DECEMBER 2001 NUMBER 688 - Part I

Solar-Geophysical Data prompt reports

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

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Number 688

(Issued in Two Parts)

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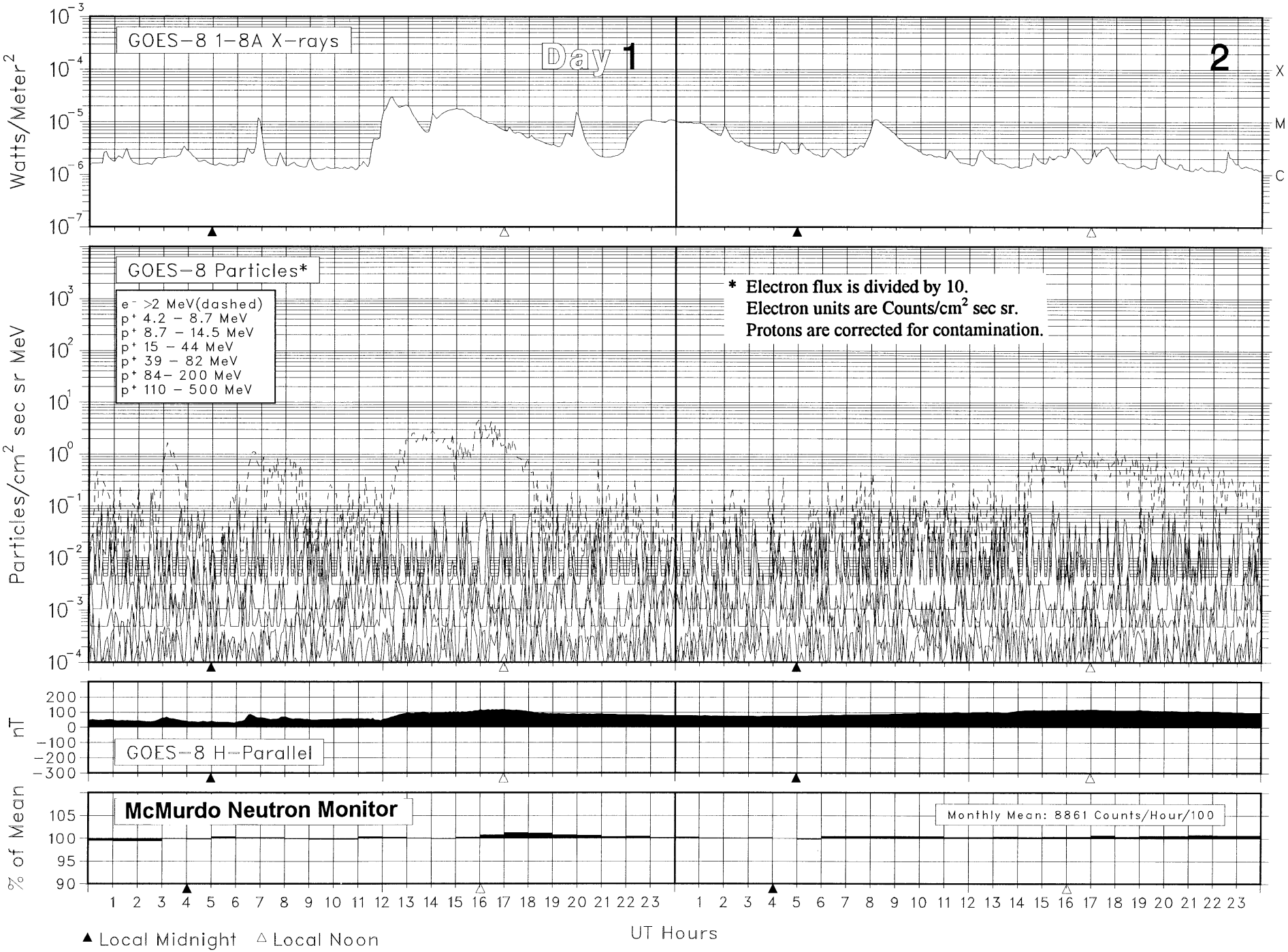
November 2001



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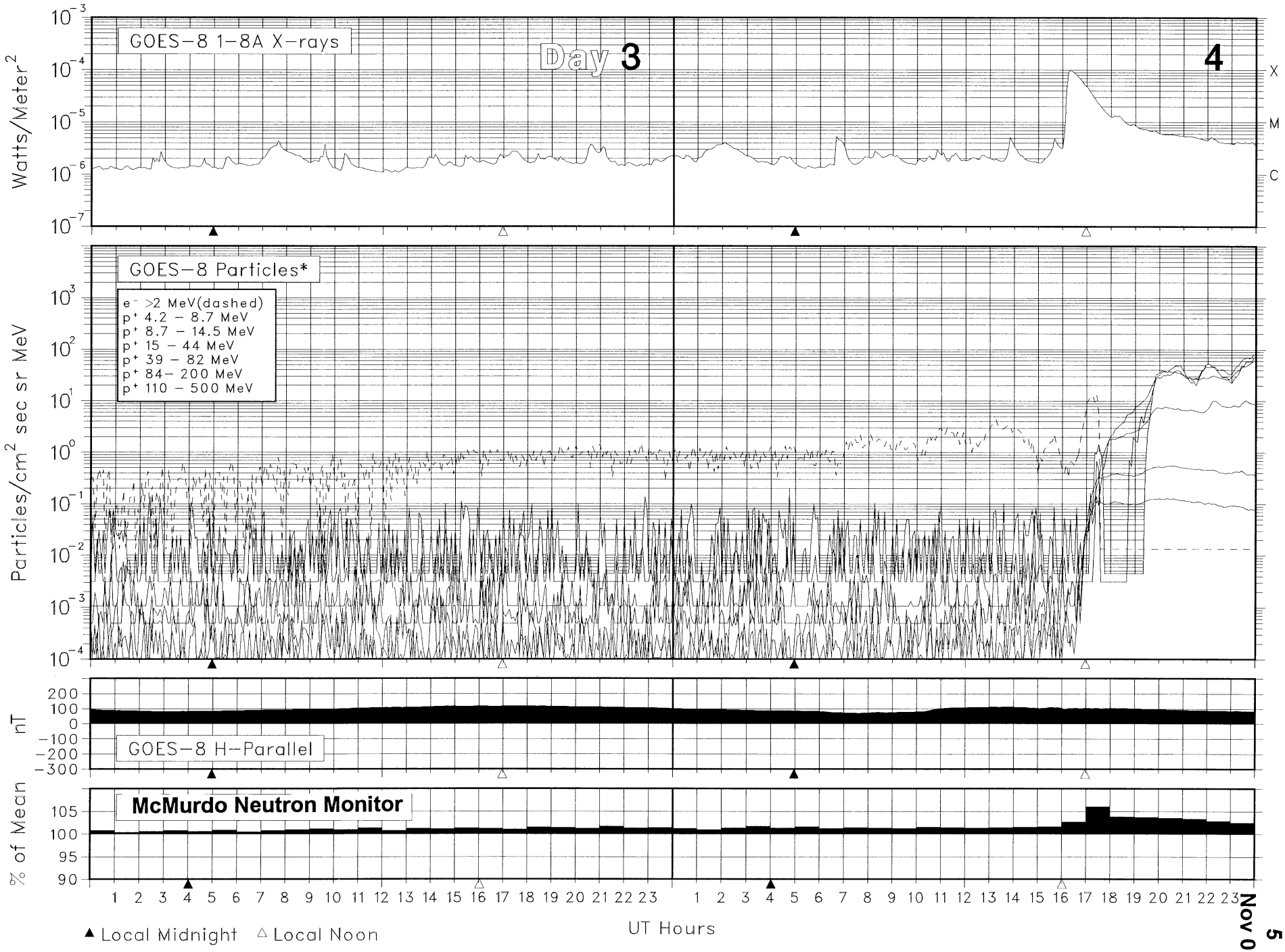

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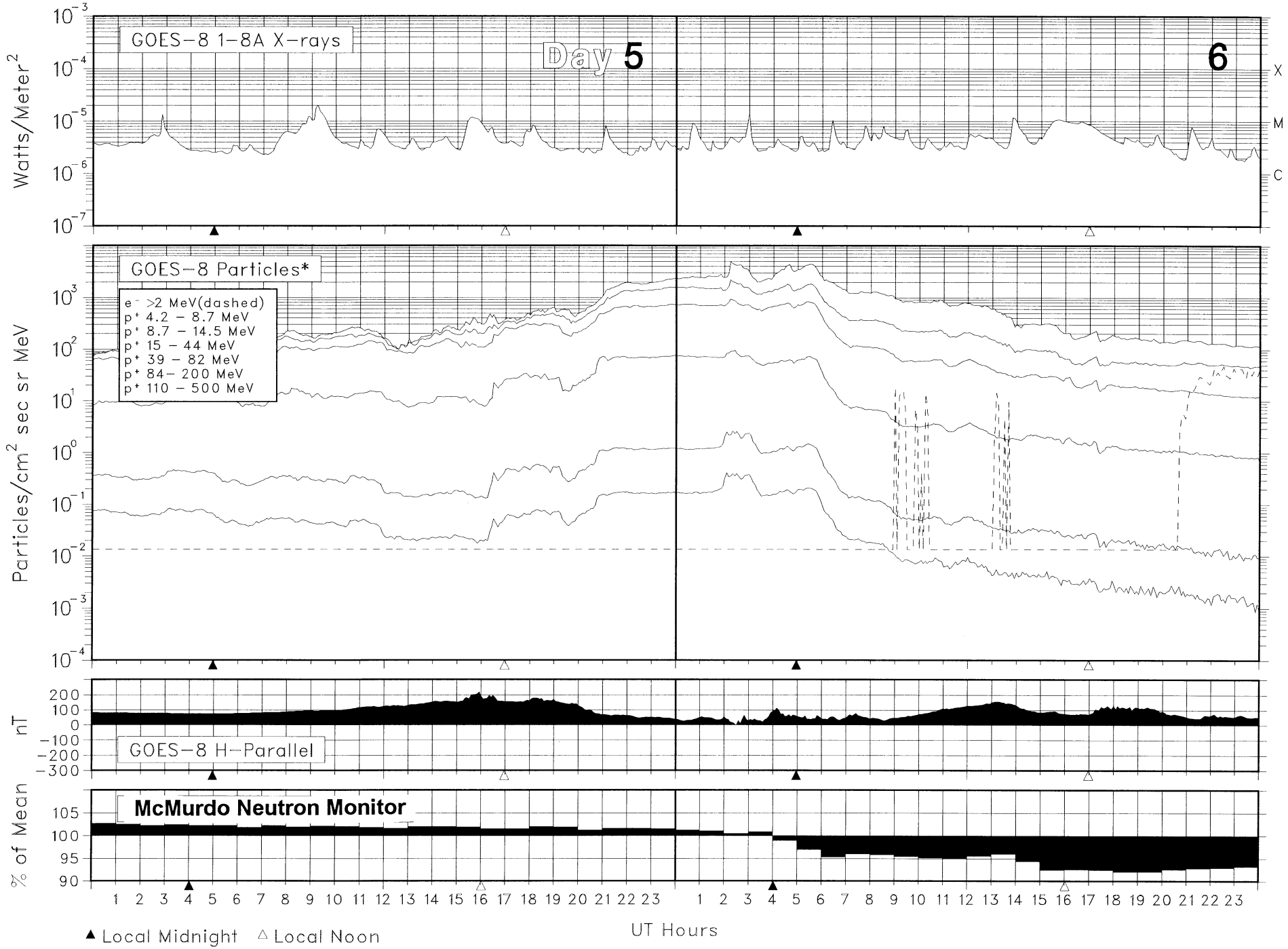

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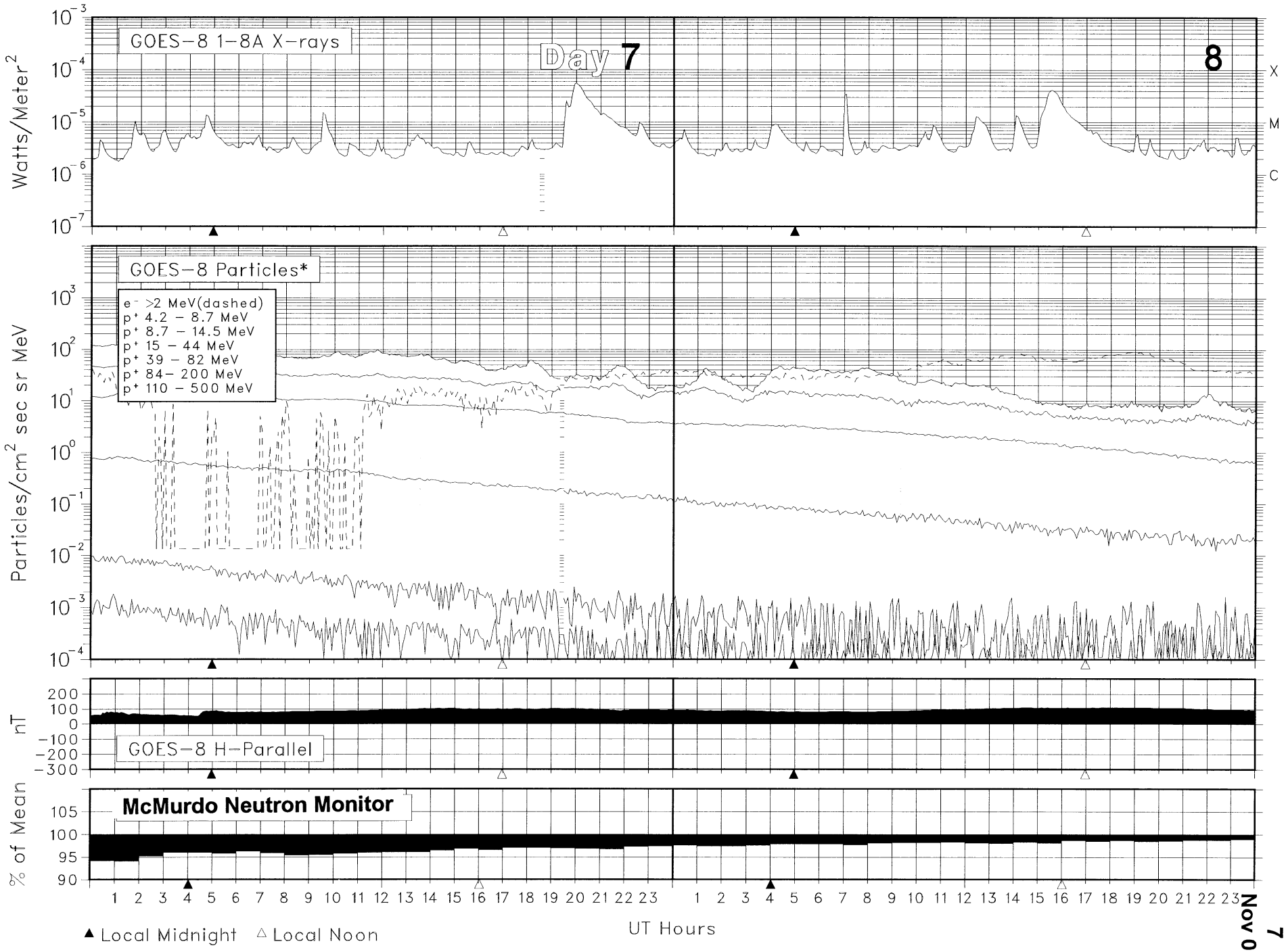

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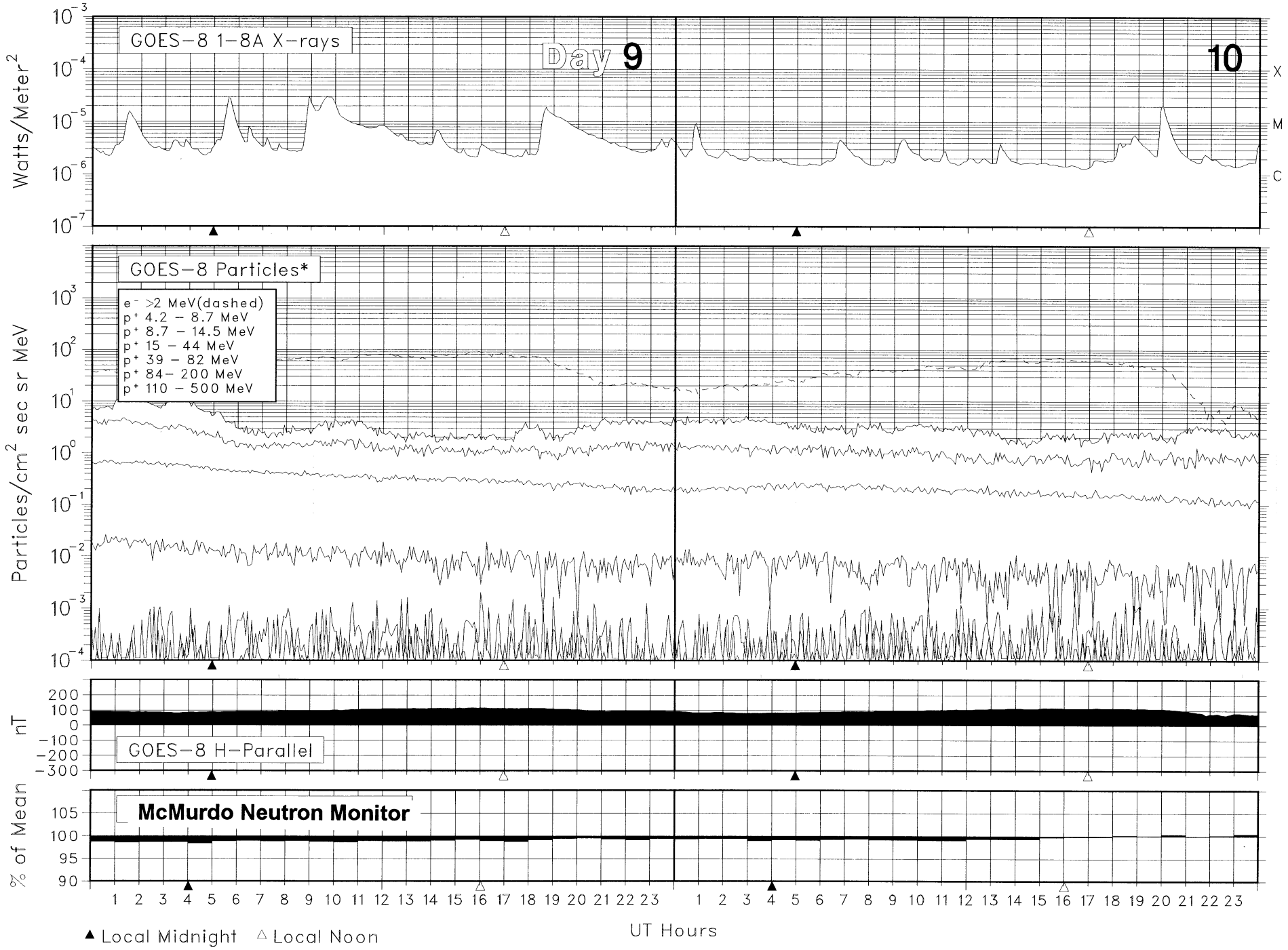
November 2001



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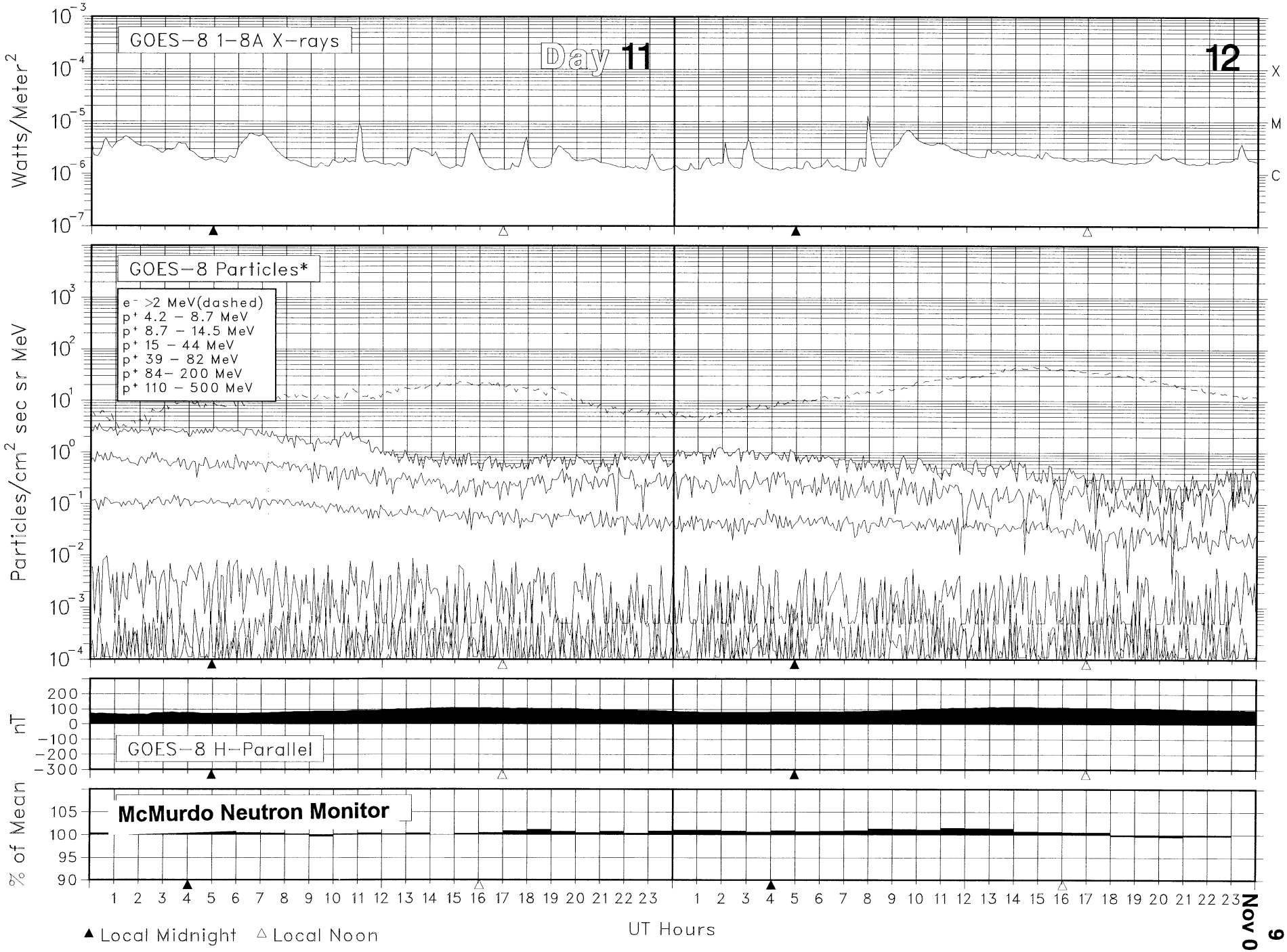
November 2001



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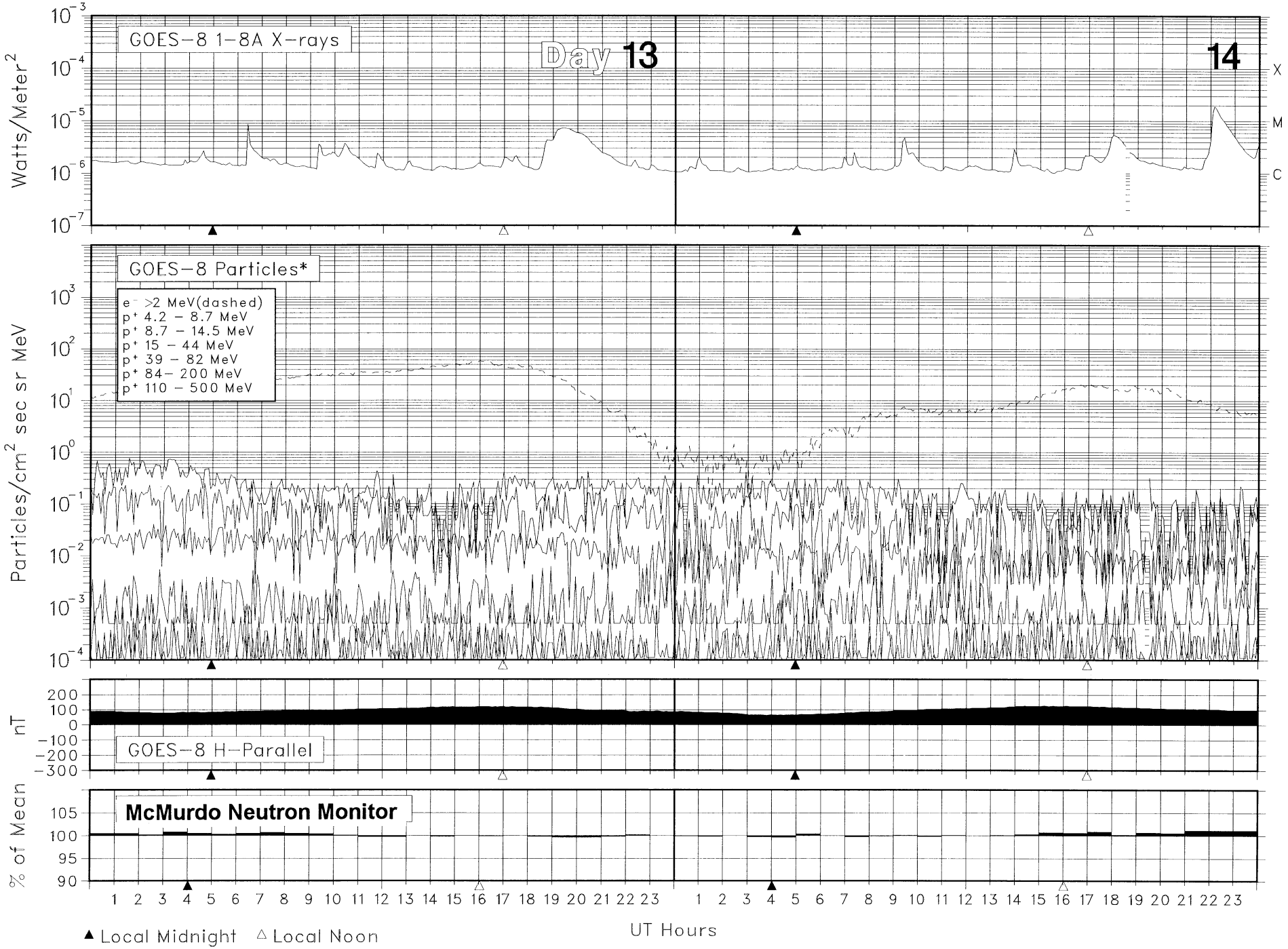

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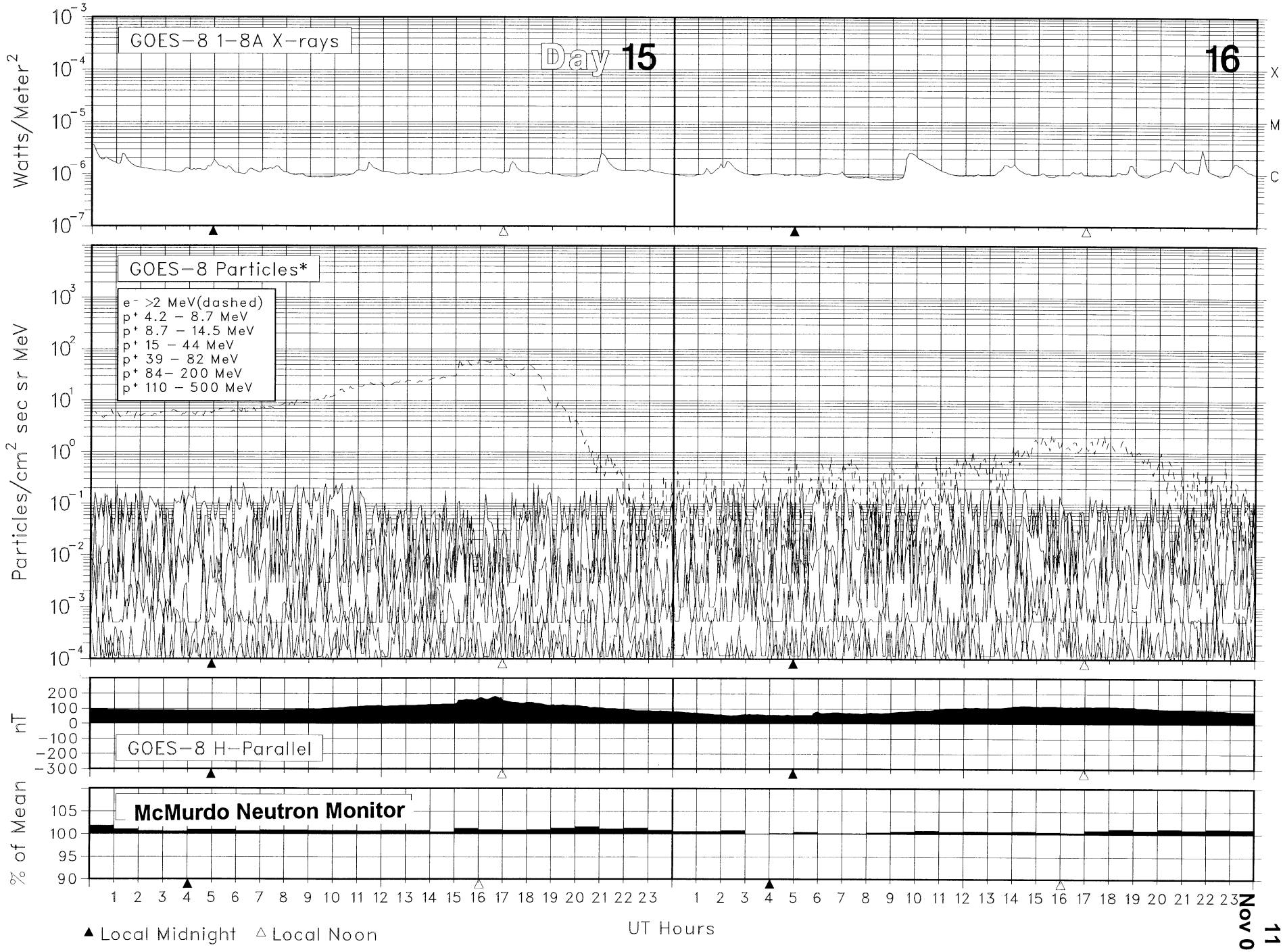

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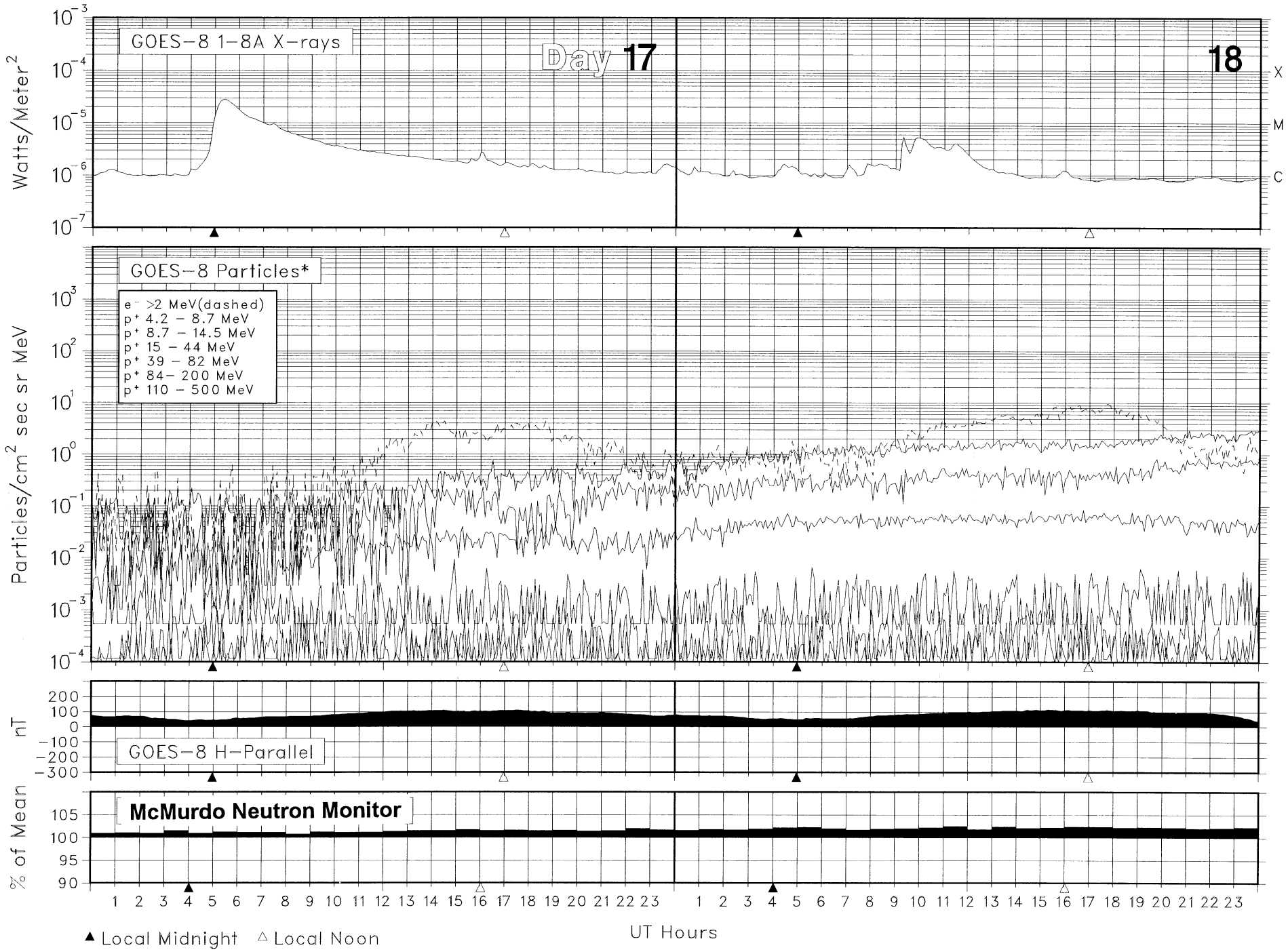
12 Nov 01



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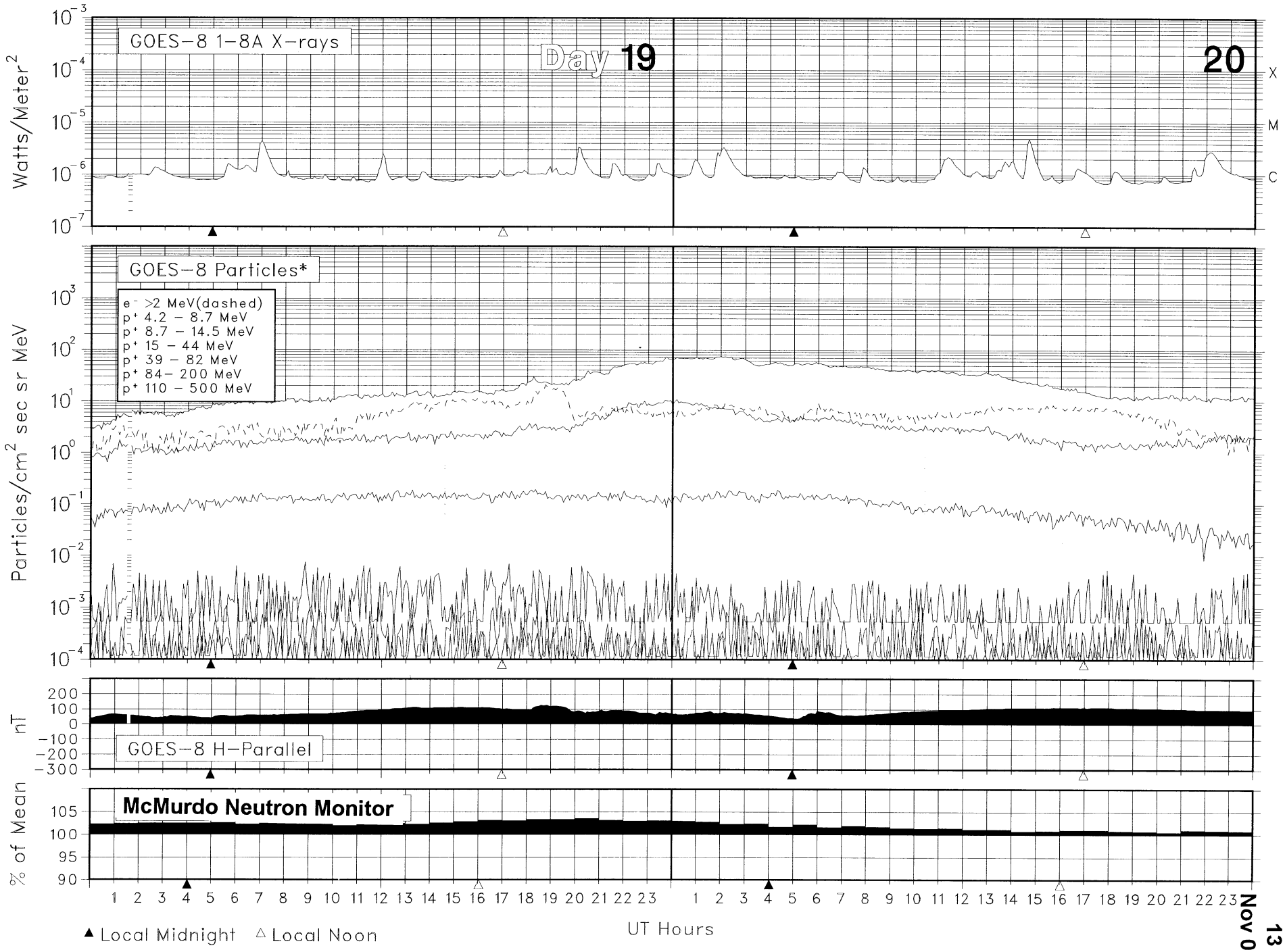

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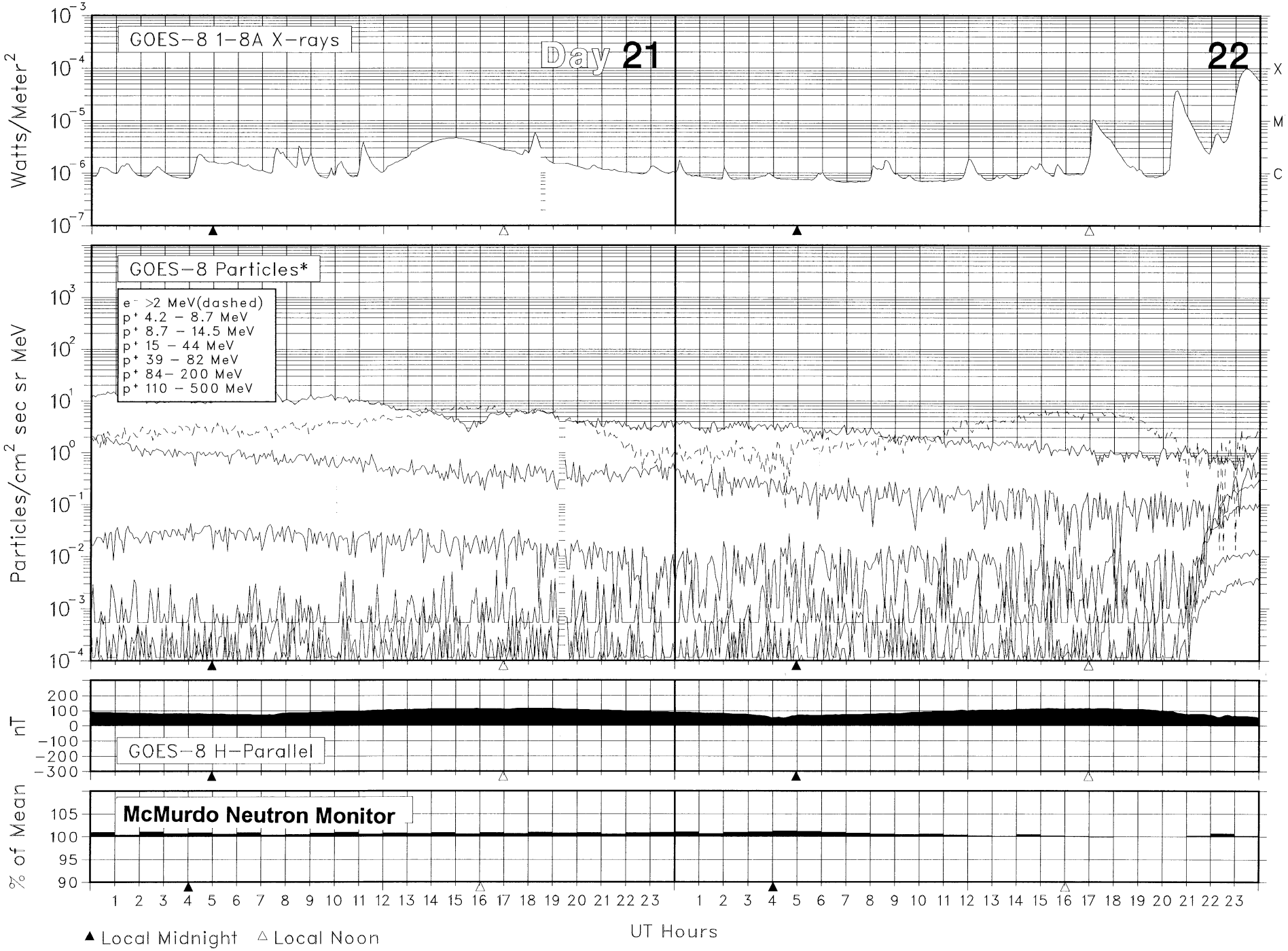

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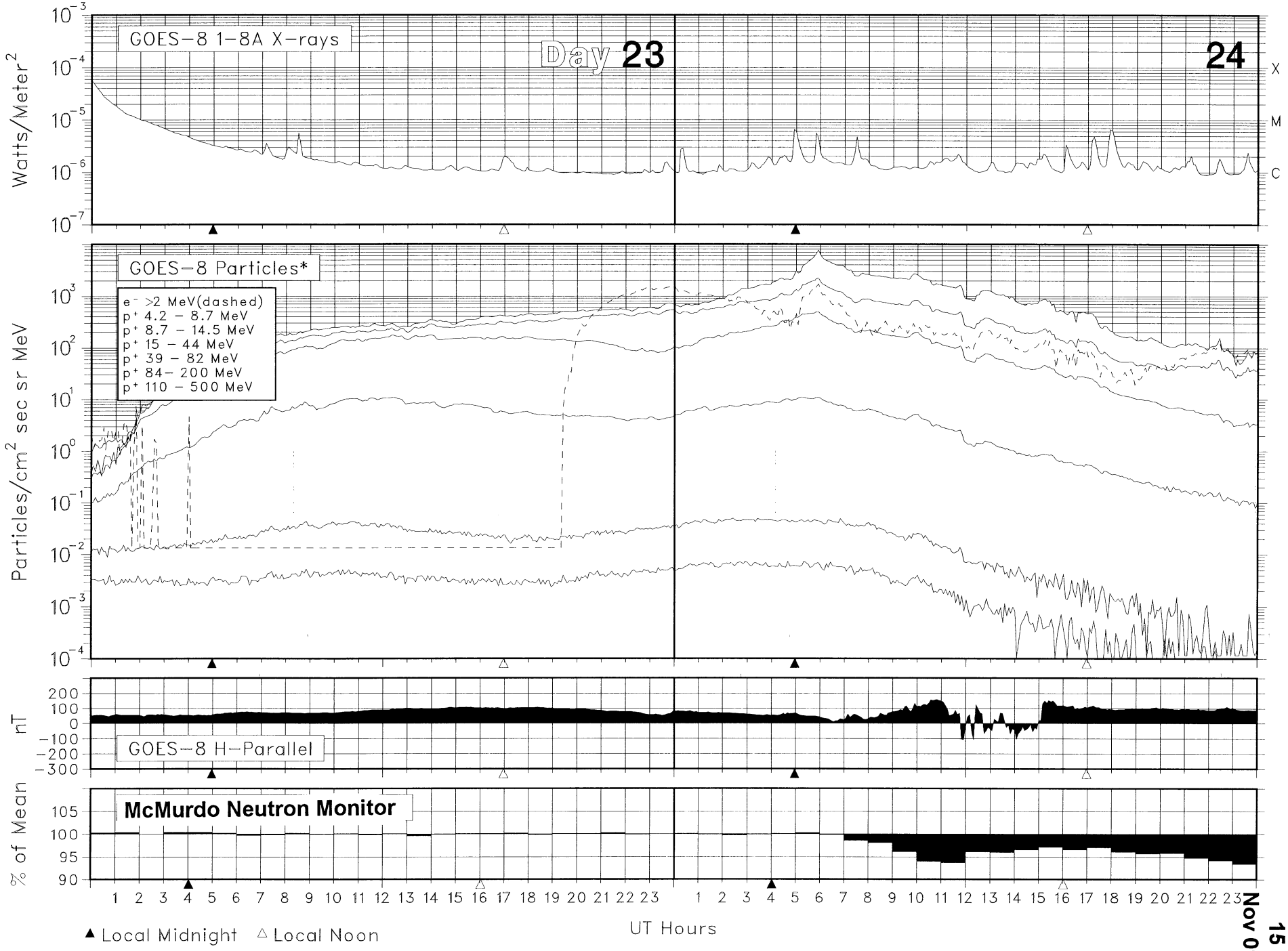

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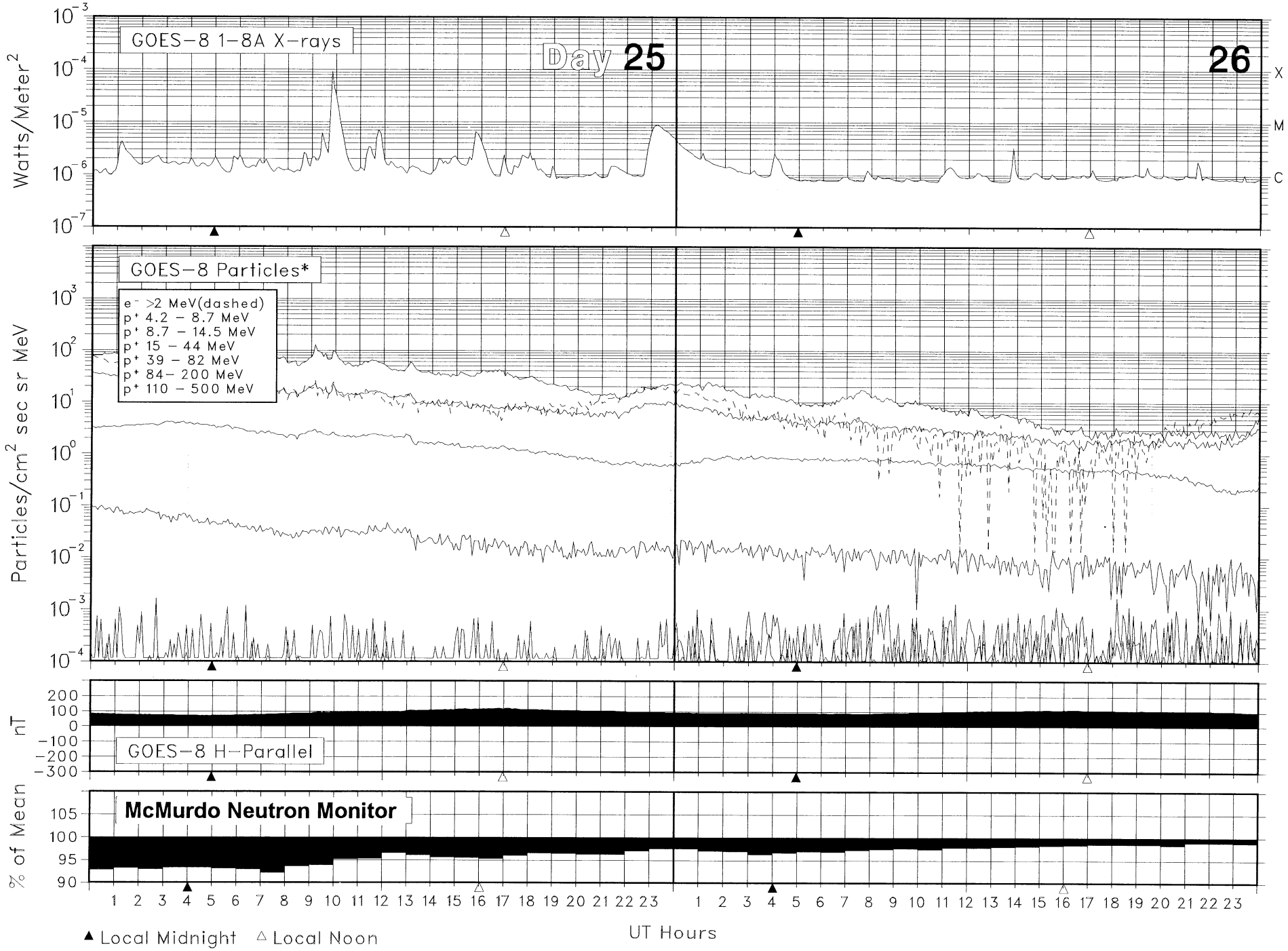

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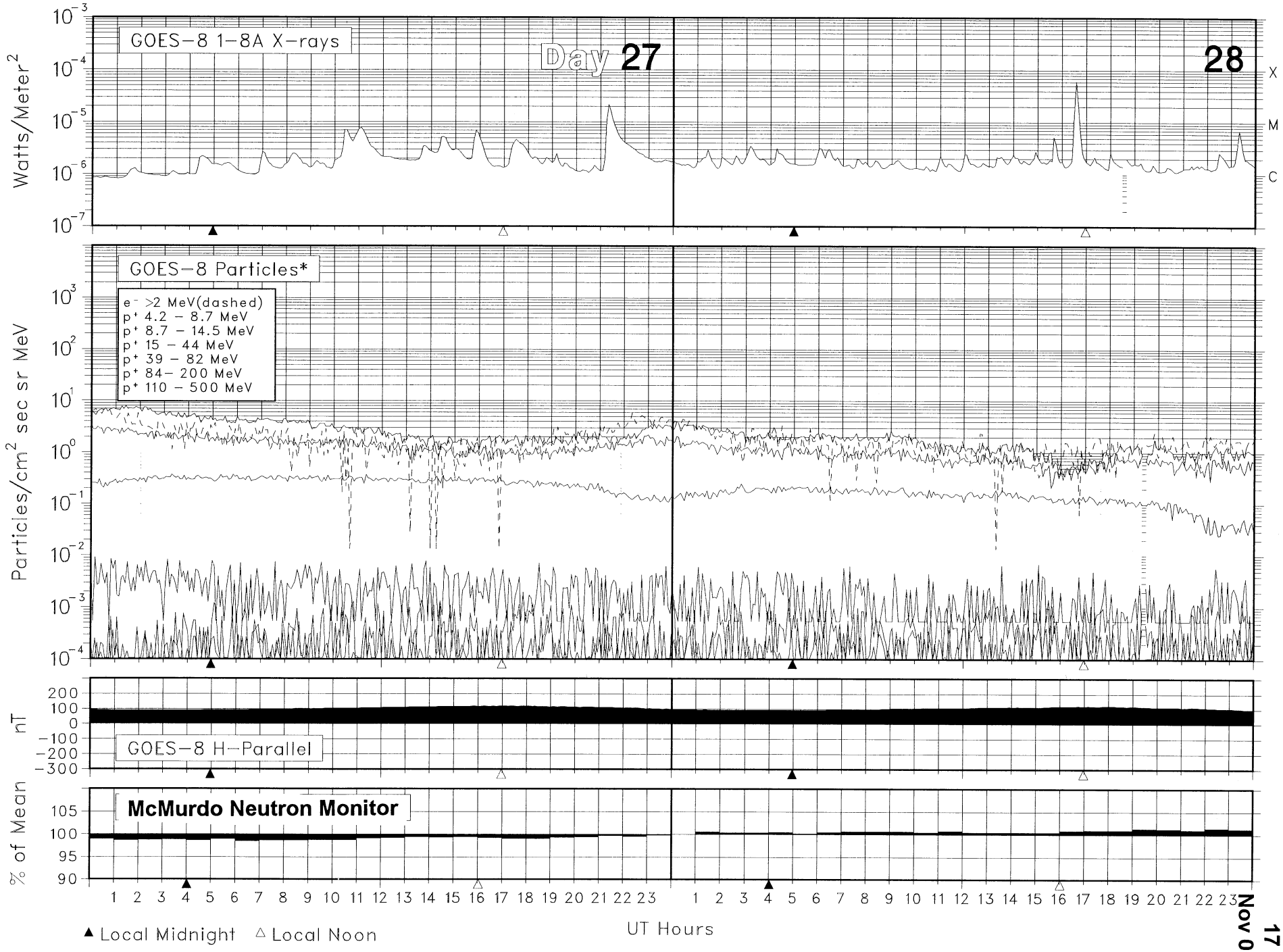

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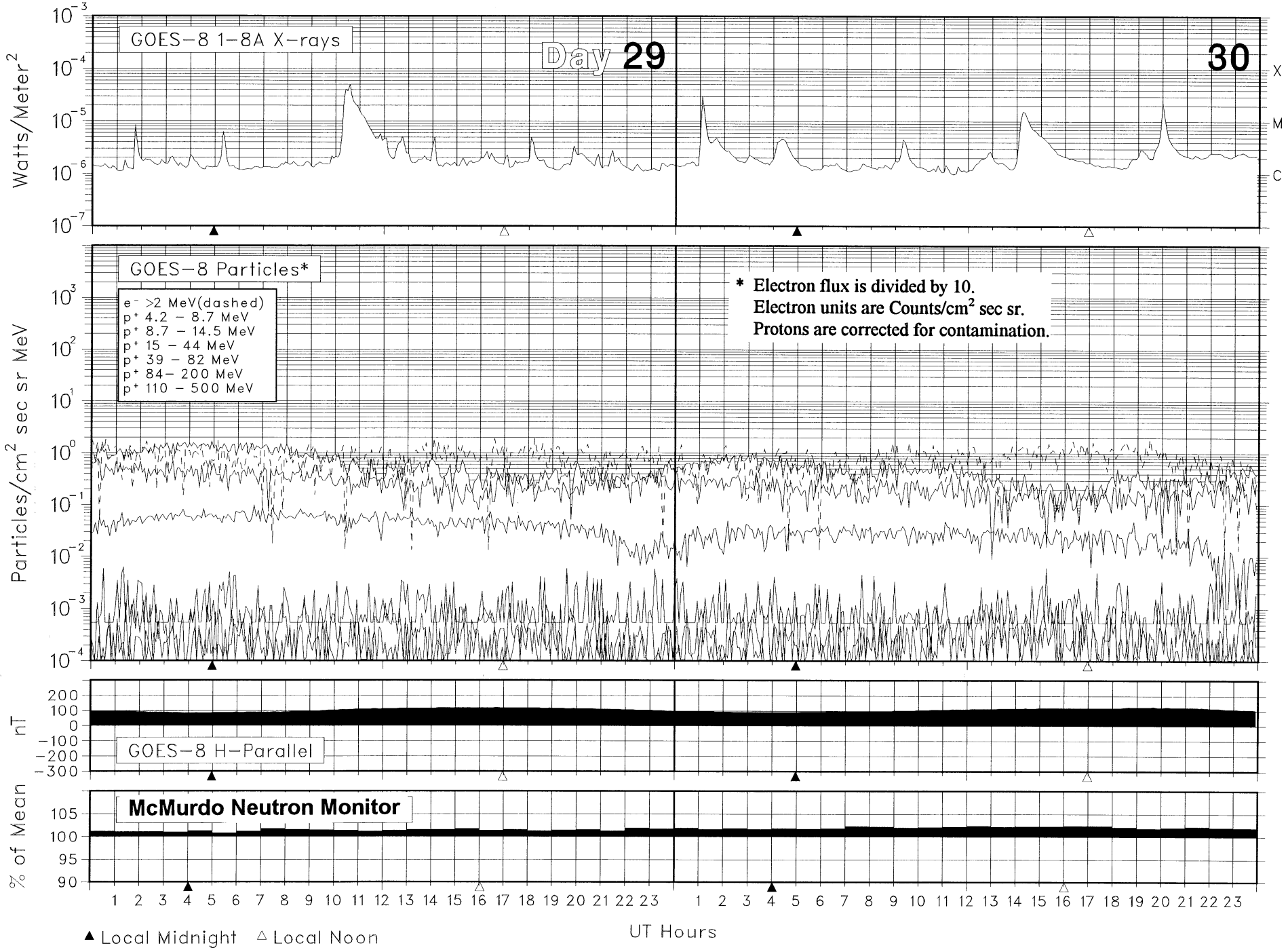

A L E R T P E R I O D S
The International Space Environment Service

NOVEMBER 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)
305	01	31	212	221	8	9676	N16	W74	1	0	0	01	Q	SOL: Active
						9678	N06	W61	1	0	0	01	E	MAG: Quiet
						9679	S12	W44	0	0	0	01	Q	PRO: Quiet
						9681	S22	W78	0	0	0	01	Q	
						9682	N11	W10	5	1	0	01	E	
						9683	N27	W35	0	0	0	01	Q	
						9684	N06	E29	0	0	0	01	E	
						9685	N05	E68	0	0	0	01	Q	
						9686	N16	E68	0	0	0	01	Q	
306	02	01	157	236	22	9678	N07	W75	2	1	0	02	Q	SOL: Active
						9682	N11	W22	9	1	0	02	E	MAG: Active
						9684	N06	E14	2	0	0	02	E	PRO: Quiet
						9685	N06	E55	1	0	0	02	Q	
						9686	N15	E54	0	0	0	02	Q	
						9687	S19	E71	4	3	0	02	E	
307	03	02	164	214	8	9678	N07	W90	0	0	0	03	Q	SOL: Active
						9682	N12	W37	3	0	0	03	E	MAG: Quiet
						9684	N06	E00	2	0	0	03	E	PRO: Quiet
						9685	N05	E41	0	0	0	03	Q	
						9686	N15	E39	0	0	0	03	Q	
						9687	S19	E61	5	1	0	03	E	
308	04	03	162	216	3	9682	N12	W50	7	0	0	04	E	SOL: Active
						9684	N05	W15	7	0	0	04	E	MAG: Quiet
						9685	N05	E27	0	0	0	04	Q	PRO: Quiet
						9686	N15	E26	0	0	0	04	Q	
						9687	S19	E49	1	0	0	04	E	
						9688	N25	E70	0	0	0	04	Q	
309	05	04	186	227	8	9682	N12	W64	2	0	0	05	E	SOL: Active
						9684	N05	W28	6	0	1	05	E	MAG: Minor
						9685	N04	E14	0	0	0	05	Q	PRO: IP
						9687	S20	E35	6	0	0	05	E	
						9688	N26	E64	0	0	0	05	Q	
						9689	S28	E15	0	0	0	05	E	
310	06	05	159	235	13	9682	N13	W75	2	0	0	06	E	SOL: Active
						9684	N07	W40	2	1	0	06	E	MAG: Major
						9685	N05	W01	0	0	0	06	Q	PRO: IP
						9687	S20	E20	2	1	0	06	E	
						9688	N26	E51	0	0	0	06	Q	
						9689	S28	E02	2	0	0	06	Q	
						9690	S18	E71	0	0	0	06	E	
311	07	06	189	237	74	9682	N13	W87	0	0	0	07	Q	SOL: Active
						9684	N06	W56	0	0	0	07	E	MAG: Major
						9685	N05	W17	0	0	0	07	Q	PRO: IP
						9687	S20	E08	5	2	0	07	E	
						9688	N26	E38	0	0	0	07	Q	
						9689	S27	W11	0	0	0	07	Q	
						9690	S18	E58	5	2	0	07	E	
312	08	07	230	269	16	9684	N06	W68	2	0	0	08	E	SOL: Active
						9685	N06	W29	2	0	0	08	Q	MAG: Active
						9687	S20	W02	2	0	0	08	E	PRO: IP
						9688	N26	E26	1	1	0	08	Q	
						9689	S27	W23	0	0	0	08	Q	
						9690	S17	E45	18	5	0	08	E	
						9691	N07	E64	0	0	0	08	Q	
						9692	N07	W10	1	1	0	08	Q	
						9693	N11	E03	0	0	0	08	Q	
						9694	N14	E79	0	0	0	08	Q	
313	09	08	216	248	5	9684	N06	W82	1	0	0	09	E	SOL: Active
						9685	N05	W46	3	0	0	09	Q	MAG: Quiet

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

NOVEMBER 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)
						9687	S19	W18	6	1	0	09	E	PRO: IP
						9688	N26	E07	0	0	0	09	Q	
						9689	S26	W38	0	0	0	09	Q	
						9690	S18	E31	12	2	0	09	E	
						9691	N07	E49	0	0	0	09	Q	
						9692	N07	W25	2	0	0	09	Q	
						9693	N12	W12	0	0	0	09	Q	
						9694	N14	E65	0	0	0	09	Q	
314	10	09	175	271	4	9685	N05	W61	0	0	0	10	Q	SOL: Active
						9687	S20	W31	1	1	0	10	E	MAG: Quiet
						9688	N25	W08	0	0	0	10	Q	PRO: IP
						9689	S28	W52	1	1	0	10	Q	
						9690	S18	E16	9	4	0	10	E	
						9691	N07	E36	0	0	0	10	Q	
						9692	N06	W39	0	0	0	10	E	
						9693	N11	W27	0	0	0	10	Q	
						9694	N13	E51	0	0	0	10	Q	
315	11	10	258	246	5	9685	N04	W74	0	0	0	11	Q	SOL: Active
						9687	S21	W44	0	0	0	11	E	MAG: Quiet
						9688	N24	W19	0	0	0	11	Q	PRO: Quiet
						9689	S25	W63	0	0	0	11	Q	
						9690	S18	E04	5	2	0	11	E	
						9691	N07	E24	0	0	0	11	Q	
						9692	N06	W51	0	0	0	11	E	
						9693	N10	W40	0	0	0	11	Q	
						9694	N13	E39	0	0	0	11	Q	
						9695	N11	E68	0	0	0	11	Q	
						9696	S05	E68	0	0	0	11	Q	
316	12	11	222	234	5	9685	N03	W87	0	0	0	12	Q	SOL: Active
						9687	S20	W53	1	0	0	12	Q	MAG: Quiet
						9688	N25	W32	0	0	0	12	Q	PRO: Quiet
						9689	S26	W76	0	0	0	12	Q	
						9690	S18	W09	8	1	0	12	E	
						9691	N08	E10	0	0	0	12	Q	
						9692	N07	W65	2	0	0	12	E	
						9693	N11	W54	0	0	0	12	Q	
						9694	N13	E27	0	0	0	12	Q	
						9695	N11	E57	0	0	0	12	Q	
						9696	S02	E57	0	0	0	12	Q	
						9697	N11	E76	0	0	0	12	Q	
317	13	12	252	227	2	9687	S20	W71	0	0	0	13	Q	SOL: Active
						9688	N26	W45	0	0	0	13	Q	MAG: Quiet
						9690	S18	W22	5	0	0	13	E	PRO: Quiet
						9691	N08	W04	0	0	0	13	Q	
						9692	N07	W78	3	1	0	13	E	
						9693	N12	W67	0	0	0	13	Q	
						9694	N13	E13	0	0	0	13	Q	
						9695	N10	E44	0	0	0	13	Q	
						9696	S05	E44	0	0	0	13	Q	
						9697	N10	E61	1	0	0	13	Q	
						9698	S08	W67	0	0	0	13	Q	
						9699	S24	E64	0	0	0	13	Q	
318	14	13	234	232	4	9687	S20	W85	1	0	0	14	Q	SOL: Active
						9688	N26	W58	0	0	0	14	Q	MAG: Quiet
						9690	S18	W34	9	1	0	14	E	PRO: Quiet
						9691	N08	W17	0	0	0	14	Q	
						9692	N09	W84	0	0	0	14	Q	
						9694	N14	E00	0	0	0	14	Q	
						9695	N11	E31	0	0	0	14	Q	
						9696	S06	E31	0	0	0	14	Q	
						9697	N11	E47	0	0	0	14	Q	
						9698	S24	E49	0	0	0	14	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)
						9699	S09	W81	0	0	0	14	Q	
						9700	S25	W08	0	0	0	14	Q	
						9701	S33	W03	0	0	0	14	Q	
319	15	14	222	217	2	9690	S17	W48	8	1	0	15	E	SOL: Active
						9691	N09	W30	0	0	0	15	Q	MAG: Quiet
						9694	N14	W10	0	0	0	15	Q	PRO: Quiet
						9695	N11	E17	0	0	0	15	Q	
						9696	S04	E16	0	0	0	15	Q	
						9697	N12	E34	2	0	0	15	Q	
						9698	S24	E35	0	0	0	15	Q	
						9700	S24	W22	0	0	0	15	Q	
						9702	N22	W07	0	0	0	15	Q	
						9703	N22	E12	0	0	0	15	Q	
						9704	S18	E70	1	0	0	15	Q	
						9705	N14	E49	0	0	0	15	Q	
						9706	N15	E65	0	0	0	15	Q	
320	16	15	219	207	9	9690	S17	W60	4	0	0	16	E	SOL: Active
						9691	N09	W43	0	0	0	16	Q	MAG: Quiet
						9694	N14	W27	0	0	0	16	Q	PRO: Quiet
						9695	N11	E05	0	0	0	16	Q	
						9696	S04	E04	0	0	0	16	Q	
						9697	N13	E20	0	0	0	16	E	
						9698	S23	E23	0	0	0	16	Q	
						9700	S24	W35	0	0	0	16	Q	
						9702	N26	W19	0	0	0	16	Q	
						9703	N23	W01	1	0	0	16	Q	
						9704	S18	E56	1	0	0	16	E	
						9705	N12	E38	0	0	0	16	Q	
						9706	N15	E52	0	0	0	16	Q	
321	17	16	200	202	7	9690	S17	W75	0	0	0	17	E	SOL: Eruptive
						9691	N09	W56	0	0	0	17	Q	MAG: Quiet
						9694	N14	W40	0	0	0	17	Q	PRO: Quiet
						9695	N12	W09	0	0	0	17	Q	
						9696	S04	W09	0	0	0	17	Q	
						9697	N13	E07	1	0	0	17	E	
						9698	S23	E08	0	0	0	17	Q	
						9703	N23	W15	0	0	0	17	Q	
						9704	S18	E41	0	0	0	17	E	
						9707	N14	W24	0	0	0	17	Q	
						9708	N01	E05	0	0	0	17	Q	
						9709	N20	E39	0	0	0	17	Q	
322	18	17	157	199	11	9690	S18	W80	0	0	0	18	E	SOL: Active
						9691	N09	W70	0	0	0	18	Q	MAG: Quiet
						9694	N14	W54	0	0	0	18	Q	PRO: Quiet
						9695	N12	W23	0	0	0	18	Q	
						9697	N13	W06	2	0	0	18	E	
						9698	S23	W03	0	0	0	18	Q	
						9704	S18	E28	5	1	0	18	E	
						9708	N04	W12	0	0	0	18	Q	
						9709	N21	E25	0	0	0	18	Q	
323	19	18	181	188	8	9690	S17	W92	0	0	0	19	Q	SOL: Active
						9691	N08	W84	0	0	0	19	Q	MAG: Quiet
						9694	N13	W67	0	0	0	19	Q	PRO: Quiet
						9695	N11	W36	0	0	0	19	Q	
						9697	N12	W19	2	0	0	19	E	
						9698	S26	W16	0	0	0	19	Q	
						9704	S18	E16	4	0	0	19	E	
						9705	N12	W05	0	0	0	19	Q	
						9708	N03	W25	0	0	0	19	Q	
						9709	N20	E11	0	0	0	19	Q	
						9710	S10	E46	0	0	0	19	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)
324	20	19	168	191	17	9691	N10	W95	0	0	0	20	Q	SOL: Active
						9694	N14	W80	0	0	0	20	Q	MAG: Active
						9695	N12	W49	0	0	0	20	Q	PRO: IP
						9697	N12	W31	1	0	0	20	E	
						9698	S24	W28	0	0	0	20	Q	
						9704	S16	E02	5	0	0	20	E	
						9705	N15	W17	0	0	0	20	Q	
						9708	N03	W39	0	0	0	20	Q	
						9710	S12	E32	0	0	0	20	Q	
325	21	20	160	185	7	9694	N15	W92	0	0	0	21	Q	SOL: Eruptive
						9695	N12	W62	0	0	0	21	Q	MAG: Quiet
						9697	N12	W45	0	0	0	21	E	PRO: Quiet
						9698	S25	W41	0	0	0	21	Q	
						9704	S18	W10	4	0	0	21	E	
						9705	N12	W31	0	0	0	21	Q	
						9708	N04	W52	0	0	0	21	Q	
						9710	S11	E18	0	0	0	21	Q	
						9711	S16	W23	0	0	0	21	Q	
326	22	21	132	184	7	9695	N12	W76	0	0	0	22	Q	SOL: Eruptive
						9697	N13	W60	0	0	0	22	E	MAG: Quiet
						9698	S24	W55	0	0	0	22	Q	PRO: Quiet
						9704	S17	W24	13	0	0	22	E	
						9710	S11	E05	0	0	0	22	Q	
						9711	S12	W38	0	0	0	22	Q	
						9712	N13	E71	0	0	0	22	Q	
327	23	22	143	190	10	9695	N12	W90	0	0	0	23	Q	SOL: Eruptive
						9697	N12	W73	1	0	0	23	Q	MAG: Active
						9698	S25	W68	1	1	0	23	Q	PRO: IP
						9704	S18	W38	6	1	0	23	E	
						9710	S11	W08	1	0	0	23	Q	
						9712	N12	E58	0	0	0	23	Q	
						9713	N08	E03	0	0	0	23	Q	
						9714	S11	E36	0	0	0	23	Q	
328	24	23	144	177	13	9697	N11	W88	0	0	0	24	Q	SOL: Active
						9698	S24	W82	0	0	0	24	Q	MAG: Minor
						9704	S17	W51	2	0	0	24	E	PRO: IP
						9710	S11	W22	0	0	0	24	Q	
						9712	N11	E43	0	0	0	24	Q	
						9713	N08	W11	0	0	0	24	Q	
						9714	S11	E21	0	0	0	24	Q	
						9715	N07	E80	0	0	0	24	Q	
329	25	24	124	173	95	9698	S23	W91	0	0	0	25	Q	SOL: Eruptive
						9704	S17	W63	19	0	0	25	E	MAG: Minor
						9710	S11	W37	1	0	0	25	Q	PRO: IP
						9712	N11	E30	0	0	0	25	Q	
						9713	N08	W25	0	0	0	25	Q	
						9714	S11	E08	0	0	0	25	Q	
						9715	N06	E69	2	0	0	25	Q	
330	26	25	102	170	6	9704	S18	W74	10	0	1	26	E	SOL: Active
						9710	S09	W53	0	0	0	26	Q	MAG: Quiet
						9712	N12	E16	0	0	0	26	Q	PRO: IP
						9714	S11	W01	1	0	0	26	Q	
						9715	N06	E58	4	0	0	26	Q	
						9716	S04	E73	0	0	0	26	Q	
331	27	26	122	175	4	9704	S20	W88	1	0	0	27	E	SOL: Active
						9710	S10	W66	0	0	0	27	Q	MAG: Quiet
						9712	N12	E03	0	0	0	27	Q	PRO: IP
						9714	S09	W11	0	0	0	27	Q	
						9715	N06	E44	3	0	0	27	E	
						9716	S05	E57	1	0	0	27	Q	

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The International Space Environment Service

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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)
332	28	27	139	190	2	9710	S08	W81	0	0	0	28	Q	SOL: Eruptive
						9712	N11	W10	0	0	0	28	Q	MAG: Quiet
						9714	S10	W26	0	0	0	28	Q	PRO: IP
						9715	N05	E30	3	1	0	28	E	
						9716	S05	E42	0	0	0	28	Q	
						9717	N06	E78	0	0	0	28	E	
						9718	S06	E84	8	0	0	28	Q	
333	29	28	180	199	4	9712	N12	W24	0	0	0	29	Q	SOL: Active
						9714	S09	W41	0	0	0	29	Q	MAG: Quiet
						9715	N05	E17	7	1	0	29	E	PRO: Quiet
						9716	S05	E28	0	0	0	29	Q	
						9717	N04	E65	0	0	0	29	Q	
						9718	S07	E70	10	0	0	29	E	
						9719	N03	E03	0	0	0	29	Q	
						9720	S18	E72	0	0	0	29	Q	
						9721	N10	E78	0	0	0	29	Q	
334	30	29	204	216	2	9712	N12	W37	2	0	0	30	Q	SOL: Active
						9714	S08	W54	0	0	0	30	Q	MAG: Quiet
						9715	N05	E04	11	2	0	30	E	PRO: Quiet
						9716	S06	E16	0	0	0	30	Q	
						9717	N04	E53	0	0	0	30	Q	
						9718	S07	E58	1	0	0	30	E	
						9719	N03	W10	0	0	0	30	Q	
						9720	S18	E54	3	0	0	30	Q	
						9721	N12	E70	0	0	0	30	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

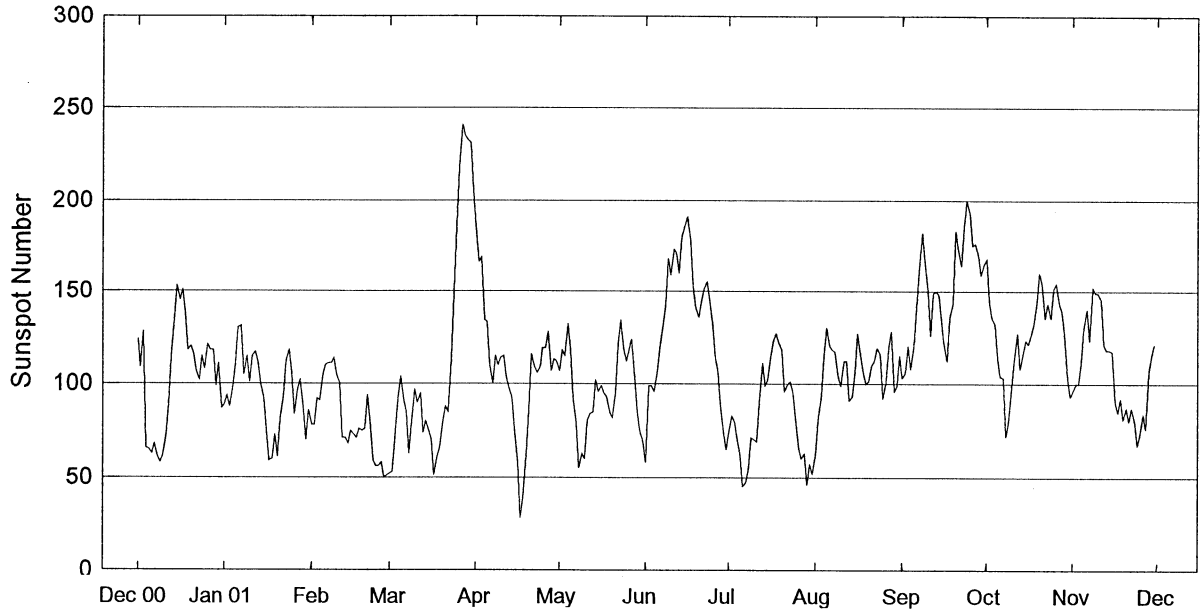
'Quiet'		
'Active'	conditions expected	(A>=20 or K=4)
'Minor'	storm expected	(A>=30 or K=5)
'Major'	storm expected	(A>=50 or K>=6)
'Severe'	storm expected	(A>=100 or K>=7)
'IP'	magstorm in progress	(A>=30 or K>=4)
'Warning'	(activity levels are expected to increase, but no numerical forecast given)	
'/'	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
Dec 2000 - Nov 2001

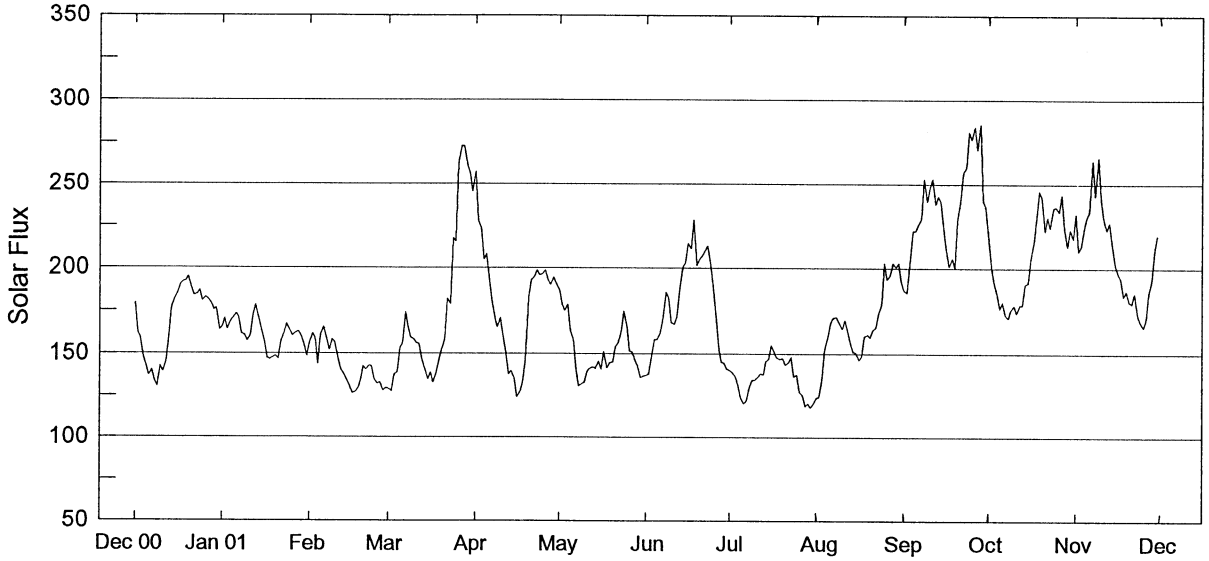


Day	Dec 00	Jan 01	Feb	Mar	Apr	May	Jun	Jul*	Aug*	Sep*	Oct*	Nov*
1	116	89	78	52	186	107	58	74	62	103	168	96
2	109	94	78	53	166	118	99	83	81	106	144	100
3	118	88	92	75	169	115	99	80	93	120	135	100
4	72	98	91	92	134	132	96	71	115	108	132	111
5	65	110	105	104	133	118	106	62	130	120	114	130
6	57	130	110	91	110	92	119	45	120	141	104	140
7	68	131	111	85	100	79	129	47	118	166	103	123
8	57	105	111	63	115	55	142	54	117	182	72	152
9	58	115	114	79	110	63	168	71	104	166	79	149
10	62	101	105	97	114	60	159	70	99	150	98	149
11	72	115	100	90	115	80	173	69	112	126	113	145
12	89	117	71	95	103	84	171	90	112	149	127	121
13	114	111	71	74	98	85	160	111	91	150	108	118
14	135	100	68	80	92	102	180	99	93	148	115	118
15	153	92	75	75	75	96	186	102	106	130	123	117
16	145	75	73	70	58	99	191	113	127	121	121	90
17	151	59	71	51	28	95	178	123	117	112	126	85
18	138	60	76	61	38	93	153	127	106	136	131	92
19	118	73	75	66	62	85	141	122	100	143	143	81
20	127	61	76	80	86	82	136	118	101	183	160	87
21	116	81	94	88	116	95	144	96	110	173	154	80
22	107	93	81	85	109	121	151	100	112	164	135	87
23	102	112	59	113	106	134	155	101	119	186	143	80
24	115	118	56	149	109	118	145	96	116	200	135	67
25	108	106	56	186	119	112	131	79	92	193	151	73
26	121	84	58	218	119	118	114	66	101	175	154	84
27	118	97	50	241	128	124	107	60	119	176	143	76
28	118	102	51	235	107	103	89	63	128	170	139	107
29	110	90		233	113	85	74	46	96	159	127	115
30	111	70		231	112	75	65	57	99	165	103	121
31	87	86		205		69		52	115		93	
Mean	104.4	95.6	80.6	113.5	107.7	96.6	134.0	82.2	106.8	150.7	125.6	106.5

* = Provisional.

Penticton 2800 MHz (10.7cm) Solar Flux
Dec 2000 - Nov 2001

Adjusted to 1 AU



Day	Dec 00	Jan 01	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
1	179.3	165.3	156.2	129.0	257.2	187.4~	136.8	119.0	123.8	187.4	216.9	232.0
2	162.3	170.2	161.6	127.4	227.9	179.0	137.8	120.5	124.3	185.7	201.1	210.1
3	158.9	164.2	159.0	137.3	223.1	175.1	149.5	118.0	135.5	202.1	191.8	212.5
4	147.6	168.8	144.0	138.7	205.0	178.6	158.3	120.3	152.7	222.1	186.5	223.5
5	142.7	170.5	160.7	153.4	207.8*	163.5	158.0	135.6	160.5	221.8	176.8	230.6
6	136.9	173.4	165.3	155.4	192.0~	157.8	162.4	120.3	168.3	225.6	180.2	233.2
7	139.9	170.9	159.6	174.0	180.0	140.9	169.8	121.8	171.0	229.5	172.4	263.9
8	134.1	161.5	152.3	164.8	169.7	131.1	185.7	130.5	171.5	253.1	170.8	243.1
9	130.7	160.8	158.1	159.2	165.4	131.9	182.4	134.4	167.8	239.5	175.9	265.6
10	142.1	157.4	156.5	158.0	170.4	133.0	168.0	134.3	164.7	247.8	178.1	241.0
11	139.2	160.5	147.4	155.8	160.3	139.4	167.4	136.3	169.5	252.9	174.1	229.3
12	145.2	172.5	140.9	155.7	149.8	141.0	171.6	138.3	164.0	238.1	178.5	222.6
13	159.5	178.3	137.8	145.6	137.8	141.9	187.1	137.7	155.5	242.6	178.6	226.8
14	176.5	170.6	134.6	140.7	139.6	141.2	200.9	145.4	151.1	239.3	190.8	212.6
15	181.9	163.8	131.8	134.7	135.1	145.2	203.2	146.8	150.5	221.7	191.7	202.4
16	184.4	156.6	126.5	138.5	124.3	140.9	214.3	154.7	146.2	209.3	205.8	197.6
17	190.4	147.0	126.8	132.9	127.1	150.8	211.2	150.4	148.4	201.1	215.8	194.0
18	191.6	146.6	129.0	138.5	133.0	141.5	228.5	147.7	159.9	205.7	226.9	183.8
19	192.2	147.7	134.0	145.7	145.8	144.6	201.7	146.9	161.3	200.6	245.6	186.8
20	194.8	148.3	142.3	152.1	182.2	144.9	205.0	147.2	159.8	228.7	242.5	180.6
21	188.2	146.7	140.5	158.2	193.0	153.8	206.9	143.5	163.9	240.5	222.0	179.7
22	183.8	157.1	142.7	181.8	194.6	155.8	210.3	144.9	165.2	257.0	230.4	185.3#
23	184.7	162.0	142.2	178.9	198.6	162.8	213.0	147.8	173.4	260.2	224.1	172.9
24	186.7	167.2	134.6	217.5	195.8	174.7	201.3	136.7	178.7	281.0	236.0	168.6
25	180.9	163.4	132.2	215.7	196.3	166.1	188.4	137.5	203.2	276.6	236.1	165.6
26	182.6	160.5	132.8	262.6	198.7	151.3	173.5	127.2	193.8	284.0	233.6	170.3
27	181.4	161.8	128.1	272.4	193.3	150.8	152.8	125.1	195.9	270.6	243.4	185.3
28	179.3	162.6	129.4	272.6	190.4	146.9	144.9	119.0	203.1	285.5	224.2	193.1
29	175.5	160.5		261.0	194.5	142.3	144.6	120.5	200.9	240.2	212.8	210.5
30	176.1	154.9		256.3	190.7	136.0	141.2	118.0	203.0	236.3	222.7	219.6
31	163.9	148.8		245.3		136.6		120.3	192.2		217.8	
Mean	168.2	161.3	143.1	176.1	179.3	152.0	179.2	135.6	167.1	236.2	206.6	208.1

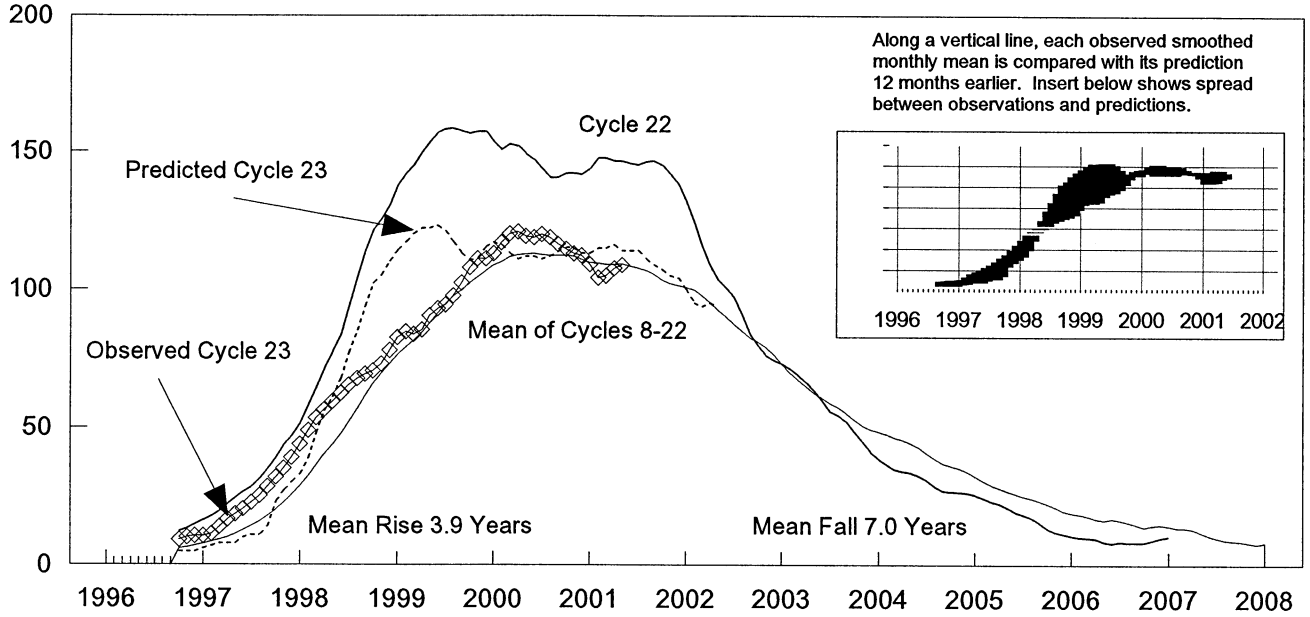
NOTE: #1800UT reading - burst IP at 2000UT;
~ 1700UT reading - burst IP at 2000UT; * 2300UT reading - burst IP at 2000UT.

DAILY SOLAR INDICES
November 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	305	2	96	111	235.6	587	368	298	232.0	221	147	69	50	47
2	306	3	100	120	213.5	572	365	289	210.1	197	133	69	58	61
3	307	4	100	123	216.0	543	348	259	212.5	197	137	69	47	43
4	308	5	111	132	227.3	442	360	281	223.5	204	142	63	48	38
5	309	6	130	145	234.6	594	387	301	230.6	216	149	72	38	22
6	310	7	140	147	237.4	621	406	307	233.2	233	156	70	45	19
7	311	8	123	169	268.8	586	368	281	263.9	208	152	66	39	20
8	312	9	152	189	247.8	589	409	321	243.1	226	168	69	45	29
9	313	10	149	174	270.8	604	399	312	265.6	232	160	75	54	31
10	314	11	149	174	245.9	582	379	289	241.0	220	151	74	47	24
11	315	12	145	150	234.0	583	369	279	229.3	199	145	68	43	21
12	316	13	121	143	227.3	580	388	282	222.6	210	147	65	42	22
13	317	14	118	132	231.6	590	363	286	226.8	206	148	67	50	32
14	318	15	118	132	217.2	581	356	265	212.6	198	142	70	59	37
15	319	16	117	118	207.0	561	337	242	202.4	193	137	78	68	25
16	320	17	90	109	202.1	557	349	246	197.6	181	136	64	54	37
17	321	18	85	101	198.5	585	378	276	194.0	183	141	66	48	31
18	322	19	92	109	188.2	566	345	235	183.8	170	129	66	39	21
19	323	20	81	92	191.3	570	350	240	186.8	171	129	75	51	22
20	324	21	87	83	185.0	563	348	234	180.6	167	128	68	45	61
21	325	22	80	92	184.2	572	335	249	179.7	171	130	69	48	36
22	326	23	87	112	190.0#	560	344	243	185.3#	175	129	68	45	22
23	327	24	80	103	177.3	563	344	233	172.9	159	121	67	43	20
24	328	25	67	77	173.0	543	336	228	168.6	161	117	63	42	19
25	329	26	73	91	170.0	550	321	226	165.6	157	116	64	42	19
26	330	27	84	86	174.8	543	324	225	170.3	160	116	61	41	21
27	331	1	76	88	190.4	550	341	247	185.3	171	119	57	39	18
28	332	2	107	131	198.5	559	343	254	193.1	187	121	68	43	20
29	333	3	115	146	216.4	506	344	264	210.5	193	127	57	44	23
30	334	4	121	148	225.8	529	364	270	219.6	200	135	64	44	55
MEAN			106.5	124.2	212.7	564	358	265	208.1	192	136	67	46	29

The International and American sunspot numbers shown above are preliminary values.
NOTE: Radio flux values are from Sagamore Hill, Massachusetts, USA.
#: 1800UT 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
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
2001	109	104	105	108	109	108	107	106	105	104	103	102	106
						(3)	(7)	(11)	(14)	(15)	(16)	(16)	(7)
2002	101	100	98	96	94	91	89	86	84	81	79	76	90
	(17)	(17)	(19)	(21)	(21)	(21)	(20)	(19)	(19)	(19)	(19)	(17)	(19)

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.**

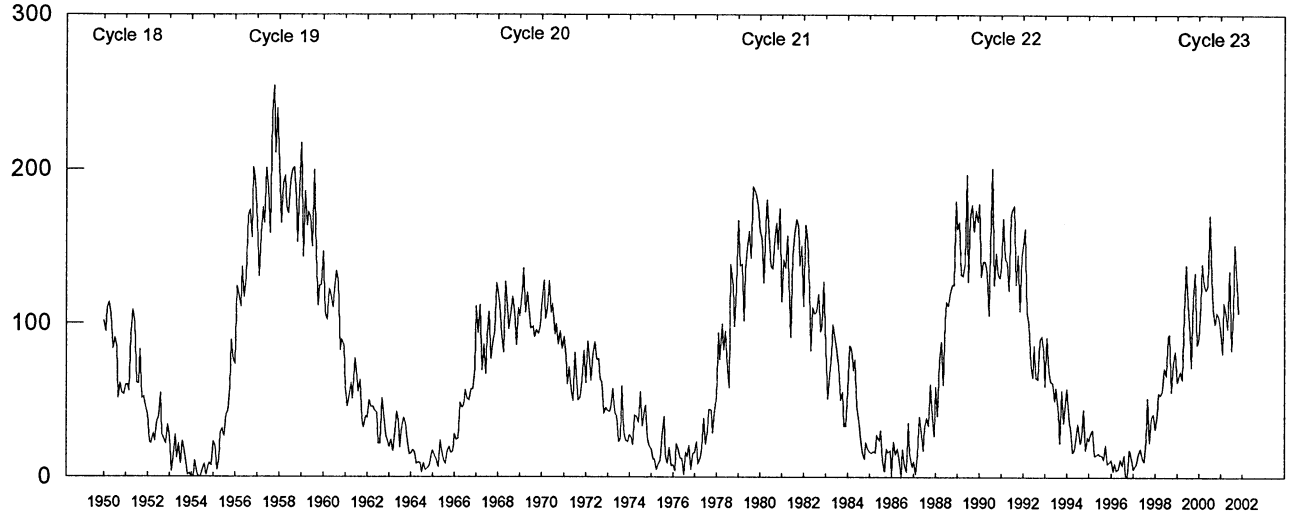
+ April 2000 marks Cycle 23 maximum.

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 Jun 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 May 2002 prediction. There exists a 90% chance that in May 2002, the actual smoothed number will fall somewhere between 73 and 115.

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 - Nov 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	107.7	96.6	134.0	82.2	106.8	150.7	125.6	106.5		109.1

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

Hα S O L A R F L A R E S

NOVEMBER 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	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
GOES	01	0034	0039	0044						10		C 3.3						1.6E-03
LEAR		0129	0129	0134	N09	W11	9682	10	31.2	5	SF		3	E		17		
LEAR		0235	0236	0239	S19	E78		11	7.1	4	SF		3	E		23		
GOES		0346	0350	0357						11		C 3.6						2.2E-03
GOES		0620	0626	0635						15		C 3.2						2.6E-03
GOES		0645	0653	0700	N07	W62	9678			15	SF	M 1.3						8.3E-03
LEAR		0648	0648	0653	N07	W62	9678	10	27.7	5	SF		3	E		41		
GOES		0740	0744	0752	N06	E24	9684			12	SF	C 2.8						1.7E-03
LEAR		0743	0744	0757	N06	E24	9684	11	3.1	14	SF		3	E		60		F
GOES		0855	0900	0905						10		C 2.2						1.2E-03
GOES		1125	1210	1308			9687			103		M 3.3						9.8E-02
SVTO		1134	1135	1159	N15	W19	9682	10	31.0	25	SF		3	E		39		H
RAMY		1139	1145U	1223D	N14	W22	9682	10	30.9	44D	SF		3	E		43		F
SVTO		1242	1244	1256	N09	W17	9682	10	31.2	14	SF		3	E		20		F
SVTO		1244	1247	1302	S20	E77		11	7.4	18	SF		3	E		14		
RAMY		1254E	1300U	1304	N13	W16	9682	10	31.3	10D	SF		1	E		34		F
RAMY		1255E	1301U	1307	S20	E78		11	7.5	12D	SF		1	E		29		
GOES		1351	1503	1537	S19	E77	9687			106	SF	M 1.7						9.5E-02
SVTO		1357	1359U	1406	S19	E77		11	7.4	9	SF		3	E		18		Y
RAMY		1418	1418	1424	S18	E79		11	7.6	6	SF		3	E		14		F
HOLL		1433	1442	1459	S20	E73		11	7.2	26	SF		3	E		21		F
HOLL		1518	1518	1522	N14	W13	9682	10	31.6	4	SF		3	E		41		
RAMY		1518E	1520U	1524	N14	W13	9682	10	31.6	6D	SF		3	E		55		
HOLL		1533	1537	1539	S20	E73		11	7.2	6	SF		3	E		11		
RAMY		1711	1711	1727	N06	E18	9684	11	3.1	16	SF		3	E		99		F
RAMY		1739	1740	1744	N05	E60	9685	11	6.2	5	SF		3	E		14		
RAMY		1740	1742	1744	N12	W19	9682	10	31.3	4	SF		3	E		40		
RAMY		1803	1804	1815	N05	W69	9678	10	27.7	12	SF		3	E		51		
RAMY		1924	1927	1955	N11	W20	9682	10	31.3	31	SF		3	E		49		F
GOES		1950	1958	2007			9687			17		M 1.5						1.3E-02
HOLL		1954	1955	2005	N12	W19	9682	10	31.4	11	SF		3	E		35		F
HOLL		1954	1955	2018	S18	E69	9687	11	7.1	24	SF		3	E		18		F
GOES		2138	2352	2359	N12	W23	9682			141	1F	M 1.1						7.0E-02
HOLL		2155	2312U	2324D	N12	W23	9682	10	31.2	89D	1F		3	E		159		F
LEAR		2309E	2457	2559	N12	W20	9682	10	31.4	170D	1F		2	E		153		FT
GOES	02	0156	0201	0208			9687			12		C 8.9						5.9E-03
LEAR		0413	0413	0446	N12	W22	9682	10	31.5	33	SF		3	E		16		F
GOES		0415	0419	0432						17		C 4.4						4.2E-03
GOES		0503	0510	0518	S20	E62	9687			15	SF	C 4.0						3.3E-03
LEAR		0513	0513	0517	S20	E62	9687	11	6.9	4	SF		3	E		15		
GOES		0742	0809	0845	S20	E71	9687			63	SF	M 1.1						3.1E-02
LEAR		0803	0809	0821	S20	E71	9687	11	7.8	18	SF		2	E		32		F
LEAR		0813	0819	0825	N09	W28	9682	10	31.2	12	SF		2	E		23		F
GOES		1433	1438	1442	S21	E70	9687			9	SF	C 3.1						1.3E-03
RAMY		1436	1438	1444	S21	E70	9687	11	8.0	8	SF		3	E		29		FH
HOLL		1437	1437	1443	S18	E64	9687	11	7.5	6	SF		3	E		18		F
GOES		1511	1515	1523	N12	W33	9682			12	SF	C 2.3						1.5E-03
RAMY		1514	1514	1520	N12	W33	9682	10	31.1	6	SF		3	E		17		
RAMY		1605	1606	1611	N02	E02	9684	11	2.8	6	SF		3	E		13		F
HOLL		1612	1615	1641	S18	E63	9687	11	7.5	29	SF		3	E		40		F
GOES		1701	1705	1710	N04	E03	9684			9	SF	C 3.2						1.5E-03
HOLL		1703	1703	1710	N04	E03	9684	11	2.9	7	SF		3	E		15		
RAMY		1703	1704	1711	N03	E03	9684	11	2.9	8	SF		3	E		14		
GOES		1938	1945	1952						14		C 2.6						1.8E-03
HOLL		2128	2130	2135	S18	E62	9687	11	7.6	7	SF		3	E		16		
GOES		2231	2236	2242			9687			11		C 3.1						1.5E-03
GOES	03	0229	0233	0235	N04	W10	9684			6	SF	C 2.7						7.3E-04
LEAR		0232	0232	0238	N04	W10	9684	11	2.3	6	SF		3	E		49		F
GOES		0240	0243	0245			9687			5		C 2.1						5.9E-04
GOES		0247	0252	0256	N03	W03	9684			9	SF	C 3.0						1.3E-03
LEAR		0249	0250	0258	N03	W03	9684	11	2.9	9	SF		3	E		34		F
GOES		0432	0435	0438	N05	W07	9684			6	SF	C 2.3						6.9E-04
LEAR		0434	0435	0439	N05	W07	9684	11	2.7	5	SF		3	E		11		
GOES		0530	0535	0539			9687			9		C 2.4						1.2E-03
GOES		0738	0741	0743			9687			5		C 5.1						1.3E-03
LEAR		0740	0741	0752	N13	W42	9682	10	31.1	12	SF		3	E		70		F

Hα SOLAR FLARES

NOVEMBER 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
LEAR	03	0833	0834	0838	N13	W44	9682	10	31.0	5	SF		3	E		43		F
LEAR		0934	0935	0938	N13	W44	9682	10	31.1	4	SF		2	E		13		F
SVTO		0936	0936	0950D	N12	W43	9682	10	31.2	14D	SF		3	E		23		F
GOES		1019	1029	1037	S21	E54	9687			18	SF	C 2.7						2.3E-03
SVTO		1022E	1023U	1038D	S21	E54	9687	11	7.6	16D	SF		2	E		52		
SVTO		1407	1408	1410	N12	W47	9682	10	31.0	3	SF		3	E		19		
SVTO		1411E	1412U	1419D	N12	W47	9682	10	31.0	8D	SF		2	E		34		
GOES		1523	1527	1531	N03	W09	9684			8	SF	C 2.4						1.0E-03
HOLL		1525	1526	1534	N03	W09	9684	11	3.0	9	SF		3	E		22		
HOLL		1537	1538	1540	N02	W10	9684	11	2.9	3	SF		3	E		25		
HOLL		1819	1821	1825	N10	W49	9682	10	31.1	6	SF		3	E		17		
HOLL		1826	1826	1829	N10	W49	9682	10	31.1	3	SF		3	E		11		
HOLL		1848	1851	1856	N04	W20	9684	11	2.3	8	SF		3	E		25		F
GOES		2029	2039	2047			9682			18		C 3.8						3.7E-03
GOES		2105	2109	2112	N03	W16	9684			7	SF	C 4.1						1.5E-03
HOLL		2108	2110	2121	N03	W16	9684	11	2.7	13	SF		3	E		40		F
GOES	04	0030	0033	0036						6		C 2.7						8.8E-04
LEAR		0101	0101	0109	N13	W52	9682	10	31.1	8	SF		2	E		16		
LEAR		0144	0144	0150	N06	W19	9684	11	2.6	6	SF		2	E		20		F
LEAR		0307	0307	0312	N05	W20	9684	11	2.6	5	SF		2	E		16		
GOES		0638	0643	0646	N14	W57	9682			8	1N	C 8.4						2.3E-03
LEAR		0641	0643	0700	N14	W57	9682	10	31.0	19	1N		3	E		128		
SVTO		0641	0643U	0702D	N13	W55	9682	10	31.1	21D	1N		3	E		107		
GOES		1048	1052	1057	S21	E42	9687			9	SF	C 3.2						1.5E-03
SVTO		1050	1052	1101	S21	E42	9687	11	7.7	11	SF		3	E		14		
SVTO		1125	1130	1139	N02	W25	9684	11	2.6	14	SF		3	E		13		
SVTO		1217	1219	1226	N07	W20	9684	11	3.0	9	SF		3	E		17		F
GOES		1344	1352	1400	S19	E40	9687			16	SF	C 5.5						3.9E-03
SVTO		1346	1350	1414	S20	E37	9687	11	7.4	28	SF		3	E		69		F
RAMY		1347	1351	1401	S19	E40	9687	11	7.6	14	SF		3	E		51		
HOLL		1524	1525	1530	N07	W16	9684	11	3.4	6	SF		3	E		15		F
GOES		1536	1541	1547	S19	E37	9687			11	SF	C 5.1						2.9E-03
RAMY		1538	1540	1601	S19	E37	9687	11	7.5	23	SF		3	E		32		F
GOES		1603	1620	1657	N06	W18	9684			54	3B	X 1.0						2.2E-01
HOLL		1603	1622U	2340D	N06	W18	9684	11	3.3	457D	3B		3	E				ZFT
RAMY		1605	1614	1804D	N08	W20	9684	11	3.2	119D	3B		3	E		643		UF
HOLL		1700	1701	1721	S20	E40	9687	11	7.8	21	SF		3	E		90		
HOLL		1856	1856	1906	S20	E39	9687	11	7.8	10	SF		3	E		51		
HOLL		1943	1944	1957	S20	E38	9687	11	7.7	14	SF		3	E		54		
LEAR	05	0042	0042	0046	N09	W64	9682	10	31.2	4	SF		3	E		21		
GOES		0247	0250	0253	S20	E34	9687			6	SF	M 1.7						4.3E-03
LEAR		0249	0249	0318	S20	E34	9687	11	7.7	29	SF		3	E		86		F
SVTO		0717	0718	0721	S27	E12	9689	11	6.2	4	SF		3	E		22		
GOES		0845	0854	0902						17		M 1.2						1.1E-02
GOES		0907	0915	0922	N02	W37	9684			15	1N	M 2.1						1.6E-02
LEAR		0908	0911	0947	N03	W36	9684	11	2.7	39	1N		3	E		152		U
SVTO		0909	0914	0944	N02	W37	9684	11	2.6	35	1N		3	E		135		F
GOES		1058	1103	1108	N12	W71	9682			10	SF	C 4.8						2.5E-03
SVTO		1101	1101	1105	N12	W71	9682	10	31.1	4	SF		3	E		25		F
GOES		1130	1144	1203						33		C 7.3						1.2E-02
GOES		1301	1309	1315						14		C 5.0						3.7E-03
SVTO		1429	1433	1439	N08	W38	9684	11	2.7	10	SF		3	E		16		
GOES		1509	1537	1619						70		M 1.2						3.6E-02
RAMY		1623	1626	1655	S19	E26	9687	11	7.7	32	SF		3	E		55		F
HOLL		1627E	1627U	1638	S18	E77		11	11.5	11D	SF		3	E		29		
HOLL		1627E	1628U	1716D	S19	E24	9687	11	7.5	49D	SF		3	E		48		
GOES		1744	1808	1818	S19	E68				34	SF	C 8.9						1.4E-02
RAMY		1803	1803	1824D	S19	E68		11	10.9	21D	SF		3	E		28		F
RAMY		1852	1857	1906	S26	E06	9689	11	6.2	14	SF		3	E		34		
GOES		2103	2107	2111						8		C 8.9						3.7E-03
GOES		2258	2303	2309						11		C 4.8						2.9E-03
LEAR		2326	2328	2345	S21	E21	9687	11	7.6	19	SF		3	E		27		F
GOES		2326	2336	2343	S21	E21	9687			17	SF	C 4.5						4.0E-03
GOES	06	0032	0043	0055						23		C 9.5						1.0E-02
GOES		0128	0132	0134						6		C 5.6						1.4E-03

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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
GOES	06	0256	0300	0303	S19	E10	9687			7	1B	M 2.0						5.6E-03
LEAR		0258	0259	0313	S19	E10	9687	11	6.9	15	1B		3	E		167		EF
LEAR		0301	0301	0304	S19	E65	9690	11	11.1	3	SF		3	E		46		
GOES		0406	0410	0414						8		C 5.2						2.2E-03
GOES		0504	0509	0513						9		C 6.6						2.8E-03
GOES		0620	0625	0629						9		M 1.2						4.5E-03
LEAR		0643	0656	0702	S18	E08	9687	11	6.9	19	SF		2	E		19		
LEAR		0651	0651	0656	S19	E62	9690	11	11.0	5	SF		2	E		43		F
LEAR		0707	0707	0716	S19	E08	9687	11	6.9	9	SF		1	E		33		
GOES		0742	0748	0753	S19	E07	9687			11	SF	C 9.1						5.0E-03
LEAR		0742	0748	0802	S19	E07	9687	11	6.8	20	SF		2	E		75		F
SVTO		0744	0747	0759	S19	E07	9687	11	6.8	15	SF		3	E		48		F
GOES		0803	0808	0815						12		C 6.4						4.2E-03
GOES		0829	0832	0834	S19	E62	9690			5	SF	C 9.8						2.4E-03
SVTO		0831	0831	0834	S19	E62	9690	11	11.1	3	SF		3	E		65		F
LEAR		0831	0831	0837	S19	E65	9690	11	11.3	6	1F		2	E		123		F
GOES		0925	0929	0932						7		C 9.0						3.1E-03
GOES		1010	1021	1051						41		C 4.6						9.0E-03
GOES		1158	1227	1303						65		C 5.9						2.0E-02
GOES		1345	1351	1405	S17	E05	9687			20	SF	M 1.2						1.2E-02
RAMY		1354	1358	1410	S17	E05	9687	11	6.9	16	SF		3	E		47		
RAMY		1453	1455	1459	S17	E56	9690	11	10.9	6	SF		3	E		39		
GOES		1507	1549	1708	S18	E64	9690			121	SF	M 1.1						6.8E-02
RAMY		1519	1533	1541	S18	E64	9690	11	11.5	22	SF		3	E		27		
GOES		1825	1828	1831						6		C 6.6						1.9E-03
GOES		2100	2110	2122						22		C 8.2						7.8E-03
GOES		2244	2248	2252						8		C 3.6						1.5E-03
GOES		2340	2344	2349						9		C 3.9						1.8E-03
GOES	07	0018	0023	0028						10		C 5.6						2.5E-03
LEAR		0112	0114	0118	N10	W55	9684	11	2.9	6	SF		3	E		15		F
GOES		0139	0146	0152	S18	E54	9690			13	SF	M 1.1						6.3E-03
LEAR		0142	0143	0150	S18	E54	9690	11	11.2	8	SF		3	E		14		
LEAR		0246	0259	0309	S19	E53	9690	11	11.1	23	SF		3	E		94		F
GOES		0248	0259	0305	S19	E53	9690			17	SF	C 7.5						6.5E-03
LEAR		0429	0433	0442	S19	E50	9690	11	11.0	13	1N		3	E		187		F
GOES		0437	0444	0450	S19	E50	9690			13	1N	M 1.4						9.6E-03
LEAR		0438	0438	0441	N09	W57	9684	11	2.9	3	SF		3	E		35		
LEAR		0444	0446	0455	S19	E52	9690	11	11.2	11	SF		3	E		78		F
LEAR		0455	0455	0459	S19	E55	9690	11	11.4	4	SF		3	E		53		F
LEAR		0612	0613	0617	S19	E52	9690	11	11.2	5	SF		3	E		15		
LEAR		0631	0632	0639	N13	W86	9682	10	31.8	8	SF		3	E		69		
LEAR		0640	0641	0647	S19	W04	9687	11	7.0	7	SF		3	E		27		F
LEAR		0640	0643	0651	N14	W86	9682	10	31.8	11	SF		3	E		57		
LEAR		0650	0652	0701	S19	W06	9687	11	6.8	11	SF		3	E		21		F
LEAR		0725	0732	0741	N05	W21	9685	11	5.7	16	SF		3	E		15		F
GOES		0927	0933	0939	S18	E58	9690			12	SF	M 2.0						9.3E-03
LEAR		0931	0935	0946	S18	E58	9690	11	11.8	15	SF		3	E		32		F
GOES		1032	1038	1056						24		C 4.1						5.1E-03
GOES		1144	1147	1151						7		C 5.0						1.9E-03
SVTO		1201E	1203	1212D	S19	E47	9690	11	11.1	11D	SF		2	E		75		
GOES		1309	1325	1330						21		C 6.7						6.3E-03
HOLL		1504	1504	1512	S18	E48	9690	11	11.3	8	SF		3	E		11		F
GOES		1528	1535	1544			9690			16		C 4.4						3.7E-03
HOLL		1529	1530	1547	N07	W03		11	7.4	18	SF		3	E		27		FH
HOLL		1530	1530	1539	S17	E52	9690	11	11.6	9	SF		3	E		12		F
HOLL		1629	1630	1636	S18	E44	9690	11	11.0	7	SF		3	E		12		
HOLL		1651	1653	1702	S18	E43	9690	11	11.0	11	SF		3	E		25		
GOES		1805	1810	1815	S18	E52	9690			10	SF	C 5.1						2.7E-03
HOLL		1811	1811	1817	S18	E52	9690	11	11.7	6	SF		3	E		13		
GOES		1930	2001	2026	S17	E44	9690			56	1N	M 5.7						1.2E-01
HOLL		1933	1934	2121	S17	E44	9690	11	11.1	108	1N		3	E		159		F
HOLL		2006	2006	2012	N27	E27	9688	11	9.9	6	SF		3	E		13		FH
HOLL		2123	2125	2129	N06	W24	9685	11	6.1	6	SF		3	E		10		F
HOLL		2143	2145	2150	S18	E46	9690	11	11.4	7	SF		3	E		16		F
HOLL		2153	2155	2159	S17	E40	9690	11	10.9	6	SF		3	E		34		
HOLL		2202	2204	2214	S18	E48	9690	11	11.6	12	SF		3	E		32		F
GOES		2231	2237	2249	S18	E41	9690			18	SF	M 1.0						9.4E-03

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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
HOLL	07	2233	2235	2306	S18	E41	9690	11	11.1	33	SF		3	E		78		F
LEAR		2245	2246	2251	S19	E38	9690	11	10.8	6	SF		3	E		16		F
HOLL		2246	2246	2257	N07	W10	9692	11	7.2	11	SF		3	E		14		
LEAR		2329	2330	2333	S18	E37	9690	11	10.8	4	SF		3	E		16		
LEAR	08	0007	0007	0012	S20	W06	9687	11	7.5	5	SF		3	E		13		F
LEAR		0015	0016	0020	S19	E37	9690	11	10.8	5	SF		3	E		30		F
GOES		0022	0025	0032	S19	E40	9690			10	SF	C 7.7						4.0E-03
LEAR		0023	0023	0033	S19	E40	9690	11	11.1	10	SF		3	E		35		F
LEAR		0133	0133	0136	S19	E38	9690	11	11.0	3	SF		3	E		22		
LEAR		0201	0201	0204	N07	W11	9692	11	7.3	3	SF		3	E		13		
GOES		0205	0209	0213	S20	W08	9687			8	SF	C 4.8						1.9E-03
LEAR		0207	0208	0213	S20	W08	9687	11	7.5	6	SF		3	E		31		F
LEAR		0236	0239	0240	N06	W31	9685	11	5.8	4	SF		3	E		13		
LEAR		0311	0319	0325	N07	W12	9692	11	7.2	14	SF		3	E		11		
GOES		0315	0321	0326	S18	E39	9690			11	SF	C 4.8						2.8E-03
LEAR		0318	0320	0324	S18	E39	9690	11	11.1	6	SF		3	E		23		
LEAR		0351	0402	0503	S17	E38	9690	11	11.0	72	SF		3	E		81		F
GOES		0357	0408	0425	S17	E38	9690			28	SF	C 9.2						1.4E-02
GOES		0523	0527	0530	S20	W10	9687			7	SF	C 4.9						1.7E-03
LEAR		0526	0527	0533	S20	W10	9687	11	7.5	7	SF		3	E		49		F
LEAR		0600	0602	0623	N06	W33	9685	11	5.8	23	SF		3	E		62		F
LEAR		0625	0627	0635	N06	W32	9685	11	5.9	10	SF		3	E		32		F
GOES		0659	0704	0706	S19	W19	9687			7	1N	M 9.1						1.7E-02
LEAR		0704E	0704U	0727	S19	W19	9687	11	6.8	23D	1N		3	E		239		FH
GOES		0749	0750	0752	S18	E33	9690			3	SF	C 6.1						9.0E-04
LEAR		0750	0751	0754	S18	E33	9690	11	10.8	4	SF		3	E		39		
SVTO		1000	1000	1004	S18	E41	9690	11	11.5	4	SF		3	E		12		
GOES		1005	1011	1015	S16	E32	9690			10	SF	C 5.0						2.6E-03
SVTO		1006	1010U	1018	S16	E32	9690	11	10.8	12	SF		3	E		36		F
GOES		1016	1019	1024	S20	W19	9687			8	SF	C 7.7						3.2E-03
SVTO		1018	1018	1025	S20	W19	9687	11	7.0	7	SF		3	E		47		
GOES		1036	1043	1050						14		C 9.1						6.7E-03
SVTO		1213E	1225U	1319	S17	E36	9690	11	11.2	66D	SF		3	E		93		F
GOES		1213	1229	1252	S17	E36	9690			39	SF	M 1.3						2.3E-02
GOES		1356	1409	1420						24		M 1.4						1.4E-02
GOES		1459	1535	1600	S17	E36	9690			61	2F	M 4.2						1.0E-01
HOLL		1501	1534	1625	S17	E36	9690	11	11.4	84	2F		3	E		305		FH
HOLL		1542	1546	1558	N09	W16	9692	11	7.4	16	SF		3	E		22		
GOES		1859	1904	1907	S19	W25	9687			8	SN	C 8.8						2.8E-03
HOLL		1902	1903	1914	S19	W25	9687	11	6.9	12	SN		3	E		69		H
HOLL		1906	1908	1910	N07	W78	9684	11	2.9	4	SF		3	E		23		
GOES		1933	1936	1941	N08	W22	9692			8	SF	C 5.4						2.2E-03
HOLL		1934	1937	1944	N08	W22	9692	11	7.2	10	SF		3	E		24		F
GOES		2024	2033	2038	S18	E37	9690			14	SF	C 3.2						2.4E-03
HOLL		2026	2034	2042	S18	E37	9690	11	11.7	16	SF		3	E		25		F
HOLL		2113	2151	2300D	S17	E31	9690	11	11.2	107D	SF		3	E		48		
GOES		2145	2150	2154	S17	E31	9690			9	SF	C 5.2						2.5E-03
GOES		2309	2313	2318						9		C 7.0						2.8E-03
LEAR	09	0115	0127	0209	S19	E27	9690	11	11.1	54	1F		3	E		150		F
GOES		0119	0133	0149	S19	E27	9690			30	1F	M 1.6						2.2E-02
LEAR		0121	0122	0142	N07	W26	9692	11	7.1	21	SF		3	E		17		F
GOES		0314	0325	0337						23		C 4.5						5.6E-03
GOES		0347	0352	0358	S19	E24	9690			11	SF	C 4.7						2.8E-03
LEAR		0348	0348	0401	S19	E24	9690	11	11.0	13	SF		3	E		25		F
GOES		0520	0539	0548	S18	E25	9690			28	1F	M 3.1						3.1E-02
LEAR		0521	0539	0604	S18	E25	9690	11	11.1	43	1F		3	E		199		F
GOES		0623	0629	0632	S17	E24	9690			9	SF	M 1.0						4.2E-03
LEAR		0626	0628	0632	S17	E24	9690	11	11.1	6	SF		3	E		40		F
SVTO		0628E	0630U	0632D	S15	E25	9690	11	11.2	4D	SF		2	E		28		
GOES		0705	0713	0717						12		C 4.9						3.1E-03
GOES		0737	0741	0743						6		C 4.8						1.3E-03
LEAR		0744	0745	0749	S16	E23	9690	11	11.1	5	SF		3	E		21		F
SVTO		0804	0812	0820	S18	E25	9690	11	11.2	16	SF		3	E		40		
SVTO		0813	0816	0824	N07	W25	9692	11	7.5	11	SF		3	E		23		
SVTO		0833	0855U	1038	S18	E26	9690	11	11.3	125	1N		3	E		247		H
GOES		0841	0856	0908	S18	E26	9690			27	1N	M 3.3						2.9E-02

