



Solar-Geophysical Data prompt reports

Data for September and October 2002

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

Please visit: <http://sgd.ngdc.noaa.gov>

SGD On-line Edition:

<http://www.ngdc.noaa.gov/stp> -- Click on SGD Online

SGD PDF version: <http://sgd.ngdc.noaa.gov>

http://ftp.ngdc.noaa.gov/STP/SOLAR_DATA

NGDC On-Line Addresses:

World-Wide Web: <http://www.ngdc.noaa.gov>

Gopher: <gopher.ngdc.noaa.gov>

Anonymous FTP: <ftp.ngdc.noaa.gov>

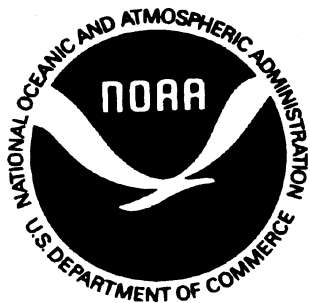
noaa

NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

NATIONAL ENVIRONMENTAL SATELLITE,
DATA, AND INFORMATION SERVICE

NATIONAL GEOPHYSICAL
DATA CENTER

BOULDER,
COLORADO



U.S. DEPARTMENT OF COMMERCE

Donald L. Evans, Secretary

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Vice Admiral Conrad C. Lautenbacher, Jr., Under Secretary/Administrator

NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE

Gregory W. Withee, Assistant Administrator

NOVEMBER 2002 NUMBER 699 - Part I

Solar-Geophysical Data prompt reports

Data for September and October 2002

International Standard Serial Number: 0038-0911

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

NATIONAL GEOPHYSICAL DATA CENTER

Michael S. Loughridge, Director

Boulder, Colorado

Subscription information is on the inside back cover.

SOLAR-GEOPHYSICAL DATA

Number 699

(Issued in Two Parts)

Editor: Helen E. Coffey

Chief: Herbert W. Kroehl
Solar-Terrestrial Physics Division

Staff: Edward H. Erwin

CONTENTS

PART I (PROMPT REPORTS)	Page
DETAILED INDEX FOR 2002	2
DATA FOR OCTOBER 2002	3- 43
DATA FOR SEPTEMBER 2002	45-169
 PART II (COMPREHENSIVE REPORTS)	 Page
DETAILED INDEX FOR 2002	2
DATA FOR MAY 2002	3-50
NEW DATA:	
ACE SOLAR WIND, INTERPLANETARY MAGNETIC FIELD AND PARTICLES	
-- MONTHLY PLOTS	

DETAILED INDEX OF OBSERVATIONS PUBLISHED IN SOLAR-GEOPHYSICAL DATA

CODE	KIND OF OBSERVATION	MAR 02	APR	MAY	JUN	JUL	AUG	SEP	OCT
A. SOLAR AND INTERPLANETARY									
A.1	Sunspot Drawings	693A 50	694A 52	695A 44	696A 60	697A 58	698A 50	699A 52	
A.2aa	International Provisional Sunspot Numbers	692A 28	693A 27	694A 28	695A 26	696A 27	697A 27	698A 27	699A 27
A.2c	American Sunspot Numbers	692A 28	693A 27	694A 28	695A 26	696A 27	697A 27	698A 27	699A 27
A.3a	Mt. Wilson Magnetograms	693A 50	694A 52	695A 44	696A 60	697A 58	698A 50	699A 52	
A.3b	Sunspot Mag Class and Regions	693A 91	694A 91	695A 86	696A100	697A 98	698A 91	699A 91	
A.3c	Kitt Peak Magnetograms	693A 50	694A 52	695A 44	696A 60	697A 58	698A 50	699A 52	
A.3d	Mean Solar Magnetic Field (Stanford)	692A 39	693A 41	694A 41	695A 35	696A 43	697A 49	698A 41	699A 41
A.3e	Stanford Magnetograms	693A 50	694A 52	695A 44	696A 60	697A 58	698A 50	699A 52	
A.4	H-alpha Filtergrams	693A 50	694A 52	695A 44	696A 60	697A 58	698A 50	699A 52	
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	693A 44	694A 46	695A 38	696A 48	697A 52	698A 44	699A 46	
A.6d	Kitt Peak Solar Mag Field Synoptic Maps								
A.6f	Active Prominences and Filaments	697B 41	698B 48	699B 45					
A.6g	Sac Peak Coronal Line Synoptic Maps	693A 46	694A 48	695A 40	696A 50	697A 54	698A 46	699A48	
A.6h	Photometric White Light (San Fernando)	Jul-Dec 96 630B 32; 1997-1998 in 663B 51							
A.7h	Coronal Line Emission (Sac Peak)	693A 50	694A 52	695A 44	696A 60	697A 58	698A 50	699A 52	
A.7j	Coronal Hole Daily Maps (NSO/KP)	693A 81	694A 82	695A 75	696A 90	697A 89	698A 81	699A 82	
A.7k	Coronal Index (Slovak Academy)	1939-1996 in 644B 28							
A.7m	Coronal Mass Ejections (CSPSW)								
A.8aa	2800 MHz- Solar Flux (Penticton)	692A 28	693A 27	694A 28	695A 26	696A 27	697A 27	698A 27	699A 27
A.8ac	2800 MHz- Adj. Solar Flux (Penticton)	692A 28	693A 27	694A 28	695A 26	696A 27	697A 27	698A 27	699A 27
A.8g	Adjusted Daily Solar Fluxes (Sagamore)	692A 28	693A 27	694A 28	695A 26	696A 27	697A 27	698A 27	699A 27
A.10g	Nancay Radioheliograph - 164&327 MHz	693A137	694A147	695A143	696A152	697A153	698A151	699A149	
A.10h	Nobeyama Radioheliograph Maps-17 GHz	693A 85	694A 86	695A 80	696A 95	697A 92	698A 85	699A 86	
A.11g	Solar X-ray GOES (graphs/event table)	697B 32	698B 40	699B 36					
A.11k	Solar UV NOAA-9	May 86-Dec 88 in 566B 84							
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							
A.11o	Solar UV SUSIM (UARS)	Oct 91-Jan 97 in 629B 30							
A.11p	Solar UV Mg II Daily Index	697B 42	698B 49	699B 47					
A.12g	Solar Particles (GOES-7)	692A 4	693A 4	694A 4	695A 4	696A 4	697A 4	698A 4	699A 4
A.12h	Interplanetary Particles (SAMPEX)	Jul 95-Dec 96 in 632B 22; Jan-Dec 97 in 647B 33							
A.13e	Solar Plasma (IMP-8)								
A.16c	ERBS, NOAA-9 & -10 Solar Irradiance	ERBS Oct 84-Jun 00 in 671B 36							
A.16d	UARS Solar Irradiance	Oct 91-May 2001 684B 26 - Complete Mission							
A.16e	VIRGO/SOHO Solar Irradiance	Jan 96-Sep 00 in 678B 46							
A.17c	Inferred Interplanetary Mag Field	1984-1988 data in 542A168; 1989-Jan 94 in 611A118							
A.17	IMP-8 Interplanetary Mag Field								
C. SOLAR FLARE-ASSOCIATED EVENTS									
C.1a	H-alpha Flares	692A 31	693A 30	694A 31	695A 29	696A 30	697A 30	698A 30	699A 30
C.1ba	H-alpha Flare Groups	697B 4	698B 4	699B 4					
C.1d	Flare Patrol Observations	697B 12	698B 16	699B 16					
C.1h	H-alpha Flare Index (ImpxDur)	Jan 76-Dec 85 in 639B 26; Jan 86-Oct 96 in 635B 24; Jan 96-Dec 98 in 665B 63							
C.3	Radio Bursts Fixed Frequency	697B 14	698B 18	699B 18					
C.3	Radio Bursts Fixed Frequency Selected	692A 37	693A 38	694A 39	695A 33	696A 40	697A 43	698A 38	699A 39
C.4	Radio Bursts Spectral	693A115	694A117	695A122	696A126	697A125	698A120	699A120	
C.6	Sudden Ionospheric Disturbances	693A112	694A114	695A119	696A125	697A121	698A115	699A118	
D. GEOMAGNETIC EVENTS									
D.1a	Geomagnetic Indices	693A148	694A158	695A154	696A159	697A160	698A162	699A160	
D.1ba	27-day Chart of Kp Indices	693A150	694A160	695A156	696A161	697A162	698A164	699A162	
D.1cb	Monthly Mean aa Indices	693A151	694A161	695A157	696A162	697A163	698A165	699A163	
D.1d	Principal Magnetic Storms	693A156	694A166	695A162	696A167	697A168	698A170	699A168	
D.1f	Sudden Commencements/Flare Effects	693A157	694A167	695A163	696A168	697A169	698A171	699A169	
D.1g	Equatorial Indices Dst	693A153	694A163	695A159	696A164	697A165	698A167	699A165	
D.1l	Polar Cap (PC) Index	693A154	694A164	695A160	696A165	697A166	698A168	699A166	
F. COSMIC RAYS									
F.1b	Cosmic Ray Neutron Cts (Climax)	693A140	694A150	695A146	696A154	697A155	698A154	699A152	
F.1h	Cosmic Ray Neutron Cts (Thule)	693A140	694A150	695A146	696A154	697A155	698A154	699A152	
F.1l	Cosmic Ray Neutron Cts (Kiel)	693A140	694A150	695A146	696A154	697A155	698A154	699A152	
F.1n	Cosmic Ray Neutron Cts (Beijing)	693A140	694A150	695A146	696A154	697A155	698A154	699A152	
F.1m	Cosmic Ray Neutron Cts (Haleakala)	693A140	694A150	695A146	696A154	697A155	698A154	699A152	
F.1o	Cosmic Ray Neutron Cts (Moscow)	693A140	694A150	695A146	696A154		698A154	699A152	
F.1p	Cosmic Ray Neutron Cts (Calgary)	693A140	694A150	695A146	696A154	697A155	698A154	699A152	
H. MISCELLANEOUS									
H.60	ISES Alert Periods	692A 20	693A 19	694A 20	695A 19	696A 20	697A 20	698A 19	699A 20

The entry "693A 50" under Mar 02, for example, means that the sunspot drawings for Mar 02 appear in SOLAR-GEOPHYSICAL DATA No. 693, Part I, and that they begin on page 50. "A" denotes Part I and "B", Part II. Blanks indicate data not yet received and dashes mark unavailable data.

CONTENTS

Prompt Reports

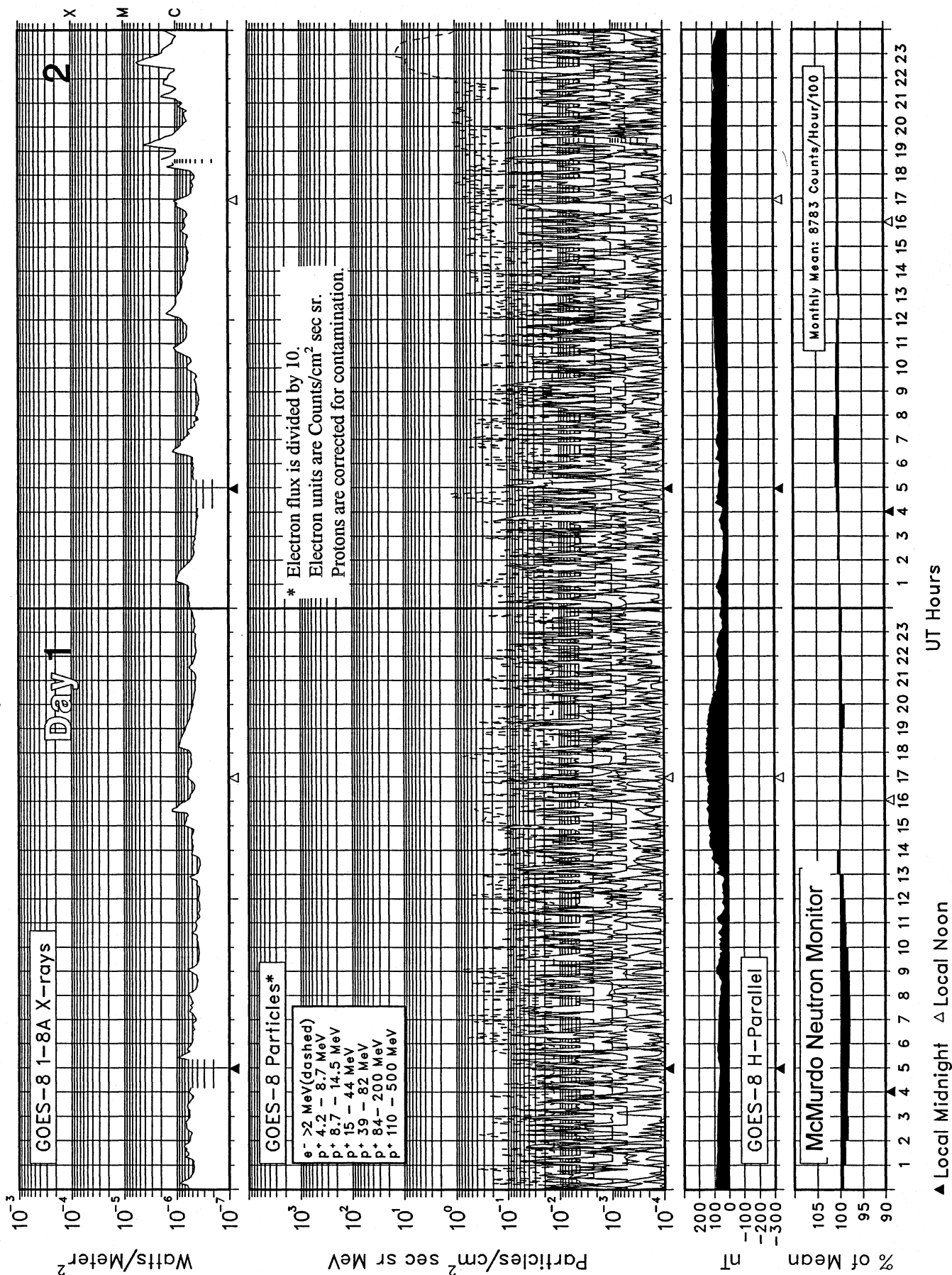
Number 699 Part I

DATA FOR OCTOBER 2002

Page

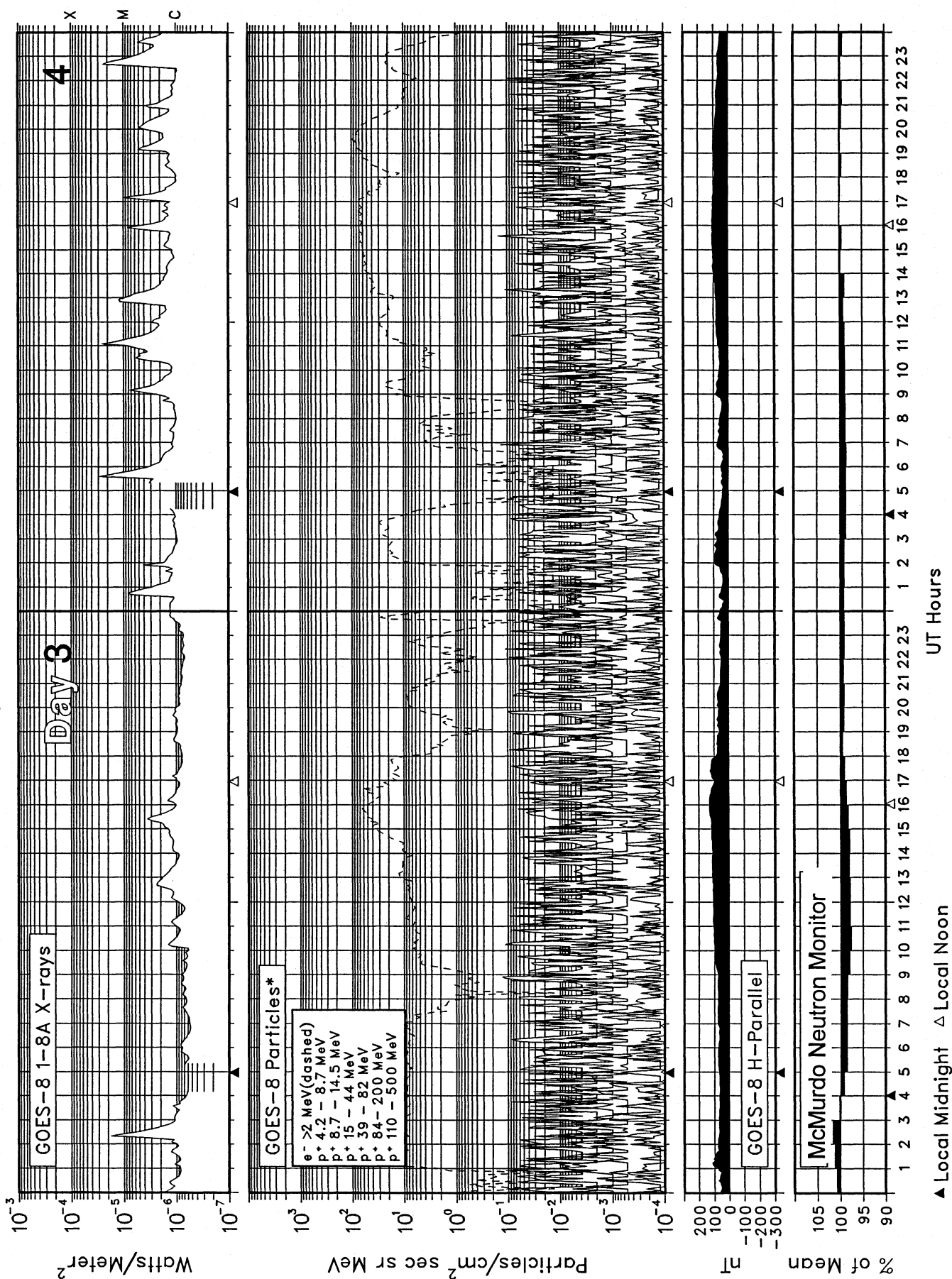
SOLAR-TERRESTRIAL ENVIRONMENT	4-19
Plots of GOES Satellite X-rays, Particles and Magnetometer Data with ground-based McMurdo Neutron Monitor Cosmic Rays	
ISES ALERT PERIODS (Advance and Worldwide)	20-24
SOLAR ACTIVITY INDICES	
Daily Sunspot Numbers (12 Months)	25
Daily 2800 MHz Solar Flux (12 Months)	26
Daily Solar Indices (Sunspot Numbers and Solar Flux)	27
Smoothed Observed and Predicted Sunspot Numbers	28
Graph and Table of Monthly Mean Sunspot Numbers 1950-present	29
SOLAR FLARES	
H-alpha Solar Flares	30-38
Intervals of No Flare Patrol (See 6-month late chart in Comprehensive Reports.)	
SOLAR RADIO EMISSION	
Selected Fixed Frequency Events	39-40
Selected Bursts (None reported.)	
STANFORD MEAN SOLAR MAGNETIC FIELD Table	41
Graph	42
GOES-8 Daily Electron Fluence	43

SOLAR-TERRESTRIAL ENVIRONMENT October 2002

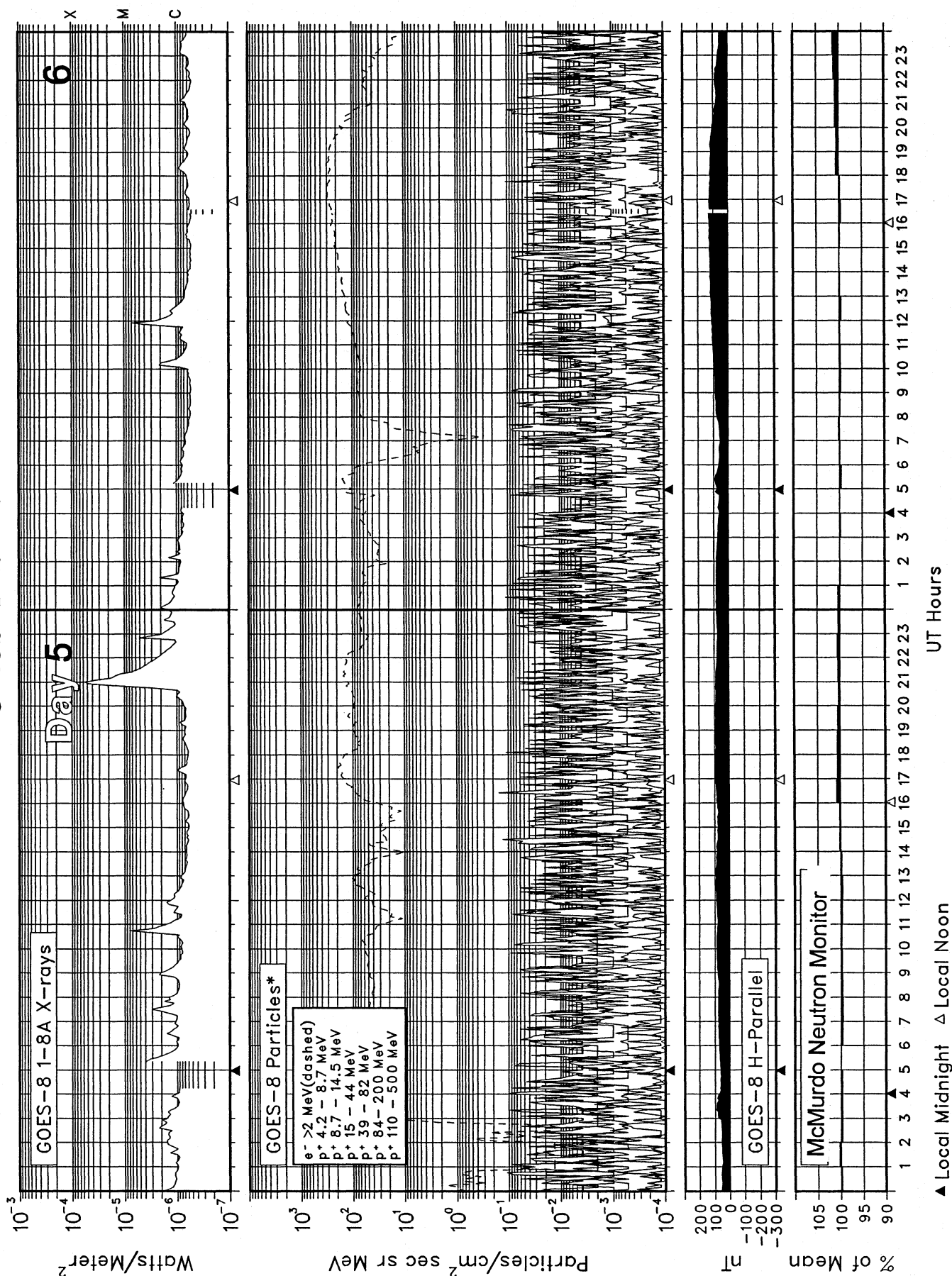


SOLAR-TERRESTRIAL ENVIRONMENT

October 2002

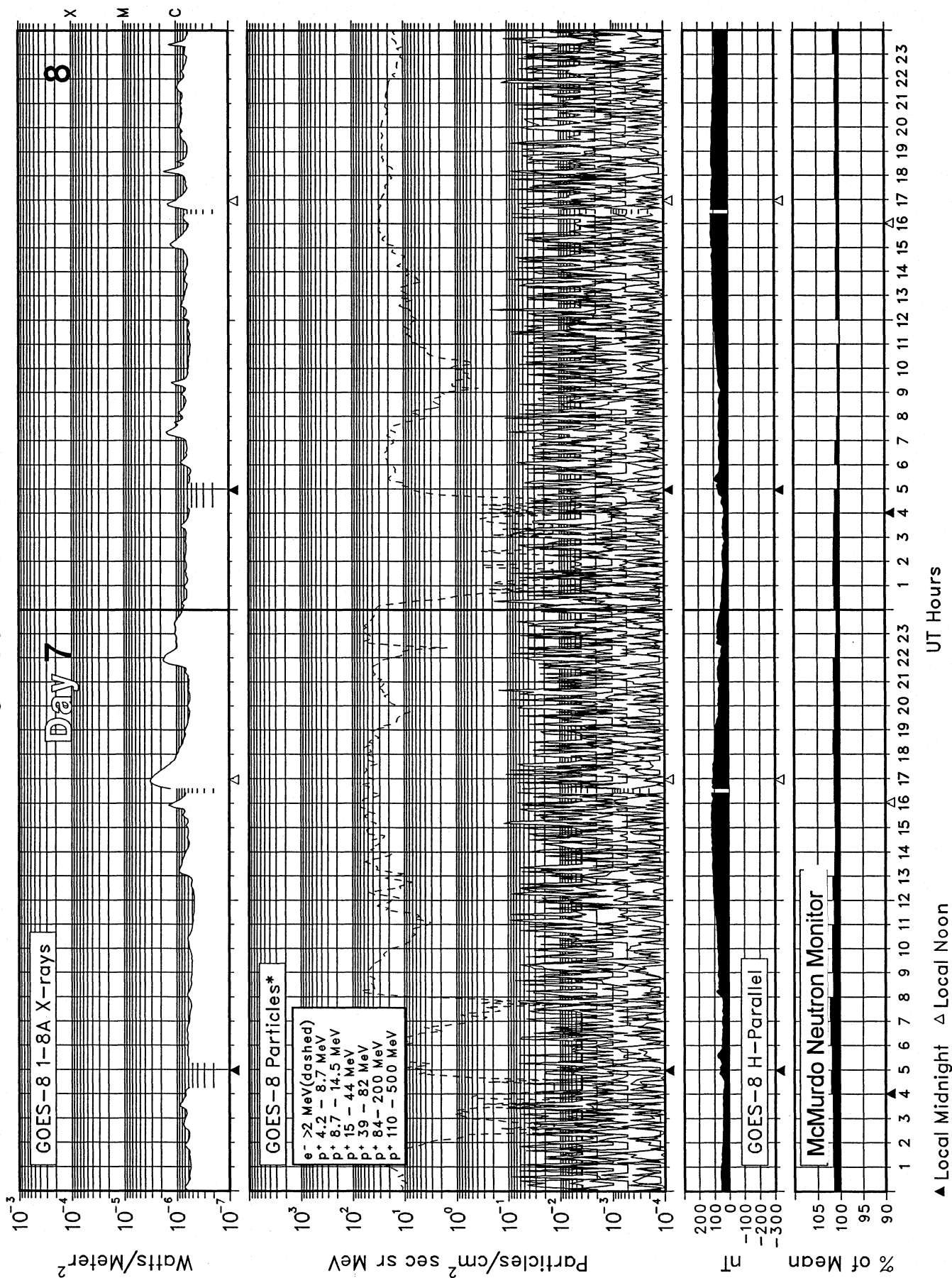


SOLAR-TERRESTRIAL ENVIRONMENT October 2002

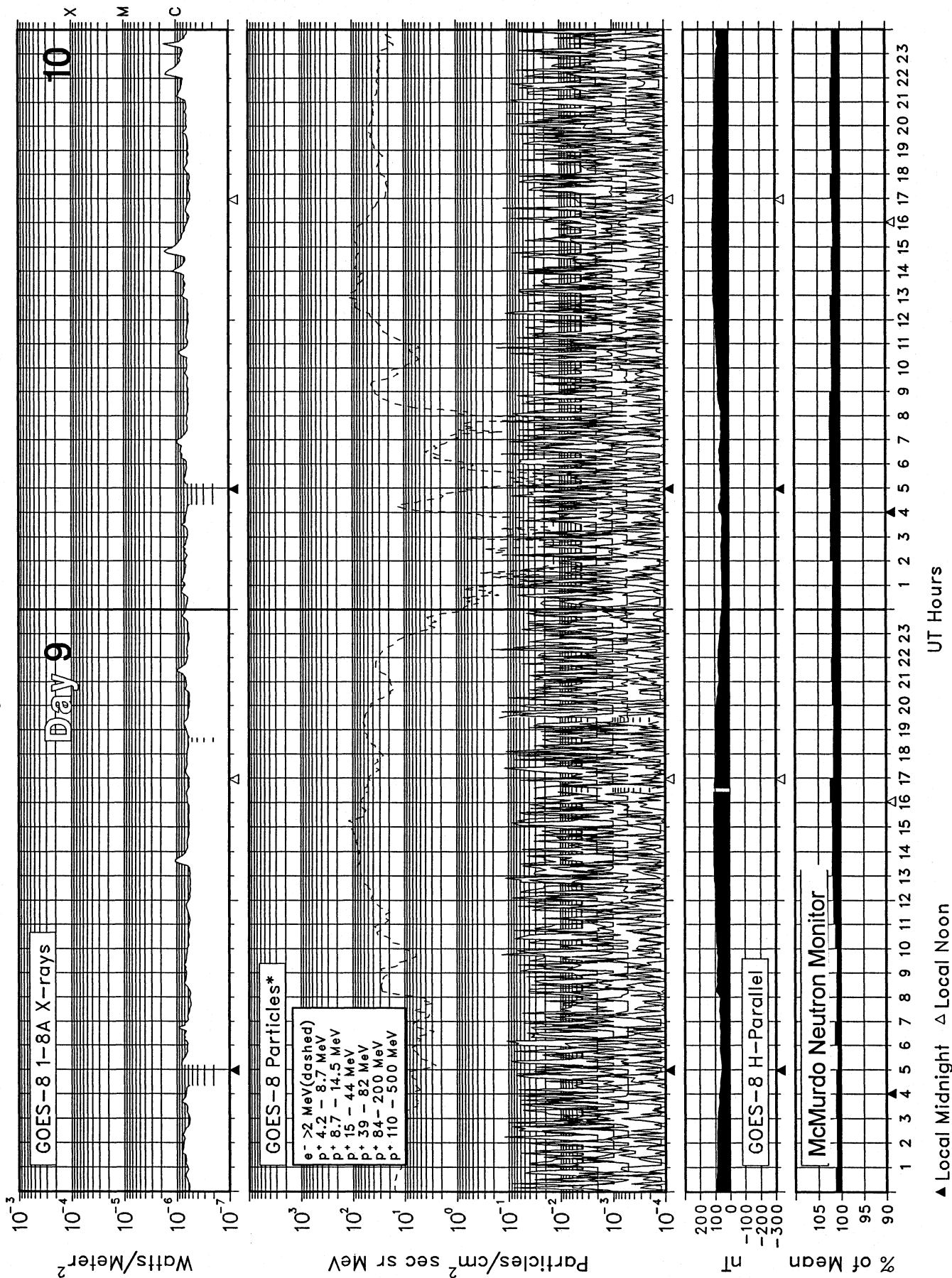


SOLAR-TERRESTRIAL ENVIRONMENT

October 2002

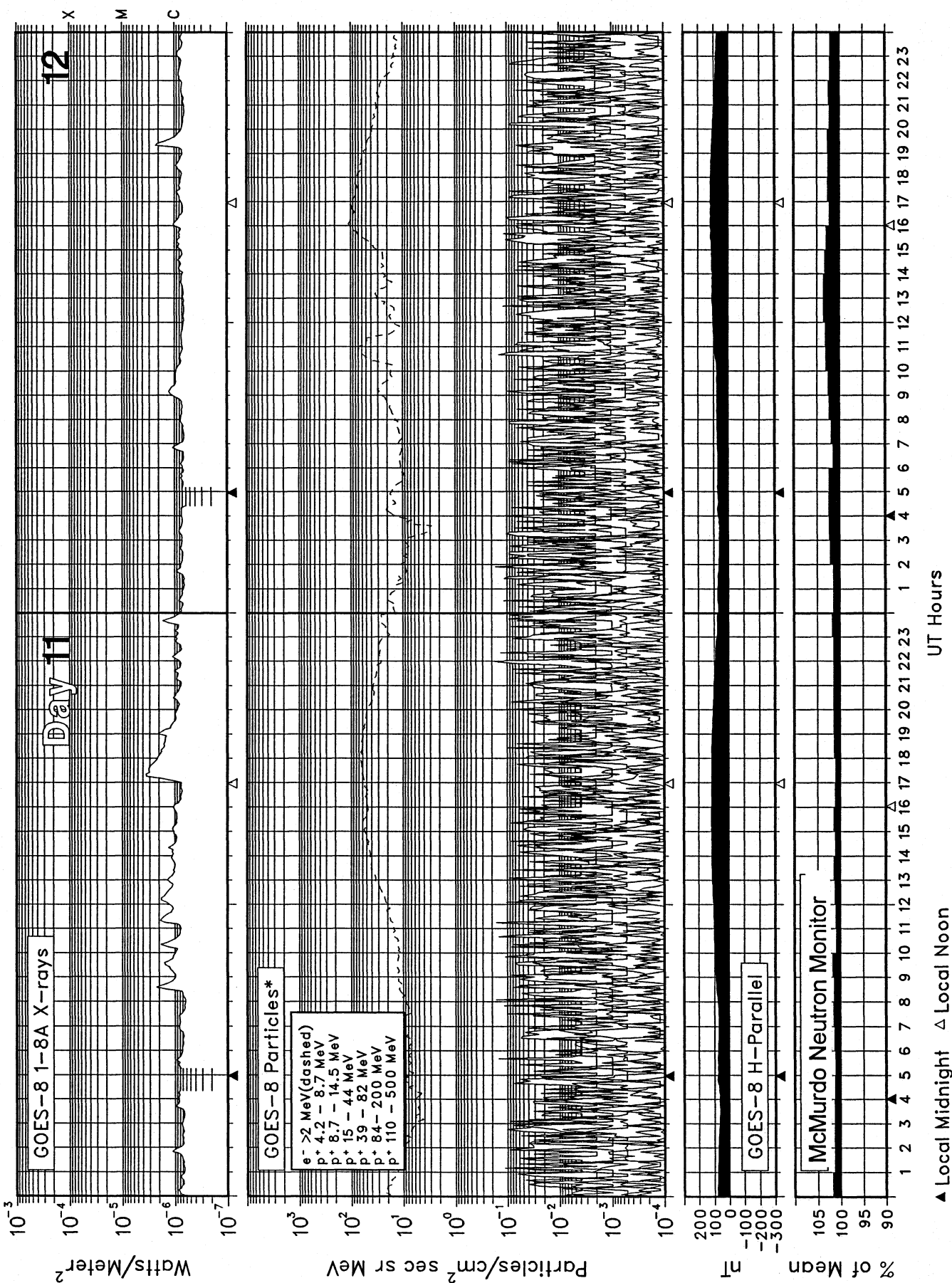


SOLAR-TERRESTRIAL ENVIRONMENT October 2002

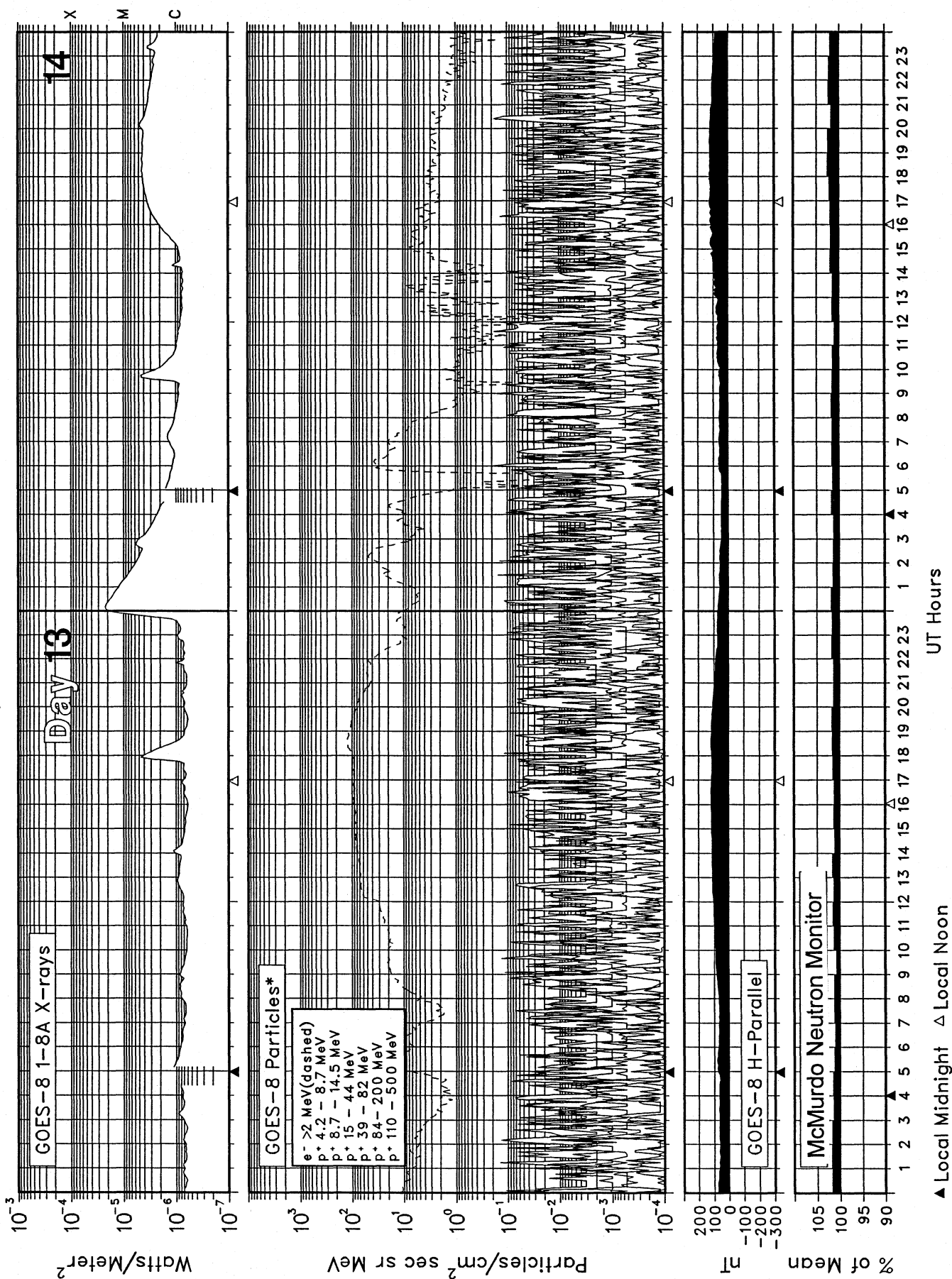


SOLAR-TERRESTRIAL ENVIRONMENT

October 2002

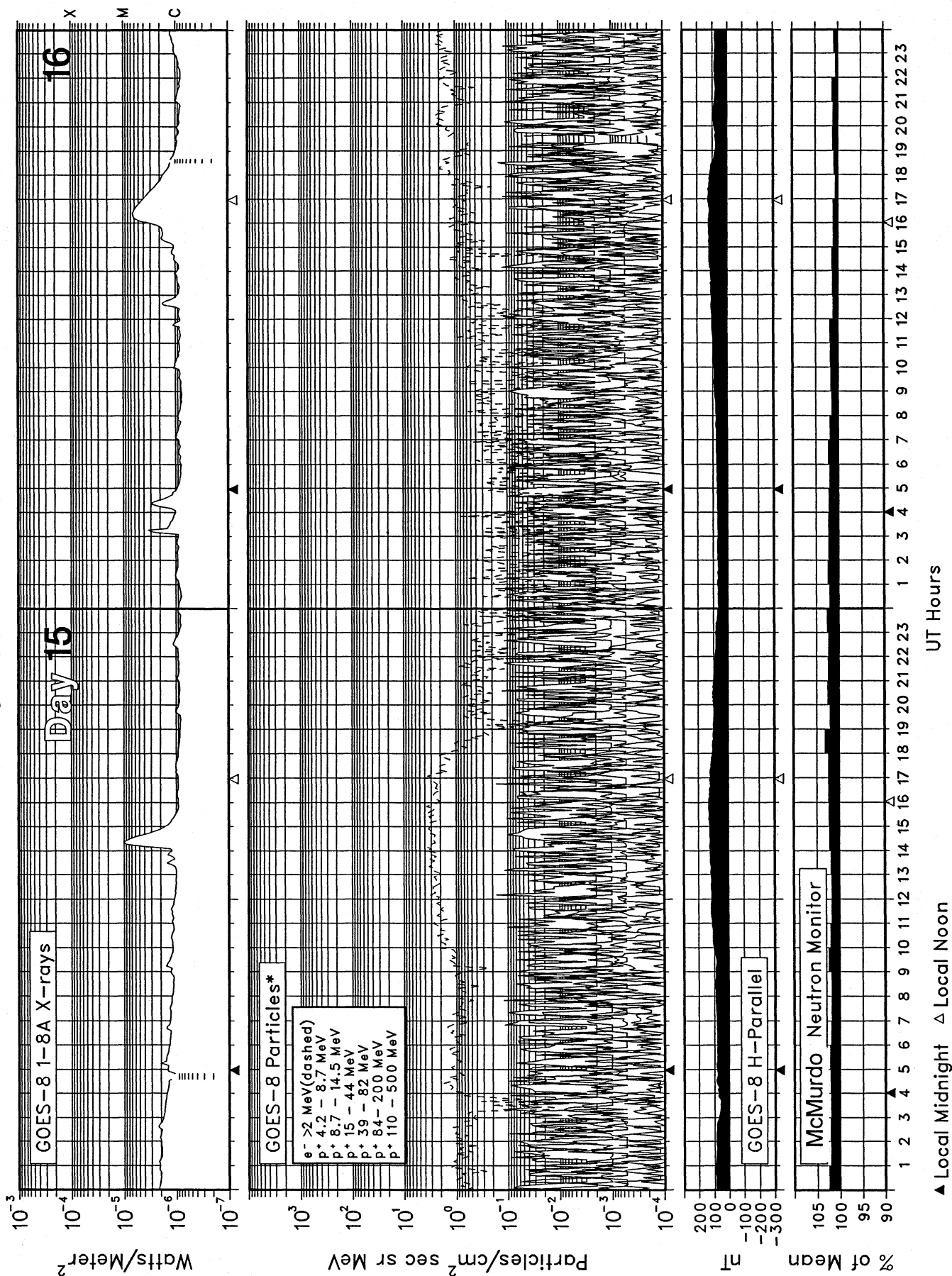


SOLAR-TERRESTRIAL ENVIRONMENT October 2002

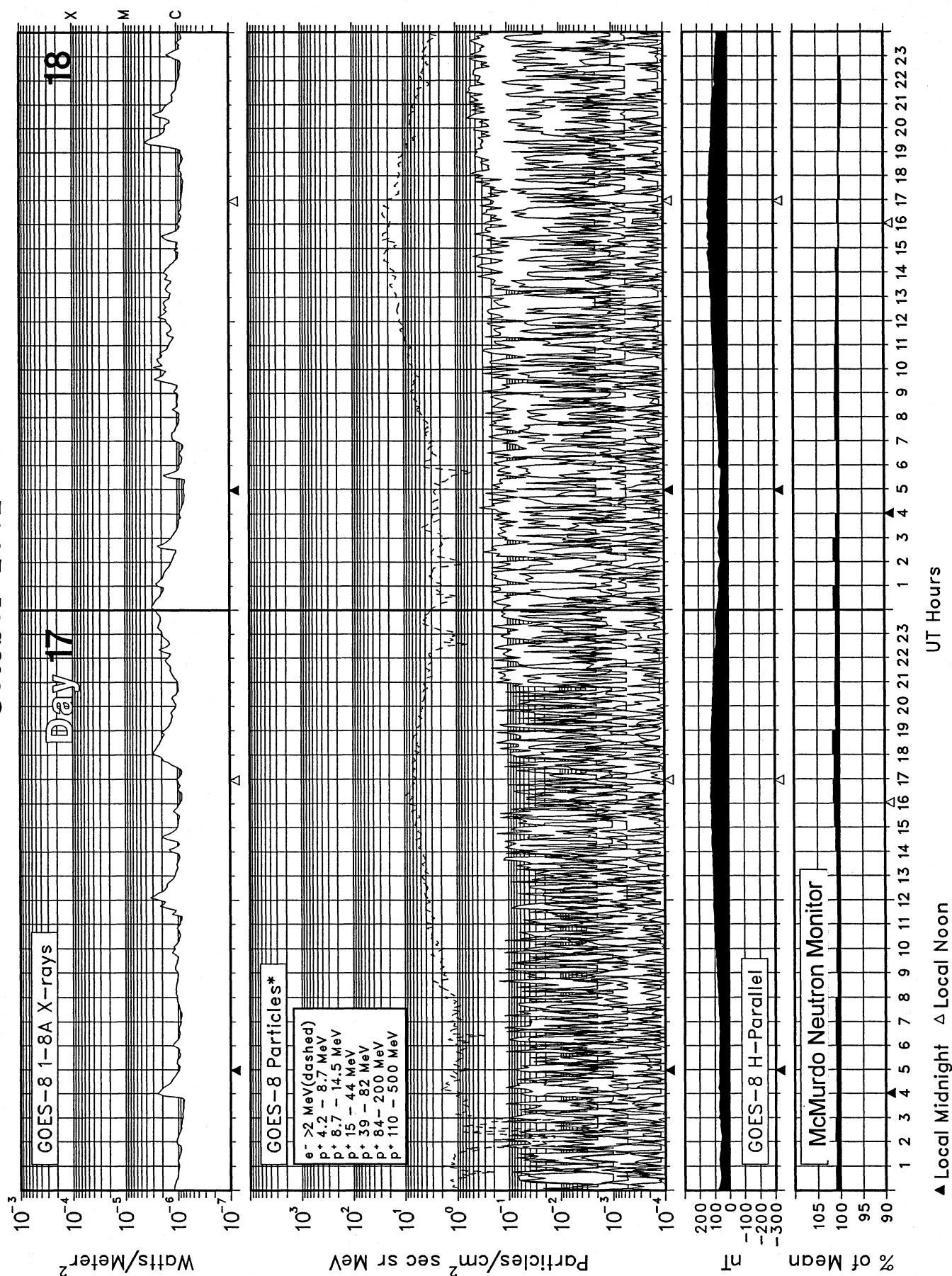


SOLAR-TERRESTRIAL ENVIRONMENT

October 2002



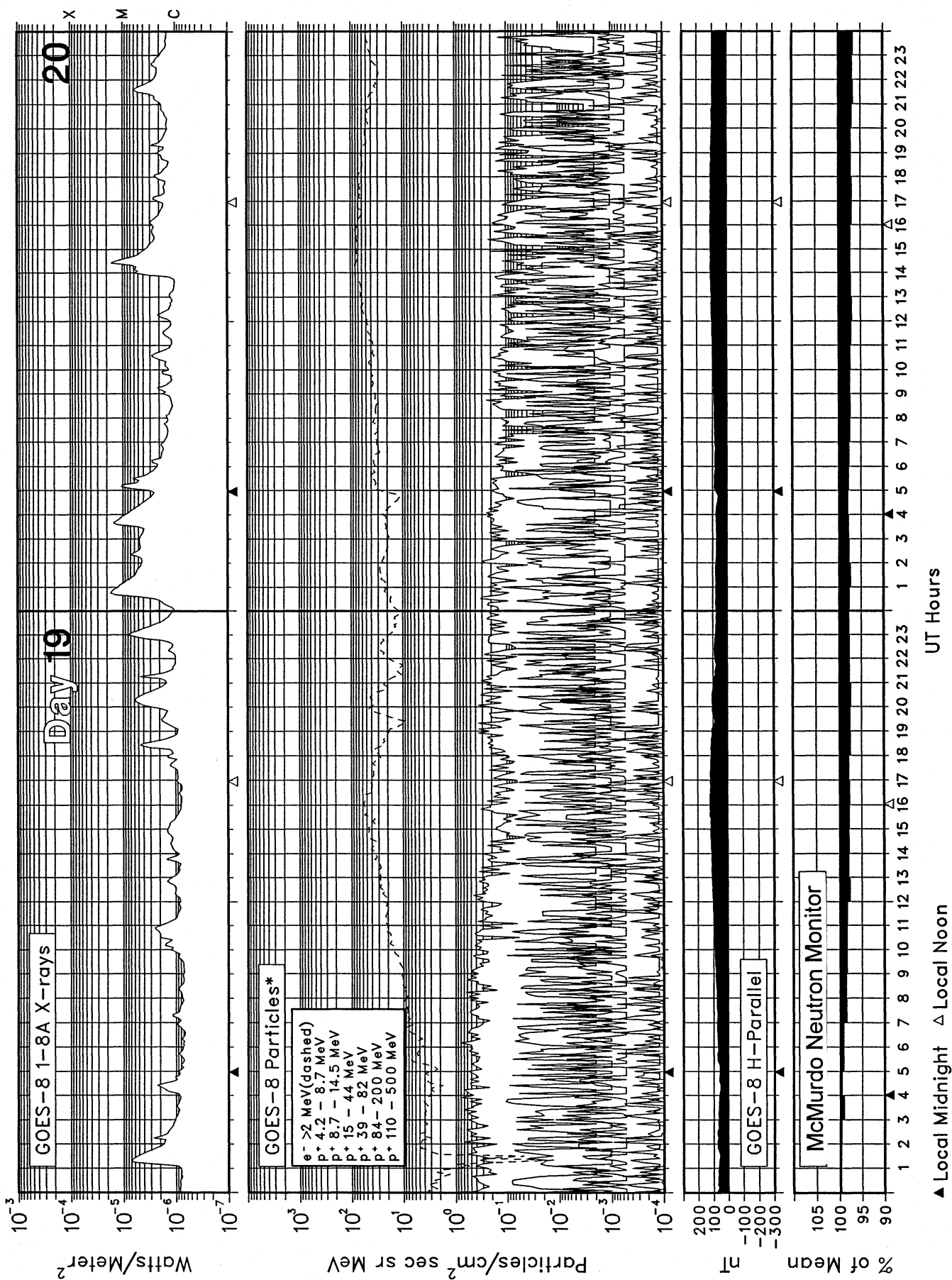
SOLAR-TERRESTRIAL ENVIRONMENT October 2002



