OCTOBER 2002 NUMBER 698 - Part I

Solar-Geophysical Data prompt reports

Data for August and September 2002
Explanation of Data Reports Issued as Number 515 (Supplement) July 1987

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OCTOBER 2002 NUMBER 698 - Part I

Solar-Geophysical Data prompt reports

Data for August and September 2002

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NATIONAL GEOPHYSICAL DATA CENTER
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Boulder, Colorado

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SOLAR-GEOPHYSICAL DATA

Number 698

(Issued in Two Parts)

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-- MONTHLY PLOTS

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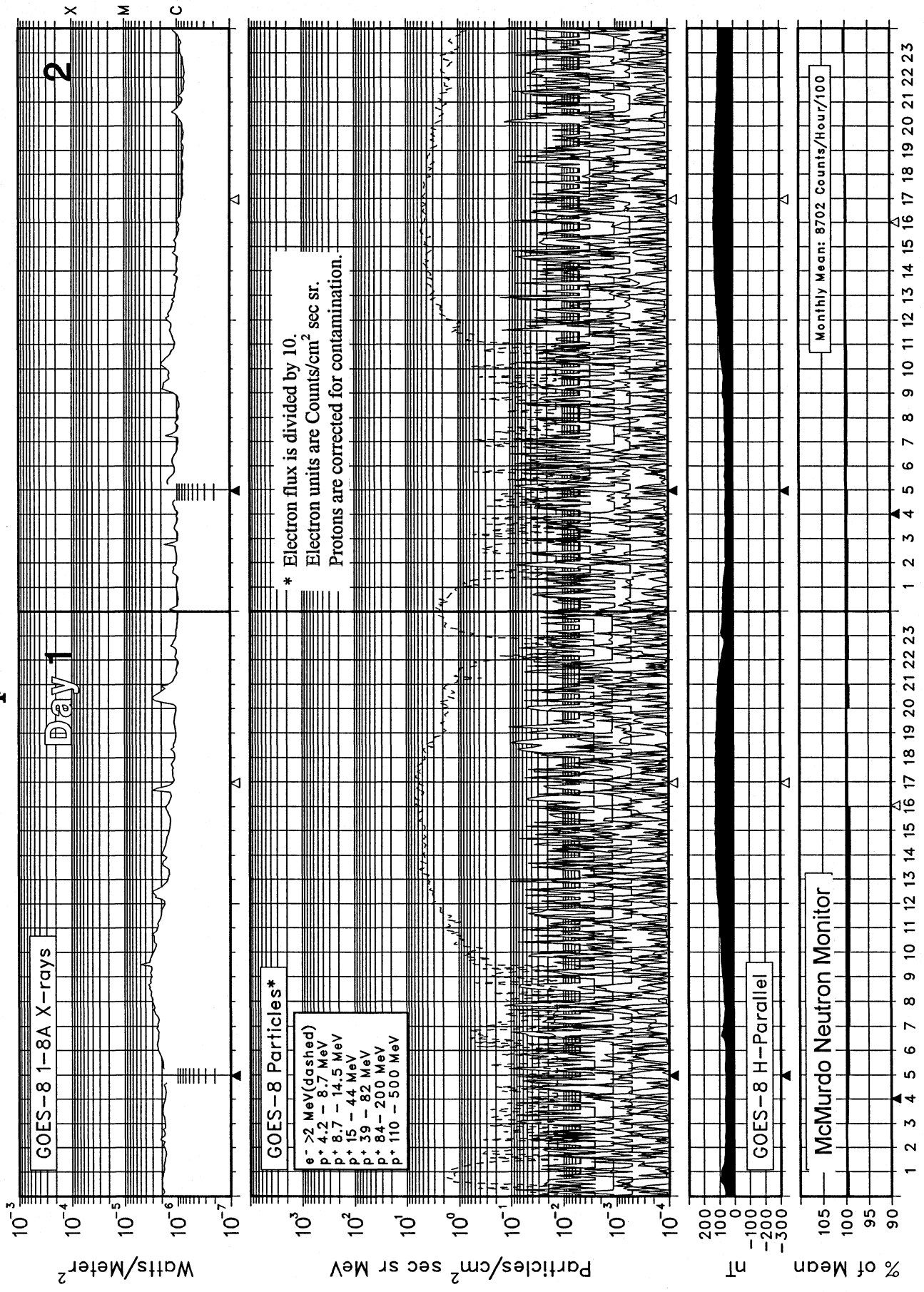
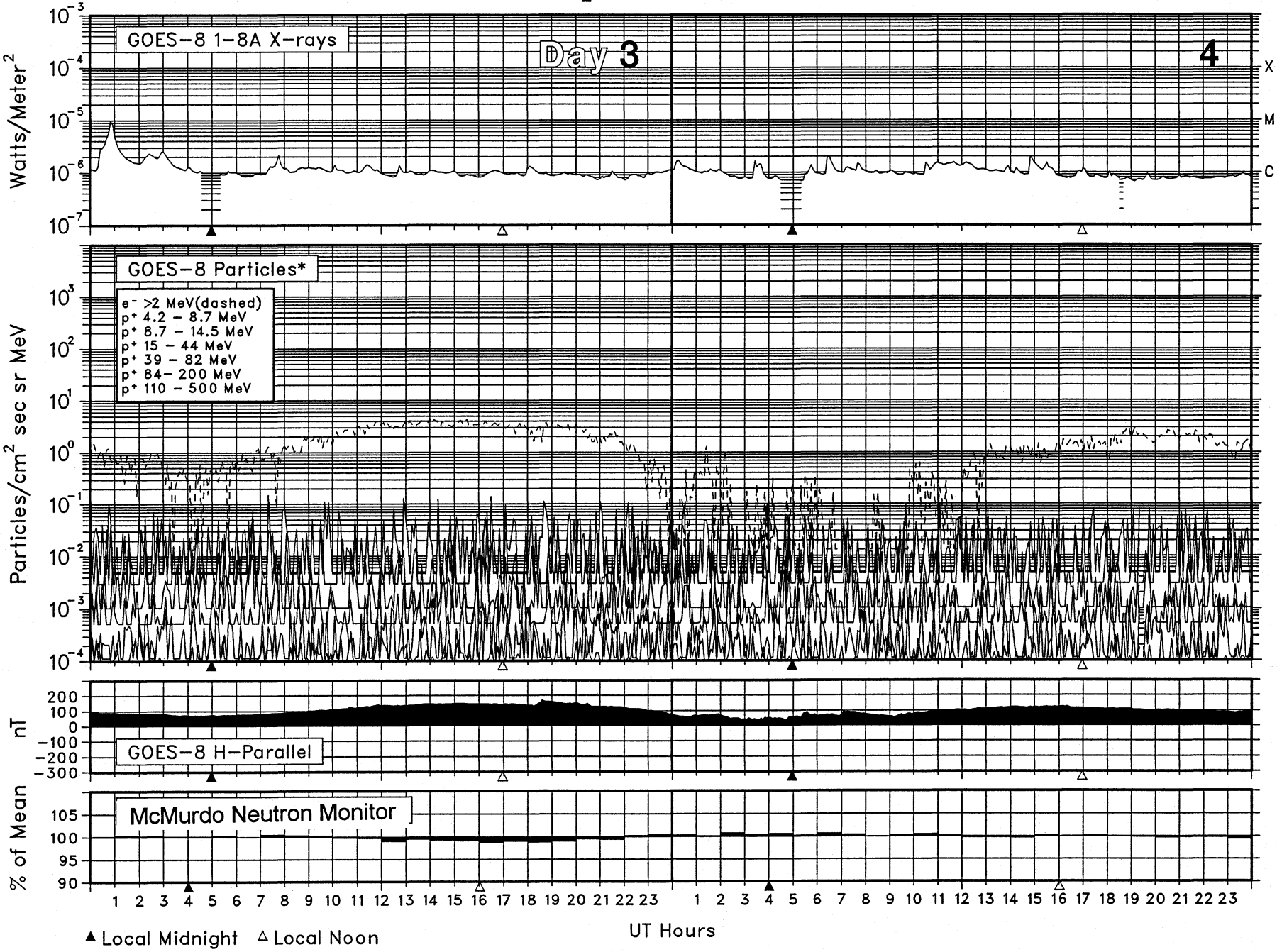
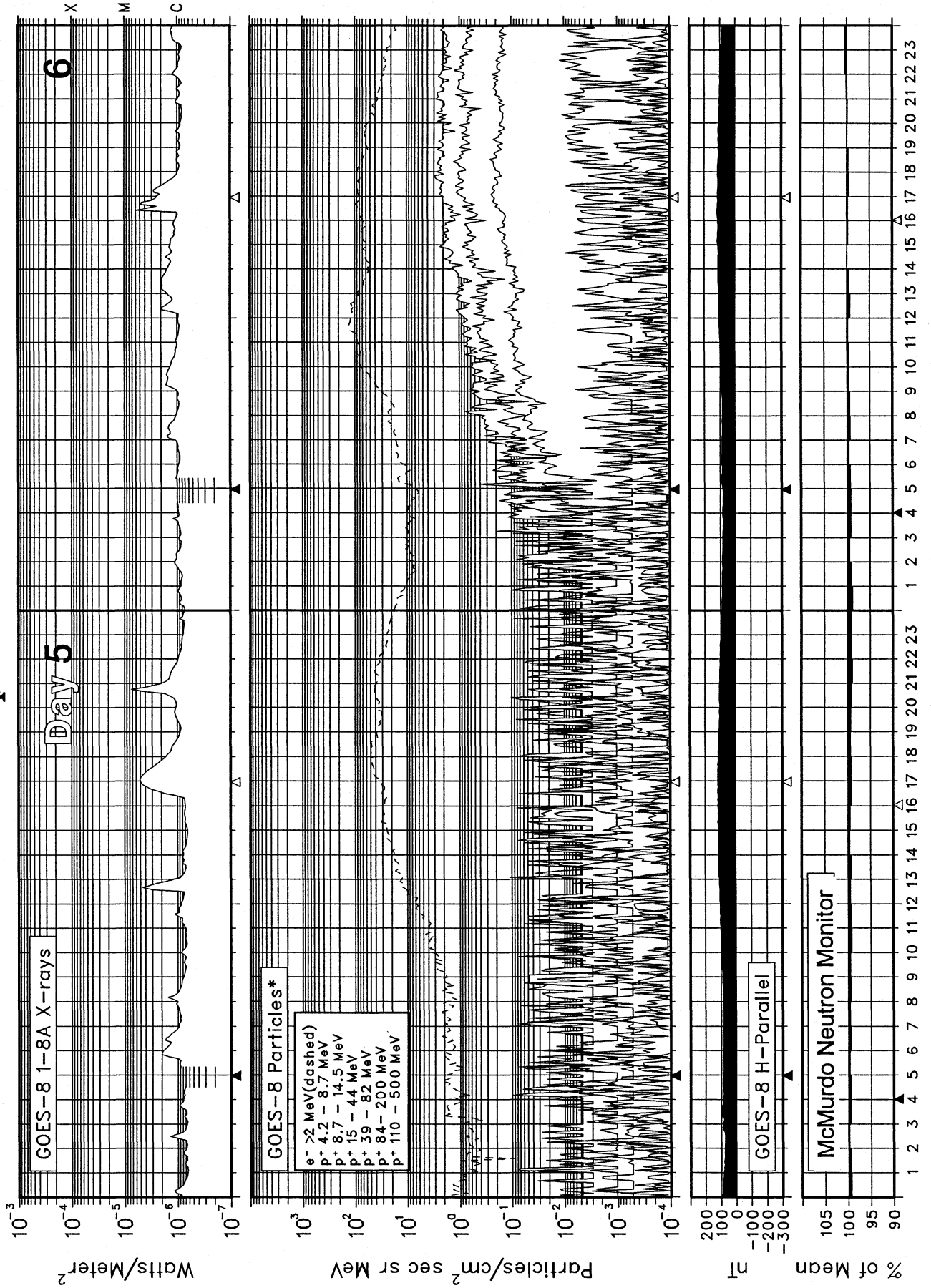

SOLAR-TERRESTRIAL ENVIRONMENT
September 2002
Day 1
GOES-8 1-8A X-rays
Watts/Meter²
GOES-8 Particles*
e⁻ >2 MeV(dashed)
p⁺ 4.2 - 8.7 MeV
p⁺ 8.7 - 14.5 MeV
p⁺ 15 - 44 MeV
p⁺ 39 - 82 MeV
p⁺ 84 - 200 MeV
p⁺ 110 - 500 MeV
* Electron flux is divided by 10.
Electron units are Counts/cm² sec sr.
Protons are corrected for contamination.
Particles/cm² sec sr MeV
GOES-8 H-Parallel
nT
McMurdo Neutron Monitor
Monthly Mean: 8702 Counts/Hour/100
% of Mean
UT Hours
▲ Local Midnight △ Local Noon

SOLAR-TERRESTRIAL ENVIRONMENT
September 2002

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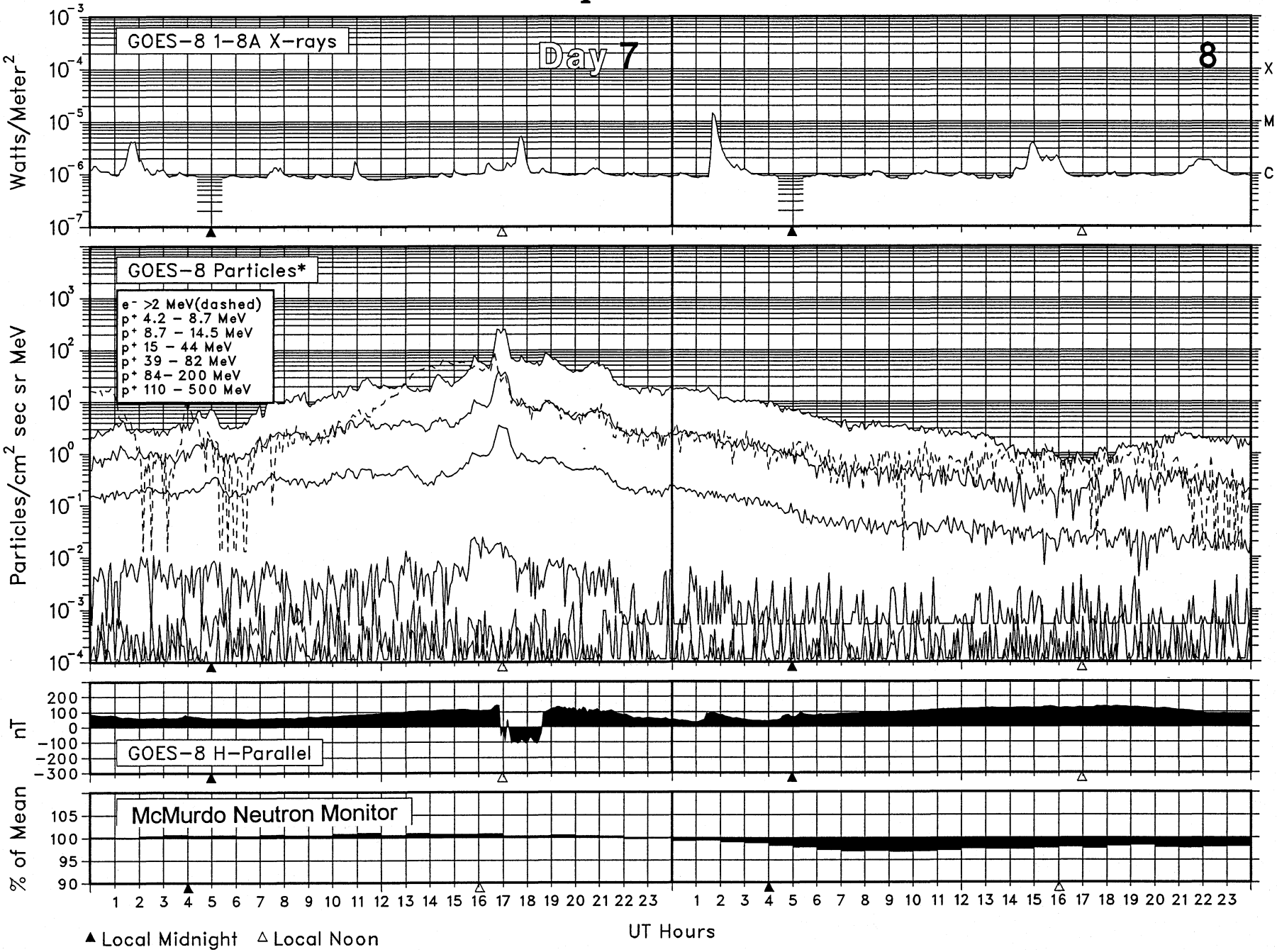
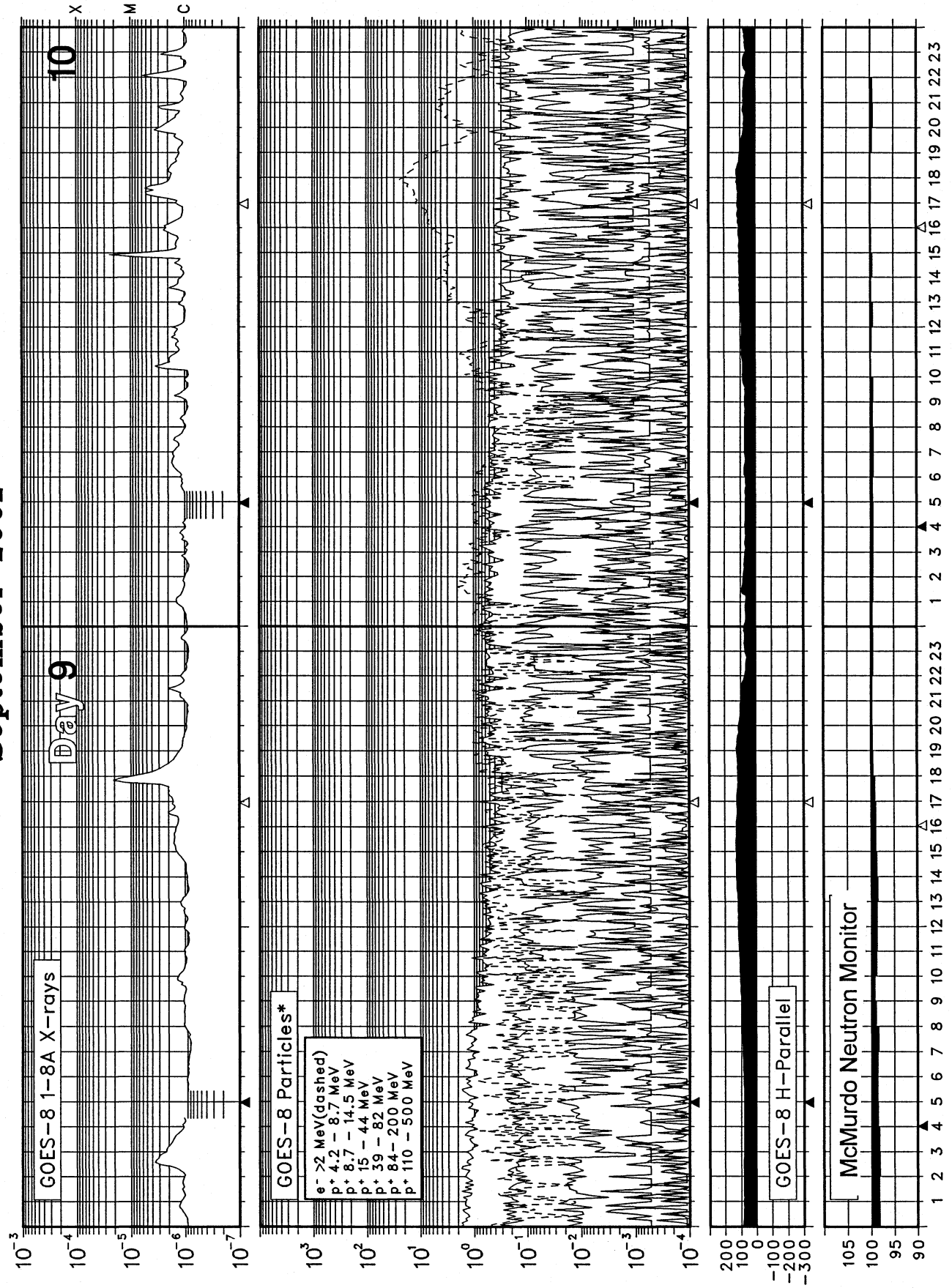
September 2002
Day 5
6
GOES-8 1-8A X-rays
Watts/Meter²
GOES-8 Particles*
e⁻ >2 MeV(dashed)
p⁺ 4.2 - 8.7 MeV
p⁺ 8.7 - 14.5 MeV
p⁺ 15 - 44 MeV
p⁺ 39 - 82 MeV
p⁺ 84 - 200 MeV
p⁺ 110 - 500 MeV
Particles/cm² sec sr MeV
GOES-8 H-Parallel
nT
McMurdo Neutron Monitor
% of Mean
UT Hours
▲ Local Midnight △ Local Noon

SOLAR-TERRESTRIAL ENVIRONMENT
September 2002

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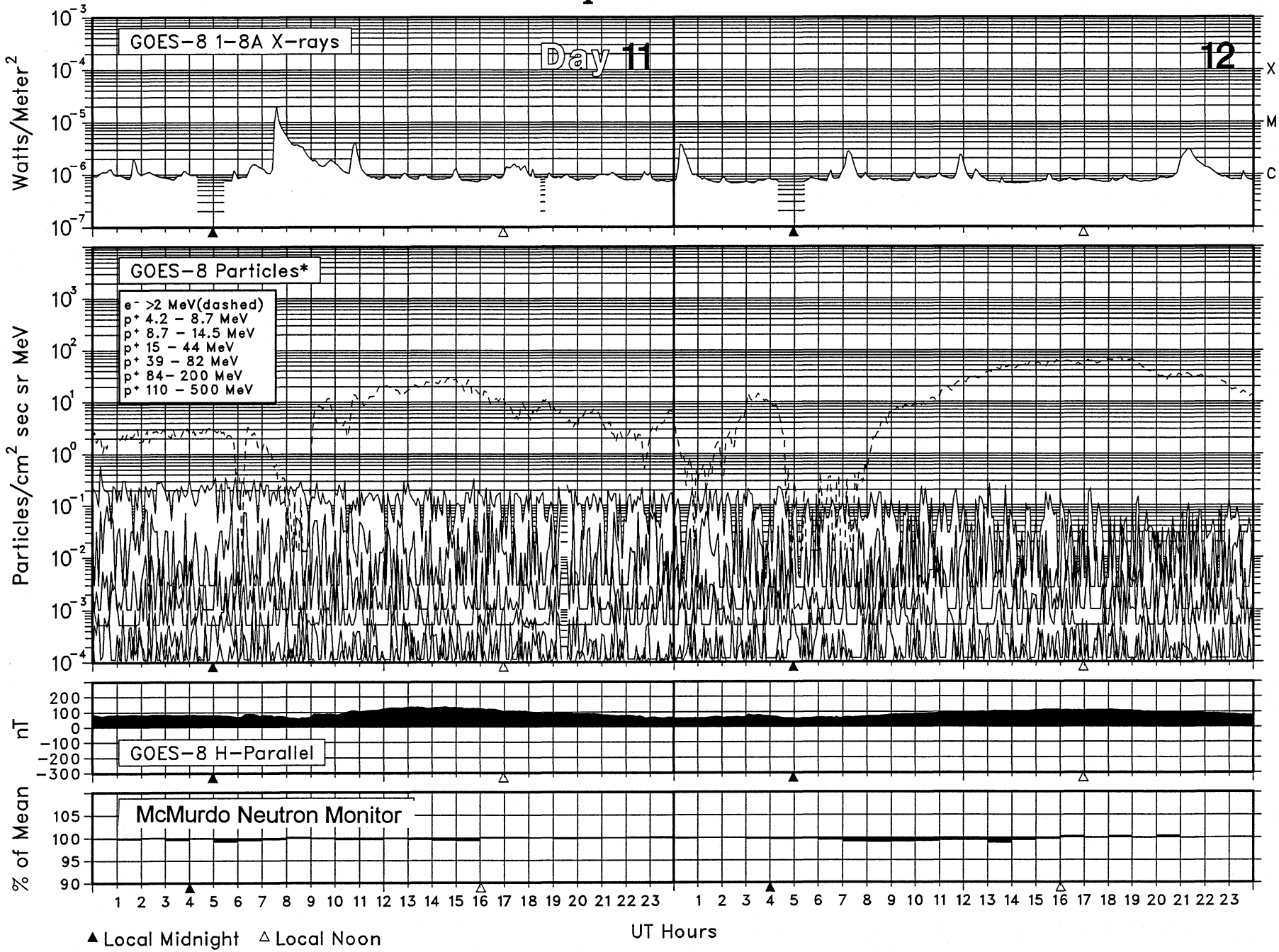
September 2002
Day 9
10
X
M
C
GOES-8 1-8A X-rays
Watts/Meter²
GOES-8 Particles*
e⁻ >2 MeV(dashed)
p⁺ 4.2 - 8.7 MeV
p⁺ 8.7 - 14.5 MeV
p⁺ 15 - 44 MeV
p⁺ 39 - 82 MeV
p⁺ 84 - 200 MeV
p⁺ 110 - 500 MeV
Particles/cm² sec sr MeV
GOES-8 H-Parallel
nT
McMurdo Neutron Monitor
% of Mean
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
UT Hours
▲ Local Midnight △ Local Noon

SOLAR-TERRESTRIAL ENVIRONMENT
September 2002



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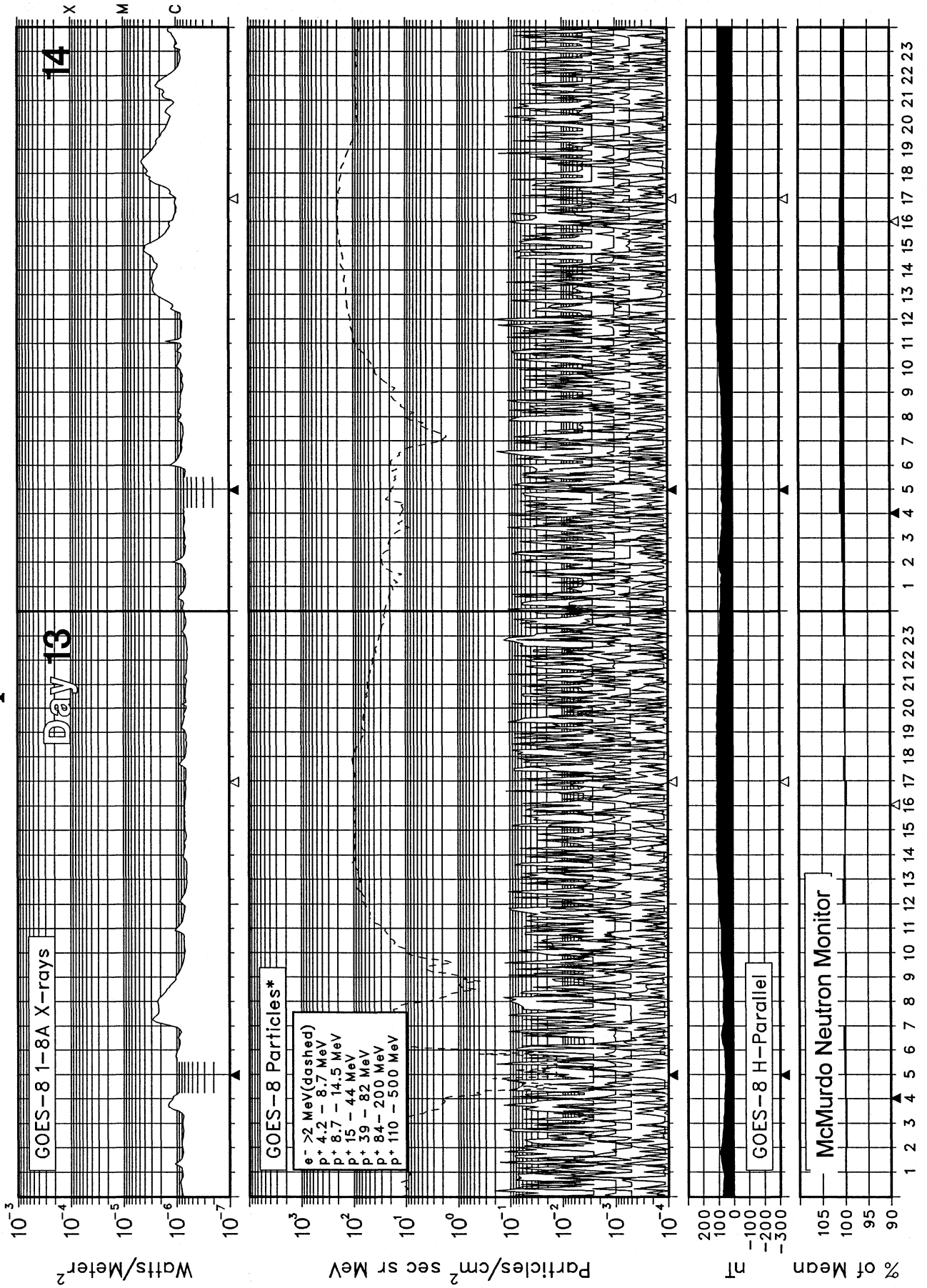
September 2002



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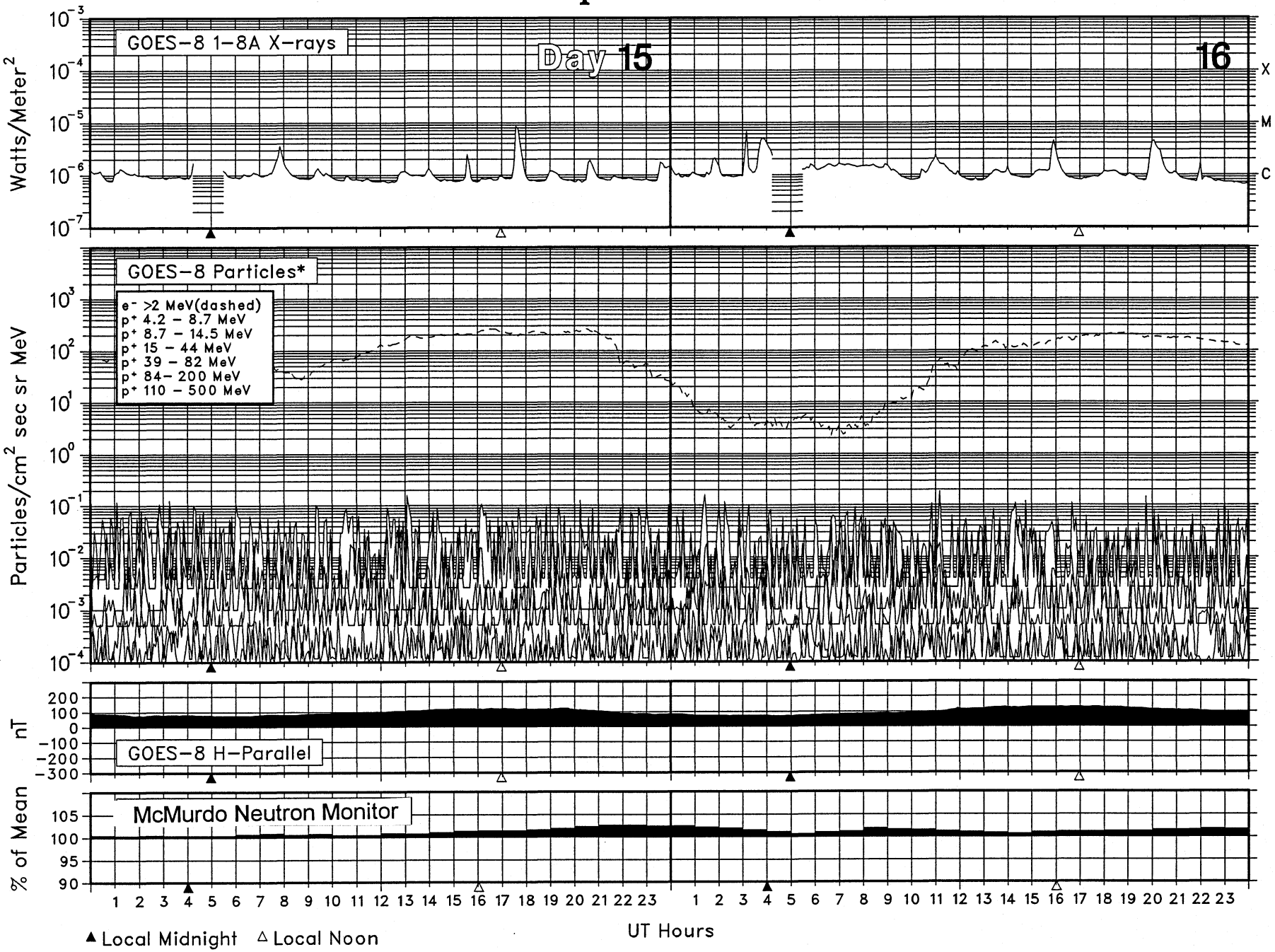
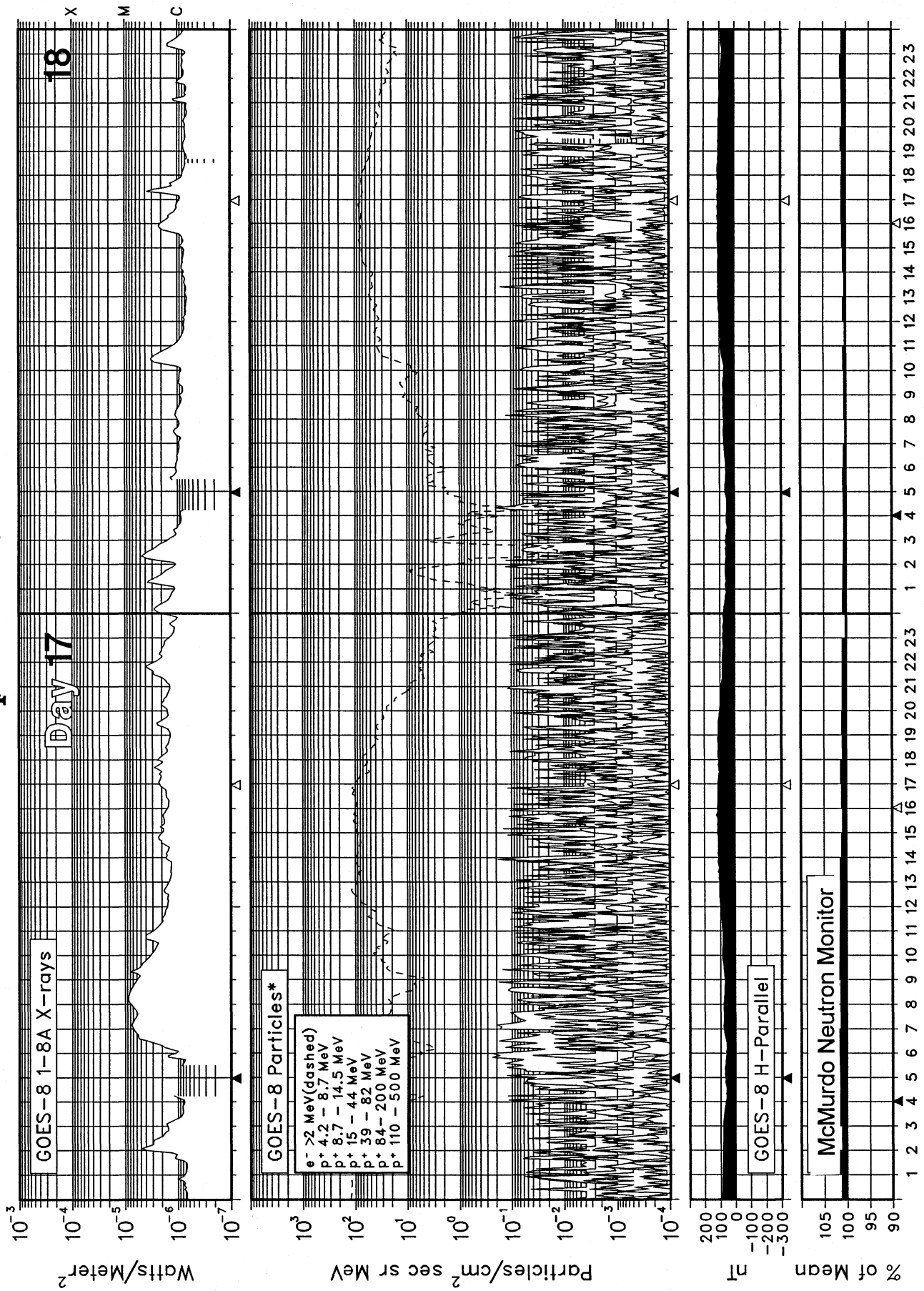
September 2002



SOLAR-TERRESTRIAL ENVIRONMENT

September 2002



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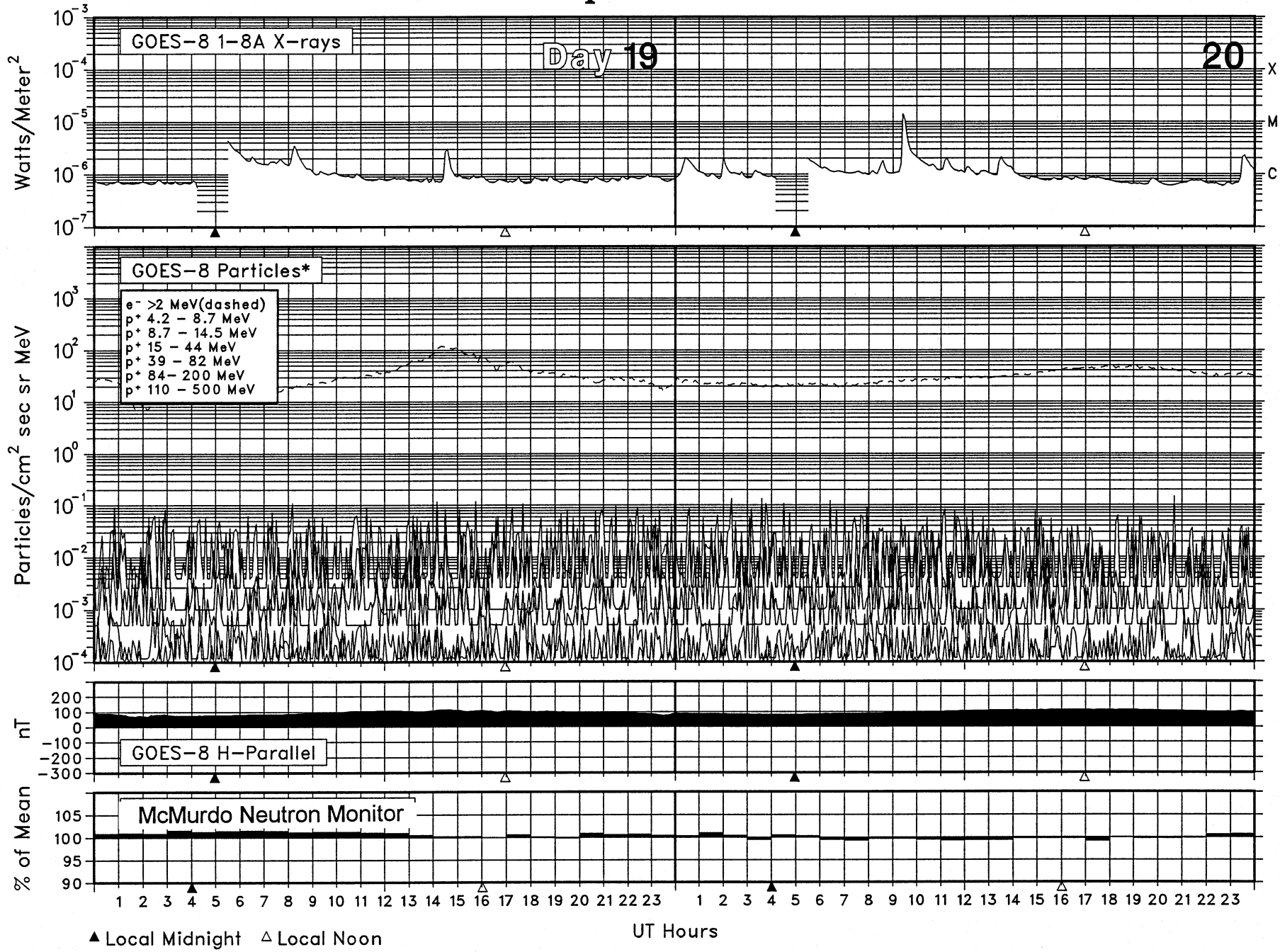
September 2002



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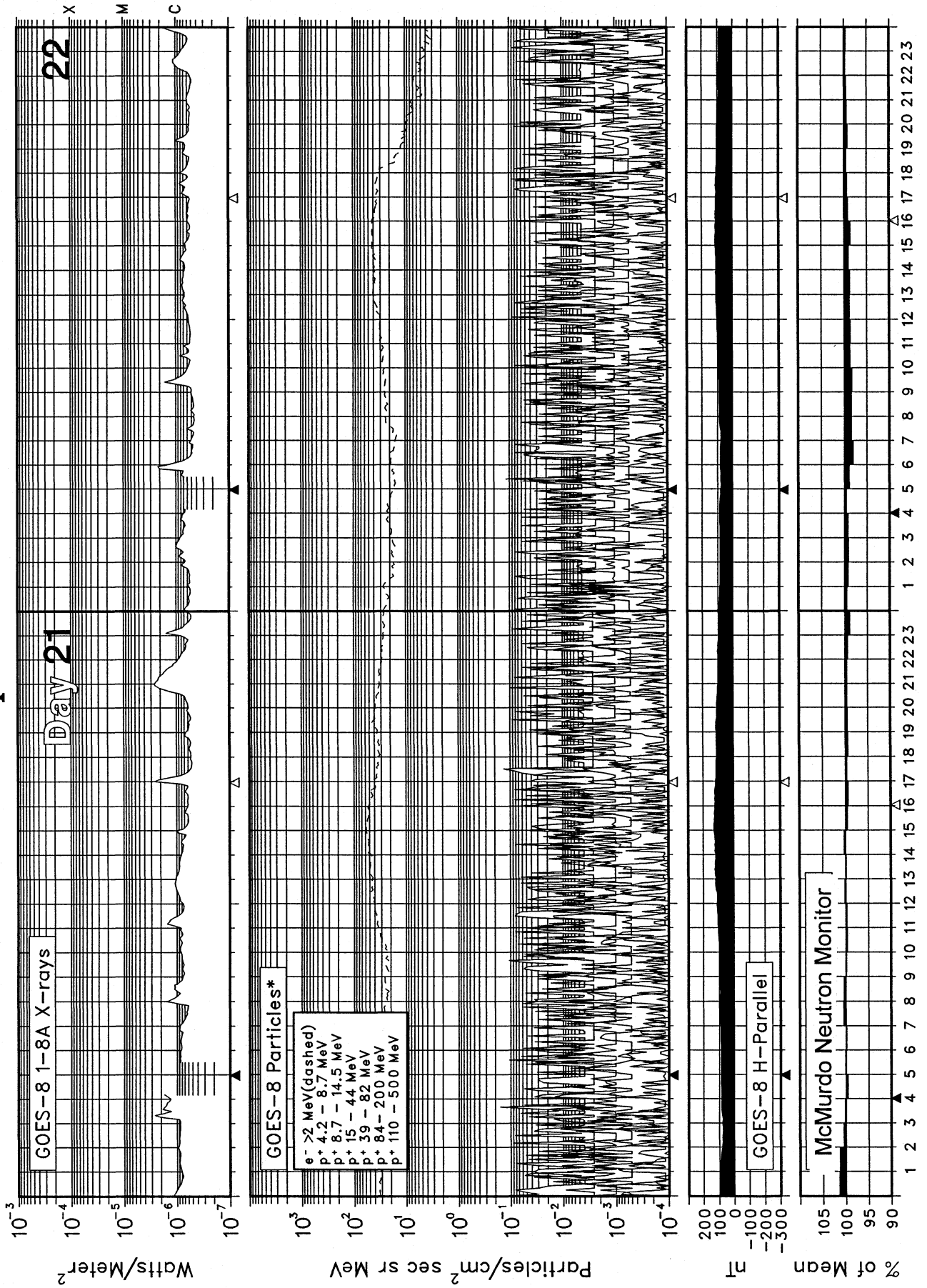

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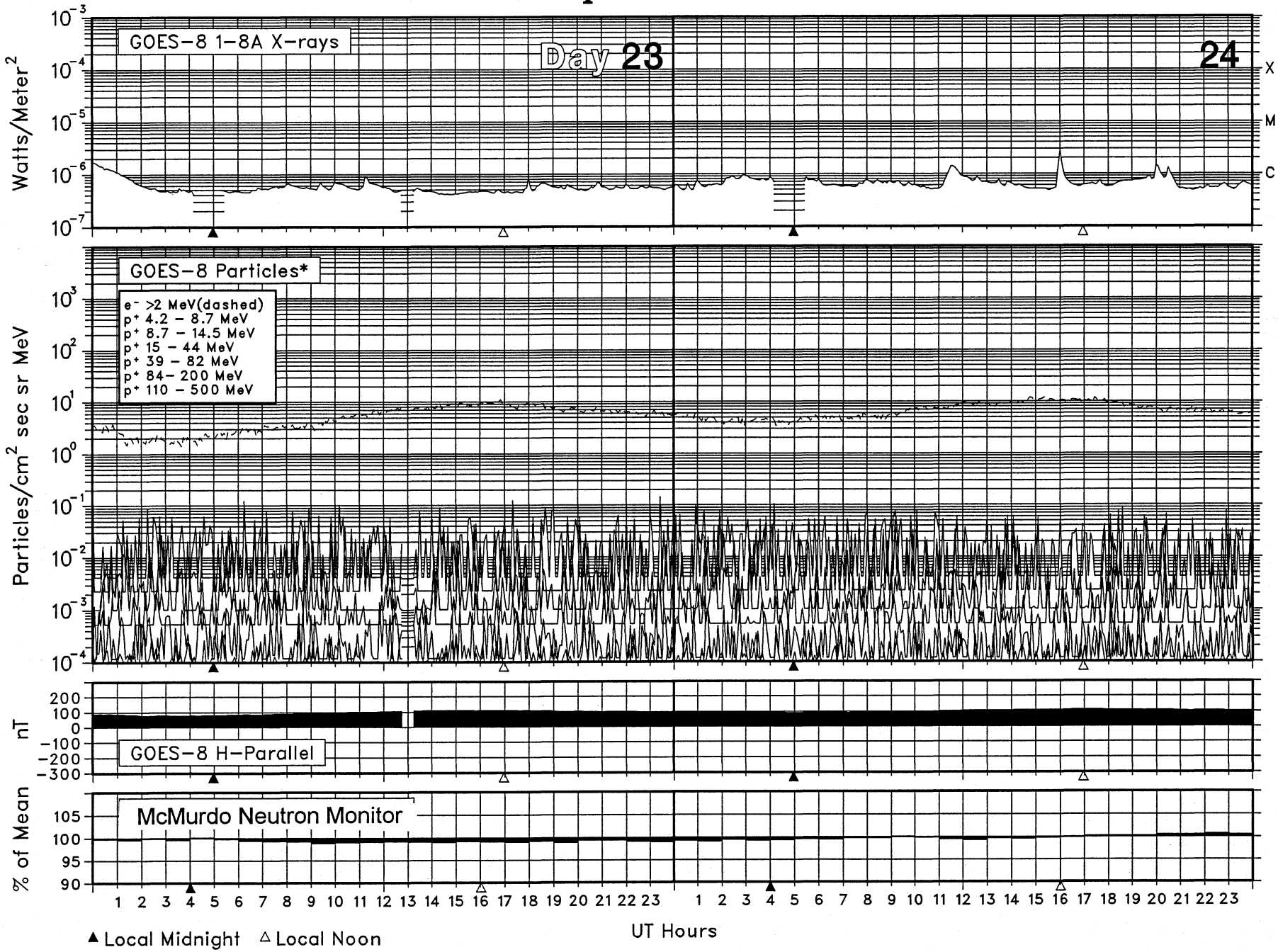
September 2002



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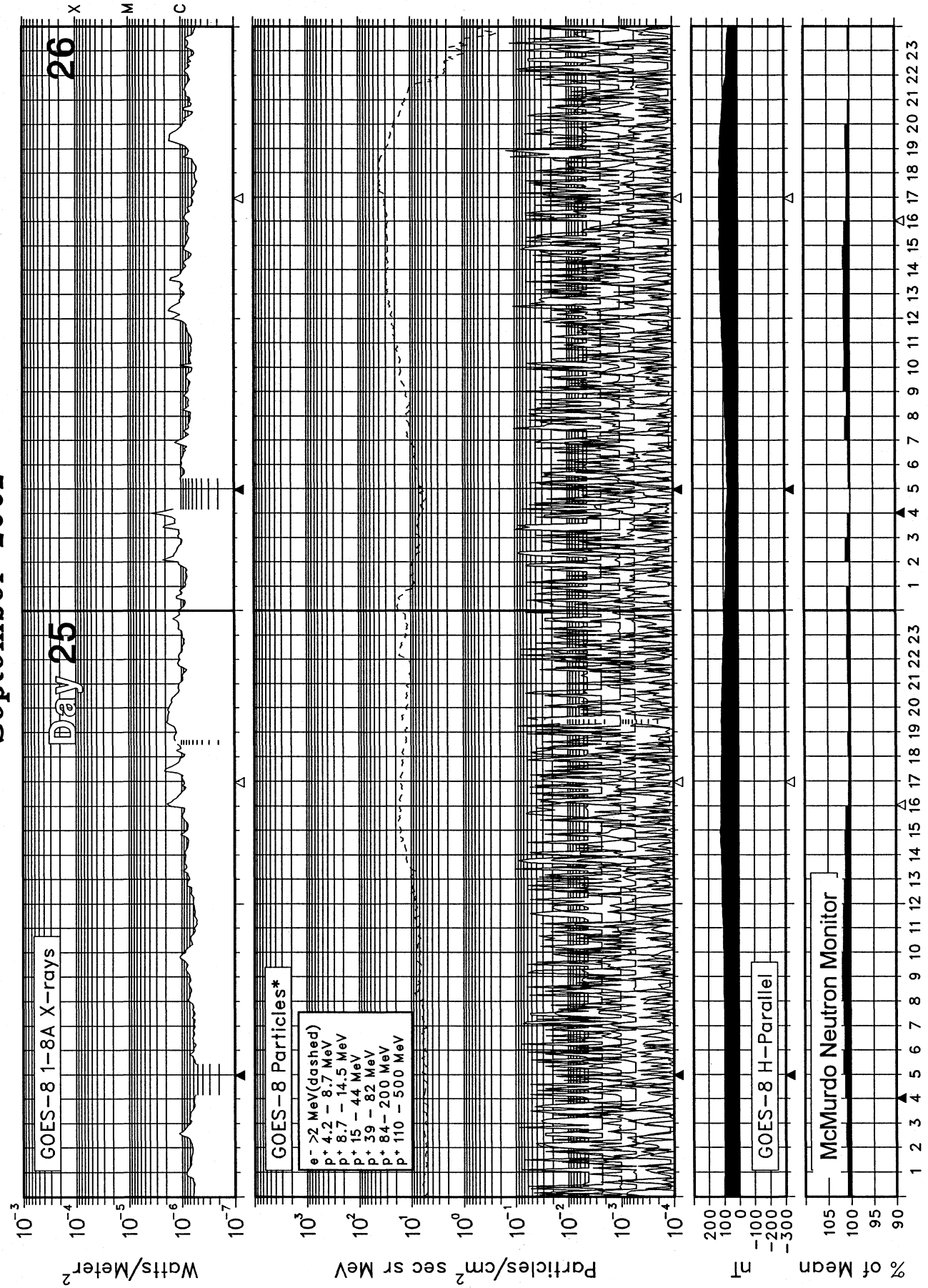
September 2002



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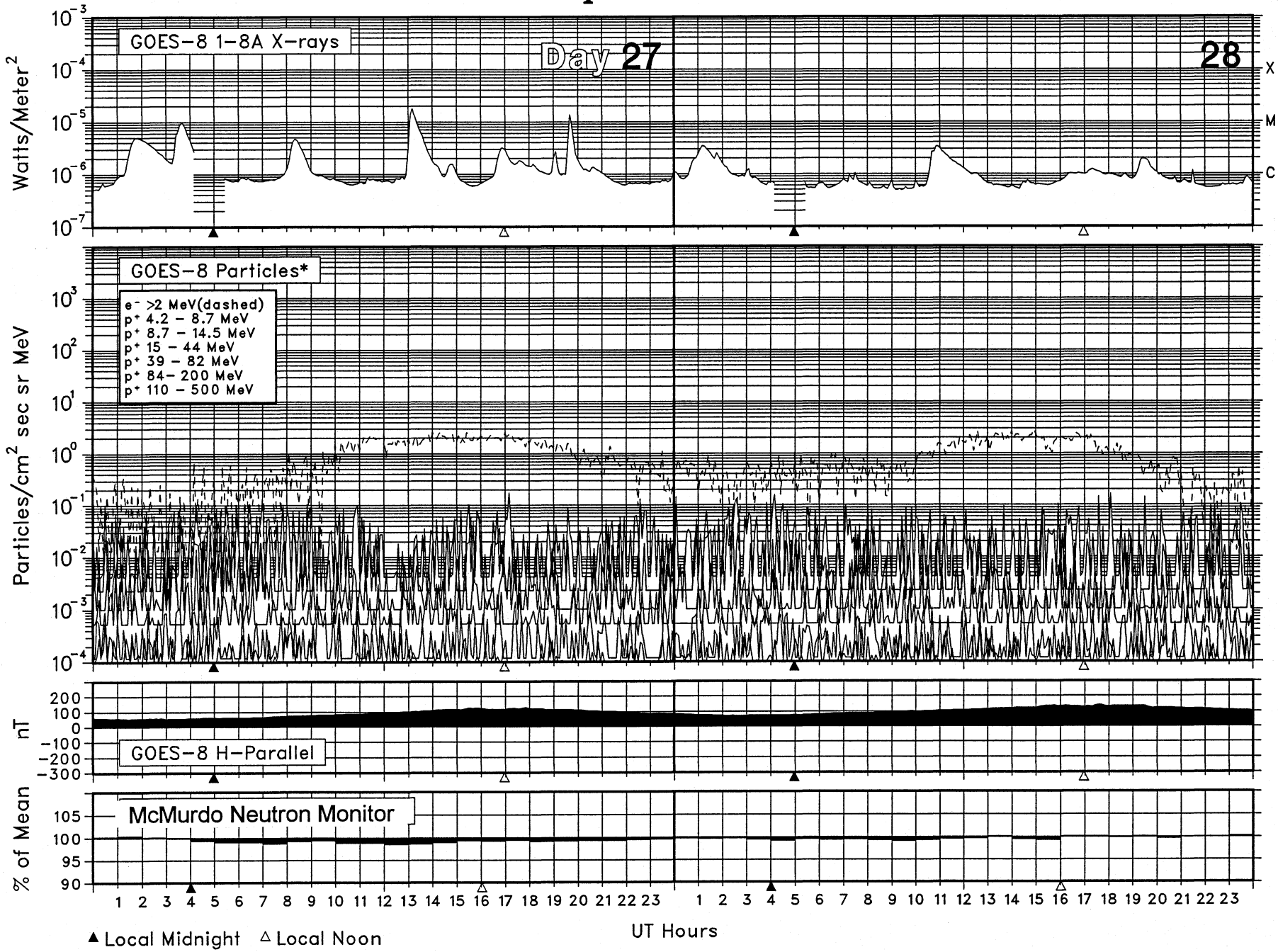
September 2002



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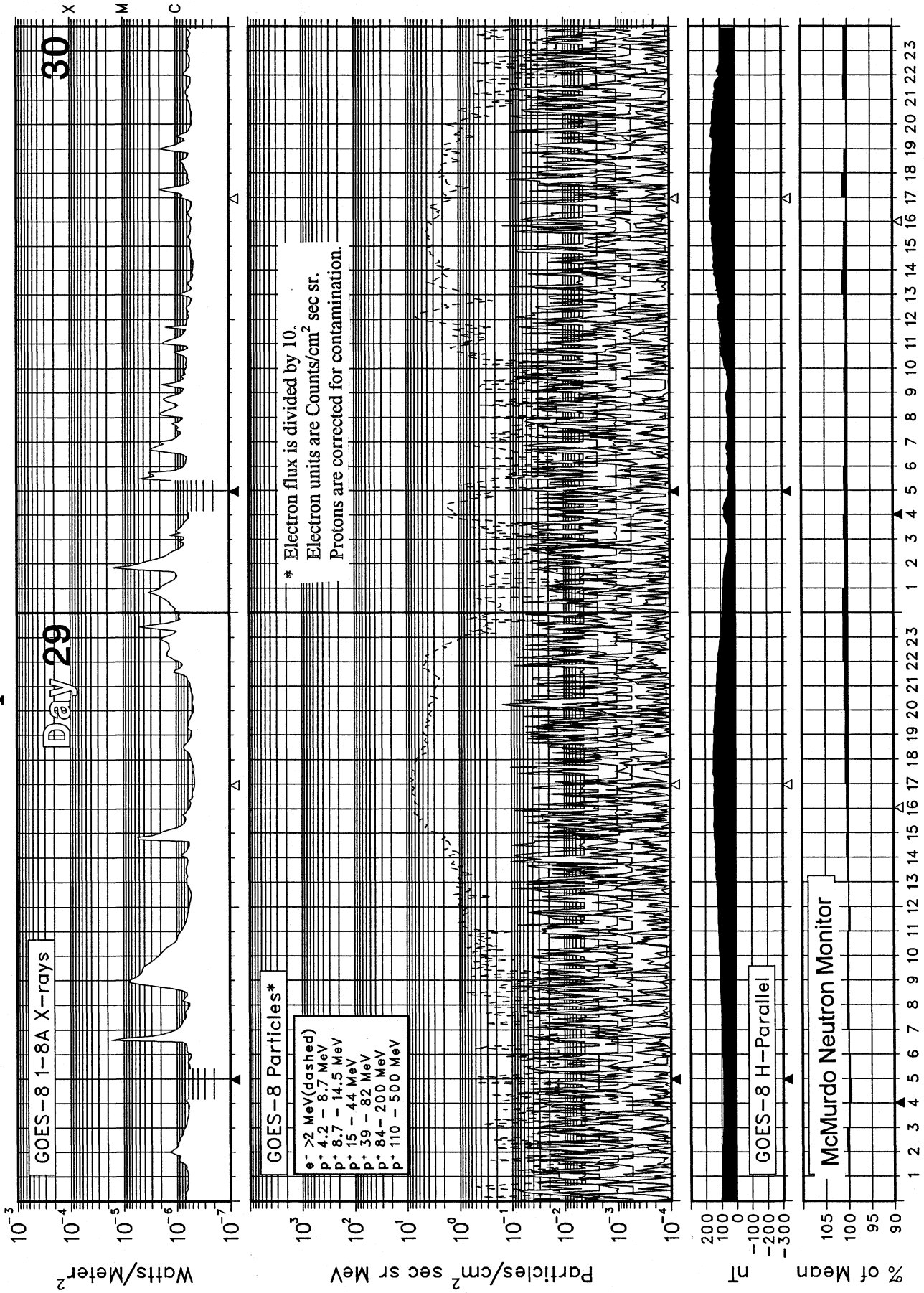
Sep 02

SOLAR-TERRESTRIAL ENVIRONMENT
September 2002



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

SEPTEMBER 2002

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)
244	01	31	153	180	12	85	S08	W89	0	0	0	01	Q	SOL: Active
						87	S08	W47	0	0	0	01	E	MAG: Quiet
						90	S04	W20	0	0	0	01	Q	PRO: Quiet
						94	S17	E40	0	0	0	01	Q	
						95	N07	E51	4	0	0	01	E	
						96	S14	E62	1	0	0	01	Q	
						97	N13	E36	0	0	0	01	Q	
						98	S10	E76	0	0	0	01	Q	
245	02	01	187	181	12	87	S08	W61	1	0	0	02	Q	SOL: Active
						90	S06	W36	0	0	0	02	Q	MAG: Quiet
						94	S18	E27	0	0	0	02	Q	PRO: Quiet
						95	N08	E38	1	0	0	02	E	
						96	S15	E50	0	0	0	02	Q	
						97	N10	E21	0	0	0	02	Q	
						98	S12	E65	0	0	0	02	Q	
						99	S03	E27	0	0	0	02	Q	
						100	S20	E67	0	0	0	02	Q	
						101	N03	E71	0	0	0	02	Q	
246	03	02	227	174	12	87	S08	W74	0	0	0	03	Q	SOL: Eruptive
						90	S06	W51	0	0	0	03	Q	MAG: Quiet
						94	S18	E13	1	0	0	03	Q	PRO: Quiet
						95	N08	E24	0	0	0	03	E	
						96	S15	E38	0	0	0	03	Q	
						97	N13	E08	0	0	0	03	E	
						98	S09	E51	0	0	0	03	Q	
						99	S04	E12	0	0	0	03	Q	
						100	S19	E56	0	0	0	03	Q	
						101	N02	E56	0	0	0	03	Q	
						102	N09	E65	0	0	0	03	Q	
247	04	03	266	171	7	87	S08	W86	0	0	0	04	Q	SOL: Active
						90	S05	W67	0	0	0	04	Q	MAG: Quiet
						94	S18	E01	0	0	0	04	Q	PRO: Quiet
						95	N08	E11	1	0	0	04	E	
						96	S14	E25	0	0	0	04	Q	
						97	N12	W06	2	0	0	04	Q	
						98	S10	E38	0	0	0	04	Q	
						99	S05	W02	0	0	0	04	Q	
						100	S15	E43	0	0	0	04	Q	
						101	S03	E44	0	0	0	04	Q	
						102	N08	E53	0	0	0	04	Q	
						103	N15	E73	0	0	0	04	Q	
248	05	04	215	171	35	90	S04	W80	0	0	0	05	Q	SOL: Eruptive
						94	S18	W14	1	0	0	05	Q	MAG: Active
						95	N08	W03	4	0	0	05	E	PRO: Quiet
						96	S16	E13	4	0	0	05	Q	
						97	N13	W19	0	0	0	05	Q	
						98	S10	E25	0	0	0	05	Q	
						99	S04	W15	0	0	0	05	Q	
						100	S20	E31	0	0	0	05	Q	
						101	N02	E30	0	0	0	05	Q	
						102	N08	E39	0	0	0	05	Q	
						103	N14	E60	1	0	0	05	Q	
249	06	05	225	175	12	94	S19	W27	0	0	0	06	Q	SOL: Eruptive
						95	N08	W17	1	0	0	06	E	MAG: Quiet
						96	S16	W02	3	0	0	06	E	PRO: Quiet
						97	N12	W34	0	0	0	06	Q	
						98	S10	E11	0	0	0	06	Q	
						99	S05	W30	0	0	0	06	Q	
						100	S20	E18	0	0	0	06	Q	
						101	N02	E17	0	0	0	06	Q	
						102	N08	E26	2	0	0	06	Q	
						103	N15	E46	0	0	0	06	Q	

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

SEPTEMBER 2002

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)
250	07	06	189	178	8	94	S19	W41	0	0	0	07	Q	SOL: Eruptive
						95	N08	W31	0	0	0	07	E	MAG: Quiet
						96	S16	W15	0	0	0	07	E	PRO: Quiet
						97	N12	W47	0	0	0	07	Q	
						99	S05	W43	0	0	0	07	Q	
						100	S19	E06	0	0	0	07	Q	
						101	N02	E05	0	0	0	07	Q	
						103	N15	E31	0	0	0	07	Q	
251	08	07	180	183	36	94	S19	W55	0	0	0	08	Q	SOL: Eruptive
						95	N07	W43	0	0	0	08	Q	MAG: Active
						96	S16	W30	0	0	0	08	Q	PRO: IP
						97	N12	W62	1	0	0	08	Q	
						99	S03	W61	0	0	0	08	Q	
						100	S19	W08	0	0	0	08	Q	
						101	N03	W11	0	0	0	08	Q	
						103	N15	E20	0	0	0	08	Q	
						104	N11	E59	0	0	0	08	Q	
						105	S06	E77	0	0	0	08	E	
252	09	08	221	192	23	94	S18	W69	0	0	0	09	Q	SOL: Active
						95	N08	W56	0	0	0	09	Q	MAG: Active
						96	S16	W44	1	0	0	09	Q	PRO: Quiet
						97	N13	W72	0	0	0	09	Q	
						99	S03	W75	0	0	0	09	Q	
						100	S19	W23	0	0	0	09	Q	
						101	N04	W26	1	0	0	09	Q	
						103	N16	E06	1	0	0	09	Q	
						104	N10	E44	0	0	0	09	Q	
						105	S07	E66	1	1	0	09	E	
						106	N28	E50	0	0	0	09	Q	
						107	N11	E70	3	0	0	09	Q	
253	10	09	194	206	6	94	S18	W83	0	0	0	10	Q	SOL: Active
						95	N08	W71	0	0	0	10	Q	MAG: Active
						96	S14	W57	2	0	0	10	Q	PRO: Quiet
						100	S19	W37	1	0	0	10	Q	
						101	N05	W38	0	0	0	10	Q	
						103	N15	W07	3	0	0	10	E	
						104	N10	E30	0	0	0	10	Q	
						105	S08	E54	2	1	0	10	E	
						106	N27	E36	0	0	0	10	Q	
						107	N11	E56	0	0	0	10	Q	
254	11	10	226	221	15	95	N07	W84	0	0	0	11	Q	SOL: Active
						96	S14	W70	0	0	0	11	Q	MAG: Active
						100	S19	W50	0	0	0	11	Q	PRO: Quiet
						101	N05	W51	0	0	0	11	Q	
						103	N15	W20	1	0	0	11	E	
						104	N10	E15	0	0	0	11	Q	
						105	S08	E42	4	1	0	11	E	
						107	N11	E43	6	0	0	11	Q	
						108	S23	E49	0	0	0	11	Q	
						109	S08	E18	0	0	0	11	Q	
						110	N20	E18	0	0	0	11	Q	
255	12	11	213	216	23	100	S19	W64	1	0	0	12	Q	SOL: Active
						101	N02	W63	0	0	0	12	Q	MAG: Active
						103	N15	W33	0	0	0	12	E	PRO: Quiet
						105	S09	E28	2	1	0	12	E	
						107	N11	E30	4	0	0	12	E	
						108	S24	E36	0	0	0	12	Q	
						109	S08	E05	0	0	0	12	Q	
						110	N20	E05	0	0	0	12	Q	
256	13	12	258	212	15	100	S16	W75	0	0	0	13	Q	SOL: Active

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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)
						103	N16	W45	0	0	0	13	E	MAG: Active
						104	N09	W10	0	0	0	13	Q	PRO: Quiet
						105	S08	E16	5	0	0	13	E	
						107	N11	E16	3	0	0	13	E	
						108	S24	E20	0	0	0	13	Q	
						109	S08	W10	0	0	0	13	Q	
						110	N19	W09	0	0	0	13	Q	
						111	N11	E01	0	0	0	13	Q	
						112	N00	E04	0	0	0	13	Q	
						113	N30	W38	0	0	0	13	Q	
257	14	13	246	206	18	102	N08	W78	0	0	0	14	Q	SOL: Active
						103	N16	W58	0	0	0	14	E	MAG: Active
						104	N09	W23	0	0	0	14	Q	PRO: Quiet
						105	S08	E03	1	0	0	14	E	
						107	N11	E03	0	0	0	14	E	
						109	S08	W23	0	0	0	14	Q	
						110	N19	W22	0	0	0	14	Q	
						111	N11	W12	0	0	0	14	Q	
						112	N00	W09	0	0	0	14	Q	
258	15	14	256	207	8	102	N08	W94	0	0	0	15	Q	SOL: Active
						103	N16	W71	0	0	0	15	Q	MAG: Quiet
						105	S07	W18	2	0	0	15	E	PRO: Quiet
						107	N11	W10	0	0	0	15	Q	
						109	S08	W36	0	0	0	15	Q	
						110	N19	W35	0	0	0	15	Q	
						111	N11	W25	0	0	0	15	Q	
						114	S12	W02	3	0	0	15	E	
						115	S03	E45	0	0	0	15	Q	
259	16	15	168	188	8	103	N16	W84	1	0	0	16	Q	SOL: Active
						105	S07	W31	3	1	0	16	E	MAG: Quiet
						107	N11	W23	0	0	0	16	Q	PRO: Quiet
						110	N19	W48	0	0	0	16	Q	
						114	S12	W15	2	0	0	16	E	
						115	S03	E32	0	0	0	16	Q	
						116	N15	E05	0	0	0	16	Q	
						117	S09	E72	0	0	0	16	Q	
260	17	16	190	183	6	105	S07	W44	4	0	0	17	E	SOL: Active
						107	N11	W36	0	0	0	17	Q	MAG: Quiet
						110	N19	W61	0	0	0	17	Q	PRO: Quiet
						114	S12	W28	4	1	0	17	E	
						115	S03	E19	0	0	0	17	Q	
						116	N15	W08	0	0	0	17	Q	
						117	S09	E59	0	0	0	17	Q	
						118	N14	E14	0	0	0	17	Q	
						119	S14	E32	3	0	0	17	Q	
						120	S19	E57	0	0	0	17	Q	
						121	S14	E69	0	0	0	17	Q	
						122	S19	E74	0	0	0	17	Q	
261	18	17	228	194	14	105	S08	W56	3	0	0	18	E	SOL: Eruptive
						107	N11	W52	0	0	0	18	Q	MAG: Quiet
						110	N17	W75	1	0	0	18	Q	PRO: Quiet
						114	S11	W43	2	0	0	18	E	
						115	S03	E02	0	0	0	18	Q	
						116	N15	W20	0	0	0	18	Q	
						117	S10	E46	0	0	0	18	Q	
						118	N13	W01	0	0	0	18	Q	
						119	S14	E17	12	0	0	18	Q	
						120	S19	E43	0	0	0	18	Q	
						121	S14	E53	0	0	0	18	Q	
						122	S18	E62	0	0	0	18	Q	
						123	S16	E30	0	0	0	18	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)
262	19	18	225	177	13	105	S09	W70	5	0	0	19	E	SOL: Eruptive
						107	N11	W67	0	0	0	19	Q	MAG: Quiet
						110	N19	W88	0	0	0	19	Q	PRO: Quiet
						114	S11	W57	0	0	0	19	E	
						115	S03	W11	1	0	0	19	Q	
						116	N15	W34	0	0	0	19	Q	
						117	S09	E32	0	0	0	19	Q	
						119	S14	E04	8	0	0	19	E	
						120	S18	E30	0	0	0	19	Q	
						121	S13	E39	0	0	0	19	Q	
						122	S17	E48	0	0	0	19	Q	
						123	S16	E16	0	0	0	19	Q	
						124	N03	W49	0	0	0	19	Q	
						125	S08	E69	0	0	0	19	Q	
263	20	19	206	165	16	105	S08	W83	3	0	0	20	E	SOL: Eruptive
						107	N12	W80	0	0	0	20	Q	MAG: Active
						114	S12	W70	1	0	0	20	Q	PRO: Quiet
						115	S03	W25	0	0	0	20	Q	
						116	N15	W47	0	0	0	20	Q	
						117	S10	E18	0	0	0	20	Q	
						119	S14	W10	2	0	0	20	E	
						120	S19	E17	0	0	0	20	Q	
						121	S13	E26	0	0	0	20	Q	
						122	S17	E35	0	0	0	20	Q	
						123	S14	E04	1	0	0	20	Q	
						124	N03	W63	0	0	0	20	Q	
						125	S08	E55	1	0	0	20	Q	
						126	S23	E75	0	0	0	20	Q	
264	21	20	237	164	4	105	S07	W92	0	0	0	21	Q	SOL: Active
						107	N12	W92	0	0	0	21	Q	MAG: Quiet
						114	S11	W84	0	0	0	21	Q	PRO: Quiet
						115	S04	W38	2	0	0	21	Q	
						116	N14	W62	0	0	0	21	Q	
						117	S10	E05	0	0	0	21	Q	
						119	S14	W24	3	0	0	21	E	
						120	S18	E03	0	0	0	21	Q	
						121	S13	E12	0	0	0	21	Q	
						122	S18	E21	0	0	0	21	Q	
						123	S14	W10	1	0	0	21	Q	
						125	S09	E40	0	0	0	21	Q	
						126	S24	E62	4	2	0	21	E	
						127	S14	E19	0	0	0	21	Q	
						128	N11	E63	0	0	0	21	Q	
265	22	21	217	159	7	114	S14	W87	0	0	0	22	Q	SOL: Active
						115	S04	W55	0	0	0	22	Q	MAG: Quiet
						116	N15	W73	0	0	0	22	Q	PRO: Quiet
						117	S09	W07	0	0	0	22	Q	
						119	S14	W36	1	0	0	22	E	
						120	S19	W10	0	0	0	22	Q	
						121	S13	W02	1	0	0	22	Q	
						122	S18	E09	0	0	0	22	Q	
						123	S15	W21	1	0	0	22	Q	
						125	S09	E27	0	0	0	22	Q	
						126	S23	E52	0	0	0	22	E	
						127	S14	E05	0	0	0	22	Q	
						128	N10	E49	0	0	0	22	Q	
266	23	22	218	160	7	115	S04	W71	0	0	0	23	Q	SOL: Active
						117	S09	W21	0	0	0	23	Q	MAG: Quiet
						119	S14	W49	3	0	0	23	E	PRO: Quiet
						121	S12	W15	0	0	0	23	Q	
						122	S18	W05	0	0	0	23	Q	
						123	S13	W38	0	0	0	23	Q	
						125	S09	E14	1	0	0	23	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)
						126	S23	E39	0	0	0	23	Q	
						127	S13	W09	1	0	0	23	Q	
						129	N25	E54	0	0	0	23	Q	
						130	N06	E52	0	0	0	23	Q	
						131	S07	E35	0	0	0	23	Q	
						132	N18	W01	0	0	0	23	Q	
267	24	23	209	154	3	115	S05	W85	0	0	0	24	Q	SOL: Eruptive
						117	S10	W34	0	0	0	24	Q	MAG: Quiet
						119	S14	W59	0	0	0	24	E	PRO: Quiet
						121	S13	W28	0	0	0	24	Q	
						122	S17	W18	0	0	0	24	Q	
						123	S16	W54	0	0	0	24	Q	
						125	S09	E01	0	0	0	24	Q	
						126	S22	E24	0	0	0	24	Q	
						127	S13	W21	0	0	0	24	Q	
						129	N26	E41	0	0	0	24	Q	
						130	N06	E37	0	0	0	24	Q	
						131	S06	E21	0	0	0	24	Q	
						132	N19	W14	0	0	0	24	E	
						133	S25	E20	0	0	0	24	Q	
268	25	24	240	158	5	117	S08	W48	0	0	0	25	Q	SOL: Eruptive
						119	S13	W76	1	0	0	25	E	MAG: Quiet
						121	S12	W42	0	0	0	25	Q	PRO: Quiet
						122	S16	W32	0	0	0	25	Q	
						123	S17	W67	0	0	0	25	Q	
						125	S07	W07	0	0	0	25	Q	
						126	S22	E10	0	0	0	25	Q	
						127	S13	W35	0	0	0	25	Q	
						129	N26	E26	0	0	0	25	Q	
						130	N06	E25	0	0	0	25	Q	
						131	S06	E07	0	0	0	25	Q	
						132	N19	W28	1	0	0	25	E	
						133	S25	E05	0	0	0	25	Q	
						134	N11	E79	0	0	0	25	Q	
269	26	25	230	153	5	117	S09	W60	0	0	0	26	Q	SOL: Eruptive
						119	S13	W88	1	0	0	26	Q	MAG: Quiet
						121	S12	W55	0	0	0	26	Q	PRO: Quiet
						122	S18	W46	0	0	0	26	Q	
						123	S16	W80	0	0	0	26	Q	
						125	S07	W24	0	0	0	26	Q	
						127	S14	W47	0	0	0	26	Q	
						129	N26	E12	0	0	0	26	Q	
						130	N06	E10	0	0	0	26	Q	
						131	S06	W09	0	0	0	26	Q	
						132	N19	W41	1	0	0	26	E	
						133	S26	W07	0	0	0	26	Q	
						134	N10	E64	7	0	0	26	Q	
270	27	26	157	150	6	117	S08	W76	0	0	0	27	Q	SOL: Eruptive
						122	S17	W59	1	0	0	27	Q	MAG: Quiet
						125	S07	W37	1	0	0	27	Q	PRO: Quiet
						127	S13	W61	1	0	0	27	Q	
						129	N27	W01	1	0	0	27	Q	
						130	N06	W04	1	0	0	27	Q	
						132	N20	W53	4	0	0	27	E	
						133	S26	W20	0	0	0	27	Q	
						134	N11	E50	1	0	0	27	Q	
271	28	27	185	152	7	117	S08	W89	0	0	0	28	Q	SOL: Active
						122	S18	W71	0	0	0	28	Q	MAG: Quiet
						125	S08	W52	0	0	0	28	Q	PRO: Quiet
						127	S13	W74	0	0	0	28	Q	
						129	N27	W13	0	0	0	28	Q	
						130	N06	W17	0	0	0	28	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)
						131	S06	W35	0	0	0	28	Q	
						132	N19	W65	1	0	0	28	E	
						133	S27	W29	0	0	0	28	Q	
						134	N11	E38	5	2	0	28	E	
						135	S26	E06	0	0	0	28	Q	
272	29	28	140	149	5	122	S16	W86	0	0	0	29	Q	SOL: Active
						125	S08	W65	1	0	0	29	Q	MAG: Quiet
						127	S10	W92	0	0	0	29	Q	PRO: Quiet
						129	N28	W25	0	0	0	29	Q	
						130	N05	W32	0	0	0	29	Q	
						132	N20	W78	0	0	0	29	E	
						134	N11	E25	3	0	0	29	E	
						135	S25	W08	0	0	0	29	Q	
273	30	29	146	138	4	125	S09	W78	2	0	0	30	Q	SOL: Active
						129	N26	W39	0	0	0	30	Q	MAG: Quiet
						130	N05	W44	0	0	0	30	Q	PRO: Quiet
						132	N21	W90	0	0	0	30	Q	
						134	N12	E11	3	1	0	30	E	
						135	S25	W21	0	0	0	30	Q	
						136	S27	W36	0	0	0	30	Q	
						137	S16	E50	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

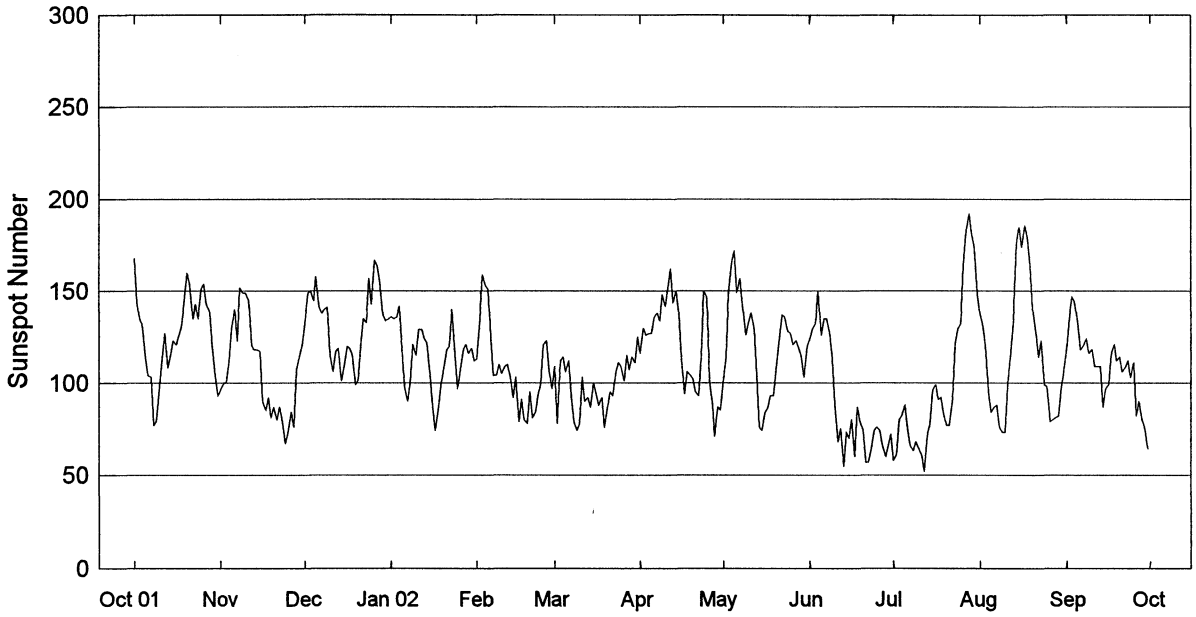
'Quiet'		
'Active'	conditions expected	(A>=20 or K=4)
'Minor'	storm expected	(A>=30 or K=5)
'Major'	storm expected	(A>=50 or K>=6)
'Severe'	storm expected	(A>=100 or K>=7)
'IP'	magstorm in progress	(A>=30 or K>=4)
'Warning'	(activity levels are expected to increase, but no numerical forecast given)	
'/'	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
Oct 2001 - Sep 2002

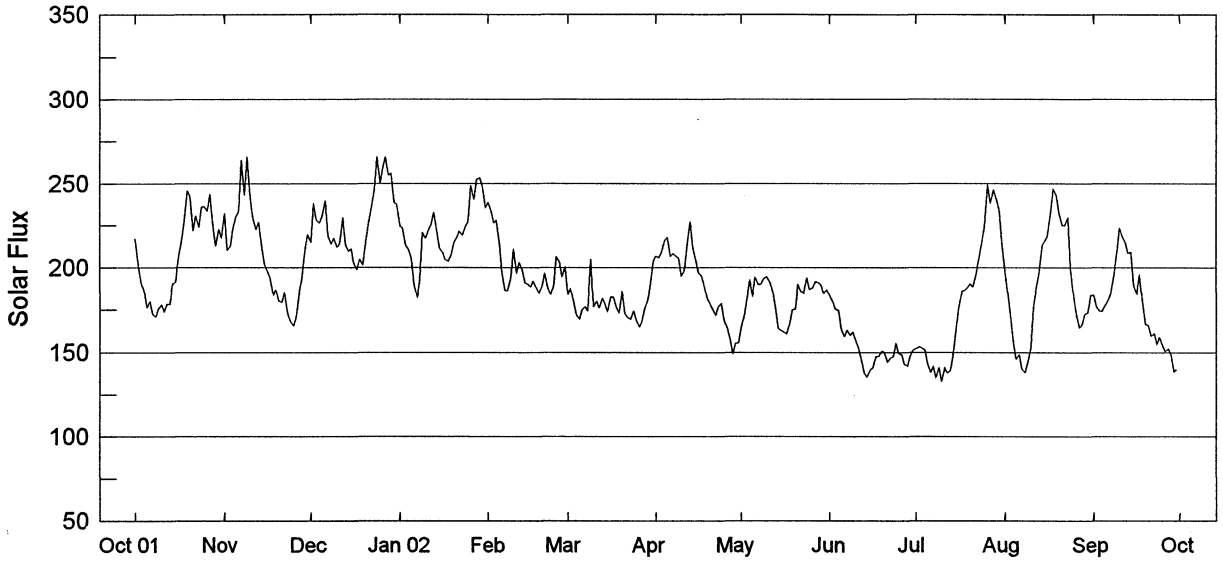


Day	Oct 01	Nov	Dec	Jan 02	Feb	Mar	Apr	May	Jun	Jul*	Aug*	Sep*
1	168	96	133	136	113	109	116	102	124	58	137	120
2	144	100	149	135	135	78	130	114	129	61	132	136
3	135	100	150	136	159	112	126	149	133	80	121	147
4	132	111	145	142	153	114	127	166	150	82	95	144
5	114	130	158	118	151	106	127	172	126	88	84	132
6	104	140	142	98	125	112	136	149	135	75	87	118
7	103	123	138	90	104	93	138	157	135	66	88	120
8	77	152	140	100	104	79	134	142	127	63	76	124
9	79	149	141	121	110	74	148	126	113	68	73	116
10	98	149	115	115	105	78	142	133	88	64	73	118
11	113	145	106	129	109	103	152	138	68	61	99	109
12	127	121	117	129	110	90	162	130	75	52	117	109
13	108	118	119	124	104	92	144	104	55	72	134	109
14	115	118	101	122	92	87	150	76	73	78	177	87
15	123	117	108	104	103	100	138	74	70	96	185	97
16	121	90	120	87	79	94	113	84	80	99	174	99
17	126	85	119	74	91	88	94	86	60	91	186	116
18	131	92	115	86	80	92	106	93	87	92	179	121
19	143	81	99	99	78	76	104	93	79	83	164	112
20	160	87	101	109	95	85	102	107	74	77	140	114
21	154	80	120	118	81	95	95	121	57	77	127	106
22	135	87	135	120	84	93	93	137	57	91	114	108
23	143	80	133	140	94	106	114	136	65	121	123	112
24	135	67	157	115	99	111	150	128	74	129	99	103
25	151	73	143	97	121	109	147	127	76	133	98	111
26	154	84	167	106	123	101	101	121	74	164	79	82
27	143	76	164	118	107	115	88	123	66	182	80	90
28	139	107	156	121	97	107	71	119	60	192	81	80
29	120	115	137	116		114	87	114	66	181	82	76
30	103	121	134	119		111	85	103	72	174	97	64
31	93		135	112		125		120		148	106	
Mean	125.5	106.5	132.2	114.1	107.4	98.4	120.7	120.8	88.3	99.9	116.4	109.3

* = Provisional.

Penticton 2800 MHz (10.7cm) Solar Flux
Oct 2001 - Sep 2002

Adjusted to 1 AU



Day	Oct 01	Nov	Dec	Jan 02	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	216.9	232.0	215.1	224.5	238.5	184.3	206.7	164.9	183.9	152.3	198.3	183.8
2	201.1	210.1	238.1	223.5	233.7	187.6	205.9	171.7	180.0	153.5	185.7	176.9
3	191.8	212.5	228.3	213.0	226.3	179.6	209.4	182.0	175.4	152.4#	172.7	174.4
4	186.5	223.5	226.6	211.0	228.1	172.0	216.3	192.7	174.7	151.3	155.3	174.2
5	176.8	230.6	230.1	205.2	214.5	169.4	217.6	183.2	163.7	143.5	146.0	178.1
6	180.2	233.2	239.5	190.1	196.9	175.0	206.7	194.3	159.1	138.0	148.8	180.9
7	172.4	263.9	219.3	182.4	186.6	177.0	208.4	190.3	163.1	141.5	140.1	185.6
8	170.8	243.1	213.9	192.6	186.4	174.2	206.8	190.2	159.9	135.3	138.3	194.4
9	175.9	265.6	217.5	220.9	194.1	204.8x	205.8	193.7	161.9	140.9	144.0	209.0
10	178.1	241.0	212.3	217.3	210.9	176.9	195.1	194.8	156.2	133.1	152.4	223.5
11	174.1	229.3	213.9	221.4	196.6	180.0	198.3	191.8	152.4	141.0	176.9	219.0
12	178.5	222.6	229.4	225.7	203.1	176.2	213.0	187.1	146.2	137.7	188.8	215.1
13	178.6	226.8	213.4	232.9	198.5	182.1	227.3	175.6	137.6	139.4	196.8	208.6
14	190.8	212.6	209.9#	221.6	191.3	178.6	211.6	164.2	135.6	148.6	213.5	209.2
15	191.7	202.4	211.0	211.2	190.3	174.0	204.7	162.7	139.7	164.8#	215.7	189.9
16	205.8	197.6	202.5	209.1	188.9	182.7	197.2	162.0	141.0	177.2	219.1	184.5
17	215.8	194.0	199.0	205.0	192.0	182.7	195.0	160.7	147.5	185.9	232.3	195.9
18	226.9	183.8	205.0	203.8	188.4	176.5	189.8	166.8	147.5	186.6	246.9	178.4
19	245.6	186.8	201.6	206.9	185.1	173.3	181.4	175.0	150.5	188.3	242.6	166.7
20	242.5	180.6	214.0	215.2	189.1	186.3	179.0	175.4	149.8	190.7	232.8	165.8
21	222.0	179.7	226.7	217.5	196.7	172.8	175.1	190.4	144.2	188.7	225.0	159.8
22	230.4	185.3#	234.9	221.5	187.9	170.4	171.7	185.6	146.6	195.8	225.1	161.1
23	224.1	172.9	246.3	219.4	184.2	169.4	177.2	184.8	147.5	204.6	229.5	154.8
24	236.0	168.6	265.5	223.6	188.9	174.3	178.9	193.9	155.3	215.0	199.8	158.9
25	236.1	165.6	250.3	227.6	206.4	169.1	169.3	187.4	149.5	224.5	182.4	154.2
26	233.6	170.3	259.0	248.7	203.5	164.9	164.7	188.0	148.6	249.1	172.2	150.6
27	243.4	185.3	265.6	240.5	194.9	168.4	159.0	191.6	143.2	238.0	164.7	152.2
28	224.2	193.1	254.6#	252.0	200.4	175.6	149.2	191.4	141.9	246.2	166.4	149.1
29	212.8	210.5	255.7	253.2		180.8	155.2	189.8	147.5	241.1	172.6	138.6
30	222.7	219.6	238.5	248.8		188.2	155.6	185.1	151.4	234.1	173.5#	140.1
31	217.8		237.5	235.5		204.0		187.0		214.8	183.7	
Mean	206.6	208.1	228.2	220.1	200.1	178.4	191.1	182.4	153.4	179.2	188.4	177.8

NOTE: # 1700 or1800UT reading - burst in progress (IP) at 2000UT; x Burst IP at 2000UT.

DAILY SOLAR INDICES

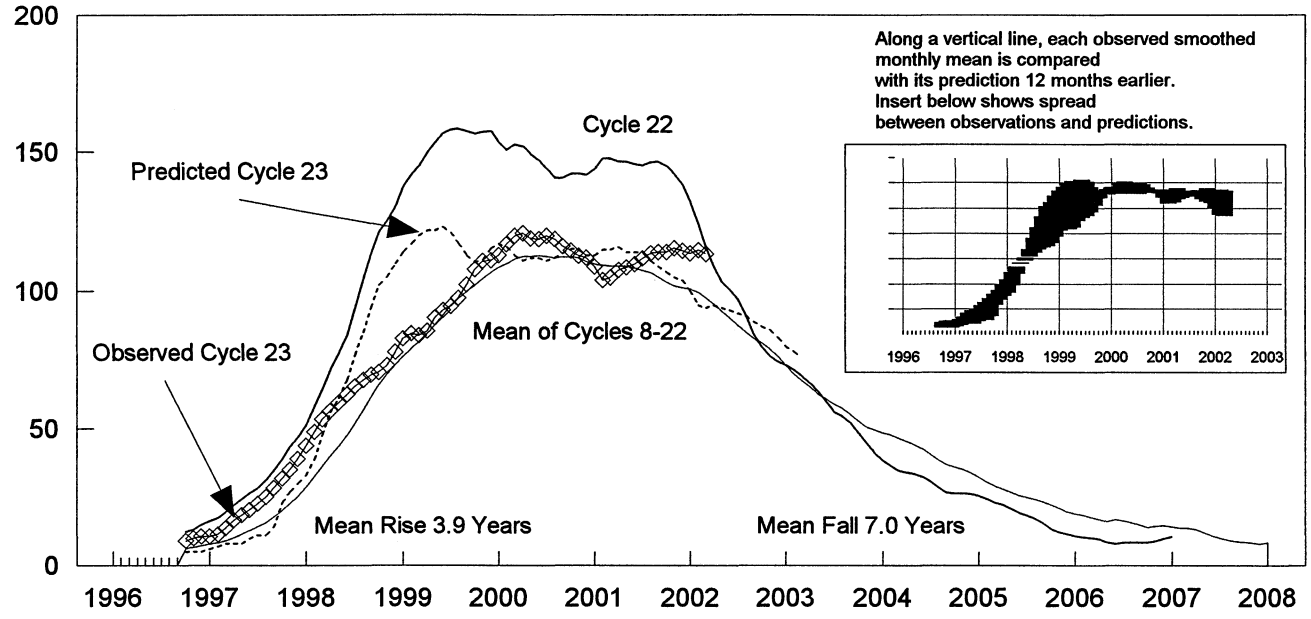
September 2002

	Day	Bartels	Sunspot		Obs Flux		-----Solar Flux Adjusted to 1 Astronomical Unit--------							
	of	Cycle	Numbers		Penticton	SGMR	SGMR	SGMR	Penticton	SGMR	SGMR	SGMR	SGMR	SGMR
Day	Year	Day	Int	Amer	(2800)	(15400)	(8800)	(4995)	(2800)	(2695)	(1415)	(610)	(410)	(245)
1	244	9	120	139	180.5	584	374	233	183.8	178	127	54	43	48
2	245	10	136	153	173.8	534	357	218	176.9	169	120	50	35	32
3	246	11	147	165	171.4	561	359	220	174.4	174	126	53	36	33
4	247	12	144	162	171.3	554	353	212	174.2	169	126	58	67	---
5	248	13	132	158	175.2	577	326	233	178.1	184	142	57	37	24
6	249	14	118	136	178.1	578	318	214	180.9	172	126	57	37	24
7	250	15	120	135	182.8	569	321	221	185.6	183	132	54	36	24
8	251	16	124	136	191.6	565	329	236	194.4	186	132	58	35	20
9	252	17	116	134	206.0	578	355	276	209.0	207	137	55	35	19
10	253	18	118	132	220.5	578	372	302	223.5	220	143	56	38	52
11	254	19	109	135	216.1	576	359	285	219.0	206	145	56	36	---
12	255	20	109	133	212.4	590	351	270	215.1	206	141	60	39	36
13	256	21	109	118	206.1	575	344	260	208.6	197	141	52	38	47
14	257	22	87	111	206.9	580	336	254	209.2	197	141	52	38	70
15	258	23	97	115	187.8	546	336	241	189.9	186	135	59	42	43
16	259	24	99	118	182.6	553	329	234	184.5	179	132	57	41	37
17	260	25	116	134	194.0	572	342	246	195.9	185	133	61	40	36
18	261	26	121	141	176.8	550	328	230	178.4	174	129	61	45	44
19	262	27	112	140	165.3	556	319	219	166.7	168	122	60	45	---
20	263	1	114	128	164.4	550	313	216	165.8	164	121	57	65	---
21	264	2	106	114	158.6	547	315	217	159.8	155	115	55	49	47
22	265	3	108	134	160.0	548	298	204	161.1	152	115	52	38	33
23	266	4	112	133	153.8	544	309	205	154.8	149	110	52	41	37
24	267	5	103	122	157.9	551	315	211	158.9	149	107	55	43	56
25	268	6	111	117	153.4	569	310	208	154.2	145	106	50	35	20
26	269	7	82	102	149.9	541	298	192	150.6	142	104	45	36	21
27	270	8	90	106	151.6	523	294	201	152.2	147	103	53	40	43
28	271	9	80	87	148.6	550	307	201	149.1	141	103	51	41	26
29	272	10	76	77	138.1	550	287	185	138.6	134	98	50	32	24
30	273	11	64	70	139.7	543	302	192	140.1	135	101	47	39	34
MEAN			109.3	126.2	175.8	559	328	227	177.8	171	123	54	40	36

The International and American sunspot numbers shown are preliminary values.

NOTE: Radio flux values are from Sagamore Hill, Massachusetts, USA.

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	110	112	114	114	114	115	115	111
2002	114	115	113	111	108	105	102	99	96	93	90	86	103
				(4)	(8)	(10)	(9)	(9)	(11)	(13)	(13)	(12)	(7)
2003	82	79	76	74	70	68	66	64	62	59	57	56	68
	(10)	(9)	(10)	(11)	(11)	(12)	(12)	(12)	(13)	(15)	(16)	(18)	(12)

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

*** May 1996 marks Cycle 22's mathematical minimum. ** October 1996 marks the consensus minimum**

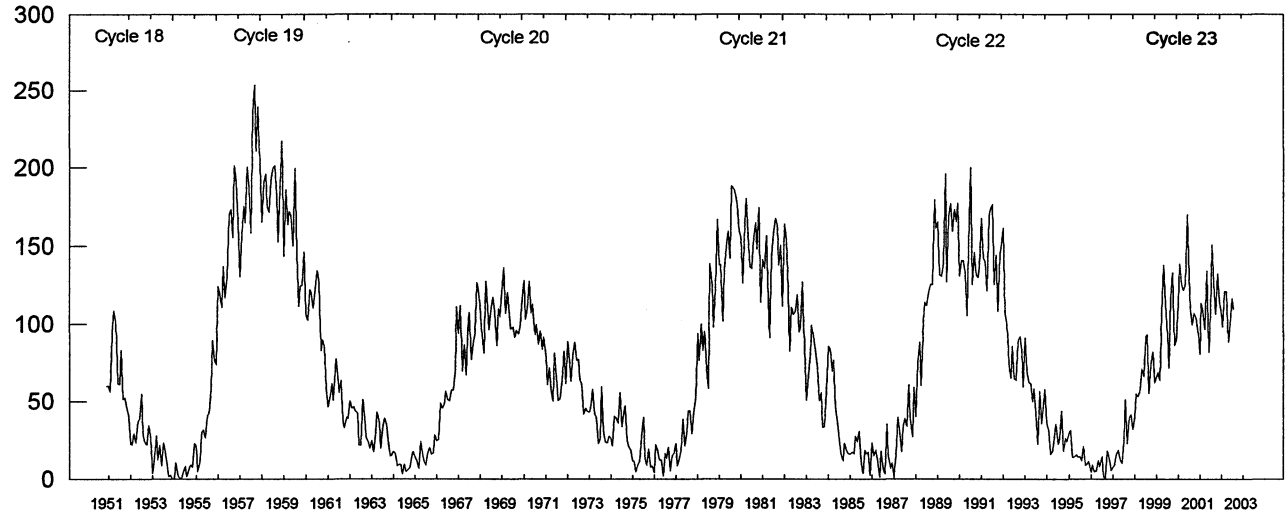
+ April 2000 marks Cycle 23 maximum.

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 June 2002 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 March 2003 prediction. There exists a 90% chance that in March 2003, the actual smoothed number will fall somewhere between 66 and 86.

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 1951 - Sep 2002



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean	
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	81.8	106.4	150.7	125.5	106.5	132.2	111.0	
2002	114.1	107.4	98.4	120.7	120.8	88.3	99.9	116.4	109.3				108.4	

Values are preliminary after Jun 02. For the yearly means, each 'M' marks a sunspot cycle maximum and each 'm' a minimum.