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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	09	0842	0857	1001	S18	E23	9690	11	11.1	79	1F		3	E		221		FH
GOES		0916	0943	1001						45		M 3.0						6.7E-02
SVTO		1039	1049U	1055	S19	E23	9690	11	11.2	16	SF		3	E		25		
SVTO		1242	1243	1247	S19	E17	9690	11	10.8	5	SF		3	E		10		F
GOES		1400	1414	1424						24		C 6.9						8.3E-03
GOES		1554	1600	1616						22		C 3.7						4.5E-03
GOES		1747	1751	1753						6		C 3.4						1.1E-03
GOES		1823	1841	1924	S21	W42	9687			61	SF	M 1.9						4.7E-02
HOLL		1845	1846	1856	S21	W42	9687	11	6.6	11	SF		3	E		21		
HOLL		1845	1902	1943	S27	W47	9689	11	6.1	58	2F		3	E		389		UF
GOES	10	0042	0050	0058	S17	E22	9690			16	SF	M 1.0						7.1E-03
LEAR		0046	0048U	0107	S17	E22	9690	11	11.7	21	SF		2	E		30		F
LEAR		0636	0643	0716	S20	E08	9690	11	10.9	40	SF		3	E		72		F
GOES		0638	0645	0703	S20	E08	9690			25	SF	C 4.6						6.0E-03
GOES		0902	0925	0937	S18	E14	9690			35	SF	C 4.9						7.7E-03
LEAR		0908	0910	0929	S27	W56	9689	11	6.0	21	SF		3	E		31		F
LEAR		0918	0919	0932	S18	E14	9690	11	11.4	14	SF		3	E		22		F
GOES		1054	1107	1110						16		C 3.0						2.4E-03
GOES		1314	1321	1328	S19	E07	9690			14	SF	C 4.0						2.7E-03
SVTO		1319E	1319U	1332D	S19	E07	9690	11	11.1	13D	SF		2	E		20		F
GOES		1807	1816	1822						15		C 4.2						3.4E-03
GOES		1947	2000	2009	S18	E05	9690			22	1F	M 2.3						1.8E-02
HOLL		2011E	2013U	2044D	S18	E05	9690	11	11.2	33D	1F		3	E		127		
GOES		2137	2147	2200						23		C 2.4						3.1E-03
GOES		2353	2400	2403	S17	E09	9690			10	SF	C 5.6						2.2E-03
LEAR		2358	2403U	2405	S17	E09	9690	11	11.7	7	SF		3	E		11		
GOES	11	0023	0035	0043	N15	W65	9686			20	SF	C 5.2						4.7E-03
LEAR		0032	0033	0041	N15	W65	9686	11	6.1	9	SF		3	E		27		
GOES		0054	0124	0143						49		C 5.3						1.3E-02
GOES		0326	0350	0354						28		C 4.2						6.3E-03
LEAR		0559	0600	0605	S19	W02	9690	11	11.1	6	SF		3	E		11		
GOES		0600	0634	0715	S19	W02	9690			75	SF	C 6.1						2.3E-02
LEAR		0607	0615	0658	S18	W02	9690	11	11.1	51	SF		3	E		25		F
LEAR		0655	0700	0710	N07	W63	9692	11	6.6	15	SF		3	E		31		F
LEAR		0815	0816	0826	N05	W58	9692	11	7.0	11	SF		3	E		39		
SVTO		1025	1026	1030	N06	W59	9692	11	7.0	5	SF		3	E		26		
GOES		1054	1103	1107	S17	E05	9690			13	SF	M 1.4						5.8E-03
SVTO		1057	1058U	1116D	S17	E05	9690	11	11.8	19D	SF		2	E		68		F
RAMY		1237	1312	1344	S18	W03	9690	11	11.3	67	SF		3	E		30		FT
GOES		1303	1317	1358	S18	W03	9690			55	SF	C 3.2						8.9E-03
RAMY		1407	1408	1412	S20	W45	9687	11	8.1	5	SF		3	E		24		
GOES		1407	1410	1412	S20	W45	9687			5	SF	C 3.1						8.1E-04
GOES		1521	1540	1554	S18	W03	9690			33	1F	C 6.0						8.7E-03
HOLL		1523	1544	1606	S20	W02	9690	11	11.5	43	1F		3	E		104		F
RAMY		1524	1540	1608	S18	W03	9690	11	11.4	44	1F		3	E		15		F
GOES		1719	1722	1725	S19	W08	9690			6	SF	C 1.7						5.6E-04
RAMY		1722	1722	1725	S19	W08	9690	11	11.1	3	SF		3	E		16		F
HOLL		1722	1722	1726	S16	W05	9690	11	11.3	4	SF		3	E		20		F
GOES		1741	1756	1759	S18	W08	9690			18	SF	C 6.9						3.8E-03
HOLL		1742	1756	1816	S18	W08	9690	11	11.1	34	SF		3	E		67		F
RAMY		1743	1754	1807	S18	W06	9690	11	11.3	24	SF		3	E		36		F
HOLL		1857	1902	1930	S19	W08	9690	11	11.2	33	SF		3	E		27		F
GOES		1857	1916	1941	S19	W08	9690			44	SF	C 3.5						7.4E-03
RAMY		1858	1902	1907	S19	W09	9690	11	11.1	9	SF		3	E		15		F
RAMY		1911	1914	1929	S18	W07	9690	11	11.3	18	SF		3	E		18		F
GOES		2255	2306	2313						18		C 2.5						2.2E-03
LEAR	12	0112	0115	0119	N08	W62	9692	11	7.4	7	SF		3	E		21		F
GOES		0202	0207	0209	S17	W04	9690			7	SF	C 5.4						1.4E-03
LEAR		0206	0207	0212	S17	W04	9690	11	11.8	6	SF		3	E		19		F
GOES		0247	0301	0312	N07	W73	9692			25	SF	C 4.8						5.2E-03
LEAR		0250	0304	0324	N07	W73	9692	11	6.6	34	SF		3	E		57		F
LEAR		0253	0254	0303	N13	E72	9697	11	17.5	10	SF		3	E		18		
LEAR		0347	0355	0400	N13	E71	9697	11	17.5	13	SF		3	E		18		
GOES		0732	0736	0738	S17	W07	9690			6	SF	C 2.3						6.6E-04
LEAR		0736	0736	0740	S17	W07	9690	11	11.8	4	SF		3	E		17		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
GOES	12	0752	0757	0801	N07	W74	9692			9	1B	M 1.6						5.2E-03
LEAR		0755	0756	0816	N07	W74	9692	11	6.8	21	1B		3	E		155		FE
GOES		0833	0938	1009						96		C 7.0						2.5E-02
RAMY		1355	1400	1410	S16	W16	9690	11	11.4	15	SF		3	E		25		
GOES		1932	1947	1958						26		C 2.5						3.4E-03
GOES		2024	2033	2037	S16	W16	9690			13	SF	C 2.4						1.6E-03
HOLL		2042	2042	2045	S16	W16	9690	11	11.6	3	SF		3	E		16		F
GOES		2152	2155	2158	S16	W16	9690			6	SF	C 2.0						6.4E-04
HOLL		2154	2155	2157	S16	W16	9690	11	11.7	3	SF		3	E		15		F
GOES		2315	2319	2322						7		C 5.2						1.5E-03
LEAR	13	0259	0300	0303	S18	W65	9687	11	8.2	4	SF		3	E		20		F
LEAR		0403	0404	0406	S16	W23	9690	11	11.4	3	SF		2	E		16		F
GOES		0432	0435	0437						5		C 3.2						8.2E-04
GOES		0622	0626	0628	S17	W24	9690			6	SN	M 1.5						2.6E-03
LEAR		0625	0626	0638	S17	W24	9690	11	11.4	13	SN		3	E		63		FE
LEAR		0713	0714	0722	S17	W22	9690	11	11.6	9	SF		2	E		14		F
GOES		0919	0923	0926	S20	W25	9690			7	SF	C 6.9						1.6E-03
LEAR		0922	0924	0936	S17	W26	9690	11	11.4	14	SF		1	E		65		F
SVTO		0923E	0925U	1005D	S20	W25	9690	11	11.5	42D	SF		3	E		25		
GOES		1014	1027	1035						21		C 3.7						3.9E-03
GOES		1144	1149	1151	S17	W24	9690			7	SF	C 3.6						1.0E-03
RAMY		1146	1148	1159	S17	W24	9690	11	11.7	13	SF		3	E		53		F
GOES		1655	1705	1719						24		C 2.0						2.6E-03
GOES		1838	1925	2025	S20	W36	9690			107	SF	C 7.2						3.7E-02
RAMY		1840	1841	1930D	S20	W36	9690	11	11.0	50D	SF		3	E		50		FH
HOLL		1842	1843	1847	S19	W33	9690	11	11.3	5	SF		3	E		30		
HOLL		1849	1849	1852	S19	W33	9690	11	11.3	3	SF		3	E		34		F
HOLL		1859	1912	1940	S19	W35	9690	11	11.1	41	SF		3	E		32		F
HOLL		2106	2106	2109	S20	W33	9690	11	11.3	3	SF		3	E		25		
GOES	14	0035	0038	0041						6		C 1.5						4.9E-04
GOES		0053	0102	0106	N13	E46	9697			13	1F	C 2.1						1.4E-03
LEAR		0054	0058U	0110	N13	E46	9697	11	17.5	16	1F		3	E		144		F
LEAR		0654	0657	0702	N14	E43	9697	11	17.5	8	SF		2	E		15		F
GOES		0654	0658	0701	S16	W35	9690			7	SF	C 2.5						8.6E-04
LEAR		0659	0700	0704	S16	W35	9690	11	11.6	5	SF		2	E		15		F
GOES		0718	0722	0725	S18	W40	9690			7	SF	C 3.0						9.7E-04
LEAR		0721	0721	0729	S18	W40	9690	11	11.3	8	SF		2	E		16		F
GOES		0919	0924	0929	S18	W39	9690			10	SF	C 5.8						2.7E-03
LEAR		0922	0922	0930	S18	W39	9690	11	11.4	8	SF		1	E		59		F
GOES		1350	1356	1403	S17	W37	9690			13	SF	C 3.0						1.8E-03
RAMY		1352	1356	1408	S17	W37	9690	11	11.8	16	SF		3	E		52		
HOLL		1516	1516	1524	N07	E39	9697	11	17.5	8	SF		3	E		15		F
GOES		1644	1709	1722			9690			38		C 2.2						4.7E-03
HOLL		1649	1651	1656	S18	W42	9690	11	11.5	7	SF		3	E		34		F
HOLL		1659	1701	1730	S19	W48	9690	11	11.0	31	SF		3	E		68		F
RAMY		1700	1704	1751D	S19	W49	9690	11	11.0	51D	SF		3	E		46		
GOES		1736	1802	1828						52		C 5.4						1.2E-02
HOLL		1811	1815	1829	S21	E70		11	20.1	18	SF		3	E		21		
HOLL		2055	2056	2100	S14	E65	9704	11	19.8	5	SF		3	E		31		
GOES		2143	2211	2234	S19	W49	9690			51	1F	M 1.9						3.0E-02
HOLL		2201	2207	2244	S19	W49	9690	11	11.2	43	1F		3	E		201		FH
HOLL		2245	2245	2250	S22	W55	9690	11	10.7	5	SF		3	E		16		
GOES		2353	2403	2409	N22	E15	9703			16	SF	C 4.8						4.7E-03
LEAR		2357	2405	2416	N22	E15	9703	11	16.1	19	SF		3	E		56		
GOES	15	0113	0119	0125	S16	W46	9690			12	SF	C 2.6						1.7E-03
LEAR		0115	0117	0136	S16	W46	9690	11	11.6	21	SF		3	E		35		
LEAR		0625	0626	0634	N22	E11	9703	11	16.1	9	SF		3	E		25		F
SVTO		0718E	0718	0727D	S19	W53	9690	11	11.2	9D	SF		2	E		18		F
LEAR		0739	0740	0745	S18	W54	9690	11	11.2	6	SF		3	E		12		
GOES		1122	1126	1134	S15	E65	9704			12	SF	C 1.7						1.1E-03
SVTO		1124	1124	1130	S15	E65	9704	11	20.4	6	SF		3	E		14		
GOES		1715	1721	1729	S17	W53	9690			14	SF	C 1.7						1.3E-03
RAMY		1720	1722	1743	S17	W53	9690	11	11.7	23	SF		3	E		14		F
GOES		2054	2103	2117						23		C 2.5						3.0E-03
GOES	16	0208	0214	0221						13		C 1.8						1.3E-03

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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
GOES	16	0931	0949	1021						50		C 2.6						6.5E-03
GOES		1329	1338	1353						24		C 1.5						2.1E-03
GOES		1843	1849	1856						13		C 1.6						1.1E-03
GOES		2029	2036	2049						20		C 1.8						2.0E-03
GOES		2140	2146	2152	N16	E09	9697			12	1F	C 3.1						1.8E-03
HOLL		2142	2143	2209	N16	E09	9697	11	17.6	27	1F		3	E		110		F
GOES	17	0400	0403	0410						10		C 1.4						7.7E-04
LEAR		0448	0505	0938	S13	E42	9704	11	20.4	290	1N		2	E		194		ZFT
GOES		0449	0525	0611	S13	E42	9704			82	1N	M 2.8						1.0E-01
SVTO		0638E	0723U	1155	S13	E37	9704	11	20.1	317D	1F		3	E		217		FT
SVTO		1227	1236	1244	S14	E33	9704	11	20.0	17	SF		3	E		10		F
GOES		1531	1538	1543	N15	W01	9697			12	SF	C 1.9						1.4E-03
RAMY		1535	1535	1554	N15	W01	9697	11	17.6	19	SF		3	E		14		F
HOLL		1632	1639	1655	S15	E34	9704	11	20.3	23	SF		3	E		11		F
HOLL		1807	1809	1813	S14	E32	9704	11	20.2	6	SF		3	E		18		F
HOLL		2254	2255	2305	N14	W02	9697	11	17.8	11	SF		3	E		19		F
LEAR		2327	2328	2345	S16	E28	9704	11	20.1	18	SF		2	E		12		F
GOES	18	0042	0045	0049	S16	E29	9704			7	SF	C 1.5						6.1E-04
LEAR		0045	0046	0050	S16	E29	9704	11	20.2	5	SF		3	E		16		F
LEAR		0219	0219	0226	S16	E27	9704	11	20.1	7	SF		2	E		19		F
LEAR		0604	0607	0616	N13	W07	9697	11	17.7	12	SF		2	E		16		F
LEAR		0703	0705	0712	S18	E25	9704	11	20.2	9	SF		2	E		20		F
LEAR		0837	0839	0857	N11	W09	9697	11	17.7	20	SF		1	E		17		F
GOES		0914	0919	0924	S22	E25	9704			10	SN	C 7.4						2.8E-03
LEAR		0917	0918	0927	S19	E23	9704	11	20.1	10	SF		2	E		84		F
SVTO		0917	0918	0929	S22	E25	9704	11	20.3	12	SN		3	E		75		F
GOES		0937	1001	1025						48		C 5.3						1.3E-02
LEAR	19	0234	0234	0238	S14	E15	9704	11	20.2	4	SF		3	E		17		
GOES		0530	0538	0558						28		C 1.6						2.4E-03
GOES		0648	0701	0713	S18	E11	9704			25	SF	C 4.5						5.1E-03
LEAR		0650	0701	0742	S18	E11	9704	11	20.1	52	SF		3	E		51		F
GOES		0802	0805	0807						5		C 1.5						3.6E-04
GOES		1157	1204	1207						10		C 2.7						1.3E-03
GOES		1852	1855	1858	N14	W29	9697			6	SF	C 1.6						5.3E-04
RAMY		1854	1854	1900	N14	W29	9697	11	17.6	6	SF		3	E		13		F
RAMY		1938	1938	1944	S17	E03	9704	11	20.0	6	SF		3	E		15		F
RAMY		1957	1957	2001	S21	E04	9704	11	20.1	4	SF		3	E		16		
GOES		1959	2009	2017	S19	E04	9704			18	SF	C 3.6						2.9E-03
RAMY		2002	2010	2030	S19	E04	9704	11	20.1	28	SF		3	E		73		FH
GOES		2126	2134	2148						22		C 1.7						1.9E-03
GOES		2318	2324	2331	S16	E01	9704			13	SF	C 1.7						1.2E-03
LEAR		2323	2325	2339	S16	E01	9704	11	20.0	16	SF		3	E		14		F
GOES	20	0048	0056	0106						18		C 2.1						1.9E-03
GOES		0144	0206	0221	S16	E01	9704			37	SF	C 3.4						5.8E-03
LEAR		0147	0204	0241	S16	E01	9704	11	20.1	54	SF		3	E		77		F
GOES		0745	0752	0803						18		C 1.4						1.3E-03
GOES		1105	1123	1135	S17	W03	9704			30	SF	C 2.2						3.5E-03
RAMY		1125E	1125U	1239D	S17	W03	9704	11	20.2	74D	SF		3	E		63		F
GOES		1335	1340	1349						14		C 1.8						1.4E-03
GOES		1430	1442	1451	S20	W04	9704			21	SF	C 5.1						4.5E-03
HOLL		1440E	1440U	1510	S20	W04	9704	11	20.3	30D	SF		2	E		85		
GOES		1802	1813	1828						26		C 1.2						1.7E-03
GOES		2124	2129	2134						10		C 1.7						8.2E-04
GOES		2152	2210	2230	S15	W09	9704			38	SF	C 2.9						5.6E-03
HOLL		2227	2228	2241	S15	W09	9704	11	20.2	14	SF		3	E		31		F
GOES	21	0125	0127	0131	S18	W12	9704			6	SF	C 1.6						5.4E-04
LEAR		0126	0127	0129	S18	W12	9704	11	20.1	3	SF		3	E		24		F
GOES		0410	0428	0449	S14	W12	9704			39	SF	C 2.4						4.3E-03
LEAR		0414	0418	0502	S14	W12	9704	11	20.3	48	SF		2	E		23		FH
GOES		0729	0734	0747						18		C 3.5						2.8E-03
GOES		0827	0833	0839	S18	W15	9704			12	SF	C 3.7						2.0E-03
SVTO		0833E	0837U	0842	S18	W15	9704	11	20.2	9D	SF		3	E		14		F
GOES		0850	0900	0904						14		C 2.7						1.7E-03

Hα SOLAR FLARES

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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
GOES	21	0947	0951	0954	S21	W15	9704			7	SF	C 1.4						5.1E-04
SVTO		0949	0951	0954	S21	W15	9704	11	20.2	5	SF		3	E		21		
GOES		1005	1008	1013	S18	W17	9704			8	SF	C 1.8						7.2E-04
SVTO		1007	1007	1013	S18	W17	9704	11	20.1	6	SF		3	E		32		
GOES		1100	1110	1119	S20	W17	9704			19	SF	C 4.4						3.3E-03
SVTO		1106	1111U	1130	S20	W17	9704	11	20.2	24	SF		3	E		38		F
RAMY		1117	1118U	1139D	S20	W19	9704	11	20.0	22D	SF		3	E		21		F
GOES		1207	1458	1650	S14	W19	9704			283	SF	C 4.7						5.8E-02T
SVTO		1239	1347	1510D	S15	W18	9704	11	20.2	151D	SF		3	E		88		
RAMY		1308	1308	1311	S20	W17	9704	11	20.2	3	SF		3	E		38		
RAMY		1314	1316	1320	S13	W18	9704	11	20.2	6	SF		3	E		19		
HOLL		1436	1520	1602	S13	W20	9704	11	20.1	86	SF		3	E		36		F
RAMY		1504	1505	1516	S20	W18	9704	11	20.2	12	SF		3	E		45		
RAMY		1517	1527	1611	S15	W20	9704	11	20.1	54	SF		3	E		33		F
GOES		1748	1752	1758	S20	W21	9704			10	SF	C 2.8						1.6E-03
RAMY		1751	1752	1755	S20	W21	9704	11	20.1	4	SF		3	E		10		F
GOES		1805	1818	1824	S20	W21	9704			19	SF	C 6.3						5.3E-03
RAMY		1808	1818	1838	S20	W21	9704	11	20.1	30	SF		3	E		54		F
HOLL		1809	1816	1833	S21	W19	9704	11	20.3	24	SF		3	E		34		
GOES		2035	2040	2048						13		C 1.4						1.1E-03
GOES	22	0006	0012	0017						11		C 1.8						1.0E-03
GOES		0149	0153	0157			9704			8		C 1.4						6.5E-04
GOES		0157	0202	0208						11		C 1.3						7.4E-04
GOES		0801	0839	0851	S19	W29	9704			50	SF	C 1.8						4.1E-03
SVTO		0805	0806	0816	S19	W29	9704	11	20.1	11	SF		3	E		16		F
RAMY		1124	1129	1134	S15	W33	9704	11	20.0	10	SF		3	E		15		F
RAMY		1128	1129	1133	N13	W63	9697	11	17.7	5	SF		3	E		10		
GOES		1152	1203	1215	S21	W30	9704			23	SF	C 1.9						2.2E-03
RAMY		1154	1201	1211	S21	W30	9704	11	20.2	17	SF		3	E		18		F
SVTO		1158	1159	1206	S11	W02	9710	11	22.3	8	SF		3	E		19		F
RAMY		1159	1159	1207	S11	W01	9710	11	22.4	8	SF		3	E		21		F
RAMY		1453	1454	1507	S12	W02	9710	11	22.5	14	SF		3	E		36		F
GOES		1534	1541	1550						16		C 1.5						1.3E-03
RAMY		1655	1708	1803	S18	W33	9704	11	20.2	68	1F		3	E		119		F
GOES		1700	1708	1725	S18	W33	9704			25	1F	M 1.2						1.2E-02
HOLL		1705	1714	1744	S19	W34	9704	11	20.1	39	SF		3	E		98		F
RAMY		1829	1835	1837	S16	W32	9704	11	20.3	8	SF		3	E		34		
RAMY		1845	1845	1854	S14	W37	9704	11	20.0	9	SF		3	E		13		F
GOES		2018	2036	2052	S25	W67	9698			34	2B	M 3.8						5.1E-02
RAMY		2022	2026	2126D	S25	W67	9698	11	17.6	64D	2B		3	E		344		FH
HOLL		2022	2028	2116D	S23	W68	9698	11	17.6	54D	2N		3	E		345		ZF
GOES		2158	2215	2228			9704			30		C 5.9						8.1E-03
LEAR		2209E	2308	2601D	S15	W34	9704	11	20.3	232D	2N		3	E		573		FET
GOES		2232	2330	2406			9704			94		M 9.9						3.1E-01
GOES	23	0706	0710	0716						10		C 3.6						2.0E-03
GOES		0759	0805	0820	S16	W45	9704			21	SF	C 3.1						3.4E-03
LEAR		0800	0803	0820	S16	W45	9704	11	19.9	20	SF		3	E		43		F
SVTO		0801	0807	0823	S15	W43	9704	11	20.1	22	SF		3	E		34		F
GOES		0828	0832	0836			9704			8		C 6.3						2.4E-03
LEAR		0830	0833	0841	S20	W38	9704	11	20.4	11	SF		3	E		53		F
SVTO		0830E	0835U	0845D	S19	W37	9704	11	20.5	15D	SF		3	E		63		
GOES		1454	1513	1520			9704			26		C 2.4						3.0E-03
GOES		2334	2338	2346						12		C 1.7						1.1E-03
GOES	24	0013	0019	0024	S17	W52	9704			11	SF	C 3.7						1.7E-03
LEAR		0016	0017	0022	S17	W52	9704	11	20.0	6	SF		3	E		13		
GOES		0100	0114	0123			9704			23		C 4.5						4.4E-03
GOES		0149	0153	0157	S17	W53	9704			8	SF	C 1.4						6.5E-04
LEAR		0150	0150	0153	S17	W53	9704	11	20.0	3	SF		3	E		17		
GOES		0359	0402	0404			9704			5		C 2.3						6.0E-04
LEAR		0449	0456	0509	S17	W55	9704	11	20.0	20	1N		3	E		157		F
GOES		0456	0501	0506						10		C 2.3						1.3E-03
GOES		0541	0603	0609						28		C 2.4						3.4E-03
LEAR		0550	0551	0602	S19	W50	9704	11	20.4	12	SF		3	E		55		F
LEAR		0726	0728	0747	S18	W56	9704	11	20.0	21	1N		3	E		219		F
GOES		0834	0844	0848			9704			14		C 3.1						1.9E-03

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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
GOES	24	0924	0927	0930						6		C 7.6						2.2E-03
GOES		1114	1119	1132						18		C 3.6						3.2E-03
RAMY		1252	1257	1331	S18	W59	9704	11	20.0	39	SF		3	E		92		
RAMY		1345	1421	1436	S18	W59	9704	11	20.1	51	SF		3	E		35		
RAMY		1449	1458	1530	S17	W60	9704	11	20.0	41	1F		3	E		111		
HOLL		1453	1458	1518	S17	W57	9704	11	20.3	25	SF		3	E		94		F
GOES		1454	1513	1520			9704			26		C 2.4						3.0E-03
RAMY		1539	1540	1543	S18	W60	9704	11	20.1	4	SF		3	E		17		
GOES		1539	1545	1559			9704			20		C 7.8						6.4E-03
RAMY		1602	1623	1642	S19	W60	9704	11	20.1	40	SF		3	E		33		F
HOLL		1604	1623	1637	S17	W60	9704	11	20.1	33	SF		3	E		27		
RAMY		1644	1644	1817	S17	W66	9704	11	19.7	93	SF		3	E		10		F
HOLL		1650	1652	1701	S18	W59	9704	11	20.2	11	SF		3	E		17		
HOLL		1709	1714	1726	S17	W60	9704	11	20.1	17	SF		3	E		46		F
GOES		1718	1801	1805	S18	W77	9704			47	SF	C 3.1						5.4E-03
HOLL		1742	1750	1814	S18	W60	9704	11	20.2	32	SF		3	E		60		
HOLL		1815	1815	1824	S16	W65	9704	11	19.8	9	SF		3	E		17		
RAMY		1817	1832	1843	S17	W63	9704	11	20.0	26	SF		3	E		12		F
HOLL		1839	1840	1843	N07	E71	9715	11	30.1	4	SF		3	E		17		F
HOLL		1917	1921	1932	S18	W61	9704	11	20.1	15	SF		3	E		16		
RAMY		1918	1920	1934	S18	W61	9704	11	20.1	16	SF		3	E		13		F
RAMY		2003	2004	2008	S10	W32	9710	11	22.4	5	SF		3	E		19		
HOLL		2004	2004	2007	S09	W32	9710	11	22.4	3	SF		3	E		14		
RAMY		2048	2050	2100	S20	W61	9704	11	20.2	12	SF		3	E		17		
HOLL		2107	2107	2111	S17	W64	9704	11	20.0	4	SF		3	E		23		
RAMY		2107	2107	2111	S17	W63	9704	11	20.1	4	SF		3	E		22		
HOLL		2115	2117	2123	S18	W58	9704	11	20.5	8	SF		3	E		63		
HOLL		2125	2129	2132	S19	W57	9704	11	20.5	7	SF		3	E		27		
HOLL		2144	2145	2151	N03	E70	9715	11	30.1	7	SF		3	E		22		
GOES		2219	2227	2232						13		C 1.9						1.3E-03
GOES		2330	2335	2339						9		C 2.8						1.1E-03
GOES	25	0100	0114	0123	S19	W60	9704			23	SF	C 4.5						4.4E-03
LEAR		0103	0114	0124	S19	W60	9704	11	20.5	21	SF		3	E		70		FH
LEAR		0342	0343	0347	S17	W70	9704	11	19.8	5	SF		3	E		22		H
GOES		0359	0402	0404	S18	W69	9704			5	SF	C 2.3						6.0E-04
LEAR		0401	0403	0409	S18	W69	9704	11	19.9	8	SF		2	E		48		
GOES		0456	0501	0506						10		C 2.3						1.3E-03
GOES		0541	0603	0609						28		C 2.4						3.4E-03
LEAR		0624	0630	0636	S12	E03	9714	11	25.5	12	SF		1	E		11		
GOES		0834	0844	0848	S18	W71	9704			14	SF	C 3.1						1.9E-03
LEAR		0842	0843	0846	S18	W71	9704	11	19.9	4	SF		1	E		18		
GOES		0858	0904	0912						14		C 2.3						1.7E-03
GOES		0924	0927	0930						6		C 7.6						2.2E-03
GOES		0945	0951	0954						9		X 1.1						3.1E-02
GOES		1114	1119	1132						18		C 3.6						3.2E-03
GOES		1137	1147	1155						18		C 7.5						6.0E-03
GOES		1300	1313	1328						28		C 1.4						2.3E-03
RAMY		1446	1446	1507	N06	E65	9715	11	30.5	21	SF		3	E		13		H
HOLL		1451	1510	1513	N06	E64	9715	11	30.4	22	SF		3	E		19		F
RAMY		1525	1526	1548	N04	E64	9715	11	30.4	23	SF		3	E		11		
GOES		1529	1532	1536	S18	W75	9704			7	SF	C 2.3						8.9E-04
RAMY		1531	1531	1536	S18	W75	9704	11	19.9	5	SF		3	E		11		
GOES		1539	1545	1559	S18	W74	9704			20	SF	C 7.8						6.4E-03
RAMY		1546	1548	1556	S18	W74	9704	11	20.0	10	SF		3	E		58		FH
GOES		1648	1656	1700	S18	W72	9704			12	SF	C 2.8						1.3E-03
RAMY		1651	1701	1704	S18	W72	9704	11	20.2	13	SF		3	E		52		FH
RAMY		1711	1712	1717	S17	W73	9704	11	20.2	6	SF		3	E		19		
GOES		1718	1801	1805	S18	W77	9704			47	SF	C 3.1						5.4E-03
RAMY		1745	1810	1836	S18	W77	9704	11	19.9	51	SF		3	E		23		FH
RAMY		1835	1835	1843	N03	E62	9715	11	30.4	8	SF		3	E		27		F
GOES		1853	1859	1902	S17	W70	9704			9	SF	C 1.9						7.6E-04
RAMY		1856	1900	1904	S17	W70	9704	11	20.5	8	SF		3	E		58		
GOES		2245	2317	2358						73		C 9.0						2.8E-02
GOES	26	0102	0105	0107	N03	E53	9715			5	SF	C 3.3						7.8E-04

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NOVEMBER 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	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
LEAR	26	0105	0106	0109	N03	E53	9715	11	30.0	4	SF		3	E		20		
GOES		0311	0314	0316						5		C 1.4						3.6E-04
GOES		0355	0401	0413						18		C 2.5						2.3E-03
GOES		0815	0818	0821	S04	E68	9716			6	SF	C 1.0						3.5E-04
LEAR		0817	0820	0822	S04	E68	9716	12	1.4	5	SF		3	E		20		
SVTO		1225	1225	1228	N08	E49	9715	11	30.2	3	SF		3	E		11		
GOES		1345	1350	1354	N06	E43	9715			9	SF	C 4.3						1.4E-03
SVTO		1352	1353	1358	N06	E43	9715	11	29.8	6	SF		3	E		22		
GOES		1811	1814	1816						5		C 1.3						3.2E-04
GOES		1917	1921	1925						8		C 1.5						6.4E-04
GOES		2123	2129	2131	S20	W90	9704			8	SF	C 2.6						8.4E-04
HOLL		2126	2130	2134	S20	W90	9704	11	20.0	8	SF		3	E		93		
GOES		2319	2322	2324						5		C 1.2						3.1E-04
GOES	27	0422	0432	0452						30		C 2.2						3.6E-03
GOES		0654	0703	0713						19		C 2.7						2.6E-03
GOES		1020	1029	1039	S05	E84				19	SF	C 7.9						6.8E-03
SVTO		1026	1027	1032	S05	E84		12	3.7	6	SF		3	E		30		
SVTO		1034	1035	1042	S06	E84		12	3.7	8	SF		3	E		22		
GOES		1048	1105	1116	S06	E85				28	SF	C 8.1						1.1E-02
SVTO		1050E	1051U	1100D	S06	E85		12	3.8	10D	SF		2	E		31		
GOES		1336	1346	1358	S06	E89				22	SF	C 3.5						4.2E-03
SVTO		1340	1340U	1352D	S06	E89		12	4.2	12D	SF		3	E		35		
GOES		1543	1552	1604	N05	E35	9715			21	SF	C 6.9						6.9E-03
RAMY		1549	1549	1619	N05	E35	9715	11	30.3	30	SF		3	E		63		F
GOES		1714	1731	1754						40		C 4.7						9.1E-03
HOLL		1837	1838	1855D	S07	E82		12	3.9	18D	SF		3	E		20		
GOES		1841	1844	1856	S07	E82				15	SF	C 2.0						1.7E-03
GOES		1907	1911	1915						8		C 2.6						1.1E-03
HOLL		2006	2006	2023	S07	E83		12	4.0	17	SF		3	E		12		
HOLL		2024	2024	2027	S08	E82		12	4.0	3	SF		3	E		19		
RAMY		2039	2046	2050	S05	E73		12	3.3	11	SF		3	E		24		
HOLL		2044	2120	2232	S07	E81		12	3.9	108	1F		3	E		219		
GOES		2109	2121	2132	N03	E26	9715			23	1F	M 2.2						1.7E-02
HOLL		2116	2120	2138	N03	E26	9715	11	29.8	22	1F		3	E		171		
HOLL		2244	2245	2250	N04	E32	9715	11	30.3	6	SF		3	E		12		
LEAR	28	0113	0114	0119	S07	E81	9718	12	4.1	6	SF		3	E		18		
GOES		0123	0127	0131	N04	E23	9715			8	SF	C 3.1						1.3E-03
LEAR		0124	0126	0132	N04	E23	9715	11	29.8	8	SF		3	E		35		F
GOES		0157	0201	0214						17		C 2.2						2.0E-03
LEAR		0200	0200	0203	S06	E83	9718	12	4.3	3	SF		3	E		19		
LEAR		0216	0218	0220	S07	E81	9718	12	4.2	4	SF		3	E		42		F
LEAR		0310	0311	0316	S06	E78	9718	12	4.0	6	SF		2	E		31		
LEAR		0410	0429	0437	S06	E77	9718	12	3.9	27	SF		3	E		26		F
GOES		0413	0417	0419	S06	E77	9718			6	SF	C 3.8						1.1E-03
GOES		0620	0624	0630						10		C 3.6						1.8E-03
GOES		1100	1103	1106						6		C 2.6						8.3E-04
GOES		1156	1205	1211						15		C 2.7						2.0E-03
GOES		1317	1322	1340						23		C 2.3						2.9E-03
GOES		1453	1457	1459			9715			6		C 3.2						9.7E-04
GOES		1538	1543	1546						8		C 7.7						2.3E-03
GOES		1626	1635	1641	N04	E16	9715			15	1B	M 6.9						2.7E-02
RAMY		1632	1636	1652	N04	E16	9715	11	29.9	20	1B		3	E		183		FH
HOLL		1638	1647	1711	N04	E16	9715	11	29.9	33	1N		3	E		159		ZH
GOES		1716	1720	1724						8		C 2.3						1.0E-03
HOLL		1729	1729	1735	S06	E70	9718	12	4.0	6	SF		3	E		15		
GOES		1758	1802	1805	S20	E71				7	SF	C 3.6						9.8E-04
HOLL		1802	1803	1807	S20	E71		12	4.2	5	SF		3	E		33		
HOLL		1858	1902	1920	S07	E72	9718	12	4.2	22	SF		3	E		35		F
HOLL		1912	1912	1920	N05	E14	9715	11	29.8	8	SF		3	E		14		H
GOES		1942	1946	1948	N04	E15	9715			6	SF	C 1.7						5.4E-04
HOLL		1945	1946	1951	N04	E15	9715	11	29.9	6	SF		3	E		19		H
RAMY		1946	1946	1950	N04	E15	9715	11	29.9	4	SF		3	E		16		
HOLL		2004	2007	2010	S07	E70	9718	12	4.1	6	SF		3	E		19		
HOLL		2014	2023	2030	S07	E70	9718	12	4.1	16	SF		3	E		71		
RAMY		2023	2023	2038	S07	E70	9718	12	4.1	15	SF		3	E		18		
HOLL		2106	2109	2117	S06	E70	9718	12	4.1	11	SF		3	E		19		

Hα SOLAR FLARES

NOVEMBER 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
HOLL	28	2146	2151	2154	N04	E17	9715	11	30.2	8	SF		3	E		13		
GOES		2226	2232	2245	N07	E17	9715			19	1F	C 2.7						2.6E-03
HOLL		2229	2230	2245	N07	E17	9715	11	30.2	16	1F		3	E		108		F
HOLL		2311	2319	2319D	N05	E18	9715	11	30.3	8D	1F		3	E		123		
GOES		2315	2321	2328	N05	E18	9715			13	1F	C 7.2						4.1E-03
GOES	29	0117	0122	0125						8		C 1.9						7.7E-04
GOES		0142	0149	0151	N04	E12	9715			9	SF	M 1.1						3.3E-03
LEAR		0145	0148	0158	N04	E12	9715	11	30.0	13	SF		2	E		32		FE
LEAR		0149	0149	0153	S20	E67	9720	12	4.2	4	SF		2	E		15		FH
LEAR		0307	0308	0312	N10	W26	9712	11	27.2	5	SF		1	E		15		F
LEAR		0319	0322	0324	S18	E76	9720	12	4.9	5	SF		1	E		45		
LEAR		0320	0320	0327	N10	W28	9712	11	27.0	7	SF		1	E		15		F
GOES		0357	0403	0410						13		C 2.3						1.6E-03
LEAR		0517	0522	0531	N05	E09	9715	11	29.9	14	SF		2	E		48		F
GOES		0520	0523	0526	N05	E09	9715			6	SF	C 8.8						2.5E-03
LEAR		0800	0800	0803	S18	E72	9720	12	4.8	3	SF		1	E		15		
GOES		0948	0952	0955						7		C 2.7						8.7E-04
GOES		1012	1036	1043	N04	E10	9715			31	1N	M 5.5						5.5E-02
SVTO		1015	1024U	1058D	N04	E10	9715	11	30.2	43D	1N		3	E		131		FH
GOES		1149	1152	1154						5		C 6.5						1.7E-03
GOES		1229	1248	1251						22		C 6.0						5.2E-03
GOES		1359	1405	1408	N05	E03	9715			9	SF	C 7.6						2.3E-03
SVTO		1403E	1404U	1412D	N05	E03	9715	11	29.8	9D	SF		2	E		55		
GOES		1508	1519	1521	N04	E05	9715			13	SF	C 2.4						1.4E-03
HOLL		1518	1520	1522	N04	E05	9715	11	30.0	4	SF		3	E		18		F
GOES		1608	1617	1619	N04	E06	9715			11	SF	C 3.1						1.6E-03
HOLL		1613	1620	1621	N04	E06	9715	11	30.1	8	SF		3	E		10		
GOES		1623	1627	1631	N04	E06	9715			8	SF	C 2.5						1.1E-03
HOLL		1626	1626	1635	N04	E06	9715	11	30.1	9	SF		3	E		14		
GOES		1701	1705	1707	N05	E05	9715			6	SF	C 3.5						8.9E-04
HOLL		1704	1704	1713	N05	E05	9715	11	30.1	9	SF		3	E		35		
RAMY		1706	1707	1710	N04	E04	9715	11	30.0	4	SF		3	E		14		
GOES		1722	1725	1729						7		C 1.8						6.9E-04
HOLL		1802	1808	1829	N06	E08	9715	11	30.3	27	1F		3	E		166		FH
GOES		1803	1806	1813	N06	E08	9715			10	1F	C 5.6						2.5E-03
RAMY		1807	1809	1840	N05	E07	9715	11	30.3	33	SF		3	E		75		FH
HOLL		1833	1838	1840	N04	E08	9715	11	30.4	7	SF		3	E		11		
GOES		1946	1950	1956						10		C 3.7						1.7E-03
RAMY		1949	1949	2001	S06	E58	9718	12	4.2	12	SF		3	E		15		
GOES		2045	2051	2053	N06	E02	9715			8	SF	C 2.7						1.0E-03
RAMY		2047	2047	2054	N06	E02	9715	11	30.0	7	SF		3	E		15		F
GOES		2120	2126	2130						10		C 3.0						1.5E-03
GOES		2135	2139	2144						9		C 2.2						1.0E-03
GOES		2324	2328	2338						14		C 1.7						1.3E-03
GOES	30	0100	0106	0111	S06	E57	9718			11	1N	M 3.5						1.2E-02
LEAR		0102	0105	0120	S06	E57	9718	12	4.3	18	1N		2	E		195		F
LEAR		0133	0133	0147	S07	E54	9718	12	4.1	14	SF		2	E		31		F
GOES		0405	0423	0438	S07	E52	9718			33	SF	C 4.6						7.9E-03
LEAR		0407	0408	0433	S04	E51	9718	12	4.0	26	SF		2	E		17		F
LEAR		0434	0434	0437	S07	E52	9718	12	4.1	3	SF		2	E		52		F
LEAR		0542	0545	0551	N11	W44	9712	11	26.9	9	SF		2	E		24		F
GOES		0914	0923	0929	S05	E52	9718			15	SF	C 4.8						3.4E-03
LEAR		0916	0924	0936	S05	E52	9718	12	4.3	20	SF		1	E		39		F
SVTO		1046	1047	1053	N05	W03	9715	11	30.2	7	SF		3	E		13		
GOES		1133	1136	1139	N05	W03	9715			6	SF	C 1.6						4.9E-04
SVTO		1135	1136	1140	N05	W03	9715	11	30.2	5	SF		3	E		18		
GOES		1210	1255	1303			9718			53		C 2.9						6.1E-03
GOES		1402	1418	1434						32		M 1.5						2.0E-02
GOES		1837	1848	1854	N03	W04	9715			17	SF	C 2.1						1.8E-03
HOLL		1845	1847	1850	N03	W04	9715	11	30.5	5	SF		3	E		23		FH
GOES		1859	1908	1920	N01	W08	9715			21	SF	C 3.1						3.3E-03
HOLL		1906	1908	1910	N01	W08	9715	11	30.2	4	SF		3	E		61		
HOLL		1921	1924	1927	N02	W06	9715	11	30.3	6	SF		3	E		10		
GOES		1955	2001	2004			9714			9		M 2.9						8.7E-03

SOLAR RADIO EMISSION
Selected Fixed Frequency Events

NOVEMBER 2001

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
01	8800	LEAR	8	S	0650.0	0650.0	1.0	38.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	0650.0	0650.0	1.0	40.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	0742.0	0743.0	2.0	75.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0743.0	0743.0	1.0	66.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0743.0	0743.0	1.0	55.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	0743.0	0743.0	1.0	61.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1243.0	1243.0	1.0	53.0			QL=4 ST=2 TYP=3
	2695	SVTO	48	C	1423.0	1501.0	62.0	450.0			QL=2 ST=2 TYP=8
	2695	SGMR	48	C	1426.0	1500.0	70.0	480.0			QL=4 ST=2 TYP=8
	8800	SGMR	48	C	1432.0	1500.0	64.0	350.0			QL=4 ST=2 TYP=8
	8800	SVTO	20	GRF	1500.0	1501.0	25.0	440.0			QL=2 ST=2 TYP=2
	8800	SGMR	8	S	1710.0	1710.0	U	66.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1710.0	1710.0	U	34.0			QL=4 ST=2 TYP=3
	2695	SGMR	46	C	1925.0	1926.0	17.0	32.0			QL=4 ST=2 TYP=8
	8800	SGMR	46	C	1926.0	1927.0	16.0	47.0			QL=4 ST=2 TYP=8
	8800	SGMR	4	S/F	1950.0	1953.0	9.0	160.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	1952.0	1953.0	2.0	130.0			QL=4 ST=2 TYP=3
	2695	LEAR	4	S/F	2211.0	2213.0	7.0	34.0			QL=2 ST=2 TYP=3
02	2695	LEAR	8	S	2234.0	2234.0	1.0	39.0			QL=2 ST=2 TYP=3
03	2695	SGMR	4	S/F	1846.0	1849.0	6.0	62.0			QL=4 ST=2 TYP=3
04	8800	LEAR	4	S/F	0640.0	0641.0	3.0	190.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0641.0	0641.0	U	48.0			QL=4 ST=2 TYP=3
	2695	SGMR	48	C	1602.0	1624.0	478.0	1900.0			QL=4 ST=2 TYP=8
	8800	SGMR	48	C	1604.0	1616.0	476.0	2800.0			QL=4 ST=2 TYP=8
	2695	PALE	48	C	1657.0	1658.0	2.0	170.0			QL=4 ST=2 TYP=8
05	2695	LEAR	8	S	0249.0	0249.0	U	29.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0249.0	0249.0	U	37.0			QL=4 ST=2 TYP=3
	8800	SVTO	4	S/F	0907.0	0909.0	8.0	60.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1517.0	1518.0	1.0	62.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	1517.0	1518.0	1.0	85.0			QL=4 ST=3 TYP=3
06	2695	LEAR	8	S	0258.0	0259.0	2.0	160.0			QL=4 ST=2 TYP=3
	8800	LEAR	49	GB	0258.0	0258.0	7.0	500.0			QL=4 ST=2 TYP=6
	2695	PALE	8	S	0258.0	0259.0	2.0	170.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0743.0	0744.0	1.0	27.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0746.0	0746.0	1.0	30.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0830.0	0830.0	U	25.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0830.0	0830.0	1.0	100.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	0830.0	0830.0	1.0	140.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	0830.0	0830.0	1.0	27.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	1357.0	1357.0	3.0	270.0			QL=4 ST=2 TYP=3
	2695	SGMR	4	S/F	1357.0	1357.0	3.0	91.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	1357.0	1357.0	1.0	240.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	1357.0	1357.0	1.0	70.0			QL=4 ST=2 TYP=3
07	8800	LEAR	4	S/F	0650.0	0650.0	3.0	110.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	0650.0	0650.0	2.0	96.0			QL=4 ST=2 TYP=3
	8800	SVTO	4	S/F	1033.0	1035.0	3.0	81.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1316.0	1316.0	U	27.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1413.0	1413.0	U	50.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1413.0	1413.0	U	110.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	1413.0	1413.0	U	110.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	1413.0	1413.0	U	65.0			QL=4 ST=2 TYP=3
	8800	SGMR	48	C	1932.0	1933.0	55.0	660.0			QL=4 ST=2 TYP=8
	8800	PALE	8	S	1933.0	1933.0	1.0	95.0			QL=4 ST=2 TYP=3
	2695	SGMR	48	C	1947.0	1953.0	30.0	65.0			QL=4 ST=2 TYP=8
	2695	PALE	48	C	1950.0	1953.0	21.0	62.0			QL=4 ST=2 TYP=8
	8800	PALE	48	C	1952.0	1955.0	4.0	59.0			QL=4 ST=2 TYP=8
08	8800	LEAR	8	S	0001.0	0002.0	1.0	110.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	0002.0	0002.0	U	120.0			QL=4 ST=2 TYP=3
	8800	LEAR	4	S/F	0022.0	0023.0	3.0	200.0			QL=4 ST=2 TYP=3
	8800	LEAR	49	GB	0701.0	0702.0	6.0	1800.0			QL=4 ST=2 TYP=6
	2695	LEAR	4	S/F	0702.0	0702.0	5.0	460.0			QL=4 ST=2 TYP=3
	8800	SVTO	49	GB	0702.0	0702.0	5.0	1600.0			QL=4 ST=2 TYP=6

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

NOVEMBER 2001

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
08	2695	SVTO	4	S/F	0702.0	0702.0	6.0	420.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	1017.0	1018.0	1.0	130.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	1017.0	1018.0	1.0	28.0			QL=4 ST=2 TYP=3
	8800	SVTO	4	S/F	1221.0	1224.0	12.0	190.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	1224.0	1224.0	5.0	150.0			QL=4 ST=2 TYP=3
	8800	SVTO	48	C	1402.0	1404.0	10.0	110.0			QL=4 ST=2 TYP=8
	8800	SGMR	4	S/F	1404.0	1404.0	15.0	90.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	1441.0	1441.0	3.0	31.0			QL=4 ST=2 TYP=3
	8800	SGMR	48	C	1502.0	1533.0	31.0	180.0			QL=4 ST=3 TYP=8
	2695	SGMR	46	C	1516.0	1524.0	17.0	39.0			QL=4 ST=3 TYP=8
	8800	SGMR	8	S	1706.0	1706.0	U	44.0			QL=4 ST=2 TYP=3
	8800	PALE	48	C	1711.0	1711.0	U	69.0			QL=4 ST=2 TYP=8
	2695	PALE	48	C	1711.0	1711.0	5.0	280.0			QL=4 ST=2 TYP=8
	8800	SGMR	48	C	1711.0	1711.0	2.0	100.0			QL=4 ST=2 TYP=8
	2695	SGMR	4	S/F	1711.0	1711.0	11.0	280.0			QL=4 ST=2 TYP=3
	2695	PALE	48	C	1718.0	1719.0	3.0	51.0			QL=4 ST=2 TYP=8
	8800	SGMR	8	S	1840.0	1841.0	1.0	31.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1902.0	1902.0	1.0	34.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1902.0	1903.0	1.0	160.0			QL=4 ST=2 TYP=3
	8800	SGMR	46	C	1908.0	1908.0	U	28.0			QL=4 ST=2 TYP=8
	8800	SGMR	48	C	1929.0	1929.0	2.0	80.0			QL=4 ST=2 TYP=8
	8800	PALE	48	C	2312.0	2312.0	U	70.0			QL=4 ST=2 TYP=8
	8800	PALE	46	C	2338.0	2338.0	U	41.0			QL=4 ST=2 TYP=8
09	8800	LEAR	20	GRF	0121.0	0126.0	29.0	68.0			QL=4 ST=2 TYP=2
	8800	PALE	48	C	0126.0	0127.0	2.0	60.0			QL=4 ST=2 TYP=8
	8800	SVTO	4	S/F	0850.0	0853.0	18.0	120.0			QL=4 ST=2 TYP=3
	8800	LEAR	4	S/F	0853.0	0853.0	5.0	79.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0854.0	0854.0	U	23.0			QL=4 ST=2 TYP=3
	2695	SVTO	4	S/F	0901.0	0901.0	6.0	22.0			QL=4 ST=2 TYP=3
	2695	LEAR	20	GRF	0919.0	0950.0	36.0	54.0			QL=4 ST=2 TYP=2
	8800	SVTO	4	S/F	0947.0	0950.0	5.0	43.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	0950.0	0950.0	U	26.0			QL=4 ST=2 TYP=3
	2695	SGMR	4	S/F	1825.0	1828.0	14.0	88.0			QL=4 ST=2 TYP=3
	2695	PALE	48	C	1828.0	1828.0	2.0	55.0			QL=4 ST=2 TYP=8
10	8800	SGMR	48	C	1950.0	1954.0	16.0	73.0			QL=2 ST=2 TYP=8
	8800	PALE	48	C	1954.0	1954.0	5.0	83.0			QL=4 ST=2 TYP=8
11	8800	LEAR	20	GRF	0606.0	0634.0	62.0	29.0			QL=4 ST=2 TYP=2
	8800	SVTO	8	S	1055.0	1055.0	U	89.0			QL=4 ST=2 TYP=3
12	8800	SVTO	8	S	0734.0	0736.0	2.0	69.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0754.0	0755.0	2.0	250.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	0755.0	0755.0	2.0	230.0			QL=4 ST=2 TYP=3
13	2695	LEAR	4	S/F	0624.0	0625.0	4.0	180.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0624.0	0624.0	1.0	94.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	1840.0	1841.0	4.0	37.0			QL=4 ST=2 TYP=3
	2695	SGMR	4	S/F	1841.0	1842.0	3.0	28.0			QL=4 ST=2 TYP=3
14	8800	SVTO	8	S	0922.0	0922.0	U	57.0			QL=4 ST=2 TYP=3
	2695	LEAR	4	S/F	2204.0	2205.0	4.0	98.0			QL=2 ST=2 TYP=3
	2695	PALE	8	S	2205.0	2205.0	U	71.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	2221.0	2221.0	U	23.0			QL=4 ST=2 TYP=3
15	8800	SVTO	8	S	1123.0	1124.0	2.0	41.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	1124.0	1124.0	U	37.0			QL=4 ST=2 TYP=3
17	8800	LEAR	20	GRF	0446.0	0459.0	88.0	89.0			QL=4 ST=2 TYP=2
	2695	LEAR	20	GRF	0449.0	0459.0	124.0	150.0			QL=4 ST=2 TYP=2
	2695	SVTO	46	C	0559.0E	0625.0U	37.0D	30.0			QL=4 ST=3 TYP=8
	8800	SVTO	46	C	0559.0E	0625.0U	37.0D	44.0			QL=4 ST=3 TYP=8
18	8800	LEAR	8	S	0745.0	0746.0	1.0	32.0			QL=4 ST=2 TYP=3
	2695	LEAR	4	S/F	0745.0	0746.0	3.0	130.0			QL=4 ST=2 TYP=3
	2695	SVTO	4	S/F	0745.0	0746.0	3.0	120.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	0746.0	0746.0	U	46.0			QL=4 ST=2 TYP=3
	2695	LEAR	4	S/F	0916.0	0917.0	7.0	120.0			QL=4 ST=2 TYP=3

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

NOVEMBER 2001

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
18	8800	LEAR	48	C	0917.0	0919.0	6.0	110.0			QL=4 ST=2 TYP=8
	8800	SVTO	48	C	0917.0	0919.0	6.0	120.0			QL=4 ST=2 TYP=8
	2695	SVTO	4	S/F	0917.0	0917.0	6.0	110.0			QL=4 ST=2 TYP=3
19	8800	LEAR	4	S/F	0649.0	0650.0	6.0	130.0			QL=4 ST=2 TYP=3
	8800	SVTO	4	S/F	0649.0	0651.0	8.0	130.0			QL=4 ST=2 TYP=3
20	8800	LEAR	8	S	0149.0	0149.0	1.0	34.0			QL=4 ST=2 TYP=3
21	8800	SVTO	48	C	0729.0	0734.0	9.0	100.0			QL=4 ST=2 TYP=8
	8800	LEAR	8	S	0733.0	0733.0	1.0	75.0			QL=4 ST=2 TYP=3
22	2695	LEAR	8	S	0728.0	0728.0	1.0	46.0			QL=4 ST=2 TYP=3
	2695	SVTO	4	S/F	0736.0	0739.0	3.0	58.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	1704.0	1707.0	10.0	140.0			QL=4 ST=2 TYP=3
	2695	PALE	49	GB	2023.0	2027.0	16.0	630.0			QL=4 ST=2 TYP=6
	8800	PALE	48	C	2032.0	2032.0	4.0	190.0			QL=4 ST=2 TYP=8
	2695	LEAR	48	C	2159.0	2257.0	145.0	9700.0			QL=4 ST=3 TYP=8
	2695	PALE	48	C	2159.0	2259.0	165.0	1000.0			QL=4 ST=2 TYP=8
	8800	PALE	48	C	2202.0	2305.0	173.0	790.0			QL=4 ST=2 TYP=8
	8800	LEAR	4	S/F	2203.0	2203.0	117.0	120.0			QL=4 ST=1 TYP=3
	8800	LEAR	48	C	2204.0	2302.0	140.0	640.0			QL=4 ST=3 TYP=8
23	2695	LEAR	46	C	0828.0	0828.0	2.0	35.0			QL=4 ST=2 TYP=8
	8800	LEAR	48	C	0828.0	0828.0	1.0	100.0			QL=4 ST=2 TYP=8
	8800	SVTO	48	C	0830.0	0830.0	2.0	130.0			QL=4 ST=2 TYP=8
	2695	SVTO	46	C	0830.0	0830.0	1.0	41.0			QL=4 ST=2 TYP=8
	2695	LEAR	48	C	2159.0	2257.0	145.0	9700.0			QL=4 ST=3 TYP=8
	2695	PALE	48	C	2159.0	2259.0	165.0	1000.0			QL=4 ST=2 TYP=8
	8800	PALE	48	C	2202.0	2305.0	173.0	790.0			QL=4 ST=2 TYP=8
	8800	LEAR	48	C	2204.0	2302.0	140.0	640.0			QL=4 ST=3 TYP=8
24	8800	LEAR	4	S/F	0454.0	0455.0	5.0	86.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0550.0	0551.0	2.0	250.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0550.0	0551.0	1.0	34.0			QL=4 ST=2 TYP=3
	8800	SGMR	46	C	1708.0	1708.0	1.0	38.0			QL=4 ST=2 TYP=8
	2695	SGMR	48	C	1749.0	1752.0	6.0	72.0			QL=4 ST=2 TYP=8
	8800	SGMR	48	C	1749.0	1750.0	5.0	51.0			QL=4 ST=2 TYP=8
	2695	PALE	4	S/F	1750.0	1752.0	3.0	58.0			QL=4 ST=2 TYP=3
25	2695	LEAR	8	S	0113.0	0113.0	U	25.0			QL=4 ST=2 TYP=3
	2695	PALE	8	S	0113.0	0113.0	U	42.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	0918.0	0918.0	2.0	63.0			QL=4 ST=2 TYP=3
	8800	SVTO	4	S/F	1139.0	1141.0	5.0	66.0			QL=4 ST=2 TYP=3
26	8800	LEAR	4	S/F	0746.0	0747.0	3.0	130.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0747.0	0748.0	1.0	26.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	0747.0	0748.0	1.0	25.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	0747.0	0747.0	2.0	150.0			QL=4 ST=2 TYP=3
27	2695	SGMR	8	S	1545.0	1546.0	2.0	63.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1545.0	1546.0	2.0	88.0			QL=4 ST=2 TYP=3
28	8800	SGMR	8	S	1542.0	1542.0	1.0	140.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1542.0	1542.0	U	26.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1559.0	1559.0	U	57.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1559.0	1559.0	U	40.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1633.0	1633.0	2.0	1400.0			QL=4 ST=2 TYP=3
	2695	SGMR	4	S/F	1633.0	1634.0	4.0	450.0			QL=4 ST=2 TYP=3
	2695	PALE	8	S	1801.0	1801.0	1.0	53.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1801.0	1801.0	1.0	71.0			QL=4 ST=2 TYP=3
	8800	PALE	4	S/F	1802.0	1802.0	3.0	45.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	2317.0	2318.0	2.0	92.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	2317.0	2318.0	2.0	120.0			QL=4 ST=2 TYP=3
29	8800	LEAR	4	S/F	0144.0	0145.0	5.0	140.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0145.0	0145.0	U	25.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	0149.0	0149.0	U	70.0			QL=4 ST=2 TYP=3
	2695	PALE	8	S	0149.0	0149.0	U	100.0			QL=4 ST=2 TYP=3

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

NOVEMBER 2001

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
29	8800	LEAR	8	S	0521.0	0521.0	1.0	210.0			QL=4 ST=2 TYP=3
	8800	LEAR	4	S/F	1020.0	1021.0	3.0	270.0			QL=4 ST=2 TYP=3
	8800	SVTO	4	S/F	1020.0	1021.0	7.0	240.0			QL=4 ST=2 TYP=3
	2695	SVTO	4	S/F	1020.0	1022.0	7.0	34.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	1021.0	1023.0	2.0	49.0			QL=4 ST=2 TYP=3
	2695	SVTO	4	S/F	1057.0	1058.0	3.0	84.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	1057.0	1058.0	1.0	75.0			QL=4 ST=2 TYP=3
	8800	SVTO	4	S/F	1104.0	1107.0	7.0	76.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	1150.0	1150.0	U	24.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	1150.0	1150.0	1.0	51.0			QL=4 ST=2 TYP=3
	8800	SVTO	4	S/F	1155.0	1202.0	14.0	92.0			QL=4 ST=2 TYP=3
	8800	SVTO	4	S/F	1245.0	1247.0	6.0	71.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1247.0	1247.0	1.0	55.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1259.0	1300.0	1.0	70.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	1300.0	1300.0	U	69.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1403.0	1403.0	1.0	46.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1403.0	1403.0	1.0	290.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	1403.0	1404.0	1.0	270.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	1403.0	1404.0	1.0	37.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1703.0	1704.0	1.0	77.0			QL=4 ST=2 TYP=3
	8800	PALE	48	C	1804.0	1808.0	4.0	72.0			QL=4 ST=2 TYP=8
	8800	SGMR	8	S	1804.0	1804.0	2.0	46.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1807.0	1807.0	1.0	60.0			QL=4 ST=2 TYP=3
	8800	PALE	48	C	2122.0	2122.0	U	57.0			QL=4 ST=2 TYP=8
30	8800	LEAR	4	S/F	0103.0	0104.0	3.0	140.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0104.0	0104.0	1.0	120.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	0104.0	0105.0	2.0	170.0			QL=4 ST=2 TYP=3
	2695	PALE	8	S	0104.0	0105.0	2.0	110.0			QL=4 ST=2 TYP=3
	2695	SGMR	4	S/F	1408.0	1411.0	6.0	37.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	1410.0	1413.0	4.0	34.0			QL=4 ST=2 TYP=3
	8800	PALE	48	C	1959.0	2000.0	2.0	190.0			QL=4 ST=2 TYP=8

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

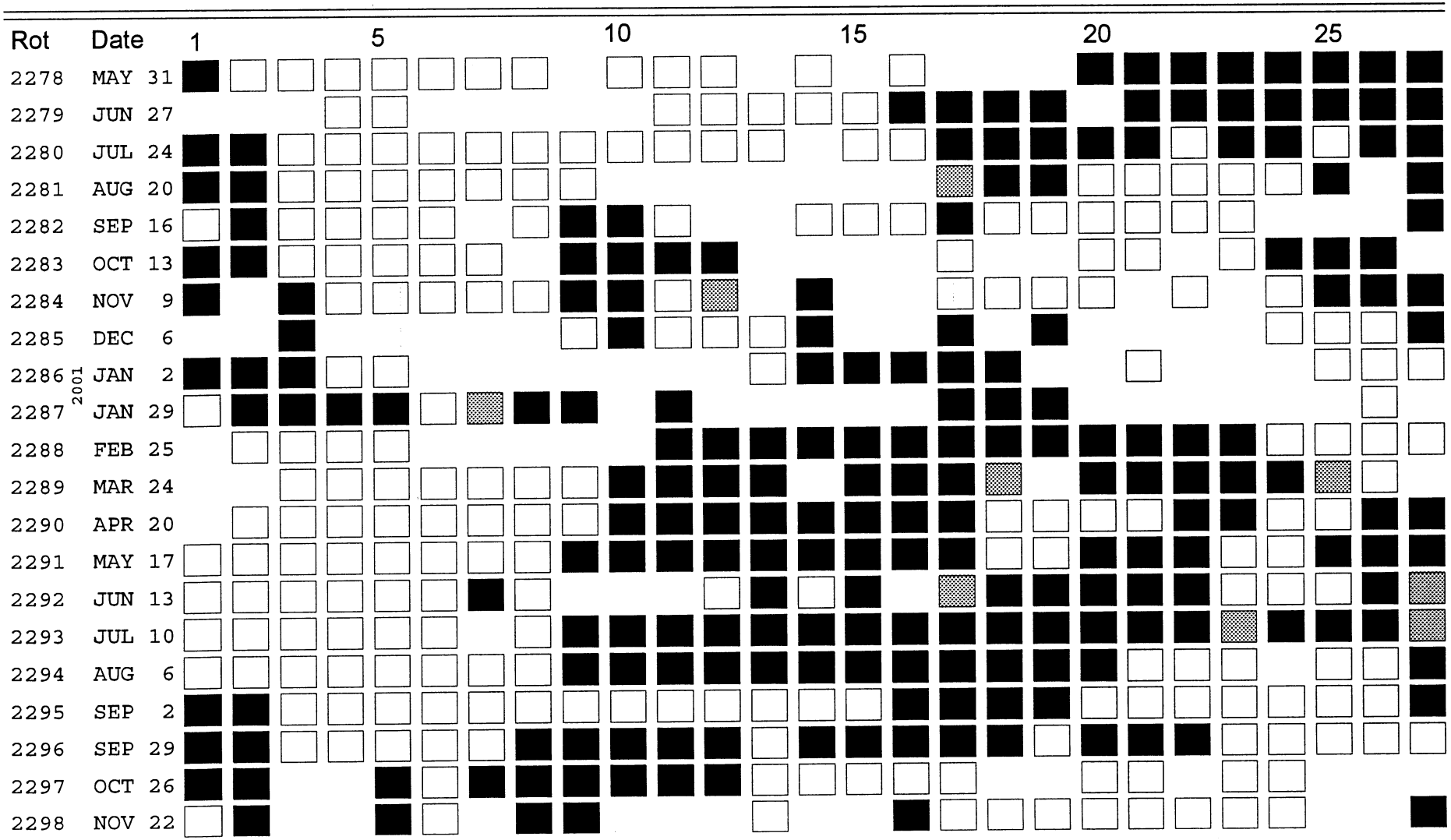
Explanation of Type Code:

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

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

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

STANFORD MEAN SOLAR MAGNETIC FIELD

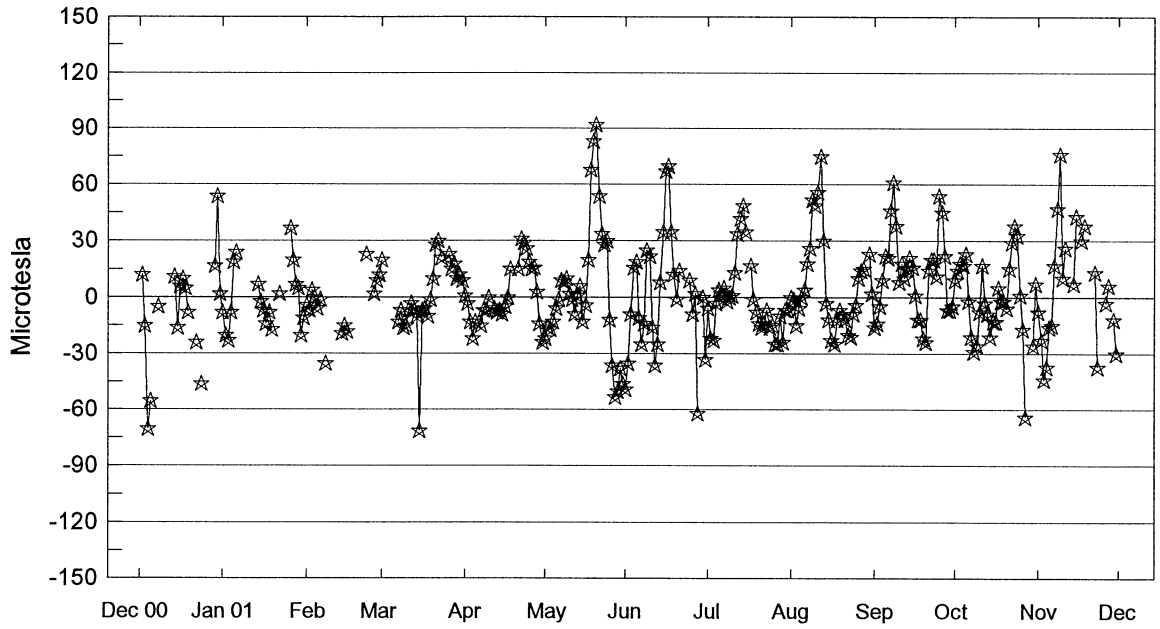


Mean Solar Magnetic Field Polarity: = field > 2 microT; = -2 microT ≤ field ≤ 2 microT

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

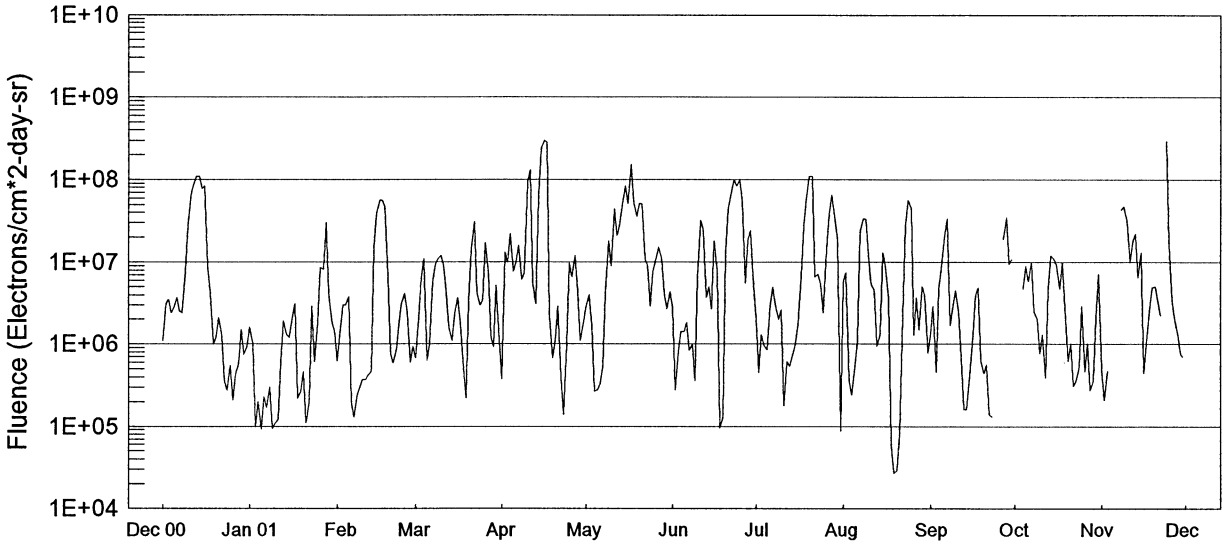
Observations are taken at 2000 UT. Rotation numbers given are the Bartels series, but the dates are not; these dates are five days earlier, to mark times of occurrence of phenomena on the Sun that affect the Earth during the given Bartels Rotation.

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



Day	Dec 00	Jan 01	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
1	---	-8	-4	20	1	-22	-35	-6	0	-16	9	-8
2	12	-20	-7	---	-3	-16	-9	-22	-1	-14	14	-23
3	-15	-23	4	---	-13	-17	16	-23	-15	-5	18	-44
4	-70	-8	0	---	-22	-13	19	-3	-6	9	17	-37
5	-55	19	-6	---	-13	-6	-11	4	0	22	23	-16
6	---	24	-1	---	---	-1	-25	2	4	21	-2	-15
7	---	---	---	-13	-15	9	-14	5	18	46	-21	17
8	-5	---	-35	-7	-7	8	25	-2	26	61	-29	47
9	---	---	---	-16	-7	10	22	0	52	38	-26	76
10	---	---	---	-15	0	2	-16	1	49	8	-8	10
11	---	---	---	-7	---	-1	-36	13	56	18	17	26
12	---	---	---	-3	-6	-9	-25	34	75	10	-3	---
13	---	---	---	-7	-8	1	8	42	30	15	-9	---
14	11	7	-19	-10	-7	6	35	49	-3	21	-21	7
15	-16	-2	-15	-71	-9	-13	67	35	-12	16	-13	43
16	6	-7	-18	-7	-5	-4	70	---	-23	1	-13	---
17	10	-14	---	-6	0	20	35	17	-25	-12	5	30
18	5	-8	---	-10	15	68	12	-1	-12	-12	-2	38
19	-8	-17	---	-1	---	83	-1	-8	-7	-22	-2	---
20	---	---	---	10	---	92	14	-14	-10	-24	-6	---
21	---	---	---	28	15	54	---	-16	-12	14	15	---
22	-24	2	---	30	31	34	---	-14	-20	20	29	13
23	---	---	23	21	29	28	---	-7	-21	20	38	-37
24	-46	---	---	---	26	30	9	-16	-9	11	33	---
25	---	---	---	---	19	-12	-9	-15	-4	54	1	---
26	---	37	2	23	15	-36	2	-25	10	45	-17	-3
27	---	20	9	15	16	-53	-62	-25	14	22	-64	6
28	---	7	12	18	3	-50	---	-10	15	-7	---	---
29	17	5		10	-14	-38	0	-24	---	-7	---	-12
30	54	-20		12	-24	-46	-33	-7	23	-5	-26	-30
31	2	-11		9		-49		-7	2		7	

GOES Daily Electron Fluence
Dec 2000 - Nov 2001



Day	Dec 00	Jan 01	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
1	1.1E+06	1.6E+06	6.2E+05	6.8E+05	3.8E+05	2.9E+06	2.8E+06	2.0E+06	5.9E+06	1.3E+06	-999	4.8E+05
2	3.1E+06	1.0E+06	1.3E+06	2.1E+06	1.3E+07	4.0E+06	2.8E+05	4.5E+05	7.4E+06	2.9E+06	-999	2.1E+05
3	3.5E+06	1.0E+05	3.0E+06	6.4E+06	1.0E+07	1.7E+06	8.1E+05	1.3E+06	3.5E+05	4.6E+05	-999	4.8E+05
4	2.4E+06	2.0E+05	3.0E+06	1.1E+07	2.2E+07	2.7E+05	1.4E+06	9.3E+05	2.4E+05	4.8E+06	4.7E+06	-999
5	2.9E+06	9.2E+04	3.8E+06	6.3E+05	7.8E+06	2.8E+05	1.4E+06	8.6E+05	4.5E+05	8.6E+06	9.0E+06	-999
6	3.7E+06	2.3E+05	1.9E+05	1.0E+06	9.8E+06	3.3E+05	1.8E+06	3.0E+06	1.1E+06	2.1E+07	5.9E+06	-999
7	2.5E+06	1.7E+05	1.3E+05	5.8E+06	1.6E+07	5.3E+05	8.4E+05	4.9E+06	2.4E+07	3.4E+07	1.0E+07	-999
8	2.4E+06	3.0E+05	2.4E+05	9.3E+06	6.2E+06	4.2E+06	1.0E+06	3.0E+06	3.4E+07	1.7E+06	2.5E+06	4.3E+07
9	7.6E+06	9.3E+04	3.0E+05	1.1E+07	7.4E+06	1.8E+07	3.6E+05	2.0E+06	3.3E+07	2.8E+06	2.0E+06	4.7E+07
10	2.8E+07	1.1E+05	3.7E+05	1.2E+07	9.5E+07	9.0E+06	6.5E+06	2.6E+06	1.2E+07	4.5E+06	7.7E+05	3.2E+07
11	6.9E+07	1.2E+05	3.7E+05	9.1E+06	1.3E+08	4.4E+07	3.2E+07	1.8E+05	5.4E+06	2.5E+06	1.3E+06	1.0E+07
12	8.9E+07	6.1E+05	4.2E+05	4.2E+06	5.6E+06	2.1E+07	2.5E+07	6.1E+05	4.6E+06	6.9E+05	3.9E+05	1.8E+07
13	1.1E+08	1.9E+06	4.7E+05	1.6E+06	3.1E+06	2.8E+07	3.8E+06	5.4E+05	9.6E+05	1.6E+05	4.7E+06	2.2E+07
14	1.1E+08	1.3E+06	1.5E+07	1.1E+06	6.5E+07	5.5E+07	5.0E+06	7.5E+05	1.3E+06	1.6E+05	1.2E+07	6.5E+06
15	7.8E+07	1.2E+06	3.9E+07	2.3E+06	2.4E+08	8.4E+07	2.7E+06	1.0E+06	1.3E+07	4.1E+05	1.1E+07	1.3E+07
16	8.3E+07	1.9E+06	5.7E+07	3.7E+06	3.0E+08	5.2E+07	1.8E+07	1.7E+06	9.0E+06	1.3E+06	9.2E+06	4.4E+05
17	8.9E+06	3.1E+06	5.6E+07	1.8E+06	2.8E+08	1.5E+08	7.9E+06	6.6E+06	3.6E+06	4.0E+06	4.7E+06	1.0E+06
18	4.3E+06	2.2E+05	4.7E+07	6.5E+05	2.2E+06	5.4E+07	9.5E+04	2.8E+07	5.9E+04	4.8E+06	1.0E+07	2.6E+06
19	1.0E+06	2.7E+05	6.8E+06	2.2E+05	6.8E+05	3.6E+07	1.3E+05	6.2E+07	2.7E+04	6.3E+05	2.8E+06	4.9E+06
20	1.2E+06	4.6E+05	7.7E+05	3.4E+06	1.1E+06	5.2E+07	1.3E+07	1.1E+08	2.9E+04	4.4E+05	6.2E+05	5.0E+06
21	2.1E+06	1.1E+05	5.9E+05	1.4E+07	2.9E+06	5.1E+07	4.5E+07	1.1E+08	8.0E+04	5.6E+05	1.0E+06	3.3E+06
22	1.3E+06	2.0E+05	8.2E+05	3.1E+07	3.9E+05	1.1E+07	7.2E+07	6.6E+06	2.2E+06	1.4E+05	3.1E+05	2.2E+06
23	3.5E+05	2.9E+06	1.7E+06	4.2E+06	1.4E+05	9.1E+06	1.0E+08	7.2E+06	2.8E+07	1.3E+05	3.5E+05	-999
24	2.8E+05	6.1E+05	3.1E+06	3.0E+06	1.0E+06	2.9E+06	8.4E+07	5.3E+06	5.6E+07	-999	5.2E+05	2.9E+08
25	5.5E+05	1.8E+06	4.1E+06	3.4E+06	9.6E+06	7.5E+06	1.0E+08	2.4E+06	4.5E+07	-999	2.9E+06	1.7E+07
26	2.1E+05	8.6E+06	2.5E+06	1.7E+07	6.6E+06	1.1E+07	5.4E+07	1.4E+07	1.3E+06	-999	4.7E+05	3.4E+06
27	4.3E+05	8.2E+06	6.0E+05	7.6E+06	1.2E+07	1.5E+07	5.6E+06	3.9E+07	3.7E+06	1.9E+07	1.0E+06	2.0E+06
28	5.8E+05	3.0E+07	9.3E+05	1.2E+06	4.5E+06	1.1E+07	1.9E+07	6.5E+07	1.5E+06	3.5E+07	2.8E+05	1.3E+06
29	1.5E+06	4.2E+06		9.4E+05	1.1E+06	4.2E+06	2.4E+07	3.4E+07	5.0E+06	9.5E+06	3.6E+05	7.6E+05
30	7.5E+05	1.8E+06		5.2E+06	1.8E+06	2.7E+06	5.2E+06	1.9E+07	4.0E+06	1.1E+07	2.1E+06	6.9E+05
31	9.3E+05	1.4E+06		1.1E+06		4.3E+06		8.7E+04	7.8E+05		7.1E+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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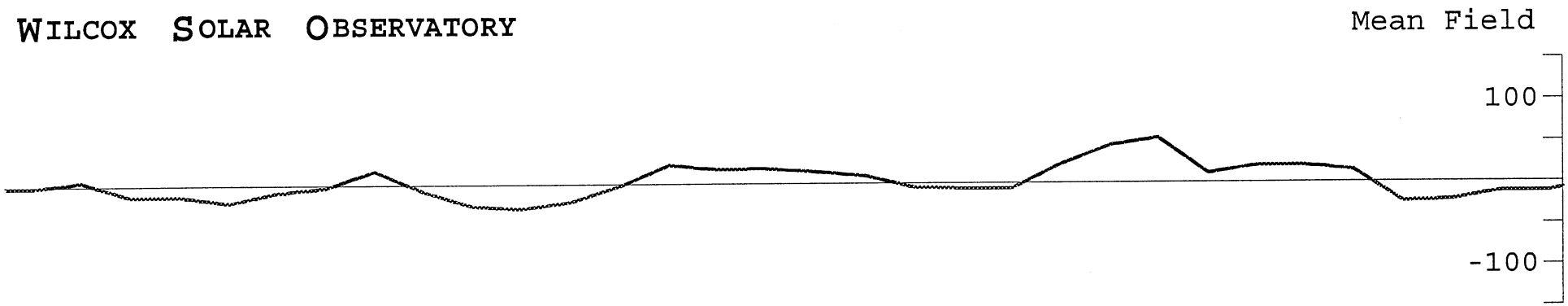
SOLAR MAGNETIC FIELD SYNOPTIC CHART

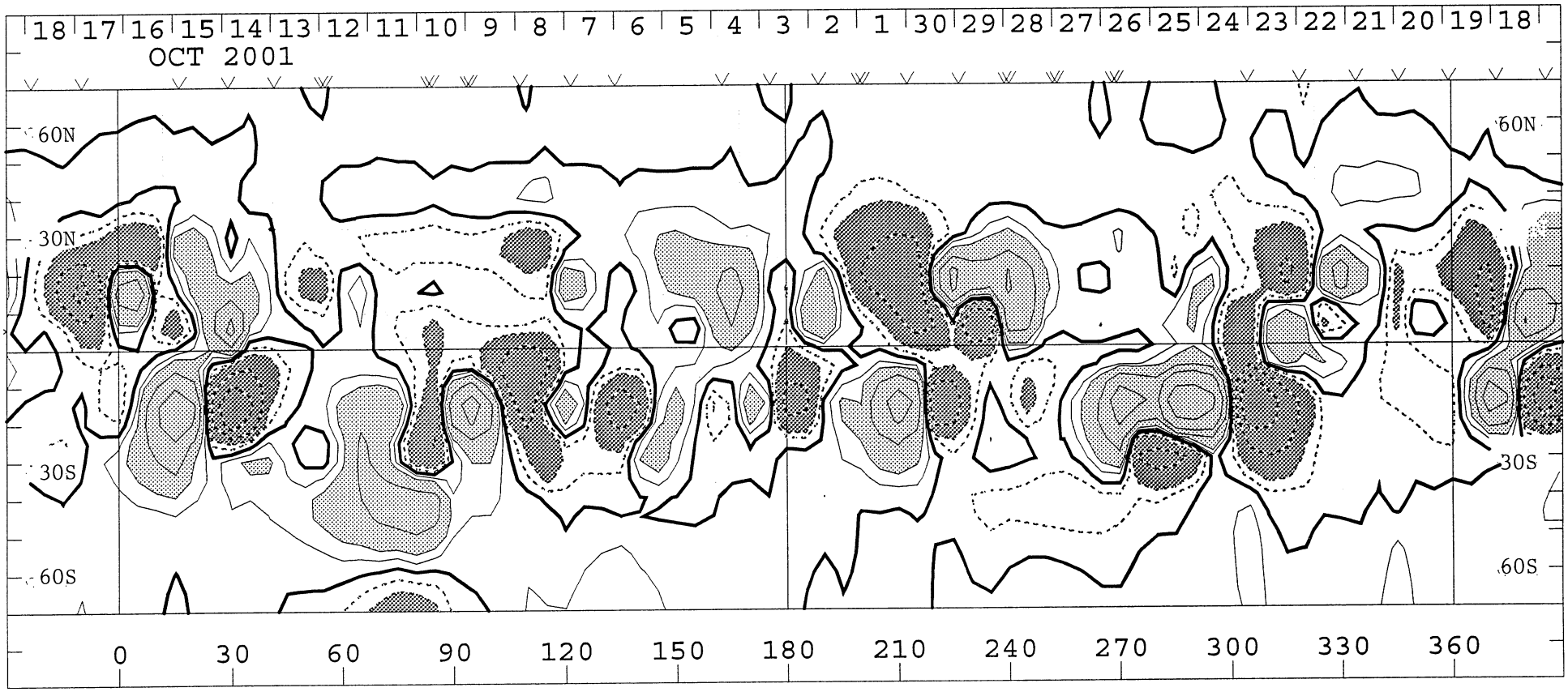
CARRINGTON ROTATION NUMBER 1981

(19 September to 17 October 2001)

WILCOX SOLAR OBSERVATORY



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



SOLAR MAGNETIC FIELD SYNOPTIC CHART

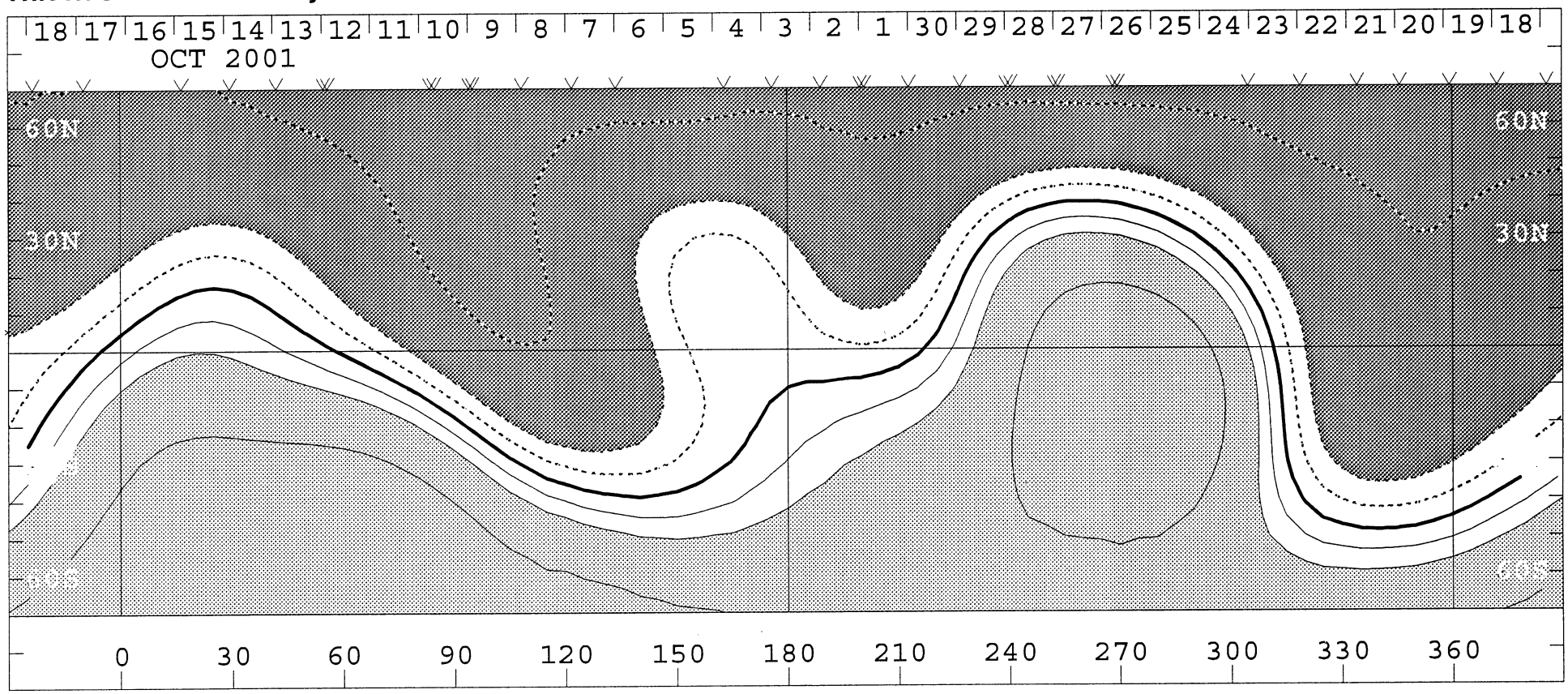
SOURCE SURFACE FIELD

CARRINGTON ROTATION NUMBER 1981

(19 September to 17 October 2001)

Wilcox Solar Observatory

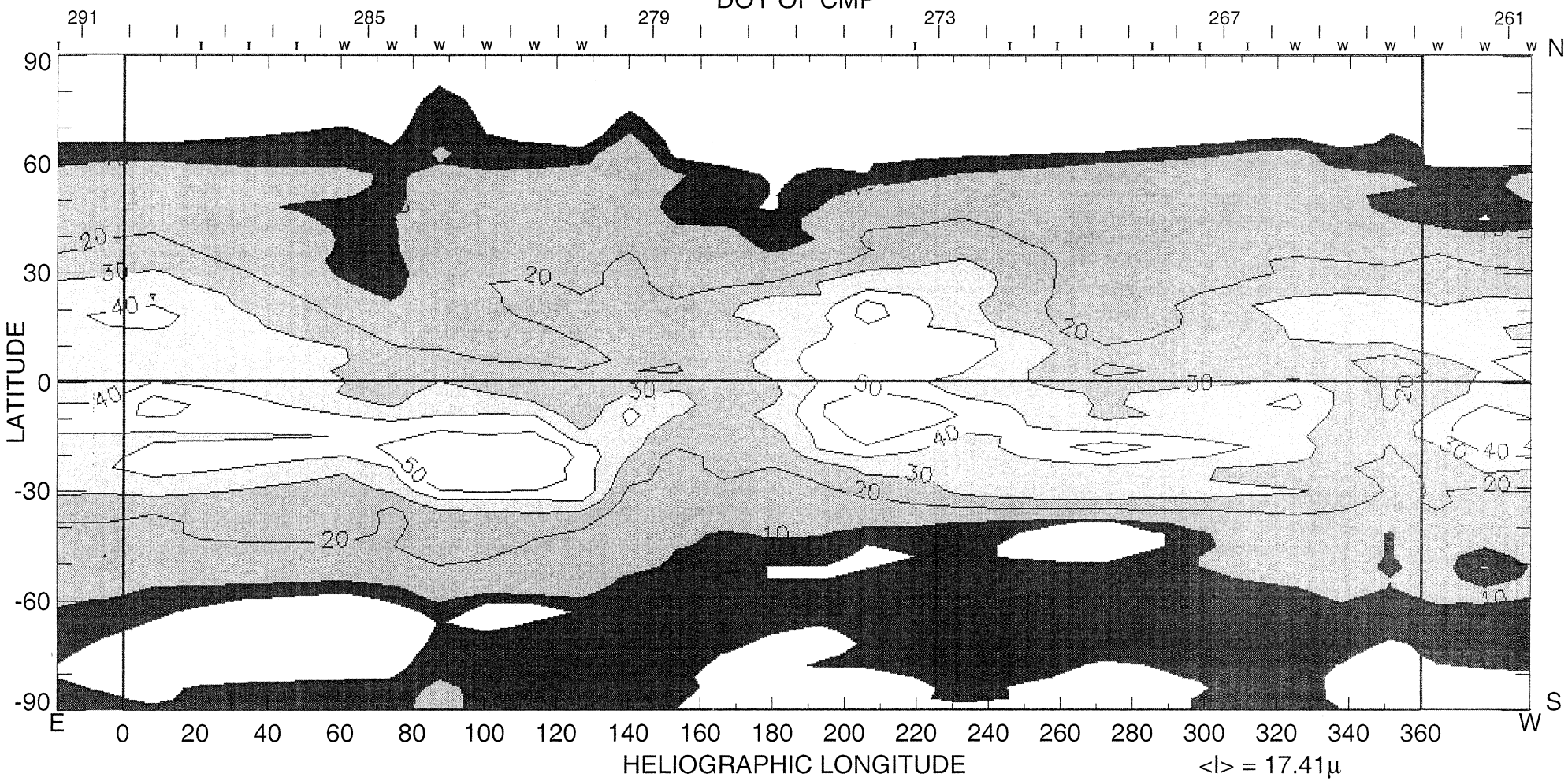
0, ±1, 2, 5, 10, 20 microTesla



Heliographic Longitude

1981

CARRINGTON ROTATION NUMBER 1981 ; NSO/SACRAMENTO PEAK FE XIV @ R = 1.15R_o



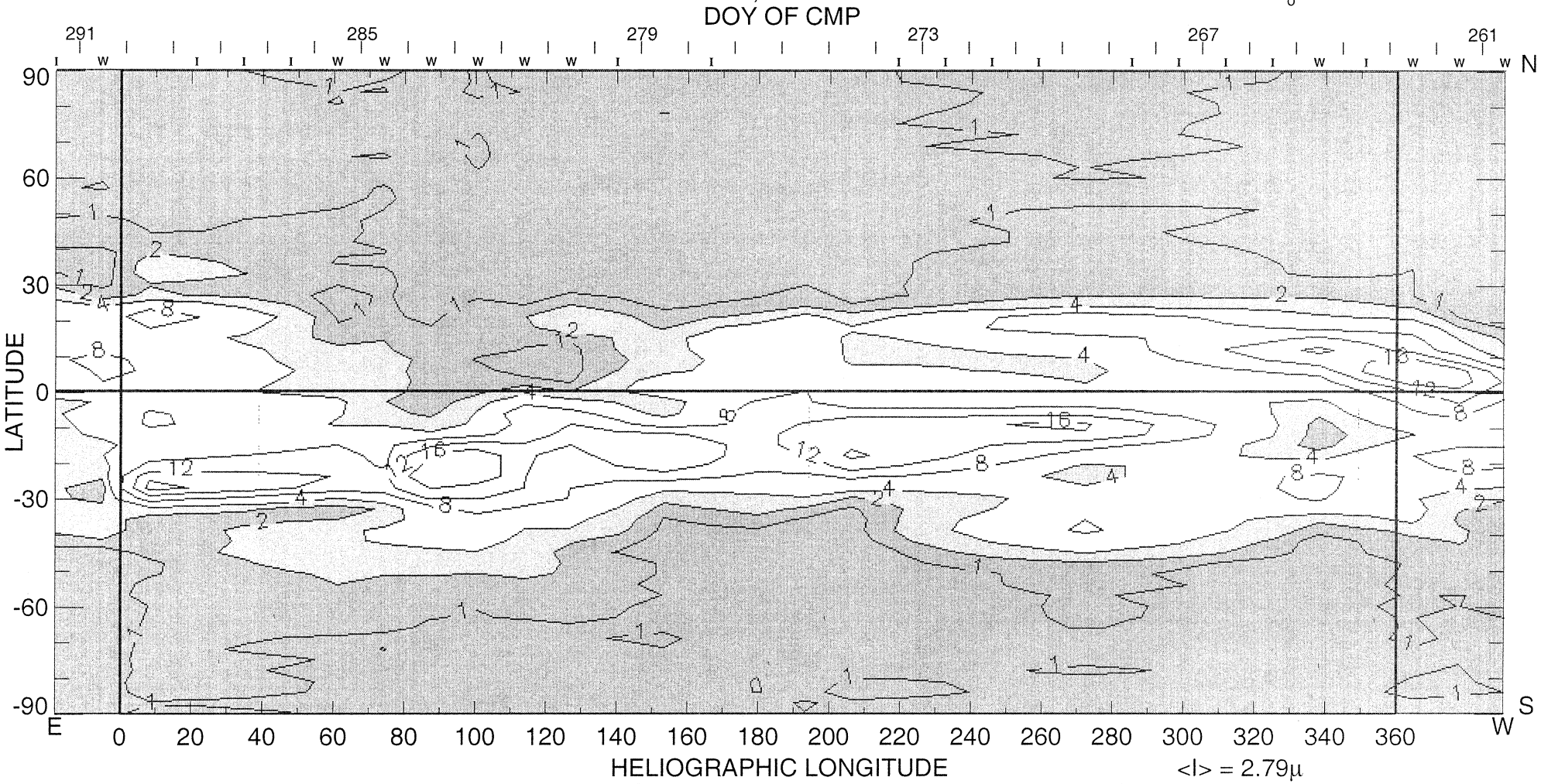
<I> = 17.41μ

(30-Nov-01) 2001 E+W LIMB CONTOURS: 7, 10, 20, 30, 40, 50, 80, 100, 120, 140 MILLIONTHS OF I_o

CORONAL HOLES ARE SHOWN AS WHITE BORDERED BY BLACK

ts5 4pt Nov 30 09:19:31 2001

CARRINGTON ROTATION NUMBER 1981 ; NSO/SACRAMENTO PEAK FE X @ R = 1.15R_o

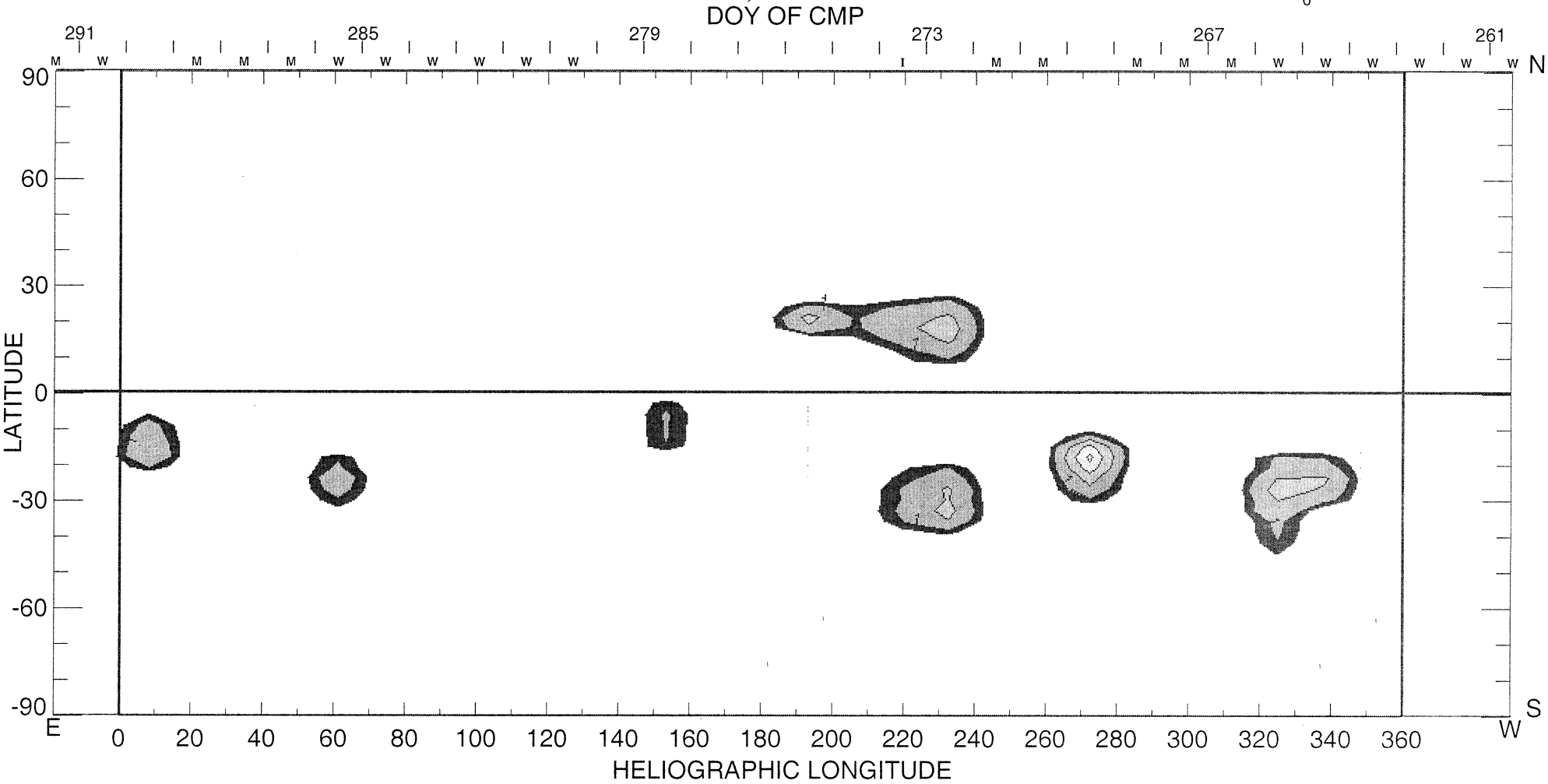


(30-Nov-01)

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

τεξ Φρι Νοϖ 30 09:19:16 2001

CARRINGTON ROTATION NUMBER 1981 ; NSO/SACRAMENTO PEAK CA XV @ R = 1.15R_o



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

tex Fri Nov 30 09:43:43 2001

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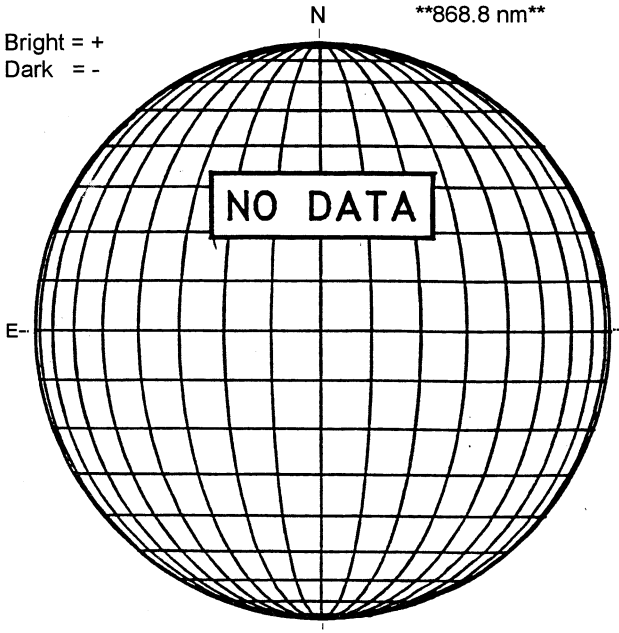
OCTOBER 1, 2001 (P= 25.98, Bo = 6.72, Lo = 212.52)

KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



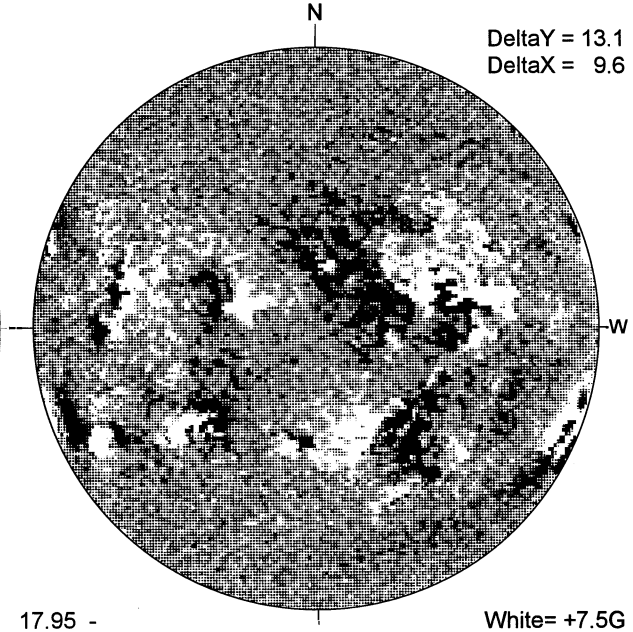
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

2335 UT

MT. WILSON MAGNETOGRAM

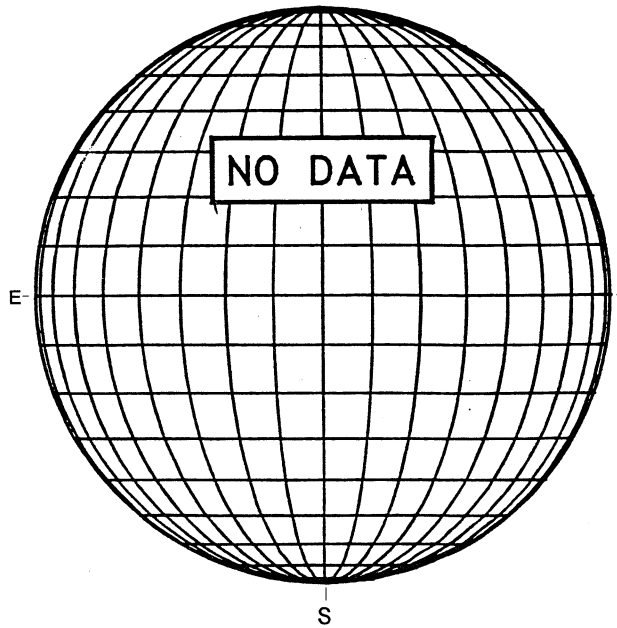
DeltaY = 13.1
DeltaX = 9.6



17.95 -
18.90 UT

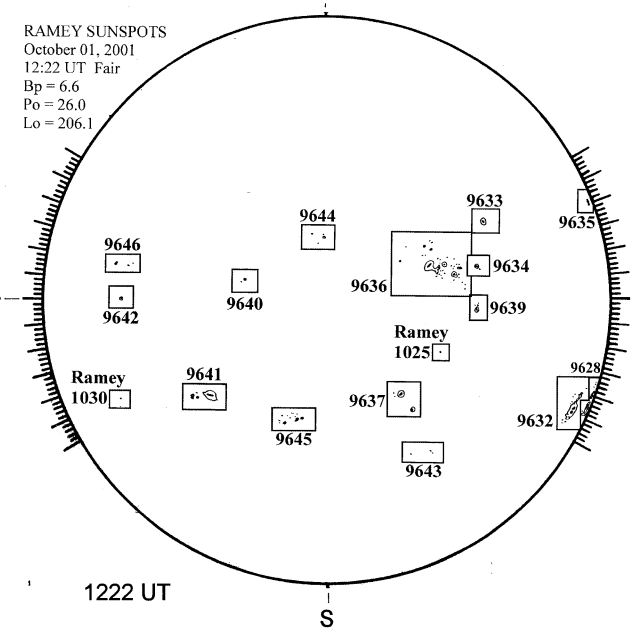
White= +7.5G
Black = -7.5G

MEUDON H-ALPHA



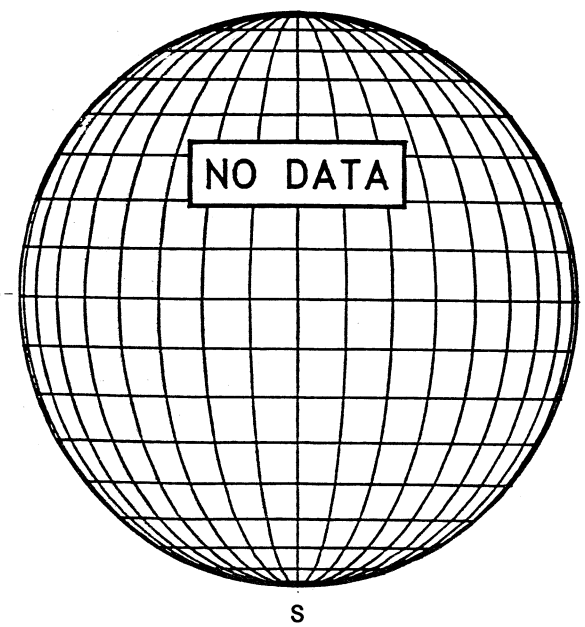
RAMEY SUNSPOT

RAMEY SUNSPOTS
October 01, 2001
12:22 UT Fair
Bp = 6.6
Po = 26.0
Lo = 206.1



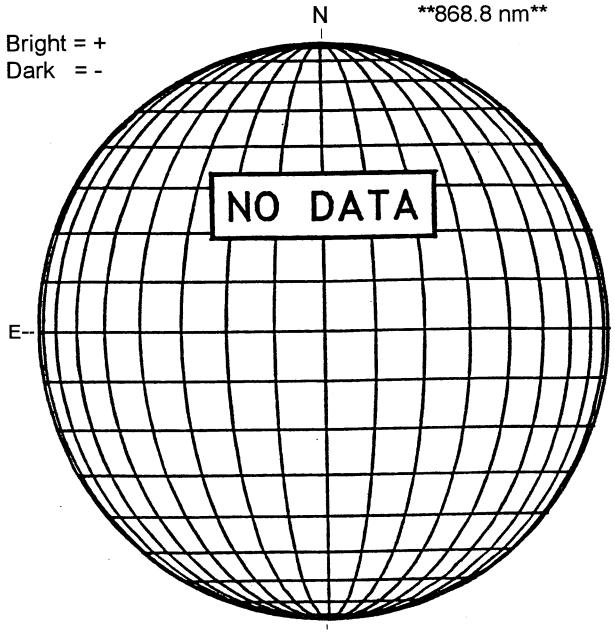
1222 UT

LOMNICKY PEAK CORONA (1.04 Radii)

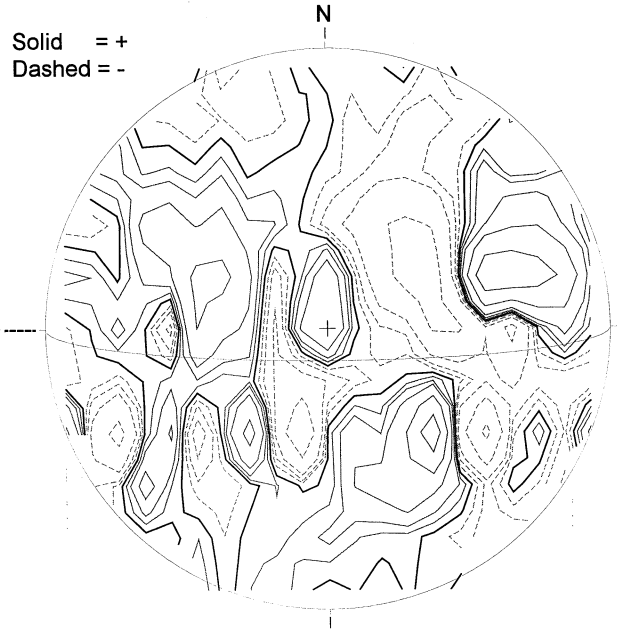


OCTOBER 2, 2001 (P= 26.05, Bo = 6.67, Lo = 199.32)

