	18.2			BXO	30	2	3	3
9434		SVTO	04	21	1030	N21	W46	04	17.9		B	CSO	20	2	4	3
9434		HOLL	04	21	1426	N19	W47	04	18.0		B	BXO	10	3	4	2
9434		RAMY	04	21	1511	N20	W46	04	18.1		B	CSO	20	2	4	2
9434		LEAR	04	22	0020	N17	W54	04	17.9		A	HAX	10	1		3
9434A	30421	MWIL	04	19	1430	S15	W11	04	18.8	3	(AP)					
9434A		LEAR	04	20	0015	S14	W14	04	18.9		B	BXO	10	3	2	3
9434A		KAND	04	20	0710	S14	W18	04	18.9			AX		1		4
9429		HOLL	04	13	1430	N08	E79	04	19.5		A	HAX	120	1	2	3
9429	30413	MWIL	04	13	2030	N07	E78	04	19.7	5	AP					
9429		LEAR	04	14	0016	N09	E74	04	19.6		A	HSX	60	1	2	4
9429		RAMY	04	14	1155	N12	E68	04	19.6		A	HSX	100	1	1	3
9429		HOLL	04	14	1358	N08	E68	04	19.7		A	HSX	100	1	2	3
9429	30413	MWIL	04	14	1500	N08	E67	04	19.6	5	(AP)					
9429		LEAR	04	15	0121	N08	E61	04	19.6		A	HSX	140	1	2	3
9429		KAND	04	15	0800	N08	E58	04	19.7			HS		1	2	3
9429		TACH	04	15	0850	N08	E56	04	19.6			HSX	120	1	2	4
9429		SVTO	04	15	1030	N09	E58	04	19.8		A	HSX	70	1	2	2
9429		RAMY	04	15	1257	N07	E56	04	19.7		A	HSX	120	1	2	4
9429	30413	MWIL	04	15	1400	N08	E54	04	19.6	5	(AP)					
9429		HOLL	04	15	1436	N08	E54	04	19.6		A	HSX	140	1	2	3
9429		LEAR	04	16	0045	N08	E48	04	19.6		A	HSX	120	1	2	4
9429		TACH	04	16	0547	N10	E45	04	19.6			HSX	120	1	2	3
9429		KAND	04	16	0650	N08	E45	04	19.6			HS		1	2	4
9429		RAMY	04	16	1230	N11	E42	04	19.7		A	HSX	50	1	1	4
9429	30413	MWIL	04	16	1430	N09	E40	04	19.6	5	(BP)					
9429		HOLL	04	16	1526	N08	E41	04	19.7		A	HHX	80	1	2	1
9429		LEAR	04	17	0050	N09	E34	04	19.6		A	HSX	90	1	2	4
9429		KAND	04	17	0650	N09	E32	04	19.7			CSO		5	4	3
9429		SVTO	04	17	0745	N08	E31	04	19.6		A	HAX	70	1	2	2
9429	30413	MWIL	04	17	1430	N09	E28	04	19.7	5	(BP)					
9429		HOLL	04	17	1925	N08	E25	04	19.7		A	HAX	60	1	2	2
9429		LEAR	04	18	0037	N09	E22	04	19.7		A	HSX	90	1	2	3
9429		SVTO	04	18	0540	N08	E18	04	19.6		A	HAX	80	1	3	2
9429		TACH	04	18	0545	N09	E18	04	19.6			HSX	120	1	1	3
9429		RAMY	04	18	1335	N08	E15	04	19.7		A	HSX	60	1	2	3
9429		HOLL	04	18	1830	N08	E12	04	19.7		A	HSX	80	1	2	3
9429	30413	MWIL	04	18	1830	N09	E12	04	19.7	5	(AP)					
9429		LEAR	04	19	0035	N08	E08	04	19.6		A	HSX	60	1	1	3
9429		KAND	04	19	0715	N09	E04	04	19.6			HS		1	2	4
9429		SVTO	04	19	1230	N08	E03	04	19.7		A	HSX	60	1	2	2
9429		RAMY	04	19	1400	N08	E01	04	19.6		A	HSX	60	1	2	3
9429		HOLL	04	19	1430	N08	E01	04	19.7		A	HAX	60	1	2	3
9429	30413	MWIL	04	19	1430	N09	W00	04	19.6	5	(AP)					
9429		LEAR	04	20	0015	N08	W06	04	19.6		A	HAX	60	1	2	3

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
9429		TACH	04	20	0438	N08	W08	04	19.6			HSX	200	1	1	4
9429		KAND	04	20	0710	N09	W09	04	19.6			HS		1	2	4
9429		SVTO	04	20	1418	N09	W13	04	19.6		A	HSX	40	1	2	2
9429	30413	MWIL	04	20	1430	N09	W13	04	19.6	4	(AP)					
9429		RAMY	04	20	1535	N09	W13	04	19.7		A	HSX	60	1	1	2
9429		TACH	04	21	0650	N08	W22	04	19.6			HSX	170	1	1	3
9429		SVTO	04	21	1030	N08	W25	04	19.6		A	HSX	60	1	2	3
9429		HOLL	04	21	1426	N08	W27	04	19.6		A	HSX	60	1	2	2
9429		RAMY	04	21	1511	N09	W27	04	19.6		A	HSX	70	1	2	2
9429		LEAR	04	22	0020	N07	W33	04	19.5		A	HAX	60	2	1	3
9429		TACH	04	22	0709	N09	W35	04	19.7			HSX	60	1	1	2
9429		KAND	04	22	0720	N09	W35	04	19.7			HS		1	2	2
9429		RAMY	04	22	1205	N09	W38	04	19.6		A	HSX	30	1	2	2
9429	30413	MWIL	04	22	1430	N09	W40	04	19.6	5	(AP)					
9429		HOLL	04	22	1432	N09	W41	04	19.5		A	HSX	40	1	2	2
9429		LEAR	04	23	0112	N07	W46	04	19.6		A	HAX	60	1	1	1
9429		TACH	04	23	0752	N09	W50	04	19.6			HSX	50	1	1	3
9429		SVTO	04	23	0820	N09	W51	04	19.5		A	HSX	30	1	1	3
9429		KAND	04	23	1015	N08	W51	04	19.6			HS		3	2	4
9429		RAMY	04	23	1225	N10	W53	04	19.5		A	HSX	30	1	1	3
9429		HOLL	04	23	1424	N08	W53	04	19.6		B	CSO	40	2	2	4
9429	30413	MWIL	04	23	1445	N08	W53	04	19.6	5	(BF)					
9429		LEAR	04	24	0350	N08	W61	04	19.6		A	HSX	40	1	1	3
9429		SVTO	04	24	0915	N09	W65	04	19.5		A	HAX	40	1	2	2
9429		KAND	04	24	0950	N08	W62	04	19.8			HS		1	2	5
9429		RAMY	04	24	1239	N11	W66	04	19.6		A	AXX	10	1		2
9429		HOLL	04	24	1424	N10	W65	04	19.7		A	AXX	20	1	1	4
9429	30413	MWIL	04	24	1500	N08	W67	04	19.6	4	(AP)					
9429		LEAR	04	25	0004	N08	W72	04	19.6		A	HRX	30	1		5
9429A		TACH	04	22	0709	S16	W30	04	20.0			DAO	571	7	9	2
9432	30418	MWIL	04	17	1430	N09	E39	04	20.5	4	(B)					
9432		HOLL	04	17	1925	N07	E35	04	20.4		A	AXX	10	1	1	2
9432		LEAR	04	18	0037	N09	E33	04	20.5		B	CRO	20	6	4	3
9432		SVTO	04	18	0540	N08	E31	04	20.6		B	CRO	30	5	4	2
9432		TACH	04	18	0545	N09	E29	04	20.4			BRO	20	3	3	3
9432		RAMY	04	18	1335	N08	E26	04	20.5		B	CRO	20	3	3	3
9432		HOLL	04	18	1830	N07	E22	04	20.4		B	DAO	40	11	5	3
9432	30418	MWIL	04	18	1830	N09	E23	04	20.5	4	(B)					
9432		LEAR	04	19	0035	N07	E18	04	20.4		B	DAO	40	9	4	3
9432		KAND	04	19	0715	N09	E15	04	20.4			DAO		8	4	4
9432		SVTO	04	19	1230	N08	E13	04	20.5		B	DAO	50	10	7	2
9432		RAMY	04	19	1400	N08	E12	04	20.5		B	CAO	40	8	4	3
9432		HOLL	04	19	1430	N06	E11	04	20.4		B	DAO	60	10	5	3
9432	30418	MWIL	04	19	1430	N09	E12	04	20.5	5	(B)					
9432		LEAR	04	20	0015	N09	E06	04	20.5		B	DAO	50	14	7	3
9432		TACH	04	20	0438	N10	E03	04	20.4			CAI	95	9	4	4
9432		KAND	04	20	0710	N08	E02	04	20.4			DAO		14	5	4
9432		SVTO	04	20	1418	N08	W01	04	20.5		B	DAO	50	10	7	2
9432	30418	MWIL	04	20	1430	N08	W01	04	20.5	5	(B)					
9432		RAMY	04	20	1535	N08	W01	04	20.6		B	DSO	40	9	6	2
9432		TACH	04	21	0650	N07	W10	04	20.5			CAI	225	12	6	3
9432		SVTO	04	21	1030	N08	W14	04	20.4		B	DAO	70	20	8	3
9432		HOLL	04	21	1426	N07	W15	04	20.5		B	DAO	140	12	7	2
9432		RAMY	04	21	1511	N08	W15	04	20.5		B	DAO	100	8	7	2
9432		LEAR	04	22	0020	N07	W21	04	20.4		B	DAO	90	13	7	3
9432		TACH	04	22	0709	N09	W24	04	20.5			CSI	126	4	5	2
9432		KAND	04	22	0720	N08	W24	04	20.5			DAO		9	7	2
9432		RAMY	04	22	1205	N09	W27	04	20.5		B	DAO	90	7	7	2
9432	30418	MWIL	04	22	1430	N09	W28	04	20.5	5	(BG)					
9432		HOLL	04	22	1432	N08	W29	04	20.4		B	DSO	100	15	8	2
9432		LEAR	04	23	0112	N07	W35	04	20.4		B	DAO	70	6	6	1
9432		TACH	04	23	0752	N08	W39	04	20.4			CSO	105	3	6	3
9432		SVTO	04	23	0820	N09	W39	04	20.4		B	CAO	70	6	7	3
9432		KAND	04	23	1015	N08	W40	04	20.4			DAO		4	7	4
9432		RAMY	04	23	1225	N09	W40	04	20.5		B	CSO	50	3	9	3
9432		HOLL	04	23	1424	N08	W42	04	20.4		B	CSO	80	7	8	4
9432	30418	MWIL	04	23	1445	N09	W43	04	20.4	5	(BP)					

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9432		LEAR	04	24	0350	N08	W52	04	20.3		A	HAX	60	2	2	3
9432		TACH	04	24	0614	N08	W55	04	20.1			DAO	160	3	8	3
9432		SVTO	04	24	0915	N09	W56	04	20.2		A	HAX	70	2	2	2
9432		KAND	04	24	0950	N08	W54	04	20.4			HA		2	2	5
9432		RAMY	04	24	1239	N10	W54	04	20.5		B	CSO	30	2	6	2
9432		HOLL	04	24	1424	N09	W57	04	20.3		B	CAO	70	4	7	4
9432	30418	MWIL	04	24	1500	N09	W57	04	20.3	5	(BP)					
9432		LEAR	04	25	0004	N07	W63	04	20.3		B	DSO	50	4	7	5
9432		SVTO	04	25	0621	N09	W66	04	20.3		B	CAO	40	2	6	2
9432		KAND	04	25	0640	N08	W66	04	20.3			CSO		4	5	4
9432		TACH	04	25	0717	N09	W67	04	20.3			HSX	35	1	1	3
9432		RAMY	04	25	1100	N08	W67	04	20.4		B	CSO	50	2	6	3
9432	30418	MWIL	04	25	1430	N09	W70	04	20.3	4	(BP)					
9432		LEAR	04	26	0021	N08	W73	04	20.5		B	DRO	30	2	6	3
9432		SVTO	04	26	0750	N08	W79	04	20.4		A	HRX	20	1	1	2
9432A	30427	MWIL	04	23	1445	S11	W40	04	20.6	4	(AF)					
9432A		LEAR	04	25	0004	S07	W57	04	20.7		B	BXO	10	2	2	5
9431	30416	MWIL	04	16	1430	S09	E66	04	21.5	4	(B)					
9431		HOLL	04	16	1526	S10	E68	04	21.7		A	AXX	10	1	1	1
9431		LEAR	04	17	0050	S10	E60	04	21.5		A	HRX	10	2	1	4
9431		KAND	04	17	0650	S08	E59	04	21.7			AX		1	1	3
9431		SVTO	04	17	0745	S11	E57	04	21.6		A	AXX		1		2
9431	30416	MWIL	04	17	1430	S10	E54	04	21.7	4	(BG)					
9431		HOLL	04	17	1925	S11	E51	04	21.6		A	AXX	10	1	1	2
9431		LEAR	04	18	0037	S11	E48	04	21.6		A	AXX		1		3
9431	30416	MWIL	04	18	1830	S09	E36	04	21.5	4	(AP)					
9431		TACH	04	20	0438	S10	E24	04	22.0			AR	6	2	1	4
9431		KAND	04	20	0710	S11	E22	04	21.9			BXO		8	3	4
9431		SVTO	04	20	1418	S12	E18	04	21.9		B	CSO	30	3	3	2
9431	30423	MWIL	04	20	1430	S11	E18	04	21.9	4	(BP)					
9431		RAMY	04	20	1535	S11	E20	04	22.1		B	CSO	20	4	5	2
9431		TACH	04	21	0650	S13	E08	04	21.9			CRO	55	4	2	3
9431		SVTO	04	21	1030	S11	E06	04	21.9		B	DAO	50	13	7	3
9431		HOLL	04	21	1426	S12	E04	04	21.9		B	CAO	31	8	4	2
9431		RAMY	04	21	1511	S11	E04	04	21.9		B	DAO	40	3	4	2
9431		LEAR	04	22	0020	S11	W02	04	21.9		B	DAO	90	10	5	3
9431		TACH	04	22	0709	S10	W06	04	21.8			HSX	75	1	1	2
9431		KAND	04	22	0720	S11	W04	04	22.0			CAO		8	6	2
9431		RAMY	04	22	1205	S11	W08	04	21.9		B	DAO	30	5	5	2
9431	30423	MWIL	04	22	1430	S11	W09	04	21.9	4	(BP)					
9431		HOLL	04	22	1432	S11	W11	04	21.8		B	CAO	50	6	5	2
9431		LEAR	04	23	0112	S12	W16	04	21.8		B	DAO	50	8	5	1
9431		TACH	04	23	0752	S10	W21	04	21.7			HSX	43	1	1	3
9431		SVTO	04	23	0820	S11	W22	04	21.7		A	HAX	20	2	1	3
9431		KAND	04	23	1015	S11	W22	04	21.8			HA		2	1	4
9431		RAMY	04	23	1225	S11	W24	04	21.7		A	HSX	20	2	1	3
9431		HOLL	04	23	1424	S11	W24	04	21.8		A	HAX	20	2	1	4
9431	30423	MWIL	04	23	1445	S11	W23	04	21.9	4	(BP)					
9431		LEAR	04	24	0350	S12	W33	04	21.7		A	HSX	10	2	1	3
9431		TACH	04	24	0614	S11	W32	04	21.8			HR	60	2	1	3
9431		SVTO	04	24	0915	S11	W36	04	21.7		A	HSX	20	2	1	2
9431		KAND	04	24	0950	S11	W34	04	21.8			HA		2	1	5
9431		RAMY	04	24	1239	S09	W38	04	21.7		A	HSX	20	1	1	2
9431		HOLL	04	24	1424	S09	W38	04	21.7		A	AXX	10	2	1	4
9431	30423	MWIL	04	24	1500	S11	W38	04	21.8	5	(AP)					
9431		LEAR	04	25	0004	S12	W44	04	21.7		A	AXX	20	2	1	5
9431		SVTO	04	25	0621	S11	W48	04	21.6		A	AXX	10	2	1	2
9431		KAND	04	25	0640	S12	W47	04	21.7			AX		2	1	4
9431		TACH	04	25	0717	S10	W46	04	21.8			AXX	20	1	1	3
9431		RAMY	04	25	1100	S11	W50	04	21.7		A	HSX	10	1	1	3
9431	30423	MWIL	04	25	1430	S11	W51	04	21.8	4	(AP)					
9431		LEAR	04	26	0021	S12	W58	04	21.6		A	HRX		1	1	3
9431		TACH	04	26	0505	S10	W60	04	21.7			HSX	30	1	1	4
9431		KAND	04	26	0740	S12	W61	04	21.7			AX		1	1	3
9431		SVTO	04	26	0750	S08	W64	04	21.5		A	HRX	20	1	1	2
9431		RAMY	04	26	1235	S10	W65	04	21.6		A	HSX	10	1	1	4
9431		HOLL	04	26	1450	S12	W67	04	21.6		A	AXX	10	1	1	3

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9431	30423	MWIL	04	26	1500	S11	W67	04	21.6	4	(AP)					
9431		LEAR	04	27	0015	S12	W71	04	21.7		A	AXX		1		2
9431		SVTO	04	27	0630	S11	W76	04	21.5		A	AXX	10	1		2
9431		RAMY	04	27	1206	S09	W79	04	21.6		A	AXX		1		3
9431	30423	MWIL	04	27	1500	S11	W79	04	21.7	2	(AP)					
9435		SVTO	04	19	1230	S22	E35	04	22.2		B	DRO	20	3	2	2
9435		RAMY	04	19	1400	S21	E33	04	22.1		B	CSO	20	4	3	3
9435	30422	MWIL	04	19	1430	S20	E34	04	22.2	5	(B)					
9435		HOLL	04	19	1430	S21	E31	04	22.0		B	CAO	30	5	4	3
9435		LEAR	04	20	0015	S20	E27	04	22.1		B	DAO	30	7	4	3
9435		TACH	04	20	0438	S19	E25	04	22.1			CAO	72	4	5	4
9435		KAND	04	20	0710	S19	E24	04	22.1			DSO		9	7	4
9435		SVTO	04	20	1418	S21	E19	04	22.0		B	DAO	100	5	8	2
9435	30422	MWIL	04	20	1430	S20	E20	04	22.1	5	(B)					
9435		RAMY	04	20	1535	S20	E20	04	22.2		B	DSO	70	8	5	2
9435		TACH	04	21	0650	S20	E10	04	22.0			DAO	347	12	6	3
9435		SVTO	04	21	1030	S20	E08	04	22.0		B	DAO	280	19	9	3
9435		HOLL	04	21	1426	S20	E06	04	22.1		B	DAO	300	12	8	2
9435		RAMY	04	21	1511	S20	E06	04	22.1		B	DAO	270	12	9	2
9435		LEAR	04	22	0020	S19	E01	04	22.1		B	DKO	310	15	9	3
9435		KAND	04	22	0720	S20	W01	04	22.2			DAO		11	9	2
9435		RAMY	04	22	1205	S20	W07	04	22.0		B	DAO	200	8	9	2
9435	30422	MWIL	04	22	1430	S20	W06	04	22.1	5	(B)					
9435		HOLL	04	22	1432	S20	W08	04	22.0		B	EHO	220	17	11	2
9435		LEAR	04	23	0112	S21	W13	04	22.0		B	DAO	260	8	8	1
9435		TACH	04	23	0752	S20	W17	04	22.0			DSO	390	2	7	3
9435		SVTO	04	23	0820	S17	W20	04	21.8		B	DAO	270	7	9	3
9435		KAND	04	23	1015	S20	W18	04	22.0			DAO		7	9	2
9435		RAMY	04	23	1225	S20	W20	04	22.0		B	DSO	210	4	8	3
9435		HOLL	04	23	1424	S19	W20	04	22.1		B	DAO	180	13	9	4
9435	30422	MWIL	04	23	1445	S20	W20	04	22.1	5	(B)					
9435		LEAR	04	24	0350	S20	W27	04	22.1		B	DSO	220	7	7	3
9435		TACH	04	24	0614	S20	W26	04	22.3			DAO	362	6	7	3
9435		SVTO	04	24	0915	S20	W31	04	22.0		B	DAO	210	5	9	2
9435		KAND	04	24	0950	S20	W30	04	22.1			DSO		6	9	5
9435		RAMY	04	24	1239	S19	W34	04	21.9		B	DSO	220	2	8	2
9435		HOLL	04	24	1424	S19	W34	04	22.0		B	DSO	180	12	9	4
9435	30422	MWIL	04	24	1500	S20	W33	04	22.1	5	(B)					
9435		LEAR	04	25	0004	S21	W38	04	22.1		B	DAO	180	8	9	5
9435		SVTO	04	25	0621	S19	W43	04	22.0		B	DAO	210	4	9	2
9435		KAND	04	25	0640	S20	W41	04	22.1			DSO		3	9	4
9435		TACH	04	25	0717	S19	W40	04	22.2			DSO	115	2	6	3
9435		RAMY	04	25	1100	S21	W45	04	22.0		B	DSO	170	2	8	3
9435	30422	MWIL	04	25	1430	S21	W46	04	22.1	5	(B)					
9435		LEAR	04	26	0021	S22	W51	04	22.1		B	DAO	190	3	8	3
9435		TACH	04	26	0505	S20	W53	04	22.1			DSO	155	2	6	4
9435		KAND	04	26	0740	S21	W55	04	22.1			DAO		3	8	3
9435		SVTO	04	26	0750	S18	W58	04	21.9		B	DAO	200	4	9	2
9435		RAMY	04	26	1235	S20	W59	04	22.0		B	DAO	140	3	6	4
9435		HOLL	04	26	1450	S22	W61	04	21.9		B	DAO	200	5	7	3
9435	30422	MWIL	04	26	1500	S20	W59	04	22.1	4	(BP)					
9435		LEAR	04	27	0015	S23	W65	04	22.0		B	DAO	240	3	5	2
9435		TACH	04	27	0551	S20	W69	04	22.0			HSX	140	1	3	4
9435		SVTO	04	27	0630	S21	W71	04	21.8		A	HAX	180	1	5	2
9435		KAND	04	27	0700	S20	W68	04	22.1			HA		3	6	5
9435		RAMY	04	27	1206	S20	W73	04	21.9		B	CAO	140	3	7	3
9435	30422	MWIL	04	27	1500	S20	W75	04	21.9	4	(AP)					
9435		HOLL	04	27	1514	S19	W77	04	21.7		A	HAX	120	1	2	3
9435		LEAR	04	28	0010	S22	W78	04	22.0		A	HAX	120	1	2	3
9435		SVTO	04	28	0510	S19	W83	04	21.9		A	HAX	120	1	3	2
9435		TACH	04	28	0531	S18	W81	04	22.1			HSX	40	1	3	4
9435		KAND	04	28	0605	S21	W84	04	21.8			HS		1	2	4
9435		RAMY	04	28	1208	S19	W88	04	21.8		A	HSX	60	1	2	2
9435	30422	MWIL	04	28	1500	S20	W88	04	21.9	4	AP					
9439		LEAR	04	25	0004	S23	W15	04	23.8		A	AXX		1		5
9439		SVTO	04	25	0621	S22	W19	04	23.8		B	CRO	20	3	3	2
9439		KAND	04	25	0640	S21	W18	04	23.9			CSO		5	2	4

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
9439		TACH	04	25	0717	S20	W17	04	24.0			BXO	42	1	1	3
9439		RAMY	04	25	1100	S21	W21	04	23.8		B	CSO	10	2	2	3
9439	30430	MWIL	04	25	1430	S22	W23	04	23.8	4	(BP)					
9439		VORO	04	25	2142	S20	W27	04	23.8			AXX	15	1		2
9439		LEAR	04	26	0021	S22	W28	04	23.9		B	DSO	20	2	3	3
9439		TACH	04	26	0505	S20	W31	04	23.8			BXO	27	2	1	4
9439		KAND	04	26	0740	S22	W31	04	23.9			BXO		4	3	3
9439		SVTO	04	26	0750	S22	W35	04	23.6		B	CSO	10	2	3	2
9439		RAMY	04	26	1235	S20	W35	04	23.8		B	CSO	10	2	3	4
9439		HOLL	04	26	1450	S22	W37	04	23.8		A	HSX	20	1	1	3
9439	30430	MWIL	04	26	1500	S20	W36	04	23.9	5	(AP)					
9439		VORO	04	26	2146	S20	W40	04	23.8			AXX	19	1		2
9439		LEAR	04	27	0015	S21	W42	04	23.8		A	HRX	30	1	1	2
9439		TACH	04	27	0551	S19	W44	04	23.9			AXX	5	1	1	4
9439		SVTO	04	27	0630	S20	W46	04	23.7		A	HRX	10	1		2
9439		KAND	04	27	0700	S20	W45	04	23.8			AX		1		5
9439		RAMY	04	27	1206	S19	W49	04	23.8		A	HSX	20	1	1	3
9439	30430	MWIL	04	27	1500	S20	W50	04	23.8	4	(AP)					
9439		HOLL	04	27	1514	S19	W51	04	23.7		A	AXX	10	2	1	3
9439		VORO	04	27	2147	S20	W53	04	23.8			AXX	14	1		2
9439		LEAR	04	28	0010	S23	W55	04	23.8		B	CRO	30	2	2	3
9433		LEAR	04	18	0037	N15	E87	04	24.6		A	HSX	120	1	2	3
9433		SVTO	04	18	0540	N14	E82	04	24.4		B	DSO	120	2	9	2
9433		HOLL	04	18	1830	N14	E76	04	24.5		B	DAO	210	2	4	3
9433	30420	MWIL	04	18	1830	N14	E78	04	24.7	5	(AP)					
9433		LEAR	04	19	0035	N17	E72	04	24.5		A	HHX	220	2	3	3
9433		KAND	04	19	0715	N18	E74	04	24.9			FKO		6	18	4
9433		SVTO	04	19	1230	N19	E69	04	24.8		B	FKI	730	14	17	2
9433		RAMY	04	19	1400	N15	E70	04	24.9		BG	FHO	750	18	20	3
9433		HOLL	04	19	1430	N16	E72	04	25.1		BG	FKI	690	18	20	3
9433	30420	MWIL	04	19	1430	N17	E69	04	24.8	5	(BG)					
9433		LEAR	04	20	0015	N18	E65	04	25.0		BG	FHO	640	17	10	3
9433		TACH	04	20	0438	N16	E61	04	24.8			FKI	897	13	22	4
9433		KAND	04	20	0710	N18	E61	04	24.9			FKI		21	22	4
9433		SVTO	04	20	1418	N15	E56	04	24.8		B	FKO	790	17	22	2
9433	30420	MWIL	04	20	1430	N17	E58	04	25.0	5	(BG)					
9433		RAMY	04	20	1535	N16	E55	04	24.8		B	FKO	750	16	16	2
9433		TACH	04	21	0650	N18	E48	04	24.9			FKI	654	26	18	3
9433		SVTO	04	21	1030	N15	E45	04	24.8		B	FKO	830	36	27	3
9433		HOLL	04	21	1426	N16	E45	04	25.0		BG	FKI	820	42	18	2
9433		RAMY	04	21	1511	N16	E43	04	24.9		B	FKI	730	27	21	2
9433		LEAR	04	22	0020	N18	E39	04	25.0		BG	FKI	750	53	16	3
9433		TACH	04	22	0709	N17	E35	04	24.9			EAI	797	16	15	2
9433		KAND	04	22	0720	N16	E36	04	25.0			FAI		30	22	2
9433		RAMY	04	22	1205	N16	E32	04	24.9		BG	FKI	920	31	21	2
9433	30420	MWIL	04	22	1430	N18	E32	04	25.0	6	(D)					
9433		HOLL	04	22	1432	N17	E31	04	25.0		BG	FKI	610	54	21	2
9433		LEAR	04	23	0112	N18	E26	04	25.0		BGD	FKI	740	47	18	1
9433		TACH	04	23	0752	N17	E22	04	25.0			FAI	1119	28	15	3
9433		SVTO	04	23	0820	N18	E22	04	25.0		BGD	FKI	1000	49	22	3
9433		KAND	04	23	1015	N18	E20	04	24.9			FAC		50	22	4
9433		RAMY	04	23	1225	N16	E20	04	25.0		BG	FKO	1050	12	22	3
9433		HOLL	04	23	1424	N16	E20	04	25.1		BG	FKI	690	75	21	4
9433	30420	MWIL	04	23	1445	N18	E19	04	25.1	6	(D)					
9433		LEAR	04	24	0350	N17	E11	04	25.0		BGD	FAC	1080	76	23	3
9433		TACH	04	24	0614	N14	E08	04	24.9			EAI	1004	60	12	3
9433		SVTO	04	24	0915	N17	E08	04	25.0		BD	FKI	1040	60	26	2
9433		KAND	04	24	0950	N17	E08	04	25.0			FAC		48	22	5
9433		RAMY	04	24	1239	N16	E08	04	25.1		BG	FKI	960	29	22	2
9433		HOLL	04	24	1424	N17	E09	04	25.3		BG	FKI	690	88	23	4
9433	30420	MWIL	04	24	1500	N18	E04	04	24.9	6	(D)					
9433		LEAR	04	25	0004	N16	W03	04	24.8		BGD	FKC	1100	99	25	5
9433		SVTO	04	25	0621	N17	W04	04	25.0		BGD	FKI	1130	64	29	2
9433		KAND	04	25	0640	N17	W02	04	25.1			FKC		35	32	4
9433		TACH	04	25	0717	N16	W08	04	24.7			FAI	1292	27	18	3
9433		RAMY	04	25	1100	N16	W07	04	24.9		BGD	FKI	730	36	23	3
9433	30420	MWIL	04	25	1430	N17	W07	04	25.1	6	(D)					
9433		LEAR	04	26	0021	N17	W14	04	24.9		BGD	FAI	840	65	26	3

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9433		TACH	04	26	0505	N18	W17	04	24.9			FHI	1254	31	17	4
9433		KAND	04	26	0740	N17	W16	04	25.1			FKC		63	26	3
9433		SVTO	04	26	0750	N15	W17	04	25.0		BGD	FKI	990	63	28	2
9433		RAMY	04	26	1235	N17	W19	04	25.1		BGD	FKI	770	44	24	4
9433		HOLL	04	26	1450	N17	W19	04	25.2		BGD	FKI	1030	89	24	3
9433	30420	MWIL	04	26	1500	N17	W22	04	24.9	6	(D)					
9433		LEAR	04	27	0015	N17	W28	04	24.9		BGD	FKI	900	54	21	2
9433		TACH	04	27	0551	N15	W32	04	24.8			EHI	1396	22	10	4
9433		SVTO	04	27	0630	N16	W30	04	25.0		BGD	FKC	1060	35	27	2
9433		KAND	04	27	0700	N17	W30	04	25.0			FKI		55	24	5
9433		RAMY	04	27	1206	N19	W32	04	25.1		BGD	FKI	850	29	24	3
9433	30420	MWIL	04	27	1500	N17	W34	04	25.0	6	(D)					
9433		HOLL	04	27	1514	N17	W33	04	25.1		BGD	FKI	880	60	23	3
9433		LEAR	04	28	0010	N17	W36	04	25.3		BGD	FKI	810	46	25	3
9433		SVTO	04	28	0510	N19	W38	04	25.3		B	FKI	760	44	17	2
9433		TACH	04	28	0531	N17	W41	04	25.1			FAI	803	20	18	4
9433		KAND	04	28	0605	N18	W41	04	25.1			FKI		23	27	4
9433		RAMY	04	28	1208	N18	W45	04	25.1		BGD	FKI	730	20	24	2
9433		HOLL	04	28	1450	N16	W48	04	25.0		BGD	FKI	780	40	24	3
9433	30420	MWIL	04	28	1500	N18	W45	04	25.2	6	(D)					
9433		LEAR	04	29	0008	N17	W50	04	25.2		BGD	FKI	720	35	25	4
9433		TACH	04	29	0422	N17	W54	04	25.1			EAI	791	6	13	1
9433		SVTO	04	29	0528	N18	W51	04	25.3		BGD	FKI	670	25	25	2
9433		KAND	04	29	0910	N16	W54	04	25.3			FKO		19	20	5
9433		RAMY	04	29	1210	N18	W56	04	25.2		BGD	FKI	810	25	25	3
9433		HOLL	04	29	1438	N18	W61	04	25.0		BGD	FKO	910	32	23	3
9433	30420	MWIL	04	29	1500	N18	W57	04	25.3	5	(BG)					
9433		LEAR	04	30	0003	N17	W61	04	25.4		BGD	FKI	440	30	25	4
9433		SVTO	04	30	0523	N17	W64	04	25.4		BGD	FAI	530	17	27	3
9433		TACH	04	30	0537	N17	W65	04	25.3			EAO	610	5	18	3
9433		KAND	04	30	0710	N18	W65	04	25.3			FAO		5	22	2
9433		HOLL	04	30	1310	N18	W69	04	25.3		BGD	FAI	360	16	28	3
9433	30420	MWIL	04	30	1445	N18	W69	04	25.4	6	(BG)					
9433		LEAR	05	01	0020	N20	W69	04	25.8		BG	DKI	390	9	7	2
9433		SVTO	05	01	0700	N17	W70	04	26.1		B	EAI	290	14	15	3
9433		KAND	05	01	0730	N19	W70	04	26.1			HK		5	6	4
9433		RAMY	05	01	1140	N21	W74	04	25.9		B	DSO	150	2	6	3
9433		HOLL	05	01	1420	N20	W75	04	26.0		B	DAO	330	4	6	3
9433	30420	MWIL	05	01	1430	N20	W75	04	26.0	5	(BP)					
9433		LEAR	05	02	0007	N20	W78	04	26.1		BG	DKI	90	3	5	3
9433A		VORO	04	28	2144	N27	W42	04	25.6			AXX	7	1		2
9438		SVTO	04	24	0915	S12	E31	04	26.7		A	AXX	10	2	1	2
9438		KAND	04	24	0950	S12	E30	04	26.7			AX		3	2	5
9438		HOLL	04	24	1424	S13	E26	04	26.6		A	AXX	10	1	1	4
9438	30428	MWIL	04	24	1500	S12	E27	04	26.6	3	(AF)					
9438	30428	MWIL	04	25	1430	S12	E14	04	26.6	4	(AF)					
9438		LEAR	04	28	0010	S12	W16	04	26.8		A	AXX		1		3
9438A	30434	MWIL	04	27	1500	N24	W13	04	26.6	4	(B)					
9438A	30434	MWIL	04	29	1500	N25	W37	04	26.7	3	(AF)					
9437		VORO	04	21	0453	N09	E77	04	27.0			HAX	53	1		2
9437		SVTO	04	21	1030	N08	E85	04	27.8		A	HRX	30	1	2	3
9437		HOLL	04	21	1426	N08	E79	04	27.5		A	HSX	60	1	2	2
9437		RAMY	04	21	1511	N08	E79	04	27.5		A	HSX	50	1	1	2
9437		LEAR	04	22	0020	N11	E73	04	27.5		A	HSX	60	1	1	3
9437		TACH	04	22	0709	N11	E69	04	27.5			HSX	30	1	1	2
9437		KAND	04	22	0720	N09	E72	04	27.7			HA		2	2	2
9437		RAMY	04	22	1205	N08	E69	04	27.7		A	HAX	50	1	1	2
9437	30426	MWIL	04	22	1430	N10	E66	04	27.6	5	(AP)					
9437		HOLL	04	22	1432	N09	E66	04	27.5		A	HAX	60	2	2	2
9437		LEAR	04	23	0112	N11	E58	04	27.4		A	HAX	80	1	2	1
9437		VORO	04	23	0253	N10	E59	04	27.5			HAX	65	1		2
9437		TACH	04	23	0752	N10	E55	04	27.5			HSX	90	1	1	3
9437		SVTO	04	23	0820	N10	E56	04	27.5		A	HAX	70	1	2	3
9437		KAND	04	23	1015	N11	E54	04	27.5			HS		1	1	4
9437		RAMY	04	23	1225	N08	E54	04	27.6		A	HSX	70	1	2	3