Hα SOLAR FLARES

SEPTEMBER 2002

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	0221	0224	0226						5		C 2.8						6.9E-04
GOES		0930	0933	0935						5		C 6.7						1.5E-03
GOES		1205	1233	1239	S08	W55	10087			34	SF	C 3.1						5.0E-03
RAMY		1215	1216U	1258D	S08	W55	10087	08	28.5	43D	SF		3	E		36		F
GOES		1637	1642	1647						10		C 3.3						1.5E-03
GOES		2013	2028	2043						30		C 3.1						4.6E-03
HOLL		2058	2059	2103	N02	E42	10095	09	5.0	5	SF		3	E		22		
GOES	02	0006	0008	0010						4		C 2.0						3.5E-04
GOES		0244	0248	0250						6		C 2.3						5.9E-04
GOES		0713	0717	0719						6		C 1.9						5.4E-04
GOES		0905	0911	0933						28		C 1.9						2.9E-03
GOES		0955	1014	1024						29		C 2.0						3.0E-03
GOES		1153	1204	1210	S17	E21	10094			17	SF	C 1.6						1.5E-03
RAMY		1203	1203	1212	S17	E21	10094	09	4.1	9	SF		3	E		10		F
GOES		1949	2036	2046						57		C 1.2						3.1E-03
GOES		2112	2115	2119						7		C 1.0						3.8E-04
GOES	03	0021	0054	0101						40		M 1.0						1.2E-02
GOES		0203	0228	0246						43		C 2.3						5.0E-03
GOES		0251	0259	0308						17		C 2.6						2.4E-03
GOES		0741	0745	0748						7		C 2.6						8.4E-04
GOES		1002	1005	1008						6		C 1.5						4.9E-04
GOES		1115	1128	1138	N13	E03	10097			23	SF	C 1.4						1.8E-03
RAMY		1123	1125	1143	N13	E03	10097	09	3.7	20	SF		3	E		24		FH
RAMY		1150	1150	1154	N13	W01	10097	09	3.4	4	SF		3	E		18		F
GOES		1244	1247	1250						6		C 1.5						4.9E-04
HOLL		1502	1503	1507	N14	E76		09	9.4	5	SF		3	E		12		
GOES		1756	1807	1820						24		C 1.3						1.7E-03
RAMY		2206	2206	2211	N06	E03	10095	09	4.1	5	SF		3	E		11		
GOES	04	0323	0327	0331						8		C 1.9						7.1E-04
GOES		0335	0339	0342						7		C 1.7						6.4E-04
GOES		0530	0533	0539						9		C 1.0						5.1E-04
GOES		0540	0547	0551	N04	E10	10095			11	SF	C 1.5						8.3E-04
SVTO		0542	0542	0545	N04	E10	10095	09	5.0	3	SF		3	E		29		F
GOES		0622	0628	0637	S17	E22	10096			15	SF	C 2.3						1.6E-03
SVTO		0625	0625	0631	S17	E22	10096	09	5.9	6	SF		3	E		29		
GOES		0740	0743	0746						6		C 2.0						5.6E-04
GOES		1027	1033	1038	S17	E21	10096			11	SF	C 1.6						8.9E-04
SVTO		1030	1030	1037	S17	E21	10096	09	6.0	7	SF		3	E		10		
GOES		1350	1355	1357	S16	E20	10096			7	SF	C 1.6						5.6E-04
RAMY		1352	1353	1355	S16	E20	10096	09	6.1	3	SF		3	E		14		
GOES		1414	1417	1422	S17	W11	10094			8	SF	C 1.2						5.5E-04
RAMY		1416	1416	1425	S17	W11	10094	09	3.7	9	SF		3	E		15		
GOES		1448	1454	1457	S16	E18	10096			9	SF	C 2.5						9.9E-04
SVTO		1452	1454	1500D	S17	E16	10096	09	5.8	8D	SF		3	E		38		F
RAMY		1452	1455	1502	S16	E18	10096	09	6.0	10	SF		3	E		24		FH
GOES		1528	1531	1534	N08	E05	10095			6	SF	C 1.6						5.3E-04
HOLL		1529	1532	1539	N08	E05	10095	09	5.0	10	SF		3	E		26		F
HOLL		1530	1530	1533	N14	E64	10103	09	9.5	3	SF		3	E		18		
RAMY		1530	1532	1538	N08	E05	10095	09	5.0	8	SF		3	E		26		FH
RAMY		1649	1652	1655	N08	E04	10095	09	5.0	6	SF		3	E		11		F
GOES		1700	1703	1708	N08	E04	10095			8	SF	C 1.2						5.5E-04
RAMY		1701	1701	1709	N08	E04	10095	09	5.0	8	SF		3	E		13		F
GOES		1804	1807	1810						6		C 1.1						3.6E-04
GOES	05	0006	0015	0022	N07	E00	10095			16	SF	C 1.2						1.0E-03
HOLL		0012	0012	0016	N07	E00	10095	09	5.0	4	SF		3	E		11		
GOES		0225	0229	0236						11		C 1.6						8.1E-04
SVTO		0456E	0456U	0506D	S13	E02	10096	09	5.3	10D	SF		1	E		14		H
GOES		0547	0551	0606						19		C 2.0						2.2E-03
GOES		0806	0810	0814						8		C 1.6						6.8E-04
GOES		1130	1134	1139						9		C 1.2						5.9E-04
GOES		1234	1239	1250	S15	E07	10096			16	SF	C 5.1						3.5E-03
SVTO		1237	1238U	1254	S16	E04	10096	09	5.8	17	SF		3	E		45		F
RAMY		1237	1240	1305	S15	E07	10096	09	6.0	28	SF		3	E		40		FH
GOES		1618	1706	1735	N09	E28	10102			77	SF	C 5.2						1.6E-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	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
RAMY	05	1630	1631	1745	N12	E28	10102	09	7.8	75	SF		3	E		33		F
HOLL		1631	1645	1733	N09	E28	10102	09	7.8	62	SF		3	E		42		UF
RAMY		1747	1748	1753	N13	E26	10102	09	7.7	6	SF		3	E		15		F
GOES		2040	2045	2051	S16	E03	10096			11	SF	C 8.6						4.0E-03
HOLL		2042	2043	2117D	S16	E03	10096	09	6.1	35D	SF		3	E		65		F
GOES	06	1216	1225	1236						20		C 2.0						2.1E-03
GOES		1623	1628	1631						8		C 9.2						2.5E-03
GOES		1636	1644	1650						14		C 5.3						3.5E-03
HOLL		2324	2327	2330	N12	E70		09	12.2	6	SF		3	E		17		F
GOES	07	0113	0152	0158						45		C 4.6						7.1E-03
GOES		0439	0450	0456						17		C 1.6						0.0E+00
GOES		1051	1057	1104						13		C 1.7						1.1E-03
GOES		1458	1502	1506						8		C 1.3						5.4E-04
GOES		1619	1625	1634						15		C 1.6						1.4E-03
HOLL		1713	1714	1718	N12	W52	10097	09	3.8	5	SF		3	E		17		F
GOES		1735	1747	1754						19		C 5.4						4.9E-03
GOES	08	0135	0143	0153	S11	E76	10105			18	SF	M 1.5						1.1E-02
LEAR		0143	0144	0148	S11	E76	10105	09	13.8	5	SF		3	E		15		FH
LEAR		0240	0242	0251	N15	E12	10103	09	9.0	11	SF		3	E		23		F
LEAR		0253	0258	0314	N05	W14	10101	09	7.1	21	SF		2	E		17		H
HOLL		1419	1453	1504	N12	E76		09	14.3	45	SF		3	E		24		
GOES		1445	1457	1508	N12	E76	10107			23	SF	C 4.0						4.7E-03
HOLL		1600	1605	1607	N12	E74		09	14.2	7	SF		3	E		16		
RAMY		1819	1822	1827	S17	W37	10096	09	5.9	8	SF		3	E		15		F
HOLL		2037	2039	2041	N12	E72	10107	09	14.3	4	SF		3	E		23		
GOES	09	0227	0239	0257						30		C 3.6						5.5E-03
LEAR		0309	0309	0318	N16	E02	10103	09	9.3	9	SF		3	E		12		
HOLL		1545	1546	1551	S20	W30	10100	09	7.4	6	SF		3	E		10		
HOLL		1628	1632	1704D	S18	W49	10096	09	5.9	36D	SF		3	E		63		
GOES		1628	1635	1641	S18	W49	10096			13	SF	C 2.1						1.5E-03
RAMY		1630	1632	1651	S17	W50	10096	09	5.9	21	SF		3	E		36		F
HOLL		1718	1729	1733	S06	E49	10105	09	13.4	15	SF		3	E		34		F
GOES		1740	1752	1801	S09	E54	10105			21	2N	M 2.1						1.7E-02
HOLL		1742	1752	1828	S09	E54	10105	09	13.8	46	2N		3	E		314		UF
HOLL		1753	1753	1757	N14	W03	10103	09	9.5	4	SF		3	E		21		F
HOLL		1800	1803	1808	S14	W55	10096	09	5.6	8	SF		3	E		28		
GOES		2126	2131	2135						9		C 2.1						9.9E-04
GOES		2331	2334	2337	N16	W08	10103			6	SF	C 1.2						4.2E-04
LEAR		2332	2332	2337	N16	W08	10103	09	9.4	5	SF		3	E		12		
GOES	10	0911	0916	0920						9		C 1.6						7.5E-04
GOES		1018	1024	1034	S13	E50	10105			16	SF	C 3.6						2.6E-03
SVTO		1021	1023	1030	S13	E50	10105	09	14.2	9	SF		3	E		97		H
GOES		1157	1200	1202						5		C 1.7						4.7E-04
GOES		1332	1336	1339	N11	E51	10107			7	SF	C 2.1						7.3E-04
RAMY		1336	1336	1341	N11	E51	10107	09	14.4	5	SF		3	E		13		F
GOES		1432	1436	1438	N15	W14	10103			6	SF	C 1.6						5.1E-04
RAMY		1433	1436	1438	N15	W14	10103	09	9.5	5	SF		3	E		16		F
GOES		1449	1456	1500	S10	E43	10105			11	1N	M 2.9						1.0E-02
RAMY		1452	1453	1514	S10	E43	10105	09	13.8	22	1N		3	E		174		FH
RAMY		1547	1606	1615	N11	E49	10107	09	14.3	28	SF		3	E		65		F
GOES		1552	1555	1600	N11	E49	10107			8	SF	C 2.5						1.1E-03
GOES		1711	1724	1732	S09	E38	10105			21	SF	C 5.6						5.2E-03
RAMY		1712	1718	1731	S09	E38	10105	09	13.6	19	SF		3	E		61		FH
RAMY		1721	1725	1734	N12	E48	10107	09	14.3	13	SF		3	E		69		
GOES		1734	1738	1741	S10	E41	10105			7	SF	C 6.5						2.2E-03
RAMY		1737	1737	1743	S10	E41	10105	09	13.8	6	SF		3	E		51		F
RAMY		1738	1741	1744	N12	E49	10107	09	14.4	6	SF		3	E		32		
RAMY		1812	1813	1816	N10	E45	10107	09	14.1	4	SF		3	E		13		F
GOES		1936	1939	1942						6		C 1.8						5.6E-04
GOES		1948	1955	2006						18		C 3.7						3.1E-03
GOES		2044	2051	2054	N12	E46	10107			10	SF	C 3.6						1.7E-03
HOLL		2046E	2050U	2109D	N12	E46	10107	09	14.3	23D	SF		3	E		42		
GOES		2154	2204	2208						14		C 9.1						3.1E-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	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
GOES	10	2252	2258	2301						9		C 3.4						1.2E-03
GOES	11	0137	0143	0148						11		C 2.2						1.2E-03
LEAR		0156	0156	0200	S17	W51	10100	09	7.2	4	SF		2	E		20		
GOES		0503	0509	0513	N11	E40	10107			10	SF	C 2.1						9.2E-04
LEAR		0507	0511	0516	N11	E40	10107	09	14.2	9	SF		3	E		20		F
GOES		0549	0554	0557	N10	E39	10107			8	SF	C 1.5						5.7E-04
LEAR		0552	0552	0558	N10	E39	10107	09	14.2	6	SF		3	E		19		
GOES		0726	0735	0742	S10	E30	10105			16	2B	M 2.2						1.1E-02
LEAR		0728	0734	0903D	S10	E30	10105	09	13.6	95D	2B		3	E		547		FE
SVTO		0817E	0817U	0831D	S10	E26	10105	09	13.3	14D	SF		3	E		37		F
GOES		1038	1051	1056						18		C 4.5						3.4E-03
GOES		1448	1503	1506	N12	E35	10107			18	SF	C 1.3						1.2E-03
RAMY		1502	1503	1507	N12	E35	10107	09	14.3	5	SF		3	E		15		F
GOES		1746	1749	1752						6		C 1.9						5.6E-04
GOES		2255	2300	2302	N11	E31	10107			7	SF	C 1.2						4.4E-04
HOLL		2300	2300	2304	N11	E31	10107	09	14.3	4	SF		2	E		17		
GOES	12	0009	0018	0030	N10	E30	10107			21	SF	C 4.1						3.6E-03
LEAR		0014	0016	0029	N10	E30	10107	09	14.3	15	SF		3	E		28		F
LEAR		0343	0350	0357	S06	E16	10105	09	13.3	14	SF		3	E		36		F
LEAR		0435	0443	0450	S05	E15	10105	09	13.3	15	SF		2	E		36		F
GOES		0626	0630	0633						7		C 1.4						4.8E-04
GOES		0707	0714	0725	N10	E24	10107			18	SF	C 2.8						2.6E-03
LEAR		0709	0713	0733	N10	E24	10107	09	14.1	24	SF		2	E		36		F
GOES		0751	0755	0758						7		C 1.1						4.3E-04
GOES		1147	1153	1200	N12	E23	10107			13	SF	C 2.5						1.7E-03
RAMY		1149	1152	1212	N12	E23	10107	09	14.2	23	SF		3	E		47		F
GOES		1335	1338	1340	S11	E19	10105			5	SF	C 1.0						2.6E-04
RAMY		1338	1338	1342	S11	E19	10105	09	14.0	4	SF		3	E		22		H
GOES		2054	2123	2136	S12	E16	10105			42	SF	C 3.1						6.0E-03
HOLL		2058E	2101U	2101D	S13	E17	10105	09	14.1	3D	SF		3	E		20		
RAMY		2059	2104	2146	S12	E16	10105	09	14.1	47	SF		3	E		31		F
GOES		2335	2337	2340	S06	E04	10114			5	SF	C 1.4						3.3E-04
LEAR		2336	2337	2346	S06	E04	10105	09	13.3	10	SF		2	E		81		
LEAR	13	0211	0213	0222	S07	E03	10105	09	13.3	11	SF		3	E		12		
GOES		0657	0717	0740			10105			43		C 2.8						5.5E-03
LEAR	14	0029	0034	0045	S02	W02	10105	09	13.9	16	SF		3	E		12		F
GOES		0032	0034	0037	S02	W02	10114			5	SF	B 9.2						2.7E-04
GOES		0157	0203	0207			10105			10		C 1.1						6.1E-04
GOES		0437	0440	0443			10105			6		C 1.7						4.6E-04
GOES		0556	0600	0612						16		C 1.2						1.0E-03
GOES		1101	1106	1109			10105			8		C 1.8						6.1E-04
GOES		1221	1453	1514			10105			173		C 4.1						2.6E-02
RAMY		1223	1223	1236	S12	E01	10105	09	14.6	13	SF		3	E		14		F
RAMY		1440	1440	1444	S09	W13	10105	09	13.6	4	SF		3	E		11		F
RAMY		1445	1452	1505	S10	W13	10105	09	13.6	20	SF		3	E		41		F
GOES		1717	1831	1859	S09	E03	10114			102	SF	C 4.5						1.9E-02
RAMY		1730	1740	1759	S11	E04	10114	09	15.0	29	SF		3	E		23		F
HOLL		1730	1816	1915	S09	E03	10114	09	14.9	105	SF		3	E		26		F
RAMY		1800	1814	1849	S11	E00	10114	09	14.8	49	SF		3	E		20		FH
GOES		2125	2136	2148						23		C 2.4						3.0E-03
GOES		2310	2313	2317						7		C 1.2						4.6E-04
GOES	15	0411	0417	0419						8		C 1.7						7.0E-04
GOES		0441	0450	0458						17		C 3.9						3.2E-03
LEAR		0734	0752	0812	S06	W25	10105	09	13.4	38	1F		2	E		125		FH
GOES		0747	0752	0756	S04	W26	10105			9	SF	C 3.7						1.7E-03
SVTO		0749	0752	0815D	S04	W26	10105	09	13.4	26D	SF		3	E		30		F
LEAR		0922	0923	0930	N17	W79	10103	09	9.4	8	SF		2	E		18		
GOES		0922	0926	0930	N17	W79	10103			8	SF	C 1.3						
GOES		1255	1259	1303						8		C 1.2						5.7E-04
GOES		1356	1400	1404						8		C 1.3						6.2E-04
GOES		1533	1538	1541	S08	W12	10114			8	SF	C 3.1						1.0E-03
SVTO		1534	1538	1545	S08	W12	10114	09	14.7	11	SF		3	E		62		F
GOES		1729	1738	1745	S05	W29	10105			16	SF	M 1.0						5.7E-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	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
HOLL	15	1734	1736	1756	S05	W29	10105	09	13.6	22	SF		3	E		65		F
GOES		1900	1904	1909						9		C 1.2						6.5E-04
GOES		2034	2039	2042						8		C 2.9						9.0E-04
GOES		2330	2338	2350	S16	W13	10114			20	SF	C 1.7						1.8E-03
HOLL		2334E	2336U	2346D	S16	W13	10114	09	15.0	12D	SF		3	E		16		F
LEAR		2352	2358	2405	S05	W38	10105	09	13.1	13	1F		1	E		108		
HOLL		2357	2358	2401	S07	W36	10105	09	13.3	4	SF		3	E		26		
LEAR	16	0130	0146	0221	S13	W21	10114	09	14.5	51	SF		2	E		92		FH
GOES		0141	0154	0158	S13	W21	10114			17	SF	C 2.4						1.9E-03
LEAR		0143	0144	0152	S16	E46		09	19.6	9	SF		2	E		18		
GOES		0306	0310	0312	S13	W20	10114			6	SN	M 1.3						2.3E-03
LEAR		0309	0310	0328	S13	W20	10114	09	14.6	19	SN		2	E		73		FE
GOES		0338	0353	0410	S06	W37	10105			32	1F	C 5.0						7.7E-03
LEAR		0340	0346	0446	S06	W37	10105	09	13.4	66	1F		3	E		196		FH
LEAR		0419	0423	0446	S13	W23	10114	09	14.4	27	SF		2	E		40		
LEAR		0852	0900	0910	S15	E41		09	19.5	18	SF		3	E		12		F
GOES		0853	0856	0858	S15	E41				5	SF	C 1.6						4.6E-04
GOES		1022	1026	1029	S11	W25	10114			7	SF	C 1.4						4.8E-04
SVTO		1025	1026	1035	S11	W25	10114	09	14.5	10	SF		2	E		38		
GOES		1155	1157	1159	S08	W37	10105			4	SF	C 1.2						2.8E-04
SVTO		1156	1157	1200	S08	W37	10105	09	13.7	4	SF		3	E		14		
GOES		1546	1556	1602	S15	E38	10119			16	SF	C 4.6						3.1E-03
HOLL		1549	1555	1609	S15	E38		09	19.5	20	SF		3	E		53		
SVTO		1550	1558	1612	S18	E36		09	19.4	22	SF		3	E		83		F
GOES		1950	2004	2018			10119			28		C 5.0						5.4E-03
HOLL		1959	2001	2014	S12	W42	10105	09	13.7	15	SF		3	E		35		F
HOLL		2000	2003	2038	S15	E37	10119	09	19.6	38	SF		3	E		75		F
GOES		2156	2200	2202						6		C 2.7						5.9E-04
LEAR	17	0046	0048	0055	S18	E27	10119	09	19.1	9	SF		4	E		12		
LEAR		0052	0052	0055	S08	W47	10105	09	13.5	3	SF		4	E		24		
GOES		0157	0205	0214			10110			17		C 5.2						3.9E-03
LEAR		0158	0201	0212	S18	E26	10119	09	19.1	14	SF		4	E		42		
LEAR		0201	0202	0229	N19	W60	10110	09	12.5	28	SF		4	E		18		
LEAR		0208	0226	0256	S08	W47	10105	09	13.6	48	SF		4	E		42		F
LEAR		0259	0300	0304	S18	E26	10119	09	19.1	5	SF		4	E		12		
LEAR		0305	0307	0313	S15	E28	10119	09	19.2	8	SF		4	E		24		F
GOES		0410	0415	0417	S15	E27	10119			7	SF	C 1.2						4.6E-04
LEAR		0412	0421	0437	S15	E27	10119	09	19.2	25	SF		3	E		23		
GOES		0548	0554	0558	S13	W37	10114			10	SN	C 2.0						8.9E-04
LEAR		0550	0551	0605	S13	W37	10114	09	14.4	15	SN		3	E		88		EF
SVTO		0551E	0551U	0601D	S11	W32	10114	09	14.8	10D	SF		3	E		101		F
GOES		0611	0820	0936	S12	W33	10114			205	1F	C 8.6						7.7E-02
LEAR		0621	0637	0953D	S14	W34	10114	09	14.7	212D	1F		3	E		109		FT
SVTO		0626	0649	0919	S12	W33	10114	09	14.8	173	1F		3	E		104		F
LEAR		0916	0920	0941	S16	E25	10119	09	19.3	25	SN		4	E		84		EF
GOES		0917	0921	0924	S16	E25	10119			7	SN	C 8.8						3.2E-03
SVTO		0917	0921	0933	S18	E24	10119	09	19.2	16	SF		3	E		72		
GOES		1036	1050	1058	S18	E25	10119			22	SF	C 4.3						5.0E-03
SVTO		1038	1041	1104D	S18	E25	10119	09	19.3	26D	SF		3	E		44		
SVTO		1444	1444	1453	S08	W54	10105	09	13.6	9	SF		3	E		43		
GOES		1735	1741	1748	S15	E19	10119			13	SF	C 2.8						1.9E-03
HOLL		1739E	1739U	1744	S15	E19	10119	09	19.2	5D	SF		3	E		12		
GOES		1919	1929	1938	S16	E18	10119			19	SF	C 2.5						2.4E-03
HOLL		1923	1924	1928	S16	E18	10119	09	19.2	5	SF		3	E		14		
GOES		2125	2151	2200						35		C 4.0						6.5E-03
HOLL		2127E	2127U	2134	S17	E16	10119	09	19.1	7D	SF		3	E		21		F
LEAR		2333	2333	2339	S15	E16	10119	09	19.2	6	SF		3	E		12		F
LEAR		2357	2401	2419	S15	E16	10119	09	19.2	22	SF		3	E		15		F
GOES		2357	2412	2426	S15	E16	10119			29	SF	C 2.8						4.0E-03
LEAR	18	0108	0109	0115	S07	W43	10114	09	14.8	7	SF		3	E		33		F
GOES		0110	0119	0129	S01	W62	10112			19	SF	C 3.8						3.5E-03
LEAR		0113	0114	0119	S03	W61	10105	09	13.5	6	SF		3	E		40		F
GOES		0207	0222	0239	S17	E13	10119			32	1F	C 4.8						6.8E-03
LEAR		0209	0219	0253	S17	E13	10119	09	19.1	44	1F		3	E		151		FH
LEAR		0326	0327	0330	S15	E14	10119	09	19.2	4	SF		3	E		17		

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
LEAR	18	0518	0518	0522	S18	E11	10119	09	19.0	4	SF		3	E		12		
LEAR		0523	0525	0529	S18	E11	10119	09	19.1	6	SF		3	E		18		F
LEAR		0722	0725	0735	S04	W62	10105	09	13.7	13	SF		3	E		27		F
LEAR		0929	0932	0943	S19	E08	10119	09	19.0	14	SF		3	E		11		
GOES		1013	1030	1046	S16	E10	10119			33	SF	C 3.1						5.1E-03
SVTO		1018	1021	1045	S16	E10	10119	09	19.2	27	SF		3	E		14		
GOES		1532	1600	1653	S22	E04	10119			81	1F	C 2.2						7.1E-03
SVTO		1540	1602	1634D	S22	E03	10119	09	18.9	54D	SF		3	E		48		F
RAMY		1540	1606	1701	S22	E04	10119	09	19.0	81	1F		3	E		104		FH
HOLL		1610E	1612U	1619	S20	E05	10119	09	19.0	9D	SF		3	E		15		F
RAMY		1645	1646	1650	S04	W67	10105	09	13.7	5	SF		3	E		11		
RAMY		1651	1651	1656	S06	W66	10105	09	13.8	5	SF		3	E		10		
GOES		1714	1722	1728	S09	W71	10105			14	SF	C 3.9						2.3E-03
RAMY		1717	1722	1733	S09	W71	10105	09	13.4	16	SF		3	E		56		F
RAMY		1748	1749	1755	S03	W06	10115	09	18.3	7	SF		3	E		17		
GOES		2104	2109	2112	S11	W71	10105			8	SF	C 1.7						5.9E-04
RAMY		2109	2111	2128	S11	W71	10105	09	13.5	19	SF		3	E		68		
GOES		2148	2153	2200						12		C 1.0						6.9E-04
GOES	19	0512	0528	0548	S07	E63	10125			36	1F	C 4.7						7.9E-03
LEAR		0514	0517	0607	S07	E63	10125	09	23.9	53	1F		3	E		147		F
SVTO		0521E	0525	0556	S09	E66	10125	09	24.2	35D	SF		2	E		42		F
LEAR		0737	0739	0745	S14	W60	10114	09	14.8	8	SF		3	E		36		
SVTO		0738	0739	0743	S12	W60	10114	09	14.8	5	SF		3	E		25		
GOES		0807	0816	0825	S14	W02	10119			18	SF	C 3.7						3.1E-03
LEAR		0810	0815	0830	S14	W02	10119	09	19.2	20	SF		3	E		41		F
SVTO		0812	0814	0821	S14	W02	10119	09	19.2	9	SF		3	E		39		F
GOES		1342	1345	1347						5		C 1.0						2.8E-04
GOES		1358	1401	1403	S12	W80	10105			5	SF	C 1.0						2.7E-04
RAMY		1359	1400	1404	S12	W80	10105	09	13.5	5	SF		3	E		25		
GOES		1427	1436	1442	S13	W79	10105			15	SF	C 3.3						2.2E-03
HOLL		1430	1432	1439	S12	W76	10105	09	13.9	9	SF		3	E		45		H
RAMY		1430	1432	1443	S13	W79	10105	09	13.6	13	SF		3	E		80		H
SVTO		1430	1433	1438	S08	W77	10105	09	13.8	8	SF		3	E		44		H
RAMY		1436	1441	1455	S16	E07	10123	09	20.1	19	SF		3	E		31		F
RAMY		1502	1503	1507	S12	W81	10105	09	13.5	5	SF		3	E		21		
RAMY		1847	1848	1912	S14	W06	10119	09	19.3	25	SF		3	E		26		
HOLL	20	0023	0025	0030	S18	E04	10123	09	20.3	7	SF		3	E		23		FH
LEAR		0023	0025	0041	S17	E05	10123	09	20.4	18	SF		3	E		48		FH
GOES		0156	0202	0206	S15	W13	10119			10	SF	C 2.4						1.0E-03
LEAR		0202	0203	0206	S15	W13	10119	09	19.1	4	SF		3	E		14		F
LEAR		0313	0320	0331	S02	W30	10115	09	17.9	18	SF		3	E		29		F
GOES		0508	0512	0517	S24	E75	10126			9	SF	M 1.5						5.9E-03
LEAR		0509	0518	0524	S24	E75	10126	09	26.0	15	SF		3	E		52		
GOES		0826	0835	0839	S03	W27	10115			13	SF	C 1.9						1.2E-03
LEAR		0830	0832	0838	S03	W27	10115	09	18.3	8	SF		3	E		32		H
LEAR		0920	0927	0939	S24	E73	10126	09	26.0	19	SF		3	E		92		H
GOES		0921	0928	0933	S24	E73	10126			12	SF	M 1.8						7.3E-03
SVTO		0924E	0925U	0952D	S24	E73	10126	09	26.0	28D	SF		3	E		24		H
GOES		1108	1114	1122	S22	E70	10126			14	SF	C 2.1						1.5E-03
RAMY		1117	1117	1125	S22	E70	10126	09	25.8	8	SF		3	E		16		
RAMY		1154	1154	1200	S23	E71	10126	09	26.0	6	SF		3	E		13		
RAMY		1206	1207	1214	S14	W16	10119	09	19.3	8	SF		3	E		22		FH
GOES		1323	1331	1344						21		C 2.1						2.2E-03
RAMY		1354	1354	1358	S16	W12	10119	09	19.7	4	SF		3	E		11		FH
GOES		2326	2334	2348						22		C 2.5						2.4E-03
GOES	21	0312	0320	0326	S14	E08	10121			14	SF	C 3.0						1.7E-03
LEAR		0317	0320	0334	S14	E08	10121	09	21.7	17	SF		3	E		64		F
GOES		0335	0338	0341						6		C 2.4						7.1E-04
GOES		0755	0759	0811						16		C 1.5						1.2E-03
GOES		1455	1459	1503						8		C 1.1						4.7E-04
GOES		1656	1703	1710	S15	W32	10119			14	SF	C 2.6						1.7E-03
RAMY		1658	1701	1743D	S15	W32	10119	09	19.3	45D	1F		3	E		105		FH
HOLL		1700	1701	1705	S15	W32	10119	09	19.3	5	SF		3	E		10		F
GOES		2034	2100	2138	S16	W19	10123			64	SF	C 2.6						7.3E-03
RAMY		2045	2101	2106D	S16	W19	10123	09	20.4	21D	SF		3	E		91		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	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
GOES	21	2300	2307	2313						13		C 1.7						9.8E-04
LEAR	22	0235	0240	0245	S14	E04	10127	09	22.4	10	SF		3	E		15		F
GOES		0547	0554	0601	S16	W43	10119			14	SF	C 2.4						1.5E-03
LEAR		0550	0552	0603	S16	W43	10119	09	19.0	13	SF		3	E		31		F
SVTO		0551E	0551U	0601D	S18	W42	10119	09	19.0	10D	SF		1	E		23		
GOES		0917	0926	0931			10119			14		C 1.7						1.0E-03
LEAR		0921	0921	0936	N18	E07		09	22.9	15	SF		2	E		10		
LEAR		0924	0927	0935	S16	W45	10119	09	19.0	11	SF		2	E		60		F
GOES		1026	1030	1034						8		B 8.9						3.6E-04
GOES		1053	1056	1058						5		B 7.9						2.1E-04
RAMY		1600	1600	1605	S16	W45	10119	09	19.2	5	SF		3	E		12		
RAMY		1735	1735	1740	S07	E23	10125	09	24.4	5	SF		3	E		12		F
GOES		1917	1921	1928						11		C 1.0						6.0E-04
GOES	23	0436	0449	0453	S19	W23	10120			17	1F	C 1.6						1.1E-03
LEAR		0437	0440	0445U	S19	W23	10120	09	21.4	8U	1F		3	E		139		F
GOES		1114	1119	1122						8		C 1.2						4.5E-04
GOES		1758	1802	1804						6		B 9.7						2.9E-04
GOES	24	0032	0037	0041						9		B 6.8						3.3E-04
RAMY		1329	1331	1333	N18	W21	10132	09	23.0	4	SF		3	E		12		
GOES		1555	1602	1606	S12	W80	10119			11	SF	C 3.1						1.4E-03
HOLL		1558	1559	1602	S12	W80	10119	09	18.6	4	SF		3	E		25		
GOES		1958	2003	2008						10		C 1.7						8.2E-04
GOES		2027	2032	2037						10		C 1.3						7.0E-04
LEAR	25	0216	0216	0219	N10	E74	10134	09	30.6	3	SF		3	E		22		
LEAR		0451	0453	0455	S11	W89	10119	09	18.5	4	SF		3	E		44		
LEAR		0535	0543	0557	N10	E72	10134	09	30.6	22	SF		3	E		16		F
LEAR		0706	0706	0710	N10	E72	10134	09	30.7	4	SF		3	E		21		
LEAR		0737	0738	0743	N12	E74	10134	09	30.9	6	SF		3	E		20		
LEAR		0802	0802	0810	N12	E74	10134	09	30.9	8	SF		3	E		31		
LEAR		0829	0832	0837	N12	E73	10134	09	30.8	8	SF		3	E		39		
LEAR		0842	0845	0847	N12	E73	10134	09	30.9	5	SF		3	E		30		
GOES		1558	1605	1615						17		C 2.0						1.7E-03
GOES		1721	1728	1737						16		C 2.2						1.8E-03
GOES		1811	1815	1819						8		C 1.3						5.7E-04
LEAR		2342	2344	2348	N22	W41	10132	09	22.8	6	SF		2	E		15		F
GOES	26	0028	0035	0038						10		C 1.3						7.2E-04
LEAR		0155	0208	0215	N20	W39	10132	09	23.1	20	SF		3	E		68		FH
GOES		0204	0208	0211	N20	W39	10132			7	SF	C 2.9						9.0E-04
LEAR		0300	0301	0304	S08	W27	10125	09	24.1	4	SF		3	E		12		
GOES		0324	0328	0332						8		C 2.9						1.1E-03
GOES		0352	0400	0405						13		C 4.0						1.6E-03
GOES		0420	0423	0426	S16	W49	10127			6	SF	C 1.8						5.5E-04
LEAR		0421	0422	0426	S16	W49	10127	09	22.5	5	SF		3	E		22		
LEAR		0426	0428	0441	N27	E10	10129	09	27.0	15	SF		3	E		18		F
GOES		0515	0519	0522						7		C 1.3						5.0E-04
GOES		0650	0656	0703	N19	W42	10132			13	SF	C 1.3						9.2E-04
LEAR		0654	0655	0717	N19	W42	10132	09	23.1	23	SF		3	E		24		
LEAR		0723	0724	0735	S16	W50	10122	09	22.5	12	SF		3	E		20		
GOES		0815	0819	0821	N22	W41	10132			6	SF	C 1.1						3.4E-04
SVTO		0816	0818	0820	N22	W41	10132	09	23.2	4	SF		3	E		18		S
LEAR		0816	0818	0822	N21	W42	10132	09	23.1	6	SF		3	E		32		
LEAR		0925	0931	0946	N12	E54	10134	09	30.5	21	SF		3	E		31		
GOES		1002	1006	1008	N22	W42	10132			6	SF	C 1.3						3.5E-04
SVTO		1005	1007	1010	N22	W42	10132	09	23.2	5	SF		3	E		25		
GOES		1334	1337	1344						10		C 1.7						9.3E-04
GOES		1838	1842	1846						8		B 9.5						3.9E-04
GOES		1900	1922	1948						48		C 1.6						3.7E-03
GOES		2035	2039	2042	N06	E01	10130			7	SF	C 1.1						3.9E-04
HOLL		2037	2037	2043	N06	E01	10130	09	26.9	6	SF		4	E		13		
GOES	27	0118	0148	0237						79		C 5.0						1.8E-02
LEAR		0319	0327	0406	N11	E49	10134	09	30.8	47	SF		3	E		96		F
GOES		0320	0341	0356	N11	E49	10134			36	SF	C 9.9						1.5E-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	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
LEAR	27	0405	0406	0409	N19	W54	10132	09	23.0	4	SF		3	E		14		
LEAR		0757	0816U	0844D	N12	E46	10134	09	30.8	47D	SF		2	E		35		F
GOES		0808	0824	0837	N12	E46	10134			29	SF	C 4.8						6.8E-03
GOES		1259	1312	1323	N13	E45	10134			24	SF	M 1.8						1.7E-02
HOLL		1329E	1333U	1354	N13	E45	10134	09	30.9	25D	SF		3	E		74		F
GOES		1639	1655	1709	N13	E40	10134			30	SF	C 3.2						4.7E-03
HOLL		1645	1701	1709	N13	E40	10134	09	30.7	24	SF		3	E		21		F
GOES		1859	1904	1909			10134			10		C 3.4						1.4E-03
GOES		1933	1942	1949	N13	E38	10134			16	SF	M 1.4						7.7E-03
HOLL		1945E	1945U	1954D	N13	E38	10134	09	30.7	9D	SF		3	E		61		
GOES	28	0040	0112	0135			10134			55		C 3.4						8.3E-03
GOES		0436	0440	0444						8		C 1.0						4.1E-04
GOES		0519	0523	0526	S06	W55	10125			7	SF	C 1.0						3.6E-04
LEAR		0523	0525	0527	S06	W55	10125	09	24.1	4	SF		3	E		11		
LEAR		0702	0703	0705	N12	E31	10134	09	30.6	3	SF		3	E		13		F
LEAR		0714	0718	0740	N12	E31	10134	09	30.6	26	SF		2	E		32		F
GOES		0715	0718	0720	N12	E31	10134			5	SF	C 1.2						3.0E-04
GOES		0728	0731	0734			10134			6		C 1.1						3.6E-04
GOES		0856	0900	0904	N11	E29	10134			8	SF	B 8.2						3.5E-04
LEAR		0859	0859	0910D	N11	E29	10134	09	30.5	11D	SF		2	E		16		F
GOES		0958	1001	1006			10134			8		B 7.7						3.3E-04
GOES		1035	1055	1121			10134			46		C 3.4						7.4E-03
GOES		1919	1930	1934			10134			15		C 2.0						1.7E-03
GOES		2128	2131	2133			10134			5		C 1.5						3.4E-04
LEAR	29	0022	0022	0025	S06	W65	10125	09	24.1	3	SF		3	E		33		
GOES		0155	0201	0209						14		C 1.3						1.0E-03
LEAR		0613	0614	0617	N12	E22	10134	09	30.9	4	SF		4	E		16		
GOES		0632	0639	0641	N12	E21	10134			9	2N	M 2.6						6.8E-03
GOES		0837	0859	0934	S08	W70	10125			57	SF	C 7.8						1.6E-02
SVTO		0843E	0855U	0912D	S05	W70	10125	09	24.1	29D	SF		2	E		64		F
LEAR		0844	0851	0945	S08	W70	10125	09	24.1	61	SF		3	E		64		
LEAR		0857	0905	0940	S14	W90	10122	09	22.6	43	SF		3	E		34		
GOES		1444	1449	1453	N10	E13	10134			9	1N	C 9.3						2.9E-03
SVTO		1446	1449	1509	N10	E13	10134	09	30.6	23	1N		3	E		235		F
GOES		2130	2139	2143						13		C 1.1						7.7E-04
GOES		2202	2219	2223						21		C 1.5						1.6E-03
GOES		2251	2255	2303			10134			12		C 2.1						1.4E-03
GOES		2320	2327	2332			10134			12		C 5.3						2.7E-03
LEAR	30	0005E	0011U	0026	S20	E46	10137	10	3.5	21D	SF		2	E		14		F
LEAR		0011E	0040U	0103	N13	E09	10134	09	30.7	52D	SF		2	E		33		F
LEAR		0031	0037	0043	S18	E50	10137	10	3.8	12	SF		2	E		15		
GOES		0142	0150	0154	N13	E10	10134			12	1B	M 2.1						6.8E-03
LEAR		0144	0149	0223	N13	E10	10134	09	30.8	39	1B		3	E		139		FE
LEAR		0303	0307	0310	S20	E44	10137	10	3.5	7	SF		3	E		13		
GOES		0307	0312	0314	N12	E05	10134			7	SF	C 1.6						4.8E-04
LEAR		0310	0313	0315	N12	E05	10134	09	30.5	5	SF		3	E		15		
LEAR		0319	0323	0325	N13	E10	10134	09	30.9	6	SF		3	E		14		F
GOES		0412	0422	0426	N11	E10	10134			14	SF	C 2.1						1.1E-03
LEAR		0415	0425	0428	N11	E10	10134	09	30.9	13	SF		3	E		21		FH
GOES		0526	0531	0536	N13	E07	10134			10	1F	C 5.3						2.1E-03
SVTO		0530	0532	0537	N13	E07	10134	09	30.7	7	1F		3	E		111		H
LEAR		0534E	0545U	0552D	N12	E09	10134	09	30.9	18D	SF		3	E		34		
GOES		0541	0545	0547	N12	E03	10134			6	SF	C 5.1						1.4E-03
SVTO		0543	0545	0548	N12	E03	10134	09	30.5	5	SF		3	E		15		H
GOES		0633	0643	0653	N12	E08	10134			20	SF	C 3.2						2.7E-03
LEAR		0637	0641	0652	N12	E08	10134	09	30.9	15	SF		3	E		71		
SVTO		0639	0641	0645	N14	E07	10134	09	30.8	6	SF		3	E		33		F
GOES		0658	0701	0703						5		C 2.6						6.3E-04
LEAR		0745	0747	0749	N12	E07	10134	09	30.8	4	SF		3	E		42		
GOES		0803	0809	0819	N12	E07	10134			16	SF	C 2.1						1.7E-03
LEAR		0804	0807	0818	N12	E07	10134	09	30.9	14	SF		3	E		84		
SVTO		0806	0807	0811	N14	E06	10134	09	30.8	5	SF		3	E		42		F
GOES		0836	0844	0853						17		C 1.7						1.5E-03
GOES		0915	0920	0923	N12	E07	10134			8	SF	C 2.2						7.6E-04
LEAR		0918	0919	0927	N12	E07	10134	09	30.9	9	SF		3	E		57		FH

Hα SOLAR FLARES

SEPTEMBER 2002

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo Day	Dur (Min)	Imp Opt	Xray	See	Obs Type	Area Measurement Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	Remarks
SVTO	30	0919	0919	0923	N14	E05	10134	09 30.8	4	SF		3	E		16		F
GOES		1036	1040	1042					6		C 1.3						3.9E-04
GOES		1056	1103	1111					15		C 2.0						1.3E-03
RAMY		1129E	1129U	1134	N14	E03	10134	09 30.7	5D	SF		3	E		24		
GOES		1137	1142	1144	N13	W02	10134		7	SF	C 2.2						5.4E-04
RAMY		1140	1142	1147	N13	W02	10134	09 30.3	7	SF		3	E		72		
RAMY		1659	1720	1738	N14	E00	10134	09 30.7	39	SF		3	E		93		FH
GOES		1714	1720	1724	N14	E00	10134		10	SF	C 2.3						1.1E-03
GOES		1854	1901	1907			10134		13		C 2.2						1.2E-03
RAMY		1959E	1959U	1959D	N14	W01	10134	09 30.7	13D	SF		3	E		57		F

"Remarks"

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

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

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

SOLAR RADIO EMISSION
Selected Fixed Frequency Events

SEPTEMBER 2002

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	2695	LEAR	8	S	0224.0	0224.0	1.0	42.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0224.0	0224.0	U	37.0			QL=4 ST=2 TYP=3
	2695	PALE	8	S	0224.0	0224.0	U	51.0			QL=4 ST=3 TYP=3
	8800	SVTO	8	S	0830.0	0830.0	U	21.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	0931.0	0931.0	2.0	52.0			QL=4 ST=2 TYP=3
02	8800	PALE	8	S	0007.0	0008.0	1.0	55.0			QL=4 ST=2 TYP=3
	2695	PALE	8	S	0247.0	0247.0	U	32.0			QL=4 ST=2 TYP=3
05	2695	SGMR	8	S	1632.0	1632.0	U	39.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	1632.0	1632.0	U	25.0			QL=2 ST=2 TYP=3
	2695	PALE	8	S	2042.0	2042.0	1.0	44.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	2042.0	2042.0	U	53.0			QL=4 ST=2 TYP=3
07	8800	SGMR	8	S	1737.0	1737.0	1.0	57.0			QL=4 ST=2 TYP=3
08	2695	LEAR	8	S	0138.0	0139.0	1.0	220.0			QL=4 ST=2 TYP=3
	8800	PALE	4	S/F	0138.0	0139.0	5.0	230.0			QL=4 ST=2 TYP=3
	2695	PALE	8	S	0138.0	0139.0	2.0	210.0			QL=4 ST=2 TYP=3
	8800	LEAR	4	S/F	0138.0	0138.0	1342.0	220.0			QL=4 ST=1 TYP=3
	8800	LEAR	8	S	0145.0	0146.0	2.0	170.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	0145.0	0147.0	2.0	170.0			QL=4 ST=2 TYP=3
09	8800	SGMR	4	S/F	1745.0	1754.0	15.0	98.0			QL=4 ST=2 TYP=3
10	8800	SVTO	8	S	1020.0	1021.0	2.0	180.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	1020.0	1021.0	2.0	88.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	1452.0	1452.0	1.0	94.0			QL=4 ST=2 TYP=3
	8800	SGMR	49	GB	1452.0	1453.0	12.0	1400.0			QL=4 ST=2 TYP=6
	2695	SGMR	4	S/F	1452.0	1453.0	12.0	110.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	1736.0	1736.0	1.0	170.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1736.0	1737.0	1.0	270.0			QL=4 ST=2 TYP=3
11	2695	LEAR	4	S/F	0731.0	0734.0	5.0	230.0			QL=4 ST=2 TYP=3
	2695	SVTO	4	S/F	0731.0	0733.0	5.0	220.0			QL=4 ST=2 TYP=3
	8800	SVTO	49	GB	0731.0	0733.0	10.0	610.0			QL=4 ST=2 TYP=6
	8800	LEAR	4	S/F	0732.0	0733.0	4.0	470.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1330.0	1330.0	U	32.0			QL=4 ST=2 TYP=3
13	2695	SGMR	8	S	1500.0	1500.0	U	50.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	1739.0	1739.0	U	21.0			QL=4 ST=2 TYP=3
14	8800	LEAR	8	S	0438.0	0438.0	U	57.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0557.0	0558.0	2.0	150.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	0557.0	0558.0	2.0	210.0			QL=4 ST=2 TYP=3
	8800	SVTO	4	S/F	0557.0	0558.0	3.0	51.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0558.0	0558.0	1.0	38.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	1222.0	1222.0	U	27.0			QL=4 ST=2 TYP=3
15	8800	PALE	48	C	1659.0	1736.0	40.0	78.0			QL=4 ST=2 TYP=8
	8800	SGMR	4	S/F	1734.0	1738.0	5.0	95.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1909.0	1909.0	1.0	89.0			QL=4 ST=2 TYP=3
16	8800	LEAR	8	S	0308.0	0308.0	1.0	210.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	0308.0	0308.0	1.0	240.0			QL=4 ST=2 TYP=3
	8800	SGMR	49	GB	1857.0	1859.0	3.0	560.0			QL=4 ST=2 TYP=6
17	2695	LEAR	8	S	0411.0	0411.0	U	62.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0421.0	0421.0	U	53.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0421.0	0421.0	U	79.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0551.0	0551.0	U	39.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0551.0	0551.0	U	83.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	0551.0	0551.0	U	95.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	0551.0	0551.0	U	65.0			QL=4 ST=2 TYP=3
	2695	LEAR	4	S/F	0745.0	0747.0	3.0	32.0			QL=4 ST=2 TYP=3
	2695	SVTO	4	S/F	0918.0	0920.0	3.0	68.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0920.0	0920.0	1.0	33.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0920.0	0920.0	1.0	74.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	0920.0	0920.0	U	22.0			QL=4 ST=2 TYP=3

SOLAR RADIO EMISSION
Selected Fixed Frequency Events

SEPTEMBER 2002

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
17	2695	SVTO	8	S	1039.0	1039.0	U	57.0			QL=4 ST=2 TYP=3
18	2695	SGMR	4	S/F	1530.0	1533.0	11.0	110.0			QL=4 ST=2 TYP=3
	2695	SVTO	48	C	1532.0	1533.0	9.0	100.0			QL=4 ST=2 TYP=8
	8800	SGMR	4	S/F	1535.0	1542.0	11.0	280.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	1719.0	1719.0	1.0	67.0			QL=4 ST=2 TYP=3
19	8800	LEAR	8	S	0404.0	0404.0	U	52.0			QL=4 ST=2 TYP=3
20	8800	LEAR	8	S	0201.0	0201.0	U	73.0			QL=4 ST=2 TYP=3
	8800	PALE	8	S	0201.0	0201.0	U	62.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0509.0	0509.0	2.0	98.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	0509.0E	0509.0	U	100.0			QL=2 ST=2 TYP=3
	8800	SVTO	4	S/F	0925.0	0927.0	3.0	160.0			QL=4 ST=2 TYP=3
	2695	LEAR	8	S	0926.0	0927.0	1.0	56.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	0927.0	0927.0	U	53.0			QL=4 ST=2 TYP=3
26	2695	SGMR	8	S	1350.0	1350.0	U	41.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	1350.0	1350.0	U	50.0			QL=4 ST=2 TYP=3
27	2695	PALE	4	S/F	0125.0	0128.0	16.0	240.0			QL=4 ST=2 TYP=3
	8800	PALE	4	S/F	0126.0	0128.0	11.0	110.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	1302.0	1308.0	8.0	99.0			QL=4 ST=2 TYP=3
	2695	SGMR	4	S/F	1302.0	1308.0	10.0	150.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1936.0	1937.0	2.0	48.0			QL=4 ST=2 TYP=3
	2695	PALE	8	S	1937.0	1938.0	1.0	49.0			QL=4 ST=2 TYP=3
29	8800	SVTO	4	S/F	0634.0E	0635.0	5.0D	93.0			QL=2 ST=3 TYP=3
	2695	LEAR	8	S	0635.0	0636.0	1.0	120.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0635.0	0635.0	U	46.0			QL=4 ST=2 TYP=3
	2695	SVTO	4	S/F	0635.0	0636.0	7.0	130.0			QL=4 ST=3 TYP=3
	8800	SGMR	4	S/F	1446.0	1446.0	3.0	47.0			QL=4 ST=2 TYP=3
	8800	SVTO	8	S	1446.0	1446.0	1.0	51.0			QL=4 ST=2 TYP=3
30	8800	LEAR	8	S	0421.0	0421.0	U	46.0			QL=4 ST=2 TYP=3
	8800	SVTO	4	S/F	0541.0	0542.0	3.0	100.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	0542.0	0542.0	U	26.0			QL=4 ST=2 TYP=3

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

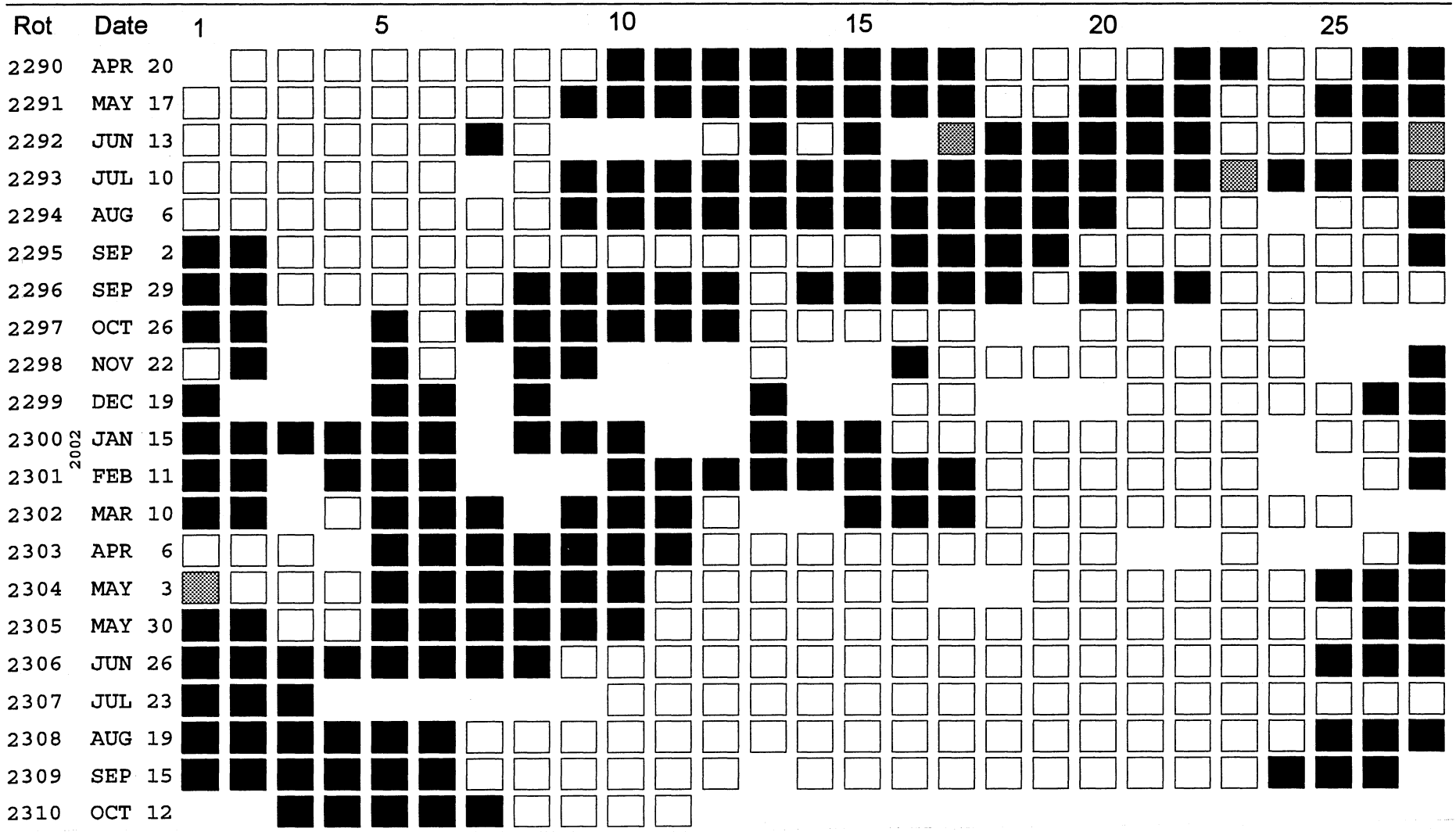
Explanation of Type Code:

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

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

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

STANFORD MEAN SOLAR MAGNETIC FIELD

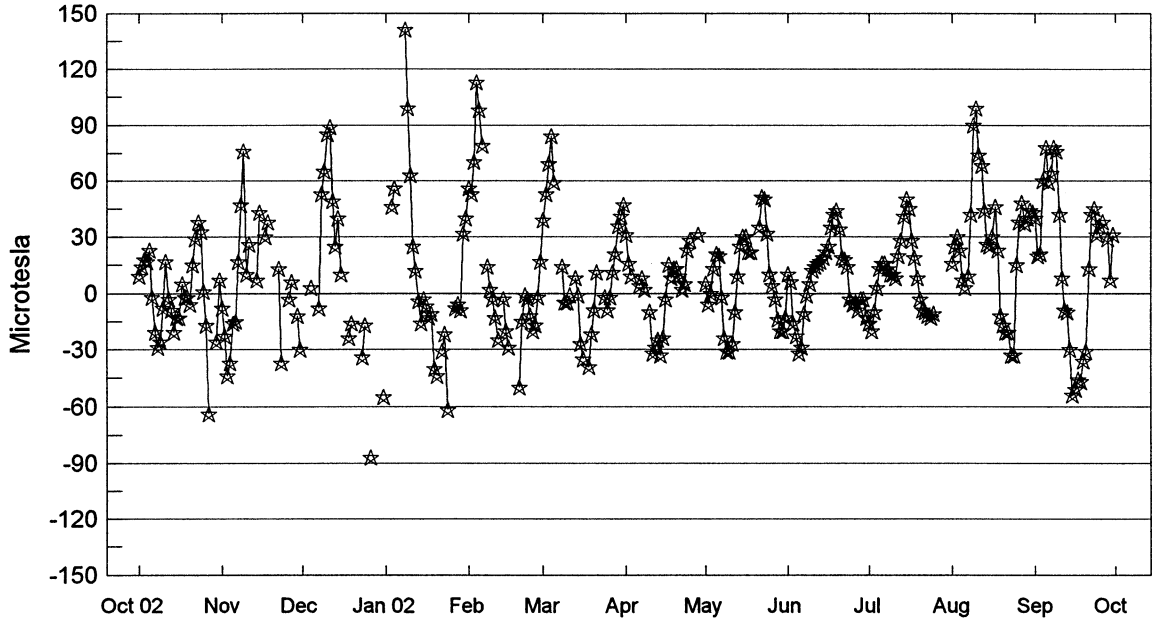


Mean Solar Magnetic Field Polarity: □ = field > 2 microT; ▒ = -2 microT ≤ field ≤ 2 microT

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

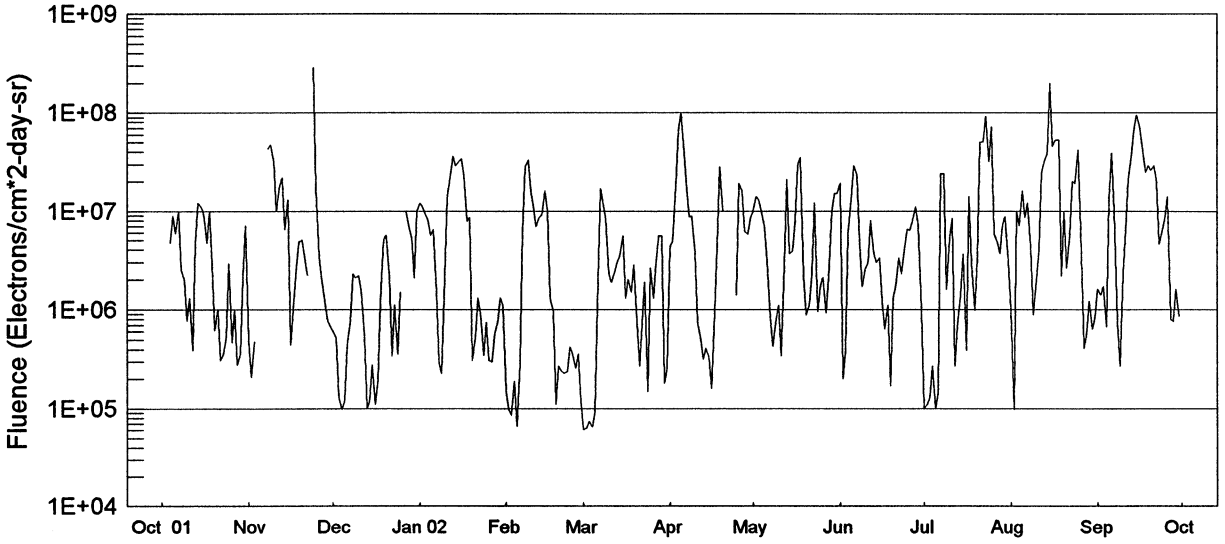
Observations are taken at 2000 UT. Rotation numbers given are the Bartels series, but the dates are not; these dates are five days earlier, to mark times of occurrence of phenomena on the Sun that affect the Earth during the given Bartels Rotation.

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



Day	Oct 01	Nov	Dec	Jan 02	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	9	-8	---	---	56	39	31	5	10	-16	16	40
2	14	-23	---	---	53	53	16	-6	6	-20	25	20
3	18	-44	---	46	70	69	9	0	-16	-10	30	21
4	17	-37	3	56	113	84	---	13	-23	3	23	60
5	23	-16	---	---	98	59	---	21	-32	13	7	78
6	-2	-15	---	---	79	---	4	20	-29	16	3	59
7	-21	17	-8	---	---	---	8	-2	-11	16	9	64
8	-29	47	53	141	14	14	2	-24	-1	13	42	78
9	-26	76	65	99	2	-5	---	-31	5	10	90	76
10	-8	10	85	63	-3	-5	-10	-31	12	10	99	42
11	17	26	89	25	-13	-1	-32	-27	14	8	74	8
12	-3	---	49	12	-25	---	-29	-10	16	20	68	-9
13	-9	---	25	-4	---	8	-25	9	17	28	44	-10
14	-21	7	40	-16	-3	-1	-33	25	19	41	26	-30
15	-13	43	10	-3	-20	-27	-24	30	22	50	25	-54
16	-13	---	---	-7	-29	-35	-3	30	25	45	30	-51
17	5	30	---	-13	---	---	15	22	35	28	46	-46
18	-2	38	-24	-11	---	-39	8	22	42	19	23	-47
19	-2	---	-16	-40	---	-22	13	---	44	8	-12	-36
20	-6	---	---	-44	-50	-9	13	---	34	-3	-17	-31
21	15	---	---	---	-15	11	9	35	19	-9	-21	13
22	29	13	---	-31	-1	---	2	51	18	-10	-21	42
23	38	-37	-34	-22	-3	---	5	50	14	-12	-33	45
24	33	---	-17	-62	-12	-2	23	32	-3	-13	-33	31
25	1	---	---	---	-20	-9	28	10	-6	-11	15	36
26	-17	-3	-87	---	-17	-2	---	4	-5	---	38	38
27	-64	6	---	-8	-2	11	---	-3	-9	---	48	---
28	---	---	---	-6	17	21	31	-14	-3	---	37	29
29	---	-12	---	-9		36	---	-20	-3	---	40	7
30	-26	-30	---	32		41	---	-20	-13	---	44	31
31	7		-55	40		47		-13		---	43	

GOES Daily Electron Fluence
Aug 2001 - Sep 2002



Day	Oct 01	Nov	Dec	Jan 02	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	-999	4.8E+05	6.1E+05	1.2E+07	1.5E+05	6.1E+04	4.4E+06	9.9E+06	1.9E+07	1.0E+05	1.0E+06	1.6E+06
2	-999	2.1E+05	5.2E+05	1.1E+07	9.8E+04	6.3E+04	4.9E+06	1.4E+07	2.0E+05	1.1E+05	9.8E+04	1.4E+06
3	-999	4.8E+05	1.3E+05	9.3E+06	8.6E+04	7.4E+04	1.8E+07	1.3E+07	3.8E+05	1.3E+05	1.0E+07	1.7E+06
4	4.7E+06	-999	9.9E+04	8.3E+06	1.9E+05	6.5E+04	6.7E+07	1.0E+07	5.9E+06	2.7E+05	7.1E+06	6.8E+05
5	9.0E+06	-999	1.2E+05	5.7E+06	6.6E+04	9.2E+04	1.0E+08	6.9E+06	1.3E+07	1.0E+05	1.6E+07	1.3E+07
6	5.9E+06	-999	4.4E+05	6.5E+06	2.9E+05	1.1E+06	3.9E+07	3.1E+06	2.9E+07	1.5E+05	8.6E+06	3.9E+07
7	1.0E+07	-999	7.6E+05	1.5E+06	6.2E+06	1.7E+07	1.7E+07	8.3E+05	2.3E+07	2.4E+07	1.2E+07	1.0E+07
8	2.5E+06	4.3E+07	2.3E+06	2.9E+05	2.8E+07	1.2E+07	8.7E+06	4.3E+05	4.8E+06	2.4E+07	4.2E+06	7.5E+05
9	2.0E+06	4.7E+07	2.1E+06	2.3E+05	3.3E+07	8.3E+06	8.9E+06	7.1E+05	1.7E+06	1.6E+06	8.8E+05	2.7E+05
10	7.7E+05	3.2E+07	2.2E+06	2.1E+06	1.6E+07	2.3E+06	3.8E+06	1.1E+06	2.6E+06	5.3E+06	2.0E+06	2.3E+06
11	1.3E+06	1.0E+07	1.5E+06	1.4E+07	1.1E+07	1.9E+06	7.4E+05	3.4E+05	2.9E+06	8.3E+06	4.0E+06	6.4E+06
12	3.9E+05	1.8E+07	5.4E+05	2.1E+07	7.0E+06	2.4E+06	5.1E+05	1.8E+06	8.0E+06	2.7E+05	2.5E+07	2.1E+07
13	4.7E+06	2.2E+07	1.0E+05	3.6E+07	8.6E+06	3.0E+06	3.2E+05	2.1E+07	3.7E+06	6.9E+05	3.3E+07	3.7E+07
14	1.2E+07	6.5E+06	1.2E+05	2.9E+07	9.1E+06	3.5E+06	4.1E+05	3.7E+06	3.0E+06	1.4E+06	3.9E+07	6.8E+07
15	1.1E+07	1.3E+07	2.8E+05	3.2E+07	1.6E+07	5.6E+06	3.3E+05	3.9E+06	3.3E+06	3.6E+06	2.0E+08	9.5E+07
16	9.2E+06	4.4E+05	1.1E+05	3.4E+07	1.0E+07	1.3E+06	1.6E+05	7.9E+06	1.2E+06	3.9E+05	4.6E+07	7.2E+07
17	4.7E+06	1.0E+06	1.9E+05	2.3E+07	1.3E+06	2.0E+06	6.5E+05	3.0E+07	6.4E+05	1.4E+07	5.3E+07	4.4E+07
18	1.0E+07	2.6E+06	1.2E+06	7.8E+06	9.5E+05	1.5E+06	4.4E+06	3.5E+07	1.1E+06	2.9E+06	5.3E+07	2.5E+07
19	2.8E+06	4.9E+06	5.1E+06	8.5E+06	1.1E+05	2.8E+06	2.8E+07	2.2E+06	1.7E+05	9.8E+05	2.2E+06	2.9E+07
20	6.2E+05	5.0E+06	5.7E+06	3.1E+05	2.7E+05	9.7E+05	9.9E+06	8.9E+05	1.3E+06	3.3E+06	9.7E+06	2.6E+07
21	1.0E+06	3.3E+06	2.2E+06	5.3E+05	2.4E+05	2.7E+05	-999	1.1E+06	1.7E+06	5.0E+07	2.6E+06	2.9E+07
22	3.1E+05	2.2E+06	3.4E+05	1.3E+06	2.3E+05	7.3E+05	-999	2.3E+06	3.3E+06	5.1E+07	5.7E+06	2.0E+07
23	3.5E+05	-999	1.1E+06	9.1E+05	2.4E+05	1.9E+06	-999	1.2E+07	2.3E+06	9.2E+07	2.0E+07	4.6E+06
24	5.2E+05	2.9E+08	3.6E+05	3.5E+05	4.2E+05	1.5E+05	-999	9.5E+05	4.3E+06	3.2E+07	1.9E+07	6.0E+06
25	2.9E+06	1.7E+07	1.5E+06	7.4E+05	3.6E+05	2.6E+06	1.4E+06	1.7E+06	6.5E+06	7.2E+07	4.2E+07	8.4E+06
26	4.7E+05	3.4E+06	-999	3.1E+05	2.6E+05	1.3E+06	1.9E+07	2.1E+06	6.4E+06	5.8E+06	6.2E+06	1.4E+07
27	1.0E+06	2.0E+06	9.9E+06	3.0E+05	3.6E+05	3.0E+06	1.6E+07	9.3E+05	8.3E+06	4.8E+06	4.1E+05	8.0E+05
28	2.8E+05	1.3E+06	7.2E+06	5.7E+05	1.2E+05	5.6E+06	6.2E+06	2.1E+06	1.1E+07	3.7E+06	5.7E+05	7.6E+05
29	3.6E+05	7.6E+05	5.3E+06	7.5E+05		5.6E+06	5.8E+06	1.0E+07	7.3E+06	7.2E+06	1.2E+06	1.6E+06
30	2.1E+06	6.9E+05	2.1E+06	1.3E+06		1.8E+05	8.4E+06	1.5E+07	1.0E+06	8.7E+06	6.4E+05	8.5E+05
31	7.1E+06		1.0E+07	1.1E+06		2.5E+05		1.5E+07		3.1E+06	8.3E+05	

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.

CONTENTS

Prompt Reports — Number 698 Part I

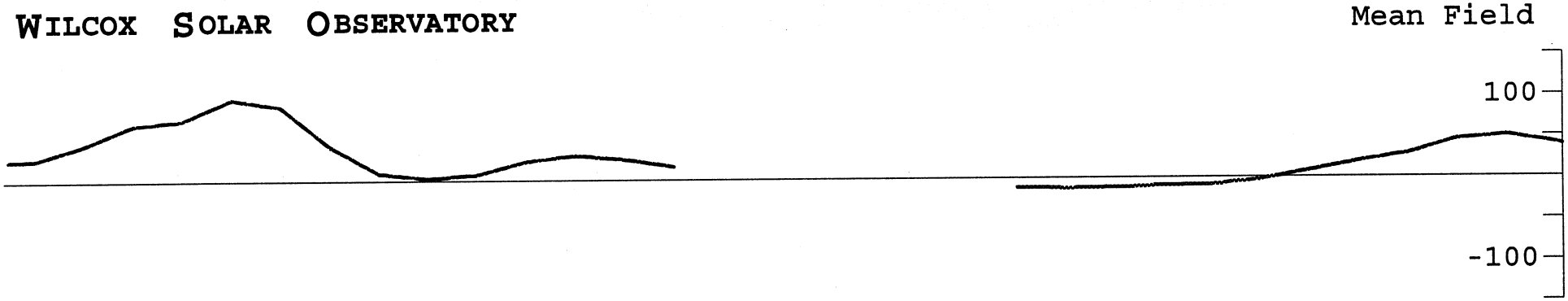
DATA FOR AUGUST 2002

SOLAR MAGNETIC FIELD SYNOPTIC CHART

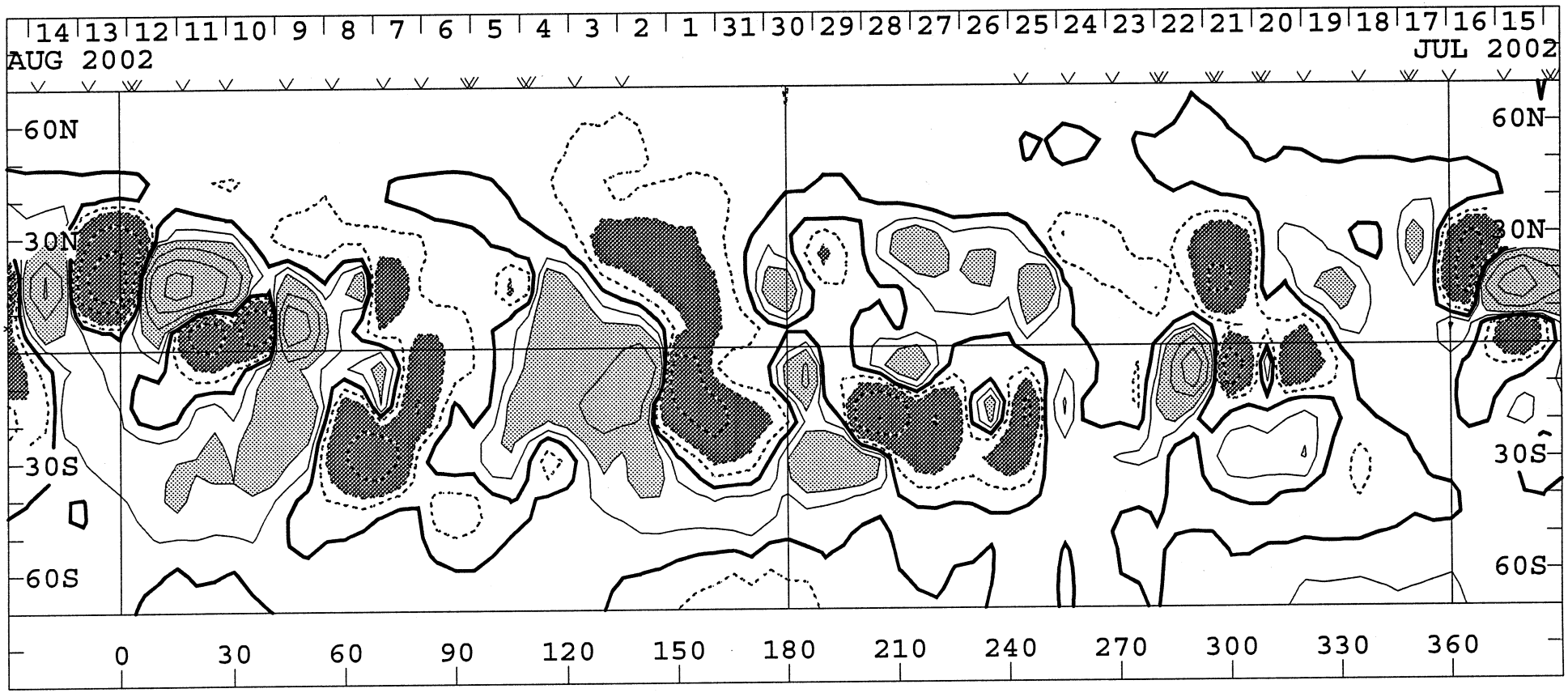
CARRINGTON ROTATION NUMBER 1992

(16 July to 13 August 2002)

WILCOX SOLAR OBSERVATORY



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



Heliographic Longitude

1992

SOLAR MAGNETIC FIELD SYNOPTIC CHART

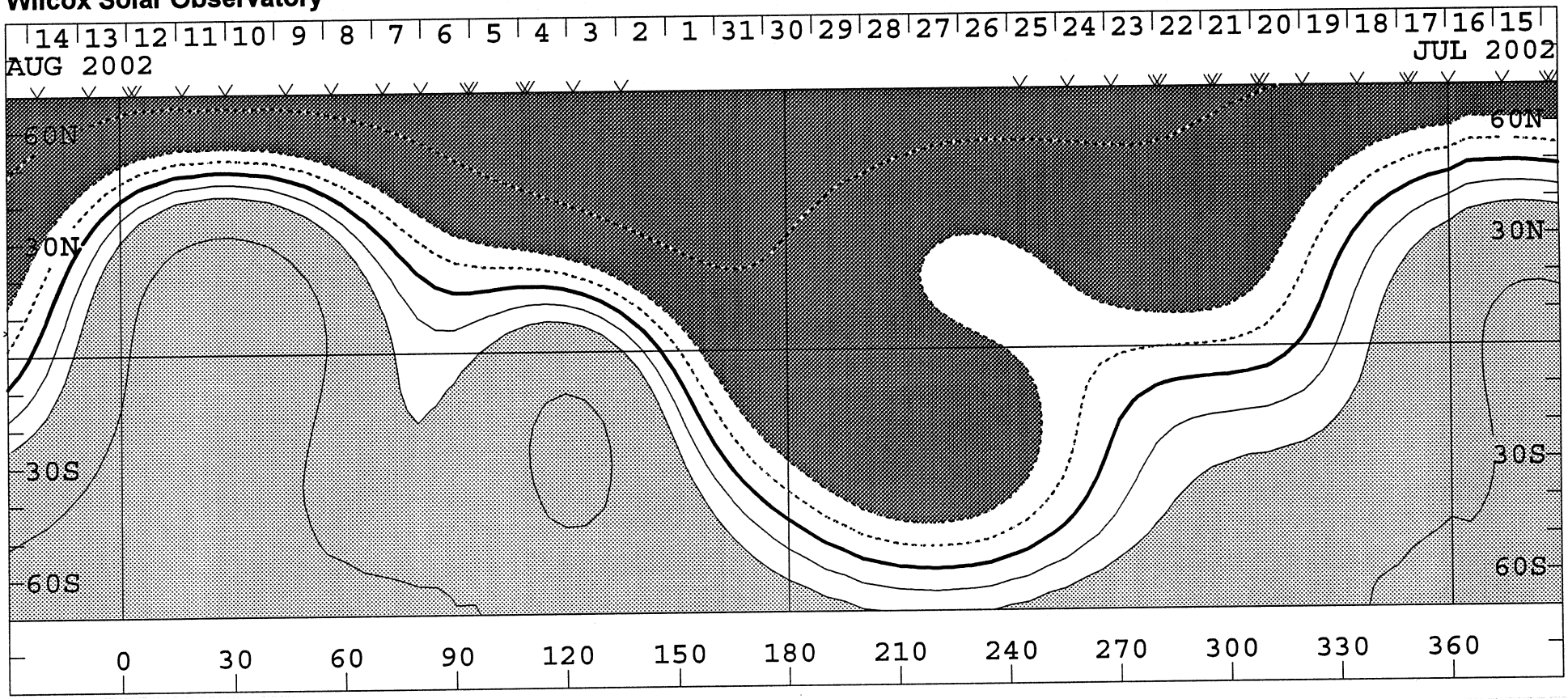
SOURCE SURFACE FIELD

CARRINGTON ROTATION NUMBER 1992

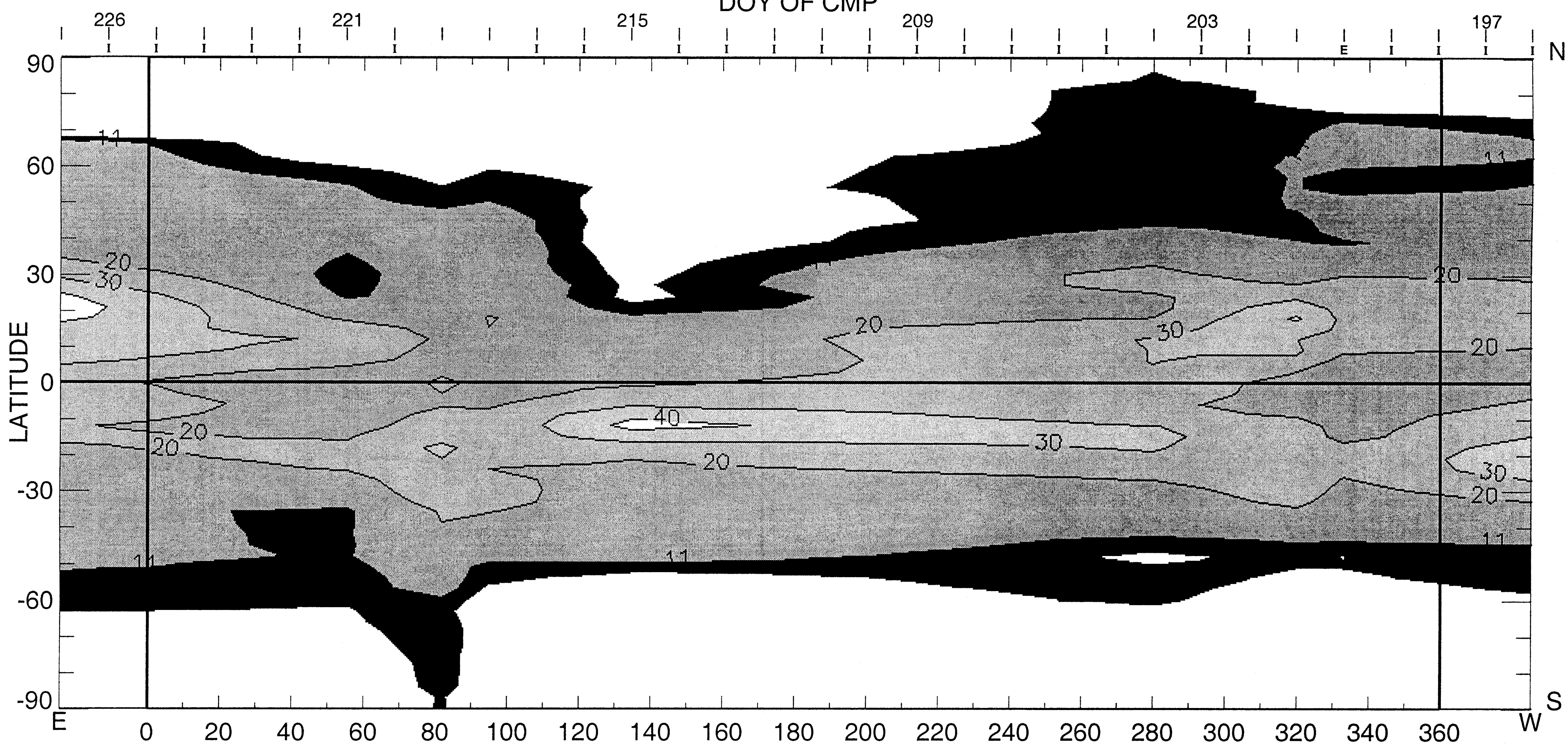
(16 July to 13 August 2002)

Wilcox Solar Observatory

0, ±1, 2, 5, 10, 20 microTesla

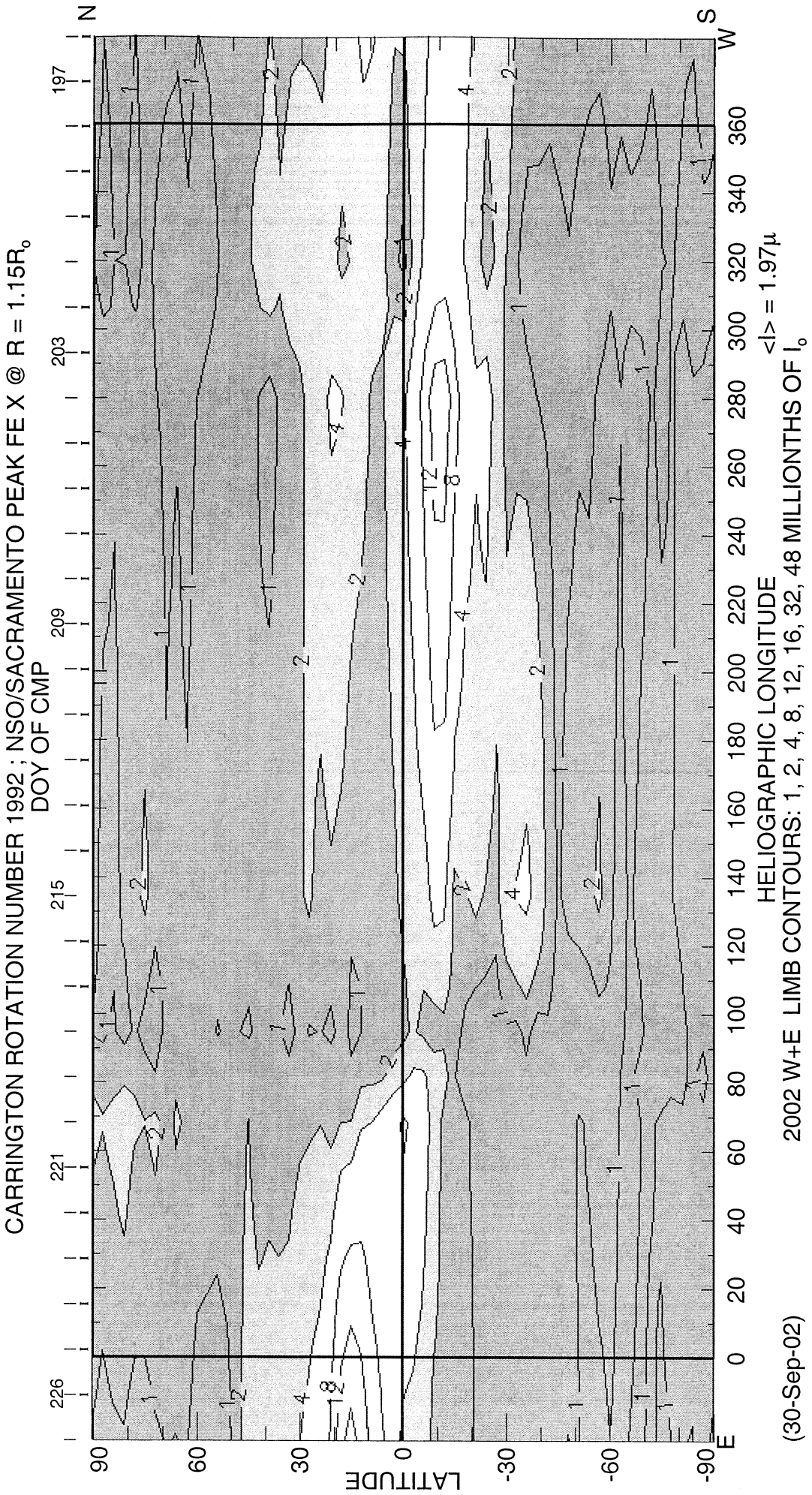


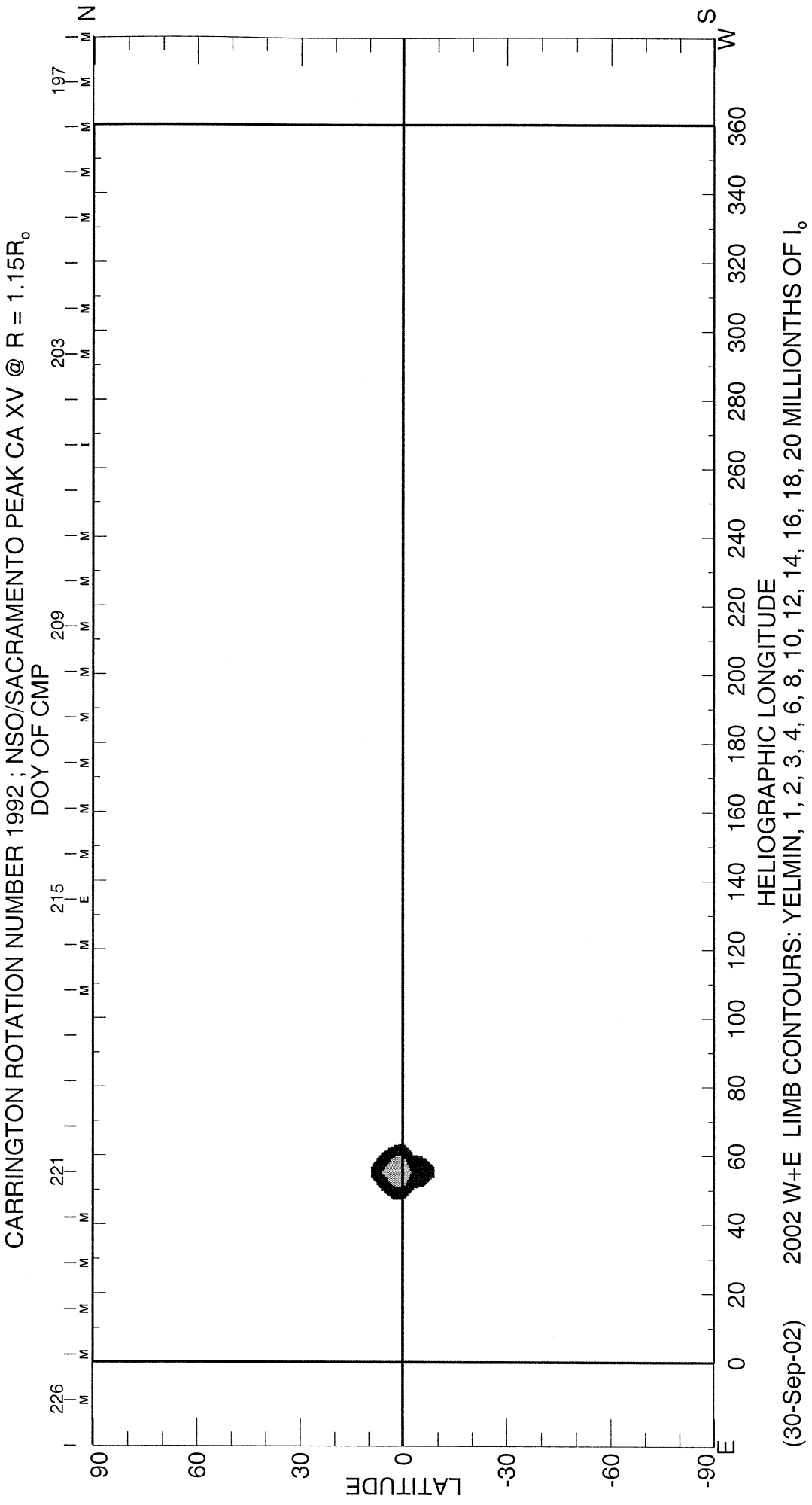
CARRINGTON ROTATION NUMBER 1992 ; NSO/SACRAMENTO PEAK FE XIV @ R = 1.15R_o
DOY OF CMP



<I> = 13.02μ

(25-Oct-02) 2002 W+E LIMB CONTOURS: 8, 11, 20, 30, 40, 50, 60, 80, 120, 140, 160 MILLIONTHS OF I_o
CORONAL HOLES ARE SHOWN AS WHITE BORDERED BY BLACK




CARRINGTON ROTATION NUMBER 1992 ; NSO/SACRAMENTO PEAK CA XV @ R = 1.15R$_o$
DOY OF CMP
197
203
209
215
221
226
N
S
W
E
LATITUDE
90
60
30
0
-30
-60
-90
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360
HELIOGRAPHIC LONGITUDE
(30-Sep-02) 2002 W+E LIMB CONTOURS: YELMIN, 1, 2, 3, 4, 6, 8, 10, 12, 14, 16, 18, 20 MILLIONTHS OF I$_o$

SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1992

(16 July to 13 August 2002)

National Solar Observatory/Kitt Peak

Dates of Observation

PHOTOGRAPHIC DATA UNAVAILABLE AT TIME OF PUBLICATION.

Heliographic Longitude

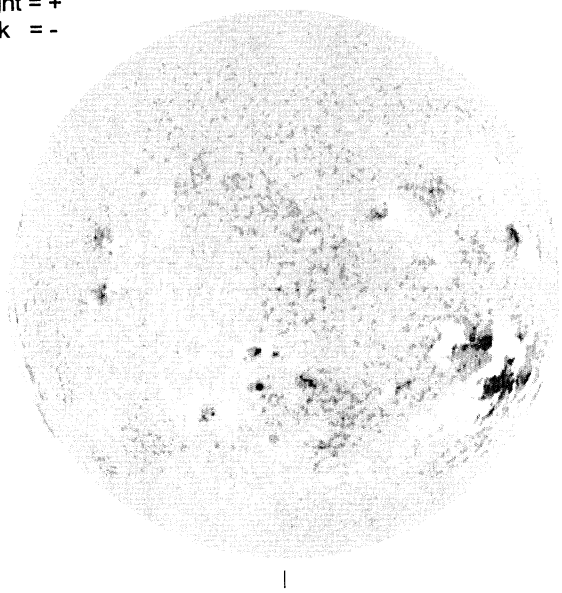
AUGUST 1, 2002 (P= 10.73, Bo = 5.77, Lo = 160.77)

KITT PEAK MAGNETOGRAM

N

868.8 nm

Bright = +
Dark = -



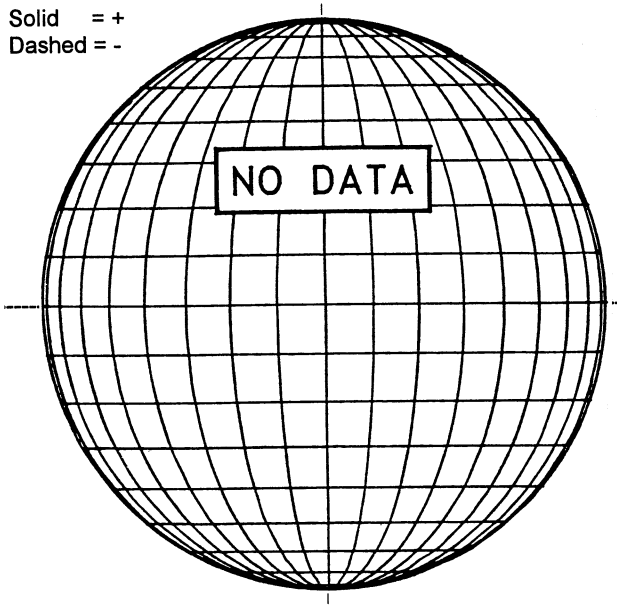
E---

1524 UT

STANFORD MAGNETOGRAM

N

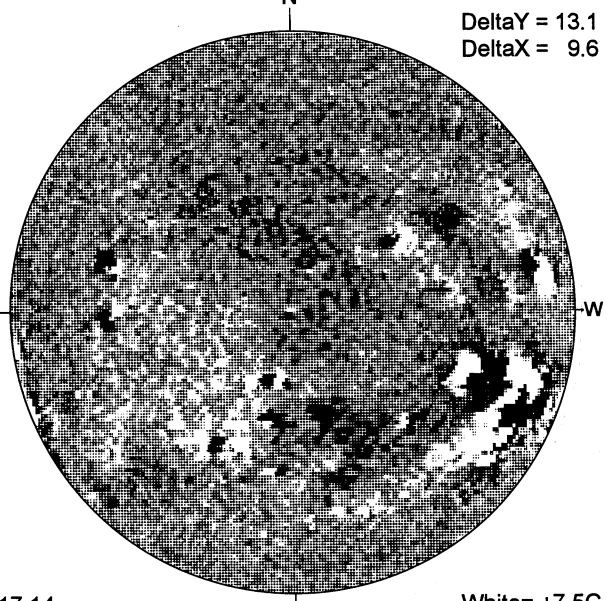
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

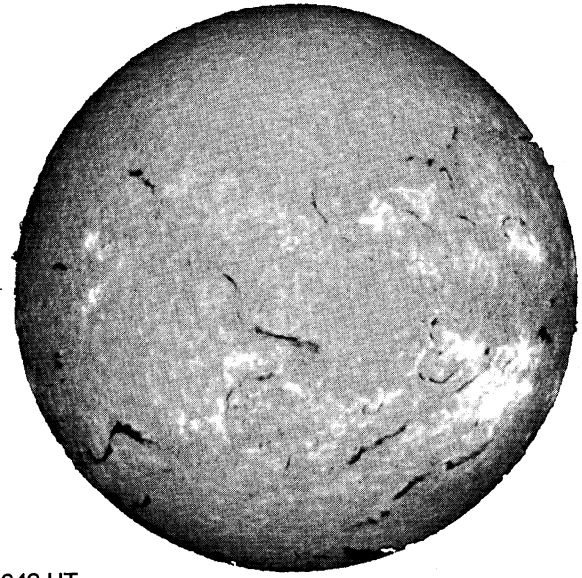


-W

17.14 -
18.06 UT

White= +7.5G
Black = -7.5G

MEUDON H-ALPHA



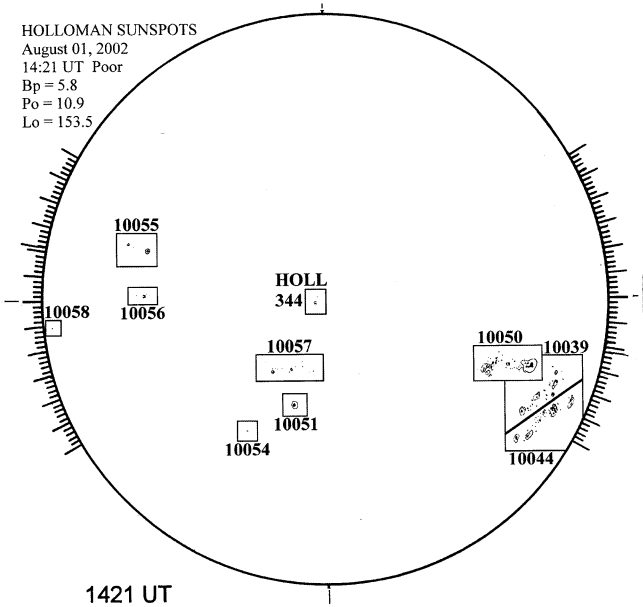
E-

0642 UT

S

HOLLOMAN SUNSPOT

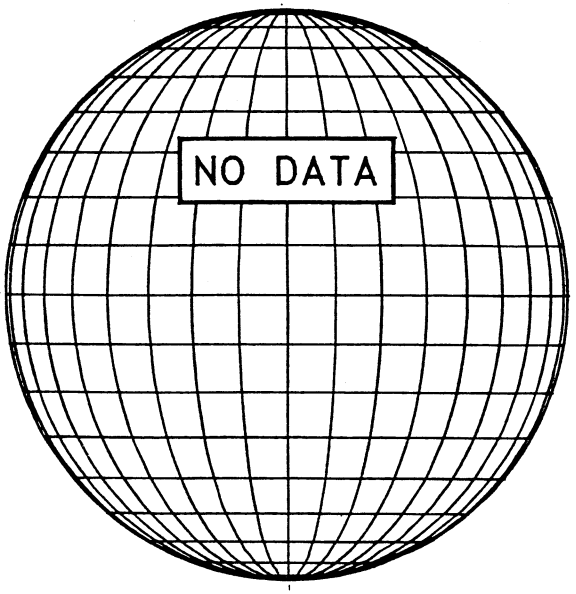
HOLLOMAN SUNSPOTS
August 01, 2002
14:21 UT Poor
Bp = 5.8
Po = 10.9
Lo = 153.5



1421 UT

S

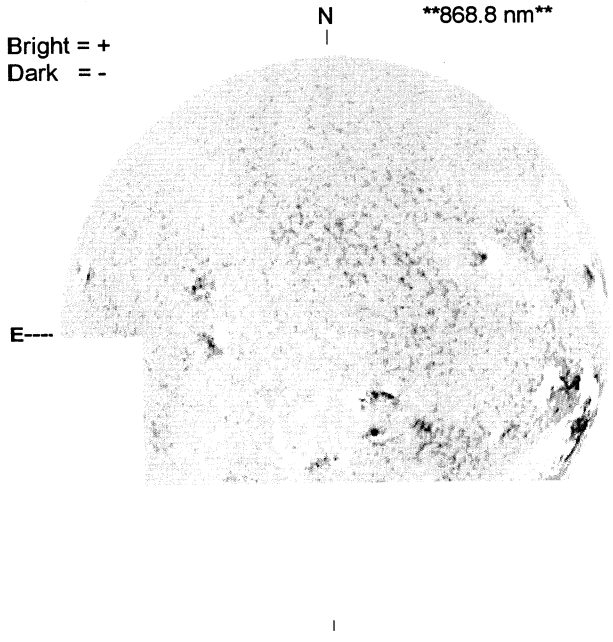
SACRAMENTO PEAK CORONA (1.15 Radii)----



S

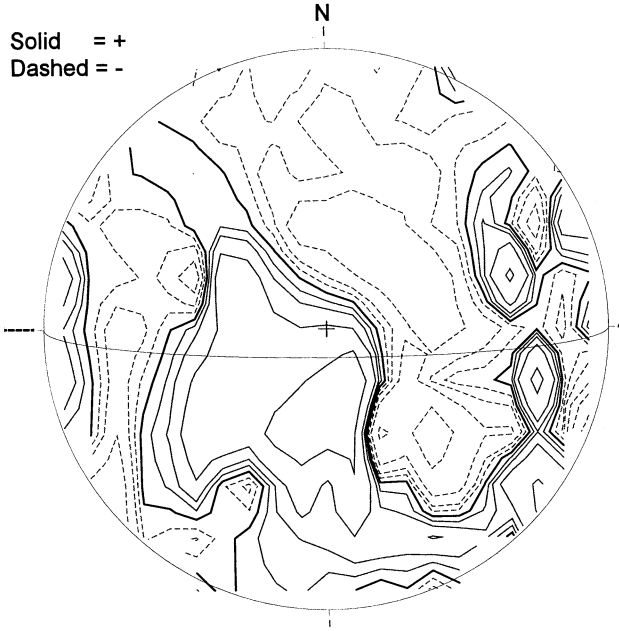
AUGUST 2, 2002 (P= 11.13, Bo = 5.84, Lo = 147.54)

KITT PEAK MAGNETOGRAM



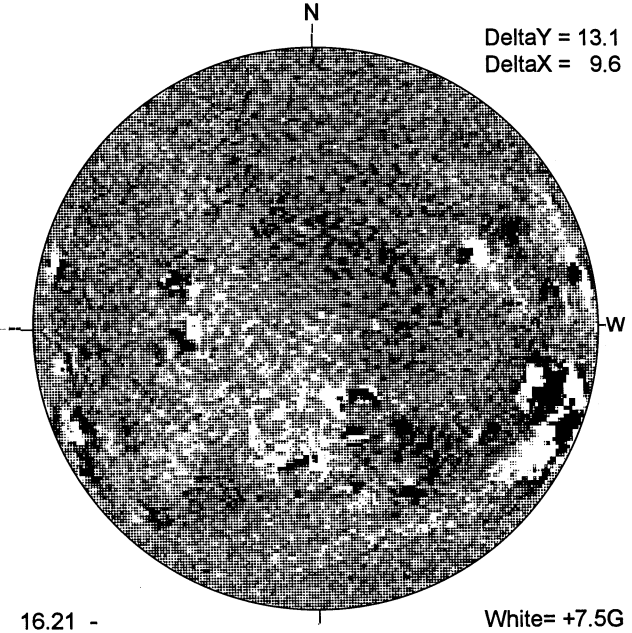
1533 UT

STANFORD MAGNETOGRAM



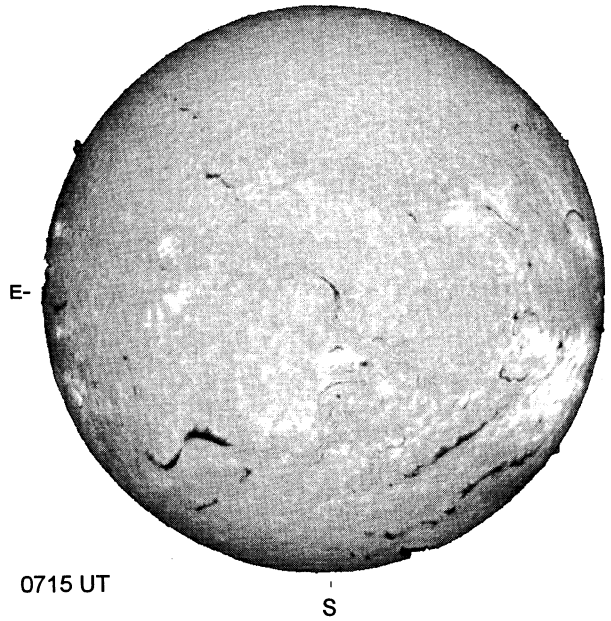
2147 UT

MT. WILSON MAGNETOGRAM



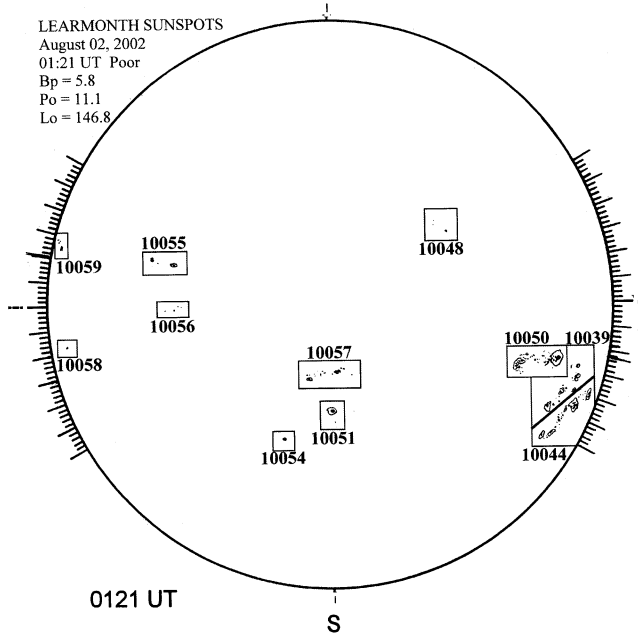
16.21 -
17.13 UT

MEUDON H-ALHPA



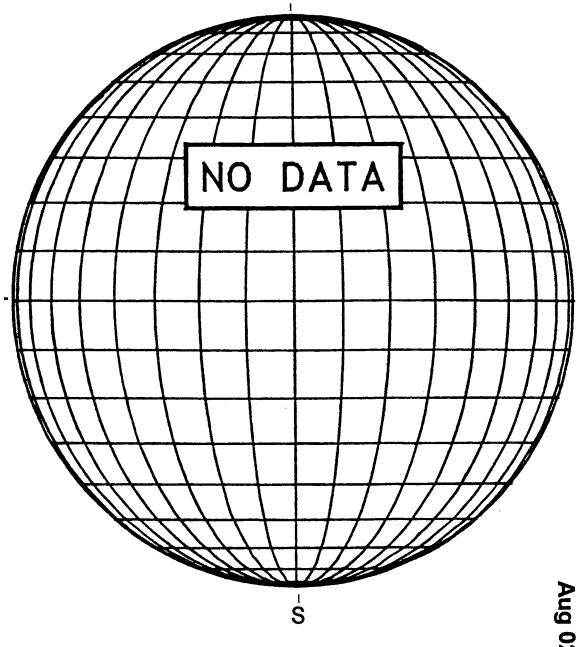
0715 UT

LEARMONTH SUNSPOT



0121 UT

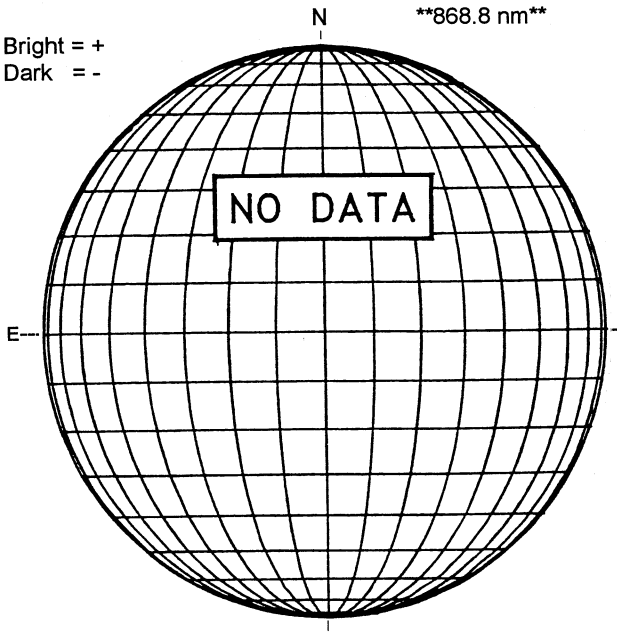
SACRAMENTO PEAK CORONA (1.15 Radii)----



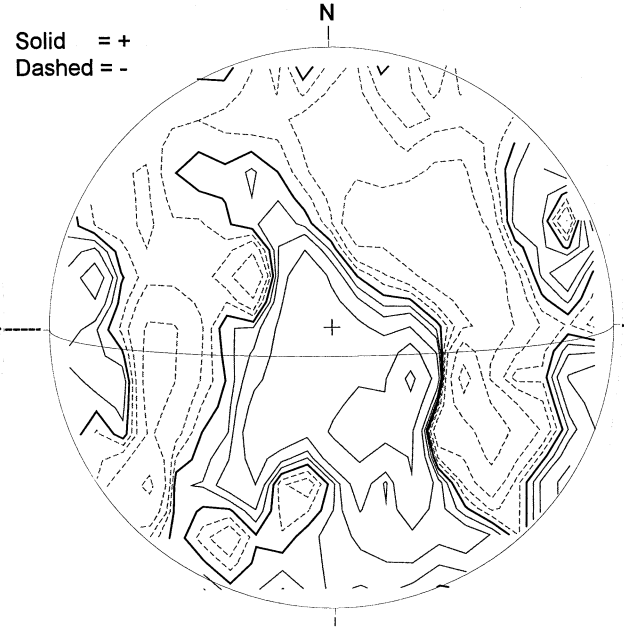
51
Aug 02

AUGUST 3, 2002 (P= 11.52, Bo = 5.91, Lo = 134.32)

KITT PEAK MAGNETOGRAM

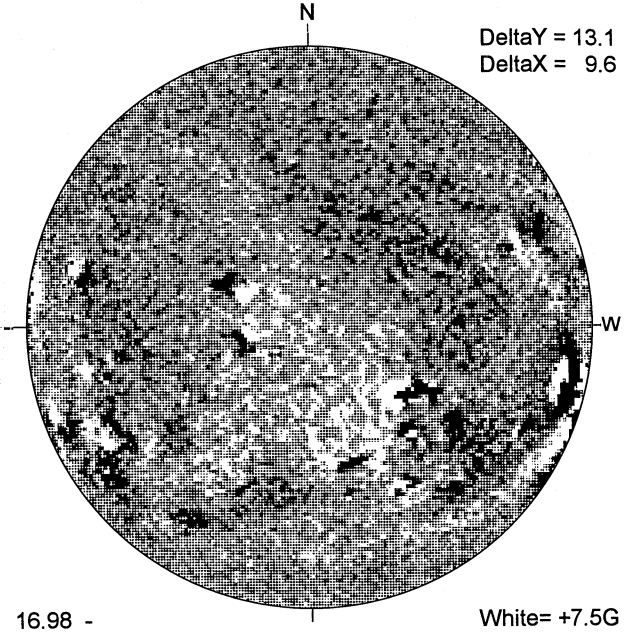


STANFORD MAGNETOGRAM



2106 UT

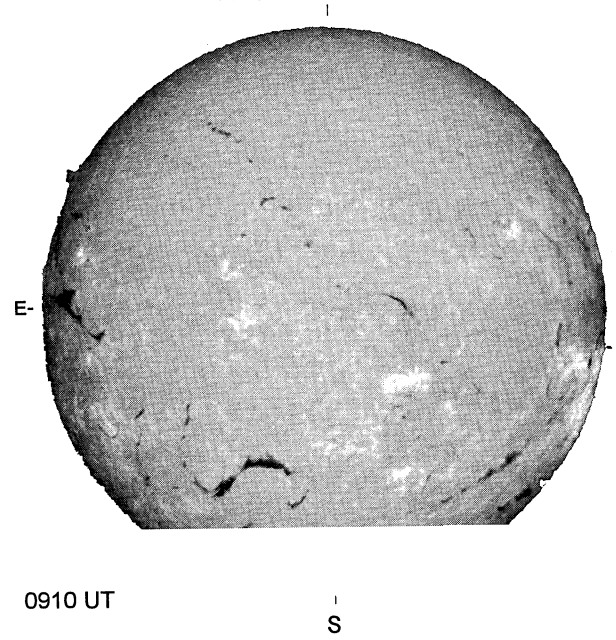
MT. WILSON MAGNETOGRAM



16.98 -
17.91 UT

White= +7.5G
Black = -7.5G

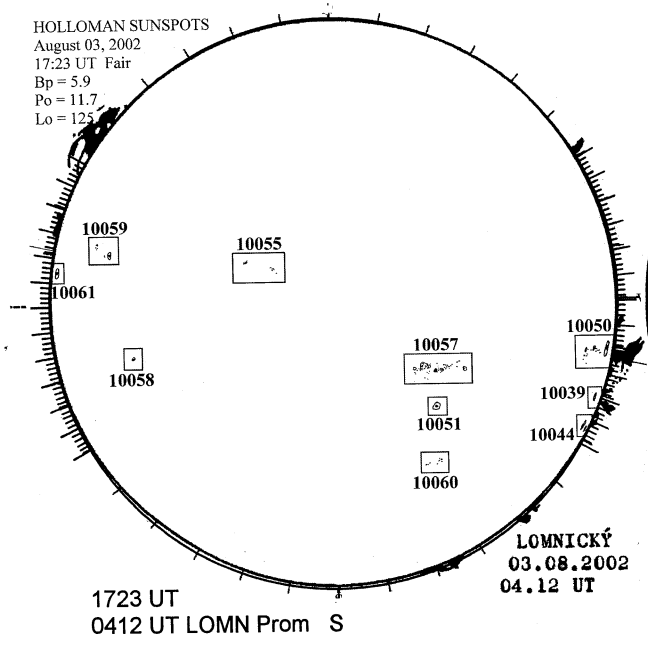
MEUDON H-ALPHA



0910 UT

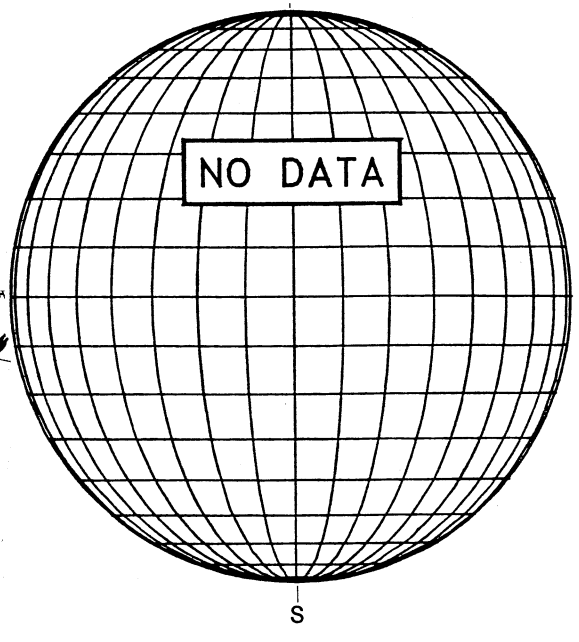
S

HOLLOMAN SUNSPOT



1723 UT
0412 UT LOMN Prom S

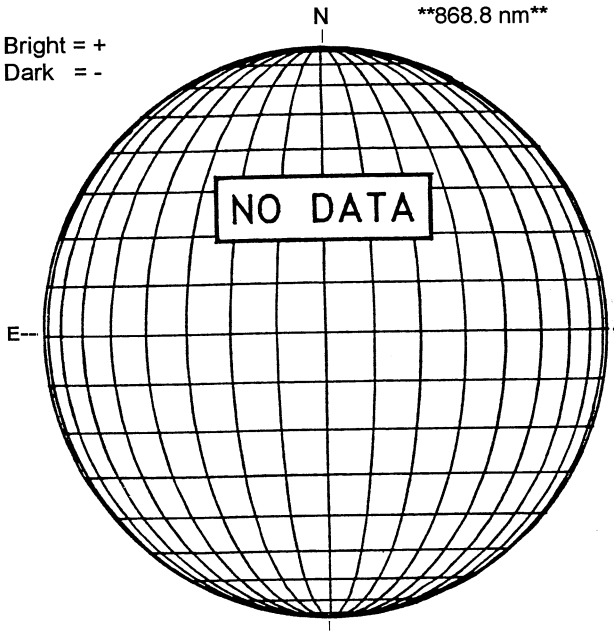
LOMNICKY PEAK CORONA (1.04 Radii)----



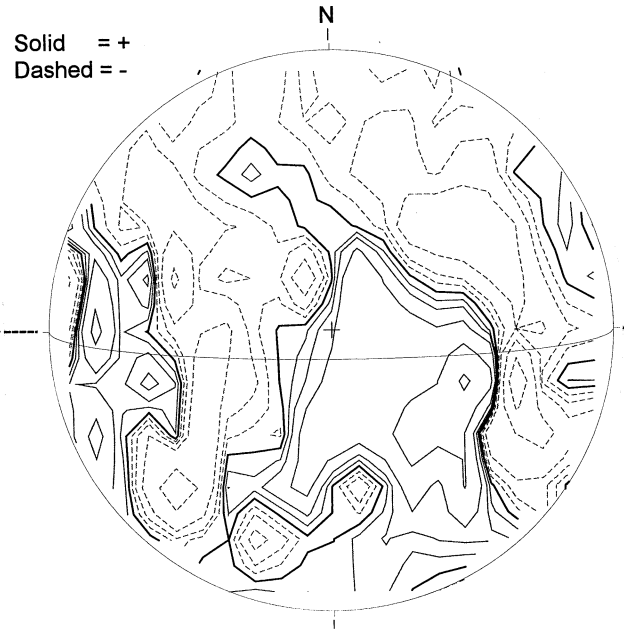
S

AUGUST 4, 2002 (P= 11.91, Bo = 5.98, Lo = 121.09)

KITT PEAK MAGNETOGRAM

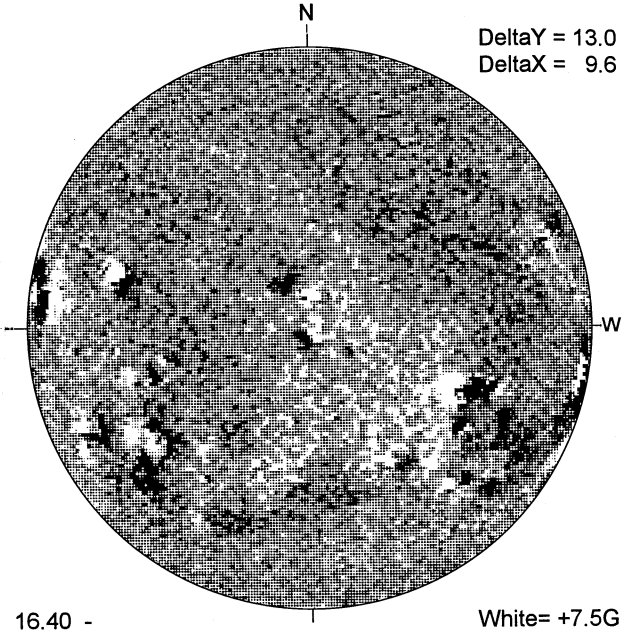


STANFORD MAGNETOGRAM



1944UT

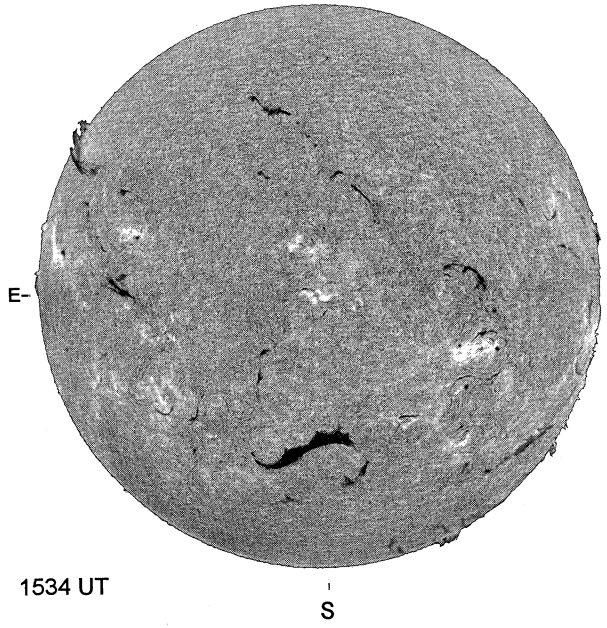
MT. WILSON MAGNETOGRAM



16.40 -
17.33 UT

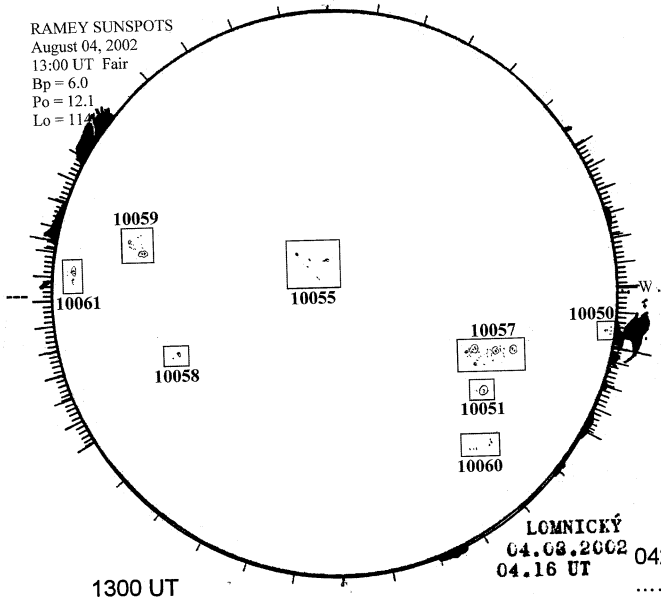
White= +7.5G
Black = -7.5G

BIG BEAR H-ALPHA



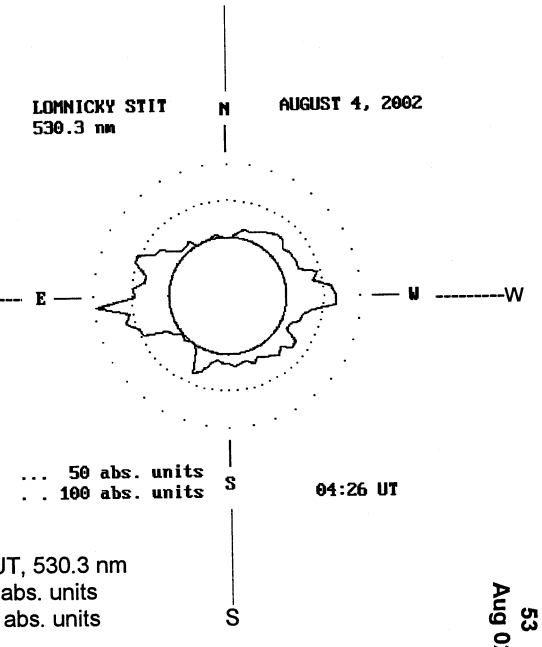
1534 UT

RAMEY SUNSPOT



1300 UT
0416 UT LOMN Prom S

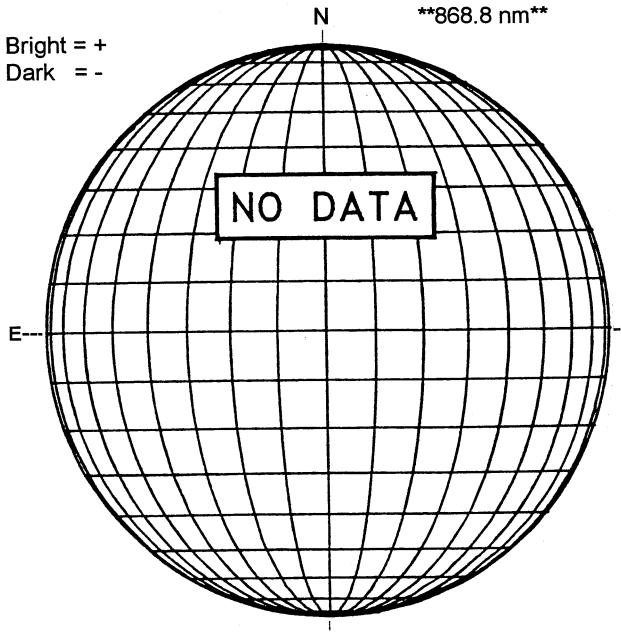
LOMNICKY PEAK CORONA (1.04 Radii)----



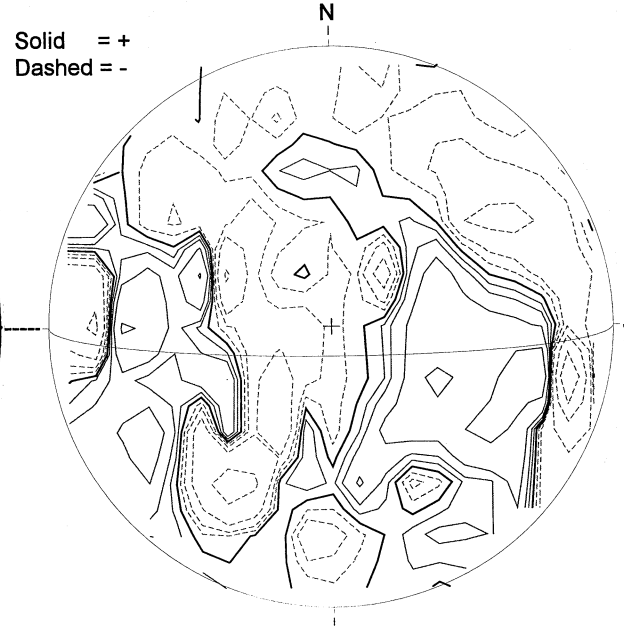
0426 UT, 530.3 nm
.... 50 abs. units
. . 100 abs. units