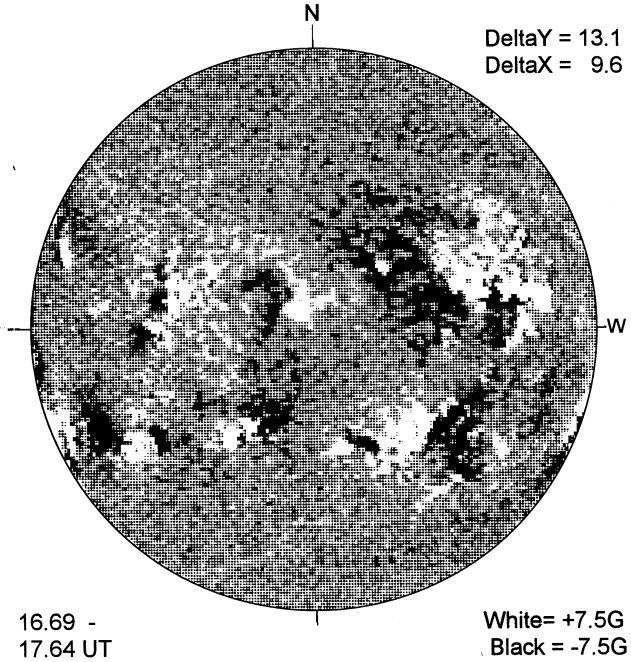
KITT PEAK MAGNETOGRAM



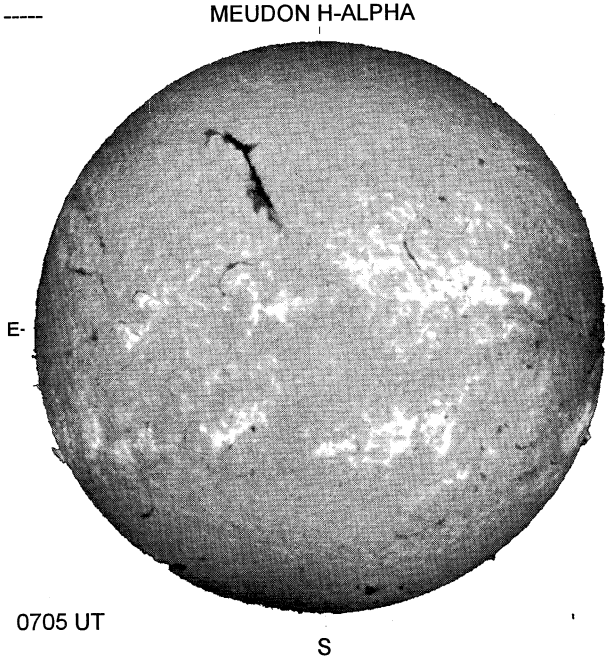
STANFORD MAGNETOGRAM



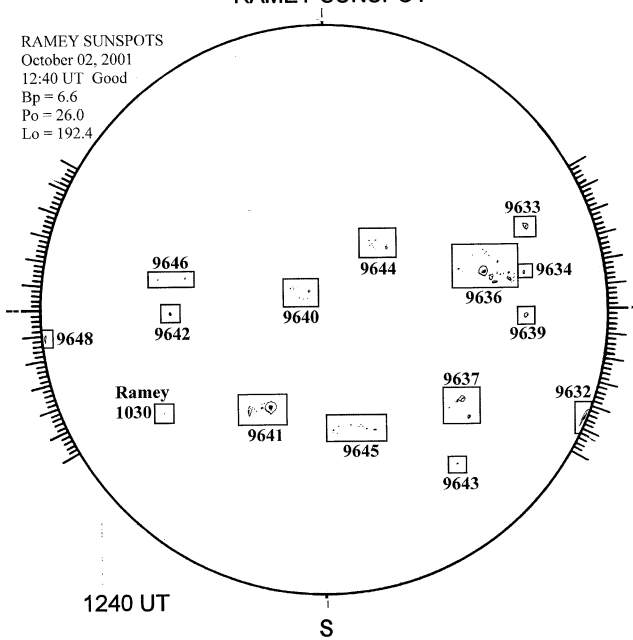
MT. WILSON MAGNETOGRAM



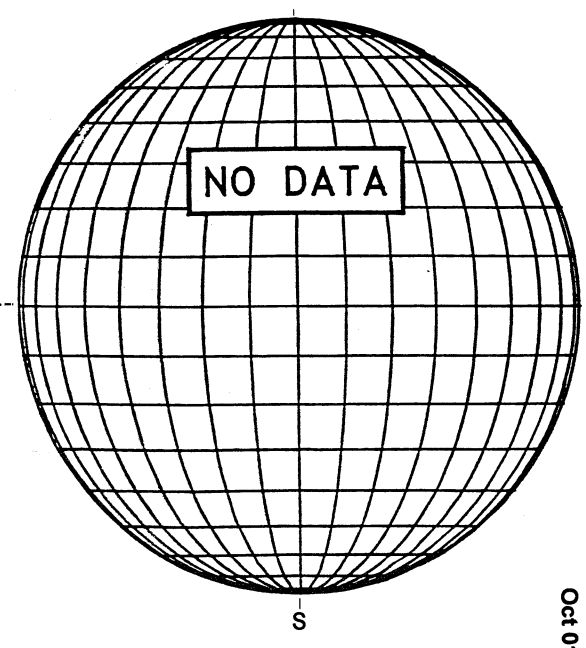
MEUDON H-ALPHA



RAMEY SUNSPOT



LOMNICKY PEAK CORONA (1.04 Radii)----

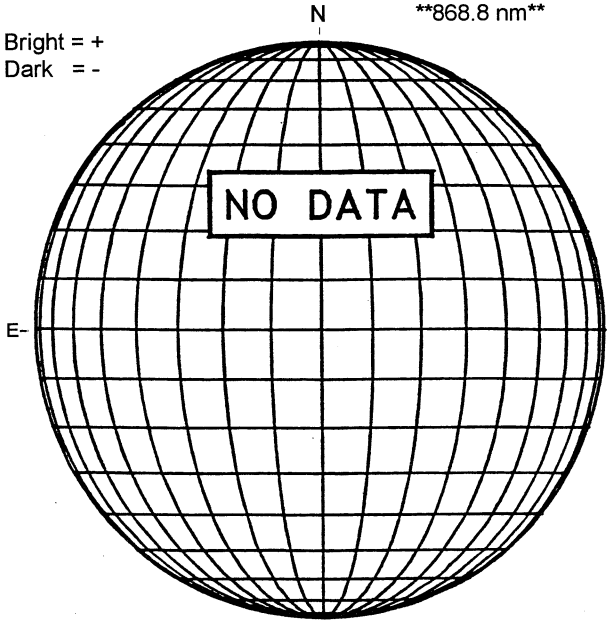


OCTOBER 3, 2001 (P= 26.10, Bo = 6.62, Lo = 186.12)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



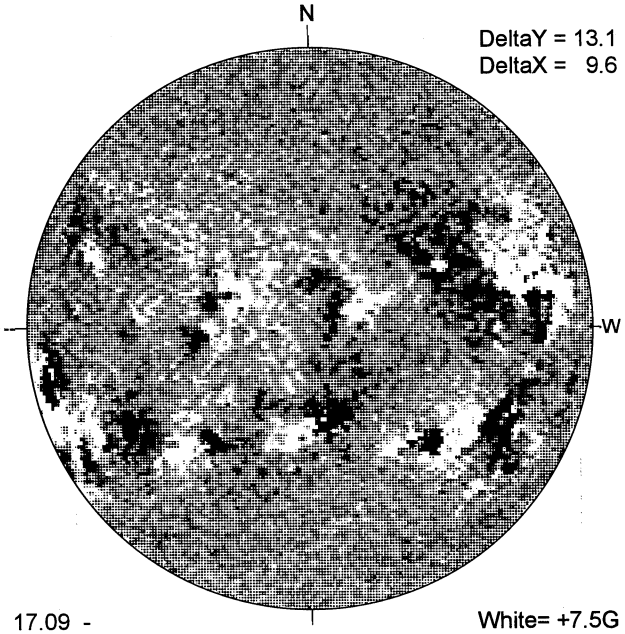
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

1858 UT

MT. WILSON MAGNETOGRAM

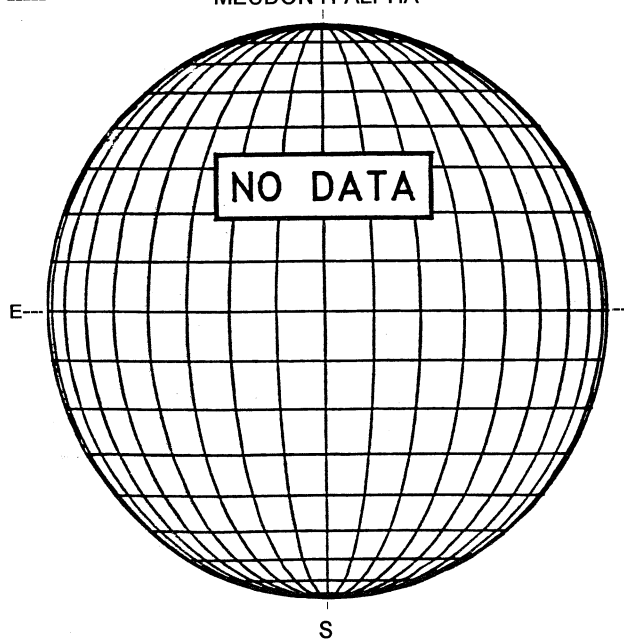
DeltaY = 13.1
DeltaX = 9.6



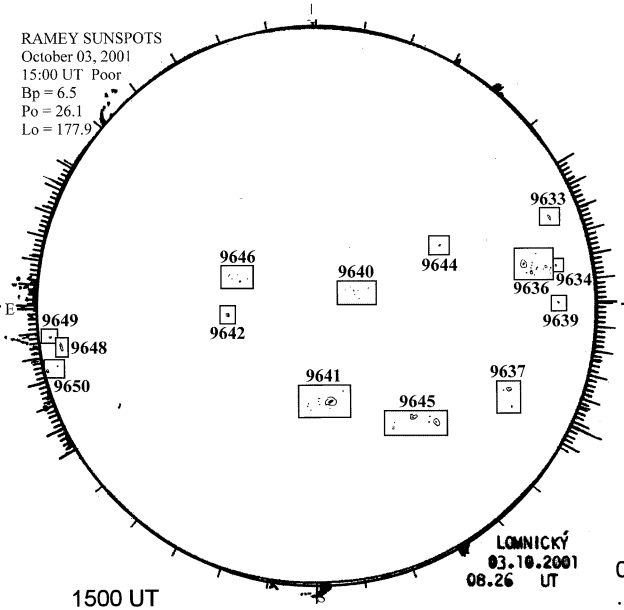
17.09 -
18.04 UT

White= +7.5G
Black = -7.5G

MEUDON H-ALPHA

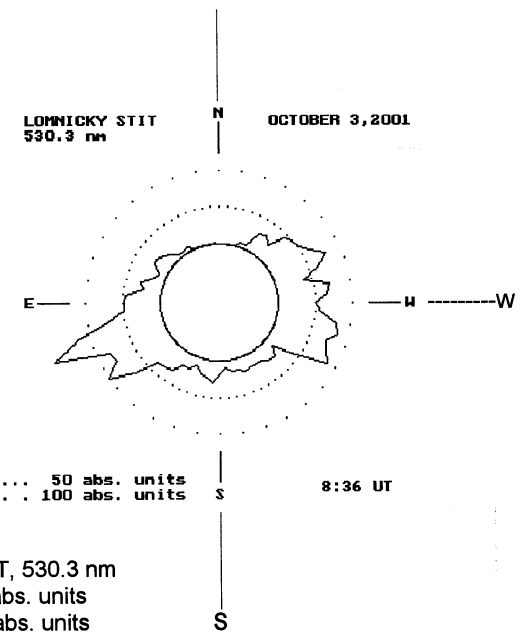


RAMEY SUNSPOT



1500 UT
0826 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)



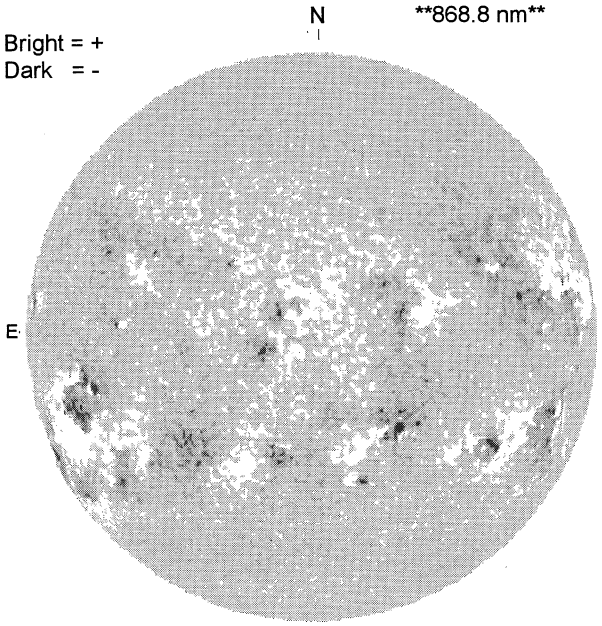
0836 UT, 530.3 nm
.... 50 abs. units
. . 100 abs. units

OCTOBER 4, 2001 (P= 26.15, Bo = 6.57, Lo = 172.93)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



1736 UT

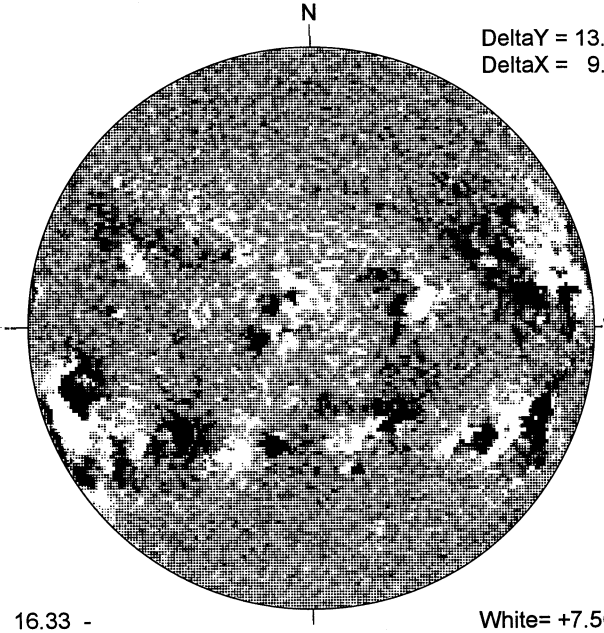
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

1829 UT

MT. WILSON MAGNETOGRAM

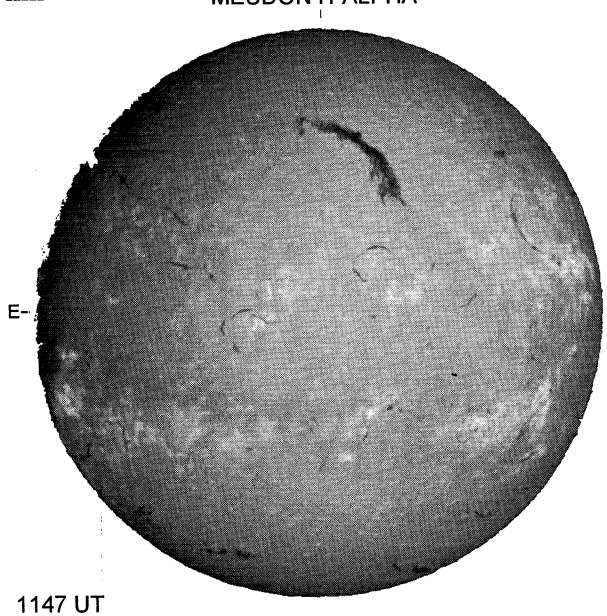
DeltaY = 13.1
DeltaX = 9.6



16.33 -
17.27 UT

White= +7.5G
Black = -7.5G

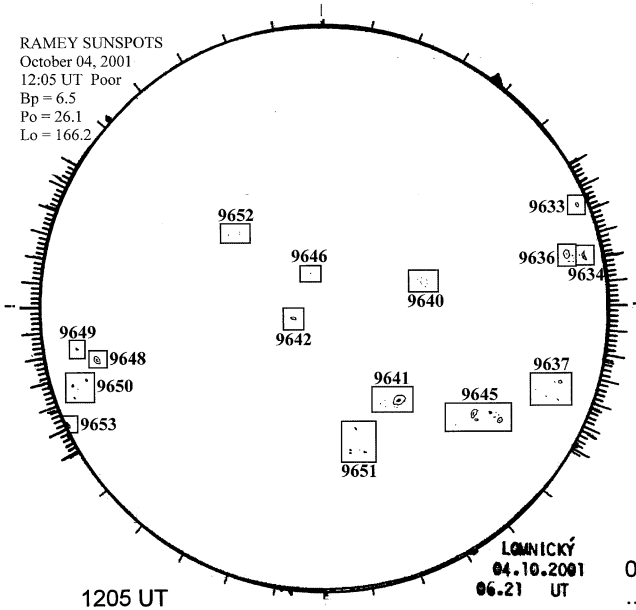
MEUDON H-ALPHA



1147 UT

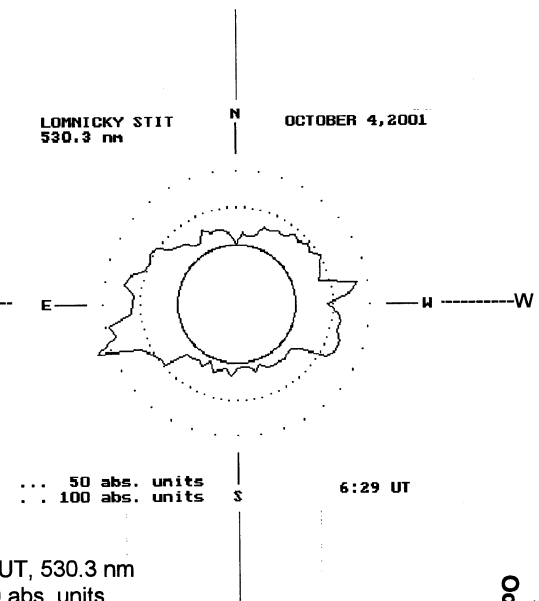
S

RAMEY SUNSPOT



1205 UT
0621 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)



0629 UT, 530.3 nm
.... 50 abs. units
. . 100 abs. units

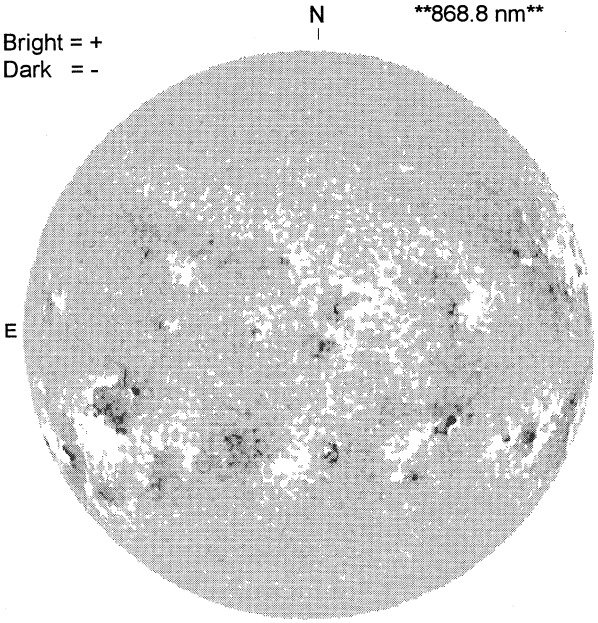
S

OCTOBER 5, 2001 (P= 26.19, Bo = 6.51, Lo = 159.73)

KITT PEAK MAGNETOGRAM

868.8 nm

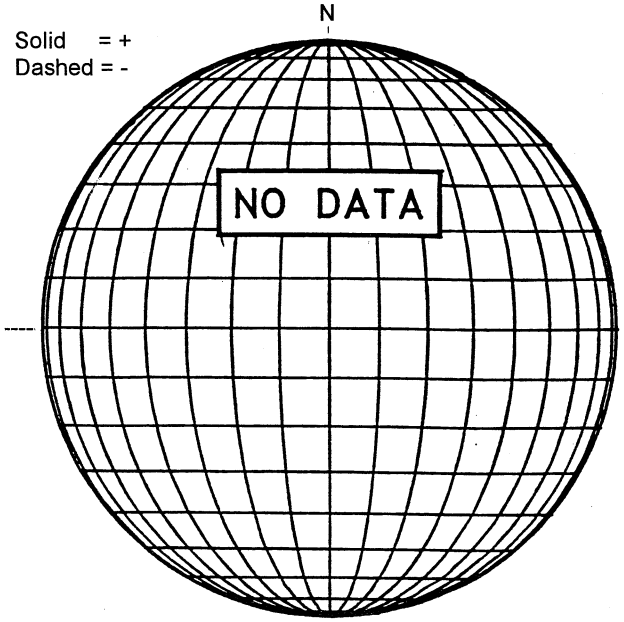
Bright = +
Dark = -



1544 UT

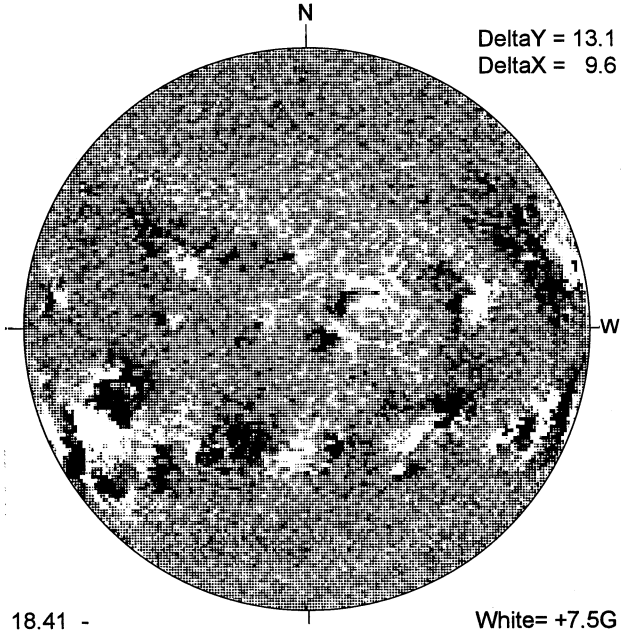
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

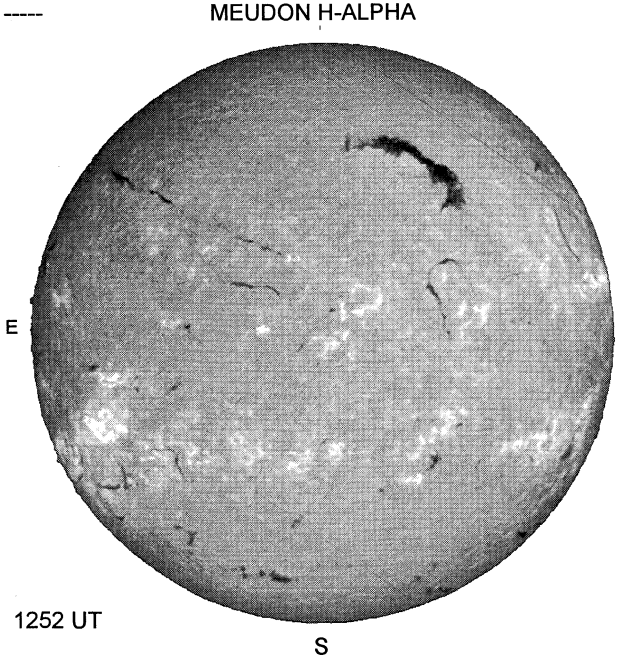
DeltaY = 13.1
DeltaX = 9.6



18.41 -
19.36 UT

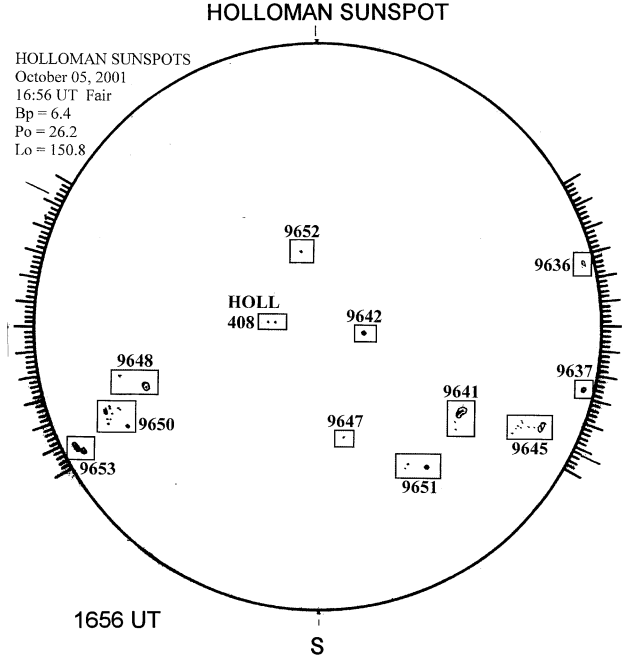
White= +7.5G
Black = -7.5G

MEUDON H-ALPHA



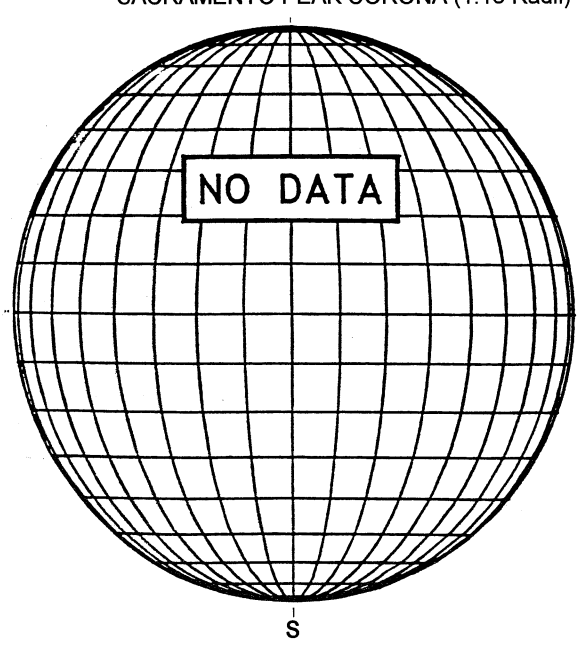
1252 UT

HOLLOMAN SUNSPOT



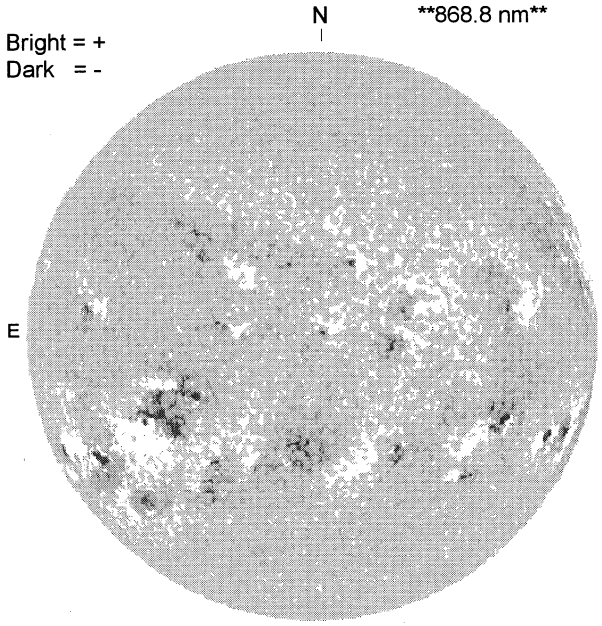
1656 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

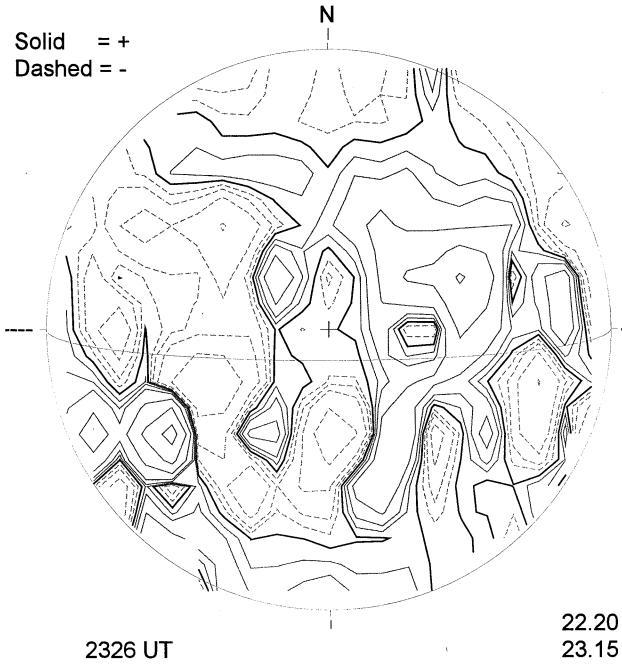


OCTOBER 6, 2001 (P= 26.23, Bo = 6.46, Lo = 146.54)

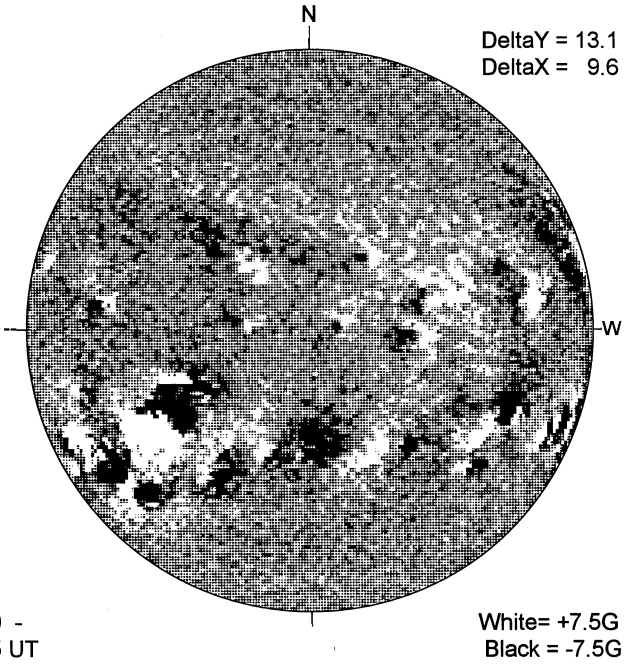
KITT PEAK MAGNETOGRAM



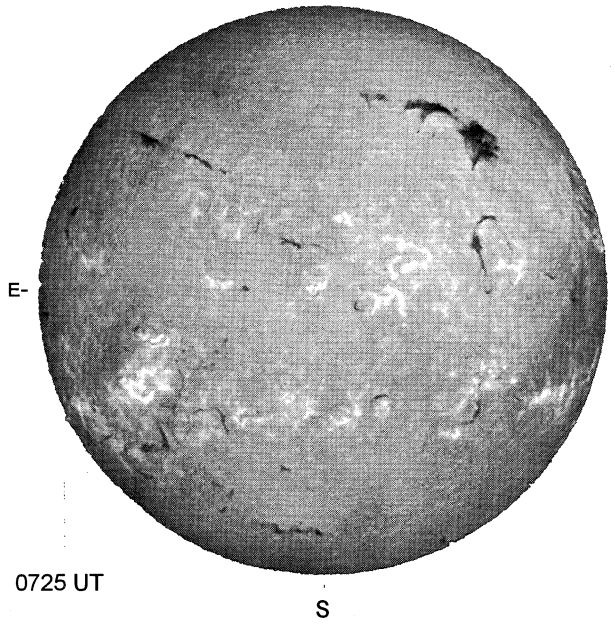
STANFORD MAGNETOGRAM



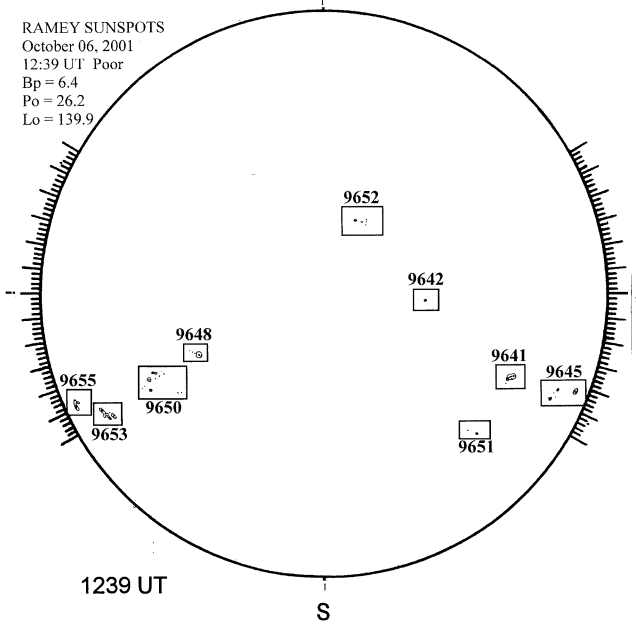
MT. WILSON MAGNETOGRAM



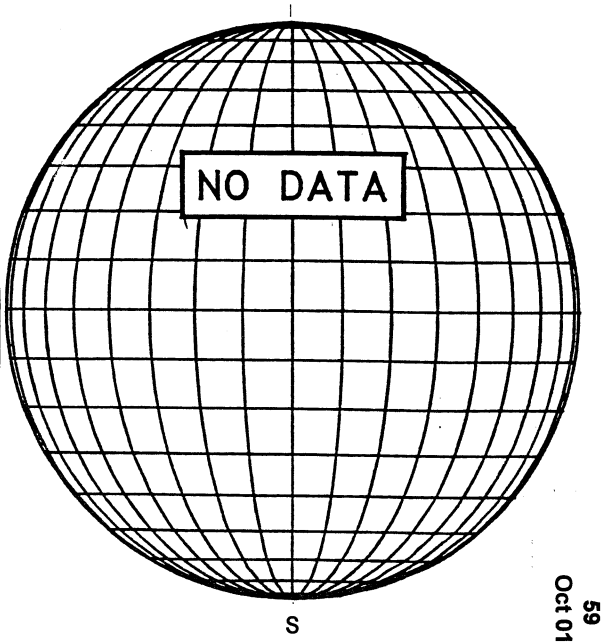
MEUDON H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)----

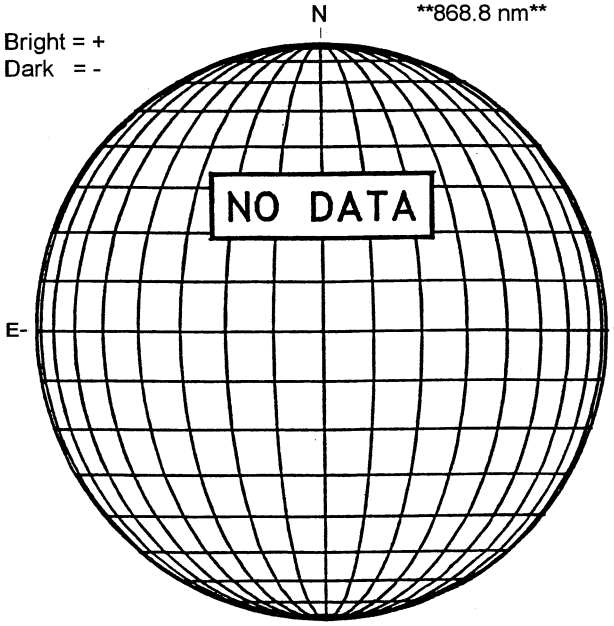


OCTOBER 7, 2001 (P= 26.25, Bo = 6.40, Lo = 133.35)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



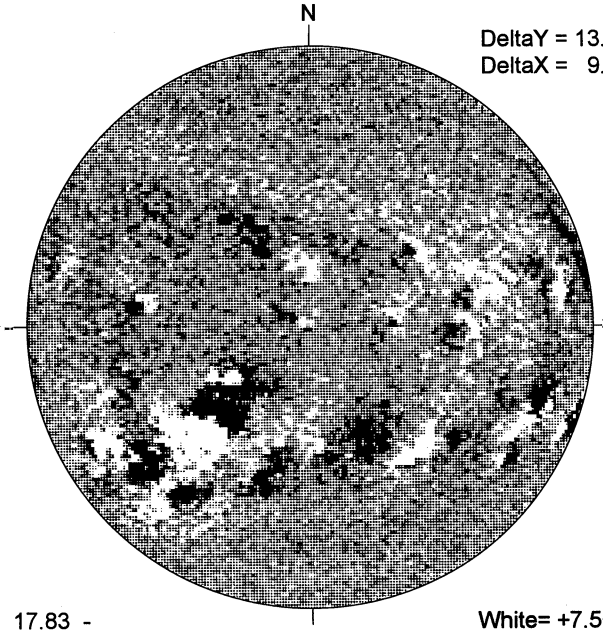
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

2100 UT

MT. WILSON MAGNETOGRAM

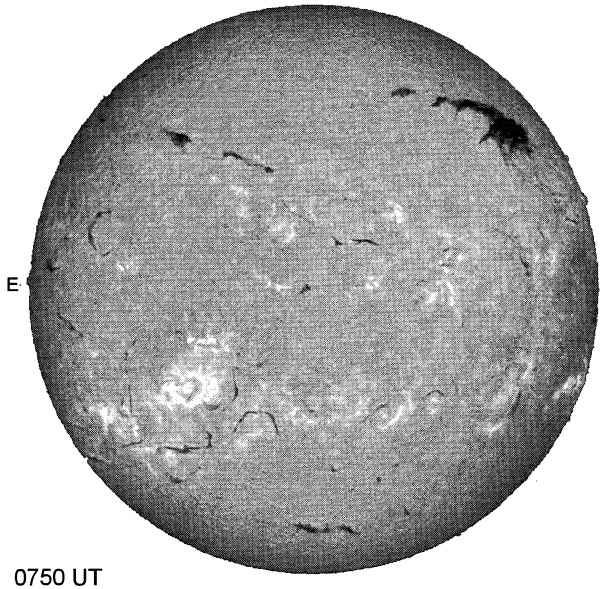
DeltaY = 13.1
DeltaX = 9.6



17.83 -
18.78 UT

White= +7.5G
Black = -7.5G

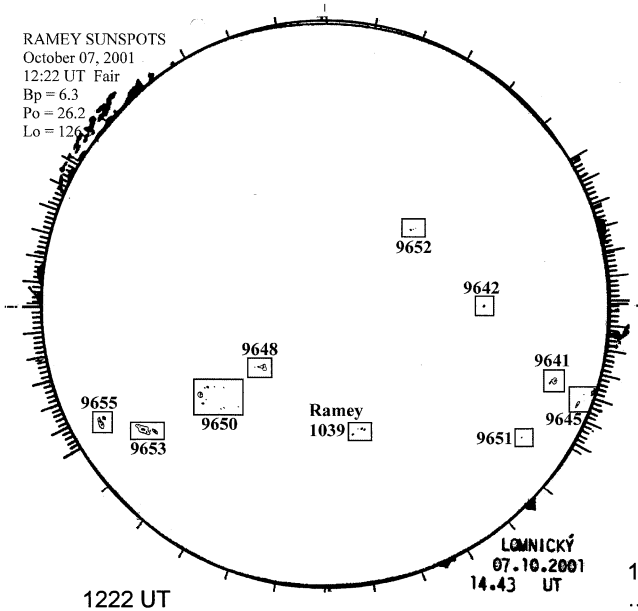
MEUDON H-ALPHA



0750 UT

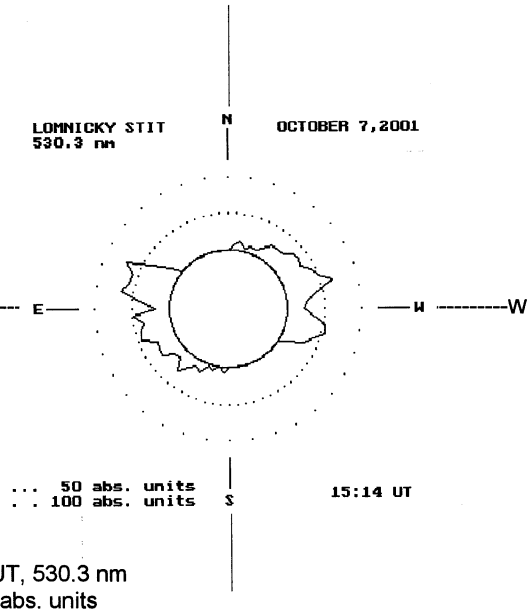
S

RAMEY SUNSPOTS



1222 UT
1443 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)



1514 UT, 530.3 nm
.... 50 abs. units
. . 100 abs. units

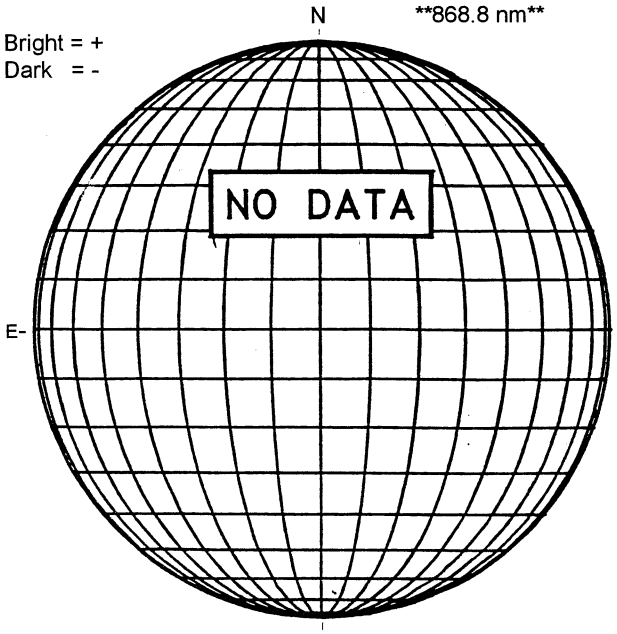
S

OCTOBER 8, 2001 (P= 26.27, Bo = 6.34, Lo = 120.15)

KITT PEAK MAGNETOGRAM

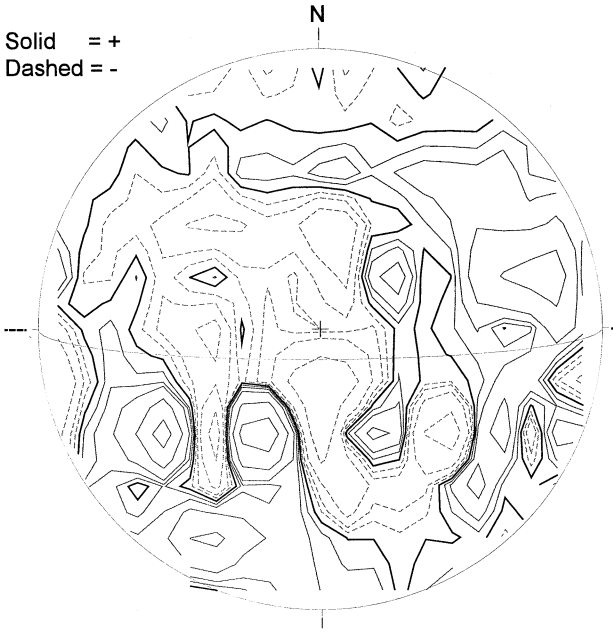
868.8 nm

Bright = +
Dark = -



STANFORD MAGNETOGRAM

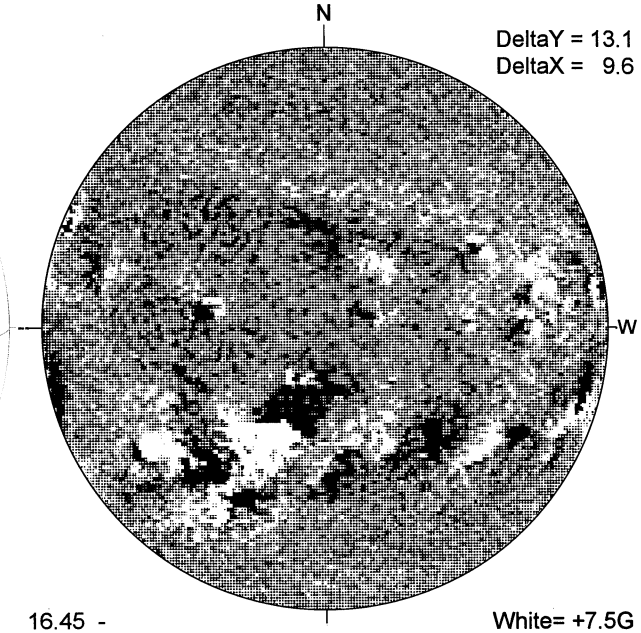
Solid = +
Dashed = -



2131 UT

MT. WILSON MAGNETOGRAM

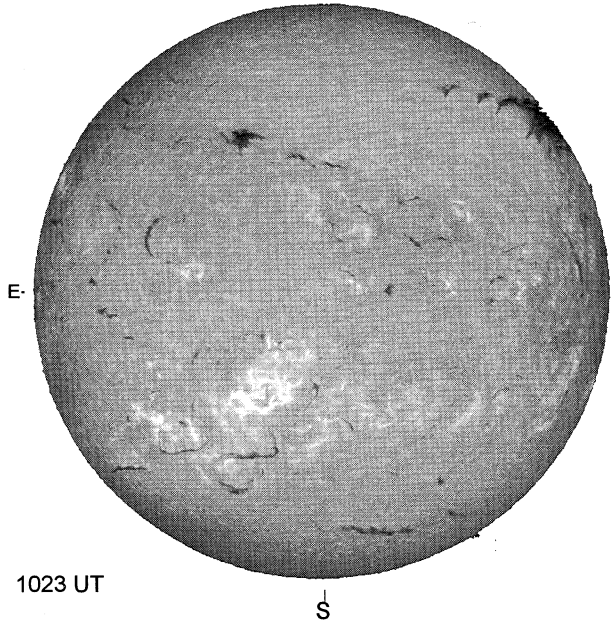
DeltaY = 13.1
DeltaX = 9.6



16.45 -
17.40 UT

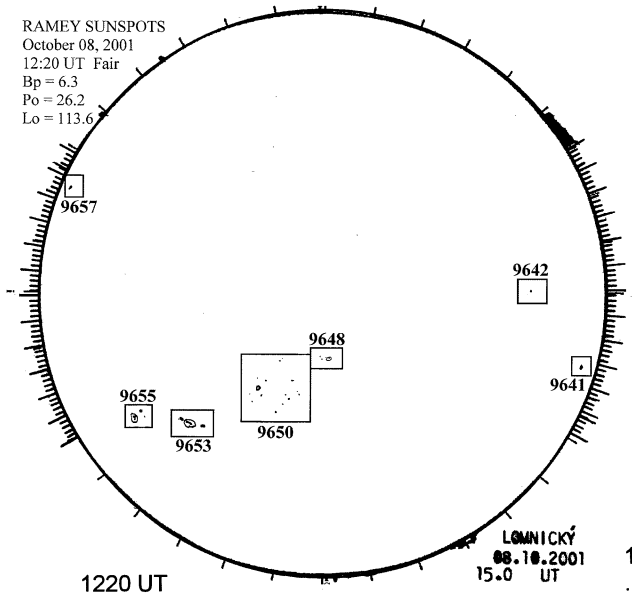
White= +7.5G
Black = -7.5G

MEUDON H-ALPHA



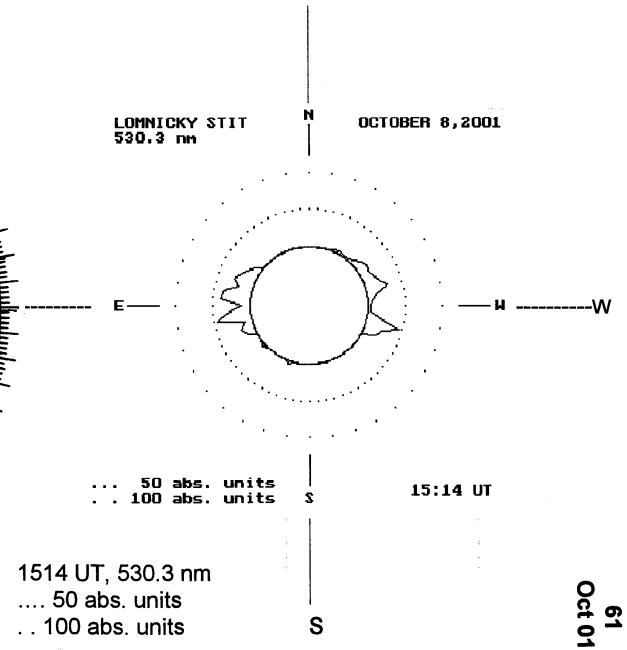
1023 UT

RAMEY SUNSPOT



1220 UT
1500 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)----



1514 UT, 530.3 nm
.... 50 abs. units
. . 100 abs. units

S

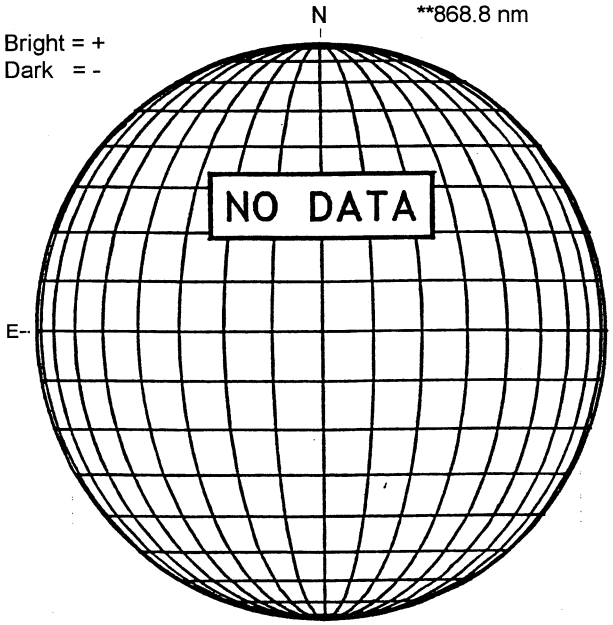
61
Oct 01

OCTOBER 9, 2001 (P= 26.29, Bo = 6.28, Lo = 106.96)

KITT PEAK MAGNETOGRAM

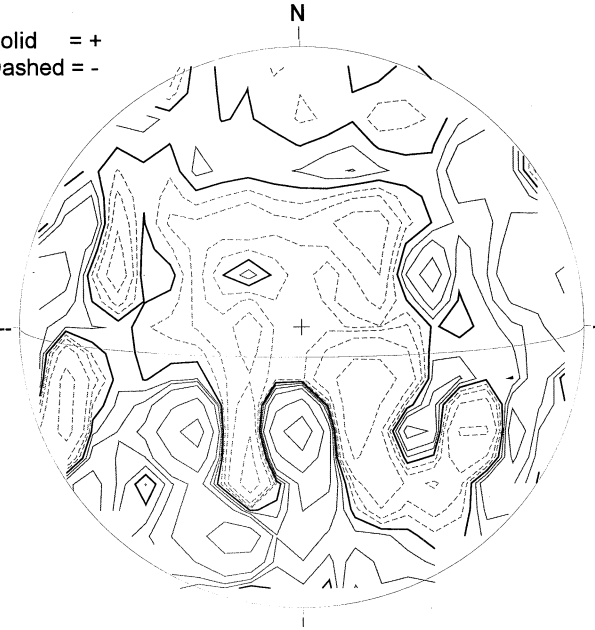
**868.8 nm

Bright = +
Dark = -



STANFORD MAGNETOGRAM

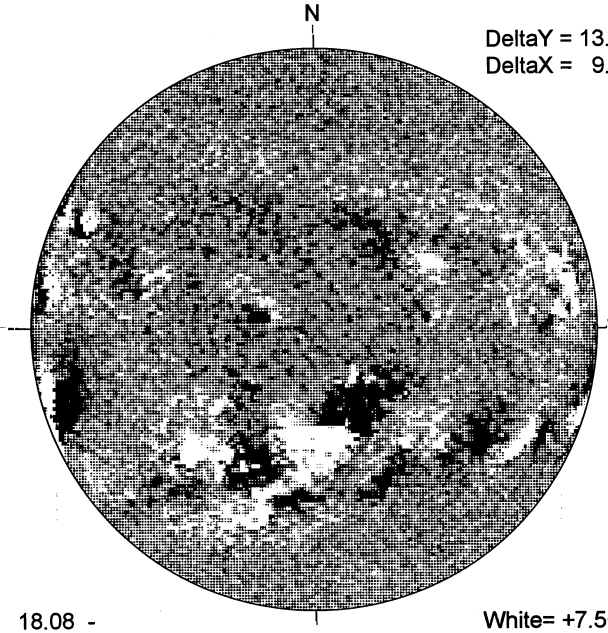
Solid = +
Dashed = -



2144 UT

MT. WILSON MAGNETOGRAM

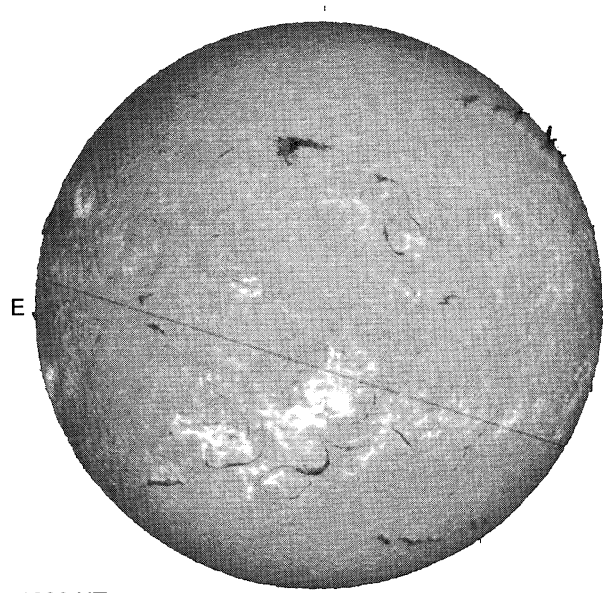
DeltaY = 13.1
DeltaX = 9.6



18.08 -
19.03 UT

White= +7.5G
Black = -7.5G

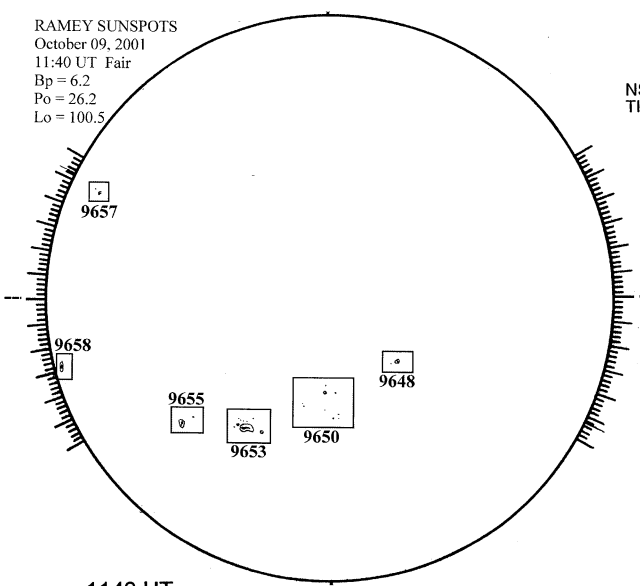
MEUDON H-ALPHA



1028 UT

S

RAMEY SUNSPOT

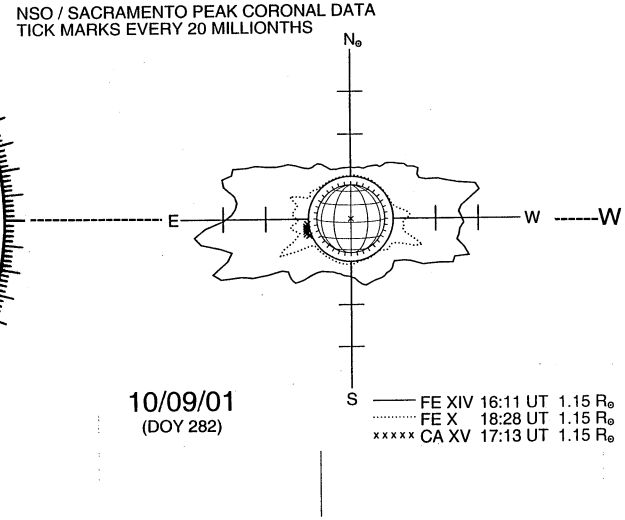


1140 UT

S

SACRAMENTO PEAK CORONA (1.15 Radii)

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS

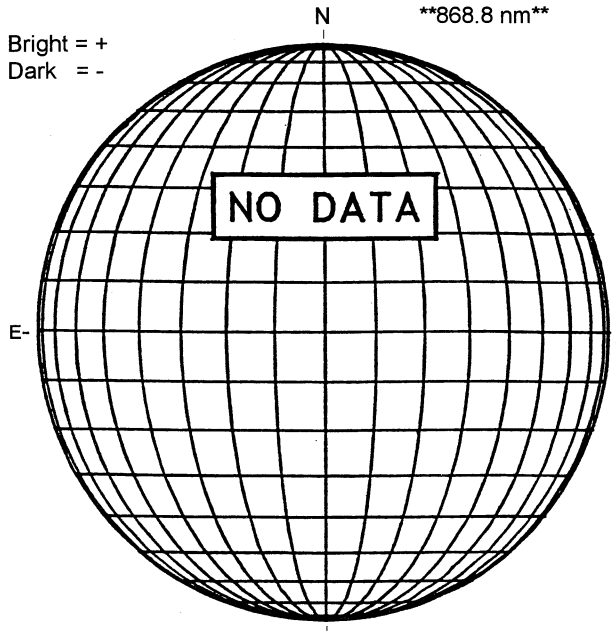


10/09/01
(DOY 282)

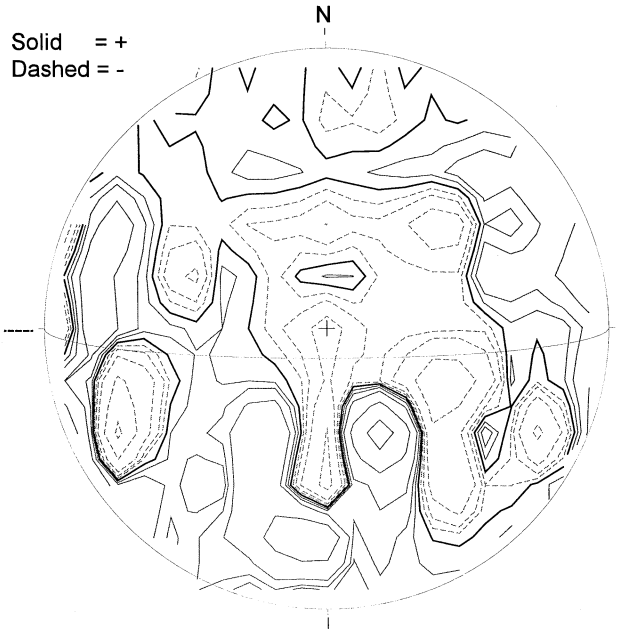
S

OCTOBER 10, 2001 (P= 26.29, Bo = 6.21 Lo = 93.77)

KITT PEAK MAGNETOGRAM

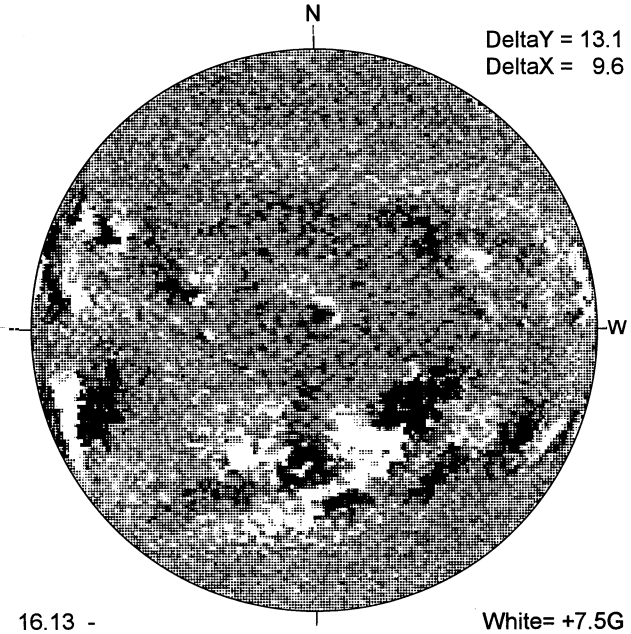


STANFORD MAGNETOGRAM



1854 UT

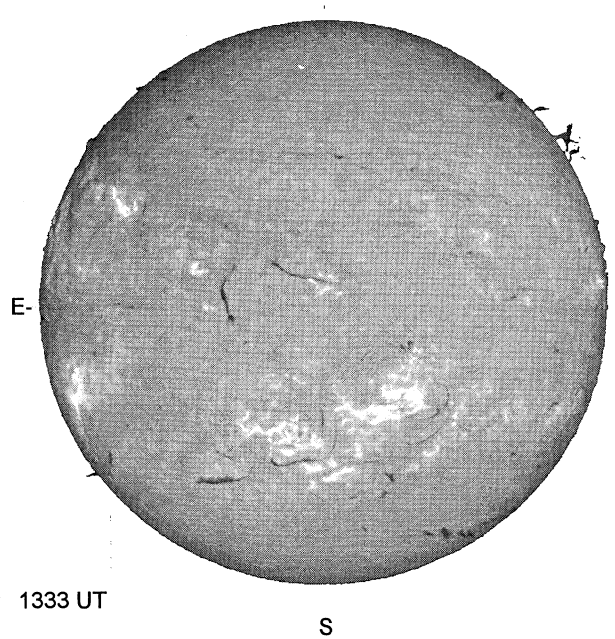
MT. WILSON MAGNETOGRAM



16.13 -
17.07 UT

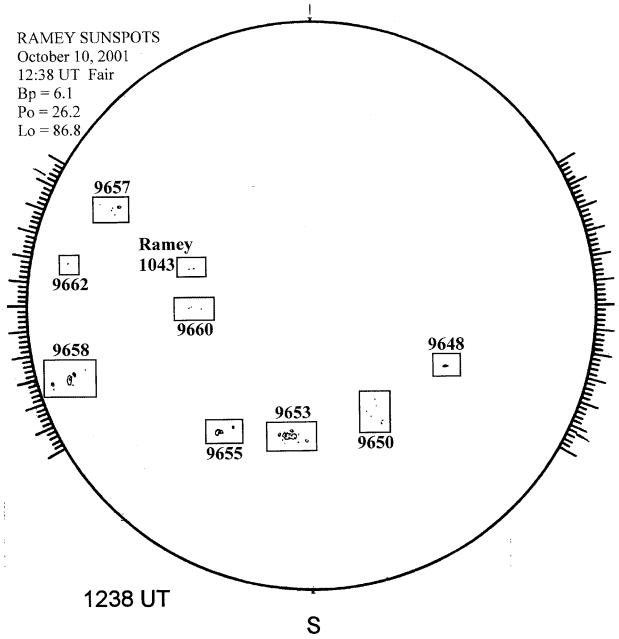
White= +7.5G
Black = -7.5G

----- MEUDON H-ALPHA



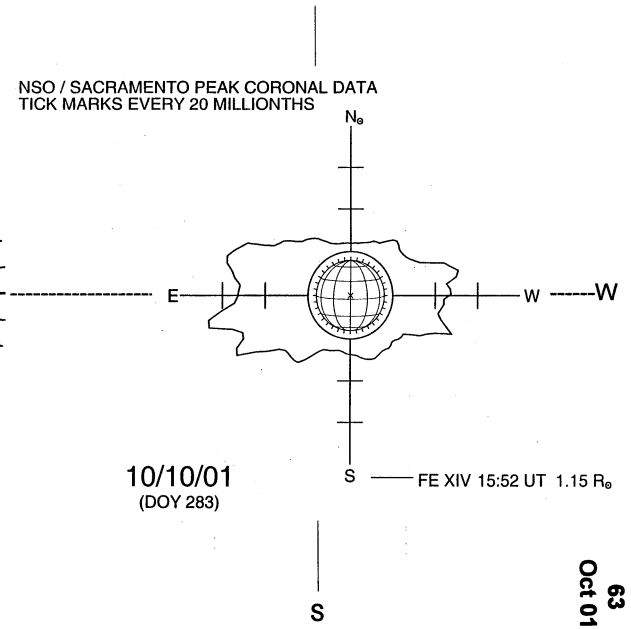
1333 UT

RAMEY SUNSPOTS



1238 UT

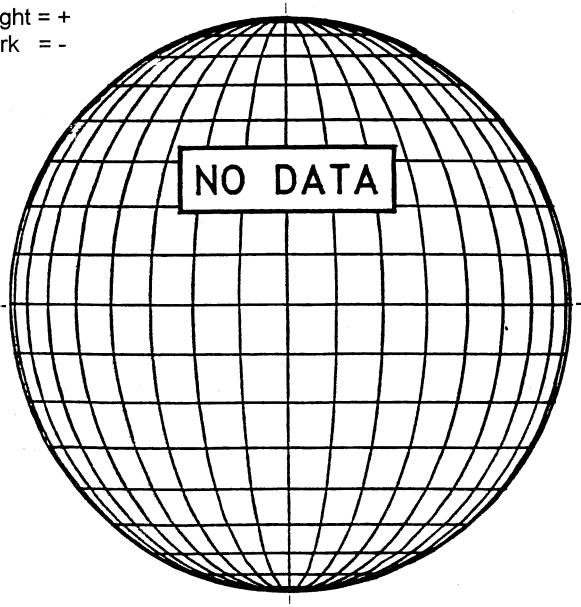
SACRAMENTO PEAK CORONA (1.15 Radii)----



OCTOBER 11, 2001 (P= 26.29, Bo = 6.15, Lo = 80.57)

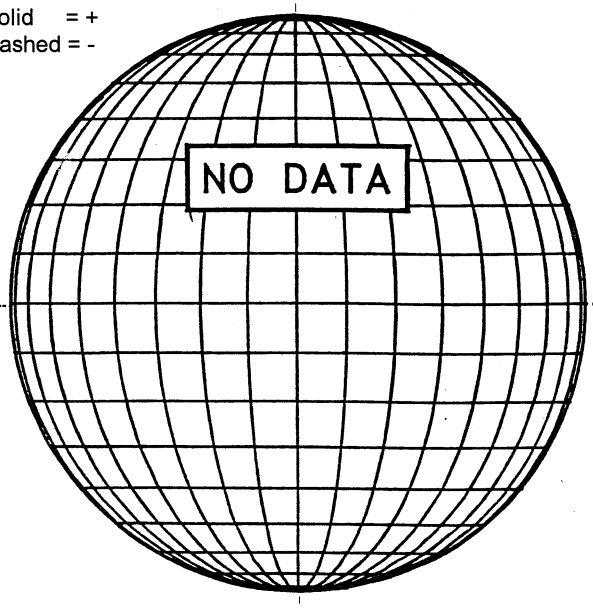
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



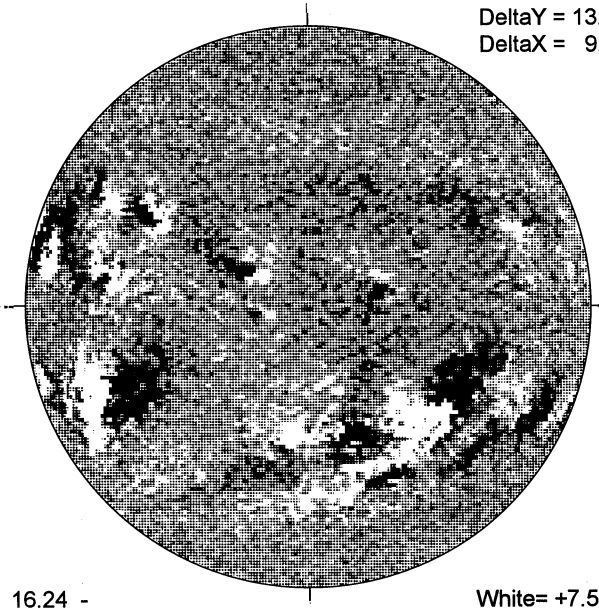
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

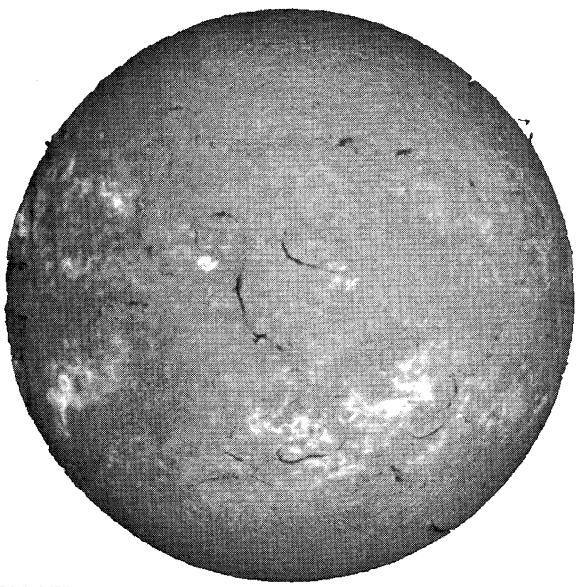
DeltaY = 13.1
DeltaX = 9.6



16.24 -
17.19 UT

White= +7.5G
Black = -7.5G

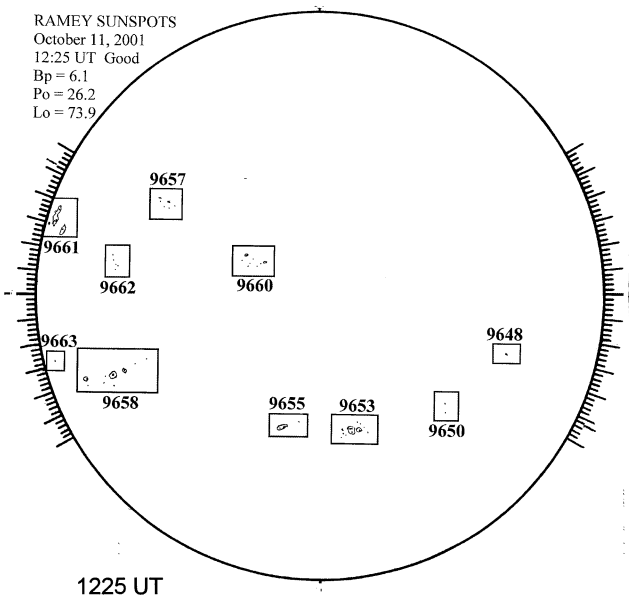
MEUDON H-ALPHA



0720 UT

S

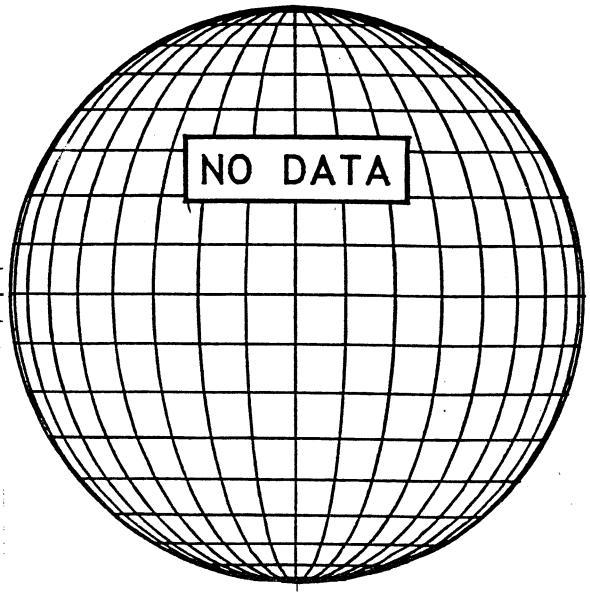
RAMEY SUNSPOTS



1225 UT

S

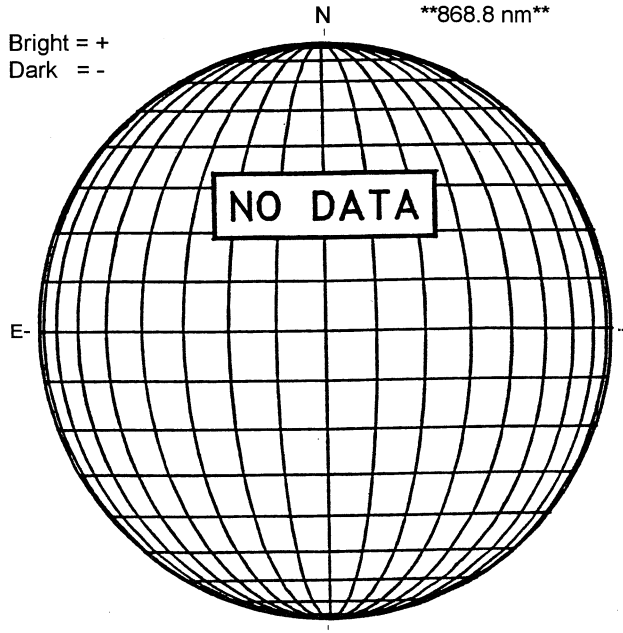
SACRAMENTO PEAK CORONA (1.15 Radii)



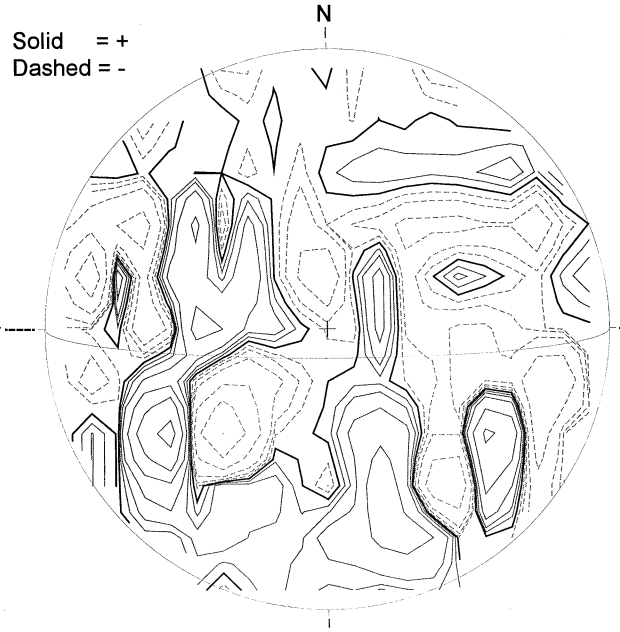
S

OCTOBER 12, 2001 (P= 26.28, Bo = 6.08 Lo = 67.38)

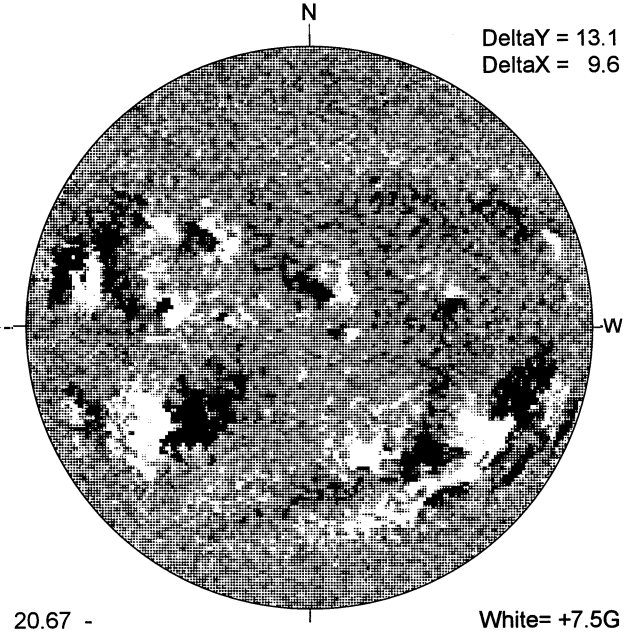
KITT PEAK MAGNETOGRAM



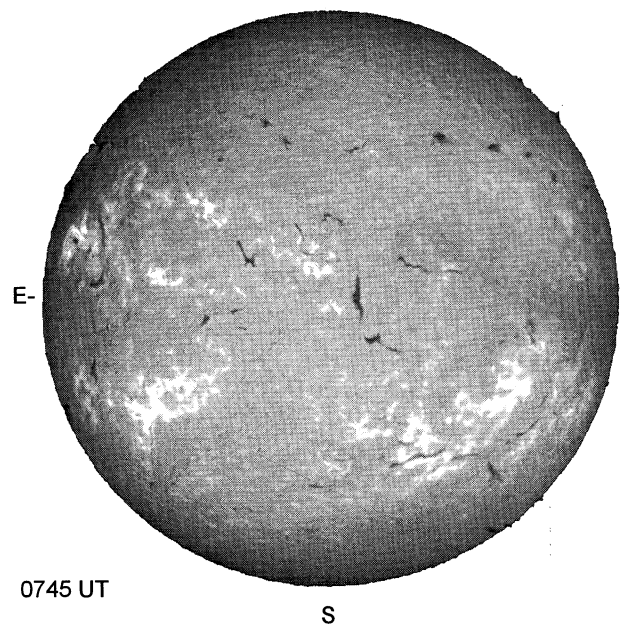
STANFORD MAGNETOGRAM



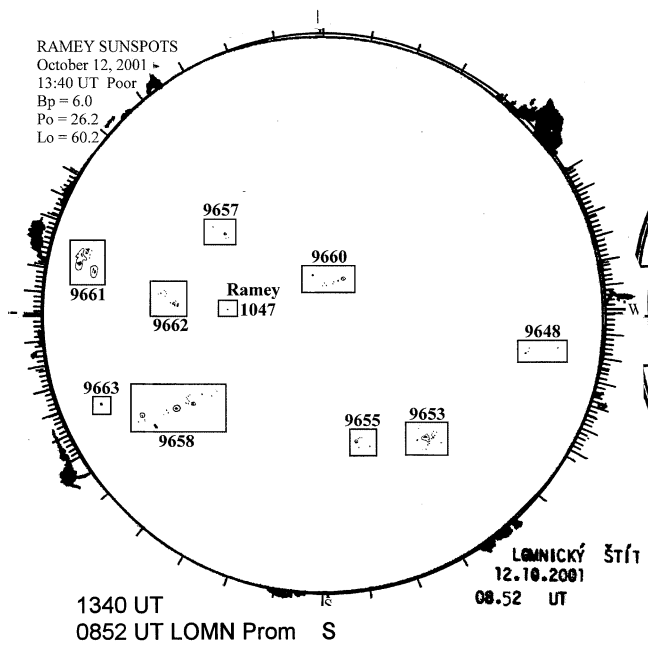
MT. WILSON MAGNETOGRAM



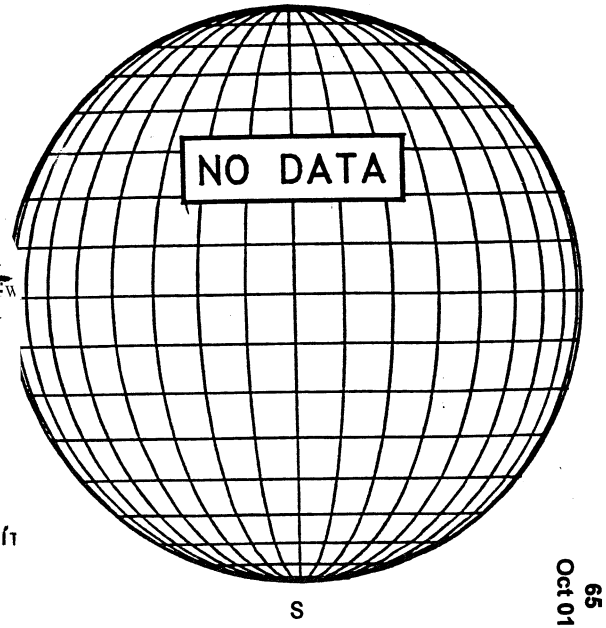
---- MEUDON H-ALPHA



RAMEY SUNSPOTS



LOMNICKY PEAK CORONA (1.04 Radii)----

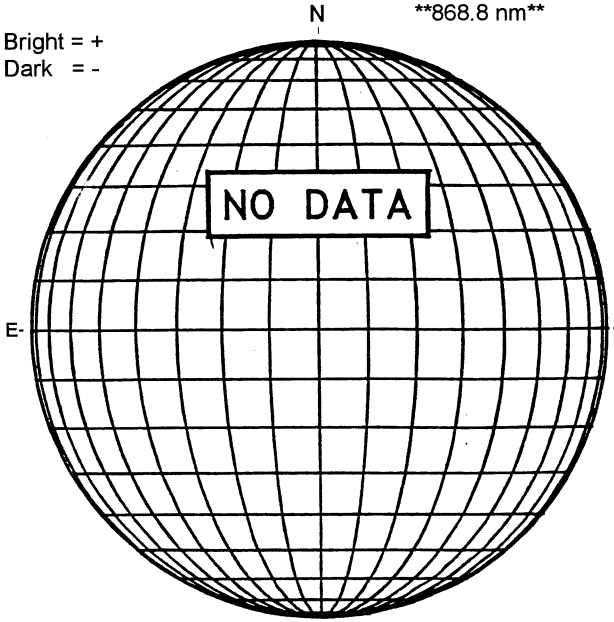


OCTOBER 13, 2001 (P= 26.26, Bo = 6.01, Lo = 54.19)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



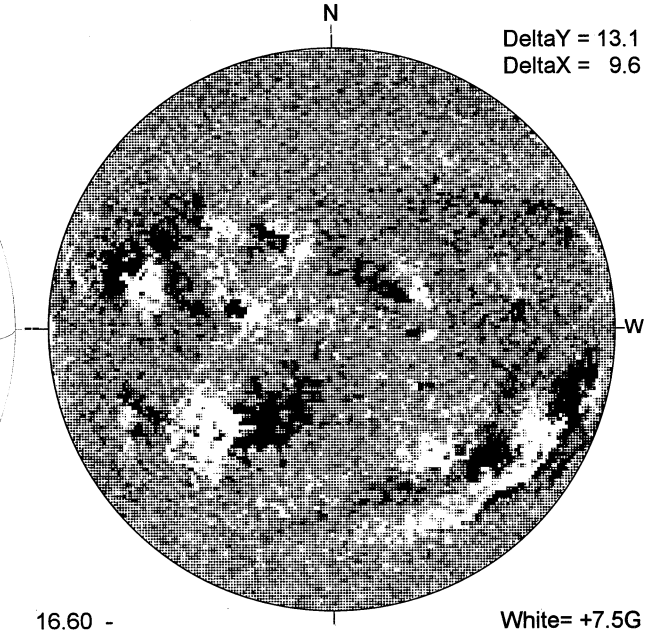
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

2219 UT

MT. WILSON MAGNETOGRAM

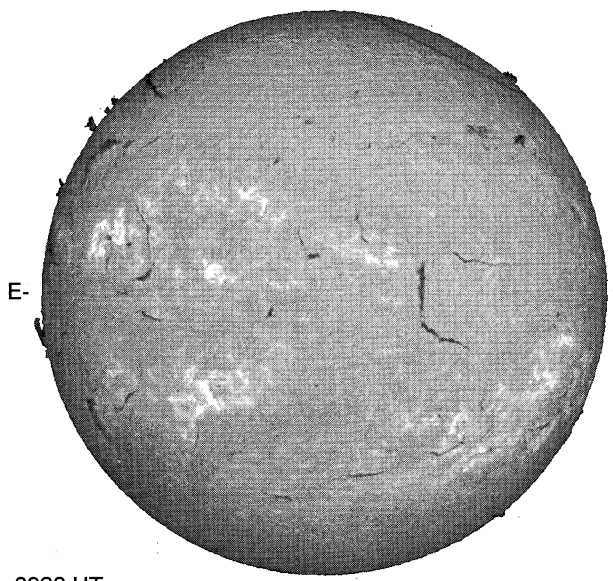
DeltaY = 13.1
DeltaX = 9.6



16.60 -
17.55 UT

White= +7.5G
Black = -7.5G

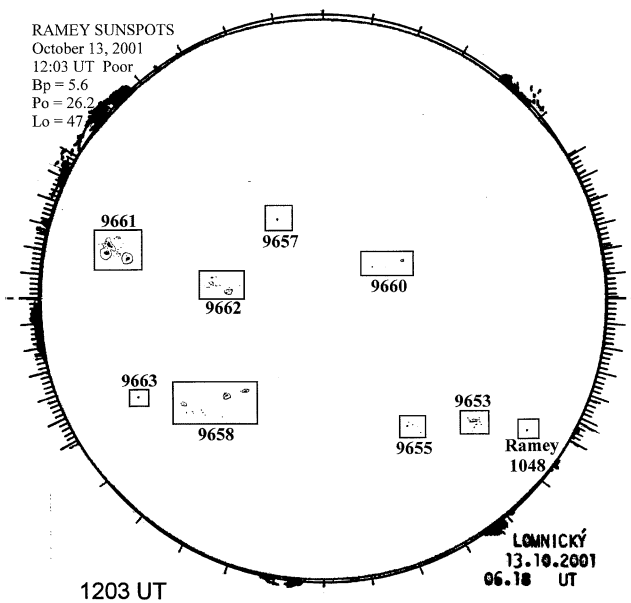
MEUDON H-ALPHA



0920 UT

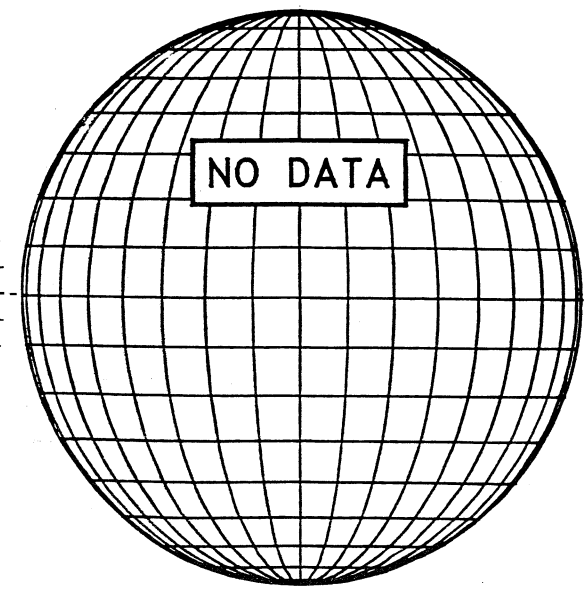
S

RAMEY SUNSPOT



1203 UT
0618 UT LOMN Prom S

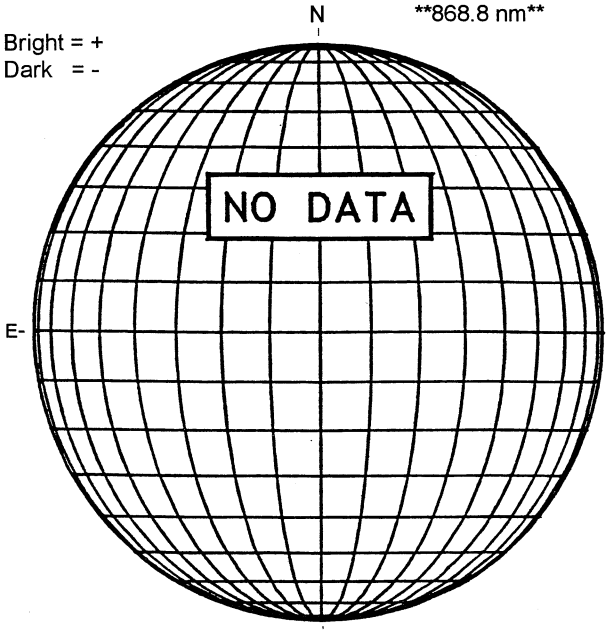
SACRAMENTO PEAK CORONA (1.15 Radii)



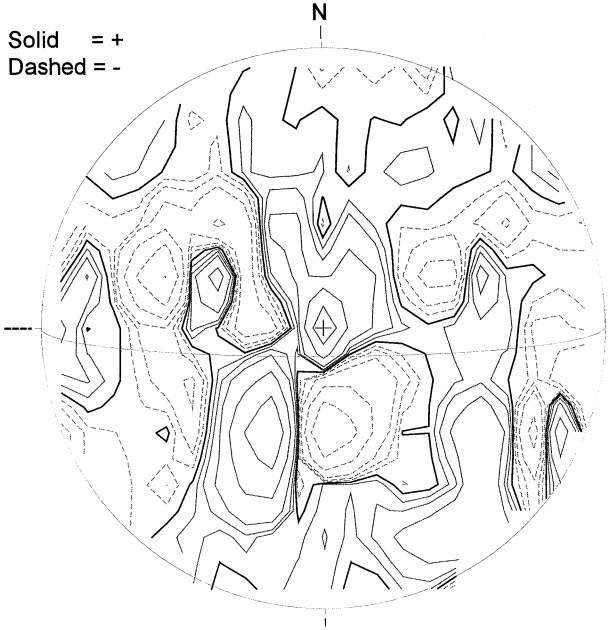
S

OCTOBER 14, 2001 (P= 26.24, Bo = 5.94, Lo = 41.00)

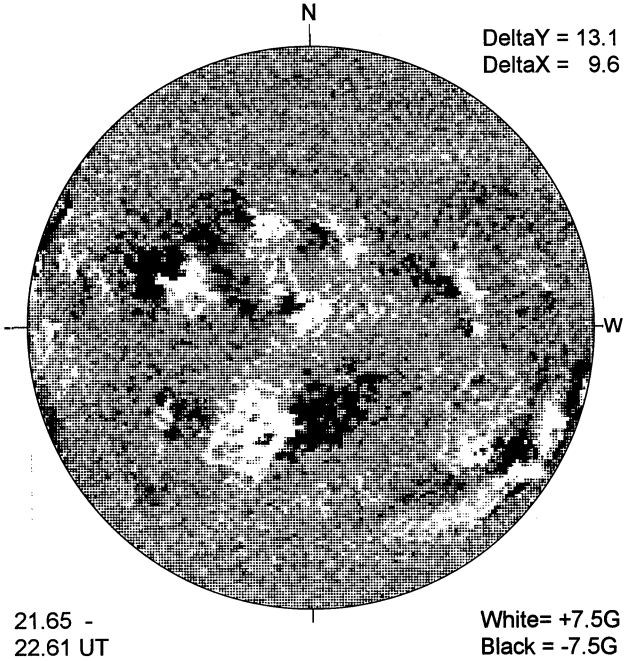
KITT PEAK MAGNETOGRAM



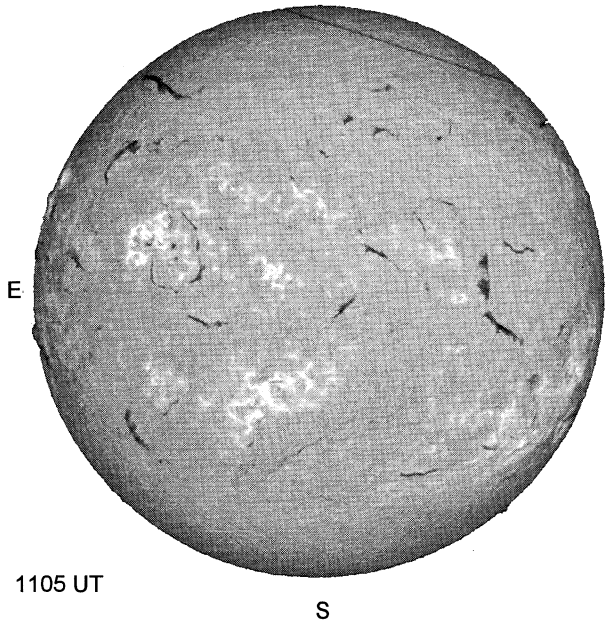
STANFORD MAGNETOGRAM



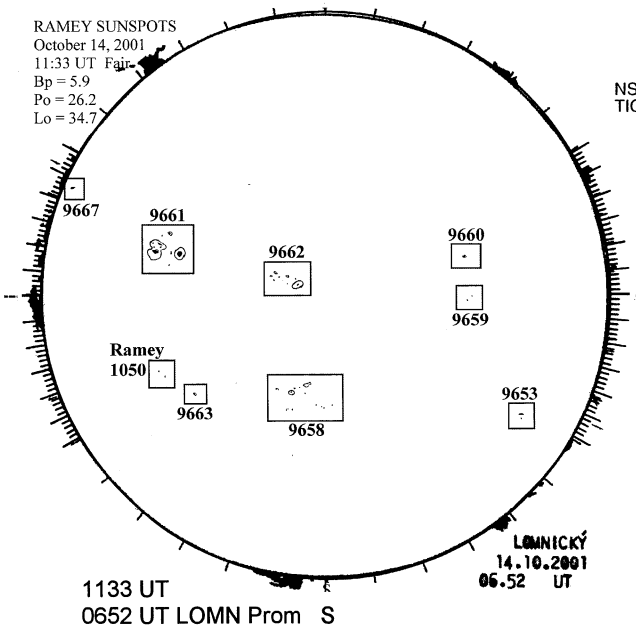
MT. WILSON MAGNETOGRAM



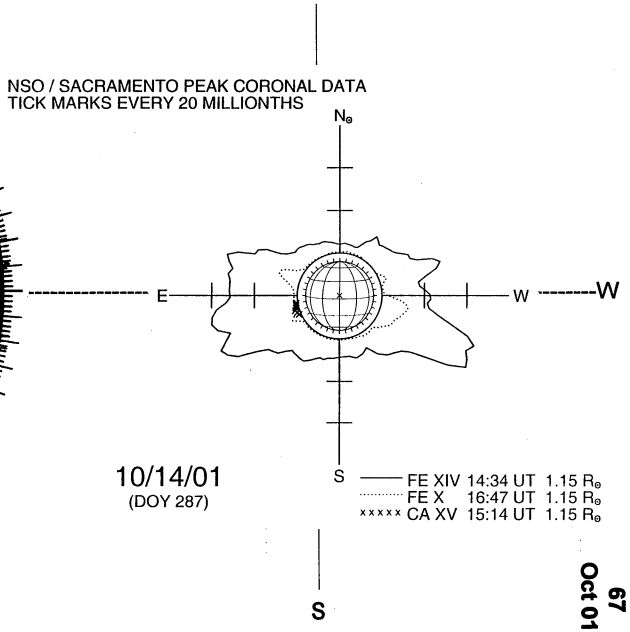
MEUDON H-ALPHA



RAMEY SUNSPOT



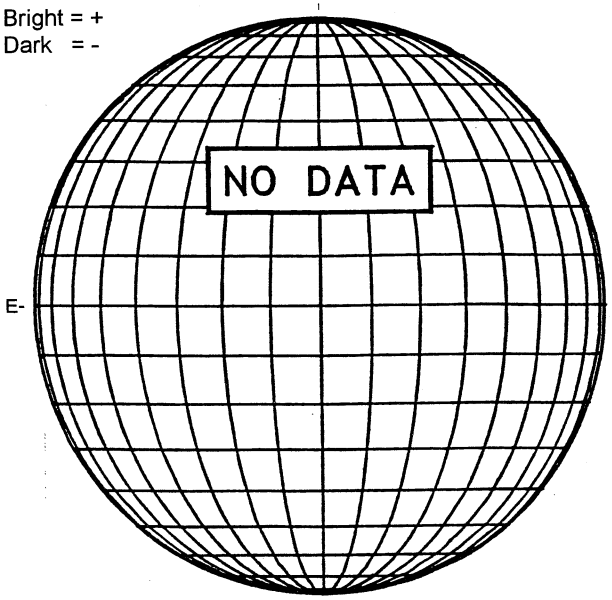
SACRAMENTO PEAK CORONA (1.15 Radii)



OCTOBER 15, 2001 (P= 26.21, Bo = 5.87, Lo = 27.81)

KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



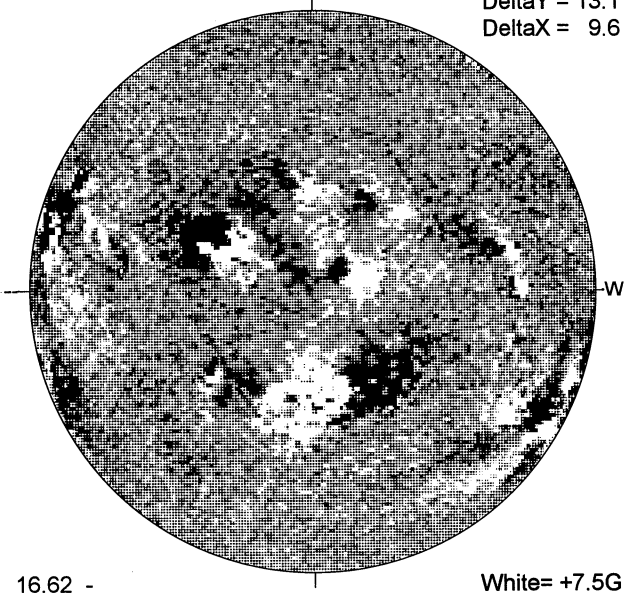
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

2058 UT

MT. WILSON MAGNETOGRAM

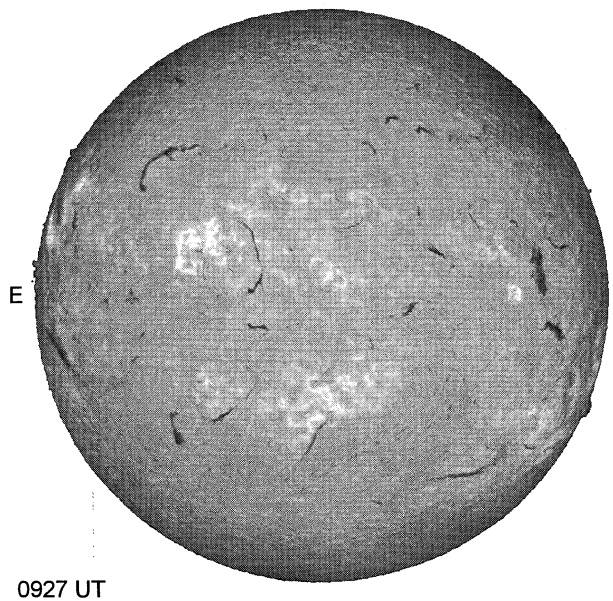
DeltaY = 13.1
DeltaX = 9.6



16.62 -
17.57 UT

White= +7.5G
Black = -7.5G

MEUDON H-ALPHA

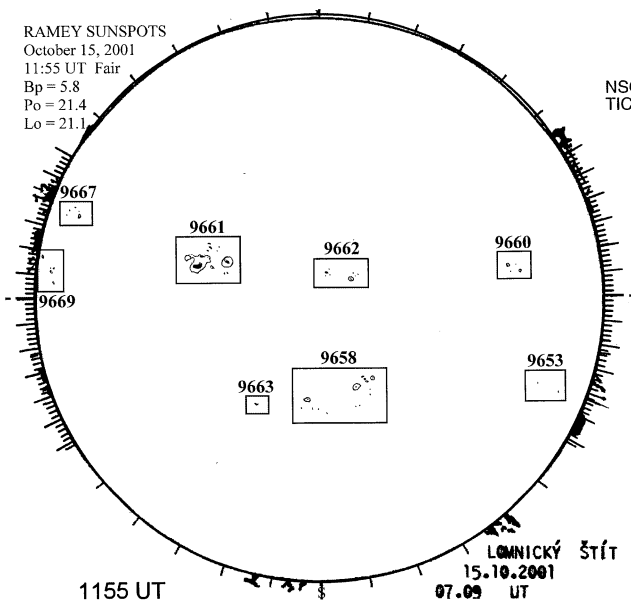


0927 UT

S

RAMEY SUNSPOT

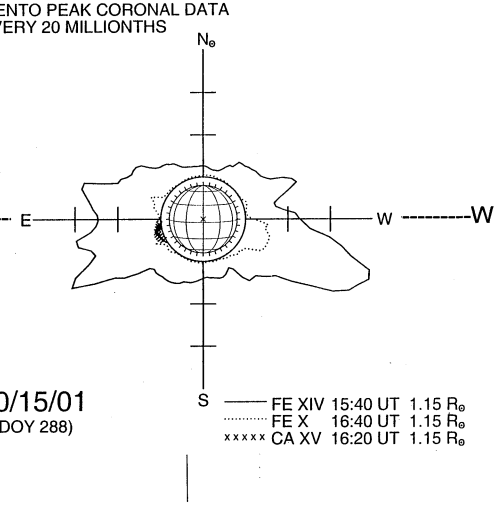
RAMEY SUNSPOTS
October 15, 2001
11:55 UT Fair
Bp = 5.8
Po = 21.4
Lo = 21.1



1155 UT
0709 UT LOMN Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS

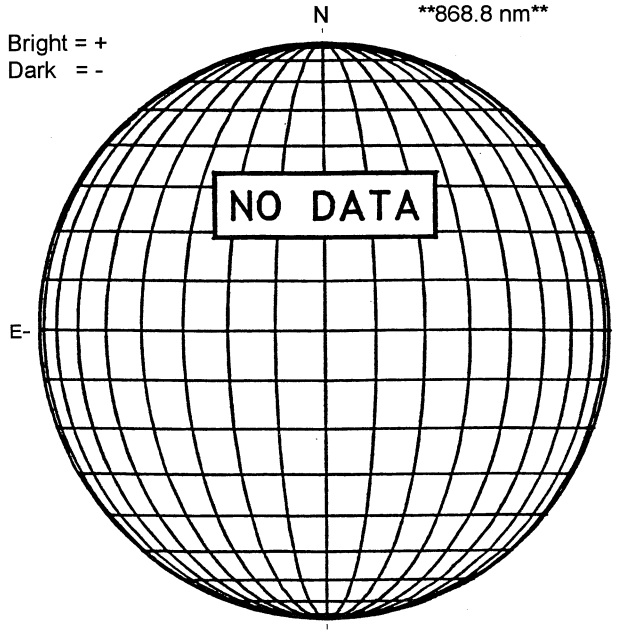


10/15/01
(DOY 288)

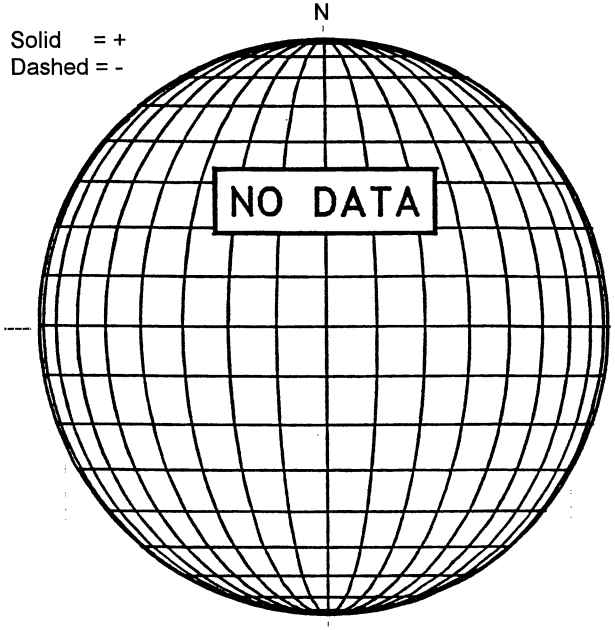
S

OCTOBER 16, 2001 (P= 26.17, Bo = 5.79, Lo = 14.62)

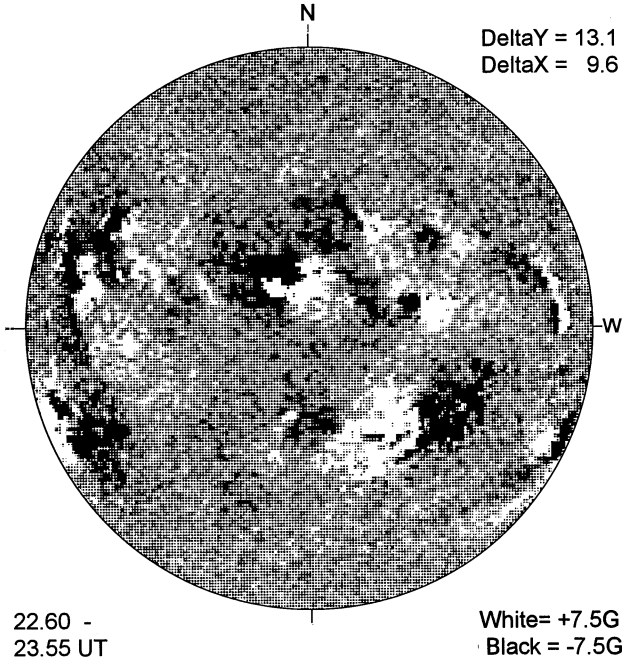
KITT PEAK MAGNETOGRAM



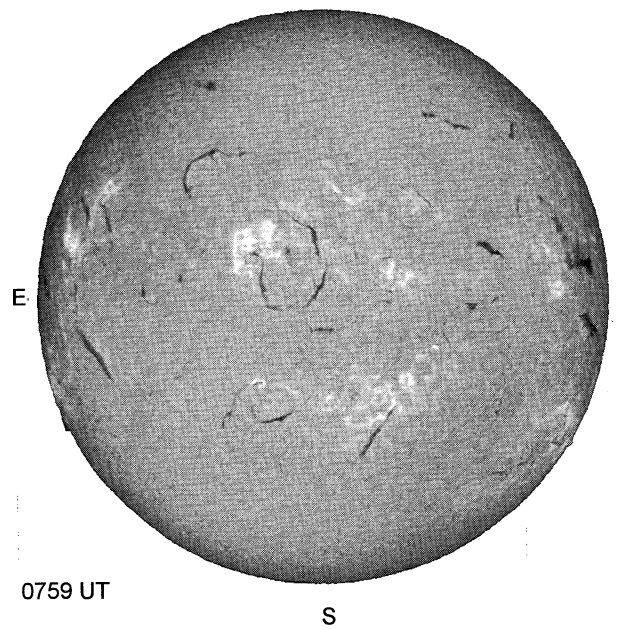
STANFORD MAGNETOGRAM



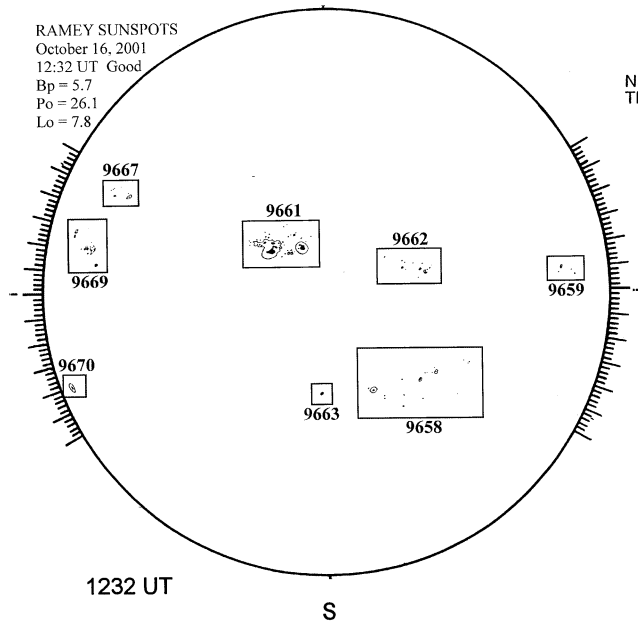
MT. WILSON MAGNETOGRAM



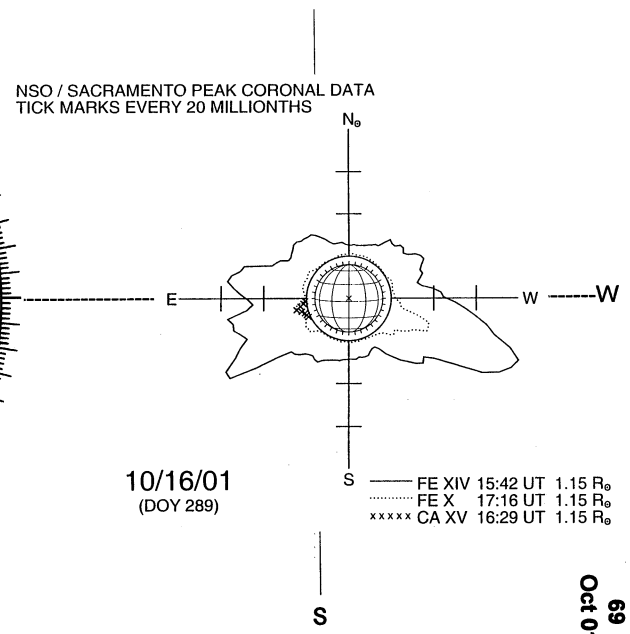
MEUDON H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

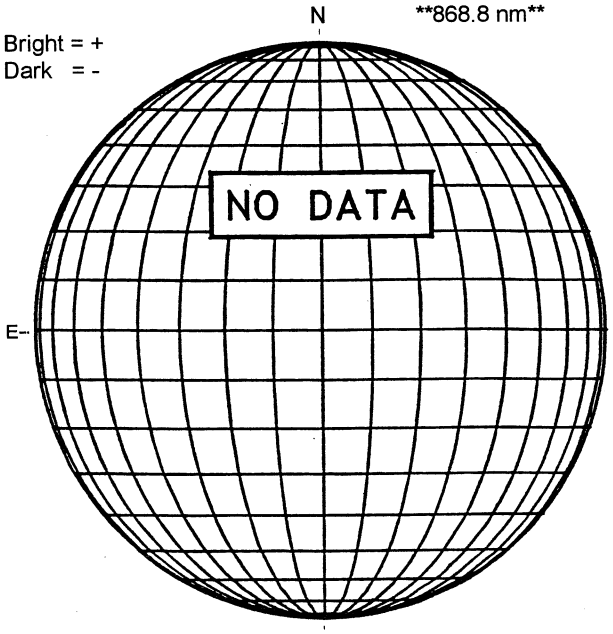


OCTOBER 17, 2001 (P= 26.12, Bo = 5.72, Lo = 1.43)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



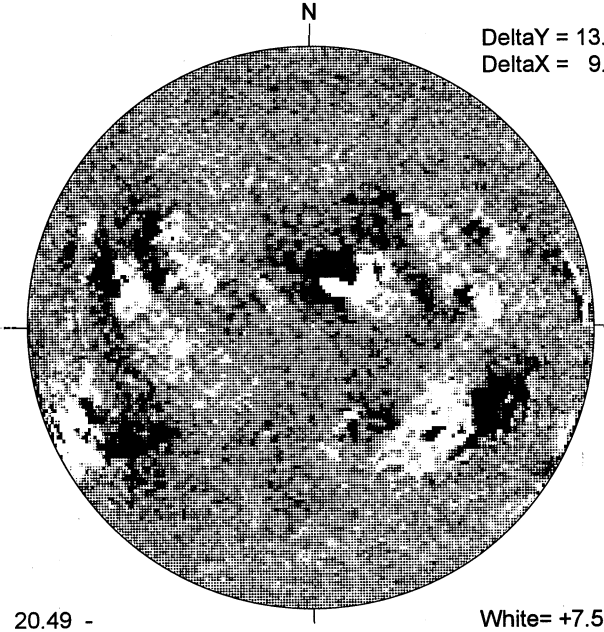
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

2036 UT

MT. WILSON MAGNETOGRAM

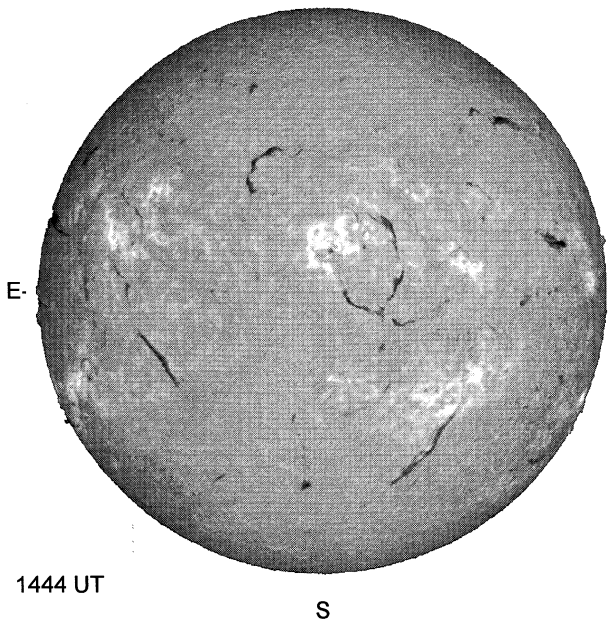
DeltaY = 13.1
DeltaX = 9.6



20.49 -
21.45 UT

White= +7.5G
Black = -7.5G

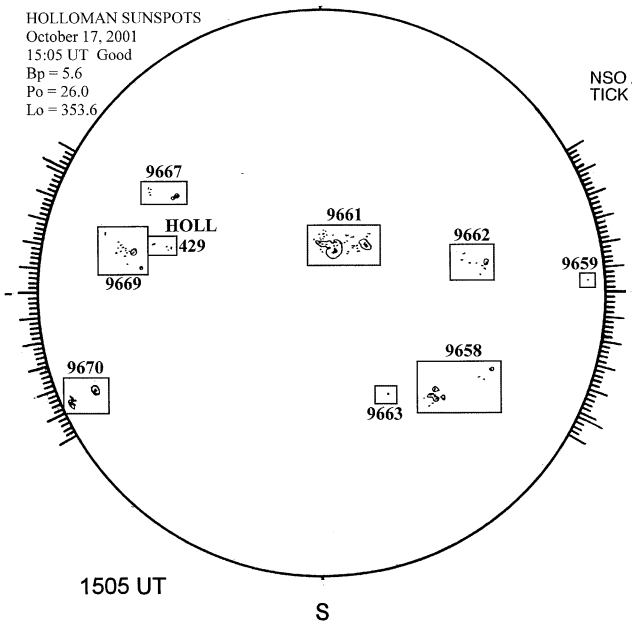
MEUDON H-ALPHA



1444 UT

HOLLOMAN SUNSPOT

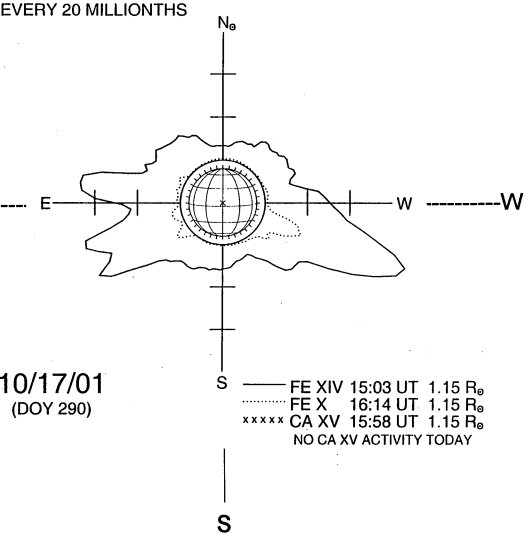
HOLLOMAN SUNSPOTS
October 17, 2001
15:05 UT Good
Bp = 5.6
Po = 26.0
Lo = 353.6



1505 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS

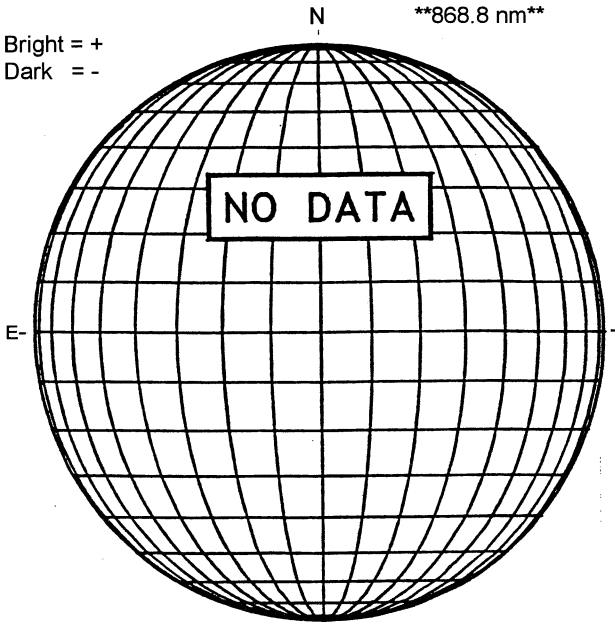


10/17/01
(DOY 290)

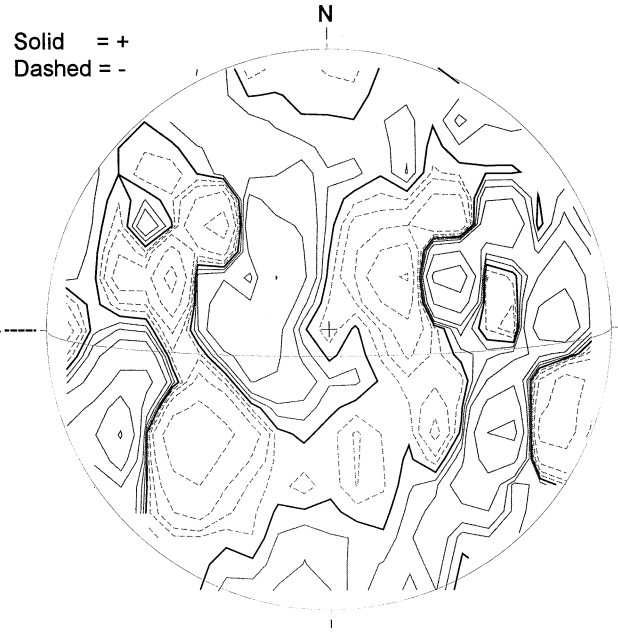
FE XIV 15:03 UT 1.15 R⊙
FE X 16:14 UT 1.15 R⊙
xxxxx CA XV 15:58 UT 1.15 R⊙
NO CA XV ACTIVITY TODAY