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9437		HOLL	04	23	1424	N09	E52	04	27.5		A	HAX	50	1	2	4
9437	30426	MWIL	04	23	1445	N10	E52	04	27.5	5	(AP)					
9437		VORO	04	23	2302	N09	E48	04	27.6			HAX	109	1		2
9437		LEAR	04	24	0350	N10	E45	04	27.5		A	HSX	50	1	2	3
9437		TACH	04	24	0614	N10	E44	04	27.6			HSX	80	1	1	3
9437		SVTO	04	24	0915	N11	E42	04	27.5		B	CAO	50	3	6	2
9437		KAND	04	24	0950	N10	E42	04	27.6			HA		1	2	5
9437		RAMY	04	24	1239	N08	E40	04	27.5		A	HSX	50	1	1	2
9437		HOLL	04	24	1424	N08	E38	04	27.4		A	HSX	40	2	2	4
9437	30426	MWIL	04	24	1500	N09	E39	04	27.5	5	(AP)					
9437		VORO	04	24	2225	N10	E36	04	27.6			HAX	68	1		3
9437		LEAR	04	25	0004	N08	E32	04	27.4		B	CAO	40	8	4	5
9437		SVTO	04	25	0621	N08	E29	04	27.4		B	DAO	70	8	5	2
9437		KAND	04	25	0640	N09	E30	04	27.5			CSO		8	4	4
9437		TACH	04	25	0717	N09	E30	04	27.5			CSO	53	2	5	3
9437		RAMY	04	25	1100	N09	E26	04	27.4		B	CSO	40	5	3	3
9437	30426	MWIL	04	25	1430	N09	E25	04	27.5	5	(BF)					
9437		VORO	04	25	2142	N09	E22	04	27.5			HAX	87	3		2
9437		LEAR	04	26	0021	N09	E21	04	27.6		B	CAO	50	5	3	3
9437		TACH	04	26	0505	N10	E15	04	27.3			HR	53	3	2	4
9437		KAND	04	26	0740	N09	E17	04	27.6			CAO		9	4	3
9437		SVTO	04	26	0750	N08	E17	04	27.6		B	DAO	40	9	6	2
9437		RAMY	04	26	1235	N09	E12	04	27.4		B	DSO	30	8	5	4
9437		HOLL	04	26	1450	N08	E12	04	27.5		B	CSO	50	13	6	3
9437	30426	MWIL	04	26	1500	N09	E13	04	27.6	4	(BP)					
9437		VORO	04	26	2146	N09	E09	04	27.6			HAX	67	4		2
9437		LEAR	04	27	0015	N08	E06	04	27.5		B	CAO	30	8	5	2
9437		TACH	04	27	0551	N10	E01	04	27.3			AXX	45	1	1	4
9437		SVTO	04	27	0630	N09	E05	04	27.6		B	CAO	60	3	3	2
9437		KAND	04	27	0700	N09	E04	04	27.6			CAO		5	3	5
9437		RAMY	04	27	1206	N10	E01	04	27.6		B	CAO	30	5	2	3
9437	30426	MWIL	04	27	1500	N09	W01	04	27.5	4	(AP)					
9437		HOLL	04	27	1514	N09	W02	04	27.5		A	HAX	20	4	1	3
9437		VORO	04	27	2147	N10	W06	04	27.4			HAX	33	3		2
9437		SVTO	04	28	0510	N10	W09	04	27.5		A	HAX	30	3	2	2
9437		TACH	04	28	0531	N10	W09	04	27.5			AR	35	2	2	4
9437		KAND	04	28	0605	N10	W09	04	27.6			HA		3	1	4
9437		RAMY	04	28	1208	N10	W12	04	27.6		B	CSO	20	2	2	2
9437		HOLL	04	28	1450	N09	W14	04	27.6		B	CSO	20	2	2	3
9437	30426	MWIL	04	28	1500	N10	W14	04	27.6	4	(AP)					
9437		VORO	04	28	2144	N09	W18	04	27.5			HAX	28	2		2
9437		LEAR	04	29	0008	N09	W19	04	27.6		A	HAX	20	2	1	4
9437		TACH	04	29	0422	N10	W22	04	27.5			AXX	10	1	1	1
9437		SVTO	04	29	0528	N10	W23	04	27.5		A	AXX	10	2	1	2
9437		KAND	04	29	0910	N08	W22	04	27.7			HA		2	2	5
9437		RAMY	04	29	1210	N10	W25	04	27.6		B	CSO	10	2	1	3
9437		HOLL	04	29	1438	N11	W27	04	27.6		A	AXX	10	2	1	3
9437	30426	MWIL	04	29	1500	N10	W27	04	27.6	4	(AP)					
9437		VORO	04	29	2124	N10	W31	04	27.6			HRX	23	2		2
9437		LEAR	04	30	0003	N09	W32	04	27.6		A	HAX	20	3	1	4
9437		SVTO	04	30	0523	N09	W36	04	27.5		A	AXX	10	2	1	3
9437		TACH	04	30	0537	N10	W36	04	27.5			AXX	5	1	1	3
9436		VORO	04	21	0453	S10	E82	04	27.4			HAX	149	1		2
9436		TACH	04	21	0650	S08	E87	04	27.8			HSX	100	1	3	3
9436		SVTO	04	21	1030	S11	E78	04	27.3		A	HRX	50	1	3	3
9436		HOLL	04	21	1426	S10	E77	04	27.4		A	HSX	110	1	2	2
9436		RAMY	04	21	1511	S11	E76	04	27.3		A	HSX	60	1	1	2
9436		VORO	04	21	2137	S10	E74	04	27.5			HAX	129	1		2
9436		LEAR	04	22	0020	S08	E72	04	27.4		A	HSX	120	1	3	3
9436		TACH	04	22	0709	S08	E68	04	27.4			HSX	90	1	2	2
9436		KAND	04	22	0720	S09	E69	04	27.5			HA		1	2	2
9436		RAMY	04	22	1205	S11	E66	04	27.5		A	HSX	60	1	1	2
9436	30425	MWIL	04	22	1430	S09	E64	04	27.4	5	(AP)					
9436	30424	MWIL	04	22	1430	S13	E62	04	27.3	4	(AP)					
9436		HOLL	04	22	1432	S12	E62	04	27.3		B	CAO	110	4	3	2
9436		LEAR	04	23	0112	S10	E57	04	27.3		B	DAO	150	4	5	1
9436		VORO	04	23	0253	S09	E58	04	27.5			HAX	90	1		2
9436		TACH	04	23	0752	S10	E54	04	27.4			CSO	156	3	7	3

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
9436		SVTO	04	23	0820	S11	E55	04	27.5		B	DSO	160	3	8	3
9436		KAND	04	23	1015	S08	E53	04	27.4			HS		1	2	4
9436		KAND	04	23	1015	S12	E53	04	27.4			BXO		3	6	4
9436		RAMY	04	23	1225	S13	E51	04	27.4		B	DSO	100	2	4	3
9436		HOLL	04	23	1424	S12	E50	04	27.4		B	CAO	120	7	6	4
9436	30425	MWIL	04	23	1445	S09	E51	04	27.4	5	(AP)					
9436	30424	MWIL	04	23	1445	S13	E51	04	27.5	4	(B)					
9436		VORO	04	23	2302	S13	E45	04	27.3			HAX	223	2		2
9436		LEAR	04	24	0350	S11	E42	04	27.3		B	CAO	140	2	6	3
9436		TACH	04	24	0614	S11	E42	04	27.4			CSO	203	2	2	3
9436		SVTO	04	24	0915	S11	E42	04	27.5		B	CSO	160	4	8	2
9436		KAND	04	24	0950	S09	E41	04	27.5			HS		1	2	5
9436		KAND	04	24	0950	S12	E39	04	27.3			AX		1		5
9436		RAMY	04	24	1239	S10	E38	04	27.4		A	HSX	190	1	3	2
9436		HOLL	04	24	1424	S12	E37	04	27.4		B	CSO	130	4	3	4
9436	30425	MWIL	04	24	1500	S10	E38	04	27.5	5	(AP)					
9436		VORO	04	24	2225	S09	E34	04	27.5			HAX	135	1		3
9436		LEAR	04	25	0004	S10	E33	04	27.5		A	HSX	110	1	2	5
9436		SVTO	04	25	0621	S10	E29	04	27.4		A	HSX	110	1	3	2
9436		KAND	04	25	0640	S09	E30	04	27.5			HS		1	2	4
9436		TACH	04	25	0717	S04	E30	04	27.5			HSX	200	1	1	3
9436		RAMY	04	25	1100	S09	E27	04	27.5		A	HSX	150	1	2	3
9436	30425	MWIL	04	25	1430	S10	E25	04	27.5	5	(AP)					
9436		VORO	04	25	2142	S10	E21	04	27.5			HHX	219	2		2
9436		LEAR	04	26	0021	S10	E19	04	27.4		A	HSX	160	2	3	3
9436		TACH	04	26	0505	S04	E17	04	27.5			HSX	280	1	1	4
9436		KAND	04	26	0740	S10	E16	04	27.5			HS		1	3	3
9436		SVTO	04	26	0750	S10	E16	04	27.5		A	HSX	150	1	3	2
9436		RAMY	04	26	1235	S10	E12	04	27.4		A	HSX	140	1	2	4
9436		HOLL	04	26	1450	S10	E12	04	27.5		A	HSX	190	1	2	3
9436	30425	MWIL	04	26	1500	S10	E12	04	27.5	5	(AP)					
9436		VORO	04	26	2146	S10	E08	04	27.5			HHX	172	2		2
9436		LEAR	04	27	0015	S11	E06	04	27.5		A	HSX	150	1	2	2
9436		TACH	04	27	0551	S06	E03	04	27.5			HSX	380	1	2	4
9436		SVTO	04	27	0630	S11	E03	04	27.5		A	HSX	180	1	3	2
9436		KAND	04	27	0700	S10	E03	04	27.5			HS		1	2	5
9436		RAMY	04	27	1206	S10	E00	04	27.5		A	HSX	150	1	2	3
9436	30425	MWIL	04	27	1500	S11	W02	04	27.5	5	(AP)					
9436		HOLL	04	27	1514	S09	W03	04	27.4		A	HSX	150	1	2	3
9436		VORO	04	27	2147	S10	W05	04	27.5			HHX	184	1		2
9436		LEAR	04	28	0010	S10	W06	04	27.5		A	HSX	150	1	2	3
9436		SVTO	04	28	0510	S09	W09	04	27.5		A	HAX	100	1	2	2
9436		TACH	04	28	0531	S08	W10	04	27.5			HSX	300	1	2	4
9436		KAND	04	28	0605	S09	W09	04	27.6			HS		1	2	4
9436		RAMY	04	28	1208	S10	W13	04	27.5		A	HSX	150	1	2	2
9436		HOLL	04	28	1450	S10	W15	04	27.5		A	HAX	150	2	2	3
9436	30425	MWIL	04	28	1500	S10	W15	04	27.5	5	(AP)					
9436		VORO	04	28	2144	S10	W19	04	27.5			HHX	193	1		2
9436		LEAR	04	29	0008	S10	W20	04	27.5		A	HSX	150	1	2	4
9436		TACH	04	29	0422	S09	W23	04	27.4			HSX	100	1	1	1
9436		SVTO	04	29	0528	S09	W23	04	27.5		A	HSX	100	2	3	2
9436		KAND	04	29	0910	S11	W23	04	27.6			HA		2	2	5
9436		RAMY	04	29	1210	S09	W26	04	27.5		A	HSX	110	1	2	3
9436		HOLL	04	29	1438	S09	W28	04	27.5		A	HAX	70	2	2	3
9436	30425	MWIL	04	29	1500	S09	W28	04	27.5	5	(AP)					
9436		VORO	04	29	2124	S10	W31	04	27.6			HAX	202	1		2
9436		LEAR	04	30	0003	S10	W33	04	27.5		A	HSX	170	1	2	4
9436		SVTO	04	30	0523	S10	W36	04	27.5		A	HSX	120	1	3	3
9436		TACH	04	30	0537	S10	W36	04	27.5			HSX	250	1	1	3
9436		KAND	04	30	0710	S10	W36	04	27.6			HS		1	2	2
9436		HOLL	04	30	1310	S09	W41	04	27.5		A	HAX	80	1	2	3
9436	30425	MWIL	04	30	1445	S09	W41	04	27.5	5	(AP)					
9436		LEAR	05	01	0020	S10	W47	04	27.6		A	HAX	110	2	2	2
9436		SVTO	05	01	0700	S12	W49	04	27.7		A	HSX	150	1	3	3
9436		KAND	05	01	0730	S10	W49	04	27.7			HS		1	2	4
9436		RAMY	05	01	1140	S10	W52	04	27.7		A	HSX	100	1	2	3
9436		HOLL	05	01	1420	S10	W54	04	27.6		A	HSX	170	1	2	3
9436	30425	MWIL	05	01	1430	S10	W54	04	27.6	5	(AP)					
9436		LEAR	05	02	0007	S11	W59	04	27.7		A	HAX	120	2	2	3

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9436		VORO	05	02	0115	S10	W60	04	27.6			HAX	147	1		2
9436		TACH	05	02	0415	S09	W62	04	27.6			HSX	90	1	1	3
9436		SVTO	05	02	0504	S12	W63	04	27.6		A	HSX	80	1	2	2
9436		KAND	05	02	0740	S10	W64	04	27.6			HS		1	2	2
9436		RAMY	05	02	1220	S10	W65	04	27.7		A	HSX	90	1	2	4
9436		HOLL	05	02	1408	S09	W68	04	27.6		A	HSX	100	1	2	3
9436	30425	MWIL	05	02	1430	S10	W67	04	27.7	4	(AP)					
9436		LEAR	05	03	0010	S11	W72	04	27.7		A	HSX	40	1	1	4
9436		VORO	05	03	0020	S11	W73	04	27.6			HAX	178	1		2
9436		KAND	05	03	0700	S10	W76	04	27.7			HS		1	2	3
9436		SVTO	05	03	0825	S13	W76	04	27.7		A	HRX	40	1	2	2
9436		TACH	05	03	0959	S10	W78	04	27.6			HSX	50	1	1	3
9436		HOLL	05	03	1430	S09	W80	04	27.7		A	HAX	60	1	2	2
9436	30425	MWIL	05	03	1430	S09	W80	04	27.7	4	(AP)					
9436		RAMY	05	03	1550	S09	W80	04	27.7		A	HSX	60	1	2	1
9436		LEAR	05	04	0015	S08	W88	04	27.5		A	HSX	50	1		4
9446		SVTO	04	29	0528	S05	W13	04	28.2		A	AXX	10	3	2	2
9446		RAMY	04	29	1210	S05	W15	04	28.4		B	CRO	10	3	3	3
9446	30439	MWIL	04	29	1500	S05	W17	04	28.3	4	(B)					
9446		VORO	04	29	2124	S05	W23	04	28.2			AXX	14	1		2
9446		LEAR	04	30	0003	S05	W23	04	28.3		B	BXO	10	4	4	4
9446		SVTO	04	30	0523	S04	W27	04	28.2		A	AXX	10	3	1	3
9446		TACH	04	30	0537	S05	W27	04	28.2			AXX	5	1	1	3
9446		LEAR	05	03	0010	S05	W65	04	28.2		A	AXX		1		4
9440	30431	MWIL	04	25	1430	N08	E38	04	28.4	4	(AF)					
9440		HOLL	04	26	1450	N07	E23	04	28.3		B	BXO	10	6	3	3
9440	30431	MWIL	04	26	1500	N08	E24	04	28.4	3	(BP)					
9440		VORO	04	26	2146	N08	E20	04	28.4			BXO	17	2	3	2
9440		TACH	04	27	0551	N08	E14	04	28.3			BRO	6	4	4	4
9440		SVTO	04	27	0630	N08	E14	04	28.3		B	DRO	30	5	4	2
9440		KAND	04	27	0700	N07	E14	04	28.3			BXO		6	4	5
9440		RAMY	04	27	1206	N09	E11	04	28.3		B	DAO	30	5	4	3
9440	30431	MWIL	04	27	1500	N08	E10	04	28.4	4	(B)					
9440		HOLL	04	27	1514	N08	E09	04	28.3		B	BXO	20	7	4	3
9440		VORO	04	27	2147	N08	E06	04	28.3			BXO	25	2	3	2
9440		LEAR	04	28	0010	N08	E05	04	28.4		B	DAO	30	3	4	3
9440		SVTO	04	28	0510	N08	E02	04	28.4		B	DAO	30	5	4	2
9440		KAND	04	28	0605	N09	E01	04	28.3			BXO		2	4	4
9440		HOLL	04	29	1438	N04	W18	04	28.3		B	CAO	20	2	3	3
9440A		KAND	04	24	0950	S07	E68	04	29.5			AX		1		5
9440A		HOLL	04	24	1424	S09	E62	04	29.2		A	AXX	20	1	1	4
9440A	30429	MWIL	04	24	1500	S07	E63	04	29.3	4	(B)					
9440A		LEAR	04	27	0015	S10	E33	04	29.5		A	AXX		1		2
9440A	30435	MWIL	04	27	1500	S10	E25	04	29.5	4	(B)					
9440A		HOLL	04	27	1514	S10	E25	04	29.5		B	BXO	10	3	3	3
9441		SVTO	04	26	0750	N07	E62	05	1.0		A	HRX	10	1	1	2
9441		RAMY	04	26	1235	N09	E57	04	30.8		B	CSO	20	4	4	4
9441		HOLL	04	26	1450	N08	E55	04	30.7		B	CSO	50	5	4	3
9441	30433	MWIL	04	26	1500	N08	E56	04	30.8	4	(B)					
9441		VORO	04	26	2146	N08	E49	04	30.6			HAX	38	5		2
9441		LEAR	04	27	0015	N08	E50	04	30.7		B	DAO	50	13	4	2
9441		TACH	04	27	0551	N07	E46	04	30.7			CAO	107	4	6	4
9441		SVTO	04	27	0630	N09	E47	04	30.8		B	DAI	140	14	8	2
9441		KAND	04	27	0700	N08	E45	04	30.7			CAO		17	7	5
9441		RAMY	04	27	1206	N08	E44	04	30.8		B	DAO	180	12	8	3
9441	30433	MWIL	04	27	1500	N07	E42	04	30.8	5	(B)					
9441		HOLL	04	27	1514	N07	E42	04	30.8		B	DAO	200	19	8	3
9441		VORO	04	27	2147	N08	E38	04	30.7			DSO	213	9	6	2
9441		LEAR	04	28	0010	N08	E36	04	30.7		B	DAO	190	14	6	3
9441		SVTO	04	28	0510	N08	E33	04	30.7		B	DAO	170	22	8	2
9441		TACH	04	28	0531	N07	E33	04	30.7			DAO	350	5	7	4
9441		KAND	04	28	0605	N08	E34	04	30.8			DAO		19	8	4
9441		RAMY	04	28	1208	N08	E31	04	30.8		B	DSO	170	12	7	2
9441		HOLL	04	28	1450	N06	E28	04	30.7		B	DAO	200	17	7	3
9441	30433	MWIL	04	28	1500	N08	E29	04	30.8	5	(B)					

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9441		VORO	04	28	2144	N06	E25	04	30.8			DAI	387	18	7	2
9441		LEAR	04	29	0008	N08	E23	04	30.7		B	DAI	190	28	9	4
9441		TACH	04	29	0422	N07	E20	04	30.7			DSO	150	2	8	1
9441		SVTO	04	29	0528	N07	E20	04	30.7		B	EAO	250	17	11	2
9441		KAND	04	29	0910	N06	E19	04	30.8			DAO		17	10	5
9441		RAMY	04	29	1210	N08	E18	04	30.8		B	DSI	170	23	9	3
9441		HOLL	04	29	1438	N06	E15	04	30.7		B	DSO	180	39	10	3
9441	30433	MWIL	04	29	1500	N07	E15	04	30.7	5	(B)					
9441		VORO	04	29	2124	N07	E11	04	30.7			DAI	421	18	9	2
9441		LEAR	04	30	0003	N07	E09	04	30.7		B	EAI	220	32	11	4
9441		SVTO	04	30	0523	N07	E06	04	30.7		B	EAO	260	21	13	3
9441		TACH	04	30	0537	N06	E05	04	30.6			DAI	528	13	8	3
9441		KAND	04	30	0710	N07	E06	04	30.7			DAO		16	10	2
9441		HOLL	04	30	1310	N06	E01	04	30.6		B	EAO	230	32	11	3
9441	30433	MWIL	04	30	1445	N07	E01	04	30.7	5	(BP)					
9441		LEAR	05	01	0020	N07	W06	04	30.6		B	EAO	230	20	11	2
9441		SVTO	05	01	0700	N06	W07	04	30.8		B	EAO	270	28	13	3
9441		KAND	05	01	0730	N05	W09	04	30.6			ESO		13	12	4
9441		RAMY	05	01	1140	N07	W09	04	30.8		B	ESI	230	21	11	3
9441		HOLL	05	01	1420	N06	W12	04	30.7		B	ESI	280	31	13	3
9441	30433	MWIL	05	01	1430	N07	W13	04	30.6	5	(BG)					
9441		LEAR	05	02	0007	N07	W17	04	30.7		B	EAI	250	32	11	3
9441		VORO	05	02	0115	N06	W17	04	30.8			DAI	292	8	11	2
9441		TACH	05	02	0415	N08	W20	04	30.7			CAI	312	13	11	3
9441		SVTO	05	02	0504	N07	W21	04	30.6		B	EAO	350	18	14	2
9441		KAND	05	02	0740	N06	W22	04	30.7			EAO		16	13	2
9441		RAMY	05	02	1220	N08	W22	04	30.9		B	ESI	280	21	13	4
9441		HOLL	05	02	1408	N07	W25	04	30.7		B	EKI	320	30	14	3
9441	30433	MWIL	05	02	1430	N07	W27	04	30.6	5	(BG)					
9441		LEAR	05	03	0010	N07	W31	04	30.7		BG	EAO	250	17	12	4
9441		VORO	05	03	0020	N06	W31	04	30.7			DAI	251	6	9	2
9441		KAND	05	03	0700	N06	W36	04	30.6			EAO		16	12	3
9441		SVTO	05	03	0825	N07	W36	04	30.6		BG	EAO	200	8	12	2
9441		TACH	05	03	0959	N07	W35	04	30.8			DAI	392	7	9	3
9441	30433	MWIL	05	03	1430	N06	W40	04	30.6	5	(BP)					
9441		HOLL	05	03	1430	N07	W39	04	30.7		B	EAO	210	13	12	2
9441		RAMY	05	03	1550	N08	W38	04	30.8		B	EAO	190	8	12	1
9441		LEAR	05	04	0015	N07	W43	04	30.8		BG	EAO	170	13	12	4
9441		SVTO	05	04	0529	N05	W47	04	30.7		BG	DAO	220	8	10	3
9441		KAND	05	04	0705	N05	W50	04	30.5			EAI		16	11	3
9441		RAMY	05	04	1218	N07	W50	04	30.8		B	DSO	150	3	10	2
9441	30433	MWIL	05	04	1430	N06	W54	04	30.6	5	(BG)					
9441		HOLL	05	04	1700	N07	W58	04	30.4		B	DAO	260	12	8	2
9441		LEAR	05	05	0120	N08	W58	04	30.7		BG	DAO	180	6	8	1
9441		TACH	05	05	0540	N04	W67	04	30.2			HSX	110	1	1	4
9441		KAND	05	05	0820	N04	W68	04	30.3			HA		2	2	3
9441		SVTO	05	05	1025	N05	W67	04	30.4		A	HSX	100	1	2	2
9441		RAMY	05	05	1218	N06	W67	04	30.5		A	HSX	150	1	3	2
9441	30433	MWIL	05	05	1430	N06	W70	04	30.4	5	(AP)					
9441		HOLL	05	05	1440	N04	W72	04	30.2		B	CAO	160	3	5	3
9441		VORO	05	06	0121	N05	W78	04	30.2			HAX	186	1		2
9441		TACH	05	06	0639	N04	W81	04	30.2			HSX	50	1	1	4
9441	30433	MWIL	05	06	1430	N05	W86	04	30.2	4	(AP)					

Stations reporting:

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

APRIL 2001

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	0917	0918	0936	1-	1					1	No flare		
01	1053	1137	1137D	3	5	1	2	1		3	1055	M5.5	
01	1357	1403	1423	2	5		1	1			1354		9393
01	1901	1904	1930	1+	3					2	1900	C9.9	9393
01	1937	1948	2115	3	1					1	1944	M4.0	9393
01	2230	2233	2249	1	1					1	2228	C9.0	9393
01	2249	2256	2332	2	1					1	2247	M1.2	9393
02	0636	0638	0638D	2-	1					1	No flare		
02	0654	0706	0726	2	5	1	1	1		1	0645		9393
02	0801	0806	0816	1+	5	1		1			0801		9393
02	0816	0823	0912	2	5	1		1			No flare		
02	0922	0927	0927D	3	5	1	2	1		1	0919	C8.5	9393
02	0947	0954	0954D	2	5		1	1		1	0945	M1.9	9393
02	1007	1016	1043	3	5		2	1		4	1004	X1.4	9393
02	1054	1131	1239	3	5		2	1		2	1058	X1.1	9393
02	1230	1235	1301	3-	5	1	1	1			No flare		
02	1807	1823	1837D	1+	1					1	1808	M2.1	9393
02	1837	1845	2015	3	1					1	1808	M2.1	9393
02	2137	2151	2225	2	3					2	2132	X20.0	9393
03	0650	0708	0743	2	1		1				0653		9393
03	0918	0938	1018	1	1		1				0917		9397
03	1229	1235	1306	2-	5		1			8	1229	M2.4	9393
03	1645	1648	1658	1-	1					1	1647	C7.1	
03	1737	1744	1805	2	3					3	1735		9401
03	1846	1850	1922	2-	1					1	No flare		
03	2318	2321	2357	2	1					1	2323		9415
04	0641	0650	0720	3-	5					2	0637	C8.7	9393
04	0750	0757	0757D	1	1					1	0750	C3.2	
04	0808	0818	0859	2-	3					2	No flare		
04	0951	1007	1035	2	5	1	1	1		1	0941	M1.6	9415
04	1154	1204	1212	1-	3		1			1	1152	M1.1	9401
04	1214	1219	1237	2	5		2	1		5	1212	M2.0	
04	1230	1234	1300	3+	1					1	1212	M2.0	
04	1617	1622	1700	2	1					1	No flare		
04	2008	2013	2026	1-	1					1	No flare		
05	0423	0425	0445	1	1					1	No flare		
05	0507	0510	0545	2	1					1	0510	M1.1	
05	0705	0710	0730	1	1					1	No flare		
05	0800	0808	0808D	3	5	1	2	1		4	0757	M1.2	9417
05	0844	0854	1009	3	3			1		1	0837	M8.4	9417
05	1637	1701	1745	2+	1					1	1657	M5.1	9415
05	1644	1723	1824	3	1		1				1657	M5.1	9415
06	1911	1917	2005	2	5					5	1910	X5.6	9415
07	0927	0940	0940D	2-	1					1	0915	C2.0	9417
07	1038	1044	1120	1	3		1			1	1034	C2.3	
08	1058	1115	1145	1	1		1				No flare		
08	2031	2055	2230	3	1					1	No flare		
09	0645	0657	0723	1+	1					1	0646	C3.0	9415
09	0841	0843	0843D	1	1					1	No flare		
09	0924	0928	0941	2+	5	1	2	1		2	0920	C6.1	9415
09	1522	1529	1551	3	5	1	2	1		1	1520	M7.9	9415
10	0500	0515	0630	2+	1					1	0506	X2.3	9415
10	0517	0528	0646	2-	3		1			1	0506	X2.3	9415
10	1439	1450	1524	2	5					4	1437	C6.5	9417
10	1444	1500	1529U	2	1					1	1437	C6.5	9417
10	1830	1834	1853D	1	1					1	1815	C2.7	9415
11	0540	0546	0621	1+	1					1	0538	C1.4	
11	0627	0628	0635	1-	1					1	0625	C1.1	

* = no flare patrol.

SUDDEN IONOSPHERIC DISTURBANCES

APRIL 2001

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
11	1300	1315	1353	3	5	1	2	1		7	1256	M2.3	9415
11	1610	1626	1710	2+	1					1	No flare		
11	1852	1855	1922	2-	1					1	1849	C1.6	9424
12	0300	0303	0330	1+	1					1	0256	M1.3	9415
12	0940	0946	0954	1	3					2	0939	X2.0	9415
12	1011	1024	1144	3	5	1	2	1		4	0939	X2.0	9415
12	1405	1415	1432	1+	1					1	No flare		
12	2115	2117	2200	2	1					1	No flare		
13	1137	1200	1237	2	1					2	1155	B5.8	
14	0500	0505	0530	1+	1					1	0459	C1.7	
14	1712	1722	1731	1-	5					2	1715	M1.0	9415
14	1725	1809	1925	3	1					2	1725		9415
15	0404	0407	0430	2	1					1	0404	C2.2	
15	0554	0605	0703	2+	3					2	0553	C3.6	9415
15	0558	0626	0734	2	1		1				0553	C3.6	9415
15	0755	0803	0803D	3	5	1	2	1		3	0750	C6.7	
15	0838	0851	0922	1-	1	1	1			3	0826	C7.7	9415
15	1059	1107	1159	3-	5	1	2	1		3	1056	C5.3	
15	1337	1351	1530	3	5	1	2	1		11	1319	X14.4	9415
16	0621	0628	0639	2	5		2	1		4	0616	M1.1	
16	0700	0707	0727	2+	5		2	1			0656	C3.7	9415
16	1114	1124	1208	1+	3	1	1			1	1110	C2.9	
17	0543	0600	0824	2	1		1				0541	C4.7	
17	1212	1223	1312	1+	5	1	2	1		3	1206	C1.9	
17	1343	1404	1513	2	5		1			2	1344	C2.2	
17	2120	2135	2201	2-	1					2	2118	M1.3	
17	2136	2150	2236	2	1					2	2118	M1.3	
18	0645	0656	0811	1	1		1				No flare		
18	1435	1454	1559	1	1		1				No flare		
19	0954	1012	1129	1	1		1				*		
19	1126	1130	1246	3	5	1	2	1		11	1122	M2.0	
20	0500	0507	0615	2+	1					1	0501	M1.0	9433
20	0515	0534	0622	2	1		1				0501	M1.0	9433
20	1256	1301	1316	2+	5	1	2	1		8	1253	C7.0	
20	1402	1410	1438	2-	1					2	1407	C4.2	
20	1407	1421	1435	1+	1					1	1407	C4.2	
20	1654	1658	1714	1-	3					5	1654	C1.8	
20	1815	1824	1858	2	3					2	1820	C2.2	
20	1910	1916	1946	2-	3					6	1905	C4.0	9433
20	1950	1957	2125	3-	5					7	1951	M4.1	9433
20	2130	2133	2212	2-	5					7	2128	C8.0	
21	0440	0447	0525	3-	1					1	0439	C4.8	
21	1700	1705	1730	1+	5					4	1659	C2.1	
21	1804	1807	1822	1-	5					3	1805	C1.7	9433
21	2204	2206	2231	1+	3					3	2203	C3.3	9433
21	2230	2237	2315	2	1					1	2233	C3.6	9433
22	0516	0521	0551	1+	3					2	0511	C2.8	9433
22	0812	0815	0821	2	5		1	1		3	0809	C3.7	9433
22	1016	1025	1056	2+	5	1		1		2	1011	C4.0	
22	1103	1117U	1220	1	1		1				*		
22	2036	2041	2123	2	5					7	2037	M3.2	9433
22	2110	2111	2126	1-	1					1	No flare		
22	2138	2141	2150	1-	1					1	2133	C1.7	9433
22	2157E	2204	2235D	2	1					1	2144	C3.5	9433
23	0123	0125	0155	1+	1					1	0119	M1.0	9433
23	1012	1018	1045	3	5	1	1	1		2	1006	C9.1	9433

* = no flare patrol.

APRIL 2001

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
23	1159	1224U	1306	1	1		1				1206	C2.8	9431
23	2013	2101	2137	2+	3					2	2015	M4.0	9433
23	2340	2342	2355	1-	1					1	2336	C3.2	9433
24	0020	0024	0050	1+	1					1	0015	C5.3	9433
24	0538	0547	0602	3-	5	1	2	1		2	0533	M2.1	9433
24	0657	0701	0726	3	5	1	2	1		2	0653	M3.1	9433
24	1242	1245	1333	3	5	1	2	1		7	1238	M1.6	9433
24	1806	1811	1916	2+	3					6	1804	M2.3	9433
25	0505	0512	0603	2+	3					2	0502	C7.8	9433
25	0752	0832	0921	2+	3		1			1	0802	C5.3	9433
25	0937	0943	1009	2+	5	1	1	1		1	0934	C4.0	9433
25	1145	1148	1208	3	5	1	2	1		7	1140	C6.8	9433
25	1315	1326	1342	1	1		1				No flare		
25	1344	1351	1440	3	5	1	2	1		8	1339	M2.7	9433
25	1452	1521	1535	1	1		1				1439		9433
25	1534	1542	1616	2	5	1	2	1		6	1530	C6.6	9433
25	1824	1830	1855	1+	5					4	1825	C2.4	9433
26	0642	0650	0703	2	5	1		1		1	No flare		
26	1309	1320	1402	3-	5	1	2	1		6	1301		9433
27	0658	0701	0720	2+	5	1		1		2	0654	C2.1	9433
27	1908	1915	2019	2	5					7	1906	M1.2	9433
27	2038	2043	2055	1-	1					1	2037	C1.9	9433
27	2303	2320	2418	2+	1					1	2258	C6.2	9433
28	0656	0659	0725	3-	5		1	1		1	0652	C3.1	9433
28	0815	0817U	0915	1	1		1				No flare		
28	0919	0929	1015	2+	5	1	1	1		2	0911	C7.0	9433
28	2011	2013	2036	1	5					5	2008	C2.8	
29	0826	0828	0845	1-	1					1	0823	C2.1	
29	0912	0936	1028	1	3		1			1	0908	C3.0	
29	1032	1042	1129	1	1		1				No flare		
29	1054	1102	1114	1	1					1	1057	C1.9	
29	1636	1639	1657	1	5					4	1635	C2.0	
29	1743	1745	1808	1	5					4	1742	C2.4	9445
29	1920	1924	1947	1	5					4	1921	C2.7	9445
29	2326	2328	2336	1-	1					1	2323	C3.2	
30	0720	0723	0753	2+	5	1	2	1		1	0717	C5.1	9445
30	0847	0923	1019	1	1		1				No flare		
30	1021	1024	1153	1+	1					1	1019	C3.6	9445
30	1158	1208	1244	1	1		1				1154	C1.6	9433
30	1313	1315	1321	1-	1					1	1312	C1.9	9445
30	1521	1523	1544	1	1					1	1518	C2.5	9445

* = no flare patrol.