AUGUST 5, 2002 (P= 12.30, Bo = 6.05, Lo = 107.87)

KITT PEAK MAGNETOGRAM

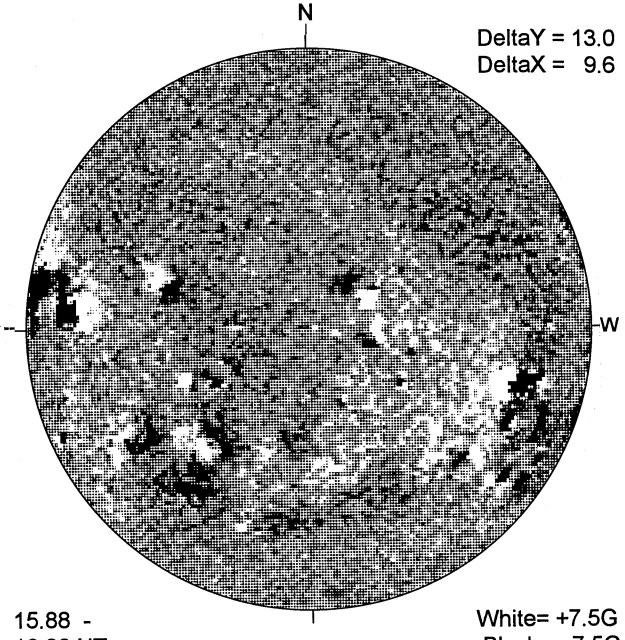


STANFORD MAGNETOGRAM



2328 UT

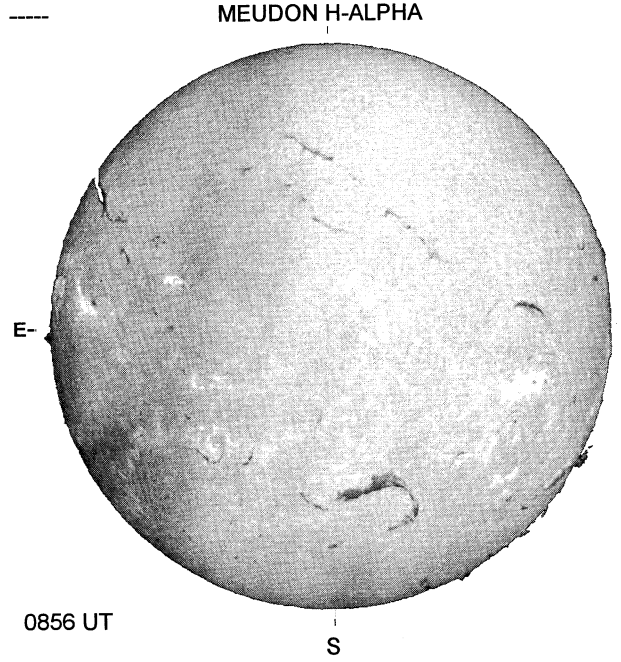
MT. WILSON MAGNETOGRAM



15.88 -
16.80 UT

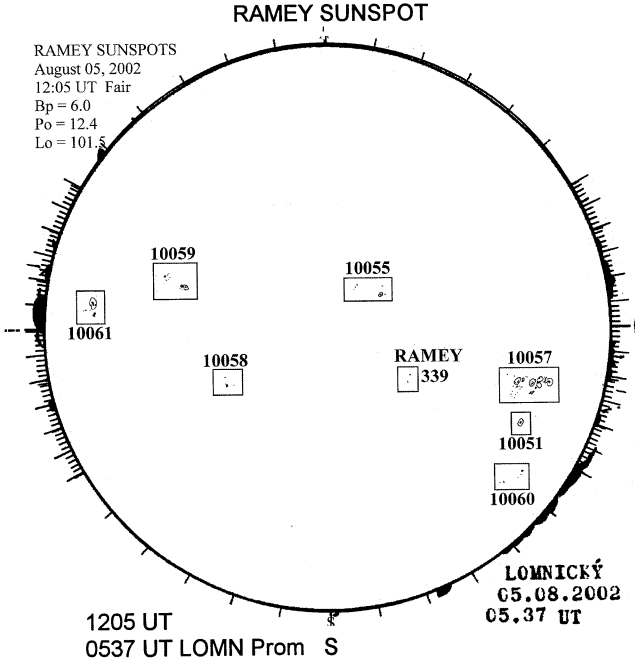
White= +7.5G
Black = -7.5G

MEUDON H-ALPHA



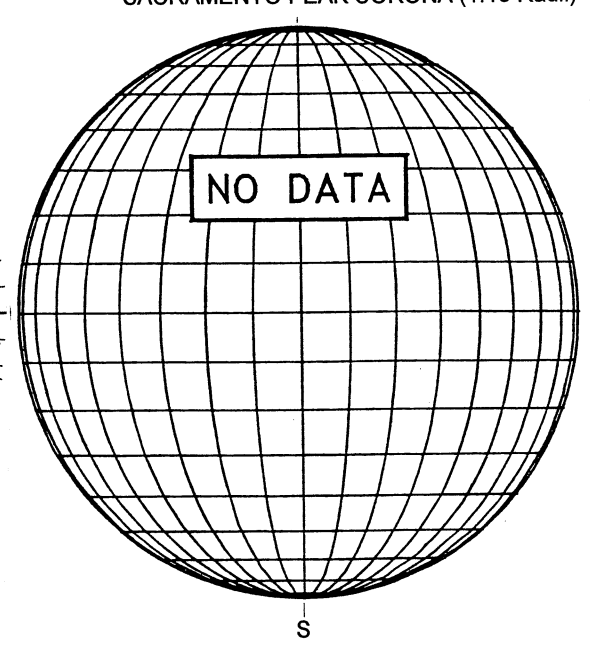
0856 UT

RAMEY SUNSPOT



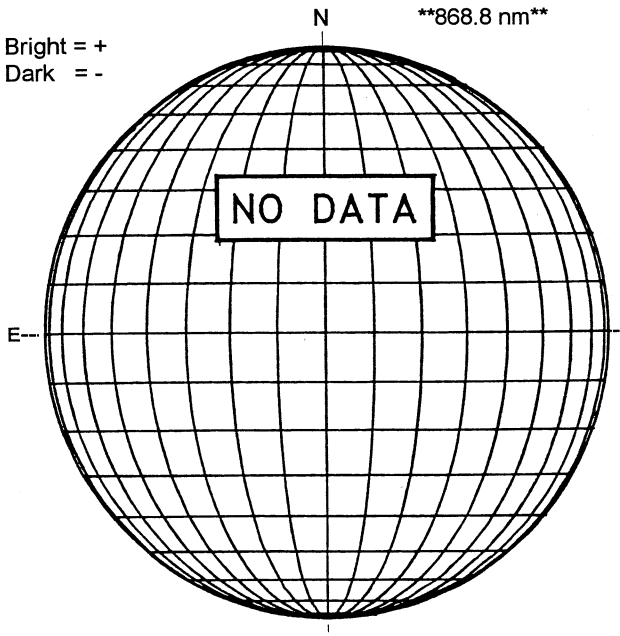
1205 UT
0537 UT LOMN Prom

SACRAMENTO PEAK CORONA (1.15 Radii)----

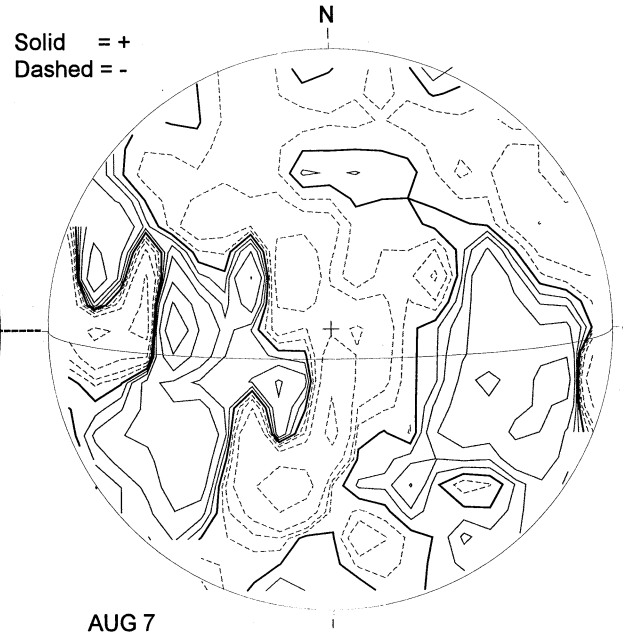


AUGUST 6, 2002 (P= 12.68, Bo = 6.12, Lo = 94.65)

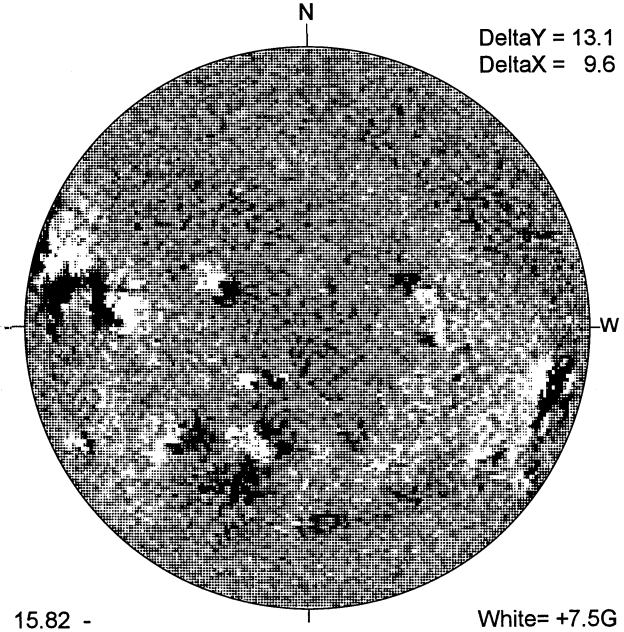
KITT PEAK MAGNETOGRAM



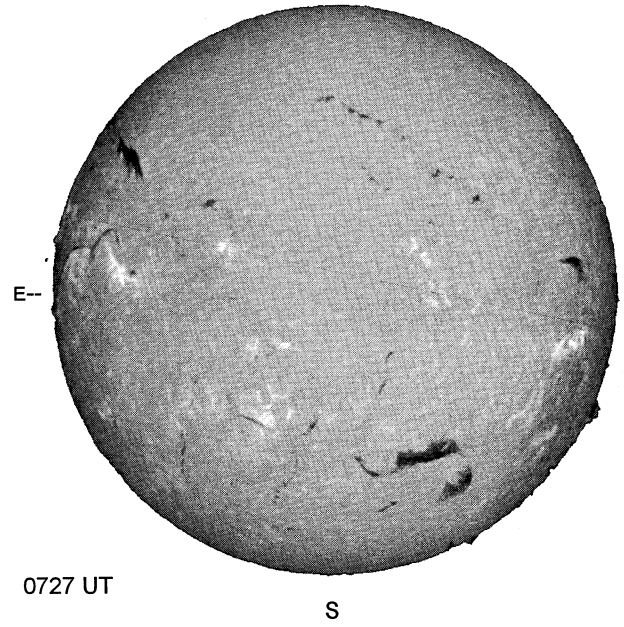
STANFORD MAGNETOGRAM



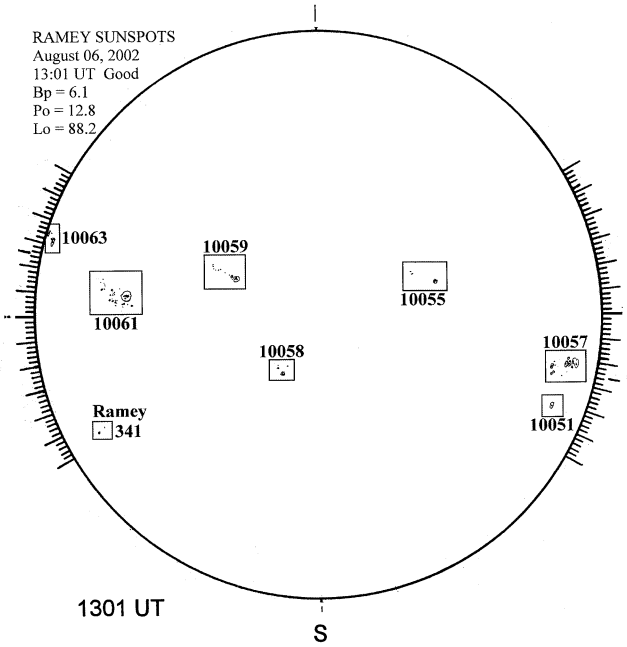
MT. WILSON MAGNETOGRAM



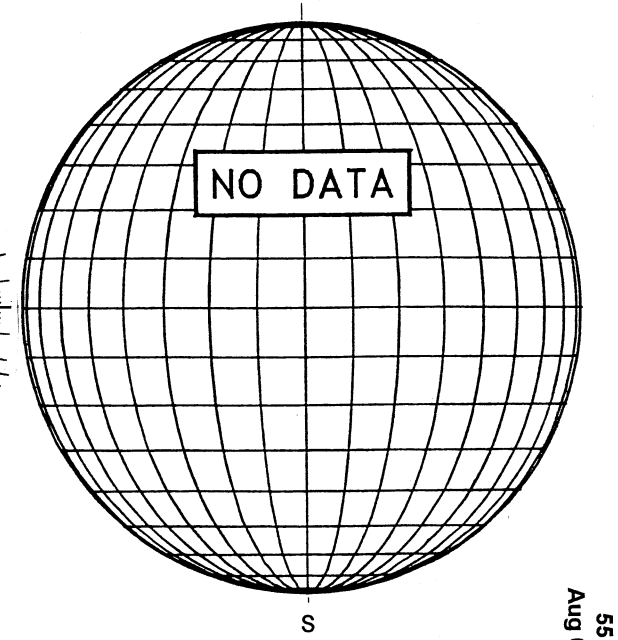
MEUDON H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)----



55
Aug 02

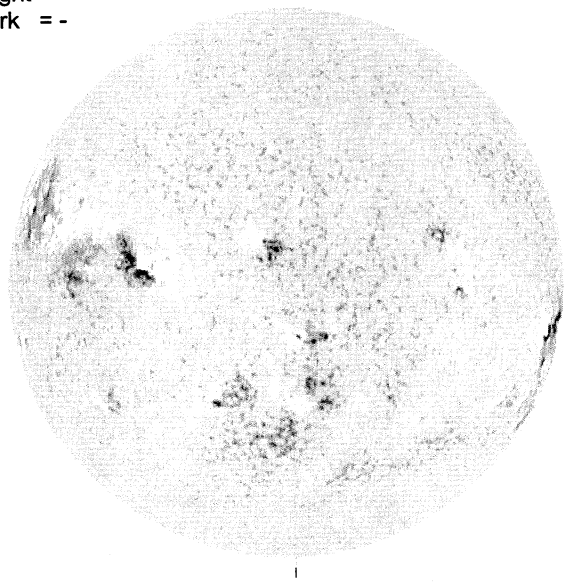
AUGUST 7, 2002 (P= 13.06, Bo = 6.18, Lo = 81.42)

KITT PEAK MAGNETOGRAM

N

868.8 nm

Bright = +
Dark = -



E--

1546 UT

STANFORD MAGNETOGRAM

N

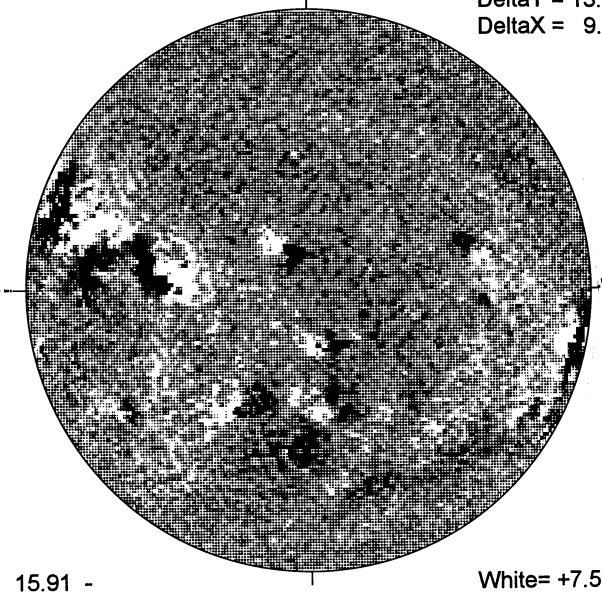
Solid = +
Dashed = -

1853 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 13.0
DeltaX = 9.6

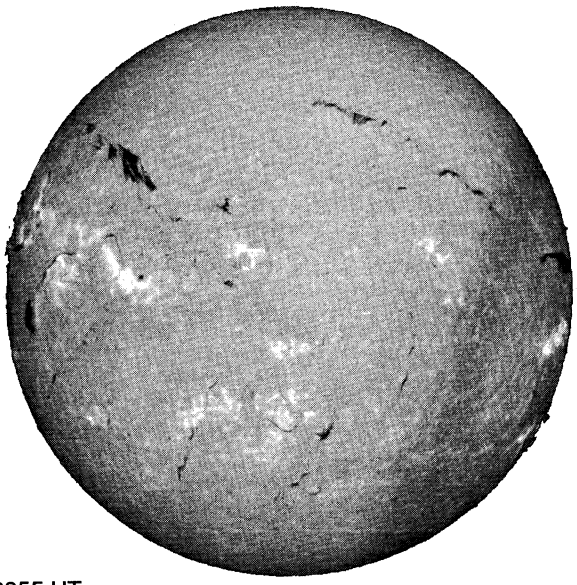


W

15.91 -
16.83 UT

White= +7.5G
Black = -7.5G

MEUDON H-ALPHA

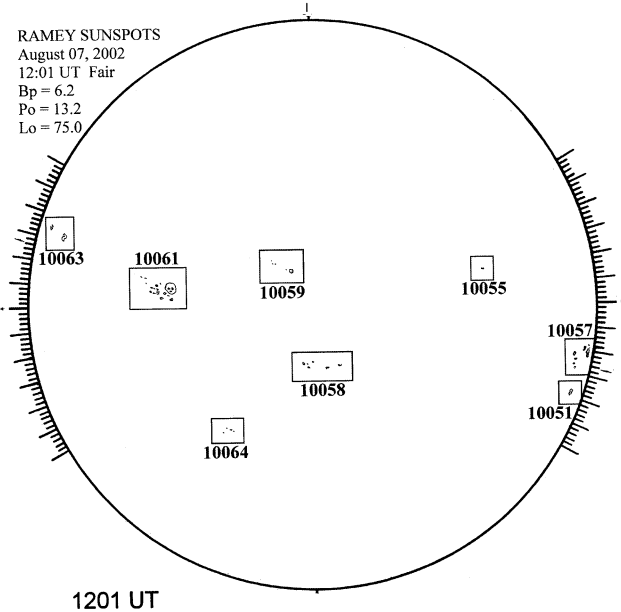


E

0855 UT

S

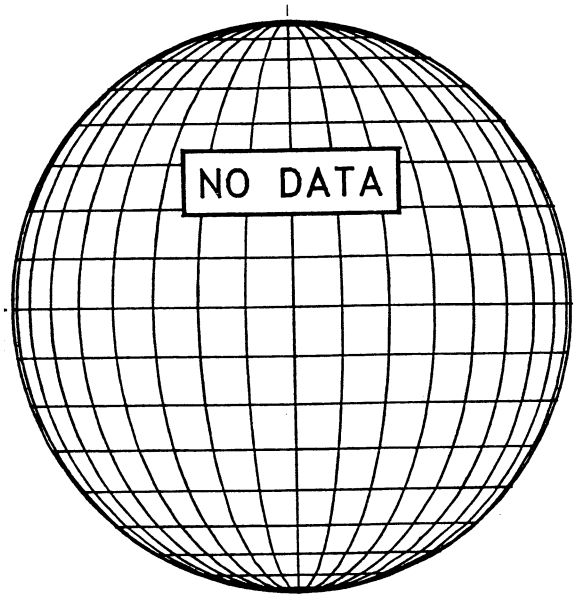
RAMEY SUNSPOTS



1201 UT

S

SACRAMENTO PEAK CORONA (1.15 Radii)----



S

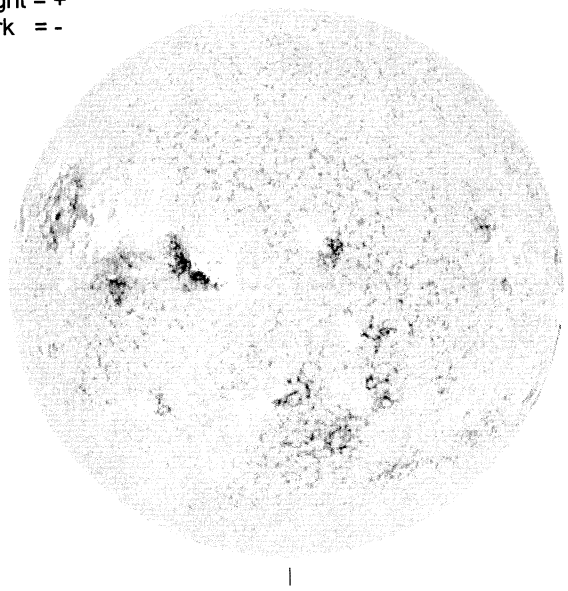
AUGUST 8, 2002 (P= 13.43, Bo = 6.24, Lo = 68.20)

KITT PEAK MAGNETOGRAM

N

868.8 nm

Bright = +
Dark = -



E--

1534 UT

STANFORD MAGNETOGRAM

N

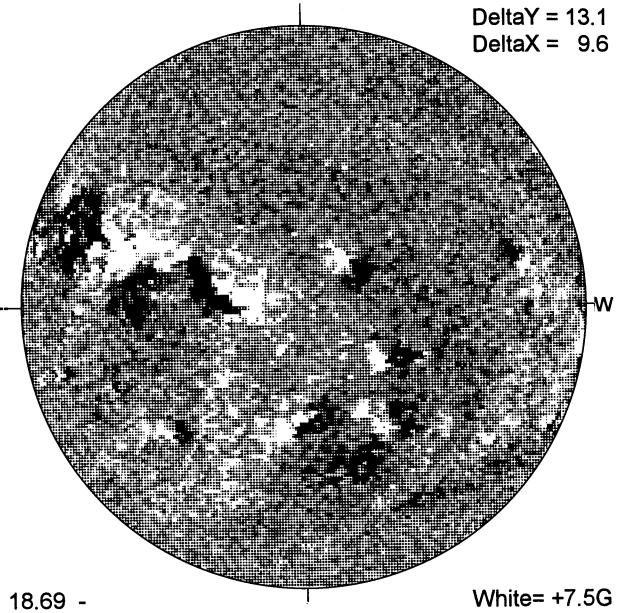
Solid = +
Dashed = -

2012 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

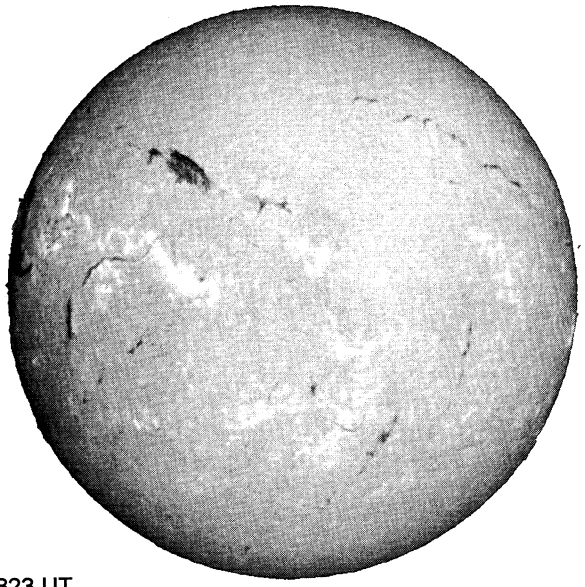


W

18.69 -
19.61 UT

White= +7.5G
Black = -7.5G

MEUDON H-ALPHA

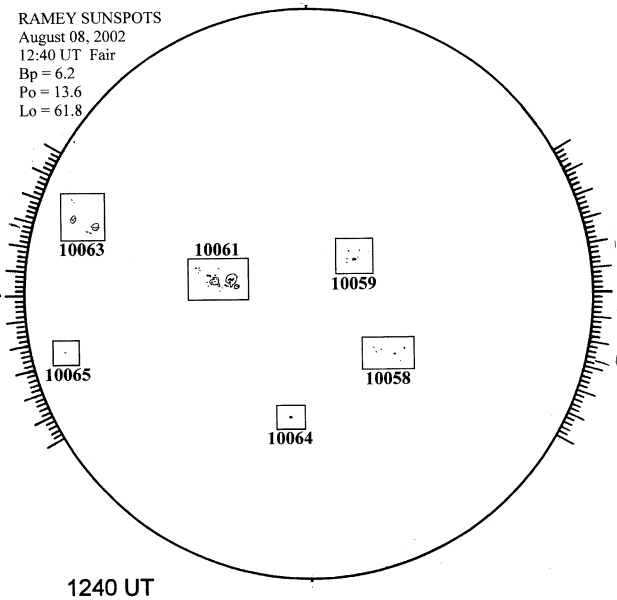


E--

0823 UT

S

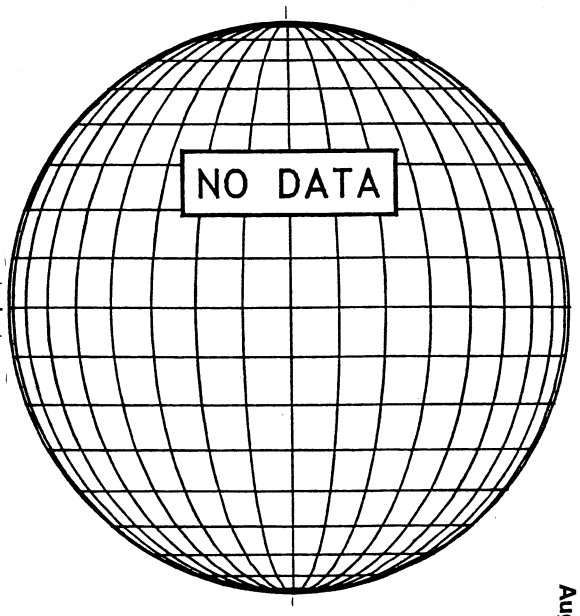
RAMEY SUNSPOT



1240 UT

S

SACRAMENTO PEAK CORONA (1.15 Radii)----

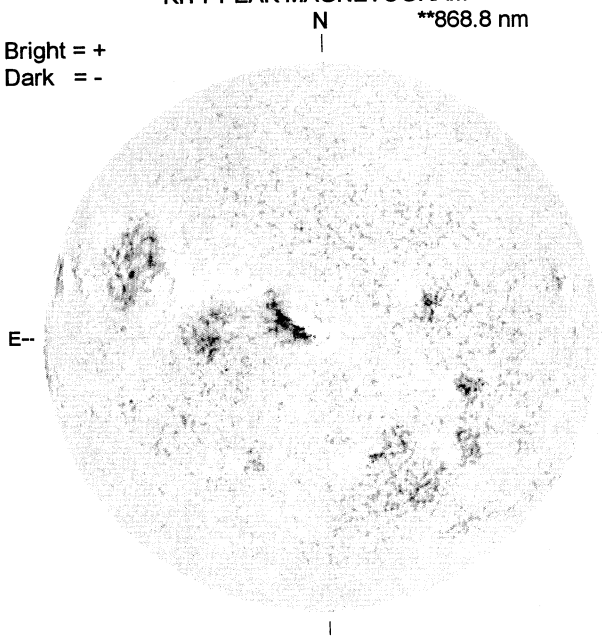


S

57
Aug 02

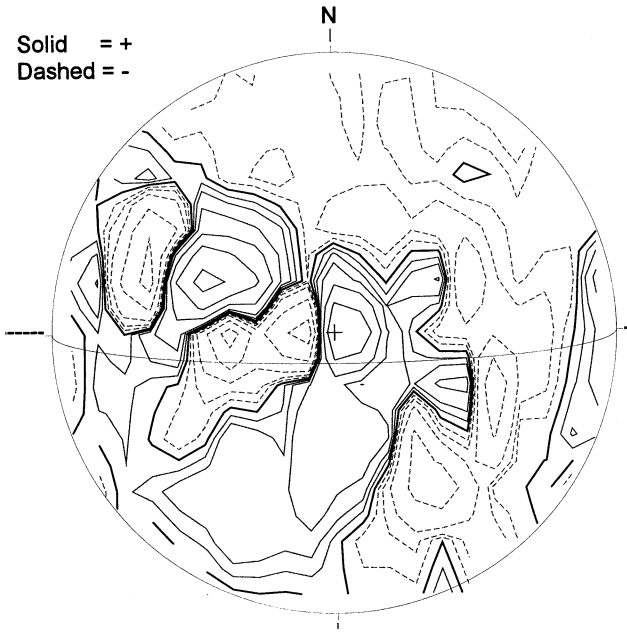
AUGUST 9, 2002 (P= 13.80, Bo = 6.31, Lo = 54.98)

KITT PEAK MAGNETOGRAM



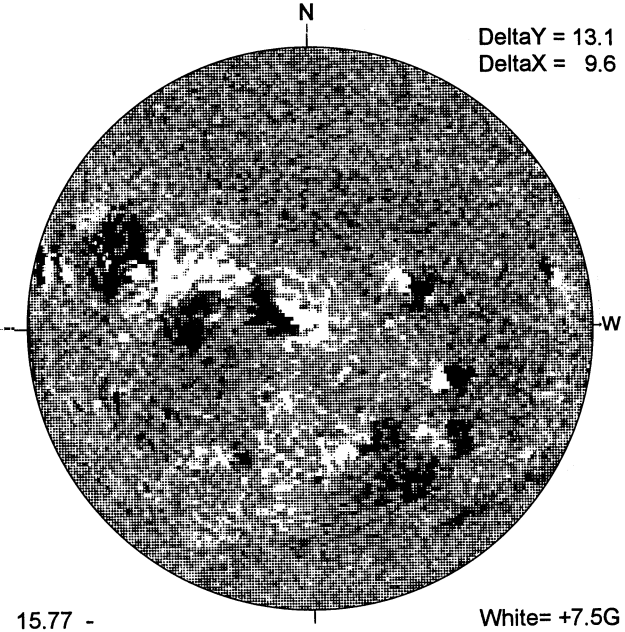
1606 UT

STANFORD MAGNETOGRAM



1838 UT

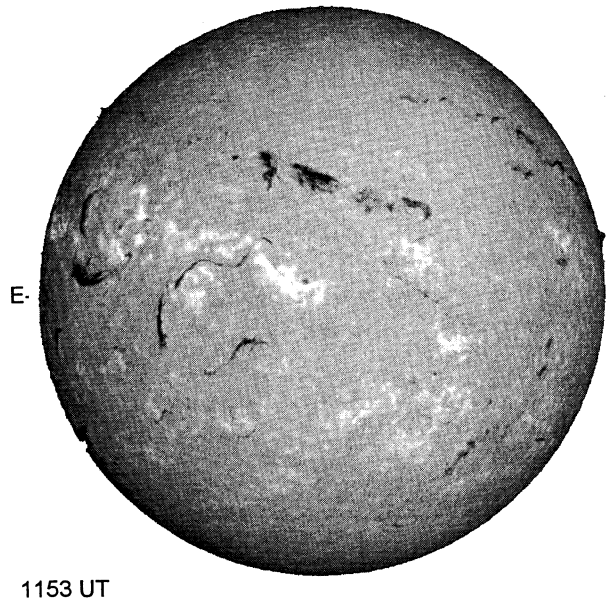
MT. WILSON MAGNETOGRAM



15.77 -
16.70 UT

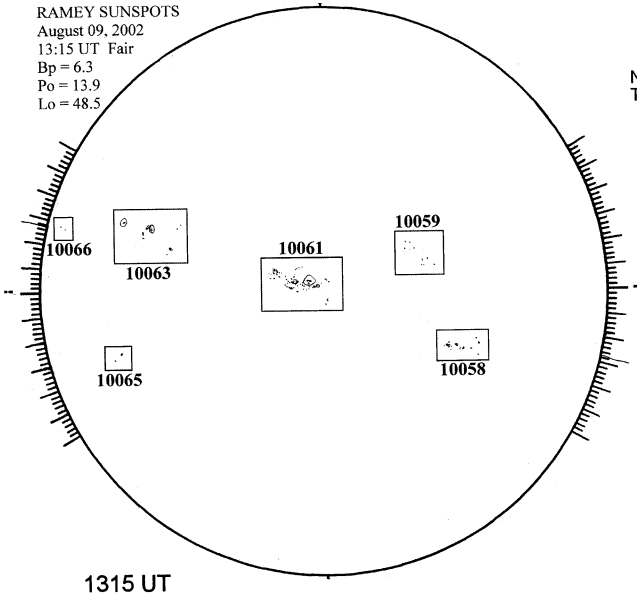
White= +7.5G
Black = -7.5G

MEUDON H-ALHPA



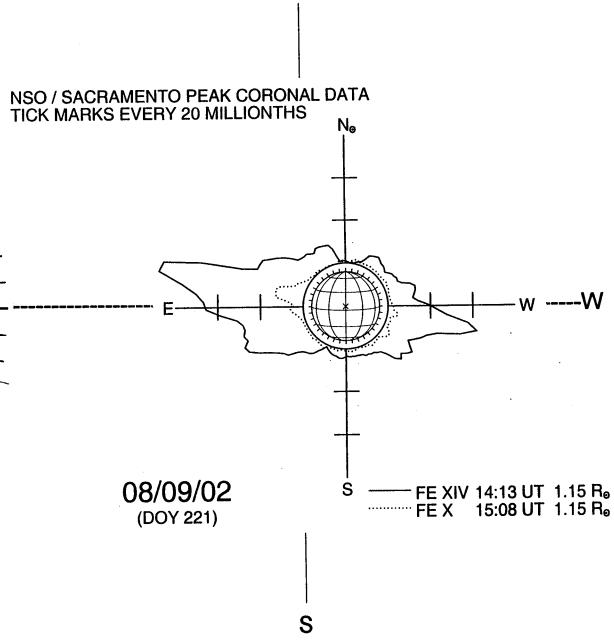
1153 UT

RAMEY SUNSPOT



1315 UT

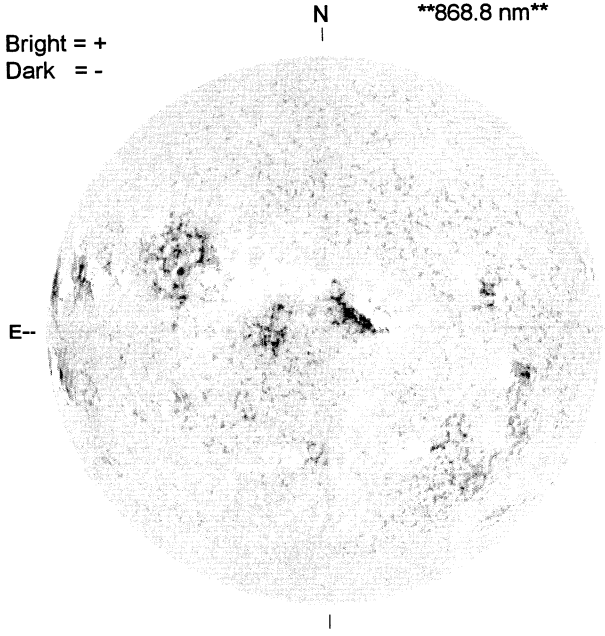
SACRAMENTO PEAK CORONA (1.15 Radii)



08/09/02
(DOY 221)

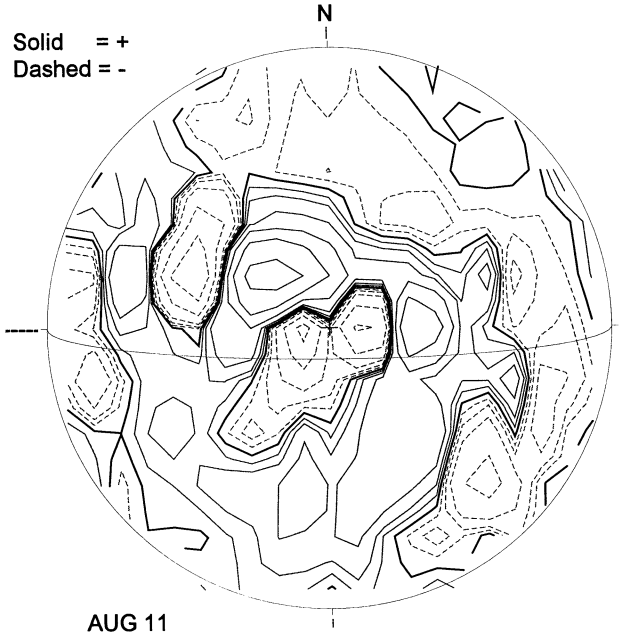
AUGUST 10, 2002 (P= 14.17, Bo = 6.36 Lo = 41.76)

KITT PEAK MAGNETOGRAM



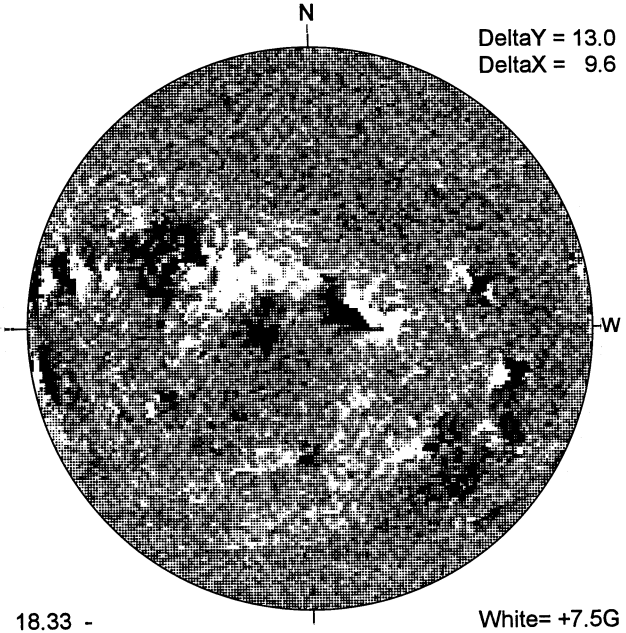
1552 UT

STANFORD MAGNETOGRAM



AUG 11
0009 UT

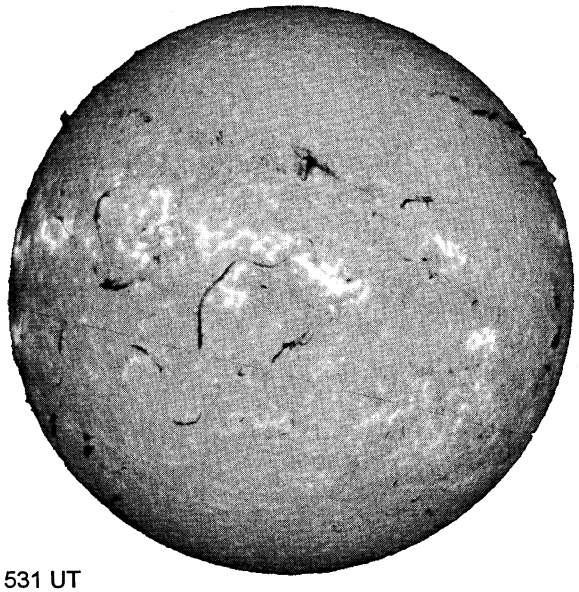
MT. WILSON MAGNETOGRAM



18.33 -
19.26 UT

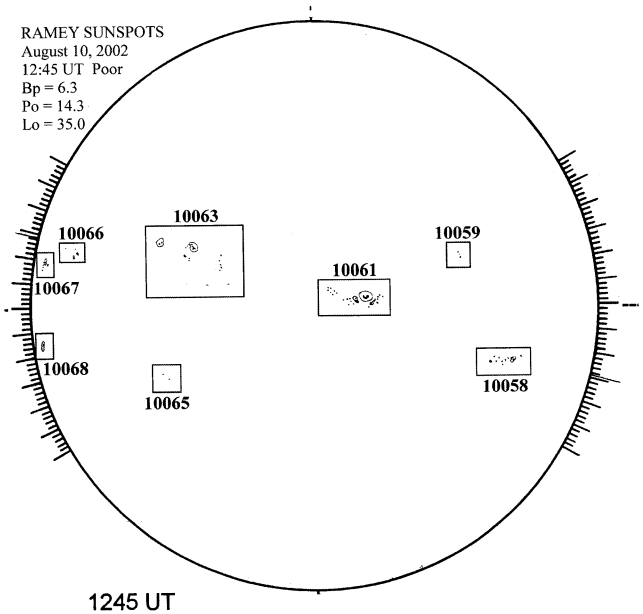
White= +7.5G
Black = -7.5G

MEUDON H-ALPHA



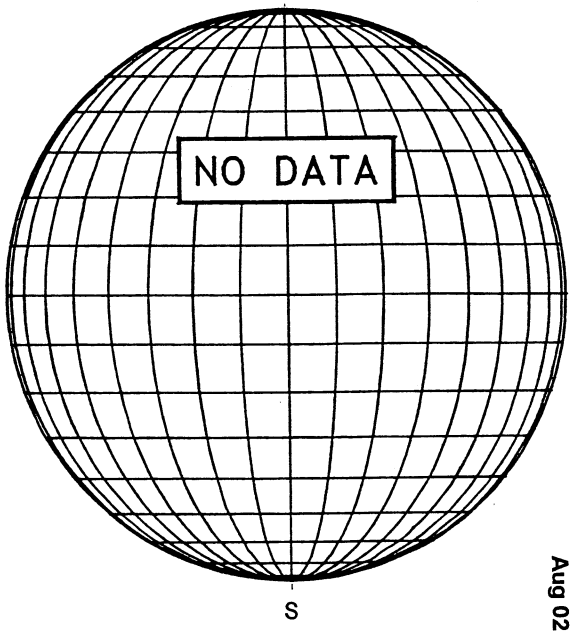
1531 UT

RAMEY SUNSPOTS



1245 UT

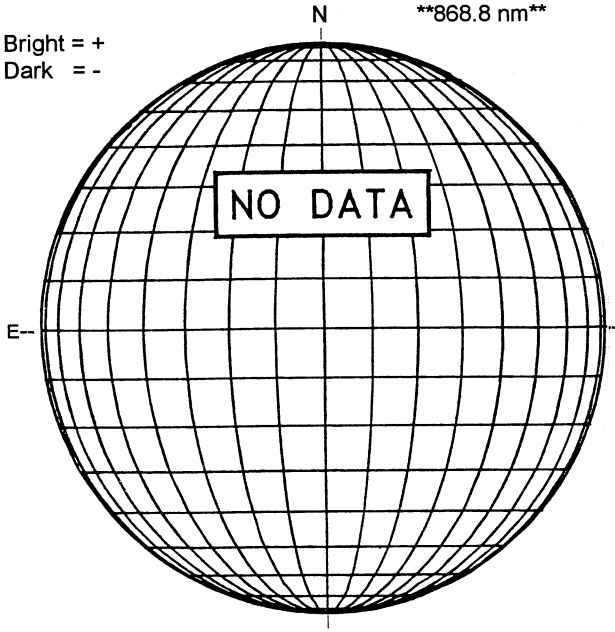
SACRAMENTO PEAK CORONA (1.15 Radii)----



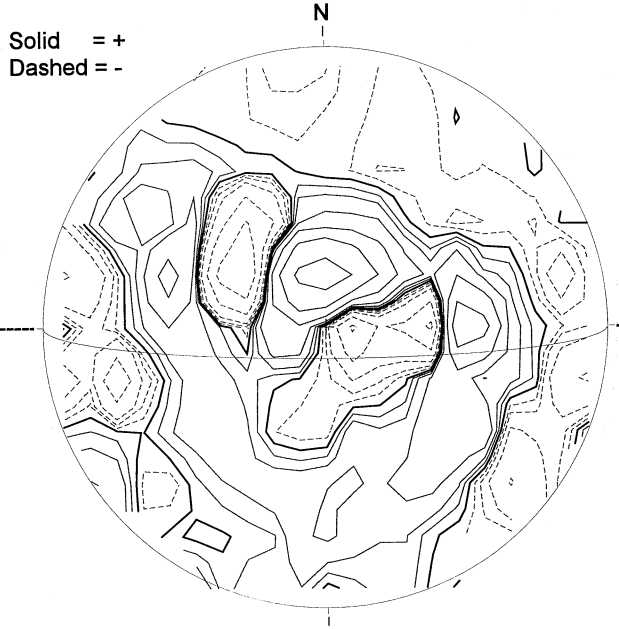
59
Aug 02

AUGUST 11, 2002 (P= 14.53, Bo = 6.42, Lo = 28.54)

KITT PEAK MAGNETOGRAM

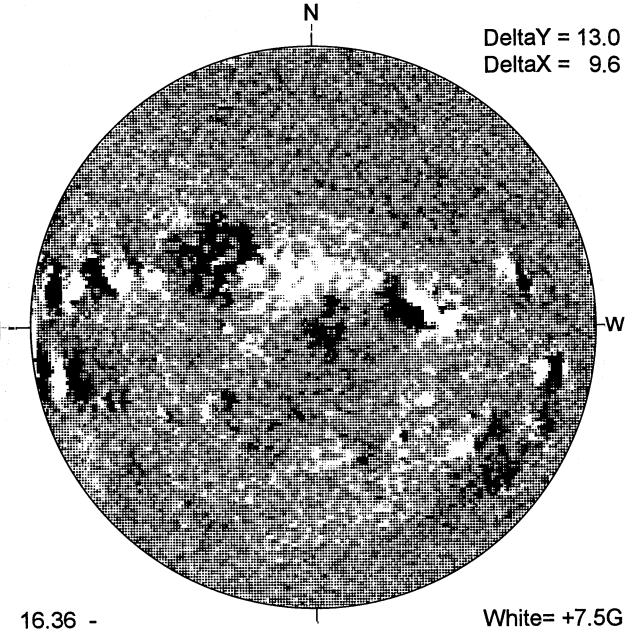


STANFORD MAGNETOGRAM



2109 UT

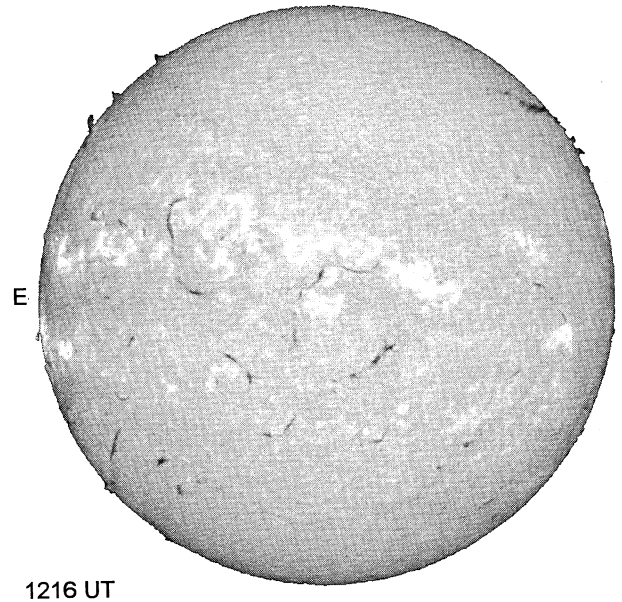
MT. WILSON MAGNETOGRAM



16.36 -
17.29 UT

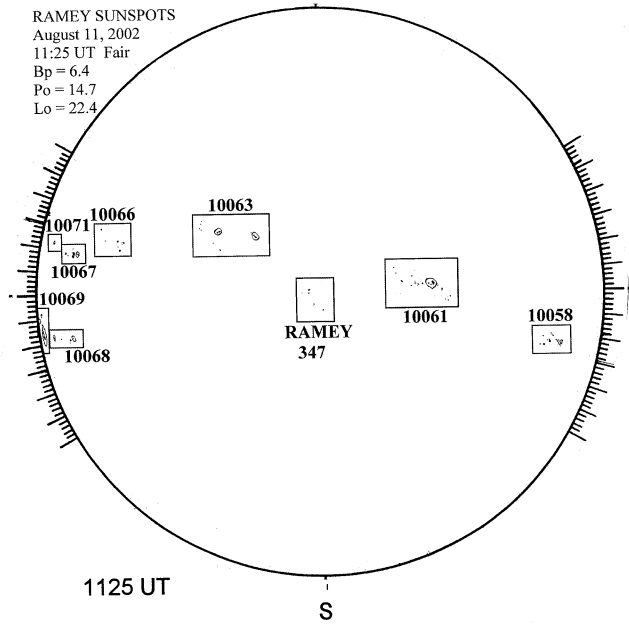
White= +7.5G
Black = -7.5G

MEUDON H-ALPHA



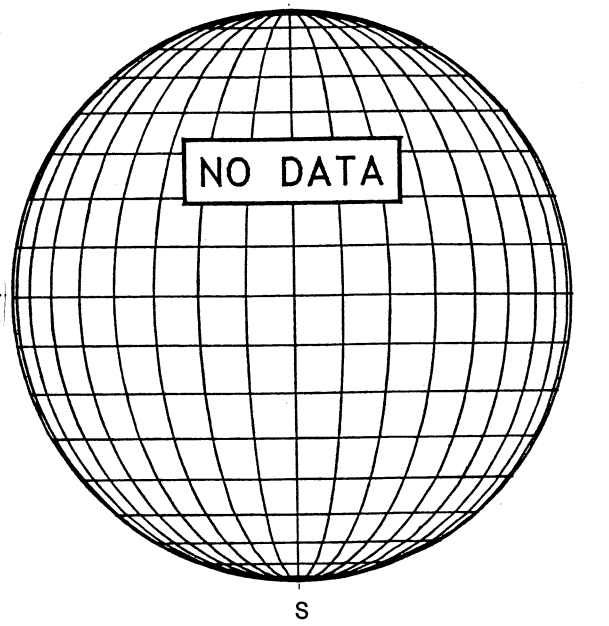
1216 UT

RAMEY SUNSPOTS



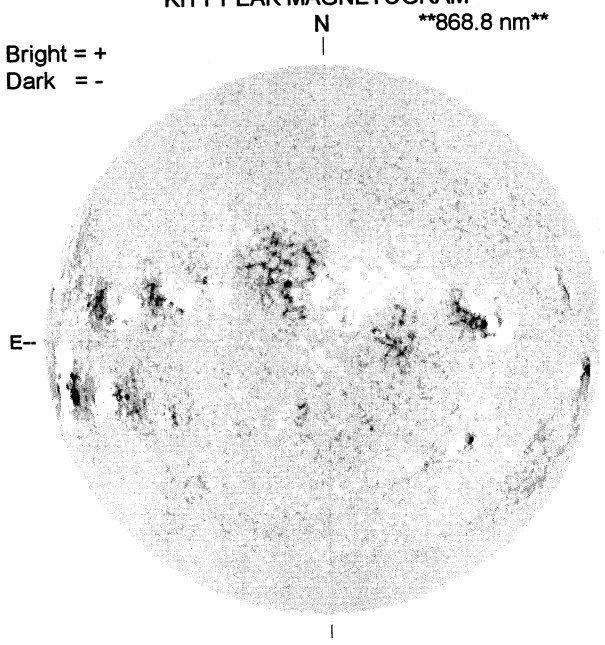
1125 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



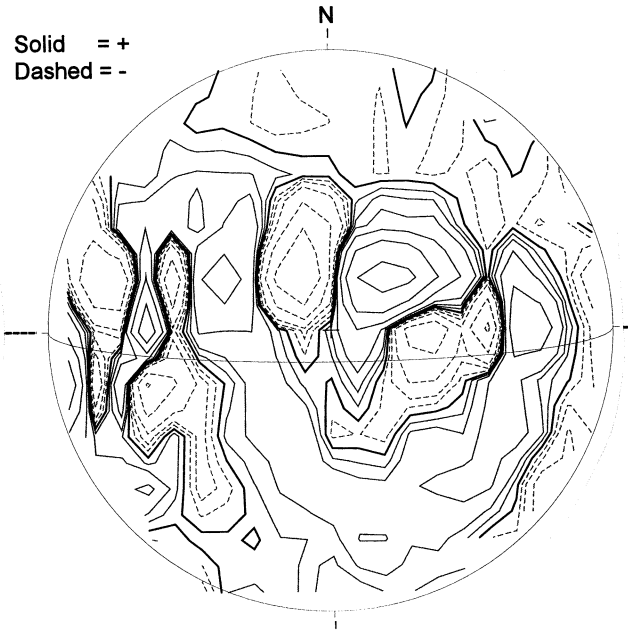
AUGUST 12, 2002 (P= 14.89, Bo = 6.48 Lo = 15.32)

KITT PEAK MAGNETOGRAM



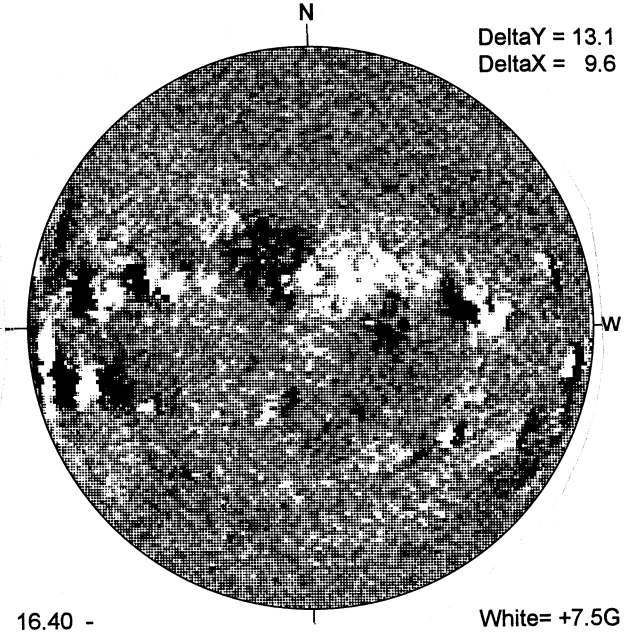
1519 UT

STANFORD MAGNETOGRAM



2257 UT

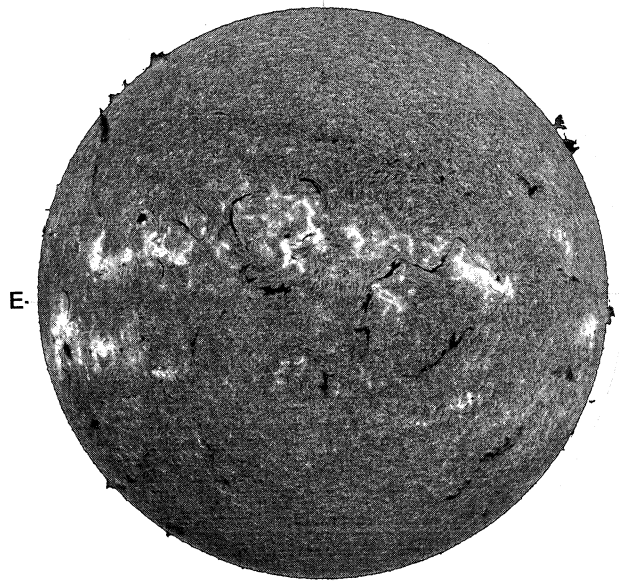
MT. WILSON MAGNETOGRAM



16.40 -
17.33 UT

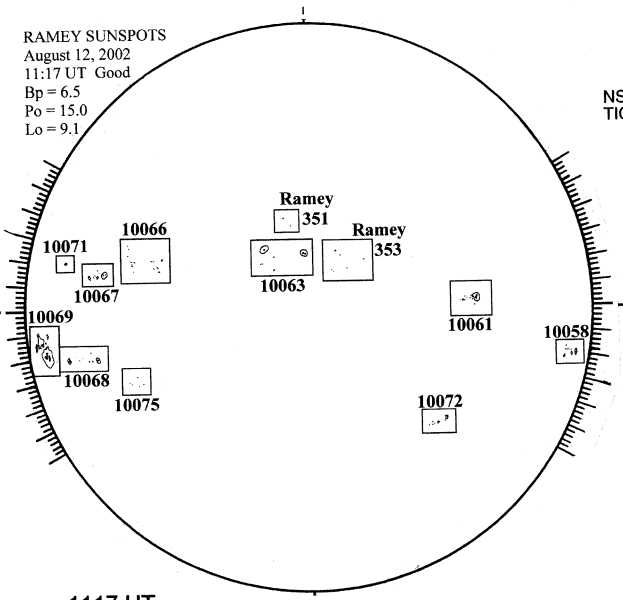
White= +7.5G
Black = -7.5G

BIG BEAR H-ALPHA



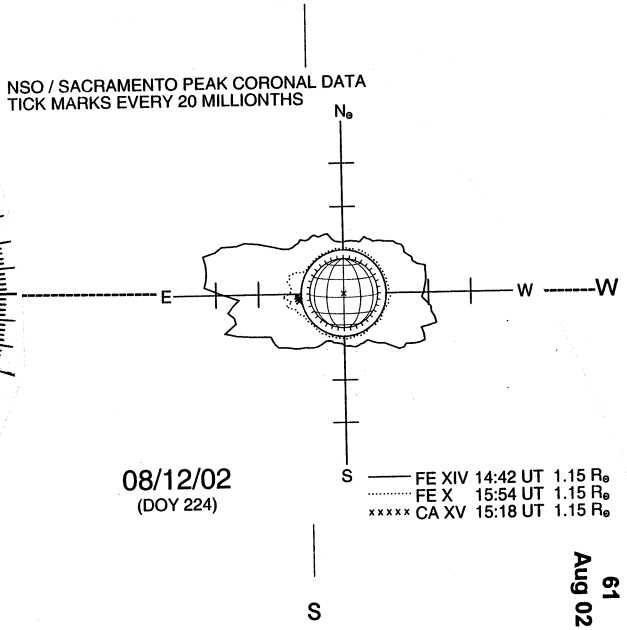
1543 UT

RAMEY SUNSPOTS



1117 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



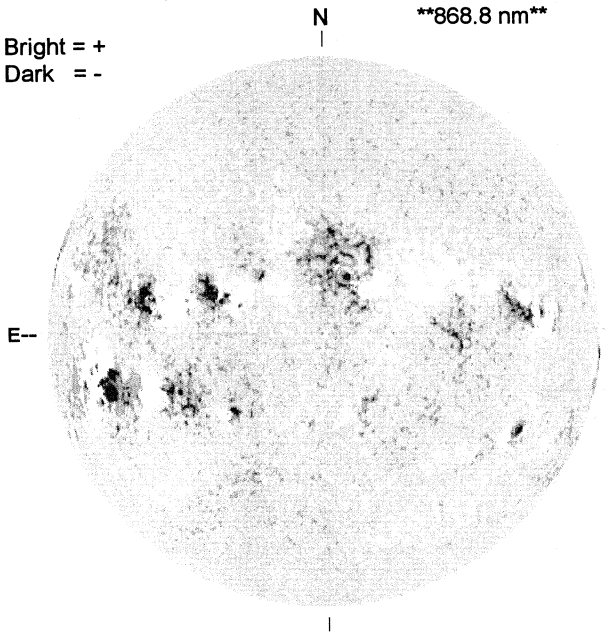
08/12/02
(DOY 224)

S

61
Aug 02

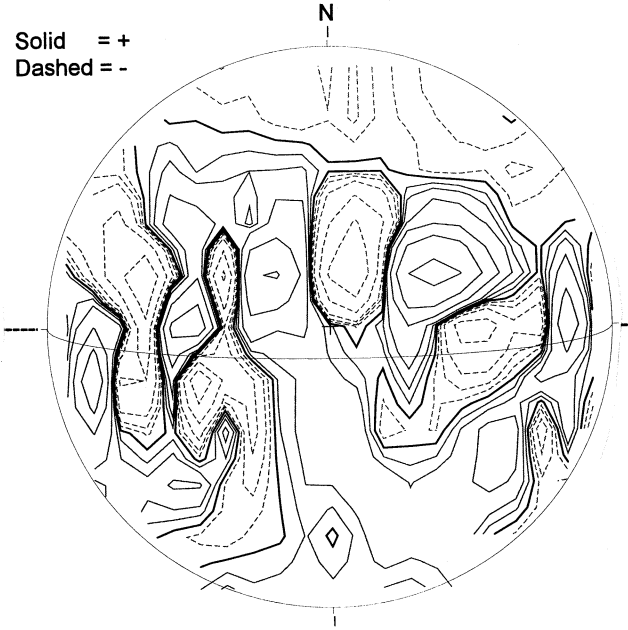
AUGUST 13, 2002 (P= 15.24, Bo = 6.53, Lo = 2.10)

KITT PEAK MAGNETOGRAM



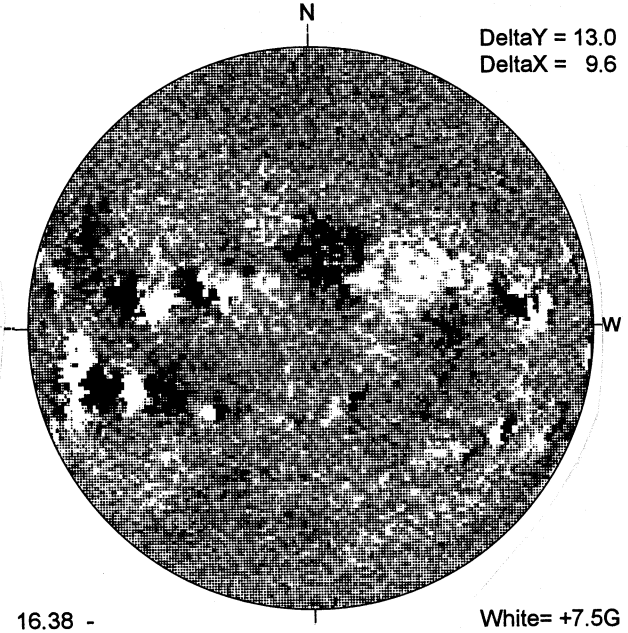
1541 UT

STANFORD MAGNETOGRAM



1850 UT

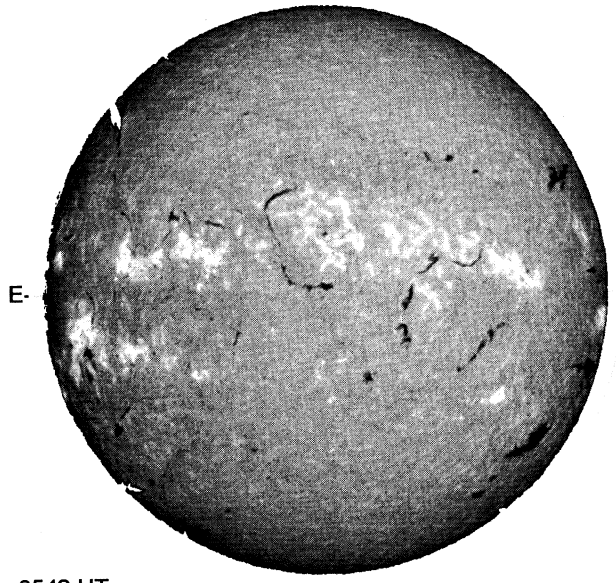
MT. WILSON MAGNETOGRAM



16.38 -
17.31 UT

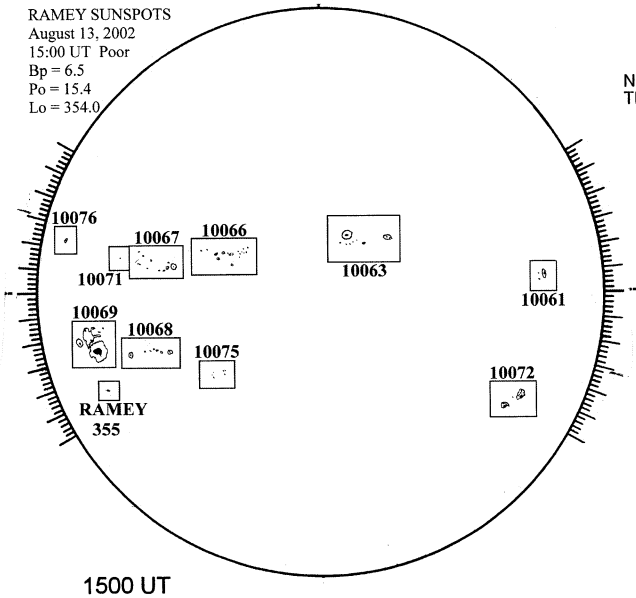
White= +7.5G
Black = -7.5G

MEUDON H-ALPHA



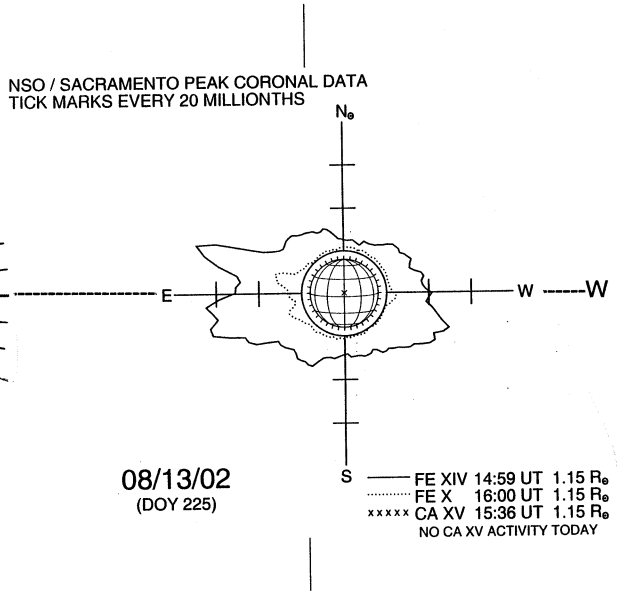
0543 UT

RAMEY SUNSPOT



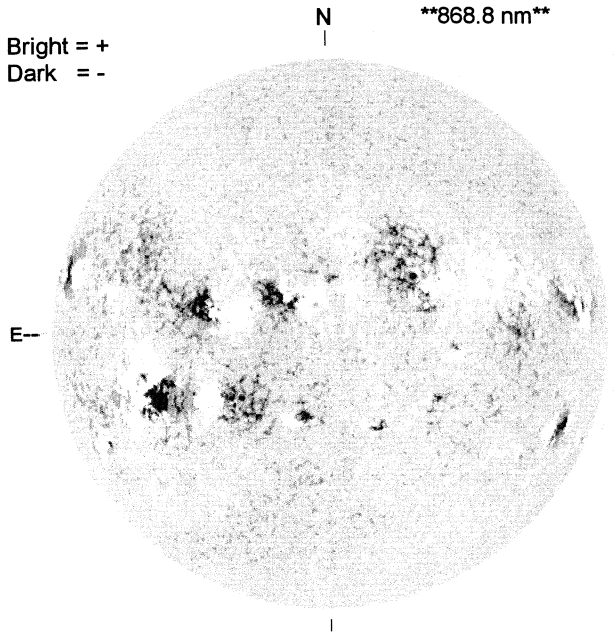
1500 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



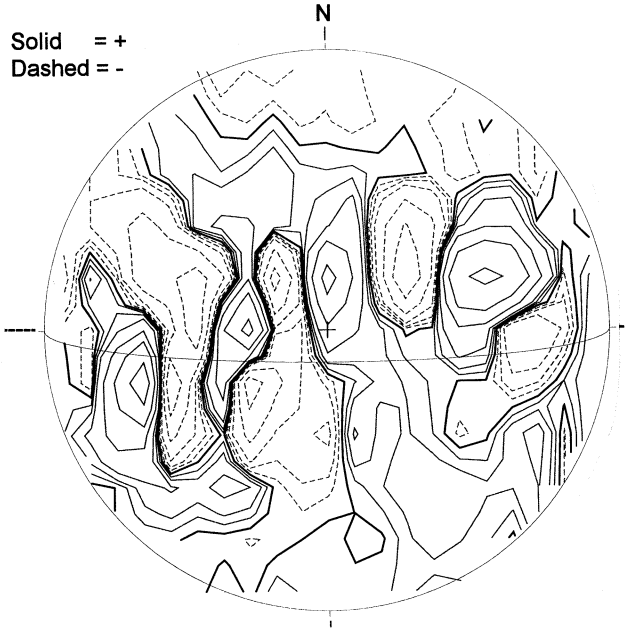
AUGUST 14, 2002 (P= 15.59, Bo = 6.58, Lo = 348.88)

KITT PEAK MAGNETOGRAM



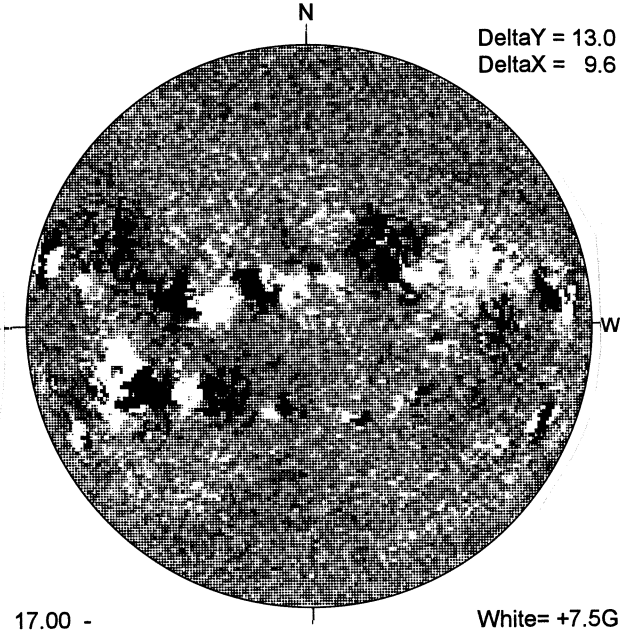
1550 UT

STANFORD MAGNETOGRAM



1925 UT

MT. WILSON MAGNETOGRAM



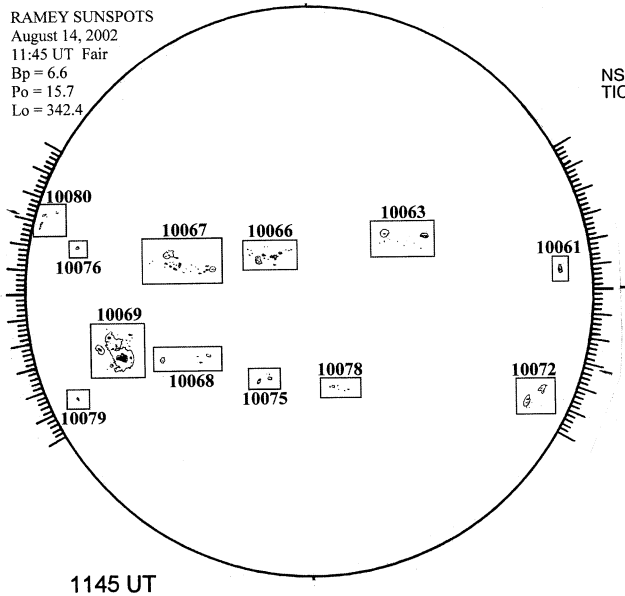
17.00 -
17.93 UT

White= +7.5G
Black = -7.5G

----- MEUDON H-ALHPA

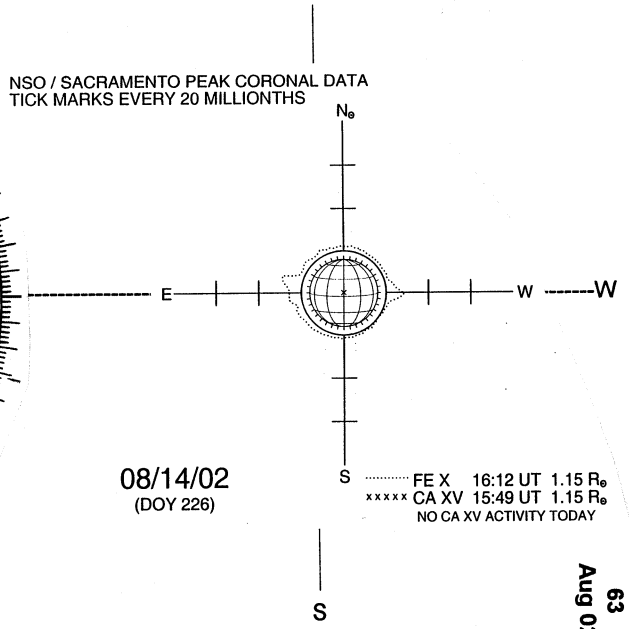
0713 UT

RAMEY SUNSPOT



1145 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



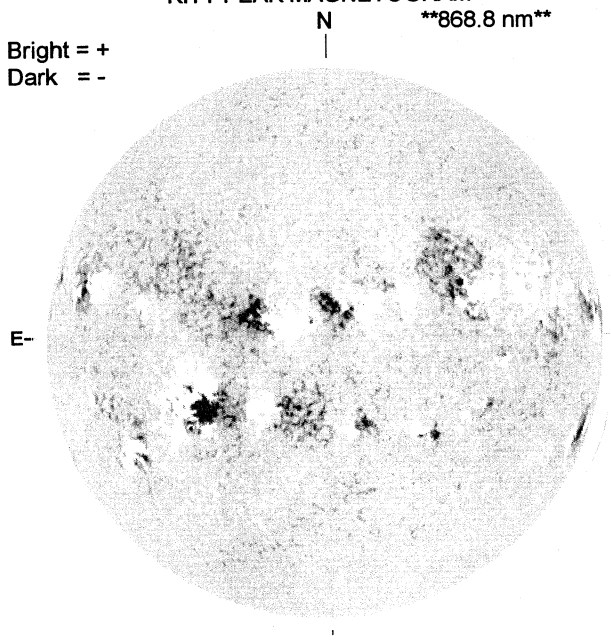
08/14/02
(DOY 226)

FE X 16:12 UT 1.15 $R_\odot$
xxxxx CA XV 15:49 UT 1.15 $R_\odot$
NO CA XV ACTIVITY TODAY

63
Aug 02

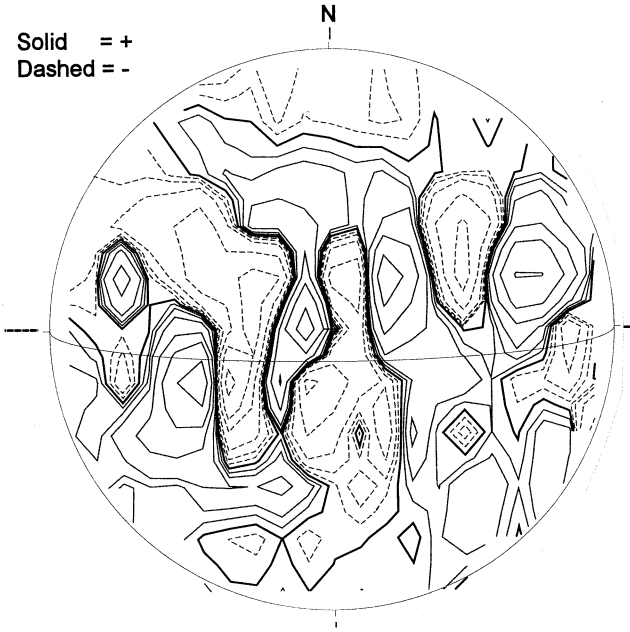
AUGUST 15, 2002 (P= 15.93, Bo = 6.63, Lo = 335.66)

KITT PEAK MAGNETOGRAM



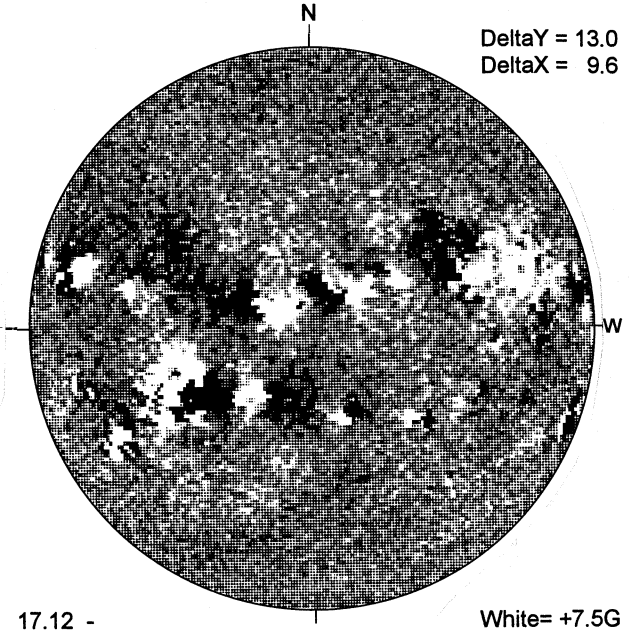
1534 UT

STANFORD MAGNETOGRAM



1801 UT

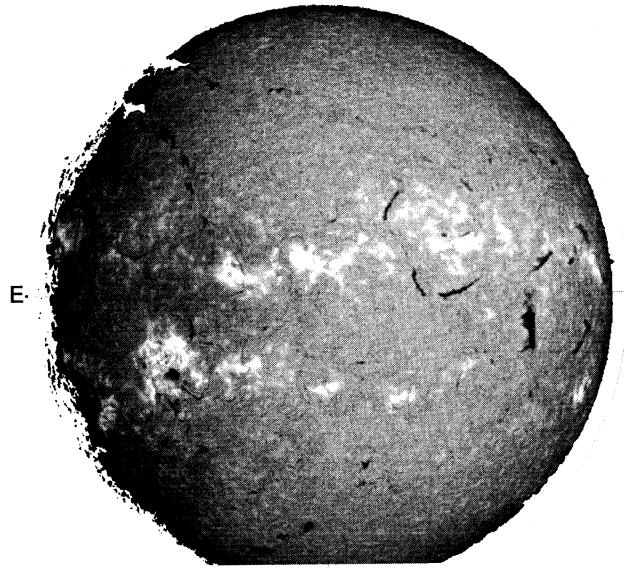
MT. WILSON MAGNETOGRAM



17.12 -
18.05 UT

White= +7.5G
Black = -7.5G

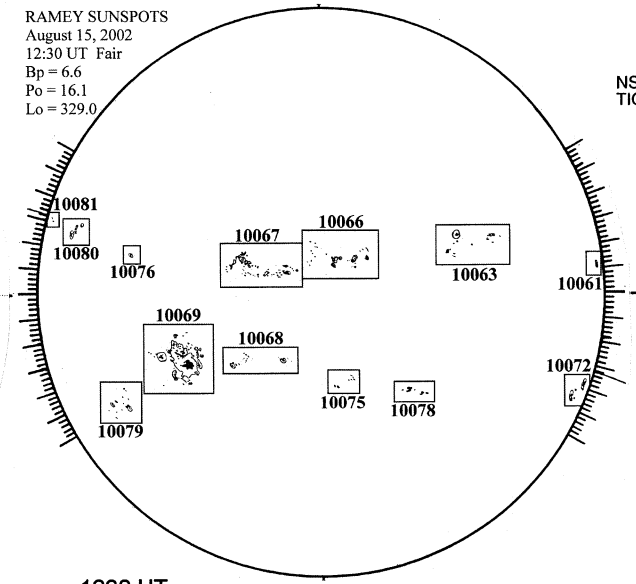
MEUDON H-ALPHA



0626 UT

S

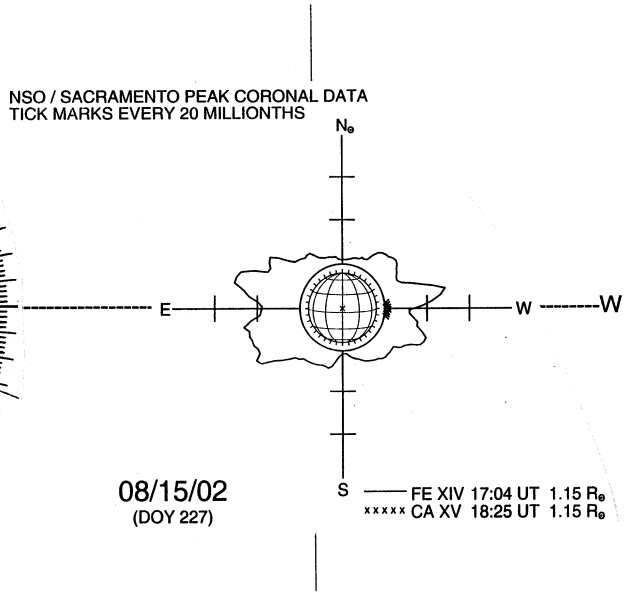
RAMEY SUNSPOT



1230 UT

S

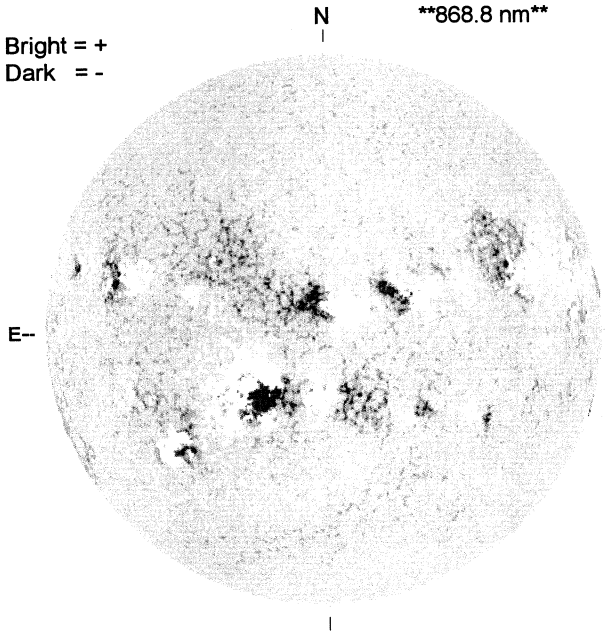
SACRAMENTO PEAK CORONA (1.15 Radii)



S

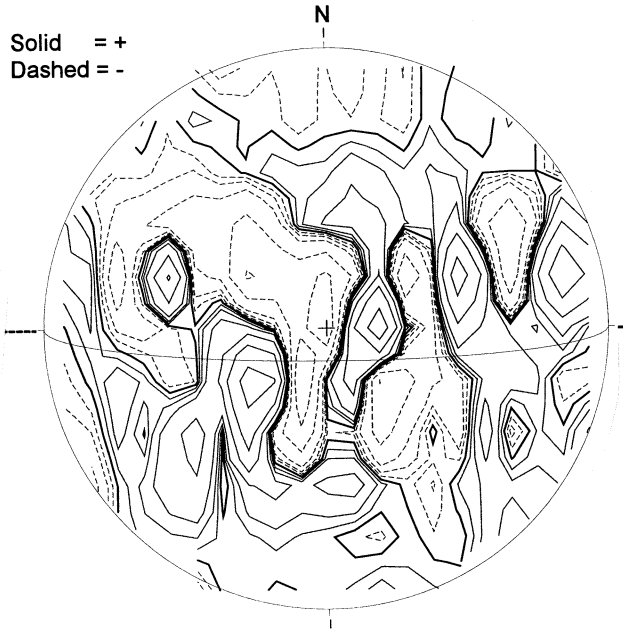
AUGUST 16, 2002 (P= 16.27, Bo = 6.68, Lo = 322.44)

KITT PEAK MAGNETOGRAM



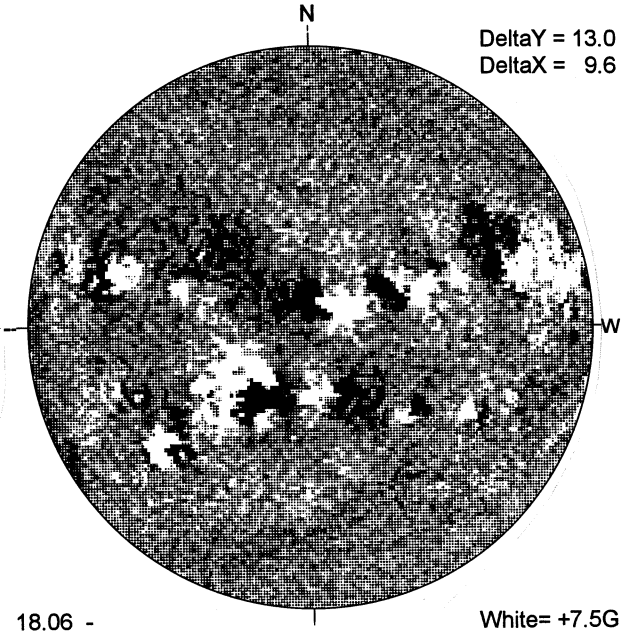
1448 UT

STANFORD MAGNETOGRAM



2248 UT

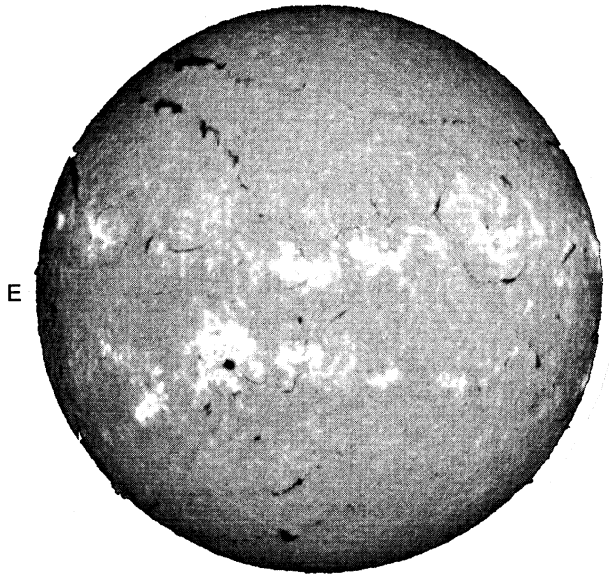
MT. WILSON MAGNETOGRAM



18.06 -
18.99 UT

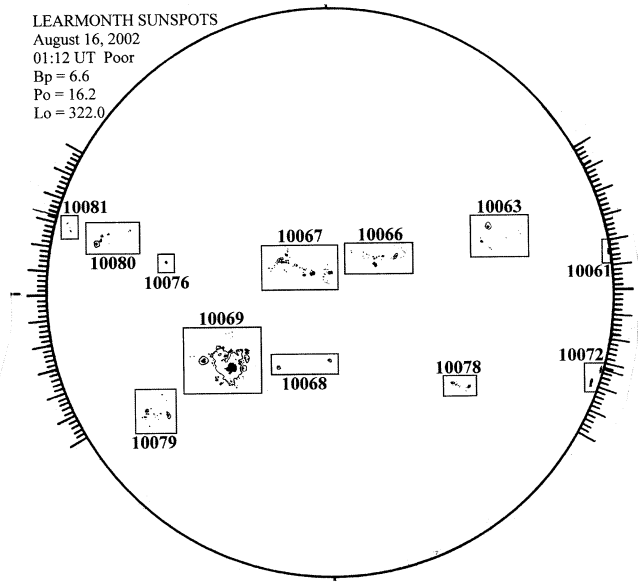
White= +7.5G
Black = -7.5G

----- MEUDON H-ALPHA



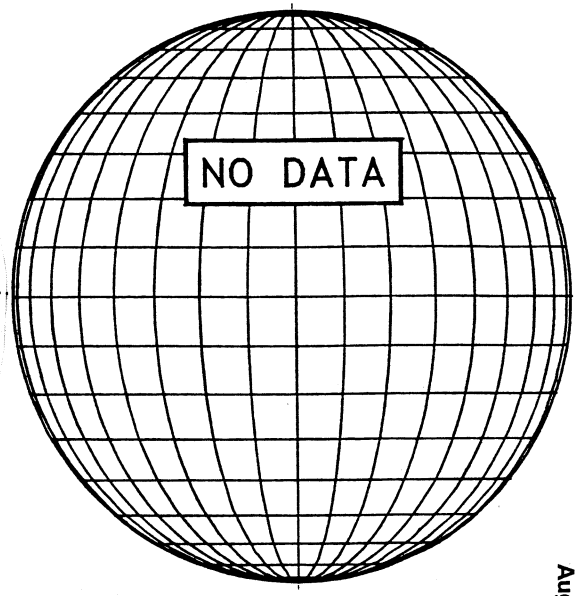
0555 UT S

LEARMONTH SUNSPOT



0112 UT S

SACRAMENTO PEAK CORONA (1.15 Radii)----

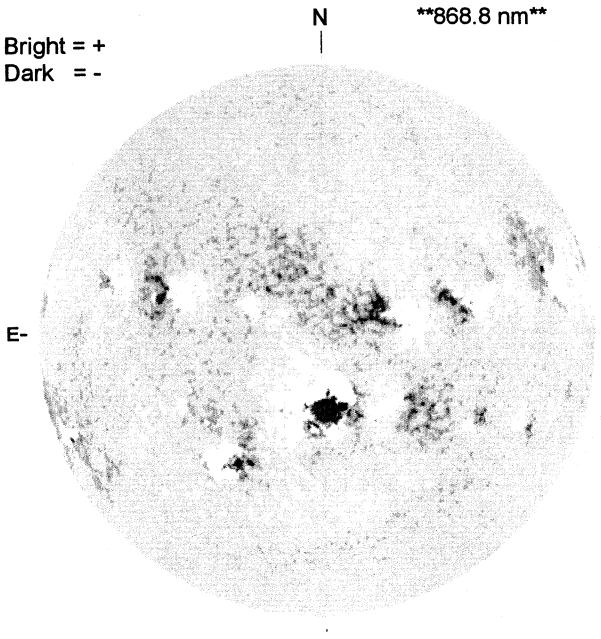


S

65
Aug 02

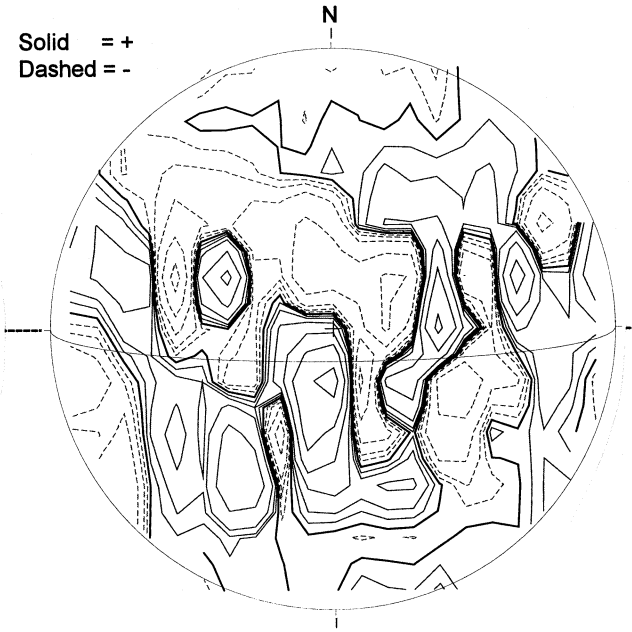
AUGUST 17, 2002 (P= 16.60, Bo = 6.73, Lo = 309.22)

KITT PEAK MAGNETOGRAM



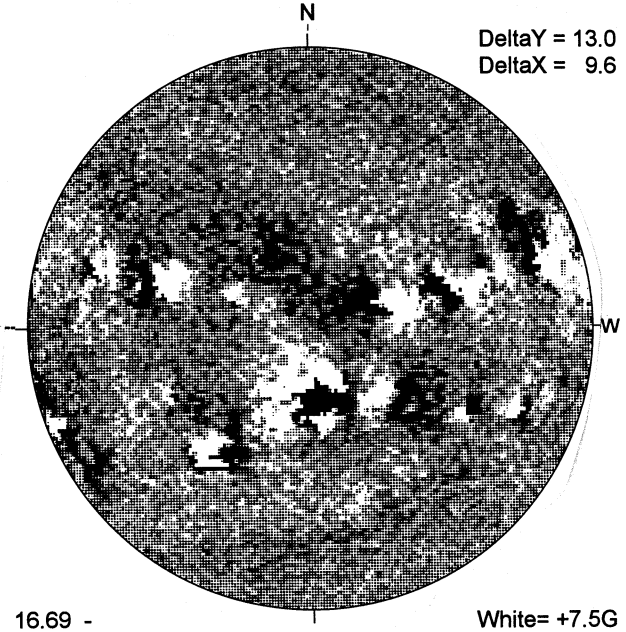
1820 UT

STANFORD MAGNETOGRAM



2258 UT

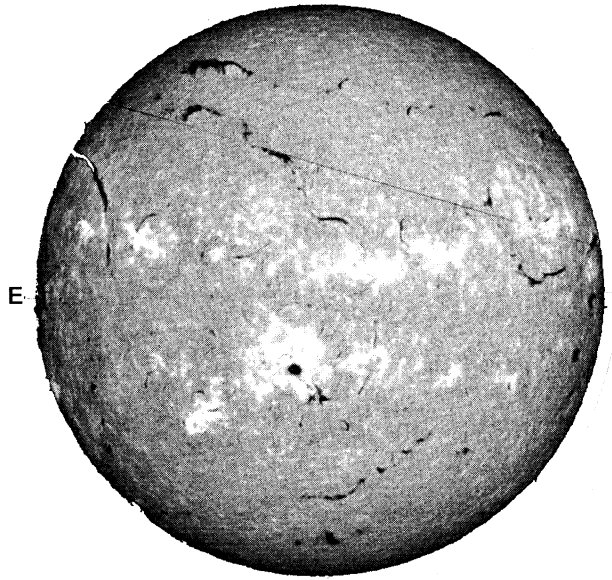
MT. WILSON MAGNETOGRAM



16.69 -
17.62 UT

White= +7.5G
Black = -7.5G

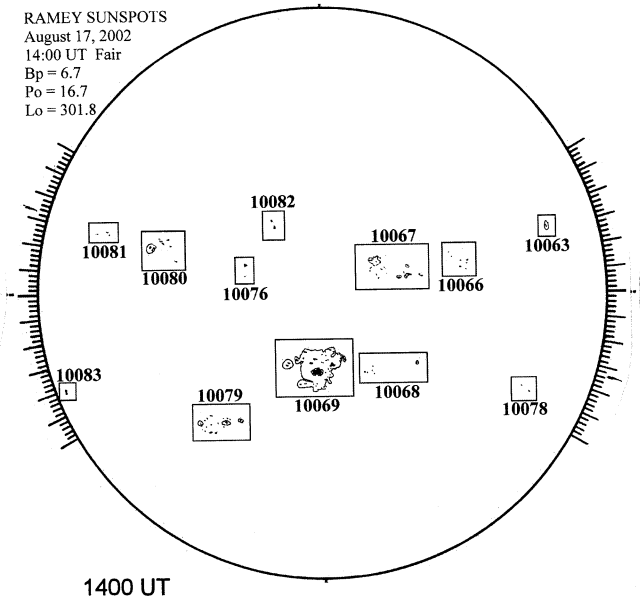
----- MEUDON H-ALPHA



0607 UT

S

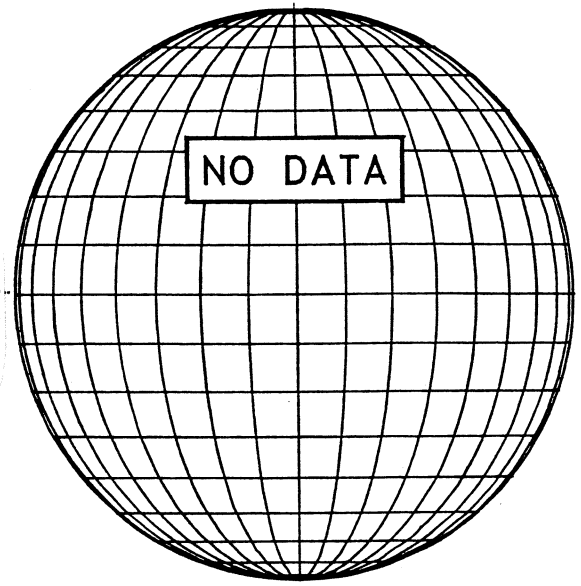
RAMEY SUNSPOT



1400 UT

S

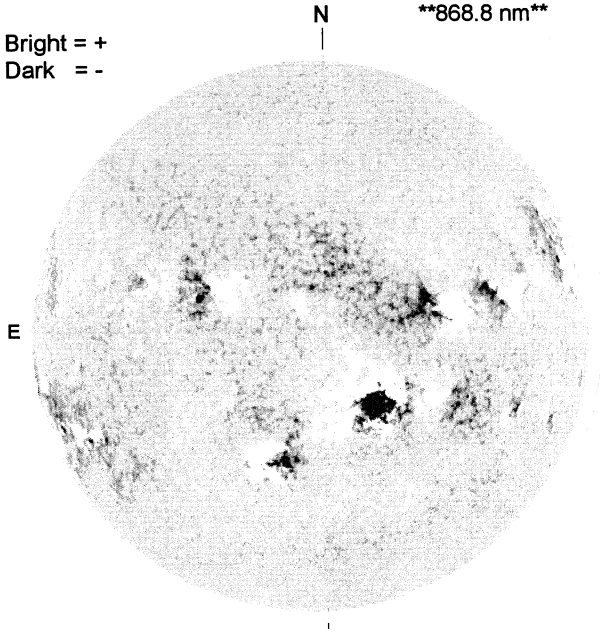
SACRAMENTO PEAK CORONA (1.15 Radii)----



S

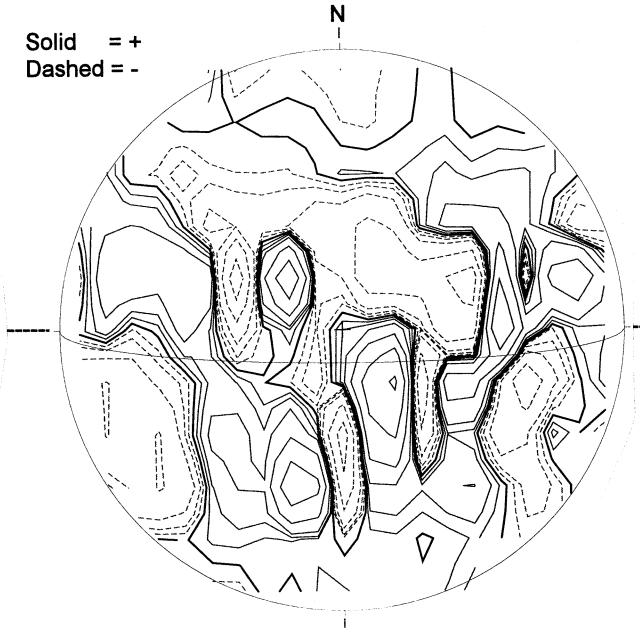
AUGUST 18, 2002 (P= 16.93, Bo = 6.77, Lo = 296.01)

KITT PEAK MAGNETOGRAM



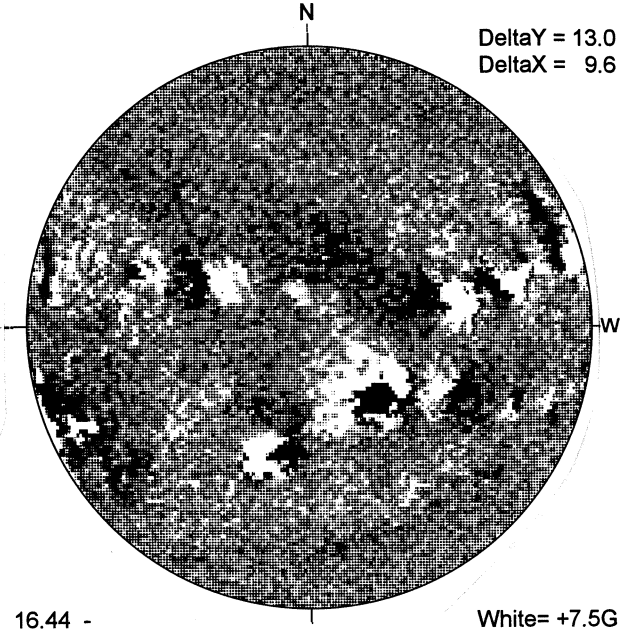
1521 UT

STANFORD MAGNETOGRAM



2232 UT

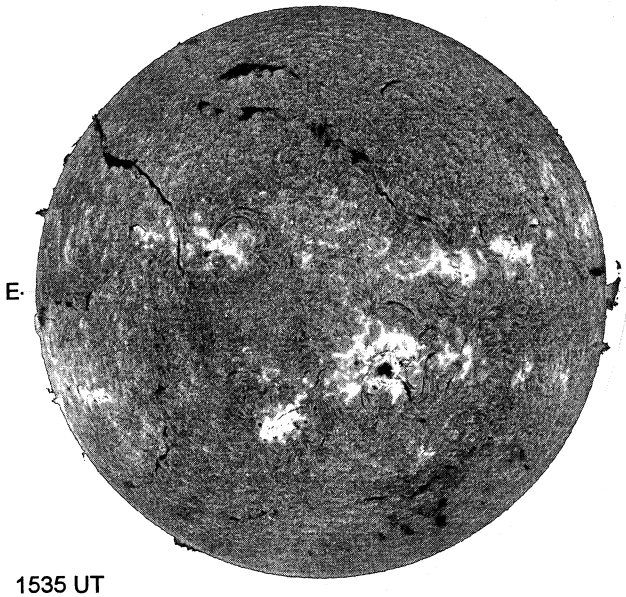
MT. WILSON MAGNETOGRAM



16.44 -
17.38 UT

White= +7.5G
Black = -7.5G

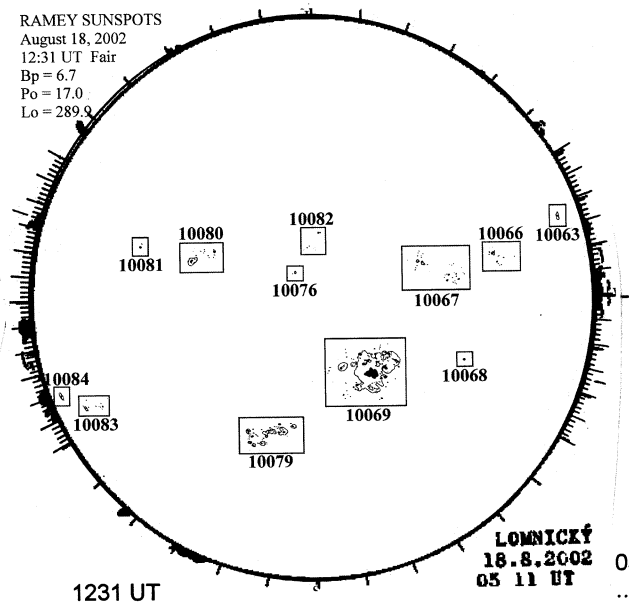
BIG BEAR H-ALPHA



1535 UT

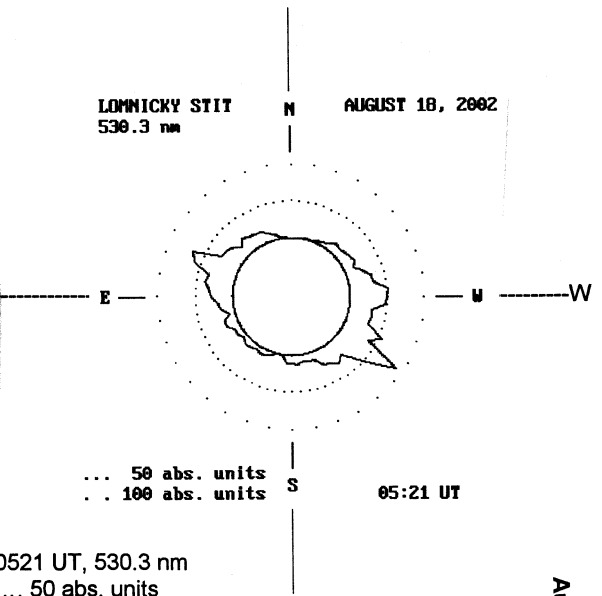
S

RAMEY SUNSPOT



1231 UT
0511 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)----



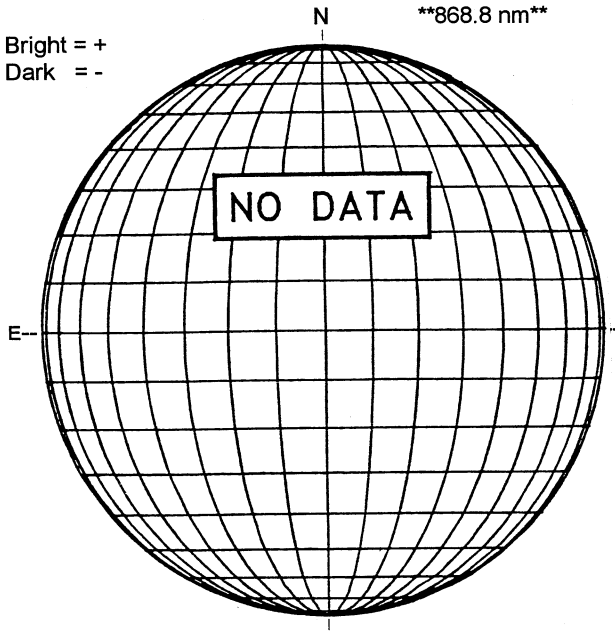
0521 UT, 530.3 nm
.... 50 abs. units
. . 100 abs. units

S

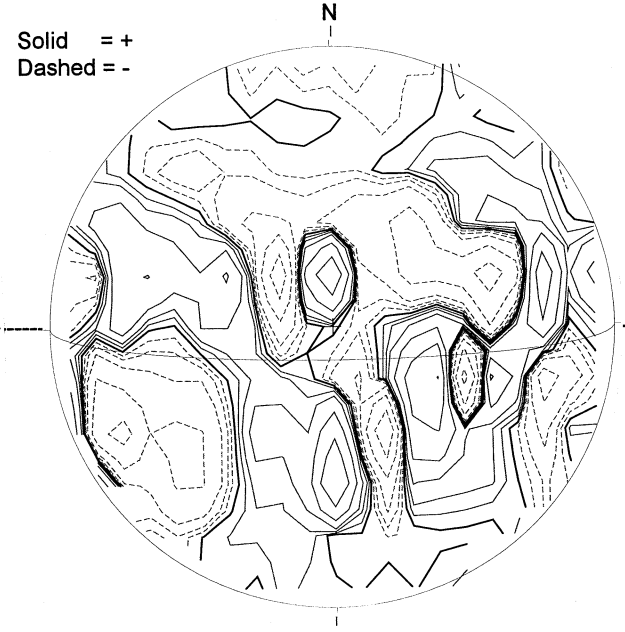
67
Aug 02

AUGUST 19, 2002 (P= 17.26, Bo = 6.82, Lo = 282.79)