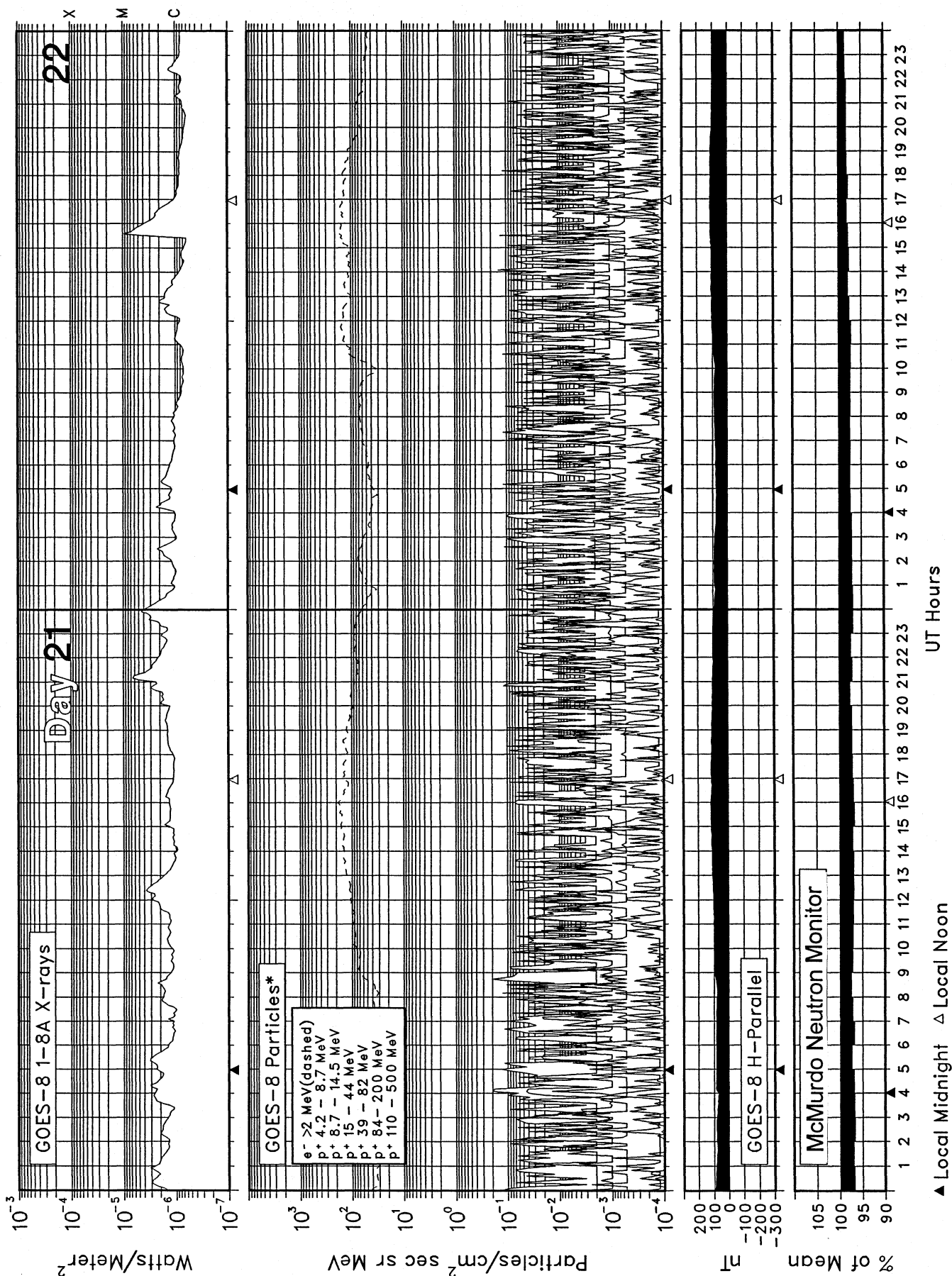
SOLAR-TERRESTRIAL ENVIRONMENT

October 2002

13
Oct 02

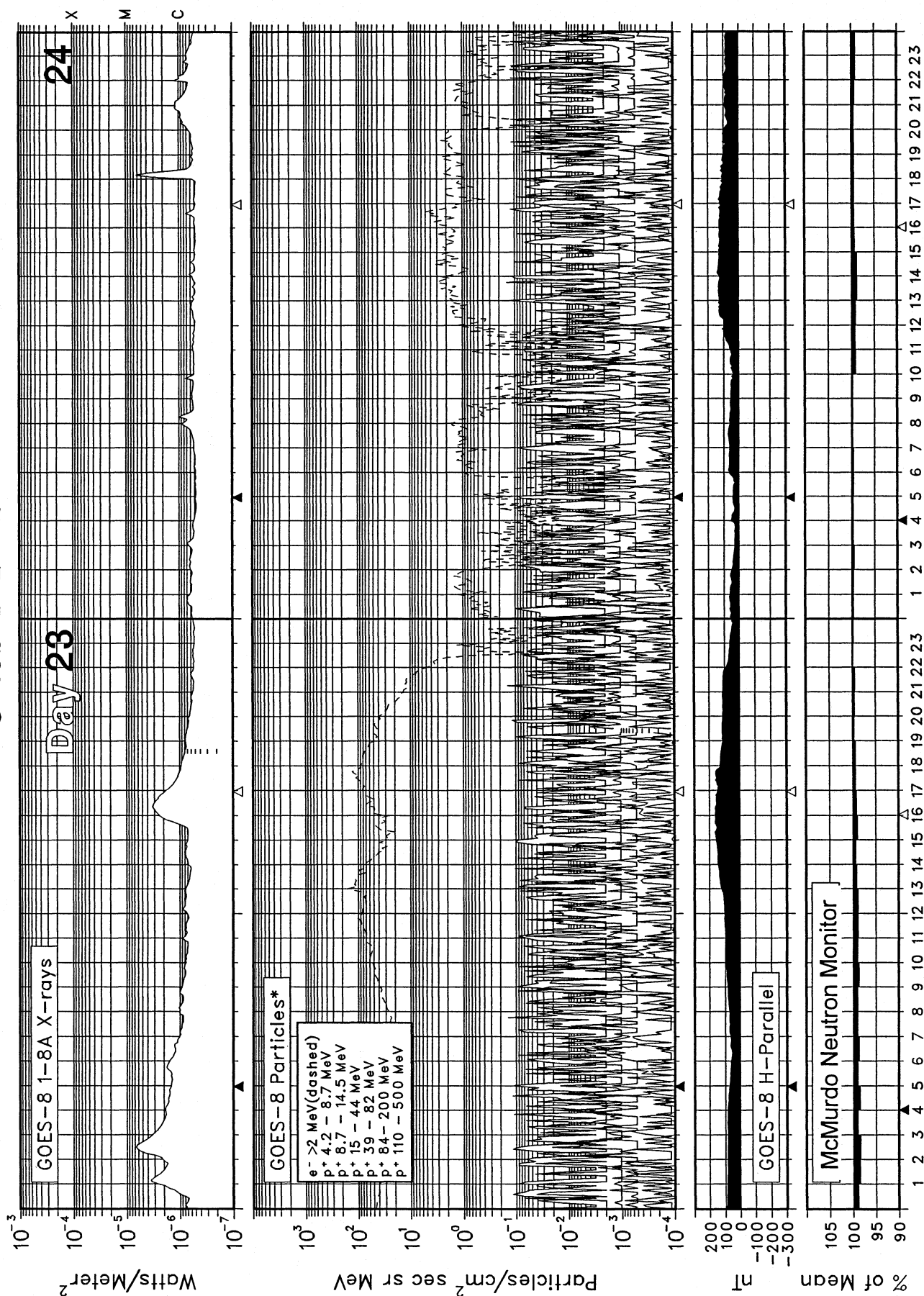


SOLAR-TERRESTRIAL ENVIRONMENT October 2002

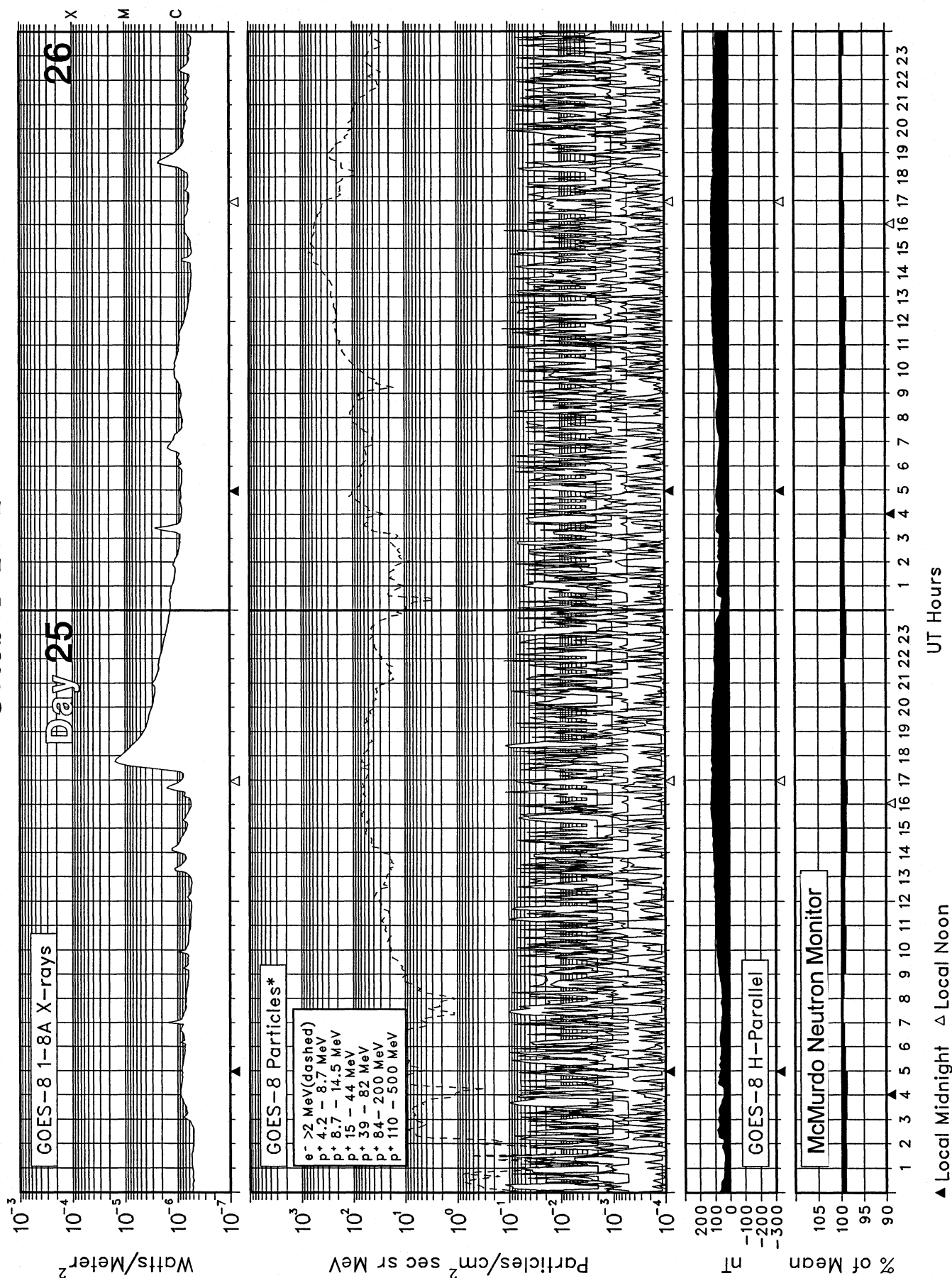


SOLAR-TERRESTRIAL ENVIRONMENT

October 2002

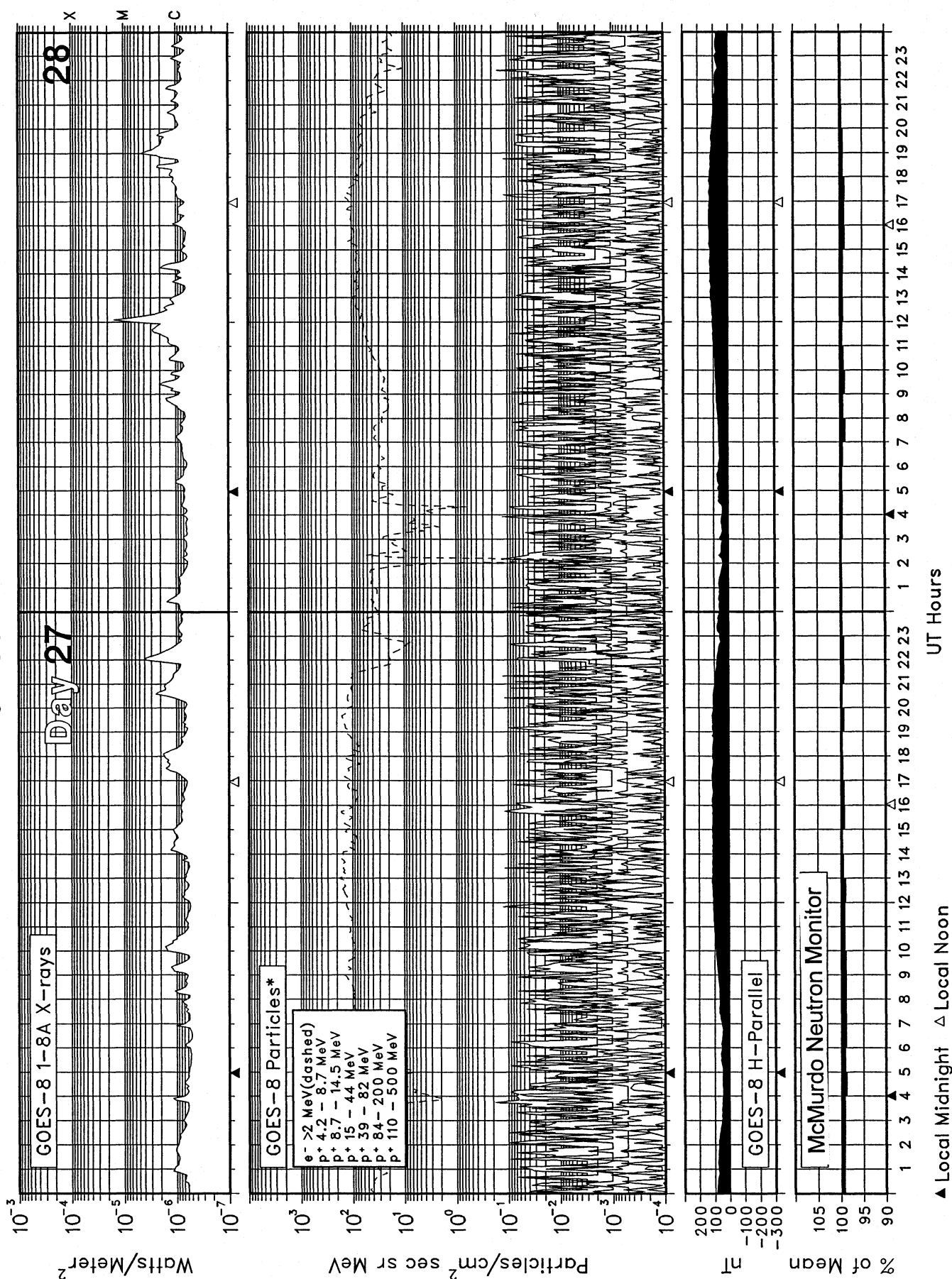


SOLAR-TERRESTRIAL ENVIRONMENT October 2002



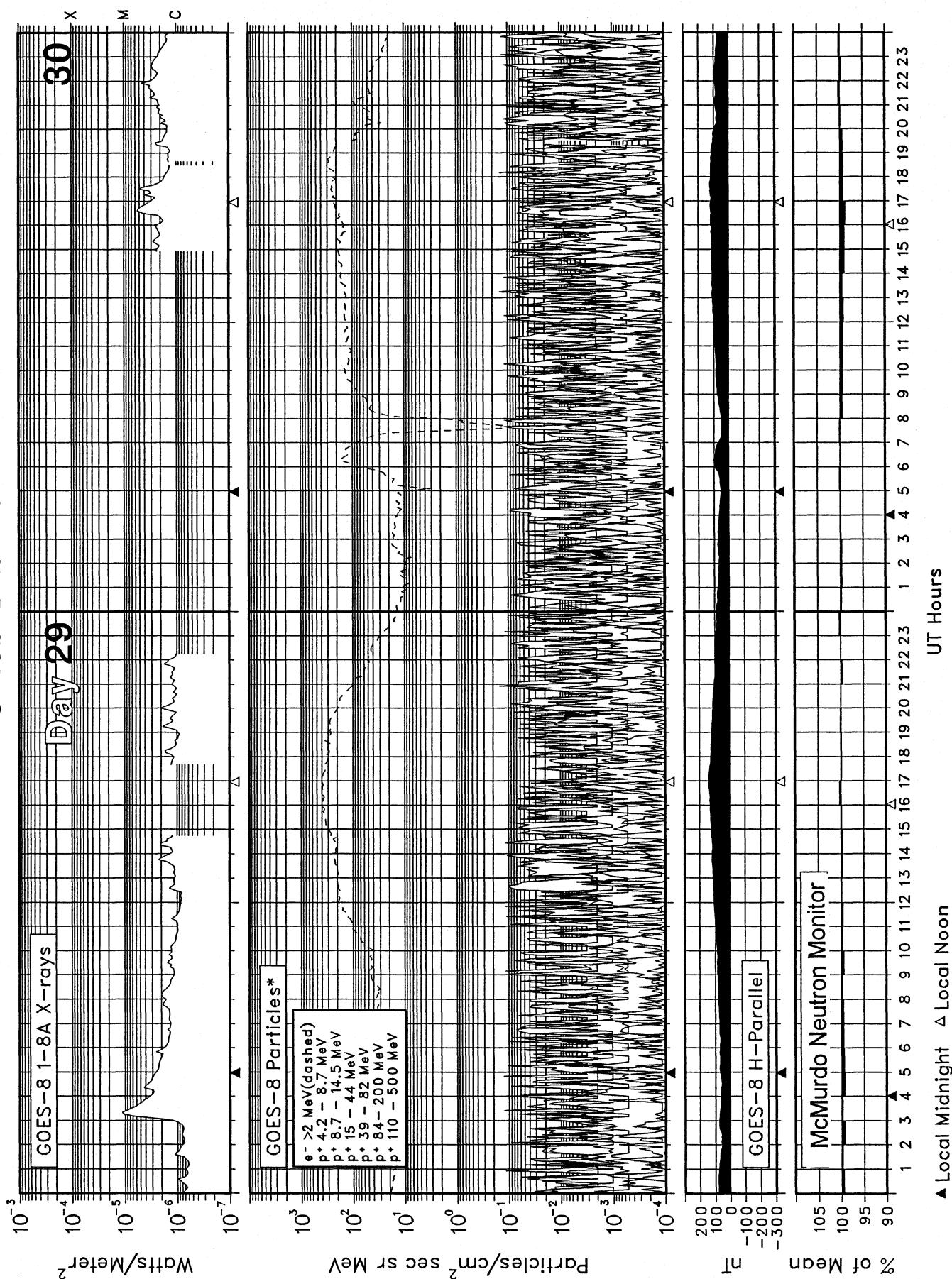
SOLAR-TERRESTRIAL ENVIRONMENT

October 2002



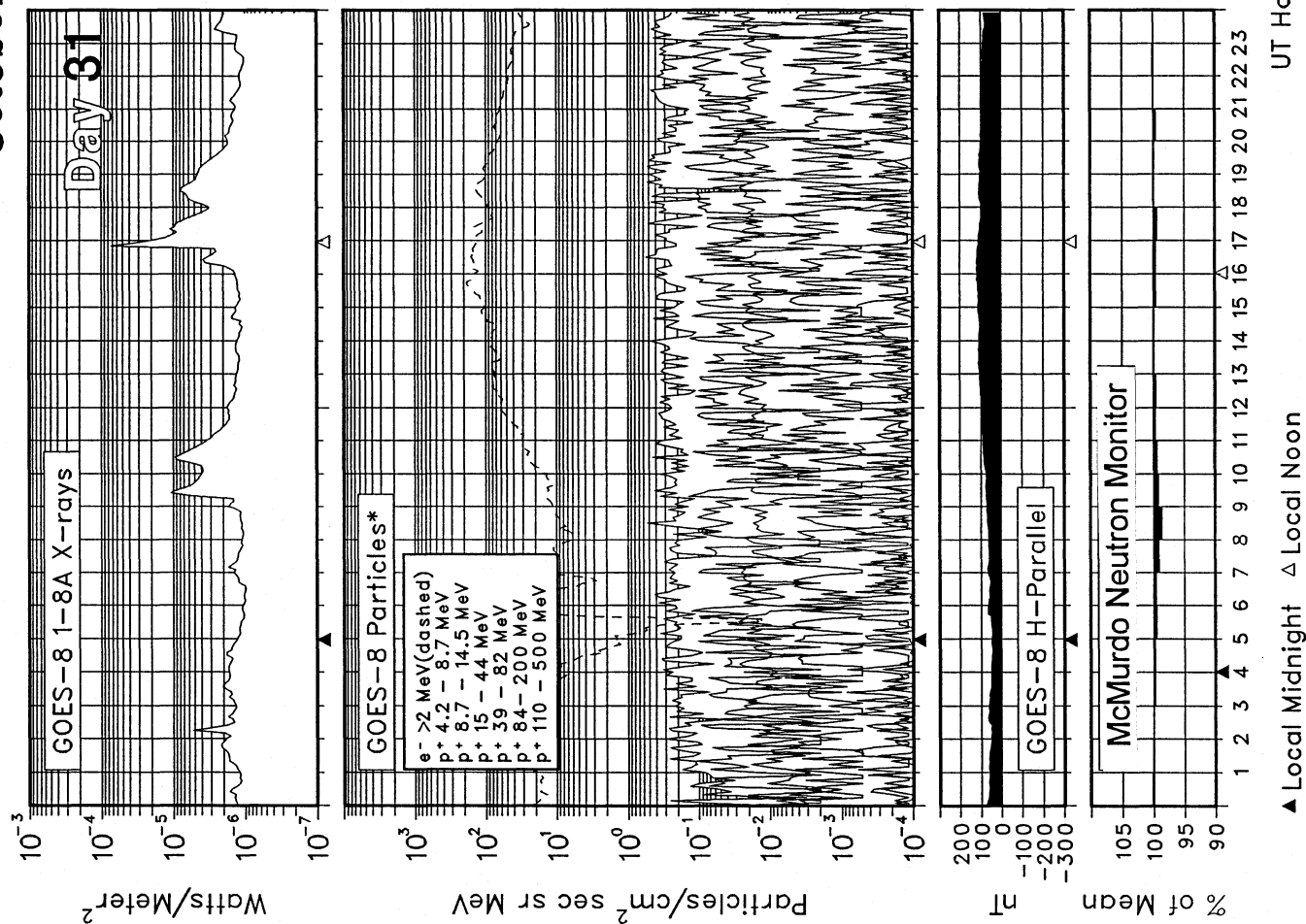
SOLAR-TERRESTRIAL ENVIRONMENT

October 2002



SOLAR-TERRESTRIAL ENVIRONMENT

October 2002



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

20
Oct 02

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

OCTOBER 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			
274	01	30	94	140	24	125	S10	W89	0	0	0	01	Q	SOL: Active
						129	N28	W53	0	0	0	01	Q	MAG: Quiet
						130	N04	W59	0	0	0	01	Q	PRO: Quiet
						134	N13	W02	14	1	0	01	E	
						135	S23	W36	0	0	0	01	Q	
						137	S17	E36	3	0	0	01	Q	
275	02	01	105	140	34	130	N03	W73	0	0	0	02	Q	SOL: Eruptive
						134	N12	W15	0	0	0	02	E	MAG: Quiet
						136	S31	W61	0	0	0	02	Q	PRO: Quiet
						137	S18	E21	3	0	0	02	E	
						138	N09	W11	0	0	0	02	Q	
276	03	02	99	136	35	130	N04	W87	0	0	0	03	Q	SOL: Eruptive
						134	N13	W29	1	0	0	03	E	MAG: Active
						137	S18	E08	4	0	0	03	E	PRO: Quiet
						138	N10	W25	0	0	0	03	Q	
						139	N14	E72	0	0	0	03	Q	
277	04	03	81	146	27	134	N14	W42	1	0	0	04	E	SOL: Eruptive
						137	S19	W05	4	1	0	04	E	MAG: Active
						138	N10	W37	0	0	0	04	Q	PRO: Quiet
						139	N14	E59	0	0	0	04	Q	
278	05	04	98	158	40	134	N14	W56	0	0	0	05	Q	SOL: Active
						137	S19	W20	9	4	0	05	E	MAG: Active
						138	N10	W51	0	0	0	05	Q	PRO: Quiet
						139	N14	E47	10	2	0	05	E	
						140	S07	E76	0	0	0	05	E	
279	06	05	155	155	21	134	N13	W70	1	0	0	06	Q	SOL: Active
						137	S19	W33	5	0	0	06	E	MAG: Active
						138	N15	W68	0	0	0	06	Q	PRO: Quiet
						139	N12	E32	6	1	0	06	E	
						140	S07	E62	0	0	0	06	Q	
						141	S07	E20	0	0	0	06	Q	
						142	N07	E64	0	0	0	06	Q	
280	07	06	126	162	16	134	N12	W85	0	0	0	07	Q	SOL: Active
						137	S19	W48	1	0	0	07	E	MAG: Active
						139	N11	E19	2	2	0	07	E	PRO: Quiet
						140	S07	E50	0	0	0	07	Q	
						141	S07	E05	0	0	0	07	Q	
						142	N06	E50	0	0	0	07	Q	
281	08	07	143	164	31	137	S19	W60	0	0	0	08	E	SOL: Active
						139	N11	E06	0	0	0	08	E	MAG: Active
						140	S08	E36	1	0	0	08	Q	PRO: Quiet
						141	S08	W08	0	0	0	08	Q	
						142	N05	E36	0	0	0	08	Q	
						143	S19	W38	0	0	0	08	Q	
						144	N12	E44	0	0	0	08	Q	
282	09	08	128	165	28	137	S20	W75	0	0	0	09	Q	SOL: Active
						139	N11	W07	4	0	0	09	E	MAG: Active
						140	S08	E25	1	0	0	09	Q	PRO: Quiet
						141	S08	W23	0	0	0	09	Q	
						142	N05	E22	0	0	0	09	Q	
						143	S17	W51	0	0	0	09	Q	
						144	N12	E30	0	0	0	09	Q	
						145	N12	E76	0	0	0	09	Q	
283	10	09	226	167	19	137	S18	W85	0	0	0	10	Q	SOL: Eruptive
						139	N11	W19	0	0	0	10	E	MAG: Active
						140	S09	E13	1	0	0	10	Q	PRO: Quiet
						141	S07	W36	0	0	0	10	Q	
						142	N04	E09	0	0	0	10	Q	

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

OCTOBER 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			
						143	S17	W60	1	0	0	10	Q	
						144	N12	E17	0	0	0	10	Q	
						145	N11	E62	0	0	0	10	Q	
						146	S10	E25	0	0	0	10	Q	
						147	S03	E39	0	0	0	10	Q	
						148	S21	E70	0	0	0	10	Q	
						149	N16	E72	0	0	0	10	Q	
						150	S09	W05	0	0	0	10	Q	
						151	S14	E50	0	0	0	10	Q	
284	11	10	244	172	16	139	N11	W33	1	0	0	11	E	SOL: Eruptive MAG: Active PRO: Quiet
						140	S10	E00	0	0	0	11	Q	
						142	N04	W06	0	0	0	11	Q	
						143	S16	W74	1	0	0	11	Q	
						144	N12	E04	0	0	0	11	Q	
						145	N12	E49	1	0	0	11	Q	
						146	S10	E11	0	0	0	11	Q	
						147	S03	E25	0	0	0	11	Q	
						148	S21	E57	0	0	0	11	Q	
						149	N16	E61	1	0	0	11	Q	
						150	S09	W19	0	0	0	11	Q	
						152	N20	W16	0	0	0	11	Q	
						153	S05	E47	0	0	0	11	Q	
						154	S12	E68	0	0	0	11	Q	
285	12	11	178	179	8	139	N09	W46	5	0	0	12	E	SOL: Eruptive MAG: Quiet PRO: Quiet
						140	S08	W11	0	0	0	12	Q	
						142	N05	W17	0	0	0	12	Q	
						144	N12	W10	0	0	0	12	Q	
						145	N13	E36	0	0	0	12	Q	
						146	S09	W05	0	0	0	12	Q	
						148	S20	E43	0	0	0	12	Q	
						149	N15	E48	1	0	0	12	E	
						152	N20	W29	0	0	0	12	Q	
						154	S13	E55	0	0	0	12	Q	
						155	S09	W53	0	0	0	12	Q	
						156	N09	E10	0	0	0	12	Q	
286	13	12	171	180	9	139	N08	W59	0	0	0	13	E	SOL: Eruptive MAG: Quiet PRO: Quiet
						140	S08	W25	0	0	0	13	Q	
						144	N12	W24	0	0	0	13	Q	
						145	N13	E21	0	0	0	13	Q	
						146	S09	W18	0	0	0	13	Q	
						148	S20	E31	0	0	0	13	Q	
						149	N16	E34	0	0	0	13	E	
						154	S12	E44	0	0	0	13	Q	
						155	S09	W66	0	0	0	13	Q	
						156	N09	W05	0	0	0	13	Q	
						157	N17	E49	0	0	0	13	Q	
						158	S08	E80	0	0	0	13	Q	
287	14	13	167	179	7	139	N08	W72	0	0	0	14	E	SOL: Eruptive MAG: Quiet PRO: Quiet
						140	S08	W39	0	0	0	14	Q	
						144	N11	W37	0	0	0	14	Q	
						145	N12	E08	0	0	0	14	Q	
						148	S20	E17	0	0	0	14	Q	
						149	N16	E20	1	0	0	14	E	
						154	S11	E33	0	0	0	14	Q	
						156	N09	W17	0	0	0	14	Q	
						157	N16	E34	0	0	0	14	Q	
						158	S09	E62	0	0	0	14	Q	
						159	S12	E73	0	1	0	14	Q	
288	15	14	175	181	18	139	N08	W85	0	0	0	15	E	SOL: Eruptive MAG: Active PRO: Quiet
						140	S08	W52	1	0	0	15	Q	
						144	N11	W52	0	0	0	15	Q	
						145	N12	W05	1	0	0	15	Q	

22
Oct 02

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

OCTOBER 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			
						148	S20	E04	0	0	0	15	Q	
						149	N14	E06	1	0	0	15	E	
						154	S12	E21	0	0	0	15	Q	
						157	N15	E20	0	0	0	15	Q	
						158	S08	E47	0	0	0	15	Q	
						159	S11	E57	2	0	0	15	Q	
						160	S20	E54	0	0	0	15	Q	
289	16	15	165	177	14	140	S08	W65	2	0	0	16	Q	SOL: Eruptive MAG: Active PRO: Quiet
						144	N11	W65	0	0	0	16	Q	
						145	N12	W18	0	0	0	16	Q	
						148	S20	W09	0	0	0	16	Q	
						149	N14	W07	2	1	0	16	E	
						154	S12	E08	0	0	0	16	Q	
						158	S08	E34	0	0	0	16	Q	
						159	S11	E44	0	0	0	16	Q	
						160	S20	E41	0	0	0	16	Q	
						161	N06	E00	0	0	0	16	Q	
290	17	16	182	183	10	140	S08	W78	0	0	0	17	Q	SOL: Eruptive MAG: Active PRO: Quiet
						144	N11	W78	0	0	0	17	Q	
						145	N12	W31	0	0	0	17	Q	
						148	S20	W22	0	0	0	17	Q	
						149	N14	W20	2	0	0	17	E	
						154	S12	W05	0	0	0	17	Q	
						158	S08	E21	0	0	0	17	Q	
						159	S11	E31	0	0	0	17	Q	
						160	S20	E28	3	0	0	17	E	
						161	N06	W13	0	0	0	17	Q	
291	18	17	215	179	11	140	S08	W91	0	0	0	18	Q	SOL: Eruptive MAG: Active PRO: Quiet
						144	N11	W91	0	0	0	18	Q	
						145	N12	W44	0	0	0	18	Q	
						148	S20	W35	0	0	0	18	Q	
						149	N14	W33	1	0	0	18	E	
						154	S12	W18	0	0	0	18	Q	
						157	N15	W19	0	0	0	18	Q	
						158	S08	E11	3	0	0	18	Q	
						159	S11	E18	1	0	0	18	Q	
						160	S20	E15	0	0	0	18	E	
						161	N06	W26	0	0	0	18	Q	
						162	N25	E76	1	0	0	18	Q	
292	19	18	200	173	12	145	N12	W57	0	0	0	19	Q	SOL: Eruptive MAG: Active PRO: Quiet
						148	S20	W48	0	0	0	19	Q	
						149	N14	W46	3	0	0	19	E	
						151	S14	W67	0	0	0	19	Q	
						154	S12	W31	0	0	0	19	Q	
						158	S08	W02	3	0	0	19	E	
						159	S11	E05	0	0	0	19	Q	
						160	S20	E02	0	0	0	19	E	
						161	N06	W39	0	0	0	19	Q	
						162	N25	E71	7	0	0	19	E	
						163	S21	W10	0	0	0	19	Q	
293	20	19	156	180	12	145	N12	W72	1	0	0	20	Q	SOL: Eruptive MAG: Active PRO: Quiet
						148	S21	W61	0	0	0	20	Q	
						149	N14	W62	2	0	0	20	E	
						154	S14	W48	1	0	0	20	Q	
						158	S07	W18	4	0	0	20	Q	
						159	S12	W08	1	0	0	20	Q	
						160	S22	W12	2	0	0	20	E	
						162	N26	E59	8	0	0	20	E	
294	21	20	179	180	10	145	N11	W85	0	0	0	21	Q	SOL: Active MAG: Quiet PRO: Quiet
						149	N14	W75	0	0	0	21	Q	
						154	S14	W62	4	0	0	21	Q	

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

OCTOBER 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			
						158	S07	W32	4	0	0	21	Q	
						159	S12	W22	2	1	0	21	Q	
						160	S21	W26	6	2	0	21	E	
						162	N26	E46	16	2	0	21	E	
						164	N11	E54	0	0	0	21	Q	
						165	N20	E71	0	0	0	21	Q	
295	22	21	139	183	10	149	N14	W88	0	0	0	22	Q	SOL: Active
						158	S08	W47	1	0	0	22	Q	MAG: Quiet
						159	S13	W35	0	0	0	22	Q	PRO: Quiet
						160	S22	W40	4	0	0	22	Q	
						162	N26	E34	7	0	0	22	E	
						164	N11	E40	0	0	0	22	Q	
						165	N21	E58	0	0	0	22	Q	
296	23	22	132	169	10	158	S08	W61	2	0	0	23	Q	SOL: Active
						159	S15	W46	0	0	0	23	Q	MAG: Quiet
						160	S20	W56	0	0	0	23	Q	PRO: Quiet
						162	N27	E22	3	1	0	23	E	
						164	N11	E25	0	0	0	23	Q	
						165	N21	E46	1	0	0	23	Q	
297	24	23	116	164	11	158	S08	W75	1	0	0	24	Q	SOL: Active
						160	S19	W72	1	0	0	24	Q	MAG: Quiet
						162	N26	E10	1	0	0	24	E	PRO: Quiet
						165	N20	E31	1	0	0	24	E	
						166	S06	E08	0	0	0	24	Q	
						167	N18	E75	0	0	0	24	Q	
298	25	24	149	160	34	158	S06	W88	0	0	0	25	Q	SOL: Active
						160	S18	W83	0	0	0	25	Q	MAG: Active
						162	N26	W04	3	0	0	25	E	PRO: Quiet
						164	N11	E01	0	0	0	25	Q	
						165	N20	E18	0	0	0	25	E	
						167	N17	E64	0	0	0	25	Q	
						168	N24	W66	0	0	0	25	Q	
						169	S19	E75	0	0	0	25	Q	
299	26	25	151	173	36	162	N26	W18	6	1	0	26	E	SOL: Active
						164	N11	W13	0	0	0	26	Q	MAG: Minor
						165	N20	E05	0	0	0	26	Q	PRO: Quiet
						167	N17	E50	0	0	0	26	Q	
						168	N24	W80	0	0	0	26	Q	
						169	S19	E59	0	0	0	26	Q	
						170	S12	E65	0	0	0	26	Q	
						171	N10	E76	0	0	0	26	Q	
300	27	26	143	158	25	162	N26	W27	0	0	0	27	A	SOL: Active
						165	N21	W09	0	0	0	27	A	MAG: Active
						167	N18	E36	0	0	0	27	A	PRO: Quiet
						169	S19	E47	0	0	0	27	A	
						170	S12	E53	0	0	0	27	A	
						171	N10	E64	0	0	0	27	A	
301	28	27	120	157	17	162	N26	W43	14	0	0	28	A	SOL: Eruptive
						165	N21	W22	0	0	0	28	A	MAG: Quiet
						167	N18	E24	0	0	0	28	A	PRO: Quiet
						169	S18	E33	0	0	0	28	A	
						170	S12	E38	0	0	0	28	A	
						171	N11	E52	0	0	0	28	A	
						172	S16	E56	0	0	0	28	A	
302	29	28	143	158	16	162	N25	W59	22	1	0	29	A	SOL: Eruptive
						165	N21	W34	0	0	0	29	A	MAG: Active
						167	N17	E10	0	0	0	29	A	PRO: Quiet
						169	S20	E21	0	0	0	29	A	
						170	S12	E24	1	0	0	29	A	

24
Oct 02

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

OCTOBER 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			
303	30	29	168	162	14	171	N10	E39	0	0	0	29	A	SOL: Active MAG: Quiet PRO: Quiet
						172	S17	E44	0	0	0	29	A	
						173	S17	W69	2	0	0	29	A	
						162	N26	W73	11	1	0	30	A	
						165	N20	W47	0	0	0	30	A	
						167	N17	W03	0	0	0	30	A	
						169	S20	E07	0	0	0	30	A	
						170	S12	E10	0	0	0	30	A	
						171	N11	E25	0	0	0	30	A	
						172	S16	E30	0	0	0	30	A	
						173	S18	W82	9	0	0	30	A	
						174	S25	E55	0	0	0	30	A	
						175	N15	E57	8	0	0	30	A	
						176	N12	E75	2	0	0	30	A	
						162	N25	W84	10	0	0	31	E	
						165	N20	W60	0	0	0	31	Q	
						167	N16	W17	0	0	0	31	Q	
						169	S20	W05	0	0	0	31	Q	
						170	S12	W03	0	0	0	31	Q	
304	31	30	182	168	17	171	N11	E12	0	0	0	31	Q	SOL: Eruptive MAG: Quiet PRO: Quiet
						172	S16	E16	0	0	0	31	Q	
						173	S15	W92	0	0	0	31	Q	
						174	S24	E42	0	0	0	31	Q	
						175	N16	E44	1	0	0	31	Q	
						176	N12	E64	0	0	0	31	Q	
						177	N16	E69	2	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

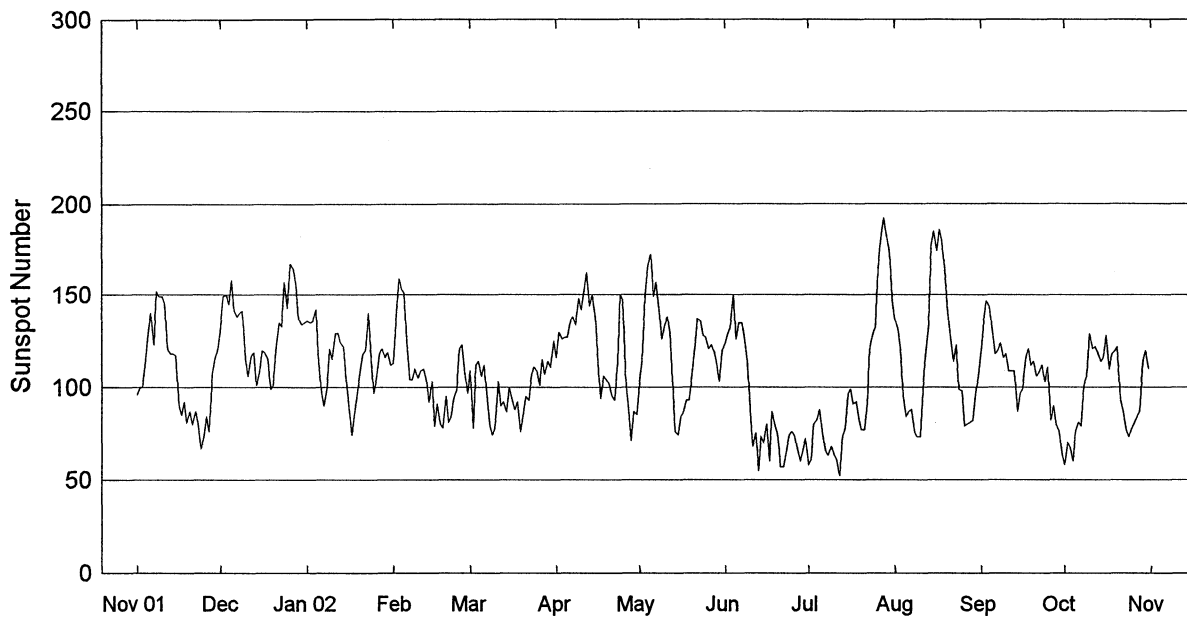
Proton (PRO) Geoadvice

'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 Nov 2001 - Oct 2002

25
Oct 02



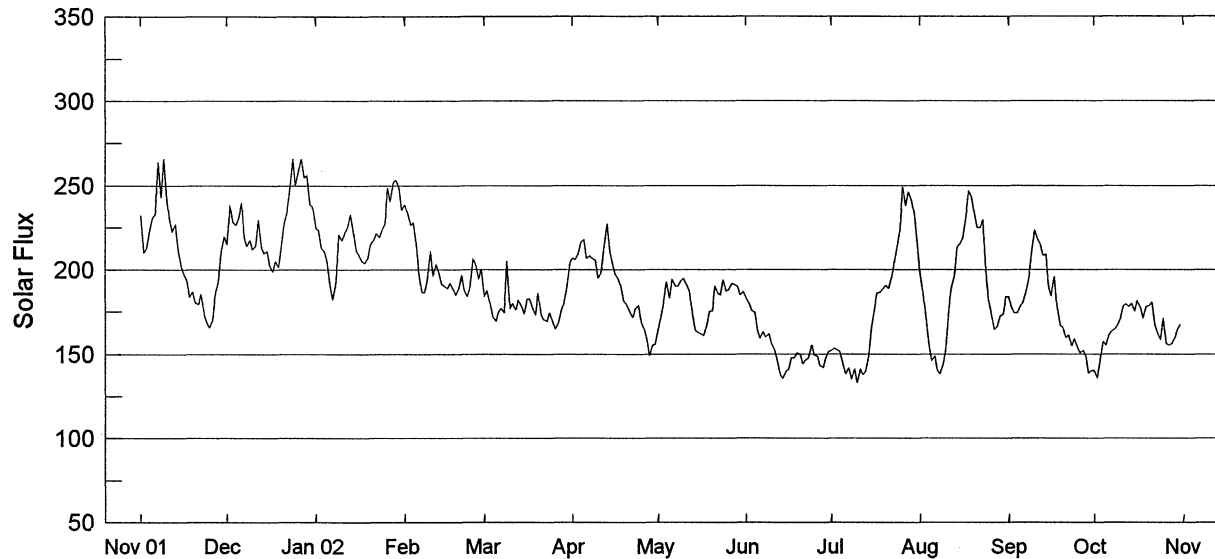
Day	Nov 01	Dec	Jan 02	Feb	Mar	Apr	May	Jun	Jul*	Aug*	Sep*	Oct*
1	96	133	136	113	109	116	102	124	58	137	120	58
2	100	149	135	135	78	130	114	129	61	132	136	70
3	100	150	136	159	112	126	149	133	80	121	147	67
4	111	145	142	153	114	127	166	150	82	95	144	60
5	130	158	118	151	106	127	172	126	88	84	132	76
6	140	142	98	125	112	136	149	135	75	87	118	81
7	123	138	90	104	93	138	157	135	66	88	120	79
8	152	140	100	104	79	134	142	127	63	76	124	101
9	149	141	121	110	74	148	126	113	68	73	116	106
10	149	115	115	105	78	142	133	88	64	73	118	129
11	145	106	129	109	103	152	138	68	61	99	109	121
12	121	117	129	110	90	162	130	75	52	117	109	122
13	118	119	124	104	92	144	104	55	72	134	109	119
14	118	101	122	92	87	150	76	73	78	177	87	114
15	117	108	104	103	100	138	74	70	96	185	97	116
16	90	120	87	79	94	113	84	80	99	174	99	128
17	85	119	74	91	88	94	86	60	91	186	116	110
18	92	115	86	80	92	106	93	87	92	179	121	118
19	81	99	99	78	76	104	93	79	83	164	112	120
20	87	101	109	95	85	102	107	74	77	140	114	122
21	80	120	118	81	95	95	121	57	77	127	106	93
22	87	135	120	84	93	93	137	57	91	114	108	88
23	80	133	140	94	106	114	136	65	121	123	112	77
24	67	157	115	99	111	150	128	74	129	99	103	73
25	73	143	97	121	109	147	127	76	133	98	111	77
26	84	167	106	123	101	101	121	74	164	79	82	81
27	76	164	118	107	115	88	123	66	182	80	90	84
28	107	156	121	97	107	71	119	60	192	81	80	87
29	115	137	116		114	87	114	66	181	82	76	114
30	121	134	119		111	85	103	72	174	97	64	120
31		135	112		125		120		148	106		110
Mean	106.5	132.2	114.1	107.4	98.4	120.7	120.8	88.3	99.9	116.4	109.3	97.5

* = Provisional.

Penticton 2800 MHz (10.7cm) Solar Flux

Nov 2001 - Oct 2002

Adjusted to 1 AU



Day	Nov 01	Dec	Jan 02	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	232.0	215.1	224.5	238.5	184.3	206.7	164.9	183.9	152.3	198.3	183.8	140.1
2	210.1	238.1	223.5	233.7	187.6	205.9	171.7	180.0	153.5	185.7	176.9	136.0
3	212.5	228.3	213.0	226.3	179.6	209.4	182.0	175.4	152.4#	172.7	174.4	146.1
4	223.5	226.6	211.0	228.1	172.0	216.3	192.7	174.7	151.3	155.3	174.2	157.6
5	230.6	230.1	205.2	214.5	169.4	217.6	183.2	163.7	143.5	146.0	178.1	155.1
6	233.2	239.5	190.1	196.9	175.0	206.7	194.3	159.1	138.0	148.8	180.9	161.6
7	263.9	219.3	182.4	186.6	177.0	208.4	190.3	163.1	141.5	140.1	185.6	163.5
8	243.1	213.9	192.6	186.4	174.2	206.8	190.2	159.9	135.3	138.3	194.4	165.1
9	265.6	217.5	220.9	194.1	204.8x	205.8	193.7	161.9	140.9	144.0	209.0	166.8
10	241.0	212.3	217.3	210.9	176.9	195.1	194.8	156.2	133.1	152.4	223.5	171.4
11	229.3	213.9	221.4	196.6	180.0	198.3	191.8	152.4	141.0	176.9	219.0	178.7
12	222.6	229.4	225.7	203.1	176.2	213.0	187.1	146.2	137.7	188.8	215.1	179.7
13	226.8	213.4	232.9	198.5	182.1	227.3	175.6	137.6	139.4	196.8	208.6	178.3
14	212.6	209.9#	221.6	191.3	178.6	211.6	164.2	135.6	148.6	213.5	209.2	180.2
15	202.4	211.0	211.2	190.3	174.0	204.7	162.7	139.7	164.8#	215.7	189.9	175.7
16	197.6	202.5	209.1	188.9	182.7	197.2	162.0	141.0	177.2	219.1	184.5	181.4
17	194.0	199.0	205.0	192.0	182.7	195.0	160.7	147.5	185.9	232.3	195.9	177.7
18	183.8	205.0	203.8	188.4	176.5	189.8	166.8	147.5	186.6	246.9	178.4	171.3
19	186.8	201.6	206.9	185.1	173.3	181.4	175.0	150.5	188.3	242.6	166.7	178.1
20	180.6	214.0	215.2	189.1	186.3	179.0	175.4	149.8	190.7	232.8	165.8	178.7
21	179.7	226.7	217.5	196.7	172.8	175.1	190.4	144.2	188.7	225.0	159.8	180.8
22	185.3#	234.9	221.5	187.9	170.4	171.7	185.6	146.6	195.8	225.1	161.1	167.7
23	172.9	246.3	219.4	184.2	169.4	177.2	184.8	147.5	204.6	229.5	154.8	161.9
24	168.6	265.5	223.6	188.9	174.3	178.9	193.9	155.3	215.0	199.8	158.9	158.5
25	165.6	250.3	227.6	206.4	169.1	169.3	187.4	149.5	224.5	182.4	154.2	170.9
26	170.3	259.0	248.7	203.5	164.9	164.7	188.0	148.6	249.1	172.2	150.6	156.1
27	185.3	265.6	240.5	194.9	168.4	159.0	191.6	143.2	238.0	164.7	152.2	155.2
28	193.1	254.6#	252.0	200.4	175.6	149.2	191.4	141.9	246.2	166.4	149.1	156.3
29	210.5	255.7	253.2		180.8	155.2	189.8	147.5	241.1	172.6	138.6	159.4
30	219.6	238.5	248.8		188.2	155.6	185.1	151.4	234.1	173.5#	140.1	165.3
31		237.5	235.5		204.0		187.0		214.8	183.7		167.7
Mean	208.1	228.2	220.1	200.1	178.4	191.1	182.4	153.4	179.2	188.4	177.8	165.9

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

DAILY SOLAR INDICES

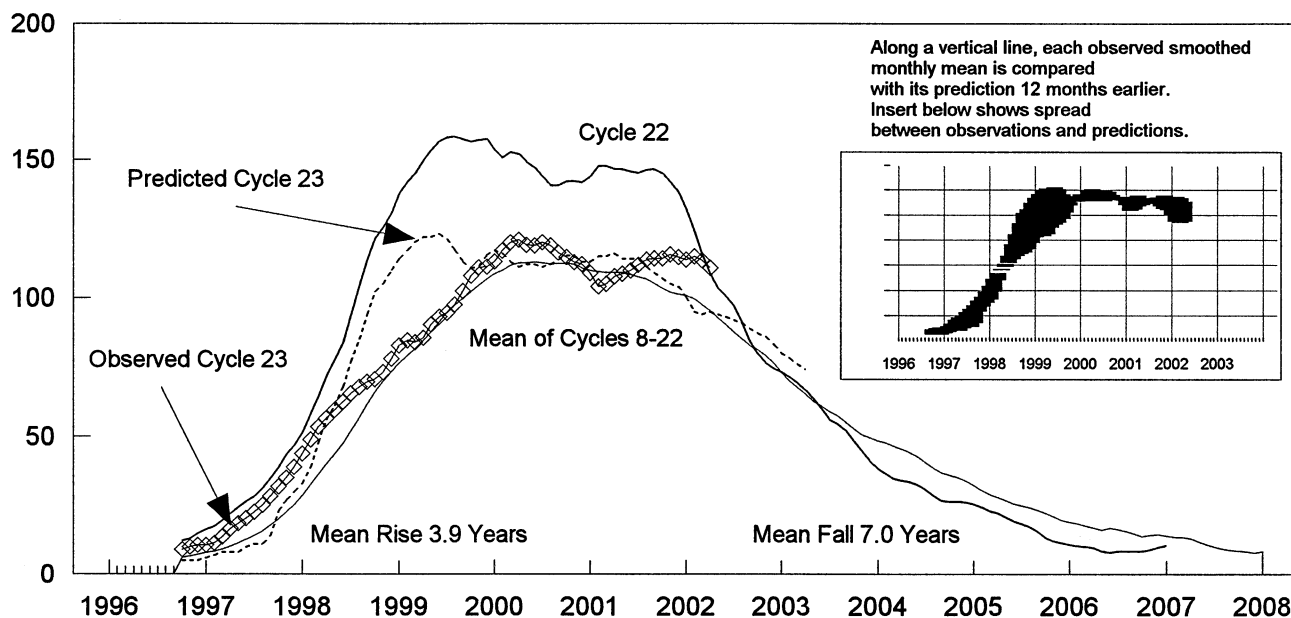
October 2002

Day	Day of Year	Bartels Cycle Day	Sunspot Numbers		Obs Flux		-----Solar Flux Adjusted to 1 Astronomical Unit-----							
			Int	Amer	Penticton (2800)	SGMR (15400)	SGMR (8800)	SGMR (4995)	Penticton (2800)	SGMR (2695)	SGMR (1415)	SGMR (610)	SGMR (410)	SGMR (245)
1	274	12	58	64	139.8	541	289	184	140.1	132	99	50	35	21
2	275	13	70	73	135.8	536	287	188	136.0	132	97	44	32	21
3	276	14	67	63	145.9	514	289	187	146.1	138	101	49	52	53
4	277	15	60	75	157.5	540	307	212	157.6	155	108	51	40	28
5	278	16	76	91	155.1	555	316	210	155.1	149	109	52	35	24
6	279	17	81	88	161.7	563	320	211	161.6	152	113	52	37	28
7	280	18	79	96	163.8	554	325	223	163.5	158	117	47	52	94
8	281	19	101	102	165.4	572	319	211	165.1	157	118	52	35	20
9	282	20	106	107	167.2	561	325	216	166.8	162	119	54	37	25
10	283	21	129	126	171.9	567	325	225	171.4	165	123	58	37	26
11	284	22	121	131	179.4	545	334	233	178.7	173	128	60	40	26
12	285	23	122	131	180.4	524	310	223	179.7	175	127	56	35	26
13	286	24	119	125	179.2	524	301	213	178.3	171	129	55	41	25
14	287	25	114	122	181.2	570	321	217	180.2	168	130	56	37	33
15	288	26	116	126	176.8	566	310	218	175.7	168	130	56	39	25
16	289	27	128	127	182.5	419	246	186	181.4	175	128	48	40	--
17	290	1	110	125	178.9	565	321	217	177.7	165	125	57	42	46
18	291	2	118	128	172.6	562	315	217	171.3	167	119	52	40	44
19	292	3	120	127	179.5	552	314	220	178.1	166	118	56	46	56
20	293	4	122	123	180.3	568	320	231	178.7	167	120	55	45	56
21	294	5	93	102	182.5	574	327	228	180.8	170	124	61	48	34
22	295	6	88	93	169.4	500	320	219	167.7	164	116	70	80	--
23	296	7	77	82	163.6	552	327	218	161.9	163	117	55	44	35
24	297	8	73	78	160.3	549	305	201	158.5	150	113	52	42	58
25	298	9	77	80	172.9	548	322	233	170.9	201	155	55	44	--
26	299	10	81	95	158.0	527	251	--	156.1	150	110	49	38	26
27	300	11	84	99	157.1	560	310	202	155.2	--	110	49	38	20
28	301	12	87	94	158.3	558	309	211	156.3	145	108	51	38	28
29	302	13	114	110	161.6	560	314	208	159.4	154	110	54	41	84
30	303	14	120	114	167.7	571	334	222	165.3	161	112	47	34	17
31	304	15	110	107	170.2	554	321	215	167.7	155	112	51	36	30
MEAN			97.5	103	167	547	311	206	165.9	155	118	53	41	33

The International and American sunspot numbers shown are preliminary values.