OBSERVATORIES REPORTING FOR APRIL 2001

Brookline, Massachusetts, USA	SES	Panska Ves, Czech Republic	SES, SEA, SWF
Edenvale, Rep of S. Africa	SES	Parma, Ohio, USA	SES
Houston, Texas, USA	SES	Sofia, Bulgaria	SES
Hudson, Ohio, USA	SES	Sussex, United Kingdom	SES
Isola del Gran Sasso, Italy	SES	Torrington, Connecticut, USA	SES
Koniz, Switzerland	SES	Tucson, Arizona, USA	SES
Marlboro, Massachusetts, USA	SES	Upice, Czech Republic	SEA
Nerja, Spain	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

APRIL 2001

OBSERVATION Day	Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
01	0000	0750	CULG	0000.0E	0750.0D	III	S,C	2	20	200	
			LEAR	0045.0	0046.0	III		2	25	180	
	0000	0900	HIRA	0045.0	0045.5	III	B	2	30	190	
			LEAR	0106.0	0108.0	III		2	29	57	
			LEAR	0125.0	0129.0	III		2	25	62	
			LEAR	0135.0	0138.0	III		2	25	68	
			LEAR	0148.0	0151.0	III		2	25	56	
			LEAR	0436.0	0454.0	III	N	2	25	68	
			LEAR	0459.0	0529.0	III	N	2	25	161	
			CULG	0506.0	0529.0	III	N	2	18X	120	
			HIRA	0506.0	0506.5	III	B	2	30	110	
			HIRA	0507.5	0508.0	III	B	1	25X	110	
	0518	1526	POTS	0518	1526 U	I	S,C,DC	3	40X	450	
			SVTO	0523.0	0524.0	III		2	25	65	
			HIRA	0524.0	0524.5	III	B	2	25X	60	
	0602	1232	IZMI	0602.0E	1232.0D	I	S,C	1	45	270X	
			IZMI	0616.0U	1232.0D	III	N	2	25X	95	
			HIRA	0633.0	0633.5	III	B	1	110	500	
			IZMI	0633.1	0633.5	III	G	2	125	270X	
			POTS	0633.1	0633.4	III	G	3	130	300	
			IZMI	0641.1	0648.1	III	GG	2	38	100	
			POTS	0648	1559	III	N	1	40X	90U	
			IZMI	0657.6	0657.8	III	G	2	45	95	
	0545	1624	ONDR	0730.1	0731.0	DCIM	W	1	2215	4500X	
			IZMI	1018.9	1019.0	III	B	2	25X	90	
			ONDR	1052.5	1114.1	DCIM	G	2	2000X	4500X	
	0615	1705	BLEN	1052.6	1150.2	DCIM	C	3	1415X	4000X	
			IZMI	1058.7	1111.0U	I	S,C	2	45	270X	
			IZMI	1101.8	1103.3	I	GG,DC	2	160	265	
			IZMI	1106.2	1107.4	III	GG	2	45	65	
			ONDR	1115.5	1125.3	DCIM	G	1	800X	2000X	
			ONDR	1117.1	1213.1	DCIM	GG	3	2000X	4500X	
			SGMR	1120.0	2118.0	CONT		1	30	80	
			ONDR	1129.4	1203.2	DCIM	GG	2	800X	2000X	
			IZMI	1226.3	1226.6	III	G	2	180	270X	
			HOLL	1320.0	0114.0	CONT		1	25	180	
			PALE	1642.0	0254.0	CONT		1	25	180	
			HOLL	1727.0	1727.0	III		1	25	134	
			HOLL	1802.0	1802.0	III		1	25	138	
			HOLL	1949.0	0118.0	CONT		1	75	180	
	2020	2400	CULG	2020.0E	2130.0	III	S,C	1	40U	180	
	2022	2400	HIRA								
			CULG	2155.0	2400.0	III	N	1	23	90	
			LEAR	2247.0	1009.0	CONT		1	25	180	
02	0000	0750	CULG	0000.0E	0135.0	III	N	1	23	90	
			HOLL	0005.0	0118.0	III	N	1	25	180	
			LEAR	0005.0	0117.0	III	N	1	25	180	
			PALE	0005.0	0121.0	III	N	1	25	180	
	0000	0901	HIRA	0015.0	0015.5	III	B	1	50	100	
	0525	1520	POTS	0530 E	1520 U	I	S,C,DC	3	40X	400	
			SVTO	0538.0	0630.0	III	N	1	25	147	
			CULG	0549.0	0600.0	III	G	1	23	75	
			LEAR	0556.0	0559.0	III		1	25	117	
	0606	1241	IZMI	0604.0E	0925.0U	I	N	2	45	270X	
	0552	1707	BLEN	0632.9	0649.5	DCIM	P	3	1415X	4000X	
			IZMI	0637.1	0637.3	III	B	1	45U	100	
	0543	1625	ONDR	0643.0	0647.5	DCIM	GG	1	1128	2000X	
			IZMI	0653.0U	1100.0U	III	N	1	45	100	
			POTS	0709	1250	III	N	1	40X	90U	
			IZMI	0709.3	0709.3	III	B,FS	2	50	90	
			HIRA	0741.0	0741.5	III	B	1	90	220	
			IZMI	0741.4	0741.7	III	G	2	90	230	
			POTS	0741.4	0741.6	III	B	3	110U	225	
			POTS	0758	1352	III	N	2	40X	90U	
			SVTO	0758.0	0759.0	III		1	30	76	
			IZMI	0758.6	0759.6	III	G	2	40	95	
			IZMI	0911.5	0912.0	III	G	2	180	270X	
			IZMI	0925.0U	1241.0D	I	S	2	45	270X	

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

APRIL 2001

OBSERVATION Day	Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
02			IZMI	0946.9	0950.8	III	GG,FS	2	40	180	
			POTS	0946.9	0947.5	III	G	3	40X	170U	
			SVTO	0947.0	0947.0	III		1	29U	46U	
			ONDR	1006.0	1010.4	CONT		2	2000X	4500X	
			BLEN	1006.1	1007.1	III	G,RS	2	2700	3600	
			BLEN	1006.1	1010.5	DCIM	C	3	1415X	4000X	
			ONDR	1007.1	1009.3	CONT		1	1536	2000X	
			IZMI	1015.0	1021.9	III	GG,FS	2	35	270X	
			SVTO	1015.0	1021.0	III		1	25	78	
			POTS	1015.2	1018.9	III	G	3	40X	90U	
			IZMI	1032.0	1032.4	III	G	2	150	270X	
			BLEN	1056.0	1158.5	DCIM	P,III	3	1415X	4000X	
			ONDR	1057.0	1145.3	DCIM	GG	2	2000X	4500X	
			ONDR	1058.2	1144.1	DCIM	GG	2	800X	2000X	
			IZMI	1059.0	1103.2	III	G,FS,C	2	25X	230	
			SVTO	1059.0	1100.0	III		1	29U	84U	
			POTS	1059.8	1100.5	III	G	3	40X	90U	
			SGMR	1100.0	1117.0	III	N	1	30	80	
			POTS	1100.3	1100.6	V		3	58	65	
			IZMI	1104.0	1104.7	III	G	2	170	270X	
			POTS	1105.8	1228 U	IV	P	2	40X	550	
			SVTO	1106.0	1117.0	III	N	3	25	180	
			IZMI	1106.9	1109.2	III	G	2	100	260	
			POTS	1107.6	1114.3	III	GG	3	110U	250	
			SVTO	1110.0	1115.0	II		1	30U	85U	ESS 1084
			IZMI	1110.2	1115.0	II	HARM	2	35	120	
			POTS	1110.2	1114.7	II	SH,H	3	40X	90U	
			POTS	1110.3	1112.1U	II	F,H	3	40X	65	
			IZMI	1112.8	1114.6	III	GG,C	2	25X	270X	
			SGMR	1113.0	1114.0	II		1	35	60	ESS 2400
			IZMI	1115.1	1223.0U	IV		2	25X	270X	
			SVTO	1116.0	1524.0	IV		1	25	180	
			IZMI	1116.6	1211.0U	III	S	2	25X	270X	
			SGMR	1119.0	1715.0	IV		2	30	80	
			ONDR	1146.1	1204.0	DCIM	GG	2	2000X	4500X	
			ONDR	1147.1	1203.5	DCIM	GG	2	800X	2000X	
			BLEN	1251.6	1252.0	III	G	1	2140	2300	
			HOLL	1338.0	1510.0	III	N	1	25	129	
			ONDR	1407.3	1423.4	CONT		1	2000X	4500X	
			ONDR	1407.5	1425.0	DCIM	GG	2	800X	2000X	
			BLEN	1407.9	1421.6	DCIM	C,S	3	1415X	4000	
			ONDR	1502.5	1554.4	CONT		2	800X	2000X	
			ONDR	1503.4	1539.5	CONT		2	2000X	4500X	
			BLEN	1506.5	1537.7	DCIM	C	3	1415X	4000X	
			BLEN	1526.3	1526.7	III	GG,RS	2	2000	3800	
			PALE	2135.0	0156.0	III	N	1	25	180	
	2020	2400	CULG	2135.0	2258.0	III	N	1	23	90	
			SGMR	2149.0	2159.0	II		2	30	80	ESS 1400
	2021	2400	HIRA	2149.5	2150.5	III	B	2	70	120	
			HOLL	2151.0	2216.0	II		2	25	179	ESS 0748
			CULG	2152.0	2153.0	III	G	1	30	280	
			CULG	2152.0	2157.0	II	FN,H	3	28	55	FLA ESS 800
			CULG	2152.0	2157.0	II	SH,H	3	55	110	
			HIRA	2152.0	2157.0	II		3	25	280	
			PALE	2152.0	2156.0	II		2	25	180	ESS 1200
			SGMR	2204.0	2205.0	III		1	30	70	
			CULG	2205.0	2206.0	III	G	2	23	90	
			HIRA	2205.0	2205.5	III	B	2	25	120	
			CULG	2215.0	2216.0	UNCLF		2	28	35	
			PALE	2234.0	2238.0	II		1	25	60	ESS 0960
			SGMR	2236.0	2236.0	III		1	30	60	
03	0000	0901	HIRA	0117.0	0117.5	III	B	1	25X	320	
			LEAR	0155.0	0156.0	III		1	25	96	
			HIRA	0156.0	0156.5	III	B	2	25X	70	
	0000	0750	CULG	0156.0	0156.0	III	B	2	20	90	
			LEAR	0226.0	0229.0	III		1	25	62	
			HIRA	0228.0	0228.5	III	B	1	25X	70	
			LEAR	0258.0	0259.0	III		1	25	129	

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03			PALE	0258.0	0404.0	III	N	2	25	180	
			HIRA	0258.5	0259.0	III	B	1	50	130	
			HIRA	0321.0	0345.0	IV		1	30	500	
			LEAR	0321.0	0434.0	IV		1	25	180	
			CULG	0322.0	0344.0	III	N	1	23	90	
			HIRA	0358.0	0358.5	III	B	1	100	120	
	0518	1631	POTS	0522	1631 U	I	S,W	1	110U	400	
			POTS	0556.6	0557.3	III	G	2	110U	170U	
			IZMI	0607.0E	1140.0U	I	N	2	220	270X	
	0607	1200	IZMI	0607.0E	0707.0	III	N	1	45	100	
			IZMI	0624.1	0624.7	III	G	2	45	150	
			POTS	0624.1	0624.6	III	G	2	110U	220	
	0541	1627	ONDR	0726.5	0745.5	CONT		2	800X	2000X	
			IZMI	0811.0	0815.0	III	G	1	40	100	
			POTS	0812.4	0815.1	III	G	2	40X	90U	
			SVTO	0813.0	0815.0	III		1	25	50	
			IZMI	0858.3	0858.5	III	B	1	45	95	
			POTS	0925.8	0925.9	III	B,RS	2	110U	170U	
			IZMI	1012.6	1012.7	III	B	1	45	90	
			POTS	1033.9	1034.3	DCIM		2	200U	750	
			POTS	1100.2	1105.3	III	G	2	110U	170U	
			IZMI	1129.1	1130.2	III	B	2	30	95	
			POTS	1129.1	1130.3	III	G	2	40X	130	
			POTS	1201.6	1202.0	III	G	2	40X	170U	
			ONDR	1231.5	1233.0	DCIM		1	2352	4500X	
	0552	1707	BLEN	1231.5	1233.3	DCIM	C	2	1415X	4000X	
			POTS	1252.2	1252.4	III	B	2	40X	70	
			POTS	1627.4	1627.5	III	B	2	130	170U	
			BLEN	1646.5	1647.2	DCIM	C	1	2000	4000X	
	2020	2400	HIRA								
	2020	2400	CULG	2020.0E	2126.0	III	N	1	40	150	
04	0000	0902	HIRA								
			LEAR	0223.0	0625.0	CONT		2	25	180	
	0000	0750	CULG	0310.0	0445.0	III	N	1	23	70	
			CULG	0445.0	0544.0	III	S,C	1	23	90	
			SVTO	0449.0	0833.0	CONT		1	25	180	
	0518	1633	POTS	0518 E	1633 U	I	S,C,DC	2	110U	400	
			POTS	0524.4	0526.6	DCIM		2	350	650	
			POTS	0536.2	0536.4	DCIM		1	350	650	
			IZMI	0550.0E	0618.0U	III	N	1	45	95	
	0550	1200	IZMI	0550.0E	1200.0D	I	S	2	45	270X	
			POTS	0600.3	0600.8	DCIM		2	450	650	
			IZMI	0842.7	0843.1	III	G	2	150	270	
			POTS	0842.7	0843.0	III	G,U	3	140	170U	
			POTS	0910 U	1034 U	IV		3	40X	680	
			IZMI	0915.3	0916.5	III	G	2	50	250	
			IZMI	0919.0U	1041.0U	IV		2	25X	270X	
			IZMI	0921.1	0921.2	UNCLF		2	130	230	
			LEAR	0925.0	1005.0	CONT		2	25	180	
	0552	1707	BLEN	0926.0	1046.0	DCIM	P	1	1415X	4000X	
			IZMI	0927.0	0927.8	I	GG,DC	2	180	250	
			ONDR	0929.3	1021.4	DCIM	GG	2	800X	2000X	
	0539	1629	ONDR	0932.0	1019.1	DCIM	GG	2	2000X	4500X	
			SVTO	0941.0	1045.0	CONT		2	25	180	
			IZMI	0941.6	1024.0U	III	N	2	25X	170X	
			ONDR	1023.1	1043.4	DCIM	GG,SP	1	800X	2000X	
			ONDR	1023.1	1044.4	DCIM	G	2	2000X	4500X	
			BLEN	1153.5	1155.5	DCIM	P	1	1415X	3600	
			ONDR	1154.1	1155.3	DCIM	G	2	800X	1986	
			POTS	1154.3	1158.0	DCIM		2	275	800X	
			BLEN	1211.4	1218.5	DCIM	P	1	1415X	3600	
			POTS	1217.4	1218.2	III	G	2	110U	370	
			POTS	1227.5	1227.7	III	B	2	110U	150	
			POTS	1353.7	1354.6	III	G	2	40X	250	
			ONDR	1416.2	1419.3	DCIM	GG	3	800X	1925	
	2018	2400	HIRA								
	2020	2400	CULG								

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OBSERVATION Day	Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
05	0000	0750	CULG								
	0000	0903	HIRA	0457.0	0458.0	III	B	1	210	420	
	0518	1635	POTS	0536 E	1635 U	I	S,C,DC	1	40X	450	
			POTS	0600.0	0600.2	DCIM		1	250	525	
	0601	1200	IZMI	0624.0	0759.0U	I	N	1	160	270X	
			IZMI	0631.0	0633.7	III	GG	2	45	270X	
			HIRA	0732.0	0732.5	III	B	1	300	450	
			IZMI	0750.5	0754.3	I	GG	2	160	210	
			IZMI	0759.0U	1200.0D	I	N	2	50	270X	
			IZMI	0810.0U	0900.0U	IV		2	45	270X	
			LEAR	0811.0	0812.0	III		1	25	100	
			SVTO	0811.0	0812.0	III		1	25	62	
			IZMI	0811.1	0812.8	III	GG,FS	2	25X	240	
			POTS	0811.6	0812.3	III	G	2	40X	250	
			IZMI	0813.3	0900.0U	III	S	2	45	160	
			IZMI	0816.0	0816.6	III	G,FS	2	50	270X	
			LEAR	0816.0	1000.0	CONT		2	25	180	
			ONDR	0832.1	0844.1	CONT		1	866	2000X	
	0537	1631	ONDR	0832.3	0843.0	DCIM	G	1	2000X	4500X	
	0552	1707	BLEN	0832.7	0951.0	DCIM	P,C	1	1415X	4000X	
			ONDR	0846.5	0953.0	CONT		3	2000X	4500X	
			ONDR	0849.1	0948.4	DCIM	GG	2	800X	2000X	
			LEAR	0853.0	0859.0	III		2	25	174	
			SVTO	0853.0	0903.0	III		2	25	149	
			IZMI	0853.7	0854.1	III	G	3	25X	100	
			POTS	0853.7	0859.9	III	G	3	40X	90U	
			IZMI	0854.3	0855.7	I	GG	2	160	210	
			IZMI	0859.4	0859.9	III	G	2	40	150	
			IZMI	0901.0	0903.8	I	GG,DC	2	50	95	
			IZMI	0901.0	0954.0U	IV	N	2	45U	270U	
			IZMI	0910.0U	0918.8	III	S	2	45U	95U	
			IZMI	0912.8	0916.0	CONT		2	170	270X	
			IZMI	0913.0	0915.2	III	GG,C	2	25X	220	
			IZMI	0921.2	0921.8	III	G,FS	2	30	90	
			IZMI	1012.3	1013.0	III	G,FS	2	45	100	
			IZMI	1018.4	1019.0	III	G,FS	2	45	90	
			IZMI	1021.5	1022.0	III	G	2	45	100	
			POTS	1021.7	1021.9	III	B	1	40X	75	
			ONDR	1309.1	1310.2	DCIM	GG	2	800X	1812	
			SGMR	1635.0	1801.0	IV		3	30	80	
			BLEN	1636.8	1707.0X	DCIM	P,C	3	1415X	4000X	
			HOLL	1640.0	1828.0	III	N	1	25	167	
			HOLL	1705.0	1800.0	IV		1	25	172	
			SGMR	1826.0	2017.0	CONT		1	30	50	
			LEAR	2316.0	2326.0	III		1	42	132	
			PALE	2316.0	2323.0	III		1	40U	60U	
	2017	2400	HIRA	2316.0	2316.5	III	B	1	25X	190	
	2020	2400	CULG	2316.0	2326.0	III	G	1	30	140	
06	0000	0750	CULG								
	0000	0904	HIRA	0237.5	0238.0	III	B	2	190	500	
	0520	1615	POTS	0520 E	1615 U	I	S,W	1	110U	350	
	0600	1200	IZMI	0645.0	0646.5	I	GG	2	80	95	
			IZMI	0648.0	0648.4	I	G	2	230	250	
			IZMI	0717.3	0718.4	I	GG	2	200	220	
			IZMI	0728.1	0728.2	III	B	1	200	260	
			POTS	0834.5	0834.7	III	B	1	110U	170U	
			IZMI	0847.9	0858.9	II		2	50	90	
			LEAR	0908.0	0911.0	III		2	25	180	
			SVTO	0908.0	0910.0	III		1	25U	84U	
			IZMI	0908.5	0909.2	III	G	2	45	100	
			POTS	0908.6	0910.7	III	G	3	40X	170U	
			IZMI	0910.3	0911.3	III	G	2	40	240	
			IZMI	0910.5	0911.0	V		2	40	100	
			POTS	0910.6	0911.5	V		2	40X	70	
			IZMI	0916.5	0920.9	III	GG	1	45	100	
			IZMI	0923.2	0927.5	III	GG	2	45	270X	
			POTS	0923.6	0924.4	III	G	1	40X	170U	
			POTS	1024.3	1024.6	III	G	1	110U	400	

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Day	OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
06			IZMI	1152.6	1154.6	I	GG	2	220	270	
	0535	1632	ONDR	1321.4	1323.4	DCIM	GG	1	800X	2000X	
	0550	1715	BLEN	1321.5	1324.0	III	GG	2	1415X	3300	
			POTS	1500.4	1500.5	III	B	1	110U	170U	
			SVTO	1508.0	1509.0	III		1	25	161	
			SGMR	1509.0	1510.0	III		1	30	55	
			POTS	1509.2	1509.8	III	G	3	110U	250	
			PALE	1723.0	2025.0	CONT		1	25	180	
			SGMR	1734.0	2252.0	CONT		2	30	80	
			HOLL	1914.0	1950.0	III	N	2	25	180	
			PALE	1914.0	1931.0	V		3	25	180	
			SGMR	1914.0	1931.0	V		3	30	80	
	2015	2400	HIRA								
	2020	2400	CULG	2020.0E	2400.0D	III	S,C	1	28	180	
			HOLL	2043.0	0004.0	III	N	1	25	138	
			CULG	2157.0	2223.0	CONT		1	250	650	
			CULG	2227.0	2229.0	III	G	2	30	150	
			LEAR	2249.0	0842.0	CONT		1	25	180	
07	0000	0750	CULG	0000.0E	0007.0	III	S	1	30	120	
			CULG	0047.0	0750.0D	III	N	1	30	180	
			CULG	0304.0	0304.0	III	B	1	130	250	
	0000	0905	HIRA	0304.0	0304.5	III	B	2	120	320	
	0518	1639	POTS	0518 E	1639 U	I	S,C,DC	2	40X	400	
	0533	1633	ONDR								
	0550	1715	BLEN								
			IZMI	0600.0E	0734.0	III	N	2	45	100	
	0600	1200	IZMI	0600.0E	0750.0U	I	N	2	45	160	
			IZMI	0723.4	0723.6	III	B	2	45	100	
			IZMI	0856.0	0950.0U	I	N	1	70	270	
			IZMI	0856.0	0950.0U	III	N	1	45	100	
			SVTO	0946.0	1124.0	CONT		1	29U	180U	
			IZMI	0950.0	1121.0	III	N	2	45	270X	
			IZMI	0950.0	1143.0U	I	S	2	45	270X	
			IZMI	1007.0	1008.3	I	GG,DC	2	65	90	
			IZMI	1126.1	1126.6	III	GG	2	140	220	
			HOLL	1446.0	1446.0	III		1	25	147	
			SVTO	1446.0	1446.0	III		1	37	160	
			POTS	1446.6	1446.8	III	B	2	40X	300	
			SVTO	1554.0	1657.0	CONT		1	40U	160U	
			HOLL	1712.0	1715.0	III		1	25	124	
			PALE	1713.0	1715.0	III		1	25	70	
			SGMR	1713.0	1715.0	III		1	30	55	
	2013	2400	HIRA								
	2020	2400	CULG								
08	0000	0906	HIRA	0128.5	0129.0	III	B	1	130	370	
			LEAR	0247.0	0249.0	III		1	25	180	
	0000	0750	CULG	0247.0	0249.0	III	G	1	30	180	
			HIRA	0247.5	0248.5	III	G	1	25X	380	
			HIRA	0331.5	0332.0	III	B	1	25X	100	
			CULG	0332.0	0332.0	III	B	1	45	90	
	0518	1640	POTS	0518 E	1640 U	I	S	1	110U	400	
	0531	1635	ONDR								
	0550	1715	BLEN								
	0550	1200	IZMI	0550.0E	1200.0D	I	N	2	70	270X	
			IZMI	0746.8	0749.1	III	G,FS	1	45	100	
			IZMI	0811.6	0811.7	III	B,FS	2	45	80	
			IZMI	0821.2	0829.8	III	N,FS	2	45	70	
			IZMI	0838.1	0839.5	III	GG,FS	2	45	270X	
			HIRA	0838.5	0839.5	III	B	1	60	300	
			IZMI	0848.6	0850.0	I	GG	3	165	270X	
			POTS	1438.0	1438.1	III	G,RS	2	70	170U	
			PALE	1935.0	1936.0	III		1	25	86	
			SGMR	1936.0	1936.0	III		1	30	80	
	2012	2400	HIRA								
			LEAR	2250.0	1001.0	CONT		1	39	180	
	2020	2400	CULG	2255.0	2400.0D	III	N	1	40	180	
			PALE	2335.0	2340.0	III		3	25	180	

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OBSERVATION Day	Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
09	0000	0740	CULG	0000.0E	0122.0	III	S,C	1	30	180	
			PALE	0005.0	0432.0	CONT		3	25	180	
			CULG	0122.0	0308.0	IV	FS	3	25	1100	
	0000	0907	HIRA	0122.0	0130.0	IV		3	50	1100	
			CULG	0308.0	0740.0D	III	S,C	3	30	270	
			SVTO	0441.0	1659.0	CONT		2	25	180	
	0518	1642	POTS	0518 E	1642 U	I	S,C,DC	3	40X	450	
			IZMI	0614.0E	1200.0D	III	S	2	40	270X	
	0614	1200	IZMI	0614.0E	1200.0D	I	S,C	2	45	270X	
	0529	1637	ONDR	0647.1	0651.3	DCIM	GG,FS	2	800X	2000X	
	0550	1715	BLEN	0647.2	0651.9	III	GG	3	1415X	2600	
			IZMI	0815.5	0815.7	III	G	2	25X	90	
			POTS	0815.5	0815.7	III	B	3	40X	90U	
			IZMI	0904.2	0905.3	III	GG	2	175	270X	
			IZMI	1028.9	1029.7	III	GG	2	90	270X	
			IZMI	1100.1	1100.9	III	GG	2	120	240	
			IZMI	1126.3	1127.3	III	GG	2	140	270X	
			BLEN	1126.6	1127.2	III	G,RS	2	2100	4000	
			SGMR	1128.0	2256.0	CONT		2	30	80	
			POTS	1304.8	1308.0	III	G	2	40X	155	
			POTS	1310.4	1310.8	DCIM		2	200U	400	
			POTS	1352.6	1410 U	IV		3	40X	800X	
			BLEN	1354.4	1358.3	III	GG,RS	3	1415X	4000X	
			ONDR	1356.4	1358.1	DCIM	GG	2	2049	4344	
			HOLL	1357.0	1359.0	III		1	25	180	
			SGMR	1357.0	1400.0	III		2	30	80	
			SVTO	1357.0	1400.0	III		2	25	180	
			ONDR	1522.4	1605.5	DCIM	GG	3	2000X	4500X	
			BLEN	1523.5	1550.5	DCIM	P	3	1415X	4000X	
			POTS	1523.6	1606 U	IV	P	3	40X	800X	
			ONDR	1524.0	1609.0	DCIM	GG,SP,FS	3	800X	2000X	
			POTS	1525.5	1547 U	II	SH,H	3	50	275	
			POTS	1525.5U	1541 U	II	F,H	3	40X	130	
			HOLL	1527.0	1550.0	III	N	2	25	180	
			SGMR	1527.0	1552.0	II		3	30	80	ESS 0800
			SVTO	1527.0	1540.0	III	N	3	25	180	
			HOLL	1528.0	1541.0	II		2	25	180	ESS 0750
			SVTO	1528.0	1549.0	II		3	25U	180U	ESS 0712
			HOLL	1558.0	1611.0	III		1	25	180	
			HOLL	1558.0	1752.0	IV		1	25	180	
			PALE	1635.0	2235.0	CONT		1	25	80	
	2010	2400	HIRA								
	2020	2400	CULG	2020.0E	2400.0D	III	S,C	2	30	180	
			LEAR	2250.0	1000.0	CONT		1	25	180	
10	0000	0740	CULG	0000.0E	0543.0	III	S,C	2	25	180	
			LEAR	0007.0	0008.0	III		1	25	180	
			PALE	0007.0	0007.0	III		1	25	180	
	0000	0908	HIRA	0007.5	0008.0	III	B	2	25X	480	
			PALE	0100.0	0432.0	CONT		1	25	180	
			LEAR	0135.0	0136.0	III		1	25	180	
			HIRA	0135.5	0137.0	III	G	1	30	210	
			LEAR	0247.0	0249.0	III		2	25	180	
			HIRA	0248.0	0248.5	III	B	2	30	130	
			CULG	0258.0	0301.0	III	G	3	18X	250	
			LEAR	0258.0	0301.0	III		3	25	180	
			HIRA	0258.5	0301.0	III	G	3	25X	280	
			LEAR	0412.0	0415.0	III		2	25	180	
			CULG	0413.0	0415.0	III	G	3	40	150	
			HIRA	0413.0	0413.5	III	B	2	30	150	
			HIRA	0509.0	0510.0	III	B	2	90	500	
			SVTO	0509.0	0535.0	III	N	3	25	180	
			CULG	0510.0	0511.0	III	G	2	70	420	
			CULG	0513.0	0517.0	II	FN	3	23U	70	ESS 2000
			CULG	0513.0	0517.0	II	SH	3	40	140	SWF FLA
			CULG	0515.0	0534.0	CONT		3	23U	130	
			HIRA	0515.0	0516.5	II		3	25	45	
			HIRA	0515.0	0516.5	II		3	55	75	
			HIRA	0515.0	0535.0	IV		3	25X	600	

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10			CULG	0516.0	0740.0D	IV	FS	2	25U	700	
			SVTO	0516.0	0524.0	II		3	25	180	ESS 2921
	0518	1210	POTS	0518 E	1010 U	IV		3	40X	800X	
			LEAR	0518.0	0536.0	II		3	25	180	ESS 2100
			CULG	0525.0	0530.0	III	GG	2	23U	500	
			SVTO	0536.0	1447.0	IV		1	25	180	
	0527	1638	ONDR	0556.3	0619.5	DCIM	GG,SP	3	800X	2000X	
			IZMI	0559.0E	0659.8	III	S	2	45	270X	
	0559	1200	IZMI	0559.0E	1200.0D	I	S,C	2	45	270X	
	0545	1715	BLEN	0602.1	0614.0	DCIM	P	2	1415X	4000X	
			IZMI	0605.0	0724.0	CONT		2	220	270X	
			ONDR	0623.5	0706.4	DCIM	GG,SP	1	800X	2000X	
			BLEN	0632.5	0632.6	III	GG	2	1415X	2500	
			LEAR	0656.0	0658.0	III		3	25	180	
			IZMI	0656.8	0658.5	III	GG	2	25X	180	
			POTS	0656.8	0658.6	III	GG	3	40X	170U	
			CULG	0657.0	0658.0	III	G	3	28	130	
			HIRA	0657.0	0658.5	III	G	2	25X	180	
			SVTO	0657.0	0658.0	III		3	25	148	
			IZMI	0709.0U	1200.0D	III	N	1	45	95	
			IZMI	0747.0	0748.8	I	GG	2	170	270X	
			IZMI	0947.8	0953.5	III	GG	2	180	270X	
			POTS	1010 U	1210 U	I	S,C	2	40X	500	
			SGMR	1117.0	1445.0	CONT		1	30	80	
			IZMI	1131.1	1139.6	III	GG	2	160	270X	
			IZMI	1143.6	1145.9	III	GG	2	160	270X	
	1228	1625	POTS	1228 U	1625 U	I	S	2	40X	500	
			BLEN	1436.4	1453.6	DCIM	C	3	1415X	3600	
			ONDR	1440.5	1458.0	DCIM	GG	1	2000X	4500X	
			ONDR	1443.4	1452.3	DCIM	GG	1	800X	2000X	
			HOLL	1447.0	1530.0	III	N	1	25	104	
			POTS	1448.0	1448.9	III	G	3	40X	90U	
			SGMR	1448.0	1522.0	III	N	2	30	80	
			SVTO	1448.0	1630.0	III	N	1	25	84	
			POTS	1448.7	1450.6	DCIM		1	400	700	
			POTS	1456.6	1501.9	III	GG	3	40X	170U	
			POTS	1505.8	1520.5	III	GG	3	40X	170U	
			PALE	1824.0	0433.0	III	N	1	25	75	
			HOLL	1841.0	0045.0	III	N	1	25	144	
			PALE	1901.0	0433.0	CONT		1	25	180	
			HOLL	1904.0	0045.0	CONT		1	25	180	
			SGMR	1908.0	2257.0	CONT		2	30	80	
	2009	2400	HIRA								
	2025	2400	CULG	2025.0E	2400.0D	III	S,C	3	30	150	
			LEAR	2250.0	0959.0	CONT		1	25	180	
11	0000	0740	CULG	0000.0E	0415.0	III	S,C	2	30	150	
	0000	0909	HIRA	0032.5	0033.0	III	B	1	80	140	
	0454	0518	POTS	0454 E	0518 U	I	S	1	200U	350	
	0525	1622	POTS	0525 E	1622 U	I	S,C,DC	2	40X	400	
			POTS	0545.3	0546.2	III	G	2	110U	170U	
			IZMI	0602.0E	0651.0	I	N	1	60	270X	
	0602	1200	IZMI	0602.0E	1200.0D	III	N,FS	1	45	95	
			CULG	0616.0	0740.0D	III	N	1	28	140	
			SVTO	0633.0	1234.0	III	N	1	25	138	
			IZMI	0633.7	0634.4	III	GG	2	30	140	
			IZMI	0651.0	1139.0U	I	N	2	45	240	
			IZMI	0707.3	0707.8	III	G,FS	2	25X	140	
			IZMI	0721.0	0729.0	III	GG	2	25X	140	
			POTS	0721.5	0734.7	III	GG	2	40X	170U	
			CULG	0726.0	0727.0	III	G	2	35	100	
			IZMI	0730.5	0735.6	III	GG,FS	2	25X	120	
			IZMI	0836.9	0837.6	I	GG	3	55	80	
			IZMI	0836.9	0837.7	III	G	2	30	80	
			IZMI	0855.7	0859.8	III	GG	2	25X	260	
			POTS	0859	1425	III	N	1	40X	90U	
			IZMI	0908.4	0908.7	III	G	2	45	115	
			IZMI	0930.9	0932.1	III	G	2	40	120	
			IZMI	0934.7	0934.9	III	B	2	30	115	