KITT PEAK MAGNETOGRAM

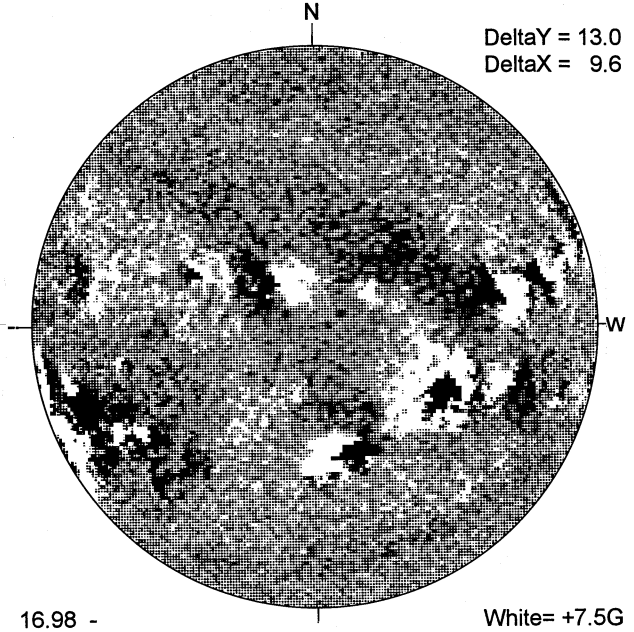


STANFORD MAGNETOGRAM



1819 UT

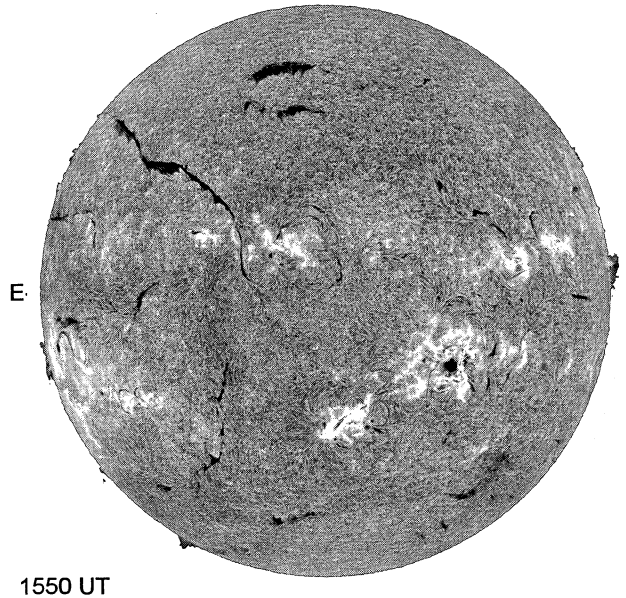
MT. WILSON MAGNETOGRAM



16.98 -
17.92 UT

White= +7.5G
Black = -7.5G

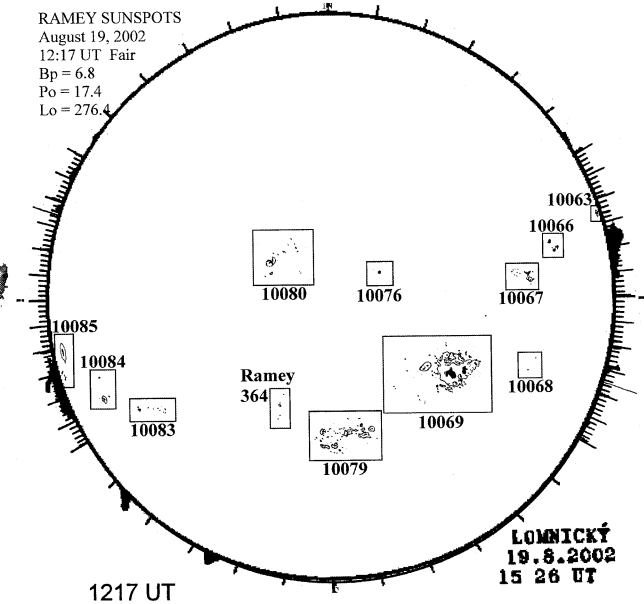
BIG BEAR H-ALPHA



1550 UT

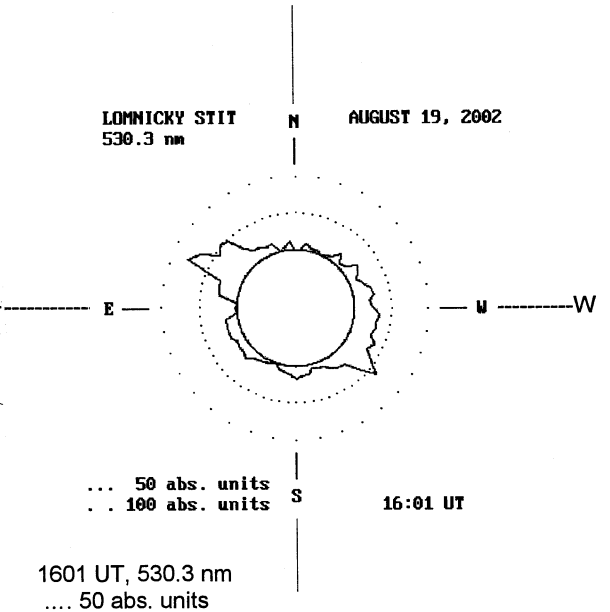
S

RAMEY SUNSPOT



1217 UT
1526 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)----

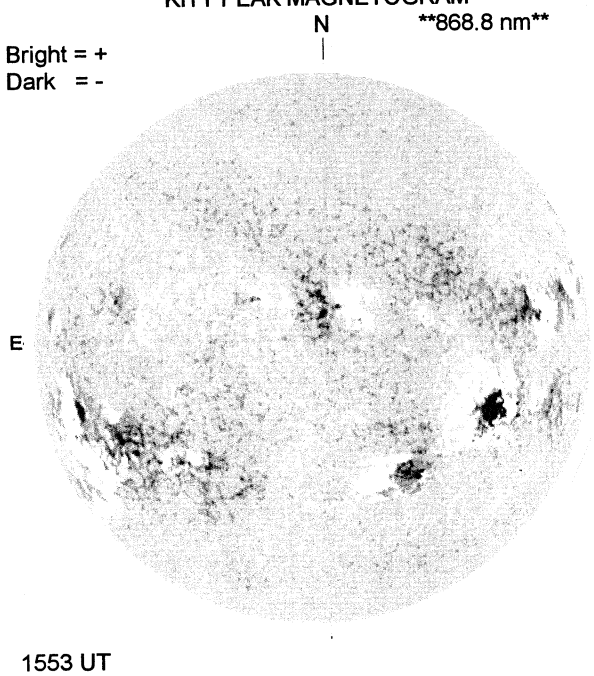


1601 UT, 530.3 nm
.... 50 abs. units
. . 100 abs. units

S

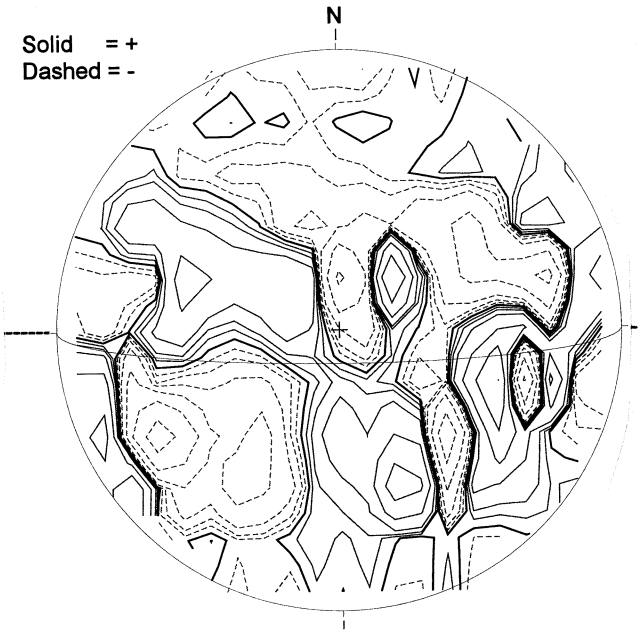
AUGUST 20, 2002 (P= 17.58, Bo = 6.86, Lo = 269.57)

KITT PEAK MAGNETOGRAM



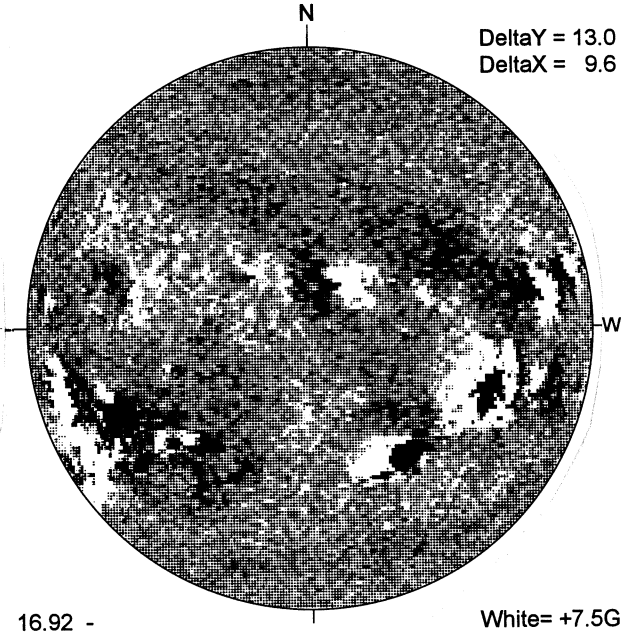
1553 UT

STANFORD MAGNETOGRAM



1857 UT

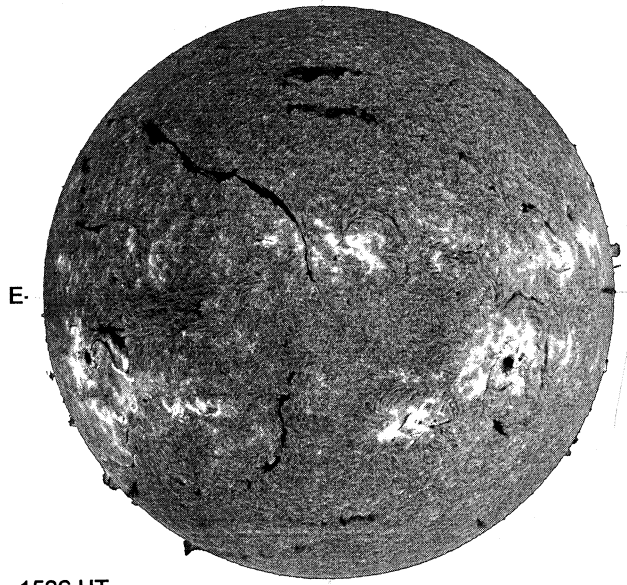
MT. WILSON MAGNETOGRAM



16.92 -
17.85 UT

White= +7.5G
Black = -7.5G

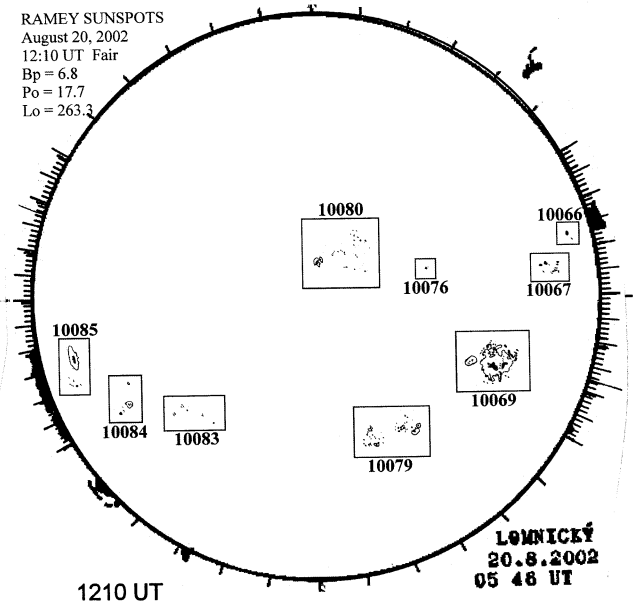
---- BIG BEAR H-ALPHA



1536 UT

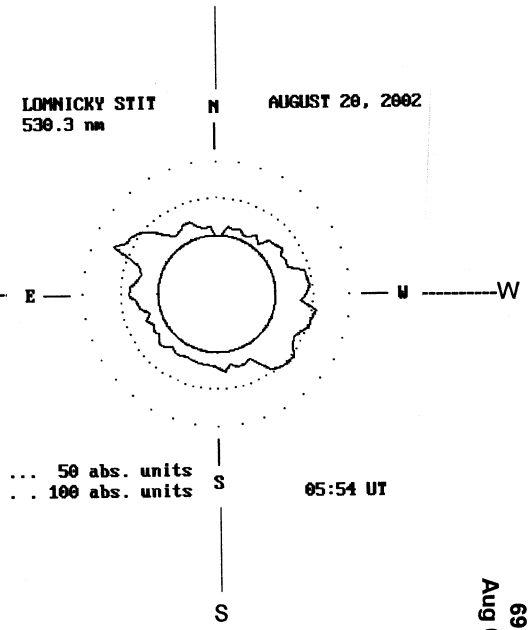
S

RAMEY SUNSPOT



1210 UT
0548 UT LOMN Prom S

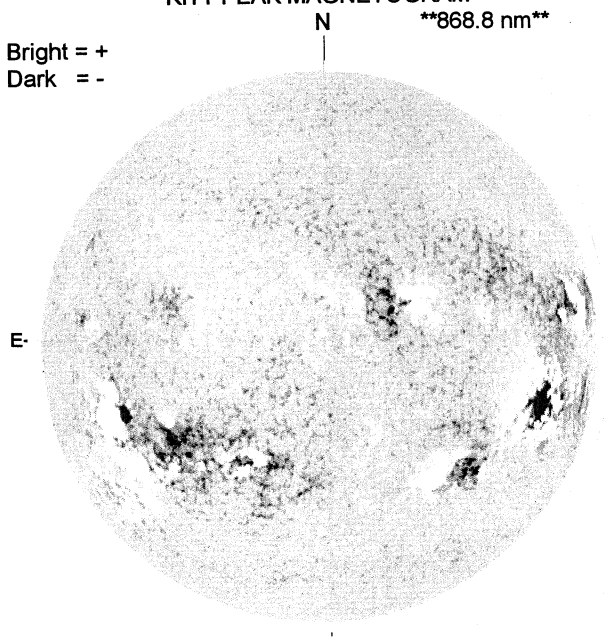
LOMNICKY PEAK CORONA (1.04 Radii)----



69
Aug 02

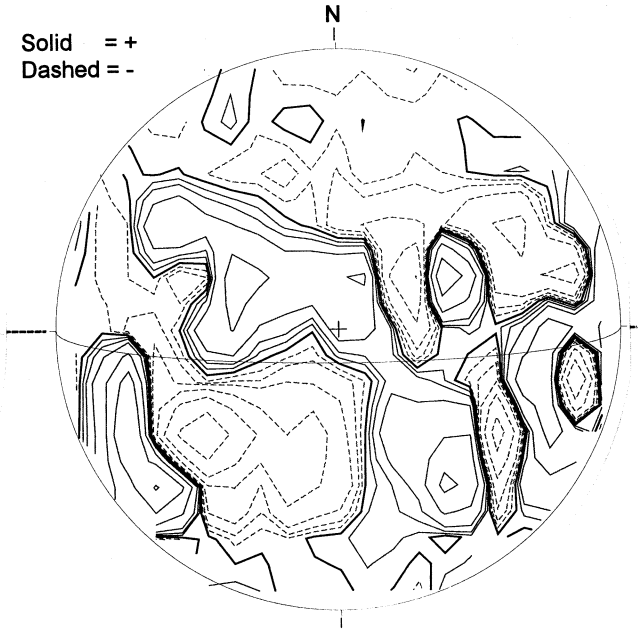
AUGUST 21, 2002 (P= 17.89, Bo = 6.89, Lo = 256.36)

KITT PEAK MAGNETOGRAM



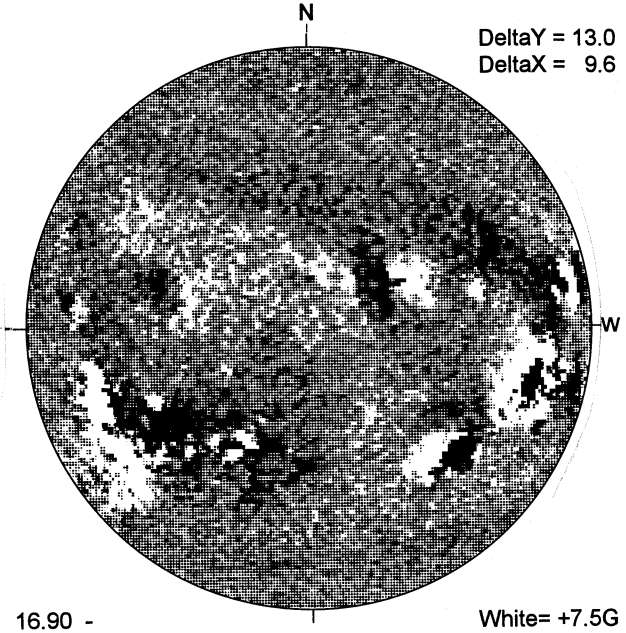
1550 UT

STANFORD MAGNETOGRAM



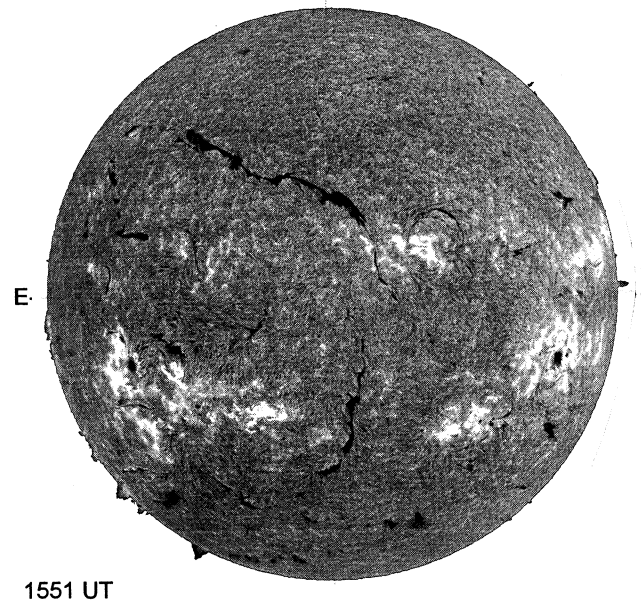
1925 UT

MT. WILSON MAGNETOGRAM



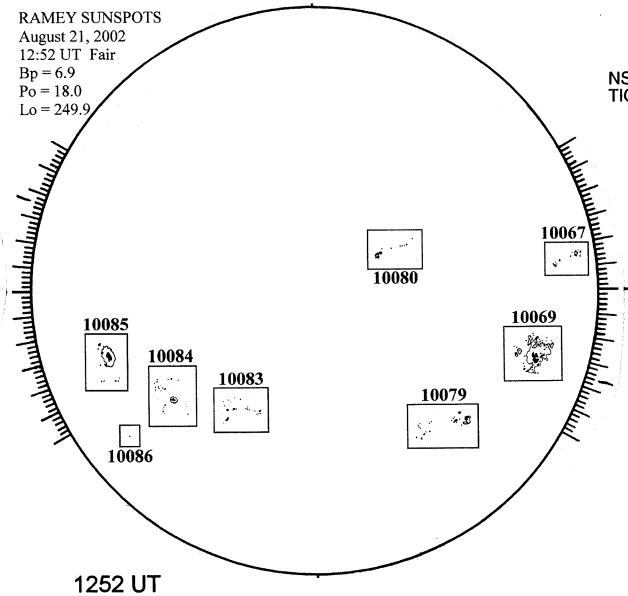
16.90 -
17.83 UT

BIG BEAR H-ALPHA



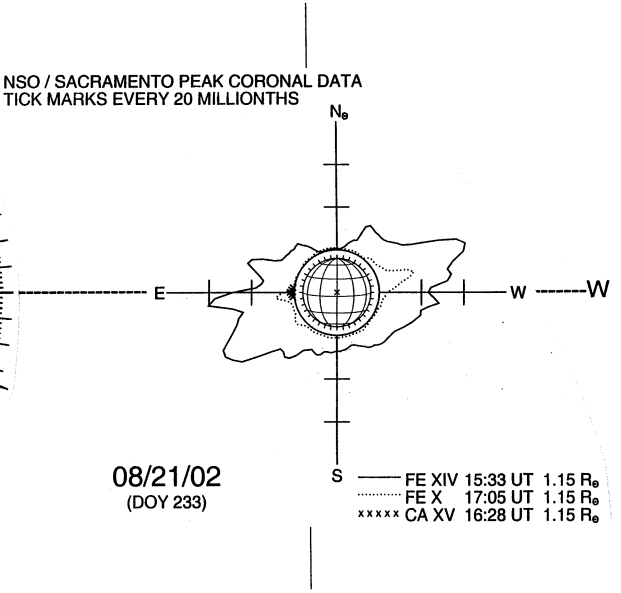
1551 UT

RAMEY SUNSPOT



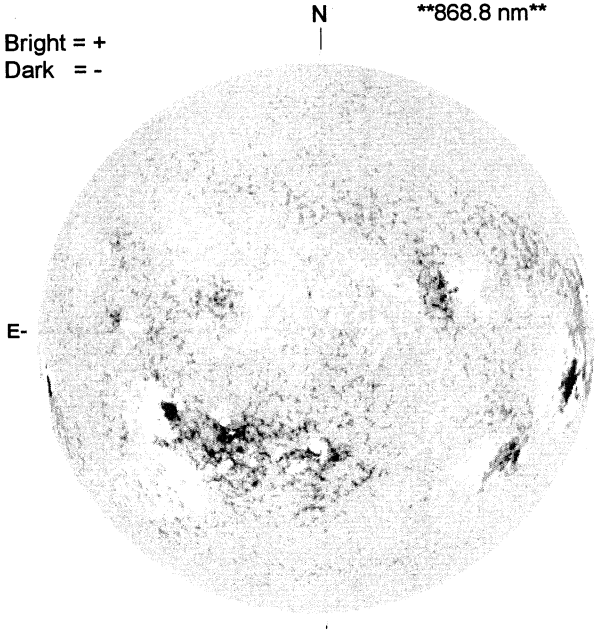
1252 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



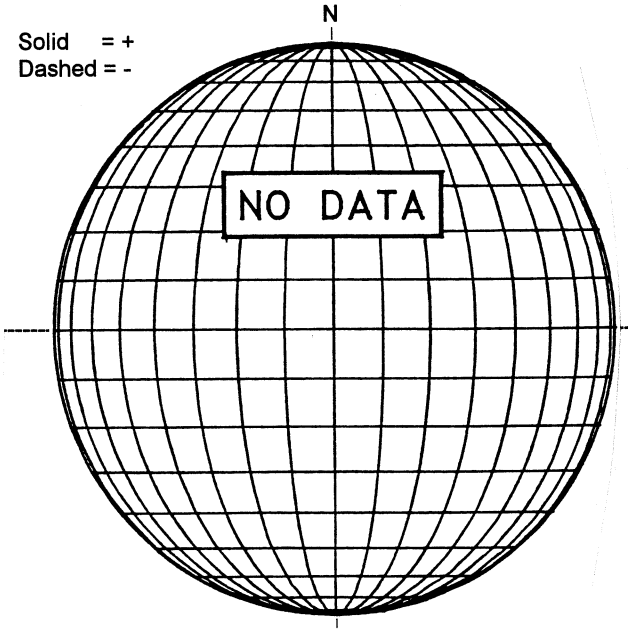
AUGUST 22, 2002 (P= 18.20, Bo = 6.93, Lo = 243.14)

KITT PEAK MAGNETOGRAM

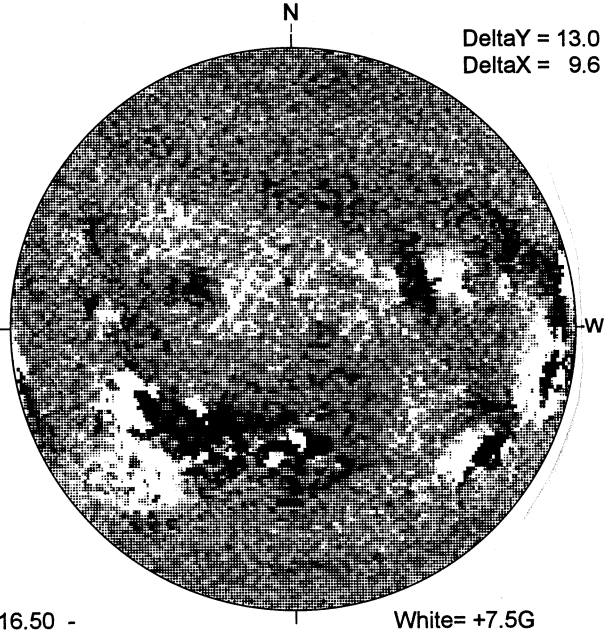


1538 UT

STANFORD MAGNETOGRAM



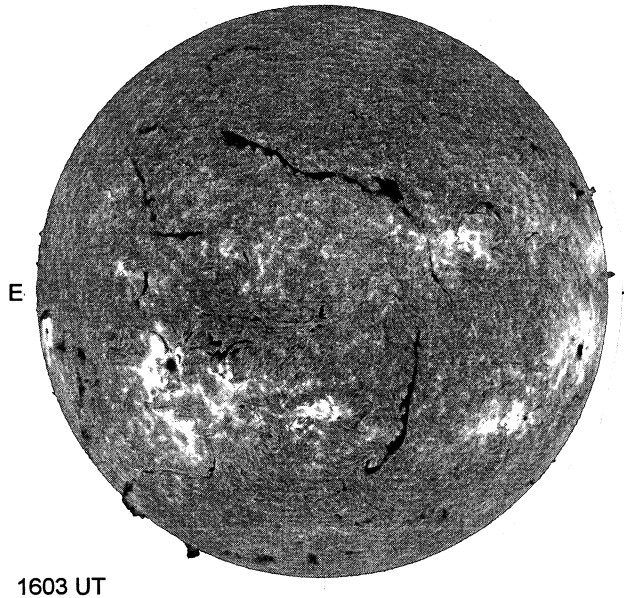
MT. WILSON MAGNETOGRAM



16.50 -
17.43 UT

White= +7.5G
Black = -7.5G

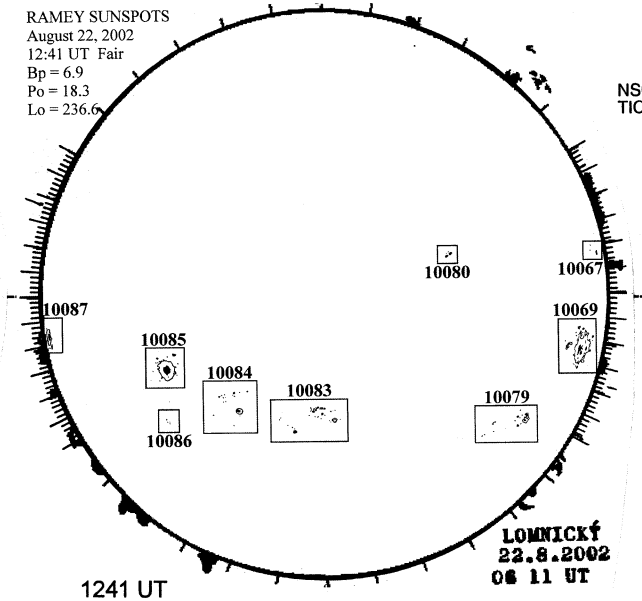
BIG BEAR H-ALPHA



1603 UT

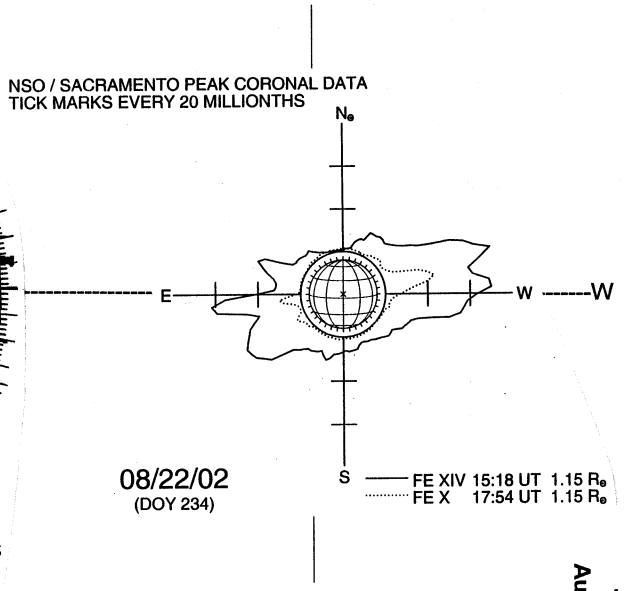
S

RAMEY SUNSPOT



1241 UT
0611 UT LOMN Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----

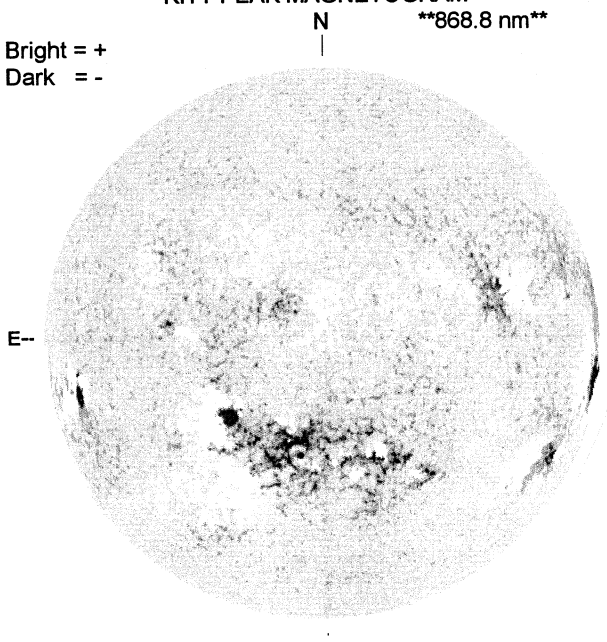


S

71
Aug 02

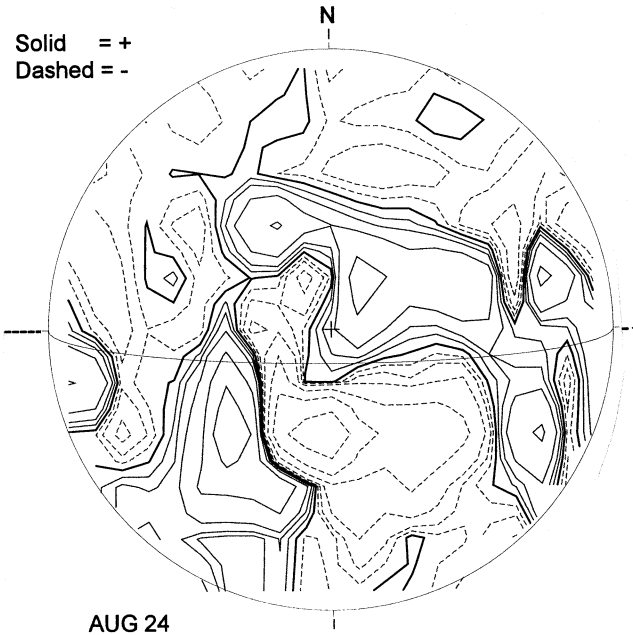
AUGUST 23, 2002 (P= 18.51, Bo = 6.97, Lo = 229.93)

KITT PEAK MAGNETOGRAM



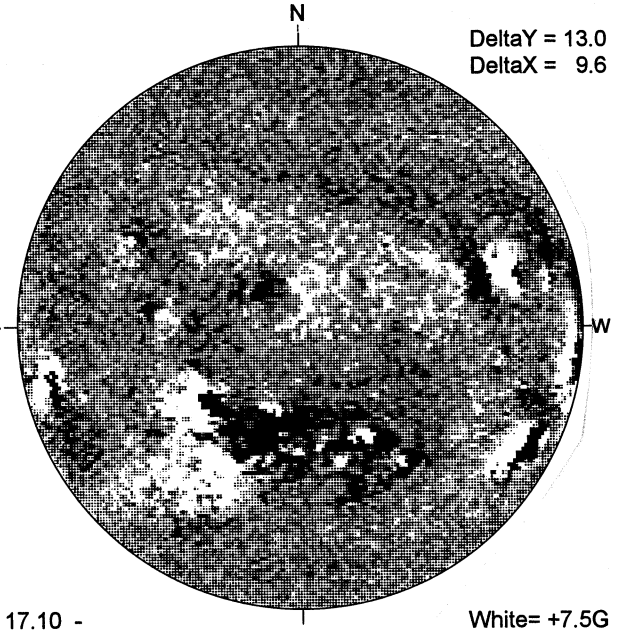
1416 UT

STANFORD MAGNETOGRAM



AUG 24
0008 UT

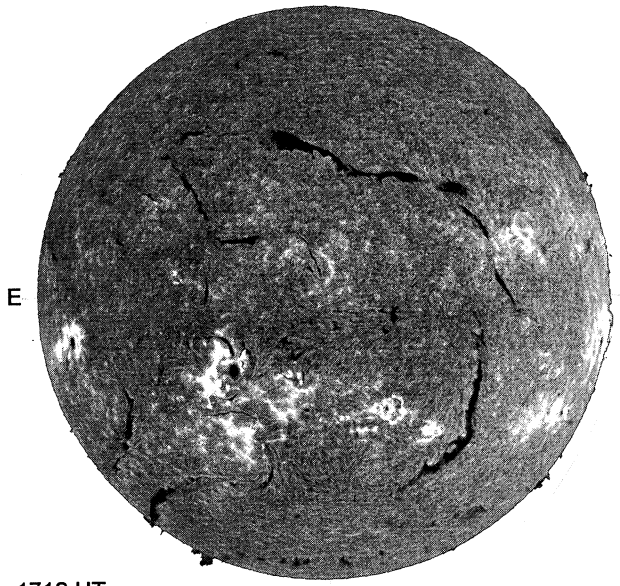
MT. WILSON MAGNETOGRAM



17.10 -
18.04 UT

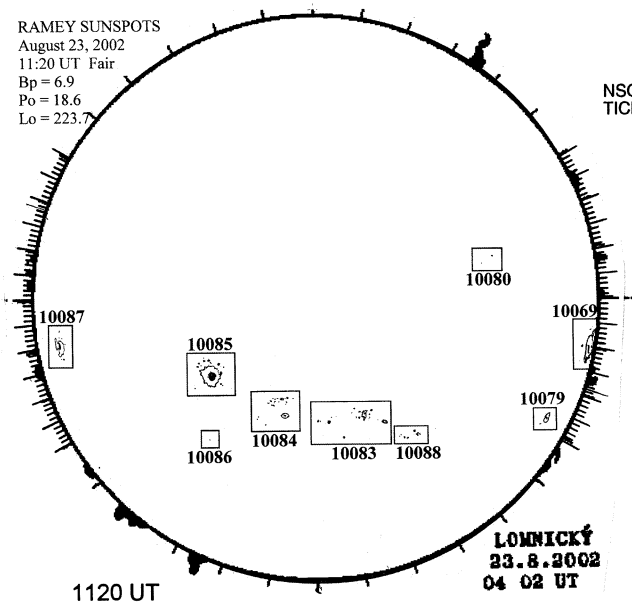
White= +7.5G
Black = -7.5G

BIG BEAR H-ALPHA



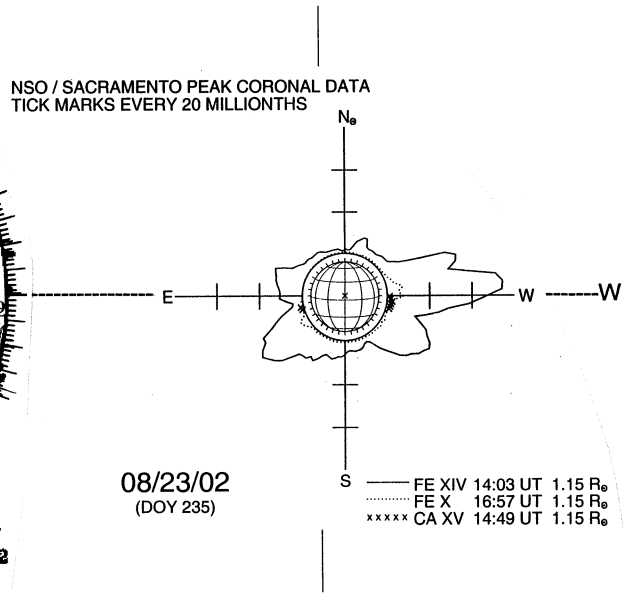
1718 UT

RAMEY SUNSPOT



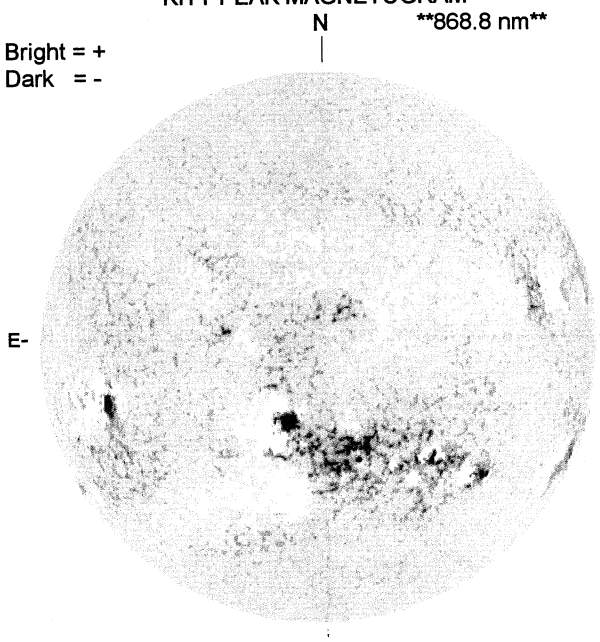
1120 UT
0402 UT LOMN Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----



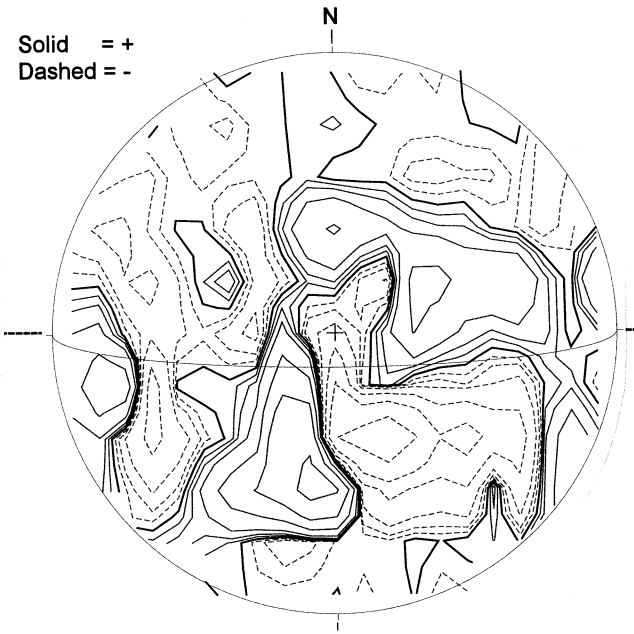
AUGUST 24, 2002 (P= 18.81, Bo = 7.00, Lo = 216.71)

KITT PEAK MAGNETOGRAM



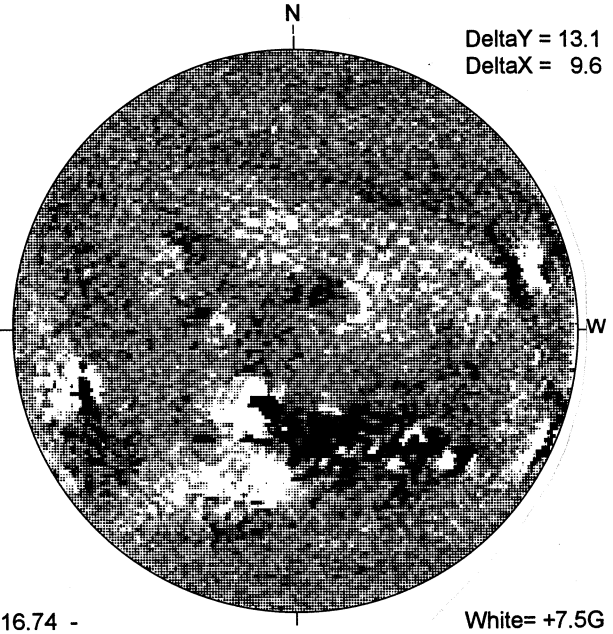
1513 UT

STANFORD MAGNETOGRAM



2300 UT

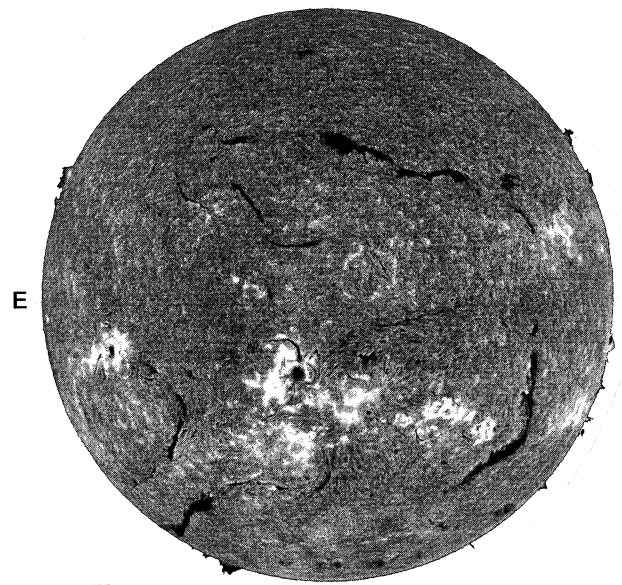
MT. WILSON MAGNETOGRAM



16.74 -
17.67 UT

White= +7.5G
Black = -7.5G

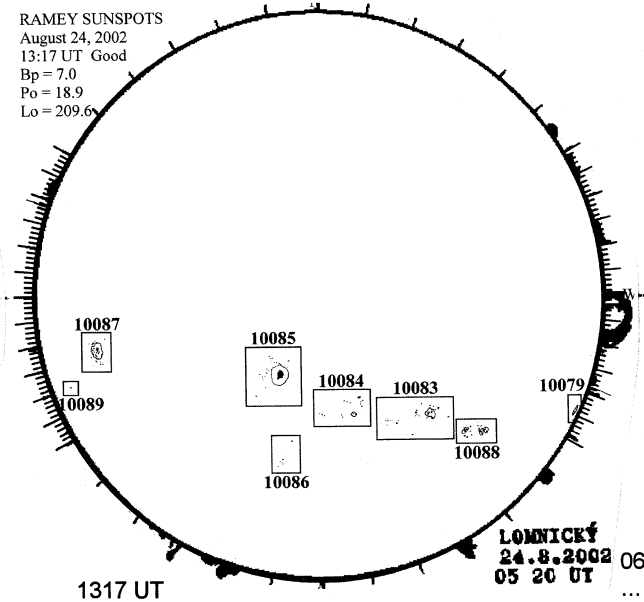
BIG BEAR H-ALPHA



1619 UT

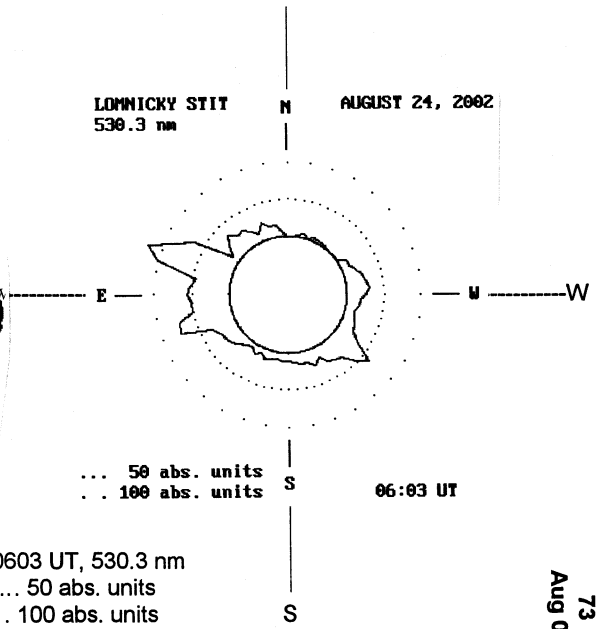
S

RAMEY SUNSPOT



1317 UT
0520 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)

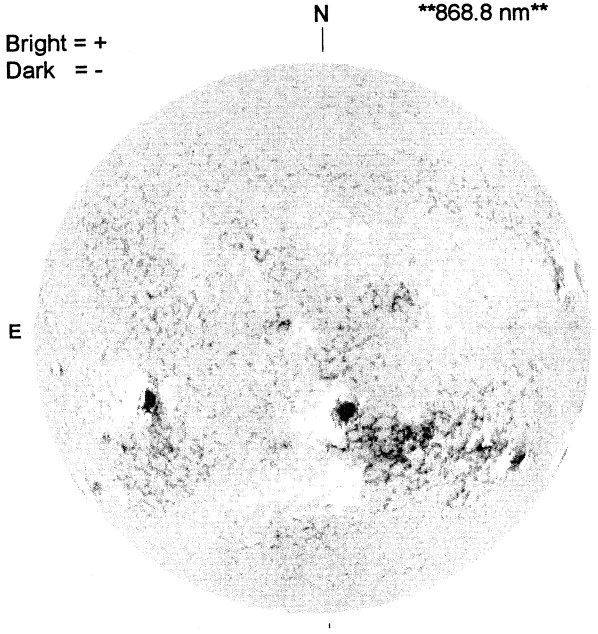


0603 UT, 530.3 nm
.... 50 abs. units
. . 100 abs. units

73
Aug 02

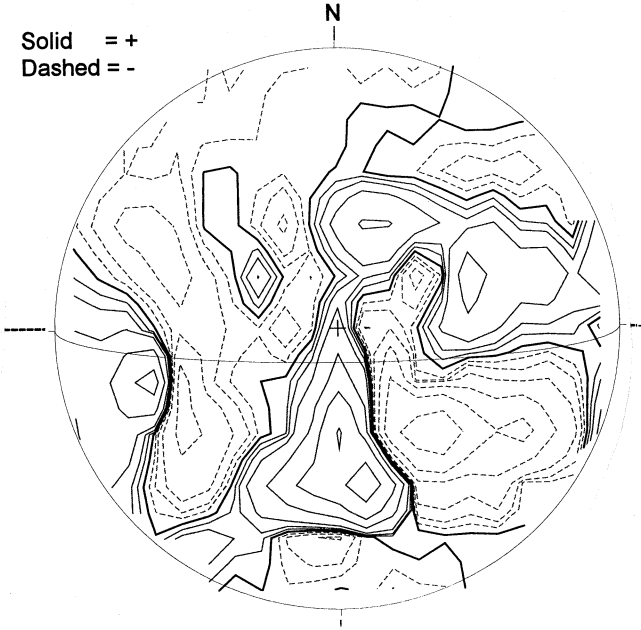
AUGUST 25, 2002 (P= 19.10, Bo = 7.03, Lo = 203.50)

KITT PEAK MAGNETOGRAM



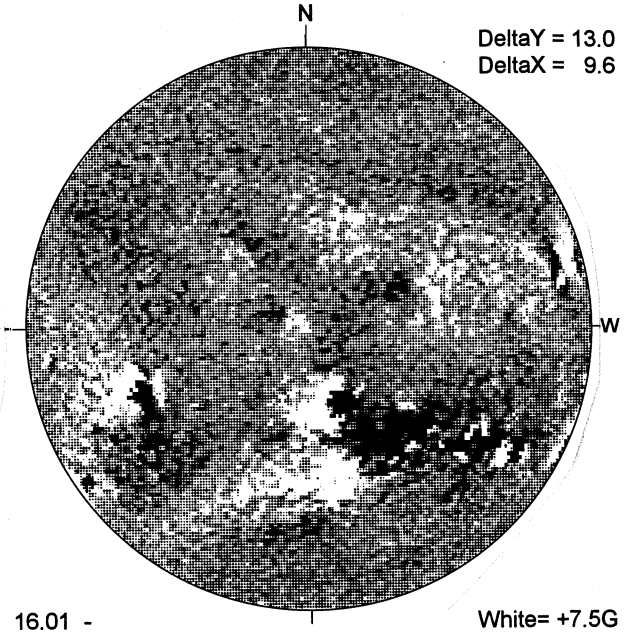
1602 UT

STANFORD MAGNETOGRAM



1757 UT

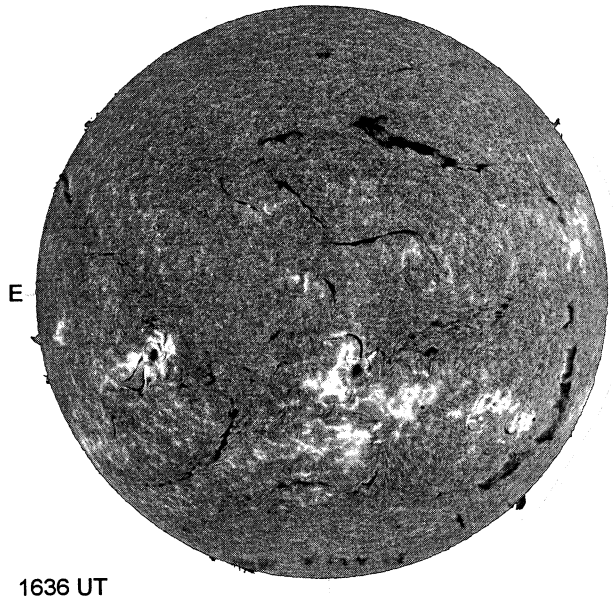
MT. WILSON MAGNETOGRAM



16.01 -
16.94 UT

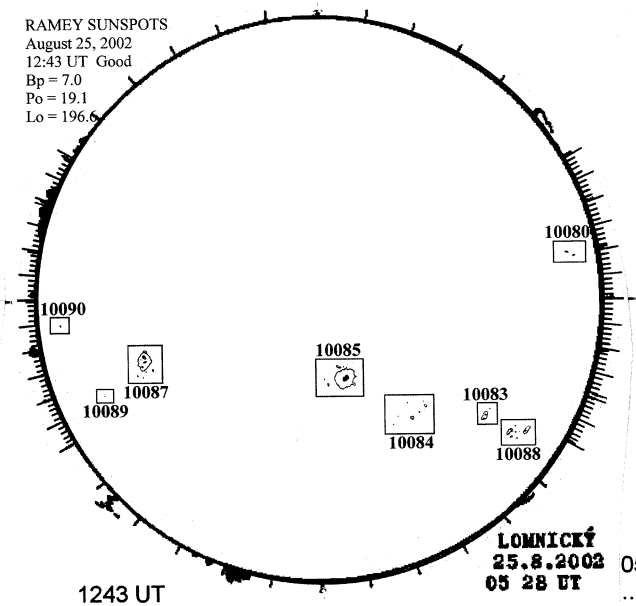
White= +7.5G
Black = -7.5G

BIG BEAR H-ALPHA



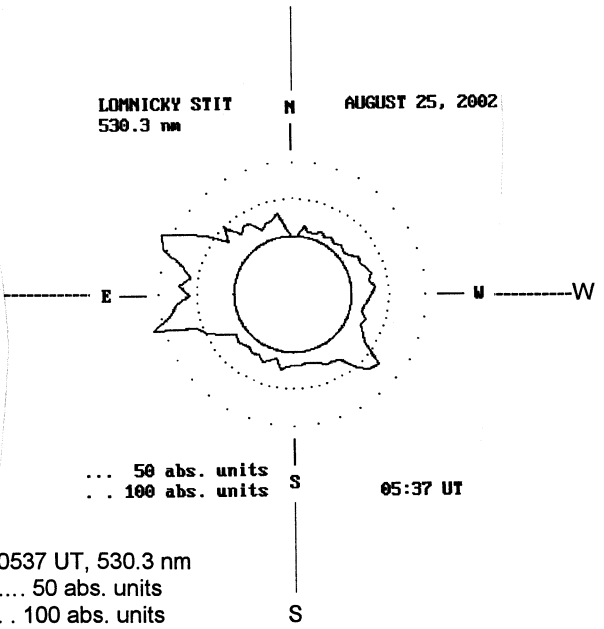
1636 UT

RAMEY SUNSPOT



1243 UT
0528 UT LOMN Prom S

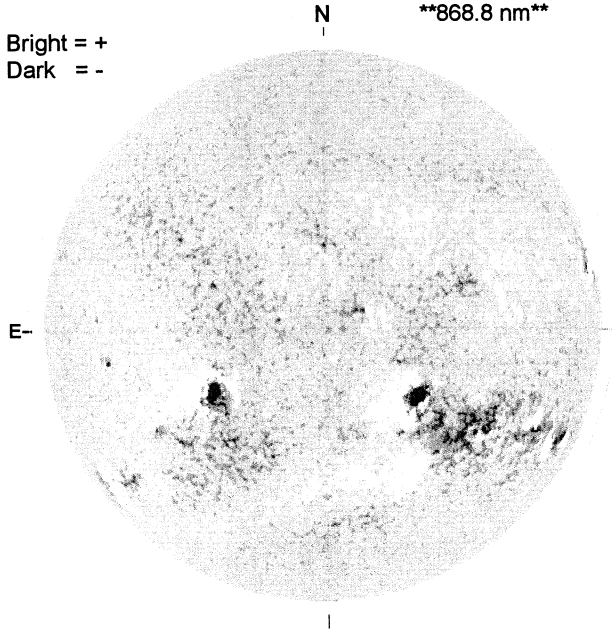
LOMNICKY PEAK CORONA (1.04 Radii)----



0537 UT, 530.3 nm
.... 50 abs. units
. . 100 abs. units

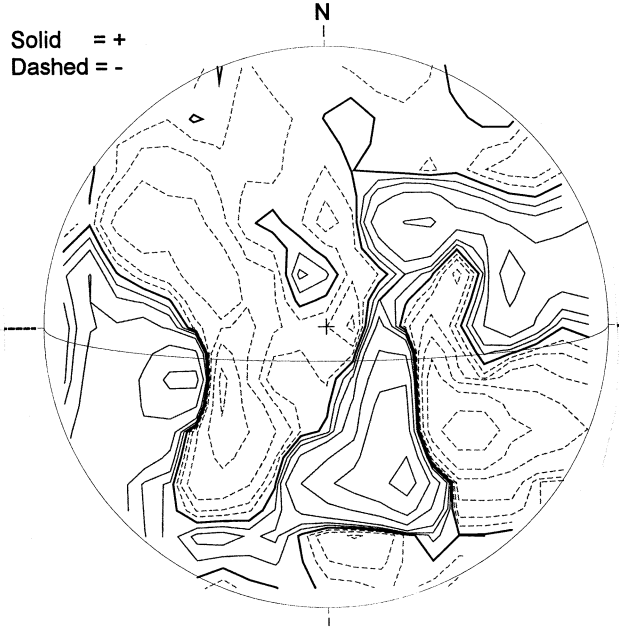
AUGUST 26, 2002 (P= 19.39, Bo = 7.06, Lo = 190.29)

KITT PEAK MAGNETOGRAM



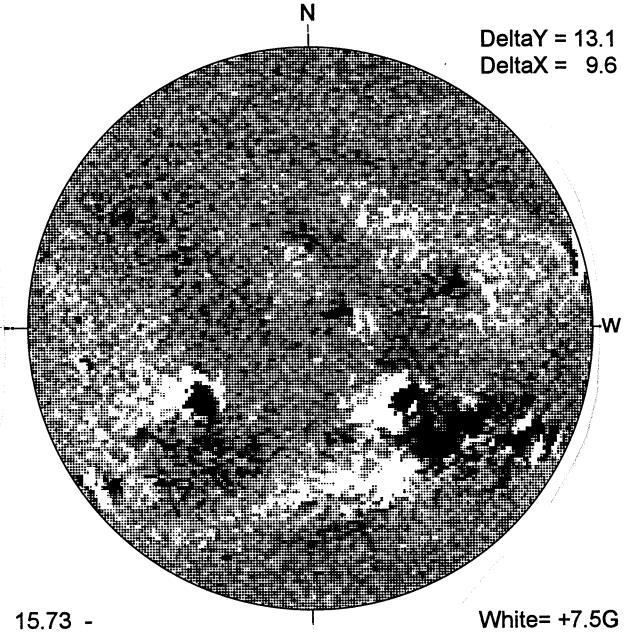
1600 UT

STANFORD MAGNETOGRAM



1650 UT

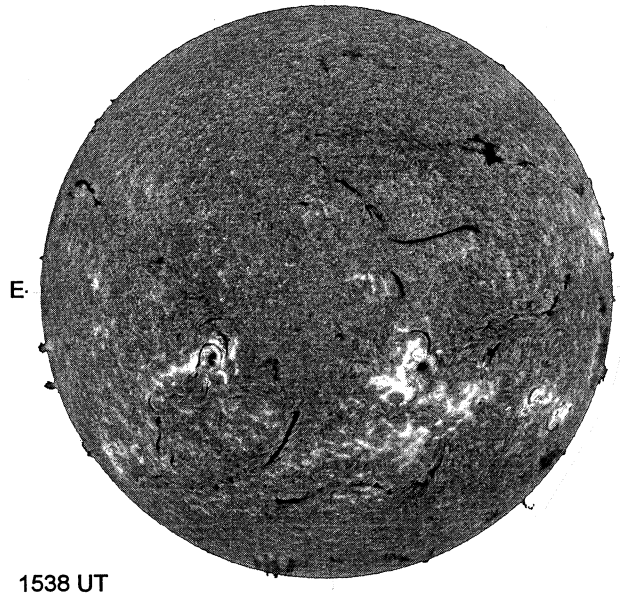
MT. WILSON MAGNETOGRAM



15.73 -
16.67 UT

White= +7.5G
Black = -7.5G

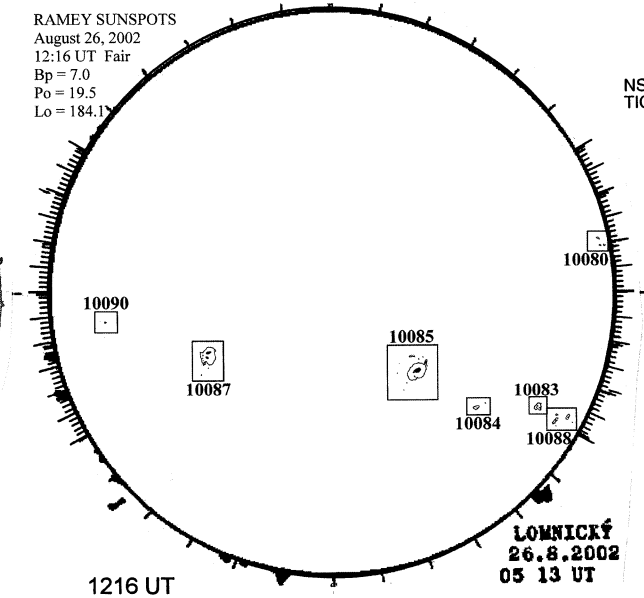
BIG BEAR H-ALPHA



1538 UT

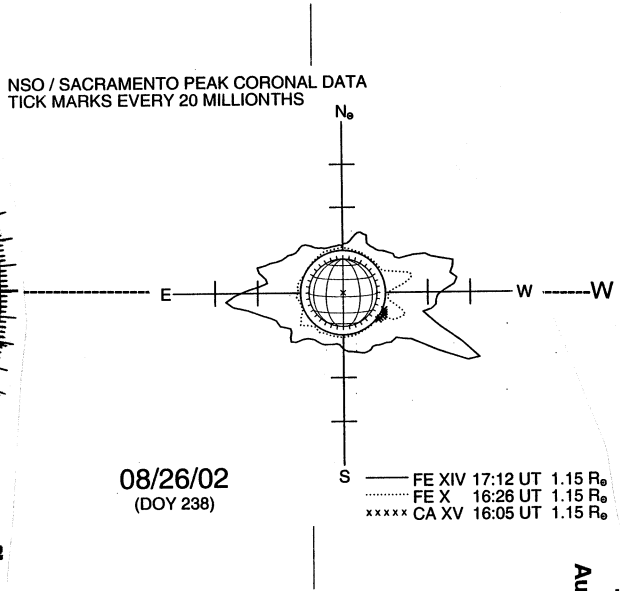
S

RAMEY SUNSPOT



1216 UT
0513 UT LOMN Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----



S

75
Aug 02

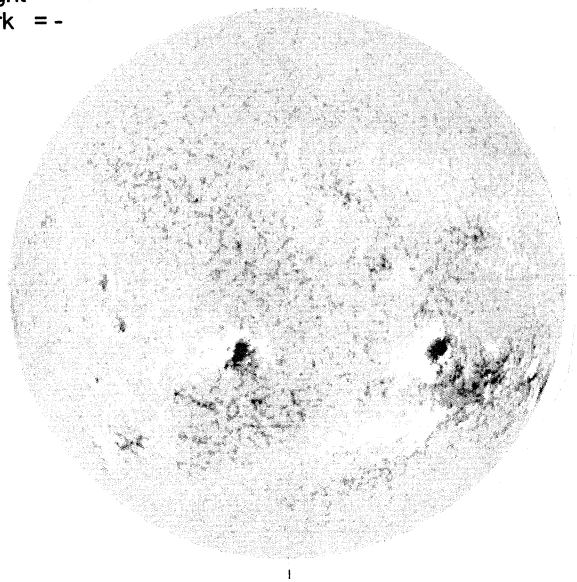
AUGUST 27, 2002 (P= 19.67, Bo = 7.09, Lo = 177.07)

KITT PEAK MAGNETOGRAM

N

868.8 nm

Bright = +
Dark = -



E--

1605 UT

STANFORD MAGNETOGRAM

N

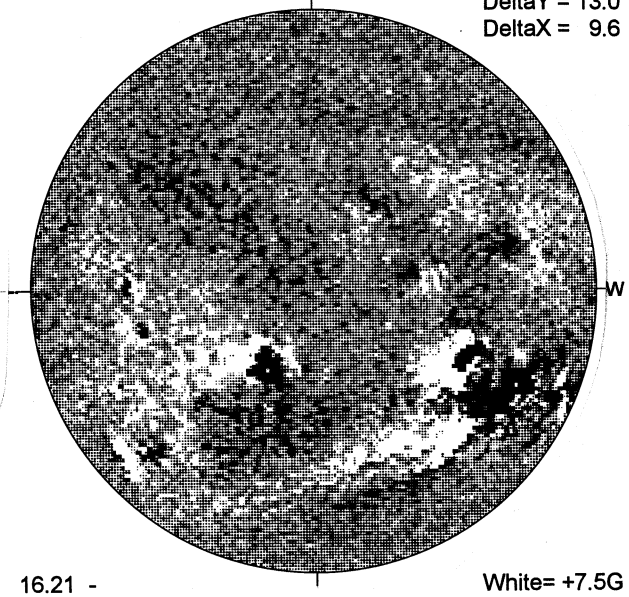
Solid = +
Dashed = -

1755 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 13.0
DeltaX = 9.6

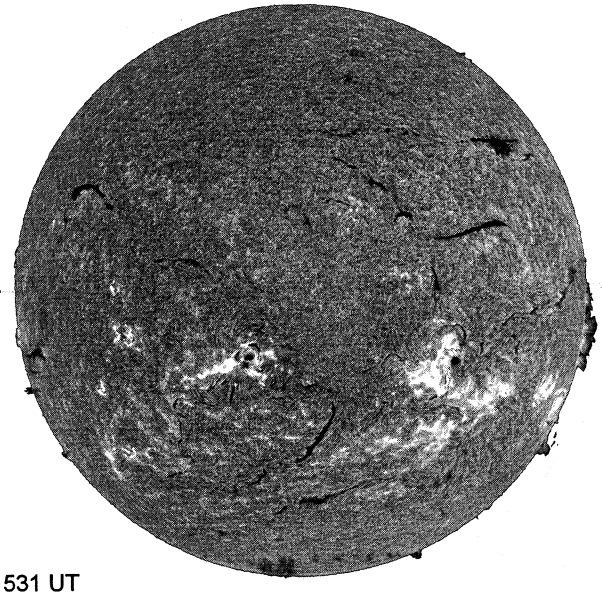


W

16.21 -
17.15 UT

White= +7.5G
Black = -7.5G

BIG BEAR H-ALPHA



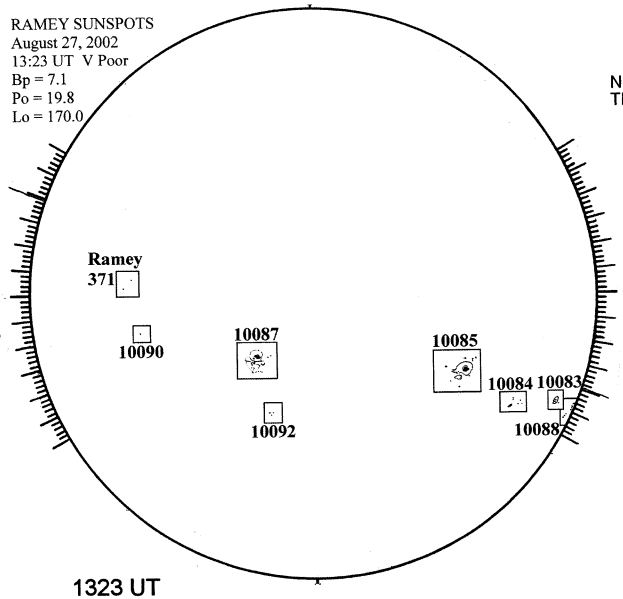
E-

1531 UT

S

RAMEY SUNSPOT

RAMEY SUNSPOTS
August 27, 2002
13:23 UT V Poor
Bp = 7.1
Po = 19.8
Lo = 170.0

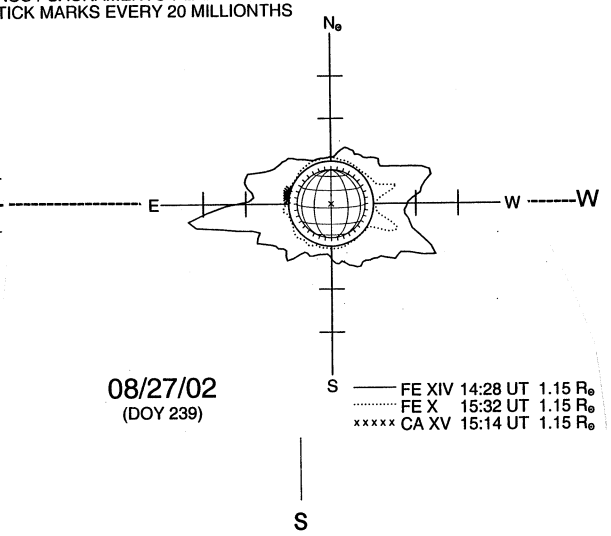


1323 UT

S

SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS



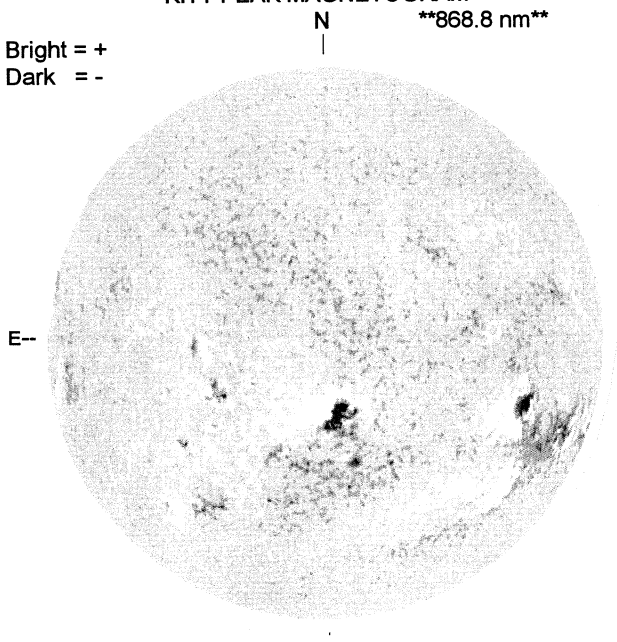
08/27/02
(DOY 239)

FE XIV 14:28 UT 1.15 Re
FE X 15:32 UT 1.15 Re
xxxxx CA XV 15:14 UT 1.15 Re

S

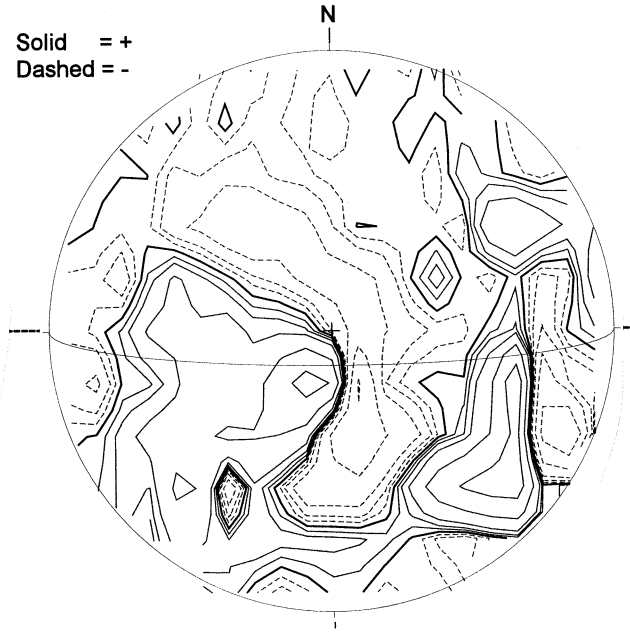
AUGUST 28, 2002 (P= 19.95, Bo = 7.11, Lo = 163.86)

KITT PEAK MAGNETOGRAM



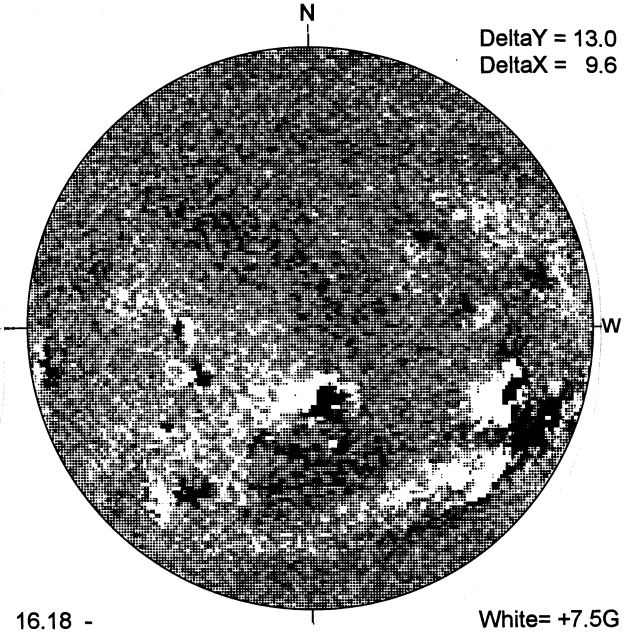
1507 UT

STANFORD MAGNETOGRAM



1835 UT

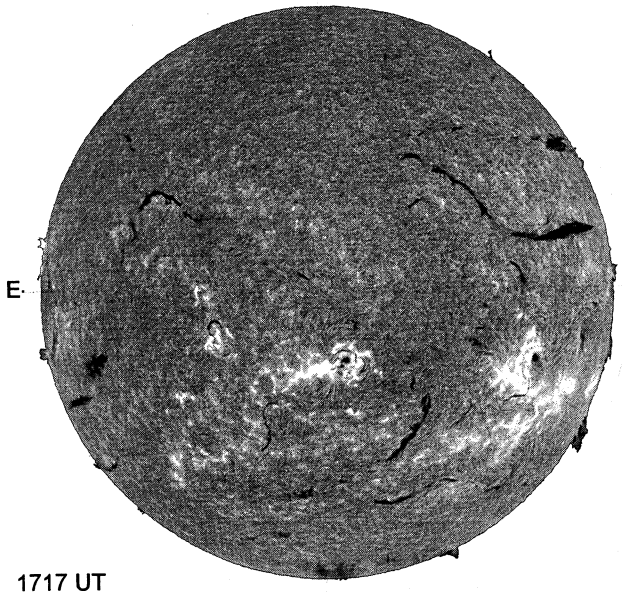
MT. WILSON MAGNETOGRAM



16.18 -
17.12 UT

White= +7.5G
Black = -7.5G

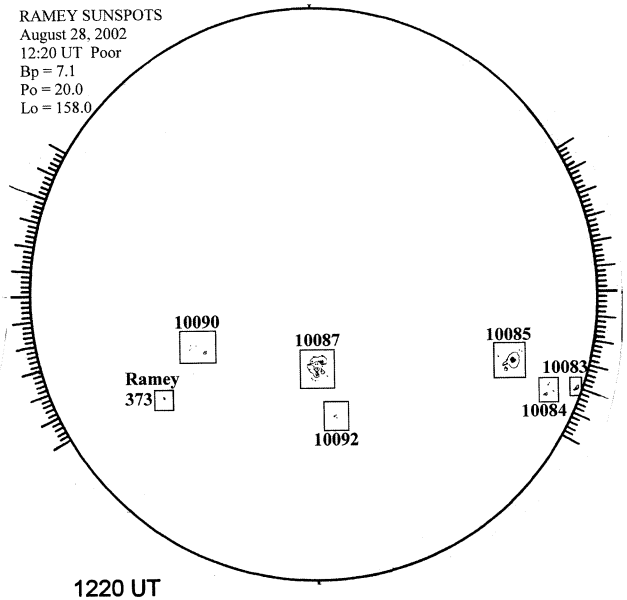
BIG BEAR H-ALPHA



1717 UT

S

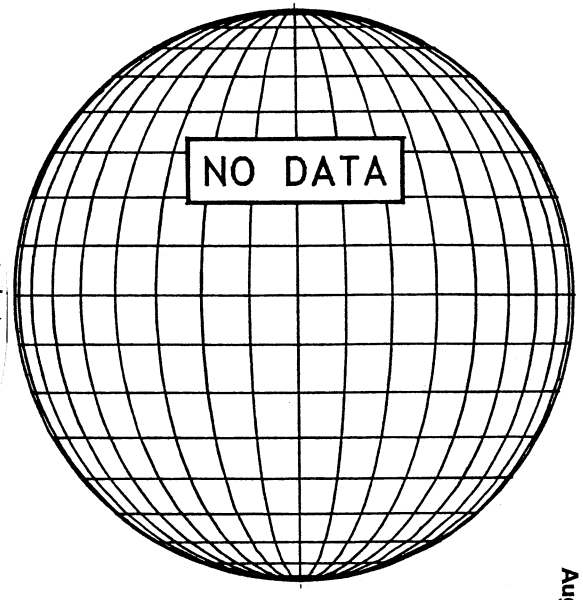
RAMEY SUNSPOT



1220 UT

S

SACRAMENTO PEAK CORONA (1.15 Radii)----

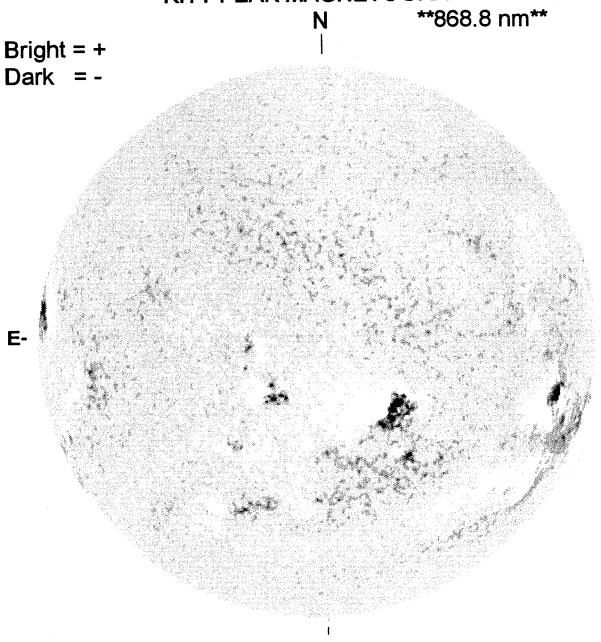


S

77
Aug 02

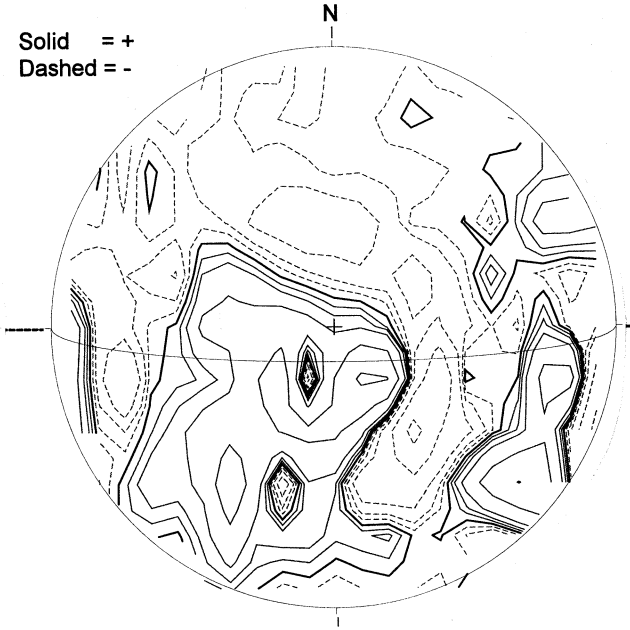
AUGUST 29, 2002 (P= 20.23 Bo = 7.13, Lo = 150.65)

KITT PEAK MAGNETOGRAM



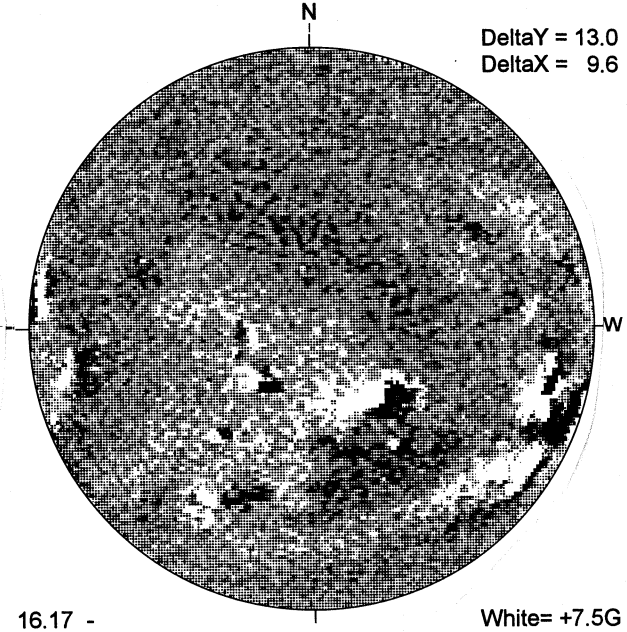
1549 UT

STANFORD MAGNETOGRAM



1815 UT

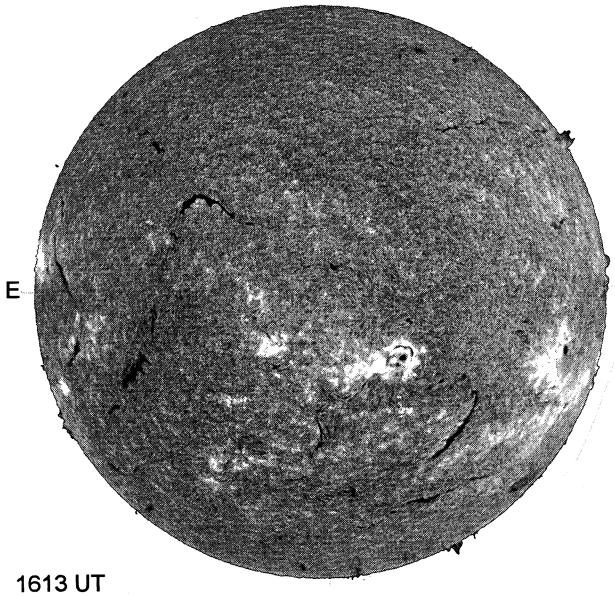
MT. WILSON MAGNETOGRAM



16.17 -
17.11 UT

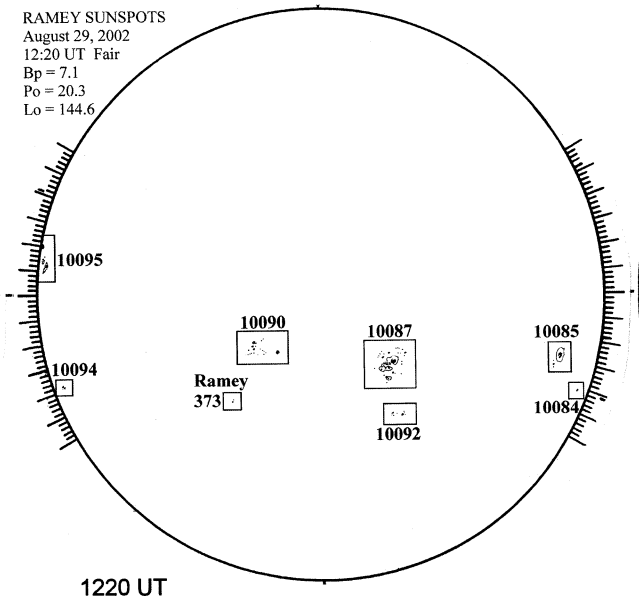
White= +7.5G
Black = -7.5G

BIG BEAR H-ALPHA



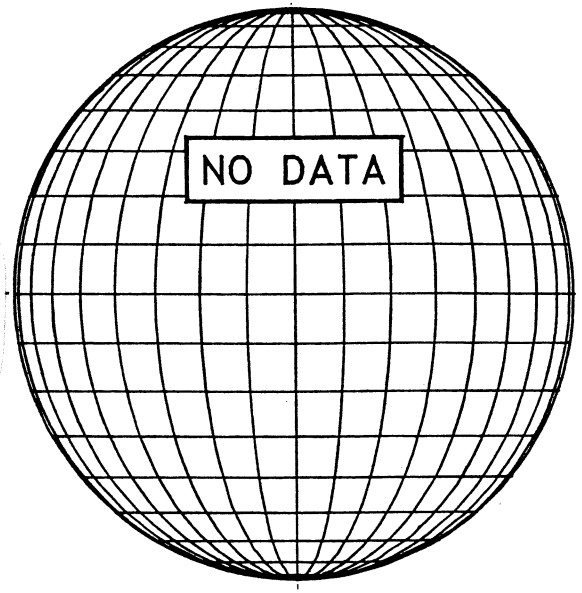
1613 UT

RAMEY SUNSPOT



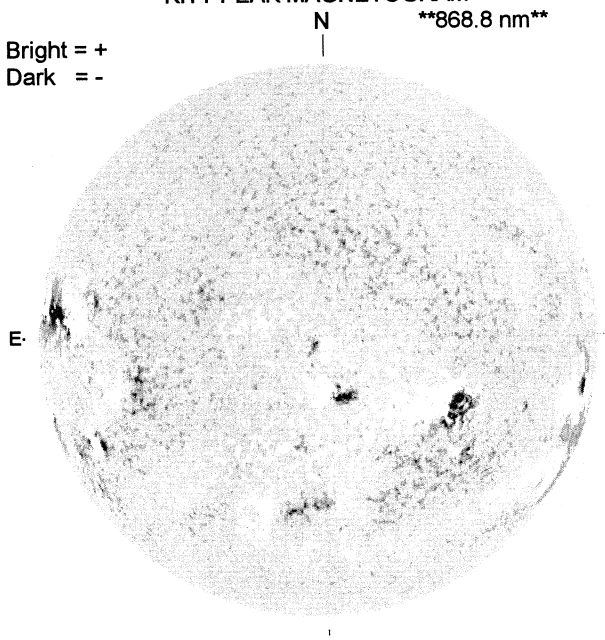
1220 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



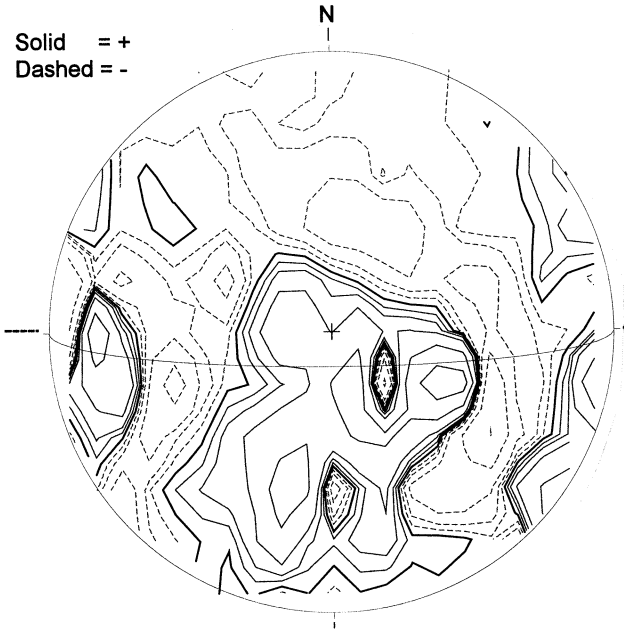
AUGUST 30, 2002 (P= 20.50, Bo = 7.16, Lo = 137.44)

KITT PEAK MAGNETOGRAM



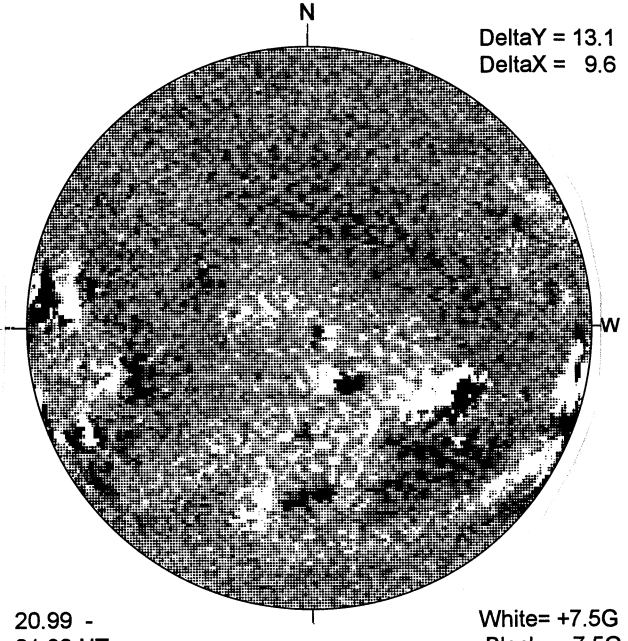
1544 UT

STANFORD MAGNETOGRAM



2130 UT

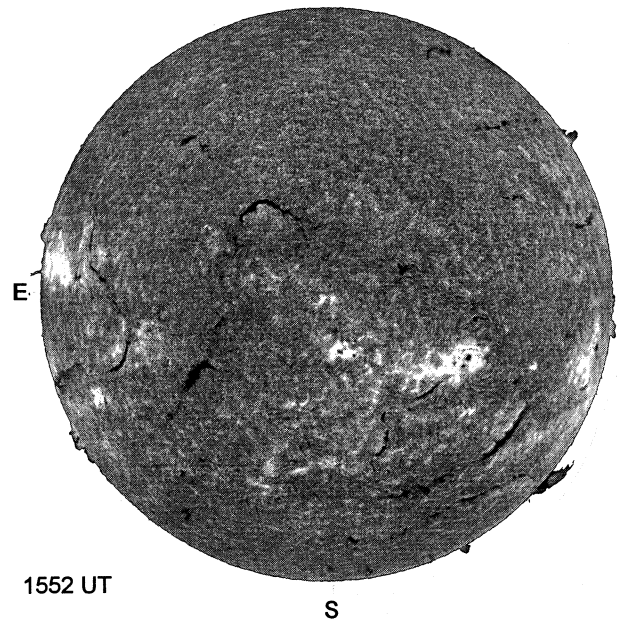
MT. WILSON MAGNETOGRAM



20.99 -
21.93 UT

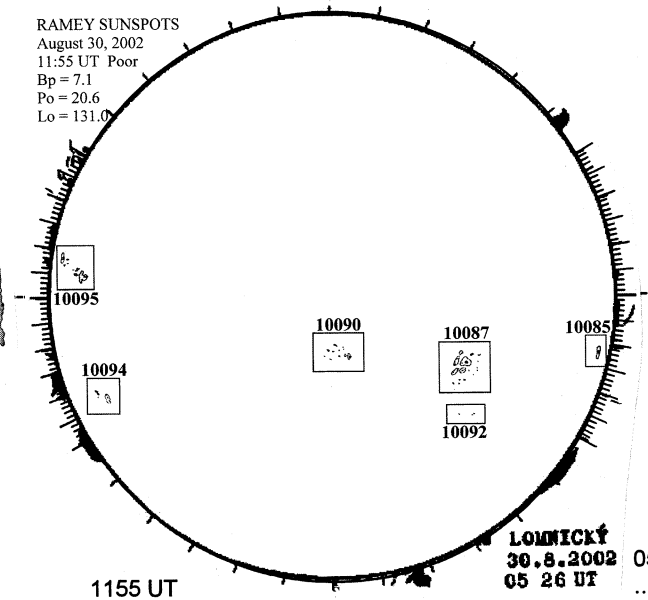
White= +7.5G
Black = -7.5G

BIG BEAR H-ALPHA



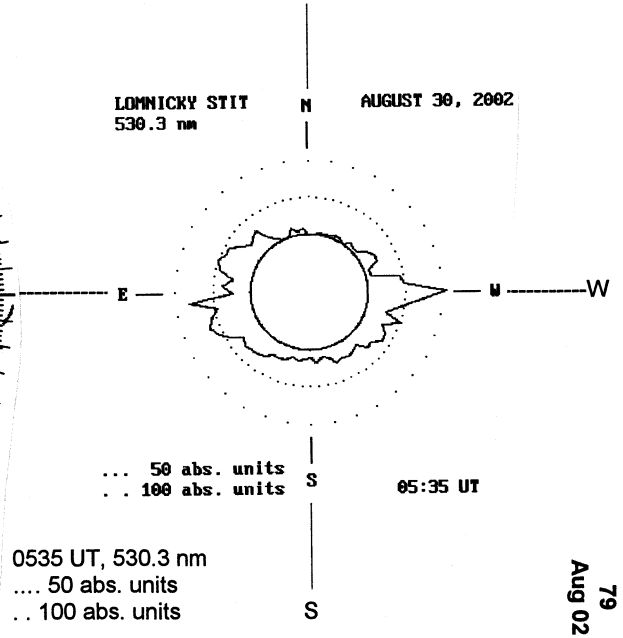
1552 UT

RAMEY SUNSPOT



1155 UT
0526 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)----

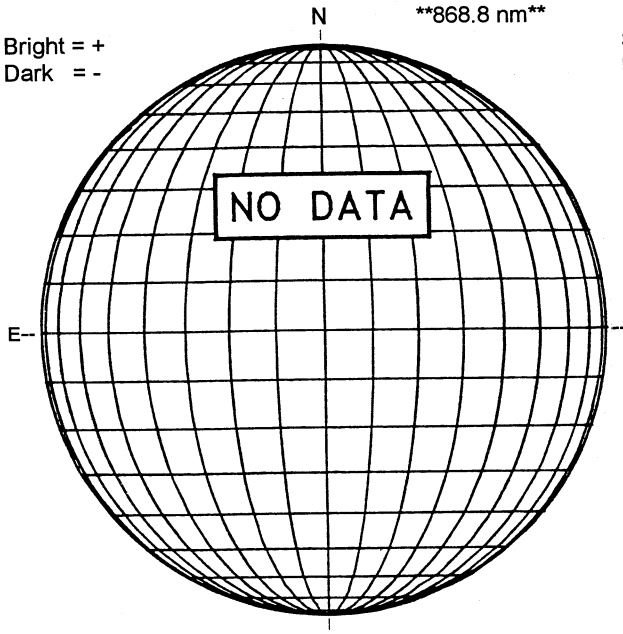


0535 UT, 530.3 nm
.... 50 abs. units
. . 100 abs. units

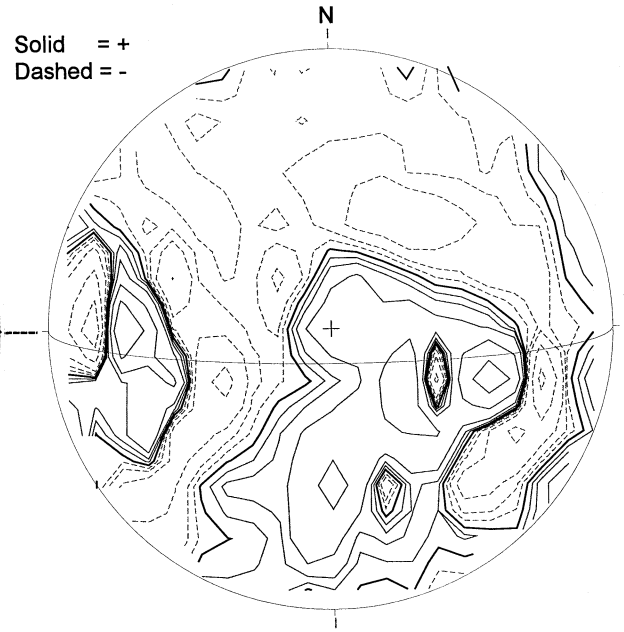
79
Aug 02

AUGUST 31, 2002 (P= 20.76, Bo = 7.17, Lo = 124.23)

KITT PEAK MAGNETOGRAM

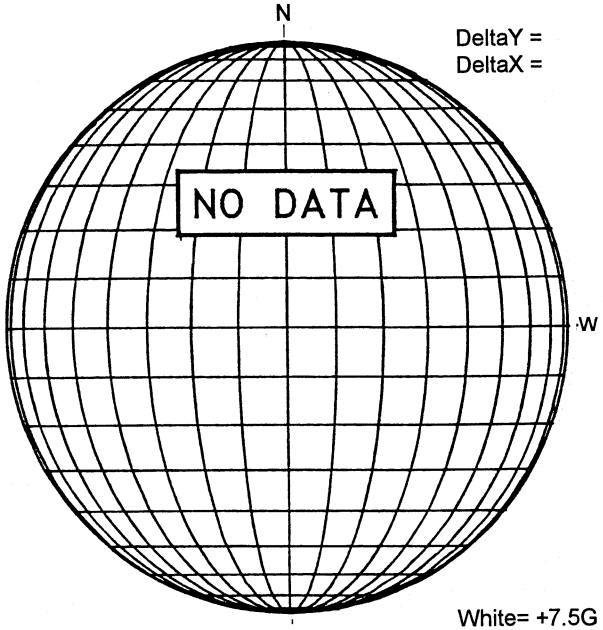


STANFORD MAGNETOGRAM



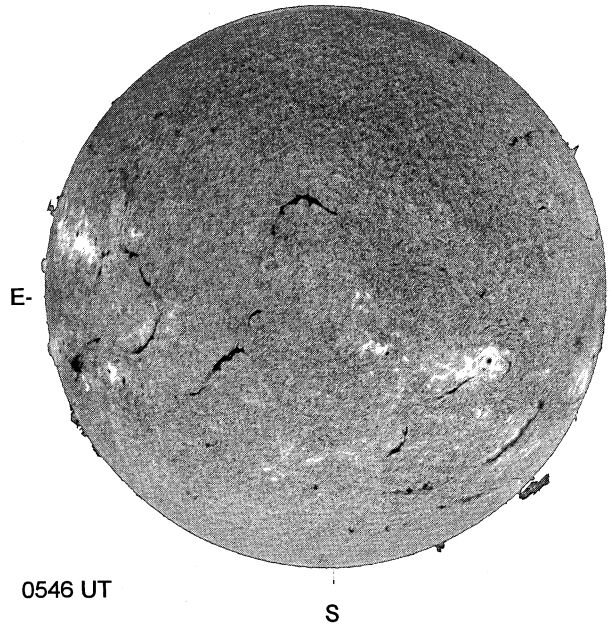
1818 UT

MT. WILSON MAGNETOGRAM



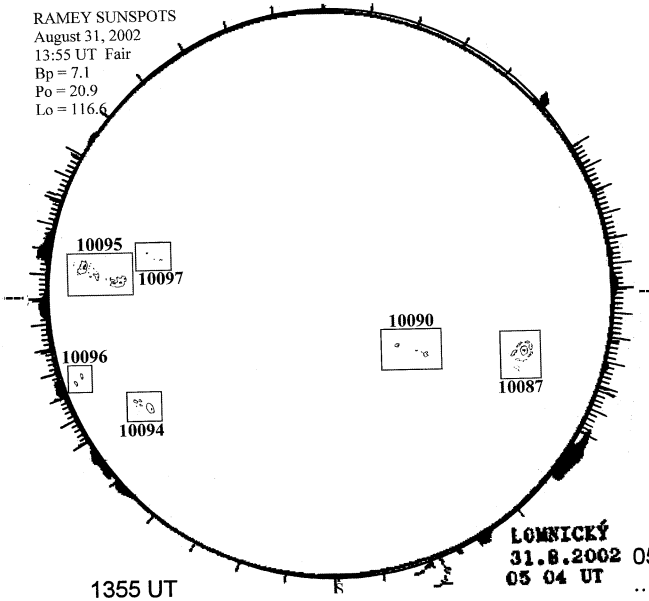
White= +7.5G
Black = -7.5G

KANZELHOEHE H-ALPHA



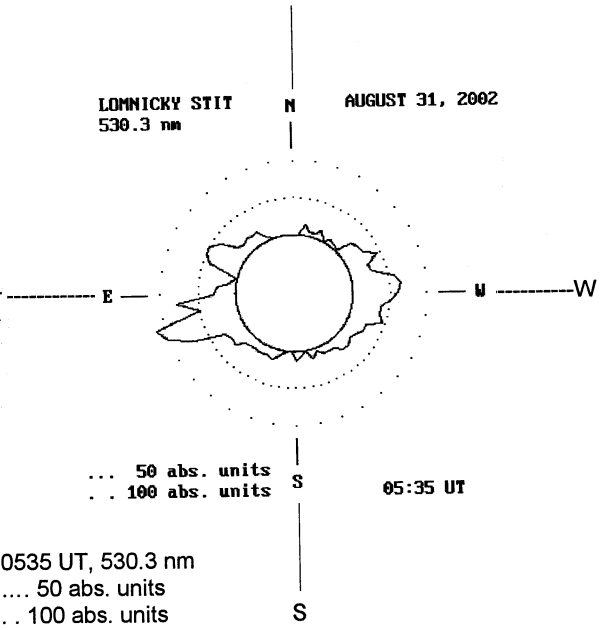
0546 UT

RAMEY SUNSPOT



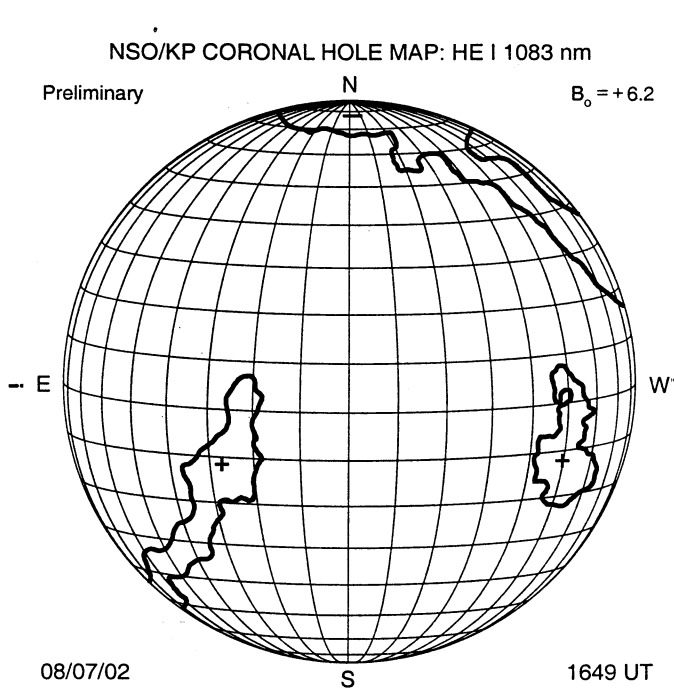
1355 UT
0504 UT LOMN Prom

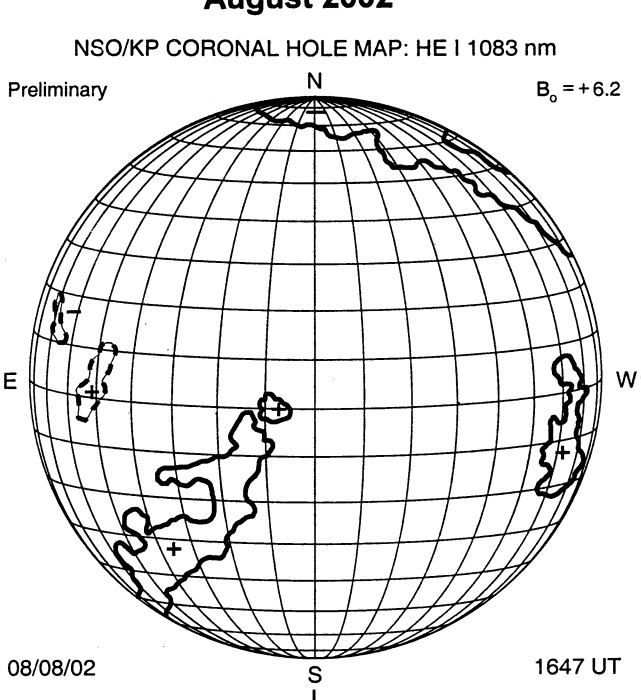
LOMNICKY PEAK CORONA (1.04 Radii)----

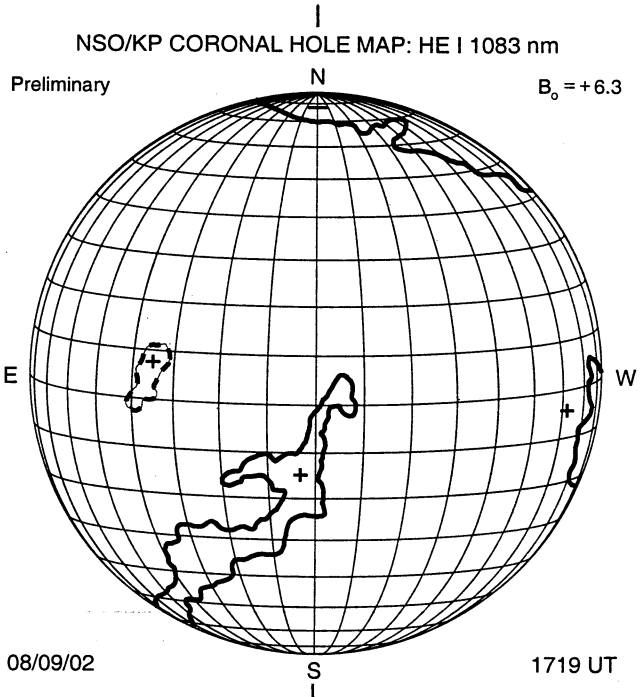


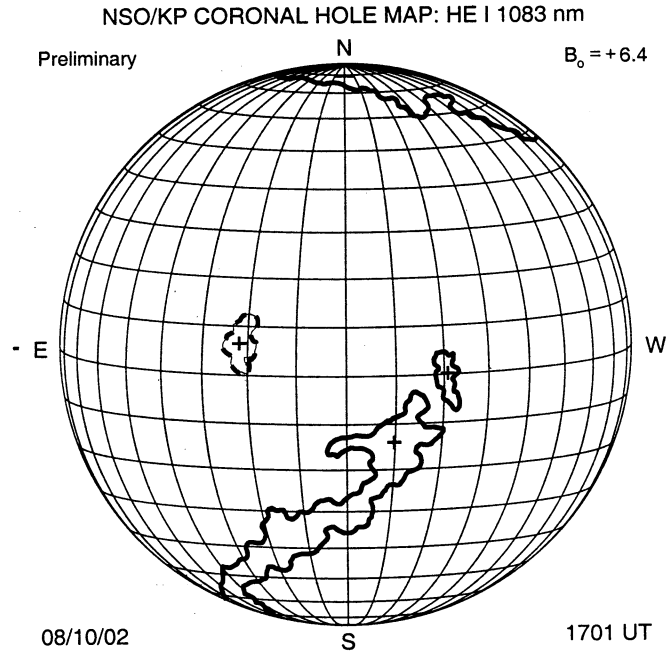
0535 UT, 530.3 nm
.... 50 abs. units
. . 100 abs. units

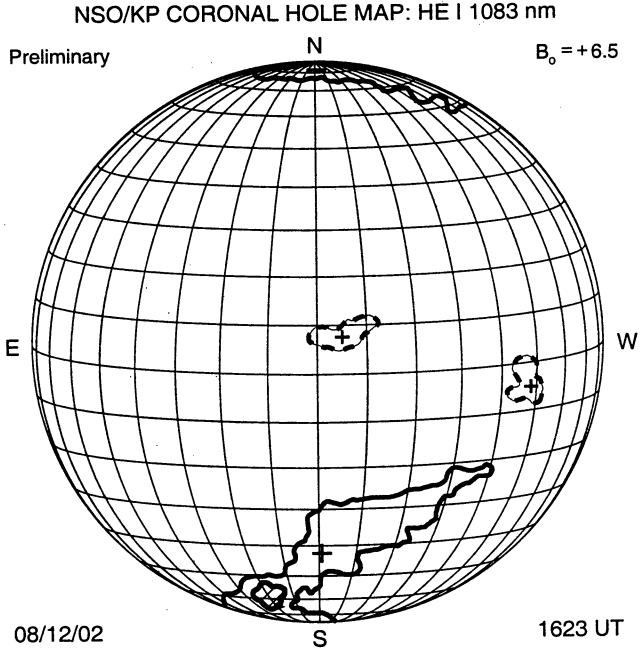
KITT PEAK CORONAL HOLE MAPS HE I 1083 nm
August 2002