OCTOBER 18, 2001 (P= 26.07, Bo = 5.64, Lo = 348.24)

KITT PEAK MAGNETOGRAM

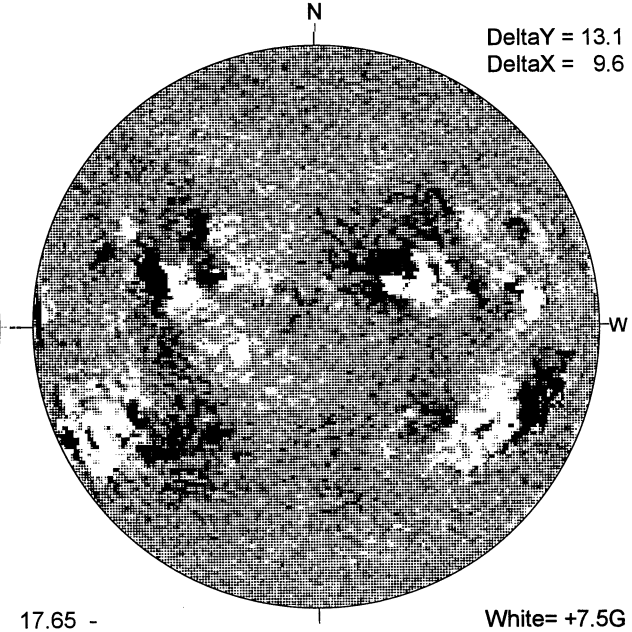


STANFORD MAGNETOGRAM



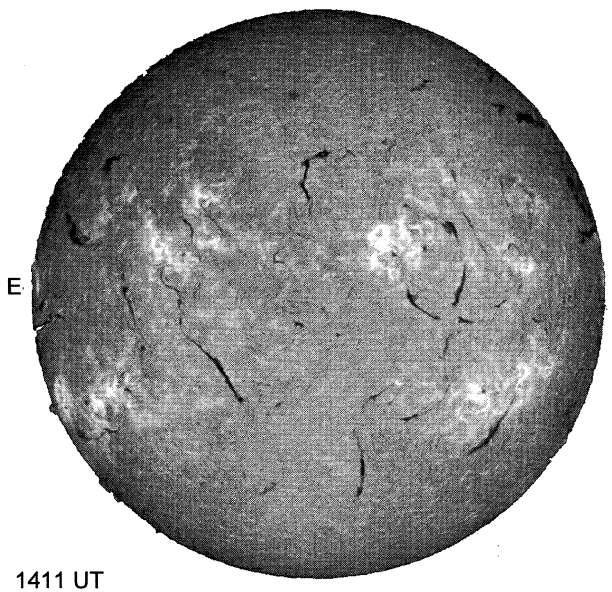
2110 UT

MT. WILSON MAGNETOGRAM



17.65 -
18.61 UT

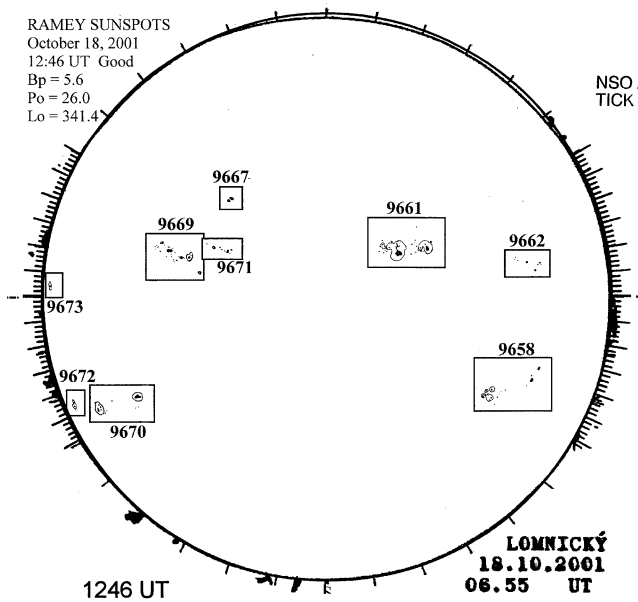
MEUDON H-ALPHA



1411 UT

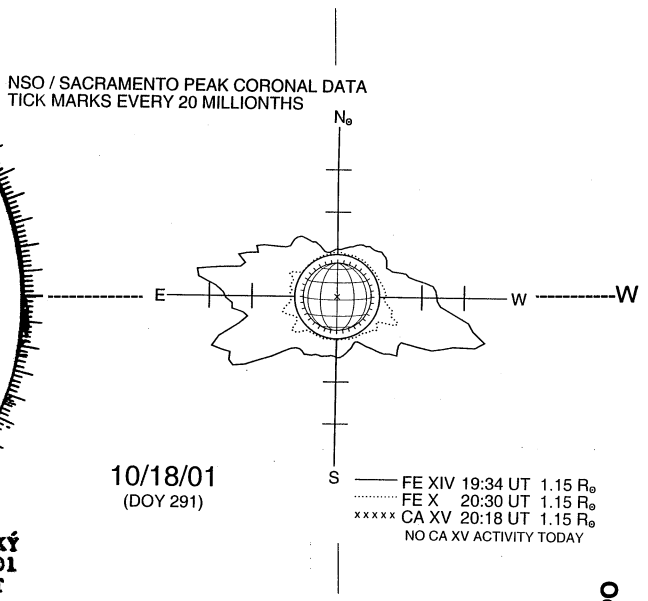
S

RAMEY SUNSPOT



1246 UT
0655 UT LOMN Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----



10/18/01
(DOY 291)

S

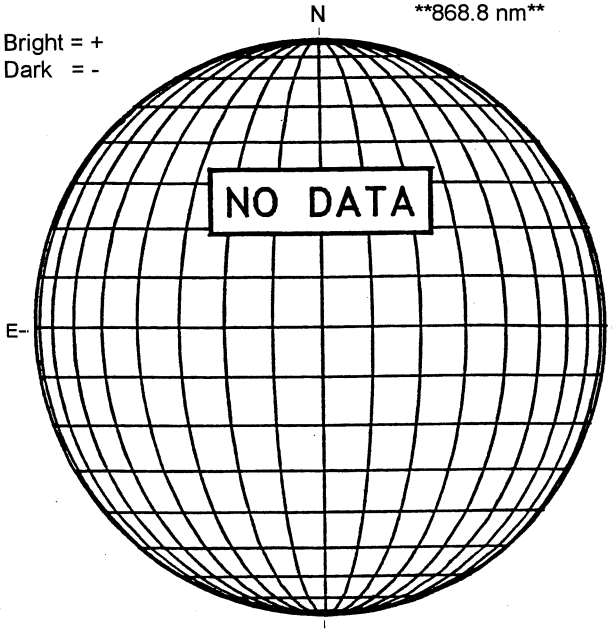
71
Oct 01

OCTOBER 19, 2001 (P= 26.01, Bo = 5.56, Lo = 335.05)

KITT PEAK MAGNETOGRAM

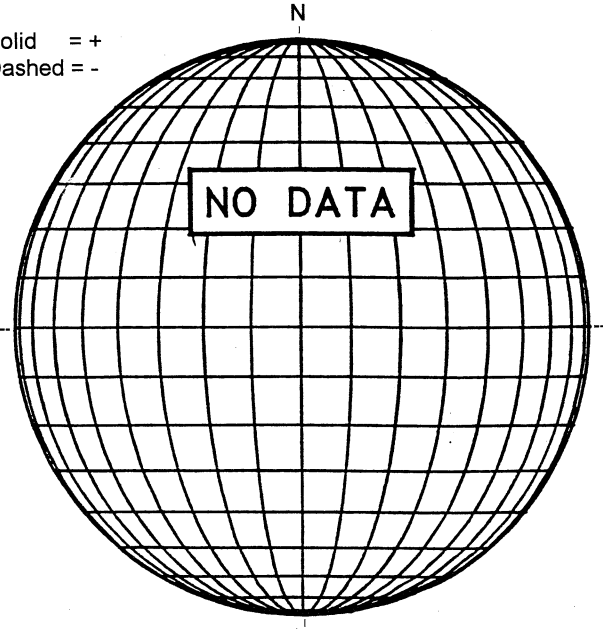
868.8 nm

Bright = +
Dark = -



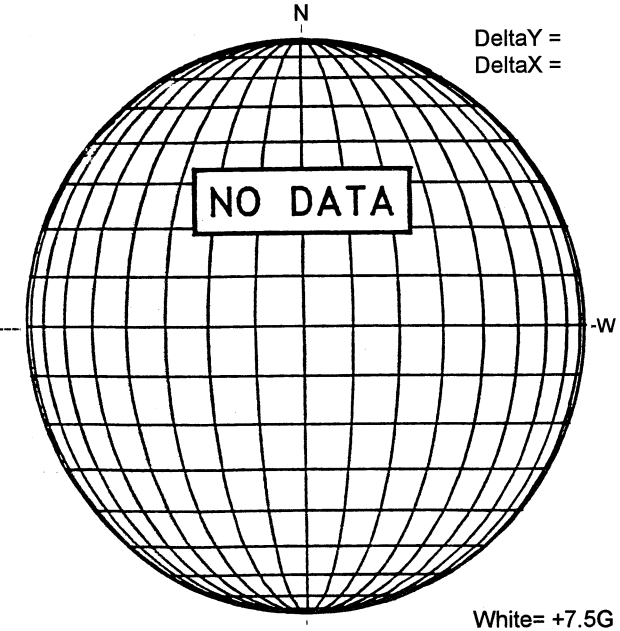
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



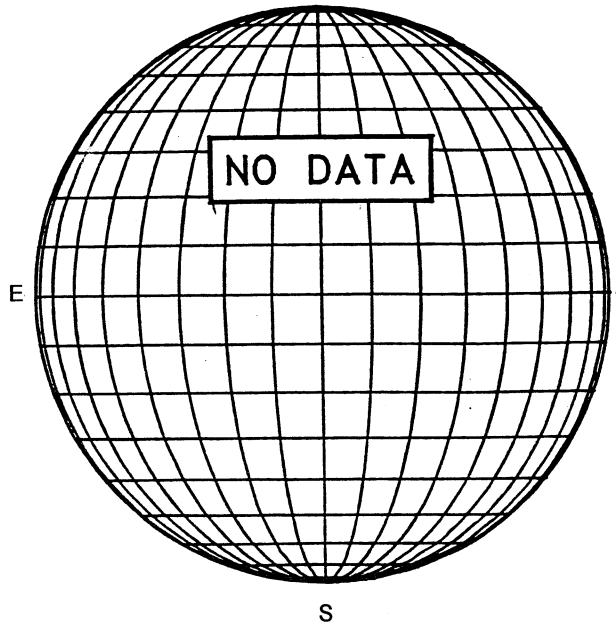
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =



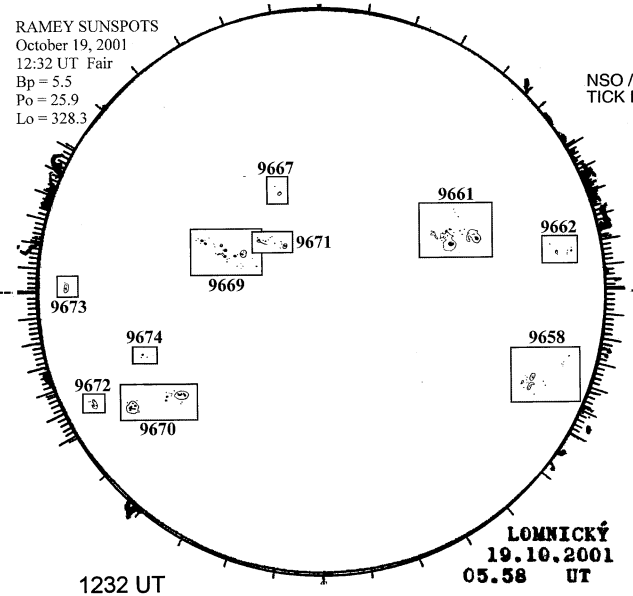
White= +7.5G
Black = -7.5G

MEUDON H-ALPHA



RAMEY SUNSPOT

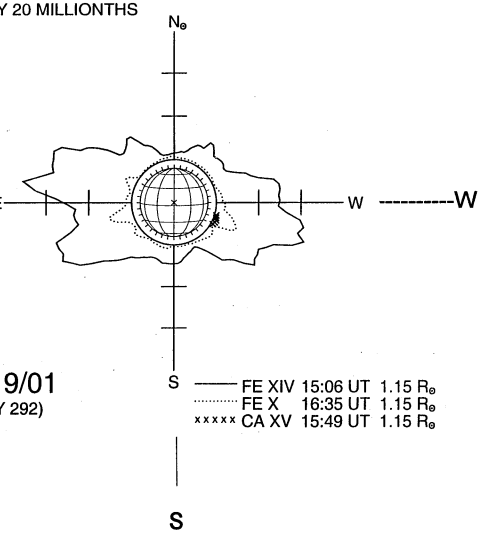
RAMEY SUNSPOTS
October 19, 2001
12:32 UT Fair
Bp = 5.5
Po = 25.9
Lo = 328.3



1232 UT
0558 UT LOMN Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS

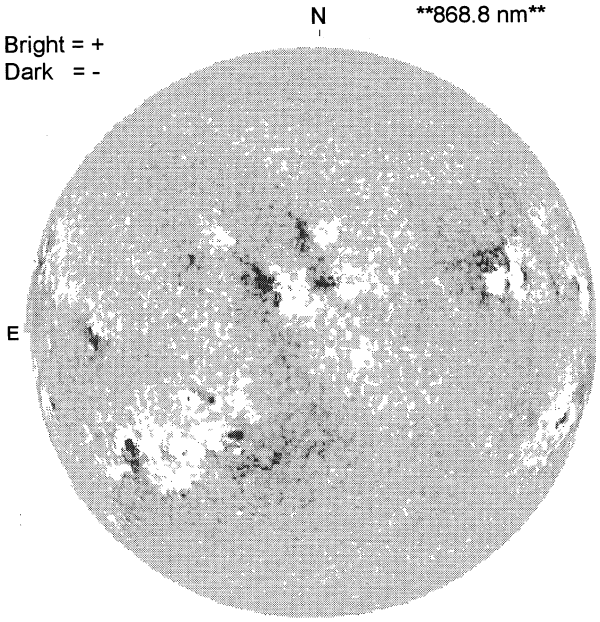


10/19/01
(DOY 292)

FE XIV 15:06 UT 1.15 R⊙
FE X 16:35 UT 1.15 R⊙
xxxxx CA XV 15:49 UT 1.15 R⊙

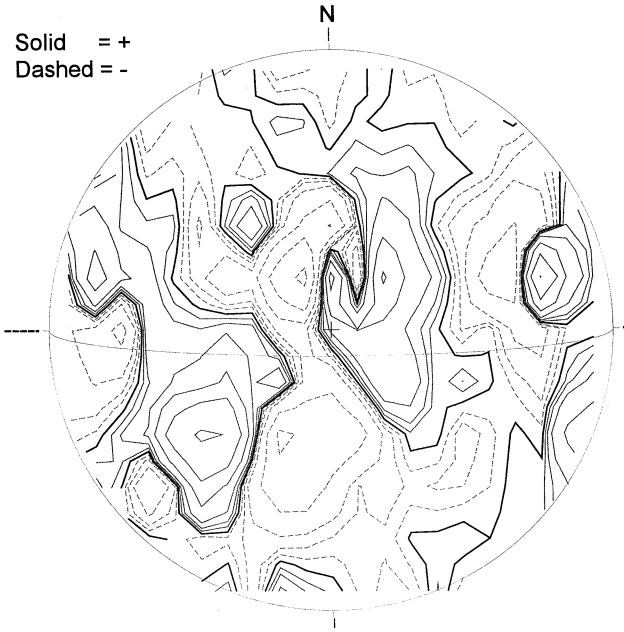
OCTOBER 20, 2001 (P= 25.94, Bo = 5.48, Lo = 321.86)

KITT PEAK MAGNETOGRAM



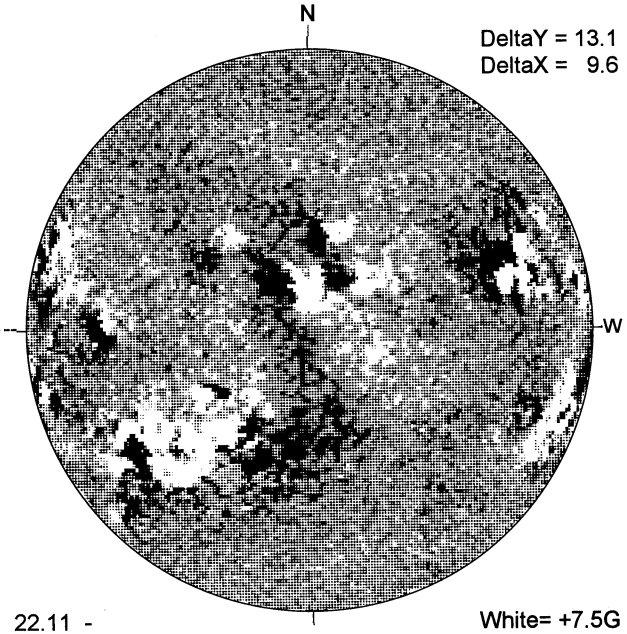
1543 UT

STANFORD MAGNETOGRAM



2208 UT

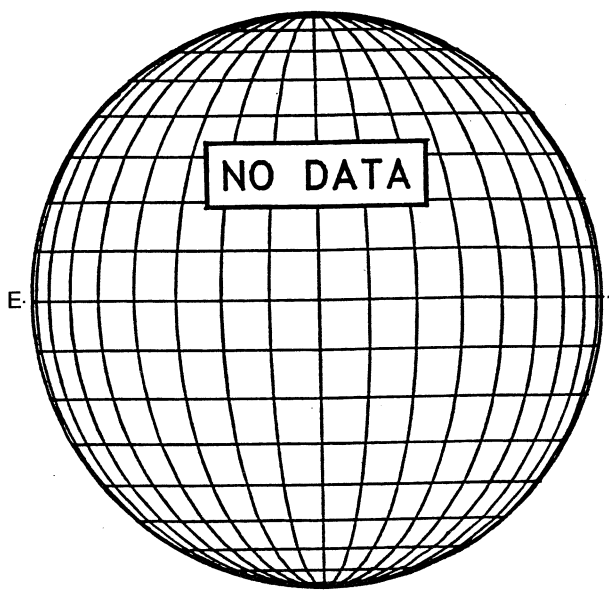
MT. WILSON MAGNETOGRAM



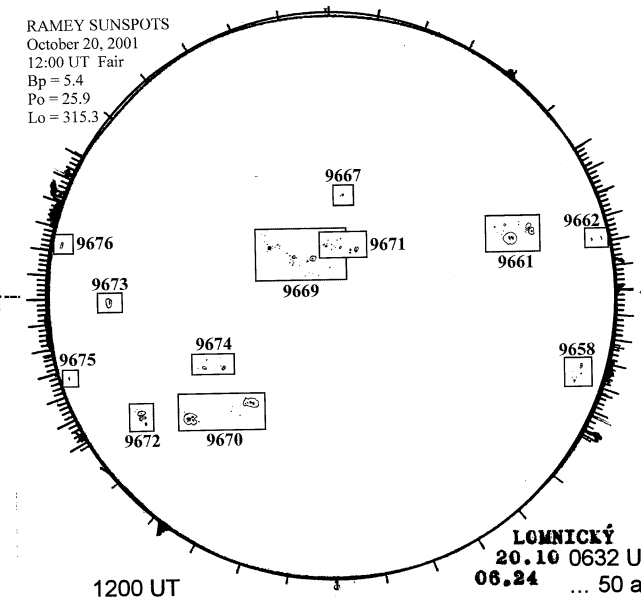
22.11 -
23.07 UT

White= +7.5G
Black = -7.5G

MEUDON H-ALPHA



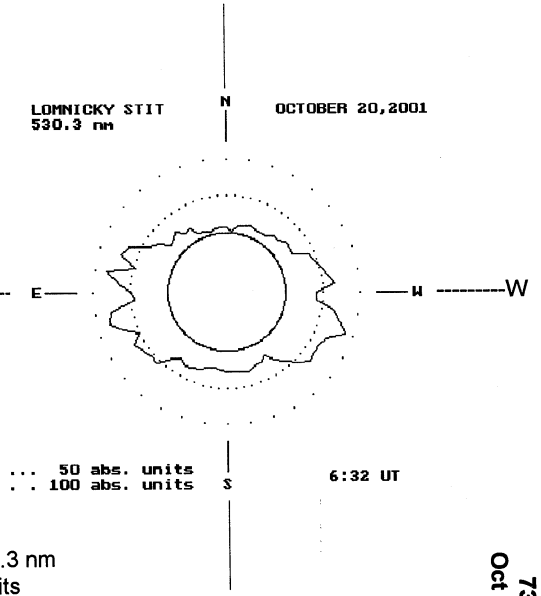
RAMEY SUNSPOT



1200 UT
0624 UT LOMN Prom S

0632 UT, 530.3 nm
... 50 abs. units
. . 100 abs. units

LOMNICKY PEAK CORONA (1.04 Radii)



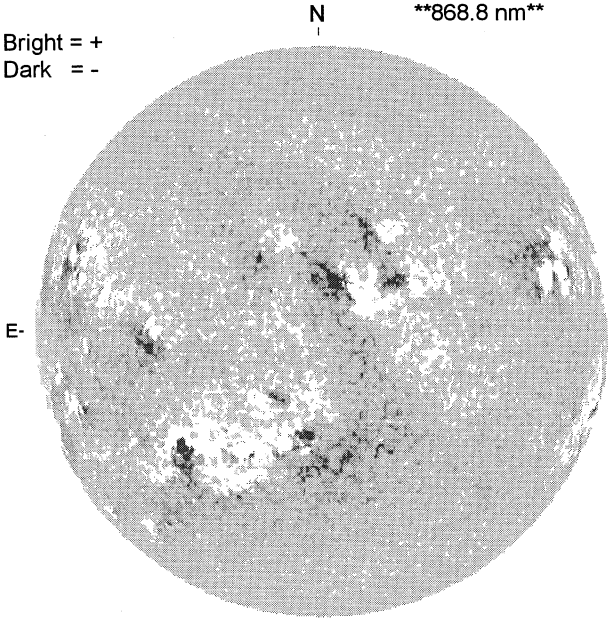
73
Oct 01

OCTOBER 21, 2001 (P= 25.86, Bo = 5.39, Lo = 308.67)

KITT PEAK MAGNETOGRAM

868.8 nm

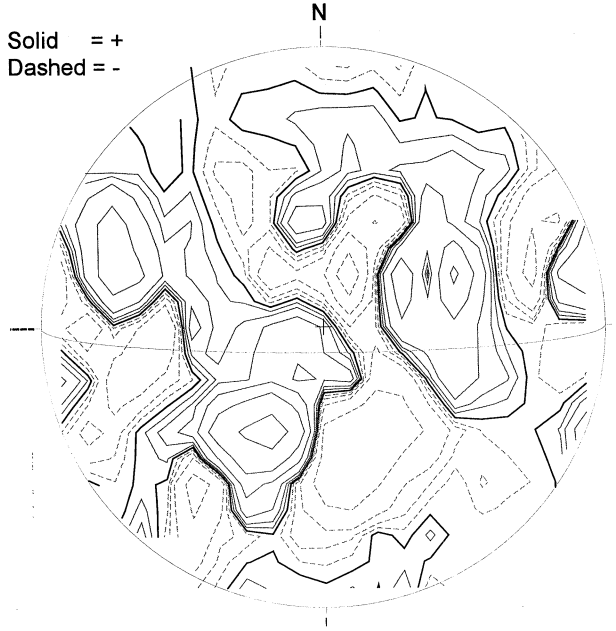
Bright = +
Dark = -



1448 UT

STANFORD MAGNETOGRAM

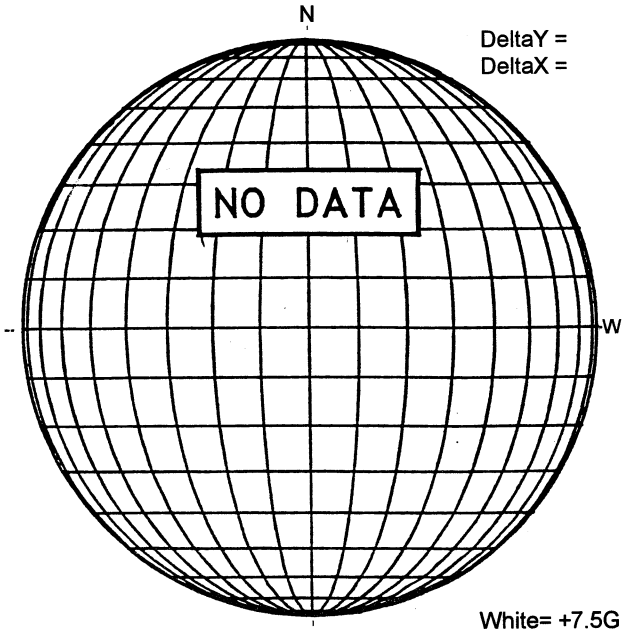
Solid = +
Dashed = -



2316 UT

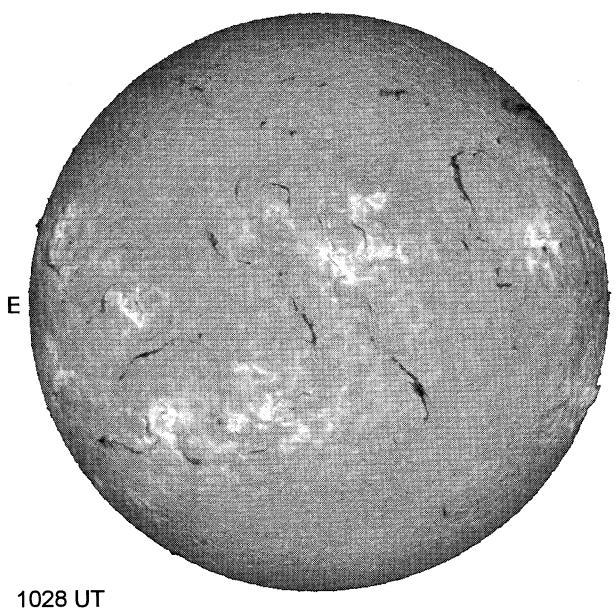
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =



White= +7.5G
Black = -7.5G

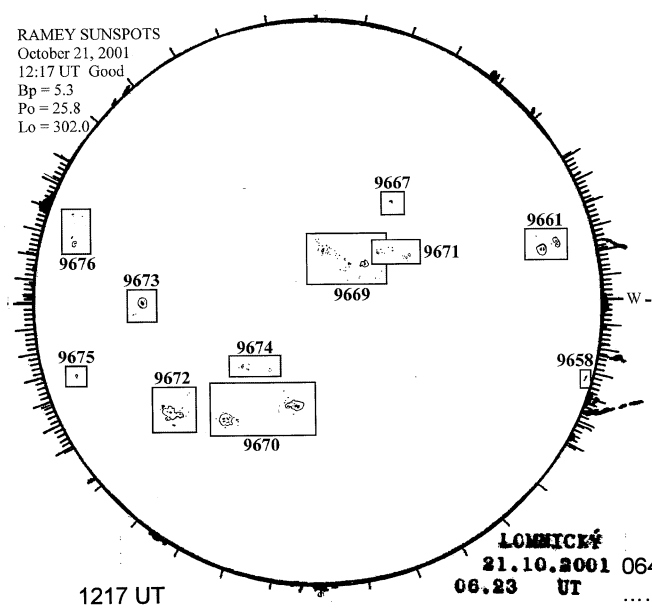
MEUDON H-ALPHA



1028 UT

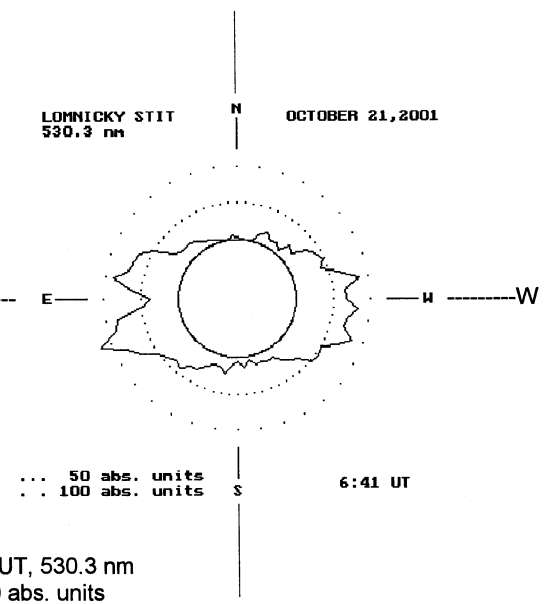
S

RAMEY SUNSPOT



1217 UT
0623 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)

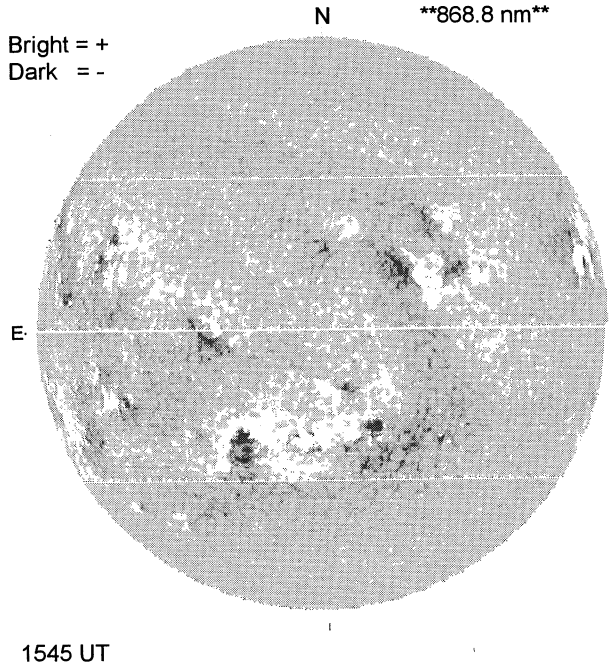


0641 UT, 530.3 nm
.... 50 abs. units
. . 100 abs. units

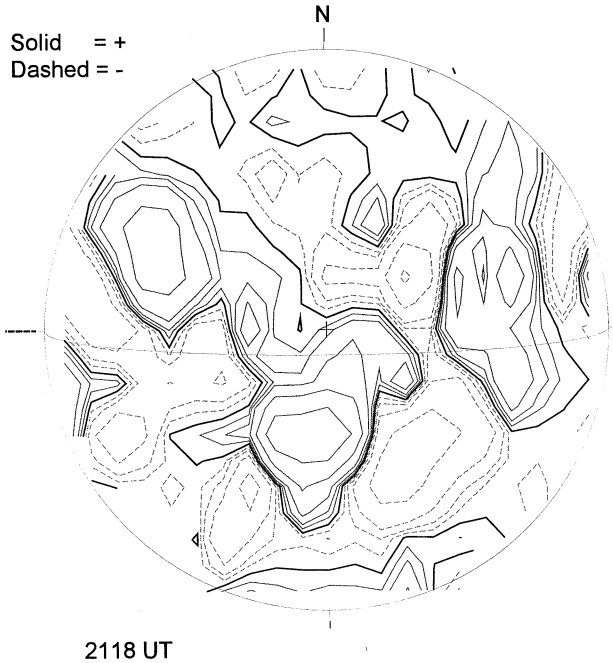
S

OCTOBER 22, 2001 (P= 25.78, Bo = 5.31, Lo = 295.48)

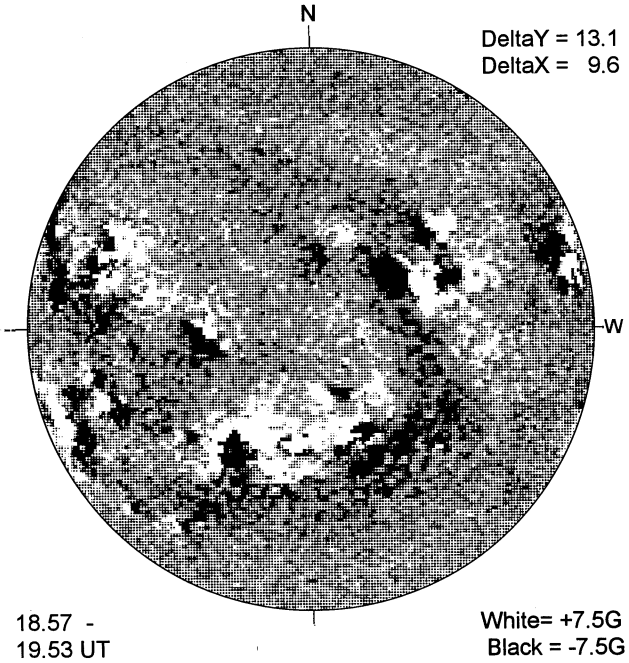
KITT PEAK MAGNETOGRAM



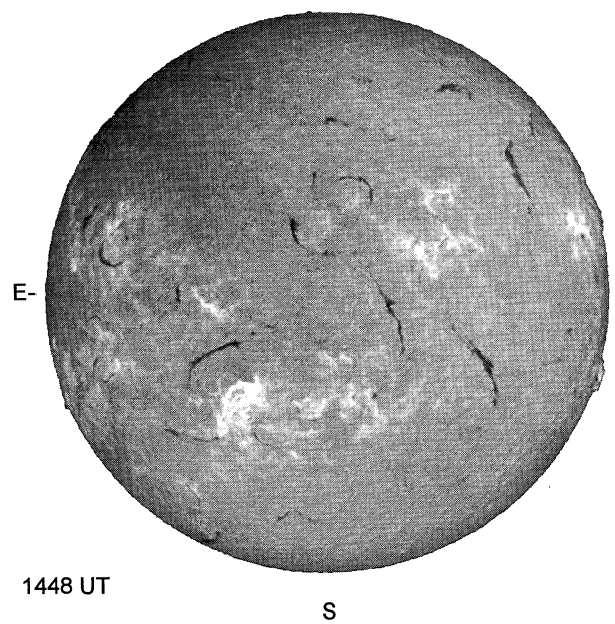
STANFORD MAGNETOGRAM



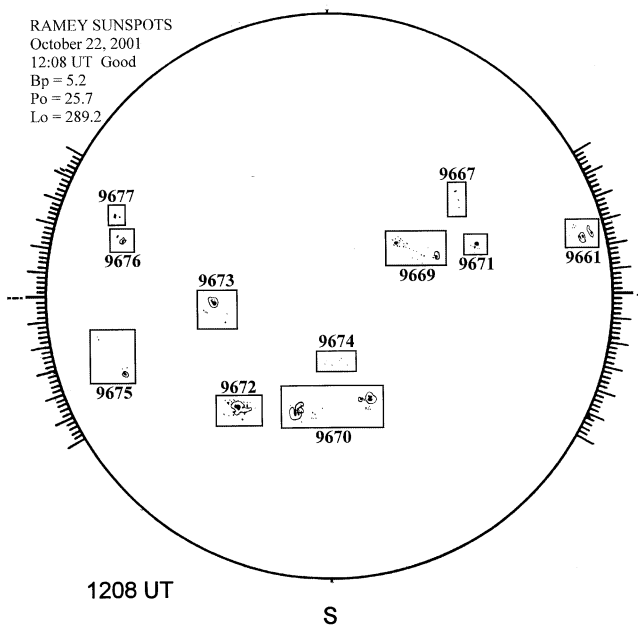
MT. WILSON MAGNETOGRAM



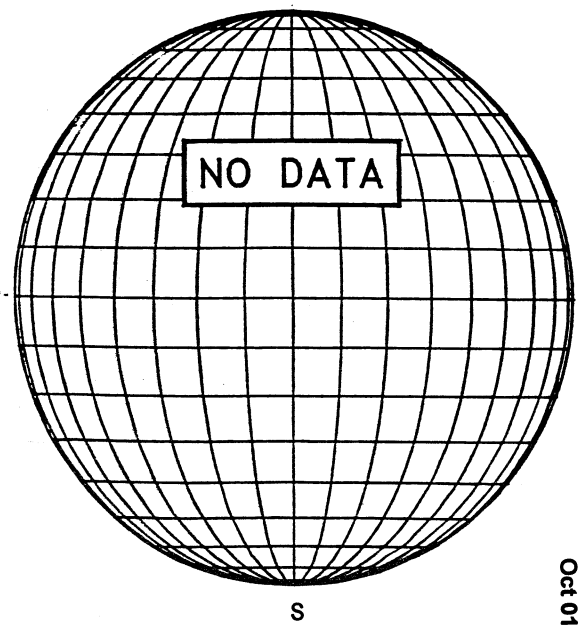
MEUDON H-ALPHA



RAMEY SUNSPOT



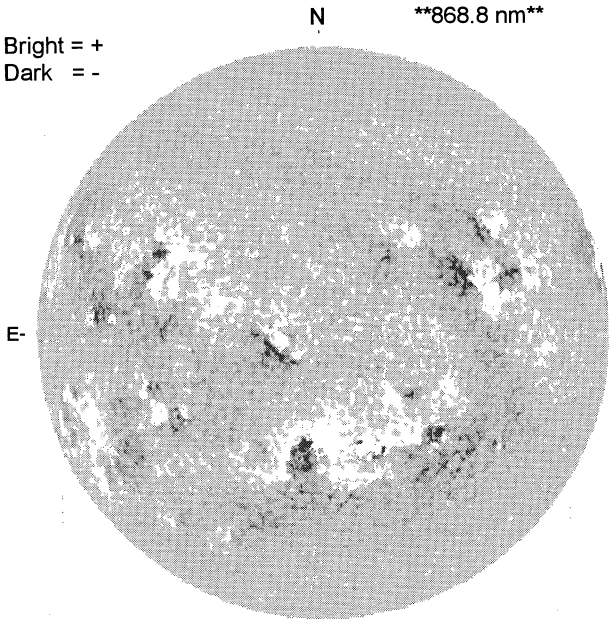
SACRAMENTO PEAK CORONA (1.15 Radii)----



75
Oct 01

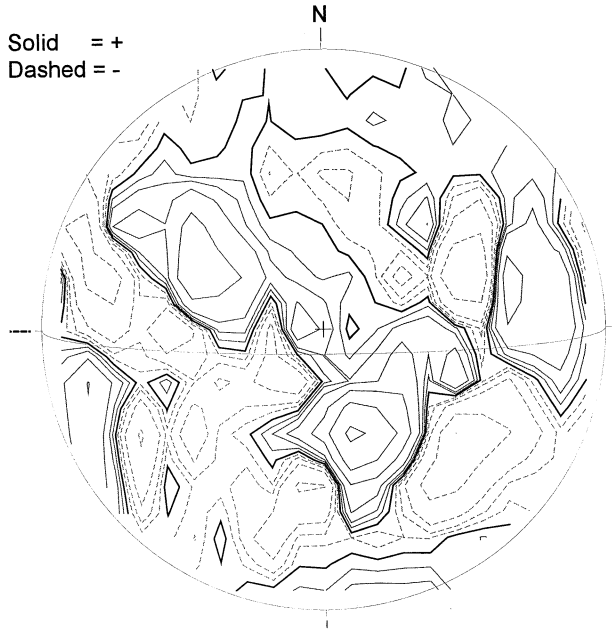
OCTOBER 23, 2001 (P= 25.68, Bo = 5.22, Lo = 282.29)

KITT PEAK MAGNETOGRAM



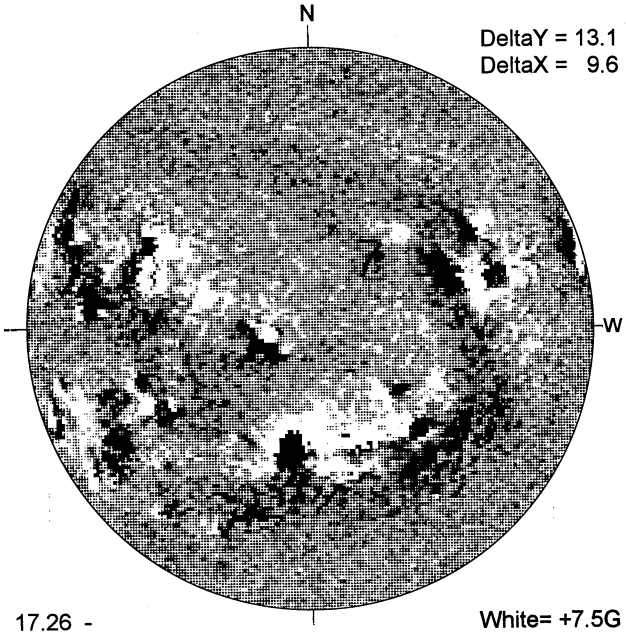
1624 UT

STANFORD MAGNETOGRAM



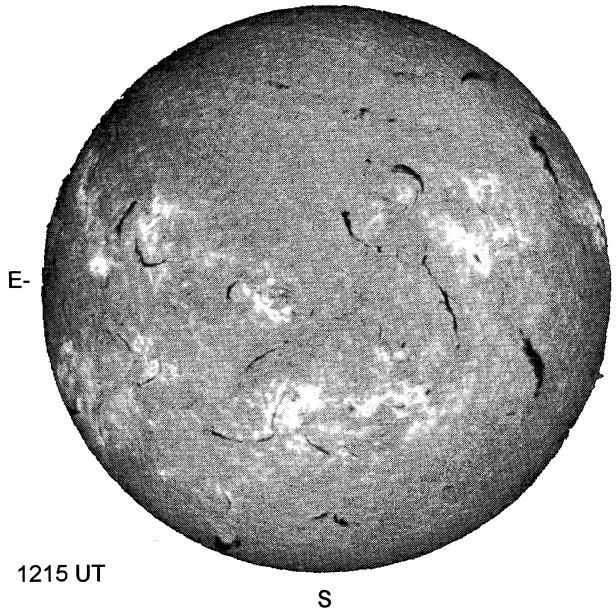
2152 UT

MT. WILSON MAGNETOGRAM



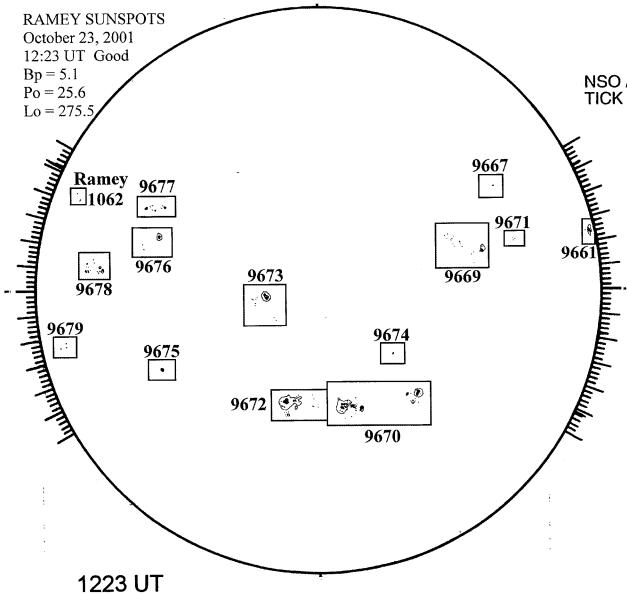
17.26 -
18.22 UT

MEUDON H-ALPHA



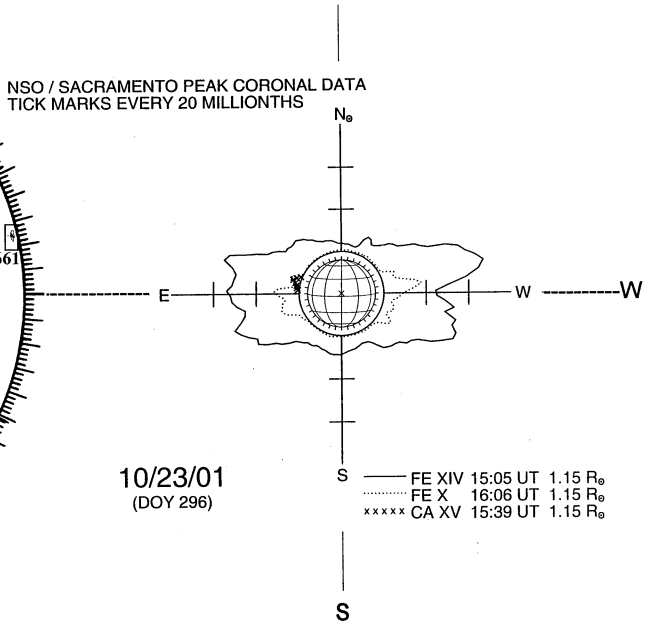
1215 UT

RAMEY SUNSPOT



1223 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



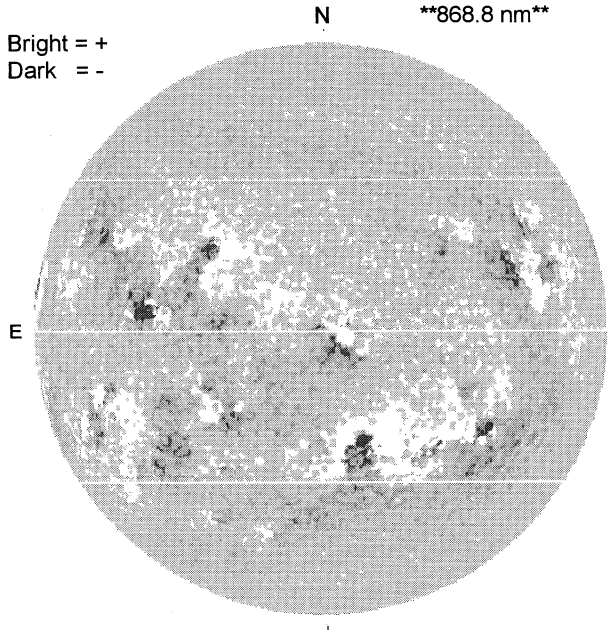
10/23/01
(DOY 296)

OCTOBER 24, 2001 (P= 25.58, Bo = 5.13, Lo = 269.11)

KITT PEAK MAGNETOGRAM

868.8 nm

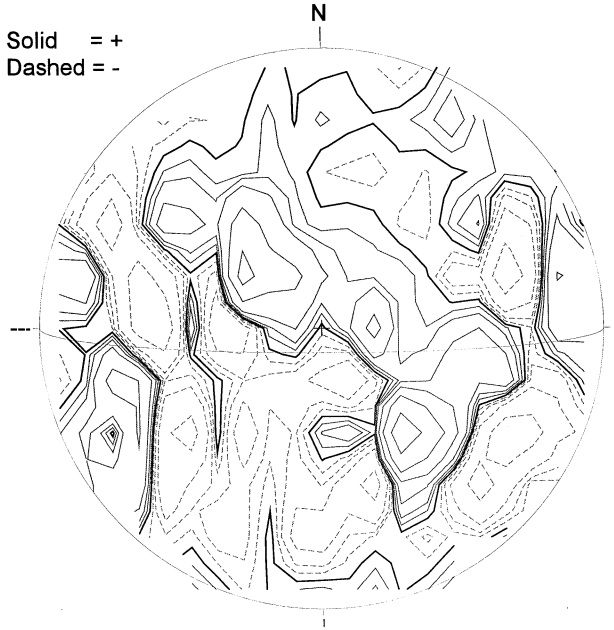
Bright = +
Dark = -



1623 UT

STANFORD MAGNETOGRAM

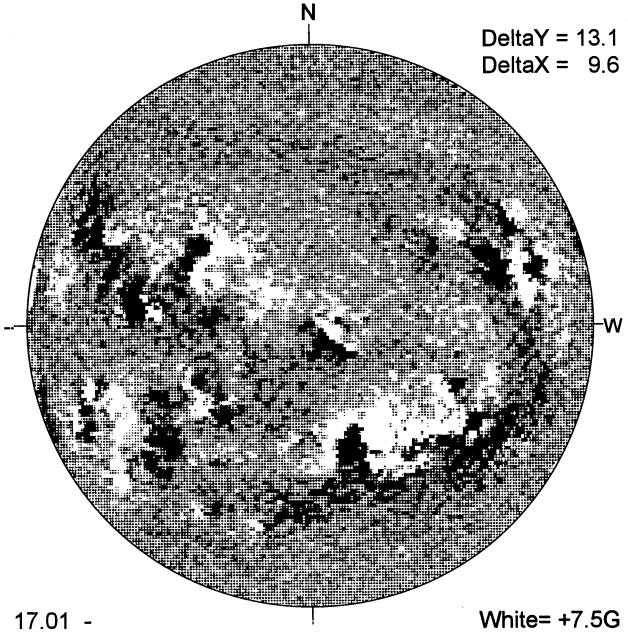
Solid = +
Dashed = -



2155 UT

MT. WILSON MAGNETOGRAM

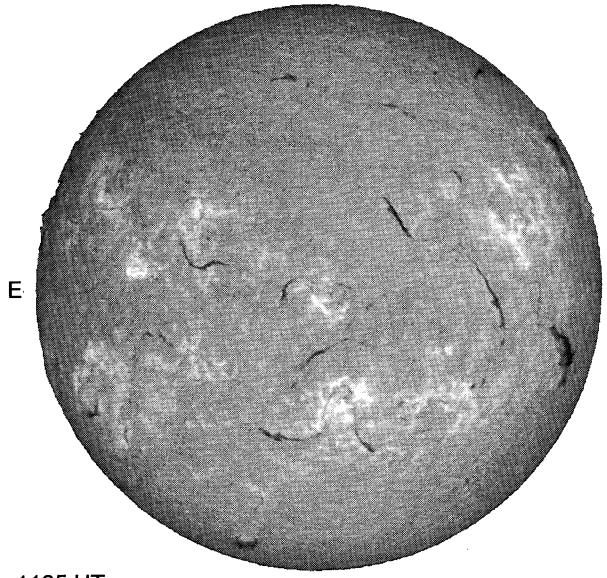
DeltaY = 13.1
DeltaX = 9.6



17.01 -
17.97 UT

White= +7.5G
Black = -7.5G

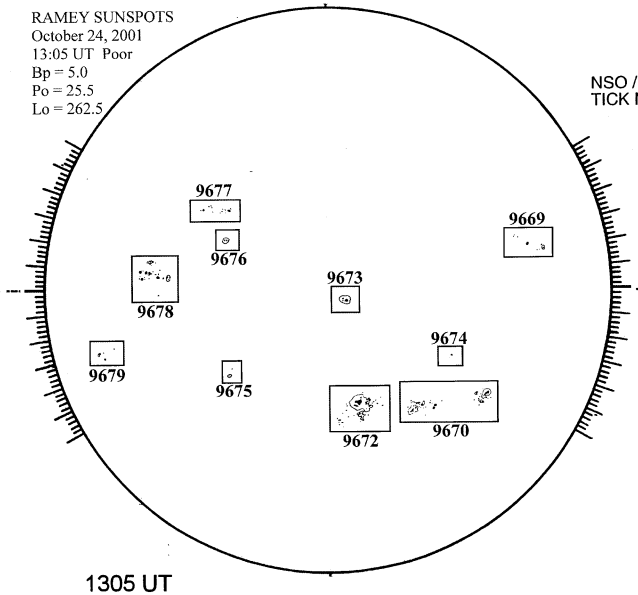
MEUDON H-ALPHA



1105 UT

RAMEY SUNSPOT

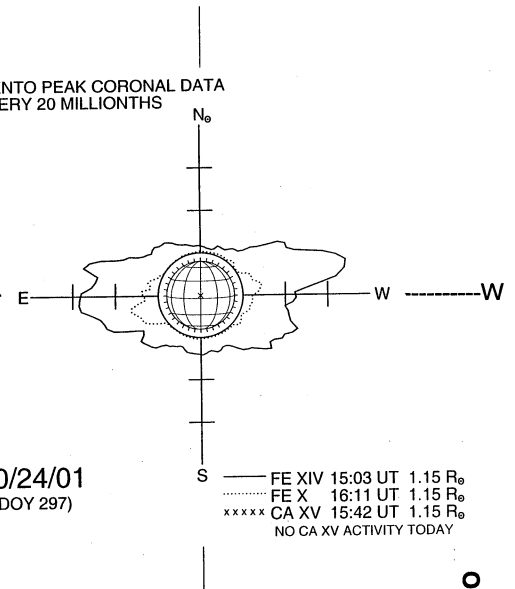
RAMEY SUNSPOTS
October 24, 2001
13:05 UT Poor
Bp = 5.0
Po = 25.5
Lo = 262.5



1305 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS



10/24/01
(DOY 297)

FE XIV 15:03 UT 1.15 R☉
FE X 16:11 UT 1.15 R☉
xxxxx CA XV 15:42 UT 1.15 R☉
NO CA XV ACTIVITY TODAY

77
Oct 01

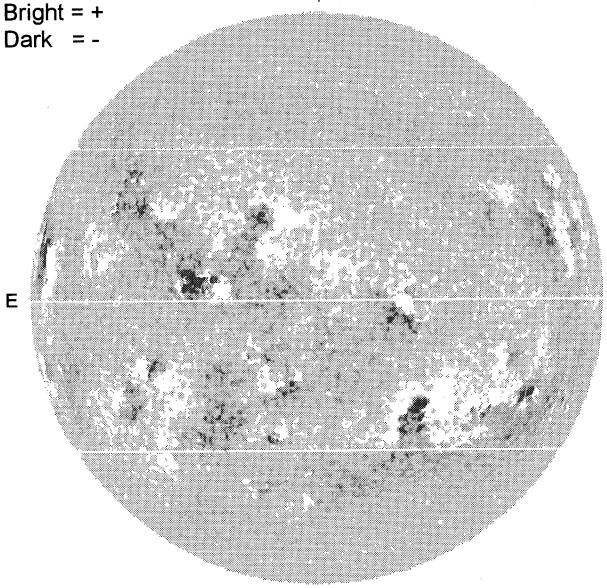
OCTOBER 25, 2001 (P= 25.48, Bo = 5.04, Lo = 255.92)

KITT PEAK MAGNETOGRAM

N

868.8 nm

Bright = +
Dark = -



E

1554 UT

STANFORD MAGNETOGRAM

N

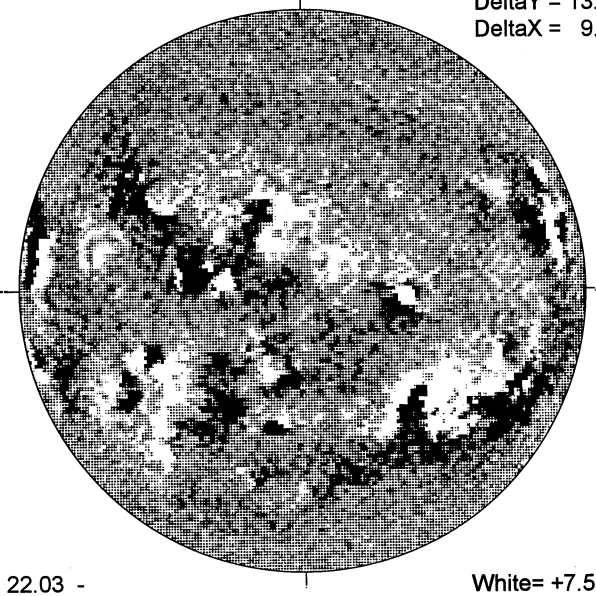
Solid = +
Dashed = -

1856 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

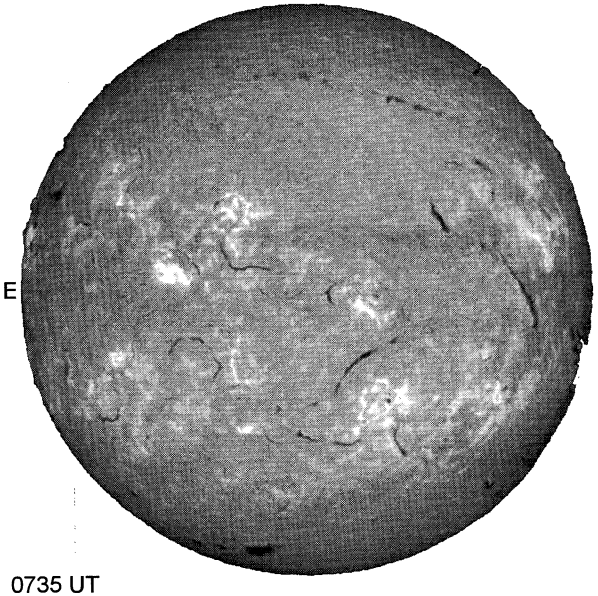


W

22.03 -
22.99 UT

White= +7.5G
Black = -7.5G

MEUDON H-ALPHA

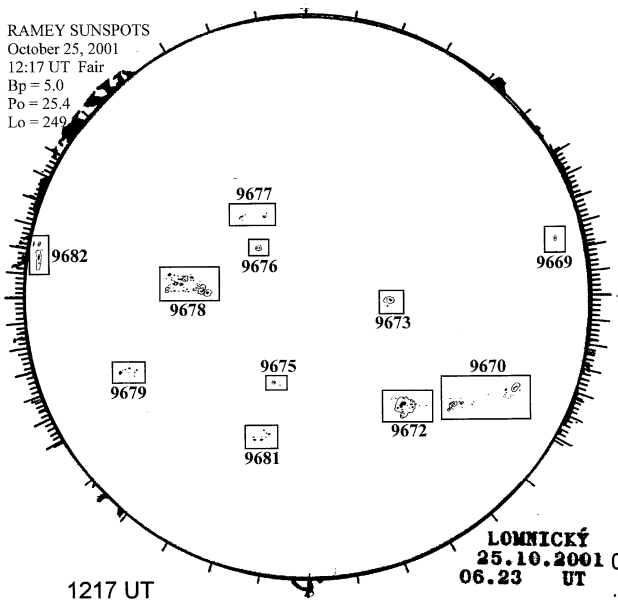


E

0735 UT

S

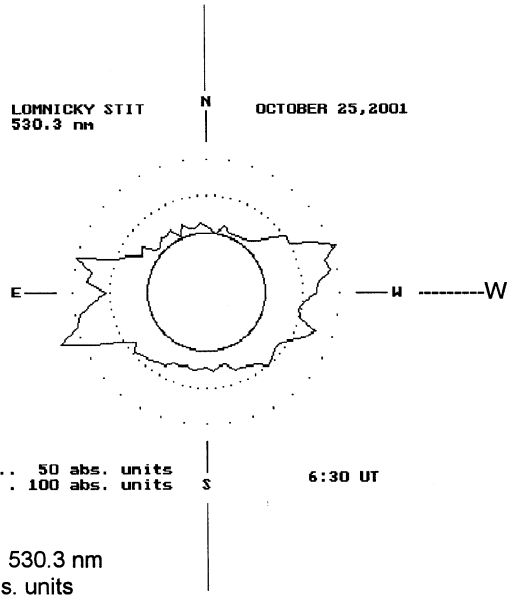
RAMEY SUNSPOT



1217 UT
0623 UT LOMN Prom

S

LOMNICKY PEAK CORONA (1.04 Radii)

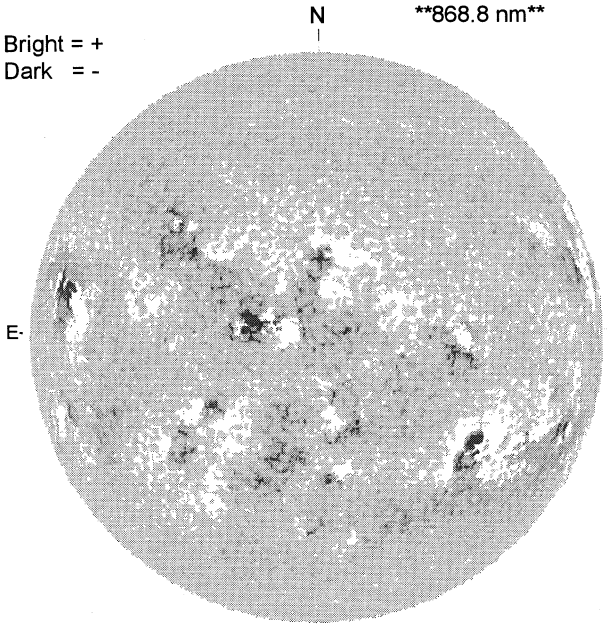


0630 UT, 530.3 nm
.... 50 abs. units
. . 100 abs. units

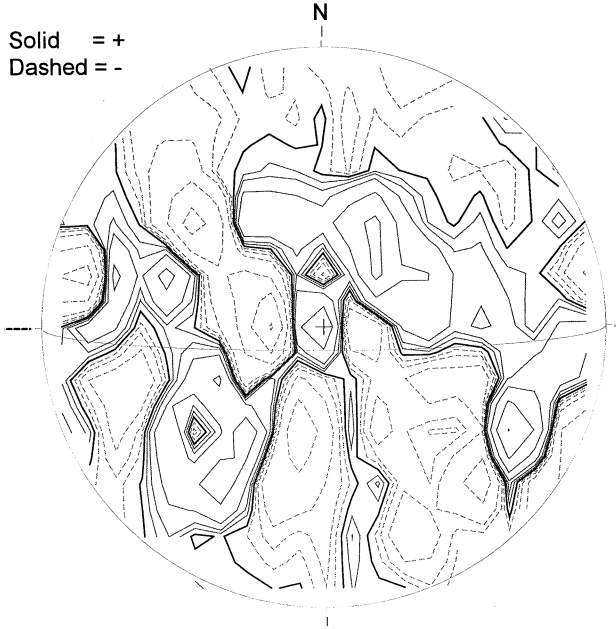
S

OCTOBER 26, 2001 (P= 25.36, Bo = 4.95, Lo = 242.73)

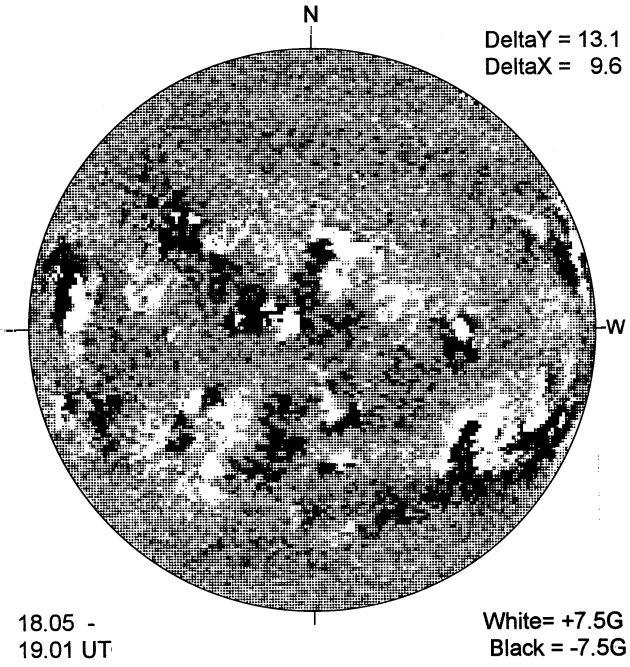
KITT PEAK MAGNETOGRAM



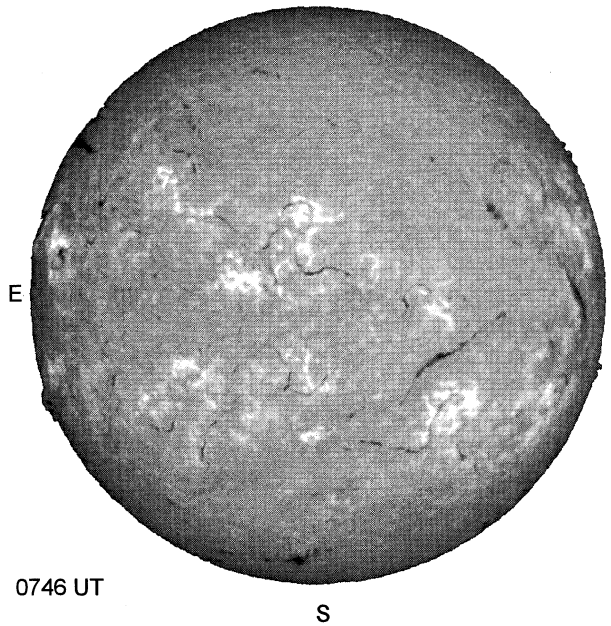
STANFORD MAGNETOGRAM



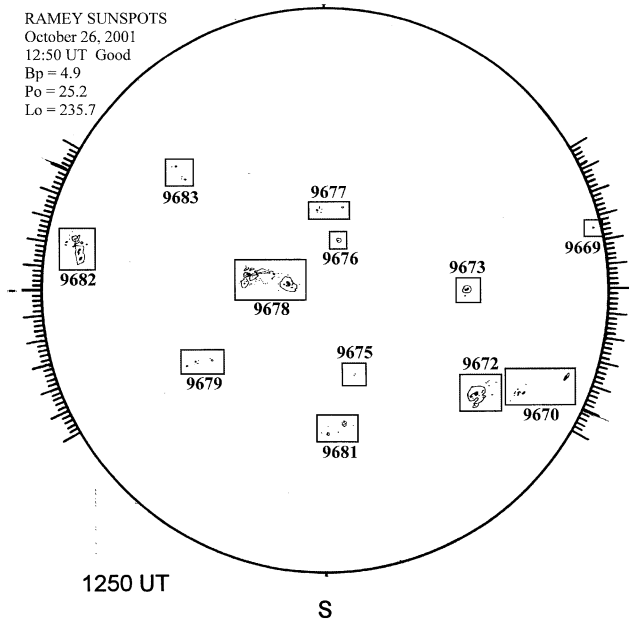
MT. WILSON MAGNETOGRAM



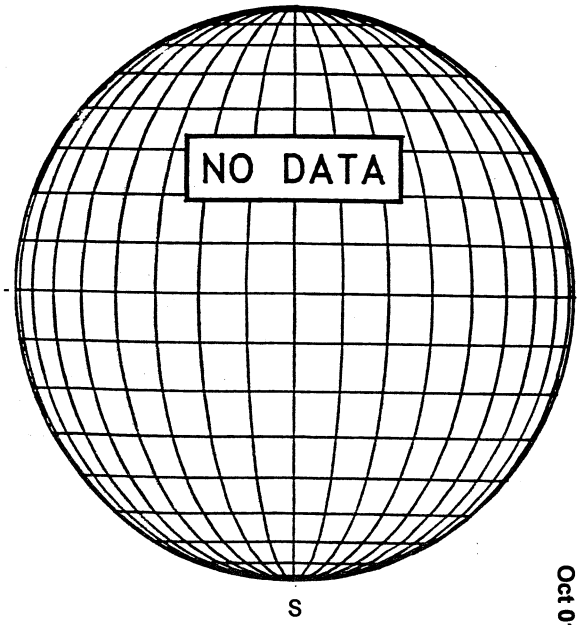
MEUDON H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)----



79
Oct 01

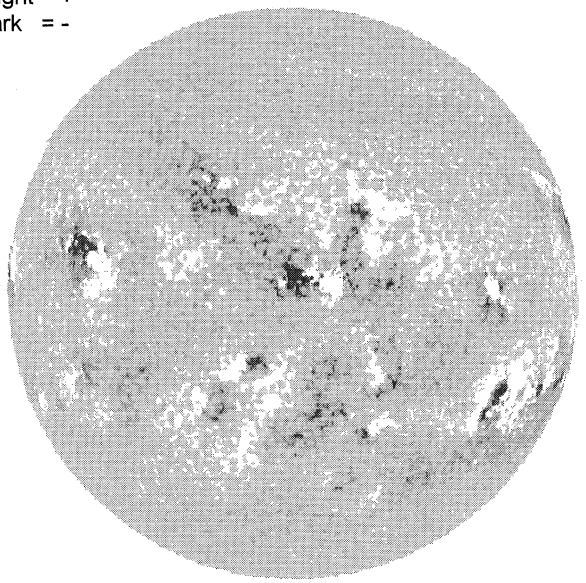
OCTOBER 27, 2001 (P= 25.24, Bo = 4.86, Lo = 229.54)

KITT PEAK MAGNETOGRAM

N

868.8 nm

Bright = +
Dark = -



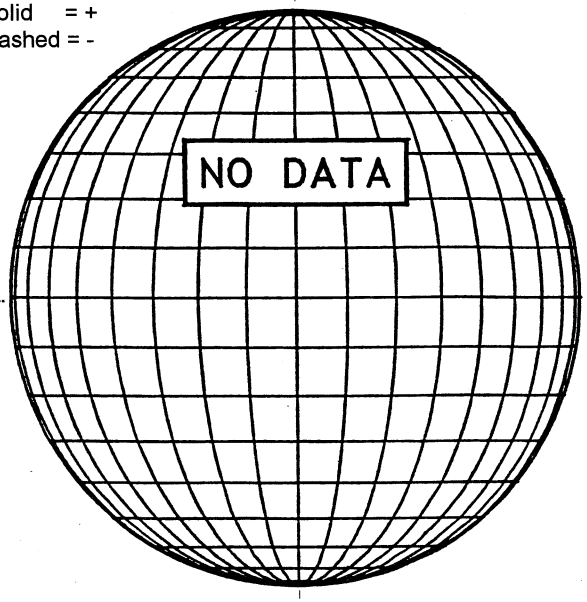
E-

1708 UT

STANFORD MAGNETOGRAM

N

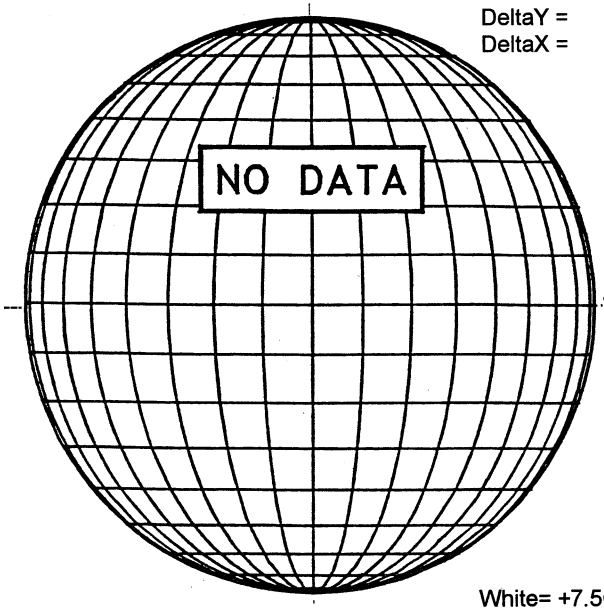
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

N

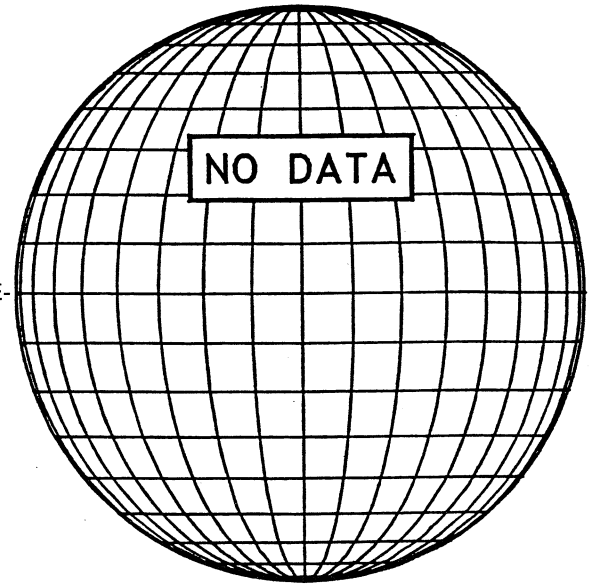
DeltaY =
DeltaX =



W

White= +7.5G
Black = -7.5G

MEUDON H-ALPHA

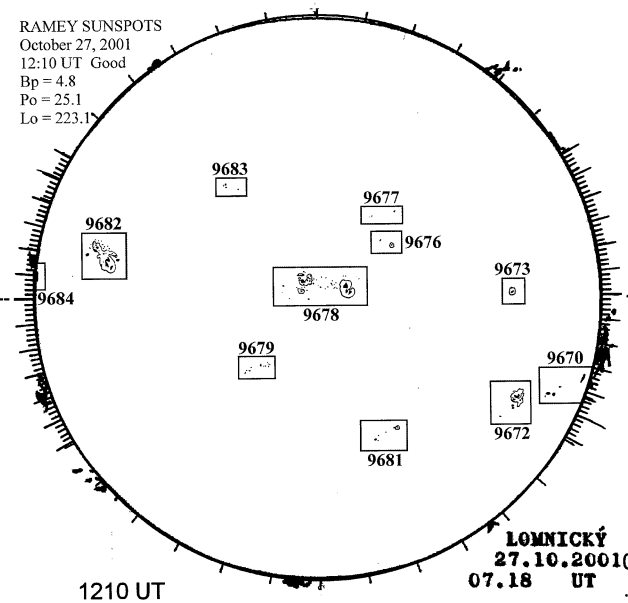


E-

S

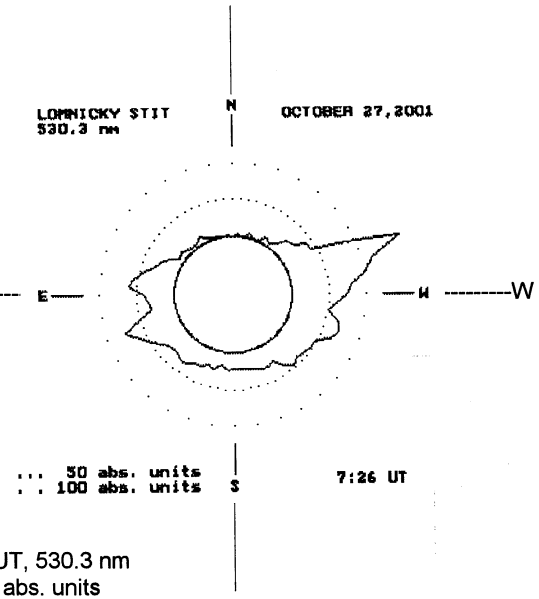
RAMEY SUNSPOT

RAMEY SUNSPOTS
October 27, 2001
12:10 UT Good
Bp = 4.8
Po = 25.1
Lo = 223.1



1210 UT
0718 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)



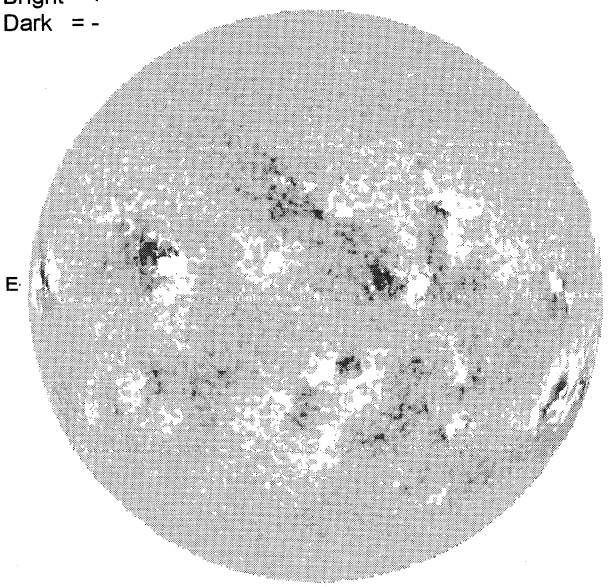
OCTOBER 28, 2001 (P= 25.10, Bo = 4.77, Lo = 216.35)

KITT PEAK MAGNETOGRAM

N

868.8 nm

Bright = +
Dark = -



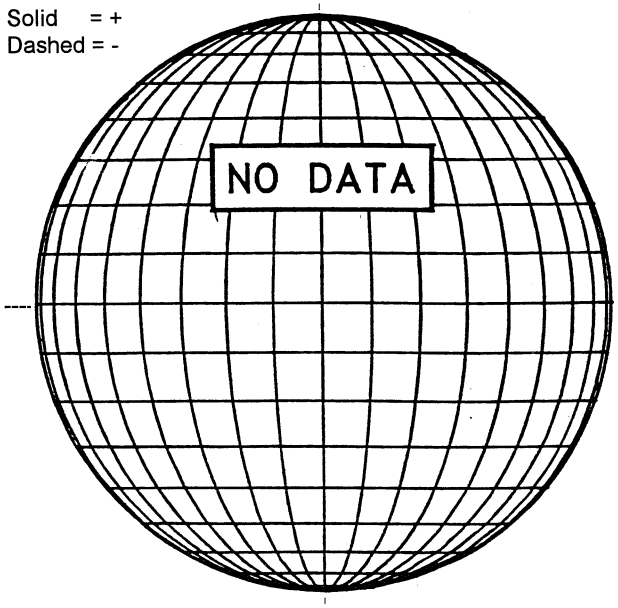
E

1704 UT

STANFORD MAGNETOGRAM

N

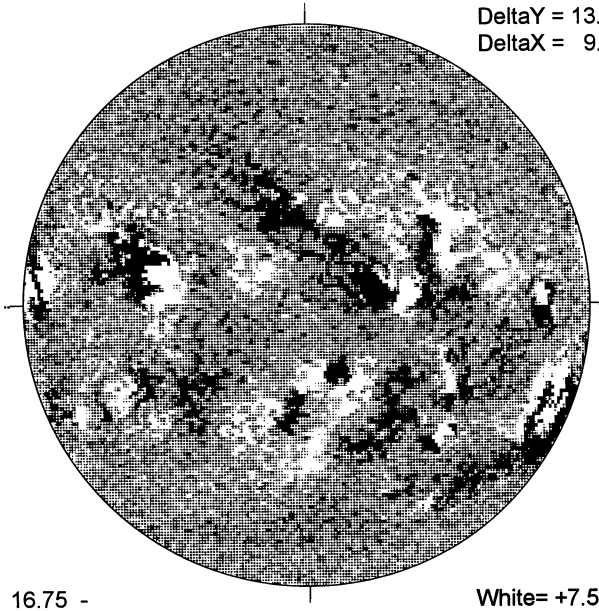
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

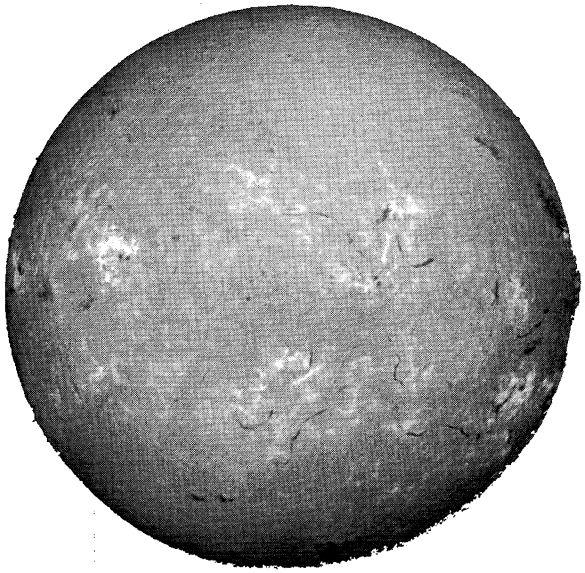


W

16.75 -
17.71 UT

White= +7.5G
Black = -7.5G

MEUDON H-ALPHA

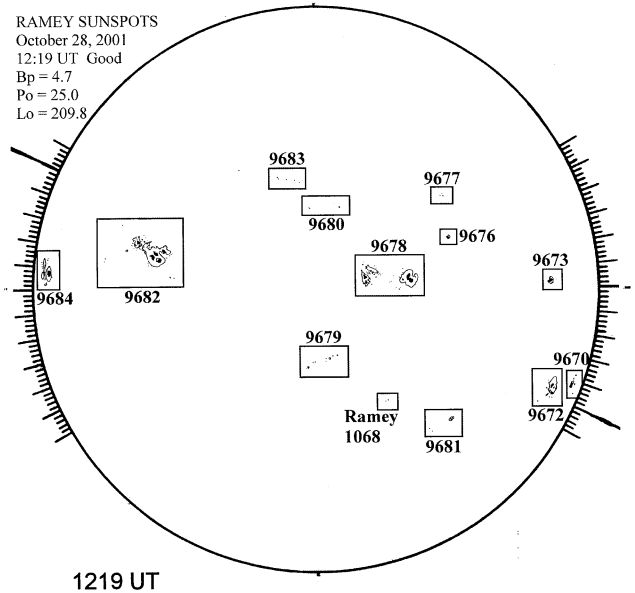


E

0940 UT

S

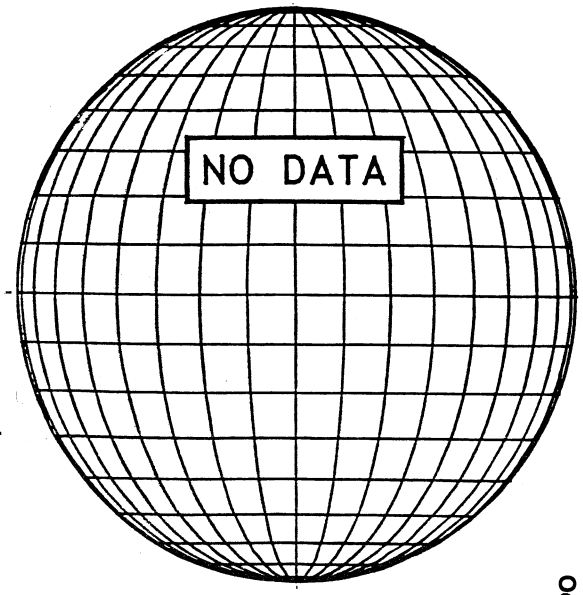
RAMEY SUNSPOT



1219 UT

S

SACRAMENTO PEAK CORONA (1.15 Radii)

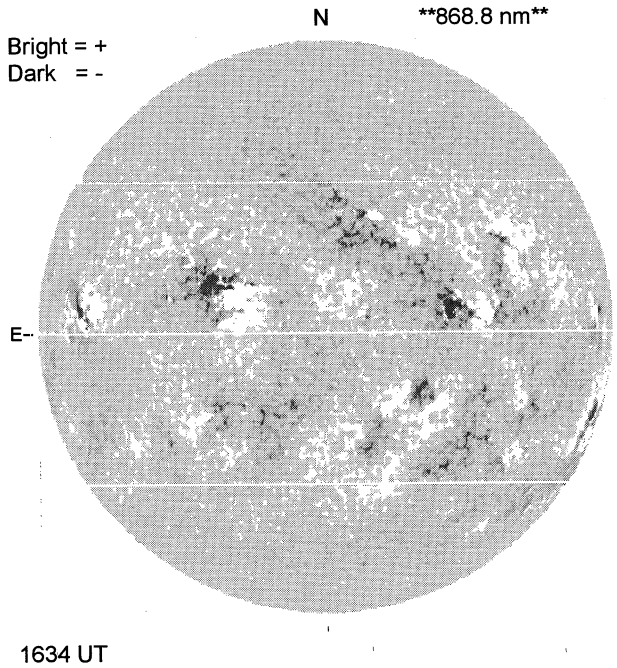


S

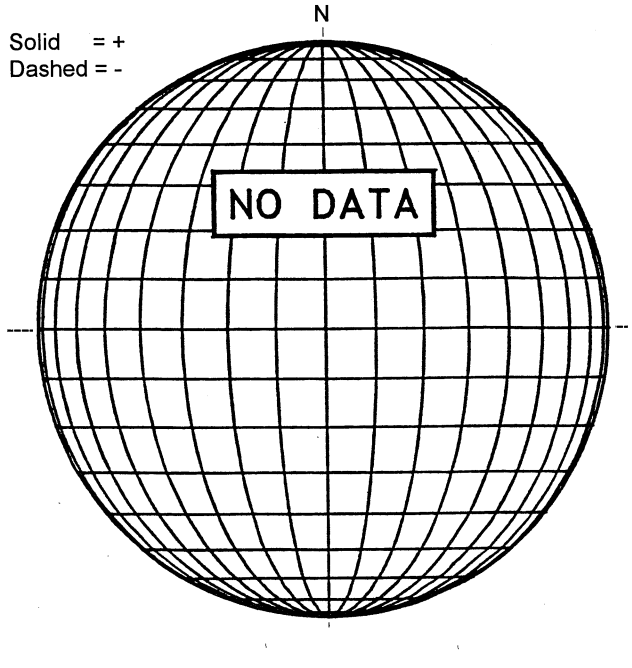
81
Oct 01

OCTOBER 29, 2001 (P= 24.97, Bo = 4.67, Lo = 203.17)

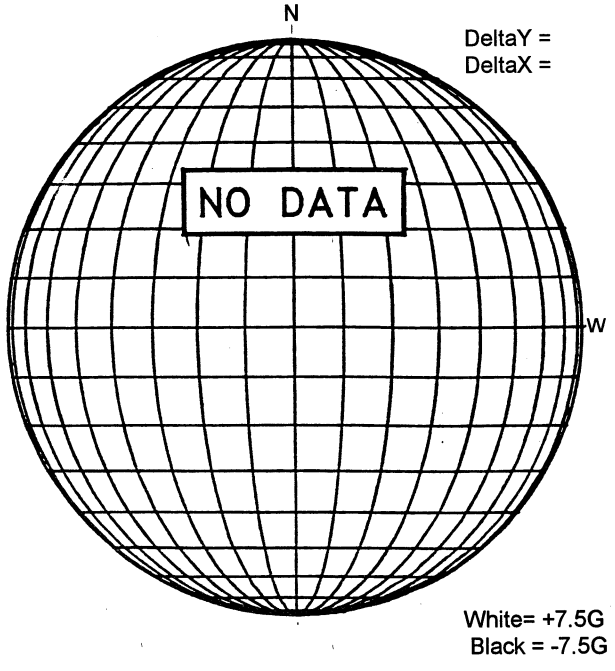
KITT PEAK MAGNETOGRAM



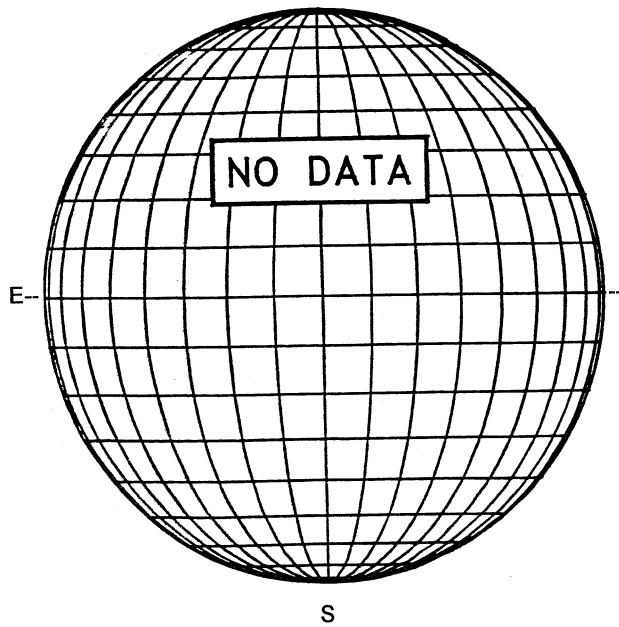
STANFORD MAGNETOGRAM



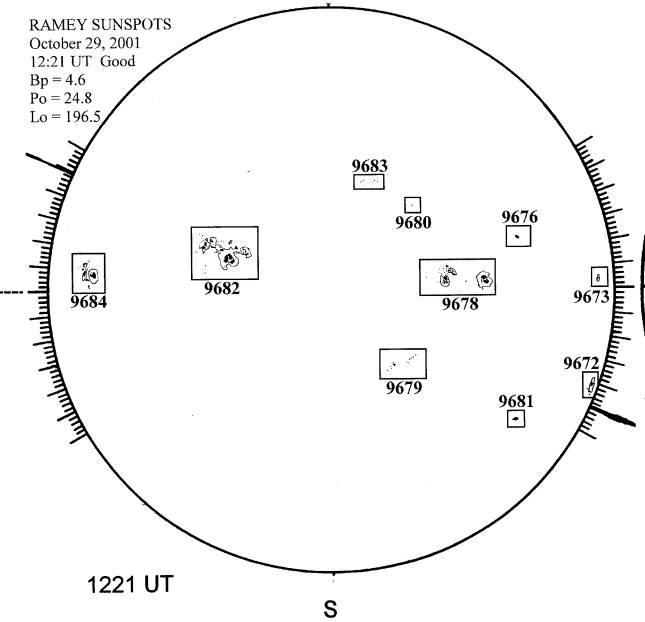
MT. WILSON MAGNETOGRAM



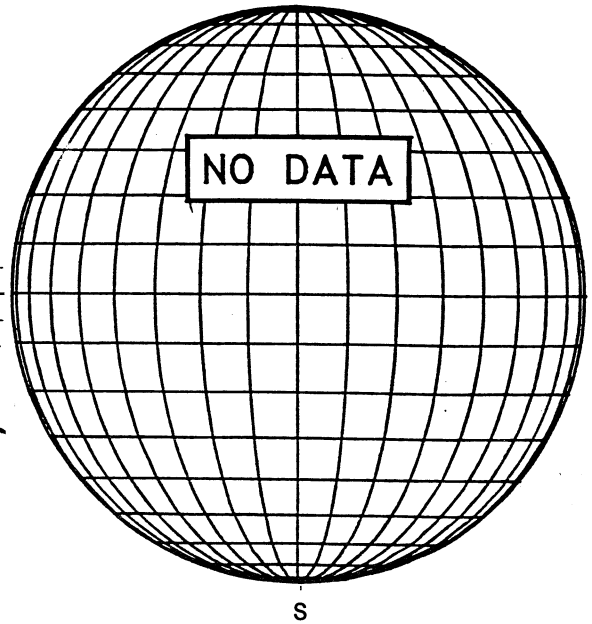
MEUDON H-ALPHA



RAMEY SUNSPOT

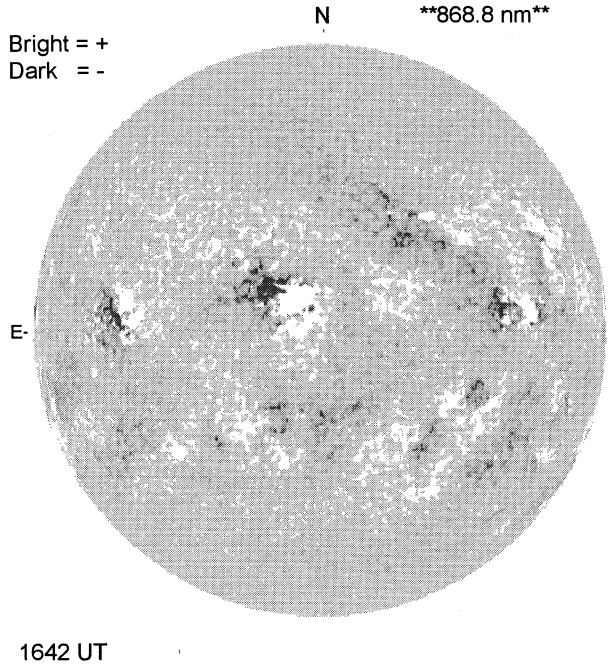


SACRAMENTO PEAK CORONA (1.15 Radii)----

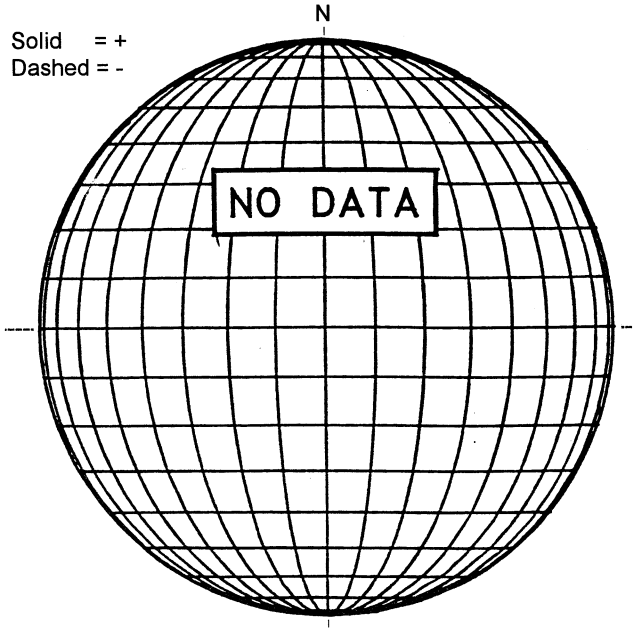


OCTOBER 30, 2001 (P= 24.82, Bo = 4.57, Lo = 189.98)

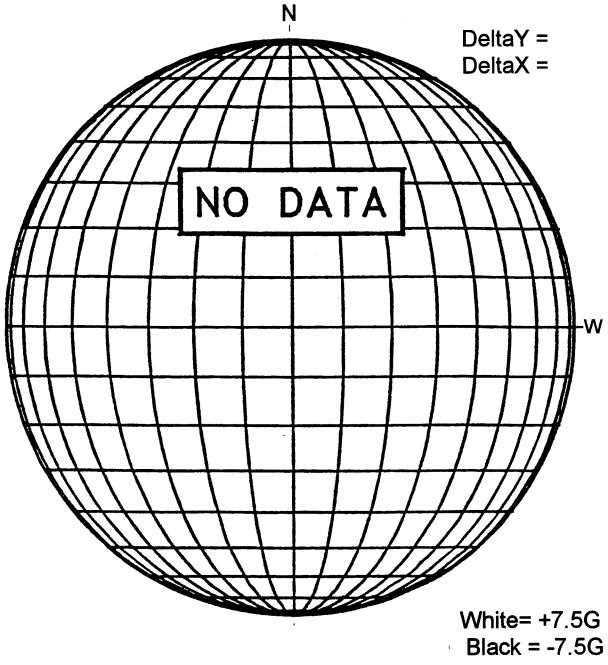
KITT PEAK MAGNETOGRAM



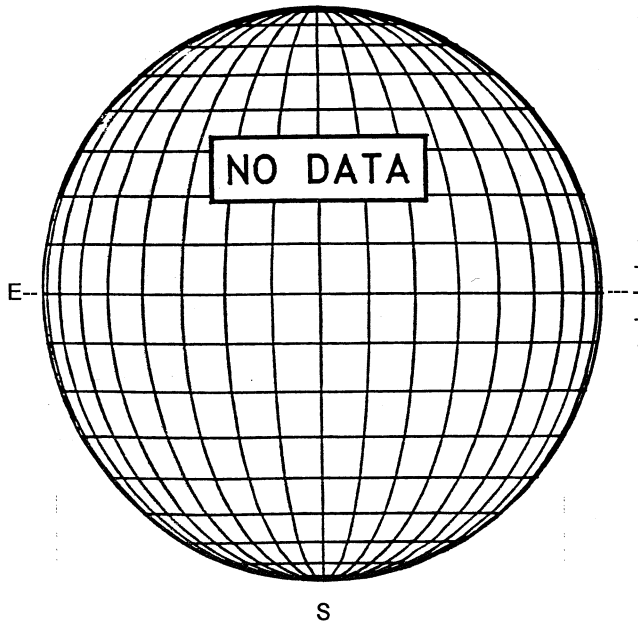
STANFORD MAGNETOGRAM



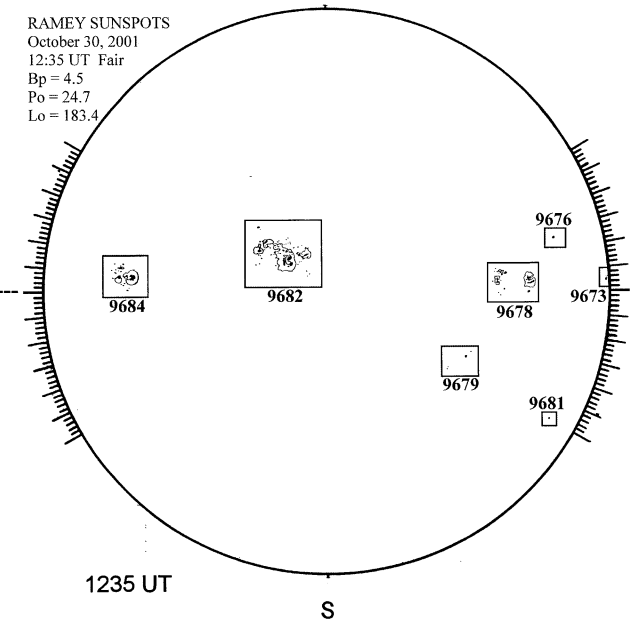
MT. WILSON MAGNETOGRAM



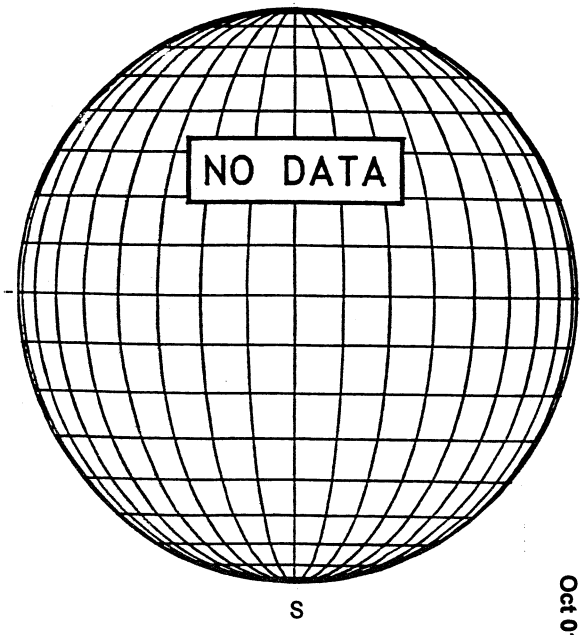
MEUDON H-ALPHA



RAMEY SUNSPOT



LOMNICKY PEAK CORONA (1.04 Radii)----

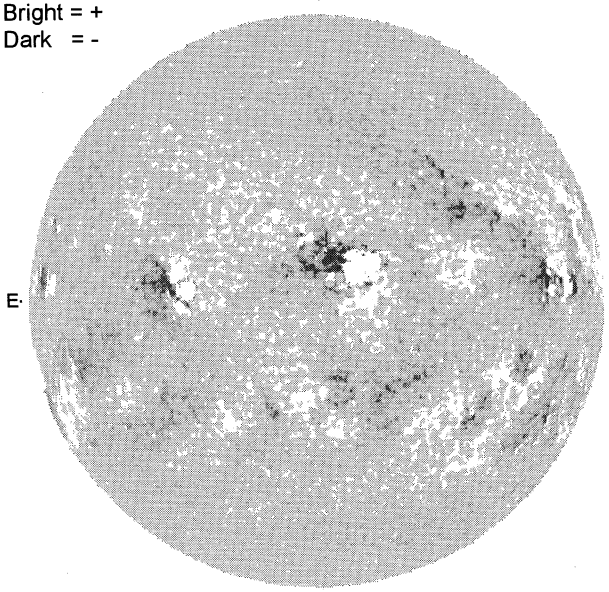


OCTOBER 31, 2001 (P= 24.66, Bo = 4.47, Lo = 176.79)

KITT PEAK MAGNETOGRAM

N **868.8 nm**

Bright = +
Dark = -



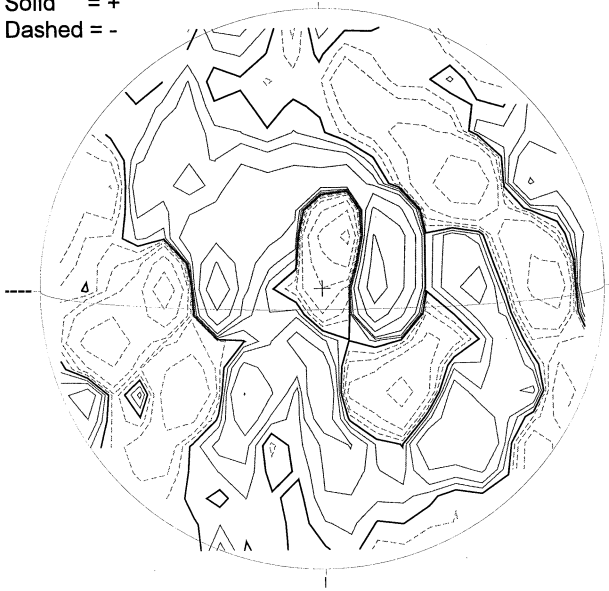
E

1753 UT

STANFORD MAGNETOGRAM

N

Solid = +
Dashed = -

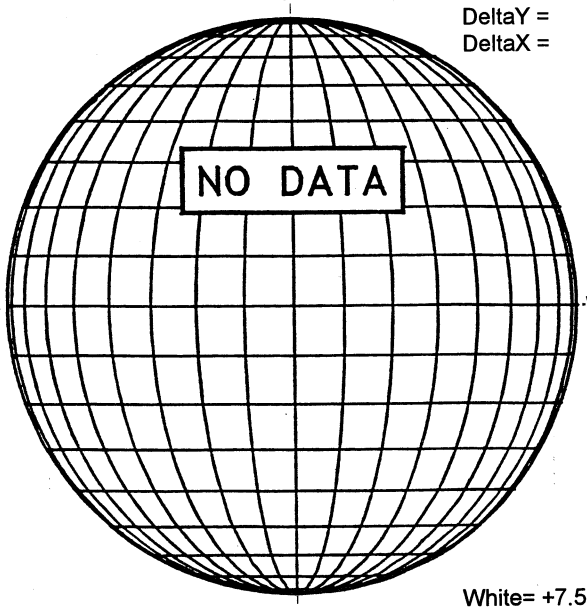


2324 UT

MT. WILSON MAGNETOGRAM

N

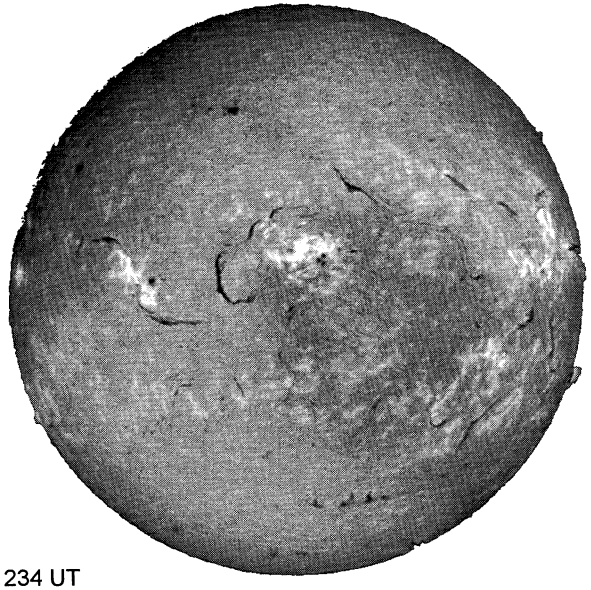
DeltaY =
DeltaX =



W

White= +7.5G
Black = -7.5G

MEUDON H-ALPHA

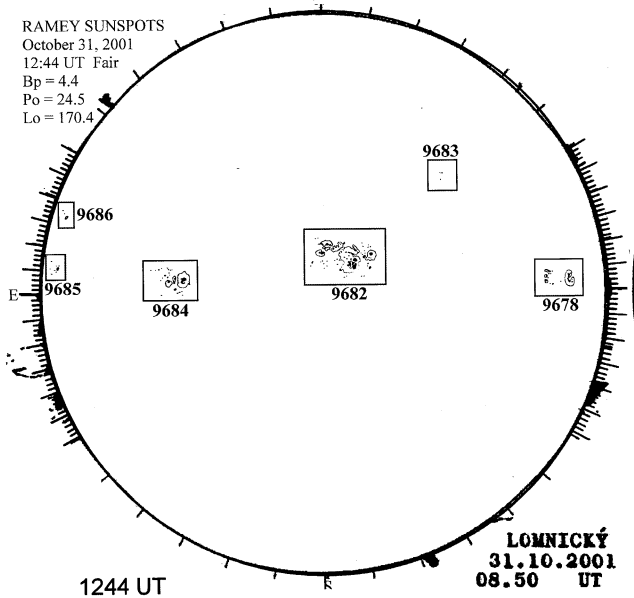


E

1234 UT

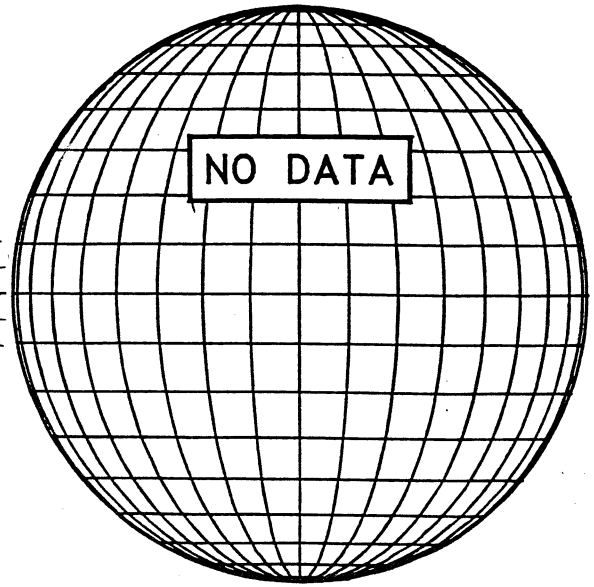
S

RAMEY SUNSPOT



1244 UT
0850 UT LOMN Prom S

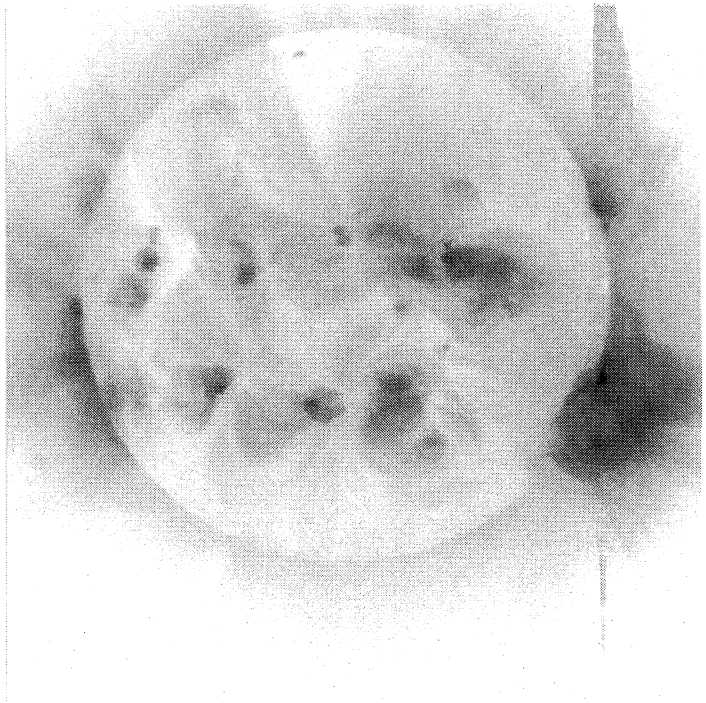
SACRAMENTO PEAK CORONA (1.15 Radii)



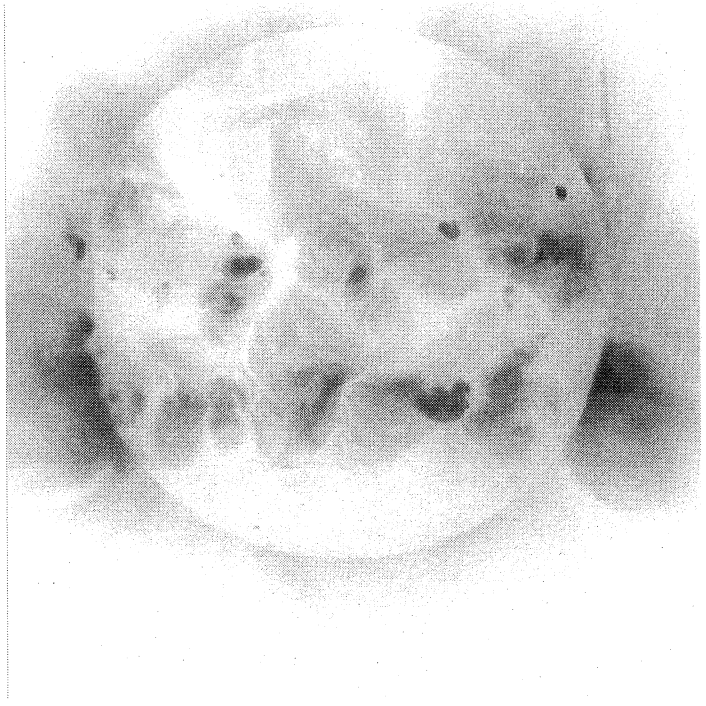
S

YOHKOH SOFT X-RAY TELESCOPE IMAGES

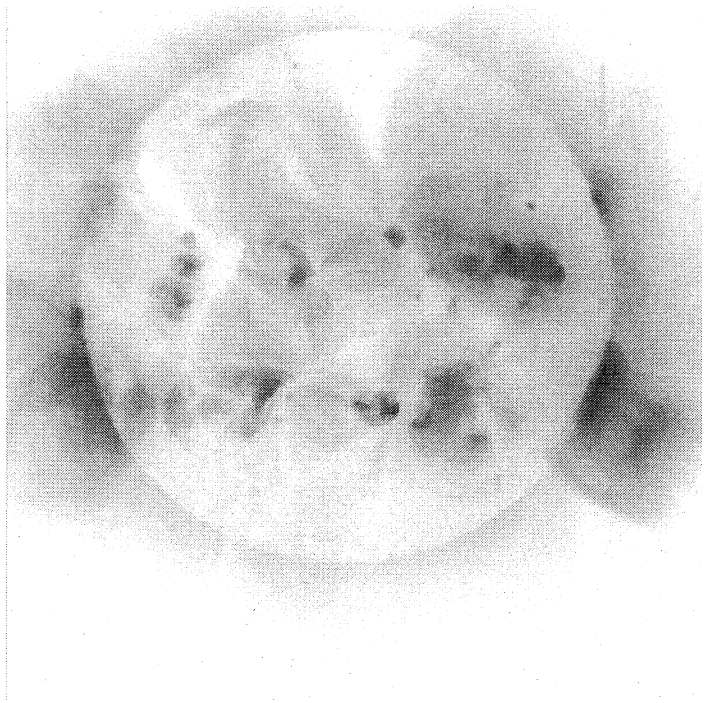
October 2001



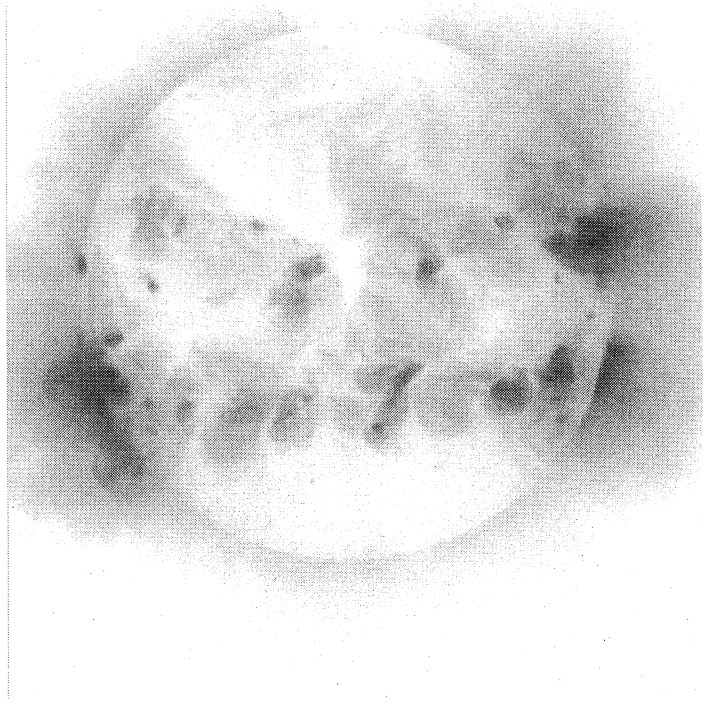
Day 1
13:12:55 UT



Day 3
09:51:11 UT



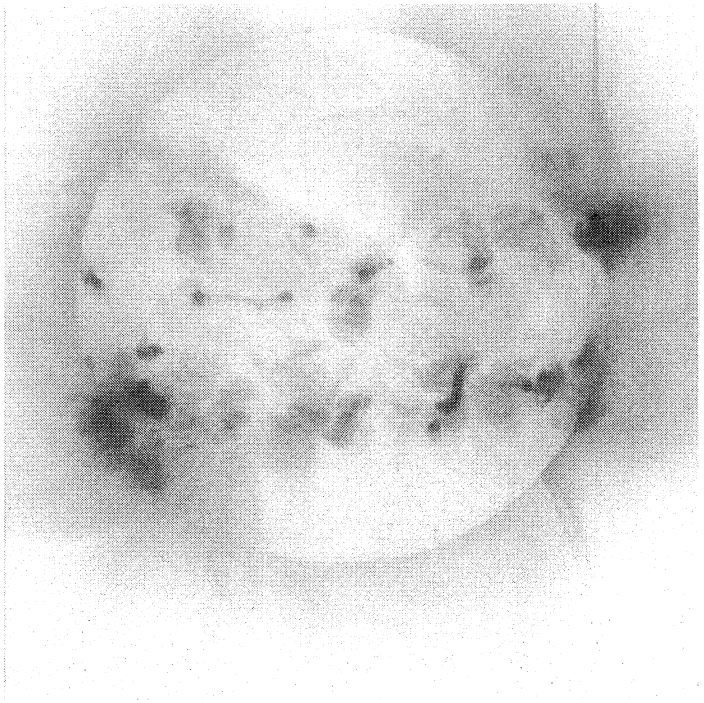
Day 2
10:01:05 UT



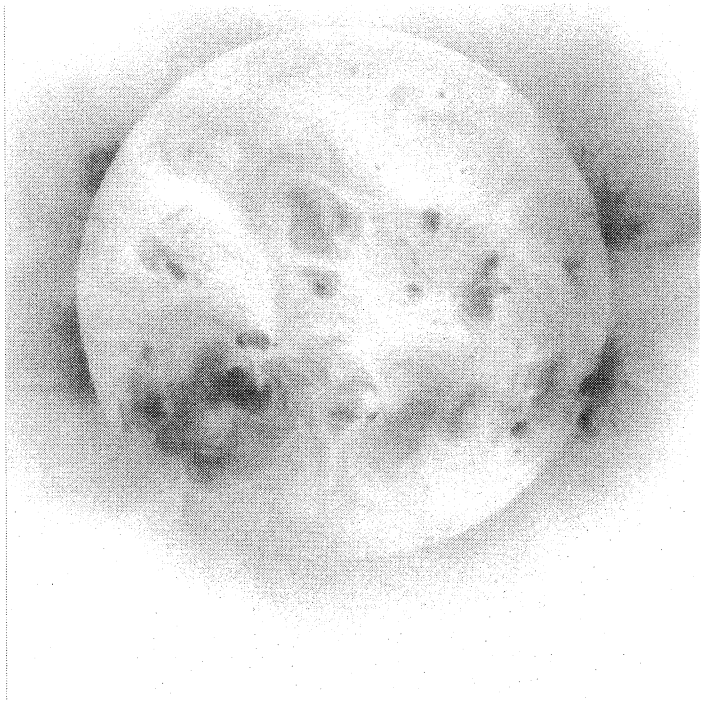
Day 4
11:28:26 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