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11			IZMI	0939.2	0939.4	III	G	2	30	95	
			IZMI	0955.6	0955.8	III	B	2	40	95	
			IZMI	1011.0	1018.5	III	N,FS	1	45	270X	
			IZMI	1011.5	1012.0	III	GG	2	25X	160	
			POTS	1011.5	1012.2	III	G	3	40X	170U	
			IZMI	1022.5	1029.9	III	GG	2	35	95	
			IZMI	1033.5	1034.5	III	G	2	25	95	
			IZMI	1042.3	1042.5	III	G,FS	2	30	140	
			POTS	1042.3	1042.5	III	B	2	40X	140	
			IZMI	1051.8	1051.8	III	G	2	45	140	
			IZMI	1056.3	1058.3	III	GG,FS	2	30	160	
			POTS	1056.3	1058.3	III	G	3	40X	170U	
			IZMI	1056.8	1058.2	I	GG,DC	2	55	70	
			POTS	1104.2	1104.3	III	B	3	40X	140	
			IZMI	1104.7	1105.9	III	G,FS	2	25X	140	
	0545	1715	BLEN	1258.1	1337.0	DCIM	P,S	3	1415X	4000X	
	0525	1639	ONDR	1258.3	1337.1	DCIM	GG	3	2000X	4500X	
			ONDR	1258.5	1337.2	DCIM	GG	3	800X	2000X	
			POTS	1258.6	1302	DCIM		2	200U	500	
			HOLL	1300.0	1304.0	III		1	25	172	
			SGMR	1300.0	1303.0	III		2	30	80	
			SVTO	1300.0	1321.0	III	N	3	25	180	
			POTS	1300.4	1311.0	III	GG	3	40X	170U	
			SGMR	1303.0	1311.0	II		2	30	80	ESS 0950
			SVTO	1303.0	1311.0	II		1	29	64	ESS 0980
			BLEN	1303.3	1316.0	III	GG	3	1415X	3150	
			POTS	1303.4	1304.9	II	UE	3	40X	70	
			POTS	1304	1420 U	IV	P	3	40X	800X	
			HOLL	1306.0	1545.0	III	N	1	25	162	
			SVTO	1306.0	1547.0	IV		2	25	180	
			HOLL	1309.0	1444.0	IV		2	25	180	
			SGMR	1311.0	1509.0	IV		2	30	80	
			SVTO	1317.0	1319.0	II		1	28U	42U	ESS 1231
			ONDR	1339.1	1403.3	DCIM	GG	2	800X	2000X	
			ONDR	1343.4	1401.5	DCIM	GG	1	2000X	3768	
			POTS	1423.9	1424.5	III	G	3	55	90U	
			SGMR	1639.0	2145.0	CONT		1	30	55	
	2008	2400	HIRA								
	2030	2400	CULG	2030.0E	2400.0D	III	N	1	40U	140	
12	0000	0909	HIRA								
	0000	0740	CULG	0000.0E	0203.0	III	N	1	35	150	
	0554	1648	POTS	0554 E	1648 U	I	S,C,DC	3	40X	400	
	0549	1230	IZMI	0721.4	0721.6	III	B	2	40	160	
			POTS	0721.5	0721.6	III	B	1	40X	170U	
			IZMI	0735.7	0735.8	UNCLF		2	220	270	
			IZMI	0739.0	0739.2	III	G	1	45	95	
			IZMI	0808.1	0809.1	III	G	2	45	240	
			POTS	0808.9	0809.0	III	B	2	110U	250	
			IZMI	0832.4	0832.6	III	G	1	60	95	
			IZMI	0837.6	0837.7	III	B	1	65	130	
			POTS	0837.6	0837.7	III	B	2	110U	135	
			IZMI	0902.0	0948.0	I	N	1	180	270	
			POTS	0922.4	0922.7	III	G	2	40X	170U	
			IZMI	1013.4	1032.6U	II	G,HARM	2	25X	270X	
	0524	1641	ONDR	1014.1	1055.0	DCIM	GG	3	2000X	4500X	
			BLEN	1014.2	1038.7	III	GG,RS	2	1415X	3200	
			ONDR	1014.2	1059.4	DCIM	GG,FS	3	800X	2000X	
	0540	1715	BLEN	1014.2	1038.7	DCIM	C,P	3	1415X	4000X	
			POTS	1014.7	1116 U	IV		3	40X	800X	
			POTS	1016.3	1028 U	II	F,H	3	40X	140	
			POTS	1017 U	1038 U	II	SH,H	3	40X	250	
			SGMR	1017.0	1033.0	II		1	30	80	ESS 1000
			SVTO	1017.0	1047.0	III	N	3	25	180	
			IZMI	1017.4	1019.6	III	GG,C	3	25X	270X	
			SVTO	1018.0	1032.0	II		2	25	147	ESS 0837
			IZMI	1019.8	1230.0D	I	N,C	2	25	270X	
			IZMI	1020.5U	1027.0	III	N	2	90	270X	
			IZMI	1024.5	1026.5	III	GG	2	25	90	

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12			IZMI	1027.2	1038.2	III	S	2	130	270X	
			IZMI	1031.2	1034.5	II	HARM	2	135	210	
			SVTO	1032.0	1341.0	IV		1	25	180	
			IZMI	1038.6	1044.0U	III	N	2	120	270X	
			SGMR	1046.0	2233.0	CONT		2	30	80	
			IZMI	1046.5	1047.1	III	GG,FS	2	25X	240	
			POTS	1046.5	1047.1	III	G	3	40X	155	
			IZMI	1055.5	1057.8	III	G	2	45	180	
			IZMI	1058.0U	1223.0U	III	N	2	30	180	
			ONDR	1102.2	1129.2	DCIM	GG	2	800X	2000X	
			POTS	1127.4	1127.6	DCIM		1	350	550	
			ONDR	1143.2	1231.5	DCIM	GG	3	800X	2000X	
			POTS	1144 U	1248 U	IV		3	40X	800X	
			IZMI	1146.0U	1158.0	CONT		2	120	270X	
			IZMI	1204.0	1230.0D	CONT		2	45	270X	
			IZMI	1223.4	1223.9	I	GG,DC	2	45	70	
			IZMI	1224.0U	1230.0D	III	N	2	45	270X	
			HOLL	1327.0	1328.0	III		1	25	117	
			SVTO	1511.0	1702.0	CONT		1	25	153	
			HOLL	1540.0	1540.0	III		1	25	86	
			PALE	1645.0	0050.0	CONT		1	25	180	
			HOLL	1831.0	1831.0	III		1	25	101	
	2007	2400	HIRA								
	2030	2400	CULG	2030.0E	2115.0	III	S,C	1	30U	160	
			CULG	2250.0	2353.0	I	S	1	100	150	
			CULG	2251.0	2251.0	III	B	1	28	140	
13			LEAR	0128.0	0128.0	III		1	25	180	
	0000	0740	CULG	0128.0	0128.0	III	B	1	35	180	
	0000	0910	HIRA	0128.0	0128.5	III	B	1	30	190	
			SVTO	0434.0	0645.0	CONT		1	25U	180U	
	0521	1642	ONDR								
	0540	1200	BLEN								
	0554	1650	POTS	0554 E	1650 U	I	S,C	1	110U	350	
	0558	1200	IZMI	0558.0E	1200.0D	I	N	1	130	270	
			IZMI	0616.3	0619.5	III	G	1	45	95	
			IZMI	0624.1	0624.3	UNCLF		1	200	270X	
			CULG	0727.0	0729.0	III	G	1	30	180	
			IZMI	0727.4	0728.2	III	GG,FS	2	30	270X	
			POTS	0727.4	0729.1	III	G	2	40X	170U	
			HIRA	0727.5	0728.0	III	B	1	40	290	
			POTS	0827.4	0827.8	DCIM		2	200U	550	
			HIRA	0827.5	0828.0	III	B	1	140	500	
			IZMI	0827.6	0827.7	III	GG	2	180	270X	
			IZMI	0835.3	0835.5	III	B	2	45	170	
			POTS	0835.3	0835.5	III	B	2	40X	250	
			IZMI	0840.8	0842.0	III	GG,FS	2	35	270X	
			POTS	0840.9	0842.1	III	G	3	40X	275	
			LEAR	0841.0	0841.0	III		1	25	180	
			HIRA	0841.5	0842.0	III	B	2	30	200	
			IZMI	0849.6	0852.7	III	GG,FS	2	25	260	
			POTS	0849.6	0852.5	III	GG	2	40X	260	
			POTS	0856.2	0857.5	III	G	2	40X	300	
			IZMI	0856.4	0857.1	III	G	1	45	270X	
			IZMI	0925.5	0925.9	III	GG,FS	2	25X	240	
			POTS	0925.5	0925.9	III	G	3	40X	170U	
			POTS	1300.7	1300.9	III	B	2	40X	120	
			POTS	1400.5	1400.8	III	B	2	40X	70	
			POTS	1418.3	1418.5	III	B	3	40X	250	
			POTS	1505.8	1506.0	III	B	2	40X	60	
			PALE	1639.0	0433.0	CONT		1	25	180	
	2005	2400	HIRA								
	2030	2400	CULG	2233.0	2233.0	III	B	1	60U	160	
14	0000	0735	CULG	0003.0	0549.0	I	S,C	1	80	170	
			CULG	0054.0	0055.0	III	G	1	20	180	
			HOLL	0054.0	0054.0	III		1	57	178	
			LEAR	0054.0	0055.0	III		1	55	180	
			PALE	0054.0	0055.0	III		1	75U	83U	

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OBSERVATION Day	Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
14	0000	0911	HIRA	0054.5	0055.0	III	B	2	50	260	
			CULG	0132.0	0132.0	III	B	1	45	160	
			CULG	0157.0	0159.0	III	G	3	30U	200	
			HIRA	0157.0	0159.0	III	G	3	25X	210	
			LEAR	0157.0	0159.0	III		3	25	180	
			PALE	0157.0	0159.0	III		2	25	180	
			LEAR	0447.0	0451.0	III		1	25	180	
			SVTO	0447.0	0451.0	III		1	30	180	
			CULG	0448.0	0451.0	III	G	1	20	180	
			HIRA	0448.0	0450.0	III	G	1	30	290	
	0519	1644	ONDR								
	0454	1652	POTS	0554 E	1652 U	I	S,C,DC	2	40X	250	
	0559	1200	IZMI	0559.0E	0838.0U	I	N	1	70	180	
			IZMI	0601.1	0601.2	III	B	1	45	95	
			LEAR	0644.0	0644.0	III		3	25	180	
			SVTO	0644.0	0651.0	III		2	25	151	
			IZMI	0644.3	0644.7	III	GG,FS	2	25X	185	
			POTS	0644.4	0644.8	III	G	3	40X	250	
			HIRA	0644.5	0645.0	III	B	3	30	180	
			IZMI	0644.6	0644.9	V		2	30	90	
			CULG	0645.0	0645.0	III	B	3	30	180	
			IZMI	0647.8	0647.9	III	B,FS	2	45	80	
			LEAR	0650.0	0651.0	III		2	25	180	
			IZMI	0650.9	0651.2	III	G,C	2	35	150	
			POTS	0650.9	0651.2	III	G	3	40X	275	
			CULG	0651.0	0651.0	III	B	3	20	140	
			HIRA	0651.0	0651.5	III	B	3	50	130	
			CULG	0704.0	0735.0D	I	S,C	1	70	170	
			POTS	0714.6	0719.7	DCIM		2	200U	550	
			IZMI	0715.9	0716.1	III	B	1	140	190	
			POTS	0715.9	0716.1	III	B	2	110U	170U	
			IZMI	0755.9	0756.1	III	G	2	45	155	
			POTS	0755.9	0800.1	III	G	2	40X	170U	
			HIRA	0756.0	0756.5	III	B	1	50	200	
			SVTO	0756.0	0800.0	III		1	25U	82U	
			IZMI	0759.5	0759.8	III	G	1	40	70	
			IZMI	0814.2	0814.4	III	B	1	45	95	
			HIRA	0821.0	0821.5	III	B	2	50	110	
			IZMI	0821.0	0821.8	III	G,C	2	40	95	
			LEAR	0821.0	0821.0	III		1	25	109	
			POTS	0821.1	0821.9	III	G	2	40X	90U	
			IZMI	0828.7	0828.9	III	B	1	45	95	
			SVTO	0833.0	0857.0	III	N	1	25	61	
			IZMI	0833.7	0834.0	UNCLF		2	60	70	
			IZMI	0834.0	1200.0D	I	S	2	45	170	
			IZMI	0835.2	0836.7	III	GG,FS	2	40	95	
			POTS	0835.4	0836.0	III	G	2	40X	90U	
			IZMI	0852.4	0853.7	III	G	2	30	95	
			POTS	0852.8	0857.1	III	G	2	40X	90U	
			IZMI	0856.1	0857.0	III	G	2	25	95	
			SVTO	0857.0	1155.0	CONT		1	25U	180U	
			POTS	1037.9	1038.0	III	B	2	110U	150	
			POTS	1154.8	1155.3	III	G	2	40X	90U	
			POTS	1247.4	1247.6	III	G	1	40X	140	
			POTS	1406.5	1408.1	III	G	2	200U	375	
			POTS	1425.4	1426.1	III	G	2	40X	150	
			HOLL	1438.0	1439.0	III		1	25	62	
			SGMR	1438.0	1439.0	V		2	30	65	
			SVTO	1438.0	1439.0	III		2	25U	58U	
			POTS	1438.4	1439.6	III	G	3	40X	90U	
			HOLL	1510.0	1513.0	V		2	25	168	
			SGMR	1511.0	1513.0	V		2	30	80	
			SVTO	1511.0	1512.0	III		2	25	180	
			POTS	1511.1	1512.1	III	G	3	40X	550	
			POTS	1512.1	1512.8U	V		3	40X	65	
			POTS	1513.5	1513.8	III	B	2	40X	90U	
			HOLL	1708.0	1817.0	III	N	1	25	85	
			SGMR	1708.0	1742.0	III	N	2	30	80	
			PALE	1728.0	1732.0	III		1	25	180	

SOLAR RADIO EMISSION
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APRIL 2001

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
14			SGMR	1744.0	1949.0	CONT		1	30	80	
			HOLL	1750.0	1758.0	II		1	25	44	ESS 0480
			HOLL	1850.0	1852.0	III		1	25	86	
			PALE	1850.0	1851.0	III		1	25	90	
			PALE	1925.0	1929.0	III	.	1	25	90	
			HOLL	2322.0	2323.0	III		1	25	93	
			LEAR	2322.0	2327.0	III		1	37	144	
			PALE	2322.0	2323.0	III		1	25U	155U	
	2004	2400	HIRA	2322.0	2323.0	III	B	1	25X	400	
	2030	2400	CULG	2322.0	2323.0	III	G	1	30U	300	
			CULG	2325.0	2327.0	II	FN	1	75	120	ESS 750
			CULG	2325.0	2327.0	II	SH	1	140	190	
			HIRA	2325.0	2327.0	II		1	80	110	
			HIRA	2325.0	2327.0	II		1	170	220	
			CULG	2327.0	2327.0	III	B	1	40	170	
			HIRA	2327.0	2327.5	III	B	1	25X	120	
			HOLL	2327.0	2327.0	III		1	25	81	
15	0000	0735	CULG	0037.0	0038.0	III	G	1	40	150	
			CULG	0109.0	0110.0	III	G	2	23	180	
			HOLL	0109.0	0110.0	III		1	25	146	
			LEAR	0109.0	0110.0	III		3	25	180	
			PALE	0109.0	0110.0	III		2	25	180	
	0000	0912	HIRA	0109.5	0110.0	III	B	2	25X	390	
			CULG	0426.0	0428.0	III	G	1	20	140	
			LEAR	0426.0	0431.0	III		3	25	180	
			HIRA	0426.5	0427.5	III	B	2	25X	160	
			CULG	0431.0	0433.0	III	G	2	20	180	
			HIRA	0431.0	0432.0	III	B	2	25X	210	
			SVTO	0431.0	0431.0	III		1	128U	147U	
	0454	1248	POTS	0519.4	0520.8	III	G	2	110U	280	
			CULG	0530.0	0532.0	III	G	2	23	160	
			POTS	0530.4	0531.8	III	G,RS	2	40X	400	
			HIRA	0531.0	0531.5	III	B	2	30	200	
			LEAR	0531.0	0553.0	III	N	3	25	116	
			SVTO	0531.0	0531.0	III		1	25U	129U	
			POTS	0541	1248 U	I	S,W	1	110U	250	
	0550	1200	IZMI	0551.3	0551.7	I	GG	2	80	110	
			IZMI	0552.8	0553.3	III	G	2	40	190	
			CULG	0553.0	0554.0	III	G	2	23	100	
			HIRA	0553.0	0553.5	III	B	1	25X	180	
			IZMI	0602.1	0603.0	I	GG	1	80	90	
			POTS	0626.9	0627.4	III	G,RS	2	40X	275	
			CULG	0627.0	0627.0	III	B	1	25	200	
			HIRA	0627.0	0627.5	III	B	2	25X	270	
			IZMI	0627.0	0627.3	III	G,C	2	35	270	
			IZMI	0631.6	0632.6	III	G	1	45X	95	
			IZMI	0700.6	0700.8	III	G	1	45	100	
			IZMI	0717.6	0717.7	III	B	2	190	270X	
			POTS	0717.6	0717.7	III	B	1	110U	300	
			IZMI	0721.4	0721.6	III	B	1	40	60	
			IZMI	0747.5	0749.0	III	G	1	45	90	
			POTS	0758.3	0800.3	III	G	3	40X	275	
			SVTO	0759.0	0801.0	III		2	25U	126U	
			IZMI	0759.1	0800.8	III	GG,C,FS	2	25X	165	
			HIRA	0759.5	0800.0	III	B	2	30	150	
			POTS	0800.1	0800.8	V		3	40X	65	
			HIRA	0816.0	0816.5	III	B	1	100	280	
			SVTO	0816.0	0816.0	III		1	25U	126U	
			IZMI	0816.2	0816.8	III	G	2	30	270X	
			POTS	0816.2	0816.9	III	G	2	40X	300	
	0517	1645	ONDR	0820.0	0840.4	DCIM	G,W	1	2000X	4500X	
			ONDR	0823.4	0826.0	DCIM	GG	1	964	1353	
			SVTO	0828.0	0844.0	III	N	2	34U	84U	
			IZMI	0832.9	0833.5	III	G	2	25X	135	
			POTS	0832.9	0833.6	III	G	2	40X	160	
			HIRA	0833.0	0833.5	III	B	1	30	150	
			LEAR	0833.0	0833.0	III		2	25	94	
			IZMI	0921.6	0922.3	III	G	2	180	270X	

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APRIL 2001

OBSERVATION Day	Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
15			POTS	0921.6	0922.6	DCIM		2	200U	325	
			SVTO	1004.0	1005.0	III		3	25U	164U	
			IZMI	1004.6	1007.0	III	GG,C	3	25X	270X	
			POTS	1004.6	1004.8	DCIM		2	400	600	
			POTS	1004.6	1005.2	III	G	3	40X	400	
			IZMI	1023.0U	1051.0U	I	N	1	180	270X	
			IZMI	1139.8	1141.0	III	GG	2	30	150	
			POTS	1139.9	1140.3	III	G	2	40X	150	
			SVTO	1140.0	1140.0	III		1	25	82	
			IZMI	1145.2	1145.4	III	B	1	45X	95	
			POTS	1145.2	1145.4	III	B	1	40X	75	
			ONDR	1331.5	1552.4	DCIM	GG	3	2000X	4500X	
			ONDR	1332.0	1615.2	DCIM	GG	2	800X	2000X	
			HOLL	1344.0	1522.0	III	N	2	25	180	
			SGMR	1344.0	1346.0	III		1	30	80	
			SVTO	1347.0	1350.0	II		3	25	180	ESS 2773
			SGMR	1348.0	1355.0	II		3	30	80	ESS 1000
			HOLL	1352.0	1359.0	II		2	31	175	ESS 0958
			SGMR	1352.0	1505.0	IV		3	30	80	
			HOLL	1400.0	1445.0	IV		1	25	140	
	1406	1653	POTS	1406 U	1519 U	IV	RS	3	40X	800X	
			POTS	1521.3	1522.3	III	G	3	40X	170U	
			ONDR	1556.0	1606.1	DCIM	GG	1	2000X	4500X	
			HOLL	1625.0	1625.0	III		1	25	60	
			SGMR	1625.0	1625.0	III		1	30	50	
			POTS	1632.3	1632.6	III	G	2	110U	300	
			ONDR	1641.1	1645.0	DCIM	GG	1	805	2000X	
			HOLL	1811.0	1811.0	III		1	25	127	
			PALE	1811.0	1811.0	III		1	25	180	
			SGMR	1811.0	1811.0	III		1	30	70	
			HOLL	2206.0	2208.0	III		1	25	89	
			PALE	2206.0	2209.0	III		1	25	180	
			SGMR	2206.0	2207.0	III		1	30	80	
	2003	2400	HIRA	2207.0	2207.5	III	B	2	25X	120	
	2030	2400	CULG	2207.0	2207.0	III	B	2	20	90	
16	0454	1655	POTS	0454 E	1655 U	I	S,W	1	110U	300	
	0515	1647	ONDR								
	0550	1200	IZMI	0613.9	0615.5	III	G	1	45	70	
			IZMI	0621.0	0621.1	III	B	2	45	50	
	0000	0740	CULG	0628.0	0629.0	III	G	1	30	100	
			IZMI	0628.3	0628.9	III	G	2	45	100	
			CULG	0714.0	0714.0	III	B	2	40	140	
			LEAR	0714.0	0714.0	III		1	51	104	
			SVTO	0714.0	0714.0	III		1	36U	82U	
	0000	0913	HIRA	0714.0	0714.5	III	B	1	50	110	
			IZMI	0714.4	0715.0	III	G,C	2	45	100	
			POTS	0714.4	0714.8	III	G	2	40X	150	
			IZMI	0726.0U	1011.0U	I	N	1	230	270	
			IZMI	0826.7	0826.8	III	B	2	130	210	
			POTS	0826.7	0826.9	III	B	1	130	170U	
			SVTO	0837.0	0856.0	III	N	1	25	60	
			HIRA	0837.5	0838.0	III	B	1	50	140	
			POTS	0837.7	0838.2	III	B	2	40X	170U	
			IZMI	0837.8	0838.0	III	B	2	30	90	
			IZMI	0841.3	0841.5	III	B	2	45	95	
			POTS	0841.3	0841.6	III	B	1	40X	170U	
			IZMI	0918.3	0918.7	III	G	1	45	95	
			POTS	0918.3	0918.6	III	G	1	110U	170U	
			SVTO	0957.0	0958.0	III		1	25U	82U	
			IZMI	0957.5	0958.3	III	G,C	2	25X	270X	
			POTS	0957.5	0958.3	III	G	3	40X	300	
			IZMI	1014.4	1014.6	III	G	1	45	95	
			IZMI	1043.3	1043.7	III	G	1	45	95	
			IZMI	1054.5	1054.7	III	B	1	45	95	
			POTS	1054.6	1054.7	III	B	1	40X	70	
			IZMI	1102.2	1102.4	III	G	1	45	90	
			POTS	1102.3	1102.4	III	B	1	40X	60	
			IZMI	1134.4	1134.5	III	B	1	45	90	

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OBSERVATION Day	Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
16			IZMI	1147.0	1147.2	III	B	2	25X	45	
			SVTO	1147.0	1147.0	III		1	29U	45U	
			POTS	1217.8	1218.2	III	B	2	40X	70	
			SGMR	1525.0	1526.0	III		1	30	58	
			SVTO	1525.0	1526.0	III		1	25	77	
			POTS	1525.5	1526.1	III	G	3	40X	170U	
			HOLL	1708.0	1711.0	III		1	25	70	
			PALE	1708.0	1709.0	III		1	25	80	
			SGMR	1708.0	1709.0	III		1	30	57	
			PALE	2103.0	2105.0	V		3	25	180	
			SGMR	2103.0	2105.0	V		3	30	80	
	2001	2400	HIRA	2104.0	2105.0	III	B	3	25X	510	
	2030	2400	CULG	2104.0	2105.0	III	G	3	23	470	
			CULG	2111.0	2123.0	III	N	1	23	90	
			PALE	2111.0	2113.0	III		1	25	73	
			HIRA	2120.0	2120.5	III	B	1	25X	70	
			HOLL	2120.0	2120.0	III		1	25	71	
			PALE	2120.0	2120.0	III		1	25	69	
			CULG	2224.0	2226.0	III	G	1	50	180	
			HIRA	2226.0	2226.5	III	B	1	100	170	
17	0000	0735	CULG	0350.0	0350.0	III	B	1	50	100	
			CULG	0358.0	0358.0	III	B	1	23	100	
			LEAR	0358.0	0358.0	III		1	25	94	
	0000	0914	HIRA	0358.0	0358.5	III	B	2	30	90	
			CULG	0433.0	0433.0	III	B	1	40U	80	
			LEAR	0433.0	0433.0	III		1	25	90	
			HIRA	0433.5	0434.0	III	B	2	30	70	
	0554	1657	POTS	0454 E	1657 U	I	S,C,DC	1	110U	300	
	0513	1648	ONDR								
			HIRA	0615.5	0616.0	III	B	1	200	750	
	0601	1200	IZMI	0615.7	0618.6	III	GG	2	45	270X	
			POTS	0615.9	0616.2	DCIM		1	200U	700	
			SVTO	0617.0	0617.0	III		1	31	63	
			CULG	0618.0	0618.0	III	B	1	30	80	
			IZMI	0619.0	1200.0D	I	N	2	45	270X	
			CULG	0659.0	0735.0D	I	S	1	80	170	
			IZMI	0705.0	0705.4	III	G	1	45	95	
			HIRA	0735.5	0736.0	III	B	1	200	280	
			IZMI	0735.5	0737.3	III	GG,C	2	45	270X	
			IZMI	0741.7	0742.1	III	G	1	135	270X	
			IZMI	0745.3	0751.7	III	GG	1	45	95	
			IZMI	0804.5	0810.5	III	GG	2	25X	95	
			POTS	0807.0	0810.6	III	G	1	40X	90U	
			SVTO	0807.0	0809.0	III		1	25	54	
			SVTO	0814.0	1707.0	CONT		1	25	155	
			IZMI	0819.0	0819.1	III	B	1	45	60	
			POTS	0824	1526	III	N	1	40X	90U	
			IZMI	0824.4	0833.7	III	GG	2	40	70	
	0845	1720	BLEN								
			IZMI	0952.4	0952.5	III	B	2	80	100	
			IZMI	1010.2	1010.3	III	B	1	45	80	
			IZMI	1014.6	1017.8	III	G,FS	2	25	110	
			POTS	1015.0	1017.9	III	G	2	40X	90U	
			SVTO	1015.0	1017.0	III		1	29	80	
			IZMI	1030.1	1033.2	III	G	1	45	70	
			IZMI	1102.9	1103.0	III	B	1	45	90	
			IZMI	1105.8	1107.3	III	G	2	120	270X	
			IZMI	1105.8	1107.5	I	GG,DC	2	200	270X	
			POTS	1106.3	1107.2	III	G	3	120	170U	
			SGMR	1139.0	1140.0	III		1	30	60	
			SVTO	1139.0	1140.0	III		2	25	180	
			IZMI	1139.5	1140.2	III	GG	2	25X	270X	
			POTS	1139.6	1140.0	III	G	3	40X	320	
			POTS	1140.0	1140.3	V		2	40X	55	
			POTS	1149.4	1149.6	DCIM		2	550	650	
			IZMI	1151.6	1152.0	III	G	2	45	160	
			POTS	1151.6	1152.1	III	G	2	40X	170U	
			POTS	1252.0	1252.2	III	B	2	110U	140	

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APRIL 2001

OBSERVATION Day	Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
17			HOLL	1419.0	1424.0	III		1	25	84	
			SGMR	1419.0	1419.0	III		1	30	52	
			POTS	1419.5	1425.7	III	G	2	40X	90U	
			SGMR	1423.0	1424.0	V		1	30	69	
			HOLL	1500.0	1502.0	III		1	25	132	
			POTS	1500.0	1502.4	III	G	3	40X	300	
			SGMR	1500.0	1501.0	III		1	30	80	
			HOLL	1826.0	1828.0	III		1	25	99	
			PALE	1826.0	1828.0	III		1	25U	85U	
			SGMR	1827.0	1828.0	III		1	30	55	
	2030	2400	CULG								
			HOLL	2147.0	2148.0	III		1	25	69	
			PALE	2147.0	2148.0	III		1	25U	45U	
			SGMR	2249.0	2249.0	III		1	30	50	
	2000	2400	HIRA	2312.0	2312.5	III	B	1	25X	120	
			HOLL	2319.0	2320.0	III		1	25	51	
			HIRA	2320.5	2321.0	III	B	1	25X	190	
			HIRA	2323.5	2324.0	III	B	1	25X	190	
			HIRA	2338.0	2338.5	III	B	1	25X	80	
			HOLL	2338.0	2341.0	III		1	25	55	
			PALE	2338.0	2338.0	III		1	25	55	
18			PALE	0213.0	0214.0	III		2	25	180	
			LEAR	0214.0	0219.0	III		3	25	180	
	0000	0735	CULG	0214.0	0216.0	III	G	3	23	480	
	0000	0915	HIRA	0214.5	0216.5	III	G	3	25X	530	
			CULG	0216.0	0221.0	CONT		1	300	470	
			CULG	0217.0	0233.0	II	FN,H	3	18X	130	
			CULG	0217.0	0233.0	II	SH,H	3	40	260	ESS 550
			HIRA	0217.0	0246.0	II		3	25X	500	
			LEAR	0219.0	0245.0	II		3	25	180	ESS 0537
	0454	1700	POTS	0510 E	1700 U	I	S,C,DC	2	110U	350	
	0511	1649	ONDR								
	0530	1720	BLEN								
	0604	1200	IZMI	0604.0E	1125.0U	III	N	1	45	95	
			IZMI	0614.0U	1200.0D	I	N	1	130	270	
			IZMI	0616.8	0616.8	III	B	1	45	95	
			IZMI	0620.3	0622.5	III	G	1	45	95	
			IZMI	0629.5	0629.6	III	B	2	45	95	
			LEAR	0639.0	0641.0	III		1	25	180	
			CULG	0640.0	0641.0	III	G	2	35	140	
			SVTO	0640.0	0641.0	III		1	25U	81U	
			HIRA	0640.5	0641.0	III	B	2	25X	140	
			IZMI	0640.5	0641.5	III	GG,RS	2	30	150	
			POTS	0640.6	0640.8	III	G	2	40X	170U	
			IZMI	0648.1	0648.4	III	G	2	45	90	
			SVTO	0650.0	0949.0	III	N	1	25U	81U	
			POTS	0652	1527	III	N	1	40X	90U	
			CULG	0653.0	0653.0	III	B	1	35	70	
			IZMI	0653.4	0656.3	III	G	2	25X	95	
			CULG	0659.0	0659.0	III	B	1	25	70	
			IZMI	0718.1	0718.3	III	G	2	45	95	
			IZMI	0728.2	0728.6	III	B	2	45	95	
			IZMI	0800.6	0804.0	III	GG	2	25	95	
			POTS	0815.9	0816.0	III	B	2	110U	170U	
			IZMI	0824.3	0824.4	III	B	2	25X	95	
			IZMI	0837.6	0837.8	III	G	2	45	95	
			IZMI	0902.0	0903.7	III	GG,FS	2	25X	100	
			POTS	0902.0	0902.4	III	G	2	40X	140	
			IZMI	0938.1	0946.4	III	GG	2	25X	200	
			POTS	0941.4	0941.6	III	G	1	40X	145	
			POTS	0944.3	0944.4	III	B	2	40X	70	
			IZMI	0950.5	0950.7	III	B	2	65	105	
			POTS	0950.5	0950.7	III	B	2	40X	150	
			IZMI	1043.7	1044.0	III	G	2	45	95	
			SVTO	1127.0	1136.0	III		1	25U	81U	
			IZMI	1127.7	1128.3	III	G,C	2	45	145	
			POTS	1127.7	1127.9	III	B	2	65	150	
			POTS	1133.0	1137.1	III	G	2	40X	150	

