



Solar-Geophysical Data prompt reports

Data for June and July 2002

Explanation of Data Reports Issued as Number 515 (Supplement) July 1987

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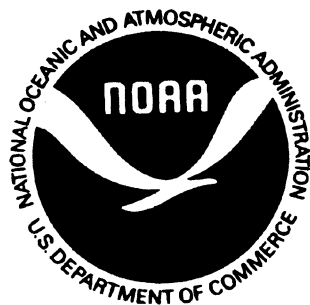
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NATIONAL OCEANIC AND
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NATIONAL ENVIRONMENTAL SATELLITE,
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NATIONAL GEOPHYSICAL
DATA CENTER

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AUGUST 2002 NUMBER 696 - Part I

Solar-Geophysical Data prompt reports

Data for June and July 2002

International Standard Serial Number: 0038-0911

Library of Congress Catalog Number: 79-640375 //r81

NATIONAL GEOPHYSICAL DATA CENTER

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Boulder, Colorado

Subscription information is on the inside back cover.

SOLAR-GEOPHYSICAL DATA

Number 696

(Issued in Two Parts)

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-- COMING ATTRACTIONS --

ACE SOLAR WIND, INTERPLANETARY MAGNETIC FIELD AND PARTICLES

-- MONTHLY PLOTS

DETAILED INDEX OF OBSERVATIONS PUBLISHED IN SOLAR-GEOPHYSICAL DATA

CODE	KIND OF OBSERVATION	DEC 01	JAN 02	FEB	MAR	APR	MAY	JUN	JUL
A. SOLAR AND INTERPLANETARY									
A.1	Sunspot Drawings	690A 54	691A 50	692A 50	693A 50	694A 52	695A 44	696A 60	
A.2aa	International Provisional Sunspot Numbers	689A 29	690A 30	691A 27	692A 28	693A 27	694A 28	695A 26	696A 27
A.2c	American Sunspot Numbers	689A 29	690A 30	691A 27	692A 28	693A 27	694A 28	695A 26	696A 27
A.3a	Mt. Wilson Magnetograms	690A 54	691A 50	692A 50	693A 50	694A 52	695A 44	696A 60	
A.3b	Sunspot Mag Class and Regions	690A 98	691A 90	692A 86	693A 91	694A 91	695A 86	696A100	
A.3c	Kitt Peak Magnetograms	690A 54	691A 50	692A 50	693A 50	694A 52	695A 44	696A 60	
A.3d	Mean Solar Magnetic Field (Stanford)	689A 45	690A 43	691A 41	692A 39	693A 41	694A 41	695A 35	696A 43
A.3e	Stanford Magnetograms	690A 54	691A 50	692A 50	693A 50	694A 52	695A 44	696A 60	
A.4	H-alpha Filtergrams	690A 54	691A 50	692A 50	693A 50	694A 52	695A 44	696A 60	
A.5d	Photometric Ca II Faculae (San Fernando)	Jan 92-Dec 96 in 631B 22; 1997-1998 in 663B 66							
A.6c	Stanford Solar Mag Field Synoptic Maps	690A 48	691A 44	692A 44	693A 44	694A 46	695A 38	696A 48	
A.6d	Kitt Peak Solar Mag Field Synoptic Maps								
A.6f	Active Prominences and Filaments	694B 50	695B 39	696B 41					
A.6g	Sac Peak Coronal Line Synoptic Maps	690A 50	691A 46	692A 46	693A 46	694A 48	695A 40	696A 50	
A.6h	Photometric White Light (San Fernando)	Jul-Dec 96 630B 32; 1997-1998 in 663B 51							
A.7h	Coronal Line Emission (Sac Peak)	690A 54	691A 50	692A 50	693A 50	694A 52	695A 44	696A 60	
A.7j	Coronal Hole Daily Maps (NSO/KP)	690A 89	691A 81	692A 78	693A 81	694A 82	695A 75	696A 90	
A.7k	Coronal Index (Slovak Academy)	1939-1996 in 644B 28							
A.7m	Coronal Mass Ejections (CSPSW)	694A 52							
A.8aa	2800 MHz- Solar Flux (Penticton)	689A 29	690A 30	691A 27	692A 28	693A 27	694A 28	695A 26	696A 27
A.8ac	2800 MHz- Adj. Solar Flux (Penticton)	689A 29	690A 30	691A 27	692A 28	693A 27	694A 28	695A 26	696A 27
A.8g	Adjusted Daily Solar Fluxes (Learmonth)	689A 29	690A 30	691A 27	692A 28	693A 27	694A 28	695A 26	696A 27
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A.10h	Nobeyama Radioheliograph Maps - 17 GHz	690A 92	691A 84	692A 81	693A 85	694A 86	695A 80	696A 95	
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A.11l	Solar UV NIMBUS7	Nov 78-Oct 84 in 542B 82							
A.11m	Solar UV SOLSTICE (UARS)	Oct 91-Sep 94 in 607B 46							
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A.12h	Interplanetary Particles (SAMPEX)	Jul 95-Dec 96 in 632B 22; Jan-Dec 97 in 647B 33							
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The entry "690A 54" under Dec 01, for example, means that the sunspot drawings for Dec 01 appear in SOLAR-GEOPHYSICAL DATA No. 690, Part I, and that they begin on page 54. "A" denotes Part I and "B", Part II. Blanks indicate data not yet received and dashes mark unavailable data.

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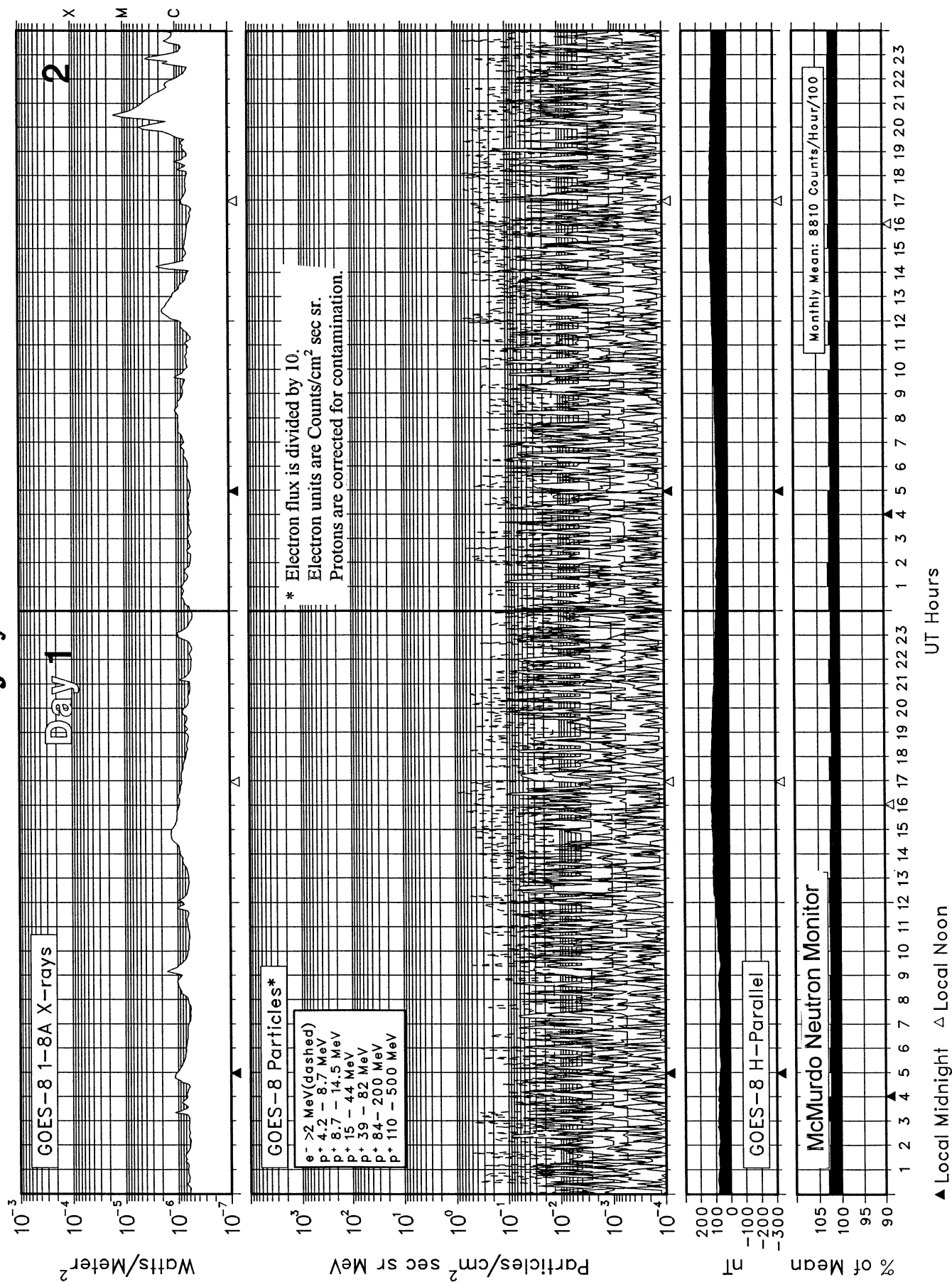
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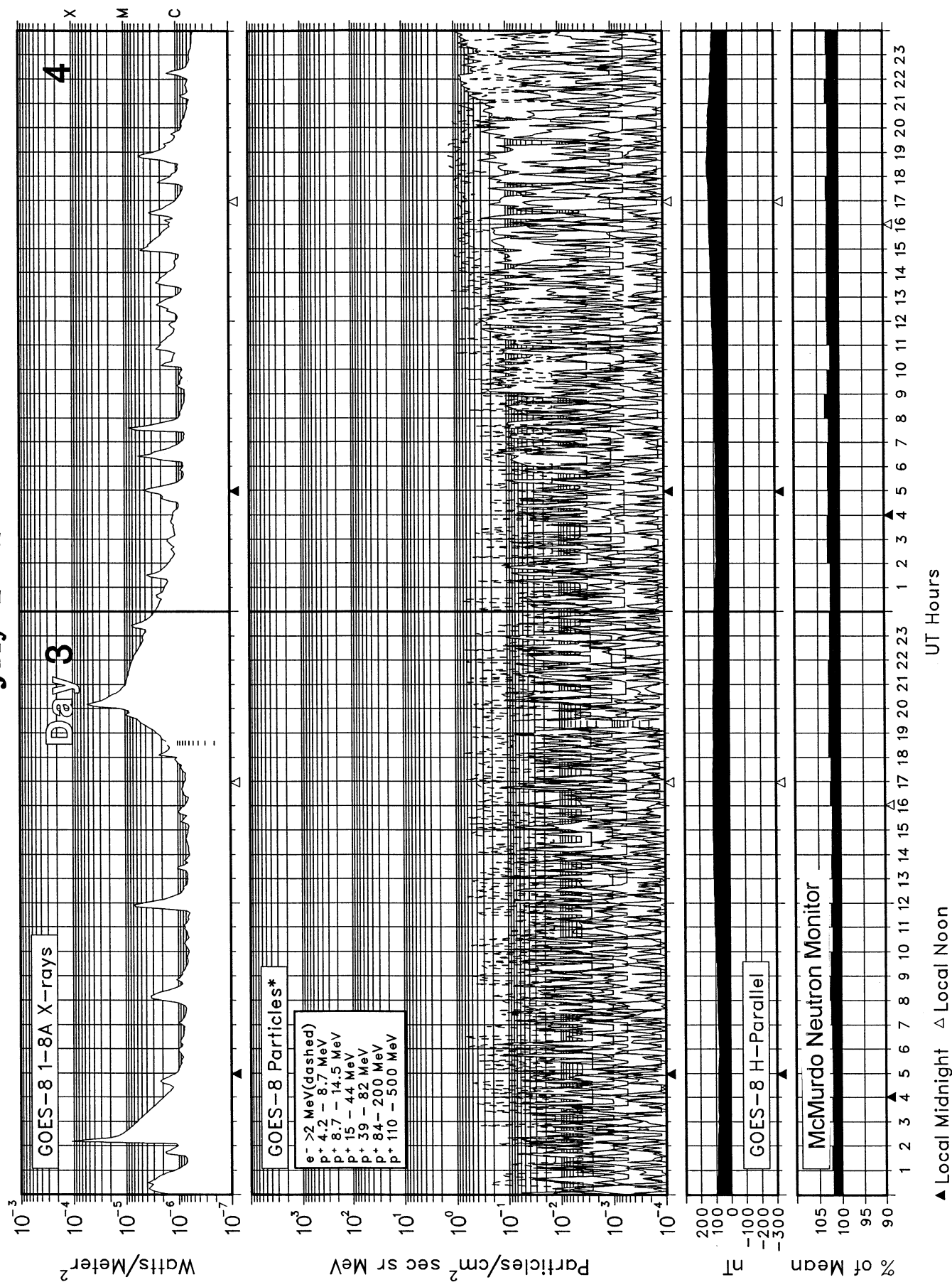
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July 2002



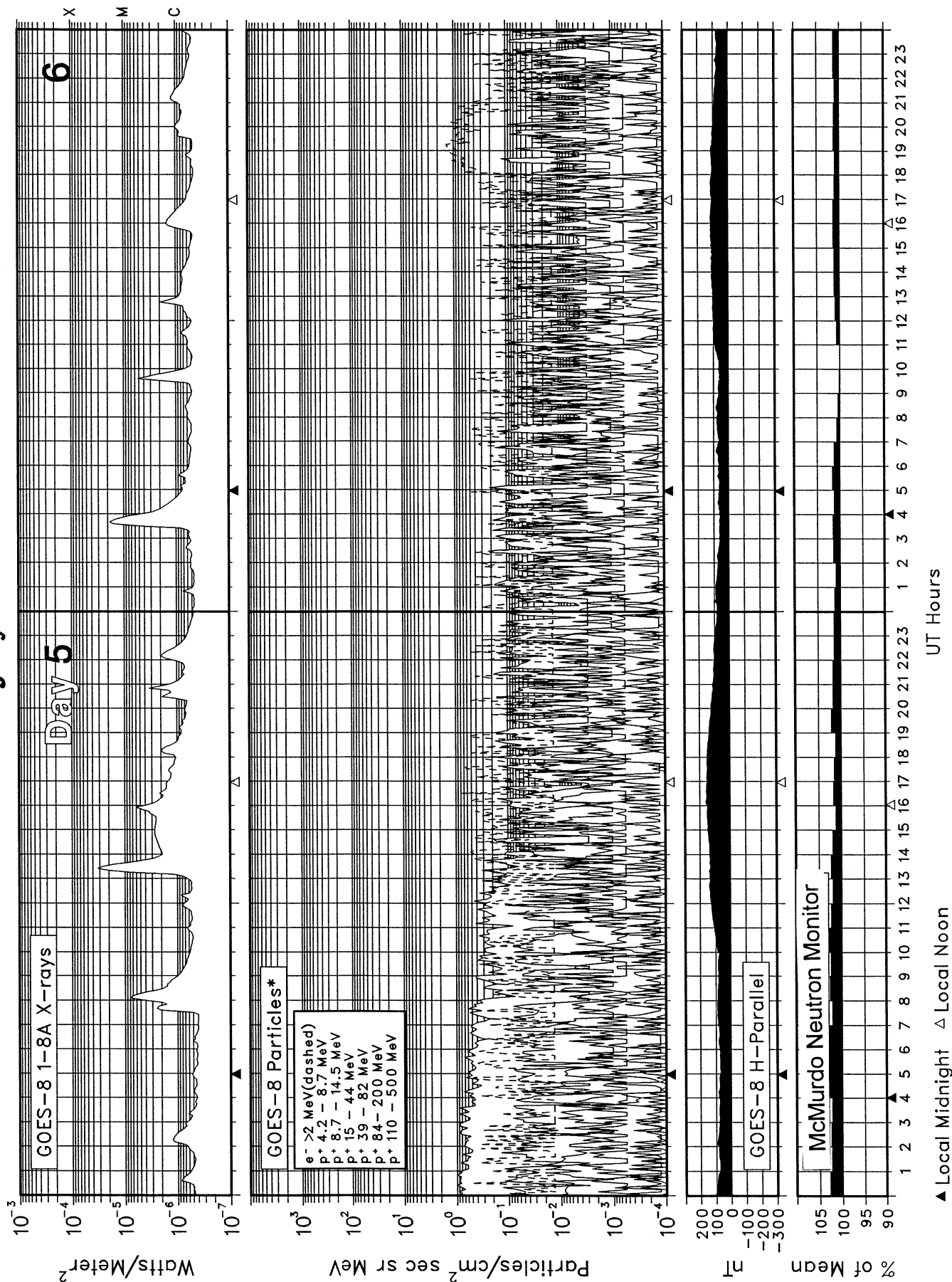
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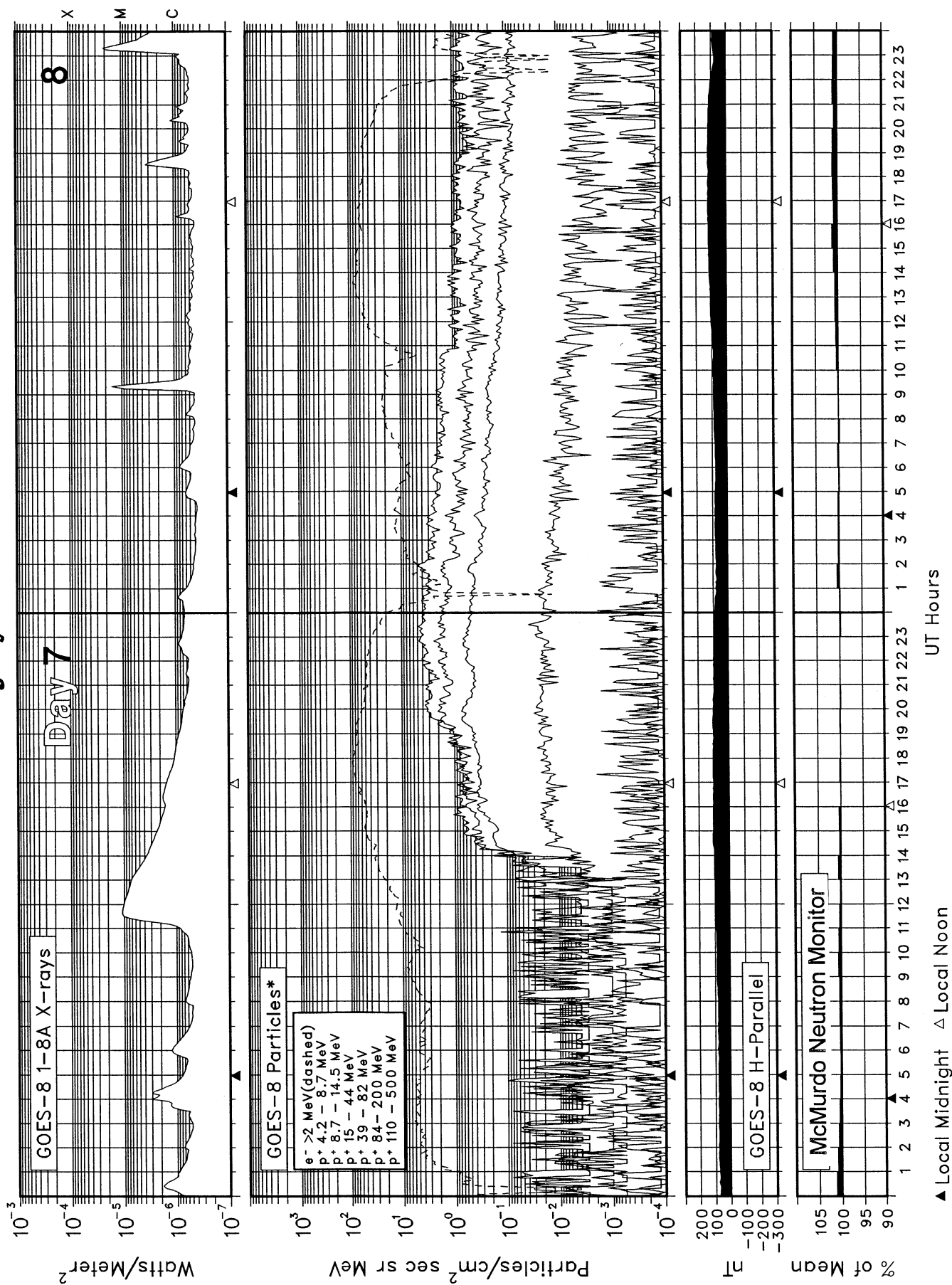
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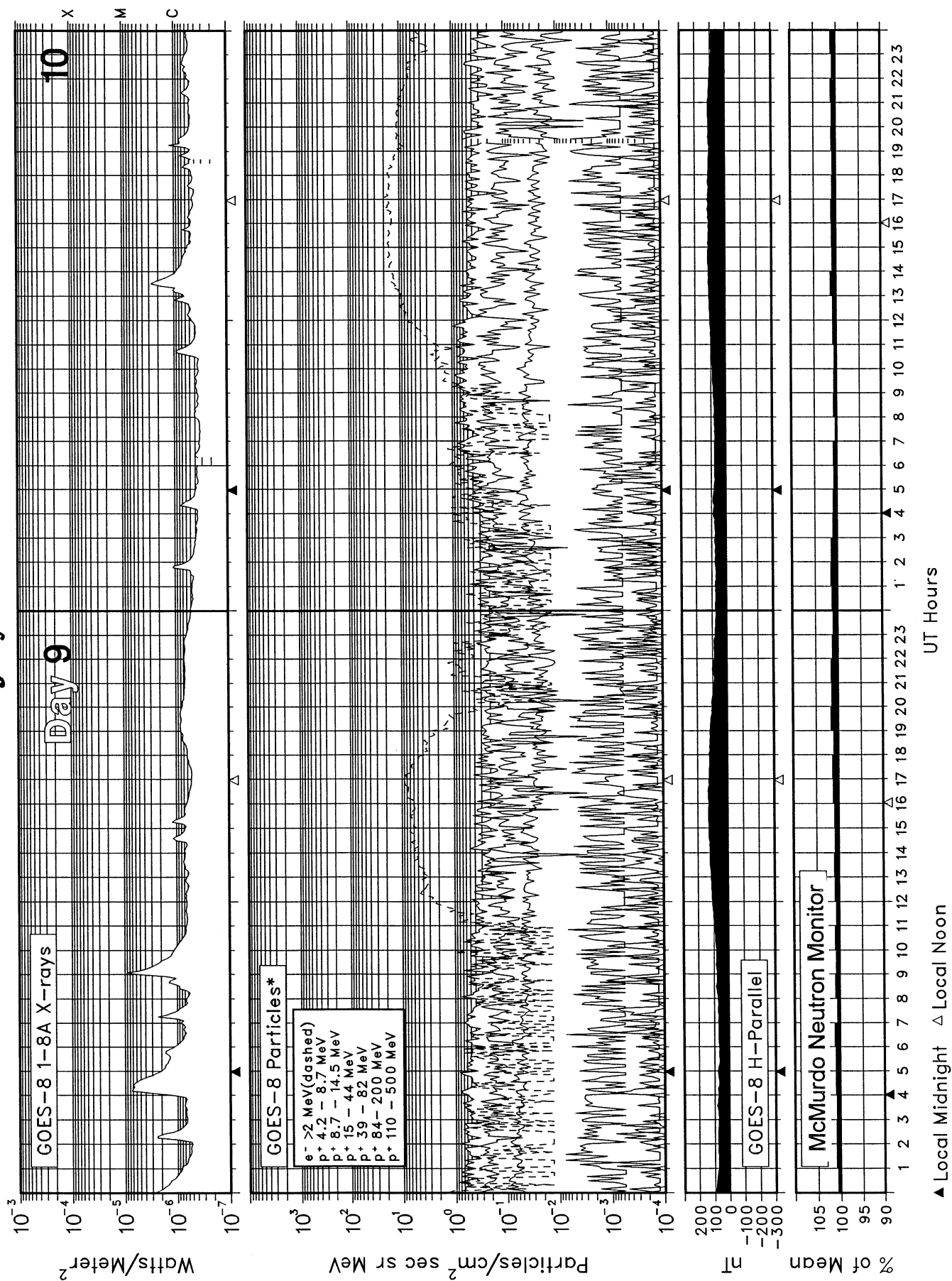
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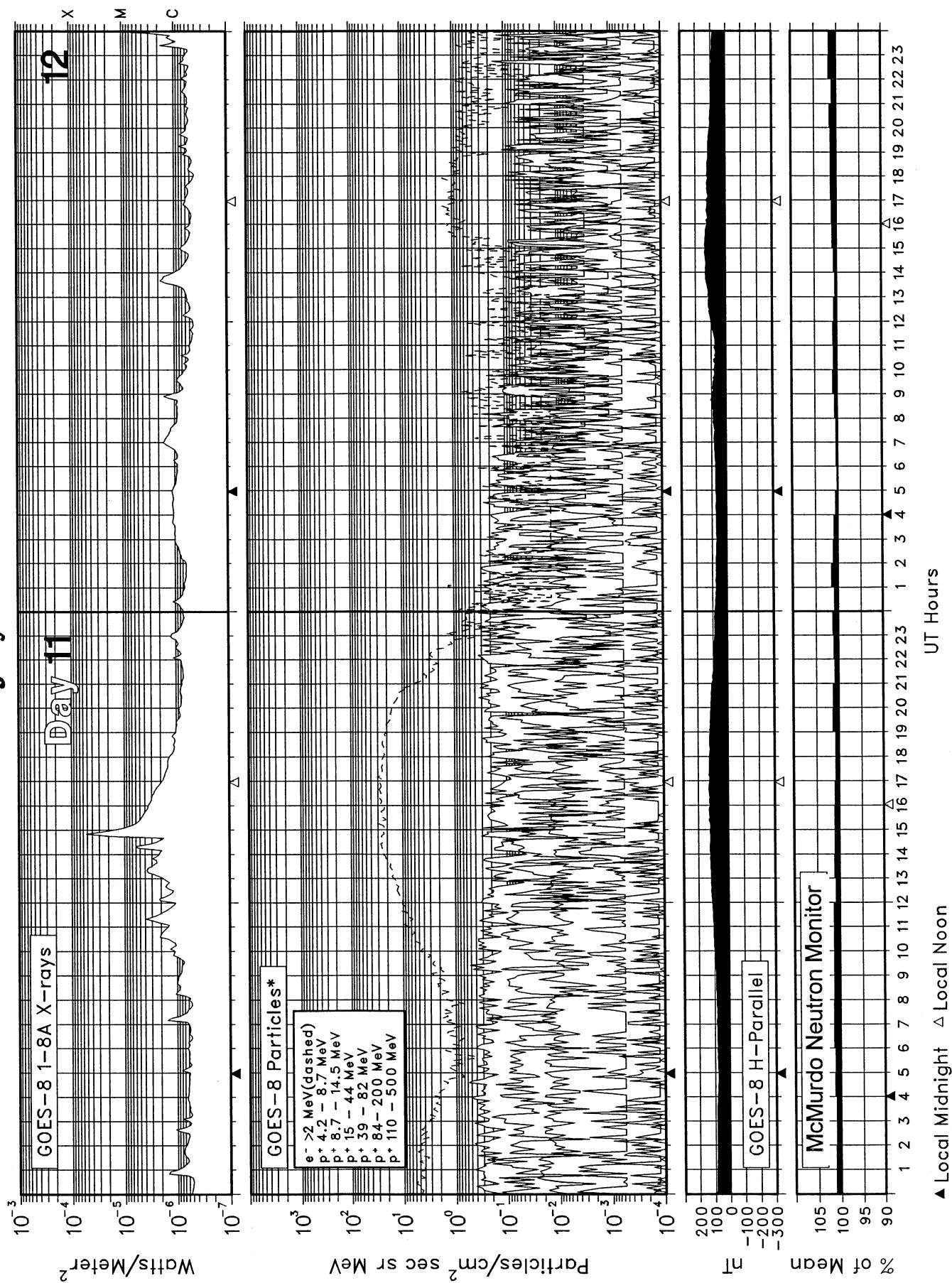
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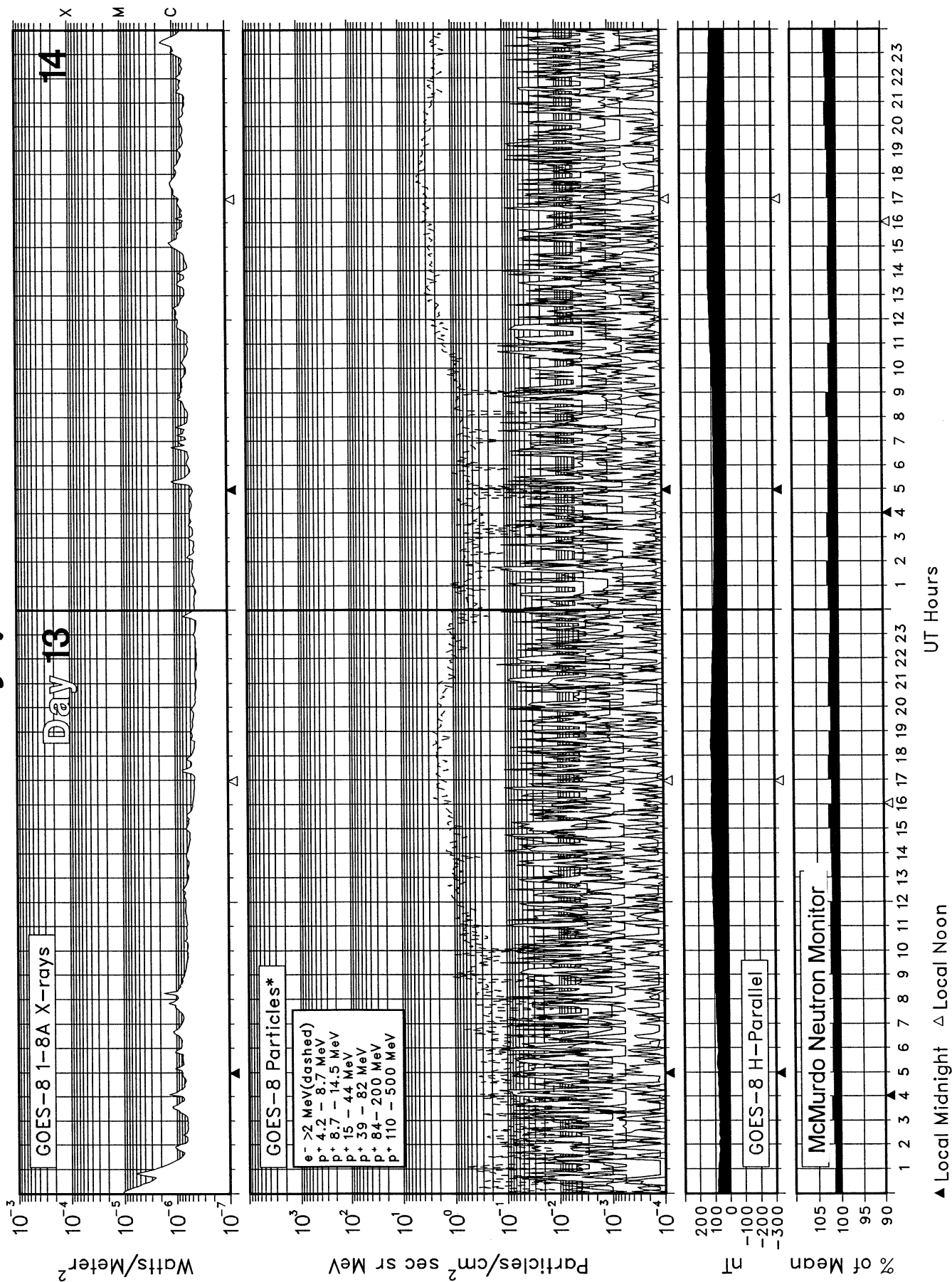
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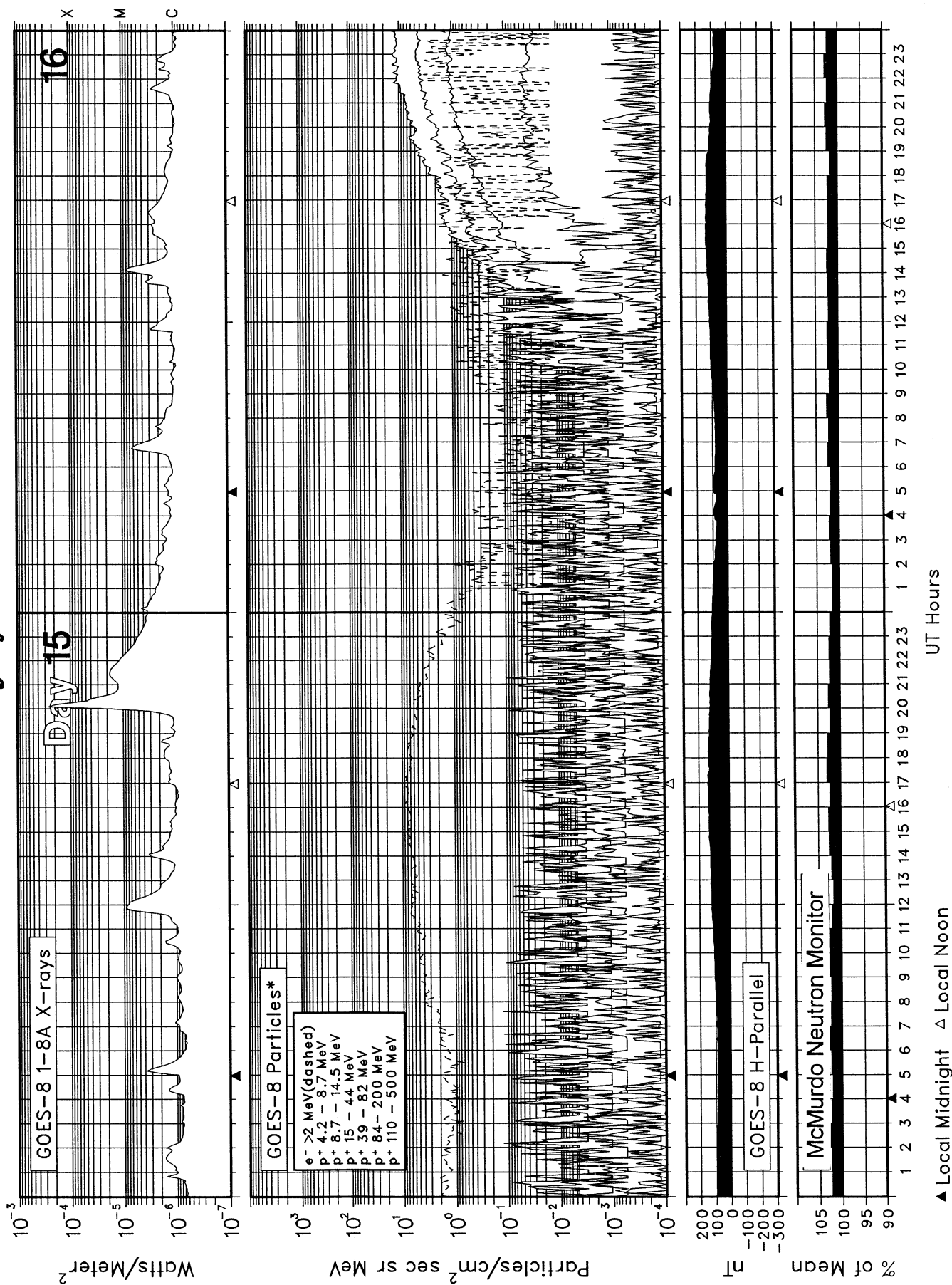
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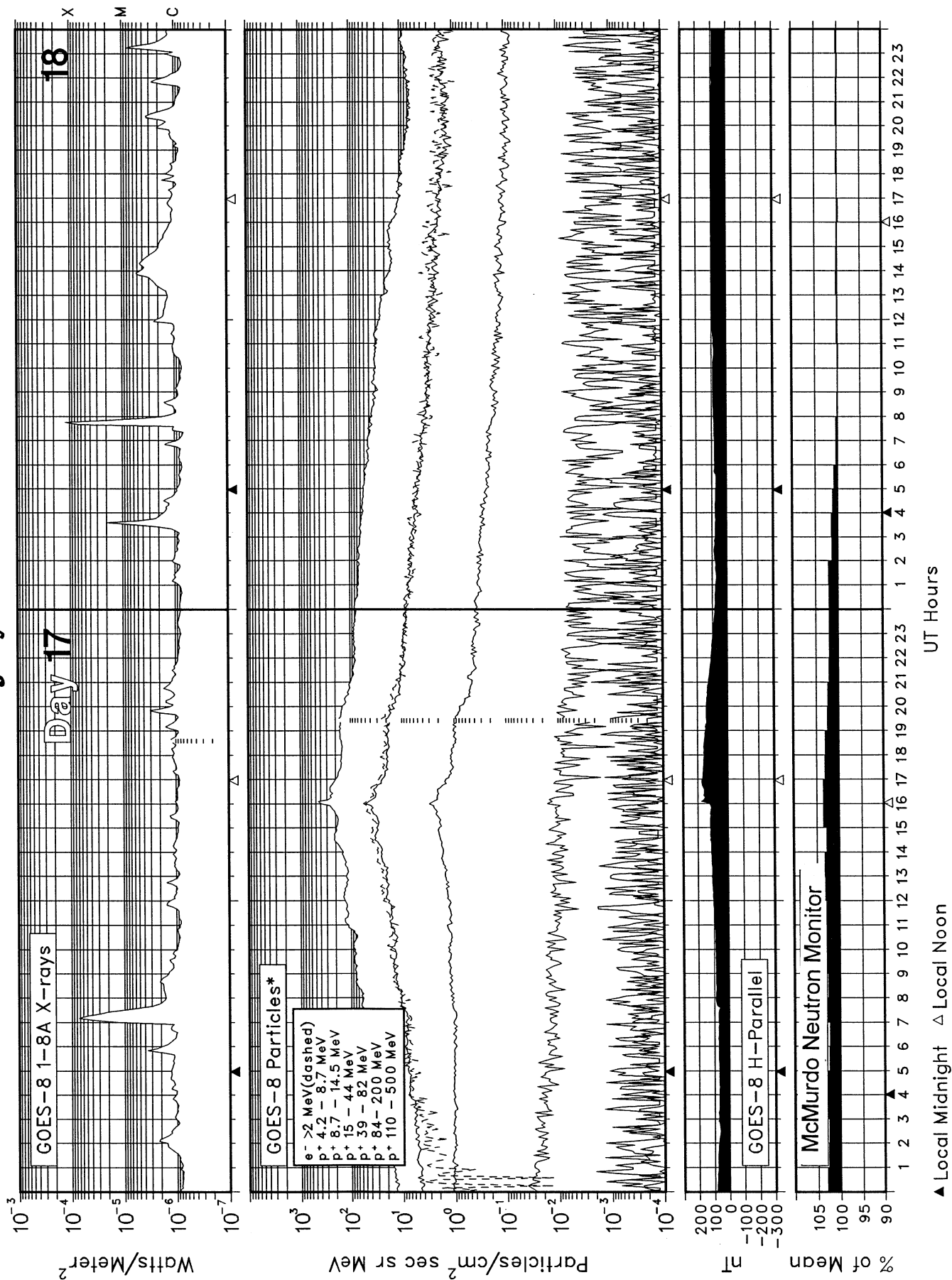
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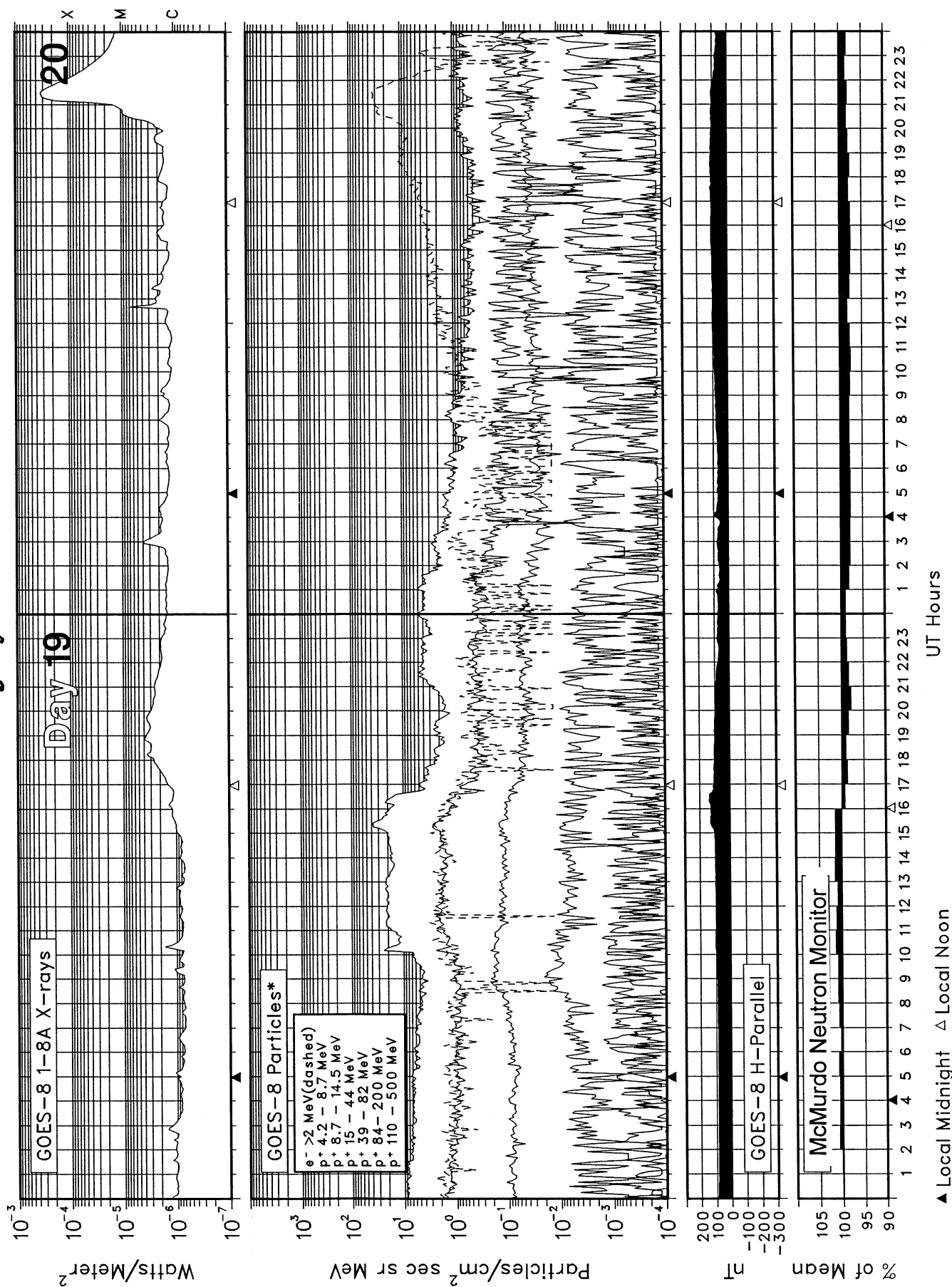
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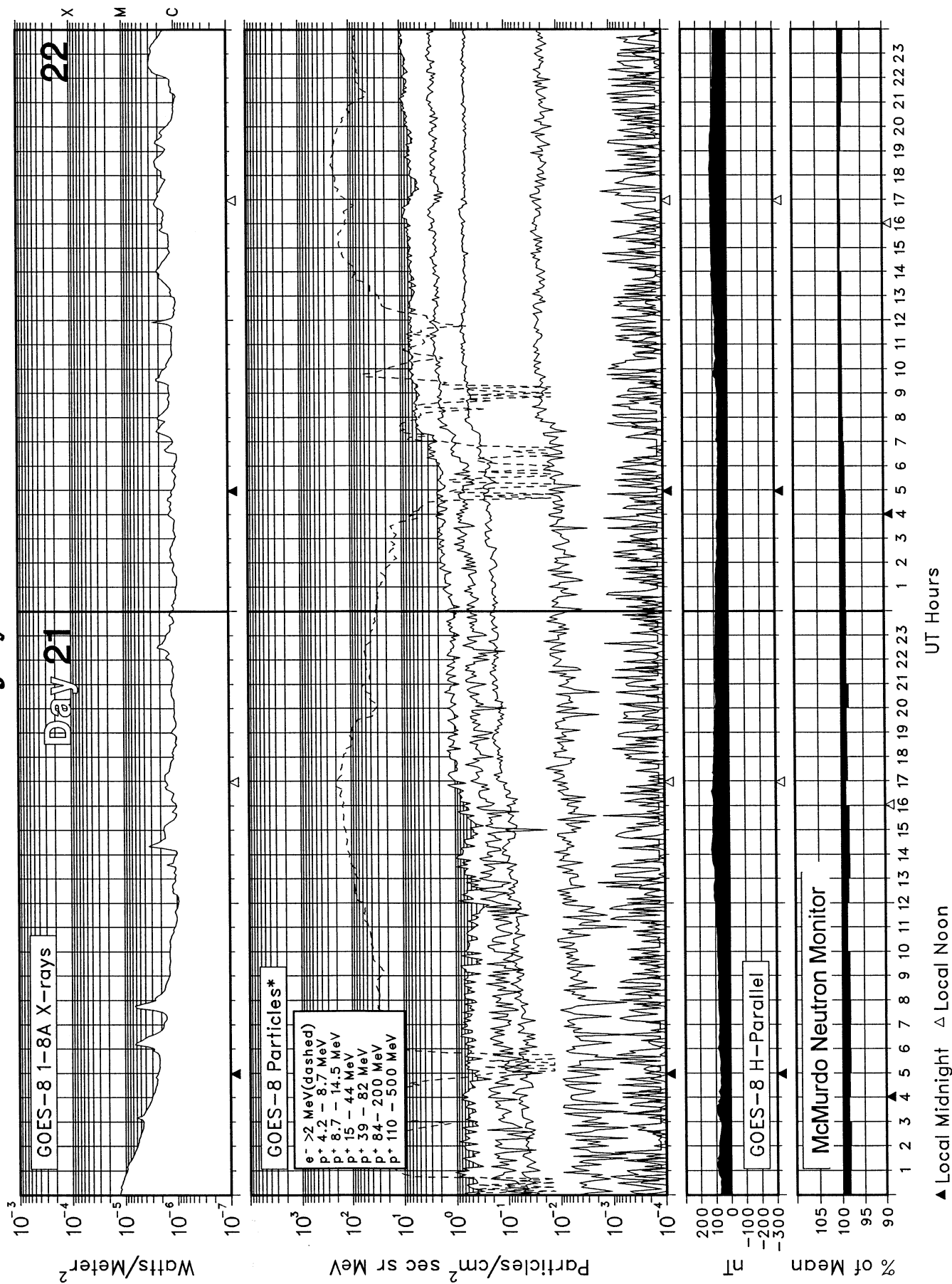
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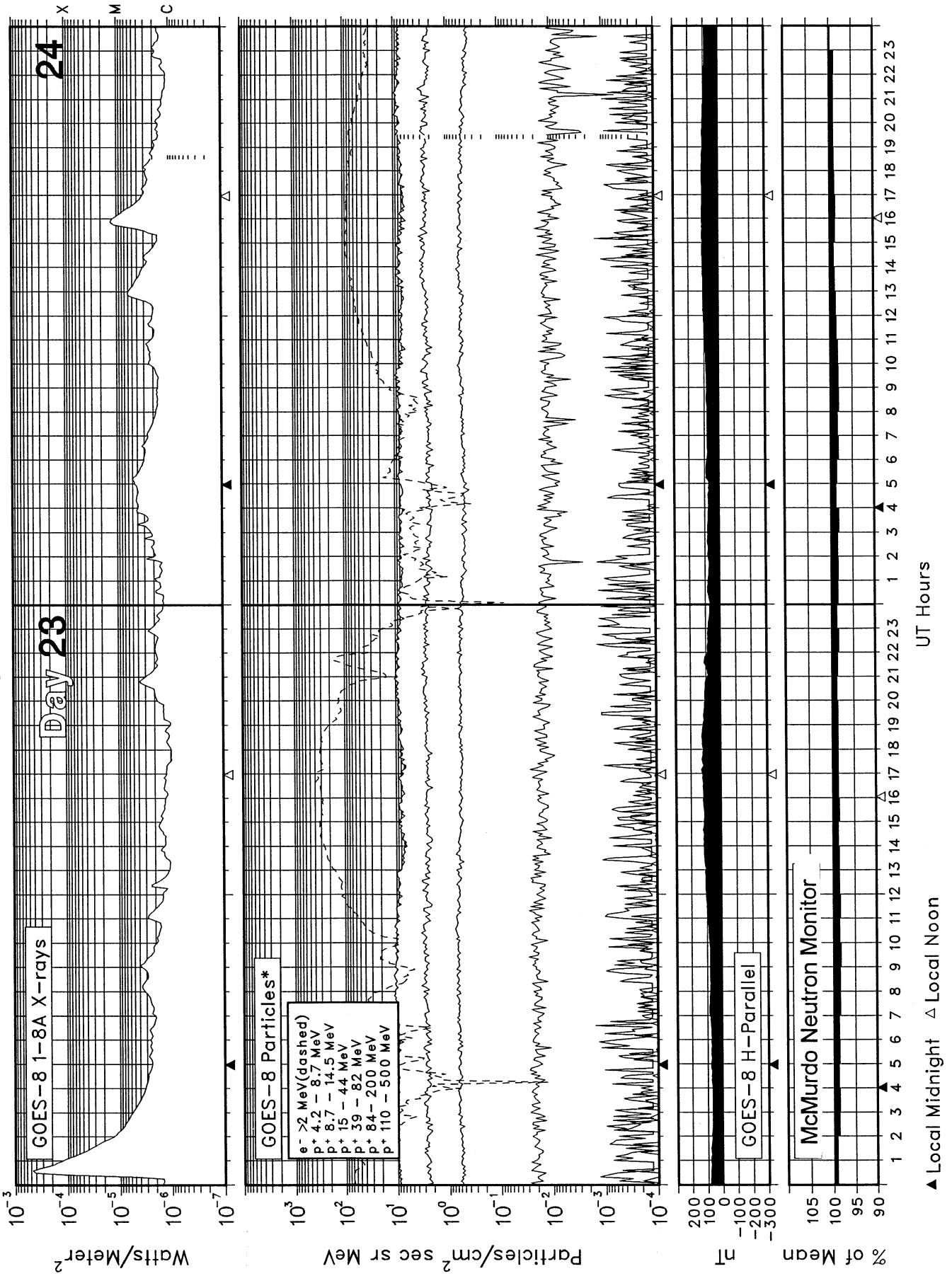
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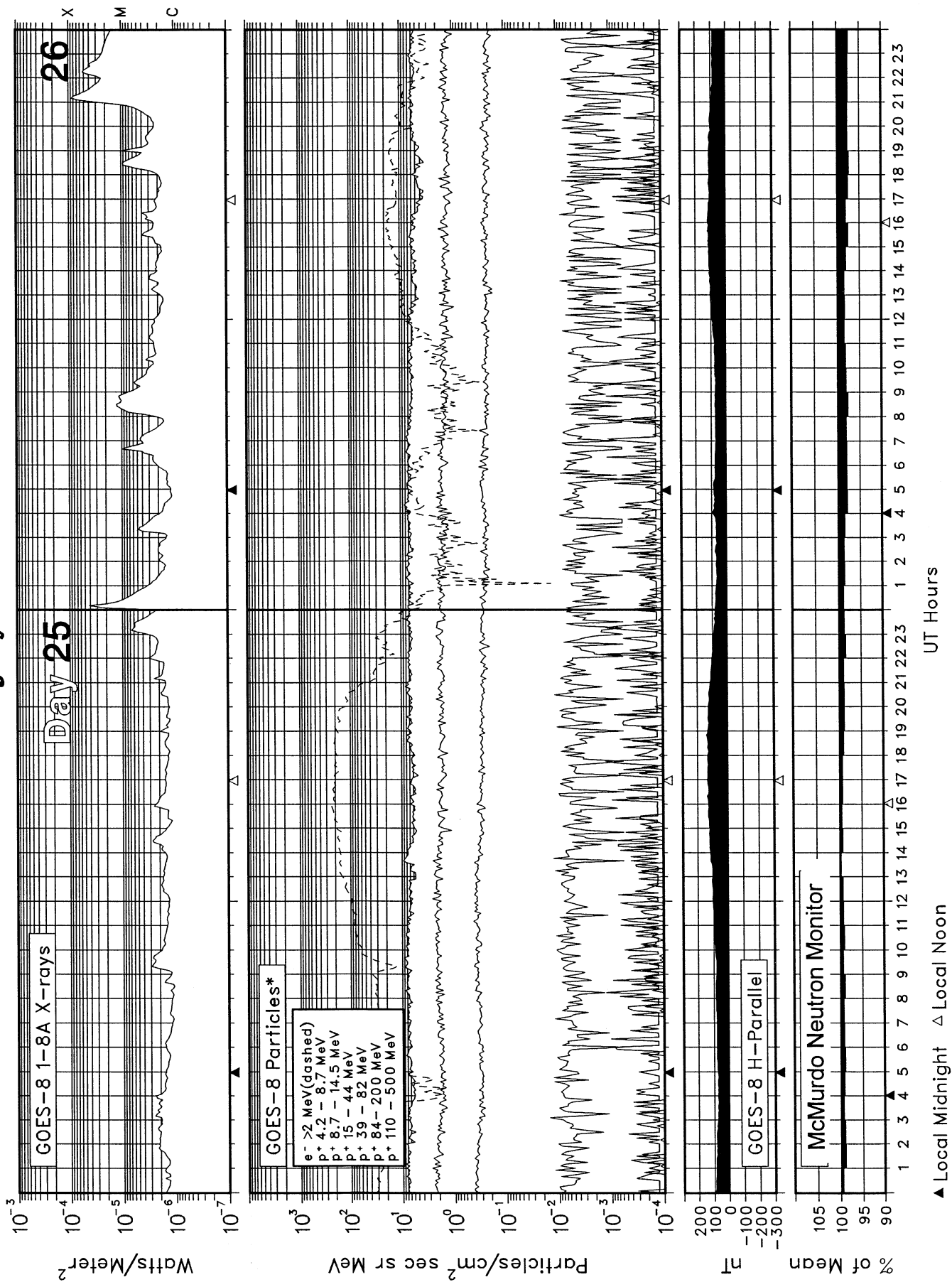
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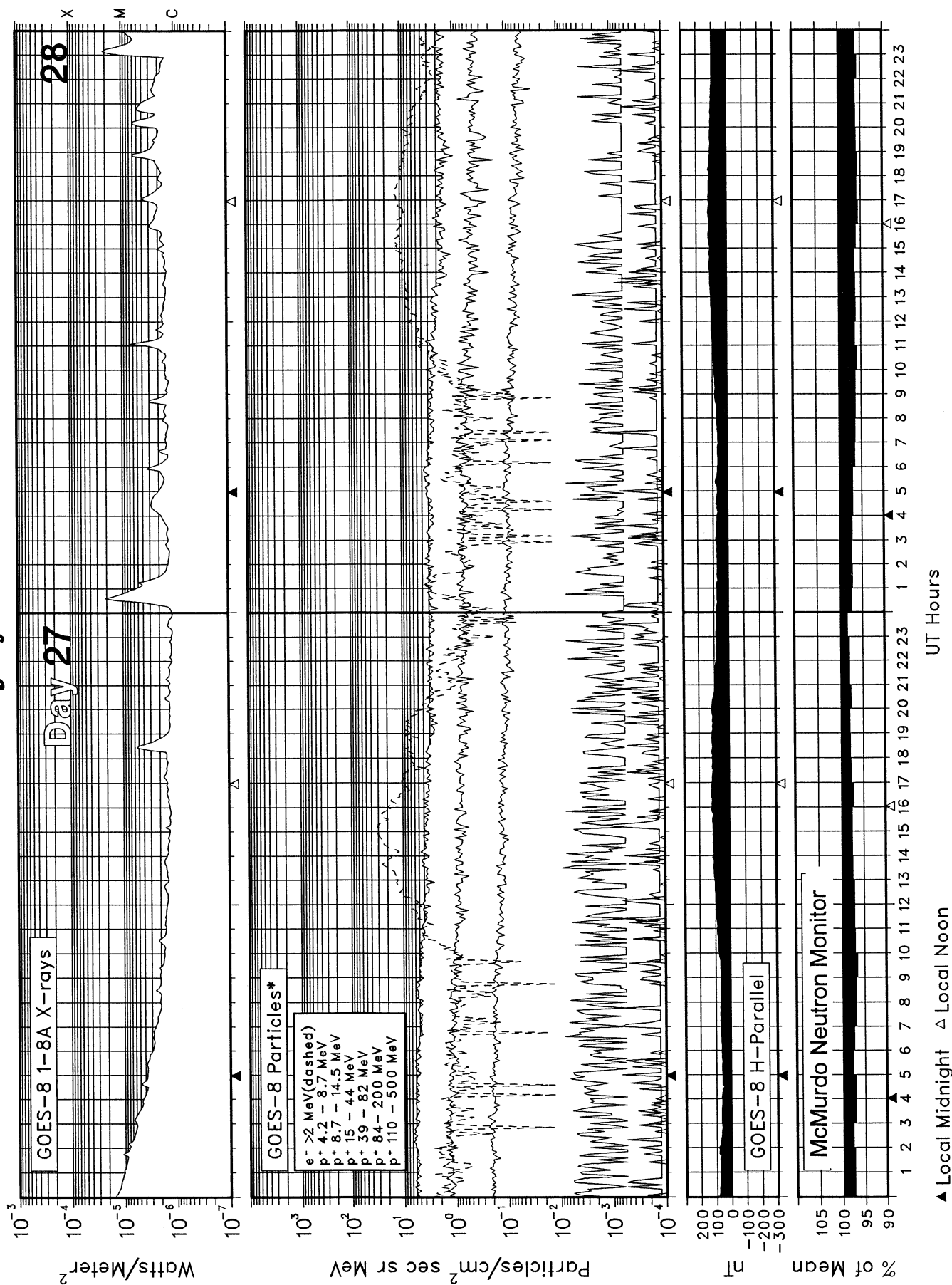
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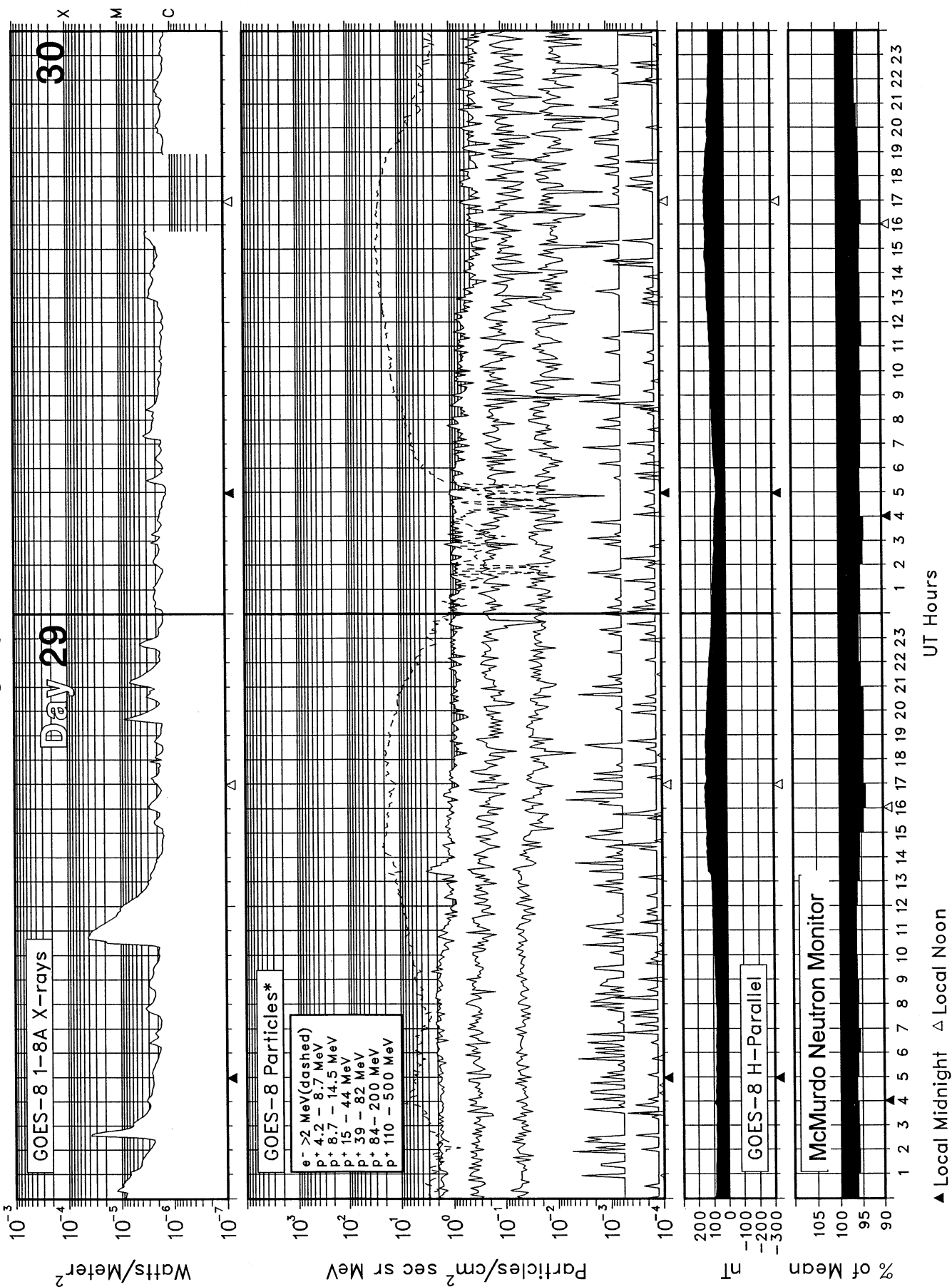
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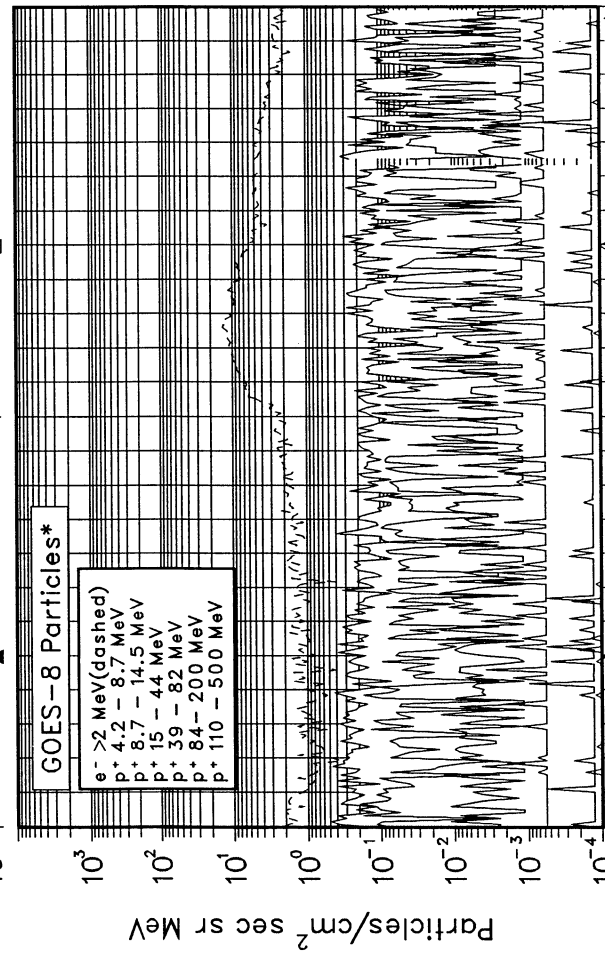
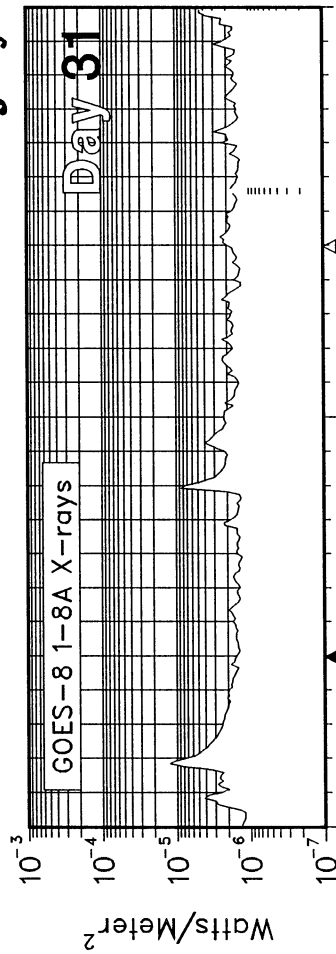
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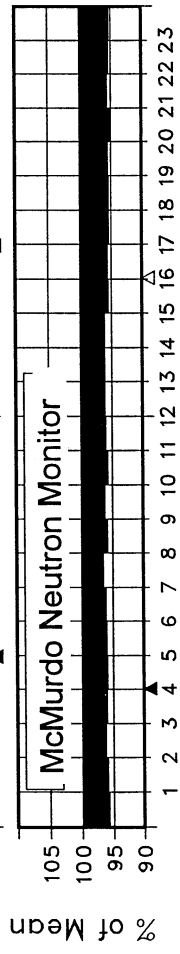
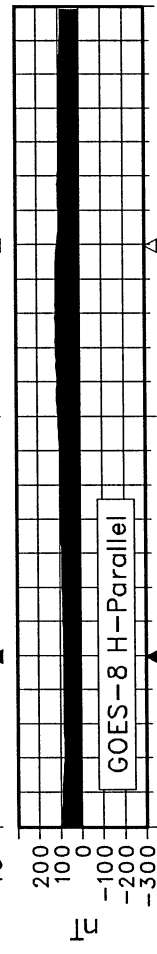


SOLAR-TERRESTRIAL ENVIRONMENT

July 2002



* Electron flux is divided by 10.
 Electron units are Counts/cm² sec sr.
 Protons are corrected for contamination.



▲ Local Midnight △ Local Noon UT Hours

20
Jul 02

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

JULY 2002

Julian Day	Date of Issue	Date of Obs	Wolf No.	10-cm Solar Flux	A-index	Rgn No.	Location		Flares			Date of Fcst	Region Fcst(1)	Geoadvice(1)
							Lat	Lon	Opt	M	X			
182	01	30	111	147	12	8	S10	W83	0	0	0	01	Q	SOL: Eruptive MAG: Quiet PRO: Quiet
						11	S10	W46	0	0	0	01	Q	
						12	N14	W73	0	0	0	01	Q	
						16	S15	E04	0	0	0	01	Q	
						17	S19	W23	1	0	0	01	Q	
						18	N14	W84	0	0	0	01	Q	
						19	S18	E61	1	0	0	01	E	
183	02	01	100	147	16	11	S10	W67	0	0	0	02	Q	SOL: Eruptive MAG: Quiet PRO: Quiet
						12	N14	W86	0	0	0	02	Q	
						16	S16	W10	0	0	0	02	Q	
						17	S19	W37	2	0	0	02	E	
						18	N15	W87	0	0	0	02	Q	
						19	S18	E50	0	0	0	02	E	
184	03	02	85	149	5	11	S12	W77	0	0	0	03	Q	SOL: Eruptive MAG: Quiet PRO: Quiet
						16	S15	W22	0	0	0	03	Q	
						17	S18	W51	7	1	0	03	E	
						19	S18	E34	2	0	0	03	E	
						20	N01	E63	0	0	0	03	Q	
185	04	03	147	173	6	11	S13	W86	0	0	0	04	Q	SOL: Active MAG: Quiet PRO: Quiet
						16	S16	W34	0	0	0	04	Q	
						17	S18	W63	8	1	1	04	E	
						19	S18	E20	4	0	0	04	E	
						20	N00	E50	0	0	0	04	Q	
						21	S29	E06	0	0	0	04	Q	
						22	S20	E30	0	0	0	04	Q	
						23	S23	E52	0	0	0	04	Q	
						24	S34	E61	1	0	0	04	Q	
186	05	04	175	146	6	16	S17	W48	0	0	0	05	Q	SOL: Active MAG: Quiet PRO: Quiet
						17	S18	W76	13	1	0	05	E	
						19	S17	E07	3	0	0	05	E	
						20	N00	E35	0	0	0	05	Q	
						21	S29	W08	0	0	0	05	Q	
						22	S20	E20	1	0	0	05	Q	
						23	S23	E42	0	0	0	05	Q	
						24	S33	E50	0	0	0	05	Q	
						25	S18	E75	0	0	0	05	Q	
187	06	05	149	139	14	16	S17	W63	0	0	0	06	Q	SOL: Active MAG: Active PRO: Quiet
						17	S18	W89	2	1	0	06	E	
						19	S18	W08	1	0	0	06	E	
						21	S29	W21	9	0	0	06	Q	
						22	S20	E05	1	0	0	06	Q	
						23	S22	E30	0	0	0	06	Q	
						24	S33	E37	0	0	0	06	Q	
						25	S19	E63	0	0	0	06	Q	
						26	N24	W58	0	0	0	06	Q	
188	07	06	123	134	21	16	S17	W76	0	0	0	07	Q	SOL: Eruptive MAG: Active PRO: Quiet
						19	S17	W21	1	0	0	07	E	
						21	S29	W34	0	0	0	07	Q	
						22	S20	W09	0	0	0	07	Q	
						23	S24	E19	0	0	0	07	Q	
						24	S34	E24	0	0	0	07	Q	
						25	S22	E52	0	0	0	07	Q	
						26	N24	W71	0	0	0	07	Q	
189	08	07	121	137	11	16	S17	W88	0	0	0	08	Q	SOL: Eruptive MAG: Active PRO: IP
						19	S19	W32	0	0	0	08	E	
						21	S29	W46	0	0	0	08	Q	
						22	S19	W23	0	0	0	08	Q	
						23	S24	E04	0	0	0	08	Q	
						24	S34	E11	0	0	0	08	Q	
						25	S21	E37	1	0	0	08	Q	

A L E R T P E R I O D S

The International Space Environment Service

JULY 2002

Julian Day	Date of Issue	Date of Obs	Wolf No.	10-cm Solar Flux	A-index	Rgn No.	Location		Flares			Date of Fcst	Region Fcst(1)	Geoadvice(1)
							Lat	Lon	Opt	M	X			
						27	S15	E26	0	0	0	08	Q	
190	09	08	125	131	10	19	S19	W44	0	0	0	09	E	SOL: Eruptive MAG: Quiet PRO: Quiet
						21	S29	W60	0	0	0	09	Q	
						22	S19	W36	0	0	0	09	Q	
						23	S22	W13	0	0	0	09	Q	
						24	S34	W02	0	0	0	09	Q	
						25	S20	E24	0	0	0	09	Q	
						28	S17	E42	0	0	0	09	Q	
						29	S16	E52	0	0	0	09	Q	
191	10	09	129	136	17	19	S18	W57	0	0	0	10	E	SOL: Eruptive MAG: Quiet PRO: Quiet
						21	S28	W72	0	0	0	10	Q	
						22	S18	W46	0	0	0	10	Q	
						23	S22	W26	0	0	0	10	Q	
						24	S34	W14	0	0	0	10	Q	
						25	S20	E09	0	0	0	10	Q	
						28	S16	E26	0	0	0	10	Q	
						29	S15	E38	0	0	0	10	Q	
						30	N18	E74	0	0	0	10	E	
192	11	10	118	129	8	19	S19	W70	0	0	0	11	E	SOL: Eruptive MAG: Quiet PRO: Quiet
						21	S28	W87	0	0	0	11	Q	
						22	S18	W59	0	0	0	11	Q	
						23	S22	W38	0	0	0	11	Q	
						24	S35	W26	0	0	0	11	Q	
						25	S20	W03	3	0	0	11	Q	
						28	S16	E12	0	0	0	11	Q	
						29	S14	E25	0	0	0	11	Q	
						30	N19	E62	5	0	0	11	E	
193	12	11	99	136	7	19	S19	W83	0	0	0	12	Q	SOL: Eruptive MAG: Quiet PRO: Quiet
						25	S20	W16	0	0	0	12	Q	
						28	S16	W01	0	0	0	12	Q	
						29	S14	E12	0	0	0	12	Q	
						30	N19	E49	6	2	0	12	E	
						31	N10	E65	0	0	0	12	Q	
194	13	12	93	133	15	25	S20	W29	0	0	0	13	Q	SOL: Active MAG: Quiet PRO: Quiet
						28	S16	W14	0	0	0	13	Q	
						29	S14	W01	0	0	0	13	Q	
						30	N19	E37	8	0	0	13	E	
						31	N10	E50	0	0	0	13	Q	
195	14	13	141	135	7	25	S20	W42	0	0	0	14	Q	SOL: Active MAG: Quiet PRO: Quiet
						29	S14	W14	0	0	0	14	Q	
						30	N19	E24	7	0	0	14	E	
						31	N10	E37	1	0	0	14	Q	
						32	S20	W14	0	0	0	14	Q	
						33	N08	E00	0	0	0	14	Q	
196	15	14	152	144	4	25	S20	W55	0	0	0	15	Q	SOL: Active MAG: Quiet PRO: Quiet
						28	S16	W40	0	0	0	15	Q	
						29	S14	W29	0	0	0	15	Q	
						30	N19	E12	5	0	0	15	E	
						31	N10	E23	0	0	0	15	Q	
						33	N08	W14	0	0	0	15	Q	
						34	S20	E05	0	0	0	15	Q	
197	16	15	209	160	5	25	S19	W71	0	0	0	16	Q	SOL: Active MAG: Quiet PRO: Quiet
						28	S16	W59	0	0	0	16	Q	
						29	S13	W48	0	0	0	16	Q	
						30	N18	E00	11	1	1	16	E	
						31	N09	E11	0	0	0	16	Q	
						33	N08	W26	0	0	0	16	Q	
						34	S20	W09	0	0	0	16	Q	
						35	S09	E63	0	0	0	16	Q	

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JULY 2002

Julian Day	Date of Issue	Date of Obs	Wolf No.	10-cm Solar Flux	A-index	Rgn No.	Location		Flares			Date of Fcst	Region Fcst(1)	Geoadvice(1)
							Lat	Lon	Opt	M	X			
						36	S07	E76	0	0	0	16	Q	
198	17	16	182	172	12	25	S18	W80	1	0	0	17	Q	SOL: Active
						28	S17	W71	0	0	0	17	Q	MAG: Quiet
						30	N19	W12	8	0	0	17	E	PRO: Quiet
						31	N12	E00	0	0	0	17	Q	
						32	S19	W55	0	0	0	17	Q	
						33	N09	W41	0	0	0	17	Q	
						35	S08	E48	0	0	0	17	Q	
						36	S07	E64	4	0	0	17	Q	
						37	N16	E74	1	0	0	17	Q	
199	18	17	179	180	16	28	S15	W86	0	0	0	18	Q	SOL: Active
						29	S12	W74	0	0	0	18	Q	MAG: Active
						30	N19	W25	5	1	0	18	E	PRO: IP
						35	S10	E33	0	0	0	18	Q	
						36	S09	E51	8	0	0	18	E	
						37	N13	E61	1	0	0	18	Q	
200	19	18	166	181	7	30	N18	W38	5	1	1	19	E	SOL: Active
						35	S08	E23	1	0	0	19	Q	MAG: Quiet
						36	S07	E37	1	0	0	19	E	PRO: Quiet
						37	N14	E47	1	0	0	19	Q	
201	20	19	148	182	10	30	N17	W52	8	0	0	20	A	SOL: Active
						35	S08	E09	1	0	0	20	A	MAG: Active
						36	S06	E25	0	0	0	20	A	PRO: Quiet
						37	N15	E35	0	0	0	20	A	
202	21	20	136	185	18	30	N18	W63	5	0	0	21	E	SOL: Active
						35	S08	W06	0	0	0	21	Q	MAG: Minor
						36	S07	E11	1	0	0	21	E	PRO: Quiet
						37	N15	E21	0	0	0	21	Q	
203	22	21	131	183	22	30	N18	W76	0	0	0	22	E	SOL: Active
						35	S08	W20	2	0	0	22	E	MAG: Quiet
						36	S06	W02	0	0	0	22	E	PRO: Quiet
						37	N16	E07	0	0	0	22	Q	
						38	N17	E51	0	0	0	22	Q	
204	23	22	176	190	15	30	N20	W86	1	0	0	23	E	SOL: Major
						35	S09	W32	3	0	0	23	E	MAG: Quiet
						36	S07	W15	1	0	0	23	E	PRO: IP
						37	N13	W06	0	0	0	23	Q	
						38	N17	E37	0	0	0	23	Q	
						39	S12	E68	0	0	0	23	E	
						40	S22	E01	0	0	0	23	Q	
						41	N16	E22	0	0	0	23	Q	
						42	S18	E38	0	0	0	23	Q	
205	24	23	226	198	11	35	S09	W46	3	0	0	24	E	SOL: Active
						36	S07	W28	5	0	0	24	E	MAG: Quiet
						37	N15	W19	0	0	0	24	Q	PRO: No Fcst
						38	N16	E24	0	0	0	24	Q	
						39	S15	E59	1	0	1	24	E	
						40	S22	W14	0	0	0	24	Q	
						41	N17	E04	0	0	0	24	Q	
						42	S19	E26	0	0	0	24	Q	
						43	N12	E56	0	0	0	24	Q	
						44	S19	E57	1	0	0	24	Q	
206	25	24	270	208	11	35	S09	W59	0	0	0	25	Q	SOL: Active
						36	S07	W42	1	0	0	25	E	MAG: Quiet
						37	N14	W32	0	0	0	25	Q	PRO: No Fcst
						38	N17	E12	0	0	0	25	Q	
						39	S15	E48	7	1	0	25	E	
						40	S20	W29	0	0	0	25	Q	

A L E R T P E R I O D S

The International Space Environment Service

JULY 2002

Julian Day	Date of Issue	Date of Obs	Wolf No.	10-cm Solar Flux	A-index	Rgn No.	Location		Flares			Date of Fcst	Region Fcst(1)	Geoadvice(1)
							Lat	Lon	Opt	M	X			
						41	N17	W04	0	0	0	25	Q	
						42	S20	E14	0	0	0	25	Q	
						43	N12	E41	0	0	0	25	Q	
						44	S20	E43	1	0	0	25	Q	
						45	N04	E17	0	0	0	25	Q	
						46	N14	E22	0	0	0	25	Q	
207	26	25	299	218	11	35	S09	W74	0	0	0	26	Q	SOL: Active
						36	S07	W54	2	0	0	26	E	MAG: Quiet
						37	N14	W45	0	0	0	26	Q	PRO: Warning
						38	N16	W01	0	0	0	26	Q	
						39	S16	E34	2	0	0	26	E	
						40	S19	W43	0	0	0	26	Q	
						41	N16	W19	0	0	0	26	Q	
						42	S20	W02	1	0	0	26	Q	
						43	N12	E28	0	0	0	26	Q	
						44	S21	E30	2	0	0	26	E	
						45	N04	E03	0	0	0	26	Q	
						46	N15	E09	0	0	0	26	Q	
						47	N07	W48	0	0	0	26	Q	
208	27	26	319	242	16	36	S07	W68	0	0	0	27	Q	SOL: Active
						37	N15	W58	0	0	0	27	Q	MAG: Quiet
						38	N16	W14	0	0	0	27	Q	PRO: No Fcst
						39	S16	E22	2	0	0	27	E	
						42	S19	W13	0	0	0	27	Q	
						43	N12	E14	0	0	0	27	Q	
						44	S21	E17	13	6	0	27	E	
						45	N05	W10	0	0	0	27	E	
						47	N07	W62	0	0	0	27	Q	
						48	N18	E52	2	0	0	27	Q	
						49	S06	W30	0	0	0	27	Q	
						50	S07	E36	0	0	0	27	Q	
209	28	27	323	231	14	36	S08	W84	0	0	0	28	Q	SOL: Active
						37	N13	W73	0	0	0	28	Q	MAG: Quiet
						38	N17	W28	0	0	0	28	Q	PRO: Quiet
						39	S15	E08	4	0	0	28	E	
						42	S21	W29	0	0	0	28	Q	
						43	N12	E00	0	0	0	28	Q	
						44	S22	E03	2	0	0	28	E	
						45	N05	W25	0	0	0	28	Q	
						47	N09	W74	0	0	0	28	Q	
						48	N20	E38	0	0	0	28	Q	
						49	S05	W44	0	0	0	28	Q	
						50	S07	E23	3	0	0	28	Q	
						51	S17	E66	0	0	0	28	Q	
210	29	28	300	239	10	37	N13	W87	0	0	0	29	Q	SOL: Active
						38	N18	W44	0	0	0	29	Q	MAG: Active
						39	S15	W04	5	1	0	29	E	PRO: Quiet
						42	S19	W43	0	0	0	29	Q	
						43	N12	W13	2	0	0	29	Q	
						44	S21	W11	3	0	0	29	E	
						45	N05	W39	0	0	0	29	Q	
						48	N21	E25	0	0	0	29	Q	
						50	S07	E09	4	0	0	29	E	
						51	S16	E54	0	0	0	29	Q	
						52	N09	E17	0	0	0	29	Q	
						53	S17	E24	0	0	0	29	Q	
						54	S21	E70	0	0	0	29	Q	
211	30	29	304	234	13	38	N18	W55	1	0	0	30	Q	SOL: Active
						39	S15	W18	4	0	0	30	E	MAG: Active
						43	N12	W26	0	0	0	30	Q	PRO: Quiet
						44	S21	W24	2	0	0	30	E	
						45	N06	W53	0	0	0	30	Q	

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

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Julian Day	Date of Issue	Date of Obs	Wolf No.	10-cm Solar Flux	A- index	Rgn No.	Location		Flares			Date of Fcst	Region Fcst(1)	Geoadvice(1)
							Lat	Lon	Opt	M	X			
						48	N20	E12	0	0	0	30	Q	
						50	S07	W06	4	0	0	30	E	
						51	S17	E40	0	0	0	30	Q	
						52	N09	E02	0	0	0	30	Q	
						53	S17	E12	0	0	0	30	Q	
						54	S22	E55	0	0	0	30	Q	
						55	N14	E75	0	0	0	30	Q	
212	31	30	297	227	9	39	S14	W30	4	0	0	31	E	SOL: Active
						42	S22	W64	0	0	0	31	Q	MAG: Quiet
						43	N12	W39	0	0	0	31	Q	PRO: Quiet
						44	S20	W33	2	0	0	31	E	
						48	N21	E00	1	0	0	31	Q	
						50	S08	W19	0	0	0	31	E	
						51	S16	E28	0	0	0	31	Q	
						53	S17	W02	0	0	0	31	Q	
						54	S22	E42	0	0	0	31	Q	
						55	N14	E64	0	0	0	31	Q	

(1) Region Forecast and Flare (SOL) Advice

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

Magnetic (MAG) Geoadvice

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

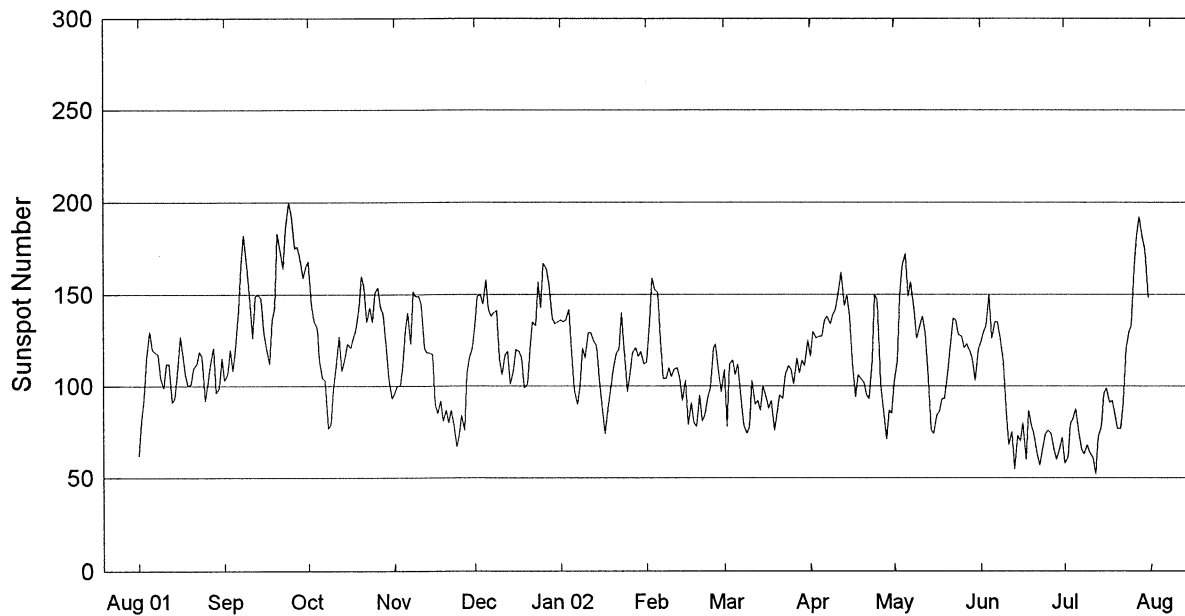
Proton (PRO) Geoadvice

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

STRATWARM ALERTS - NONE

International Relative Sunspot Numbers Aug 2001 - Jul 2002

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Jul 02



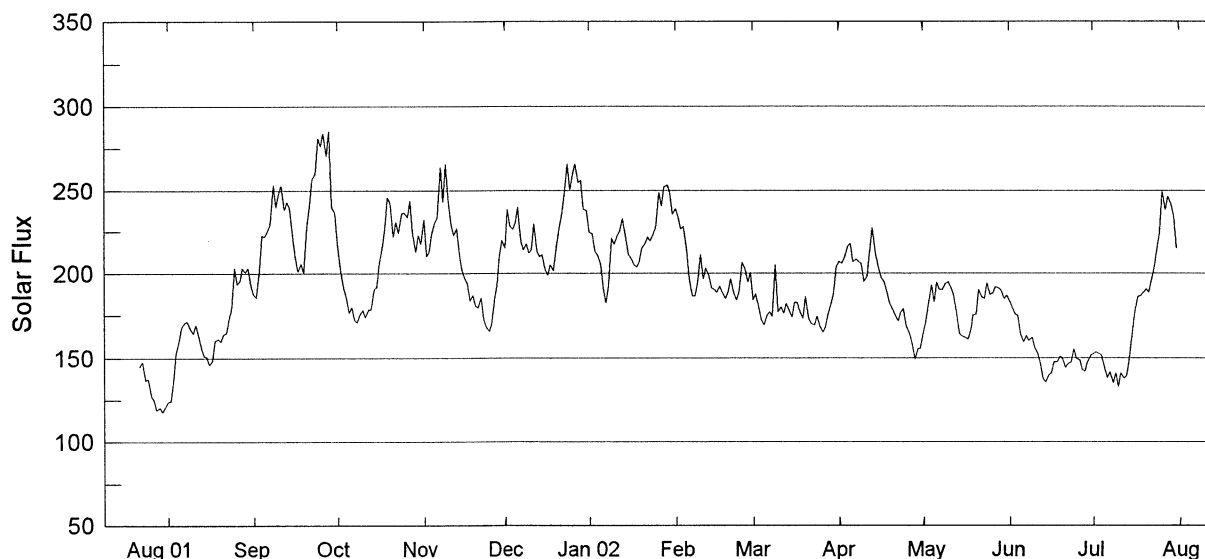
Day	Aug 01	Sep	Oct	Nov	Dec	Jan 02	Feb	Mar	Apr*	May*	Jun*	Jul*
1	62	103	168	96	133	136	113	109	116	102	124	58
2	81	106	144	100	149	135	135	78	130	114	129	61
3	93	120	135	100	150	136	159	112	126	149	133	80
4	115	108	132	111	145	142	153	114	127	166	150	82
5	130	120	114	130	158	118	151	106	127	172	126	88
6	120	141	104	140	142	98	125	112	136	149	135	75
7	118	166	103	123	138	90	104	93	138	157	135	66
8	117	182	77	152	140	100	104	79	134	142	127	63
9	104	166	79	149	141	121	110	74	139	126	113	68
10	99	150	98	149	115	115	105	78	142	133	88	64
11	112	126	113	145	106	129	109	103	152	138	68	61
12	112	149	127	121	117	129	110	90	162	130	75	52
13	91	150	108	118	119	124	104	92	144	104	55	72
14	93	148	115	118	101	122	92	87	150	76	73	78
15	106	130	123	117	108	104	103	100	138	74	70	96
16	127	121	121	90	120	87	79	94	113	84	80	99
17	117	112	126	85	119	74	91	88	94	86	60	91
18	106	136	131	92	115	86	80	92	106	93	87	92
19	100	143	143	81	99	99	78	76	104	93	79	83
20	101	183	160	87	101	109	95	85	102	107	74	77
21	110	173	154	80	120	118	81	95	95	121	63	77
22	112	164	135	87	135	120	84	93	93	137	57	91
23	119	186	143	80	133	140	94	106	114	136	65	121
24	116	200	135	67	157	115	99	111	150	128	74	129
25	92	193	151	73	143	97	121	109	147	127	76	133
26	101	175	154	84	167	106	123	101	101	121	74	164
27	112	176	143	76	164	118	107	115	88	123	66	182
28	121	170	139	107	156	121	97	107	71	119	60	192
29	96	159	120	115	137	116		114	87	114	66	181
30	99	165	103	121	134	119		111	85	103	72	174
31	115		93		135	112		125		120		148
Mean	106.4	150.7	125.5	106.5	132.2	114.1	107.4	98.4	120.4	120.8	88.5	99.9

* = Provisional.

Penticton 2800 MHz (10.7cm) Solar Flux

Aug 2001 - Jul 2002

Adjusted to 1 AU



Day	Aug 01	Sep	Oct	Nov	Dec	Jan 02	Feb	Mar	Apr	May	Jun	Jul
1	123.8	187.4	216.9	232.0	215.1	224.5	238.5	184.3	206.7	164.9	183.9	152.3
2	124.3	185.7	201.1	210.1	238.1	223.5	233.7	187.6	205.9	171.7	180.0	153.5
3	135.5	202.1	191.8	212.5	228.3	213.0	226.3	179.6	209.4	182.0	175.4	152.4#
4	152.7	222.1	186.5	223.5	226.6	211.0	228.1	172.0	216.3	192.7	174.7	151.3
5	160.5	221.8	176.8	230.6	230.1	205.2	214.5	169.4	217.6	183.2	163.7	143.5
6	168.3	225.6	180.2	233.2	239.5	190.1	196.9	175.0	206.7	194.3	159.1	138.0
7	171.0	229.5	172.4	263.9	219.3	182.4	186.6	177.0	208.4	190.3	163.1	141.5
8	171.5	253.1	170.8	243.1	213.9	192.6	186.4	174.2	206.8	190.2	159.9	135.3
9	167.8	239.5	175.9	265.6	217.5	220.9	194.1	204.8x	205.8	193.7	161.9	140.9
10	164.7	247.8	178.1	241.0	212.3	217.3	210.9	176.9	195.1	194.8	156.2	133.1
11	169.5	252.9	174.1	229.3	213.9	221.4	196.6	180.0	198.3	191.8	152.4	141.0
12	164.0	238.1	178.5	222.6	229.4	225.7	203.1	176.2	213.0	187.1	146.2	137.7
13	155.5	242.6	178.6	226.8	213.4	232.9	198.5	182.1	227.3	175.6	137.6	139.4
14	151.1	239.3	190.8	212.6	209.9#	221.6	191.3	178.6	211.6	164.2	135.6	148.6
15	150.5	221.7	191.7	202.4	211.0	211.2	190.3	174.0	204.7	162.7	139.7	164.8#
16	146.2	209.3	205.8	197.6	202.5	209.1	188.9	182.7	197.2	162.0	141.0	177.2
17	148.4	201.1	215.8	194.0	199.0	205.0	192.0	182.7	195.0	160.7	147.5	185.9
18	159.9	205.7	226.9	183.8	205.0	203.8	188.4	176.5	189.8	166.8	147.5	186.6
19	161.3	200.6	245.6	186.8	201.6	206.9	185.1	173.3	181.4	175.0	150.5	188.3
20	159.8	228.7	242.5	180.6	214.0	215.2	189.1	186.3	179.0	175.4	149.8	190.7
21	163.9	240.5	222.0	179.7	226.7	217.5	196.7	172.8	175.1	190.4	144.2	188.7
22	165.2	257.0	230.4	185.3#	234.9	221.5	187.9	170.4	171.7	185.6	146.6	195.8
23	173.4	260.2	224.1	172.9	246.3	219.4	184.2	169.4	177.2	184.8	147.5	204.6
24	178.7	281.0	236.0	168.6	265.5	223.6	188.9	174.3	178.9	193.9	155.3	215.0
25	203.2	276.6	236.1	165.6	250.3	227.6	206.4	169.1	169.3	187.4	149.5	224.5
26	193.8	284.0	233.6	170.3	259.0	248.7	203.5	164.9	164.7	188.0	148.6	249.1
27	195.9	270.6	243.4	185.3	265.6	240.5	194.9	168.4	159.0	191.6	143.2	238.0
28	203.1	285.5	224.2	193.1	254.6#	252.0	200.4	175.6	149.2	191.4	141.9	246.2
29	200.9	240.2	212.8	210.5	255.7	253.2		180.8	155.2	189.8	147.5	241.1
30	203.0	236.3	222.7	219.6	238.5	248.8		188.2	155.6	185.1	151.4	234.1
31	192.2		217.8		237.5	235.5		204.0		187.0		214.8
Mean	167.1	236.2	206.6	208.1	228.2	220.1	200.1	178.4	191.1	182.4	153.4	179.2

NOTE: # 1700 or 1800UT reading - burst in progress (IP) at 2000UT; x Burst IP at 2000UT.

DAILY SOLAR INDICES
July 2002

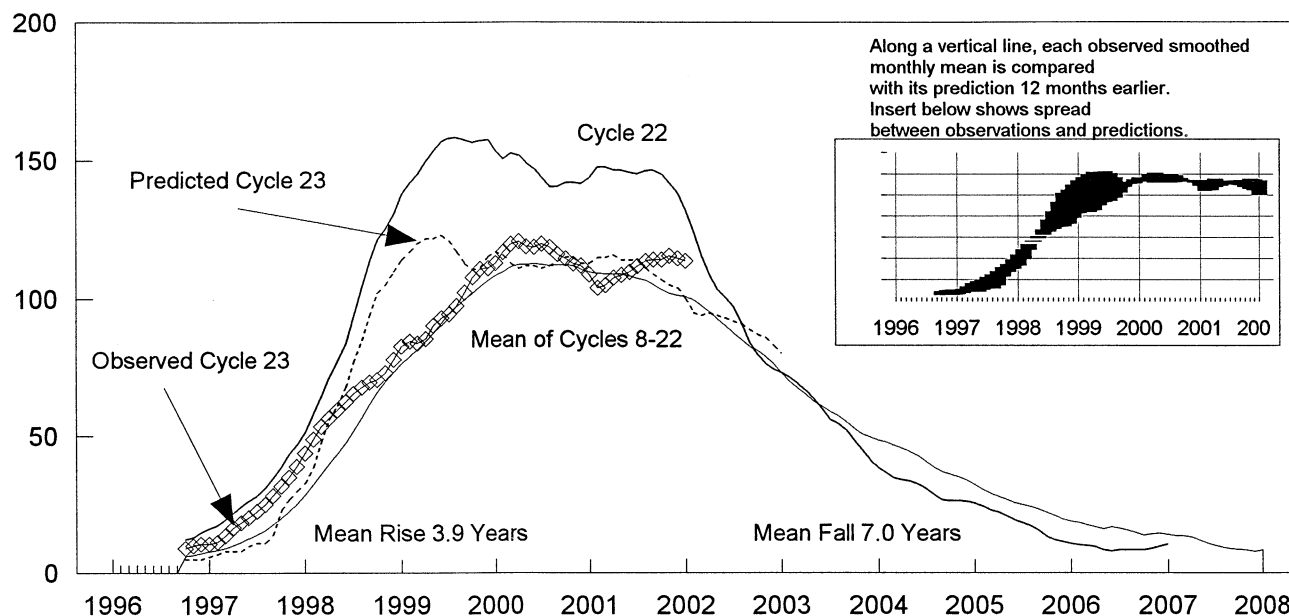
Day	Day of Year	Bartels Cycle Day	Sunspot Numbers		Obs Flux Penticton (2800)	Solar Flux Adjusted to 1 Astronomical Unit								
			Int	Amer		SGMR (15400)	SGMR (8800)	SGMR (4995)	Pentic (2800)	SGMR (2695)	SGMR (1415)	SGMR (610)	SGMR (410)	SGMR (245)
1	182	1	58	63	147.4	--	--	--	152.3	--	--	--	--	--
2	183	2	61	68	148.5	556	332	185	153.5	144	106	51	37	20
3	184	3	80	89	147.4#	568	318	208	152.4#	143	108	53	36	20
4	185	4	82	93	146.3	577	310	178	151.3	145	111	54	34	19
5	186	5	88	94	138.8	579	305	186	143.5	140	104	48	34	33
6	187	6	75	77	133.5	564	306	165	138.0	129	99	50	36	22
7	188	7	66	62	136.9	569	310	172	141.5	131	99	44	33	18
8	189	8	63	70	130.9	552	303	162	135.3	131	98	47	33	20
9	190	9	68	67	136.3	--	--	--	140.9	--	--	--	--	--
10	191	10	64	63	128.8	--	--	--	133.1	--	--	--	--	--
11	192	11	61	63	136.4	586	333	193	141.0	149	103	49	31	17
12	193	12	52	60	133.2	568	308	175	137.7	131	95	46	30	21
13	194	13	72	71	134.9	565	298	186	139.4	136	99	48	32	19
14	195	14	78	84	143.8	577	320	208	148.6	147	102	52	37	49
15	196	15	96	95	159.5#	569	323	205	164.8#	158	103	48	36	22
16	197	16	99	109	171.5	585	374	249	177.2	183	115	49	39	44
17	198	17	91	109	180.0	578	354	224	185.9	172	112	48	40	65
18	199	18	92	101	180.7	571	355	224	186.6	180	120	50	41	36
19	200	19	83	95	182.3	564	351	236	188.3	188	120	57	46	39
20	201	20	77	83	184.8	587	356	230	190.7	177	116	58	47	43
21	202	21	77	88	182.8	585	351	232	188.7	185	121	51	54	70
22	203	22	91	108	189.7	579	349	231	195.8	179	122	54	43	29
23	204	23	121	128	198.3	575	359	233	204.6	192	122	58	44	165
24	205	24	129	146	208.4	627	388	282	215.0	206	135	62	74	--
25	206	25	133	148	217.7	604	372	280	224.5	212	129	55	64	37
26	207	26	164	182	241.5	--	--	--	249.1	--	--	--	--	--
27	208	27	182	198	230.8	598	363	264	238.0	228	139	59	48	33
28	209	1	192	192	238.8	602	402	296	246.2	238	144	59	62	225
29	210	2	181	199	234.0	587	367	274	241.1	232	144	59	80	458
30	211	3	174	190	227.2	588	363	268	234.1	233	140	57	49	153
31	211	4	148	160	208.5	583	362	254	214.8	209	128	57	49	79
MEAN			99.9	108.2	173.5	579	341	222	179.2	174	116	52	44	67

The International and American sunspot numbers shown above are preliminary values.

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

- 1700UT Reading, burst in progress at 2000UT.

Cycle 23 Smoothed Sunspot Numbers: Observed and Predicted



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

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
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	112	109	106	104	101	98	95	92	89	86	83	99
		(9)	(11)	(14)	(15)	(16)	(16)	(17)	(18)	(18)	(18)	(15)	(14)
2003	80	76	74	72	69	66	64	62	60	57	56	54	66
	(11)	(10)	(11)	(12)	(12)	(12)	(13)	(13)	(15)	(16)	(17)	(20)	(14)
Solar Cycle 22				Solar Cycle 23				Min, Max, and Predi					

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

+ April 2000 marks Cycle 23 maximum.

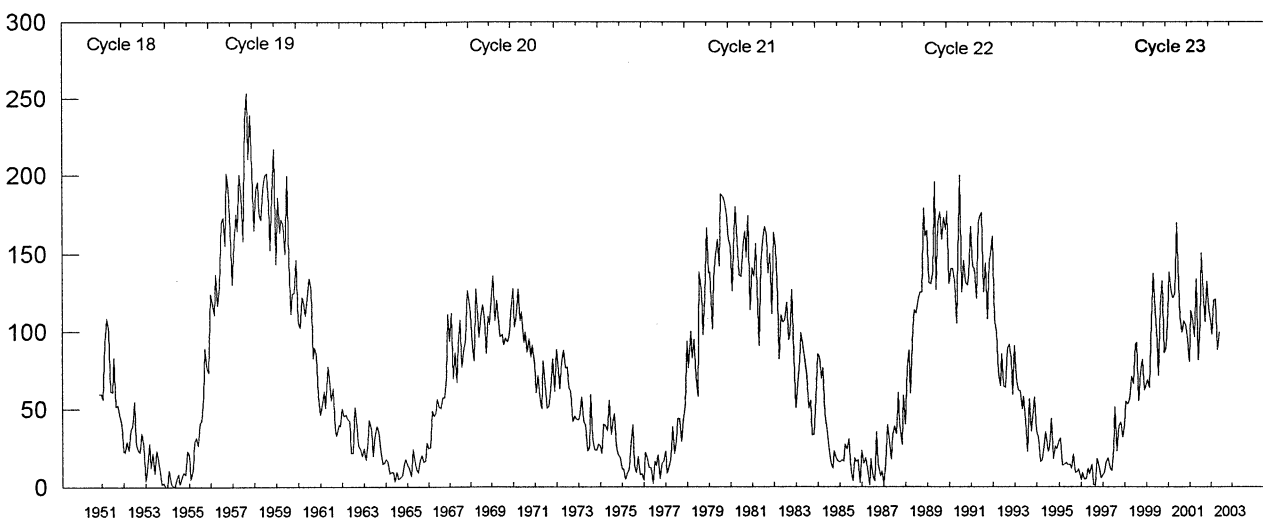
Observed and Predicted Numbers. For the end of Cycle 22, and the rise and decline of Cycle 23, the table above lists observed smoothed sunspot numbers up to the one that includes the most recent monthly mean. We based these smoothed values on final monthly means through March 2002 and on provisional 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 January 2003 prediction. There exists a 90% chance that in January 2002, the actual smoothed number will fall somewhere between 69 and 91.