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

Cycle 23 Smoothed Sunspot Numbers: Observed and Predicted



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

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
1994	37	35	34	34	33	31	29	27	27	27	26	26	31
1995	24	23	22	21	19	18	17	15	13	12	11	11	17
1996	10	10	10	9	8*	9	8	8	8	9**	10	10	8
1997	11	11	14	17	18	20	23	25	28	32	35	39	23
1998	44	49	53	57	59	63	65	68	69	71	73	78	62
1999	83	85	84	85	90	93	94	98	102	108	111	111	95
2000	113	117	120	121+	119	119	120	119	116	115	113	112	107
2001	109	104	105	108	109	110	112	114	114	114	115	115	111
2002	114	115	113	111	(5)	(7)	(7)	(8)	(9)	(12)	(12)	(11)	(6)
2003	82	79	76	74	70	68	66	64	62	59	57	56	68
	(9)	(9)	(9)	(11)	(11)	(11)	(11)	(11)	(12)	(14)	(15)	(17)	(12)
Solar Cycle 22				Solar Cycle 23				Min, Max, and Predic					

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

+ April 2000 marks Cycle 23 maximum.

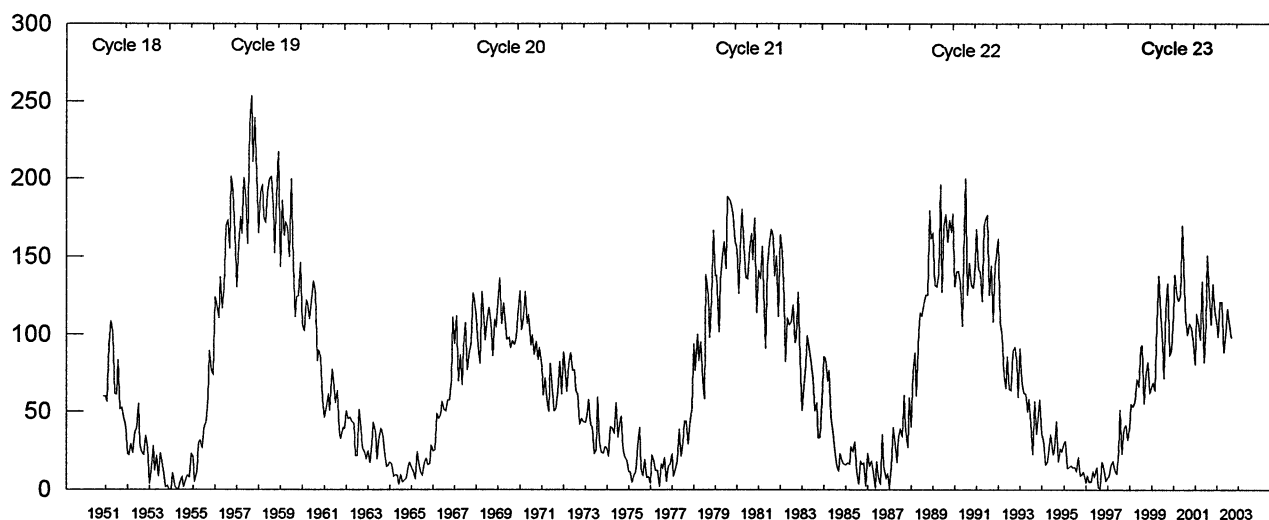
Observed and Predicted Numbers. For the end of Cycle 22, and the rise and decline of Cycle 23, the table above lists observed smoothed sunspot numbers up to the one that includes the most recent monthly mean. We based these smoothed values on final monthly means through June 2002 and on provisional numbers thereafter. Table entries with numbers in parentheses below them denote predictions by the McNish-Lincoln method. (See page 9 in the Jul 1987 supplement to *Solar-Geophysical Data*.) Adding the number in parentheses to the predicted value generates the upper limit of the 90% confidence interval. Subtracting the number from the predicted value generates the lower limit. Consider, for example, the April 2003 prediction. There exists a 90% chance that in April 2003, the actual smoothed number will fall somewhere between 63 and 85.

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 - Oct 2002

29
Oct 02



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1951	59.9	59.9	55.9	92.9	108.5	100.6	61.5	61.0	83.1	51.6	52.4	45.8	69.4
1952	40.7	22.7	22.0	29.1	23.4	36.4	39.3	54.9	28.2	23.8	22.1	34.3	31.5
1953	26.5	3.9	10.0	27.8	12.5	21.8	8.6	23.5	19.3	8.2	1.6	2.5	13.9
1954	0.2	0.5	10.9	1.8	0.8	0.2	4.8	8.4	1.5	7.0	9.2	7.6	4.4 m
1955	23.1	20.8	4.9	11.3	28.9	31.7	26.7	40.7	42.7	58.5	89.2	76.9	38.0
1956	73.6	124.0	118.4	110.7	136.6	116.6	129.1	169.6	173.2	155.3	201.3	192.1	141.7
1957	165.0	130.2	157.4	175.2	164.6	200.7	187.2	158.0	235.8	253.8	210.9	239.4	190.2 M
1958	202.5	164.9	190.7	196.0	175.3	171.5	191.4	200.2	201.2	181.5	152.3	187.6	184.8
1959	217.4	143.1	185.7	163.3	172.0	168.7	149.6	199.6	145.2	111.4	124.0	125.0	159.0
1960	146.3	106.0	102.2	122.0	119.6	110.2	121.7	134.1	127.2	82.8	89.6	85.6	122.3
1961	57.9	46.1	53.0	61.4	51.0	77.4	70.2	55.8	63.6	37.7	32.6	39.9	53.9
1962	38.7	50.3	45.6	46.4	43.7	42.0	21.8	21.8	51.3	39.5	26.9	23.2	37.6
1963	19.8	24.4	17.1	29.3	43.0	35.9	19.6	33.2	38.8	35.3	23.4	14.9	27.9
1964	15.3	17.7	16.5	8.6	9.5	9.1	3.1	9.3	4.7	6.1	7.4	15.1	10.2 m
1965	17.5	14.2	11.7	6.8	24.1	15.9	11.9	8.9	16.8	20.1	15.8	17.0	15.1
1966	28.2	24.4	25.3	48.7	45.3	47.7	56.7	51.2	50.2	57.2	57.2	70.4	47.0
1967	110.9	93.6	111.8	69.5	86.5	67.3	91.5	107.2	76.8	88.2	94.3	126.4	93.8
1968	121.8	111.9	92.2	81.2	127.2	110.3	96.1	109.3	117.2	107.7	86.0	109.8	105.9 M
1969	104.4	120.5	135.8	106.8	120.0	106.0	96.8	98.0	91.3	95.7	93.5	97.9	105.5
1970	111.5	127.8	102.9	109.5	127.5	106.8	112.5	93.0	99.5	86.6	95.2	83.5	104.5
1971	91.3	79.0	60.7	71.8	57.5	49.8	81.0	61.4	50.2	51.7	63.2	82.2	66.6
1972	61.5	88.4	80.1	63.2	80.5	88.0	76.5	76.8	64.0	61.3	41.6	45.3	68.9
1973	43.4	42.9	46.0	57.7	42.4	39.5	23.1	25.6	59.3	30.7	23.9	23.3	38.0
1974	27.6	26.0	21.3	40.3	39.5	36.0	55.8	33.6	40.2	47.1	25.0	20.5	34.5
1975	18.9	11.5	11.5	5.1	9.0	11.4	28.2	39.7	13.9	9.1	19.4	7.8	15.5
1976	8.1	4.3	21.9	18.8	12.4	12.2	1.9	16.4	13.5	20.6	5.2	15.3	12.6 m
1977	16.4	23.1	8.7	12.9	18.6	38.5	21.4	30.1	44.0	43.8	29.1	43.2	27.5
1978	51.9	93.6	76.5	99.7	82.7	95.1	70.4	58.1	138.2	125.1	97.9	122.7	92.5
1979	166.6	137.5	138.0	101.5	134.4	149.5	159.4	142.2	188.4	186.2	183.3	176.3	155.4 M
1980	159.6	155.0	126.2	164.1	179.9	157.3	136.3	135.4	155.0	164.7	147.9	174.4	154.6
1981	114.0	141.3	135.5	156.4	127.5	90.9	143.8	158.7	167.3	162.4	137.5	150.1	140.4
1982	111.2	163.6	153.8	122.0	82.2	110.4	106.1	107.6	118.8	94.7	98.1	127.0	115.9
1983	84.3	51.0	66.5	80.7	99.2	91.1	82.2	71.8	50.3	55.8	33.3	33.4	66.6
1984	57.0	85.4	83.5	69.7	76.4	46.1	37.4	25.5	15.7	12.0	22.8	18.7	45.9
1985	16.5	15.9	17.2	16.2	27.5	24.2	30.7	11.1	3.9	18.6	16.2	17.3	17.9
1986	2.5	23.2	15.1	18.5	13.7	1.1	18.1	7.4	3.8	35.4	15.2	6.8	13.4 m
1987	10.4	2.4	14.7	39.6	33.0	17.4	33.0	38.7	33.9	60.6	39.9	27.1	29.4
1988	59.0	40.0	76.2	88.0	60.1	101.8	113.8	111.6	120.1	125.1	125.1	179.2	100.2
1989	161.3	165.1	131.4	130.6	138.5	196.2	126.9	168.9	176.7	159.4	173.0	165.5	157.6 M
1990	177.3	130.5	140.3	140.3	132.2	105.4	149.4	200.3	125.2	145.5	131.4	129.7	142.6
1991	136.9	167.5	141.9	140.0	121.3	169.7	173.7	176.3	125.3	144.1	108.2	144.4	145.7
1992	150.0	161.1	106.7	99.8	73.8	65.2	85.7	64.5	63.9	88.7	91.8	82.6	94.3
1993	59.3	91.0	69.8	62.2	61.3	49.8	57.9	42.2	22.4	56.4	35.6	48.9	54.6
1994	57.8	35.5	31.7	16.1	17.8	28.0	35.1	22.5	25.7	44.0	18.0	26.2	29.9
1995	24.2	29.9	31.1	14.0	14.5	15.6	14.5	14.3	11.8	21.1	9.0	10.0	17.5
1996	11.5	4.4	9.2	4.8	5.5	11.8	8.2	14.4	1.6	0.9	17.9	13.3	8.6 m
1997	5.7	7.6	8.7	15.5	18.5	12.7	10.4	24.4	51.3	22.8	39.0	41.2	21.5
1998	31.9	40.3	54.8	53.4	56.3	70.7	66.6	92.2	92.9	55.5	74.0	81.9	64.3
1999	62.0	66.3	68.8	63.7	106.4	137.7	113.5	93.7	71.5	116.7	133.2	84.6	93.2
2000	90.1	112.9	138.5	125.5	121.6	124.9	170.1	130.5	109.7	99.4	106.8	104.4	119.6 M
2001	95.6	80.6	113.5	107.7	96.6	134.0	81.8	106.4	150.7	125.5	106.5	132.2	111.0
2002	114.1	107.4	98.4	120.7	120.8	88.3	99.9	116.4	109.3	97.5			107.3

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

30
Oct 02

H α SOLAR FLARES

OCTOBER 2002

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur (Min)	Imp Opt	Xray	Obs See	Type	Time (UT)	Area Measurement (10 ⁻⁶ Disk)	Corr (Sq Deg)	Remarks
GOES	01	0456	0505	0513	S20	E29	10137		17	SF	C 1.4						1.1E-03
LEAR		0501	0505	0515	S20	E29	10137	10	3.4	14	SF		2	E	15		F
GOES		0523	0527	0531			10137		8		C 1.0						4.3E-04
LEAR		0857	0857	0910	S18	E32	10137	10	3.8	13	SF		2	E	12		F
LEAR		1413E	1413U	1448	S30	W03	10137	10	1.3	35D	SF		3	E	14		F
GOES		1532	1539	1546					14		C 1.3						9.2E-04
GOES		1811	1815	1837					26		B 9.6						1.3E-03
GOES	02	0654	0656	0658	S18	E20	10137		4	SF	B 9.2						2.0E-04
LEAR		0656	0656	0701	S18	E20	10137	10	3.8	5	SF		3	E	22		F
GOES		0723	0725	0727			10137		4		B 6.2						1.5E-04
LEAR		0730	0734	0736	S18	E20	10137	10	3.8	6	SF		3	E	16		F
GOES		1207	1218	1233	S18	E17	10134		26	SF	C 1.6						1.9E-03
LEAR		1209E	1217	1237	S18	E17	10134	10	3.8	28D	SF		3	E	21		F
RAMY		1538E	1632U	1643D	S15	E17	10137	10	3.9	65D	SF		3	E	23		F
GOES		1632	1656	1702	S15	E17	10137		30	SF	C 1.1						1.6E-03
GOES		1815	1821	1827			10137		12		C 1.5						8.4E-04
GOES		1834	1839	1845			10137		11		C 2.0						1.2E-03
GOES		1908	1917	1926	S19	E14	10137		18	SF	C 4.2						3.2E-03
HOLL		1912	1915	1938	S19	E14	10137	10	3.9	26	SF		3	E	21		F
GOES		2112	2118	2124			10137		12		C 2.0						1.2E-03
GOES		2141	2146	2214			10137		33		C 1.6						2.9E-03
GOES		2227	2241	2254			10137		27		C 5.5						6.4E-03
LEAR	03	0111	0111	0115	S19	E07	10137	10	3.6	4	SF		3	E	18		F
LEAR		0119	0120	0123	N29	W79	10129	09	27.0	4	SF		3	E	13		F
LEAR		0130	0131	0133	N29	W80	10129	09	26.9	3	SF		3	E	20		F
LEAR		0138	0144	0158	S19	E07	10137	10	3.6	20	SF		3	E	16		F
LEAR		0159	0221	0301	S19	E06	10137	10	3.5	62	1N		3	E	115		F
GOES		0215	0221	0226	S19	E06	10137		11	1N	M 2.1						7.5E-03
GOES		0331	0335	0338					7		C 1.4						5.0E-04
GOES		1007	1014	1035					28		C 1.4						2.0E-03
RAMY		1213E	1213U	1358D	S17	E06	10137	10	4.0	105D	SF		3	E	28		F
GOES		1231	1244	1300	N09	W33	10134		29	SF	C 2.5						3.4E-03
RAMY		1238E	1243U	1340	N09	W33	10134	10	1.0	62D	SF		3	E	79		FH
GOES		1518	1528	1533	S16	E90			15	SB	C 3.6						2.8E-03
RAMY		1530	1530	1549D	S16	E90		10	10.5	19D	SB		3	E	79		FE
GOES	04	0039	0043	0053	S19	W07	10137		14	SF	M 1.0						6.1E-03
LEAR		0041	0045	0107	S19	W07	10137	10	3.5	26	SF		3	E	83		F
LEAR		0139	0139	0142	N08	E63	10139	10	8.8	3	SF		3	E	10		F
GOES		0151	0155	0157					6		C 7.0						1.3E-03
GOES		0417	0431	0455	S20	W09	10137		38	SF	C 4.1						7.6E-03
LEAR		0420	0425	0446	S20	W09	10137	10	3.5	26	SF		2	E	74		F
LEAR		0421	0430	0501	N10	E55	10139	10	8.3	40	SF		2	E	44		FH
GOES		0457	0501	0503					6		C 5.3						1.4E-03
GOES		0534	0538	0541	S19	W09	10137		7	1N	M 4.0						1.1E-02
LEAR		0536E	0537U	0606	S19	W09	10137	10	3.5	30D	1N		2	E	166		FE
SVTO		0542E	0542U	0550D	S19	W09	10137	10	3.5	8D	SF		2	E	75		F
GOES		0842	0846	0848	N09	E54	10139		6	SF	C 2.0						5.8E-04
LEAR		0845	0847	0855	N09	E54	10139	10	8.4	10	SF		2	E	35		F
SVTO		0846E	0846U	0850	N10	E55	10139	10	8.5	4D	SF		2	E	24		F
GOES		0856	0911	0918	S19	W13	10137		22	SF	C 8.0						5.8E-03
LEAR		0859	0910	0921	S20	W14	10137	10	3.3	22	SF		1	E	38		F
LEAR		0909	0913	0916	N11	E55	10139	10	8.5	7	SF		1	E	22		F
SVTO		0910E	0911	0915	S19	W13	10137	10	3.4	5D	SF		3	E	13		F
GOES		1019	1031	1046	N07	E50	10139		27	SF	C 6.2						7.0E-03
SVTO		1026	1031	1045	N07	E50	10139	10	8.2	19	SF		3	E	68		FH
RAMY		1037E	1112U	1140	S20	W10	10137	10	3.7	63D	1N		3	E	128		F
GOES		1054	1105	1109	S20	W10	10137		15	1N	M 3.5						1.2E-02
SVTO		1058	1105	1131	S19	W16	10137	10	3.2	33	SF		3	E	96		F
GOES		1200	1203	1207					7		C 3.2						1.2E-03
SVTO		1216	1221	1224	N09	E55	10139	10	8.6	8	SF		3	E	51		F
GOES		1243	1255	1307	N08	E49	10139		24	1F	M 1.2						1.3E-02
SVTO		1245	1250	1313	N08	E49	10139	10	8.2	28	1F		3	E	109		FH
RAMY		1254E	1254U	1319D	N16	E53	10139	10	8.5	25D	1F		3	E	120		F
SVTO		1307	1310	1314	S18	W16	10137	10	3.3	7	SF		3	E	12		F
RAMY		1338E	1340U	1348D	N16	E52	10139	10	8.5	10D	SF		3	E	44		F

H α SOLAR FLARES

OCTOBER 2002

Sta	Day	Start	Max	End	Lat	CMD	NOAA/ USAF Region	CMP Mo Day	Dur (Min)	Imp Opt Xray	Obs See Type	Area Measurement			Remarks
		(UT)	(UT)	(UT)								Time (UT)	Apparent (10 ⁻⁶ Disk)	Corr (Sq Deg)	
GOES	04	1549	1555	1601	S19	W13	10137		12	SF C 9.0					4.5E-03
HOLL		1552	1554	1613	S19	W13	10137	10	3.7	21 SF	3 E		50		FH
GOES		1704	1711	1715	S21	W16	10137		11	SF M 1.2					4.6E-03
HOLL		1708	1709	1726	S21	W16	10137	10	3.5	18 SF	3 E		52		F
GOES		1907	1912	1921	N14	E47	10139		14	SF C 5.7					3.5E-03
HOLL		1911	1913	1922	N14	E47	10139	10	8.3	11 SF	4 E		28		UF
GOES		1956	2007	2022	N12	E46	10139		26	SF C 4.8					6.1E-03
HOLL		2003	2005	2021	N12	E46	10139	10	8.3	18 SF	3 E		27		
GOES		2052	2100	2104					12	C 4.5					2.2E-03
GOES		2232	2243	2251	N13	E43	10139		19	SF M 2.7					1.6E-02
HOLL		2235	2243	2308	N13	E43	10139	10	8.2	33 SF	3 E		80		UF
GOES		2332	2335	2340	S21	W19	10137		8	SF C 6.2					2.2E-03
HOLL		2335	2335	2350	S21	W19	10137	10	3.5	15 SF	3 E		25		F
LEAR	05	0134	0136	0151	S16	W24	10137	10	3.2	17 SF	3 E		42		F
GOES		0234	0238	0242	S18	W20	10137		8	SF C 2.8					1.1E-03
LEAR		0237	0237	0244	S18	W20	10137	10	3.6	7 SF	3 E		31		F
LEAR		0249	0300	0328	N10	E42	10139	10	8.3	39 SF	3 E		54		F
LEAR		0354	0356	0400	N16	W58	10134	09	30.8	6 SF	3 E		36		F
GOES		0519	0522	0528					9	C 4.2					2.0E-03
SVTO		0631E	0631U	0635D	N12	E44	10139	10	8.6	4D SF	2 E		10		
GOES		0720	0731	0736			10137		16	C 3.4					2.1E-03
SVTO		0725E	0727U	0731D	N08	E44	10139	10	8.6	6D SF	2 E		34		
SVTO		0730E	0732U	0736D	S17	W25	10137	10	3.4	6D SF	2 E		20		
GOES		0748	0753	0756	N07	E38	10139		8	SF C 2.0					7.7E-04
SVTO		0753E	0753U	0756D	N07	E38	10139	10	8.2	3D SF	2 E		18		
GOES		0853	0858	0904					11	C 2.5					1.4E-03
GOES		1039	1046	1048					9	M 1.2					3.1E-03
RAMY		1049E	1106	1117	S21	W25	10137	10	3.5	28D SF	3 E		44		F
GOES		1128	1132	1138	S19	W23	10137		10	SF C 1.3					6.6E-04
RAMY		1131	1132	1144	S19	W23	10137	10	3.7	13 SF	3 E		22		F
GOES		1149	1155	1202					13	C 1.7					1.2E-03
RAMY		1722	1727	1734	N14	E33	10139	10	8.2	12 SF	3 E		23		F
GOES		1916	1919	1922					6	B 9.7					3.2E-04
GOES		2042	2100	2108	N14	E31	10139		26	1F M 5.9					4.3E-02
HOLL		2047	2105	2127	N14	E31	10139	10	8.2	40 1F	3 E		107		UF
GOES		2247	2252	2256					9	C 6.2					2.1E-03
GOES		2331	2337	2342					11	C 1.7					9.9E-04
GOES	06	0117	0122	0124					7	C 2.6					7.4E-04
GOES		0208	0212	0214					6	C 1.8					4.7E-04
GOES		0223	0226	0228					5	C 1.1					2.9E-04
LEAR		0438	0510	0516	S20	W37	10137	10	3.4	38 SF	2 E		36		H
GOES		0446	0451	0453	N12	E31	10139		7	1N M 2.4					4.6E-03
LEAR		0450	0452	0500	N12	E31	10139	10	8.5	10 1N	2 E		108		EH
GOES		1005	1010	1022					17	C 2.2					1.7E-03
GOES		1149	1155	1158	N07	E30	10139		9	SF M 1.0					2.9E-03
SVTO		1153E	1153U	1205D	N07	E30	10139	10	8.7	12D SF	2 E		65		F
GOES	07	1549	1556	1604	S12	E41	10140		15	SF C 1.4					1.1E-03
RAMY		1553	1555	1608	S12	E41	10140	10	10.7	15 SF	3 E		34		F
GOES		1636	1657	1729					53	C 3.1					7.9E-03
GOES		2137	2156	2216					39	C 1.8					3.4E-03
GOES	08	0322	0330	0335	N10	E00	10139		13	SF B 8.3					6.0E-04
LEAR		0327	0327	0338	N10	E00	10139	10	8.1	11 SF	3 E		16		
GOES		0707	0721	0731	S07	E23	10140		24	SF C 1.6					1.8E-03
LEAR		0711	0714	0733	S07	E23	10140	10	10.0	22 SF	3 E		23		U
GOES		0743	0746	0749	N12	W02	10139		6	SF C 1.1					3.7E-04
LEAR		0743	0746	0756	N12	W02	10139	10	8.2	13 SF	3 E		41		F
GOES		0921	0925	0928					7	C 1.3					5.1E-04
GOES		1459	1511	1521	N09	E01	10139		22	SF C 1.2					1.5E-03
SVTO		1501	1502	1512	N09	E01	10139	10	8.7	11 SF	3 E		34		
RAMY		1503	1503	1510	N10	E01	10139	10	8.7	7 SF	3 E		17		F
GOES		1639	1651	1700					21	C 1.4					1.5E-03
GOES		1806	1811	1818					12	C 1.8					1.0E-03
GOES		1834	1837	1840					6	C 1.0					3.3E-04
GOES		2323	2327	2331	N12	W06	10139		8	SF C 1.6					5.7E-04

32
Oct 02

H α SOLAR FLARES

OCTOBER 2002

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP		Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement		Corr (Sq Deg)	Remarks
								Mo	Day						Time (UT)	Apparent (10 ⁻⁶ Disk)		
LEAR	08	2325	2326	2342	N12	W06	10139	10	8.5	17	SF		3	E		74		F
HOLL		2326	2326	2336	N11	W11	10139	10	8.1	10	SF		3	E		43		F
LEAR	09	0426	0427	0429	S17	W52	10143	10	5.2	3	SF		3	E		21		F
GOES		0639	0645	0648	S11	E18	10140			9	SF	C 1.0						4.7E-04
LEAR		0643	0644	0649	S11	E18	10140	10	10.6	6	SF		3	E		16		F
GOES		1327	1338	1349						22		C 1.1						1.2E-03
RAMY	10	1257	1259	1305	N16	E53	10145	10	14.5	8	SF		3	E		17		F
RAMY		1321	1323	1330	S18	W68	10143	10	5.4	9	SF		3	E		11		
GOES		1356	1402	1410	N13	W24	10139			14	SF	C 1.1						8.8E-04
HOLL		1409	1412	1415	N13	W24	10139	10	8.8	6	SF		3	E		12		
GOES		1441	1451	1501						20		C 1.6						1.7E-03
GOES		2205	2214	2226						21		C 1.6						1.7E-03
GOES		2321	2325	2327	N14	E61	10149			6	SF	C 2.5						6.0E-04
HOLL		2324	2325	2331	N17	E61	10149	10	15.6	7	SF		3	E		40		
LEAR		2324	2325	2331	N14	E61	10149	10	15.6	7	SF		3	E		37		
GOES	11	0140	0153	0159	N09	W36	10139			19	SF	C 1.2						1.1E-03
LEAR		0153	0154	0202	N09	W36	10139	10	8.4	9	SF		3	E		18		F
GOES		0426	0440	0446	N09	W38	10139			20	SF	C 1.1						1.3E-03
LEAR		0435	0439	0447	N09	W38	10139	10	8.3	12	SF		3	E		22		F
GOES		0829	0835	0844	N12	W38	10139			15	SF	C 2.4						1.7E-03
LEAR		0832	0833	0844	N12	W38	10139	10	8.5	12	SF		3	E		31		F
GOES		0929	0935	0938	N09	W41	10139			9	SF	C 1.7						8.3E-04
LEAR		0934	0936	0939	N09	W41	10139	10	8.3	5	SF		2	E		19		
GOES		1015	1020	1026						11		C 2.0						1.1E-03
GOES		1112	1124	1138						26		C 1.9						2.5E-03
GOES		1419	1421	1424	N14	E53	10149			5	SF	C 1.3						3.9E-04
RAMY		1421	1421	1426	N14	E53	10149	10	15.6	5	SF		3	E		12		
RAMY		1705	1716U	2105D	S17	W80	10143	10	5.6	240D	SF		3	E		12		HT
GOES		1707	1719	1753	S17	W80	10143			46	SF	C 3.7						7.9E-03
GOES		1859	1903	1905						6		C 2.6						7.5E-04
GOES		2334	2341	2349	N08	W47	10139			15	SF	C 1.7						1.3E-03
HOLL		2337	2337	2345	N08	W47	10139	10	8.5	8	SF		3	E		12		F
LEAR		2337	2338	2350	N09	W47	10139	10	8.4	13	SF		2	E		21		F
GOES	12	1917	1922	1931						14		C 2.6						1.6E-03
GOES	13	1358	1404	1413	N18	E23	10149			15	SF	C 1.1						9.3E-04
RAMY		1402	1403	1409	N18	E23	10149	10	15.3	7	SF		3	E		12		F
GOES		1746	1757	1813	S07	W54	10150			27	1F	C 4.7						5.4E-03
RAMY		1750	1759U	2132D	S07	W54	10150	10	9.7	222D	1F		3	E		159		FT
GOES		2147	2151	2155						8		C 1.0						4.4E-04
GOES		2342	2410	2508	S13	E75	10159			86	SF	M 2.2						7.9E-02T
LEAR	14	0020E	0020	0052	S13	E75	10159	10	19.6	32D	SF		2	E		75		F
GOES		0238	0247	0301	N10	E11	10145			23	SF	C 5.8						7.5E-03
LEAR		0246	0248	0315	N10	E11	10145	10	14.9	29	SF		3	E		58		F
LEAR		0931	0935	0958	S13	E60	10159	10	18.9	27	1F		2	E		147		FH
GOES		0931	0945	0959	S13	E60	10159			28	1F	C 4.7						5.8E-03
SVTO		0937	0940	0957	S14	E62	10159	10	19.1	20	SF		3	E		24		FH
GOES		1419	1423	1426						7		C 1.3						4.7E-04
HOLL		1958	2002	2026	S10	W55	10140	10	10.7	28	SF		3	E		58		
GOES		1958	2010	2021	S10	W55	10140			23	SF	C 4.9						6.4E-03
RAMY		2022	2023	2030	S10	W71	10150	10	9.5	8	SF		3	E		51		
GOES		2317	2322	2331	N13	E05	10149			14	SF	C 3.5						2.7E-03
LEAR		2319	2328	2338	N13	E05	10149	10	15.3	19	SF		3	E		18		F
GOES	15	0453	0517	0522	N14	E05	10149			29	SF	C 2.2						2.7E-03
LEAR		0516	0516	0520	N14	E05	10149	10	15.6	4	SF		3	E		67		F
GOES		0639	0642	0646						7		C 1.6						6.3E-04
GOES		0913	0917	0921						8		C 1.6						7.1E-04
RAMY		1325	1326	1337	S11	W64	10140	10	10.7	12	SF		3	E		20		F
GOES		1331	1333	1335	S11	W64	10140			4	SF	C 2.0						3.9E-04
GOES		1350	1353	1356						6		C 1.7						5.4E-04
GOES		1408	1422	1437	N20	W04				29	1F	M 1.0						1.3E-02
RAMY		1410	1414	1511	N20	W04	10149	10	15.3	61	SN		3	E		93		FH

H α SOLAR FLARES

OCTOBER 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	Time (UT)	Area Measurement Apparent (10-6 Disk)	Corr (Sq Deg)	Remarks
SVTO	15	1411	1417	1444	N20	W04	10149	10	15.3	33	1F	3	E	134	F
GOES		1712	1715	1717	S10	W64	10140			5	SF C 1.0				3.1E-04
HOLL		1713	1714	1721	S10	W64	10140	10	10.9	8	SF	3	E	36	
GOES		2226	2234	2238						12	C 1.1				7.9E-04
GOES	16	0310	0314	0317	S20	E37	10160			7	SF C 7.1				1.5E-03
LEAR		0313	0314	0322	S20	E37	10160	10	19.0	9	SF	3	E	41	F
GOES		0412	0424	0433	S12	W87	10150			21	SF C 2.9				3.0E-03
LEAR		0422	0427	0433	S12	W87	10150	10	9.6	11	SF	3	E	61	
GOES		1147	1149	1151	S20	E32	10160			4	SF C 1.8				3.2E-04
RAMY		1149	1149	1153	S20	E32	10160	10	18.9	4	SF	3	E	13	
GOES		1231	1239	1251						20	C 1.8				1.8E-03
HOLL		1445	1446	1451	N13	W14	10149	10	15.5	6	SF	3	E	30	F
GOES		1445	1449	1451	N13	W14	10149			6	SF C 1.2				4.2E-04
HOLL		1522	1527U	1534	N14	W13	10149	10	15.6	12	SF	3	E	11	
GOES		1551	1627	1658						67	C 6.5				2.0E-02
RAMY		1842	1842	1846D	S21	E21		10	18.4	4D	SF	3	E	116	
GOES		1931	1933	1934						3	C 1.0				1.8E-04
GOES	17	0353	0358	0419	S05	E21	10158			26	SF C 2.6				3.3E-03
LEAR		0358	0400	0412	S05	E21	10158	10	18.7	14	SF	3	E	29	F
LEAR		0415	0419	0422	S05	E20	10158	10	18.7	7	SF	3	E	20	F
GOES		1123	1127	1132						9	C 1.4				6.4E-04
GOES		1141	1144	1157	S04	E16	10158			16	SF C 2.3				1.9E-03
SVTO		1143	1144	1221	S04	E16	10158	10	18.7	38	SF	3	E	66	F
RAMY		1143	1144	1226	S04	E16	10158	10	18.7	43	SF	3	E	45	F
GOES		1158	1207	1215	S04	E16				17	SF C 3.5				2.7E-03
GOES		1400	1404	1410						10	C 1.5				8.5E-04
GOES		1430	1437	1443	S10	E23	10159			13	SF C 2.0				1.4E-03
SVTO		1436	1440	1447	S10	E23	10159	10	19.3	11	SF	3	E	36	F
RAMY		1436	1440	1452	S10	E23	10159	10	19.3	16	SF	3	E	44	
GOES		1540	1543	1546						6	C 1.2				4.3E-04
GOES		1730	1805	1853	N14	W28	10149			83	SF C 3.0				1.0E-02
RAMY		1855	1858	1913	N14	W28	10149	10	15.7	18	SF	3	E	26	
GOES		2215	2221	2228	N23	E75	10162			13	SF C 2.2				1.6E-03
HOLL		2218	2219U	2227	N23	E75	10162	10	23.7	9	SF	3	E	18	
GOES	18	0002	0008	0012						10	C 3.1				1.8E-03
GOES		0059	0107	0112						13	C 2.5				1.9E-03
GOES		0233	0239	0248	N25	E86	10162			15	SF C 2.5				1.8E-03
LEAR		0237	0238	0242	N25	E86	10162	10	24.8	5	SF	3	E	42	
GOES		0528	0534	0542						14	C 2.0				1.3E-03
GOES		0557	0559	0600	N14	W39	10149			3	SF B 9.2				1.6E-04
LEAR		0559	0559	0607	N14	W39	10149	10	15.3	8	SF	2	E	16	
LEAR		0657	0703	0734	S06	W01	10158	10	18.2	37	SF	3	E	48	F
GOES		0657	0711	0714	S06	W01	10158			17	SF C 1.2				1.1E-03
GOES		0932	0936	0942						10	C 2.7				1.5E-03
GOES		1002	1007	1010						8	C 3.0				1.2E-03
GOES		1015	1027	1031						16	C 2.4				2.1E-03
GOES		1124	1128	1137						13	C 1.6				1.1E-03
RAMY		1208	1211	1216	N27	E82	10162	10	24.9	8	SF	3	E	12	FH
GOES		1209	1212	1216	N27	E82	10162			7	SF C 2.3				9.0E-04
RAMY		1317	1317	1325	N13	W43	10149	10	15.3	8	SF	3	E	11	F
GOES		1319	1322	1325	N13	W43	10149			6	SF C 1.6				5.8E-04
GOES		1343	1347	1353						10	C 1.7				9.1E-04
GOES		1519	1524	1537	N25	E84	10162			18	SF C 2.1				1.8E-03
RAMY		1523	1525	1543	N25	E84	10162	10	25.1	20	SF	3	E	48	H
GOES		1615	1617	1620	N25	E81	10162			5	SF B 8.6				2.5E-04
RAMY		1617	1618	1621	N25	E81	10162	10	24.9	4	SF	3	E	15	
GOES		1914	1927	1940	N28	E79	10162			26	SF C 4.1				4.8E-03
RAMY		1924	1928	1945	N27	E82	10162	10	25.2	21	SF	3	E	15	
HOLL		1933	1936	1941	N28	E79	10162	10	25.0	8	SF	3	E	22	F
HOLL		1955	1956	2219D	N27	E75	10162	10	24.7	144D	SF	3	E	35	
RAMY		2000	2000	2044	N26	E76	10162	10	24.7	44	SF	3	E	23	
GOES		2029	2035	2041	N26	E76	10162			12	SF C 2.9				1.8E-03
RAMY		2126	2129U	2129D	S05	W04	10158	10	18.6	3D	SF	3	E	12	F
GOES		2300	2306	2312						12	C 1.6				1.0E-03
HOLL		2332	2333	2335	N14	W47	10149	10	15.4	3	SF	3	E	17	

34
Oct 02

H α SOLAR FLARES

OCTOBER 2002

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF	CMP Mo	Dur Day	Imp (Min)	Opt	Xray	Obs See	Type	Area Measurement			Remarks
							Region								Time (UT)	Apparent (10 ⁻⁶ Disk)	Corr (Sq Deg)	
LEAR	18	2336	2338	2343	S04	W05	10158	10	18.6	7	SF		3	E		11		F
LEAR	19	0001	0003	0010	S05	W06	10158	10	18.5	9	SF		4	E		13		F
GOES		0110	0122	0141	S05	W06	10158			31	1F	C 7.2						1.0E-02
LEAR		0113	0118	0151	S05	W06	10158	10	18.6	38	1F		4	E		100		FH
GOES		0213	0217	0220	N25	E71	10162			7	SF	C 2.9						1.0E-03
LEAR		0214	0220	0223	N25	E71	10162	10	24.6	9	SF		3	E		25		F
GOES		0409	0425	0432						23		C 2.3						2.5E-03
GOES		1009	1013	1018						9		C 1.7						8.4E-04
GOES		1028	1055	1103						35		C 2.7						4.4E-03
RAMY		1114	1115	1119	S03	W12	10158	10	18.6	5	SF		3	E		17		F
GOES		1341	1349	1352	S18	W10	10160			11	SF	C 1.7						8.9E-04
RAMY		1344	1349	1355	S18	W10	10160	10	18.8	11	SF		3	E		31		
HOLL		1347	1349	1354	S18	W09	10159	10	18.9	7	SF		3	E		39		
HOLL		1348	1350	1355	N11	W56	10145	10	15.4	7	SF		3	E		16		
HOLL		1418	1419	1424	N25	E66	10162	10	24.7	6	SF		3	E		12		
RAMY		1451	1459	1503	S06	W13	10158	10	18.6	12	SF		3	E		12		F
GOES		1754	1758	1806	S18	W13	10160			12	SF	C 1.5						9.7E-04
HOLL		1756	1756	1803	S17	W11	10159	10	18.9	7	SF		3	E		13		F
RAMY		1756	1822	1846	S18	W13	10160	10	18.7	50	SF		3	E		82		FH
GOES		1816	1828	1836			10162			20		C 5.0						4.2E-03
HOLL		1819	1834	1844	S18	W11	10159	10	18.9	25	SF		3	E		32		F
HOLL		1827	1827	1835	N25	E67	10162	10	24.9	8	SF		3	E		13		
HOLL		1907	2009	2121	N25	E63	10162	10	24.7	134	SF		3	E		73		F
RAMY		1923	1930	1945	N26	E67	10162	10	25.0	22	SF		3	E		23		F
RAMY		1958	2012	2058	N25	E67	10162	10	25.0	60	SF		3	E		49		F
GOES		1959	2020	2035			10162			36		C 5.9						1.0E-02
GOES		2111	2116	2121	S13	W48	10154			10	SF	C 5.0						2.1E-03
HOLL		2114	2116	2124	S13	W48	10154	10	16.3	10	SF		3	E		46		
HOLL		2154	2200	2204	N27	E65	10162	10	25.0	10	SF		3	E		15		F
HOLL		2233	2235	2238	N26	E64	10162	10	24.9	5	SF		3	E		20		
HOLL		2245E	2303U	2353D	N13	W59	10149	10	15.5	68D	1F		3	E		237		F
GOES		2246	2301	2314						28		C 7.9						9.2E-03
HOLL		2306	2307	2315	N27	E64	10162	10	24.9	9	SF		3	E		30		
LEAR		2307E	2307U	2339	N15	W64	10149	10	15.1	32D	SF		5	E		77		F
GOES	20	0032	0045	0111	N27	E61	10162			39	1F	M 1.8						2.9E-02
LEAR		0037	0044	0117	N27	E61	10162	10	24.8	40	1F		4	E		107		F
LEAR		0039	0045	0103	S18	W17	10160	10	18.7	24	SF		4	E		80		FH
LEAR		0209	0222	0252	S18	W17	10160	10	18.8	43	1N		3	E		116		F
GOES		0219	0223	0227	S18	W17	10160			8	1N	C 7.5						3.2E-03
LEAR		0242	0259	0315	S05	W22	10158	10	18.5	33	SF		3	E		27		F
LEAR		0319	0319	0324	S05	W22	10158	10	18.5	5	SF		3	E		13		
GOES		0331	0339	0400	N26	E58	10162			29	2N	M 1.5						2.0E-02
LEAR		0333	0337	0423	N26	E58	10162	10	24.6	50	2N		3	E		277		FE
GOES		0501	0514	0519	S18	W18	10160			18	1N	M 1.2						8.7E-03
LEAR		0501	0514	0537	S18	W18	10160	10	18.8	36	1N		3	E		205		FE
LEAR		0527	0529	0541	S14	W53	10154	10	16.2	14	SF		3	E		59		F
GOES		0527	0531	0534	S14	W53	10154			7	SF	C 6.9						2.6E-03
LEAR		0539	0542	0548	S20	W17	10160	10	18.9	9	SF		3	E		22		
LEAR		0544	0545	0549	N23	E58	10162	10	24.7	5	SF		3	E		11		
GOES		0611	0614	0617	N25	E44	10162			6	SF	C 3.6						1.1E-03
LEAR		0612	0614	0622	N25	E44	10162	10	23.7	10	SF		3	E		97		FH
SVTO		0613	0614	0619	N23	E44	10162	10	23.6	6	SF		3	E		69		FH
GOES		0859	0903	0906	N25	E42	10162			7	1F	C 2.0						7.0E-04
LEAR		0900	0902	0910	N25	E42	10162	10	23.6	10	1F		3	E		113		FH
SVTO		0902	0902	0906	N22	E43	10162	10	23.7	4	SF		3	E		57		F
GOES		0909	0915	0919	S04	W23	10158			10	SF	C 2.4						1.2E-03
LEAR		0911	0913	0929	S04	W23	10158	10	18.7	18	SF		3	E		54		F
SVTO		0912	0913	0920	S02	W23	10158	10	18.7	8	SF		3	E		21		F
SVTO		0952	0952	1000	N21	E58	10162	10	24.8	8	SF		3	E		58		H
GOES		1025	1037	1044						19		C 2.8						2.8E-03
RAMY		1125	1132	1137	N25	E55	10162	10	24.7	12	SF		3	E		59		FH
SVTO		1130	1132	1134	N21	E55	10162	10	24.7	4	SF		3	E		23		
HOLL		1350	1357	1423	N28	E55	10162	10	24.9	33	SF		3	E		44		
GOES		1351	1402	1410			10162			19		C 5.9						4.6E-03
HOLL		1353	1354	1357	S14	W56	10154	10	16.3	4	SF		3	E		10		
RAMY		1356	1920	2015	N28	E57	10162	10	25.0	379	SF		3	E		73		FHT

H α SOLAR FLARES

OCTOBER 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)	
SVTO	20	1357	1359	1416	N21	E50	10162	10 24.4	19	SF	3	E	45		F
GOES		1410	1413	1421	S13	W63	10154		11	SF C 6.6					3.7E-03
HOLL		1411	1415	1442	S13	W63	10154	10 15.8	31	SF	3	E	56		
GOES		1421	1428	1435	S19	W23	10160		14	1B M 1.8					1.1E-02
SVTO		1422	1424U	1450	S16	W25	10159	10 18.7	28	1F	3	E	178		F
RAMY		1422	1424	1503	S19	W23	10160	10 18.8	41	1B	3	E	184		UH
HOLL		1422	1430	1432	S15	W18	10159	10 19.2	10	1N	3	E	169		
RAMY		1424	1425	1436	S10	W18	10159	10 19.2	12	SF	3	E	16		F
HOLL		1428	1456	1519	S19	W19	10160	10 19.1	51	SF	3	E	20		UF
HOLL		1444	1502	1509	N26	E56	10162	10 25.0	25	SF	3	E	11		
RAMY		1602	1602	1611	S05	W27	10158	10 18.6	9	SF	3	E	10		F
HOLL		1603	1603	1609	N23	E39	10162	10 23.7	6	SF	3	E	22		
HOLL		1603	1603	1611	S08	W32	10158	10 18.3	8	SF	3	E	13		
GOES		1752	1805	1810			10154		18	C 2.6					2.3E-03
HOLL		1755	1756	1811	N25	E52	10162	10 24.8	16	SF	3	E	21		
HOLL		1803	1804	1807	S12	W52	10154	10 16.8	4	SF	3	E	35		F
HOLL		1846	1846	1853	N25	E51	10162	10 24.7	7	SF	3	E	14		
RAMY		1846	1859	1918	S18	W26	10160	10 18.8	32	SF	3	E	32		F
HOLL		1848	1859	1911	S17	W26	10160	10 18.8	23	SF	3	E	23		
HOLL		1914	1922	1926	N25	E51	10162	10 24.7	12	SF	3	E	12		F
GOES		1917	1921	1925	N25	E51	10162		8	SF C 3.1					1.2E-03
RAMY		2032	2032	2045	N25	E53	10162	10 25.0	13	SF	3	E	25		
GOES		2126	2137	2148					22	C 6.3					6.7E-03
HOLL		2241	2245	2300	N25	E47	10162	10 24.6	19	SF	3	E	17		F
HOLL		2306	2308	2330	N25	E49	10162	10 24.7	24	SF	3	E	50		F
GOES	21	0001	0023	0040					39	C 2.9					5.6E-03
GOES		0045	0057	0104	S17	W30	10160		19	SF C 3.3					3.0E-03
LEAR		0056	0056	0104	S17	W30	10160	10 18.7	8	SF	3	E	22		F
LEAR		0214	0224	0253	S05	W32	10158	10 18.7	39	SF	4	E	36		F
GOES		0416	0419	0422	S14	W65	10154		6	SF C 3.6					1.2E-03
LEAR		0418	0419	0424	S14	W65	10154	10 16.3	6	SF	4	E	23		F
GOES		0452	0523	0530	N23	E41	10162		38	SF C 3.1					5.7E-03
LEAR		0457	0603	0614	N23	E41	10162	10 24.4	77	SF	3	E	28		F
SVTO		0705	0706	0708	N22	E48	10162	10 25.0	3	SF	3	E	20		
GOES		0819	0836	0841	N20	E46	10162		22	SF C 2.3					2.5E-03
SVTO		0835	0836	0846	N20	E46	10162	10 24.9	11	SF	3	E	54		
SVTO		0856	0857	0901	S19	W31	10160	10 19.0	5	SF	3	E	14		
SVTO		0943	0943	0950	S16	W32	10160	10 19.0	7	SF	3	E	16		
GOES		1130	1204	1215					45	C 2.9					5.9E-03
SVTO		1158	1222	1239	N21	E42	10162	10 24.7	41	SF	3	E	41		F
GOES		1215	1227	1236	N21	E42	10162		21	SF C 3.7					4.1E-03
GOES		1501	1505	1512	N23	E28	10162		11	SF C 1.7					1.0E-03
RAMY		1510	1510	1514	N23	E28	10162	10 23.8	4	SF	3	E	16		
GOES		2004	2008	2017					13	C 2.0					1.4E-03
RAMY		2049	2102	2131	N25	E38	10162	10 24.8	42	SF	3	E	73		F
GOES		2101	2113	2124	S19	W40	10160		23	SF C 6.6					7.2E-03
HOLL		2103	2105	2128	S19	W40	10160	10 18.8	25	SF	3	E	35		F
HOLL		2105E	2105	2114	S22	W47	10163	10 18.3	9D	SF	3	E	16		
RAMY		2112	2118	2152D	S19	W40	10160	10 18.8	40D	1N	3	E	216		UF
HOLL		2259	2259	2302	S13	W82	10154	10 15.8	3	SF	3	E	58		F
GOES		2332	2358	2407	N23	E23	10162		35	SF C 4.7					7.3E-03
LEAR		2342	2353	2406	N23	E23	10162	10 23.7	24	SF	3	E	35		F
LEAR	22	0227	0231	0243	N20	E57	10165	10 26.5	16	SF	3	E	63		F
GOES		0410	0415	0430	N23	E31	10162		20	SF C 2.4					2.3E-03
LEAR		0412	0413	0427	N23	E31	10162	10 24.6	15	SF	3	E	19		F
GOES		0505	0519	0532					27	C 1.8					2.6E-03
RAMY		1146	1146	1149	S07	W55	10158	10 18.4	3	SF	3	E	12		
GOES		1243	1248	1255	N28	E29	10162		12	SF C 2.2					1.4E-03
RAMY		1246	1247	1253	N28	E29	10162	10 24.8	7	SF	3	E	20		F
RAMY		1326	1326	1333	S07	W58	10158	10 18.2	7	SF	3	E	13		
GOES		1529	1535	1551	N28	E27	10162		22	SF M 1.0					8.5E-03
RAMY		1532	1533	1700	N28	E27	10162	10 24.7	88	SF	3	E	88		F
GOES		2209	2228	2239					30	C 1.3					1.9E-03
GOES	23	0027	0109	0116			10162		49	C 3.5					5.5E-03
LEAR		0047	0116	0145	S04	W62	10158	10 18.4	58	SF	3	E	61		F