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18			POTS	1329.0	1330.2	III	G	1	40X	220	
			HOLL	1514.0	1514.0	III		1	25	128	
			SGMR	1514.0	1515.0	III		1	30	57	
			SVTO	1514.0	1708.0	III	N	1	25	130	
			POTS	1514.4	1515.0	III	G	2	40X	350	
			HOLL	1526.0	1526.0	III		1	25	75	
			SGMR	1526.0	1526.0	III		1	30	50	
			PALE	1640.0	2246.0	III	N	1	25U	75U	
			HOLL	1647.0	1648.0	III		1	25	140	
			SGMR	1647.0	1718.0	III	N	1	30	80	
			POTS	1647.6	1647.9	III	B	3	40X	140	
			SGMR	1805.0	1806.0	III		1	30	80	
			SGMR	1900.0	1900.0	III		1	30	50	
	2030	2400	CULG	2051.0	2058.0	III	G	1	35U	150	
	1959	2400	HIRA	2051.5	2052.0	III	B	1	25X	120	
19	0000	0735	CULG	0113.0	0121.0	III	G	1	50U	190	
			CULG	0211.0	0735.0D	I	S	1	100	160	
			LEAR	0425.0	0429.0	III		1	25	180	
	0000	0915	HIRA	0425.0	0429.0	III	G	1	30	220	
			CULG	0426.0	0429.0	III	G	1	25	180	
			SVTO	0426.0	0448.0	III	N	1	25U	180U	
			CULG	0440.0	0444.0	III	GG	2	35	270	
			HIRA	0440.0	0443.5	III	G	2	25X	300	
			LEAR	0440.0	0453.0	III		2	25	180	
			LEAR	0440.0	0453.0	III	N	2	25	180	
			SVTO	0440.0	0441.0	III		1	25	180	
			CULG	0450.0	0450.0	III	B	1	25U	100	
	0454	1702	POTS	0509 E	1702 U	I	S,C,DC	2	110U	300	
			LEAR	0546.0	0619.0	III	N	1	30	134	
	0600	1200	IZMI	0600.0E	1200.0D	I	S,C	2	160	270X	
			IZMI	0607.6	0608.7	III	G,FS	2	45	95	
			SVTO	0617.0	0618.0	III		1	28U	83U	
			HIRA	0617.5	0618.0	III	B	1	50	130	
			CULG	0618.0	0618.0	III	B	1	23	160	
			IZMI	0618.0	0618.7	III	G	2	45	95	
			IZMI	0638.2	0638.3	III	G	1	45	95	
			HIRA	0647.0	0647.5	III	B	1	25X	450	
			IZMI	0658.0	0702.7	III	GG	2	25X	100	
			POTS	0659.9	0701.1	III	G	2	40X	90U	
			CULG	0700.0	0701.0	III	G	1	25U	100	
			HIRA	0700.0	0700.5	III	B	1	40	190	
			LEAR	0700.0	0707.0	III		1	30	109	
			SVTO	0700.0	0708.0	III		1	25U	140U	
			IZMI	0705.4	0705.5	III	B	1	45	95	
			IZMI	0707.7	0708.1	III		3	25X	105	
			POTS	0707.8	0708.0	III	G	2	40X	90U	
			CULG	0708.0	0708.0	III	B	2	30	90	
			HIRA	0708.0	0708.5	III	B	1	40	120	
			IZMI	0722.6	0723.4	III	G	1	45	70	
			LEAR	0732.0	0952.0	CONT		1	103	180	
			SVTO	0732.0	1259.0	CONT		1	25	180	
			IZMI	0747.0	0748.5	III	G	1	45	70	
			IZMI	0817.8	0818.7	III	G	1	45	95	
			POTS	0821	1135	III	N	1	40X	90U	
			IZMI	0822.0	0822.6	III	G	2	25X	90	
			IZMI	0826.7	0828.4	III	G	2	25X	95	
			IZMI	0833.0	0835.7	III	G	1	45	95	
			IZMI	0859.4	0859.5	III		1	45	95	
			IZMI	0907.0	0914.0	III	N	1	45	95	
			SVTO	0909.0	0910.0	III		2	25	51	
			POTS	0909.6	0910.0	III	B	2	40X	90U	
			IZMI	0909.7	0910.0	III	G,C	2	25X	100	
			IZMI	0955.6	0956.0	III	G	1	45	95	
			IZMI	1018.8	1019.6	III	G	1	45	95	
			IZMI	1032.0	1033.5	III	GG	2	45	105	
			POTS	1032.1	1032.8	III	G	2	40X	90U	
			IZMI	1036.7	1036.8	III	B	1	45	95	
	0509	1651	ONDR	1125.5	1141.0	DCIM	GG	2	2000X	4500X	

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19	0530	1720	BLEN	1128.6	1133.7	DCIM	C	3	1415X	4000X	
			ONDR	1129.1	1132.5	DCIM	G	2	959	2000X	
			IZMI	1130.5	1130.6	III	B	1	45	95	
			IZMI	1132.3	1132.7	III	G	1	45	100	
			POTS	1217.5	1218.3	III	G	3	40X	150	
			SGMR	1218.0	1218.0	III		1	30	75	
			SVTO	1218.0	1218.0	III		1	25	135	
			SVTO	1245.0	1245.0	III		1	25U	55U	
			POTS	1245.2	1245.5	III	G	2	40X	90U	
			HOLL	1319.0	1320.0	III		1	25	71	
			SVTO	1319.0	1320.0	III		1	25	82	
			POTS	1319.8	1320.0	III	B	2	40X	90U	
			HOLL	1402.0	1922.0	III	N	1	25	55	
			HOLL	1658.0	1658.0	III		1	25	135	
			PALE	1658.0	1658.0	III		1	63U	147U	
			SGMR	1658.0	1658.0	III		1	30	80	
			PALE	1920.0	1920.0	III		1	25	180	
			SGMR	1920.0	1920.0	III		1	30	80	
			SGMR	1930.0	1930.0	III		1	30	50	
	1958	2400	HIRA								
	2030	2400	CULG	2304.0	2318.0	I	S	1	120	180	
20	0000	0735	CULG	0013.0	0013.0	III	B	1	25	160	
			HOLL	0053.0	0057.0	III		1	25	86	
			CULG	0055.0	0058.0	III	G	3	25	180	
			LEAR	0055.0	0057.0	III		1	25	120	
			PALE	0055.0	0057.0	III		1	25	90	
	0000	0916	HIRA	0055.5	0056.0	III	B	1	25X	180	
			HIRA	0057.0	0057.5	III	B	2	25X	210	
			HOLL	0121.0	0121.0	III		1	25	54	
			CULG	0215.0	0322.0	III	N	1	35	160	
			HIRA	0320.5	0322.0	III	G	1	25X	170	
			CULG	0504.0	0504.0	III	B	1	70	180	
			SVTO	0504.0	0504.0	III		1	132	180	
	0508	1653	ONDR								
			LEAR	0520.0	0523.0	III		1	25	132	
			SVTO	0523.0	0552.0	III	N	1	25U	180U	
	0530	1720	BLEN								
			CULG	0547.0	0557.0	III	G	1	50	180	
			LEAR	0547.0	0550.0	III		1	25	180	
			HIRA	0547.5	0548.0	III	B	1	25X	270	
	0549	1200	IZMI	0549.8	0550.1	III	G	2	45	100	
			IZMI	0552.2	0552.7	III	G	2	150	210	
			IZMI	0555.4	0556.5	III	GG	2	45	240	
			HIRA	0556.0	0556.5	III	B	1	50	200	
			IZMI	0558.0	0954.0U	I	N	1	30U	270	
			IZMI	0600.0U	1200.0	III	N	1	45	95	
			IZMI	0610.4	0610.7	III	B	2	45	205	
			IZMI	0658.8	0701.2	III	GG,FS	2	45	250	
			LEAR	0659.0	0708.0	III		2	25	180	
			SVTO	0659.0	0709.0	III		2	25U	180U	
			CULG	0700.0	0710.0	III	G	1	28	180	
			HIRA	0700.0	0700.5	III	B	1	60	200	
			IZMI	0705.4	0709.7	III	GG	2	25X	270X	
			HIRA	0705.5	0706.0	III	B	2	40	280	
			HIRA	0708.0	0708.5	III	B	1	50	190	
			IZMI	0752.4	0752.8	III	G	1	45X	150	
			IZMI	0849.2	0849.8	III	G	2	45	100	
			IZMI	0900.9	0903.1	III	GG	3	25X	160	
			LEAR	0902.0	0909.0	III		1	25	130	
			SVTO	0902.0	0907.0	III		1	25	87	
			HIRA	0902.5	0903.0	III	B	2	40	130	
			IZMI	0906.8	0908.0	III	GG	2	25X	110	
			IZMI	1019.5	1020.0	III	G	2	35	180	
			SVTO	1101.0	1101.0	III		2	52	146	
			IZMI	1101.4	1102.2	III	G,FS	2	35	270X	
			SGMR	1134.0	1135.0	III		1	30	70	
			SVTO	1134.0	1135.0	III		2	25U	83U	
			IZMI	1134.5	1136.0	III	GG	2	25X	130	

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20			HOLL	1442.0	1444.0	III		1	25	86	
			HOLL	1558.0	1559.0	III		1	25	86	
			SGMR	1559.0	1947.0	III	N	1	30	70	
			SVTO	1559.0	1613.0	III	N	1	25	180	
			HOLL	1608.0	0053.0	III	N	1	25	180	
			PALE	1824.0	1832.0	III		1	25U	85U	
			PALE	2108.0	2108.0	III		1	25U	75U	
			SGMR	2108.0	2108.0	III		1	30	60	
	1956	2400	HIRA	2108.0	2109.0	III	B	1	25X	190	
	2030	2400	CULG	2108.0	2110.0	III	G	1	28	180	
			HIRA	2129.0	2136.0	III	G	1	120	1100	
			CULG	2131.0	2134.0	UNCLF		1	100	180	
			CULG	2208.0	2209.0	III	G	1	23	180	
			HIRA	2208.0	2209.0	III	B	2	25X	200	
			PALE	2208.0	2209.0	III		1	25	180	
			SGMR	2208.0	2208.0	III		1	30	80	
			CULG	2215.0	2259.0	III	S	1	40U	120	
			PALE	2301.0	2302.0	III		1	25	70	
21	0000	0917	HIRA	0007.5	0008.0	III	B	1	25X	100	
	0000	0735	CULG	0008.0	0008.0	III	B	1	30	90	
			CULG	0033.0	0035.0	III	G	2	23	160	
			HIRA	0033.0	0034.0	III	B	2	25X	190	
			LEAR	0033.0	0034.0	III		2	25	106	
			PALE	0033.0	0035.0	III		1	25	75	
			LEAR	0124.0	0125.0	III		1	25	152	
			PALE	0124.0	0126.0	III		1	25	75	
			HIRA	0124.5	0125.0	III	B	1	25X	150	
			CULG	0125.0	0144.0	III	N	1	25	150	
			HIRA	0407.5	0408.0	III	B	1	25X	110	
			HIRA	0459.0	0459.5	III	B	2	40	330	
			LEAR	0459.0	0501.0	III		1	25	164	
			SVTO	0459.0	0503.0	III		1	25	150	
	0506	1654	ONDR								
	0530	1720	BLEN								
			CULG	0536.0	0539.0	III	G	3	20	300	
			LEAR	0536.0	0540.0	III		3	25	180	
			HIRA	0537.0	0538.0	III	B	3	25X	380	
			SVTO	0537.0	0538.0	III		2	25	180	
			LEAR	0617.0	0643.0	III	N	1	25	142	
			SVTO	0617.0	1354.0	III	N	1	30U	82U	
			IZMI	0619.0E	0646.0	I	N	2	60	130	
	0619	1000	IZMI	0619.0E	1200.0D	III	N	2	45	95	
			IZMI	0642.2	0642.4	III	G	2	30	45	
			IZMI	0711.5	0716.1	III	GG	2	45	65	
			LEAR	0716.0	0717.0	III		1	25	167	
			HIRA	0716.5	0717.0	III	B	1	50	400	
			IZMI	0716.7	0717.4	III	GG,C	2	45	270X	
			CULG	0717.0	0717.0	III	B	1	35U	180	
			LEAR	0736.0	0746.0	III	N	1	75	180	
			IZMI	0810.0	1055.0U	I	N	2	45	270	
			LEAR	0902.0	0906.0	III		2	25	180	
			SVTO	0903.0	0904.0	III		1	25	170	
			IZMI	0903.1	0906.1	III	GG	2	25X	270X	
			HIRA	0903.5	0904.0	III	B	2	60	290	
			IZMI	0909.7	0910.7	III	GG	2	25X	105	
			IZMI	0924.6	0925.2	III	G	2	45	95	
			IZMI	0933.3	0935.4	III	GG	2	30	250	
	1021	1200	IZMI	1025.6	1026.0	III	GG	2	25X	140	
			IZMI	1056.4	1056.6	III	G	2	30	125	
			IZMI	1116.3	1117.9	III	GG,FS	2	25X	95	
			IZMI	1158.6	1200.0D	III	GG,FS	2	25X	150	
			SGMR	1159.0	1200.0	III		1	30	65	
			SVTO	1159.0	1159.0	III		2	25U	82U	
			SGMR	1236.0	1339.0	III	N	1	30	80	
			HOLL	1337.0	1952.0	III	N	1	25	84	
			SGMR	1347.0	1959.0	CONT		1	30	80	
			PALE	1931.0	1936.0	III		2	25	180	
			PALE	1931.0	1936.0	V		2	25	180	

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21			SGMR	1931.0	1935.0	V		3	30	80	
			PALE	2038.0	2038.0	III		1	25	47	
			PALE	2044.0	2044.0	III		1	25	65	
	2035	2400	CULG	2044.0	2044.0	III	B	1	30	180	
			CULG	2046.0	2237.0	CONT		1	50U	100	
	1955	2400	HIRA	2226.0	2226.5	III	B	1	25X	140	
			HIRA	2230.0	2230.5	III	B	1	50	190	
			HIRA	2250.0	2250.5	III	B	1	50	140	
			LEAR	2255.0	0950.0	CONT		1	73	180	
			CULG	2345.0	2358.0	III	GG	1	30	100	
			HIRA	2345.0	2358.0	III	G	1	25X	800	
			LEAR	2345.0	0002.0	III	N	1	25	159	
			CULG	2354.0	2354.0	III	B	1	30	180	
22	0000	0735	CULG	0029.0	0151.0	III	N	2	25	180	
			LEAR	0033.0	0038.0	III		3	25	180	
			PALE	0033.0	0037.0	III		1	25	180	
			CULG	0036.0	0038.0	III	G	3	28	170	
	0000	0917	HIRA	0037.0	0038.0	III	B	3	25X	190	
			LEAR	0050.0	0054.0	III		1	25	104	
			HIRA	0054.5	0055.0	III	B	2	25X	70	
			LEAR	0115.0	0122.0	III		2	25	110	
			HIRA	0121.0	0122.5	III	G	2	25X	70	
			HIRA	0132.5	0136.0	III	G	2	25X	150	
			LEAR	0135.0	0150.0	III	N	3	25	180	
			HIRA	0139.5	0140.0	III	B	2	30	180	
			HIRA	0145.0	0150.5	III	G	3	25X	650	
			CULG	0147.0	0149.0	III	G	3	20	450	
			LEAR	0255.0	0403.0	III	N	1	25	146	
			CULG	0402.0	0405.0	III	G	2	18	130	
			LEAR	0404.0	0405.0	III		2	25	159	
			HIRA	0405.0	0405.5	III	B	2	25X	150	
	0504	1655	ONDR								
			CULG	0509.0	0514.0	III	G	1	23	150	
			LEAR	0509.0	0624.0	III	N	1	25	121	
			SVTO	0509.0	1250.0	III	N	1	25U	82U	
			HIRA	0514.0	0514.5	III	B	1	25X	100	
	0550	1200	IZMI	0550.0	1200.0D	I	S	2	45	90	
			IZMI	0605.3	0605.6	III	G	2	45	95	
			IZMI	0607.7	0608.4	III	G	2	45	95	
			IZMI	0610.7	0611.4	III	G	2	45	95	
			LEAR	0619.0	0619.0	III		3	25	180	
			SVTO	0619.0	0619.0	III		2	25U	82U	
			HIRA	0619.5	0620.0	III	B	2	25X	310	
			IZMI	0619.5	0619.9	III	GG	2	25X	270	
			IZMI	0619.5	0619.9	V		2	25X	95	
			IZMI	0701.0	0930.0U	III	N	1	45X	95	
			IZMI	0704.1	0704.3	III	B	2	40	95	
			IZMI	0704.9	0705.5	III	G	2	25X	95	
			IZMI	0741.4	0741.5	III	B	2	30	210	
			IZMI	0800.4	0800.7	III	G	2	35	110	
			IZMI	0929.8	0930.1	III	GG	2	45	100	
			LEAR	0931.0	0932.0	III		1	25	117	
			IZMI	0931.9	0932.2	III	G	2	25X	230	
			IZMI	0942.7	0942.8	III	B	2	25	95	
			IZMI	0954.3	0955.8	III	GG	2	45	120	
	0530	1720	BLEN	1022.3	1022.9	III	GG,RS	2	1415X	3500	
			IZMI	1046.6	1046.8	III	G	2	35	95	
			IZMI	1047.7	1048.8	III	GG	2	25X	145	
			IZMI	1112.4	1112.6	III	G	2	25X	95	
			IZMI	1117.5	1118.0	III	G	1	45	65	
			IZMI	1137.7	1138.2	III	G	1	30	110	
			SGMR	1214.0	2310.0	CONT		1	30	80	
			SGMR	1347.0	1351.0	V		2	30	80	
			HOLL	1348.0	1351.0	III		2	25	141	
			SVTO	1541.0	1712.0	CONT		1	25	149	
			HOLL	1543.0	1545.0	III		1	25	141	
			SGMR	1543.0	1553.0	III		2	30	80	
			SVTO	1544.0	1553.0	III		2	25	150	

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

APRIL 2001

OBSERVATION Day	Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
22			HOLL	1550.0	1553.0	III		1	25	155	
			HOLL	1620.0	1625.0	III		1	25	83	
			SGMR	1622.0	1626.0	III		2	30	60	
			HOLL	1659.0	1708.0	III		2	25	180	
			SGMR	1701.0	1708.0	III		3	30	80	
			BLEN	1702.9	1705.8	III	GG,RS	2	1415X	3200	
			SVTO	1703.0	1704.0	III		1	25	156	
			PALE	1704.0	1704.0	III		1	25	180	
			PALE	1707.0	1708.0	III		1	25	180	
			HOLL	1910.0	1911.0	III		1	25	180	
			PALE	1910.0	1915.0	III		2	25	180	
			SGMR	1910.0	1915.0	III		3	30	80	
			HOLL	1913.0	1915.0	III		1	25	103	
			HOLL	2004.0	0015.0	III	N	1	25	149	
	1954	2400	HIRA	2025.5	2026.0	III	B	1	25X	200	
			HOLL	2037.0	2041.0	III		1	25	180	
			SGMR	2037.0	2041.0	III		2	30	80	
	2035	2400	CULG	2037.0	2048.0	III	GG	2	30	400	
			HIRA	2038.0	2042.0	III	G	2	25X	1600	
			CULG	2042.0	2103.0	II	SH	3	55U	290	ESS 550
			HIRA	2042.0	2049.0	II		3	55	290	
			PALE	2042.0	2048.0	III		1	84	180	
			PALE	2042.0	2048.0	II		2	25	180	ESS 0314
			HOLL	2043.0	2050.0	II		1	25	180	ESS 1175
			CULG	2044.0	2050.0	II	FN	1	60U	140	
			CULG	2100.0	2400.0D	I	S,C	2	40	170	
			HOLL	2155.0	2159.0	III		2	25	134	
			HIRA	2155.5	2159.5	III	G	3	25X	280	
			HOLL	2250.0	0015.0	CONT		1	25	114	
			LEAR	2255.0	0949.0	CONT		1	35	180	
23	0000	0730	CULG	0000.0E	0730.0D	I	S,C	2	45	150	
			CULG	0034.0	0730.0D	III	S,C	2	23	180	
			CULG	0123.0	0126.0	III	G	3	20	470	
			LEAR	0123.0	0126.0	III		2	25	180	
	0000	0415	HIRA	0123.5	0126.5	III	G	2	25X	700	
			CULG	0327.0	0327.0	III	B	3	20	180	
			HIRA	0327.0	0327.5	III	B	1	25X	110	
			SVTO	0420.0	1713.0	CONT		2	25	180	
			CULG	0438.0	0440.0	III	G	3	18	200	
			LEAR	0438.0	0442.0	III		1	25	180	
			SVTO	0438.0	0513.0	III	N	2	25	180	
			IZMI	0556.0E	1200.0D	III	N	2	45U	95U	
	0556	1200	IZMI	0556.0E	1200.0D	I	S,C	2	45U	270X	
	0600	0907	HIRA								
			IZMI	0608.4	0608.9	III	G	2	45	70	
			IZMI	0616.6	0617.0	III	G	2	25	100	
			IZMI	0631.7	0638.2	III	GG	2	25	75	
	0502	1656	ONDR	0648.0	0649.2	DCIM		1	2547	4412	
			SVTO	0653.0	0654.0	III		2	25	81	
			IZMI	0848.7	0848.8	III	B	2	30	70	
			IZMI	0858.6	0900.0	I	GG,DC	2	45	65	
			ONDR	1009.1	1016.4	DCIM	GG	2	800X	2000X	
			ONDR	1009.1	1021.1	DCIM	GG	2	2000X	4500X	
	0530	1720	BLEN	1009.3	1022.0	DCIM	C	3	1415X	4000X	
			SVTO	1014.0	1015.0	III		2	25U	83U	
			IZMI	1014.8	1015.1	III	GG,RS	2	210	270X	
			IZMI	1015.1	1015.3	III	G	2	25X	90X	
			IZMI	1031.0	1033.7	I	GG,DC	2	170	220	
			IZMI	1040.7	1042.8	I	GG,DC	2	160	200	
			IZMI	1057.1	1057.2	III	B	2	40	70	
			SGMR	1120.0	2250.0	CONT		2	30	80	
			IZMI	1136.2	1136.3	III	B	2	25X	55	
			SGMR	1158.0	1158.0	III		1	30	80	
			SVTO	1158.0	1158.0	III		2	25	180	
			IZMI	1158.5	1158.7	III	GG	3	25X	270X	
			IZMI	1158.5	1158.8	V		2	25X	70	
			IZMI	1159.0	1159.2	III	G	2	130	270X	
			SGMR	1220.0	1222.0	III		2	30	80	

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

APRIL 2001

Day	OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
23			SVTO	1221.0	1222.0	III		3	25	180	
			HOLL	1304.0	0125.0	CONT		1	25	169	
			SVTO	1307.0	1308.0	III		1	25	57	
			HOLL	1339.0	1340.0	III		1	25	90	
			SVTO	1339.0	1339.0	III		2	25	124	
			BLEN	1528.6	1534.0	DCIM	C	3	1415X	4000X	
			SVTO	1529.0	1529.0	III		1	25	117	
			ONDR	1529.1	1530.0	DCIM		1	2000X	4500X	
			PALE	1730.0	0437.0	CONT		1	25	180	
			PALE	1949.0	0437.0	III	N	2	25	65	
	2035	2400	CULG	2035.0E	2400.0D	I	S,C	2	60	160	
	1952	2400	HIRA	2149.0	2149.5	III	B	1	120	270	
24	0000	0730	CULG	0000.0E	0730.0	I	S,C	2	50	150	
			HOLL	0037.0	0039.0	III		1	25	136	
	0000	0920	HIRA	0038.5	0039.0	III	B	1	25X	200	
			CULG	0039.0	0039.0	III	G	1	30	90	
			SVTO	0418.0	1714.0	CONT		2	25	180	
			CULG	0535.0	0730.0D	III	S,C	1	30	180	
			LEAR	0535.0	0538.0	III		3	25	180	
			HIRA	0535.5	0545.5	III	G	3	25X	1500	
	0530	1720	BLEN	0535.8	0548.7	DCIM	C	3	1415X	4000X	
			CULG	0536.0	0541.0	III	G	3	23	500	
			SVTO	0536.0	0538.0	III		2	25	180	
			BLEN	0537.7	0542.7	III	GG,RS	2	2000	2500	
			CULG	0545.0	0545.0	III	G	2	25	180	
			IZMI	0550.0E	1200.0D	III	N	1	40	95	
	0550	1200	IZMI	0550.0E	1200.0D	I	S,C	2	40	270X	
			IZMI	0552.5	0552.9	III	G	2	40	60	
			HIRA	0604.0	0604.5	III	B	1	40	210	
			IZMI	0604.0	0604.4	III	G	2	45	60	
			HIRA	0610.0	0610.5	III	B	1	40	280	
			IZMI	0640.2	0641.2	III	G	2	35	65	
			IZMI	0646.1	0646.5	III	G	2	45	90	
			SVTO	0652.0	0653.0	III		3	25	30	
			ONDR	0652.1	0705.0	DCIM	G	1	800X	2000X	
	0500	1657	ONDR	0656.2	0659.2	DCIM	G	2	2000X	4500X	
			BLEN	0656.8	0659.8	DCIM	C	3	1415X	4000X	
			IZMI	0703.1	0704.2	III	G	2	25X	215	
			IZMI	0707.2	0709.2	III	G	2	25X	65	
			IZMI	0718.0	0718.2	III	GG	2	30	60	
			IZMI	0836.6	0837.3	III	GG	2	200	270X	
			IZMI	0847.0	0847.1	III	B	2	35	65	
			IZMI	0912.8	0913.1	III	B	2	25X	50	
			IZMI	0924.5	0929.7	III	G	2	25X	45	
			IZMI	0933.6	0940.1	III	G	2	25X	50	
			IZMI	0950.6	0950.7	III	B	2	30	95	
			IZMI	1022.7	1023.5	I	GG,DC	2	45	50	
			IZMI	1102.7	1102.8	III	B	2	30	60	
			SGMR	1115.0	2312.0	CONT		2	30	80	
			IZMI	1141.1	1141.3	III	B	2	25	50	
			IZMI	1146.5	1149.4	III	GG	2	45	70	
			HOLL	1240.0	0134.0	CONT		2	25	175	
			ONDR	1243.0	1248.5	DCIM	G	1	2000X	4500X	
			BLEN	1245.0	1247.6	DCIM	C	2	1415X	4000X	
			ONDR	1245.1	1255.5	DCIM	W	1	1095	2000X	
			HOLL	1327.0	1330.0	II		2	25U	112U	ESS 1127
			PALE	1623.0	0437.0	CONT		1	25	180	
			HOLL	1837.0	1841.0	III		1	25	156	
			CULG	2035.0E	2400.0D	III	S,C	1	30	180	
	2035	2400	CULG	2035.0E	2400.0D	I	S,C	2	40	150	
			HOLL	2129.0	0134.0	III	N	1	25	79	
			CULG	2220.0	2226.0	III	G	1	150	1300	
	1951	2400	HIRA	2220.0	2223.0	III	G	2	190	2000	
			HIRA	2223.5	2228.0	II		1	50	120	
			HIRA	2223.5	2228.0	II		1	100	250	
			LEAR	2256.0	0947.0	CONT		2	25	180	
25			CULG	0000.0E	0730.0D	III	S,C	1	50	180	

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

APRIL 2001

Day	OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
25	0000	0730	CULG	0000.0E	0730.0D	I	S,C	2	40	150	
	0000	0920	HIRA	0006.5	0007.0	III	B	1	50	120	
			CULG	0124.0	0124.0	III	B	2	28	200	
			HIRA	0124.0	0124.5	III	B	1	25X	480	
			SVTO	0417.0	1715.0	CONT		2	25	180	
			CULG	0532.0	0532.0	III	B	2	40U	200	
			LEAR	0532.0	0532.0	III		1	30	180	
			HIRA	0532.5	0533.0	III	B	1	30	210	
			IZMI	0600.0E	1200.0	III	N	1	40	95	
	0600	1200	IZMI	0600.0E	1200.0	I	S,C	2	40	270X	
			HIRA	0625.0	0625.5	III	B	2	120	470	
			IZMI	0625.4	0625.7	III	G	2	130	270X	
			IZMI	0731.6	0731.7	III	B	2	45	70	
			IZMI	0756.1	0756.2	III	G	2	35	65	
			IZMI	0855.4	0855.5	III	G	2	25X	65	
			IZMI	0931.0	0935.3	III	GG	2	30	70	
	0459	1659	ONDR	0936.3	0937.2	DCIM	GG	2	800X	1836	
	0520	1730	BLEN	0936.3	0936.8	III	RS	2	1415X	2800	
			IZMI	0936.7	0938.3	III	GG	2	120	270X	
			IZMI	0945.4	0947.1	III	G	2	30	70	
			SGMR	1100.0	2259.0	CONT		1	30	80	
			IZMI	1122.9	1123.1	III	B	2	25	60	
			IZMI	1134.2	1135.3	III	GG	2	45	230	
			IZMI	1142.6	1144.2	I	GG,DC	2	60	80	
			HOLL	1241.0	0132.0	CONT		1	49U	180U	
			HOLL	1341.0	0132.0	III	N	1	25	180	
			ONDR	1341.5	1356.1	DCIM	GG	3	800X	2000X	
			BLEN	1342.6	1343.5	III	GG,RS	2	1415X	3100	
			SGMR	1343.0	1400.0	III	N	2	30	80	
			SVTO	1343.0	1349.0	III		2	25	175	
			HOLL	1347.0	1351.0	II		2	52	180	ESS 0310
			SVTO	1349.0	1353.0	II		1	113	180	ESS 0289
			PALE	1657.0	0438.0	CONT		1	84	180	
	1950	2400	HIRA								
			CULG	2035.0E	2400.0D	III	S	1	30	180	
	2035	2400	CULG	2035.0E	2400.0D	I	S,C	2	40	160	
			LEAR	2256.0	0947.0	CONT		1	25	180	
26			CULG	0000.0E	0730.0D	III	S,C	1	23	180	
	0000	0730	CULG	0000.0E	0730.0D	I	S,C	2	40	150	
			CULG	0043.0	0043.0	III	B	3	20	300	
			LEAR	0043.0	0043.0	III		2	25	180	
	0000	0921	HIRA	0043.0	0043.5	III	B	2	25X	500	
			LEAR	0430.0	0436.0	III		2	25	180	
			HIRA	0430.5	0436.0	III	G	2	25X	300	
			CULG	0431.0	0437.0	III	GG	3	23	300	
			SVTO	0431.0	0436.0	III		1	25	172	
			SVTO	0441.0	1341.0	CONT		2	25U	180U	
			HIRA	0510.0	0511.0	III	B	1	30	180	
	0559	1200	IZMI	0556.0E	1200.0D	I	S,C	2	40	270X	
			IZMI	0713.2	0715.7	III	GG	2	40	110	
			SGMR	1048.0	1341.0	CONT		2	30	80	
			ONDR	1119.3	1213.3	DCIM	GG	2	800X	2000X	
	0520	1140	BLEN	1120.4	1130.6	DCIM	C	2	1415X	4000X	
			IZMI	1127.2	1151.6	IV		2	160	270X	
			IZMI	1149.4	1151.6	I	GG,DC	2	160	205	
			SVTO	1156.0	1201.0	III		2	25	70	
			IZMI	1157.6	1159.2	III	GG	2	25X	75	
			ONDR	1222.4	1312.0	DCIM	GG	3	800X	2000X	
	0457	1701	ONDR	1236.5	1253.2	DCIM	G	1	2000X	4500X	
			HOLL	1241.0	1341.0	CONT		1	25	180	
			ONDR	1307.1	1311.3	DCIM	GG	3	2000X	4500X	
			SGMR	1309.0	1310.0	III		2	30	80	
			SVTO	1309.0	1312.0	III		1	25	180	
			HOLL	1334.0	1340.0	II		1	25	84	ESS 0487
			SVTO	1334.0	1340.0	II		1	32U	63U	ESS 0464
			SGMR	1335.0	1339.0	II		2	38	50	
			HOLL	1341.0	0133.0	IV		1	25	180	
			SGMR	1341.0	2314.0	IV		2	30	80	

SOLAR RADIO EMISSION
Spectral Observations

APRIL 2001

Day	OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
26			SVTO	1341.0	1716.0	IV		1	25	180	
			HOLL	1440.0	1442.0	III		1	25	79	
			PALE	1642.0	0000.0	CONT		1	95U	75U	
	2035	2400	CULG	2035.0E	2400.0D	CONT		2	40U	170	
			CULG	2145.0	2146.0	III	G	2	100	180	
	1949	2400	HIRA	2145.5	2146.0	III	B	1	100	180	
			LEAR	2257.0	0946.0	CONT		1	25	180	
27	0000	0725	CULG	0000.0E	0725.0D	CONT		2	30U	170	
			SVTO	0437.0	1717.0	CONT		1	25	180	
	0455	1702	ONDR								
	0533	1245	POTS	0523 E	1245 U	I	S,C,DC	3	40X	450	
			IZMI	0604.0E	1209.0D	III	N	1	40	95	
	0604	1209	IZMI	0604.0E	1209.0D	I	S,C	2	40	240	
			IZMI	0607.3	0607.8	III	G	1	180	270X	
			IZMI	0644.0	0644.1	III	B	2	45	70	
	0520	1725	BLEN	0645.1	0657.4	III	GG,S	2	152	460	
			POTS	0651	1245 U	III	N	1	40X	90U	
			IZMI	0655.1	0657.6	III	GG	3	120	270X	
			POTS	0655.1	0657.3	DCIM	U	2	200U	400	
	0000	0922	HIRA	0656.5	0657.0	III	B	3	180	400	
			CULG	0657.0	0657.0	III	B	1	120	350	
			IZMI	0657.6	0659.8	III	GG	2	38	90	
			POTS	0659.2	0659.3	III	B	2	40X	90U	
			IZMI	0707.1	0707.9	III	GG	2	45	270	
			HIRA	0822.0	0822.5	III	B	1	130	210	
			IZMI	0822.2	0822.4	III	G	2	130	240	
			IZMI	0823.5	0829.0	III	GG	1	25X	65	
			HIRA	0859.0	0859.5	III	B	1	110	200	
			IZMI	0859.0	0859.1	III	B	2	130	230	
			POTS	0859.0	0859.1	III	B	3	130	300	
			POTS	1058.0	1058.2	III	B	2	40X	70	
			IZMI	1155.3	1155.7	III	GG	2	185	270X	
			IZMI	1157.6	1157.7	III	B	2	200	260	
			IZMI	1159.2	1159.4	III	GG	2	185	270X	
			SGMR	1235.0	1705.0	CONT		1	30	80	
	1303	1722	POTS	1303 E	1722 U	I	S,C,DC	3	40X	400	
			POTS	1309 E	1501	III	N	1	40X	90U	
			BLEN	1334.8	1335.6	III	GG,S	2	222	430	
			POTS	1334.9	1335.1	DCIM		1	200U	450	
			PALE	1642.0	0438.0	CONT		1	25	180	
			POTS	1710.5	1710.8	DCIM	RS	2	250	500	
			PALE	1901.0	1904.0	III		1	25	65	
			HOLL	2000.0	2002.0	III		1	25	168	
			PALE	2000.0	2002.0	III		2	25	180	
			SGMR	2001.0	2002.0	III		3	30	80	
	1948	2400	HIRA	2001.5	2002.0	III	B	2	25X	300	
	2035	2400	CULG	2035.0E	2400.0D	III	S	1	40	180	
			HIRA	2041.0	2042.5	III	G	1	25X	200	
			PALE	2041.0	2042.0	III		1	25	95	
			SGMR	2041.0	2042.0	III		1	30	60	
			HIRA	2117.0	2119.0	III	G	1	25X	430	
			PALE	2117.0	2135.0	III	N	2	25	180	
			SGMR	2117.0	2118.0	III		1	30	80	
			LEAR	2257.0	0430.0	CONT		1	61	180	
			HIRA	2315.0	2316.0	III	B	3	25X	410	
			HOLL	2315.0	2316.0	III		2	25	91	
			LEAR	2315.0	2315.0	III		2	25	105	
			PALE	2315.0	2315.0	III		1	25	80	
			CULG	2316.0	2316.0	III	B	3	30	90	
			HIRA	2346.0	2346.5	III	B	1	50	210	
28	0000	0725	CULG	0000.0E	0332.0	III	N	1	40	170	
	0000	0923	HIRA	0043.0	0043.5	III	B	2	100	200	
			HIRA	0310.0	0310.5	III	B	1	200	430	
	0434	1724	POTS	0453 E	1724 U	I	S,W	1	110U	300	
	0550	1200	IZMI	0606.3	0606.4	III	B	1	45	60	
			IZMI	0642.5	0642.8	III	B	1	45	90	
			IZMI	0719.1	0719.2	III	G	2	175	270X	