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 - Jul 2002

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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	120.4	120.8	88.5	99.9						107.1

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

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H α SOLAR FLARES

JULY 2002

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
															Time (UT)	Apparent (10 ⁻⁶ Disk)	Corr (Sq Deg)	
GOES	01	0317	0322	0326						9		C 1.3						5.5E-04
GOES		0435	0452	0516						41		C 1.2						2.5E-03
SVTO		0753	0753	0756	S19	W28	10017	06	29.3	3	SF		3	E		11		1.1E-03
GOES		0904	0912	0918	S19	W29	10017			14	SF	C 1.6						6.3E-04
SVTO		0910	0911U	0916	S19	W29	10017	06	29.3	6	SF		2	E		11		6.4E-03
GOES		1143	1148	1154						11		C 1.1						6.4E-03
GOES		1327	1452	1512			10000			105		C 1.3						3.5E-04
HOLL		1430	1432	1436	S29	W48	10015	06	27.9	6	SF		3	E		49		1.1E-03
GOES		2108	2111	2115						7		C 1.0						3.5E-04
GOES		2251	2304	2311						20		C 1.0						1.1E-03
GOES	02	0938	0942	0947						9		C 1.1						5.3E-04
GOES		1202	1230	1252						50		C 1.8						4.5E-03
GOES		1408	1417	1423	S19	E37	10019			15	SF	C 2.3						1.6E-03
RAMY		1411	1411	1432	S19	E37	10019	07	5.4	21	SF		3	E		28		F
RAMY		1516	1521	1524	S19	W43	10017	06	29.4	8	SF		3	E		12		
RAMY		1651	1652	1655	S17	W52	10017	06	28.8	4	SF		3	E		20		H
GOES		1813	1817	1820						7		C 1.0						3.5E-04
GOES		1831	1836	1840	S18	E30	10019			9	SF	C 1.0						5.2E-04
RAMY		1840	1840	1849	S18	E30	10019	07	5.1	9	SF		3	E		23		
HOLL		1923	1924	1930	S19	W51	10017	06	29.0	7	SF		3	E		45		
RAMY		1926	1927	1938	S17	W53	10017	06	28.9	12	SF		3	E		35		H
GOES		1946	2001	2009	S19	W46	10017			23	SF	C 5.2						4.5E-03
HOLL		1949	2029	2110	S18	W51	10017	06	29.0	81	SF		3	E		102		F
RAMY		1953	1958	2017	S19	W46	10017	06	29.4	24	SF		3	E		23		FH
RAMY		1958	2004	2024	S18	E30	10019	07	5.1	26	SF		3	E		23		F
HOLL		2001	2001	2014	S17	E30	10019	07	5.1	13	SF		3	E		10		
GOES		2019	2031	2041	S18	W46	10017			22	SF	M 1.5						1.3E-02
RAMY		2021	2029	2142	S18	W46	10017	06	29.4	81	SF		3	E		64		F
HOLL		2111	2111	2117	S19	W49	10017	06	29.2	6	SF		3	E		12		
GOES		2235	2253	2258						23		C 4.9						3.1E-03
HOLL		2330	2335	2341	S21	W47	10017	06	29.5	11	SF		3	E		20		F
GOES	03	0001	0031	0045						44		C 4.1						8.2E-03
GOES		0137	0144	0152						15		C 2.0						1.4E-03
GOES		0208	0213	0216	S20	W51	10017			8	1B	X 1.5						4.1E-02
LEAR		0210	0213	0327	S20	W51	10017	06	29.3	77	1B		3	E		205		FE
LEAR		0437	0444	0502	S18	E24	10019	07	5.0	25	SF		3	E		14		FH
SVTO		0701E	0709U	0712D	S34	E72		07	9.0	11D	1F		2	E		180		
LEAR		0705	0706	0710	S35	E70		07	8.9	5	SF		3	E		21		H
GOES		0757	0809	0822	S20	E23	10019			25	SF	C 3.4						4.0E-03
LEAR		0801	0818	0833	S20	E23	10019	07	5.1	32	SF		3	E		30		FH
SVTO		0806E	0811U	0823	S19	E24	10019	07	5.2	17D	SF		2	E		22		
GOES		0848	0851	0857	S22	E29	10019			9	SF	C 1.1						5.5E-04
LEAR		0851	0851	0855	S22	E28	10019	07	5.5	4	SF		3	E		11		F
SVTO		0851	0852	0856	S22	E29	10019	07	5.6	5	SF		3	E		17		F
GOES		1143	1154	1204	S18	E21	10019			21	1N	C 7.3						6.0E-03
RAMY		1144	1156	1223	S18	E21	10019	07	5.1	39	1N		3	E		140		FH
SVTO		1147E	1159U	1212D	S20	E20	10019	07	5.0	25D	SF		2	E		50		
GOES		1323	1330	1332	S19	W54	10017			9	SF	C 1.2						5.5E-04
RAMY		1324	1324	1334	S19	W54	10017	06	29.5	10	SF		3	E		22		
GOES		1517	1521	1531						14		B 8.8						6.7E-04
GOES		1540	1544	1549						9		C 1.1						5.2E-04
GOES		1803	1808	1811	S19	W58	10017			8	SF	C 3.0						9.8E-04
RAMY		1808	1808	1812	S19	W58	10017	06	29.4	4	SF		3	E		14		F
RAMY		1844	1844	1850	S18	W57	10017	06	29.5	6	SF		3	E		16		F
RAMY		1920	1920	1926	S17	W58	10017	06	29.5	6	SF		3	E		13		F
RAMY		1927	2100	2214	S19	W62	10017	06	29.2	167	1N		3	E		153		F
GOES		1941	1945	1949						8		M 1.1						4.6E-03
GOES		2000	2010	2021			10017			21		M 5.3						4.5E-02
RAMY		2100	2102	2113	S35	E62	10024	07	8.8	13	SF		3	E		20		
HOLL		2125E	2133U	2222	S18	W63	10017	06	29.2	57D	SF		3	E		43		
HOLL		2317E	2319U	2323D	S19	W63	10017	06	29.3	60	SF		2	E		80		U
GOES		2318	2325	2332	S19	W63	10017			14	SF	C 7.9						5.6E-03
GOES	04	0036	0039	0042	S18	W66	10017			6	SF	C 2.8						9.4E-04
LEAR		0038	0039	0045	S18	W66	10017	06	29.1	7	SF		3	E		87		F
GOES		0124	0129	0134	S18	W62	10017			10	SF	C 4.7						2.1E-03

H α SOLAR FLARES

JULY 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	Time (UT)	Area Measurement		Remarks
																Apparent (10-6 Disk)	Corr (Sq Deg)	
LEAR	04	0127	0128	0133	S18	W62	10017	06	29.4	6	SF		3	E		29		F
GOES		0246	0249	0253						7		C 1.5						6.0E-04
GOES		0435	0501	0508	S19	W65	10019			33	SF	C 4.5						5.1E-03
LEAR		0454	0455	0458	S19	W65	10017	06	29.3	4	SF		3	E		14		
LEAR		0457	0459	0517	S20	E12	10019	07	5.1	20	SF		3	E		36		F
SVTO		0506E	0506U	0518D	S20	E20	10019	07	5.7	12D	SF		2	E		42		F
GOES		0614	0619	0622	S19	W66	10017			8	SF	C 2.8						9.7E-04
LEAR		0617	0623	0640	S19	W66	10017	06	29.3	23	SF		3	E		45		F
GOES		0622	0627	0630						8		C 6.5						2.3E-03
SVTO		0626E	0626	0634D	S19	W66	10017	06	29.3	8D	SF		2	E		56		FH
GOES		0727	0734	0739	S19	W77	10017			12	SF	M 1.1						4.3E-03
LEAR		0733	0733	0742	S19	W77	10017	06	28.5	9	SF		3	E		41		F
GOES		1008	1013	1017	S19	W67	10017			9	SF	C 2.4						9.3E-04
SVTO		1011	1013	1016	S19	W67	10017	06	29.4	5	SF		3	E		68		
GOES		1045	1053	1111	S18	W76	10017			26	SF	C 2.6						3.1E-03
SVTO		1047	1047	1057	S18	W76	10017	06	28.8	10	SF		3	E		16		
GOES		1151	1154	1156						5		C 1.6						4.4E-04
GOES		1222	1242	1253						31		C 2.3						3.2E-03
GOES		1326	1334	1350	S20	W69	10017			24	SF	C 3.0						2.8E-03
RAMY		1328	1328	1336	S20	W69	10017	06	29.4	8	SF		2	E		34		
GOES		1450	1457	1503	S21	W68	10017			13	1N	C 7.1						2.8E-03
RAMY		1451	1456	1528	S19	W71	10017	06	29.3	37	1B		3	E		153		H
SVTO		1451	1457	1507	S20	W73	10017	06	29.1	16	1B		3	E		139		
HOLL		1452	1457	1508	S21	W68	10017	06	29.5	16	1N		3	E		130		
GOES		1607	1610	1612	S18	W70	10017			5	SF	C 2.2						5.1E-04
RAMY		1609	1611	1614	S18	W70	10017	06	29.4	5	SF		3	E		47		
RAMY		1617	1617	1623	S19	E06	10019	07	5.1	6	SF		3	E		19		F
GOES		1621	1630	1638			10019			17		C 3.4						2.7E-03
GOES		1741	1746	1756			10019			15		C 2.4						1.6E-03
RAMY		1743	1744	1749	S19	W72	10017	06	29.3	6	SF		3	E		26		
RAMY		1745	1747	1811	S19	E06	10019	07	5.2	26	SF		3	E		48		F
RAMY		1753	1753	1803	S17	W79	10017	06	28.8	10	SF		3	E		16		
GOES		1834	1850	1900	S18	W79	10017			26	SF	C 5.3						5.1E-03
RAMY		1846	1847	1852	S18	W79	10017	06	28.9	6	SF		3	E		31		
GOES		2115	2119	2124	S21	E23	10022			9	SF	B 9.1						4.3E-04
RAMY		2118	2118	2127	S21	E23	10022	07	6.6	9	SF		3	E		17		F
GOES		2211	2218	2223						12		C 1.4						9.1E-04
GOES	05	0205	0220	0239						34		C 1.2						2.2E-03
GOES		0731	0739	0753	S18	W88	10017			22	SF	C 2.6						2.5E-03
LEAR		0739	0741	0748	S18	W88	10017	06	28.7	9	SF		3	E		15		
GOES		0756	0809	0820						24		C 7.8						8.1E-03
GOES		1213	1221	1223						10		C 1.0						4.7E-04
GOES		1310	1326	1337	S19	W82	10017			27	SF	M 3.2						3.0E-02
RAMY		1321	1322	1325	S16	W85	10017	06	29.2	4	SF		3	E		15		H
RAMY		1328	1332	1342	S18	W89	10017	06	28.9	14	SF		3	E		45		H
HOLL		1329	1333	1341	S19	W82	10017	06	29.4	12	SF		3	E		22		
SVTO		1331	1332	1340	S18	W89	10017	06	28.9	9	SF		3	E		30		
RAMY		1538	1542	1604	S28	W18	10021	07	4.2	26	SF		3	E		40		
HOLL		1539	1541	1556	S29	W15	10021	07	4.5	17	SF		3	E		39		F
SVTO		1539	1545	1604	S29	W18	10021	07	4.2	25	SF		3	E		44		F
HOLL		1548	1551	1612	S19	W01	10019	07	5.6	24	SF		3	E		51		F
RAMY		1548	1551	1614	S19	W02	10019	07	5.5	26	SF		3	E		61		F
SVTO		1548	1556	1614	S19	W03	10019	07	5.4	26	SF		3	E		52		F
GOES		1550	1556	1600	S19	W02	10019			10	SF	C 6.3						3.3E-03
SVTO		1614	1617	1632	S29	W17	10021	07	4.3	18	SF		3	E		28		F
RAMY		1615	1618	1622	S28	W16	10021	07	4.4	7	SF		3	E		16		
RAMY		1726	1727	1730	S28	W18	10021	07	4.3	4	SF		3	E		21		
RAMY		1733	1733	1739	S28	W16	10021	07	4.5	6	SF		3	E		19		
RAMY		1811	1823	1830	S28	W19	10021	07	4.3	19	SF		3	E		48		
HOLL		1811	1823	1839	S28	W17	10021	07	4.4	28	SF		3	E		56		
GOES		2025	2030	2041	S29	W18	10021			16	SF	C 2.0						1.5E-03
HOLL		2028	2029	2035	S29	W18	10021	07	4.4	7	SF		3	E		21		
HOLL		2029	2033	2038	S20	E08	10022	07	6.5	9	SF		3	E		19		
GOES		2047	2051	2056	S28	W19	10021			9	SF	C 3.6						1.5E-03
HOLL		2049	2051	2101	S28	W19	10021	07	4.4	12	SF		3	E		60		
RAMY		2049	2052	2102	S28	W18	10021	07	4.5	13	SF		3	E		50		
HOLL		2132	2132	2136	S29	W19	10021	07	4.4	4	SF		3	E		12		

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo Day	Dur (Min)	Imp Opt Xray	Obs See Type	Area Measurement			Remarks
												Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
GOES	05	2150	2210	2225	S29	W21	10021		35	SF C 2.0					3.0E-03
HOLL		2200	2213	2225	S29	W21	10021	07 4.3	25	SF	3 E		36		
GOES	06	0047	0051	0054					7	B 8.0					3.0E-04
GOES		0328	0342	0355					27	M 1.8					2.0E-02
GOES		0927	0938	0943	S19	W12	10019		16	1N C 6.0					3.2E-03
SVTO		0931	0937	1002	S19	W12	10019	07 5.5	31	1N	3 E		107		FS
GOES		1240	1247	1252	N09	E25	10000		12	SF C 2.0					1.1E-03
RAMY		1242	1245	1302	N09	E25		07 8.4	20	SF	3 E		88		F
SVTO		1242	1246	1300	N07	E26		07 8.5	18	SF	2 E		96		F
GOES		1933	2003	2036					63	C 1.0					3.3E-03
GOES		2349	2426	2444					55	C 1.8					3.8E-03
GOES	07	0334	0401	0427					53	C 3.5					6.3E-03
GOES		0541	0602	0624					43	C 1.2					2.7E-03
GOES		1115	1143	1317					122	M 1.0					6.2E-02
RAMY		1301	1303	1312	S19	E46	10025	07 11.0	11	SF	3 E		23		F
GOES		1610	1622	1639			10000		29	C 1.8					3.0E-03
GOES	08	0910	0921	0927					17	M 1.6					8.8E-03
GOES		1616	1622	1628					12	B 9.3					5.4E-04
GOES		1824	1831	1843					19	C 3.5					2.9E-03
GOES		2017	2022	2028					11	C 1.2					6.6E-04
GOES		2309	2320	2329					20	M 2.3					1.7E-02
GOES	09	0209	0218	0229					20	C 2.5					2.3E-03
GOES		0359	0413	0443					44	C 8.6					1.5E-02
GOES		0711	0716	0722					11	C 2.5					1.2E-03
GOES		0855	0905	0911					16	M 1.0					5.6E-03
GOES		1428	1437	1444					16	C 1.1					9.9E-04
GOES		1511	1517	1525					14	C 1.2					8.6E-04
GOES	10	0141	0150	0156	N21	E71	10030		15	SF C 1.1					8.4E-04
LEAR		0146	0149	0159	N21	E71	10030	07 15.5	13	SF	3 E		26		F
GOES		0416	0421	0434	N18	E68	10030		18	SF B 7.9					7.3E-04
LEAR		0418	0419	0427	N18	E68	10030	07 15.3	9	SF	3 E		40		
GOES		1030	1046	1055					25	B 9.4					1.1E-03
RAMY		1046	1048	1054	S20	E08	10025	07 11.1	8	SF	3 E		17		
GOES		1245	1250	1257	S19	E09	10025		12	SF C 1.0					6.1E-04
SVTO		1249	1250	1252	S19	E06	10025	07 11.0	3	SF	2 E		16		FH
RAMY		1250	1250	1254	S19	E09	10025	07 11.2	4	SF	3 E		20		FH
RAMY		1308	1329	1411	S19	E08	10025	07 11.1	63	SF	3 E		80		FH
SVTO		1309	1330	1358	S19	E08	10025	07 11.1	49	SF	2 E		75		FH
GOES		1323	1333	1342	S19	E08	10025		19	SF C 2.7					2.4E-03
GOES		1544	1548	1550					6	B 8.7					2.4E-04
GOES		1814	1822	1829	N21	E61	10030		15	SF B 6.8					5.3E-04
HOLL		1823	1828	1832	N21	E61	10030	07 15.4	9	SF	3 E		60		
GOES		1846	1850	1855					9	B 7.8					3.8E-04
GOES		1911	1915	1919	N22	E69	10030		8	SF C 1.4					4.7E-04
HOLL		1914	1914	1920	N22	E69	10030	07 16.1	6	SF	3 E		19		
HOLL		1925	1927	1928	N22	E69	10030	07 16.1	3	SF	3 E		19		
GOES	11	0047	0053	0100					13	C 1.7					1.0E-03
GOES		0235	0240	0242					7	C 1.4					4.6E-04
GOES		0301	0305	0308					7	B 9.1					3.1E-04
GOES		0504	0507	0511					7	B 9.4					3.4E-04
GOES		0708	0713	0717	N19	E66	10030		9	SF C 2.1					7.5E-04
SVTO		0710	0712	0718	N19	E66	10030	07 16.3	8	SF	3 E		35		F
LEAR		0712	0712	0714	N19	E65	10030	07 16.3	2	SF	3 E		16		F
GOES		0811	0818	0905					54	C 1.1					3.1E-03
SVTO		1006	1020	1031	N20	E66	10030	07 16.5	25	SF	3 E		18		F
GOES		1032	1038	1053	N22	E62	10030		21	SF C 2.1					2.5E-03
SVTO		1034	1037	1049	N22	E62	10030	07 16.2	15	SF	3 E		22		
GOES		1107	1121	1128					21	C 4.0					3.5E-03
GOES		1204	1208	1215					11	C 2.5					1.4E-03
GOES		1236	1239	1251	N19	E62	10030		15	SF C 1.7					1.4E-03
GOES		1415	1419	1422	N19	E65	10030		7	SF M 1.0					2.8E-03
GOES		1444	1451	1457	N21	E58	10030		13	2N M 5.8					2.7E-02

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
															Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
GOES	11	2203	2206	2210						7		C 1.1						4.4E-04
GOES	12	0021	0026	0029						8		C 1.1						4.9E-04
GOES		0642	0659	0710	N20	E47	10030			28	SF	C 1.7						2.3E-03
SVTO		0659	0659	0709	N20	E47	10030	07	15.9	10	SF		3	E		17		F
GOES		0849	0856	0901	N22	E43	10030			12	SF	C 1.6						1.0E-03
LEAR		0851	0851	0903	N22	E41	10030	07	15.5	12	SF		2	E		18		F
SVTO		0851	0851	0907	N22	E43	10030	07	15.7	16	SF		3	E		17		F
GOES		1032	1035	1038						6		B 8.4						2.6E-04
GOES		1213	1217	1219	N18	E46	10030			6	SF	B 7.2						2.3E-04
RAMY		1217	1217	1226	N18	E46	10030	07	16.0	9	SF		3	E		11		
GOES		1327	1341	1359	N17	E47	10030			32	SF	C 1.8						2.7E-03
SVTO		1334	1339	1350	N17	E47	10030	07	16.1	16	SF		3	E		57		
HOLL		1334	1348	1351	N18	E45	10030	07	16.0	17	SF		3	E		12		
SVTO		1351	1352	1354	N17	E45	10030	07	16.0	3	SF		3	E		14		
GOES		1548	1552	1555	N18	E41	10030			7	SF	B 6.5						2.5E-04
SVTO		1551	1551	1558	N18	E41	10030	07	15.8	7	SF		3	E		11		
GOES		1856	1859	1902						6		B 8.4						2.4E-04
GOES		1914	1917	1919						5		C 1.0						2.3E-04
GOES		1942	1945	1949						7		B 8.1						3.1E-04
GOES		2202	2205	2207	N19	E40	10030			5	SF	B 8.3						2.2E-04
HOLL		2204	2204	2210	N19	E40	10030	07	16.0	6	SF		3	E		22		
GOES		2238	2242	2247						9		B 8.3						3.8E-04
GOES		2321	2326	2330	N19	E40	10030			9	SF	C 2.1						7.7E-04
HOLL		2324	2326	2352	N19	E40	10030	07	16.0	28	SF		3	E		54		U
HOLL		2354		2438	N18	E38	10030	07	15.9	44	2F		3	E		285		UF
GOES		2354	2408	2420	N18	E38	10030			26	2F	M 1.1						1.2E-02
LEAR		2358	2401	2438	N18	E31	10030	07	15.3	40	1F		1	E		121		FH
HOLL	13	0039	0049	0103	N22	E38	10030	07	15.9	24	1F		3	E		169		F
GOES		0044	0050	0055	N22	E38	10030			11	1F	C 6.7						3.5E-03
LEAR		0046	0047	0059	N20	E39	10030	07	16.0	13	SF		2	E		76		F
GOES		0330	0334	0337						7		C 1.6						5.2E-04
GOES		0401	0406	0411	N19	E37	10030			10	SF	C 1.4						6.9E-04
LEAR		0404	0404	0410	N19	E37	10030	07	16.0	6	SF		3	E		15		F
GOES		0550	0554	0556	N18	E36	10030			6	SF	C 1.7						4.1E-04
LEAR		0554	0555	0557	N18	E36	10030	07	16.0	3	SF		2	E		13		F
LEAR		0642	0644	0649	N12	E51	10031	07	17.1	7	SF		3	E		19		UF
GOES		0750	0753	0755	N19	E36	10030			5	SF	C 1.6						4.2E-04
SVTO		0752	0754	0756	N20	E37	10030	07	16.1	4	SF		3	E		27		
LEAR		0752	0754	0757	N19	E36	10030	07	16.1	5	SF		3	E		21		
GOES		0812	0815	0818	N17	E35	10030			6	SF	C 2.2						5.7E-04
LEAR		0814	0815	0821	N16	E34	10030	07	15.9	7	SF		2	E		36		F
SVTO		0814	0815	0823	N17	E35	10030	07	16.0	9	SF		3	E		48		
GOES		1720	1724	1728	N21	E21	10030			8	SF	B 8.6						3.6E-04
HOLL		1722	1724	1729	N21	E21	10030	07	15.3	7	SF		3	E		25		F
RAMY		1724	1724	1733	N20	E26	10030	07	15.7	9	SF		3	E		25		F
GOES		2342	2346	2352	N18	E19	10030			10	SF	B 7.2						3.8E-04
HOLL		2344	2348	2353	N18	E19	10030	07	15.4	9	SF		3	E		21		
GOES	14	0211	0214	0216						5		B 8.8						1.9E-04
GOES		0514	0520	0525	N17	E21	10030			11	SF	C 1.2						6.5E-04
SVTO		0517	0517	0532	N17	E21	10030	07	15.8	15	SF		3	E		15		F
GOES		0641	0645	0648	N19	E22	10030			7	SF	C 1.5						4.5E-04
LEAR		0644	0644	0652	N19	E22	10030	07	15.9	8	SF		3	E		17		F
GOES		0655	0659	0702						7		C 1.0						3.5E-04
GOES		0712	0715	0719						7		B 9.2						3.4E-04
GOES		0733	0737	0741						8		B 9.3						3.9E-04
GOES		0843	0846	0848						5		C 1.0						2.5E-04
GOES		1353	1358	1402	N20	E10	10030			9	SF	B 7.8						3.9E-04
RAMY		1357	1400	1407	N20	E10	10030	07	15.3	10	SF		3	E		15		F
GOES		1445	1511	1528	N17	E15	10030			43	SF	C 1.2						2.3E-03
RAMY		1456	1509	1556	N17	E15	10030	07	15.8	60	SF		3	E		39		
HOLL		1503	1505	1507	N18	E11	10030	07	15.5	4	SF		3	E		21		
HOLL		1511	1513	1515	N18	E15	10030	07	15.8	4	SF		3	E		39		F
HOLL		1515	1517	1524	N18	E15	10030	07	15.8	9	SF		3	E		29		
SVTO		1517E	1517U	1523D	N17	E15	10030	07	15.8	60	SF		2	E		20		F
SVTO		1526	1527	1534	N18	E10	10030	07	15.4	8	SF		3	E		12		

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	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
																Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
[	GOES	14	1609	1612	1614	N20	E17	10030			5	SF	C 1.2						2.6E-04
	RAMY		1612	1612	1617	N20	E17	10030	07	16.0	5	SF		3	E		31		
	GOES	15	0046	0050	0055						9		C 1.8						7.4E-04
	LEAR		0131	0133	0137	N19	E09	10030	07	15.8	6	SF		3	E		10		
[	GOES		0200	0202	0210	N24	E08	10030			10	SF	C 1.6						8.8E-04
	LEAR		0201	0203	0213	N24	E08	10030	07	15.7	12	SF		3	E		28		FH
[	GOES		0414	0423	0434	N19	E08	10030			20	SF	C 1.6						1.5E-03
	LEAR		0422	0423	0429	N19	E08	10030	07	15.8	7	SF		3	E		15		F
[	GOES		0503	0512	0522	N21	E09	10030			19	SF	C 3.8						3.3E-03
	LEAR		0506	0507	0527	N21	E09	10030	07	15.9	21	SF		4	E		62		F
	SVTO		0901	0904	0910	N18	E05	10030	07	15.7	9	SF		3	E		11		
[	GOES		1012	1029	1039	N19	E04	10030			27	SF	C 1.6						2.1E-03
	SVTO		1022	1030	1040	N19	E04	10030	07	15.7	18	SF		3	E		23		F
[	GOES		1112	1145	1245	N20	E04	10030	07	15.8	93	SF		3	E		89		F
	SVTO		1112	1145	1245	N20	E04	10030			38	SF	C 9.1						1.6E-02
[	GOES		1139	1155	1217	N20	E04	10030			53	SF		2	E		88		F
	SVTO		1353	1402	1446	N19	E02	10030	07	15.7	53	SF							F
[	GOES		1400	1404	1410	N18	E01	10030			10	SF	C 3.6						1.9E-03
	RAMY		1402E	1403U	1409	N18	E01	10030	07	15.7	70	SF		3	E		26		F
[	HOLL		1700	1720	1748	N22	E06	10030	07	16.2	48	SF		3	E		20		
	SVTO		1705E	1715U	1738D	N21	E07	10030	07	16.2	33D	SF		1	E		13		
[	GOES		1837	1840	1849	N17	W01	10030			12	SF	C 1.9						1.3E-03
	HOLL		1839	1839	1852	N17	W01	10030	07	15.7	13	SF		3	E		39		
[	HOLL		1950	2011	2334D	N19	W01	10030	07	15.7	224D	3B		3	E		733		UF
	GOES		1959	2008	2014	N19	W01	10030			15	3B	X 3.0						1.4E-01
	GOES		2103	2132	2148			10030			45		M 1.8						4.3E-02
	GOES	16	0008	0011	0015						7		C 4.6						1.8E-03
	LEAR		0512	0513	0521	S09	E77	10036	07	22.0	9	SF		3	E		28		
[	GOES		0637	0647	0700	N22	W02	10030			23	SN	C 6.5						7.2E-03
	LEAR		0639	0640	0726	N22	W02	10030	07	16.1	47	SN		3	E		70		EF
	SVTO		0703E	0711U	0728D	N23	W02	10030	07	16.1	25D	SF		2	E		60		F
[	GOES		1138	1143	1149	S07	E70	10036			11	SF	C 3.5						1.7E-03
	SVTO		1141	1142	1152	S06	E69	10036	07	21.6	11	SF		3	E		43		
[	GOES		1143	1143	1201	S07	E70	10036	07	21.7	18	SF		3	E		70		
	SVTO		1150	1156	1215D	N23	W05	10030	07	16.1	25D	SF		3	E		28		
	RAMY		1151	1202	1215	N18	W14	10030	07	15.4	24	SF		3	E		28		F
	RAMY		1202	1221	1237	S08	E71	10036	07	21.8	35	SF		3	E		22		H
[	GOES		1331	1410	1421	N23	W07	10030			50	SF	C 8.5						1.3E-02
	SVTO		1332	1341U	1451D	N19	W10	10030	07	15.8	79D	SF		3	E		46		F
[	GOES		1339	1410	1445	N23	W07	10030	07	16.0	66	SF		3	E		51		F
	SVTO		1514E	1515	1518	S16	W71	10025	07	11.2	4D	SF		3	E		22		
	RAMY		1536	1539	1549	N21	W09	10030	07	16.0	13	SF		3	E		18		F
[	GOES		1614	1615	1640	N23	W07	10030	07	16.1	26	SF		3	E		13		F
	SVTO		1616	1616	1624	N23	W07	10030	07	16.1	8	SF		3	E		10		F
	RAMY		1622	1622	1643	S15	W67	10027	07	11.6	21	SF		3	E		15		
[	GOES		1625	1632	1638	N23	W07	10030	07	16.1	13	SF		3	E		13		F
	RAMY		1707	1709	1712	S15	W72	10027	07	11.3	5	SF		3	E		15		
	RAMY		1719	1720	1725	S16	W73	10027	07	11.2	6	SF		3	E		12		F
	RAMY		1729	1730	1735	S15	W73	10027	07	11.2	6	SF		3	E		15		
[	GOES		1912	1915	1917						5		C 1.4						3.8E-04
	GOES		2122	2138	2148	N19	W14	10030			26	SF	C 2.6						3.1E-03
[	GOES		2124	2139	2222D	N19	W14	10030	07	15.8	58D	SF		3	E		35		F
	HOLL		2124	2148	2206	N19	W15	10030	07	15.7	42	SF		3	E		33		F
[	GOES		2221	2227	2232	N16	E72	10037			11	SF	C 1.9						1.1E-03
	HOLL		2222	2224	2241	N16	E72	10037	07	22.4	19	SF		3	E		83		
[	GOES		2244	2250	2255	N20	W07	10030			11	SF	C 2.0						1.2E-03
	HOLL		2249	2255	2307	N20	W07	10030	07	16.4	18	SF		3	E		19		
	HOLL		2251	2253	2256	S05	E64	10036	07	21.7	5	SF		3	E		12		
	GOES	17	0203	0208	0214						11		C 2.3						1.4E-03
	LEAR		0250	0251	0254	S08	E60	10036	07	21.6	4	SF		2	E		16		F
	LEAR		0255	0255	0300	S08	E60	10036	07	21.6	5	SF		2	E		22		F
	LEAR		0302	0303	0313	S08	E60	10036	07	21.6	11	SF		3	E		19		
	LEAR		0344	0345	0349	S08	E60	10036	07	21.6	5	SF		2	E		31		F
	LEAR		0350	0354	0401	S08	E60	10036	07	21.6	11	SF		3	E		47		
[	GOES		0545	0551	0556	N20	W18	10030			11	SF	C 4.0						1.9E-03
	LEAR		0548	0550	0629	N20	W18	10030	07	15.9	41	SF		3	E		56		F

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo Day	Dur (Min)	Imp Opt Xray	Obs See Type	Area Measurement			Remarks
												Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
SVTO	17	0548	0552	0629	N21	W18	10030	07 15.9	41	1F	3 E		103		F
LEAR		0552	0552	0603	S08	E58	10036	07 21.6	11	SF	3 E		13		
LEAR		0650	0652	0657	S06	E58	10036	07 21.6	7	SF	3 E		36		
SVTO		0651	0653	0657	S06	E59	10036	07 21.7	6	SF	3 E		23		
GOES		0658	0713	0719	N21	W17	10030		21	1B M 8.5					5.3E-02
LEAR		0701	0704	0747	N19	W16	10030	07 16.1	46	1B	3 E		183		UF
SVTO		0701	0704	0759	N21	W17	10030	07 16.0	58	1B	3 E		213		UF
LEAR		0809	0809	0815	S08	E57	10036	07 21.6	6	SF	3 E		19		
LEAR		0825	0840	0857	N23	W18	10030	07 16.0	32	SF	3 E		26		F
RAMY		1832	1833	1838	N17	E62	10037	07 22.5	6	SF	3 E		19		F
GOES		1904	1911	1919					15	C 1.5					1.2E-03
GOES		1943	1950	1956					13	C 3.4					1.9E-03
GOES		2009	2013	2019					10	C 1.6					9.0E-04
GOES		2042	2046	2053	N24	W24	10030		11	SF C 1.7					1.0E-03
HOLL		2045	2050	2051	N24	W24	10030	07 16.0	6	SF	3 E		28		
HOLL		2053	2056	2113	N23	W23	10030	07 16.1	20	SF	3 E		23		
GOES	18	0322	0337	0340	N20	W27	10030		18	SB M 2.2					9.1E-03
LEAR		0330E	0336U	0345D	N20	W27	10030	07 16.1	15D	SB	1 E		88		FE
LEAR		0647E	0647U	0658	N18	W33	10030	07 15.8	11D	SF	2 E		10		F
GOES		0649	0653	0657	N19	W32	10030		8	SF C 1.7					7.0E-04
SVTO		0650	0651	0657	N19	W32	10030	07 15.8	7	SF	3 E		12		F
GOES		0724	0744	0749	N19	W30	10030		25	2B X 1.8					5.6E-02
LEAR		0741	0743U	0800D	N19	W30	10030	07 16.0	19D	2B	3 E		440		UF
SVTO		0741	0744	0807	N19	W34	10030	07 15.7	26	2B	3 E		525		UF
GOES		0815	0835	0840	N21	W29	10030		25	SF C 1.6					1.8E-03
SVTO		0830	0833	0853	N21	W29	10030	07 16.1	23	SF	3 E		49		
GOES		1151	1158	1206	N17	E53	10037		15	1F C 2.7					1.8E-03
RAMY		1153	1157	1215	N17	E53	10037	07 22.5	22	1F	3 E		125		F
SVTO		1154	1156	1217D	N16	E52	10037	07 22.4	23D	SF	3 E		82		F
GOES		1348	1354	1404					16	C 5.4					4.6E-03
GOES		1742	1746	1751	N21	W37	10030		9	SF C 1.7					7.7E-04
RAMY		1745	1747	1754	N21	W37	10030	07 15.9	9	SF	3 E		10		F
GOES		1757	1802	1808	S09	E28	10035		11	SF C 1.4					8.5E-04
RAMY		1800	1802	1810	S09	E28	10035	07 20.8	10	SF	3 E		24		F
GOES		1952	1957	2006					14	C 2.1					1.5E-03
GOES		2016	2027	2035	S06	E39	10036		19	SF C 3.3					3.2E-03
HOLL		2019	2019	2049	S06	E39	10036	07 21.8	30	SF	3 E		20		F
GOES		2143	2152	2201					18	C 2.6					2.2E-03
GOES		2256	2300	2302					6	C 1.8					5.0E-04
GOES		2308	2317	2323					15	C 8.2					4.4E-03
GOES	19	0506	0509	0512	N19	W45	10030		6	SF C 1.2					4.0E-04
SVTO		0507	0510	0517	N19	W45	10030	07 15.8	10	SF	3 E		39		F
SVTO		0626	0634	0656	N15	W40	10030	07 16.2	30	SF	3 E		17		F
GOES		0837	0840	0844					7	C 1.0					3.8E-04
GOES		0915	0919	0923					8	C 1.3					5.0E-04
GOES		1015	1020	1027	S09	E19	10035		12	SF C 1.7					1.0E-03
SVTO		1019E	1021U	1037D	S09	E19	10035	07 20.8	18D	SF	2 E		29		3.8E-04
GOES		1245	1248	1251	N20	W49	10030		6	SF C 1.2					3.8E-04
RAMY		1248	1249	1253	N20	W49	10030	07 15.8	5	SF	3 E		49		FH
GOES		1646	1853	2037			10030		231	C 3.9					3.8E-02T
RAMY		1811	1813	1831	N18	W46	10030	07 16.2	20	SF	3 E		66		FH
RAMY		1846	1847	1904	N17	W47	10030	07 16.2	18	SF	3 E		30		F
RAMY		1907	1907	1910	N17	W48	10030	07 16.1	3	SF	3 E		26		FU
RAMY		1934	1942	1959	N18	W46	10030	07 16.3	25	SF	3 E		15		FH
RAMY		2017	2018	2020	N21	W57	10030	07 15.5	3	SF	3 E		12		
GOES	20	0250	0300	0310					20	C 4.0					4.1E-03
SVTO		0759E	0759U	0817D	S10	E25	10036	07 22.2	18D	SF	2 E		34		F
SVTO		1232E	1242U	1256D	N20	W61	10030	07 15.8	24D	1N	2 E		186		F
GOES		1237	1242	1244	N20	W61	10030		7	1N C 9.6					2.3E-03
RAMY		1245E	1245U	1259	N20	W60	10030	07 15.9	14D	1N	2 E		155		
SVTO		1301E	1305U	1311D	N21	W59	10030	07 16.0	10D	SF	2 E		74		
GOES		1323	1327	1333	N17	E72	10000		10	SF C 2.7					1.5E-03
RAMY		1325	1328	1332	N16	E72		07 26.0	7	SF	2 E		14		H
SVTO		1325	1329	1332	N17	E72		07 26.0	7	SF	3 E		17		
SVTO		1654	1655	1658	N21	W63	10030	07 15.9	4	SF	3 E		31		

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo Day	Dur (Min)	Imp Opt Xray	Obs See Type	Area Measurement			Remarks	
												Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)		
RAMY	20	1701	1702	1704	N21	W63	10030	07 15.9	3	SF	3	E		27		U
SVTO		1701E	1702U	1705D	N21	W64	10030	07 15.8	4D	SF	2	E		57		F
GOES		2104	2130	2154					50	X 3.3						7.2E-01
GOES	21	0307	0310	0312					5	C 7.9						1.8E-03
GOES		0605	0613	0624					19	C 6.7						6.1E-03
GOES		0735	0745	0754					19	C 6.7						5.9E-03
GOES		1333	1337	1339	S09	W17	10035		6	SF C 1.8						5.2E-04
SVTO		1335	1336	1340	S09	W17	10035	07 20.3	5	SF	3	E		17		
RAMY		1335	1336	1342	S09	W17	10035	07 20.3	7	SF	3	E		26		
GOES		1414	1421	1431					17	C 3.4						2.6E-03
SVTO		1546	1547	1549	S09	W18	10035	07 20.3	3	SF	3	E		14		
RAMY		1547	1548	1550	S09	W16	10035	07 20.4	3	SF	3	E		12		F
GOES	22	0633	0639	0652					19	C 1.5						1.6E-03
GOES		0927	0934	0942	S12	W12	10036		15	SF C 2.3						1.9E-03
SVTO		0928	0930	0944	S12	W12	10036	07 21.5	16	SF	3	E		16		
GOES		1151	1156	1201					10	C 2.7						1.3E-03
SVTO		1616	1617	1619	N17	W78	10030	07 16.7	3	SF	3	E		18		
RAMY		1616	1617	1619	N16	W80	10030	07 16.6	3	SF	3	E		20		
HOLL		1616	1617	1619	N17	W76	10030	07 16.9	3	SF	3	E		24		
RAMY		1645	1649	1659	S08	W31	10035	07 20.4	14	SF	3	E		14		F
SVTO		1646	1647U	1700D	S07	W31	10035	07 20.4	14D	SF	2	E		17		F
HOLL		1646	1649	1658	S08	W32	10035	07 20.3	12	SF	3	E		17		F
RAMY		1913	1923	1933	S09	W28	10035	07 20.7	20	SF	3	E		23		F
GOES		2156	2238	2341	S08	W33	10035		105	SF C 3.1						1.6E-02
RAMY		2215E	2215U	2226D	S08	W33	10035	07 20.4	11D	SF	3	E		40		F
GOES	23	0018	0035	0047	S13	E72	10039		29	2B X 4.8						4.6E-01
HOLL		0021E	0032U	0159D	S11	E67	10039	07 28.0	98D	1B	3	E		184		F
LEAR		0023	0029	0240	S13	E72	10039	07 28.4	137	2B	3	E		288		FE
HOLL		0040	0043	0052	S11	W29	10035	07 20.8	12	SF	3	E		38		F
SVTO		0516	0522	0529	S08	W34	10035	07 20.7	13	SF	3	E		27		F
LEAR		0516	0523	0534	S07	W34	10035	07 20.7	18	SF	3	E		33		F
LEAR		0542	0546	0610	S08	W22	10036	07 21.6	28	SF	3	E		15		F
LEAR		0620	0628	0648	S08	W22	10036	07 21.6	28	SF	3	E		23		F
GOES		0722	0814	0833					71	C 3.7						1.3E-02
GOES		0840	0906	0912	S08	W37	10035		32	SF C 4.0						6.3E-03
LEAR		0900	0904	0907D	S07	W34	10035	07 20.8	7D	SF	2	E		25		F
SVTO		0901	0904	0915	S08	W37	10035	07 20.6	14	SF	3	E		38		F
GOES		1050	1105	1121	S08	W22	10036		31	SF C 2.8						4.4E-03
SVTO		1059	1102	1107	S08	W22	10036	07 21.8	8	SF	3	E		12		F
GOES		1218	1223	1230					12	C 2.9						1.6E-03
GOES		2034	2050	2102	S07	W24	10036		28	SF C 3.0						5.4E-03
HOLL		2100	2105	2108	S07	W24	10036	07 22.1	8	SF	3	E		27		F
HOLL		2115	2115	2121	S07	W24	10036	07 22.1	6	SF	3	E		12		
HOLL		2247	2248	2254	S20	E59	10044	07 28.5	7	SF	3	E		49		
GOES		2249	2256	2301	S20	E59	10044		12	SF C 2.6						1.7E-03
GOES	24	0029	0033	0039					10	C 2.0						1.1E-03
GOES		0101	0104	0106					5	C 2.5						6.1E-04
GOES		0242	0246	0248					6	C 3.6						1.0E-03
GOES		0317	0321	0324	S16	E59	10039		7	SF C 4.5						1.6E-03
LEAR		0322	0325U	0335	S16	E59	10039	07 28.6	13	SF	4	E		13		
GOES		1130	1139	1147					17	C 2.5						2.3E-03
SVTO		1132	1134	1138	S09	E51	10039	07 28.3	6	SF	3	E		10		F
GOES		1231	1256	1333	S21	E49	10039		62	SF C 6.1						1.7E-02
RAMY		1241	1245	1400	S21	E49	10039	07 28.3	79	SF	3	E		12		F
HOLL		1514	1545	1659	S13	E49	10039	07 28.3	105	1F	3	E		161		FH
GOES		1524	1555	1622	S13	E49	10039		58	1F M 1.2						2.9E-02
RAMY		1538	1544	1658	S15	E44	10039	07 28.0	80	1F	3	E		120		F
HOLL		1746	1749	1753	S06	W40	10036	07 21.7	7	SF	3	E		27		
GOES		1811	1813	1819	S12	E51	10039		8	SF C 3.2						1.4E-03
HOLL		1812	1813	1823	S12	E51	10039	07 28.6	11	SF	3	E		21		
GOES		1843	1848	1852	S13	E51	10039		9	SF C 2.2						1.2E-03
HOLL		1845	1845	1855	S13	E51	10039	07 28.6	10	SF	3	E		15		
GOES		1913	1915	1918	S13	E47	10039		5	SF C 2.3						6.2E-04
HOLL		1914	1916	1920	S13	E47	10039	07 28.3	6	SF	3	E		24		

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo Day	Dur (Min)	Imp Opt Xray	Obs See Type	Area Measurement			Remarks
												Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
HOLL	24	2032	2032	2039	S21	E49	10044	07 28.6	7	SF	3 E		11		
GOES	25	0035	0038	0040			10039		5	C 1.9					4.9E-04
GOES		0310	0313	0316			10039		6	C 2.9					9.5E-04
GOES		0355	0358	0403	S13	E46	10039		8	SF C 2.7					1.2E-03
LEAR		0403	0403	0408	S13	E46	10039	07 28.6	5	SF	3 E		11		
GOES		0838	0842	0851			10039		13	C 1.7					1.2E-03
GOES		0914	0921	0956			10039		42	C 2.9					6.4E-03
RAMY		1240	1240	1252	S21	E08	10042	07 26.1	12	SF	2 E		52		F
GOES		1419	1430	1443	S14	W47	10036		24	SF C 2.7					3.4E-03
RAMY		1424	1424	1446	S12	W47	10036	07 22.0	22	SF	3 E		16		F
HOLL		1424	1429	1441	S14	W47	10036	07 22.0	17	SF	3 E		17		F
SVTO		1427	1427	1438	S13	W48	10036	07 22.0	11	SF	3 E		13		
HOLL		1439	1441	1445	S15	E36	10039	07 28.3	6	SF	3 E		17		F
SVTO		1525	1525	1532	S14	W54	10036	07 21.6	7	SF	3 E		15		
RAMY		1525	1525	1534	S12	W54	10036	07 21.6	9	SF	3 E		25		F
GOES		1551	1558	1610			10036		19	C 2.6					2.6E-03
GOES		1859	1903	1906	S16	E44	10039		7	SF C 2.5					8.0E-04
HOLL		1902	1902	1910	S16	E44	10039	07 29.1	8	SF	3 E		18		
RAMY		1903	1903	1909	S17	E44	10039	07 29.1	6	SF	3 E		17		
GOES		2031	2034	2039					8	C 2.0					9.0E-04
GOES		2107	2112	2114	S20	E33	10044		7	SF C 2.8					9.6E-04
HOLL		2111	2111	2117	S20	E33	10044	07 28.4	6	SF	3 E		40		F
GOES		2155	2202	2214			10044		19	C 3.1					3.1E-03
GOES		2254	2311	2338	S20	E33	10044		44	SF C 6.7					1.3E-02
HOLL		2258E	2307U	2317D	S20	E33	10044	07 28.5	19D	SF	2 E		88		UF
GOES	26	0004	0010	0016	S20	E28	10044		12	1N M 4.9					2.2E-02
LEAR		0006E	0006U	0035	S19	E32	10044	07 28.4	29D	SF	1 E		45		
HOLL		0007E	0014U	0020D	S20	E28	10044	07 28.1	13D	1N	2 E		175		U
GOES		0312	0319	0333			10044		21	C 5.8					5.1E-03
GOES		0628	0642	0648	S20	E27	10044		20	SN M 1.1					7.4E-03
LEAR		0631	0641	0659	S20	E27	10044	07 28.3	28	SN	3 E		60		F
LEAR		0657	0701	0725	S14	E31	10039	07 28.6	28	SF	3 E		24		F
GOES		0804	0829	0902	S19	E27	10044		58	SN M 1.3					3.4E-02
LEAR		0807	0828	0901	S19	E27	10044	07 28.4	54	SN	3 E		77		F
SVTO		0813E	0814U	0820D	N19	E60		07 30.9	7D	SF	3 E		29		
SVTO		0813E	0814U	0913D	S19	E27	10044	07 28.4	60D	1F	3 E		120		F
LEAR		0920	0922	0929	S20	E30	10044	07 28.7	9	SF	1 E		30		F
GOES		1255	1315	1324			10044		29	C 2.7					3.7E-03
HOLL		1304	1321	1439	S22	E29	10044	07 28.8	95	SF	3 E		68		FH
HOLL		1328	1328	1334	N19	E58		07 31.0	6	SF	3 E		15		
GOES		1336	1342	1355			10044		19	C 3.0					3.2E-03
SVTO		1338E	1342U	1347D	S19	E24	10044	07 28.4	9D	SF	3 E		75		F
GOES		1528	1532	1539	S20	E22	10044		11	SF C 4.2					2.5E-03
HOLL		1530	1537	1546	S20	E22	10044	07 28.3	16	SF	3 E		23		F
HOLL		1607	1613	1634	S18	E19	10044	07 28.1	27	SF	3 E		35		F
GOES		1610	1613	1616	S18	E19	10044		6	SF C 3.8					1.2E-03
HOLL		1658	1659	1705	S19	E22	10044	07 28.4	7	SF	3 E		13		
GOES		1803	1829	1845	S22	E18	10044		42	SF C 9.5					1.5E-02
HOLL		1817	1821	1837	S22	E18	10044	07 28.1	20	SF	3 E		47		F
HOLL		1838	1838	1842	S20	E21	10044	07 28.4	4	SF	3 E		12		F
HOLL		1845	1901	1909	S21	E21	10044	07 28.4	24	SF	3 E		97		FH
GOES		1857	1903	1906	S21	E21	10044		9	SF M 1.0					4.3E-03
HOLL		1910	1910	1918	S18	E17	10044	07 28.1	8	SF	3 E		12		
HOLL		1925	1925	1929	S18	E24	10044	07 28.6	4	SF	3 E		15		
GOES		2051	2112	2129	S19	E26	10044		38	2N M 8.7					1.2E-01
HOLL		2051	2113	2259D	S19	E26	10044	07 28.8	128D	2N	3 E		360		FH
HOLL		2141	2143	2147	S11	E19	10039	07 28.3	6	SF	3 E		45		F
GOES		2203	2217	2232					29	M 5.3					7.4E-02
GOES		2236	2238	2241			10044		5	M 4.6					1.2E-02
LEAR		2331E	2331U	2600	S18	E20	10044	07 28.5	149D	1N	1 E		124		FT
GOES	27	0141	0147	0150					9	C 1.1					5.5E-03
GOES		0210	0212	0214	S14	E14	10039		4	SF C 9.6					2.2E-03
LEAR		0214	0216	0222	S14	E14	10039	07 28.1	8	SF	2 E		23		F
GOES		0433	0439	0444	S20	E12	10044		11	SF C 5.1					3.0E-03
LEAR		0435	0438	0446	S20	E12	10044	07 28.1	11	SF	3 E		28		F

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo Day	Dur (Min)	Imp Opt Xray	Obs See Type	Area Measurement			Remarks
												Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
LEAR	27	0628	0631	0652	S12	E15	10039	07 28.4	24	SF	3	E		19	F
GOES		0824	0832	0837	S11	E12	10039		13	SF C 2.5					1.8E-03
LEAR		0836	0837	0842	S11	E12	10039	07 28.3	6	SF	3	E		19	F
HOLL		1343	1343	1347	S21	E13	10044	07 28.6	4	SF	3	E		13	F
GOES		1510	1512	1513	S11	E08	10039		3	SF C 1.7					2.9E-04
HOLL		1511	1512	1515	S11	E08	10039	07 28.2	4	SF	3	E		37	
HOLL		1558	1602	1606	S08	E27	10050	07 29.7	8	SF	3	E		18	
HOLL		1608	1621	1627	S07	E27	10050	07 29.7	19	SF	3	E		13	
GOES		1818	1828	1838					20	C 5.5					5.1E-03
HOLL		1948	1948	1952	S08	E25	10050	07 29.7	4	SF	3	E		13	
GOES	28	0018	0035	0044			10039		26	M 2.3					1.7E-02
LEAR		0030E	0030U	0125	S22	E07	10044	07 28.5	55D	1N	2	E		109	F
LEAR		0031	0032	0042	S11	E03	10039	07 28.2	11	SF	2	E		23	F
GOES		0112	0116	0118					6	C 5.3					1.7E-03
GOES		0404	0432	0454					50	C 2.8					7.6E-03
LEAR		0418	0422	0431	S13	E04	10039	07 28.5	13	SF	3	E		19	F
GOES		0552	0558	0603	S19	W02	10044		11	SF C 3.6					1.9E-03
LEAR		0555	0557	0612	S19	W02	10044	07 28.1	17	SF	3	E		46	F
GOES		0635	0640	0643	S12	E01	10039		8	SF C 2.5					9.4E-04
LEAR		0641	0643	0647	S12	E01	10039	07 28.3	6	SF	3	E		14	
GOES		0838	0844	0849	S19	E03	10044		11	SF C 3.6					1.9E-03
LEAR		0842	0844	0853	S19	E03	10044	07 28.6	11	SF	3	E		30	F
GOES		1045	1049	1051	S08	E16	10050		6	SF C 2.2					6.6E-04
SVTO		1048	1049	1053	S08	E16	10050	07 29.6	5	SF	3	E		38	
SVTO		1054	1104	1126	S14	E00	10039	07 28.4	32	SF	3	E		58	F
SVTO		1058	1058	1102	S07	E16	10050	07 29.6	4	SF	3	E		14	
GOES		1101	1106	1110			10039		9	C 7.6					3.0E-03
GOES		1135	1141	1145	S07	E14	10050		10	SF C 2.2					1.2E-03
SVTO		1141	1142	1149	S07	E14	10050	07 29.5	8	SF	3	E		23	F
HOLL		1336E	1339U	1346	N13	W09	10043	07 27.9	10D	SF	3	E		55	
GOES		1455	1500	1504	S15	E00	10039		9	SF C 2.3					1.1E-03
SVTO		1458E	1459U	1506	S15	E00	10039	07 28.6	8D	SF	2	E		20	
GOES		1541	1600	1616					35	C 2.9					5.1E-03
GOES		1659	1706	1712					13	C 4.0					2.9E-03
GOES		1849	1854	1858					9	C 7.1					3.3E-03
GOES		2002	2015	2022					20	C 6.4					6.0E-03
GOES		2037	2050	2108	N11	W11	10043		31	SF C 5.1					8.0E-03
HOLL		2044E	2053U	2108D	N11	W11	10043	07 28.0	24D	SF	3	E		47	
HOLL		2125E	2129U	2134D	S07	E10	10050	07 29.6	9D	SF	3	E		64	F
GOES		2258	2312	2324					26	M 2.2					2.4E-02
GOES	29	0019	0023	0027					8	M 1.4					5.8E-03
GOES		0229	0238	0246					17	M 4.8					2.6E-02
LEAR		0250E	0250U	0255	S20	W14	10044	07 28.0	5D	1F	3	E		155	F
SVTO		0617E	0624U	0624D	S11	W15	10039	07 28.1	7D	SF	1	E		52	F
GOES		0621	0626	0634	S11	W15	10039		13	SF C 2.9					2.1E-03
LEAR		0635	0640	0655	S13	W10	10039	07 28.5	20	SF	3	E		70	F
GOES		0731	0751	0804					33	C 3.4					5.5E-03
GOES		1027	1044	1113					46	M 4.7					8.5E-02
SVTO		1521	1608	1633	S08	W01	10050	07 29.6	72	SF	3	E		68	
HOLL		1530	1534	1540	S08	W01	10050	07 29.6	10	SF	3	E		18	F
SVTO		1626	1626	1632	S13	W18	10039	07 28.3	6	SF	3	E		17	
GOES		1702	1716	1720	S20	W24	10044		18	SF C 2.7					2.5E-03
SVTO		1704	1706	1722	S20	W24	10044	07 27.9	18	SF	2	E		22	F
GOES		1753	1756	1758					5	C 3.8					8.2E-04
GOES		1804	1809	1812	S14	W16	10039		8	SF C 2.5					1.0E-03
HOLL		1808	1810	1813	S14	W16	10039	07 28.5	5	SF	3	E		20	F
GOES		1838	1848	1856					18	C 2.2					2.1E-03
GOES		1934	1941	1950	S09	W02	10050		16	SF C 8.6					5.6E-03
HOLL		1937	1939	1956	S09	W02	10050	07 29.7	19	SF	3	E		87	F
GOES		2031	2037	2048	N14	W53	10038		17	SF C 3.1					2.9E-03
HOLL		2033	2036	2041	N14	W53	10038	07 25.8	8	SF	3	E		24	
HOLL		2052	2054	2057	S10	W03	10050	07 29.6	5	SF	3	E		33	
GOES		2101	2113	2127	S08	W03	10050		26	SF C 6.5					8.1E-03
HOLL		2102	2109	2137	S08	W03	10050	07 29.6	35	SF	3	E		53	F
GOES		2238	2245	2257					19	C 4.2					4.2E-03
GOES	30	0254	0257	0300					6	C 2.7					8.6E-04

H α SOLAR FLARES

JULY 2002

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo Day	Dur (Min)	Imp Opt Xray	Obs See Type	Area Measurement			Remarks
												Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
GOES	30	0314	0317	0323					9	C 2.5					1.2E-03
[GOES		0524	0530	0535	S13	W24	10039		11	SF C 3.3					1.7E-03
SVTO		0527	0528	0536	S13	W24	10039	07 28.4	9	SF	3 E		23		F
SVTO		0556	0557	0600	S13	W23	10039	07 28.5	4	SF	3 E		21		
SVTO		0616	0624	0634	S08	W27	10039	07 28.2	18	SF	3 E		12		
[GOES		0712	0722	0734	S09	W28	10039		22	SF C 3.4					3.7E-03
LEAR		0717	0719U	0732	S12	W24	10039	07 28.5	15	SF	3 E		32		F
SVTO		0717	0720	0729	S09	W28	10039	07 28.2	12	SF	3 E		23		F
GOES		0824	0828	0831					7	C 3.4					1.2E-03
SVTO		1131	1134	1144	S19	W30	10044	07 28.2	13	SF	3 E		17		
SVTO		1512E	1518U	1522	S19	W27	10044	07 28.6	10D	SF	2 E		60		F
SVTO		1540	1541	1545	N20	E03	10048	07 30.9	5	SF	2 E		21		
LEAR	31	0046	0047	0051	S07	W17	10050	07 29.7	5	SF	3 E		19		
[GOES		0049	0053	0057	S19	W34	10044		8	SF C 4.9					2.0E-03
LEAR		0050	0051	0105	S19	W34	10044	07 28.4	15	SF	3 E		49		F
[GOES		0110	0114	0119	N18	W71	10038		9	SB C 3.0					1.5E-03
LEAR		0113	0115	0151	N18	W71	10038	07 25.6	38	SB	3 E		45		F
[GOES		0139	0153	0202	S13	W30	10039		23	SB M 1.2					1.2E-02
LEAR		0144	0149	0230	S13	W30	10039	07 28.8	46	SB	3 E		73		UF
LEAR		0207	0209	0222	S08	W22	10050	07 29.4	15	SF	3 E		12		
LEAR		0445	0445	0459	S18	W39	10044	07 28.2	14	SF	3 E		40		F
LEAR		0455	0456	0503	S09	W24	10050	07 29.4	8	SF	3 E		17		
LEAR		0718	0724	0730	S09	W26	10050	07 29.3	12	SF	3 E		16		F
GOES		0849	0854	0900					11	C 2.4					1.4E-03
GOES		0950	0958	1006					16	C 9.6					6.0E-03
SVTO		1010	1010	1017	S18	W42	10044	07 28.2	7	SF	3 E		25		
[GOES		1057	1117	1130	S16	W34	10039		33	SF C 4.2					6.1E-03
SVTO		1115E	1117U	1117D	S16	W34	10039	07 28.9	2D	SF	2 E		25		F
GOES		1206	1209	1211					5	C 2.7					7.2E-04
HOLL		1340	1340	1342	S09	W29	10050	07 29.4	2	SF	3 E		16		
HOLL		1415	1418	1423	S09	W31	10050	07 29.3	8	SF	3 E		11		F
GOES		1449	1452	1454					5	C 2.3					5.9E-04
HOLL		1513	1514	1515	S10	W30	10050	07 29.4	2	SF	3 E		17		
[GOES		1523	1526	1528	S09	W30	10050		5	SF C 2.6					6.9E-04
HOLL		1524	1525	1529	S09	W30	10050	07 29.4	5	SF	3 E		33		
HOLL		1703	1704	1707	S10	W32	10050	07 29.3	4	SF	3 E		10		
HOLL		1842	1842	1844	S10	W32	10050	07 29.4	2	SF	3 E		11		
[GOES		1958	2003	2005	N21	W12	10048		7	SF C 2.8					8.7E-04
HOLL		2001	2003U	2019D	N21	W12	10048	07 30.9	18D	SF	3 E		90		
GOES		2018	2022	2025					7	C 3.3					1.1E-03
HOLL		2117E	2117U	2123D	S20	W40	10044	07 28.8	6D	SF	3 E		12		
GOES		2227	2230	2233					6	C 2.2					7.1E-04
GOES		2250	2255	2301					11	C 3.0					1.7E-03
HOLL		2305	2305	2308	S09	W34	10050	07 29.4	3	SF	3 E		16		
[GOES		2328	2355	2412					44	C 4.7					8.8E-03
HOLL		2343	2345	2425	S13	W44	10039	07 28.7	42	1F	3 E		123		FH
HOLL		2345	2345	2355	S22	W47	10044	07 28.4	10	SF	3 E		15		

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

Selected Fixed Frequency Events

JULY 2002

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 ⁻²² W/m ² Hz)	Mean (2 Hz)	Int	Remarks
01	2695	SGMR	8 S	1145.0	1146.0	1.0	20.0			QL=4 ST=2 TYP=3
	8800	SGMR	8 S	1145.0	1145.0	2.0	110.0			QL=4 ST=2 TYP=3
	8800	SVTO	8 S	1145.0E	1146.0U	2.0D	97.0			QL=4 ST=3 TYP=3
	2695	SVTO	8 S	1146.0E	1146.0U	U	21.0			QL=4 ST=3 TYP=3
02	8800	SGMR	8 S	1410.0	1410.0	1.0	84.0			QL=4 ST=2 TYP=3
	8800	SVTO	8 S	1410.0	1410.0	U	60.0			QL=4 ST=2 TYP=3
	8800	SGMR	4 S/F	2024.0	2025.0	8.0	95.0			QL=4 ST=2 TYP=3
	8800	PALE	46 C	2025.0	2025.0	1.0	49.0			QL=4 ST=2 TYP=8
03	8800	LEAR	49 GB	0209.0	0212.0	11.0	690.0			QL=4 ST=2 TYP=6
	8800	PALE	48 C	0210.0	0212.0	6.0	550.0			QL=4 ST=2 TYP=8
	2695	LEAR	4 S/F	0211.0	0212.0	3.0	160.0			QL=4 ST=2 TYP=3
	2695	PALE	4 S/F	0211.0	0212.0	3.0	140.0			QL=4 ST=2 TYP=3
	2695	SGMR	4 S/F	2004.0	2011.0	15.0	490.0			QL=4 ST=2 TYP=3
	2695	PALE	49 GB	2006.0	2012.0	18.0	510.0			QL=4 ST=2 TYP=6
	8800	SGMR	49 GB	2007.0	2011.0	12.0	830.0			QL=4 ST=2 TYP=6
	8800	PALE	49 GB	2008.0	2012.0	13.0	950.0			QL=4 ST=2 TYP=6
04	8800	SVTO	8 S	0622.0	0623.0	1.0	66.0			QL=4 ST=2 TYP=3
	8800	LEAR	8 S	0623.0	0623.0	U	55.0			QL=4 ST=2 TYP=3
	8800	SVTO	4 S/F	0731.0	0732.0	3.0	65.0			QL=4 ST=2 TYP=3
	2695	SVTO	8 S	0732.0	0732.0	U	25.0			QL=4 ST=2 TYP=3
05	2695	SGMR	48 C	1315.0	1321.0	8.0	130.0			QL=4 ST=2 TYP=8
	2695	SVTO	4 S/F	1315.0	1321.0	8.0	120.0			QL=4 ST=2 TYP=3
	8800	SVTO	8 S	1320.0	1321.0	2.0	150.0			QL=4 ST=2 TYP=3
	8800	SGMR	4 S/F	1320.0	1320.0	640.0	150.0			QL=4 ST=1 TYP=3
	8800	SGMR	48 C	1547.0	1551.0	18.0	84.0			QL=4 ST=2 TYP=8
	8800	SVTO	48 C	1547.0	1548.0	10.0	56.0			QL=4 ST=2 TYP=8
	2695	SVTO	4 S/F	1547.0	1557.0	11.0	53.0			QL=4 ST=2 TYP=3
	2695	SGMR	48 C	1554.0	1557.0	5.0	56.0			QL=4 ST=2 TYP=8
06	2695	SVTO	4 S/F	0931.0	0937.0	8.0	57.0			QL=4 ST=2 TYP=3
	8800	SVTO	4 S/F	0936.0	0937.0	3.0	190.0			QL=4 ST=2 TYP=3
	2695	SGMR	8 S	1242.0	1242.0	U	78.0			QL=4 ST=2 TYP=3
	2695	SVTO	8 S	1242.0	1242.0	U	66.0			QL=4 ST=2 TYP=3
07	2695	PALE	48 C	0358.0	0358.0	1.0	53.0			QL=4 ST=2 TYP=8
	8800	SVTO	8 S	0358.0E	0358.0U	1.0D	65.0			QL=2 ST=2 TYP=3
08	2695	SVTO	8 S	1141.0	1141.0	U	21.0			QL=4 ST=2 TYP=3
09	2695	PALE	48 C	1857.0	1858.0	4.0	200.0			QL=4 ST=2 TYP=8
	2695	SGMR	4 S/F	1857.0	1858.0	4.0	250.0			QL=4 ST=2 TYP=3
12	8800	LEAR	8 S	0000.0	0000.0	U	53.0			QL=4 ST=2 TYP=3
	2695	LEAR	4 S/F	2358.0	0000.0	3.0	64.0			QL=4 ST=2 TYP=3
13	2695	PALE	8 S	0000.0	0000.0	1.0	60.0			QL=4 ST=2 TYP=3
	8800	PALE	46 C	0000.0	0000.0	U	48.0			QL=4 ST=2 TYP=8
	8800	LEAR	8 S	0047.0	0047.0	U	74.0			QL=4 ST=2 TYP=3
	8800	PALE	8 S	0047.0	0047.0	U	68.0			QL=4 ST=2 TYP=3
14	8800	SGMR	8 S	1612.0	1612.0	U	29.0			QL=4 ST=2 TYP=3
15	2695	SGMR	4 S/F	1143.0	1145.0	12.0	210.0			QL=4 ST=2 TYP=3
	8800	SGMR	4 S/F	1144.0	1146.0	736.0	210.0			QL=4 ST=2 TYP=3
	2695	SVTO	8 S	1400.0	1400.0	U	22.0			QL=4 ST=2 TYP=3
	2695	SGMR	49 GB	1955.0	2142.0	159.0	2100.0			QL=4 ST=2 TYP=6
	2695	PALE	48 C	1957.0	2004.0	144.0	1900.0			QL=4 ST=3 TYP=8
	8800	PALE	48 C	2001.0	2004.0	105.0	15000.0			QL=4 ST=3 TYP=8
	8800	SGMR	49 GB	2001.0	2141.0	153.0	14000.0			QL=4 ST=2 TYP=6
	8800	SGMR	48 C	2104.0	2141.0	88.0	160.0			QL=4 ST=2 TYP=8
16	2695	SGMR	48 C	2111.0	2142.0	83.0	460.0			QL=4 ST=2 TYP=8
	8800	LEAR	4 S/F	0639.0	0640.0	3.0	130.0			QL=4 ST=2 TYP=3
	2695	LEAR	4 S/F	0639.0	0640.0	3.0	100.0			QL=4 ST=2 TYP=3
	8800	SVTO	4 S/F	0639.0	0640.0	9.0	150.0			QL=4 ST=2 TYP=3

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

Selected Fixed Frequency Events

41
Jul 02

JULY 2002

Day	Freq Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
						Peak (10 -22 W/m 2 Hz)	Mean		
16	2695 SVTO	4 S/F	0639.0	0640.0	8.0	110.0			QL=4 ST=2 TYP=3
	2695 SVTO	4 S/F	1359.0	1401.0	5.0	56.0			QL=4 ST=2 TYP=3
	8800 SGMR	4 S/F	1400.0	1400.0	6.0	130.0			QL=4 ST=2 TYP=3
	2695 SGMR	4 S/F	1400.0	1400.0	6.0	64.0			QL=4 ST=2 TYP=3
	8800 SVTO	4 S/F	1400.0	1400.0	7.0	110.0			QL=4 ST=2 TYP=3
	8800 SGMR	4 S/F	2134.0	2135.0	4.0	58.0			QL=4 ST=2 TYP=3
17	8800 LEAR	8 S	0548.0	0549.0	1.0	81.0			QL=4 ST=2 TYP=3
	8800 SVTO	8 S	0548.0	0549.0	1.0	75.0			QL=4 ST=2 TYP=3
	2695 SVTO	48 C	0700.0	0703.0	14.0	550.0			QL=4 ST=2 TYP=8
	8800 LEAR	48 C	0700.0	0712.0	25.0	1900.0			QL=4 ST=2 TYP=8
	8800 SVTO	48 C	0700.0	0713.0	28.0	1500.0			QL=4 ST=2 TYP=8
	2695 LEAR	4 S/F	0701.0	0703.0	4.0	610.0			QL=4 ST=2 TYP=3
	2695 LEAR	4 S/F	0708.0	0712.0	5.0	130.0			QL=4 ST=2 TYP=3
	8800 PALE	8 S	2010.0	2010.0	1.0	57.0			QL=4 ST=2 TYP=3
	2695 PALE	8 S	2010.0	2010.0	1.0	55.0			QL=4 ST=2 TYP=3
	2695 SGMR	48 C	2010.0	2010.0	3.0	75.0			QL=4 ST=2 TYP=8
	8800 SGMR	48 C	2010.0	2010.0	3.0	110.0			QL=4 ST=2 TYP=8
18	2695 LEAR	8 S	0332.0	0333.0	2.0	200.0			QL=4 ST=2 TYP=3
	8800 LEAR	8 S	0332.0	0333.0	2.0	910.0			QL=4 ST=2 TYP=3
	8800 PALE	8 S	0332.0	0333.0	1.0	500.0			QL=4 ST=2 TYP=3
	2695 PALE	8 S	0333.0	0333.0	1.0	210.0			QL=4 ST=2 TYP=3
	8800 LEAR	8 S	0337.0	0337.0	U	92.0			QL=4 ST=2 TYP=3
	2695 LEAR	49 GB	0741.0	0743.0	3.0	620.0			QL=4 ST=2 TYP=6
	8800 LEAR	49 GB	0741.0	0743.0	9.0	1700.0			QL=4 ST=2 TYP=6
	2695 SVTO	49 GB	0741.0	0743.0	9.0	560.0			QL=4 ST=2 TYP=6
	8800 SVTO	49 GB	0741.0	0743.0	10.0	1500.0			QL=4 ST=2 TYP=6
	2695 SVTO	8 S	0918.0	0918.0	U	23.0			QL=4 ST=2 TYP=3
20	2695 SGMR	4 S/F	2022.0	2022.0	4.0	52.0			QL=4 ST=2 TYP=3
	8800 SGMR	4 S/F	2022.0	2024.0	4.0	45.0			QL=4 ST=2 TYP=3
	2695 SGMR	48 C	2104.0	2129.0	59.0	2600.0			QL=4 ST=2 TYP=8
	8800 PALE	48 C	2105.0	2130.0	55.0	8900.0			QL=2 ST=2 TYP=8
	8800 SGMR	48 C	2105.0	2130.0	58.0	20000.0			QL=4 ST=2 TYP=8
23	2695 LEAR	48 C	0022.0	0029.0	82.0	1800.0			QL=4 ST=2 TYP=8
	8800 LEAR	48 C	0022.0	0038.0	83.0	9400.0			QL=4 ST=2 TYP=8
	2695 PALE	48 C	0023.0	0029.0	1417.0	1500.0			QL=4 ST=3 TYP=8
	8800 PALE	48 C	0023.0	0029.0	1417.0	6000.0			QL=4 ST=3 TYP=8
	8800 SGMR	8 S	1220.0	1221.0	2.0	73.0			QL=4 ST=2 TYP=3
	8800 SVTO	8 S	1221.0	1222.0	2.0	64.0			QL=4 ST=2 TYP=3
	8800 PALE	8 S	2251.0	2252.0	1.0	58.0			QL=4 ST=2 TYP=3
24	8800 LEAR	8 S	0319.0	0319.0	2.0	67.0			QL=4 ST=2 TYP=3
	8800 PALE	46 C	0319.0	0320.0	1.0	44.0			QL=4 ST=2 TYP=8
	8800 SGMR	8 S	1845.0	1845.0	U	32.0			QL=4 ST=2 TYP=3
26	8800 LEAR	4 S/F	0006.0	0007.0	4.0	360.0			QL=4 ST=3 TYP=3
	2695 LEAR	4 S/F	0006.0	0008.0	5.0	250.0			QL=4 ST=3 TYP=3
	8800 PALE	4 S/F	0006.0	0008.0	3.0	320.0			QL=4 ST=2 TYP=3
	2695 PALE	4 S/F	0006.0	0008.0	5.0	260.0			QL=4 ST=2 TYP=3
	8800 LEAR	8 S	0640.0	0640.0	1.0	85.0			QL=4 ST=3 TYP=3
	8800 SVTO	4 S/F	0640.0	0641.0	4.0	94.0			QL=4 ST=2 TYP=3
	8800 LEAR	48 C	0919.0	0920.0	4.0	280.0			QL=4 ST=2 TYP=8
	8800 SVTO	4 S/F	0919.0	0920.0	6.0	290.0			QL=4 ST=2 TYP=3
	2695 SVTO	4 S/F	0920.0	0921.0	6.0	59.0			QL=4 ST=2 TYP=3
	8800 SGMR	8 S	1606.0	1606.0	1.0	140.0			QL=4 ST=2 TYP=3
	8800 SVTO	8 S	1606.0	1606.0	2.0	140.0			QL=4 ST=2 TYP=3
	2695 SGMR	8 S	1859.0	1859.0	U	44.0			QL=4 ST=2 TYP=3
	2695 SGMR	48 C	2050.0	2108.0	46.0	170.0			QL=4 ST=2 TYP=8
	2695 PALE	48 C	2051.0	2109.0	42.0	180.0			QL=4 ST=2 TYP=8
	8800 PALE	48 C	2051.0	2109.0	48.0	370.0			QL=4 ST=2 TYP=8
	8800 SGMR	48 C	2051.0	2106.0	45.0	430.0			QL=4 ST=2 TYP=8
	2695 SGMR	49 GB	2204.0	2209.0	16.0	850.0			QL=4 ST=2 TYP=6
	8800 SGMR	49 GB	2206.0	2208.0	14.0	3800.0			QL=4 ST=2 TYP=6
	2695 PALE	48 C	2206.0	2209.0U	33.0	1000.0			QL=2 ST=2 TYP=8
	8800 PALE	48 C	2207.0	2208.0U	31.0	2600.0			QL=2 ST=2 TYP=8

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Jul 02

SOLAR RADIO EMISSION Selected Fixed Frequency Events

JULY 2002

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Mean	Int	Remarks
26	8800	SGMR	8 S	2236.0	2237.0	1.0	55.0			QL=2 ST=2 TYP=3
	2695	SGMR	8 S	2236.0	2237.0	1.0	44.0			QL=2 ST=2 TYP=3
	2695	PALE	48 C	2302.0	2305.0	8.0	78.0			QL=4 ST=2 TYP=8
28	8800	LEAR	8 S	0021.0	0022.0	2.0	280.0			QL=4 ST=2 TYP=3
	8800	PALE	4 S/F	0021.0	0022.0	3.0	320.0			QL=4 ST=2 TYP=3
	8800	SGMR	8 S	1103.0	1104.0	2.0	170.0			QL=4 ST=2 TYP=3
	8800	SVTO	4 S/F	1103.0	1104.0	4.0	200.0			QL=4 ST=2 TYP=3
	8800	SGMR	8 S	1457.0	1457.0	U	41.0			QL=4 ST=2 TYP=3
	8800	PALE	48 C	1852.0	1853.0	5.0	56.0			QL=4 ST=2 TYP=8
	8800	SGMR	8 S	2009.0	2010.0	1.0	24.0			QL=4 ST=2 TYP=3
29	2695	LEAR	8 S	0020.0	0021.0	2.0	74.0			QL=4 ST=2 TYP=3
	8800	PALE	48 C	0020.0	0021.0	1.0	83.0			QL=4 ST=2 TYP=8
	2695	PALE	48 C	0021.0	0021.0	U	74.0			QL=4 ST=2 TYP=8
	2695	LEAR	48 C	0234.0	0236.0	23.0	380.0			QL=4 ST=2 TYP=8
	2695	PALE	4 S/F	0235.0	0236.0	5.0	380.0			QL=4 ST=2 TYP=3
	8800	LEAR	48 C	0235.0	0236.0	16.0	280.0			QL=4 ST=2 TYP=8
	8800	PALE	48 C	0236.0	0236.0	1.0	120.0			QL=4 ST=2 TYP=8
	2695	SGMR	46 C	1032.0	1032.0	U	37.0			QL=4 ST=2 TYP=8
	8800	SVTO	48 C	1032.0	1039.0	43.0	520.0			QL=4 ST=2 TYP=8
	2695	SVTO	48 C	1032.0	1040.0	43.0	110.0			QL=4 ST=2 TYP=8
	8800	SGMR	8 S	1036.0	1036.0	1.0	54.0			QL=4 ST=2 TYP=3
	2695	SGMR	48 C	1038.0	1039.0	9.0	130.0			QL=4 ST=2 TYP=8
	8800	SGMR	48 C	1038.0	1039.0	8.0	490.0			QL=4 ST=2 TYP=8
	2695	SGMR	48 C	1059.0	1059.0	1.0	86.0			QL=4 ST=2 TYP=8
	8800	SGMR	4 S/F	1937.0	1938.0	4.0	62.0			QL=4 ST=2 TYP=3
	8800	PALE	46 C	1938.0	1938.0	1.0	47.0			QL=4 ST=2 TYP=8
	8800	PALE	48 C	2033.0	2033.0	1.0	57.0			QL=4 ST=2 TYP=8
	8800	SGMR	8 S	2033.0	2033.0	1.0	59.0			QL=4 ST=2 TYP=3
30	2695	SGMR	8 S	1737.0	1737.0	U	67.0			QL=4 ST=2 TYP=3
	2695	SGMR	8 S	1825.0	1825.0	U	79.0			QL=4 ST=2 TYP=3
31	2695	LEAR	8 S	0148.0	0148.0	1.0	38.0			QL=4 ST=2 TYP=3
	8800	PALE	48 C	0148.0	0150.0	2.0	50.0			QL=4 ST=2 TYP=8
	2695	PALE	46 C	0149.0	0149.0	U	41.0			QL=4 ST=2 TYP=8
	8800	SVTO	4 S/F	0953.0	0955.0	7.0	110.0			QL=4 ST=2 TYP=3
	8800	SGMR	8 S	1224.0	1224.0	U	38.0			QL=4 ST=2 TYP=3
	2695	SGMR	8 S	1224.0	1224.0	1.0	72.0			QL=4 ST=2 TYP=3
	2695	LEAR	4 S/F	2342.0	2344.0	3.0	67.0			QL=4 ST=2 TYP=3
	2695	PALE	8 S	2343.0	2345.0	2.0	61.0			QL=4 ST=2 TYP=3
	8800	LEAR	8 S	2344.0	2345.0	1.0	35.0			QL=4 ST=2 TYP=3
	2695	LEAR	8 S	2354.0	2355.0	1.0	42.0			QL=4 ST=2 TYP=3

Reports are received routinely from the following observatories:

LEAR = Learmonth

PALE = Palehua

SGMR = Sagamore Hill

SVTO = San Vito

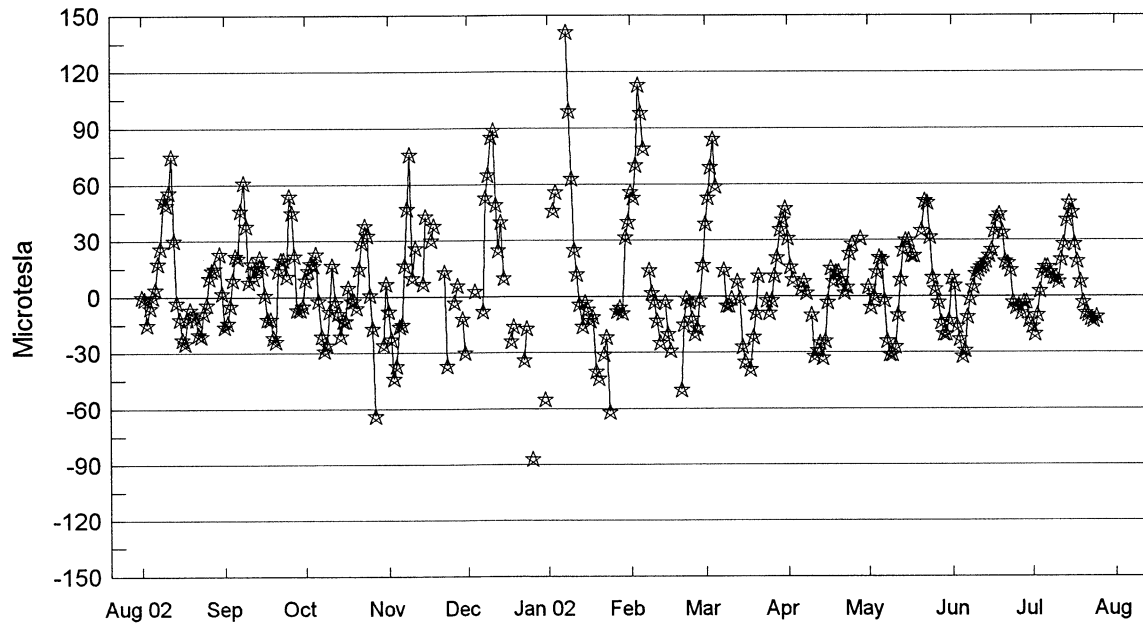
Explanation of Type Code:

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 Precursor	41 Group of Bursts	47 Great Burst
6 Minor	23 Simple 3AF	29 Post Burst Increase	42 Series of Bursts	48 Major
1A Simple 1A	4A Simple 2AF	24PF Post Rise F	27F Rise and Fall F	
3A Simple 2A	40 Rise Only	16A Fall A	27AF Rise and Fall AF	
21A Simple 3A GRF	40F Rise Only F	260 Fall Only	31A Post Burst Decrease A	
2A Simple 1AF	4P Post Rise	26F Fall F	32A Absorption A	

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

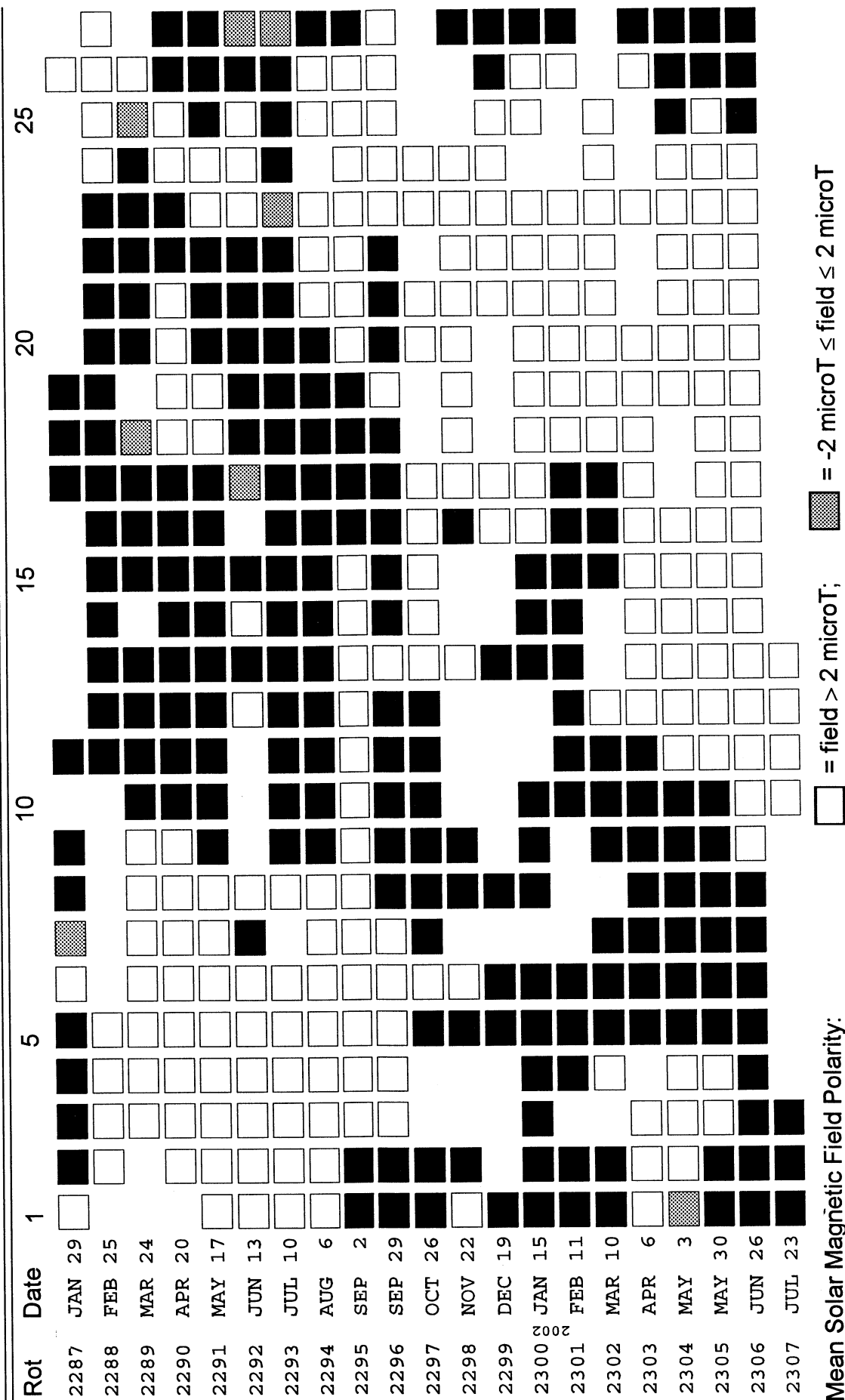
Stanford Mean Solar Magnetic Field (Microtesla) "Sun-As-A-Star"

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Jul 02



Day	Aug 01	Sep	Oct	Nov	Dec	Jan 02	Feb	Mar	Apr	May	Jun	Jul
1	0	-16	9	-8	---	---	56	39	31	5	10	-16
2	-1	-14	14	-23	---	---	53	53	16	-6	6	-20
3	-15	-5	18	-44	---	46	70	69	9	0	-16	-10
4	-6	9	17	-37	3	56	113	84	---	13	-23	3
5	0	22	23	-16	---	---	98	59	---	21	-32	13
6	4	21	-2	-15	---	---	79	---	4	20	-29	16
7	18	46	-21	17	-8	---	---	---	8	-2	-11	16
8	26	61	-29	47	53	141	14	14	2	-24	-1	13
9	52	38	-26	76	65	99	2	-5	---	-31	5	10
10	49	8	-8	10	85	63	-3	-5	-10	-31	12	10
11	56	18	17	26	89	25	-13	-1	-32	-27	14	8
12	75	10	-3	---	49	12	-25	---	-29	-10	16	20
13	30	15	-9	---	25	-4	---	8	-25	9	17	28
14	-3	21	-21	7	40	-16	-3	-1	-33	25	19	41
15	-12	16	-13	43	10	-3	-20	-27	-24	30	22	50
16	-23	1	-13	---	---	-7	-29	-35	-3	30	25	45
17	-25	-12	5	30	---	-13	---	---	15	22	35	28
18	-12	-12	-2	38	-24	-11	---	-39	8	22	42	19
19	-7	-22	-2	---	-16	-40	---	-22	13	---	44	8
20	-10	-24	-6	---	---	-44	-50	-9	13	---	34	-3
21	-12	14	15	---	---	---	-15	11	9	35	19	-9
22	-20	20	29	13	---	-31	-1	---	2	51	18	-10
23	-21	20	38	-37	-34	-22	-3	---	5	50	14	-12
24	-9	11	33	---	-17	-62	-12	-2	23	32	-3	-13
25	-4	54	1	---	---	---	-20	-9	28	10	-6	-11
26	10	45	-17	-3	-87	---	-17	-2	---	4	-5	---
27	14	22	-64	6	---	-8	-2	11	---	-3	-9	---
28	15	-7	---	---	---	-6	17	21	31	-14	-3	---
29	---	-7	---	-12	---	-9	---	36	---	-20	-3	---
30	23	-5	-26	-30	---	32	---	41	---	-20	-13	---
31	2	---	7	---	-55	40	---	47	---	-13	---	---

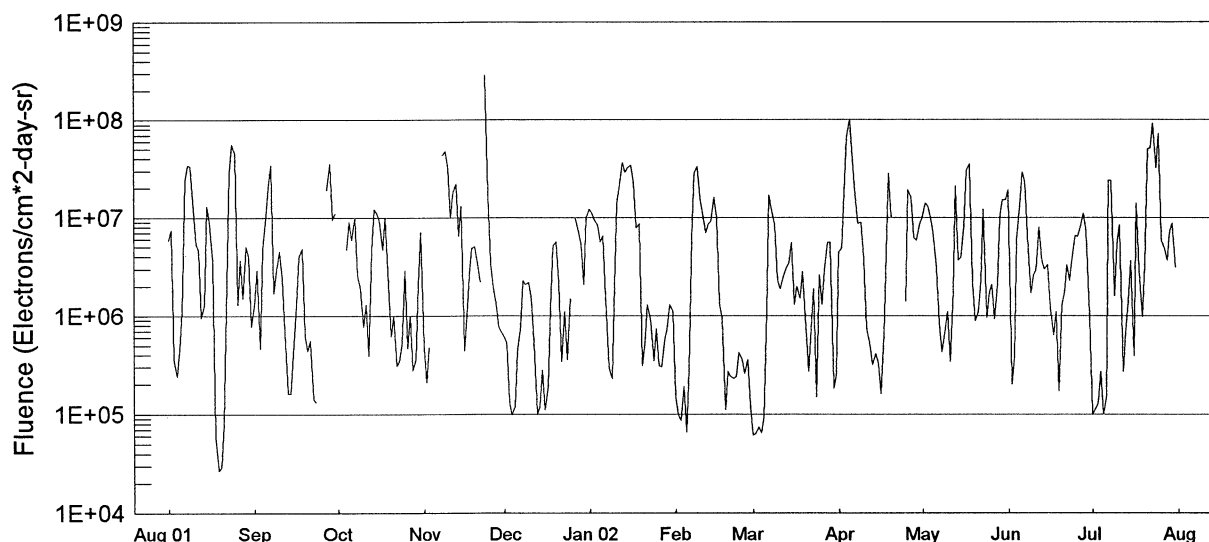
STANFORD MEAN SOLAR MAGNETIC FIELD



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.