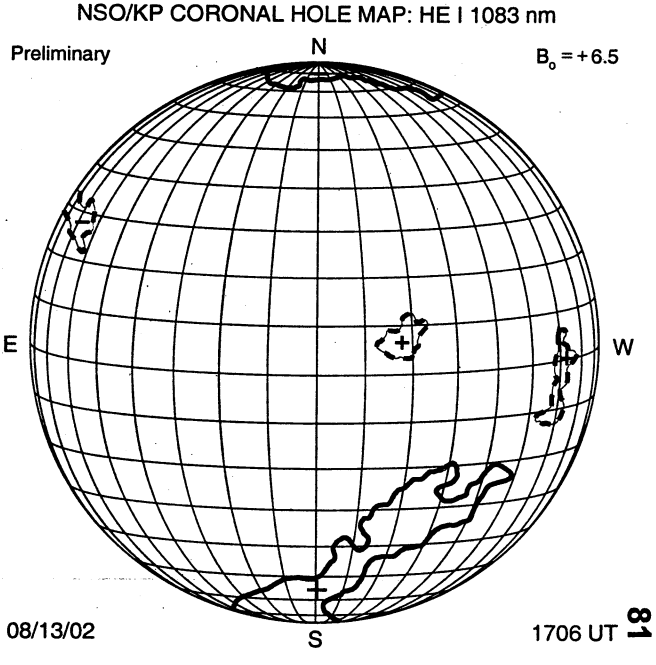






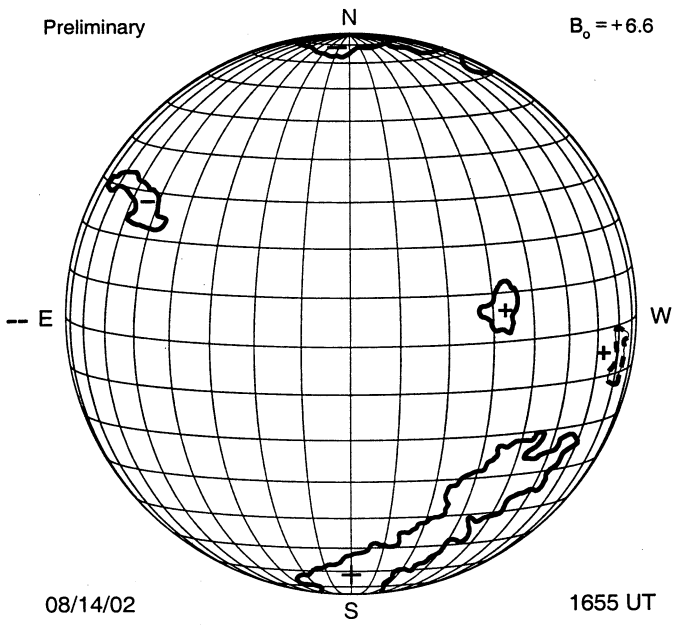




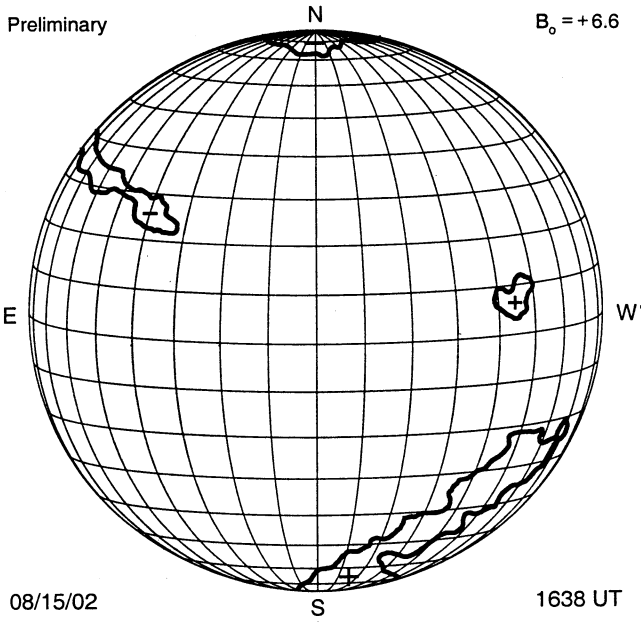


KITT PEAK CORONAL HOLE MAPS HE I 1083 nm
August 2002

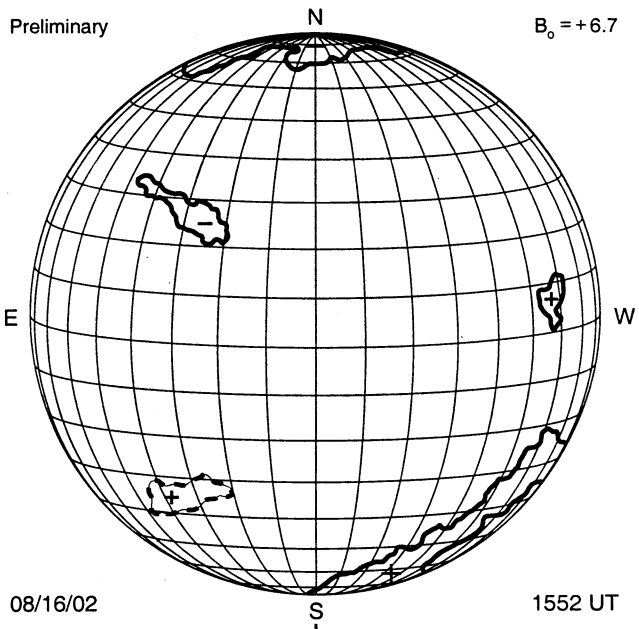
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



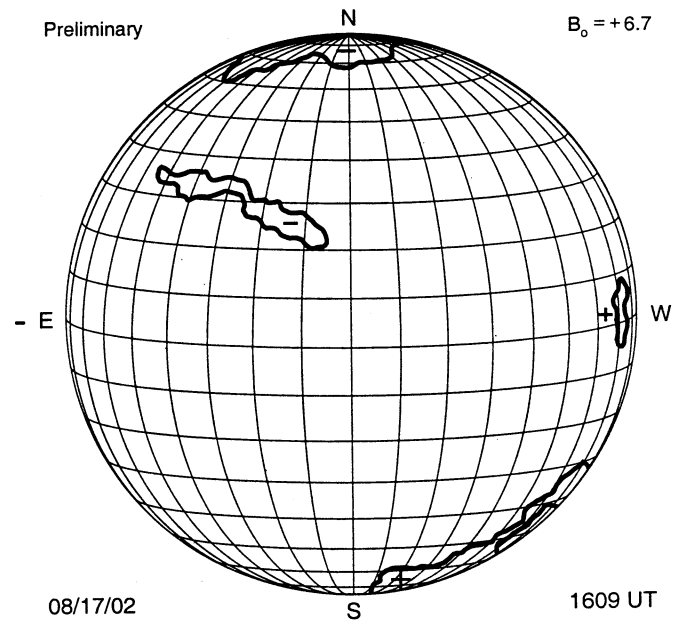
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



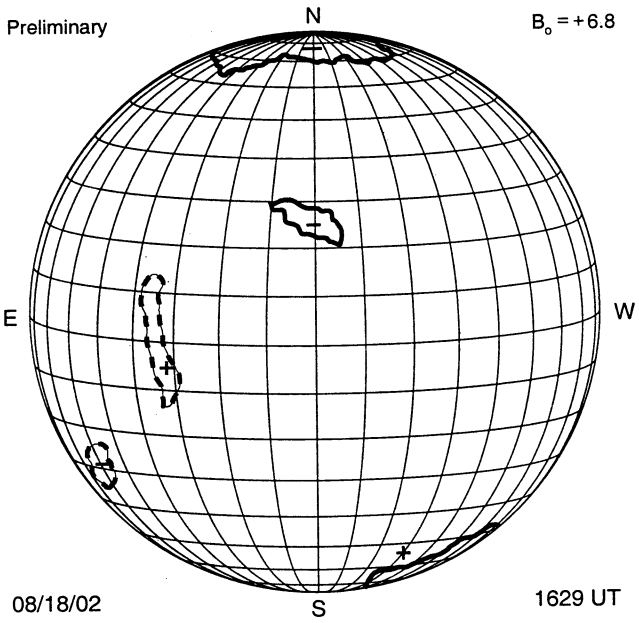
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



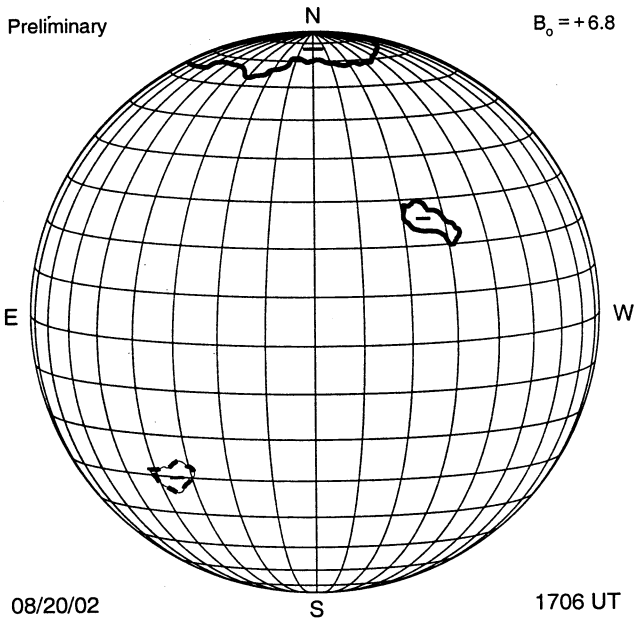
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



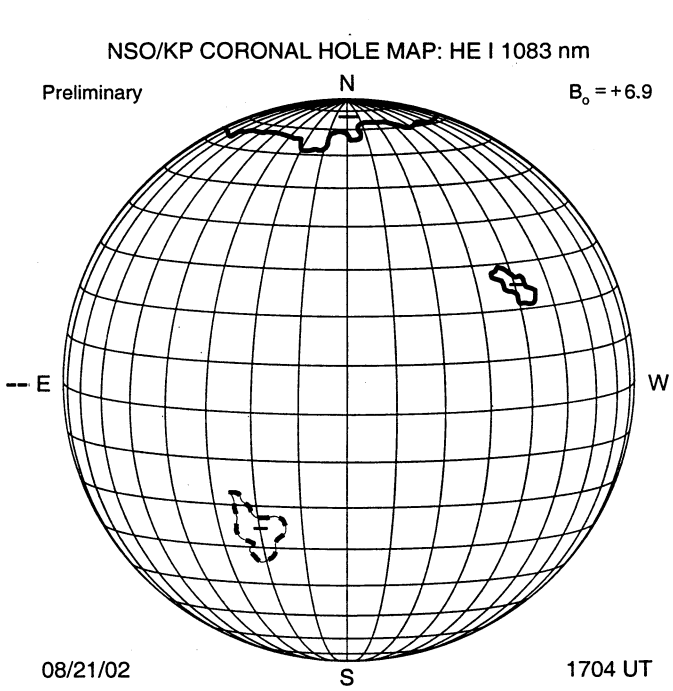
NSO/KP CORONAL HOLE MAP: HE I 1083 nm

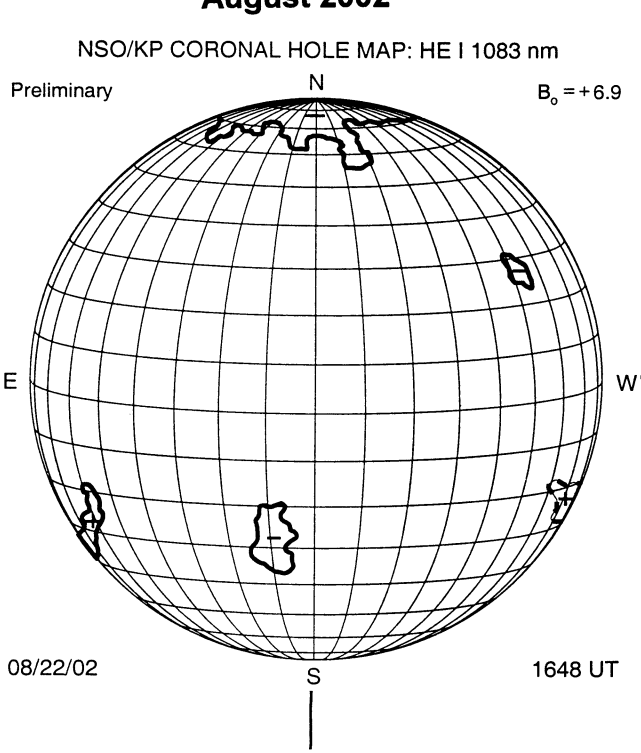


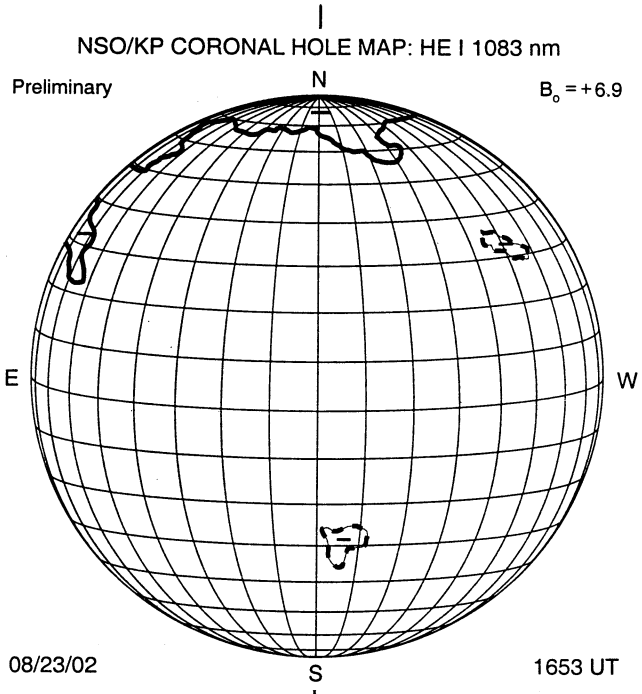
NSO/KP CORONAL HOLE MAP: HE I 1083 nm

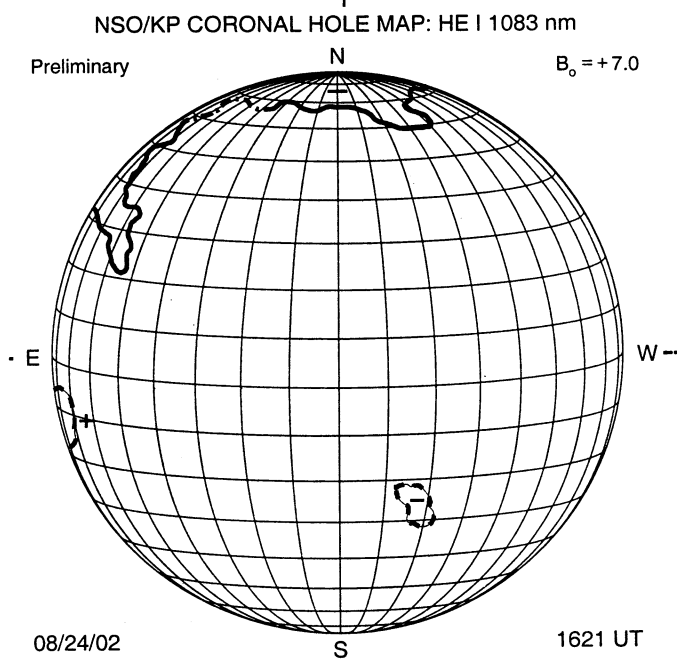


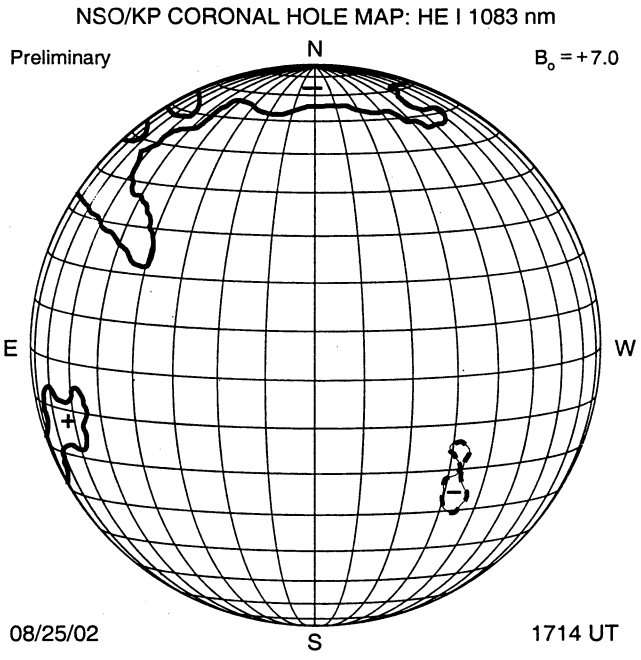
KITT PEAK CORONAL HOLE MAPS HE I 1083 nm
August 2002

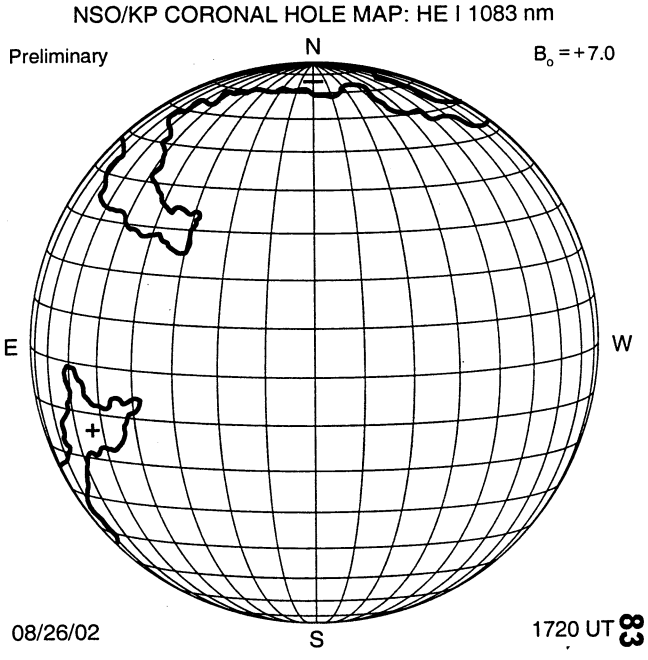




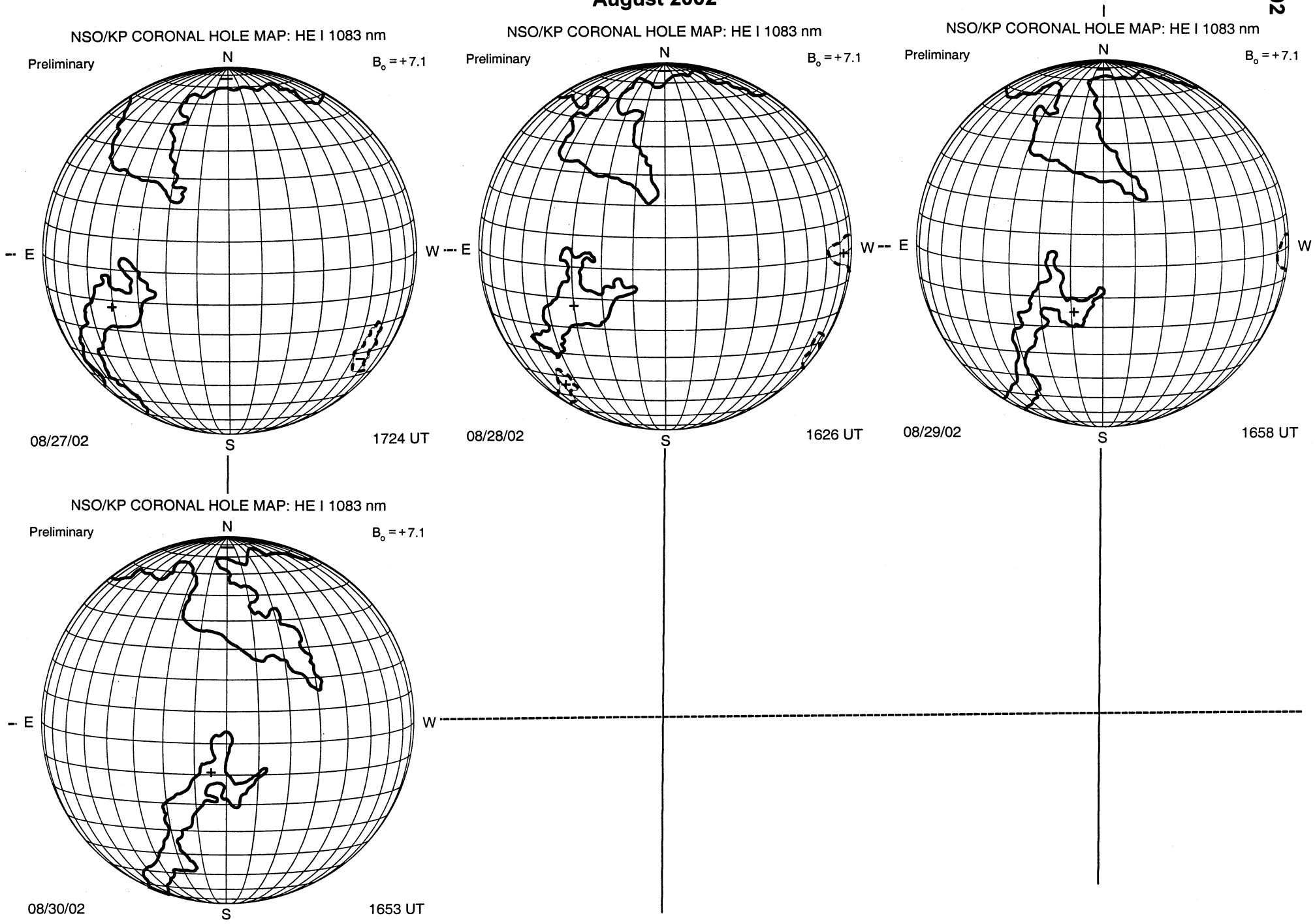




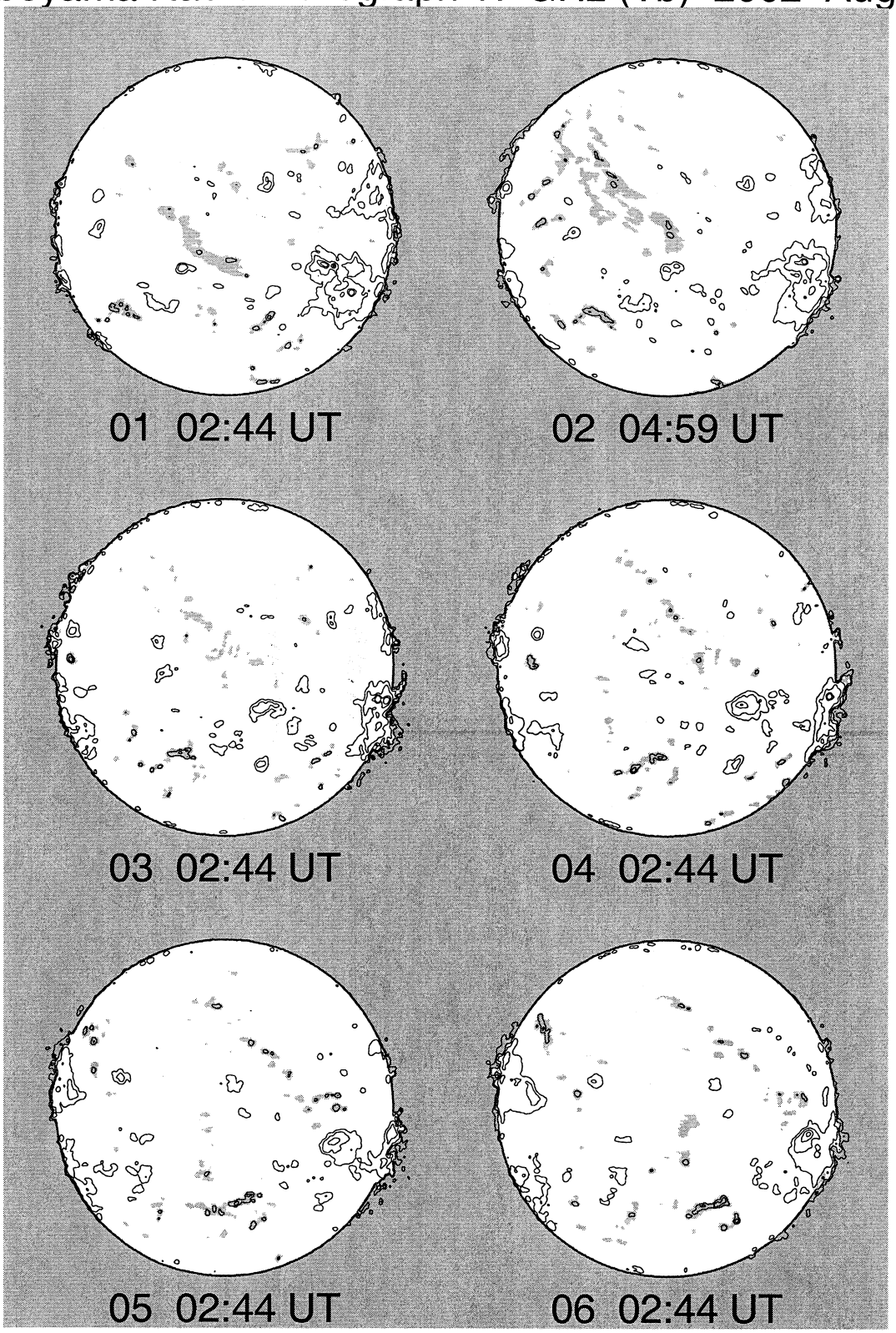




KITT PEAK CORONAL HOLE MAPS HE I 1083 nm
August 2002

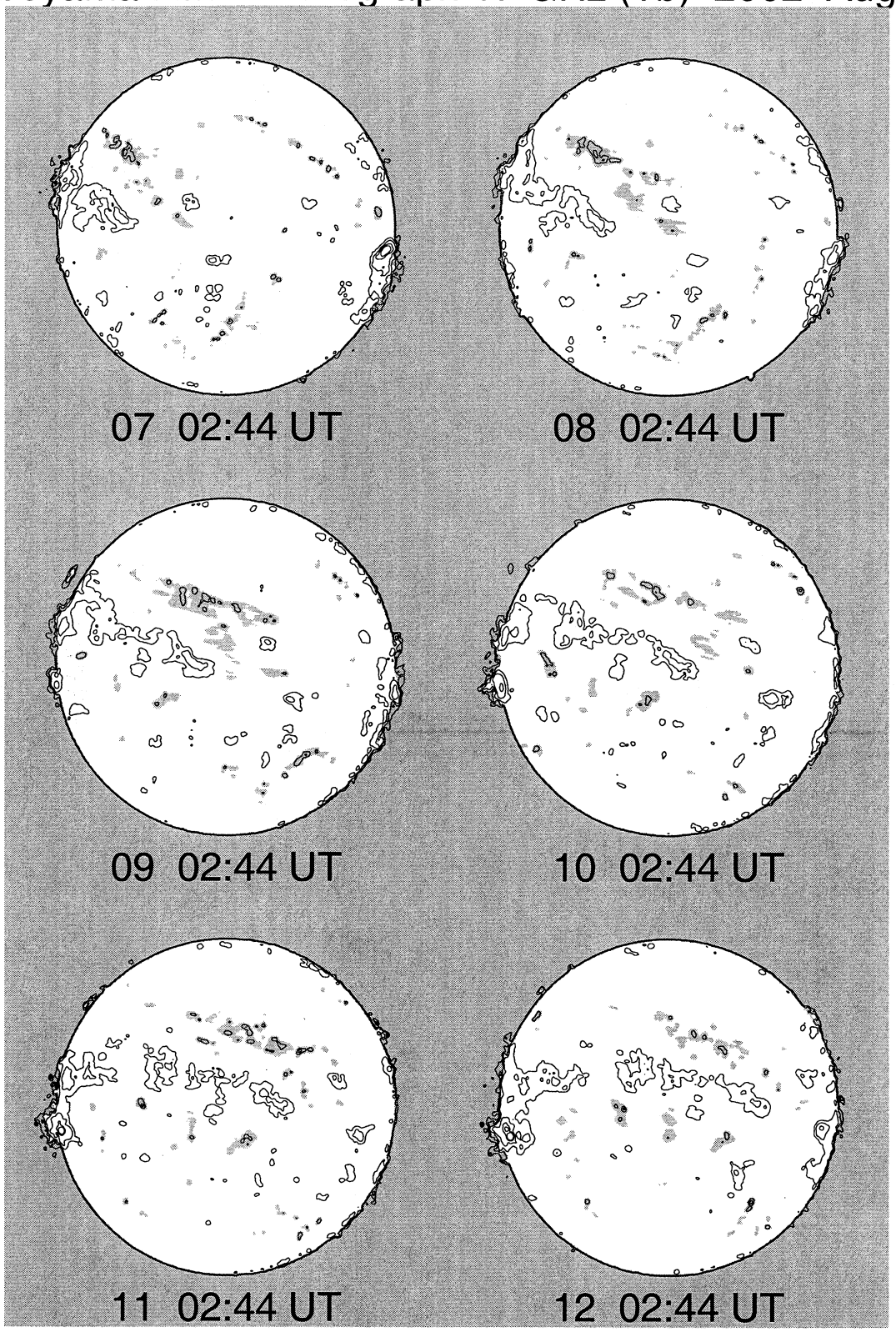


Nobeyama Radio Heliograph 17 GHz (Tb) 2002 August



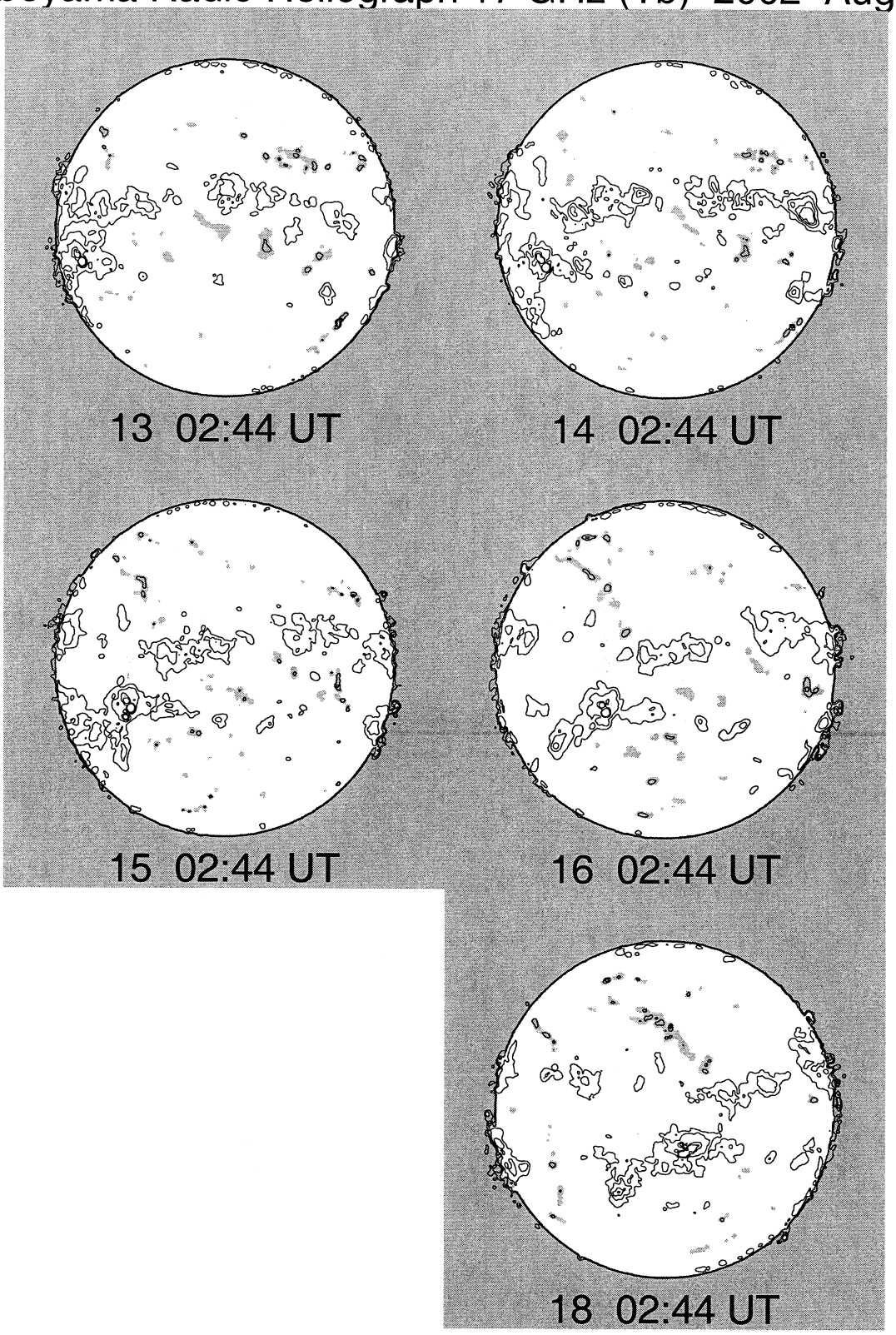
Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb <= 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2002 August



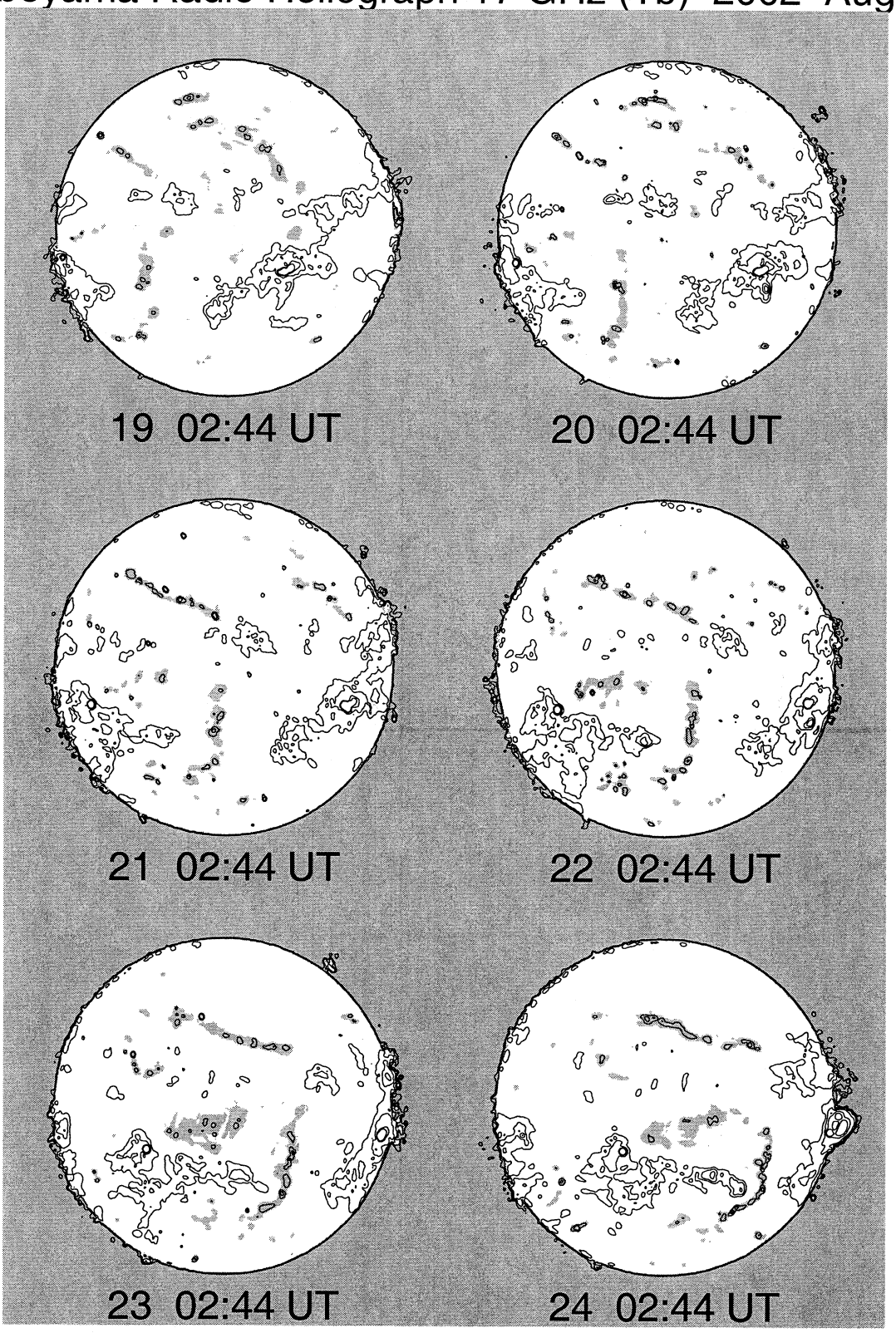
Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb <= 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2002 August



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) 2002 August



Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
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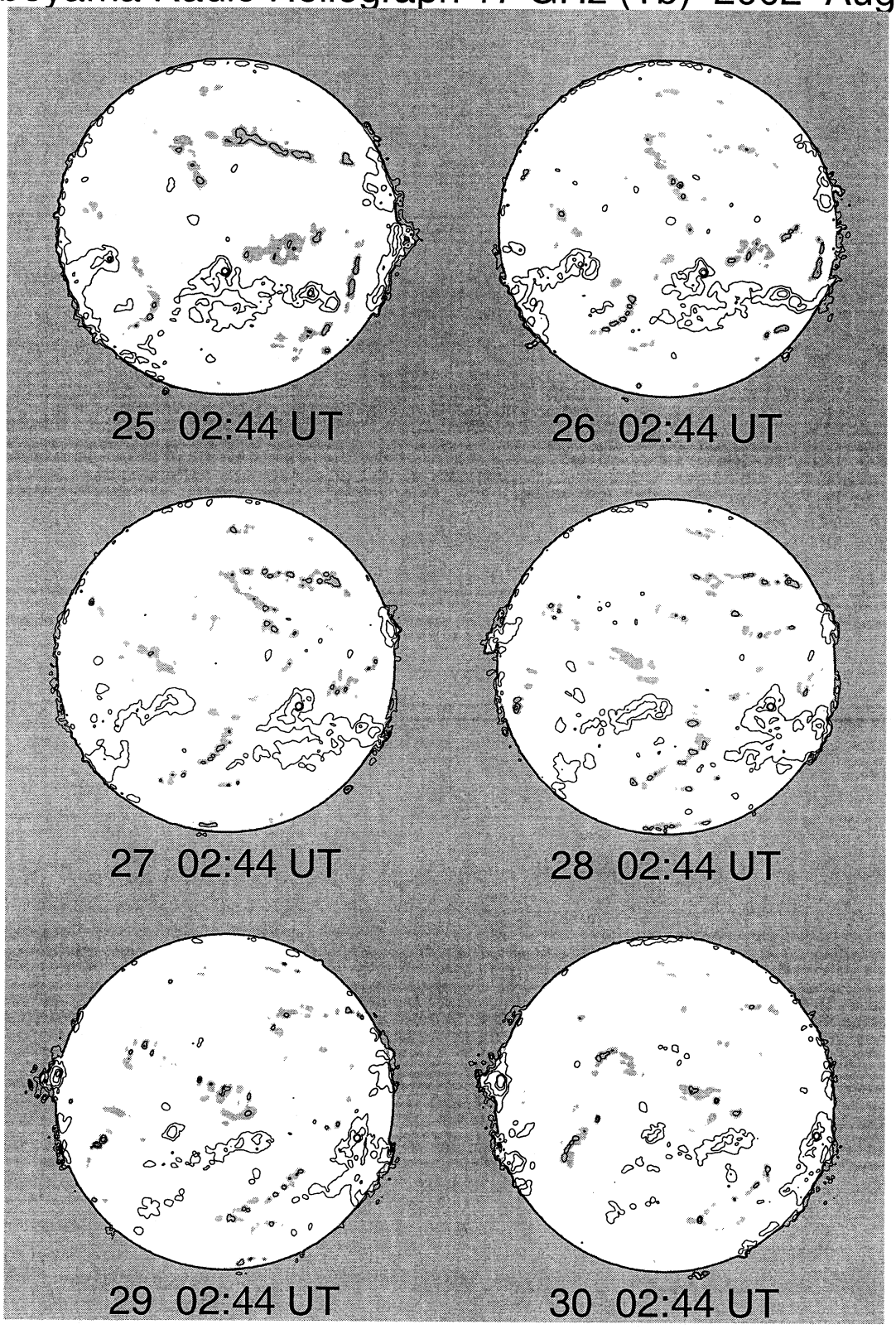
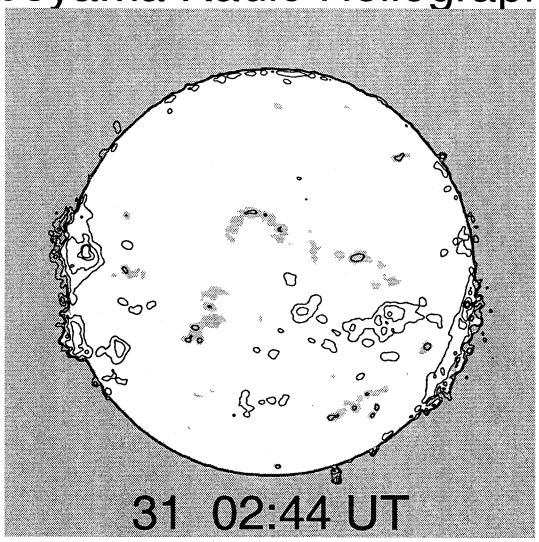
Nobeyama Radio Heliograph 17 GHz (Tb) 2002 August



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) 2002 August



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

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

AUGUST 2002

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
10048B	31351	MWIL	08	01	1500	S15	W05	08	1.2	4	(AP)					
10048A		SVTO	07	30	0630	N15	E28	08	1.4		B	CRO	20	3	3	3
10048A	31349	MWIL	07	30	1445	N15	E23	08	1.3	4	(BP)					
10048A		LEAR	07	31	0104	N14	E17	08	1.3		A	AXX	10	1		3
10048C		HOLL	08	01	1421	N07	E02	08	1.7		A	HSX	20	2	1	2
10048C	31352	MWIL	08	01	1500	N05	E02	08	1.8	4	(B)					
10051		VORO	07	26	0435	S17	E84	08	1.6			HAX	64	1		2
10051		LEAR	07	27	0150	S18	E75	08	1.8		B	EAO	90	2	12	2
10051		TACH	07	27	0524	S16	E73	08	1.8			HSX	109	1	2	4
10051		KAND	07	27	0845	S20	E76	08	2.2			HA		1	2	3
10051		KAND	07	27	0845	S21	E69	08	1.6			BXO		2	8	3
10051		SVTO	07	27	1108	S16	E73	08	2.0		B	CAO	60	2	6	2
10051	31345	MWIL	07	27	1445	S16	E70	08	1.9	4	(AP)					
10051	31344	MWIL	07	27	1445	S19	E68	08	1.8	3	(AP)					
10051		HOLL	07	27	1545	S18	E72	08	2.1		A	HAX	120	2	3	2
10051		VORO	07	27	2219	S17	E67	08	2.0			HAX	105	1		3
10051		LEAR	07	28	0201	S18	E63	08	1.9		B	CSO	120	2	5	2
10051		TACH	07	28	0515	S17	E59	08	1.7			HSX	54	1	2	4
10051		SVTO	07	28	0925	S15	E63	08	2.2		A	HSX	90	1	2	3
10051		KAND	07	28	1305	S20	E60	08	2.1			HS		1	2	4
10051		KAND	07	28	1305	S23	E56	08	1.9			AX		1		4
10051	31345	MWIL	07	28	1445	S16	E58	08	2.0	5	(AP)					
10051		VORO	07	28	2210	S17	E54	08	2.0			HAX	148	1		3
10051		LEAR	07	29	0130	S17	E51	08	1.9		A	HSX	70	1	2	2
10051		KAND	07	29	0800	S20	E48	08	2.0			HA		1	2	4
10051		SVTO	07	29	1333	S16	E45	08	2.0		A	HSX	60	1	2	3
10051	31345	MWIL	07	29	1430	S16	E45	08	2.0	5	(AP)					
10051		HOLL	07	29	1620	S17	E45	08	2.1		A	HAX	60	1	2	3
10051		LEAR	07	30	0250	S17	E38	08	2.0		A	HSX	60	1	2	1
10051		SVTO	07	30	0630	S16	E37	08	2.1		A	HSX	100	1	2	3
10051		KAND	07	30	0840	S18	E34	08	1.9			HS		1	2	3
10051	31345	MWIL	07	30	1445	S16	E32	08	2.0	5	(AP)					
10051		VORO	07	30	2233	S16	E28	08	2.1			HAX	121	1		3
10051		LEAR	07	31	0104	S17	E27	08	2.1		A	HSX	80	1	2	3
10051		TACH	07	31	0545	S17	E20	08	1.7			HSX	93	1	1	3
10051		KAND	07	31	0725	S17	E22	08	2.0			HS		1	2	4
10051		SVTO	07	31	0800	S16	E23	08	2.1		A	HSX	70	1	2	2
10051		HOLL	07	31	1336	S17	E20	08	2.1		A	HSX	70	1	2	3
10051	31345	MWIL	07	31	1445	S16	E19	08	2.0	5	(AP)					
10051		VORO	07	31	2215	S17	E15	08	2.1			HSX	146	2		3
10051		LEAR	08	01	0113	S17	E12	08	2.0		A	HSX	90	2	3	3
10051		TACH	08	01	0519	S14	E08	08	1.8			HSX	59	1	1	3
10051		SVTO	08	01	0850	S16	E09	08	2.0		A	HSX	80	1	2	2
10051		HOLL	08	01	1421	S16	E07	08	2.1		A	HSX	70	1	1	2
10051	31345	MWIL	08	01	1500	S16	E06	08	2.1	5	(AP)					
10051		LEAR	08	02	0121	S17	E00	08	2.0		A	HAX	80	2	3	2
10051		SVTO	08	02	0540	S16	W02	08	2.1		A	HSX	100	1	2	3
10051		TACH	08	02	0633	S14	W04	08	2.0			HSX	53	1	1	3
10051		LEAR	08	03	0034	S16	W12	08	2.1		A	HSX	80	1	2	3
10051		VORO	08	03	0225	S16	W13	08	2.1			HAX	118	1		3
10051		TACH	08	03	0547	S14	W16	08	2.0			HSX	100	1	1	4
10051		SVTO	08	03	0645	S17	W16	08	2.1		A	HSX	80	1	3	3
10051		HOLL	08	03	1723	S16	W23	08	2.0		A	HSX	90	1	2	3
10051		TACH	08	04	0507	S12	W27	08	2.2			HSX	59	1	1	4
10051		SVTO	08	04	0820	S15	W29	08	2.1		A	HSX	70	2	3	2
10051		RAMY	08	04	1300	S17	W32	08	2.1		B	CSO	130	3	4	3
10051		HOLL	08	04	1430	S13	W33	08	2.1		A	HAX	70	1	2	3
10051		LEAR	08	05	0255	S15	W40	08	2.1		A	HSX	60	1	2	3
10051		TACH	08	05	0557	S15	W40	08	2.2			HSX	113	1	1	3
10051		SVTO	08	05	0600	S15	W41	08	2.1		A	HSX	70	2	3	3
10051		RAMY	08	05	1205	S16	W45	08	2.1		A	HSX	90	1	3	3
10051		HOLL	08	05	1339	S16	W46	08	2.1		A	HSX	30	1	1	4
10051	31345	MWIL	08	05	1430	S16	W46	08	2.1	5	(AP)					
10051		LEAR	08	06	0130	S14	W53	08	2.0		A	HAX	70	2	2	1
10051		TACH	08	06	0457	S15	W52	08	2.3			HSX	61	1	1	3
10051		SVTO	08	06	0623	S17	W55	08	2.1		A	HSX	80	1	2	3

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

AUGUST 2002

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
10051		RAMY	08	06	1301	S16	W59	08	2.1		A	HSX	40	1	2	4
10051		HOLL	08	06	1415	S19	W61	08	1.9		A	HSX	60	2	2	4
10051	31345	MWIL	08	06	1430	S16	W59	08	2.1	5	(AP)					
10051		LEAR	08	07	0350	S16	W66	08	2.1		A	HAX	60	1	2	3
10051		TACH	08	07	0640	S15	W68	08	2.1			HSX	75	1	1	4
10051		SVTO	08	07	0720	S17	W68	08	2.1		A	HSX	40	1	1	2
10051		RAMY	08	07	1201	S17	W71	08	2.1		A	HSX	60	1	1	3
10051	31345	MWIL	08	07	1430	S16	W73	08	2.1	5	(AP)					
10051		HOLL	08	07	1805	S15	W75	08	2.1		A	HAX	60	1	2	4
10051		LEAR	08	08	0157	S14	W78	08	2.2		A	HSX	90	1	2	3
10051		TACH	08	08	0532	S14	W80	08	2.2			AXX	54	1	1	4
10051		SVTO	08	08	0700	S16	W83	08	2.0		A	HSX	30	1	1	2
10060		LEAR	08	03	0034	S29	W13	08	2.0		B	CAO	20	7	3	3
10060		TACH	08	03	0547	S26	W17	08	1.9			AR	6	5	2	4
10060		SVTO	08	03	0645	S29	W17	08	1.9		B	DRO	40	11	4	3
10060		HOLL	08	03	1723	S28	W23	08	1.9		B	BXO	30	8	4	3
10060		TACH	08	04	0507	S24	W27	08	2.1			BRO	5	4	5	4
10060		SVTO	08	04	0820	S28	W32	08	1.8		B	DSO	50	5	5	2
10060		RAMY	08	04	1300	S28	W35	08	1.8		B	DSO	30	6	8	3
10060		HOLL	08	04	1430	S27	W38	08	1.6		B	BXO	20	5	7	3
10060		LEAR	08	05	0255	S27	W42	08	1.8		B	BXO	10	4	6	3
10060		SVTO	08	05	0600	S26	W42	08	2.0		B	DSO	50	5	7	3
10060		RAMY	08	05	1205	S27	W47	08	1.8		B	CSO	20	5	6	3
10060		HOLL	08	05	1339	S28	W47	08	1.9		B	BXO	20	2	8	4
10060	31356	MWIL	08	05	1430	S28	W48	08	1.8	4	(B)					
10060	31356	MWIL	08	07	1430	S29	W70	08	2.1	4	(AP)					
10057		VORO	07	31	2215	S09	E14	08	2.0			BXO	22	2	2	3
10057		LEAR	08	01	0113	S09	E13	08	2.0		B	DAO	40	9	8	3
10057		TACH	08	01	0519	S06	E09	08	1.9			BRI	8	5	6	3
10057		SVTO	08	01	0850	S08	E10	08	2.1		BG	DAI	80	14	8	2
10057		HOLL	08	01	1421	S08	E07	08	2.1		B	DSO	50	15	8	2
10057	31353	MWIL	08	01	1500	S08	E07	08	2.1	5	(BG)					
10057		LEAR	08	02	0121	S09	E02	08	2.2		B	DAO	100	17	9	2
10057		SVTO	08	02	0540	S08	W01	08	2.2		BG	DSO	80	19	8	3
10057		TACH	08	02	0633	S06	W03	08	2.0			CAI	30	9	5	3
10057		LEAR	08	03	0034	S08	W12	08	2.1		BG	DAO	150	38	10	3
10057		VORO	08	03	0225	S08	W14	08	2.0			DRI	161	18	8	3
10057		TACH	08	03	0547	S06	W16	08	2.0			BRI	51	13	8	4
10057		SVTO	08	03	0645	S08	W15	08	2.1		BG	ERI	60	50	11	3
10057		HOLL	08	03	1723	S07	W23	08	2.0		BG	EAI	240	43	12	3
10057		TACH	08	04	0507	S05	W28	08	2.1			DAI	205	14	10	4
10057		SVTO	08	04	0820	S08	W31	08	2.0		BG	EAC	340	28	13	2
10057		RAMY	08	04	1300	S09	W33	08	2.1		B	DAO	430	33	13	3
10057		HOLL	08	04	1430	S08	W35	08	2.0		BG	EAC	360	37	13	3
10057		LEAR	08	05	0255	S08	W42	08	2.0		B	EKI	410	34	13	3
10057		TACH	08	05	0557	S08	W41	08	2.2			DAI	296	15	10	3
10057		SVTO	08	05	0600	S07	W45	08	1.9		B	EAI	330	30	14	3
10057		RAMY	08	05	1205	S08	W47	08	2.0		B	EAI	450	33	12	3
10057		HOLL	08	05	1339	S07	W47	08	2.0		BG	EAC	300	27	15	4
10057	31353	MWIL	08	05	1430	S08	W49	08	1.9	5	(BG)					
10057		LEAR	08	06	0130	S07	W55	08	1.9		BG	EAI	300	11	12	1
10057		TACH	08	06	0457	S07	W54	08	2.2			DAI	350	11	10	3
10057		SVTO	08	06	0623	S08	W56	08	2.1		BG	ESI	360	14	12	3
10057		RAMY	08	06	1301	S08	W60	08	2.0		BG	EAO	330	15	13	4
10057		HOLL	08	06	1415	S08	W63	08	1.9		B	EAI	340	16	12	4
10057	31353	MWIL	08	06	1430	S08	W62	08	1.9	5	(BG)					
10057		LEAR	08	07	0350	S08	W67	08	2.1		BG	EAI	310	10	14	3
10057		TACH	08	07	0640	S08	W71	08	1.9			DAI	340	6	9	4
10057		SVTO	08	07	0720	S08	W70	08	2.0		B	ESO	360	10	13	2
10057		RAMY	08	07	1201	S10	W75	08	1.9		BG	EAO	270	7	13	3
10057	31353	MWIL	08	07	1430	S08	W75	08	2.0	5	(BG)					
10057		HOLL	08	07	1805	S08	W75	08	2.1		B	EAI	180	6	14	4
10057		LEAR	08	08	0157	S08	W79	08	2.1		B	DAI	150	6	5	3
10057		TACH	08	08	0532	S06	W79	08	2.3			AXX	14	1	1	4
10057		SVTO	08	08	0700	S08	W80	08	2.3		A	HAX	20	2	1	2
10054		LEAR	07	28	0201	S22	E78	08	3.1		B	CAO	50	2	4	2

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10054		TACH	07	28	0515	S23	E73	08	2.8			AXX	2	1	1	4
10054		SVTO	07	28	0925	S20	E80	08	3.5		B	CRO	30	2	5	3
10054		KAND	07	28	1305	S26	E78	08	3.6			CRO		4	6	4
10054	31346	MWIL	07	28	1445	S22	E73	08	3.2	4	(B)					
10054		VORO	07	28	2210	S23	E68	08	3.2			DRO	163	2	6	3
10054		LEAR	07	29	0130	S23	E65	08	3.1		B	DAO	50	4	6	2
10054		KAND	07	29	0800	S25	E63	08	3.2			BXO		2	5	4
10054		SVTO	07	29	1333	S22	E59	08	3.1		B	DSO	60	6	5	3
10054	31346	MWIL	07	29	1430	S22	E60	08	3.2	4	(B)					
10054		HOLL	07	29	1620	S21	E60	08	3.3		B	CSO	40	3	4	3
10054		LEAR	07	30	0250	S22	E51	08	3.0		B	DSO	40	2	7	1
10054		SVTO	07	30	0630	S22	E51	08	3.2		B	DRO	30	5	6	3
10054		KAND	07	30	0840	S25	E49	08	3.1			CRO		3	6	3
10054	31346	MWIL	07	30	1445	S22	E46	08	3.2	4	(B)					
10054		VORO	07	30	2233	S22	E43	08	3.2			BXO	22	2	6	3
10054		LEAR	07	31	0104	S22	E34	08	2.6		B	CSO	30	3	6	3
10054		TACH	07	31	0545	S22	E32	08	2.7			AXX	13	1	1	3
10054		KAND	07	31	0725	S24	E33	08	2.8			HR		1	1	4
10054		SVTO	07	31	0800	S22	E34	08	2.9		A	HSX	20	1	1	2
10054		HOLL	07	31	1336	S22	E32	08	3.0		B	CSO	20	2	3	3
10054	31346	MWIL	07	31	1445	S22	E31	08	3.0	4	(AP)					
10054		VORO	07	31	2215	S23	E27	08	3.0			AXX	18	1		3
10054		LEAR	08	01	0113	S22	E23	08	2.8		A	HSX	10	1		3
10054		TACH	08	01	0519	S19	E18	08	2.6			AAX	12	1	1	3
10054		SVTO	08	01	0850	S22	E21	08	3.0		A	HSX	10	1	1	2
10054		HOLL	08	01	1421	S21	E18	08	3.0		A	AXX	10	1	1	2
10054	31346	MWIL	08	01	1500	S22	E17	08	2.9	4	(AP)					
10054		LEAR	08	02	0121	S22	E11	08	2.9		A	HSX	20	1	1	2
10054		SVTO	08	02	0540	S22	E09	08	2.9		A	HRX	10	2	1	3
10054		TACH	08	02	0633	S21	E05	08	2.6			AR	3	2	1	3
10054A		SVTO	08	05	0600	S05	W14	08	4.2		B	CSO	10	3	2	3
10054A		RAMY	08	05	1205	S05	W17	08	4.2		B	CRO	10	3	3	3
10054A		HOLL	08	05	1339	S04	W17	08	4.3		A	AXX	10	2	2	4
10054A	31357	MWIL	08	05	1430	S05	W18	08	4.2	4	(B)					
10056		LEAR	07	31	0104	N03	E62	08	4.7		B	BXO	10	2	3	3
10056		TACH	07	31	0545	N04	E57	08	4.5			BXO	6	2	3	3
10056		KAND	07	31	0725	N02	E60	08	4.8			BXO		6	3	4
10056		HOLL	07	31	1336	N05	E54	08	4.6		B	CSO	40	6	5	3
10056	31350	MWIL	07	31	1445	N04	E54	08	4.6	4	(B)					
10056		VORO	07	31	2215	N04	E42	08	4.1			HRX	28	2	13	3
10056		LEAR	08	01	0113	N03	E48	08	4.6		B	CRO	30	5	4	3
10056		TACH	08	01	0519	N06	E40	08	4.2			AXX	13	1	1	3
10056		SVTO	08	01	0850	N05	E43	08	4.6		B	CSO	30	5	4	2
10056		HOLL	08	01	1421	N07	E41	08	4.7		B	CSO	30	4	4	2
10056	31350	MWIL	08	01	1500	N04	E40	08	4.6	4	(BP)					
10056		LEAR	08	02	0121	N05	E34	08	4.6		B	CRO	20	4	4	2
10056		SVTO	08	02	0540	N05	E32	08	4.6		B	BXO	10	3	4	3
10055		SVTO	07	29	1333	N13	E79	08	4.5		A	HSX	60	1	2	3
10055	31347	MWIL	07	29	1430	N14	E80	08	4.6	4	(AP)					
10055		HOLL	07	29	1620	N15	E80	08	4.7		A	HAX	100	1	2	3
10055		LEAR	07	30	0250	N13	E72	08	4.5		A	HAX	30	1	2	1
10055		SVTO	07	30	0630	N14	E74	08	4.9		B	DRO	40	4	7	3
10055	31347	MWIL	07	30	1445	N14	E70	08	4.9	5	(B)					
10055		VORO	07	30	2233	N14	E66	08	4.9			CRI	97	2	5	3
10055		LEAR	07	31	0104	N12	E63	08	4.8		B	DSO	120	3	7	3
10055		TACH	07	31	0545	N12	E58	08	4.6			CSO	56	3	6	3
10055		KAND	07	31	0725	N11	E62	08	5.0			CSO		4	6	4
10055		SVTO	07	31	0800	N14	E57	08	4.6		B	DSO	60	2	5	2
10055		SVTO	07	31	0800	N14	E59	08	4.8		B	DSO	60	4	3	2
10055		HOLL	07	31	1336	N16	E56	08	4.8		B	DSO	50	4	7	3
10055	31347	MWIL	07	31	1445	N14	E56	08	4.8	5	(BP)					
10055		VORO	07	31	2215	N14	E52	08	4.8			CRO	75	2	5	3
10055		LEAR	08	01	0113	N13	E50	08	4.8		B	DSO	70	4	6	3
10055		TACH	08	01	0519	N15	E45	08	4.6			CSO	87	2	6	3
10055		SVTO	08	01	0850	N14	E46	08	4.8		B	DSO	40	2	6	2
10055		HOLL	08	01	1421	N16	E44	08	4.9		B	DSO	70	4	8	2

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10055	31347	MWIL	08	01	1500	N14	E43	08	4.9	4	(B)					
10055		LEAR	08	02	0121	N14	E38	08	4.9		B	DAO	70	3	7	2
10055		SVTO	08	02	0540	N15	E36	08	5.0		B	DSO	70	3	8	3
10055		TACH	08	02	0633	N15	E31	08	4.6			CSO	55	2	6	3
10055		LEAR	08	03	0034	N14	E26	08	5.0		B	DAO	80	9	8	3
10055		VORO	08	03	0225	N15	E24	08	4.9			CRI	69	3	6	3
10055		TACH	08	03	0547	N14	E18	08	4.6			BRO	25	3	7	4
10055		SVTO	08	03	0645	N14	E21	08	4.9		B	DSO	50	5	8	3
10055		HOLL	08	03	1723	N14	E15	08	4.8		B	CSO	20	10	7	3
10055		TACH	08	04	0507	N15	E09	08	4.9			BXO	18	2	6	4
10055		SVTO	08	04	0820	N13	E07	08	4.9		B	DSO	20	2	7	2
10055		RAMY	08	04	1300	N12	E05	08	4.9		B	DAO	70	6	7	3
10055		HOLL	08	04	1430	N13	E05	08	5.0		B	CAO	20	4	8	3
10055		LEAR	08	05	0255	N13	W06	08	4.7		A	HRX	10	1	1	3
10055		TACH	08	05	0557	N10	W06	08	4.8			CSO	32	2	5	3
10055		SVTO	08	05	0600	N15	W05	08	4.9		B	DSO	30	4	7	3
10055		RAMY	08	05	1205	N13	W08	08	4.9		B	CSO	30	6	7	3
10055		HOLL	08	05	1339	N14	W11	08	4.7		B	CSO	30	5	7	4
10055	31347	MWIL	08	05	1430	N13	W10	08	4.8	5	(BP)					
10055		LEAR	08	06	0130	N13	W18	08	4.7		A	HSX	20	1	1	1
10055		TACH	08	06	0457	N10	W19	08	4.8			HA	24	2	1	3
10055		SVTO	08	06	0623	N12	W21	08	4.7		A	HSX	20	1	1	3
10055		RAMY	08	06	1301	N13	W21	08	4.9		B	CSO	20	3	6	4
10055		HOLL	08	06	1415	N16	W25	08	4.7		A	HSX	20	2	2	4
10055	31347	MWIL	08	06	1430	N13	W24	08	4.8	5	(B)					
10055		LEAR	08	07	0350	N12	W33	08	4.7		A	HAX	10	2	1	3
10055		TACH	08	07	0640	N12	W33	08	4.8			AR	2	2	1	4
10055		SVTO	08	07	0720	N12	W36	08	4.6		A	HRX	40	2	2	2
10055		RAMY	08	07	1201	N12	W38	08	4.6		A	HSX	10	1	1	3
10055	31347	MWIL	08	07	1430	N12	W39	08	4.7	4	(AP)					
10055		HOLL	08	07	1805	N12	W40	08	4.7		A	AXX	20	4	2	4
10055		LEAR	08	08	0157	N13	W46	08	4.6		A	HRX	10	1		3
10055A		HOLL	08	06	1415	S08	W16	08	5.4		A	AXX	10	1	1	4
10055A	31359	MWIL	08	06	1430	S09	W14	08	5.5	4	(AP)					
10058		SVTO	08	01	0850	S06	E78	08	7.2		A	HSX	30	1	2	2
10058		HOLL	08	01	1421	S04	E79	08	7.5		A	AXX	10	1	1	2
10058	31354	MWIL	08	01	1500	S06	E76	08	7.3	4	(AP)					
10058		LEAR	08	02	0121	S08	E69	08	7.2		A	HRX	20	1		2
10058		SVTO	08	02	0540	S06	E67	08	7.2		A	HRX	10	1	1	3
10058		TACH	08	02	0633	S04	E65	08	7.1			AXX	4	1	1	3
10058		LEAR	08	03	0034	S06	E57	08	7.3		A	HRX	10	1	1	3
10058		VORO	08	03	0225	S06	E55	08	7.2			AXX	15	1		3
10058		TACH	08	03	0547	S05	E49	08	6.9			AXX	4	1	1	4
10058		SVTO	08	03	0645	S06	E52	08	7.2		A	HRX	10	1	1	3
10058		HOLL	08	03	1723	S06	E46	08	7.2		A	HSX	30	1	1	3
10058		TACH	08	04	0507	S03	E34	08	6.7			AXX	3	1	1	4
10058		SVTO	08	04	0820	S06	E37	08	7.1		A	HSX	30	1	1	2
10058		RAMY	08	04	1300	S08	E34	08	7.1		B	CAO	30	2	3	3
10058		HOLL	08	04	1430	S06	E33	08	7.1		A	HSX	20	1	1	3
10058		LEAR	08	05	0255	S07	E26	08	7.1		A	HRX	10	1	1	3
10058		TACH	08	05	0557	S07	E20	08	6.7			AXX	16	1	1	3
10058		SVTO	08	05	0600	S06	E25	08	7.1		A	HSX	30	1	1	3
10058		RAMY	08	05	1205	S05	E21	08	7.1		B	CSO	10	5	3	3
10058		HOLL	08	05	1339	S06	E20	08	7.1		A	HSX	20	1	1	4
10058	31354	MWIL	08	05	1430	S06	E19	08	7.0	4	(AP)					
10058		LEAR	08	06	0130	S06	E13	08	7.0		A	HSX	10	1	1	1
10058		TACH	08	06	0457	S07	E09	08	6.9			AXX	21	1	1	3
10058		SVTO	08	06	0623	S05	E12	08	7.2		A	HSX	40	2	3	3
10058		RAMY	08	06	1301	S05	E08	08	7.1		B	DSO	30	5	3	4
10058		HOLL	08	06	1415	S07	E08	08	7.2		B	CSO	50	9	8	4
10058	31354	MWIL	08	06	1430	S06	E09	08	7.3	4	(BG)					
10058		LEAR	08	07	0350	S06	E03	08	7.4		B	DAO	40	8	7	3
10058		TACH	08	07	0640	S05	W01	08	7.2			BXI	26	4	5	4
10058		SVTO	08	07	0720	S07	E01	08	7.4		B	DRO	80	7	8	2
10058		RAMY	08	07	1201	S06	W02	08	7.3		B	DAO	50	6	8	3
10058	31354	MWIL	08	07	1430	S06	W03	08	7.4	5	(B)					
10058		HOLL	08	07	1805	S06	W06	08	7.3		B	DAO	40	10	9	4

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10058		LEAR	08	08	0157	S06	W09	08	7.4		B	CAO	60	11	8	3
10058		TACH	08	08	0532	S05	W14	08	7.2			BXO	5	2	3	4
10058		SVTO	08	08	0700	S06	W16	08	7.1		B	DSO	30	2	3	2
10058		RAMY	08	08	1240	S06	W16	08	7.3		B	DSO	20	5	6	3
10058	31354	MWIL	08	08	1430	S06	W17	08	7.3	5	(BP)					
10058		HOLL	08	08	1630	S05	W19	08	7.3		B	DAO	70	11	9	4
10058		LEAR	08	09	0020	S05	W22	08	7.4		B	DAO	80	18	8	4
10058		VORO	08	09	0058	S05	W23	08	7.3			BXI	47	10	7	2
10058		TACH	08	09	0528	S04	W24	08	7.4			BRI	14	7	7	4
10058		RAMY	08	09	1315	S09	W30	08	7.3		B	DAO	110	15	8	3
10058		HOLL	08	09	1403	S07	W30	08	7.3		B	DSI	90	13	8	4
10058	31354	MWIL	08	09	1445	S06	W29	08	7.4	5	(B)					
10058		VORO	08	10	0004	S05	W35	08	7.4			CAI	67	5	5	2
10058		LEAR	08	10	0315	S06	W37	08	7.4		B	DSO	100	12	8	2
10058		TACH	08	10	0739	S04	W38	08	7.5			CSO	43	3	5	3
10058		RAMY	08	10	1245	S08	W42	08	7.4		B	DSO	120	11	10	2
10058	31354	MWIL	08	10	1445	S06	W43	08	7.4	5	(B)					
10058		HOLL	08	10	1700	S05	W45	08	7.3		B	DAO	40	4	9	3
10058		VORO	08	10	2143	S06	W48	08	7.3			CAI	88	5	7	3
10058		LEAR	08	11	0032	S06	W48	08	7.4		B	DSO	70	3	8	1
10058		TACH	08	11	0502	S04	W49	08	7.5			CSO	64	3	7	3
10058		RAMY	08	11	1125	S07	W55	08	7.3		B	DAI	70	11	8	3
10058		HOLL	08	11	1420	S04	W57	08	7.3		B	DSO	140	10	9	4
10058	31354	MWIL	08	11	1445	S05	W56	08	7.4	5	(B)					
10058		VORO	08	11	2130	S06	W62	08	7.2			DAI	120	15	6	3
10058		LEAR	08	12	0015	S05	W63	08	7.3		B	DAO	100	8	8	2
10058		TACH	08	12	0631	S04	W64	08	7.5			BRI	56	5	7	4
10058		RAMY	08	12	1117	S07	W68	08	7.4		B	DSO	110	8	8	4
10058		HOLL	08	12	1400	S06	W71	08	7.3		B	DAO	130	6	9	4
10058	31354	MWIL	08	12	1445	S05	W71	08	7.3	5	(B)					
10058		VORO	08	12	2222	S06	W78	08	7.1			CAI	76	3	8	2
10058		LEAR	08	13	0020	S07	W76	08	7.3		B	DAO	60	5	7	3
10059	31355	MWIL	08	01	1500	N14	E85	08	8.0	4	(AF)					
10059		LEAR	08	02	0121	N14	E80	08	8.1		B	DAO	90	3	6	2
10059		SVTO	08	02	0540	N14	E76	08	8.0		B	DSO	60	4	6	3
10059		TACH	08	02	0633	N16	E77	08	8.1			HSX	104	1	1	3
10059		LEAR	08	03	0034	N15	E67	08	8.1		B	DAO	80	8	7	3
10059		VORO	08	03	0225	N15	E65	08	8.0			CRI	140	5	5	3
10059		TACH	08	03	0547	N16	E61	08	7.9			CSO	63	3	5	4
10059		SVTO	08	03	0645	N17	E63	08	8.1		B	DSO	100	7	8	3
10059		HOLL	08	03	1723	N14	E57	08	8.0		B	CSO	90	8	7	3
10059		TACH	08	04	0507	N18	E47	08	7.8			CSI	43	5	6	4
10059		SVTO	08	04	0820	N14	E49	08	8.0		B	DAO	100	7	7	2
10059		RAMY	08	04	1300	N16	E46	08	8.0		B	DAO	180	14	8	3
10059		HOLL	08	04	1430	N14	E46	08	8.1		B	DAO	70	12	7	3
10059		LEAR	08	05	0255	N14	E39	08	8.1		B	DAO	90	12	7	3
10059		TACH	08	05	0557	N12	E32	08	7.6			CAI	61	6	4	3
10059		SVTO	08	05	0600	N14	E37	08	8.0		B	DAO	100	12	7	3
10059		RAMY	08	05	1205	N15	E33	08	8.0		B	DAO	60	10	7	3
10059		HOLL	08	05	1339	N16	E32	08	8.0		B	CAO	60	8	6	4
10059	31355	MWIL	08	05	1430	N14	E32	08	8.0	5	(B)					
10059		LEAR	08	06	0130	N13	E24	08	7.9		B	DAO	30	2	2	1
10059		TACH	08	06	0457	N12	E21	08	7.8			CAI	50	5	5	3
10059		SVTO	08	06	0623	N17	E24	08	8.1		B	CSO	60	10	7	3
10059		RAMY	08	06	1301	N15	E20	08	8.0		B	DAO	50	12	7	4
10059		HOLL	08	06	1415	N12	E20	08	8.1		B	CSO	80	11	7	4
10059	31355	MWIL	08	06	1430	N14	E19	08	8.0	5	(BP)					
10059		LEAR	08	07	0350	N13	E10	08	7.9		B	CAO	30	4	2	3
10059		TACH	08	07	0640	N13	E07	08	7.8			BRO	7	3	4	4
10059		SVTO	08	07	0720	N17	E08	08	7.9		B	CSO	50	4	6	2
10059		RAMY	08	07	1201	N14	E07	08	8.0		B	CSO	30	5	6	3
10059	31355	MWIL	08	07	1430	N14	E05	08	8.0	5	(BP)					
10059		HOLL	08	07	1805	N13	E02	08	7.9		A	HAX	20	5	2	4
10059		LEAR	08	08	0157	N13	W04	08	7.8		B	CAO	20	2	3	3
10059		TACH	08	08	0532	N12	W06	08	7.8			AXX	5	1	1	4
10059		SVTO	08	08	0700	N13	W07	08	7.8		A	HSX	10	1	1	2
10059		RAMY	08	08	1240	N13	W09	08	7.8		B	CSO	20	6	4	3
10059	31355	MWIL	08	08	1430	N15	W08	08	8.0	4	(B)					

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10059		HOLL	08	08	1630	N13	W10	08	7.9		B	BXO	10	4	3	4
10059		LEAR	08	09	0020	N13	W13	08	8.0		B	DAO	20	7	4	4
10059		TACH	08	09	0528	N14	W14	08	8.2			BXO	2	3	4	4
10059		RAMY	08	09	1315	N13	W21	08	8.0		B	DSO	40	9	6	3
10059		HOLL	08	09	1403	N15	W21	08	8.0		B	BXO	20	7	6	4
10059	31355	MWIL	08	09	1445	N14	W22	08	7.9	4	(BG)					
10059		LEAR	08	10	0315	N15	W28	08	8.0		B	CSO	30	3	4	2
10059		RAMY	08	10	1245	N15	W33	08	8.0		B	BXO	20	3	3	2
10064		RAMY	08	07	1201	S20	E19	08	8.9		B	BXO	20	4	3	3
10064	31362	MWIL	08	07	1430	S20	E18	08	9.0	4	(BP)					
10064		HOLL	08	07	1805	S20	E15	08	8.9		B	CSO	20	3	2	4
10064		LEAR	08	08	0157	S20	E10	08	8.8		B	CRO	30	7	4	3
10064		RAMY	08	08	1240	S20	E04	08	8.8		A	HSX	20	1	1	3
10064	31362	MWIL	08	08	1430	S20	E03	08	8.8	4	(AP)					
10064		HOLL	08	08	1630	S20	E02	08	8.8		A	HSX	20	3	2	4
10064		LEAR	08	09	0020	S20	W01	08	8.9		B	AHO	20	3	3	4
10064		VORO	08	09	0058	S20	W01	08	9.0			BXO	4	2	2	2
10061		SVTO	08	03	0645	N09	E89	08	10.0		A	HSX	120	1	8	3
10061		HOLL	08	03	1723	N08	E80	08	9.7		A	HSX	180	1	2	3
10061		TACH	08	04	0507	N12	E71	08	9.6			HSX	146	1	2	4
10061		SVTO	08	04	0820	N07	E73	08	9.8		B	DAO	200	3	4	2
10061		RAMY	08	04	1300	N08	E70	08	9.8		B	DAO	210	9	4	3
10061		HOLL	08	04	1430	N08	E70	08	9.8		B	CAO	150	8	6	3
10061		LEAR	08	05	0255	N07	E63	08	9.8		B	CAO	160	8	6	3
10061		TACH	08	05	0557	N06	E56	08	9.4			CAO	188	4	2	3
10061		SVTO	08	05	0600	N05	E62	08	9.9		B	DSO	260	9	8	3
10061		RAMY	08	05	1205	N08	E58	08	9.8		B	DAO	180	8	6	3
10061		HOLL	08	05	1339	N08	E58	08	9.9		B	CAO	160	9	11	4
10061	31358	MWIL	08	05	1430	N09	E56	08	9.8	5	(BP)					
10061		LEAR	08	06	0130	N08	E54	08	10.1		B	DAO	210	11	10	1
10061		TACH	08	06	0457	N06	E48	08	9.8			CAI	135	13	10	3
10061		SVTO	08	06	0623	N10	E50	08	10.0		B	ESI	210	27	12	3
10061		RAMY	08	06	1301	N09	E47	08	10.1		B	EAO	310	32	11	4
10061		HOLL	08	06	1415	N10	E46	08	10.0		B	DAI	330	26	10	4
10061	31358	MWIL	08	06	1430	N09	E45	08	10.0	5	(BG)					
10061		LEAR	08	07	0350	N10	E39	08	10.1		BG	DAI	340	31	10	3
10061		TACH	08	07	0640	N09	E33	08	9.7			CAI	192	15	8	4
10061		SVTO	08	07	0720	N08	E36	08	10.0		B	DSI	240	25	9	2
10061		RAMY	08	07	1201	N09	E35	08	10.1		B	DSI	360	19	10	3
10061	31358	MWIL	08	07	1430	N09	E31	08	9.9	5	(D)					
10061		HOLL	08	07	1805	N08	E29	08	9.9		B	DKI	280	41	9	4
10061		LEAR	08	08	0157	N08	E27	08	10.1		BGD	DAI	340	42	10	3
10061		TACH	08	08	0532	N09	E20	08	9.7			DAI	238	13	7	4
10061		SVTO	08	08	0700	N08	E24	08	10.1		B	ESI	290	22	11	2
10061		RAMY	08	08	1240	N09	E20	08	10.0		B	DKI	390	23	10	3
10061	31358	MWIL	08	08	1430	N08	E18	08	9.9	5	(D)					
10061		HOLL	08	08	1630	N08	E16	08	9.9		B	DKI	320	34	10	4
10061		LEAR	08	09	0020	N08	E12	08	9.9		BD	EAI	440	66	11	4
10061		VORO	08	09	0058	N09	E12	08	9.9			DAI	308	29	9	2
10061		TACH	08	09	0528	N09	E09	08	9.9			CAI	168	8	7	4
10061		RAMY	08	09	1315	N08	E06	08	10.0		B	EKC	450	56	12	3
10061		HOLL	08	09	1403	N07	E04	08	9.9		B	EKC	210	33	12	4
10061	31358	MWIL	08	09	1445	N08	E04	08	9.9	5	(D)					
10061		VORO	08	10	0004	N08	W03	08	9.8			DAI	237	9	6	2
10061		LEAR	08	10	0315	N08	W04	08	9.8		B	EAI	310	28	13	2
10061		TACH	08	10	0739	N09	W07	08	9.8			CAI	106	7	4	3
10061		RAMY	08	10	1245	N07	W08	08	9.9		B	EHI	350	28	11	2
10061	31358	MWIL	08	10	1445	N08	W09	08	9.9	5	(D)					
10061		HOLL	08	10	1700	N09	W12	08	9.8		B	DKO	200	27	10	3
10061		VORO	08	10	2143	N08	W14	08	9.8			CHI	231	26	9	3
10061		LEAR	08	11	0032	N08	W15	08	9.9		BG	EAO	110	14	11	1
10061		TACH	08	11	0502	N08	W19	08	9.8			CAO	109	7	6	3
10061		RAMY	08	11	1125	N07	W22	08	9.8		B	EAI	160	21	12	3
10061		HOLL	08	11	1420	N08	W24	08	9.8		B	CAI	170	18	10	4
10061	31358	MWIL	08	11	1445	N08	W24	08	9.8	5	(BG)					
10061		VORO	08	11	2130	N08	W28	08	9.8			CAI	166	18	6	3
10061		LEAR	08	12	0015	N08	W29	08	9.8		B	CAO	130	14	6	2

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10061		TACH	08	12	0631	N09	W30	08	10.0			CAI	75	5	4	4
10061		RAMY	08	12	1117	N07	W35	08	9.8		B	DAO	110	10	5	4
10061		HOLL	08	12	1400	N08	W36	08	9.9		B	CAI	130	12	5	4
10061	31358	MWIL	08	12	1445	N09	W37	08	9.8	5	(BP)					
10061		VORO	08	12	2222	N08	W42	08	9.8			CAI	165	10	2	2
10061		LEAR	08	13	0020	N09	W42	08	9.9		B	DAO	70	9	5	3
10061		TACH	08	13	0502	N09	W42	08	10.0			CAI	89	5	5	5
10061		HOLL	08	13	1353	N08	W49	08	9.9		B	CAO	90	4	5	3
10061	31358	MWIL	08	13	1430	N09	W50	08	9.8	5	(BP)					
10061		RAMY	08	13	1500	N09	W51	08	9.8		B	CSO	80	3	4	2
10061		VORO	08	13	2134	N09	W55	08	9.8			HAX	117	1		3
10061		LEAR	08	14	0035	N08	W57	08	9.7		A	HSX	90	1	2	2
10061		SVTO	08	14	0815	N11	W62	08	9.7		A	HSX	220	1	2	3
10061		RAMY	08	14	1145	N07	W63	08	9.8		A	HSX	80	1	2	3
10061	31358	MWIL	08	14	1445	N08	W64	08	9.8	5	(BP)					
10061		HOLL	08	14	1525	N08	W65	08	9.8		A	HAX	70	3	3	4
10061		LEAR	08	15	0113	N08	W70	08	9.8		A	HSX	100	1	2	2
10061		VORO	08	15	0142	N09	W71	08	9.7			HAX	108	1		2
10061		TACH	08	15	0739	N09	W74	08	9.8			HSX	157	1	2	4
10061		RAMY	08	15	1230	N06	W80	08	9.5		A	HSX	60	1	2	3
10061		SVTO	08	15	1434	N08	W83	08	9.4		A	HSX	90	1	2	3
10061	31358	MWIL	08	15	1500	N08	W78	08	9.8	4	(AP)					
10061		HOLL	08	15	1800	N04	W80	08	9.8		A	HAX	60	1	2	3
10061		VORO	08	15	2136	N10	W83	08	9.7			HAX	45	1		2
10061		LEAR	08	16	0112	N09	W86	08	9.6		A	HSX	80	1	3	2
10072		HOLL	08	07	1805	S13	E31	08	10.1		A	AXX	10	1	1	4
10072		HOLL	08	11	1420	S18	W18	08	10.2		B	BXO	10	2	2	4
10072	31368	MWIL	08	11	1445	S18	W17	08	10.3	4	(B)					
10072		VORO	08	11	2130	S17	W22	08	10.2			BXI	26	4	2	3
10072		LEAR	08	12	0015	S17	W24	08	10.2		B	DAO	20	8	3	2
10072		TACH	08	12	0631	S14	W25	08	10.4			BRO	20	4	3	4
10072		RAMY	08	12	1117	S18	W28	08	10.3		B	DSO	30	8	5	4
10072		HOLL	08	12	1400	S18	W31	08	10.2		B	CSO	50	7	6	4
10072	31368	MWIL	08	12	1445	S17	W31	08	10.2	5	(B)					
10072		VORO	08	12	2222	S17	W36	08	10.2			CAI	77	11	5	2
10072		LEAR	08	13	0020	S17	W36	08	10.3		B	DAO	80	9	7	3
10072		TACH	08	13	0502	S14	W38	08	10.3			CSI	37	4	5	5
10072		HOLL	08	13	1353	S18	W44	08	10.2		B	DAO	200	8	6	3
10072	31368	MWIL	08	13	1430	S17	W44	08	10.3	5	(B)					
10072		RAMY	08	13	1500	S18	W43	08	10.3		B	DAO	200	11	8	2
10072		VORO	08	13	2134	S17	W48	08	10.2			DAO	307	6	4	3
10072		LEAR	08	14	0035	S16	W48	08	10.4		B	DAO	180	8	8	2
10072		SVTO	08	14	0815	S15	W55	08	10.2		B	DSO	220	3	8	3
10072		RAMY	08	14	1145	S18	W57	08	10.1		B	DAO	150	4	7	3
10072	31368	MWIL	08	14	1445	S18	W58	08	10.2	5	(B)					
10072		HOLL	08	14	1525	S17	W60	08	10.1		B	DAO	260	10	7	4
10072		LEAR	08	15	0113	S17	W63	08	10.3		B	DAO	290	13	8	2
10072		VORO	08	15	0142	S17	W64	08	10.2			DAI	376	5	5	2
10072		TACH	08	15	0739	S16	W68	08	10.2			DSO	229	2	6	4
10072		RAMY	08	15	1230	S18	W75	08	9.8		B	DAO	360	5	12	3
10072		SVTO	08	15	1434	S18	W74	08	10.0		B	ESO	340	3	12	3
10072	31368	MWIL	08	15	1500	S17	W71	08	10.2	4	(B)					
10072		HOLL	08	15	1800	S17	W75	08	10.0		B	DAO	240	3	10	3
10072		VORO	08	15	2136	S16	W75	08	10.2			DAI	55	3	6	2
10072		LEAR	08	16	0112	S16	W76	08	10.3		B	DAO	180	3	8	2
10072		TACH	08	16	0440	S16	W74	08	10.6			HSX	64	1	2	4
10072		SVTO	08	16	0800	S18	W83	08	10.0		B	DSO	80	2	5	3
10072	31368	MWIL	08	16	1500	S16	W80	08	10.5	4	AF					
10072A		SVTO	08	06	0623	S19	E62	08	11.0		A	HRX	10	1		3
10072A		RAMY	08	06	1301	S21	E56	08	10.8		B	CSO	20	2	4	4
10072A	31360	MWIL	08	06	1430	S21	E57	08	11.0	4	(AP)					
10072B		HOLL	08	06	1415	S27	E54	08	10.8		A	AXX	10	1	1	4
10070		HOLL	08	09	1403	N13	E32	08	12.0		A	AXX	10	3	2	4
10070		RAMY	08	11	1125	N04	E02	08	11.6		B	BXO		4	5	3
10070		HOLL	08	11	1420	N05	W01	08	11.5		B	BXO	20	5	5	4

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10070	31369	MWIL	08	11	1445	N11	E03	08	11.8	4	(B)					
10070		HOLL	08	12	1400	N08	W11	08	11.7		A	AXX	10	2	2	4
10070	31369	MWIL	08	12	1445	N12	W09	08	11.9	4	(BG)					
10070A		LEAR	08	09	0020	N19	E38	08	11.9		B	CAO	40	9	11	4
10070A		VORO	08	10	2143	N18	E16	08	12.1			BXI	10	6	2	2
10070A		RAMY	08	12	1117	N17	W08	08	11.9		B	BXO	10	6	7	4
10070A		HOLL	08	12	1400	N16	W07	08	12.0		B	BXO	10	5	4	4
10074	31363	MWIL	08	07	1430	N21	E70	08	13.0	4	(AP)					
10074		VORO	08	11	2130	N25	E14	08	13.0			AXX	5	1		3
10074		RAMY	08	12	1117	N25	E05	08	12.8		B	BXO		2	3	4
10074		HOLL	08	12	1400	N23	E04	08	12.9		A	AXX	10	1		4
10074	31372	MWIL	08	12	1445	N24	E03	08	12.8	4	(AF)					
10063		LEAR	08	06	0130	N16	E81	08	12.2		A	HAX	30	1	2	1
10063		TACH	08	06	0457	N15	E83	08	12.5			HSX	86	1	1	3
10063		SVTO	08	06	0623	N18	E83	08	12.6		A	HSX	120	1	3	3
10063		RAMY	08	06	1301	N17	E80	08	12.6		B	DAO	110	3	10	4
10063		HOLL	08	06	1415	N20	E82	08	12.9		B	ESO	110	2	12	4
10063	31361	MWIL	08	06	1430	N18	E80	08	12.7	5	(B)					
10063		LEAR	08	07	0350	N17	E75	08	12.8		B	DAO	180	2	10	3
10063		TACH	08	07	0640	N18	E72	08	12.8			ESO	306	2	12	4
10063		SVTO	08	07	0720	N18	E73	08	12.9		B	ESO	220	4	12	2
10063		RAMY	08	07	1201	N17	E72	08	13.0		B	DAO	170	2	10	3
10063	31361	MWIL	08	07	1430	N18	E69	08	12.8	5	(B)					
10063		HOLL	08	07	1805	N17	E70	08	13.1		B	EAO	220	6	11	4
10063		LEAR	08	08	0157	N17	E63	08	12.9		B	DAO	240	5	10	3
10063		TACH	08	08	0532	N17	E58	08	12.6			DSO	282	2	10	4
10063		SVTO	08	08	0700	N18	E58	08	12.7		B	DSO	220	5	9	2
10063		RAMY	08	08	1240	N20	E58	08	13.0		B	EAO	210	8	14	3
10063	31361	MWIL	08	08	1430	N18	E56	08	12.9	5	(B)					
10063		HOLL	08	08	1630	N16	E55	08	12.8		B	EAO	220	6	11	4
10063		LEAR	08	09	0020	N16	E52	08	12.9		B	EAO	250	17	11	4
10063		VORO	08	09	0058	N18	E51	08	12.9			DAO	319	9	8	2
10063		TACH	08	09	0528	N17	E45	08	12.6			DAO	191	4	8	4
10063		RAMY	08	09	1315	N17	E41	08	12.7		B	FAO	250	12	18	3
10063		HOLL	08	09	1403	N17	E43	08	12.8		B	EAO	200	7	11	4
10063	31361	MWIL	08	09	1445	N17	E43	08	12.9	5	(BG)					
10063		VORO	08	10	0004	N18	E38	08	12.9			DAO	222	4	9	2
10063		LEAR	08	10	0315	N16	E36	08	12.9		B	DAO	250	8	10	2
10063		TACH	08	10	0739	N18	E30	08	12.6			DAO	126	4	8	3
10063		RAMY	08	10	1245	N18	E30	08	12.8		B	EAO	260	16	15	2
10063	31361	MWIL	08	10	1445	N17	E30	08	12.9	5	(BG)					
10063		HOLL	08	10	1700	N17	E30	08	13.0		B	DAO	170	9	10	3
10063		VORO	08	10	2143	N19	E26	08	12.9			DAI	253	11	3	3
10063		LEAR	08	11	0032	N17	E25	08	12.9		B	DAO	130	3	10	1
10063		TACH	08	11	0502	N17	E18	08	12.6			DAO	161	3	8	3
10063		RAMY	08	11	1125	N18	E20	08	13.0		B	ESO	140	11	14	3
10063		HOLL	08	11	1420	N17	E17	08	12.9		B	DSO	190	11	10	4
10063	31361	MWIL	08	11	1445	N17	E17	08	12.9	5	(B)					
10063		VORO	08	11	2130	N18	E14	08	13.0			DAI	240	8	8	3
10063		LEAR	08	12	0015	N17	E13	08	13.0		B	DAO	120	2	9	2
10063		TACH	08	12	0631	N16	E06	08	12.7			DSI	60	4	8	4
10063		RAMY	08	12	1117	N17	E05	08	12.8		B	DSO	150	7	10	4
10063		HOLL	08	12	1400	N17	E05	08	13.0		B	EAO	170	9	12	4
10063	31361	MWIL	08	12	1445	N18	E05	08	13.0	5	(B)					
10063		VORO	08	12	2222	N18	W00	08	12.9			DSI	224	6	9	2
10063		LEAR	08	13	0020	N18	W02	08	12.9		B	EAO	140	5	11	3
10063		TACH	08	13	0502	N18	W05	08	12.8			DAI	112	5	8	5
10063		HOLL	08	13	1353	N17	W08	08	13.0		B	EAI	180	12	11	3
10063	31361	MWIL	08	13	1430	N18	W08	08	13.0	5	(B)					
10063		RAMY	08	13	1500	N19	W10	08	12.9		B	ESO	240	9	11	2
10063		VORO	08	13	2134	N19	W13	08	12.9			DSI	168	10	9	3
10063		LEAR	08	14	0035	N18	W14	08	12.9		B	DAO	110	7	9	2
10063		SVTO	08	14	0815	N18	W18	08	13.0		B	ESO	130	4	11	3
10063		RAMY	08	14	1145	N16	W20	08	13.0		B	ESO	160	10	11	3
10063	31361	MWIL	08	14	1445	N16	W22	08	12.9	5	(BG)					
10063		HOLL	08	14	1525	N17	W22	08	13.0		B	ESO	100	19	11	4

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10063		LEAR	08 15 0113	N18 W27	08 13.0		B	DSO	120	10	10	2
10063		VORO	08 15 0142	N18 W28	08 12.9			CSI	132	7	9	2
10063		TACH	08 15 0739	N16 W30	08 13.0			CSI	56	5	11	4
10063		RAMY	08 15 1230	N15 W36	08 12.8		B	ESO	230	15	13	3
10063		SVTO	08 15 1434	N17 W35	08 12.9		B	ESO	120	5	15	3
10063	31361	MWIL	08 15 1500	N16 W33	08 13.1	5	(B)					
10063		HOLL	08 15 1800	N17 W31	08 13.4		B	DSO	70	9	8	3
10063		VORO	08 15 2136	N19 W38	08 13.0			CAI	119	4	8	2
10063		LEAR	08 16 0112	N17 W39	08 13.1		B	CSO	100	10	10	2
10063		TACH	08 16 0440	N17 W35	08 13.5			CSO	52	3	3	4
10063		SVTO	08 16 0800	N16 W39	08 13.4		B	DSO	100	4	7	3
10063	31361	MWIL	08 16 1500	N17 W43	08 13.3	5	(AF)					
10063		LEAR	08 17 0020	N17 W48	08 13.4		B	CSO	50	3	3	3
10063		TACH	08 17 0509	N19 W49	08 13.5			HSX	57	1	1	4
10063		SVTO	08 17 0900	N17 W55	08 13.2		A	HSX	60	1	1	3
10063		RAMY	08 17 1400	N17 W57	08 13.2		A	HSX	100	1	2	3
10063	31361	MWIL	08 17 1445	N18 W56	08 13.3	5	(AF)					
10063		HOLL	08 17 1452	N19 W58	08 13.2		A	HSX	70	1	2	3
10063		LEAR	08 18 0035	N18 W63	08 13.2		A	HSX	40	1	2	1
10063		VORO	08 18 0423	N19 W64	08 13.3			HAX	109	1		2
10063		TACH	08 18 0625	N20 W62	08 13.5			HSX	105	1	2	5
10063		RAMY	08 18 1231	N18 W69	08 13.3		A	HSX	50	1	2	3
10063	31361	MWIL	08 18 1400	N19 W69	08 13.3	5	(AP)					
10063		HOLL	08 18 1432	N17 W71	08 13.2		A	HAX	110	1	2	4
10063		VORO	08 18 2209	N19 W73	08 13.3			HAX	89	1		2
10063		LEAR	08 19 0036	N19 W75	08 13.3		A	HSX	80	1	2	1
10063		TACH	08 19 0419	N19 W76	08 13.4			HSX	74	1	2	5
10063		SVTO	08 19 0615	N17 W79	08 13.2		A	HSX	60	1	1	3
10063		RAMY	08 19 1217	N17 W83	08 13.2		A	HSX	60	1	1	3
10063	31361	MWIL	08 19 1430	N19 W82	08 13.3	4	(AF)					
10065	31364	MWIL	08 07 1430	S09 E75	08 13.2	4	(AP)					
10065		HOLL	08 07 1805	S09 E75	08 13.4		A	AXX	30	1	1	4
10065		LEAR	08 08 0157	S10 E68	08 13.2		A	HRX	10	1		3
10065		RAMY	08 08 1240	S09 E61	08 13.1		A	AXX	10	1		3
10065	31364	MWIL	08 08 1430	S09 E59	08 13.0	3	(AP)					
10065		HOLL	08 08 1630	S10 E58	08 13.0		A	AXX	10	1	1	4
10065		RAMY	08 09 1315	S09 E48	08 13.1		B	CSO	30	2	3	3
10065		HOLL	08 09 1403	S09 E46	08 13.0		A	AXX	10	1	1	4
10065	31364	MWIL	08 09 1445	S09 E45	08 13.0	4	(AP)					
10065		RAMY	08 10 1245	S09 E32	08 12.9		B	BXO	10	2	3	2
10065	31377	MWIL	08 14 1445	S08 W22	08 13.0	4	(AP)					
10065		HOLL	08 14 1525	S07 W22	08 13.0		A	AXX	10	1	1	4
10065A	31370	MWIL	08 11 1445	N14 E20	08 13.1	4	(B)					
10065A		LEAR	08 12 0015	N13 E16	08 13.2		B	DAO	20	3	3	2
10065A	31370	MWIL	08 12 1445	N15 E07	08 13.1	4	(B)					
10065A		LEAR	08 15 0113	N11 W25	08 13.2		A	HRX	10	1		2
10065B		LEAR	08 09 0020	S22 E60	08 13.6		B	CRO	30	3	11	4
10078		HOLL	08 13 1353	S11 E06	08 14.0		A	AXX	10	2	2	3
10078		VORO	08 13 2134	S13 E01	08 14.0			AXX	1	1		3
10078		SVTO	08 14 0815	S13 W06	08 13.9		B	DSO	30	2	4	3
10078		RAMY	08 14 1145	S13 W06	08 14.0		B	DSO	30	7	4	3
10078	31378	MWIL	08 14 1445	S13 W07	08 14.1	5	(BF)					
10078		HOLL	08 14 1525	S13 W07	08 14.1		B	CSO	10	16	4	4
10078		LEAR	08 15 0113	S13 W13	08 14.1		B	DAO	60	9	5	2
10078		VORO	08 15 0142	S13 W14	08 14.0			CAI	34	5	3	2
10078		TACH	08 15 0739	S11 W19	08 13.9			BRO	39	2	4	4
10078		RAMY	08 15 1230	S14 W20	08 14.0		B	DAO	60	7	6	3
10078		SVTO	08 15 1434	S14 W22	08 13.9		B	DSO	60	4	7	3
10078	31378	MWIL	08 15 1500	S13 W22	08 14.0	5	(BG)					
10078		HOLL	08 15 1800	S12 W22	08 14.1		B	DAO	50	11	6	3
10078		VORO	08 15 2136	S13 W25	08 14.0			CAI	63	8	6	2
10078		LEAR	08 16 0112	S13 W28	08 13.9		B	DAO	60	9	4	2
10078		TACH	08 16 0440	S11 W28	08 14.1			BXO	9	2	4	4
10078		SVTO	08 16 0800	S14 W32	08 13.9		B	DSO	60	2	6	3
10078	31378	MWIL	08 16 1500	S13 W36	08 13.9	4	(B)					

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10078		LEAR	08 17 0020	S13 W41	08 13.9		B	DSO	40	3	5	3
10078		TACH	08 17 0509	S11 W41	08 14.1			BXO	3	2	4	4
10078		SVTO	08 17 0900	S16 W46	08 13.9		B	DRO	50	2	3	3
10078		RAMY	08 17 1400	S15 W47	08 14.0		B	BXO	100	2	4	3
10078	31378	MWIL	08 17 1445	S13 W49	08 13.9	3	(B)					
10078		HOLL	08 17 1452	S14 W49	08 13.9		B	CSO	40	2	4	3
10078A		HOLL	08 13 1353	N16 E09	08 14.3		B	BXO	10	4	3	3
10075		RAMY	08 12 1117	S09 E38	08 15.3		B	BXO	10	5	4	4
10075		HOLL	08 12 1400	S06 E32	08 15.0		B	BXO	10	2	3	4
10075		VORO	08 12 2222	S11 E30	08 15.2			AXX	6	1		2
10075		LEAR	08 13 0020	S10 E28	08 15.1		A	HRX	10	2	1	3
10075		TACH	08 13 0502	S08 E23	08 14.9			AXX	2	1	1	5
10075		HOLL	08 13 1353	S10 E23	08 15.3		B	DSO	70	4	6	3
10075	31374	MWIL	08 13 1430	S11 E23	08 15.3	4	(B)					
10075		RAMY	08 13 1500	S10 E22	08 15.3		B	BXO	20	6	4	2
10075		VORO	08 13 2134	S11 E18	08 15.2			BXO	11	3	2	3
10075		LEAR	08 14 0035	S11 E16	08 15.2		B	DRO	30	4	3	2
10075		SVTO	08 14 0815	S12 E12	08 15.2		B	DSO	50	5	4	3
10075		RAMY	08 14 1145	S11 E10	08 15.2		B	DAO	50	5	3	3
10075	31374	MWIL	08 14 1445	S11 E08	08 15.2	5	(B)					
10075		HOLL	08 14 1525	S12 E08	08 15.2		B	CAO	20	7	4	4
10075		LEAR	08 15 0113	S11 E01	08 15.1		B	DAO	40	7	4	2
10075		VORO	08 15 0142	S12 E01	08 15.1			BXI	19	7	4	2
10075		TACH	08 15 0739	S10 W05	08 14.9			BXO	6	2	3	4
10075		RAMY	08 15 1230	S11 W06	08 15.1		B	CSO	30	7	5	3
10075		SVTO	08 15 1434	S11 W06	08 15.1		B	CSO	30	4	4	3
10075	31374	MWIL	08 15 1500	S11 W06	08 15.2	4	(B)					
10075		HOLL	08 15 1800	S10 W06	08 15.3		B	BXO	10	4	4	3
10075		VORO	08 15 2136	S11 W10	08 15.1			BXO	10	3	3	2
10075	31374	MWIL	08 16 1500	S11 W18	08 15.3	4	AF					
10066		RAMY	08 09 1315	N14 E72	08 15.0		B	BXO	20	2	3	3
10066		HOLL	08 09 1403	N14 E75	08 15.2		A	AXX	10	1	1	4
10066	31365	MWIL	08 09 1445	N14 E74	08 15.2	4	(AP)					
10066		LEAR	08 10 0315	N14 E70	08 15.4		B	ESO	110	9	14	2
10066		TACH	08 10 0739	N14 E61	08 14.9			AXX	5	1	1	3
10066		RAMY	08 10 1245	N13 E60	08 15.0		B	DSO	50	4	4	2
10066	31365	MWIL	08 10 1445	N13 E61	08 15.2	4	(B)					
10066		HOLL	08 10 1700	N12 E60	08 15.2		B	DSO	70	5	6	3
10066		VORO	08 10 2143	N13 E57	08 15.2			BXI	36	4	5	2
10066		LEAR	08 11 0032	N13 E55	08 15.2		B	DAO	60	4	7	1
10066		TACH	08 11 0502	N15 E49	08 14.9			BRO	3	4	7	3
10066		RAMY	08 11 1125	N15 E51	08 15.3		B	DRO	20	9	8	3
10066		HOLL	08 11 1420	N12 E45	08 15.0		B	DRO	70	9	3	4
10066	31365	MWIL	08 11 1445	N14 E48	08 15.2	4	(BP)					
10066		VORO	08 11 2130	N14 E42	08 15.1			BXI	17	7	2	3
10066		LEAR	08 12 0015	N14 E43	08 15.3		B	BXO	30	10	8	2
10066		TACH	08 12 0631	N15 E37	08 15.1			BRI	6	7	4	4
10066		RAMY	08 12 1117	N16 E37	08 15.3		B	DRO	30	14	10	4
10066		HOLL	08 12 1400	N14 E35	08 15.2		B	DSI	20	12	10	4
10066	31365	MWIL	08 12 1445	N14 E36	08 15.3	4	(BG)					
10066		VORO	08 12 2222	N14 E30	08 15.2			BXI	27	7	8	2
10066		LEAR	08 13 0020	N14 E29	08 15.2		B	DAO	40	22	9	3
10066		TACH	08 13 0502	N14 E23	08 14.9			BRI	28	10	8	5
10066		HOLL	08 13 1353	N14 E22	08 15.2		B	DAI	80	17	9	3
10066	31365	MWIL	08 13 1430	N13 E21	08 15.2	5	(BG)					
10066		RAMY	08 13 1500	N14 E19	08 15.1		B	DSO	110	17	10	2
10066		VORO	08 13 2134	N13 E18	08 15.2			CAI	73	20	4	3
10066		LEAR	08 14 0035	N13 E14	08 15.1		BG	DAI	50	17	6	2
10066		SVTO	08 14 0815	N13 E12	08 15.2		B	DAO	150	6	7	3
10066		RAMY	08 14 1145	N13 E09	08 15.2		BG	DAI	150	20	10	3
10066	31365	MWIL	08 14 1445	N14 E08	08 15.2	5	(D)					
10066		HOLL	08 14 1525	N13 E08	08 15.2		B	DAI	160	15	5	4
10066		LEAR	08 15 0113	N13 E02	08 15.2		BG	DAI	110	28	10	2
10066		VORO	08 15 0142	N14 E02	08 15.2			CAI	64	19	4	2
10066		TACH	08 15 0739	N13 W04	08 15.0			DAO	101	3	4	4
10066		RAMY	08 15 1230	N14 W04	08 15.2		BG	EAI	230	34	13	3

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10066		SVTO	08	15	1434	N14	W06	08	15.1		B	DAO	110	5	6	3
10066	31365	MWIL	08	15	1500	N14	W06	08	15.2	4	(BG)					
10066		HOLL	08	15	1800	N13	W07	08	15.2		B	DAO	70	19	7	3
10066		VORO	08	15	2136	N14	W09	08	15.2			BXI	75	15	5	2
10066		LEAR	08	16	0112	N14	W10	08	15.3		BG	EAI	100	28	11	2
10066		TACH	08	16	0440	N14	W13	08	15.2			BRI	20	5	5	4
10066		SVTO	08	16	0800	N13	W16	08	15.1		B	DSO	80	9	7	3
10066	31365	MWIL	08	16	1500	N14	W19	08	15.2	4	(BG)					
10066		LEAR	08	17	0020	N14	W22	08	15.3		BG	ESO	70	34	11	3
10066		TACH	08	17	0509	N14	W25	08	15.3			BRI	10	6	4	4
10066		SVTO	08	17	0900	N12	W29	08	15.2		B	DRO	50	7	4	3
10066		RAMY	08	17	1400	N12	W30	08	15.3		B	DSO	30	7	5	3
10066	31365	MWIL	08	17	1445	N14	W31	08	15.3	4	(B)					
10066		HOLL	08	17	1452	N13	W32	08	15.2		B	CSO	30	5	3	3
10066		LEAR	08	18	0035	N14	W36	08	15.3		B	DAO	50	8	6	1
10066		VORO	08	18	0423	N14	W37	08	15.4			BXI	37	14	5	2
10066		TACH	08	18	0625	N14	W37	08	15.5			BRO	12	4	3	5
10066		RAMY	08	18	1231	N14	W43	08	15.3		B	DAO	60	12	8	3
10066	31365	MWIL	08	18	1400	N14	W44	08	15.2	4	(BG)					
10066		HOLL	08	18	1432	N14	W43	08	15.3		B	DSO	60	11	6	4
10066		VORO	08	18	2209	N14	W46	08	15.4			CAI	53	8	3	2
10066		LEAR	08	19	0036	N15	W46	08	15.5		B	DAO	60	10	7	1
10066		TACH	08	19	0419	N15	W46	08	15.7			HA	64	3	2	5
10066		SVTO	08	19	0615	N15	W51	08	15.4		B	DSO	40	3	4	3
10066		RAMY	08	19	1217	N13	W56	08	15.3		B	DAO	80	6	4	3
10066	31365	MWIL	08	19	1430	N15	W55	08	15.4	4	(B)					
10066		VORO	08	19	2322	N15	W59	08	15.5			BXI	29	4	1	2
10066		LEAR	08	20	0020	N16	W59	08	15.5		B	CAO	30	2	4	3
10066		TACH	08	20	0552	N17	W60	08	15.7			AR	6	2	2	5
10066		SVTO	08	20	1000	N13	W66	08	15.4		A	HRX	20	2	3	2
10066		RAMY	08	20	1210	N13	W68	08	15.4		B	CSO	80	2	3	3
10066		HOLL	08	20	1353	N16	W67	08	15.5		A	AXX	20	3	2	3
10066	31365	MWIL	08	20	1445	N17	W66	08	15.6	4	(AF)					
10066		LEAR	08	21	0017	N15	W72	08	15.6		B	CAO	70	10	4	4
10066		SVTO	08	21	0921	N14	W78	08	15.5		A	AXX		1		3
10067		VORO	08	10	0004	N10	E82	08	16.2			HAX	43	1		2
10067		TACH	08	10	0739	N12	E76	08	16.0			AXX	6	1	1	3
10067		RAMY	08	10	1245	N10	E79	08	16.5		B	CSO	90	5	3	2
10067	31367	MWIL	08	10	1445	N10	E76	08	16.3	4	(AP)					
10067		HOLL	08	10	1700	N09	E72	08	16.1		A	HAX	60	1	2	3
10067		VORO	08	10	2143	N10	E68	08	16.0			DAO	145	2	15	3
10067		LEAR	08	11	0032	N09	E68	08	16.1		A	HAX	90	3	2	1
10067		TACH	08	11	0502	N12	E70	08	16.5			BRI	26	5	15	3
10067		RAMY	08	11	1125	N11	E64	08	16.3		B	DAO	90	7	6	3
10067		HOLL	08	11	1420	N08	E63	08	16.3		B	DAO	200	12	10	4
10067	31367	MWIL	08	11	1445	N10	E66	08	16.6	5	(BP)					
10067		VORO	08	11	2130	N11	E64	08	16.7			DAI	173	12	14	3
10067		LEAR	08	12	0015	N08	E56	08	16.2		B	DSO	90	8	5	2
10067		TACH	08	12	0631	N11	E58	08	16.6			EAI	112	5	12	4
10067		RAMY	08	12	1117	N12	E50	08	16.2		B	DSO	110	9	6	4
10067		HOLL	08	12	1400	N09	E49	08	16.3		B	CAO	70	9	5	4
10067	31367	MWIL	08	12	1445	N10	E52	08	16.5	5	(BG)					
10067		VORO	08	12	2222	N11	E49	08	16.6			CAI	118	10	14	2
10067		LEAR	08	13	0020	N10	E43	08	16.2		B	DAO	80	12	7	3
10067		TACH	08	13	0502	N11	E38	08	16.1			CAI	47	6	7	5
10067		HOLL	08	13	1353	N11	E40	08	16.6		B	CSO	100	13	16	3
10067	31367	MWIL	08	13	1430	N11	E39	08	16.5	5	(BG)					
10067		RAMY	08	13	1500	N11	E37	08	16.4		B	ESO	160	11	12	2
10067		VORO	08	13	2134	N11	E37	08	16.7			DAI	152	21	14	3
10067		LEAR	08	14	0035	N11	E33	08	16.5		B	EAO	100	19	13	2
10067		SVTO	08	14	0815	N10	E28	08	16.4		B	EAO	150	13	13	3
10067		RAMY	08	14	1145	N12	E27	08	16.5		B	FAI	270	23	16	3
10067	31367	MWIL	08	14	1445	N12	E25	08	16.5	5	(BG)					
10067		HOLL	08	14	1525	N11	E24	08	16.4		B	EAO	270	50	12	4
10067		LEAR	08	15	0113	N12	E19	08	16.5		B	EAI	170	62	12	2
10067		VORO	08	15	0142	N12	E19	08	16.5			DAI	105	29	10	2
10067		TACH	08	15	0739	N11	E11	08	16.1			DAI	113	9	9	4
10067		RAMY	08	15	1230	N11	E12	08	16.4		B	EAI	340	53	14	3