SOLAR RADIO EMISSION
Spectral Observations

APRIL 2001

OBSERVATION Day	Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
28			SVTO	0756.0	0800.0	III		1	25	59	
			IZMI	0756.4	0756.6	III	G	2	30	90	
			POTS	0756.4	0800.0	III	G	2	40X	90U	
			IZMI	0759.6	0800.0	III	B	2	30	90	
			IZMI	0913.8	0913.8	III	B	2	165	260	
	0454	1703	ONDR	0917.3	0925.1	DCIM	G	1	2186	4354	
	0520	1730	BLEN	0922.6	0923.3	III	S	1	340	380	
			IZMI	1057.6	1057.8	III	B	1	45	90	
	1946	2400	HIRA								
	2035	2400	CULG								
29			LEAR	0028.0	0029.0	III		1	25	180	
	0000	0924	HIRA	0028.5	0029.5	III	B	1	25X	330	
	0000	0725	CULG	0029.0	0030.0	III	G	1	35U	280	
			CULG	0120.0	0120.0	III	B	1	50	160	
			CULG	0259.0	0259.0	III	B	1	50U	180	
			HIRA	0259.0	0259.5	III	B	2	60	190	
	0452	1704	ONDR								
	0434	1726	POTS	0503	1726 U	I	S	1	110U	400	
			HIRA	0518.5	0519.0	III	B	1	120	210	
			POTS	0523.6	0523.8	III	G	1	110U	170U	
			POTS	0548.7	0555.8	III	GG	2	110U	250	
	0604	1200	IZMI	0548.8	0555.7	III	GG	2	45	95U	
			POTS	0648.3	0650.0	III	G	2	110U	250	
			IZMI	0648.4	0650.5	III	GG	2	45	220	
			HIRA	0649.5	0650.0	III	B	1	50	200	
	0510	1735	BLEN	0649.5	0650.0	III	GG,S	2	140	450	
			CULG	0650.0	0650.0	III	B	1	50U	180	
			IZMI	0719.2	0720.6	I	N	1	180	270X	
			POTS	0725.0	0725.1	III	B	1	40X	160	
			IZMI	0823.8	0844.3	III	G	1	40	160	
			POTS	0823.9	0824.1	III	G	2	40X	160	
			IZMI	0842.7	0842.8	III	G	1	45	65	
			LEAR	0844.0	0850.0	III		1	25	180	
			SVTO	0844.0	0850.0	III		1	38	150	
			IZMI	0844.1	0845.0	III	GG,FS	2	40	165	
			POTS	0844.4	0850.9	III	G	2	40X	170U	
			IZMI	0846.2	0846.6	III	G	1	45	95	
			HIRA	0847.0	0848.0	III	G	2	40	170	
			IZMI	0847.3	0847.9	III	GG,FS	2	35	210	
			IZMI	0850.4	0851.0	III	GG,FS	2	40	160	
			HIRA	0850.5	0851.0	III	B	2	50	150	
			LEAR	0906.0	0906.0	III		1	25	150	
			SVTO	0906.0	0906.0	III		1	25	143	
			POTS	0906.1	0906.6	III	G	2	40X	170U	
			IZMI	0906.3	0906.6	III	G	2	30	175	
			IZMI	0942.9	0943.3	III	G	1	45	210	
			POTS	0943.1	0943.2	III	B	2	110U	170U	
			IZMI	1015.0U	1032.0	I	N	1	180	270X	
			POTS	1103.5	1103.6	III	B	1	120	170U	
			POTS	1115.5	1115.6	III	G	1	120	160	
			IZMI	1128.2	1129.3	III	GG	1	45	160	
			POTS	1128.2	1128.3	III	G	1	110U	170U	
			BLEN	1232.3	1233.6	III	GG,S	2	220	370	
			POTS	1352.2	1356.2	III	GG	2	40X	170U	
			POTS	1403.9	1404.2	III	G	2	110U	170U	
			POTS	1450.8	1458.7	III	GG	3	40X	250	
			HOLL	1455.0	1459.0	III		1	25	170	
			SGMR	1455.0	1458.0	III		1	30	70	
			SVTO	1455.0	1458.0	III		2	25	180	
			BLEN	1455.4	1456.3	III	GG,S	2	112	300	
			POTS	1456.1	1456.7	V		3	110U	120	
			POTS	1456.1	1456.8	V		2	55	70	
			POTS	1634.8	1635.2	III	G	2	110U	170U	
	2035	2400	CULG								
			SGMR	2054.0	2055.0	III		1	30	70	
	1945	2400	HIRA	2056.0	2056.5	III	B	1	130	210	
			HIRA	2100.5	2101.0	III	B	1	150	280	
			HIRA	2103.0	2103.5	III	B	1	90	110	

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

APRIL 2001

OBSERVATION Day	Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
30	0000	0725	CULG								
	0000	0925	HIRA								
	0434	1724	POTS	0450 E	1724 U	I	S,C,DC	1	110U	400	
	0450	1705	ONDR								
	0601	1206	IZMI	0615.0U	1206.0D	I	N	1	70	240	
			IZMI	0643.7	0646.3	III	G	1	45	95	
			IZMI	1036.6	1037.7	III	GG	2	25X	270X	
	0510	1735	BLEN	1036.6	1040.8	III	GG,S	3	150	570	
			POTS	1036.7	1039.9	III	G	2	40X	500	
			SVTO	1037.0	1037.0	III		1	25U	151U	
			IZMI	1039.8	1039.9	III	G	2	75X	270X	
			BLEN	1057.5	1058.4	III	GG,S	3	110	430	
			IZMI	1057.5	1058.6	III	GG,C,FS	2	25X	270X	
			POTS	1057.6	1102.1	III	G	3	40X	275	
			SVTO	1058.0	1058.0	III		2	25U	83U	
			POTS	1100.4	1100.5	DCIM		2	300	500	
			IZMI	1102.0	1107.4	III	G	1	45	95	
			IZMI	1104.2	1104.3	III	B	1	210	270X	
			BLEN	1127.7	1128.1	III	GG,S	3	190	500	
			IZMI	1127.7	1128.0	III	GG	2	200	270X	
			POTS	1127.7	1128.0	DCIM	UG	2	200U	400	
			POTS	1130.3	1132.3	III	G	2	40X	170U	
			IZMI	1141.8	1142.0	III	B	1	45	65	
			BLEN	1156.4	1158.0	III	GG,S	3	270	600X	
			POTS	1156.5	1158.0	DCIM		2	265	750	
			BLEN	1206.0	1209.1	III	GG,S	2	230	380	
			POTS	1206.3	1207.4	DCIM		2	240	350	
			BLEN	1332.1	1623.0	III	GG,S	3	110	600X	
			POTS	1332.1	1333.1	DCIM		2	250	375	
			POTS	1352.4	1352.6	III	B	1	40X	170U	
			POTS	1357.8	1358.0	III	B	2	110U	400	
			POTS	1403.3	1403.7	III	G	2	130	170U	
			HOLL	1414.0	1415.0	III		2	25	180	
			SGMR	1414.0	1415.0	III		3	30	80	
			SVTO	1414.0	1415.0	III		2	25	180	
			POTS	1414.5	1415.5	III	G	3	40X	550	
			POTS	1415.0U	1415.3	V		3	110U	135	
			POTS	1415.0U	1415.4	V		3	40X	65	
			HOLL	1446.0	1446.0	III		1	34	88	
			POTS	1446.0	1446.9	III	G	2	40X	350	
			SVTO	1446.0	1446.0	III		1	36U	82U	
			POTS	1608.5	1608.7	III	B	2	110U	170U	
			HOLL	1619.0	1620.0	III		1	25	180	
			SGMR	1619.0	1620.0	III		1	30	80	
			SVTO	1619.0	1620.0	III		1	25	180	
			POTS	1619.6	1620.2	III	G	3	110U	450	
			POTS	1703.2	1703.5	III	G	2	110U	170	
			HOLL	1754.0	1755.0	III		1	25	143	
			SGMR	1754.0	1755.0	III		2	30	80	
			HOLL	1901.0	1902.0	III		1	25	109	
			SGMR	1902.0	1902.0	III		1	30	73	
	1944	2400	HIRA	2111.5	2112.0	III	B	2	160	500	
	2035	2400	CULG	2212.0	2212.0	III	B	1	120	460	
			CULG	2227.0	2228.0	III	G	1	55	130	
			HOLL	2227.0	2227.0	III		1	25	84	
			SGMR	2242.0	2243.0	III		1	30	51	

SOLAR RADIO NOISE STORM AT 164 MHZ

FROM NANCAY RADIOHELIOGRAPH

APRIL 2001

	HELIOGRAPHICS POSITIONS MEAN VALUES[1]		IMP[2]	OBSERVING TIME[3]	
DAY	E-W	S-N		START(UT)	END(UT)
01/04/01	+0.88	+0.65	IV	8H25 E	15H25 D
02/04/01	+0.99	+0.71	III	8H28 E	15H25 D
02/04/01	+1.55	+0.33	III	8H28 E	15H25 D
03/04/01	-1.09	-0.36	I	8H30 E	15H22 D
04/04/01	-1.01	-0.50	III	8H24 E	15H24 D
05/04/01	-0.84	-0.11	III	8H24 E	15H24 D
05/04/01	+1.53	+0.53	III	8H24 E	11H35
06/04/01	-0.70	-0.20	I	8H25 E	15H23 D
06/04/01	-0.64	+0.88	I	12H38	15H23 D
07/04/01	-0.40	-0.25	III	8H23 E	15H23 D
08/04/01	-0.53	-0.31	II	8H23 E	15H23 D
08/04/01	-0.09	-0.22	II	8H23 E	15H23 D
09/04/01	+0.08	-0.11	V	8H22 E	15H23 D
09/04/01	+0.25	-0.37	V	8H22 E	15H23 D
10/04/01	+0.47	-0.36	III	8H22 E	15H22 D
11/04/01	-0.56	-0.06	I	8H22 E	15H22 D
11/04/01	+0.67	-0.31	II	8H22 E	15H22 D
12/04/01	-0.14	-0.29	I	8H25 E	15H21 D
12/04/01	+0.85	-0.53	III	8H25 E	15H21 D
13/04/01	-0.09	-0.08	I	8H21 E	15H21 D
13/04/01	+1.13	-0.40	II	8H21 E	15H21 D
14/04/01	+1.15	-0.34	II	8H36 E	15H21 D
15/04/01	+0.99	-0.76	I	10H17 E	15H21 D
15/04/01	+1.38	-0.11	I	10H17 E	11H30
16/04/01	-1.04	+0.57	I	8H35 E	13H10
17/04/01	-1.02	+0.74	III	10H06 E	14H13 D
18/04/01	-1.04	+0.47	II	9H44 E	15H21 D
18/04/01	-0.14	+0.19	I	9H44 E	15H21 D
19/04/01	-0.71	+0.50	IV	9H52 E	15H20 D
20/04/01	-0.54	+0.65	II	8H20 E	15H20 D
20/04/01	+0.39	+0.00	I	8H20 E	15H20 D

[1] POSITIVE E-W AND S-N COORDINATES CORRESPOND TO THE N-W QUADRANT
[2] IMP1: FLUX< 5 SFU IMP2: 5< FLUX < 20 SFU IMP3: 20< FLUX <100 SFU
IMP4: 100< FLUX <300 SFU IMP5> 300 SFU
[3] E NOISE STORM IN PROGRESS AT THE BEGINNING OF THE NANCAY OBSERVATIONS
D NOISE STORM IN PROGRESS AT THE END OF THE NANCAY OBSERVATIONS

21/04/01	-0.26	+0.64	I	8H19 E	15H19 D
21/04/01	-0.20	+0.34	I	8H19 E	15H19 D
22/04/01	-0.42	+0.43	I	8H19 E	15H19 D
22/04/01	-0.09	+0.59	II	8H19 E	15H19 D
22/04/01	+0.90	+0.33	I	8H19 E	15H19 D
23/04/01	-0.16	+0.33	V	8H19 E	15H19 D
24/04/01	+0.17	+0.54	V	8H19 E	15H19 D
25/04/01	+0.37	+0.47	III	8H43 E	15H19 D
25/04/01	+0.42	+0.11	IV	8H43 E	15H19 D
26/04/01	+0.64	+0.06	III	8H19 E	15H18 D
26/04/01	+0.73	+0.48	III	8H19 E	11H45
26/04/01	+0.22	+0.36	IV	12H39	15H18 D
27/04/01	+0.31	+0.65	II	8H18 E	15H18 D
27/04/01	+0.87	+0.11	III	8H18 E	15H18 D
28/04/01	+0.70	+0.68	I	8H18 E	15H18 D
28/04/01	+1.16	+0.12	I	8H18 E	15H18 D
29/04/01	-1.09	+0.62	II	8H18 E	15H18 D
29/04/01	+0.90	+0.78	I	8H18 E	15H18 D
30/04/01	-0.93	+0.74	II	8H18 E	15H18 D
30/04/01	+1.52	-0.03	I	8H18 E	11H50

NOISE STORM AT 327 MHZ

FROM NANCAY RADIOHELIOGRAPH

APRIL 2001

	HELIOGRAPHICS POSITIONS MEAN VALUES[1]		IMP[2]	OBSERVING TIME[3]	
DAY	E-W	S-N		START(UT)	END(UT)
01/04/01	+0.88	+0.56	III	8H25 E	15H25 D
02/04/01	+1.01	+0.62	II	8H28 E	15H25 D
02/04/01	+1.21	+0.37	II	8H28 E	15H25 D
03/04/01	-1.05	-0.31	I	8H30 E	15H22 D
03/04/01	+0.82	-0.12	I	8H30 E	15H22 D
04/04/01	-0.99	-0.37	I	8H24 E	15H24 D
04/04/01	-0.85	+0.51	I	11H00	15H24 D
05/04/01	-0.91	-0.37	II	8H24 E	15H24 D
05/04/01	-0.79	-0.14	II	8H24 E	15H24 D
05/04/01	+1.43	+0.43	II	8H24 E	10H05
06/04/01	-0.65	-0.20	I	8H25 E	15H23 D
06/04/01	-0.60	-0.36	I	12H40	15H23 D
07/04/01	-0.43	-0.17	III	8H23 E	15H23 D
08/04/01	-0.20	-0.09	I	8H23 E	15H23 D
08/04/01	-0.06	-0.31	I	8H23 E	15H23 D
09/04/01	+0.05	-0.11	IV	8H22 E	15H23 D
09/04/01	+0.31	-0.36	III	8H22 E	10H00
10/04/01	+0.33	-0.28	IV	8H22 E	15H22 D
11/04/01	+0.53	-0.29	II	8H22 E	15H22 D
12/04/01	-0.20	-0.20	I	8H25 E	15H21 D
12/04/01	+0.82	-0.33	I	8H25 E	15H21 D
13/04/01	+0.00	-0.09	I	8H21 E	15H21 D
13/04/01	+0.96	-0.48	I	8H21 E	15H21 D
13/04/01	+1.02	-0.26	I	8H21 E	15H21 D
14/04/01	+0.23	-0.11	I	8H36 E	15H21 D
14/04/01	+1.05	-0.34	I	8H36 E	15H21 D
15/04/01	+0.98	-0.64	I	10H17 E	15H21 D
15/04/01	+1.26	-0.28	I	10H17 E	11H30
16/04/01	-1.01	+0.59	I	8H35 E	15H20 D
16/04/01	-1.21	+0.35	I	8H35 E	15H20 D
16/04/01	-1.18	+0.00	I	8H35 E	15H20 D
17/04/01	-1.19	+0.31	I	10H06 E	14H13 D
17/04/01	-1.15	+0.57	I	10H06 E	14H13 D

17/04/01	-0.99	+0.73	I	10H06 E	14H13 D
17/04/01	-0.33	+0.22	I	10H06 E	14H13 D
18/04/01	-1.01	+0.50	II	9H44 E	15H21 D
18/04/01	-0.14	+0.23	I	9H44 E	15H21 D
19/04/01	-0.76	+0.48	II	9H52 E	15H20 D
19/04/01	+0.08	+0.23	I	9H52 E	15H20 D
19/04/01	+0.40	+0.50	I	9H52 E	15H20 D
20/04/01	-0.57	+0.68	I	8H20 E	15H20 D
20/04/01	-0.54	+0.42	I	8H20 E	15H20 D
20/04/01	+0.56	+0.45	I	8H20 E	15H20 D
20/04/01	+0.33	+0.17	I	8H20 E	15H20 D
21/04/01	-0.31	+0.59	I	8H19 E	15H19 D
21/04/01	-0.29	+0.40	I	8H19 E	15H19 D
21/04/01	+0.03	-0.12	I	8H19 E	15H19 D
21/04/01	+0.57	+0.36	I	8H19 E	15H19 D
22/04/01	-0.39	+0.29	I	8H19 E	15H19 D
23/04/01	-0.09	+0.29	III	8H19 E	15H19 D
24/04/01	+0.17	+0.36	III	8H20 E	15H19 D
25/04/01	+0.36	+0.51	II	8H43 E	15H19 D
25/04/01	+0.45	+0.29	II	8H43 E	15H19 D
25/04/01	+0.51	+0.09	II	8H43 E	15H19 D
26/04/01	-0.17	+0.14	II	8H19 E	15H18 D
26/04/01	+0.26	+0.71	IV	8H19 E	12H25
26/04/01	+0.48	+0.71	IV	8H19 E	12H25
26/04/01	+0.33	+0.48	IV	12H25	15H18 D
26/04/01	+0.16	+0.39	III	12H25	15H18 D
27/04/01	+0.54	+0.62	I	8H18 E	15H18 D
27/04/01	+0.88	+0.08	I	8H18 E	15H18 D
28/04/01	+0.31	-0.06	I	8H18 E	15H18 D
28/04/01	+0.76	+0.62	I	8H18 E	15H18 D
28/04/01	+1.13	+0.08	I	8H18 E	15H18 D
29/04/01	-1.01	+0.50	II	8H18 E	15H18 D
29/04/01	+0.88	+0.70	I	8H18 E	15H18 D
29/04/01	+1.15	+0.09	I	8H18 E	15H18 D
30/04/01	-0.90	+0.70	I	8H18 E	15H18 D
30/04/01	-0.71	+0.70	I	8H18 E	15H18 D

NO DATA

OTHERS DAYS: NO DETECTABLE NOISE STORM

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

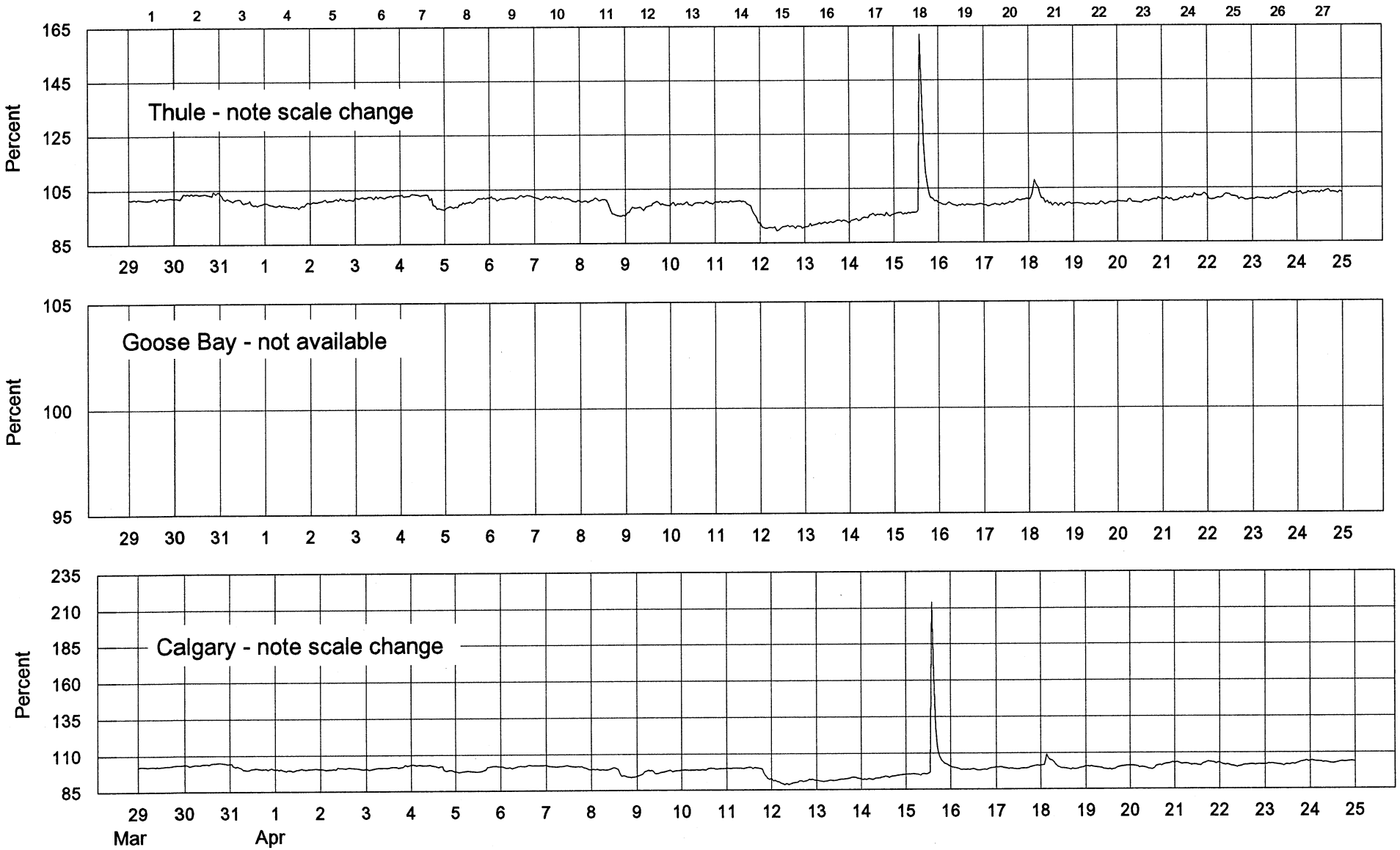
*** Importance not well determined due to the proximity of the very strong other source.

COSMIC RAY INDICES
(Neutron Monitor)
April 2001

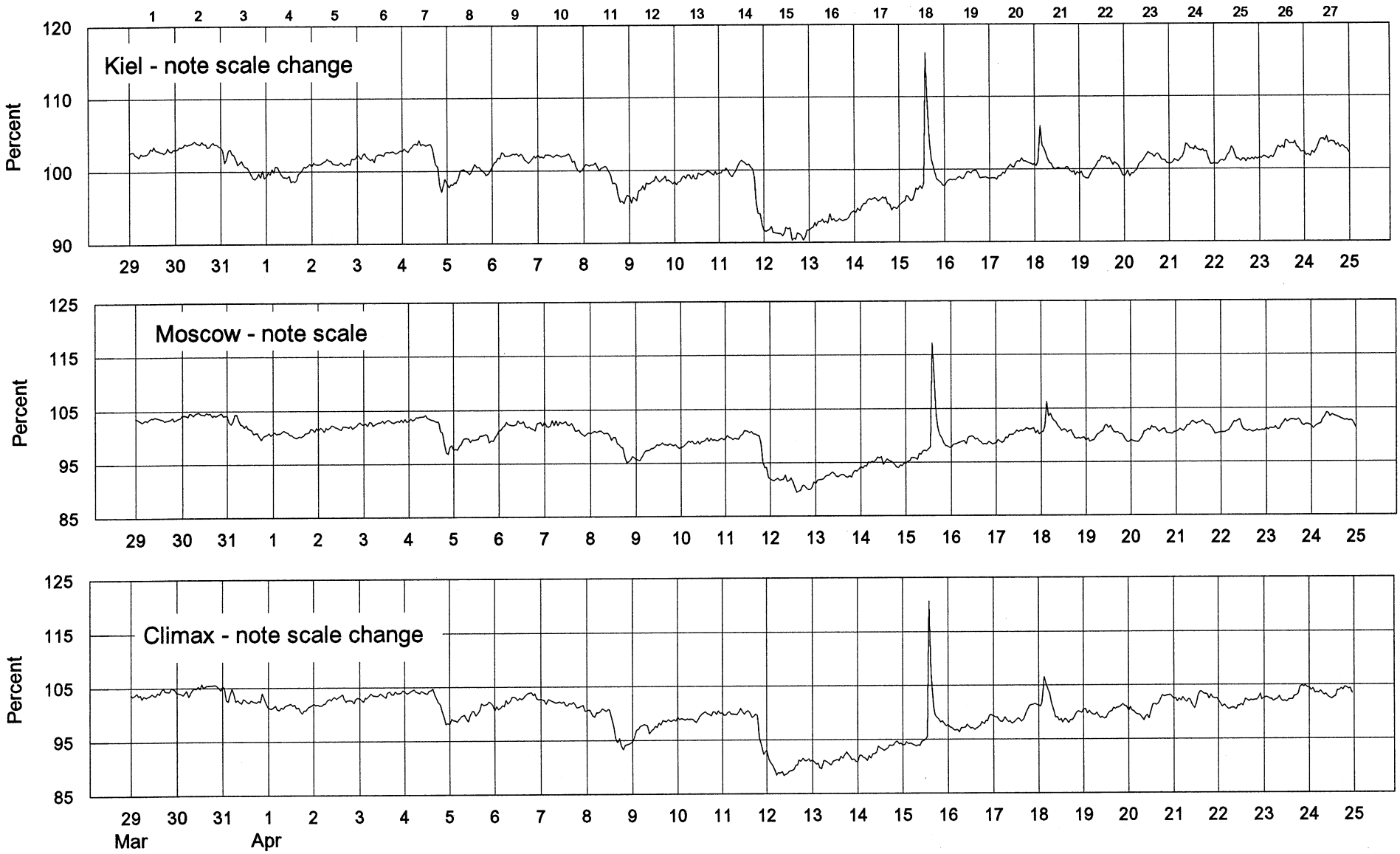
Day	THULE Average (cts/h)/100	GOOSE BAY Average (cts/h)/100	CALGARY Average (cts/h)/300	KIEL Average (cts/h)/100	MOSCOW Average (cts/h)/64	CLIMAX Average (cts/h)/100	BEIJING Average (cts/h)/256	HALEAKALA Average (cts/h)/1000
1	3911.1	not	3452.7	5502.0	8238.6	3674.3	1976.0	3498.4
2	3981.5	available	3470.7	5579.7	8331.5	3720.6	1967.1	3491.5
3	4032.8		3492.7	5638.6	8404.8	3755.5	1967.6	3502.2
4	4008.7		3511.2	5637.9	8344.0	3738.7	1960.6	3510.2
5	3941.0		3431.2	5490.9	8125.0	3632.6	1935.9	3467.9
6	4021.7		3512.5	5616.1	8349.7	3720.6	1959.6	3491.2
7	4005.2		3501.7	5606.9	8327.4	3697.2	1960.4	3485.3
8	3904.9		3375.0	5465.9	8089.5	3555.2	1908.9	3415.2
9	3877.5		3365.8	5398.2	7984.5	3541.9	1912.5	3417.5
10	3925.3		3424.5	5470.1	8091.5	3605.7	1938.5	3437.9
11	3909.6		3418.7	5467.5	8096.6	3587.0	1942.0	3448.8
12	3573.9		3127.5	5033.4	7449.3	3270.3	1859.3	3307.8
13	3633.1		3174.3	5126.2	7566.9	3305.5	1865.5	3333.9
14	3721.2		3225.0	5257.7	7758.9	3370.6	1874.4	3368.3
15	4098.6		3710.3	5458.0	8086.5	3535.9	1895.0	3403.0
16	3902.3		3417.2	5458.9	8077.4	3536.6	1903.8	3425.7
17	3922.1		3443.8	5520.5	8195.8	3602.6	1912.6	3459.4
18	3969.4		3486.2	5558.0	8277.3	3644.2	1912.6	3461.3
19	3909.0		3445.2	5532.3	8186.3	3631.8	1913.4	3468.8
20	3946.4		3477.0	5561.5	8200.5	3660.2	1930.3	3483.3
21	3992.2		3533.5	5624.8	8300.9	3717.8	1946.9	3499.4
22	3991.7		3496.5	5593.5	8271.3	3685.0	1947.0	3501.7
23	4000.2		3527.5	5655.7	8337.4	3732.7	1962.3	3526.5
24	4068.3		3566.8	5684.6	8401.3	3759.4	1962.9	3520.6
25	4064.9		3556.5	5665.0	8389.3	3750.3	1956.6	3510.9
26	4038.9		3553.8	5668.1	8403.5	3744.2	1946.8	3505.0
27	4057.4		3561.7	5677.7	8437.7	3757.5	1943.3	3505.4
28	3948.0		3466.3	5533.0	8231.8	3656.8	1914.4	3455.0
29	3819.3		3362.3	5364.1	7997.5	3516.8	1886.3	3391.3
30	3825.5		3389.8	5416.2	8075.8	3552.2	1890.4	3419.5
31								
Mean	3933.0		3449.3	5508.8		3621.9	1928.4	3457.0

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.

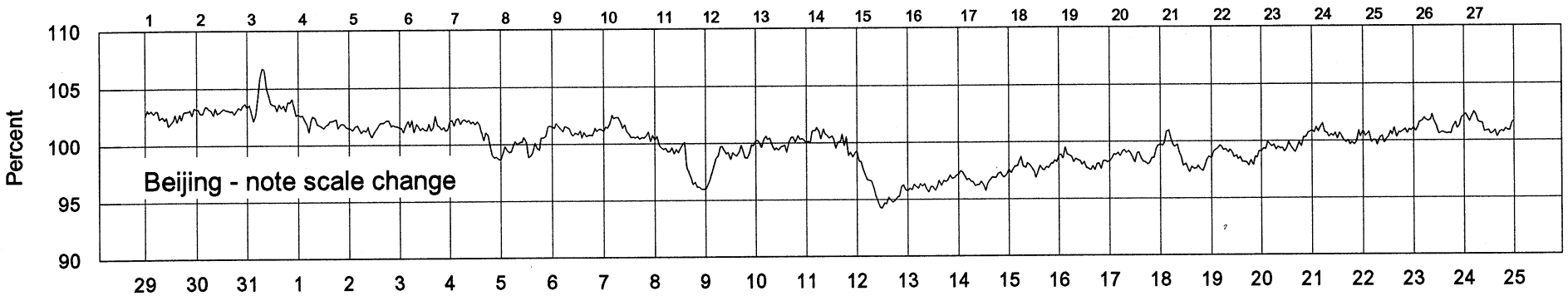
COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2289 - Beginning 29 March 2001

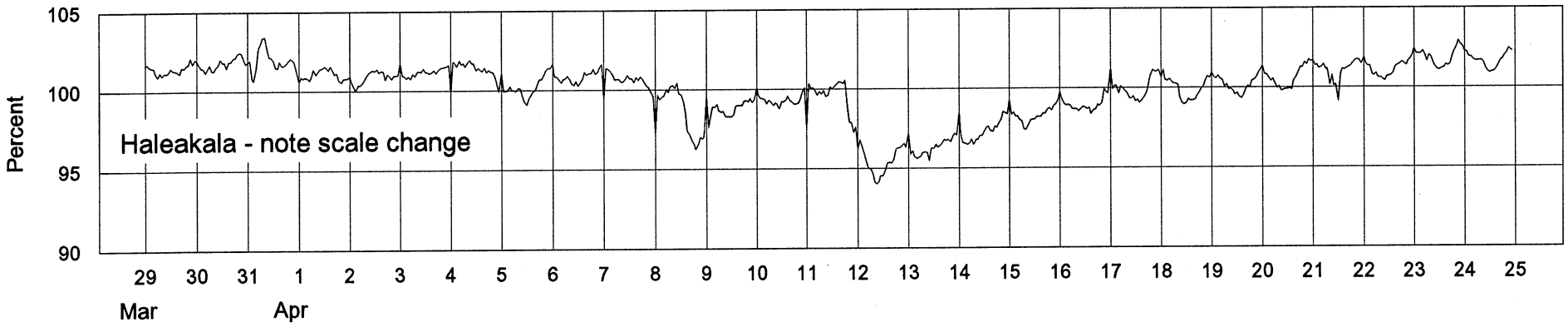


COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2289 - Beginning 29 March 2001

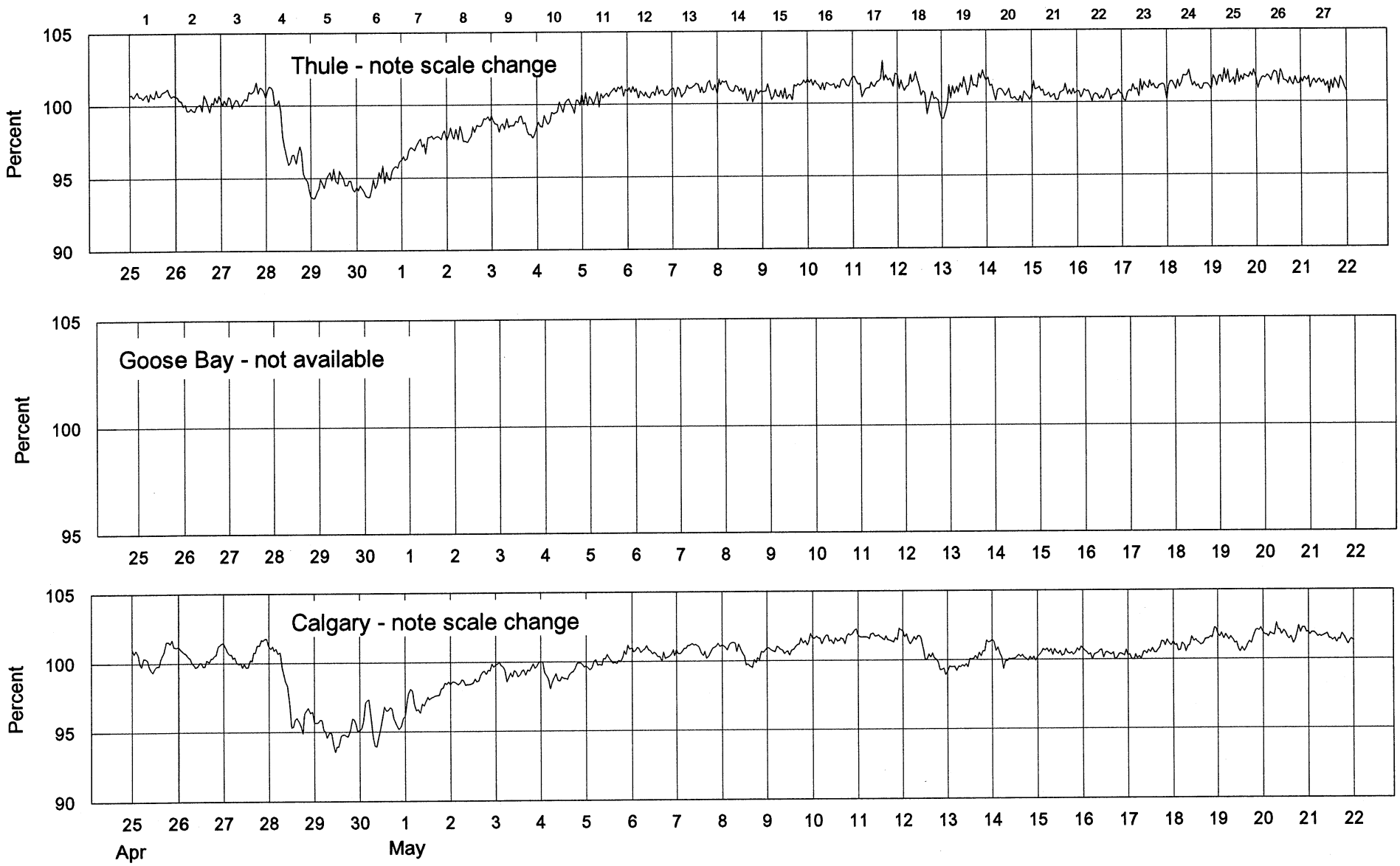


COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2289 - Beginning 29 March 2001