GOES Daily Electron Fluence Aug 2001 - Jul 2002

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Jul 02



Day	Aug 01	Sep	Oct	Nov	Dec	Jan 02	Feb	Mar	Apr	May	Jun	Jul
1	5.9E+06	1.3E+06	-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
2	7.4E+06	2.9E+06	-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
3	3.5E+05	4.6E+05	-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
4	2.4E+05	4.8E+06	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
5	4.5E+05	8.6E+06	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
6	1.1E+06	2.1E+07	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
7	2.4E+07	3.4E+07	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
8	3.4E+07	1.7E+06	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
9	3.3E+07	2.8E+06	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
10	1.2E+07	4.5E+06	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
11	5.4E+06	2.5E+06	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
12	4.6E+06	6.9E+05	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
13	9.6E+05	1.6E+05	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
14	1.3E+06	1.6E+05	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
15	1.3E+07	4.1E+05	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
16	9.0E+06	1.3E+06	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
17	3.6E+06	4.0E+06	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
18	5.9E+04	4.8E+06	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
19	2.7E+04	6.3E+05	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
20	2.9E+04	4.4E+05	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
21	8.0E+04	5.6E+05	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
22	2.2E+06	1.4E+05	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
23	2.8E+07	1.3E+05	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
24	5.6E+07	-999	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
25	4.5E+07	-999	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
26	1.3E+06	-999	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
27	3.7E+06	1.9E+07	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
28	1.5E+06	3.5E+07	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
29	5.0E+06	9.5E+06	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
30	4.0E+06	1.1E+07	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
31	7.8E+05		7.1E+06		1.0E+07	1.1E+06		2.5E+05		1.5E+07		3.1E+06

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

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

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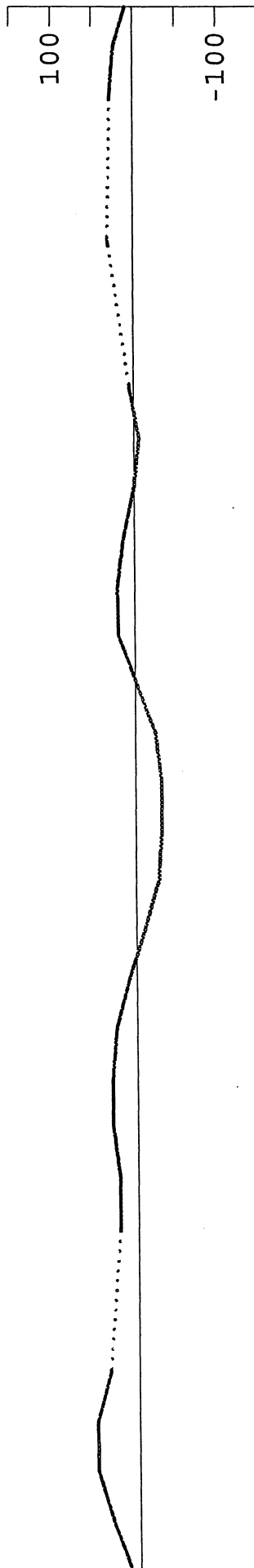
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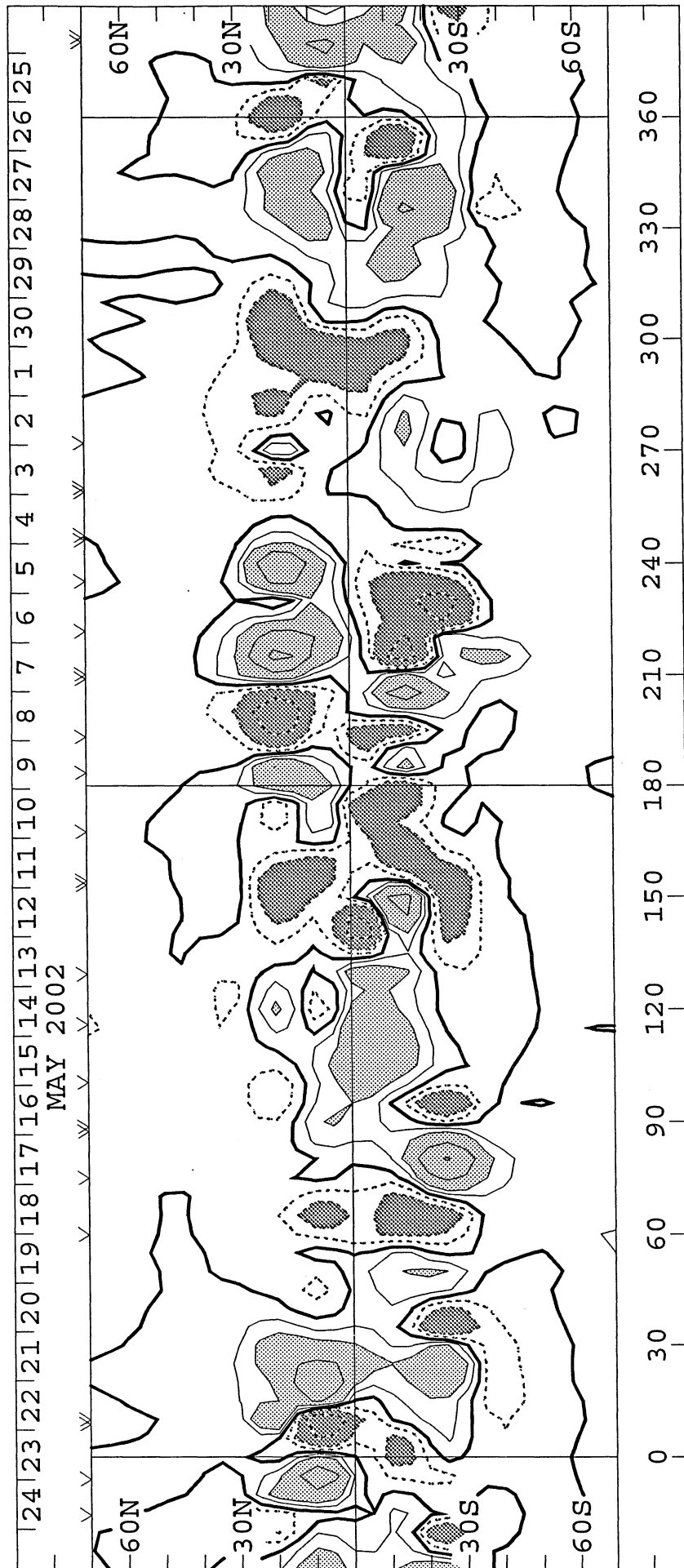
SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION NUMBER 1989
(26 April to 23 May 2002)

WILCOX SOLAR OBSERVATORY

Mean Field



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



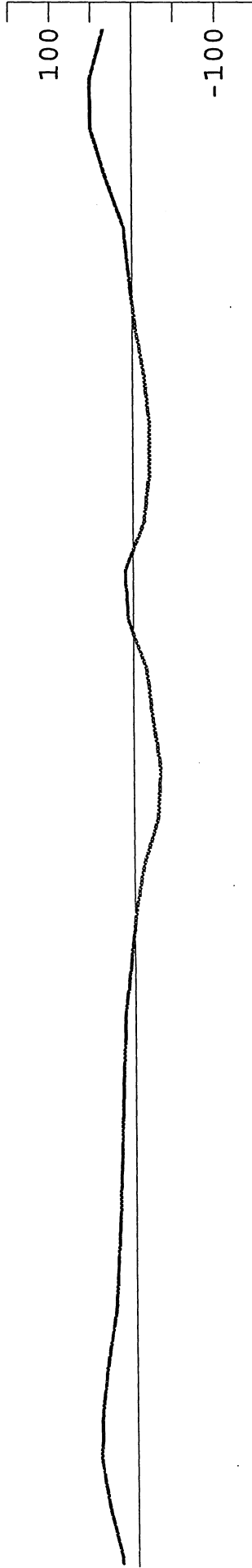
Heliographic Longitude

1989

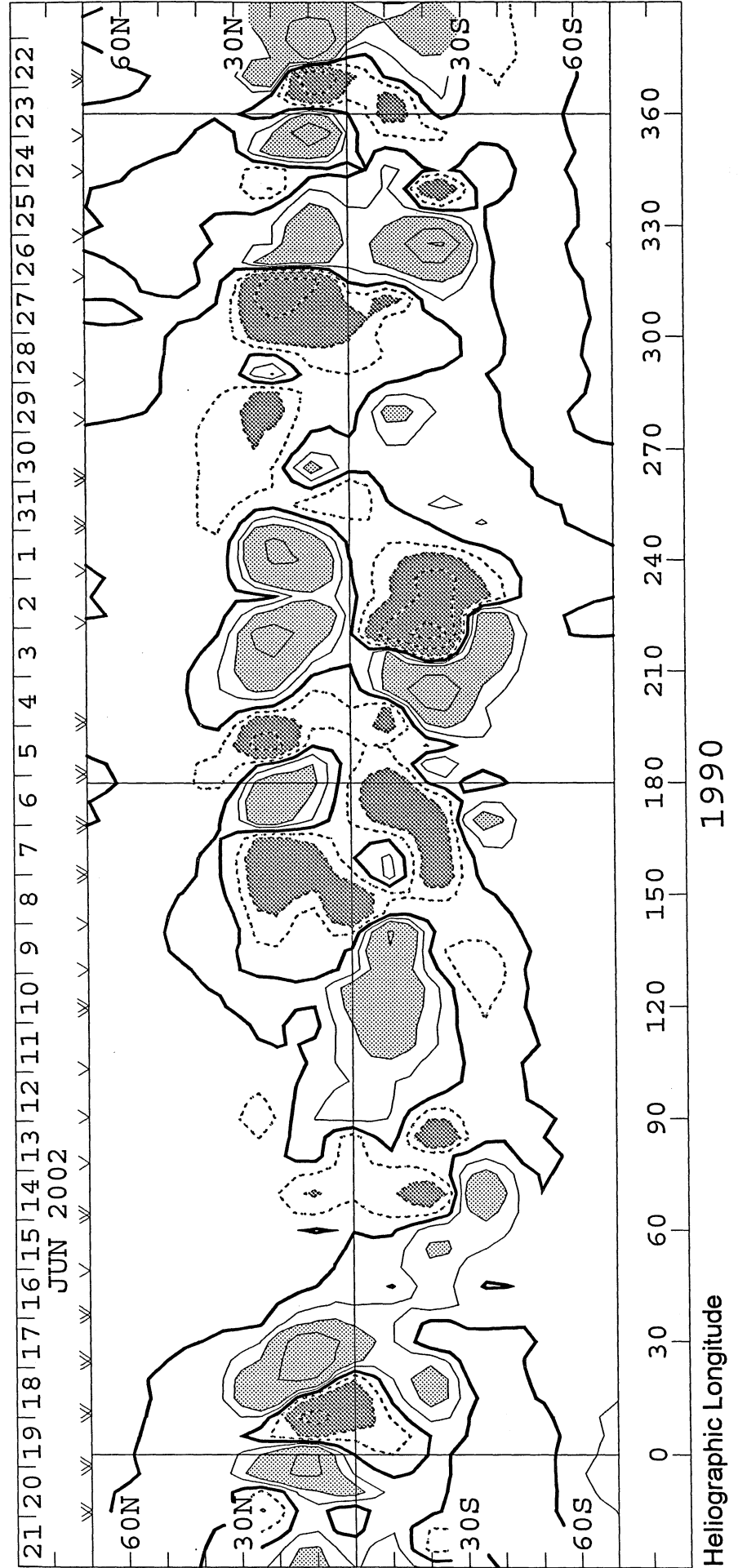
SOLAR MAGNETIC FIELD SYNOPTIC CHART **CARRINGTON ROTATION NUMBER 1990** **(23 May to 19 June 2002)**

WILCOX SOLAR OBSERVATORY

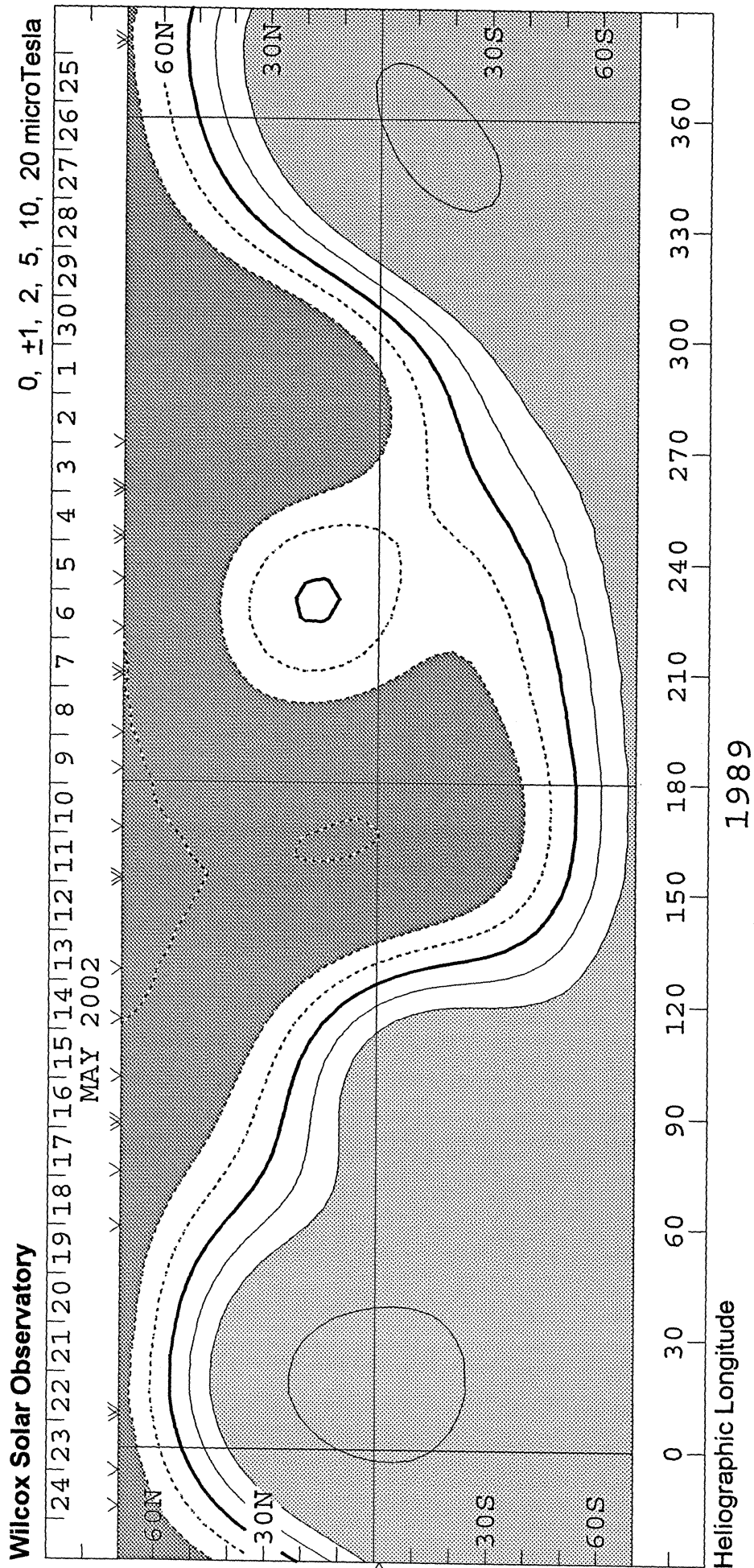
Mean Field



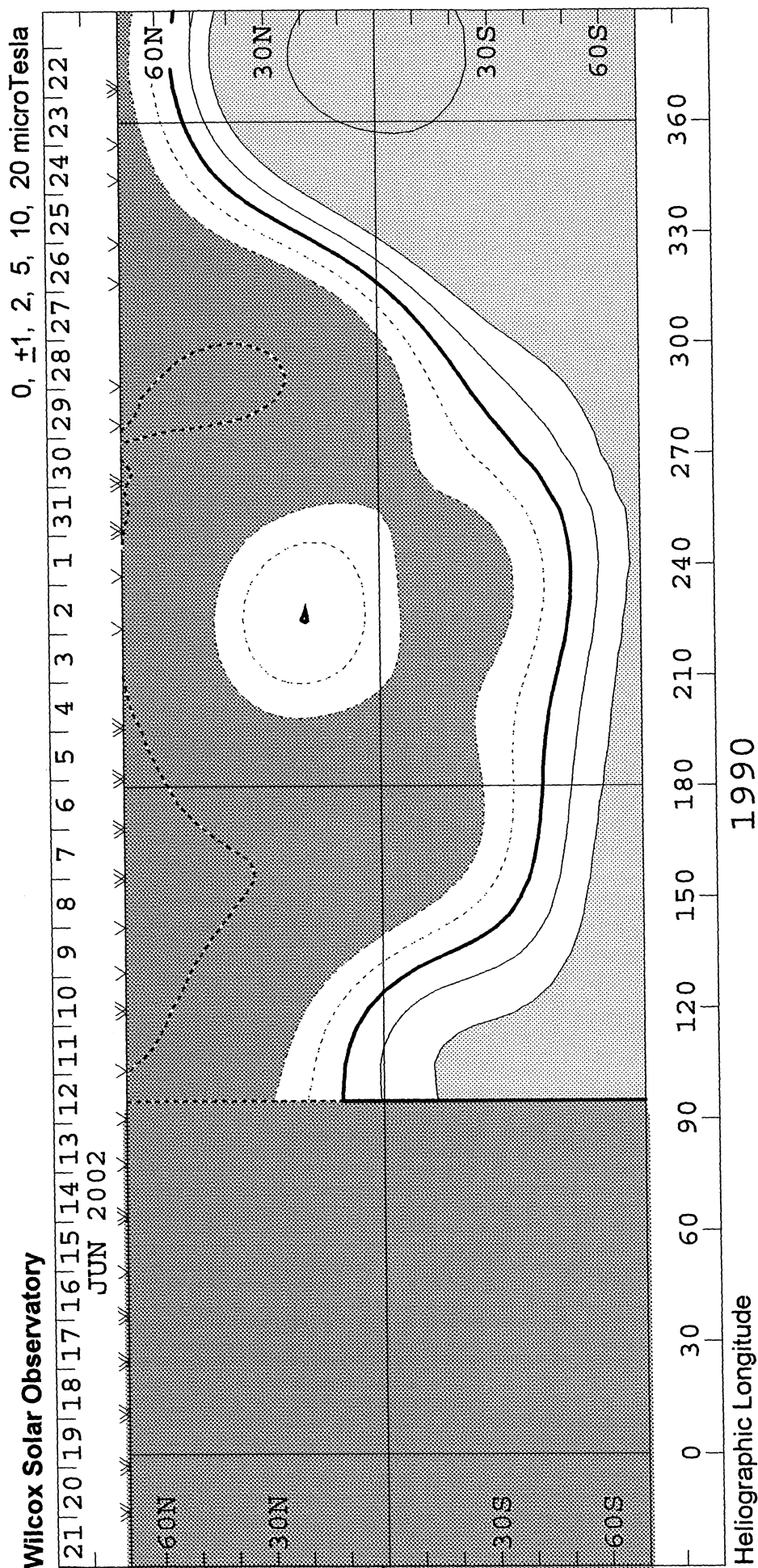
WSO - Photospheric Magnetic Field 0, ± 100 , 200, 500, 1000, 2000 MicroTesla



SOLAR MAGNETIC FIELD SYNOPSIS CHART
SOURCE SURFACE FIELD
CARRINGTON ROTATION NUMBER 1989
(26 April to 23 May 2002)



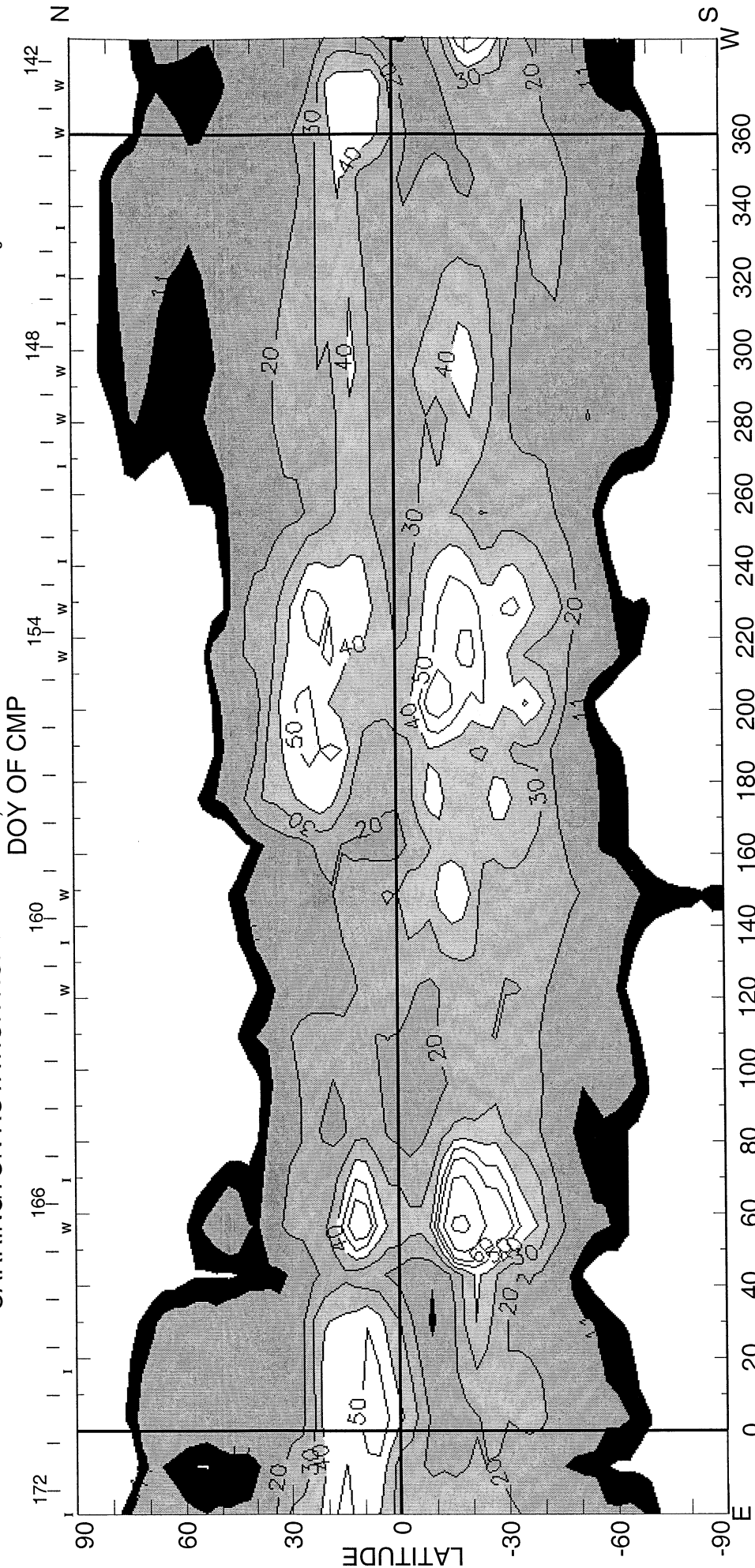
SOLAR MAGNETIC FIELD SYNOPTIC CHART **SOURCE SURFACE FIELD** CARRINGTON ROTATION NUMBER 1990 (23 May to 19 June 2002)





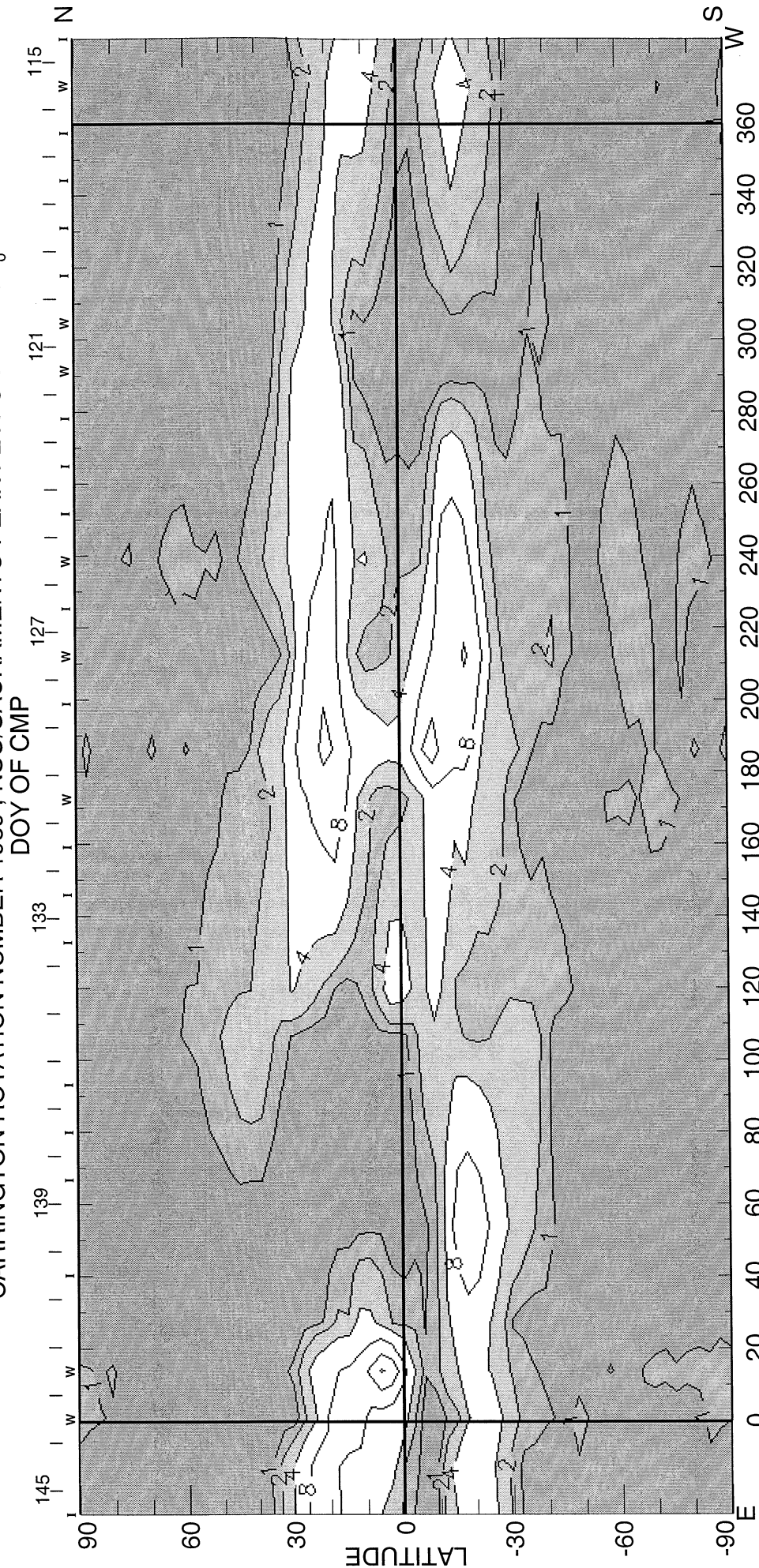
te5 Tue Aug 6 11:30:49 2002

CARRINGTON ROTATION NUMBER 1990 ; NSO/SACRAMENTO PEAK FE XIV @ $R = 1.15R_{\odot}$



(22-Aug-02) 2002 E-W LIMB CONTOURS: 8, 11, 20, 30, 40, 50, 60, 80, 120, 140, 160 MILLIONTHS OF $I_{\odot}$
 HELIOGRAPHIC LONGITUDE
 CORONAL HOLES ARE SHOWN AS WHITE BORDERED BY BLACK
 $\langle I \rangle = 17.59\mu$

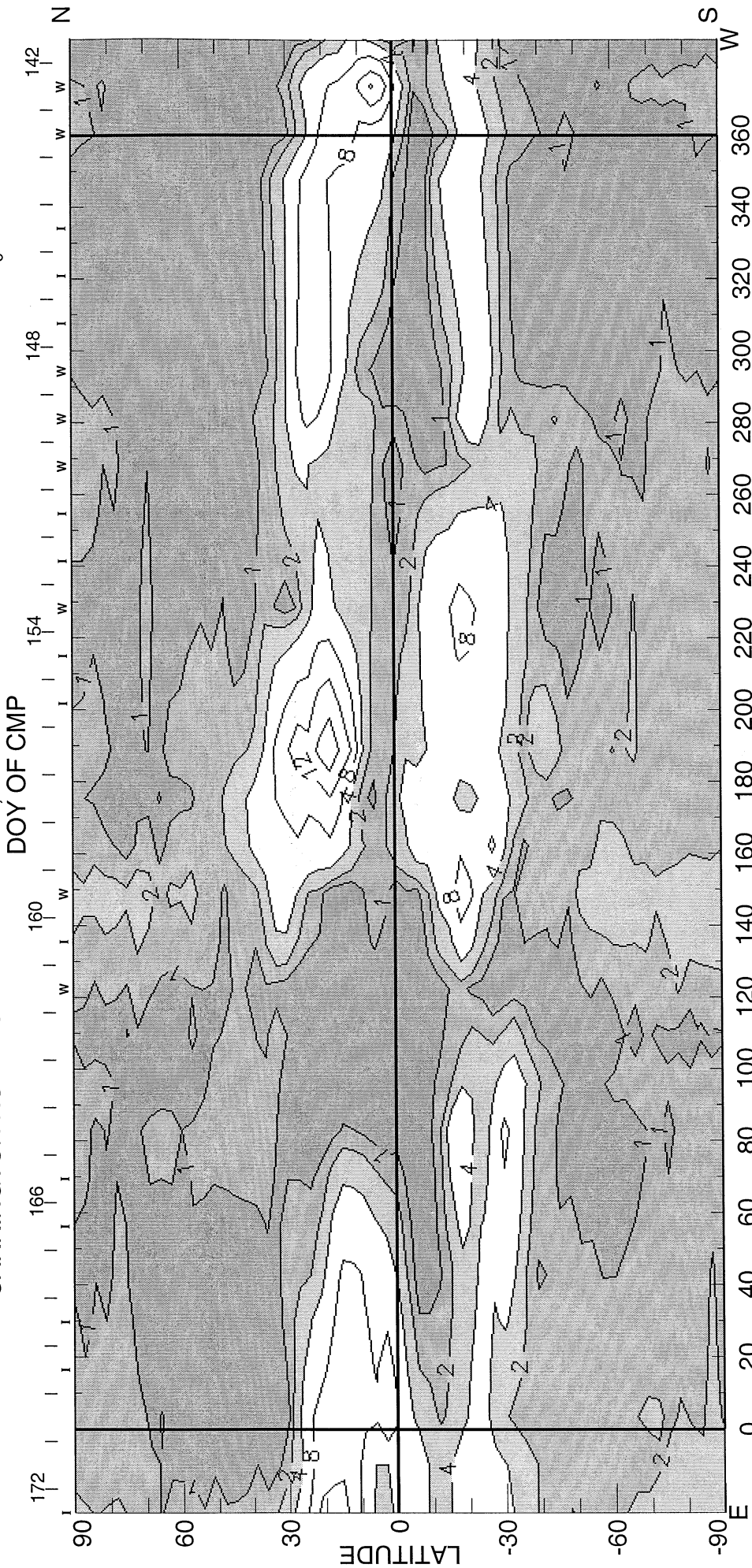
CARRINGTON ROTATION NUMBER 1989 ; NSO/SACRAMENTO PEAK FE X @ $R = 1.15R_0$



2002 E+W LIMB CONTOURS: 1, 2, 4, 8, 12, 16, 32, 48 MILLIONTHS OF I_0
< I > = 1.72μ

(22-Aug-02)

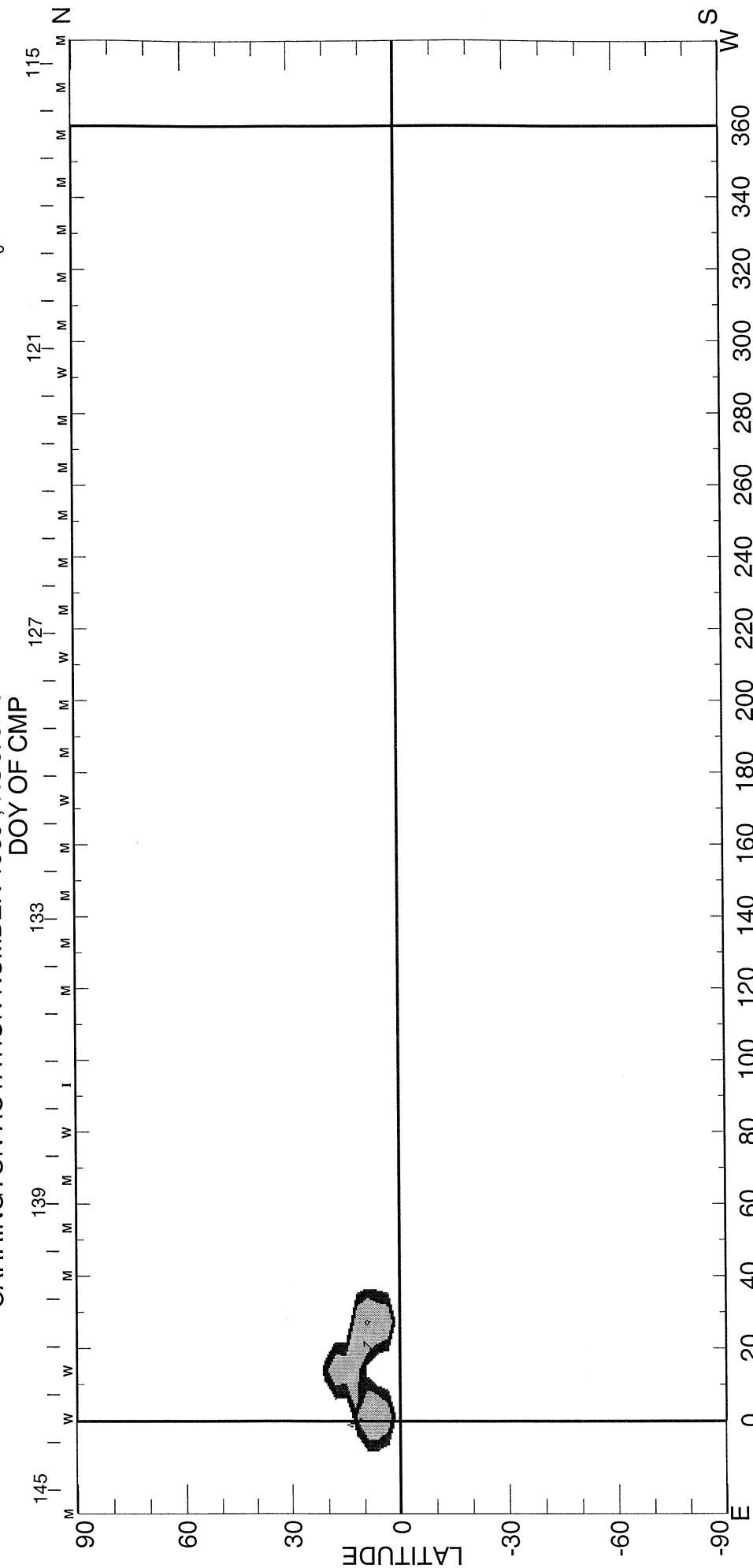
CARRINGTON ROTATION NUMBER 1990 ; NSO/SACRAMENTO PEAK FE X @ $R = 1.15R_{\odot}$



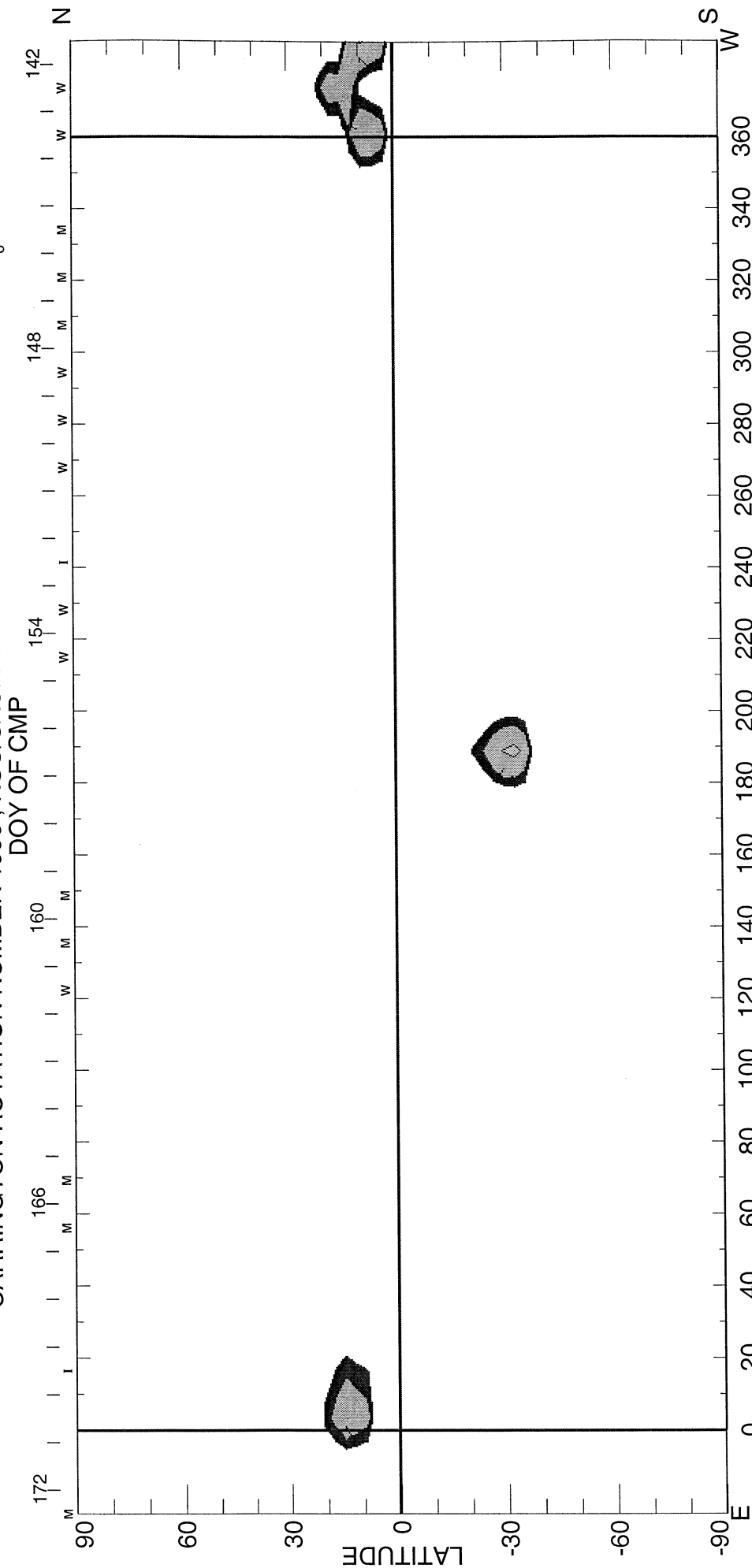
HELIOGRAPHIC LONGITUDE
2002 E+W LIMB CONTOURS: 1, 2, 4, 8, 12, 16, 32, 48 MILLIONTHS OF I_0

(23-Aug-02)

CARRINGTON ROTATION NUMBER 1989 ; NSO/SACRAMENTO PEAK CA XV @ $R = 1.15R_{\odot}$



CARRINGTON ROTATION NUMBER 1990 ; NSO/SACRAMENTO PEAK CA XV @ $R = 1.15R_0$



HELIOGRAPHIC LONGITUDE
2002 E+W LIMB CONTOURS: YELMIN, 1, 2, 3, 4, 6, 8, 10, 12, 14, 16, 18, 20 MILLIONTHS OF I_0

SOLAR MAGNETIC FIELD SYNOPSIS CHART
CARRINGTON ROTATION NUMBER 1989
(26 April to 23 May 2002)

National Solar Observatory/Kitt Peak

Dates of Observation

PHOTOGRAPHIC DATA UNAVAILABLE AT TIME OF PUBLICATION.

Heliographic Longitude

SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION NUMBER 1990
(23 May to 19 June 2002)

National Solar Observatory/Kitt Peak

Dates of Observation

PHOTOGRAPHIC DATA UNAVAILABLE AT TIME OF PUBLICATION.

Heliographic Longitude

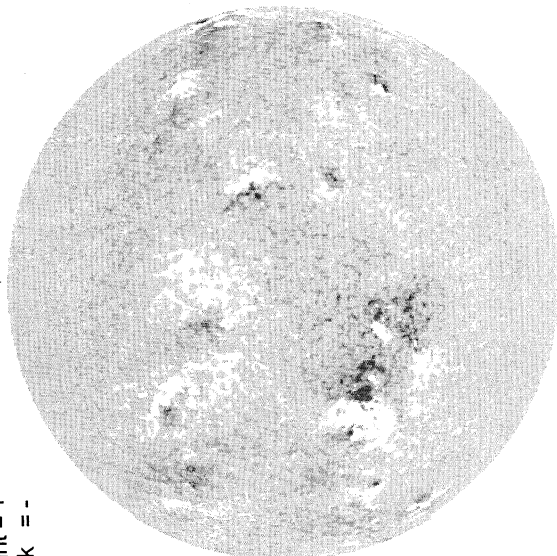
60
Jun 02

JUNE 1, 2002 (P= -15.52, Bo = -0.69, Lo = 248.04)

KITT PEAK MAGNETOGRAM

868.8 nm

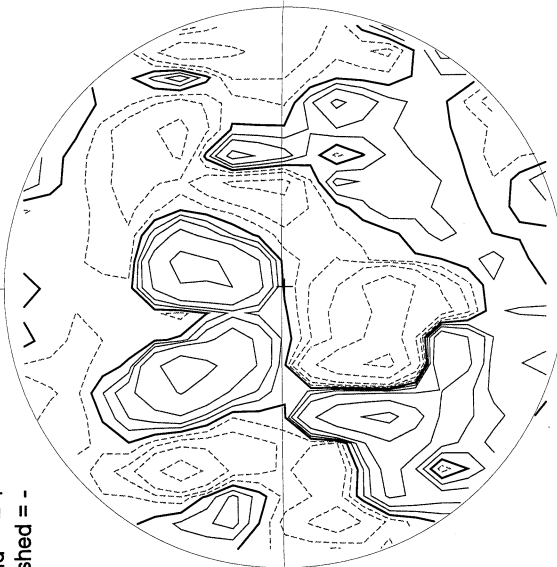
Bright = +
Dark = -



1400 UT

STANFORD MAGNETOGRAM

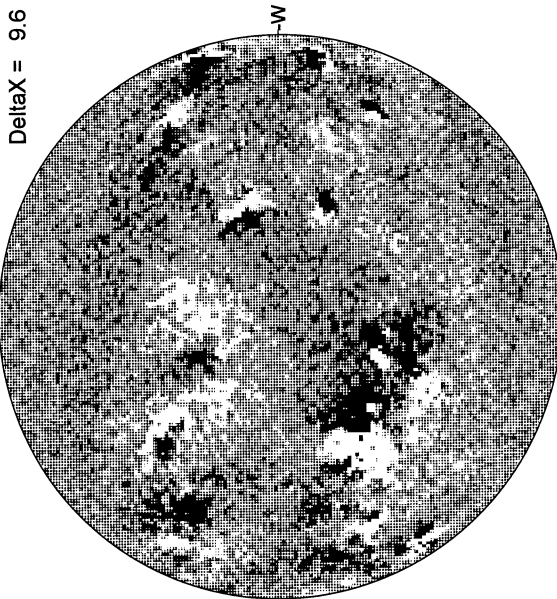
Solid = +
Dashed = -



1949 UT

MT. WILSON MAGNETOGRAM

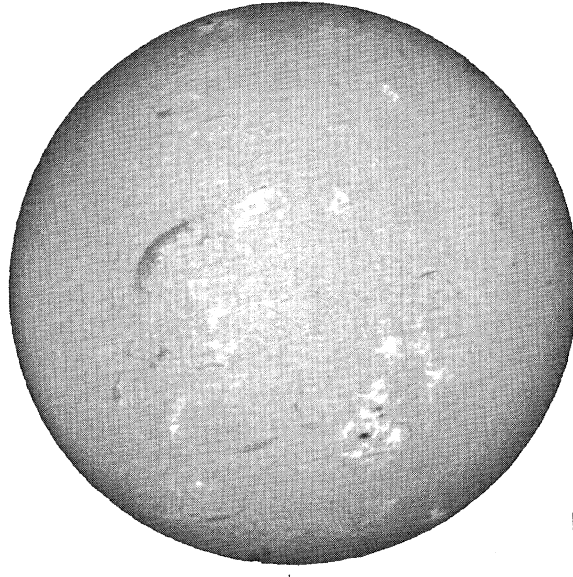
DeltaY = 13.1
DeltaX = 9.6



15.86 -
16.78 UT

White= +7.5G
Black = -7.5G

MEUDON H-ALPHA

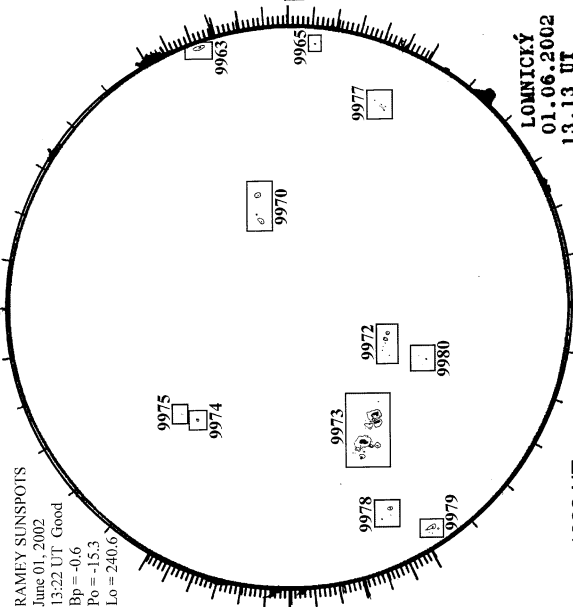


0715 UT

RAMEY SUNSPOT

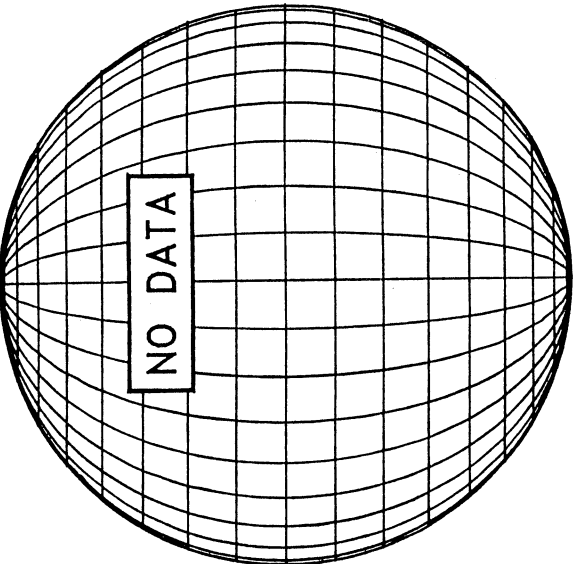
RAMEY SUNSPOTS

June 01, 2002
13:22 UT Good
Bp = -0.6
Po = -15.3
Lo = 240.6



1322 UT
1313 UT LOMN Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----



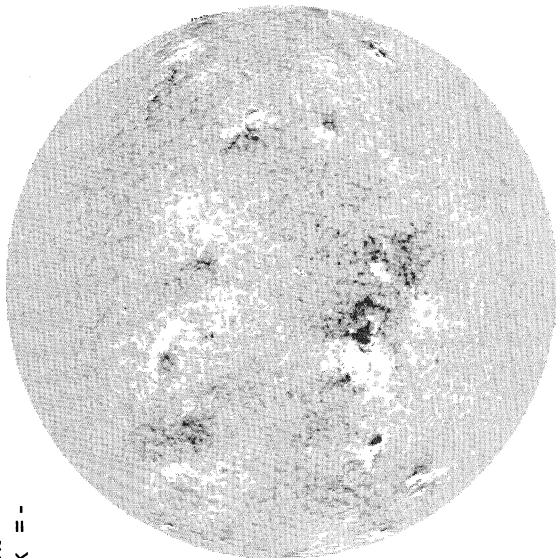
S

JUNE 2, 2002 (P= -15.14, Bo = -0.57, Lo = 234.80)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



1346 UT

STANFORD MAGNETOGRAM

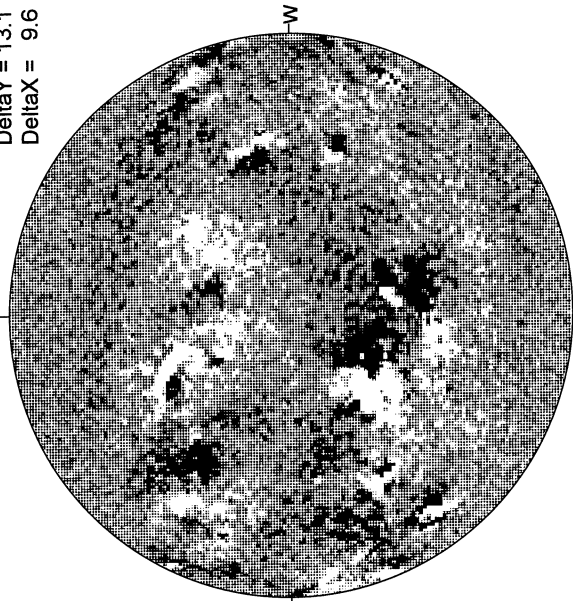
Solid = +
Dashed = -



2128 UT

MT. WILSON MAGNETOGRAM

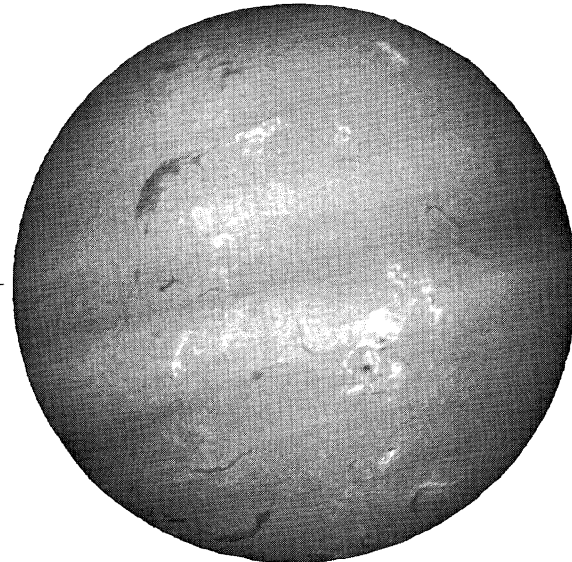
Delta Y = 13.1
Delta X = 9.6



White = +7.5G
Black = -7.5G

16.56 -
17.49 UT

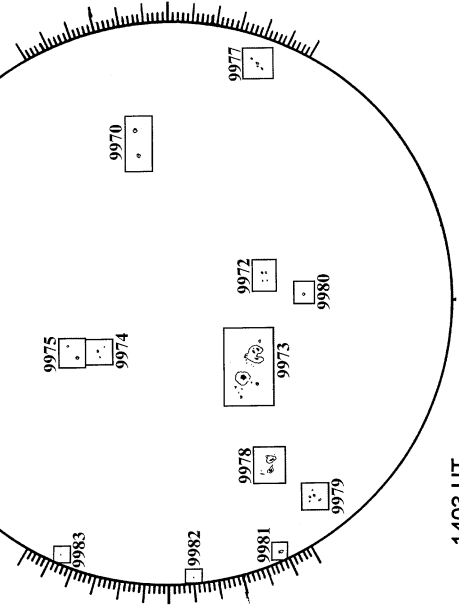
MEUDON H-ALPHA



1148 UT

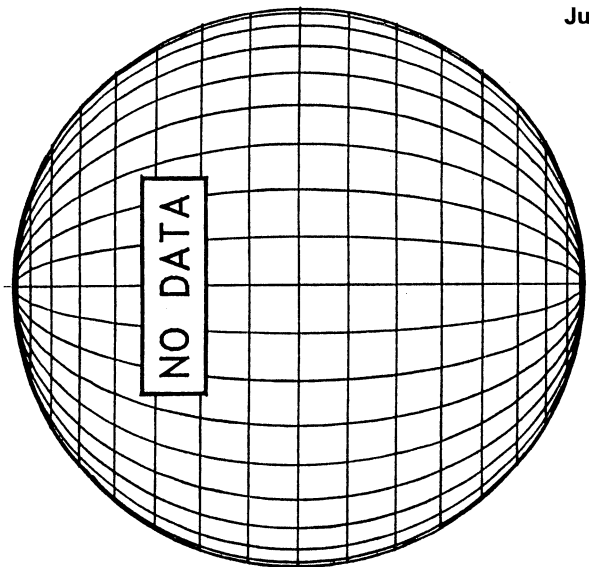
RAMEY SUNSPOT

RAMEY SUNSPOTS
June 02, 2002
14:03 UT Poor
Bp = -0.4
Po = -14.9
Lo = 226.9



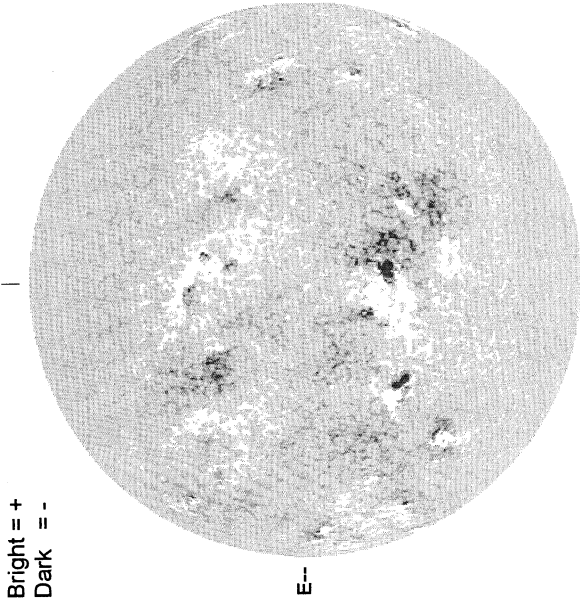
1403 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

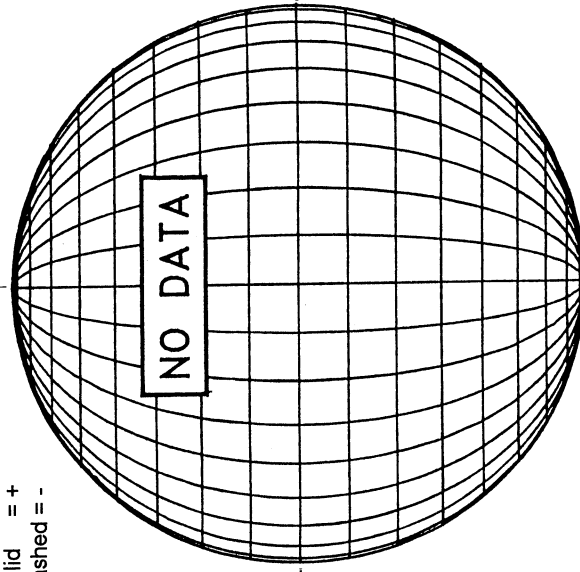


JUNE 3, 2002 (P= -14.76, Bo = -0.45, Lo = 221.57)

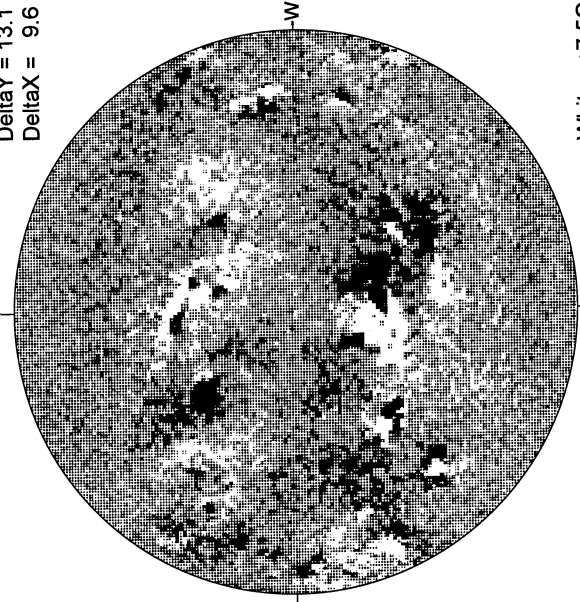
KITT PEAK MAGNETOGRAM
868.8 nm



STANFORD MAGNETOGRAM

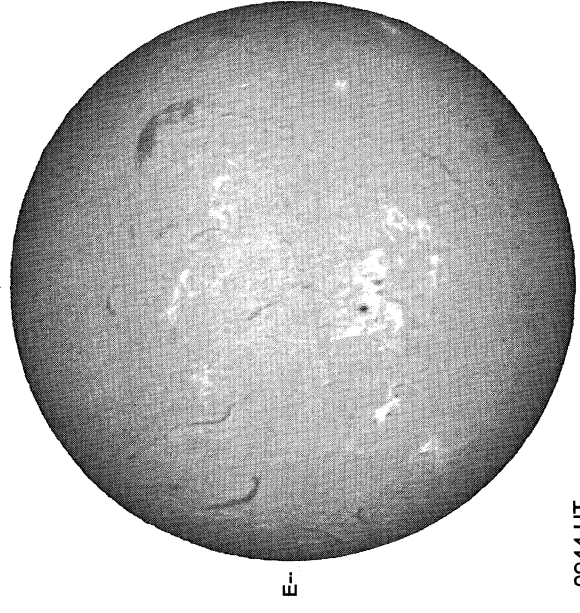


MT. WILSON MAGNETOGRAM

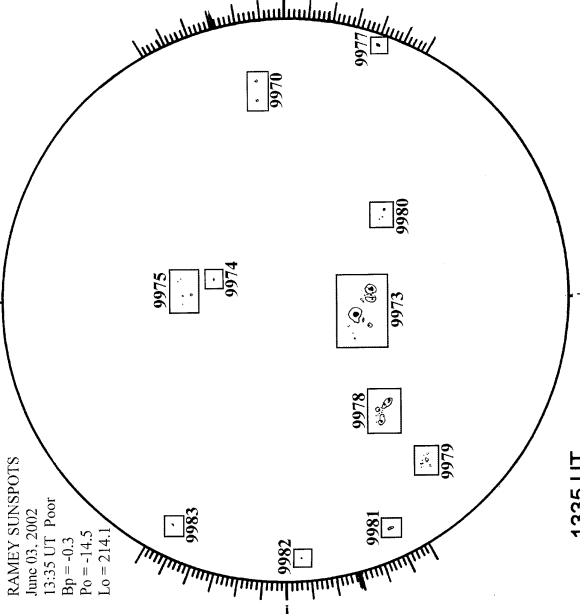


White= +7.5G
Black = -7.5G

MEUDON H-ALPHA

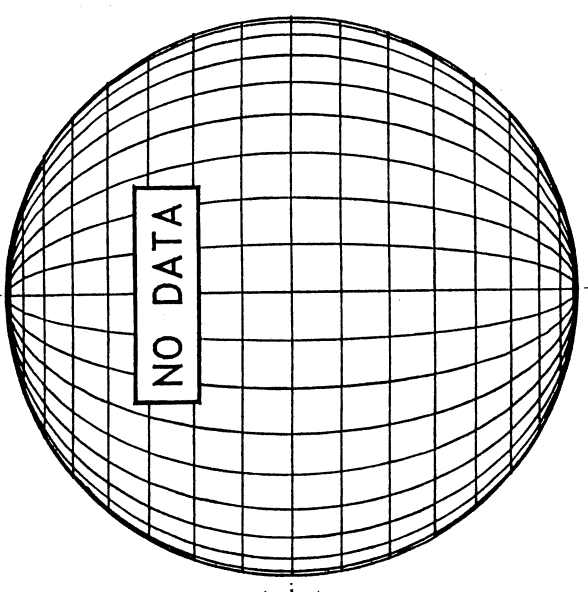


RAMEY SUNSPOT



RAMEY SUNSPOTS
June 03, 2002
13:35 UT Poor
Bp = -0.3
Po = -14.5
Lo = 214.1

LOMNICKY PEAK CORONA (1.04 Radii)---



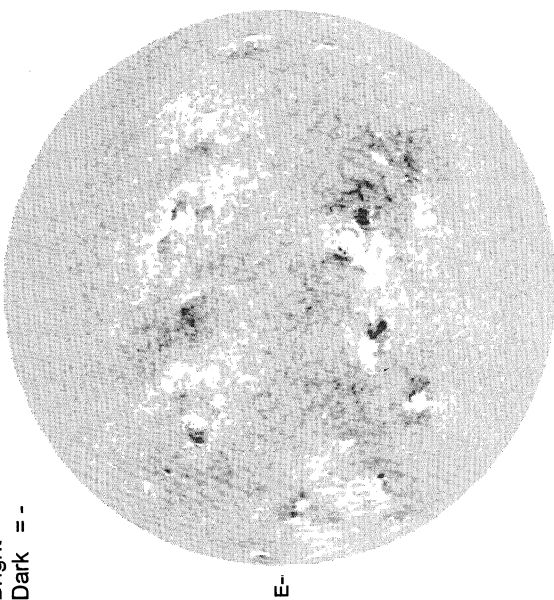
NO DATA

JUNE 4, 2002 (P= -14.38, Bo = -0.32, Lo = 208.33)

KITT PEAK MAGNETOGRAM

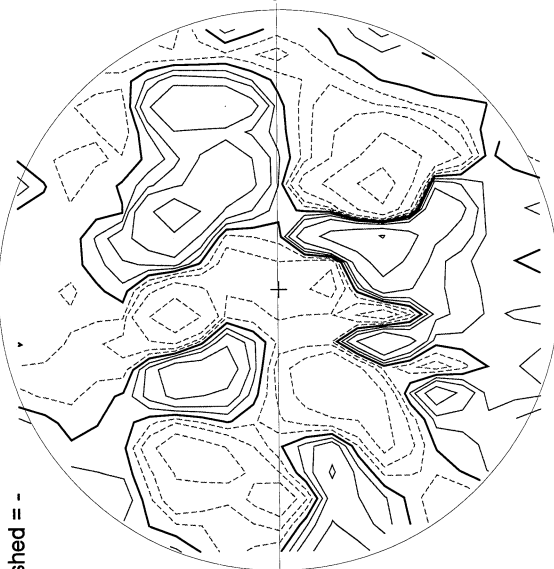
868.8 nm

Bright = +
Dark = -



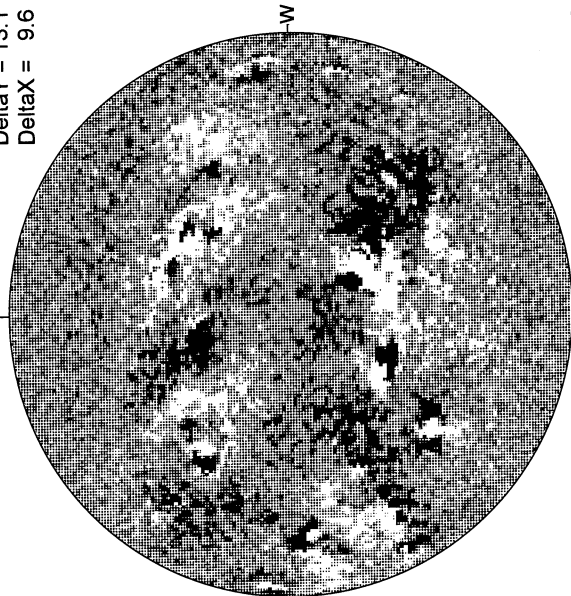
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



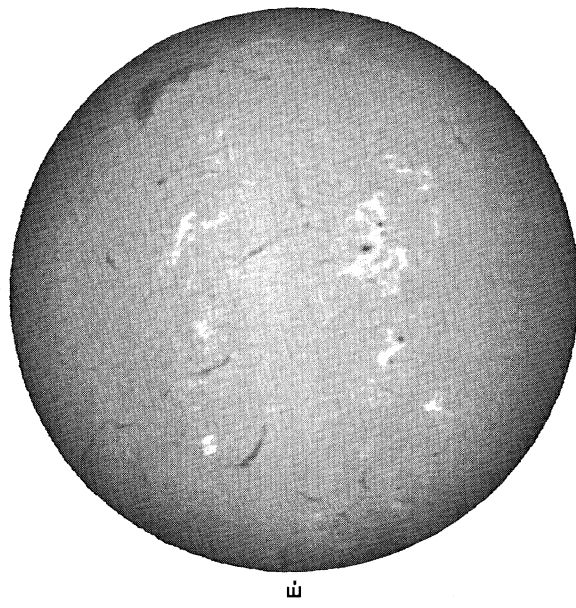
MT. WILSON MAGNETOGRAM

Delta Y = 13.1
Delta X = 9.6



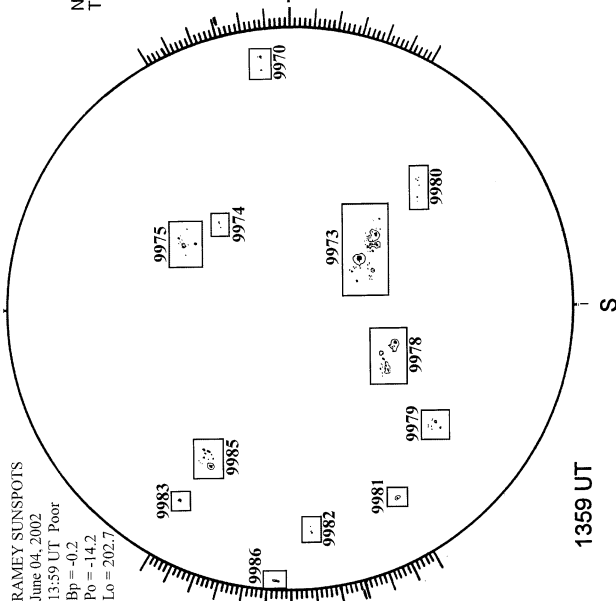
White = +7.5G
Black = -7.5G

MEUDON H-ALPHA



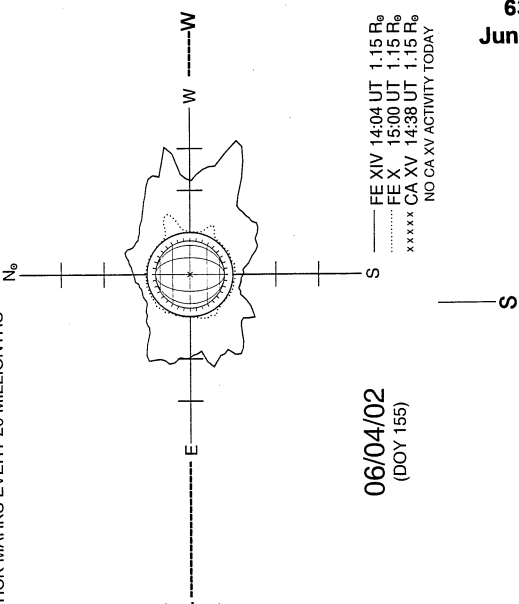
RAMEY SUNSPOT

RAMEY SUNSPOTS
June 04, 2002
13:59 UT Poor
Bp = -0.2
Po = -14.2
Lo = 202.7



SACRAMENTO PEAK CORONA (1.15 Radii)---

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS



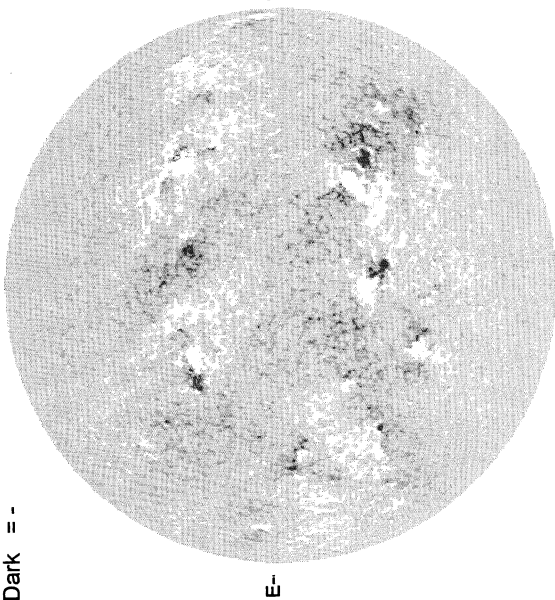
FE XIV 14:04 UT 1.15 R₀
FE X 15:00 UT 1.15 R₀
***** CA XV 14:38 UT 1.15 R₀
NO CA XV ACTIVITY TODAY

JUNE 5, 2002 (P= -13.99, Bo = -0.20, Lo = 195.10)

KITT PEAK MAGNETOGRAM

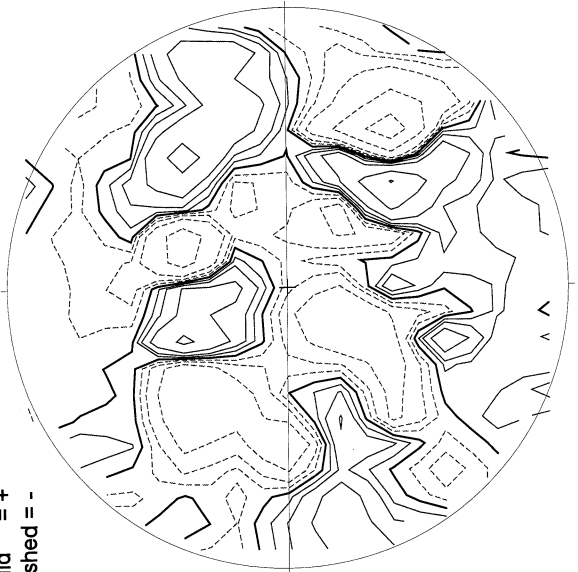
868.8 nm

Bright = +
Dark = -



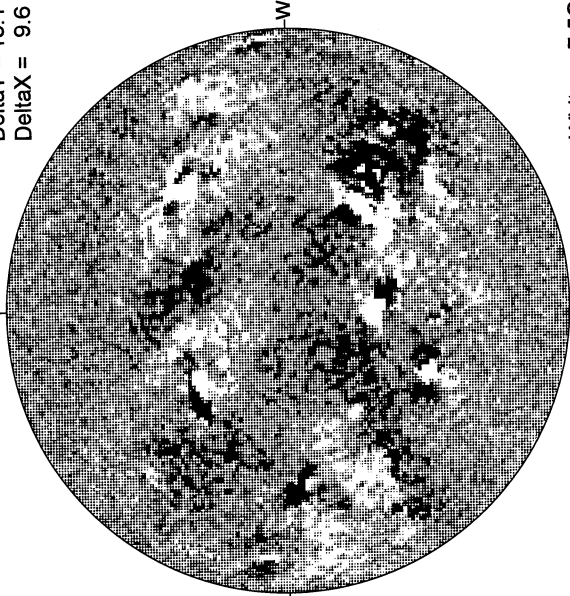
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

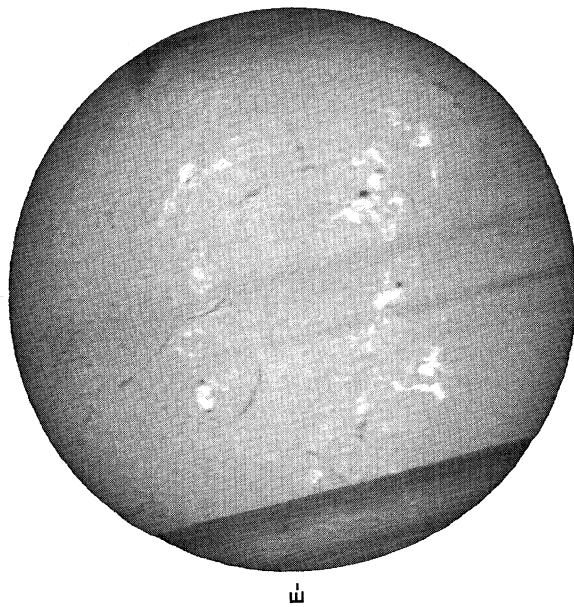
Delta Y = 13.1
Delta X = 9.6



White = +7.5G
Black = -7.5G

16.25 -
17.17 UT

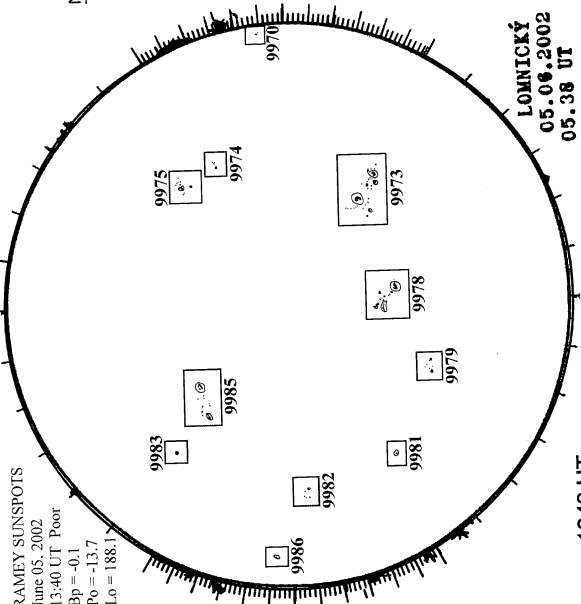
MEUDON H-ALPHA



0930 UT

RAMEY SUNSPOT

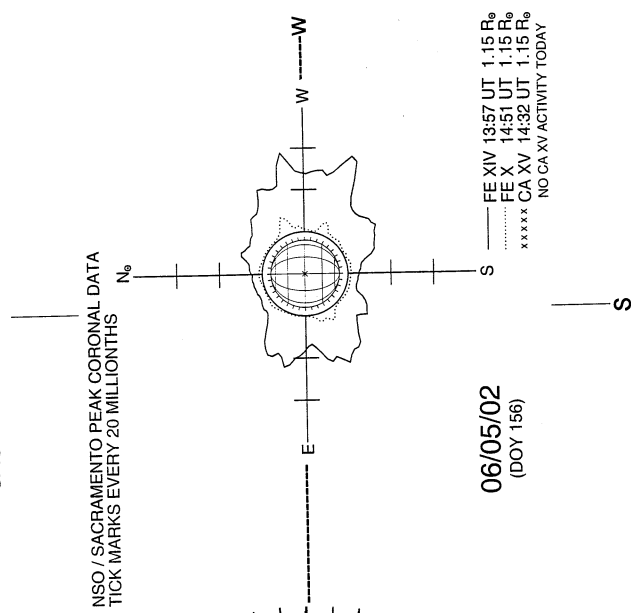
RAMEY SUNSPOTS
June 05, 2002
13:40 UT Poor
Bp = -0.1
Po = -13.7
Lo = 188.1



1340 UT
0538 UT LOMN Prom S

LOMNICKY
05.06.2002
05.38 UT

SACRAMENTO PEAK CORONA (1.15 Radii)---

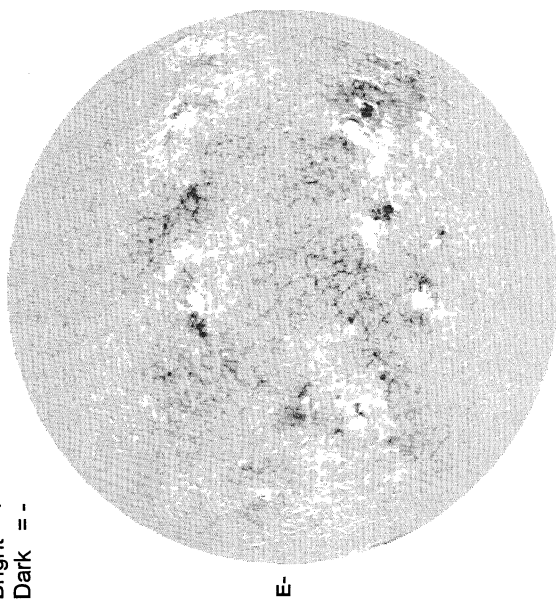


JUNE 6, 2002 (P = -13.60, Bo = -0.08, Lo = 181.86)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



1506 UT

STANFORD MAGNETOGRAM

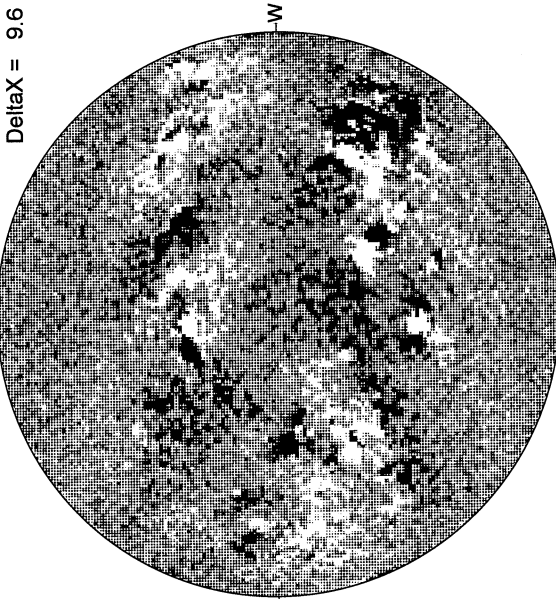
Solid = +
Dashed = -



2303 UT

MT. WILSON MAGNETOGRAM

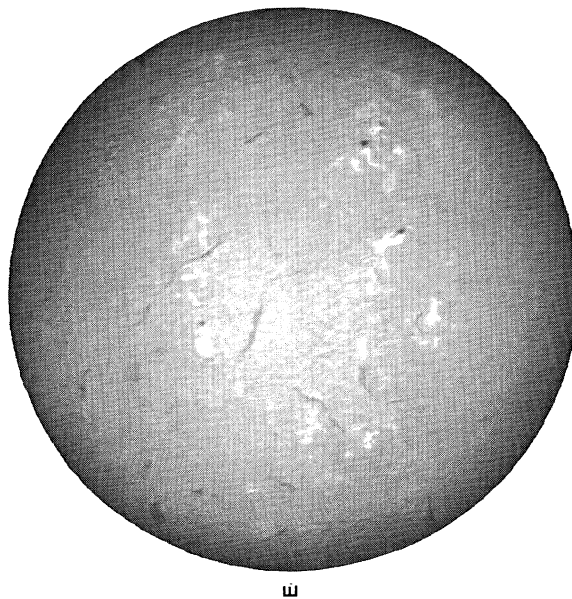
Delta Y = 13.1
Delta X = 9.6



15.97 -
16.90 UT

White = +7.5G
Black = -7.5G

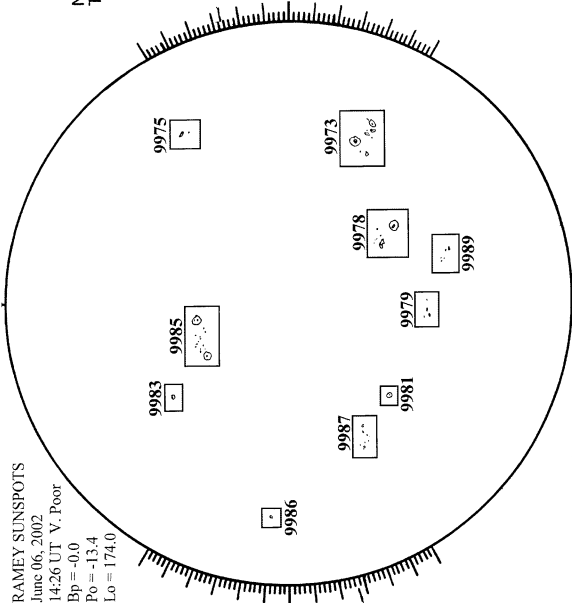
MEUDON H-ALPHA



0722 UT

RAMEY SUNSPOT

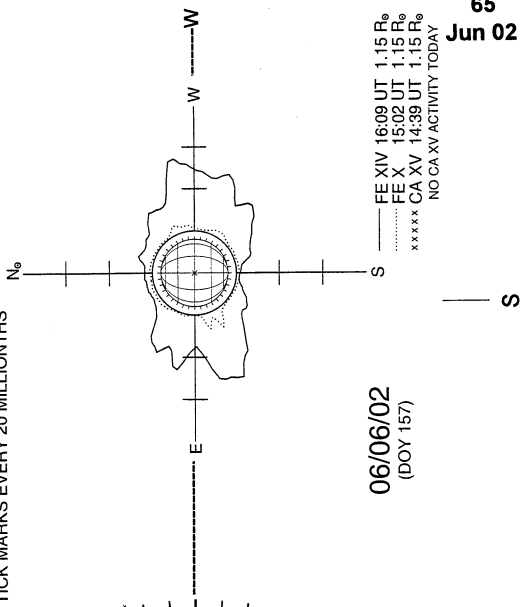
RAMEY SUNSPOTS
June 06, 2002
14:26 UT V. Poor
Bp = -0.0
Po = -13.4
Lo = 174.0



1426 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS



06/06/02
(DOY 157)

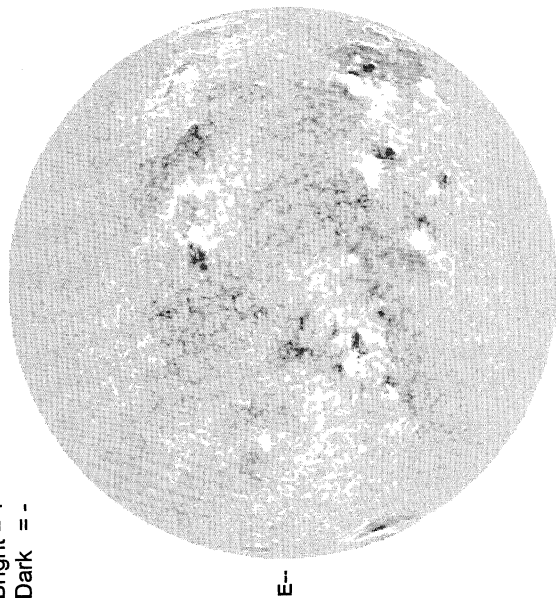
FE XIV 16:09 UT 1.15 R_o
FE X 15:02 UT 1.15 R_o
CA XV 14:39 UT 1.15 R_o
NO CA XV ACTIVITY TODAY

JUNE 7, 2002 (P= -13.20, Bo = 0.04, Lo = 168.63)

KITT PEAK MAGNETOGRAM

868.8 nm

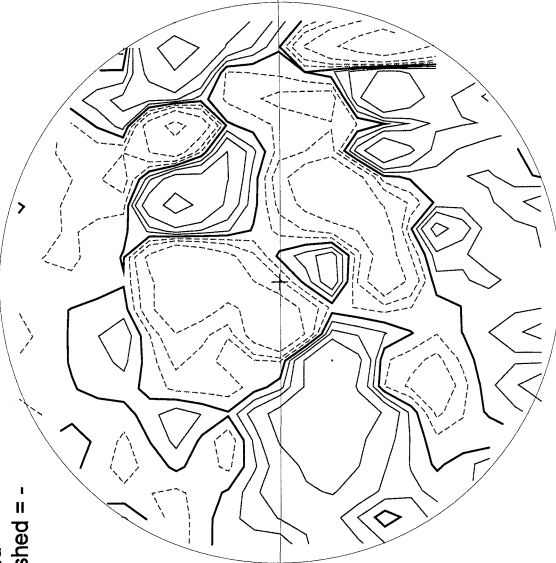
Bright = +
Dark = -



1614 UT

STANFORD MAGNETOGRAM

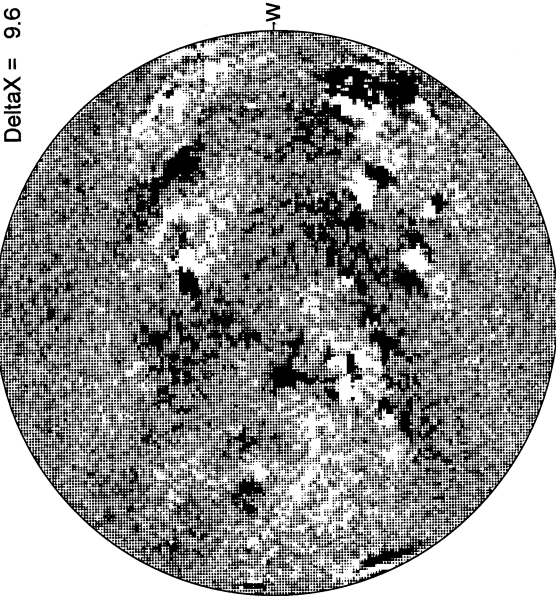
Solid = +
Dashed = -



2258 UT

MT. WILSON MAGNETOGRAM

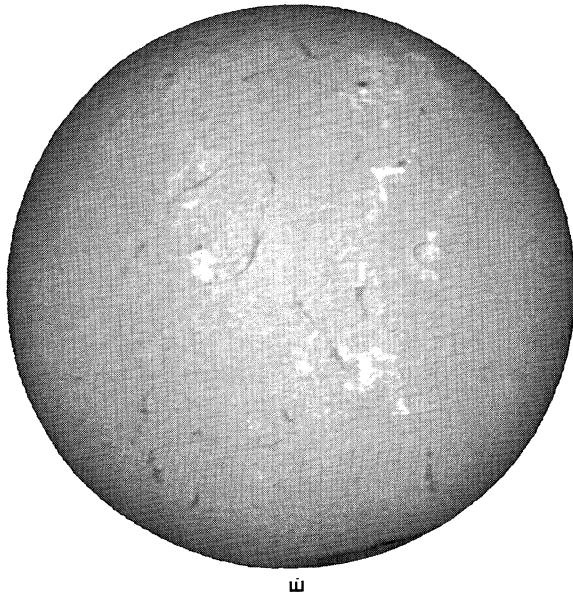
Delta Y = 13.1
Delta X = 9.6



18.25 -
19.17 UT

White = +7.5G
Black = -7.5G

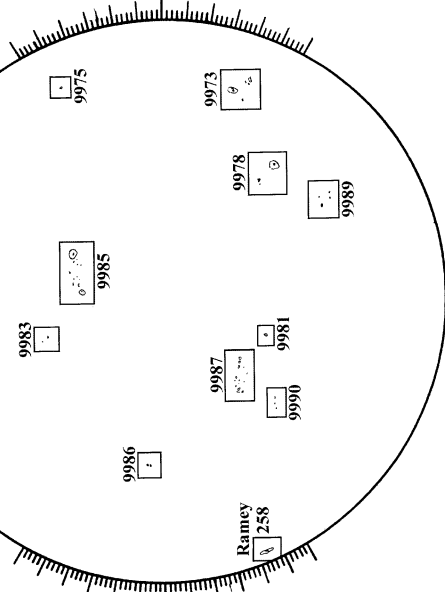
MEUDON H-ALPHA



1134 UT

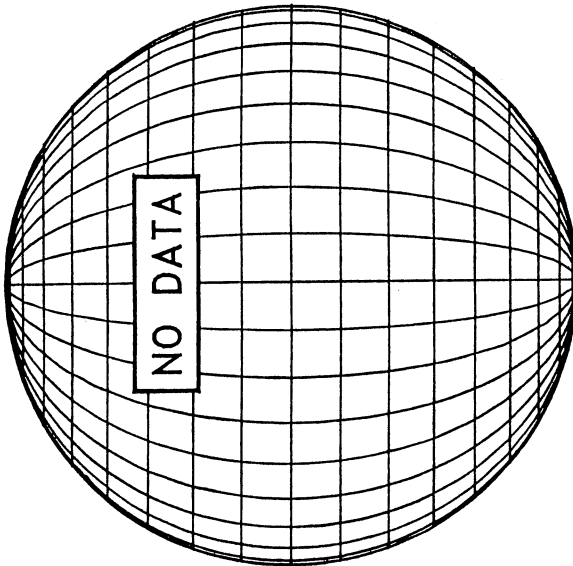
RAMEY SUNSPOTS

RAMEY SUNSPOTS
June 07, 2002
13:53 UT V. Poor
Bp = 0.1
Po = -12.9
Lo = 161.7



1353 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



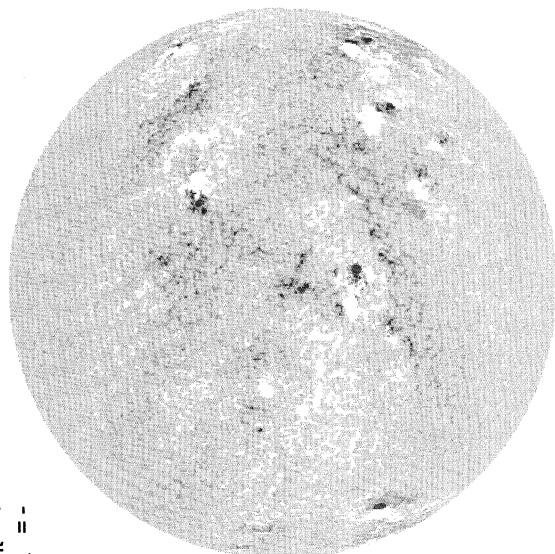
S

JUNE 8, 2002 (P= -12.80, Bo = 0.16, Lo = 155.39)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



1541 UT

STANFORD MAGNETOGRAM

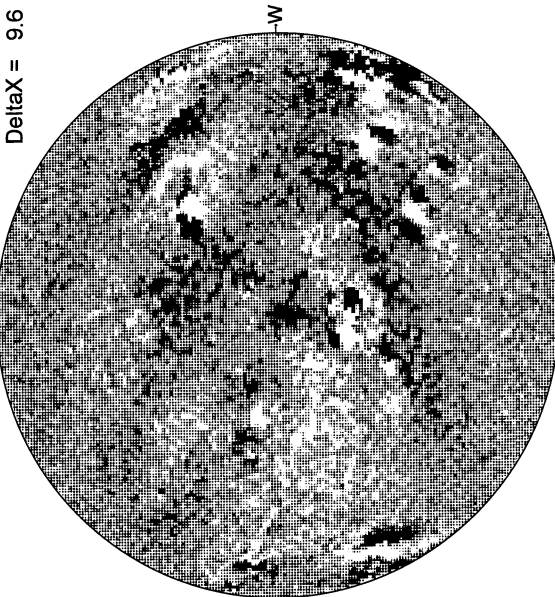
Solid = +
Dashed = -



JUN 9
0013 UT

MT. WILSON MAGNETOGRAM

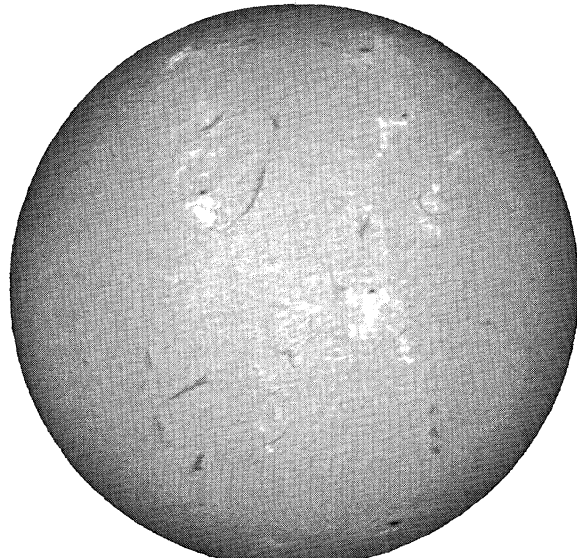
DeltaY = 13.1
DeltaX = 9.6



17.31 -
18.23 UT

White = +7.5G
Black = -7.5G

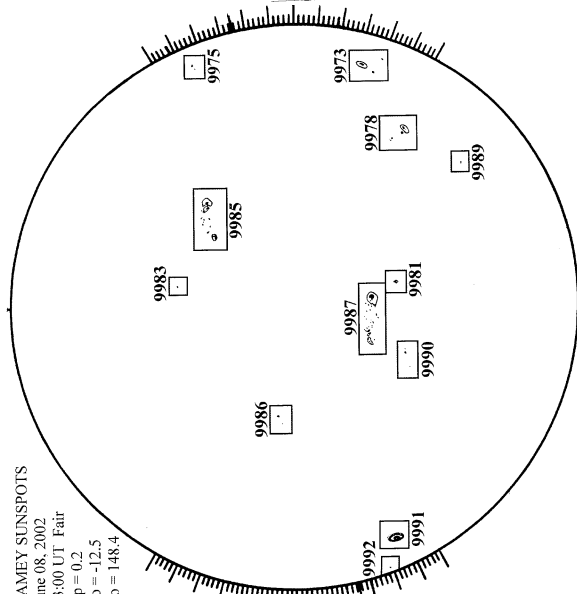
MEUDON H-ALPHA



0907 UT

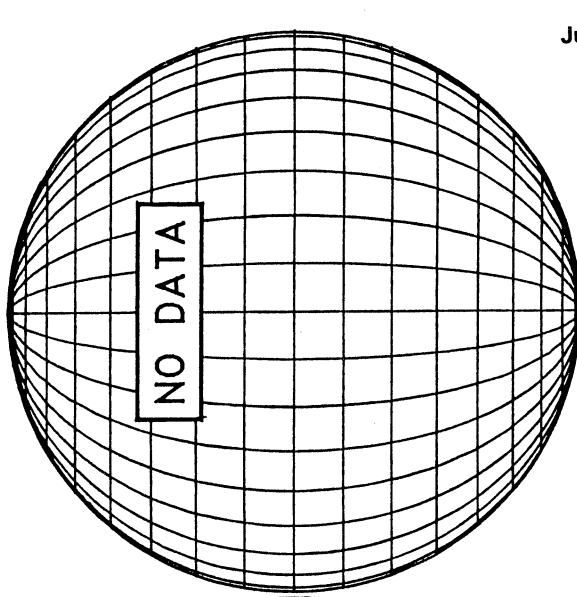
RAMEY SUNSPOT

RAMEY SUNSPOTS
June 08, 2002
13:00 UT Fair
Bp = 0.2
Po = -12.5
Lo = 148.4



1300 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



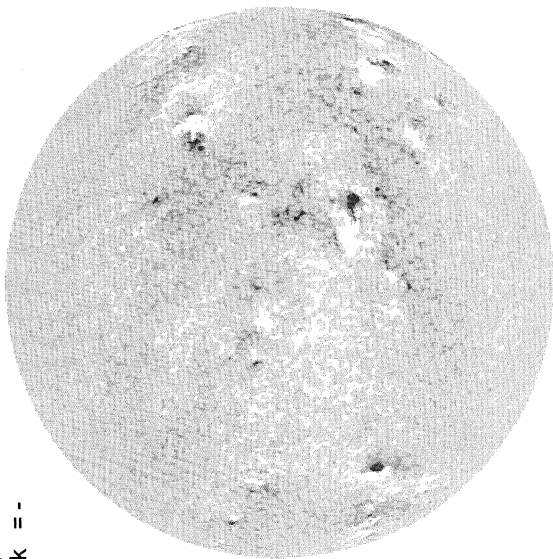
67
Jun 02

JUNE 9, 2002 (P= -12.39, Bo = 0.28, Lo = 142.16)

KITT PEAK MAGNETOGRAM

**868.8 nm

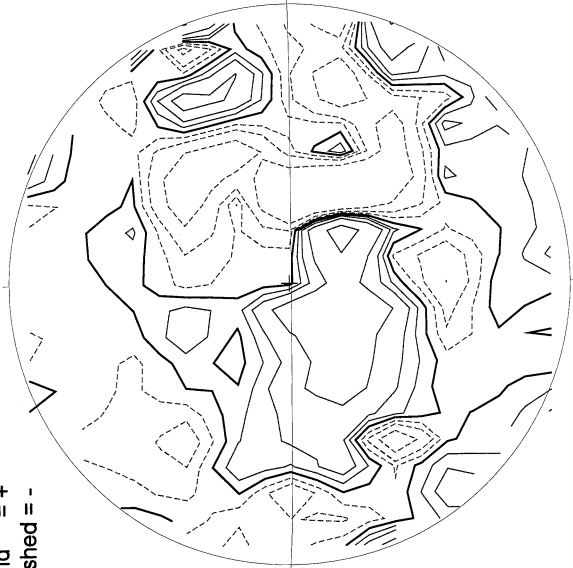
Bright = +
Dark = -



1816 UT

STANFORD MAGNETOGRAM

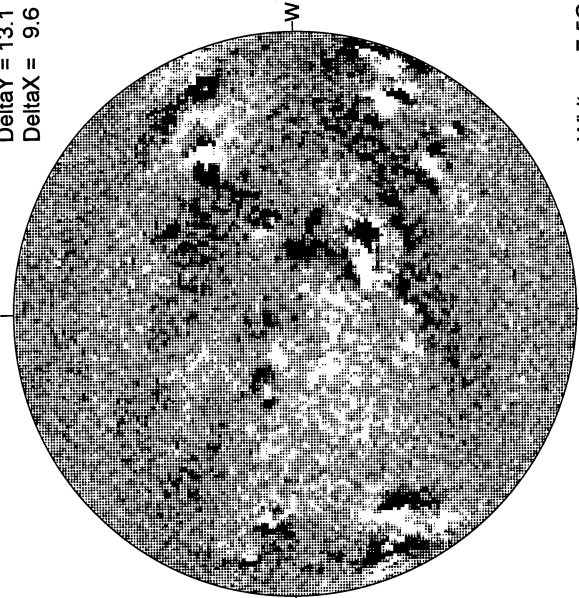
Solid = +
Dashed = -



2219 UT

MT. WILSON MAGNETOGRAM

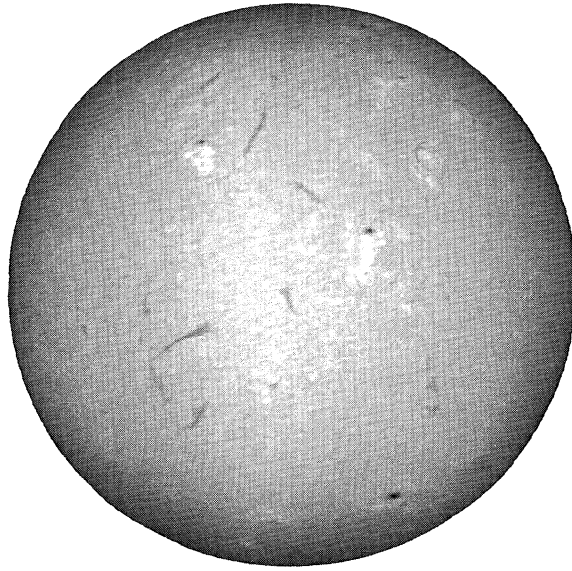
DeltaY = 13.1
DeltaX = 9.6



16:39 -
17:31 UT

White = +7.5G
Black = -7.5G

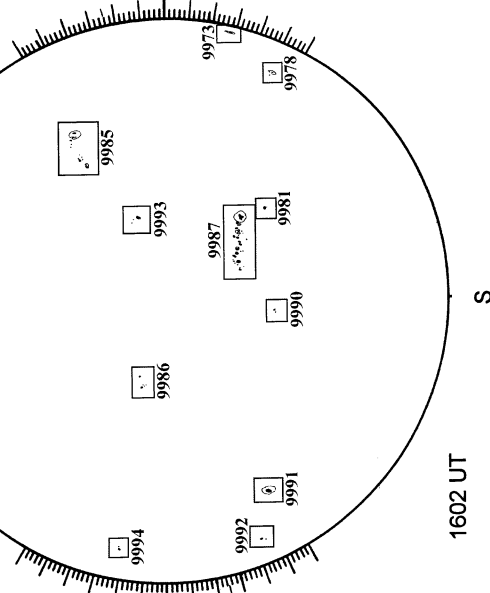
MEUDON H-ALPHA



0610 UT

RAMEY SUNSPOT

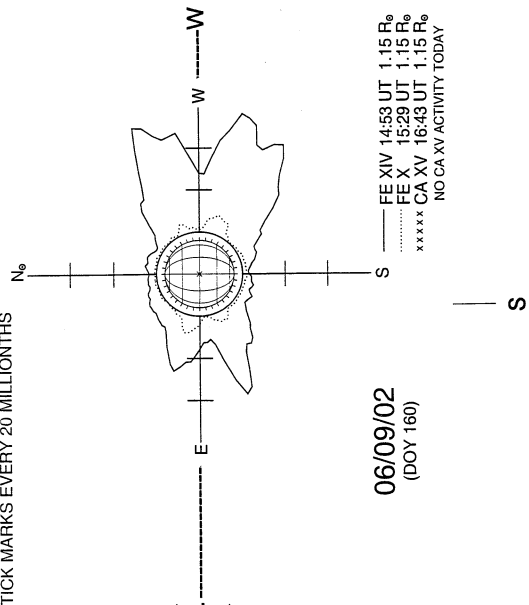
RAMEY SUNSPOTS
June 09, 2002
16:02 UT V. Poor
Bp = 0.3
Po = -12.1
Lo = 133.4



1602 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS



06/09/02
(DOY 160)

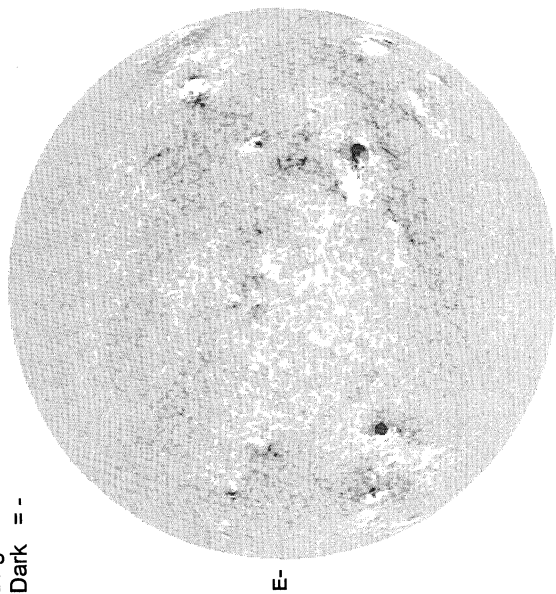
— EE XIV 14:53 UT 1.15 R₀
..... EE X 15:29 UT 1.15 R₀
xxxxx CA XV 16:43 UT 1.15 R₀
NO CA XV ACTIVITY TODAY

JUNE 10, 2002 (P= -11.99, Bo = 0.40 Lo = 128.92)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



1510 UT

STANFORD MAGNETOGRAM

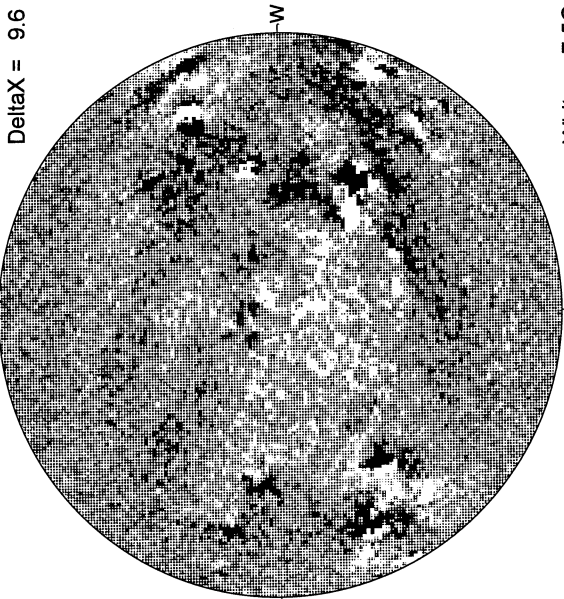
Solid = +
Dashed = -



1752 UT

MT. WILSON MAGNETOGRAM

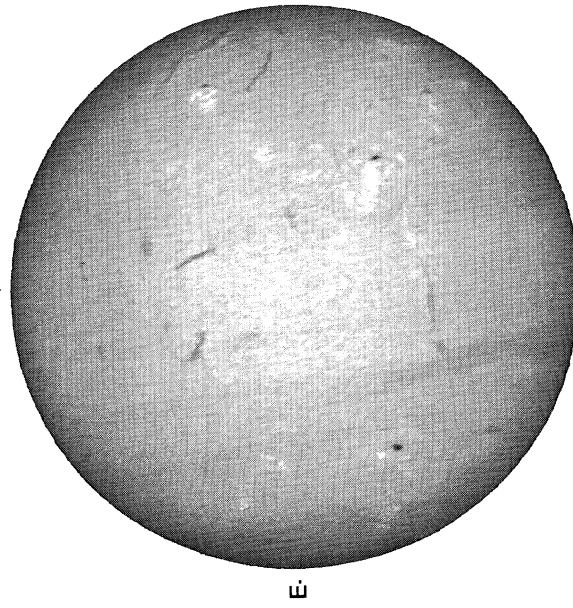
Delta Y = 13.1
Delta X = 9.6



16.02 -
16.93 UT

White = +7.5G
Black = -7.5G

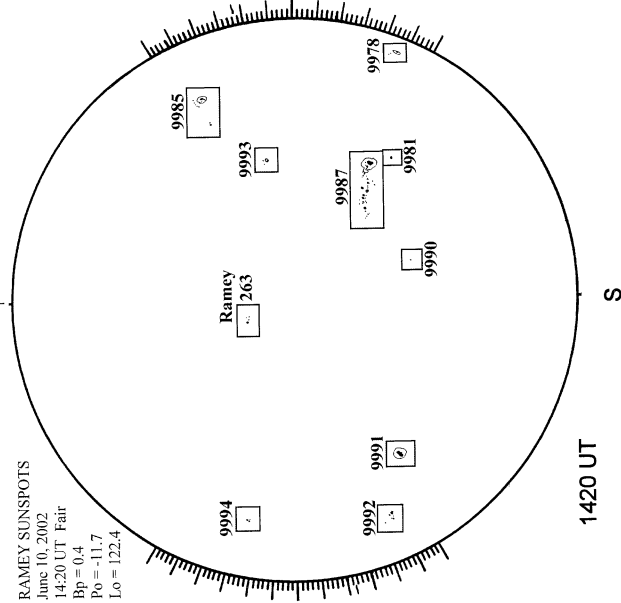
MEUDON H-ALPHA



1130 UT

RAMEY SUNSPOTS

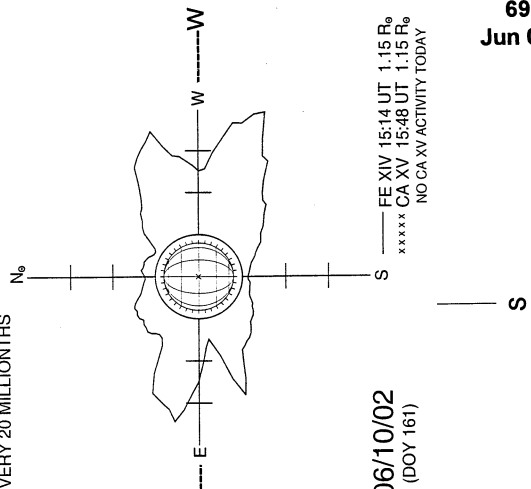
RAMEY SUNSPOTS
June 10, 2002
14:20 UT Fair
Bp = 0.4
Po = -11.7
Lo = 122.4



1420 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS



06/10/02
(DOY 161)

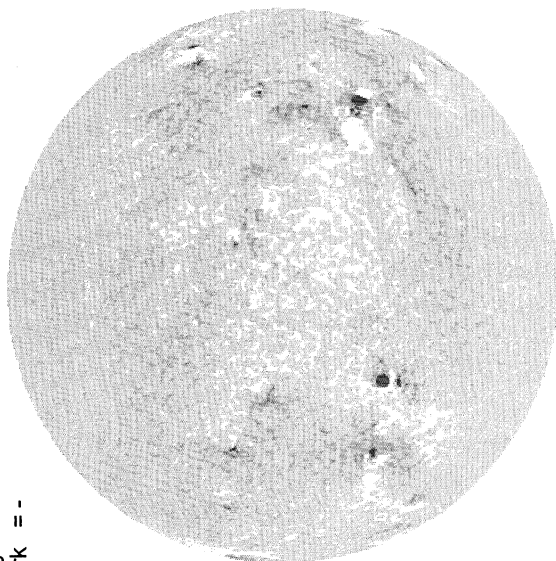
70
Jun 02

JUNE 11, 2002 (P= -11.57, Bo = 0.52, Lo = 115.69)

KITT PEAK MAGNETOGRAM

868.8 nm

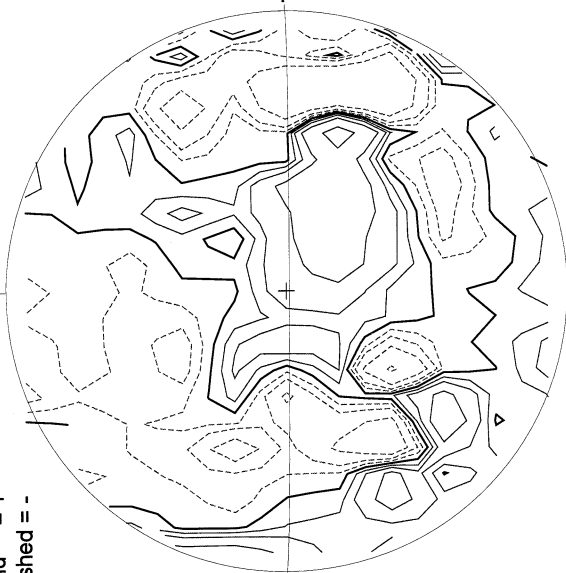
Bright = +
Dark = -



1520 UT

STANFORD MAGNETOGRAM

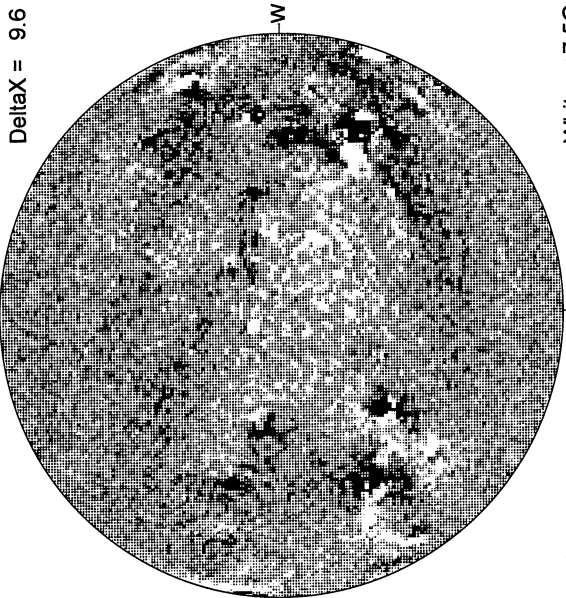
Solid = +
Dashed = -



2220 UT

MT. WILSON MAGNETOGRAM

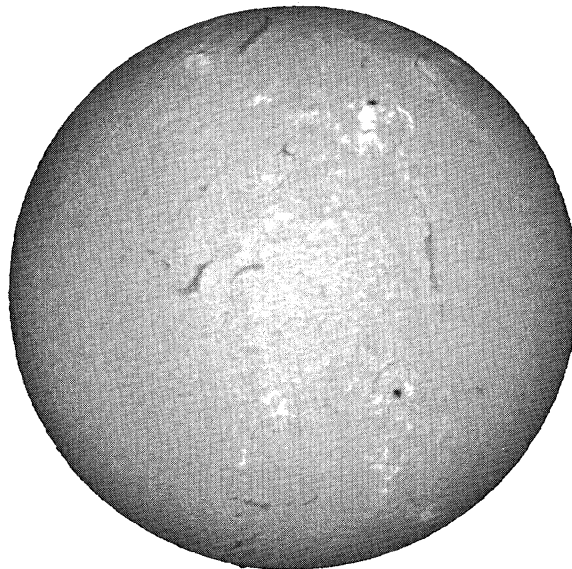
Delta Y = 13.1
Delta X = 9.6



16.06 -
16.97 UT

White = +7.5G
Black = -7.5G

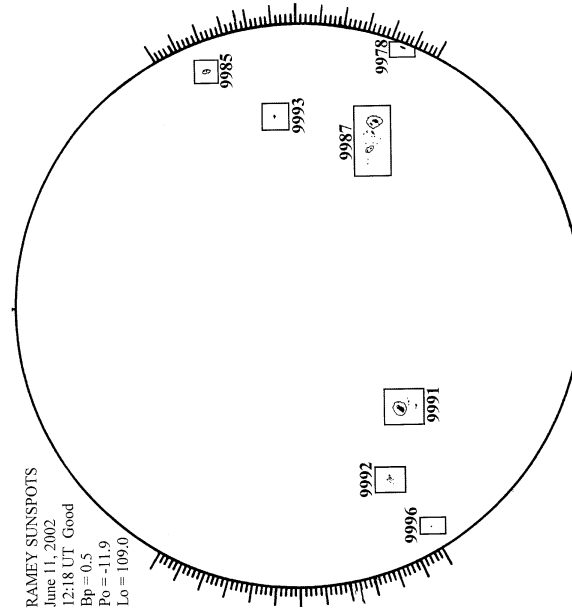
MEUDON H-ALPHA



1232 UT

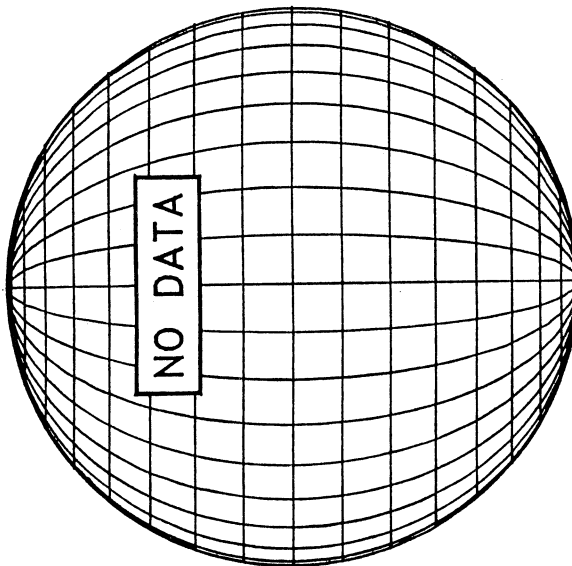
RAMEY SUNSPOTS

RAMEY SUNSPOTS
June 11, 2002
12:18 UT Good
Bp = 0.5
Po = -11.9
Lo = 109.0



1218 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

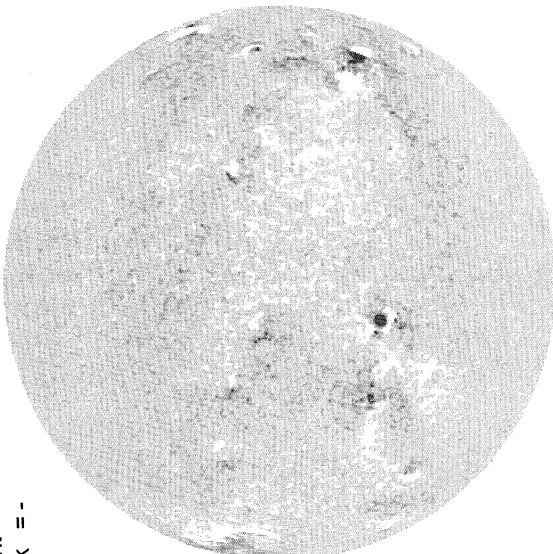


JUNE 12, 2002 (P= -11.16, Bo = 0.64 Lo = 102.45)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



1537 UT

STANFORD MAGNETOGRAM

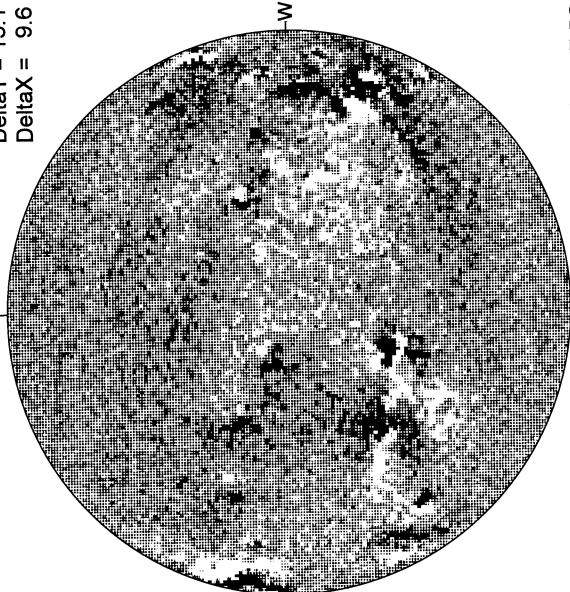
Solid = +
Dashed = -



2154 UT

MT. WILSON MAGNETOGRAM

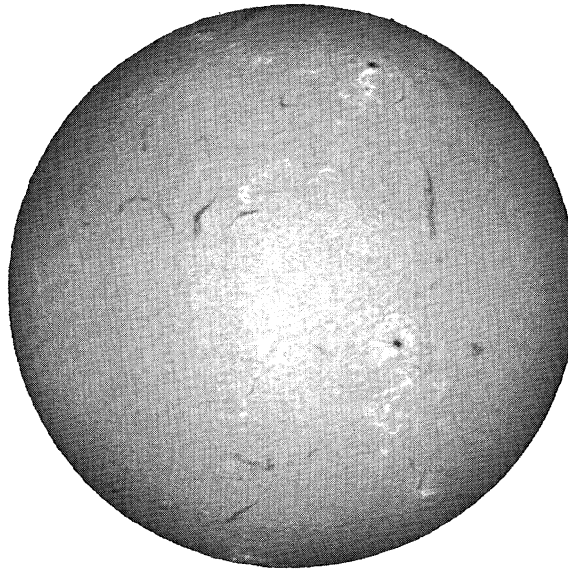
Delta Y = 13.1
Delta X = 9.6



White = +7.5G
Black = -7.5G

16.23 -
17.16 UT

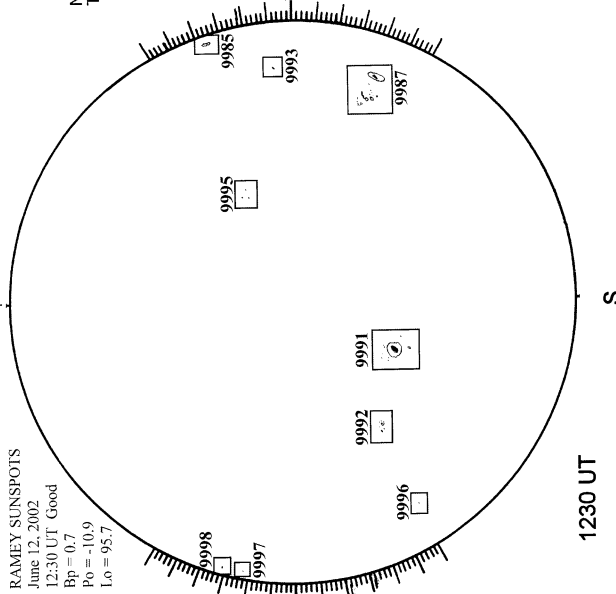
MEUDON H-ALPHA



0847 UT

RAMEY SUNSPOTS

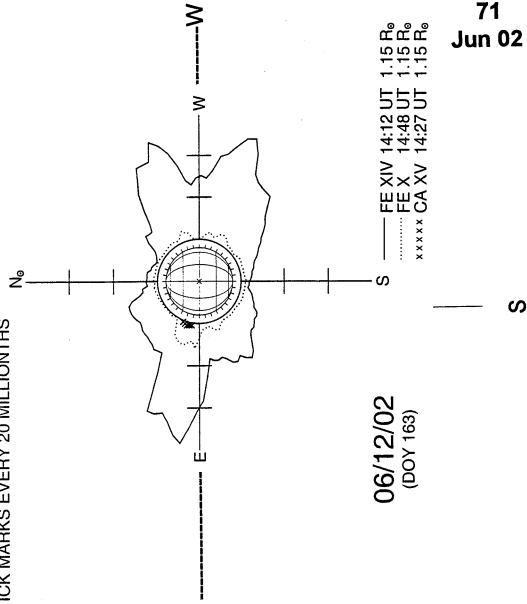
RAMEY SUNSPOTS
June 12, 2002
12:30 UT Good
Bp = 0.7
Po = -10.9
Lo = 95.7