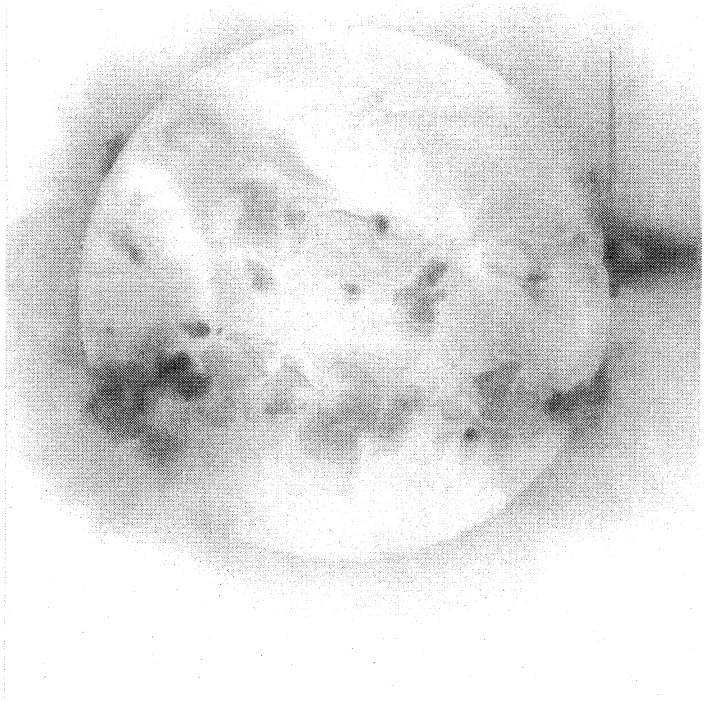
October
2001



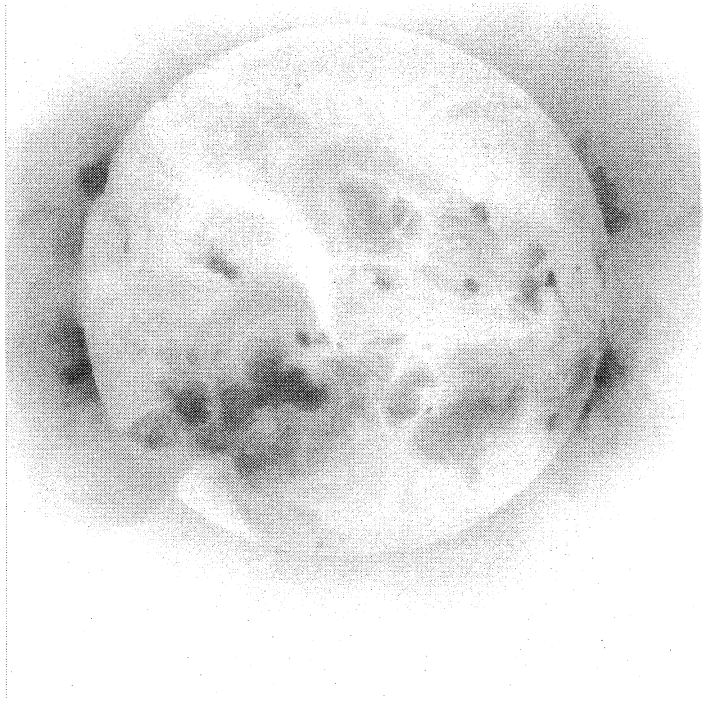
Day 5
12:13:48 UT



Day 7
13:50:38 UT



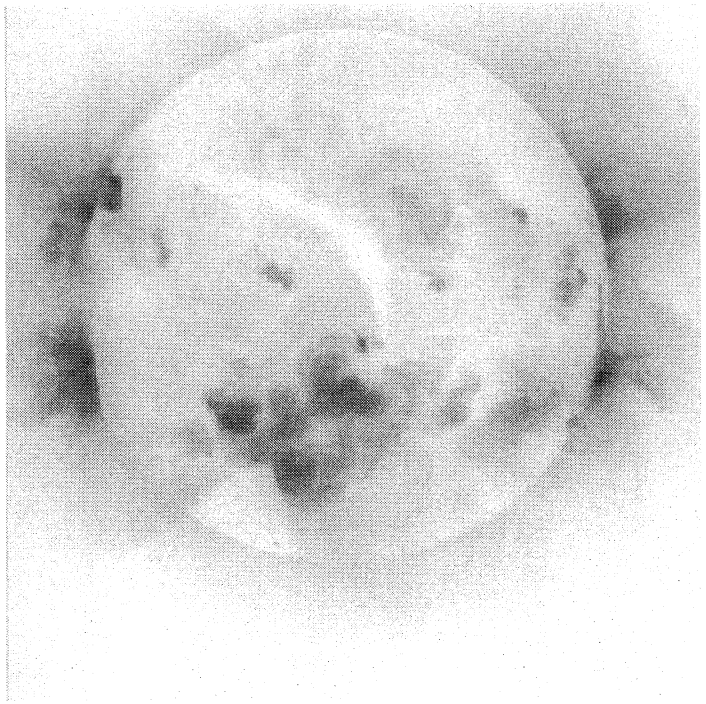
Day 6
13:04:52 UT



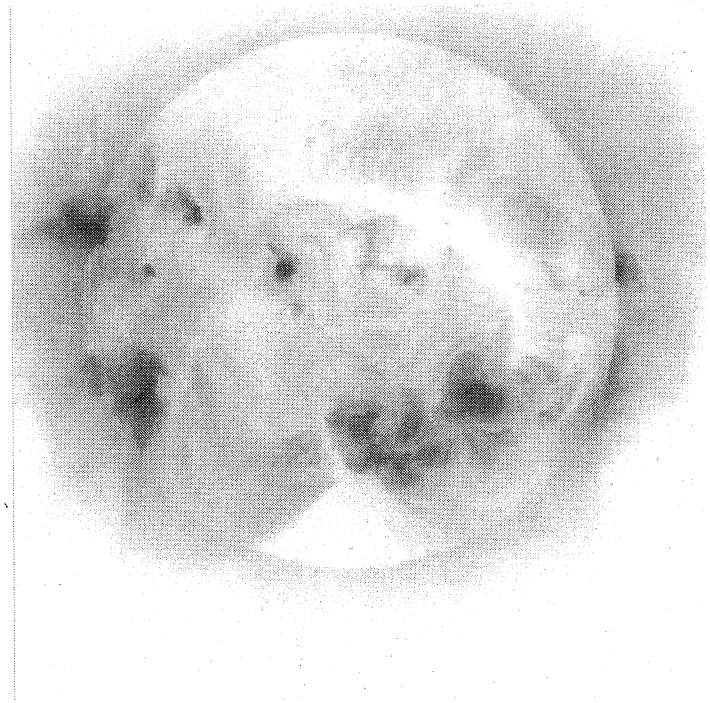
Day 8
12:16:04 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

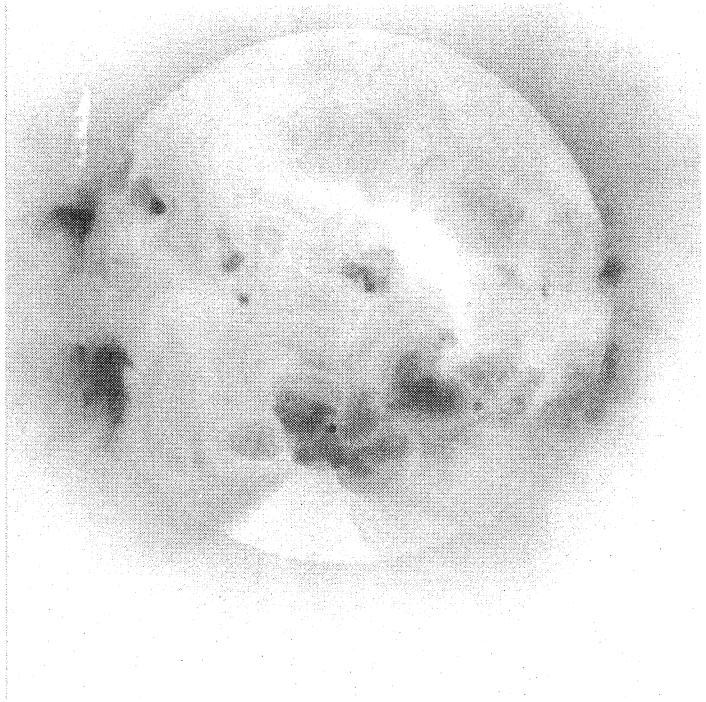
October 2001



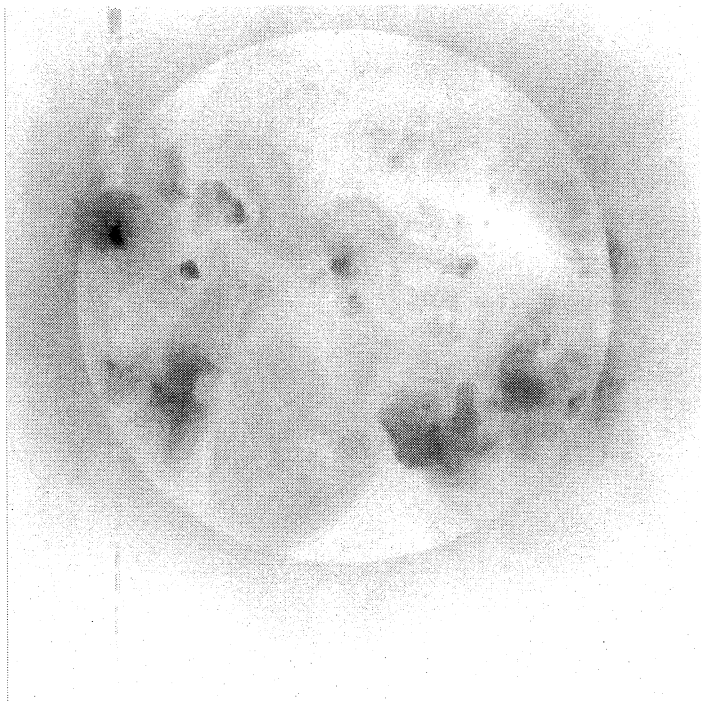
Day 9
10:36:22 UT



Day 11
11:56:31 UT



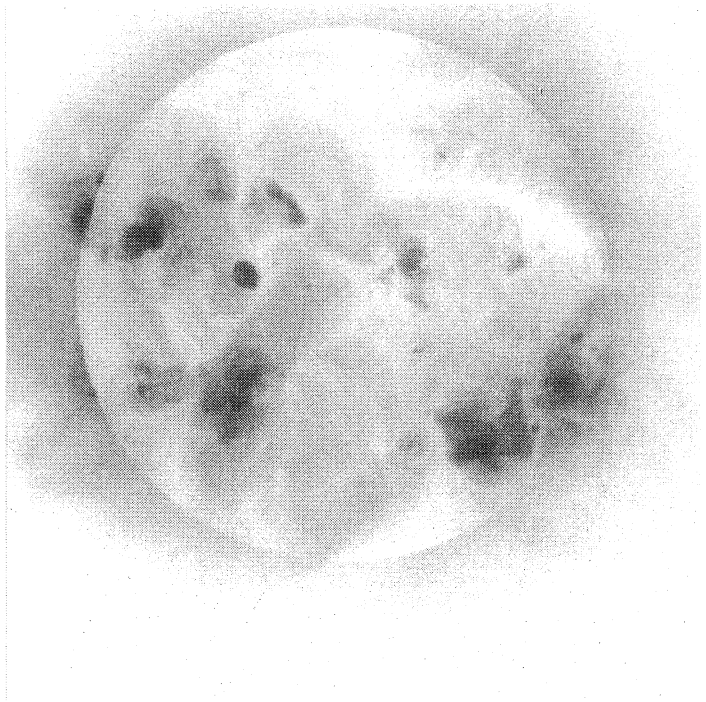
Day 10
17:01:55 UT



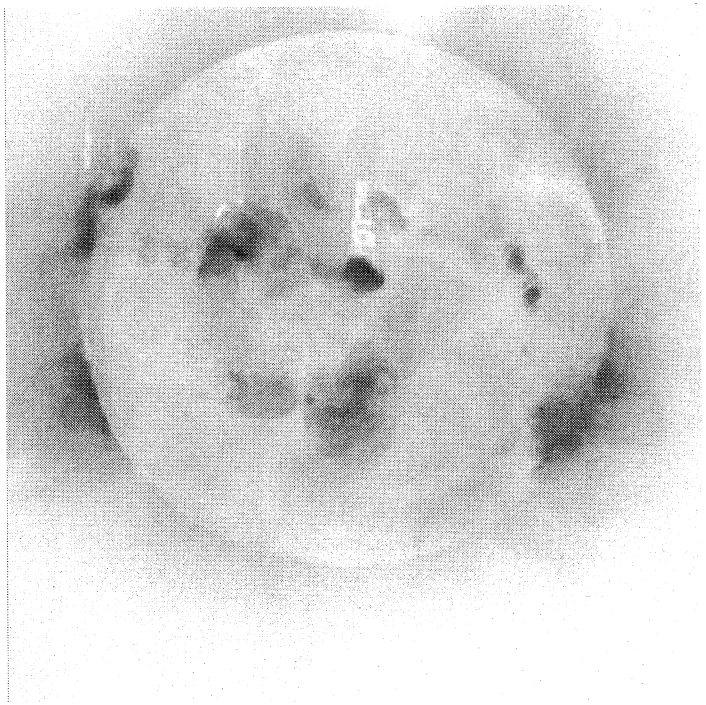
Day 12
12:03:19 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

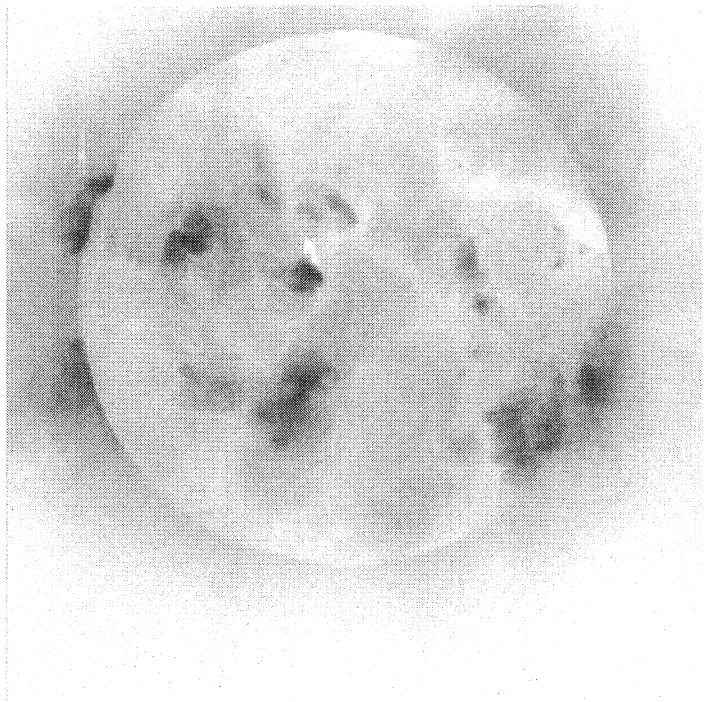
October
2001



Day 13
13:38:09 UT



Day 15
11:03:58 UT



Day 14
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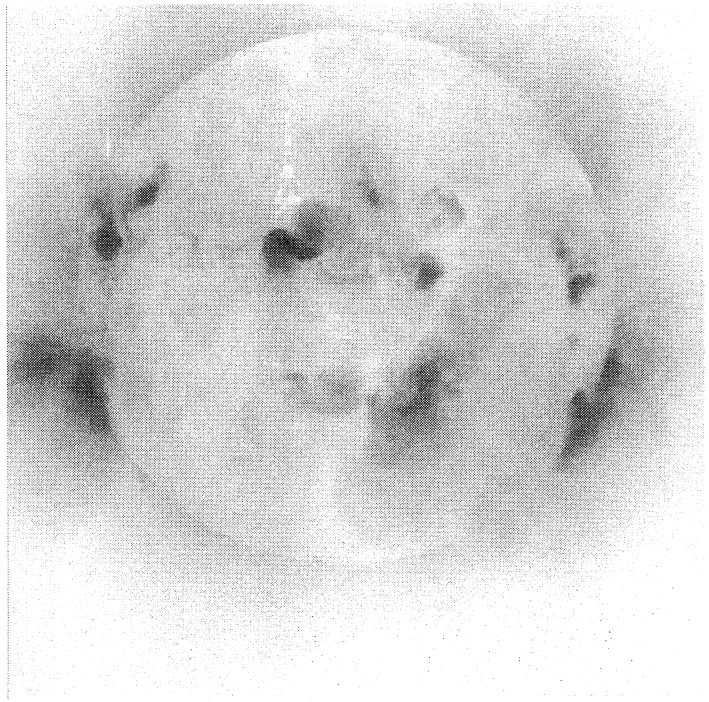
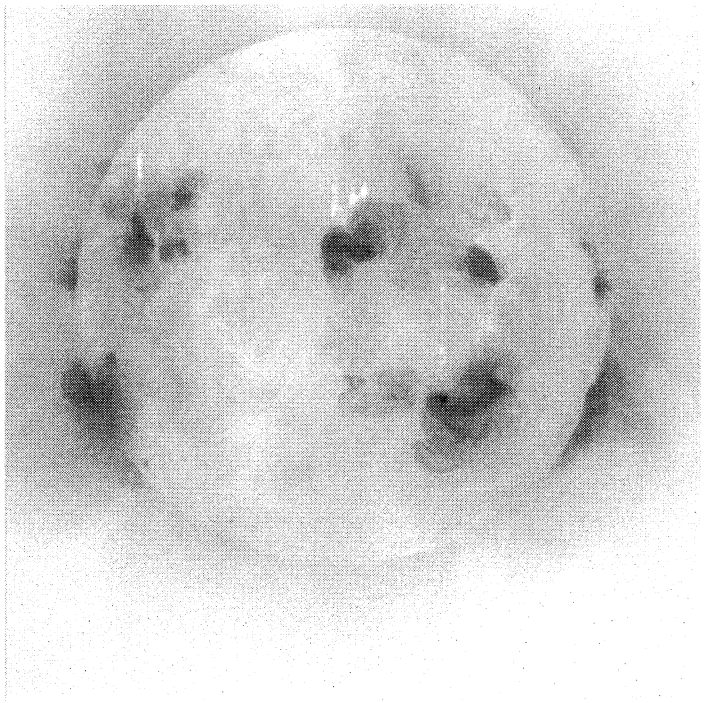


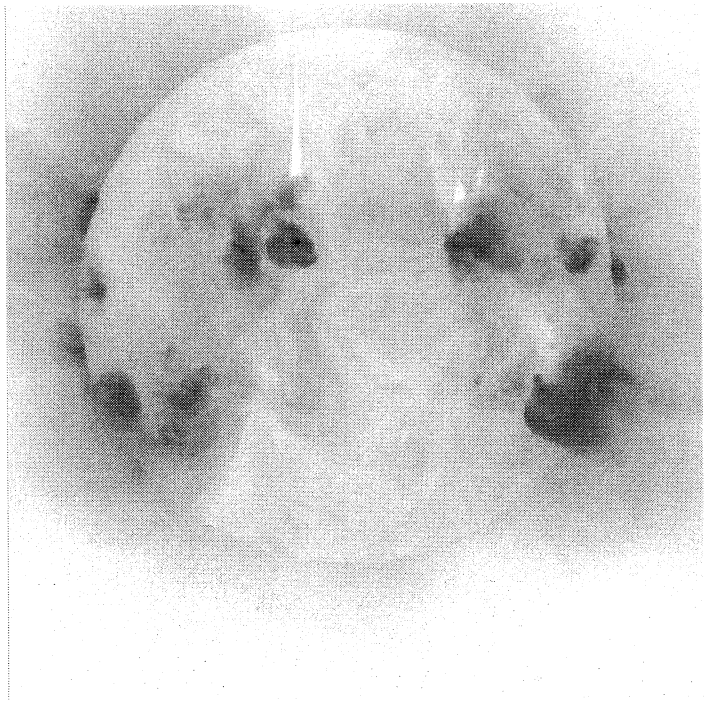
Day 16
11:47:14 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

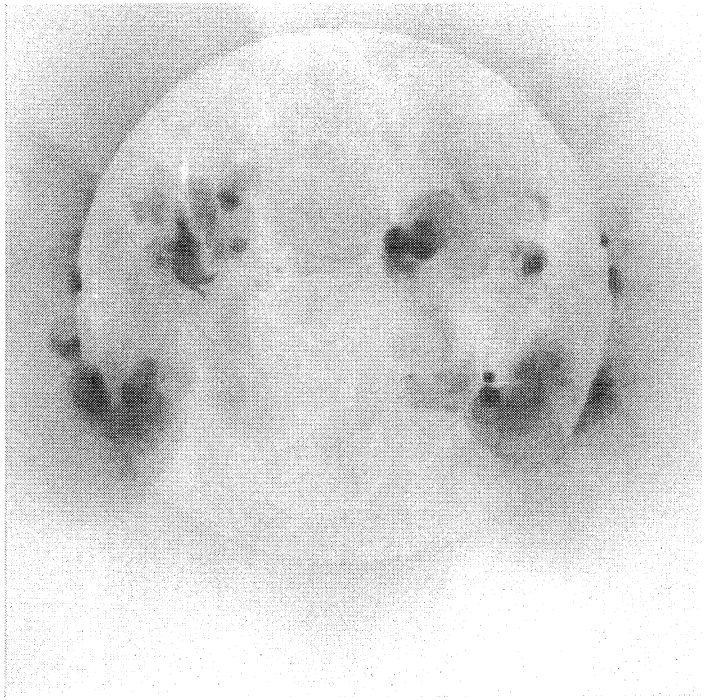
October 2001



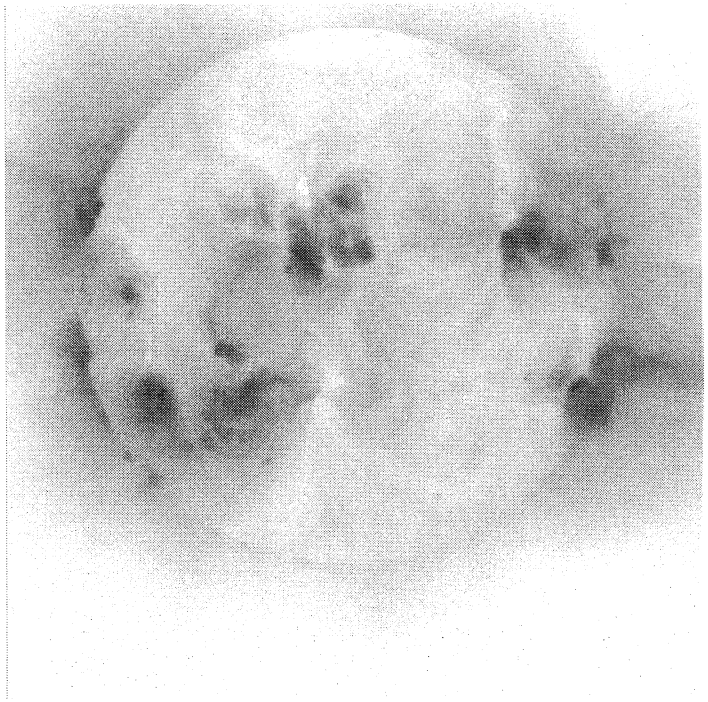
Day 17
10:59:02 UT



Day 19
12:12:26 UT



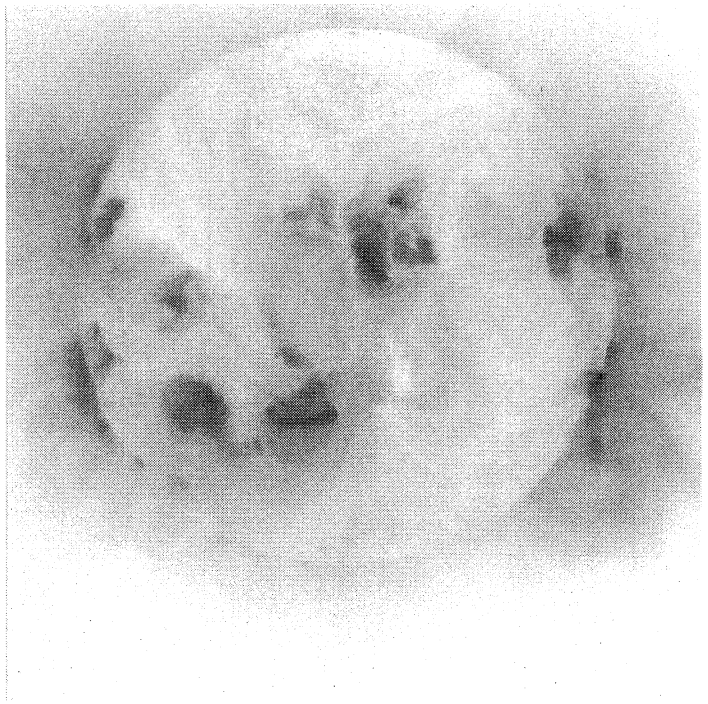
Day 18
11:41:54 UT



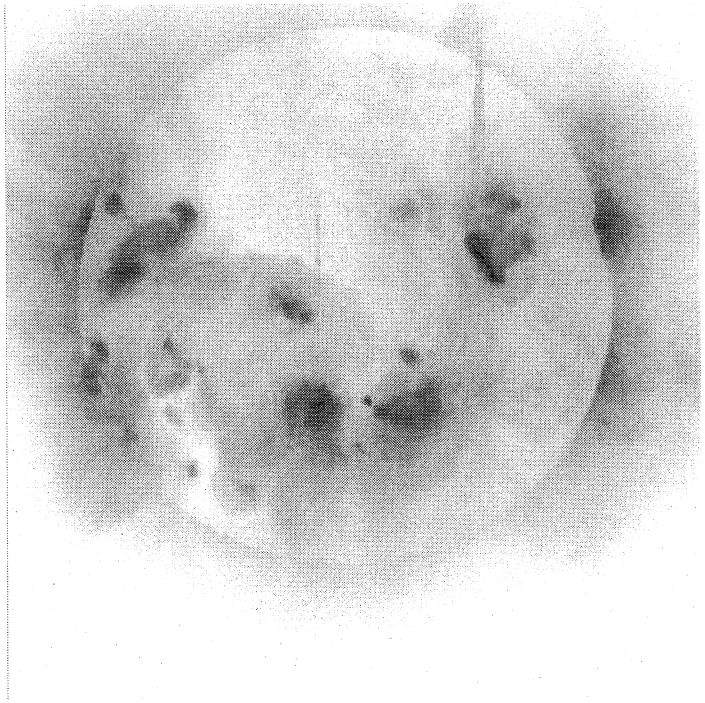
Day 20
12:10:41 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

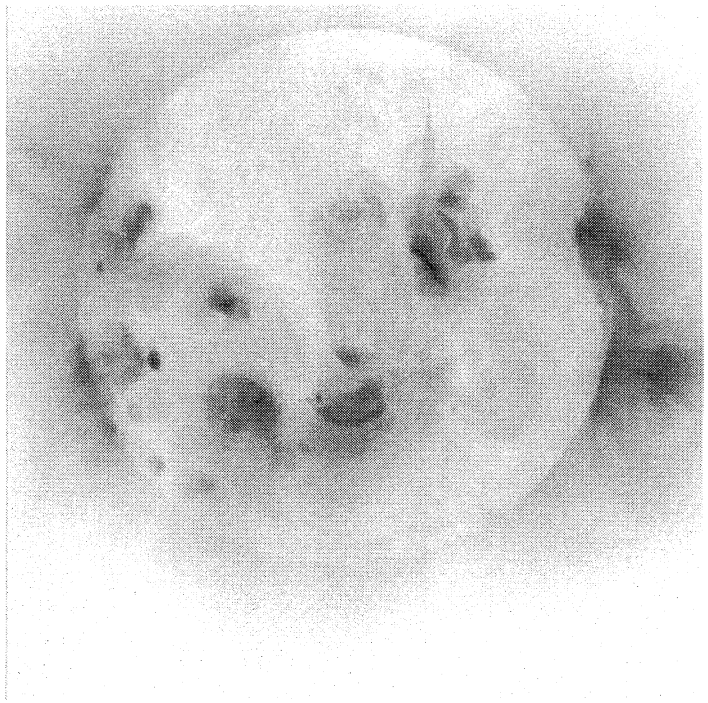
October
2001



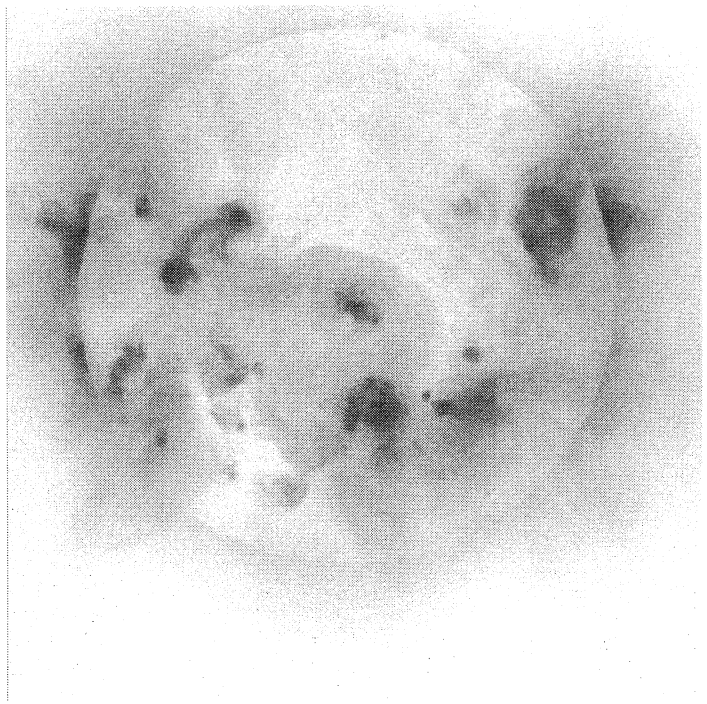
Day 21
13:49:19 UT



Day 23
12:02:51 UT



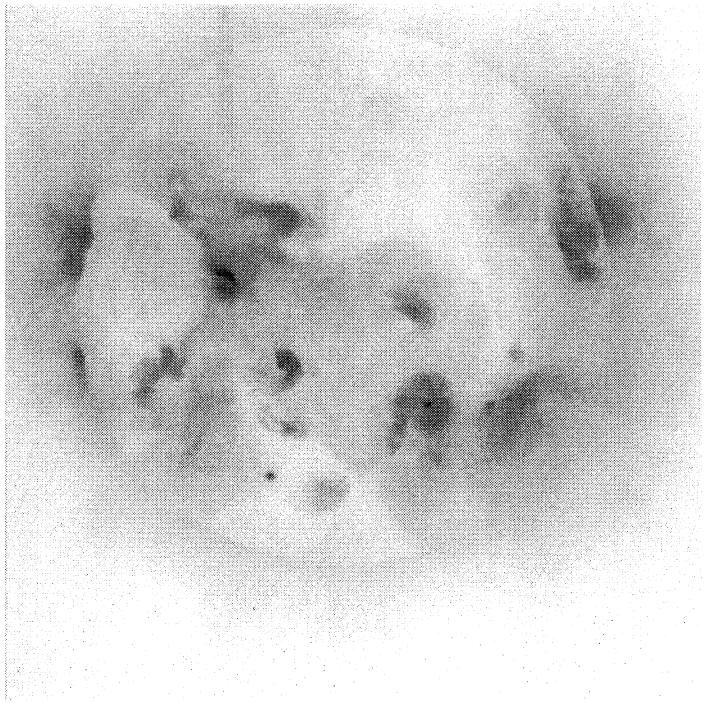
Day 22
12:03:01 UT



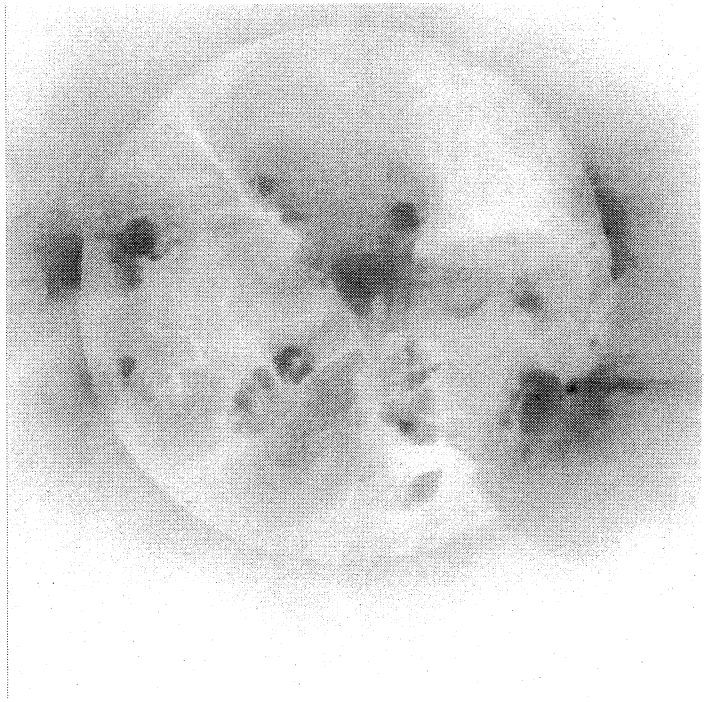
Day 24
12:12:37 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

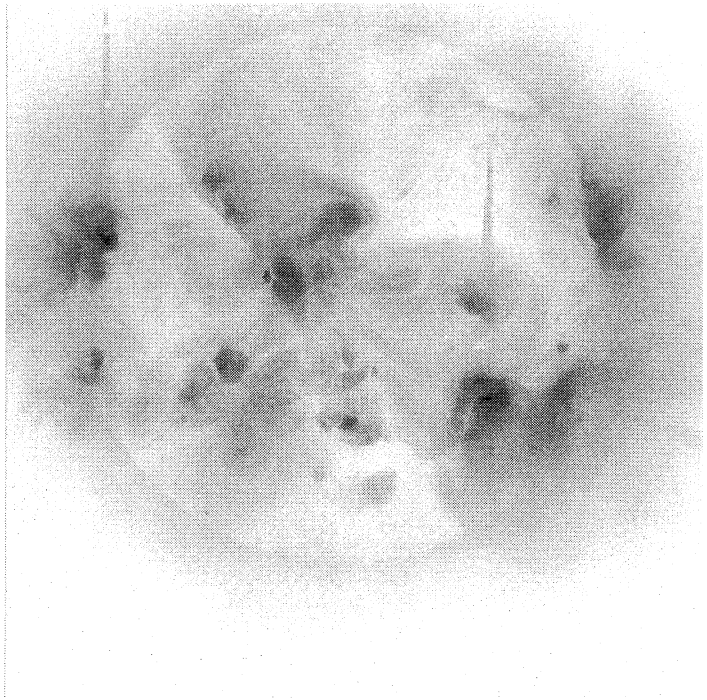
October 2001



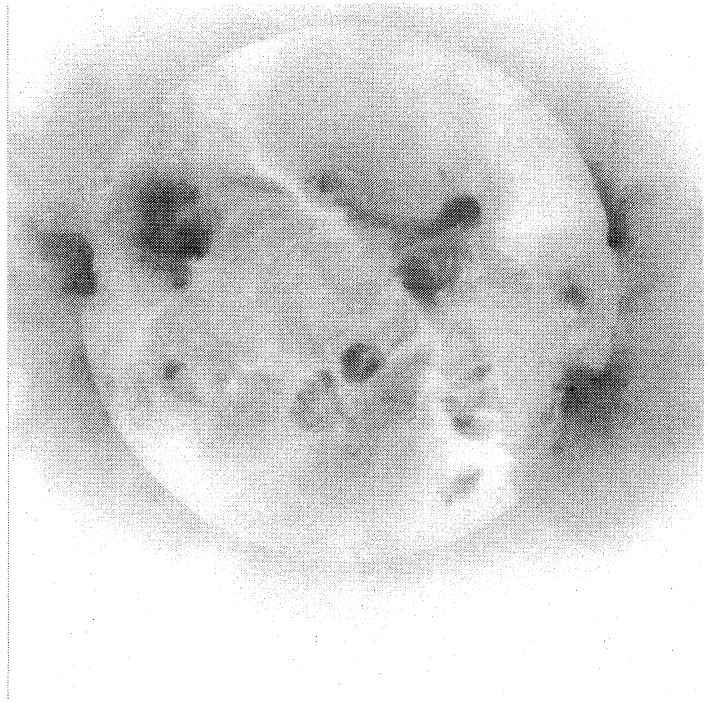
Day 25
11:21:02 UT



Day 27
11:58:44 UT



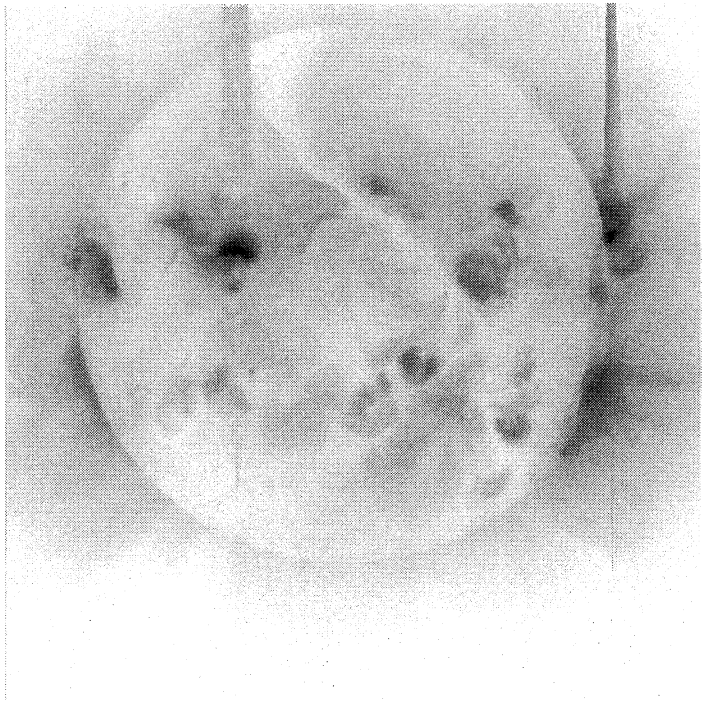
Day 26
12:03:28 UT



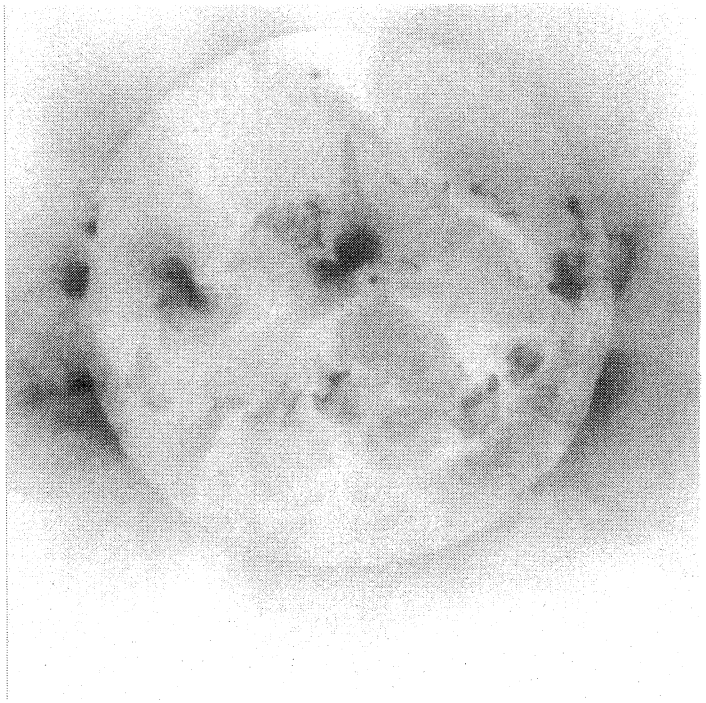
Day 28
12:00:04 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

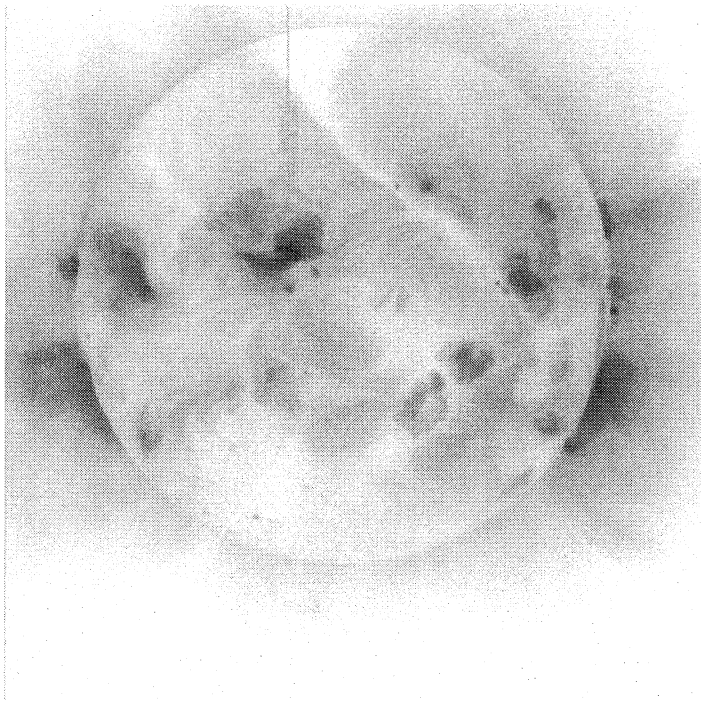
October
2001



Day 29
11:53:00 UT

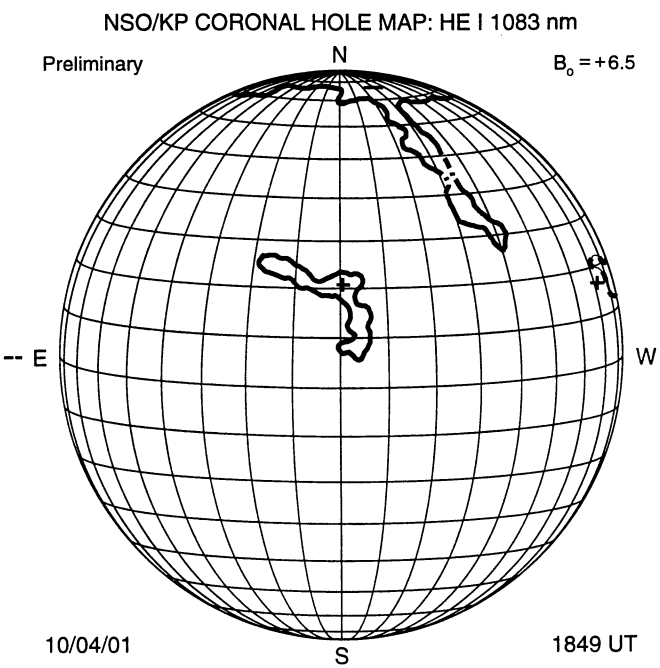


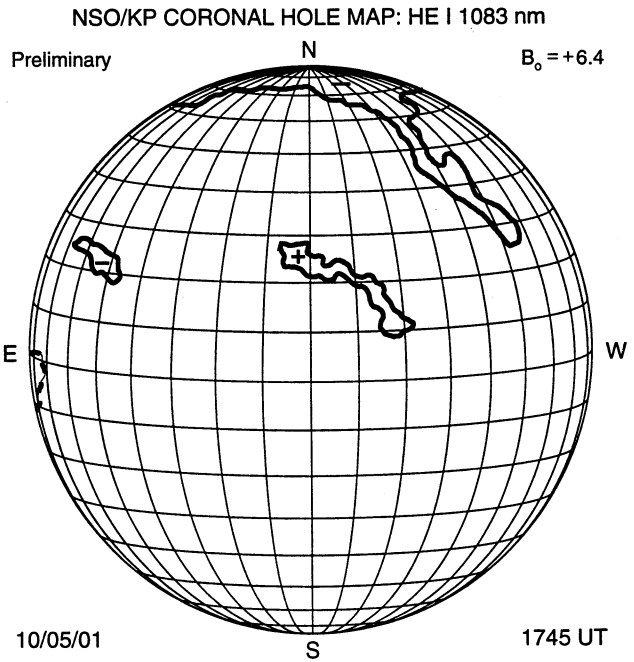
Day 31
10:04:47 UT

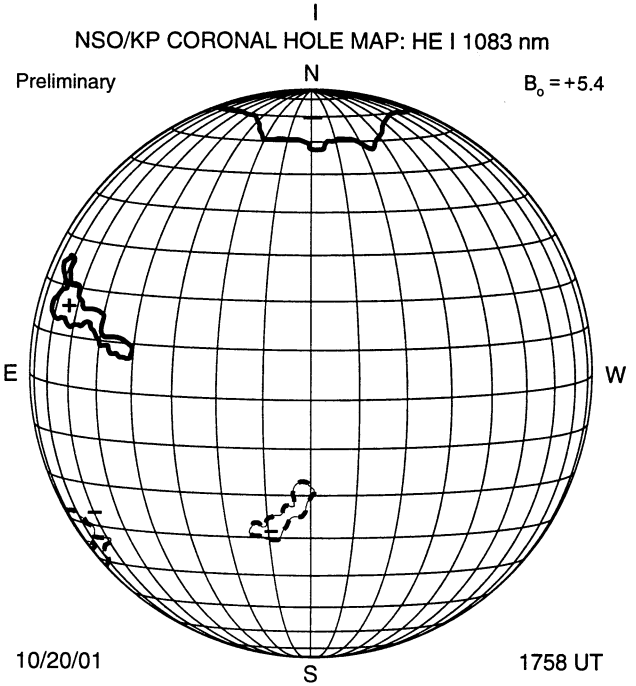


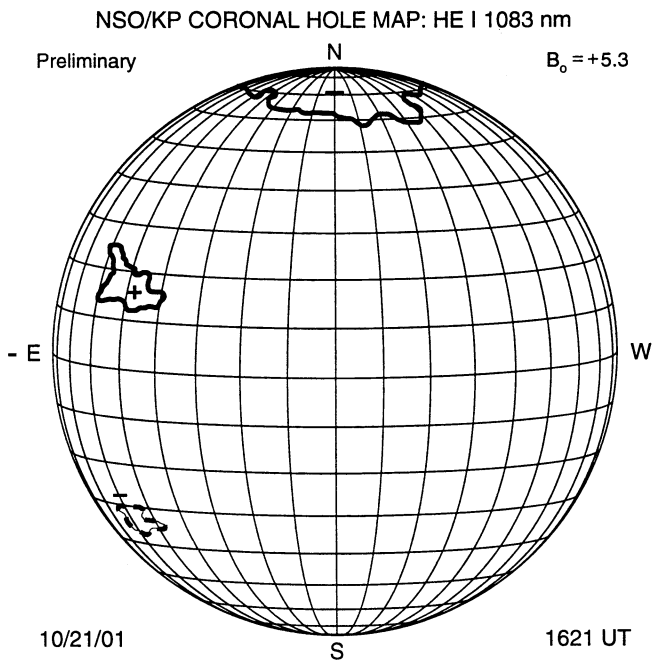
Day 30
09:58:27 UT

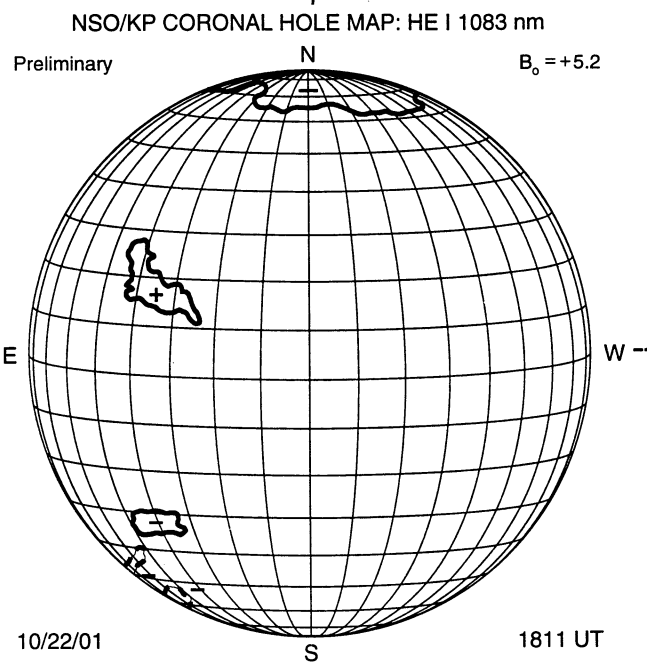
KITT PEAK CORONAL HOLE MAPS HE I 1083 nm
October 2001

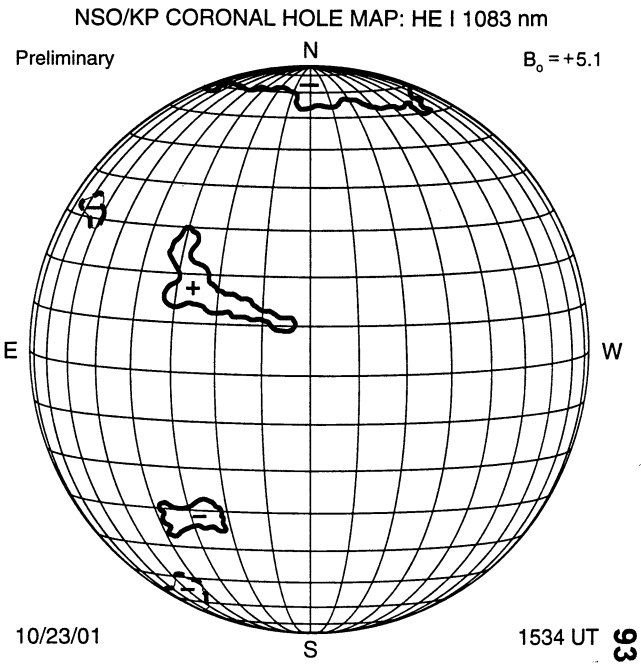




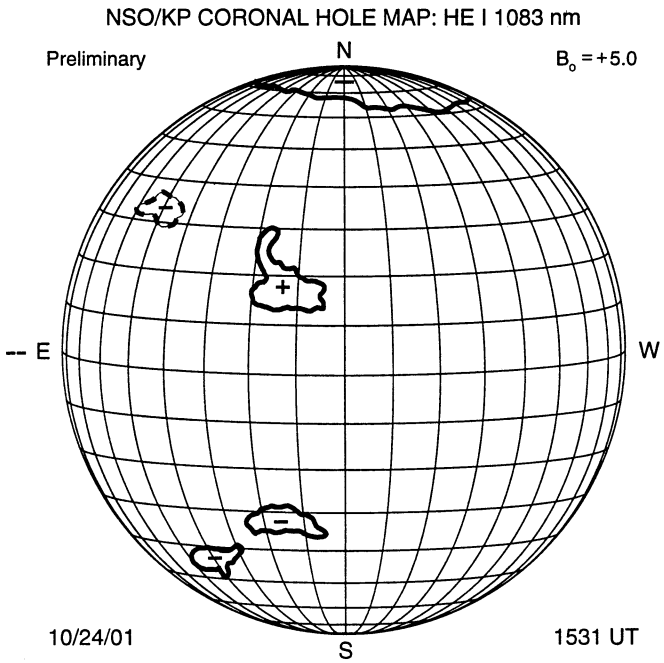


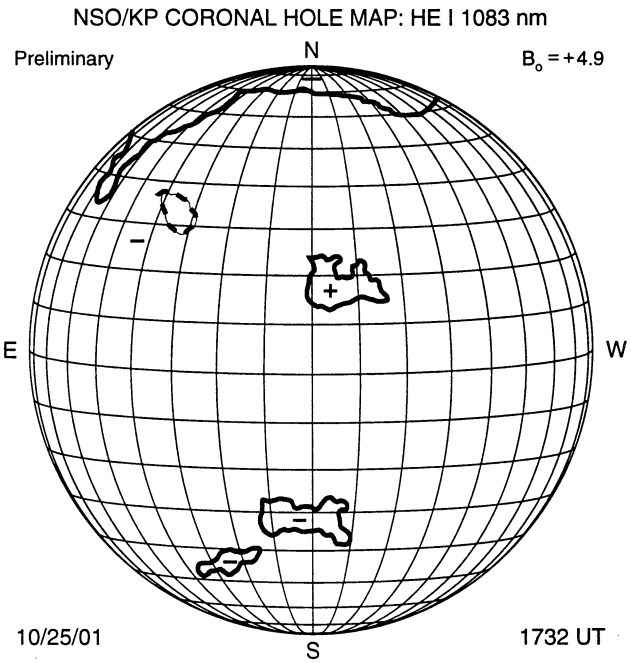


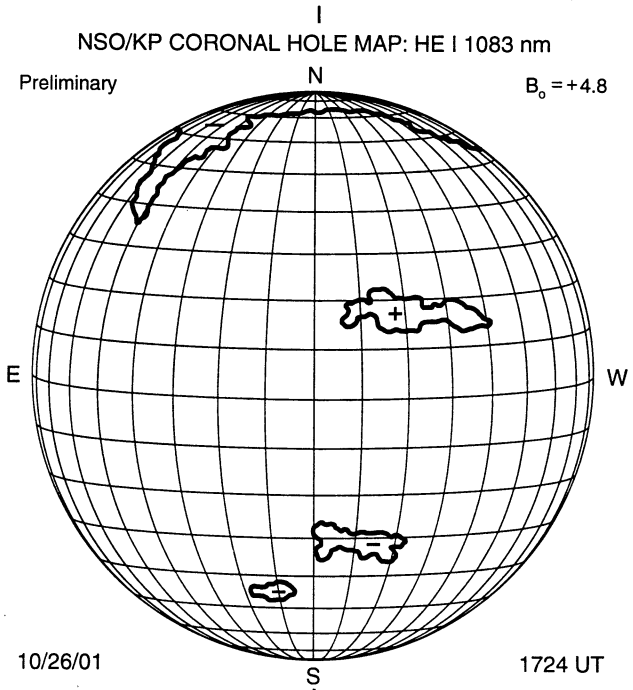


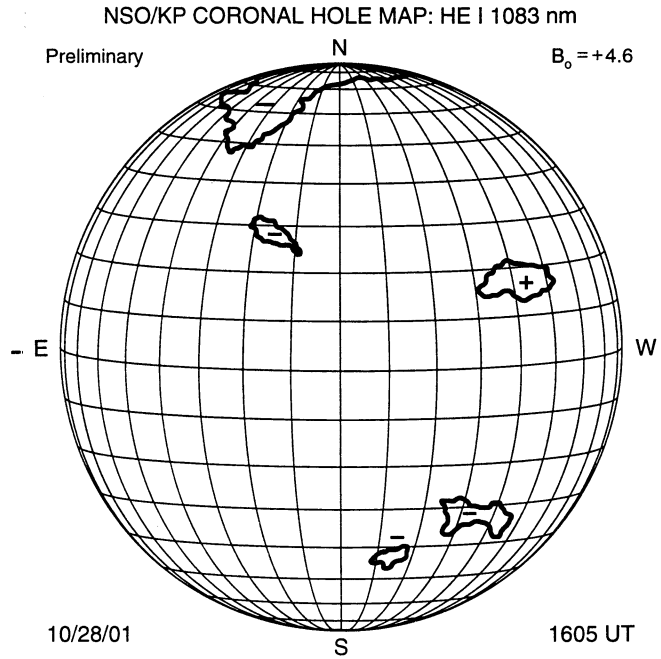


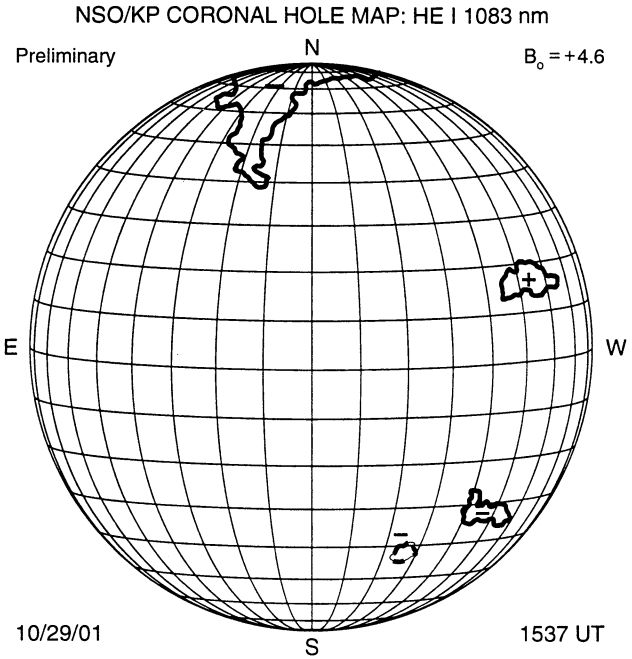
KITT PEAK CORONAL HOLE MAPS HE I 1083 nm
October 2001

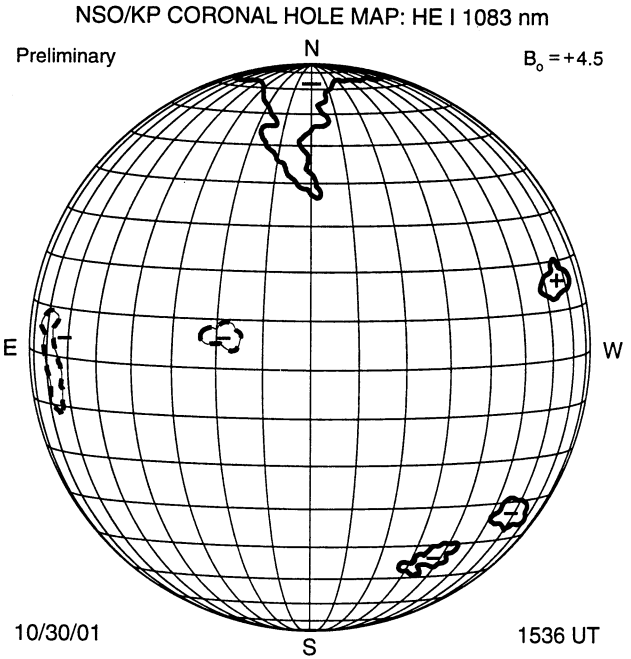




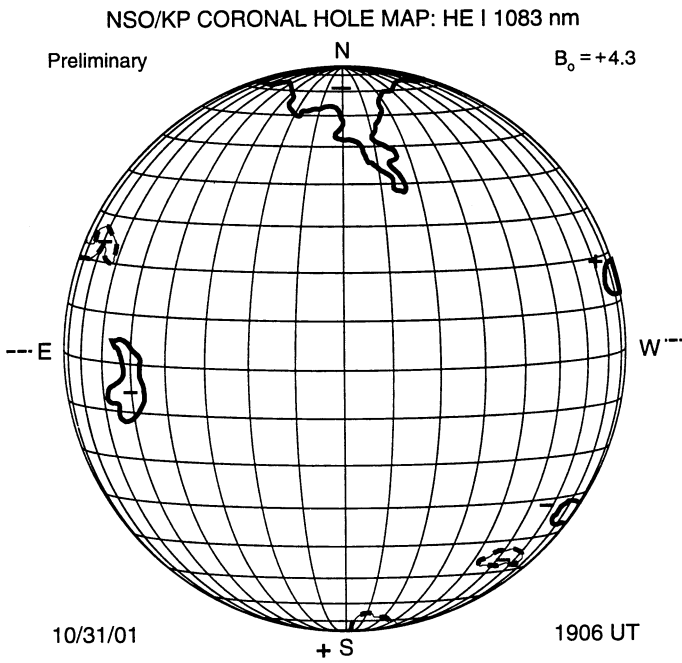




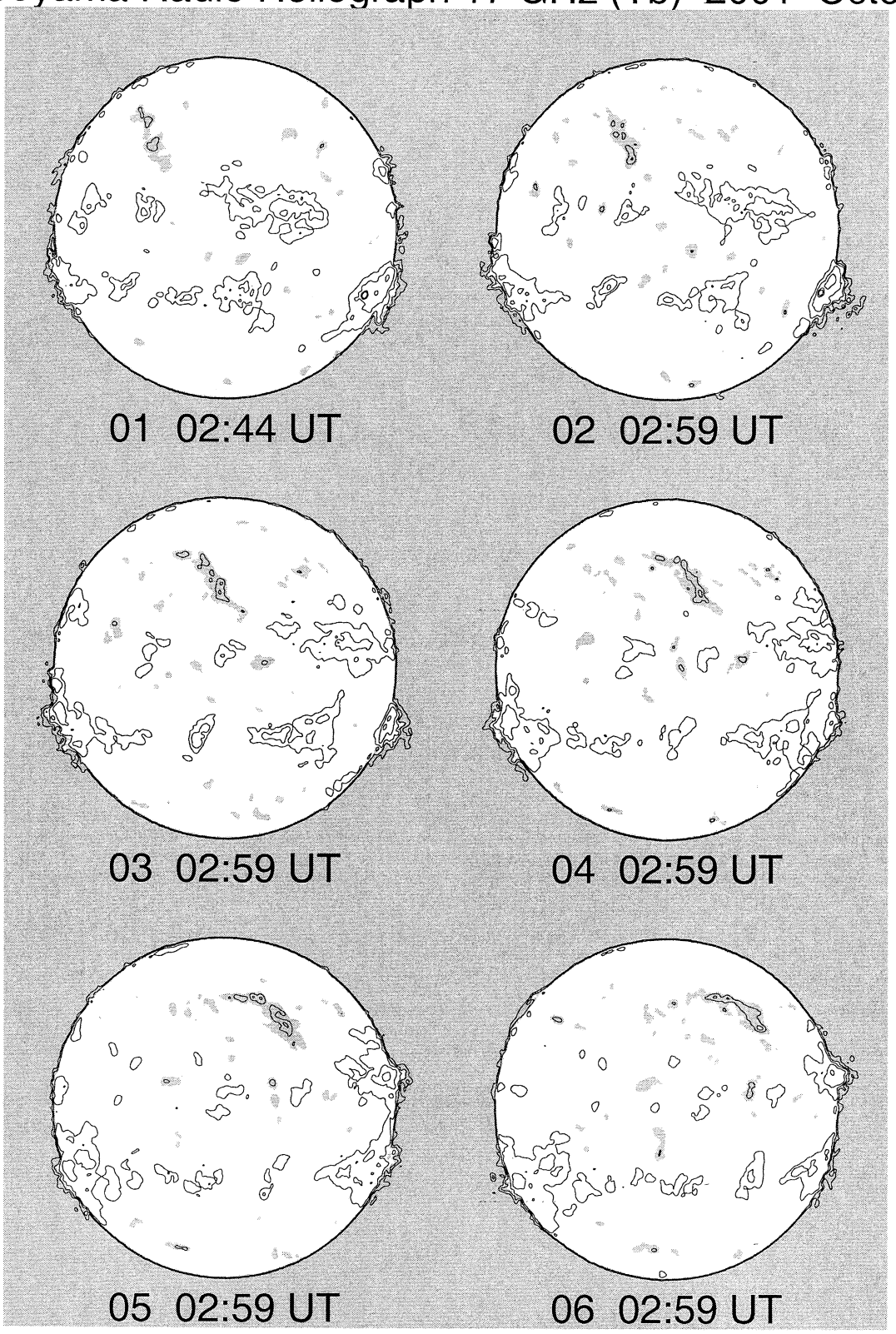




KITT PEAK CORONAL HOLE MAPS HE I 1083 nm
October 2001

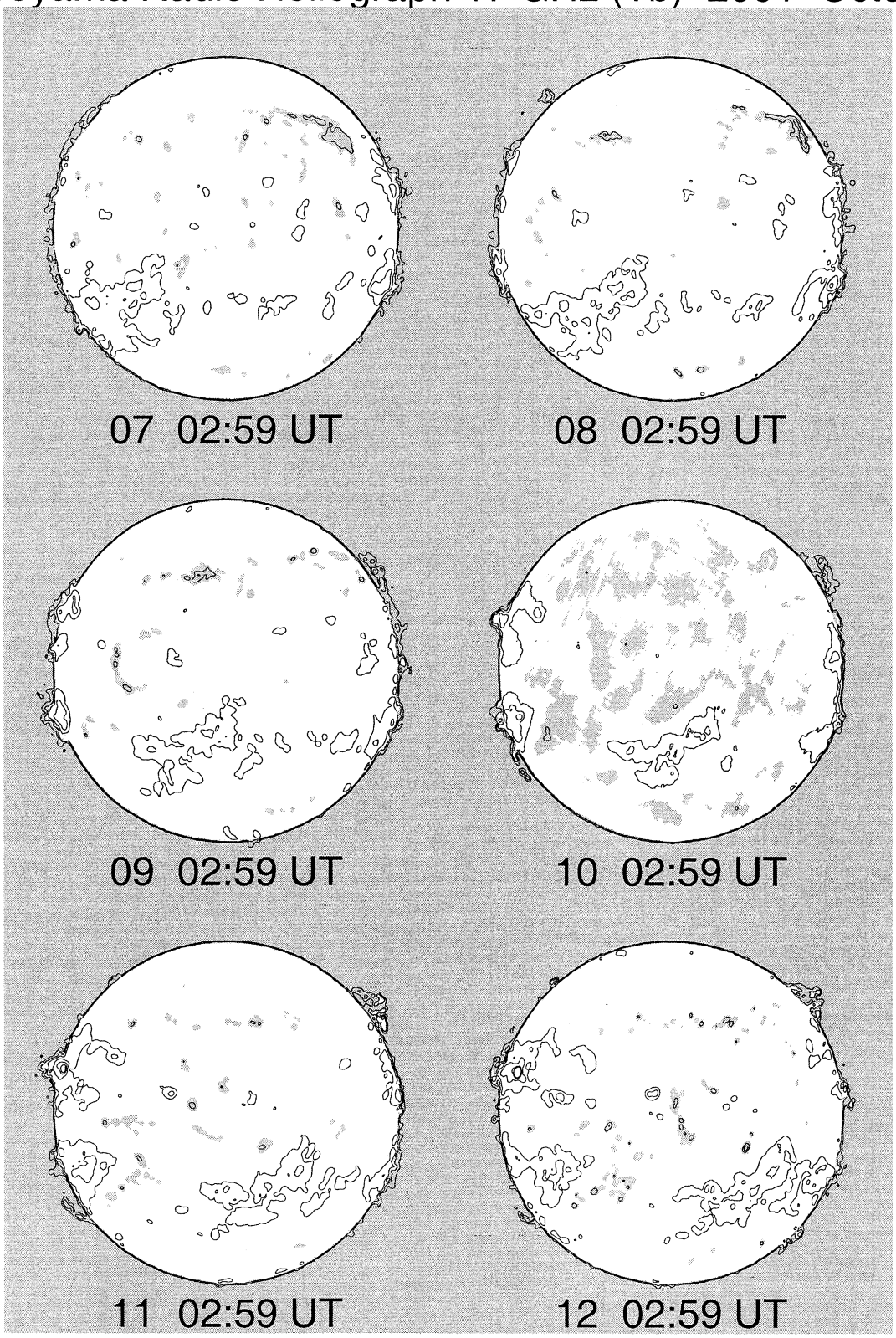


Nobeyama Radio Heliograph 17 GHz (Tb) 2001 October



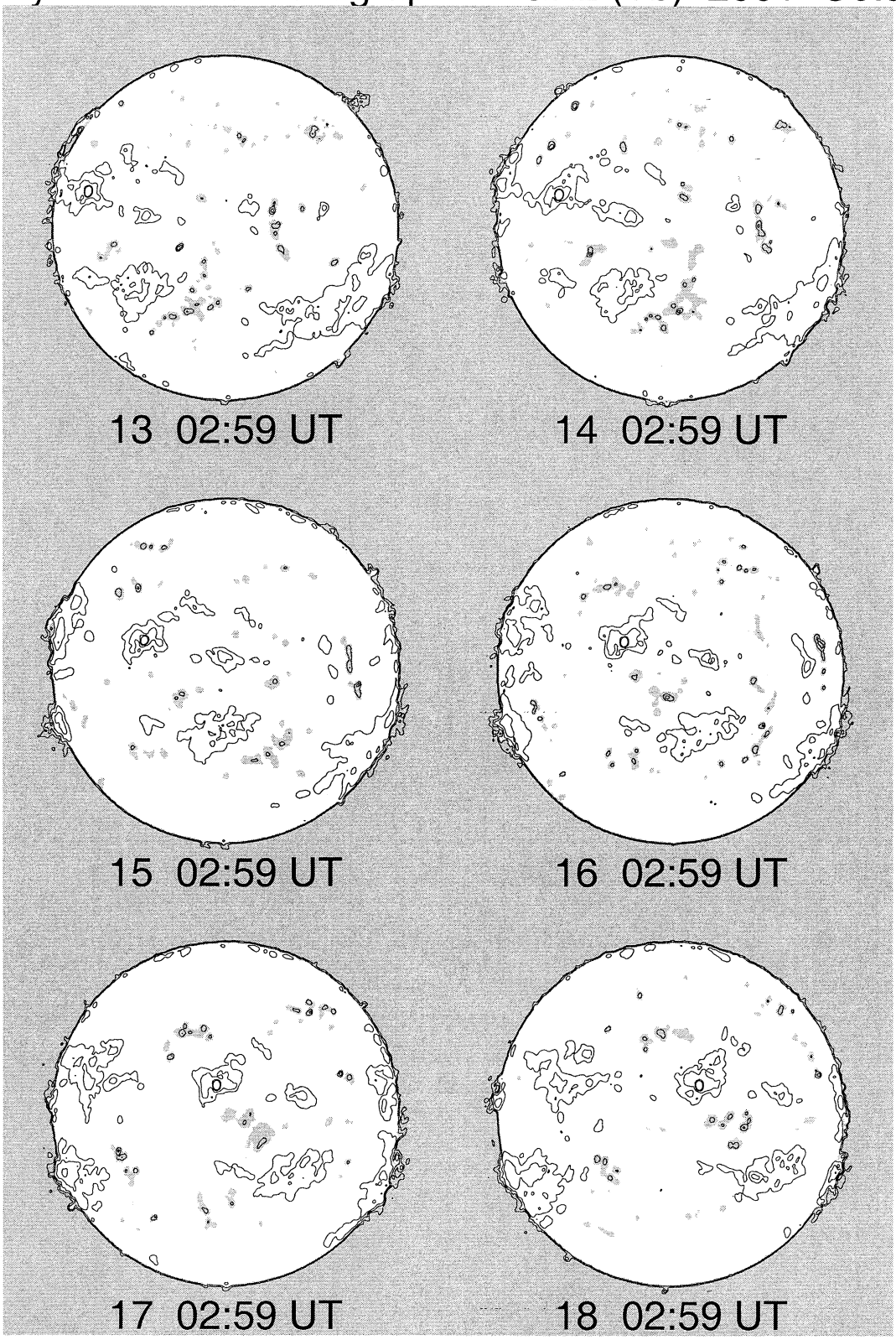
Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb <= 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2001 October



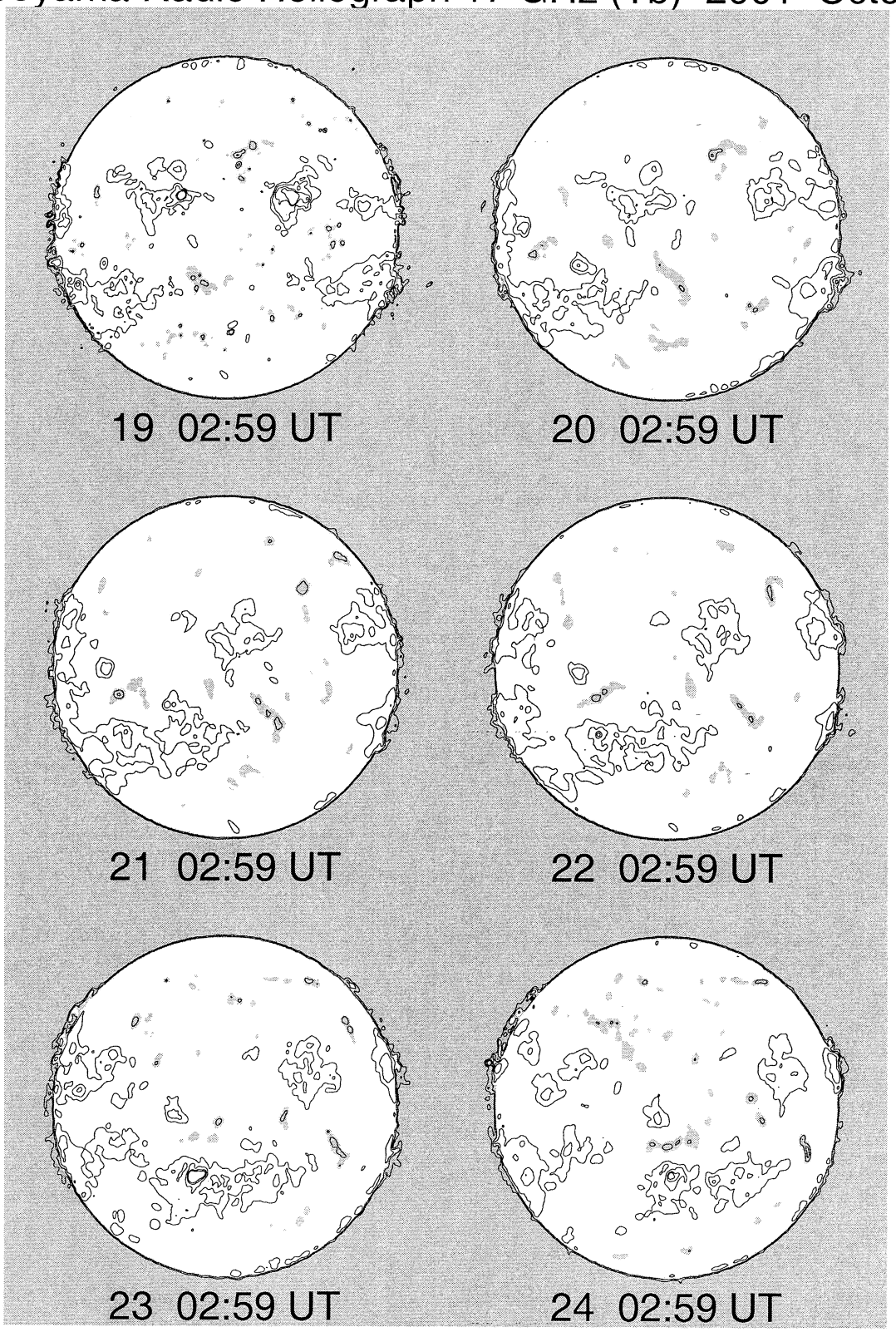
Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb <= 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2001 October



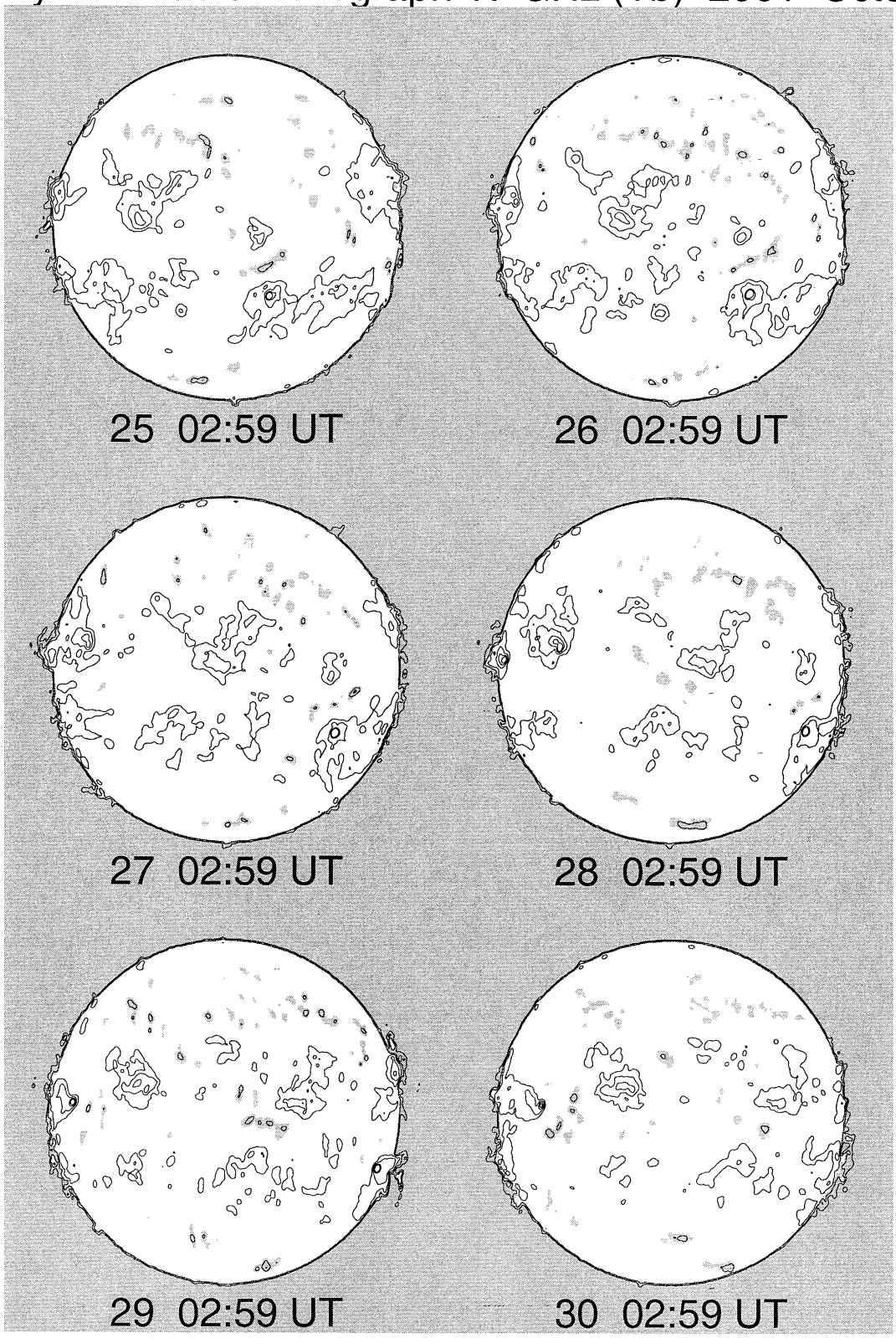
Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb <= 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2001 October



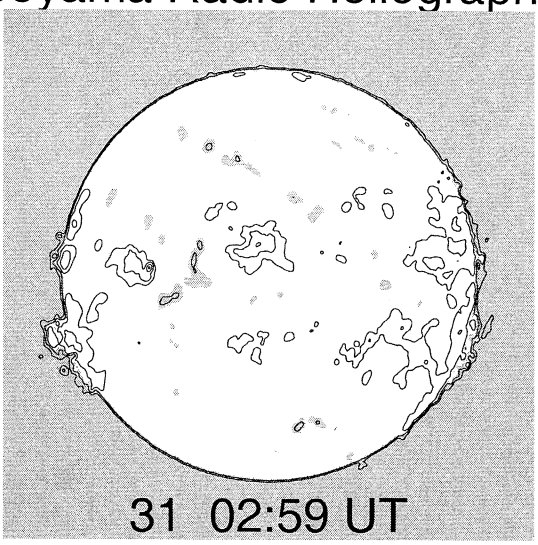
Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb <= 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2001 October



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 October



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)

OCTOBER 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
9638C		KAND	09	28	1125	S18	E35	10	1.1			AX		1	1	4
9638C	30746	MWIL	09	28	1500	S18	E34	10	1.2	4	(AF)					
9638C	30758	MWIL	10	03	1430	S22	W32	10	1.1	3	(AF)					
9638B		VORO	09	26	2225	N17	E56	10	1.2			AXX	13	1		3
9644	30741	MWIL	09	26	1430	N20	E71	10	2.0	4	(AP)					
9644		HOLL	09	26	1445	N20	E71	10	2.0		A	AXX	30	1	1	3
9644		LEAR	09	27	0032	N19	E67	10	2.1		A	AXX		1		2
9644		KAND	10	01	0715	N20	E06	10	1.8			BXO		3	3	3
9644		SVTO	10	01	0815	N20	E05	10	1.7		A	HSX	30	5	4	3
9644		RAMY	10	01	1222	N20	E01	10	1.6		B	CSO	20	4	3	3
9644	30752	MWIL	10	01	1445	N19	E01	10	1.7	4	(B)					
9644		LEAR	10	02	0020	N19	W04	10	1.7		B	CAO	30	7	3	1
9644		SVTO	10	02	0832	N19	W09	10	1.7		B	CSO	30	5	4	3
9644		KAND	10	02	0835	N20	W09	10	1.7			CAO		5	4	4
9644		RAMY	10	02	1240	N20	W12	10	1.6		B	CSO	10	9	4	4
9644	30752	MWIL	10	02	1430	N20	W12	10	1.7	5	(B)					
9644	30754	MWIL	10	02	1430	N24	W14	10	1.5	4	(AF)					
9644		HOLL	10	02	1620	N19	W13	10	1.7		B	DAO	40	7	4	2
9644		LEAR	10	03	0025	N20	W17	10	1.7		B	CAO	20	4	4	1
9644		KAND	10	03	0630	N20	W23	10	1.5			HS		1	1	3
9644		SVTO	10	03	0634	N18	W23	10	1.5		B	CSO	10	3	2	3
9644	30752	MWIL	10	03	1430	N19	W27	10	1.5	4	(BP)					
9644		RAMY	10	03	1500	N19	W28	10	1.5		A	HSX	10	1	1	2
9644		HOLL	10	03	1650	N19	W27	10	1.6		A	AXX	10	1	1	2
9644	30752	MWIL	10	04	1500	N21	W38	10	1.7	4	(AF)					
9644		HOLL	10	04	1512	N20	W38	10	1.7		A	AXX	10	1	1	4
9645		KAND	10	01	0715	S18	E10	10	2.1			BXO		6	5	3
9645		SVTO	10	01	0815	S19	E11	10	2.2		B	DAO	60	12	6	3
9645		RAMY	10	01	1222	S18	E08	10	2.1		B	DAO	50	12	6	3
9645	30753	MWIL	10	01	1445	S17	E06	10	2.1	4	(B)					
9645		LEAR	10	02	0020	S20	W02	10	1.9		B	DAO	50	11	7	1
9645		SVTO	10	02	0832	S18	W03	10	2.1		B	CRO	30	7	9	3
9645		KAND	10	02	0835	S17	W03	10	2.1			CRO		9	10	4
9645		RAMY	10	02	1240	S18	W06	10	2.1		B	DSO	10	12	9	4
9645	30753	MWIL	10	02	1430	S18	W07	10	2.1	4	(B)					
9645		HOLL	10	02	1620	S18	W08	10	2.1		B	DRO	70	10	10	2
9645		LEAR	10	03	0025	S18	W15	10	1.9		B	DAO	60	12	8	1
9645		KAND	10	03	0630	S17	W20	10	1.7			DSI		8	6	3
9645		KAND	10	03	0630	S18	W13	10	2.3			AX		1	1	3
9645		SVTO	10	03	0634	S18	W18	10	1.9		B	DAO	100	6	7	3
9645	30753	MWIL	10	03	1430	S17	W24	10	1.8	5	(B)					
9645	30759	MWIL	10	03	1430	S18	W17	10	2.3	4	(AF)					
9645		RAMY	10	03	1500	S18	W23	10	1.9		B	DAO	110	8	7	2
9645		HOLL	10	03	1650	S18	W25	10	1.8		B	DAO	130	10	9	2
9645		LEAR	10	04	0110	S16	W31	10	1.7		B	DSO	80	9	8	2
9645		KAND	10	04	0715	S17	W34	10	1.7			DAO		10	9	3
9645		KAND	10	04	0715	S18	W26	10	2.3			AX		3	2	3
9645		SVTO	10	04	0715	S18	W32	10	1.9		B	DSO	140	10	10	3
9645		RAMY	10	04	1205	S17	W35	10	1.8		B	ESO	190	7	12	2
9645	30753	MWIL	10	04	1500	S17	W36	10	1.9	4	(B)					
9645		HOLL	10	04	1512	S18	W37	10	1.8		B	DAI	180	9	7	4
9645		VORO	10	05	0452	S18	W45	10	1.8			DAO	203	4	8	2
9645		LEAR	10	05	0700	S17	W46	10	1.8		B	DAO	120	8	8	2
9645		SVTO	10	05	0736	S18	W46	10	1.8		B	DAO	120	9	8	3
9645		KAND	10	05	0845	S17	W48	10	1.7			DAO		9	9	4
9645		RAMY	10	05	1330	S19	W50	10	1.7		B	ESO	110	6	11	1
9645	30753	MWIL	10	05	1515	S17	W49	10	1.9	5	(BP)					
9645		HOLL	10	05	1656	S18	W51	10	1.8		B	CSO	130	9	7	3
9645		VORO	10	05	2201	S18	W54	10	1.8			DRO	95	2	9	2
9645		SVTO	10	06	0801	S18	W59	10	1.8		B	EAO	160	11	14	3
9645		KAND	10	06	1205	S17	W61	10	1.9			EAO		4	12	2
9645		RAMY	10	06	1239	S19	W63	10	1.7		B	EAO	150	8	14	2
9645		HOLL	10	06	1445	S17	W63	10	1.8		B	EAI	210	11	13	3
9645	30753	MWIL	10	06	1530	S17	W62	10	1.9	4	(B)					
9645		VORO	10	06	2303	S18	W68	10	1.8			DRO	161	3	13	2
9645		LEAR	10	07	0005	S18	W67	10	1.9		B	EAO	180	5	15	2

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9645		SVTO	10	07	0755	S18	W71	10	1.9		B	EAO	190	4	13	4
9645		RAMY	10	07	1222	S18	W77	10	1.6		B	EAO	120	4	14	3
9645		KAND	10	07	1225	S18	W74	10	1.9			EAO		3	12	3
9645	30753	MWIL	10	07	1430	S18	W74	10	2.0	4	(B)					
9645		HOLL	10	07	1535	S17	W78	10	1.7		B	EAO	120	4	12	3
9645		VORO	10	07	2238	S19	W75	10	2.2			HRX	43	2		2
9645		LEAR	10	08	0010	S19	W77	10	2.1		A	HAX	60	2	2	2
9640	30742	MWIL	09	26	1430	N10	E86	10	3.1	4	AP					
9640		LEAR	09	27	0032	N09	E79	10	2.9		B	DSO	60	3	4	2
9640		SVTO	09	27	0724	N11	E76	10	3.0		B	BXO	30	3	4	2
9640		RAMY	09	27	1400	N11	E72	10	3.0		B	BXO	10	3	4	3
9640		HOLL	09	27	1500	N09	E71	10	2.9		B	CSI	70	5	5	3
9640	30742	MWIL	09	27	1500	N10	E71	10	2.9	4	(AP)					
9640		VORO	09	27	2208	N10	E67	10	2.9			AXX	11	1		2
9640		LEAR	09	28	0030	N08	E68	10	3.1		B	BXO	10	2	1	3
9640		SVTO	09	28	0628	N11	E64	10	3.1		A	AXX	20	2	1	3
9640		KAND	09	28	1125	N09	E60	10	3.0			AX		3	1	4
9640		RAMY	09	28	1230	N11	E62	10	3.2		A	HSX	20	1	1	1
9640	30742	MWIL	09	28	1500	N10	E59	10	3.0	4	(AP)					
9640		VORO	09	28	2249	N10	E54	10	3.0			HRX	24	1		3
9640		LEAR	09	29	0105	N08	E52	10	2.9		A	HSX	20	1	1	2
9640		KAND	09	29	0620	N09	E51	10	3.1			HR		2	2	4
9640		SVTO	09	29	0845	N10	E49	10	3.0		A	HSX	20	2	1	3
9640		RAMY	09	29	1218	N11	E48	10	3.1		B	CSO	30	3	3	3
9640	30742	MWIL	09	29	1500	N10	E45	10	3.0	4	(AP)					
9640		HOLL	09	29	1510	N11	E45	10	3.0		A	HSX	40	4	3	3
9640		VORO	09	29	2204	N10	E41	10	3.0			AXX	13	1		3
9640		LEAR	09	30	0010	N10	E39	10	2.9		B	CSO	20	2	3	3
9640		KAND	09	30	0800	N10	E35	10	3.0			AX		7	3	4
9640	30742	MWIL	09	30	1500	N10	E31	10	2.9	4	(AP)					
9640		KAND	10	01	0715	N08	E22	10	2.9			CRO		3	3	3
9640		SVTO	10	01	0815	N11	E19	10	2.8		B	CAO	60	3	4	3
9640		RAMY	10	01	1222	N11	E18	10	2.9		B	CSO	10	2	2	3
9640	30742	MWIL	10	01	1445	N11	E17	10	2.9	4	(AP)					
9640		LEAR	10	02	0020	N10	E13	10	3.0		B	CRO	20	3	4	1
9640		SVTO	10	02	0832	N11	E07	10	2.9		B	DAO	30	3	5	3
9640		KAND	10	02	0835	N11	E08	10	2.9			CRO		4	5	4
9640		RAMY	10	02	1240	N10	E06	10	3.0		B	CSO	10	13	5	4
9640	30742	MWIL	10	02	1430	N11	E05	10	3.0	4	(AP)					
9640		HOLL	10	02	1620	N10	E04	10	3.0		B	BXI	70	13	6	2
9640		LEAR	10	03	0025	N10	W02	10	2.9		B	CAO	20	3	4	1
9640		KAND	10	03	0630	N11	W04	10	3.0			BXO		5	4	3
9640		SVTO	10	03	0634	N11	W04	10	3.0		B	BXO	10	5	3	3
9640	30742	MWIL	10	03	1430	N10	W08	10	3.0	4	(AP)					
9640		RAMY	10	03	1500	N09	W09	10	2.9		B	BXO	10	7	4	2
9640		HOLL	10	03	1650	N10	W09	10	3.0		B	BXO	10	8	5	2
9640		SVTO	10	04	0715	N09	W18	10	2.9		B	DAO	30	4	5	3
9640		RAMY	10	04	1205	N12	W22	10	2.8		B	BXO	20	7	3	2
9640	30742	MWIL	10	04	1500	N10	W22	10	3.0	3	(AP)					
9640		HOLL	10	04	1512	N11	W23	10	2.9		B	BXO	10	5	3	4
9641		SVTO	09	27	0724	S14	E88	10	3.9		A	HSX	60	1	2	2
9641		KAND	09	27	1100	S15	E83	10	3.7			HS		1	2	5
9641		RAMY	09	27	1400	S14	E82	10	3.8		A	HSX	60	1	2	3
9641		HOLL	09	27	1500	S14	E79	10	3.6		A	HSX	60	1	2	3
9641	30745	MWIL	09	27	1500	S15	E79	10	3.6	4	AP					
9641		VORO	09	27	2208	S14	E73	10	3.4			HAX	107	1		2
9641		LEAR	09	28	0030	S16	E71	10	3.4		A	HAX	60	1	2	3
9641		SVTO	09	28	0628	S13	E71	10	3.6		A	HAX	90	1	4	3
9641		KAND	09	28	1125	S14	E67	10	3.5			HS		1	2	4
9641		RAMY	09	28	1230	S13	E70	10	3.8		A	HSX	60	1	1	1
9641	30745	MWIL	09	28	1500	S14	E65	10	3.5	4	(AP)					
9641		VORO	09	28	2249	S13	E60	10	3.5			HAX	148	1		3
9641		LEAR	09	29	0105	S16	E58	10	3.4		A	HAX	40	1	2	2
9641		KAND	09	29	0620	S15	E56	10	3.5			HS		1	2	4
9641		SVTO	09	29	0845	S13	E56	10	3.6		B	CSO	120	2	4	3
9641		RAMY	09	29	1218	S14	E54	10	3.6		A	HSX	100	1	3	3
9641	30745	MWIL	09	29	1500	S14	E50	10	3.4	5	(BP)					

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9641		HOLL	09	29	1510	S13	E51	10	3.5		A	HAX	140	1	2	3
9641		VORO	09	29	2204	S14	E46	10	3.4			HSX	275	1		3
9641		LEAR	09	30	0010	S15	E51	10	3.9		B	CSO	150	5	12	3
9641		KAND	09	30	0800	S14	E44	10	3.6			CAI		9	9	4
9641	30745	MWIL	09	30	1500	S15	E39	10	3.6	5	(BP)					
9641		KAND	10	01	0715	S14	E30	10	3.6			CAO		6	7	3
9641		SVTO	10	01	0815	S13	E31	10	3.7		B	EAO	200	12	11	3
9641		RAMY	10	01	1222	S13	E28	10	3.6		B	DAO	240	5	7	3
9641	30745	MWIL	10	01	1445	S14	E26	10	3.6	5	(BP)					
9641		LEAR	10	02	0020	S15	E19	10	3.4		B	DKO	210	10	8	1
9641		SVTO	10	02	0832	S13	E16	10	3.6		B	DAO	260	9	7	3
9641		KAND	10	02	0835	S13	E16	10	3.6			DAO		8	7	4
9641		RAMY	10	02	1240	S15	E14	10	3.6		B	DAO	260	12	10	4
9641	30745	MWIL	10	02	1430	S13	E12	10	3.5	5	(BP)					
9641	30755	MWIL	10	02	1430	S19	E19	10	4.0	4	(AP)					
9641		HOLL	10	02	1620	S15	E13	10	3.7		B	EKI	260	13	11	2
9641		LEAR	10	03	0025	S15	E06	10	3.5		B	DKO	200	9	7	1
9641		KAND	10	03	0630	S13	E06	10	3.7			CSO		10	6	3
9641		SVTO	10	03	0634	S13	E04	10	3.6		B	CAO	200	11	8	3
9641	30745	MWIL	10	03	1430	S13	W02	10	3.4	5	(BG)					
9641	30755	MWIL	10	03	1430	S17	E04	10	3.9	4	(B)					
9641		RAMY	10	03	1500	S12	W02	10	3.5		B	CAO	140	9	7	2
9641		HOLL	10	03	1650	S15	W03	10	3.5		B	CAO	160	11	10	2
9641		LEAR	10	04	0110	S12	W10	10	3.3		A	HSX	80	1	2	2
9641		KAND	10	04	0715	S12	W12	10	3.4			CSO		5	6	3
9641		SVTO	10	04	0715	S13	W08	10	3.7		B	CSO	180	6	6	3
9641		RAMY	10	04	1205	S12	W13	10	3.5		B	CSO	170	6	5	2
9641	30745	MWIL	10	04	1500	S12	W16	10	3.4	5	(BP)					
9641	30755	MWIL	10	04	1500	S18	W07	10	4.1	4	(AF)					
9641		HOLL	10	04	1512	S14	W14	10	3.6		B	CAO	120	9	6	4
9641		VORO	10	05	0452	S13	W24	10	3.4			HAX	244	2		2
9641		LEAR	10	05	0700	S13	W25	10	3.4		B	CHO	150	4	3	2
9641		SVTO	10	05	0736	S13	W26	10	3.3		A	HSX	110	3	3	3
9641		KAND	10	05	0845	S12	W27	10	3.3			HS		2	3	4
9641		RAMY	10	05	1330	S14	W29	10	3.4		B	CSO	130	2	3	1
9641	30745	MWIL	10	05	1515	S12	W29	10	3.4	5	(AP)					
9641	30755	MWIL	10	05	1515	S19	W21	10	4.0	4	(AF)					
9641		HOLL	10	05	1656	S14	W31	10	3.4		B	CAO	150	3	5	3
9641		VORO	10	05	2201	S13	W33	10	3.4			HAX	148	1		2
9641		SVTO	10	06	0801	S13	W39	10	3.4		A	HAX	90	2	3	3
9641		KAND	10	06	1205	S11	W41	10	3.4			HA		2	3	2
9641		RAMY	10	06	1239	S13	W43	10	3.3		B	CAO	110	4	4	2
9641		HOLL	10	06	1445	S12	W43	10	3.4		A	HAX	110	3	2	3
9641	30745	MWIL	10	06	1530	S12	W43	10	3.4	5	(AP)					
9641		VORO	10	06	2303	S12	W48	10	3.3			HAX	111	1		2
9641		LEAR	10	07	0005	S13	W48	10	3.4		A	HAX	100	1	2	2
9641		SVTO	10	07	0755	S13	W52	10	3.4		A	HAX	90	3	3	4
9641		RAMY	10	07	1222	S13	W56	10	3.3		A	HAX	110	3	3	3
9641		KAND	10	07	1225	S12	W55	10	3.4			HA		3	3	3
9641	30745	MWIL	10	07	1430	S12	W56	10	3.4	5	(AP)					
9641		HOLL	10	07	1535	S12	W58	10	3.3		A	HAX	90	3	3	3
9641		VORO	10	07	2238	S12	W61	10	3.3			HRX	39	2		2
9641		LEAR	10	08	0010	S12	W64	10	3.2		A	HAX	60	2	2	2
9641		KAND	10	08	0805	S12	W67	10	3.3			HS		1	2	4
9641		RAMY	10	08	1220	S14	W71	10	3.1		A	HSX	40	1	1	3
9641		HOLL	10	08	1424	S12	W70	10	3.3		A	HAX	60	1	1	2
9641	30745	MWIL	10	08	1500	S12	W69	10	3.4	5	(AP)					
9641		VORO	10	08	2240	S13	W75	10	3.3			HRX	43	1		2
9641		LEAR	10	09	0035	S12	W77	10	3.2		A	HSX	60	1	2	4
9651		LEAR	10	04	0110	S23	W02	10	3.9		B	CSO	10	2	2	2
9651		KAND	10	04	0715	S18	W03	10	4.1			AX		2	1	3
9651		SVTO	10	04	0715	S22	W03	10	4.1		B	CSO	20	5	4	3
9651		KAND	10	04	0715	S23	W04	10	4.0			BXO		7	6	3
9651		RAMY	10	04	1205	S21	W07	10	4.0		B	DSO	50	5	5	2
9651	30762	MWIL	10	04	1500	S23	W08	10	4.0	4	(B)					
9651		HOLL	10	04	1512	S22	W07	10	4.1		B	CAO	40	6	4	4
9651		VORO	10	05	0452	S25	W17	10	3.9			HRX	28	1		2
9651		LEAR	10	05	0700	S24	W17	10	4.0		B	DSO	40	5	6	2

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9651		SVTO	10	05	0736	S22	W17	10	4.0		B	DSO	40	6	6	3
9651		KAND	10	05	0845	S18	W18	10	4.0			AX		2	2	4
9651		KAND	10	05	0845	S23	W19	10	3.9			CSO		4	6	4
9651		RAMY	10	05	1330	S26	W22	10	3.8		B	CSO	20	4	6	1
9651	30762	MWIL	10	05	1515	S25	W21	10	4.0	4	(B)					
9651		HOLL	10	05	1656	S22	W22	10	4.0		B	CSO	30	3	6	3
9651		VORO	10	05	2201	S25	W27	10	3.8			AXX	20	1		2
9651		SVTO	10	06	0801	S23	W30	10	4.0		B	CSO	20	5	6	3
9651		KAND	10	06	1205	S24	W33	10	3.9			BXO		3	5	2
9651		RAMY	10	06	1239	S25	W35	10	3.8		B	CSO	10	2	5	2
9651		HOLL	10	06	1445	S23	W35	10	3.9		B	BXO	10	6	5	3
9651	30762	MWIL	10	06	1530	S25	W34	10	4.0	4	(B)					
9651		LEAR	10	07	0005	S24	W42	10	3.7		B	CSO	20	2	3	2
9651		SVTO	10	07	0755	S25	W47	10	3.7		A	AXX		1		4
9651		RAMY	10	07	1222	S25	W49	10	3.7		A	AXX		1		3
9651		KAND	10	07	1225	S24	W49	10	3.7			AX		1		3
9651	30762	MWIL	10	07	1430	S25	W50	10	3.7	4	(AP)					
9646		LEAR	09	30	0010	N11	E67	10	5.0		A	AXX	10	1	1	3
9646		KAND	09	30	0800	N11	E63	10	5.1			AX		2	2	4
9646	30750	MWIL	09	30	1500	N11	E58	10	5.0	3	(AP)					
9646		KAND	10	01	0715	N10	E51	10	5.1			BXO		3	5	3
9646		SVTO	10	01	0815	N12	E51	10	5.2		A	HAX	30	5	5	3
9646		RAMY	10	01	1222	N12	E47	10	5.0		B	CAO	20	3	5	3
9646	30750	MWIL	10	01	1445	N11	E47	10	5.1	4	(BF)					
9646		LEAR	10	02	0020	N10	E41	10	5.1		B	CAO	60	2	5	1
9646		SVTO	10	02	0832	N13	E36	10	5.1		B	CRO	10	2	6	3
9646		KAND	10	02	0835	N11	E36	10	5.1			BXO		2	7	4
9646		RAMY	10	02	1240	N12	E34	10	5.1		B	BXO		2	7	4
9646	30750	MWIL	10	02	1430	N12	E33	10	5.1	4	(B)					
9646		HOLL	10	02	1620	N12	E32	10	5.1		B	BXO	20	4	8	2
9646		LEAR	10	03	0025	N11	E23	10	4.7		A	HAX	10	1	1	1
9646		KAND	10	03	0630	N12	E21	10	4.8			BXO		2	3	3
9646		SVTO	10	03	0634	N13	E21	10	4.8		B	BXO	10	2	3	3
9646	30750	MWIL	10	03	1430	N12	E17	10	4.9	5	(BG)					
9646		RAMY	10	03	1500	N12	E17	10	4.9		B	CSO	10	6	4	2
9646		HOLL	10	03	1650	N12	E16	10	4.9		B	BXO	10	6	7	2
9646		RAMY	10	04	1205	N14	E03	10	4.7		A	AXX		1		2
9646	30750	MWIL	10	04	1500	N13	E02	10	4.8	3	(AP)					
9646		HOLL	10	04	1512	N13	E03	10	4.8		B	BXO	10	3	3	4
9646		KAND	10	05	0845	N12	W02	10	5.2			AX		1		4
9646	30750	MWIL	10	05	1515	N13	W12	10	4.7	4	(BP)					
9642		KAND	09	29	0620	N03	E81	10	5.3			AX		1	1	4
9642		SVTO	09	29	0845	N03	E79	10	5.3		A	HSX	30	1	1	3
9642		RAMY	09	29	1218	N04	E77	10	5.3		A	HSX		1	1	3
9642	30747	MWIL	09	29	1500	N03	E75	10	5.2	4	(AP)					
9642		HOLL	09	29	1510	N03	E76	10	5.3		A	AXX	20	1	1	3
9642		VORO	09	29	2204	N04	E68	10	5.0			AXX	20	1		3
9642		LEAR	09	30	0010	N04	E69	10	5.2		A	HSX	20	1	1	3
9642		KAND	09	30	0800	N03	E65	10	5.2			AX		3	2	4
9642	30747	MWIL	09	30	1500	N04	E59	10	5.0	4	(AP)					
9642		KAND	10	01	0715	N03	E51	10	5.1			HS		1	1	3
9642		SVTO	10	01	0815	N06	E51	10	5.2		A	HAX	60	2	4	3
9642		RAMY	10	01	1222	N05	E48	10	5.1		A	HSX	30	1	1	3
9642	30747	MWIL	10	01	1445	N05	E46	10	5.0	5	(AP)					
9642		LEAR	10	02	0020	N04	E41	10	5.1		A	HRX	20	1	1	1
9642		SVTO	10	02	0832	N06	E36	10	5.0		A	HSX	50	1	1	3
9642		KAND	10	02	0835	N05	E37	10	5.1			HS		2	1	4
9642		RAMY	10	02	1240	N05	E33	10	5.0		A	HSX	10	1	1	4
9642		HOLL	10	02	1620	N03	E31	10	5.0		B	CSO	20	2	4	2
9642		LEAR	10	03	0025	N04	E26	10	5.0		A	HAX	20	1	2	1
9642		KAND	10	03	0630	N05	E23	10	5.0			HA		1	1	3
9642		SVTO	10	03	0634	N06	E24	10	5.1		A	HSX	20	1	1	3
9642	30747	MWIL	10	03	1430	N05	E19	10	5.0	5	(AP)					
9642		RAMY	10	03	1500	N05	E19	10	5.0		A	HSX	20	1	1	2
9642		HOLL	10	03	1650	N04	E17	10	5.0		A	HAX	20	1	2	2
9642		LEAR	10	04	0110	N03	E12	10	4.9		A	HSX	20	1	1	2
9642		KAND	10	04	0715	N04	E17	10	5.6			AX		1		3

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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
9642		SVTO	10	04	0715	N05	E13	10	5.3		B	CSO	20	2	7	3
9642		KAND	10	04	0715	N06	E10	10	5.0			HS		1	2	3
9642		RAMY	10	04	1205	N05	E06	10	4.9		A	HSX	20	1	1	2
9642		HOLL	10	04	1512	N05	E06	10	5.1		A	HSX	40	1	2	4
9642		VORO	10	05	0452	N05	W03	10	5.0			AXX	11	1		2
9642		LEAR	10	05	0700	N05	W04	10	5.0		A	HSX	20	1	1	2
9642		SVTO	10	05	0736	N05	W02	10	5.2		B	CSO	20	2	7	3
9642		KAND	10	05	0845	N06	W05	10	5.0			HS		1	2	4
9642		RAMY	10	05	1330	N04	W08	10	5.0		A	HSX	20	1	1	1
9642	30747	MWIL	10	05	1515	N04	W09	10	5.0	4	(AP)					
9642		HOLL	10	05	1656	N04	W08	10	5.1		A	HAX	20	1	2	3
9642		VORO	10	05	2201	N05	W12	10	5.0			HRX	25	1		2
9642		SVTO	10	06	0801	N04	W18	10	5.0		A	HSX	10	1	1	3
9642		KAND	10	06	1205	N06	W20	10	5.0			HS		1	1	2
9642		RAMY	10	06	1239	N05	W21	10	4.9		A	HSX	20	1	1	2
9642		HOLL	10	06	1445	N05	W22	10	5.0		A	HSX	10	1	1	3
9642	30747	MWIL	10	06	1530	N04	W22	10	5.0	4	(AP)					
9642		VORO	10	06	2303	N05	W26	10	5.0			AXX	8	1		2
9642		LEAR	10	07	0005	N04	W27	10	5.0		A	HSX	20	1	1	2
9642		SVTO	10	07	0755	N04	W31	10	5.0		A	HSX	10	1	1	4
9642		RAMY	10	07	1222	N05	W34	10	5.0		A	HSX	10	1	1	3
9642		KAND	10	07	1225	N05	W33	10	5.0			AX		1		3
9642	30747	MWIL	10	07	1430	N04	W35	10	5.0	4	(AP)					
9642		HOLL	10	07	1535	N05	W36	10	4.9		A	HSX	10	1	1	3
9642		LEAR	10	08	0010	N05	W41	10	4.9		A	AXX		1		2
9642		KAND	10	08	0805	N05	W45	10	5.0			AX		2	1	4
9642		RAMY	10	08	1220	N04	W47	10	5.0		A	HSX	10	1		3
9642		HOLL	10	08	1424	N06	W48	10	5.0		A	AXX	20	1	1	2
9642	30747	MWIL	10	08	1500	N06	W50	10	4.9	4	(B)					
9647		KAND	09	30	0800	S17	E67	10	5.4			AX		2	1	4
9647	30751	MWIL	09	30	1500	S17	E62	10	5.3	3	(B)					
9647		RAMY	10	01	1222	S15	E49	10	5.2		A	AXX		1		3
9647	30751	MWIL	10	01	1445	S16	E48	10	5.2	4	(AP)					
9647		SVTO	10	02	0832	S15	E39	10	5.3		A	AXX		1		3
9647		KAND	10	02	0835	S17	E39	10	5.3			AX		1		4
9647		RAMY	10	02	1240	S16	E37	10	5.3		A	AXX		1		4
9647	30751	MWIL	10	02	1430	S16	E35	10	5.2	4	(AP)					
9647		HOLL	10	02	1620	S17	E34	10	5.3		A	AXX	10	1	1	2
9647	30768	MWIL	10	05	1515	S18	W04	10	5.3	4	(BP)					
9647		HOLL	10	05	1656	S18	W05	10	5.3		A	AXX	10	1	1	3
9647	30768	MWIL	10	06	1530	S18	W15	10	5.5	4	(B)					
9647	30771	MWIL	10	07	1430	S23	W23	10	5.8	3	(AF)					
9647A	30769	MWIL	10	05	1515	S02	E02	10	5.8	3	(AF)					
9652		KAND	10	04	0715	N22	E23	10	6.1			AX		1		3
9652		SVTO	10	04	0715	N23	E22	10	6.0		B	CSO	10	2	2	3
9652		RAMY	10	04	1205	N22	E20	10	6.0		B	BXO	10	3	3	2
9652	30763	MWIL	10	04	1500	N22	E18	10	6.0	4	(B)					
9652		HOLL	10	04	1512	N22	E19	10	6.1		B	BXO	10	2	3	4
9652	30763	MWIL	10	05	1515	N21	E04	10	5.9	4	(AP)					
9652		HOLL	10	05	1656	N22	E04	10	6.0		A	AXX	10	1	1	3
9652		KAND	10	06	1205	N22	W07	10	6.0			CRO		2	3	2
9652		RAMY	10	06	1239	N21	W07	10	6.0		B	CSO	20	5	3	2
9652		HOLL	10	06	1445	N21	W08	10	6.0		B	BXO	20	9	3	3
9652	30763	MWIL	10	06	1530	N21	W08	10	6.0	4	(B)					
9652		LEAR	10	07	0005	N21	W14	10	5.9		B	DRO	20	3	3	2
9652		SVTO	10	07	0755	N21	W17	10	6.0		B	BXO		2	3	4
9652		RAMY	10	07	1222	N21	W20	10	6.0		B	CSO	10	3	2	3
9652		KAND	10	07	1225	N22	W18	10	6.1			AX		1		3
9654		SVTO	10	05	0736	N08	E15	10	6.4		A	AXX		1		3
9654		KAND	10	05	0845	N09	E15	10	6.5			AX		1		4
9654		RAMY	10	05	1330	N07	E11	10	6.4		A	AXX	10	2	2	1
9654	30770	MWIL	10	05	1515	N07	E10	10	6.4	4	(AP)					
9654		HOLL	10	05	1656	N07	E09	10	6.4		B	BXX	10	2	2	3
9654		SVTO	10	06	0801	N07	E02	10	6.5		B	BXO	10	3	3	3
9656		SVTO	10	07	0755	S21	W04	10	7.0		B	BXO	10	3	3	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
9656		RAMY	10	07	1222	S21	W07	10	7.0		B	DSO	30	4	4	3
9656		KAND	10	07	1225	S22	W06	10	7.0			BXO		5	2	3
9656	30772	MWIL	10	07	1430	S21	W08	10	7.0	4	(B)					
9656		HOLL	10	07	1535	S22	W09	10	6.9		B	BXO	10	5	4	3
9656		LEAR	10	08	0010	S21	W15	10	6.8		A	AXX		1		2
9656		KAND	10	08	0805	S20	W20	10	6.8			AX		2	2	4
9656		HOLL	10	08	1424	S21	W23	10	6.8		B	BXO	20	2	2	2
9656	30775	MWIL	10	08	1500	S16	W21	10	7.0	4	(AP)					
9656	30772	MWIL	10	08	1500	S21	W23	10	6.9	4	(AP)					
9656D	30764	MWIL	10	04	1500	N18	E40	10	7.7	3	(AP)					
9656A		HOLL	10	07	1535	N25	E05	10	8.0		A	AXX	10	2	2	3
9650A		KAND	10	03	0630	S21	E66	10	8.3			AX		1	1	3
9650A		SVTO	10	03	0634	S17	E66	10	8.3		A	AXX		1		3
9650A	30760	MWIL	10	03	1430	S20	E59	10	8.1	4	(AP)					
9650A		SVTO	10	04	0715	S17	E52	10	8.2		A	AXX		1		3
9650A		KAND	10	04	0715	S18	E53	10	8.3			AX		2	1	3
9650A		KAND	10	07	1225	S20	E10	10	8.3			AX		2	1	3
9650A	30773	MWIL	10	07	1430	S21	E09	10	8.3	4	(AP)					
9650A		HOLL	10	07	1535	S22	E08	10	8.3		A	AXX	10	2	1	3
9650A		KAND	10	08	0805	S23	W03	10	8.1			BXO		2	3	4
9656B		KAND	10	03	0630	N07	E64	10	8.1			AX		1	1	3
9656B		KAND	10	04	0715	N08	E51	10	8.1			AX		1		3
9656B	30765	MWIL	10	04	1500	N08	E45	10	8.0	3	(B)					
9656B		KAND	10	06	1205	N09	E21	10	8.1			AX		1		2
9648		SVTO	10	02	0832	S03	E86	10	8.8		A	HSX	60	1	3	3
9648		RAMY	10	02	1240	S04	E84	10	8.8		A	HSX	50	1	2	4
9648	30756	MWIL	10	02	1430	S05	E79	10	8.5	4	AP					
9648		HOLL	10	02	1620	S07	E79	10	8.6		A	HSX	60	1	2	2
9648		LEAR	10	03	0025	S08	E70	10	8.3		A	HSX	60	1	2	1
9648		KAND	10	03	0630	S07	E75	10	8.9			CSO		2	9	3
9648		SVTO	10	03	0634	S02	E75	10	8.9		B	CSO	60	2	10	3
9648	30756	MWIL	10	03	1430	S05	E69	10	8.8	5	(BP)					
9648		RAMY	10	03	1500	S06	E67	10	8.6		A	HSX	70	1	1	2
9648		HOLL	10	03	1650	S07	E66	10	8.6		A	HAX	120	1	3	2
9648		LEAR	10	04	0110	S08	E59	10	8.5		A	HAX	40	1	2	2
9648		SVTO	10	04	0715	S03	E61	10	8.9		B	DSO	180	2	8	3
9648		KAND	10	04	0715	S05	E60	10	8.8			CAO		4	10	3
9648		RAMY	10	04	1205	S06	E54	10	8.5		A	HSX	80	2	2	2
9648	30756	MWIL	10	04	1500	S05	E55	10	8.7	5	(BP)					
9648		HOLL	10	04	1512	S07	E53	10	8.6		A	HSX	110	1	2	4
9648		VORO	10	05	0452	S05	E48	10	8.8			DAO	161	2	7	2
9648		LEAR	10	05	0700	S06	E43	10	8.5		A	HSX	100	2	2	2
9648		SVTO	10	05	0736	S05	E46	10	8.7		B	DAO	110	3	8	3
9648		KAND	10	05	0845	S05	E45	10	8.7			DAO		3	8	4
9648		RAMY	10	05	1330	S07	E40	10	8.5		A	HSX	120	2	2	1
9648	30756	MWIL	10	05	1515	S06	E41	10	8.7	5	(BP)					
9648		HOLL	10	05	1656	S07	E38	10	8.5		A	HSX	80	1	2	3
9648		VORO	10	05	2201	S05	E38	10	8.7			CAO	195	3	6	2
9648		SVTO	10	06	0801	S06	E32	10	8.7		B	CAO	70	6	8	3
9648		KAND	10	06	1205	S05	E30	10	8.7			CAO		4	8	2
9648		RAMY	10	06	1239	S07	E27	10	8.5		B	CSO	70	4	4	2
9648		HOLL	10	06	1445	S07	E25	10	8.5		A	HAX	90	3	2	3
9648	30756	MWIL	10	06	1530	S06	E26	10	8.6	5	(BP)					
9648		VORO	10	06	2303	S07	E21	10	8.5			HAX	145	1		2
9648		LEAR	10	07	0005	S07	E20	10	8.5		A	HAX	60	2	2	2
9648		SVTO	10	07	0755	S06	E17	10	8.6		B	CSO	80	6	5	4
9648		RAMY	10	07	1222	S07	E13	10	8.5		B	CAO	60	4	4	3
9648		KAND	10	07	1225	S07	E13	10	8.5			CAO		5	4	3
9648	30756	MWIL	10	07	1430	S07	E12	10	8.5	5	(AP)					
9648		HOLL	10	07	1535	S07	E12	10	8.5		A	HAX	70	5	2	3
9648		VORO	10	07	2238	S07	E07	10	8.5			HAX	57	2		2
9648		LEAR	10	08	0010	S07	E07	10	8.5		A	HAX	50	3	2	2
9648		KAND	10	08	0805	S07	E05	10	8.7			CSO		3	11	4
9648		RAMY	10	08	1220	S07	E00	10	8.5		B	CSO	20	4	2	3