36
Oct 02

H α SOLAR FLARES

OCTOBER 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)	
LEAR	23	0101	0101	0104	N25	E22	10162	10 24.7	3	SF	3	E	18		F
GOES		0117	0232	0247			10158		90	C 6.6					1.9E-02
LEAR		0634	0635	0641	S16	W60	10160	10 18.7	7	SF	3	E	25		
GOES		1523	1624	1700	N20	E37	10165		97	SF C 3.2					1.2E-02
RAMY		1538	1616	1716	N20	E37	10165	10 26.5	98	SF	3	E	99		F
HOLL		1554	1603U	1652D	N21	E40	10165	10 26.7	58D	SF	3	E	15		
GOES	24	0813	0818	0822	N28	E09	10162		9	SF C 1.0					5.1E-04
LEAR		0814	0817	0834	N28	E09	10162	10 25.0	20	SF	3	E	27		
GOES		0949	0953	0955					6	B 8.8					2.7E-04
RAMY		1634	1635	1647	N28	E03	10162	10 24.9	13	SF	3	E	26		
HOLL		1635	1637	1644	N28	E04	10162	10 25.0	9	SF	3	E	18		
GOES		1802	1810	1818	N23	W14	10162		16	1N C 7.4					3.9E-03
RAMY		1804	1810	1825	N23	W14	10162	10 23.7	21	1N	3	E	148		FH
HOLL		1805	1809U	1822	N23	W14	10162	10 23.7	17	1N	3	E	174		FH
GOES		2159	2203	2206					7	C 1.7					5.0E-04
GOES		2210	2213	2215					5	C 1.2					3.0E-04
GOES	25	0608	0611	0613					5	C 1.0					2.6E-04
LEAR		0702	0703	0705	N28	W02	10162	10 25.1	3	SF	3	E	28		
GOES		0915	0919	0921					6	B 9.4					2.8E-04
GOES		1313	1319	1328	N24	W16	10162		15	SF C 1.1					9.4E-04
RAMY		1320	1321	1335	N24	W16	10162	10 24.3	15	SF	3	E	26		F
HOLL		1409	1410	1417	N25	W28	10162	10 23.4	8	SF	3	E	15		
RAMY		1409	1411	1418	N24	W28	10162	10 23.4	9	SF	3	E	18		F
HOLL		1521	1521	1526	N25	W14	10162	10 24.5	5	SF	3	E	24		
HOLL		1620	1643	1703	N27	W10	10162	10 24.9	43	1F	3	E	123		F
GOES		1633	1643	1651	N27	W10	10162		18	1F C 1.6					1.4E-03
GOES		1723	1747	1822	N28	W11	10162		59	1F M 1.5					3.5E-02
RAMY		1726	1737	1907	N28	W11	10162	10 24.9	101	1F	3	E	133		F
GOES	26	0319	0327	0330					11	C 2.8					1.5E-03
GOES		1429	1433	1438					9	B 8.7					4.3E-04
GOES		1828	1838	1850					22	C 2.3					2.6E-03
LEAR	27	0259	0300	0305	N26	W31	10162	10 24.7	6	SF	2	E	15		
GOES		0350	0354	0357	N26	W31	10162		7	SF C 1.6					5.2E-04
LEAR		0353	0353	0400	N26	W31	10162	10 24.7	7	SF	1	E	30		
GOES		0652	0656	0658					6	C 1.3					3.4E-04
GOES		0813	0820	0824	N26	W34	10162		11	SF C 1.2					6.3E-04
LEAR		0820	0826	0832	N26	W34	10162	10 24.7	12	SF	3	E	23		F
GOES		0907	0921	0928	N26	W34	10162		21	SF C 1.3					1.4E-03
SVTO		0908E	0912	0944D	N26	W34	10162	10 24.7	36D	SF	2	E	78		F
GOES		0955	1011	1022	N27	W37	10162		27	SF C 1.6					2.3E-03
SVTO		0956	1001	1040	N27	W37	10162	10 24.5	44	SF	3	E	53		
RAMY		1221	1221	1230	N25	W37	10162	10 24.6	9	SF	3	E	10		
GOES		1342	1346	1349	N24	W37	10162		7	SF B 8.2					3.1E-04
RAMY		1345	1345	1352	N24	W37	10162	10 24.7	7	SF	3	E	15		F
SVTO		1400E	1400U	1409	N25	W37	10162	10 24.7	9D	SF	2	E	20		
RAMY		1401	1401	1422	N24	W38	10162	10 24.6	21	SF	3	E	12		F
SVTO		1447	1447	1450	N27	W37	10162	10 24.7	3	SF	3	E	40		
GOES		1726	1729	1737					11	C 1.6					1.0E-03
RAMY		1746	1757	1801	N24	W40	10162	10 24.6	15	SF	3	E	10		F
GOES		1755	1758	1811	N24	W40	10162		16	SF C 1.9					1.6E-03
RAMY		1804	1807	1822	N23	W51	10162	10 23.8	18	SF	3	E	11		F
RAMY		1917	1918	1922	N25	W40	10162	10 24.7	5	SF	3	E	35		
RAMY		1924	1925	1936	N24	W40	10162	10 24.7	12	SF	3	E	20		
RAMY		2030	2038	2108D	N24	W42	10162	10 24.6	38D	SF	3	E	87		F
GOES		2034	2038	2042	N24	W42	10162		8	SF C 2.9					1.2E-03
GOES		2153	2204	2215					22	C 4.3					4.0E-03
GOES	28	0023	0026	0033	N23	W56	10162		10	SF C 1.6					8.2E-04
LEAR		0025E	0027U	0040	N23	W56	10162	10 23.7	15D	SF	3	E	72		F
LEAR		0552	0557	0559	N27	W44	10162	10 24.8	7	SF	2	E	10		
LEAR		0712	0712	0717	N27	W45	10162	10 24.8	5	SF	3	E	22		
GOES		0907	0928	0934	N27	W42	10162		27	SF C 2.1					2.4E-03
SVTO		0909	0911	0913	N28	W43	10162	10 25.0	4	SF	3	E	15		
SVTO		0928	0931	0934	N27	W42	10162	10 25.1	6	SF	3	E	31		F

H α SOLAR FLARES

OCTOBER 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)	
SVTO	28	0950	0953	1004D	N29	W44	10162	10	25.0	14D	SF		3	E		59		F
GOES		1024	1028	1038						14		C 1.4						1.0E-03
RAMY		1132E	1138	1147	N26	W47	10162	10	24.8	15D	SF		3	E		31		F
SVTO		1133	1138	1144	N30	W48	10162	10	24.7	11	SF		3	E		32		
GOES		1200	1205	1211	N23	W61	10162			11	1N M 1.7							7.4E-03
SVTO		1203	1204	1219	N31	W46	10162	10	24.9	16	1F		3	E		114		F
RAMY		1203	1204	1229	N23	W61	10162	10	23.8	26	1N		3	E		107		F
RAMY		1233	1236	1245	N26	W49	10162	10	24.7	12	SF		3	E		11		
RAMY		1252	1252	1303	N27	W49	10162	10	24.7	11	SF		3	E		26		FH
SVTO		1252	1253	1301	N33	W54	10162	10	24.2	9	SF		3	E		25		
RAMY		1338	1416	1435	N27	W62	10162	10	23.7	57	SF		3	E		40		FH
GOES		1355	1358	1401	N27	W62				6	SF C 1.1							3.6E-04
GOES		1413	1418	1422	N34	W56	10162			9	SF C 2.5							9.8E-04
SVTO		1414	1415	1424	N34	W56	10162	10	24.1	10	SF		3	E		39		
RAMY		1454	1457	1511	N26	W50	10162	10	24.7	17	SF		3	E		16		FH
RAMY		1541	1545	1549	N26	W50	10162	10	24.8	8	SF		3	E		13		
RAMY		1600	1604	1625	N26	W50	10162	10	24.8	25	SF		3	E		41		
GOES		1601	1604	1610	N26	W50	10162			9	SF C 1.2							5.7E-04
GOES		1629	1634	1637	N26	W50	10162			8	SF C 1.0							4.3E-04
RAMY		1629	1639	1644	N26	W50	10162	10	24.8	15	SF		3	E		17		
RAMY		1644	1647	1656	N26	W50	10162	10	24.8	12	SF		3	E		11		
RAMY		1752	1752	1757	N26	W52	10162	10	24.7	5	SF		3	E		31		
RAMY		1807	1807	1812	S14	E30	10170	10	31.0	5	SF		3	E		12		F
RAMY		1821	1828	1838	N26	W51	10162	10	24.8	17	SF		3	E		51		FH
GOES		1822	1830	1833	N26	W50	10162			11	SF C 2.8							1.4E-03
HOLL		1828	1829	1834	N26	W50	10162	10	24.9	6	SF		3	E		19		F
RAMY		1839	1839	1843	N26	W52	10162	10	24.7	4	SF		3	E		10		
GOES		1849	1903	1910	N23	W65	10162			21	SF C 5.0							3.9E-03
RAMY		1852	1901	2106D	N24	W58	10162	10	24.3	134D	1F		3	E		132		FH
HOLL		1853	1854	1857	N28	W46	10162	10	25.2	4	SF		3	E		14		
HOLL		1858	1901	1909	N23	W65	10162	10	23.8	11	SF		3	E		69		
GOES		1944	1947	1952						8		C 2.3						1.0E-03
RAMY		2007	2015	2055D	S18	W67	10173	10	23.7	48D	SF		3	E		21		
GOES		2139	2143	2147						8		C 1.7						7.0E-04
HOLL		2150	2151	2154	N27	W51	10162	10	24.9	4	SF		3	E		15		F
GOES		2321	2327	2335	S18	W65	10173			14	SF C 1.1							8.5E-04
HOLL		2335	2339	2342	S18	W65	10173	10	24.0	7	SF		3	E		36		
LEAR		2354	2355	2401	N29	W53	10162	10	24.8	7	SF		3	E		55		
GOES	29	0133	0137	0146						13		C 1.1						8.1E-04
GOES		0301	0320	0338	N31	W51	10162			37	SF M 1.1							1.6E-02
LEAR		0309	0312	0333	N31	W51	10162	10	25.1	24	SF		3	E		49		F
GOES		0418	0423	0432						14		C 4.6						3.4E-03
GOES		0549	0552	0555						6		C 2.9						8.8E-04
LEAR		0639	0641	0648	S17	W75	10173	10	23.6	9	SF		3	E		23		
SVTO		0640	0640	0647	S18	W75	10173	10	23.6	7	SF		3	E		14		
SVTO		0644	0646	0659	N23	W72	10162	10	23.7	15	SF		3	E		92		
LEAR		0645	0646	0652	N31	W55	10162	10	24.9	7	SF		3	E		54		F
LEAR		0744	0748	0801	N31	W56	10162	10	24.9	17	SF		3	E		18		
LEAR		0927	0930	0943	N29	W58	10162	10	24.8	16	SF		3	E		96		F
SVTO		0929	0930	0942	N28	W57	10162	10	24.9	13	SF		3	E		61		
SVTO		1119	1120	1124	N28	W58	10162	10	24.9	5	SF		3	E		38		
RAMY		1135	1136	1146	N16	E63		11	3.3	11	SF		3	E		28		
RAMY		1138	1140	1146	N09	E88		11	5.1	8	3F		3	E		629		
RAMY		1152	1156	1159	N16	E63		11	3.3	7	SF		3	E		23		
RAMY		1215	1219	1230	N16	E63		11	3.3	15	SF		3	E		24		F
GOES		1230	1234	1246	N28	W58	10162			16	SF C 1.4							1.2E-03
SVTO		1232	1233	1237	N28	W58	10162	10	25.0	5	SF		3	E		33		
SVTO		1335	1336	1339	S19	W83	10173	10	23.2	4	SF		3	E		41		
SVTO		1338	1339	1342	N23	W75	10162	10	23.8	4	SF		3	E		21		
GOES		1342	1348	1354	N28	W61	10162			12	SF C 2.2							1.5E-03
SVTO		1344	1346	1358	N28	W61	10162	10	24.8	14	SF		3	E		42		F
RAMY		1348	1349	1355	S20	W78	10173	10	23.6	7	SF		3	E		49		F
GOES		1419	1424	1430	N28	W60	10162			11	SF C 2.2							1.3E-03
SVTO		1420	1421	1432	N28	W60	10162	10	24.9	12	SF		3	E		58		H
RAMY		1431	1433	1436	S19	W77	10173	10	23.7	5	SF		3	E		12		
GOES		1445	1448	1453	S18	W76	10173			8	SF C 1.6							7.1E-04
RAMY		1446	1512	1529	S19	W78	10173	10	23.7	43	SF		3	E		79		FH

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

Selected Fixed Frequency Events

39
Oct 02

OCTOBER 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
04	2695 LEAR	8 S	0535.0	0536.0	2.0	90.0			QL=4 ST=2 TYP=3
	8800 LEAR	8 S	0535.0	0536.0	2.0	74.0			QL=4 ST=2 TYP=3
	2695 SVTO	4 S/F	0535.0	0537.0	3.0	92.0			QL=4 ST=2 TYP=3
	8800 SVTO	4 S/F	0535.0	0536.0	18.0	82.0			QL=4 ST=2 TYP=3
	2695 SGMR	8 S	1246.0	1248.0	2.0	37.0			QL=4 ST=2 TYP=3
	8800 SGMR	8 S	1247.0	1248.0	1.0	30.0			QL=4 ST=2 TYP=3
	2695 SGMR	4 S/F	1248.0	1248.0	5.0	38.0			QL=4 ST=2 TYP=3
	8800 SGMR	8 S	1248.0	1249.0	2.0	30.0			QL=4 ST=2 TYP=3
	8800 SVTO	8 S	1248.0	1249.0	2.0	32.0			QL=4 ST=2 TYP=3
	8800 SGMR	8 S	1338.0	1338.0	U	59.0			QL=4 ST=2 TYP=3
	8800 SVTO	8 S	1338.0	1338.0	U	83.0			QL=4 ST=2 TYP=3
	8800 SGMR	8 S	1634.0	1635.0	1.0	55.0			QL=4 ST=2 TYP=3
	8800 LEAR	48 C	2238.0	2240.0	5.0	280.0			QL=4 ST=2 TYP=8
	2695 LEAR	4 S/F	2238.0	2242.0	4.0	140.0			QL=4 ST=2 TYP=3
05	8800 SVTO	8 S	1041.0	1042.0	1.0	100.0			QL=4 ST=2 TYP=3
	2695 SVTO	8 S	1041.0	1042.0	1.0	95.0			QL=4 ST=2 TYP=3
	8800 PALE	8 S	1923.0	1923.0	U	88.0			QL=4 ST=2 TYP=3
	8800 PALE	8 S	1936.0	1936.0	U	44.0			QL=4 ST=2 TYP=3
	8800 PALE	48 C	2044.0	2100.0	23.0	300.0			QL=4 ST=2 TYP=8
	2695 PALE	48 C	2047.0	2049.0	12.0	100.0			QL=4 ST=2 TYP=8
	2695 SGMR	48 C	2047.0	2049.0	12.0	120.0			QL=4 ST=2 TYP=8
	8800 SGMR	4 S/F	2054.0	2055.0	4.0	55.0			QL=4 ST=2 TYP=3
	8800 PALE	8 S	2115.0	2115.0	1.0	91.0			QL=4 ST=2 TYP=3
	8800 PALE	4 S/F	2124.0	2124.0	4.0	35.0			QL=4 ST=2 TYP=3
06	8800 LEAR	8 S	0449.0	0449.0	1.0	79.0			QL=4 ST=2 TYP=3
	8800 SGMR	8 S	1152.0	1152.0	U	63.0			QL=4 ST=2 TYP=3
	8800 SVTO	8 S	1152.0	1152.0	1.0	63.0			QL=4 ST=2 TYP=3
10	8800 SGMR	8 S	1806.0	1807.0	2.0	150.0			QL=4 ST=2 TYP=3
	8800 PALE	4 S/F	1806.0	1807.0	354.0	170.0			QL=4 ST=2 TYP=3
13	8800 LEAR	20 GRF	0008.0	0012.0	20.0	36.0			QL=4 ST=2 TYP=2
	2695 LEAR	20 GRF	2354.0	2356.0	24.0	83.0			QL=4 ST=2 TYP=2
14	8800 PALE	20 GRF	0003.0	0013.0	28.0	64.0			QL=4 ST=2 TYP=2
	8800 LEAR	20 GRF	0008.0	0012.0	20.0	36.0			QL=4 ST=2 TYP=2
	2695 PALE	20 GRF	2353.0	2356.0	39.0	100.0			QL=4 ST=2 TYP=2
15	2695 SGMR	4 S/F	1411.0	1412.0	7.0	55.0			QL=4 ST=2 TYP=3
20	2695 PALE	8 S	0040.0	0040.0	2.0	42.0			QL=4 ST=2 TYP=3
	8800 PALE	8 S	0041.0	0041.0	1.0	49.0			QL=4 ST=2 TYP=3
	8800 SGMR	8 S	1411.0	1411.0	1.0	38.0			QL=4 ST=2 TYP=3
	2695 SGMR	8 S	1411.0	1412.0	1.0	59.0			QL=4 ST=2 TYP=3
	2695 SVTO	8 S	1411.0	1412.0	1.0	56.0			QL=4 ST=2 TYP=3
	8800 SVTO	8 S	1412.0	1412.0	U	26.0			QL=4 ST=2 TYP=3
	8800 SGMR	8 S	1423.0	1424.0	1.0	33.0			QL=4 ST=2 TYP=3
	2695 SGMR	8 S	1424.0	1424.0	U	26.0			QL=4 ST=2 TYP=3
	8800 SVTO	4 S/F	1425.0	1426.0	7.0	44.0			QL=4 ST=2 TYP=3
	8800 SGMR	8 S	1426.0	1426.0	1.0	58.0			QL=4 ST=2 TYP=3
22	8800 SGMR	4 S/F	1532.0	1534.0	5.0	420.0			QL=4 ST=2 TYP=3
	2695 SGMR	4 S/F	1532.0	1532.0	5.0	110.0			QL=4 ST=2 TYP=3
	2695 SVTO	48 C	1532.0E	1532.0U	3.0D	78.0			QL=2 ST=2 TYP=8
	8800 SVTO	48 C	1532.0E	1532.0U	3.0D	200.0			QL=2 ST=2 TYP=8
24	8800 SVTO	8 S	0800.0	0800.0	1.0	22.0			QL=4 ST=2 TYP=3
	2695 PALE	4 S/F	1804.0	1806.0	5.0	68.0			QL=4 ST=2 TYP=3
	2695 SGMR	4 S/F	1804.0	1806.0	6.0	65.0			QL=4 ST=2 TYP=3
	8800 SGMR	8 S	1806.0	1806.0	2.0	45.0			QL=4 ST=2 TYP=3
25	8800 SVTO	8 S	0702.0	0702.0	U	38.0			QL=4 ST=2 TYP=3
28	8800 SVTO	4 S/F	1202.0	1203.0	5.0	380.0			QL=4 ST=2 TYP=3
	2695 SVTO	8 S	1203.0	1203.0	1.0	36.0			QL=4 ST=2 TYP=3
29	2695 PALE	8 S	0311.0	0311.0	U	47.0			QL=4 ST=2 TYP=3

40
Oct 02

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

Selected Fixed Frequency Events

OCTOBER 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		
29	8800 SGMR	8 S	1343.0	1344.0	1.0	120.0			QL=4 ST=2 TYP=3
	8800 SVTO	8 S	1343.0	1344.0	1.0	87.0			QL=4 ST=2 TYP=3
	8800 SGMR	8 S	1527.0	1528.0	1.0	70.0			QL=4 ST=2 TYP=3
31	8800 SVTO	4 S/F	0921.0	0925.0	13.0	60.0			QL=4 ST=2 TYP=3
	2695 SVTO	8 S	0925.0	0925.0	U	23.0			QL=4 ST=2 TYP=3
	2695 SGMR	4 S/F	1650.0	1651.0	10.0	150.0			QL=4 ST=2 TYP=3
	8800 SGMR	49 GB	1650.0	1651.0	10.0	3300.0			QL=4 ST=2 TYP=6

Reports are received routinely from the following observatories:

LEAR = Learmonth

PALE = Palehua

SGMR = Sagamore Hill

SVTO = San Vito

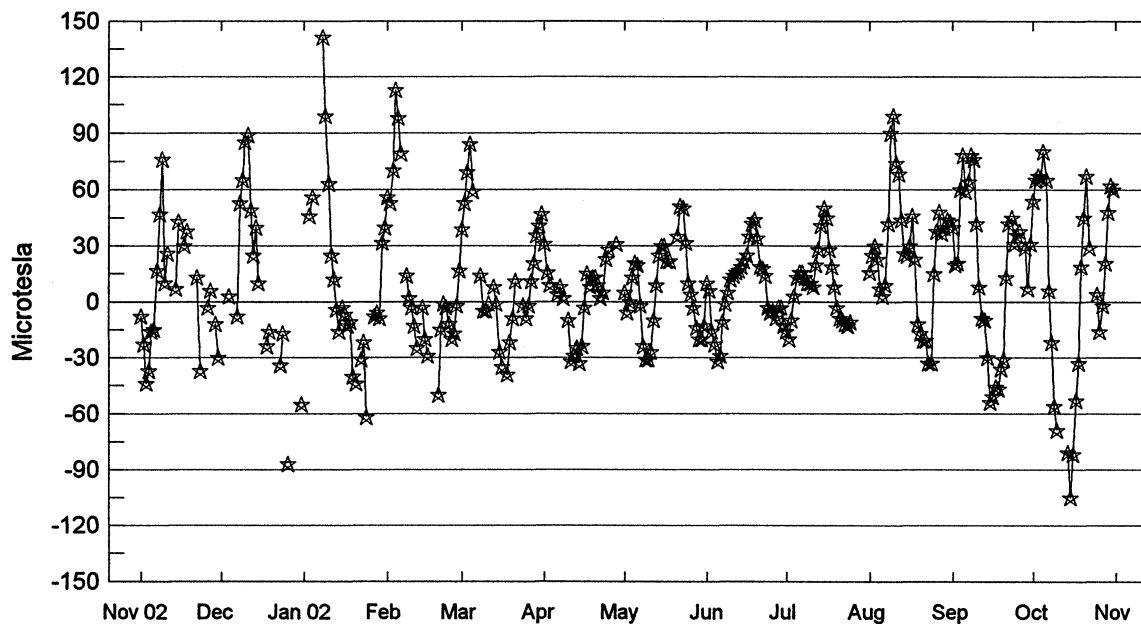
Explanation of Type Code:

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.

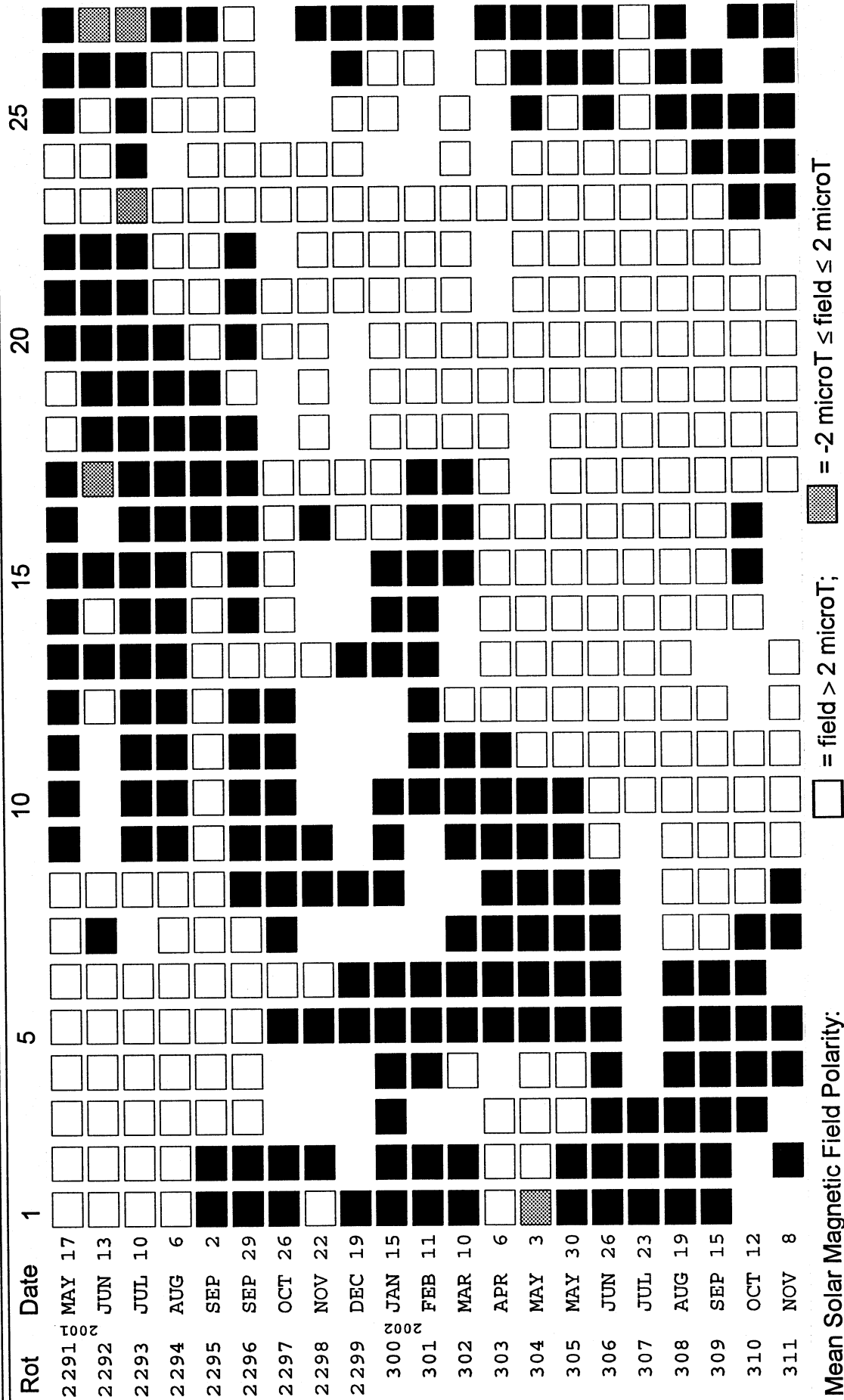
Stanford Mean Solar Magnetic Field (Microtesla) "Sun-As-A-Star"

41
Oct 02



Day	Nov 01	Dec	Jan 02	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	-8	---	---	56	39	31	5	10	-16	16	40	54
2	-23	---	---	53	53	16	-6	6	-20	25	20	65
3	-44	---	46	70	69	9	0	-16	-10	30	21	67
4	-37	3	56	113	84	---	13	-23	3	23	60	66
5	-16	---	---	98	59	---	21	-32	13	7	78	80
6	-15	---	---	79	---	4	20	-29	16	3	59	65
7	17	-8	---	---	---	8	-2	-11	16	9	64	6
8	47	53	141	14	14	2	-24	-1	13	42	78	-22
9	76	65	99	2	-5	---	-31	5	10	90	76	-56
10	10	85	63	-3	-5	-10	-31	12	10	99	42	-69
11	26	89	25	-13	-1	-32	-27	14	8	74	8	---
12	---	49	12	-25	---	-29	-10	16	20	68	-9	---
13	---	25	-4	---	8	-25	9	17	28	44	-10	---
14	7	40	-16	-3	-1	-33	25	19	41	26	-30	-81
15	43	10	-3	-20	-27	-24	30	22	50	25	-54	-105
16	---	---	-7	-29	-35	-3	30	25	45	30	-51	-82
17	30	---	-13	---	---	15	22	35	28	46	-46	-53
18	38	-24	-11	---	-39	8	22	42	19	23	-47	-33
19	---	-16	-40	---	-22	13	---	44	8	-12	-36	19
20	---	---	-44	-50	-9	13	---	34	-3	-17	-31	45
21	---	---	---	-15	11	9	35	19	-9	-21	13	67
22	13	---	-31	-1	---	2	51	18	-10	-21	42	29
23	-37	-34	-22	-3	---	5	50	14	-12	-33	45	---
24	---	-17	-62	-12	-2	23	32	-3	-13	-33	31	---
25	---	---	---	-20	-9	28	10	-6	-11	15	36	4
26	-3	-87	---	-17	-2	---	4	-5	---	38	38	-16
27	6	---	-8	-2	11	---	-3	-9	---	48	---	-2
28	---	---	-6	17	21	31	-14	-3	---	37	29	21
29	-12	---	-9	---	36	---	-20	-3	---	40	7	48
30	-30	---	32	---	41	---	-20	-13	---	44	31	62
31	---	-55	40	---	47	---	-13	---	---	43	---	60

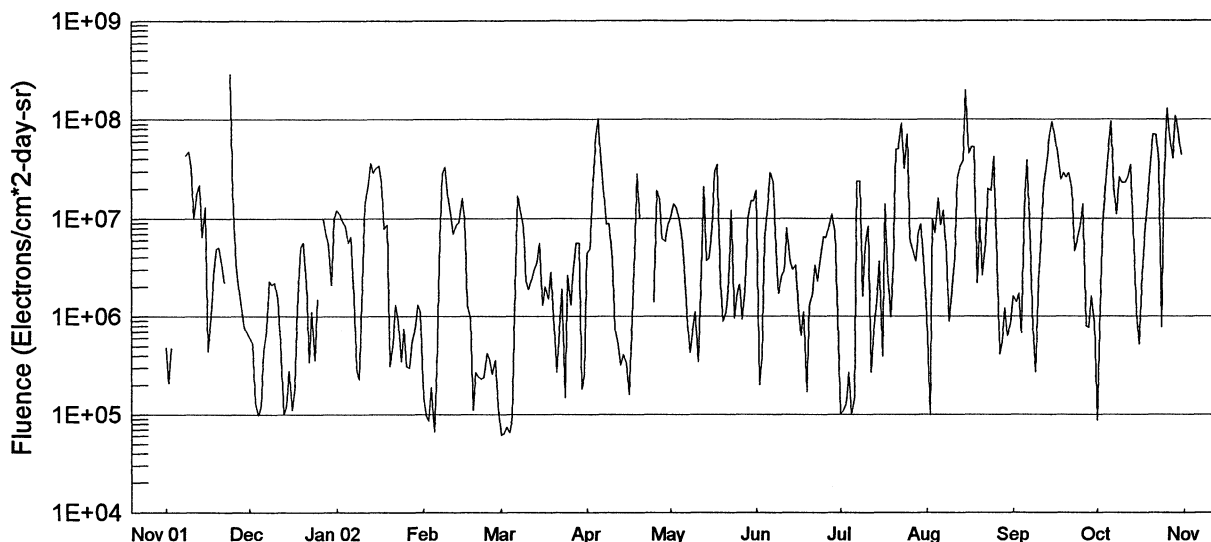
STANFORD MEAN SOLAR MAGNETIC FIELD



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 Nov 2001 - Oct 2002

43
Oct 02



Day	Nov 01	Dec	Jan 02	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
1	4.8E+05	6.1E+05	1.2E+07	1.5E+05	6.1E+04	4.4E+06	9.9E+06	1.9E+07	1.0E+05	1.0E+06	1.6E+06	8.7E+04
2	2.1E+05	5.2E+05	1.1E+07	9.8E+04	6.3E+04	4.9E+06	1.4E+07	2.0E+05	1.1E+05	9.8E+04	1.4E+06	7.4E+05
3	4.8E+05	1.3E+05	9.3E+06	8.6E+04	7.4E+04	1.8E+07	1.3E+07	3.8E+05	1.3E+05	1.0E+07	1.7E+06	8.5E+06
4	-999	9.9E+04	8.3E+06	1.9E+05	6.5E+04	6.7E+07	1.0E+07	5.9E+06	2.7E+05	7.1E+06	6.8E+05	2.0E+07
5	-999	1.2E+05	5.7E+06	6.6E+04	9.2E+04	1.0E+08	6.9E+06	1.3E+07	1.0E+05	1.6E+07	1.3E+07	5.1E+07
6	-999	4.4E+05	6.5E+06	2.9E+05	1.1E+06	3.9E+07	3.1E+06	2.9E+07	1.5E+05	8.6E+06	3.9E+07	9.6E+07
7	-999	7.6E+05	1.5E+06	6.2E+06	1.7E+07	1.7E+07	8.3E+05	2.3E+07	2.4E+07	1.2E+07	1.0E+07	2.1E+07
8	4.3E+07	2.3E+06	2.9E+05	2.8E+07	1.2E+07	8.7E+06	4.3E+05	4.8E+06	2.4E+07	4.2E+06	7.5E+05	1.1E+07
9	4.7E+07	2.1E+06	2.3E+05	3.3E+07	8.3E+06	8.9E+06	7.1E+05	1.7E+06	1.6E+06	8.8E+05	2.7E+05	2.6E+07
10	3.2E+07	2.2E+06	2.1E+06	1.6E+07	2.3E+06	3.8E+06	1.1E+06	2.6E+06	5.3E+06	2.0E+06	2.3E+06	2.3E+07
11	1.0E+07	1.5E+06	1.4E+07	1.1E+07	1.9E+06	7.4E+05	3.4E+05	2.9E+06	8.3E+06	4.0E+06	6.4E+06	2.3E+07
12	1.8E+07	5.4E+05	2.1E+07	7.0E+06	2.4E+06	5.1E+05	1.8E+06	8.0E+06	2.7E+05	2.5E+07	2.1E+07	2.6E+07
13	2.2E+07	1.0E+05	3.6E+07	8.6E+06	3.0E+06	3.2E+05	2.1E+07	3.7E+06	6.9E+05	3.3E+07	3.7E+07	3.5E+07
14	6.5E+06	1.2E+05	2.9E+07	9.1E+06	3.5E+06	4.1E+05	3.7E+06	3.0E+06	1.4E+06	3.9E+07	6.8E+07	5.4E+06
15	1.3E+07	2.8E+05	3.2E+07	1.6E+07	5.6E+06	3.3E+05	3.9E+06	3.3E+06	3.6E+06	2.0E+08	9.5E+07	1.1E+06
16	4.4E+05	1.1E+05	3.4E+07	1.0E+07	1.3E+06	1.6E+05	7.9E+06	1.2E+06	3.9E+05	4.6E+07	7.2E+07	5.2E+05
17	1.0E+06	1.9E+05	2.3E+07	1.3E+06	2.0E+06	6.5E+05	3.0E+07	6.4E+05	1.4E+07	5.3E+07	4.4E+07	2.7E+06
18	2.6E+06	1.2E+06	7.8E+06	9.5E+05	1.5E+06	4.4E+06	3.5E+07	1.1E+06	2.9E+06	5.3E+07	2.5E+07	6.9E+06
19	4.9E+06	5.1E+06	8.5E+06	1.1E+05	2.8E+06	2.8E+07	2.2E+06	1.7E+05	9.8E+05	2.2E+06	2.9E+07	1.6E+07
20	5.0E+06	5.7E+06	3.1E+05	2.7E+05	9.7E+05	9.9E+06	8.9E+05	1.3E+06	3.3E+06	9.7E+06	2.6E+07	3.8E+07
21	3.3E+06	2.2E+06	5.3E+05	2.4E+05	2.7E+05	-999	1.1E+06	1.7E+06	5.0E+07	2.6E+06	2.9E+07	7.2E+07
22	2.2E+06	3.4E+05	1.3E+06	2.3E+05	7.3E+05	-999	2.3E+06	3.3E+06	5.1E+07	5.7E+06	2.0E+07	7.1E+07
23	-999	1.1E+06	9.1E+05	2.4E+05	1.9E+06	-999	1.2E+07	2.3E+06	9.2E+07	2.0E+07	4.6E+06	3.7E+07
24	2.9E+08	3.6E+05	3.5E+05	4.2E+05	1.5E+05	-999	9.5E+05	4.3E+06	3.2E+07	1.9E+07	6.0E+06	7.7E+05
25	1.7E+07	1.5E+06	7.4E+05	3.6E+05	2.6E+06	1.4E+06	1.7E+06	6.5E+06	7.2E+07	4.2E+07	8.4E+06	2.2E+07
26	3.4E+06	-999	3.1E+05	2.6E+05	1.3E+06	1.9E+07	2.1E+06	6.4E+06	5.8E+06	6.2E+06	1.4E+07	1.3E+08
27	2.0E+06	9.9E+06	3.0E+05	3.6E+05	3.0E+06	1.6E+07	9.3E+05	8.3E+06	4.8E+06	4.1E+05	8.0E+05	6.9E+07
28	1.3E+06	7.2E+06	5.7E+05	1.2E+05	5.6E+06	6.2E+06	2.1E+06	1.1E+07	3.7E+06	5.7E+05	7.6E+05	4.1E+07
29	7.6E+05	5.3E+06	7.5E+05		5.6E+06	5.8E+06	1.0E+07	7.3E+06	7.2E+06	1.2E+06	1.6E+06	1.1E+08
30	6.9E+05	2.1E+06	1.3E+06		1.8E+05	8.4E+06	1.5E+07	1.0E+06	8.7E+06	6.4E+05	8.5E+05	8.0E+07
31		1.0E+07	1.1E+06		2.5E+05		1.5E+07		3.1E+06	8.3E+05		4.4E+07

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.

THIS PAGE LEFT INTENTIONALLY BLANK.

CONTENTS

Prompt Reports

Number 699 Part I

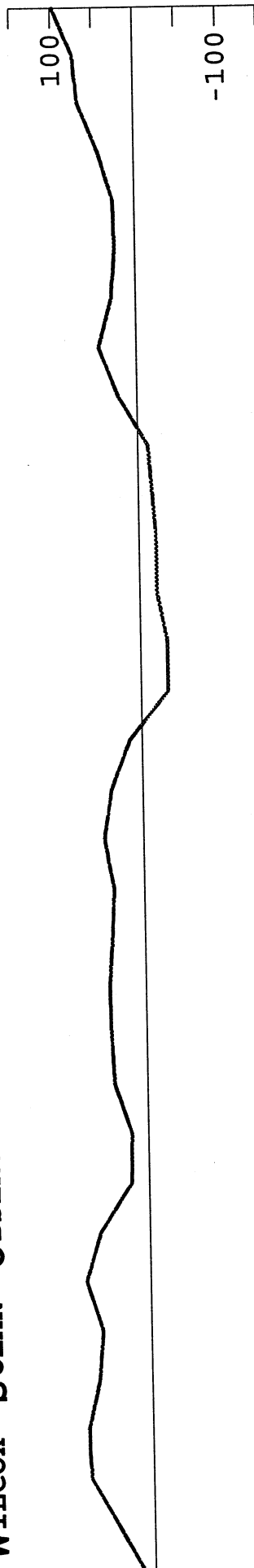
DATA FOR SEPTEMBER 2002

	Page
SOLAR ACTIVE REGIONS	
Solar Synoptic Charts	46- 51
Daily Activity Solar Maps	52- 81
Preliminary NSO/KP Coronal Hole Daily Maps	82- 85
Nobeyama Daily Radioheliograph Images at 17 GHz	86- 90
Sunspot Groups	91-117
 SUDDEN IONOSPHERIC DISTURBANCES	 118-119
 SOLAR RADIO SPECTRAL OBSERVATIONS	 120-148
 SOLAR RADIOHELIOGRAPH - 164 AND 327 MHz - NANCAY	 149-151
 COSMIC RAY MEASUREMENTS BY NEUTRON MONITOR	
Daily Counting Rates	152
Chart of Variations	153-158
Graph and Table of Monthly Mean Moscow Data Jan 1958-Sep 2002	159
 GEOMAGNETIC INDICES	
Geomagnetic Activity Indices	160
Daily Average Ap	161
Chart of Kp by 27-day Rotation	162
Table of Monthly aa Index (1950 to present)	163
Chart of 3-hourly Km and aa by 27-day Rotation	164
 Provisional Values of Hourly Equatorial Dst	 165
Polar Cap (PC) Geomagnetic Index Plot of 15-min values – Thule	166
-- Plot of 1-min values – Vostok	167
 Principal Magnetic Storms	 168
Sudden Commencements/Solar Flare Effects	169

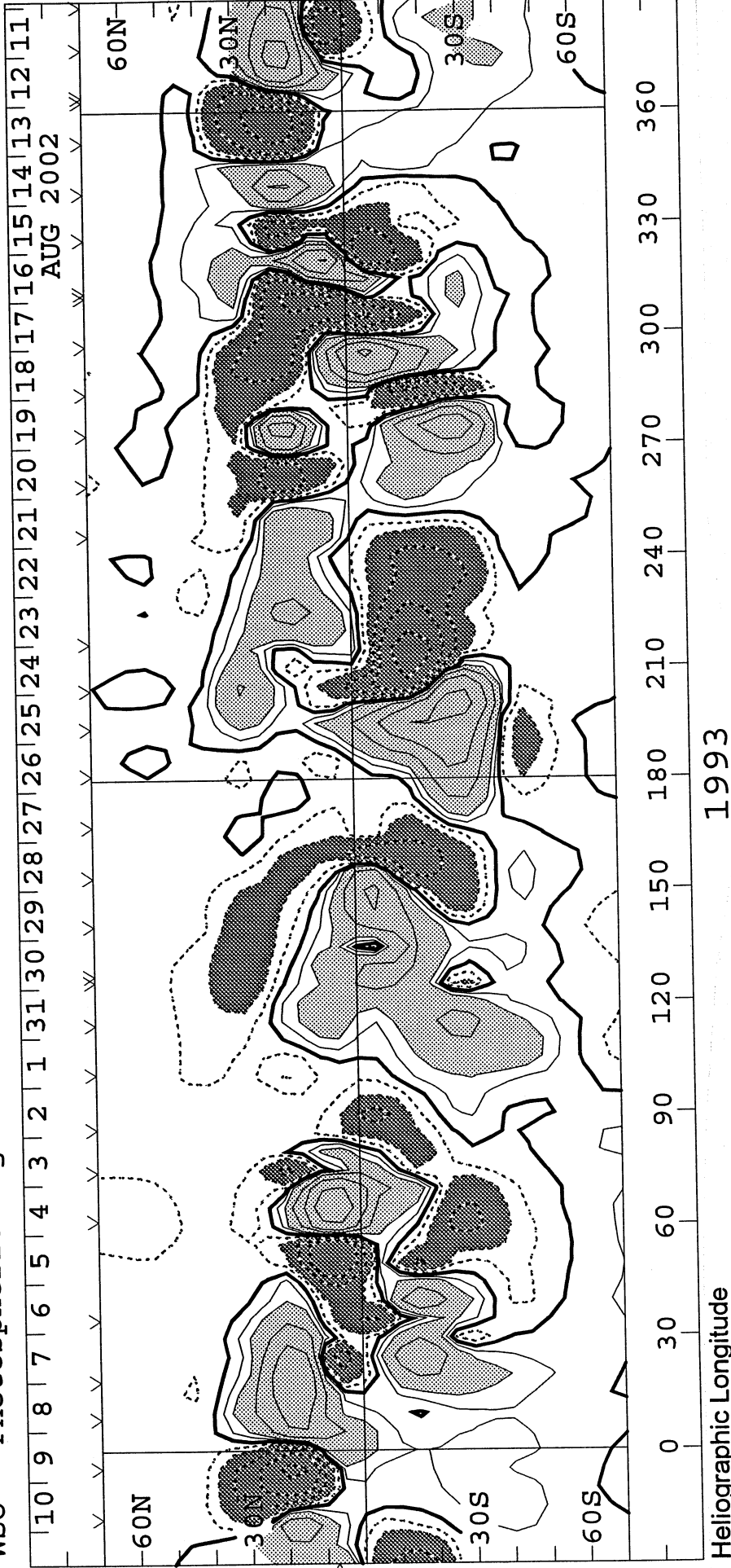
SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION NUMBER 1993
(13 August to 9 September 2002)

WILCOX SOLAR OBSERVATORY

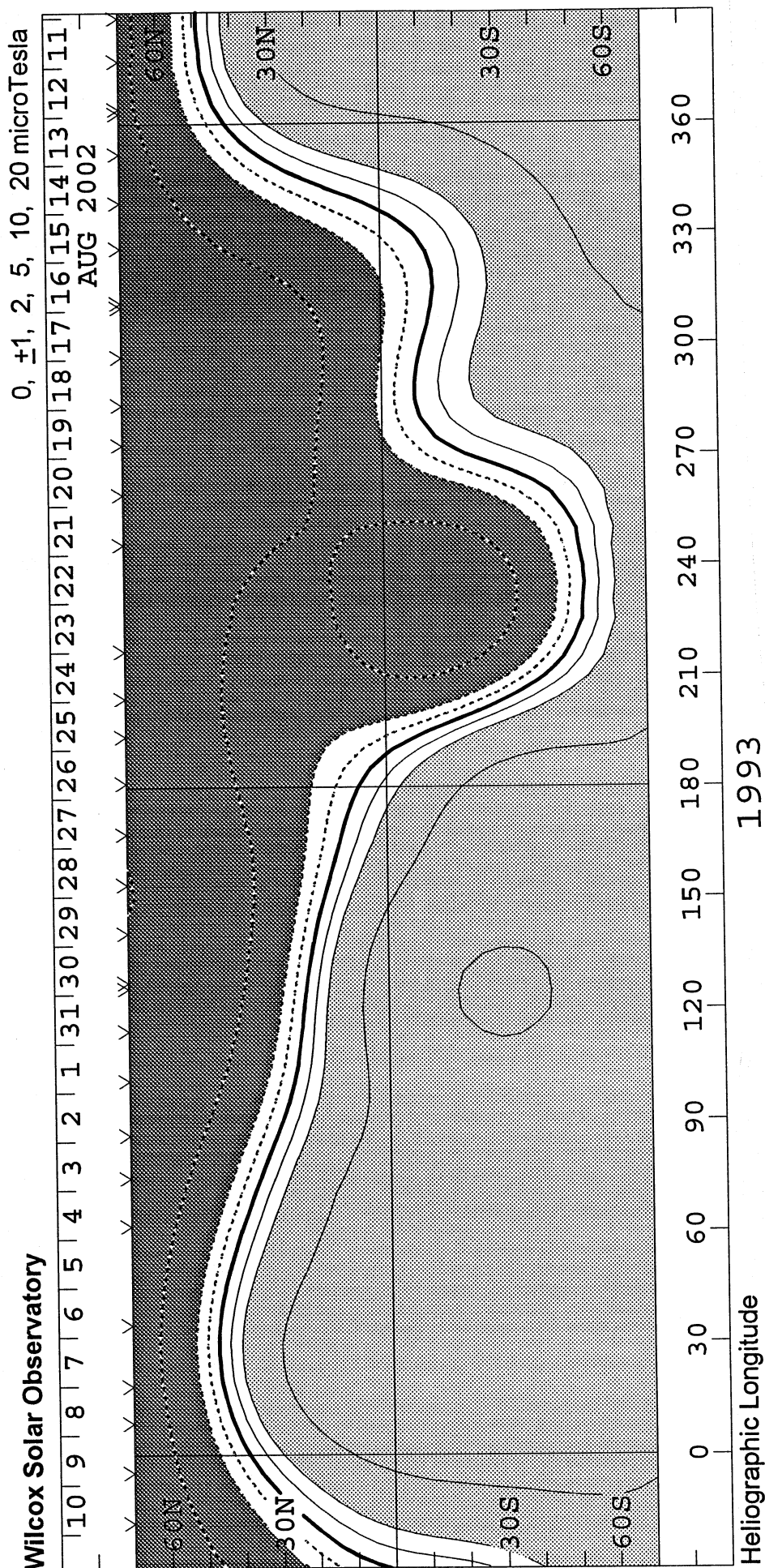
Mean Field



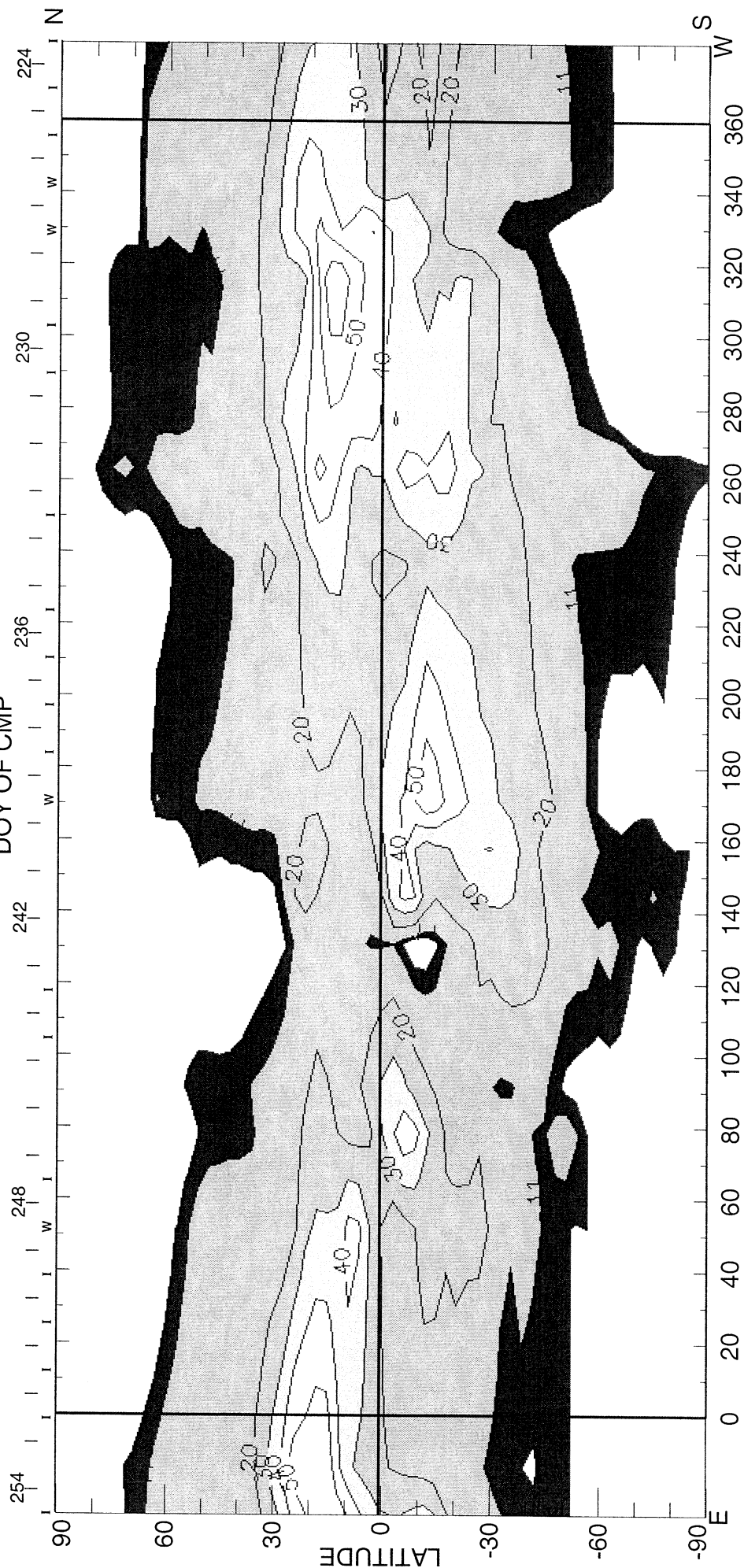
WSO - Photospheric Magnetic Field 0, +100, 200, 500, 1000, 2000 MicroTesla



SOLAR MAGNETIC FIELD SYNOPTIC CHART **SOURCE SURFACE FIELD** CARRINGTON ROTATION NUMBER 1993 (13 August to 9 September 2002)

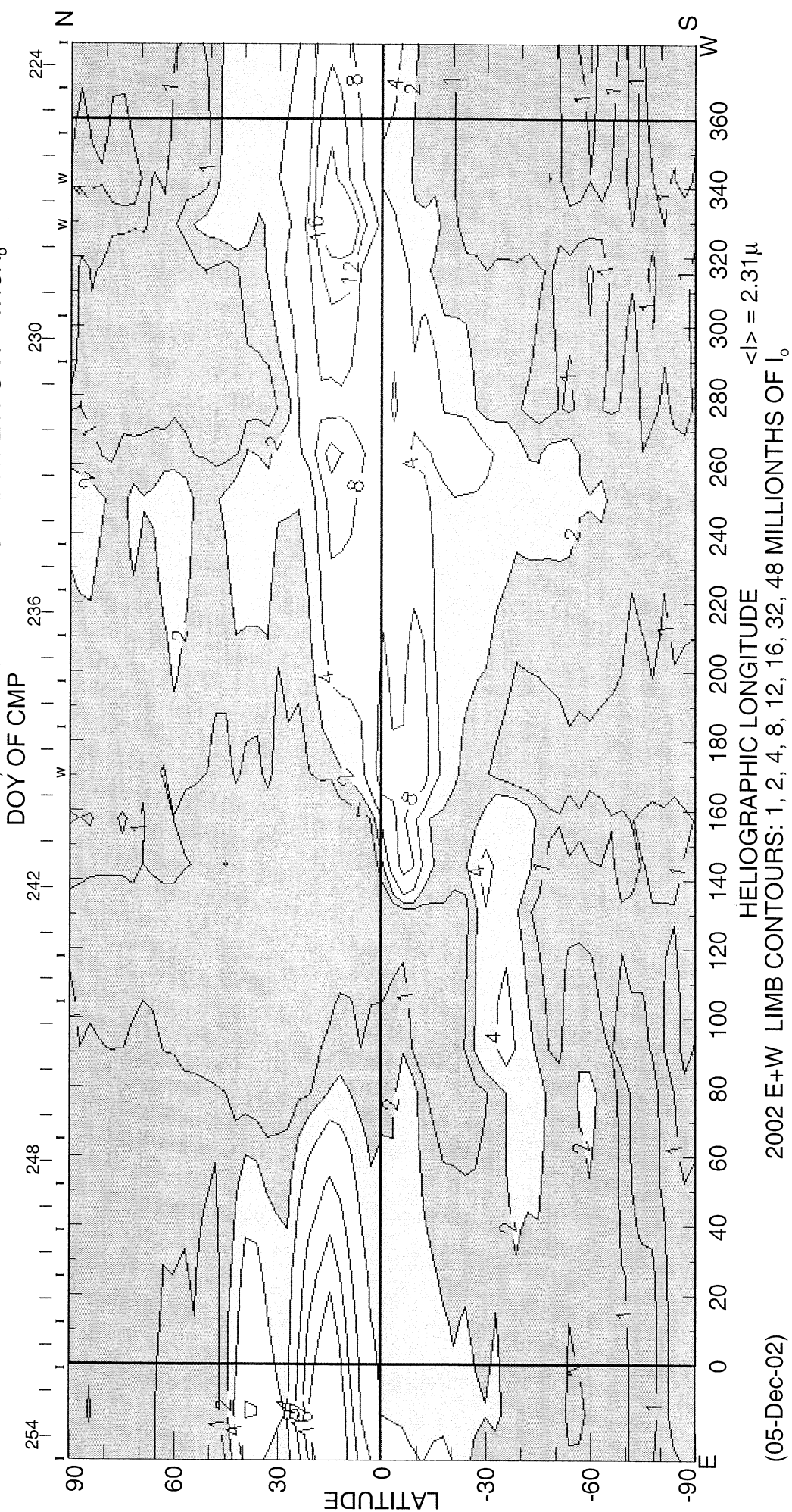


CARRINGTON ROTATION NUMBER 1993 ; NSO/SACRAMENTO PEAK FE XIV @ $R = 1.15R_{\odot}$
DOY OF CMP



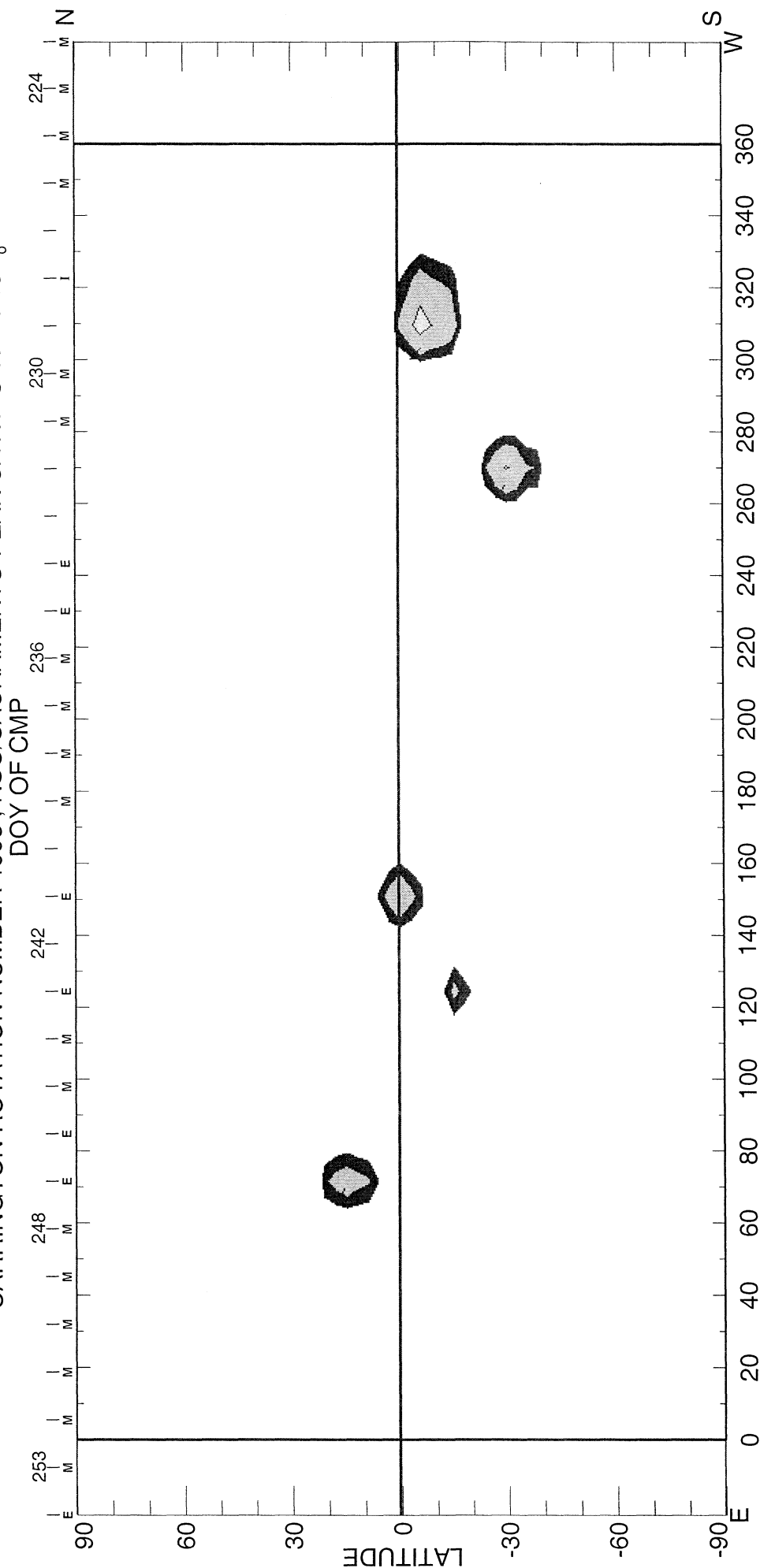
HELIOGRAPHIC LONGITUDE
2002 E+W LIMB CONTOURS: 8, 11, 20, 30, 40, 50, 60, 80, 100, 120, 140 MILLIONTHS OF $I_{\odot}$
CORONAL HOLES ARE SHOWN AS WHITE BORDERED BY BLACK

CARRINGTON ROTATION NUMBER 1993; NSO/SACRAMENTO PEAK FEX @ $R = 1.15R_{\odot}$



HELIOGRAPHIC LONGITUDE
2002 E+W LIMB CONTOURS: 1, 2, 4, 8, 12, 16, 32, 48 MILLIONTHS OF I_0
 $\langle I \rangle = 2.31\mu$

(05-Dec-02)



2002 W+E LIMB CONTOURS: YELMIN, 1, 2, 3, 4, 6, 8, 10, 12, 14, 16, 18, 20 MILLIONTHS OF I_0
(05-Dec-02)

SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION NUMBER 1993
(13 August to 9 September 2002)

National Solar Observatory/Kitt Peak

Dates of Observation

PHOTOGRAPHIC DATA UNAVAILABLE AT TIME OF PUBLICATION.