1230 UT

SACRAMENTO PEAK CORONA (1.15 Radii)---

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS



06/12/02
(DOY 163)

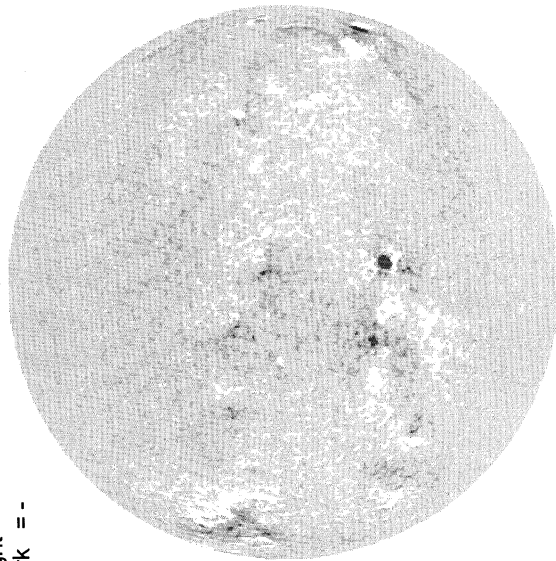
— FE XIV 14:12 UT 1.15 R_o
..... FE X 14:48 UT 1.15 R_o
xxxxx CA XV 14:27 UT 1.15 R_o

JUNE 13, 2002 (P= -10.74, Bo = 0.76, Lo = 89.22)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



1539 UT

STANFORD MAGNETOGRAM

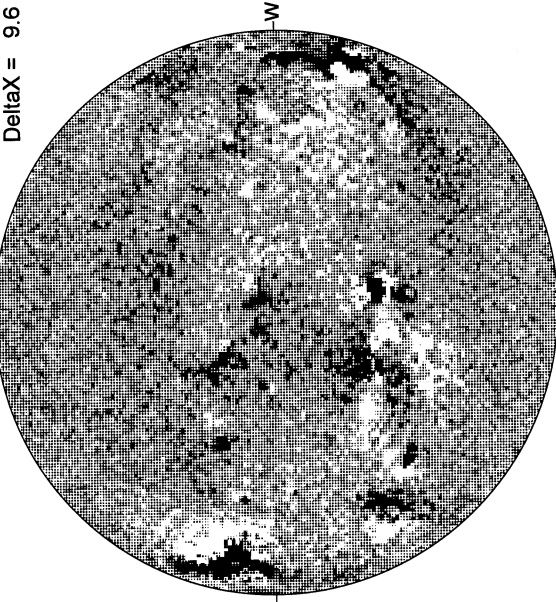
Solid = +
Dashed = -



2021 UT

MT. WILSON MAGNETOGRAM

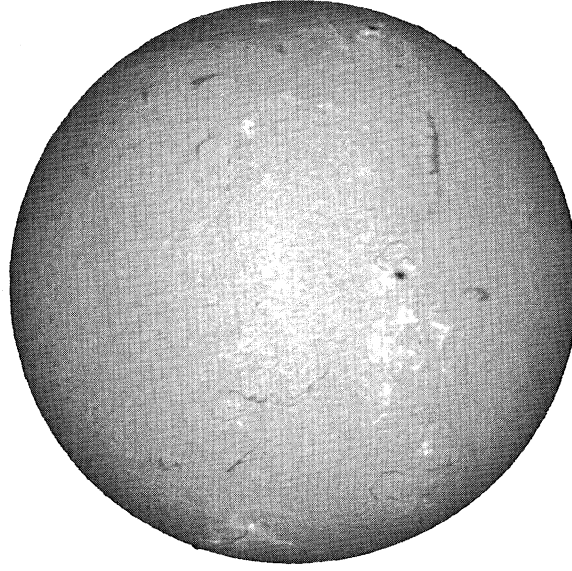
DeltaY = 13.1
DeltaX = 9.6



16.67 -
17.60 UT

White= +7.5G
Black = -7.5G

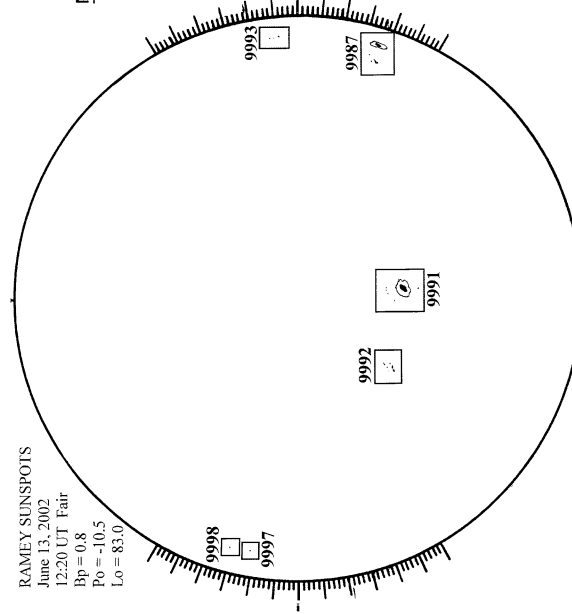
MEUDON H-ALPHA



1035 UT

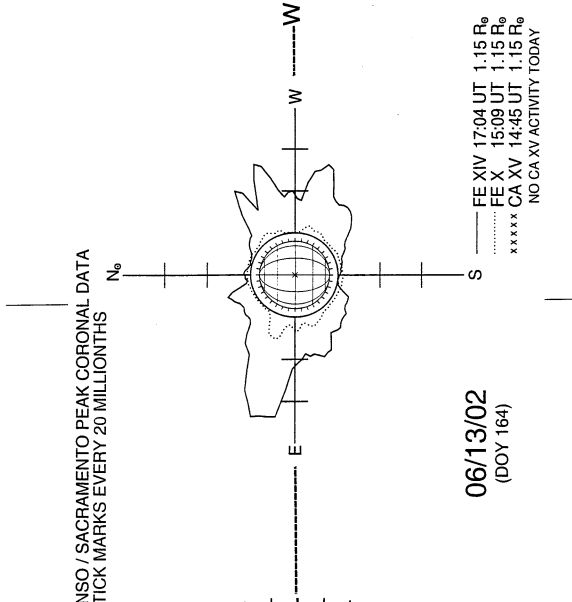
RAMEY SUNSPOT

RAMEY SUNSPOTS
June 13, 2002
12:20 UT Fair
Bp = 0.8
Po = -10.5
Lo = 83.0



1220 UT

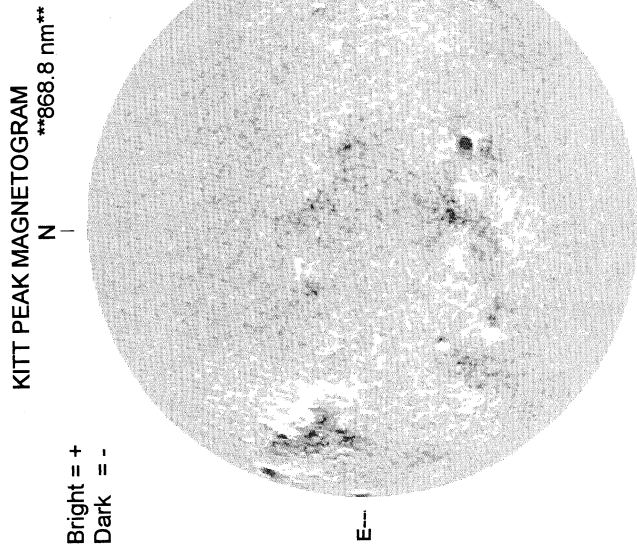
SACRAMENTO PEAK CORONA (1.15 Radii)----



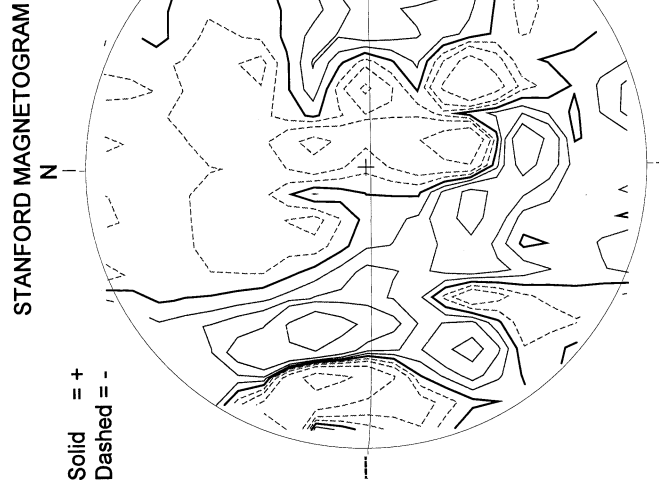
06/13/02
(DOY 164)

— FE XIV 17:04 UT 1.15 R_o
..... FE X 15:09 UT 1.15 R_o
***** CA XV 14:45 UT 1.15 R_o
NO CA XV ACTIVITY TODAY

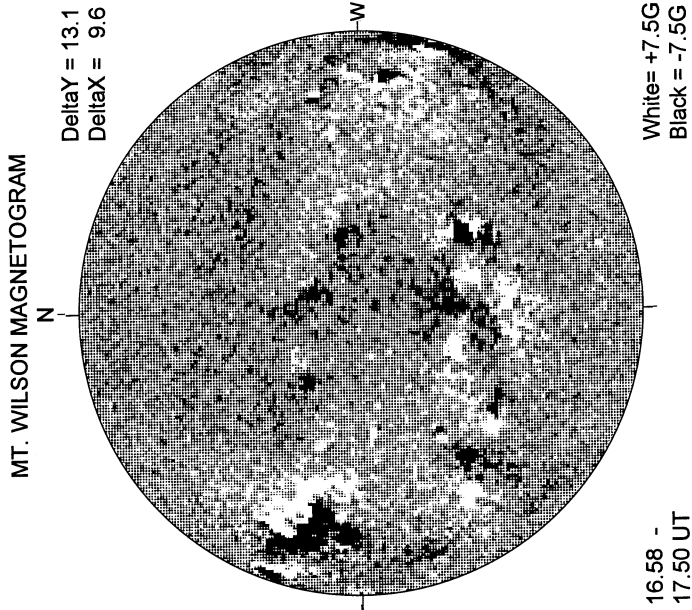
JUNE 14, 2002 (P= -10.31, Bo = 0.88, Lo = 75.98)



1600 UT

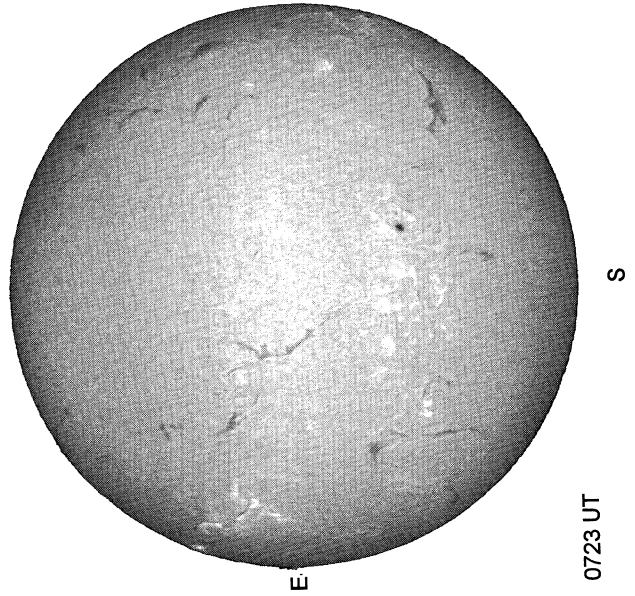


2030 UT



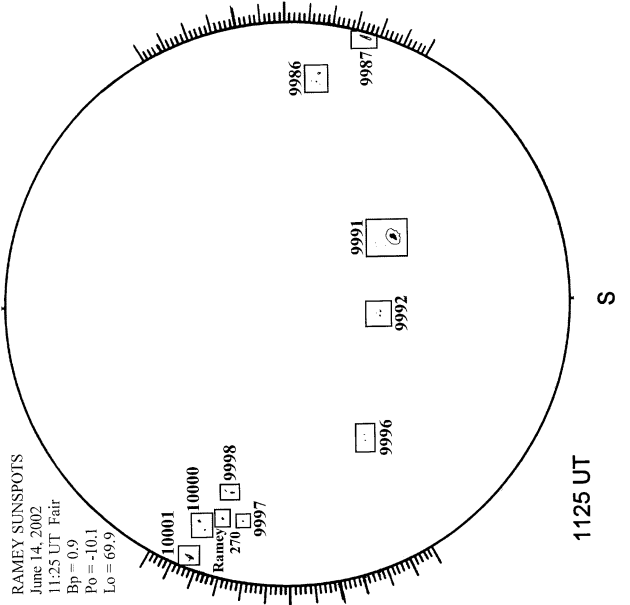
16.58 -
17.50 UT

MEUDON H-ALPHA



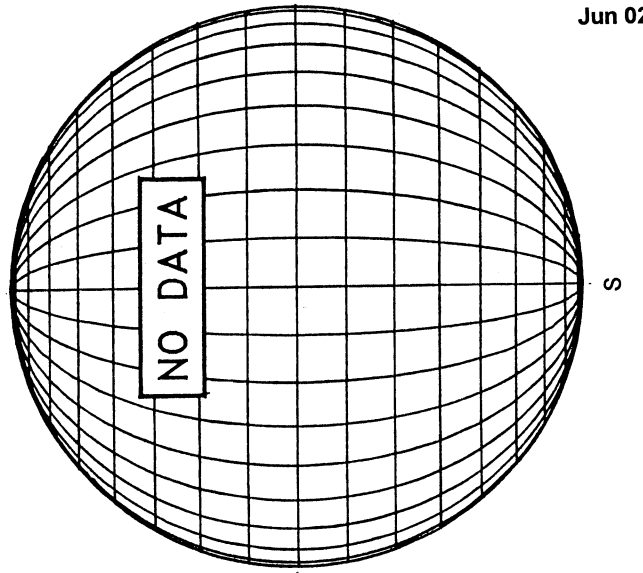
0723 UT

RAMEY SUNSPOT



1125 UT

SACRAMENTO PEAK CORONA (1.15 Radii) ----



73
Jun 02

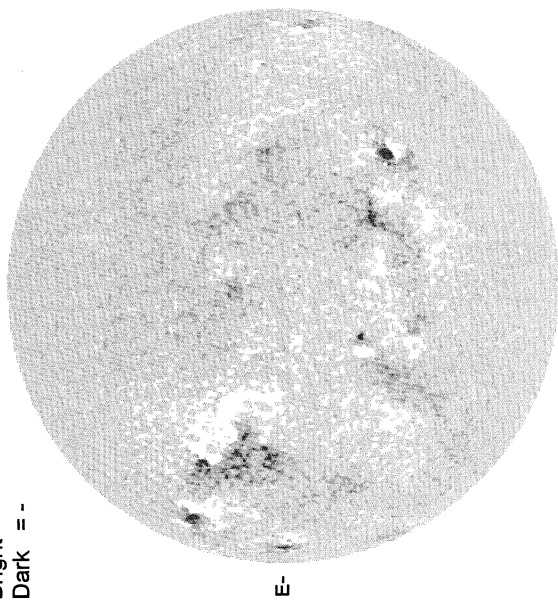
74
Jun 02

JUNE 15, 2002 (P= -9.89, Bo = 1.00, Lo = 62.75)

KITT PEAK MAGNETOGRAM

868.8 nm

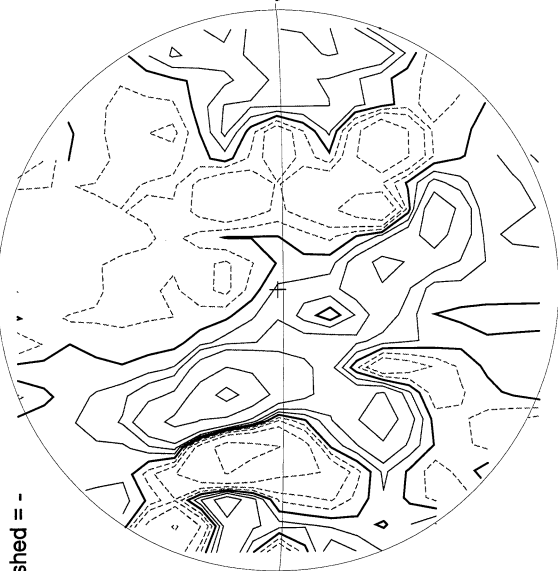
Bright = +
Dark = -



1638 UT

STANFORD MAGNETOGRAM

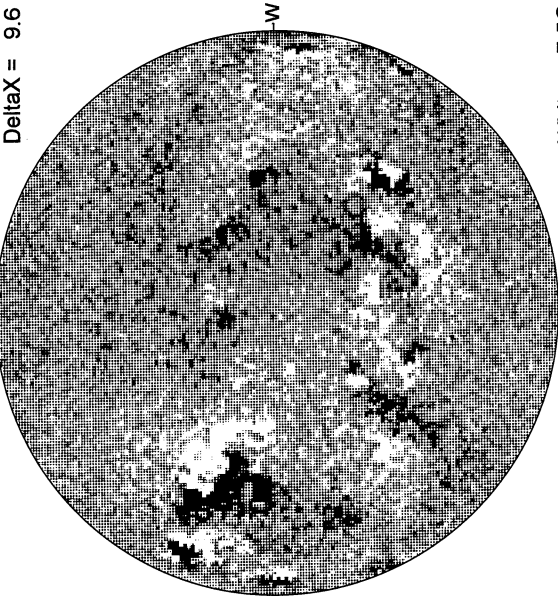
Solid = +
Dashed = -



JUN 16
0034 UT

MT. WILSON MAGNETOGRAM

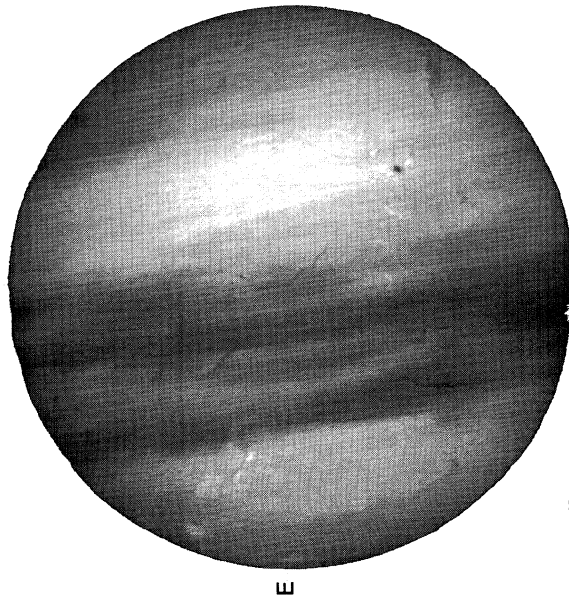
Delta Y = 13.1
Delta X = 9.6



16.25 -
17.17 UT

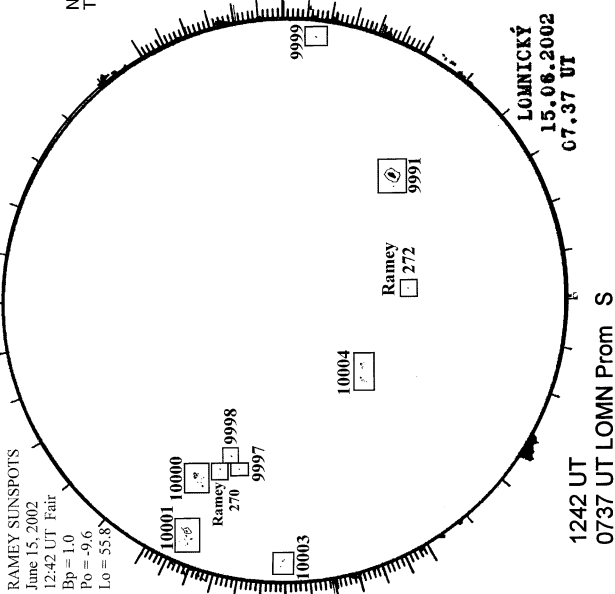
White = +7.5G
Black = -7.5G

MEUDON H-ALPHA



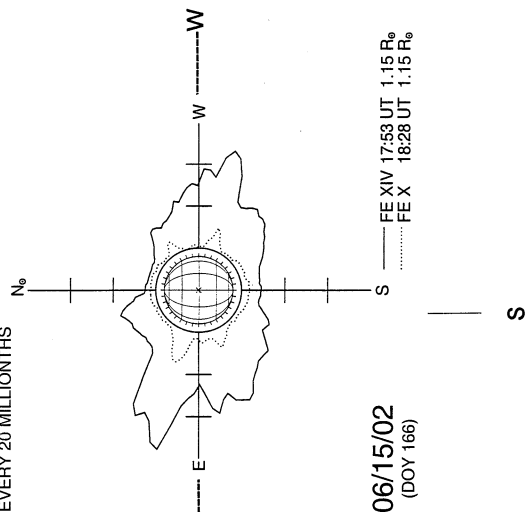
0913 UT

RAMEY SUNSPOT

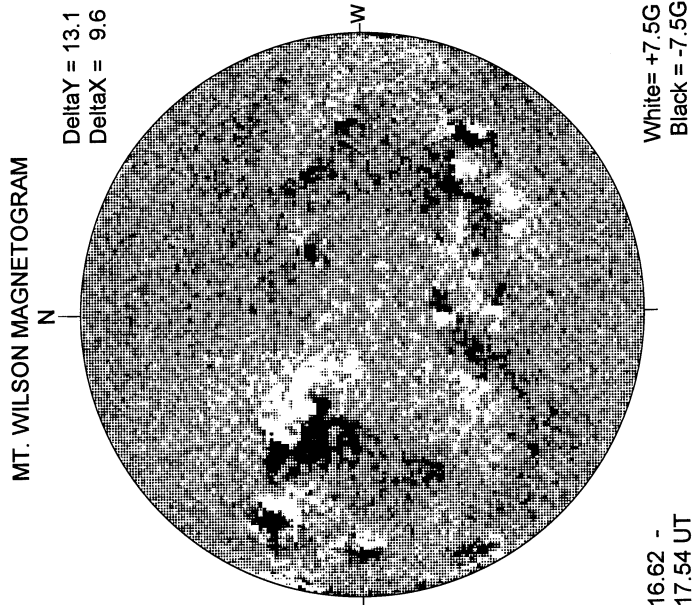


SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS



JUNE 16, 2002 (P= -9.46, Bo = 1.12, Lo = 49.51)

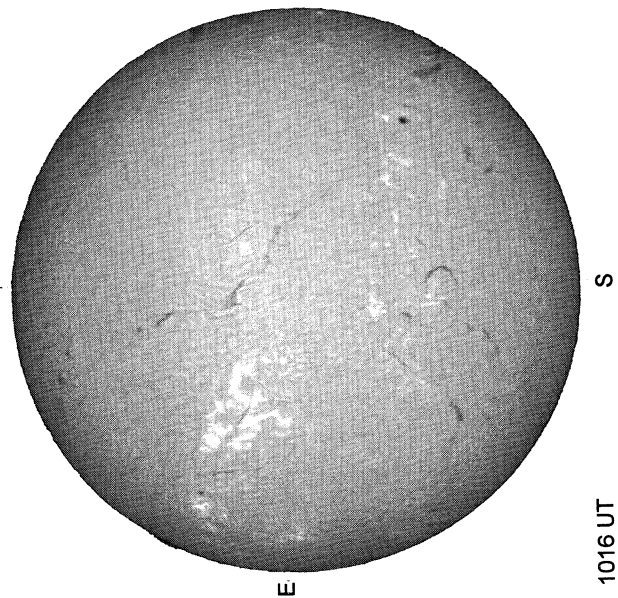


1532 UT

2108 UT

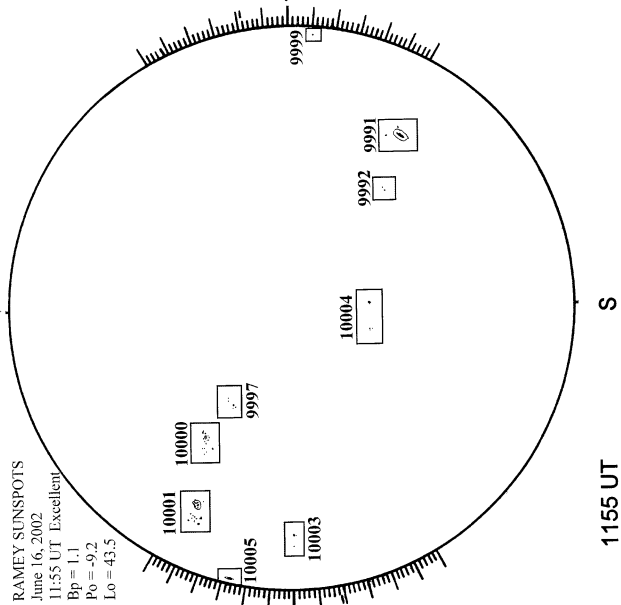
16.62 -
17.54 UT

MEUDON H-ALPHA



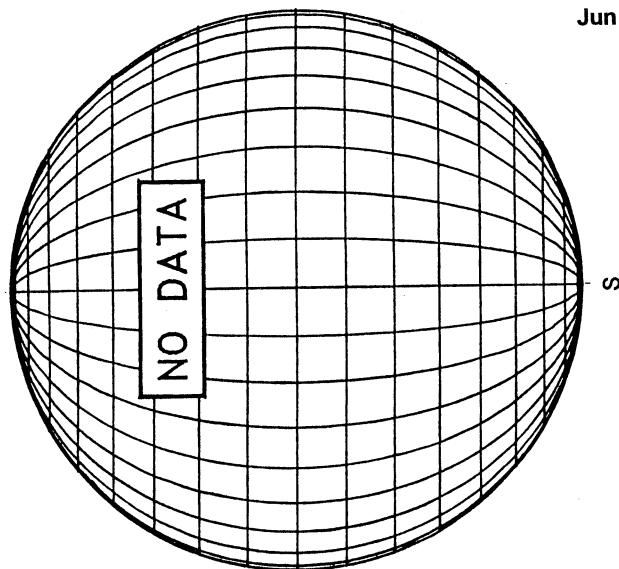
1016 UT

RAMEY SUNSPOT



1155 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



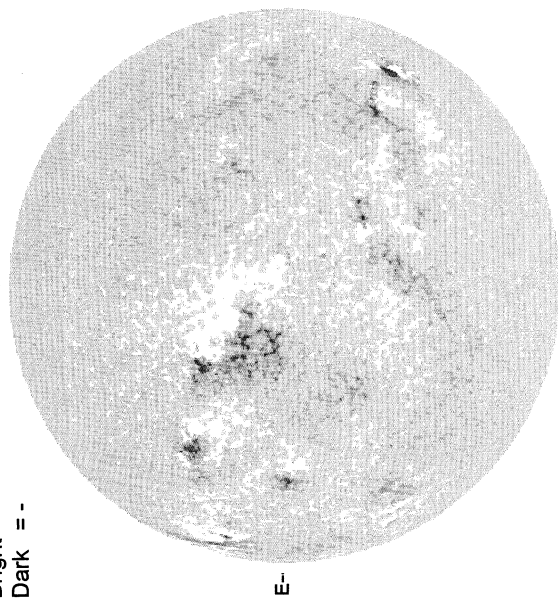
75
Jun 02

JUNE 17, 2002 (P= -9.03, Bo = 1.24, Lo = 36.27)

KITT PEAK MAGNETOGRAM

868.8 nm

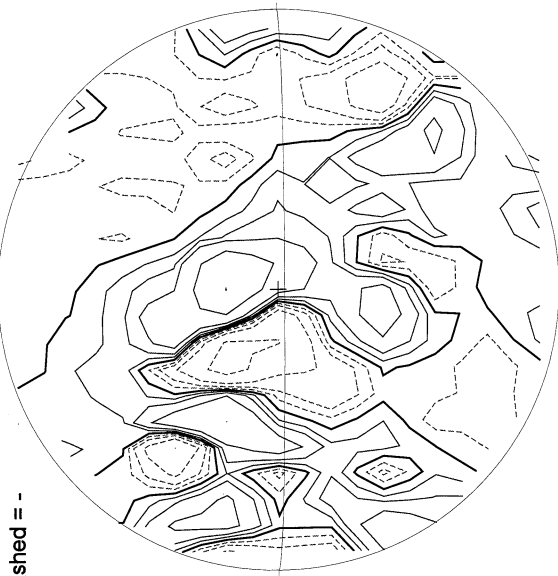
Bright = +
Dark = -



1543 UT

STANFORD MAGNETOGRAM

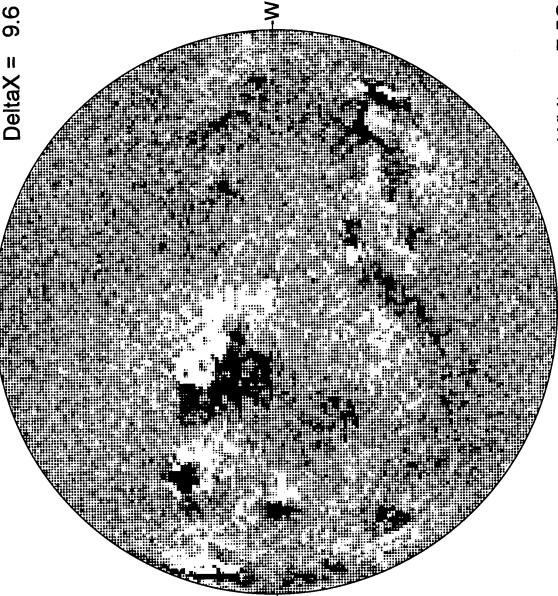
Solid = +
Dashed = -



2145 UT

MT. WILSON MAGNETOGRAM

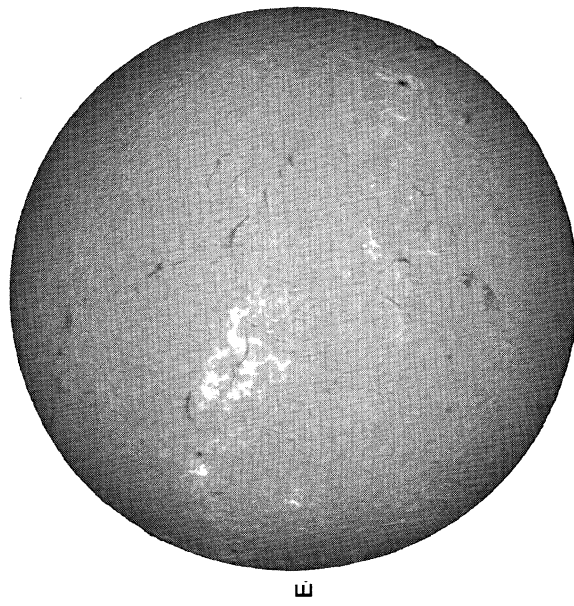
DeltaY = 13.1
DeltaX = 9.6



16.53 -
17.46 UT

White = +7.5G
Black = -7.5G

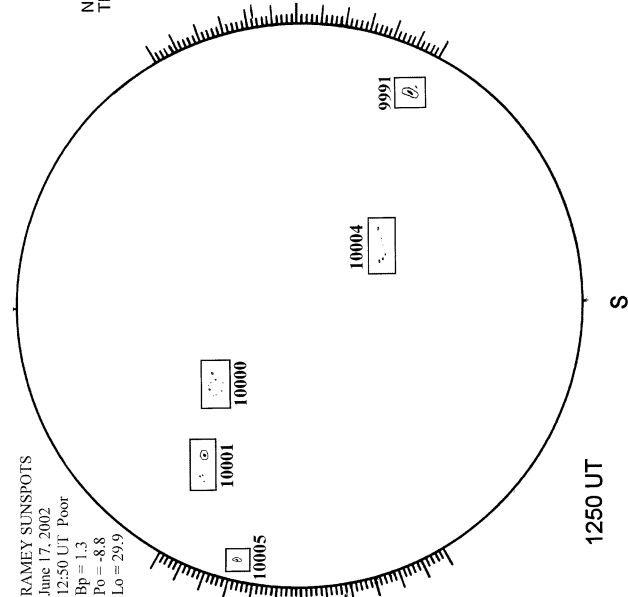
MEUDON H-ALPHA



0728 UT

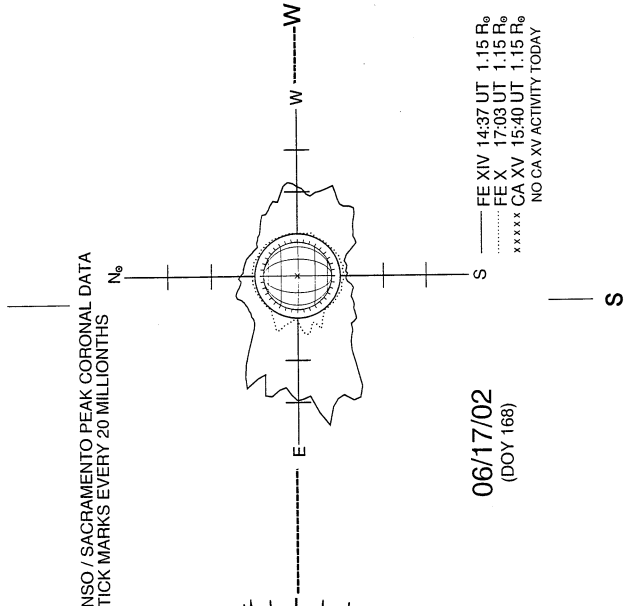
RAMEY SUNSPOTS

RAMEY SUNSPOTS
June 17, 2002
12:50 UT Poor
Bp = 1.3
Po = -8.8
Lo = 29.9

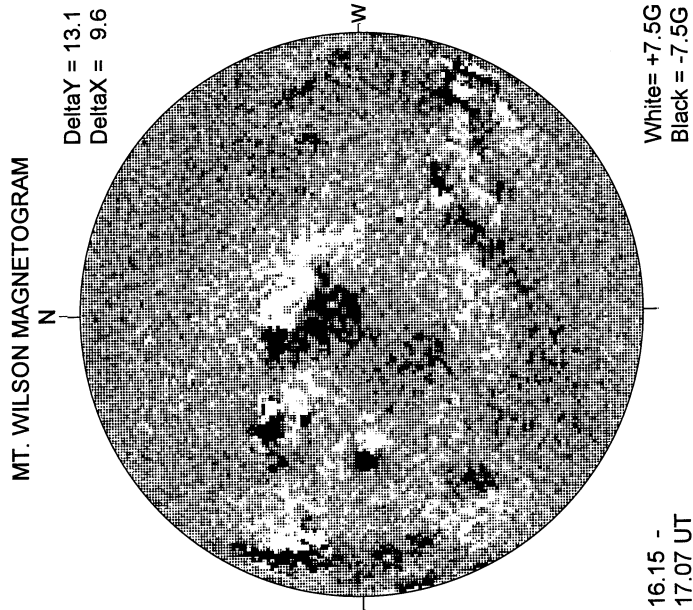


1250 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



JUNE 18, 2002 (P= - 8.59, Bo = 1.36, Lo = 23.04)

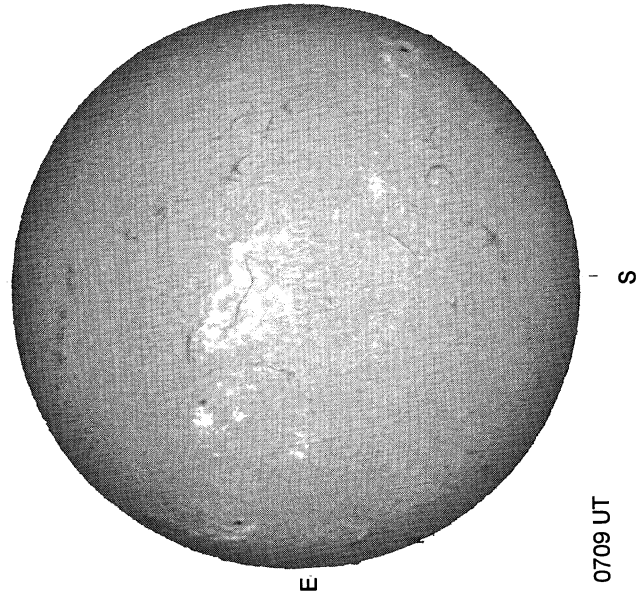


1622 UT

2055 UT

16.15 -
17.07 UT

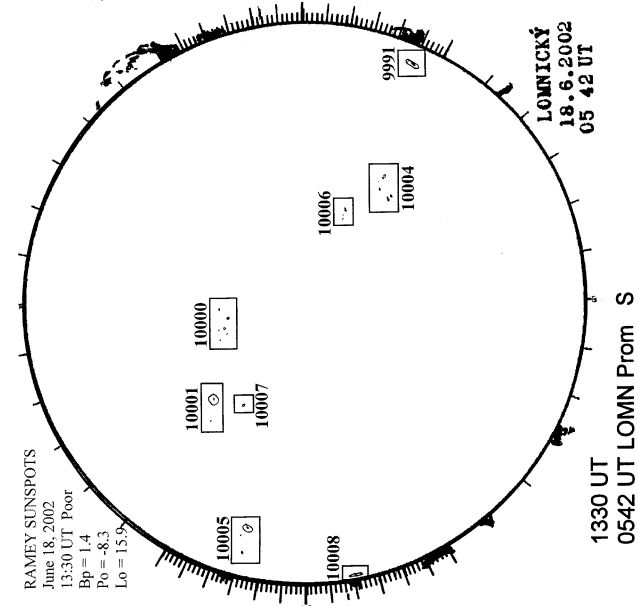
MEUDON H-ALPHA



0709 UT

RAMEY SUNSPOT

RAMEY SUNSPOTS
June 18, 2002
13:30 UT Poor
Bp = 1.4
Po = -8.3
Lo = 15.9

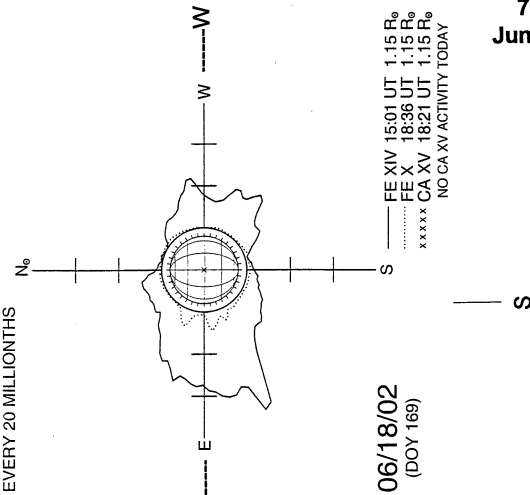


1330 UT
0542 UT LOMN Prom S

LOMNICKÝ
18. 6. 2002
05 42 UT

SACRAMENTO PEAK CORONA (1.15 Radii)---

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS



06/18/02
(DOY 169)

FE XIV 15:01 UT 1.15 R_o
FE X 18:36 UT 1.15 R_o
CA XV 18:21 UT 1.15 R_o
NO CA XV ACTIVITY TODAY

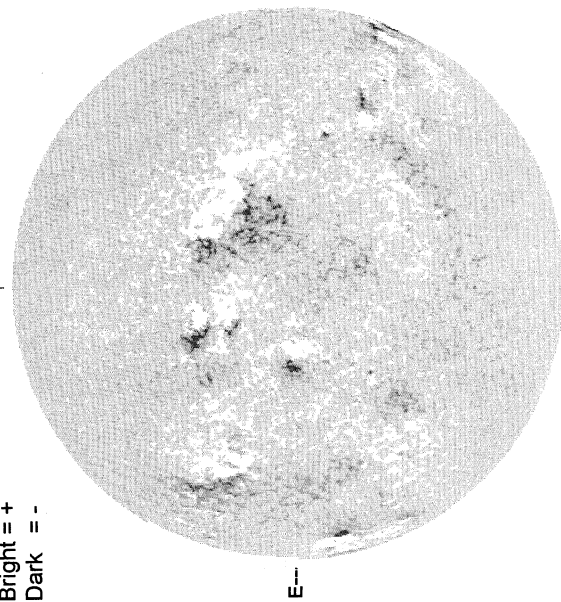
JUNE 19, 2002 (P= -8.16, Bo = 1.48, Lo = 9.80)

78
Jun 02



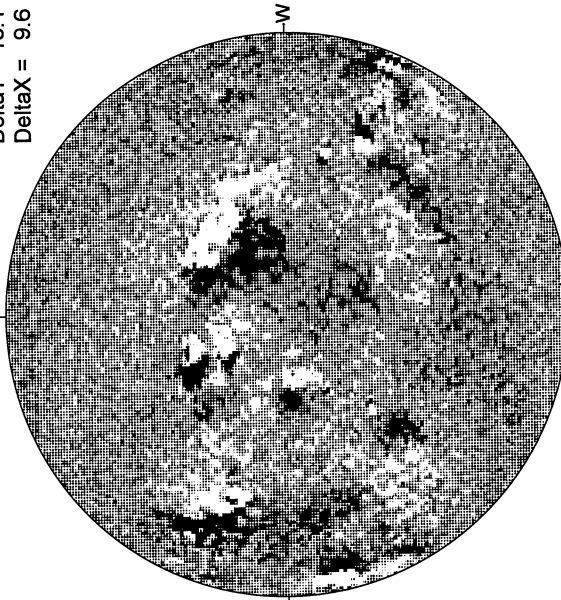
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

Delta Y = 13.1
Delta X = 9.6



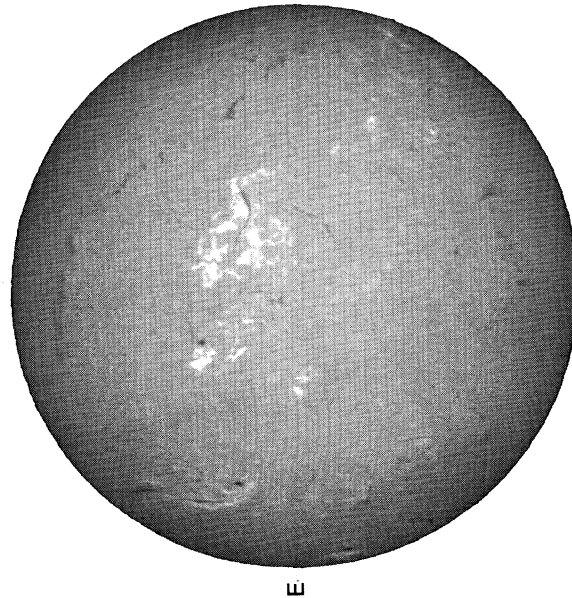
16.08 -
17.00 UT

White = +7.5G
Black = -7.5G

1508 UT

2218 UT

MEUDON H-ALPHA

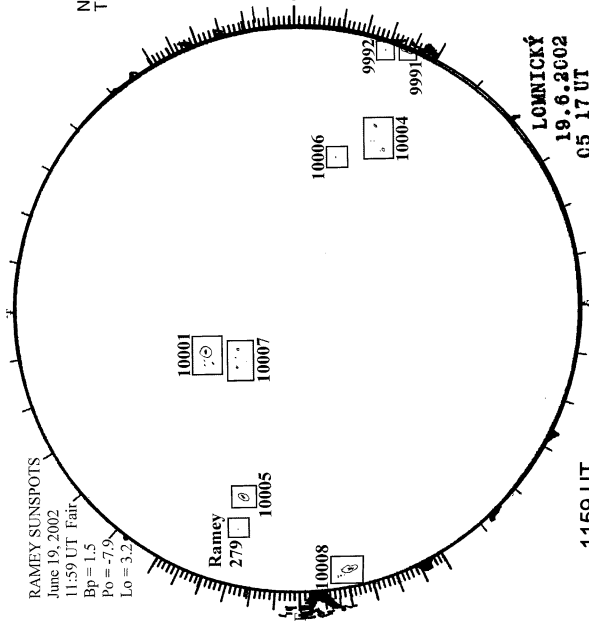


0819 UT

RAMEY SUNSPOT

RAMEY SUNSPOTS

June 19, 2002
11:59 UT Fair
Bp = 1.5
Po = -7.9
Lo = 3.2

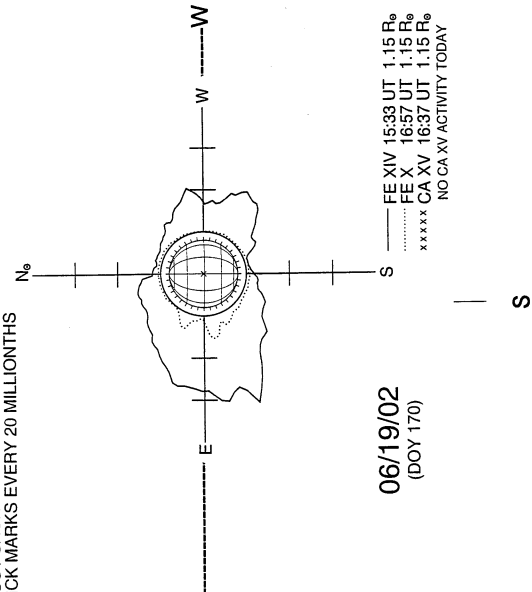


1159 UT
0517 UT LOMN Prom S

LOMNICKÝ
19.6.2002
05 17 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS



06/19/02
(DOY 170)

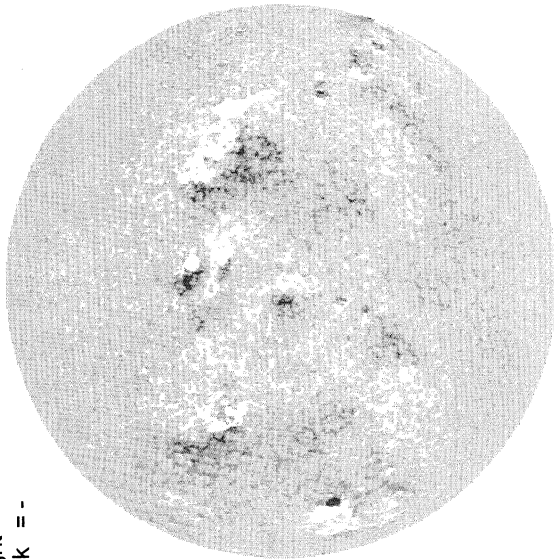
— EE XIV 15:33 UT 1.15 R₀
..... EE X 16:57 UT 1.15 R₀
***** CA XV 16:37 UT 1.15 R₀
NO CA XV ACTIVITY TODAY

JUNE 20, 2002 (P= -7.72, Bo = 1.59, Lo = 356.56)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



1444 UT

STANFORD MAGNETOGRAM

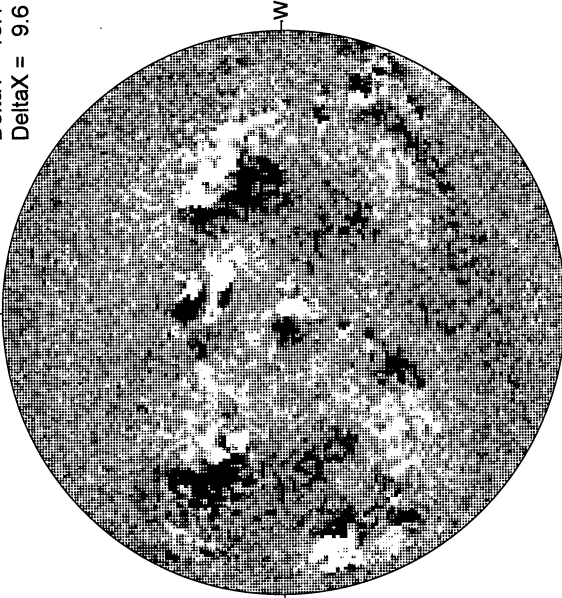
Solid = +
Dashed = -



2039 UT

MT. WILSON MAGNETOGRAM

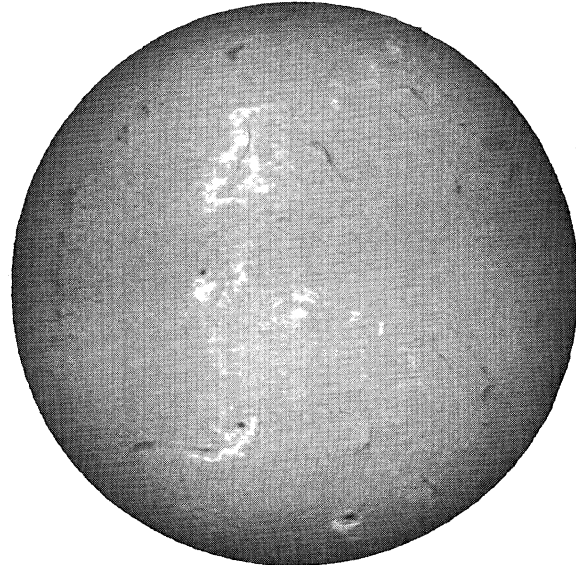
Delta Y = 13.1
Delta X = 9.6



16.73 -
17.65 UT

White = +7.5G
Black = -7.5G

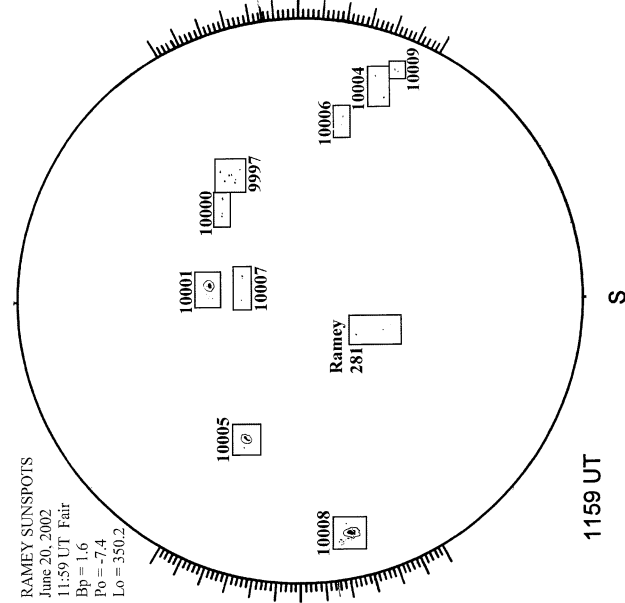
MEUDON H-ALPHA



1134 UT

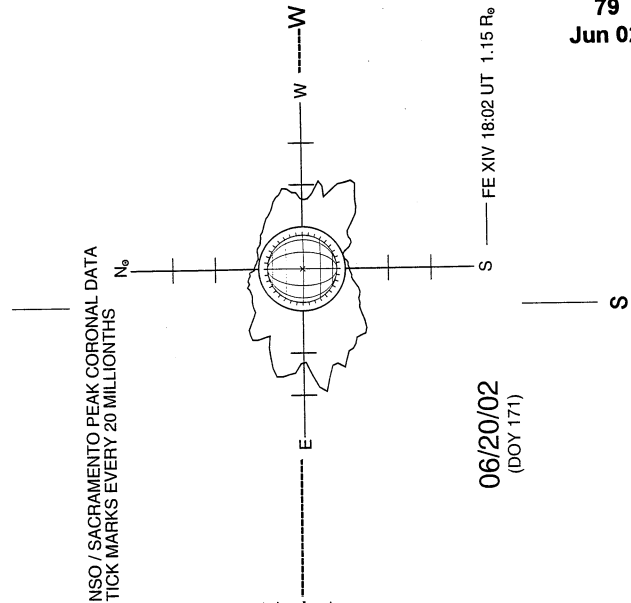
RAMEY SUNSPOT

RAMEY SUNSPOTS
June 20, 2002
11:59 UT Fair
Bp = 1.6
Po = -7.4
Lo = 350.2



1159 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



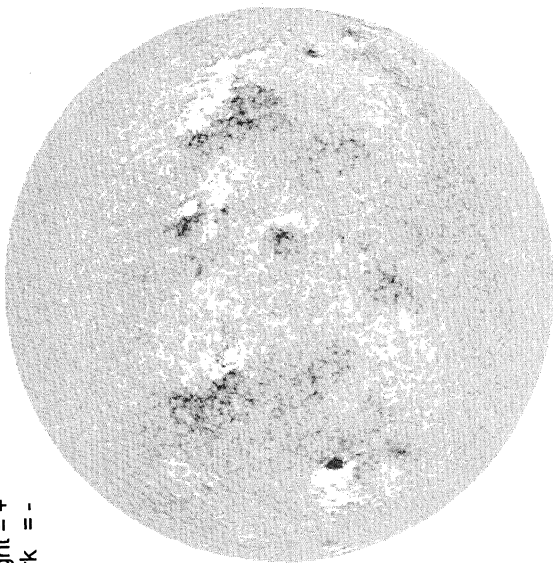
80
Jun 02

JUNE 21, 2002 (P= -7.28, Bo = 1.71, Lo = 343.32)

KITT PEAK MAGNETOGRAM

868.8 nm

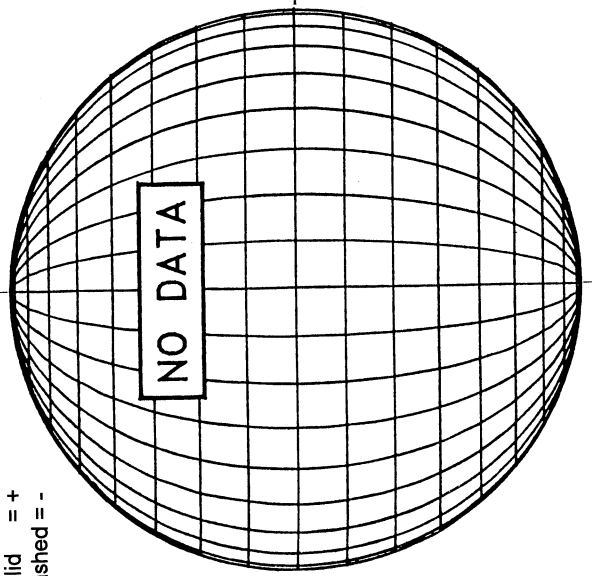
Bright = +
Dark = -



1447 UT

STANFORD MAGNETOGRAM

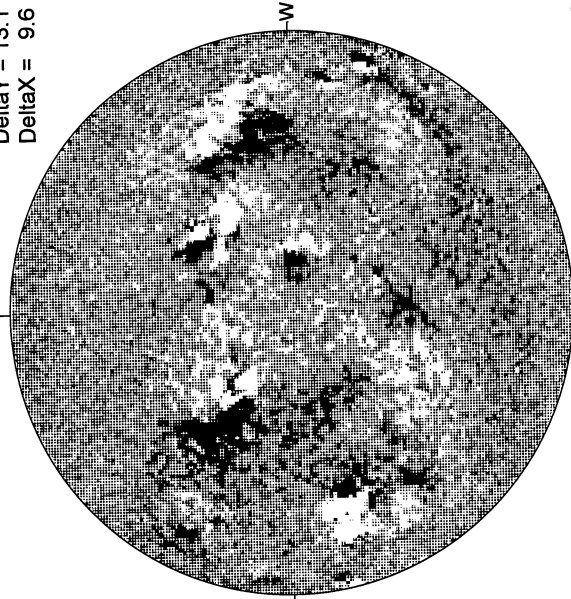
Solid = +
Dashed = -



NO DATA

MT. WILSON MAGNETOGRAM

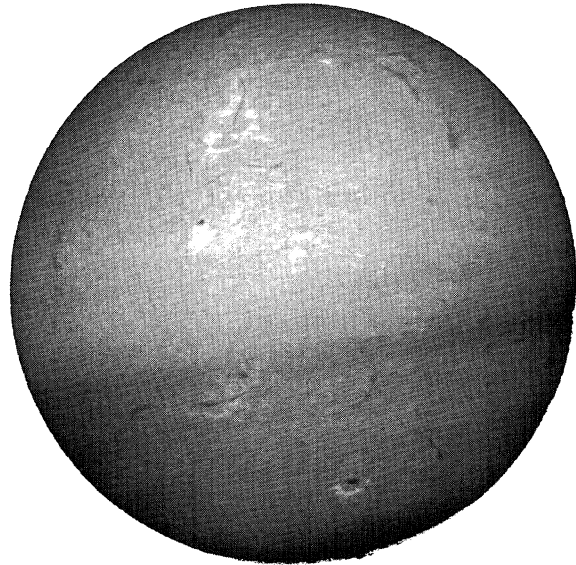
DeltaY = 13.1
DeltaX = 9.6



White= +7.5G
Black = -7.5G

15.83 -
16.76 UT

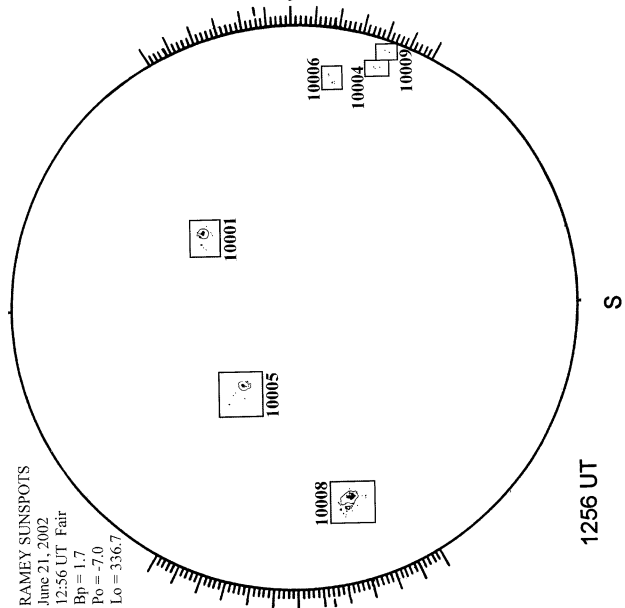
MEUDON H-ALPHA



0909 UT

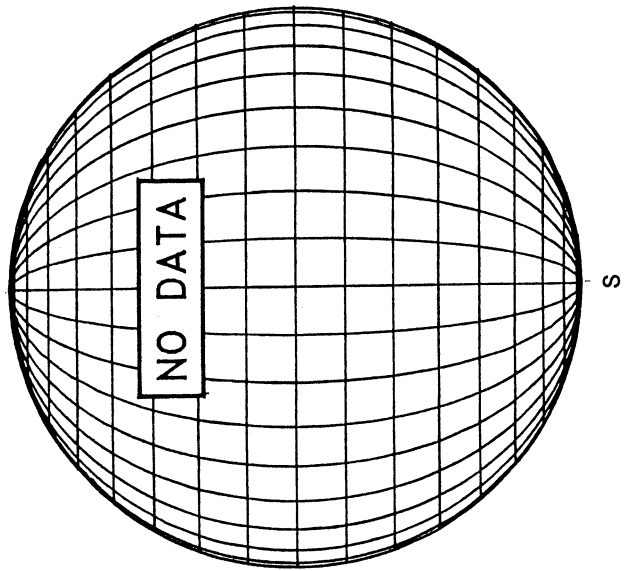
RAMEY SUNSPOT

RAMEY SUNSPOTS
June 21, 2002
12:56 UT Fair
Bp = 1.7
Po = -7.0
Lo = 336.7



1256 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



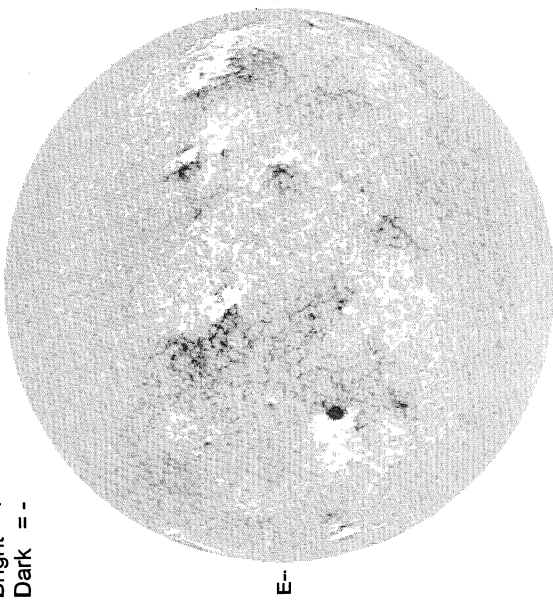
NO DATA

JUNE 22, 2002 (P= -6.83, Bo = 1.83, Lo = 330.09)

KITT PEAK MAGNETOGRAM

868.8 nm

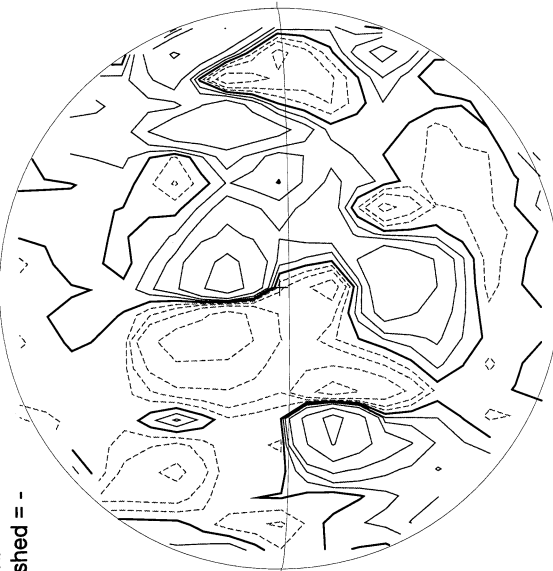
Bright = +
Dark = -



1456 UT

STANFORD MAGNETOGRAM

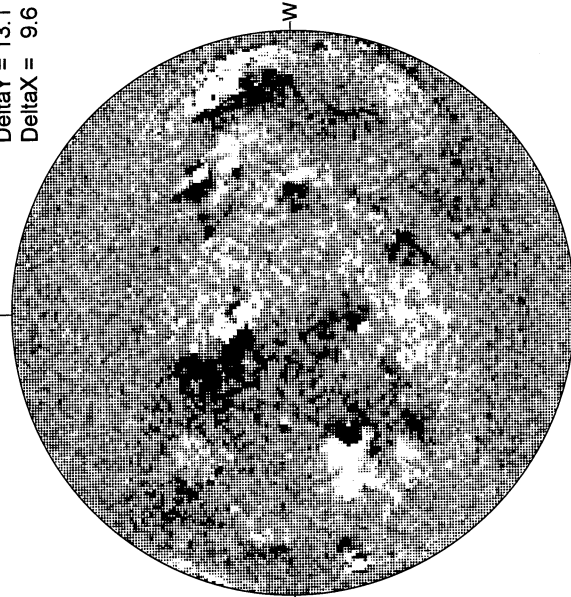
Solid = +
Dashed = -



2041 UT

MT. WILSON MAGNETOGRAM

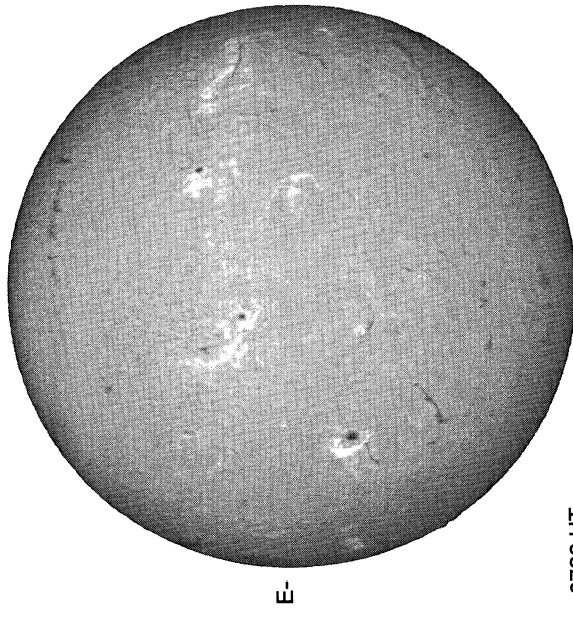
Delta Y = 13.1
Delta X = 9.6



17.69 -
18.61 UT

White = +7.5G
Black = -7.5G

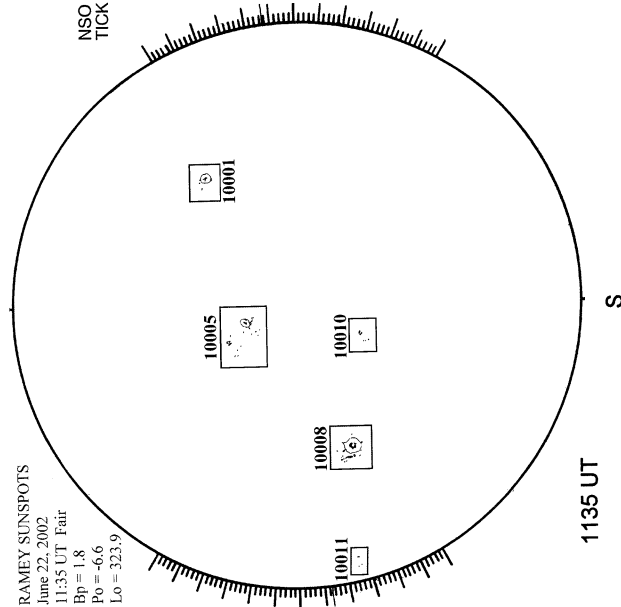
MEUDON H-ALPHA



0726 UT

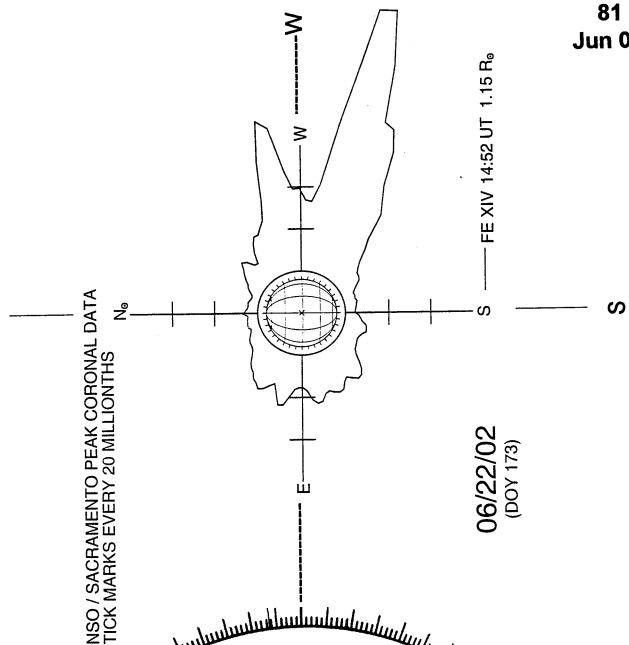
RAMEY SUNSPOT

RAMEY SUNSPOTS
June 22, 2002
11:35 UT Fair
Bp = 1.8
Po = -6.6
Lo = 323.9



1135 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



06/22/02
(DOY 173)

FE XIV 14:52 UT 1.15 R_o



Bright = +
Dark = -

****868.8 nm****



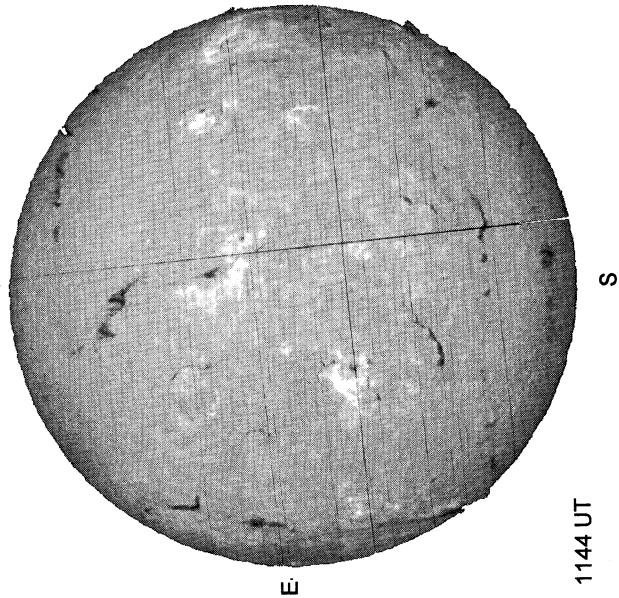
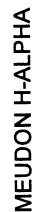
Solid = +
Dashed = -



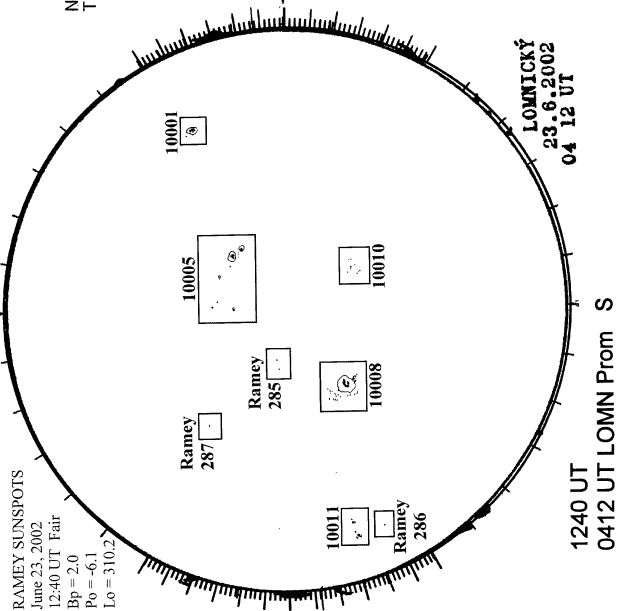
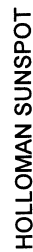
DeltaY = 13.1
DeltaX = 9.6

White = +7.5G
Black = -7.5G

16.41 -
17.33 UT

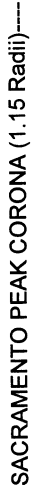


1144 UT

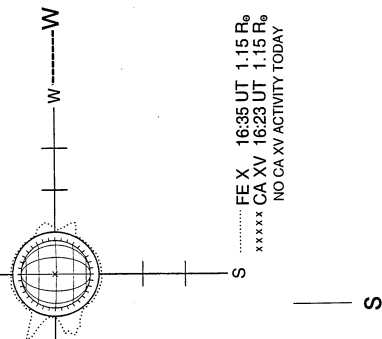


1240 UT
0412 UT LOMN Prom S

LOMNICKÝ
23.6.2002
04 12 UT



NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS



06/23/02
(DOY 174)

..... FEX X 16:35 UT 1.15 R_o
 x x x x x CA XV 16:23 UT 1.15 R_o
 NO CA XV ACTIVITY TODAY

JUNE 24, 2002 (P = -5.94, Bo = 2.06, Lo = 303.61)

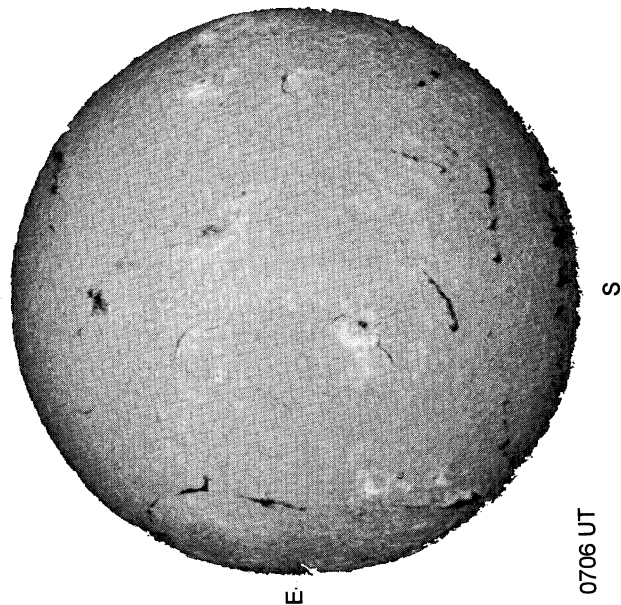


White = +7.5G
Black = -7.5G

20.19 -
21.11 UT

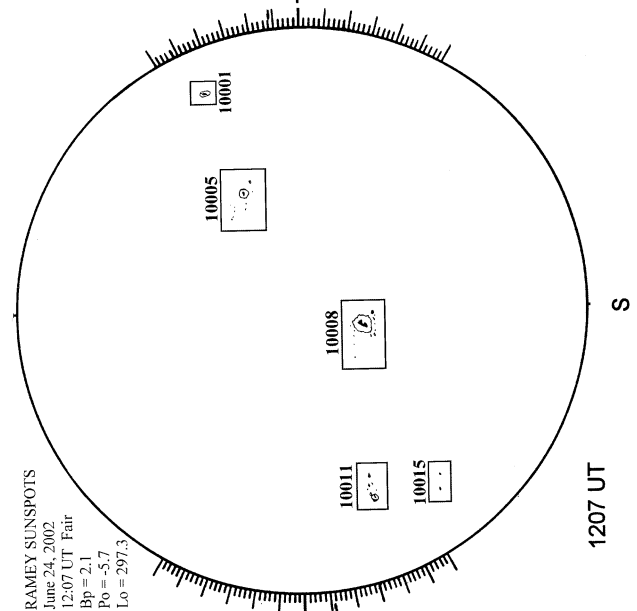
1638 UT

MEUDON H-ALPHA

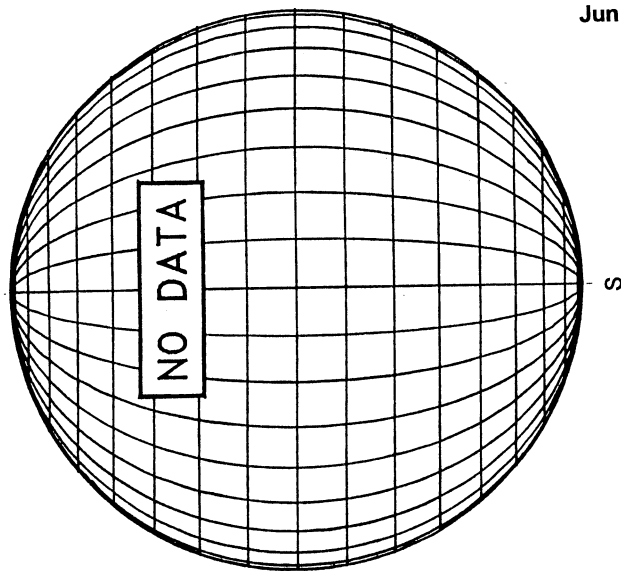


RAMEY SUNSPOT

RAMEY SUNSPOTS
June 24, 2002
12:07 UT Fair
Bp = 2.1
Po = 5.7
Lo = 297.3



SACRAMENTO PEAK CORONA (1.15 Radii)----

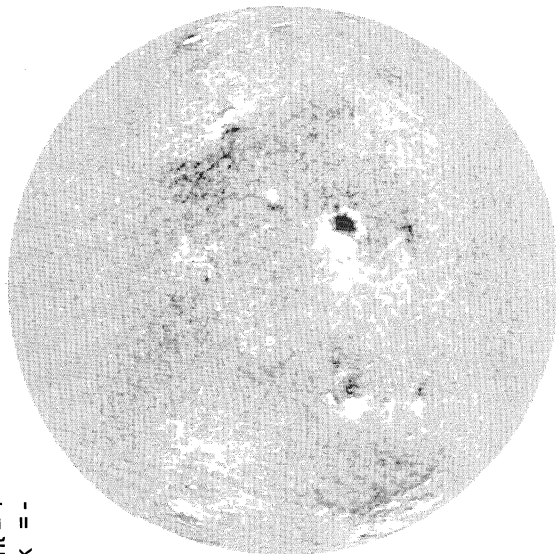


JUNE 25, 2002 (P= -5.50, Bo = 2.17, Lo = 290.38)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



1537 UT

STANFORD MAGNETOGRAM

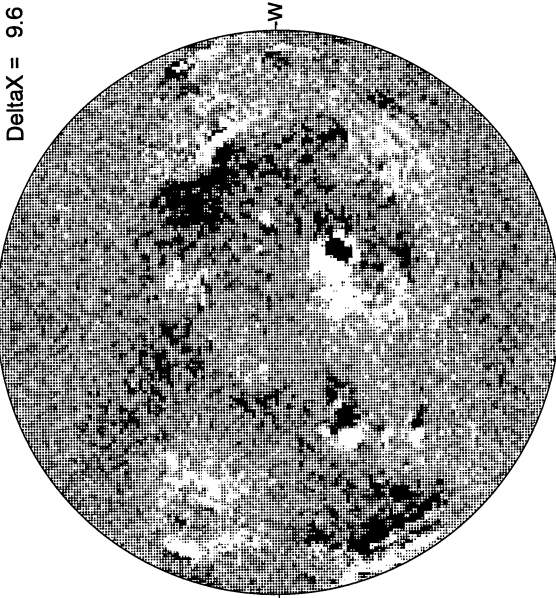
Solid = +
Dashed = -



2227 UT

MT. WILSON MAGNETOGRAM

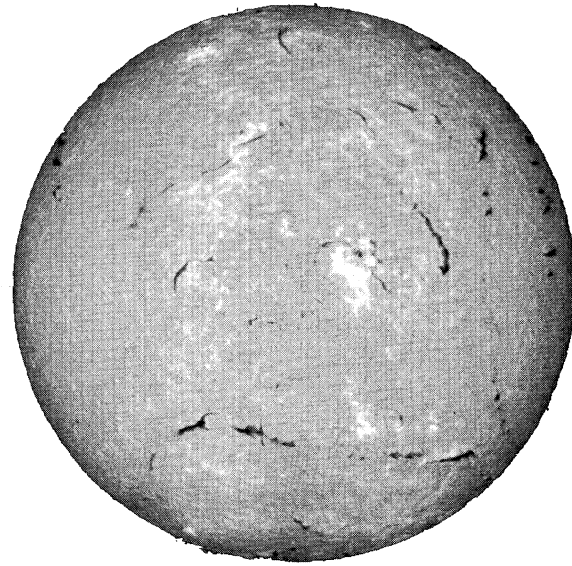
Delta Y = 13.1
Delta X = 9.6



17.22 -
18.14 UT

White = +7.5G
Black = -7.5G

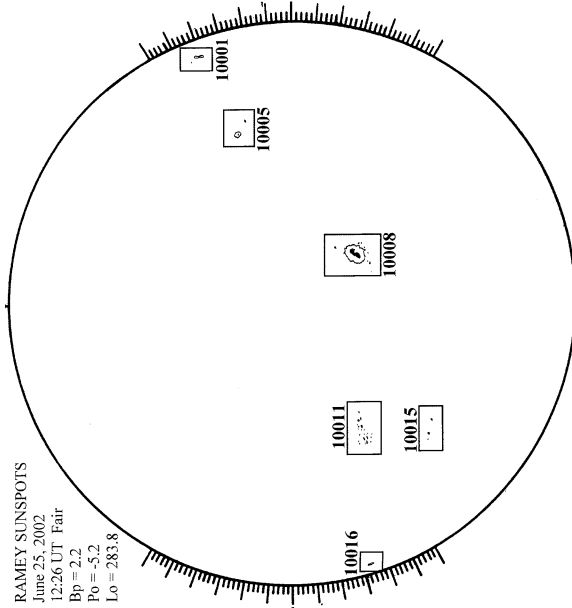
MEUDON H-ALPHA



0636 UT

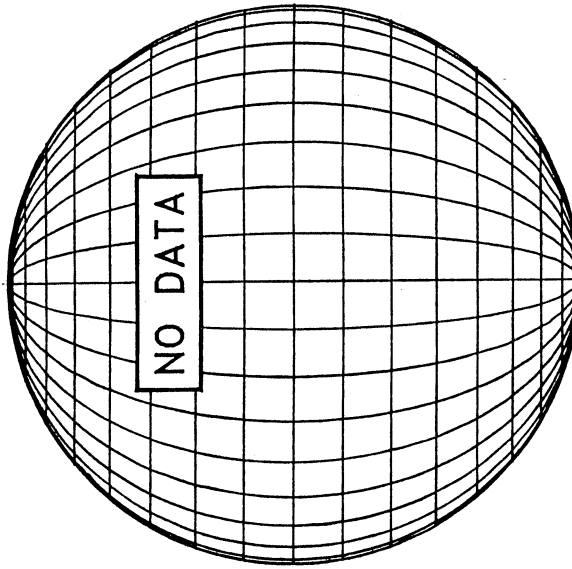
RAMEY SUNSPOT

RAMEY SUNSPOTS
June 25, 2002
12:26 UT Fair
Bp = 2.2
Po = -5.2
Lo = 283.8



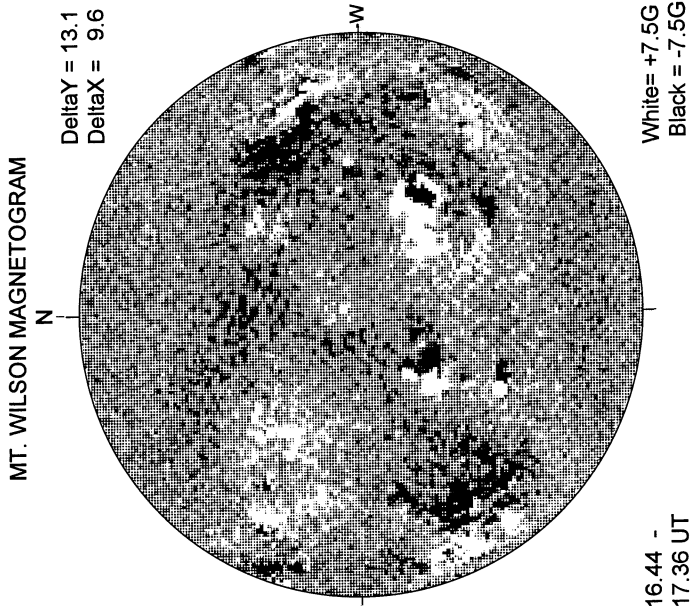
1226 UT

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

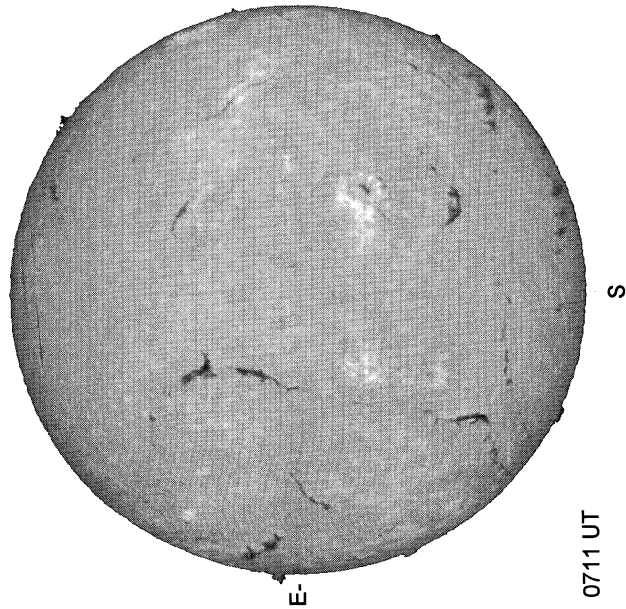


S

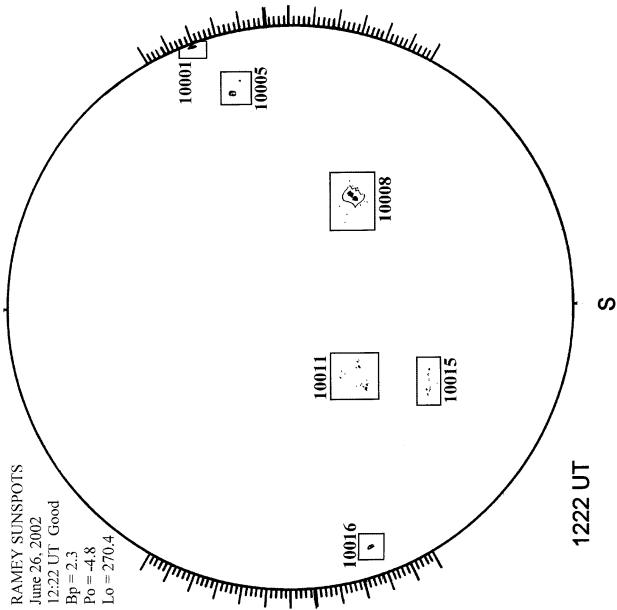
JUNE 26, 2002 (P= -5.05, Bo = 2.29, Lo = 277.14)



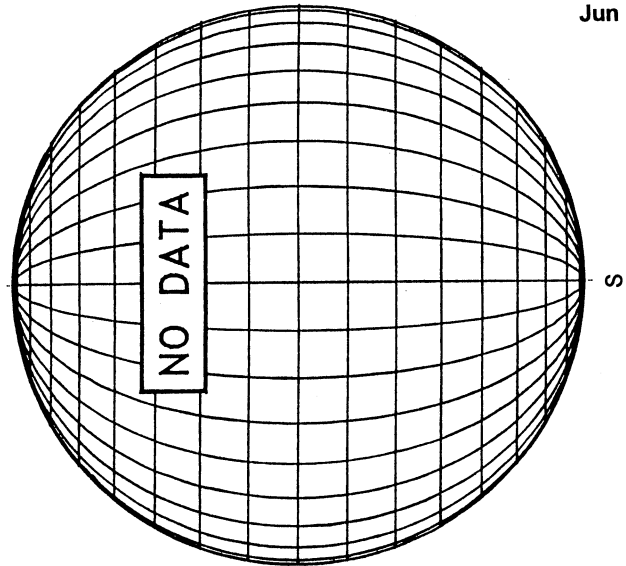
MEUDON H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)----



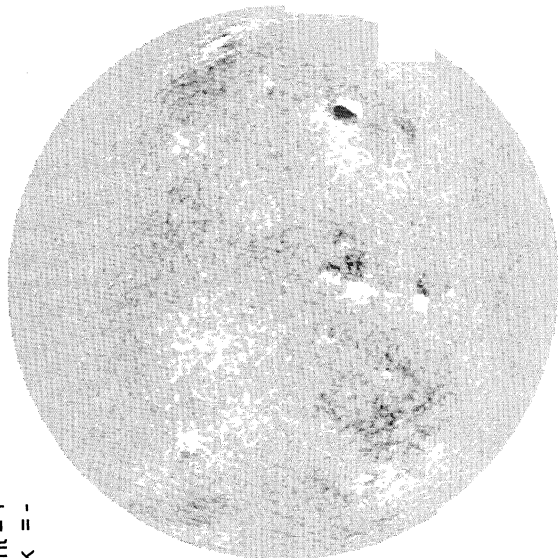
JUNE 27, 2002 (P = -4.60, Bo = 2.40, Lo = 263.90)

KITT PEAK MAGNETOGRAM

868.8 nm

N

Bright = +
Dark = -

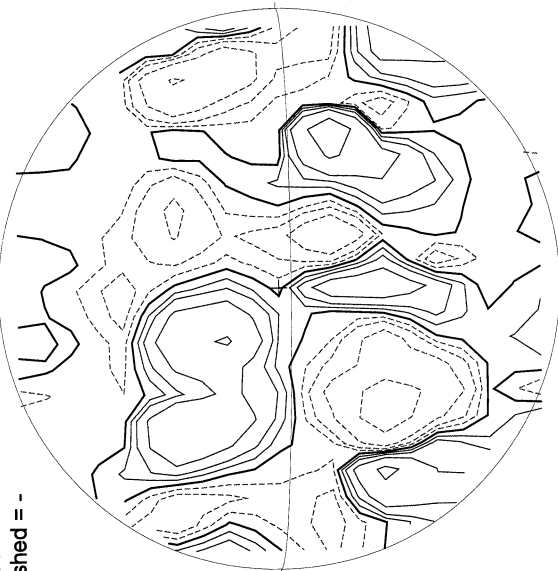


1600 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

N

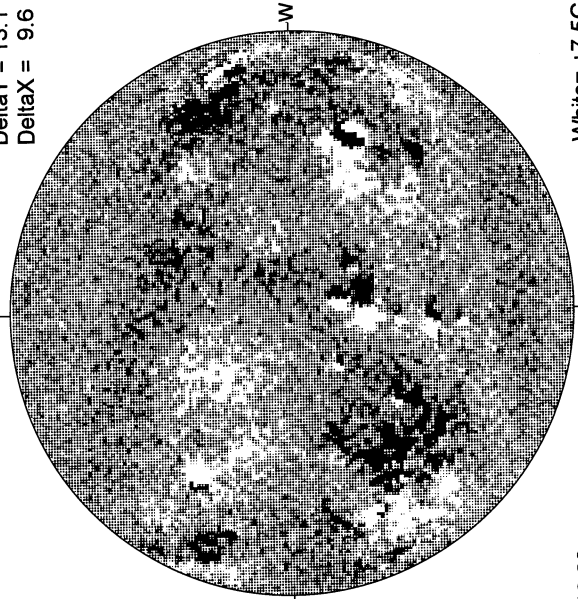


2242 UT

MT. WILSON MAGNETOGRAM

DeltaY = 13.1
DeltaX = 9.6

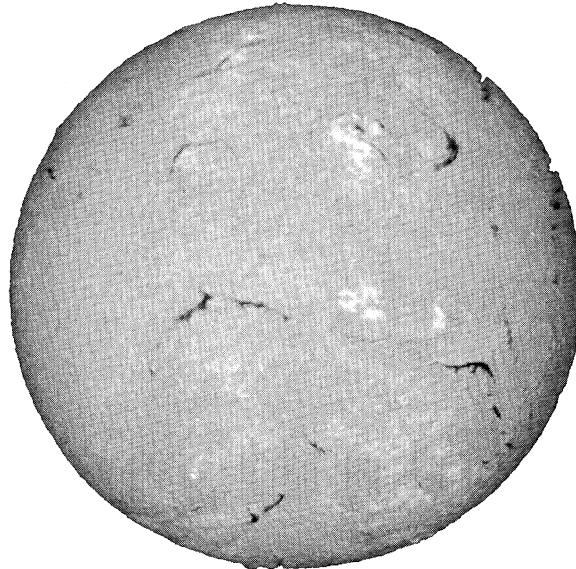
N



White = +7.5G
Black = -7.5G

16.83 -
17.75 UT

MEUDON H-ALPHA



0950 UT

RAMEY SUNSPOT

RAMEY SUNSPOTS

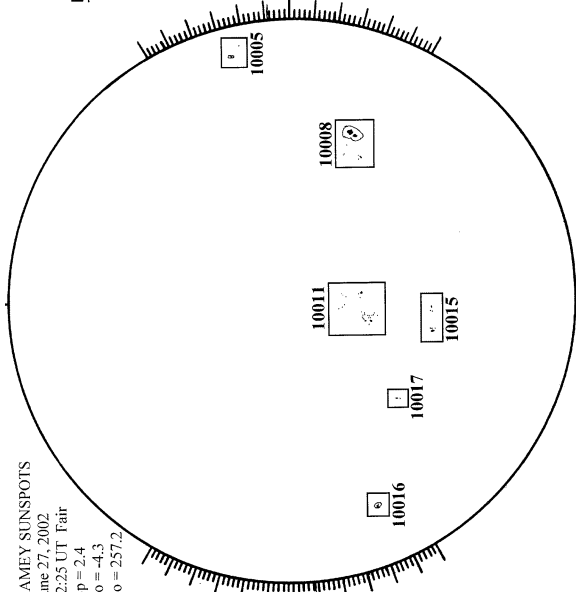
June 27, 2002

12:25 UT Fair

Bp = 2.4

Po = -4.3

Lo = 257.2

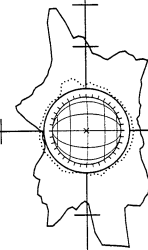


1225 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS

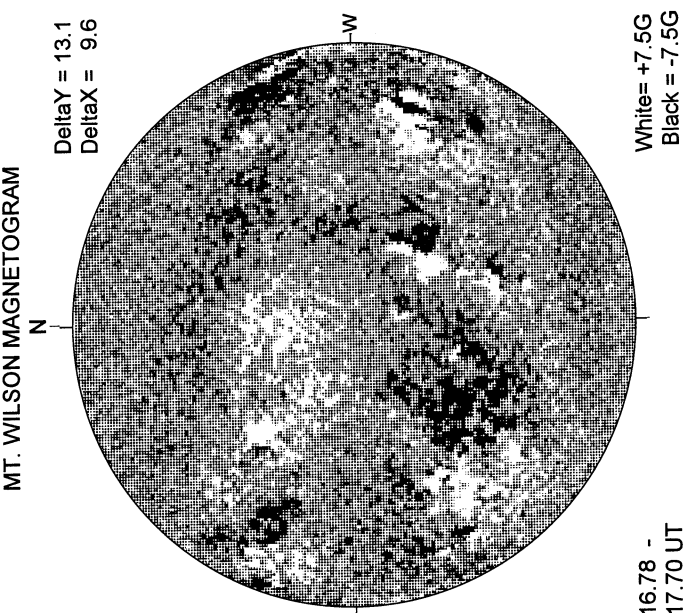
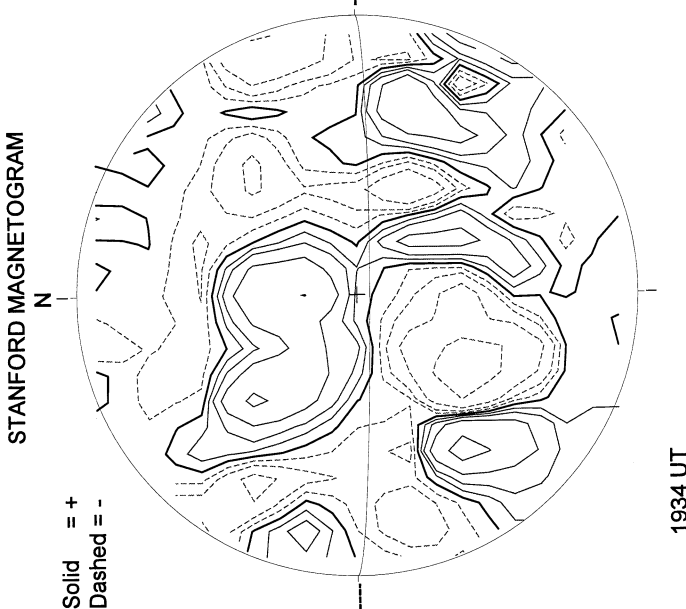
N₀



06/27/02
(DOY 178)

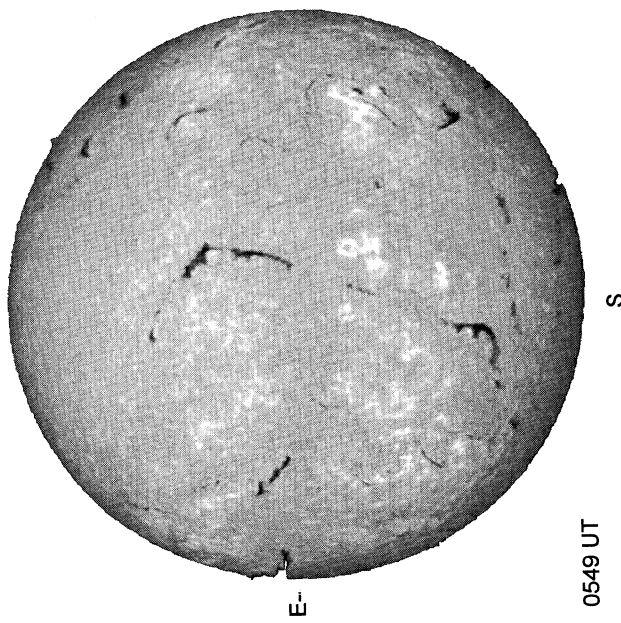
— FE XIV 20:24 UT 1.15 R₀
..... FE X 21:37 UT 1.15 R₀
xxxxxx CA XV 21:07 UT 1.15 R₀
NO CA XV ACTIVITY TODAY

JUNE 28, 2002 (P = -4.14, Bo = 2.52, Lo = 250.66)

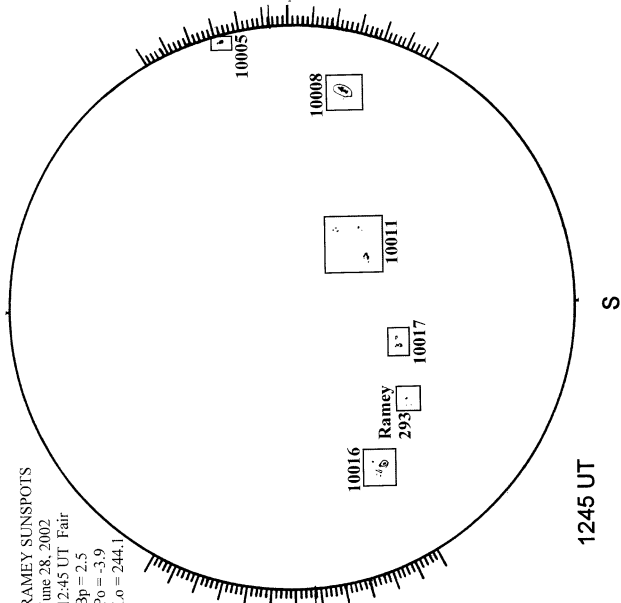


White = +7.5G
Black = -7.5G

MEUDON H-ALPHA

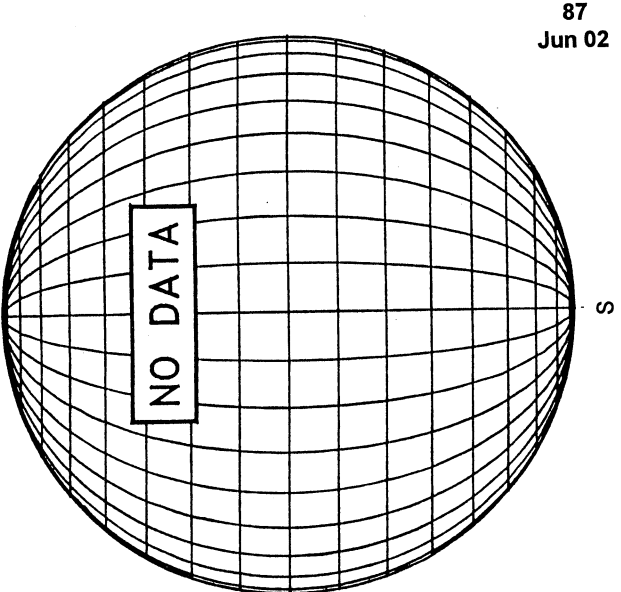


RAMEY SUNSPOTS

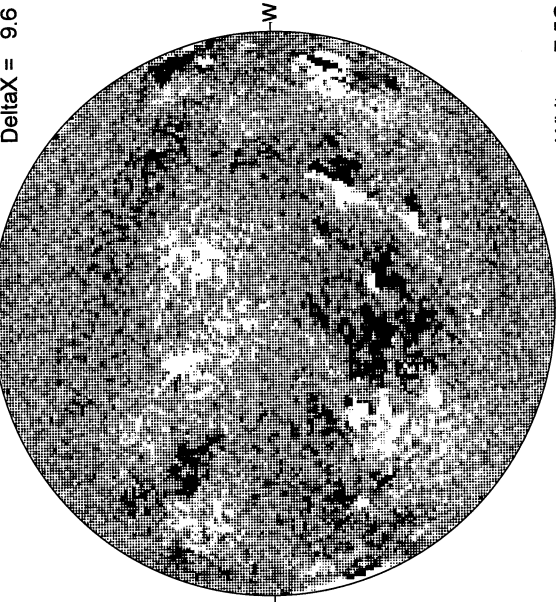
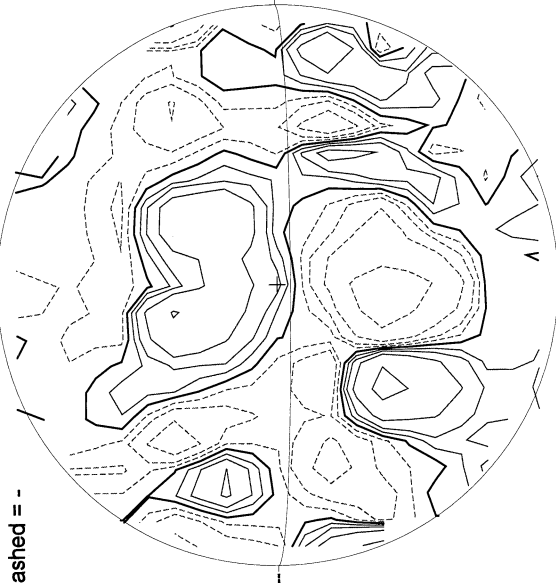
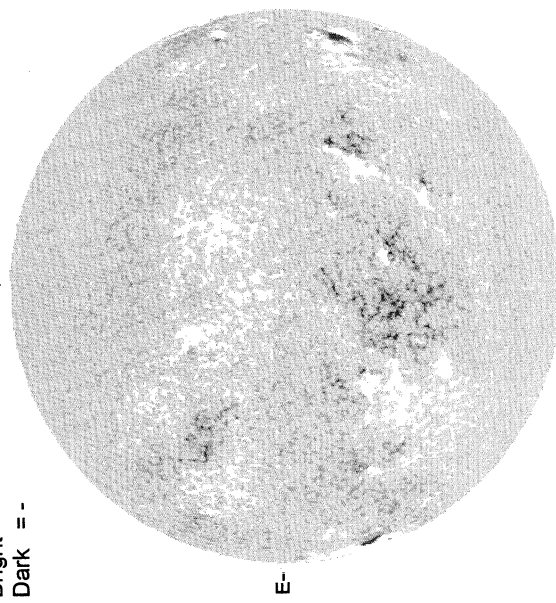


RAMEY SUNSPOTS
June 28, 2002
12:45 UT Fair
Bp = 2.5
Po = 3.9
Lo = 244.1

SACRAMENTO PEAK CORONA (1.15 Radii)----



JUNE 29, 2002 (P= -3.69 Bo = 2.63, Lo = 237.43)