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9648		HOLL	10	08	1424	S06	W02	10	8.4		B	CSO	30	3	3	2
9648	30756	MWIL	10	08	1500	S07	W01	10	8.5	5	(AP)					
9648		VORO	10	08	2240	S07	W07	10	8.4			AXX	20	2		2
9648		LEAR	10	09	0035	S07	W07	10	8.5		A	HSX	30	3	2	4
9648		KAND	10	09	0835	S07	W12	10	8.4			HA		1	2	3
9648		SVTO	10	09	1037	S08	W13	10	8.5		B	CSO	30	3	3	2
9648		RAMY	10	09	1140	S08	W13	10	8.5		B	CSO	20	2	2	3
9648		HOLL	10	09	1413	S07	W16	10	8.4		B	CSO	30	2	3	3
9648	30756	MWIL	10	09	1645	S07	W17	10	8.4	5	(AP)					
9648		LEAR	10	10	0150	S07	W22	10	8.4		A	HSX	20	1	1	2
9648		SVTO	10	10	0817	S07	W22	10	8.7		B	EAO	20	4	11	3
9648		KAND	10	10	1140	S06	W27	10	8.5			HA		1	2	3
9648		RAMY	10	10	1238	S07	W28	10	8.4		A	HSX	20	1	1	3
9648	30756	MWIL	10	10	1430	S06	W29	10	8.4	5	(BP)					
9648		HOLL	10	10	1445	S06	W31	10	8.3		A	HSX	20	1	1	4
9648		LEAR	10	11	0015	S06	W35	10	8.4		A	HSX	10	1	1	3
9648		KAND	10	11	0655	S05	W39	10	8.4			HR		1	1	4
9648		SVTO	10	11	0729	S07	W39	10	8.4		A	HSX	10	1	1	2
9648		RAMY	10	11	1225	S08	W42	10	8.4		A	HSX	10	1	1	4
9648		HOLL	10	11	1500	S06	W43	10	8.4		A	HSX	10	1	2	3
9648	30756	MWIL	10	11	1500	S06	W43	10	8.4	4	(AP)					
9648		LEAR	10	12	0030	S06	W49	10	8.3		A	HSX	10	1	1	2
9648		SVTO	10	12	0654	S07	W52	10	8.4		A	AXX	10	1		3
9648		KAND	10	12	0905	S05	W53	10	8.4			AX		1		3
9648		RAMY	10	12	1340	S05	W52	10	8.7		B	CSO	10	4	9	2
9648	30756	MWIL	10	12	1500	S05	W52	10	8.7	3	(BP)					
9648	30756	MWIL	10	13	1500	S05	W63	10	8.9	3	(AF)					
9649		SVTO	10	03	0634	S08	E80	10	9.3		B	EAO	30	2	13	3
9649		RAMY	10	03	1500	S04	E75	10	9.2		A	HSX	30	1	1	2
9649		HOLL	10	03	1650	S06	E71	10	9.0		B	BXO	30	3	5	2
9649		LEAR	10	04	0110	S07	E68	10	9.1		A	AXX	10	1	1	2
9649		SVTO	10	04	0715	S09	E67	10	9.3		B	DSO	60	6	9	3
9649		RAMY	10	04	1205	S05	E61	10	9.1		A	HSX	20	1	1	2
9649		HOLL	10	04	1512	S06	E59	10	9.0		A	HSX	40	1	2	4
9649		LEAR	10	05	0700	S05	E49	10	8.9		A	HSX	20	1	1	2
9649		RAMY	10	05	1330	S05	E47	10	9.1		A	HSX	20	1	1	1
9649		HOLL	10	05	1656	S06	E45	10	9.1		A	AXX	10	1	1	3
9649	30776	MWIL	10	08	1500	S07	E06	10	9.1	4	(AP)					
9649	30776	MWIL	10	09	1645	S04	W08	10	9.1	4	(AP)					
9650		KAND	10	03	0630	S12	E80	10	9.3			CAO		2	9	3
9650	30761	MWIL	10	03	1430	S12	E75	10	9.2	4	B					
9650		RAMY	10	03	1500	S11	E77	10	9.4		B	ESO	40	2	11	2
9650		HOLL	10	03	1650	S14	E73	10	9.2		B	CAO	90	3	9	2
9650		LEAR	10	04	0110	S13	E69	10	9.2		B	DSO	30	2	7	2
9650		KAND	10	04	0715	S12	E67	10	9.3			CSO		7	9	3
9650		RAMY	10	04	1205	S14	E63	10	9.3		B	DSO	60	6	10	2
9650	30761	MWIL	10	04	1500	S13	E61	10	9.2	4	(BF)					
9650	30766	MWIL	10	04	1500	S16	E58	10	9.0	3	AP					
9650		HOLL	10	04	1512	S14	E62	10	9.3		B	CAO	70	10	5	4
9650		VORO	10	05	0452	S12	E57	10	9.5			HAX	104	4		2
9650		LEAR	10	05	0700	S13	E52	10	9.2		B	DAO	100	11	9	2
9650		SVTO	10	05	0736	S13	E52	10	9.2		B	DSO	90	9	9	3
9650		KAND	10	05	0845	S13	E52	10	9.3			CAO		16	9	4
9650		RAMY	10	05	1330	S14	E50	10	9.3		B	DSO	100	9	10	1
9650	30761	MWIL	10	05	1515	S13	E50	10	9.4	5	(BG)					
9650	30766	MWIL	10	05	1515	S16	E47	10	9.2	4	(B)					
9650		HOLL	10	05	1656	S15	E49	10	9.4		B	DSO	60	10	8	3
9650		VORO	10	05	2201	S14	E44	10	9.2			CRO	103	4	7	2
9650		SVTO	10	06	0801	S14	E39	10	9.3		B	EAO	150	15	11	3
9650		KAND	10	06	1205	S12	E39	10	9.4			DAO		14	9	2
9650		RAMY	10	06	1239	S15	E38	10	9.4		B	DAO	80	12	10	2
9650		HOLL	10	06	1445	S15	E35	10	9.3		B	DAO	130	24	9	3
9650	30761	MWIL	10	06	1530	S13	E35	10	9.3	5	(B)					
9650	30766	MWIL	10	06	1530	S16	E35	10	9.3	4	(BF)					
9650		VORO	10	06	2303	S13	E34	10	9.5			HRX	93	4		2
9650		LEAR	10	07	0005	S13	E29	10	9.2		B	DAO	100	14	10	2
9650		SVTO	10	07	0755	S14	E27	10	9.4		B	DAO	110	17	7	4

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9650		RAMY	10	07	1222	S14	E25	10	9.4		B	DSO	80	12	10	3
9650		KAND	10	07	1225	S13	E25	10	9.4			CAI		34	17	3
9650	30761	MWIL	10	07	1430	S12	E22	10	9.3	5	(BG)					
9650	30766	MWIL	10	07	1430	S17	E23	10	9.3	4	(BF)					
9650		HOLL	10	07	1535	S15	E21	10	9.2		B	CAO	100	32	11	3
9650		VORO	10	07	2238	S13	E18	10	9.3			CRO	74	15	5	2
9650		LEAR	10	08	0010	S14	E16	10	9.2		B	DAO	60	13	8	2
9650		KAND	10	08	0805	S14	E16	10	9.5			CAO		19	14	4
9650		RAMY	10	08	1220	S13	E10	10	9.3		B	ESO	40	16	11	3
9650		HOLL	10	08	1424	S16	E11	10	9.4		B	CSO	50	19	9	2
9650	30761	MWIL	10	08	1500	S15	E10	10	9.4	5	(BG)					
9650		VORO	10	08	2240	S16	E07	10	9.5			BXO	68	7	4	2
9650		LEAR	10	09	0035	S15	E04	10	9.3		B	CAO	40	8	11	4
9650		KAND	10	09	0835	S15	E01	10	9.4			CSO		8	4	3
9650		SVTO	10	09	1037	S17	E01	10	9.5		B	CSO	30	5	7	2
9650		RAMY	10	09	1140	S16	E02	10	9.6		B	DSO	20	9	8	3
9650		HOLL	10	09	1413	S15	W03	10	9.4		B	CSO	40	15	9	3
9650	30761	MWIL	10	09	1645	S16	W04	10	9.4	4	(BG)					
9650		LEAR	10	10	0150	S16	W08	10	9.5		B	CSO	20	3	3	2
9650		SVTO	10	10	0817	S15	W12	10	9.4		B	BRO	20	4	8	3
9650		KAND	10	10	1140	S16	W13	10	9.5			BXO		5	7	3
9650		RAMY	10	10	1238	S17	W13	10	9.5		B	BXO	10	7	5	3
9650	30761	MWIL	10	10	1430	S13	W17	10	9.3	4	(B)					
9650		HOLL	10	10	1445	S13	W18	10	9.2		B	CSO	30	10	8	4
9650		LEAR	10	11	0015	S17	W21	10	9.4		B	BXO	10	4	4	3
9650		KAND	10	11	0655	S16	W25	10	9.4			BXO		4	4	4
9650		SVTO	10	11	0729	S17	W24	10	9.5		B	CSO	20	5	5	2
9650		RAMY	10	11	1225	S18	W28	10	9.4		A	AXX	10	2		4
9650		HOLL	10	11	1500	S12	W31	10	9.3		B	CAO	30	4	10	3
9650	30761	MWIL	10	11	1500	S15	W35	10	9.0	3	(B)					
9650		SVTO	10	12	0654	S12	W37	10	9.5		B	BXO	10	2	2	3
9650		KAND	10	12	0905	S11	W39	10	9.4			AX		1		3
9650		SVTO	10	13	0751	S17	W48	10	9.7		B	BXO	10	2	3	3
9650	30761	MWIL	10	13	1500	S14	W53	10	9.6	3	(B)					
9650B	30774	MWIL	10	07	1430	S30	E31	10	10.0	4	(AP)					
9650B	30782	MWIL	10	11	1500	S32	W19	10	10.1	3	(AP)					
9650B		KAND	10	13	0700	S26	W50	10	9.4			AX		1	1	3
9650B		SVTO	10	13	0751	S27	W48	10	9.6		B	BXO	10	2	3	3
9650B		RAMY	10	13	1203	S24	W53	10	9.4		A	HSX	10	1	1	2
9650B		HOLL	10	13	1449	S26	W52	10	9.6		B	BXO	20	4	5	2
9650B	30786	MWIL	10	13	1500	S26	W53	10	9.5	4	(B)					
9650D		VORO	10	04	2356	N09	E71	10	10.3			AXX	11	1		2
9653		KAND	10	04	0715	S22	E84	10	10.7			HA		1	2	3
9653		RAMY	10	04	1205	S23	E85	10	11.0		A	HSX	60	1	10	2
9653	30767	MWIL	10	04	1500	S23	E88	10	11.4	3	D #					
9653		HOLL	10	04	1512	S23	E79	10	10.7		A	HAX	60	1	2	4
9653		VORO	10	05	0452	S23	E73	10	10.8			HAX	138	1		2
9653		LEAR	10	05	0700	S21	E69	10	10.6		B	DAO	200	4	8	2
9653		SVTO	10	05	0736	S21	E72	10	10.8		B	DAO	180	5	7	3
9653		KAND	10	05	0845	S22	E72	10	10.9			DAO		7	7	4
9653		RAMY	10	05	1330	S23	E69	10	10.9		B	FKO	360	3	22	1
9653	30767	MWIL	10	05	1515	S22	E75	10	11.4	4	(B)					
9653		HOLL	10	05	1656	S23	E67	10	10.9		B	DKO	240	2	6	3
9653		VORO	10	05	2201	S21	E63	10	10.7			HAX	290	2		2
9653		SVTO	10	06	0801	S22	E58	10	10.8		A	HKX	260	9	5	3
9653		KAND	10	06	1205	S22	E62	10	11.3			FKO		11	20	2
9653		RAMY	10	06	1239	S22	E56	10	10.8		B	DKO	220	6	6	2
9653		HOLL	10	06	1445	S23	E54	10	10.8		B	DKO	300	5	5	3
9653	30767	MWIL	10	06	1530	S22	E61	10	11.3	4	(BG)					
9653		VORO	10	06	2303	S21	E51	10	10.9			HAX	355	7		2
9653		LEAR	10	07	0005	S22	E50	10	10.8		B	DKO	270	9	7	2
9653		SVTO	10	07	0755	S22	E45	10	10.8		A	HAX	290	10	5	4
9653		RAMY	10	07	1222	S22	E43	10	10.8		B	DAO	260	6	7	3
9653		KAND	10	07	1225	S22	E50	10	11.4			FKO		12	19	3
9653	30767	MWIL	10	07	1430	S22	E50	10	11.4	5	(B)					
9653		HOLL	10	07	1535	S23	E42	10	10.9		B	DKO	300	8	6	3

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9653		VORO	10	07	2238	S22	E36	10	10.7			EHO	307	2	5	2
9653		LEAR	10	08	0010	S22	E37	10	10.8		B	DKO	280	8	8	2
9653		KAND	10	08	0805	S22	E40	10	11.4			FAO		9	20	4
9653		RAMY	10	08	1220	S22	E30	10	10.8		B	DAO	210	5	6	3
9653		HOLL	10	08	1424	S22	E29	10	10.8		B	DKC	180	7	9	2
9653	30767	MWIL	10	08	1500	S22	E36	10	11.4	5	(B)					
9653		VORO	10	08	2240	S22	E23	10	10.7			EHO	241	3	4	2
9653		LEAR	10	09	0035	S22	E23	10	10.8		B	DAO	210	5	6	4
9653		KAND	10	09	0835	S22	E27	10	11.4			FXO		11	20	3
9653		SVTO	10	09	1037	S23	E18	10	10.8		B	CAO	170	8	8	2
9653		RAMY	10	09	1140	S21	E18	10	10.9		B	DAO	190	10	7	3
9653		HOLL	10	09	1413	S22	E16	10	10.8		B	DAC	160	11	8	3
9653	30767	MWIL	10	09	1645	S22	E21	10	11.3	5	(BG)					
9653		LEAR	10	10	0150	S21	E11	10	10.9		B	CAO	90	8	6	2
9653		SVTO	10	10	0817	S21	E06	10	10.8		B	DAO	220	11	8	3
9653		KAND	10	10	1140	S21	E12	10	11.4			FAO		12	20	3
9653		RAMY	10	10	1238	S21	E04	10	10.8		B	DAI	160	12	6	3
9653	30767	MWIL	10	10	1430	S21	E10	10	11.4	5	(BG)					
9653		HOLL	10	10	1445	S22	E02	10	10.8		B	DAC	150	18	7	4
9653		LEAR	10	11	0015	S22	W03	10	10.8		B	DAO	140	18	7	3
9653		KAND	10	11	0655	S21	E00	10	11.3			FSO		15	21	4
9653		SVTO	10	11	0729	S22	W06	10	10.8		B	DAO	190	11	9	2
9653		RAMY	10	11	1225	S22	W07	10	11.0		B	DAO	160	11	6	4
9653	30767	MWIL	10	11	1500	S22	W03	10	11.4	5	(BG)					
9653		HOLL	10	11	1500	S22	W10	10	10.8		B	DAI	110	21	7	3
9653		LEAR	10	12	0030	S22	W15	10	10.9		B	DAO	140	14	7	2
9653		VORO	10	12	0411	S22	W18	10	10.8			EHO	217	8	2	2
9653		SVTO	10	12	0654	S22	W18	10	10.9		B	CAO	140	11	8	3
9653		KAND	10	12	0905	S21	W11	10	11.5			FAO		15	18	3
9653		RAMY	10	12	1340	S21	W22	10	10.9		B	DAO	120	16	6	2
9653	30767	MWIL	10	12	1500	S22	W16	10	11.4	5	(BG)					
9653		VORO	10	12	2257	S22	W28	10	10.8			HAX	75	3	2	2
9653		LEAR	10	13	0020	S22	W28	10	10.9		B	DSO	60	6	3	2
9653		KAND	10	13	0700	S22	W25	10	11.4			FAO		6	18	3
9653		SVTO	10	13	0751	S23	W28	10	11.2		A	HAX	60	9	10	3
9653		RAMY	10	13	1203	S22	W35	10	10.8		B	DAO	60	10	4	2
9653		HOLL	10	13	1449	S22	W37	10	10.8		B	DAO	70	4	4	2
9653	30767	MWIL	10	13	1500	S22	W28	10	11.5	4	(B)					
9653		VORO	10	13	2310	S24	W40	10	10.9			HAX	61	3	1	2
9653		LEAR	10	14	0100	S22	W42	10	10.8		B	DAO	50	6	3	2
9653		SVTO	10	14	0817	S23	W46	10	10.8		A	HAX	40	3	2	2
9653		KAND	10	14	1000	S22	W40	10	11.3			CRO		5	13	2
9653		RAMY	10	14	1133	S22	W48	10	10.8		B	CSO	20	2	3	3
9653	30767	MWIL	10	14	1500	S22	W41	10	11.5	4	(B)					
9653		HOLL	10	14	1500	S22	W50	10	10.8		B	CSO	20	3	4	2
9653		VORO	10	14	2230	S24	W54	10	10.8			CRO	40	3	2	2
9653		LEAR	10	15	0405	S23	W58	10	10.7		A	HAX		1		1
9653		KAND	10	15	1025	S23	W61	10	10.7			AX		1		3
9653		RAMY	10	15	1155	S16	W57	10	11.2		B	BXO	20	2	10	3
9653	30767	MWIL	10	15	1430	S21	W57	10	11.2	4	(B)					
9653	30795	MWIL	10	17	1430	S19	W79	10	11.6	3	AP					
9655		VORO	10	04	2356	S20	E86	10	11.6			HAX	295	1		2
9655		SVTO	10	06	0801	S21	E71	10	11.8		A	HAX	150	1	3	3
9655		RAMY	10	06	1239	S21	E72	10	12.0		A	HAX	150	3	6	2
9655		HOLL	10	06	1445	S23	E68	10	11.8		A	HKX	240	3	3	3
9655		VORO	10	06	2303	S20	E64	10	11.8			HAX	278	4		2
9655		LEAR	10	07	0005	S21	E64	10	11.9		A	HKX	180	5	4	2
9655		SVTO	10	07	0755	S21	E60	10	11.9		A	HSX	140	7	3	4
9655		RAMY	10	07	1222	S21	E59	10	12.0		B	DAO	210	4	4	3
9655		HOLL	10	07	1535	S22	E55	10	11.9		B	DAO	200	7	4	3
9655		VORO	10	07	2238	S20	E52	10	11.9			EHO	205	2	2	2
9655		LEAR	10	08	0010	S21	E50	10	11.8		B	DAO	140	8	4	2
9655		RAMY	10	08	1220	S21	E45	10	12.0		B	DAO	140	4	5	3
9655		HOLL	10	08	1424	S22	E42	10	11.8		B	DAO	100	6	6	2
9655		VORO	10	08	2240	S20	E39	10	11.9			EHO	142	2	3	2
9655		LEAR	10	09	0035	S22	E38	10	11.9		B	DAO	120	3	4	4
9655		SVTO	10	09	1037	S22	E33	10	12.0		B	DAO	90	2	6	2
9655		RAMY	10	09	1140	S21	E32	10	11.9		B	DAO	80	3	4	3

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9655		HOLL	10	09	1413	S23	E30	10	11.9		B	CSO	70	7	5	3
9655		LEAR	10	10	0150	S21	E24	10	11.9		B	CSO	50	3	4	2
9655		SVTO	10	10	0817	S21	E21	10	11.9		B	CAO	80	3	7	3
9655		RAMY	10	10	1238	S20	E18	10	11.9		B	DAO	60	2	4	3
9655		HOLL	10	10	1445	S22	E16	10	11.8		B	CAO	70	4	4	4
9655		LEAR	10	11	0015	S22	E11	10	11.8		B	CSO	120	8	4	3
9655		SVTO	10	11	0729	S21	E09	10	12.0		B	CSO	100	3	5	2
9655		RAMY	10	11	1225	S21	E07	10	12.0		B	CSO	90	3	4	4
9655		HOLL	10	11	1500	S23	E05	10	12.0		B	CAO	70	7	5	3
9655		LEAR	10	12	0030	S21	W01	10	11.9		B	CSO	70	4	5	2
9655		VORO	10	12	0411	S22	W01	10	12.1			HAX	88	2		2
9655		SVTO	10	12	0654	S22	W06	10	11.8		A	HAX	70	5	8	3
9655		RAMY	10	12	1340	S21	W07	10	12.0		B	CSO	30	6	3	2
9655		VORO	10	12	2257	S22	W11	10	12.1			HAX	28	1		2
9655		LEAR	10	13	0020	S22	W14	10	11.9		B	DSO	40	2	4	2
9655		SVTO	10	13	0751	S22	W18	10	11.9		A	HSX	30	7	6	3
9655		RAMY	10	13	1203	S20	W20	10	12.0		B	CSO	10	4	4	2
9655		HOLL	10	13	1449	S22	W21	10	12.0		B	CAO	40	6	5	2
9655		VORO	10	13	2310	S22	W25	10	12.0			AXX	12	4	3	2
9655		LEAR	10	14	0100	S22	W27	10	12.0		B	CSO	30	4	3	2
9655		SVTO	10	14	0817	S22	W28	10	12.2		A	HRX	10	2	1	2
9659		LEAR	10	10	0150	N04	E31	10	12.4		B	BXO	10	2	2	2
9659		SVTO	10	10	0817	N05	E27	10	12.4		B	CSO	20	3	3	3
9659		KAND	10	10	1140	N04	E25	10	12.3			BXO		2	3	3
9659	30779	MWIL	10	10	1430	N04	E24	10	12.4	4	(B)					
9659		HOLL	10	10	1445	N04	E23	10	12.3		B	BXO	10	3	4	4
9659		LEAR	10	11	0015	N03	E17	10	12.3		B	BXO	10	2	3	3
9659		KAND	10	11	0655	N04	E14	10	12.3			BXO		2	4	4
9659		SVTO	10	11	0729	N04	E12	10	12.2		A	AXX		1		2
9659	30779	MWIL	10	11	1500	N04	E09	10	12.3	3	(B)					
9659		SVTO	10	14	0817	N04	W27	10	12.3		A	AXX	10	4	4	2
9659		KAND	10	14	1000	N04	W23	10	12.7			BXO		2	1	2
9659		RAMY	10	14	1133	N04	W31	10	12.2		A	AXX	10	2	2	3
9659		HOLL	10	14	1500	N04	W32	10	12.2		B	BXO	20	2	3	2
9659	30787	MWIL	10	14	1500	N04	W32	10	12.2	4	(B)					
9659		LEAR	10	15	0405	N04	W41	10	12.1		B	BXO	10	3		1
9659		SVTO	10	15	0650	N05	W42	10	12.1		B	CRO	40	4	4	3
9659		KAND	10	15	1025	N06	W44	10	12.1			CSO		3	3	3
9659	30787	MWIL	10	15	1430	N05	W46	10	12.2	5	(B)					
9659		HOLL	10	15	1505	N04	W47	10	12.1		B	DAO	40	4	5	2
9659		VORO	10	15	2248	N06	W51	10	12.1			BXO	31	2	4	2
9659		LEAR	10	16	0043	N05	W52	10	12.1		B	DSO	60	4	5	1
9659		KAND	10	16	0640	N06	W55	10	12.2			DSO		4	7	5
9659		SVTO	10	16	0714	N05	W55	10	12.2		B	BXO	20	3	5	3
9659		RAMY	10	16	1232	N08	W58	10	12.2		B	CSO	20	4	6	4
9659		HOLL	10	16	1610	N08	W61	10	12.1		B	CAO	30	3	5	2
9659	30787	MWIL	10	16	1615	N06	W60	10	12.2	4	(BF)					
9659		VORO	10	16	2222	N07	W62	10	12.3			BXO	19	2	2	2
9659		LEAR	10	17	0035	N06	W62	10	12.4		B	BXO	20	2	2	3
9659		SVTO	10	17	0630	N03	W66	10	12.3		A	AXX		1		2
9659		KAND	10	17	0750	N06	W68	10	12.2			BXO		2	3	3
9659		RAMY	10	17	1410	N04	W73	10	12.1		B	BXO	20	2	5	1
9659	30787	MWIL	10	17	1430	N05	W74	10	12.1	4	(B)					
9659		HOLL	10	17	1505	N05	W72	10	12.2		A	AXX	20	1	2	4
9660		KAND	10	09	0835	N11	E46	10	12.8			AX		2	2	3
9660		LEAR	10	10	0150	N12	E33	10	12.6		A	AXX		1		2
9660		SVTO	10	10	0817	N13	E28	10	12.4		A	AXX	10	2	1	3
9660		KAND	10	10	1140	N12	E27	10	12.5			AX		2	2	3
9660		RAMY	10	10	1238	N12	E26	10	12.5		A	AXX	10	2	2	3
9660		RAMY	10	10	1238	N15	E25	10	12.4		B	BXO	10	3	3	3
9660	30780	MWIL	10	10	1430	N12	E26	10	12.6	4	(BP)					
9660		HOLL	10	10	1445	N12	E25	10	12.5		B	BXO	10	6	4	4
9660		LEAR	10	11	0015	N11	E19	10	12.4		A	HSX	10	1	1	3
9660		KAND	10	11	0655	N12	E16	10	12.5			CSO		5	4	4
9660		SVTO	10	11	0729	N13	E16	10	12.5		B	CSO	40	9	5	2
9660		RAMY	10	11	1225	N13	E13	10	12.5		B	DSO	30	8	6	4
9660		HOLL	10	11	1500	N11	E14	10	12.7		B	DAO	40	12	7	3

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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
9660	30780	MWIL	10	11	1500	N12	E13	10	12.6	5	(BP)					
9660		LEAR	10	12	0030	N12	E07	10	12.5		B	DAO	50	7	7	2
9660		VORO	10	12	0411	N14	E04	10	12.5			CRO	63	2	6	2
9660		SVTO	10	12	0654	N13	E03	10	12.5		B	DSO	50	7	7	3
9660		KAND	10	12	0905	N12	E01	10	12.4			CAO		7	7	3
9660		RAMY	10	12	1340	N13	W01	10	12.5		B	DSO	40	9	7	2
9660	30780	MWIL	10	12	1500	N13	W03	10	12.4	4	(B)					
9660		VORO	10	12	2257	N13	W10	10	12.2			HAX	24	1		2
9660		LEAR	10	13	0020	N12	W07	10	12.5		B	DSO	40	5	7	2
9660		KAND	10	13	0700	N13	W11	10	12.5			CSO		4	7	3
9660		SVTO	10	13	0751	N13	W14	10	12.3		B	CSO	20	2	3	3
9660		RAMY	10	13	1203	N13	W14	10	12.4		B	DSO	10	2	7	2
9660		HOLL	10	13	1449	N13	W15	10	12.5		B	CAO	30	11	7	2
9660	30780	MWIL	10	13	1500	N12	W16	10	12.4	4	(B)					
9660		LEAR	10	14	0100	N13	W25	10	12.1		B	CSO	30	3	2	2
9660		SVTO	10	14	0817	N13	W29	10	12.1		A	HSX	40	2	2	2
9660		KAND	10	14	1000	N13	W29	10	12.2			HA		4	1	2
9660		RAMY	10	14	1133	N13	W30	10	12.2		A	HSX	20	1	1	3
9660		HOLL	10	14	1500	N13	W32	10	12.2		A	HSX	20	2	1	2
9660	30780	MWIL	10	14	1500	N13	W32	10	12.2	4	(AP)					
9660		VORO	10	14	2230	N12	W36	10	12.2			AXX	14	1		2
9660		LEAR	10	15	0405	N12	W40	10	12.1		A	HRX	10	1	2	1
9660		SVTO	10	15	0650	N12	W41	10	12.2		A	HRX	10	1	1	3
9660		RAMY	10	15	1155	N10	W45	10	12.1		B	DSO	40	4	5	3
9660	30780	MWIL	10	15	1430	N13	W45	10	12.2	4	(AP)					
9660		HOLL	10	15	1505	N13	W46	10	12.1		A	AXX	10	1	1	2
9660A	30783	MWIL	10	11	1500	N07	E34	10	14.2	3	(B)					
9660A		LEAR	10	12	0030	N07	E29	10	14.2		B	CSO	20	2	3	2
9660A		SVTO	10	12	0654	N07	E25	10	14.2		A	HRX	10	1		3
9660A		KAND	10	12	0905	N07	E23	10	14.1			AX		1		3
9660A		RAMY	10	12	1340	N07	E21	10	14.1		A	AXX		1		2
9660A	30783	MWIL	10	12	1500	N07	E19	10	14.0	3	(AP)					
9657		LEAR	10	08	0010	N23	E80	10	14.2		A	HSX	30	1	2	2
9657		KAND	10	08	0805	N23	E80	10	14.5			HS		1	2	4
9657		RAMY	10	08	1220	N24	E77	10	14.5		A	HSX	30	1	1	3
9657		HOLL	10	08	1424	N23	E76	10	14.4		A	HAX	60	1	1	2
9657	30777	MWIL	10	08	1500	N23	E76	10	14.5	5	(AP)					
9657		VORO	10	08	2240	N24	E73	10	14.6			AXX	22	1		2
9657		LEAR	10	09	0035	N23	E69	10	14.3		A	HSX	50	1	2	4
9657		KAND	10	09	0835	N23	E67	10	14.5			CAO		2	5	3
9657		SVTO	10	09	1037	N24	E64	10	14.4		A	HSX	40	1	1	2
9657		RAMY	10	09	1140	N25	E66	10	14.6		B	CSO	20	2	4	3
9657		HOLL	10	09	1413	N21	E62	10	14.3		B	CSO	50	4	6	3
9657	30777	MWIL	10	09	1645	N23	E62	10	14.5	5	(BP)					
9657		LEAR	10	10	0150	N22	E56	10	14.4		A	HSX	20	1	2	2
9657		SVTO	10	10	0817	N24	E52	10	14.4		B	CSO	30	3	4	3
9657		KAND	10	10	1140	N22	E51	10	14.4			CSO		3	3	3
9657		RAMY	10	10	1238	N24	E52	10	14.5		B	CSO	30	5	7	3
9657	30777	MWIL	10	10	1430	N23	E49	10	14.4	4	(B)					
9657		HOLL	10	10	1445	N22	E48	10	14.3		B	CSO	40	8	3	4
9657		LEAR	10	11	0015	N21	E43	10	14.3		B	ERO	30	6	4	3
9657		KAND	10	11	0655	N22	E40	10	14.4			CSO		4	5	4
9657		SVTO	10	11	0729	N24	E39	10	14.3		B	DAO	40	4	4	2
9657		RAMY	10	11	1225	N24	E36	10	14.3		B	DSO	30	8	6	4
9657		HOLL	10	11	1500	N21	E36	10	14.4		B	CSO	30	7	5	3
9657	30777	MWIL	10	11	1500	N23	E33	10	14.2	4	(B)					
9657		LEAR	10	12	0030	N23	E30	10	14.3		B	DSO	40	7	6	2
9657		VORO	10	12	0411	N24	E28	10	14.3			BXO	19	2	3	2
9657		SVTO	10	12	0654	N23	E26	10	14.3		B	DSO	30	3	4	3
9657		KAND	10	12	0905	N22	E26	10	14.4			CSO		2	4	3
9657		RAMY	10	12	1340	N23	E23	10	14.3		B	CSO	10	4	4	2
9657	30777	MWIL	10	12	1500	N23	E22	10	14.3	4	(B)					
9657		VORO	10	12	2257	N23	E17	10	14.3			AXX	14	1		2
9657		LEAR	10	13	0020	N23	E18	10	14.4		B	CSO	20	2	4	2
9657		KAND	10	13	0700	N23	E13	10	14.3			HS		1	1	3
9657		SVTO	10	13	0751	N22	E12	10	14.2		A	HSX	10	1	1	3
9657		RAMY	10	13	1203	N22	E10	10	14.3		A	HSX	10	1	1	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
9657		HOLL	10	13	1449	N23	E08	10	14.2		A	HSX	20	1	1	2
9657	30777	MWIL	10	13	1500	N23	E08	10	14.2	4	(AP)					
9657		VORO	10	13	2310	N23	E03	10	14.2			AXX	10	1		2
9657		LEAR	10	14	0100	N22	E02	10	14.2		A	HSX	10	1	1	2
9657		SVTO	10	14	0817	N22	W02	10	14.2		A	HRX	10	2	1	2
9657		KAND	10	14	1000	N22	W03	10	14.2			AX		1		2
9657	30777	MWIL	10	14	1500	N23	W05	10	14.2	3	(AP)					
9657		HOLL	10	14	1500	N23	W06	10	14.2		A	AXX	10	1	1	2
9657A		KAND	10	16	0640	S16	W24	10	14.4			AX		2	1	5
9657A	30793	MWIL	10	16	1615	S09	W32	10	14.3	4	(AP)					
9657A	30793	MWIL	10	17	1430	S10	W44	10	14.3	4	(B)					
9662		RAMY	10	10	1238	N12	E62	10	15.2		A	AXX	10	1	1	3
9662		HOLL	10	10	1445	N08	E60	10	15.1		A	AXX	10	1	1	4
9662		KAND	10	11	0655	N08	E52	10	15.2			BXO		4	3	4
9662		SVTO	10	11	0729	N10	E50	10	15.1		B	BXO	10	5	4	2
9662		RAMY	10	11	1225	N10	E49	10	15.2		B	BXO	20	5	3	4
9662		HOLL	10	11	1500	N07	E45	10	15.0		B	DAO	40	6	4	3
9662	30784	MWIL	10	11	1500	N09	E46	10	15.1	4	(BP)					
9662		LEAR	10	12	0030	N08	E41	10	15.1		B	DSO	30	9	7	2
9662		VORO	10	12	0411	N08	E37	10	14.9			AXX	72	8		2
9662		SVTO	10	12	0654	N08	E37	10	15.1		B	DAO	120	7	6	3
9662		KAND	10	12	0905	N09	E37	10	15.1			BXO		17	5	3
9662		RAMY	10	12	1340	N09	E35	10	15.2		B	DSO	30	11	6	2
9662	30784	MWIL	10	12	1500	N09	E33	10	15.1	4	(B)					
9662		VORO	10	12	2257	N08	E27	10	15.0			HAX	67	4		2
9662		LEAR	10	13	0020	N09	E28	10	15.1		B	CAO	60	7	5	2
9662		KAND	10	13	0700	N09	E25	10	15.2			CAO		10	6	3
9662		SVTO	10	13	0751	N09	E23	10	15.0		B	DAO	60	11	5	3
9662		RAMY	10	13	1203	N08	E22	10	15.1		B	DAO	80	16	7	2
9662		HOLL	10	13	1449	N08	E20	10	15.1		B	DAO	100	9	6	2
9662	30784	MWIL	10	13	1500	N08	E19	10	15.0	4	(B)					
9662		VORO	10	13	2310	N09	E16	10	15.2			HAX	158	10	5	2
9662		LEAR	10	14	0100	N09	E14	10	15.1		B	DAO	120	15	7	2
9662		SVTO	10	14	0817	N09	E13	10	15.3		B	ESO	150	22	14	2
9662		KAND	10	14	1000	N09	E10	10	15.2			DAI		13	7	2
9662		RAMY	10	14	1133	N08	E08	10	15.1		B	DSO	170	10	6	3
9662		HOLL	10	14	1500	N08	E07	10	15.1		B	CAO	110	13	8	2
9662	30784	MWIL	10	14	1500	N09	E06	10	15.1	5	(BG)					
9662		VORO	10	14	2230	N09	E03	10	15.2			DAI	172	12	5	2
9662		LEAR	10	15	0405	N10	W04	10	14.9		B	DAO	100	11	7	1
9662		SVTO	10	15	0650	N10	W03	10	15.0		B	CSO	60	8	8	3
9662		KAND	10	15	1025	N09	W04	10	15.1			DSO		7	6	3
9662		RAMY	10	15	1155	N11	W05	10	15.1		B	DSO	50	8	7	3
9662	30784	MWIL	10	15	1430	N10	W06	10	15.1	5	(B)					
9662		HOLL	10	15	1505	N09	W07	10	15.1		B	CSO	50	8	8	2
9662		VORO	10	15	2248	N10	W11	10	15.1			BXI	56	7	6	2
9662		LEAR	10	16	0043	N09	W13	10	15.0		B	DSO	60	9	8	1
9662		KAND	10	16	0640	N10	W15	10	15.1			CAO		12	8	5
9662		SVTO	10	16	0714	N09	W16	10	15.1		B	CAO	40	10	7	3
9662		RAMY	10	16	1232	N11	W18	10	15.2		B	DAO	50	14	10	4
9662		HOLL	10	16	1610	N10	W20	10	15.2		B	DAO	50	15	9	2
9662	30784	MWIL	10	16	1615	N10	W20	10	15.2	4	(BG)					
9662		VORO	10	16	2222	N09	W23	10	15.2			CAI	72	4	5	2
9662		LEAR	10	17	0035	N10	W25	10	15.1		B	CRO	70	11	6	3
9662		SVTO	10	17	0630	N09	W28	10	15.2		B	DSO	90	13	8	2
9662		KAND	10	17	0750	N11	W29	10	15.1			CSO		9	8	3
9662		RAMY	10	17	1410	N10	W34	10	15.0		B	DSO	40	6	6	1
9662	30784	MWIL	10	17	1430	N10	W34	10	15.0	5	(B)					
9662		HOLL	10	17	1505	N11	W33	10	15.1		B	CAO	60	8	8	4
9662		VORO	10	17	2227	N11	W37	10	15.1			CRI	46	6	6	3
9662		LEAR	10	18	0657	N09	W47	10	14.8		B	CSO	10	3	2	2
9662		KAND	10	18	0855	N11	W45	10	15.0			CRO		7	8	3
9662		RAMY	10	18	1246	N10	W47	10	15.0		B	DSO	40	9	7	4
9662	30784	MWIL	10	18	1445	N10	W47	10	15.1	4	(B)					
9662		HOLL	10	18	1540	N11	W47	10	15.1		B	DAO	60	7	9	3
9662		VORO	10	18	2346	N10	W52	10	15.1			DAO	72	3	5	2
9662		LEAR	10	19	0005	N10	W54	10	14.9		B	DSO	30	3	6	2

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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
9662		KAND	10	19	0725	N11	W57	10	15.0			DSO		4	9	3
9662		RAMY	10	19	1232	N11	W60	10	15.0		B	DSO	70	8	7	3
9662		SVTO	10	19	1254	N10	W61	10	14.9		B	DSO	70	3	6	3
9662	30784	MWIL	10	19	1500	N10	W60	10	15.1	4	(B)					
9662		HOLL	10	19	1502	N12	W62	10	14.9		B	DAO	100	7	9	3
9662		VORO	10	19	2246	N10	W65	10	15.1			CAO	68	2	6	2
9662		KAND	10	20	0813	N11	W71	10	15.0			CSO		3	8	4
9662		SVTO	10	20	0935	N10	W72	10	15.0		B	DSO	90	3	8	2
9662		RAMY	10	20	1200	N11	W75	10	14.8		B	DSO	40	2	8	3
9662		HOLL	10	20	1438	N11	W78	10	14.7		B	CSO	50	2	8	2
9662	30784	MWIL	10	20	1445	N10	W74	10	15.0	4	(B)					
9662		VORO	10	20	2320	N11	W76	10	15.2			HRX	38	1		3
9662		LEAR	10	21	0015	N11	W76	10	15.3		A	HAX	20	1	1	1
9662		KAND	10	21	0640	N11	W82	10	15.1			AX		1	1	3
9658	30778	MWIL	10	08	1500	S11	E80	10	14.6	3	AP					
9658		VORO	10	08	2240	S13	E79	10	14.9			HRX	103	1		2
9658		LEAR	10	09	0035	S15	E79	10	15.0		A	HSX	120	1	2	4
9658		KAND	10	09	0835	S14	E78	10	15.2			HA		1	2	3
9658		SVTO	10	09	1037	S13	E76	10	15.2		A	HAX	180	2	4	2
9658		RAMY	10	09	1140	S13	E78	10	15.4		A	HSX	120	1	3	3
9658		HOLL	10	09	1413	S14	E71	10	14.9		B	CKO	180	6	10	3
9658	30778	MWIL	10	09	1645	S14	E75	10	15.4	5	(BP)					
9658		LEAR	10	10	0150	S14	E68	10	15.2		B	DSO	70	3	3	2
9658		LEAR	10	10	0150	S16	E78	10	16.0		A	AXX	10	1	1	2
9658		SVTO	10	10	0817	S12	E69	10	15.5		B	DAO	160	3	8	3
9658		SVTO	10	10	0817	S14	E72	10	15.8		B	CSO	60	2	2	3
9658		KAND	10	10	1140	S14	E65	10	15.4			FSO		5	20	3
9658		RAMY	10	10	1238	S13	E62	10	15.2		B	FAO	200	6	17	3
9658	30778	MWIL	10	10	1430	S14	E62	10	15.3	5	(BP)					
9658		HOLL	10	10	1445	S14	E58	10	15.0		B	DAI	150	10	10	4
9658		HOLL	10	10	1445	S15	E61	10	15.2		B	FAI	220	14	18	4
9658		HOLL	10	10	1445	S17	E69	10	15.8		A	HAX	70	4	2	4
9658		LEAR	10	11	0015	S15	E55	10	15.2		B	FAO	240	8	16	3
9658		KAND	10	11	0655	S14	E54	10	15.4			FSO		7	18	4
9658		SVTO	10	11	0729	S13	E51	10	15.1		B	FSO	190	7	17	2
9658		RAMY	10	11	1225	S14	E52	10	15.4		B	FAO	200	9	16	4
9658	30778	MWIL	10	11	1500	S15	E48	10	15.2	4	(BP)					
9658		HOLL	10	11	1500	S16	E48	10	15.3		B	FAI	140	12	16	3
9658		LEAR	10	12	0030	S14	E40	10	15.0		B	FAI	200	12	20	2
9658		VORO	10	12	0411	S13	E37	10	15.0			DSI	180	4	4	2
9658		VORO	10	12	0411	S15	E48	10	15.8			HAX	92	1		2
9658		SVTO	10	12	0654	S13	E37	10	15.1		B	FSO	230	15	24	3
9658		KAND	10	12	0905	S15	E40	10	15.4			FAO		13	21	3
9658		RAMY	10	12	1340	S14	E35	10	15.2		B	FSI	120	26	21	2
9658	30778	MWIL	10	12	1500	S15	E35	10	15.3	4	(BG)					
9658		VORO	10	12	2257	S13	E26	10	14.9			DSI	111	3	4	2
9658		VORO	10	12	2257	S16	E35	10	15.6			HAX	56	6	7	2
9658		LEAR	10	13	0020	S15	E31	10	15.4		B	FSI	160	15	16	2
9658		KAND	10	13	0700	S14	E29	10	15.5			ESO		16	15	3
9658		SVTO	10	13	0751	S15	E27	10	15.4		B	FSI	220	17	18	3
9658		RAMY	10	13	1203	S17	E24	10	15.3		B	FAO	160	11	16	2
9658		HOLL	10	13	1449	S16	E23	10	15.4		B	FAI	210	19	16	2
9658	30778	MWIL	10	13	1500	S15	E22	10	15.3	4	(BP)					
9658		VORO	10	13	2310	S13	E13	10	14.9			DSI	139	3	4	2
9658		VORO	10	13	2310	S15	E25	10	15.8			HAX	37	1		2
9658		LEAR	10	14	0100	S14	E17	10	15.3		B	FAO	180	11	16	2
9658		SVTO	10	14	0817	S15	E11	10	15.2		B	FAO	210	22	23	2
9658		KAND	10	14	1000	S14	E11	10	15.2			FAO		19	20	2
9658		RAMY	10	14	1133	S15	E08	10	15.1		B	FSO	140	14	21	3
9658	30778	MWIL	10	14	1500	S14	E08	10	15.2	4	(BG)					
9658		HOLL	10	14	1500	S15	E09	10	15.3		B	FAI	150	19	20	2
9658		VORO	10	14	2230	S13	E02	10	15.1			DSI	156	7	7	2
9658		VORO	10	14	2230	S16	E11	10	15.8			CSI	100	4	2	2
9658		LEAR	10	15	0405	S14	E02	10	15.3		B	FAO	130	14	16	1
9658		SVTO	10	15	0650	S16	E00	10	15.3		B	FAO	180	33	22	3
9658		KAND	10	15	1025	S15	E00	10	15.4			FSO		30	16	3
9658		RAMY	10	15	1155	S14	W04	10	15.2		B	FSO	180	14	16	3
9658	30778	MWIL	10	15	1430	S14	W05	10	15.2	5	(BG)					

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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
9658		HOLL	10	15	1505	S15	W03	10	15.4		B	FAI	110	18	17	2
9658		VORO	10	15	2248	S12	W12	10	15.0			DAI	88	5	6	2
9658		VORO	10	15	2248	S17	W02	10	15.8			HAX	65	2	3	2
9658		LEAR	10	16	0043	S15	W10	10	15.3		B	FAO	90	12	16	1
9658		KAND	10	16	0640	S15	W13	10	15.3			FAO		14	15	5
9658		SVTO	10	16	0714	S16	W14	10	15.2		B	FSO	140	16	18	3
9658		RAMY	10	16	1232	S13	W19	10	15.1		B	FSO	130	18	23	4
9658		HOLL	10	16	1610	S15	W19	10	15.2		B	FAO	90	8	23	2
9658	30778	MWIL	10	16	1615	S14	W18	10	15.3	5	(BG)					
9658		VORO	10	16	2222	S14	W27	10	14.9			CAI	73	3	5	2
9658		VORO	10	16	2222	S16	W15	10	15.8			HAX	112	3	2	2
9658		LEAR	10	17	0035	S14	W26	10	15.0		BG	FAI	80	15	22	3
9658		SVTO	10	17	0630	S15	W24	10	15.4		BG	ESO	110	8	15	2
9658		KAND	10	17	0750	S14	W25	10	15.4			EAO		8	14	3
9658		RAMY	10	17	1410	S14	W30	10	15.3		B	EAO	180	16	14	1
9658	30778	MWIL	10	17	1430	S14	W28	10	15.5	5	(D)					
9658		HOLL	10	17	1505	S15	W30	10	15.3		BG	FAO	220	10	17	4
9658		VORO	10	17	2227	S14	W35	10	15.3			AXX	12	1		3
9658		VORO	10	17	2227	S17	W29	10	15.7			HAX	283	11	3	3
9658		LEAR	10	18	0657	S15	W39	10	15.3		BG	EAO	140	12	15	2
9658		KAND	10	18	0855	S15	W39	10	15.4			FKO		16	16	3
9658		RAMY	10	18	1246	S13	W43	10	15.3		B	EAO	210	17	15	4
9658	30778	MWIL	10	18	1445	S14	W42	10	15.4	5	(D)					
9658		HOLL	10	18	1540	S14	W43	10	15.4		BG	FAO	180	15	17	3
9658		VORO	10	18	2346	S12	W54	10	14.9			AXX	16	1		2
9658		VORO	10	18	2346	S16	W42	10	15.8			HAX	202	6	0	2
9658		LEAR	10	19	0005	S14	W48	10	15.4		BG	FAO	170	12	17	2
9658		KAND	10	19	0725	S14	W51	10	15.4			FSO		9	16	3
9658		RAMY	10	19	1232	S14	W57	10	15.2		B	FAO	230	20	18	3
9658		SVTO	10	19	1254	S15	W54	10	15.4		BG	FAO	250	18	16	3
9658	30778	MWIL	10	19	1500	S14	W55	10	15.5	5	(BG)					
9658		HOLL	10	19	1502	S14	W57	10	15.3		BG	FAI	250	19	17	3
9658		VORO	10	19	2246	S16	W54	10	15.8			CAI	183	5	0	2
9658		KAND	10	20	0813	S15	W63	10	15.6			FSO		6	16	4
9658		SVTO	10	20	0935	S15	W66	10	15.4		B	FSO	140	9	18	2
9658		RAMY	10	20	1200	S15	W64	10	15.6		B	DAO	60	7	5	3
9658		HOLL	10	20	1438	S16	W67	10	15.5		B	DAO	150	6	8	2
9658	30778	MWIL	10	20	1445	S14	W68	10	15.5	5	(BG)					
9658		VORO	10	20	2320	S15	W68	10	15.8			HAX	50	1		3
9658		LEAR	10	21	0015	S13	W69	10	15.8		B	CAO	100	2	3	1
9658		KAND	10	21	0640	S14	W74	10	15.7			HS		1	1	3
9658		RAMY	10	21	1217	S15	W79	10	15.5		A	HAX	30	1	1	4
9658		HOLL	10	21	1432	S16	W82	10	15.4		A	HSX	50	1	1	4
9658B	30788	MWIL	10	14	1500	N28	E18	10	16.0	3	(BF)					
9658B		LEAR	10	15	0405	N28	E12	10	16.1		A	AXX		1		1
9658B		SVTO	10	15	0650	N29	E10	10	16.1		A	BXO	10	4	6	3
9658B	30788	MWIL	10	15	1430	N28	E06	10	16.1	4	(B)					
9663		KAND	10	11	0655	S14	E79	10	17.2			AX		1	1	4
9663		SVTO	10	11	0729	S12	E74	10	16.9		A	AXX		1		2
9663		RAMY	10	11	1225	S12	E75	10	17.2		A	AXX	10	1		4
9663	30785	MWIL	10	11	1500	S13	E69	10	16.8	3	(AP)					
9663		HOLL	10	11	1500	S16	E70	10	16.9		A	HAX	60	1	2	3
9663		LEAR	10	12	0030	S14	E64	10	16.8		A	HAX	20	1	2	2
9663		VORO	10	12	0411	S13	E62	10	16.8			HAX	96	1		2
9663		SVTO	10	12	0654	S14	E59	10	16.7		A	HSX	40	1	1	3
9663		KAND	10	12	0905	S14	E59	10	16.8			HS		1	1	3
9663		RAMY	10	12	1340	S15	E58	10	17.0		A	HSX	40	1	1	2
9663	30785	MWIL	10	12	1500	S14	E55	10	16.8	3	(AP)					
9663		VORO	10	12	2257	S14	E50	10	16.7			AXX	14	1		2
9663		LEAR	10	13	0020	S14	E49	10	16.7		A	HSX	20	1	1	2
9663		KAND	10	13	0700	S14	E47	10	16.8			HS		1	1	3
9663		SVTO	10	13	0751	S14	E45	10	16.7		A	HSX	20	1	1	3
9663		RAMY	10	13	1203	S16	E43	10	16.8		A	HSX	10	1	1	2
9663		HOLL	10	13	1449	S15	E41	10	16.7		A	HSX	40	3	1	2
9663	30785	MWIL	10	13	1500	S14	E40	10	16.6	4	(AP)					
9663		VORO	10	13	2310	S14	E37	10	16.8			AXX	12	1		2
9663		LEAR	10	14	0100	S13	E40	10	17.0		B	CSO	30	3	9	2

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9663		SVTO	10	14	0817	S12	E34	10	16.9		B	EAO	50	4	11	2
9663		KAND	10	14	1000	S14	E30	10	16.7			AX		1	1	3
9663		RAMY	10	14	1133	S16	E29	10	16.7		A	HSX	10	1	1	3
9663		HOLL	10	14	1500	S14	E27	10	16.7		A	HSX	20	1	1	2
9663	30785	MWIL	10	14	1500	S15	E28	10	16.7	4	(AP)					
9663		VORO	10	14	2230	S16	E22	10	16.6			AXX	14	1		2
9663		LEAR	10	15	0405	S14	E19	10	16.6		A	AXX	10	1	1	1
9663		SVTO	10	15	0650	S14	E19	10	16.7		A	HSX	10	1	1	3
9663		KAND	10	15	1025	S15	E17	10	16.7			AX		1		5
9663		RAMY	10	15	1155	S16	E13	10	16.5		A	HSX	20	1	1	3
9663	30785	MWIL	10	15	1430	S15	E14	10	16.7	5	(AP)					
9663		HOLL	10	15	1505	S16	E14	10	16.7		B	CAO	30	2	3	2
9663		VORO	10	15	2248	S15	E10	10	16.7			AXX	11	1		2
9663		LEAR	10	16	0043	S15	E08	10	16.6		A	HSX	20	1	1	1
9663		KAND	10	16	0640	S15	E05	10	16.6			AX		1	1	5
9663		SVTO	10	16	0714	S15	E05	10	16.7		A	HRX	10	1	1	3
9663		RAMY	10	16	1232	S16	E01	10	16.6		A	HSX	10	1	1	4
9663		HOLL	10	16	1610	S16	W01	10	16.6		A	HSX	20	1	1	2
9663	30785	MWIL	10	16	1615	S15	W01	10	16.6	4	(AP)					
9663		VORO	10	16	2222	S18	W02	10	16.8			AXX	3	1		2
9663		LEAR	10	17	0035	S15	W05	10	16.6		A	AXX		1		3
9663		SVTO	10	17	0630	S16	W08	10	16.7		A	AXX		1		2
9663		KAND	10	17	0750	S15	W10	10	16.6			AX		1	1	3
9663		RAMY	10	17	1410	S15	W13	10	16.6		A	AXX	10	1		1
9663	30785	MWIL	10	17	1430	S15	W13	10	16.6	4	(AP)					
9663	30796	MWIL	10	17	1430	S17	W06	10	17.1	4	(AP)					
9663		HOLL	10	17	1505	S16	W14	10	16.6		A	AXX	10	1	1	4
9663		VORO	10	17	2227	S16	W18	10	16.6			AXX	6	1		3
9661		KAND	10	10	1140	N14	E88	10	17.1			HA		1	2	3
9661	30781	MWIL	10	10	1430	N13	E82	10	16.8	4	B					
9661		HOLL	10	10	1445	N12	E81	10	16.7		A	HAX	60	1	1	4
9661		LEAR	10	11	0015	N14	E77	10	16.8		B	DKO	270	5	8	3
9661		KAND	10	11	0655	N14	E79	10	17.2			EKO		4	15	4
9661		SVTO	10	11	0729	N17	E78	10	17.2		B	EKO	540	3	12	2
9661		RAMY	10	11	1225	N17	E78	10	17.4		B	FKO	600	4	18	4
9661	30781	MWIL	10	11	1500	N15	E73	10	17.1	4	(BD)					
9661		HOLL	10	11	1500	N15	E75	10	17.3		BG	EAI	480	9	11	3
9661		LEAR	10	12	0030	N14	E68	10	17.1		BD	EKO	600	7	12	2
9661		VORO	10	12	0411	N16	E65	10	17.1			DHO	701	4	6	2
9661		SVTO	10	12	0654	N15	E62	10	17.0		BD	EKO	900	5	12	3
9661		KAND	10	12	0905	N15	E64	10	17.2			EKO		6	12	3
9661		RAMY	10	12	1340	N14	E62	10	17.2		BG	EKO	700	12	11	2
9661	30781	MWIL	10	12	1500	N15	E59	10	17.1	5	(BD)					
9661		VORO	10	12	2257	N16	E55	10	17.1			DHO	861	5	7	2
9661		LEAR	10	13	0020	N14	E55	10	17.2		BD	EKI	780	12	12	2
9661		KAND	10	13	0700	N15	E53	10	17.3			EKO		16	15	3
9661		SVTO	10	13	0751	N15	E50	10	17.1		BD	EKI	770	17	11	3
9661		RAMY	10	13	1203	N14	E50	10	17.3		BG	EKI	790	21	12	2
9661		HOLL	10	13	1449	N15	E47	10	17.2		BD	EKC	500	15	11	2
9661	30781	MWIL	10	13	1500	N15	E47	10	17.2	6	(D)					
9661		VORO	10	13	2310	N16	E43	10	17.2			EHO	763	6	7	2
9661		LEAR	10	14	0100	N15	E41	10	17.1		BD	DKI	730	14	10	2
9661		SVTO	10	14	0817	N17	E37	10	17.1		B	EKI	750	24	10	2
9661		KAND	10	14	1000	N16	E37	10	17.2			DKO		15	10	2
9661		RAMY	10	14	1133	N14	E36	10	17.2		B	DKO	730	10	10	3
9661		HOLL	10	14	1500	N14	E34	10	17.2		BG	EHO	450	27	11	2
9661	30781	MWIL	10	14	1500	N15	E33	10	17.1	6	(D)					
9661		VORO	10	14	2230	N15	E30	10	17.2			DKI	925	18	6	2
9661		LEAR	10	15	0405	N15	E27	10	17.2		BD	DKO	710	15	10	1
9661		SVTO	10	15	0650	N16	E26	10	17.2		BD	EKO	660	13	12	3
9661		KAND	10	15	1025	N15	E23	10	17.2			EKO		11	11	3
9661		RAMY	10	15	1155	N14	E24	10	17.3		B	EKI	820	14	11	3
9661	30781	MWIL	10	15	1430	N16	E21	10	17.2	6	(D)					
9661		HOLL	10	15	1505	N15	E21	10	17.2		BD	EKI	650	26	11	2
9661		VORO	10	15	2248	N15	E16	10	17.2			DKI	1072	16	6	2
9661		LEAR	10	16	0043	N15	E16	10	17.2		BD	EKI	760	31	12	1
9661		KAND	10	16	0640	N16	E13	10	17.3			EKC		27	11	5
9661		SVTO	10	16	0714	N17	E13	10	17.3		BD	EKI	810	22	13	3

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9661		RAMY	10	16	1232	N17	E10	10	17.3		BD	EKC	810	38	14	4
9661		HOLL	10	16	1610	N14	E09	10	17.3		BD	EKC	760	45	12	2
9661	30781	MWIL	10	16	1615	N16	E07	10	17.2	5	(D)					
9661		VORO	10	16	2222	N16	E04	10	17.2			DKI	1046	14	8	2
9661		LEAR	10	17	0035	N16	E04	10	17.3		BD	EKI	750	21	12	3
9661		SVTO	10	17	0630	N18	E00	10	17.3		BD	FKI	830	29	16	2
9661		KAND	10	17	0750	N15	E00	10	17.3			EKO		26	13	3
9661		RAMY	10	17	1410	N16	W04	10	17.3		BD	EKI	840	21	12	1
9661	30781	MWIL	10	17	1430	N16	W06	10	17.1	5	(D)					
9661		HOLL	10	17	1505	N14	W04	10	17.3		BD	FKI	810	35	16	4
9661		VORO	10	17	2227	N16	W09	10	17.2			DKI	962	30	9	3
9661		LEAR	10	18	0657	N14	W14	10	17.2		BGD	FKI	520	14	11	2
9661		KAND	10	18	0855	N16	W14	10	17.3			EKI		26	11	3
9661		RAMY	10	18	1246	N16	W18	10	17.2		BD	EKI	730	28	12	4
9661	30781	MWIL	10	18	1445	N16	W18	10	17.2	5	(D)					
9661		HOLL	10	18	1540	N17	W18	10	17.3		BD	EKI	660	26	11	3
9661		VORO	10	18	2346	N15	W21	10	17.4			DKI	753	10	10	2
9661		LEAR	10	19	0005	N15	W23	10	17.3		BD	EKI	640	17	13	2
9661		KAND	10	19	0725	N16	W27	10	17.3			EKO		11	13	3
9661		RAMY	10	19	1232	N17	W29	10	17.3		BD	EKI	650	21	12	3
9661		SVTO	10	19	1254	N15	W29	10	17.3		BD	EKO	590	22	13	3
9661	30781	MWIL	10	19	1500	N16	W31	10	17.3	6	(BG)					
9661		HOLL	10	19	1502	N17	W32	10	17.2		BD	EKC	620	23	12	3
9661		VORO	10	19	2246	N15	W34	10	17.4			DKI	832	18	10	2
9661		KAND	10	20	0813	N15	W40	10	17.3			ESO		15	11	4
9661		SVTO	10	20	0935	N15	W41	10	17.3		B	ESO	440	15	11	2
9661		RAMY	10	20	1200	N16	W43	10	17.2		BD	EKO	450	13	11	3
9661		HOLL	10	20	1438	N15	W47	10	17.0		BG	ESI	330	18	12	2
9661	30781	MWIL	10	20	1445	N15	W45	10	17.2	5	(BG)					
9661		VORO	10	20	2320	N15	W49	10	17.3			DKI	619	9	7	3
9661		LEAR	10	21	0015	N16	W51	10	17.1		BG	DSO	410	4	9	1
9661		KAND	10	21	0640	N14	W54	10	17.2			DAO		4	10	3
9661		RAMY	10	21	1217	N13	W58	10	17.1		BD	DKO	390	7	10	4
9661		HOLL	10	21	1432	N14	W59	10	17.1		B	EAO	320	10	12	4
9661		KAND	10	22	0740	N14	W69	10	17.1			DKO		9	10	3
9661		SVTO	10	22	0748	N14	W66	10	17.3		BGD	EAO	370	4	12	3
9661		RAMY	10	22	1208	N13	W66	10	17.5		B	DAO	480	7	9	4
9661	30781	MWIL	10	22	1445	N15	W72	10	17.2	5	(BP)					
9661		HOLL	10	22	1545	N14	W70	10	17.4		B	EKO	250	6	11	2
9661		LEAR	10	23	0020	N15	W77	10	17.2		B	DAO	240	2	8	3
9661		VORO	10	23	0030	N14	W77	10	17.2			DAI	639	3	4	2
9661		SVTO	10	23	0718	N14	W80	10	17.2		B	EAO	180	3	12	3
9661		KAND	10	23	0800	N14	W82	10	17.1			DHO		2	8	4
9661		RAMY	10	23	1223	N13	W85	10	17.1		B	CKO	180	2	10	4
9661	30781	MWIL	10	23	1445	N14	W82	10	17.4	5	(AP)					
9661		HOLL	10	23	1450	N15	W85	10	17.2		A	HKX	180	1	4	4
9666		KAND	10	14	1000	S10	E38	10	17.3			BXO		2	2	2
9666		RAMY	10	14	1133	S12	E37	10	17.3		B	BXO	10	2	3	3
9666	30789	MWIL	10	14	1500	S10	E35	10	17.2	3	(AF)					
9666		HOLL	10	14	1500	S11	E34	10	17.2		B	BXO	10	2	3	2
9666		SVTO	10	15	0650	S10	E27	10	17.3		A	AXX		1		3
9666A	30799	MWIL	10	19	1500	N17	W17	10	18.3	3	(B)					
9671		HOLL	10	16	1610	N15	E50	10	20.4		B	BXO	10	2	2	2
9671	30794	MWIL	10	16	1615	N15	E48	10	20.3	4	(B)					
9671		VORO	10	16	2222	N15	E44	10	20.3			AXX	19	1		2
9671		LEAR	10	17	0035	N15	E43	10	20.3		B	BXO	10	5	3	3
9671		SVTO	10	17	0630	N16	E41	10	20.4		B	BXO	30	6	5	2
9671		KAND	10	17	0750	N15	E40	10	20.3			CRO		5	6	3
9671		RAMY	10	17	1410	N14	E36	10	20.3		B	CSO	20	3	5	1
9671	30794	MWIL	10	17	1430	N15	E35	10	20.2	4	(B)					
9671		HOLL	10	17	1505	N14	E37	10	20.4		B	BXO	20	4	5	4
9671		VORO	10	17	2227	N16	E32	10	20.4			BXI	32	7	5	3
9671		LEAR	10	18	0657	N15	E26	10	20.2		B	CRO		3	4	2
9671		KAND	10	18	0855	N15	E27	10	20.4			CRO		10	6	3
9671		RAMY	10	18	1246	N15	E23	10	20.3		B	DSO	30	8	7	4
9671	30794	MWIL	10	18	1445	N15	E22	10	20.3	5	(B)					

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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
9671		HOLL	10	18	1540	N15	E23	10	20.4		B	DSO	60	10	7	3
9671		VORO	10	18	2346	N15	E18	10	20.3			DAI	74	5	4	2
9671		LEAR	10	19	0005	N16	E17	10	20.3		BG	DAI	90	10	6	2
9671		KAND	10	19	0725	N16	E14	10	20.4			DAO		14	6	3
9671		RAMY	10	19	1232	N15	E10	10	20.3		B	DAO	130	12	7	3
9671		SVTO	10	19	1254	N16	E10	10	20.3		B	DAO	120	15	7	3
9671	30794	MWIL	10	19	1500	N15	E09	10	20.3	5	(BG)					
9671		HOLL	10	19	1502	N16	E09	10	20.3		B	DSO	60	16	7	3
9671		VORO	10	19	2246	N16	E05	10	20.3			DAI	111	11	6	2
9671		KAND	10	20	0813	N15	E00	10	20.3			DSO		15	8	4
9671		SVTO	10	20	0935	N15	W02	10	20.2		B	DAO	100	13	8	2
9671		RAMY	10	20	1200	N16	W03	10	20.3		B	DSO	70	15	7	3
9671		HOLL	10	20	1438	N15	W05	10	20.2		B	DSO	60	18	8	2
9671	30794	MWIL	10	20	1445	N15	W04	10	20.3	5	(B)					
9671		VORO	10	20	2320	N15	W09	10	20.3			DAI	101	16	7	3
9671		LEAR	10	21	0015	N15	W10	10	20.2		B	DAO	60	6	6	1
9671		KAND	10	21	0640	N15	W14	10	20.2			DSO		7	8	3
9671		RAMY	10	21	1217	N14	W16	10	20.3		B	DSO	30	14	8	4
9671		HOLL	10	21	1432	N15	W17	10	20.3		B	DSO	70	8	8	4
9671		KAND	10	22	0740	N15	W27	10	20.3			CAO		10	9	3
9671		SVTO	10	22	0748	N18	W24	10	20.5		B	DSO	40	9	11	3
9671		RAMY	10	22	1208	N13	W33	10	20.0		B	CAO	60	6	2	4
9671	30794	MWIL	10	22	1445	N15	W31	10	20.3	4	(B)					
9671		HOLL	10	22	1545	N14	W34	10	20.1		A	HAX	20	2	2	2
9671		LEAR	10	23	0020	N16	W38	10	20.1		A	HRX	30	2	1	3
9671		VORO	10	23	0030	N14	W39	10	20.1			HRX	24	3		2
9671		SVTO	10	23	0718	N14	W43	10	20.0		A	AXX	10	3	2	3
9671		KAND	10	23	0800	N15	W43	10	20.1			AX		2	1	4
9671		RAMY	10	23	1223	N13	W46	10	20.0		A	AXX		3	1	4
9671	30794	MWIL	10	23	1445	N15	W44	10	20.3	4	(B)					
9671		LEAR	10	24	0005	N16	W49	10	20.3		B	BXO	10	3	5	3
9671	30794	MWIL	10	24	1445	N16	W57	10	20.3	4	(B)					
9667		SVTO	10	14	0817	N26	E79	10	20.5		A	HAX	40	1	2	2
9667		KAND	10	14	1000	N24	E82	10	20.7			HA		3	5	2
9667		RAMY	10	14	1133	N23	E80	10	20.6		A	HSX	30	1	1	3
9667		HOLL	10	14	1500	N24	E78	10	20.6		A	AXX	10	1	1	2
9667	30790	MWIL	10	14	1500	N25	E76	10	20.5	4	(AP)					
9667		VORO	10	14	2230	N26	E71	10	20.4			AXX	16	1		2
9667		LEAR	10	15	0405	N25	E67	10	20.4		A	HAX	60	1	2	1
9667		SVTO	10	15	0650	N26	E69	10	20.6		B	CAO	80	4	6	3
9667		KAND	10	15	1025	N24	E66	10	20.5			CSO		3	3	3
9667		RAMY	10	15	1155	N20	E68	10	20.7		B	CSO	50	5	8	3
9667	30790	MWIL	10	15	1430	N26	E65	10	20.6	4	(B)					
9667		HOLL	10	15	1505	N24	E66	10	20.7		B	CAO	60	4	7	2
9667		VORO	10	15	2248	N26	E61	10	20.7			CAO	56	2	7	2
9667		LEAR	10	16	0043	N24	E60	10	20.7		B	DSO	70	3	10	1
9667		KAND	10	16	0640	N25	E57	10	20.7			DSO		9	9	5
9667		SVTO	10	16	0714	N27	E56	10	20.7		B	CSO	70	6	8	3
9667		RAMY	10	16	1232	N25	E53	10	20.6		B	DSO	50	9	9	4
9667		HOLL	10	16	1610	N23	E52	10	20.7		B	EAO	100	9	11	2
9667	30790	MWIL	10	16	1615	N26	E51	10	20.6	4	(B)					
9667		VORO	10	16	2222	N26	E49	10	20.7			CAI	151	6	10	2
9667		LEAR	10	17	0035	N26	E46	10	20.6		B	DAO	60	4	8	3
9667		SVTO	10	17	0630	N27	E43	10	20.6		B	DAO	80	5	9	2
9667		KAND	10	17	0750	N26	E44	10	20.7			CAO		4	10	3
9667		RAMY	10	17	1410	N25	E40	10	20.7		B	DSO	40	3	9	1
9667	30790	MWIL	10	17	1430	N26	E38	10	20.5	5	(B)					
9667		HOLL	10	17	1505	N23	E40	10	20.7		B	DAO	70	6	9	4
9667		VORO	10	17	2227	N26	E35	10	20.6			CAO	59	4	8	3
9667		LEAR	10	18	0657	N25	E28	10	20.4		B	CSO	20	3	8	2
9667		KAND	10	18	0855	N26	E29	10	20.6			CAO		5	9	3
9667		RAMY	10	18	1246	N26	E23	10	20.3		B	DSO	30	2	3	4
9667	30790	MWIL	10	18	1445	N26	E22	10	20.3	5	(AP)					
9667		HOLL	10	18	1540	N26	E22	10	20.4		A	HAX	70	2	2	3
9667		VORO	10	18	2346	N26	E17	10	20.3			HAX	31	1		2
9667		LEAR	10	19	0005	N25	E21	10	20.6		B	CAO	30	3	9	2
9667		KAND	10	19	0725	N26	E16	10	20.5			CSO		3	9	3
9667		RAMY	10	19	1232	N26	E10	10	20.3		B	CSO	60	3	2	3

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9667		SVTO	10	19	1254	N27	E13	10	20.5		B	CSO	20	7	8	3
9667	30790	MWIL	10	19	1500	N26	E11	10	20.5	5	(B)					
9667		HOLL	10	19	1502	N26	E08	10	20.2		A	HSX	30	1	1	3
9667		VORO	10	19	2246	N26	E04	10	20.2			AXX	19	1		2
9667		KAND	10	20	0813	N25	W01	10	20.3			HR		2	1	4
9667		SVTO	10	20	0935	N25	W03	10	20.2		A	HSX	10	1	1	2
9667		RAMY	10	20	1200	N26	W03	10	20.3		B	CSO	10	2	1	3
9667		HOLL	10	20	1438	N27	W05	10	20.2		B	BXO	10	2	2	2
9667	30790	MWIL	10	20	1445	N26	E00	10	20.6	4	(B)					
9667		VORO	10	20	2320	N26	W10	10	20.2			HAX	21	1		3
9667		LEAR	10	21	0015	N26	W10	10	20.2		A	HAX	20	1	1	1
9667		KAND	10	21	0640	N25	W13	10	20.3			HS		1	1	3
9667		RAMY	10	21	1217	N26	W17	10	20.2		B	CSO	10	2	1	4
9667		HOLL	10	21	1432	N26	W17	10	20.3		A	AXX	10	2	1	4
9667		KAND	10	22	0740	N26	W27	10	20.2			AX		1		3
9667		SVTO	10	22	0748	N26	W27	10	20.2		A	HRX	10	1	1	3
9667		RAMY	10	22	1208	N24	W31	10	20.1		B	BXO	10	3	4	4
9667	30790	MWIL	10	22	1445	N26	W30	10	20.3	4	(AP)					
9667		HOLL	10	22	1545	N26	W32	10	20.2		A	HSX	10	1	1	2
9667		LEAR	10	23	0020	N27	W36	10	20.2		A	AXX		1		3
9667		VORO	10	23	0030	N26	W36	10	20.2			AXX	10	1		2
9667		SVTO	10	23	0718	N26	W41	10	20.1		A	AXX		1		3
9667		RAMY	10	23	1223	N25	W44	10	20.1		A	AXX		1		4
9667	30790	MWIL	10	23	1445	N26	W43	10	20.3	4	(AP)					
9667		LEAR	10	24	0005	N27	W48	10	20.3		A	AXX		1		3
9669	30791	MWIL	10	14	1500	N13	E82	10	20.8	4	B(					
9669		VORO	10	14	2230	N13	E77	10	20.7			AI	66	3	1	2
9669		LEAR	10	15	0405	N13	E75	10	20.8		B	CRO	40	2	4	1
9669		SVTO	10	15	0650	N13	E75	10	20.9		B	CAO	60	4	5	3
9669		KAND	10	15	1025	N12	E75	10	21.1			BXO		3	3	3
9669		RAMY	10	15	1155	N08	E75	10	21.1		B	ESO	120	5	11	3
9669	30791	MWIL	10	15	1430	N15	E76	10	21.3	4	(B)					
9669		HOLL	10	15	1505	N12	E71	10	21.0		B	DAO	80	5	5	2
9669		VORO	10	15	2248	N14	E68	10	21.1			DAI	194	6	10	2
9669		LEAR	10	16	0043	N13	E69	10	21.2		B	DAO	100	7	11	1
9669		KAND	10	16	0640	N14	E66	10	21.3			EAO		12	12	5
9669		SVTO	10	16	0714	N15	E64	10	21.1		B	EAO	140	10	13	3
9669		RAMY	10	16	1232	N13	E63	10	21.3		B	EAO	130	11	12	4
9669		HOLL	10	16	1610	N12	E55	10	20.8		BG	FAI	230	12	18	2
9669	30791	MWIL	10	16	1615	N14	E58	10	21.1	5	(BP)					
9669		VORO	10	16	2222	N14	E56	10	21.2			DAI	263	5	12	2
9669		LEAR	10	17	0035	N13	E55	10	21.2		B	EAO	120	7	13	3
9669		SVTO	10	17	0630	N14	E52	10	21.2		B	FAO	190	17	16	2
9669		KAND	10	17	0750	N14	E53	10	21.3			EAO		10	14	3
9669		RAMY	10	17	1410	N13	E48	10	21.2		B	ESO	160	16	14	1
9669	30791	MWIL	10	17	1430	N15	E46	10	21.1	5	(BG)					
9669		HOLL	10	17	1505	N12	E45	10	21.0		BG	EAI	130	17	13	4
9669		VORO	10	17	2227	N14	E42	10	21.1			CAI	203	18	13	3
9669		LEAR	10	18	0657	N14	E36	10	21.0		B	EAO	40	12	11	2
9669		KAND	10	18	0855	N13	E36	10	21.1			DAO		20	10	3
9669		RAMY	10	18	1246	N12	E33	10	21.0		B	EAI	160	24	11	4
9669	30791	MWIL	10	18	1445	N14	E32	10	21.0	5	(BG)					
9669		HOLL	10	18	1540	N13	E32	10	21.1		B	EAI	190	21	13	3
9669		VORO	10	18	2346	N14	E29	10	21.2			DAI	124	6	9	2
9669		LEAR	10	19	0005	N14	E28	10	21.1		B	EAI	150	16	13	2
9669		KAND	10	19	0725	N13	E24	10	21.1			ESO		15	13	3
9669		RAMY	10	19	1232	N12	E20	10	21.0		B	EAI	130	28	13	3
9669		SVTO	10	19	1254	N13	E19	10	21.0		B	ESI	200	23	13	3
9669	30791	MWIL	10	19	1500	N13	E18	10	21.0	5	(BG)					
9669		HOLL	10	19	1502	N13	E19	10	21.1		B	EAI	210	37	13	3
9669		VORO	10	19	2246	N15	E16	10	21.1			DAI	290	14	9	2
9669		KAND	10	20	0813	N13	E10	10	21.1			ESO		28	15	4
9669		SVTO	10	20	0935	N13	E08	10	21.0		B	EAI	170	22	14	2
9669		RAMY	10	20	1200	N14	E10	10	21.2		B	ESI	100	35	14	3
9669		HOLL	10	20	1438	N14	E07	10	21.1		BG	EAC	190	39	13	2
9669	30791	MWIL	10	20	1445	N14	E07	10	21.1	5	(B)					
9669		VORO	10	20	2320	N16	E03	10	21.2			DAI	302	29	11	3
9669		LEAR	10	21	0015	N14	E04	10	21.3		B	EAO	120	16	12	1

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9669		KAND	10	21	0640	N13	W03	10	21.0			EAI		23	12	3
9669		RAMY	10	21	1217	N14	W07	10	21.0		B	EAI	90	47	14	4
9669		HOLL	10	21	1432	N14	W06	10	21.1		BG	ESC	120	27	12	4
9669		KAND	10	22	0740	N14	W16	10	21.1			CAI		24	12	3
9669		SVTO	10	22	0748	N14	W17	10	21.0		B	EAI	160	21	13	3
9669		RAMY	10	22	1208	N14	W18	10	21.1		BG	DAI	80	31	10	4
9669	30791	MWIL	10	22	1445	N14	W20	10	21.1	5	(B)					
9669		HOLL	10	22	1545	N13	W19	10	21.2		BG	EAI	130	14	11	2
9669		LEAR	10	23	0020	N14	W25	10	21.1		B	CAO	50	6	10	3
9669		VORO	10	23	0030	N14	W25	10	21.1			CAI	121	14	9	2
9669		SVTO	10	23	0718	N13	W29	10	21.1		B	CAO	70	9	11	3
9669		KAND	10	23	0800	N14	W30	10	21.1			CAO		10	10	4
9669		RAMY	10	23	1223	N13	W32	10	21.1		B	CAI	60	17	11	4
9669	30791	MWIL	10	23	1445	N14	W34	10	21.0	5	(B)					
9669		HOLL	10	23	1450	N13	W36	10	20.9		B	DAO	90	7	9	4
9669		LEAR	10	24	0005	N14	W37	10	21.2		B	DAO	70	8	10	3
9669		VORO	10	24	0031	N14	W39	10	21.1			CAI	76	5	8	2
9669		SVTO	10	24	0926	N14	W44	10	21.1		B	DSO	50	6	8	3
9669		KAND	10	24	1005	N13	W45	10	21.0			CSO		8	11	2
9669		RAMY	10	24	1305	N13	W46	10	21.1		B	DSO	50	8	9	3
9669	30791	MWIL	10	24	1445	N14	W47	10	21.1	4	(B)					
9669		HOLL	10	24	1530	N13	W47	10	21.1		B	DAO	30	4	8	3
9669		VORO	10	24	2229	N13	W55	10	20.8			HAX	75	2		2
9669		LEAR	10	25	0015	N14	W55	10	20.8		B	CSO	50	3	5	2
9669		KAND	10	25	0710	N13	W60	10	20.8			HS		1	1	4
9669		RAMY	10	25	1217	N14	W63	10	20.7		B	CSO	30	3	3	3
9669	30791	MWIL	10	25	1700	N14	W63	10	20.9	4	(AP)					
9669		VORO	10	25	2235	N13	W69	10	20.7			HAX	50	1		3
9669		LEAR	10	26	0100	N13	W70	10	20.8		A	HSX	30	1	1	2
9669		KAND	10	26	0630	N14	W74	10	20.7			HR		1	1	4
9669		RAMY	10	26	1250	N13	W79	10	20.6		A	HSX	30	1	1	4
9669	30791	MWIL	10	26	1500	N14	W73	10	21.1	3	(AP)					
9669		HOLL	10	26	1517	N13	W79	10	20.7		A	HSX	30	1	1	3
9669A		SVTO	10	15	0650	N16	E85	10	21.7		A	HSX	60	1	2	3
9669A		HOLL	10	15	1505	N14	E79	10	21.6		A	AXX	30	1	2	2
9669A	30815	MWIL	10	28	1500	N12	W88	10	22.0	2	AP					
9670	30792	MWIL	10	15	1430	S17	E85	10	22.1	5	AP					
9670		VORO	10	15	2248	S17	E82	10	22.2			HAX	154	1		2
9670		LEAR	10	16	0043	S17	E78	10	21.9		A	HAX	90	1	3	1
9670		KAND	10	16	0640	S17	E77	10	22.1			HS		1	3	5
9670		SVTO	10	16	0714	S14	E75	10	22.0		A	HSX	120	1	4	3
9670		RAMY	10	16	1232	S16	E74	10	22.1		A	HSX	150	2	5	4
9670		HOLL	10	16	1610	S17	E71	10	22.1		A	HAX	180	2	3	2
9670	30792	MWIL	10	16	1615	S16	E79	10	22.7	5	(AP)					
9670		VORO	10	16	2222	S16	E65	10	21.9			HKX	359	1		2
9670		LEAR	10	17	0035	S18	E72	10	22.5		B	FAO	220	4	16	3
9670		SVTO	10	17	0630	S16	E67	10	22.3		B	FAO	340	3	17	2
9670		KAND	10	17	0750	S18	E67	10	22.4			FSO		4	20	3
9670		RAMY	10	17	1410	S20	E68	10	22.8		B	FSO	420	4	22	1
9670	30792	MWIL	10	17	1430	S18	E64	10	22.5	5	(B)					
9670		HOLL	10	17	1505	S17	E58	10	22.0		A	HAX	170	1	4	4
9670		HOLL	10	17	1505	S18	E63	10	22.4		B	FAO	240	5	16	4
9670		VORO	10	17	2227	S16	E53	10	21.9			HKX	239	1		3
9670		LEAR	10	18	0657	S17	E55	10	22.5		BG	FAO	180	7	16	2
9670		KAND	10	18	0855	S18	E55	10	22.5			FAO		18	21	3
9670		RAMY	10	18	1246	S18	E50	10	22.3		B	FAO	410	10	20	4
9670	30792	MWIL	10	18	1445	S18	E50	10	22.4	5	(BG)					
9670		HOLL	10	18	1540	S19	E50	10	22.5		BG	FKI	450	17	17	3
9670		VORO	10	18	2346	S16	E39	10	21.9			HKX	225	2		2
9670		LEAR	10	19	0005	S17	E45	10	22.4		BG	FKO	450	8	18	2
9670		KAND	10	19	0725	S18	E41	10	22.4			FKO		16	19	3
9670		RAMY	10	19	1232	S19	E37	10	22.3		B	FAO	510	18	19	3
9670		SVTO	10	19	1254	S18	E38	10	22.4		B	FKI	500	24	18	3
9670	30792	MWIL	10	19	1500	S18	E37	10	22.4	5	(BG)					
9670		HOLL	10	19	1502	S18	E37	10	22.4		BG	FKO	620	25	20	3
9670		VORO	10	19	2246	S16	E26	10	21.9			HKX	339	5		2
9670		KAND	10	20	0813	S18	E29	10	22.5			EAO		21	14	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
9670		SVTO	10	20	0935	S18	E27	10	22.4		B	FAO	500	19	17	2
9670		RAMY	10	20	1200	S20	E25	10	22.4		B	FKO	520	15	19	3
9670		HOLL	10	20	1438	S18	E23	10	22.4		BG	FAO	380	17	18	2
9670	30792	MWIL	10	20	1445	S18	E24	10	22.4	5	(BG)					
9670		VORO	10	20	2320	S16	E12	10	21.9			HKX	291	7		3
9670		LEAR	10	21	0015	S19	E16	10	22.2		B	FKO	420	18	17	1
9670		KAND	10	21	0640	S19	E15	10	22.4			FAO		15	18	3
9670		RAMY	10	21	1217	S18	E13	10	22.5		B	FKI	490	32	20	4
9670		HOLL	10	21	1432	S18	E11	10	22.4		BG	FAO	290	25	17	4
9670		KAND	10	22	0740	S17	E02	10	22.5			FKO		28	19	3
9670		SVTO	10	22	0748	S18	E02	10	22.5		BG	FKO	400	17	19	3
9670		RAMY	10	22	1208	S19	W01	10	22.4		BG	FKI	570	23	19	4
9670	30792	MWIL	10	22	1445	S18	W02	10	22.5	5	(BG)					
9670		HOLL	10	22	1545	S18	W03	10	22.4		BG	FKO	360	20	18	2
9670		LEAR	10	23	0020	S18	W07	10	22.5		BGD	FKO	370	20	18	3
9670		VORO	10	23	0030	S16	W15	10	21.9			HHX	224	5		2
9670		SVTO	10	23	0718	S18	W11	10	22.5		BGD	FKO	470	20	19	3
9670		KAND	10	23	0800	S18	W13	10	22.3			FKO		16	18	4
9670		RAMY	10	23	1223	S19	W14	10	22.4		BG	HKI	550	32	18	4
9670	30792	MWIL	10	23	1445	S18	W15	10	22.5	5	(BG)					
9670		HOLL	10	23	1450	S17	W16	10	22.4		BG	FKI	410	24	17	4
9670		LEAR	10	24	0005	S18	W21	10	22.4		BG	FKI	400	21	18	3
9670		VORO	10	24	0031	S16	W29	10	21.8			HSX	236	5		2
9670		SVTO	10	24	0926	S18	W26	10	22.4		BG	FAI	260	26	19	3
9670		KAND	10	24	1005	S18	W26	10	22.4			FKO		20	18	2
9670		RAMY	10	24	1305	S20	W28	10	22.4		B	FAI	450	35	21	3
9670	30792	MWIL	10	24	1445	S18	W27	10	22.5	5	(BG)					
9670		HOLL	10	24	1530	S18	W29	10	22.4		B	FAI	350	28	19	3
9670		VORO	10	24	2229	S17	W41	10	21.8			HAX	246	4		2
9670		LEAR	10	25	0015	S18	W34	10	22.4		BG	FKO	290	15	18	2
9670		KAND	10	25	0710	S17	W38	10	22.4			FAO		11	21	4
9670		RAMY	10	25	1217	S19	W41	10	22.4		B	FAI	270	25	20	3
9670	30792	MWIL	10	25	1700	S18	W43	10	22.4	5	(BG)					
9670		VORO	10	25	2235	S17	W54	10	21.8			HAX	116	1		3
9670		LEAR	10	26	0100	S18	W47	10	22.5		BG	FAO	270	12	20	2
9670		KAND	10	26	0630	S18	W50	10	22.5			FSO		8	20	4
9670		RAMY	10	26	1250	S18	W55	10	22.3		B	FAI	130	11	20	4
9670	30792	MWIL	10	26	1500	S17	W54	10	22.5	5	(B)					
9670		HOLL	10	26	1517	S18	W55	10	22.4		B	FAO	180	8	19	3
9670		VORO	10	26	2332	S17	W68	10	21.8			HAX	124	1		3
9670		LEAR	10	27	0016	S18	W60	10	22.4		B	EAO	140	10	14	1
9670		SVTO	10	27	0705	S18	W62	10	22.6		B	FSO	150	5	20	2
9670		KAND	10	27	0925	S17	W65	10	22.4			FSO		6	20	2
9670		RAMY	10	27	1210	S18	W69	10	22.2		B	FAO	160	5	20	4
9670		HOLL	10	27	1532	S16	W70	10	22.3		B	EAO	270	7	11	3
9670	30792	MWIL	10	27	2200	S16	W70	10	22.6	4	(B)					
9670		LEAR	10	28	0445	S17	W68	10	23.0		B	DAO	100	6	5	1
9670		SVTO	10	28	0658	S18	W68	10	23.1		B	DAO	180	4	6	2
9670		RAMY	10	28	1219	S19	W77	10	22.6		B	CAO	100	5	5	4
9670	30792	MWIL	10	28	1500	S17	W72	10	23.1	3	(B)					
9670		HOLL	10	28	1825	S18	W85	10	22.3		A	HAX	30	1	2	2
9674		LEAR	10	19	0005	S08	E48	10	22.6		B	BXO	10	2	2	2
9674		KAND	10	19	0725	S09	E44	10	22.6			BXI		4	2	3
9674		RAMY	10	19	1232	S09	E40	10	22.5		B	CSO	20	3	3	3
9674		SVTO	10	19	1254	S08	E40	10	22.5		B	BXO	10	4	4	3
9674	30800	MWIL	10	19	1500	S08	E38	10	22.5	4	(BG)					
9674		HOLL	10	19	1502	S08	E37	10	22.4		B	BXO	100	6	4	3
9674		VORO	10	19	2246	S08	E33	10	22.4			CAI	71	5	4	2
9674		KAND	10	20	0813	S09	E28	10	22.4			CSO		8	5	4
9674		SVTO	10	20	0935	S08	E27	10	22.4		B	DSO	60	9	6	2
9674		RAMY	10	20	1200	S09	E26	10	22.4		B	DSO	50	6	6	3
9674		HOLL	10	20	1438	S08	E25	10	22.5		B	DAO	50	7	7	2
9674	30800	MWIL	10	20	1445	S08	E25	10	22.5	5	(B)					
9674		VORO	10	20	2320	S09	E19	10	22.4			DAI	109	11	6	3
9674		LEAR	10	21	0015	S09	E18	10	22.4		B	DAO	50	5	6	1
9674		KAND	10	21	0640	S09	E16	10	22.5			DAO		7	7	3
9674		RAMY	10	21	1217	S09	E13	10	22.5		B	DSO	20	9	7	4
9674		HOLL	10	21	1432	S09	E12	10	22.5		B	CSO	30	5	5	4

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9674		KAND	10	22	0740	S08	E02	10	22.5			BXO		13	7	3
9674		SVTO	10	22	0748	S09	E02	10	22.5		B	BXO	20	7	5	3
9674		RAMY	10	22	1208	S09	W02	10	22.3		B	BXO	10	7	5	4
9674	30800	MWIL	10	22	1445	S09	W03	10	22.4	4	(B)					
9674		HOLL	10	22	1545	S08	W06	10	22.2		B	BXO	20	4	3	2
9674		RAMY	10	23	1223	S08	W15	10	22.4		A	AXX		1		4
9674	30800	MWIL	10	23	1445	S08	W15	10	22.5	4	(B)					
9674		HOLL	10	23	1450	S08	W16	10	22.4		A	AXX	10	1	1	4
9674		RAMY	10	24	1305	S09	W27	10	22.5		A	AXX		1		3
9674	30800	MWIL	10	24	1445	S08	W26	10	22.7	4	(AF)					
9674		HOLL	10	24	1530	S08	W27	10	22.6		A	AXX	10	1	1	3
9672		HOLL	10	17	1505	S21	E73	10	23.2		B	DAO	240	4	5	4
9672		VORO	10	17	2227	S19	E74	10	23.6			DAI	264	9	12	3
9672		LEAR	10	18	0657	S18	E77	10	24.1		B	DSO	30	2	2	2
9672		KAND	10	18	0855	S21	E77	10	24.3			HA		4	3	3
9672		RAMY	10	18	1246	S22	E76	10	24.4		B	CAO	120	5	4	4
9672	30797	MWIL	10	18	1445	S20	E70	10	24.0	5	(AP)					
9672		HOLL	10	18	1540	S21	E71	10	24.1		A	HKX	120	3	3	3
9672		VORO	10	18	2346	S20	E60	10	23.6			DKI	538	7	13	2
9672		LEAR	10	19	0005	S20	E67	10	24.1		A	HSX	150	3	2	2
9672		KAND	10	19	0725	S20	E64	10	24.2			HA		2	3	3
9672		RAMY	10	19	1232	S21	E60	10	24.1		B	CAO	120	5	4	3
9672		SVTO	10	19	1254	S19	E58	10	24.0		A	HAX	130	5	3	3
9672	30797	MWIL	10	19	1500	S20	E57	10	24.0	4	(AP)					
9672		HOLL	10	19	1502	S20	E57	10	24.0		B	CAO	190	9	5	3
9672		VORO	10	19	2246	S19	E48	10	23.6			DKO	602	10	13	2
9672		KAND	10	20	0813	S20	E49	10	24.1			CAO		10	4	4
9672		SVTO	10	20	0935	S20	E48	10	24.1		B	DAO	170	5	5	2
9672		RAMY	10	20	1200	S22	E48	10	24.2		B	DAO	120	6	4	3
9672		HOLL	10	20	1438	S21	E44	10	24.0		B	DAO	120	11	5	2
9672	30797	MWIL	10	20	1445	S19	E45	10	24.0	5	(BG)					
9672		VORO	10	20	2320	S19	E34	10	23.6			EKO	707	25	13	3
9672		LEAR	10	21	0015	S20	E38	10	23.9		B	DAO	290	10	6	1
9672		KAND	10	21	0640	S19	E36	10	24.0			DKO		13	7	3
9672		RAMY	10	21	1217	S17	E32	10	23.9		B	DKI	390	16	8	4
9672		HOLL	10	21	1432	S21	E32	10	24.0		B	DKO	280	12	7	4
9672		KAND	10	22	0740	S18	E21	10	23.9			CKI		25	9	3
9672		SVTO	10	22	0748	S18	E23	10	24.1		B	DKO	510	11	8	3
9672		RAMY	10	22	1208	S19	E21	10	24.1		B	CKI	380	18	6	4
9672	30797	MWIL	10	22	1445	S18	E18	10	24.0	5	(D)					
9672		HOLL	10	22	1545	S18	E17	10	23.9		B	DKI	460	24	10	2
9672		LEAR	10	23	0020	S19	E12	10	23.9		BD	DKI	440	13	7	3
9672		VORO	10	23	0030	S19	E07	10	23.5			EKO	817	25	13	2
9672		SVTO	10	23	0718	S18	E08	10	23.9		BD	DKI	370	17	10	3
9672		KAND	10	23	0800	S18	E08	10	23.9			CKI		12	8	4
9672		RAMY	10	23	1223	S19	E05	10	23.9		BD	CKO	440	25	8	4
9672	30797	MWIL	10	23	1445	S18	E04	10	23.9	5	(D)					
9672		HOLL	10	23	1450	S18	E06	10	24.1		BD	DKO	410	24	9	4
9672		LEAR	10	24	0005	S20	W01	10	23.9		BD	EKI	430	26	11	3
9672		VORO	10	24	0031	S19	W06	10	23.6			DKO	924	22	13	2
9672		SVTO	10	24	0926	S19	W06	10	23.9		BD	EKO	510	18	12	3
9672		KAND	10	24	1005	S19	W04	10	24.1			DKO		17	10	2
9672		RAMY	10	24	1305	S20	W08	10	23.9		BD	DKC	550	34	10	3
9672	30797	MWIL	10	24	1445	S18	W08	10	24.0	6	(D)					
9672		HOLL	10	24	1530	S18	W08	10	24.0		BD	DKC	470	24	10	3
9672		VORO	10	24	2229	S19	W18	10	23.6			DKI	1018	20	12	2
9672		LEAR	10	25	0015	S18	W14	10	23.9		BD	DKI	490	19	9	2
9672		KAND	10	25	0710	S18	W18	10	23.9			CKO		17	10	4
9672		RAMY	10	25	1217	S18	W21	10	23.9		BD	DKI	570	25	10	3
9672	30797	MWIL	10	25	1700	S18	W24	10	23.9	6	(D)					
9672		VORO	10	25	2235	S18	W32	10	23.5			DKI	736	17	14	3
9672		LEAR	10	26	0100	S18	W27	10	24.0		BGD	DKI	520	16	7	2
9672		KAND	10	26	0630	S18	W31	10	23.9			HK		13	6	4
9672		RAMY	10	26	1250	S18	W36	10	23.8		BD	CKI	560	15	7	4
9672	30797	MWIL	10	26	1500	S17	W35	10	24.0	5	(D)					
9672		HOLL	10	26	1517	S17	W36	10	23.9		BD	DKC	500	15	8	3
9672		VORO	10	26	2332	S18	W46	10	23.5			DKO	710	20	14	3
9672		LEAR	10	27	0016	S17	W42	10	23.8		BGD	DKI	580	15	7	1

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9672		SVTO	10	27	0705	S18	W44	10	23.9		BGD	DKI	480	5	6	2
9672		KAND	10	27	0925	S17	W45	10	24.0			DKO		9	7	2
9672		RAMY	10	27	1210	S19	W47	10	23.9		BD	DKI	470	12	7	4
9672		HOLL	10	27	1532	S17	W50	10	23.8		BD	DKC	410	12	5	3
9672	30797	MWIL	10	27	2200	S17	W52	10	24.0	6	(D)					
9672		LEAR	10	28	0445	S17	W56	10	23.9		BGD	DKI	360	6	4	1
9672		SVTO	10	28	0658	S18	W56	10	24.0		BD	DKI	380	5	7	2
9672		RAMY	10	28	1219	S19	W63	10	23.7		BD	DKI	400	13	7	4
9672	30797	MWIL	10	28	1500	S17	W62	10	23.9	5	(D)					
9672		HOLL	10	28	1825	S17	W65	10	23.8		BG	DKI	360	5	6	2
9672		VORO	10	28	2238	S18	W67	10	23.8			HAX	454	1		3
9672		LEAR	10	29	0015	S17	W64	10	24.1		BGD	DKO	330	4	8	3
9672		SVTO	10	29	0639	S18	W70	10	23.9		A	HKX	300	1	6	3
9672		KAND	10	29	0835	S17	W74	10	23.7			HK		1	4	3
9672		RAMY	10	29	1221	S19	W79	10	23.5		A	HKX	230	6	3	4
9672		HOLL	10	29	1600	S18	W78	10	23.7		A	HKX	180	3	3	3
9672	30797	MWIL	10	29	1845	S17	W77	10	23.9	5	AP					
9672		VORO	10	29	2253	S18	W79	10	23.9			HAX	327	1		3
9672		LEAR	10	30	0007	S16	W78	10	24.1		A	HAX	100	1	2	3
9672		SVTO	10	30	0745	S17	W86	10	23.8		A	HSX	120	1	2	3
9673		LEAR	10	18	0657	N04	E80	10	24.3		A	HSX	60	1	2	2
9673		KAND	10	18	0855	N03	E83	10	24.6			HS		1	2	3
9673		RAMY	10	18	1246	N03	E79	10	24.4		A	HSX	120	1	2	4
9673	30798	MWIL	10	18	1445	N04	E77	10	24.4	5	(AP)					
9673		HOLL	10	18	1540	N03	E77	10	24.4		A	HHX	90	1	2	3
9673		VORO	10	18	2346	N04	E72	10	24.4			HAX	156	1		2
9673		LEAR	10	19	0005	N04	E71	10	24.3		A	HAX	90	1	2	2
9673		KAND	10	19	0725	N03	E70	10	24.5			HS		1	2	3
9673		RAMY	10	19	1232	N04	E66	10	24.4		B	CSO	30	3	4	3
9673		SVTO	10	19	1254	N04	E64	10	24.3		A	HSX	130	1	2	3
9673	30798	MWIL	10	19	1500	N04	E64	10	24.4	5	(AP)					
9673		HOLL	10	19	1502	N03	E64	10	24.4		A	HAX	150	1	2	3
9673		VORO	10	19	2246	N04	E59	10	24.3			HAX	171	1		2
9673		KAND	10	20	0813	N04	E54	10	24.4			CAO		4	3	4
9673		SVTO	10	20	0935	N03	E53	10	24.3		A	HSX	10	1	2	2
9673		RAMY	10	20	1200	N02	E52	10	24.4		A	HAX	120	1	2	3
9673		HOLL	10	20	1438	N03	E51	10	24.4		B	CAO	130	4	4	2
9673	30798	MWIL	10	20	1445	N04	E50	10	24.3	5	(BP)					
9673		VORO	10	20	2320	N04	E45	10	24.3			HAX	220	2		3
9673		LEAR	10	21	0015	N02	E44	10	24.3		A	HSX	80	1	2	1
9673		KAND	10	21	0640	N03	E42	10	24.4			CAO		5	4	3
9673		RAMY	10	21	1217	N03	E39	10	24.4		B	CAO	160	5	4	4
9673		HOLL	10	21	1432	N03	E37	10	24.4		B	CSO	130	6	4	4
9673		KAND	10	22	0740	N04	E27	10	24.3			CAO		9	6	3
9673		SVTO	10	22	0748	N02	E27	10	24.3		B	CSO	130	8	8	3
9673		RAMY	10	22	1208	N03	E23	10	24.2		B	CSO	160	9	6	4
9673	30798	MWIL	10	22	1445	N03	E22	10	24.2	5	(BG)					
9673		HOLL	10	22	1545	N02	E22	10	24.3		B	DHO	130	9	6	2
9673		LEAR	10	23	0020	N02	E17	10	24.3		B	CSO	120	5	5	3
9673		VORO	10	23	0030	N02	E17	10	24.3			HAX	184	3	3	2
9673		SVTO	10	23	0718	N02	E14	10	24.4		B	CSO	130	6	8	3
9673		KAND	10	23	0800	N04	E13	10	24.3			CAO		6	5	4
9673		RAMY	10	23	1223	N03	E11	10	24.3		B	CAO	100	10	7	4
9673	30798	MWIL	10	23	1445	N03	E09	10	24.3	5	(BG)					
9673		HOLL	10	23	1450	N02	E09	10	24.3		B	CAO	100	11	6	4
9673		LEAR	10	24	0005	N02	E04	10	24.3		B	CAO	150	5	5	3
9673		VORO	10	24	0031	N04	E04	10	24.3			HAX	182	2		2
9673		SVTO	10	24	0926	N02	W02	10	24.2		B	CAO	100	4	4	3
9673		KAND	10	24	1005	N04	W01	10	24.3			HA		3	2	2
9673		RAMY	10	24	1305	N03	W03	10	24.3		A	HSX	150	3	3	3
9673	30798	MWIL	10	24	1445	N04	W04	10	24.3	5	(BG)					
9673		HOLL	10	24	1530	N03	W03	10	24.4		B	CAO	110	3	4	3
9673		VORO	10	24	2229	N04	W08	10	24.3			HSX	171	1		2
9673		LEAR	10	25	0015	N04	W10	10	24.3		A	HAX	90	2	2	2
9673		KAND	10	25	0710	N04	W13	10	24.3			HA		5	3	4
9673		RAMY	10	25	1217	N04	W16	10	24.3		B	CSO	110	5	3	3
9673	30798	MWIL	10	25	1700	N04	W19	10	24.3	5	(AP)					
9673		VORO	10	25	2235	N04	W22	10	24.3			HSX	151	3		3

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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
9673		LEAR	10	26	0100	N04	W23	10	24.3		A	HAX	100	3	3	2
9673		KAND	10	26	0630	N04	W27	10	24.2			HA		2	2	4
9673		RAMY	10	26	1250	N04	W30	10	24.3		B	CSO	110	3	2	4
9673	30798	MWIL	10	26	1500	N04	W32	10	24.2	5	(AP)					
9673		HOLL	10	26	1517	N04	W31	10	24.3		B	CSO	90	3	3	3
9673		VORO	10	26	2332	N05	W35	10	24.4			HSX	136	4	2	3
9673		LEAR	10	27	0016	N05	W36	10	24.3		A	CSO	100	2	3	1
9673		SVTO	10	27	0705	N04	W39	10	24.4		B	CSO	70	3	4	2
9673		KAND	10	27	0925	N05	W38	10	24.5			HS		1	1	3
9673		RAMY	10	27	1210	N04	W43	10	24.3		A	HSX	80	1	2	4
9673		HOLL	10	27	1532	N05	W46	10	24.2		A	HSX	110	1	2	3
9673	30798	MWIL	10	27	2200	N05	W48	10	24.3	5	(AP)					
9673		LEAR	10	28	0445	N05	W52	10	24.3		A	HSX	60	1	2	1
9673		SVTO	10	28	0658	N04	W53	10	24.3		A	HSX	100	1	3	2
9673		RAMY	10	28	1219	N04	W57	10	24.2		A	HAX	70	1	2	4
9673	30798	MWIL	10	28	1500	N05	W58	10	24.3	5	(AP)					
9673		HOLL	10	28	1825	N06	W61	10	24.2		A	HAX	90	1	2	2
9673		VORO	10	28	2238	N04	W61	10	24.4			HSX	107	1		3
9673		LEAR	10	29	0015	N05	W63	10	24.3		A	HSX	60	1	2	3
9673		SVTO	10	29	0639	N04	W67	10	24.3		A	HSX	90	1	3	3
9673		KAND	10	29	0835	N05	W68	10	24.3			HS		1	1	3
9673		RAMY	10	29	1221	N03	W72	10	24.1		A	HAX	60	2	2	4
9673		HOLL	10	29	1600	N07	W71	10	24.3		A	HAX	110	2	2	3
9673	30798	MWIL	10	29	1845	N05	W72	10	24.4	5	AP					
9673		VORO	10	29	2253	N04	W73	10	24.5			HSX	56	1		3
9673		LEAR	10	30	0007	N06	W75	10	24.4		A	HSX	30	1	1	3
9673		SVTO	10	30	0745	N04	W81	10	24.3		A	HSX	30	1	1	3
9673		KAND	10	30	1030	N07	W82	10	24.3			AX		2	2	2
9673		RAMY	10	30	1235	N04	W85	10	24.2		B	CSO	40	4	5	3
9675		KAND	10	20	0813	S13	E76	10	26.1			AX		3	2	4
9675		SVTO	10	20	0935	S13	E75	10	26.0		A	HSX	30	1	1	2
9675		RAMY	10	20	1200	S15	E76	10	26.2		A	HSX	20	1	1	3
9675		HOLL	10	20	1438	S13	E72	10	26.0		A	AXX	30	1	1	2
9675	30801	MWIL	10	20	1445	S13	E71	10	26.0	4	(AP)					
9675		LEAR	10	21	0015	S14	E64	10	25.8		A	HSX	60	1	2	1
9675		KAND	10	21	0640	S13	E64	10	26.1			HS		1	1	3
9675		RAMY	10	21	1217	S12	E61	10	26.1		A	HSX	20	1	1	4
9675		HOLL	10	21	1432	S13	E60	10	26.1		A	HAX	40	1	1	4
9675		KAND	10	22	0740	S13	E50	10	26.1			CSO		3	2	3
9675		SVTO	10	22	0748	S12	E51	10	26.2		B	CAO	30	2	2	3
9675		RAMY	10	22	1208	S18	E51	10	26.4		B	CSO	50	5	10	4
9675	30801	MWIL	10	22	1445	S12	E45	10	26.0	4	(BP)					
9675		HOLL	10	22	1545	S13	E46	10	26.1		B	CSO	40	3	3	2
9675		LEAR	10	23	0020	S13	E41	10	26.1		A	HRX	10	1	1	3
9675		VORO	10	23	0030	S13	E41	10	26.1			HSX	31	1		2
9675		SVTO	10	23	0718	S12	E37	10	26.1		A	HSX	30	1	1	3
9675		KAND	10	23	0800	S13	E37	10	26.1			HS		1	1	4
9675		RAMY	10	23	1223	S12	E35	10	26.1		A	HSX	10	1	1	4
9675	30801	MWIL	10	23	1445	S12	E32	10	26.0	4	(BP)					
9675		HOLL	10	23	1450	S12	E32	10	26.0		B	CSO	20	2	3	4
9675		LEAR	10	24	0005	S13	E27	10	26.0		A	HSX	20	1	1	3
9675		VORO	10	24	0031	S12	E28	10	26.1			AXX	18	1		2
9675		SVTO	10	24	0926	S13	E23	10	26.1		A	HSX	10	1	1	3
9675		KAND	10	24	1005	S13	E22	10	26.1			HR		1	1	2
9675		RAMY	10	24	1305	S12	E21	10	26.1		B	CSO	20	2	2	3
9675	30801	MWIL	10	24	1445	S12	E19	10	26.0	5	(BG)					
9675		HOLL	10	24	1530	S13	E19	10	26.1		B	CSO	20	2	3	3
9675		VORO	10	24	2229	S12	E16	10	26.1			HAX	37	1		2
9675		LEAR	10	25	0015	S12	E14	10	26.1		A	HSX	10	1	1	2
9675		KAND	10	25	0710	S12	E11	10	26.1			CSO		2	2	4
9675		RAMY	10	25	1217	S12	E08	10	26.1		B	CSO	20	3	4	3
9675	30801	MWIL	10	25	1700	S12	E04	10	26.0	4	(AP)					
9675		VORO	10	25	2235	S12	E02	10	26.1			AXX	9	1		3
9675		LEAR	10	26	0100	S12	E01	10	26.1		A	HSX	10	1	1	2
9675		KAND	10	26	0630	S12	W02	10	26.1			AX		2	1	4
9675		RAMY	10	26	1250	S12	W07	10	26.0		A	AXX		2	1	4
9675	30801	MWIL	10	26	1500	S12	W07	10	26.1	3	(AP)					
9675		HOLL	10	26	1517	S12	W07	10	26.1		A	AXX	10	1	1	3

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9676		VORO	10	19	2246	N15	E79	10	25.9			HAX	39	1		2
9676		KAND	10	20	0813	N14	E80	10	26.4			CSO		3	4	4
9676		SVTO	10	20	0935	N14	E76	10	26.1		A	HSX	50	1	1	2
9676		RAMY	10	20	1200	N12	E77	10	26.3		A	HSX	60	1	2	3
9676		HOLL	10	20	1438	N14	E75	10	26.3		B	CAO	110	2	2	2
9676	30802	MWIL	10	20	1445	N14	E75	10	26.3	5	(AP)					
9676		VORO	10	20	2320	N15	E69	10	26.2			HAX	120	2		3
9676		LEAR	10	21	0015	N13	E68	10	26.1		B	DSO	90	2	3	1
9676		KAND	10	21	0640	N13	E67	10	26.3			HS		2	3	3
9676		RAMY	10	21	1217	N17	E64	10	26.4		B	DSO	100	5	7	4
9676		HOLL	10	21	1432	N16	E64	10	26.4		B	CSO	70	5	7	4
9676		KAND	10	22	0740	N14	E52	10	26.2			HS		3	3	3
9676		SVTO	10	22	0748	N15	E53	10	26.3		B	CSO	30	2	3	3
9676		RAMY	10	22	1208	N14	E51	10	26.3		B	CSO	90	2	3	4
9676	30802	MWIL	10	22	1445	N15	E48	10	26.2	5	(AP)					
9676		HOLL	10	22	1545	N15	E49	10	26.4		B	CSO	60	3	3	2
9676		LEAR	10	23	0020	N14	E43	10	26.3		A	HSX	60	1	1	3
9676		VORO	10	23	0030	N15	E43	10	26.3			HSX	97	1		2
9676		SVTO	10	23	0718	N16	E38	10	26.2		A	HSX	70	1	2	3
9676		KAND	10	23	0800	N14	E39	10	26.3			HS		1	2	4
9676		RAMY	10	23	1223	N13	E38	10	26.4		B	CSO	40	3	5	4
9676	30802	MWIL	10	23	1445	N15	E35	10	26.3	5	(AP)					
9676		HOLL	10	23	1450	N15	E35	10	26.3		A	HAX	50	1	2	4
9676		LEAR	10	24	0005	N15	E30	10	26.3		A	HSX	50	1	2	3
9676		VORO	10	24	0031	N15	E30	10	26.3			HSX	78	1		2
9676		SVTO	10	24	0926	N15	E25	10	26.3		A	HSX	40	2	2	3
9676		KAND	10	24	1005	N14	E25	10	26.3			HA		2	2	2
9676		RAMY	10	24	1305	N15	E23	10	26.3		A	HSX	60	2	2	3
9676	30802	MWIL	10	24	1445	N15	E22	10	26.3	5	(AP)					
9676		HOLL	10	24	1530	N19	E25	10	26.5		B	CAO	60	2	3	3
9676		VORO	10	24	2229	N15	E18	10	26.3			HSX	70	1		2
9676		LEAR	10	25	0015	N15	E17	10	26.3		A	HSX	40	1	1	2
9676		KAND	10	25	0710	N16	E14	10	26.4			HA		2	2	4
9676		RAMY	10	25	1217	N15	E10	10	26.3		A	HSX	40	2	2	3
9676	30802	MWIL	10	25	1700	N15	E08	10	26.3	4	(AP)					
9676		VORO	10	25	2235	N15	E07	10	26.5			HAX	71	2	3	3
9676		LEAR	10	26	0100	N15	E04	10	26.3		A	HAX	50	3	2	2
9676		KAND	10	26	0630	N15	E01	10	26.3			HA		2	2	4
9676		RAMY	10	26	1250	N15	W03	10	26.3		A	HSX	30	1	1	4
9676	30802	MWIL	10	26	1500	N15	W04	10	26.3	4	(AP)					
9676		HOLL	10	26	1517	N15	W04	10	26.3		A	HSX	40	1	2	3
9676		VORO	10	26	2332	N15	W09	10	26.3			HSX	51	1		3
9676		LEAR	10	27	0016	N15	W08	10	26.4		A	HSX	30	1	1	1
9676		SVTO	10	27	0705	N15	W13	10	26.3		A	HSX	30	1	1	2
9676		KAND	10	27	0925	N16	W14	10	26.3			HS		1	1	2
9676		RAMY	10	27	1210	N17	W14	10	26.4		B	CSO	30	2	3	4
9676		HOLL	10	27	1532	N16	W18	10	26.3		A	HAX	20	1	1	3
9676	30802	MWIL	10	27	2200	N15	W20	10	26.4	5	(AP)					
9676		LEAR	10	28	0445	N16	W25	10	26.3		A	HSX	30	1	1	1
9676		SVTO	10	28	0658	N15	W26	10	26.3		A	HSX	40	1	2	2
9676		RAMY	10	28	1219	N15	W29	10	26.3		A	HAX	20	1	1	4
9676	30802	MWIL	10	28	1500	N15	W30	10	26.3	5	(AP)					
9676		HOLL	10	28	1825	N16	W32	10	26.3		A	HSX	20	1	1	2
9676		VORO	10	28	2238	N15	W34	10	26.4			HSX	30	1		3
9676		LEAR	10	29	0015	N16	W35	10	26.3		A	HSX	30	1	1	3
9676		SVTO	10	29	0639	N15	W39	10	26.3		A	HSX	20	1	1	3
9676		KAND	10	29	0835	N16	W40	10	26.3			HS		1	1	3
9676		RAMY	10	29	1221	N14	W44	10	26.2		A	HAX	30	1	1	4
9676		HOLL	10	29	1600	N16	W44	10	26.3		A	HSX	30	1	1	3
9676	30802	MWIL	10	29	1845	N15	W45	10	26.4	5	AP					
9676		VORO	10	29	2253	N15	W47	10	26.4			HSX	21	1		3
9676		LEAR	10	30	0007	N16	W48	10	26.4		A	HSX	10	1	1	3
9676		SVTO	10	30	0745	N15	W53	10	26.3		A	HSX	20	1	1	3
9676		KAND	10	30	1030	N16	W54	10	26.3			AX		1	1	2
9676		RAMY	10	30	1235	N14	W57	10	26.2		A	HSX	20	2	1	3
9676		HOLL	10	30	1538	N17	W57	10	26.3		A	HAX	20	1	1	2
9676		VORO	10	30	2318	N16	W63	10	26.2			AXX	19	1		3
9676		LEAR	10	31	0010	N16	W61	10	26.4		A	HSX	10	1	1	3
9677		KAND	10	22	0740	N20	E55	10	26.5			BXO		3	6	3