Heliographic Longitude

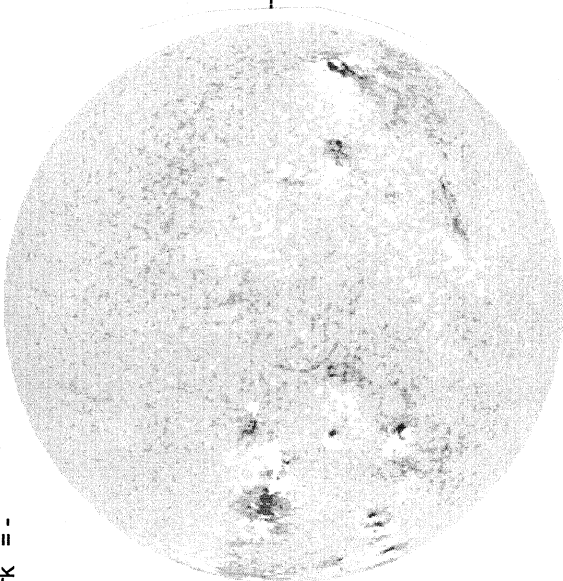
SEPTEMBER 1, 2002 (P= 21.02, Bo = 7.19, Lo = 111.02)

KITT PEAK MAGNETOGRAM

868.8 nm

N

Bright = +
Dark = -

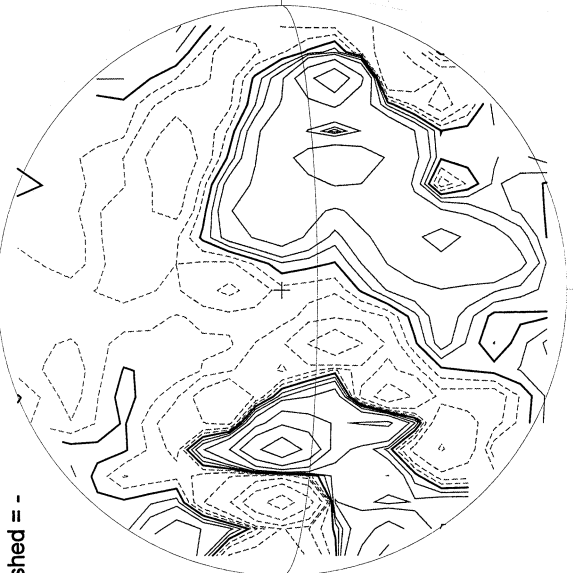


1544 UT

STANFORD MAGNETOGRAM

N

Solid = +
Dashed = -

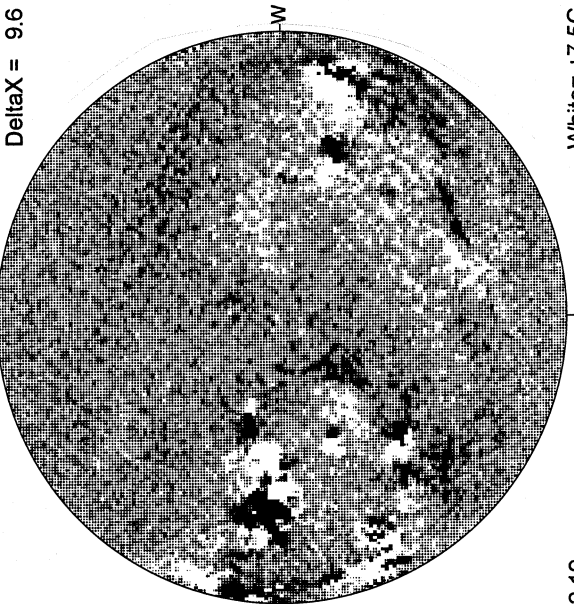


1831 UT

MT. WILSON MAGNETOGRAM

N

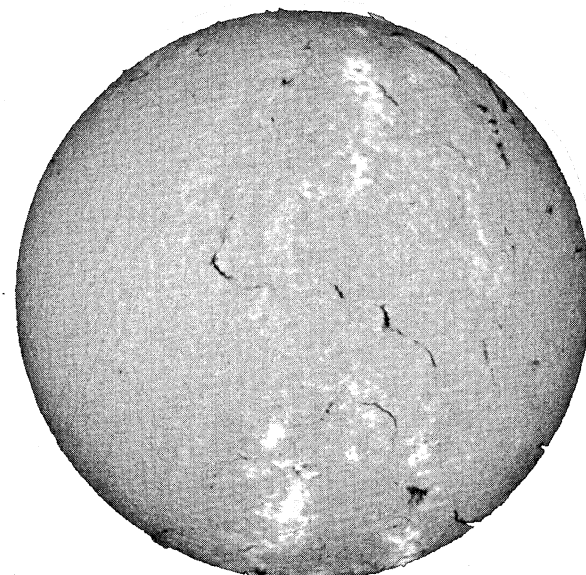
DeltaY = 13.0
DeltaX = 9.6



22.19 -
23.13 UT

White = +7.5G
Black = -7.5G

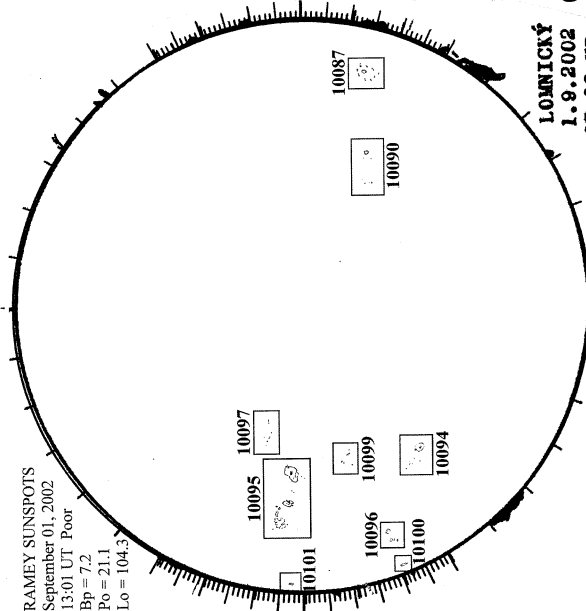
MEUDON H-ALPHA



0732 UT

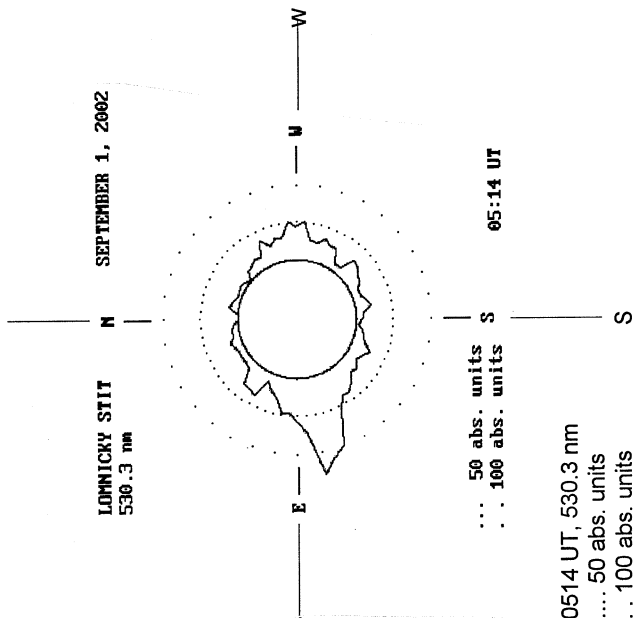
RAMEY SUNSPOT

RAMEY SUNSPOTS
September 01, 2002
13:01 UT Poor
Bp = 7.2
Po = 21.1
Lo = 104.3



1301 UT

LOMNICKY PEAK CORONA (1.04 Radii)---



05:14 UT

... 50 abs. units
.. 100 abs. units

0514 UT, 530.3 nm
... 50 abs. units
.. 100 abs. units

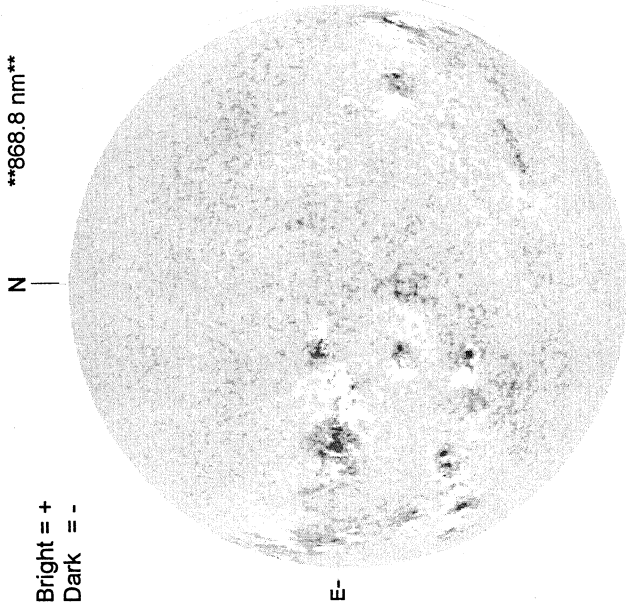
LOMNICKÝ STIT
530.3 nm

SEPTEMBER 1, 2002

SEPTEMBER 2, 2002 (P= 21.27, Bo = 7.21, Lo = 97.81)

KITT PEAK MAGNETOGRAM

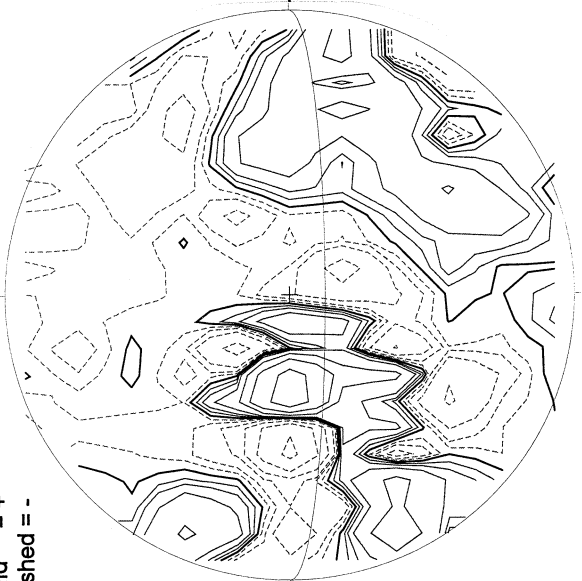
868.8 nm



Bright = +
Dark = -

STANFORD MAGNETOGRAM

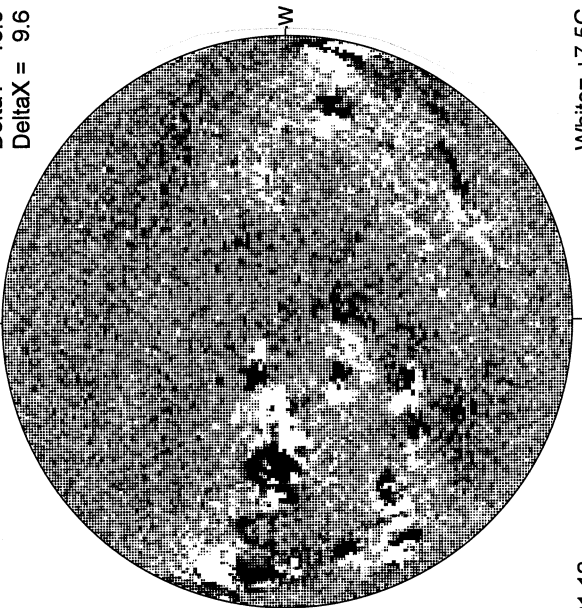
Solid = +
Dashed = -



1523 UT

MT. WILSON MAGNETOGRAM

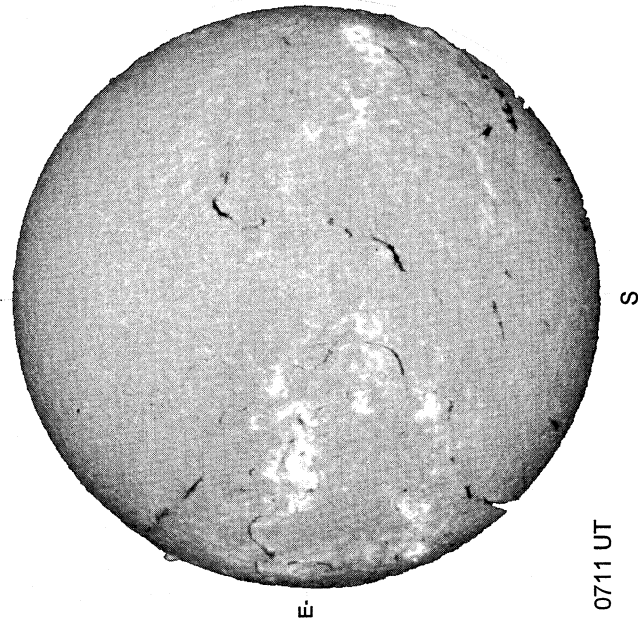
Delta Y = 13.0
Delta X = 9.6



White = +7.5G
Black = -7.5G

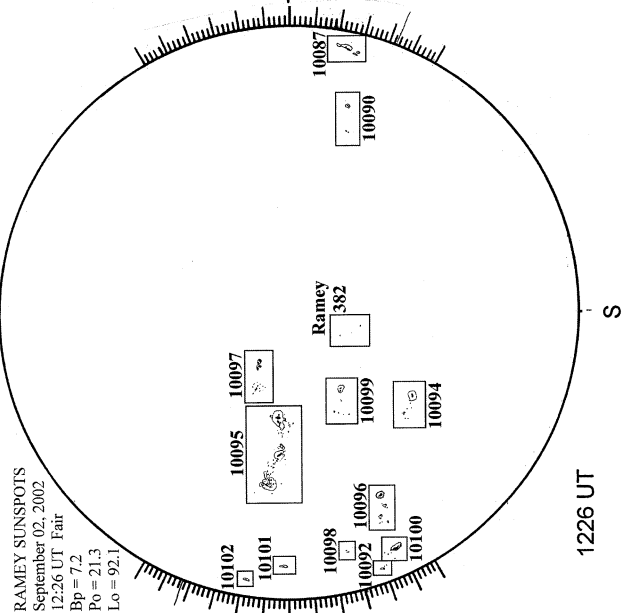
21.12 -
22.05 UT

MEUDON H-ALPHA



0711 UT

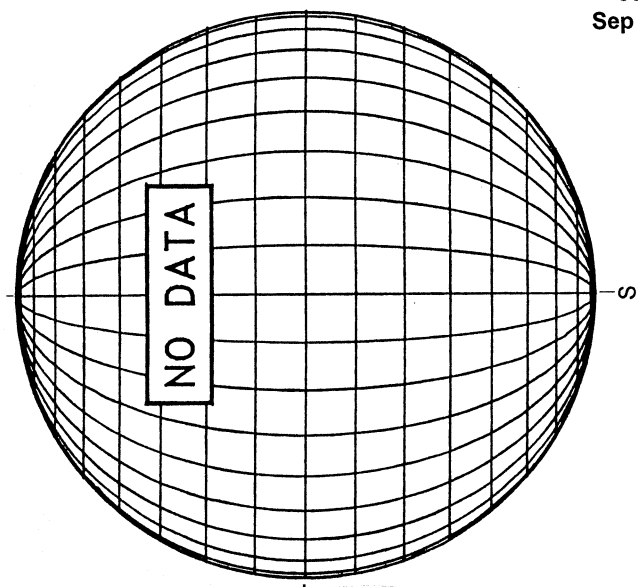
RAMEY SUNSPOT



1226 UT

RAMEY SUNSPOTS
September 02, 2002
12:26 UT Fair
Bp = 7.2
Po = 21.3
Lo = 92.1

LOMNICKY PEAK CORONA (1.04 Radii)----



53
Sep 02

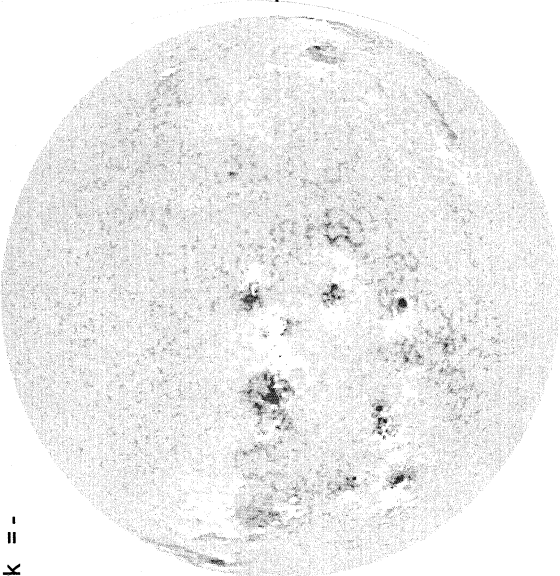
SEPTEMBER 3, 2002 (P= 21.52, Bo = 7.22, Lo = 84.60)

54
Sep 02

KITT PEAK MAGNETOGRAM

868.8 nm

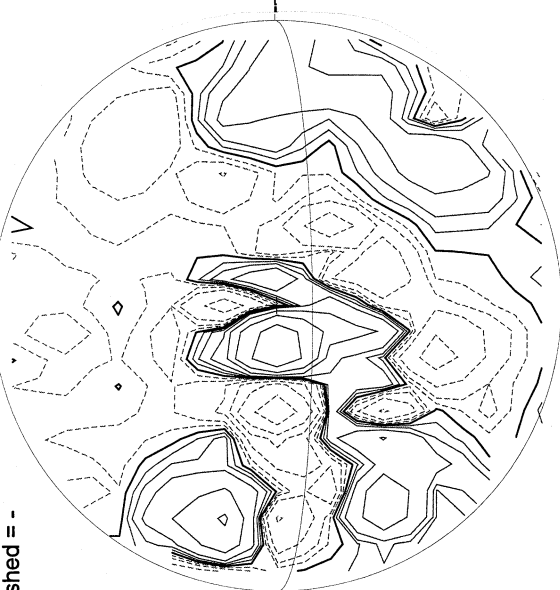
Bright = +
Dark = -



1553 UT

STANFORD MAGNETOGRAM

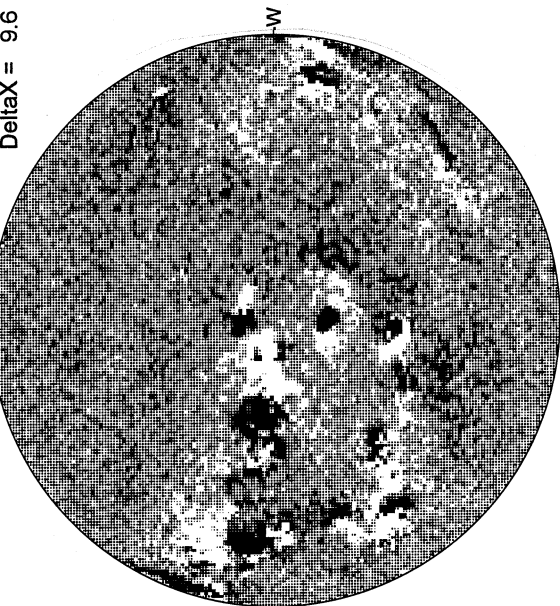
Solid = +
Dashed = -



1823 UT

MT. WILSON MAGNETOGRAM

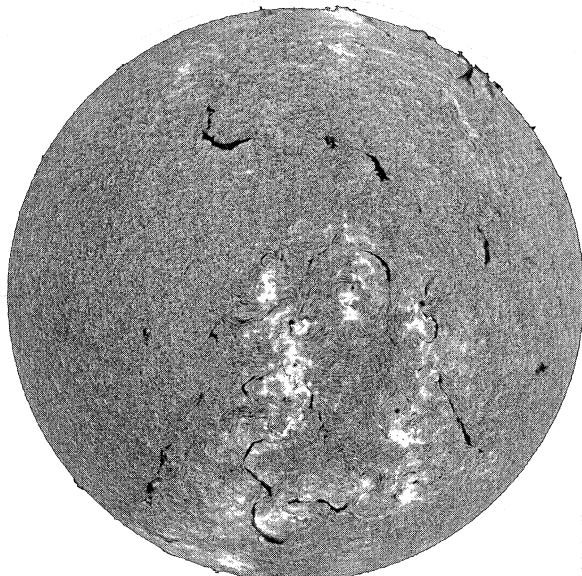
DeltaY = 13.0
DeltaX = 9.6



16.66 -
17.60 UT

White = +7.5G
Black = -7.5G

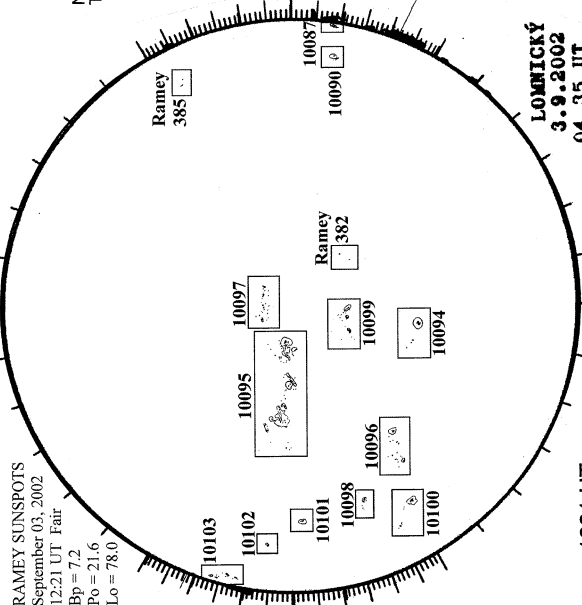
BIG BEAR H-ALPHA



1550 UT

RAMEY SUNSPOT

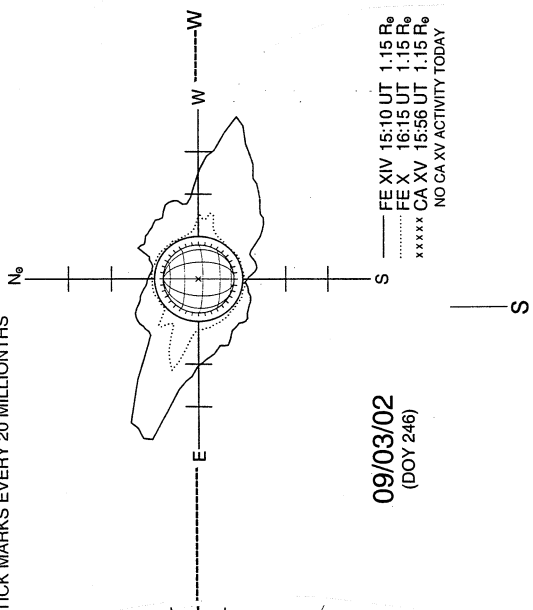
RAMEY SUNSPOTS
September 03, 2002
12:21 UT Fair
Bp = 7.2
Po = 21.6
Lo = 78.0



1221 UT
0435 UT LOMN Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS



09/03/02
(DOY 246)

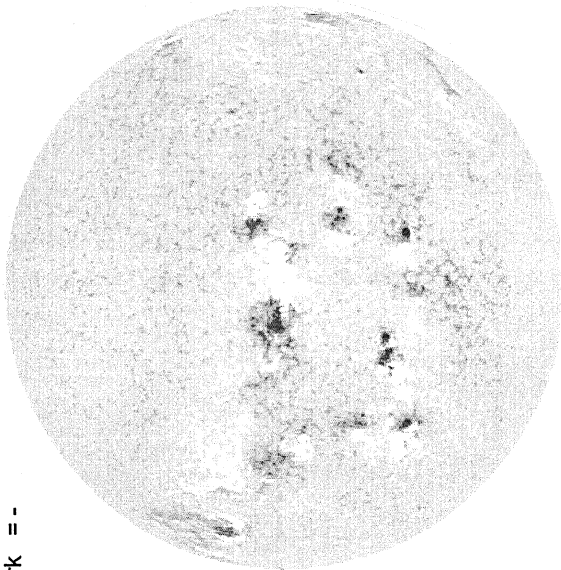
— FE XIV 15:10 UT 1.15 R_o
..... FE X 16:15 UT 1.15 R_o
xxxxx CA XV 15:56 UT 1.15 R_o
NO CA XV ACTIVITY TODAY

SEPTEMBER 4, 2002 (P= 21.76, Bo = 7.23, Lo = 71.39)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



1557 UT

STANFORD MAGNETOGRAM

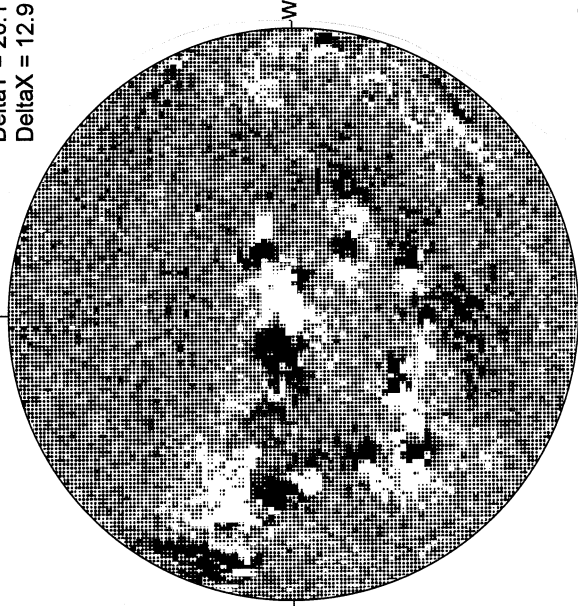
Solid = +
Dashed = -



1752 UT

MT. WILSON MAGNETOGRAM

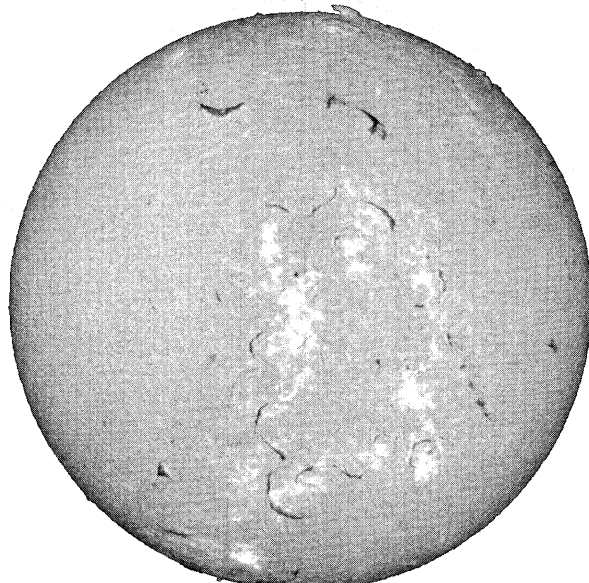
DeltaY = 20.1
DeltaX = 12.9



17.03 -
17.44 UT

White= +7.5G
Black= -7.5G

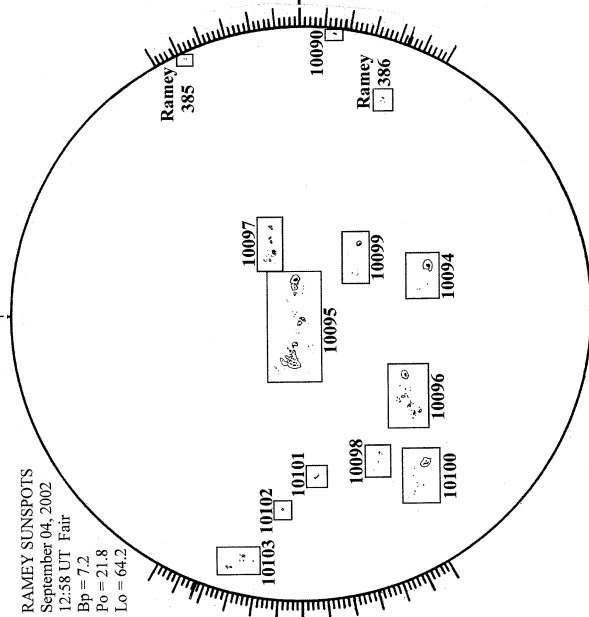
MEUDON H-ALPHA



1104 UT

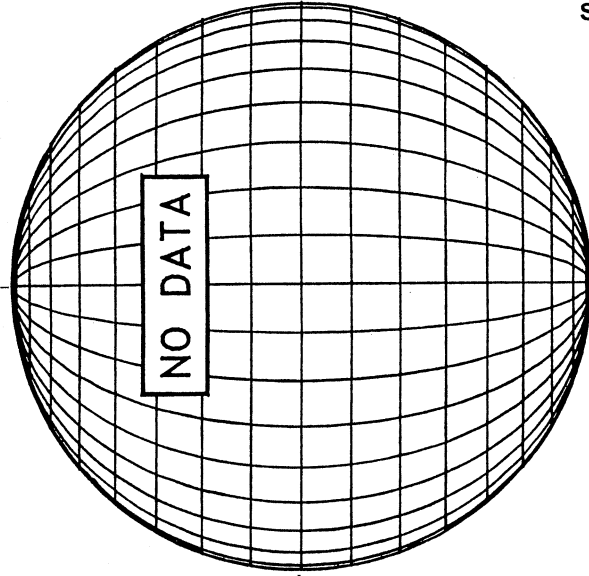
RAMEY SUNSPOT

RAMEY SUNSPOTS
September 04, 2002
12:58 UT Fair
Bp = 7.2
Po = 21.8
Lo = 64.2



1258 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



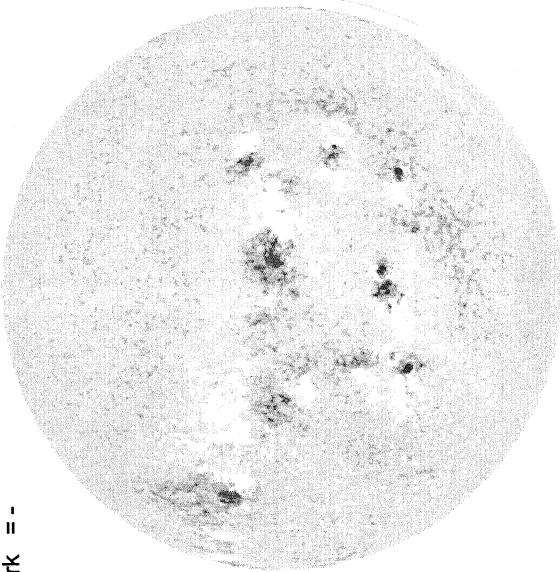
55
Sep 02

SEPTEMBER 5, 2002 (P= 21.99, Bo = 7.24, Lo = 58.19)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -

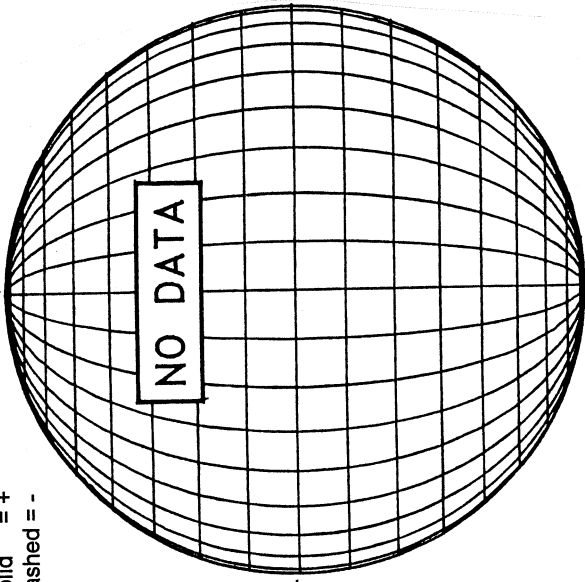


E-

1707 UT

STANFORD MAGNETOGRAM

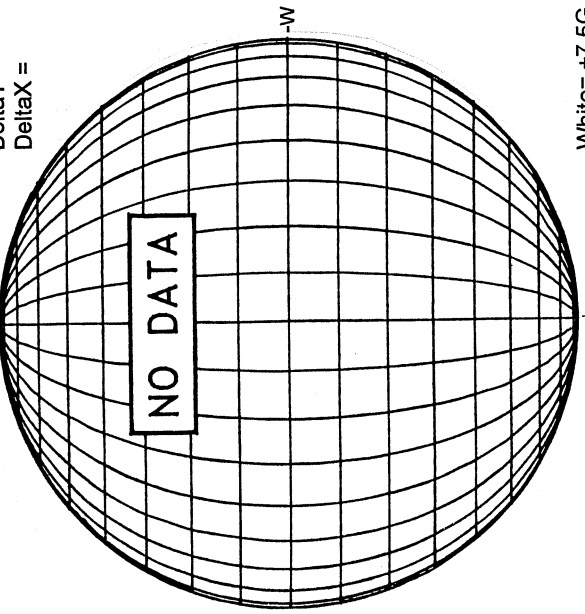
Solid = +
Dashed = -



NO DATA

MT. WILSON MAGNETOGRAM

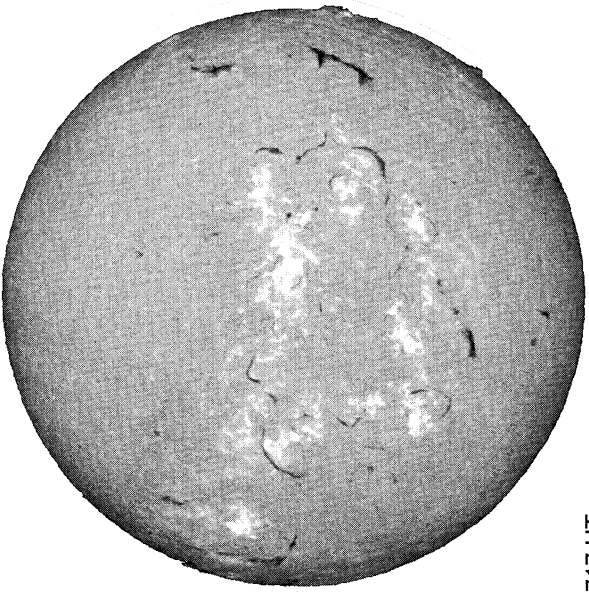
Delta Y =
Delta X =



NO DATA

White = +7.5G
Black = -7.5G

MEUDON H-ALPHA

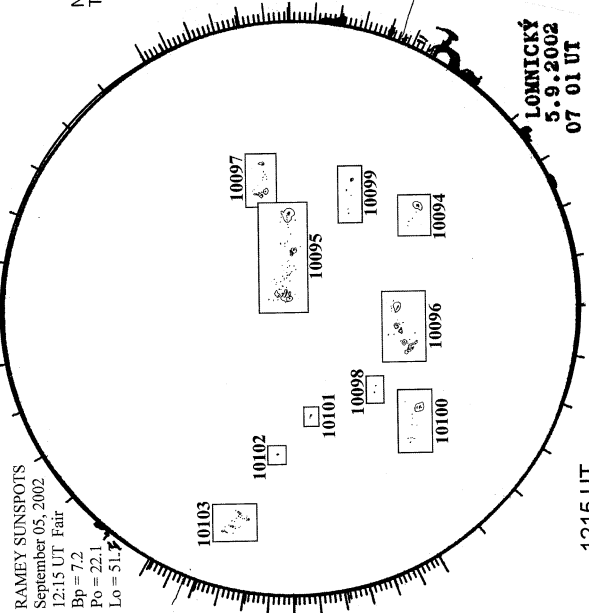


E-

0717 UT

RAMEY SUNSPOT

RAMEY SUNSPOTS
September 05, 2002
12:15 UT Fair
Bp = 7.2
Po = 22.1
Lo = 51.7

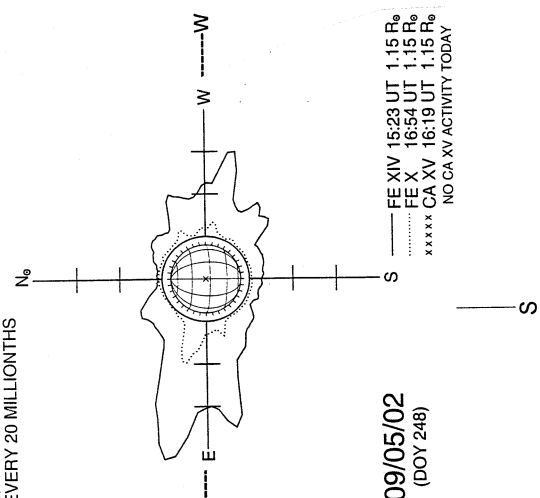


LOMNICKY
5.9.2002
07 01 UT

1215 UT
0701 UT LOMN Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS



09/05/02
(DOY 248)

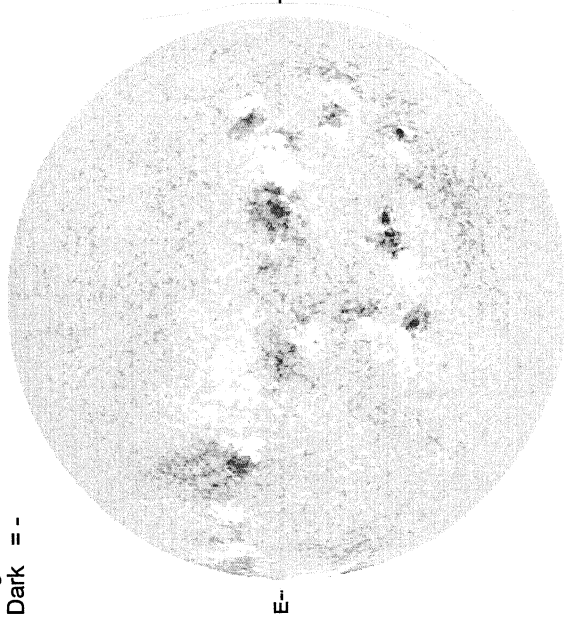
FE XIV 15:23 UT 1.15 R_o
FE X 16:54 UT 1.15 R_o
***** CA XV 16:19 UT 1.15 R_o
NO CA XV ACTIVITY TODAY

SEPTEMBER 6, 2002 (P= 22.22, Bo = 7.24, Lo = 44.98)

KITT PEAK MAGNETOGRAM

868.8 nm

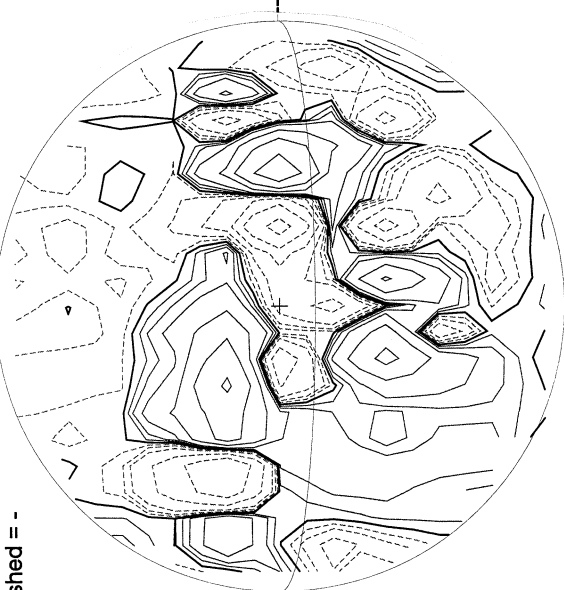
Bright = +
Dark = -



1609 UT

STANFORD MAGNETOGRAM

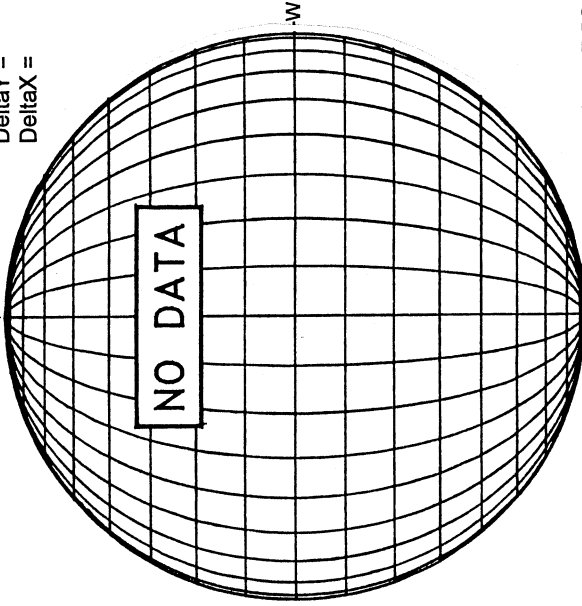
Solid = +
Dashed = -



1825 UT

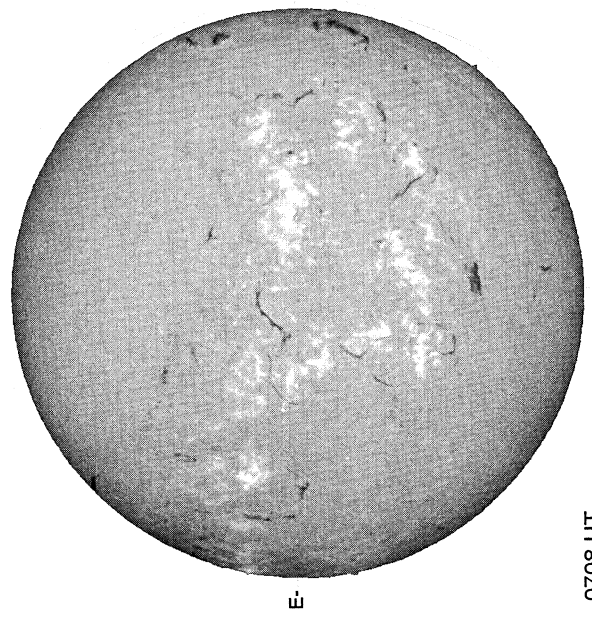
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =



White = +7.5G
Black = -7.5G

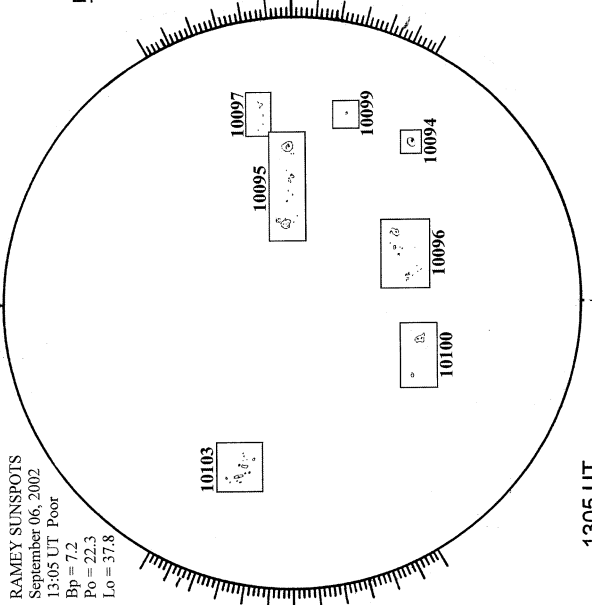
MEUDON H-ALPHA



0708 UT

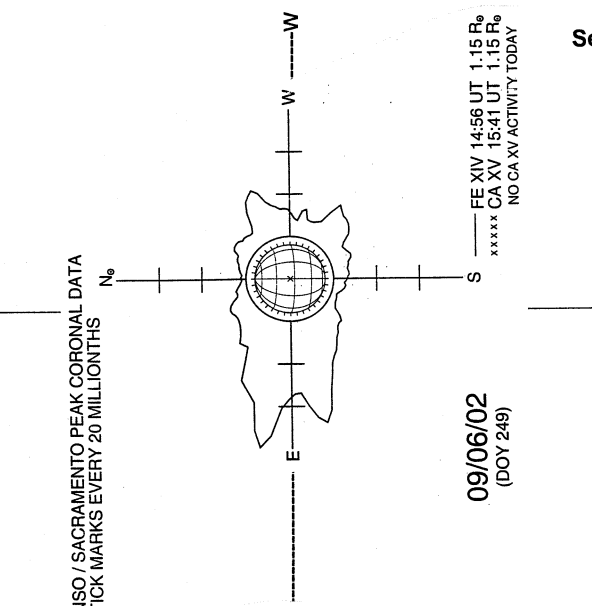
RAMEY SUNSPOT

RAMEY SUNSPOTS
September 06, 2002
13:05 UT Poor
Bp = 7.2
Po = 22.3
Lo = 37.8



1305 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



1305 UT

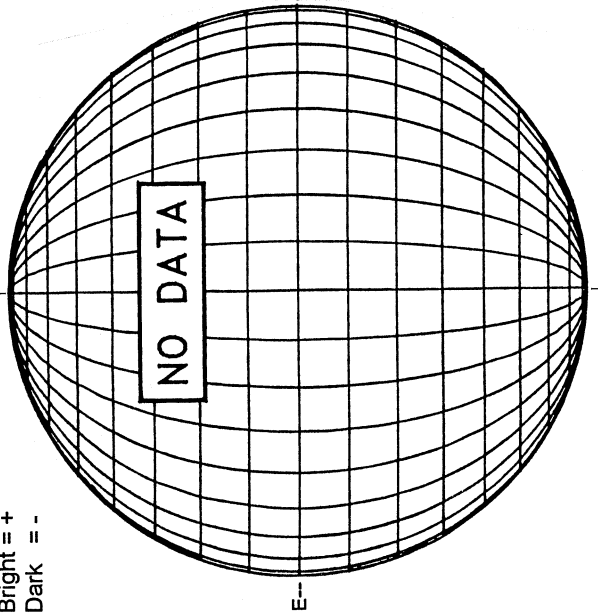
SEPTEMBER 7, 2002 (P= 22.45, Bo = 7.25, Lo = 31.77)