White = +7.5G
Black = -7.5G

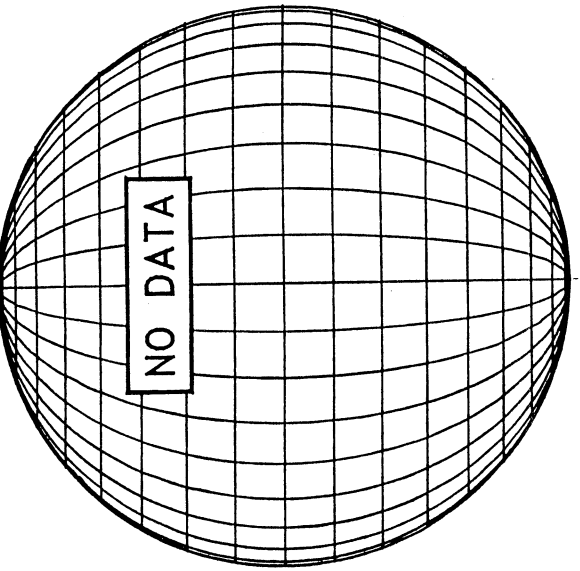
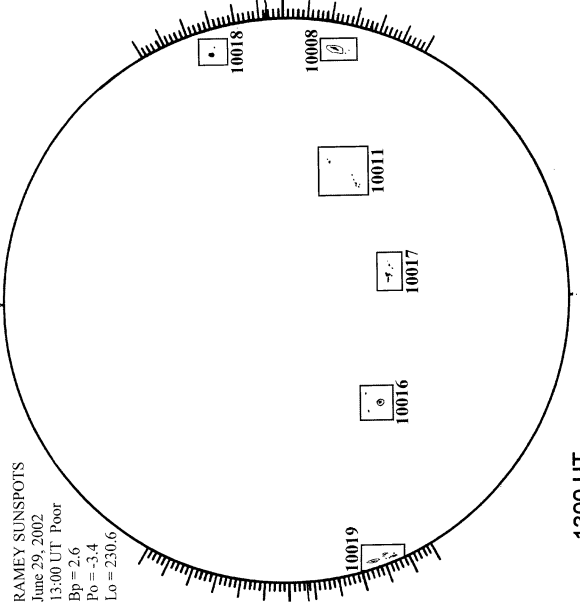
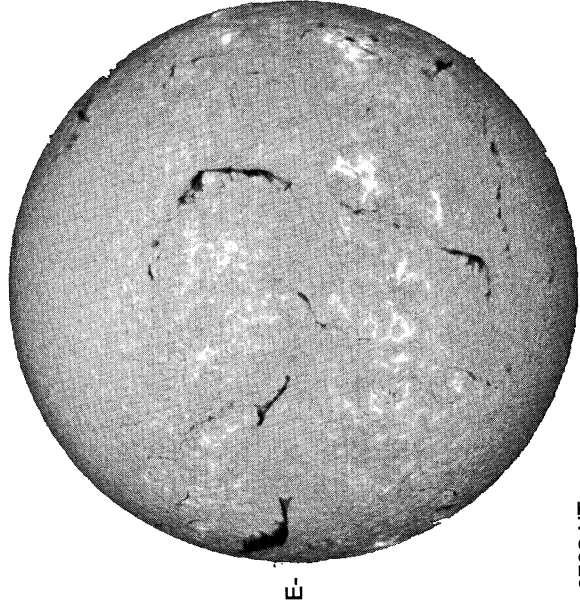
16.02 -
16.94 UT

1648 UT

MEUDON H-ALPHA

RAMEY SUNSPOT

SACRAMENTO PEAK CORONA (1.15 Radii)----



RAMEY SUNSPOTS
June 29, 2002
13:00 UT Poor
Bp = 2.6
Po = -3.4
Lo = 230.6

0708 UT

1300 UT

S

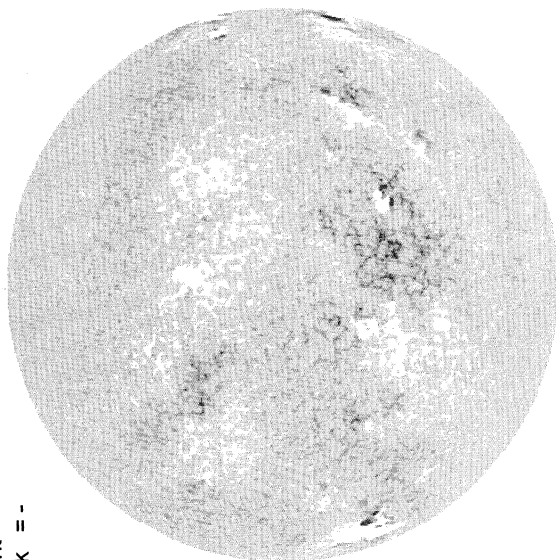
S

JUNE 30, 2002 (P = -3.24, Bo = 2.74, Lo = 224.19)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



1548 UT

STANFORD MAGNETOGRAM

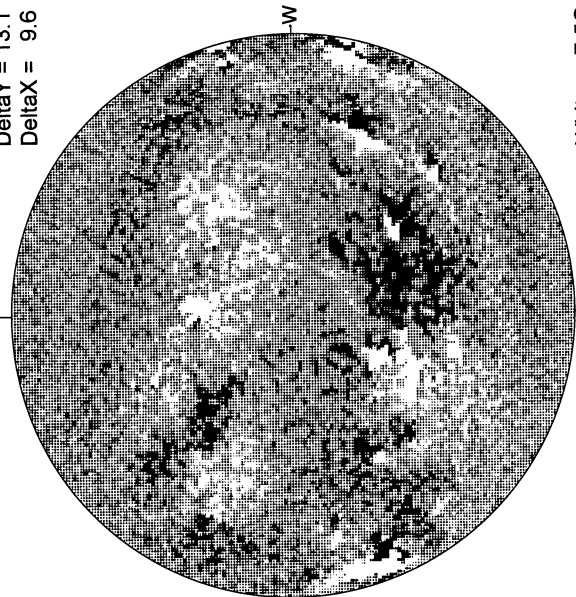
Solid = +
Dashed = -



1857 UT

MT. WILSON MAGNETOGRAM

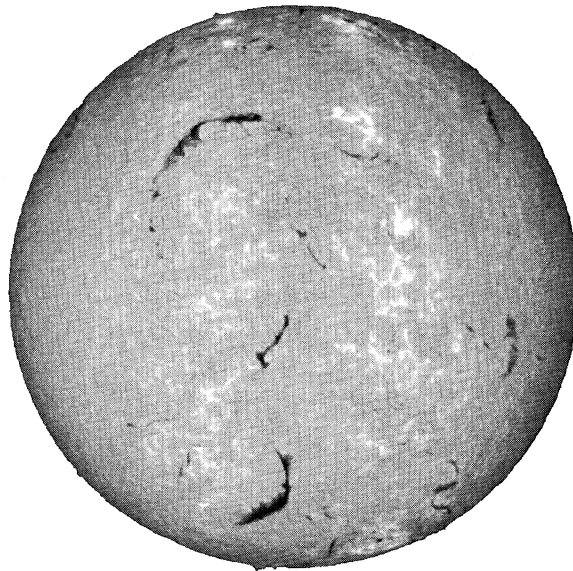
DeltaY = 13.1
DeltaX = 9.6



16.09 -
17.01 UT

White = +7.5G
Black = -7.5G

MEUDON H-ALPHA

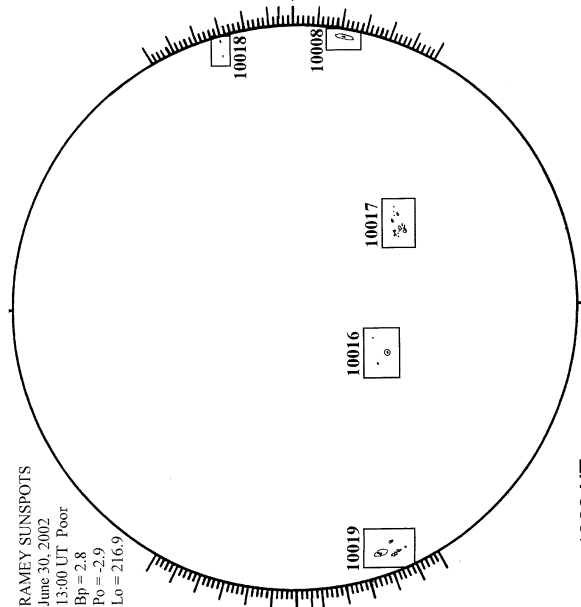


0650 UT

RAMEY SUNSPOT

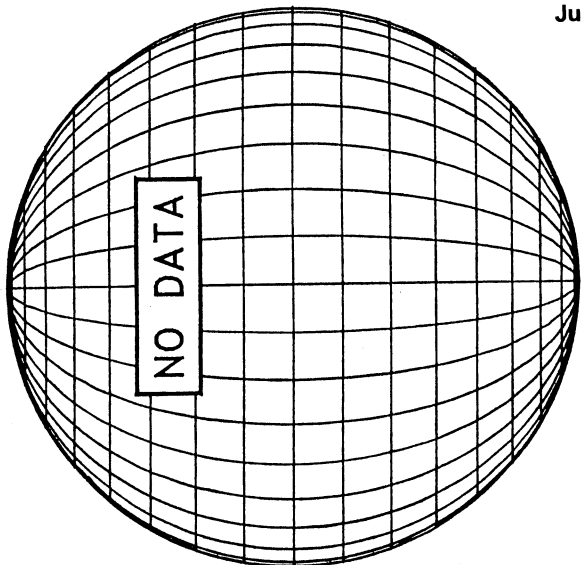
RAMEY SUNSPOTS

June 30, 2002
13:00 UT Poor
Bp = 2.8
Po = -2.9
Lo = 216.9



1300 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



S

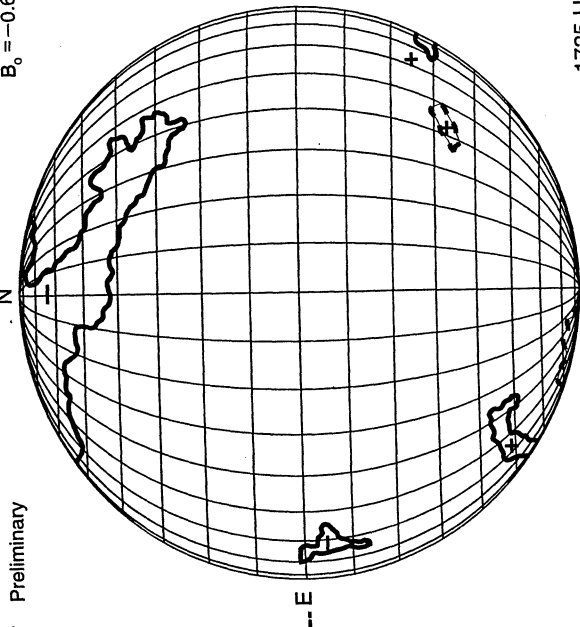
90
Jun 02

KITT PEAK CORONAL HOLE MAPS HE I 1083 nm June 2002

NSO/KP CORONAL HOLE MAP: HE I 1083 nm

$B_0 = -0.6$

Preliminary

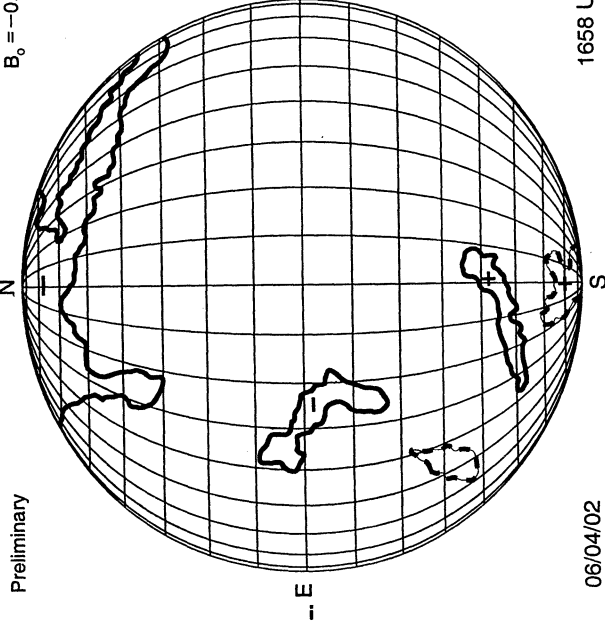


06/01/02

NSO/KP CORONAL HOLE MAP: HE I 1083 nm

$B_0 = -0.2$

Preliminary

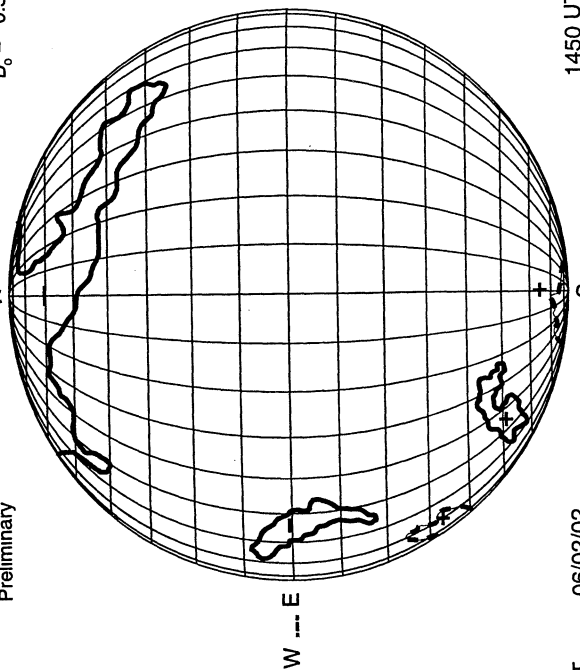


06/04/02

NSO/KP CORONAL HOLE MAP: HE I 1083 nm

$B_0 = -0.5$

Preliminary

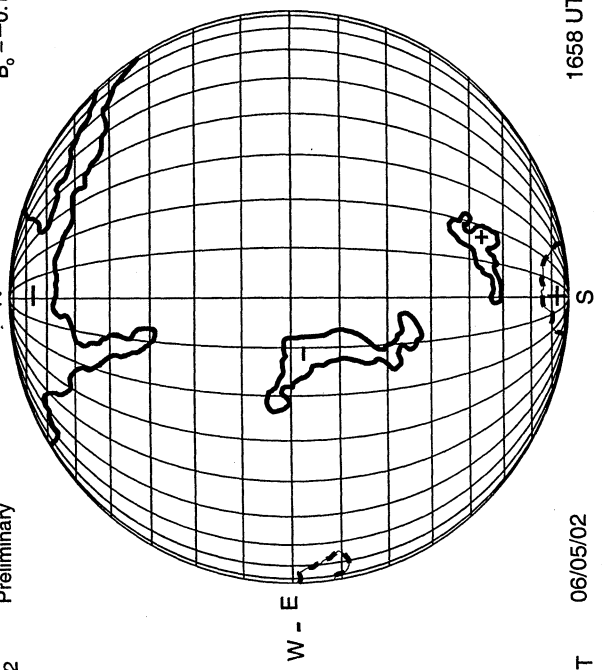


06/02/02

NSO/KP CORONAL HOLE MAP: HE I 1083 nm

$B_0 = -0.1$

Preliminary

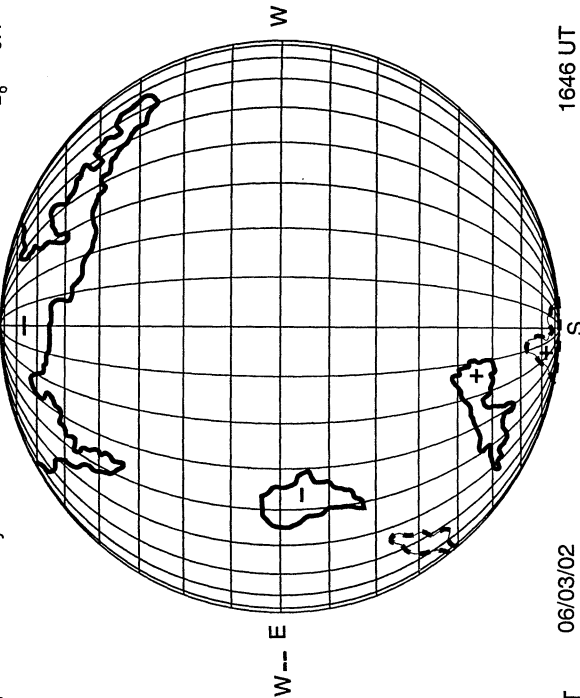


06/05/02

NSO/KP CORONAL HOLE MAP: HE I 1083 nm

$B_0 = -0.4$

Preliminary

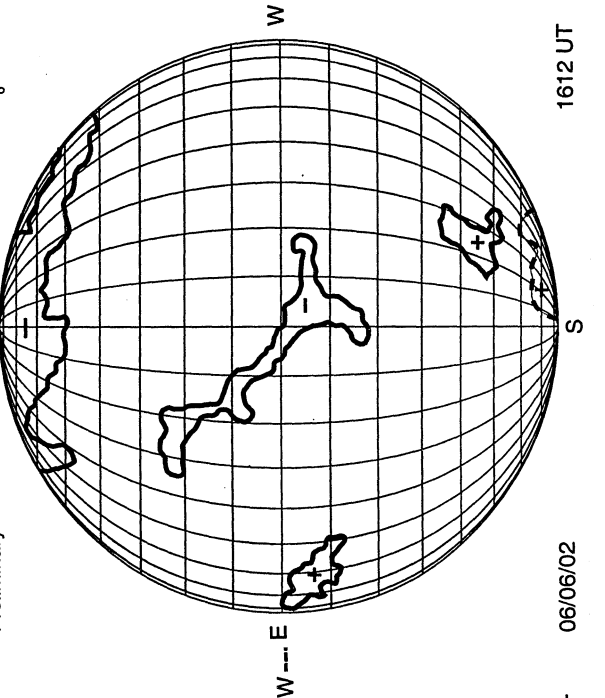


06/03/02

NSO/KP CORONAL HOLE MAP: HE I 1083 nm

$B_0 = 0.0$

Preliminary

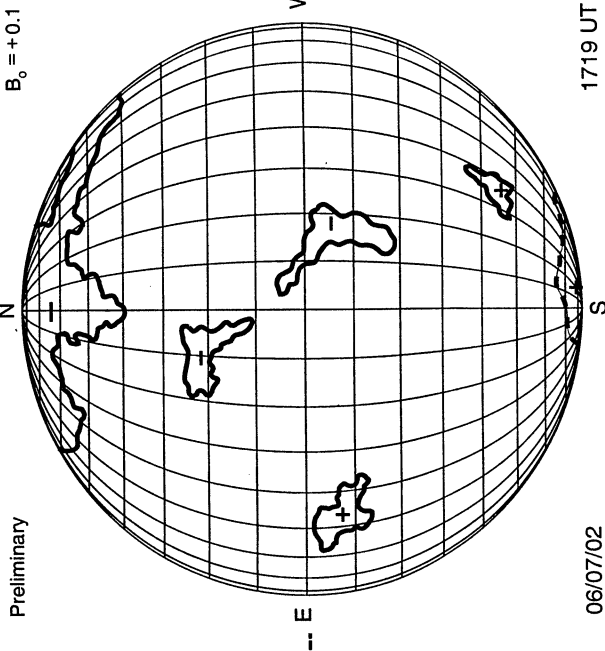


06/06/02

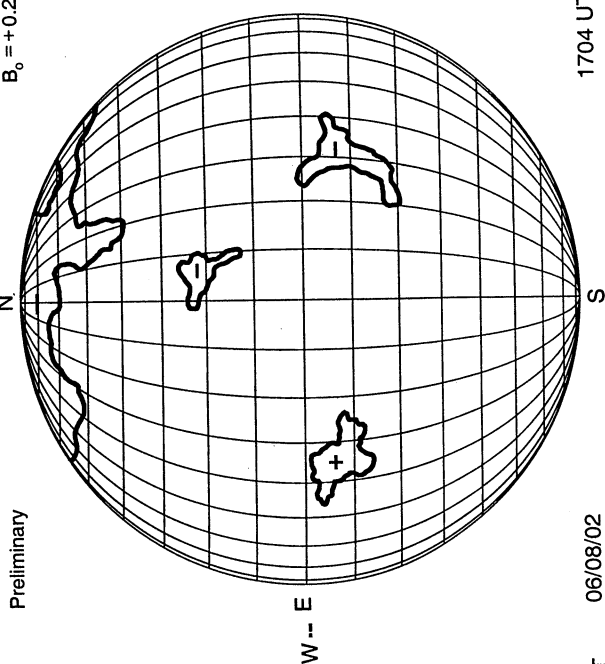
1612 UT

KITT PEAK CORONAL HOLE MAPS HE I 1083 nm June 2002

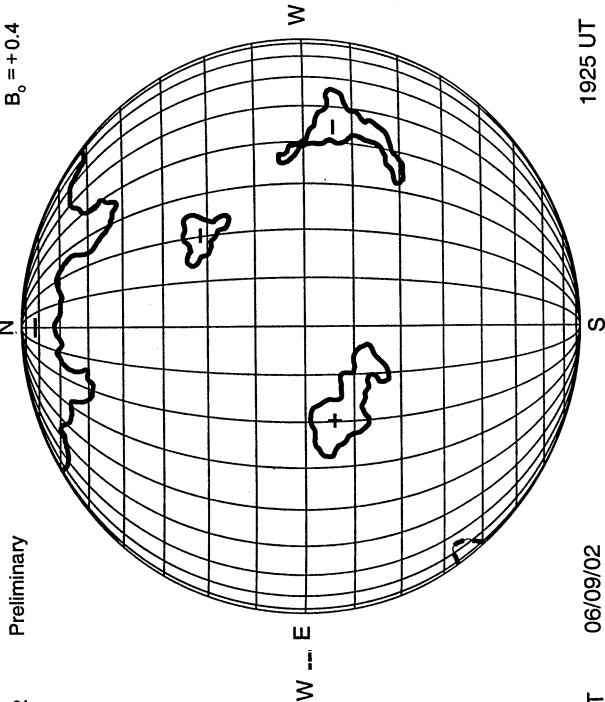
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



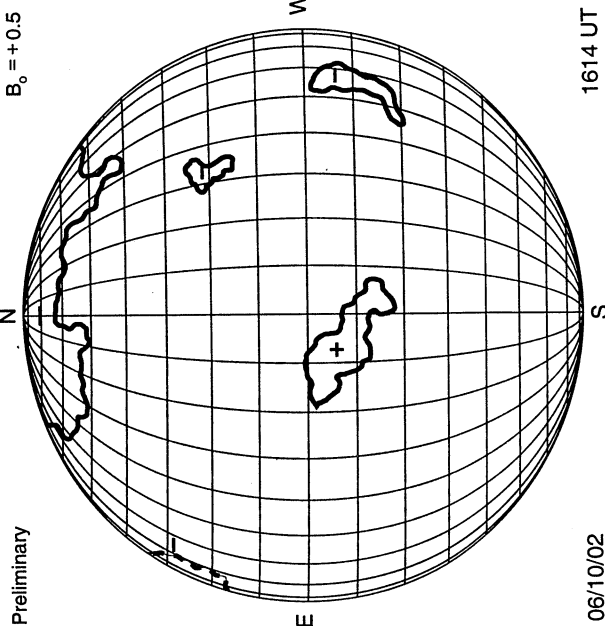
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



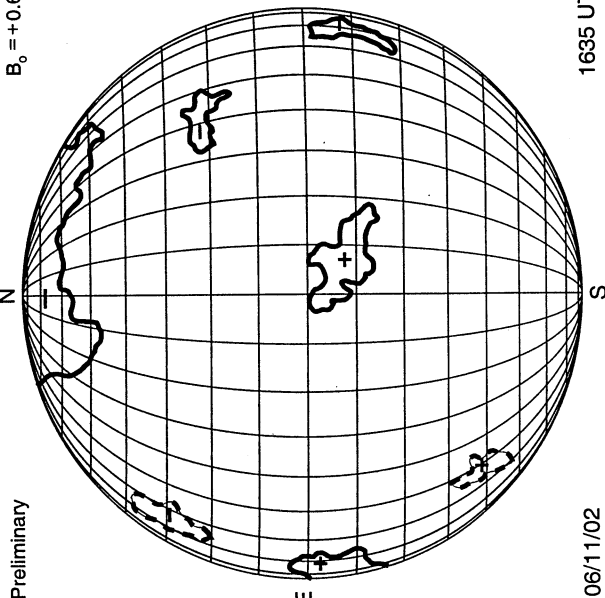
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



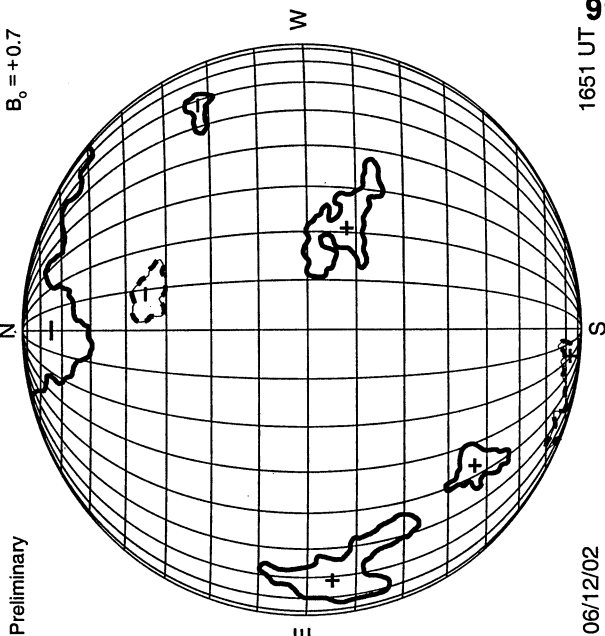
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



NSO/KP CORONAL HOLE MAP: HE I 1083 nm

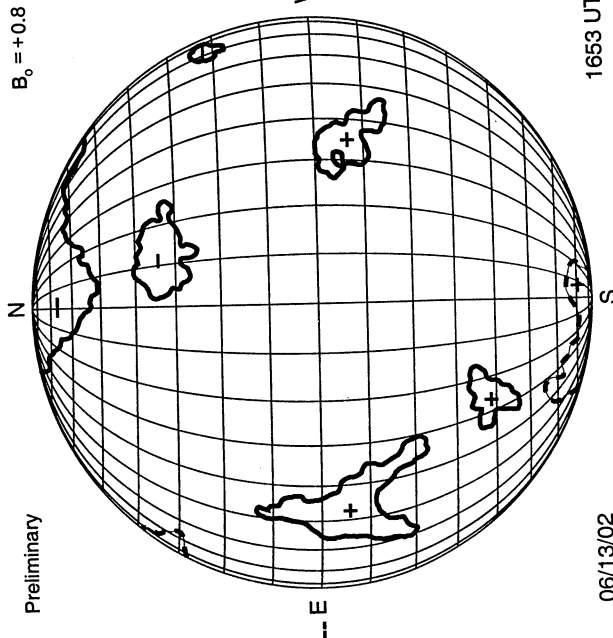


NSO/KP CORONAL HOLE MAP: HE I 1083 nm

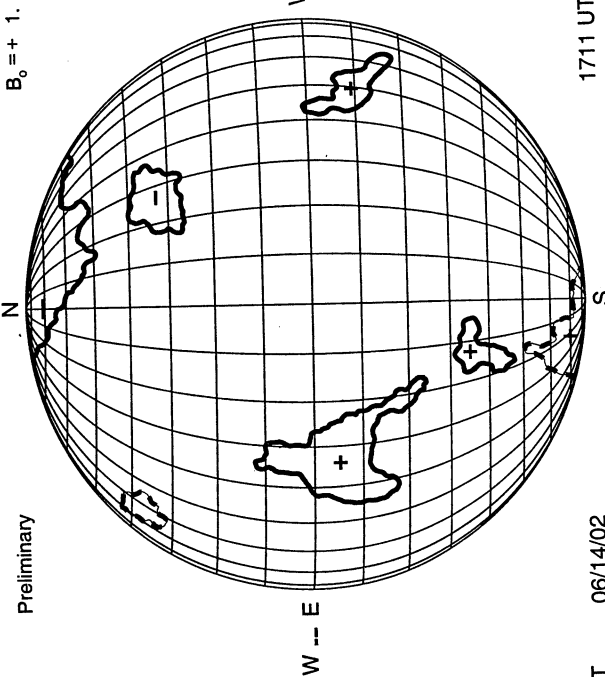


KITT PEAK CORONAL HOLE MAPS HE I 1083 nm June 2002

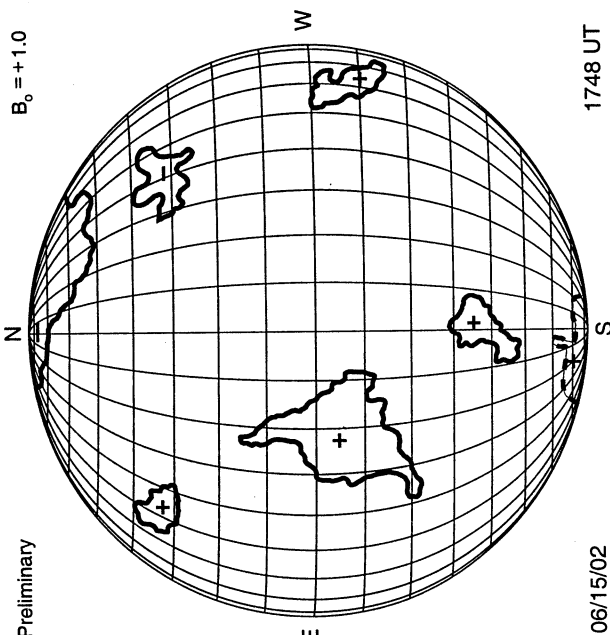
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



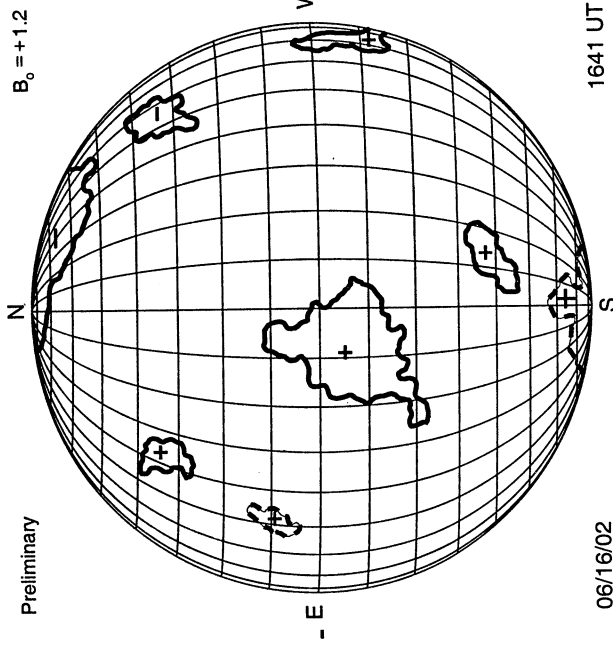
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



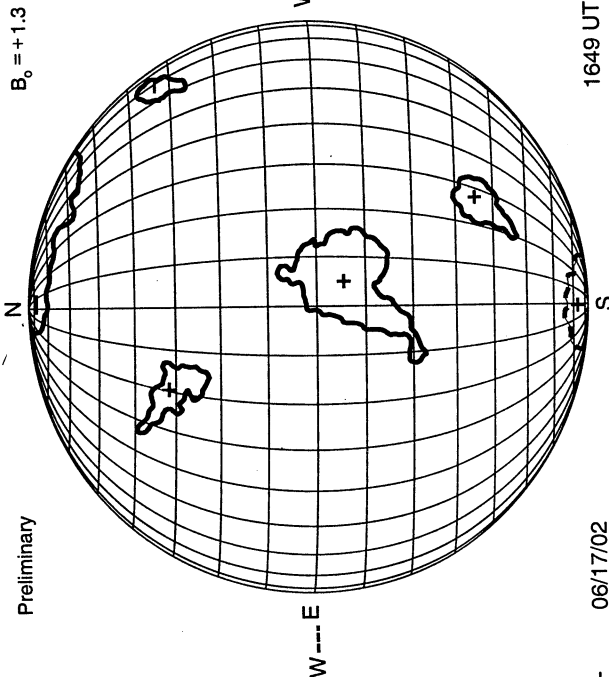
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



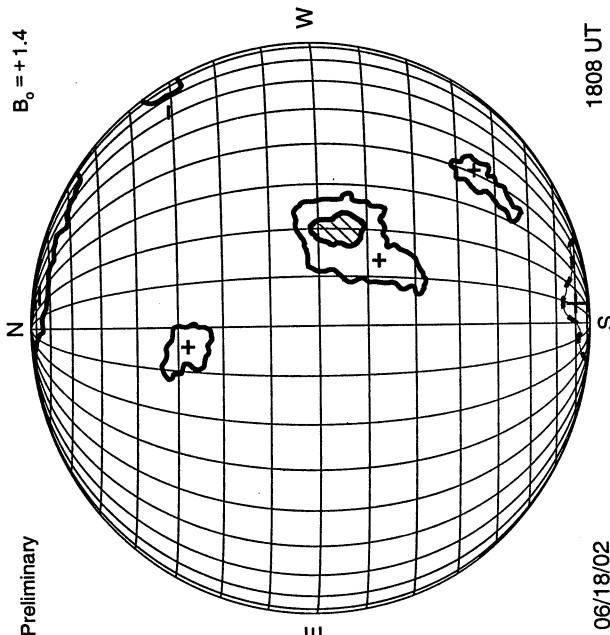
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



NSO/KP CORONAL HOLE MAP: HE I 1083 nm

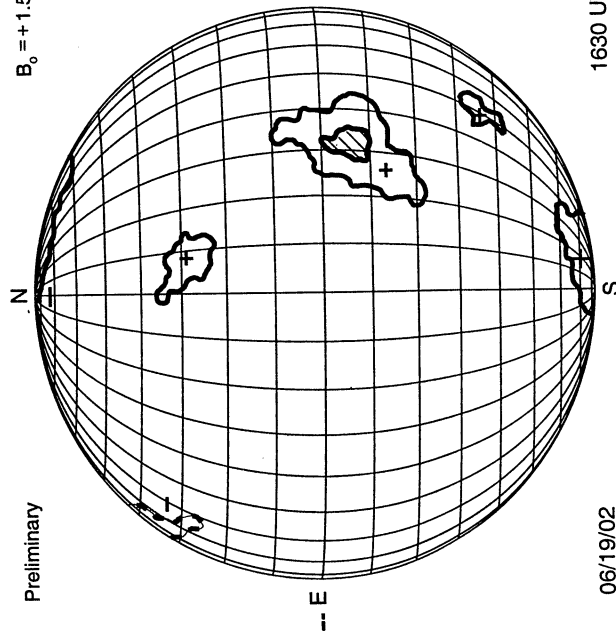


NSO/KP CORONAL HOLE MAP: HE I 1083 nm



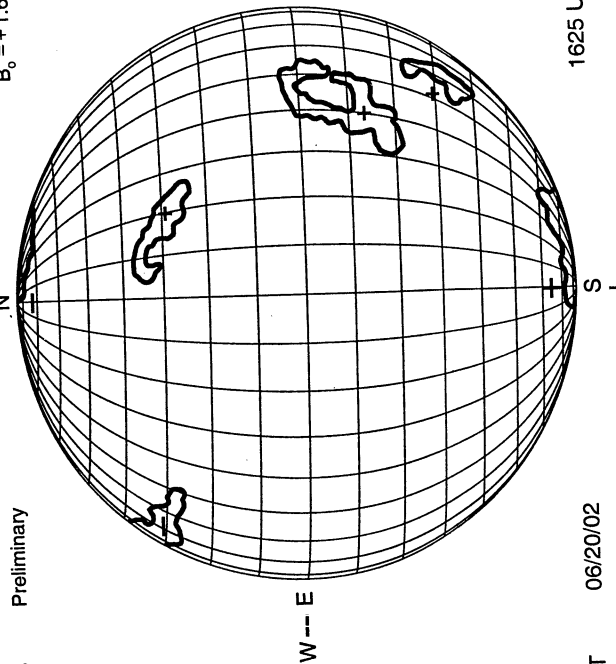
KITT PEAK CORONAL HOLE MAPS HE I 1083 nm June 2002

NSO/KP CORONAL HOLE MAP: HE I 1083 nm
 $B_0 = +1.5$
Preliminary



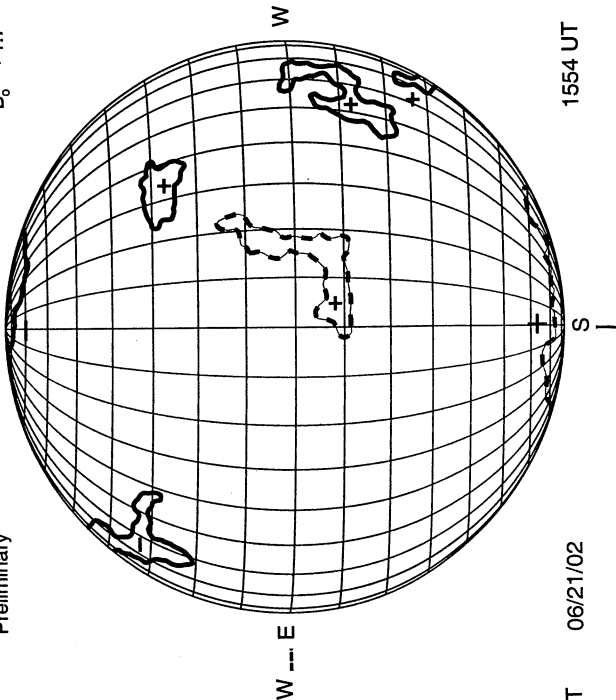
06/19/02

NSO/KP CORONAL HOLE MAP: HE I 1083 nm
 $B_0 = +1.6$
Preliminary



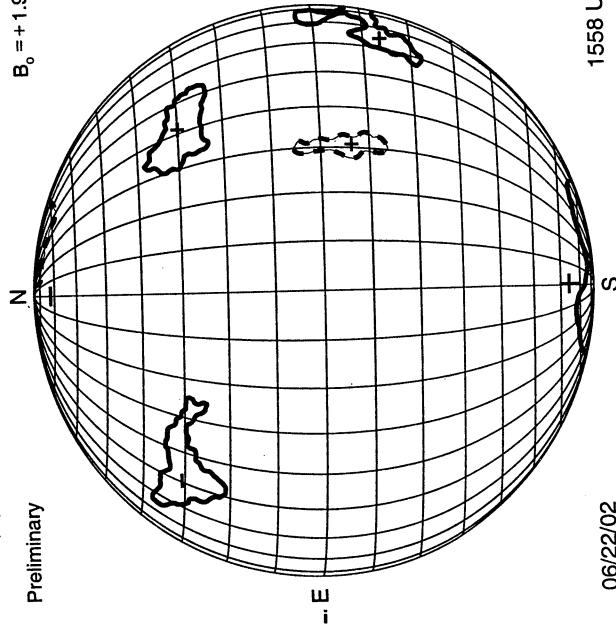
06/20/02

NSO/KP CORONAL HOLE MAP: HE I 1083 nm
 $B_0 = +1.7$
Preliminary



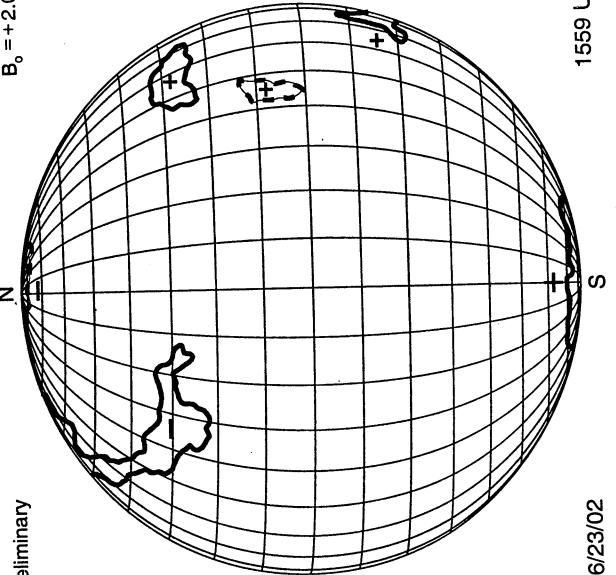
06/21/02

NSO/KP CORONAL HOLE MAP: HE I 1083 nm
 $B_0 = +1.9$
Preliminary



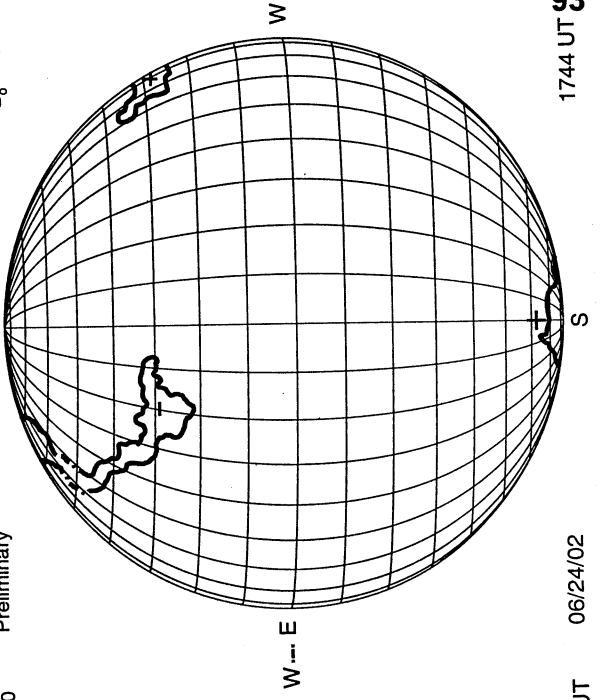
06/22/02

NSO/KP CORONAL HOLE MAP: HE I 1083 nm
 $B_0 = +2.0$
Preliminary



06/23/02

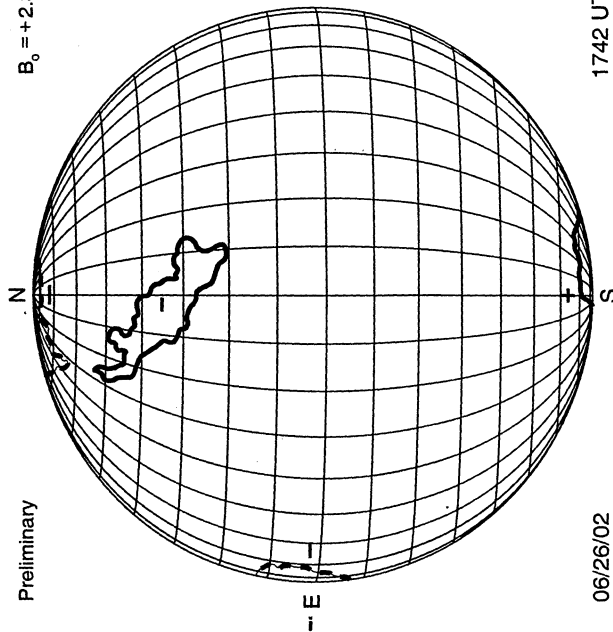
NSO/KP CORONAL HOLE MAP: HE I 1083 nm
 $B_0 = +2.1$
Preliminary



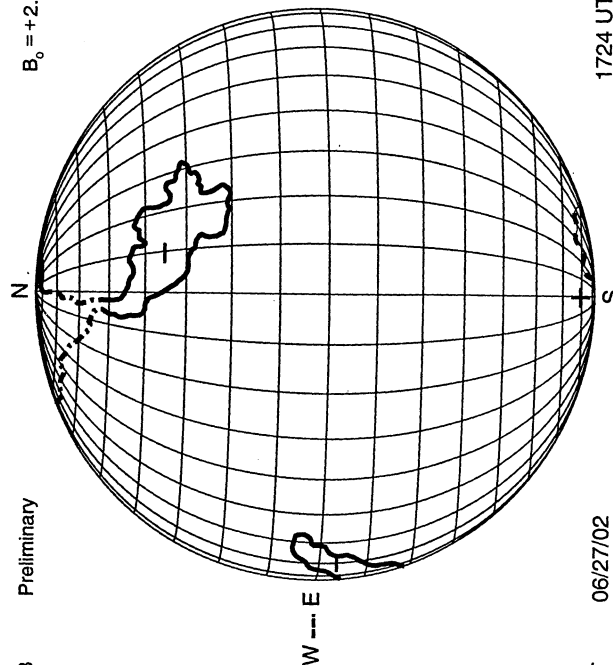
06/24/02

KITT PEAK CORONAL HOLE MAPS HE I 1083 nm
June 2002

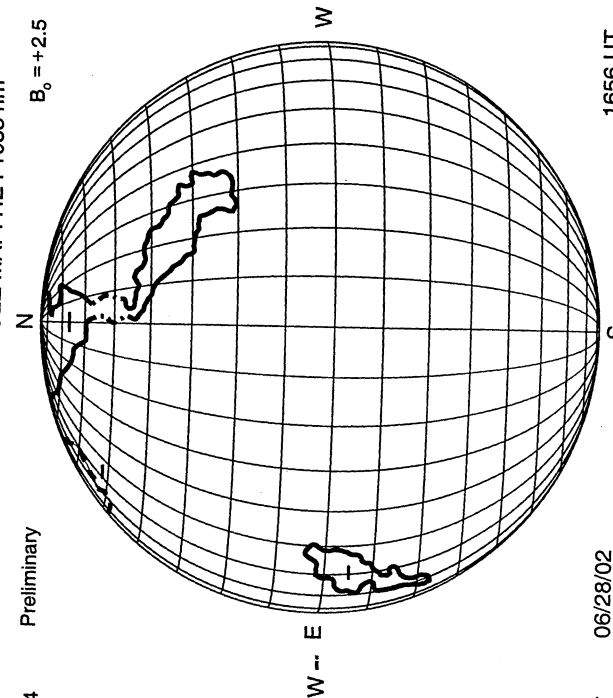
NSO/KP CORONAL HOLE MAP: HE I 1083 nm
 $B_0 = +2.3$
Preliminary



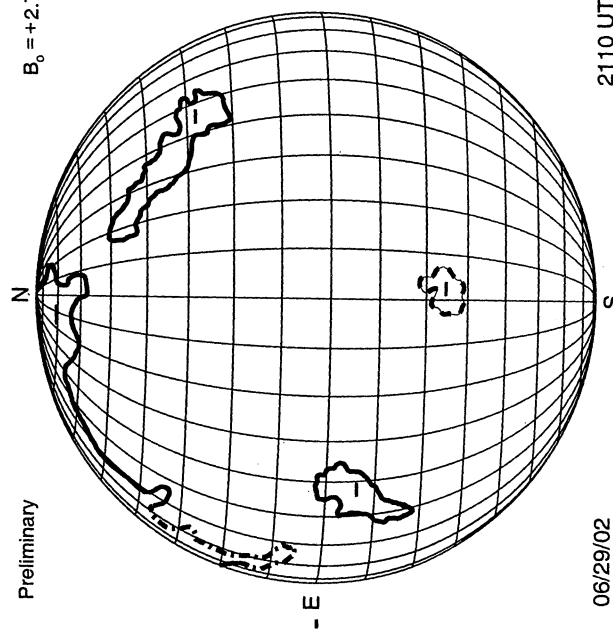
NSO/KP CORONAL HOLE MAP: HE I 1083 nm
 $B_0 = +2.4$
Preliminary



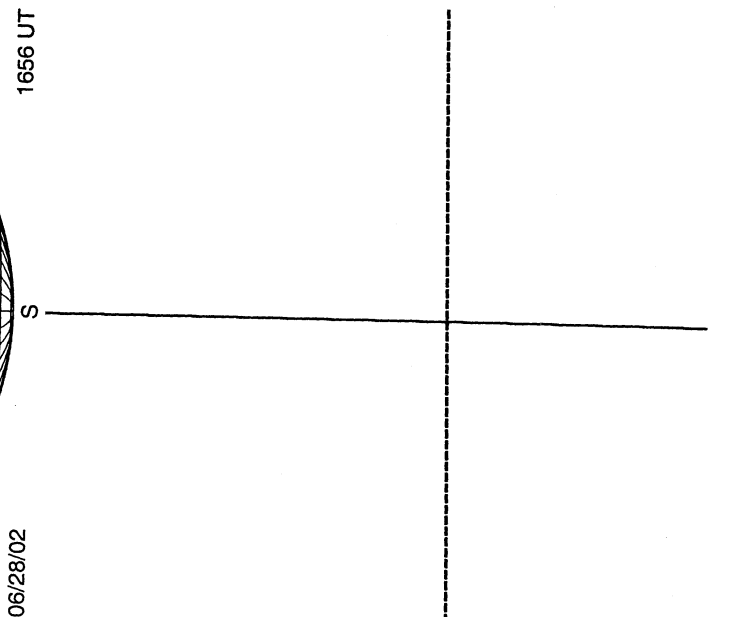
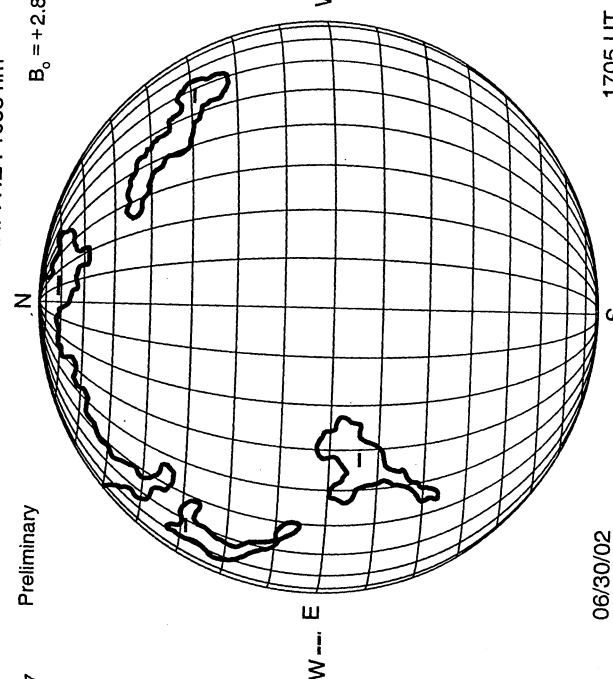
NSO/KP CORONAL HOLE MAP: HE I 1083 nm
 $B_0 = +2.5$
Preliminary



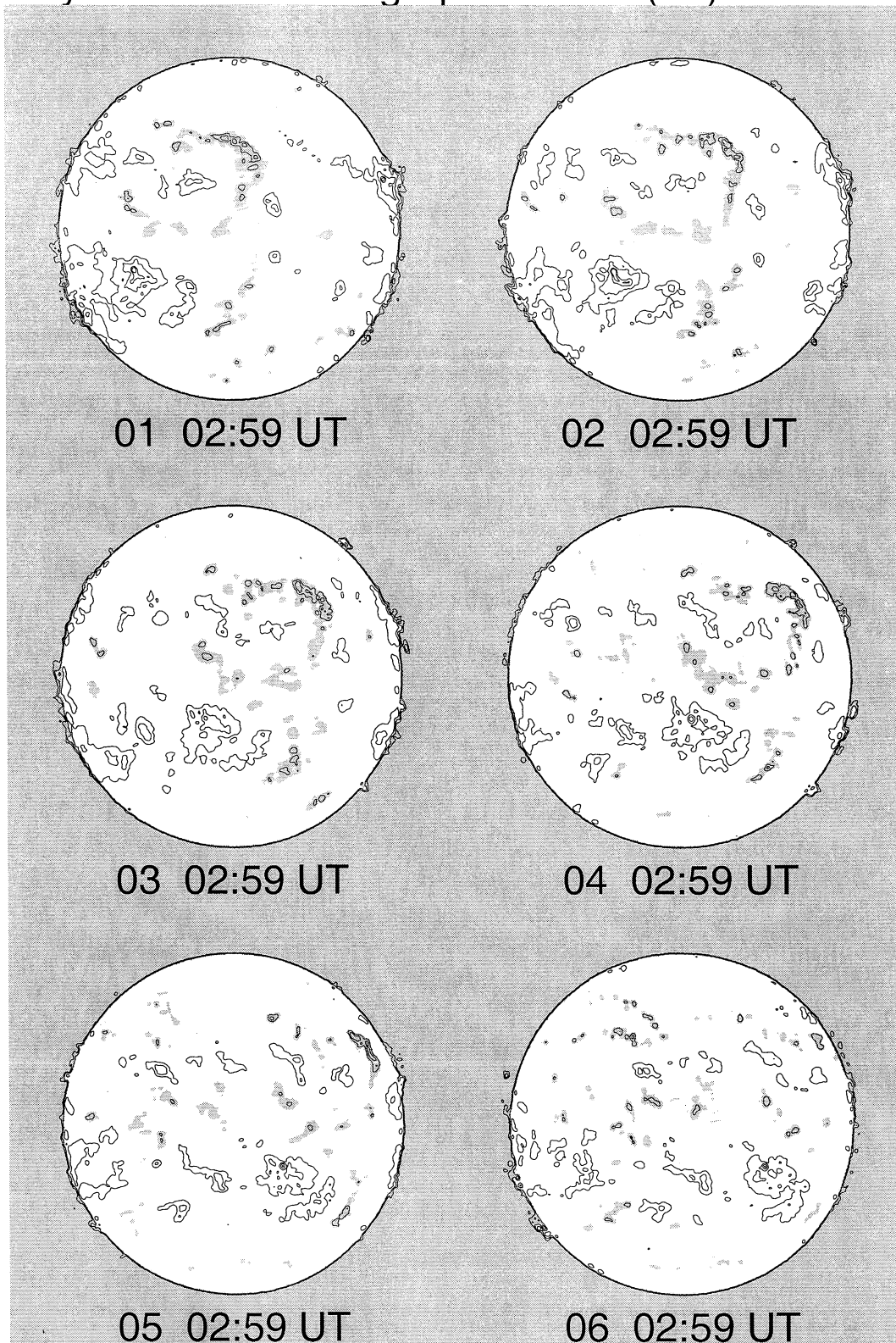
NSO/KP CORONAL HOLE MAP: HE I 1083 nm
 $B_0 = +2.7$
Preliminary



NSO/KP CORONAL HOLE MAP: HE I 1083 nm
 $B_0 = +2.8$
Preliminary

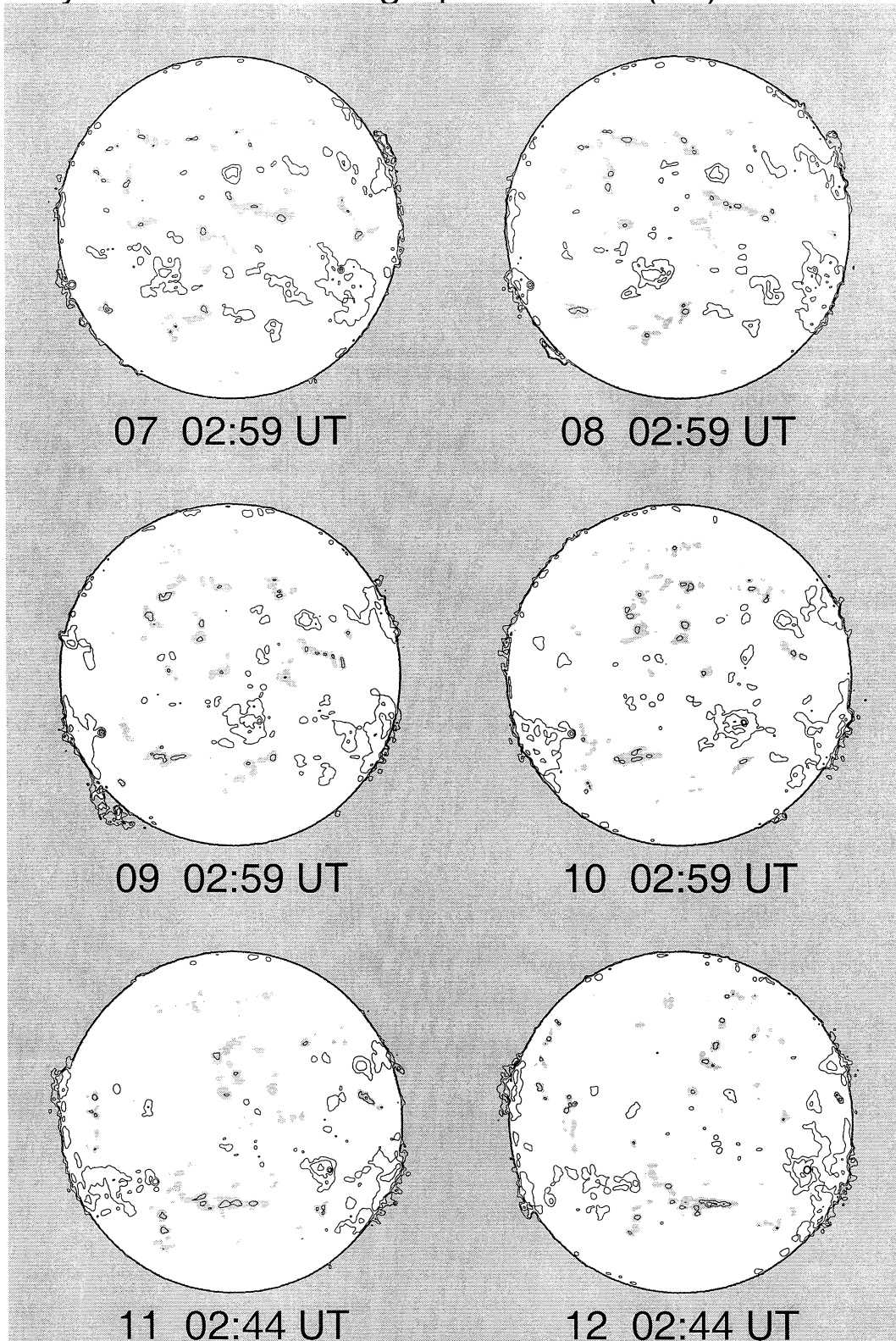


Nobeyama Radio Heliograph 17 GHz (Tb) 2002 June



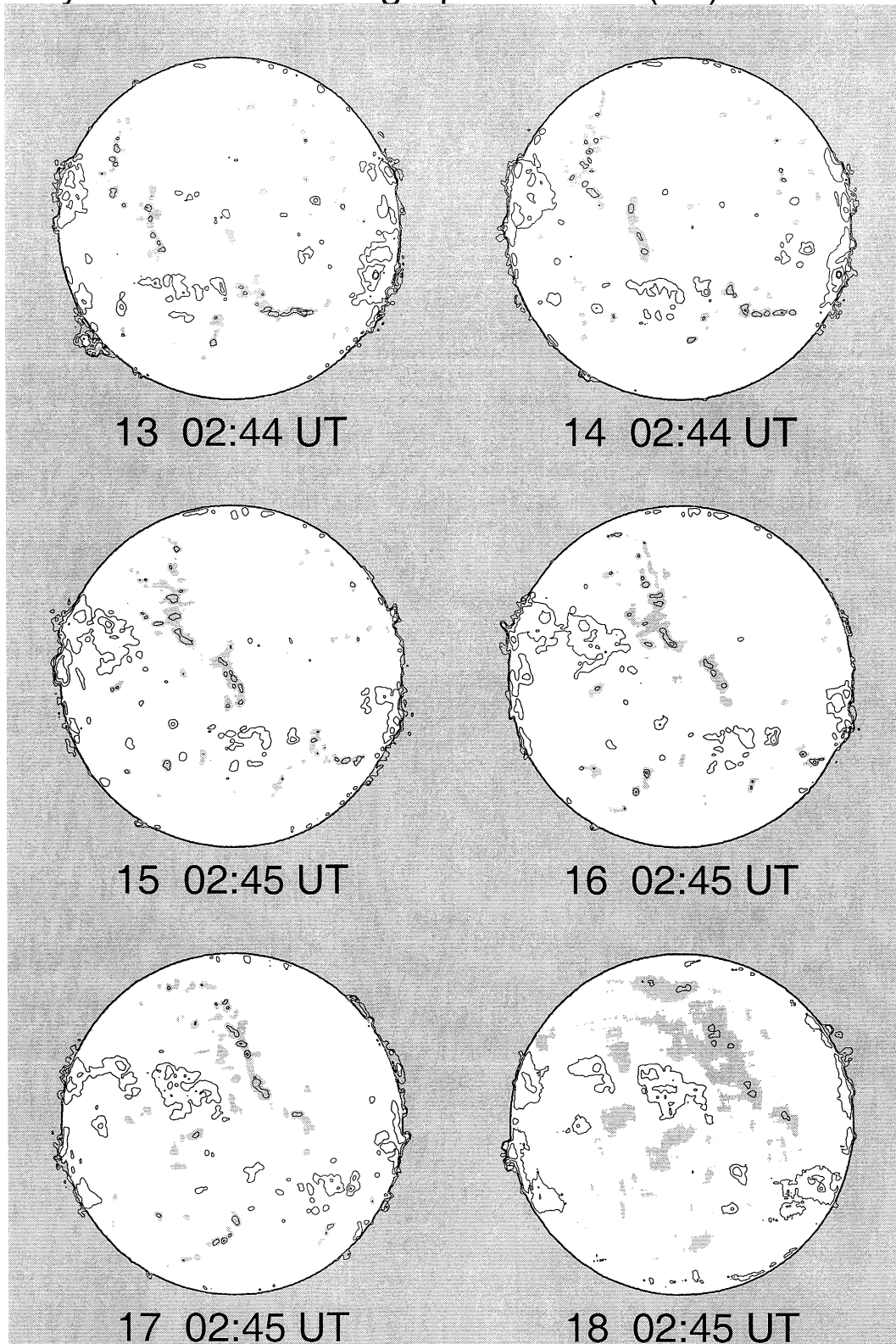
Contour Levels Tb=[5,8,12,20,50,100] x 10³ K
Grey level Tb <= 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2002 June



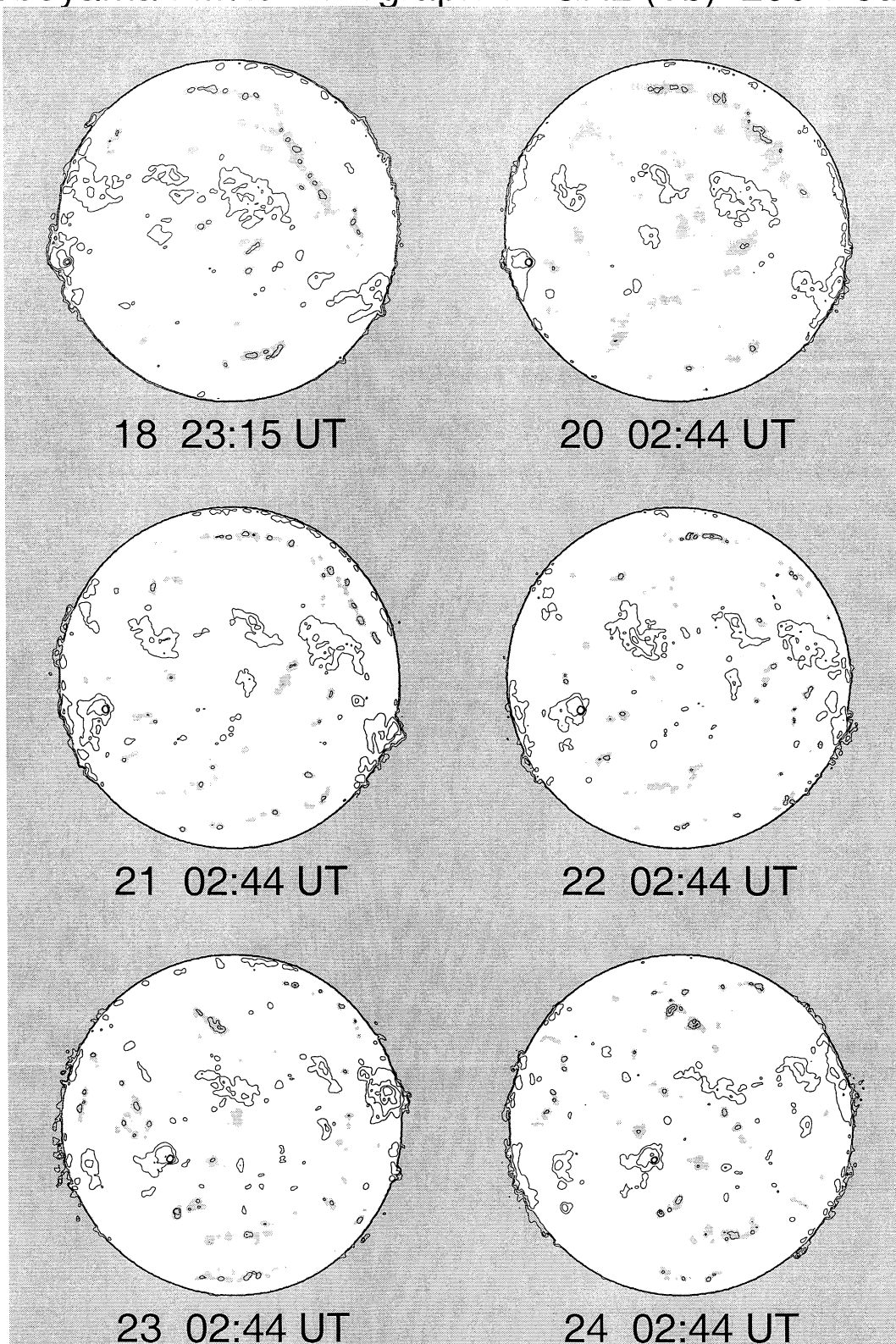
Contour Levels Tb=[5,8,12,20,50,100] x 10³ K
Grey level Tb <= 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2002 June



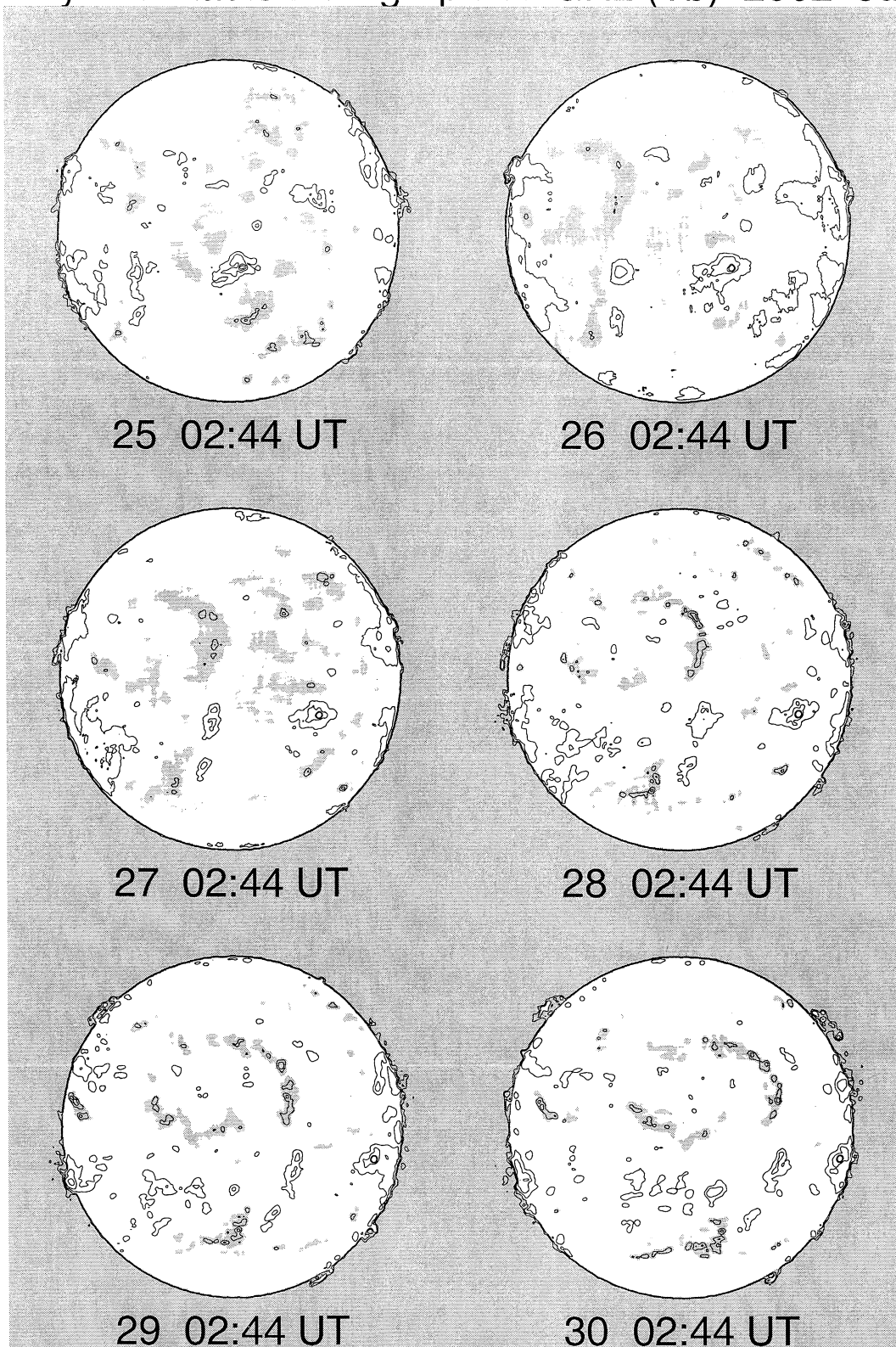
Contour Levels Tb=[5,8,12,20,50,100] x 10³ K
Grey level Tb <= 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2002 June



Contour Levels Tb=[5,8,12,20,50,100] x 10³ K
Grey level Tb <= 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2002 June



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

100
Jun 02

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

JUNE 2002

NOAA/ USAF Group	Mt Wilson Group	Sta	Mo	Day	Observation Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
9972A		VORO	05	30	0416	N12	E33	06	1.7			AXX	1	1		2
9972A		HOLL	05	30	1400	N12	E37	06	2.4		A	AXX		1	1	3
9972A	31228	MWIL	05	30	1430	N12	E36	06	2.3	4	(AF)					
9972		VORO	05	27	2128	S21	E70	06	2.3			AXX	7	1		3
9972		LEAR	05	28	0312	S21	E68	06	2.3		B	CAO	60	5	3	2
9972		TACH	05	28	0633	S22	E61	06	2.0			HR	33	3	2	4
9972		KAND	05	28	0715	S23	E63	06	2.1			CAO		3	4	4
9972		RAMY	05	28	1320	S20	E61	06	2.2		B	DAO	40	4	4	2
9972		HOLL	05	28	1323	S21	E61	06	2.2		B	CSO	40	8	7	3
9972	31221	MWIL	05	28	1430	S20	E60	06	2.2	4	(BF)					
9972		VORO	05	29	0007	S21	E56	06	2.3			DAI	67	7	4	2
9972		LEAR	05	29	0228	S21	E54	06	2.2		B	DAO	90	10	7	3
9972		TACH	05	29	0554	S21	E49	06	2.0			BRI	53	5	5	4
9972		SVTO	05	29	0630	S22	E53	06	2.3		B	DAO	100	10	7	3
9972		KAND	05	29	0710	S23	E50	06	2.1			DAO		9	9	3
9972		RAMY	05	29	1420	S21	E48	06	2.3		B	DSO	50	9	6	3
9972	31221	MWIL	05	29	1445	S20	E48	06	2.3	5	(B)					
9972		HOLL	05	29	1500	S21	E48	06	2.3		B	DAO	120	7	6	3
9972		LEAR	05	30	0040	S21	E42	06	2.2		B	DSO	40	10	6	2
9972		VORO	05	30	0416	S21	E40	06	2.2			DAI	152	7	5	2
9972		SVTO	05	30	0530	S21	E39	06	2.2		B	DSO	130	8	7	3
9972		TACH	05	30	0553	S21	E36	06	2.0			CAI	137	12	5	4
9972		KAND	05	30	0840	S21	E37	06	2.2			DAO		9	5	4
9972		HOLL	05	30	1400	S20	E36	06	2.3		B	DAO	130	15	5	3
9972	31221	MWIL	05	30	1430	S20	E35	06	2.3	5	(BG)					
9972		VORO	05	30	2200	S21	E31	06	2.3			CAI	136	11	5	3
9972		LEAR	05	31	0135	S21	E28	06	2.2		B	DAO	100	11	6	2
9972		SVTO	05	31	0454	S21	E26	06	2.2		B	CAO	110	10	5	3
9972		RAMY	05	31	1344	S21	E21	06	2.2		B	CAO	100	12	6	3
9972	31221	MWIL	05	31	1445	S20	E21	06	2.2	4	(B)					
9972		LEAR	06	01	0050	S21	E15	06	2.2		B	CAO	80	10	6	2
9972		SVTO	06	01	0510	S21	E14	06	2.3		B	CAO	80	13	6	3
9972		TACH	06	01	0538	S20	E09	06	1.9			CAI	173	5	4	3
9972		KAND	06	01	1145	S21	E08	06	2.1			CAO		11	6	3
9972		RAMY	06	01	1322	S21	E07	06	2.1		B	DSO	40	8	5	4
9972		HOLL	06	01	1409	S21	E10	06	2.3		B	DSI	80	9	6	4
9972	31221	MWIL	06	01	1445	S20	E09	06	2.3	4	(BP)					
9972		VORO	06	01	2122	S21	E03	06	2.1			CAI	49	8	1	3
9972		TACH	06	02	0548	S18	W02	06	2.1			ARX	4	2	1	2
9972		SVTO	06	02	0550	S21	W02	06	2.1		B	DRO	30	3	3	3
9972		KAND	06	02	0730	S20	W01	06	2.2			BXO		8	4	4
9972		RAMY	06	02	1403	S20	W05	06	2.2		B	DSO	30	4	3	2
9972		HOLL	06	02	1406	S20	W06	06	2.1		B	CSO	30	6	4	3
9972	31221	MWIL	06	02	1500	S20	W05	06	2.2	4	(B)					
9972		VORO	06	02	2131	S21	W08	06	2.3			BXI	57	5	1	3
9972		SVTO	06	03	0535	S20	W14	06	2.2		B	DRO	40	4	5	2
9972		TACH	06	03	0555	S20	W13	06	2.2			ARX	17	5	3	3
9972		HOLL	06	03	1410	S21	W17	06	2.3		B	BXO	10	3	3	3
9972	31221	MWIL	06	03	1445	S20	W19	06	2.2	4	(B)					
9972		KAND	06	04	0805	S19	W30	06	2.0			AX		1		3
9972		HOLL	06	04	1327	S21	W31	06	2.2		A	AXX	10	1	1	3
9972	31221	MWIL	06	04	1445	S21	W32	06	2.2	3	(AP)					
9980		KAND	06	01	1145	S29	E13	06	2.5			BXO		2	1	3
9980		RAMY	06	01	1322	S29	E12	06	2.5		B	CSO		2	2	4
9980		HOLL	06	01	1409	S29	E14	06	2.7		A	AXX	10	1	1	4
9980	31232	MWIL	06	01	1445	S29	E13	06	2.6	4	(AP)					
9980		VORO	06	01	2122	S28	E05	06	2.3			BXI	8	5	8	3
9980		TACH	06	02	0548	S26	E04	06	2.5			AXX	1	1	1	2
9980		SVTO	06	02	0550	S30	E04	06	2.5		A	AXX	10	1	1	3
9980		KAND	06	02	0730	S29	E02	06	2.5			AX		2		4
9980		RAMY	06	02	1403	S28	W02	06	2.4		A	HSX	10	1		2
9980		HOLL	06	02	1406	S28	E00	06	2.6		A	AXX	10	1	1	3
9980	31232	MWIL	06	02	1500	S29	W01	06	2.5	4	(AP)					
9980		VORO	06	02	2131	S29	W05	06	2.5			BXO	53	6	3	3
9980		TACH	06	03	0555	S26	W09	06	2.5			BRO	3	3	2	3
9980		RAMY	06	03	1335	S30	W18	06	2.1		B	CSO	10	3	3	2
9980	31232	MWIL	06	03	1445	S29	W15	06	2.4	4	(AP)					

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

101
Jun 02

JUNE 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
9980		VORO	06 04 0050	S27 W24	06 2.2			AXX	5	1		3
9980		KAND	06 04 0805	S25 W26	06 2.3			BXO		2	5	3
9980		HOLL	06 04 1327	S26 W27	06 2.5		B	CSO	30	5	5	3
9980		RAMY	06 04 1359	S26 W28	06 2.4		B	CSO	10	6	7	2
9980	31232	MWIL	06 04 1445	S27 W26	06 2.6	4	(BP)					
9980		LEAR	06 05 0045	S26 W32	06 2.5		A	HSX	10	1	1	2
9980	31232	MWIL	06 05 1430	S30 W38	06 2.6	4	(AF)					
9972B	31220	MWIL	05 28 1430	S33 E69	06 3.1	4	(AF)					
9972B		RAMY	05 29 1420	S29 E56	06 3.0		A	AXX	10	1	1	3
9972B	31225	MWIL	05 29 1445	S28 E54	06 2.8	4	(AP)					
9980A	31233	MWIL	06 01 1445	S20 E18	06 3.0	4	(AP)					
9972C		TACH	05 28 0633	N11 E77	06 3.1			AXX	15	1	1	4
9974		KAND	05 28 0715	N16 E81	06 3.4			AX		1		4
9974		HOLL	05 28 1323	N19 E77	06 3.4		A	HSX	60	1	1	3
9974	31222	MWIL	05 28 1430	N19 E76	06 3.4	5	(AP)					
9974		VORO	05 29 0007	N19 E72	06 3.5			HAX	38	1		2
9974		LEAR	05 29 0228	N18 E69	06 3.3		A	HSX	30	1	1	3
9974		TACH	05 29 0554	N18 E63	06 3.0			AXX	20	1	1	4
9974		SVTO	05 29 0630	N18 E68	06 3.4		A	HSX	30	1	1	3
9974		KAND	05 29 0710	N17 E69	06 3.5			AX		2		3
9974		RAMY	05 29 1420	N19 E62	06 3.3		A	HSX	20	1	1	3
9974	31222	MWIL	05 29 1445	N19 E62	06 3.3	4	(AP)					
9974		HOLL	05 29 1500	N19 E62	06 3.3		A	HAX	40	1	1	3
9974		LEAR	05 30 0040	N18 E56	06 3.3		A	HSX	20	1	1	2
9974		VORO	05 30 0416	N19 E55	06 3.4			AXX	21	1		2
9974		SVTO	05 30 0530	N19 E55	06 3.4		A	HSX	40	1	1	3
9974		TACH	05 30 0553	N18 E52	06 3.2			HSX	25	1	1	4
9974		KAND	05 30 0840	N18 E55	06 3.5			HS		1	2	4
9974		HOLL	05 30 1400	N20 E50	06 3.4		A	HSX	50	1	1	3
9974	31222	MWIL	05 30 1430	N19 E49	06 3.3	5	(AP)					
9974		VORO	05 30 2200	N19 E46	06 3.4			AXX	13	1		3
9974		LEAR	05 31 0135	N19 E45	06 3.5		A	HSX	30	1	1	2
9974		SVTO	05 31 0454	N19 E43	06 3.5		A	HSX	10	1	1	3
9974		RAMY	05 31 1344	N19 E38	06 3.5		A	HSX	30	2	1	3
9974	31222	MWIL	05 31 1445	N19 E36	06 3.4	4	(AP)					
9974		LEAR	06 01 0050	N18 E32	06 3.5		A	HSX	20	1	1	2
9974		SVTO	06 01 0510	N19 E29	06 3.4		A	HSX	20	1	1	3
9974		TACH	06 01 0538	N17 E25	06 3.1			HSX	50	2	1	3
9974		TACH	06 01 0538	N21 E25	06 3.1			AXX	3	1	1	3
9974		KAND	06 01 1145	N18 E27	06 3.5			HR		1		3
9974		RAMY	06 01 1322	N19 E24	06 3.4		A	HSX	10	2	1	4
9974		HOLL	06 01 1409	N19 E24	06 3.4		A	HSX	20	1	1	4
9974		VORO	06 01 2122	N19 E21	06 3.5			AXX	11	1		3
9974		TACH	06 02 0548	N18 E13	06 3.2			AXX	10	1	1	2
9974		SVTO	06 02 0550	N18 E16	06 3.5		A	HRX	10	1		3
9974		KAND	06 02 0730	N19 E17	06 3.6			HS		1		4
9974		RAMY	06 02 1403	N14 E11	06 3.4		B	DSO	20	3	3	2
9974		HOLL	06 02 1406	N15 E09	06 3.3		A	AXX	10	2	1	3
9974	31234	MWIL	06 02 1500	N14 E10	06 3.4	4	(B)					
9974		VORO	06 02 2131	N14 E05	06 3.3			AXX	14	2	0	3
9974		SVTO	06 03 0535	N15 E02	06 3.4		B	DSO	50	3	4	2
9974		TACH	06 03 0555	N13 E01	06 3.3			BRI	29	8	4	3
9974		TACH	06 03 0555	N18 W01	06 3.2			BXO	45	2	2	3
9974		RAMY	06 03 1335	N15 W04	06 3.3		A	HSX	10	1	1	2
9974		HOLL	06 03 1410	N15 W05	06 3.2		A	AXX	10	1	1	3
9974	31234	MWIL	06 03 1445	N16 W04	06 3.3	5	(BP)					
9974		VORO	06 04 0050	N15 W09	06 3.3			BXO	42	5	3	3
9974		LEAR	06 04 0115	N14 W12	06 3.1		B	BXO	10	2	2	1
9974		SVTO	06 04 0714	N14 W15	06 3.2		A	HRX	10	1	1	2
9974		KAND	06 04 0805	N16 W12	06 3.4			BXO		5	4	3
9974		HOLL	06 04 1327	N14 W17	06 3.3		A	AXX	10	2	2	3
9974		RAMY	06 04 1359	N15 W18	06 3.2		B	BXO	10	3	2	2
9974	31234	MWIL	06 04 1445	N15 W19	06 3.2	4	(AP)					
9974		VORO	06 04 2141	N14 W23	06 3.2			AXX	29	4		3
9974		LEAR	06 05 0045	N15 W25	06 3.1		A	HSX	10	1	1	2

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(Ordered by Central Meridian Passage Date)
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NOAA/ USAF Group	Mt Wilson Group	Sta	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
9974		TACH	06	05	0559	N18	W23	06	3.5			BRO	41	4	1	3
9974		HOLL	06	05	1324	N14	W29	06	3.4		A	AXX		1		2
9974	31234	MWIL	06	05	1430	N15	W32	06	3.2	4	(B)					
9975		VORO	05	29	0007	N23	E77	06	3.9			AXX	19	2		2
9975		LEAR	05	29	0228	N22	E73	06	3.7		B	BXO	20	2	2	3
9975		TACH	05	29	0554	N23	E68	06	3.5			AXX	3	1	1	4
9975		SVTO	05	29	0630	N25	E78	06	4.3		B	BXO	20	2	2	3
9975		KAND	05	29	0710	N21	E72	06	3.8			AX		3	1	3
9975		RAMY	05	29	1420	N24	E66	06	3.7		A	HRX	10	1	1	3
9975	31226	MWIL	05	29	1445	N24	E66	06	3.7	4	(AP)					
9975		HOLL	05	29	1500	N23	E68	06	3.9		A	AXX	20	1	1	3
9975		LEAR	05	30	0040	N23	E58	06	3.5		B	BXO	20	3	2	2
9975		VORO	05	30	0416	N24	E60	06	3.8			BXI	19	5	7	2
9975		SVTO	05	30	0530	N24	E59	06	3.8		B	BXO	20	4	7	3
9975		TACH	05	30	0553	N22	E56	06	3.5			BRO	22	4	9	4
9975		KAND	05	30	0840	N22	E60	06	4.0			BXO		5	8	4
9975		HOLL	05	30	1400	N24	E56	06	3.9		B	BXO	30	6	11	3
9975	31226	MWIL	05	30	1430	N24	E54	06	3.8	4	(B)					
9975		VORO	05	30	2200	N24	E50	06	3.8			BXI	15	4	8	3
9975		LEAR	05	31	0135	N24	E48	06	3.8		B	BXO	40	4	7	2
9975		SVTO	05	31	0454	N24	E44	06	3.6			HSX	30	0	4	3
9975		RAMY	05	31	1344	N22	E40	06	3.6		B	CSO	30	8	8	3
9975	31226	MWIL	05	31	1445	N24	E39	06	3.6	4	(BP)					
9975		LEAR	06	01	0050	N23	E32	06	3.5		B	CSO	30	4	3	2
9975		SVTO	06	01	0510	N23	E31	06	3.6		B	BXO	10	5	7	3
9975		KAND	06	01	1145	N21	E26	06	3.5			AX		1		3
9975		RAMY	06	01	1322	N22	E23	06	3.3		A	AXX		2	1	4
9975		HOLL	06	01	1409	N22	E23	06	3.3		A	AXX	10	1	1	4
9975	31222	MWIL	06	01	1445	N19	E24	06	3.4	5	(AP)					
9975	31226	MWIL	06	01	1445	N24	E23	06	3.4	4	(BP)					
9975		VORO	06	01	2122	N23	E23	06	3.7			BXI	10	6	7	3
9975		KAND	06	02	0730	N22	E17	06	3.6			BXO		2	2	4
9975		RAMY	06	02	1403	N20	E12	06	3.5		B	DSO	30	2	3	2
9975		HOLL	06	02	1406	N20	E10	06	3.3		B	CSO	20	2	3	3
9975	31222	MWIL	06	02	1500	N19	E09	06	3.3	4	(AP)					
9975	31226	MWIL	06	02	1500	N24	E15	06	3.8	3	(AF)					
9975		VORO	06	02	2131	N19	E08	06	3.5			AXX	18	1		3
9975		SVTO	06	03	0535	N22	E03	06	3.5		B	DSO	60	7	7	2
9975		RAMY	06	03	1335	N21	W02	06	3.4		B	DSO	20	6	6	2
9975		HOLL	06	03	1410	N21	W03	06	3.4		B	DSO	20	7	6	3
9975	31222	MWIL	06	03	1445	N21	W03	06	3.4	5	(BF)					
9975		VORO	06	04	0050	N20	W07	06	3.5			BXO	48	7	0	3
9975		LEAR	06	04	0115	N21	W08	06	3.4		B	CSO	10	2	1	1
9975		SVTO	06	04	0714	N21	W11	06	3.4		B	DSO	50	5	4	2
9975		KAND	06	04	0805	N21	W10	06	3.6			DSO		11	7	3
9975		HOLL	06	04	1327	N22	W15	06	3.4		B	DSO	70	8	6	3
9975		RAMY	06	04	1359	N21	W15	06	3.4		B	DSO	50	12	6	2
9975	31222	MWIL	06	04	1445	N22	W16	06	3.4	5	(BF)					
9975		VORO	06	04	2141	N22	W20	06	3.4			DSO	119	7	2	3
9975		LEAR	06	05	0045	N21	W21	06	3.4		B	DSO	60	6	5	2
9975		HOLL	06	05	1324	N22	W27	06	3.5		B	CAO	50	13	5	2
9975		KAND	06	05	1350	N23	W26	06	3.6			CAO		5	4	5
9975	31222	MWIL	06	05	1430	N22	W28	06	3.4	5	(BF)					
9975		TACH	06	06	0755	N23	W35	06	3.6			BAO	47	2	1	4
9975		KAND	06	06	0755	N24	W35	06	3.6			CAO		8	4	4
9975		SVTO	06	06	1004	N21	W38	06	3.5		B	CSO	30	3	3	2
9975		HOLL	06	06	1323	N23	W40	06	3.5		B	CAO	80	8	5	3
9975	31222	MWIL	06	06	1500	N21	W41	06	3.5	5	(AP)					
9975		KAND	06	07	0830	N24	W50	06	3.5			HA		1	1	3
9975		RAMY	06	07	1353	N22	W55	06	3.3		A	HSX	20	1	1	1
9975		HOLL	06	07	1408	N23	W53	06	3.5		A	HAX	40	1	1	2
9975		VORO	06	08	0412	N21	W62	06	3.4			HAX	38	1		3
9975		SVTO	06	08	0442	N21	W60	06	3.6		A	HAX	40	1	1	3
9975		RAMY	06	08	1300	N21	W67	06	3.4		B	CSO	20	2	3	3
9975		HOLL	06	08	1322	N23	W65	06	3.5		A	AXX	10	1	1	2
9975	31222	MWIL	06	08	1500	N23	W69	06	3.3	4	(AP)					
9975		LEAR	06	09	0653	N22	W78	06	3.3		A	HAX	50	1	2	1
9973		VORO	05	27	2128	S17	E84	06	3.3			HAX	28	1		3

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(Ordered by Central Meridian Passage Date)

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JUNE 2002

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time		Lat CMD		CMP		Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
9973		LEAR	05	28	0312	S18 E81	06	3.3		B	DAO	120	2	6	2
9973		TACH	05	28	0633	S18 E81	06	3.4			DAO	145	3	4	4
9973		KAND	05	28	0715	S19 E83	06	3.6			DSO		3	5	4
9973		RAMY	05	28	1320	S16 E79	06	3.5		B	EKI	490	2	11	2
9973		HOLL	05	28	1323	S15 E80	06	3.6		BG	EKC	570	10	12	3
9973	31223	MWIL	05	28	1430	S16 E82	06	3.8	5	(B)					
9973		VORO	05	29	0007	S16 E76	06	3.8			DKI	1231	11	7	2
9973		LEAR	05	29	0228	S17 E71	06	3.5		B	EKI	960	18	14	3
9973		TACH	05	29	0554	S17 E71	06	3.6			DAI	663	13	8	4
9973		SVTO	05	29	0630	S16 E67	06	3.3		B	EKI	960	18	14	3
9973		KAND	05	29	0710	S18 E73	06	3.8			FKO		9	19	3
9973		RAMY	05	29	1420	S16 E66	06	3.6		B	EKI	970	20	11	3
9973	31223	MWIL	05	29	1445	S16 E68	06	3.8	5	(D)					
9973		HOLL	05	29	1500	S17 E69	06	3.9		BG	EKC	930	20	11	3
9973		LEAR	05	30	0040	S17 E61	06	3.7		BG	EKI	790	20	12	2
9973		VORO	05	30	0416	S16 E59	06	3.6			DKI	1054	11	6	2
9973		SVTO	05	30	0530	S16 E58	06	3.6		BG	EKI	780	17	13	3
9973		TACH	05	30	0553	S16 E58	06	3.6			DAI	940	25	11	4
9973		KAND	05	30	0840	S18 E59	06	3.8			EKO		16	13	4
9973		HOLL	05	30	1400	S15 E55	06	3.7		BG	EKC	880	30	13	3
9973	31223	MWIL	05	30	1430	S16 E54	06	3.7	5	(D)					
9973		VORO	05	30	2200	S15 E52	06	3.8			DKI	1205	30	10	3
9973		LEAR	05	31	0135	S17 E48	06	3.7		BG	EKC	770	20	14	2
9973		SVTO	05	31	0454	S16 E46	06	3.7		BG	EKI	800	12	15	3
9973		RAMY	05	31	1344	S16 E41	06	3.7		BG	EKI	830	20	14	3
9973	31223	MWIL	05	31	1445	S16 E41	06	3.7	6	(BG)					
9973		LEAR	06	01	0050	S17 E35	06	3.7		BG	FKI	650	18	16	2
9973		SVTO	06	01	0510	S17 E33	06	3.7		BG	EKI	880	20	15	3
9973		TACH	06	01	0538	S16 E28	06	3.3			DAI	1150	15	13	3
9973		KAND	06	01	1145	S18 E24	06	3.3			EKO		18	12	3
9973		RAMY	06	01	1322	S18 E28	06	3.7		BG	EKI	920	26	13	4
9973		HOLL	06	01	1409	S16 E28	06	3.7		BG	EKC	500	49	15	4
9973	31223	MWIL	06	01	1445	S16 E29	06	3.8	5	(BG)					
9973		VORO	06	01	2122	S16 E26	06	3.9			DKI	875	37	10	3
9973		TACH	06	02	0548	S14 E18	06	3.6			DAI	984	12	10	2
9973		SVTO	06	02	0550	S18 E19	06	3.7		BG	EKO	740	16	13	3
9973		KAND	06	02	0730	S18 E16	06	3.5			EAO		45	13	4
9973		RAMY	06	02	1403	S17 E15	06	3.7		BG	EKI	810	17	12	2
9973		HOLL	06	02	1406	S16 E15	06	3.7		BG	EKC	650	45	14	3
9973	31223	MWIL	06	02	1500	S17 E15	06	3.8	5	(BG)					
9973		VORO	06	02	2131	S17 E11	06	3.7			DKI	1178	41	13	3
9973		SVTO	06	03	0535	S15 E06	06	3.7		BG	FKI	750	31	17	2
9973		TACH	06	03	0555	S16 E08	06	3.8			DAI	1130	37	12	3
9973		RAMY	06	03	1335	S16 E03	06	3.8		BG	EKI	530	18	12	2
9973		HOLL	06	03	1410	S16 E01	06	3.7		BG	FKC	470	35	16	3
9973	31223	MWIL	06	03	1445	S16 E02	06	3.8	5	(BG)					
9973		VORO	06	04	0050	S16 W05	06	3.6			DKI	1024	33	6	3
9973		LEAR	06	04	0115	S16 W05	06	3.7		BG	ESI	340	22	15	1
9973		SVTO	06	04	0714	S16 W06	06	3.8		B	ESI	390	17	14	2
9973		KAND	06	04	0805	S15 W09	06	3.6			EAO		26	11	3
9973		HOLL	06	04	1327	S15 W11	06	3.7		BG	FKC	450	40	16	3
9973		RAMY	06	04	1359	S16 W11	06	3.7		BG	EAC	470	41	14	2
9973	31223	MWIL	06	04	1445	S16 W11	06	3.8	6	(BG)					
9973		VORO	06	04	2141	S17 W15	06	3.8			DKI	1154	52	8	3
9973		LEAR	06	05	0045	S16 W16	06	3.8		BG	EAI	470	26	13	2
9973		TACH	06	05	0559	S14 W21	06	3.7			DAI	370	12	8	3
9973		HOLL	06	05	1324	S17 W25	06	3.6		B	EKC	300	28	11	2
9973		KAND	06	05	1350	S14 W25	06	3.7			DAO		20	10	5
9973	31223	MWIL	06	05	1430	S16 W25	06	3.7	6	(BG)					
9973		TACH	06	06	0755	S13 W31	06	4.0			DAI	335	7	8	3
9973		KAND	06	06	0755	S14 W35	06	3.7			EKO		16	12	4
9973		SVTO	06	06	1004	S16 W36	06	3.7		B	DSO	380	8	10	2
9973		HOLL	06	06	1323	S15 W38	06	3.7		B	EKC	400	20	11	3
9973	31223	MWIL	06	06	1500	S16 W38	06	3.7	5	(BG)					
9973		KAND	06	07	0830	S14 W48	06	3.7			DAO		7	10	3
9973		RAMY	06	07	1353	S17 W52	06	3.6		B	ESO	200	5	11	1
9973		HOLL	06	07	1408	S15 W51	06	3.7		B	DAO	300	10	6	2
9973		VORO	06	08	0412	S16 W60	06	3.6			DKI	499	5	6	3
9973		SVTO	06	08	0442	S15 W57	06	3.9		B	DAO	210	6	10	3

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(Ordered by Central Meridian Passage Date)

JUNE 2002

NOAA/ USAF Group	Mt Wilson Group	Sta	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
9973		RAMY	06	08	1300	S16	W64	06	3.7		B	DSO	230	3	7	3
9973		HOLL	06	08	1322	S15	W65	06	3.6		B	DAO	210	4	10	2
9973	31223	MWIL	06	08	1500	S16	W63	06	3.8	5	(BF)					
9973		VORO	06	09	0035	S14	W69	06	3.8			HAX	392	2		3
9973		SVTO	06	09	0616	S14	W69	06	4.0		A	HSX	100	1	3	2
9973		KAND	06	09	0635	S12	W72	06	3.8			CSO		2	3	5
9973		LEAR	06	09	0653	S15	W73	06	3.8		B	CSO	90	3	9	1
9973		HOLL	06	09	1322	S12	W77	06	3.7		A	HKX	120	1	1	4
9973	31223	MWIL	06	09	1500	S14	W76	06	3.9	4	(BP)					
9973		RAMY	06	09	1602	S14	W79	06	3.7		A	HSX	120	1	2	1
9973		LEAR	06	10	0020	S14	W81	06	3.9		A	HAX	120	1	2	2
9973A		KAND	06	06	0755	S19	W23	06	4.6			AX		1		4
9973A	31242	MWIL	06	06	1500	S20	W27	06	4.5	3	(AF)					
9973A	31241	MWIL	06	06	1500	S22	W33	06	4.1	3	(AF)					
9984		HOLL	06	03	1410	N19	E18	06	5.0		A	AXX	10	2	2	3
9984	31238	MWIL	06	03	1445	N20	E19	06	5.1	4	(AF)					
9984	31238	MWIL	06	04	1445	N20	E06	06	5.1	4	(AF)					
9984		LEAR	06	05	0045	N20	E00	06	5.0		A	HAX	10	2	1	2
9984		HOLL	06	05	1324	N20	W06	06	5.1		A	AXX	10	2	2	2
9984	31238	MWIL	06	05	1430	N21	W07	06	5.1	4	(AF)					
9984		KAND	06	06	0755	N20	W16	06	5.1			AX		2	1	4
9978		RAMY	05	31	1344	S20	E67	06	5.7		B	BXO	20	2	5	3
9978	31230	MWIL	05	31	1445	S20	E65	06	5.6	4	(AP)					
9978		LEAR	06	01	0050	S20	E58	06	5.5		B	CRO	40	3	2	2
9978		SVTO	06	01	0510	S20	E56	06	5.5		A	HSX	30	1	1	3
9978		TACH	06	01	0538	S19	E51	06	5.1			HSX	50	1	1	3
9978		KAND	06	01	1145	S21	E51	06	5.4			CSO		2	5	3
9978		RAMY	06	01	1322	S21	E52	06	5.5		B	DSO	40	3	3	4
9978		HOLL	06	01	1409	S19	E52	06	5.5		B	CSO	40	4	4	4
9978	31230	MWIL	06	01	1445	S19	E53	06	5.6	5	(B)					
9978		VORO	06	01	2122	S19	E49	06	5.6			CAI	100	11	3	3
9978		TACH	06	02	0548	S19	E40	06	5.3			DSO	123	4	4	2
9978		SVTO	06	02	0550	S19	E43	06	5.5		B	DSO	100	9	6	3
9978		KAND	06	02	0730	S21	E43	06	5.6			DAO		13	8	4
9978		RAMY	06	02	1403	S21	E38	06	5.5		B	DAO	190	6	4	2
9978		HOLL	06	02	1406	S18	E39	06	5.5		B	DAO	130	14	6	3
9978	31230	MWIL	06	02	1500	S20	E38	06	5.5	5	(B)					
9978		VORO	06	02	2131	S21	E36	06	5.6			DKI	705	11	4	3
9978		SVTO	06	03	0535	S20	E29	06	5.4		B	DAO	290	8	7	2
9978		TACH	06	03	0555	S20	E27	06	5.3			DAI	549	12	4	3
9978		RAMY	06	03	1335	S20	E26	06	5.5		B	DAI	230	13	5	2
9978		HOLL	06	03	1410	S19	E27	06	5.6		BG	DAI	230	22	7	3
9978	31230	MWIL	06	03	1445	S20	E25	06	5.5	5	(B)					
9978		VORO	06	04	0050	S21	E20	06	5.6			DKI	470	21	5	3
9978		LEAR	06	04	0115	S19	E18	06	5.4		B	DAO	230	8	6	1
9978		SVTO	06	04	0714	S20	E16	06	5.5		B	DAO	70	10	8	2
9978		KAND	06	04	0805	S21	E15	06	5.5			DAO		17	8	3
9978		HOLL	06	04	1327	S21	E12	06	5.5		B	DAI	310	18	8	3
9978		RAMY	06	04	1359	S20	E12	06	5.5		B	DAO	180	16	8	2
9978	31230	MWIL	06	04	1445	S20	E12	06	5.5	5	(B)					
9978		VORO	06	04	2141	S21	E08	06	5.5			DKI	830	31	5	3
9978		LEAR	06	05	0045	S20	E06	06	5.5		B	DAI	270	17	7	2
9978		TACH	06	05	0559	S18	E01	06	5.3			DAI	295	9	4	3
9978		HOLL	06	05	1324	S21	W02	06	5.4		B	DAI	240	16	8	2
9978		KAND	06	05	1350	S20	W02	06	5.4			DAO		17	8	3
9978	31230	MWIL	06	05	1430	S20	W01	06	5.5	5	(B)					
9978		TACH	06	06	0755	S16	W10	06	5.6			DSO	190	4	4	4
9978		KAND	06	06	0755	S20	W12	06	5.4			CAO		17	7	4
9978		SVTO	06	06	1004	S21	W13	06	5.4		B	DSO	220	9	8	2
9978		HOLL	06	06	1323	S21	W16	06	5.3		B	DAO	150	17	6	3
9978	31230	MWIL	06	06	1500	S20	W15	06	5.5	5	(B)					
9978		KAND	06	07	0830	S19	W25	06	5.4			CAO		14	6	3
9978		RAMY	06	07	1353	S22	W28	06	5.4		B	DSO	140	3	5	1
9978		HOLL	06	07	1408	S21	W28	06	5.4		B	CAO	140	11	5	2
9978		VORO	06	08	0412	S21	W36	06	5.4			DKI	275	5	5	3
9978		SVTO	06	08	0442	S21	W36	06	5.4		B	DSO	130	4	6	3