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9677		SVTO	10	22	0748	N21	E56	10	26.6		A	AXX	20	2	2	3
9677		RAMY	10	22	1208	N20	E54	10	26.6		A	AXX	30	2	2	4
9677	30803	MWIL	10	22	1445	N20	E52	10	26.6	5	(BF)					
9677		HOLL	10	22	1545	N19	E52	10	26.6		B	DSO	30	2	3	2
9677		LEAR	10	23	0020	N20	E46	10	26.5		B	DRO	30	4	5	3
9677		VORO	10	23	0030	N21	E46	10	26.5			BXI	43	4	4	2
9677		SVTO	10	23	0718	N22	E41	10	26.4		B	CSO	30	6	6	3
9677		KAND	10	23	0800	N20	E41	10	26.5			CRO		6	5	4
9677		RAMY	10	23	1223	N21	E39	10	26.5		B	CRI	20	10	6	4
9677	30803	MWIL	10	23	1445	N21	E37	10	26.4	5	(B)					
9677		HOLL	10	23	1450	N21	E39	10	26.6		B	DAO	60	10	7	4
9677		LEAR	10	24	0005	N21	E33	10	26.5		B	DAO	50	10	7	3
9677		VORO	10	24	0031	N21	E32	10	26.5			CRI	33	4	5	2
9677		SVTO	10	24	0926	N21	E27	10	26.5		B	DAO	60	10	6	3
9677		KAND	10	24	1005	N21	E27	10	26.5			DAO		7	7	2
9677		RAMY	10	24	1305	N21	E26	10	26.5		B	DSO	20	14	8	3
9677	30803	MWIL	10	24	1445	N21	E24	10	26.4	4	(BG)					
9677		HOLL	10	24	1530	N23	E22	10	26.3		B	BXO	20	9	7	3
9677		VORO	10	24	2229	N22	E20	10	26.5			DAO	92	3	4	2
9677		LEAR	10	25	0015	N21	E19	10	26.5		B	DAO	40	7	8	2
9677		KAND	10	25	0710	N22	E15	10	26.4			CSO		9	8	4
9677		RAMY	10	25	1217	N21	E13	10	26.5		B	DAO	20	5	6	3
9677	30803	MWIL	10	25	1700	N22	E10	10	26.5	4	(B)					
9677		VORO	10	25	2235	N22	E07	10	26.5			BXO	24	5	5	3
9677		LEAR	10	26	0100	N21	E07	10	26.6		B	DSO	60	5	7	2
9677		KAND	10	26	0630	N21	E03	10	26.5			BXO		4	6	4
9677		RAMY	10	26	1250	N21	W02	10	26.4		B	DSO	20	7	6	4
9677	30803	MWIL	10	26	1500	N21	W02	10	26.5	4	(B)					
9677		HOLL	10	26	1517	N21	W02	10	26.5		B	CSO	20	9	8	3
9677		VORO	10	26	2332	N22	W10	10	26.2			AXX	2	1		3
9677		LEAR	10	27	0016	N22	W06	10	26.6		B	BXO	10	3	6	1
9677		SVTO	10	27	0705	N23	W12	10	26.4		B	BXO	10	5	8	2
9677		KAND	10	27	0925	N22	W08	10	26.8			AX		3	1	2
9677		RAMY	10	27	1210	N22	W13	10	26.5		B	CSO	10	4	6	4
9677		HOLL	10	27	1532	N23	W15	10	26.5		B	BXO	10	3	5	3
9677		RAMY	10	28	1219	N24	W30	10	26.2		A	AXX		3	1	4
9677	30803	MWIL	10	28	1500	N21	W28	10	26.5	3	(B)					
9677	30816	MWIL	10	28	1500	N24	W30	10	26.3	4	(AP)					
9677		LEAR	10	29	0015	N24	W36	10	26.2		A	AXX		2	1	3
9681		VORO	10	24	2229	S24	E19	10	26.4			HRX	39	2	1	2
9681		LEAR	10	25	0015	S24	E17	10	26.3		B	DSO	20	2	2	2
9681		KAND	10	25	0710	S24	E15	10	26.4			CSO		6	4	4
9681		RAMY	10	25	1217	S25	E11	10	26.4		B	DSO	50	9	4	3
9681	30808	MWIL	10	25	1700	S23	E08	10	26.3	4	(B)					
9681		VORO	10	25	2235	S24	E06	10	26.4			CAI	75	7	4	3
9681		LEAR	10	26	0100	S24	E05	10	26.4		B	DAI	120	11	5	2
9681		KAND	10	26	0630	S24	E02	10	26.4			DSO		7	5	4
9681		RAMY	10	26	1250	S24	W02	10	26.4		B	DAO	60	8	7	4
9681	30808	MWIL	10	26	1500	S23	W03	10	26.4	4	(B)					
9681		HOLL	10	26	1517	S24	W03	10	26.4		B	DAO	60	7	4	3
9681		VORO	10	26	2332	S24	W08	10	26.4			DSO	60	5	4	3
9681		LEAR	10	27	0016	S23	W09	10	26.3		B	DSO	50	5	5	1
9681		SVTO	10	27	0705	S23	W12	10	26.4		B	DAO	60	3	6	2
9681		KAND	10	27	0925	S22	W13	10	26.4			CAO		5	6	2
9681		RAMY	10	27	1210	S24	W16	10	26.3		B	DAO	40	7	6	4
9681		HOLL	10	27	1532	S23	W18	10	26.3		B	CSO	30	4	6	3
9681	30808	MWIL	10	27	2200	S22	W23	10	26.1	5	(AF)					
9681		LEAR	10	28	0445	S22	W26	10	26.2		A	HSX	50	1	1	1
9681		SVTO	10	28	0658	S23	W27	10	26.2		A	HSX	20	1	1	2
9681		RAMY	10	28	1219	S25	W31	10	26.1		B	CAO	20	4	6	4
9681	30808	MWIL	10	28	1500	S24	W30	10	26.3	5	(B)					
9681		HOLL	10	28	1825	S22	W35	10	26.1		A	HSX	30	1	2	2
9681		VORO	10	28	2238	S24	W37	10	26.1			HAX	46	1		3
9681		LEAR	10	29	0015	S22	W38	10	26.1		A	HSX	30	1	1	3
9681		SVTO	10	29	0639	S24	W41	10	26.1		A	HSX	30	1	2	3
9681		KAND	10	29	0835	S23	W43	10	26.0			HS		1	1	3
9681		RAMY	10	29	1221	S25	W46	10	25.9		A	HAX	30	1	2	4
9681		HOLL	10	29	1600	S21	W48	10	26.0		A	HAX	70	2	2	3

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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
9681	30808	MWIL	10	29	1845	S23	W48	10	26.1	5	(AF)					
9681		VORO	10	29	2253	S24	W51	10	26.0			AXX	15	1		3
9681		LEAR	10	30	0007	S21	W51	10	26.1		A	HSX	20	2	2	3
9681		SVTO	10	30	0745	S23	W57	10	25.9		A	HSX	20	2	2	3
9681		KAND	10	30	1030	S23	W58	10	26.0			HR		1	1	2
9681		RAMY	10	30	1235	S25	W60	10	25.9		A	AXX		1		3
9681		LEAR	10	31	0010	S22	W65	10	26.0		A	AXX		1		3
9681B		KAND	10	22	0740	S05	E59	10	26.7			AX		2	1	3
9681B	30804	MWIL	10	22	1445	S05	E55	10	26.7	4	(AF)					
9681B	30809	MWIL	10	25	1700	S08	E13	10	26.7	3	(AP)					
9681D	30812	MWIL	10	26	1500	N30	E01	10	26.7	3	(B)					
9681A		RAMY	10	28	1219	S19	W15	10	27.4		A	AXX		2	1	4
9678		KAND	10	22	0740	N08	E71	10	27.6			AX		1		3
9678	30805	MWIL	10	22	1445	N08	E65	10	27.5	4	(AF)					
9678		LEAR	10	23	0020	N06	E60	10	27.5		B	BXO	20	6	5	3
9678		VORO	10	23	0030	N07	E60	10	27.5			BXI	36	3	4	2
9678		SVTO	10	23	0718	N09	E56	10	27.5		B	DAO	70	8	7	3
9678		KAND	10	23	0800	N07	E57	10	27.6			BXO		6	7	4
9678		RAMY	10	23	1223	N08	E55	10	27.6		B	CAI	30	15	7	4
9678	30805	MWIL	10	23	1445	N08	E52	10	27.5	5	(B)					
9678		HOLL	10	23	1450	N06	E52	10	27.5		B	DAO	90	9	7	4
9678		LEAR	10	24	0005	N06	E47	10	27.5		B	DAO	100	12	8	3
9678		VORO	10	24	0031	N07	E46	10	27.5			CAI	189	11	7	2
9678		SVTO	10	24	0926	N07	E40	10	27.4		B	DAO	170	22	9	3
9678		KAND	10	24	1005	N07	E41	10	27.5			DAI		23	10	2
9678		RAMY	10	24	1305	N08	E39	10	27.5		B	DAI	150	26	9	3
9678	30805	MWIL	10	24	1445	N08	E38	10	27.5	5	(BG)					
9678		HOLL	10	24	1530	N07	E39	10	27.6		B	DAI	130	27	10	3
9678		VORO	10	24	2229	N07	E34	10	27.5			DAI	580	10	8	2
9678		LEAR	10	25	0015	N07	E32	10	27.4		BG	DAI	220	27	10	2
9678		KAND	10	25	0710	N07	E30	10	27.5			EAI		32	11	4
9678		RAMY	10	25	1217	N08	E26	10	27.5		B	EAC	350	40	11	3
9678	30805	MWIL	10	25	1700	N08	E22	10	27.3	5	(D)					
9678		VORO	10	25	2235	N08	E20	10	27.4			DKI	835	31	9	3
9678		LEAR	10	26	0100	N08	E20	10	27.5		BGD	EKC	620	35	14	2
9678		KAND	10	26	0630	N07	E16	10	27.5			EKI		39	14	4
9678		RAMY	10	26	1250	N08	E12	10	27.4		BGD	EKC	700	55	12	4
9678	30805	MWIL	10	26	1500	N08	E11	10	27.4	6	(BG)					
9678		HOLL	10	26	1517	N08	E11	10	27.5		BGD	F X	660	44	17	3
9678		VORO	10	26	2332	N07	E08	10	27.6			DKI	915	34	13	3
9678		LEAR	10	27	0016	N07	E06	10	27.5		BGD	EKC	710	32	14	1
9678		SVTO	10	27	0705	N08	E03	10	27.5		BGD	FKC	670	26	16	2
9678		KAND	10	27	0925	N07	E01	10	27.5			EKI		25	15	2
9678		RAMY	10	27	1210	N07	W01	10	27.4		BG	EKC	600	49	15	4
9678		HOLL	10	27	1532	N07	W03	10	27.4		BG	EKC	640	47	15	3
9678	30805	MWIL	10	27	2200	N07	W06	10	27.5	5	(D)					
9678		LEAR	10	28	0445	N07	W10	10	27.4		BG	EKI	550	20	12	1
9678		SVTO	10	28	0658	N08	W12	10	27.4		BGD	EKI	800	18	15	2
9678		RAMY	10	28	1219	N07	W15	10	27.4		BG	EKI	550	46	12	4
9678	30805	MWIL	10	28	1500	N07	W15	10	27.5	5	(D)					
9678		HOLL	10	28	1825	N09	W18	10	27.4		BG	DAI	300	29	7	2
9678		VORO	10	28	2238	N07	W21	10	27.4			DKI	1034	22	9	3
9678		LEAR	10	29	0015	N07	W21	10	27.4		BGD	EKI	610	26	13	3
9678		SVTO	10	29	0639	N08	W25	10	27.4		B	EKO	530	19	15	3
9678		KAND	10	29	0835	N07	W26	10	27.4			EKO		16	13	3
9678		RAMY	10	29	1221	N07	W28	10	27.4		BG	EKO	520	29	13	4
9678		HOLL	10	29	1600	N09	W30	10	27.4		BG	EKI	610	36	11	3
9678	30805	MWIL	10	29	1845	N07	W32	10	27.4	5	D *					
9678		VORO	10	29	2253	N06	W34	10	27.4			DKI	848	17	10	3
9678		LEAR	10	30	0007	N08	W34	10	27.4		BGD	EKI	550	27	14	3
9678		SVTO	10	30	0745	N07	W39	10	27.4		B	EKO	530	16	11	3
9678		KAND	10	30	1030	N07	W40	10	27.4			EKO		15	12	2
9678		RAMY	10	30	1235	N06	W41	10	27.4		BG	EKI	480	26	12	3
9678		HOLL	10	30	1538	N08	W43	10	27.4		BG	EAI	350	13	13	2
9678		VORO	10	30	2318	N07	W48	10	27.4			DKI	637	10	9	3

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9678		LEAR	10	31	0010	N07	W46	10	27.6		BG	EKI	470	21	12	3
9678		KAND	10	31	0915	N08	W54	10	27.3			EKO		10	12	3
9678		SVTO	10	31	0942	N07	W55	10	27.3		B	EKO	490	11	12	3
9678		RAMY	10	31	1244	N05	W56	10	27.3		B	EKO	390	18	12	3
9678	30805	MWIL	10	31	1500	N07	W56	10	27.4	5	(B)					
9678		VORO	10	31	2316	N07	W61	10	27.4			DKI	493	7	9	3
9678		LEAR	11	01	0005	N07	W61	10	27.5		BG	EKI	340	17	12	2
9678		KAND	11	01	0705	N06	W68	10	27.3			EKO		12	13	4
9678		SVTO	11	01	0915	N07	W67	10	27.5		B	EKO	290	11	11	2
9678		RAMY	11	01	1234	N04	W70	10	27.4		B	EKO	260	13	12	1
9678	30805	MWIL	11	01	1500	N07	W69	10	27.5	5	(B)					
9678		HOLL	11	01	1614	N07	W73	10	27.3		B	CAO	260	8	11	2
9678		VORO	11	01	2318	N07	W73	10	27.6			DKI	440	4	7	3
9678		LEAR	11	02	0118	N08	W75	10	27.5		B	EAO	290	4	11	1
9678		SVTO	11	02	0710	N07	W80	10	27.4		B	EAO	90	4	15	3
9678		RAMY	11	02	1216	N06	W85	10	27.2		B	DAO	60	3	10	3
9678	30815	MWIL	11	02	1500	N07	W79	10	27.8	4	(AF)					
9679A		KAND	10	25	0710	S27	E37	10	28.2			AX		1	1	4
9679		RAMY	10	23	1223	S09	E65	10	28.4		B	BXO		3	1	4
9679	30806	MWIL	10	23	1445	S09	E65	10	28.5	4	(B)					
9679		HOLL	10	23	1450	S11	E62	10	28.3		A	AXX	10	2	2	4
9679		LEAR	10	24	0005	S11	E59	10	28.4		B	BXO	10	2	3	3
9679		VORO	10	24	0031	S10	E60	10	28.5			BXO	12	2	4	2
9679		SVTO	10	24	0926	S10	E53	10	28.4		B	BXO	10	4	4	3
9679		KAND	10	24	1005	S11	E56	10	28.6			BXO		4	6	2
9679		RAMY	10	24	1305	S10	E52	10	28.4		B	CAO	40	4	6	3
9679	30806	MWIL	10	24	1445	S10	E52	10	28.5	4	(B)					
9679		HOLL	10	24	1530	S12	E51	10	28.5		B	CAO	40	6	7	3
9679		VORO	10	24	2229	S11	E49	10	28.6			CAO	60	3	3	2
9679		LEAR	10	25	0015	S11	E47	10	28.5		B	DSO	30	5	5	2
9679		KAND	10	25	0710	S10	E44	10	28.6			DAO		6	5	4
9679		RAMY	10	25	1217	S11	E41	10	28.6		B	DSO	40	8	5	3
9679	30806	MWIL	10	25	1700	S10	E38	10	28.6	4	(B)					
9679		VORO	10	25	2235	S10	E35	10	28.6			CRI	45	5	6	3
9679		LEAR	10	26	0100	S11	E33	10	28.5		B	DSO	60	8	8	2
9679		KAND	10	26	0630	S09	E30	10	28.5			BXO		6	7	4
9679		RAMY	10	26	1250	S10	E27	10	28.6		B	DSO	20	8	7	4
9679	30806	MWIL	10	26	1500	S10	E25	10	28.5	4	(BF)					
9679		HOLL	10	26	1517	S10	E26	10	28.6		B	CAO	40	7	7	3
9679		VORO	10	26	2332	S10	E20	10	28.5			BXO	29	5	5	3
9679		LEAR	10	27	0016	S10	E18	10	28.4		B	DAO	40	7	5	1
9679		SVTO	10	27	0705	S09	E16	10	28.5		B	DSO	50	6	6	2
9679		KAND	10	27	0925	S05	E15	10	28.5			BXO		10	7	2
9679		RAMY	10	27	1210	S10	E13	10	28.5		B	DSO	10	12	6	4
9679		HOLL	10	27	1532	S11	E10	10	28.4		B	DAO	30	10	7	3
9679	30806	MWIL	10	27	2200	S10	E08	10	28.5	3	(B)					
9679		LEAR	10	28	0445	S09	E03	10	28.4		B	DAO	70	5	6	1
9679		SVTO	10	28	0658	S09	E02	10	28.4		B	DSO	70	6	8	2
9679		RAMY	10	28	1219	S09	W01	10	28.4		B	DAO	20	10	7	4
9679	30806	MWIL	10	28	1500	S10	W02	10	28.5	4	(B)					
9679		HOLL	10	28	1825	S09	W05	10	28.4		B	DAO	50	9	7	2
9679		VORO	10	28	2238	S09	W09	10	28.3			HAX	44	2		3
9679		LEAR	10	29	0015	S09	W07	10	28.5		B	DSO	40	11	7	3
9679		SVTO	10	29	0639	S09	W11	10	28.4		B	DSO	40	10	7	3
9679		KAND	10	29	0835	S09	W13	10	28.4			CRO		5	5	3
9679		RAMY	10	29	1221	S11	W15	10	28.4		B	CAO	10	12	8	4
9679		HOLL	10	29	1600	S09	W20	10	28.2		B	CAO	30	12	9	3
9679	30806	MWIL	10	29	1845	S09	W17	10	28.5	4	B					
9679		VORO	10	29	2253	S11	W19	10	28.5			AXX	21	2		3
9679		LEAR	10	30	0007	S09	W21	10	28.4		B	BXO	40	10	6	3
9679		SVTO	10	30	0745	S09	W26	10	28.4		B	BXO	20	7	5	3
9679		KAND	10	30	1030	S07	W28	10	28.3			AX		2	2	2
9679		RAMY	10	30	1235	S11	W28	10	28.4		B	CSO	20	5	6	3
9679		HOLL	10	30	1538	S09	W28	10	28.5		A	AXX	10	1	1	2
9679		LEAR	10	31	0010	S12	W31	10	28.7		B	BXO	20	6	6	3
9679	30806	MWIL	10	31	1500	S11	W42	10	28.5	4	(AF)					
9679		RAMY	11	02	1216	S09	W67	10	28.6		B	CSO	10	2	2	3

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9679	30806	MWIL	11	02	1500	S07	W74	10	28.2	4	(AP)					
9680		SVTO	10	23	0718	N22	E68	10	28.5		A	AXX		1		3
9680		KAND	10	23	0800	N20	E69	10	28.6			AX		1	1	4
9680		RAMY	10	23	1223	N22	E66	10	28.6		A	AXX	10	2	4	4
9680	30807	MWIL	10	23	1445	N22	E67	10	28.8	4	(B)					
9680		HOLL	10	23	1450	N22	E68	10	28.8		A	AXX	10	1	1	4
9680	30807	MWIL	10	25	1700	N22	E41	10	28.8	3	(AF)					
9680	30807	MWIL	10	26	1500	N22	E29	10	28.8	4	(AF)					
9680		RAMY	10	28	1219	N22	W01	10	28.4		B	BXO		2	8	4
9680	30807	MWIL	10	28	1500	N22	W03	10	28.4	4	(B)					
9680		HOLL	10	28	1825	N23	W05	10	28.4		B	BXO		2	8	2
9680		RAMY	10	29	1221	N22	W18	10	28.1		A	AXX		1		4
9680		HOLL	10	29	1600	N23	W15	10	28.5		B	BXO	10	4	9	3
9683	30810	MWIL	10	25	1700	N28	E43	10	29.1	4	(B)					
9683		VORO	10	25	2235	N29	E43	10	29.3			BXI	50	5	5	3
9683		LEAR	10	26	0100	N28	E41	10	29.2		B	DSO	40	6	9	2
9683		KAND	10	26	0630	N28	E39	10	29.3			BXO		8	7	4
9683		RAMY	10	26	1250	N29	E36	10	29.3		B	DSO	20	5	5	4
9683	30810	MWIL	10	26	1500	N28	E35	10	29.4	4	(BG)					
9683		HOLL	10	26	1517	N27	E34	10	29.3		B	CSO	40	6	8	3
9683		VORO	10	26	2332	N30	E31	10	29.4			BXO	14	2	4	3
9683		LEAR	10	27	0016	N29	E31	10	29.4		B	CAO	30	5	5	1
9683		SVTO	10	27	0705	N28	E23	10	29.1		B	DAO	30	4	4	2
9683		KAND	10	27	0925	N28	E23	10	29.2			BXO		5	4	2
9683		RAMY	10	27	1210	N28	E20	10	29.1		B	CSO	10	4	4	4
9683		HOLL	10	27	1532	N28	E18	10	29.0		B	BXO	10	6	5	3
9683	30810	MWIL	10	27	2200	N28	E15	10	29.1	3	(BP)					
9683		LEAR	10	28	0445	N28	E14	10	29.3		A	HSX	20	1	1	1
9683		SVTO	10	28	0658	N28	E12	10	29.2		A	HSX	10	1	1	2
9683		RAMY	10	28	1219	N28	E06	10	29.0		B	BXO	10	6	7	4
9683	30810	MWIL	10	28	1500	N28	E05	10	29.0	3	(BG)					
9683		HOLL	10	28	1825	N28	E03	10	29.0		B	CAO	20	4	7	2
9683		LEAR	10	29	0015	N28	E01	10	29.1		B	BXO	10	3	6	3
9683		SVTO	10	29	0639	N28	W03	10	29.0		B	BXO	10	2	2	3
9683		KAND	10	29	0835	N28	W06	10	28.9			BXO		3	3	3
9683		RAMY	10	29	1221	N27	W09	10	28.8		B	BXO	10	5	4	4
9683		HOLL	10	29	1600	N28	W10	10	28.9		B	CAO	20	7	4	3
9683		LEAR	10	30	0007	N28	W15	10	28.8		B	BXO	20	5	5	3
9683		SVTO	10	30	0745	N28	W20	10	28.7		B	BXO	10	3	3	3
9683		LEAR	10	31	0010	N25	W24	10	29.1		B	BXO	10	3	4	3
9683		SVTO	10	31	0942	N28	W26	10	29.4		B	DAO	20	2	3	3
9683		RAMY	10	31	1244	N28	W29	10	29.3		B	BXO	10	4	2	3
9683	30810	MWIL	10	31	1500	N28	W28	10	29.4	4	(AP)					
9683A		HOLL	10	29	1600	S15	E18	10	31.0		B	BXO	10	4	3	3
9683A		LEAR	10	30	0007	S12	E13	10	31.0		A	AXX		1		3
9682		VORO	10	24	2229	N11	E81	10	31.0			HAX	187	1		2
9682		LEAR	10	25	0015	N09	E89	10	31.7		B	DKO	150	3	5	2
9682		KAND	10	25	0710	N10	E82	10	31.5			DKO	-	3	10	4
9682		RAMY	10	25	1217	N09	E79	10	31.4		B	DKO	570	5	9	3
9682	30811	MWIL	10	25	1700	N11	E74	10	31.3	5	(BP)					
9682		VORO	10	25	2235	N11	E70	10	31.2			HKX	691	6		3
9682		LEAR	10	26	0100	N11	E71	10	31.4		B	DKO	780	7	11	2
9682		KAND	10	26	0630	N10	E68	10	31.4			CKI		10	10	4
9682		RAMY	10	26	1250	N11	E65	10	31.4		B	DKI	840	13	8	4
9682	30811	MWIL	10	26	1500	N11	E60	10	31.1	5	(B)					
9682		HOLL	10	26	1517	N11	E64	10	31.4		BD	DKI	500	12	9	3
9682		VORO	10	26	2332	N11	E56	10	31.2			HKX	1076	15		3
9682		LEAR	10	27	0016	N11	E55	10	31.1		BG	EKI	850	20	11	1
9682		SVTO	10	27	0705	N13	E54	10	31.4		BG	EKI	770	15	13	2
9682		KAND	10	27	0925	N11	E54	10	31.4			EKO		20	11	2
9682		RAMY	10	27	1210	N12	E51	10	31.3		BGD	DKI	1070	30	10	4
9682		HOLL	10	27	1532	N12	E48	10	31.3		BD	EKC	1040	35	12	3
9682	30811	MWIL	10	27	2200	N11	E45	10	31.3	5	(BD)					
9682		LEAR	10	28	0445	N11	E42	10	31.3		BGD	EKI	780	15	12	1
9682		SVTO	10	28	0658	N12	E41	10	31.4		BD	EKI	800	17	13	2

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

OCTOBER 2001

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
9682		RAMY	10	28	1219	N12	E37	10	31.3		BGD	FKC	850	44	21	4
9682	30811	MWIL	10	28	1500	N12	E36	10	31.3	5	(BG)					
9682		HOLL	10	28	1825	N11	E33	10	31.2		BGD	EKC	870	34	12	2
9682		VORO	10	28	2238	N12	E32	10	31.3			HKX	1428	21	6	3
9682		LEAR	10	29	0015	N11	E31	10	31.3		BGD	FKC	840	30	16	3
9682		SVTO	10	29	0639	N13	E26	10	31.2		BGD	EKC	1060	20	15	3
9682		KAND	10	29	0835	N12	E25	10	31.2			CKO		19	13	3
9682		RAMY	10	29	1221	N12	E24	10	31.3		BGD	EKC	880	49	13	4
9682		HOLL	10	29	1600	N11	E22	10	31.3		BGD	EKC	870	68	13	3
9682	30811	MWIL	10	29	1845	N12	E21	10	31.4	5	BG					
9682		VORO	10	29	2253	N12	E17	10	31.2			HKX	1553	24	10	3
9682		LEAR	10	30	0007	N12	E17	10	31.3		BGD	EKC	1070	56	13	3
9682		SVTO	10	30	0745	N12	E12	10	31.2		BGD	EKC	1350	60	15	3
9682		KAND	10	30	1030	N13	E10	10	31.2			EKC		43	13	2
9682		RAMY	10	30	1235	N12	E09	10	31.2		BGD	EKC	1080	66	13	3
9682		HOLL	10	30	1538	N12	E09	10	31.3		BGD	EKC	990	52	13	2
9682		VORO	10	30	2318	N12	E03	10	31.2			HKX	1137	25	10	3
9682		LEAR	10	31	0010	N11	E04	10	31.3		BGD	EKC	1230	69	14	3
9682		KAND	10	31	0915	N12	W01	10	31.3			EKC		48	14	3
9682		SVTO	10	31	0942	N12	W03	10	31.2		BD	EKC	1190	52	13	3
9682		RAMY	10	31	1244	N11	W04	10	31.2		BGD	EKC	1210	62	14	3
9682	30811	MWIL	10	31	1500	N11	W04	10	31.3	6	(BG)					
9682		VORO	10	31	2316	N11	W11	10	31.1			HKX	1152	20	10	3
9682		LEAR	11	01	0005	N11	W09	10	31.3		BGD	EKC	1220	66	14	2
9682		KAND	11	01	0705	N13	W14	10	31.2			EKI		41	11	4
9682		SVTO	11	01	0915	N10	W15	10	31.2		BD	EKI	800	29	13	2
9682		RAMY	11	01	1234	N12	W17	10	31.2		BGD	EKI	1150	44	12	1
9682	30811	MWIL	11	01	1500	N12	W17	10	31.3	5	(D)					
9682		HOLL	11	01	1614	N13	W18	10	31.3		BGD	EKC	820	40	14	2
9682		VORO	11	01	2318	N12	W24	10	31.2			HKX	1027	20	11	3
9682		LEAR	11	02	0118	N12	W23	10	31.3		BGD	EKC	890	17	13	1
9682		SVTO	11	02	0710	N11	W27	10	31.3		BD	EKI	1240	46	15	3
9682		RAMY	11	02	1216	N12	W31	10	31.2		BGD	EKC	1320	74	13	3
9682		HOLL	11	02	1428	N13	W33	10	31.1		BGD	EKC	920	42	13	3
9682	30811	MWIL	11	02	1500	N12	W32	10	31.2	5	(BG)					
9682		VORO	11	02	2344	N12	W37	10	31.2			DKI	647	10	11	3
9682		LEAR	11	03	0005	N13	W36	10	31.3		BGD	EKC	820	39	12	2
9682		SVTO	11	03	0730	N11	W41	10	31.2		BG	EAI	590	20	14	2
9682	30811	MWIL	11	03	1500	N12	W45	10	31.2	5	(BG)					
9682		HOLL	11	03	1520	N11	W48	10	31.0		BGD	EKC	900	51	12	3
9682		VORO	11	03	2329	N12	W50	10	31.2			DKI	697	15	11	3
9682		LEAR	11	04	0005	N13	W51	10	31.1		BGD	EKI	680	17	12	1
9682		SVTO	11	04	0910	N12	W56	10	31.2		BG	EKO	710	20	13	2
9682		RAMY	11	04	1331	N13	W59	10	31.1		BG	EKO	680	24	13	3
9682		HOLL	11	04	1820	N11	W60	10	31.2		BG	EKI	580	24	12	2
9682		LEAR	11	05	0115	N14	W63	10	31.3		BG	EKI	680	20	12	1
9682		SVTO	11	05	0711	N14	W64	10	31.5		BG	FKI	620	8	20	3
9682		RAMY	11	05	1331	N14	W69	10	31.3		BG	FKO	520	7	18	4
9682	30811	MWIL	11	05	1500	N12	W72	10	31.2	4	(BP)					
9682		HOLL	11	05	1626	N12	W74	10	31.1		BG	EKI	620	6	12	3
9682		VORO	11	05	2243	N11	W76	10	31.2			HKX	626	4		2
9682		LEAR	11	06	0150	N12	W78	10	31.2		A	HKX	510	3	3	1
9682		SVTO	11	06	0715	N13	W76	10	31.6		B	CKO	270	3	12	2
9682		RAMY	11	06	1322	N13	W83	10	31.3		B	DKO	150	6	8	2
9682	30811	MWIL	11	06	1530	N13	W85	10	31.2	4	BP					

Stations reporting:

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

OCTOBER 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	0727	0741	0828	1	1		1				No flare		
01	1405	1417	1447	1	5		1			2	1405	C7.5	9628
01	2339	2342	2430	2+	1					1	2340	M1.2	9632
02	0847	0857	0945	1	1		1				No flare		
02	0952	1007	1157	1	1		1				No flare		
02	1014	1017	1041	3	5	1	1	1		4	1012	M1.4	
02	1123	1130	1200	2-	3					3	1123	M1.0	9641
02	1204	1220	1300	2-	5		1			3	1201	C6.6	
02	1250	1257	1310	1-	3					4	1249	C4.0	
02	1540	1547	1617	2-	3					3	1538	C3.8	9634
02	1558	1604	1612	1-	1					1	No flare		
02	1650	1709	1745	2	1		1				1709	C4.7	
02	1710	1716	1836	3-	3					4	1709	C4.7	
03	0631	0641	0646	1-	1					1	0639	C6.1	9636
03	1231	1243	1312	1+	5		1			3	1231	C5.6	
03	1410	1413	1433	1	1						1407	C2.1	9645
03	1700	1705	1737	2	1					1	1648	C3.4	9634
03	1915	1923	2030	2+	1					1	1921	C2.6	9634
04	1200	1210	1227	1+	1					1	1153	C3.1	9634
04	1216	1229	1417	1+	5		1			1	1153	C3.1	9634
04	1423	1438	1451	1+	1					1	1413	C2.4	9644
04	1718	1735	1759	2	1					1	No flare		
05	0747	0811	0818	1+	1					1	0813	C2.5	
05	1125	1139	1237	1	1		1				1131	C1.9	9641
05	1145	1200	1222	2	1					1	1152	C2.0	
05	1527	1537	1545	1-	1					1	1526	C2.7	9636
06	1725	1730	1815	2+	1					1	1721	C3.6	9648
07	1109	1127	1249	2	5		1			1	1110	C1.9	
09	0726	0739	0823	2	5		1			1	0724	C7.0	9657
09	1049	1107	1116	2+	5	1	2	1		3	1046	M1.4	9653
09	1325	1350	1659	1	1		1				1403	C2.8	
09	1600	1602	1633D	1+	1					1	1606	C2.0	
10	0743	0811	0841	2	1		1				No flare		
10	0822	0826	0836	1-	3					2	0817	C3.4	9658
10	0926	0926	0946	1	1					1	0914	C1.7	9658
10	1021	1035	1116	2	1		1				No flare		
10	1047	1103	1129	2	3					2	1046	C2.1	9658
10	1254	1312	1506	1	1		1				No flare		
11	1116	1128	1256	1	1		1				1109	C2.6	
11	1741	1745	1805	1	1					1	1738	C2.1	9661
12	0910	0920	1005	1-	1					1	0918	C2.3	
12	1102	1123	1147	2	5		1			2	1053	C3.0	
12	1146	1203	1244	2	5		1			4	1145	C4.1	9661
14	1334	1337	1353	1	1					1	1334	C2.2	9661
14	1437	1441	1457D	1	1					1	No flare		
14	1453	1458	1511	1	3					4	1450	C3.0	
14	1524	1527	1536	1-	3					2	1522		9658
14	1547	1552	1608	1	3					4	1545	C2.6	9661
14	1651	1659	1745	2+	1					1	1652	C2.9	
14	1840	1845	1915	2	1					1	No flare		
14	2013	2020	2031	1-	3					2	2017	C4.0	
14	2039	2044	2146	2	3					2	2042	C8.0	
15	1626	1639	1702	2	1					1	1611	C3.7	9661
16	0926	0930	1155	2+	1					1	0923	C5.0	
16	1629	1635	1703	2-	5		1			2	1632	C2.8	

* = no flare patrol.

SUDDEN IONOSPHERIC DISTURBANCES

OCTOBER 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
16	1805	1816	1906	2	3					3	1809	C3.5	9661
16	1921	1925	2007	2-	3					4	1919	C6.0	9661
17	0716	0723	0737	1+	1					1	0714	C3.5	9661
17	1119	1126	1215	3	5	1	1	1		4	1116	M1.1	9658
17	1615	1620	1651	3-	3					2	1613	C3.9	9659
17	1716	1719	1755	2	1					1	1717	C2.5	9661
18	0832	0836	0904	1-	1					1	0831	C3.1	
18	0922	0932	1004	1	1					1	*		
18	1000	1006	1058	1	1		1				*		
18	1337	1345	1418	2	3					4	1346	C6.5	9658
18	1341	1354	1428	1+	5		1			2	1346	C6.5	9658
18	1415	1422	1445	1+	1					1	1405		9658
18	1605	1612	1648	2-	3					3	1606	C4.7	9661
18	1859	1905	1935	1+	3					5	1858	C8.5	9672
19	0642	0702	0719	2	1					1	0635	M1.3	
19	0938	0943	1024	3-	5	1	2	1		3	0935	M5.7	9658
19	1218	1229	1255	1+	5		1			5	1219	C7.8	
19	1338	1341	1358	1-	3					2	1336	C3.8	9658
19	1421	1436	1443	1	1					1	1436	C3.5	
19	1614	1624	1750	2+	5		1			7	1613	X1.6	9661
21	0755	0759	0814	1	1					1	0753	C2.7	
21	1121	1126	1211	3	5	1	2	1		5	1112	M2.5	9661
21	1302	1305	1325	1	1					1	1311	C2.5	9670
21	1423	1425	1451	1+	3					2	1425		9672
22	0953	0957	1033	1	5					2	0953	C4.3	
22	1000	1015	1025	1	1					1	No flare		
22	1140	1143	1151	2+	5	1	2	1		4	1136	C5.6	9672
22	1211	1217	1233	2	5	1	2	1		5	1205	C7.5	9669
22	1418	1432	1432	1	1		1				1416		9672
22	1430	1502	1604	2+	5		1			4	1427	M6.7	9672
22	1743	1751	1845	2+	1					1	1744	X1.2	9672
22	2057	2102	2145	2+	1					1	2057	C7.9	
23	1205	1211	1222	1-	5		1			2	1201	C4.4	
23	1227	1236	1257	2	5	1	2	1		2	1225	C6.7	9672
23	1505	1508	1600	2+	1					1	1505	C2.3	9672
24	0908	0933	1003	2+	1					1	No flare		
24	1410	1419	1445	1+	3					3	1405	C3.8	9669
24	1752	1803	1822D	1+	1					1	1754	C6.3	9678
25	1041	1049	1107	2-	5	1	2	1		2	1039	C6.3	
25	1214	1220	1235	1	1					1	1220	C4.3	9669
25	1447	1451	1507	3	5	1	2	1		8	1442	X1.3	9672
25	1915	1922	1957	2	3					2	1919	C7.5	9678
26	0917	0920	0930	2+	5		2	1		2	0915	C7.4	
26	1001	1007	1032	3-	5	1	2	1		3	0952	M1.6	
26	1433	1437	1500	2	5	1	2	1		6	1428	M2.0	9678
27	0807	0815	0911	1+	3		1			1	0805	C6.3	
27	0929	0932	0932U	1	1					1	0928	C4.3	
27	0958	1001	1009	1-	1					1	No flare		
27	1225	1228	1243	1-	1					1	1223	C3.6	
27	1309	1312	1332	2+	5	1	1	1		3	1306	C5.4	
27	1516	1525	1558	2-	3					2	1520	C7.2	
27	1630	1632	1715	2	1					1	1630	C3.8	9678
27	1842	1845	1909	1+	1					1	1841	C4.2	9672
28	0649	0659	0659U	2+	1					1	0648	C6.8	9682
28	0839	0848	0848U	2-	1					1	0838	C6.5	9682
28	0958	1002	1015	3-	5	1	1	1		2	0950	M1.5	

* = no flare patrol.

OCTOBER 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
28	1059	1105	1116	1-	1					1	1058	C6.3	
28	1646	1649	1728	2-	3					3	1645	M1.4	9682
29	0920	0929	1018	2-	1					1	0910		9682
29	1110	1113	1159	3-	5	1	1	1		5	1056	M3.6	9682
29	1334	1343	1420	1	1		1				1329	C6.7	9682
29	1926	1929	1946	1	1					1	1922	C5.0	
30	0834	0839	0839D	2+	5	1	2	1		1	0833		9682
30	1010	1018	1101	2-	5					2	1009	C6.6	9682
30	1111	1122	1242	2-	5		1			1	1109	C6.7	
30	1142	1147	1159	1-	1					1	1142	C4.4	
30	1216	1220	1233	1-	1					1	1216	C7.4	9682
30	1348	1357	1434	2	3					2	1351	C4.2	
30	1445	1453	1531	2	3					4	1447	C5.0	
30	1515	1517	1548	2	1					1	1516	C3.6	9682
30	1641	1655	1744	2	3					3	1647	C7.0	9682
30	1815	1845	1858D	2	1					1	1802	C9.2	
30	1858	1902	2022D	2+	1					1	1802	C9.2	
30	2022	2030	2130	2+	1					1	1802	C9.2	
31	0734	0738	0738U	1	1					1	0734	M3.2	9682
31	0805	0810	0810D	2+	5	1	2	1		3	0734	M3.2	9682
31	1043	1046	1104	3	5	1	2	1		3	1039	M1.5	
31	1557	1605	1647	2	3					6	1601	C5.6	9682
31	2059	2107	2132D	2	1					1	2102	M1.0	

* = no flare patrol.

OBSERVATORIES REPORTING FOR OCTOBER 2001

Bedford, Massachusetts, USA	SES	Panska Ves, Czech Republic	SES, SEA, SWF
Bern, Switzerland	SES	Parma, Ohio, USA	SES
Brookline, Massachusetts, USA	SES	Sofia, Bulgaria	SES
Houston, Texas, USA	SES	Sussex, United Kingdom	SES
Isola del Gran Sasso, Italy	SES	Torrington, Connecticut, USA	SES
Marlboro, Massachusetts, USA	SES	Udine City, Italy	SES
Milan, Italy	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

OCTOBER 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			IZMI	0055.4	0556.0	III	G	2	25X	65	
	0000	0755	CULG	0109.0	0109.0	III	B	1	80	300	
			CULG	0128.0	0154.0	III	N	1	57X	90	
			LEAR	0133.0	0544.0	III	N	1	25	155	
	0000	0822	HIRA	0148.0	0148.5	III	B	1	50	160	
			LEAR	0219.0	0219.0	III		2	25	180	
			HIRA	0219.5	0220.0	III	B	2	30	280	
			CULG	0220.0	0220.0	III	B	2	57X	260	
			CULG	0320.0	0320.0	III	G	1	57X	260	
			HIRA	0320.0	0321.0	III	B	2	50	260	
			CULG	0451.0	0529.0	III	N	1	57X	160	
			SVTO	0504.0	0824.0	III	N	1	25	180	
			HIRA	0507.0	0507.5	III	B	1	30	190	
			HIRA	0510.0	0510.5	III	B	1	50	130	
			HIRA	0520.0	0525.0	III	G	1	50	310	
			CULG	0522.0	0525.0	III	G	2	57X	220	
			CULG	0529.0	0755.0D	III	S,C	3	57X	750	
			LEAR	0545.0	1005.0	CONT		1	25	180	
			SVTO	0547.0	1008.0	CONT		2	25	180	
	0526	1610	POTS	0550 E	0945	I	S,C,DC	2	40X	600	
	0552	1200	IZMI	0552.0E	0835.0	I	S,C	2	45	270X	
			IZMI	0553.9	0640.0U	III	S	2	25X	160	
			IZMI	0604.0	0605.5	I	GG,DC	2	165	190	
			IZMI	0609.0U	0645.0U	CONT		2	25X	160	
			IZMI	0613.6	0614.1	III	G	3	30	115	
	0612	1530	ONDR	0654.3	0711.4	DCIM	GG	2	800X	1550	
			CULG	0710.0	0712.0	III	G	1	600	1200	
			IZMI	0728.0U	0736.0	CONT		2	45	90	
			IZMI	0748.6	0750.8	III	GG	2	25X	270X	
			IZMI	0807.4	0821.0	III	N,C	2	25X	270X	
			IZMI	0835.0U	0950.0	I	N	1	90	160	
			SVTO	0916.0	0918.0	III		2	25	159	
			IZMI	0916.3	0918.1	III	GG	2	25X	270X	
			POTS	0916.5	0918.1	III	G	2	40X	325	
			IZMI	0917.4	0918.3	V	G	2	25X	120	
			IZMI	1030.8	1031.1	III	G	2	1115	240	
			POTS	1031.0	1031.1	III	B	2	60	225	
			POTS	1118	1545	I	S	1	200U	350	
			IZMI	1121.0U	1200.0D	I	N	2	215	270X	
			IZMI	1157.8	1158.0	III	B,HARM	2	60	270X	
			IZMI	1159.0	1159.4	III	GG	2	115	250	
			PALE	1645.0	1645.0	III		1	36	71	
			SGMR	1645.0	1645.0	III		1	30	50	
	2000	2400	CULG	2043.0	2043.0	III	B	1	90	180	
			CULG	2102.0	2149.0	III	N	1	57X	180	
			HOLL	2102.0	2148.0	III	N	1	25	155	
	2032	2400	HIRA	2102.5	2103.5	III	G	1	80	170	
			PALE	2103.0	0159.0	III	N	1	25	161	
			HIRA	2113.5	2114.0	III	B	1	60	180	
			CULG	2126.0	2126.0	III	B	1	57X	90	
			LEAR	2241.0	2320.0	III	N	1	25	153	
			HIRA	2245.5	2246.0	III	B	1	80	130	
			CULG	2246.0	2246.0	III	B	1	90	130	
			CULG	2257.0	2257.0	III	B	1	57X	80	
02			LEAR	0225.0	0225.0	III		1	25	153	
			LEAR	0517.0	0523.0	V		2	25	180	
			SVTO	0517.0	0518.0	V		1	25U	82U	
	0000	0755	CULG	0517.0	0519.0	III	G	2	57X	140	
	0000	0821	HIRA	0517.5	0519.0	III	G	2	25X	140	
			HIRA	0523.0	0523.5	III	B	1	90	420	
	0526	1610	POTS	0543.8	0545.8	III	G	1	40X	400	
			CULG	0544.0	0546.0	III	G	3	57X	370	
			HIRA	0544.0	0546.0	III	G	3	25X	400	
			LEAR	0544.0	0546.0	III		2	25	180	
			SVTO	0544.0	0544.0	V		2	25	180	
			POTS	0609	1605	I	S,W	1	200U	300	
	0602	1200	IZMI	0610.0U	0700.0	I	S	1	110	270X	
			LEAR	0626.0	0721.0	III	N	1	40	180	

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

OCTOBER 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	0626.5	0628.4	III	G	1	45	170	
			CULG	0627.0	0628.0	III	G	1	57X	90	
			POTS	0628.2	0628.3	III	B	1	40X	80	
			POTS	0642.9	0643.0	III	B	2	110U	160	
			CULG	0643.0	0643.0	III	B	1	60	160	
			IZMI	0643.0	0643.1	III	B	2	90	190	
			POTS	0801.9	0802.0	III	B	1	200U	275	
			IZMI	0802.0	0802.1	III	B	2	190	270X	
			LEAR	0824.0	0825.0	III		1	89	158	
			IZMI	0824.7	0826.0	III	GG	2	90	260	
			LEAR	0927.0	0928.0	III		1	44	163	
			SVTO	0927.0	0928.0	III		1	25U	144U	
			POTS	0927.6	0927.9	III	G	2	40X	140	
			IZMI	0927.7	0928.2	III	G	2	30	160	
			IZMI	0955.8	0956.0	III	G	2	90	140	
			IZMI	1020.4	1020.8	III	G	2	50	180	
			SVTO	1028.0	1029.0	III		1	74U	180U	
			IZMI	1028.6	1030.1	III	G	2	80	210	
			POTS	1029.3	1029.8	III	G	2	110U	225	
			SGMR	1124.0	1125.0	III		1	36	56	
			SVTO	1124.0	1130.0	III		2	25	180	
			IZMI	1124.4	1126.1	III	GG,C	2	25X	270X	
			POTS	1124.4	1128.1	III	G,C	2	110U	375	
			ONDR	1125.1	1129.1	DCIM	G	1	800X	2000X	
			IZMI	1126.4	1130.4	III	GG	2	40	270X	
			SGMR	1200.0	1203.0	III		2	30	63	
			SVTO	1200.0	1203.0	III		2	25	180	
			ONDR	1200.5	1204.3	DCIM	G	2	978	2000X	
	0614	1528	ONDR	1200.5	1202.4	DCIM	G	2	2000X	4500X	
			POTS	1200.7	1202.3	III	G	2	110U	250	
			POTS	1411.8	1412.2	III	G	2	110U	160	
			SVTO	1512.0	1512.0	III		1	25	83	
			SVTO	1545.0	1545.0	III		1	113	180	
			POTS	1545.4	1545.9	III	G	1	145	310	
	2033	2400	HIRA	2225.5	2226.0	III	B	1	50	130	
	2000	2400	CULG	2226.0	2226.0	III	B	1	57X	150	
			LEAR	2346.0	2355.0	III		1	25	84	
			CULG	2354.0	2355.0	III	G	1	57X	80	
			HIRA	2354.5	2355.0	III	B	1	30	70	
03			LEAR	0045.0	0050.0	III		1	37	145	
	0000	0755	CULG	0046.0	0048.0	III	G	1	57X	150	
	0000	0819	HIRA	0046.0	0047.0	III	G	1	50	200	
			CULG	0050.0	0157.0	III	N	1	57X	180	
			LEAR	0100.0	0118.0	III	N	1	74	180	
			LEAR	0119.0	1005.0	CONT		1	73	180	
			CULG	0126.0	0755.0D	I	S,C	1	60	170	
			CULG	0332.0	0458.0	III	S	1	57X	100	
	0525	1610	POTS	0525 E	1610 U	I	S,W	1	200U	400	
			SVTO	0530.0	0731.0	CONT		1	75	180	
	0559	1200	IZMI	0558.0E	1200.0D	I	N	2	80	270	
	0616	1526	ONDR								
			HIRA	0640.5	0646.0	III	G	2	30	500	
			POTS	0640.7	0645 U	IV		2	40X	500	
			IZMI	0640.9	0643.3	III	GG,C,FS	2	25X	270X	
			CULG	0641.0	0643.0	III	G	3	57X	500	
			LEAR	0641.0	0646.0	III		3	25	180	
			IZMI	0641.3	0643.3	V	G,HARM	2	25X	190	
			IZMI	0642.6	0652.4	II	HARM	2	85	230	
			IZMI	0644.2	0646.0	III	GG	2	45	250	
			CULG	0645.0	0646.0	III	G	1	57X	180	
			CULG	0647.0	0652.0	II	FN	1	70	120	ESS 550
			LEAR	0647.0	0651.0	II		1	75	118	ESS 0558
			POTS	0647.3	0652	II	F,H	2	40X	225	
			HIRA	0647.5	0650.5	II		1	70	110	
			HIRA	0647.5	0650.5	II		1	130	210	
			CULG	0648.0	0652.0	II	SH	1	130	220	
			IZMI	0945.1	0946.5	III	G	1	45	260	
			POTS	1020.5	1021.1	III	G	2	110U	400	

SOLAR RADIO EMISSION
Spectral Observations

OCTOBER 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
03			IZMI	1020.7	1021.6	III	GG	2	110	270X	
			IZMI	1025.4	1025.5	III	B	2	120	270X	
			IZMI	1040.7	1041.1	III	G	1	55	90	
			POTS	1153.7	1154.7	DCIM		1	200U	320	
			IZMI	1153.8	1154.8	III	G	2	95	270X	
			POTS	1401.1	1409.1	DCIM		2	130	375	
			POTS	1412	1416.5	II	F,H	2	110U	250	
			HOLL	1842.0	1844.0	III		1	25	180	
			PALE	1842.0	1844.0	III		1	25	180	
			SGMR	1842.0	1845.0	III		1	30	80	
	2000	2400	CULG	2003.0	2003.0	III	B	1	60	90	
			CULG	2018.0	2019.0	III	G	1	57X	180	
			PALE	2118.0	2118.0	III		1	25	60	
	2034	2400	HIRA	2118.0	2118.5	III	B	1	60	620	
			CULG	2207.0	2207.0	III	B	1	57X	75	
			LEAR	2235.0	2236.0	III		1	75	180	
			HIRA	2235.5	2236.0	III	B	1	80	340	
			CULG	2236.0	2236.0	III	B	1	70	180	
04			LEAR	0024.0	0027.0	III		1	25	180	
	0000	0755	CULG	0026.0	0028.0	III	G	1	57X	180	
	0000	0818	HIRA	0026.0	0028.0	III	G	1	30	210	
			HIRA	0054.0	0058.0	III	G	1	60	300	
			LEAR	0054.0	0058.0	III		1	56	180	
			CULG	0055.0	0058.0	III	G	1	57X	200	
			CULG	0316.0	0326.0	III	G	1	57X	90	
			LEAR	0316.0	0317.0	III		1	39	155	
			HIRA	0354.5	0355.0	III	B	1	170	310	
			CULG	0411.0	0413.0	III	G	1	57X	180	
			LEAR	0601.0	0605.0	III		3	25	180	
			SVTO	0601.0	0604.0	III		2	25	180	
			HIRA	0601.5	0603.0	III	G	2	25X	310	
	0525	1610	POTS	0601.7	0602.1	III	G	1	40X	325	
	0600	1200	IZMI	0601.7	0602.6	III	GG,U	2	25X	270X	
			CULG	0602.0	0605.0	III	G	2	57X	200	
			IZMI	0602.8	0603.3	III	G	2	45	260	
			IZMI	0604.7	0604.9	III	B	1	45	120	
	0617	1523	ONDR								
			SVTO	0626.0	0700.0	III	N	1	25	139	
			POTS	0630	0718	III	N	1	40X	90U	
			LEAR	0630.0	0800.0	III	N	2	25	180	
			IZMI	0630.8	0633.2	III	GG	1	30	150	
			CULG	0631.0	0635.0	III	G	1	57X	150	
			HIRA	0631.5	0632.0	III	B	1	60	140	
			IZMI	0642.7	0642.8	III	B	1	45	75	
			CULG	0643.0	0643.0	III	B	1	57X	80	
			LEAR	0927.0	0928.0	III		1	77	180	
			IZMI	0927.5	0927.9	III	GG	1	45	270	
			IZMI	1047.5	1048.5	III	GG	2	35	270X	
			POTS	1047.5	1048.5	III	GG	1	40X	400	
			POTS	1049.4	1049.8	III	G	1	200U	325	
			IZMI	1049.5	1049.8	III	G	1	200	270X	
			IZMI	1106.2	1106.9	III	G	2	65	270	
			IZMI	1108.2	1108.5	III	G	1	195	250	
			POTS	1214.4	1215.1	III	G	2	130	300	
			HOLL	1417.0	1419.0	III		1	25	167	
			POTS	1417.0	1419.1	III	G	2	40X	350	
			SGMR	1417.0	1419.0	III		1	30	50	
			SVTO	1417.0	1419.0	III		1	25	180	
	2000	2400	CULG	2017.0	2019.0	III	G	1	57X	180	
	2034	2400	HIRA	2350.5	2351.0	III	B	1	100	130	
			CULG	2351.0	2351.0	III	B	1	100	160	
05	0000	0816	HIRA								
	0000	0755	CULG	0359.0	0412.0	III	N	1	57X	100	
	0526	1610	POTS	0600 E	1610 U	I	S	1	110U	400	
	0619	1521	ONDR								
			LEAR	0657.0	0657.0	III		1	25	99	
			POTS	0657.0	0657.3	III	B	1	40X	70	

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

OCTOBER 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
05			SVTO	0657.0	0657.0	III		1	36	75	
			IZMI	0657.1	0657.4	III	B	1	45	95	
			CULG	0658.0	0658.0	III	B	1	57X	90	
	0550	1200	IZMI	0813.0	1018.0U	I	N	1	180	270X	
			POTS	0830.5	0830.6	III	B	1	350	425	
			LEAR	0846.0	0847.0	III		1	25	161	
			IZMI	0846.2	0846.6	III	G	1	40	155	
			SVTO	1014.0	1055.0	III	N	1	25	180	
			IZMI	1020.0	1200.0	I	S,C,DC	2	40	270X	
			IZMI	1025.3	1025.6	III	G	2	25X	120	
			POTS	1027.0	1027.4	UNCLF		2	110U	225	
			IZMI	1027.5	1028.3	III	GG	2	40	210	
			SVTO	1115.0	1341.0	CONT		1	35	180	
			IZMI	1132.8	1133.4	III	G	2	140	270X	
	2000	2400	CULG	2018.0	2022.0	III	G	1	57X	160	
			CULG	2106.0	2115.0	CONT		1	400U	700	
			CULG	2110.0	2118.0	III	GG	1	57X	160	
			HOLL	2110.0	2115.0	III		1	25	112	
			PALE	2112.0	0000.0	III	N	1	25	95	
	2035	2400	HIRA	2112.5	2114.0	III	G	1	30	120	
			CULG	2117.0	2123.0	II	UE	1	57X	90	
			CULG	2119.0	2400.0D	III	S,C	1	57X	180	
			HOLL	2125.0	0025.0	CONT		1	25U	86U	
			LEAR	2218.0	0354.0	CONT		1	25	180	
06	0000	0755	CULG	0000.0E	0045.0	III	S,C	1	57X	150	
			CULG	0046.0	0047.0	III	G	1	57X	180	
			LEAR	0046.0	0047.0	III		2	25	180	
	0000	0815	HIRA	0046.0	0047.0	III	B	2	50	300	
			CULG	0108.0	0108.0	III	B	1	57X	100	
			CULG	0225.0	0225.0	III	B	1	57X	150	
			CULG	0252.0	0252.0	III	B	1	57X	140	
			CULG	0457.0	0716.0	III	N	1	57X	180	
			LEAR	0457.0	0457.0	III		1	71	158	
			LEAR	0520.0	0522.0	V		3	25	180	
			SVTO	0520.0	0522.0	III		1	25	180	
			HIRA	0520.5	0522.5	III	G	3	25X	310	
			CULG	0521.0	0523.0	III	G	3	57X	470	
	0526	1600	POTS	0530	1535	I	S,C,DC	2	110U	400	
			LEAR	0533.0	0533.0	III		1	25	61	
			SVTO	0533.0	0533.0	III		1	37	79	
	0600	1200	IZMI	0600.0E	0840.0	I	S,C,DC	2	180U	270X	
	0621	1519	ONDR								
			IZMI	0840.0U	1200.0	I	S,C,DC	2	90	270X	
			LEAR	0914.0	1006.0	CONT		1	117	180	
			SVTO	0930.0	1538.0	CONT		1	75	180	
			IZMI	1038.9	1039.1	III	B	2	40	100	
			POTS	1038.9	1039.0	III	B	1	40X	90U	
			IZMI	1158.8	1159.0	III	B	1	45	100	
			HOLL	1722.0	1726.0	III		1	25	85	
			SGMR	1724.0	1727.0	V		2	30	50	
	2000	2400	CULG	2008.0	2010.0	III	G	1	57X	100	
	2036	2400	HIRA								
07	0000	0320	HIRA								
	0000	0755	CULG	0022.0	0022.0	III	B	1	57X	80	
			CULG	0104.0	0105.0	III	G	1	57X	90	
			LEAR	0110.0	0111.0	III		1	25	114	
			CULG	0111.0	0111.0	III	B	1	57X	100	
	0623	1517	ONDR								
			LEAR	0630.0	0633.0	III		1	43	157	
	0602	1200	IZMI	0630.6	0630.8	III	G	1	60	160	
			CULG	0631.0	0637.0	III	G	1	57X	180	
			IZMI	0633.4	0633.6	III	B	2	40	210	
			LEAR	0748.0	0751.0	III		1	40	167	
			IZMI	0748.1	0748.4	III	G	1	45	155	
	0526	1600	POTS	0748.1	0748.3	III	B	1	40X	80	
			IZMI	0939.4	0939.5	III	G	1	110	175	
			IZMI	1051.7	1051.7	III	B	1	110	185	

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07			SVTO	1104.0	1105.0	III		1	35	162	
			IZMI	1104.3	1105.2	III	G	2	40	250	
			POTS	1104.3	1105.0	III	G	2	40X	160	
			IZMI	1106.3	1106.4	III	B	1	95	150	
			IZMI	1143.4	1143.7	III	G	1	65	145	
			HOLL	1502.0	1522.0	III	N	1	25	85	
			SVTO	1502.0	1522.0	III	N	1	43	124	
			HOLL	1637.0	1638.0	III		1	40	180	
	2000	2400	CULG	2045.0	2045.0	III	B	1	57X	170	
08			LEAR	0147.0	0147.0	III		1	92	180	
	0000	0755	CULG	0147.0	0147.0	III	B	1	100	180	
			LEAR	0254.0	0259.0	III		1	25	160	
			CULG	0255.0	0259.0	III	G	1	57X	160	
			CULG	0524.0	0531.0	III	GG	3	57X	250	
			LEAR	0524.0	0552.0	III	N	2	25	180	
			SVTO	0524.0	0549.0	III	N	2	25	180	
			CULG	0532.0	0537.0	III	GG	2	57X	200	
	0535	1600	POTS	0535.4	0535.7	III	G	1	40X	80	
			CULG	0537.0	0554.0	III	GG	1	57X	120	
			LEAR	0704.0	0704.0	III		1	42	144	
			SVTO	0704.0	0704.0	III		1	25	136	
			POTS	0704.1	0704.6	III	G	1	40X	90U	
	0642	1200	IZMI	0704.1	0704.6	III	G	1	45	150	
			CULG	0705.0	0705.0	III	B	1	57X	120	
			IZMI	0756.4	0756.8	III	B	1	45	90	
			LEAR	0810.0	0813.0	III		1	25	180	
			IZMI	0810.1	0810.2	III	B	2	115	175	
			POTS	0810.1	0813.6	III	G	1	40X	90U	
			IZMI	0810.3	0810.5	UNCLF		1	45	70	
	0624	1514	ONDR	0811.5	0821.2	DCIM	G	1	2000X	4500X	
			SVTO	0812.0	0813.0	III		1	25	80	
			IZMI	0812.3	0814.0	III	GG,FS	2	25X	230	
			IZMI	0814.2	0819.5	III	N	2	45	190X	
			LEAR	0815.0	0830.0	II		1	38	85	ESS 0501
			SVTO	0815.0	0831.0	II		1	25	81	ESS 0581
			IZMI	0815.1	0823.4	II	HARM	2	30	75	
			POTS	0815.8U	0836	II	F,H	1	40X	80	
			IZMI	0820.0U	0829.2	I	S	2	30	75	
			IZMI	1035.5	1038.7	III	GG	2	60	190	
			SVTO	1053.0	1053.0	III		1	25	82	
			POTS	1053.3	1053.5	III	B	1	40X	90U	
			IZMI	1053.4	1054.3	III	G	2	35	160	
	2038	2400	HIRA								
	2000	2400	CULG	2256.0	2256.0	III	B	1	57X	90	
09			LEAR	0026.0	0120.0	III	N	1	25	180	
	0000	0811	HIRA	0036.5	0039.0	III	G	1	25X	250	
	0000	0800	CULG	0037.0	0040.0	III	G	1	57X	200	
			CULG	0046.0	0046.0	III	B	1	57X	140	
			CULG	0104.0	0104.0	III	B	1	57X	140	
			CULG	0552.0	0555.0	III	G	1	57X	180	
			HIRA	0554.0	0554.5	III	B	1	40	160	
			CULG	0647.0	0647.0	III	B	1	57X	150	
	0600	1200	IZMI	0647.2	0649.1	III	G	1	45	155	
			IZMI	0729.0	0730.0	III	G	2	95	150	
			CULG	0730.0	0732.0	III	G	1	57X	150	
			IZMI	0730.9	0731.5	III	G	2	45	160	
			HIRA	0731.0	0736.0	III	G	1	50	230	
			LEAR	0731.0	0735.0	III		1	25	180	
	0535	1600	POTS	0731.3	0756	III	GG	2	40X	300	
			IZMI	0732.8	0734.0	III	G,C	2	45	270X	
			CULG	0734.0	0736.0	III	G	1	57X	180	
			SVTO	0734.0	0736.0	III		1	25	180	
			IZMI	0734.3	0735.8	III	G,C,FS	2	45	245	
			IZMI	0736.2	0748.4	II	HARM	2	30	210	
			POTS	0736.2	0800 U	II	SH,H	2	40X	170U	
			CULG	0737.0	0742.0	II	FN	2	57X	90	
			CULG	0737.0	0748.0	II	SH	2	57X	180	ESS 550

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09			HIRA	0737.0	0747.0	II		3	50	200	
			LEAR	0737.0	0745.0	II		1	29	180	ESS 0594
			SVTO	0737.0	0746.0	II		1	29	180	ESS 0585
			POTS	0737.4	0742.5U	II	F,H	1	40X	75	
			IZMI	0738.3	0739.2	III	G	1	160	270X	
			IZMI	0741.5	0741.6	III	B	2	180	195	
			CULG	0748.0	0756.0	III	G	1	57X	90	
			LEAR	0748.0	0800.0	III	N	2	25	180	
			SVTO	0748.0	0835.0	III	N	2	25	180	
			IZMI	0748.2	0748.3	III	B	2	30	75	
			IZMI	0748.9	0750.6	III	G,C	2	40	200	
			HIRA	0749.5	0756.5	III	G	2	40	300	
			IZMI	0750.9	0752.9	III	GG,C	2	40	230	
			IZMI	0752.1	0753.0	II	FS	1	70	95	
			IZMI	0754.2	0757.3	III	GG,C,FS	2	30	270X	
			LEAR	0816.0	0816.0	III		1	30	145	
			IZMI	0816.2	0817.0	III	G,C	2	30	250	
			POTS	0816.2	0816.9	III	G	2	40X	150	
			LEAR	0826.0	0835.0	III		1	25	145	
			POTS	0826.5	0828.0	III	G	2	40X	350	
			IZMI	0826.6	0827.0	III	G,C	2	25X	150	
			IZMI	0828.0	0828.2	III	B	2	40	270X	
			IZMI	0834.8	0835.1	I	G.C	2	25X	215	
			POTS	0834.8	0835.1	III	B	1	40X	80	
			POTS	0912.2	0912.9	III	G	1	40X	90U	
			IZMI	0912.3	0913.1	III	G	1	30	160	
			IZMI	0914.6	0915.4	III	G	1	45	90	
			SVTO	0927.0	0927.0	III		1	25	81	
			IZMI	0927.1	0927.5	III	G	1	30	145	
			IZMI	1037.4	1106.0U	I	N	1	90	270X	
			ONDR	1046.5	1120.5	DCIM	GG	2	800X	2000X	
			IZMI	1047.2	1050.4	III	G	1	30	210	
	0626	1512	ONDR	1047.2	1141.5	DCIM	GG	2	2000X	4500X	
			POTS	1052	1242	I	S,C,DC	2	110U	400	
			IZMI	1052.7	1102.8	II	HARM	2	25X	170	
			POTS	1053.5	1102.5	II	SH,H	2	110U	130	
			SVTO	1054.0	1102.0	II		2	25	180	ESS 0504
			POTS	1054.8	1059.5U	II	F,H	1	40X	80	
			SVTO	1103.0	1335.0	IV		2	25	180	
			IZMI	1106.0U	1200.0D	I	S,C	2	45U	270X	
			IZMI	1106.0U	1200.0D	III	N	2	45U	270X	
			IZMI	1116.1	1118.0	II		1	40	50	
			IZMI	1125.8	1127.2	I	GG,DC	2	45	270X	
			SGMR	1131.0	1135.0	II		1	30	60	ESS 0900
			IZMI	1146.2	1146.5	III	GG	2	100	270X	
			SVTO	1408.0	1419.0	III		1	25U	180U	
			SVTO	1408.0	1439.0	III	N	1	25U	180U	
			HOLL	1411.0	1743.0	III	N	1	25	169	
			SGMR	1411.0	1419.0	III		1	30	50	
			POTS	1419.5	1419.7	III	G	2	110U	145	
			SGMR	1543.0	1545.0	III		1	30	80	
			SVTO	1543.0	1544.0	III		1	25U	180U	
			HOLL	1814.0	1818.0	III		1	25	169	
			SGMR	1815.0	2057.0	III	N	3	30	80	
			HOLL	1859.0	2000.0	III	N	1	25	180	
			PALE	1859.0	2155.0	III	N	1	25	85	
			HOLL	1938.0	1939.0	III		1	25	180	
	2000	2400	CULG	2058.0	2117.0	III	N	1	57X	180	
			HOLL	2112.0	2116.0	III		1	25	151	
	2039	2400	HIRA	2112.5	2113.0	III	B	1	40	160	
			CULG	2113.0	2113.0	III	B	2	57X	160	
			SGMR	2115.0	2116.0	III		1	30	80	
			CULG	2116.0	2116.0	III	G	3	57X	180	
			HIRA	2116.0	2116.5	III	B	2	30	510	
			CULG	2156.0	2156.0	III	B	1	57X	180	
			CULG	2241.0	2241.0	III	G	1	57X	90	
			LEAR	2241.0	2241.0	III		1	25	146	
			PALE	2241.0	2241.0	III		1	25	52	
			CULG	2318.0	2325.0	III	G	1	57X	160	

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09			HIRA	2318.0	2325.0	III	G	1	25X	200	
			HOLL	2318.0	2325.0	III		1	25	134	
			LEAR	2318.0	2325.0	III		2	25	163	
			PALE	2318.0	2325.0	III		1	25	111	
			CULG	2348.0	2359.0	III	G	1	57X	90	
			HIRA	2358.0	2358.5	III	B	1	40	140	
			LEAR	2358.0	2358.0	III		1	25	97	
10			LEAR	0120.0	0315.0	III	N	1	25	180	
			PALE	0120.0	0316.0	III	N	1	25	148	
	0000	0800	CULG	0120.0	0126.0	III	G	1	57X	160	
	0000	0809	HIRA	0120.0	0121.0	III	G	2	25X	150	
			CULG	0124.0	0124.0	III	B	2	57X	180	
			HIRA	0124.0	0124.5	III	B	2	30	520	
			HIRA	0126.0	0126.5	III	B	1	30	200	
			CULG	0141.0	0141.0	III	B	1	57X	100	
			CULG	0146.0	0147.0	III	G	1	57X	180	
			HIRA	0146.0	0146.5	III	B	1	50	210	
			CULG	0208.0	0208.0	III	B	1	57X	90	
			CULG	0219.0	0220.0	III	G	1	57X	130	
			HIRA	0238.5	0239.0	III	B	1	25X	110	
			CULG	0239.0	0240.0	III	G	1	57X	90	
			CULG	0311.0	0316.0	III	G	1	57X	180	
			HIRA	0312.0	0316.5	III	G	2	25X	200	
			CULG	0316.0	0316.0	III	B	2	57X	180	
			LEAR	0316.0	0316.0	III		3	25	180	
			CULG	0350.0	0406.0	III	G	1	57X	180	
			LEAR	0350.0	0405.0	III	N	1	25	180	
			HIRA	0357.5	0358.0	III	B	1	40	200	
			HIRA	0446.0	0446.5	III	B	1	40	330	
			CULG	0456.0	0456.0	III	B	1	57X	450	
			LEAR	0456.0	0456.0	III		2	25	180	
			LEAR	0501.0	0505.0	III		3	25	180	
			CULG	0502.0	0507.0	III	G	2	57X	230	
			HIRA	0502.0	0505.0	III	G	2	25X	290	
			CULG	0552.0	0614.0	III	N	1	57X	180	
			LEAR	0552.0	0717.0	III	N	1	25	180	
			SVTO	0614.0	0627.0	III	N	1	25	180	
			HIRA	0615.0	0618.5	III	G	2	30	310	
	0600	1200	IZMI	0615.3	0618.8	III	GG	2	25X	270X	
			CULG	0618.0	0618.0	III	B	2	57X	180	
			LEAR	0618.0	0618.0	III		3	25	180	
	0536	1550	POTS	0618.1	0618.4	III	G	1	40X	315	
			CULG	0624.0	0628.0	III	G	1	57X	90	
			IZMI	0626.4	0627.4	III	GG	2	40	270	
	0628	1509	ONDR								
			POTS	0715	0836	III	N	1	40X	90U	
			IZMI	0715.6	0717.8	III	G	1	40	180	
			CULG	0717.0	0718.0	III	G	1	57X	120	
			POTS	0810.9	0811.5	III	G	1	200U	350	
			IZMI	0811.0	0811.1	III	B	1	165	270	
			IZMI	0816.1	0816.2	III	B	1	45	90	
			LEAR	0836.0	0837.0	III		1	41	105	
			SVTO	0836.0	0837.0	III		1	38U	83U	
			IZMI	0836.8	0837.3	III	G	2	40	150	
			HOLL	1730.0	1730.0	III		1	25	89	
			PALE	1730.0	1730.0	III		1	25	86	
			SGMR	1730.0	1730.0	III		2	30	67	
	2000	2400	CULG	2013.0	2014.0	III	G	1	57X	90	
	2039	2400	HIRA								
			CULG	2132.0	2155.0	III	N	1	57X	120	
			LEAR	2215.0	2220.0	III		1	25	119	
			LEAR	2254.0	0004.0	III	N	1	37	88	
11			LEAR	0416.0	0416.0	III		2	25	144	
	0000	0800	CULG	0416.0	0416.0	III	B	2	57X	150	
	0000	0808	HIRA	0416.0	0416.5	III	B	2	25X	150	
			CULG	0423.0	0442.0	III	GG	1	57X	110	
			CULG	0424.0	0427.0	II	UE	2	57X	100	

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11			HIRA	0424.0	0430.0	II		1	30	100	
			LEAR	0424.0	0427.0	V		3	25	160	
			LEAR	0428.0	0439.0	II		1	25	108	ESS 0416
			CULG	0429.0	0436.0	II	UE	1	57X	100	
			CULG	0506.0	0506.0	III	B	3	57X	180	
			HIRA	0506.0	0506.5	III	B	3	25X	270	
			CULG	0528.0	0528.0	III	B	2	57X	170	
			HIRA	0528.0	0528.5	III	B	2	50	200	
			LEAR	0528.0	0529.0	III		1	25	180	
			SVTO	0528.0	0528.0	III		1	25	137	
	0630	1507	ONDR								
			LEAR	0837.0	0838.0	III		2	25	180	
			SVTO	0837.0	0842.0	V		2	25	180	
	0600	1200	IZMI	0837.2	0838.0	III	G	2	25X	210	
	0545	1550	POTS	0837.3	0842.4	III	GG	2	40X	225	
			IZMI	0837.7	0838.1	V		2	25X	65	
			IZMI	0838.5	0838.7	III	G	1	25	260	
			IZMI	0841.0	0842.4	III	GG,FS	2	25X	190	
			LEAR	0841.0	0842.0	III		2	25	180	
			SVTO	0933.0	0939.0	III		2	25	180	
			IZMI	0933.2	0933.7	III	B	2	25	65	
			POTS	0933.2	0943.6	III	G	2	40X	225	
			POTS	0935.5	0935.8	UNCLF	P	1	340	360	
			LEAR	0938.0	0939.0	III		2	25	180	
			IZMI	0938.3	0940.6	III	GG	2	25X	250	
			IZMI	0938.4	0939.5	V	GG	2	25X	70	
			IZMI	0942.5	0943.7	III	G	1	30	270X	
			IZMI	1034.5	1035.5	III	G	1	50	160	
			POTS	1311.9	1312.0	III	B	2	110U	135	
			SGMR	1338.0	1339.0	III		1	30	50	
			POTS	1351.9	1352.8	III	G	2	40X	125	
			HOLL	1352.0	1352.0	III		1	25	131	
			POTS	1446.3	1446.6	III	B	2	40X	145	
			HOLL	2010.0	2011.0	III		1	25	88	
			PALE	2010.0	2011.0	III		1	25	52	
	2000	2400	CULG	2011.0	2011.0	III	B	1	57X	150	
	2040	2400	HIRA								
			LEAR	2231.0	2303.0	III	N	1	25	180	
			CULG	2232.0	2232.0	III	B	1	57X	130	
			CULG	2303.0	2303.0	III	B	1	57X	170	
12	0000	0800	CULG	0013.0	0014.0	III	G	1	57X	90	
			CULG	0135.0	0136.0	III	G	1	57X	160	
	0000	0806	HIRA	0135.5	0136.0	III	B	1	50	150	
			PALE	0317.0	0318.0	III		1	35	180	
			CULG	0318.0	0318.0	III	G	2	57X	200	
			HIRA	0318.0	0318.5	III	B	3	50	210	
			LEAR	0318.0	0318.0	III		3	25	180	
			CULG	0413.0	0606.0	III	N	1	57X	180	
			LEAR	0420.0	0420.0	III		1	25	180	
			LEAR	0443.0	0754.0	III	N	1	46	180	
	0600	1200	IZMI	0604.9	0606.0	III	G	1	45	270X	
	0631	1505	ONDR								
			CULG	0644.0	0644.0	III	B	1	57X	90	
			IZMI	0646.1	0646.3	III	B	1	45	70	
			CULG	0651.0	0651.0	III	B	1	57X	130	
			IZMI	0737.4	0737.5	III	G	2	90	175	
			IZMI	0852.4	0852.9	III	G	2	90	200	
	0546	1158	POTS	1003.9	1004.0	III	B	2	110U	300	
			IZMI	1004.0	1004.1	III	G	2	60	255	
			IZMI	1043.2	1043.4	III	B	1	100	155	
			IZMI	1106.5	1106.5	III	B	1	45	90	
			POTS	1149.5	1149.6	III	B	2	40X	120	
			IZMI	1149.6	1149.7	III	G,HARM	2	60	160	
			SVTO	1255.0	1256.0	III		2	54U	180U	
	2000	2400	CULG	2115.0	2116.0	III	G	2	57X	250U	
			HOLL	2215.0	2216.0	III		1	25	180	
			LEAR	2215.0	2216.0	III		2	25	180	
			PALE	2215.0	2215.0	III		1	65	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
12	2041	2400	HIRA	2215.0	2216.0	III	B	2	30	280	
			HOLL	2237.0	2241.0	III		1	25	87	
13			LEAR	0204.0	0204.0	III		1	25	180	
	0000	0800	CULG	0204.0	0204.0	III	B	1	57X	200	
	0000	0805	HIRA	0204.0	0204.5	III	B	2	50	200	
			CULG	0342.0	0342.0	III	B	1	57X	90	
			HIRA	0413.0	0414.5	III	G	1	120	280	
			CULG	0414.0	0415.0	UNCLF		1	150	200	
			CULG	0521.0	0530.0	III	GG	3	57X	450	
			HIRA	0521.0	0529.0	III	G	3	30	490	
			LEAR	0521.0	0529.0	III		3	25	180	
			SVTO	0521.0	0822.0	III	N	1	25	180	
			CULG	0526.0	0531.0	II	FN	1	57X	90	
			CULG	0526.0	0540.0	II	SH	1	57X	170	ESS 400
			LEAR	0531.0	0534.0	II		1	48	104	ESS 0407
			LEAR	0537.0	0608.0	III	N	1	25	180	
			HIRA	0537.5	0543.5	III	G	1	40	270	
			CULG	0538.0	0546.0	III	G	1	57X	180	
	0552	1200	IZMI	0552.0E	0941.0U	I	N	1	120	220	
			IZMI	0552.5	0554.2	III	GG	1	40	95	
			CULG	0553.0	0554.0	III	G	1	57X	90	
	0633	1502	ONDR								
			IZMI	0655.6	0655.7	III	G	1	40	65	
	0546	1417	POTS	0729	1417 U	I	S,W	1	110U	300	
			LEAR	0900.0	0902.0	III		1	25	180	
			SVTO	0900.0	0902.0	III		1	25U	83U	
			POTS	0900.3	0902.1	III	G	1	40X	350	
			IZMI	0900.5	0902.1	III	G,C	2	25X	270X	
			IZMI	1038.0	1047.3	I	N	1	180	270	
			SGMR	1116.0	1116.0	III		1	30	52	
			SGMR	1211.0	1211.0	III		1	30	57	
			SVTO	1211.0	1211.0	III		1	66	73	
			POTS	1240.4	1244.9	III	G	2	40X	300	
			SVTO	1241.0	1242.0	III		1	25U	169U	
			SGMR	1340.0	1341.0	III		1	30	53	
	2000	2400	CULG	2000.0E	2400.0D	I	S,C	1	120	180	
	2042	2400	HIRA								
			CULG	2058.0	2400.0D	III	N	1	57X	130	
			LEAR	2211.0	0319.0	CONT		1	25	180	
14			CULG	0000.0E	0228.0	III	N	1	57X	130	
	0000	0800	CULG	0000.0E	0055.0	I	S,C	1	120	180	
			CULG	0329.0	0800.0D	III	N	1	57X	80	
			LEAR	0337.0	0338.0	III		1	25	180	
	0000	0804	HIRA	0337.5	0338.0	III	B	1	40	220	
			CULG	0338.0	0338.0	III	G	1	57X	200	
			CULG	0349.0	0800.0D	I	S	1	140	180	
			CULG	0512.0	0514.0	III	G	1	57X	180	
			LEAR	0512.0	0513.0	III		1	37	136	
	0601	1200	IZMI	0601.0E	1200.0D	I	S,C	2	100U	270X	
			IZMI	0609.0U	1027.0U	III	N	1	45	95	
			IZMI	0628.1	0628.4	III	G	1	45	95	
			IZMI	0634.1	0634.4	III	G	1	60	125	
	0635	1500	ONDR								
	0546	1545	POTS	0706 E	1545 U	I	S	1	110U	300	
			IZMI	0826.3	0826.8	III	G	1	45	120	
			IZMI	0924.0	0926.0	III	G	1	45	90	
			IZMI	1145.6	1145.7	III	B	1	25	65	
	2000	2400	CULG	2000.0E	2400.0D	I	S	1	110	180	
			CULG	2106.0	2106.0	III	B	1	57X	90	
			CULG	2139.0	2139.0	III	B	1	57X	90	
			CULG	2201.0	2201.0	III	B	1	57X	90	
			LEAR	2224.0	0110.0	CONT		1	113	180	
			CULG	2303.0	2303.0	III	B	1	57X	90	
			HOLL	2317.0	2318.0	III		1	25	51	
			LEAR	2317.0	2318.0	III		2	25	180	
	2043	2400	HIRA	2317.5	2318.0	III	B	1	25X	180	
			CULG	2318.0	2400.0D	III	N	1	57X	180	

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Day	OBSERVATION Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
15			CULG	0000.0E	0003.0	III	N	1	57X	180	
	0000	0800	CULG	0000.0E	0112.0	I	S	1	130	180	
			CULG	0041.0	0041.0	III	B	1	57X	90	
			CULG	0100.0	0100.0	III	B	1	57X	90	
			CULG	0215.0	0215.0	III	B	1	57X	160	
			LEAR	0215.0	0215.0	III		2	25	159	
	0000	0802	HIRA	0215.0	0215.5	III	B	1	25X	130	
			LEAR	0311.0	0312.0	III		2	25	159	
			CULG	0312.0	0312.0	III	B	1	57X	140	
			HIRA	0312.0	0312.5	III	B	1	40	130	
	0601	1200	IZMI	0616.0	1026.0U	I	N	1	120	270X	
	0637	1458	ONDR								
	0556	1540	POTS	0709 E	1539 U	I	S	2	110U	400	
			POTS	0715.7	0716.1	III	G	1	250	450	
			POTS	0721.7	0722.1	III	G	1	200U	380	
			LEAR	0812.0	0812.0	III		1	32	142	
			POTS	0812.0	0812.2	DCIM		1	260	350	
			SVTO	0812.0	0812.0	III		1	29U	83U	
			IZMI	0812.4	0812.8	III	G	2	40	165	
			POTS	0812.5	0812.7	III	B	2	40X	130	
			POTS	0850.5	0851.0	DCIM		1	200U	330	
			IZMI	1026.0U	1200.0U	I	S,C	2	45U	270X	
			IZMI	1036.6	1036.8	III	B	1	45	90	
			IZMI	1042.0U	1200.0U	III	N	1	45	95	
			IZMI	1055.6	1058.3	III	GG	2	30	75	
			IZMI	1112.0	1115.7	III	GG	2	40	75	
			SVTO	1126.0	1151.0	CONT		1	25U	180U	
	1140	1540	BLEN								
			SVTO	1323.0	1324.0	III		1	32U	81U	
			SGMR	1749.0	1752.0	III		1	30	65	
			HOLL	1952.0	1954.0	III		1	25	141	
			SGMR	1952.0	1954.0	III		1	30	64	
	2044	2400	HIRA								
	2000	2400	CULG	2158.0	2158.0	III	B	1	57X	90	
			CULG	2333.0	2334.0	III	G	1	57X	90	
16	0000	0801	HIRA								
	0000	0800	CULG	0151.0	0400.0	I	S	1	110	170	
			LEAR	0250.0	0359.0	III	N	1	108	180	
			CULG	0454.0	0455.0	III	G	1	57X	100	
			CULG	0537.0	0800.0D	I	S	1	60	170	
			SVTO	0541.0	1205.0	CONT		1	25U	180U	
	0600	1200	IZMI	0600.0E	0915.0U	I	S,C	2	40U	270X	
			IZMI	0618.0	0619.0	III	G	1	40	90	
	0556	1540	POTS	0624	1510 U	I	S,W	1	110U	300	
			IZMI	0650.0U	1000.0U	III	N	1	40	95	
			LEAR	0655.0	0921.0	CONT		1	40	147	
			CULG	0657.0	0800.0D	III	S,C	1	57X	120	
			IZMI	0754.7	0759.7	III	GG	2	45	170	
			IZMI	0915.0U	1150.0U	I	N	1	170	270X	
	0639	1456	ONDR	0926.0	0927.1	DCIM	G	1	2000X	4500X	
	0710	1535	BLEN	0926.2	0927.2	DCIM	C	2	1350	3800X	
			IZMI	0955.2	0956.8	III	GG	2	30	250	
			POTS	0955.3	0956.7	III	G	2	40X	170U	
			IZMI	1058.2	1058.3	III	B	2	190	250	
			HOLL	2123.0	2130.0	III		1	25	148	
			PALE	2123.0	2123.0	III		1	25	66	
	2000	2400	CULG	2123.0	2123.0	III	B	1	57X	140	
	2045	2400	HIRA	2123.0	2123.5	III	B	1	30	150	
			CULG	2130.0	2130.0	III	G	1	57X	180	
			CULG	2154.0	2155.0	III	G	3	57X	500	
			HIRA	2154.0	2155.0	III	B	3	30	500	
			HOLL	2154.0	2155.0	III		2	25	180	
			PALE	2154.0	2155.0	III		2	25	180	
			CULG	2157.0	2157.0	III	B	1	57X	160	
			CULG	2204.0	2204.0	III	B	1	57X	140	
			LEAR	2311.0	2313.0	III		1	60	180	
			CULG	2313.0	2313.0	III	G	1	57X	180	
			HIRA	2313.0	2313.5	III	B	1	60	210	

SOLAR RADIO EMISSION
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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			LEAR	2349.0	2349.0	III		1	32	87	
17			LEAR	0108.0	0110.0	III		2	25	180	
			PALE	0108.0	0202.0	III	N	1	25	180	
	0000	0800	HIRA	0108.5	0110.5	III	G	2	25X	210	
	0000	0800	CULG	0109.0	0110.0	III	G	1	57X	180	
			CULG	0116.0	0117.0	III	G	1	57X	200	
			HIRA	0116.0	0117.0	III	G	2	30	270	
			LEAR	0116.0	0118.0	III		2	25	180	
			LEAR	0157.0	0202.0	III		1	25	180	
			CULG	0159.0	0203.0	III	G	1	57X	160	
			HIRA	0159.0	0203.0	III	G	1	30	190	
			LEAR	0251.0	0255.0	III		2	25	180	
			PALE	0251.0	0255.0	III		1	25	180	
			CULG	0252.0	0255.0	III	G	2	57X	260	
			CULG	0334.0	0334.0	III	B	1	57X	90	
			CULG	0353.0	0357.0	III	G	3	57X	270	
			HIRA	0353.0	0357.0	III	G	3	25X	200	
			LEAR	0353.0	0357.0	V		3	25	180	
			CULG	0401.0	0401.0	III	B	1	65	100	
			CULG	0449.0	0449.0	III	B	1	57X	90	
			CULG	0511.0	0518.0	III	G	2	57X	200	
			LEAR	0511.0	0517.0	III		2	25	180	
	0550	1200	IZMI	0559.6	0609.0	I	N	1	180	270X	
	0710	1535	BLEN	0716.1	0717.5	DCIM	C	2	1700	3800X	
			CULG	0730.0	0731.0	III	G	1	57X	180	
			HIRA	0730.0	0732.0	III	G	1	50	210	
			LEAR	0730.0	0731.0	III		1	25	180	
			IZMI	0730.4	0731.6	III	GG	2	25	265	
			HIRA	0737.5	0740.5	III	G	2	50	200	
	0656	1540	POTS	0737.8	0740.6	III	G	2	40X	250	
			IZMI	0737.9	0739.9	III	GG	2	25X	250	
			CULG	0738.0	0741.0	III	G	2	57X	150	
			LEAR	0738.0	0744.0	III		2	25	180	
			SVTO	0738.0	0740.0	III		2	25	161	
			IZMI	0740.2	0740.6	III	G	2	40	230	
			IZMI	0742.9	0742.9	III	B	1	60	75	
			IZMI	0744.5	0744.8	III	G	2	45	190	
			IZMI	0810.5	0810.6	III	B	1	90	170	
			IZMI	0849.1	0849.4	III	G	2	95	165	
			POTS	0924	1510 U	I	S,W	1	110U	300	
			POTS	0959.9	1001.0	III	G	2	40X	160	
			IZMI	1000.0	1002.1	III	GG	2	45	175	
			IZMI	1008.1	1008.5	III	G	2	45	270	
			POTS	1008.2	1008.4	III	G	2	40X	225	
			IZMI	1045.7	1045.9	III	B	1	45	95	
			IZMI	1050.4	1051.0	III	G	1	30	90	
			BLEN	1119.2	1123.0	DCIM	C	2	1700	3800X	
	0641	1453	ONDR	1119.2	1122.0	DCIM	G	1	2000X	4500X	
			ONDR	1119.3	1121.4	DCIM	G	1	800X	2000X	
			IZMI	1131.0	1131.4	III	G	2	25X	270	
			POTS	1131.0	1131.3	III	G	2	40X	150	
			SVTO	1131.0	1131.0	III		1	25	152	
			IZMI	1138.0	1139.4	III	GG	2	25	160	
			POTS	1138.0	1146.6	III	GG,C	2	40X	350	
			IZMI	1141.1	1141.4	III	B,C	2	45	270X	
			IZMI	1142.0	1147.4	III	GG,FS	2	25X	270X	
			SVTO	1143.0	1146.0	III		2	25	180	
			BLEN	1154.7	1156.1	DCIM	C	2	1700	3800X	
			ONDR	1155.0	1155.5	DCIM	G	1	2000X	4500X	
			BLEN	1400.7	1411.5	DCIM	C	2	2000	3800X	
			HOLL	1402.0	1403.0	III		1	25	180	
			SVTO	1402.0	1403.0	III		2	25	144	
			POTS	1402.8	1403.3	III	G	2	40X	225	
			SGMR	1403.0	1403.0	III		1	30	60	
			SGMR	1427.0	1427.0	III		1	30	50	
			SVTO	1427.0	1439.0	III	N	1	25	180	
			POTS	1427.4	1428.0	III	G	2	40X	170U	
			POTS	1439.2	1439.5	III	B	2	40X	225	

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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
17			POTS	1526.4	1526.6	DCIM		1	315	400	
			HOLL	1553.0	1754.0	III	N	1	25	116	
			SGMR	1847.0	1854.0	III		1	30	80	
			HOLL	1917.0	2023.0	III	N	1	25	157	
			PALE	1917.0	1924.0	III		1	25	110	
			SGMR	1917.0	1924.0	III		1	30	80	
	2000	2400	CULG	2038.0	2040.0	III	G	1	57X	150	
			CULG	2100.0	2100.0	III	B	1	57X	180	
			CULG	2115.0	2119.0	III	G	1	57X	180	
			HOLL	2115.0	2117.0	III		1	25	87	
	2046	2400	HIRA	2115.0	2119.0	III	G	1	25X	180	
18			HOLL	0009.0	0013.0	III		1	25	180	
			LEAR	0009.0	0014.0	III		3	25	180	
			PALE	0009.0	0013.0	III		1	25	180	
	0000	0800	CULG	0009.0	0014.0	III	G	3	57X	300	
	0000	0758	HIRA	0009.5	0014.5	III	G	3	25X	210	
			CULG	0047.0	0048.0	III	G	1	57X	150	
			HIRA	0047.0	0047.5	III	B	2	30	130	
			LEAR	0047.0	0047.0	III		2	25	143	
			LEAR	0106.0	0614.0	III	N	2	25	180	
			CULG	0107.0	0108.0	III	G	2	57X	180	
			HIRA	0107.0	0108.5	III	B	2	30	200	
			HIRA	0132.5	0135.5	III	G	1	30	210	
			CULG	0133.0	0136.0	III	G	1	57X	170	
			CULG	0231.0	0231.0	III	G	1	57X	90	
			CULG	0254.0	0258.0	III	G	1	57X	140	
			HIRA	0257.0	0258.0	III	B	2	30	170	
			CULG	0319.0	0341.0	III	N	1	57X	180	
			HIRA	0326.0	0326.5	III	B	1	30	250	
			CULG	0405.0	0645.0	III	N	1	57X	180	
			HIRA	0413.0	0415.0	III	G	1	30	210	
			HIRA	0419.5	0420.5	III	G	1	50	210	
			HIRA	0448.5	0449.0	III	B	1	30	120	
			CULG	0456.0	0457.0	III	G	3	57X	180	
			HIRA	0456.0	0458.0	III	G	3	30	220	
			LEAR	0456.0	0456.0	III		3	25	180	
			HIRA	0534.0	0539.0	III	G	1	30	200	
			HIRA	0607.0	0611.0	III	G	2	40	190	
			SVTO	0608.0	0613.0	III		1	25	180	
	0608	1200	IZMI	0608.0E	1010.0U	I	N	1	110	270	
			IZMI	0608.2	0610.7	III	GG	2	30	270X	
			HIRA	0613.5	0614.0	III	B	1	50	180	
			IZMI	0613.5	0614.0	III	G	2	40	175	
	0556	1540	POTS	0619.2	0619.6	DCIM		1	200U	315	
	0643	1451	ONDR								
			POTS	0644.3	0644.5	UNCLF		1	200U	260	
			IZMI	0644.4	0645.4	III	G	2	45	270X	
			IZMI	0738.9	0739.3	III	G	1	105	160	
			IZMI	0741.8	0741.9	III	G,U	1	95	180	
			IZMI	0804.7	0805.1	III	G	1	130	270	
			IZMI	0812.4	0812.6	III	G	1	110	250	
			POTS	0817.0	0822.4	III	GG	2	40X	350	
			IZMI	0817.1	0822.6	III	GG	2	25X	270X	
			LEAR	0818.0	0822.0	III		3	25	180	
			SVTO	0818.0	0822.0	III		2	25	180	
			IZMI	0831.0	0831.0	III	B	1	135	200	
			POTS	0838	1530	I	S	1	110U	300	
			IZMI	0848.9	0849.2	III	G	2	30	160	
			POTS	0848.9	0849.1	III	B	2	40X	140	
			LEAR	0849.0	0849.0	III		1	25	144	
			SVTO	0849.0	0849.0	III		1	25U	82U	
			IZMI	0850.1	0850.3	III	B	1	105	150	
			IZMI	0918.8	0919.5	III	G	2	25X	145	
			IZMI	0922.1	0922.3	III	G	1	45	90	
			LEAR	0945.0	0950.0	III		1	43	180	
			POTS	0945.0	0950.4	III	G	2	40X	300	
			SVTO	0945.0	0950.0	III		1	61	180	
			IZMI	0945.1	0948.2	III	GG,C	2	40	270X	

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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
18			IZMI	0950.1	0950.7	III	GG,C	2	30	240	
			IZMI	0956.4	0956.6	III	B	1	60	90	
			IZMI	0959.0	0959.0	III	G,HARM	1	40	90	
			IZMI	1010.0U	1200.0D	I	S	2	110	260	
			IZMI	1023.6	1024.0	III	G	2	95	170	
			POTS	1023.6	1023.7	III	G	2	120	145	
			POTS	1102.0	1102.3	III	G	1	40X	90U	
			IZMI	1102.1	1102.4	III	G	2	30	95	
			IZMI	1103.5	1103.6	III	B	1	140	215	
			POTS	1118	1430	III	N	1	40X	90U	
			IZMI	1118.3	1122.0	III	G	1	25X	95	
			IZMI	1138.2	1138.5	III	B	2	35	90	
			IZMI	1140.3	1142.2	III	GG	2	30	215	
			POTS	1140.3	1140.4	III	G	2	40X	170U	
			POTS	1147.4	1147.5	DCIM		1	200U	320	
			IZMI	1147.5	1147.7	III	G	1	200	270X	
			IZMI	1148.7	1148.9	III	B	2	40	145	
			IZMI	1158.6	1158.9	I	GG,DC	2	115	160	
			POTS	1213.1	1213.6	III	G	1	160	410	
			POTS	1239.4	1239.5	III	B	2	110U	200U	
			HOLL	1347.0	1352.0	III		2	25	180	
			POTS	1347.0	1352.9	IV		2	40X	500	
			SGMR	1347.0	1352.0	V		3	30	80	
			SVTO	1347.0	1352.0	V		2	25	180	
	0710	1535	BLEN	1347.7	1350.4	III	GG,RS	1	1000X	3800X	
			POTS	1347.8	1348.5	V		2	40X	80	
			POTS	1349.2	1352.7	DCIM		2	200U	700	
			POTS	1404.1	1409.8	III	G	2	40X	350	
			SGMR	1405.0	1410.0	III		1	30	54	
			SVTO	1405.0	1409.0	III		1	25	148	
			SVTO	1429.0	1449.0	III	N	1	25	131	
			POTS	1429.2	1429.4	III	B	2	40X	170U	
			HOLL	1449.0	1449.0	III		1	25	70	
			POTS	1449.0	1449.3	III	B	1	40X	65	
			SGMR	1449.0	1449.0	III		2	30	51	
			HOLL	1613.0	2345.0	III	N	1	25	180	
			SGMR	1708.0	1709.0	III		1	30	48	
			SGMR	1726.0	1726.0	III		1	30	48	
			SGMR	1737.0	1738.0	III		2	30	67	
			SGMR	1804.0	1900.0	III	N	3	30	80	
			SGMR	2003.0	2003.0	III		1	30	50	
	2000	2400	CULG	2003.0	2004.0	III	G	2	57X	150	
			CULG	2012.0	2012.0	III	B	1	60	170	
			CULG	2036.0	2300.0	III	N	1	57X	140	
			SGMR	2103.0	2104.0	III		2	35	70	
	2046	2400	HIRA	2103.5	2104.0	III	B	2	30	130	
			CULG	2104.0	2104.0	III	B	3	57X	150	
			SGMR	2116.0	2119.0	III	N	3	35	75	
			CULG	2117.0	2120.0	III	G	3	57X	200	
			HIRA	2117.0	2119.0	III	G	2	25X	310	
			HIRA	2148.5	2152.0	III	G	1	30	120	
			LEAR	2206.0	0058.0	CONT		1	54	180	
			LEAR	2224.0	0058.0	III	N	1	25	180	
			HIRA	2224.5	2226.0	III	G	1	30	210	
			CULG	2347.0	2400.0D	III	N	1	57X	180	
19	0000	0800	CULG	0000.0E	0053.0	III	N	1	57X	180	
	0000	0757	HIRA	0015.0	0016.0	III	B	1	60	480	
			HIRA	0037.5	0038.5	III	B	2	30	150	
			CULG	0038.0	0039.0	III	G	2	57X	150	
			HIRA	0041.0	0042.5	III	G	2	30	260	
			CULG	0058.0	0200.0D	IV	FS	3	57X	1600	
			PALE	0059.0	0114.0	II		1	25	180	ESS 0684
			CULG	0100.0	0106.0	II	FN	3	57X	90	
			CULG	0100.0	0112.0	II	SH	3	57X	180	ESS 500
			CULG	0101.0	0102.0	II	FN	3	57X	110	
			CULG	0101.0	0103.0	II	SH	3	70	220	ESS 1800
			HIRA	0101.0	0111.0	II		3	25X	90	
			HIRA	0101.0	0119.0	II		3	25X	220	

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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
19			LEAR	0101.0	0120.0	II		3	25	180	ESS 0914
			LEAR	0109.0	1011.0	IV		2	25	180	
			CULG	0120.0U	0331.0	III	S,C	2	57X	180	
			HIRA	0220.5	0221.0	III	B	2	160	500	
			CULG	0221.0	0221.0	III	B	1	57X	1000	
			LEAR	0257.0	0259.0	III		2	25	130	
			LEAR	0317.0	0346.0	III	N	2	25	180	
			CULG	0331.0	0800.0D	III	S,C	1	57X	160	
			HIRA	0346.0	0346.5	III	B	1	40	180	
	0551	1200	IZMI	0551.0E	1200.0D	I	S	1	45	270	
			SVTO	0621.0	0621.0	III		1	34U	83U	
			IZMI	0621.1	0621.5	III	G	1	40	95	
			SVTO	0658.0	1543.0	III	N	2	25U	180U	
			IZMI	0706.2	0709.6	III	G	2	30	210	
			IZMI	0710.5	0710.9	III	G	2	40	200	
			IZMI	0731.1	0732.8	III	GG	2	95	160	
			IZMI	0737.3	0737.8	III	G	2	30	200	
			IZMI	0803.1	0804.3	III	G	2	30	145	
			IZMI	0805.4	0805.5	III	B	1	180	225	
			IZMI	0807.3	0809.9	III	GG,C	2	40	230	
			IZMI	0832.5	0832.7	III	B	2	40	80	
			IZMI	0840.8	0842.2	III	G	2	25X	145	
			IZMI	0845.2	0845.4	III	G	2	40	270X	
			IZMI	0846.7	0851.2	III	GG	2	25X	160	
			IZMI	0853.3	0902.4	III	GG	2	25X	270X	
			LEAR	0855.0	0857.0	III		3	25	180	
			IZMI	0855.2	0856.3	III	GG,C	2	25X	240	
	0700	1520	BLEN	0855.4	0905.0	III	GG,V	1	140	600	
	0645	1449	ONDR	0937.3	1000.0	DCIM	GG	2	2000X	4500X	
			ONDR	0937.5	0952.3	DCIM	GG,SP	2	800X	2000X	
			BLEN	0938.6	0952.5	DCIM	P,S	1	175	4000X	
	0900	1800	BLEN	0938.6	0942.3	II	P,S	2	500	900	
			IZMI	0939.8	0940.0	III	G	2	90	270X	
			IZMI	1034.4	1036.6	III	GG,C	2	25X	240	
			IZMI	1041.9	1042.1	III	G	2	25X	155	
			IZMI	1044.8	1045.1	III	G	2	40	125	
			IZMI	1125.3	1126.4	III	G	2	30	95	
			IZMI	1130.2	1132.2	III	G	1	45	95	
			IZMI	1159.7	1159.9	III	B	1	140	190	
			SGMR	1221.0	1221.0	III		1	33	55	
			BLEN	1221.7	1232.0	III	GG,C	2	650	4000X	
			ONDR	1222.1	1222.5	DCIM	GG	1	875	2000X	
			ONDR	1222.2	1224.2	DCIM	G	1	2273	4500X	
	1247	1540	POTS	1247 E	1530 U	I	S,C,DC	2	110U	800X	
			POTS	1304.8	1305.7	III	G	2	110U	150	
			SGMR	1305.0	1525.0	III	N	2	30	80	
			POTS	1312.9	1313.5	III	G	2	110U	250	
			HOLL	1327.0	1341.0	III	N	1	25	180	
			HOLL	1502.0	1722.0	III	N	1	25	136	
			HOLL	1502.0	1722.0	III	N	1	25	180	
			HOLL	1624.0	1642.0	II		2	25	180	ESS 0738
			HOLL	1624.0	1642.0	II		2	75	180	ESS 0738
			HOLL	1639.0	0010.0	IV		1	25	180	
			PALE	1640.0	1704.0	IV		2	25	180	
			SGMR	1700.0	1745.0	II		3	30	67	ESS 1600
			PALE	1705.0	2038.0	CONT		1	25	180	
			PALE	1726.0	0255.0	III	N	3	25	180	
			SGMR	1749.0	1752.0	III		2	30	70	
	2000	2400	CULG	2000.0E	2400.0D	III	S,C	1	57X	120	
			CULG	2050.0	2400.0D	I	S	1	60	90	
			CULG	2058.0	2058.0	III	G	2	57X	180	
	2047	2400	HIRA	2058.0	2058.5	III	B	1	40	120	
			LEAR	2206.0	1011.0	CONT		1	25	180	
20			CULG	0000.0E	0800.0D	I	S	1	60	90	
	0000	0800	CULG	0000.0E	0800.0D	III	S,C	1	57X	120	
	0558	1200	IZMI	0558.0E	1200.0D	I	S,C	2	45	270X	
			IZMI	0558.5	0558.6	III	B	2	40	90	
			IZMI	0615.8	0616.0	III	B	1	45	95	

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20			LEAR	0621.0	0623.0	III		2	25	180	
			CULG	0622.0	0623.0	III	G	2	57X	400	
			SVTO	0622.0	0623.0	III		2	25	180	
	0000	0756	HIRA	0622.0	0623.5	III	G	1	50	400	
	0606	1546	POTS	0622.0	0623.0	DCIM		2	200U	400	
			IZMI	0622.1	0623.4	III	GG	2	25X	270X	
			POTS	0624	1500 U	I	S,C,DC	2	110U	250	
			IZMI	0625.4	0627.6	III	G	1	45	95	
			SVTO	0635.0	1250.0	CONT		1	75U	180U	
			IZMI	0635.9	0637.0	III	G	1	45	90	
	0646	1446	ONDR	0701.5	0702.0	DCIM	G	2	1142	1864	
			POTS	0703.9	0704.2	III	B	2	40X	90U	
			IZMI	0704.0	0704.8	III	G	2	30	125	
			SVTO	0704.0	0704.0	III		1	25	84	
			IZMI	0716.6	0716.7	III	G	2	50	160	
			IZMI	0734.2	0734.8	III	G	1	45	95	
			IZMI	0819.8	0820.3	III	G	2	105	175	
			POTS	0939.3	0939.6	III	B	1	40X	90U	
			IZMI	0939.5	0939.6	III	B	2	40	90	
			POTS	1057.9	1058.0	III	B	1	40X	70	
			IZMI	1058.0	1058.1	III	B	2	40	75	
			IZMI	1108.4	1109.2	III	G	2	25X	130	
			POTS	1108.4	1109.0	III	G	1	40X	90U	
			SVTO	1109.0	1109.0	III		1	25	84	
			POTS	1146.4	1146.6	III	B	1	40X	80	
			IZMI	1146.5	1146.8	III	B	1	40	95	
			IZMI	1200.6	1200.6	III	B	1	120	160	
			SVTO	1216.0	1221.0	III	N	1	25	180	
			POTS	1216.5	1216.6	III	B	1	40X	90U	
	0745	1510	BLEN	1216.6	1217.2	III	GG,C	2	700	4000X	
			POTS	1222.6	1223.8	III	G	2	40X	300	
			POTS	1324.2	1324.5	III	G	2	200U	315	
			POTS	1325.0	1325.1	III	B	1	40X	65	
			POTS	1407.5	1407.7	III	B	1	40X	80	
	2000	2400	CULG	2004.0	2004.0	III	B	1	57X	90	
			CULG	2026.0	2027.0	III	G	1	57X	160	
			CULG	2047.0	2047.0	III	B	1	57X	180	
			HOLL	2108.0	2113.0	III		1	25	180	
			PALE	2108.0	2113.0	III		1	25	180	
			CULG	2109.0	2114.0	III	G	2	57X	200	
	2048	2400	HIRA	2109.0	2114.0	III	G	2	40	460	
			CULG	2202.0	2211.0	III	G	1	57X	180	
			HOLL	2202.0	2236.0	III	N	2	25	180	
			LEAR	2202.0	2210.0	III		1	25	180	
			HIRA	2202.5	2210.5	III	G	1	30	510	
			CULG	2229.0	2229.0	III	B	1	57X	90	
			CULG	2235.0	2238.0	III	G	3	57X	200	
			LEAR	2235.0	2238.0	III		2	25	180	
			PALE	2235.0	2236.0	III		1	25	180	
			HIRA	2236.0	2238.5	III	G	3	30	440	
			CULG	2322.0	2322.0	III	B	1	57X	90	
			LEAR	2322.0	2322.0	III		1	38	89	
			CULG	2336.0	2337.0	III	G	1	57X	90	
			LEAR	2336.0	2341.0	III		1	25	180	
			HOLL	2340.0	2341.0	III		1	25	157	
			CULG	2341.0	2342.0	III	G	1	57X	180	
			HIRA	2341.0	2341.5	III	B	1	30	240	
			CULG	2359.0	2359.0	III	B	1	57X	150	
21			LEAR	0018.0	0020.0	V		3	25	180	
	0000	0800	CULG	0018.0	0020.0	III	G	1	57X	200	
	0000	0755	HIRA	0018.5	0020.0	III	G	2	25X	260	
			CULG	0030.0	0040.0	III	G	1	57X	180	
			HIRA	0030.0	0036.0	III	G	1	30	340	
			LEAR	0030.0	0052.0	III	N	1	25	180	
			CULG	0052.0	0052.0	III	G	1	57X	160	
			CULG	0137.0	0152.0	III	GG	1	57X	160	
			LEAR	0143.0	0151.0	III		1	25	155	
			HIRA	0151.5	0152.0	III	B	1	40	120	