58
Sep 02

KITT PEAK MAGNETOGRAM

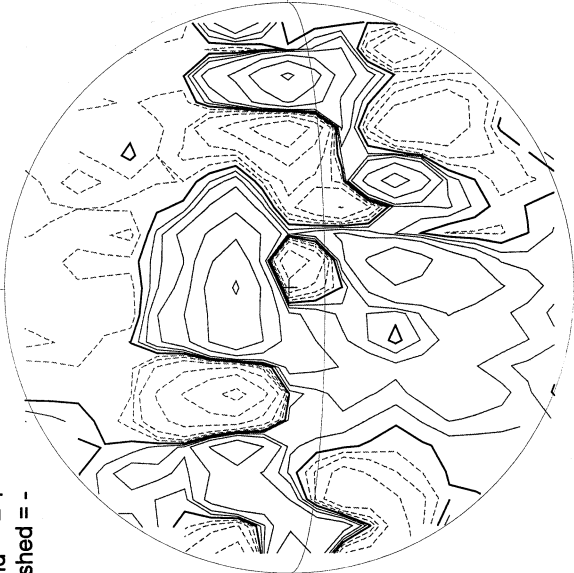
868.8 nm

Bright = +
Dark = -



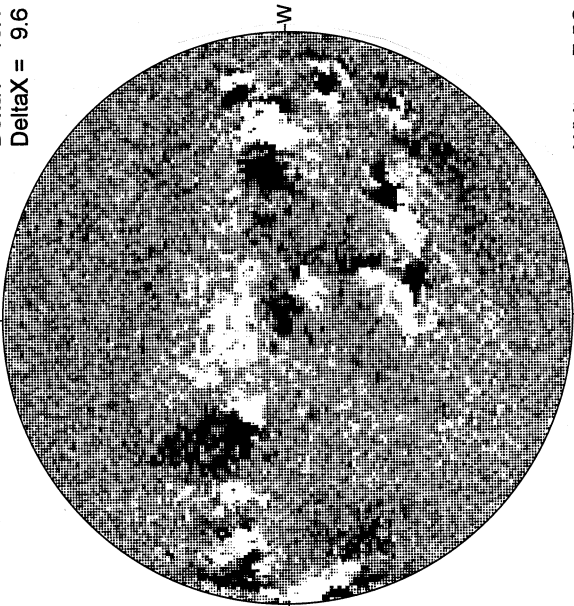
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

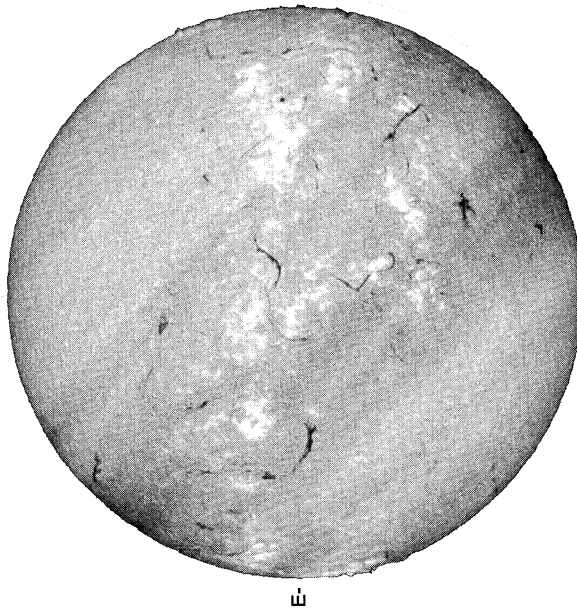
DeltaY = 13.1
DeltaX = 9.6



White= +7.5G
Black = -7.5G

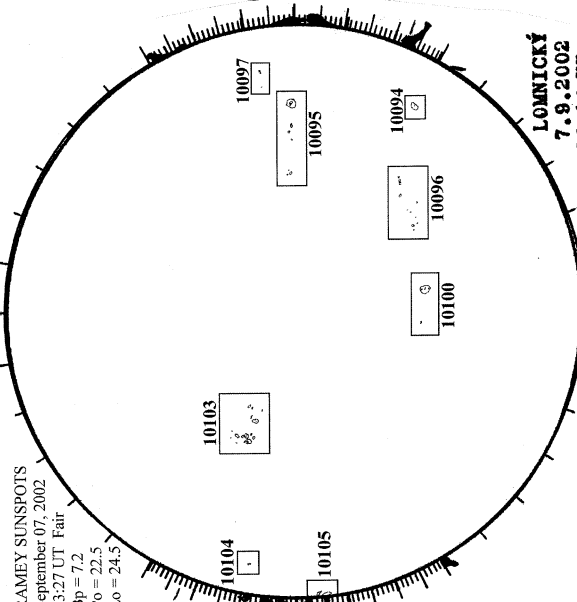
17.46 -
18.40 UT

MEUDON H-ALPHA



0708 UT

RAMEY SUNSPOTS

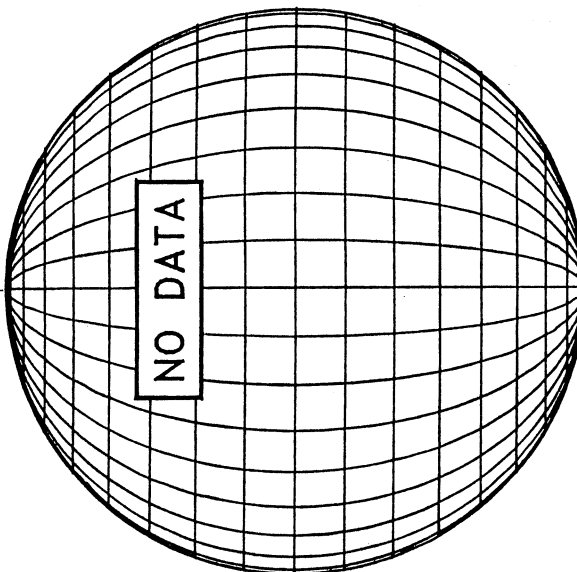


RAMEY SUNSPOTS
September 07, 2002
13:27 UT Fair
Bp = 7.2
Po = 22.5
Lo = 24.5

LOMNICKY
7.9.2002
10 14 UT

1327 UT
1014 UT LOMN Prom

SACRAMENTO PEAK CORONA (1.15 Radii)---

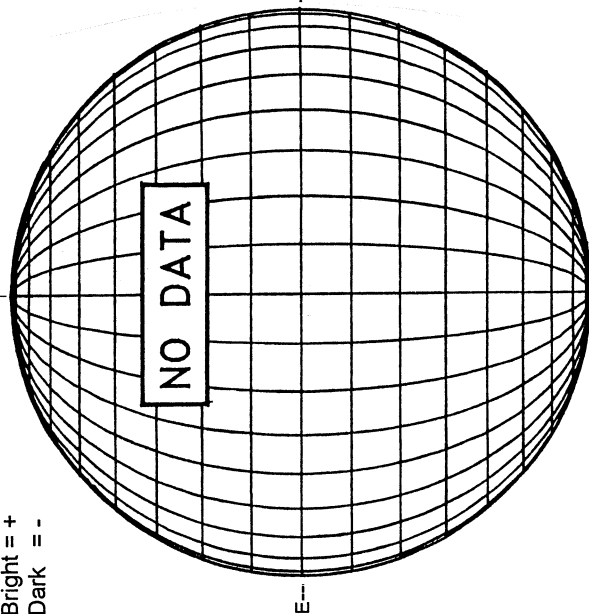


SEPTEMBER 8, 2002 (P = 22.66, Bo = 7.25, Lo = 18.57)

KITT PEAK MAGNETOGRAM

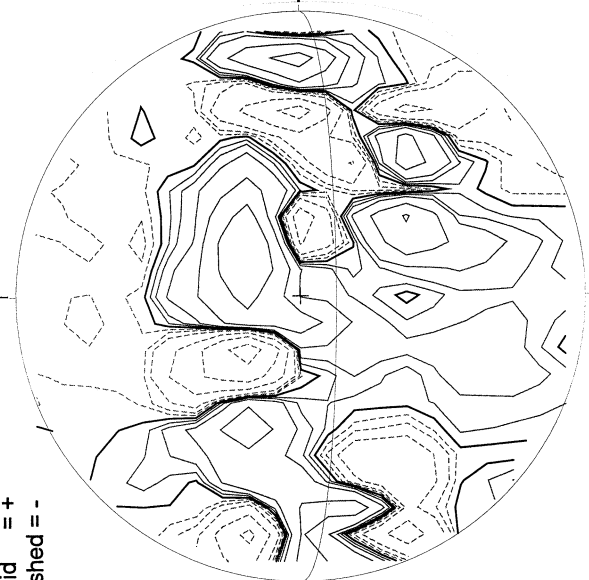
868.8 nm

Bright = +
Dark = -



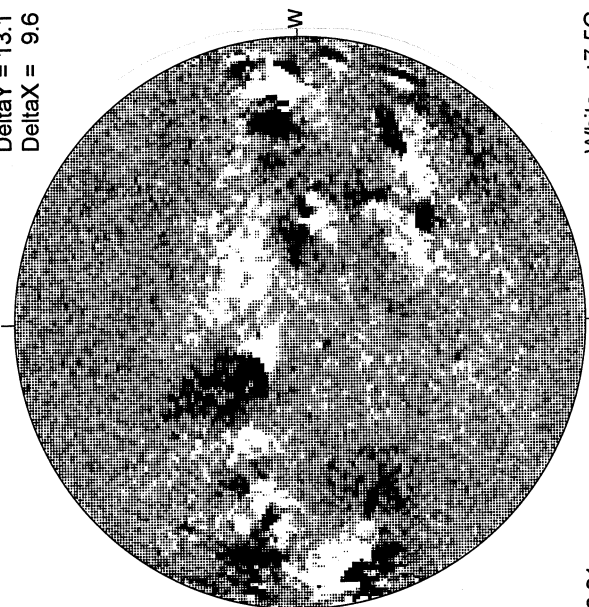
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

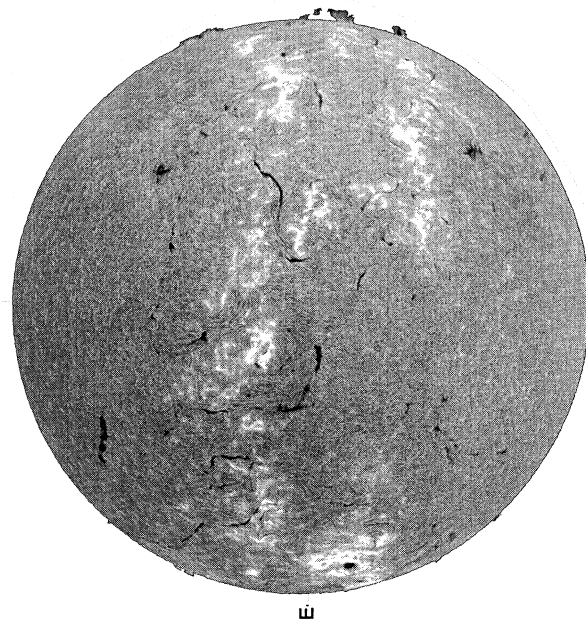
DeltaY = 13.1
DeltaX = 9.6



20.31 -
21.25 UT

White = +7.5G
Black = -7.5G

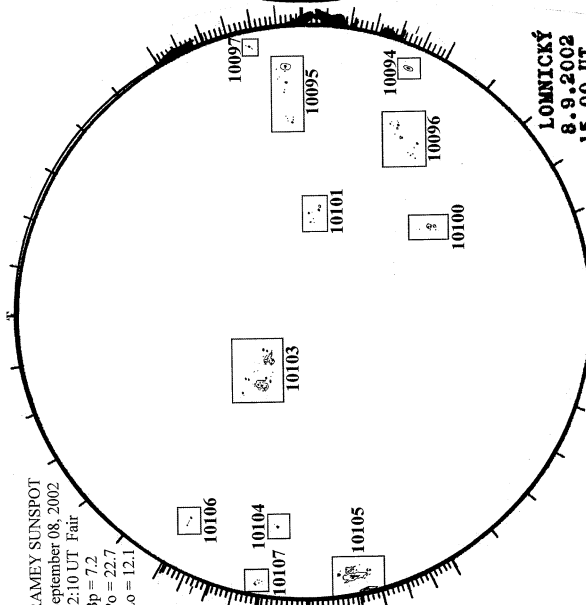
BIG BEAR H-ALPHA



1825 UT

RAMEY SUNSPOT

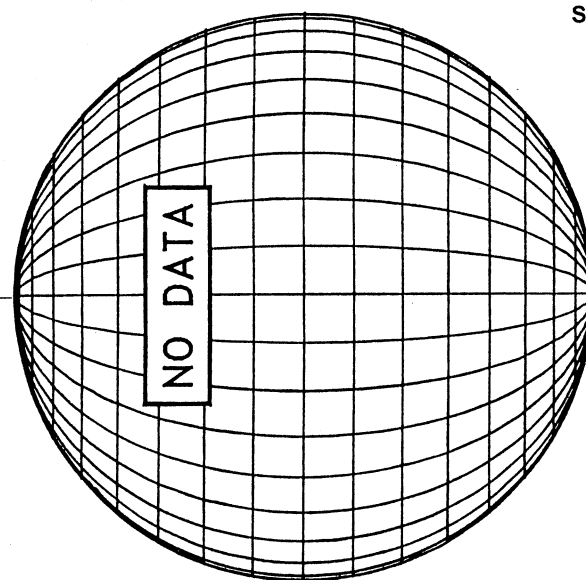
RAMEY SUNSPOT
September 08, 2002
12:10 UT Fair
Bp = 7.2
Po = 22.7
Lo = 12.1



1210 UT

1500 UT LOMN Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)



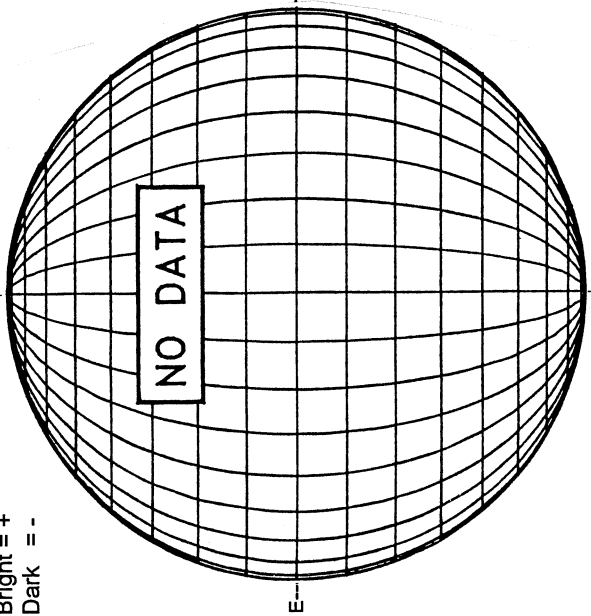
60
Sep 02

SEPTEMBER 9, 2002 (P = 22.88, Bo = 7.25, Lo = 5.36)

KITT PEAK MAGNETOGRAM

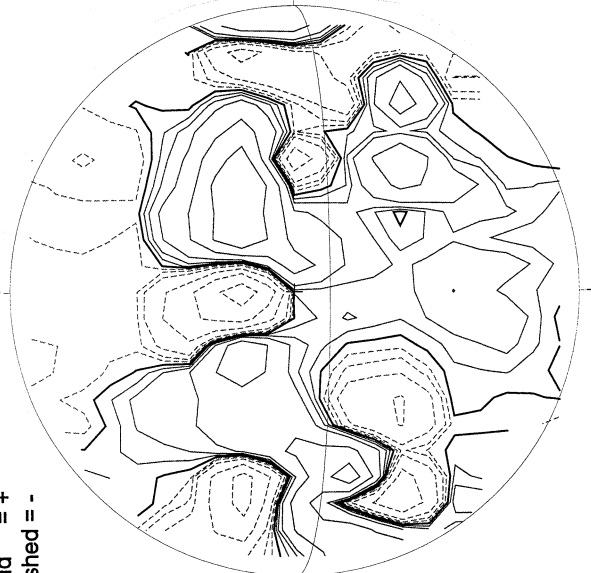
**868.8 nm

Bright = +
Dark = -



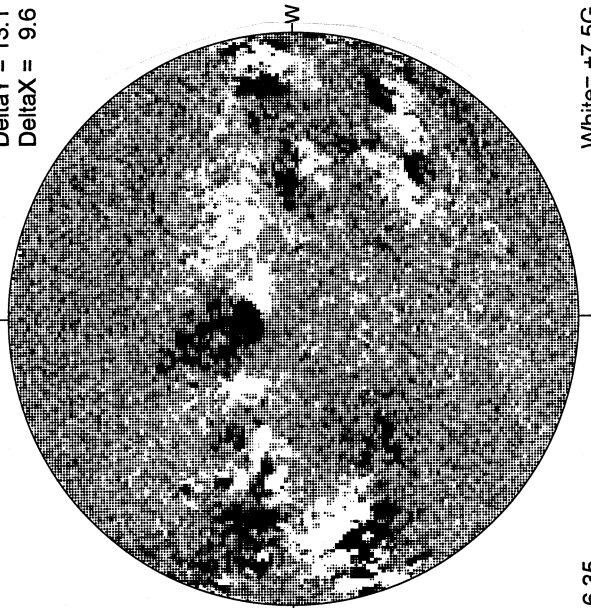
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

DeltaY = 13.1
DeltaX = 9.6



16.35 -
17.29 UT

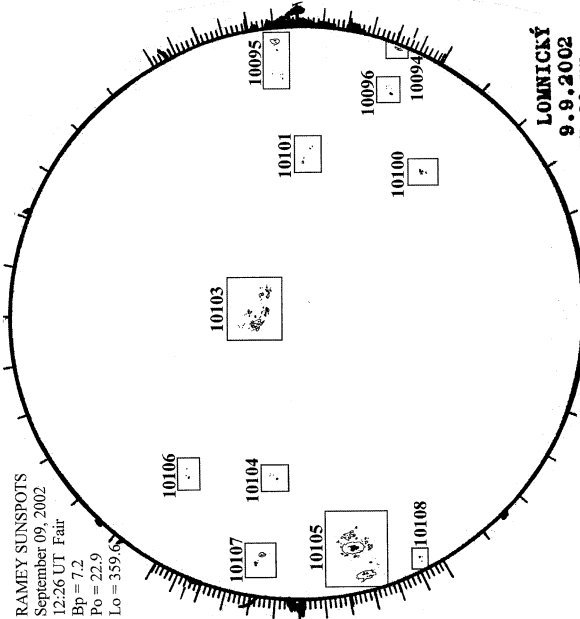
White = +7.5G
Black = -7.5G

MEUDON H-ALPHA



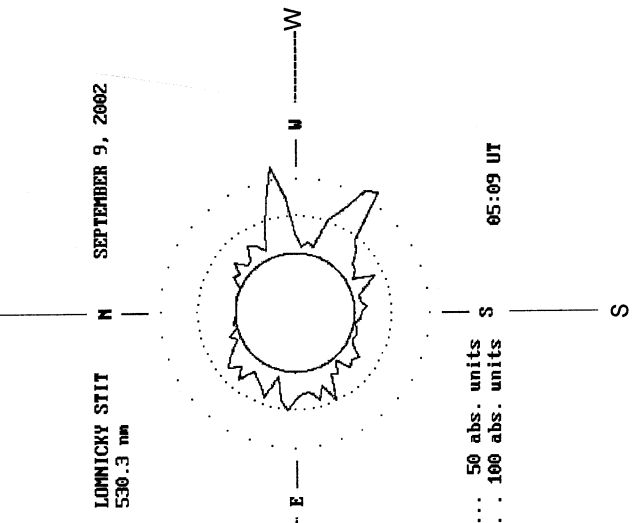
1126 UT

RAMEY SUNSPOT



1226 UT
0501 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)---



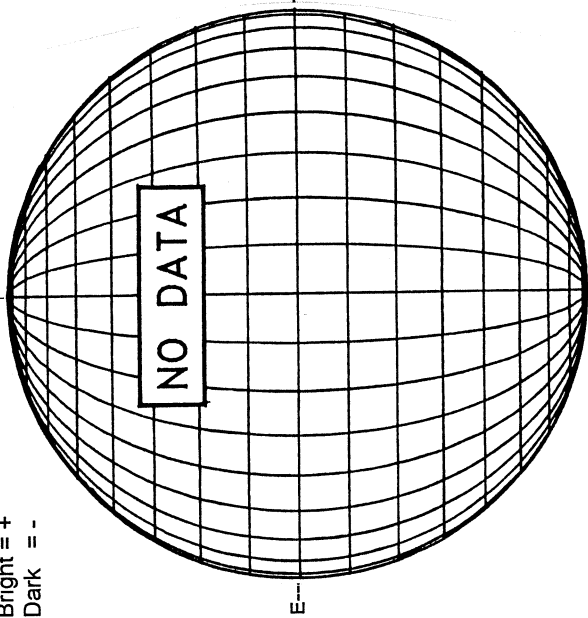
... 50 abs. units
... 100 abs. units
65:09 UT

SEPTEMBER 10, 2002 (P= 23.08, Bo = 7.25 Lo = 352.16)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



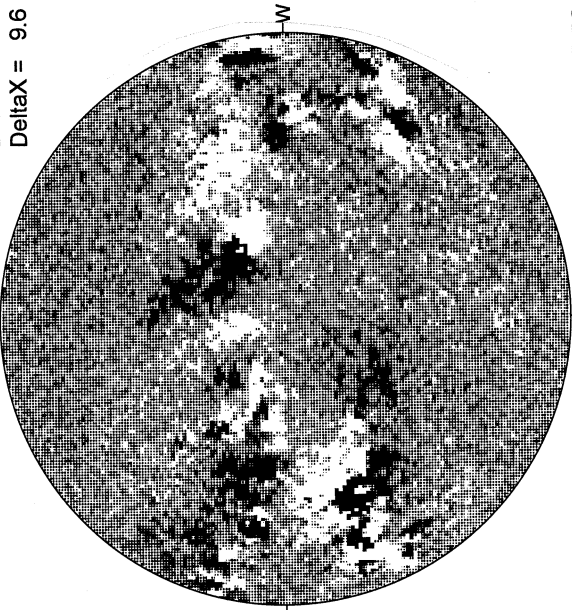
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

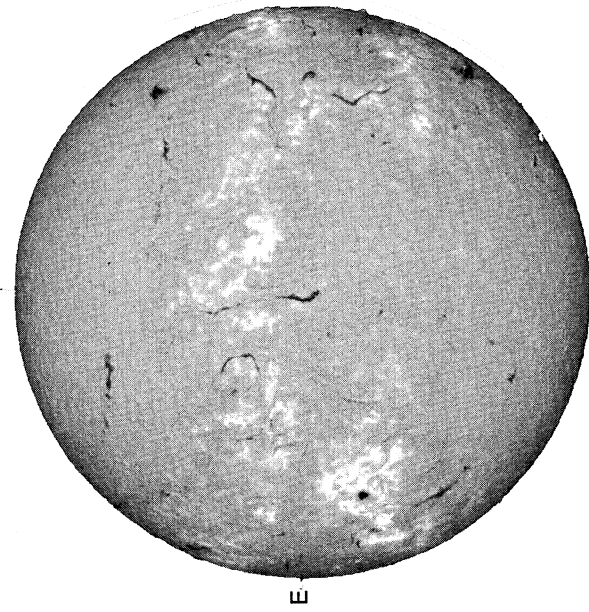
DeltaY = 13.1
DeltaX = 9.6



White = +7.5G
Black = -7.5G

16.21 -
17.15 UT

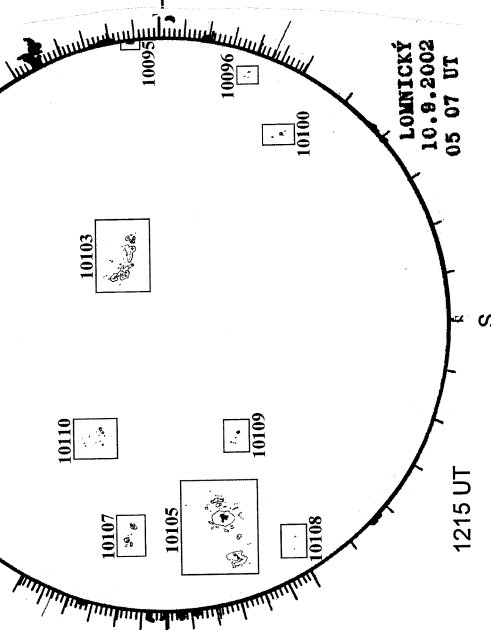
MEUDON H-ALPHA



0711 UT

RAMEY SUNSPOTS

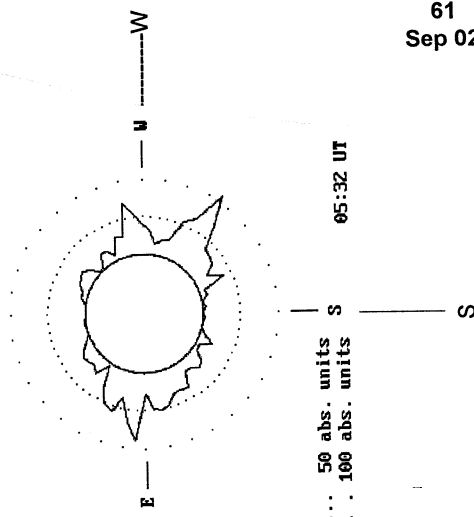
RAMEY SUNSPOTS
September 10, 2002
12:15 UT Fair
Bp = 7.2
Po = 23.1
Lo = 346.5



1215 UT

LOMNICKY PEAK CORONA (1.04 Radii)----

LOMNICKY STIT
530.3 nm
SEPTEMBER 10, 2002



50 abs. units
100 abs. units

LOMNICKY
10.9.2002
05 07 UT

05:32 UT

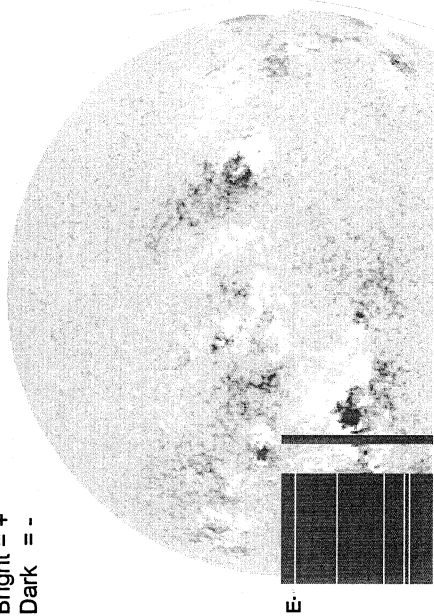
62
Sep 02

SEPTEMBER 11, 2002 (P= 23.28, Bo = 7.25, Lo = 338.95)

KITT PEAK MAGNETOGRAM

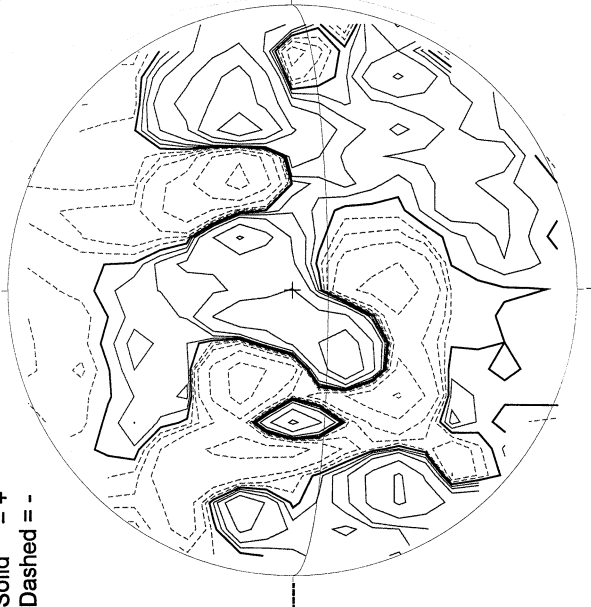
868.8 nm

Bright = +
Dark = -



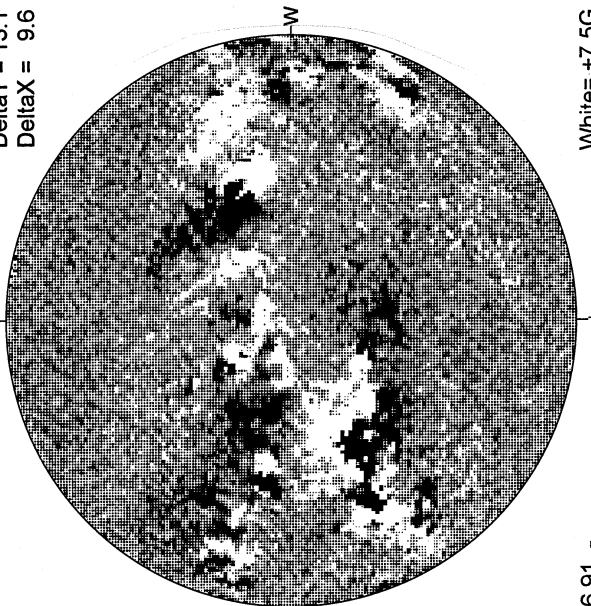
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

DeltaY = 13.1
DeltaX = 9.6



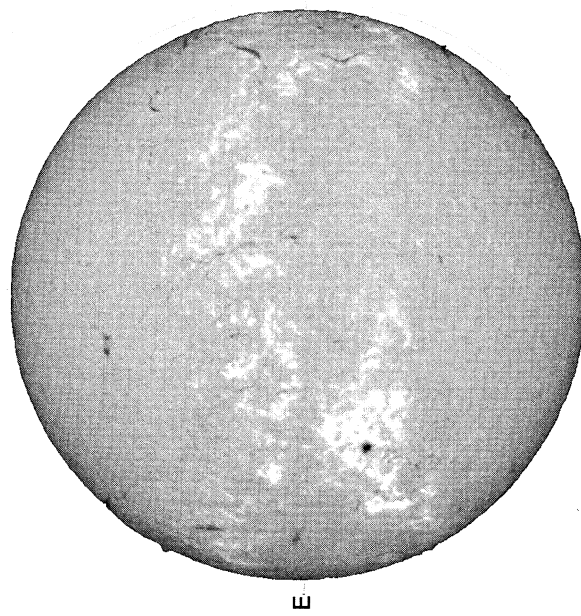
16:15 UT

18:58 UT

16:91 -
17:85 UT

White = +7.5G
Black = -7.5G

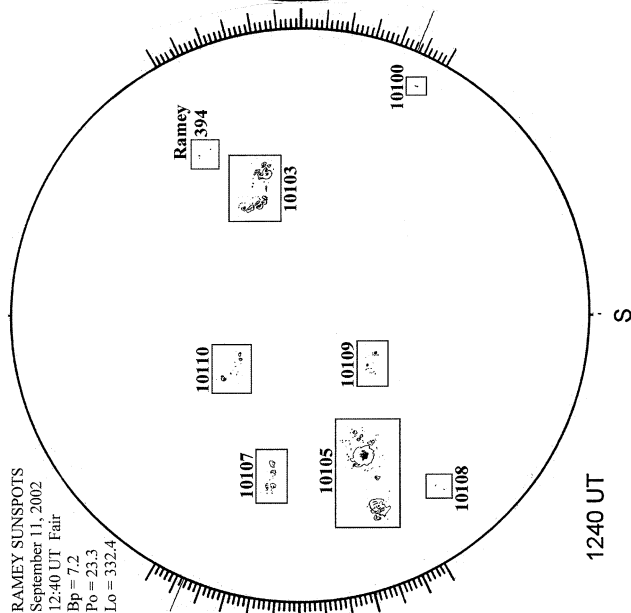
MEUDON H-ALPHA



06:22 UT

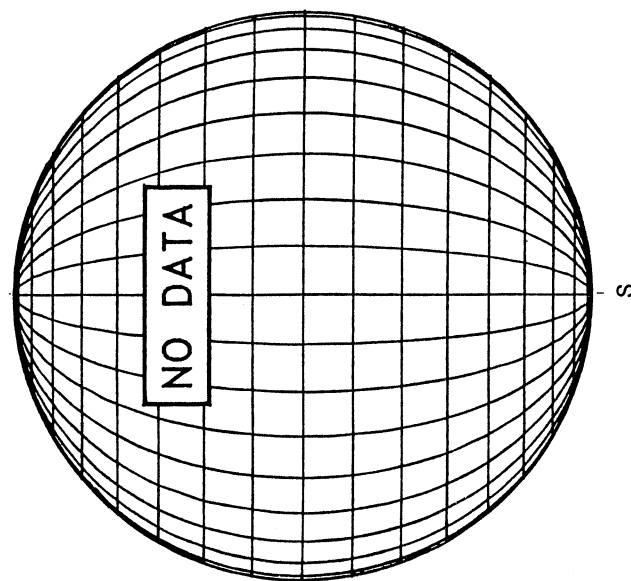
RAMEY SUNSPOTS

RAMEY SUNSPOTS
September 11, 2002
12:40 UT Fair
Bp = 7.2
Po = 23.3
Lo = 332.4



12:40 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



64
Sep 02

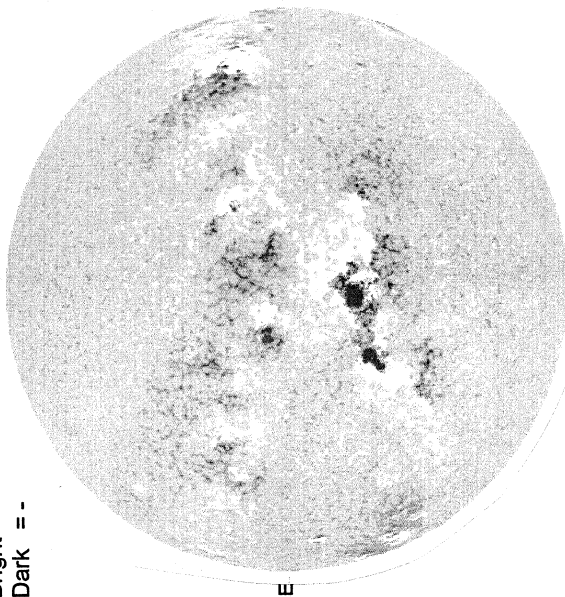
SEPTEMBER 13, 2002 (P= 23.67, Bo = 7.23, Lo = 312.55)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -

N

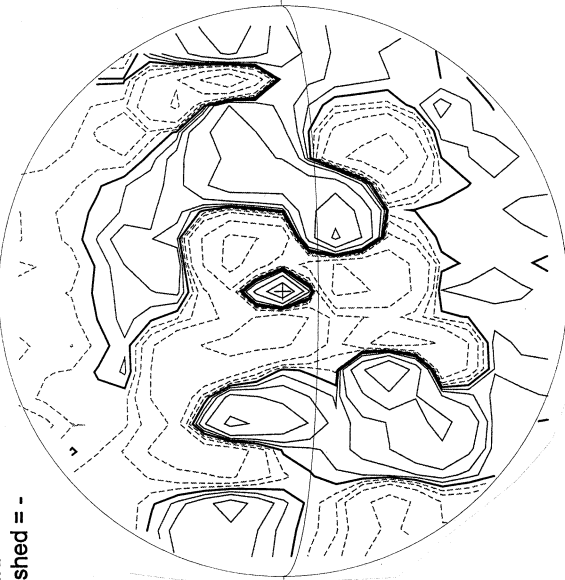


1456 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

N

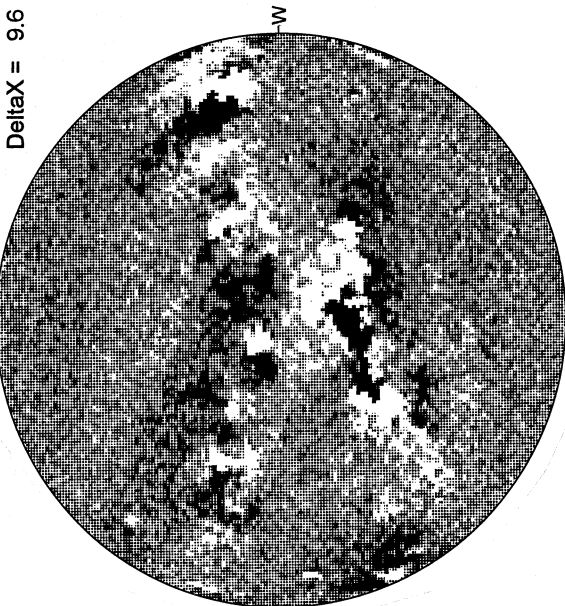


2125 UT

MT. WILSON MAGNETOGRAM

DeltaY = 13.1
DeltaX = 9.6

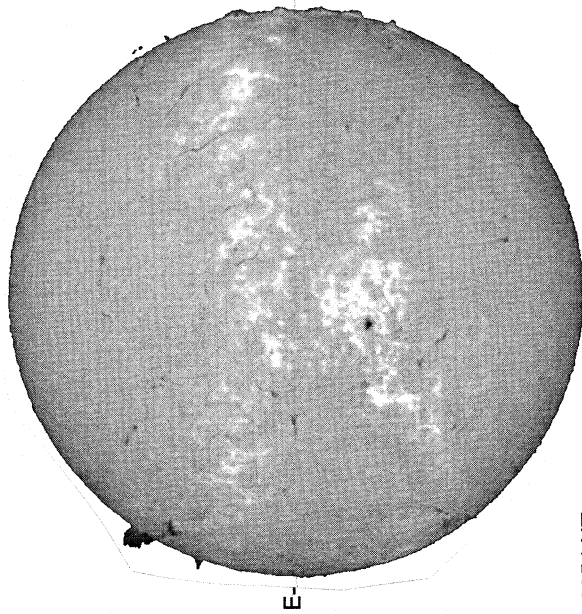
N



17.08 -
18.02 UT

White = +7.5G
Black = -7.5G

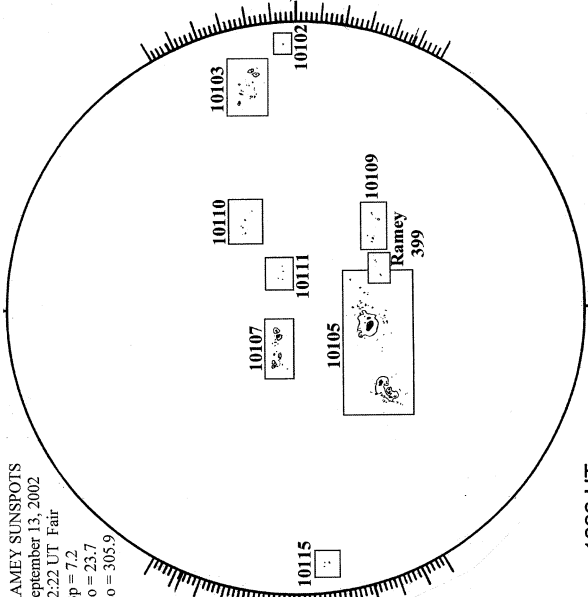
MEUDON H-ALPHA



0654 UT

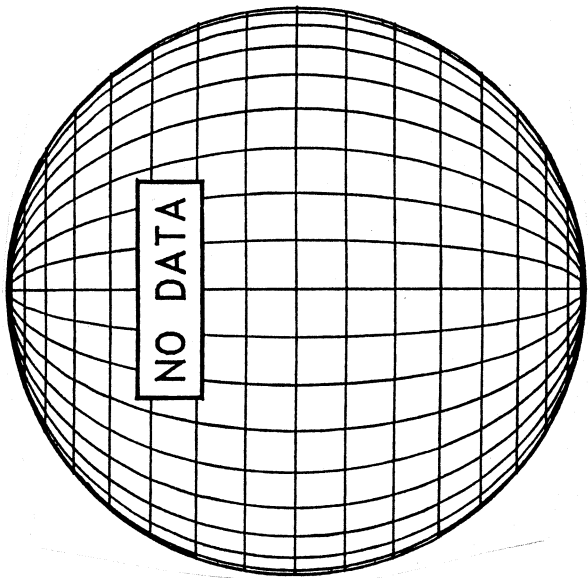
RAMEY SUNSPOT

RAMEY SUNSPOTS
September 13, 2002
12:22 UT Fair
Bp = 7.2
Po = 23.7
Lo = 305.9



1222 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



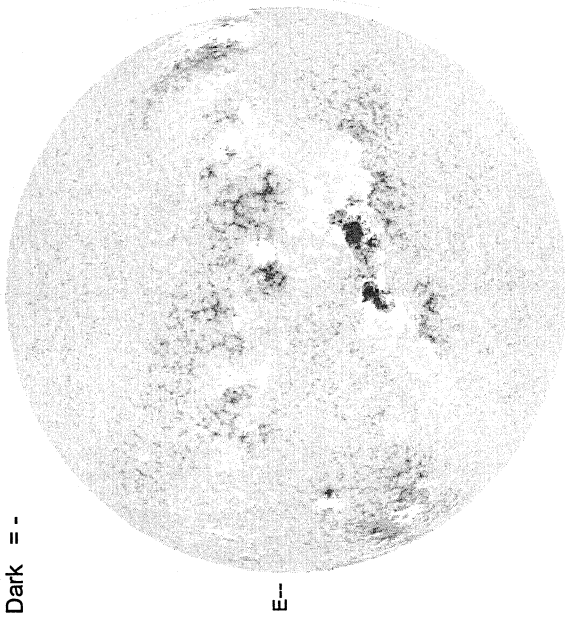
NO DATA

SEPTEMBER 14, 2002 (P= 23.85, Bo = 7.22, Lo = 299.34)

KITT PEAK MAGNETOGRAM

868.8 nm

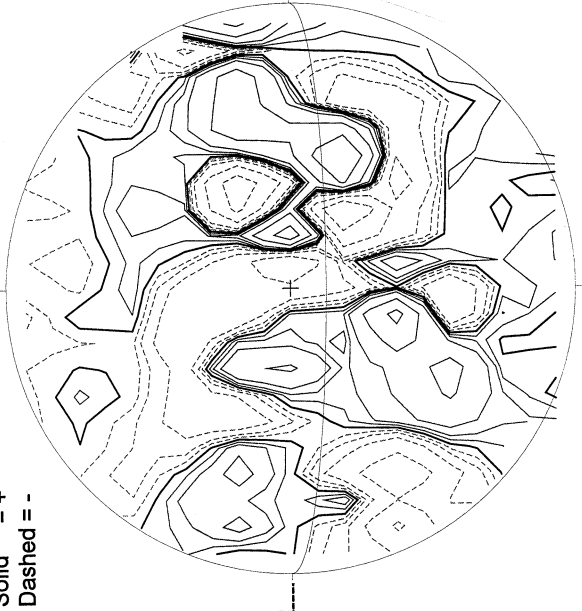
Bright = +
Dark = -



1442 UT

STANFORD MAGNETOGRAM

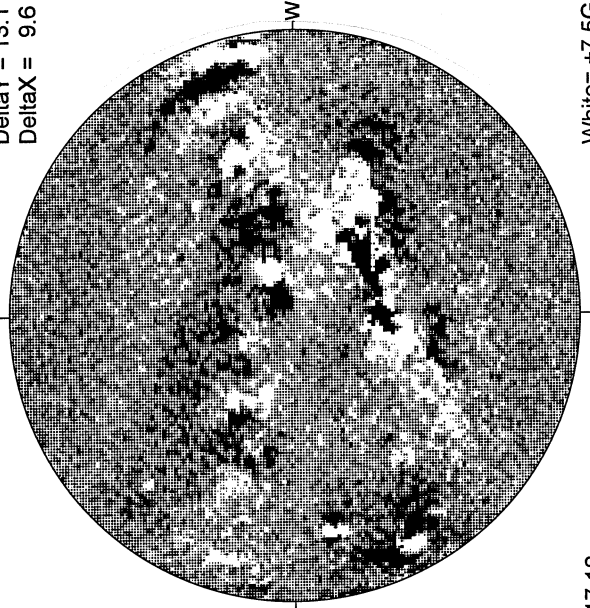
Solid = +
Dashed = -



1922 UT

MT. WILSON MAGNETOGRAM

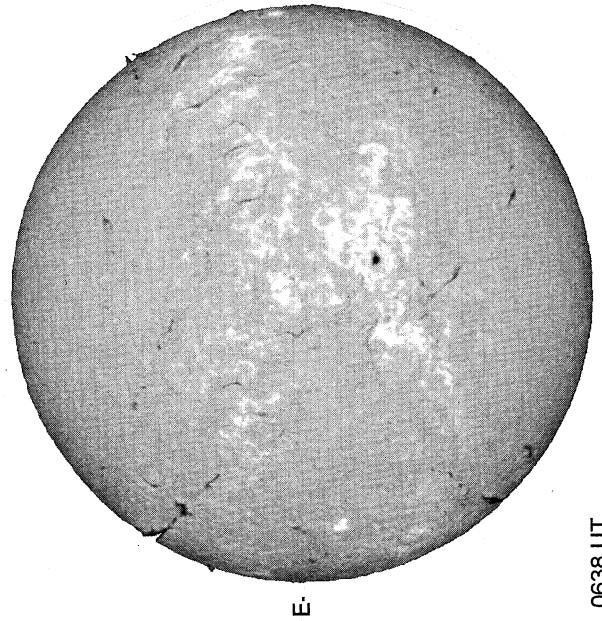
DeltaY = 13.1
DeltaX = 9.6



17.18 -
18.12 UT

White= +7.5G
Black = -7.5G

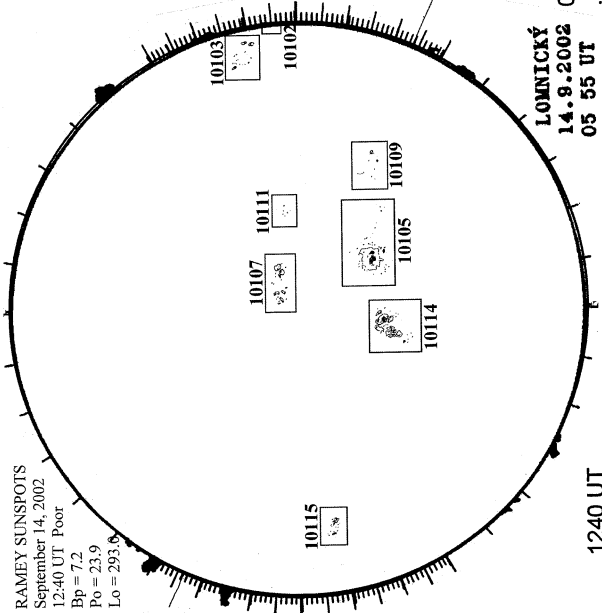
MEUDON H-ALPHA



0638 UT

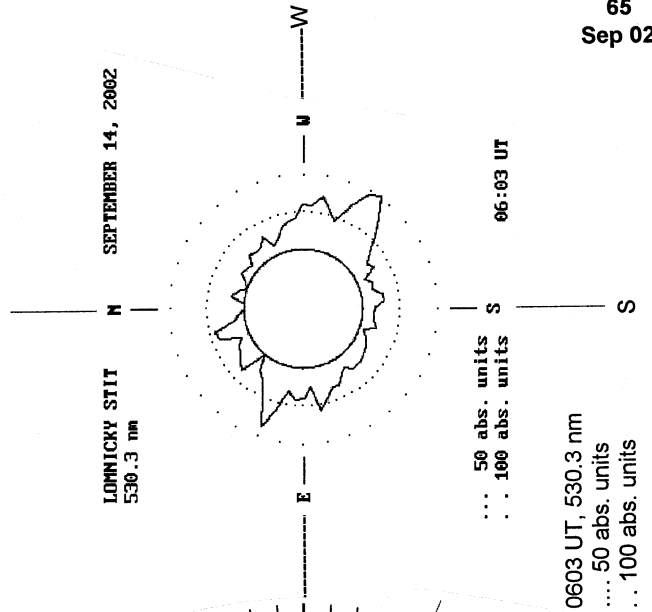
RAMEY SUNSPOT

RAMEY SUNSPOTS
September 14, 2002
12:40 UT Poor
Bp = 7.2
Po = 23.9
Lo = 293.6



1240 UT
0555 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)---



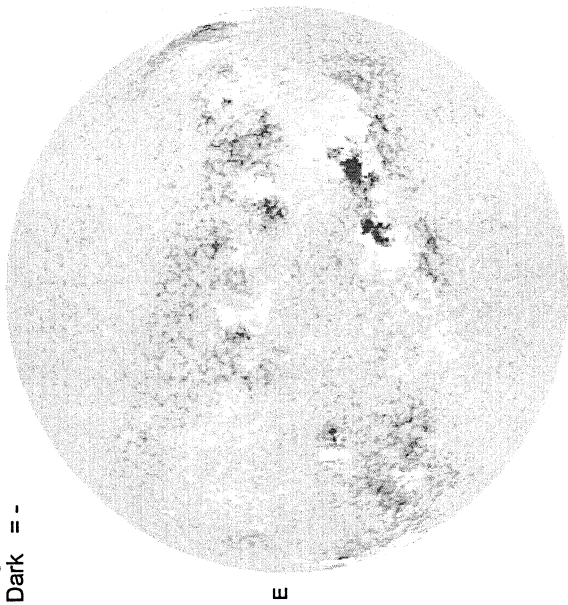
66
Sep 02

SEPTEMBER 15, 2002 (P= 24.02, Bo = 7.21, Lo = 286.14)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



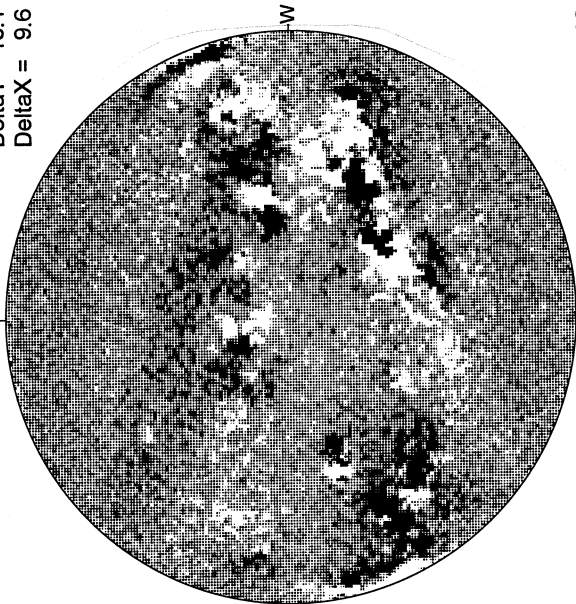
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