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10067		SVTO	08	15	1434	N12	E12	08	16.5		B	EAO	320	12	14	3
10067	31367	MWIL	08	15	1500	N11	E09	08	16.3	4	(BG)					
10067		HOLL	08	15	1800	N11	E09	08	16.4		BG	EAI	230	39	14	3
10067		VORO	08	15	2136	N13	E08	08	16.5			DAI	229	43	11	2
10067		LEAR	08	16	0112	N13	E06	08	16.5		B	EAI	250	55	14	2
10067		TACH	08	16	0440	N13	E04	08	16.5			CAI	71	10	8	4
10067		SVTO	08	16	0800	N12	E02	08	16.5		B	ESI	160	16	13	3
10067	31367	MWIL	08	16	1500	N12	W02	08	16.5	4	(B)					
10067		LEAR	08	17	0020	N13	W07	08	16.5		B	EAI	150	51	12	3
10067		TACH	08	17	0509	N11	W10	08	16.5			BRI	36	9	10	4
10067		SVTO	08	17	0900	N12	W11	08	16.5		B	ESI	130	18	13	3
10067		RAMY	08	17	1400	N12	W16	08	16.4		B	EAO	240	17	11	3
10067	31367	MWIL	08	17	1445	N12	W15	08	16.5	4	(B)					
10067		HOLL	08	17	1452	N12	W16	08	16.4		BG	EAI	130	26	12	3
10067		LEAR	08	18	0035	N12	W21	08	16.4		B	EAO	150	22	12	1
10067		VORO	08	18	0423	N12	W24	08	16.4			BXI	53	20	11	2
10067		TACH	08	18	0625	N12	W22	08	16.6			BRI	29	12	6	5
10067		RAMY	08	18	1231	N12	W28	08	16.4		B	EAO	40	36	13	3
10067	31367	MWIL	08	18	1400	N12	W28	08	16.5	4	(B)					
10067		HOLL	08	18	1432	N12	W27	08	16.6		B	ESO	100	34	13	4
10067		VORO	08	18	2209	N11	W39	08	16.0			AXX	24	11		2
10067		LEAR	08	19	0036	N12	W34	08	16.5		B	EAO	80	17	11	1
10067		TACH	08	19	0419	N10	W37	08	16.4			AR	4	5	3	5
10067		SVTO	08	19	0615	N09	W38	08	16.4		B	DSO	40	8	6	3
10067		RAMY	08	19	1217	N10	W43	08	16.3		B	CAO	150	7	7	3
10067	31367	MWIL	08	19	1430	N11	W44	08	16.3	4	(BG)					
10067		VORO	08	19	2322	N10	W49	08	16.3			DAI	91	9	5	2
10067		LEAR	08	20	0020	N11	W49	08	16.3		B	DAO	60	12	6	3
10067		TACH	08	20	0552	N12	W49	08	16.5			BRI	58	5	5	5
10067		SVTO	08	20	1000	N08	W56	08	16.2		B	DRO	50	9	8	2
10067		RAMY	08	20	1210	N09	W57	08	16.2		B	DAO	140	12	8	3
10067		HOLL	08	20	1353	N10	W57	08	16.3		B	CAO	60	9	7	3
10067	31367	MWIL	08	20	1445	N11	W57	08	16.3	5	(BG)					
10067		VORO	08	20	2232	N11	W62	08	16.3			DAI	52	6	6	2
10067		LEAR	08	21	0017	N11	W62	08	16.3		B	DAO	100	16	8	4
10067		TACH	08	21	0500	N13	W64	08	16.4			CAO	47	4	7	5
10067		SVTO	08	21	0921	N11	W67	08	16.3		B	CSO	60	4	7	3
10067		RAMY	08	21	1252	N10	W66	08	16.6		B	EAO	90	13	12	3
10067		HOLL	08	21	1414	N11	W65	08	16.7		B	EAO	110	7	11	3
10067	31367	MWIL	08	21	1500	N11	W68	08	16.5	5	(BG)					
10067		LEAR	08	22	0016	N10	W70	08	16.7		B	EAO	110	11	12	3
10067		TACH	08	22	0443	N12	W75	08	16.5			DSO	103	2	10	4
10067		SVTO	08	22	0716	N09	W77	08	16.5		A	HSX	60	1	2	3
10067		RAMY	08	22	1241	N10	W77	08	16.7		B	CSO	40	3	6	3
10067	31367	MWIL	08	22	1445	N11	W79	08	16.7	4	(BG)					
10067		HOLL	08	22	1525	N10	W80	08	16.6		A	HAX	60	1	1	4
10067		LEAR	08	23	0020	N11	W79	08	17.1		B	CAO	70	3	3	3
10068		LEAR	08	10	0315	S04	E79	08	16.0		A	HAX	90	1	2	2
10068		TACH	08	10	0739	S06	E75	08	15.9			HXX	30	1	1	3
10068		RAMY	08	10	1245	S08	E78	08	16.4		A	HSX	120	1	2	2
10068	31366	MWIL	08	10	1445	S07	E75	08	16.2	4	(AP)					
10068		HOLL	08	10	1700	S08	E75	08	16.3		A	HAX	60	1	2	3
10068		VORO	08	10	2143	S07	E77	08	16.7			DAO	168	2	12	2
10068		LEAR	08	11	0032	S08	E70	08	16.3		A	HSX	90	3	9	1
10068		TACH	08	11	0502	S06	E68	08	16.3			ESI	73	3	11	3
10068		RAMY	08	11	1125	S07	E67	08	16.5		B	ESO	100	5	11	3
10068		HOLL	08	11	1420	S08	E65	08	16.5		B	ESO	200	12	12	4
10068	31366	MWIL	08	11	1445	S07	E65	08	16.5	5	(B)					
10068		VORO	08	11	2130	S07	E62	08	16.5			DAI	160	8	11	3
10068		LEAR	08	12	0015	S08	E58	08	16.3		B	EAO	140	9	12	2
10068		TACH	08	12	0631	S06	E54	08	16.3			EAO	95	4	12	4
10068		RAMY	08	12	1117	S05	E55	08	16.6		B	EAO	40	6	11	4
10068		HOLL	08	12	1400	S08	E52	08	16.5		B	ESO	130	9	11	4
10068	31366	MWIL	08	12	1445	S08	E52	08	16.5	5	(B)					
10068		VORO	08	12	2222	S08	E48	08	16.5			DAI	151	3	10	2
10068		LEAR	08	13	0020	S07	E45	08	16.4		B	DSO	110	7	10	3
10068		TACH	08	13	0502	S06	E40	08	16.2			DAO	86	3	11	5
10068		HOLL	08	13	1353	S08	E39	08	16.5		B	ESI	80	6	11	3

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10068	31366	MWIL	08 13 1430	S07 E37	08 16.4	5	(B)					
10068		RAMY	08 13 1500	S07 E39	08 16.5		B	ESO	160	7	13	2
10068		VORO	08 13 2134	S08 E35	08 16.5			DAI	145	6	11	3
10068		LEAR	08 14 0035	S07 E32	08 16.4		B	HSO	50	4	11	2
10068		SVTO	08 14 0815	S09 E28	08 16.4		B	EAO	90	2	12	3
10068		RAMY	08 14 1145	S07 E27	08 16.5		B	ESO	60	4	12	3
10068	31366	MWIL	08 14 1445	S07 E25	08 16.5	5	(B)					
10068		HOLL	08 14 1525	S08 E25	08 16.5		B	EAO	80	6	11	4
10068		LEAR	08 15 0113	S07 E19	08 16.5		B	EAO	70	9	11	2
10068		VORO	08 15 0142	S08 E19	08 16.5			DAO	66	4	11	2
10068		TACH	08 15 0739	S07 E12	08 16.2			CSO	63	2	9	4
10068		RAMY	08 15 1230	S07 E13	08 16.5		B	DSO	110	11	11	3
10068		SVTO	08 15 1434	S08 E12	08 16.5		B	ESO	40	2	13	3
10068	31366	MWIL	08 15 1500	S07 E12	08 16.5	5	(B)					
10068		HOLL	08 15 1800	S07 E10	08 16.5		B	EAO	40	9	11	3
10068		VORO	08 15 2136	S07 E08	08 16.5			DAO	75	4	11	2
10068		LEAR	08 16 0112	S08 E06	08 16.5		B	EAO	40	2	11	2
10068		TACH	08 16 0440	S05 E04	08 16.5			BRO	46	2	9	4
10068		SVTO	08 16 0800	S08 E03	08 16.5		B	ESO	60	3	13	3
10068	31366	MWIL	08 16 1500	S07 W03	08 16.4	4	(B)					
10068		LEAR	08 17 0020	S08 W07	08 16.5		B	DSO	40	7	12	3
10068		TACH	08 17 0509	S06 W09	08 16.5			BXO	24	2	11	4
10068		SVTO	08 17 0900	S08 W13	08 16.4		B	ERO	50	4	12	3
10068		RAMY	08 17 1400	S09 W14	08 16.5		B	ESO	20	6	12	3
10068	31366	MWIL	08 17 1445	S07 W16	08 16.4	4	(B)					
10068		HOLL	08 17 1452	S07 W15	08 16.5		B	ESO	40	7	12	3
10068		LEAR	08 18 0035	S07 W27	08 16.0		A	HAX	20	1	1	1
10068		VORO	08 18 0423	S07 W24	08 16.4			BXO	16	5	9	2
10068		TACH	08 18 0625	S05 W24	08 16.5			BXO	10	2	8	5
10068		RAMY	08 18 1231	S07 W32	08 16.1		A	HSX	10	1	1	3
10068	31366	MWIL	08 18 1400	S06 W34	08 16.0	4	(AP)					
10068		HOLL	08 18 1432	S08 W34	08 16.0		A	HSX	30	1	1	4
10068		RAMY	08 19 1217	S08 W47	08 16.0		B	BXO	30	2	3	3
10071		RAMY	08 11 1125	N13 E75	08 17.1		A	HSX	20	1	1	3
10071		HOLL	08 11 1420	N10 E73	08 17.1		A	HAX	60	2	2	4
10071		LEAR	08 12 0015	N09 E67	08 17.0		A	HSX	50	1	2	2
10071		RAMY	08 12 1117	N13 E62	08 17.1		A	HSX	20	1	1	4
10071		HOLL	08 12 1400	N11 E61	08 17.2		A	AXX	20	2	2	4
10071		LEAR	08 13 0020	N10 E55	08 17.1		A	HAX	20	1	2	3
10071		TACH	08 13 0502	N12 E49	08 16.9			AXX	2	1	1	5
10071		RAMY	08 13 1500	N11 E47	08 17.2		A	AXX	10	1	1	2
10071		SVTO	08 21 0921	N10 W60	08 16.9		A	AXX		1		3
10077		HOLL	08 13 1353	S18 E53	08 17.6		A	AXX	10	1		3
10077	31375	MWIL	08 13 1430	S17 E52	08 17.5	3	(AP)					
10077		RAMY	08 13 1500	S17 E51	08 17.5		A	HSX	20	1	1	2
10077		VORO	08 13 2134	S17 E49	08 17.6			AXX	5	1		3
10077		LEAR	08 14 0035	S17 E45	08 17.4		A	AXX		1		2
10069		RAMY	08 11 1125	S06 E85	08 17.8		B	EKO	430	4	11	3
10069		HOLL	08 11 1420	S09 E80	08 17.6		B	EKO	470	6	14	4
10069	31371	MWIL	08 11 1445	S07 E80	08 17.6	5	(B)					
10069		VORO	08 11 2130	S06 E81	08 17.9			DKI	2108	7	7	3
10069		LEAR	08 12 0015	S08 E76	08 17.7		BG	FHI	580	8	18	2
10069		TACH	08 12 0631	S06 E72	08 17.7			DSI	1021	5	3	4
10069		RAMY	08 12 1117	S05 E72	08 17.8		B	EKO	1160	8	12	4
10069		HOLL	08 12 1400	S08 E70	08 17.8		BG	DKC	1470	15	9	4
10069	31371	MWIL	08 12 1445	S08 E69	08 17.8	6	(BP)					
10069		VORO	08 12 2222	S08 E67	08 17.9			EKI	1830	17	7	2
10069		LEAR	08 13 0020	S06 E60	08 17.5		BG	EHC	1200	20	12	3
10069		TACH	08 13 0502	S06 E58	08 17.5			DHI	1682	9	4	5
10069		HOLL	08 13 1353	S08 E56	08 17.8		BD	EKC	1040	25	11	3
10069	31371	MWIL	08 13 1430	S08 E55	08 17.7	6	(D)					
10069		RAMY	08 13 1500	S08 E55	08 17.7		BG	EKI	1460	7	11	2
10069		VORO	08 13 2134	S07 E54	08 17.9			EKI	1666	40	7	3
10069		LEAR	08 14 0035	S06 E49	08 17.7		BGD	EHC	1390	20	13	2
10069		SVTO	08 14 0815	S09 E45	08 17.7		BD	EKC	1460	10	13	3
10069		RAMY	08 14 1145	S06 E45	08 17.8		BG	EKI	1820	23	12	3

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10069	31371	MWIL	08 14 1445	S07 E38	08 17.5	6	(D)					
10069		HOLL	08 14 1525	S09 E40	08 17.6		BGD	EKC	1400	39	11	4
10069		LEAR	08 15 0113	S07 E36	08 17.7		BGD	EKC	1050	60	12	2
10069		VORO	08 15 0142	S07 E38	08 17.9			EKI	1634	57	7	2
10069		TACH	08 15 0739	S06 E29	08 17.5			DKO	1281	7	6	4
10069		RAMY	08 15 1230	S06 E30	08 17.8		BGD	EKC	1500	58	13	3
10069		SVTO	08 15 1434	S08 E29	08 17.8		BD	EKC	1540	15	14	3
10069	31371	MWIL	08 15 1500	S07 E27	08 17.6	6	(BG)					
10069		HOLL	08 15 1800	S08 E27	08 17.8		BD	EKC	1380	50	11	3
10069		VORO	08 15 2136	S07 E27	08 17.9			EKI	1761	56	6	2
10069		LEAR	08 16 0112	S08 E22	08 17.7		BGD	EKC	1670	65	13	2
10069		TACH	08 16 0440	S05 E20	08 17.7			DKI	1723	15	6	4
10069		SVTO	08 16 0800	S08 E17	08 17.6		BD	EKI	1800	19	14	3
10069	31371	MWIL	08 16 1500	S07 E14	08 17.7	6	(D)					
10069		LEAR	08 17 0020	S07 E09	08 17.7		BGD	EKC	1750	95	13	3
10069		TACH	08 17 0509	S06 E07	08 17.7			DKO	2112	13	6	4
10069		SVTO	08 17 0900	S08 E05	08 17.7		BD	FKC	2000	28	16	3
10069		RAMY	08 17 1400	S07 E03	08 17.8		BGD	EKI	2430	36	12	3
10069	31371	MWIL	08 17 1445	S08 W00	08 17.6	6	(D)					
10069		HOLL	08 17 1452	S06 E01	08 17.7		BD	EKC	1620	73	12	3
10069		LEAR	08 18 0035	S08 W06	08 17.6		BGD	EHC	2150	43	11	1
10069		VORO	08 18 0423	S07 W07	08 17.6			EKI	2357	77	11	2
10069		TACH	08 18 0625	S05 W06	08 17.8			DKO	2422	11	6	5
10069		RAMY	08 18 1231	S08 W11	08 17.7		BGD	EKC	2100	77	15	3
10069	31371	MWIL	08 18 1400	S08 W13	08 17.6	6	(D)					
10069		HOLL	08 18 1432	S07 W13	08 17.6		BGD	FKC	1810	79	16	4
10069		VORO	08 18 2209	S07 W17	08 17.6			EKI	2296	78	11	2
10069		LEAR	08 19 0036	S08 W19	08 17.6		BGD	EKC	2070	38	13	1
10069		TACH	08 19 0419	S06 W16	08 18.0			DKI	2007	22	5	5
10069		SVTO	08 19 0615	S08 W21	08 17.7		BD	EKC	1990	17	15	3
10069		RAMY	08 19 1217	S09 W24	08 17.7		BGD	FKC	1720	81	17	3
10069	31371	MWIL	08 19 1430	S08 W26	08 17.6	6	(D)					
10069		VORO	08 19 2322	S08 W31	08 17.6			EKI	2183	57	11	2
10069		LEAR	08 20 0020	S08 W33	08 17.5		BGD	EKC	2040	55	13	3
10069		TACH	08 20 0552	S05 W30	08 18.0			DKI	2223	16	8	5
10069		SVTO	08 20 1000	S09 W37	08 17.6		BD	FKC	1890	30	16	2
10069		RAMY	08 20 1210	S10 W39	08 17.6		BGD	EKC	1830	64	15	3
10069		HOLL	08 20 1353	S07 W38	08 17.7		BGD	EKC	1640	35	13	3
10069	31371	MWIL	08 20 1445	S08 W40	08 17.6	6	(D)					
10069		VORO	08 20 2232	S07 W44	08 17.6			EKI	1970	47	12	2
10069		LEAR	08 21 0017	S07 W45	08 17.6		BGD	EKC	1790	82	14	4
10069		TACH	08 21 0500	S05 W42	08 18.1			DKI	2669	20	8	5
10069		SVTO	08 21 0921	S08 W50	08 17.6		BGD	EKC	1710	20	13	3
10069		RAMY	08 21 1252	S09 W51	08 17.7		BGD	EKC	1390	40	13	3
10069		HOLL	08 21 1414	S07 W53	08 17.6		BGD	EKC	1670	32	13	3
10069	31371	MWIL	08 21 1500	S08 W53	08 17.6	5	(D)					
10069		LEAR	08 22 0016	S07 W58	08 17.7		BGD	EKC	1630	61	13	3
10069		TACH	08 22 0443	S06 W56	08 18.0			CHI	2123	12	7	4
10069		SVTO	08 22 0716	S08 W63	08 17.6		BGD	EKC	1640	9	15	3
10069		RAMY	08 22 1241	S08 W63	08 17.8		BGD	EKC	1250	35	14	3
10069	31371	MWIL	08 22 1445	S08 W66	08 17.7	5	(BG)					
10069		HOLL	08 22 1525	S06 W68	08 17.5		BGD	EKC	1230	20	12	4
10069		LEAR	08 23 0020	S07 W69	08 17.8		BGD	EKC	1310	40	13	3
10069		TACH	08 23 0537	S07 W70	08 18.0			DKO	1423	6	5	4
10069		SVTO	08 23 0745	S09 W80	08 17.3		B	CKO	690	6	17	3
10069		HOLL	08 23 1338	S07 W81	08 17.5		BGD	CKO	500	6	10	3
10069	31371	MWIL	08 23 1445	S08 W79	08 17.7	5	(BG)					
10069		LEAR	08 24 0015	S08 W82	08 17.9		A	HKX	120	2	12	4
10082		LEAR	08 17 0020	N21 E20	08 18.5		B	CSO	20	3	3	3
10082		TACH	08 17 0509	N21 E14	08 18.3			AXX	2	1	1	4
10082		SVTO	08 17 0900	N22 E13	08 18.4		A	HRX	10	1	1	3
10082		RAMY	08 17 1400	N21 E11	08 18.4		A	AXX	20	2	1	3
10082	31382	MWIL	08 17 1445	N20 E11	08 18.4	4	(AF)					
10082		LEAR	08 18 0035	N21 E05	08 18.4		A	HRX	20	2	1	1
10082		VORO	08 18 0423	N21 E03	08 18.4			AXX	4	2		2
10082		TACH	08 18 0625	N20 E00	08 18.3			AXX	1	1	1	5
10082		RAMY	08 18 1231	N19 W01	08 18.4		B	BXO	10	4	3	3
10082	31382	MWIL	08 18 1400	N20 W02	08 18.4	4	(AF)					

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10082		HOLL	08	18	1432	N21	W03	08	18.4		A	AXX	10	1	1	4
10082		VORO	08	18	2209	N21	W06	08	18.5			AXX	5	1		2
10082		SVTO	08	19	0615	N21	W06	08	18.8		A	HSX	20	1	1	3
10082		SVTO	08	20	1000	N21	W22	08	18.7		A	HRX	10	1	1	2
10082		TACH	08	24	0427	N21	W68	08	19.0			HSX	167	1	2	5
10076		HOLL	08	12	1400	N12	E80	08	18.6		A	HSX	60	1	1	4
10076	31373	MWIL	08	12	1445	N12	E82	08	18.8	6	(AP)					
10076		VORO	08	12	2222	N12	E78	08	18.8			HRX	31	1		2
10076		LEAR	08	13	0020	N12	E75	08	18.7		A	HAX	20	1	2	3
10076		TACH	08	13	0502	N14	E74	08	18.8			HXX	34	1	1	5
10076		HOLL	08	13	1353	N12	E69	08	18.8		A	HSX	100	1	1	3
10076	31373	MWIL	08	13	1430	N12	E69	08	18.8	4	(AP)					
10076		RAMY	08	13	1500	N13	E69	08	18.8		A	HSX	50	1	1	2
10076		VORO	08	13	2134	N12	E66	08	18.9			HAX	46	1		3
10076		LEAR	08	14	0035	N12	E63	08	18.8		A	HAX	20	1	1	2
10076		SVTO	08	14	0815	N09	E59	08	18.8		A	HAX	40	1	1	3
10076		RAMY	08	14	1145	N13	E58	08	18.9		A	HSX	30	1	1	3
10076	31373	MWIL	08	14	1445	N13	E56	08	18.8	5	(AP)					
10076		HOLL	08	14	1525	N12	E55	08	18.8		A	HAX	60	1	1	4
10076		LEAR	08	15	0113	N12	E50	08	18.8		A	HSX	30	1	1	2
10076		VORO	08	15	0142	N12	E50	08	18.8			AXX	16	1		2
10076		TACH	08	15	0739	N13	E42	08	18.5			AXX	20	1	1	4
10076		RAMY	08	15	1230	N13	E44	08	18.8		A	HSX	60	2	1	3
10076		SVTO	08	15	1434	N12	E43	08	18.8		A	HSX	30	1	1	3
10076	31373	MWIL	08	15	1500	N13	E42	08	18.8	4	(AP)					
10076		HOLL	08	15	1800	N12	E41	08	18.8		A	HSX	20	1	2	3
10076		VORO	08	15	2136	N13	E39	08	18.8			AXX	18	1		2
10076		LEAR	08	16	0112	N12	E37	08	18.8		A	HSX	10	1	1	2
10076		TACH	08	16	0440	N14	E32	08	18.6			AXX	18	1	1	4
10076		SVTO	08	16	0800	N12	E33	08	18.8		A	HSX	20	1	1	3
10076	31373	MWIL	08	16	1500	N12	E29	08	18.8	4	(AP)					
10076		LEAR	08	17	0020	N12	E24	08	18.8		A	HSX	20	1	1	3
10076		TACH	08	17	0509	N13	E18	08	18.6			AXX	13	1	1	4
10076		SVTO	08	17	0900	N13	E19	08	18.8		A	HSX	20	1	1	3
10076		RAMY	08	17	1400	N12	E16	08	18.8		B	CSO	20	2	1	3
10076	31373	MWIL	08	17	1445	N12	E16	08	18.8	4	(AP)					
10076		LEAR	08	18	0035	N12	E09	08	18.7		A	HSX	30	1	1	1
10076		VORO	08	18	0423	N13	E08	08	18.8			AXX	10	1		2
10076		TACH	08	18	0625	N13	E05	08	18.6			AXX	5	1	1	5
10076		RAMY	08	18	1231	N12	E04	08	18.8		B	CSO	10	2	2	3
10076	31373	MWIL	08	18	1400	N13	E03	08	18.8	4	(AP)					
10076		HOLL	08	18	1432	N13	E03	08	18.8		B	CSO	20	2	3	4
10076		VORO	08	18	2209	N10	W08	08	18.3			AXX	10	1		2
10076		LEAR	08	19	0036	N13	W03	08	18.8		B	CAO	20	2	3	1
10076		TACH	08	19	0419	N12	W05	08	18.8			AXX	3	1	1	5
10076		RAMY	08	19	1217	N12	W10	08	18.7		A	HSX	20	1	1	3
10076	31373	MWIL	08	19	1430	N13	W11	08	18.8	4	(AP)					
10076		VORO	08	19	2322	N13	W16	08	18.8			AXX	3	1		2
10076		LEAR	08	20	0020	N13	W16	08	18.8		A	HAX	20	1	1	3
10076		TACH	08	20	0552	N13	W18	08	18.9			AXX	2	1	1	5
10076		RAMY	08	20	1210	N12	W23	08	18.8		A	HSX	10	1	1	3
10076		HOLL	08	20	1353	N13	W24	08	18.8		A	AXX	10	1	1	3
10076	31373	MWIL	08	20	1445	N13	W24	08	18.8	5	(AP)					
10076		VORO	08	20	2232	N13	W28	08	18.8			AXX	3	1		2
10076		LEAR	08	21	0017	N13	W30	08	18.7		A	HSX	10	1	1	4
10079		SVTO	08	14	0815	S22	E63	08	19.2		A	HSX	20	1	1	3
10079		RAMY	08	14	1145	S18	E61	08	19.1		A	HAX	20	1	1	3
10079	31379	MWIL	08	14	1445	S18	E60	08	19.2	5	(B)					
10079		HOLL	08	14	1525	S20	E58	08	19.1		A	HSX	60	3	1	4
10079		LEAR	08	15	0113	S18	E53	08	19.1		B	DAO	100	6	6	2
10079		VORO	08	15	0142	S17	E53	08	19.1			CAI	59	7	0	2
10079		TACH	08	15	0739	S17	E47	08	18.9			BRI	32	5	6	4
10079		RAMY	08	15	1230	S18	E50	08	19.3		B	DSO	150	15	8	3
10079		SVTO	08	15	1434	S18	E46	08	19.1		B	DSO	130	5	9	3
10079	31379	MWIL	08	15	1500	S18	E48	08	19.3	4	(B)					
10079		HOLL	08	15	1800	S20	E45	08	19.2		B	DAO	80	16	8	3
10079		VORO	08	15	2136	S20	E45	08	19.3			CAI	126	8	8	2

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10079		LEAR	08	16	0112	S19	E41	08	19.2		B	DAO	140	19	9	2
10079		TACH	08	16	0440	S17	E37	08	19.0			CSI	65	4	8	4
10079		SVTO	08	16	0800	S19	E39	08	19.3		B	DSO	140	7	9	3
10079	31379	MWIL	08	16	1500	S20	E34	08	19.2	4	(B)					
10079		LEAR	08	17	0020	S20	E29	08	19.2		B	DAI	110	26	10	3
10079		TACH	08	17	0509	S17	E24	08	19.0			DAI	107	6	10	4
10079		SVTO	08	17	0900	S20	E26	08	19.4		B	ESO	110	16	11	3
10079		RAMY	08	17	1400	S22	E23	08	19.3		B	ESO	190	18	12	3
10079	31379	MWIL	08	17	1445	S20	E21	08	19.2	4	(B)					
10079		HOLL	08	17	1452	S21	E23	08	19.4		B	EAI	170	31	11	3
10079		LEAR	08	18	0035	S21	E17	08	19.3		B	DAO	170	24	9	1
10079		VORO	08	18	0423	S22	E16	08	19.4			DAI	293	38	9	2
10079		TACH	08	18	0625	S17	E10	08	19.0			CAI	129	14	10	5
10079		RAMY	08	18	1231	S22	E10	08	19.3		BG	DAI	320	41	10	3
10079	31379	MWIL	08	18	1400	S21	E10	08	19.4	5	(B)					
10079		HOLL	08	18	1432	S22	E09	08	19.3		BG	EAC	340	39	11	4
10079		VORO	08	18	2209	S22	E06	08	19.4			DAI	420	42	10	2
10079		LEAR	08	19	0036	S22	E04	08	19.3		B	EAI	200	26	12	1
10079		TACH	08	19	0419	S19	E01	08	19.2			DAI	185	22	6	5
10079		SVTO	08	19	0615	S22	E01	08	19.3		B	EAI	400	17	12	3
10079		RAMY	08	19	1217	S23	W02	08	19.3		BG	EAI	540	63	12	3
10079	31379	MWIL	08	19	1430	S22	W03	08	19.4	5	(BG)					
10079		VORO	08	19	2322	S22	W07	08	19.4			DAI	342	31	10	2
10079		LEAR	08	20	0020	S22	W08	08	19.4		B	EAI	180	33	13	3
10079		TACH	08	20	0552	S18	W12	08	19.3			DAI	166	15	9	5
10079		SVTO	08	20	1000	S22	W16	08	19.2		B	EAO	200	26	14	2
10079		RAMY	08	20	1210	S22	W17	08	19.2		B	ESO	340	41	13	3
10079		HOLL	08	20	1353	S22	W16	08	19.3		BG	EAI	200	24	13	3
10079	31379	MWIL	08	20	1445	S21	W17	08	19.3	5	(B)					
10079		VORO	08	20	2232	S22	W20	08	19.4			DAI	212	11	11	2
10079		LEAR	08	21	0017	S21	W22	08	19.3		B	ESO	230	34	12	4
10079		TACH	08	21	0500	S18	W24	08	19.4			CAI	124	13	10	5
10079		SVTO	08	21	0921	S22	W27	08	19.3		B	EAO	150	13	13	3
10079		RAMY	08	21	1252	S22	W29	08	19.3		B	EAO	120	21	13	3
10079		HOLL	08	21	1414	S22	W30	08	19.3		BG	CAI	170	18	13	3
10079	31379	MWIL	08	21	1500	S21	W31	08	19.2	5	(B)					
10079		LEAR	08	22	0016	S21	W36	08	19.2		B	EAO	180	22	13	3
10079		TACH	08	22	0443	S19	W39	08	19.2			CAI	191	11	9	4
10079		SVTO	08	22	0716	S21	W45	08	18.8		B	DSO	170	6	6	3
10079		RAMY	08	22	1241	S22	W42	08	19.3		B	EAO	120	18	13	3
10079	31379	MWIL	08	22	1445	S21	W46	08	19.1	5	(BG)					
10079		HOLL	08	22	1525	S21	W51	08	18.7		B	CAO	100	11	4	4
10079		LEAR	08	23	0020	S21	W47	08	19.4		B	EAO	190	16	15	3
10079		TACH	08	23	0537	S20	W55	08	19.0			CAI	118	5	3	4
10079		SVTO	08	23	0745	S21	W60	08	18.7		B	DSO	110	4	5	3
10079		HOLL	08	23	1338	S22	W62	08	18.8		B	DAO	190	7	6	3
10079	31379	MWIL	08	23	1445	S21	W62	08	18.9	5	(AP)					
10079		LEAR	08	24	0015	S20	W66	08	19.0		B	DAO	190	6	5	4
10079		SVTO	08	24	0850	S22	W73	08	18.7		A	HSX	120	2	3	2
10079		RAMY	08	24	1317	S23	W71	08	19.1		A	HSX	90	2	2	4
10079		HOLL	08	24	1412	S22	W78	08	18.6		A	HAX	60	1	2	4
10079	31379	MWIL	08	24	1445	S20	W76	08	18.8	4	(AP)					
10079		VORO	08	24	2308	S22	W71	08	19.5			HRX	28	1		2
10079		LEAR	08	25	0105	S22	W77	08	19.1		A	HAX	60	2	3	1
10080	31376	MWIL	08	13	1430	N18	E80	08	19.7	3	AP					
10080		SVTO	08	14	0815	N14	E79	08	20.3		B	CAO	120	3	7	3
10080		RAMY	08	14	1145	N18	E76	08	20.3		B	EAO	120	5	11	3
10080	31380	MWIL	08	14	1445	N16	E77	08	20.4	4	(B)					
10080	31376	MWIL	08	14	1445	N18	E69	08	19.9	4	(AP)					
10080		HOLL	08	14	1525	N15	E71	08	20.0		B	EAO	120	4	12	4
10080		LEAR	08	15	0113	N16	E68	08	20.2		B	EAO	170	7	11	2
10080		VORO	08	15	0142	N16	E66	08	20.1			CAI	144	5	8	2
10080		TACH	08	15	0739	N16	E60	08	19.9			DSI	151	3	10	4
10080		RAMY	08	15	1230	N18	E61	08	20.2		B	CSO	180	10	7	3
10080		SVTO	08	15	1434	N16	E60	08	20.1		B	ESO	180	3	11	3
10080	31380	MWIL	08	15	1500	N16	E61	08	20.2	5	(BF)					
10080	31376	MWIL	08	15	1500	N18	E55	08	19.8	4	(AP)					
10080		HOLL	08	15	1800	N15	E56	08	20.0		B	DAO	120	8	13	3

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10080		VORO	08	15	2136	N16	E56	08	20.1			CAI	184	5	10	2
10080		LEAR	08	16	0112	N17	E53	08	20.1		B	EAI	150	10	11	2
10080		TACH	08	16	0440	N18	E53	08	20.2			DAO	109	4	4	4
10080		SVTO	08	16	0800	N16	E53	08	20.3		B	DSO	190	8	6	3
10080	31380	MWIL	08	16	1500	N15	E49	08	20.3	4	(B)					
10080	31376	MWIL	08	16	1500	N18	E41	08	19.7	4	(AP)					
10080		LEAR	08	17	0020	N16	E40	08	20.0		B	DAO	170	17	13	3
10080		TACH	08	17	0509	N16	E38	08	20.1			CSI	78	4	5	4
10080		SVTO	08	17	0900	N17	E39	08	20.3		B	DAO	90	7	6	3
10080		RAMY	08	17	1400	N14	E36	08	20.3		B	DSO	170	9	8	3
10080	31380	MWIL	08	17	1445	N15	E36	08	20.3	5	(B)					
10080		LEAR	08	18	0035	N16	E29	08	20.2		B	DAO	130	10	8	1
10080		VORO	08	18	0423	N15	E29	08	20.4			CAO	163	8	3	2
10080		TACH	08	18	0625	N16	E24	08	20.1			CSO	61	3	5	5
10080		RAMY	08	18	1231	N16	E23	08	20.3		B	DAO	80	13	7	3
10080	31380	MWIL	08	18	1400	N15	E24	08	20.4	5	(B)					
10080		HOLL	08	18	1432	N17	E22	08	20.3		B	DAO	120	13	7	4
10080		VORO	08	18	2209	N15	E18	08	20.3			CAI	156	9	8	2
10080		LEAR	08	19	0036	N16	E15	08	20.2		B	DAO	120	9	9	1
10080		TACH	08	19	0419	N15	E13	08	20.2			CAO	29	4	5	5
10080		SVTO	08	19	0615	N16	E14	08	20.3		B	DSO	100	5	8	3
10080		RAMY	08	19	1217	N15	E10	08	20.3		B	DAO	160	16	8	3
10080	31380	MWIL	08	19	1430	N15	E09	08	20.3	4	(BF)					
10080		VORO	08	19	2322	N15	E07	08	20.5			HAX	131	2		2
10080		LEAR	08	20	0020	N15	E06	08	20.5		B	CAO	90	3	3	3
10080		TACH	08	20	0552	N16	E01	08	20.3			CAO	42	3	4	5
10080		SVTO	08	20	1000	N14	W04	08	20.1		B	ERO	140	10	11	2
10080		RAMY	08	20	1210	N17	W07	08	20.0		B	EAO	170	27	12	3
10080		HOLL	08	20	1353	N16	W06	08	20.1		B	CAO	70	10	11	3
10080	31380	MWIL	08	20	1445	N15	W04	08	20.3	5	(BG)					
10080		VORO	08	20	2232	N15	W05	08	20.6			HAX	67	3		2
10080		LEAR	08	21	0017	N15	W11	08	20.2		B	EAO	120	19	12	4
10080		TACH	08	21	0500	N16	W12	08	20.3			BRI	27	5	6	5
10080		SVTO	08	21	0921	N15	W14	08	20.3		B	DAO	50	5	8	3
10080		RAMY	08	21	1252	N16	W17	08	20.2		B	EAO	60	12	11	3
10080		HOLL	08	21	1414	N16	W17	08	20.3		B	CAO	40	7	7	3
10080	31380	MWIL	08	21	1500	N15	W15	08	20.5	5	(BF)					
10080		LEAR	08	22	0016	N15	W20	08	20.5		A	HAX	40	3	3	3
10080		TACH	08	22	0443	N15	W21	08	20.6			AR	11	2	1	4
10080		SVTO	08	22	0716	N15	W25	08	20.4		B	DSO	20	2	2	3
10080		RAMY	08	22	1241	N15	W27	08	20.5		B	DSO	20	4	3	3
10080	31380	MWIL	08	22	1445	N15	W28	08	20.5	4	(BF)					
10080		HOLL	08	22	1525	N15	W28	08	20.5		A	HSX	20	3	2	4
10080		LEAR	08	23	0020	N14	W32	08	20.6		B	DAO	30	3	4	3
10080		HOLL	08	23	1338	N15	W41	08	20.5		A	HSX	20	1	1	3
10080	31380	MWIL	08	23	1445	N16	W41	08	20.5	4	(AF)					
10080		HOLL	08	25	1337	N14	W65	08	20.6		B	CSO	60	5	4	3
10080	31390	MWIL	08	25	1445	N14	W65	08	20.7	4	(B)					
10080		VORO	08	25	2257	N14	W70	08	20.7			DAO	66	4	3	2
10080		TACH	08	26	0419	N16	W71	08	20.8			CSO	55	2	3	5
10080		SVTO	08	26	0605	N13	W73	08	20.7		B	DSO	60	3	8	3
10080		RAMY	08	26	1216	N11	W79	08	20.6		B	DSO	90	3	3	3
10080		HOLL	08	26	1340	N13	W78	08	20.7		B	DAO	90	2	4	2
10080	31390	MWIL	08	26	1430	N13	W77	08	20.8	5	(B)					
10080A		RAMY	08	19	1217	S16	E11	08	20.3		B	CSO	30	5	4	3
10081		RAMY	08	15	1230	N16	E80	08	21.6		B	BXO	30	3	3	3
10081		VORO	08	15	2136	N16	E74	08	21.5			AXX	22	1		2
10081		LEAR	08	16	0112	N16	E73	08	21.6		B	DAO	30	3	6	2
10081		TACH	08	16	0440	N19	E72	08	21.7			AXX	8	1	1	4
10081		SVTO	08	16	0800	N17	E69	08	21.6		B	DRO	60	2	3	3
10081	31381	MWIL	08	16	1500	N16	E66	08	21.6	4	(B)					
10081		LEAR	08	17	0020	N17	E61	08	21.6		B	CAO	20	5	5	3
10081		TACH	08	17	0509	N16	E54	08	21.3			AXX	8	1	1	4
10081		SVTO	08	17	0900	N18	E54	08	21.5		A	HRX	20	2	1	3
10081		RAMY	08	17	1400	N17	E53	08	21.6		B	BXO	20	3	3	3
10081	31381	MWIL	08	17	1445	N16	E51	08	21.5	4	(B)					
10081		LEAR	08	18	0035	N17	E46	08	21.5		A	AXX	10	3	1	1

S U N S P O T G R O U P S
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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
10081		VORO	08	18	0423	N16	E44	08	21.5			AXX	4	1		2
10081		RAMY	08	18	1231	N17	E39	08	21.5		B	CSO	10	2	2	3
10081	31381	MWIL	08	18	1400	N16	E38	08	21.5	3	(AP)					
10081		HOLL	08	18	1432	N18	E39	08	21.6		A	AXX	10	2	1	4
10088		LEAR	08	23	0020	S21	W14	08	21.9		B	CRO	10	3	1	3
10088		TACH	08	23	0537	S18	W18	08	21.9			BXI	16	3	2	4
10088		SVTO	08	23	0745	S22	W21	08	21.7		B	CRO	20	2	4	3
10088		HOLL	08	23	1338	S22	W23	08	21.8		B	DSO	90	13	5	3
10088	31388	MWIL	08	23	1445	S22	W24	08	21.8	5	(B)					
10088		LEAR	08	24	0015	S22	W28	08	21.8		B	DAO	90	20	7	4
10088		TACH	08	24	0427	S21	W30	08	21.9			DAI	90	6	5	5
10088		SVTO	08	24	0850	S23	W34	08	21.7		B	DAO	150	11	7	2
10088		RAMY	08	24	1317	S23	W37	08	21.7		B	DAI	80	14	7	4
10088		HOLL	08	24	1412	S22	W36	08	21.8		B	DAI	160	16	6	4
10088	31388	MWIL	08	24	1445	S22	W37	08	21.8	5	(B)					
10088		VORO	08	24	2308	S22	W41	08	21.8			DAI	243	21	5	2
10088		LEAR	08	25	0105	S21	W45	08	21.6		B	DAI	100	15	7	1
10088		TACH	08	25	0439	S19	W42	08	22.0			DAI	149	9	6	4
10088		SVTO	08	25	0735	S24	W45	08	21.8		B	DAI	160	8	9	3
10088		HOLL	08	25	1337	S22	W48	08	21.9		B	DAI	280	17	7	3
10088	31388	MWIL	08	25	1445	S22	W50	08	21.8	5	(B)					
10088		VORO	08	25	2257	S22	W54	08	21.8			DAI	206	14	6	2
10088		TACH	08	26	0419	S18	W55	08	22.0			DAI	110	5	6	5
10088		SVTO	08	26	0605	S22	W57	08	21.9		B	DSO	120	3	7	3
10088		RAMY	08	26	1216	S24	W64	08	21.6		B	DAO	250	6	8	3
10088		HOLL	08	26	1340	S23	W64	08	21.6		B	DAO	230	8	8	2
10088	31388	MWIL	08	26	1430	S21	W63	08	21.8	5	(BG)					
10088		TACH	08	27	0431	S22	W68	08	22.0			DSO	185	3	6	4
10088		SVTO	08	27	0700	S22	W75	08	21.5		B	ESO	150	2	11	3
10088		RAMY	08	27	1323	S24	W76	08	21.7		B	BXO	60	7	9	1
10088		HOLL	08	27	1440	S22	W76	08	21.8		A	HAX	60	1	2	4
10088	31388	MWIL	08	27	1445	S21	W76	08	21.8	4	(B)					
10088		VORO	08	28	0435	S19	W77	08	22.3			HRX	37	1		2
10083		LEAR	08	17	0020	S18	E79	08	23.0		A	HAX	30	1	2	3
10083		SVTO	08	17	0900	S18	E76	08	23.2		A	HSX	20	1	1	3
10083		RAMY	08	17	1400	S18	E75	08	23.3		A	HSX	60	1	2	3
10083	31383	MWIL	08	17	1445	S19	E69	08	22.9	4	AP					
10083		HOLL	08	17	1452	S18	E69	08	22.9		B	CAO	70	3	5	3
10083		LEAR	08	18	0035	S17	E67	08	23.1		B	DAO	80	3	10	1
10083		VORO	08	18	0423	S18	E64	08	23.0			HAX	59	1		2
10083		TACH	08	18	0625	S17	E56	08	22.5			CSO	51	2	7	5
10083		RAMY	08	18	1231	S18	E56	08	22.8		B	DSO	60	10	9	3
10083	31383	MWIL	08	18	1400	S18	E55	08	22.8	4	(BP)					
10083		HOLL	08	18	1432	S18	E55	08	22.8		B	DSO	100	8	9	4
10083		VORO	08	18	2209	S18	E50	08	22.7			CAI	58	5	7	2
10083		LEAR	08	19	0036	S18	E47	08	22.6		B	CAO	30	3	7	1
10083		TACH	08	19	0419	S17	E43	08	22.4			BXO	5	3	7	5
10083		SVTO	08	19	0615	S17	E45	08	22.7		B	DSO	30	3	8	3
10083		RAMY	08	19	1217	S18	E42	08	22.7		B	DAO	70	8	7	3
10083	31383	MWIL	08	19	1430	S18	E41	08	22.7	4	(BG)					
10083		VORO	08	19	2322	S18	E38	08	22.9			CAO	28	2	4	2
10083		LEAR	08	20	0020	S18	E37	08	22.8		B	DAO	30	4	5	3
10083		TACH	08	20	0552	S16	E31	08	22.6			BXO	5	2	5	5
10083		SVTO	08	20	1000	S16	E33	08	22.9		B	DRO	50	3	4	2
10083		RAMY	08	20	1210	S18	E30	08	22.8		B	DSO	40	9	8	3
10083		HOLL	08	20	1353	S17	E30	08	22.8		B	CSO	20	5	4	3
10083	31383	MWIL	08	20	1445	S18	E30	08	22.9	4	(BG)					
10083		VORO	08	20	2232	S19	E24	08	22.8			BXI	35	4	8	2
10083		LEAR	08	21	0017	S18	E23	08	22.8		B	DAO	60	14	9	4
10083		TACH	08	21	0500	S16	E17	08	22.5			BRI	6	6	8	5
10083		SVTO	08	21	0921	S19	E21	08	23.0		B	DSO	50	5	4	3
10083		RAMY	08	21	1252	S18	E16	08	22.7		B	DAO	60	22	8	3
10083		HOLL	08	21	1414	S17	E15	08	22.7		B	CAO	40	12	9	3
10083	31383	MWIL	08	21	1500	S18	E16	08	22.8	5	(BG)					
10083		LEAR	08	22	0016	S18	E09	08	22.7		BG	DAO	100	19	9	3
10083		TACH	08	22	0443	S15	E05	08	22.6			BRI	38	6	8	4
10083		SVTO	08	22	0716	S18	E05	08	22.7		B	EAO	80	7	11	3

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10083		RAMY	08 22 1241	S18 E04	08 22.8		BG	EAI	120	32	11	3
10083	31383	MWIL	08 22 1445	S18 E02	08 22.8	5	(BG)					
10083		HOLL	08 22 1525	S19 E01	08 22.7		B	EAI	110	27	12	4
10083		LEAR	08 23 0020	S18 W03	08 22.8		BG	DAO	210	34	10	3
10083		TACH	08 23 0537	S14 W09	08 22.5			DAI	63	8	5	4
10083		TACH	08 23 0537	S17 W02	08 23.1			BRO	41	3	5	4
10083		SVTO	08 23 0745	S19 W07	08 22.8		G	FAO	180	8	17	3
10083		HOLL	08 23 1338	S19 W09	08 22.9		BG	FAI	110	22	16	3
10083	31383	MWIL	08 23 1445	S17 W09	08 22.9	5	(D)					
10083		LEAR	08 24 0015	S18 W15	08 22.9		BG	EAO	160	25	15	4
10083		TACH	08 24 0427	S16 W19	08 22.7			CAI	94	7	7	5
10083		TACH	08 24 0427	S18 W13	08 23.2			HRI	5	5	7	5
10083		SVTO	08 24 0850	S18 W19	08 22.9		BG	EAI	140	13	15	2
10083		RAMY	08 24 1317	S19 W22	08 22.9		BG	DAI	190	25	14	4
10083		HOLL	08 24 1412	S18 W21	08 23.0		BG	FAO	170	31	16	4
10083	31383	MWIL	08 24 1445	S17 W23	08 22.9	5	(D)					
10083		VORO	08 24 2308	S16 W25	08 23.1			CAI	170	14	8	2
10083		LEAR	08 25 0105	S16 W28	08 22.9		BG	DAO	100	10	10	1
10083		TACH	08 25 0438	S15 W28	08 23.1			CAI	71	5	7	4
10083		SVTO	08 25 0735	S17 W32	08 22.9		BG	EAI	120	7	11	3
10083		HOLL	08 25 1337	S17 W37	08 22.7		B	CAO	120	6	5	3
10083	31383	MWIL	08 25 1445	S18 W38	08 22.7	5	(D)					
10083		VORO	08 25 2257	S18 W43	08 22.7			HAX	153	8		2
10083		TACH	08 26 0419	S15 W44	08 22.8			HR	129	3	2	5
10083		SVTO	08 26 0605	S18 W46	08 22.7		A	HAX	60	1	3	3
10083		RAMY	08 26 1216	S20 W50	08 22.7		A	HSX	110	3	2	3
10083		HOLL	08 26 1340	S18 W52	08 22.6		A	HAX	110	2	2	2
10083	31383	MWIL	08 26 1430	S18 W51	08 22.7	5	(BD)					
10083		TACH	08 27 0431	S18 W57	08 22.8			HSX	96	1	1	4
10083		SVTO	08 27 0700	S17 W63	08 22.5		B	CAO	60	2	3	3
10083		RAMY	08 27 1323	S20 W66	08 22.5		B	CSO	110	3	4	1
10083		HOLL	08 27 1440	S18 W66	08 22.6		A	HAX	120	3	2	4
10083	31383	MWIL	08 27 1445	S18 W68	08 22.4	5	(BD)					
10083		TACH	08 28 0449	S16 W71	08 22.8			HSX	46	1	1	4
10083		SVTO	08 28 0733	S20 W76	08 22.5		A	HSX	30	1	2	3
10083		RAMY	08 28 1220	S19 W79	08 22.5		A	HAX	120	1	2	2
10083	31383	MWIL	08 28 1445	S17 W77	08 22.8	4	AF					
10084	31384	MWIL	08 17 1445	S17 E80	08 23.7	4	AP					
10084		VORO	08 18 0423	S17 E75	08 23.9			HAX	104	1		2
10084		TACH	08 18 0625	S17 E73	08 23.8			HSX	102	1	2	5
10084		RAMY	08 18 1231	S17 E70	08 23.8		A	HSX	60	1	2	3
10084	31385	MWIL	08 18 1400	S13 E70	08 23.9	3	(AP)					
10084	31384	MWIL	08 18 1400	S18 E69	08 23.8	4	(AP)					
10084		HOLL	08 18 1432	S16 E69	08 23.8		A	HAX	150	1	1	4
10084		VORO	08 18 2209	S17 E65	08 23.9			HAX	128	1		2
10084		LEAR	08 19 0036	S17 E63	08 23.8		A	HAX	50	1	2	1
10084		TACH	08 19 0419	S16 E59	08 23.6			HSX	49	1	1	5
10084		SVTO	08 19 0615	S16 E61	08 23.9		A	HSX	110	1	2	3
10084		RAMY	08 19 1217	S16 E58	08 23.9		B	CAO	100	3	4	3
10084	31385	MWIL	08 19 1430	S13 E58	08 24.0	4	(BP)					
10084	31384	MWIL	08 19 1430	S17 E56	08 23.8	5	(AP)					
10084		VORO	08 19 2322	S17 E52	08 23.9			HAX	131	1		2
10084		LEAR	08 20 0020	S17 E50	08 23.8		A	HSX	70	1	2	3
10084		TACH	08 20 0552	S12 E44	08 23.5			CSO	80	2	2	5
10084		SVTO	08 20 1000	S16 E47	08 24.0		B	DRO	90	3	9	2
10084		RAMY	08 20 1210	S16 E46	08 24.0		B	DAO	140	6	7	3
10084		HOLL	08 20 1353	S17 E45	08 24.0		B	CSO	80	6	5	3
10084	31385	MWIL	08 20 1445	S13 E42	08 23.8	4	(B)					
10084	31384	MWIL	08 20 1445	S18 E45	08 24.0	5	(B)					
10084		VORO	08 20 2232	S17 E40	08 24.0			HAX	109	4		2
10084		LEAR	08 21 0017	S16 E40	08 24.0		B	CAO	140	16	10	4
10084		TACH	08 21 0500	S13 E31	08 23.5			CSO	83	2	2	5
10084		SVTO	08 21 0921	S16 E33	08 23.9		B	CSO	90	6	9	3
10084		RAMY	08 21 1252	S16 E32	08 24.0		B	DSO	110	21	8	3
10084		HOLL	08 21 1414	S16 E31	08 23.9		B	CAO	110	11	7	3
10084	31384	MWIL	08 21 1500	S17 E30	08 23.9	5	(BP)					
10084		LEAR	08 22 0016	S16 E25	08 23.9		B	EAO	130	21	11	3
10084		TACH	08 22 0443	S13 E18	08 23.5			CAI	32	4	4	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
10084		SVTO	08	22	0716	S15	E21	08	23.9		B	CSO	40	3	9	3
10084		RAMY	08	22	1241	S16	E20	08	24.0		B	DSO	90	15	9	3
10084	31384	MWIL	08	22	1445	S16	E19	08	24.0	5	(BG)					
10084		HOLL	08	22	1525	S15	E20	08	24.1		B	CAO	60	28	9	4
10084		LEAR	08	23	0020	S15	E10	08	23.8		B	EAO	110	29	12	3
10084		TACH	08	23	0537	S12	E08	08	23.8			CAI	60	7	2	4
10084		SVTO	08	23	0745	S15	E09	08	24.0		B	DSO	90	10	6	3
10084		HOLL	08	23	1338	S16	E06	08	24.0		B	DAO	60	19	7	3
10084	31384	MWIL	08	23	1445	S16	E05	08	24.0	5	(BG)					
10084		LEAR	08	24	0015	S15	E02	08	24.2		B	DAO	100	20	8	4
10084		TACH	08	24	0427	S14	W04	08	23.9			CSI	69	4	1	5
10084		SVTO	08	24	0850	S16	W04	08	24.1		B	DSO	60	5	6	2
10084		RAMY	08	24	1317	S16	W05	08	24.2		B	DSO	50	15	9	4
10084		HOLL	08	24	1412	S16	W07	08	24.1		B	DAO	50	13	7	4
10084	31384	MWIL	08	24	1445	S16	W09	08	23.9	5	(AP)					
10084		VORO	08	24	2308	S16	W11	08	24.1			CAI	86	8	7	2
10084		LEAR	08	25	0105	S16	W15	08	23.9		B	DAO	70	6	7	1
10084		TACH	08	25	0439	S15	W13	08	24.2			CSI	32	3	14	4
10084		SVTO	08	25	0735	S15	W17	08	24.0		B	DSO	70	5	6	3
10084		HOLL	08	25	1337	S16	W22	08	23.9		B	DAO	70	8	6	3
10084	31384	MWIL	08	25	1445	S16	W22	08	23.9	5	(AP)					
10084		VORO	08	25	2257	S16	W27	08	23.9			CAI	38	4	3	2
10084		TACH	08	26	0419	S12	W28	08	24.1			BRI	30	5	5	5
10084		SVTO	08	26	0605	S17	W30	08	24.0		B	CAO	40	3	4	3
10084		RAMY	08	26	1216	S18	W33	08	24.0		B	CSO	50	3	3	3
10084		HOLL	08	26	1340	S17	W35	08	23.9		B	CAO	50	2	3	2
10084	31384	MWIL	08	26	1430	S16	W34	08	24.0	5	(AP)					
10084		TACH	08	27	0431	S17	W40	08	24.1			CSO	32	3	3	4
10084		SVTO	08	27	0700	S16	W45	08	23.9		B	CAO	40	4	5	3
10084		RAMY	08	27	1323	S18	W48	08	23.9		B	DAO	60	6	4	1
10084		HOLL	08	27	1440	S17	W48	08	24.0		B	DSO	40	8	4	4
10084	31384	MWIL	08	27	1445	S16	W48	08	24.0	4	(BG)					
10084		VORO	08	28	0435	S18	W57	08	23.8			BXI	52	3	3	2
10084		TACH	08	28	0449	S14	W55	08	24.0			BRO	29	3	3	4
10084		SVTO	08	28	0733	S18	W56	08	24.0		B	CRO	60	3	6	3
10084		RAMY	08	28	1220	S18	W60	08	23.9		B	DAO	70	4	4	2
10084	31384	MWIL	08	28	1445	S16	W60	08	24.1	4	(BP)					
10084		HOLL	08	28	1945	S15	W64	08	24.0		B	DAO	70	2	3	4
10084		SVTO	08	29	0845	S18	W69	08	24.1		A	HSX	30	1	1	3
10084		RAMY	08	29	1220	S18	W71	08	24.1		A	HSX	30	1	1	3
10084	31384	MWIL	08	29	1500	S16	W75	08	23.9	4	(AP)					
10085	31386	MWIL	08	18	1400	S10	E86	08	25.0	5	AP					
10085		VORO	08	18	2209	S09	E84	08	25.2			HKX	395	1		2
10085		LEAR	08	19	0036	S08	E77	08	24.8		A	HKX	300	1	3	1
10085		TACH	08	19	0419	S08	E77	08	24.9			HSX	381	1	3	5
10085		SVTO	08	19	0615	S08	E80	08	25.2		A	HHX	300	1	4	3
10085		RAMY	08	19	1217	S12	E76	08	25.2		B	DHO	510	5	5	3
10085	31386	MWIL	08	19	1430	S10	E73	08	25.1	5	(AP)					
10085		VORO	08	19	2322	S10	E69	08	25.1			HKX	586	1		2
10085		LEAR	08	20	0020	S11	E68	08	25.1		B	CKO	390	2	5	3
10085		TACH	08	20	0552	S08	E64	08	25.0			HSX	416	1	2	5
10085		SVTO	08	20	1000	S08	E64	08	25.2		A	HKX	660	1	9	2
10085		RAMY	08	20	1210	S10	E60	08	25.0		B	DKO	660	8	6	3
10085		HOLL	08	20	1353	S12	E60	08	25.1		B	CKO	460	4	6	3
10085	31386	MWIL	08	20	1445	S10	E60	08	25.1	6	(BP)					
10085		VORO	08	20	2232	S05	E58	08	25.3			HKX	682	3	3	2
10085		LEAR	08	21	0017	S11	E54	08	25.1		B	DHO	590	12	9	4
10085		TACH	08	21	0500	S09	E50	08	25.0			HHX	488	1	4	5
10085		SVTO	08	21	0921	S12	E51	08	25.2		A	HKX	490	3	8	3
10085		RAMY	08	21	1252	S10	E48	08	25.1		B	DKO	500	10	8	3
10085		HOLL	08	21	1414	S12	E47	08	25.1		B	CKO	480	8	6	3
10085	31386	MWIL	08	21	1500	S10	E47	08	25.1	6	(BG)					
10085		LEAR	08	22	0016	S12	E42	08	25.2		B	DKO	510	17	10	3
10085		TACH	08	22	0443	S10	E33	08	24.7			CHO	509	2	3	4
10085		SVTO	08	22	0716	S08	E37	08	25.1		A	HKX	650	1	6	3
10085		RAMY	08	22	1241	S09	E35	08	25.1		B	DKO	580	13	7	3
10085	31386	MWIL	08	22	1445	S09	E34	08	25.2	6	(BG)					
10085		HOLL	08	22	1525	S10	E33	08	25.1		B	CKO	480	11	5	4

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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
10085		LEAR	08	23	0020	S09	E29	08	25.2		B	DKO	550	28	10	3
10085		TACH	08	23	0537	S05	E24	08	25.0			CHI	459	7	3	4
10085		SVTO	08	23	0745	S09	E24	08	25.1		B	DKO	520	6	8	3
10085		HOLL	08	23	1338	S09	E21	08	25.1		B	DKI	490	22	8	3
10085	31386	MWIL	08	23	1445	S09	E20	08	25.1	6	(BG)					
10085		LEAR	08	24	0015	S09	E17	08	25.3		B	DKO	520	34	10	4
10085		TACH	08	24	0427	S07	E12	08	25.1			CAO	426	4	3	5
10085		SVTO	08	24	0850	S09	E12	08	25.3		B	CHO	560	6	7	2
10085		RAMY	08	24	1317	S09	E08	08	25.1		B	CKO	520	20	9	4
10085		HOLL	08	24	1412	S08	E06	08	25.0		B	DHO	420	26	9	4
10085	31386	MWIL	08	24	1445	S09	E06	08	25.1	6	(BG)					
10085		VORO	08	24	2308	S09	E07	08	25.5			HKX	605	23	5	2
10085		LEAR	08	25	0105	S08	E03	08	25.3		B	DKO	430	10	6	1
10085		TACH	08	25	0439	S07	W01	08	25.1			CHO	594	2	4	4
10085		SVTO	08	25	0735	S08	W02	08	25.2		B	DHO	520	8	7	3
10085		HOLL	08	25	1337	S09	W03	08	25.3		B	CKI	540	33	8	3
10085	31386	MWIL	08	25	1445	S08	W05	08	25.2	6	(BP)					
10085		VORO	08	25	2257	S09	W10	08	25.2			HKX	542	23		2
10085		TACH	08	26	0419	S08	W11	08	25.3			CAI	351	7	4	5
10085		SVTO	08	26	0605	S09	W13	08	25.3		B	DKO	440	10	10	3
10085		RAMY	08	26	1216	S10	W17	08	25.2		B	DKO	590	9	6	3
10085		HOLL	08	26	1340	S09	W18	08	25.2		B	CKI	440	18	7	2
10085	31386	MWIL	08	26	1430	S08	W18	08	25.2	6	(BG)					
10085		TACH	08	27	0431	S08	W24	08	25.4			CAO	332	4	5	4
10085		SVTO	08	27	0700	S08	W27	08	25.3		B	DKO	430	10	8	3
10085		RAMY	08	27	1323	S09	W32	08	25.1		B	DKO	470	15	8	1
10085		HOLL	08	27	1440	S08	W32	08	25.2		B	DKI	310	24	9	4
10085	31386	MWIL	08	27	1445	S08	W33	08	25.1	6	(D)					
10085		VORO	08	28	0435	S09	W42	08	25.0			HKX	527	13		2
10085		TACH	08	28	0449	S06	W38	08	25.3			CAI	426	6	4	4
10085		SVTO	08	28	0733	S10	W41	08	25.2		B	DKO	420	4	7	3
10085		RAMY	08	28	1220	S09	W44	08	25.2		B	DKO	490	7	7	2
10085	31386	MWIL	08	28	1445	S08	W46	08	25.2	5	(BP)					
10085		HOLL	08	28	1945	S09	W48	08	25.2		B	DKO	270	15	9	4
10085		VORO	08	28	2247	S08	W51	08	25.1			HKX	439	9		3
10085		TACH	08	29	0521	S08	W52	08	25.3			HR	304	4	3	4
10085		SVTO	08	29	0845	S09	W56	08	25.2		A	HHX	330	3	5	3
10085		RAMY	08	29	1220	S09	W58	08	25.2		B	DAO	300	4	5	3
10085	31386	MWIL	08	29	1500	S08	W60	08	25.1	5	(AP)					
10085		HOLL	08	29	1532	S08	W60	08	25.1		A	HHX	310	3	3	3
10085		VORO	08	30	0044	S08	W66	08	25.1			HKX	249	1		3
10085		TACH	08	30	0540	S08	W67	08	25.2			HSX	244	1	3	3
10085		SVTO	08	30	0820	S09	W69	08	25.2		A	HHX	350	1	3	3
10085		RAMY	08	30	1155	S10	W72	08	25.1		A	HSX	180	1	4	2
10085		HOLL	08	30	1448	S08	W72	08	25.2		A	HAX	240	1	3	4
10085	31386	MWIL	08	30	1600	S07	W74	08	25.1	5	(AP)					
10085		TACH	08	31	0413	S06	W78	08	25.3			HSX	151	1	2	4
10085		SVTO	08	31	0602	S08	W85	08	24.9		A	HHX	180	1	7	3
10086		LEAR	08	21	0017	S23	E51	08	24.9		A	AXX	10	1		4
10086		RAMY	08	21	1252	S25	E48	08	25.2		A	AXX	10	1	1	3
10086		LEAR	08	22	0016	S21	E41	08	25.1		B	BXO	20	4	5	3
10086		RAMY	08	22	1241	S21	E36	08	25.3		B	BXO	10	4	2	3
10086		LEAR	08	23	0020	S23	E30	08	25.3		A	HRX	10	2	2	3
10086		RAMY	08	24	1317	S26	E07	08	25.1		B	BXO	10	6	6	4
10086	31395	MWIL	08	28	1445	S22	W49	08	24.8	4	(BF)					
10085A	31400	MWIL	08	30	1600	S10	W48	08	27.1	3	(AP)					
10085A		TACH	08	31	0413	S07	W52	08	27.3			AXX	3	1	1	4
10085B	31396	MWIL	08	28	1445	S17	W13	08	27.6	4	(AP)					
10092		RAMY	08	27	1323	S18	E09	08	28.2		B	CSO	20	3	3	1
10092		HOLL	08	27	1440	S19	E09	08	28.3		A	AXX	10	2	1	4
10092	31392	MWIL	08	27	1445	S18	E09	08	28.3	4	(AP)					
10092		VORO	08	28	0435	S19	E01	08	28.3			AXX	5	2		2
10092		TACH	08	28	0449	S15	W02	08	28.0			AXX	3	1	1	4
10092		SVTO	08	28	0733	S19	W01	08	28.2		A	HSX	20	1	1	3
10092		RAMY	08	28	1220	S19	W04	08	28.2		A	HSX	10	3	1	2

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10092	31392	MWIL	08	28	1445	S18	W05	08	28.2	4	(AP)					
10092		HOLL	08	28	1945	S18	W09	08	28.1		A	HSX	20	5	1	4
10092		VORO	08	28	2247	S18	W09	08	28.3			AXX	25	3	2	3
10092		TACH	08	29	0521	S16	W12	08	28.3			BRO	10	4	4	4
10092		SVTO	08	29	0845	S18	W14	08	28.3		B	DAO	40	3	4	3
10092		RAMY	08	29	1220	S19	W17	08	28.2		B	DSO	20	8	4	3
10092	31392	MWIL	08	29	1500	S18	W18	08	28.2	4	(B)					
10092		HOLL	08	29	1532	S18	W18	08	28.3		B	DSO	50	5	6	3
10092		VORO	08	30	0044	S18	W23	08	28.3			BXI	12	4	3	3
10092		TACH	08	30	0540	S15	W24	08	28.4			BXO	4	2	3	3
10092		SVTO	08	30	0820	S18	W27	08	28.3		B	DAO	40	3	4	3
10092		RAMY	08	30	1155	S18	W29	08	28.3		B	BXO	20	3	4	2
10092		HOLL	08	30	1448	S18	W31	08	28.2		B	BXO	20	3	4	4
10092	31392	MWIL	08	30	1600	S18	W33	08	28.1	4	(B)					
10092		TACH	08	31	0413	S15	W39	08	28.2			AXX	1	1	1	4
10087		LEAR	08	22	0016	S07	E88	08	28.6		A	HHX	220	1	4	3
10087		TACH	08	22	0443	S08	E81	08	28.3			HSX	47	1	2	4
10087		SVTO	08	22	0716	S05	E80	08	28.3		A	HSX	180	1	5	3
10087		RAMY	08	22	1241	S06	E77	08	28.3		B	DKO	280	4	5	3
10087	31387	MWIL	08	22	1445	S07	E77	08	28.4	5	(AP)					
10087		HOLL	08	22	1525	S08	E80	08	28.6		B	CKO	30	4	4	4
10087		LEAR	08	23	0020	S07	E73	08	28.5		B	DKO	570	10	8	3
10087		TACH	08	23	0537	S05	E67	08	28.2			HA	167	3	5	4
10087		SVTO	08	23	0745	S07	E67	08	28.3		B	CKO	480	2	6	3
10087		HOLL	08	23	1338	S07	E66	08	28.5		B	DKO	290	18	7	3
10087	31387	MWIL	08	23	1445	S07	E65	08	28.5	5	(BP)					
10087		LEAR	08	24	0015	S06	E59	08	28.4		B	DKO	420	26	8	4
10087		TACH	08	24	0427	S07	E54	08	28.2			HA	449	4	4	5
10087		SVTO	08	24	0850	S08	E55	08	28.5		B	CKO	270	4	5	2
10087		RAMY	08	24	1317	S07	E52	08	28.4		BG	DKI	410	18	6	4
10087		HOLL	08	24	1412	S07	E53	08	28.6		BG	DKI	200	20	6	4
10087	31387	MWIL	08	24	1445	S07	E51	08	28.4	5	(BP)					
10087		VORO	08	24	2308	S09	E48	08	28.6			HKX	420	25	3	2
10087		LEAR	08	25	0105	S07	E45	08	28.4		BG	DKI	250	13	4	1
10087		TACH	08	25	0439	S07	E41	08	28.3			CHI	423	5	3	4
10087		SVTO	08	25	0735	S07	E44	08	28.6		B	DKO	450	12	7	3
10087		HOLL	08	25	1337	S08	E38	08	28.4		BG	CKI	420	19	5	3
10087	31387	MWIL	08	25	1445	S07	E38	08	28.5	5	(D)					
10087		VORO	08	25	2257	S09	E35	08	28.6			HKX	420	23	2	2
10087		TACH	08	26	0419	S07	E28	08	28.3			CAI	382	6	2	5
10087		SVTO	08	26	0605	S08	E30	08	28.5		B	DKO	340	6	7	3
10087		RAMY	08	26	1216	S08	E27	08	28.5		B	DKO	410	9	4	3
10087		HOLL	08	26	1340	S08	E26	08	28.5		BG	CKI	420	12	4	2
10087	31387	MWIL	08	26	1430	S07	E25	08	28.5	6	(D)					
10087		TACH	08	27	0431	S07	E14	08	28.2			HA	378	4	3	4
10087		SVTO	08	27	0700	S07	E15	08	28.4		B	DKO	420	9	6	3
10087		RAMY	08	27	1323	S07	E12	08	28.4		B	DKO	400	5	6	1
10087		HOLL	08	27	1440	S09	E11	08	28.4		B	DKI	420	30	6	4
10087	31387	MWIL	08	27	1445	S07	E12	08	28.5	5	(D)					
10087		VORO	08	28	0435	S08	E04	08	28.5			HKX	408	42	1	2
10087		TACH	08	28	0449	S06	E02	08	28.3			HA	288	8	3	4
10087		SVTO	08	28	0733	S08	E03	08	28.5		B	DAO	330	8	7	3
10087		RAMY	08	28	1220	S08	W01	08	28.4		B	DKO	410	20	5	2
10087	31387	MWIL	08	28	1445	S07	W02	08	28.5	5	(D)					
10087		HOLL	08	28	1945	S09	W05	08	28.4		BG	DKC	290	36	7	4
10087		VORO	08	28	2247	S08	W06	08	28.5			HKX	365	16	1	3
10087		TACH	08	29	0521	S08	W09	08	28.5			CAI	185	8	3	4
10087		SVTO	08	29	0845	S08	W12	08	28.5		BD	DAC	280	15	9	3
10087		RAMY	08	29	1220	S07	W14	08	28.5		BG	DAI	250	33	8	3
10087	31387	MWIL	08	29	1500	S08	W15	08	28.5	5	(D)					
10087		HOLL	08	29	1532	S08	W16	08	28.4		BG	DAI	190	31	7	3
10087		VORO	08	30	0044	S08	W20	08	28.5			DAC	302	14	2	3
10087		TACH	08	30	0540	S07	W23	08	28.5			CAI	184	13	2	3
10087		SVTO	08	30	0820	S08	W26	08	28.4		B	DAO	230	18	8	3
10087		RAMY	08	30	1155	S08	W27	08	28.5		BG	DAI	250	22	8	2
10087		HOLL	08	30	1448	S07	W28	08	28.5		BG	DKC	240	41	8	4
10087	31387	MWIL	08	30	1600	S08	W30	08	28.4	5	(BG)					
10087		TACH	08	31	0413	S06	W34	08	28.6			CAI	170	19	3	4

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10087		SVTO	08	31	0602	S08	W38	08	28.4		B	DAO	290	14	8	3
10087		RAMY	08	31	1355	S09	W43	08	28.3		B	DAI	290	21	6	3
10087		HOLL	08	31	1532	S07	W43	08	28.4		BG	DAC	310	35	6	3
10087		TACH	09	01	0459	S06	W49	08	28.6			HR	125	19	4	5
10087		SVTO	09	01	0819	S07	W53	08	28.5		B	CSO	180	10	8	3
10087		RAMY	09	01	1301	S09	W57	08	28.4		B	DSO	200	11	7	2
10087		HOLL	09	01	1438	S07	W56	08	28.5		B	CAO	190	28	6	3
10087	31387	MWIL	09	01	1700	S07	W57	08	28.5	4	(BP)					
10087		VORO	09	02	0006	S07	W61	08	28.5			DKI	217	8	2	2
10087		TACH	09	02	0800	S06	W63	08	28.7			CAO	91	4	3	4
10087		RAMY	09	02	1226	S09	W69	08	28.4		B	DAO	310	5	4	3
10087		HOLL	09	02	1445	S07	W68	08	28.6		B	CSO	90	5	5	4
10087	31387	MWIL	09	02	2000	S07	W72	08	28.5	4	AP					
10087		VORO	09	03	0151	S06	W76	08	28.5			HAX	122	1		2
10087		SVTO	09	03	0630	S06	W76	08	28.7		A	HSX	60	1	2	2
10087		TACH	09	03	0643	S05	W78	08	28.5			HSX	75	1	3	3
10087		RAMY	09	03	1221	S09	W81	08	28.5		A	HAX	60	1	2	3
10087	31387	MWIL	09	03	1500	S06	W88	08	28.1	4	AP					
10092A		RAMY	09	03	1258	N25	W81	08	28.4		A	AXX	10	2	1	3
10089		RAMY	08	24	1317	S16	E66	08	29.5		A	AXX	10	1	1	4
10089		HOLL	08	24	1412	S17	E67	08	29.7		A	AXX	20	1	1	4
10089	31389	MWIL	08	24	1445	S16	E64	08	29.5	4	(AP)					
10089		VORO	08	24	2308	S16	E60	08	29.5			AXX	3	1		2
10089		HOLL	08	25	1337	S16	E52	08	29.5		A	AXX	10	1	1	3
10089		VORO	08	25	2257	S16	E47	08	29.5			AXX	3	1		2
10087A		RAMY	09	03	1221	N24	W61	08	29.9		B	BXO	20	3	3	3
10087A	31408	MWIL	09	03	1500	N27	W60	08	30.0	3	(B)					
10087A		VORO	09	03	2246	N27	W65	08	30.0			BRO	7	3	3	2
10087A		SVTO	09	04	0600	N25	W71	08	29.8		A	AXX		1		3
10087A	31408	MWIL	09	04	1500	N26	W76	08	29.8	4	AP					
10090		HOLL	08	25	1337	S03	E67	08	30.6		A	AXX	10	1	1	3
10090	31391	MWIL	08	25	1445	S03	E66	08	30.5	4	(AP)					
10090		VORO	08	25	2257	S02	E62	08	30.6			BXO	13	2	0	2
10090		TACH	08	26	0419	S02	E55	08	30.3			AXX	13	1	1	5
10090		SVTO	08	26	0605	S02	E58	08	30.6		A	HRX	10	1	1	3
10090		RAMY	08	26	1216	S03	E53	08	30.5		A	AXX	10	1	1	3
10090		HOLL	08	26	1340	S03	E53	08	30.5		A	AXX	10	1	1	2
10090	31391	MWIL	08	26	1430	S03	E53	08	30.6	4	(AP)					
10090		TACH	08	27	0431	S03	E41	08	30.2			AXX	7	1	1	4
10090		SVTO	08	27	0700	S03	E42	08	30.4		A	HRX	10	1	1	3
10090		RAMY	08	27	1323	S03	E38	08	30.4		A	AXX	10	1	1	1
10090		HOLL	08	27	1440	S05	E38	08	30.4		A	HSX	20	2	1	4
10090	31391	MWIL	08	27	1445	S04	E37	08	30.4	4	(AP)					
10090		VORO	08	28	0435	S05	E29	08	30.4			AXX	11	3		2
10090		TACH	08	28	0449	S02	E25	08	30.1			BXO	7	2	3	4
10090		SVTO	08	28	0733	S03	E28	08	30.4		B	CSO	20	2	2	3
10090		RAMY	08	28	1220	S06	E24	08	30.3		B	CSO	30	4	5	2
10090	31391	MWIL	08	28	1445	S04	E24	08	30.4	5	(B)					
10090		HOLL	08	28	1945	S05	E21	08	30.4		B	DSO	40	6	5	4
10090		VORO	08	28	2247	S04	E20	08	30.4			BXI	36	6	5	3
10090		TACH	08	29	0521	S03	E12	08	30.1			BRI	7	4	5	4
10090		SVTO	08	29	0845	S04	E15	08	30.5		B	DSO	40	6	6	3
10090		RAMY	08	29	1220	S04	E12	08	30.4		B	DSO	60	20	7	3
10090	31391	MWIL	08	29	1500	S05	E11	08	30.4	4	(B)					
10090		HOLL	08	29	1532	S04	E10	08	30.4		B	DSO	60	19	8	3
10090		VORO	08	30	0044	S04	E05	08	30.4			BXI	40	7	4	3
10090		TACH	08	30	0540	S04	E01	08	30.3			BRI	14	10	3	3
10090		SVTO	08	30	0820	S04	E01	08	30.4		B	DAO	80	8	6	3
10090		RAMY	08	30	1155	S04	W01	08	30.4		B	DAO	90	11	6	2
10090		HOLL	08	30	1448	S05	W03	08	30.4		B	CAO	40	16	6	4
10090	31391	MWIL	08	30	1600	S05	W05	08	30.3	5	(B)					
10090		TACH	08	31	0413	S02	W10	08	30.4			CAI	48	6	5	4
10090		SVTO	08	31	0602	S04	W12	08	30.3		B	DSO	50	8	7	3
10090		RAMY	08	31	1355	S05	W16	08	30.4		B	DAO	60	5	7	3
10090		HOLL	08	31	1532	S04	W17	08	30.4		B	CAO	60	12	7	3

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

AUGUST 2002

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
10090		TACH	09 01	0459	S04 W23	08 30.6			CSO	29	3	6	5
10090		SVTO	09 01	0819	S06 W30	08 30.2		B	CSO	50	2	2	3
10090		RAMY	09 01	1301	S07 W29	08 30.5		B	DSO	30	6	7	2
10090		HOLL	09 01	1438	S05 W31	08 30.4		B	CAO	60	10	8	3
10090	31391	MWIL	09 01	1700	S05 W36	08 30.1	4	(BP)					
10090		VORO	09 02	0006	S05 W40	08 30.1			HAX	54	2		2
10090		TACH	09 02	0800	S02 W42	08 30.3			HSX	34	1	1	4
10090		RAMY	09 02	1226	S08 W43	08 30.4		B	CSO	40	3	6	3
10090		HOLL	09 02	1445	S05 W47	08 30.2		B	CSO	30	4	2	4
10090	31391	MWIL	09 02	2000	S05 W49	08 30.3	4	B					
10090		VORO	09 03	0151	S04 W54	08 30.1			HAX	56	2		2
10090		SVTO	09 03	0630	S04 W57	08 30.1		A	HSX	40	1	2	2
10090		TACH	09 03	0643	S03 W55	08 30.3			HSX	36	1	1	3
10090		RAMY	09 03	1221	S08 W61	08 30.0		A	HSX	130	1	1	3
10090	31391	MWIL	09 03	1500	S04 W62	08 30.1	4	(AP)					
10090		VORO	09 03	2246	S04 W65	08 30.2			HAX	60	2		3
10090		TACH	09 04	0425	S03 W64	08 30.5			HSX	47	1	1	4
10090		SVTO	09 04	0600	S04 W70	08 30.1		A	HSX	40	1	1	3
10090		RAMY	09 04	1258	S06 W80	08 29.6		A	HSX	30	1	1	3
10090	31391	MWIL	09 04	1500	S04 W75	08 30.1	4	AP					
10090		HOLL	09 04	1523	S04 W77	08 30.0		A	HSX	30	1	1	3
10090A		RAMY	08 27	1323	N08 E42	08 30.7		B	BXO	10	2	3	1
10090A		HOLL	08 27	1440	N06 E42	08 30.7		A	AXX	10	3	2	4
10090A	31393	MWIL	08 27	1445	N06 E42	08 30.7	4	(B)					
10090A	31393	MWIL	08 28	1445	N07 E23	08 30.3	3	(AP)					
10090B	31394	MWIL	08 27	1445	S16 E48	08 31.2	4	(BF)					
10090B		VORO	08 28	0435	S15 E38	08 31.1			AXX	11	2		2
10090B		TACH	08 28	0449	S13 E34	08 30.8			AXX	2	1	1	4
10090B		RAMY	08 28	1220	S17 E34	08 31.1		A	HSX	10	1	1	2
10090B	31394	MWIL	08 28	1445	S15 E32	08 31.0	4	(AP)					
10090B		HOLL	08 28	1945	S15 E29	08 31.0		A	HSX	20	1	2	4
10090B		TACH	08 29	0521	S14 E20	08 30.7			AXX	3	1	1	4
10090B		SVTO	08 29	0845	S16 E23	08 31.1		A	HSX	10	1	1	3
10090B		RAMY	08 29	1220	S16 E19	08 30.9		B	BXO	10	2	2	3
10090B		HOLL	08 29	1532	S17 E16	08 30.9		A	AXX	10	1	1	3
10090D	31397	MWIL	08 29	1500	S32 E23	08 31.4	3	(B)					
10090E		SVTO	09 04	0600	S11 W45	08 31.9		B	BXO	10	3	2	3
10090E	31413	MWIL	09 04	1500	S12 W49	08 31.9	3	AP					

Stations reporting:

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

AUGUST 2002

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	0628	0632	0654	1+	1					1	0623	C2.9	10044
01	0706	0708	0726	1	3					2	0703	C3.3	10050
01	0742	0744	0805	1	3					2	0739	C4.1	10050
01	1342	1347	1357	1-	3					2	1343	C3.7	10050
01	1353	1405	1431	1+	3					3	1400	C4.6	10050
01	1543	1553	1614	1+	3					4	1541	C3.4	
01	1702	1707	1735	1+	5					4	1704	C6.0	10044
01	1806	1817	1857	2-	3					2	1809	C4.6	10044
01	2011	2024	2055	2	1					1	2015	C4.8	
01	2125	2132	2154	1+	1					1	2126	C3.6	10050
02	0620	0626	0649	1+	5					3	0617	C4.2	10044
02	0650	0653	0710	1-	3					2	0649	C4.2	10039
02	0907	0913	0934	1+	5					2	0907	C3.1	
02	1046	1052	1126	3	5	1		1		4	1048	M1.0	10039
02	1241	1248	1315	2-	3					2	1244	C4.2	10039
02	1347	1358	1422	2	3					2	1347	C3.6	10039
02	1701	1708	1732	1+	3					7	1701	C3.1	
02	1933	1935	1952D	1	1					1	1936		10039
02	1952	1957	2029	1+	3					4	1950	C4.4	10057
02	2014	2016	2052	1+	3					2	2015		
02	2040	2042	2103D	1	1					1	*		
02	2251	2257	2340	2+	3					3	2250	C8.3	10057
03	0433	0438	0504	1+	3		1			1	0432	C7.5	10057
03	0435	0455	0515	2	1					1	0432	C7.5	10057
03	0502	0518	0532	1	1		1				0518		10057
03	0712	0718	0740	1+	3		1			2	0729		10057
03	0742	0750	0802	1	1		1				No flare		
03	0918	0922	0939	1	5					2	0915	C2.7	10050
03	1031	1035	1058	1	1		1				*		
03	1248	1305	1400	3-	5	1	1	1		8	1259	C5.3	
03	1329	1356	1439	1	1		1				*		
03	1515	1528	1600	2	1					1	1513	C2.9	
03	1652	1656	1718	1	3					4	1652	C2.7	10050
03	1900	1907	2001	2+	3					6	1859	X1.0	10039
03	1947	1948	2021	2	1					1	1949		10057
03	2114	2128	2158	2-	3					3	2111	C3.7	10040
04	0445	0448	0510	1	1					1	0444	C3.8	
04	0717	0720	0739	3-	5	1	2	1		3	0714	C7.4	
04	0901	0912	0912D	3	5	1	1	1		2	0858	M6.6	
04	0931	0941	1057	2+	5	1	2	1		3	0858	M6.6	
04	1406	1412	1436	1+	3					3	1410	C6.0	
04	1414	1420	1443	2+	5	1	2	1		10	1410	C6.0	
04	1454	1500	1525	1+	5					11	1452	C4.8	
04	1527U	1528U	1530U	1-	1					1	No flare		
04	1816	1822	1906	1	1		1				1901	C2.1	
04	2143	2147	2203	1	1					1	2139	C2.6	
05	0809	0812	0826	1	1		1				No flare		
05	1633	1636	1659	1	1		1				No flare		
05	2115	2123	2205	2-	3					5	2114	M1.0	10063
06	0137	0140	0205	1+	1					1	0133	C8.3	10057
06	0521	0524	0539	1	1					1	0514	C2.1	
06	1127	1134	1208	2	5					3	1126	C4.3	10057
06	1129	1134	1234	3-	5		2	1		4	1126	C4.3	10057
06	1229	1234	1255	1	5					2	1226	C3.3	10061
06	1256	1301	1343	3	5	1		1		8	1253	C7.9	10063
06	1459	1511	1604	1	1		1				1516	C7.6	10057
06	1519	1536	1623	3	5	1		1		9	1516	C7.6	10057
07	0122	0128	0203	2	5					2	0118	M1.1	
07	0631	0649	0730	1	1		1				0633	C1.5	10063
07	0711	0718	0755	2	3					2	0711	C2.6	
07	0832	0836U	0857	1	1		1				No flare		
07	1358	1404	1437	2	1					1	1354	C1.4	

* = no flare patrol.

SUDDEN IONOSPHERIC DISTURBANCES

AUGUST 2002

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
09	0839	0852	0934	2	3					2	0838	C2.0	
09	0950	1005	1014	1	1		1				*		
11	1139	1150	1236	3	5	1	2	1		10	1137	C9.5	
11	1332	1337	1354	1-	5					4	1330	C2.2	10066
11	1353	1358	1413D	1	1					1	1350	C1.9	
11	1416	1422	1438	1-	5					2	1407	C2.3	10069
11	1439	1446	1511	1+	5					4	1439	C2.3	10061
11	1646	1650	1709	1	5					5	1645	C3.0	
11	1735	1750	1833	2	3					4	1735	C7.9	
11	2021	2023	2033	1-	1					1	2022	C1.7	
11	2121	2128	2153	2-	3					2	2122	C3.6	
11	2213	2220	2252	2-	3					2	2210	C3.3	
12	0811	0825	0838	1+	1					1	0749	C2.7	10058
12	1542	1549	1554	1-	1					1	1539	C2.0	
13	0546	0549	0612	1+	1					1	0546	C2.3	
13	0706	0710	0728	1	1					1	0707	C1.9	
13	0921	0931	0943	3-	5	1	2	1		3	0921	C3.3	
13	1410	1416	1457	2	5					5	1406	C3.0	
13	1506	1509	1548	2	5	1	2	1		8	1503	C4.8	10067
13	1854	1902	2006	2+	3					5	1852	M1.8	10069
13	2207	2217	2250	2	1					1	2210	C5.0	10067
14	0903	0908	0927	2	5			1		4	0850	C5.0	10069
14	1007	1013	1048	2	5	1	2	1		4	1004	C4.9	
14	1202	1225	1255	2	5	1		1		2	1202	C2.6	10066
14	1405	1409	1440	2	5	1	2	1		10	1401	C7.5	10067
14	1805	1814	1901	2	3					6	1804	M1.4	10067
14	1906	1911	1937	1+	3					2	1907		10069
14	1959	2012	2052	2	3					3	1959		10069
14	2137	2141	2211	1+	3					4	2133	C4.7	10069
15	0603	0606	0646	2-	5					3	0601	M1.0	10066
15	0604	0632	0632	2	1		1				No flare		
15	0732	0734	0748	1-	1					1	0731	C2.3	
15	0933	0937	0949	1	1		1				*		
15	1129	1137	1216	3-	5	1	1	1		6	1127	C4.5	10078
15	1330	1336	1412	2+	5	1		1		8	1322	C3.9	10069
15	1510	1514	1541	2	5		1	1		10	1509	C6.9	10078
15	1949	1956	2037	2	3					5	1948	C7.0	10078
15	2324	2335	0022	2+	3					2	2323	M1.0	10078
16	0549	0609	0735	2+	5	1				3	0546	M2.4	10061
16	0555	0604	0707	3-	5		1	1		1	0546	M2.4	10061
16	1133	1210	1444	3	5	1		1		7	1132	M5.2	10069
16	1345	1347	1417	1+	5					3	No flare		
16	1513	1518	1540	1	5					4	1513		10069
16	1545	1552	1630	2	1					1	1513		10069
16	1808	1815	1909	2+	3					4	1804	C5.2	
16	2210	2214	2302	2	3					3	2207	M1.2	
16	2334	2337	0018	2	3					2	2329	M1.7	10069
17	0103	0109	0130	1+	1					1	0058	M1.1	10083
17	0630	0633	0651	1	1					1	0630	C4.6	10069
17	0655	0659	0719	2	5	1		1		2	0653	C5.0	10069
17	0828	0853	1003	1	1		1				0844	C2.1	10069
17	1642	1645	1708	1+	3					4	1639	C3.0	
17	1944	1953	2012	1+	3					3	1945	C4.0	
17	2038	2051	2150	2+	3					6	2039	M3.4	10069
18	0145	0147	0200	1-	1					1	0143	C3.2	10069
18	0330	0336	0420	2+	1					1	0328	C8.4	10069
18	0730	0734	0815	2-	5		1			4	0728	C8.0	10069
18	0949	1006	1114	3	5	1	2	1		6	0954	M2.3	10069
18	1207	1212	1247	2+	5	1	1	1		5	1205	C4.1	

* = no flare patrol.

AUGUST 2002

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
18	1210	1243	1317	1	1		1				1244		10079
18	1347	1350	1417	1+	3					2	1343	C4.9	10069
18	1400	1405	1430	1+	1					1	No flare		
18	1436	1441	1510	3-	5	1	2	1		7	1433	M1.9	10069
18	1646	1650	1722	2-	3					3	1642	C6.0	10083
18	1945	1955	2019	2	3					4	1935	C4.5	10079
18	2019	2023	2103	2-	3					5	2018	C8.7	10069
18	2112	2123	2222	2+	3					5	2112	M2.2	10069
18	2228	2234	2315	2+	1					1	2228	C4.3	
19	1030	1036	1102	3	5	1	2	1		7	1028	M2.0	10069
19	1300	1303	1335	2	5			1		2	1257	C3.5	10069
19	1427	1439	1507	2	3					2	1427	C9.5	10069
19	1431	1440	1512	3-	5	1	1	1		1	1427	C9.5	10069
19	2053	2102	2154	2	3					4	2056	M3.1	10069
20	0135	0142	0224	2-	5					3	0133	M5.0	10069
20	0255	0257	0320	1	1					1	0253	M1.4	10069
20	0513	0515	0530	1-	1					1	0511	C4.0	10069
20	0621	0623	0633	1-	1					1	0617	C2.7	10079
20	0826	0831	0903	3	5	1	2	1		4	0822	M3.4	10069
20	1029	1033	1055	2+	5	1		1			1026	C3.3	10079
20	1116	1120U	1158	1	1		1				1125		10069
20	1432	1437	1515	2	1					1	1429	C5.4	10083
20	1547	1551	1609	1	3					4	1547	C3.0	10081
20	1635	1639	1653	1+	3					4	1634	C3.3	10085
20	1656	1700	1717	1	5					4	1655	C5.2	10069
20	1707	1708	1737	1+	1					1	1655	C5.2	10069
20	1735	1740	1811	2-	3					3	1734	C9.9	10069
20	1800	1806	1822D	1	1					1	*		
20	1820	1827	1853	2-	3					2	1821	C3.3	
20	2107	2117	2203	2+	1					1	2053	M1.2	10085
20	2212	2214	2224D	1-	1					1	2206	C3.5	
20	2224	2232	2245D	1	1					1	2221	C6.2	10069
20	2245	2248	2313D	1+	1					1	2242	C5.4	10069
20	2313	2315	2400	2+	1					1	2308	C6.4	10069
21	0136	0142	0215	2	5					3	0135	M1.4	10069
21	0532	0536	0549	2+	5	1	2	1		2	0528	X1.0	10069
21	1133U	1158U	1222U	2+	1					1	1142E		10083
21	1147	1216	1237	2+	1					1	1142E		10083
21	1252	1301	1317	1	5					3	1258	C3.1	10069
21	1349	1352	1416	1+	5					2	1349	C2.5	
21	1437	1443	1509	2-	5					2	1436		10085
21	1602	1613	1638	1+	5					2	1609	C3.0	10069
21	1700	1706	1723D	1	1					1	1658	C3.6	10069
21	1721	1725	1745	1	3					4	1720	C4.8	10069
21	1904	1909	1943	2-	3					5	1903	C8.9	10069
22	0151	0154	0221	1+	3					2	0147	M5.4	10069
22	0516	0519	0540	1	1		1				0513	C2.8	10085
22	0605	0646	0746	2	1		1				0618	C5.6	10079
22	0733	0735	0751	1-	1					1	No flare		
22	0802	0805	0822	1	3					2	0802	C5.7	10069
22	0808	0821	0852	1	1		1				No flare		
22	1009	1018	1140	1	1		1				No flare		
22	1047	1053	1100	2	5	1		1			1044	C4.1	10085
22	1317	1321	1341	1	5					2	1317	C2.9	10069
22	1419	1423	1433	2+	5	1	1	1		9	1415	C4.8	
22	1620	1628	1650	2	5		1	1		8	1616	C7.0	10079
22	1657	1700	1724	1+	3					3	1655	C3.4	10087
22	1737	1746	1845	2+	3					2	1739	M1.2	10087
22	1739	1755	1904	3-	3					4	1739	M1.2	10087
22	1950	1953	2019	1+	3					2	1951	C3.0	
22	1952	2007	2115	2+	1					1	No flare		
22	2033	2034	2050D	1-	1					1	2033	C4.3	10069
22	2050	2052	2104	1-	1					1	2054		10079
22	2245	2252	2330	2	1					1	2209	C4.5	10069

* = no flare patrol.

SUDDEN IONOSPHERIC DISTURBANCES

AUGUST 2002

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Flare (UT)	X-ray Class	NOAA Region
23	0415	0420	0445	1+	1					1	0414	C9.4	10069
23	0534	0537	0544	1-	1					1	0531	M1.7	10085
23	0548	0551	0607	1	3		1			2	0531	M1.7	10085
23	0808	0821	0845	3	5	1		1		1	0800	M1.5	10069
23	0906	0912	0939	1	1		1				0900		10069
23	0944	0949	1049	2+	5	1	2	1		3	No flare		
23	1015	1032	1117	1	1		1				No flare		
23	1141	1143	1154D	1-	1					1	1142	C8.1	10069
23	1158	1204	1241	3-	5	1	2	1		7	1156	M1.2	10069
23	1306	1317	1337	3	5	1	2	1		6	1305	M1.5	10087
23	1418	1432	1457	2-	5					6	1418		10069
23	1851	1855	1910	1	1					1	1852	C3.7	10085
23	1914	1916	1932	1-	1					1	1914	C3.8	
23	2005	2016	2124	2+	3					4	2009	M1.4	10083
24	0055	0102	0142	2	5					2	0049	X3.1	10069
24	0523	0527	0538D	1-	1					1	No flare		
24	0538	0547	0621	2	3					2	0538	M1.8	10087
24	0925	0942	0959	2	1			1			0925		10085
24	1114	1127	1209	3	5	1	2	1		8	1112	M1.5	
24	1244	1301	1319	3-	5	1	2	1		8	1242	C5.4	
24	1508	1515	1548	2-	5					4	1508	C4.6	10079
24	1739	1742	1800	1	3					2	1738	C2.9	
24	1804	1808	1828	1	3					3	No flare		
24	1832	1843	1921	2	3					4	1832	C6.0	10083
24	2102	2107	2129	1+	3					3	2103	C3.1	
25	1101	1112	1126	2+	5	1	1	1		2	1059	C3.6	
25	1547	1557	1632	2-	1			1			1538	C1.4	10080
25	1738	1742	1841	1	1		1				No flare		
25	1849	1852	1948	2+	3					4	1845	M1.1	10083
25	2338	2347	0006	1+	3					2	2338	M1.9	10083
26	0714	0729	0746	2	5		1	1			No flare		
26	0941	0947	1014	3-	5		2	1		4	0939	C4.0	10085
26	1623	1625	1642	2+	5		1	1		3	1615	C7.6	10083
26	1841	1844	1902	1	1					1	1835	C3.4	10085
26	1937	1958	2115	3	1					1	1936	C7.8	10083
27	0511	0513	0531	1-	3		1			1	0515	C1.8	
27	1228	1240	1307	3	5	1	1	1		8	1225	C9.0	
28	1058	1101	1134	3-	5	1		1		5	1057	C5.7	10083
28	1439	1449	1503	1	3					4	1440	C2.9	
28	1505	1513	1537	1+	5					6	No flare		
28	1551	1555	1623	2	5			1		8	1548	C8.1	
28	1651	1659	1722	2+	5	1	2	1		9	1645	M1.3	10083
28	1741	1748	1759	1-	3					5	1741	C4.4	10083
28	1805	1812	1827	1	3					4	1806	C6.6	
28	1824	1827	1840	1-	3					2	No flare		
28	1847	1849	1913	1+	3					2	1847		10090
28	1854	1900	1946	2-	3					4	1852	M4.6	
28	2141	2144	2244	2	3					3	2138	M1.1	
29	0247	0251	0315	1	1					1	0245	M1.6	
29	0503	0509	0528	1	3					2	0456	M1.8	
29	0645	0755	0820	2	1		1				0713	C7.2	
29	0830	0844	0856	1	1		1				No flare		
29	0919	0931	0950	1	1		1				*		
29	1035	1041	1124	2+	5	1	1	1		1	1033	C4.5	10085
29	1058	1110	1125	1+	1					1	1058	C3.8	
29	1242	1251	1349	3	5	1	2	1		11	1242	M3.2	10095
29	1322	1323	1345	1	1					1	1321	C4.9	
29	1422	1427	1439	1-	5					2	1423		10087
29	1445	1456	1523	2-	5					2	1447	C2.9	

* = no flare patrol.

AUGUST 2002

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
29	1523	1532	1555	2+	5	1	1	1		6	1522	C4.4	
29	1657	1700	1723D	1+	1					1	1655	C2.8	
29	1832	1837	1900	1+	1					1	1823		10094
29	1926	1932	1956	1+	3					4	1925	C5.2	
29	2143	2145	2215	1+	1					1	2140	C4.7	
30	0237	0240	0248	1-	1					1	0234	C8.5	
30	0428	0430	0440	1-	1					1	0427	C3.4	
30	0447	0456	0532	2	3					2	0447	C5.7	
30	0738	0741	0800	1	3					2	0735	C2.6	
30	1046	1055	1120	2+	5	1	1	1		2	1032	C4.3	10092
30	1326	1332	1353	3	5	1	2	1		13	No flare		
30	1343	1345	1415	1+	1					1	No flare		
30	1438	1441	1504	3-	5	1	2	1		12	1435	C8.4	10095
30	1818	1822	1841	1+	1					1	1822		10095
30	2007	2016	2045	2	1					1	2029		10095
31	0942	0955	1011	1	1		1				No flare		
31	1028	1034	1116	1	1		1				No flare		
31	1308	1316U	1406	1	1		1				No flare		
31	1328	1333	1346	1-	5					2	1328	C3.0	10095
31	1421	1425	1453	2	5	1	2	1		10	1418	C4.7	
31	1523	1526	1532	1-	3					2	1526	C3.8	10095
31	1532	1539	1559	1-	5		1			1	No flare		
31	1611	1618	1653	2-	5		1			10	1611	C8.8	10095
31	1925	1929	1946	1	3					7	1924	C3.4	
31	1949	1957	2034	2-	3					7	1948	C9.1	10095

* = no flare patrol.

OBSERVATORIES REPORTING FOR AUGUST 2002

Alberta, Canada	SES	Marlborough, Massachusetts, USA	SES
Bedford, Massachusetts, USA	SES	Nerja, Spain	SES
Bern, Switzerland	SES	Panska Ves, Czech Republic	SES, SEA, SWF
Brookline, Massachusetts, USA	SES	Sussex, United Kingdom	SES
Dundas, Ontario, Canada	SES	Torrington, Connecticut, USA	SES
Edenvale, Rep of S. Africa	SES	Udine City, Italy	SES
Houston, Texas, USA	SES	Upice, Czech Republic	SEA
Isola del Gran Sasso, Italy	SES	Villiersdorp, South Africa	SES

Observations are not necessarily continuous.