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21			LEAR	0250.0	0251.0	III		1	25	180	
			HIRA	0250.5	0252.0	III	G	1	60	470	
			CULG	0251.0	0251.0	III	RS	1	57X	450	
			CULG	0323.0	0324.0	III	G	2	57X	180	
			HIRA	0323.0	0324.0	III	B	2	30	220	
			LEAR	0323.0	0324.0	III		2	25	180	
			PALE	0323.0	0323.0	III		1	25	180	
			CULG	0435.0	0438.0	III	G	3	57X	700	
			HIRA	0435.0	0437.0	III	G	3	30	510	
			LEAR	0435.0	0437.0	V		3	25	180	
			LEAR	0441.0	0455.0	II		1	43	180	ESS 0536
			HIRA	0441.5	0446.0	II		1	50	140	
			HIRA	0441.5	0446.0	II		1	120	270	
			CULG	0442.0	0446.0	II	FN	1	57X	130	ESS 750
			CULG	0442.0	0446.0	II	SH	1	120	260	
			LEAR	0456.0	0456.0	III		1	114	180	
			HIRA	0456.5	0457.0	III	B	3	100	390	
			CULG	0457.0	0457.0	III	B	1	100	400	
			CULG	0512.0	0722.0	III	N	1	57X	160	
			LEAR	0519.0	0814.0	III	N	1	25	180	
	0551	1200	IZMI	0551.0E	1200.0D	I	N	1	120	260	
	0605	1540	POTS	0607	1500	I	S,W	1	110U	300	
			IZMI	0618.8	0618.9	III	B	1	180	230	
			IZMI	0631.0	0631.2	III	G	2	130	245	
			IZMI	0636.8	0640.7	III	GG,FS	2	115	270X	
			IZMI	0642.0	1200.0D	III	N	1	45	95	
			POTS	0711.3	0717.8	III	GG	1	200U	400	
	0710	1510	BLEN	0711.3	0714.4	III	GG,S	2	210	610	
			IZMI	0713.2	0717.7	III	G	2	130	270X	
			BLEN	0716.0	0724.5	DCIM	P	1	1400	4000X	
			BLEN	0754.0	0756.0	DCIM	P	1	540	4000X	
			IZMI	1007.0U	1120.0D	I	S	2	120	270	
			POTS	1051.0	1051.3	III	G	2	110U	300	
			SVTO	1051.0	1103.0	III		1	62	180	
			IZMI	1051.1	1051.6	III	G,U	2	25X	270X	
	0649	1444	ONDR	1112.0	1131.2	DCIM	G	2	2000X	4500X	
			BLEN	1112.2	1126.4	DCIM	P	3	280	4000X	
			ONDR	1121.5	1124.2	DCIM	G	2	800X	2000X	
			BLEN	1121.8	1158.3	III	GG,C	2	110	1700	
			POTS	1147.9	1158.3	III	GG	2	40X	400	
			IZMI	1148.0	1148.4	III	G,C	2	25X	270X	
			SVTO	1148.0	1155.0	III	N	2	25	180	
			SGMR	1150.0	1207.0	III	N	1	30	67	
			IZMI	1150.4	1151.3	III	GG,C	2	25X	270X	
			IZMI	1152.2	1153.4	III	GG	2	25X	270X	
			IZMI	1154.9	1155.6	III	GG,C	2	25X	270X	
			IZMI	1158.1	1158.4	III	GG	1	60	250	
			BLEN	1313.5	1332.0	DCIM	C	2	600	4000X	
			BLEN	1324.5	1324.9	III	GG,RS	2	1800	4000X	
			POTS	1347.8	1348.4	III	G	2	40X	170U	
			HOLL	1348.0	1349.0	III		1	25	131	
			SGMR	1348.0	1349.0	V		2	30	80	
			SVTO	1348.0	1348.0	III		2	25	180	
			POTS	1348.4	1349.1	V		1	40X	70	
			POTS	1350.6	1351.1	III	G	2	130	170U	
			POTS	1411.3	1411.4	III	B	1	250	350	
			BLEN	1424.6	1425.0	DCIM	C,S	1	1000	4000X	
			POTS	1435.9	1436.6	III	G	1	200U	400	
			HOLL	1816.0	1818.0	III		1	25	87	
			PALE	1817.0	1817.0	III		1	25	125	
			SGMR	1817.0	1817.0	III		2	30	54	
	2000	2400	CULG	2000.0E	2400.0D	III	N	1	57X	90	
			HOLL	2131.0	2153.0	III	N	1	25	167	
	2049	2400	HIRA	2131.0	2131.5	III	B	1	25X	110	
			PALE	2145.0	2145.0	III		1	25	180	
			HIRA	2145.5	2146.0	III	B	1	30	220	
			CULG	2146.0	2149.0	III	G	1	57X	170	
			HIRA	2148.5	2149.0	III	B	1	60	210	
			LEAR	2204.0	1012.0	III	N	1	80	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
21			CULG	2330.0	2331.0	III	G	3	57X	120	
			HOLL	2330.0	2331.0	III		1	25	86	
			LEAR	2330.0	2332.0	III		3	25	142	
			HIRA	2330.5	2331.0	III	B	2	30	100	
22	0000	0800	CULG	0000.0E	0800.0D	III	N	1	57X	90	
			CULG	0015.0	0015.0	III	B	1	57X	180	
	0000	0754	HIRA	0015.0	0015.5	III	B	1	40	210	
			HIRA	0018.0	0018.5	III	B	1	60	190	
			LEAR	0034.0	0037.0	V		3	25	180	
			CULG	0035.0	0038.0	III	G	2	57X	220	
			HIRA	0035.0	0037.0	III	G	2	25X	220	
			PALE	0035.0	0036.0	III		1	25	180	
			LEAR	0044.0	0045.0	III		3	25	144	
			HIRA	0045.0	0045.5	III	B	2	25X	110	
			LEAR	0112.0	0113.0	III		3	25	137	
			CULG	0113.0	0114.0	III	G	2	57X	100	
			HIRA	0113.0	0113.5	III	B	1	25X	110	
			LEAR	0219.0	0225.0	III		3	25	180	
			HIRA	0219.5	0225.0	III	G	2	30	220	
			CULG	0220.0	0220.0	III	B	2	57X	120	
			CULG	0225.0	0225.0	III	B	2	57X	230	
			HIRA	0336.5	0337.0	III	B	1	30	200	
			CULG	0337.0	0337.0	III	B	1	57X	180	
			HIRA	0415.5	0416.0	III	B	1	30	170	
			CULG	0416.0	0416.0	III	B	1	57X	180	
			CULG	0456.0	0500.0	III	G	1	57X	170	
			LEAR	0458.0	0459.0	III		3	25	180	
			HIRA	0506.5	0507.0	III	B	1	50	260	
			CULG	0507.0	0507.0	III	B	1	57X	170	
			HIRA	0519.5	0522.5	III	G	2	30	190	
			CULG	0521.0	0522.0	III	G	2	57X	180	
			SVTO	0527.0	1539.0	III	N	2	25	180	
			CULG	0557.0	0557.0	III	B	2	57X	180	
			HIRA	0557.5	0558.0	III	B	2	30	260	
	0602	1200	IZMI	0602.0E	0935.0U	I	S,C	2	45	260	
			IZMI	0605.0B	1007.0	III	N	1	25X	95	
			CULG	0618.0	0800.0D	I	S	1	100	160	
			IZMI	0628.2	0628.7	III	G	2	25X	70	
	0606	1540	POTS	0640	1540 U	I	S	2	40X	400	
			IZMI	0642.1	0642.7	III	GG	1	25X	75	
			POTS	0647.2	0647.4	III	B	1	40X	70	
			IZMI	0647.4	0647.7	III	B	2	25X	215	
	0650	1442	ONDR								
			POTS	0659.6	0700.1	III	G	1	40X	90U	
			IZMI	0659.8	0700.3	III	G	2	25X	100	
			CULG	0700.0	0700.0	III	B	2	57X	90	
			POTS	0721	1517	III	N	1	40X	90U	
			IZMI	0734.0	0734.3	III	B	2	25X	90	
			POTS	0754.3	0758.8	III	GG	2	40X	300	
			IZMI	0754.5	0759.3	III	G,G	2	50	270X	
			LEAR	0808.0	1012.0	CONT		1	45	160	
			IZMI	0815.0	0815.2	III	B	2	30	65	
			POTS	0834.9	0835.1	III	B	2	40X	225	
			IZMI	0835.1	0835.4	III	B,FS	2	25X	240	
			POTS	0856.2	0858.9	III	G	2	40X	140	
			IZMI	0856.3	0859.9	III	GG	2	25X	160	
			IZMI	0903.0	0904.6	III	GG	2	25X	215	
			IZMI	0908.7	0909.4	UNCLF		2	50	140	
			IZMI	0912.1	0913.6	III	GG,	2	25X	270	
			IZMI	0930.7	0931.1	III	G	2	95	200	
			IZMI	0935.0U	1002.0U	I	N	1	45	270X	
			POTS	1013.1	1013.2	III	B	2	110U	155	
			IZMI	1013.3	1013.4	III	B	1	60	140	
			IZMI	1020.1	1021.5	III	G	2	25X	105	
			IZMI	1036.4	1038.1	I	GG	2	105	150	
			IZMI	1037.6	1037.9	III	B	1	95	140	
			POTS	1117.1	1118.3	III	G	2	40X	170U	
			IZMI	1117.3	1117.6	III	G	1	25X	165	

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Day	OBSERVATION Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
22			IZMI	1119.0	1120.4	III	G	1	170	210	
			IZMI	1124.0	1155.0	I	N	1	120	270X	
			IZMI	1126.3	1126.4	III	B	1	180	215	
			IZMI	1155.6	1156.3	III	G	2	170	270X	
			IZMI	1158.7	1159.2	III	G	1	130	270X	
			POTS	1314.6	1315.0	III	G	2	110U	350	
			POTS	1336.7	1338.5	III	G	2	110U	350	
			POTS	1351.8	1352.6	III	G	2	130	220	
			HOLL	1408.0	1409.0	III		1	25U	180U	
			POTS	1408.6	1409.1	III	G	2	40X	120	
			POTS	1445.0	1521	IV		3	40X	400	
			POTS	1445.9	1452.1	III	GG	3	40X	250	
			HOLL	1446.0	1454.0	III		2	25	180	
			SGMR	1446.0	1552.0	III		2	30	80	
	0710	1510	BLEN	1446.2	1508.4	III	GG	2	100X	300	
			BLEN	1446.9	1509.5	DCIM	C,S	1	100X	4000X	
			POTS	1452.4	1457.5	II	SH	3	110U	150	
			HOLL	1453.0	1513.0	II		2	25	142	ESS 0955
			SVTO	1453.0	1513.0	II		2	36	180	ESS 0629
			POTS	1454.3	1512 U	II	F,H	1	40X	90U	
			SGMR	1456.0	1520.0	II		3	30	80	ESS 0800
			HOLL	1504.0	1523.0	IV		1	79	180	
			HOLL	1728.0	1730.0	III		1	25	180	
			PALE	1728.0	1729.0	III		1	25	180	
			HOLL	1753.0	1759.0	III		1	25	180	
			PALE	1754.0	1856.0	III	N	1	25	180	
			SGMR	1756.0	1810.0	II		1	30	45	
			HOLL	1759.0	1810.0	II		1	25	180	ESS 1043
			HOLL	1947.0	1953.0	III		1	25	170	
			PALE	1947.0	1949.0	III		1	25	180	
	2050	2400	HIRA								
	2000	2400	CULG	2101.0	2224.0	III	N	1	57X	90	
			LEAR	2208.0	2312.0	III	N	1	25	180	
			CULG	2311.0	2312.0	III	G	1	57X	180	
23	0000	0752	HIRA								
			LEAR	0016.0	0019.0	III		1	25	180	
	0000	0800	CULG	0017.0	0017.0	III	B	1	57X	150	
			CULG	0300.0	0300.0	III	B	1	57X	70	
			LEAR	0344.0	0344.0	III		1	25	64	
			CULG	0508.0	0509.0	III	G	1	57X	120	
	0600	1200	IZMI	0611.4	0611.8	III	B	1	50	265	
			CULG	0612.0	0612.0	III	B	1	57X	100	
	0616	1530	POTS	0631.5	0631.6	III	G	2	200U	310	
			IZMI	0631.7	0632.0	III	G,HARM	2	50	270X	
			CULG	0632.0	0632.0	III	B	1	57X	120	
	0652	1440	ONDR								
	0710	1500	BLEN								
			CULG	0711.0	0713.0	III	G	1	57X	170	
			SVTO	0711.0	0713.0	III		1	26U	151U	
			IZMI	0711.3	0711.7	III	G,C	2	90	255	
			POTS	0712.6	0713.2	III	G	1	40X	70	
			IZMI	0712.9	0713.3	III	G	1	40	90	
			LEAR	0713.0	0713.0	III		1	25	76	
	2000	2400	CULG	2005.0	2029.0	III	N	1	57X	100	
			HOLL	2027.0	2029.0	III		1	25	86	
			PALE	2028.0	2029.0	III		1	25	87	
			CULG	2103.0	2103.0	III	B	1	57X	100	
			LEAR	2222.0	2224.0	III		1	25	180	
	2051	2400	HIRA	2222.5	2224.0	III	G	1	30	N/A	
			LEAR	2356.0	0000.0	V		3	25	180	
			CULG	2357.0	2358.0	III	G	1	57X	80	
			HIRA	2357.0	2358.5	III	G	2	25X	N/A	
			HOLL	2357.0	2357.0	III		1	25	152	
24			LEAR	0005.0	0114.0	III	N	1	25	130	
			LEAR	0237.0	0244.0	III		1	25	180	
			LEAR	0322.0	0326.0	III		2	25	180	
	0000	0751	HIRA	0322.5	0323.0	III	B	1	25X	N/A	

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Day	OBSERVATION Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
24			LEAR	0356.0	0357.0	III		1	39	130	
			LEAR	0420.0	0421.0	III		1	25	180	
			HIRA	0421.5	0422.0	III	B	1	30	N/A	
			LEAR	0433.0	0447.0	III	N	3	25	180	
			HIRA	0439.0	0440.5	III	G	2	25X	N/A	
	0000	0800	CULG	0439.0	0445.0	III	G	1	57X	100	
			HIRA	0443.0	0445.0	III	G	1	30	N/A	
			LEAR	0545.0	0548.0	III		1	25	180	
			SVTO	0546.0	0547.0	III		1	25	144	
	0546	0558	IZMI	0546.0E	0551.3	III	GG	2	30	90X	
	0558	1200	IZMI	0557.6	0558.2	III	GG	2	60	150	
			IZMI	0620.9	0621.3	III	G	1	55	215	
	0616	1530	POTS	0630.5	0630.6	III	B	1	250	375	
			IZMI	0633.3	0633.5	III	B	1	45	75	
	0654	1438	ONDR								
	0710	1500	BLEN								
			POTS	0750	1453	I	S,W	1	110U	300	
			IZMI	0757.0	0757.1	III	B	1	95	135	
			POTS	0758.7	0804.4	III	G	2	40X	300	
			IZMI	0759.0	0759.7	III	G,C	2	35	215	
			LEAR	0759.0	0804.0	V		3	25	180	
			SVTO	0759.0	0804.0	III		2	25	180	
			SVTO	0759.0	0804.0	V		2	25	180	
			IZMI	0803.6	0804.9	III	GG,C	2	25X	270X	
			LEAR	0838.0	0839.0	III		1	25	120	
			SVTO	0838.0	0839.0	III		1	25	83	
			POTS	0838.5	0838.7	III	B	2	40X	160	
			IZMI	0838.8	0839.0	III	B	2	30	160	
			POTS	0857.1	0857.3	III	G	1	110U	160	
			IZMI	0918.1	0918.4	III	B	1	50	160	
			IZMI	0932.2	0932.9	III	G	1	55	270	
			POTS	0932.2	0945.0	III	GG	3	40X	225	
			LEAR	0939.0	0943.0	III		2	25	180	
			SVTO	0939.0	0944.0	III		2	25	180	
			IZMI	0939.3	0940.4	III	GG	2	35	230	
			IZMI	0943.6	0945.3	III	GG	2	30	240	
			IZMI	1007.3	1008.2	III	G	2	30	160	
			POTS	1007.3	1007.8	III	G	2	40X	170U	
			POTS	1033.7	1034.8	III	G	2	110U	160	
			POTS	1100.2	1100.4	III	B	2	110U	170U	
			IZMI	1100.4	1100.7	III	B	1	95	185	
			SVTO	1210.0	1222.0	III	N	2	25	180	
			POTS	1210.1	1222.9	III	GG	3	40X	300	
			POTS	1305.8	1305.9	III	B	2	110U	140	
			POTS	1325.9	1337.9	III	G	3	110U	170U	
			POTS	1432.3	1432.4	III	B	1	150	275	
			HOLL	1711.0	1711.0	III		1	25	86	
			PALE	1711.0	2108.0	III	N	1	25	180	
			HOLL	1735.0	1735.0	III		1	25	167	
			HOLL	1806.0	1807.0	III		1	25	180	
			SGMR	1806.0	1807.0	III		1	30	55	
			HOLL	1912.0	1914.0	III		1	25	126	
			SGMR	1912.0	1912.0	III		1	30	55	
	2052	2400	HIRA								
	2000	2400	CULG	2100.0	2102.0	III	G	1	57X	90	
			CULG	2120.0	2128.0	III	G	1	57X	120	
			CULG	2231.0	2231.0	III	B	1	57X	120	
			CULG	2325.0	2326.0	III	G	1	57X	140	
25			LEAR	0122.0	0123.0	III		1	25	105	
	0000	0800	CULG	0122.0	0123.0	III	G	1	57X	100	
			CULG	0143.0	0143.0	III	B	1	57X	150	
			CULG	0341.0	0341.0	III	B	1	57X	80	
			LEAR	0341.0	0350.0	III		2	25	180	
			CULG	0350.0	0350.0	III	B	2	57X	160	
	0000	0750	HIRA	0350.5	0351.0	III	B	1	30	N/A	
			LEAR	0443.0	0449.0	III		1	25	106	
			CULG	0550.0	0555.0	III	G	2	57X	120	
			LEAR	0550.0	0554.0	III		2	25	143	

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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
25	0550	1200	IZMI	0550.0U	1200.0D	I	N	1	130	270X	
			IZMI	0550.8	0552.4	III	GG	1	30	155	
			IZMI	0553.9	0554.2	III	G	1	40	70	
			LEAR	0621.0	0633.0	III	N	1	25	180	
			IZMI	0621.8	0630.0	III	GG	1	35	170	
			CULG	0622.0	0626.0	III	G	1	57X	150	
			CULG	0626.0	0649.0	III	N	1	57X	130	
	0616	1542	POTS	0630	1451	I	S	1	110U	350	
			IZMI	0630.8	0634.0	III	GG	1	55	185	
			POTS	0648.7	0649.0	III	B	1	40X	90U	
	0656	1435	ONDR								
	0710	1515	BLEN	0710.0X	1515.0X	I	DC	2	220	440	
			BLEN	0716.6	0720.1	DCIM	P	1	700	2000	
			POTS	0718	1050	III	N	1	40X	90U	
			CULG	0719.0	0724.0	III	G	1	57X	170	
			LEAR	0719.0	0723.0	III		2	25	146	
			IZMI	0719.3	0724.2	III	GG	2	30	270X	
			CULG	0729.0	0742.0	III	N	1	57X	120	
			LEAR	0731.0	0858.0	III	N	1	25	180	
			POTS	0731.1	0741.4	III	GG	2	40X	170U	
			IZMI	0731.4	0731.9	III	G	2	30	130	
			IZMI	0732.6	0733.0	III	G,C	2	40	160	
			IZMI	0737.7	0739.0	III	GG	1	25	270	
			IZMI	0741.0	0742.4	III	G	1	40	160	
			IZMI	0805.6	0805.7	III	G	2	45	130	
			IZMI	0809.6	0810.3	III	GG	2	30	90	
			IZMI	0828.4	0829.9	III	G	2	35	140	
			IZMI	0837.6	0837.8	III	B	1	40	75	
			IZMI	0852.5	0855.1	III	GG	2	25X	120	
			POTS	0858.2	0858.5	III	G	2	40X	140	
			IZMI	0858.5	0859.0	III	G	2	40	150	
			IZMI	0904.3	0904.5	III	B	1	50	75	
			POTS	1045.9	1049.7	III	G	3	40X	170U	
			SVTO	1046.0	1050.0	III		2	25	180	
			IZMI	1046.3	1046.7	III	G,C	2	25X	160	
			IZMI	1047.5	1049.8	I	GG	2	220	270	
			IZMI	1048.5	1050.1	III	GG	2	25X	200	
			IZMI	1051.2	1051.3	III	B	1	40	120	
			POTS	1245.1	1247.9	III	G	2	110U	375	
			POTS	1330.5	1330.6	III	B	1	140	170U	
			POTS	1435.7	1436.0	III	G	2	140	170U	
			BLEN	1441.0	1518.0X	DCIM	P,S	3	150	4000X	
			BLEN	1447.2	1519.2	II	P,S	3	140	1450	
			POTS	1450	1542 U	IV	P	3	40X	800X	
			SVTO	1455.0	1500.0	II		1	66	180	ESS 1091
			HOLL	1456.0	1504.0	II		1	68	157	ESS 0699
			HOLL	1505.0	1732.0	IV		2	51	180	
			SGMR	1557.0	1705.0	CONT		1	30	60	
			HOLL	1857.0	1901.0	III		1	25	180	
			SGMR	1900.0	1900.0	III		1	30	70	
			HOLL	1922.0	1922.0	III		1	54	180	
			HOLL	2002.0	2008.0	III		1	25	180	
	2000	2400	CULG	2004.0	2008.0	III	G	1	57X	180	
			CULG	2040.0	2041.0	III	G	1	57X	100	
			HOLL	2040.0	2041.0	III		1	25	120	
			CULG	2106.0	2124.0	III	N	1	57X	90	
			HOLL	2109.0	2335.0	III	N	1	25	180	
			CULG	2113.0	2119.0	III	G	1	57X	160	
			SGMR	2117.0	2117.0	III		1	30	80	
	2053	2400	HIRA	2117.5	2118.0	III	B	2	30	N/A	
			CULG	2149.0	2149.0	III	B	1	57X	80	
			CULG	2224.0	2224.0	III	B	2	57X	100	
			HIRA	2224.0	2224.5	III	B	2	25X	N/A	
			CULG	2234.0	2235.0	III	G	1	57X	80	
			CULG	2251.0	2256.0	III	GG	3	57X	230	
			HIRA	2251.0	2255.5	III	G	3	25X	1500	
			CULG	2258.0	2258.0	III	B	1	57X	90	
			CULG	2351.0	2351.0	III	B	1	57X	80	

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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
26			IZMI	.	0837.4	V		1	60	120	
			LEAR	0136.0	0149.0	III		3	25	180	
	0000	0749	HIRA	0137.0	0139.0	III	G	2	25X	N/A	
	0000	0800	CULG	0137.0	0141.0	III	G	1	57X	90	
			CULG	0138.0	0138.0	III	B	2	57X	90	
			CULG	0148.0	0149.0	III	G	1	57X	90	
			CULG	0544.0	0544.0	III	B	1	57X	80	
			LEAR	0544.0	0544.0	III		1	25	180	
			SVTO	0544.0	0544.0	III		1	112U	172U	
	0601	1200	IZMI	0601.0E	0952.0U	I	N	2	90	270X	
			SVTO	0624.0	0625.0	III		2	25	75	
			IZMI	0651.1	0652.1	III	GG	2	130	165	
			LEAR	0704.0	0712.0	III		1	25	180	
			IZMI	0704.9	0707.0	III	GG	2	50	210	
			CULG	0705.0	0713.0	III	G	1	57X	90	
			IZMI	0711.9	0713.3	III	GG	1	50	190	
			LEAR	0802.0	0803.0	III		1	25	180	
			IZMI	0802.9	0803.1	III	G	2	50	270X	
			IZMI	0822.8	0822.9	III	B	1	95	160	
	0710	1515	BLEN	0834.3	0836.9	III	P,S	2	100X	1700	
			SVTO	0835.0	0837.0	III		2	25	180	
			LEAR	0836.0	0841.0	III		3	25	180	
			IZMI	0836.6	0837.0	III	G,C	2	25X	270X	
			IZMI	0839.5	0841.5	III	G	1	50	160	
			IZMI	0905.0	0907.6	III	GG	2	30	270X	
			LEAR	0905.0	0913.0	III		2	25	180	
			SVTO	0905.0	0921.0	III	N	2	25	180	
			IZMI	0908.6	0910.3	III	G	1	50	75	
			IZMI	0912.2	0913.5	III	G	2	45	270X	
			ONDR	0945.0	0948.3	DCIM	GG	3	800X	1395	
			LEAR	0948.0	1004.0	III	N	2	25	180	
			SVTO	0948.0	1028.0	III	N	3	25	180	
			IZMI	0948.1	0949.1	III	G	2	25X	190	
	0658	1433	ONDR	0951.4	1003.0	DCIM	G	1	2000X	4500X	
			IZMI	0952.8	0953.5	III	G,CC	2	25X	160	
			IZMI	0954.2	0955.5	III	GG,C	2	25X	270X	
			IZMI	0955.0	0955.4	V	HARM	2	50	160	
			ONDR	0956.1	1013.1	DCIM	GG	1	800X	2000X	
			IZMI	0956.8	0957.8	III	GG,C	2	25X	270X	
			IZMI	0959.4	1000.5	III	GG	2	25X	270X	
			IZMI	1002.3	1005.9	III	GG	2	25X	160	
			IZMI	1007.7	1010.1	III	GG	2	25X	270X	
			IZMI	1011.7	1011.9	III	G	2	40	215	
			IZMI	1027.6	1029.1	III	GG	1	60	270X	
			IZMI	1056.4	1157.3	III	G	2	30	180	
	1046	1540	POTS	1116	1540 U	I	S,W	1	110U	170U	200-400 MHz no obs
			POTS	1156.0	1156.3	III	B	3	40X	170U	
			SVTO	1156.0	1156.0	III		2	25	157	
			POTS	1239.7	1249.5	III	G	2	40X	170U	
			BLEN	1245.8	1249.3	III	P,S	2	100X	1500	
			SVTO	1246.0	1250.0	III		2	25	180	
			POTS	1247.8	1247.9	DCIM		1	400	600	
			POTS	1250.6	1250.7	III	B	2	110U	150	
			POTS	1304.0	1304.2	III	B	2	110U	160	
			POTS	1328.8	1335.3	III	G	2	40X	170	
			POTS	1328.9	1330.8	DCIM		1	400	800X	
			SVTO	1329.0	1335.0	III		2	25	144	
			BLEN	1330.1	1336.3	III	GG,P	2	220	2000	
			SGMR	1335.0	1335.0	III		2	30	80	
			POTS	1423.5	1437.1	III	GG,C,P	3	40X	800X	
			BLEN	1428.0	1437.7	III	GG,P	3	100X	4000X	
			HOLL	1430.0	1435.0	III		2	25	180	
			SGMR	1430.0	1435.0	III		3	30	80	
			SGMR	1430.0	1504.0	III	N	3	30	80	
			SVTO	1430.0	1435.0	V		3	25	180	
			HOLL	1502.0	1510.0	III		1	25	178	
			SVTO	1502.0	1510.0	III		2	25	180	
			POTS	1502.5	1510.4	III	G	2	40X	170U	
			HOLL	1552.0	1557.0	III		2	25	162	

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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
26			SGMR	1557.0	1557.0	III		2	30	70	
			HOLL	1559.0	1911.0	III	N	1	25	180	
			SGMR	1651.0	1848.0	III	N	2	30	71	
			HOLL	2149.0	2151.0	III		1	25	180	
	2000	2400	CULG	2149.0	2152.0	III	G	1	57X	100	
	2054	2400	HIRA	2149.0	2150.0	III	B	1	40	N/A	
27			LEAR	0035.0	0038.0	V		3	25	180	
	0000	0748	HIRA	0036.0	0038.0	III	G	1	25X	N/A	
	0000	0800	CULG	0036.0	0038.0	III	G	1	57X	90	
			CULG	0345.0	0350.0	III	G	1	57X	70	
			LEAR	0347.0	0351.0	II		1	37	64	ESS 0359
			LEAR	0347.0	0351.0	II		1	40	44	ESS 0359
			LEAR	0442.0	1014.0	CONT		1	71	180	
			LEAR	0534.0	0534.0	III		1	25	65	
	0551	1200	IZMI	0551.0E	1200.0D	I	N	2	120	270X	
			IZMI	0558.1	0601.4	III	GG	2	150	270X	
			LEAR	0600.0	0601.0	III		1	25	66	
			CULG	0621.0	0621.0	III	B	1	57X	80	
			LEAR	0621.0	0621.0	III		1	25	150	
			SVTO	0621.0	0621.0	III		1	54U	84U	
			IZMI	0621.4	0621.6	III	B	1	50	140	
	0700	1431	ONDR								
	0710	1510	BLEN								
	0600	1540	POTS	0750.0	0752.5	III	GG	2	110U	170U	200-400 MHz no obs
			IZMI	0750.3	0754.0	III	S	2	110	270X	
			POTS	0806.9	0809.9	III	G	2	110U	170U	
	0710	1510	BLEN	0807.1	0820.9	DCIM	P	2	800	4000X	
			IZMI	0807.3	0810.4	III	G	1	50	160U	
			POTS	0835	1540 U	I	S,W	1	110U	170U	
			IZMI	0954.7	0955.2	III	G	1	195	250	
			POTS	1019.6	1027.5	III	GG	2	40X	650	
			BLEN	1019.7	1028.1	III	GG,C	2	130	4000X	
			IZMI	1019.8	1021.4	III	GG	2	25X	270X	
			SVTO	1020.0	1027.0	III	N	1	25	180	
			IZMI	1022.7	1024.4	III	GG	2	25X	270X	
			IZMI	1026.8	1028.3	III	GG,FS	2	40	270	
			POTS	1124.9	1129.1	III	GG	3	40X	170U	
			IZMI	1125.4	1127.1	III	GG	2	30	200	
			SVTO	1126.0	1128.0	III		1	25	180	
			IZMI	1127.7	1129.5	III	GG	2	40	190U	
			POTS	1152.4	1153.0	III	G	2	40X	170U	
			IZMI	1152.9	1153.3	III	G	1	40	270X	
			SVTO	1153.0	1153.0	III		1	43U	82U	
			POTS	1227.6	1227.8	III	B	1	110U	160	
			BLEN	1238.9	1241.4	III	GG	2	240	880	
			POTS	1251.5	1251.6	III	B	1	140	170U	
			POTS	1311.6	1313.1	III	G	2	110U	170U	
			POTS	1330.6	1330.7	III	B	1	110U	170U	
			BLEN	1335.8	1338.5	III	GG	2	270	530	
			HOLL	1346.0	1454.0	III	N	1	25	160	
			SVTO	1346.0	1454.0	III	N	2	25	180	
			POTS	1346.1	1346.4	III	B	3	40X	170U	
			POTS	1351.9	1352.9	III	G	3	40X	170U	
			SGMR	1352.0	1352.0	III		1	30	51	
			BLEN	1352.2	1358.5	III	GG	2	140	450	
			POTS	1407.3	1407.6	III	G	2	40X	170U	
			POTS	1443.0	1443.9	III	G	3	110U	170U	
			POTS	1453.6	1453.9	III	G	1	40X	90U	
			SGMR	1454.0	1454.0	III		1	30	70	
			SGMR	1558.0	1602.0	III		3	30	80	
			PALE	1651.0	0258.0	III	N	1	25	180	
			HOLL	1711.0	1755.0	III	N	1	25	120	
			PALE	1711.0	1755.0	III	N	1	25	180	
			HOLL	2040.0	2043.0	III		1	25	180	
			PALE	2040.0	2043.0	III		2	25	180	
	2000	2400	CULG	2040.0	2043.0	III	G	3	57X	300	
	2055	2400	HIRA								
			PALE	2150.0	2155.0	III		1	25	180	

SOLAR RADIO EMISSION
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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
27			HOLL	2154.0	2157.0	III		1	25	180	
			CULG	2155.0	2157.0	III	G	1	57X	150	
			LEAR	2251.0	2251.0	III		1	25	180	
			CULG	2302.0	2304.0	III	G	1	57X	90	
			LEAR	2302.0	2304.0	III		2	47	180	
			LEAR	2324.0	0336.0	III	N	2	25	180	
			CULG	2325.0	2325.0	III	B	1	57X	90	
			CULG	2349.0	2349.0	III	B	1	57X	90	
28	0000	0800	CULG	0025.0	0027.0	III	G	1	57X	90	
			CULG	0130.0	0257.0	III	N	1	57X	90	
			LEAR	0138.0	0141.0	III		2	25	180	
			CULG	0139.0	0140.0	III	G	2	57X	150	
			PALE	0252.0	0254.0	III		1	25	180	
	0000	0747	HIRA	0253.0	0253.5	III	B	1	40	N/A	
			LEAR	0343.0	0632.0	CONT		1	46	180	
			CULG	0535.0	0537.0	III	G	1	57X	90	
			SVTO	0550.0	0554.0	III	N	1	75	180	
			CULG	0551.0	0551.0	III	B	1	57X	90	
	0700	1200	IZMI	0554.7	0654.8	III	B	2	40	95U	
			IZMI	0559.0	0659.1	III	B	1	45	95U	
			IZMI	0601.0E	0659.1	I	S	1	180	270	
			LEAR	0632.0	0824.0	III	N	1	25	180	
			SVTO	0632.0	0824.0	III	N	2	25	180	
			LEAR	0638.0	0640.0	III		3	25	180	
	0600	1540	POTS	0638.3	0639.7	III	G	1	40X	170U	200-400 MHz no obs
			CULG	0639.0	0640.0	III	G	2	57X	110	
			CULG	0641.0	0729.0	III	N	1	57X	90	
			POTS	0654	1119	III	N	1	40X	90U	
			IZMI	0703.7	0722.0	III	N	1	45	170	
	0710	1505	BLEN	0706.3	0706.6	III	GG	2	280	490	
			IZMI	0728.5	0728.7	III	B	1	35	120	
			POTS	0732 E	1458 U	I	S,C,DC	2	110U	170U	
			POTS	0732.8	0733.0	III	B	2	110U	170U	
			IZMI	0733.3	0733.5	III	G	1	105	190	
			IZMI	0757.8	0757.9	III	B	1	120	270X	
			LEAR	0824.0	1015.0	CONT		1	75	180	
			IZMI	0832.0	1200.0D	I	S	2	90	270X	
			SVTO	0832.0	1304.0	CONT		1	75	180	
			IZMI	0839.3	0839.5	III	B	1	45	90	
			IZMI	0849.1	0849.3	III	G	2	180	240	
			POTS	0857.2	0900.3	III	GG	3	40X	170U	
			IZMI	0857.3	0902.9	III	GG	2	35	270X	
			BLEN	0857.5	0901.2	III	GG,S	2	120	2100	
			IZMI	0937.1	0943.2	III	N	1	45	95	
			IZMI	0944.6	0944.8	III	B,C	1	50	95	
			IZMI	0945.2	0945.2	III	B	2	170	260	
			IZMI	0958.2	0958.2	III	G	2	140	270X	
			IZMI	1013.8	1014.6	III	G	2	50	180	
			IZMI	1042.8	1042.9	III	B	2	200	270	
			SVTO	1059.0	1223.0	III	N	2	25	180	
			POTS	1059.1	1100.9	III	G	3	40X	170U	
			IZMI	1059.6	1101.7	III	GG,C	2	40	270X	
			BLEN	1100.4	1102.6	DCIM	C	3	1500	4000X	
	0702	1429	ONDR	1100.4	1102.5	DCIM	G	1	2020	4500X	
			IZMI	1109.5	1109.6	III	B	2	180	260	
			IZMI	1117.5	1118.7	III	G	2	60	220	
			IZMI	1123.2	1123.3	III	B,RS	2	180	220	
			IZMI	1130.6	1131.6	III	G	2	60	170	
			POTS	1130.8	1135.4	III	G	3	40X	170U	
			IZMI	1135.0	1135.9	III	GG,C	2	40	270X	
			POTS	1144.8	1145.2	III	G	2	40X	170U	
			IZMI	1145.1	1147.8	III	GG	2	95	270X	
			POTS	1150.3	1154.1	III	G	3	40X	170U	
			IZMI	1150.7	1151.1	III	G,C	2	45	270	
			IZMI	1154.0	1154.6	III	GG	2	45	260	
			POTS	1203.6	1203.7	III	B	3	110U	170U	
			POTS	1218.0	1218.4	III	B	3	40X	170U	
			ONDR	1241.1	1242.2	DCIM	G	1	800X	2000X	

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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
28			ONDR	1241.1	1242.2	DCIM	G,W	1	2000X	4500X	
			HOLL	1336.0	1935.0	CONT		1	64	180	
			SVTO	1343.0	1530.0	CONT		1	65	180	
			POTS	1410.7	1412.0	DCIM		2	400	650	
			HOLL	1712.0	2134.0	III	N	1	25	180	
			PALE	1723.0	1729.0	III		1	46	180	
	2000	2400	CULG	2000.0E	2400.0D	III	S,C	1	57X	250	
			PALE	2121.0	2121.0	III		1	25	144	
	2056	2400	HIRA	2121.5	2122.0	III	B	1	30	50	
			LEAR	2159.0	1015.0	CONT		1	63	180	
29	0000	0746	HIRA								
	0000	0800	CULG	0000.0E	0800.0D	III	S	1	57X	180	
			LEAR	0034.0	0035.0	III		1	25	180	
			CULG	0052.0	0053.0	III	G	1	100	300	
			CULG	0114.0	0348.0	I	S	2	60	180	
			PALE	0118.0	0342.0	CONT		2	25	180	
			CULG	0220.0	0220.0	III	B	1	100	300	
			CULG	0249.0	0249.0	III	B	1	70	280	
			CULG	0348.0	0800.0D	I	S	1	70	170	
			SVTO	0535.0	1529.0	CONT		1	25	180	
			LEAR	0614.0	0834.0	III	N	1	25	180	
			SVTO	0622.0	0820.0	III	N	1	25	180	
			IZMI	0650.0E	0707.0U	III	S	1	40	95	
	0650	1200	IZMI	0650.0E	1200.0D	I	S,C	2	70	270X	
			IZMI	0707.0U	1033.0U	III	N	1	45	95	
			IZMI	0751.1	0751.1	III	B	2	140	270X	
	0710	1505	BLEN	0809.4	0813.5	III	G,RS,C	2	180	4000X	
			IZMI	0809.8	0812.6	III	GG,C	1	40	160	
			IZMI	0810.8	0811.1	III	G	1	220	270X	
			LEAR	0811.0	0812.0	III		2	25	145	
			IZMI	0812.6	0813.8	I	GG,DC	2	230	265	
			IZMI	0813.4	0813.5	III	B	3	175	270X	
			LEAR	0826.0	0833.0	II		1	42	72	ESS 0356
			IZMI	0827.0	0834.0	II		1	45	130	
			LEAR	0902.0	0903.0	III		1	32	170	
			SVTO	0902.0	0903.0	III		1	53U	164U	
			IZMI	0902.6	0903.2	III	G	2	30	160	
			IZMI	0910.3	0913.8	III	G	2	60	195	
			BLEN	0933.5	0934.5	I	DC,C	2	410	4000X	
			IZMI	1010.4	1010.4	III	B	2	95	250	
			IZMI	1013.2	1014.0	III	GG	2	95	270X	
			IZMI	1024.3	1024.7	III	G	2	90	190	
			IZMI	1052.0	1052.1	III	B	2	220	270X	
			SVTO	1057.0	1058.0	III		1	25	180	
			IZMI	1057.8	1058.7	III	GG	2	30	270X	
			ONDR	1110.3	1112.5	DCIM	GG	3	800X	2000X	
	0704	1426	ONDR	1110.3	1112.3	DCIM	G	1	2000X	4500X	
			BLEN	1110.5	1115.8	II	DC,C	3	360	1200	
			IZMI	1111.1	1112.5	III	G	2	180	270X	
			SVTO	1113.0	1117.0	II		1	120	180	ESS 0609
			IZMI	1113.6	1117.9	II	HARM	2	90	160	
			IZMI	1114.2	1114.8	III	G	2	90	270X	
			IZMI	1116.5	1118.5	III	G	2	60	185	
			ONDR	1131.4	1133.5	DCIM	G	1	2078	4500X	
			HOLL	1352.0	2359.0	CONT		1	75	180	
			HOLL	1441.0	1442.0	III		1	25	180	
			HOLL	1506.0	1507.0	III		1	25	180	
			HOLL	1824.0	1824.0	III		1	25	140	
			PALE	1824.0	2355.0	CONT		1	25	180	
			HOLL	1851.0	1852.0	III		1	43	180	
			HOLL	1851.0	1936.0	III	N	1	25	180	
			SGMR	1851.0	1903.0	III	N	1	30	80	
			CULG	2000.0E	2400.0D	I	S	1	60	160	
	2000	2400	CULG	2000.0E	2400.0D	III	S,C	1	57X	180	
	2057	2400	HIRA								
			LEAR	2158.0	1016.0	CONT		1	25	180	
30	0000	0745	HIRA								

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Spectral Observations

OCTOBER 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			CULG	0000.0E	0800.0D	I	S	1	100	250	
	0000	0800	CULG	0000.0E	0800.0D	III	S,C	1	57X	180	
			PALE	0235.0	0341.0	CONT		1	64	180	
			CULG	0332.0	0332.0	III	B	2	57X	200	
			LEAR	0332.0	0332.0	III		2	25	180	
			IZMI	0700.0E	1200.0D	III	N	2	40	120	
	0700	1200	IZMI	0700.0E	1200.0D	I	S,C,DC	2	90	270X	
			IZMI	0720.4	0720.7	III	B	1	55	160	
			IZMI	0746.6	0747.3	III	G	1	40	160	
			IZMI	0835.5	0836.5	III	G	1	50	265	
			SVTO	0945.0	1527.0	CONT		2	25	180	
			IZMI	1001.8	1002.7	III	G	2	40	95	
			IZMI	1032.2	1033.1	III	G	2	30	70	
			IZMI	1046.0	1048.1	III	GG	2	35	80	
			IZMI	1100.5	1104.0	III	G	2	45	270X	
			IZMI	1122.9	1123.0	III	B	2	160	210	
			IZMI	1141.7	1141.8	III	B	2	45	85	
			IZMI	1157.8	1159.6	III	GG	2	45	270	
	0706	1424	ONDR	1218.3	1220.3	DCIM	GG	2	2000X	4500X	
	0710	1505	BLEN	1218.3	1238.3	III	GG,RS,C	3	220	4000X	
			ONDR	1218.4	1220.5	DCIM	GG	3	800X	2000X	
			SGMR	1311.0	1311.0	III		2	30	55	
			HOLL	1350.0	2350.0	IV		1	75	180	
			HOLL	1543.0	1551.0	III		1	25	180	
			SGMR	1543.0	1612.0	III	N	2	30	67	
			HOLL	1855.0	1859.0	III		1	25	180	
			SGMR	1859.0	1900.0	III		2	30	80	
			CULG	2000.0E	2400.0D	I	S	1	100	160	
	2000	2400	CULG	2000.0E	2400.0D	III	S	1	57X	180	
	2058	2400	HIRA								
			LEAR	2158.0	1017.0	CONT		1	35	180	
			CULG	2214.0	2214.0	III	G	1	200	400	
			CULG	2234.0	2234.0	III	B	1	130	280	
31	0000	0743	HIRA								
			CULG	0000.0E	0800.0D	I	S	1	110	180	
	0000	0800	CULG	0000.0E	0800.0D	III	S	1	57X	180	
			LEAR	0129.0	0130.0	III		2	25	180	
			CULG	0130.0	0130.0	III	B	3	57X	300	
			CULG	0201.0	0201.0	III	B	1	57X	300	
			CULG	0532.0	0532.0	III	B	1	200	500	
			SVTO	0536.0	1526.0	CONT		2	25	180	
			CULG	0657.0	0657.0	III	B	2	60	180	
			IZMI	0657.0E	1200.0D	III	N	2	40	130	
	0657	1200	IZMI	0657.0E	1200.0D	I	S,C	2	90	270X	
			IZMI	0657.1	0657.4	III	G,U	2	65	240	
			IZMI	0748.0	0748.4	III	GG	2	150	270X	
			IZMI	0750.5	0750.7	III	G	2	80	205	
	0709	1422	ONDR	0803.0	0807.1	DCIM	GG	2	2000X	4500X	
			ONDR	0803.1	0806.4	DCIM	GG	1	880	2000X	
	0710	1505	BLEN	0803.3	0806.7	DCIM	DC,P,C	3	250	4000X	
			IZMI	0817.9	0818.5	III	GG	2	50	270X	
			IZMI	0834.3	0835.5	III	GG	2	45	260	
			IZMI	1009.7	1011.0	III	G,C	2	25	190	
			IZMI	1052.1	1052.4	III	G	1	50	260	
			IZMI	1059.2	1059.6	III	G	2	35	180	
			BLEN	1256.0	1256.4	III	GG,RS	2	330	530	
			HOLL	1352.0	2345.0	CONT		1	60	180	
			HOLL	1622.0	2330.0	III	N	1	25	146	
			PALE	1651.0	0340.0	CONT		2	25	180	
			CULG	2000.0E	2400.0D	I	S	1	100	180	
	2000	2400	CULG	2000.0E	2400.0D	III	S	1	57X	180	
			CULG	2146.0	2149.0	III	G	3	57X	280	
	2059	2400	HIRA	2146.5	2149.0	III	G	2	40	N/A	
			LEAR	2157.0	1017.0	CONT		1	25	180	

N/A: Hiraiso 50-500 MHz not available.

SOLAR RADIO NOISE STORM AT 164 MHZ

FROM NANÇAY RADIOHELIOGRAPH

OCTOBER 2001

	HELIOGRAPHICS POSITIONS MEAN VALUES[1]		IMP[2]	OBSERVING TIME[3]	
DAY	E-W	S-N		START(UT)	END(UT)
01/10/01	-0.36	-0.42	I	11H40	15H10 D
01/10/01	+1.09	-0.99	I	8H09 E	15H10 D
03/10/01	+0.23	-0.43	II	8H28 E	15H10 D
04/10/01	+0.45	-0.53	I	8H09 E	15H09 D
05/10/01	-0.67	-0.33	I	8H24 E	15H10 D
05/10/01	+0.70	-0.48	I	8H24 E	10H25
05/10/01	+1.47	-0.43	III	9H05	15H09 D
06/10/01	-0.47	-0.09	V	8H08E	15H09 D
10/10/01	-0.05	-0.64	I	10H23 E	15H08 D
12/10/01	-0.02	-0.67	I	8H06 E	15H06 D
13/10/01	+0.51	-0.85	I	8H06 E	15H06 D
13/10/01	-0.39	+0.02	I	12H50	15H07 D
14/10/01	-0.20	+0.05	III	8H06 E	15H07 D
15/10/01	+0.23	+0.22	III	8H05 E	15H06 D
16/10/01	+0.43	+0.22	I	8H05 E	15H06 D
17/10/01	+0.82	+0.31	II	8H18 E	15H07 D
18/10/01	+0.57	-0.40	I	8H29 E	15H06 D
19/10/01	+0.57	+0.22	III	8H17 E	15H06 D
20/10/01	+0.91	+0.39	III	8H05 E	15H06 D
21/10/01	-0.34	-0.47	I	8H04 E	15H05 D
21/10/01	+1.01	+0.23	I	8H04 E	15H05 D
22/10/01	+0.12	-0. 47	II	8H04 E	15H05 D
25/10/01	-1.30	+0.68	I	8H04 E	15H05 D
26/10/01	-0.62	-0.14	I	8H04 E	15H05 D
26/10/01	+0.79	-0.17	II	8H04 E	15H05 D
29/10/01	-0.74	+0.03	IV	8H17 E	15H05 D
29/10/01	+0.71	-0.09	II	8H17 E	15H05 D
30/10/01	-0.45	-0.03	IV	8H03 E	15H04 D
31/10/01	-0.05	+0.03	IV	8H24 E	15H05 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 NANÇAY OBSERVATIONS
D NOISE STORM IN PROGRESS AT THE END OF THE NANCAY OBSERVATIONS

NOISE STORM AT 327 MHZ
FROM NANÇAY RADIOHELIOGRAPH
OCTOBER 2001

	HELIOGRAPHICS POSITIONS MEAN VALUES[1]		IMP[2]	OBSERVING TIME[3]	
DAY	E-W	S-N		START(UT)	END(UT)
01/10/01	-0.36	-0.37	I	8H09 E	15H10 D
01/10/01	+1.41	-0.51	II	8H03 E	9H44
02/10/01	-0.06	-0.36	I	8H09 E	10H50
02/10/01	+0.62	-0.22	I	12H30	15H10 D
03/10/01	+0.11	-0.39	II	8H28 E	15H10 D
03/10/01	+0.43	-0.42	II	8H28 E	15H10 D
04/10/01	-0.91	-0.05	I	8H08 E	15H09 D
04/10/01	+0.37	-0.40	I	8H08 E	15H09 D
04/10/01	+0.64	-0.40	I	8H08 E	15H09 D
05/10/01	-0.71	-0.22	II	8H24 E	15H10 D
05/10/01	+0.68	-0.36	I	8H24 E	15H10 D
06/10/01	-0.48	-0.17	III	8H08 E	15H09 D
10/10/01	-0.81	+0.40	I	10H23 E	15H08 D
12/10/01	+0.03	-0.59	I	8H06 E	15H06 D
13/10/01	-0.36	+0.02	I	8H06 E	15H06 D
13/10/01	+0.34	-0.37	I	8H06 E	12H45
14/10/01	-0.12	+0.06	III	8H06 E	15H07 D
15/10/01	+0.17	+0.08	II	8H05 E	15H06 D
16/10/01	-1.24	-0.53	I	8H05 E	15H06 D
16/10/01	+0.39	+0.08	I	8H05 E	15H06 D
17/10/01	+0.68	+0.20	I	8H18 E	15H07 D
18/10/01	+0.57	-0.40	I	8H29 E	15H06 D
20/10/01	-0.76	-0.50	I	8H05 E	15H06 D
21/10/01	-0.39	-0.42	I	8H04 E	15H05 D
21/10/01	+1.07	-0.25	I	8H04 E	15H05 D
22/10/01	-0.06	-0.47	II	8H04 E	15H05 D
25/10/01	-1.05	+0.36	II	8H04 E	15H05 D
26/10/01	-1.01	+0.32	I	8H04 E	15H05 D
26/10/01	-0.47	+0.08	I	8H04 E	15H05 D
26/10/01	+0.11	+0.22	II	11H15	15H05 D
26/10/01	+0.73	-0.34	I	8H04 E	15H05 D
29/10/01	-0.56	+0.09	II	8H17 E	15H05 D
29/10/01	-0.36	-0.05	II	8H17 E	15H05 D
29/10/01	+0.48	-0.05	I	8H17 E	15H05 D
30/10/01	-0.31	-0.02	III	8H03 E	15H04 D
31/10/01	+0.00	+0.00	III	8H24 E	15H05 D

08, 28 OCTOBER 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 more detailed analysis leading to increase uncertainties in the deviation, the positions which are indicated are estimated within 0.2 R.

** Following a large burst

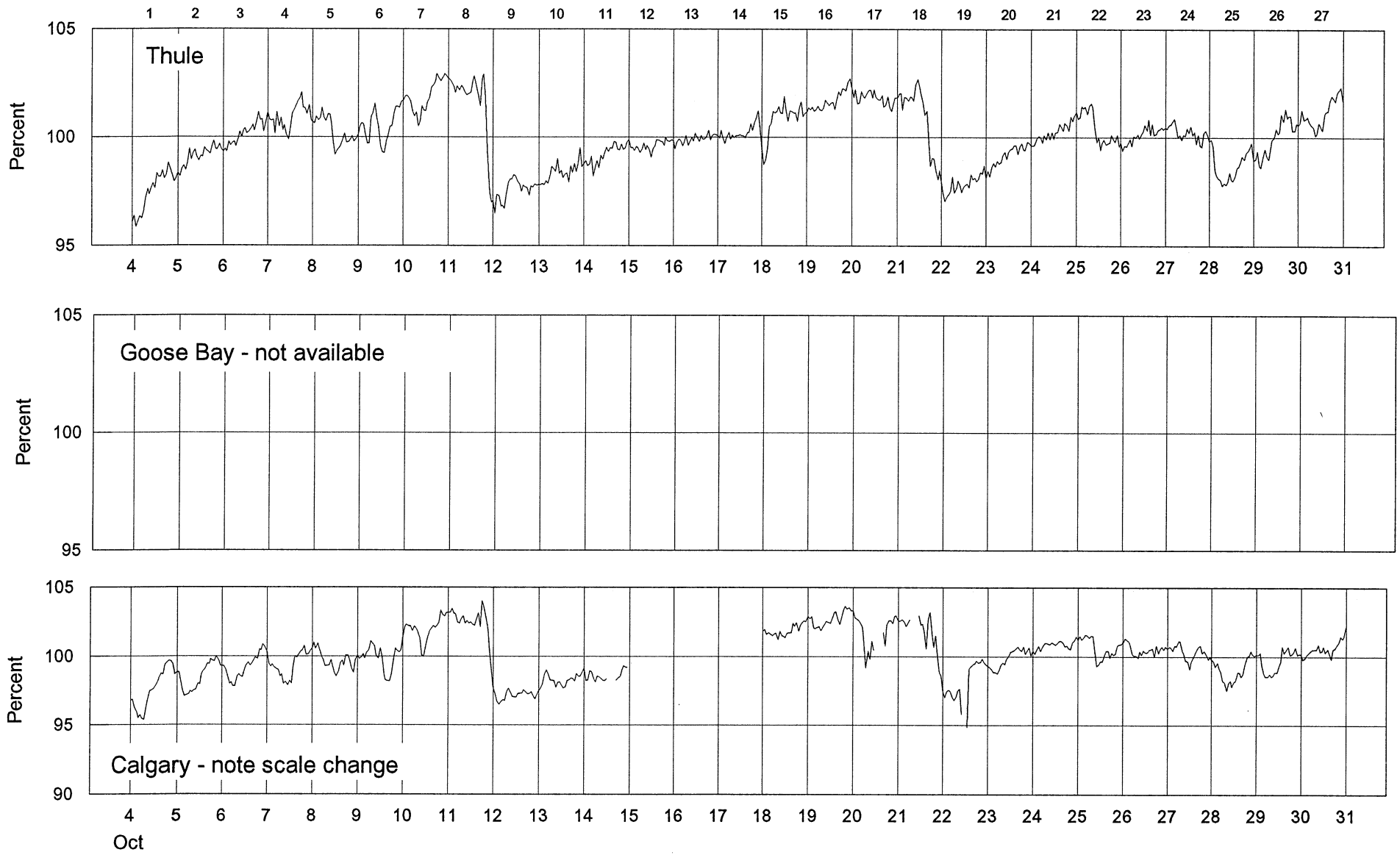
*** importance not well determined due to the proximity of the very strong other source.

COSMIC RAY INDICES
(Neutron Monitor)
October 2001

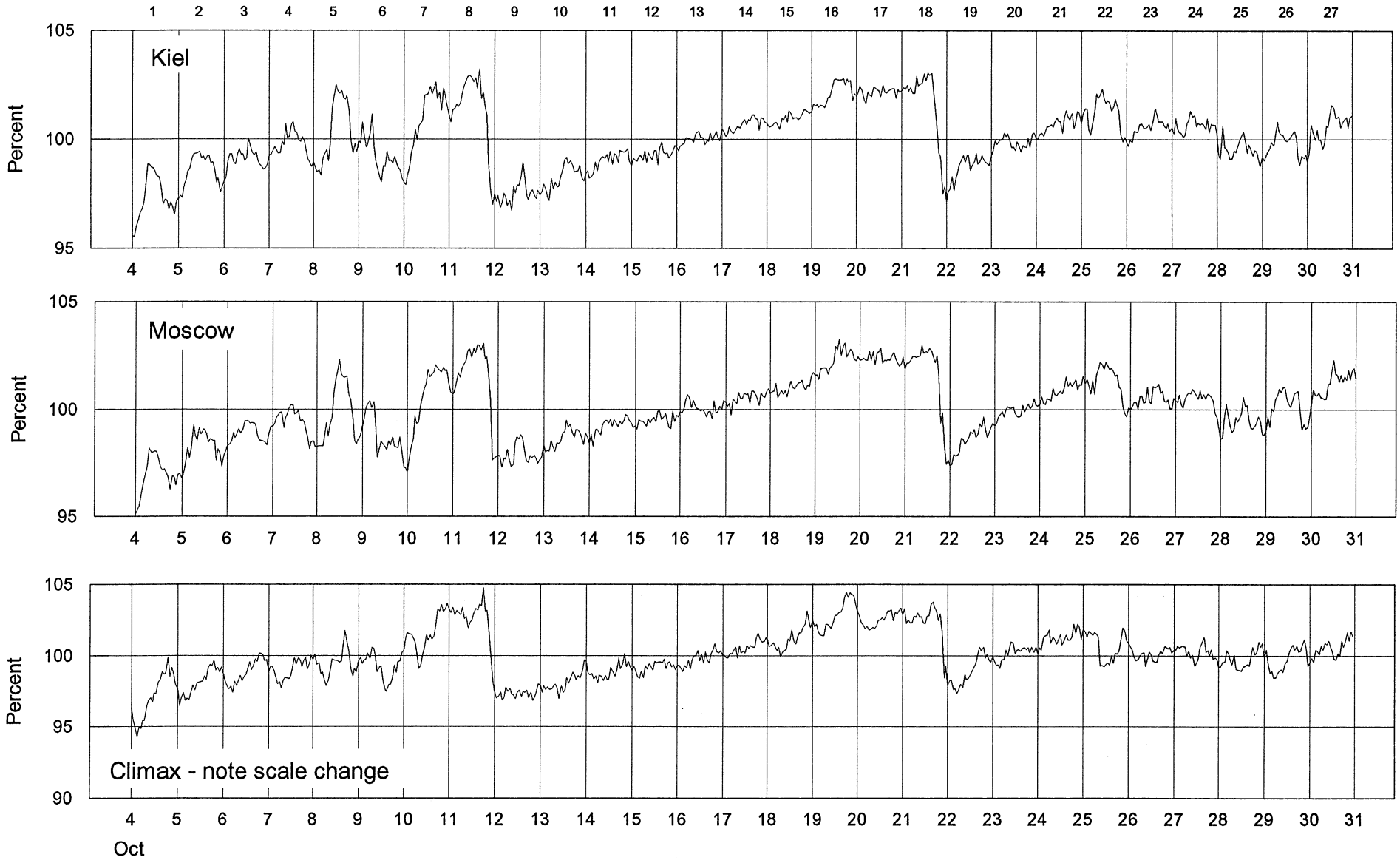
Day	THULE Average (cts/h)/100	GOOSE BAY Average (cts/h)/100	CALGARY Average (cts/h)/300	KIEL Average (cts/h)/100	MOSCOW Average (cts/h)/64	CLIMAX Average (cts/h)/100	BEIJING Average (cts/h)/256	HALEAKALA Average (cts/h)/1000
1	3800.2	not	3337.7	5311.9	7959.5	3528.1	1872.7	3416.1
2	3806.3	available	3312.2	5309.1	7947.5	3506.1	1863.0	3412.6
3	3821.0		3348.8	5366.6	8017.2	3559.5	1898.0	3438.5
4	3850.3		3377.5	5398.5	8065.6	3582.2	1906.3	3448.6
5	3914.7		3409.8	5467.8	8174.2	3619.9	1909.6	3459.5
6	3954.4		3433.0	5495.7	8227.2	3645.8	1919.0	3472.2
7	3986.1		3438.8	5534.5	8269.4	3651.9	1919.5	3460.3
8	3959.1		3450.0	5564.9	8306.0	3668.4	1934.6	3478.3
9	3968.5		3457.3	5507.0	8215.6	3660.9	1934.6	3487.7
10	4022.0		3527.8	5596.7	8370.8	3744.0	1950.9	3504.6
11	4017.4		3548.2	5630.9	8449.1	3788.1	1956.5	3526.6
12	3852.2		3363.3	5410.0	8143.5	3589.7	1902.2	3444.1
13	3883.8		3400.2	5448.4	8207.4	3617.5	1912.4	3459.0
14	3916.6		3413.0(20)	5491.7	8254.9	3647.8	1916.4	3470.5
15	3933.5		---	5506.1	8277.6	3658.7	1926.2	3480.8
16	3945.1		---	5546.2	8324.6	3680.6	1933.5	3489.8
17	3957.0		---	5582.9	8363.5	3708.0	1942.3	3503.2
18	3980.0		3525.3	5598.5	8405.0	3731.8	1945.2	3509.8
19	4014.1		3554.5	5663.8	8510.6	3792.6	1961.7	3532.6
20	4020.0		3520.7(21)	5666.3	8516.7	3782.7	1963.0	3529.5
21	3985.7		3521.3(20)	5641.4	8453.0	3778.1	1960.3	3528.0
22	3863.6		3395.8(22)	5473.6	8205.1	3646.7	1940.6	3492.2
23	3914.7		3456.3	5537.9	8313.6	3695.4	1946.0	3505.2
24	3956.8		3489.8	5585.2	8391.4	3734.3	1947.5	3503.3
25	3966.0		3482.5	5617.2	8426.5	3713.4	1939.9	3489.0
26	3952.7		3478.8	5575.9	8361.7	3692.9	1939.5	3489.0
27	3957.4		3472.3	5582.2	8357.5	3697.8	1948.6	3486.1
28	3897.0		3426.2	5522.7	8273.1	3679.0	1950.1	3480.6
29	3946.2		3449.5	5533.3	8328.6	3679.4	1954.5	3482.5
30	3990.9		3478.8	5575.0	8420.7	3707.7	1957.7	3500.0
31	4013.0		3501.2	5606.1	8431.5	3735.9	1967.8	3490.8
Mean	3936.0		3449.0	5527.4	8289.3	3675.2	1932.9	3483.0

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.

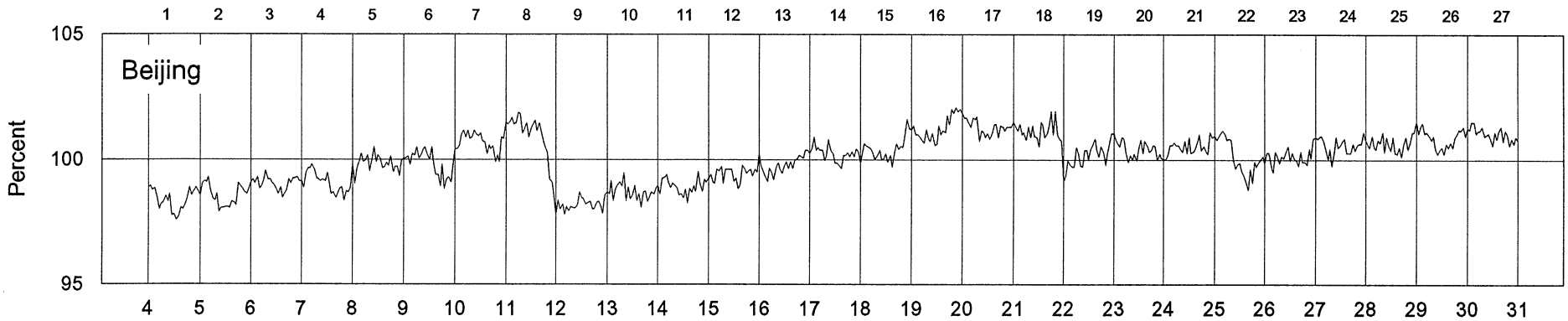
COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2296 - Beginning 4 Oct 2001

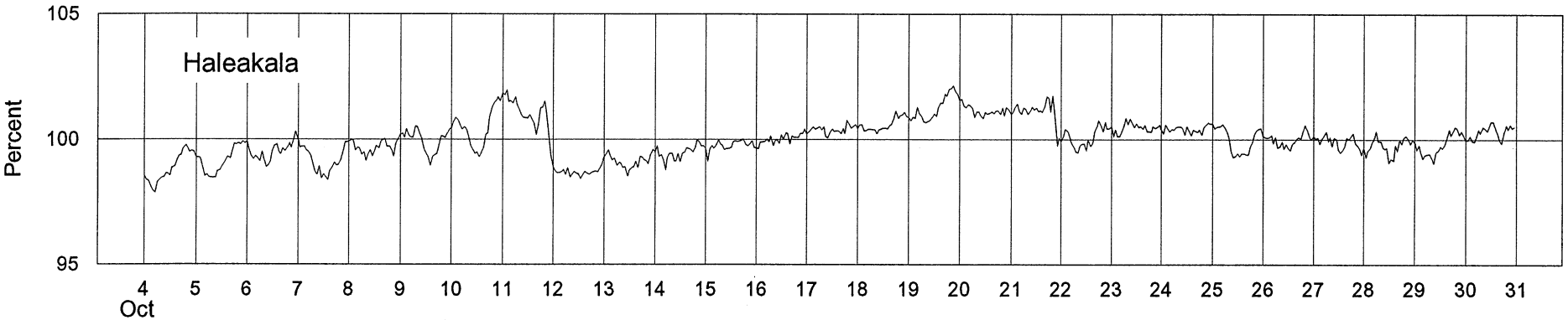


COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2296 - Beginning 4 Oct 2001

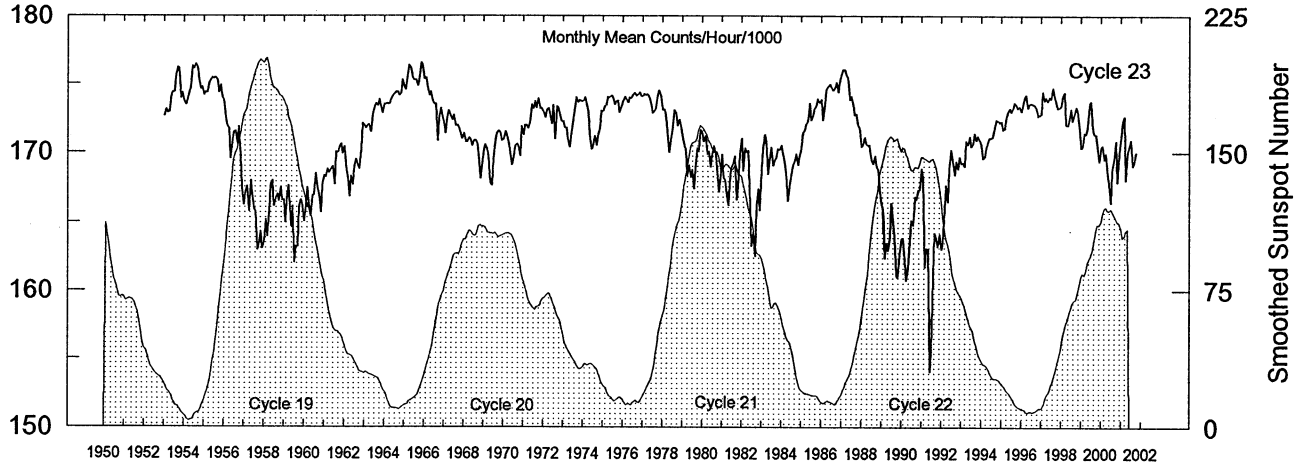


COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2296 - Beginning 4 Oct 2001





Huancayo* Neutron Monitor Pressure-Corrected/Adjusted Values
Jan 1953 - Oct 2001



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1953	1727	1732	1730	1729	1742	1744	1744	1756	1762	1761	1740	1744	1743
1954	1737	1735	1738	1744	1747	1763	1761	1764	1762	1754	1746	1748	1750
1955	1742	1744	1744	1751	1754	1755	1754	1755	1753	1744	1749	1741	1749
1956	1738	1724	1719	1718	1696	1707	1715	1716	1706	1719	1697	1675	1711
1957	1663	1671	1675	1658	1680	1670	1659	1658	1630	1633	1643	1630	1656
1958	1635	1652	1639	1657	1677	1680	1661	1667	1670	1665	1675	1666	1662
1959	1666	1649	1671	1676	1647	1661	1621	1632	1632	1661	1666	1663	1654
1960	1650	1663	1675	1660	1654	1669	1669	1685	1674	1670	1657	1677	1667
1961	1684	1682	1688	1685	1688	1690	1677	1701	1700	1704	1706	1699	1692
1962	1704	1687	1683	1668	1683	1677	1690	1695	1690	1688	1703	1721	1691
1963	1720	1718	1720	1720	1715	1729	1734	1736	1734	1739	1732	1729	1727
1964	1735	1736	1736	1736	1739	1741	1742	1744	1744	1741	1743	1753	1741
1965	1748	1745	1756	1764	1762	1754	1753	1753	1748	1754	1765	1764	1755
1966	1754	1754	1747	1741	1744	1737	1736	1736	1708	1725	1732	1727	1737
1967	1721	1714	1726	1731	1727	1724	1727	1720	1720	1718	1713	1710	1721
1968	1714	1708	1708	1710	1710	1705	1708	1709	1706	1698	1681	1689	1704
1969	1702	1706	1702	1698	1678	1676	1695	1708	1714	1716	1714	1709	1701
1970	1709	1715	1712	1707	1701	1691	1695	1705	1706	1705	1697	1719	1705
1971	1712	1720	1720	1718	1722	1735	1732	1737	1732	1739	1732	1732	1728
1972	1730	1726	1731	1732	1728	1721	1734	1710	1733	1733	1726	1723	1727
1973	1723	1719	1718	1709	1704	1716	1723	1733	1740	1737	1738	1738	1725
1974	1737	1740	1736	1729	1713	1703	1704	1712	1705	1713	1718	1731	1720
1975	1730	1733	1734	1740	1740	1742	1740	1735	1737	1738	1729	1733	1736
1976	1738	1741	1739	1737	1740	1740	1742	1743	1742	1742	1744	1741	1741
1977	1741	1743	1742	1742	1740	1735	1729	1730	1732	1742	1745	1741	1739
1978	1731	1731	1726	1710	1700	1710	1717	1731	1729	1719	1724	1720	1721
1979	1711	1707	1702	1684	1691	1682	1688	1674	1689	1703	1700	1717	1696
1980	1713	1708	1712	1699	1701	1690	1698	1705	1699	1688	1672	1680	1697
1981	1699	1682	1680	1671	1662	1685	1690	1693	1697	1666	1675	1700	1683
1982	1710	1687	1703	1700	1702	1662	1632	1643	1625	1662	1674	1658	1671
1983	1688	1703	1713	1709	1685	1697	1704	1690	1694	1697	1703	1702	1699
1984	1705	1699	1693	1685	1665	1677	1684	1691	1695	1699	1691	1698	1690
1985	1703	1714	1716	1721	1723	1736	1724	1727	1732	1734	1739	1737	1725
1986	1739	1724	1734	1746	1748	1750	1748	1745	1747	1751	1744	1752	1744
1987	1757	1760	1760	1757	1754	1738	1741	1735	1728	1728	1721	1718	1741
1988	1704	1706	1711	1706	1705	1705	1696	1692	1698	1690	1688	1674	1698
1989	1663	1660	1624	1635	1629	1638	1664	1650	1640	1611	1609	1627	1637
1990	1638	1638	1623	1608	1616	1630	1651	1648	1668	1666	1673	1673	1644
1991	1689	1682	1617	1631	1630	1540	1555	1611	1642	1638	1632	1641	1626
1992	1630	1635	1659	1677	1665	1689	1702	1696	1684	1693	1688	1697	1676
1993	1692	1692	1690	1708	1705	1711	1704	1707	1714	1709	1712	1709	1705
1994	1705	1696	1697	1703	1708	1711	1711	1711	1718	1724	1723	1722	1711
1995	1723	1717	1718	1726	1730	1732	1730	1733	1736	1735	1732	1734	1729
1996	1730	1734	1740	1742	1733	1735	1736	1736	1735	1733	1727	1727	1734
1997	1728	1744	1738	1740	1737	1741	1739	1747	1741	1737	1733	1733	1738
1998	1734	1741	1744	1721	1720	1723	1732	1723	1728	1733	1731	1719	1729
1999	1703	1704	1714	1713	1719	1736	1737	1717	1714	1713	1705	1694	1714
2000	1704	1704	1695	1700	1685	1678	1664	1688	1695	1708	1679	1699	1692
2001	1712	1723	1726	1680	1700	1705	1791	1690	1693	1701			1712

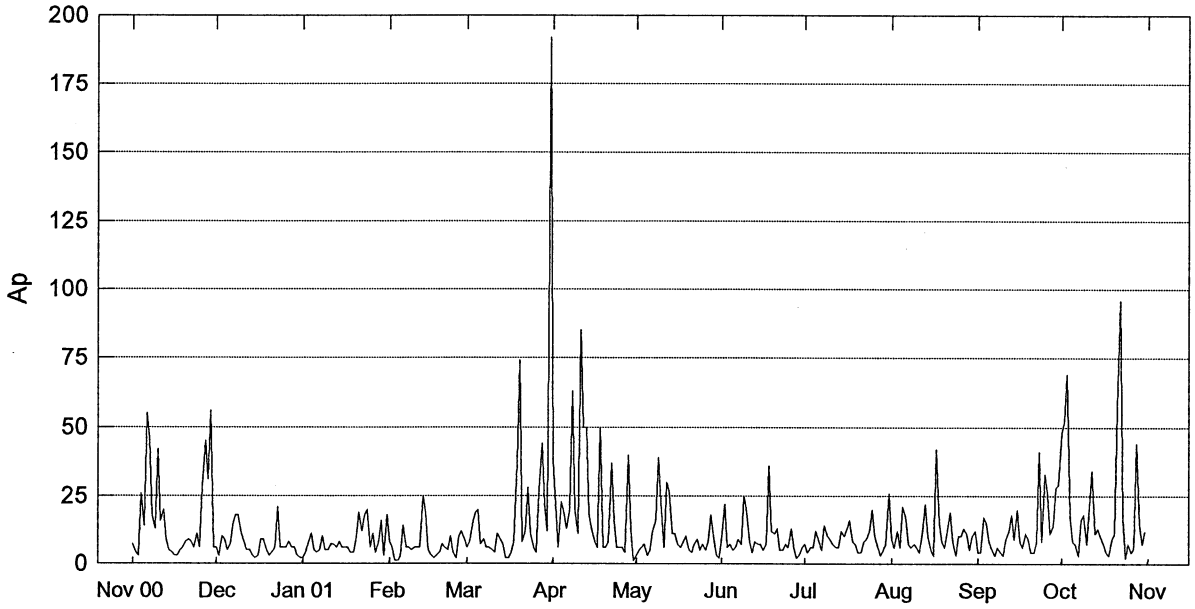
Multiply table entries by 100 to obtain hourly counting rate for Huancayo, Peru: S12 W75, Alt=3400m, Cutoff Rigidity=12.92GV (1980). NOTE: Secular changes in the Earth's magnetic field resulted in a slow lowering of the geomagnetic cutoff rigidity at Huancayo over the 40 year period. This dataset was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

Geomagnetic Activity Indices
October 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	D5	5	6	6-	6-	4+	4	3	5	39-	48	1.6	4o	5-	5+	5o	4o	4-	3-	5o	68	73	58	88	44	
2	D3	4+	5	6-	4	4-	4+	6	7-	40-	52	1.6	3+	4o	5o	4-	3+	4o	5o	5+	66	74	64	65	73	
3	D2	5	3+	5	7	7-	7-	5-	5	43+	69	1.7	4+	3-	5-	6o	6-	5o	4+	4+	83	76	81	77	81	
4		4+	2+	4	4-	3-	3+	3-	2-	25-	17	0.9	4o	2-	3+	4o	2+	3+	2+	2-	31	32	32	40	24	
5	Q10A	1-	1	1	2+	1+	3	3	1+	14-	8	0.4	1-	1o	1o	2+	1+	3o	3o	2-	15	18	15	9	24	
6		2	2	2+	3	2	0+	2-	1-	14	7	0.4	2o	2o	2+	3-	2-	0+	2-	1-	13	16	17	22	10	
7	Q3	0+	0	1-	1-	2-	0+	0+	2	6	3	0.1	0+	0+	0+	1-	2-	0+	1-	2o	6	7	6	4	9	CC
8		2	3-	2+	2+	4-	4-	2+	5-	24-	16	0.9	2+	2o	3-	3-	4-	3+	3-	4o	30	38	33	18	52	
9		4	3	3	4+	4-	4-	1+	1+	24+	18	1.0	4o	2+	3-	4-	4-	3+	2-	2-	31	33	31	34	30	
10	Q9A	2-	2	2	2-	2+	2	2+	1	15	7	0.3	1o	2-	2-	2o	3-	2o	3-	2-	15	16	17	12	21	
11		3-	3-	2-	1	2+	5	5+	3+	24	21	1.1	2+	2o	2-	1+	3-	5o	5o	4-	38	34	43	14	63	
12		6	6-	4-	3+	4	4-	3+	3	33-	34	1.3	6-	6-	3+	3+	4-	3o	3o	3o	59	50	70	78	43	
13		3	3	3	3	2	2+	2	1-	19	11	0.6	3-	3-	3-	3-	2+	2+	2o	1o	19	23	17	24	16	
14		1+	3-	3	3-	2	3-	4	3	21+	13	0.8	1+	2+	3-	2o	2+	2+	3+	3-	20	35	18	19	35	
15		3	4-	2	2+	2-	2	1	2-	17+	10	0.5	3o	3o	2+	2+	2-	2-	1o	2-	18	19	18	26	11	
16		3	2	2	2-	2	2-	2-	1+	15+	7	0.4	3-	2-	2o	2o	3-	2-	2o	2o	16	18	22	21	19	
17	Q4	2+	1	1+	1	1-	1-	0+	1	8+	4	0.1	2-	1+	1o	1o	1-	1-	0+	1+	7	8	6	9	5	CC
18	Q2	1-	0	0+	0+	1	1+	2-	1-	6	3	0.1	1+	0o	0o	0+	1o	2-	2o	1o	7	8	6	4	10	CC
19		1-	1	1	2-	3-	3+	3	2	15+	9	0.5	2-	2-	2-	2-	3+	3o	3-	2+	20	20	25	16	28	
20		1	3+	3-	3+	3-	2+	2	2+	20-	11	0.6	1-	3o	3-	3o	3o	3-	2+	2+	22	23	19	22	20	
21	D4	3	3-	2	1+	2	6	7+	8-	32	57	1.7	2o	2-	2o	1+	2o	6-	7-	7-	84	65	80	15	129	
22	D1	7	5-	4-	6	6	7+	7	7	49-	96	1.9	6o	4+	3+	5o	5+	6o	6o	6-	111	104	94	84	114	
23		5+	4+	4-	2-	2	1+	1+	1	21-	17	0.9	5-	4-	3o	1+	3-	2-	1+	1+	27	27	21	36	13	
24	Q1	1-	0+	1-	0+	0	0+	0+	0	3-	2	0.0	1-	1o	0o	0+	0o	0+	0+	0o	3	3	4	4	2	CK
25	Q7A	0	1-	3	2+	1	2	2+	2	13+	7	0.3	0o	1-	3+	2o	1+	2-	2+	2+	14	22	16	19	19	K
26	Q5	1-	1-	1+	2-	0+	1	2-	2	9+	4	0.2	1o	1o	1+	2-	0+	1o	2+	2o	9	9	9	8	11	CK
27	Q6	1+	3-	1-	2-	2+	1	1-	1-	11	6	0.3	2-	2+	1o	2o	2+	2o	1o	1o	13	11	9	12	9	C
28		3-	7-	6-	5-	5	3+	4	4	36	44	1.5	2+	5+	5o	4+	5o	3+	3+	4-	65	66	54	69	51	
29		3+	3	3	3-	3-	3	3-	3	23+	14	0.8	3-	3-	3o	3-	3o	3+	3-	3o	28	24	34	26	32	
30	Q8A	2+	3	2+	2	1	1+	1-	1+	14	7	0.4	2o	2+	3-	2o	1+	2o	2-	2-	15	10	12	13	9	C
31		1+	0+	1+	0+	3	3-	4	4+	17+	12	0.7	1-	0+	1+	1-	3o	3-	4o	4-	21	31	19	6	44	
Mean											20	0.76									31.4	32.1	30.7	31.4	

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	4+	5-	6-	5+	4o	4-	3o	5-	74	4o	4+	5o	5-	4o	3+	3-	5o	62	216.9	168	184	172	
2	3+	4-	5+	4-	3o	4o	5-	5o	64	4-	4o	5o	3+	3+	4o	5o	5+	68	201.1	144	167	155	
3	4o	3-	5-	6o	6-	5o	4o	4+	84	5-	3-	5-	6-	5+	5-	5-	4+	81	191.8	135	147	145	
4	4o	2-	3+	4o	3-	3+	3-	1+	31	4o	2o	3+	4o	2o	3o	2+	2o	31	186.5	132	146	139	
5	0+	1o	1o	3-	1+	3+	3o	2-	16	1-	1o	1o	2o	1o	3-	3o	1+	13	176.8	114	127	129	
6	2-	2o	2o	2+	2-	0+	2-	1-	12	2o	2o	3-	3o	2o	1-	2-	1o	15	180.2	104	107	133	
7	0o	0o	0+	1-	1+	0+	0+	2-	5	1-	1-	1-	1-	2o	0o	1-	2o	7	172.4	103	100	124	
8	2-	2+	3-	3-	4o	3+	3-	4o	31	3-	2o	2+	3-	3+	3+	3-	4o	28	170.8	72	83	122	
9	4-	2o	2+	4-	4-	4-	2-	1+	28	4+	3-	3o	4-	4-	3+	2o	2-	34	175.9	79	80	128	
10	1o	2-	2o	2-	3o	2o	3-	2-	16	1+	1+	2-	2o	2+	2-	2+	2-	13	178.1	98	104	130	
11	3-	2+	1+	1+	3-	5o	5o	3o	37	2+	2-	2-	1+	2+	5o	5o	4o	40	174.1	113	124	126	
12	5-	5o	3+	4-	4-	3o	3o	3o	49	6+	6-	4-	3+	4o	3o	3o	3o	68	178.5	127	132	131	
13	3-	3o	3-	3-	2+	2+	2o	1-	20	3-	2+	3-	3-	2o	2o	2+	1o	18	178.6	108	117	131	
14	1-	2o	2+	2o	2o	3-	3+	3-	19	2o	2+	3-	2o	2+	2+	3+	3-	21	190.8	115	129	144	
15	3o	3+	2+	3-	2-	2-	1+	2-	19	3o	3o	2o	2o	1+	1+	1o	2o	16	191.7	123	136	145	
16	2+	2-	2o	2-	3-	2-	2o	2o	16	3-	2o	2+	2o	2+	2-	2o	2o	16	205.8	121	138	160	
17	2-	1+	1o	1-	1-	1-	0+	1-	6	2o	2-	1o	1o	1-	1-	1-	2-	8	215.8	126	149	171	
18	1-	0o	0o	0+	1o	2o	2-	1-	6	1+	0+	0o	1-	1o	1+	2o	1+	7	226.9	131	154	183	
19	1o	1+	1+	2-	3+	3o	3o	2+	19	2+	2o	2o	2-	3o	3o	3-	2+	21	245.6	143	170	203	
20	1-	3-	3-	3+	3o	3-	3-	2+	22	1o	3o	3-	3o	3-	2+	2+	3-	21	242.5	160	174	200	
21	2o	2-	2+	1+	2o	6-	7o	7-	83	2+	2o	2-	2-	2o	5+	7-	7o	84	222.0	154	169	178	
22	6+	4+	3+	5o	5+	6o	6-	5+	112	6-	4+	3o	5-	5+	6o	6o	6o	110	230.4	135	159	187	
23	5-	4-	3o	1+	3o	2-	1+	1+	27	5-	4-	3o	1+	2o	2-	2-	1+	26	224.1	143	164	180	
24	1-	1-	0o	0+	0o	0+	0+	0o	2	1o	1+	0o	0o	0o	0o	0+	0+	3	236.0	135	159	193	
25	0o	1-	3o	2o	1o	2-	2+	2+	13	0+	1o	3+	2+	1+	2-	3-	2+	16	236.1	151	174	193	
26	1-	1-	1o	2-	0+	1o	2+	2-	8	1+	1+	1+	2-	1-	1-	3-	2o	11	233.6	154	171	190	
27	1+	2o	1-	2o	3-	2-	1o	1-	11	2o	3-	1o	2+	2+	2+	1+	1+	15	243.4	143	155	201	
28	2+	6-	5+	4+	5+	4-	4-	4-	70	2+	5+	5o	5-	5-	3+	3+	3+	59	224.2	139	148	180	
29	3o	3o	3o	3-	3o	3+	3-	3o	29	3-	3-	3-	3-	3-	3o	3-	3+	27	212.8	127	136	168	
30	2o	3o	3-	2o	1+	2+	0+	1+	15	2+	2-	2+	2o	1+	2-	2+	2o	15	222.7	103	113	179	
31	1-	0o	1+	0+	3o	3-	4o	3+	21	1-	0+	1+	1-	3-	3-	4o	4-	21	217.8	93	108	173	
Mean									31.1									31.5	206.6	125.6	139.5	161.1	

Daily Average Indices Ap
Nov 2000 -Oct 2001

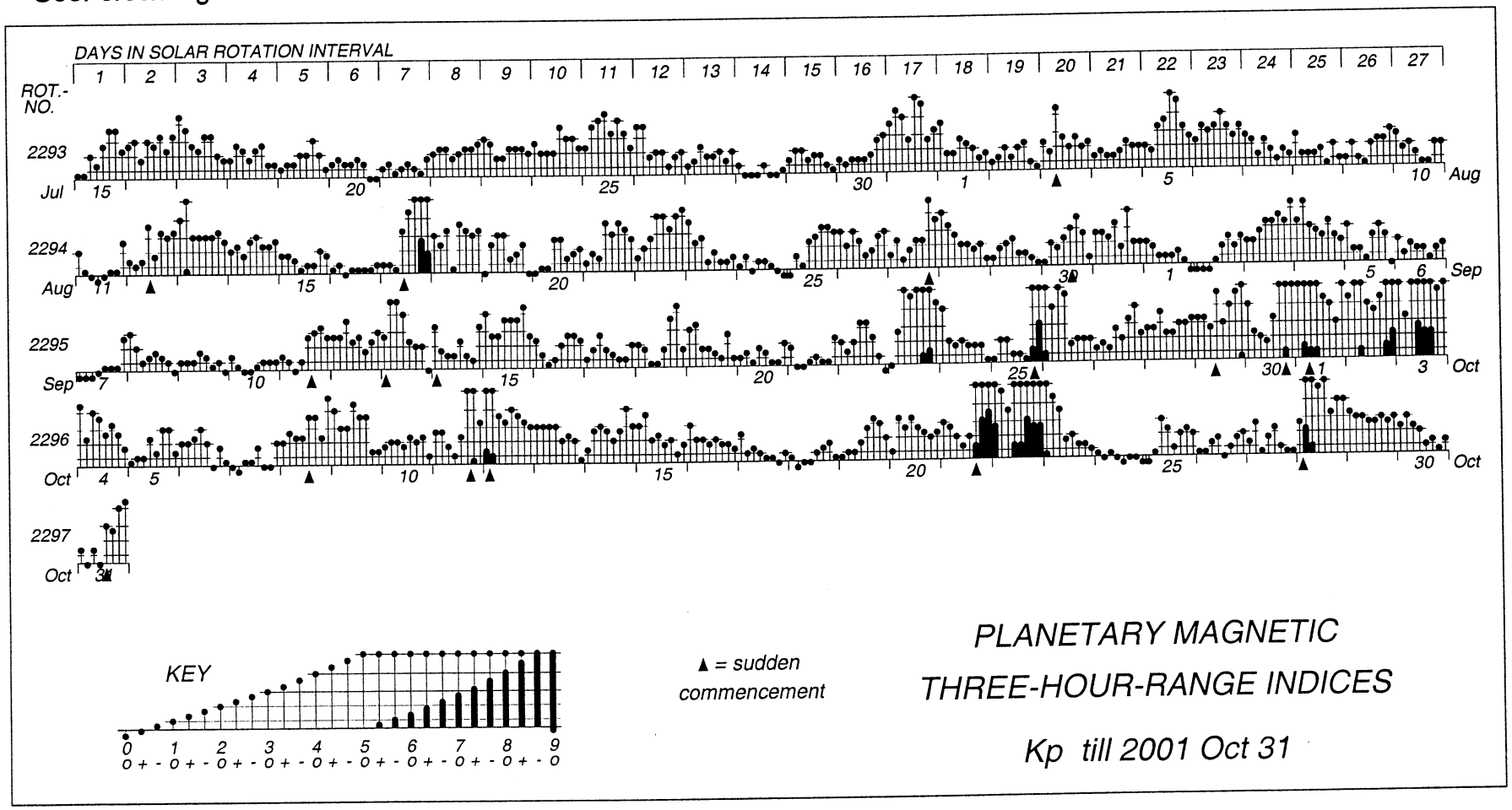


Day	Nov 00	Dec	Jan 01	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	7	6	2	8	6	38	3	9	7	9	4	48
2	4	3	4	6	8	22	5	22	4	6	4	52
3	3	10	8	1	15	6	6	6	6	12	17	69
4	26	9	11	1	19	23	7	7	6	6	15	17
5	14	5	5	3	20	19	3	5	12	21	8	8
6	55	7	4	14	7	13	5	6	8	17	5	7
7	46	15	5	6	9	20	12	9	5	7	3	3
8	18	18	10	6	6	63	16	7	14	6	6	16
9	13	18	5	5	6	20	39	25	10	7	4	18
10	42	11	5	6	5	11	23	20	9	6	3	7
11	16	8	7	6	4	85	6	8	7	4	9	21
12	20	5	7	6	11	50	30	4	6	12	12	34
13	9	5	6	25	9	50	27	8	6	22	18	11
14	5	3	8	19	7	18	11	7	12	10	9	13
15	4	2	6	5	2	13	11	7	10	5	20	10
16	3	3	6	3	2	8	7	5	13	3	8	7
17	3	9	6	2	4	6	6	7	16	42	6	4
18	5	9	4	3	8	50	8	36	8	15	11	3
19	6	5	4	4	37	6	10	12	7	8	9	9
20	8	3	9	7	74	6	5	11	4	6	4	11
21	9	4	19	6	8	8	4	13	4	13	4	57
22	8	6	12	5	12	37	7	5	8	19	8	96
23	6	21	18	10	28	16	9	5	9	8	41	17
24	11	6	20	4	11	6	5	7	12	3	8	2
25	6	6	6	2	6	6	7	6	20	10	33	7
26	28	6	11	10	4	6	5	13	10	10	26	4
27	45	8	4	12	27	4	8	6	6	13	11	6
28	31	6	8	9	44	40	18	2	3	11	14	44
29	56	6	16		22	13	9	3	5	5	28	14
30	6	3	3		12	1	3	6	7	10	29	7
31		2	18		192		2		26	12		12
Mean	17	7	8	7	20	22	10	10	9	11	13	20

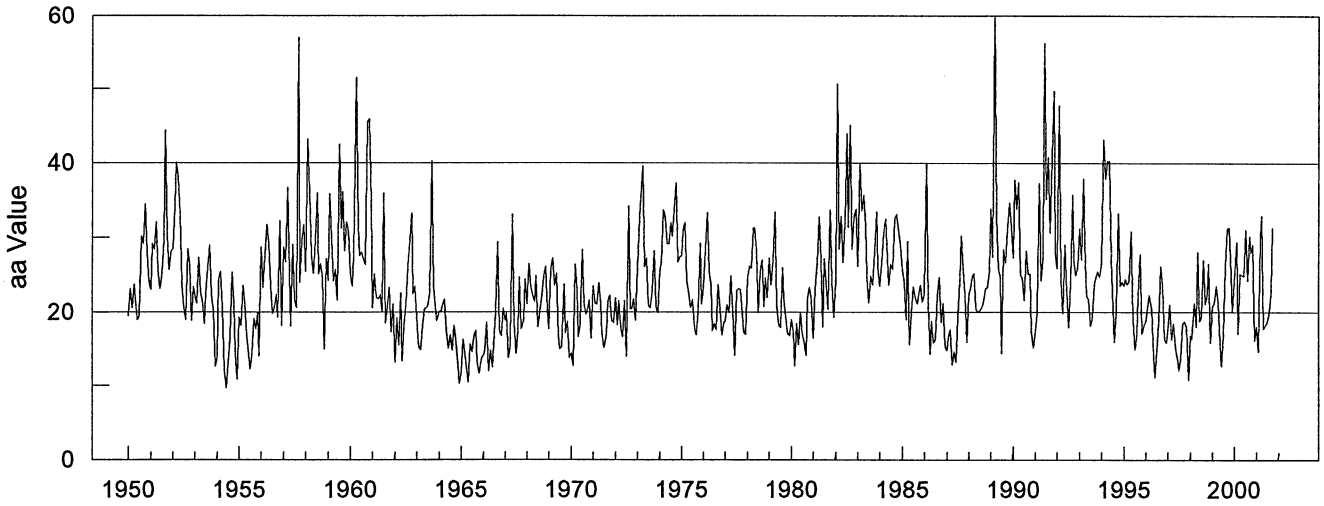
PLANETARY 3-HOUR-RANGE INDICES (Kp) BY 27-DAY SOLAR ROTATION INTERVAL

GeoForschungsZentraum Potsdam

Kp through October 31, 2001



Monthly Mean aa Index Jan 1950 - Oct 2001

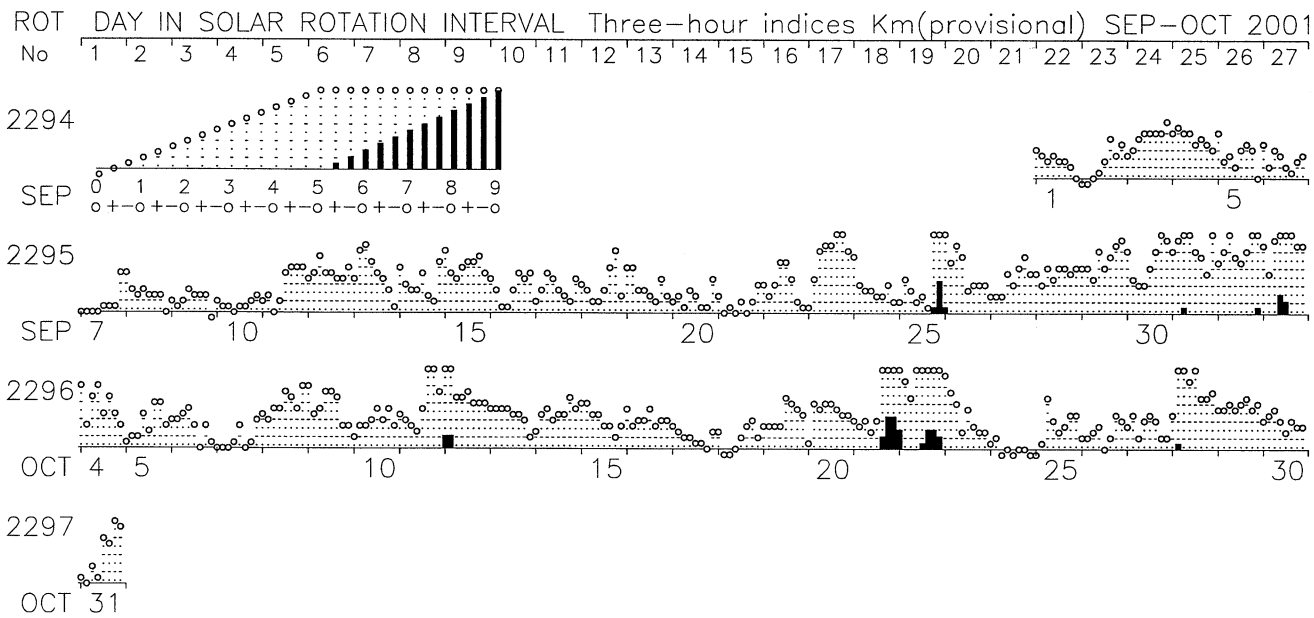


Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1950	19.5	23.2	20.6	23.8	21.7	19.0	19.5	30.2	29.3	34.5	28.0	24.0	24.4
1951	23.1	29.2	28.5	32.1	25.5	23.2	25.2	29.7	44.4	30.3	25.7	28.2	28.8
1952	28.5	34.3	40.1	38.0	33.1	23.8	20.7	19.0	28.5	26.4	18.9	23.4	27.9
1953	22.3	21.2	27.4	22.7	21.4	18.4	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	17.8	18.2	18.7	19.9	22.7	31.4			22.5

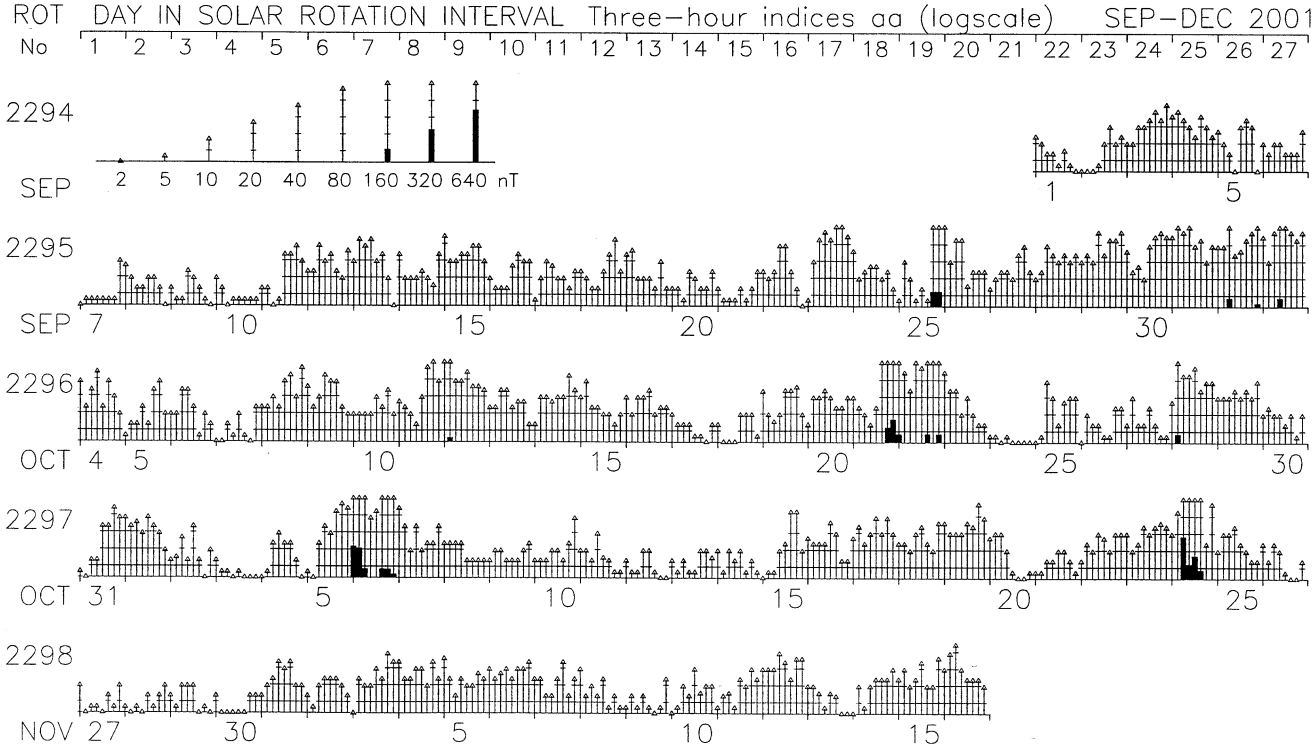
PLANETARY GEOMAGNETIC ACTIVITY

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

ISGI PUBLICATION OFFICE – EMail : ISGI.PUBOFF@cetp.ipsl.fr
CETP, 4 Avenue de Neptune, F-94107 Saint Maur des Fosses CEDEX – FRANCE



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)

OCTOBER 2001

UNIT=NT U. T.

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
1	-57	-67	-71	-78	-89	-106	-116	-135	-150	-143	-125	-121	-116	-117	-114	-111	-98	-92	-90	-86	-82	-81	-77	-79
2	-73	-71	-76	-81	-77	-77	-92	-93	-80	-86	-83	-90	-100	-101	-86	-78	-84	-89	-82	-74	-76	-92	-88	-84
3	-83	-77	-68	-60	-60	-58	-51	-71	-89	-120	-129	-162	-170	-174	-182	-162	-165	-147	-123	-119	-113	-115	-117	-103
4	-91	-88	-81	-81	-83	-81	-90	-99	-101	-95	-84	-74	-73	-68	-63	-56	-56	-50	-50	-49	-49	-47	-52	-48
5	-43	-41	-40	-41	-40	-40	-40	-37	-35	-25	-19	-19	-16	-11	-5	-2	-10	-7	-19	-15	-13	-15	-19	-20
6	-19	-16	-14	-17	-17	-12	-12	-10	-11	-8	-8	-10	-15	-14	-15	-17	-16	-16	-14	-17	-15	-15	-15	-15
7	-15	-14	-13	-11	-9	-6	-4	-3	-1	-5	-7	-7	-8	-10	-5	-4	-4	-3	-2	0	0	-1	-4	-7
8	-7	4	1	-5	-5	-7	-1	2	-1	0	-16	-30	-38	-29	-36	-42	-40	-32	-24	-20	-18	-21	-35	-44
9	-37	-31	-31	-33	-31	-27	-22	-25	-37	-39	-30	-26	-44	-58	-64	-74	-57	-44	-39	-39	-42	-40	-38	-36
10	-33	-31	-33	-36	-36	-32	-32	-34	-35	-32	-35	-36	-35	-38	-38	-31	-31	-31	-36	-41	-34	-33	-34	-33
11	-30	-29	-27	-26	-21	-21	-23	-21	-19	-18	-17	-23	-31	-38	-37	-33	-30	1	-56	-74	-64	-56	-44	-26
12	-16	-16	-23	-58	-40	-46	-58	-62	-51	-49	-53	-62	-72	-67	-65	-64	-63	-61	-49	-47	-47	-46	-43	-41
13	-38	-35	-36	-37	-43	-44	-46	-46	-44	-34	-30	-31	-38	-40	-34	-35	-35	-30	-23	-25	-27	-26	-26	-23
14	-20	-16	-15	-22	-23	-19	-23	-29	-35	-29	-29	-30	-27	-29	-30	-27	-27	-23	-24	-32	-30	-32	-28	-28
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22	-161	-166	-163	-154	-158	-154	-150	-149	-136	-124	-136	-143	-145	-149	-136	-156	-145	-157	-137	-155	-155	-152	-149	-144
23	-155	-126	-114	-120	-116	-118	-120	-112	-109	-101	-96	-93	-96	-90	-83	-79	-78	-73	-68	-68	-68	-66	-65	-64
24	-63	-58	-52	-51	-49	-50	-50	-50	-52	-50	-49	-48	-47	-44	-42	-42	-42	-40	-37	-37	-35	-33	-35	-32
25	-30	-26	-24	-24	-24	-23	-22	-22	-18	6	9	2	-2	-2	-3	-3	-5	-6	-8	-20	-30	-33	-31	-25
26	-23	-21	-18	-18	-18	-17	-19	-21	-21	-20	-21	-21	-20	-19	-21	-21	-20	-19	-14	-8	-8	-9	-7	-8
27	-11	-13	-22	-25	-25	-25	-24	-25	-28	-27	-25	-24	-25	-24	-26	-24	-23	-21	-17	-14	-13	-11	-10	-12
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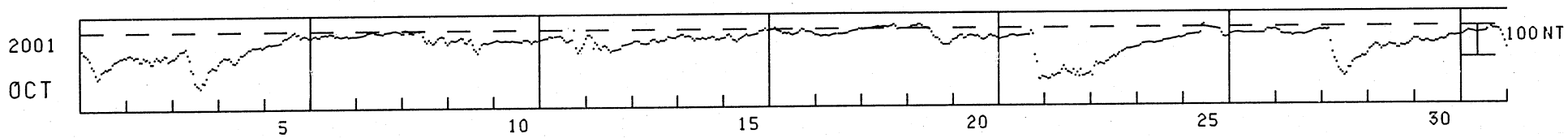
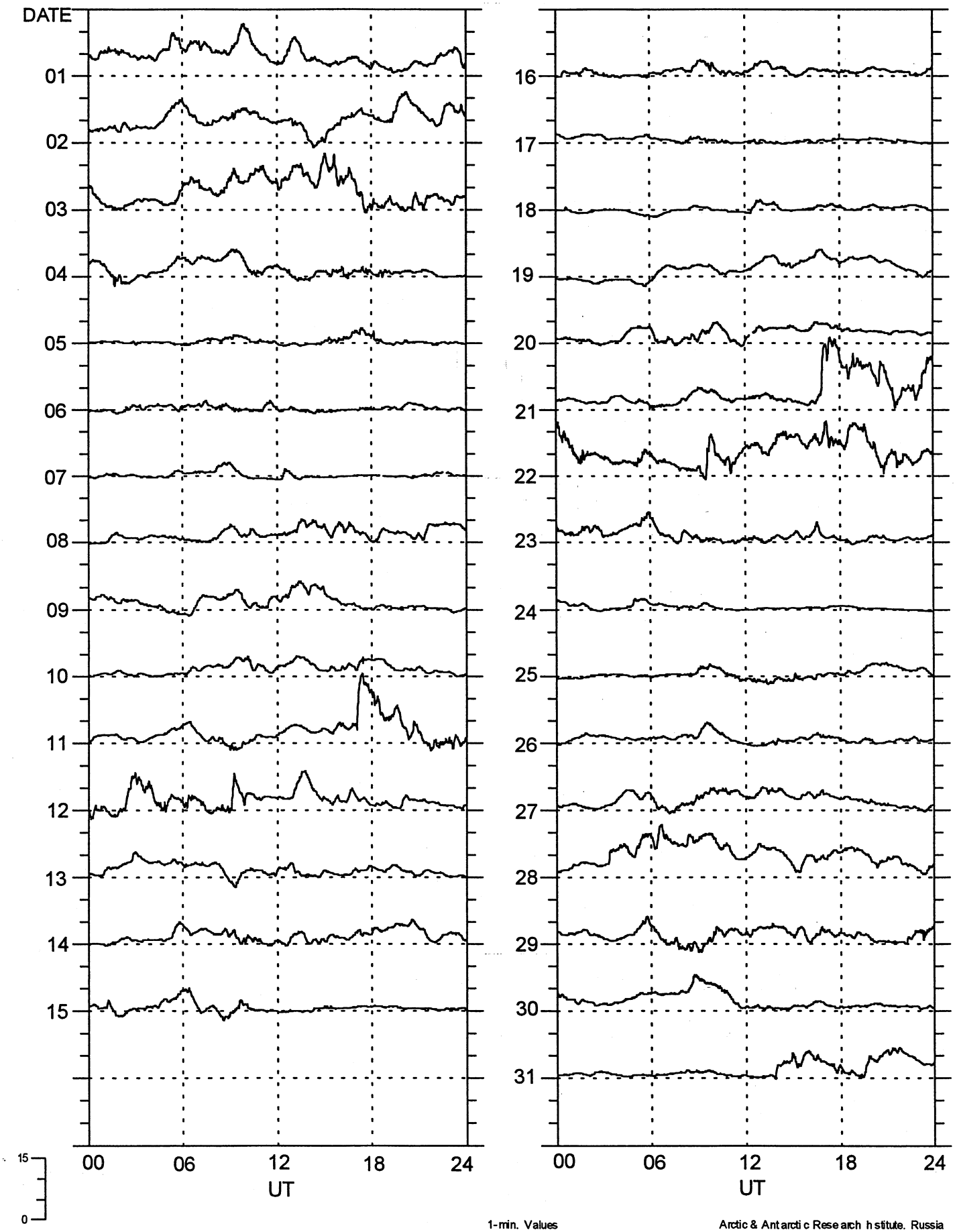
29	-75	-71	-65	-59	-60	-67	-76	-69	-69	-65	-58	-60	-62	-62	-70	-70	-63	-65	-64	-61	-60	-54	-47	-41
30	-42	-42	-48	-51	-51	-48	-48	-52	-54	-53	-50	-50	-46	-43	-46	-44	-38	-32	-30	-30	-32	-31	-30	-30
31	-28	-24	-19	-16	-17	-17	-21	-23	-22	-21	-19	-20	-18	-13	0	-5	-10	-9	-9	-12	-20	-34	-51	-70



PC-INDEX

Vostok

October, 2001



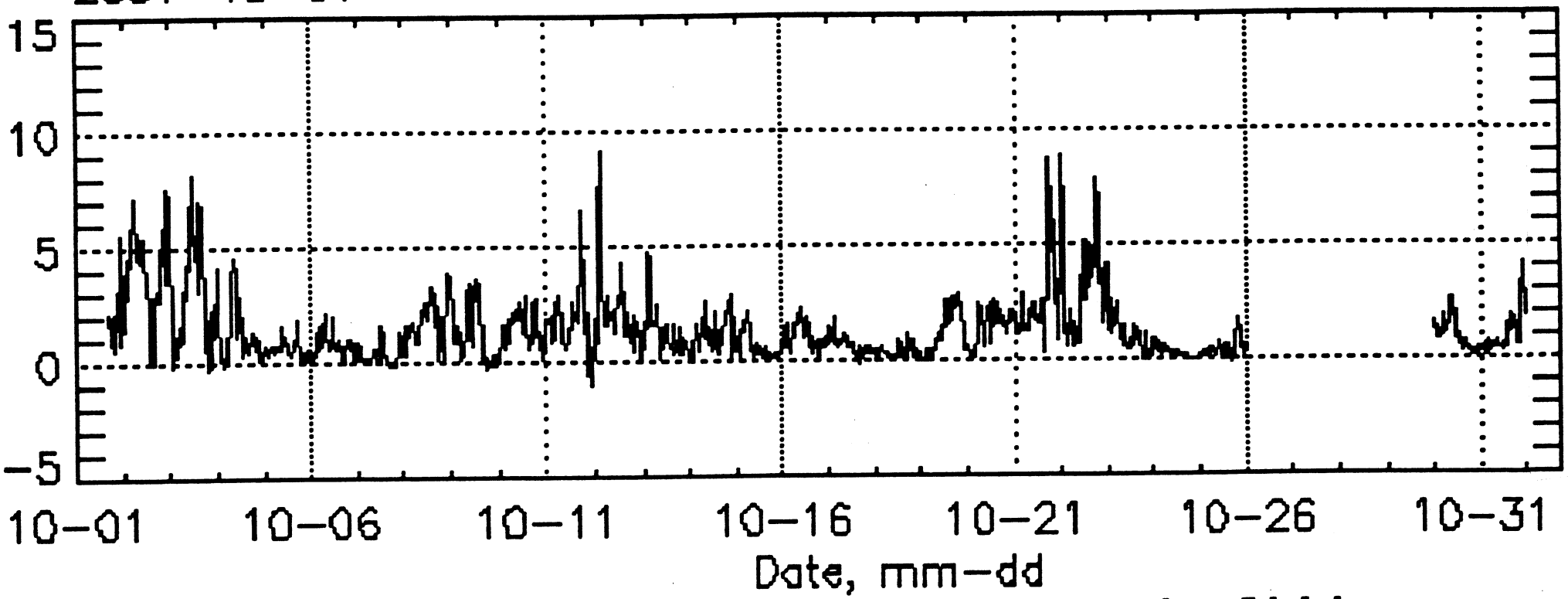
1-min. Values

Arctic & Antarctic Research Institute. Russia

WDC C1 for Geomagnetism, Copenhagen

Polar Cap index
Thule(Qaanaaq), THL

2001-10-01



Data source: Solar-Terrestrial Physics Division
Danish Meteorological Institute

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

OCTOBER 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)
HER	33.6S	02	18--	..	..	..	..	02(8)	6	36	193	119	04	02
KRC	16.4N	03	0845	SC	- 4	43	31	03(4)	7	6	237	93	04	18
UJJ	13.6N	08	0900	..	..	..	..		-	5	124	33	09	19
NGP	11.3N	08	0900	..	..	..	..		-	5	156	30	09	19
ABG	09.4N	08	0900	..	..	..	..	09(5,6)	5	5	149	34	09	19
HYB	07.6N	08	0100	..	..	..	..	09(6)	5	5	180	37	09	22
PND	02.0N	08	0900	..	..	..	..		-	4	174	52	09	19
TIR	00.6S	08	0900	..	..	..	..		-	--	--	--	09	19
ETT	00.7S	08	0100	..	..	..	..		-	4	245	64	09	22
KRC	16.4N	11	1716	SC	- 3	69	38	11(6)	6	8	138	67	12	21
UJJ	13.6N	11	1658	SC	- 0.5	52	- 10		-	5	219	34	12	20
NGP	11.3N	11	1658	SC	- 0.1	51	- 8		-	6	145	25	12	20
ABG	09.4N	11	1658	SC	- 0.7	46	- 8	11(6)	6	5	136	33	12	20
HYB	07.6N	11	1701	SC	- 0.4	45	- 2	11(6)	6	6	138	36	13	21
PND	02.0N	11	1658	SC	- 0.2	46	45		-	3	167	194	12	20
TIR	00.6S	11	1658	SC	- 0.5	38	55		-	4	215	122	12	20
ETT	00.7S	11	1700	SC	0.5	41	44		-	4	212	107	13	21
HER	33.6S	11	1700	SC	2	28	20	12(1)	6	33	163	186	12	12
KRC	16.4N	21	1647	SC	- 5	98	53	21(6)	8	13	132	114	23	08
UJJ	13.6N	21	1646	SC	- 1.0	71	- 15		-	5	269	40	23	10
NGP	11.3N	21	1646	SC					-	--	--	--	23	10
ABG	09.4N	21	1646	SC	- 1.3	64	- 15	21(6,7)	7	6	284	46	23	10
HYB	07.6N	21	1648	SC	- 0.8	62	- 3	21(7)	8	5	295	20	23	22
PND	02.0N	21	1646	SC	- 0.5	65	65		-	3	286	120	23	10
TIR	00.6S	21	1646	SC	- 0.9	53	77		-	4	267	157	23	10
ETT	00.7S	21	1648	SC	0.8	56	62		-	3	279	132	23	18
HER	33.6S	21	1650	SC	4	52	30	21(8)	7	49	252	229	23	09
HYB	07.6N	25	0850	SC	- 0.2	39	- 2		-	--	--	--	--	--
ETT	00.7S	25	0850	SC	- 0.7	52	43		-	--	--	--	--	--
KRC	16.4N	28	0320	SC	- 3	40	22	28(2)	6	9	191	82	29	07
UJJ	13.6N	28	0317	SC	- 0.9	39	- 10		-	5	194	43	29	21
NGP	11.3N	28	0317	SC					-	--	--	--	29	21
ABG	09.4N	28	0317	SC	- 1.2	37	- 11	28(2)	6	5	219	54	29	21
HYB	07.6N	28	0319	SC	- 0.4	46	- 7	28(4,5)	7	4	238	34	28	23
PND	02.0N	28	0317	SC	- 0.7	65	43		-	4	272	108	29	21
TIR	00.6S	28	0317	SC	- 1.6	100	95		-	5	315	189	29	21
ETT	00.7S	28	0319	SC	- 1.6	96	70		-	3	312	154	30	18
HER	33.6S	28	0318	SC*	4	15	17	28(2,3)	5	27	168	63	28	24
UJJ	13.6N	31	1346	SC	- 0.3	21	- 5		-	3	108	26	02	01
NGP	11.3N	31	1346	SC	--	22	- 2		-	3	124	21	02	01
ABG	09.4N	31	1346	SC	- 0.3	18	- 3	01(1) 04(4)	5	2	119	32	02	01
HYB	07.6N	31	1347	SC	- 0.3	20	- 1	31(7,8) 01(1)	4	5	121	21	02	23
PND	02.0N	31	1346	SC	- 0.1	19	18		-	3	119	45	02	01
TIR	00.6S	31	1346	SC	- 0.3	17	20		-	3	147	51	02	01
ETT	00.7S	31	1347	SC	- 0.5	18	18		-	--	--	--	--	--
HER	33.6S	31	1350	SC	4	20	20	31(7,8)	4	27	104	91	01	13

Stations:

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

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

October 2001

Storm Sudden Commencements (SSC)

Day	Time	Quality: Station Group*
11	1701	A: NGK* VAL* CLF* HRB MMB EBR SPT* KAK KNY GUI HYB
		B: BDV* GCK HER
21	1648	A: NUR* NGK* VAL* CLF* HRB* GCK MMB* EBR SPT* KAK KNY HYB
		B: BDV* GNA HER CNB*
25	0850	A: HYB
		B: GUI GNA CNB
		C: CLF EBR SPT
		si: VAL HRB
28	0319	A: MMB* KAK KNY HYB
		B: SOD* NUR* NGK* BDV* HRB EBR* SPT* GUI GNA* HER CNB*
		C: GCK*
31	1348	A: CLF* GUI
		B: NUR* NGK* HRB* MMB KAK KNY HYB GNA HER CNB
		C: SOD* BDV* GCK* EBR*

Solar Flare Effects (sfe)

Day	Begin-End	Station(s)
06	0520-0545	KAK+ KNY+
07	1218-1251	BDV
15	0928-0952	GUI
19	0054-0155	MMB+ KAK+ KNY+ GNA+ CNB+
19	0938-0952	BDV+

REPORTING OBSERVATORIES (up to the 3rd of December 2001):
SOD NUR NGK VAL BDV CLF HRB GCK MMB EBR SPT KAK KNY GUI HYB 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 (+).