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

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NOAA/ USAF Group	Mt Wilson Group	Sta	Mo	Day	Observation Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
9978	31230	RAMY	06	08	1300	S22	W41	06	5.4		B	DSO	130	5	4	3
9978		HOLL	06	08	1322	S20	W42	06	5.3		B	CAO	80	9	7	2
9978		MWIL	06	08	1500	S21	W42	06	5.4	4	(BP)					
9978		VORO	06	09	0035	S22	W48	06	5.3			DKI	210	6	2	3
9978	31230	SVTO	06	09	0616	S22	W51	06	5.3		B	CSO	60	2	4	2
9978		KAND	06	09	0635	S20	W52	06	5.3			CSO		3	5	5
9978		LEAR	06	09	0653	S22	W51	06	5.4		B	DAO	100	3	6	1
9978		HOLL	06	09	1322	S21	W56	06	5.3		B	CAO	80	2	3	4
9978	31230	MWIL	06	09	1500	S23	W56	06	5.3	4	(AP)					
9978		RAMY	06	09	1602	S22	W59	06	5.1		B	CSO	60	2	2	1
9978		LEAR	06	10	0020	S22	W63	06	5.2		A	HAX	90	1	2	2
9978		TACH	06	10	0653	S22	W67	06	5.1			HSX	50	1	2	4
9978	31230	KAND	06	10	0845	S20	W62	06	5.6			HA		1	1	4
9978		RAMY	06	10	1420	S22	W71	06	5.1		B	CSO	100	3	3	3
9978		HOLL	06	10	1435	S21	W72	06	5.1		A	HAX	60	1	2	3
9978		MWIL	06	10	1500	S22	W69	06	5.3	4	(AP)					
9978	31230	LEAR	06	11	0025	S21	W75	06	5.3		A	HAX	90	1	2	2
9978		SVTO	06	11	0510	S22	W78	06	5.2		A	HSX	40	1	1	3
9978		TACH	06	11	0527	S22	W85	06	4.7			HSX	50	1	3	4
9978		KAND	06	11	0705	S21	W81	06	5.1			HA		1	2	4
9978	31230	RAMY	06	11	1218	S23	W81	06	5.3		A	HSX	30	1	3	4
9978		MWIL	06	11	1445	S22	W83	06	5.2	4	(AP)					
9978		TACH	06	29	0623	S15	E81	07	5.4			HSX	50	1	5	2
9989	31243	KAND	06	06	0755	S33	W11	06	5.4			AX		2	1	4
9989		HOLL	06	06	1323	S33	W13	06	5.5		B	BXO	20	8	4	3
9989		MWIL	06	06	1500	S34	W11	06	5.7	4	(BP)					
9989		KAND	06	07	0830	S33	W22	06	5.6			BXO		6	5	3
9989	31243	RAMY	06	07	1353	S35	W26	06	5.5		B	DSO	30	4	6	1
9989		HOLL	06	07	1408	S33	W26	06	5.5		B	CSO	30	5	4	2
9989		SVTO	06	08	0442	S35	W34	06	5.5		B	CRO	10	3	6	3
9989		RAMY	06	08	1300	S36	W38	06	5.5		A	AXX	10	1	1	3
9989	31254	HOLL	06	08	1322	S34	W40	06	5.4		A	AXX	10	1	1	2
9989		MWIL	06	08	1500	S36	W39	06	5.5	4	(AP)					
9989		MWIL	06	11	1445	S34	W73	06	5.8	4	(AP)					
9979	31231	RAMY	05	31	1344	S31	E82	06	7.0		B	CSO	30	6	4	3
9979		MWIL	05	31	1445	S30	E80	06	6.9	4	BG					
9979		LEAR	06	01	0050	S30	E75	06	6.9		B	DAO	80	5	7	2
9979		SVTO	06	01	0510	S30	E74	06	7.0		B	DAO	140	5	7	3
9979	31231	TACH	06	01	0538	S30	E71	06	6.8			DAO	116	6	7	3
9979		KAND	06	01	1145	S32	E70	06	7.0			CAO		7	7	3
9979		RAMY	06	01	1322	S31	E67	06	6.8		B	DAO	150	4	5	4
9979		HOLL	06	01	1409	S29	E69	06	7.0		B	DSO	130	12	8	4
9979	31231	MWIL	06	01	1445	S29	E68	06	6.9	4	(D)					
9979		VORO	06	01	2122	S29	E64	06	6.9			CAI	82	15	2	3
9979		TACH	06	02	0548	S27	E56	06	6.6			BRO	9	4	5	2
9979		SVTO	06	02	0550	S30	E59	06	6.9		B	DRO	60	10	5	3
9979	31231	KAND	06	02	0730	S31	E60	06	7.0			CAO		13	6	4
9979		RAMY	06	02	1403	S32	E55	06	6.9		B	DAO	80	5	8	2
9979		HOLL	06	02	1406	S28	E56	06	7.0		B	DSO	80	11	8	3
9979		MWIL	06	02	1500	S29	E54	06	6.8	4	(B)					
9979	31231	VORO	06	02	2131	S30	E51	06	6.9			CAI	156	11	6	3
9979		SVTO	06	03	0535	S28	E45	06	6.7		B	DRO	80	10	8	2
9979		TACH	06	03	0555	S29	E44	06	6.7			CAI	84	8	3	3
9979		RAMY	06	03	1335	S29	E42	06	6.8		B	DAI	60	11	5	2
9979	31231	HOLL	06	03	1410	S28	E42	06	6.9		B	DSO	50	7	5	3
9979		MWIL	06	03	1445	S29	E42	06	6.9	5	(BF)					
9979		VORO	06	04	0050	S30	E38	06	7.0			CAI	124	8	3	3
9979		LEAR	06	04	0115	S28	E35	06	6.8		B	DSO	30	8	3	1
9979	31231	SVTO	06	04	0714	S29	E33	06	6.9		B	CSO	40	6	5	2
9979		KAND	06	04	0805	S30	E31	06	6.8			CSO		8	4	3
9979		HOLL	06	04	1327	S30	E29	06	6.8		B	CSO	40	5	4	3
9979		RAMY	06	04	1359	S30	E29	06	6.9		B	DSO	30	7	3	2
9979	31231	MWIL	06	04	1445	S29	E30	06	7.0	5	(BF)					
9979		VORO	06	04	2141	S30	E26	06	6.9			CAI	58	8	2	3
9979		LEAR	06	05	0045	S29	E23	06	6.8		B	DSO	50	7	5	2
9979		TACH	06	05	0559	S27	E16	06	6.5			AXX	10	1	1	3
9979		HOLL	06	05	1324	S30	E16	06	6.8		B	CSO	20	7	4	2

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

JUNE 2002

NOAA/ USAF Group	Mt Wilson Group	Sta	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
9979	31231	KAND	06	05	1350	S30	E15	06	6.7			CSO		7	4	5
9979		MWIL	06	05	1430	S29	E16	06	6.8	4	(BF)					
9979		TACH	06	06	0755	S24	E06	06	6.8			AAO	4	3	1	4
9979		KAND	06	06	0755	S29	E05	06	6.7			BXO		5	2	4
9979		SVTO	06	06	1004	S29	E04	06	6.7		B	CSO	40	4	4	2
9979		HOLL	06	06	1323	S29	E03	06	6.8		B	CAO	30	9	7	3
9979	31231	MWIL	06	06	1500	S29	E03	06	6.9	4	(BF)					
9985A	31244	SVTO	06	06	1004	S14	E12	06	7.3		A	AXX		2		2
9985A		HOLL	06	06	1323	S14	E08	06	7.2		B	BXO	10	6	3	3
9985A		MWIL	06	06	1500	S14	E08	06	7.2	4	(B)					
9985	31239	VORO	06	04	0050	N18	E41	06	7.1			DSO	82	7	4	3
9985		LEAR	06	04	0115	N18	E39	06	7.0		B	DSO	20	4	4	1
9985		SVTO	06	04	0714	N18	E37	06	7.1		B	DAO	70	5	7	2
9985		KAND	06	04	0805	N17	E39	06	7.3			DAO		9	6	3
9985		HOLL	06	04	1327	N17	E35	06	7.2		B	DAO	110	17	8	3
9985		RAMY	06	04	1359	N17	E34	06	7.2		B	DAO	110	12	6	2
9985	31239	MWIL	06	04	1445	N19	E34	06	7.2	5	(BG)					
9985		VORO	06	04	2141	N18	E29	06	7.1			DSO	523	22	6	3
9985		LEAR	06	05	0045	N18	E28	06	7.2		B	DAI	190	13	8	2
9985		TACH	06	05	0559	N17	E20	06	6.8			DAO	189	6	6	3
9985		HOLL	06	05	1324	N17	E22	06	7.2		B	DAO	190	16	9	2
9985		KAND	06	05	1350	N18	E23	06	7.3			DAO		15	9	5
9985	31239	MWIL	06	05	1430	N19	E20	06	7.1	5	(B)					
9985		KAND	06	06	0755	N17	E12	06	7.2			DAO		14	9	4
9985		TACH	06	06	0755	N20	E08	06	6.9			DSO	190	2	2	4
9985		SVTO	06	06	1004	N18	E09	06	7.1		B	DAO	150	8	9	2
9985		HOLL	06	06	1323	N17	E07	06	7.1		B	DAO	190	15	9	3
9985		MWIL	06	06	1500	N19	E07	06	7.1	5	(B)					
9985	31239	KAND	06	07	0830	N19	W01	06	7.3			DAO		8	10	3
9985		RAMY	06	07	1353	N18	W06	06	7.1		B	DSO	190	15	10	1
9985		HOLL	06	07	1408	N18	W06	06	7.1		B	DAI	150	25	9	2
9985		VORO	06	08	0412	N18	W14	06	7.1			DSO	430	28	8	3
9985		SVTO	06	08	0442	N18	W14	06	7.1		B	EAO	230	7	11	3
9985		RAMY	06	08	1300	N18	W19	06	7.1		B	DAI	210	13	9	3
9985	31239	HOLL	06	08	1322	N18	W17	06	7.3		B	DAI	170	22	10	2
9985		MWIL	06	08	1500	N19	W19	06	7.2	5	(B)					
9985		VORO	06	09	0035	N18	W25	06	7.1			DSO	394	21	9	3
9985		SVTO	06	09	0616	N18	W28	06	7.1		B	DAO	190	8	10	2
9985		KAND	06	09	0635	N20	W27	06	7.2			DAO		7	10	5
9985		LEAR	06	09	0653	N18	W28	06	7.1		B	DAO	180	9	9	1
9985	31239	HOLL	06	09	1322	N19	W32	06	7.1		B	EAI	210	14	12	4
9985		MWIL	06	09	1500	N18	W33	06	7.1	5	(BP)					
9985		RAMY	06	09	1602	N18	W35	06	7.0		B	DAO	200	13	10	1
9985		LEAR	06	10	0020	N18	W38	06	7.1		B	DAO	200	10	10	2
9985		TACH	06	10	0653	N17	W40	06	7.2			DAO	441	3	8	4
9985		KAND	06	10	0845	N19	W41	06	7.2			DAO		5	9	4
9985	31239	RAMY	06	10	1420	N19	W46	06	7.1		B	DAO	180	9	10	3
9985		HOLL	06	10	1435	N19	W45	06	7.2		B	DSO	140	7	9	3
9985		MWIL	06	10	1500	N19	W49	06	6.9	5	(BP)					
9985		LEAR	06	11	0025	N19	W52	06	7.0		B	EAO	150	4	11	2
9985		SVTO	06	11	0510	N19	W59	06	6.7		A	HSX	20	1	3	3
9985		TACH	06	11	0527	N18	W58	06	6.8			HSX	150	1	2	4
9985	31239	KAND	06	11	0705	N21	W57	06	6.9			HA		1	2	4
9985		RAMY	06	11	1218	N18	W63	06	6.7		A	HSX	80	1	2	4
9985		HOLL	06	11	1412	N20	W62	06	6.8		A	HAX	190	1	2	4
9985		MWIL	06	11	1445	N20	W63	06	6.8	5	(AP)					
9985		LEAR	06	12	0040	N20	W67	06	6.9		A	HAX	150	1	2	2
9985		TACH	06	12	0659	N19	W67	06	7.2			HSX	55	1	2	3
9985	31239	SVTO	06	12	0750	N19	W73	06	6.7		A	HSX	180	1	4	3
9985		KAND	06	12	0825	N22	W73	06	6.7			HS		1	2	2
9985		RAMY	06	12	1230	N17	W78	06	6.6		A	HSX	90	1	3	4
9985		HOLL	06	12	1323	N20	W77	06	6.7		A	HSX	120	1	2	3
9985		MWIL	06	12	1430	N19	W76	06	6.8	5	(AP)					
9985		LEAR	06	13	0120	N19	W83	06	6.7		A	HSX	90	1	6	3
9985		SVTO	06	13	0545	N18	W85	06	6.8		A	HSX	30	1	3	3
9981		VORO	06	01	2122	S22	E88	06	8.6			AXX	28	1		3

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

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Jun 02

JUNE 2002

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time		Lat	CMD	CMP		Max	Mag	Spot	Corrected Area	Spot	Long. Extent	Qual
			Mo	Day	(UT)		Mo	Day	H	Class	Class	(10-6 Hemi)	Count	(Deg)	
9981		SVTO	06	02	0550	S22 E79	06	8.3		A	HSX	20	1	1	3
9981		KAND	06	02	0730	S23 E83	06	8.7			HS		1	2	4
9981		RAMY	06	02	1403	S24 E77	06	8.5		A	HAX	60	1	3	2
9981		HOLL	06	02	1406	S21 E74	06	8.3		A	HAX	60	1	1	3
9981	31235	MWIL	06	02	1500	S22 E76	06	8.5	4	(AP)					
9981		VORO	06	02	2131	S21 E71	06	8.3			HAX	148	1		3
9981		SVTO	06	03	0535	S22 E64	06	8.1		A	HSX	40	1	3	2
9981		TACH	06	03	0555	S21 E64	06	8.1			HSX	60	1	1	3
9981		RAMY	06	03	1335	S22 E63	06	8.4		A	HAX	50	1	2	2
9981		HOLL	06	03	1410	S21 E61	06	8.3		A	HAX	60	1	2	3
9981	31235	MWIL	06	03	1445	S21 E61	06	8.3	5	(AP)					
9981		VORO	06	04	0050	S21 E57	06	8.4			HAX	78	3		3
9981		LEAR	06	04	0115	S21 E53	06	8.1		A	HSX	40	1	1	1
9981		SVTO	06	04	0714	S21 E52	06	8.3		A	HSX	30	1	1	2
9981		KAND	06	04	0805	S23 E51	06	8.3			HA		2	2	3
9981		HOLL	06	04	1327	S22 E48	06	8.2		A	HAX	60	1	1	3
9981		RAMY	06	04	1359	S22 E48	06	8.3		A	HSX	30	1	1	2
9981	31235	MWIL	06	04	1445	S21 E48	06	8.3	4	(AP)					
9981		VORO	06	04	2141	S21 E44	06	8.3			HAX	219	1		3
9981		LEAR	06	05	0045	S21 E42	06	8.2		A	HSX	70	1	2	2
9981		TACH	06	05	0559	S19 E34	06	7.8			HXX	75	1	1	3
9981		HOLL	06	05	1324	S22 E35	06	8.2		A	HSX	80	1	2	2
9981		KAND	06	05	1350	S22 E34	06	8.2			HS		1	2	5
9981	31235	MWIL	06	05	1430	S21 E35	06	8.3	5	(AP)					
9981		TACH	06	06	0755	S16 E22	06	8.0			HSX	100	1	1	4
9981		KAND	06	06	0755	S22 E24	06	8.2			HS		1	2	4
9981		SVTO	06	06	1004	S21 E23	06	8.2		A	HSX	20	1	2	2
9981		HOLL	06	06	1323	S22 E22	06	8.2		A	HSX	60	1	1	3
9981	31235	MWIL	06	06	1500	S21 E21	06	8.2	5	(AP)					
9981		KAND	06	07	0830	S21 E11	06	8.2			HS		1	1	3
9981		RAMY	06	07	1353	S21 E08	06	8.2		A	HSX	10	1	1	1
9981		HOLL	06	07	1408	S22 E08	06	8.2		A	HSX	40	1	1	2
9981		VORO	06	08	0412	S21 E00	06	8.2			HAX	49	1		3
9981		SVTO	06	08	0442	S21 E00	06	8.2		A	HSX	40	1	1	3
9981		RAMY	06	08	1300	S21 W05	06	8.1		A	HSX	20	1	1	3
9981		HOLL	06	08	1322	S21 W06	06	8.1		A	HSX	20	2	1	2
9981	31235	MWIL	06	08	1500	S21 W06	06	8.2	4	(AP)					
9981		VORO	06	09	0035	S20 W11	06	8.2			AXX	19	2		3
9981		SVTO	06	09	0616	S21 W14	06	8.2		A	HSX	20	1	1	2
9981		KAND	06	09	0635	S20 W14	06	8.2			HS		1	1	5
9981		LEAR	06	09	0653	S21 W15	06	8.1		B	DAO	20	2	1	1
9981		HOLL	06	09	1322	S20 W19	06	8.1		A	HRX	10	1	1	4
9981	31235	MWIL	06	09	1500	S21 W19	06	8.2	4	(AP)					
9981		RAMY	06	09	1602	S20 W20	06	8.1		B	CSO	10	2	1	1
9981		LEAR	06	10	0020	S21 W25	06	8.1		A	HSX	10	1	1	2
9981		KAND	06	10	0845	S19 W29	06	8.1			AX		1		4
9981		RAMY	06	10	1420	S20 W32	06	8.1		A	HSX	10	1	1	3
9981	31235	MWIL	06	10	1500	S20 W33	06	8.1	4	(AP)					
9981		LEAR	06	11	0025	S20 W40	06	7.9		A	AXX	10	1	1	2
9983		RAMY	06	02	1403	N23 E76	06	8.4		A	AXX	10	1	1	2
9983		HOLL	06	02	1406	N24 E78	06	8.6		B	CAO	70	2	8	3
9983	31236	MWIL	06	02	1500	N24 E73	06	8.3	3	(AF)					
9983		VORO	06	02	2131	N24 E70	06	8.3			HAX	54	1		3
9983		SVTO	06	03	0535	N24 E62	06	8.0		A	HSX	10	1	1	2
9983		TACH	06	03	0555	N23 E61	06	7.9			HSX	30	1	1	3
9983		RAMY	06	03	1335	N24 E62	06	8.3		A	HRX	10	1	1	2
9983		HOLL	06	03	1410	N24 E62	06	8.4		A	AXX	10	1	1	3
9983	31236	MWIL	06	03	1445	N24 E59	06	8.2	4	(AF)					
9983		VORO	06	04	0050	N24 E55	06	8.3			HAX	29	1		3
9983		LEAR	06	04	0115	N24 E52	06	8.1		A	HSX	10	2	1	1
9983		SVTO	06	04	0714	N24 E51	06	8.2		A	HSX	30	1	1	2
9983		KAND	06	04	0805	N22 E51	06	8.2			HS		1	1	3
9983		HOLL	06	04	1327	N23 E49	06	8.3		A	HSX	30	1	1	3
9983		RAMY	06	04	1359	N23 E49	06	8.3		A	HSX	30	2	1	2
9983	31236	MWIL	06	04	1445	N25 E47	06	8.2	4	(AF)					
9983		VORO	06	04	2141	N24 E43	06	8.2			HAX	35	1		3
9983		LEAR	06	05	0045	N24 E41	06	8.2		A	HSX	30	1	1	2
9983		TACH	06	05	0559	N23 E34	06	7.9			ASX	50	1	1	3

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat	CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
9983		HOLL	06 05 1324	N23	E35	06 8.2		A	HSX	30	1	1	2
9983		KAND	06 05 1350	N23	E37	06 8.4			HS		1	2	5
9983	31236	MWIL	06 05 1430	N25	E34	06 8.2	5	(AF)					
9983		KAND	06 06 0755	N22	E26	06 8.3			HS		1	1	4
9983		TACH	06 06 0755	N26	E21	06 8.0			HSX	30	1	1	4
9983		SVTO	06 06 1004	N24	E23	06 8.2		A	HSX	10	1	1	2
9983		HOLL	06 06 1323	N24	E22	06 8.2		A	HSX	20	1	1	3
9983	31236	MWIL	06 06 1500	N25	E20	06 8.2	4	(AF)					
9983		KAND	06 07 0830	N24	E13	06 8.3			HR		1	1	3
9983		RAMY	06 07 1353	N25	E09	06 8.3		B	CSO	10	2	3	1
9983		HOLL	06 07 1408	N24	E08	06 8.2		A	AXX	10	1	1	2
9983		VORO	06 08 0412	N26	W00	06 8.2			AXX	8	1		3
9983		SVTO	06 08 0442	N25	E00	06 8.2		A	AXX		1		3
9983		RAMY	06 08 1300	N25	W05	06 8.1		A	AXX	10	1	1	3
9983		HOLL	06 08 1322	N25	W04	06 8.2		A	AXX	10	1	1	2
9983	31236	MWIL	06 08 1500	N24	W05	06 8.2	3	(AP)					
9993		KAND	06 09 0635	N06	W11	06 8.4			BXO		2	3	5
9993		LEAR	06 09 0653	N07	W12	06 8.4		B	CAO	30	2	3	1
9993		HOLL	06 09 1322	N07	W15	06 8.4		B	CSO	20	2	3	4
9993	31251	MWIL	06 09 1500	N06	W16	06 8.4	4	(B)					
9993		RAMY	06 09 1602	N06	W16	06 8.5		B	CSO	20	3	3	1
9993		LEAR	06 10 0020	N07	W22	06 8.4		B	CAO	30	3	3	2
9993		TACH	06 10 0653	N05	W25	06 8.4			HSX	45	1	1	4
9993		KAND	06 10 0845	N07	W26	06 8.4			CSO		2	2	4
9993		RAMY	06 10 1420	N05	W29	06 8.4		B	CSO	20	3	2	3
9993		HOLL	06 10 1435	N07	W29	06 8.4		B	CSO	50	2	3	3
9993	31251	MWIL	06 10 1500	N07	W30	06 8.4	4	(B)					
9993		LEAR	06 11 0025	N07	W36	06 8.3		A	HSX	20	1	1	2
9993		SVTO	06 11 0510	N06	W38	06 8.4		A	HSX	20	1	1	3
9993		TACH	06 11 0527	N05	W38	06 8.4			AXX	15	1	1	3
9993		KAND	06 11 0705	N06	W38	06 8.4			HS		1	1	4
9993		RAMY	06 11 1218	N04	W43	06 8.3		A	HSX	10	1	1	4
9993		HOLL	06 11 1412	N06	W43	06 8.4		A	AXX	10	1		4
9993	31251	MWIL	06 11 1445	N05	W44	06 8.3	4	(AF)					
9993		LEAR	06 12 0040	N06	W48	06 8.4		A	HSX	20	1	1	2
9993		TACH	06 12 0659	N06	W50	06 8.5			AXX	3	1	1	3
9993		SVTO	06 12 0750	N06	W54	06 8.3		A	HRX	10	1	1	3
9993		KAND	06 12 0825	N08	W53	06 8.4			AX		1	1	2
9993		RAMY	06 12 1230	N04	W56	06 8.3		A	HSX	20	1		4
9993		HOLL	06 12 1323	N06	W57	06 8.3		A	AXX	20	1	1	3
9993	31251	MWIL	06 12 1430	N05	W57	06 8.3	5	(AF)					
9993		LEAR	06 13 0120	N06	W65	06 8.2		A	AXX	10	1		3
9993		SVTO	06 13 0545	N06	W65	06 8.4		A	HRX	10	1	1	3
9993		TACH	06 13 0550	N06	W66	06 8.3			HSX	25	1	1	3
9993		KAND	06 13 0605	N08	W69	06 8.1			AX		2	2	5
9993		RAMY	06 13 1220	N05	W69	06 8.3		A	AXX	20	3	1	3
9993		HOLL	06 13 1305	N07	W70	06 8.3		A	HRX	10	1	1	3
9993	31251	MWIL	06 13 1445	N05	W71	06 8.3	4	(AF)					
9987A		TACH	06 02 0548	S22	E83	06 8.6			AXX	5	1	1	2
9982		RAMY	06 02 1403	S05	E80	06 8.6		A	AXX	10	1		2
9982		HOLL	06 02 1406	S02	E79	06 8.5		A	AXX	10	1	1	3
9982	31237	MWIL	06 02 1500	S03	E80	06 8.6	3	(AP)					
9982		VORO	06 02 2131	S03	E77	06 8.6			HAX	68	1		3
9982		SVTO	06 03 0535	S03	E70	06 8.5		A	HSX	10	1	1	2
9982		TACH	06 03 0555	S03	E68	06 8.3			HSX	25	1	1	3
9982		RAMY	06 03 1335	S07	E68	06 8.6		A	HRX	20	1	1	2
9982		HOLL	06 03 1410	S02	E67	06 8.6		A	AXX	20	1	1	3
9982		VORO	06 04 0050	S03	E62	06 8.7			AXX	18	1		3
9982		LEAR	06 04 0115	S03	E59	06 8.5		A	AXX		1		1
9982		SVTO	06 04 0714	S03	E57	06 8.6		B	CRO	40	2	2	2
9982		KAND	06 04 0805	S05	E58	06 8.7			BXO		2	1	3
9982		HOLL	06 04 1327	S04	E55	06 8.7		A	AXX	10	1	1	3
9982		RAMY	06 04 1359	S04	E53	06 8.5		B	BXO	20	3	3	2
9982	31237	MWIL	06 04 1445	S02	E52	06 8.5	4	(AP)					
9982		VORO	06 04 2141	S03	E50	06 8.6			HAX	39	2		3
9982		LEAR	06 05 0045	S03	E48	06 8.6		B	CSO	20	3	5	2

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
9982		TACH	06 05 0559	S02 E40	06 8.2			AXX	15	1	2	3
9982		HOLL	06 05 1324	S04 E42	06 8.7		B	CSO	20	2	3	2
9982		KAND	06 05 1350	S04 E41	06 8.6			CSO		4	4	5
9982	31237	MWIL	06 05 1430	S02 E41	06 8.7	4	(AP)					
9982		KAND	06 06 0755	S04 E30	06 8.6			BXO		4	5	4
9982		SVTO	06 06 1004	S05 E28	06 8.5		B	BXO	20	7	9	2
9982		HOLL	06 06 1323	S04 E26	06 8.5		B	BXO	10	6	6	3
9982	31237	MWIL	06 06 1500	S02 E28	06 8.7	3	(AP)					
9982		LEAR	06 10 0020	S04 W18	06 8.7		B	CSO	20	3	2	2
9982		KAND	06 10 0845	S03 W21	06 8.8			AX		1		4
9987		KAND	06 06 0755	S17 E33	06 8.8			BXO		11	5	4
9987		SVTO	06 06 1004	S15 E31	06 8.8		B	BXO	10	5	4	2
9987		HOLL	06 06 1323	S16 E29	06 8.7		B	BXO	30	14	6	3
9987	31245	MWIL	06 06 1500	S15 E29	06 8.8	4	(BP)					
9987		KAND	06 07 0830	S16 E20	06 8.9			BXO		18	8	3
9987		RAMY	06 07 1353	S15 E16	06 8.8		B	DSO	70	15	8	1
9987		HOLL	06 07 1408	S16 E16	06 8.8		B	CSO	20	21	7	2
9987		VORO	06 08 0412	S15 E09	06 8.8			DSO	407	31	9	3
9987		SVTO	06 08 0442	S15 E07	06 8.7		B	DAO	200	14	9	3
9987		RAMY	06 08 1300	S16 E04	06 8.8		B	EKI	230	28	11	3
9987		HOLL	06 08 1322	S15 E03	06 8.8		B	ESI	200	38	12	2
9987	31245	MWIL	06 08 1500	S16 E02	06 8.8	5	(BG)					
9987		VORO	06 09 0035	S15 W03	06 8.8			DSO	506	26	11	3
9987		SVTO	06 09 0616	S15 W07	06 8.7		B	EAI	230	24	12	2
9987		KAND	06 09 0635	S14 W07	06 8.7			EAI		25	12	5
9987		LEAR	06 09 0653	S15 W07	06 8.7		B	EAO	290	26	12	1
9987		HOLL	06 09 1322	S15 W11	06 8.7		BG	FKC	230	41	16	4
9987	31245	MWIL	06 09 1500	S15 W12	06 8.7	6	(B)					
9987		RAMY	06 09 1602	S15 W12	06 8.7		BG	EAI	230	27	13	1
9987		LEAR	06 10 0020	S15 W17	06 8.7		B	EKI	400	31	14	2
9987		TACH	06 10 0653	S13 W25	06 8.4			CAI	486	11	8	4
9987		KAND	06 10 0845	S14 W21	06 8.8			EKO		25	14	4
9987		RAMY	06 10 1420	S15 W25	06 8.7		B	EKI	360	31	14	3
9987		HOLL	06 10 1435	S15 W25	06 8.7		BG	EKC	320	20	14	3
9987	31245	MWIL	06 10 1500	S15 W26	06 8.6	6	(BG)					
9987		LEAR	06 11 0025	S15 W31	06 8.7		BG	EKI	400	30	14	2
9987		SVTO	06 11 0510	S15 W34	06 8.6		BG	EKO	460	19	12	3
9987		TACH	06 11 0527	S12 W31	06 8.9			DAI	680	10	11	4
9987		KAND	06 11 0705	S14 W35	06 8.6			EAI		15	14	4
9987		RAMY	06 11 1218	S16 W37	06 8.7		B	EKI	520	16	14	4
9987		HOLL	06 11 1412	S15 W38	06 8.7		BG	EKC	300	19	14	4
9987	31245	MWIL	06 11 1445	S15 W40	06 8.6	6	(BG)					
9987		LEAR	06 12 0040	S15 W45	06 8.6		BG	EKI	390	17	11	2
9987		TACH	06 12 0659	S13 W47	06 8.7			DSO	367	4	8	3
9987		SVTO	06 12 0750	S15 W50	06 8.5		BG	EKO	350	18	11	3
9987		KAND	06 12 0825	S13 W50	06 8.6			DAO		7	10	2
9987		RAMY	06 12 1230	S16 W52	06 8.6		B	EKO	370	11	11	4
9987		HOLL	06 12 1323	S14 W53	06 8.5		BG	EHO	390	21	12	3
9987	31245	MWIL	06 12 1430	S15 W54	06 8.5	6	(BP)					
9987		LEAR	06 13 0120	S14 W59	06 8.6		BG	EHO	400	18	11	3
9987		SVTO	06 13 0545	S15 W59	06 8.8		BG	EKO	340	18	15	3
9987		TACH	06 13 0550	S14 W61	06 8.6			DSO	361	3	9	3
9987		KAND	06 13 0605	S12 W64	06 8.4			EHO		4	14	5
9987		RAMY	06 13 1220	S17 W66	06 8.5		B	EHO	390	4	11	3
9987		HOLL	06 13 1305	S14 W66	06 8.5		B	DHO	210	7	10	3
9987	31245	MWIL	06 13 1445	S15 W67	06 8.5	5	(BP)					
9987		SVTO	06 14 0445	S15 W76	06 8.4		B	CSO	150	3	4	3
9987		TACH	06 14 0634	S13 W79	06 8.3			HSX	270	1	5	5
9987		KAND	06 14 0640	S13 W76	06 8.5			CHO		3	11	3
9987		RAMY	06 14 1125	S17 W80	06 8.4		A	HHX	120	1	3	3
9987	31245	MWIL	06 14 1430	S15 W82	06 8.4	5	(AP)					
9987		HOLL	06 14 1628	S14 W82	06 8.5		A	HAX	90	1	2	2
9990		KAND	06 06 0755	S24 E41	06 9.5			AX		1		4
9990		KAND	06 07 0830	S24 E27	06 9.4			BXO		2	2	3
9990		RAMY	06 07 1353	S23 E23	06 9.3		B	BXO	10	3	3	1
9990		HOLL	06 07 1408	S23 E24	06 9.4		B	BXO	10	3	3	2
9990		VORO	06 08 0412	S23 E16	06 9.4			AXX	41	6		3

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
9990	31247	SVTO	06 08 0442	S23 E16	06 9.4		B	BXO	20	5	4	3
9990		RAMY	06 08 1300	S23 E12	06 9.5		B	CSO	10	3	3	3
9990		HOLL	06 08 1322	S23 E10	06 9.3		B	BXO	20	3	5	2
9990		MWIL	06 08 1500	S23 E09	06 9.3	4	(AP)					
9990		VORO	06 09 0035	S23 E04	06 9.3			AXX	13	2		3
9990		KAND	06 09 0635	S23 E02	06 9.4			BXO		2	5	5
9990		LEAR	06 09 0653	S23 E05	06 9.7		B	BXO	20	3	5	1
9990		HOLL	06 09 1322	S23 E01	06 9.6		A	AXX	10	1	1	4
9990		RAMY	06 09 1602	S22 E02	06 9.8		B	BXO	10	2	2	1
9990		LEAR	06 10 0020	S23 W08	06 9.4		A	AXX	10	1	1	2
9990		RAMY	06 10 1420	S24 W09	06 9.9		A	AXX	10	1	1	3
9999	31258	SVTO	06 13 0545	S05 W36	06 10.5		B	CRO	20	3	5	3
9999		SVTO	06 14 0445	S05 W50	06 10.4		B	CAO	50	5	4	3
9999		TACH	06 14 0634	S04 W50	06 10.5			BXO	7	2	5	5
9999		KAND	06 14 0640	S03 W51	06 10.5			CAO		8	4	3
9999		MWIL	06 14 1430	S05 W56	06 10.4	5	(B)					
9999		HOLL	06 14 1628	S04 W59	06 10.3		A	AXX	10	1		2
9999		LEAR	06 15 0132	S04 W63	06 10.3		B	CSO	40	4	6	3
9999		SVTO	06 15 0633	S05 W67	06 10.3		A	AXX		1		3
9999		KAND	06 15 0835	S03 W68	06 10.3			AX		1	1	3
9999		RAMY	06 15 1242	S07 W70	06 10.3		A	HSX	10	1	1	3
9999	31258	HOLL	06 15 1348	S04 W71	06 10.3		A	AXX	10	1	1	2
9999		MWIL	06 15 1430	S06 W72	06 10.2	4	(AP)					
9999		VORO	06 16 0017	S04 W67	06 11.0			HRX	45	1		3
9999		LEAR	06 16 0033	S04 W71	06 10.7		A	HSX	40	1	1	1
9999		SVTO	06 16 0444	S04 W74	06 10.7		A	AXX		1		3
9999		KAND	06 16 0530	S01 W78	06 10.4			AX		1		4
9999		RAMY	06 16 1155	S05 W79	06 10.6		A	AXX		1		5
9986	31240	VORO	06 04 0050	N04 E81	06 10.1			HAX	138	1		3
9986		KAND	06 04 0805	N02 E83	06 10.5			HA		1	2	3
9986		HOLL	06 04 1327	N03 E77	06 10.3		A	HAX	60	1	1	3
9986		RAMY	06 04 1359	N03 E78	06 10.4		A	HSX	60	1	1	2
9986		MWIL	06 04 1445	N05 E75	06 10.2	4	(AP)					
9986		LEAR	06 05 0045	N04 E69	06 10.2		A	HAX	50	1	1	2
9986		TACH	06 05 0559	N05 E64	06 10.0			HSX	60	1	2	3
9986		HOLL	06 05 1324	N03 E63	06 10.3		A	HSX	40	1	1	2
9986		KAND	06 05 1350	N02 E63	06 10.3			HS		1	2	5
9986		MWIL	06 05 1430	N05 E62	06 10.2	4	(AP)					
9986	31240	KAND	06 06 0755	N02 E53	06 10.3			HA		2	1	4
9986		KAND	06 06 0755	N07 E45	06 9.7			BXO		2	2	4
9986		TACH	06 06 0755	N08 E51	06 10.1			HSX	2 60	1		4
9986		SVTO	06 06 1004	N04 E51	06 10.2		A	HSX	30	1	1	2
9986		HOLL	06 06 1323	N03 E48	06 10.1		A	HAX	60	2	1	3
9986		HOLL	06 06 1323	N07 E42	06 9.7		A	AXX	10	3	2	3
9986		MWIL	06 06 1500	N04 E48	06 10.2	4	(AP)					
9986		MWIL	06 06 1500	N09 E41	06 9.7	4	(B)					
9986		KAND	06 07 0830	N02 E39	06 10.3			HA		2	1	3
9986		RAMY	06 07 1353	N04 E36	06 10.3		A	HSX	20	2	1	1
9986	31240	HOLL	06 07 1408	N03 E36	06 10.3		A	HSX	20	1	1	2
9986		VORO	06 08 0412	N04 E29	06 10.3			AXX	19	2		3
9986		SVTO	06 08 0442	N03 E28	06 10.3		B	CAO	20	4	3	3
9986		RAMY	06 08 1300	N04 E23	06 10.3		B	CSO	10	2	1	3
9986		HOLL	06 08 1322	N03 E24	06 10.3		B	CSO	20	2	3	2
9986		MWIL	06 08 1500	N04 E23	06 10.3	4	(AP)					
9986		VORO	06 09 0035	N05 E18	06 10.4			AXX	24	2	2	3
9986		KAND	06 09 0635	N03 E14	06 10.3			AX		2	1	5
9986		KAND	06 09 0635	N05 E22	06 10.9			AX		1		5
9986		LEAR	06 09 0653	N04 E17	06 10.5		B	CRO	20	3	8	1
9986	31240	HOLL	06 09 1322	N04 E18	06 10.9		B	CSO	20	3	4	4
9986		RAMY	06 09 1602	N04 E17	06 10.9		B	CSO	20	5	4	1
9986		RAMY	06 10 1420	N10 E04	06 10.9		B	CSO	20	4	3	3
9995	31253	HOLL	06 10 1435	N10 E04	06 10.9		B	BXO	20	2	3	3
9995		MWIL	06 10 1500	N11 E03	06 10.8	4	(B)					
9995		LEAR	06 11 0025	N11 W02	06 10.9		B	BXO	10	3	3	2
9995		LEAR	06 12 0040	N11 W15	06 10.9		B	CSO	10	5	3	2
9995		SVTO	06 12 0750	N11 W19	06 10.9		B	CRO	10	7	3	3

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
9995		KAND	06 12 0825	N12 W19	06 10.9			BXO		4	2	2
9995		RAMY	06 12 1230	N11 W23	06 10.8		B	BXO	10	3	3	4
9995		HOLL	06 12 1323	N12 W23	06 10.8		B	BXO	10	4	3	3
9995	31256	MWIL	06 12 1430	N11 W23	06 10.9	4	(B)					
9995		LEAR	06 13 0120	N11 W29	06 10.9		B	BXO	20	4	3	3
9995		SVTO	06 13 0545	N12 W32	06 10.8		A	AXX	10	1	1	3
9986A	31248	MWIL	06 08 1500	N05 E32	06 11.0	4	(B)					
9998A		TACH	06 17 0545	S19 W79	06 11.2			AXX	10	1	1	5
9991		KAND	06 07 0830	S23 E83	06 13.7			HK		1	2	3
9991		RAMY	06 07 1353	S21 E77	06 13.5		A	HKX	240	1	3	1
9991		HOLL	06 07 1408	S22 E74	06 13.3		A	HKX	300	1	3	2
9991		VORO	06 08 0412	S20 E67	06 13.3			HKX	726	1		3
9991		SVTO	06 08 0442	S21 E66	06 13.2		A	HSX	240	1	4	3
9991		RAMY	06 08 1300	S21 E63	06 13.4		A	HHX	220	1	3	3
9991		HOLL	06 08 1322	S22 E62	06 13.3		A	HKX	320	1	3	2
9991	31249	MWIL	06 08 1500	S21 E60	06 13.2	5	(AP)					
9991		VORO	06 09 0035	S20 E56	06 13.3			HKX	611	1		3
9991		SVTO	06 09 0616	S21 E53	06 13.3		A	HHX	300	1	5	2
9991		KAND	06 09 0635	S22 E53	06 13.3			HK		1	4	5
9991		LEAR	06 09 0653	S21 E52	06 13.3		A	HKX	340	1	3	1
9991		HOLL	06 09 1322	S22 E48	06 13.2		A	HKX	240	1	2	4
9991	31249	MWIL	06 09 1500	S20 E49	06 13.4	6	(AP)					
9991		RAMY	06 09 1602	S21 E48	06 13.3		A	HKX	230	1	3	1
9991		LEAR	06 10 0020	S21 E44	06 13.4		A	HKX	290	2	4	2
9991		TACH	06 10 0653	S19 E35	06 12.9			AXX	3	1	1	4
9991		KAND	06 10 0845	S22 E39	06 13.4			HH		1	3	4
9991		RAMY	06 10 1420	S21 E36	06 13.3		A	HHX	260	1	4	3
9991		HOLL	06 10 1435	S22 E34	06 13.2		A	HHX	260	1	3	3
9991	31249	MWIL	06 10 1500	S20 E36	06 13.4	5	(AP)					
9991		LEAR	06 11 0025	S21 E29	06 13.2		B	CKO	300	5	4	2
9991		SVTO	06 11 0510	S22 E27	06 13.3		B	DHO	300	8	5	3
9991		TACH	06 11 0527	S18 E24	06 13.0			DAO	630	3	1	3
9991		KAND	06 11 0705	S22 E26	06 13.3			CHO		6	3	4
9991		RAMY	06 11 1218	S23 E23	06 13.3		B	DAO	340	6	4	4
9991		HOLL	06 11 1412	S23 E22	06 13.3		B	CKO	230	5	6	4
9991	31249	MWIL	06 11 1445	S20 E22	06 13.3	6	(BG)					
9991		LEAR	06 12 0040	S21 E17	06 13.3		BG	DHO	340	10	7	2
9991		TACH	06 12 0659	S18 E11	06 13.1			CSI	425	4	6	3
9991		SVTO	06 12 0750	S21 E13	06 13.3		B	DHO	300	8	7	3
9991		KAND	06 12 0825	S21 E13	06 13.3			CHO		5	5	2
9991		RAMY	06 12 1230	S20 E10	06 13.3		B	DKO	350	11	5	4
9991		HOLL	06 12 1323	S22 E09	06 13.2		B	CHO	350	11	6	3
9991	31249	MWIL	06 12 1430	S20 E10	06 13.4	5	(BG)					
9991		LEAR	06 13 0120	S21 E03	06 13.3		B	DHO	320	8	6	3
9991		SVTO	06 13 0545	S20 E02	06 13.4		B	DHO	320	9	9	3
9991		TACH	06 13 0550	S18 W01	06 13.2			CAO	607	4	2	3
9991		KAND	06 13 0605	S20 E01	06 13.3			CHO		4	5	5
9991		RAMY	06 13 1220	S20 W02	06 13.4		B	CKO	340	6	6	3
9991		HOLL	06 13 1305	S21 W04	06 13.2		B	CHO	260	3	5	3
9991	31249	MWIL	06 13 1445	S20 W03	06 13.4	6	(BG)					
9991		SVTO	06 14 0445	S21 W12	06 13.3		B	CKO	330	3	5	3
9991		TACH	06 14 0634	S17 W14	06 13.2			HHX	510	1	2	5
9991		KAND	06 14 0640	S20 W13	06 13.3			HK		2	3	3
9991		RAMY	06 14 1125	S20 W13	06 13.5		B	CKO	370	4	6	3
9991	31249	MWIL	06 14 1430	S21 W16	06 13.4	6	(AP)					
9991		HOLL	06 14 1628	S21 W17	06 13.4		A	HKX	330	1	3	2
9991		LEAR	06 15 0132	S21 W23	06 13.3		A	HKX	270	1	3	3
9991		SVTO	06 15 0633	S21 W25	06 13.3		A	HHX	250	1	4	3
9991		KAND	06 15 0835	S20 W27	06 13.3			CHO		2	4	3
9991		RAMY	06 15 1242	S22 W27	06 13.4		B	CKO	320	2	5	3
9991		HOLL	06 15 1348	S21 W29	06 13.3		A	HHX	360	2	3	2
9991	31249	MWIL	06 15 1430	S21 W29	06 13.4	6	(BG)					
9991		VORO	06 16 0017	S22 W35	06 13.3			HSX	383	1		3
9991		LEAR	06 16 0033	S21 W34	06 13.4		A	HKX	260	1	3	1
9991		SVTO	06 16 0444	S21 W37	06 13.4		A	HHX	330	1	5	3
9991		KAND	06 16 0530	S20 W38	06 13.3			HK		1	3	4

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
9991	31249	RAMY	06 16 1155	S22 W41	06 13.3		B	CKO	270	4	4	5
9991		HOLL	06 16 1408	S20 W42	06 13.4		A	HHX	210	3	5	3
9991		MWIL	06 16 1430	S21 W42	06 13.4	5	(BG)					
9991		VORO	06 16 2253	S22 W48	06 13.3			HKX	397	5	2	3
9991		LEAR	06 17 0040	S21 W48	06 13.3		A	HKX	300	2	4	3
9991		SVTO	06 17 0455	S22 W49	06 13.4		B	CHO	30	2	4	3
9991		TACH	06 17 0545	S19 W49	06 13.5			HHX	303	2	3	5
9991		KAND	06 17 1125	S20 W54	06 13.3			CHO		2	5	5
9991		RAMY	06 17 1250	S23 W56	06 13.2		B	DKO	420	2	5	2
9991		HOLL	06 17 1307	S21 W56	06 13.2		B	CKO	290	2	3	3
9991	31249	MWIL	06 17 1430	S22 W55	06 13.4	5	(BF)					
9991		VORO	06 17 2221	S19 W54	06 13.8			CAO	364	3	9	2
9991		LEAR	06 18 0010	S21 W60	06 13.4		A	HKX	300	1	4	4
9991		SVTO	06 18 0645	S20 W60	06 13.7		B	DSO	200	6	9	3
9991		TACH	06 18 0755	S18 W62	06 13.6			CSO	203	3	8	4
9991		KAND	06 18 0900	S19 W64	06 13.5			CHO		5	12	3
9991		HOLL	06 18 1310	S22 W68	06 13.3		A	HHX	160	1	2	3
9991		RAMY	06 18 1330	S23 W68	06 13.3		A	HHX	240	1	3	2
9991		MWIL	06 18 1445	S19 W61	06 13.9	4	(B)					
9991		MWIL	06 18 1445	S22 W68	06 13.4	5	(AP)					
9991	31266	LEAR	06 19 0050	S21 W73	06 13.4		A	HKX	180	1	3	3
9991		SVTO	06 19 0445	S20 W76	06 13.4		B	CHO	300	3	9	3
9991		TACH	06 19 0559	S21 W75	06 13.5			HSX	100	1	3	3
9991		KAND	06 19 0745	S19 W78	06 13.4			HS		1	4	4
9991		RAMY	06 19 1159	S24 W80	06 13.3		A	HSX	150	1	3	3
9991		HOLL	06 19 1310	S21 W78	06 13.6		B	CHO	240	5	7	3
9991		MWIL	06 19 1445	S18 W76	06 13.8	4	(B)					
9991		MWIL	06 19 1445	S21 W80	06 13.5	5	(AP)					
9995A		TACH	06 17 0545	S07 W54	06 13.2			HSX	30	1	1	4
9992	31250	RAMY	06 08 1300	S19 E80	06 14.6		A	AXX	10	1	1	3
9992		HOLL	06 08 1322	S21 E79	06 14.6		A	AXX	20	1	1	2
9992		MWIL	06 08 1500	S18 E80	06 14.7	3	(BF)					
9992		VORO	06 09 0035	S19 E73	06 14.6			HSX	32	1		3
9992		SVTO	06 09 0616	S19 E69	06 14.5		A	AXX		1		2
9992		KAND	06 09 0635	S21 E74	06 14.9			AX		2	6	5
9992		LEAR	06 09 0653	S19 E72	06 14.8		B	DAO	60	3	3	1
9992		HOLL	06 09 1322	S21 E67	06 14.7		A	AXX	10	1	1	4
9992		MWIL	06 09 1500	S18 E66	06 14.6	3	(AP)					
9992		RAMY	06 09 1602	S20 E65	06 14.6		B	CSO	20	2	2	1
9992	31250	LEAR	06 10 0020	S20 E62	06 14.7		B	CSO	30	3	5	2
9992		TACH	06 10 0653	S18 E54	06 14.4			ARX	26	2	2	4
9992		KAND	06 10 0845	S21 E58	06 14.8			HS		5	4	4
9992		RAMY	06 10 1420	S19 E54	06 14.7		B	DAO	60	6	4	3
9992		HOLL	06 10 1435	S20 E54	06 14.7		B	CSO	40	5	5	3
9992		MWIL	06 10 1500	S18 E54	06 14.7	5	(BP)					
9992		LEAR	06 11 0025	S19 E47	06 14.6		B	CAO	50	4	3	2
9992		SVTO	06 11 0510	S19 E45	06 14.6		B	CRO	30	8	4	3
9992		TACH	06 11 0525	S15 E42	06 14.4			ARX	13	4	1	3
9992		KAND	06 11 0705	S21 E45	06 14.7			HS		5	4	4
9992	31250	RAMY	06 11 1218	S19 E42	06 14.7		B	DSO	40	7	3	4
9992		HOLL	06 11 1412	S21 E41	06 14.7		B	CSO	30	6	3	4
9992		MWIL	06 11 1445	S18 E40	06 14.7	5	(BP)					
9992		LEAR	06 12 0040	S19 E34	06 14.6		B	DSO	40	6	3	2
9992		TACH	06 12 0659	S16 E27	06 14.3			ARX	35	2	2	3
9992		SVTO	06 12 0750	S19 E31	06 14.7		B	CRO	40	7	3	3
9992		KAND	06 12 0825	S20 E30	06 14.6			HS		4	3	2
9992		RAMY	06 12 1230	S17 E28	06 14.6		B	DSO	30	7	3	4
9992		HOLL	06 12 1323	S18 E27	06 14.6		B	CAO	40	8	3	3
9992		MWIL	06 12 1430	S18 E27	06 14.7	5	(AP)					
9992	31250	LEAR	06 13 0120	S19 E21	06 14.6		B	DAO	40	6	2	3
9992		SVTO	06 13 0545	S16 E17	06 14.5		B	DAO	100	12	7	3
9992		TACH	06 13 0550	S16 E15	06 14.4			ARX	32	2	2	5
9992		KAND	06 13 0605	S19 E18	06 14.6			HS		4	3	5
9992		RAMY	06 13 1220	S17 E15	06 14.6		B	DSO	20	6	3	3
9992		HOLL	06 13 1305	S18 E13	06 14.5		A	HSX	40	7	3	3
9992		MWIL	06 13 1445	S18 E14	06 14.7	4	(AP)					
9992		SVTO	06 14 0445	S18 E06	06 14.6		A	AXX	20	6	2	3

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
9992	31250	TACH	06 14 0634	S16 E00	06 14.3			ARX	6	2	2	5
9992		KAND	06 14 0640	S17 E04	06 14.6			AX		8	3	3
9992		RAMY	06 14 1125	S18 E03	06 14.7		B	DSO	10	5	3	3
9992		MWIL	06 14 1430	S18 W00	06 14.6	4	(AP)					
9992		SVTO	06 15 0633	S18 W08	06 14.7		A	AXX	10	3	1	3
9992		HOLL	06 15 1348	S17 W15	06 14.4		B	BXO	10	2	3	2
9992		MWIL	06 15 1430	S17 W14	06 14.5	4	(AP)					
9992		RAMY	06 16 1155	S19 W26	06 14.5		B	BXO	10	2	2	5
9992		HOLL	06 16 1408	S17 W27	06 14.5		B	BXO	10	2	3	3
9992		MWIL	06 16 1430	S18 W23	06 14.8	4	(B)					
9992		LEAR	06 17 0040	S18 W33	06 14.5		B	BXO	10	3	3	3
9992		LEAR	06 18 0010	S17 W50	06 14.2		B	BXO	20	7	9	4
9992		HOLL	06 18 1310	S18 W60	06 14.0		B	BXO	50	5	5	3
9992		MWIL	06 18 1445	S18 W58	06 14.2	4	(AF)					
9992	31252	LEAR	06 19 0050	S17 W68	06 13.9		B	BXO	20	2	2	3
9992		RAMY	06 19 1159	S19 W74	06 13.8		A	AXX	10	1	1	3
9992		LEAR	06 20 0015	S17 W79	06 14.0		B	BXO	10	2	3	3
9994		SVTO	06 09 0616	N10 E68	06 14.4		A	AXX		1		2
9994		KAND	06 09 0635	N07 E72	06 14.7			AX		2	1	5
9994		LEAR	06 09 0653	N09 E69	06 14.5		B	CSO	30	2	2	1
9994		HOLL	06 09 1322	N09 E67	06 14.6		A	AXX	10	1	1	4
9994		MWIL	06 09 1500	N11 E66	06 14.6	3	(AF)					
9994		RAMY	06 09 1602	N10 E63	06 14.4		B	CSO	20	2	2	1
9994		LEAR	06 10 0020	N10 E59	06 14.4		A	HSX	20	1	1	2
9994		TACH	06 10 0653	N12 E54	06 14.3			HHI	750	1	4	4
9994		KAND	06 10 0845	N08 E57	06 14.6			HR		1		4
9994		RAMY	06 10 1420	N10 E52	06 14.5		B	CSO	20	3	2	3
9994		HOLL	06 10 1435	N09 E53	06 14.6		A	AXX	20	2	1	3
9994		MWIL	06 10 1500	N11 E51	06 14.5	4	(BF)					
9994		LEAR	06 11 0025	N11 E46	06 14.5		A	HSX	20	2	1	2
9992A	31261	RAMY	06 15 1242	S25 W02	06 15.4		A	AXX		1		3
9992A		HOLL	06 15 1348	S23 W04	06 15.3		A	AXX	10	1	1	2
9992A		MWIL	06 15 1430	S27 W04	06 15.3	4	(BP)					
10009	31272	LEAR	06 20 0015	S18 W55	06 15.8		B	BXO	10	3	3	3
10009		RAMY	06 20 1159	S19 W59	06 16.0		B	DSO	10	2	2	3
10009		MWIL	06 20 1500	S18 W60	06 16.0	4	(AF)					
10009		HOLL	06 20 1621	S19 W62	06 15.9		A	AXX	20	2	1	2
10009		LEAR	06 21 0023	S18 W67	06 15.9		A	AXX	10	1		3
10009		RAMY	06 21 1256	S19 W73	06 16.0		B	BXO	10	2	2	3
10009B		TACH	06 17 0545	N11 W13	06 16.3			AXX	5	1	1	4
10004	31262	RAMY	06 14 1125	S15 E31	06 16.8		B	BXO	10	2	3	3
10004		LEAR	06 15 0132	S16 E22	06 16.7		B	CRO	20	7	3	3
10004		KAND	06 15 0835	S16 E17	06 16.6			DSO		5	4	3
10004		RAMY	06 15 1242	S15 E16	06 16.7		B	DSO	20	10	5	3
10004		HOLL	06 15 1348	S17 E14	06 16.6		B	DSO	50	8	5	2
10004		MWIL	06 15 1430	S15 E14	06 16.7	4	(B)					
10004		VORO	06 16 0017	S15 E09	06 16.7			BXI	37	5	4	3
10004		LEAR	06 16 0033	S15 E08	06 16.6		B	DAO	30	9	5	1
10004		SVTO	06 16 0444	S15 E06	06 16.6		B	CSO	20	3	5	3
10004		KAND	06 16 0530	S15 E05	06 16.6			CAO		4	6	4
10004		RAMY	06 16 1155	S15 E02	06 16.6		B	DAO	20	5	6	5
10004		HOLL	06 16 1408	S15 E00	06 16.6		B	CSO	20	4	6	3
10004		MWIL	06 16 1430	S15 W01	06 16.5	4	(B)					
10004		VORO	06 16 2253	S15 W08	06 16.3			AXX	7	1		3
10004	31262	LEAR	06 17 0040	S15 W09	06 16.3		A	HSX	20	1	1	3
10004		SVTO	06 17 0455	S15 W12	06 16.3		A	HSX	10	1	1	3
10004		KAND	06 17 1125	S15 W12	06 16.6			BXO		3	7	5
10004		RAMY	06 17 1250	S16 W13	06 16.5		B	DSO	40	7	8	2
10004		HOLL	06 17 1307	S15 W13	06 16.6		B	CSI	30	11	7	3
10004		MWIL	06 17 1430	S15 W14	06 16.5	4	(B)					
10004		VORO	06 17 2221	S15 W18	06 16.6			DAI	74	8	6	2
10004		LEAR	06 18 0010	S15 W19	06 16.6		B	DAO	50	15	9	4
10004		SVTO	06 18 0645	S15 W22	06 16.6		B	CRO	40	10	8	3
10004		TACH	06 18 0755	S13 W23	06 16.6			BRO	85	4	4	3

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NOAA/ USAF Group	Mt Wilson Group	Sta	Mo	Day	Observation Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
10004	31262	KAND	06	18	0900	S14	W23	06	16.6			DAO		8	6	3
10004		HOLL	06	18	1310	S16	W26	06	16.6		B	DSO	90	13	6	3
10004		RAMY	06	18	1330	S16	W25	06	16.7		B	DSO	50	7	7	2
10004		MWIL	06	18	1445	S16	W26	06	16.6	5	(B)					
10004		LEAR	06	19	0050	S15	W32	06	16.6		B	DSO	20	9	7	3
10004		SVTO	06	19	0445	S17	W35	06	16.5		B	DSO	70	10	8	3
10004		TACH	06	19	0559	S13	W33	06	16.7			CAO	81	3	6	3
10004		KAND	06	19	0745	S14	W36	06	16.6			DSO		5	7	4
10004		RAMY	06	19	1159	S16	W38	06	16.6		B	DSO	40	5	6	3
10004		HOLL	06	19	1310	S15	W37	06	16.7		B	DAO	40	7	7	3
10004	31262	MWIL	06	19	1445	S15	W39	06	16.7	5	(B)					
10004		LEAR	06	20	0015	S14	W45	06	16.6		B	DSO	30	2	8	3
10004		SVTO	06	20	0531	S17	W46	06	16.7		B	CRO	10	2	4	2
10004		KAND	06	20	0625	S13	W50	06	16.5			BXO		2	8	5
10004		TACH	06	20	0837	S15	W51	06	16.5			BRI	33	4	12	3
10004		RAMY	06	20	1159	S15	W52	06	16.6		B	DSO		2	8	3
10004		MWIL	06	20	1500	S14	W53	06	16.6	4	(B)					
10004		HOLL	06	20	1621	S15	W55	06	16.5		B	CSO	20	4	9	2
10004		LEAR	06	21	0023	S14	W58	06	16.6		B	CAO	30	4	6	3
10004		TACH	06	21	0440	S14	W64	06	16.3			AXX	2	1	1	3
10004	31262	SVTO	06	21	0514	S17	W66	06	16.2		A	AXX		1		3
10004		RAMY	06	21	1256	S16	W63	06	16.8		B	BXO	10	3	2	3
9996	31255	LEAR	06	11	0025	S28	E69	06	16.4		A	AXX	10	1	1	2
9996		SVTO	06	11	0510	S28	E68	06	16.5		A	AXX	20	2	2	3
9996		RAMY	06	11	1218	S27	E65	06	16.6		A	AXX		1		4
9996		MWIL	06	11	1445	S27	E62	06	16.4	4	(AP)					
9996		LEAR	06	12	0040	S28	E56	06	16.4		A	AXX		1		2
9996		SVTO	06	12	0750	S27	E53	06	16.4		A	AXX	10	2	1	3
9996		RAMY	06	12	1230	S26	E53	06	16.6		A	AXX		1		4
9996		HOLL	06	12	1323	S27	E52	06	16.6		A	AXX	10	3	2	3
9996		LEAR	06	13	0120	S28	E47	06	16.7		A	AXX	10	1		3
9996		SVTO	06	13	0545	S27	E45	06	16.7		A	HRX	10	1	1	3
9996	31263	MWIL	06	15	1430	S26	E15	06	16.8	3	(AF)					
10006	31267	KAND	06	18	0900	S06	W17	06	17.1			AX		2	1	3
10006		HOLL	06	18	1310	S08	W18	06	17.2		B	CRO	30	4	3	3
10006		RAMY	06	18	1330	S08	W18	06	17.2		B	CSO	20	3	3	2
10006		MWIL	06	18	1445	S07	W19	06	17.2	4	(B)					
10006		LEAR	06	19	0050	S07	W25	06	17.2		B	CSO	20	3	2	3
10006		SVTO	06	19	0445	S09	W28	06	17.1		A	HRX	20	2	3	3
10006		TACH	06	19	0559	S05	W27	06	17.2			BAX	23	2	2	3
10006		KAND	06	19	0745	S05	W29	06	17.1			AX		1		4
10006		RAMY	06	19	1159	S07	W32	06	17.1		A	AXX	10	1		3
10006		HOLL	06	19	1310	S06	W33	06	17.1		A	AXX	10	1	1	3
10006	31267	MWIL	06	19	1445	S06	W34	06	17.1	4	(AF)					
10006		LEAR	06	20	0015	S05	W39	06	17.1		A	AXX		1		3
10006		TACH	06	20	0837	S06	W37	06	17.6			BXO	4	2	3	3
10006		RAMY	06	20	1159	S08	W40	06	17.5		B	DRO		3	3	3
10006		MWIL	06	20	1500	S06	W40	06	17.6	4	(B)					
10006		HOLL	06	20	1621	S07	W42	06	17.5		A	AXX	10	2	3	2
10006		LEAR	06	21	0023	S06	W48	06	17.4		B	DAO	20	5	3	3
10006		SVTO	06	21	0514	S08	W51	06	17.4		A	AXX	20	3	3	3
10006		RAMY	06	21	1256	S07	W53	06	17.6		B	CSO	20	5	4	3
10006		HOLL	06	21	1338	S07	W54	06	17.5		A	AXX	10	2	1	3
10006	31267	MWIL	06	21	1430	S06	W54	06	17.6	3	(AP)					
9998	31257	SVTO	06	12	0750	N14	E84	06	18.7		A	HRX	10	2	2	3
9998		RAMY	06	12	1230	N15	E79	06	18.5		A	AXX		1		4
9998		HOLL	06	12	1323	N13	E78	06	18.4		A	AXX	10	1	1	3
9998		MWIL	06	12	1430	N12	E78	06	18.5	4	B					
9998		LEAR	06	13	0120	N13	E70	06	18.3		A	HRX	20	1	1	3
9998		SVTO	06	13	0545	N14	E68	06	18.4		A	HRX	10	1	2	3
9998		TACH	06	13	0550	N14	E67	06	18.3			AXX	5	1	1	5
9998		RAMY	06	13	1220	N15	E66	06	18.5		A	AXX		1		3
9998		HOLL	06	13	1305	N12	E64	06	18.4		A	AXX	10	1	1	3
9998		MWIL	06	13	1445	N12	E64	06	18.4	4	(B)					
9998	31257	SVTO	06	14	0445	N13	E56	06	18.4		A	HSX	20	1	1	3
9998		TACH	06	14	0634	N12	E51	06	18.1			BXO	20	2	1	5

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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
9998		RAMY	06 14 1125	N14 E53	06 18.5		A	AXX	10	2	1	3
9998		RAMY	06 14 1125	N15 E52	06 18.4		A	HSX	20	1	1	3
9998	31257	MWIL	06 14 1430	N13 E46	06 18.1	4	(BP)					
9998		HOLL	06 14 1628	N13 E52	06 18.6		A	HSX	20	1	1	2
9998		LEAR	06 15 0132	N12 E43	06 18.3		B	CSO	30	2	4	3
9998		SVTO	06 15 0633	N14 E42	06 18.4		A	AXX		1		3
9998		RAMY	06 15 1242	N12 E34	06 18.1		A	AXX		1		3
9998		RAMY	06 15 1242	N15 E38	06 18.4		A	AXX		1		3
9998	31257	MWIL	06 15 1430	N13 E36	06 18.3	4	(BP)					
9998	31257	MWIL	06 16 1430	N13 E19	06 18.0	4	(BP)					
9998	31257	MWIL	06 17 1430	N09 E12	06 18.5	4	(BF)					
9998		SVTO	06 18 0645	N11 E08	06 18.9		B	DRI	60	14	9	3
9998	31257	MWIL	06 18 1445	N11 W04	06 18.3	4	(B)					
9998		LEAR	06 20 0015	N18 W21	06 18.4		B	CSO	10	4	3	3
9986B		KAND	06 18 0900	N02 E01	06 18.4			AX		1		3
9986C		RAMY	06 14 1125	S06 E53	06 18.4		B	CSO	20	4	4	3
9997		SVTO	06 12 0750	N09 E81	06 18.4		A	AXX	10	1	1	3
9997		RAMY	06 12 1230	N11 E78	06 18.4		A	AXX		1		4
9997		HOLL	06 12 1323	N07 E78	06 18.4		A	AXX	10	1	1	3
9997		LEAR	06 13 0120	N08 E70	06 18.3		A	HRX	20	1	1	3
9997		SVTO	06 13 0545	N09 E69	06 18.4		A	HRX	10	1	1	3
9997		KAND	06 13 0605	N10 E69	06 18.4			BXO		2	1	5
9997		RAMY	06 13 1220	N11 E66	06 18.5		A	AXX		1		3
9997		HOLL	06 13 1305	N08 E65	06 18.4		A	AXX	10	1	1	3
9997		SVTO	06 14 0445	N09 E55	06 18.3		A	AXX		1		3
9997		KAND	06 14 0640	N10 E56	06 18.5			BXO		2	1	3
9997		RAMY	06 14 1125	N10 E52	06 18.4		A	AXX	10	1	1	3
9997		HOLL	06 14 1628	N07 E51	06 18.5		A	AXX	10	1		2
9997		SVTO	06 15 0633	N09 E42	06 18.4		A	AXX		1		3
9997		KAND	06 15 0835	N12 E41	06 18.4			AX		1		3
9997		RAMY	06 15 1242	N11 E37	06 18.3		A	AXX		1		3
9997		HOLL	06 15 1348	N08 E37	06 18.3		A	AXX	10	1	1	2
9997		LEAR	06 16 0033	N09 E30	06 18.3		B	BXO	20	3	5	1
9997		SVTO	06 16 0444	N11 E26	06 18.1		B	BXO	10	3	4	3
9997		RAMY	06 16 1155	N14 E20	06 18.0		B	BXO	20	5	3	5
9997		HOLL	06 16 1408	N13 E20	06 18.1		B	BXO	20	2	3	3
9997		LEAR	06 17 0040	N11 E14	06 18.1		B	DRO	10	4	5	3
9997		HOLL	06 17 1307	N08 E13	06 18.5		B	BXO	10	2	3	3
9997		LEAR	06 18 0010	N10 E07	06 18.5		B	BXO	10	8	3	4
9997	31257	MWIL	06 19 1445	N10 W15	06 18.5	4	(AF)					
9997A		SVTO	06 14 0445	N17 E59	06 18.7		B	CRO	20	3	4	3
9997A		TACH	06 14 0634	N19 E55	06 18.5			BXO	11	2	3	5
9997A		KAND	06 14 0640	N16 E60	06 18.8			CSO		2	2	3
9997A		RAMY	06 14 1125	N19 E56	06 18.7		B	DSO	30	3	4	3
9997A	31259	MWIL	06 14 1430	N19 E55	06 18.8	4	(B)					
9997A		HOLL	06 14 1628	N18 E54	06 18.8		B	DSO	50	4	4	2
9997A		LEAR	06 15 0132	N18 E48	06 18.7		B	DAO	110	13	4	3
9997A		KAND	06 15 0835	N17 E46	06 18.8			CAO		4	3	3
9997A		RAMY	06 15 1242	N19 E41	06 18.6		B	DAO	60	12	3	3
9997A		HOLL	06 15 1348	N17 E42	06 18.8		B	DSO	50	3	4	2
9997A	31259	MWIL	06 15 1430	N19 E41	06 18.7	4	(B)					
9997A		VORO	06 16 0017	N18 E38	06 18.9			CRI	107	5	4	3
9997A		LEAR	06 16 0033	N18 E36	06 18.8		B	DSO	80	12	5	1
9997A		SVTO	06 16 0444	N17 E34	06 18.8		B	DSO	70	5	6	3
9997A		KAND	06 16 0530	N17 E35	06 18.9			CAO		5	4	4
9997A		RAMY	06 16 1155	N19 E30	06 18.8		B	DSO	50	18	6	5
9997A		HOLL	06 16 1408	N18 E30	06 18.9		B	DSO	70	8	8	3
9997A	31259	MWIL	06 16 1430	N19 E29	06 18.8	4	(B)					
9997A		VORO	06 16 2253	N19 E26	06 18.9			BXI	19	10	6	3
9997A		LEAR	06 17 0040	N18 E24	06 18.8		B	DSO	40	10	7	3
9997A		SVTO	06 17 0455	N19 E22	06 18.9		B	CRO	30	7	6	3
9997A		KAND	06 17 1125	N17 E19	06 18.9			BXO		3	4	5
9997A		RAMY	06 17 1250	N19 E17	06 18.8		B	DSO	40	9	6	2
9997A		HOLL	06 17 1307	N18 E17	06 18.8		B	CSO	30	9	7	3
9997A	31259	MWIL	06 17 1430	N19 E16	06 18.8	4	(B)					

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat	CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
9997A		VORO	06 17 2221	N18	E14	06 19.0			BXI	31	10	7	2
9997A		LEAR	06 18 0010	N18	E11	06 18.8		B	EAO	50	20	11	4
9997A		TACH	06 18 0755	N17	E04	06 18.6			BXI	35	4	5	3
9997A		KAND	06 18 0900	N18	E09	06 19.1			BXO		9	8	3
9997A		HOLL	06 18 1310	N18	E06	06 19.0		B	DSO	60	9	7	3
9997A		RAMY	06 18 1330	N18	E04	06 18.9		B	DSO	40	6	7	2
9997A	31259	MWIL	06 18 1445	N18	E03	06 18.8	4	(BG)					
9997A		LEAR	06 19 0050	N18	W02	06 18.9		B	BXO	10	3	5	3
9997A		SVTO	06 19 0445	N17	W04	06 18.9		B	CRO	20	4	5	3
9997A		HOLL	06 19 1310	N20	W12	06 18.6		A	AXX	10	1	1	3
9997A	31259	MWIL	06 19 1445	N19	W13	06 18.6	4	(BP)					
9997A		SVTO	06 20 0531	N16	W24	06 18.4		A	AXX	10	2	1	2
9997A		RAMY	06 20 1159	N17	W27	06 18.4		B	BXO	10	7	4	3
9997A		RAMY	06 20 1159	N18	W21	06 18.9		B	BXO		4	4	3
9997A	31259	MWIL	06 20 1500	N18	W20	06 19.1	3	(AF)					
10007		LEAR	06 18 0010	N13	E31	06 20.3		A	AXX		1		4
10007		SVTO	06 18 0645	N11	E24	06 20.1		B	CRO	30	3	7	3
10007		TACH	06 18 0755	N14	E21	06 19.9			AXX	10	1	1	3
10007		KAND	06 18 0900	N12	E26	06 20.3			HS		2	1	3
10007		HOLL	06 18 1310	N13	E22	06 20.2		B	CSO	30	4	2	3
10007		RAMY	06 18 1330	N13	E22	06 20.2		A	HSX	10	1		2
10007	31268	MWIL	06 18 1445	N13	E22	06 20.3	4	(BP)					
10007		LEAR	06 19 0050	N12	E15	06 20.2		B	CSO	30	4	4	3
10007		SVTO	06 19 0445	N11	E15	06 20.3		B	DSO	60	7	5	3
10007		TACH	06 19 0559	N14	E12	06 20.1			BRO	12	3	3	3
10007		KAND	06 19 0745	N13	E14	06 20.4			CSO		3	4	4
10007		RAMY	06 19 1159	N13	E10	06 20.2		B	DSO	30	4	5	3
10007		HOLL	06 19 1310	N15	E10	06 20.3		B	CAO	30	7	4	3
10007	31268	MWIL	06 19 1445	N14	E10	06 20.4	5	(B)					
10007		LEAR	06 20 0015	N13	E04	06 20.3		B	DAO	30	6	6	3
10007		SVTO	06 20 0531	N14	E01	06 20.3		B	CRO	20	3	5	2
10007		KAND	06 20 0625	N13	E01	06 20.3			BXO		2	6	5
10007		TACH	06 20 0837	N13	W06	06 19.9			BXI	33	3	12	3
10007		RAMY	06 20 1159	N14	W02	06 20.3		B	DRO		3	6	3
10007	31268	MWIL	06 20 1500	N14	W04	06 20.3	4	(B)					
10007		HOLL	06 20 1621	N14	W07	06 20.1		A	HSX	160	1	1	2
10007		LEAR	06 21 0023	N14	W12	06 20.1		A	HSX	10	1		3
10007		TACH	06 21 0440	N13	W15	06 20.1			AXX	2	1	1	3
10007		SVTO	06 21 0514	N13	W15	06 20.1		A	AXX		1		3
10007		KAND	06 21 0625	N15	W14	06 20.2			AX		1		5
10001		SVTO	06 14 0445	N19	E78	06 20.1		A	HSX	30	1	1	3
10001		TACH	06 14 0634	N22	E79	06 20.3			HSX	35	1	2	5
10001		KAND	06 14 0640	N18	E80	06 20.4			CAO		4	4	3
10001		RAMY	06 14 1125	N21	E76	06 20.3		B	CSO	80	2	4	3
10001	31260	MWIL	06 14 1430	N21	E75	06 20.3	4	(B)					
10001		HOLL	06 14 1628	N19	E75	06 20.4		B	CAO	120	2	3	2
10001		LEAR	06 15 0132	N20	E69	06 20.3		B	DAO	140	12	7	3
10001		KAND	06 15 0835	N18	E67	06 20.4			CAO		4	9	3
10001		RAMY	06 15 1242	N22	E64	06 20.4		B	DAO	210	12	10	3
10001		HOLL	06 15 1348	N18	E65	06 20.5		B	EAO	200	8	11	2
10001	31260	MWIL	06 15 1430	N21	E62	06 20.3	5	(B)					
10001		VORO	06 16 0017	N20	E58	06 20.4			DAI	311	2	4	3
10001		LEAR	06 16 0033	N20	E57	06 20.4		B	DAO	230	12	8	1
10001		SVTO	06 16 0444	N19	E55	06 20.4		B	DAO	170	6	7	3
10001		KAND	06 16 0530	N18	E56	06 20.5			DAO		8	8	4
10001		RAMY	06 16 1155	N21	E51	06 20.4		B	DAO	190	14	8	5
10001		HOLL	06 16 1408	N20	E52	06 20.6		B	EAO	190	16	11	3
10001	31260	MWIL	06 16 1430	N21	E48	06 20.3	5	(B)					
10001		VORO	06 16 2253	N20	E46	06 20.5			CAI	275	19	7	3
10001		LEAR	06 17 0040	N20	E45	06 20.5		B	DSO	230	11	8	3
10001		SVTO	06 17 0455	N21	E43	06 20.5		B	CSO	170	7	9	3
10001		TACH	06 17 0545	N21	E38	06 20.1			DSO	250	2	6	4
10001		KAND	06 17 1125	N19	E40	06 20.5			CSO		5	8	5
10001		RAMY	06 17 1250	N21	E37	06 20.4		B	DSO	150	4	10	2
10001		HOLL	06 17 1307	N19	E38	06 20.4		B	DAO	190	7	8	3
10001	31260	MWIL	06 17 1430	N21	E37	06 20.4	5	(BP)					
10001		VORO	06 17 2221	N20	E33	06 20.4			CSO	222	8	5	2

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time		Lat	CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
10001		LEAR	06	18	0010	N20 E32	06 20.4		B	DSO	180	7	8	4
10001		SVTO	06	18	0645	N20 E29	06 20.5		B	DSO	240	9	9	3
10001		TACH	06	18	0755	N20 E23	06 20.1			CSO	220	2	6	3
10001		KAND	06	18	0900	N19 E27	06 20.4			CSO		3	7	3
10001		HOLL	06	18	1310	N20 E25	06 20.5		B	DKO	170	6	8	3
10001		RAMY	06	18	1330	N20 E24	06 20.4		B	DSO	160	2	6	2
10001	31260	MWIL	06	18	1445	N20 E24	06 20.4	5	(BP)					
10001		LEAR	06	19	0050	N20 E18	06 20.4		B	CHO	120	5	6	3
10001		SVTO	06	19	0445	N18 E16	06 20.4		B	CSO	200	3	7	3
10001		TACH	06	19	0559	N20 E13	06 20.2			CAO	402	3	4	3
10001		KAND	06	19	0745	N20 E15	06 20.5			CSO		5	5	4
10001		RAMY	06	19	1159	N20 E10	06 20.3		B	DSO	220	4	4	3
10001		HOLL	06	19	1310	N22 E12	06 20.5		B	CSO	250	14	7	3
10001	31260	MWIL	06	19	1445	N21 E10	06 20.4	5	(BG)					
10001		LEAR	06	20	0015	N21 E06	06 20.5		B	CSO	200	6	8	3
10001		SVTO	06	20	0531	N21 E02	06 20.4		B	CSO	170	6	5	2
10001		KAND	06	20	0625	N20 E03	06 20.5			CAO		6	6	5
10001		TACH	06	20	0837	N20 W04	06 20.0			HRX	331	2	3	3
10001		RAMY	06	20	1159	N21 W03	06 20.3		B	CSO	150	7	4	3
10001	31260	MWIL	06	20	1500	N21 W04	06 20.3	5	(BP)					
10001		HOLL	06	20	1621	N22 W04	06 20.4		B	CSO	20	10	6	2
10001		LEAR	06	21	0023	N21 W09	06 20.3		B	DAO	180	11	5	3
10001		TACH	06	21	0440	N20 W12	06 20.3			CAO	302	3	3	3
10001		SVTO	06	21	0514	N21 W13	06 20.2		B	CSO	200	3	5	3
10001		KAND	06	21	0625	N22 W11	06 20.4			HS		1	2	5
10001		RAMY	06	21	1256	N20 W16	06 20.3		B	DAO	170	10	5	3
10001		HOLL	06	21	1338	N22 W16	06 20.3		B	CSO	190	5	5	3
10001	31260	MWIL	06	21	1430	N21 W16	06 20.4	5	(BP)					
10001		VORO	06	21	2130	N21 W21	06 20.3			HHX	214	2		2
10001		LEAR	06	22	0030	N21 W21	06 20.4		A	HSX	190	2	4	2
10001		SVTO	06	22	0535	N21 W27	06 20.2		B	CSO	200	5	3	3
10001		KAND	06	22	0850	N23 W26	06 20.4			HS		1	3	3
10001		RAMY	06	22	1135	N20 W28	06 20.3		B	CAO	180	8	4	3
10001		HOLL	06	22	1411	N21 W31	06 20.2		A	HSX	120	2	3	4
10001	31260	MWIL	06	22	1530	N21 W30	06 20.3	5	(BP)					
10001		LEAR	06	23	0010	N22 W32	06 20.5		B	CSO	150	4	7	3
10001		VORO	06	23	0020	N21 W35	06 20.3			HAX	185	5		3
10001		SVTO	06	23	0550	N19 W39	06 20.3		B	CKO	160	9	5	3
10001		KAND	06	23	0835	N23 W39	06 20.3			HA		1	2	5
10001		RAMY	06	23	1240	N21 W42	06 20.3		B	CKO	150	7	4	3
10001		HOLL	06	23	1327	N20 W42	06 20.3		B	CAO	130	3	4	2
10001	31260	MWIL	06	23	1500	N21 W43	06 20.3	5	(BP)					
10001		LEAR	06	24	0025	N21 W48	06 20.3		A	HAX	150	1	2	2
10001		VORO	06	24	0237	N21 W50	06 20.3			HHX	395	2		3
10001		SVTO	06	24	0504	N19 W52	06 20.2		B	CSO	100	5	4	3
10001		KAND	06	24	0840	N23 W53	06 20.3			CSO		4	4	4
10001		RAMY	06	24	1207	N21 W56	06 20.2		A	HSX	130	1	2	3
10001	31260	MWIL	06	24	1430	N21 W56	06 20.3	5	(AP)					
10001		HOLL	06	24	1722	N19 W58	06 20.3		A	HSX	110	1	2	2
10001		VORO	06	24	2131	N21 W60	06 20.3			HHX	476	1		3
10001		LEAR	06	25	0040	N22 W62	06 20.3		A	HSX	100	4	2	2
10001		TACH	06	25	0440	N20 W63	06 20.4			HSX	150	1	3	2
10001		KAND	06	25	0730	N24 W64	06 20.4			HA		1	2	3
10001		SVTO	06	25	0800	N19 W68	06 20.1		B	CSO	130	2	3	3
10001	31260	MWIL	06	25	1430	N21 W70	06 20.2	4	(AP)					
10001		HOLL	06	25	1510	N19 W71	06 20.2		A	HSX	80	1	2	4
10001		VORO	06	25	2143	N21 W74	06 20.2			HHX	229	1		3
10001		LEAR	06	26	0130	N22 W78	06 20.1		A	HSX	60	1	2	2
10001		TACH	06	26	0520	N21 W74	06 20.5			HSX	25	1	1	2
10001		SVTO	06	26	0543	N18 W83	06 19.9		A	HSX	180	1	5	3
10001		KAND	06	26	0645	N25 W78	06 20.2			HS		1	3	3
10001		RAMY	06	26	1222	N20 W87	06 19.9		A	HSX	80	1	2	4
10001	31260	MWIL	06	26	1430	N21 W83	06 20.2	4	(AP)					
10001		HOLL	06	26	1537	N18 W82	06 20.4		A	HSX	90	1	2	3
10003		LEAR	06	15	0132	S01 E73	06 20.5		B	BXO	20	4	4	3
10003		KAND	06	15	0835	S02 E73	06 20.8			AX		1		3
10003		RAMY	06	15	1242	N01 E68	06 20.6		B	CSO	10	3	4	3
10003		HOLL	06	15	1348	S02 E70	06 20.8		B	BXO	20	2	8	2

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NOAA/ USAF Group	Mt Wilson Group	Sta	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
10003	31264	MWIL	06	15	1430	N01	E68	06	20.7	4	(B)					
10003		VORO	06	16	0017	N00	E63	06	20.7			BXO	30	2	4	3
10003		LEAR	06	16	0033	S01	E62	06	20.6		B	CAO	30	3	5	1
10003		SVTO	06	16	0444	S01	E59	06	20.6		B	CRO	20	2	4	3
10003		KAND	06	16	0530	S02	E61	06	20.8			BXO		2	5	4
10003		RAMY	06	16	1155	N01	E55	06	20.6		B	CSO	20	3	5	5
10003		HOLL	06	16	1408	S02	E54	06	20.6		B	CSO	40	2	7	3
10003	31264	MWIL	06	16	1430	N01	E54	06	20.6	4	(B)					
10003		VORO	06	16	2253	S00	E48	06	20.5			AXX	3	1		3
10003		LEAR	06	17	0040	S01	E47	06	20.5		A	AXX		1		3
10003		HOLL	06	17	1307	S02	E39	06	20.4		A	AXX		1		3
10003	31264	MWIL	06	17	1430	N00	E38	06	20.4	4	(AP)					
10003		LEAR	06	18	0010	S01	E33	06	20.5		A	AXX		1		4
10003A		HOLL	06	19	1310	S15	E22	06	21.2		A	AXX	10	1	1	3
10003A	31270	MWIL	06	19	1445	S15	E20	06	21.1	4	(BP)					
10003A		RAMY	06	20	1159	S13	E06	06	20.9		B	CRO		3	8	3
10003A		LEAR	06	21	0023	S09	E00	06	21.0		B	BXO	10	3	1	3
10003B		LEAR	06	22	0030	N08	W12	06	21.1		A	AXX		1		2
10003C		LEAR	06	21	0023	S20	E24	06	22.8		A	AXX	10	1		3
10005		VORO	06	16	0017	N12	E86	06	22.5			HAX	141	1		3
10005		SVTO	06	16	0444	N12	E83	06	22.4		A	HSX	60	1	2	3
10005		RAMY	06	16	1155	N14	E80	06	22.5		A	HSX	70	1	2	5
10005		HOLL	06	16	1408	N11	E80	06	22.6		A	HAX	90	1	1	3
10005	31265	MWIL	06	16	1430	N13	E80	06	22.6	4	(AP)					
10005		LEAR	06	17	0040	N13	E73	06	22.5		A	HAX	180	1	3	3
10005		SVTO	06	17	0455	N13	E74	06	22.8		A	HSX	110	1	3	3
10005		TACH	06	17	0545	N13	E70	06	22.5			HSX	140	1	2	4
10005		KAND	06	17	1125	N10	E73	06	23.0			HS		1	2	5
10005		RAMY	06	17	1250	N14	E69	06	22.7		A	HSX	90	1	3	2
10005		HOLL	06	17	1307	N11	E67	06	22.6		A	HAX	100	1	2	3
10005	31265	MWIL	06	17	1430	N13	E68	06	22.7	5	(AP)					
10005		VORO	06	17	2221	N12	E64	06	22.7			HAX	193	1		2
10005		LEAR	06	18	0010	N12	E62	06	22.7		A	HAX	150	1	3	4
10005		SVTO	06	18	0645	N12	E65	06	23.2		B	CSO	120	6	11	3
10005		TACH	06	18	0755	N13	E56	06	22.5			HSX	300	1	4	3
10005		KAND	06	18	0900	N10	E59	06	22.8			CSO		3	5	3
10005		HOLL	06	18	1310	N13	E60	06	23.1		B	DAO	180	7	14	3
10005		RAMY	06	18	1330	N13	E60	06	23.1		B	ESO	210	3	11	2
10005	31265	MWIL	06	18	1445	N13	E59	06	23.1	5	(BP)					
10005		LEAR	06	19	0050	N12	E49	06	22.7		A	HSX	90	1	2	3
10005		SVTO	06	19	0445	N11	E46	06	22.6		A	HSX	150	1	2	3
10005		TACH	06	19	0559	N14	E44	06	22.6			HSX	210	1	2	3
10005		KAND	06	19	0745	N11	E50	06	23.1			CSO		2	12	4
10005		RAMY	06	19	1159	N12	E43	06	22.7		A	HSX	140	1	2	3
10005		HOLL	06	19	1310	N14	E45	06	22.9		B	CSO	220	7	12	3
10005	31265	MWIL	06	19	1445	N13	E46	06	23.1	5	(BP)					
10005		LEAR	06	20	0015	N12	E37	06	22.8		A	HSX	140	1	2	3
10005		SVTO	06	20	0531	N14	E34	06	22.8		A	HAX	140	1	3	2
10005		KAND	06	20	0625	N10	E34	06	22.8			HS		1	2	5
10005		TACH	06	20	0837	N12	E28	06	22.5			HSX	300	1	2	3
10005		RAMY	06	20	1159	N13	E31	06	22.8		B	CSO	150	2	4	3
10005	31265	MWIL	06	20	1500	N13	E29	06	22.8	5	(BP)					
10005		HOLL	06	20	1621	N13	E27	06	22.7		A	HSX	180	1	2	2
10005		LEAR	06	21	0023	N12	E23	06	22.7		A	HAX	170	3	2	3
10005		TACH	06	21	0440	N12	E17	06	22.5			HSX	320	1	2	3
10005		SVTO	06	21	0514	N13	E20	06	22.7		B	CAO	180	2	4	3
10005		KAND	06	21	0625	N12	E21	06	22.8			CAO		5	6	5
10005		RAMY	06	21	1256	N13	E18	06	22.9		B	CAO	150	6	4	3
10005		HOLL	06	21	1338	N14	E17	06	22.8		B	CAO	160	11	6	3
10005	31265	MWIL	06	21	1430	N13	E16	06	22.8	5	(BG)					
10005		VORO	06	21	2130	N13	E12	06	22.9			HAX	184	4		2
10005		LEAR	06	22	0030	N13	E13	06	22.9		B	CSO	160	12	8	2
10005		SVTO	06	22	0535	N15	E09	06	22.9		B	CSI	140	20	9	3
10005		KAND	06	22	0850	N12	E06	06	22.8			CSO		6	4	3
10005		RAMY	06	22	1135	N13	E06	06	22.9		B	DAO	200	22	9	3

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(Ordered by Central Meridian Passage Date)
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NOAA/ USAF Group	Mt Wilson Group	Sta	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
10005	31265	HOLL	06	22	1411	N13	E05	06	23.0		B	DSO	160	16	10	4
10005		MWIL	06	22	1530	N13	E02	06	22.8	5	(BG)					
10005		LEAR	06	23	0010	N13	W01	06	22.9		B	DSO	190	15	8	3
10005		VORO	06	23	0020	N13	W03	06	22.8			HHX	157	10		3
10005		SVTO	06	23	0550	N13	W08	06	22.6		B	DSO	120	10	6	3
10005	31265	KAND	06	23	0835	N14	W08	06	22.7			CSO		5	5	5
10005		RAMY	06	23	1240	N15	W08	06	22.9		B	EKO	210	15	13	3
10005		HOLL	06	23	1327	N14	W09	06	22.9		BG	DSO	130	18	8	2
10005		MWIL	06	23	1500	N13	W12	06	22.7	5	(BP)					
10005		LEAR	06	24	0025	N13	W15	06	22.9		B	DSO	150	10	9	2
10005	31265	VORO	06	24	0237	N13	W19	06	22.7			HHX	270	4	2	3
10005		SVTO	06	24	0504	N11	W19	06	22.8		B	DSO	130	6	7	3
10005		KAND	06	24	0840	N14	W20	06	22.8			CSO		6	9	4
10005		RAMY	06	24	1207	N14	W24	06	22.7		B	DSO	150	10	8	3
10005		MWIL	06	24	1430	N13	W25	06	22.7	5	(BP)					
10005	31265	HOLL	06	24	1722	N19	W27	06	22.7		B	DSO	110	7	8	2
10005		VORO	06	24	2131	N13	W30	06	22.6			HHX	285	10	3	3
10005		LEAR	06	25	0040	N13	W29	06	22.8		B	DSO	130	11	7	2
10005		TACH	06	25	0440	N12	W33	06	22.7			CSO	110	2	4	2
10005		KAND	06	25	0730	N15	W34	06	22.7			HS		2	5	3
10005	31265	SVTO	06	25	0800	N11	W36	06	22.6		B	DSO	80	2	5	3
10005		MWIL	06	25	1430	N13	W38	06	22.7	5	(BP)					
10005		HOLL	06	25	1510	N11	W41	06	22.5		B	DSO	100	6	4	4
10005		VORO	06	25	2143	N13	W44	06	22.6			HHX	197	2	4	3
10005		LEAR	06	26	0130	N13	W46	06	22.6		B	CSO	40	2	5	2
10005	31265	TACH	06	26	0520	N13	W46	06	22.7			CSO	100	2	4	2
10005		SVTO	06	26	0543	N10	W50	06	22.5		B	DSO	110	3	6	3
10005		KAND	06	26	0645	N16	W49	06	22.6			HS		2	4	3
10005		RAMY	06	26	1222	N12	W54	06	22.4		B	DSO	70	2	6	4
10005		MWIL	06	26	1430	N13	W52	06	22.7	5	(AP)					
10005	31265	HOLL	06	26	1537	N12	W55	06	22.5		B	CAO	70	2	5	3
10005		VORO	06	26	2158	N13	W58	06	22.5			HHX	202	2	4	3
10005		LEAR	06	27	0010	N14	W58	06	22.6		B	DAO	90	2	4	1
10005		SVTO	06	27	0535	N10	W62	06	22.6		B	DSO	130	2	9	3
10005		TACH	06	27	0704	N13	W69	06	22.1			HSX	40	1	2	2
10005	31265	KAND	06	27	0820	N17	W61	06	22.7			HS		1	2	4
10005		MWIL	06	27	1445	N13	W66	06	22.6	4	(AP)					
10005		HOLL	06	27	1635	N13	W68	06	22.6		B	CSO	100	2	6	4
10005		VORO	06	27	2214	N14	W69	06	22.7			HHX	103	1		3
10005		LEAR	06	28	0008	N14	W73	06	22.5		B	DSO	80	2	6	1
10005	31265	SVTO	06	28	0500	N13	W74	06	22.6		A	HSX	60	1	2	3
10005		KAND	06	28	0710	N16	W72	06	22.8			HS		1	1	4
10005		RAMY	06	28	1245	N14	W79	06	22.6		B	CSO	60	3	3	3
10005		MWIL	06	28	1445	N14	W79	06	22.6	4	(AP)					
10005		HOLL	06	28	1450	N13	W79	06	22.6		A	HSX	80	2	2	3
10005	31274	VORO	06	28	2235	N14	W83	06	22.7			HHX	145	1		3
10005		LEAR	06	29	0035	N14	W85	06	22.6		A	HAX	60	1	2	3
10010	31274	SVTO	06	22	0535	S11	E10	06	23.0		A	AXX		3		3
10010		KAND	06	22	0850	S11	E07	06	22.9			AX		3	1	3
10010		RAMY	06	22	1135	S12	E07	06	23.0		B	CSO	30	5	3	3
10010		HOLL	06	22	1411	S12	E05	06	23.0		B	CSO	20	4	3	4
10010		MWIL	06	22	1530	S11	E05	06	23.0	4	(B)					
10010	31274	LEAR	06	23	0010	S11	W01	06	22.9		B	DRO	30	5	4	3
10010		SVTO	06	23	0550	S11	W06	06	22.8		A	HRX		2		3
10010		RAMY	06	23	1240	S11	W10	06	22.8		B	BXO	30	9	4	3
10010		HOLL	06	23	1327	S12	W08	06	22.9		B	CSO	30	4	4	2
10010		MWIL	06	23	1500	S12	W10	06	22.9	4	(BF)					
10010	31276	LEAR	06	24	0025	S13	W15	06	22.9		B	CSO	20	4	4	2
10010A		SVTO	06	19	0445	N12	E57	06	23.5		A	HRX	10	1		3
10010A	31276	TACH	06	19	0559	N15	E56	06	23.5			AXX	4	1	1	3
10010A		RAMY	06	19	1159	N13	E53	06	23.5		A	AXX	10	1		3
10010A		HOLL	06	19	1310	N14	E53	06	23.5		A	AXX	10	1	1	3
10010A		KAND	06	22	0850	N15	E11	06	23.2			BXO		4	3	3
10010A		MWIL	06	23	1500	N16	W05	06	23.2	4	(B)					
10010A	31276	KAND	06	24	0840	N17	W17	06	23.1			AX		3	2	4
10010A		MWIL	06	24	1430	N15	W20	06	23.1	3	(BP)					
10010C		KAND	06	24	0840	N21	W04	06	24.0			AX		2	1	4

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(Ordered by Central Meridian Passage Date)

JUNE 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
10013		LEAR	06 23 0010	N03 E19	06 24.4		B	BXO	10	3	3	3
10013		SVTO	06 23 0550	N04 E17	06 24.5		B	CRO	20	3	3	3
10013		RAMY	06 23 1240	N04 E11	06 24.3		B	BXO	20	2	3	3
10013		HOLL	06 23 1327	N04 E12	06 24.4		B	BXO	20	2	3	2
10013	31277	MWIL	06 23 1500	N03 E11	06 24.4	4	(B)					
10013		LEAR	06 24 0025	N04 E06	06 24.5		B	BXO	10	3	2	2
10013		LEAR	06 25 0040	N05 W08	06 24.4		B	BXO	10	2	3	2
10013		KAND	06 25 0730	N05 W11	06 24.5			AX		1		3
10013		SVTO	06 25 0800	N04 W13	06 24.4		B	BXO	10	2	4	3
10013	31281	MWIL	06 25 1430	N04 W15	06 24.5	4	(AF)					
10018		LEAR	06 29 0035	N15 W59	06 24.5		B	DSO	30	3	3	3
10018		SVTO	06 29 0540	N15 W63	06 24.5		B	CRO	20	2	2	3
10018		TACH	06 29 0623	N15 W60	06 24.7			BAX	18	2	2	2
10018		KAND	06 29 0635	N18 W61	06 24.6			AX		2	1	2
10018		RAMY	06 29 1300	N17 W68	06 24.4		B	CSO	100	5	3	2
10018		HOLL	06 29 1406	N13 W68	06 24.4		B	CSO	30	2	5	4
10018	31287	MWIL	06 29 1430	N15 W67	06 24.5	5	(B)					
10018		LEAR	06 30 0020	N15 W74	06 24.4		B	DSO	50	2	6	3
10018		SVTO	06 30 0509	N15 W75	06 24.5		B	BXO	30	2	5	3
10018		KAND	06 30 0745	N17 W64	06 25.4			BXO		2	3	2
10018		RAMY	06 30 1300	N15 W75	06 24.9		B	ESO	60	2	11	2
10018	31287	MWIL	06 30 1445	N15 W83	06 24.3	4	(B)					
10018		HOLL	06 30 1458	N12 W79	06 24.7		A	AXX	10	1	1	3
10018		LEAR	07 01 0003	N15 W74	06 25.5		B	DAO	100	3	4	3
10018		VORO	07 01 0158	N14 W76	06 25.4			CAO	67	2	4	3
10018		SVTO	07 01 0505	N14 W76	06 25.6		B	DSO	90	2	6	3
10018		KAND	07 01 0705	N18 W79	06 25.4			DSO		2	7	5
10018		RAMY	07 01 1151	N14 W78	06 25.7		B	DAO	90	2	5	3
10018	31287	MWIL	07 01 1445	N14 W82	06 25.5	4	(B)					
10008A		KAND	06 24 0840	S25 E05	06 24.7			AX		1		4
10008A	31279	MWIL	06 24 1430	S25 E03	06 24.8	4	(AP)					
10008		KAND	06 18 0900	S13 E85	06 24.8			HA		1	3	3
10008		HOLL	06 18 1310	S11 E81	06 24.6		A	HAX	120	1	3	3
10008		RAMY	06 18 1330	S10 E78	06 24.4		A	HSX	180	1	3	2
10008	31269	MWIL	06 18 1445	S11 E84	06 24.9	5	AP					
10008		LEAR	06 19 0050	S12 E76	06 24.8		B	CKO	210	2	4	3
10008		SVTO	06 19 0445	S12 E74	06 24.8		B	DKO	360	3	9	3
10008		TACH	06 19 0559	S10 E73	06 24.7			HSX	250	1	4	3
10008		KAND	06 19 0745	S13 E74	06 24.9			CKO		4	8	4
10008		RAMY	06 19 1159	S09 E72	06 24.9		B	DKO	470	4	10	3
10008		HOLL	06 19 1310	S07 E71	06 24.9		B	DKO	480	5	9	3
10008	31269	MWIL	06 19 1445	S10 E70	06 24.9	5	(BP)					
10008		LEAR	06 20 0015	S11 E64	06 24.8		B	DKO	440	8	8	3
10008		SVTO	06 20 0531	S07 E63	06 24.9		B	DKO	500	3	6	2
10008		KAND	06 20 0625	S13 E60	06 24.8			CKI		14	8	5
10008		TACH	06 20 0837	S09 E57	06 24.6			CHO	602	2	4	3
10008		RAMY	06 20 1159	S08 E57	06 24.8		B	DKI	440	13	8	3
10008	31269	MWIL	06 20 1500	S10 E55	06 24.7	5	(BG)					
10008		HOLL	06 20 1621	S08 E56	06 24.9		B	CKO	570	10	7	2
10008		LEAR	06 21 0023	S10 E50	06 24.8		B	DKO	540	20	7	3
10008		TACH	06 21 0440	S08 E46	06 24.6			CAO	853	3	5	3
10008		SVTO	06 21 0514	S07 E49	06 24.9		B	CKO	510	7	8	3
10008		KAND	06 21 0625	S12 E47	06 24.8			CKO		5	7	5
10008		RAMY	06 21 1256	S09 E45	06 24.9		B	DKO	520	17	9	3
10008		HOLL	06 21 1338	S08 E44	06 24.9		BGD	DKC	560	29	7	3
10008	31269	MWIL	06 21 1430	S10 E43	06 24.8	5	(BG)					
10008		LEAR	06 22 0030	S10 E39	06 24.9		BG	DKO	460	18	10	2
10008		SVTO	06 22 0535	S08 E36	06 24.9		B	CKO	550	17	9	3
10008		KAND	06 22 0850	S11 E31	06 24.7			DKO		27	10	3
10008		RAMY	06 22 1135	S09 E31	06 24.8		B	DKI	510	17	5	3
10008		HOLL	06 22 1411	S08 E30	06 24.8		BG	EHC	450	35	13	4
10008	31269	MWIL	06 22 1530	S10 E28	06 24.7	5	(BG)					
10008		LEAR	06 23 0010	S10 E25	06 24.9		BG	DKI	490	25	9	3
10008		SVTO	06 23 0550	S09 E22	06 24.9		BG	CKO	500	27	10	3
10008		KAND	06 23 0835	S11 E18	06 24.7			CKI		13	5	5
10008		RAMY	06 23 1240	S09 E16	06 24.7		BG	DKI	570	31	8	3

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time (UT)			Lat	CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
10008	31269	HOLL	06 23	1327	S08 E19	06 25.0				BGD	EKC	470	40	12	2
10008		MWIL	06 23	1500	S10 E15	06 24.7	5		(BG)						
10008		LEAR	06 24	0025	S09 E12	06 24.9				BG	DKI	480	14	10	2
10008		SVTO	06 24	0504	S10 E09	06 24.9				BG	DKI	560	14	9	3
10008		KAND	06 24	0840	S10 E05	06 24.7					CHI		23	7	4
10008	31269	RAMY	06 24	1207	S10 E05	06 24.9				BG	DKI	580	13	10	3
10008		MWIL	06 24	1430	S10 E03	06 24.8	5		(BG)						
10008		HOLL	06 24	1722	S11 E02	06 24.9				BD	DKO	460	14	6	2
10008		LEAR	06 25	0040	S10 W04	06 24.7				BG	DKI	550	17	7	2
10008		TACH	06 25	0440	S10 W06	06 24.7					CAO	808	4	3	2
10008	31269	KAND	06 25	0730	S10 W08	06 24.7					CKO		11	5	3
10008		SVTO	06 25	0800	S11 W07	06 24.8				B	DKI	460	9	9	3
10008		MWIL	06 25	1430	S10 W10	06 24.8	6		(BG)						
10008		HOLL	06 25	1510	S11 W11	06 24.8				BD	DKC	590	20	8	4
10008		LEAR	06 26	0130	S11 W17	06 24.8				BG	DKI	420	6	5	2
10008	31269	TACH	06 26	0520	S08 W17	06 24.9					CHO	901	3	3	2
10008		SVTO	06 26	0543	S13 W20	06 24.7				BG	DKO	600	11	8	3
10008		KAND	06 26	0645	S09 W20	06 24.8					DKO		5	6	3
10008		RAMY	06 26	1222	S12 W23	06 24.8				BG	CKO	560	11	9	4
10008		MWIL	06 26	1430	S10 W24	06 24.8	5		(BG)						
10008	31269	HOLL	06 26	1537	S12 W23	06 24.9				BG	DAO	520	13	7	3
10008		LEAR	06 27	0010	S10 W28	06 24.9				BG	EKO	520	10	11	1
10008		SVTO	06 27	0535	S13 W33	06 24.7				BG	CKO	600	6	6	3
10008		TACH	06 27	0704	S10 W32	06 24.9					CHO	1000	2	5	2
10008		KAND	06 27	0820	S08 W35	06 24.7					CKO		3	5	4
10008	31269	MWIL	06 27	1445	S10 W37	06 24.8	5		(BG)						
10008		HOLL	06 27	1635	S11 W36	06 25.0				BG	CKO	450	10	11	4
10008		LEAR	06 28	0008	S09 W41	06 24.9				BG	DKO	400	5	7	1
10008		SVTO	06 28	0500	S11 W46	06 24.7				BG	DKO	420	4	6	3
10008		KAND	06 28	0710	S09 W47	06 24.8					HK		2	3	4
10008	31269	RAMY	06 28	1245	S09 W51	06 24.7				A	HKX	480	5	4	3
10008		MWIL	06 28	1445	S10 W51	06 24.8	5		(AP)						
10008		HOLL	06 28	1450	S12 W52	06 24.7				A	HKX	500	2	4	3
10008		LEAR	06 29	0035	S10 W57	06 24.7				A	HKX	430	3	4	3
10008		SVTO	06 29	0540	S11 W60	06 24.7				A	HSX	400	1	6	3
10008	31269	TACH	06 29	0623	S09 W59	06 24.8					HSX	500	1	4	2
10008		KAND	06 29	0635	S08 W61	06 24.7					HH		1	4	2
10008		RAMY	06 29	1300	S10 W65	06 24.6				B	CHO	460	3	5	2
10008		HOLL	06 29	1406	S12 W65	06 24.7				A	HKX	370	4	4	4
10008		MWIL	06 29	1430	S10 W64	06 24.8	6		(BG)						
10008	31269	LEAR	06 30	0020	S09 W70	06 24.8				A	HKX	390	1	5	3
10008		SVTO	06 30	0509	S10 W73	06 24.7				A	HHX	360	1	4	3
10008		KAND	06 30	0745	S08 W76	06 24.6					HK		1	4	2
10008		RAMY	06 30	1300	S10 W78	06 24.7				A	HHX	450	1	5	2
10008		MWIL	06 30	1445	S10 W78	06 24.7	5		(AP)						
10008	31269	HOLL	06 30	1458	S12 W79	06 24.7				A	HKX	180	1	2	3
10008		LEAR	07 01	0003	S09 W86	06 24.6				A	HHX	180	1	3	3
10012	31271	MWIL	06 19	1445	N17 E74	06 25.2	4		(AP)						
10012		SVTO	06 23	0550	N19 E29	06 25.4				A	HSX	10	1		3
10012		RAMY	06 23	1240	N18 E26	06 25.5				A	HSX	10	1	1	3
10012	31278	HOLL	06 23	1327	N19 E26	06 25.5				A	AXX	10	1	1	2
10012		MWIL	06 23	1500	N18 E25	06 25.5	4		(AP)						
10012	31282	LEAR	06 24	0025	N19 E20	06 25.5				B	BXO	10	3	3	2
10012		MWIL	06 25	1430	N22 W07	06 25.1	3		(B)						
10012		HOLL	06 25	1510	N21 W05	06 25.2				A	AXX	10	1	1	4
10012		SVTO	06 30	0509	N14 W63	06 25.4				B	BXO	40	2	4	3
10012		KAND	06 30	0745	N17 W64	06 25.4					BXO		2	3	2
10012		HOLL	06 30	1458	N13 W67	06 25.6				B	CSO	30	3	4	3
10012B	31289	MWIL	06 30	1445	S10 W50	06 26.8	3		(AP)						
10012B	31289	MWIL	07 01	1445	S10 W64	06 26.9	4		(B)						
10012B	31289	MWIL	07 02	1445	S10 W75	06 27.1	4		(B)						
10011A	31284	KAND	06 26	0645	S08 E17	06 27.5					BXO		3	2	3
10011A		MWIL	06 26	1430	S08 E13	06 27.6	4		(B)						
10011A		KAND	06 27	0820	S07 E01	06 27.4					HS		1	1	4
10011A	31284	MWIL	06 27	1445	S07 W02	06 27.5	4		(B)						
10011A		KAND	06 28	0710	S06 W12	06 27.4					AX		1		4