SOLAR RADIO EMISSION
Spectral Observations

AUGUST 2002

Day	OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	EVENT Spectral Class	EVENT Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
01	0000	0700	CULG	0000.0E	0700.0D	III	S,C	1	57X	180	
			LEAR	0027.0	0035.0	III		2	25	180	
	0000	0944	HIRA	0030.0	0035.0	III	G	1	25X	300	
			CULG	0031.0	0035.0	III	GG	3	57X	300	
			LEAR	0041.0	0051.0	III		2	25	180	
			CULG	0042.0	0044.0	III	G	3	57X	280	
			HIRA	0042.0	0050.0	III	G	1	25X	300	
			CULG	0102.0	0700.0D	I	S	1	70	170	
			HIRA	0144.0	0144.5	III	B	1	25X	60	
			LEAR	0144.0	0144.0	III		1	25	54	
			HIRA	0325.5	0326.0	III	B	1	230	500	
			CULG	0326.0	0326.0	III	B	1	250	470	
			SVTO	0420.0	1329.0	CONT		1	25	180	
			IZMI	0551.0E	1155.0U	III	N	1	25X	95	
	0551	1200	IZMI	0551.0E	1200.0D	I	S,C	2	50	270X	
			IZMI	0552.8	0553.9	III	G	1	45	90	
	0450	1750	BLEN	0613.0	0614.3	III	GG	2	210	450	
			BLEN	0616.3	0617.5	III	GG,S	2	210	500	
			BLEN	0622.8	0626.7	DCIM	C	2	1400	4000X	
			IZMI	0645.3	0647.8	III	GG	1	45	95	
	0340	1843	POTS	0647 U	0818 U	III	GG,N	1	40X	90	
			IZMI	0658.4	0706.6	III	GG	2	35	180	
			POTS	0719.8	0720.1	DCIM		2	400U	530	
			POTS	0727 U	1040 U	I	S,C,DC	3	200U	380	
			POTS	0727.2	0727.4	DCIM		2	340	420	
			POTS	0740.7	0742.7	III	GG	2	200U	520	
			BLEN	0740.8	0749.5	DCIM	C,S	3	150	4000X	
			HIRA	0741.0	0742.5	III	G	1	200	280	
			IZMI	0741.0	0742.6	III	GG,C	3	175	270X	
			POTS	0743.1	0743.9	DCIM		2	300	530	
			IZMI	0750.3	0750.9	III	G	1	45	190	
			SVTO	0811.0	0811.0	III		1	56	180	
			IZMI	0852.0	0852.0	III	B	2	115	180	
			POTS	1040 U	1843 U	I	S,C,DC	2	50	300	1352-1405 no data
			IZMI	1113.2	1114.2	III	GG	2	120	260	
			IZMI	1121.7	1121.8	III	B	2	240	270X	
	1123	1729	ONDR								
			IZMI	1154.0	1154.2	III	B	1	25	90	
			HOLL	1704.0	1706.0	III		1	25	180	
			BLEN	1704.4	1710.7	DCIM	C	3	100X	4000X	
			POTS	1704.4	1706.1	DCIM		2	300U	680	
			PALE	1705.0	1706.0	III		2	25	180	
			SGMR	1705.0	1706.0	III		1	30	80	
			SVTO	1705.0	1706.0	III		2	25	180	
			POTS	1705.7	1706.1	III	G	3	60	600U	
			POTS	1705.8	1706.5	V	G	3	110U	300	
			SGMR	1856.0	1933.0	III	N	1	30	80	
			HOLL	1929.0	1932.0	III		1	25	159	
	2100	2400	CULG	2154.0	2322.0	III	N	1	57X	180	
			HOLL	2156.0	2157.0	III		1	25	129	
	1943	2400	HIRA	2156.0	2157.5	III	G	1	25X	200	
			HOLL	2353.0	2356.0	III		2	25	180	
			LEAR	2354.0	2356.0	V		3	25	180	
			PALE	2354.0	2356.0	V		2	25	180	
			LEAR	2358.0	0009.0	III	N	1	25	111	
02	0000	0700	CULG	0003.0	0145.0	I	S	1	100	180	
			CULG	0006.0	0206.0	III	N	1	57X	180	
			LEAR	0015.0	0024.0	III		1	56	132	
			LEAR	0108.0	0108.0	III		1	49	180	
			LEAR	0110.0	0236.0	CONT		1	102	180	
			CULG	0305.0	0305.0	III	B	2	57X	150	
			LEAR	0305.0	0305.0	III		1	50	118	
	0000	0944	HIRA	0305.0	0305.5	III	B	1	50	140	
			CULG	0308.0	0700.0D	I	S	1	130	180	
			CULG	0333.0	0333.0	III	B	1	75	180	
			CULG	0341.0	0700.0D	III	N	1	57X	180	
			HIRA	0341.0	0342.5	III	G	1	25X	110	
			LEAR	0341.0	0342.0	III		1	25	115	

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

AUGUST 2002

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	0341	1842	POTS	0411 U	1842 U	I	S,N,DC	2	200U	400	100-200MHz no data
			LEAR	0414.0	0946.0	III	N	1	25	155	
			SVTO	0435.0	0654.0	III	N	1	25	180	
			POTS	0456.6	0458.2	III	G,N	2	40X	80	
			HIRA	0525.5	0526.0	III	B	2	40	200	
			POTS	0525.8	0526.0	III	B	2	40X	400	
			CULG	0526.0	0526.0	III	B	2	57X	180	
			SVTO	0528.0	0529.0	III		2	25	62	
			LEAR	0532.0	0705.0	CONT		1	113	180	
			SVTO	0533.0	0704.0	CONT		1	111	180	
			POTS	0556.0	0557.0	III	G	2	40X	250	
			IZMI	0556.8	0557.3	III	G	1	45	65	
			IZMI	0557.0E	1200.0D	III	N	1	25X	95	
	0557	1200	IZMI	0557.0E	1200.0D	I	S,C	2	45	270X	
	0450	1750	BLEN	0619.1	0621.7	DCIM	C	3	2000	4000X	
			IZMI	0620.5	0622.3	III	G	2	25X	95	
			CULG	0651.0	0654.0	III	G	3	57X	360	
			HIRA	0651.0	0652.5	III	G	2	25X	400	
			SVTO	0651.0	0651.0	III		2	25U	84U	
			IZMI	0651.2	0654.1	III	GG	2	25X	270X	
			POTS	0651.2	0654.0	III	G	2	40X	400	
			BLEN	0651.6	0652.5	III	C	2	150	3500	
			POTS	0721.9	0724.0	III	G	2	45	300	
			SVTO	0723.0	1130.0	III	N	1	25	180	
			HIRA	0723.5	0724.0	III	B	2	50	220	
			IZMI	0723.7	0723.9	III	G,C	2	45	250	
			IZMI	0742.7	0743.5	III	G	2	25X	130	
			POTS	0742.7	0810.7	III	GG,N	1	40X	85	
			IZMI	0839.3	0839.4	III	G	2	130	190	
			POTS	0908	0911	III	GG	3	40X	730	
			HIRA	0908.0	0910.0	III	G	2	60	130	
			BLEN	0908.1	0910.4	DCIM	C,P	2	100X	4000X	
			IZMI	0908.3	0911.7	III	GG,C,FS	2	25X	270X	
	0549	1729	ONDR	0908.4	0910.3	DCIM	G	1	2000X	4500X	
			POTS	0912	1446 U	III	GG,N	2	40X	85	
			IZMI	0915.0	0925.6	III	GG	2	25X	160	
			POTS	0927.7	0955 U	III	GG,N	3	40X	500	
			IZMI	1053.2	1057.6	III	GG,C	2	45	270X	
			POTS	1056.5	1126	III	GG,N	3	40X	430	
			IZMI	1101.2	1102.5	III	GG	2	40	125	
			SGMR	1111.0	1112.0	III		1	30	80	
			SVTO	1111.0	1112.0	V		2	25	180	
			IZMI	1111.5	1112.8	III	GG,C	2	25X	270X	
			BLEN	1111.7	1113.0	III	GG,S	2	100X	4000X	
			IZMI	1120.0	1124.7	III	GG,C,FS	2	45	270X	
			BLEN	1136.6	1147.5	DCIM	P	2	800	4000X	
			ONDR	1143.5	1146.3	DCIM	G	1	2107	4500X	
			SVTO	1159.0	1432.0	III	N	1	25	180	
			HOLL	1249.0	1249.0	III		1	49	123	
			SGMR	1249.0	1249.0	III		1	30	80	
			SVTO	1305.0	1439.0	CONT		1	114	180	
			HOLL	1306.0	1306.0	III		1	50	103	
			HOLL	1316.0	1429.0	CONT		1	103	180	
			HOLL	1321.0	1432.0	III	N	1	25	85	
			SGMR	1355.0	1356.0	III		1	30	80	
			POTS	1355.5	1356.0	III	G	3	40X	400	
			HOLL	1647.0	1752.0	III	N	1	25	148	
			PALE	1647.0	0409.0	III	N	1	25	180	
			SVTO	1647.0	1743.0	III	N	1	25	180	
			SGMR	1657.0	1658.0	III		1	30	80	
			BLEN	1712.9	1713.5	III	G	1	140	260	
			SGMR	1749.0	1752.0	III		1	30	60	
			HOLL	1846.0	1848.0	III		1	25	143	
			SGMR	1846.0	2033.0	III	N	1	30	80	
			HOLL	1911.0	0111.0	III	N	1	25	155	
			HOLL	1911.0	1918.0	III		1	25	155	
	1944	2400	HIRA	2031.5	2033.5	III	G	1	25X	110	
			HIRA	2047.0	2047.5	III	B	1	70	230	

SOLAR RADIO EMISSION
Spectral Observations

AUGUST 2002

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
03			LEAR	0021.0	0349.0	III	N	1	32	180	
	0342	1841	POTS	0350 U	1841 U	I	S,N,DC	2	200U	400	100-200MHz no data
	0550	1200	IZMI	0550.0E	1150.0U	I	N	1	180	270X	
			LEAR	0554.0	0554.0	III		1	25	107	
			SVTO	0554.0	0554.0	III		1	25U	82U	
	0000	0943	HIRA	0554.5	0555.0	III	B	1	25X	100	
			IZMI	0554.6	0554.9	III	G	2	25X	95	
			POTS	0928.3	0928.5	DCIM		2	400	760	
			IZMI	1027.9	1028.7	III	G	2	25X	100	
			POTS	1027.9	1028.6	III	G	3	40X	85	
			IZMI	1028.0	1031.0U	V		2	25X	70U	
			SVTO	1028.0	1029.0	V		2	25U	82U	
			POTS	1028.2	1029.4	V	G	3	40X	75	
			IZMI	1141.6	1144.0	III	GG,C	2	25X	135	
			POTS	1141.7	1142.8	III	G	2	40X	85	
			POTS	1142.5	1143.4	V	G	2	45	70	
			SGMR	1221.0	1222.0	III		1	30	60	
			POTS	1221.7	1222.0	III	B	2	40X	85	
			HOLL	1243.0	1344.0	III	N	1	25	180	
			POTS	1244	1320 U	III	GG,N	3	40X	85	
			SGMR	1244.0	1306.0	III	N	2	30	80	
	0619	1727	ONDR	1300.1	1302.0	DCIM	G	1	2000X	4500X	
	0455	1750	BLEN	1300.5	1306.6	DCIM	P,C	2	430	4000X	
			POTS	1302	1306	DCIM		2	450	640	
			POTS	1700.8	1702.4	DCIM		1	460	800X	
			HOLL	1904.0	1909.0	III		1	25	180	
			PALE	1904.0	1913.0	III		2	25	180	
			SGMR	1904.0	1924.0	III	N	2	30	80	
			HOLL	1910.0	1914.0	III		1	25	109	
			HOLL	1921.0	2000.0	CONT		1	25	120	
			HOLL	2046.0	2047.0	III		1	25	53	
	1944	2400	HIRA	2229.0	2230.0	III	G	1	100	200	
			LEAR	2314.0	2320.0	III		1	97	180	
			HOLL	2330.0	2331.0	III		1	25	180	
			LEAR	2340.0	2341.0	III		1	179	180	
04			LEAR	0209.0	0209.0	III		1	81	141	
	0000	0942	HIRA	0209.5	0210.0	III	B	1	80	210	
			HIRA	0408.0	0408.5	III	B	2	40	120	
			LEAR	0408.0	0408.0	III		1	38	123	
	0343	1840	POTS	0411	0938 U	I	S,N,DC	2	200U	400	
			POTS	0444.2	0447.5	DCIM		2	470	770	
			LEAR	0445.0	0447.0	III		1	25	180	
			SVTO	0445.0	0446.0	III		1	58	180	
			HIRA	0445.5	0447.0	III	G	2	50	1000	
			POTS	0445.6	0446.8	III	G	2	40X	370	
	0455	1745	BLEN	0514.5	0514.8	III	GG	2	980	1200	
	0550	1200	IZMI	0550.0E	1200.0D	I	N	2	120	270X	
			POTS	0701.9	0702.8	DCIM		2	240	460	
			LEAR	0716.0	0719.0	III		1	25	180	
			SVTO	0716.0	0718.0	III		1	25	180	
			IZMI	0716.6	0720.0	III	GG	2	25X	160	
			POTS	0716.6	0721.0	III	GG	2	40X	600	
			BLEN	0717.0	0722.6	III	GG,C	2	100X	4000X	
			HIRA	0717.0	0718.5	III	G	2	50	150	
			BLEN	0738.5	0739.6	III	G	1	300	450	
			POTS	0738.5	0739.7	DCIM		1	300	440	
			POTS	0738.5	0739.7	III	B	2	40X	65	
			IZMI	0750.6	0751.0	III	G	1	45	90	
			SVTO	0816.0	0816.0	III		1	25	59	
	0619	1446	ONDR	0903.3	0935.3	DCIM	GG	3	2000X	4500X	
			POTS	0906.8	0908.6	DCIM		1	330	580	
			BLEN	0908.0	0923.5	DCIM	C	3	380	4000X	
			POTS	0929	0940	III	G,N	2	40X	280	
			IZMI	0929.1	0931.6	III	GG	1	45	270X	
			SVTO	0930.0	0930.0	III		1	25	180	
			IZMI	0937.9	0939.6	III	GG	2	40	200	
			IZMI	0943.5	0944.0	III	G	1	125	240	
			POTS	0953.8	0955.6	DCIM		2	400U	660	

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04			SVTO	0955.0	0956.0	III		1	25	53	
			POTS	0955.6	0956.1	III	B,U	2	40X	70	
			IZMI	0955.7	0956.0	III	G,U	1	25X	65	
			IZMI	1117.6	1117.8	III	G	1	200	270X	
			IZMI	1138.2	1148.3	III	GG	1	130	270X	
			HOLL	1259.0	1300.0	III		1	65	180	
			SVTO	1259.0	1300.0	III		2	61U	180U	
			HOLL	1453.0	1500.0	III		1	25	162	
			POTS	1453.0	1506.7	III	GG,N	3	40X	85U	
			SGMR	1453.0	1459.0	III	N	2	30	75	
			SVTO	1453.0	1506.0	III	N	2	25	180	
			BLEN	1453.2	1500.5	DCIM	P	2	150	4000X	
			POTS	1453.5	1505.0	DCIM		2	400U	750	
			HOLL	1901.0	1901.0	III		1	40	86	
			PALE	1901.0	1901.0	III		1	31	95	
			PALE	1913.0	0453.0	CONT		1	25	180	
			HOLL	2025.0	2026.0	III		1	25	137	
			PALE	2025.0	2026.0	III		1	25	73	
			SGMR	2025.0	2026.0	III		1	30	55	
	1945	2400	HIRA	2025.5	2026.0	III	B	1	25X	130	
			HOLL	2043.0	2050.0	III		1	25	165	
			HIRA	2050.0	2051.0	III	B	1	50	200	
			HOLL	2125.0	2125.0	III		1	25	44	
	2212	2400	CULG								
05			HOLL	0002.0	0002.0	III		1	25	86	
	0000	0710	CULG	0002.0	0003.0	III	G	1	57X	160	
			CULG	0236.0	0236.0	III	B	1	57X	80	
			CULG	0431.0	0431.0	III	B	1	57X	100	
	0343	1840	POTS	0446.2	0446.6	DCIM		2	400U	580	100-400MHz no data
	0500	1745	BLEN								
			CULG	0501.0	0501.0	III	B	1	57X	90	
			CULG	0511.0	0617.0	I	S	1	120	180	
	0550	1200	IZMI	0605.0U	0945.0U	I	N	1	110	250	
			IZMI	0633.6	0633.8	III	B	1	45	95	
			CULG	0634.0	0651.0	III	N	1	57X	90	
			CULG	0642.0	0645.0	III	G	2	57X	280	
			IZMI	0642.0	0644.7	III	G	2	25X	270X	
			LEAR	0642.0	0644.0	III		1	25	180	
			POTS	0642.0	0644.7	III	G	2	40X	85	
			SVTO	0642.0	0644.0	III		1	25	131	
	0000	0941	HIRA	0642.0	0644.5	III	G	1	30	200	
			IZMI	0650.3	0650.4	III	B	1	45	95	
	0656	1723	ONDR								
			IZMI	0800.1	0800.2	III	B	1	45	65	
			IZMI	0807.7	0807.9	III	B	1	50	65	
			IZMI	0829.3	0829.5	III	B	1	45	65	
			IZMI	0948.0	0949.0	III	G	1	45	65	
			IZMI	1028.4	1028.7	III	G	1	45	95	
			POTS	1034.4	1034.6	DCIM		2	400U	650	
	2100	2400	CULG	2124.0	2127.0	III	G	1	57X	180	
	1946	2400	HIRA	2124.5	2125.0	III	B	1	50	200	
			CULG	2200.0	2200.0	III	B	1	57X	90	
			CULG	2245.0	2248.0	III	G	1	57X	80	
06	0000	0710	CULG	0207.0	0207.0	III	B	1	57X	80	
			CULG	0343.0	0343.0	III	B	1	480	660	
			CULG	0414.0	0414.0	III	B	1	57X	90	
			CULG	0509.0	0710.0D	III	N	1	57X	100	
			LEAR	0510.0	0510.0	III		1	25	116	
			SVTO	0510.0	0510.0	III		1	25U	81U	
	0000	0940	HIRA	0510.0	0511.0	III	B	1	25X	100	
	0600	1200	IZMI	0606.0U	1143.0U	III	N	1	45	95	
	0500	1740	BLEN	0747.7	0751.5	III	GG	2	400	1000	
	0343	1839	POTS	0748.2	0748.6	III	B	1	40X	80	100-400MHz no data
			IZMI	0748.3	0748.4U	III	B	2	50	90	
			POTS	0748.6	0751.6	DCIM		2	430	760	
			IZMI	0845.7	0846.4	III	G	2	50	65	
			IZMI	0959.2	0959.3	III	B	2	45	75	

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		06	IZMI	1011.8	1013.5	III	G	1	25	95	
			SVTO	1034.0	1054.0	III	N	1	25	52	
			POTS	1043.8	1044.3	DCIM		2	520	720	
0619	1722		ONDR	1129.2	1130.1	DCIM	G	1	2068	4500X	
			ONDR	1255.2	1259.1	DCIM	GG	2	2000X	4500X	
			BLEN	1255.9	1258.3	DCIM	C	3	700	4000X	
			POTS	1316.5	1316.8	DCIM		2	450	600	
			POTS	1337.9	1338.0	DCIM		2	460	570	
			HOLL	1423.0	1723.0	CONT		1	25	75	
			HOLL	1424.0	1426.0	III		1	25	83	
			SVTO	1424.0	1425.0	III		1	32U	82U	
			SGMR	1425.0	1425.0	III		1	30	50	
			HOLL	1458.0	1607.0	III	N	1	25	180	
			HOLL	1818.0	1819.0	III		1	25	180	
			HOLL	1818.0	1936.0	III	N	1	25	180	
			PALE	1818.0	1940.0	III	N	1	25	180	
			SGMR	1843.0	1843.0	III		1	30	80	
2100	2400		CULG	2100.0E	2400.0D	III	N	1	57X	90	
			CULG	2249.0	2250.0	III	G	1	57X	180	
			HOLL	2249.0	2250.0	III		1	25	170	
1947	2400		HIRA	2249.5	2250.0	III	B	1	25X		
			LEAR	2338.0	0948.0	CONT		1	62	180	
		07	CULG	0000.0E	0435.0	III	S,C	2	57X	180	
			HOLL	0030.0	0140.0	CONT		1	25	142	
			PALE	0053.0	0452.0	CONT		1	25	180	
0000	0939		HIRA	0413.5	0414.0	III	B	1	25X	120	
			CULG	0414.0	0414.0	III	B	3	57X	160	
			CULG	0435.0	0710.0D	III	S,C	1	57X	160	
			SVTO	0445.0	0547.0	CONT		1	25U	180U	
0454	1721		ONDR								
0510	1740		BLEN								
			IZMI	0600.0E	1200.0D	III	N	1	25X	95	
0600	1200		IZMI	0600.0E	1200.0D	I	S	1	60	170	
			IZMI	0606.3	0607.1	III	G	2	40	90	
			IZMI	0632.2	0633.3	III	G,C	2	30	90	
0344	1839		POTS	0632.2	0632.9	III	G	1	40X	80	100-400MHz no data
			IZMI	0748.9	0749.0	III	B	2	45	90	
			POTS	0748.9	0749.1	III	B	1	45	80	
			IZMI	0758.6	0758.9	III	G	2	45	90	
			POTS	0758.7	0758.9	III	B	1	40X	85	
			SVTO	0824.0	0825.0	III		1	37U	73U	
			IZMI	0824.7	0825.1	III	G,C	2	40	95	
			POTS	0824.8	0825.1	III	B	2	40X	85	
			SVTO	1045.0	1210.0	III	N	1	25	78	
			IZMI	1105.7	1106.0	III	B	2	25X	65	
			POTS	1105.7	1105.9	III	B	2	40X	90	
			POTS	1106.7	1106.9	DCIM		1	430	570	
			IZMI	1119.6	1129.3	III	GG	2	25X	95	
			POTS	1152	1156	III	G,N	1	40X	85	
			IZMI	1153.1	1154.2	III	G	1	45	95	
			HOLL	1252.0	1900.0	CONT		1	77	180	
			SVTO	1252.0	1737.0	CONT		1	75U	180U	
			HOLL	1344.0	2352.0	III	N	1	25	180	
			SVTO	1344.0	1737.0	III	N	1	25U	57U	
2100	2400		CULG	2100.0E	2400.0D	III	S,C	1	57X	180	
			LEAR	2311.0	0949.0	CONT		1	25	180	
			LEAR	2321.0	0257.0	III	N	1	25	54	
		08	CULG	0000.0E	0230.0	III	S,C	1	57X	180	
			HOLL	0024.0	0026.0	III		1	25	81	
			HOLL	0114.0	0140.0	CONT		1	25	139	
			CULG	0230.0	0507.0	III	S,C	2	57X	180	
			SVTO	0413.0	1736.0	CONT		1	25	180	
			CULG	0507.0	0710.0D	III	S,C	2	57X	180	
0551	1200		IZMI	0551.0E	1200.0D	I	S,C	1	50	270	
			IZMI	0610.0U	0905.0U	III	N	1	25	95	
0345	1839		POTS	0644 U	0945 U	I	S,N	1	60	85	100-400MHz no data
			IZMI	0812.7	0815.6	III	GG	2	45	215	

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08			IZMI	0852.0	0852.1	III	B	1	45	65	
			IZMI	0853.0	0854.3	I	GG,DC	2	45	65	
			IZMI	0857.7	0858.0	III	G	2	45	170	
			POTS	0945 U	1117 U	III	GG,N	1	40X	85	
			IZMI	1022.7	1023.3	III	GG	2	160	270X	
	0510	1740	BLEN	1022.7	1023.3	III	GG,C	2	100X	4000X	
			POTS	1025 U	1150 U	I	S,N	1	55	85	
	0455	1720	ONDR	1110.1	1110.5	DCIM	G	2	978	1648	
			POTS	1223 U	1533 U	III	GG,N,RS	1	40X	85	
			HOLL	1406.0	1845.0	CONT		1	40	136	
			HOLL	1532.0	1533.0	III		1	25	135	
			SGMR	1532.0	1533.0	III		1	30	60	
			SVTO	1532.0	1533.0	III		1	25	159	
			PALE	1612.0	1842.0	CONT		1	25	180	
	2100	2400	CULG	2100.0E	2400.0D	III	S,C	1	57X	180	
			PALE	2120.0	2120.0	III		1	32	150	
			HOLL	2256.0	0140.0	CONT		1	61	153	
			LEAR	2310.0	0949.0	CONT		1	25	180	
09	0000	0710	CULG	0000.0E	0710.0D	III	S,C	1	57X	180	
			PALE	0033.0	0450.0	CONT		1	25	180	
			SVTO	0454.0	0808.0	CONT		1	25	180	
	0456	1718	ONDR								
	0515	1740	BLEN								
			SVTO	0552.0	0552.0	III		1	113U	180U	
	0555	1200	IZMI	0555.0E	1200.0D	I	S	1	50	270X	
			SVTO	0932.0	1735.0	CONT		1	25	180	
			IZMI	1138.5	1139.6	III	GG	1	110	230	
	0346	1838	POTS	1222.4	1223.1	III	G,W	1	60	85	100-400MHz no data
			SVTO	1237.0	1239.0	III		1	25	56	
			POTS	1256	1303	III	G	1	45	85	
			HOLL	1331.0	0145.0	CONT		1	26	169	
			HOLL	1501.0	1505.0	III		1	25	88	
			SGMR	1501.0	1505.0	III		1	30	60	
			SVTO	1501.0	1505.0	III		1	25	85	
			POTS	1501.6	1506.1	III	G	2	40X	85	
			POTS	1609.7	1609.9	DCIM		1	460	720	
	2100	2400	CULG	2100.0E	2400.0D	III	S,C	1	57X	180	
			LEAR	2309.0	0949.0	CONT		1	62	180	
10	0000	0710	CULG	0000.0E	0710.0D	III	S,C	1	57X	180	
			SVTO	0415.0	1344.0	CONT		1	25	180	
	0457	1717	ONDR								
	0515	1740	BLEN								
	0600	1200	IZMI	0600.0E	0950.0U	I	S	1	90	180	
			IZMI	0742.5	0742.6	III	B	1	40	65	
			IZMI	0751.2	0806.1	III	N	1	45	95	
			SVTO	0756.0	0758.0	III		1	25U	82U	
	0346	1837	POTS	0756.0	0815.2	III	GG,N	2	40X	85	100-400MHz no data
			IZMI	0756.1	0758.6	III	GG,FS	2	25X	150	
			LEAR	0757.0	0758.0	III		1	25	180	
			LEAR	0802.0	0803.0	III		1	25	180	
			SVTO	0802.0	0803.0	III		2	25U	82U	
			IZMI	0802.3	0803.6	III	GG	2	25X	95	
			IZMI	0808.7	0810.6	III	G	2	45	90	
			IZMI	0836.4	0836.9	III	GG	2	120	180	
			IZMI	0908.6	0908.7	III	B	1	45	65	
			POTS	0908.6	0908.8	III	B	1	45	80	
			IZMI	0950.0U	1200.0D	I	S	2	90U	270X	
			SVTO	1000.0	1000.0	III		1	25	65	
			POTS	1000.5	1000.8	III	B	1	40X	85	
			IZMI	1000.6	1000.8	III	B	1	25X	45U	
			POTS	1005.1	1127 U	III	GG,N	1	40X	85	
			IZMI	1110.6	1110.8	III	B	1	25X	45U	
			HOLL	1614.0	1615.0	III		1	25	87	
			SVTO	1614.0	1615.0	III		1	25	180	
			PALE	1645.0	0444.0	CONT		1	25	180	
			SGMR	1722.0	1748.0	III	N	1	30	55	
			HOLL	2042.0	2042.0	III		1	25	149	

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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
10			PALE	2042.0	2043.0	III		1	25	148	
			SGMR	2042.0	2042.0	III		1	30	55	
	2100	2400	CULG	2100.0E	2400.0D	III	S	1	57X	180	
			LEAR	2309.0	0950.0	CONT		1	25	180	
11	0000	0710	CULG	0000.0E	0710.0D	III	S	1	57X	180	
			CULG	0352.0	0353.0	III	G	2	57X	170	
			LEAR	0352.0	0352.0	III		2	25	180	
			PALE	0352.0	0352.0	III		1	25	180	
			SVTO	0549.0	1159.0	CONT		1	25U	180U	
	0600	1200	IZMI	0600.0E	1200.0D	I	S	1	60	270X	
			IZMI	0721.1	0723.2	III	G	2	40	170	
			IZMI	0740.1	0741.3	III	G	2	40	90	
	0347	1835	POTS	0740.1	0740.3	III	B	1	40X	85	100-400MHz no data
			IZMI	0755.6	0757.2	III	G	1	45	90	
			IZMI	0801.0U	0925.0U	III	N	1	45	90	
			POTS	0914.6	0914.8	III	B	2	40X	100U	
			ONDR	0925.4	0926.2	DCIM	G,W	1	969	2000X	
	0458	1715	ONDR	0925.5	0926.1	DCIM	G	1	2000X	4500X	
	0515	1740	BLEN	0925.5	0926.7	DCIM	C	2	800	4000X	
			IZMI	0954.8	0955.5	III	G	2	115	175	
			IZMI	0957.5	0957.7	III	B	1	25X	40	
			POTS	1010.5	1014.1	III	G	2	40X	90	
			IZMI	1011.8	1014.1	III	GG	2	25X	215	
			POTS	1034.4	1034.7	III	B	1	40X	80	
			IZMI	1034.5	1034.6	III	B	1	25X	45	
			POTS	1113.5	1113.7	III	B,U	1	40X	80	
			SVTO	1247.0	1626.0	CONT		1	110	180	
			POTS	1403.8	1412.3	III	GG,U	2	40X	90	
			HOLL	1404.0	1413.0	III		1	25	180	
			SGMR	1404.0	1409.0	III		2	30	60	
			SVTO	1404.0	1413.0	III		1	25	180	
			BLEN	1408.8	1411.4	III	GG	1	280	420	
			HOLL	1611.0	1615.0	III		1	25	180	
			SGMR	1615.0	1615.0	III		1	30	45	
			SVTO	1615.0	1615.0	III		1	25	136	
	2100	2400	CULG	2100.0E	2231.0	III	S,C	1	57X	180	
12			LEAR	0122.0	0123.0	III		1	25	180	
			PALE	0122.0	0122.0	III		1	25	180	
	0000	0710	CULG	0122.0	0124.0	III	G	1	57X	270	
	0053	0933	HIRA	0122.0	0123.0	III	B	1	60	220	
			CULG	0146.0	0146.0	III	B	1	57X	160	
			CULG	0301.0	0306.0	III	G	1	57X	120	
			LEAR	0301.0	0306.0	III		1	25	180	
			PALE	0301.0	0301.0	III		1	25	132	
	0500	1713	ONDR								
	0515	1740	BLEN								
			CULG	0604.0	0710.0D	III	N	1	57X	90	
			SVTO	0606.0	0811.0	III	N	1	25U	65U	
	0550	1200	IZMI	0606.4	0606.5	III	B	1	40	90	
			IZMI	0702.3	0702.6	III	B	1	55	85	
			IZMI	0711.5	0711.7	III	B	1	40	95	
			IZMI	0729.5	0729.8	III	G	1	45	95	
			IZMI	0733.0	0733.1	III	B	1	55	100	
			IZMI	0821.4	0821.5	III	G	1	45	95	
			IZMI	0856.7	0956.8	III	G	1	130	175	
			IZMI	0932.7	0938.9	III	GG	1	45	160	
	0349	1836	POTS	0934.3	0941.5	III	GG,RS	1	40X	85	100-400MHz no data
			SVTO	1030.0	1142.0	III	N	1	25	82	
			POTS	1049.8	1102.0	III	G,N	1	40X	80	
			IZMI	1050.0	1050.2	III	B	2	25X	45	
			POTS	1100.7	1101.1	DCIM		1	440	540	
			IZMI	1101.8	1102.3	III	B	1	25X	40	
			POTS	1139.7	1141.3	III	G	1	40X	85	
			SVTO	1419.0	1421.0	III		1	25	143	
			HOLL	1505.0	1507.0	III		1	25	121	
			SGMR	1505.0	1506.0	V		1	30	55	
			SVTO	1505.0	1507.0	III		1	25	130	

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12		POTS	1505.6	1507.6	III	G	2	40X	85	
		POTS	1505.8	1506.2	V	B	2	40X	60	
		HOLL	1533.0	1533.0	III		1	25	70	
		SVTO	1533.0	1533.0	III		1	25	79	
		HOLL	1727.0	1732.0	III		1	25	84	
		SGMR	1728.0	1732.0	III		1	30	75	
2100	2400	CULG	2208.0	2210.0	UNCLF		1	130	170	
		HOLL	2218.0	2219.0	III		1	25	140	
		PALE	2218.0	2219.0	III		1	25	147	
1952	2400	HIRA	2218.5	2223.0	III	G	1	25X	210	
		CULG	2219.0	2223.0	III	G	1	57X	180	
		LEAR	2307.0	0241.0	CONT		1	75	180	
		CULG	2308.0	2341.0	III	S,C	1	57X	160	
13		LEAR	0103.0	0106.0	III		1	25	112	
		PALE	0104.0	0106.0	III		1	25	121	
0000	0720	CULG	0104.0	0106.0	III	G	1	57X	100	
0000	0932	HIRA	0106.0	0106.5	III	B	1	30	170	
		CULG	0147.0	0147.0	III	B	1	57X	90	
		LEAR	0210.0	0211.0	III		1	25	180	
		PALE	0210.0	0211.0	III		1	25	180	
		HIRA	0210.5	0212.0	III	G	1	25X	160	
		CULG	0211.0	0212.0	III	G	1	57X	150	
		PALE	0237.0	0239.0	III		1	25	129	
		CULG	0446.0	0446.0	III	B	1	57X	90	
0501	1712	ONDR								
		LEAR	0554.0	0609.0	III	N	1	54	180	
		CULG	0555.0	0610.0	III	N	1	57X	170	
0600	1200	IZMI	0603.3	0603.4	III	B	1	90	160	
		SVTO	0712.0	0715.0	V		2	25	180	
0515	1740	BLEN	0712.3	0714.5	III	GG	2	130	380	
		IZMI	0712.7	0714.8	III	GG,C	2	25X	245	
0350	1832	POTS	0712.8	0719.2	III	GG	3	40X	90	100-400MHz no data
		CULG	0713.0	0715.0	III	G	3	57X	200	
		HIRA	0713.0	0720.0	III	G	2	25X	310	
		LEAR	0713.0	0719.0	III		2	25	180	
		IZMI	0718.6	0719.8	III	GG	2	25	270X	
		CULG	0719.0	0720.0	III	G	2	57X	180	
		SVTO	0719.0	0719.0	III		1	25	180	
		IZMI	0732.4	0732.5	III	G,FS	1	50	90	
		IZMI	0741.0	0741.2	III	B	1	45	65	
		HIRA	0746.0	0747.0	III	G	1	60	230	
		LEAR	0746.0	0747.0	III		1	62	180	
		SVTO	0746.0	0746.0	III		1	40U	126U	
		IZMI	0746.2	0747.2	III	GG,C	2	45	270X	
		POTS	0746.3	0747.0	III	G	1	40X	80	
		LEAR	0830.0	0836.0	III		1	25	180	
		SVTO	0830.0	0836.0	III		1	25	180	
		HIRA	0830.5	0836.5	III	G	1	50	170	
		IZMI	0830.7	0831.8	III	GG	1	25X	160	
		POTS	0830.7	0831.5	III	G	2	40X	90	
		IZMI	0836.4	0836.6	III	G	2	40	130	
		LEAR	0848.0	0902.0	III	N	1	56	180	
		SVTO	1144.0	1148.0	III		1	73U	180U	
		IZMI	1144.2	1144.6	III	GG	2	95U	270X	
		IZMI	1146.6	1146.7	III	G	1	90U	270X	
		IZMI	1148.2	1149.4	III	GG	2	90	270X	
		SVTO	1241.0	1403.0	III	N	1	25U	180U	
		POTS	1256.6	1302.3	III	G,N	1	40X	85	
		HOLL	1449.0	1450.0	III		1	25	64	
		SVTO	1449.0	1450.0	III		1	25	65	
		HOLL	1505.0	1506.0	III		1	25	140	
		SGMR	1505.0	1506.0	III		1	30	55	
		SVTO	1505.0	1506.0	III		1	25	180	
		BLEN	1505.2	1507.1	III	GG,C	2	100X	4000X	
		POTS	1505.3	1507.2	III	G	2	40X	90	
		POTS	1505.6	1506.2	DCIM		2	400U	800X	
		HOLL	1539.0	1539.0	III		1	25	63	
		SVTO	1539.0	1539.0	III		1	25	73	

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13			POTS	1706.7	1707.6	III	B	1	40X	75	
			HOLL	1743.0	2328.0	III	N	1	25	85	
			PALE	1754.0	0447.0	CONT		1	25	180	
			HOLL	1803.0	2053.0	CONT		1	25	84	
			HOLL	1852.0	1853.0	III		1	25	162	
	1953	2400	HIRA								
	2100	2400	CULG	2115.0	2123.0	III	GG	1	57X	150	
			CULG	2119.0	2400.0D	III	N	1	57X	160	
			LEAR	2352.0	0951.0	CONT		1	25	180	
14	0000	0720	CULG	0000.0E	0026.0	III	N	1	57X	180	
			LEAR	0017.0	0018.0	III		1	25	180	
	0000	0931	HIRA	0017.5	0018.0	III	B	1	25X	320	
			CULG	0057.0	0302.0	III	N	1	57X	180	
			LEAR	0057.0	0213.0	III	N	1	25	180	
			HIRA	0130.5	0142.5	III	G	1	25X	240	
			HIRA	0155.0	0158.0	III	G	1	25X	140	
			CULG	0157.0	0159.0	III	G	2	57X	160	
			LEAR	0157.0	0208.0	II		3	25	157	ESS 0506
			CULG	0158.0	0206.0	II	FN	3	57X	80	
			CULG	0158.0	0209.0	II	SH	3	60	170	FLA ESS 400
			HIRA	0158.0	0206.0	II		3	25X	140	
			PALE	0158.0	0217.0	II		2	25	29	ESS 0606
			PALE	0159.0	0205.0	V		3	25	144	
			LEAR	0300.0	0304.0	III		1	25	180	
			CULG	0304.0	0304.0	III	G	2	57X	170	
			HIRA	0304.5	0305.0	III	B	2	25X	400	
			SVTO	0418.0	1729.0	CONT		1	25	180	
			LEAR	0419.0	0425.0	III		1	25	180	
			HIRA	0419.5	0425.5	III	G	1	25X	310	
			CULG	0420.0	0425.0	III	GG	1	57X	180	
			CULG	0532.0	0605.0	III	N	1	57X	180	
			SVTO	0534.0	0554.0	III	N	1	25	180	
			HIRA	0539.0	0554.0	III	G	2	30	210	
			LEAR	0539.0	0554.0	III	N	1	25	180	
	0352	0845	POTS	0542	0554	III	G,N	1	40X	90	100-400MHz no data
			CULG	0542.0	0545.0	III	G	2	57X	180	
			CULG	0553.0	0554.0	III	G	2	57X	180	
	0600	1200	IZMI	0604.6	0604.7	III	B	1	110	170	
			HIRA	0621.5	0622.0	III	B	1	240	610	
			POTS	0621.6	0622.0	DCIM		2	400U	640	
			IZMI	0621.9	0622.5	III	G	1	160	270X	
			CULG	0622.0	0622.0	III	B	1	100	540	
	0520	1730	BLEN	0622.0	0623.2	III	GG,RS,C	2	200	4000X	
			CULG	0644.0	0720.0D	III	N	1	57X	100	
			IZMI	0658.0	0658.1	III	B	1	45	65	
			IZMI	0720.7	0721.5	III	G,C	2	85	210	
			LEAR	0731.0	0734.0	III		1	25	180	
			SVTO	0731.0	0734.0	III		1	36	160	
			HIRA	0731.5	0734.0	III	G	2	50	130	
			IZMI	0731.6	0732.3	III	G,C	2	40	170	
			POTS	0731.8	0734.2	III	G,N	2	40X	90	
			IZMI	0733.9	0734.3	III	G	2	45	155	
			IZMI	0819.5	0819.6	III	B	1	45	95	
			BLEN	0837.7	0839.5	III	GG,RS,C	3	150	4000X	
			IZMI	0837.7	0839.4	III	GG	2	115	270X	
			ONDR	0838.2	0838.4	DCIM	G,W	1	800X	2000X	
	0502	1710	ONDR	0838.3	0838.4	DCIM	G	1	2000X	4500X	
			HIRA	0838.5	0839.0	III	B	1	110	900	
			POTS	0838.5	0838.7	DCIM		2	400U	800X	
			IZMI	0840.9	0842.4	III	G	2	95	160	
			IZMI	0844.5	0845.5	III	G	1	45	90	
			IZMI	0850.6	0853.4	III	G	1	45	90	
			ONDR	0901.0	0901.3	DCIM	G,W	1	1489	2000X	
			IZMI	0901.3	0901.5	III	G,RS	2	130	270X	
			IZMI	0904.2	0905.2	III	G	1	50	95	
			IZMI	0919.3	0919.5	III	B	1	95	145	
			IZMI	0922.1	0923.8	III	G	2	45	150	
			IZMI	0951.0	0951.8	III	G,C	2	55	175	

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14		IZMI	0952.6	0953.7	III	G	2	55	175	
		IZMI	1004.3	1004.4	III	B	1	55	65	
		BLEN	1004.7	1009.0	III	GG,RS	2	400	900	
		IZMI	1006.7	1006.8	III	B	2	230	270X	
		ONDR	1007.1	1008.4	DCIM	G,SP	2	800X	1058	
		IZMI	1143.6	1145.8	III	G	2	55	270X	
		IZMI	1151.7	1152.0	III	G	1	80	240	
		ONDR	1215.5	1217.4	DCIM	GG	2	800X	1939	
		BLEN	1216.0	1217.9	III	GG,RS,P	3	230	2300	
		SVTO	1407.0	1407.0	III		1	25	54	
		HOLL	1431.0	1434.0	III		1	25	180	
		SVTO	1432.0	1434.0	III		1	25	180	
		HOLL	1520.0	1957.0	III	N	1	25	129	
		SVTO	1520.0	1556.0	III	N	1	25	148	
		ONDR	1553.0	1556.5	DCIM	GG	1	800X	2000X	
		BLEN	1554.2	1555.9	DCIM	P,C	2	330	4000X	
		ONDR	1707.3	1707.5	DCIM	G	2	903	1288	
		PALE	1803.0	0447.0	CONT		1	25	180	
2100	2400	CULG	2100.0E	2146.0	III	N	1	57X	180	
1954	2400	HIRA	2108.5	2109.0	III	B	1	120	270	
		HOLL	2208.0	0134.0	III	N	1	25	70	
		HIRA	2241.0	2241.5	III	B	1	130	250	
		CULG	2307.0	2308.0	III	G	2	57X	170	
		HIRA	2307.0	2307.5	III	B	2	25X	200	
		LEAR	2307.0	0951.0	III	N	1	25	180	
		CULG	2318.0	2320.0	III	G	1	57X	180	
15	0000	0720	CULG	0013.0	0023.0	III	G	1	57X	180	
0000	0930	HIRA	0016.0	0016.5	III	G	1	100	150	
		CULG	0100.0	0425.0	III	N	1	57X	180	
		HIRA	0109.5	0117.5	III	G	1	70	600	
		CULG	0112.0	0112.0	III	B	1	57X	1000	
		CULG	0303.0	0306.0	III	G	3	57X	200	
		HIRA	0303.0	0307.0	III	G	3	25X	210	
		LEAR	0303.0	0306.0	III		2	25	180	
		HIRA	0322.0	0342.5	III	G	1	40	250	
		SVTO	0419.0	1727.0	CONT		1	25	180	
		CULG	0455.0	0720.0D	III	N	1	57X	180	
0600	1200	IZMI	0602.1	0602.3	III	B	1	50	90	
0504	1709	ONDR	0604.0	0608.5	CONT		2	800X	2000X	
0520	1730	BLEN	0604.0	0607.3	DCIM	C	3	700	4000X	
		IZMI	0618.3	0618.5	III	B	1	45	90	
		IZMI	0627.1	0627.2	III	B	1	70	120	
		IZMI	0631.8	0632.0	III	GG	1	140	270	
		SVTO	0635.0	0635.0	III		1	25	180	
		HIRA	0635.5	0636.0	III	B	1	50	240	
		IZMI	0635.7	0636.3	III	G	2	45	270X	
		IZMI	0655.4	0656.0	III	G	1	45	95	
		IZMI	0701.4	0701.5	III	B	1	45	95	
		IZMI	0705.3	0705.6	III	G,C	1	80	155	
		IZMI	0709.6	0709.6	III	G	1	120	170	
		IZMI	0751.1	0751.3	III	G	2	45	155	
0354	0840	POTS	0751.1	0802.5	III	GG,N	3	40X	90	100-400MHz no data
		SVTO	0753.0	0802.0	III		2	25	180	
		HIRA	0753.5	0802.0	III	G	2	40	500	
		IZMI	0753.5	0756.2	III	GG	2	25X	270X	
		LEAR	0758.0	0759.0	III		2	25	180	
		IZMI	0758.2	0800.6	III	GG,C	2	25X	270X	
		IZMI	0802.2	0802.5	III	G	2	25X	95	
		HIRA	0834.0	0836.0	III	G	2	40	320	
		SVTO	0834.0	0835.0	III		2	25	180	
		BLEN	0834.4	0836.4	III	GG	2	150	500	
		IZMI	0834.4	0836.2	III	GG,C	2	25X	270X	
		POTS	0834.4	0836.2	III	GG,N	3	40X	90	
		HIRA	0846.5	0847.0	III	B	1	110	300	
		IZMI	0846.5	0847.5	III	GG	2	60	270X	
		IZMI	0856.4	0857.8	III	G	1	40	65	
		IZMI	0907.8	0908.6	III	GG,C	2	80	270X	
		IZMI	0911.4	0911.5	III	B,HARM	1	50	175	

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15			IZMI	0922.1	0927.4	III	GG	1	45	210	
			IZMI	1001.4	1001.5	III	B	1	55	90	
			BLEN	1011.9	1012.7	III	GG	2	150	400	
			IZMI	1011.9	1012.8	III	GG	2	55	270X	
			IZMI	1058.4	1058.4	III	B	2	80	150	
			IZMI	1131.2	1132.0	III	G	1	30	65	
			IZMI	1145.6	1147.8	III	G	1	25X	65	
			IZMI	1155.7	1155.8	III	B	1	25X	65	
			HOLL	1332.0	1334.0	III		1	25	149	
			BLEN	1345.7	1346.0	III	G	1	200	400	
			HOLL	1434.0	2343.0	III	N	1	25	144	
			PALE	1953.0	0000.0	CONT		1	25	180	
	1955	2400	HIRA	2024.5	2025.0	III	B	2	50	300	
	2100	2400	CULG	2100.0E	2400.0D	III	N	1	57X	180	
			LEAR	2305.0	0751.0	CONT		1	76	180	
			HIRA	2329.0	2329.5	III	B	2	30	70	
			LEAR	2329.0	2329.0	III		1	25	180	
16	0000	0720	CULG	0000.0E	0425.0	III	N	1	57X	180	
			CULG	0128.0	0155.0	I	S,C	1	80	170	
			CULG	0506.0	0720.0D	III	N	1	57X	90	
	0356	0846	POTS	0550.5	0551.2	DCIM		2	400U	530	100-400MHz no data
	0520	1730	BLEN	0550.5	0650.0	DCIM	S,P	3	100X	4000X	
			CULG	0551.0	0551.0	III	G	1	380	500	
			CULG	0552.0	0554.0	II	FN	1	57X	90	
			CULG	0552.0	0554.0	II	SH	3	90	180	ESS 1700
			LEAR	0552.0	0554.0	II		1	100	180	ESS 1249
			SVTO	0552.0	0555.0	III		1	25	180	
			SVTO	0552.0	0555.0	III		1	63	180	
			SVTO	0552.0	0555.0	II		2	63	180	ESS 1454
	0000	0929	HIRA	0552.0	0554.5	II		3	90	190	
			CULG	0553.0	0555.0	III	G	1	57X	170	
			IZMI	0600.0E	1132.0U	III	N	1	25X	95U	
	0600	1335	IZMI	0600.0E	0800.0U	I	N	1	45	270X	
	0505	1707	ONDR	0610.1	0650.4	DCIM	GG	2	800X	2000X	
			IZMI	0631.6	0637.7	III	GG	2	25X	155	
			CULG	0632.0	0638.0	III	G	1	57X	150	
			HIRA	0632.0	0638.0	III	G	1	30	140	
			SVTO	0632.0	0633.0	III		1	25	134	
			POTS	0632.2	0633.2	III	G	1	40X	90	
			BLEN	0708.4	0737.7	DCIM	S,P	3	600	4000X	
			ONDR	0708.4	0734.4	DCIM	G	1	800X	2000X	
			ONDR	0719.3	0729.5	CONT		1	2000X	4500X	
			IZMI	0725.5	0725.7	III	B	2	45	95	
			POTS	0725.5	0735.0	III	G,N	1	40X	80	
			IZMI	0734.6	0735.0	III	G	2	40	95	
			IZMI	0801.7	0808.7	III	GG	1	40	95	
			LEAR	0804.0	0804.0	III		1	82	110	
			POTS	0806.6	0806.8	III	B	1	40X	80	
			IZMI	0834.0	0840.0	III	GG	2	30	160	
			POTS	0834.0	0842.7	III	G,N	1	40X	80	
			LEAR	0836.0	0836.0	III		1	40	157	
			SVTO	0836.0	0836.0	III		1	25U	54U	
			HIRA	0836.5	0837.0	III	B	1	50	200	
			SVTO	0842.0	1035.0	III	N	1	25	180	
			IZMI	0913.5	0915.5	III	G,C	2	25X	170	
			IZMI	0937.0	0937.2	III	B	2	45	95	
			IZMI	1007.0	1007.8	III	G	2	25X	180	
			IZMI	1015.8	1016.1	III	B	2	25X	155	
			SVTO	1016.0	1205.0	CONT		1	25	180	
			IZMI	1031.3	1031.6	III	B,U	2	45	90	
			IZMI	1106.6	1117.9	III	GG,FS	2	45	160	
			IZMI	1127.6	1128.0	III	B	2	25X	95	
			ONDR	1132.1	1148.3	DCIM	GG	2	2000X	4500X	
			ONDR	1132.1	1148.4	DCIM	GG,SP	2	800X	2000X	
			BLEN	1132.3	1145.5	DCIM	S,P	3	130	4000X	
			IZMI	1133.6	1141.6	III	GG,C	2	55	270X	
			IZMI	1135.1	1136.7	III	GG,C	2	55	270X	
			IZMI	1142.7	1143.3	III	GG,FS	2	25X	270X	

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16			SGMR	1143.0	1205.0	III	N	2	30	75	
			IZMI	1144.1	1147.3	II		2	45U	65U	
			IZMI	1145.3	1150.3	III	GG,FS	2	25X	270X	
			SVTO	1149.0	1205.0	III	N	2	25	180	
			ONDR	1150.4	1318.1	DCIM	GG	3	2000X	4500X	
			IZMI	1150.8	1156.0	I	N	1	45	270X	
			IZMI	1152.4	1156.1	III	N	2	25X	160	
			ONDR	1155.0	1417.3	DCIM	GG,SP	3	800X	2000X	
			IZMI	1156.0	1335.0U	I	S,C	2	45U	270X	
			IZMI	1156.6	1159.5	III	GG,FS	2	25X	270X	
			IZMI	1200.5	1201.8	III	G,C	2	25X	85	
			IZMI	1202.1	1202.5	III	G	2	25X	130	
			IZMI	1203.1	1215.8	III	GG,FS	2	25X	270X	
			IZMI	1204.6	1335.0U	CONT	GG,FS	2	45U	270X	
			IZMI	1205.0	1212.5U	IV		2	25X	160	
			SGMR	1205.0	2323.0	IV		3	30	80	
			SVTO	1205.0	1726.0	IV		3	25	180	
			BLEN	1205.8	1317.0	II		3	100X	600	
			SVTO	1206.0	1224.0	II		3	25	180	ESS 1836
			BLEN	1208.8	1317.0	DCIM	P,C,S	3	100X	4000X	
			IZMI	1215.4	1335.0U	III	S	2	25X	270X	
			SVTO	1244.0	1251.0	II		2	111U	180U	ESS 0253
			IZMI	1307.9	1308.0U	III	G	2	25X	270X	
			PALE	1627.0	0000.0	CONT		2	25	180	
			HOLL	1830.0	1834.0	III		1	25	141	
			PALE	1953.0	0446.0	CONT		1	25	180	
	2050	2400	CULG	2050.0E	2245.0U	IV	FS	3	57X	280	
			CULG	2220.0U	2400.0D	III	S,C	2	57X	180	
	1956	2400	HIRA	2226.5	2230.0	III	G	1	25X	70	
			HOLL	2228.0	2238.0	III		1	25	134	
			LEAR	2304.0	0856.0	III	N	1	25	180	
			LEAR	2304.0	0952.0	IV		2	25	180	
			HOLL	2322.0	0140.0	III	N	1	25	170	
17	0000	0720	CULG	0000.0E	0720.0D	III	S,C	2	57X	180	
	0000	0928	HIRA	0116.5	0118.0	III	G	1	25X	100	
	0358	0800	POTS	0402 U	0800 U	I	S,N,DC	2	70	420	100-200MHz no data
			IZMI	0552.0E	1200.0D	III	N	1	25X	95U	
	0552	1200	IZMI	0552.0E	1200.0D	I	S,C	2	45U	270X	
			POTS	0610.9	0611.0	III	B,W	1	40X	60	
	0525	1730	BLEN	0618.0	0619.4	III	C,S	2	100X	4000X	
			HIRA	0618.5	0619.0	III	B	1	25X	100	
			IZMI	0618.5	0619.3	III	G,C	2	45	270X	
			BLEN	0636.0	0640.4	III	C,S	2	200	1500	
			HIRA	0636.0	0640.0	III	G	1	25X	200	
			POTS	0636.0	0654	III	GG,U,N	2	40X	400	
			IZMI	0636.1	0640.1	III	GG	2	25X	270X	
	0507	1705	ONDR	0636.1	0639.0	DCIM	G	1	800X	1423	
			POTS	0713.4	0713.7	DCIM		1	460	730	
			POTS	0723	0758 U	III	GG,RS	2	40X	85	
			POTS	0749.9	0750.1	DCIM		1	460	770	
			IZMI	0757.1	0757.9	III	G	2	25X	45	
			IZMI	0805.6	0809.7	III	GG,FS	2	40	95	
			IZMI	0825.5	0827.8	III	GG	2	40	95	
			ONDR	0856.4	0856.5	DCIM	G	1	2000X	4471	
			ONDR	0856.4	0857.0	DCIM	G	1	809	2000X	
			BLEN	0856.5	0857.2	II	C	2	130	4000X	
			IZMI	0856.6	0857.1	III	GG	2	120	270X	
			SVTO	0902.0	1437.0	III	N	2	25	180	
			IZMI	0916.2	0921.8	III	GG	2	25X	100	
			IZMI	0931.5	0932.2	III	G	2	25X	95	
			IZMI	0942.2	0947.9	III	GG	2	25X	130	
			IZMI	0947.6	0947.7	III	G	2	180	250	
			IZMI	1005.7	1006.3	III	GG	2	25X	270X	
			IZMI	1009.3	1012.3	III	G	2	25X	190	
			BLEN	1018.4	1019.7	III	GG,RS	2	100X	3200	
			IZMI	1018.4	1119.6	III	GG	2	25X	270X	
			IZMI	1131.5	1133.2	I	GG,DC	2	150	215X	
			SGMR	1137.0	1435.0	III	N	2	30	80	

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17		SGMR	1149.0	2322.0	CONT		2	30	80	
		HOLL	1329.0	0100.0	III	N	1	25	174	
		HOLL	1330.0	0130.0	IV		1	25	157	
		SGMR	1337.0	1435.0	III	N	2	30	80	
		BLEN	1402.6	1450.0	DCIM	P	2	100X	4000X	
		ONDR	1431.3	1450.2	DCIM	GG,SP,FS	2	800X	2000X	
		PALE	1639.0	0445.0	IV		1	25	180	
1957	2400	HIRA	2001.0	2002.0	III	B	3	25X	210	
2050	2400	CULG	2050.0E	2400.0D	III	S,C	2	57X	180	
		LEAR	2304.0	0952.0	CONT		1	25	180	
		CULG	2323.0	2323.0	III	B	2	57X	250	
		HIRA	2323.0	2323.5	III	B	1	25X	280	
		LEAR	2323.0	2323.0	III		1	25	180	
18 0000	0720	CULG	0000.0E	0720.0D	III	S,C	2	57X	180	
		CULG	0005.0	0007.0	III	G	3	57X	170	
		LEAR	0005.0	0008.0	III		2	25	180	
0000	0926	HIRA	0005.0	0009.0	III	G	1	25X	420	
		HIRA	0142.0	0142.5	III	B	1	200		
		CULG	0143.0	0143.0	III	B	1	57X	520	
		HIRA	0154.5	0155.0	III	B	1	220		
		CULG	0155.0	0155.0	III	B	1	57X	520	
		CULG	0229.0	0230.0	III	G	1	57X	500	
		HIRA	0229.0	0229.5	III	B	1	110	520	
		CULG	0328.0	0333.0	III	G	3	57X	660	
		HIRA	0328.0	0345.0	III	G	1	25X	1200	
		LEAR	0330.0	0332.0	III		1	25	180	
		CULG	0342.0	0342.0	III	B	1	57X	1300	
		HIRA	0346.0	0349.0	II		1	40	110	
		LEAR	0346.0	0349.0	II		1	38	99	ESS 0693
0400	0853	POTS	0409 U	0715 U	I	S,N,DC	2	40X	420	100-200MHz no data
		SVTO	0422.0	1723.0	IV		1	25	180	
		POTS	0528.0	0528.3	III	G	2	200U	320	
		HIRA	0542.5	0547.0	III	G	1	50	300	
		POTS	0548.5	0614 U	III	GG,N	1	40X	85	
		IZMI	0616.0E	1200.0D	III	N	1	25X	95U	
0616	1200	IZMI	0616.0E	1200.0D	I	S,C	2	45U	270X	
		POTS	0618.9	0619.5	III	G	3	200U	400	
		HIRA	0633.0	0634.0	III	B	1	200	600	
0525	1730	BLEN	0633.3	0634.3	III	GG	2	200	600	
		IZMI	0633.8E	0634.1	III	G	2	185	270X	
		CULG	0634.0	0634.0	III	B	1	57X	540	
		POTS	0635.9	0636.9	DCIM		2	250	400	
		POTS	0704.4	0707.5	III	G	2	200U	400	
		POTS	0715 U	0853 U	I	S,N	1	40X	90	
		IZMI	0721.7	0723.9	III	G	2	225	270X	
0508	1703	ONDR	0729.5	0733.4	CONT		1	3016	4500X	
		POTS	0730.5	0735.0	III	GG	2	40X	85	
		SVTO	0740.0	0747.0	III		2	25	180	
		LEAR	0743.0	0745.0	III		2	25	180	
		IZMI	0743.3	0747.1	III	GG	2	25X	190	
		HIRA	0743.5	0745.5	III	G	1	30	190	
		POTS	0830	0839	III	GG	1	40X	85	
		SVTO	0834.0	0835.0	III		1	25	180	
		IZMI	0834.2	0835.1	III	G	2	25X	90	
		IZMI	0921.5	0921.6	III	B	2	40	95	
		BLEN	1000.6	1008.7	III	GG,C	2	150	4000X	
		IZMI	1002.1	1010.2	III	GG	2	25X	270X	
		ONDR	1002.4	1003.5	DCIM	GG	2	2000X	4236	
		SVTO	1004.0	1010.0	III		2	25	180	
		IZMI	1015.9	1021.9	III	GG,C	2	25X	270X	
		SVTO	1016.0	1022.0	III		2	25	180	
		IZMI	1022.5	1023.4	III	G	2	40	270X	
		ONDR	1036.3	1038.1	DCIM	GG,SP	2	800X	1142	
		IZMI	1036.9	1043.7	III	GG	2	25X	95X	
		IZMI	1055.0	1055.7	III	G,C	1	40	240	
		IZMI	1119.0	1119.5	III	G	1	200	270X	
		IZMI	1142.7	1145.4	III	GG	2	25X	175	
		BLEN	1148.7	1149.2	III	G	1	230	480	

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18			IZMI	1148.9	1149.1	III	G	2	45	270X	
			SGMR	1242.0	1243.0	III		1	30	80	
			SVTO	1242.0	1242.0	III		2	25	180	
			HOLL	1327.0	1329.0	III		1	25	149	
			SVTO	1327.0	1329.0	III		2	25	180	
			ONDR	1345.0	1346.5	DCIM	GG	1	2000X	4500X	
			HOLL	1358.0	1358.0	III		1	25	167	
			SGMR	1358.0	2142.0	III	N	2	30	80	
			SVTO	1358.0	1401.0	III		1	25	180	
			HOLL	1423.0	0140.0	III	N	1	25	168	
			SVTO	1423.0	1723.0	III	N	2	25	180	
			BLEN	1432.9	1433.7	III	G	1	100X	520	
			PALE	1936.0	2138.0	CONT		1	25	180	
			HOLL	1949.0	2136.0	CONT		1	84	180	
	1957	2400	HIRA	2034.0	2034.5	III	B	1	25X	110	
	2050	2400	CULG	2050.0E	2400.0D	III	S,C	2	57X	180	
			HIRA	2110.0	2122.5	III	G	3	25X	2000	
			CULG	2111.0	2121.0	III	GG	3	57X	1600	
			CULG	2124.0	2126.0	II	FN	3	57X	70	
			CULG	2124.0	2130.0	II	SH	3	57X	140	FLA ESS 1000
			HOLL	2124.0	2155.0	II		1	28	180	ESS 0825
			PALE	2124.0	2136.0	II		1	25	180	ESS 0860
			SGMR	2124.0	2138.0	II		2	30	80	ESS 1000
			HIRA	2124.5	2135.0	II		3	25X	130	
			CULG	2135.0	2400.0D	CONT		3	60	110	
			HOLL	2136.0	0140.0	IV		1	25	180	
			PALE	2137.0	0444.0	IV		1	25	180	
			HIRA	2142.0	2142.5	III	B	1	25X	80	
			SGMR	2142.0	2320.0	IV		2	30	80	
			CULG	2144.0	2148.0	III	G	1	330	530	
			HIRA	2159.5	2203.0	III	G	2	25X	500	
			CULG	2200.0	2200.0	III	B	3	57X	530	
			CULG	2235.0	2236.0	III	G	3	57X	130	
			HIRA	2235.5	2236.0	III	B	1	25X	330	
			HIRA	2249.0	2250.0	III	B	3	25X	130	
			CULG	2250.0	2250.0	III	B	3	57X	150	
			LEAR	2303.0	0953.0	IV		2	25	180	
			CULG	2311.0	2311.0	III	B	3	57X	770	
			HIRA	2311.0	2312.5	III	B	3	25X	1000	
			LEAR	2311.0	2315.0	III		2	25	180	
			CULG	2315.0	2315.0	III	B	3	57X	260	
			HIRA	2315.0	2315.5	III	B	2	25X	270	
19	0000	0720	CULG	0000.0E	0133.0	III	S,C	2	57X	180	
			CULG	0050.0	0103.0	III	G	2	120	280	
	0000	0925	HIRA	0100.5	0103.5	III	G	1	25X	60	
			CULG	0105.0	0107.0	III	G	1	120	280	
			LEAR	0115.0	0116.0	III		2	25	180	
			CULG	0116.0	0116.0	III	B	3	57X	90	
			HIRA	0116.5	0117.0	III	B	2	25X	80	
			CULG	0133.0	0317.0	III	S,C	1	57X	180	
			CULG	0150.0	0150.0	III	B	2	57X	140	
			LEAR	0150.0	0150.0	III		2	25	180	
			HIRA	0150.5	0151.0	III	B	1	25X	180	
			CULG	0217.0	0218.0	III	G	2	57X	150	
			LEAR	0217.0	0218.0	III		2	25	180	
			HIRA	0217.5	0218.5	III	G	2	25X	160	
			LEAR	0301.0	0953.0	III	N	2	25	180	
			HIRA	0301.5	0302.0	III	B	1	25X	50	
			HIRA	0309.5	0310.0	III	B	1	25X	70	
			CULG	0317.0	0720.0D	III	S,C	2	57X	180	
			HIRA	0317.0	0325.0	III	G	1	25X	200	
			HIRA	0333.5	0334.5	III	G	1	25X	310	
			CULG	0347.0	0348.0	III	G	3	57X	110	
			HIRA	0347.0	0351.0	III	G	1	25X	100	
			HIRA	0406.0	0406.5	III	B	1	25X	60	
			SVTO	0423.0	1345.0	IV		1	25	180	
	0430	0649	POTS	0435 U	0649 U	I	S,N	2	70	350	100-200MHz no data
			POTS	0509.7	0633 U	III	GG,N	3	40X	240	

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19			HIRA	0517.5	0518.0	III	B	1	100	600	
			CULG	0518.0	0518.0	III	G	1	100	650	
			CULG	0525.0	0525.0	III	B	1	140	500	
			HIRA	0525.0	0525.5	III	B	1	120	600	
			IZMI	0600.0E	1200.0D	III	N	2	25X	180U	
	0600	1200	IZMI	0600.0E	1200.0D	I	S,C	2	45U	270X	
			IZMI	0614.5	0615.7	III	G	2	25X	90	
			SVTO	0615.0	0625.0	III	N	2	25	180	
			IZMI	0624.3	0628.1	III	GG	2	25X	210	
			HIRA	0624.5	0626.0	III	G	1	25X	200	
			IZMI	0709.8	0710.2	III	G,C	2	25X	100	
			IZMI	0718.2	0718.4	III	G	2	40	125	
			IZMI	0721.6	0850.0U	III	S	2	25X	270X	
			SVTO	0801.0	0810.0	III		2	25	180	
			HIRA	0801.5	0802.0	III	B	1	25X	110	
			IZMI	0801.5	0807.8	III	GG	2	25X	270X	
	0525	1730	BLEN	0802.1	0822.3	III	GG	2	100X	500	
			HIRA	0808.5	0810.5	III	G	2	25X	200	
			IZMI	0808.6	0811.0	III	GG,C	2	25X	270X	
			IZMI	0939.4	0939.8	III	G	2	25X	95	
			IZMI	1005.0	1009.0	III	G	2	25X	140	
			IZMI	1020.1	1020.5	III	G	2	25X	95	
			IZMI	1025.6	1026.5	III	G	2	25X	95	
			SVTO	1026.0	1035.0	III		3	25	180	
			IZMI	1029.0	1039.6	III	GG,C	2	25X	270X	
			SGMR	1030.0	2319.0	III	N	2	30	80	
			BLEN	1030.1	1033.9	III	GG,RS,C	3	100X	4000X	
	0509	1702	ONDR	1030.3	1034.1	DCIM	GG	2	2000X	4500X	
			ONDR	1030.5	1033.4	DCIM	GG	2	800X	2000X	
			IZMI	1045.5	1045.9	III	G	2	25X	160	
			IZMI	1050.5	1058.4	III	GG	2	25X	270	
			IZMI	1106.5	1108.0	III	G	2	25X	100	
			IZMI	1118.5	1127.1	III	GG	2	25X	100	
			SVTO	1233.0	1239.0	III		2	25	180	
			HOLL	1309.0	0109.0	III	N	1	25	180	
			SVTO	1403.0	1722.0	III	N	2	25	180	
			HOLL	1428.0	1545.0	CONT		1	25	180	
			HOLL	1428.0	2335.0	CONT		1	25	180	
			BLEN	1430.0	1440.5	DCIM	C,P	3	220	4000X	
			ONDR	1430.3	1439.4	DCIM	GG	2	800X	2000X	
			ONDR	1430.5	1443.5	DCIM	GG	1	2000X	4500X	
			SVTO	1434.0	1722.0	CONT		1	112U	180U	
			PALE	1717.0	1722.0	III		1	25	180	
			PALE	1735.0	1736.0	III		1	25	180	
	1958	2400	HIRA	2007.0	2112.0	III	G	3	25X	400	
	2050	2400	CULG	2050.0E	2400.0D	III	S,C	1	57X	180	
			CULG	2058.0	2112.0	III	GG	3	57X	800	
			CULG	2230.0	2230.0	III	B	2	57X	160	
			CULG	2256.0	2257.0	III	G	1	57X	270	
			HIRA	2256.0	2302.5	III	G	2	25X	260	
			CULG	2300.0	2302.0	III	G	3	57X	180	
			HIRA	2334.5	2338.0	III	G	1	25X	100	
			HIRA	2346.5	2349.5	III	G	2	25X	400	
			CULG	2347.0	2349.0	III	G	2	57X	130	
20	0000	0720	CULG	0000.0E	0340.0	III	S,C	1	57X	180	
			CULG	0134.0	0148.0	III	GG	3	57X	1200	
			LEAR	0134.0	0148.0	III	N	3	25	180	
	0000	0924	HIRA	0134.0	0149.0	III	G	3	25X	1600	
			LEAR	0207.0	0212.0	III		2	25	180	
			CULG	0208.0	0209.0	III	G	3	57X	160	
			HIRA	0208.0	0212.0	III	G	2	25X	270	
			CULG	0210.0	0210.0	III	G	1	57X	1000	
			CULG	0211.0	0212.0	III	G	2	57X	130	
			CULG	0247.0	0350.0	I	S	1	100	180	
			CULG	0341.0	0343.0	III	G	2	57X	120	
			HIRA	0341.0	0343.0	III	G	2	25X	120	
			CULG	0411.0	0421.0	III	GG	1	57X	150	
			CULG	0435.0	0436.0	III	G	2	57X	150	

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20		SVTO	0435.0	0513.0	III	N	1	25	180	
		HIRA	0435.5	0436.0	III	B	1	30	150	
		CULG	0445.0	0541.0	III	N	1	57X	180	
		HIRA	0453.0	0453.5	III	B	1	30	150	
		HIRA	0504.0	0504.5	III	B	1	50	200	
		LEAR	0510.0	0513.0	III		1	25	180	
		SVTO	0510.0	0511.0	III		2	25	180	
		CULG	0511.0	0511.0	III	G	2	57X	180	
		HIRA	0511.0	0514.0	III	G	2	30	300	
		CULG	0514.0	0514.0	III	B	2	57X	180	
		CULG	0529.0	0643.0	I	S	1	120	260	
	0530 1720	BLEN	0530.0X	1720.0X	I	DC	3	150	400	
		IZMI	0550.0E	1200.0D	III	N	1	25X	95	
	0550 1202	IZMI	0550.0E	1200.0D	I	N	1	120	270X	
		IZMI	0623.8	0628.0	III	GG	1	45	270X	
		CULG	0624.0	0720.0D	III	N	1	57X	180	
		SVTO	0629.0	0712.0	III	N	1	25	180	
		HIRA	0636.0	0642.0	III	G	1	50	300	
		IZMI	0636.0	0648.1	III	GG	2	30	270X	
		CULG	0638.0	0642.0	III	G	2	57X	280	
		IZMI	0641.0	0642.1	III	GG,FS	2	40	270X	
		IZMI	0651.3	0654.8	III	G	2	25X	155	
		SVTO	0653.0	0653.0	V		2	25	47	
		IZMI	0706.9	0709.3	III	GG	2	25X	270X	
		CULG	0707.0	0712.0	III	GG	2	57X	300	
		HIRA	0707.0	0712.0	III	G	2	40	330	
		IZMI	0709.5	0712.1	III	GG	2	25X	270X	
		IZMI	0754.0	0836.0U	I	S	2	110	270X	
		SVTO	0757.0	0830.0	CONT		1	113U	180U	
		SVTO	0824.0	0827.0	V		3	25	180	
		BLEN	0824.7	0826.5	III	GG,C	3	140	4000X	
		IZMI	0824.8	0830.3	III	GG,FS	2	25X	270X	
		HIRA	0825.0	0827.0	III	B	3	25X	420	
		LEAR	0825.0	0827.0	V		2	25	180	
		ONDR	0825.1	0826.3	DCIM	G	2	800X	2000X	
	0510 1700	ONDR	0825.1	0826.4	DCIM	G	2	2000X	4500X	
		IZMI	0825.6	0828.3U	V		2	25X	90	
		SVTO	0829.0	0833.0	III		2	25	147	
		IZMI	0831.2	0834.0	III	GG	2	25X	270X	
		HIRA	0831.5	0833.0	III	G	1	40	140	
		SVTO	0844.0	0849.0	III		1	25	180	
		IZMI	0845.1	0849.4	III	GG,FS	2	25X	270	
		BLEN	0845.2	0849.4	III	GG,C	2	140	4000X	
		HIRA	0845.5	0846.0	III	B	1	50	280	
		SVTO	0933.0	1006.0	III	N	1	25	133	
		LEAR	0935.0	0935.0	III		1	25	180	
		SVTO	0935.0	0935.0	III		2	25	180	
		IZMI	0935.2	0936.2	III	G,C	2	25X	270X	
		IZMI	0939.7	0944.6	III	G	2	25X	150	
		IZMI	0945.7	0947.4	III	G,FS	2	25X	215	
		IZMI	0950.9	0951.7	III	GG	1	35	270X	
		IZMI	1005.0	1007.6	III	GG	1	25X	95	
		IZMI	1024.0	1030.0	III	GG,C	2	25X	270X	
		SVTO	1028.0	1030.0	III		2	25	180	
		IZMI	1106.5	1107.1	III	G	1	25X	45	
		IZMI	1111.0	1111.1	III	B	2	165	270X	
		IZMI	1115.0	1117.9	III	GG	2	100	270X	
		IZMI	1118.5	1120.4	I	GG,DC	2	150	190	
		IZMI	1120.5	1121.9	III	G	1	45	95	
		IZMI	1124.2	1125.0	III	G	2	50	180	
		IZMI	1127.1	1130.8	III	G	2	30	95	
		IZMI	1131.8	1133.3	III	GG,C	2	25X	270X	
		SGMR	1132.0	1139.0	III		3	30	80	
		SVTO	1132.0	1133.0	III		2	25U	85U	
		BLEN	1132.2	1139.4	III	GG	2	100X	1400	
		IZMI	1135.8	1136.0	III	G	1	45	155	
		SVTO	1138.0	1139.0	III		3	25	180	
		IZMI	1138.7	1139.3	III	GG	2	25X	270X	
		IZMI	1138.8	1139.7	V	G	2	25	160	

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20			IZMI	1156.7	1157.2	III	G,C	2	25X	150	
			SGMR	1157.0	1201.0	III		2	30	80	
			SVTO	1201.0	1201.0	III		1	25U	84U	
			IZMI	1201.1	1201.6	III	G	2	25X	250	
			IZMI	1201.3	1201.6	V		2	45	75	
	1244	1818	POTS	1244 U	1818 U	I	S,N	2	60	380	100-200MHz no data
			SGMR	1245.0	2120.0	III	N	2	30	80	
			POTS	1303.3	1303.6	III	B	2	40X	100U	
			POTS	1319.8	1320.2	III	G	2	40X	100U	
			HOLL	1335.0	1343.0	III		1	25	160	
			SVTO	1341.0	1343.0	III		1	25U	84U	
			POTS	1341.5	1342.5	III	G	3	40X	90	
			SVTO	1405.0	1721.0	CONT		1	25	180	
			POTS	1406	1414	III	G,N	1	40X	85	
			HOLL	1422.0	0100.0	III	N	2	25	180	
			POTS	1423.6	1443.6	III	GG	3	40X	600	
			SVTO	1424.0	1437.0	III	N	2	25	180	
			BLEN	1426.4	1436.6	DCIM	S,P	3	100X	4000X	
			ONDR	1426.5	1432.1	DCIM	GG,FS	2	800X	2000X	
			ONDR	1427.1	1432.2	DCIM	G	1	2000X	4500X	
			SVTO	1510.0	1511.0	III		1	25U	83U	
			POTS	1510.3	1514.0	III	G,N	2	40X	85	
			SVTO	1600.0	1602.0	III		2	25U	82U	
			POTS	1600.3	1602.7	III	G	1	40X	85	
			PALE	1659.0	1700.0	III		1	25	180	
			SVTO	1659.0	1700.0	III		2	25	180	
			POTS	1659.4	1659.6	DCIM	RS	2	230	530	
			PALE	1755.0	1759.0	III		1	25	180	
			HOLL	1923.0	1925.0	V		1	25	180	
	1959	2400	HIRA	2018.5	2022.0	III	G	2	25X	210	
			HIRA	2039.0	2041.0	III	G	2	25X	160	
	2050	2400	CULG	2050.0E	2400.0D	III	S,C	1	57X	180	
			HIRA	2051.0	2057.5	III	G	1	25X	160	
			CULG	2052.0	2053.0	III	G	2	57X	170	
			CULG	2116.0	2117.0	III	G	2	57X	160	
			HIRA	2116.0	2121.0	III	G	3	25X	220	
			HOLL	2118.0	2120.0	III		2	25	167	
			PALE	2118.0	2120.0	III		3	25	180	
			SGMR	2118.0	2120.0	III		3	30	80	
			CULG	2119.0	2120.0	III	G	3	57X	180	
			HIRA	2226.0	2227.5	III	G	1	30	80	
			SGMR	2226.0	2226.0	III		1	30	60	
			HIRA	2245.0	2246.0	III	B	1	25X	260	
			LEAR	2301.0	0953.0	III	N	2	25	180	
			HIRA	2306.0	2324.0	III	G	3	25X	400	
			CULG	2310.0	2311.0	III	G	3	57X	330	
			CULG	2314.0	2316.0	III	G	3	57X	180	
			CULG	2337.0	2337.0	III	B	2	57X	180	
			HIRA	2337.0	2337.5	III	B	2	25X	190	
			LEAR	2343.0	0953.0	CONT		1	73	180	
21	0000	0720	CULG	0000.0E	0720.0D	III	S,C	1	57X	180	
			LEAR	0137.0	0142.0	III		3	25	180	
			PALE	0137.0	0142.0	III		3	25	180	
	0000	0922	HIRA	0137.5	0142.5	III	G	3	25X	600	
			CULG	0138.0	0142.0	III	GG	3	57X	1200	
			CULG	0154.0	0200.0	II	SH	1	57X	80	FLA ESS 450
			CULG	0349.0	0351.0	III	G	2	57X	180	
			HIRA	0349.5	0351.5	III	G	2	25X	160	
			CULG	0359.0	0403.0	III	G	1	57X	500	
			CULG	0408.0	0409.0	III	G	3	57X	180	
			HIRA	0408.0	0414.0	III	G	2	30	180	
			CULG	0413.0	0414.0	III	G	2	57X	180	
	0408	1815	POTS	0421 U	1815 U	I	S,N	2	200U	350	100-200MHz no data
			SVTO	0425.0	1201.0	III	N	2	25	180	
			CULG	0438.0	0438.0	III	G	2	57X	260	
			HIRA	0438.0	0438.5	III	B	1	30	210	
			POTS	0442.3	0443.0	III	G	2	40X	300	
			HIRA	0446.5	0449.0	III	G	1	30	200	

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21		CULG	0448.0	0448.0	III	B	1	57X	420	
		POTS	0452.3	0453.6	DCIM	U	2	230	570	
		HIRA	0455.0	0455.5	III	B	1	100	210	
		HIRA	0500.5	0501.0	III	B	1	30	110	
		CULG	0501.0	0501.0	III	B	3	57X	140	
		POTS	0505.9	0506.2	III	B	1	40X	100U	
0512	1658	ONDR								
		POTS	0516.6	0516.7	DCIM		1	580	610	
		POTS	0525.6	0529.3	III	G	1	40X	80	
		LEAR	0529.0	0532.0	V		1	25	180	
		SVTO	0529.0	0534.0	III		2	25	180	
		HIRA	0529.5	0534.5	III	G	3	25X	750	
0530	1720	BLEN	0531.5	0536.7	III	GG,C	3	100X	4000X	
		CULG	0532.0	0534.0	III	G	3	57X	700	
		POTS	0532.1	0532.7	DCIM		2	350	660	
		CULG	0534.0	0536.0	II	FN	1	120	180	ESS 450
		HIRA	0534.5	0536.0	II		1	120	340	
		CULG	0535.0	0536.0	II	SH	1	240	280	
		POTS	0536.3	0541.4	III	GG	3	40X	750	
		POTS	0541.3	0544	II		2	220	380	
		POTS	0541.7	0541.9	DCIM		2	340	630	
		IZMI	0600.0E	1200.0D	III	N	1	25X	95	
0600	1200	IZMI	0600.0E	1200.0D	I	S,C	2	45	270X	
		IZMI	0603.5	0608.6	III	GG,C	2	25X	140	
		LEAR	0605.0	0607.0	V		1	25	139	
		HIRA	0605.5	0606.5	III	B	2	30	110	
		CULG	0606.0	0606.0	III	G	3	57X	150	
		POTS	0614.0	0615.6	III	G	2	40X	85	
		IZMI	0639.6	0640.0	III	G	2	25X	85	
		IZMI	0643.8	0645.8	III	G	1	40	95	
		POTS	0649.5	0649.7	III	G	1	40X	70	
		POTS	0706.1	0707.0	III	G	1	40X	90	
		IZMI	0745.2	0745.6	III	G,HARM	2	60	270X	
		BLEN	0752.3	0752.5	III	G	2	230	720	
		POTS	0758.0	0758.4	III	G	3	60	330	
		BLEN	0801.0	0821.5	III	GG	2	230	600	
		POTS	0805.2	0805.5	DCIM		3	230	620	
		IZMI	0808.2	0826.0U	III	N	1	25X	270X	
		IZMI	0819.3	0823.0	III	GG	2	25X	270X	
		POTS	0822.7	0822.8	DCIM		2	520	770	
		SVTO	0824.0	1201.0	CONT		1	29	164	
		POTS	0833.5	0837.3	III	G	3	40X	350	
		POTS	0833.6	0835.3	DCIM		2	230	530	
		POTS	0840	1233	III	GG,N	2	40X	85	
		IZMI	0842.5	0843.5	III	G	2	25X	95	
		IZMI	0855.6	0900.5	III	GG	2	25X	160	
		IZMI	0913.4	0913.8	III	B	2	25X	100	
		IZMI	0959.4	1013.6	III	GG	2	25X	175	
		IZMI	1024.6	1027.0	III	GG	2	25X	210	
		IZMI	1029.0	1040.0	III	GG	2	25X	170	
		BLEN	1030.0	1047.5	DCIM	P	2	240	1100	
		IZMI	1043.5	1044.4	III	G,C	2	45	250	
		POTS	1044.3	1120.5	III	GG,N	3	40X	85	
		POTS	1045.1	1110.5	DCIM		2	230	750	
		IZMI	1058.5	1059.1	III	G	2	30	240	
		IZMI	1111.7	1122.5	III	GG	2	25X	270X	
		SGMR	1112.0	1122.0	III		2	30	80	
		BLEN	1117.5	1125.3	III	GG,RS	3	100X	1400	
		IZMI	1130.5	1138.1	III	GG	2	25X	175	
		BLEN	1131.3	1143.4	DCIM	P	2	290	760	
		POTS	1133.8	1148.0	III	GG	3	40X	730	
		POTS	1134.7	1135.0	DCIM		2	460	800X	
		IZMI	1142.8	1148.4	III	GG	2	25X	160	
		SGMR	1149.0	1156.0	III		2	30	80	
		IZMI	1149.7	1152.5	III	GG,C	2	25X	175	
		BLEN	1149.9	1155.7	III	GG,RS	2	150	900	
		IZMI	1153.9	1155.9	III	GG	2	25X	250	
		POTS	1154.2	1206.8	DCIM		2	270	650	
		SGMR	1300.0	1306.0	III		2	30	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
21			POTS	1318.6	1318.8	DCIM		1	470	570	
			POTS	1326.9	1347.6	III	GG	2	40X	85	
			HOLL	1329.0	0140.0	CONT		1	110	180	
			HOLL	1340.0	0140.0	III	N	1	25	86	
			SVTO	1341.0	1719.0	CONT		1	25	180	
			SVTO	1341.0	1719.0	III	N	2	25	180	
			HOLL	1416.0	1417.0	III		2	25	146	
			SVTO	1417.0	1417.0	V		2	25	155	
			POTS	1442	1518	III	GG,N	2	40X	270	
			POTS	1544	1600	III	G,N	1	40X	85	
			BLEN	1700.5	1701.7	DCIM	C	3	700	4000X	
			BLEN	1720.3	1723.7	III	GG,RS,C	3	200	4000X	
			POTS	1759.8	1800.4	DCIM	RS	2	540	740	
			PALE	1851.0	1852.0	III		1	25	86	
			SGMR	1851.0	1852.0	III		2	30	80	
			SGMR	2001.0	2001.0	III		1	30	55	
			PALE	2002.0	2003.0	III		1	25	85	
	2000	2400	HIRA	2002.0	2003.0	III	B	1	25X	50	
			HIRA	2011.0	2012.5	III	B	1	25X	170	
			PALE	2011.0	2017.0	III		1	25	116	
			PALE	2059.0	2059.0	III		1	25	58	
	2050	2400	CULG	2059.0	2059.0	III	B	1	57X	90	
			CULG	2241.0	2242.0	III	G	1	57X	90	
			LEAR	2314.0	2314.0	III		1	65	180	
			CULG	2315.0	2315.0	III	B	1	57X	160	
			CULG	2336.0	2343.0	III	G	1	57X	160	
			LEAR	2336.0	0350.0	III	N	1	25	180	
			HIRA	2336.5	2342.0	III	G	1	25X	120	
			CULG	2346.0	2350.0	III	G	1	57X	340	
22	0000	0720	CULG	0012.0	0020.0	III	G	1	57X	90	
			LEAR	0042.0	0954.0	CONT		2	25	180	
			CULG	0044.0	0044.0	III	G	1	57X	90	
			CULG	0049.0	0132.0	I	S	1	130	180	
			CULG	0120.0	0227.0	III	N	1	57X	180	
			PALE	0127.0	0442.0	CONT		1	25	180	
	0000	0921	HIRA	0128.0	0131.0	III	G	1	25X	110	
			CULG	0130.0	0130.0	III	B	2	57X	180	
			CULG	0140.0	0140.0	III	B	1	140	740	
			HIRA	0140.0	0140.5	III	B	1	130	500	
			CULG	0151.0	0155.0	III	GG	3	57X	1300	
			HIRA	0151.0	0156.0	III	G	3	25X	280	
			PALE	0155.0	0208.0	II		1	25	180	ESS 0975
			CULG	0156.0	0159.0	II	FN	1	57X	80	
			CULG	0156.0	0202.0	II	SH	2	57X	160	FLA ESS 800
			HIRA	0156.0	0205.0	II		2	25X	200	
			CULG	0202.0	0203.0	III	G	3	57X	130	
			LEAR	0202.0	0208.0	II		2	25	154	ESS 1162
			CULG	0206.0	0214.0	III	G	2	57X	180	
			HIRA	0206.0	0214.0	III	G	2	30	190	
			LEAR	0209.0	0218.0	IV		1	25	180	
			CULG	0210.0U	0358.0D	IV	FS	1	57X	280	
			HIRA	0247.5	0248.0	III	B	1	40	200	
			CULG	0248.0	0248.0	III	B	2	57X	180	
			CULG	0358.0E	0720.0D	IV	FS	2	57X	280	
			SVTO	0426.0	1227.0	CONT		2	25	180	
	0513	1656	ONDR								
	0559	1806	POTS	0559 U	1620 U	I	S,N,DC	2	200U	420	100-200MHz no data
			IZMI	0600.0E	1200.0D	I	S,C	2	45U	270	
			IZMI	0600.0E	1200.0D	III	N	1	25X	95	
			IZMI	0654.1	0654.5	III	G	2	165	270X	
			POTS	0732.3	0732.8	DCIM		2	270	420	
			POTS	0800	0809	III	G	2	40X	300	
	0530	1720	BLEN	0802.5	0805.3	III	GG	2	130	600	
			IZMI	0802.6	0807.5	III	GG	2	25X	210	
			HIRA	0846.0	0846.5	III	B	1	120	320	
			IZMI	0846.1	0846.6	III	G	2	140	270X	
			IZMI	0856.6	0856.7	UNCLF		2	170	190	
			POTS	0906.0	1000	III	GG,N,RS	2	40X	300	

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Day	OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	EVENT Spectral Class	EVENT Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
22			IZMI	0906.3	0907.8	III	G	2	25X	175	
			IZMI	0918.6	0919.0	III	G,C	2	25X	270X	
			IZMI	0931.0	0931.7	III	G	2	25X	175	
			IZMI	0937.1	0937.7	III	G	2	25X	145	
			IZMI	0937.7	0938.0	V		2	25X	70	
			SVTO	1047.0	1051.0	III		2	25	49	
			IZMI	1047.5	1048.4	III	G	2	25X	90	
			POTS	1048.2	1127	III	GG,N	2	40X	90	
			IZMI	1049.7	1051.1	III	G	2	25X	90	
			IZMI	1120.4	1123.3	III	GG,FS	2	25X	270X	
			IZMI	1143.4	1143.9	III	G	2	25X	45	
			POTS	1144	1155	III	G	3	40X	90	
			SGMR	1148.0	1154.0	III		2	30	80	
			SVTO	1148.0	1154.0	III		2	25	83	
			IZMI	1148.6	1149.2	III	G,C	2	25X	120	
			IZMI	1153.8	1154.1	III	G	2	25X	70	
			SGMR	1232.0	1232.0	III		3	30	80	
			SVTO	1232.0	1233.0	V		3	25	180	
			POTS	1232.9	1233.8	III	G	3	40X	360	
			HOLL	1309.0	1310.0	III		1	25	118	
			POTS	1310.3	1311.0	III	G	2	40X	250	
			HOLL	1350.0	1353.0	III		1	25	82	
			SGMR	1350.0	1352.0	III		1	30	55	
			SVTO	1350.0	1352.0	III		2	25U	59U	
			POTS	1351.2	1354.2	III	G	2	40X	90	
			HOLL	1442.0	2241.0	III	N	1	25	180	
			SGMR	1500.0	1502.0	III		1	30	55	
			SVTO	1500.0	1502.0	III		2	25	180	
			POTS	1501.4	1503.4	III	G	3	40X	90	
			BLEN	1617.1	1627.1	II	H	2	150	700	
			POTS	1621.7	1628.0	DCIM		2	200U	740	
			SGMR	1622.0	1623.0	III		1	30	40	
			POTS	1640 U	1745 U	I	S,N	1	200U	350	
			POTS	1745 U	1806 U	IV		2	200U	500U	
			PALE	1745.0	1746.0	III		1	25	180	
			SGMR	1823.0	2035.0	CONT		1	30	80	
	2000	2400	HIRA	2029.0	2030.5	III	G	1	25X	200	
			HIRA	2035.0	2038.0	III	G	1	40	110	
			CULG	2050.0E	2318.0	III	N	1	57X	180	
	2050	2400	CULG	2050.0E	2400.0D	I	S	1	120	180	
			HIRA	2241.0	2241.5	III	B	2	25X	70	
			LEAR	2300.0	0954.0	CONT		1	104	180	
23	0000	0720	CULG	0000.0E	0033.0	I	S	1	140	180	
	0000	0919	HIRA	0014.5	0025.0	III	G	2	25X	130	
			CULG	0015.0	0355.0	III	N	1	57X	180	
			LEAR	0018.0	0019.0	III		1	25	170	
			CULG	0019.0	0020.0	III	G	3	57X	150	
			LEAR	0116.0	0954.0	III	N	1	25	180	
			CULG	0139.0	0618.0	I	S	1	120	180	
			CULG	0146.0	0149.0	III	G	3	57X	180	
			HIRA	0146.0	0149.5	III	G	2	25X	110	
			HIRA	0306.0	0316.5	III	G	1	25X	270	
			CULG	0311.0	0312.0	III	G	2	57X	130	
			CULG	0316.0	0316.0	III	B	2	57X	180	
			HIRA	0345.5	0348.5	III	G	1	30	190	
			CULG	0346.0	0346.0	III	G	2	57X	180	
	0410	1802	POTS	0426 U	1100 U	I	S,N,DC	2	40X	420	100-200MHz no data
			CULG	0431.0	0449.0	III	GG	3	57X	180	
			HIRA	0431.5	0442.5	III	G	3	25X	210	
			POTS	0431.7	0448.4	III	GG,N	2	40X	90	
			HIRA	0447.5	0448.0	III	B	1	25X	130	
			LEAR	0517.0	0518.0	III		1	25	180	
			HIRA	0517.5	0520.0	III	G	1	25X	200	
			POTS	0517.7	0519.9	III	G	2	40X	500	
			CULG	0518.0	0730.0D	III	N	1	57X	180	
			HIRA	0533.5	0534.5	III	B	1	25X	110	
			POTS	0533.8	0547.0	III	GG,N	2	40X	450	
	0530	1720	BLEN	0540.6	0550.5	III	GG,RS,C	3	100X	4000X	

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23		POTS	0540.8	0542.7	DCIM		2	300	720	
		CULG	0541.0	0542.0	III	G	1	57X	750	
		HIRA	0541.5	0547.0	III	G	3	25X	420	
		LEAR	0542.0	0546.0	III		1	25	180	
		SVTO	0542.0	0546.0	III		2	25	180	
		CULG	0543.0	0545.0	III	G	3	57X	140	
		CULG	0549.0	0556.0	II	FN	1	57X	90	
		CULG	0549.0	0559.0	II	SH	3	65	180	ESS 550
		HIRA	0549.0	0605.0	II		3	50	140	
		SVTO	0550.0	0618.0	II		2	25	180	ESS 0624
		POTS	0551	0616	II	F,H	2	40X	85	
		LEAR	0555.0	0605.0	II		2	25	180	ESS 0595
		LEAR	0555.0	0615.0	II		2	25	180	ESS 0595
		CULG	0559.0	0605.0	II	SH	3	57X	90	ESS 550
		IZMI	0559.0E	0613.7	II	G,HARM	2	25X	90	
		IZMI	0600.0E	1200.0D	III	N	1	25X	95U	
	0600 1200	IZMI	0600.0E	1200.0D	I	N,C	2	45U	270X	
		IZMI	0604.7	0605.3	III	G,C	2	25X	160	
		CULG	0606.0	0613.0	UNCLF		2	57X	80	
		CULG	0611.0	0612.0	III	G	3	57X	180	
		HIRA	0611.0	0613.0	III	B	2	25X	130	
		LEAR	0611.0	0612.0	III		1	25	180	
		IZMI	0611.2	0614.2	III	G	2	25X	160	
		POTS	0611.6	0619.3	III	G,N	2	40X	90	
		IZMI	0617.3	0620.7	III	GG	2	25X	95	
		IZMI	0630.9	0631.5	III	G	2	25X	270X	
		POTS	0631.3	0631.5	III	B	1	40X	80	
		IZMI	0642.2	0642.6	III	GG,C	2	25X	95	
		IZMI	0645.8	0647.3	III	G	2	45	170	
		POTS	0647.3	0726	III	GG,N	2	40X	85	
		CULG	0650.0	0730.0	CONT		1	57X	200	
		IZMI	0654.9	0655.8	III	G	2	40	90	
		CULG	0658.0	0658.0	III	B	2	57X	180	
		IZMI	0658.3	0658.5	III	G	2	25X	180	
		IZMI	0720.0	0720.9	III	G	2	25X	145	
		IZMI	0724.7	0738.8	III	GG	2	25X	270X	
		HIRA	0729.0	0738.0	III	G	2	30	250	
		POTS	0729.7	0739.3	III	GG	3	40X	330	
		CULG	0730.0	0730.0	III	B	3	57X	800	
		POTS	0800	0846	III	GG	3	40X	730	
		IZMI	0801.4	0809.6	III	GG,FS	2	25X	215	
		BLEN	0801.7	0852.5	DCIM	P,S	3	130	4000X	
		IZMI	0810.4	0813.0	III	GG,FS	2	25X	60	
	0514 1654	ONDR	0812.0	0858.3	DCIM	GG	1	2000X	4500X	
		IZMI	0817.2	0818.8	III	G	2	35	95	
		LEAR	0832.0	0834.0	III		1	25	180	
		SVTO	0832.0	0834.0	III		2	25	180	
		IZMI	0832.3	0835.8	III	GG,C	2	25X	270X	
		HIRA	0832.5	0837.5	III	G	2	30	400	
		IZMI	0837.3	0838.2	III	G	2	45X	270X	
		IZMI	0842.3	0843.7	III	GG	2	45	160	
		IZMI	0845.0U	0940.0	I	S	2	45U	95	
		SVTO	0907.0	1415.0	CONT		1	25	180	
		ONDR	0915.4	0928.3	CONT		1	2000X	4500X	
		BLEN	0918.0	1045.0	I	C	2	130	4000X	
		IZMI	0919.1	0919.2	III	B	2	110	170	
		IZMI	0923.6	0924.6	III	G	2	25X	270X	
		POTS	0927.5	0936.3	III	G,N	2	40X	85	
		IZMI	0928.7	0929.2	III	G	2	25X	215	
		POTS	1024.3	1025.2	III	G	3	40X	460	
		POTS	1024.5	1024.7	DCIM		1	440	620	
		IZMI	1025.2	1026.2	III	G	2	30	145	
		POTS	1100 U	1320 U	I	S,N,DC	2	50	400	
		POTS	1103.2	1107.2	III	GG	3	40X	800X	
		BLEN	1104.1	1112.6	III	GG,S	3	100X	2400	
		IZMI	1104.2	1107.6	III	GG,C	2	25X	270X	
		SGMR	1106.0	1107.0	III		2	30	80	
		IZMI	1112.5	1112.6	III	B	2	90	270X	
		POTS	1118.6	1119.3	III	G	2	75	260	

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23		IZMI	1119.4	1120.2	III	G	2	55	250	
		POTS	1209	1223	III	G,N	2	40X	85	
		POTS	1232.0	1233.2	III	G	2	40X	420	
		ONDR	1301.5	1315.4	DCIM	G	1	2000X	4500X	
		BLEN	1301.7	1340.0	II	C	3	100X	520	
		HOLL	1302.0	0115.0	IV		1	25	180	
		SGMR	1302.0	1316.0	V		2	30	80	
		BLEN	1305.0	1606.2	DCIM	P,S,F	3	220	4000X	
		POTS	1307	1328	II	UE	2	50	400	
		POTS	1307	1331	III	GG	3	40X	800X	
		POTS	1320 U	1600 U	IV		2	40X	700	
		SGMR	1333.0	1756.0	IV		1	30	60	
		SVTO	1415.0	1716.0	IV		2	25	180	
		POTS	1419	1424	III	GG	3	40X	400U	
		SGMR	1421.0	1422.0	III		2	30	70	
		POTS	1600 U	1802 U	I	S,N	1	200U	380	
		HOLL	1621.0	1652.0	III		1	25	137	
		PALE	1650.0	0115.0	CONT		1	25	180	
		POTS	1735.7	1736.2	III	G	2	240	400U	
		PALE	1742.0	0441.0	CONT		1	25	180	
		POTS	1750.8	1751.0	III	G	2	240	400U	
		SGMR	2017.0	2017.0	III		1	30	55	
	2001	HIRA	2017.0	2017.5	III	B	1	25X	50	
		CULG	2040.0E	2400.0D	III	N	1	57X	150	
	2040	CULG	2040.0E	2400.0D	I	S	1	80	180	
		LEAR	2259.0	0542.0	CONT		1	100	180	
		LEAR	2301.0	0054.0	III	N	1	25	180	
		HIRA	2304.5	2306.5	III	G	1	25X	80	
24		CULG	0000.0E	0730.0D	III	N	1	57X	90	
	0000	CULG	0000.0E	0730.0D	I	S	1	110	170	
		LEAR	0100.0	0103.0	III		2	52	180	
	0000	HIRA	0100.5	0104.0	III	G	2	60	130	
		CULG	0101.0	0103.0	III	G	1	60	1600	
		CULG	0101.0	0104.0	III	G	3	57X	180	
		PALE	0101.0	0114.0	II		2	25	180	ESS 0846
		LEAR	0103.0	0114.0	II		2	25	180	ESS 0844
		CULG	0104.0	0107.0	III	G	2	57X	520	
		HOLL	0104.0	0115.0	II		1	71	180	ESS 0851
		PALE	0104.0	0114.0	II		2	25	180	ESS 0846
		CULG	0107.0	0110.0	II	FN	2	57X	120	
		CULG	0107.0	0115.0	II	SH	2	57X	190	ESS 850
		HIRA	0107.0	0114.0	II		2	50	130	
		CULG	0108.0U	0135.0	CONT		1	57X	200	
		LEAR	0109.0	0114.0	II		2	25	180	ESS 0844
		PALE	0115.0	0136.0	IV		1	25	180	
		HIRA	0125.5	0126.0	III	G	1	240	410	
		HIRA	0236.0	0236.5	III	B	1	25X	80	
		PALE	0249.0	0355.0	III	N	1	25	180	
		LEAR	0307.0	0954.0	III	N	1	25	180	
	0412	POTS	0419 U	0539 U	I	S,N,DC	2	40X	420	100-200MHz no data
		CULG	0449.0	0450.0	III	G	3	57X	180	
		HIRA	0449.0	0452.5	III	G	2	25X	180	
		POTS	0449.0	0450.0	III	G	2	40X	320	
		SVTO	0449.0	0549.0	III	N	1	25	180	
	0516	ONDR								
		POTS	0519.3	0520.4	III	G	2	240	400	
	0530	BLEN	0537.9	0610.3	IV	P	3	120	1500	
		POTS	0539 U	0840 U	IV		2	200U	600	
		CULG	0541.0	0546.0	III	G	1	57X	1300	
		HIRA	0542.0		IV		1	30	500	
		LEAR	0542.0	0920.0	IV		2	25	180	
		CULG	0545.0E	0730.0D	IV		2	57X	750	
		SVTO	0549.0	0921.0	IV		2	25	180	
		POTS	0552.0	0553.7	UNCLF		2	40X	65	
		IZMI	0600.0E	1200.0D	III	N	1	25X	95	
	0600	IZMI	0600.0E	0850.0U	I	S,C	2	45U	270X	
		IZMI	0601.7	0603.4	III	GG	2	30	160	
		POTS	0602	0607	III	G	2	40X	600	

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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
24			IZMI	0606.7	0607.0	III	G	2	30	190	
			BLEN	0617.1	0618.1	III	G	2	230	410	
			POTS	0617.1	0618.2	III	G	2	250	400	
			HIRA	0720.0	0724.0	III	G	1	30	140	
			IZMI	0720.1	0725.3	III	GG	2	25X	175	
			IZMI	0811.0	0818.2	III	GG	2	25X	135	
			POTS	0840 U	1803 U	I	S,N,DC	2	200U	600	
			IZMI	0850.0U	1200.0D	I	N	1	45U	270X	
			POTS	0900	0931	III	GG,N	1	40X	400	
			BLEN	0923.1	0925.9	III	GG,RS	2	130	1700	
			IZMI	0925.0	0927.6	III	GG	2	25X	270X	
			SVTO	0925.0	0930.0	III		2	25	180	
			IZMI	0929.6	0930.3	III	GG	2	25X	175	
			POTS	1004.7	1005.3	III	G,RS	3	40X	85	
			IZMI	1005.0	1005.3	III	G,C	2	25X	125	
			SVTO	1005.0	1005.0	III		2	25U	83U	
			BLEN	1122.3	1127.2	III	C	2	240	450	
			POTS	1125.6	1125.8	DCIM		2	270	550	
			POTS	1129	1150	III	G,N	2	40X	85	
			IZMI	1129.6	1130.4	III	G	1	25X	90	
			SGMR	1147.0	1147.0	III		1	30	50	
			SVTO	1147.0	1148.0	III		1	25U	45U	
			IZMI	1147.5	1149.4	III	G	2	25X	145	
			SVTO	1227.0	1517.0	CONT		1	75U	180U	
			POTS	1239	1313	III	GG,N	3	40X	85	
			SGMR	1239.0	1257.0	III	N	2	30	80	
			SVTO	1239.0	1241.0	III		2	25	83	
			SVTO	1239.0	1312.0	III	N	2	25	83	
			BLEN	1508.7	1510.7	III	GG	2	600	1000	
			HOLL	1558.0	1559.0	III		1	25	163	
			SGMR	1558.0	1559.0	V		1	30	80	
			SVTO	1558.0	1559.0	III		2	25	180	
			POTS	1558.2	1558.8	III	G	3	40X	380	
			PALE	1720.0	0439.0	CONT		1	25	180	
			POTS	1742	1803 U	III	GG	2	200U	400U	
			HOLL	1816.0	0045.0	III	N	1	25	163	
			SGMR	1830.0	1835.0	V		1	30	80	
	2040	2400	CULG	2040.0E	2400.0D	III	S,C	1	57X	180	
			CULG	2210.0	2210.0	III	B	2	57X	140	
			LEAR	2245.0	0955.0	CONT		1	58	180	
			CULG	2338.0	2344.0	III	GG	2	57X	300	
			LEAR	2338.0	2343.0	III		2	25	180	
	2002	2400	HIRA	2338.0	2344.0	III	G	2	25X	380	
25	0000	0730	CULG	0000.0E	0730.0D	III	S,C	1	57X	180	
	0000	0916	HIRA	0243.0	0244.0	III	G	1	30	140	
			HIRA	0252.5	0253.0	III	B	1	200	500	
			CULG	0325.0	0329.0	II	FN	1	57X	85	
			CULG	0325.0	0330.0	II	SH	1	100U	170	ESS 500
			HIRA	0325.0	0330.0	II		1	100	150	
			LEAR	0325.0	0329.0	II		1	54	170	ESS 0480
			HIRA	0341.0	0356.5	III	G	1	25X	300	
			LEAR	0341.0	0343.0	III		1	25	137	
			LEAR	0347.0	0357.0	III		1	25	180	
	0413	1758	POTS	0414 U	1635	I	S,N,DC	2	200U	420	100-200MHz no data
			SVTO	0429.0	0732.0	CONT		1	25	180	
			SVTO	0446.0	0448.0	III		1	25	180	
			CULG	0447.0	0448.0	III	G	2	57X	180	
			HIRA	0447.0	0452.0	III	G	1	25X	230	
			LEAR	0447.0	0448.0	III		1	25	180	
			POTS	0516.5	0519.4	III	G	2	40X	600	
	0517	1651	ONDR								
			IZMI	0555.0E	0616.0U	III	S	2	15U	270X	
			LEAR	0557.0	0606.0	III		1	25	180	
			POTS	0559	0603	III	G	1	40X	70	
	0559	1200	IZMI	0559.0E	1200.0D	I	S,C	2	45U	270X	
			IZMI	0616.0U	1200.0U	III	N	2	25X	95	
			POTS	0738.9	0803.7	III	GG,N	3	40X	340	
			SVTO	0741.0	1331.0	III	N	2	25U	84U	

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25			HIRA	0741.5	0742.0	III	B	2	30	110	
			IZMI	0741.5	0741.9	III	G,C	2	25X	270X	
			IZMI	0800.0	0800.7	III	G	2	25X	90	
			IZMI	0801.8	0802.7	III	G	2	25X	95U	
			POTS	0838	0930	III	GG,N	2	40X	85	
			IZMI	0858.0	0859.2	III	G	2	25X	90	
			SVTO	0923.0	1714.0	CONT		1	25	180	
			POTS	1006	1223	III	GG,N	1	40X	85	
			IZMI	1012.0	1014.8	III	GG,C	2	25X	145	
			HOLL	1305.0	1819.0	CONT		1	66	180	
	0535	1720	BLEN	1319.4	1620.0	I		3	100X	500	
			POTS	1410 U	1530	III	GG,N	2	40X	85	
			HOLL	1411.0	0046.0	III	N	1	25	180	
			HOLL	1411.0	1819.0	III	N	1	25	180	
			SGMR	1413.0	1418.0	III		1	30	55	
			SGMR	1455.0	1458.0	III		1	30	50	
			SGMR	1526.0	1546.0	III	N	2	30	80	
			HOLL	1540.0	1541.0	III		1	25	180	
			SVTO	1540.0	1541.0	III		2	25	180	
			POTS	1540.6	1541.9	III	GG	2	40X	350	
			POTS	1703	1758	I	S,N	1	200U	360	
			PALE	1742.0	0438.0	CONT		1	25	180	
			SGMR	1807.0	2030.0	III	N	1	30	60	
	2040	2400	CULG	2040.0E	2400.0D	III	S,C	1	57X	180	
			CULG	2250.0	2253.0	III	GG	3	57X	400	
			PALE	2250.0	2253.0	III		2	25	180	
			SGMR	2250.0	2252.0	V		2	30	80	
	2003	2400	HIRA	2250.5	2256.5	III	G	3	25X	270	
			CULG	2255.0	2256.0	III	G	2	57X	260	
			LEAR	2257.0	0042.0	III	N	1	25	180	
26	0000	0730	CULG	0000.0E	0730.0D	III	S,C	1	57X	180	
			LEAR	0042.0	0955.0	CONT		2	25	180	
			HOLL	0043.0	0124.0	CONT		1	46	177	
			CULG	0055.0	0103.0	III	GG	2	57X	130	
	0416	1756	POTS	0416 U	1756	I	S,N,DC	2	200U	400	100-200MHz no data
			SVTO	0429.0	1055.0	CONT		1	76	180	
			SVTO	0509.0	1712.0	III	N	1	25	180	
	0518	1649	ONDR								
	0535	1720	BLEN								
			IZMI	0559.0E	1200.0D	III	N	2	25X	90	
	0559	1214	IZMI	0559.0E	1200.0D	I	S,C	2	45U	270X	
			IZMI	0615.1	0626.0	III	GG	2	25X	160	
			POTS	0650	1410 U	III	GG,N	1	40X	85	
			IZMI	0722.0	0722.8	III	G	2	210	270X	
			IZMI	0741.4	0741.5	III	G	2	30	160	
			POTS	0755.5	0757.6	DCIM		2	400	660	
			IZMI	0811.7	0816.0	III	GG	2	25X	95	
			POTS	0851 4	0855.7	III	GG	3	40X	85	
			IZMI	0851.3	0856.2	III	GG,C	3	25X	175	
			SVTO	0852.0	0855.0	III		3	25	153	
	0000	0915	HIRA	0852.0	0854.5	III	G	2	25X	130	
			IZMI	0948.1	0949.7	III	GG	2	25X	270X	
			IZMI	1016.2	1017.5	III	G	1	25X	235	
			POTS	1049.7	1050.6	DCIM		2	470	720	
			IZMI	1143.9	1144.4	III	G,FS	2	25X	240	
			IZMI	1150.4	1151.2	III	G,FS	2	25X	65	
			HOLL	1306.0	0118.0	III	N	1	25	52	
			HOLL	1322.0	2114.0	CONT		1	73	180	
			POTS	1341.0	1341.5	DCIM		2	330	630	
			SGMR	1341.0	2145.0	III	N	1	30	60	
			PALE	1630.0	0438.0	CONT		1	70U	180U	
	2040	2400	CULG	2040.0E	2400.0D	III	S,C	1	57X	180	
			CULG	2134.0	2134.0	III	G	1	580	1000	
			CULG	2144.0	2144.0	III	B	2	57X	180	
	2004	2400	HIRA	2144.5	2145.0	III	B	1	25X	410	
			LEAR	2256.0	0955.0	CONT		1	25	180	
27	0000	0730	CULG	0000.0E	0405.0D	III	S,C	1	57X	180	

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27		LEAR	0103.0	0139.0	III	N	1	25	138	
0000	0914	HIRA	0104.0	0105.0	III	B	1	25X	110	
		HIRA	0111.0	0114.0	III	G	1	25X	110	
		LEAR	0246.0	0340.0	III	N	1	25	180	
		CULG	0405.0E	0730.0D	I	S,C	1	100	180	
		CULG	0405.0E	0730.0D	III	S	1	57X	90	
0418	1750	POTS	0418 U	1750	I	S,N,DC	2	200U	400	100-200MHz no data
		SVTO	0430.0	0906.0	CONT		1	51	180	
		CULG	0544.0	0545.0	III	G	2	57X	180	
		HIRA	0544.0	0545.0	III	B	2	25X	320	
		LEAR	0544.0	0545.0	V		1	25	180	
		SVTO	0544.0	0546.0	V		3	25	126	
		POTS	0544.1	0544.7	III	G	3	40X	500	
		POTS	0544.5	0545.3	V	B	3	40X	70	
		CULG	0545.0	0546.0	V		1	57X	90	
		SVTO	0617.0	0855.0	III	N	2	25	180	
0710	1200	IZMI	0620.3	0627.7	III	GG	2	25X	95U	
		POTS	0622	1304 U	III	GG,N	1	40X	85	
		IZMI	0646.2	0657.3	III	GG	2	45	95U	
		SVTO	0705.0	0711.0	V		2	25	66	
		IZMI	0705.5	0706.0	III	G	2	25X	95	
		IZMI	0710.0E	1200.0D	I	S,C	2	60U	270X	
		IZMI	0710.0E	1200.0D	III	N	2	25X	95U	
		IZMI	0711.2	0711.9	III	B	2	25X	95	
		POTS	0717.0	0717.5	DCIM		2	280	400	
		IZMI	0722.1	0724.5	III	G	2	25X	95	
		POTS	0744.4	0747.4	III	G	2	40X	430	
		IZMI	0744.5	0744.7	III	G	1	160	270X	
		IZMI	0747.1	0747.3	III	G	2	50	270X	
0540	1715	BLEN	0747.1	0747.4	III		2	100X	480	
		IZMI	0811.7	0813.7	III	G	2	25X	95	
		POTS	0816.3	0828.0	III	G	3	40X	500	
		LEAR	0818.0	0821.0	III		1	25	180	
		IZMI	0818.3	0818.7	III	G,C	2	25X	270X	
		HIRA	0818.5	0821.5	III	G	2	30	400	
		BLEN	0820.7	0828.0	III	GG,RS	2	100X	480	
		IZMI	0820.8	0821.7	III	GG,C	2	25X	270X	
		IZMI	0822.1	0827.6	III	GG	1	220	270X	
		IZMI	0830.8	0839.1	III	GG	2	35	160	
		SVTO	0856.0	1100.0	III	N	2	25	180	
		IZMI	0856.4	0858.1	III	G,C	2	25X	70	
		HIRA	0904.0	0904.5	III	B	2	30	400	
		LEAR	0904.0	0904.0	III		1	25	180	
		BLEN	0904.1	0904.8	III	RS	2	100X	430	
		IZMI	0904.1	0904.5	III	GG,C	2	25X	270X	
		POTS	0904.1	0906.1	III	G	3	40X	420	
		IZMI	0905.9	0906.0	III	G,HARM	2	45	215	
		IZMI	0909.6	0911.5	III	G	2	25X	130	
		POTS	0916.7	0917.2	DCIM		2	350	570	
		IZMI	0916.8	0919.7	III	G	2	25X	95	
		IZMI	0922.2	0922.9	III	G	2	25X	120	
		IZMI	0931.8	0933.2	III	G	2	25X	170	
		IZMI	0959.2	0959.7	III	G,C	2	25X	120	
		POTS	0959.2	1002.0	III	GG	3	40X	370	
		IZMI	1000.7	1002.0	III	GG,FS	2	25X	170	
0520	1647	ONDR	1019.1	1019.2	DCIM	G	2	997	1508	
		IZMI	1019.6	1020.1	III	B,C	2	25X	270	
		POTS	1019.6	1022.0	III	G	3	40X	300	
		IZMI	1021.5	1022.0	III	GG,C	2	25X	270X	
		IZMI	1047.0	1047.8	III	GG	2	40	160	
		SGMR	1050.0	1150.0	III		1	30	60	
		IZMI	1059.1	1101.8	III	GG	2	25X	125	
		IZMI	1110.6	1111.0	III	GG,FS	2	45	160	
		SGMR	1150.0	1150.0	III		1	30	60	
		IZMI	1150.2	1150.6	III	G,FS	2	25X	240	
		SGMR	1211.0	1211.0	III		1	30	80	
		ONDR	1228.0	1229.0	DCIM	G	1	992	2000X	
		ONDR	1228.1	1229.3	DCIM	G	1	2000X	4500X	
		BLEN	1228.2	1229.6	DCIM	C	2	800	4000X	

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27			SVTO	1434.0	1435.0	III		2	25	57	
			POTS	1434.9	1435.5	III	B,U	2	40X	70	
			HOLL	1449.0	2353.0	III	N	1	25	87	
			SVTO	1454.0	1459.0	III		2	25	49	
			POTS	1454.1	1455.0	III	B,U	2	40X	55	
			SVTO	1531.0	1532.0	III		2	25	180	
			POTS	1531.6	1532.2	III	G	3	40X	270	
			POTS	1531.9	1532.0	DCIM		2	480	630	
			SVTO	1552.0	1711.0	CONT		1	43	180	
			HOLL	1612.0	2257.0	CONT		1	97	180	
	2005	2400	HIRA	2027.5	2028.0	III	B	1	25X	220	
	2040	2400	CULG	2040.0E	2400.0D	III	S	1	57X	170	
			CULG	2150.0	2151.0	III	G	3	57X	180	
			HIRA	2150.5	2151.0	III	B	2	25X	130	
			HIRA	2222.5	2223.0	III	B	1	25X	200	
			LEAR	2255.0	0740.0	CONT		1	25	180	
28	0000	0730	CULG	0000.0E	0730.0D	III	S,C	1	57X	180	
	0421	1747	POTS	0510	0524	I	S,N	1	200U	300	100-200MHz no data
	0600	1200	IZMI	0600.0E	1200.0D	III	N	1	25X	95U	
			IZMI	0621.8	0628.5	III	GG	2	45	95	
			IZMI	0705.5	0714.2	III	GG	1	35	190	
			POTS	0705.6	0741.0	III	GG,N	2	40X	400	
	0000	0913	HIRA	0725.5	0727.0	III	G	1	130	280	
	0540	1715	BLEN	0725.5	0726.7	III	GG	1	200X	400	
			IZMI	0725.6	0726.7	III	GG	2	45	270X	
			IZMI	0731.0U	1120.0U	I	N	1	95	260	
			IZMI	0740.6	0740.9	III	G	2	40	160	
			POTS	0758.4	0759.1	I	DC	1	200U	280	
			SVTO	0812.0	0828.0	III	N	1	25	180	
			IZMI	0812.7	0821.4	III	GG,FS	2	25X	270X	
			BLEN	0817.2	0821.9	III	G,RS	3	200X	4000X	
			POTS	0817.8	0821.4	III	G	2	40X	330	
			ONDR	0818.4	0828.5	DCIM	G	1	800X	2000X	
			POTS	0818.6	1747	I	S,N,DC	2	200U	420	
	0521	1645	ONDR	0819.3	0828.2	DCIM	G	1	2000X	4500X	
			POTS	0826	0852 U	III	GG,N	1	40X	280	
			IZMI	0826.7	0829.2	III	GG,C	2	30	250	
			HIRA	0827.5	0828.0	III	B	1	60	200	
			IZMI	0832.5	0836.9	III	G	1	45	120	
			IZMI	0846.3	0847.1	III	G	2	40	145	
			IZMI	0917.3	0917.8	III	G	1	40	160	
			POTS	0931	1123 U	III	GG,N	1	40X	85	
			IZMI	0956.1	0959.3	III	G	1	40	115	
			SVTO	1012.0	1056.0	III	N	1	25U	82U	
			IZMI	1012.3	1020.0	III	GG,FS	2	25X	160	
			IZMI	1029.6	1034.8	III	G	2	25X	95	
			SGMR	1041.0	1055.0	III	N	1	30	60	
			SVTO	1041.0	1042.0	V		2	25	180	
			IZMI	1041.7	1042.1	III	G,C	2	25X	270	
			POTS	1041.7	1042.1	III	G	3	40X	380	
			IZMI	1042.0	1042.9	V		2	25X	65	
			POTS	1042.0	1042.8	V	B	3	40X	80	
			IZMI	1044.5	1045.3	III	G	1	35	70	
			IZMI	1055.7	1055.9	III	G	2	25X	210	
			ONDR	1058.5	1100.3	DCIM	G	2	2000X	4500X	
			IZMI	1058.7	1058.8	III	G	1	45	95	
			IZMI	1118.6	1119.0	III	B	1	30	95	
			IZMI	1154.5	1154.9	III	G	1	45	270X	
			POTS	1154.7	1155.0	III	B	3	40X	400	
			SGMR	1259.0	1304.0	III		1	30	55	
			POTS	1259.2	1304.1	III	G	2	40X	270	
			POTS	1420.6	1421.8	III	GG	2	40X	330	
			HOLL	1444.0	0100.0	III	N	1	25	120	
			POTS	1447	1506	III	GG,N	2	40X	85	
			SGMR	1449.0	2004.0	III	N	2	30	80	
			POTS	1510.0	1510.3	DCIM		1	350	570	
			BLEN	1531.8	1535.2	III		2	350	500	
			ONDR	1543.4	1623.2	DCIM	G	1	2000X	4500X	