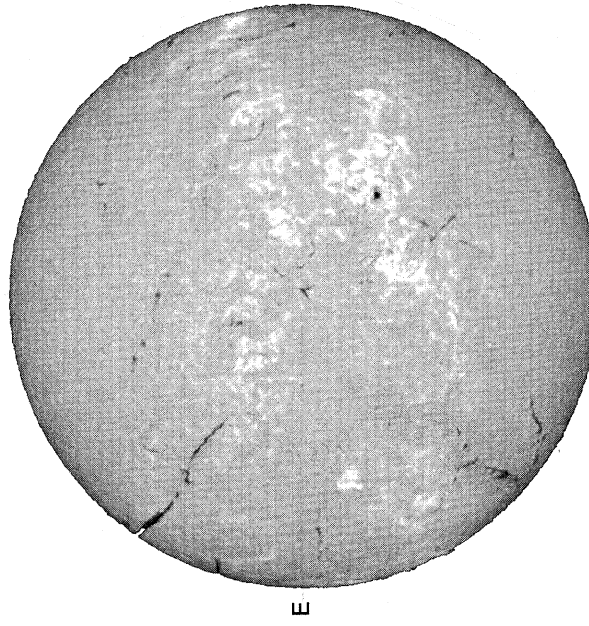
DeltaY = 13.1
DeltaX = 9.6



22.84 -
23.78 UT

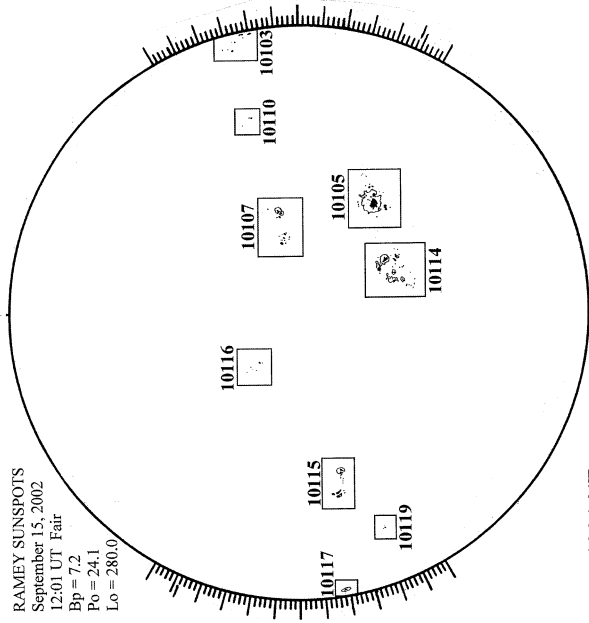
White = +7.5G
Black = -7.5G

MEUDON H-ALPHA



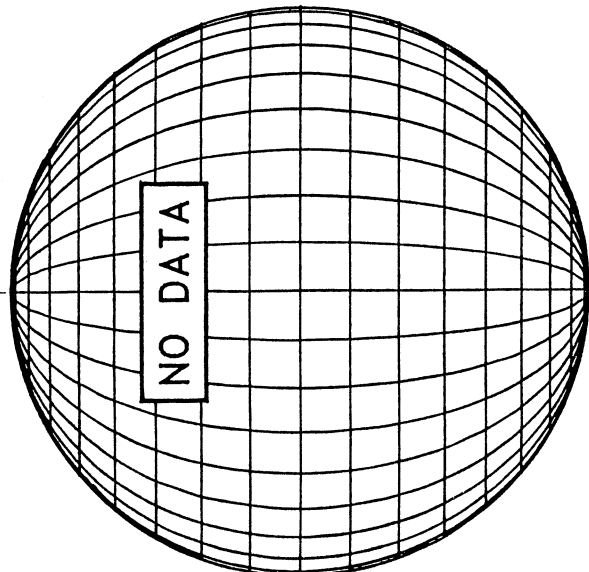
0729 UT

RAMEY SUNSPOT



1201 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

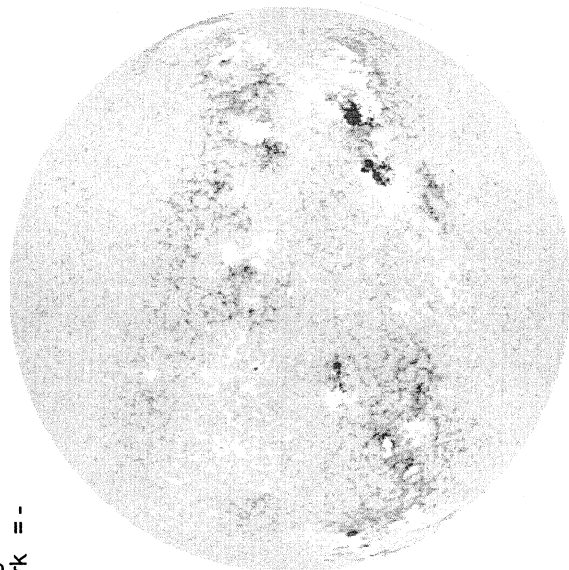


SEPTEMBER 16, 2002 (P= 24.19, Bo = 7.19, Lo = 272.94)

KITT PEAK MAGNETOGRAM

868.8 nm

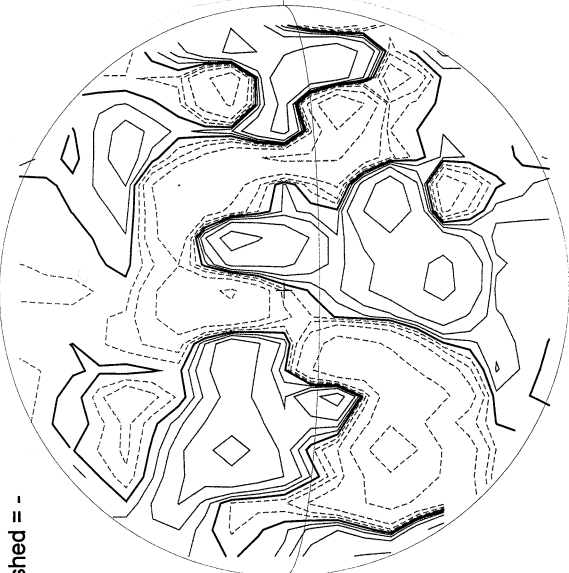
Bright = +
Dark = -



1559 UT

STANFORD MAGNETOGRAM

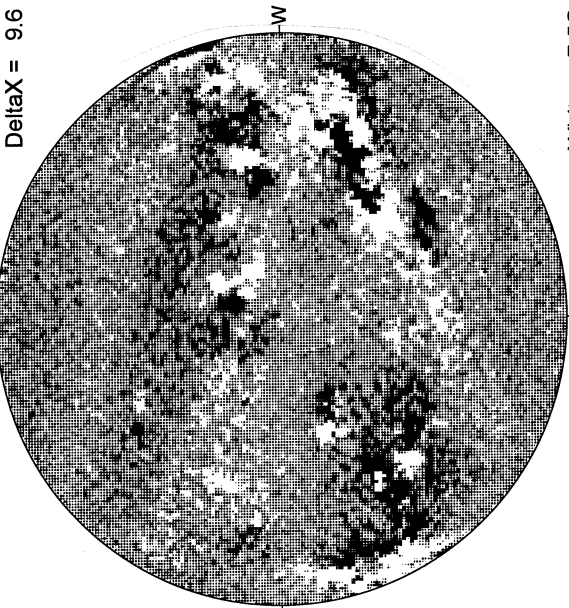
Solid = +
Dashed = -



1824 UT

MT. WILSON MAGNETOGRAM

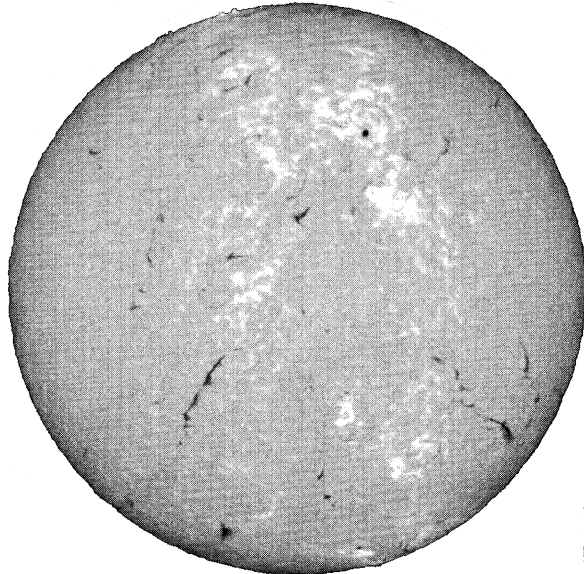
DeltaY = 13.0
DeltaX = 9.6



16.18 -
17.12 UT

White = +7.5G
Black = -7.5G

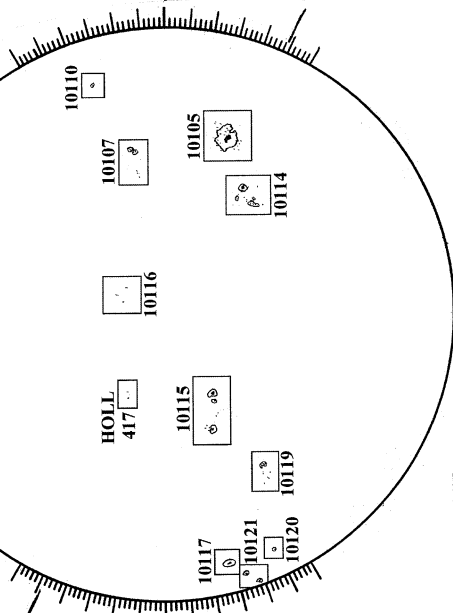
MEUDON H-ALPHA



0647 UT

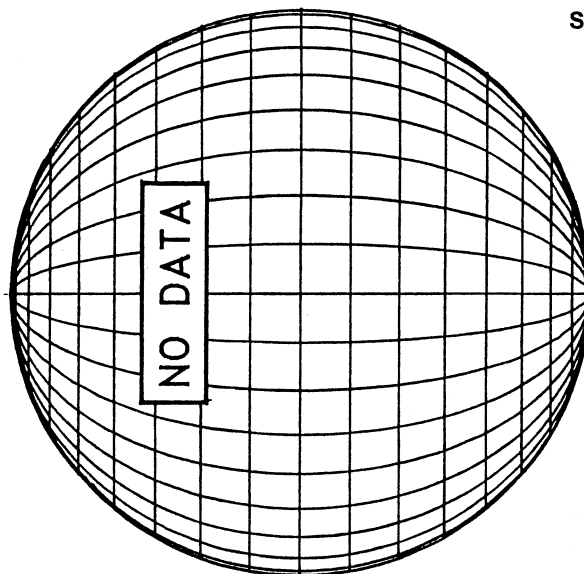
HOLLOMAN SUNSPOT

HOLLOMAN SUNSPOTS
September 16, 2002
15:30 UT Good
Bp = 7.1
Po = 24.2
Lo = 264.5



1530 UT

LOMNICKY PEAK CORONA (1.04 Radii)----



67
Sep 02

SEPTEMBER 17, 2002 (P= 24.36, Bo = 7.18, Lo = 259.74)

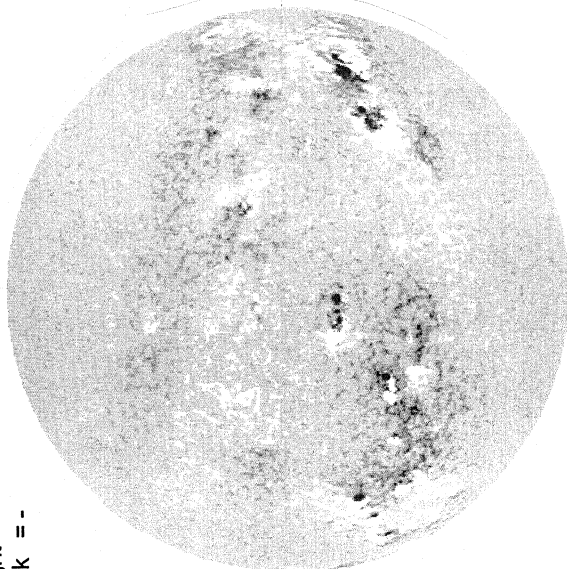
68
Sep 02

KITT PEAK MAGNETOGRAM

868.8 nm

N

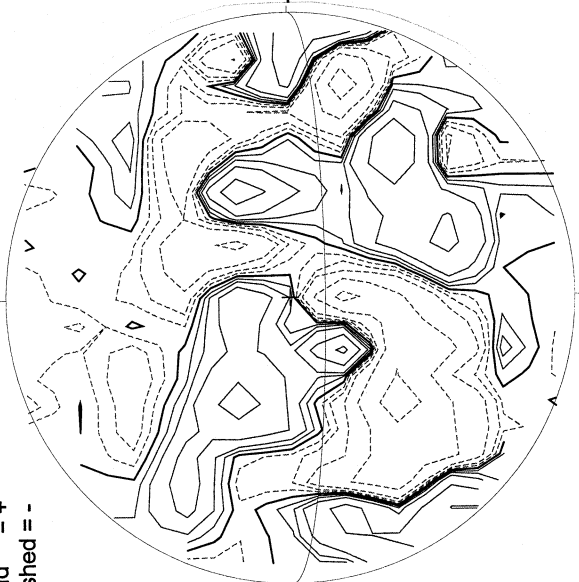
Bright = +
Dark = -



1543 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

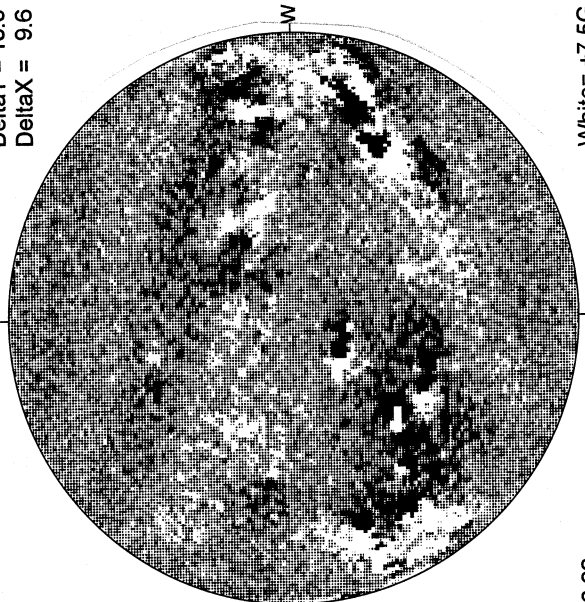


1831 UT

MT. WILSON MAGNETOGRAM

DeltaY = 13.0
DeltaX = 9.6

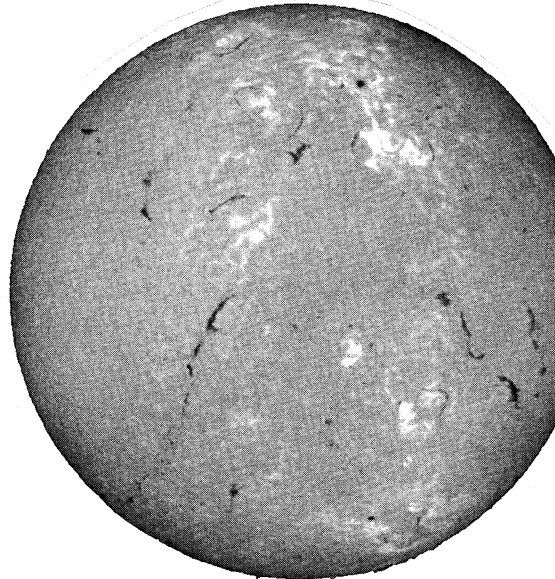
N



16.02 -
16.96 UT

White= +7.5G
Black = -7.5G

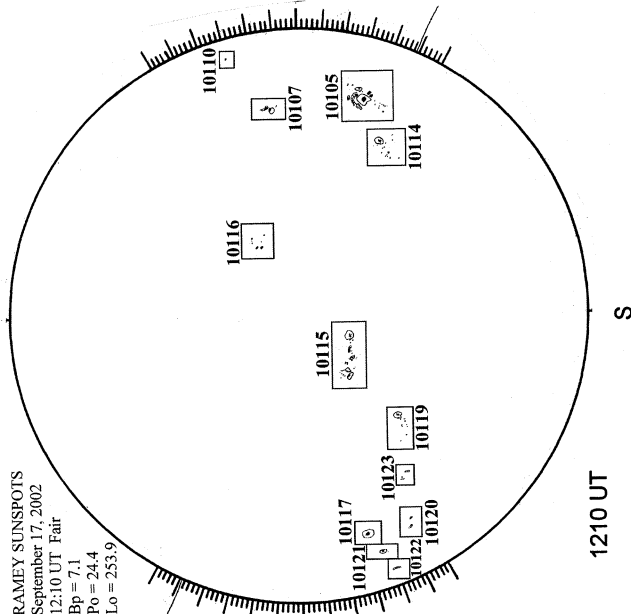
MEUDON H-ALPHA



0702 UT

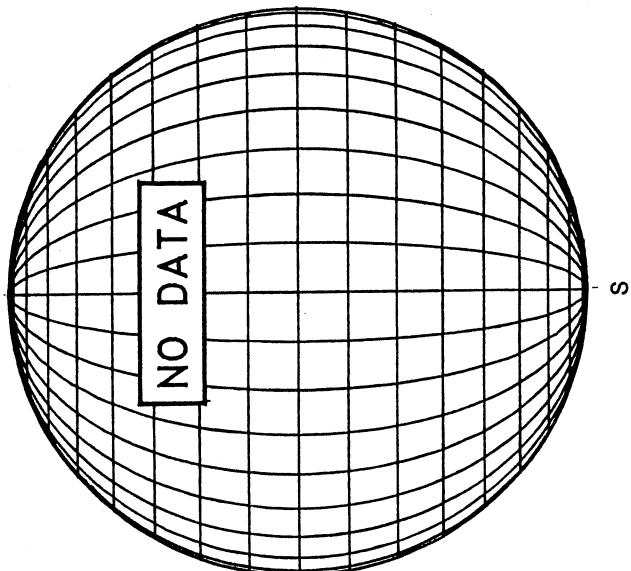
RAMEY SUNSPOT

RAMEY SUNSPOTS
September 17, 2002
12:10 UT Fair
Bp = 7.1
Po = 24.4
Lo = 253.9



1210 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

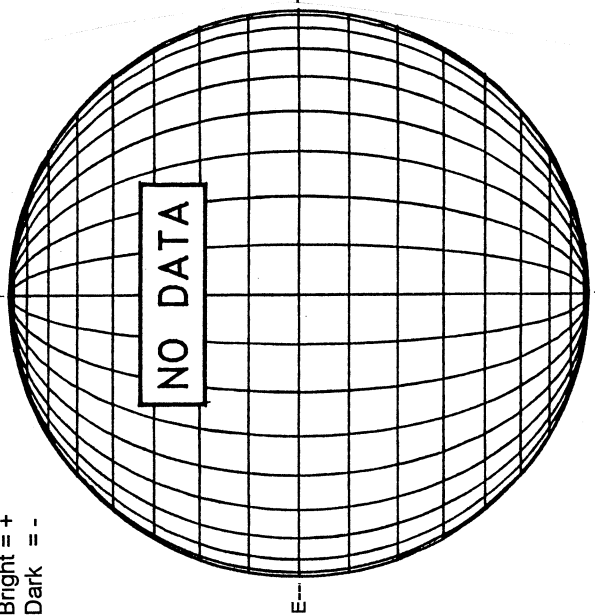


SEPTEMBER 18, 2002 (P= 24.51, Bo = 7.16, Lo = 246.54)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



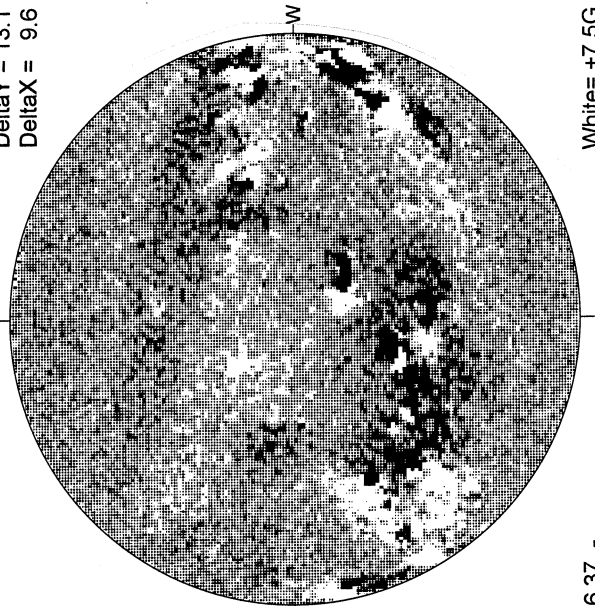
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

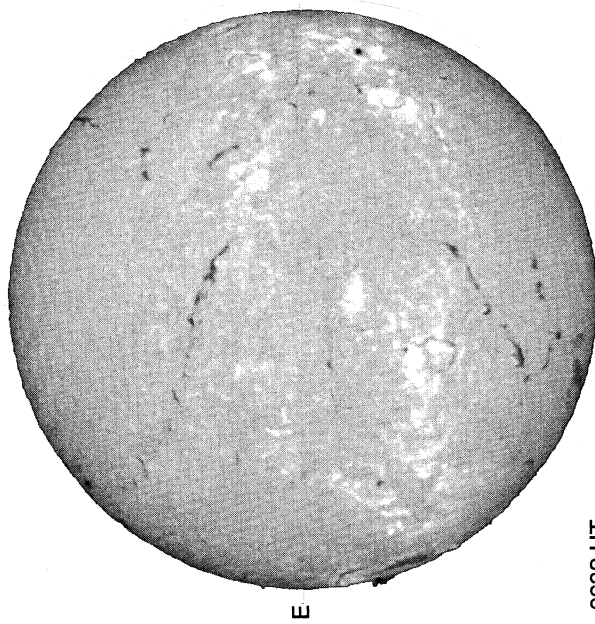
DeltaY = 13.1
DeltaX = 9.6



16.37 -
17.31 UT

White = +7.5G
Black = -7.5G

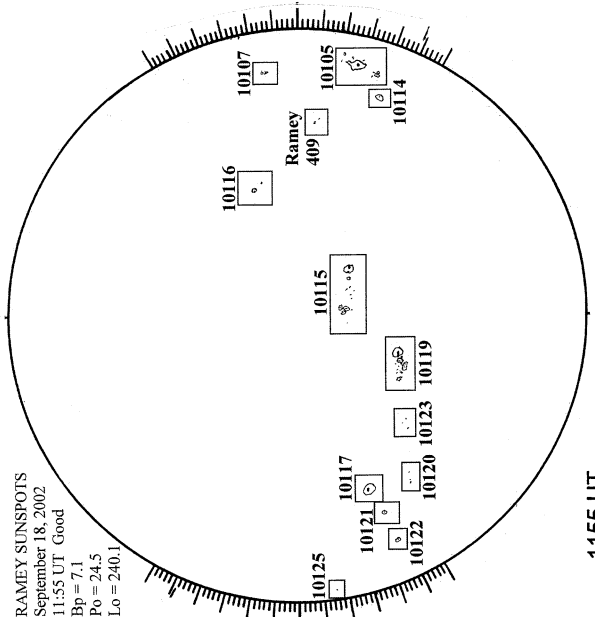
MEUDON H-ALPHA



0630 UT

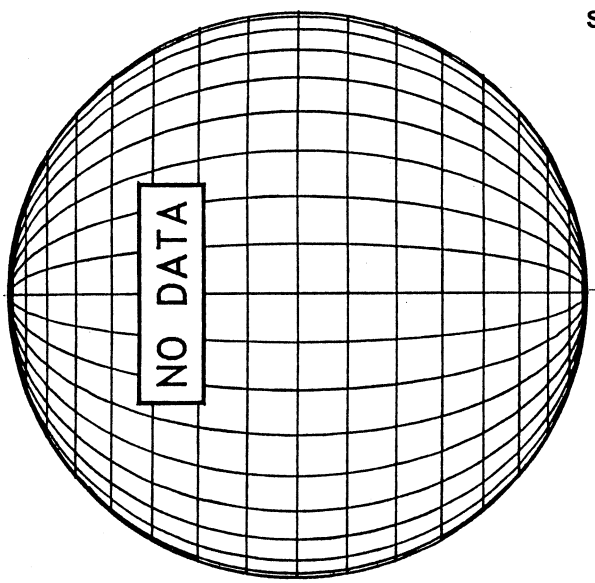
RAMEY SUNSPOT

RAMEY SUNSPOTS
September 18, 2002
11:55 UT Good
Bp = 7.1
Po = 24.5
Lo = 240.1



1155 UT

LOMNICKY PEAK CORONA (1.04 Radii)----



69
Sep 02

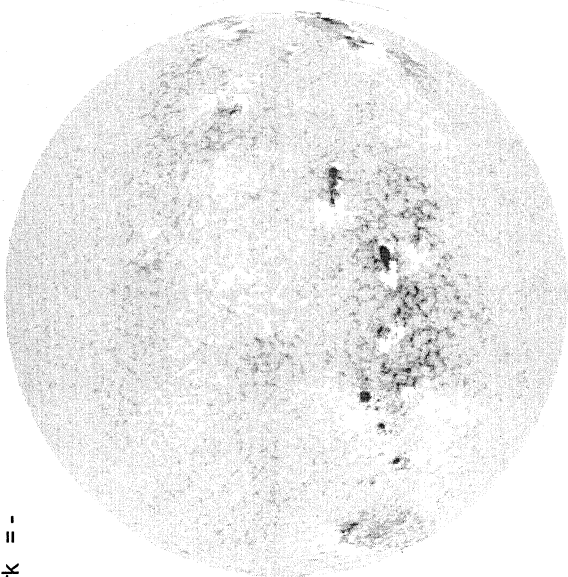
70
Sep 02

SEPTEMBER 19, 2002 (P = 24.66, Bo = 7.14, Lo = 233.33)

KITT PEAK MAGNETOGRAM

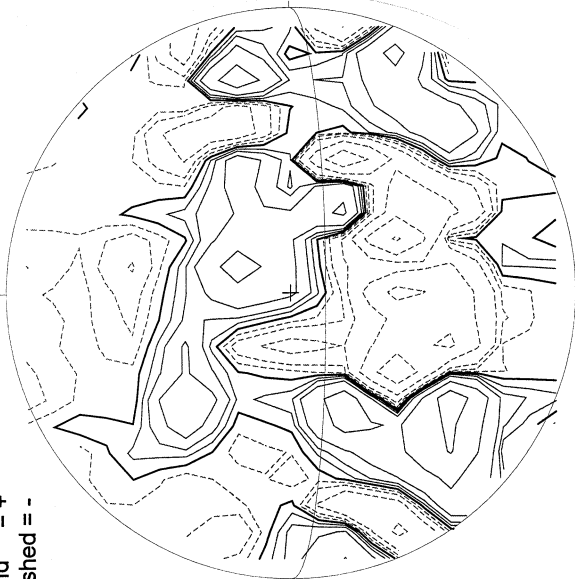
868.8 nm

Bright = +
Dark = -



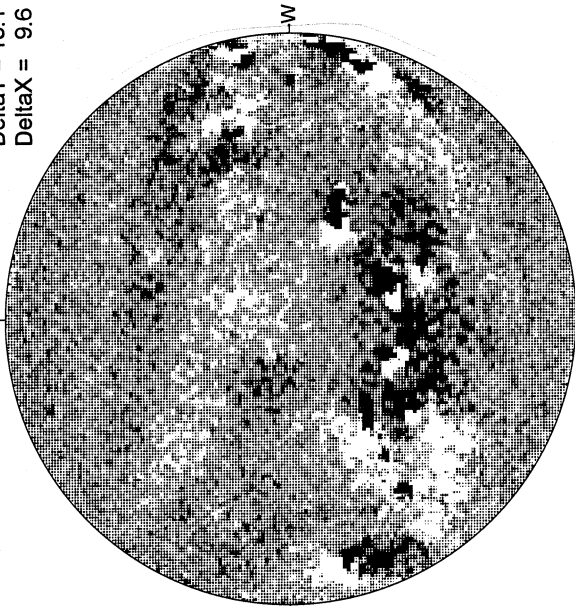
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



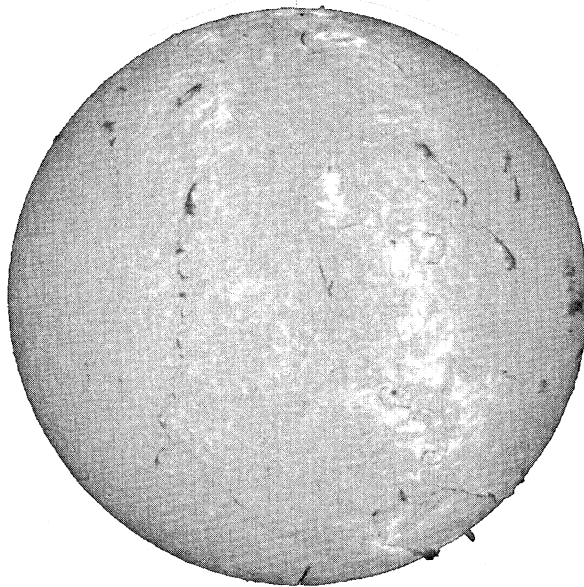
MT. WILSON MAGNETOGRAM

DeltaY = 13.1
DeltaX = 9.6

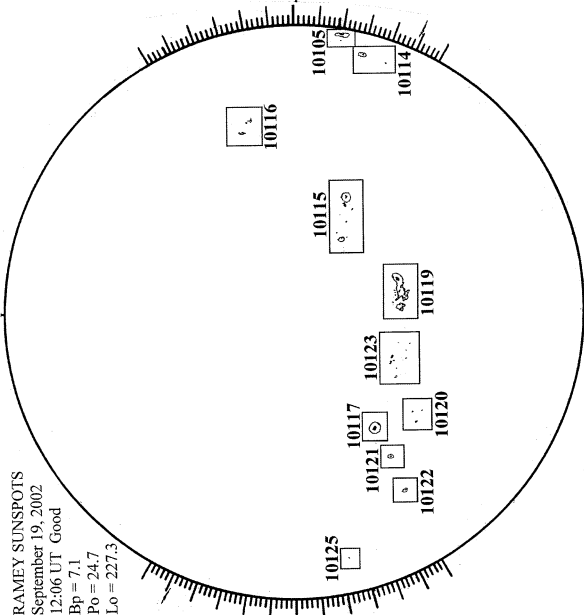


White = +7.5G
Black = -7.5G

MEUDON H-ALPHA

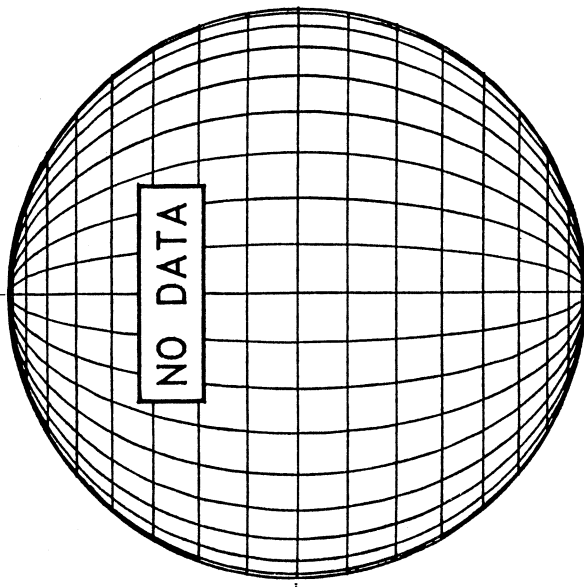


RAMEY SUNSPOT

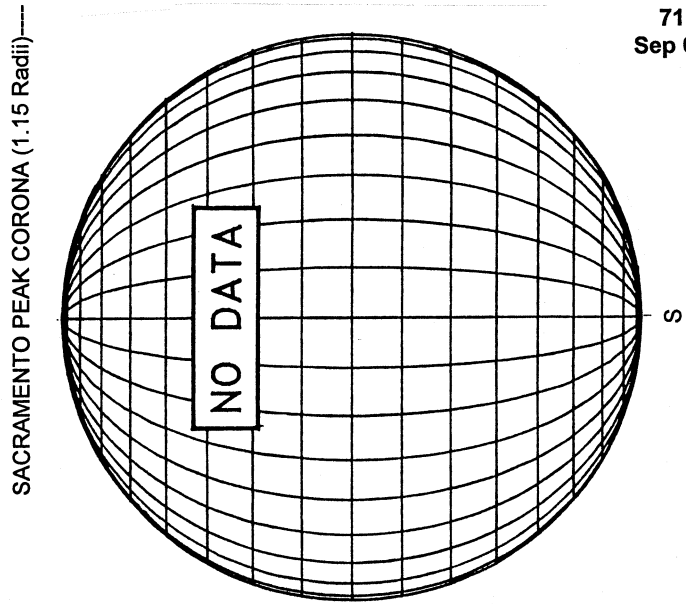
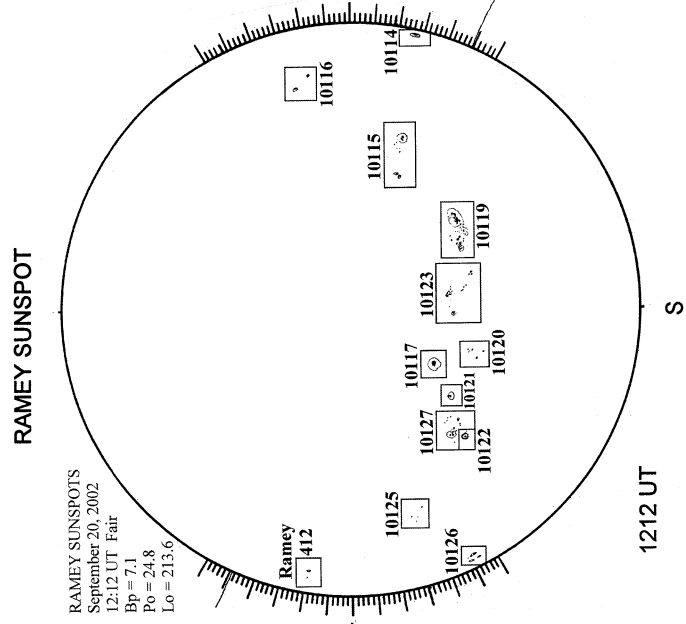
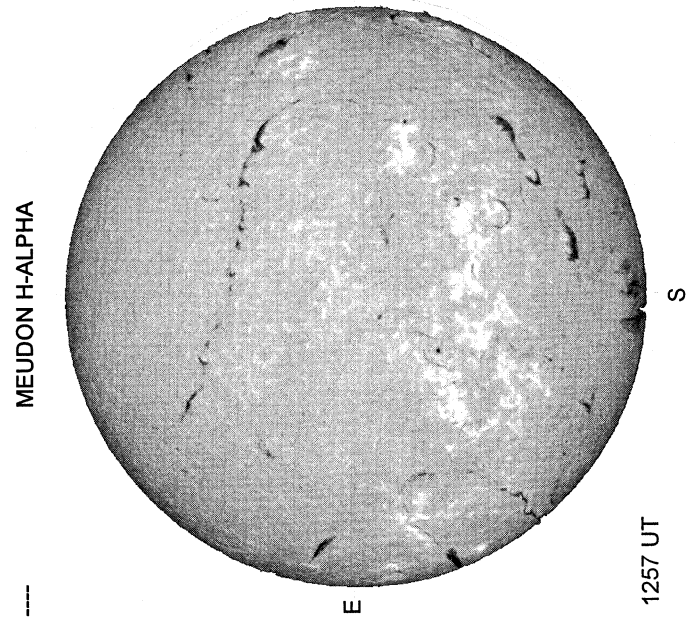
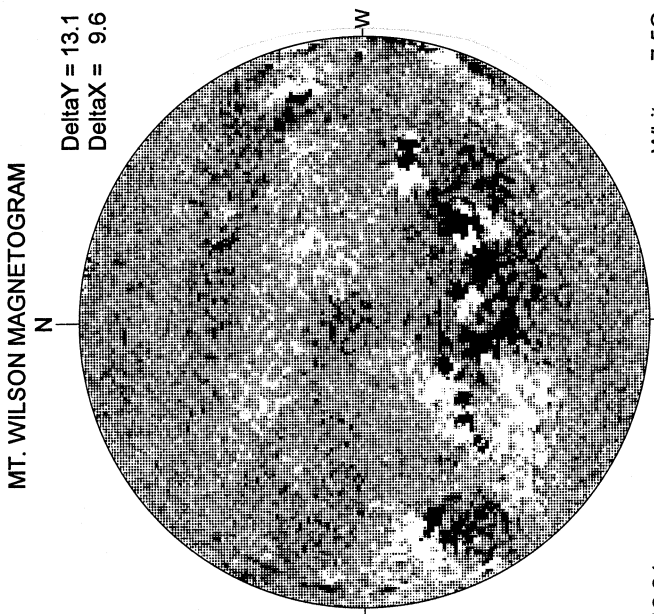
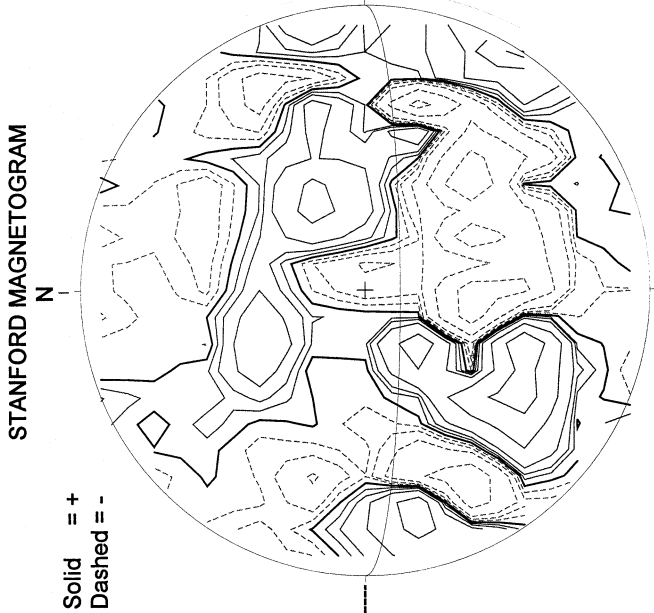
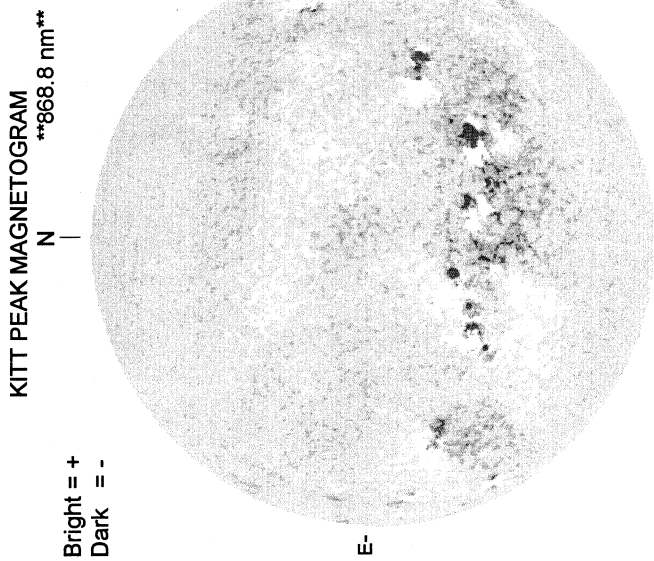


RAMEY SUNSPOTS
September 19, 2002
12:06 UT Good
Bp = 7.1
Po = 24.7
Lo = 227.3

SACRAMENTO PEAK CORONA (1.15 Radii)----



SEPTEMBER 20, 2002 (P= 24.81, Bo = 7.12, Lo = 220.13)

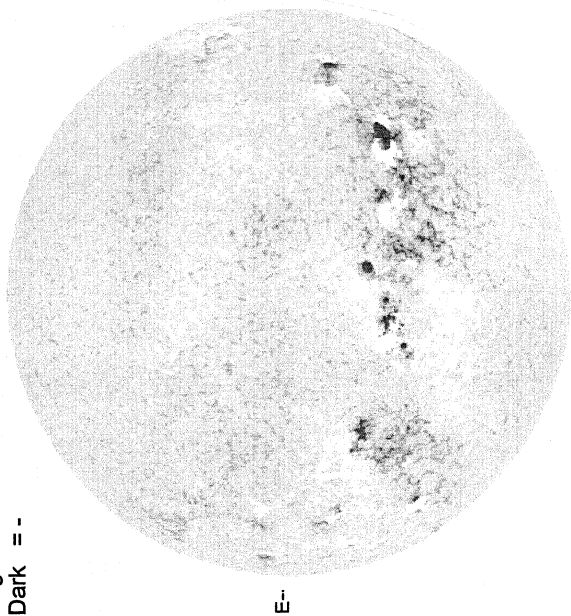


SEPTEMBER 21, 2002 (P= 24.95, Bo = 7.09, Lo = 206.93)

72
Sep 02

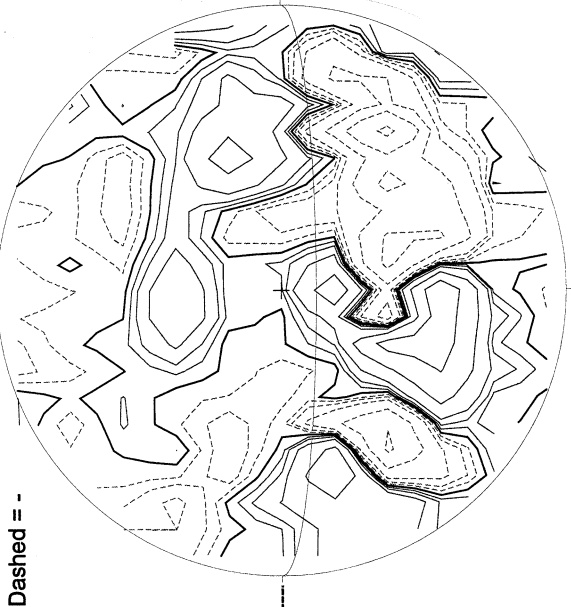
KITT PEAK MAGNETOGRAM
868.8 nm

Bright = +
Dark = -



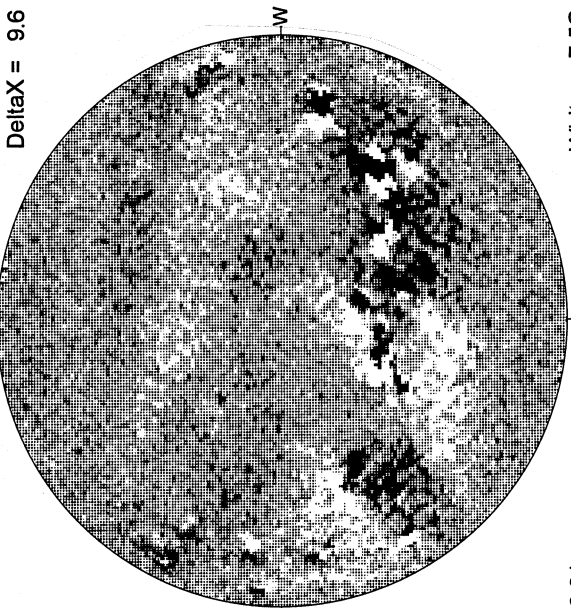
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

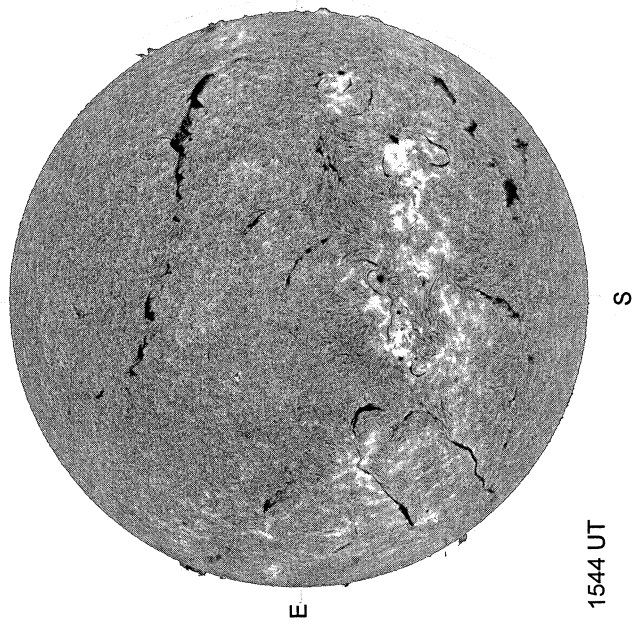
DeltaY = 13.1
DeltaX = 9.6



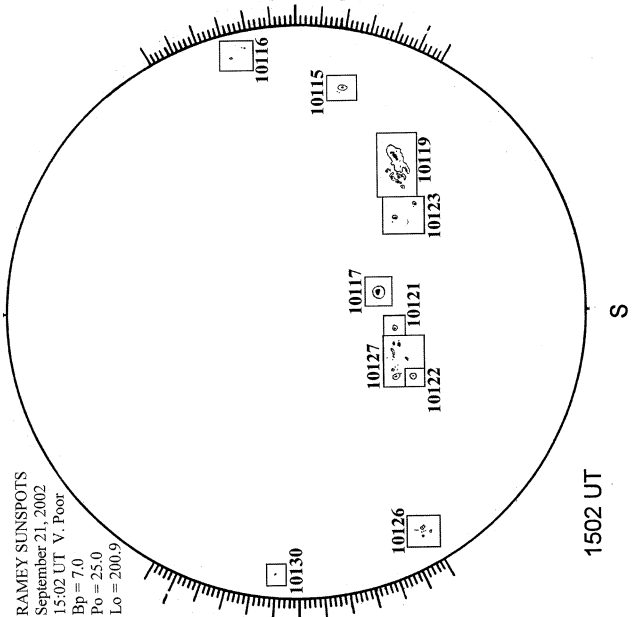
White = +7.5G
Black = -7.5G

16.01 -
16.96 UT

BIG BEAR H-ALPHA

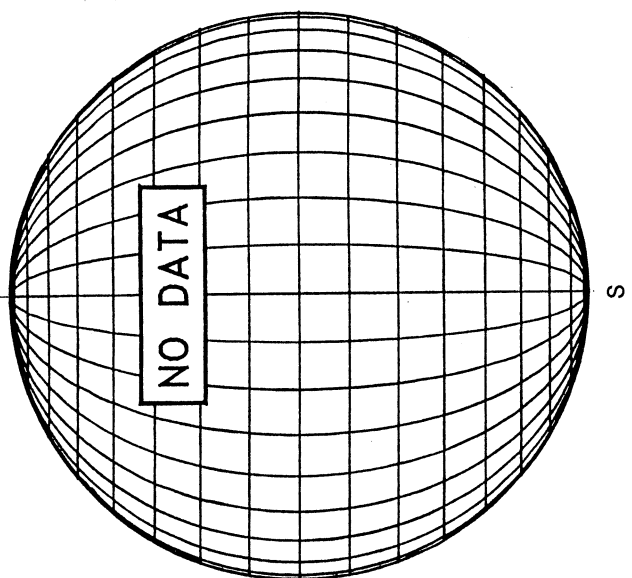


RAMEY SUNSPOT



RAMEY SUNSPOTS
September 21, 2002
15:02 UT V. Poor
Bp = 7.0
Po = 25.0
Lo = 200.9

SACRAMENTO PEAK CORONA (1.15 Radii)----

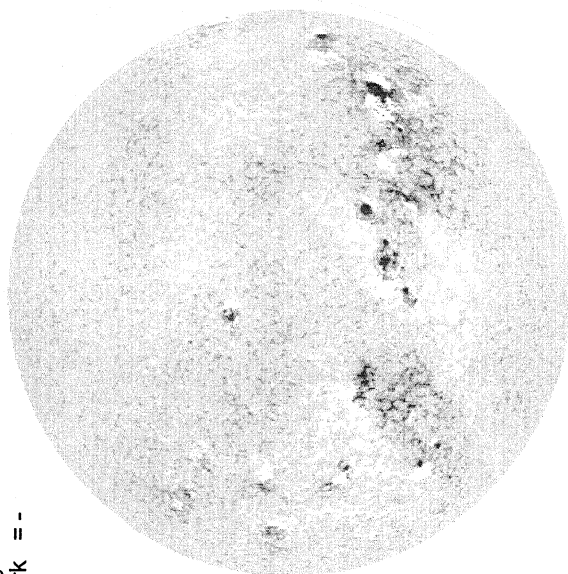


SEPTEMBER 22, 2002 (P = 25.08, Bo = 7.06, Lo = 193.73)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



E-

1418 UT

STANFORD MAGNETOGRAM

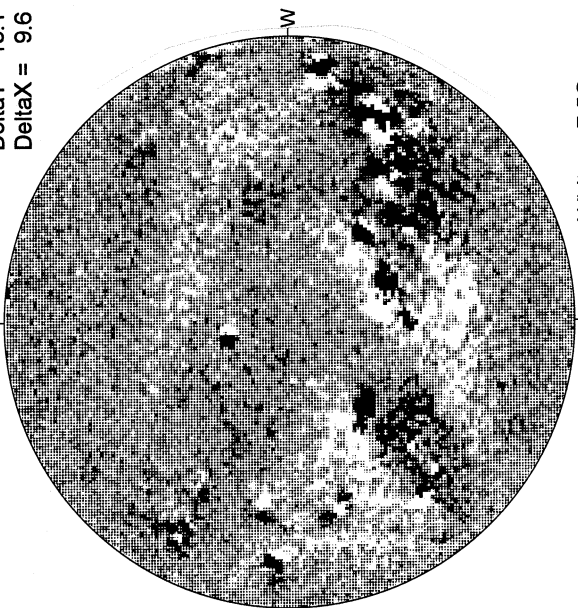
Solid = +
Dashed = -



2204 UT

MT. WILSON MAGNETOGRAM

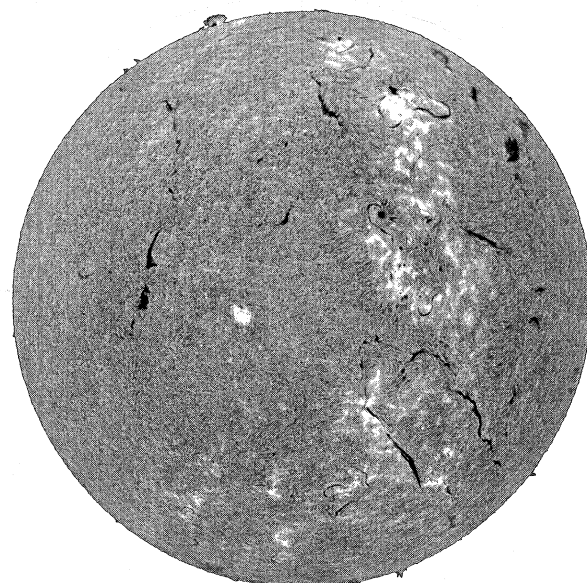
DeltaY = 13.1
DeltaX = 9.6



16.20 -
17.14 UT

White = +7.5G
Black = -7.5G

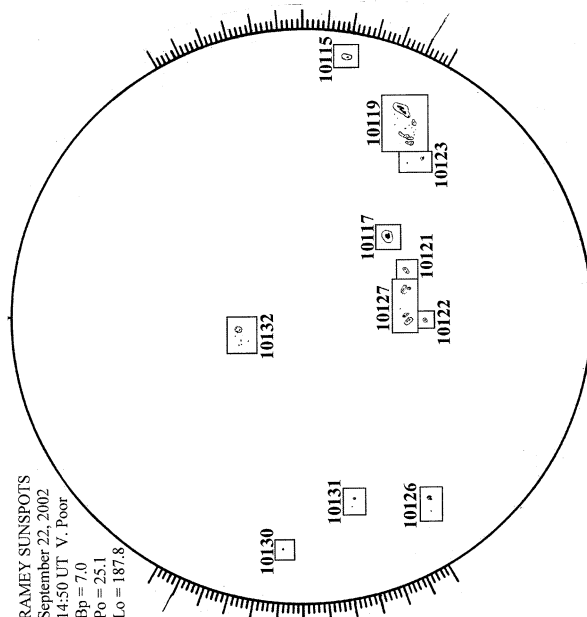
BIG BEAR H-ALPHA



E

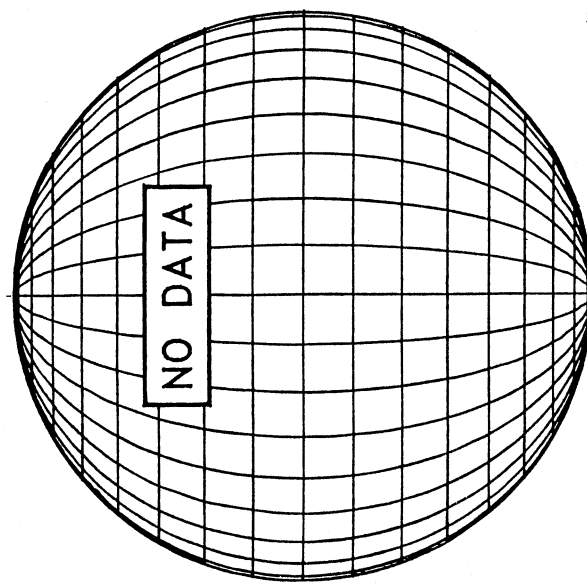
1545 UT

RAMEY SUNSPOT



1450 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



S

73
Sep 02

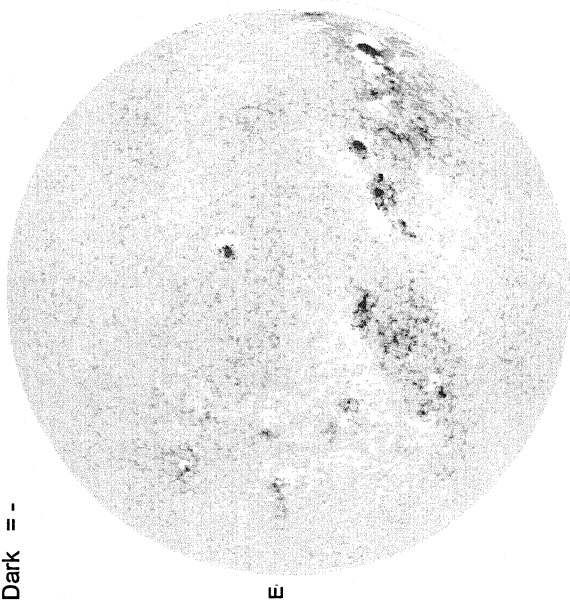
SEPTEMBER 23, 2002 (P= 25.20, Bo = 7.04, Lo = 180.53)