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NOAA/ USAF Group	Mt Wilson Group	Sta	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
10011A	31284	MWIL	06	28	1445	S06	W15	06	27.5	4	(B)					
10011A		KAND	06	29	0635	S06	W25	06	27.4			AX		2		2
10011A	31284	MWIL	06	29	1430	S06	W30	06	27.3	4	(AP)					
10011A		TACH	07	02	0650	S06	W69	06	27.2			CSO	34	2	5	3
10011	31273	MWIL	06	21	1430	S12	E81	06	27.7	2	(AF)					
10011		LEAR	06	22	0030	S12	E72	06	27.4		A	HAX	20	1	1	2
10011		SVTO	06	22	0535	S09	E69	06	27.4		A	HSX	10	2	1	3
10011		KAND	06	22	0850	S15	E70	06	27.7			BXO		4	5	3
10011		RAMY	06	22	1135	S12	E68	06	27.6		B	BXO	40	4	4	3
10011		HOLL	06	22	1411	S11	E67	06	27.6		B	DAO	70	4	7	4
10011	31273	MWIL	06	22	1530	S12	E65	06	27.5	4	(B)					
10011		LEAR	06	23	0010	S13	E61	06	27.6		B	DRO	50	5	6	3
10011		SVTO	06	23	0550	S11	E59	06	27.7		B	DRO	70	8	8	3
10011		KAND	06	23	0835	S15	E56	06	27.6			BXO		5	7	5
10011		RAMY	06	23	1240	S12	E53	06	27.5		B	DSO	100	6	7	3
10011		HOLL	06	23	1327	S11	E55	06	27.7		B	DSO	70	11	9	2
10011	31273	MWIL	06	23	1500	S12	E54	06	27.7	4	(B)					
10011		LEAR	06	24	0025	S12	E48	06	27.6		B	DAO	70	9	7	2
10011		SVTO	06	24	0504	S11	E46	06	27.7		B	DAO	80	4	8	3
10011		KAND	06	24	0840	S14	E43	06	27.6			DAO		12	8	4
10011		RAMY	06	24	1207	S12	E40	06	27.5		B	DSO	150	7	8	3
10011	31273	MWIL	06	24	1430	S12	E39	06	27.5	4	(B)					
10011		HOLL	06	24	1722	S12	E39	06	27.7		B	DAO	90	7	8	2
10011		LEAR	06	25	0040	S13	E34	06	27.6		B	DAO	80	9	8	2
10011		TACH	06	25	0440	S11	E29	06	27.4			BRI	14	6	6	2
10011		KAND	06	25	0730	S14	E30	06	27.6			BXI		12	8	3
10011		SVTO	06	25	0800	S12	E31	06	27.7		B	DSO	90	12	7	3
10011	31273	MWIL	06	25	1430	S12	E26	06	27.6	4	(B)					
10011		HOLL	06	25	1510	S12	E27	06	27.7		B	DAI	160	19	9	4
10011		LEAR	06	26	0130	S13	E19	06	27.5		B	DSO	40	8	8	2
10011		TACH	06	26	0520	S10	E16	06	27.4			BRI	23	9	5	2
10011		SVTO	06	26	0543	S11	E18	06	27.6		B	DSI	100	31	11	3
10011		KAND	06	26	0645	S13	E18	06	27.6			DSO		10	7	3
10011		RAMY	06	26	1222	S11	E14	06	27.6		B	DAI	30	17	7	4
10011	31273	MWIL	06	26	1430	S12	E14	06	27.6	4	(B)					
10011		HOLL	06	26	1537	S11	E13	06	27.6		B	DAI	70	18	7	3
10011		LEAR	06	27	0010	S11	E08	06	27.6		B	DSI	90	17	7	1
10011		SVTO	06	27	0535	S12	E06	06	27.7		B	DSI	90	25	9	3
10011		TACH	06	27	0704	S10	E02	06	27.4			BRI	12	8	5	2
10011		KAND	06	27	0820	S13	E03	06	27.6			CSO		12	8	4
10011	31273	MWIL	06	27	1445	S12	E00	06	27.6	4	(B)					
10011		HOLL	06	27	1635	S11	W02	06	27.5		B	DAI	60	23	7	4
10011		LEAR	06	28	0008	S12	W06	06	27.5		B	DSO	50	6	7	1
10011		SVTO	06	28	0500	S12	W08	06	27.6		B	DSO	40	10	9	3
10011		KAND	06	28	0710	S12	W10	06	27.5			BXO		6	7	4
10011		RAMY	06	28	1245	S10	W14	06	27.5		B	DAO	70	12	8	3
10011	31273	MWIL	06	28	1445	S12	W13	06	27.6	4	(BF)					
10011		HOLL	06	28	1450	S10	W15	06	27.5		B	BXO	30	12	8	3
10011		LEAR	06	29	0035	S10	W19	06	27.6		B	DSO	40	10	9	3
10011		SVTO	06	29	0540	S09	W23	06	27.5		B	CRO	30	10	9	3
10011		TACH	06	29	0623	S10	W20	06	27.8			BAX	5	3	2	2
10011		KAND	06	29	0635	S11	W20	06	27.8			AX		4	3	2
10011		RAMY	06	29	1300	S10	W26	06	27.6		B	DSO	60	8	6	2
10011		HOLL	06	29	1406	S11	W26	06	27.6		B	CSO	30	6	8	4
10011	31273	MWIL	06	29	1430	S12	W25	06	27.7	4	(BF)					
10011		LEAR	06	30	0020	S10	W33	06	27.5		B	DSO	40	8	10	3
10011		LEAR	07	01	0003	S10	W54	06	27.0		B	CRO	20	6	3	3
10011		VORO	07	01	0158	S11	W55	06	27.0			AXX	14	5	2	3
10011		SVTO	07	01	0505	S11	W57	06	27.0		B	CRO	30	5	4	3
10011		KAND	07	01	0705	S07	W60	06	26.9			CSO		2	4	5
10011		RAMY	07	01	1151	S10	W61	06	27.0		B	DSO	20	3	5	3
10011		VORO	07	01	2305	S10	W69	06	26.9			CAO	39	3	6	3
10011		LEAR	07	02	0130	S09	W70	06	26.9		B	CRO	50	2	6	1
10011		KAND	07	02	1035	S08	W76	06	26.8			CAO		3	7	5
10011		RAMY	07	02	1135	S12	W70	06	27.3		B	FSO	50	6	16	4
10011	31290	MWIL	07	02	1445	S13	W69	06	27.5	5	(B)					
10011		HOLL	07	02	1524	S12	W74	06	27.2		B	DSO	60	3	6	2
10011		VORO	07	02	2212	S12	W73	06	27.5			HAX	77	3		3

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat	CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
10011		LEAR	07 03 0111	S12	W75	06 27.5		B	DAO	150	8	9	3
10011		TACH	07 03 0508	S12	W78	06 27.4			CAO	232	3	3	3
10011		SVTO	07 03 0640	S13	W76	06 27.6		B	CAO	120	2	6	3
10011		KAND	07 03 0950	S08	W83	06 27.3			HA		1	3	3
10011		RAMY	07 03 1223	S13	W80	06 27.6		B	CSO	50	2	6	4
10011	31290	MWIL	07 03 1500	S12	W80	06 27.7	4	B					
10014	31275	MWIL	06 22 1530	S18	E65	06 27.6	3	(AP)					
10014		SVTO	06 23 0550	S18	E60	06 27.8		B	BXO	10	3	4	3
10014		KAND	06 23 0835	S21	E58	06 27.8			AX		1		5
10014		RAMY	06 23 1240	S18	E53	06 27.6		A	AXX	20	1	1	3
10014		HOLL	06 23 1327	S18	E57	06 27.9		A	AXX	10	1	1	2
10014	31275	MWIL	06 23 1500	S18	E55	06 27.8	3	(AP)					
10014		LEAR	06 24 0025	S18	E49	06 27.7		A	AXX	10	1	1	2
10014		SVTO	06 24 0504	S17	E47	06 27.8		A	AXX		1		3
10015		LEAR	06 24 0025	S28	E51	06 28.0		B	CRO	20	3	4	2
10015		SVTO	06 24 0504	S26	E50	06 28.1		B	CRO	20	2	4	3
10015		KAND	06 24 0840	S29	E46	06 28.0			BXO		4	6	4
10015		RAMY	06 24 1207	S28	E44	06 27.9		B	DSO	30	2	6	3
10015	31280	MWIL	06 24 1430	S27	E43	06 27.9	4	(B)					
10015		HOLL	06 24 1722	S27	E43	06 28.1		B	BXO	30	3	5	2
10015		LEAR	06 25 0040	S28	E37	06 27.9		B	CRO	30	5	6	2
10015		TACH	06 25 0440	S25	E30	06 27.5			AXX	15	1	1	2
10015		KAND	06 25 0730	S29	E33	06 27.9			CRO		3	6	3
10015		SVTO	06 25 0800	S27	E33	06 27.9		A	HSX	10	1	1	3
10015	31280	MWIL	06 25 1430	S27	E31	06 28.0	4	(B)					
10015		HOLL	06 25 1510	S27	E31	06 28.0		B	CSO	40	5	6	4
10015		LEAR	06 26 0130	S28	E22	06 27.8		B	DSO	40	2	6	2
10015		TACH	06 26 0520	S25	E18	06 27.6			BRO	9	3	5	2
10015		SVTO	06 26 0543	S27	E23	06 28.0		B	DSO	50	9	5	3
10015		KAND	06 26 0645	S27	E19	06 27.8			DSO		4	5	3
10015		RAMY	06 26 1222	S27	E18	06 27.9		B	DRO	20	10	7	4
10015	31280	MWIL	06 26 1430	S27	E16	06 27.8	4	(B)					
10015		HOLL	06 26 1537	S27	E16	06 27.9		B	CAO	40	8	6	3
10015		LEAR	06 27 0010	S28	E11	06 27.9		B	DAO	30	7	5	1
10015		SVTO	06 27 0535	S28	E10	06 28.0		B	DRO	50	11	7	3
10015		TACH	06 27 0704	S25	E08	06 27.9			AXX	15	1	1	2
10015		KAND	06 27 0820	S27	E05	06 27.7			CSO		4	6	4
10015	31280	MWIL	06 27 1445	S26	E03	06 27.8	4	(B)					
10015		HOLL	06 27 1635	S27	E03	06 27.9		B	BXO	20	8	6	4
10015		LEAR	06 28 0008	S26	W04	06 27.7		B	DAO	30	5	7	1
10015A	31286	MWIL	06 28 1445	N22	E01	06 28.7	3	(AP)					
10017		KAND	06 27 0820	S20	E23	06 29.1			AX		1		4
10017	31285	MWIL	06 27 1445	S18	E19	06 29.1	4	(AP)					
10017		HOLL	06 27 1635	S19	E18	06 29.1		A	AXX	10	2	1	4
10017		LEAR	06 28 0008	S19	E15	06 29.1		B	DAO	30	2	3	1
10017		SVTO	06 28 0500	S19	E13	06 29.2		B	CRO	20	4	3	3
10017		KAND	06 28 0710	S20	E11	06 29.1			BXO		5	3	4
10017		RAMY	06 28 1245	S19	E08	06 29.1		B	DSO	50	8	4	3
10017	31285	MWIL	06 28 1445	S18	E07	06 29.1	4	(B)					
10017		HOLL	06 28 1450	S18	E07	06 29.1		B	CSO	20	7	3	3
10017		LEAR	06 29 0035	S19	E01	06 29.1		B	DSO	20	3	3	3
10017		SVTO	06 29 0540	S19	E02	06 29.4		B	CRO	30	4	3	3
10017		TACH	06 29 0623	S16	W04	06 29.0			BRO	9	4	3	2
10017		KAND	06 29 0635	S19	W02	06 29.1			CSO		4	4	2
10017		RAMY	06 29 1300	S19	W05	06 29.2		B	DAO	70	9	4	2
10017		HOLL	06 29 1406	S18	W05	06 29.2		B	DSO	40	12	6	4
10017	31285	MWIL	06 29 1430	S18	W06	06 29.1	4	(BG)					
10017		LEAR	06 30 0020	S19	W11	06 29.2		B	DAO	80	12	6	3
10017		SVTO	06 30 0509	S19	W14	06 29.1		B	DSO	110	11	7	3
10017		KAND	06 30 0745	S18	W16	06 29.1			DSO		10	5	2
10017		RAMY	06 30 1300	S18	W17	06 29.2		B	DAO	120	14	7	2
10017	31285	MWIL	06 30 1445	S18	W18	06 29.2	5	(BG)					
10017		HOLL	06 30 1458	S19	W18	06 29.2		B	DSI	80	23	7	3
10017		LEAR	07 01 0003	S19	W25	06 29.2		B	DAI	150	19	8	3
10017		VORO	07 01 0158	S19	W26	06 29.2			DAI	135	23	8	3

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

JUNE 2002

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time		Lat	CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
10017		SVTO	07 01	0505	S19	W27	06 29.2		B	DAO	110	17	8	3
10017		KAND	07 01	0705	S18	W28	06 29.3			DAO		11	7	5
10017		RAMY	07 01	1151	S18	W31	06 29.2		B	DAI	140	18	9	3
10017	31285	MWIL	07 01	1445	S19	W32	06 29.3	4	(BG)					
10017		VORO	07 01	2305	S18	W39	06 29.1			DAI	386	25	7	3
10017		LEAR	07 02	0130	S18	W40	06 29.1		B	DAI	150	12	7	1
10017		TACH	07 02	0650	S16	W40	06 29.3			DAI	206	4	8	3
10017		KAND	07 02	1035	S17	W44	06 29.2			DKI		15	10	5
10017		RAMY	07 02	1135	S18	W45	06 29.1		BG	DKI	430	16	10	4
10017	31285	MWIL	07 02	1445	S19	W45	06 29.3	5	(BG)					
10017		HOLL	07 02	1524	S19	W46	06 29.2		BG	DKI	480	14	9	2
10017		VORO	07 02	2212	S18	W50	06 29.2			DKI	721	24	8	3
10017		LEAR	07 03	0111	S18	W51	06 29.3		BGD	EKI	610	16	11	3
10017		TACH	07 03	0508	S17	W54	06 29.2			CAI	423	15	10	3
10017		SVTO	07 03	0640	S18	W54	06 29.3		B	EKO	700	12	15	3
10017		KAND	07 03	0950	S15	W58	06 29.1			EKC		12	12	3
10017		RAMY	07 03	1223	S17	W58	06 29.2		BG	EKI	530	23	13	4
10017	31285	MWIL	07 03	1500	S18	W58	06 29.3	5	(D)					
10017		HOLL	07 03	2143	S19	W61	06 29.3		BG	DAC	340	16	9	3
10017		LEAR	07 04	0020	S17	W64	06 29.2		BG	EAI	460	30	13	3
10017		VORO	07 04	0226	S19	W67	06 29.1			DKO	719	10	5	2
10017		SVTO	07 04	0601	S18	W68	06 29.2		BG	EKI	560	13	14	3
10017		TACH	07 04	0602	S19	W67	06 29.2			DAI	417	12	12	3
10017		KAND	07 04	0835	S15	W70	06 29.1			DKC		9	10	4
10017		RAMY	07 04	1310	S18	W69	06 29.4		BG	EKI	570	12	11	2
10017		HOLL	07 04	1403	S18	W71	06 29.3		BG	DAC	490	20	9	3
10017	31285	MWIL	07 04	1500	S18	W71	06 29.3	4	(B)					
10017		VORO	07 05	0020	S17	W78	06 29.2			DAI	288	7	7	2
10017		LEAR	07 05	0055	S17	W76	06 29.4		BG	EAO	210	5	11	1
10017		SVTO	07 05	0612	S19	W85	06 28.9		B	ESO	100	3	12	3
10017		TACH	07 05	0658	S17	W78	06 29.5			HSX	419	1	2	3
10017		KAND	07 05	0840	S14	W82	06 29.3			HA		1	3	5
10017		RAMY	07 05	1250	S17	W80	06 29.5		B	DKO	210	5	4	3
10017		HOLL	07 05	1323	S18	W82	06 29.4		A	HSX	120	1	2	3
10017	31285	MWIL	07 05	1500	S17	W86	06 29.2	4	AF					
10017A		LEAR	06 27	0010	N21	E46	06 30.5		B	BXO	20	2	2	1
10017A		RAMY	06 28	1245	N21	E21	06 30.1		A	HRX	10	1	1	3
10017A		LEAR	06 30	0020	N22	E06	06 30.5		B	DSO	20	2	3	3
10017A		SVTO	06 30	0509	N22	E04	06 30.5		A	AXX		1		3
10017A	31293	MWIL	07 03	1500	N24	W42	06 30.4	3	(AP)					

Stations reporting:

HOLL = Holloman
KAND = Kandilli
LEAR = Learmonth

MWIL = Mt. Wilson
PALE = Palehua

RAMY = Ramey
SVTO = San Vito

TACH = Tashkent
VORO = Voroshilov

SUDDEN IONOSPHERIC DISTURBANCES

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JUNE 2002

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type					Flare (UT)	X-ray Class	NOAA Region
						SWF	SEA	SPA	LF- SPA	SES			
01	0352	0357	0417	1	1					1	0350	M1.5	9973
01	0632	0644	0658	2+	5	1	2	1		3	0629	C4.8	9979
01	1047	1049	1151	3	5	1	2	1		7	1044	M1.1	9979
02	0430	0432	0500	1+	1					1	0431	C4.1	9977
02	0718	0725U	0912	1	1		1				0813		9977
02	1006	1013	1128	3	5	1	2	1		4	1002	C8.0	9977
02	1144	1146	1230	3	5	1	2	1		6	1141	C9.4	9973
02	1558	1611	1654	2-	5		1			1	1554	C1.4	9975
02	1656	1700	1718	1	3					2	1654	C3.3	9973
02	1859	1906	1948	2+	1					1	1858	C2.3	10000
02	2025	2026	2034D	1-	1					1	2021	C1.7	10000
02	2033	2045	2142	2+	3					4	2033	M1.1	9979
03	0724	0728	0743	1-	3		1	1		1	0721	C4.4	9974
03	1442	1447	1503	1-	3			1		1	1441	C3.7	9977
04	1608	1614	1644	2-	3					2	1606	C2.1	9978
05	0928	0936	1025	1+	3		1			1	0926	C3.4	10000
06	1703	1706	1730	1+	1					1	1658	C2.0	9975
07	0746	0806U	0830	1	1		1				0744	B9.1	10000
08	1007	1030	1114	1	1		1				No flare		
10	1025	1030	1045	1	1					1	1020	C1.6	10000
11	1508	1518	1618	2-	5		1			1	1508	C1.5	9987
12	0857	0922	0950	1	1		1				0854	C1.0	
14	0939	1015	1053	1	1		1				1004	C1.3	
16	0541	0550	0618	1	1		1				No flare		
17	0619	0623	0646	1-	1			1			No flare		
19	1007	1014	1121	3-	5	1	2	1		4	1001	C5.5	
21	2002	2018	2049	2+	1					1	1959	C1.8	
23	0820	0822	0840	1	1					1	0819	C1.9	10005
24	1519	1531	1619	1+	1					1	1525	C1.4	
27	1016	1024U	1102	1	1		1				1017	B4.2	
28	2010	2013	2021	1-	1					1	2002	C1.3	
29	0032	0038	0049	1-	1					1	0022	C2.6	
29	0628	0735U	0829	1	1		1				0637	C1.2	
29	0924	0936	0947	1-	3		1			1	0927	C2.0	
30	1948	1950	2030	2	1					1	1946	C1.7	10017
30	2113	2116	2145	1+	1					1	2107	C1.4	

* = no flare patrol.

OBSERVATORIES REPORTING FOR JUNE 2002

Alberta, Canada	SES	Merja, Spain	SES
Edenvale, Rep of S. Africa	SES	Panska Ves, Czech Republic	SES, SEA, SWF
Houston, Texas, USA	SES	Sofia, Bulgaria	SES
Isola del Gran Sasso, Italy	SES	Sussex, United Kingdom	SES
Marlborough, Massachusetts, USA	SES	Torrington, Connecticut, USA	SES
Milan, Italy	SES	Upice, Czech Republic	SEA

Observations are not necessarily continuous.

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

JUNE 2002

OBSERVATION			Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day	Start (UT)	End (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
01	0000	0700	CULG	0240.0	0700.00	I	S	1	110	180	
			LEAR	0241.0	0356.0	CONT		1	118	180	
	0000	0950	HIRA	0352.5	0354.0	III	G	2	210	430	
			CULG	0353.0	0355.0	III	G	1	60	1800	
	0336	1848	POTS	0353.4	0354.3	DCIM		3	230	500	
			SVTO	0354.0	0750.0	IV		3	25	180	
			HIRA	0355.5	0407.0	II		3	25X	200	
			POTS	0355.7	0408	II	F,H	3	40X	380	
			LEAR	0356.0	0406.0	II		2	25	180	ESS 0493
			LEAR	0356.0	0905.0	IV		2	25	180	
			PALE	0356.0	0409.0	IV		3	25	180	
			SVTO	0356.0	0406.0	II		1	62U	180U	ESS 0471
			CULG	0357.0	0357.0	III	B	1	120	300	
			CULG	0357.0	0405.0	II	FN	3	57X	100	
			CULG	0357.0	0408.0	II	SH	2	57X	210	ESS 650
			POTS	0400.5	1030 U	I	S,N	2	100	380	
			CULG	0403.0	0507.0	IV	FS	1	57X	180	
			CULG	0558.0	0558.0	III	B	1	57X	180	
			POTS	0711.4	0712.2	III	GG	2	210	380	
			IZMI	0943.0	1055.0U	I	N	1	120	270X	
			POTS	0943.4	0945.6	III	GG	2	240	480	
	0418	1742	ONDR	1047.4	1048.5	DCIM	G,W	1	2000X	4500X	
	0430	1810	BLEN	1047.9	1049.1	DCIM	P	2	1500	4000X	
			POTS	1122 U	1332 U	I	S,N	2	100	350	
			IZMI	1122.5	1122.6	III	B	1	50	90	
			SVTO	1142.0	1144.0	III		1	136	154	
			POTS	1332 U	1450 U	I	S,N	2	100	430	
			POTS	1501	1520 U	I	S,N	2	130	400U	
			POTS	1555	1650 U	I	S,N,DC	2	270	400U	
			POTS	1727 U	1825 U	I	S,N,DC	2	270	400U	
	2100	2400	CULG	2123.0	2123.0	III	B	1	57X	90	
			CULG	2127.0	2128.0	III	G	3	57X	400	
			HOLL	2327.0	2327.0	III		2	25	180	
			LEAR	2327.0	2328.0	III		2	25	180	
			PALE	2327.0	2327.0	III		1	25	180	
	1920	2400	SGMR	2327.0	2327.0	III		1	30	50	
			HIRA	2327.0	2328.0	III	B	3	30	400	
			CULG	2346.0	2347.0	III	G	1	57X	160	
			HOLL	2346.0	2348.0	III		2	25	180	
			PALE	2346.0	2348.0	III		1	25	180	
			CULG	2347.0	2348.0	III	G	3	57X	1800	
			HIRA	2347.0	2348.0	III	B	3	25X	560	
			LEAR	2347.0	2349.0	III		3	25	180	
			SGMR	2347.0	2348.0	III		1	30	80	
			CULG	2348.0	2350.0	UNCLF		2	57X	80	
			HOLL	2348.0	2400.0	II		1	29	180	ESS 1232
			LEAR	2348.0	0001.0	II		2	26	180	ESS 0647
			PALE	2348.0	0001.0	II		2	25	180	ESS 0668
			CULG	2349.0	2356.0	II	FN	3	57X	180	
			CULG	2349.0	2359.0	II	SH	1	70	350	ESS 750
			HIRA	2349.0	2353.5	II		3	90	180	
			HIRA	2349.0	2355.0	II		3	100	220	
			LEAR	2349.0	2400.0	II		1	29	54	ESS 1400
			CULG	2356.0	2400.00	III	GG	2	57X	90	
			HOLL	2356.0	2400.0	III		1	25	140	
02	0000	0650	CULG	0000.0E	0007.0	III	GG	1	57X	90	
			POTS	0350 U	0445	I	S,N,C,DC	1	240	400U	
	0337	1817	SVTO	0356.0	0406.0	II		1	62U	180U	ESS 0471
			BLEN	0433.9	0444.9	DCIM	P	3	500	4000X	
	0430	1500	CULG	0435.0	0437.0	UNCLF		1	550	800	
			POTS	0451 U	0554 U	I	S,N	1	60	330	
			LEAR	0601.0	0602.0	III		1	25	180	
			POTS	0601.8	0603.7	III	GG	1	40X	460	
			CULG	0602.0	0607.0	III	G	1	57X	180	
			SVTO	0602.0	0602.0	III		1	25U	82U	
	0000	0951	HIRA	0602.0	0603.0	III	B	1	40	400	
			IZMI	0602.0	0603.2	III	GG	2	25X	270X	
	0550	1200	POTS	0632.9	0633.3	III	B	2	40X	430	

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

Spectral Observations

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JUNE 2002

OBSERVATION		Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day	Start End (UT) (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
02		CULG	0633.0	0635.0	III	G	1	57X	180	
		SVTO	0633.0	0635.0	III		1	25U	82U	
		IZMI	0633.1	0633.4	III	G	1	45	100	
		LEAR	0635.0	0635.0	III		1	25	180	
		POTS	0635.0	0635.4	III	B	2	40X	170U	
		POTS	0711.5	0711.9	DCIM		2	280	500	
		POTS	0715 U	0929 U	I	S,N,C	1	270	400U	
		SVTO	0716.0	0742.0	III	N	1	25U	82U	
		IZMI	0729.0	0729.5	III	G,FS	1	45	215	
		LEAR	0729.0	0742.0	III	N	1	25	180	
		POTS	0729.0	0729.7	III	B	2	40X	310	
		POTS	0736.5	0736.8	III	B	2	40X	140	
		IZMI	0736.6	0737.0	III	G	2	25X	100	
		HIRA	0908.0	0920.0	III	G	1	40	200	
		IZMI	0908.2	0908.3	III	B	1	40	160	
		POTS	0908.2	0919.8	III	GG,N	2	40X	240	
		SVTO	0909.0	0940.0	III	N	1	25	180	
		IZMI	0909.7	0916.0	III	GG	2	40	215	
		IZMI	0916.4	0919.5	III	GG	2	25X	240	
		IZMI	0926.6	0932.8	III	GG	2	25X	150	
		POTS	0926.6	0932.2	III	GG	2	40X	170U	
0417	1743	ONDR	1006.1	1033.2	DCIM	GG	1	2000X	4500X	
		ONDR	1006.4	1033.2	DCIM	GG	2	800X	2000X	
		BLEN	1008.3	1110.0	DCIM	P,C	3	100X	4000X	
		POTS	1012.0	1035	IV		3	40X	800X	
		SVTO	1013.0	1014.0	III		1	25U	55U	
		IZMI	1013.1	1016.5	III	G	2	25X	220	
		POTS	1014.8	1038	II	F,H	3	40X	230	
		IZMI	1014.9	1023.7	II	HARM	2	50	175	
		IZMI	1015.0U	1031.0U	CONT		2	90	270X	
		SVTO	1017.0	1022.0	II		1	111U	180U	ESS 0323
		SVTO	1019.0	1112.0	IV		1	25	180	
		IZMI	1030.7	1034.0	II	HARM	1	50	65	
		ONDR	1043.1	1055.1	DCIM	GG,FS	2	800X	2000X	
		POTS	1144.0	1145.5	III	GG	3	40X	800X	
		SGMR	1144.0	1145.0	III		2	30	80	
		SVTO	1144.0	1151.0	III		2	25	180	
		BLEN	1144.1	1147.0	III	G,RS,C	3	100X	4000X	
		IZMI	1144.1	1145.8	III	GG,C,FS	2	25X	270X	
		ONDR	1144.1	1145.5	DCIM	G	2	2000X	4500X	
		ONDR	1144.1	1146.3	DCIM	G	2	800X	2000X	
		POTS	1145.2	1145.9	V	G	3	40X	170U	
		POTS	1147.0	1153	II	F,H,G	3	110U	380	
		IZMI	1153.4	1155.1	III	G	1	40	240	
		POTS	1153.4	1155.4	III	G	3	40X	400U	
		IZMI	1155.8	1200.00	IV		1	45	90	
		POTS	1156 U	1620 U	I	S,N	1	80	400U	
		SVTO	1256.0	1256.0	III		1	25U	48U	
		SVTO	1603.0	1603.0	III		1	40U	82U	
		POTS	1645.8	1646.4	III	GG	2	140	440	
		POTS	1654.8	1657.6	III	GG	2	110U	500	
		HOLL	1655.0	1655.0	III		1	25	162	
		ONDR	1655.0	1656.0	DCIM	G,W	1	800X	2000X	
		SVTO	1655.0	1702.0	III		1	48U	180U	
		POTS	1658	1659.5	II	F,H	3	110U	360	
		POTS	1658.8	1703.1	III	GG,N	2	120	500	
		POTS	1733.8	1806.8	III	G,N,RS	2	120	400U	
		HOLL	1752.0	1752.0	III		1	25	155	
		PALE	1752.0	1752.0	III		1	38	138	
		HOLL	1854.0	1855.0	III		1	25	180	
		HIRA	2040.0	2043.0	II		1	50	90	
		HOLL	2040.0	2045.0	II		1	50	180	ESS 1079
		PALE	2040.0	2045.0	II		1	64	180	ESS 1240
1919	2400	HIRA	2040.0	2043.0	II		2	90	180	
		HIRA	2054.0	2054.5	III	B	1	90	130	
		HOLL	2054.0	2102.0	III		1	25	180	
		PALE	2057.0	2102.0	III		1	25	180	
		HIRA	2101.0	2102.0	III	B	2	30	500	
2100	2400	CULG	2101.0	2102.0	III	G	1	57X	460	

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

JUNE 2002

OBSERVATION			Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day	Start (UT)	End (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
02			CULG	2110.0	2150.0	III	N	1	57X	1200	
			HOLL	2137.0	2202.0	III	N	1	25	82	
			CULG	2202.0	2202.0	III	B	1	57X	180	
			CULG	2304.0	2305.0	III	G	2	57X	180	
			HIRA	2304.0	2304.5	III	B	2	25X	210	
			HOLL	2304.0	2304.0	III		1	25	180	
			PALE	2304.0	2304.0	III		1	25	180	
			PALE	2348.0	0001.0	II		2	25	180	ESS 0668
03			PALE	0305.0	0343.0	III	N	1	25	180	
	0000	0952	HIRA	0305.5	0306.0	III	B	1	25X	160	
	0000	0650	CULG	0306.0	0306.0	III	B	1	57X	180	
			HIRA	0309.5	0311.0	III	G	1	30	290	
			CULG	0310.0	0311.0	III	G	1	57X	180	
	0336	1814	POTS	0424.2	0424.3	III	B	2	120	170U	
			CULG	0429.0	0429.0	III	B	1	57X	130	
			HIRA	0429.0	0429.5	III	B	1	80	110	
			POTS	0429.0	0431.1	III	G,N	2	100	170U	
			POTS	0436.5	0442.4	III	GG,N	3	40X	400U	
			CULG	0437.0	0437.0	III	G	1	57X	130	
			PALE	0438.0	0439.0	III		1	25	180	
			SVTO	0438.0	0439.0	III		2	25	180	
	0435	1815	BLEN	0438.8	0443.7	III	G	1	100X	300	
			CULG	0439.0	0440.0	III	G	2	57X	180	
			HIRA	0439.0	0440.0	III	G	2	30	280	
			CULG	0446.0	0522.0	III	N	1	57X	180	
			SVTO	0457.0	0553.0	III	N	2	25	180	
			POTS	0458.0	0500.9	III	GG	2	40X	220	
			BLEN	0507.5	0510.0	III	GG,C	2	150	500	
			POTS	0507.5	0522.3	III	GG,N	3	60	400U	
			POTS	0542.5	0542.7	III	G	1	120	170U	
	0602	1200	IZMI	0607.0	0614.0	I	N	1	210	270	
			IZMI	0621.5	0621.7	III	B	1	55	160	
			POTS	0621.5	0621.7	III	B	1	120	170U	
			CULG	0622.0	0622.0	III	B	1	57X	180	
			SVTO	0633.0	0808.0	III	N	1	25	180	
			HIRA	0633.5	0634.0	III	B	1	30	180	
			POTS	0633.5	0638.0	III	GG	3	40X	400U	
			IZMI	0633.6	0634.0	III	G	2	25X	170	
			CULG	0634.0	0638.0	III	G	1	57X	350	
			IZMI	0635.1	0635.9	III	G	1	50	90	
			HIRA	0637.0	0638.0	III	B	1	50	370	
			IZMI	0637.4	0638.0	III	GG,C,FS	2	40	270	
			POTS	0642.0	0651	I	S,N	1	120	350	
			IZMI	0655.9	0658.0	III	G	1	50	90	
	0417	1744	ONDR	0656.4	0658.3	DCIM	GG	1	800X	2000X	
			BLEN	0656.7	0658.5	III	GG,RS	2	150	2000	
			IZMI	0657.2	0658.1	III	GG,FS	2	55	270X	
			POTS	0657.2	0658.9	III	GG,U	3	40X	450	
			POTS	0702.2	0715.7	III	GG,N	2	40X	240	
			HIRA	0707.0	0716.0	III	G	1	50	200	
			IZMI	0707.3	0710.6	III	GG	1	50	175	
			IZMI	0715.6	0715.7	III	B	2	45	160	
			POTS	0722.8	0739.1	III	GG,N	3	40X	500	
			IZMI	0723.0	0726.6	III	GG,C	2	25X	270X	
			HIRA	0724.0	0739.0	III	G	3	25X	200	
			SVTO	0724.0	0727.0	V		3	25	180	
			BLEN	0724.2	0728.5	III	GG,S	3	100X	1000	
			IZMI	0726.5	0728.5	III	GG,C	2	25X	270X	
			IZMI	0730.7	0734.2	III	GG	2	25X	270	
			IZMI	0736.2	0739.1	III	GG	2	40	190	
			IZMI	0750.4	0751.1	III	G	2	25X	155	
			POTS	0750.4	0751.0	III	G	3	40X	170U	
			POTS	0844.7	0848.0	III	G	1	120	400	
			POTS	0852	0950	I	S,N	2	150	340	
			POTS	0930.3	0930.4	III	B	2	120	280	
			IZMI	1015.1	1019.0	III	GG	2	25X	175	
			POTS	1015.2	1031.6	III	GG,N	3	40X	300	
			SVTO	1016.0	1140.0	III	N	1	25	180	

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OBSERVATION		Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Start	End				Spectral	Event		Lower	Upper	
Day	(UT)	(UT)			Class	Remarks		(MHz)	(MHz)	
03		IZMI	1019.9	1022.6	III	GG	2	25X	160	
		SGMR	1020.0	1021.0	III		1	30	55	
		SVTO	1020.0	1022.0	V		2	25	146	
		IZMI	1020.9	1022.1	V	G	2	25X	65	
		IZMI	1023.0	1024.4	III	GG	2	40	200	
		IZMI	1030.8	1031.6	III	G	2	50	150	
		IZMI	1042.4	1043.0	III	G	1	50	90	
		IZMI	1047.1	1047.9	III	G	2	25X	145	
		POTS	1047.1	1057.8	III	GG,N	3	40X	400	
		IZMI	1049.5	1057.7	III	GG	1	45	145	
		SVTO	1051.0	1053.0	V		2	25	148	
		IZMI	1051.8	1053.0	III	GG	2	25X	185	
		POTS	1108.6	1109.4	III	GG	3	40X	400	
		IZMI	1109.2	1109.5	III	B	2	45	195	
		IZMI	1140.5	1140.8	III	B	1	45	175	
		POTS	1140.5	1140.7	III	B	2	40X	170U	
		POTS	1159.7	1200.2	III	G	1	130	170U	
		POTS	1214.2	1214.5	DCIM	RS	2	330	650	
		POTS	1223.6	1223.7	III	B	2	40X	70	
		SVTO	1235.0	1236.0	III		1	25	180	
		POTS	1235.3	1237.2	III	GG	3	40X	170U	
		POTS	1307.9	1309.0	III	G	2	40X	400U	
		BLEN	1308.0	1308.8	III	GG,RS	2	150	500	
		SVTO	1308.0	1309.0	III		1	25U	83U	
		POTS	1325.1	1327.2	III	GG	3	40X	150	
		HOLL	1326.0	1327.0	III		1	25	180	
		SGMR	1326.0	1327.0	III		1	30	60	
		SVTO	1326.0	1327.0	V		2	25	123	
		SGMR	1427.0	1434.0	V		2	30	80	
		SVTO	1427.0	1427.0	III		1	25U	82U	
		POTS	1427.1	1434.1	III	GG,N	3	40X	300	
		SVTO	1431.0	1435.0	V		2	25	180	
		BLEN	1432.2	1433.2	III	G,C	2	100X	4000X	
		HOLL	1433.0	1434.0	V		1	25	180	
		POTS	1433.2	1434.5	V	B	3	40X	150	
		POTS	1434	1439	I	S,N	1	130	170U	
		ONDR	1442.4	1443.5	DCIM	G	2	2000X	4500X	
		BLEN	1442.6	1445.0	DCIM	P	2	2000	4000X	
		ONDR	1443.2	1449.4	DCIM	GG	1	800X	2000X	
		BLEN	1449.0	1450.3	III	GG,RS	2	160	900	
		POTS	1449.0	1450.1	III	GG,RS	3	120	650	
		POTS	1530	1803 U	I	S,N	1	130	400U	
		BLEN	1713.2	1714.0	III	G,RS,C	2	390	3800	
	1919 2400	HIRA								
	2100 2400	CULG								
04	0000 0650	CULG	0108.0	0211.0	I	S	1	130	180	
		CULG	0213.0	0218.0	III	G	1	57X	180	
	0336 1848	POTS	0422.8	0426.3	III	GG,N	3	110U	220	
		CULG	0423.0	0426.0	III	G	1	57X	200	
		LEAR	0423.0	0423.0	III		1	94	180	
		PALE	0423.0	0423.0	III		1	109	169	
		SVTO	0423.0	0423.0	III		1	112U	180U	
	0000 0953	HIRA	0423.0	0423.5	III	B	2	100	160	
		POTS	0430	1812 U	I	S,N,DC,C	3	110U	400U	
		LEAR	0457.0	0840.0	CONT		1	75	180	
		CULG	0458.0	0650.0D	I	S	1	100	220	
		CULG	0506.0	0650.0D	III	N	1	57X	180	
		SVTO	0509.0	1751.0	CONT		1	58	180	
	0602 1200	IZMI	0602.0E	1200.0D	I	S	2	110	270X	
		HIRA	0621.0	0634.0	III	G	1	80	150	
		IZMI	0621.3	0621.6	III	G	1	80	160	
		IZMI	0630.2	0630.8	III	GG	2	55	160	
		IZMI	0633.0	0633.3	III	G	1	55	130	
		IZMI	0642.2	0642.9	III	G	1	95	165	
		IZMI	0710.3	0710.5	III	B	1	55	140	
		IZMI	0757.0	0759.5	III	GG	1	45	150	
		IZMI	0827.2	0828.6	III	G	1	50	160	
		SVTO	0905.0	0908.0	III		1	25	180	

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OBSERVATION			Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day	Start (UT)	End (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
04	0435	1815	IZMI	0906.9	0909.4	III	G	2	25X	205	
			POTS	0906.9	0909.0	III	GG	3	40X	580	
			LEAR	0907.0	0908.0	III		1	25	180	
			BLN	0907.3	0907.4	III	RS	2	350	580	
			IZMI	0936.5	0938.4	III	GG,C	2	25	160	
			SVTO	0937.0	0938.0	V		2	25U	180U	
			POTS	0937.1	0942.5	III	GG,N	3	40X	370	
			IZMI	0939.3	0939.5	III	B	2	45	150	
			SVTO	0941.0	0942.0	III		1	25	180	
			IZMI	0942.0	0942.4	III	G	2	40	100	
			IZMI	0943.9	0944.0	III	G	1	110	160	
			SVTO	1003.0	1020.0	III	N	2	25	180	
			SVTO	1003.0	1325.0	III	N	2	25	180	
			IZMI	1005.1	1007.3	III	G	2	25X	270X	
			POTS	1005.1	1008.7	III	GG,N	3	40X	340	
			IZMI	1009.3	1010.2	III	G	1	45	65	
			IZMI	1032.7	1036.0	III	GG	2	25X	160	
			POTS	1032.7	1038.0	III	GG,N	2	40X	360	
			IZMI	1055.0	1100.0	III	GG	2	25X	270X	
			POTS	1056.8	1100.0	III	GG,N	3	40X	400U	
			IZMI	1122.2	1127.0	III	GG,C	2	25X	180	
			POTS	1122.3	1127.0	III	GG	2	40X	370	
			SVTO	1123.0	1127.0	V		2	25	180	
			IZMI	1128.2	1129.5	III	GG	2	50	145	
			POTS	1138.1	1139.0	III	GG	2	40X	330	
			IZMI	1138.5	1139.0	III	G	2	25X	220	
			IZMI	1151.9	1159.1	III	GG,C	2	25X	270X	
			POTS	1152.5	1200.2	III	GG	3	40X	480	
			SGMR	1153.0	1157.0	III		2	30	80	
			SVTO	1154.0	1155.0	V		2	25	180	
			POTS	1215.2	1215.5	III	B	3	40X	240	
			POTS	1222.8	1231.6	III	G,N	2	40X	230	
			POTS	1242.2	1247.3	III	G,N	2	40X	300	
			HOLL	1246.0	1247.0	III		1	25	90	
			SGMR	1246.0	1318.0	III	N	1	30	80	
			HOLL	1312.0	1319.0	III		1	25	131	
			POTS	1312.2	1319.3	III	GG	3	40X	470	
			HOLL	1441.0	2249.0	III	N	2	25	180	
			ONDR	1607.1	1609.5	DCIM	G,W	1	800X	2000X	
			BLN	1607.7	1614.0	III	GG,RS,V	2	150	4000X	
			POTS	1607.7	1609.1	III	G	2	120	510	
			ONDR	1608.1	1609.3	DCIM	G	1	2000X	4500X	
			PALE	1645.0	2118.0	III	N	2	25	180	
			SGMR	1645.0	1706.0	III	N	3	30	80	
			POTS	1701.3	1714.5	III	G	2	40X	220	
			SGMR	1707.0	1711.0	III		1	30	80	
			HOLL	1807.0	1810.0	V		2	25	154	
			SGMR	1807.0	1811.0	III		3	30	80	
			BLN	1807.4	1808.8	III	GG	2	250	600	
			POTS	1807.4	1811.4	III	GG	3	40X	520	
			SGMR	2008.0	2020.0	III	N	1	30	80	
			HIRA	2008.0	2010.0	III	G	2	30	140	
			HIRA	2020.5	2021.0	III	B	1	30	110	
			CULG	2100.0E	2132.0	I	S	1	75	150	
			CULG	2152.0	2250.0	III	N	1	57X	130	
			CULG	2201.0	2202.0	III	G	3	57X	180	
			HOLL	2201.0	2203.0	V		2	25	180	
			PALE	2201.0	2203.0	V		3	25	180	
			SGMR	2201.0	2202.0	III		2	30	80	
			HOLL	2325.0	0037.0	III	N	1	25	127	
			CULG	2326.0	2326.0	III	B	1	57X	130	
05	0000	0650	CULG	0016.0	0039.0	III	N	1	57X	180	
			LEAR	0019.0	0037.0	III	N	1	25	174	
			PALE	0019.0	0316.0	III	N	1	25	180	
			CULG	0119.0	0126.0	III	GG	1	57X	450	
			HOLL	0120.0	0125.0	III		1	25	180	
			LEAR	0120.0	0125.0	III		1	29	147	
			HIRA	0120.0	0122.0	III	G	1	40	140	

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OBSERVATION			Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day	Start (UT)	End (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
05			HIRA	0122.5	0125.0	III	G	1	200	600	
			CULG	0131.0	0134.0	UNCLF		1	140	180	
			LEAR	0141.0	0154.0	III		1	29	153	
			HIRA	0141.5	0142.0	III	B	1	30	110	
			CULG	0142.0	0144.0	III	G	1	57X	170	
			CULG	0149.0	0149.0	III	B	1	57X	90	
			CULG	0213.0	0216.0	III	G	1	57X	90	
			LEAR	0213.0	0331.0	III	N	1	28	136	
			CULG	0227.0	0337.0	III	N	1	57X	180	
			HIRA	0306.5	0307.5	III	G	1	40	130	
0416	1745		ONDR								
0336	1848		POTS	0428.6	0428.9	III	GG	3	260	440	
			CULG	0429.0	0429.0	III	B	1	250	400	
			POTS	0440.8	0444.0	III	GG	3	200U	480	
			CULG	0441.0	0441.0	III	B	1	220	450	
			HIRA	0441.0	0441.5	III	B	1	200	380	
0435	1815		BLEN	0441.0	0443.9	III	GG	2	180	600	
			LEAR	0456.0	0457.0	III		1	56	134	
			SVTO	0456.0	0456.0	III		1	41	125	
			HIRA	0456.5	0457.0	III	B	1	50	100	
			CULG	0457.0	0457.0	III	B	1	57X	140	
			POTS	0504	0519	I	S,N	1	100	240	
			POTS	0505.4	0505.5	DCIM	RS	2	320	400	
			POTS	0541.1	0546.5	III	GG,N	3	40X	470	
			CULG	0544.0	0545.0	III	G	2	57X	180	
			HIRA	0544.0	0546.0	III	G	2	30	200	
			LEAR	0544.0	0546.0	III		1	25	180	
			SVTO	0544.0	0546.0	V		1	25	150	
0543	0547		IZMI	0544.4	0545.9	III	GG	2	25X	90U	
0547	1200		IZMI	0544.9	0546.7	V	G	2	25X	90	
			CULG	0545.0	0547.0	V		2	57X	90	
			POTS	0546	0605	I	S,N	1	60	250	
			SVTO	0624.0	0624.0	III		1	25U	82U	
			IZMI	0624.4	0624.5	III	B	2	45	125	
			CULG	0625.0	0625.0	III	B	1	57X	90	
			POTS	0706	0842 U	I	S,N	1	150	400U	
			POTS	0739.0	0740.1	III	GG	2	150	420	
			POTS	0755.6	0759.8	III	GG,N	2	130	420	
			SVTO	0808.0	0808.0	III		1	25	75	
			POTS	0903	1129	I	S,N,C	2	50	400U	
			IZMI	0921.5	0922.7	III	G	1	45	90	
			IZMI	0924.7	0925.9	III	G	1	50	160	
			IZMI	0925.0U	0935.0U	I	S	1	45	160	
			IZMI	1034.4	1034.9	III	G	1	45	145	
			POTS	1034.6	1035.1	III	GG	2	50	160	
			SVTO	1119.0	1120.0	III		1	25	157	
			IZMI	1119.3	1120.1	III	GG	2	25X	175	
			POTS	1119.3	1120.4	III	GG	3	40X	230	
			POTS	1218	1248	I	S,N	1	120	260	
			POTS	1514	1626 U	I	S,N	1	130	240	
			HOLL	1846.0	1847.0	III		1	25	87	
			PALE	1846.0	1847.0	III		1	25	105	
			SGMR	1846.0	1847.0	V		1	30	68	
			POTS	1846.1	1847.3	III	GG	2	200U	250	
			HOLL	2309.0	2312.0	III		1	25	180	
			LEAR	2311.0	2311.0	III		1	77	180	
1918	2400		HIRA	2311.0	2312.0	III	B	1	40	210	
2100	2400		CULG	2311.0	2311.0	III	B	1	57X	180	
06			HOLL	0044.0	0045.0	III		2	25	180	
			PALE	0044.0	0046.0	V		1	25	180	
			HOLL	0045.0	0046.0	V		1	25	86	
			LEAR	0045.0	0046.0	V		2	25	180	
0000	0650		CULG	0045.0	0047.0	III	G	3	57X	180	
0000	0954		HIRA	0045.0	0046.5	III	G	3	25X	180	
			CULG	0051.0	0058.0	III	G	1	57X	180	
			CULG	0125.0	0125.0	III	B	1	57X	180	
			HIRA	0125.0	0125.5	III	B	1	100	200	
			CULG	0307.0	0308.0	III	G	1	57X	170	

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OBSERVATION		Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day	Start End (UT) (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
06		HIRA	0307.0	0307.5	III	B	1	30	140	
		LEAR	0307.0	0307.0	III		1	25	147	
		CULG	0314.0	0314.0	III	B	1	57X	120	
	0415 1746	ONDR								
	0336 1848	POTS	0422 U	0539 U	I	S,N	1	60	340	
		POTS	0440.8	0442.5	III	GG	2	110	170U	
		CULG	0441.0	0444.0	III	G	1	57X	170	
		HIRA	0441.0	0442.0	III	G	1	40	120	
		LEAR	0441.0	0442.0	III		1	25	96	
		SVTO	0441.0	0442.0	III		1	25	81	
		POTS	0618.5	0620.0	III	GG	2	110	170U	
		CULG	0619.0	0620.0	III	G	1	57X	180	
		POTS	0705.9	0711 U	I	S,N	1	60	170U	
		POTS	0706.4	0709.5	III	GG	3	40X	170U	
		LEAR	0708.0	0709.0	III		1	25	180	
		SVTO	0708.0	0710.0	III		1	25U	83U	
	0550 1200	IZMI	0708.6	0709.5	III	G	2	25X	155	
		HIRA	0709.0	0710.0	III	B	2	40	150	
		IZMI	0709.0	0710.0	V		2	45	85	
		POTS	0709.2	0709.9	V	G	3	40X	80	
		HIRA	0743.5	0744.0	III	B	1	80	130	
		POTS	0743.7	0745.3	III	GG	2	70	280	
		IZMI	0743.8	0744.2	III	GG,FS	1	50	155	
		POTS	0823.1	0823.4	III	G	2	120	170U	
		POTS	0831.9	0832.8	III	G	3	40X	170U	
		SVTO	0832.0	0832.0	III		1	25	81	
		IZMI	0832.4	0832.8	III	G	2	25X	100	
		SVTO	1050.0	1051.0	III		2	25	119	
		POTS	1050.3	1051.7	III	G	2	40X	170U	
		IZMI	1050.7	1051.5	III	GG	2	25X	125	
		POTS	1151.4	1152.9	III	G	2	45	240	
		POTS	1152	1247 U	I	S,N	1	120	340	
		IZMI	1152.6	1152.9	III	B	1	45	65	
		POTS	1428.7	1429.4	III	G	2	130	400U	
		POTS	1513.4	1513.5	III	B	2	300	400	
		HOLL	1515.0	1518.0	III		1	25	83	
		SVTO	1515.0	1518.0	III		1	28U	82U	
		POTS	1515.8	1519.1	III	G	2	40X	170U	
		POTS	1555.5	1559.7	III	GG	2	50	170U	
		HOLL	1556.0	1557.0	III		1	25	127	
		SVTO	1556.0	1557.0	III		1	33	126	
	0435 1815	BLEN	1636.9	1641.0	III	GG,RS,S	2	400	4000X	
		HOLL	1659.0	1707.0	V		2	25	180	
		PALE	1659.0	1706.0	III		2	25	180	
		SGMR	1659.0	1707.0	V		2	30	80	
		SVTO	1659.0	1706.0	V		2	25	180	
		POTS	1659.5	1707.3	III	GG	3	40X	500	
		BLEN	1700.5	1706.2	III	GG,RS	2	130	4000X	
		POTS	1721 U	1749 U	I	S,N	1	120	250	
		POTS	1759.9	1805.6	III	GG	2	110U	400U	
		HOLL	2209.0	2210.0	III		1	25	53	
	1918 2400	HIRA	2209.5	2210.0	III	B	1	25X	100	
	2100 2400	CULG	2248.0	2251.0	III	G	1	57X	90	
		HIRA	2250.0	2250.5	III	B	1	25X	60	
		HOLL	2250.0	2251.0	III		1	25	59	
07		LEAR	0202.0	0202.0	III		1	25	116	
	0000 0650	CULG	0308.0	0312.0	III	G	1	57X	260	
		LEAR	0310.0	0312.0	III		1	25	180	
	0000 0955	HIRA	0310.0	0312.0	III	G	2	25X	210	
		CULG	0402.0	0402.0	III	B	1	600	850	
		CULG	0413.0	0415.0	III	G	1	60	750	
		HIRA	0413.0	0415.0	III	G	2	110	450	
		LEAR	0413.0	0414.0	III		1	110	180	
		SVTO	0413.0	0414.0	III		1	128U	180U	
	0415 1747	ONDR								
	0435 1815	BLEN								
		HIRA	0548.5	0551.0	III	G	1	120	230	
		CULG	0550.0	0550.0	III	B	1	75	300	

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OBSERVATION			Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day	Start (UT)	End (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
07	0600	1200	IZMI	0612.0	0629.0	I	N	1	200	270	
			IZMI	0618.3	0624.0	I	GG,DC	2	200	240	
			LEAR	0713.0	0714.0	III		1	25	75	
	0754	1848	POTS	0838	0917 U	I	S,N	1	200U	330	
			POTS	0943.2	0944.2	DCIM		2	360	580	
			POTS	1132 U	1303 U	I	S,N	1	200U	350	
	2110	2400	POTS	1503.7	1504.7	DCIM		2	280	330	
			CULG	2125.0	2125.0	III	B	1	57X	130	
			CULG	2258.0	2258.0	III	B	1	57X	160	
	1918	2400	HIRA	2302.5	2303.0	III	B	2	25X	50	
			CULG	2303.0	2303.0	III	B	1	57X	160	
			CULG	2330.0	2330.0	III	B	1	57X	180	
			HIRA	2330.0	2331.0	III	B	2	25X	250	
			HOLL	2330.0	2330.0	III		1	25	86	
			LEAR	2330.0	2330.0	III		1	25	180	
			CULG	2351.0	2354.0	III	G	1	57X	180	
08	0000	0650	CULG	0008.0	0009.0	III	G	1	57X	170	
			HIRA	0008.0	0008.5	III	B	1	25X	110	
			CULG	0042.0	0045.0	III	G	1	57X	130	
			PALE	0151.0	0153.0	III		1	25	180	
			CULG	0152.0	0154.0	III	G	2	57X	280	
			LEAR	0152.0	0153.0	III		1	25	180	
			HIRA	0153.0	0153.5	III	B	2	25X	320	
			CULG	0316.0	0318.0	III	G	1	57X	180	
			POTS	0420.1	0420.5	III	G	2	130	400U	
	0336	1848	BLEN								
			CULG	0457.0	0458.0	III	G	1	57X	180	
			POTS	0457.0	0458.4	III	G	2	110	170U	
	0435	1815	CULG	0541.0	0544.0	III	G	1	57X	180	
			POTS	0541.7	0542.2	III	G	2	50	170U	
			SVTO	0542.0	0543.0	III		1	25	79	
			POTS	0553.8	0608 U	I	S,N	1	300	350	
			POTS	0635 U	0726 U	I	S,N	1	200	350	
			POTS	0717.8	0718.2	III	G	2	130	170U	
	0600	1200	IZMI	0726.3	0728.3	III	GG,C	2	25X	165	
			POTS	0726.5	0727.5	III	G	2	40X	170U	
			HIRA	0727.0	0727.5	III	B	1	50	140	
			LEAR	0727.0	0728.0	III		1	25	138	
			SVTO	0727.0	0728.0	III		1	25U	82U	
			POTS	0727.3	0728.3	V	B	2	40X	90	
			IZMI	0734.0	0735.2	III	G	1	45	140	
			POTS	0734.0	0735.1	III	GG	2	40X	240	
			IZMI	0803.0U	0841.0U	I	N	1	190	270X	
			POTS	0806 U	0844 U	I	S,N	2	130	260	
			POTS	0809.5	0815.5	III	GG	2	130	320	
			IZMI	0811.5	0812.2	I	GG	2	130	270X	
			POTS	0845.9	0850.7	III	GG	3	40X	470	
			LEAR	0846.0	0847.0	III		1	25	87	
			SVTO	0846.0	0847.0	III		1	25U	82U	
			HIRA	0846.5	0848.0	III	G	1	40	110	
			IZMI	0846.8	0848.4	III	G,FS	2	25X	270X	
			IZMI	0847.4	0847.8	V		2	45	60	
			POTS	0906 U	1116 U	I	S,N,DC	2	130	250	
			IZMI	0921.0U	1018.0U	I	N	1	140	250	
			IZMI	1105.0	1116.0	I	N	1	200	250	
			IZMI	1114.7	1115.4	I	GG	2	165	220	
			POTS	1143 U	1350 U	I	S,N,DC	2	110U	400U	
			IZMI	1151.8	1152.0	III	B	1	45	90	
	0415	1747	ONDR	1236.5	1237.4	DCIM	GG	1	1100	2000X	
			SVTO	1322.0	1340.0	III	N	1	25U	82U	
			POTS	1350 U	1600 U	IV		3	110U	750	
			SVTO	1433.0	1508.0	III	N	1	25	180	
			ONDR	1438.5	1440.1	DCIM	G	1	1077	1822	
			HOLL	1449.0	1449.0	III		1	25	50	
			ONDR	1451.0	1454.5	DCIM	G	2	884	1269	
			HOLL	1502.0	1508.0	III		1	25	180	
			POTS	1600 U	1744 U	I	S,N,DC	2	130	400U	
			HOLL	1637.0	1638.0	III		2	25	146	

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OBSERVATION			Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day (UT)	Start (UT)	End (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
08			PALE	1637.0	1638.0	III		1	25	153	
			SGMR	1637.0	1638.0	V		3	30	80	
			SVTO	1637.0	1637.0	III		2	25	150	
			POTS	1637.1	1637.7	III	B,U	3	40X	170U	
			POTS	1726.3	1726.7	III	G	2	140	320	
			PALE	1826.0	1829.0	III		1	25	134	
			SGMR	1826.0	1830.0	III		2	30	70	
			HOLL	1827.0	1829.0	III		1	25	157	
			PALE	2049.0	2056.0	III		1	25	51	
	1917	2400	HIRA	2049.5	2051.0	III	G	1	25X	60	
			SGMR	2050.0	2050.0	III		1	30	50	
	2110	2400	CULG	2110.0E	2150.0	I	S	1	110	250	
			CULG	2116.0	2153.0	III	N	1	57X	180	
			HOLL	2140.0	2333.0	III	N	1	25	131	
			PALE	2140.0	0332.0	III	N	1	25	180	
			SGMR	2140.0	2141.0	III		1	30	60	
			HIRA	2141.0	2141.5	III	B	2	25X	100	
			SGMR	2150.0	2150.0	III		1	30	50	
			CULG	2221.0	2223.0	III	G	2	57X	180	
			HIRA	2221.0	2222.0	III	B	2	25X	200	
			SGMR	2221.0	2221.0	III		1	30	60	
			CULG	2227.0	2227.0	III	B	1	57X	100	
			HIRA	2227.0	2227.5	III	B	2	25X	80	
			CULG	2239.0	2240.0	III	G	1	57X	120	
			CULG	2305.0	2333.0	III	N	1	57X	150	
			HIRA	2305.0	2305.5	III	B	1	30	200	
			HIRA	2333.0	2333.5	III	B	1	25X	100	
			LEAR	2333.0	2333.0	III		1	30	61	
09			LEAR	0013.0	0033.0	III	N	1	25	175	
	0000	0650	CULG	0014.0	0034.0	III	N	1	57X	180	
	0000	0956	HIRA	0032.5	0033.5	III	G	1	40	200	
			CULG	0213.0	0213.0	III	G	1	57X	90	
			CULG	0309.0	0309.0	III	B	1	57X	150	
			LEAR	0327.0	0332.0	III		2	25	154	
			HIRA	0327.5	0328.0	III	B	2	30	100	
			CULG	0328.0	0334.0	III	G	2	57X	180	
			HIRA	0332.0	0332.5	III	B	2	25X	150	
	0336	1848	POTS	0407 U	0803 U	I	S,N	1	200U	400U	
			POTS	0413.6	0414.0	III	G	2	200U	530	
	0415	1748	ONDR								
			CULG	0440.0	0443.0	III	G	1	57X	180	
			HIRA	0440.0	0443.5	III	G	1	40	200	
			LEAR	0440.0	0443.0	III		1	25	180	
			SVTO	0440.0	0443.0	III		1	25U	180U	
			POTS	0442.6	0443.1	III	G	2	110U	280	
			LEAR	0629.0	0633.0	III		1	25	136	
			SVTO	0629.0	0633.0	III		2	25U	180U	
			HIRA	0629.5	0634.0	III	G	3	25X	200	
			IZMI	0629.5	0629.9	V		2	55	85	
			POTS	0629.5	0633.9	III	GG,N	3	40X	240	
	0600	1200	IZMI	0629.5	0630.2	III	G,C	2	25X	160	
			CULG	0630.0	0630.0	III	B	3	57X	180	
			CULG	0632.0	0634.0	III	G	1	57X	130	
			IZMI	0632.0	0633.9	III	GG	2	45	170	
			IZMI	0650.0	0708.2	I	N	1	200	270	
			IZMI	0841.7	0852.0	I	N	1	200	270	
			POTS	0929 U	1049	I	S,N,DC	2	110U	400U	
			IZMI	0932.0	1050.0	I	N	1	190	270X	
			IZMI	0957.1	1020.0U	I	S,DC	2	80	270X	
	0435	1815	BLEN	1000.2	1013.3	III	GG,RS	1	300	1600	
			IZMI	1007.6	1008.8	I	G	2	180	270X	
			POTS	1101 U	1717	I	S,N,C,DC	2	200U	480	
			BLEN	1120.7	1121.4	III	G,RS	1	290	500	
			HOLL	1326.0	1327.0	III		1	25	144	
			SVTO	1326.0	1327.0	III		1	25	83	
			SGMR	1327.0	1327.0	III		1	30	70	
			POTS	1423.0	1443	III	GG,N	3	40X	480	
			SGMR	1429.0	1430.0	III		1	45	55	

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OBSERVATION		Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day (UT)	Start End (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
09		SVTO	1429.0	1430.0	III		1	25U	180U	
		BLEN	1431.4	1434.7	DCIM	P	1	290	500	
		HOLL	1607.0	1608.0	III		1	25	160	
		SVTO	1607.0	1608.0	III		1	25	180	
		POTS	1607.5	1618.5	III	GG,N	3	110U	430	
		BLEN	1618.3	1627.9	III	GG	1	210	480	
		HOLL	1625.0	1626.0	III		1	25	134	
		SVTO	1626.0	1626.0	III		1	72U	83U	
		POTS	1631.0	1644.5	III	GG,N	3	110U	400U	
		POTS	1716.6	1716.7	III	B	2	110U	320	
		POTS	1756 U	1847 U	I	S,N,DC	2	270	400U	
		HOLL	1926.0	1941.0	III	N	1	25	85	
		PALE	1926.0	1926.0	III		1	25	54	
		2110 2400	CULG	2138.0	2216.0	III	N	1	57X	90
			CULG	2246.0	2246.0	III	G	1	75	450
			HOLL	2246.0	0149.0	III	N	1	25	160
			CULG	2255.0	2258.0	III	G	1	57X	180
		1917 2400	PALE	2255.0	0341.0	III	N	2	25	180
			CULG	2301.0	2315.0	I	S	1	120	160
			CULG	2310.0	2313.0	III	G	2	57X	180
			HIRA	2310.5	2311.0	III	B	2	25X	
10	0000 0650	CULG	0111.0	0112.0	III	G	1	57X	90	
		LEAR	0130.0	0130.0	III		1	33	154	
		CULG	0131.0	0131.0	III	G	1	57X	130	
		LEAR	0149.0	0152.0	III		3	25	180	
	0000 0956	CULG	0150.0	0152.0	III	G	3	57X	180	
		HIRA	0150.0	0152.0	III	G	2	25X		
		CULG	0204.0	0207.0	III	G	1	57X	180	
		CULG	0230.0	0232.0	UNCLF		1	140	180	
		CULG	0239.0	0239.0	III	B	1	60	750	
		CULG	0241.0	0241.0	III	B	3	57X	180	
		HIRA	0241.0	0241.5	III	B	1	30		
		LEAR	0241.0	0241.0	III		2	25	147	
		CULG	0301.0	0302.0	III	G	2	57X	180	
		LEAR	0301.0	0341.0	III	N	2	25	180	
		HIRA	0301.5	0302.0	III	B	1	25X		
		CULG	0311.0	0313.0	III	G	1	57X	140	
		SVTO	0340.0	0341.0	III		1	25	82	
		CULG	0341.0	0346.0	III	G	1	57X	200	
	0336 1818	POTS	0357 U	1311 U	I	S,N,C,DC	3	120	400U	
	0435 1815	BLEN	0517.6	0529.0	III	GG,U,S	2	100X	1700	
		LEAR	0525.0	0526.0	III		1	136	180	
		SVTO	0525.0	0526.0	III		1	140	180	
		POTS	0525.6	0528.9	III	GG	3	60	530	
	0550 1200	CULG	0526.0	0526.0	III	B	1	140	820	
		IZMI	0550.0E	1200.0D	I	S	2	110	270X	
		CULG	0601.0	0602.0	III	G	1	80	280	
		POTS	0601.0	0602.4	III	GG	2	120	360	
		IZMI	0601.1	0602.2	III	GG	2	80	270X	
		SVTO	0604.0	0625.0	III	N	2	25	180	
		IZMI	0604.8	0605.3	III	G,C	2	30	95	
		CULG	0605.0	0605.0	III	G	1	57X	130	
		CULG	0607.0	0650.0D	I	S	1	110	180	
		CULG	0613.0	0616.0	III	G	1	57X	160	
		IZMI	0613.0	0613.1	III	B	1	50	85	
		POTS	0614.3	0617.3	III	GG	2	40X	370	
		LEAR	0615.0	0616.0	III		2	25	180	
		IZMI	0615.7	0617.0	III	GG,C,FS	2	25X	240	
		CULG	0616.0	0617.0	III	G	3	57X	180	
		HIRA	0616.0	0616.5	III	B	2	25X		
	0414 1749	CULG	0622.0	0625.0	III	G	1	57X	150	
		IZMI	0623.1	0625.5	III	G	2	30	90	
		LEAR	0630.0	0755.0	CONT		1	98	180	
		SVTO	0630.0	0809.0	CONT		1	114	153	
		ONDR	0632.3	0632.4	DCIM	G	1	2430	4363	
		BLEN	0633.8	0634.6	III	GG	2	300	600	
		POTS	0633.8	0634.4	III	GG	2	140	660	
		CULG	0634.0	0634.0	III	B	1	350	550	

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SOLAR RADIO EMISSION Spectral Observations

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OBSERVATION			EVENT				FREQUENCY			Remarks		
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	Lower (MHz)		Upper (MHz)	
10			POTS	0710.3	0713.1	III	GG	2	140	530		
			IZMI	0711.5	0713.0	III	GG	2	130	270X		
			IZMI	0732.9	0733.0	III	B	2	80	270X		
			IZMI	0736.2	0739.1	III	GG	2	80	270X		
			IZMI	0742.5	0748.0	III	GG	2	55	270X		
			IZMI	0750.1	0750.8	I	GG	2	180	265		
			BLER	0800.0	1354.0	I	DC	3	180	470		
			LEAR	0830.0	0830.0	III		1	51	180		
			SVTO	0830.0	0830.0	III		1	33U	142U		
			IZMI	0830.3	0830.9	III	G,C	2	45	270X		
			IZMI	0833.4	0834.8	III	G	1	45	95		
			IZMI	0838.1	0840.0	III	G,HARM	1	30	85		
			IZMI	0846.8	0847.7	III	G	2	25X	95		
			IZMI	0854.7	0854.9	III	G	2	70	260		
			POTS	0953.1	0955.9	III	GG	2	150	440		
			BLER	0954.6	0955.7	III	GG	1	280	600		
			IZMI	1002.9	1008.2	III	GG	2	180	270X		
			ONDR	1155.0	1155.5	DCIM	G	1	2000X	4500X		
			ONDR	1155.1	1155.4	DCIM	G	1	1386	2000X		
			BLER	1155.2	1155.9	III	RS	3	1300	4000X		
			POTS	1318 U	1346 U	I	S,N	1	260	400U		
			POTS	1403.0	1405.8	I	DC	2	200U	350		
			POTS	1423 U	1817 U	I	S,N	1	240	400U		
			POTS	1514.0	1518.9	III	GG	2	130	470		
	1917	2400		HIRA								
	2110	2400		CULG	2112.0	2112.0	III	B	1	100	150	
				CULG	2130.0	2345.0	I	S	1	130	180	
				CULG	2217.0	2218.0	III	G	1	57X	180	
				CULG	2222.0	2222.0	III	B	1	57X	180	
				LEAR	2317.0	0023.0	CONT		1	99	180	
				LEAR	2317.0	0929.0	CONT		1	52	180	
11	0000	0957	HIRA									
	0000	0650	CULG	0046.0	0650.00	I	S,C	1	110	180		
			LEAR	0118.0	0929.0	CONT		1	52	180		
			CULG	0231.0	0650.00	III	N	1	60	180		
	0335	1848	POTS	0346 U	1848 U	I	S,C,DC,N	3	50	600		
	0414	1749	ONDR									
			SVTO	0422.0	1755.0	CONT		1	39	180		
			SVTO	0533.0	0534.0	III		1	25	180		
			IZMI	0602.0E	1200.00	I	S	2	50	270X		
	0602	1200	IZMI	0602.0E	1200.00	III	N	1	45	95		
			CULG	0607.0	0608.0	III	G	2	57X	150		
			SVTO	0607.0	0607.0	III		1	25	180		
			IZMI	0607.2	0607.6	III	G,C	2	25X	160		
			POTS	0607.3	0607.4	III	B	2	50	300U		
			IZMI	0630.7	0633.6	III	GG	2	45	255		
			SVTO	0632.0	0632.0	III		1	36	180		
			POTS	0632.3	0632.8	III	G	2	40X	470		
			IZMI	0640.7	0641.0	III	G	2	80	190		
			IZMI	0653.4	0654.6	III	GG	2	60	250		
			IZMI	0715.7	0718.5	III	GG	2	30	250		
			POTS	0715.7	0718.5	III	GG	3	40X	440		
			IZMI	0740.6	0741.5	III	G	2	180	260		
			IZMI	0746.7	0749.3	III	GG	2	45	250		
			LEAR	0747.0	0808.0	III	N	1	25	180		
			SVTO	0747.0	0808.0	III	N	1	25	180		
			POTS	0747.2	0808.2	III	GG,N	3	40X	400U		
			IZMI	0757.0	0759.8	III	GG	2	25	160		
			IZMI	0802.6	0804.5	III	GG	2	25	180		
			IZMI	0807.1	0809.5	III	GG	2	45	140		
			POTS	0857.0	0925.3	III	GG,N	2	40X	400U		
			SVTO	0906.0	1132.0	III	N	1	25	156		
			IZMI	0906.4	0908.5	III	G	2	25X	130		
			IZMI	0912.3	0919.4	III	GG	2	30	160		
			IZMI	0920.1	0925.2	III	GG	2	25X	140		
			IZMI	0953.5	0954.8	III	G	2	160	270X		
			POTS	1012.8	1034	III	GG,N	3	40X	400U		
			IZMI	1013.1	1014.6	III	G	2	25X	160		

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OBSERVATION			Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day	Start (UT)	End (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
11			IZMI	1017.2	1026.0	III	GG	2	30	160	
			POTS	1051	1102	III	GG,N	2	40X	170U	
			IZMI	1051.1	1101.0	III	GG	2	45	120	
			IZMI	1112.1	1125.7	III	GG	2	35	140	
			IZMI	1132.0	1136.7	III	GG	2	45	270X	
			POTS	1132.0	1135.4	III	GG,N	3	40X	470	
			POTS	1215	1219	III	G	2	40X	250	
			SVTO	1218.0	1237.0	III	N	1	25	149	
			POTS	1232.7	1237.2	III	G	3	40X	230	
			SVTO	1402.0	1403.0	III		1	37	142	
			POTS	1402.8	1403.1	III	G	3	40X	170U	
			SVTO	1504.0	1657.0	III	N	1	25U	82U	
			HOLL	1630.0	1827.0	III	N	1	25	87	
			SGMR	1811.0	1826.0	III	N	1	30	55	
			HOLL	2019.0	0100.0	III	N	1	25U	85U	
			HOLL	2019.0	2019.0	III		1	25	89	
	1917	2400	HIRA	2019.5	2020.0	III	B	1	25X		
	2110	2400	CULG	2120.0	2314.0	III	N	1	57X	180	
			CULG	2236.0	2400.0D	I	S	1	130	180	
			CULG	2343.0	2343.0	III	G	1	57X	180	
			LEAR	2346.0	2349.0	III		1	71	159	
			CULG	2347.0	2349.0	III	G	1	70	130	
12	0000	0650	CULG	0000.0E	0650.0D	I	S	1	100	180	
			LEAR	0005.0	0338.0	CONT		1	60	180	
			CULG	0043.0	0259.0	III	N	1	57X	180	
			HOLL	0132.0	0133.0	III		1	25	168	
			LEAR	0132.0	0135.0	III		1	25	180	
	0000	0957	HIRA	0132.5	0136.0	III	G	1	25X		
			CULG	0133.0	0136.0	III	G	2	57X	180	
			CULG	0145.0	0158.0U	II	SH	2	57X	100	ESS 450
			LEAR	0145.0	0152.0	II		1	56U	99U	ESS 0296
			CULG	0200.0	0200.0	III	B	2	57X	250	
			LEAR	0221.0	0226.0	III		2	25	180	
			CULG	0222.0	0225.0	III	GG	2	57X	180	
			CULG	0251.0	0251.0	III	G	1	57X	300	
			CULG	0328.0	0333.0	III	G	1	57X	130	
	0335	1848	POTS	0335 E	1848 U	IV		3	170U	480	
			CULG	0336.0	0338.0	III	G	1	57X	300	
			CULG	0345.0	0412.0	III	N	1	57X	150	
			CULG	0443.0	0650.0D	III	N	1	57X	180	
			SVTO	0513.0	0513.0	III		1	37	52	
			LEAR	0522.0	0643.0	III	N	1	25	180	
			SVTO	0530.0	0634.0	III	N	1	25	180	
			CULG	0539.0	0612.0	I	S,C	1	60	100	
			IZMI	0550.0E	0930.0U	III	N	1	45	95	
	0550	1200	IZMI	0550.0E	1200.0D	I	S	2	50	270X	
			IZMI	0615.6	0617.5	III	GG	2	25X	270X	
			HIRA	0616.0	0617.5	III	G	1	25X		
			POTS	0616.2	0617.9	III	G	3	40X	400U	
			IZMI	0633.6	0636.8	III	GG	2	45	270X	
			POTS	0634.2	0635.1	III	G	2	40X	430	
			CULG	0649.0	0650.0D	III	G	3	57X	200	
			LEAR	0649.0	0651.0	III		3	25	180	
			LEAR	0649.0	0651.0	V		3	25	180	
			SVTO	0649.0	0651.0	V		3	25	180	
			IZMI	0649.2	0650.2	III	GG	3	25X	270X	
	0430	1815	BLEN	0649.2	0650.2	III	G,C	2	100X	3800	
			ONDR	0649.3	0650.1	DCIM	G,W	1	800X	2000X	
	0414	1750	ONDR	0649.3	0650.1	DCIM	W	1	2000X	4500X	
			HIRA	0649.5	0651.0	III	B	3	25X		
			IZMI	0649.5	0651.0	V		2	25X	85	
			POTS	0649.8	0650.9	III	G	3	40X	420	
			POTS	0650.6	0651.8	V	G	3	40X	130	
			IZMI	0745.2	0745.4	III	B	1	25X	95	
			LEAR	0813.0	0837.0	III	N	1	25	122	
			IZMI	0813.8	0813.9	III	B	1	50	110	
			SVTO	0816.0	0817.0	III		1	28U	58U	
			IZMI	0816.8	0817.0	III	G	2	25X	115	

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OBSERVATION			Sta	Start		EVENT		Int	FREQUENCY		Remarks
Day	Start (UT)	End (UT)		(UT)	(UT)	Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
12			POTS	0817.7	0818.0	III	B	2	40X	140	
			IZMI	0832.4	0832.6	III	B	2	25X	95	
			SVTO	0835.0	0836.0	III		1	28U	83U	
			IZMI	0836.1	0837.4	III	G	2	25X	95	
			POTS	0837.3	0838.5	III	G	2	40X	90U	
			IZMI	0902.5	0904.0	III	G	2	25X	175	
			LEAR	0903.0	0939.0	III	N	1	25	180	
			SVTO	0903.0	0903.0	III		1	25U	84U	
			POTS	0903.8	0904.6	III	G	2	40X	170U	
			IZMI	0915.5	0915.8	III	G	1	25X	90	
			IZMI	1032.4	1039.3	III	GG	2	25X	125	
			IZMI	1042.5	1049.5	III	GG	2	25X	270X	
			BLEN	1048.5	1048.9	III	G	1	200	500	
			SVTO	1212.0	1212.0	III		1	25	38	
			SVTO	1335.0	1337.0	III		1	25	60	
			HOLL	1336.0	1349.0	III	N	1	25	68	
			SVTO	1340.0	1433.0	III	N	1	25	82	
			SGMR	1342.0	1343.0	III		1	30	45	
			SVTO	1342.0	1343.0	V		1	25	59	
			SGMR	1526.0	1526.0	III		1	30	45	
			SVTO	1526.0	1526.0	III		1	25	68	
			SVTO	1537.0	1548.0	III	N	1	25	82	
			SGMR	1546.0	1547.0	III		1	30	45	
			SGMR	1628.0	1629.0	III		1	30	40	
			HOLL	1629.0	1629.0	III		1	25	58	
			PALE	1720.0	0419.0	CONT		1	25	180	
			HOLL	1849.0	1855.0	III		1	25	75	
	1917	2400	HIRA								
			CULG	2116.0	2117.0	III	G	1	130	1100	
	2110	2400	CULG	2116.0	2116.0	III	B	1	57X	260	
			CULG	2223.0	2223.0	III	B	1	57X	180	
			CULG	2306.0	2310.0	III	G	1	57X	120	
			CULG	2353.0	2353.0	III	B	1	70	180	
			HOLL	2353.0	0000.0	III	N	1	25	84	
			LEAR	2353.0	0627.0	III	N	1	63	180	
			CULG	2359.0	2359.0	III	G	1	57X	90	
13	0000	0957	HIRA								
	0000	0650	CULG	0010.0	0015.0	III	G	1	57X	160	
			CULG	0019.0	0019.0	III	B	1	57X	90	
			CULG	0034.0	0036.0	III	G	1	57X	90	
			CULG	0058.0	0219.0	III	N	1	57X	180	
			HOLL	0116.0	0117.0	III		1	25	138	
			PALE	0117.0	0117.0	III		1	25	142	
			CULG	0338.0	0343.0	III	G	1	57X	130	
			CULG	0412.0	0413.0	III	G	1	57X	180	
	0414	1750	ONDR								
			CULG	0421.0	0650.00	I	S	1	120	160	
			CULG	0425.0	0429.0	III	G	1	57X	90	
	0430	1815	BLEN								
			CULG	0435.0	0435.0	III	B	1	57X	90	
			CULG	0441.0	0441.0	III	G	1	57X	90	
			CULG	0513.0	0513.0	III	B	1	57X	90	
			CULG	0544.0	0554.0	III	G	1	57X	180	
			SVTO	0549.0	0550.0	III		1	25	62	
	0550	0601	IZMI	0549.4	0551.6	III	GG	2	45	90X	
			IZMI	0552.6	0553.8	III	G,FS	2	50	90X	
	0601	1200	IZMI	0601.0E	1150.0U	I	N	2	130	270X	
			SVTO	0816.0	0817.0	III		1	25	55	
			LEAR	0855.0	0903.0	II		1	46	59	ESS 0545
			SVTO	0856.0	0904.0	II		1	36	77	ESS 0647
	0842	0932	POTS	0856.8	0907	II		2	40X	80	40-100MHz only
			IZMI	0857.0	0904.7	II	HARM	2	40	95	
			IZMI	0903.6	0905.7	III	G	1	50	90	
			SVTO	0904.0	0907.0	III		1	25	44	
	0932	1848	POTS	0932 E	1848 U	I	S,DC,C,N	3	120	400U	
			SVTO	1015.0	1015.0	III		1	25U	82U	
			IZMI	1015.7	1015.9	III	B	2	40	90	
			POTS	1015.7	1015.9	III	B	2	40X	400U	

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OBSERVATION			Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day	Start (UT)	End (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
13			SVTO	1444.0	1531.0	III	N	1	36	144	
			POTS	1526.5	1527.6	III	G	2	100	290	
			POTS	1615.3	1615.7	III	G	2	120	400U	
			HOLL	1819.0	1911.0	III	N	1	25	180	
			PALE	1829.0	1857.0	III	N	1	25	180	
			SGMR	1849.0	1850.0	III		1	30	80	
	1917	2400	HIRA	2018.0	2021.0	III	G	1	25X	200	
			HIRA	2116.0	2116.5	III	B	1	90	130	
	2110	2400	CULG	2116.0	2116.0	III	B	1	75	160	
			CULG	2127.0	2136.0	UNCLF		1	57X	90	
			CULG	2217.0	2217.0	III	B	1	57X	110	
			HIRA	2217.0	2217.5	III	B	1	25X	110	
			CULG	2350.0	2350.0	III	B	1	57X	80	
			LEAR	2353.0	0627.0	III	N	1	63	180	
14	0000	0650	CULG	0038.0	0041.0	III	G	1	70	160	
			CULG	0155.0	0155.0	III	B	1	57X	180	
			LEAR	0155.0	0155.0	III		1	47	180	
	0000	0958	HIRA	0155.0	0155.5	III	B	1	90	280	
			CULG	0230.0	0231.0	III	G	1	57X	110	
			LEAR	0230.0	0231.0	III		1	25	102	
			CULG	0348.0	0417.0	III	N	1	57X	180	
			LEAR	0357.0	0357.0	III		1	102	176	
			HIRA	0357.5	0358.0	III	B	1	100	190	
	0335	1848	POTS	0406 U	1351 U	I	S,N,DC,C	2	150	400U	
	0414	1751	ONDR								
			POTS	0415.7	0416.7	III	GG	2	110	380	
	0430	1815	BLEN								
			CULG	0542.0	0544.0	III	G	1	57X	180	
			LEAR	0542.0	0550.0	III		1	75	154	
			POTS	0544.2	0544.6	III	G	2	110	300	
			CULG	0550.0	0550.0	III	B	1	57X	180	
			IZMI	0550.0	0550.2	III	G,U	2	110	240	
			SVTO	0550.0	0550.0	III		1	113U	180U	
	0550	1200	IZMI	0550.0E	1200.0U	I	N	2	180	270X	
			POTS	0550.4	0550.8	III	G,U	3	110	400U	
			IZMI	0749.4	0749.5	III	B	2	40	65	
			POTS	0749.8	0750.4	III	G	2	40X	370	
			POTS	0954.8	0956.5	III	G	2	40X	170U	
			IZMI	0956.6	0958.3	III	G	1	30	70	
			IZMI	1005.6	1013.7	III	GG	1	45	90	
			IZMI	1033.5	1033.6	III	B	2	120	160	
			POTS	1410 U	1429 U	I	S,N	1	260	400U	
			POTS	1504 U	1848 U	I	S,N,DC	2	200U	400U	
			PALE	1829.0	0125.0	III	N	1	25	180	
	1917	2400	HIRA								
	2110	2400	CULG	2110.0E	2214.0	I	S	1	140	180	
			CULG	2332.0	2400.0D	I	S	1	140	180	
15	0000	0958	HIRA								
	0000	0650	CULG	0000.0E	0650.0D	I	S	1	120	180	
			CULG	0007.0	0007.0	III	B	1	60	150	
			LEAR	0012.0	0730.0	CONT		1	120	180	
			LEAR	0024.0	0024.0	III		1	62	103	
			CULG	0025.0	0025.0	III	B	1	57X	90	
	0335	1848	POTS	0347 U	1336 U	I	S,N,DC	3	110	420	
	0414	1751	ONDR								
	0420	1815	BLEN								
	0601	1200	IZMI	0601.0E	1050.0U	I	N	1	140	270X	
			POTS	1342 U	1848 U	I	S,N	1	240	400U	
	1917	2400	HIRA								
	2110	2400	CULG	2146.0	2146.0	III	B	1	57X	130	
16	0000	0650	CULG								
	0000	0958	HIRA								
	0414	1751	ONDR								
	0336	1848	POTS	0420 U	0603 U	I	S,N	1	240	400U	
			POTS	0633.2	0633.5	III	G	1	100	300	
			POTS	0647 U	0738 U	I	S,N	1	270	400U	

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OBSERVATION			Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day	Start (UT)	End (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
16	0606	1200	IZMI	0745.0U	0915.0U	I	N	1	120	270X	
			POTS	0748 U	0815 U	I	S,DC,N	2	130	360	
			IZMI	0822.0U	0915.0U	III	N	1	45	90	
	0420	1815	POTS	0834 U	0940 U	I	S,DC,N	2	200	400U	
			POTS	1021.4	1023.4	III	G,RS,U	3	110	430	
			BLN	1021.4	1025.3	III	G,RS	1	130	500	
			IZMI	1021.5	1022.1	III	GG	2	110	270X	
			IZMI	1039.4	1039.5	III	B	1	40	65	
			POTS	1224.6	1224.8	III	G	1	120	250	
			POTS	1457 U	1555	I	S,DC,N	2	230	340	
			POTS	1635.1	1635.4	III	G	2	110	240	
			POTS	1647.5	1649.8	III	GG	2	270	400U	
			BLN	1648.8	1649.8	III	RS	1	280	360	
			POTS	1718	1735	I	S,N	2	270	340	
			HOLL	1801.0	1802.0	III		1	25	87	
			POTS	1843.2	1843.8	III	G,U	2	270	330	
	2110	2400	CULG	2135.0	2135.0	III	B	1	57X	80	
			CULG	2235.0	2235.0	III	B	1	57X	250	
	1917	2400	HIRA	2235.0	2235.5	III	B	1	100	270	
17	0000	0650	CULG	0021.0	0021.0	III	B	1	57X	180	
	0414	1752	ONDR								
	0336	1848	POTS	0558	0601	I	S,DC	1	280	400U	
			POTS	0609.6	0611.7	III	GG,U	2	200U	460	
			LEAR	0701.0	0701.0	III		1	25	180	
	0555	1200	SVTO	0701.0	0702.0	V		1	25	152	
			POTS	0701.4	0702.4	III	G,RS	3	40X	240	
			IZMI	0701.4	0702.4	III	G,C	2	35	270	
			HIRA	0701.5	0702.0	III	B	2	40	210	
			POTS	0708.8	0709.0	III	B	2	200U	380	
			IZMI	0708.9	0708.9	UNCLF		2	200	270X	
			POTS	0712.9	0713.1	III	B	1	270	330	
			POTS	0718.0	0718.7	III	G	1	130	330	
			POTS	0746.0	0746.7	III	G	2	240	350	
			POTS	0854.8	0855.6	III	G	1	220	350	
			POTS	0958	1057	I	S,N,DC	2	130	350	
			POTS	1000.1	1001 0	III	G	1	130	220	
			IZMI	1015.0U	1050.0U	I	N	1	200	270X	
			POTS	1126	1152	I	S,N,DC	1	130	350	
	0420	1815	IZMI	1141.5	1141.9	I	GG	2	210	270	
			POTS	1141.5	1142.4	III	G,RS,U	2	210	370	
			BLN	1141.5	1141.9	III		1	210	340	
			POTS	1251	1350	I	S,N	1	270	380	
			HOLL	1404.0	1415.0	III	N	1	25	86	
			SVTO	1404.0	1540.0	III	N	1	25U	82U	
			POTS	1407.1	1410.0	III	G	2	40X	170	
			POTS	1519.6	1521.9	III	G	2	110	170	
			POTS	1618	1632	I	S,N	1	270	380	
			PALE	2319.0	2344.0	III	N	1	25	180	
			LEAR	2320.0	2336.0	III	N	1	25	180	
	1917	2400	HIRA	2320.0	2320.5	III	B	1	25X	110	
	2110	2400	CULG	2320.0	2320.0	III	B	1	57X	150	
			HOLL	2335.0	2336.0	III		1	25	90	
			CULG	2336.0	2337.0	III	G	1	57X	180	
			HIRA	2336.0	2336.5	III	B	1	25X	50	
18	0000	0958	HIRA								
	0000	0640	CULG	0025.0	0025.0	III	B	1	57X	90	
			CULG	0028.0	0028.0	III	B	1	57X	90	
	0335	1848	POTS	0403 U	0544	I	S,DC,N	2	150	400U	
	0414	1752	ONDR								
	0550	1200	POTS	0557	0656	I	S,N	1	270	380	
			CULG	0557.0	0557.0	III	B	1	57X	90	
			IZMI	0557.2	0557.4	III	G	1	45	90	
			LEAR	0648.0	0649.0	III		1	25	86	
			POTS	0807	0825	I	S,N	1	230	300	
			POTS	0855	0950	I	S,N	1	230	400U	
			IZMI	0907.0	0936.0	I	N	1	220	270	
			POTS	1014.8	1017.0	III	GG	3	40X	330	

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OBSERVATION			Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day	Start (UT)	End (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
18			SVTO	1015.0	1016.0	III		1	25U	127U	
			IZMI	1015.1	1016.1	III	GG	2	30	240	
			IZMI	1136.4	1137.2	III	GG	2	205	270X	
			POTS	1136.4	1137.2	III	G,U	3	150	400U	
	0420	1815	BLN	1136.4	1137.2	III	GG	2	190	420	
			POTS	1224.8	1225.0	III	G	3	200U	330	
			POTS	1248.8	1257.0	III	GG	2	50	170U	
			SVTO	1249.0	1251.0	III		1	25U	82U	
			SVTO	1340.0	1344.0	III		1	25U	81U	
			HOLL	1341.0	1344.0	III		1	25U	60U	
			POTS	1341.6	1341.8	UNCLF		1	110	170U	
			POTS	1351	1413	I	S,N	1	270	380	
			HOLL	2052.0	2053.0	III		1	25	180	
			PALE	2052.0	2054.0	III		1	25	180	
			SGMR	2052.0	2053.0	III		2	30	80	
	1917	2252	HIRA	2052.0	2055.0	III	G	2	25X	240	
	2110	2400	CULG	2314.0	2314.0	III	G	1	57X	180	
			CULG	2339.0	2339.0	III	B	1	57X	180	
19			LEAR	0240.0	0241.0	III		1	25	135	
	0000	0640	CULG	0241.0	0241.0	III	B	1	57X	90	
			HIRA	0241.0	0241.5	III	B	1	40	60	
	0049	0959	CULG	0255.0	0257.0	III	G	1	57X	230	
			LEAR	0316.0	0325.0	III		1	68	180	
			HIRA	0316.5	0326.0	III	G	1	50	260	
			CULG	0317.0	0328.0	III	G	1	57X	180	
	0336	1848	POTS	0451	0528	I	S,N	1	200U	360	
			CULG	0509.0	0510.0	III	G	1	57X	180	
			POTS	0509.1	0524.8	III	G,U	2	100	400U	
			HIRA	0510.0	0510.5	III	B	1	100	200	
			LEAR	0510.0	0510.0	III		1	25	180	
			SVTO	0510.0	0521.0	III	N	1	25U	81U	
			CULG	0518.0	0522.0	III	G	1	57X	180	
			HIRA	0521.0	0521.5	III	B	1	100	330	
			LEAR	0521.0	0521.0	III		1	25	180	
			BLN	0521.0	0521.7	III	U	1	140	400	
	0420	1815	CULG	0601.0	0602.0	III	G	1	57X	80	
			POTS	0621	0642	I	S,N	1	270	370	
			POTS	0715	0808	I	S,N	1	120	380	
			LEAR	0834.0	0834.0	III		2	25	180	
			SVTO	0834.0	0835.0	III		2	25	180	
			BLN	0834.3	0835.2	III	GG,S	3	100X	700	
			HIRA	0834.5	0835.0	III	B	3	25X	400	
	0602	1200	IZMI	0834.5	0834.8	III	GG,C	2	25X	270X	
			IZMI	0834.8	0835.0	III	GG,C	2	25X	270X	
			POTS	0835.3	0836.4	III	GG	3	40X	470	
			SVTO	0851.0	0917.0	III	N	2	25	180	
			BLN	0851.6	0856.2	III	GG	2	100X	350	
			IZMI	0851.7	0858.0	III	GG	2	25X	270X	
			LEAR	0852.0	0856.0	III		1	82	180	
			POTS	0852.0	0920.0	III	GG,N	3	40X	400U	
			POTS	0900	1410	I	S,N	1	160	370	
			LEAR	0902.0	0904.0	III		1	25	180	
	0414	1753	IZMI	0902.4	0904.6	III	GG	2	25X	270X	
			IZMI	0914.6	0918.8	III	GG	1	120	175	
			IZMI	0916.6	0917.0	III	G	1	25X	180	
			ONDR	1003.5	1008.4	DCIM	G	2	800X	2000X	
			BLN	1003.6	1012.0	DCIM	P	3	300	4000X	
			ONDR	1004.0	1009.4	DCIM	G	2	2000X	4500X	
			POTS	1005.2	1011.1	DCIM		2	270	470	
			POTS	1017.6	1032.0	III	GG,N	2	50	250	
			SVTO	1020.0	1022.0	III		1	25	132	
			IZMI	1020.6	1021.6	III	G	1	30	160	
			POTS	1310.3	1310.8	III	G	2	110	170U	
			POTS	1514	1548	I	S,N	1	160	370	
			SVTO	1524.0	1525.0	III		1	36	56	
			POTS	1543.9	1544.4	III	G	2	110	170U	
			SVTO	1544.0	1544.0	III		1	25U	82U	
			POTS	1751	1841	I	S,N	1	270	330	

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OBSERVATION			Sta	Start		EVENT		Int	FREQUENCY		Remarks
Day	Start (UT)	End (UT)		(UT)	(UT)	Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
19			HOLL	2045.0	2121.0	III	N	1	25	180	
			PALE	2047.0	2100.0	III	N	1	25	180	
			SGMR	2047.0	2057.0	III		1	30	60	
	1918	2400	HIRA	2047.0	2058.0	III	G	1	25X	210	
	2110	2400	CULG	2300.0	2317.0	I	S	1	60	85	
20	0000	0640	CULG	0133.0	0133.0	III	B	1	57X	180	
	0000	1000	HIRA	0133.0	0133.5	III	B	1	80	140	
	0414	1753	ONDR								
	0420	1815	BLN								
			CULG	0420.0	0420.0	III	G	1	57X	120	
			HIRA	0420.0	0420.5	III	B	1	30	100	
	0336	1848	POTS	0430 U	0452	I	S,N	1	270	340	
			CULG	0635.0	0635.0	III	G	1	57X	90	
			HIRA	0635.0	0635.5	III	B	1	25X	80	
			LEAR	0635.0	0635.0	III		1	25	44	
			SVTO	0635.0	0635.0	III		1	25	73	
	0623	1200	IZMI	0635.1	0635.3	III	G,C	2	30	90	
			IZMI	0705.1	0705.7	III	G	1	45	90	
			IZMI	0721.1	0721.7	III	G	1	50	90	
			HIRA	0728.0	0728.5	III	B	2	50	200	
			LEAR	0728.0	0728.0	III		1	25U	180U	
			SVTO	0728.0	0728.0	III		1	41	180	
			IZMI	0728.1	0728.7	III	GG	2	45	240	
			HIRA	0744.0	0744.5	III	B	1	60	190	
			LEAR	0744.0	0754.0	III		1	66	180	
			LEAR	0744.0	0754.0	III	N	1	66	180	
			IZMI	0744.4	0744.6	III	B	1	50	175	
			POTS	0750 U	0926 U	I	S,N	1	220	370	
			HIRA	0754.0	0754.5	III	B	1	50	160	
			IZMI	0754.1	0754.1	III	G	2	45	160	
			SVTO	0807.0	0819.0	III	N	1	25	62	
			IZMI	0819.1	0820.0	III	G	1	45	90	
			IZMI	0823.5	0823.6	III	B	1	45	65	
			IZMI	0906.0	0906.7	III	B	1	45	90	
			POTS	1022 U	1120 U	I	S,N	1	270	330	
			POTS	1027.6	1028.5	III	G	2	150	280	
			IZMI	1028.2	1028.4	III	B	1	160	240	
			POTS	1204.6	1205.0	III	G	2	270	390	
	2110	2400	CULG	2206.0	2207.0	III	G	1	57X	180	
	1918	2400	HIRA	2207.0	2207.5	III	B	1	30	120	
			PALE	2210.0	2211.0	III		1	25	59	
			LEAR	2333.0	2335.0	III		1	68	180	
			CULG	2334.0	2334.0	III	G	1	70	160	
			HIRA	2334.0	2335.0	III	G	1	80	200	
21	0000	0640	CULG	0138.0	0138.0	III	B	1	57X	180	
			PALE	0314.0	0316.0	III		1	25	180	
	0414	1753	ONDR								
	0420	1815	BLN								
	0336	1848	POTS	0428.4	0429.1	III	G	2	130	340	
			SVTO	0452.0	0502.0	III		1	25	73	
			LEAR	0456.0	0456.0	III		1	25	87	
	0000	1000	HIRA	0504.0	0505.0	III	G	1	140	240	
			POTS	0504.2	0505.5	III	G	2	150	400U	
			POTS	0543.9	0544.4	III	G	2	120	280	
			CULG	0544.0	0544.0	III	B	1	110	190	
			CULG	0558.0	0558.0	III	G	1	57X	180	
			POTS	0558.3	0558.5	III	G	1	110	240	
	0600	1200	IZMI								
			POTS	0713.2	0714.2	III	G	2	200U	400U	
			POTS	0838.2	0850.5	III	GG,RS	1	45	170U	
			LEAR	0839.0	0930.0	CONT		1	87	180	
			POTS	0902.9	0903.6	III	G,U	2	230	470	
			POTS	0908	0918 U	III	GG	1	200U	400U	
			POTS	0917.7	0918.9	DCIM		2	350	480	
			POTS	1109.8	1110.8	III	G	1	270	400U	
			POTS	1114.4	1116.4	III	GG	1	100	170U	
			POTS	1239.3	1243.3	III	G	1	100	170U	

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OBSERVATION		Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day	Start End (UT) (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
21		POTS	1246.6	1250.9	III	GG	1	220	470	
		POTS	1620.2	1622.1	III	G	2	270	470	
	2110 2400	CULG	2212.0	2216.0	III	G	1	57X	180	
		HOLL	2213.0	2214.0	III		1	25	53	
		PALE	2213.0	2214.0	III		1	25	63	
		LEAR	2354.0	2357.0	III		1	25	119	
		CULG	2356.0	2357.0	III	G	1	57X	85	
		HOLL	2357.0	2357.0	III		1	25	50	
	1918 2400	HIRA	2357.0	2357.5	III	B	1	25X	60	
22	0000 0640	CULG	0030.0	0031.0	III	G	1	57X	130	
		CULG	0044.0	0107.0	III	N	1	57X	180	
	0415 1753	ONDR								
	0336 1848	POTS	0553.4	0558.4	III	G	1	130	250	
		POTS	0630.4	0631.3	III	G	1	270	430	
		CULG	0631.0	0640.0	III	G	1	57X	80	
	0550 1200	IZMI	0636.4	0636.5	III	B	1	45	90	
		POTS	0741.8	0745.7	III	G	1	270	480	
		SVTO	0826.0	0826.0	III		1	25	51	
		POTS	0909.2	0912.0	III	GG	3	150	480	
	0000 1000	HIRA	0910.5	0911.0	III	B	1	200	480	
	0420 1815	BLN	0910.5	0912.9	III	GG	2	220	600	
		IZMI	0910.6	0911.1	III	GG	2	220	270X	
		POTS	1051.8	1100.5	III	GG	2	200U	510	
		IZMI	1051.9	1052.0	III	B	1	45	90	
		POTS	1115.2	1115.8	III	G	2	120	320	
		IZMI	1115.3	1115.6	III	G	1	130	250	
		SVTO	1140.0	1141.0	III		1	25U	82U	
		IZMI	1140.6	1141.0	III	G	2	25X	140	
		POTS	1140.6	1141.0	III	G,RS	3	40X	170U	
		POTS	1149.8	1150.3	III	G	3	270	480	
		IZMI	1156.5	1158.0	III	G	1	45	140	
		POTS	1230.8	1230.9	III	B	1	280	400U	
		BLN	1336.3	1344.6	III	GG,S	2	200	500	
		POTS	1336.3	1344.5	III	GG	1	220	480	
		POTS	1511.8	1512.7	III	GG	2	270	460	
		BLN	1532.9	1534.7	III	GG	1	250	600	
		POTS	1532.9	1534.2	III	G,N	2	270	500	
		POTS	1554	1559	I	S,N	2	200U	380	
		SVTO	1554.0	1559.0	III		1	25	180	
		HOLL	1555.0	1559.0	III		1	25	150	
		SGMR	1555.0	1558.0	III		1	30	60	
		BLN	1730.8	1733.6	III	GG	2	210	450	
		POTS	1730.8	1735.8	III	GG,N	2	220	470	
		POTS	1846.1	1846.6	III	GG	1	270	400U	
		HOLL	1923.0	1925.0	III		1	25	162	
		PALE	1923.0	1924.0	III		1	25	130	
		SGMR	1924.0	1924.0	III		1	30	55	
	1919 2400	HIRA	1924.0	1925.0	III	B	1	25X	50	
	2110 2400	CULG								
23		LEAR	0436.0	0443.0	III		1	25	180	
		SVTO	0436.0	0442.0	III		1	25	147	
	0000 1000	HIRA	0436.5	0442.5	III	G	1	25X	180	
	0000 0640	CULG	0437.0	0443.0	III	G	2	57X	180	
	0420 1815	BLN	0438.2	0439.3	III	GG	1	100X	250	
	0336 1848	POTS	0443	0450	I	S,N	1	200U	290	
		CULG	0445.0	0448.0	III	G	1	57X	180	
		CULG	0516.0	0516.0	III	B	1	57X	75	
		CULG	0635.0	0635.0	III	B	1	57X	90	
	0600 1205	IZMI	0635.4	0635.4	III	B	1	50	85	
		POTS	0706.7	0707.3	III	G	2	280	400U	
		POTS	0725.5	0726.5	III	G,RS	2	280	400U	
		POTS	0750.1	0750.6	III	G	2	240	480	
		POTS	0818.9	0823.8	III	GG	3	110	640	
		BLN	0819.0	0822.9	III	GG,C,RS	3	230	4000X	
		LEAR	0821.0	0823.0	III		1	75	180	
		HIRA	0822.0	0823.0	III	B	1	90	610	
		SVTO	0822.0	0822.0	III		1	115	160	