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28			BLEN	1646.0	1658.9	DCIM	C	3	300	4000X	
			PALE	1648.0	0423.0	CONT		1	44	180	
			POTS	1657.4	1657.7	DCIM		2	300	400	
			PALE	1751.0	1753.0	III		1	25	180	
			PALE	1854.0	1855.0	III		2	25	180	
			SGMR	1854.0	1855.0	III		3	30	80	
			HOLL	1855.0	1930.0	IV		1	25	75	
			SGMR	1855.0	1925.0	IV		3	30	80	
			PALE	1857.0	1913.0	II		1	33	180	ESS 0734
			SGMR	1859.0	1907.0	II		2	30	80	ESS 0700
			HOLL	1916.0	1917.0	III		1	25	115	
	2005	2400	HIRA	2036.5	2038.0	III	G	1	50	200	
	2040	2400	CULG	2040.0E	2128.0	I	S	1	120	170	
			CULG	2142.0	2144.0	III	G	2	57X	430	
			HIRA	2142.0	2144.5	III	G	2	25X	450	
			PALE	2142.0	2146.0	III		1	25	180	
			CULG	2143.0	2151.0	V		1	57X	180	
			CULG	2301.0	2400.0D	I	S	1	120	170	
29	0000	0730	CULG	0000.0E	0150.0	I	S	1	130	180	
			CULG	0058.0	0059.0	III	G	1	57X	160	
			LEAR	0058.0	0521.0	III	N	1	25	180	
			PALE	0058.0	0436.0	III	N	1	25	180	
			CULG	0123.0	0130.0	III	G	1	57X	200	
	0000	0912	HIRA	0123.0	0130.0	III	G	1	25X	260	
			CULG	0200.0	0202.0	III	G	1	57X	90	
			CULG	0208.0	0209.0	III	G	1	57X	180	
			HIRA	0208.0	0209.0	III	B	1	25X	230	
			CULG	0247.0	0248.0	III	G	1	57X	180	
			HIRA	0247.5	0248.0	III	B	1	50	280	
			CULG	0250.0	0252.0	III	G	1	430	750	
			CULG	0306.0	0307.0	III	G	1	57X	450	
			HIRA	0306.5	0307.0	III	B	1	80	310	
			CULG	0311.0	0410.0	III	N	1	57X	180	
			HIRA	0330.5	0331.0	III	B	1	90	210	
			HIRA	0400.5	0409.5	III	G	2	25X	330	
			LEAR	0408.0	0409.0	III		1	25	180	
			CULG	0409.0	0409.0	III	G	2	57X	180	
			SVTO	0432.0	0908.0	III	N	1	25U	180U	
			CULG	0435.0	0530.0	III	N	1	57X	180	
			HIRA	0435.5	0459.0	III	G	1	30	210	
	0426	1750	POTS	0446.5	0446.6	DCIM		1	450	580	100-200MHz no data
			POTS	0446.9	0449.0	UNCLF		2	200U	360	
			POTS	0458.0	0458.4	I	DC	2	200U	240	
			POTS	0511	0521	I	S,N	2	200U	400	
			POTS	0512.8	0513.2	DCIM		2	460	660	
			POTS	0553	0700 U	I	S,N	2	200U	400	
	0522	1643	ONDR	0630.5	0631.2	DCIM	G	1	847	2000X	
			CULG	0631.0	0730.0D	III	N	1	57X	180	
			POTS	0632.1	0632.3	DCIM		2	500	660	
			POTS	0645.1	0645.2	III	B	1	200U	300	
	0600	1200	IZMI	0645.1	0645.2	III	B	2	140	270	
			POTS	0700.5	0700.8	DCIM		2	260	660	
			HIRA	0706.0	0708.0	III	G	1	40	300	
			IZMI	0706.0	0708.5	III	GG	2	25X	270X	
			LEAR	0706.0	0821.0	III	N	1	25	180	
			POTS	0706.0	0716.5	III	G	3	40X	400	
			CULG	0707.0	0707.0	III	G	2	57X	270	
			IZMI	0711.4	0713.3	III	GG	2	40	270X	
			HIRA	0712.0	0716.5	III	G	1	50	330	
			ONDR	0713.0	0715.0	DCIM	G	1	800X	2000X	
			ONDR	0713.0	0715.1	DCIM	G	1	2000X	4500X	
			IZMI	0713.7	0716.4	III	GG	2	35	175	
			POTS	0714.4	0715.6	DCIM		2	520	730	
			IZMI	0725.4	0729.6	III	G	1	45	95	
			IZMI	0745.4	0747.5	III	G,FS	1	50	160	
			HIRA	0752.0	0752.5	III	B	1	40	110	
			IZMI	0752.1	0752.3	III	G,C	2	40	130	
			IZMI	0756.4	0800.0	III	GG	2	25X	95	

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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
29			POTS	0759	0806	III	G	2	40X	85	
			IZMI	0802.2	0805.8	III	GG	2	25X	160	
			HIRA	0804.5	0805.0	III	B	1	30	120	
			IZMI	0820.9	0821.0	III	B	1	85	190	
	0730	1715	BLEN	0843.3	0843.6	III	C,RS	2	550	4000X	
			ONDR	0904.0	0906.5	DCIM	G	1	2000X	4500X	
			BLEN	0904.4	0911.2	DCIM	C,RS	2	280	4000X	
			POTS	0904.7	0905.7	DCIM		1	550	660	
			ONDR	0905.0	0905.3	DCIM		1	800X	2000X	
			POTS	0906	1052 U	I	S,N	1	200U	400	
			POTS	0908	0911	DCIM	C	2	370	600	diffuse cont.
			ONDR	0939.1	0940.2	DCIM	G,SP	1	800X	997	
			ONDR	1035.3	1038.3	DCIM	G	1	2254	4500X	
			IZMI	1042.5	1046.2	III	G	2	25X	95	
			POTS	1042.5	1045.2	III	G	2	40X	80	
			IZMI	1110.7	1111.1	III	G	2	25X	250	
			POTS	1110.7	1111.1	III	G	2	40X	270	
			IZMI	1131.0U	1146.0	I	S	1	110	180	
			ONDR	1238.0	1238.2	DCIM	GG,SP	3	800X	1259	
			ONDR	1238.0	1239.0	DCIM	G,W	1	2000X	4500X	
			BLEN	1238.1	1238.5	III	GG,S	3	550	4000X	
			ONDR	1246.3	1254.1	DCIM	GG	3	800X	2000X	
			BLEN	1246.7	1252.6	III	GG,S	3	230	4000X	
			ONDR	1247.0	1258.1	DCIM	GG	2	2000X	4500X	
			POTS	1247.3	1323.1	III	GG,N	3	40X	400	
			SGMR	1248.0	1312.0	III	N	2	30	80	
			SVTO	1248.0	1312.0	III	N	2	25	180	
			POTS	1248.4	1251.4	DCIM		2	520	800X	
			BLEN	1300.1	1328.2	III	GG,C	3	280	900	
			HOLL	1301.0	1616.0	III	N	1	25	180	
			POTS	1322.4	1322.8	DCIM		2	280	500	
			BLEN	1420.1	1421.9	III	GG,S	3	280	4000X	
			ONDR	1420.2	1421.5	DCIM	G	1	2000X	3973	
			POTS	1420.4	1421.7	DCIM		2	550	770	
			SVTO	1421.0	1421.0	III		1	46U	61U	
			POTS	1421.1	1421.5	III	G	3	40X	320	
			BLEN	1433.3	1434.9	III	GG,RS	3	200X	800	
			POTS	1433.3	1434.8	DCIM		2	220	670	
			POTS	1433.5	1433.8	III	B	2	40X	85	
			POTS	1438 U	1551 U	I	S,N	1	200U	350	
			HOLL	1658.0	1659.0	III		1	25	58	
			SGMR	1658.0	1658.0	III		1	30	40	
			SGMR	1811.0	1812.0	III		1	30	50	
			HOLL	1812.0	1812.0	III		1	25	87	
			PALE	1812.0	1812.0	III		1	25	60	
			HOLL	2107.0	2107.0	III		1	25	180	
	2006	2400	HIRA	2107.0	2107.5	III	B	1	60	190	
	2040	2400	CULG	2107.0	2108.0	III	G	1	57X	180	
			CULG	2110.0	2111.0	III	G	1	100	180	
			CULG	2140.0	2143.0	III	G	1	57X	180	
			PALE	2222.0	2224.0	V		1	25	180	
			CULG	2223.0	2223.0	III	B	3	57X	500	
			CULG	2223.0	2224.0	V		1	57X	170	
			HIRA	2223.0	2224.0	III	B	3	40	570	
			HOLL	2223.0	2223.0	V		1	25	180	
			SGMR	2223.0	2223.0	III		1	30	80	
			HOLL	2321.0	2324.0	III		1	25	88	
			LEAR	2321.0	2330.0	III		1	25	180	
			HIRA	2321.5	2323.0	III	B	2	25X	120	
			CULG	2322.0	2324.0	III	G	1	57X	180	
			CULG	2329.0	2339.0	III	G	1	57X	180	
			HIRA	2329.0	2330.5	III	G	1	25X	260	
30	0000	0730	CULG	0035.0	0035.0	III	B	1	57X	90	
			CULG	0222.0	0306.0	III	N	1	57X	180	
			CULG	0228.0	0228.0	III	B	2	57X	180	
			LEAR	0228.0	0340.0	III	N	1	25	180	
	0000	0910	HIRA	0228.0	0228.5	III	B	1	50	150	
			HIRA	0241.0	0257.0	III	G	1	25X	300	

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30		CULG	0256.0	0256.0	III	B	3	57X	180	
		CULG	0406.0	0429.0	III	N	1	57X	180	
		LEAR	0410.0	0456.0	III	N	2	25	180	
		HIRA	0423.5	0424.0	III	B	1	30	220	
		CULG	0450.0	0451.0	III	G	1	100	260	
		SVTO	0450.0	0455.0	III		1	25	180	
		HIRA	0450.5	0455.5	III	G	1	25X	280	
0422	1746	POTS	0450.5	0454.8	III	G	2	55	380	100-200MHz no data
		CULG	0454.0	0456.0	III	G	2	57X	180	
		POTS	0456.6	0459.2	DCIM		2	350	630	
0602	1200	IZMI	0637.3	0637.4	III	B	1	50	85	
		IZMI	0744.5	0744.7	III	G	2	45	125	
		IZMI	0746.9	0747.1	III	B	2	40	95	
		HIRA	0754.0	0755.0	III	B	1	120	230	
		LEAR	0754.0	0754.0	III		1	128	180	
		SVTO	0754.0	0754.0	III		1	134U	180U	
		IZMI	0754.1	0754.6	III	G,C	2	125	190	
		POTS	0754.1	0754.9	III	GG	2	200U	310	
		POTS	0945.2	0945.4	III	B	1	200U	260	
		POTS	1014.0	1014.7	III	G	1	200U	280	
		IZMI	1014.1	1014.7	III	G	2	130	270X	
		IZMI	1017.5	1017.6	III	B	1	125	185	
		POTS	1047.2	1047.5	III	G	1	200U	300	
		IZMI	1051.0	1052.2	III	G,C	1	50	160	
		SGMR	1057.0	1058.0	II		1	40	55	
		IZMI	1057.3	1104.5	II	HARM	2	35	120	
		POTS	1057.4	1102.2	II	F,H	3	40X	85	
		SVTO	1059.0	1101.0	II		1	33	83	ESS 0783
		IZMI	1129.6	1129.8	III	B	1	50	90	
		SGMR	1205.0	1205.0	III		1	40	60	
		SVTO	1205.0	1205.0	III		1	42U	83U	
		POTS	1205.2	1206.1	III	G	2	40X	85	
		POTS	1207.8	1208.0	III	G	1	200U	340	
		POTS	1327.2	1329.8	DCIM		3	230	800X	
		ONDR	1327.3	1336.5	DCIM	GG	3	800X	2000X	
0524	1641	ONDR	1327.3	1336.0	DCIM	GG	2	2000X	4500X	
1205	1715	BLEN	1327.4	1340.2	IV	P,C	3	200X	4000X	
		POTS	1328.8	1343	II	F,H	3	40X	500	
		HOLL	1329.0	1330.0	III		1	25	180	
		SVTO	1329.0	1330.0	III		3	32	180	
		SGMR	1330.0	1339.0	II		1	30	80	
		SGMR	1330.0	1339.0	II		1	30	80	ESS 0626
		SVTO	1330.0	1340.0	II		1	45	180	ESS 0628
		HOLL	1331.0	1341.0	II		1	44	180	ESS 0457
		SVTO	1333.0	1340.0	II		1	45	180	ESS 0628
		POTS	1336	1403	I	S,N	1	200U	380	
		ONDR	1338.3	1340.2	DCIM	GG	2	800X	1334	
		POTS	1339.0	1339.9	DCIM		2	390	630	
		POTS	1425.8	1426.5	DCIM		2	260	500	
		ONDR	1436.3	1440.4	DCIM	GG	3	800X	2000X	
		BLEN	1436.7	1440.7	III	GG,C	3	200X	4000X	
		POTS	1437.2	1438 U	II	F,H	2	200U	800X	
		POTS	1437.2	1440.9	DCIM		2	200U	800X	
		ONDR	1437.4	1441.0	DCIM	G	1	2000X	4500X	
		POTS	1437.7	1438.2	III	G	2	40X	85	
		HOLL	1438.0	1438.0	III		1	25	92	
		SVTO	1438.0	1438.0	III		1	41U	83U	
		BLEN	1518.5	1523.2	III	GG,C,RS	3	200X	4000X	
		POTS	1518.5	1520.8	DCIM		2	330	800X	
		POTS	1520.0	1521.0	III	G	2	50	420	
		BLEN	1547.9	1548.3	III	G,RS	2	380	700	
		SVTO	1604.0	1611.0	III		2	113	180	
		BLEN	1604.3	1604.9	III	GG,S	2	200X	500	
		POTS	1604.3	1604.9	III	G	2	200U	360	
		POTS	1611.2	1611.3	III	B	1	200U	280	
		CULG	2030.0E	2106.0	III	N	1	57X	180	
2030	2400	CULG	2030.0	2030.0	III	B	1	550	750	
		CULG	2102.0	2400.0D	I	S	1	100	180	
		PALE	2201.0	2202.0	III		1	25	180	

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OBSERVATION Day	Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
30			CULG	2202.0	2207.0	III	G	1	57X	180	
			HOLL	2202.0	2206.0	III		1	25	180	
	2007	2400	HIRA	2202.5	2203.0	III	B	1	30	170	
			HIRA	2206.0	2206.5	III	B	1	30	140	
			PALE	2206.0	2206.0	III		1	25	86	
			LEAR	2253.0	0957.0	CONT		1	25	180	
			CULG	2256.0	2256.0	III	B	1	57X	150	
			PALE	2316.0	0435.0	III	N	1	25	180	
			CULG	2328.0	2330.0	III	G	3	57X	180	
			HIRA	2328.0	2330.0	III	G	3	25X	500	
			HOLL	2328.0	2330.0	III		2	25	180	
			LEAR	2328.0	2330.0	III		2	25	180	
			PALE	2328.0	2330.0	III		1	25	180	
			HIRA	2339.5	2340.0	III	B	1	25X	80	
			CULG	2340.0	2340.0	III	B	1	57X	80	
31	0000	0730	CULG	0000.0E	0634.0	I	S,C	1	100	180	
			CULG	0002.0	0130.0	III	N	1	57X	180	
			PALE	0004.0	0345.0	III	N	1	25	180	
			HOLL	0013.0	0100.0	III	N	1	25	110	
			LEAR	0013.0	0013.0	III		2	25	180	
	0000	0909	HIRA	0013.5	0014.0	III	B	2	25X	110	
			HIRA	0020.0	0021.0	III	B	1	25X	220	
			HIRA	0027.0	0027.5	III	B	1	25X	100	
	0424	1744	POTS	0434 U	1744 U	I	S,N,DC	2	200U	380	100-200MHz no data
			IZMI	0605.0E	1200.0	III	N	1	45	95U	
	0605	1200	IZMI	0605.0E	1002.0	I	N	1	80	270X	
			IZMI	0614.8	0616.7	III	G	1	180	270X	
	0545	1715	BLEN	0630.9	0631.5	III	G,S	2	200X	450	
			CULG	0631.0	0632.0	III	G	1	140	320	
			IZMI	0631.0	0632.0	III	G	2	200	270X	
			IZMI	0920.7	0922.4	III	GG	2	40	270X	
			POTS	0920.7	0927.3	III	GG	2	40X	360	
			SVTO	0922.0	0927.0	III		1	28U	170U	
			IZMI	0924.1	0927.3	III	GG	2	25X	270X	
			SVTO	0930.0	1704.0	CONT		2	25	180	
	0525	1639	ONDR	1001.2	1002.0	DCIM	GG	2	2312	3494	
			BLEN	1001.5	1002.2	DCIM	P	2	650	1300	
			IZMI	1002.0	1200.0D	I	S	2	110	270X	
			ONDR	1058.5	1107.3	DCIM	G	1	800X	2000X	
			BLEN	1058.9	1100.5	III	GG	3	400	1330	
			POTS	1100.0	1100.8	DCIM		2	210	640	
			IZMI	1100.3	1100.4	III	B	2	205	270X	
			POTS	1102.5	1104.0	III	G	2	40X	85	
			IZMI	1102.8	1103.8	III	G	1	25X	165	
			SVTO	1149.0	1200.0	III	N	2	25	167	
			POTS	1149.3	1200.3	III	GG	2	40X	400	
			IZMI	1150.5	1152.9	III	GG,C	2	25X	270X	
			SGMR	1152.0	1152.0	III		1	30	60	
			ONDR	1246.2	1247.0	DCIM	G,W	1	1039	1653	
			HOLL	1309.0	2156.0	CONT		1	76	180	
			ONDR	1351.5	1353.5	DCIM	G	1	2000X	4500X	
			POTS	1351.8	1353.3	DCIM		2	430	650	
			ONDR	1352.0	1353.3	DCIM	G	2	800X	2000X	
			BLEN	1352.1	1400.0	III	GG,P,C	3	200X	4000X	
			SGMR	1405.0	1406.0	III		1	30	70	
			SVTO	1405.0	1406.0	III		2	25U	82U	
			POTS	1405.2	1406.3	III	G	3	40X	400	
			BLEN	1420.0	1431.0	IV	P,C	3	400	4000X	
			ONDR	1420.2	1428.0	DCIM	G	2	2000X	4500X	
			ONDR	1420.2	1429.5	DCIM	GG,FS	2	800X	2000X	
			POTS	1420.2	1422.7	DCIM		2	430	760	
			BLEN	1442.4	1442.5	III	GG	2	450	850	
			POTS	1453.2	1503.6	DCIM		2	230	740	
			ONDR	1519.0	1530.0	DCIM	GG	1	800X	2000X	
			BLEN	1519.1	1705.0	III	GG,C,RS	3	250	4000X	
			POTS	1519.1	1521.4	DCIM		3	260	800X	
			ONDR	1521.1	1521.2	DCIM		1	2000X	4500X	
			POTS	1527.6	1529.4	DCIM		2	370	730	

S O L A R R A D I O E M I S S I O N
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OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	EVENT Spectral Class	EVENT Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
31		ONDR	1537.3	1539.0	DCIM	G	1	2000X	3201	
		ONDR	1537.3	1540.5	DCIM	GG	2	800X	2000X	
		POTS	1537.6	1539.2	DCIM		2	300	800X	
		POTS	1549.2	1550.8	DCIM		2	260	800X	
		ONDR	1549.5	1557.5	DCIM	GG	2	800X	2000X	
		ONDR	1550.2	1550.4	DCIM	G	1	2000X	4080	
		POTS	1557.6	1557.8	DCIM		2	520	800X	
		ONDR	1610.1	1631.3	DCIM	GG	2	800X	2000X	
		POTS	1612.3	1619.5	DCIM		3	200U	800X	
		ONDR	1615.0	1620.5	DCIM	GG	2	2000X	4500X	
		HOLL	1621.0	1621.0	III		1	25	180	
		POTS	1627.1	1629.2	DCIM	RS	2	470	670	
		HOLL	1711.0	1715.0	III		1	25	86	
		POTS	1735.7	1736.3	DCIM		2	530	730	
	2030 2400	CULG	2030.0E	2125.0	I	S,C	1	100	180	
		CULG	2100.0	2100.0	III	B	1	550	770	
		CULG	2235.0	2235.0	III	B	2	450	1200	
		CULG	2249.0	2249.0	III	B	1	57X	130	
		LEAR	2249.0	2249.0	III		1	30	111	
	2008 2400	HIRA	2249.0	2249.5	III	B	1	25X	110	
		CULG	2256.0	2256.0	III	B	1	57X	750	
		CULG	2300.0	2301.0	III	G	1	120	180	
		CULG	2305.0	2306.0	III	B	1	620	740	
		CULG	2311.0	2321.0	III	GG	3	57X	860	
		HIRA	2311.0	2311.5	III	B	1	200	710	
		HOLL	2313.0	2319.0	III		1	25	180	
		LEAR	2313.0	2319.0	III		2	25	180	
		HIRA	2313.5	2319.5	III	G	2	25X	280	
		PALE	2339.0	2340.0	III		1	25	58	
		CULG	2341.0	2341.0	III	B	1	550	750	
		CULG	2345.0	2349.0	III	G	1	57X	180	
		HIRA	2345.5	2349.0	III	G	1	50	300	
		LEAR	2347.0	2349.0	III		1	61	178	

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

Frequency qualifiers:
- X = Extends beyond instrument range
- U = Uncertain frequency

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

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

NOTE: Beginning June 26, 2001, the Bleien observatory changed to higher frequencies (1-4Ghz).

SOLAR RADIO NOISE STORM AT 164 MHZ

FROM NANÇAY RADIOHELIOGRAPH

AUGUST 2002

	HELIOGRAPHICS POSITIONS MEAN VALUES[1]		IMP[2]	OBSERVING TIME[3]	
DAY	E-W	S-N		START(UT)	END(UT)
01/08/02	+0.99	-0.05	IV	8H27 E	15H27 D
02/08/02	+1.22	-0.16	III	8H27 E	15H27 D
03/08/02	-1.33	-0.31	I	8H27 E	15H27 D
03/08/02	-1.19	-0.31	I	8H27 E	15H27 D
03/08/02	+1.05	+1.04	II	8H27 E	15H27 D
03/08/02	+1.15	+0.14	II	8H27 E	15H27 D
04/08/02	-1.21	+0.20	I	8H27 E	15H27 D
04/08/02	+1.35	+0.11	III	8H27 E	15H27 D
05/08/02	-0.93	+0.09	II	8H27 E	15H27 D
06/08/02	-0.76	+0.03	II	8H27 E	15H27 D
07/08/02	-0.51	-0.02	III	8H26 E	12H40
07/08/02	-0.71	-0.12	III	11H14	15H26 D
08/08/02	-0.29	-0.05	III	8H26 E	15H26 D
09/08/02	-0.23	-0.08	IV	11H36	15H26 D
09/08/02	-0.06	+0.08	III	8H26 E	15H26 D
10/08/02	+0.22	+0.08	II	8H26 E	15H26 D
12/08/02	+0.71	-0.09	III	8H33 E	15H26 D
13/08/02	-0.57	+0.26	II	8H26 E	15H26 D
13/08/02	+0.96	-0.14	II	8H26 E	15H26 D
14/08/02	-0.05	+0.29	I	8H25 E	15H25 D
15/08/02	-0.42	-0.42	I	8H25 E	15H25 D
16/08/02	-0.19	-0.31	II	8H25 E	12H00
16/08/02	-0.39	-0.56	V	12H05	15H25 D
17/08/02	+0.12	-0.31	V	8H25 E	15H25 D
18/08/02	+0.31	-0.34	IV	8H25 E	15H25 D
19/08/02	+0.60	-0.34	IV	8H24 E	15H24 D
20/08/02	-0.53	-0.48	I	10H28 E	15H25 D
20/08/02	+0.93	-0.19	III	10H28 E	15H25 D
21/08/02	-1.22	-0.20	I	8H24 E	15H24 D
21/08/02	+1.19	-0.22	III	8H24 E	15H24 D
22/08/02	+1.04	-0.22	III	8H24 E	15H24 D
22/08/02	+1.29	+0.22	IV	8H24 E	15H24 D
23/08/02	-0.95	-0.06	II	8H23 E	15H23 D
23/08/02	+0.02	-0.37	II	8H23 E	15H23 D
24/08/02	-0.73	-0.19	III	8H23 E	15H23 D
24/08/02	+0.23	-0.39	III	8H23 E	15H23 D
25/08/02	-0.57	-0.23	IV	8H23 E	15H23 D
25/08/02	+0.59	-0.29	II	8H23 E	15H23 D
26/08/02	-0.39	-0.29	IV	8H23 E	15H23 D
27/08/02	-0.08	-0.14	III	8H22 E	15H22 D
27/08/02	+0.62	-0.29	I	8H22 E	15H22 D
28/08/02	+0.14	-0.48	I	8H22 E	15H22 D
28/08/02	+0.71	-0.08	III	12H26	15H22 D
28/08/02	+0.84	-0.22	II	8H22 E	15H22 D
29/08/02	-0.16	-0.08	I	8H22 E	15H22 D
29/08/02	+1.12	-0.08	I	8H22 E	15H22 D
30/08/02	-0.95	-0.08	I	8H21 E	15H21 D
31/08/02	-0.81	-0.03	IV	8H21 E	15H21 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

AUGUST 2002

	HELIOGRAPHICS POSITIONS MEAN VALUES[1]		IMP[2]	OBSERVING TIME[3]	
DAY	E-W	S-N		START(UT)	END(UT)
01/08/02	+0.57	-0.25	III	8H27 E	15H27 D
01/08/02	+1.01	-0.19	III	8H27 E	15H27 D
02/08/02	+0.78	-0.26	II	8H27 E	15H27 D
02/08/02	+1.10	-0.12	III	8H27 E	15H27 D
02/08/02	+1.10	-0.28	III	8H27 E	15H27 D
03/08/02	-1.19	+0.17	I	8H27 E	15H27 D
03/08/02	+1.22	-0.02	II	8H27 E	15H27 D
03/08/02	+1.29	-0.33	II	8H27 E	15H27 D
04/08/02	-1.05	+0.19	I	8H27 E	15H27 D
04/08/02	+1.22	+0.00	III	8H27 E	15H27 D
04/08/02	+1.38	-0.23	III	8H27 E	15H27 D
05/08/02	-0.96	+0.14	I	8H27 E	15H27 D
05/08/02	+0.98	-0.12	I	8H27 E	15H27 D
05/08/02	+1.32	+0.11	I	8H27 E	15H27 D
06/08/02	-0.76	+0.23	I	8H27 E	15H27 D
06/08/02	-0.68	+0.08	I	8H27 E	15H27 D
06/08/02	+1.18	-0.14	I	11H10	15H27 D
07/08/02	-0.62	-0.11	II	8H26 E	15H26 D
07/08/02	-0.48	+0.03	II	8H26 E	15H26 D
08/08/02	-0.23	-0.02	II	8H26 E	15H26 D
09/08/02	-0.19	-0.08	II	11H35	15H26 D
09/08/02	-0.08	+0.14	II	8H26 E	15H26 D
09/08/02	+0.02	-0.02	II	8H26 E	15H26 D
10/08/02	+0.19	+0.12	II	8H26 E	15H26 D
12/08/02	+0.76	-0.14	I	8H33 E	15H26 D
13/08/02	+0.96	-0.11	I	8H26 E	15H26 D
14/08/02	+0.93	-0.40	I	8H25 E	15H25 D
15/08/02	-0.34	-0.40	I	8H25 E	15H25 D
15/08/02	+1.02	-0.34	I	8H25 E	15H25 D
16/08/02	-0.16	-0.19	I	8H25 E	12H00
16/08/02	-0.34	-0.47	V	12H05	15H25 D
17/08/02	+0.17	-0.28	IV	8H25 E	15H25 D
18/08/02	-0.03	-0.51	I	8H25 E	15H25 D
18/08/02	+0.28	-0.34	I	8H25 E	15H25 D
18/08/02	+0.42	-0.08	I	8H25 E	15H25 D
19/08/02	-0.64	-0.12	II	8H24 E	15H24 D
19/08/02	+0.56	-0.34	II	8H24 E	15H24 D
20/08/02	-1.32	-0.11	I	11H51	13H35
20/08/02	+0.22	-0.53	I	10H28 E	15H25 D
20/08/02	+0.78	-0.26	II	10H28 E	15H25 D
21/08/02	-1.22	-0.17	III	8H24 E	15H24 D
21/08/02	+0.98	-0.31	III	8H24 E	15H24 D
22/08/02	-1.10	-0.20	I	8H23 E	15H23 D
22/08/02	+0.96	-0.34	III	8H23 E	15H23 D
22/08/02	+1.19	-0.05	II	8H23 E	12H25
23/08/02	-1.12	-0.33	II	8H23 E	15H23 D
23/08/02	-0.88	-0.11	II	8H23 E	15H23 D

23/08/02	+0.03	-0.42	I	8H23 E	15H23 D
24/08/02	-0.71	-0.22	III	8H23 E	15H23 D
24/08/02	+0.25	-0.39	II	8H23 E	15H23 D
25/08/02	-0.59	-0.29	III	8H23 E	15H23 D
25/08/02	-0.53	-0.16	III	8H23 E	15H23 D
25/08/02	+0.57	-0.34	I	8H23 E	15H23 D
26/08/02	-0.40	_0.31	II	8H23 E	15H23 D
26/08/02	-0.36	_0.09	II	8H23 E	15H23 D
27/08/02	-0.09	-0.12	II	8H22 E	15H22 D
27/08/02	+0.70	-0.31	II	8H22 E	15H22 D
28/08/02	+0.16	-0.33	I	8H22 E	15H22 D
28/08/02	+0.90	-0.26	II	8H22 E	15H22 D
29/08/02	-0.23	-0.20	I	8H22 E	15H22 D
30/08/02	-0.95	+0.12	I	8H21 E	15H21 D
31/08/02	-0.82	+0.00	IV	8H21 E	15H21 D

11 AUGUST: NO DATA

OTHERS DAYS: NO DETECTABLE NOISE STORM

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

** Following a large burst

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

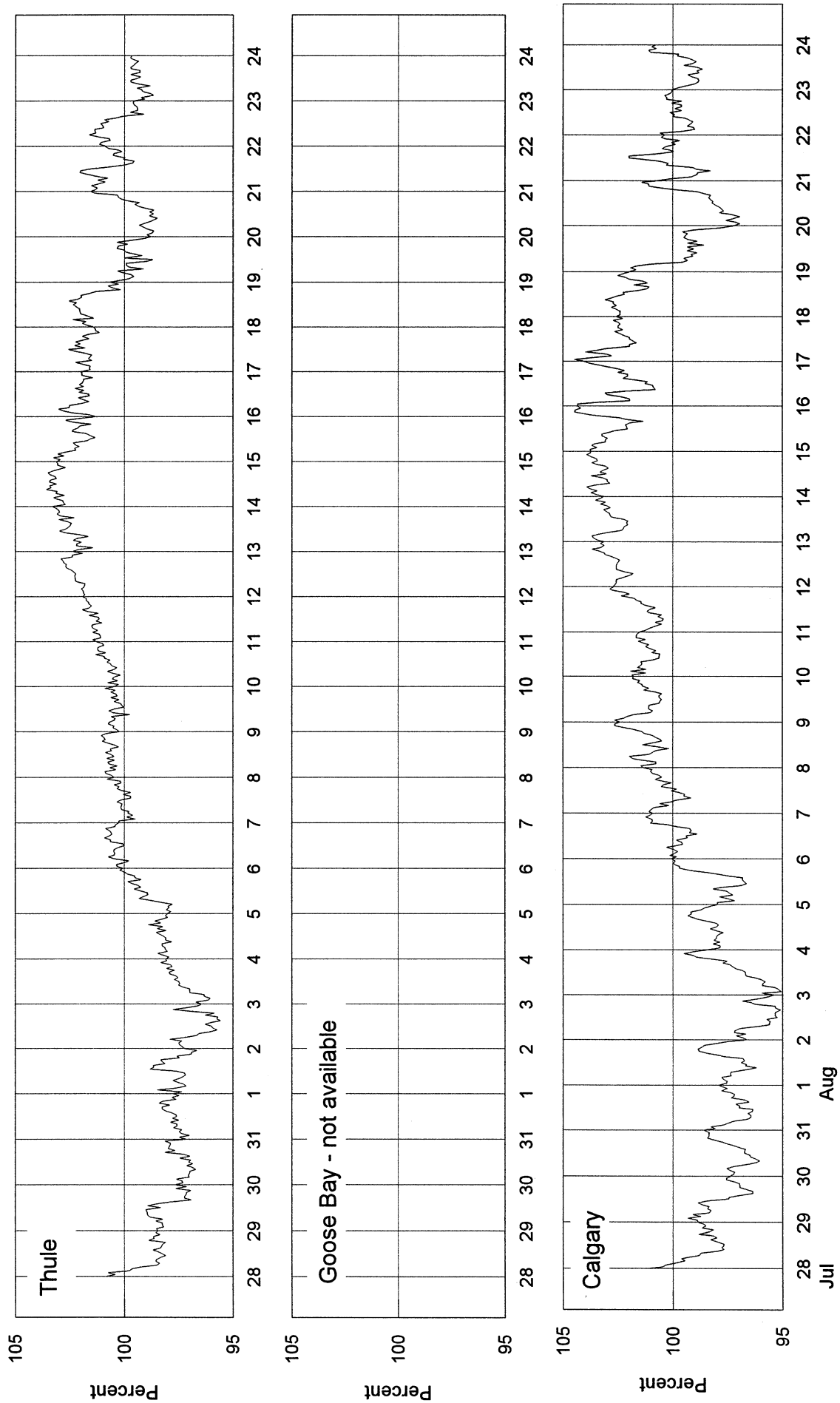
**** no flux measurements available

COSMIC RAY INDICES
(Neutron Monitor)
August 2002

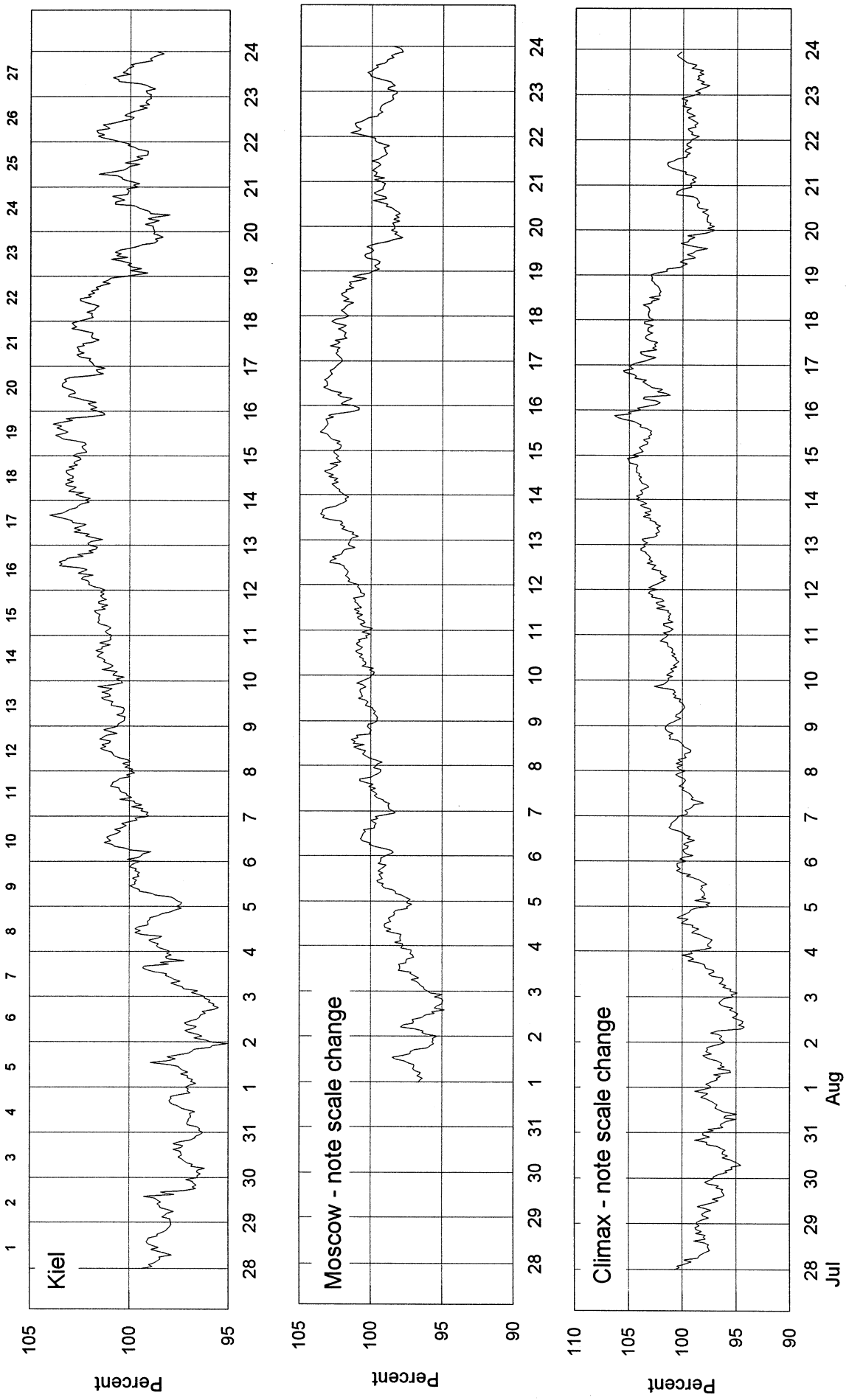
Day	THULE Average (cts/h)/100	GOOSE BAY Average (cts/h)/100	CALGARY Average (cts/h)/300	KIEL Average (cts/h)/100	MOSCOW Average (cts/h)/64	CLIMAX Average (cts/h)/100	BEIJING Average (cts/h)/256	HALEAKALA Average (cts/h)/1000
1	4097.8		3306.7	5293.8	7917.8	3496.5	1824.7(12)	3405.1
2	4085.4	not	3255.5	5253.7	7853.5	3449.5	1835.9(7)	3384.3
3	4091.7	available	3283.5	5332.0	7949.9	3503.9	1813.9(14)	3410.2
4	4096.5		3332.2	5381.0	8036.6	3560.2	1839.3(14)	3437.0
5	4106.5		3322.2	5400.4	8088.9	3561.3	1839.3(12)	3425.8
6	4086.4		3387.8	5462.4	8156.4	3606.8	1856.0	3444.1
7	4064.1		3401.3	5450.1	8146.1	3591.2	1851.1	3444.1
8	4025.3		3431.7	5491.0	8210.4	3618.0	1858.7	3455.5
9	4018.1		3432.3	5488.9	8203.5	3632.2	1874.7(7)	3460.4
10	4025.9		3432.5	5508.4	8222.1	3644.5	1876.5(16)	3462.2
11	4024.5		3434.0	5522.8	8243.2	3670.2	1872.4	3457.4
12	4039.2		3480.5	5576.1	8332.5	3704.0	1878.8	3463.7
13	4058.3		3486.5	5590.4	8363.2	3715.2	1892.1(7)	3469.8
14	4070.9		3504.5	5601.1	8387.4	3753.7	1892.2(15)	3482.5
15	4068.3		3494.0	5602.0	8394.8	3751.9	---	3479.0
16	4078.2		3468.7	5581.4	8388.7	3730.4	---	3465.0
17	4071.5		3479.8	5572.7	8363.4	3723.2	---	3453.6
18	3965.5		3463.5	5548.5	8306.1	3706.1	---	3452.5
19	4012.4		3378.0	5434.0	8132.4	3596.3	1849.4	3406.6
20	3877.6		3335.3	5423.4	8087.6	3550.2	1848.7	3399.0
21	3927.5		3392.5	5447.3	8137.3	3601.2	1864.7	3437.8
22	3938.6		3380.8	5469.0	8170.0	3581.3	1855.2	3431.7
23	3933.4		3371.8	5425.0	8101.2	3568.2	1847.7	3411.0
24	3963.5		3395.5	5433.9	8117.0	3578.9	1844.5	3392.8
25	3949.3		3385.3	5438.9	8117.2	3586.4	1830.5	3399.1
26	3910.3		3357.3	5412.4	8105.2	3561.3	1837.3	3390.9
27	3913.6		3379.8	5380.4	8045.0	3590.0	1832.0	3399.7
28	3861.9		3346.8	5366.0	8033.9	3540.2	1821.6	3370.6
29	3832.0		3348.8	5378.4	8049.1	3554.0	1831.3	3382.7
30	3803.9		3362.8	5390.3	8078.5	3568.8	1836.8	3392.6
31	3817.5		3364.0	5451.0	8152.4	3605.2	1838.2	3416.0
Mean	3994.0		3393.4	5455.1	8157.8	3609.9	1849.8	3428.5

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

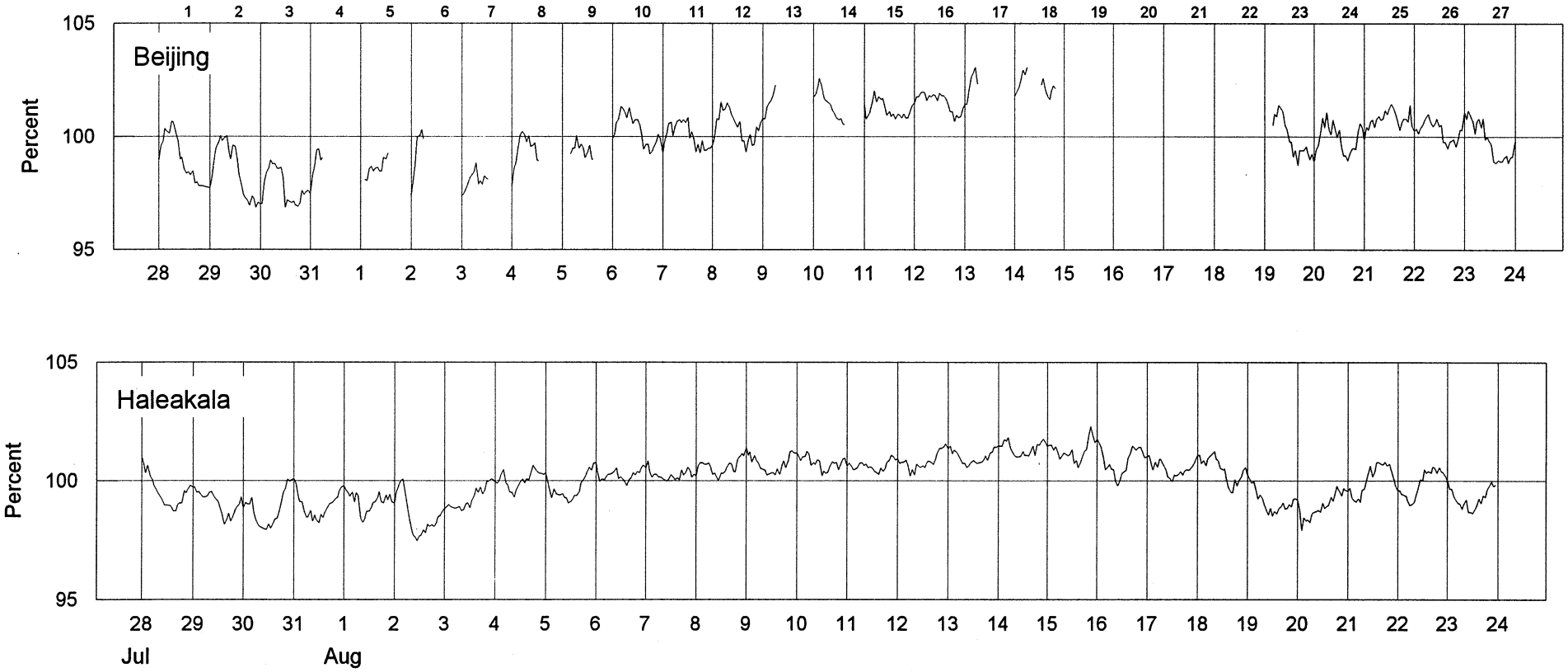
COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2307 - Beginning 28 July 2002



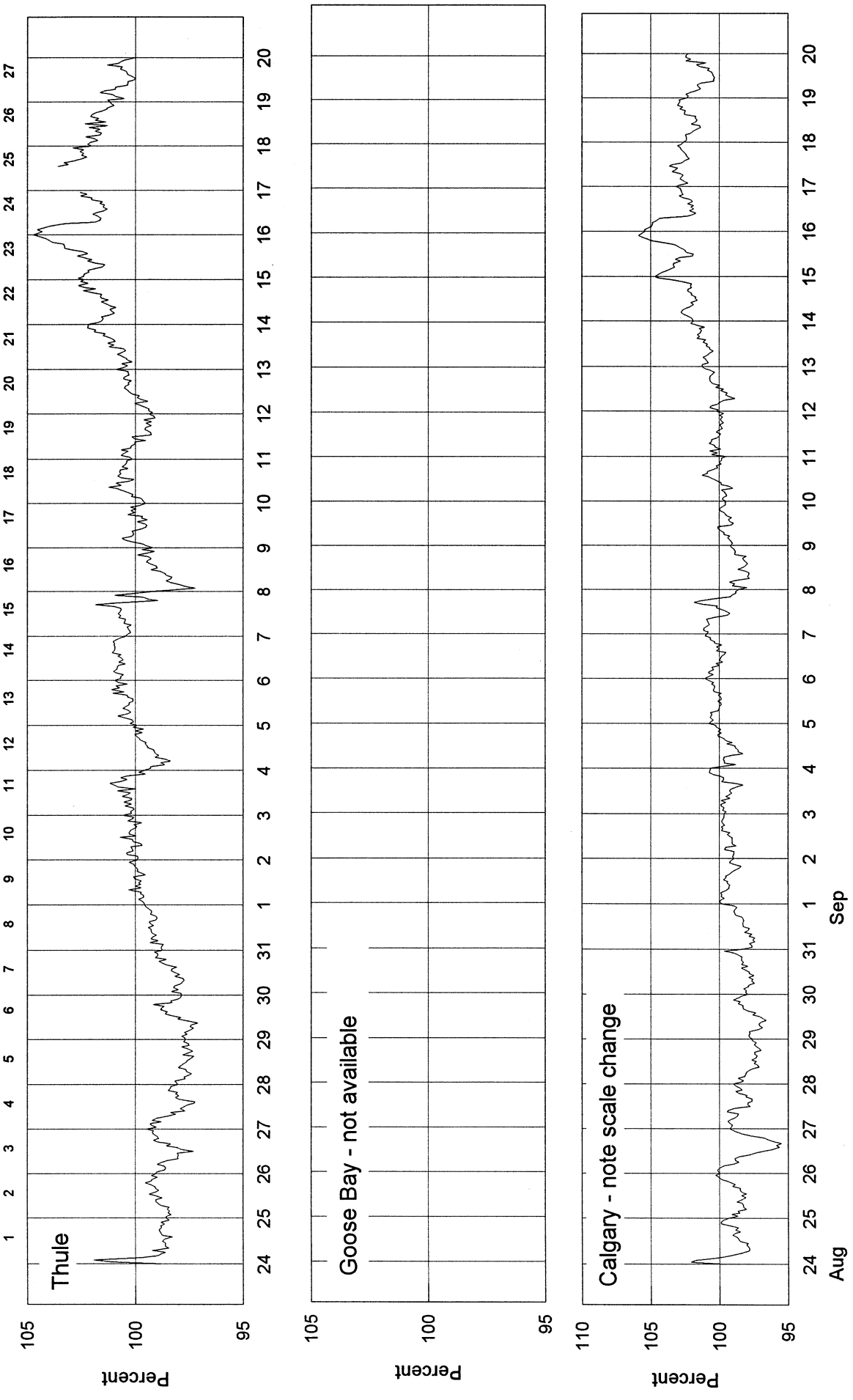
COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2307 - Beginning 28 July 2002



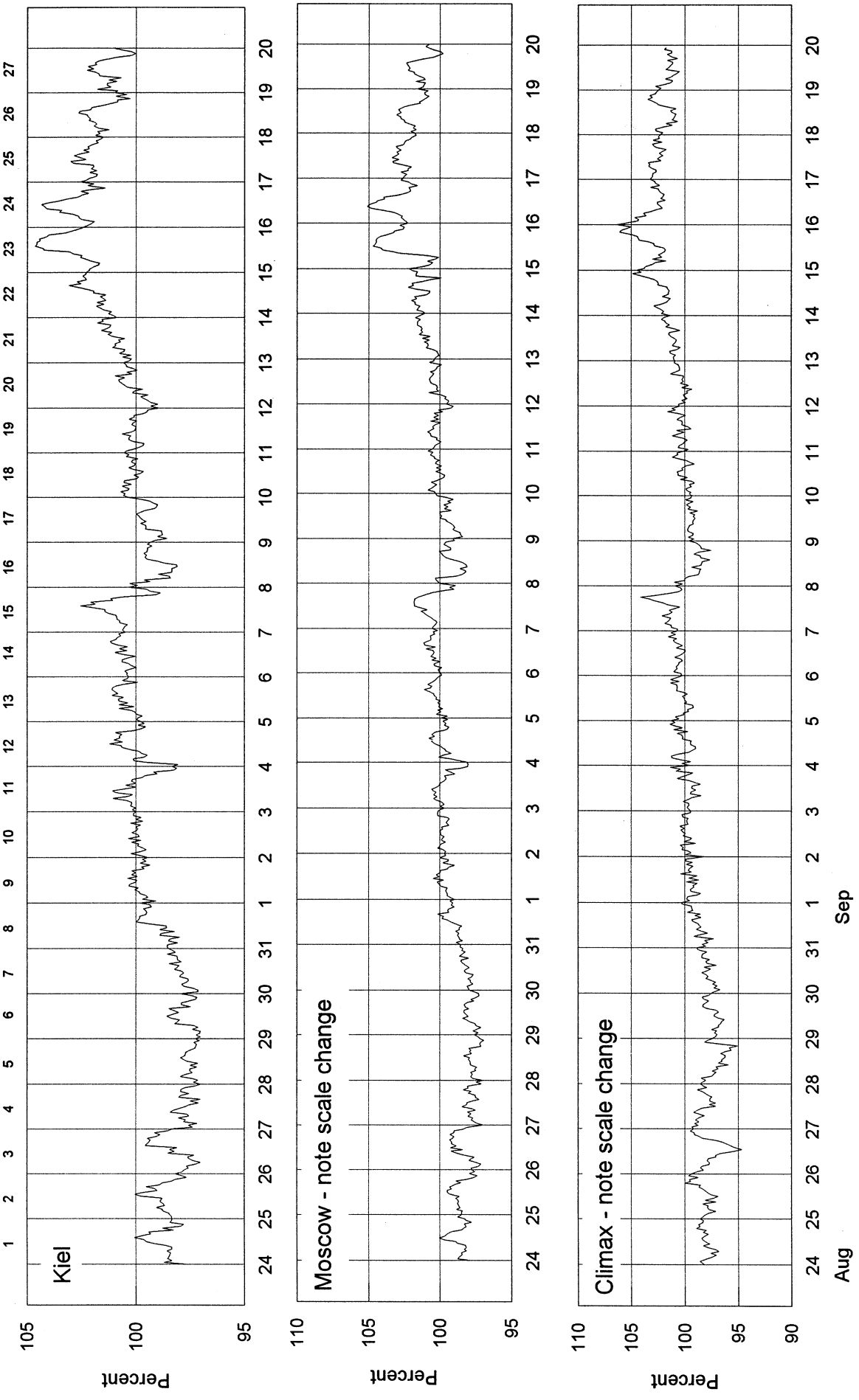
COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2307 - Beginning 28 July 2002



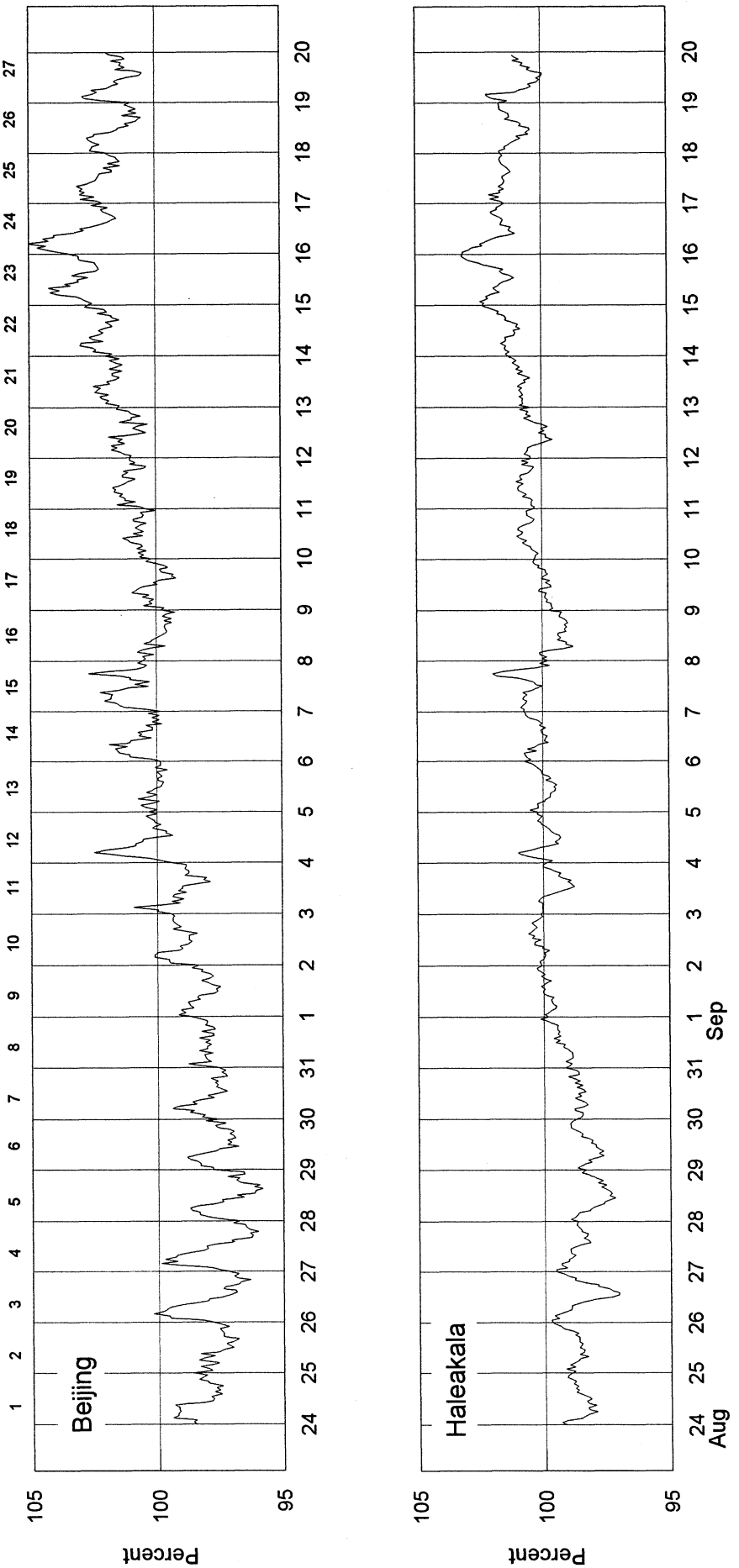
COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2308 - Beginning 24 August 2002



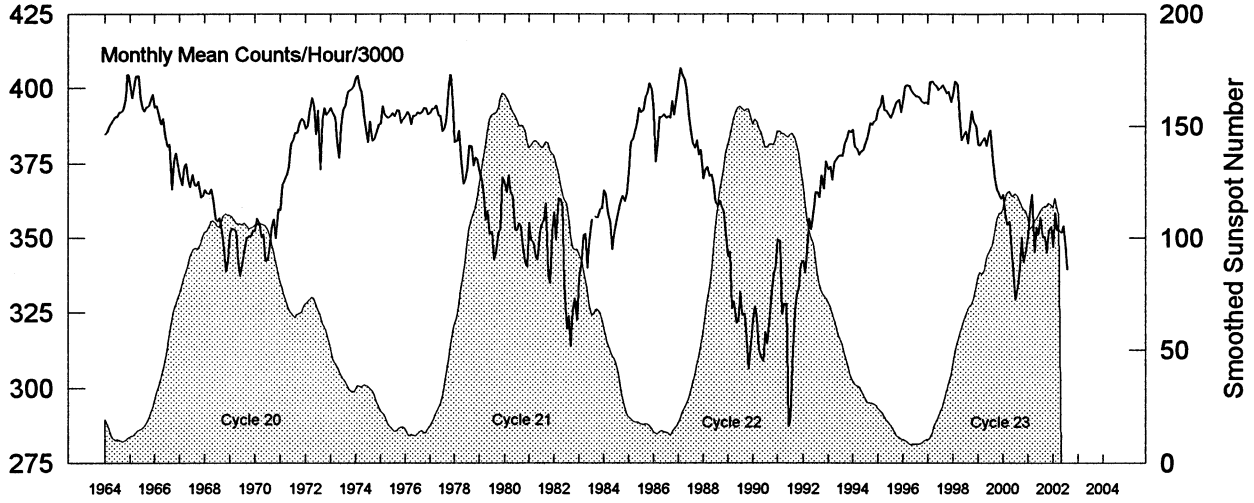
COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2308 - Beginning 24 August 2002



COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2308 - Beginning 24 August 2002



Calgary Neutron Monitor Pressure-Corrected Values
Jan 1964 - Aug 2002



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1964	3847	3852	3872	3883	3892	3905	3905	3921	3920	3926	3966	4064	3913
1965	4006	3968	4007	4040	4040	3967	3935	3923	3938	3942	3960	3980	3976
1966	3935	3943	3906	3881	3899	3844	3807	3814	3663	3758	3785	3750	3832
1967	3710	3678	3741	3750	3697	3671	3713	3679	3675	3691	3638	3639	3690
1968	3663	3653	3647	3665	3632	3561	3556	3567	3529	3482	3386	3420	3563
1969	3515	3531	3529	3520	3417	3370	3408	3464	3500	3507	3506	3524	3483
1970	3523	3565	3548	3505	3512	3424	3426	3477	3543	3564	3497	3596	3515
1971	3593	3678	3693	3712	3737	3813	3832	3853	3851	3883	3899	3893	3786
1972	3865	3875	3924	3969	3942	3847	3926	3731	3895	3935	3912	3920	3895
1973	3935	3919	3903	3819	3768	3875	3926	3944	3986	3995	3997	4008	3923
1974	4036	4043	4005	3988	3906	3861	3822	3890	3827	3831	3850	3881	3912
1975	3883	3943	3914	3905	3904	3910	3918	3907	3929	3927	3884	3897	3910
1976	3908	3923	3915	3881	387	3909	3921	3918	3920	3936	3935	3916	3916
1977	3919	3933	3933	3943	3911	3911	3857	3865	3895	4010	4055	3961	3933
1978	3823	3826	3860	3773	3681	3697	3730	3811	3808	3744	3772	3764	3774
1979	3726	3696	3647	3559	3592	3516	3521	3427	3447	3519	3528	3705	3573
1980	3681	3652	3711	3649	3643	3527	3525	3550	3540	3471	3414	3403	3564
1981	3550	3491	3483	3440	3426	3522	3546	3560	3615	3374	3348	3520	3490
1982	3586	3492	3634	3632	3608	3344	3196	3239	3137	3257	3296	3225	3387
1983	3364	3421	3510	3515	3399	3487	3563	No Data	3571	3569	3597	3599	3509
1984	3661	3646	3586	3551	3460	3515	3551	3593	3623	3641	3623	3652	3592
1985	3723	3821	3834	3858	3888	3936	3921	3929	3971	3987	4017	3997	3907
1986	3923	3755	3814	3905	3906	3915	3902	3907	3902	3958	3912	3974	3898
1987	4025	4068	4047	4028	3993	3914	3866	3822	3802	3827	3779	3796	3914
1988	3698	3729	3739	3709	3714	3682	3621	3608	3624	3603	3590	3520	3653
1989	3436	3454	3263	3290	3216	3222	3321	3224	3246	3164	3063	3152	3254
1990	3227	3272	3232	3129	3099	3089	3188	3147	3237	3317	3375	3401	3226
1991	3496	3489	3244	3279	3280	2873	2896	3078	3253	3311	3330	3412	3245
1992	3425	3382	3463	3566	3528	3593	3655	3655	3636	3711	3665	3758	3586
1993	3730	3741	3693	3753	3765	3775	3780	3775	3815	3836	3859	3852	3781
1994	3864	3807	3798	3779	3793	3793	3822	3841	3885	3878	3891	3896	3837
1995	3929	3945	3919	3929	3927	3917	3902	3919	3940	3956	3963	3920	3931
1996	3960	4008	4012	4010	3993	3983	3976	3976	3970	3960	3953	3955	3980
1997	3947	4023	4024	4014	4007	3998	4001	4010	3999	3985	3990	3955	3996
1998	3982	4025	4013	3910	3827	3839	3857	3817	3876	3925	3890	3875	3903
1999	3816	3811	3823	3836	3810	3843	3861	3760	3699	3664	3644	3631	3767
2000	3646	3586	3544	3554	3465	3386	3293	3337	3395	3503	3417	3447	3464
2001	3510	3599	3646	3449	3537	3511	3570	3501	3504	3449	3521	3537	3528
2002	3469	3585	3527	3526	3517	3541	3479	3393					3505

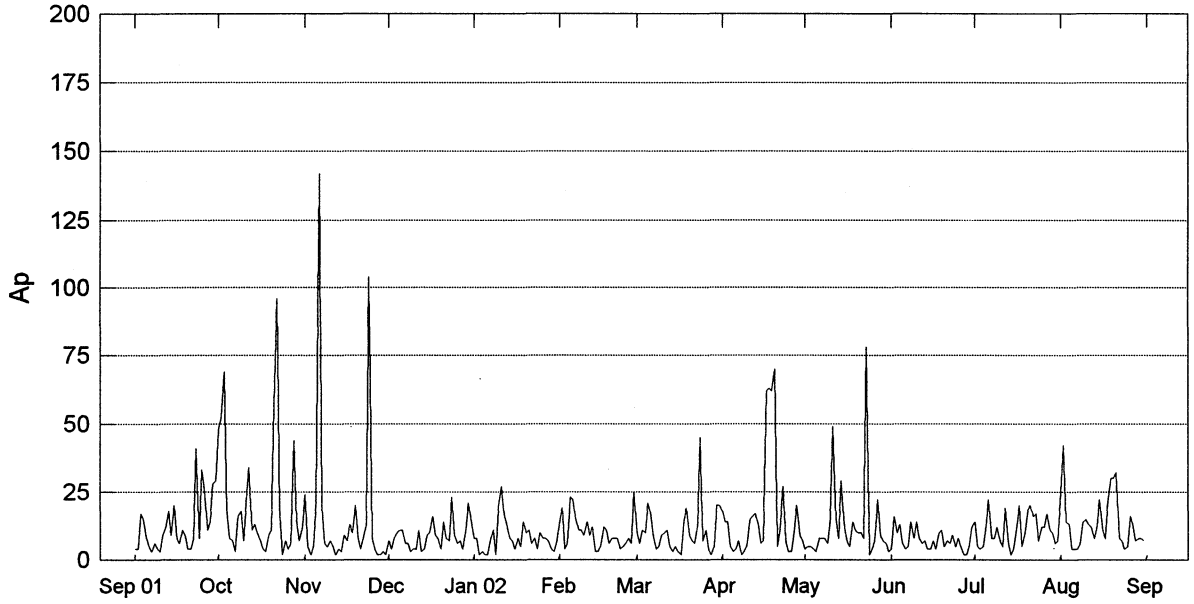
Multiply table entries by 300 to obtain hourly counting rate. Calgary, Canada: N51 W114, Alt=1128m, Cutoff Rigidity=1.09GV.

Geomagnetic Activity Indices
August 2002

Day		Kp Three-Hourly Indices 1	2	3	4	5	6	7	8	Sum	Ap	Cp	Km Three-Hourly Indices 1	2	3	4	5	6	7	8	aa Provisional Am	N	S	M	
1	D5	1-	3+	3+	4	5+	4	3	5-	28+	25	1.2	1-	3+	3+	4o	4+	3+	2+	4o	39	41	34	29	47	
2	D1	6	6	4-	2+	4+	4-	4	6-	36-	42	1.5	5+	5+	3o	2+	3+	3+	3+	5o	59	57	51	56	52	
3		5-	3-	3+	3-	2	2	3-	2	22	14	0.8	4o	3o	3+	3-	2+	2o	3-	2o	27	29	24	36	17	
4		3+	4+	3+	3-	1+	2-	2+	1-	20-	13	0.7	3+	4+	4-	2+	1+	1+	2-	1-	25	25	14	25	14	
5	Q4	1	1+	1	1	1-	1	1+	2	9+	4	0.2	1o	2-	1o	1o	0+	1+	2-	2-	9	11	8	9	10	CC
6	Q1	2	1+	1-	1-	1+	0+	0+	1-	7+	4	0.1	2o	2o	1-	1-	1o	0+	0+	1-	7	9	4	8	5	CC
7	Q3	2	1	1	1	1-	1+	1+	1-	9	4	0.2	2-	1+	1+	1o	1+	1-	1o	0+	8	11	9	10	10	CC
8	Q6K	1	2-	0+	1	2-	1+	2+	3	12+	6	0.3	1o	2-	0+	1+	2-	1+	2o	3-	11	16	8	6	18	CC
9		2-	1	2	2-	4	3+	4-	3+	21-	14	0.8	1+	1o	2o	2-	4-	3o	3+	3o	24	28	22	10	40	
10		4-	5-	2	3-	3+	2	2-	3-	23-	15	0.9	4-	4o	2+	2+	3-	2-	2-	2+	26	34	16	26	24	
11		1-	1+	2-	3-	4+	4-	3+	2+	20	13	0.8	1+	1+	2+	3o	4-	3o	3-	3-	24	26	22	10	38	
12		3	3	3-	3-	3	2-	2	3-	21-	12	0.7	3-	3o	3o	3-	3-	2o	2o	2+	22	28	23	26	25	
13		3	3	2	2-	1+	1	2	2	16	8	0.4	3-	3-	3-	2+	2-	1o	2o	1+	17	19	15	21	13	
14		2-	2-	2	2	4-	4-	3-	3	20+	12	0.7	2-	1+	2+	3-	3+	3+	3-	3-	23	27	20	9	38	
15		2	2-	2+	3+	3	3+	5+	5	26	22	1.1	2+	2-	3-	3+	3o	3-	4o	5-	35	35	34	17	52	
16		3-	2+	4+	2+	3-	2-	1+	1	18+	11	0.6	3-	3-	4o	3-	3-	2o	1o	1o	23	19	20	26	13	
17		1-	3	3+	1+	2	1+	2	2	16-	8	0.5	1-	3-	3+	2-	2-	2-	2o	2o	16	15	15	16	14	
18		3+	3-	1+	1+	2	2-	5+	5+	23	21	1.1	3o	3-	2-	2-	2-	1+	4o	5-	29	39	24	16	47	
19	D3	4+	4	5	4	3+	3	4-	5	32+	30	1.3	4o	4-	4+	4o	3-	3-	3+	4+	46	45	32	40	37	
20	D4	3+	4	2-	2-	1+	3+	6-	6+	27+	30	1.3	3+	3+	2o	2o	2-	2+	5-	5+	40	49	18	15	52	
21	D2	5+	5+	5+	3	4	3-	3	3	32-	32	1.3	4+	4+	5+	3+	4-	2+	3-	3o	49	52	34	54	32	
22	Q9A	3	3-	3-	1	1	1+	2-	1	14+	8	0.4	3o	3-	3o	1+	1-	1-	1o	1o	15	17	12	20	9	
23	Q7A	1	1+	2-	2-	1	1+	3-	3-	13+	7	0.3	1+	1+	2o	2o	1o	1-	2+	2+	12	12	11	10	13	CC
24	Q2	2	1	1	1	1+	1	1-	1-	9-	4	0.1	2+	1o	1o	1o	1o	1-	1-	1-	7	9	8	11	6	CC
25	Q5	2-	1	2-	1+	1	1-	1-	2+	10+	5	0.2	1o	1o	2o	1+	1o	0+	0+	2+	8	13	7	9	11	CC
26		2	2	2-	3+	4-	5-	3+	3	24-	16	0.9	2-	2+	2o	3+	3o	5-	3o	3o	31	32	33	20	46	
27		3-	4-	2+	3-	3-	3-	2	3+	22	13	0.7	3-	4-	3-	3-	3-	3-	2o	3+	26	29	19	21	27	
28	Q8A	2	2-	2	1+	1+	2-	2+	2+	15-	7	0.3	2o	2o	2o	2-	2-	2-	2+	2o	14	13	13	12	14	C
29		3	1	1-	1+	3	3	2-	1+	15	8	0.5	3-	1-	1+	1+	3-	3-	2-	1+	15	18	15	12	21	
30		1	3-	3	2-	3-	2-	2+	0+	15+	8	0.4	1o	2+	3+	2o	3-	2+	2o	0+	17	17	17	14	20	
31	Q10A	1-	1+	2-	2+	2	1+	2-	3+	14+	7	0.4	1o	1+	2-	3o	2+	2-	2-	3+	17	18	18	15	21	
Mean											14	0.67									23.3	25.6	19.4		22.5	

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	1-	4-	3+	4+	5-	4-	2+	5-	45	1-	3+	3+	4-	4o	3o	2o	3+	34	198.3	137	147	152		
2	5o	5+	4-	3-	4-	4-	3o	5o	62	5+	5+	3-	2-	2+	3o	3+	5o	56	185.7	132	128	139		
3	4o	3-	3o	3o	2+	2+	3-	2o	27	4+	3o	4-	3-	2o	1+	2+	2+	28	172.7	121	123	125		
4	3o	4o	4-	3-	1+	2o	2+	1o	25	3+	4+	4o	2+	1o	1o	1o	0o	25	155.3	95	96	106		
5	2-	2o	1o	1+	1o	2o	2-	2-	11	0+	1+	1-	1o	0o	0+	1+	2-	6	146.0	84	88	96		
6	2-	2o	1+	1o	1+	1-	1-	1o	8	2+	2+	0+	0+	1-	0o	0+	0o	6	148.8	87	98	99		
7	2-	2-	1+	1+	1+	1+	1+	1-	9	2o	1+	1+	1-	1+	0o	0+	0o	6	140.1	88	96	89		
8	1o	1+	1-	2-	2o	2-	3-	3-	14	1-	2o	0+	0+	1o	1o	1+	2+	8	138.3	76	69	87		
9	1+	1+	2+	2+	4o	3+	3+	3o	27	1o	1-	2o	1o	3+	3-	3+	3o	20	144.0	73	70	94		
10	3+	4+	2+	3-	3o	2+	2o	2+	27	4-	4o	2+	2o	2+	1+	1o	2+	25	152.4	73	82	103		
11	1+	1+	2+	3+	4-	3+	3o	3-	26	1+	1+	2+	3-	3+	3-	3-	3-	21	176.9	99	104	129		
12	3-	3o	3o	3o	3o	2+	2o	2+	25	3-	3-	3o	2+	2+	2-	2-	3-	20	188.8	117	136	142		
13	3o	3-	3-	2+	2o	1+	2+	2-	19	3-	3-	2+	2+	1+	1o	2o	1+	15	196.8	134	138	151		
14	2-	2o	2+	3o	3+	4-	3-	3o	25	2-	1o	2+	3-	3+	3o	2+	3-	21	213.5	177	180	169		
15	2+	2-	3-	3+	3o	3o	4+	4+	35	3-	2-	3-	3o	3o	2+	4o	5-	34	215.7	185	191	171		
16	3o	3-	4o	3o	3-	2+	1+	1+	25	2+	2+	4o	2o	2+	2o	1o	0+	20	219.1	174	175	175		
17	0+	3-	3+	2-	2o	2o	2-	2o	17	1-	3-	3+	2o	1+	1o	2-	2-	15	232.3	186	182	189		
18	3-	3-	1+	2-	2+	2-	4+	5-	31	3o	2+	2o	2-	1+	1o	4-	5-	27	246.9	179	171	205		
19	4o	4o	4+	4+	3o	3o	4-	4o	50	4o	3+	4o	4-	3-	2-	3o	5-	42	242.6	164	158	200		
20	3+	4-	2o	2+	2-	2+	5-	5o	39	3+	3+	2+	1+	1+	2o	5-	5+	40	232.8	140	133	189		
21	4+	4+	6-	4-	4-	3-	3-	3o	54	5-	4+	5-	3o	3+	2-	3-	3-	44	225.0	127	120	181		
22	3-	2+	3+	1+	1o	1+	1+	1+	16	3o	3o	3o	1o	0+	0+	0+	1-	14	225.1	114	117	181		
23	1+	2-	2+	2o	1+	1+	3-	3-	14	1o	1+	2-	2o	1-	0+	2+	2o	10	229.5	123	117	186		
24	2o	1o	1o	1+	1+	1o	1o	1o	8	3-	1o	1o	1o	0+	0o	1-	1-	7	199.8	99	104	154		
25	1o	1-	2+	2-	1+	1-	1-	3-	10	1o	1o	2-	1o	1o	0o	0o	2o	7	182.4	98	93	135		
26	2o	2+	2+	3+	3+	5-	3o	3o	34	2-	2+	2-	3o	2+	4+	3o	3o	27	172.2	79	84	124		
27	3-	4-	3-	3-	3o	3o	2+	3+	28	3-	4-	3-	2+	2+	2o	1+	3+	24	164.7	80	76	116		
28	2o	2-	2-	2-	2-	2-	2+	2+	14	2+	2+	2o	1+	1+	1+	2+	2o	14	166.4	81	79	118		
29	3-	1-	1+	1+	3o	3o	2-	2-	16	3-	1-	1+	1+	2+	3-	2-	1+	13	172.6	82	82	124		
30	1+	2+	3o	2o	3o	3-	2+	0+	17	1o	2+	4-	2o	3-	2o	2-	1-	17	173.5#	97	102	125		
31	1o	1+	2o	3o	2+	2-	2-	3+	18	1-	1+	2-	3o	3-	1+	1+	3+	16	183.7	106	111	136		
Mean									25.0									21.4	188.4	116.4	117.7	141.5		

Daily Average Indices Ap
Sep 2001 -Aug 2002

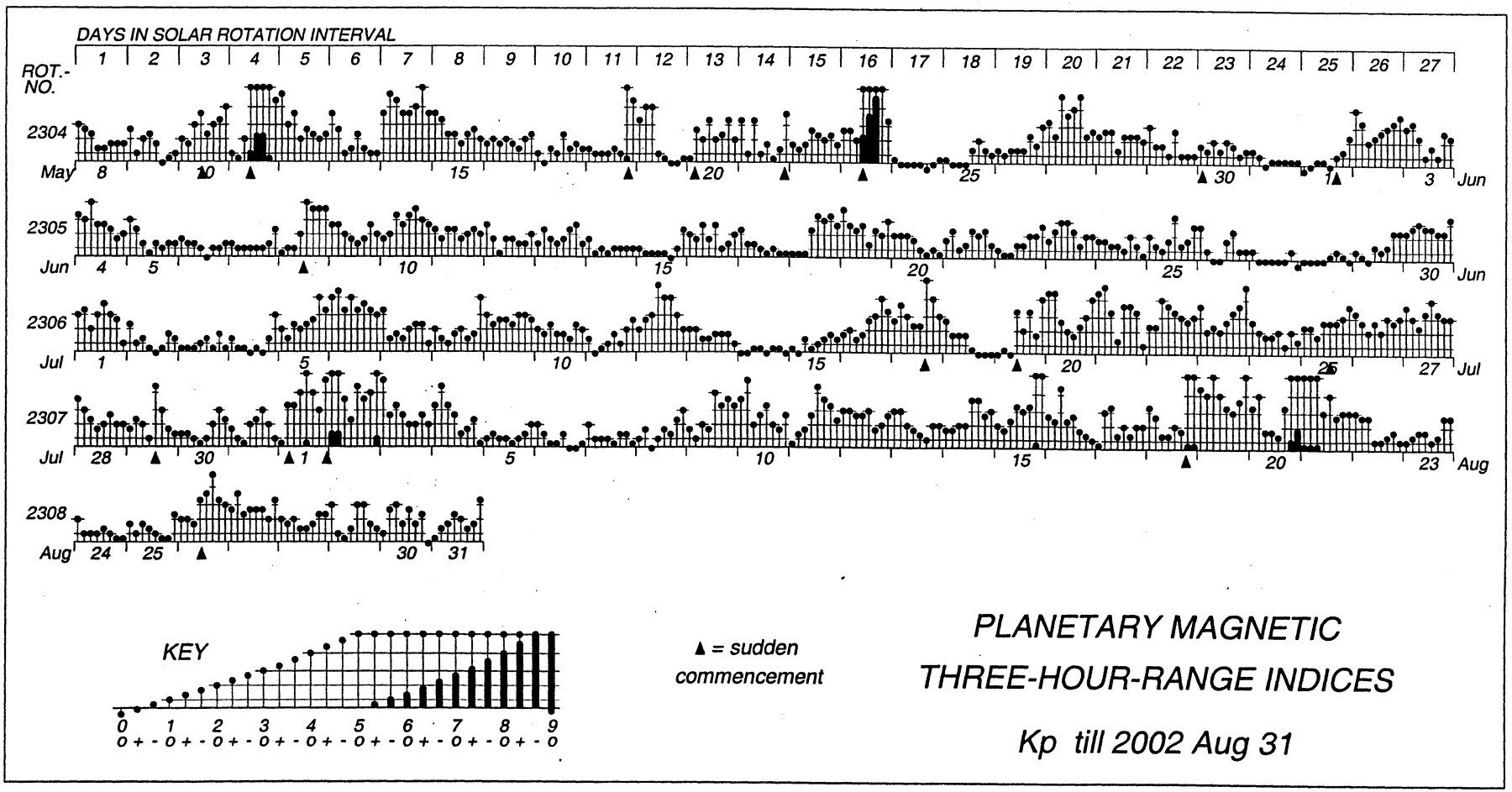


Day	Sep 01	Oct	Nov	Dec	Jan 02	Feb	Mar	Apr	May	Jun	Jul	Aug
1	4	48	24	7	8	14	10	18	4	4	14	25
2	4	52	5	4	8	19	6	14	5	16	5	42
3	17	69	2	8	2	4	11	14	5	10	4	14
4	15	17	5	10	3	6	10	5	4	13	5	13
5	8	8	21	11	2	23	21	3	3	6	12	4
6	5	7	142	11	2	22	17	4	8	4	22	4
7	3	3	19	6	7	15	9	7	8	5	8	4
8	6	16	6	6	11	11	4	2	8	14	8	6
9	4	18	5	3	2	11	5	3	6	8	12	14
10	3	7	7	4	19	9	9	5	15	14	7	15
11	9	21	5	4	27	14	10	15	49	8	5	13
12	12	34	2	11	17	9	11	16	15	6	19	12
13	18	11	4	3	13	12	5	17	8	7	6	8
14	9	13	3	4	8	3	3	13	29	4	2	12
15	20	10	9	9	7	3	5	6	12	4	4	22
16	8	7	7	10	4	5	3	7	7	7	12	11
17	6	4	13	16	8	12	2	62	5	4	20	8
18	11	3	10	9	5	11	14	63	14	10	5	21
19	9	9	20	8	14	6	19	62	11	11	10	30
20	4	11	8	4	10	8	9	70	10	5	18	30
21	4	57	4	14	11	8	7	5	10	7	20	32
22	8	96	9	8	6	8	6	11	8	6	16	8
23	41	17	13	7	8	4	13	27	78	9	17	7
24	8	2	104	23	4	5	45	7	2	5	7	4
25	33	7	8	9	10	6	7	3	4	8	12	5
26	26	4	4	6	8	8	11	3	7	5	12	16
27	11	6	2	7	8	6	4	10	22	2	17	13
28	14	44	2	4	7	25	2	20	9	2	11	7
29	28	14	3	11	4		5	9	7	5	10	8
30	29	7	2	21	3		20	7	6	12	6	8
31		12		15	6		20		3		7	7
Mean	13	20	16	9	8	10	10	17	12	7	11	14

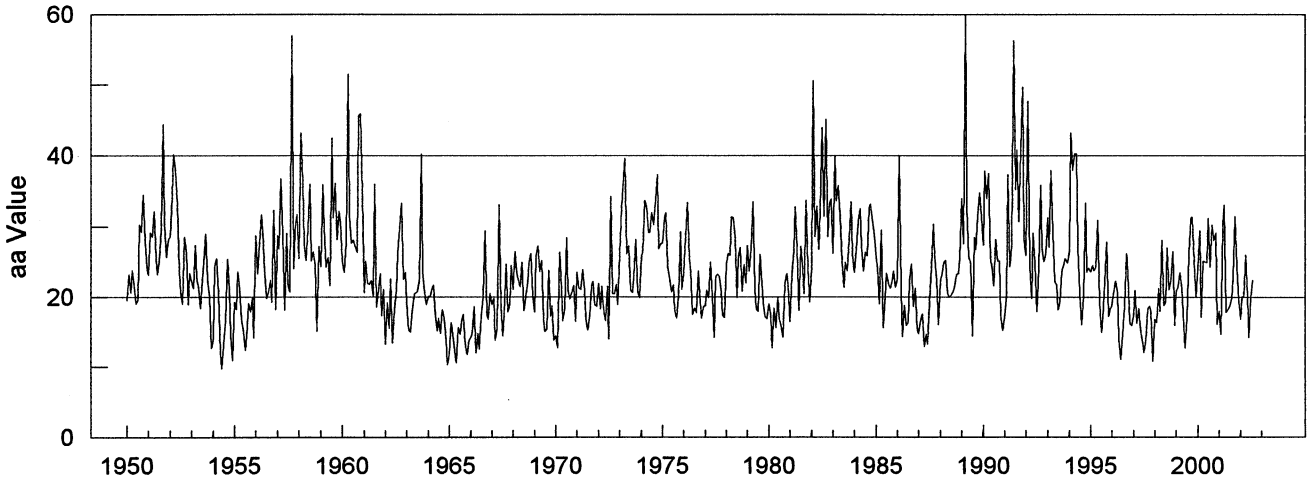
PLANETARY 3-HOUR-RANGE INDICES (Kp) BY 27-DAY SOLAR ROTATION INTERVAL

GeoForschungsZentraum Potsdam

Kp through August 31, 2002



Monthly Mean aa Index Jan 1950 - Aug 2002

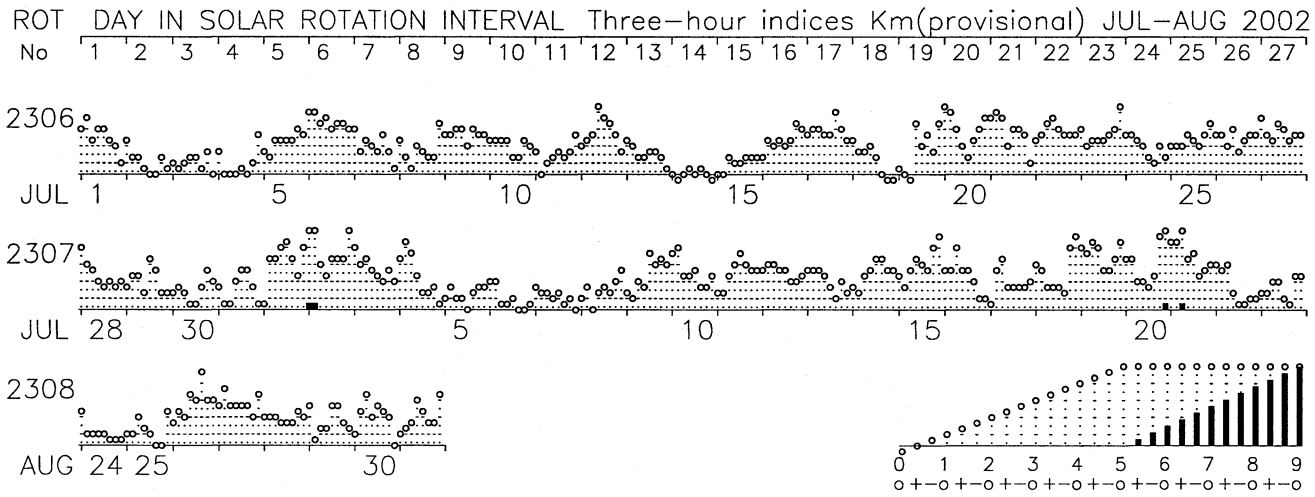


Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1950	19.5	23.2	20.6	23.8	21.7	19.0	19.5	30.2	29.3	34.5	28.0	24.0	24.4
1951	23.1	29.2	28.5	32.1	25.5	23.2	25.2	29.7	44.4	30.3	25.7	28.2	28.8
1952	28.5	34.3	40.1	38.0	33.1	23.8	20.7	19.0	28.5	26.4	18.9	23.4	27.9
1953	22.3	21.2	27.4	22.7	21.4	18.4	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	24.4	19.5	22.4
2002	16.8	20.0	20.2	26.0	19.9	14.2	19.9	22.5					19.9

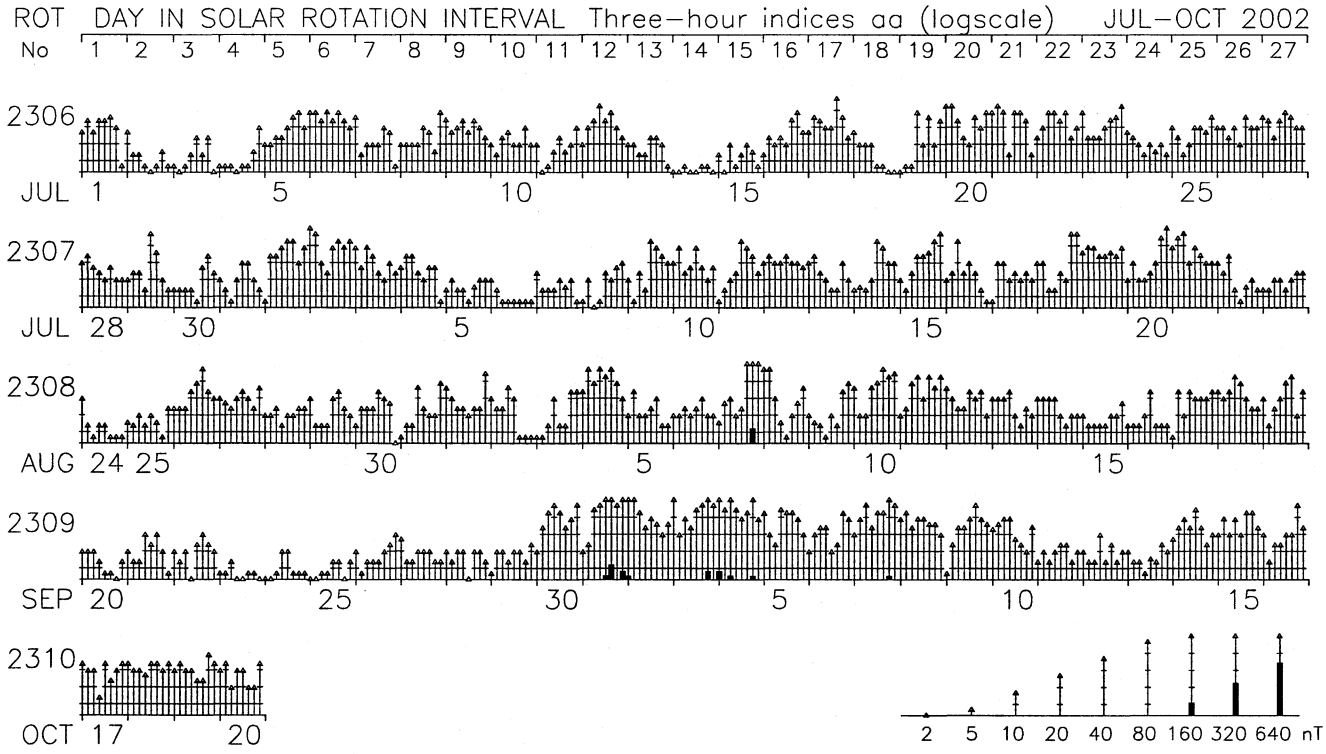
PLANETARY GEOMAGNETIC ACTIVITY

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)

AUGUST 2002

UNIT=NT

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	U.T. 24
1	-7	-10	-7	-5	-6	6	-6	-17	-9	-2	2	-16	-31	-51	-51	-40	-39	-28	-22	-19	-15	-11	-11	8
2	-19	-43	-54	-60	-87	-96	-78	-60	-57	-49	-38	-32	-42	-50	-42	-38	-50	-43	-38	-40	-44	-49	-59	-47
3	-43	-50	-46	-47	-45	-49	-46	-44	-42	-37	-36	-37	-37	-33	-26	-23	-22	-14	-12	-9	-12	-15	-11	-5
4	-7	-10	-23	-28	-41	-53	-52	-41	-36	-33	-35	-30	-27	-24	-22	-21	-19	-18	-16	-18	-23	-21	-19	-17
5	-15	-11	-9	-10	-10	-9	-7	-8	-8	-8	-7	-4	-1	-3	-5	-6	-5	-5	-6	-4	-5	-6	-5	-1
6	0	-2	-5	-6	-8	-8	-6	-5	-6	-6	-6	-3	-2	0	0	1	0	-2	-2	-1	2	3	3	2
7	1	3	4	6	5	4	3	3	3	3	3	3	4	8	11	13	11	12	13	14	17	16	14	12
8	11	9	6	5	3	4	8	9	8	8	10	13	12	6	7	14	15	18	20	22	25	13	8	14
9	14	12	10	9	7	6	11	10	12	16	15	14	8	-3	-13	-12	-16	-17	-12	-4	-6	-19	-26	-22
10	-18	-18	-20	-30	-30	-36	-30	-21	-19	-16	-17	-16	-20	-17	-14	-13	-16	-14	-10	-4	-4	-3	-1	-6
11	-10	-11	-7	-3	-2	1	5	8	10	4	5	-2	-12	-10	-16	-19	-26	-26	-22	-20	-15	-14	-18	-21
12	-21	-16	-13	-9	-13	-19	-12	-8	-11	-4	-5	-5	-8	-12	-16	-12	-8	-2	-1	-4	-6	-8	-10	-14
13	-19	-22	-21	-16	-19	-20	-21	-19	-22	-19	-19	-17	-14	-15	-15	-13	-10	-9	-9	-7	-7	-7	-6	-5
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15	-15	-19	-17	-18	-18	-17	-12	-15	-16	-16	-15	-18	-18	-22	-25	-26	-20	-19	-21	-8	-15	-27	-28	-22
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21	-76	-89	-89	-90	-86	-93	-96	-95	-80	-81	-83	-87	-85	-84	-77	-63	-55	-51	-47	-45	-35	-32	-29	-19
22	-21	-25	-27	-38	-36	-31	-22	-16	-18	-25	-25	-25	-25	-28	-24	-24	-19	-12	-7	-6	-5	-5	-9	-12
23	-17	-17	-16	-14	-9	-8	-9	-10	-17	-16	-12	-10	-8	-8	-7	-7	-6	-3	-3	-4	-9	-9	-11	-15
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27	-17	-10	-7	-18	-26	-40	-43	-37	-35	-31	-25	-18	-26	-23	-14	-8	-13	-12	-7	-5	-6	-6	-6	-2
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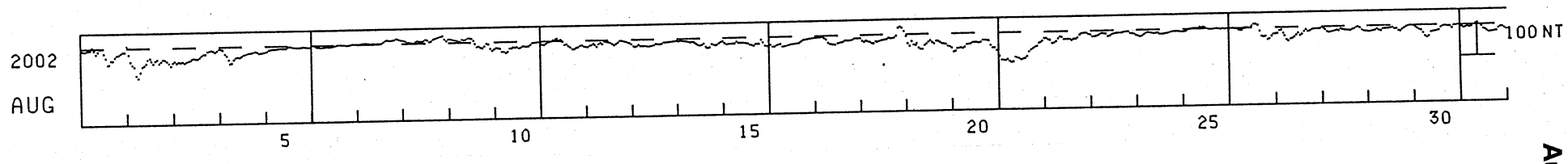
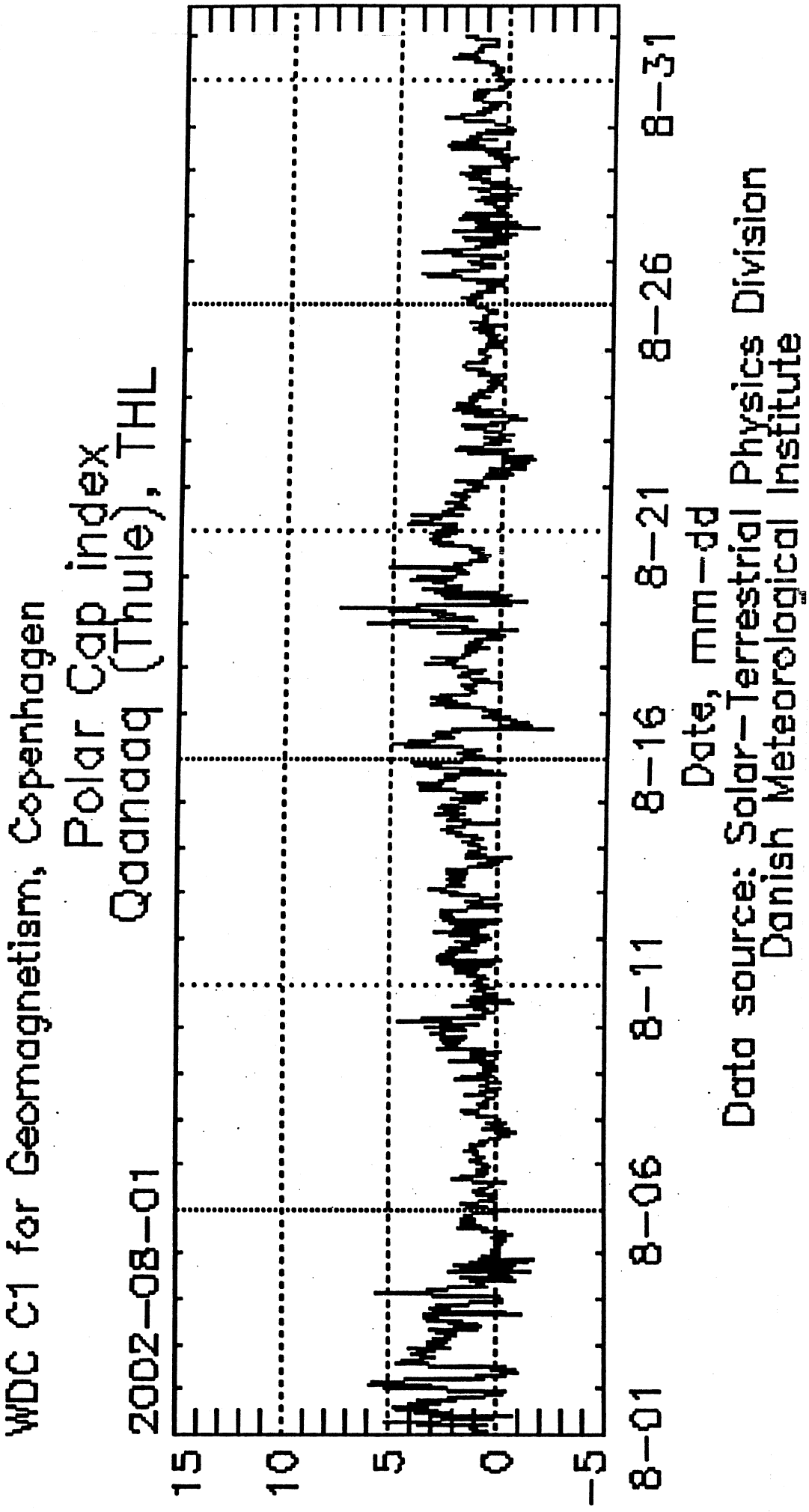
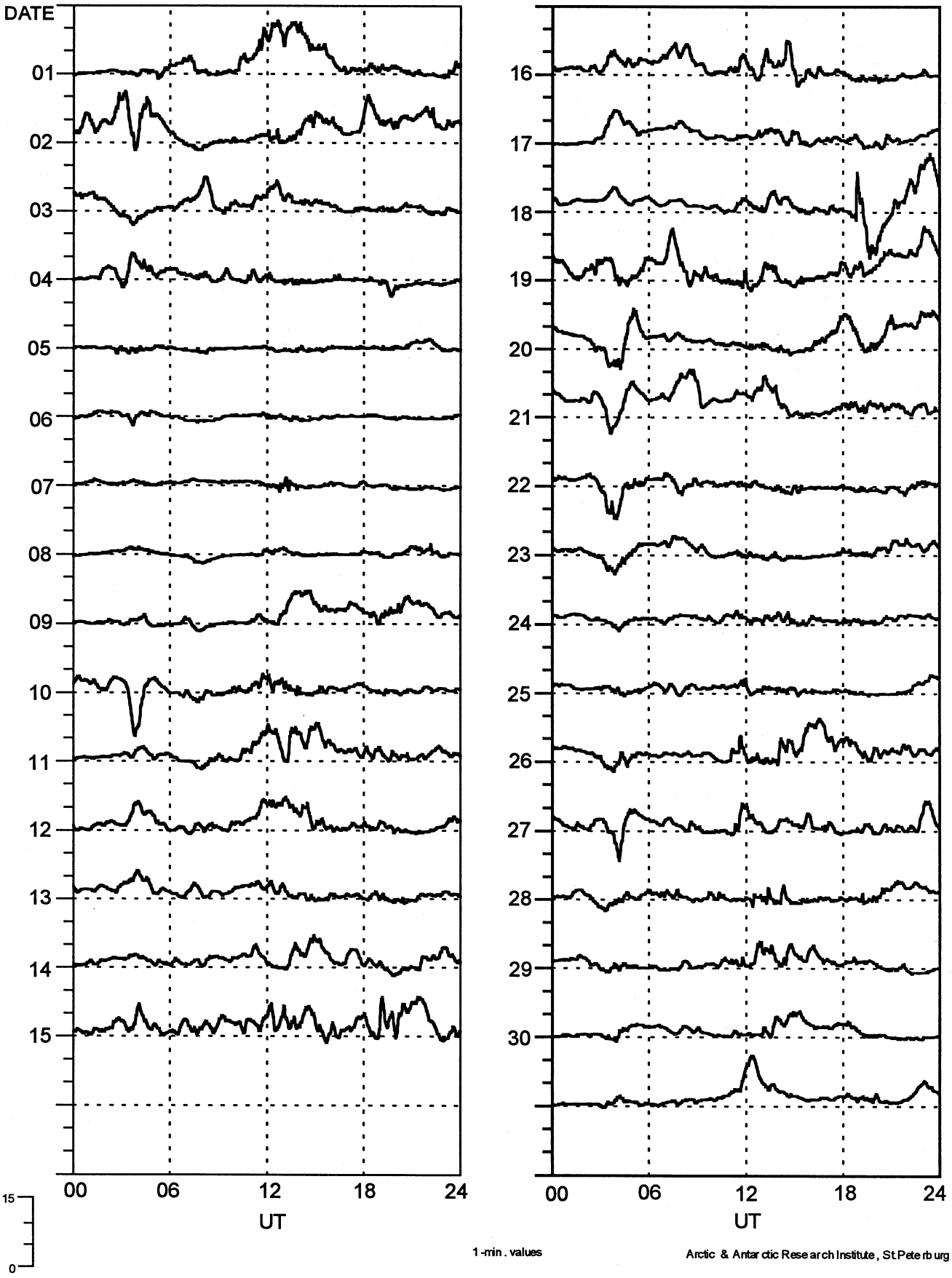



WDC C1 for Geomagnetism, Copenhagen
Polar Cap index
Qaanaaq (Thule), THL
2002-08-01
15
10
5
0
-5
8-01
8-06
8-11
8-16
8-21
8-26
8-31
Date, mm-dd
Data source: Solar-Terrestrial Physics Division
Danish Meteorological Institute

PC INDEX

Vostok

August, 2002



1-min. values

Arctic & Antarctic Research Institute, St.Peterburg

PRINCIPAL MAGNETIC STORMS

AUGUST 2002

Sta	Geomag Lat	Commencement Day	Time (UT)	Type	SC Amplitudes D (Min)	H (Gamma)	Z (Gamma)	Maximum 3-Hour K Index Day(3-Hour Periods)	K	Ranges D (Min)	H (Gamma)	Z (Gamma)	End Day	Hour (UT)
BJI	28.8N	01	0510	SC	0.2	26	0	01(4)	5	11	80	40	--	--
BJI	28.8N	01	2310	SC	3.7	15	0	02(1)	5	15	123	38	03	17
KRC	16.4N	01	0725	..	..	..	..	01(4,5,6,8)	5	11	72	28	02	23
UJJ	13.6N	01	0509	SC	- 0.1	21	- 5		-	3	115	18	01	22
UJJ	13.6N	01	2309	SC	- 0.3	25	- 6		-	7	80	40	03	01
NGP	11.3N	01	0509	SC	..	..	..		-	--	--	--	01	22
NGP	11.3N	01	2309	SC	..	..	..		-	--	--	--	03	01
ABG	09.4N	01	0509	SC	- 0.3	21	- 4	01(4,5,8)	5	4	138	25	01	22
ABG	09.4N	01	2309	SC	- 0.2	24	- 2	02(1,2,3,8)	5	7	83	60	03	01
HYB	07.6N	01	0511	SC	- 0.4	24	- 3	01(3,4) 02(1)	5	7	152	32	04	21
PND	02.0N	01	0509	SC	- 0.2	33	14		-	2	163	50	01	22
PND	02.0N	01	2309	SC	- 0.1	13	12		-	6	92	58	03	01
TIR	00.6S	01	0509	SC	- 0.9	62	44		-	4	228	89	01	22
TIR	00.6S	01	2309	SC	- 0.2	14	20		-	6	142	77	03	01
ETT	00.7S	01	0511	SC*	0.4	49	26		-	6	221	69	04	21
HER	33.6S	01	0511	SC	2	10	8	02(1,2,8)	5	39	120	92	03	12
HER	33.6S	04	01--	..	..	..	..	04(2)	5	30	67	60	04	12
HYB	07.6N	08	1000	..	..	..	..	09(5,7)	4	7	110	24	10	24
ETT	00.7S	08	0200	..	..	..	..		-	6	180	53	10	22
UJJ	13.6N	09	0600	..	..	..	..		-	9	93	37	10	19
NGP	11.3N	09	0600	..	..	..	..		-	--	--	--	10	19
ABG	09.4N	09	0600	..	..	..	..	09(5) 11(4)	5	7	103	55	10	19
PND	02.0N	09	0600	..	..	..	..		-	6	117	54	10	19
TIR	00.6S	09	0600	..	..	..	..		-	6	180	53	10	19
HYB	07.6N	14	0600	..	..	..	..	14(5,6) 15(8)	4	6	86	25	16	19
ETT	00.7S	14	0100	..	..	..	..		-	4	150	43	16	17
BJI	28.8N	18	1846	SC	0.8	54	3	18(7)	6	9	131	32	19	24
UJJ	13.6N	18	1843	SC*	- 0.8	48	- 11		-	5	74	27	19	23
NGP	11.3N	18	1843	SC*	..	..	..		-	--	--	--	19	23
ABG	09.4N	18	1843	SC*	- 0.6	41	- 8	18(7) 19(4)	5	5	81	44	19	23
HYB	07.6N	18	1845	SC	- 0.7	45	- 4	18(7) 19(4)	5	6	98	27	20	12
PND	02.0N	18	1843	SC*	- 0.4	39	37		-	4	113	100	19	23
TIR	00.6S	18	1843	SC*	- 0.5	30	44		-	5	236	85	19	23
ETT	00.7S	18	1845	SC	- 0.2	38	38		-	5	227	106	20	10
HER	33.6S	18	1847	SC	3	55	22	19(8)	5	21	85	83	20	09
BJI	28.8N	20	1400	SC	0.3	6	0	21(1)	5	15	146	39	22	01
UJJ	13.6N	20	1400	..	..	..	..		-	7	75	39	21	20
NGP	11.3N	20	1400	..	..	..	..		-	7	81	37	21	20
ABG	09.4N	20	1400	..	..	..	..	20(7) 21(1)	5	6	84	52	21	20
HYB	07.6N	20	1400	..	..	..	..	21(1)	5	8	161	39	22	22
PND	02.0N	20	1400	..	.	..	..		-	6	86	51	21	20
TIR	00.6S	20	1400	..	..	..	..		-	5	129	80	21	20
ETT	00.7S	20	1400	..	..	..	..		-	6	247	71	22	21
HER	33.6S	20	17--	..	..	..	..	20(8)	6	22	106	92	21	15
UJJ	13.6N	26	1128	SC*	- 0.4	21	- 5		-	6	71	24	27	24
NGP	11.3N	26	1128	SC*	..	21	- 10		-	6	94	26	27	24
ABG	09.4N	26	1128	SC*	- 0.2	10	- 4	26(6)	5	7	86	42	27	24
HYB	07.6N	26	0100	..	..	..	..	26(6)	5	7	106	31	28	23
PND	02.0N	26	1128	SC*	- 0.1	10	10		-	5	89	51	27	24
TIR	00.6S	26	1128	SC*	- 0.2	13	16		-	5	133	85	27	24
ETT	00.7S	26	0100	..	..	..	..		-	5	82	51	28	22

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)

August 2002

Storm Sudden Commencements (SSC)			Solar Flare Effects (sfe)		
Day	Time	Quality: Station Group*	Day	Begin-End	Station(s)
01	0510	A: ETT*	18	0959-1022	ETT
		B: NUR* MMB* EBR* KAK* KNY* HYB HER	21	0531-0545	MMB+ KAK+ KNY+ HYB
		C: SOD NGK* VAL BDV* NAG* GCK* SPT*	24	0054-0610	MMB+ KAK+ KNY+
		-: COI			GNA+ CNB+
01	2309	A: VAL* NAG*	30	1327-1406	NGK
		B: NGK* HRB* EBR*			
		C: CLF LIV*			
		-: COI			
18	1846	A: NUR NGK* VAL* HRB NAG* SPT* HYB ETT HER			
		B: BDV* CLF* MMB* EBR KAK* KNY* GNA* CNB* LIV*			
		C: GCK			
		-: COI			
26	1131	B: SOD* VAL* LIV*			
		C: NGK* BDV* GCK EBR SPT			

REPORTING OBSERVATORIES (up to the 3rd of October 2002):
SOD NUR NGK VAL BDV CLF HRB NAG GCK MMB EBR COI SPT KAK KNY HYB ETT GNA HER CNB LIV

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 (+).

Note that we have included data of the Antartic Station LIVINGSTONE (62º 39' 44" S, 60º23' 41" W) -- Luis F.