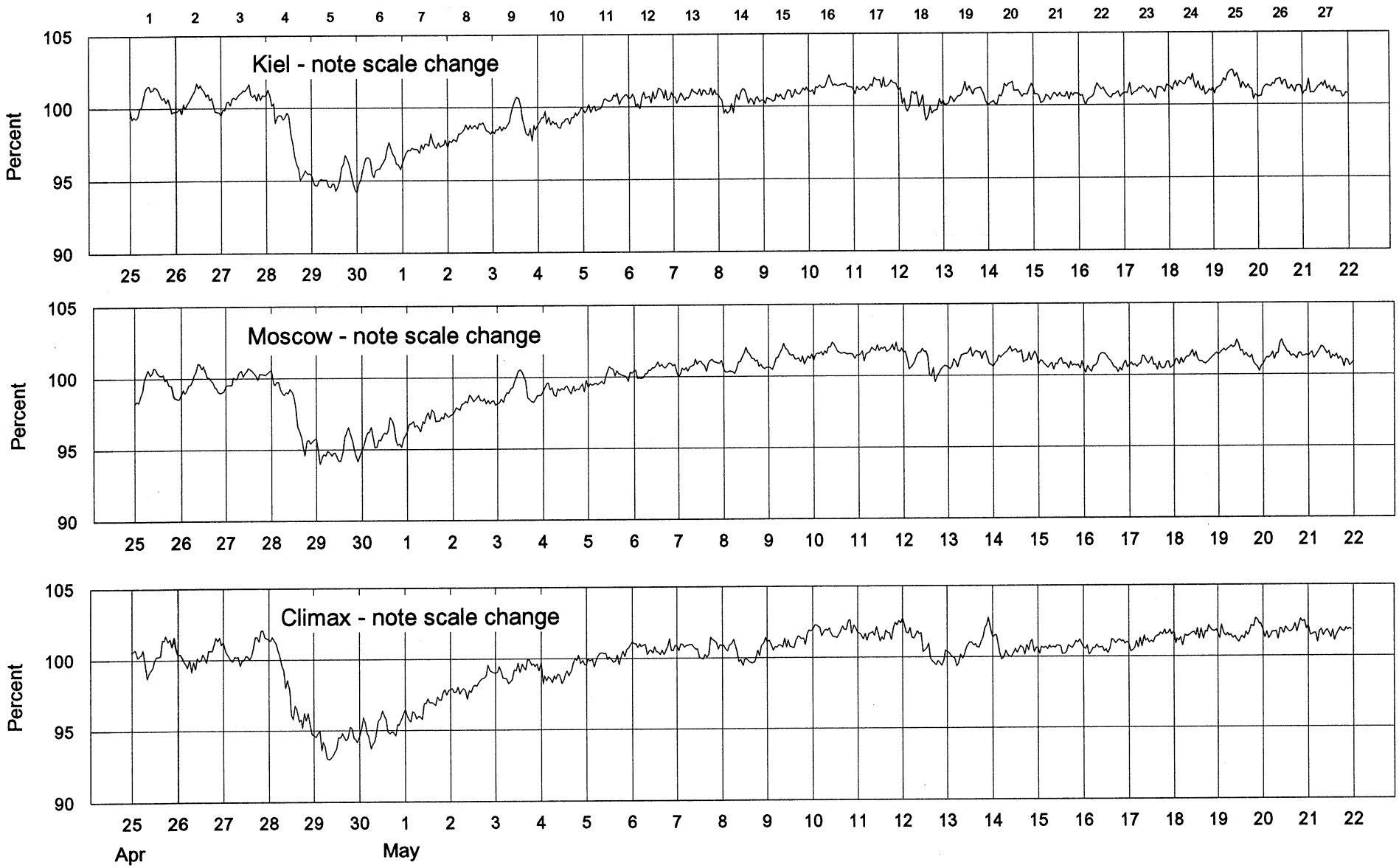




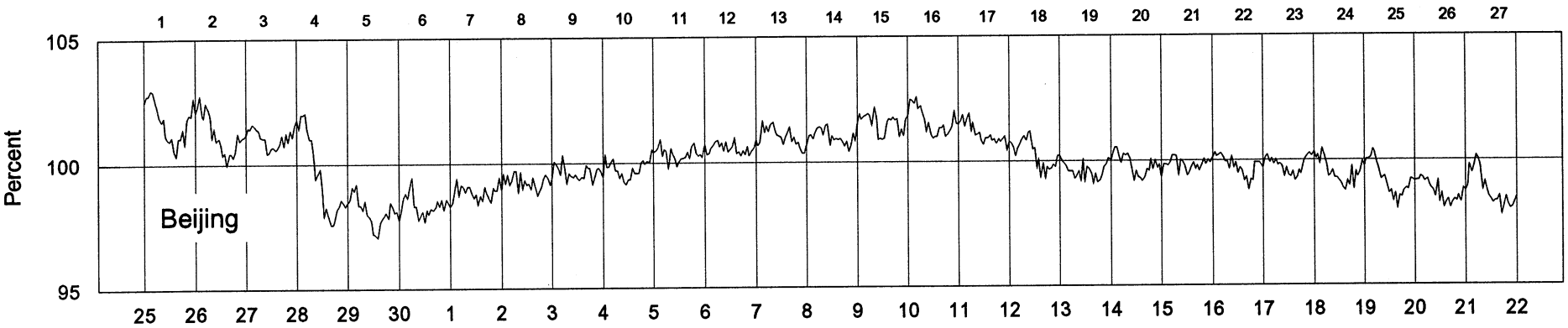
COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2290 - Beginning 25 April 2001

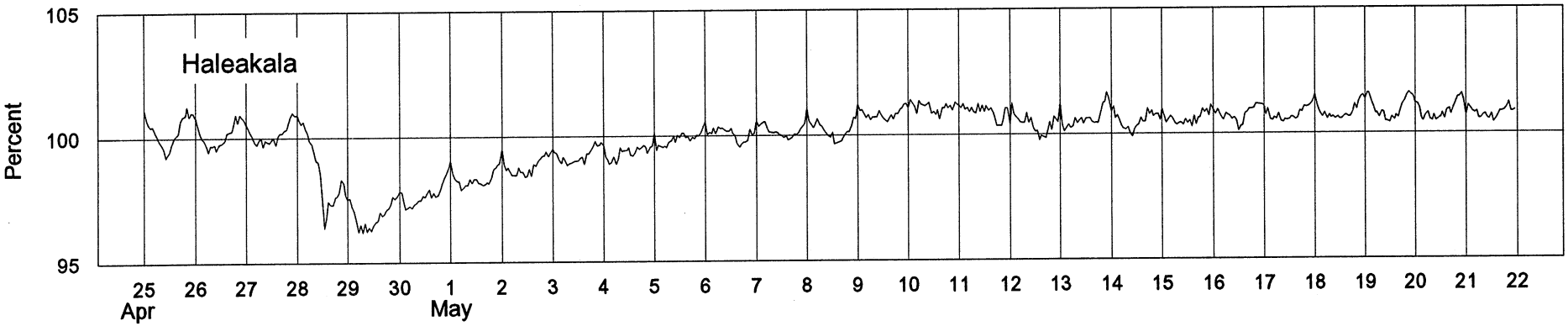


COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2290 - Beginning 25 April 2001

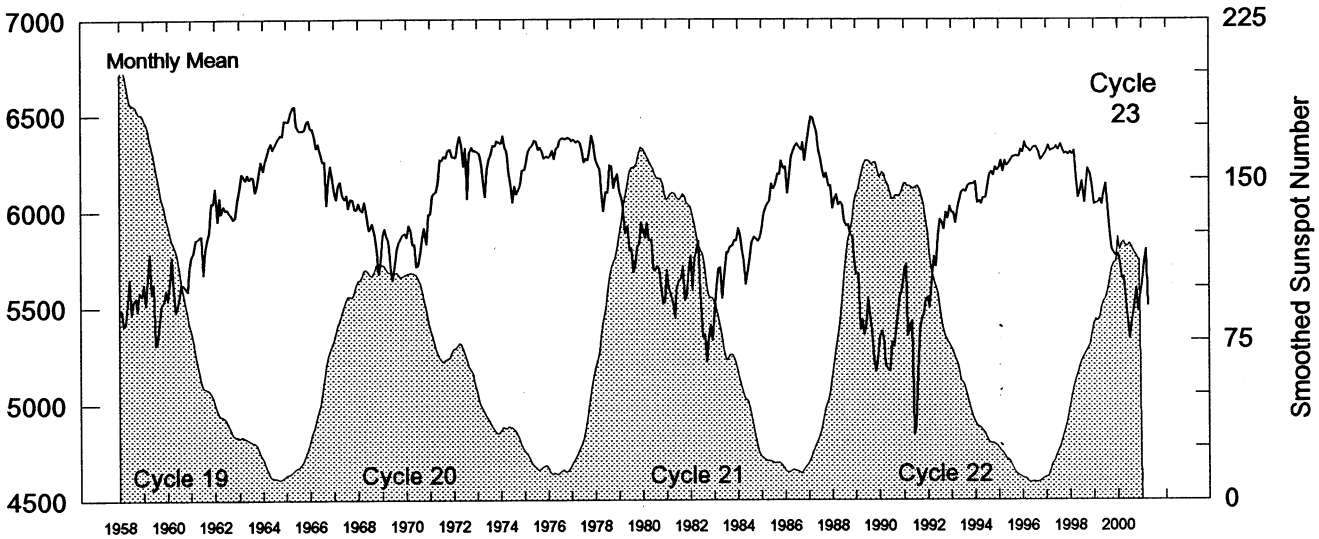


COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2290 - Beginning 25 April 2001





Kiel Neutron Monitor Pressure-Corrected Values
Jan 1958 - Apr 2001



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1958	5481	5488	5409	5417	5523	5651	5466	5538	5553	5485	5584	5561	5513
1959	5623	5515	5659	5783	5569	5625	5307	5328	5420	5518	5536	5593	5540
1960	5539	5628	5764	5596	5480	5509	5557	5628	5620	5607	5586	5692	5601
1961	5766	5793	5853	5856	5872	5874	5672	5804	5859	5898	6046	6041	5861
1962	6122	5949	6072	5989	6030	6010	6013	5991	5982	5963	5971	6052	6012
1963	6125	6197	6191	6163	6194	6168	6185	6182	6103	6133	6197	6260	6175
1964	6215	6253	6287	6331	6355	6321	6347	6366	6383	6399	6393	6475	6344
1965	6474	6469	6506	6542	6545	6451	6424	6420	6423	6424	6467	6475	6468
1966	6433	6432	6375	6330	6353	6300	6258	6258	6033	6168	6236	6172	6279
1967	6101	6061	6139	6155	6088	6061	6086	6016	6064	6063	6014	6009	6071
1968	6041	6011	6001	6048	5997	5901	5910	5937	5878	5805	5673	5739	5912
1969	5876	5909	5872	5845	5686	5640	5700	5812	5843	5864	5879	5887	5818
1970	5863	5928	5906	5830	5831	5716	5719	5803	5885	5915	5832	5985	5851
1971	5985	6081	6094	6103	6151	6268	6265	6286	6275	6314	6322	6288	6203
1972	6281	6278	6351	6387	6344	6232	6328	6065	6306	6334	6313	6318	6295
1973	6309	6298	6250	6155	6074	6220	6271	6296	6341	6340	6365	6360	6273
1974	6353	6391	6331	6308	6201	6139	6047	6132	6090	6113	6139	6215	6205
1975	6217	6267	6308	6334	6341	6370	6363	6320	6334	6313	6272	6286	6310
1976	6275	6281	6314	6269	6325	6331	6370	6380	6379	6375	6383	6380	6339
1977	6366	6371	6355	6366	6357	6322	6254	6272	6263	6317	6391	6355	6332
1978	6271	6242	6215	6113	5998	6101	6095	6241	6232	6117	6167	6193	6165
1979	6104	6063	6006	5883	5923	5794	5806	5682	5723	5820	5827	5942	5881
1980	5905	5862	5942	5850	5854	5702	5690	5717	5704	5611	5522	5528	5741
1981	5697	5600	5569	5517	5447	5600	5642	5650	5717	5539	5564	5702	5604
1982	5772	5586	5755	5799	5848	5582	5347	5362	5217	5349	5414	5329	5530
1983	5481	5606	5702	5711	5549	5659	5787	5785	5814	5820	5852	5849	5718
1984	5911	5880	5799	5740	5622	5706	5753	5837	5867	5856	5844	5864	5807
1985	5911	5986	6016	6038	6049	6142	6114	6135	6193	6192	6260	6220	6105
1986	6229	6093	6176	6280	6308	6336	6350	6331	6315	6356	6259	6359	6283
1987	6429	6489	6484	6443	6410	6319	6273	6217	6171	6198	6131	6131	6308
1988	6013	6064	6085	6030	6047	6033	5945	5922	5931	5880	5872	5761	5965
1989	5673	5678	5385	5441	5360	5407	5552	5460	5378	5228	5167	5241	5414
1990	5348	5381	5313	5197	5177	5173	5324	5297	5382	5471	5563	5584	5351
1991	5696	5726	5355	5405	5431	4841	4882	5162	5390	5443	5466	5540	5361
1992	5553	5500	5624	5766	5713	5869	5956	5942	5905	5994	5960	6024	5817
1993	5996	5992	5937	6026	6061	6094	6108	6099	6129	6137	6142	6141	6072
1994	6150	6042	6052	6067	6070	6068	6129	6189	6203	6183	6226	6209	6132
1995	6225	6260	6205	6260	6234	6250	6267	6279	6281	6285	6279	6319	6262
1996	6301	6354	6330	6324	6306	6325	6332	6331	6303	6262	6277	6294	6312
1997	6313	6337	6313	6314	6324	6336	6317	6347	6319	6295	6301	6289	6317
1998	6305	6293	6312	6177	6069	6101	6154	6042	6149	6220	6190	6124	6178
1999	6034	6040	6041	6062	6032	6100	6140	6023	5898	5805	5780	5765	5977
2000	5778	5729	5650	5661	5537	5441	5339	5425	5487	5602	5481	5542	5556
2001	5629	5736	5800	5509									5669

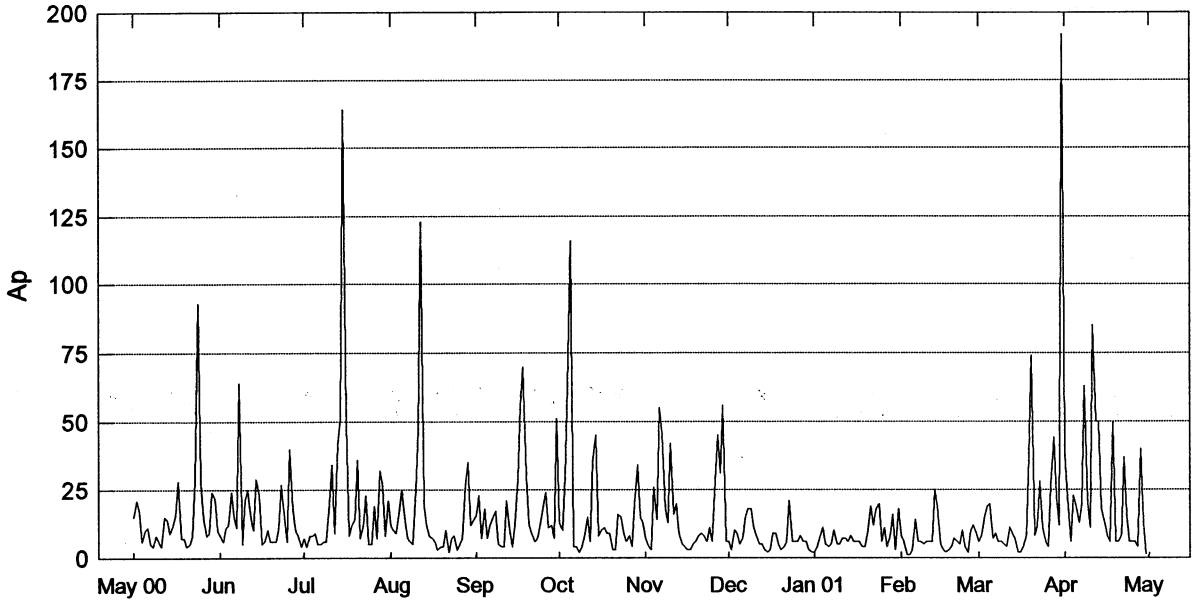
Multiply table entries by 100 to obtain hourly counting rate. Kiel, Germany: N54, E10, Alt= 54 m, Cutoff Rigidity= 2.32GV.

Geomagnetic Activity Indices
April 2001

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	Am	aa Provisional N	S	M	
1		5	6-	5+	3	3+	3	5-	5	35	38	1.4	5-	5o	5o	2+	3o	3-	4-	5-	56	54	48	55	47	
2		5-	4-	4-	3	3	4	4-	3-	28+	22	1.1	4o	3o	3+	3o	2+	3+	3+	3o	35	40	34	37	37	
3	Q9	2+	2-	1+	1	1	3-	1+	2	13+	6	0.3	2o	2o	2-	1-	1o	2+	2o	1+	12	12	13	10	14	C
4		2+	2+	2	2-	5-	5	5+	2	25+	23	1.1	2+	2+	2o	1+	4-	4o	4+	2-	30	38	30	15	54	
5		2-	2	4+	4+	3	4-	3+	3+	26-	19	1.0	2-	1+	4o	4o	3-	3o	3o	3-	30	33	32	31	35	
6		2-	2-	3+	3-	3-	3-	3+	3+	21+	13	0.7	2-	1+	3+	3-	2+	3o	3o	3+	25	24	32	23	34	
7		4-	4+	3	2	2	4-	5-	3-	26	20	1.0	3+	4-	3-	2o	2o	4o	4o	3-	35	38	31	29	40	
8	D2	3-	2	3	6-	7	5	7	6+	39-	63	1.7	3-	2o	3-	4+	5+	5-	6o	6o	79	116	80	32	164	
9		3-	4-	4	3+	3	5	3	2	27-	20	1.0	2+	3o	4-	3+	3-	4o	3+	2o	33	33	32	32	34	
10		3+	2-	2-	2	3	3	2-	3-	19	11	0.6	3+	2o	2-	2o	3-	3o	2-	3-	21	24	19	18	25	
11	D1	3	2+	2	2	4-	8	8-	8+	37	85	1.8	3-	2o	2+	2+	3+	7o	7o	7+	116	94	107	15	186	
12	D4	7+	6+	5+	5	4-	3	1-	1	32+	50	1.6	7-	5o	5-	4o	3+	3-	1o	1+	67	59	33	75	18	
13	D3	1	2-	3+	7+	6-	5	6-	5-	34+	50	1.6	1+	2-	3+	6o	5-	4+	4+	4+	62	73	70	56	88	
14		4+	4-	3+	3+	3+	3+	3-	2	26	18	1.0	4-	3+	4-	3o	3o	3o	3-	2+	32	34	34	35	34	
15		3-	3+	3-	2-	4+	2+	2	2+	21+	13	0.8	3-	3o	3-	2+	3+	2o	2+	2+	22	31	21	23	30	
16		3+	2+	1+	1+	2-	2-	1+	2+	15+	8	0.4	3o	2o	1+	2-	2o	2-	1+	3-	15	18	14	14	18	
17	Q7	2	2+	1	1	1+	2-	1+	2+	13	6	0.3	2-	2+	1+	2-	1+	2-	2o	2+	13	12	11	11	12	C
18	D5	6	7+	7-	3	2	3-	2+	3-	33-	50	1.6	5+	6o	7-	3o	2o	2+	2+	3-	74	58	53	91	20	
19	Q4	3-	2+	1+	1+	1+	1-	1-	2	12+	6	0.3	2o	2-	2-	2-	2-	1-	1-	2-	10	10	10	12	9	C
20	Q8K	3-	3-	1	1+	2	1-	1-	1+	12+	6	0.3	3-	3-	2-	2-	2o	1o	1-	1+	13	13	15	19	9	K
21	Q10A	1+	2-	0+	1	1	3+	2	3	14-	8	0.4	1+	1+	1o	1o	2-	3+	2+	3o	16	18	15	8	26	
22		4-	3+	4	4-	5	6+	5-	4	35-	37	1.4	3+	3o	4o	4o	5-	5o	4-	3+	53	56	47	40	63	
23		4	4+	4	3+	2+	2+	1+	1	23-	16	0.9	4-	4-	4o	4-	2+	2o	1o	1o	31	25	29	40	14	
24	Q3	1+	2+	2+	2-	1+	1	1-	1+	12	6	0.3	1+	2o	3-	3-	1+	1-	1-	1+	12	15	11	18	8	KC
25	Q5	1+	0+	1	2	2+	2	2	2-	13-	6	0.3	1o	0+	1o	2+	2+	2o	2-	2-	12	12	12	8	16	CC
26	Q6	1	2-	3-	2-	1+	1+	2-	2-	13	6	0.3	1o	2-	3-	2-	1+	1+	2-	2-	12	13	13	13	13	CC
27	Q2	1+	1	1	1	1	1+	1+	1-	9-	4	0.1	2-	1o	1o	1+	1o	1+	1+	1-	8	9	7	7	9	C
28		2-	6-	4	4	6	6-	4	3+	34+	40	1.4	1+	5-	4-	4-	5-	4o	4-	3o	51	57	54	51	60	
29		4+	4-	3-	1+	3-	3-	2-	0+	19+	13	0.7	4-	3+	2+	2-	3-	2+	1+	1-	22	28	17	23	22	
30	Q1	1-	0	0+	0	0	0	1	0+	2+	1	0.0	1-	0o	0+	0+	0+	0+	1-	0+	3	4	2	3	3	CK
Mean											22	0.85									33.3	35.1	31.1	33.0	

Day	Kn Three-Hourly Indices 1	2	3	4	5	6	7	8	An	Ks Three-Hourly Indices 1	2	3	4	5	6	7	8	As	Sa	Prov Ri	Ra	Rs	IMF
1	5o	5o	5o	3-	3o	3o	4o	5-	61	4+	5-	5o	2o	3-	3-	4-	4+	50	257.2	186	189	216	
2	4o	4-	3+	3+	3-	3+	4-	3+	39	4o	3-	3+	3-	2+	3o	3o	3-	32	227.9	166	185	184	
3	2-	2o	2-	1-	1+	3-	2o	2-	13	2+	2-	2-	1-	1o	2o	2o	1+	11	223.1	169	182	179	
4	2+	3-	2+	1+	4-	4+	4+	2-	33	2+	2o	2o	1o	4-	4-	4o	2-	26	205.0	134	154	159	
5	2-	1+	4o	4o	3o	3+	4-	3+	34	2-	2-	4o	4-	2+	3-	3-	2+	26	207.8*	133	136	162	
6	2-	1+	3+	3-	3-	3o	3o	3o	25	2o	1o	3+	3-	2o	3o	3o	3+	24	192.0#	110	131	145	
7	4-	4o	3-	2o	2-	4o	4+	3-	37	3o	4-	3-	2o	2o	4-	4o	3-	32	180.0	110	118	132	
8	3-	2-	3o	5-	5+	4o	6+	6o	83	3-	2o	3-	4o	5+	5o	5+	6o	75	169.7	115	124	121	
9	2+	3+	4-	3+	3-	4+	3+	2o	35	3-	3o	4-	3o	3-	4o	3o	2+	32	165.4	110	125	117	
10	3o	2+	2o	2+	3-	3o	2-	3-	22	4-	2-	1+	2o	3-	3o	1+	3-	20	170.4	114	130	122	
11	3-	2o	2+	2+	4-	7o	7o	7+	123	2+	2-	2o	2o	3o	7o	7-	7o	109	160.3	115	127	111	
12	7o	5+	5-	4+	3+	3o	1o	1+	75	6+	5o	5-	4o	3+	2+	1o	1o	60	149.8	103	115	100	
13	1o	2-	4-	6o	5o	5-	5-	4-	65	1+	2-	3o	6o	5-	4+	4+	5-	60	137.8	98	116	87	
14	3+	3+	4-	3o	3o	3o	3o	2o	32	4o	3o	3+	3o	3o	3o	2+	3-	32	139.6	92	100	89	
15	3-	3-	3-	2+	4-	2o	2+	2+	24	3-	3o	3-	2o	3o	2-	2o	2o	20	135.1	75	79	84	
16	3-	2o	1+	2-	2o	1+	1+	2+	14	3+	2-	1+	2-	2o	2-	2-	3-	16	124.3	63	59	72	
17	2-	2+	1+	2-	2-	2-	2o	2+	13	2-	2+	1+	1+	1+	2-	2+	2+	14	127.1	28	36	75	
18	5o	6o	7+	3+	2+	2+	2+	2+	84	6-	6o	6-	3-	2-	2o	2+	3-	64	133.0	38	47	82	
19	2+	2o	2o	2-	2-	1-	0+	2-	12	2o	1+	2-	1+	2-	1-	1-	2-	10	145.8	62	73	95	
20	3-	3-	1+	2o	2o	1o	1o	1+	13	3-	3-	2-	2-	2o	1o	1-	1+	13	182.2	86	105	135	
21	1o	1+	1o	1o	2-	4-	2+	3+	18	1+	1+	1o	1+	1+	3o	2+	3-	14	193.0	116	131	146	
22	3+	3o	4-	4o	5o	5o	4-	3+	57	3o	3+	4+	4o	4o	5-	4-	3+	50	194.6	109	126	148	
23	4-	4o	4o	4-	2+	3-	1+	1-	32	4o	3+	4o	4-	2+	1+	1-	1o	29	198.6	106	126	152	
24	1+	2o	3-	3-	1+	1+	1+	1+	13	1+	2-	3-	2+	1+	0+	0o	1o	10	195.8	109	136	149	
25	1o	1-	1+	3-	3-	2o	2o	2-	13	1o	0o	1o	2o	2o	2-	1+	1+	10	196.3	119	139	150	
26	1+	2o	3-	2o	1+	1+	1+	1+	13	1-	2-	2+	1+	1o	1+	2o	2o	11	198.7	119	138	153	
27	2-	1o	1+	1+	1o	2-	2-	1-	9	2-	1-	1o	1o	1+	1o	1o	1-	7	193.3	128	133	147	
28	1+	5o	4o	4o	5o	4+	4-	3+	56	1+	5-	4-	4-	4+	4o	4-	3o	45	190.4	107	120	144	
29	4o	3+	3-	2+	3o	3o	2-	1-	27	4-	3o	2o	1o	2+	2-	1-	0+	17	194.5	113	132	148	
30	1+	0o	0+	0+	0+	0o	1+	0+	4	0+	0o	0o	0o	0+	0+	0+	0o	2	190.7	112	108	144	
Mean									36.0									30.7	179.3	108.2	120.6	131.6	

Daily Average Indices Ap
May 2000 -Apr 2001

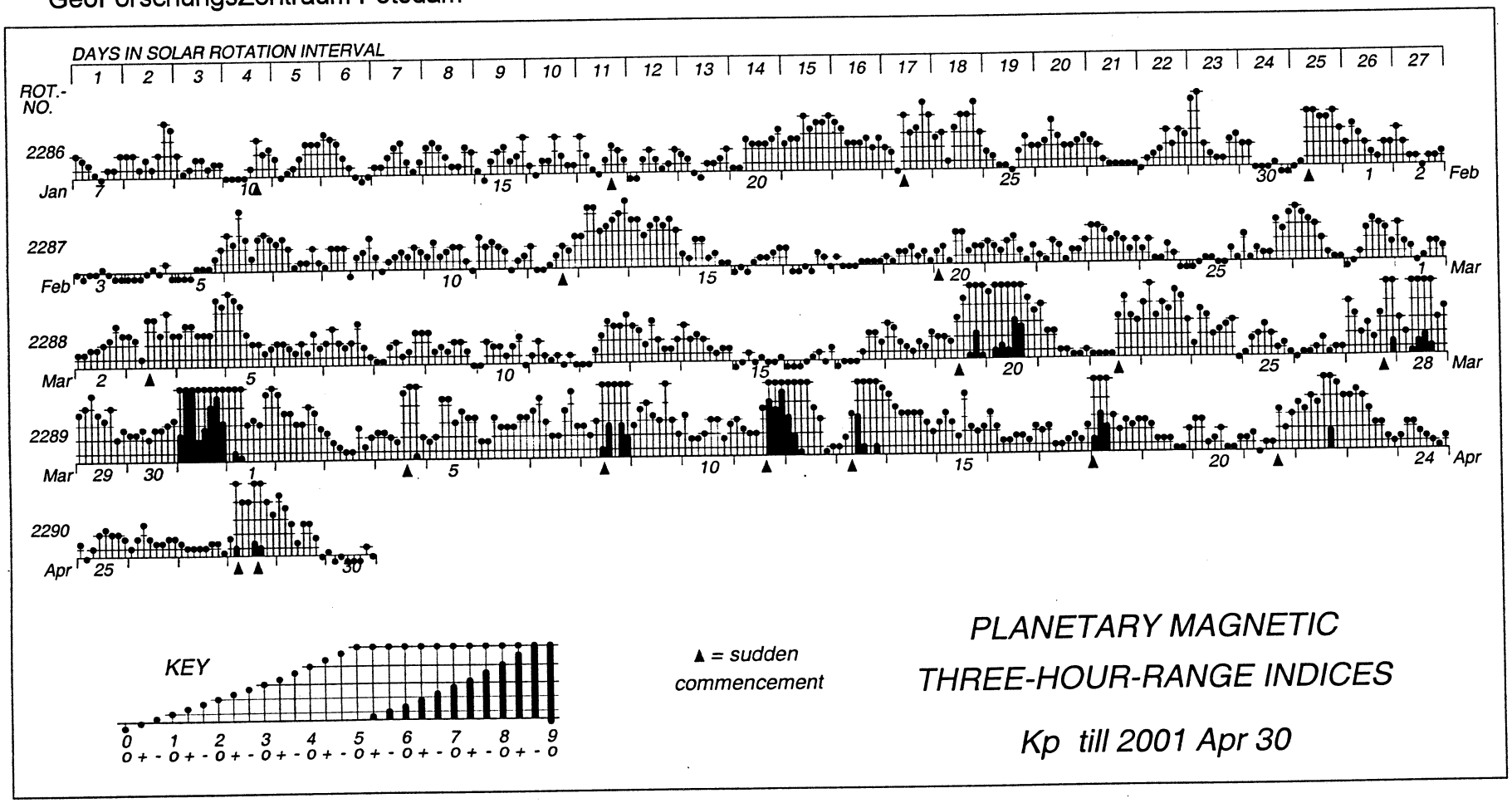


Day	May 00	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 01	Feb	Mar	Apr
1	15	8	7	12	16	13	7	6	2	8	6	38
2	21	6	4	10	23	10	4	3	4	6	8	22
3	17	11	8	9	7	30	3	10	8	1	15	6
4	6	12	8	17	18	63	26	9	11	1	19	23
5	10	24	9	25	7	116	14	5	5	3	20	19
6	11	15	5	16	12	4	55	7	4	14	7	13
7	5	11	5	7	15	4	46	15	5	6	9	20
8	4	64	6	6	17	2	18	18	10	6	6	63
9	8	5	6	5	5	4	13	18	5	5	6	20
10	6	21	20	25	4	8	42	11	5	6	5	11
11	4	25	34	47	4	15	16	8	7	6	4	85
12	15	15	9	123	21	6	20	5	7	6	11	50
13	14	10	42	19	10	36	9	5	6	25	9	50
14	9	29	51	12	4	45	5	3	8	19	7	18
15	12	23	164	8	12	8	4	2	6	5	2	13
16	16	5	50	7	29	10	3	3	6	3	2	8
17	28	6	8	6	56	11	3	9	6	2	4	6
18	7	10	12	3	70	9	5	9	4	3	8	50
19	7	6	14	4	30	9	6	5	4	4	37	6
20	4	6	36	4	12	3	8	3	9	7	74	6
21	5	6	7	10	9	3	9	4	19	6	8	8
22	8	11	12	2	6	16	8	6	12	5	12	37
23	29	27	23	7	7	15	6	21	18	10	28	16
24	93	15	5	8	12	9	11	6	20	4	11	6
25	28	6	5	3	19	6	6	6	6	2	6	6
26	15	40	19	5	24	8	28	6	11	10	4	6
27	8	18	7	7	11	4	45	8	4	12	27	4
28	9	10	32	27	12	20	31	6	8	9	44	40
29	24	8	27	35	7	34	56	6	16		22	13
30	22	4	8	12	51	15	6	3	3		12	1
31	10		21	14		13		2	18		192	
Mean	15	15	21	16	18	18	17	7	8	7	20	22