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OBSERVATION			Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day	Start (UT)	End (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
23	0415	1753	ONDR	0822.1	0823.1	DCIM	G	1	800X	2000X	
			IZMI	0822.4	0822.9	III	G	2	110	270X	
			POTS	0911.9	0914.9	I	S	1	200U	240	
			POTS	1028.4	1032.2	III	G	2	130	260	
			IZMI	1035.7	1037.3	III	G	1	45	90	
			POTS	1109.8	1109.9	III	B	2	120	220	
			POTS	1121.7	1122.1	III	G	2	270	400U	
			POTS	1124 U	1148 U	I	S,C,N	1	270	400U	
			POTS	1148.0	1150.4	I	S,DC	2	130	300	
			POTS	1227.3	1227.7	III	G	2	120	170U	
			POTS	1238.6	1239.1	III	GG	2	110	170U	
			POTS	1240 U	1311 U	I	S,N	1	270	400U	
			POTS	1304.8	1305.3	III	G	2	130	380	
			POTS	1342 U	1432 U	I	S,N	1	230	380	
			SVTO	1521.0	1521.0	III		1	25	53	
			POTS	1820.9	1821.5	III	G,U	2	120	460	
			POTS	1841.1	1844.3	III	GG	2	110	170U	
	1919	2400	HIRA	2238.0	2239.0	III	B	1	40	140	
	2110	2400	CULG	2238.0	2239.0	III	G	1	57X	170	
			CULG	2251.0	2252.0	III	G	1	57X	90	
24	0000	0640	CULG	0052.0	0052.0	III	B	1	57X	120	
	0000	1000	HIRA	0131.5	0132.0	III	B	1	30	110	
			CULG	0132.0	0132.0	III	B	1	57X	90	
			HIRA	0209.0	0210.0	III	B	1	50	210	
			LEAR	0209.0	0209.0	III		1	65U	180U	
			CULG	0210.0	0210.0	III	B	1	57X	180	
			LEAR	0250.0	0254.0	III		1	25	180	
			HIRA	0250.5	0251.0	III	B	1	30	240	
			CULG	0251.0	0251.0	III	B	1	57X	180	
			HIRA	0254.0	0254.5	III	B	1	50	240	
	0415	1753	ONDR								
			LEAR	0434.0	0435.0	III		1	96	157	
			HIRA	0434.5	0435.0	III	B	1	90	150	
			CULG	0435.0	0435.0	III	B	1	57X	180	
			LEAR	0444.0	0445.0	III		1	68	180	
			SVTO	0444.0	0505.0	III	N	1	25	180	
			HIRA	0444.5	0445.0	III	B	1	30	220	
	0336	1848	POTS	0447.1	0447.3	III	G	1	270	380	
			CULG	0500.0	0501.0	III	G	2	57X	200	
			HIRA	0500.0	0501.0	III	B	2	30	200	
			LEAR	0500.0	0500.0	III		1	25	180	
			POTS	0503.3	0509.2	III	G,N	2	40X	420	
			CULG	0505.0	0506.0	III	G	2	57X	200	
			HIRA	0505.0	0506.0	III	B	2	30	220	
			LEAR	0505.0	0506.0	III		1	25	180	
			CULG	0526.0	0527.0	III	G	1	57X	180	
			LEAR	0613.0	0613.0	III		1	77	129	
			HIRA	0613.5	0614.0	III	B	1	80	120	
	0600	1200	IZMI	0613.7	0613.9	III	G,HARM	2	40	140	
			CULG	0614.0	0614.0	III	B	1	57X	140	
			IZMI	0626.8	0626.8	III	B	1	55	90	
			CULG	0635.0	0635.0	III	B	1	57X	140	
			HIRA	0635.0	0635.5	III	B	1	60	170	
			SVTO	0635.0	0644.0	III		1	25	82	
			IZMI	0635.1	0635.4	III	G	1	45	145	
			HIRA	0641.5	0644.0	III	G	1	30	130	
			IZMI	0641.8	0644.0	III	G	2	40	165	
			LEAR	0642.0	0835.0	III	N	1	25	180	
			IZMI	0709.6	0710.6	III	G	1	45	90	
			POTS	0717.1	0718.0	III	G	2	40X	90	
			IZMI	0718.1	0718.6	III	G	1	60	155	
			POTS	0812.8	0814.9	III	G,RS	2	160	330	
			IZMI	0823.8	0824.0	III	G	1	55	145	
			HIRA	0825.0	0829.0	III	G	1	25X	270	
			SVTO	0825.0	0829.0	III		1	25	149	
			IZMI	0825.6	0826.8	III	GG	2	25X	190	
			IZMI	0828.4	0829.7	III	GG	2	25X	270X	
			POTS	0833.7	0839.8	III	GG,N	3	40X	400U	

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OBSERVATION			Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day	Start (UT)	End (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
24			POTS	0843	0848	I	S,DC	1	200U	330	
			IZMI	0856.0	0857.1	III	G	1	45	90	
			SVTO	0909.0	0918.0	III		1	25	78	
			IZMI	0909.6	0910.6	III	G	1	45	90	
			HIRA	0917.5	0918.5	III	G	1	50	120	
			IZMI	0918.0	0918.5	III	G	1	45	140	
			POTS	0920.8	0930.5	III	G,N	3	40X	170U	
			IZMI	0931.9	0932.1	III	G	1	55	90	
			POTS	0944.1	0944.4	III	G	2	45	150	
			IZMI	1042.6	1042.7	III	B	1	110	165	
			POTS	1057.1	1057.3	III	B	2	120	310	
	0420	1815	BLEN	1138.5	1139.0	III	G	1	100X	500	
			IZMI	1138.6	1139.0	III	GG	2	110	270X	
			POTS	1155.0	1155.6	III	GG	3	110	470	
			POTS	1248.0	1248.3	III	G	3	110	400U	
			POTS	1416.6	1417.1	III	GG	2	110	430	
			POTS	1455	1629 U	I	S,DC,N	2	80	300	
			BLEN	1518.9	1519.2	III	G,S	1	100X	800	
			SVTO	1519.0	1519.0	III		1	50	180	
			POTS	1531.4	1532.4	III	G	2	50	430	
			POTS	1542.4	1543.2	III	G	3	60	430	
			SVTO	1641.0	1642.0	III		1	45	180	
			POTS	1708	1718 U	I	S,N	1	110	400U	
			POTS	1839.1	1840 U	UNCLF		1	120	400U	
			HOLL	1840.0	1840.0	III		1	25	180	
			SGMR	1840.0	1840.0	III		2	30	80	
	1920	2400	HIRA	2243.5	2244.0	III	B	1	30	150	
	2110	2400	CULG	2244.0	2244.0	III	B	1	57X	180	
			HIRA	2256.5	2257.0	III	B	1	60	200	
			CULG	2257.0	2257.0	III	B	1	57X	180	
			LEAR	2348.0	2350.0	III		1	52	180	
			CULG	2349.0	2351.0	III	G	1	57X	180	
			HIRA	2349.0	2351.0	III	G	1	30	210	
			PALE	2349.0	2351.0	III		1	40	134	
25	0000	0640	CULG	0338.0	0341.0	III	G	1	57X	180	
	0000	1000	HIRA	0338.0	0348.0	III	G	1	100	400	
			CULG	0346.0	0348.0	III	G	1	57X	180	
			LEAR	0346.0	0347.0	III		1	52	180	
			CULG	0405.0	0409.0	III	G	2	57X	200	
			HIRA	0405.0	0407.5	III	G	2	25X	320	
			LEAR	0405.0	0407.0	III		2	25	180	
			SVTO	0406.0	0407.0	III		1	25	180	
	0336	1848	POTS	0406.9	0407.3	III	B,U	2	60	350	
			PALE	0407.0	0407.0	III		1	25	180	
	0415	1754	ONDR								
			LEAR	0428.0	0859.0	III	N	1	25	180	
			SVTO	0428.0	0749.0	III	N	1	25	180	
			HIRA	0428.5	0429.0	III	B	1	80	210	
			POTS	0428.5	0744 U	I	S,DC,N	2	120	400U	
			CULG	0429.0	0430.0	III	G	1	57X	180	
			POTS	0444.6	0444.8	III	G	1	120	240	
			POTS	0448.6	0448.8	III	G	2	120	170U	
			CULG	0449.0	0449.0	III	B	1	57X	180	
			POTS	0459.6	0501.5	III	GG	2	120	370	
			CULG	0500.0	0502.0	III	G	1	57X	180	
			CULG	0516.0	0517.0	III	G	1	57X	180	
			HIRA	0516.0	0516.5	III	B	1	40	140	
			POTS	0516.0	0516.8	III	G	2	40X	280	
			HIRA	0543.5	0544.0	III	B	3	90	350	
			POTS	0543.8	0544.3	III	GG	3	120	560	
	0420	1815	BLEN	0543.9	0544.2	III	GG	1	100X	700	
			CULG	0544.0	0640.0D	III	N	1	57X	180	
			POTS	0552.7	0553.0	III	G	2	120	320	
			HIRA	0602.0	0602.5	III	B	1	100	220	
			BLEN	0602.1	0612.0	III	GG,RS	2	100X	3000	
			POTS	0602.1	0602.3	III	B	2	120	320	
	0600	1200	IZMI	0602.1	0602.2	III	B	1	110	270X	
			CULG	0610.0	0611.0	III	G	2	57X	280	

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OBSERVATION			EVENT				FREQUENCY			Remarks	
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	Lower (MHz)		Upper (MHz)
25			HIRA	0610.0	0611.5	III	G	2	30	310	
			LEAR	0610.0	0611.0	III		2	25	180	
			POTS	0610.0	0612.9	III	GG	3	40X	480	
			SVTO	0610.0	0611.0	III		1	25	180	
			IZMI	0610.1	0613.0	III	GG,C	2	25X	270X	
			HIRA	0645.0	0645.5	III	B	1	70	200	
			IZMI	0645.3	0645.7	III	G	1	90	240	
			IZMI	0702.5	0702.5	III	B	1	45	90	
			IZMI	0731.6	0731.9	III	G,C	1	45	270X	
			POTS	0731.6	0732.0	III	G	2	40X	270	
			POTS	0811.2	0811.5	III	G	2	40X	220	
			IZMI	0911.3	0911.4	III	B	1	45	90	
			HIRA	0923.0	0926.0	III	G	1	25X	140	
			IZMI	0923.0	0925.5	III	GG	2	25X	90	
			POTS	0923.0	0926.4	III	GG	2	40X	170U	
			SVTO	0923.0	0925.0	III		1	25	75	
			POTS	1006.4	1008.8	I	S,N	2	270	500	
			POTS	1035.5	1042.5	III	G	2	50	380	
			IZMI	1035.7	1037.5	III	G,FS	1	45	155	
			POTS	1103.0	1105.3	I	S,DC	1	270	330	
			SVTO	1105.0	1300.0	III	N	1	25	180	
			IZMI	1105.8	1106.7	III	G	2	30	270	
			POTS	1105.8	1106.8	III	G	2	40X	270	
			IZMI	1112.1	1112.3	III	G	1	45	90	
			POTS	1120.2	1121.9	III	G	2	110	280	
			POTS	1125.4	1127.0	III	G	3	40X	270	
			IZMI	1125.5	1126.6	III	G	2	25X	160	
			POTS	1131.8	1132.3	I	DC	2	140	160	
			POTS	1201.0	1201.4	III	G	3	45	280	
			POTS	1217.5	1225.7	III	GG	2	40X	400U	
			POTS	1243	1825 U	I	S,N	2	100	450	
			POTS	1248.4	1255.6	III	GG,N	2	110	370	
			POTS	1314.1	1314.6	III	GG	2	40X	360	
			HOLL	1402.0	1404.0	III		1	25	180	
			POTS	1402.0	1404.7	III	GG	2	40X	470	
			SGMR	1402.0	1404.0	III		2	30	60	
			SVTO	1402.0	1404.0	III		1	25U	82U	
			BLEN	1402.5	1413.2	III	GG,RS,C	3	100X	4000X	
			POTS	1447.2	1447.5	III	G	2	110	320	
			HOLL	1618.0	1622.0	III		1	25	180	
			POTS	1622.1	1623.2	III	G	2	110	510	
			POTS	1706.3	1710.3	III	GG	2	50	400U	
			HOLL	1707.0	1710.0	III		1	25	180	
			SVTO	1707.0	1710.0	III		1	25	180	
			BLEN	1707.5	1710.4	III	GG,RS	1	100X	450	
			SGMR	1708.0	1710.0	III		1	30	60	
			POTS	1712.0	1724 U	I	C	1	100	230	
			POTS	1738.1	1754.4	III	G,N	2	80	300	
			HOLL	1749.0	1753.0	III		1	25	138	
			SGMR	1753.0	1753.0	III		1	30	60	
		HOLL	1837.0	1837.0	III		1	25	180		
		SGMR	1837.0	1837.0	III		1	30	60		
		POTS	1837.1	1837.5	III	G	2	120	500		
1920	2400	HIRA	2052.5	2054.5	III	G	1	50	210		
		HIRA	2120.5	2121.0	III	B	1	90	220		
2110	2400	CULG	2121.0	2121.0	III	B	1	57X	180		
		CULG	2224.0	2225.0	III	G	1	100	180		
		HIRA	2224.0	2224.5	III	B	1	90	200		
		PALE	2239.0	2251.0	III	N	1	25	180		
		HIRA	2239.5	2241.5	III	G	1	50	370		
		CULG	2240.0	2325.0	III	N	1	57X	180		
		HIRA	2312.0	2312.5	III	B	1	100	250		
		HIRA	2315.0	2316.5	III	G	1	40	440		
		HOLL	2315.0	2315.0	III		1	25	141		
26	0000	0640	CULG	0125.0	0125.0	III	B	1	57X	90	
			CULG	0144.0	0144.0	III	G	1	57X	160	
	0416	1754	ONDR								
	0336	1648	POTS	0420	1337 U	I	S,N	1	270	430	

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OBSERVATION			Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day	Start (UT)	End (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
26			POTS	0507.5	0509.4	III	GG	2	120	370	
			CULG	0508.0	0509.0	III	G	1	57X	180	
	0000	1000	HIRA	0508.0	0509.0	III	B	1	90	230	
			CULG	0616.0	0617.0	III	G	1	57X	180	
			HIRA	0616.0	0616.5	III	B	1	90	220	
			LEAR	0616.0	0616.0	III		1	75	180	
	0600	1200	POTS	0616.1	0616.9	III	GG	2	120	470	
			IZMI	0616.2	0616.6	III	GG	1	55	270X	
			POTS	0642.5	0643.0	III	G	1	120	330	
			IZMI	0642.6	0642.8	III	G	1	80	270	
			IZMI	0737.2	0737.3	III	B	1	45	65	
			POTS	0756.4	0800.6	III	GG,N	2	130	470	
			HIRA	0756.5	0757.0	III	B	1	140	390	
			IZMI	0756.6	0756.7	III	G	2	150	270X	
			IZMI	0800.4	0800.6	III	G	1	130	240	
			SVTO	0807.0	0828.0	III	N	1	28U	66U	
			IZMI	0809.6	0820.4	III	GG	2	45	75	
			POTS	0812.7	0823.2	I	DC	2	40X	80	
			IZMI	0936.7	0937.0	III	G	1	45	175	
			POTS	0936.7	0937.1	III	G	2	45	210	
			POTS	1044.5	1044.9	III	G	2	70	400U	
			POTS	1256.3	1256.6	III	G	2	250	470	
			POTS	1337 U	1648 U	I	S,N,DC	2	100	420	
			POTS	1337.3	1340.2	III	GG	3	40X	350	
	0420	1815	BLEN	1337.6	1340.2	III	GG,RS	2	100X	2200	
			HOLL	1338.0	1339.0	III		1	25	180	
			SGMR	1338.0	1338.0	III		1	30	55	
			SVTO	1338.0	1339.0	III		1	25	180	
			HOLL	1503.0	1757.0	III	N	1	25	180	
			HOLL	1521.0	1522.0	III		2	25	180	
			SGMR	1521.0	1524.0	III		3	30	80	
			SVTO	1521.0	1522.0	V		3	25	180	
			BLEN	1521.7	1524.9	III	GG	3	100X	500	
			POTS	1521.7	1525.1	III	GG,N	3	40X	480	
			POTS	1521.9	1522.8	V	GG	3	40X	120U	
			SVTO	1524.0	1524.0	III		1	25	82	
			SVTO	1615.0	1641.0	III	N	1	25	180	
			SGMR	1623.0	1757.0	III	N	2	30	80	
			POTS	1623.8	1625.7	III	GG	2	110	300	
			BLEN	1624.5	1625.8	III	GG	1	140	400	
			PALE	1640.0	1641.0	III		1	25	180	
			POTS	1640.7	1642.5	III	GG	2	80	400U	
			BLEN	1640.8	1642.2	III	GG	2	100X	1800	
			POTS	1700.6	1701.0	III	G	2	120	360	
			SVTO	1711.0	1757.0	III	N	1	25	180	
			PALE	1715.0	1757.0	III	N	1	25	180	
			BLEN	1715.8	1720.2	III	GG,RS	2	100X	2000	
			POTS	1715.8	1720.3	III	GG	2	110	480	
			POTS	1756.5	1758.9	III	GG	3	110	420	
			POTS	1818.3	1818.5	III	B	2	110	240	
			HOLL	2005.0	2005.0	III		1	53	180	
			PALE	2005.0	2012.0	III		1	25	180	
	1920	2400	HIRA	2005.0	2010.0	III	G	1	50	400	
			HIRA	2042.5	2048.0	III	G	1	50	360	
	2110	2400	CULG	2124.0	2128.0	III	G	1	57X	260	
			HIRA	2248.5	2314.5	III	G	1	25X	340	
			CULG	2249.0	2321.0	III	N	1	57X	180	
			PALE	2255.0	0332.0	III		1	25	180	
			CULG	2258.0	2259.0	III	G	3	57X	280	
			HOLL	2258.0	2259.0	III		2	25	180	
			CULG	2301.0	2301.0	III	G	2	57X	350	
			LEAR	2321.0	2323.0	III	N	1	25	180	
			CULG	2323.0	2400.00	III	S,C	1	57X	200	
			LEAR	2323.0	0204.0	CONT		1	25	180	
27	0000	0640	CULG	0000.0E	0258.0	III	N	1	57X	180	
			HOLL	0006.0	0200.0	III	N	1	25	180	
			LEAR	0006.0	0007.0	III		2	25	180	
			CULG	0007.0	0007.0	III	B	2	57X	430	

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OBSERVATION			Sta	Start		EVENT		Int	FREQUENCY		Remarks
Day	Start (UT)	End (UT)		(UT)	(UT)	Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
27			CULG	0011.0	0012.0	III	G	3	57X	260	
			HOLL	0011.0	0011.0	III		2	25	180	
			LEAR	0011.0	0011.0	V		2	25	180	
			LEAR	0016.0	0016.0	III		2	25	180	
			CULG	0017.0	0017.0	III	B	1	57X	250	
0000	1000		HIRA	0047.0	0047.5	III	B	1	70	280	
			HIRA	0220.0	0233.0	III	G	1	25X	310	
			LEAR	0220.0	0633.0	III	N	1	25	180	
			CULG	0327.0	0333.0	III	G	1	57X	180	
			HIRA	0327.0	0333.0	III	G	1	40	230	
			CULG	0402.0	0524.0	III	N	1	57X	180	
			HIRA	0402.0	0402.5	III	B	1	30	200	
			SVTO	0402.0	0402.0	III		1	25	180	
0336	1848		POTS	0414 U	1534 U	I	S,DC,N	2	120	440	
			POTS	0415.9	0524.0	III	GG,N,U	2	110	430	
0416	1754		ONDR								
0420	1815		BLEN	0420.0X	1815.0X	I	DC	2	130	350	
			BLEN	0449.6	0450.2	III	GG,RS	1	220	500	
			SVTO	0454.0	0455.0	III		1	25	180	
			CULG	0550.0	0557.0	III	G	1	57X	140	
			POTS	0550.5	0557.0	III	G,N	2	40X	240	
			SVTO	0551.0	0556.0	III		1	29U	82U	
			HIRA	0551.5	0552.0	III	B	1	40	100	
			CULG	0633.0	0633.0	III	B	1	57X	180	
0609	1205		IZMI	0633.1	0633.1	III	G	1	55	155	
			POTS	0633.6	0633.8	III	B	2	110	230	
			IZMI	0648.1	0648.3	III	G	1	45	160	
			SVTO	0651.0	0651.0	III		1	28	34	
			SVTO	0743.0	0750.0	III		1	25	180	
			IZMI	0743.2	0750.6	III	GG	2	40	270X	
			HIRA	0745.0	0750.0	III	G	1	80	270	
			LEAR	0747.0	0747.0	III		1	25	180	
			POTS	0747.5	0755.8	III	GG	2	40X	400	
			IZMI	0753.8	0754.7	III	GG,FS	2	40	230	
			IZMI	0806.8	0809.8	I	GG	1	55	90	
			HIRA	0847.0	0847.5	III	B	1	110	210	
			IZMI	0847.2	0852.1	III	GG	1	25X	260	
			IZMI	0847.2	0853.1	I	N	1	185	270X	
			POTS	0848.6	0852.6	III	GG	2	40X	260	
			SVTO	0851.0	0851.0	III		1	25	53	
			HIRA	0906.5	0907.0	III	B	1	100	230	
			IZMI	0906.8	0907.0	III	G	2	25X	270X	
			POTS	0907.8	0908.2	III	G	2	40X	370	
			IZMI	0923.5	0923.7	III	G	1	55	90	
			IZMI	0934.3	0937.5	III	GG	1	25X	270X	
			IZMI	0935.0U	1102.0U	I	N	1	200	270X	
			POTS	0935.6	0939.1	III	G,N	2	40X	400U	
			POTS	0956.4	1000.2	III	G	2	110	280	
			POTS	1028.9	1031.5	III	GG	2	110	240	
			POTS	1120.7	1134.5	III	GG,N	2	40X	450	
			SVTO	1122.0	1139.0	III	N	1	25	180	
			IZMI	1122.6	1131.7	III	GG	2	25X	270X	
			IZMI	1127.3	1127.6	III	G	2	25X	160	
			IZMI	1135.7	1137.6	III	GG,FS	2	30	165	
			POTS	1207.0	1208.9	III	G	2	110	270	
			POTS	1225.9	1227.4	III	GG	2	130	450	
			SVTO	1228.0	1228.0	III		1	140	180	
			BLEN	1228.3	1228.9	III	G	1	130	500	
			POTS	1258.5	1306.4	III	GG,N	2	40X	230	
			SVTO	1259.0	1339.0	III	N	1	25	148	
			HOLL	1307.0	1343.0	III	N	1	25	161	
			POTS	1311.4	1312.2	III	GG	3	40X	380	
			SGMR	1312.0	1313.0	III		2	30	55	
			POTS	1338.3	1338.9	III	G	2	40X	280	
			SVTO	1438.0	1439.0	III		1	28	72	
			POTS	1545 U	1848 U	I	S,N	2	230	400U	
			POTS	1615.8	1624.3	III	GG	2	110U	280	
			HOLL	1618.0	1800.0	III	N	1	25	142	
			SGMR	1620.0	1625.0	III		1	30	45	

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

Spectral Observations

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JUNE 2002

OBSERVATION			Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day	Start (UT)	End (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
27			SVTO	1620.0	1624.0	III		1	25	142	
			POTS	1641.9	1642.4	III	G	2	110U	230	
			SVTO	1642.0	1642.0	III		1	30U	82U	
			PALE	1738.0	2008.0	III	N	2	25	180	
			POTS	1756.9	1801.3	III	GG	2	110U	320	
			HOLL	1915.0	1920.0	III		1	25	180	
			HOLL	2006.0	2006.0	III		1	25	66	
	1920	2400	HIRA	2006.0	2007.0	III	B	1	25X	150	
			HOLL	2202.0	2203.0	III		1	25	130	
			PALE	2202.0	2203.0	III		1	25	180	
			HIRA	2202.5	2203.5	III	B	2	25X	230	
	2110	2400	CULG	2222.0	2223.0	III	G	1	57X	180	
28			HOLL	0044.0	0045.0	III		1	25	180	
			LEAR	0044.0	0045.0	V		2	25	180	
	0000	0640	CULG	0044.0	0049.0	III	G	1	57X	180	
	0000	1000	HIRA	0044.5	0045.5	III	B	3	25X	500	
			CULG	0045.0	0045.0	III	G	3	57X	290	
			LEAR	0048.0	0108.0	III	N	1	25	180	
			CULG	0103.0	0103.0	III	G	1	57X	180	
			CULG	0348.0	0352.0	III	G	1	57X	180	
	0336	1848	POTS	0414 U	0857 U	I	S,DC,N	2	230	450	
			CULG	0444.0	0448.0	III	G	3	57X	200	
			HIRA	0444.0	0448.0	III	G	2	25X	270	
			LEAR	0444.0	0448.0	III		2	25	180	
			PALE	0444.0	0447.0	III		1	25	180	
			SVTO	0444.0	0447.0	III		2	25	180	
			POTS	0444.6	0448.2	III	GG	3	40X	650	
			CULG	0452.0	0452.0	III	B	1	57X	100	
			ONDR	0625.3	0629.4	DCIM	GG	1	964	2000X	
	0417	1754	ONDR	0625.5	0628.2	DCIM	G	1	2000X	4500X	
	0420	1815	BLEN	0625.5	0630.5	III	C	3	650	4000X	
			HIRA	0709.0	0711.0	III	G	1	100	280	
			LEAR	0709.0	0714.0	III		1	25	180	
			SVTO	0709.0	0714.0	III		1	25	154	
	0600	1200	IZMI	0709.3	0709.7	III	G	2	25X	270X	
			IZMI	0709.9	0711.4	III	GG,FS	2	25X	270X	
			POTS	0710.0	0712.5	III	GG	3	40X	340	
			IZMI	0713.8	0714.2	III	B	2	50	155	
			IZMI	0816.0	0816.3	III	B	1	50	90	
			IZMI	0836.6	0836.8	III	G	2	120	270X	
			POTS	0837.5	0839.1	III	G	2	110U	400U	
			POTS	0928 U	1025 U	I	S,N	1	230	430	
			POTS	1009.0	1009.2	III	B	1	120	360	
			POTS	1131.9	1133.0	III	G	2	40X	170U	
			SVTO	1133.0	1135.0	III		1	36	143	
			IZMI	1133.4	1134.4	III	G,FS	2	45	160	
			POTS	1206 U	1219 U	I	S,N	1	200U	430	
			POTS	1219.5	1219.8	DCIM		2	260	520	
			SVTO	1232.0	1232.0	III		1	25	39	
			HOLL	1437.0	1438.0	III		1	25	43	
			SGMR	1437.0	1438.0	III		1	30	40	
			SVTO	1437.0	1438.0	III		1	25	40	
			POTS	1504.0	1504.6	DCIM		2	310	420	
			POTS	1510 U	1810 U	I	S,N,DC	1	200U	360	
			POTS	1518.5	1522	III	GG	1	120	270	
			HOLL	1828.0	1835.0	III		1	25	56	
			PALE	1828.0	1835.0	III		1	25	114	
			HOLL	2040.0	2042.0	III		1	25	81	
			PALE	2040.0	2049.0	III		1	25	82	
	1921	2400	HIRA	2040.0	2049.5	III	G	1	25X	80	
			HOLL	2048.0	2049.0	III		1	25	62	
	2110	2400	CULG	2246.0	2246.0	III	B	1	57X	75	
29			LEAR	0030.0	0032.0	III		1	25	180	
	0000	0640	CULG	0030.0	0033.0	III	G	1	57X	180	
	0000	1000	HIRA	0030.5	0032.5	III	G	1	25X	140	
			CULG	0105.0	0105.0	III	B	1	57X	130	
	0417	1753	ONDR								

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JUNE 2002

OBSERVATION			Sta	Start		End		EVENT		Int	FREQUENCY		Remarks
Day	Start (UT)	End (UT)		(UT)	(UT)	(UT)	(UT)	Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
29			CULG	0513.0	0513.0	0513.0	0513.0	III	B	1	57X	160	
			SVTO	0513.0	0513.0	0513.0	0513.0	III		1	25	59	
	0336	1848	POTS	0513.2	0513.5	0513.5	0513.5	III	G	2	110U	260	400-800MHz no obs
	1457	1848	POTS	0524.4	0525.3	0525.3	0525.3	UNCLF		2	200U	230	
			CULG	0600.0	0602.0	0602.0	0602.0	III	G	1	57X	180	
			SVTO	0600.0	0600.0	0600.0	0600.0	III		1	25U	82U	
			POTS	0600.4	0600.6	0600.6	0600.6	III	B	2	110	230	
	0600	1200	IZMI	0600.4	0600.6	0600.6	0600.6	III	B	2	45	90	
			HIRA	0600.5	0601.0	0601.0	0601.0	III	B	1	40	140	
			IZMI	0601.9	0602.0	0602.0	0602.0	III	B	1	45	90	
			POTS	0617.5	0618.5	0618.5	0618.5	III	G	1	120	170	
			POTS	0633.6	0645.2	0645.2	0645.2	I	DC,N	2	220	350	
			SVTO	0651.0	0652.0	0652.0	0652.0	III		1	25	74	
			IZMI	0651.2	0652.0	0652.0	0652.0	III	G	1	25X	85	
			POTS	0810.8	0811.1	0811.1	0811.1	I		2	230	280	
			IZMI	0811.0	0811.1	0811.1	0811.1	I	G	2	240	270	
			POTS	0901.7	0907.5	0907.5	0907.5	I	S,N	1	200U	380	
			POTS	0923.3	0926.6	0926.6	0926.6	III	G	1	110	170U	
	0430	1815	BLEN	0929.1	0930.8	0930.8	0930.8	III	G,U	2	250	4000X	
			POTS	0929.7	0930.9	0930.9	0930.9	III	G	2	110U	400X	
			IZMI	0929.8	0930.7	0930.7	0930.7	I	G	2	130	270	
			POTS	1212.4	1214.4	1214.4	1214.4	I	DC	1	290	370	
			POTS	1322	1342	1342	1342	I	S,N	1	230	350	
			POTS	1436	1551	1551	1551	I	S,N	1	140	320	
			POTS	1649	1833	1833	1833	I	S,N	1	200U	370	
			PALE	2042.0	2042.0	2042.0	2042.0	III		1	25	87	
	1921	2400	HIRA	2042.0	2042.5	2042.5	2042.5	III	B	1	25X	100	
	2110	2400	CULG										
30			LEAR	0139.0	0142.0	0142.0	0142.0	III		1	40	180	
	0000	1000	HIRA	0139.0	0142.5	0142.5	0142.5	III	G	1	40	150	
	0000	0640	CULG	0140.0	0143.0	0143.0	0143.0	III	G	1	57X	160	
			LEAR	0326.0	0330.0	0330.0	0330.0	III		1	25	180	
			CULG	0327.0	0331.0	0331.0	0331.0	III	G	1	57X	180	
			HIRA	0330.0	0330.5	0330.5	0330.5	III	B	1	30	240	
	0336	1848	POTS	0423	0733	0733	0733	I	S,N,DC	2	140	400U	
			CULG	0436.0	0436.0	0436.0	0436.0	III	B	1	57X	100	
			HIRA	0436.0	0436.5	0436.5	0436.5	III	B	1	50	100	
			CULG	0534.0	0620.0	0620.0	0620.0	III	N	1	57X	170	
	0605	1200	IZMI	0606.8	0606.9	0606.9	0606.9	III	B	2	45	65	
			IZMI	0619.1	0619.3	0619.3	0619.3	III	G	1	45	90	
			IZMI	0645.0	0720.0U	0720.0U	0720.0U	I	N	1	50	270X	
			POTS	0653.2	0655.8	0655.8	0655.8	III	GG	2	110	170U	
			IZMI	0653.7	0658.3	0658.3	0658.3	III	GG	1	50	155	
			POTS	0833	1247	1247	1247	IV		3	40X	400U	CME
			IZMI	0835.0	0905.0	0905.0	0905.0	I	N	1	220	270X	
			IZMI	0905.0	1200.0D	1200.0D	1200.0D	I	S,DC	2	45	270X	
			IZMI	1027.0U	1155.0U	1155.0U	1155.0U	III	N	2	40	180	
	0418	1753	ONDR	1100.2	1106.0	1106.0	1106.0	DCIM	GG	2	800X	2000X	
	0430	1815	BLEN	1100.2	1104.6	1104.6	1104.6	III	GG,RS	3	100X	2500	
			IZMI	1101.0	1105.3	1105.3	1105.3	III	GG	2	25X	270X	
			POTS	1101.0	1113.3	1113.3	1113.3	III	GG	3	40X	330	
			SVTO	1101.0	1113.0	1113.0	1113.0	III	N	1	25	180	
			IZMI	1112.0	1112.9	1112.9	1112.9	III	GG	2	25X	270X	
			POTS	1304	1318	1318	1318	I	S,N	1	120	320	
			SVTO	1348.0	1353.0	1353.0	1353.0	III		1	25U	82U	
			POTS	1511	1535	1535	1535	I	S,N	1	270	360	
			POTS	1530.2	1530.5	1530.5	1530.5	III	G	2	110	280	
			POTS	1555	1604	1604	1604	I	S,N	1	120	330	
			HOLL	1556.0	1603.0	1603.0	1603.0	III		1	25	71	
			SVTO	1556.0	1557.0	1557.0	1557.0	III		1	25U	82U	
			POTS	1659	1717	1717	1717	I	S,N	1	240	330	
			SVTO	1707.0	1707.0	1707.0	1707.0	III		1	25	136	
			POTS	1727.5	1728.3	1728.3	1728.3	III	G	2	110	170U	
			POTS	1731.5	1731.7	1731.7	1731.7	III	G	1	230	320	
			POTS	1815	1833	1833	1833	I	S,N	1	230	340	
			HOLL	2103.0	2107.0	2107.0	2107.0	III		1	25	149	
			PALE	2103.0	2108.0	2108.0	2108.0	III	N	1	25	180	
			SGMR	2103.0	2106.0	2106.0	2106.0	III		2	30	80	

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

Spectral Observations

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Jun 02

JUNE 2002

OBSERVATION			Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day	Start (UT)	End (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
30	1922	2400	HIRA	2103.5	2107.0	III	G	3	25X	200	
	2110	2400	CULG	2122.0	2125.0	III	G	1	57X	180	
			CULG	2206.0	2206.0	III	B	1	57X	130	
			CULG	2211.0	2214.0	III	G	1	57X	270	
			PALE	2211.0	2214.0	V		1	25	180	
			HIRA	2211.5	2214.0	III	G	1	25X	300	
			HOLL	2213.0	2214.0	III		1	25	180	

Event Remarks:

B = Single burst C = Underlying 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
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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

JUNE 2002

DAY	HELIOGRAPHICS POSITIONS MEAN VALUES ¹		IMP ²	OBSERVING TIME ³	
	E-W	S-N		START(UT)	END(UT)
01/06/02	+0.11	-0.45	II	8H18 E	15H18 D
04/06/02	-0.34	-0.60	I	8H19 E	15H19 D
04/06/02	+0.20	+0.60	III	8H19 E	15H19 D
05/06/02	-0.36	-0.68	I	8H19 E	10H26
08/06/02	-1.04	-0.16	I	8H20 E	15H20 D
10/06/02	-0.76	-0.14	I	8H20 E	15H20 D
10/06/02	-0.67	-0.53	I	8H20 E	15H20 D
10/06/02	+0.65	-0.74	I	8H20 E	15H20 D
11/06/02	+0.85	-0.73	II	8H20 E	12H30
11/06/02	+1.19	-0.85	II	8H20 E	15H20 D
12/06/02	-0.17	-0.37	I	8H21 E	15H21 D
12/06/02	+0.76	-0.65	II	8H21 E	12H40
12/06/02	+1.26	-0.65	II	8H21 E	15H21 D
13/06/02	+0.03	-0.36	I	8H21 E	15H21 D
13/06/02	+1.19	-0.68	II	8H21 E	15H21 D
14/06/02	+1.38	-0.51	I	8H21 E	13H40
15/06/02	-1.04	+0.26	II	11H52	14H45 D
15/06/02	+0.70	-0.12	I	8H21 E	14H45 D
15/06/02	+1.44	-0.53	I	8H21 E	12H08
17/06/02	-0.56	+0.06	I	8H22 E	14H35
17/06/02	+0.90	-1.18	I	8H22 E	13H29
17/06/02	+1.16	-0.23	I	8H22 E	15H22 D
18/06/02	+1.41	-0.29	I	8H22 E	11H59
23/06/02	+0.70	+0.68	I	8H23 E	15H23 D
26/06/02	+0.67	+0.45	II	13H35	15H24 D
30/06/02	-1.36	-0.87	I	8H24 E	10H55
30/06/02	-1.18	-0.59	IV	9H55	15H24 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 NANÇAY OBSERVATIONS

**NOISE STORM AT 327 MHZ
FROM NANÇAY RADIOHELIOGRAPH
JUNE 2002**

DAY	HELIOGRAPHICS POSITIONS MEAN VALUES ¹		IMP ²	OBSERVING TIME ³	
	E-W	S-N		START(UT)	END(UT)
01/06/02	-0.65	-0.20	I	8H18 E	15H18 D
01/06/02	-0.06	-0.42	I	8H18 E	15H18 D
02/06/02	-0.33	-0.17	II	11H56	15H19 D
03/06/02	-0.54	-0.48	I	8H19 E	15H19 D
04/06/02	-0.34	-0.43	I	8H19 E	15H19 D
04/06/02	+0.22	+0.57	III	8H19 E	15H19 D
05/06/02	-0.12	-0.48	I	8H19 E	12H46
06/06/02	+0.17	-0.48	I	8H19 E	15H19 D
07/06/02	-1.02	-0.47	I	8H20 E	15H20 D
07/06/02	+0.39	-0.48	I	8H20 E	15H20 D
08/06/02	-0.99	-0.29	I	8H20 E	15H20 D
08/06/02	-0.09	-0.34	I	8H20 E	15H20 D
09/06/02	-0.91	-0.26	I	8H20 E	15H20 D
09/06/02	-0.73	-0.51	I	8H20 E	15H20 D
09/06/02	+0.37	-0.34	I	8H20 E	15H20 D
10/06/02	-0.76	-0.17	I	8H20 E	15H20 D
10/06/02	-0.51	-0.53	I	8H20 E	15H20 D
10/06/02	+0.70	-0.25	III	8H20 E	15H20 D
10/06/02	+0.71	-0.47	III	8H20 E	15H20 D
11/06/02	-0.29	-0.56	II	8H20 E	15H20 D
11/06/02	+0.96	-0.36	III	8H20 E	15H20 D
12/06/02	-0.26	-0.22	II	8H21 E	15H21 D
12/06/02	-0.19	-0.37	II	8H21 E	15H21 D
12/06/02	+0.88	-0.54	I	8H21 E	15H21 D
12/06/02	+0.96	-0.50	I	8H21 E	15H21 D
12/06/02	+1.15	-0.25	II	8H21 E	15H21 D
13/06/02	+0.00	-0.29	II	8H21 E	15H21 D
13/06/02	+0.99	-0.47	II	8H21 E	15H21 D
14/06/02	+0.28	-0.26	I	8H21 E	15H20 D
14/06/02	+1.13	-0.54	II	8H21 E	15H20 D
14/06/02	+1.38	-0.45	I	8H21 E	15H20 D
15/06/02	+1.24	-0.36	III	8H21 E	14H45 D
16/06/02	+0.84	-0.23	I	8H21 E	15H22 D
19/06/02	+0.03	+0.47	I	8H22 E	15H22 D
23/06/02	+0.71	+0.57	I	8H23 E	15H23 D
24/06/02	-0.73	-0.22	I	8H23 E	15H23 D
25/06/02	+0.43	-0.33	II	12H50	15H24 D
26/06/02	+0.53	+0.43	I	8H24 E	15H24 D
26/06/02	+0.62	-0.22	I	12H02	15H24 D
27/06/02	+0.84	-0.42	II	8H24 E	15H24 D
27/06/02	+0.76	-0.14	II	11H29	15H24 D
28/06/02	+0.91	-0.45	I	8H24 E	15H24 D
29/06/02	+1.05	-0.42	I	8H24 E	15H24 D
29/06/02	+1.10	+0.12	I	12H33	15H24 D
30/06/02	-1.09	-0.50	III	8H24 E	12H00
30/06/02	+1.18	+0.36	I	11H53	15H24 D

NO DATA

OTHERS DAYS: NO DETECTABLE NOISE STORM

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

** Following a large burst

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

**** No flux measurements available

COSMIC RAY INDICES (Neutron Monitor)

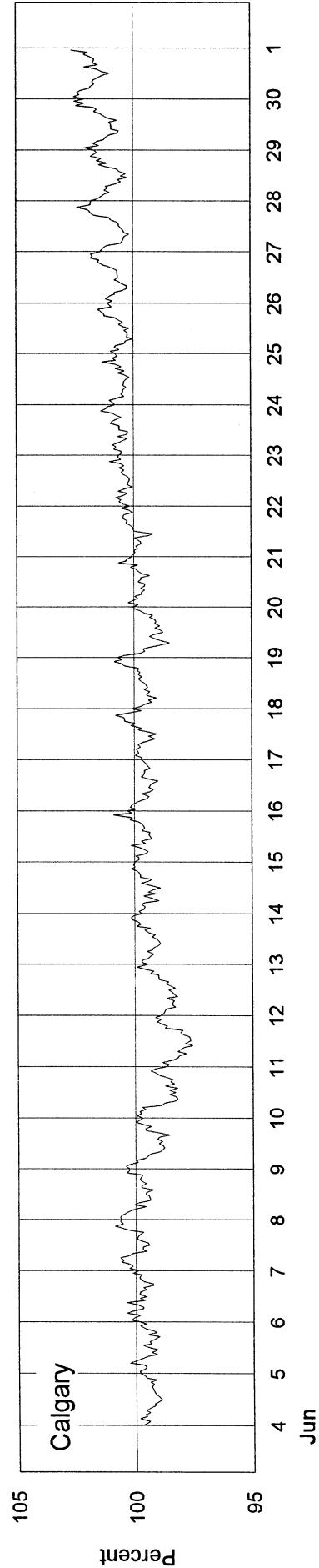
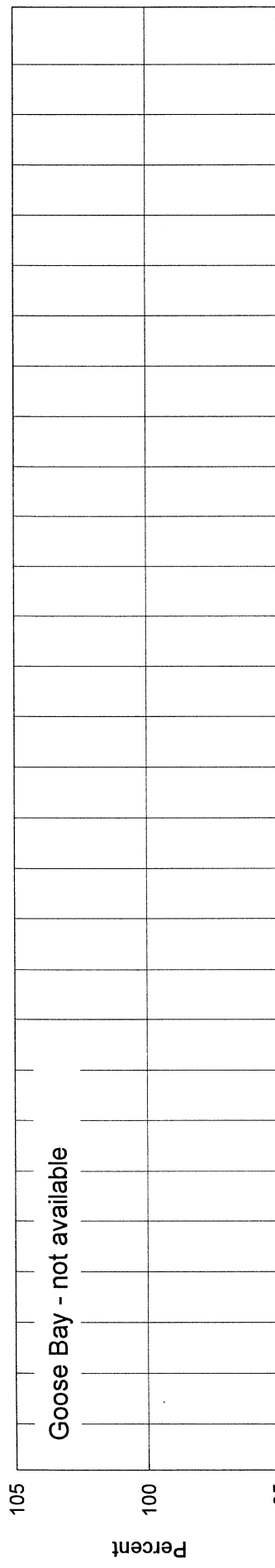
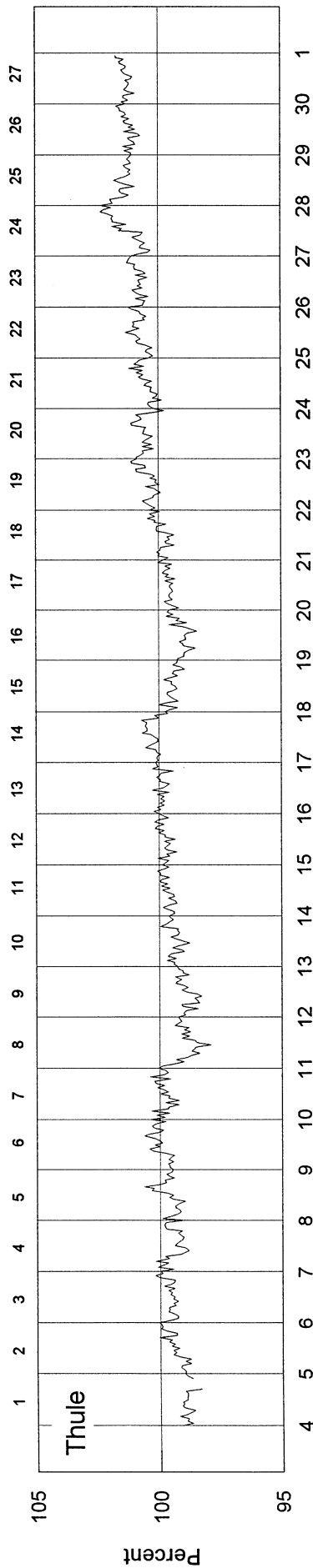
June 2002

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	4051.3		3557.3	5657.5	8497.4	3758.2	1895.4	3497.8
2	4048.7		3530.5	5652.1	8493.6	3751.2	1897.7	3494.5
3	4026.0	not	3505.2	5628.5	8439.2	3741.2	1885.3	3477.1
4	4014.2(20)	available	3519.0	5630.8	8439.5	3748.3	1882.4	3479.2
5	4032.7		3524.7	5636.7	8455.3	3752.1	1886.3	3484.0
6	4041.7		3535.8	5641.1	8450.8	3748.8	1884.1	3485.5
7	4037.1		3546.0	5641.7	8449.7	3758.2	1888.5	3484.6
8	4042.2		3537.8	5641.7	8440.5	3758.1	1890.4	3482.9
9	4055.7		3521.2	5661.9	8464.7	3792.5	1900.3	3497.4
10	4051.2		3503.0	5646.0	8447.5	3751.6	1910.4	3488.3
11	4016.5		3480.7	5593.7	8359.1	3710.0	1893.5	3467.1
12	4014.6		3497.2	5592.5	8376.8	3712.4	1892.2	3466.9
13	4033.0		3523.0	5612.2	8398.2	3730.7	1896.3	3478.9
14	4045.1		3526.7	5618.7	8424.0	3738.5	1896.8	3489.2
15	4049.2		3533.5	5629.8	8451.4	3757.8	1904.3	3496.3
16	4055.2		3527.0	5622.5	8435.7	3755.2	1902.3	3494.4
17	4067.9		3536.3	5620.2	8459.8	3762.5	1897.9	3500.6
18	4036.1		3533.2	5605.6	8421.5	3759.1	1893.1	3485.6
19	4020.2		3518.0	5588.0	8375.3	3747.2	1886.2	3458.8
20	4041.0		3537.0	5612.5	8408.8	3762.9	1892.4	3484.0
21	4053.8		3542.7	5638.5	8428.7	3775.7	1889.6	3475.0
22	4073.7		3557.7	5659.8	8482.7	3803.7	1896.9	3492.4
23	4081.9		3567.0	5688.2	8519.7	3832.7	1906.8	3503.3
24	4077.5		3563.3	5677.1	8483.0	3804.9	1909.0	3502.2
25	4086.7		3565.8	5672.5	8481.8	3800.0	1910.0	3502.5
26	4090.7		3575.5	5705.5	8526.5	3810.6	1916.1	3508.5
27	4109.0		3579.5	5734.1	8552.6	3822.2	1921.4	3520.2
28	4115.6		3580.8	5739.4	8553.5	3822.1	1917.0	3516.3
29	4106.7		3591.0	5731.8	8551.9	3831.0	1913.2	3509.6
30	4112.0		3607.0	5737.8	8576.5	3829.0	1914.6	3507.5
31								
Mean	4056.0		3540.8	5650.6	8461.5	3771.0	1899.0	3491.0

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

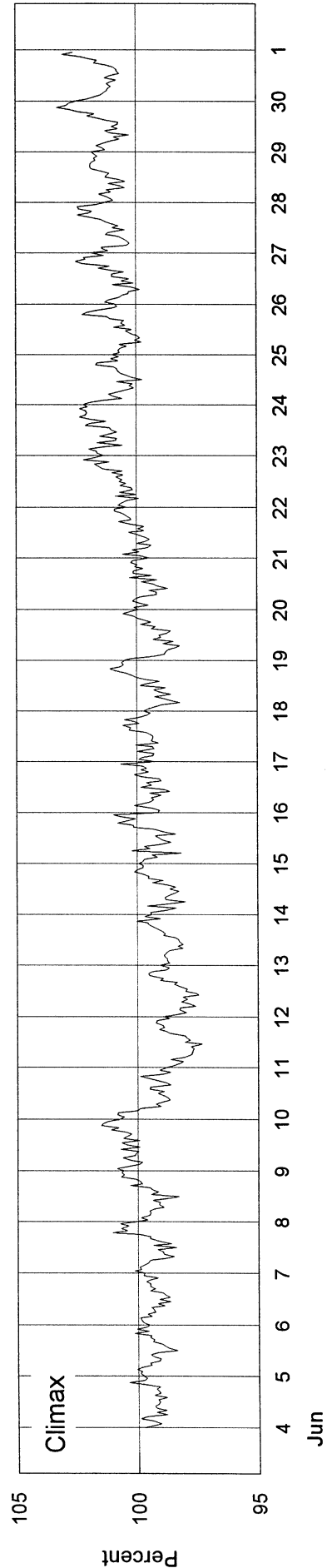
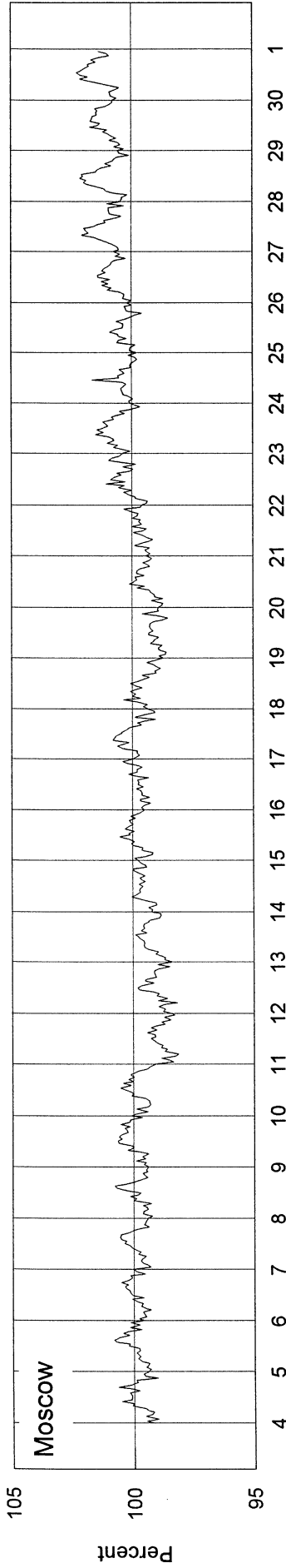
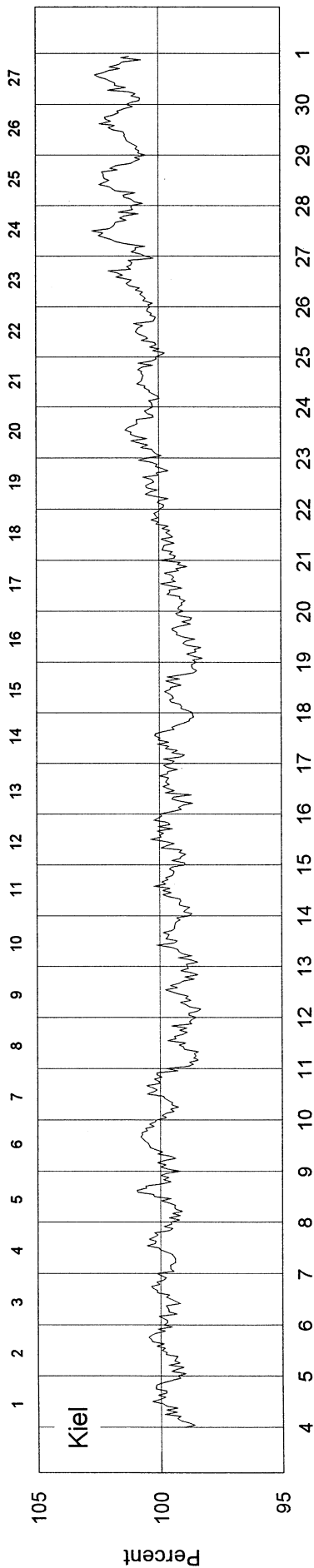
COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2305 - Beginning 4 Jun 2002



COSMIC RAY INDICES (Neutron Monitor)

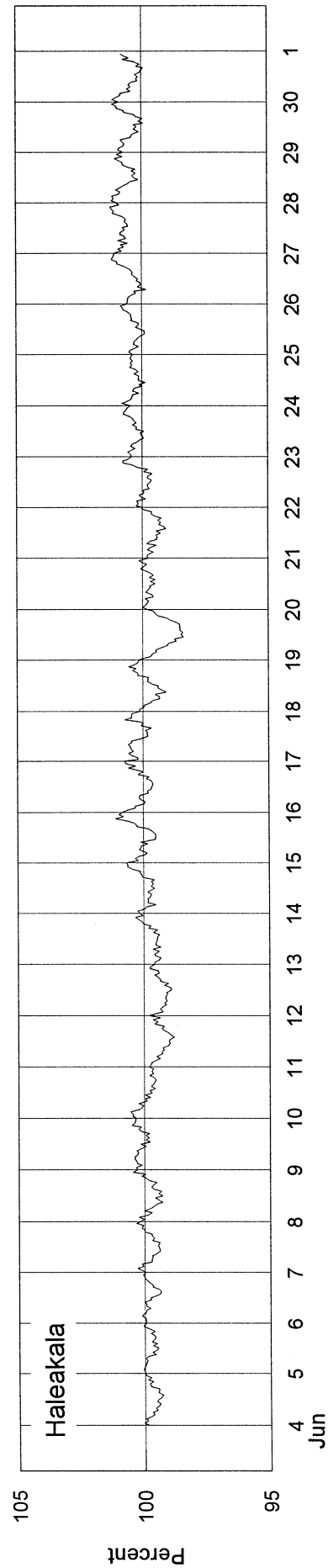
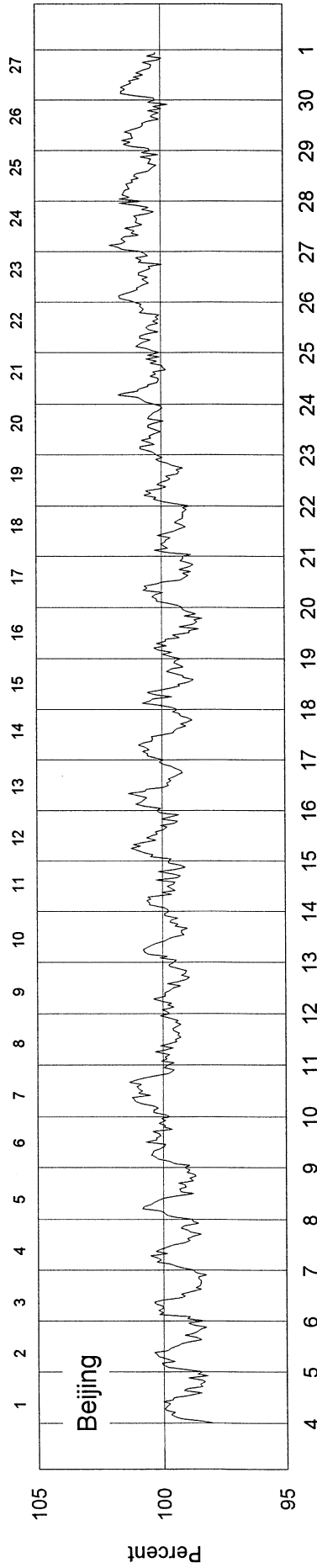
Bartels Rotation 2305 - Beginning 4 Jun 2002



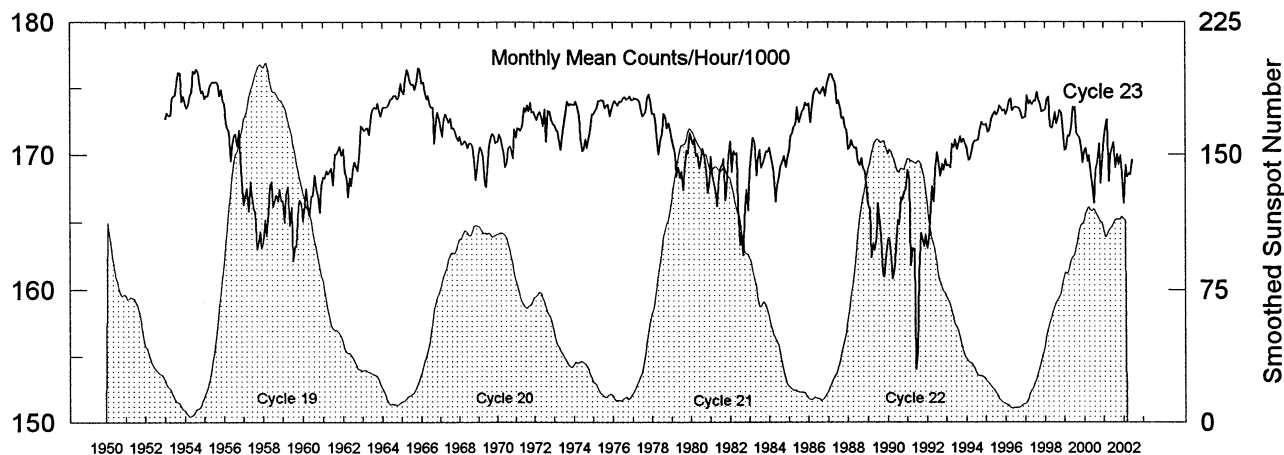
COSMIC RAY INDICES

(Neutron Monitor)

Bartels Rotation 2305 - Beginning 4 Jun 2002



Huancayo* Neutron Monitor Pressure-Corrected/Adjusted Values Jan 1953 - Jun 2002



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1953	1727	1732	1730	1729	1742	1744	1744	1756	1762	1761	1740	1744	1743
1954	1737	1735	1738	1744	1747	1763	1761	1764	1762	1754	1746	1748	1750
1955	1742	1744	1744	1751	1754	1755	1754	1755	1753	1744	1749	1741	1749
1956	1738	1724	1719	1718	1696	1707	1715	1716	1706	1719	1697	1675	1711
1957	1663	1671	1675	1658	1680	1670	1659	1658	1630	1633	1643	1630	1656
1958	1635	1652	1639	1657	1677	1680	1661	1667	1670	1665	1675	1666	1662
1959	1666	1649	1671	1676	1647	1661	1621	1632	1632	1661	1666	1663	1654
1960	1650	1663	1675	1660	1654	1669	1669	1685	1674	1660	1657	1677	1667
1961	1684	1682	1688	1685	1688	1690	1677	1701	1700	1704	1706	1699	1692
1962	1704	1687	1683	1668	1683	1677	1690	1695	1690	1688	1703	1721	1691
1963	1720	1718	1720	1720	1715	1729	1734	1736	1734	1739	1732	1729	1727
1964	1735	1736	1736	1736	1739	1741	1742	1744	1744	1741	1743	1753	1741
1965	1748	1745	1756	1764	1762	1754	1753	1753	1748	1754	1765	1764	1755
1966	1754	1754	1747	1741	1744	1737	1736	1736	1708	1725	1732	1727	1737
1967	1721	1714	1726	1731	1727	1724	1727	1720	1720	1718	1713	1710	1721
1968	1714	1708	1708	1710	1710	1705	1708	1709	1706	1698	1681	1689	1704
1969	1702	1706	1702	1698	1678	1676	1695	1708	1714	1716	1714	1709	1701
1970	1709	1715	1712	1707	1701	1691	1695	1705	1706	1705	1697	1719	1705
1971	1712	1720	1720	1718	1722	1735	1732	1737	1732	1739	1732	1732	1728
1972	1730	1726	1731	1732	1728	1721	1734	1710	1733	1733	1726	1723	1727
1973	1723	1719	1718	1709	1704	1716	1723	1733	1740	1737	1738	1738	1725
1974	1737	1740	1736	1729	1713	1703	1704	1712	1705	1713	1718	1731	1720
1975	1730	1733	1734	1740	1740	1742	1740	1735	1737	1738	1729	1733	1736
1976	1738	1741	1739	1737	1740	1740	1742	1743	1742	1742	1744	1741	1741
1977	1741	1743	1742	1742	1740	1735	1729	1730	1732	1742	1745	1741	1739
1978	1731	1731	1726	1710	1700	1710	1717	1731	1729	1719	1724	1720	1721
1979	1711	1707	1702	1684	1691	1682	1688	1674	1689	1703	1700	1717	1696
1980	1713	1708	1712	1699	1701	1690	1698	1705	1699	1688	1672	1680	1697
1981	1699	1682	1680	1671	1662	1685	1690	1693	1697	1666	1675	1700	1683
1982	1710	1687	1703	1700	1702	1662	1632	1643	1625	1662	1674	1658	1671
1983	1688	1703	1713	1709	1685	1697	1704	1690	1694	1697	1703	1702	1699
1984	1705	1699	1693	1685	1665	1677	1684	1691	1695	1699	1691	1698	1690
1985	1703	1714	1716	1721	1723	1736	1724	1727	1732	1734	1739	1737	1725
1986	1739	1724	1734	1746	1748	1750	1748	1745	1747	1751	1744	1752	1744
1987	1757	1760	1760	1757	1754	1738	1741	1735	1728	1728	1721	1718	1741
1988	1704	1706	1711	1706	1705	1705	1696	1692	1698	1690	1688	1674	1698
1989	1663	1660	1624	1635	1629	1638	1664	1650	1640	1611	1609	1627	1637
1990	1638	1638	1623	1608	1616	1630	1651	1648	1668	1666	1673	1673	1644
1991	1689	1682	1617	1631	1630	1540	1555	1611	1642	1638	1632	1641	1626
1992	1630	1635	1659	1677	1665	1689	1702	1696	1684	1693	1688	1697	1676
1993	1692	1692	1690	1708	1705	1711	1704	1707	1714	1709	1712	1709	1705
1994	1705	1696	1697	1703	1708	1711	1711	1711	1718	1724	1723	1722	1711
1995	1723	1717	1718	1726	1730	1732	1730	1733	1736	1735	1732	1734	1729
1996	1730	1734	1740	1742	1733	1735	1736	1736	1735	1733	1727	1727	1734
1997	1728	1744	1738	1740	1737	1741	1739	1747	1741	1737	1733	1733	1738
1998	1734	1741	1744	1721	1720	1723	1732	1723	1728	1733	1731	1719	1729
1999	1703	1704	1714	1713	1719	1736	1737	1717	1714	1713	1705	1694	1714
2000	1704	1704	1695	1700	1685	1678	1664	1688	1695	1708	1679	1699	1692
2001	1712	1723	1726	1680	1700	1705	1791	1690	1701	1693	1700	1687	1709
2002	1664	1693	1684	1686	1685	1696							1685

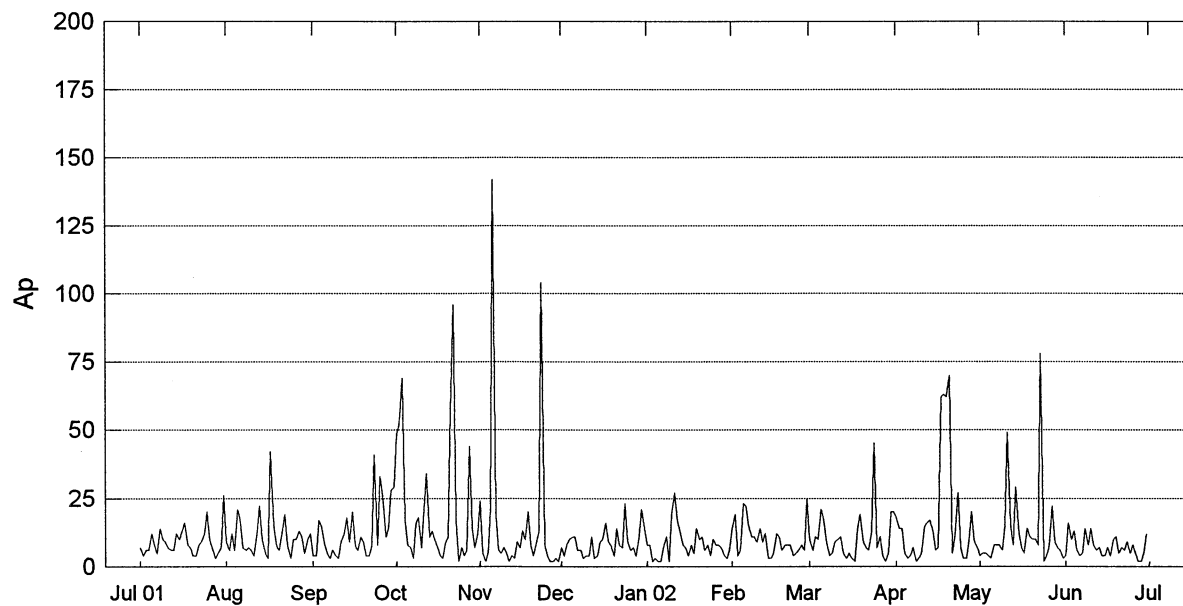
Multiply table entries by 100 to obtain hourly counting rate for Huancayo, Peru: S12 W75, Alt=3400m, Cutoff Rigidity=12.92GV (1980). NOTE: Secular changes in the Earth's magnetic field resulted in a slow lowering of the geomagnetic cutoff rigidity at Huancayo over the 40 year period. This dataset was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

Geomagnetic Activity Indices

June 2002

		Kp Three-Hourly Indices								Km Three-Hourly Indices								aa Provisional								
Day		1	2	3	4	5	6	7	8	Sum	Ap	Cp	1	2	3	4	5	6	7	8	Am	N	S	M		
1	Q4	0	0+	1-	1-	0+	1	1+	2+	7-	4	0.1	1o	1o	2-	2-	1+	2o	2-	2+	11	9	4	3	10	CK
2	D1*	4	3+	2	2+	3-	3	3+	4-	24+	16	0.9	4-	3+	2+	2+	2+	3o	3-	3+	28	34	22	25	31	
3		3	3+	2+	1	2-	1	3-	2+	17+	10	0.5	3o	3-	3o	2o	2-	1o	3-	2+	20	24	12	20	16	
4	D3*	3+	3	4	3-	3-	2+	2-	2	22-	13	0.8	3o	3o	4o	3-	3-	2o	2o	2-	26	29	22	31	20	
5		3	2+	1+	1-	1+	1	1+	1+	12+	6	0.3	3-	2+	1+	1o	1o	1o	1+	1+	11	15	8	13	10	CK
6	Q6	2-	1+	1+	1	0+	1	1	1+	9	4	0.2	1+	1+	1+	1+	1-	1+	1-	1o	8	9	8	9	8	CC
7	Q8	1+	1	1	1	1	1	1+	2+	10	5	0.2	1o	1o	2-	1o	1o	1-	1+	2o	9	9	6	5	9	CC
8	D4*	1-	1	1	2	4	4-	4-	4-	20-	14	0.8	0+	1o	1+	3-	3o	3o	3-	3+	20	32	15	11	36	
9		3-	3-	2	2-	1+	2-	3-	2	17-	8	0.5	2+	3-	2+	2-	1+	2-	3-	2o	17	20	16	20	16	
10	D2*	2-	2	3+	3-	3+	4-	3	3-	22+	14	0.8	2-	3-	3o	3+	3-	3o	3-	3-	26	29	30	28	31	
11		2+	2-	2+	2+	2-	2	2+	2	17-	8	0.4	2o	2o	3-	3-	2o	2-	2o	2o	17	21	19	20	20	
12		3-	2-	1-	2-	2-	1+	1+	2	13	6	0.3	3-	2o	1o	2o	1+	1+	1+	2o	13	18	10	13	15	
13		1+	2+	2-	1+	2-	2+	3-	1+	15-	7	0.4	1+	3-	2o	1+	2-	2-	2o	1+	13	17	10	13	14	KC
14	Q3	2-	1-	1	1-	1	1	1	1	8	4	0.1	2-	1-	1o	1-	1-	1o	1o	1+	7	9	4	5	8	CC
15	Q5	1	1-	1-	1-	1-	0+	1	2+	7+	4	0.1	1-	1-	1-	1+	1o	0o	1+	2o	7	8	6	6	8	CC
16		2	2-	3-	2-	3-	1	1+	2	15	7	0.4	2-	2o	3o	2o	2+	1+	1+	2-	15	17	13	15	15	C
17	Q7	2+	1+	1+	1	1-	1	1-	1-	9	4	0.2	2o	2-	2-	1+	1-	1-	1-	1-	9	12	7	11	8	CC
18		1-	1-	1-	2+	3+	3	3+	3-	17-	10	0.6	0+	1-	1o	2o	3o	2+	3o	2+	16	29	13	9	33	
19		4-	3-	2+	3-	1+	2+	2	3	20	11	0.7	3o	3o	3-	3-	1+	2o	2o	3-	21	26	13	23	16	
20		2	2	2	2-	1	1-	1	1-	11	5	0.2	2o	2o	2o	2o	1+	1-	1+	1o	11	16	6	16	6	CK
21		2-	2+	1	1+	2+	2	2+	1+	14+	7	0.3	2-	3o	2-	1+	2-	2o	2-	1+	14	19	7	11	15	CC
22		1	1-	1-	1+	1+	2	2	3-	12-	6	0.3	1-	1-	1o	1+	1+	2-	2o	3-	10	14	7	7	14	CK
23		2-	2+	3	3	2+	1+	2	2	18-	9	0.5	1+	3o	3o	3o	2o	1+	2o	2-	18	19	11	17	13	C
24	Q9	2-	2-	1+	1+	1	2	1+	1-	11	5	0.2	2-	1+	2-	2-	1o	1+	1o	1o	9	14	6	10	10	CC
25		2	1+	1	2-	3+	1+	2-	3-	15	8	0.4	2-	2-	1+	2o	3-	1+	2-	3-	14	21	9	10	20	K
26		3-	1	0+	0+	2-	2+	1	1	10+	5	0.2	2+	1+	1-	0+	1+	2o	1-	1+	9	14	7	9	12	CK
27	Q2	1	0+	0+	0+	0+	0+	1	0	4-	2	0.0	1-	0+	0o	0+	0o	0o	1-	0o	2	6	2	4	4	CC
28	Q1	0+	0+	0+	0+	1-	1	1-	0+	4	2	0.0	0o	0+	0+	0+	0+	1-	0+	0+	2	4	2	2	4	CC
29	Q10	1	1-	0+	1+	1	1+	2+	2+	10+	5	0.2	1-	1o	1-	1+	1o	1o	2o	2+	9	14	5	6	13	CK
30	D5*	2+	3-	3	3-	3-	2+	2+	3+	21+	12	0.7	3-	3o	3o	3-	2+	2-	2o	3+	24	28	13	19	22	
Mean											7	0.38									13.9	17.9	10.5	14.2		
		Kn Three-Hourly Indices								Ks Three-Hourly Indices								Prov								
Day		1	2	3	4	5	6	7	8	An	1	2	3	4	5	6	7	8	As	Sa	Ri	Ra	Rs	IMF		
1		0o	0o	1o	1+	1-	2-	1+	3-	8	2-	2-	2o	2o	2-	2+	2o	2+	14	183.9	124	118	137			
2		3+	3+	3-	3-	3-	3o	3o	3+	31	4-	3+	2-	2o	2o	3-	3-	3+	26	180.0	129	125	132			
3		3-	3o	3o	2+	2o	1+	3-	3-	22	3o	3-	3+	2-	1+	1-	3-	2-	18	175.4	133	132	127			
4		3-	3o	4o	3-	3o	2+	2-	2+	28	3o	3-	4o	2+	3-	2-	2o	1o	24	174.7	150	145	127			
5		2+	2-	2-	1o	1+	1o	1+	2-	11	3o	3-	1o	1-	0+	1o	1+	1+	11	163.7	126	126	115			
6		1+	1+	1+	1+	1o	1+	1-	1+	9	1+	2-	1+	1+	0o	1+	0+	0+	7	159.1	135	131	110			
7		1+	1+	2-	1+	1+	1o	1+	2+	10	1-	1o	2-	0+	1-	0o	1+	2o	7	163.1	135	137	114			
8		1-	1+	2-	3o	4-	4-	3o	3+	27	0o	1o	1-	2o	2o	2-	2+	3o	13	159.9	127	119	111			
9		3-	3o	2+	2o	1+	2-	3o	2+	19	2+	3-	2+	2-	1+	1+	2o	2-	15	161.9	113	112	113			
10		2o	2+	2+	3+	3o	3+	3o	3-	28	1+	3o	3o	3+	2+	3o	3-	3-	24	156.2	88	90	107			
11		2+	2-	3o	3-	2o	2o	2o	3-	19	2-	2+	2o	3-	2o	1+	2o	1+	15	152.4	68	71	103			
12		3-	2-	1o	2+	2-	2o	1o	2+	14	3-	2o	1o	2-	1o	1-	1+	2-	11	146.2	75	70	96			
13		1+	2+	2-	2-	2o	2+	2+	2-	15	1o	3o	2+	1+	1o	1+	2o	1o	12	137.6	55	54	87			
14		2-	1-	1+	1+	1-	1+	1o	1o	8	2o	0+	1-	0o	0+	0+	1+	1+	6	135.6	73	62	84			
15		1+	1-	1o	1+	1o	0+	1+	2+	8	0+	1-	0+	1+	1-	0o	1+	2o	6	139.7	70	67	89			
16		2o	2+	3o	2+	3o	2-	2-	2-	18	1+	2-	3-	2-	1+	1o	1o	2-	11	141.0	80	72	90			
17		2+	2o	2-	2-	1o	1+	1+	1o	11	2o	1+	1+	1+	0+	0o	0o	0o	6	147.5	60	63	97			
18		1-	1-	1o	3-	3+	3-	3o	3o	21	0o	0+	1o	1+	3-	2-	3-	1o	10	147.5	87	88	97			
19		3+	3+	3-	3-	2-	3-	3-	3+	27	2o	2+	2+	2+	1o	1+	2-	2+	14	150.5	79	82	101			
20		2o	2o	2+	3-	1+	1o	2-	1+	14	2o	2+	2-	2-	1o	0+	0+	1-	9	149.8	74	67	100			
21		2+	3o	2o	1+	2+	3-	2+	2-	17	1o	3o	1+	1-	1o	2-	1+	1+	10	144.2	63	48	94			
22		1o	1-	1o	2-	2-	2o	2+	3-	12	0+	1-	1-	1o	1o	1+	1+	3-	8	146.6	57	60	96			
23		1+	3o	3o	3+	2+	2-	2+	2+	21	1o	3o	3o	3-	2-	1o	1+	1o	15	147.5	65	63	97			
24		2+	2-	2-	2+	1o	2o	1+	1+	13	1o	1o	1+	1o	1o	1-	1-	0+	6	155.3	74	74	106			
25		2o	2o	1+	2+	3o	2-	2o	3o	18	1+	2-	1o	2-	2o	1-	1+	2-	10	149.5	76	79	99			
26		3-	1+	1-	1-	2-	2+	1-	2-	11	2-	1o	0+	0o	1o	2-	1-	1-	6	148.6	74	79	98			
27		1+	0+	0o	1-	0o	0+	1o	0o	4	0o	0+	0o	0o	0o	0o	0+	0o	1	143.2	66	67	93			
28		0o	0+	0+	1-	1-	1+	1-	1-	4	0o	0o	0o	0o	0o	0o	0o	0o	1	141.9	60	63	91			
29		1-	1o	1-	2-	1+	1+	2+	2+	10	1o	1-	0+	1o	1-	0+	1+	2+	7	147.5	66	70	97			
30		3-	3o	3o	3-	3o	2o	3-	3+	27	2+	3o	3o	3-	1+	1+	1+	3+	22	151.4	72	66	102			
Mean											16.2									11.5	153.4	88.5	86.7	103.7		

Daily Average Indices Ap Jul 2001 -Jun 2002

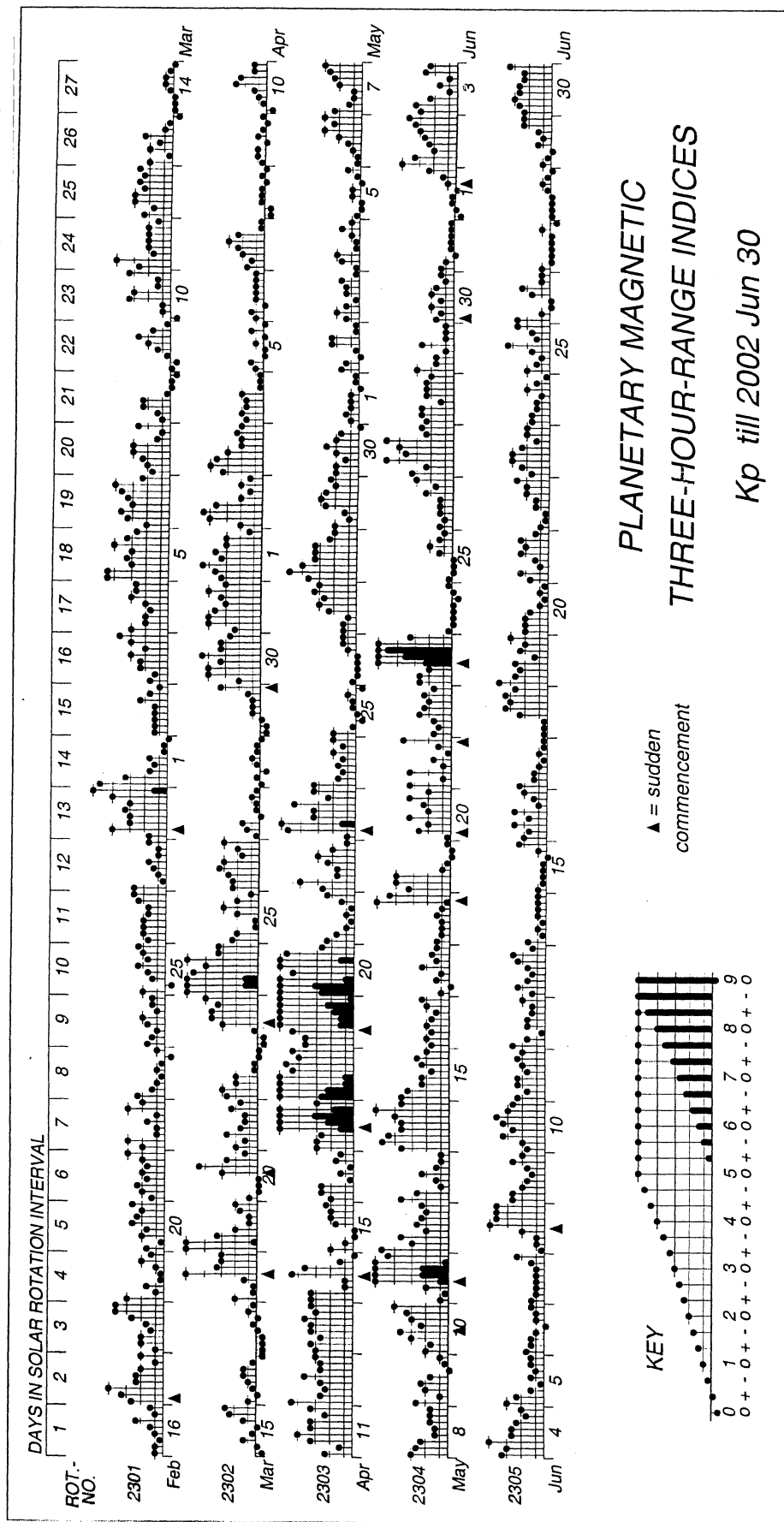


Day	Jul 01	Aug	Sep	Oct	Nov	Dec	Jan 02	Feb	Mar	Apr	May	Jun
1	7	9	4	48	24	7	8	14	10	18	4	4
2	4	6	4	52	5	4	8	19	6	14	5	16
3	6	12	17	69	2	8	2	4	11	14	5	10
4	6	6	15	17	5	10	3	6	10	5	4	13
5	12	21	8	8	21	11	2	23	21	3	3	6
6	8	17	5	7	142	11	2	22	17	4	8	4
7	5	7	3	3	19	6	7	15	9	7	8	5
8	14	6	6	16	6	6	11	11	4	2	8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

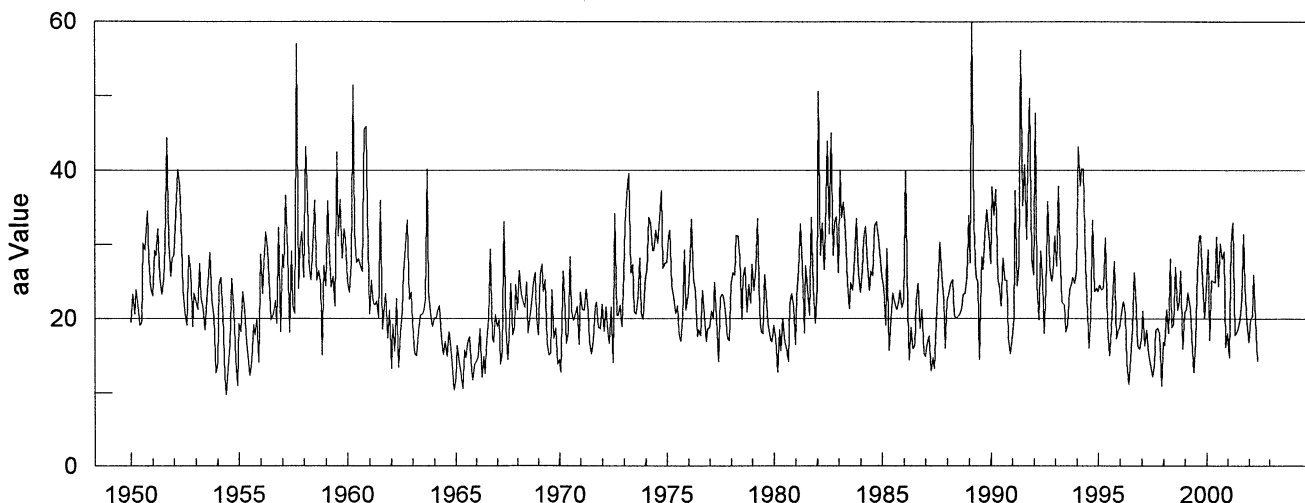
PLANETARY 3-HOUR-RANGE INDICES (Kp) BY 27-DAY SOLAR ROTATION INTERVAL

GeoForschungsZentrum Potsdam

Kp through June 30, 2002



Monthly Mean aa Index Jan 1950 - Jun 2002



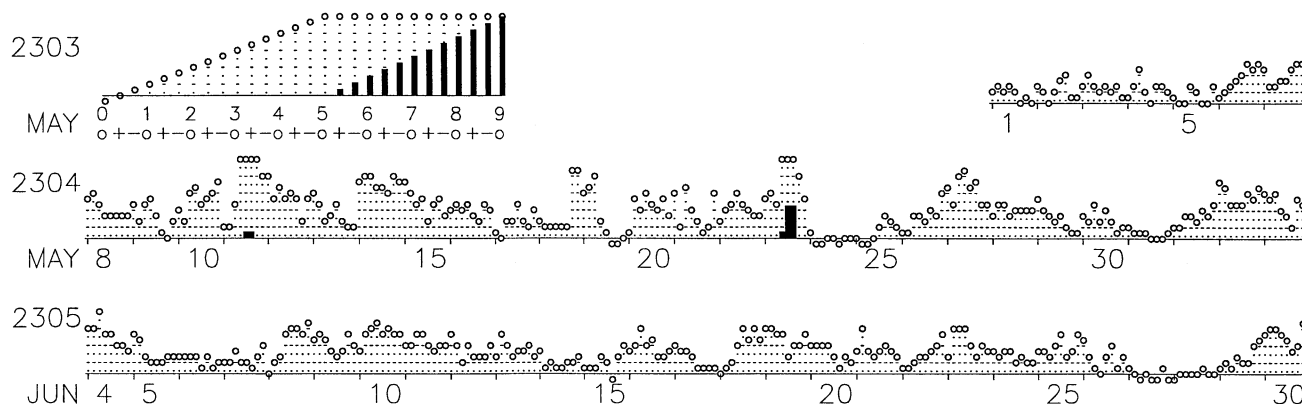
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1950	19.5	23.2	20.6	23.8	21.7	19.0	19.5	30.2	29.3	34.5	28.0	24.0	24.4
1951	23.1	29.2	28.5	32.1	25.5	23.2	25.2	29.7	44.4	30.3	25.7	28.2	28.8
1952	28.5	34.3	40.1	38.0	33.1	23.8	20.7	19.0	28.5	26.4	18.9	23.4	27.9
1953	22.3	21.2	27.4	22.7	21.4	18.4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

PLANETARY GEOMAGNETIC ACTIVITY

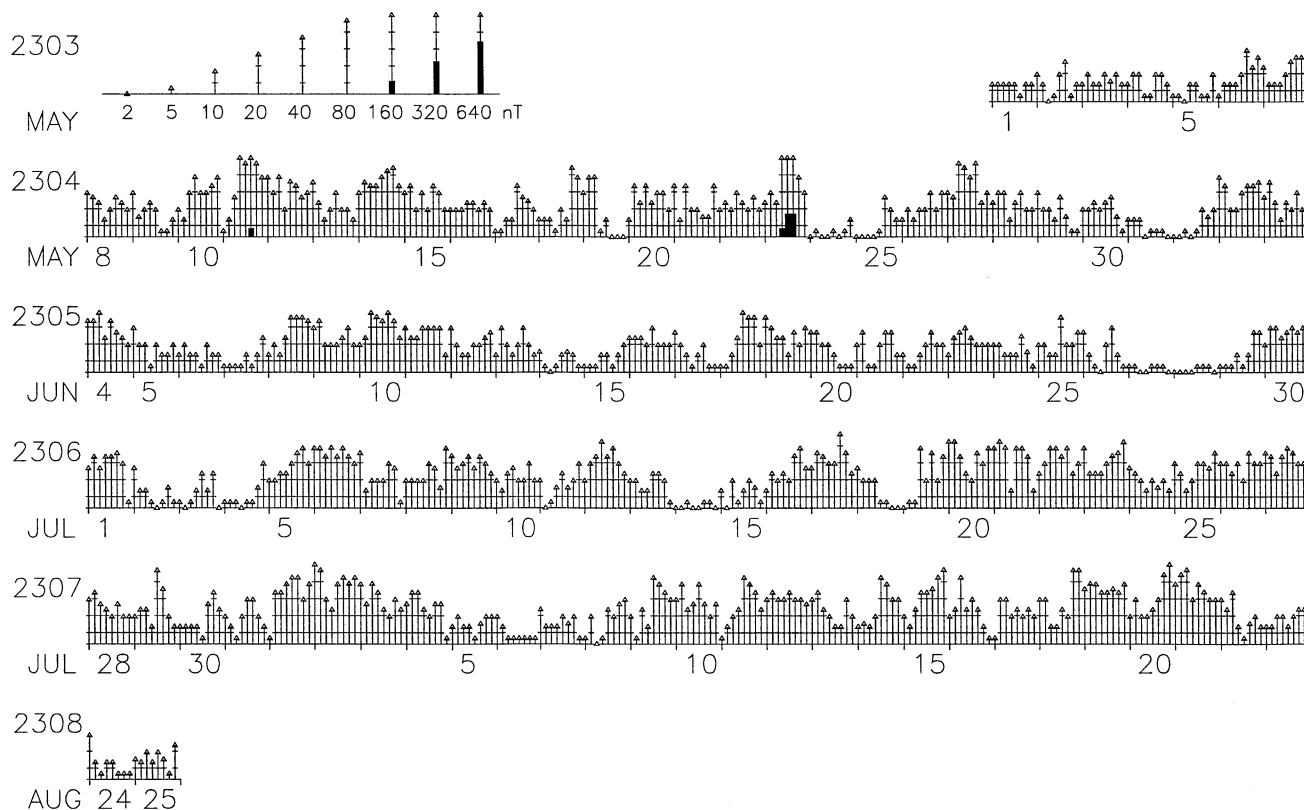
3-HOUR-RANGE INDICES Km AND aa BY 27-DAY SOLAR ROTATION INTERVAL

ISGI PUBLICATION OFFICE – EMail : ISGI.PUBOFF@cetp.ipsl.fr

CETP, 4 Avenue de Neptune, F-94107 Saint Maur des Fosses CEDEX – FRANCE

ROT DAY IN SOLAR ROTATION INTERVAL Three-hour indices Km(provisional) MAY-JUN 2002
No 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

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

ROT DAY IN SOLAR ROTATION INTERVAL Three-hour indices aa (logscale) MAY-AUG 2002
No 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

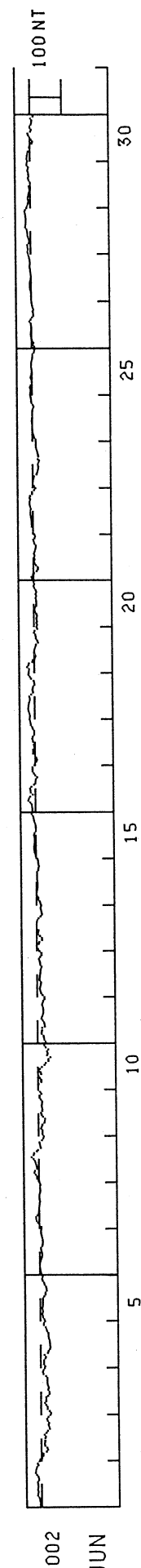
Indices Derivation at C.E.T.P.; Graph Prepared at ISGI Publication Office.

WDC FOR GEOMAGNETISM, KYOTO UNIVERSITY

HOURLY EQUATORIAL DST VALUES (PROVISIONAL)

JUNE 2002

DAY	UNIT=NT		U. T.																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	5	5	5	8	10	13	13	12	13	11	12	14	13	10	10	12	15	20	21	19	15	12	14	7		
2	5	-1	-6	-6	-15	-20	-18	-11	-10	-12	-12	-11	-13	-10	-16	-20	-26	-24	-22	-25	-19	-18	-22	-28		
3	-30	-26	-21	-19	-16	-11	-16	-15	-16	-23	-27	-26	-23	-24	-22	-20	-20	-20	-19	-16	-7	-8	-8	-11		
4	-14	-9	-9	-6	-14	-15	-12	-23	-24	-28	-31	-28	-29	-28	-26	-25	-24	-25	-20	-18	-15	-10	-13			
5	-11	-8	-7		-7	-8	-6	-8	-8	-8	-8	-8	-11	-15	-16	-19	-20	-18	-14	-12	-8	-7	-7			
6	-3	-2	-1	0	1	0	-2	-3	-5	-7	-8	-5	-4	-4	-7	-10	-10	-10	-8	-6	-6	-3	-6			
7	-5	1	5	9	11	11	7	8	3	2	0	1	-1	-2	-1	2	1	-2	-2	-2	-2	-4	-2			
8	4	7	12	12	15	14	17	8	10	12	13	18	24	19	15	8	4	-6	-3	-3	-9	-14	-15			
9	-12	-11	-12	-9	-9	-12	-1	-19	-19	-13	-10	-8	-12	-11	-11	-10	-11	-11	-8	-4	-33	-19	-5			
10	2	0	-2		-9	-6	-1	-9	-7	-2	-6	-12	-20	-24	-32	-32	-39	-28	-30	-28	-25	-19	-20			
11	-25	-20	-19	-17	-12	-11	-13	-14	-23	-22	-20	-16	-11	-14	-15	-18	-18	-17	-15	-13	-15	-22	-22			
12	-16	-12	-9	-8	-8	-10	-12	-12	-7	-7	-10	-10	-9	-10	-11	-14	-10	-12	-7	-6	-14	-13	-8			
13	-3	1	0	-6	-2	-0	-5	-10	-4	-4	-3	-3	0	1	2	-1	-6	-12	-5	-15	-14	-12	-14			
14	-11	-9	-6	-7	-2	0	8	-2	-3	-5	-6	-7	-2	-1	-1	-1	-2	-5	-6	-7	-6	-6	-3			
15	1	-3	-5	7	8	8	8	6	6	5	6	7	5	1	0	1	2	3	6	7	8	10	14			
16	4	11	18	17	15	16	17	17	9	15	15	17	13	5	1	0	-2	-5	2	6	10	9	4			
17	12	17	18	21	22	23	22	20	4	6	6	8	7	10	8	4	5	4	8	10	13	16	17			
18	16	16	18	16	17	18	16	1	19	15	15	18	12	6	7	7	-9	0	0	4	12	20	21			
19	17	17	24	20	17	-10	-8	-3	-2	-4	0	0	-2	-3	-6	-11	-6	-5	-5	-2	1	-9	-8			
20	-9	-8	-10	-8	-8						-7	-8	-7	-7	-6	-8	-6	-7	-5	-2	1	0	3			
21	6	7	4	-2	-10	-14	-14	-7	-3	-2	-3	-1	-3	-2	-4	-6	-7	-7	-3	-2	0	-5	-3			
22	1	2	1	-1	-2	-4	-11	-13	-15	-18	-17	-15	-18	-20	-16	-12	-12	-10	-11	-10	-4	-3	-3			
23	1	2	-3	-1	1	2	1	4	-2	4	3	3	0	4	3	3	-2	4	4	4	-3	-9	-8			
24	3	5	6	7	6	1	2	1	2	4	3	0	1	4	3	0	4	2	-1	-1	-3	-6	-7			
25	8	5	3	7	6	1	1	4	6	4	3	0	1	4	3	-6	4	2	-1	-2	-1	-7	-11			
26	2	4	6	1	2	3	4	4	4	2	1	3	4	7	3	-2	-6	-5	-5	-5	-2	-1	0			
27	11	12	10	12	11	8	5	6	6	5	3	2	1	2	3	-2	-6	-6	-4	-3	-5	-2	9			
28	11	9	8	9	10	8	7	7	9	11	12	11	13	17	18	16	16	16	19	19	20	18	13			
29	11	12	10	12	10	8	3	6	4	4	5	4	2	6	8	6	6	7	8	7	11	11	19			
30	11	12	10	9	8	1	3	0	-5	-8	-4	1	5	8	1	-3	-6	7	0	-5	-2	-2	-18			

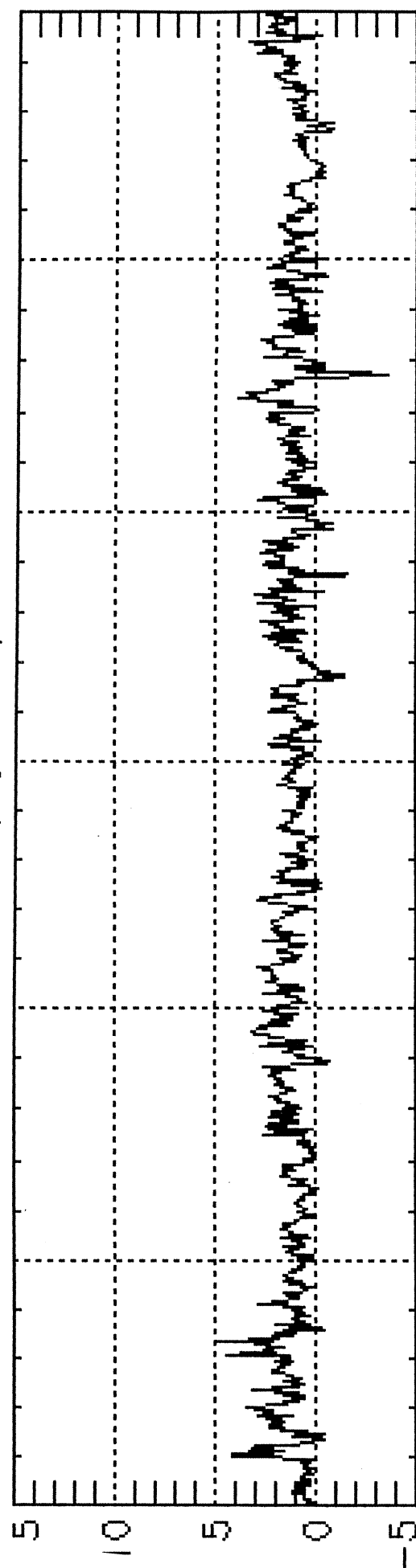


Note: The baselines for the observatories were adjusted for secular change for the Provisional Dst values for June 2002.

WDC C1 for Geomagnetism, Copenhagen

Polar Cap index
Qaanaaq (Thule), THL

2002-06-01



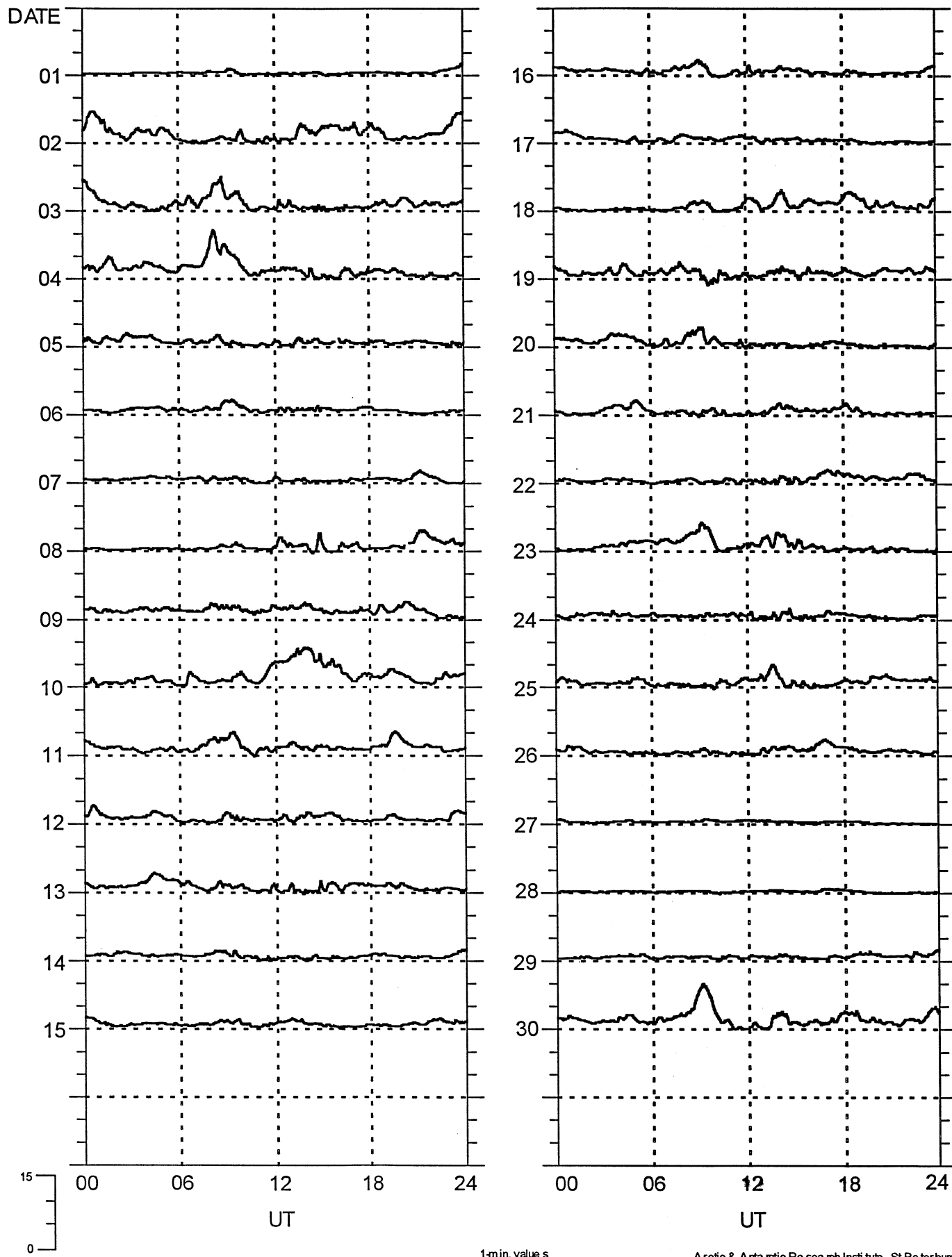
Date, mm-dd

Data source: Solar-Terrestrial Physics Division
Danish Meteorological Institute

PC INDEX

Vostok

June 2002



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

JUNE 2002

Sta	Geomag Lat	Commencement			SC Amplitudes			Maximum 3-Hour K Index Day(3-Hour Periods)	Ranges			End	
		Day	Time (UT)	Type	D (Min)	H (Gamma)	Z (Gamma)		D (Min)	H (Gamma)	Z (Gamma)	Day	Hour (UT)
UJJ	13.6N	01	1630	..	..	..	..		-	6	88	25	02 22
NGP	11.3N	01	1630	..	..	..	..		-	6	95	20	02 22
ABG	09.4N	01	1630	..	..	..	..	04(3)	4	6	77	35	02 22
HYB	07.6N	01	1600	..	..	..	..	01(8) 02(1,2,6) 03(1)	3	6	83	27	03 12
PND	02.0N	01	1630	..	..	..	..		-	6	79	42	02 22
TIR	00.6S	01	1630	..	..	..	..		-	5	142	51	02 22
ETT	00.7S	01	1600	..	..	..	..		-	5	165	58	04 21
UJJ	13.6N	08	1130	..	..	..	..		-	6	51	32	09 21
NGP	11.3N	08	1130	..	..	..	..		-	7	70	30	09 21
ABG	09.4N	08	1130	..	..	..	..	08(5,6,8)	4	7	59	50	09 21
HYB	07.6N	08	0500	..	..	..	..	10(4,5,6)	4	8	134	43	10 24
PND	02.0N	08	1130	..	..	..	..		-	6	62	52	09 21
TIR	00.6S	08	1130	..	..	..	..		-	5	121	53	09 21
ETT	00.7S	08	0300	..	..	..	..		-	6	223	70	11 14
UJJ	13.6N	10	0600	..	..	..	..		-	4	81	34	10 21
NGP	11.3N	10	0600	..	..	..	..		-	5	112	27	10 21
ABG	09.4N	10	0600	..	..	..	..	10(4,5,6)	4	5	103	56	10 21
PND	02.0N	10	0600	..	..	..	..		-	5	137	61	10 21
TIR	00.6S	10	0600	..	..	..	..		-	6	229	48	10 21
ETT	00.7S	18	0500	..	..	..	..		-	3	140	54	19 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)

June 2002

Storm Sudden Commencements (SSC)			Solar Flare Effects (sfe)		
Day	Time	Quality: Station Group*	Day	Begin-End	Station(s)
01	1644	B: SOD NUR* C: NGK* BDV* NAG* SPT	01	0353-0410	MMB+ KAK+ KNY+ GNA+ CNB+
08	1140	A: NAG* B: CLF C: NGK* BDV* GCK SPT LIV*	10	0610-0630	NAG
			27	1533-1547	NAG

REPORTING OBSERVATORIES (up to the 31st of July 2002):

SOD NUR NGK VAL BDV CLF HRB NAG GCK MMB EBR COI SPT KAK KNY GNA 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 Antarctic Station LIVINGSTONE (62° 39' 44" S, 60°23' 41" W) — Luis F.