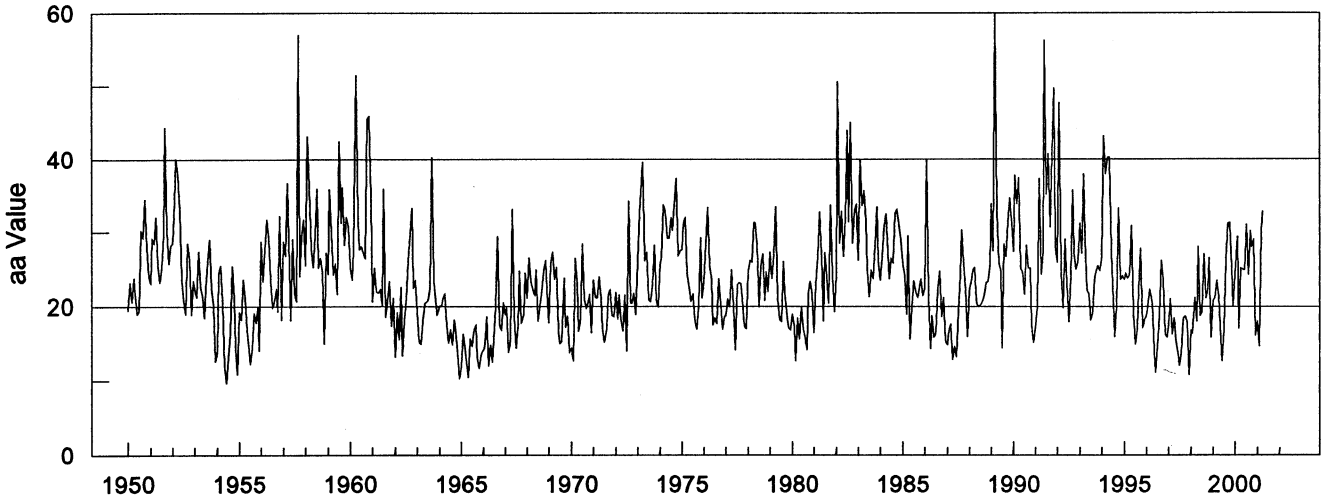
PLANETARY 3-HOUR-RANGE INDICES (Kp) BY 27-DAY SOLAR ROTATION INTERVAL

GeoForschungsZentraum Potsdam

Kp through April 30, 2001



Monthly Mean aa Index Jan 1950 - Apr 2001



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1950	19.5	23.2	20.6	23.8	21.7	19.0	19.5	30.2	29.3	34.5	28.0	24.0	24.4
1951	23.1	29.2	28.5	32.1	25.5	23.2	25.2	29.7	44.4	30.3	25.7	28.2	28.8
1952	28.5	34.3	40.1	38.0	33.1	23.8	20.7	19.0	28.5	26.4	18.9	23.4	27.9
1953	22.3	21.2	27.4	22.7	21.4	18.4	22.5	26.1	29.0	22.4	20.2	12.6	22.2
1954	13.9	24.5	25.5	20.6	12.0	9.7	13.1	16.5	25.4	21.1	14.5	10.9	17.3
1955	19.3	18.2	23.6	21.1	16.7	15.1	12.3	14.3	19.1	17.8	19.9	14.1	17.6
1956	28.7	23.3	27.6	31.7	29.3	23.5	19.8	20.7	22.4	19.3	32.3	18.2	24.7
1957	28.7	26.8	36.7	28.8	18.1	29.1	21.7	20.7	57.0	24.0	29.5	31.7	29.4
1958	25.5	43.2	36.1	27.6	25.2	29.7	36.0	25.1	26.5	24.7	15.0	27.2	28.5
1959	24.3	35.9	29.9	24.2	25.7	21.6	42.5	31.2	36.1	28.2	32.1	30.8	30.2
1960	25.2	23.5	27.6	51.5	31.6	27.6	28.1	27.2	26.4	45.6	45.9	34.5	32.9
1961	20.6	25.1	22.0	21.8	22.3	20.1	36.0	18.5	20.7	23.3	17.3	21.1	22.4
1962	13.2	19.2	15.5	22.6	13.4	18.1	21.0	26.2	29.8	33.3	22.5	23.5	21.5
1963	19.3	15.3	14.9	18.2	20.4	20.5	20.8	22.5	40.2	23.5	20.7	18.9	21.3
1964	20.1	20.1	21.0	21.7	17.5	15.1	16.9	14.8	18.2	16.9	13.8	10.3	17.2
1965	11.8	16.3	14.3	12.6	10.5	15.7	14.7	16.8	17.5	13.1	11.7	13.8	14.1
1966	14.2	14.8	18.6	12.0	14.8	12.5	17.1	20.0	29.4	17.5	16.8	20.5	17.3
1967	18.9	19.8	13.8	15.5	33.1	18.6	14.4	17.5	24.7	17.8	18.9	24.5	19.8
1968	21.1	26.5	23.3	22.2	21.4	24.9	18.0	20.1	22.0	24.8	26.2	20.3	22.6
1969	17.8	25.8	27.3	23.6	25.2	16.7	15.0	15.3	23.8	17.2	18.7	13.8	20.0
1970	14.4	12.7	26.4	23.1	16.6	18.3	28.4	21.0	19.7	20.6	21.6	16.5	19.9
1971	23.5	21.2	21.1	23.9	21.1	17.0	15.2	17.1	21.4	22.2	18.8	18.6	20.1
1972	21.9	18.3	21.5	18.1	16.6	21.5	14.0	34.2	20.4	20.4	21.8	18.9	20.6
1973	26.1	32.7	36.9	39.6	26.1	27.3	20.9	20.6	22.8	28.2	20.7	19.9	26.8
1974	25.8	26.4	33.7	32.9	29.2	29.2	32.0	30.2	33.7	37.3	26.8	27.5	30.4
1975	27.6	31.1	32.0	24.3	22.7	20.7	21.7	18.1	16.9	20.2	29.3	21.1	23.8
1976	23.3	28.5	33.4	25.4	23.7	17.5	18.4	17.7	23.7	20.4	16.9	18.6	22.3
1977	18.7	21.0	19.9	24.9	20.1	14.2	22.9	23.2	23.0	20.9	17.3	17.0	20.3
1978	24.6	26.2	25.9	31.3	31.2	28.3	19.9	25.6	27.0	20.8	24.6	22.0	25.6
1979	27.3	23.7	26.9	33.5	21.0	18.3	17.9	26.0	22.0	19.3	17.1	16.8	22.5
1980	19.0	17.3	12.7	18.4	15.6	20.0	17.0	15.9	14.2	21.9	23.3	21.7	18.1
1981	16.5	23.1	26.6	32.8	26.9	18.0	27.2	24.0	20.4	33.7	24.1	19.3	24.4
1982	24.2	50.6	28.5	32.9	26.7	32.1	43.9	31.4	45.1	28.5	33.0	33.8	34.2
1983	26.2	40.0	33.6	35.7	31.6	24.9	21.3	24.9	23.7	28.3	33.5	26.0	29.1
1984	23.5	26.7	30.7	32.5	27.2	23.7	26.4	25.8	32.6	33.1	31.0	29.0	28.5
1985	25.7	24.1	19.0	29.5	15.6	19.9	23.4	22.0	21.2	22.2	23.7	21.4	22.3
1986	22.4	40.0	21.1	14.3	18.8	15.9	16.3	22.3	24.7	18.6	21.2	15.3	20.9
1987	14.8	16.6	17.6	12.9	14.7	13.2	19.3	24.3	30.3	25.8	22.4	16.0	19.0
1988	22.4	23.4	24.8	25.2	20.5	20.0	20.2	20.6	21.4	23.2	23.3	25.5	22.5
1989	33.9	27.5	60.1	32.8	25.7	24.9	14.4	28.4	26.7	31.4	34.7	31.4	31.0
1990	27.4	37.8	33.9	37.4	25.1	24.6	21.6	28.2	25.1	25.1	17.4	15.2	26.6
1991	17.2	20.1	37.3	24.3	27.3	56.2	35.2	40.8	30.7	44.1	49.7	28.0	34.2
1992	25.9	47.7	24.5	19.8	29.1	24.8	17.9	24.1	35.8	27.0	25.0	26.1	27.3
1993	31.2	27.1	37.9	29.2	22.1	21.8	18.2	19.2	23.8	24.6	25.5	24.8	25.5
1994	26.5	43.2	37.9	40.2	40.2	27.2	20.6	16.0	20.2	33.3	23.6	24.1	29.4
1995	23.6	24.5	23.8	24.2	30.9	19.1	14.9	17.0	22.2	27.9	17.2	18.2	22.0
1996	18.8	20.8	22.3	20.5	14.0	11.1	14.7	18.8	26.2	23.5	16.3	15.9	18.6
1997	17.4	21.0	16.3	18.4	15.1	13.7	12.1	13.7	18.4	18.7	18.0	10.8	16.1
1998	16.8	16.4	21.2	18.0	28.1	18.8	19.3	27.0	21.1	22.4	26.5	15.9	21.0
1999	20.8	21.3	23.5	21.3	15.8	12.7	16.9	26.2	31.2	31.3	25.1	20.1	22.2
2000	24.2	29.4	17.1	25.1	25.0	24.9	31.1	24.3	30.2	28.1	29.1	16.1	25.4
2001	18.0	14.7	30.2	33.0									24.0

PLANETARY GEOMAGNETIC ACTIVITY

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

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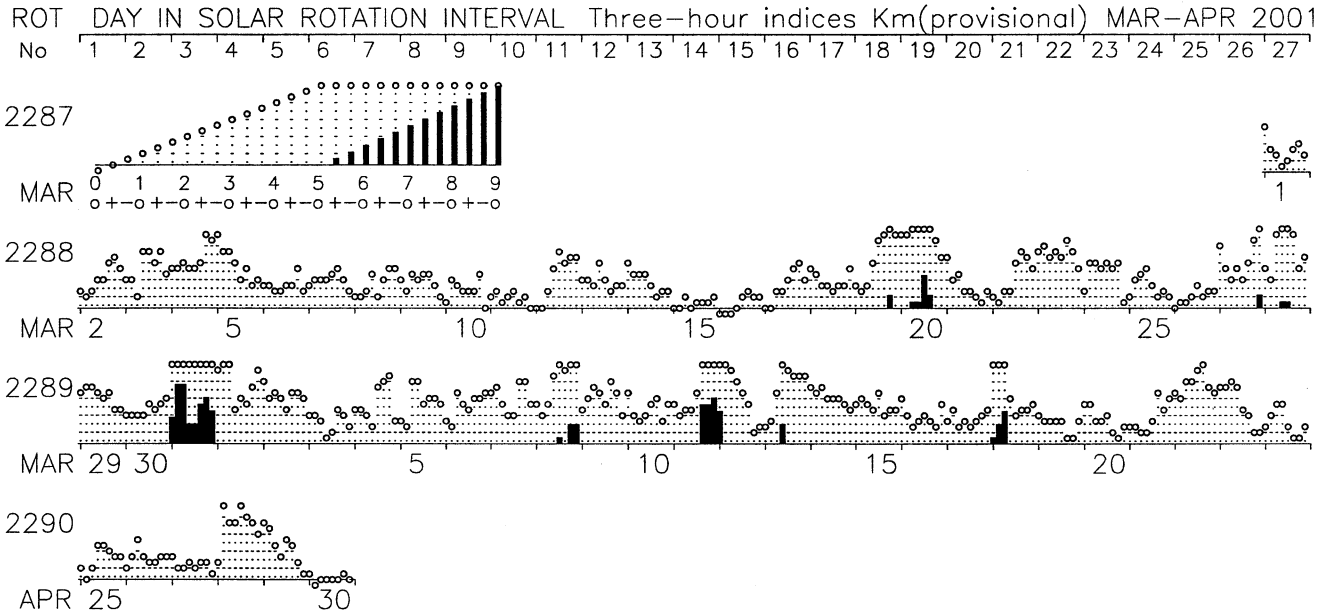
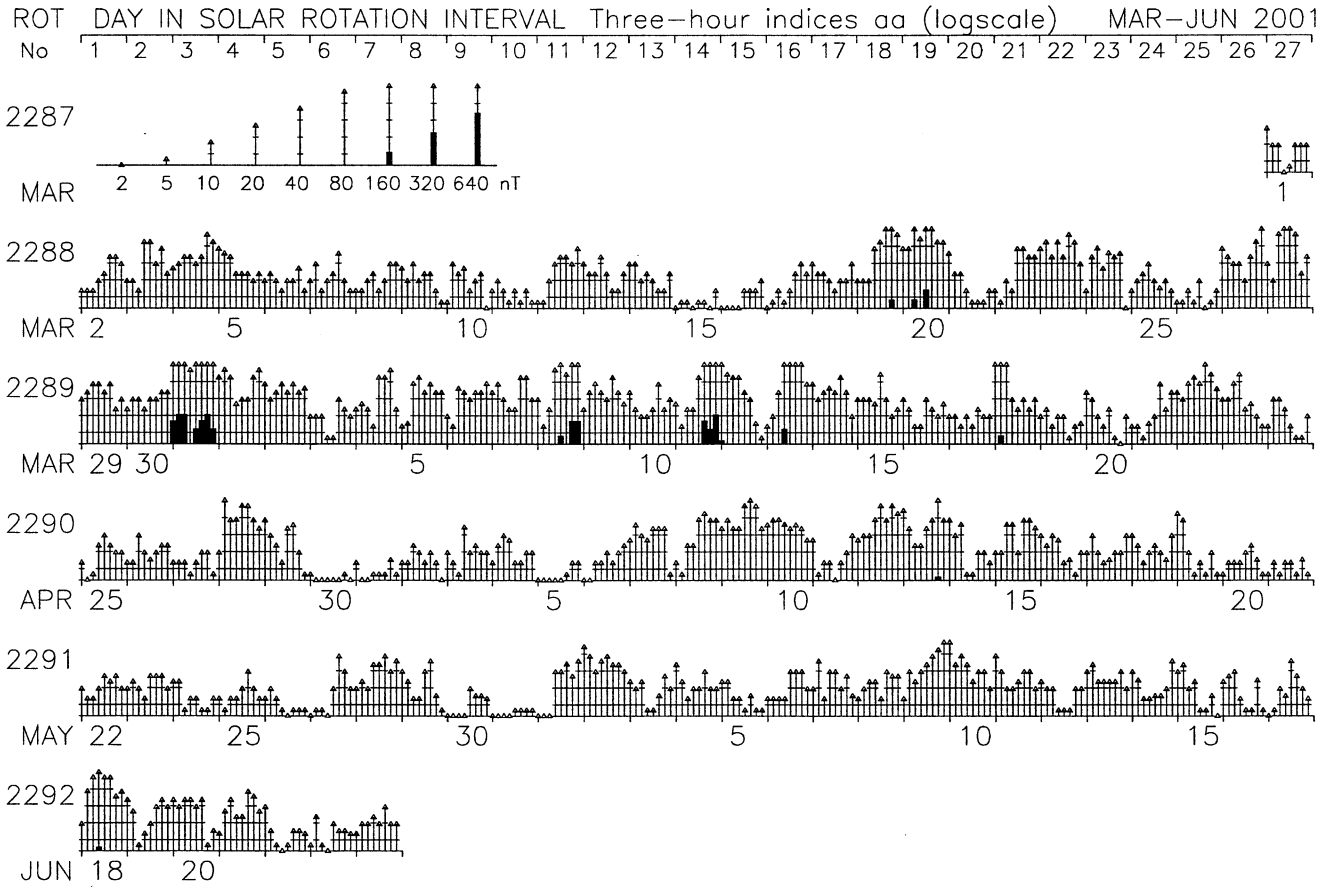


Indices Derivation at C.E.T.P.; Graph Prepared at ISGI Publication Office.



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

WDC FOR GEOMAGNETISM, KYOTO UNIVERSITY

HOURLY EQUATORIAL DST VALUES(PROVISIONAL)

APRIL 2001

UNIT=NT

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24 (U.T.)
1	-215	-203	-194	-180	-168	-153	-151	-157	-144	-123	-125	-124	-113	-108	-101	-97	-92	-85	-76	-75	-74	-63	-64	-71
2	-83	-87	-89	-90	-87	-86	-74	-73	-73	-65	-62	-50	-44	-42	-47	-53	-46	-47	-41	-35	-35	-29	-24	-29
3	-30	-27	-30	-27	-18	-15	-16	-16	-15	-11	-15	-17	-15	-12	-12	-12	-9	-18	-15	-8	-6	-6	-7	-9
4	-14	-14	-15	-15	-15	-12	-3	5	5	12	9	7	5	6	4	26	16	5	-1	-10	-4	-9	-16	-17
5	-17	-19	-26	-32	-28	-24	-23	-39	-32	-14	-28	-38	-24	-14	-15	-15	-14	-11	-21	-16	-8	-1	-11	-15
6	-10	-7	-11	-11	-9	-4	-1	-13	-15	-5	-2	-5	-5	0	4	1	5	5	4	2	-11	-6	-6	-3
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9	-38	-39	-41	-43	-43	-51	-52	-54	-50	-43	-38	-38	-30	-30	-37	-36	-30	-34	-35	-41	-48	-44	-39	-38
10	-38	-37	-36	-34	-32	-25	-23	-25	-21	-14	-15	-14	-12	-13	-17	-18	-22	-21	-18	-10	-6	-5	-11	-9
11	-13	-18	-19	-17	-18	-18	-11	-13	-12	-8	-11	-11	-7	-3	5	9	-9	-86	-94	-103	-146	-197	-200	-256
12	-222	-199	-198	-178	-161	-154	-152	-146	-139	-123	-112	-103	-96	-92	-94	-92	-86	-82	-77	-71	-66	-63	-62	-61
13	-60	-59	-57	-55	-52	-54	-52	-44	-25	-14	-12	-55	-31	-44	-57	-66	-59	-49	-47	-46	-54	-55	-54	-58
14	-58	-52	-51	-47	-43	-41	-44	-32	-32	-28	-34	-31	-25	-21	-25	-29	-26	-22	-19	-17	-15	-16	-18	-20
15	-20	-19	-21	-20	-21	-21	-21	-20	-25	-23	-25	-25	-21	-16	-15	-17	-17	-14	-9	-6	-4	-6	-9	-14
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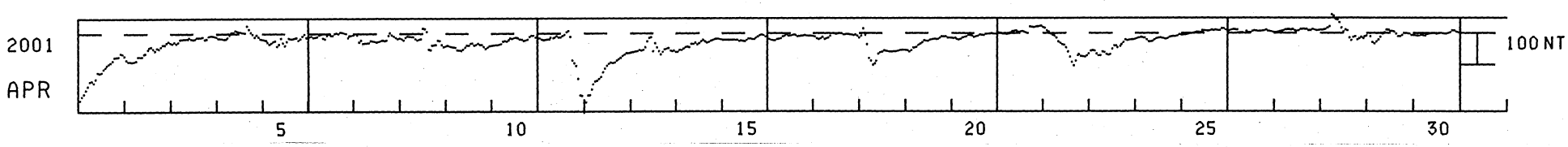
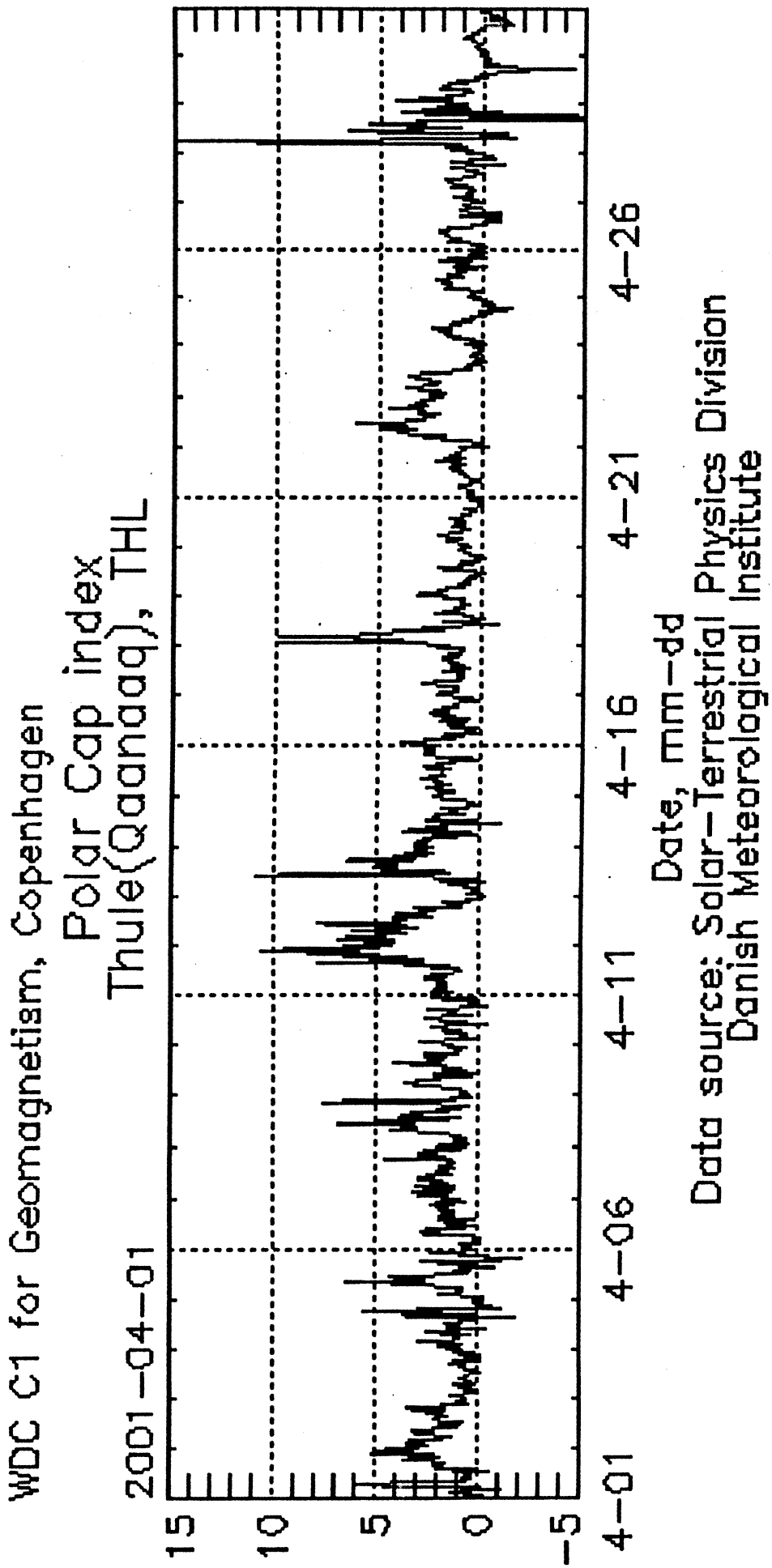
25	-5	-4	-3	-1	0	0	3	5	5	4	9	10	9	7	10	12	10	11	9	10	15	16	12	11
26	9	11	14	12	11	3	4	3	1	7	4	3	8	10	8	8	7	8	10	11	7	7	5	3
27	3	6	7	7	10	11	13	13	11	13	9	8	10	13	14	13	13	10	10	13	12	10	10	11
28	11	11	14	18	22	60	56	46	44	35	18	6	12	10	-14	-22	-11	-9	-21	-15	-11	-15	-9	-8
29	0	-10	-29	-33	-26	-21	-11	-2	3	12	12	8	7	5	-1	-10	-10	-6	0	2	1	-2	-5	-6
30	-7	-8	-8	-6	-7	-8	-3	-1	0	1	-2	-2	2	2	0	-1	0	2	4	9	9	6	4	4



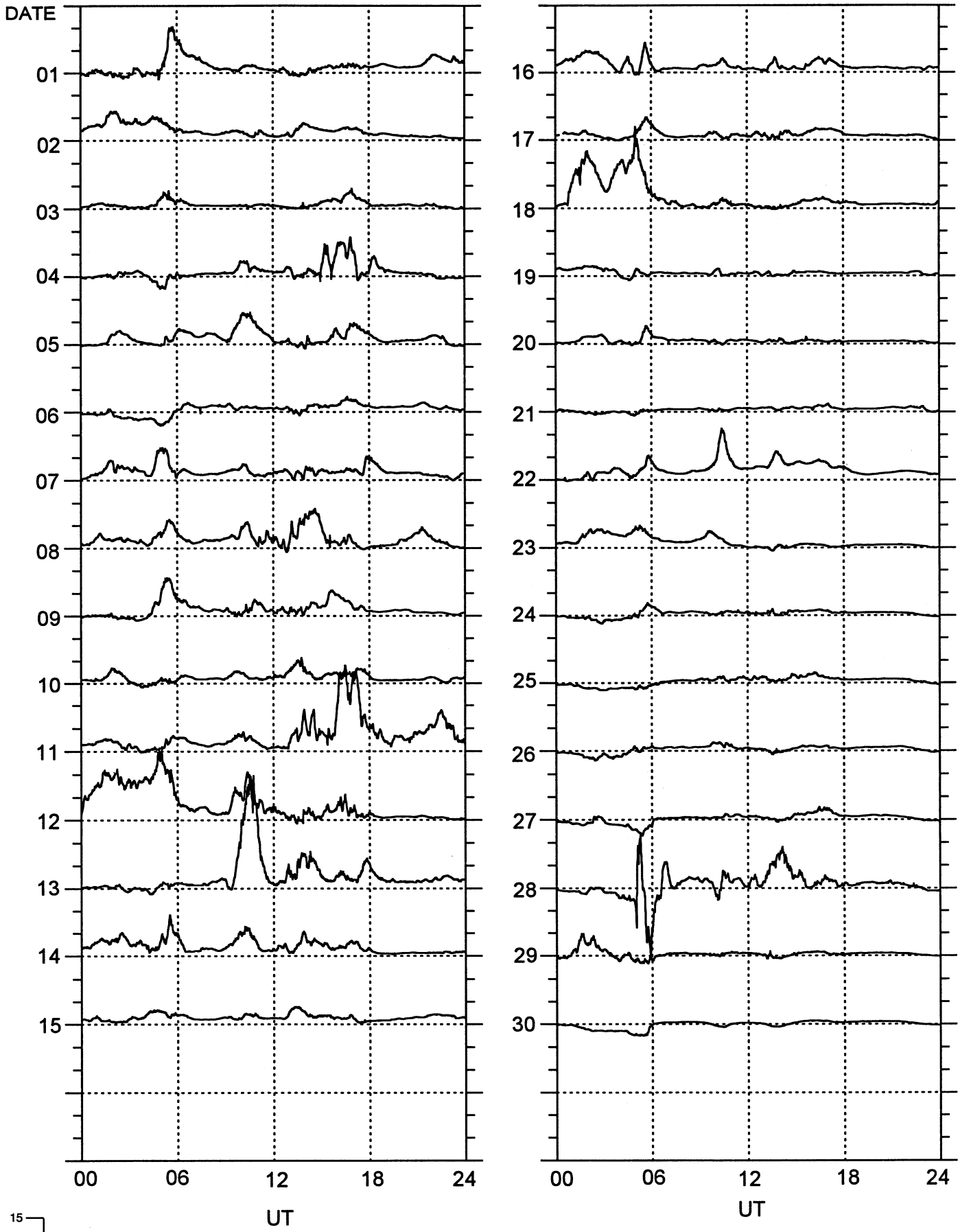
Note: The baselines for the observatories were adjusted for secular change for the Provisional Dst values for April 2001.


WDC C1 for Geomagnetism, Copenhagen
Polar Cap index
Thule(Qaanaaq), THL
2001-04-01
15
10
5
0
-5
4-01
4-06
4-11
4-16
4-21
4-26
Date, mm-dd
Data source: Solar-Terrestrial Physics Division
Danish Meteorological Institute

PC-INDEX

Vostok

April, 2001



1-min. Values

Arctic & Antarctic Research Institute. Russia

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

APRIL 2001

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)
KRC	16.4N	04	1449	SC	- 3.0	81	43	04(5)	6	8	131	54	05	14
UJJ	13.6N	04	1454	SC	- 0.6	56	- 12		-	6	99	41	05	20
NGP	11.3N	04	1454	SC	- 0.3	57	- 7		-	7	111	38	05	20
ABG	09.4N	04	1454	SC	- 0.7	47	- 7	01(2)	6	6	99	54	05	20
HYB	07.6N	04	1456	SC	- 0.5	51	- 5		-	--	--	--	--	--
PND	02.0N	04	1454	SC	- 0.2	50	46		-	4	124	102	05	20
TIR	00.6S	04	1454	SC	- 0.6	41	62		-	4	231	115	05	20
ETT	00.7S	04	1456	SC	0.2	44	32		-	--	--	--	--	--
HYB	07.6N	05	0000	..	..	..	..	05(4)	5	5	114	37	07	22
ETT	00.7S	06	0100		..	..	..		-	--	179	71	07	22
UJJ	13.6N	08	1100	SC	- 0.8	31	- 7		-	6	171	43	09	22
NGP	11.3N	08	1100	SC	- 0.4	39	- 6		-	6	173	34	09	22
ABG	09.4N	08	1100	SC	- 0.9	35	- 10		6	6	177	55	09	22
HYB	07.6N	08	1101	SC	- 0.8	35	- 4	08(5)	7	6	177	37	09	22
PND	02.0N	08	1100	SC	- 0.5	44	40		-	4	234	149	09	22
TIR	00.6S	08	1100	SC	- 1.2	50	59		-	5	232	163	09	22
ETT	00.7S	08	1100	SC	0	50	39		-	--	222	138	09	22
KRC	16.4N	11	1343	SC	- 3.0	47	48	11(6)	8	18	368	125	07	07
UJJ	13.6N	11	1540	..	..	..	..		-	9	299	40	12	18
NGP	11.3N	11	1540	..	..	..	..		-	10	347	26	12	18
ABG	09.4N	11	1540	..	..	..	..	12(1,2)	6	9	332	45	12	18
HYB	07.6N	11	1343	SC	0	13	- 1	11(6)	8	9	338	21	12	19
PND	02.0N	11	1540	..	..	..	..		-	7	337	108	12	18
TIR	00.6S	11	1540	..	..	..	..		-	9	323	150	12	18
ETT	00.7S	11	1343	SC	0	10	13		-	--	329	122	12	19
HER	33.6S	11	1520	SC	--	19	12	11(6,7,8) 12(1)	7	78	289	322	12	15
KRC	16.4N	13	0738	SC	- 2.0	32	15	13(4)	7	10	179	101	14	08
UJJ	13.6N	13	0733	SC	- 0.2	23	- 5		-	6	159	43	14	18
NGP	11.3N	13	0733	SC	0.3	26	- 4		-	6	176	31	14	18
ABG	09.4N	13	0733	SC	- 0.3	23	- 6	13(4)	7	6	160	46	14	18
HYB	07.6N	13	0734	SC	0.2	23	- 4	13(4)	7	6	171	30	14	19
PND	02.0N	13	0733	SC	- 0.3	30	23		-	5	181	111	14	18
TIR	00.6S	13	0733	SC	- 0.9	49	54		-	6	206	132	14	18
ETT	00.7S	13	0734	SC	- 0.3	44	30		-	--	211	97	14	19
HER	33.6S	13	05--	..	..	..	..	13(4)	6	30	114	102	14	18
KRC	16.4N	17	2136	..	..	..	..	18(1,2)	6	9	140	68	19	01
UJJ	13.6N	18	0030	..	..	..	..		-	5	111	28	18	20
NGP	11.3N	18	0030	..	..	..	..		-	4	115	25	18	20
ABG	09.4N	18	0030	..	..	..	..	18(1,2)	6	5	118	39	18	20
HYB	07.6N	18	0047	SC	- 0.3	28	- 2	18(1,2,3)	5	4	117	20	18	21
PND	02.0N	18	0030	..	..	..	..		-	3	147	106	18	20
TIR	00.6S	18	0030	..	..	..	..		-	3	240	128	18	20
ETT	00.7S	18	0047	SC	0.2	15	26		-	--	227	99	18	21
HER	33.6S	18	0048	SC	5	46	44	18(1,2)	6	41	154	133	18	12
UJJ	13.6N	21	1600	..	..	..	..		-	7	169	40	23	17
NGP	11.3N	21	1600	..	..	..	..		-	7	215	34	23	17
ABG	09.4N	21	1600	..	..	..	..	22(5,6)	6	6	210	45	23	17
HYB	07.6N	21	1602	SC	- 0.2	26	- 2	22(6)	6	6	218	29	23	20
PND	02.0N	21	1600	..	..	..	..		-	6	226	63	23	17
TIR	00.6S	21	1600	..	..	..	..		-	6	270	65	23	17
ETT	00.7S	21	1603	SC	0.1	23	20		-	--	260	63	23	17
HER	33.6S	21	1602	SC	1 *	15	12	22(6,7,8) 23(1)	4	28	154	96	23	15
KRC	16.4N	28	0502	SC	- 3.0	76	26	28(2,3,5)	6	9	195	56	29	07
UJJ	13.6N	28	0459	SC	- 0.4	58	- 12		-	6	192	60	29	18
NGP	11.3N	28	0459	SC	0.6	64	- 7		-	7	237	49	29	18
ABG	09.4N	28	0459	SC	- 0.9	54	- 9	28(2,5)	6	7	222	54	29	18
HYB	07.6N	28	0500	SC	- 0.5	57	- 7	28(2,3,5,6)	5	8	226	28	29	21
PND	02.0N	28	0459	SC	- 0.5	--	40		-	6	--	43	29	18
TIR	00.6S	28	0459	SC	--	79	91		-	8	293	156	29	18
ETT	00.7S	28	0500	SC	- 0.7	52	57		-	--	294	109	29	21
HER	33.6S	28	0501	SC	9 *	30	28	28(2,5,6)	4	28	122	70	29	06

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

APRIL 2001

Storm Sudden Commencements (SSC)

Day	Time	Quality: Station Group*
04	1455	A: NGK* VAL* CLF* NAG* SPT* GUI* ETT HER
		B: NUR* BDV* HRB* EBR HTY*
		C: GCK* GNA CNB
08	1101	A: VAL* NAG* MMB* EBR KAK* KNY* ETT
		B: NUR BDV* SPT* HER*
		C: NGK* HRB GCK* HTY*
11	1343	A: MMB KAK HTY KNY
		B: GCK
		C: BDV EBR ETT
		sfe: NGK+
11	1519	A: VAL
		B: BDV HRB NAG HER*
		C: NGK CLF EBR
13	0734	A: VAL* GUI ETT
		B: NAG* MMB* KAK HTY KNY
		C: NGK* BDV SPT* GNA CNB
18	0046	A: NGK* CLF* NAG* EBR* SPT* GUI
		B: BDV* HRB GCK* MMB* KAK* HTY* KNY* ETT HER
21	1601	A: NAG SPT* GUI
		B: NUR* BDV HRB MMB EBR KAK HTY KNY ETT HER*
		C: NGK* CLF GCK
		si: VAL
28	0500	A: NGK* VAL* CLF* NAG* MMB* EBR* SPT* KAK HTY KNY GUI ETT HER*
		B: NUR* BDV HRB* GCK*
		C: GNA* CNB*

Solar Flare Effects (sfe)

Day	Begin-End	Station(s)
02	1104-1137	GUI
02	2139-2205	MMB+ KAK+ KNY+
03	1231-1245	BDV+
10	0509-0610	MMB+ KAK+ KNY+ ETT
11	0026-0045	MMB+ KAK+ KNY+
11	1344-1402	NGK+ (see SSC)
15	1343-1436	NGK+ BDV+ HRB NAG EBR SPT HER(si: GUI)
25	0505-0525	MMB+ KAK+ KNY+
25	1343-1430	BDV+ GUI
26	1306-1328	NGK+ BDV+ EBR (ssc: GCK, si: GUI)

REPORTING OBSERVATORIES (up to the 5th of June 2001):
NUR NGK VAL BDV CLF HRB NAG GCK MMB EBR SPT KAK HTY KNY GUI ETT GNA HER CNB

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