74
Sep 02

KITT PEAK MAGNETOGRAM

868.8 nm

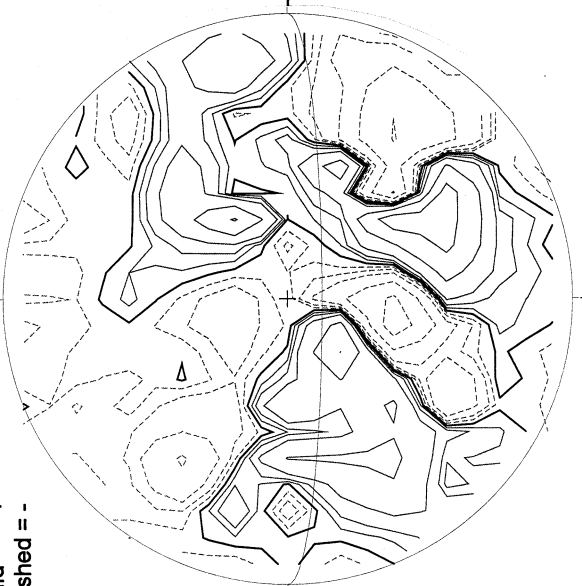
Bright = +
Dark = -



1558 UT

STANFORD MAGNETOGRAM

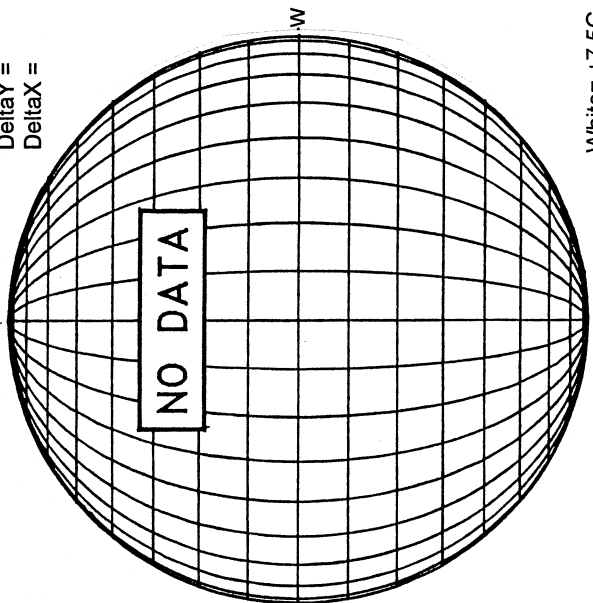
Solid = +
Dashed = -



2217 UT

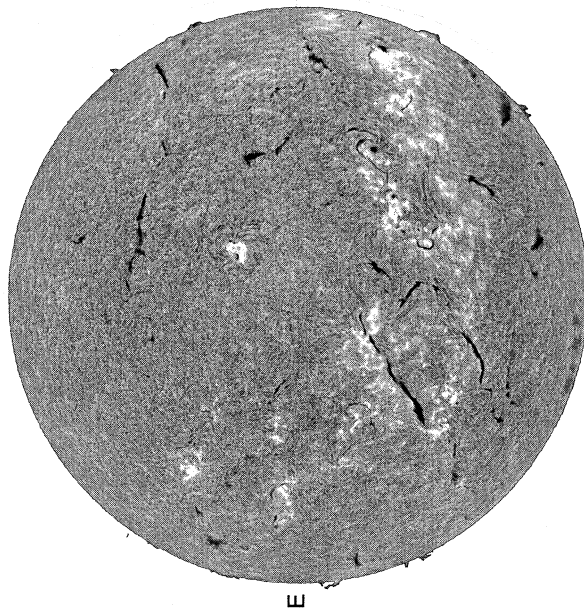
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =



White = +7.5G
Black = -7.5G

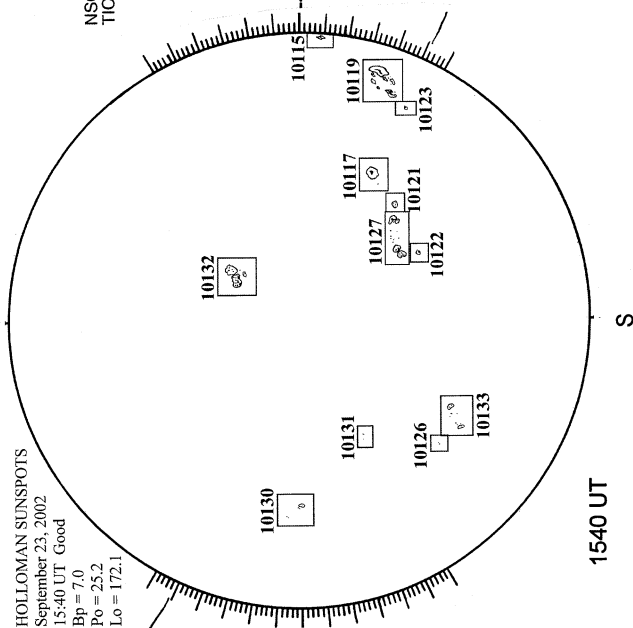
BIG BEAR H-ALPHA



1544 UT

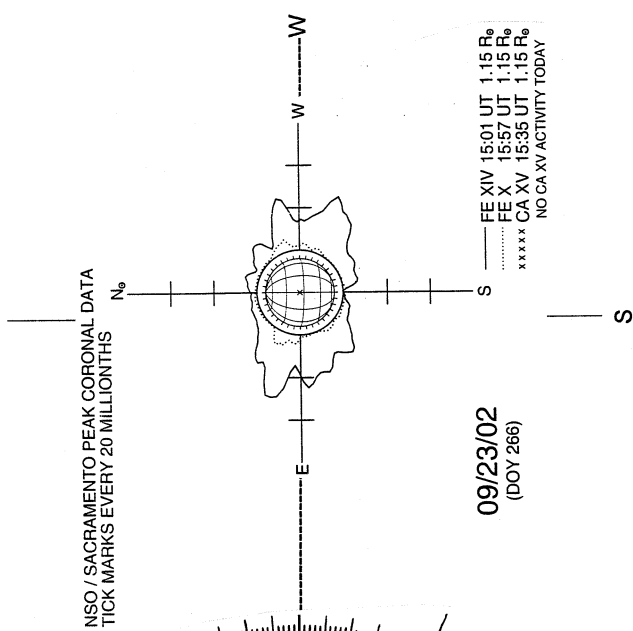
HOLLOMAN SUNSPOT

HOLLOMAN SUNSPOTS
September 23, 2002
15:40 UT Good
Bp = 7.0
Po = 25.2
Lo = 172.1



1540 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



09/23/02
(DOY 266)

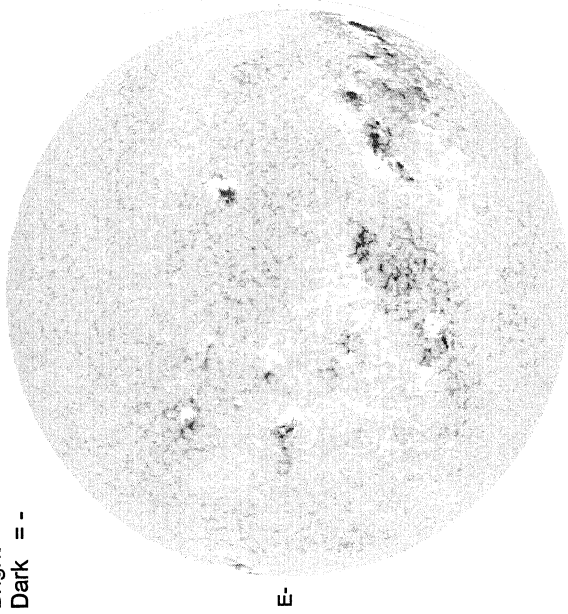
FE XIV 15:01 UT 1.15 R_o
FE X 15:57 UT 1.15 R_o
xxxxx CA XV 15:35 UT 1.15 R_o
NO CA XV ACTIVITY TODAY

SEPTEMBER 24, 2002 (P= 25.32, Bo = 7.00, Lo = 167.33)

KITT PEAK MAGNETOGRAM

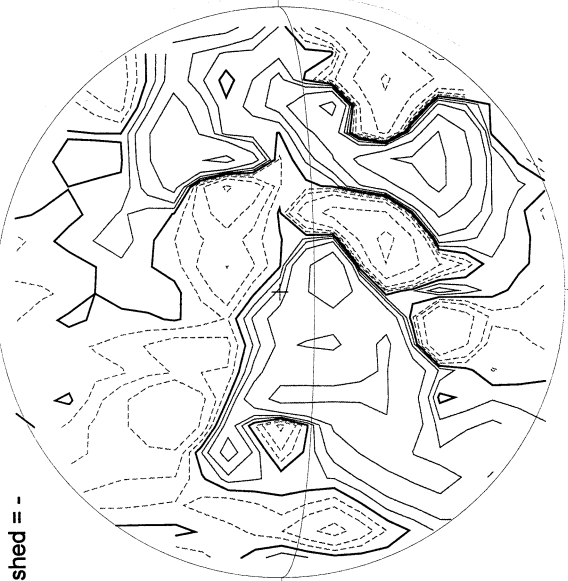
868.8 nm

Bright = +
Dark = -



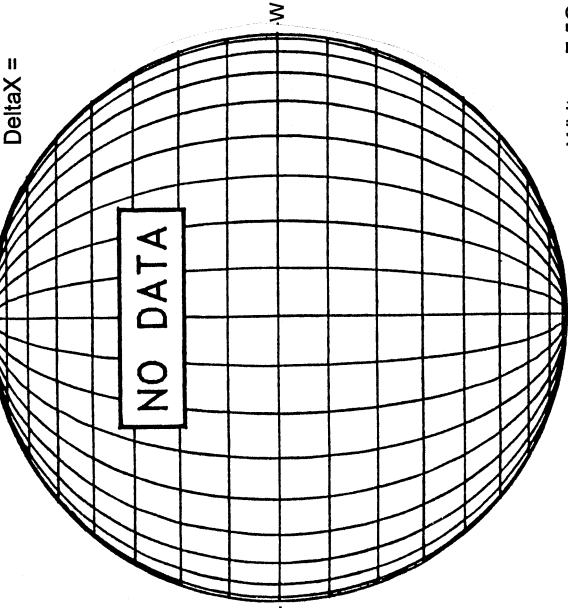
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

Delta Y =
Delta X =

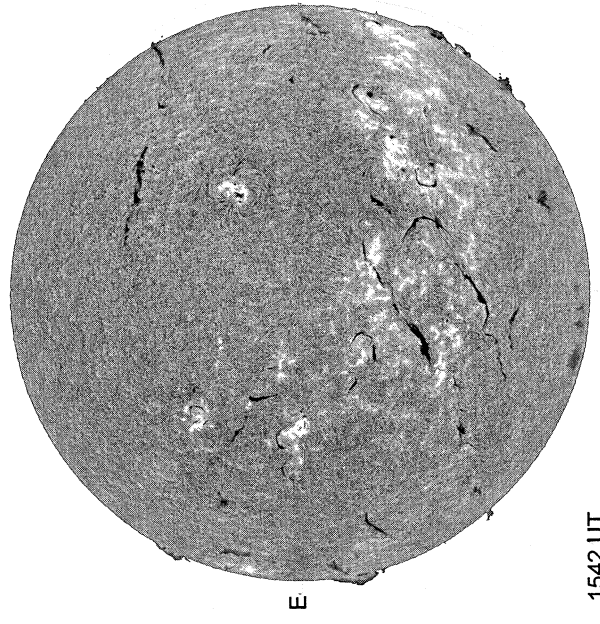


White = +7.5G
Black = -7.5G

1550 UT

2342 UT

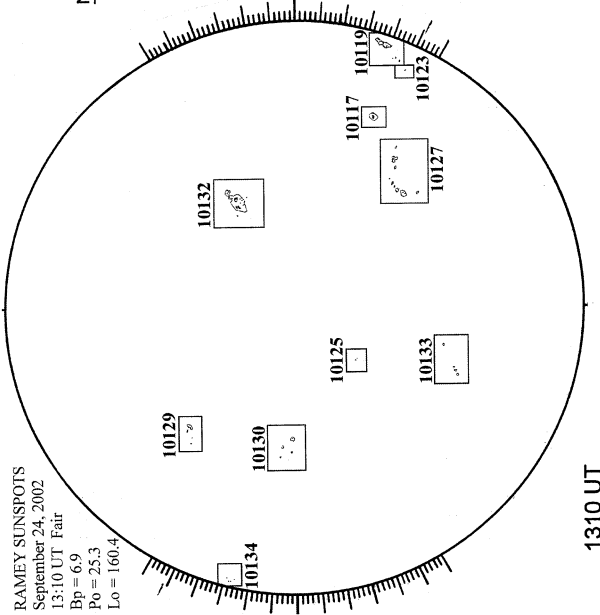
BIG BEAR H-ALPHA



1542 UT

RAMEY SUNSPOT

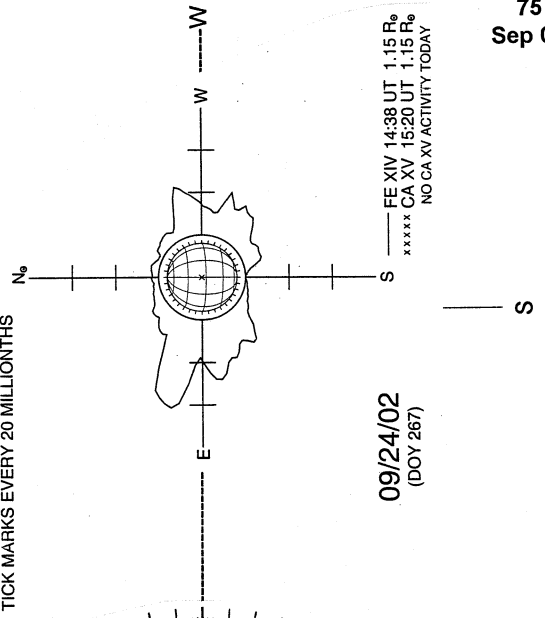
RAMEY SUNSPOTS
September 24, 2002
13:10 UT Fair
Bp = 6.9
Po = 25.3
Lo = 160.4



1310 UT

SACRAMENTO PEAK CORONA (1.15 Radii)---

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS



09/24/02
(DOY 267)

FE XIV 14:38 UT 1.15 R_o
CA XV 15:20 UT 1.15 R_o
NO CA XV ACTIVITY TODAY

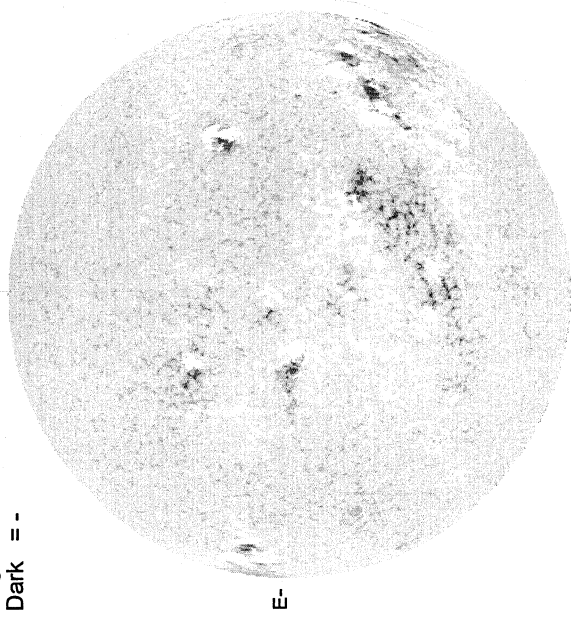
76
Sep 02

SEPTEMBER 25, 2002 (P= 25.43, Bo = 6.97, Lo = 154.14)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



1519 UT

STANFORD MAGNETOGRAM

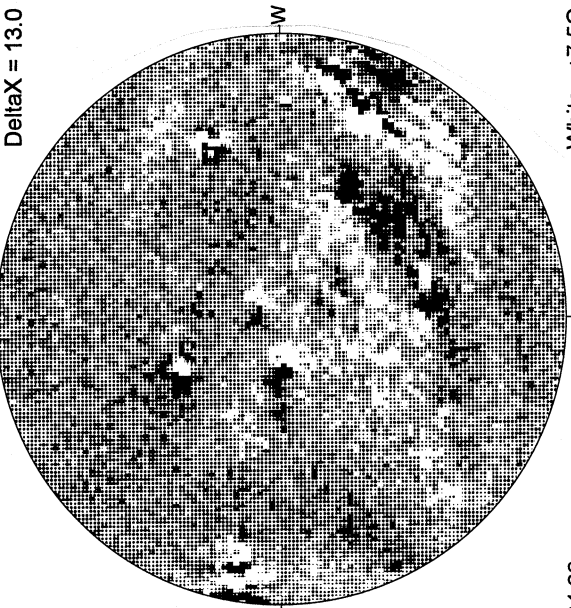
Solid = +
Dashed = -



1903 UT

MT. WILSON MAGNETOGRAM

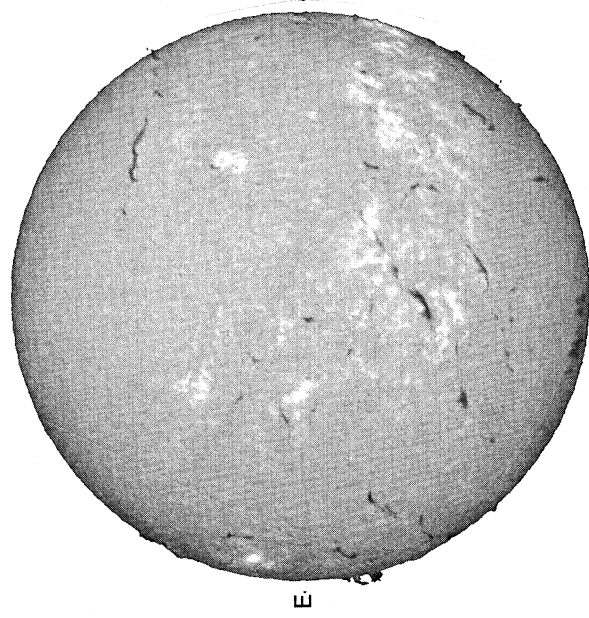
DeltaY = 20.2
DeltaX = 13.0



24.66 -
25.07 UT

White = +7.5G
Black = -7.5G

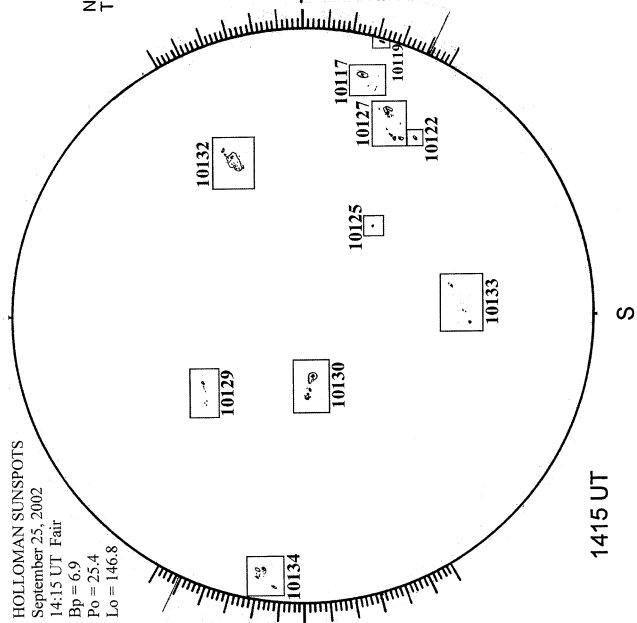
MEUDON H-ALPHA



0639 UT

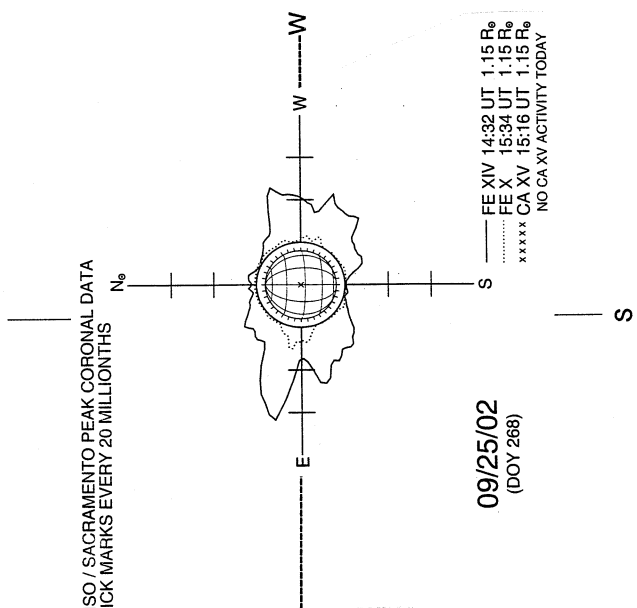
HOLLOMAN SUNSPOT

HOLLOMAN SUNSPOTS
September 25, 2002
14:15 UT Fair
Bp = 6.9
Po = 25.4
Lo = 146.8



1415 UT

SACRAMENTO PEAK CORONA (1.15 Radii)---



09/25/02
(DOY 268)

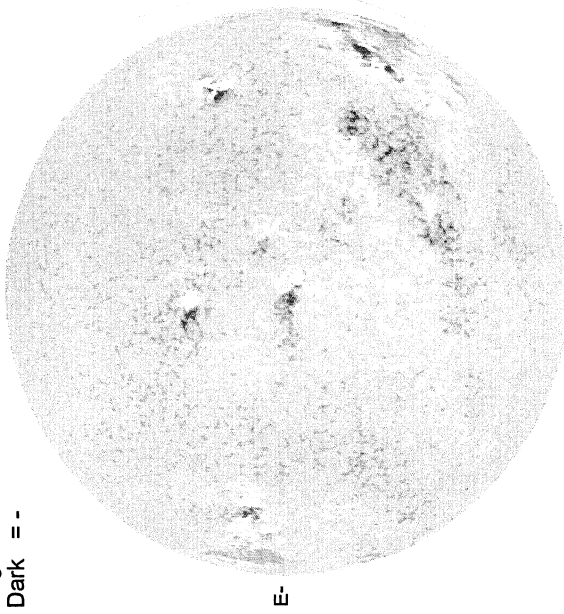
--- FE XIV 14:32 UT 1.15 R_o
..... FE X 15:34 UT 1.15 R_o
xxxxx CA XV 15:16 UT 1.15 R_o
NO CA XV ACTIVITY TODAY

SEPTEMBER 26, 2002 (P= 25.54, Bo = 6.94, Lo = 140.94)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



1545 UT

STANFORD MAGNETOGRAM

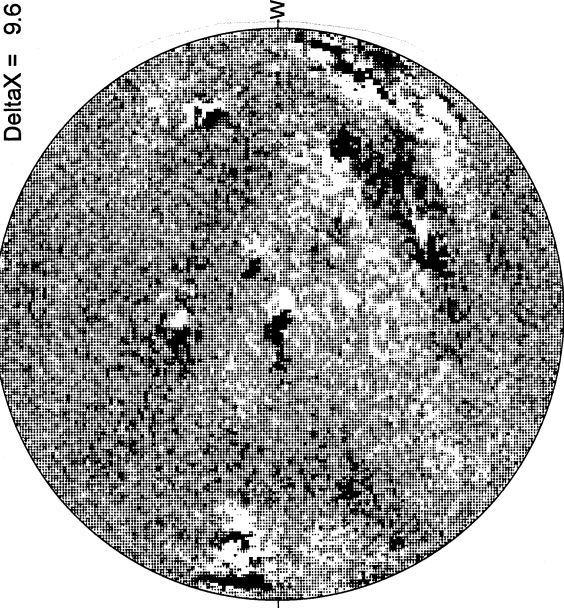
Solid = +
Dashed = -



2202 UT

MT. WILSON MAGNETOGRAM

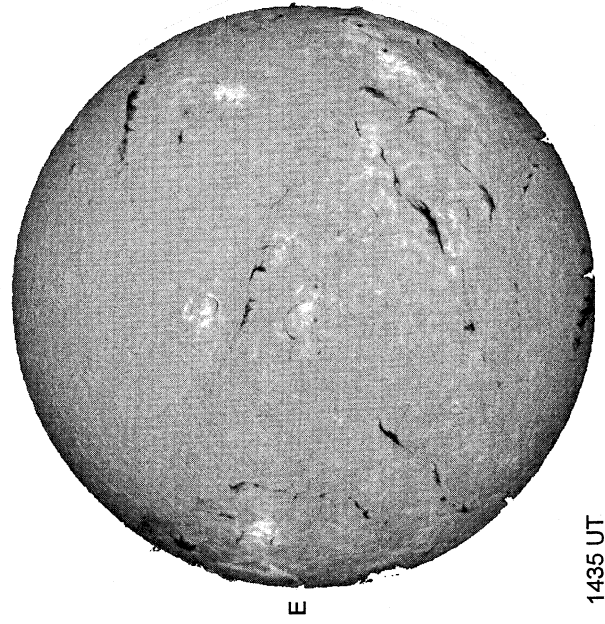
DeltaY = 13.1
DeltaX = 9.6



16.54 -
17.48 UT

White = +7.5G
Black = -7.5G

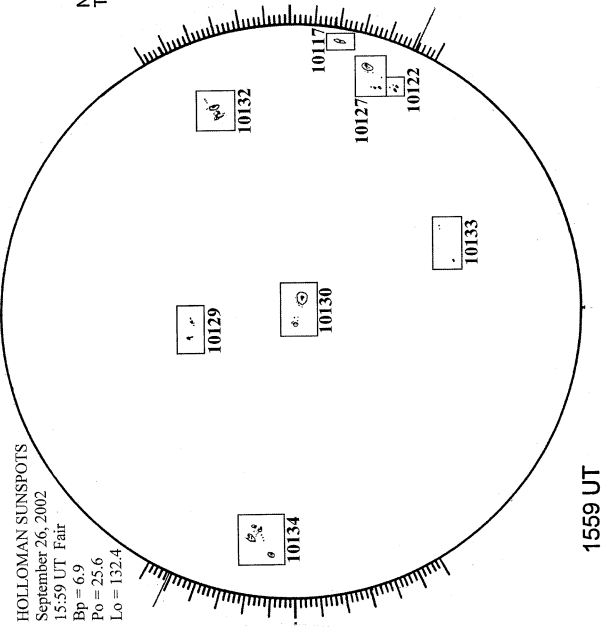
MEUDON H-ALPHA



1435 UT

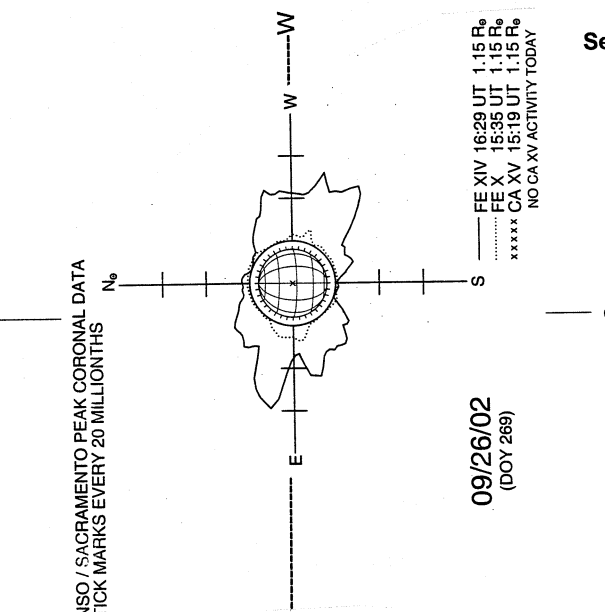
HOLLOMAN SUNSPOTS

HOLLOMAN SUNSPOTS
September 26, 2002
15:59 UT Fair
Bp = 6.9
Po = 25.6
Lo = 132.4



1559 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS

09/26/02
(DOY 269)

— FE XIV 16:29 UT 1.15 R_e
--- FE X 15:35 UT 1.15 R_e
xxxxx CA XV 15:19 UT 1.15 R_e
NO CA XV ACTIVITY TODAY

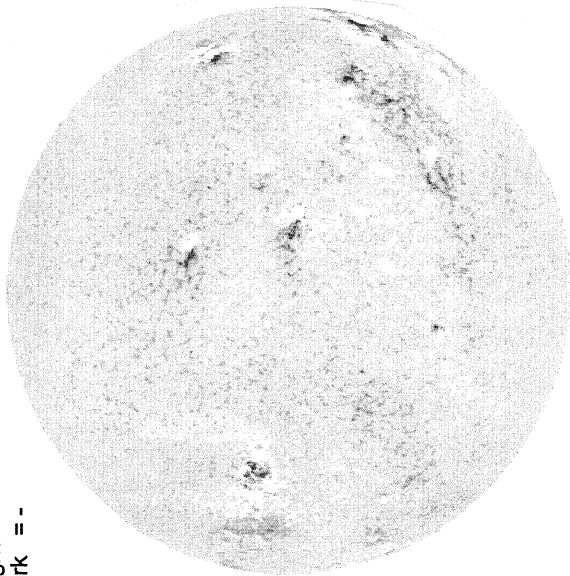
SEPTEMBER 27, 2002 (P= 25.64, Bo = 6.90, Lo = 127.74)

78
Sep 02

KITT PEAK MAGNETOGRAM

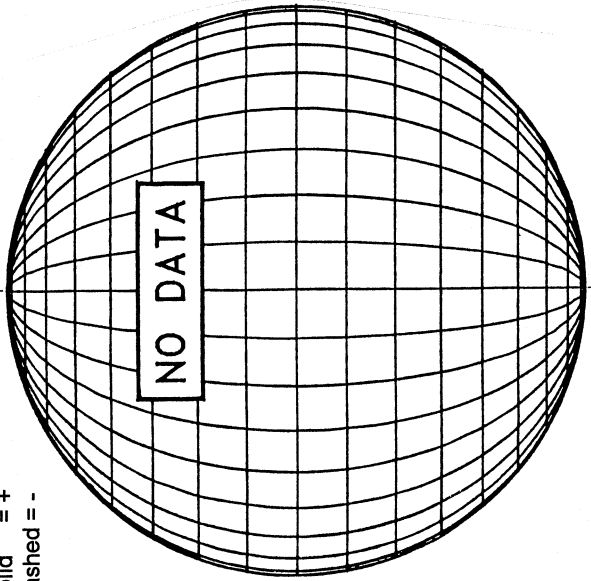
868.8 nm

Bright = +
Dark = -



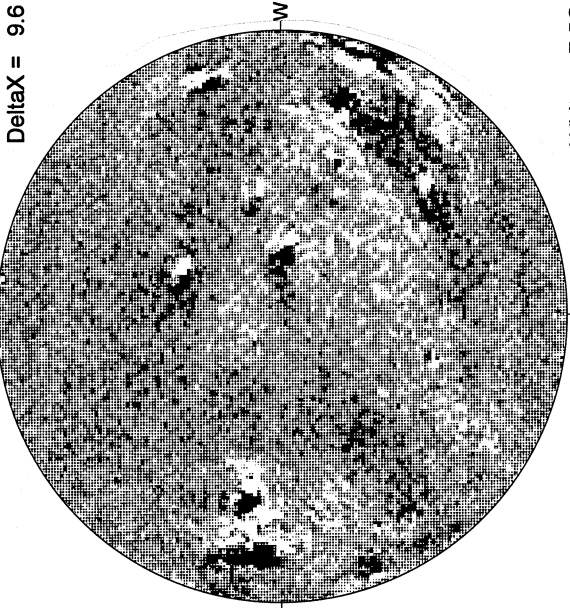
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



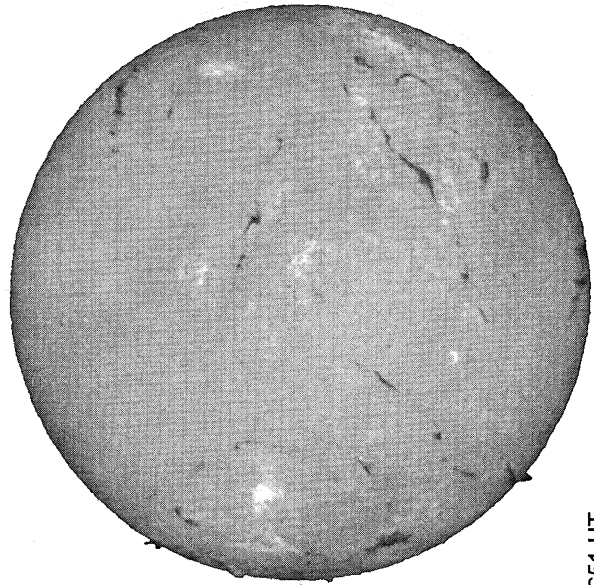
MT. WILSON MAGNETOGRAM

DeltaY = 13.0
DeltaX = 9.6



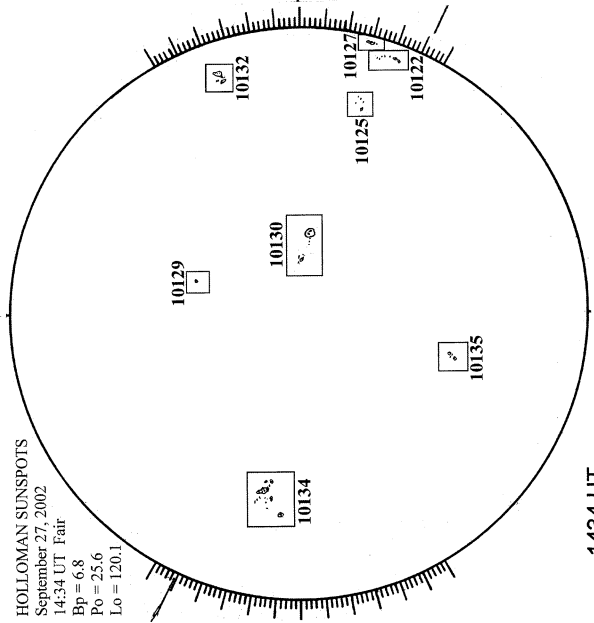
White = +7.5G
Black = -7.5G

MEUDON H-ALPHA

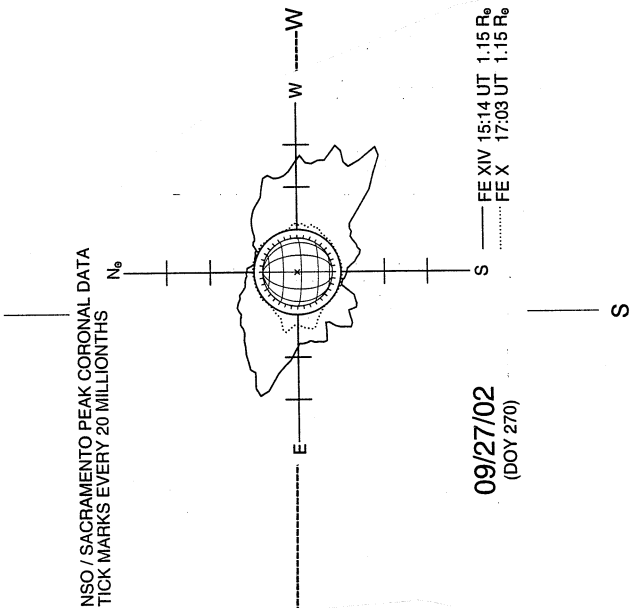


HOLLOMAN SUNSPOT

HOLLOMAN SUNSPOTS
September 27, 2002
14:34 UT Fair
Bp = 6.8
Po = 25.6
Lo = 120.1



SACRAMENTO PEAK CORONA (1.15 Radii)----



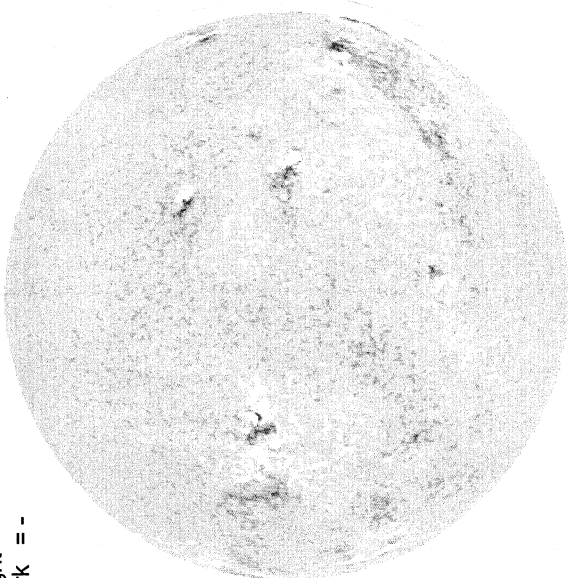
SEPTEMBER 28, 2002 (P= 25.73, Bo = 6.86, Lo = 114.54)

KITT PEAK MAGNETOGRAM

868.8 nm

N

Bright = +
Dark = -

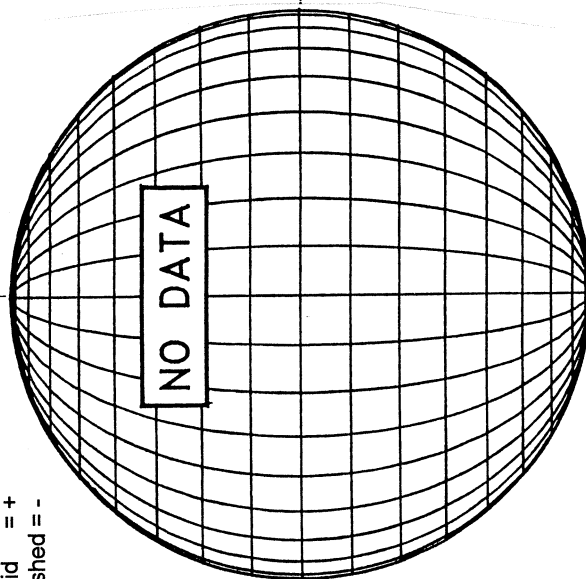


1549 UT

STANFORD MAGNETOGRAM

N

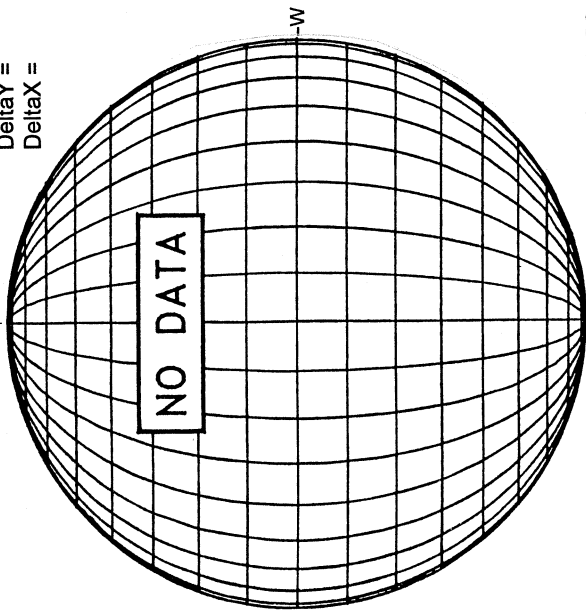
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

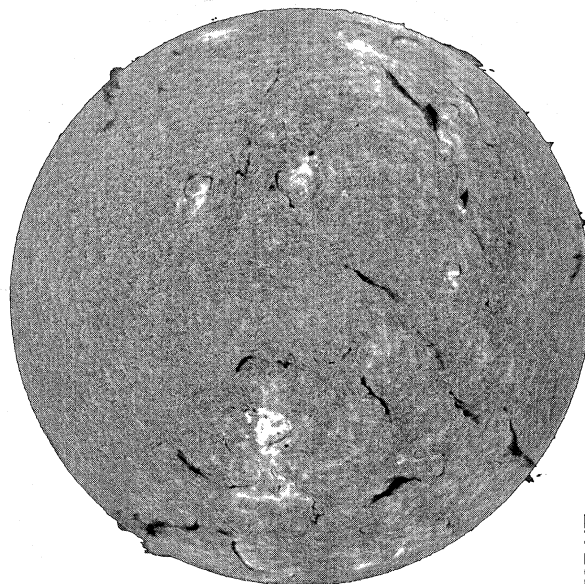
N

DeltaY =
DeltaX =



White = +7.5G
Black = -7.5G

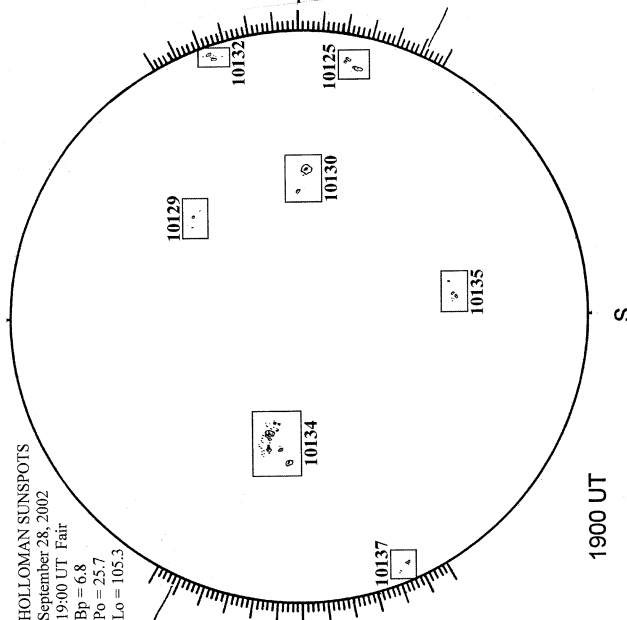
BIG BEAR H-ALPHA



1727 UT

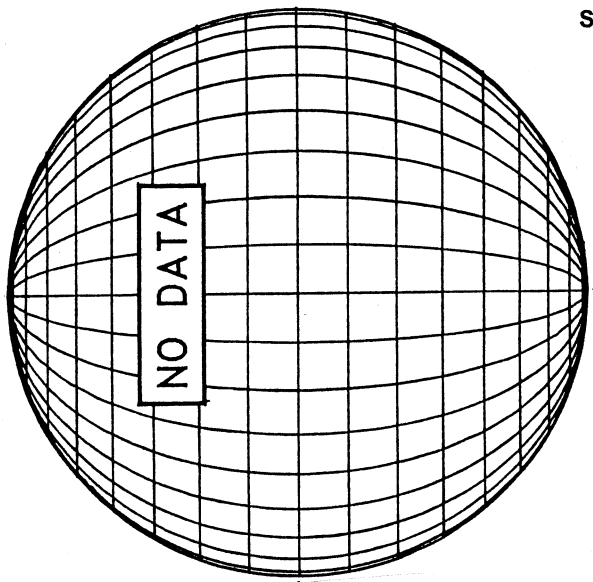
HOLLOMAN SUNSPOT

HOLLOMAN SUNSPOTS
September 28, 2002
19:00 UT Fair
Bp = 6.8
Po = 25.7
Lo = 105.3



1900 UT

LOMNICKY PEAK CORONA (1.04 Radii)----

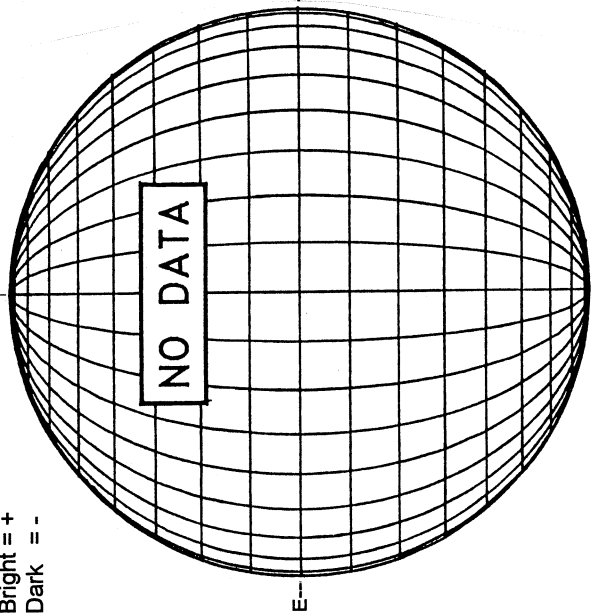


SEPTEMBER 29, 2002 (P = 25.82 Bo = 6.82, Lo = 101.35)

KITT PEAK MAGNETOGRAM

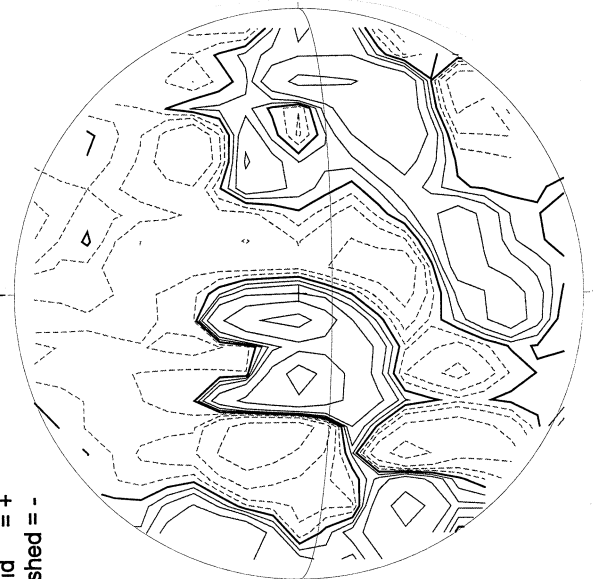
868.8 nm

Bright = +
Dark = -



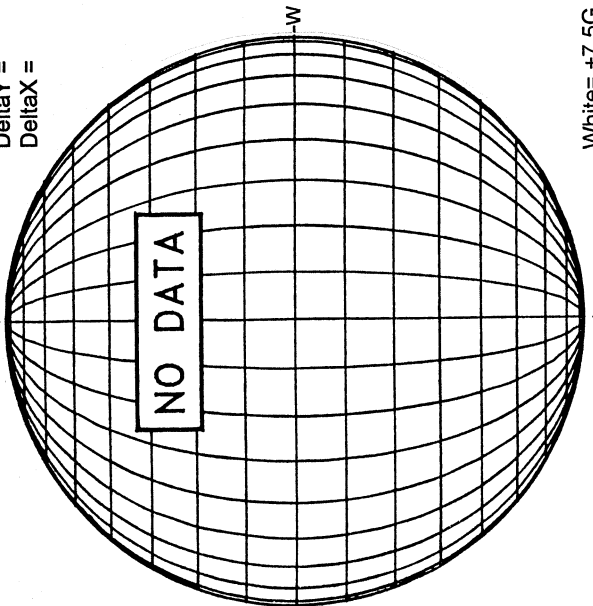
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



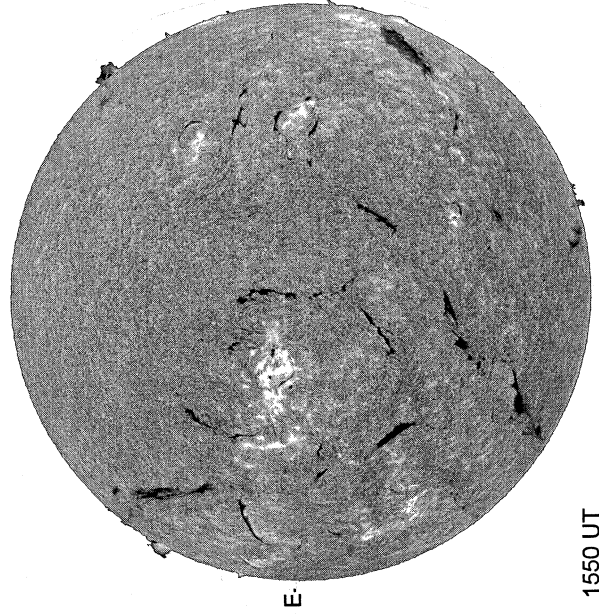
MT. WILSON MAGNETOGRAM

Delta Y =
Delta X =



White = +7.5G
Black = -7.5G

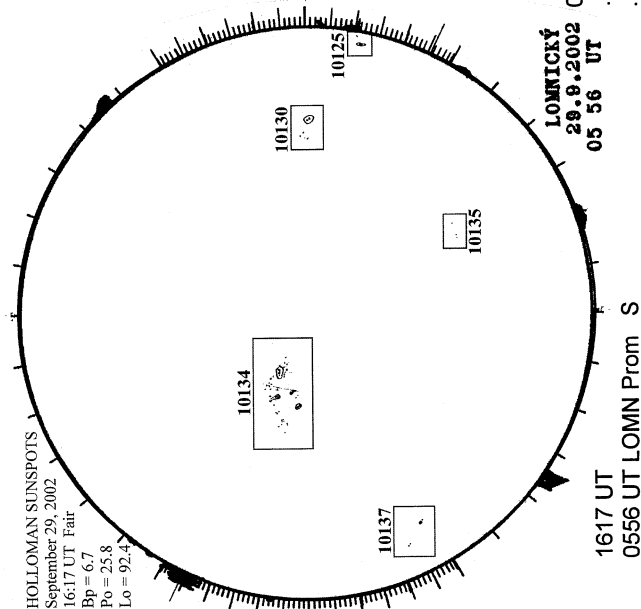
BIG BEAR H-ALPHA



1550 UT

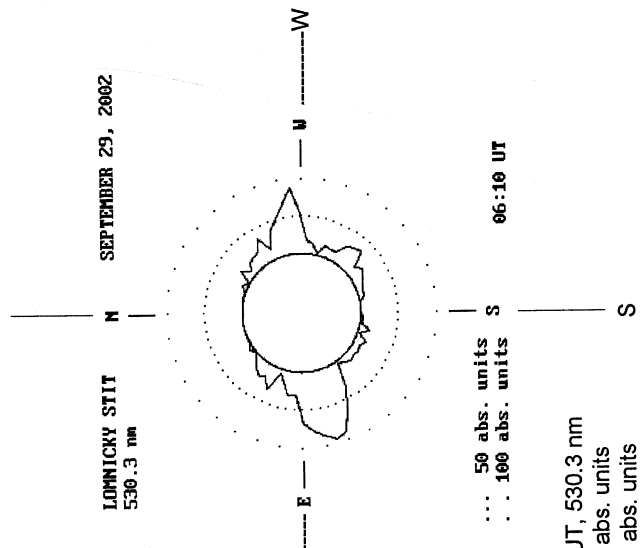
HOLLOMAN SUNSPOT

HOLLOMAN SUNSPOTS
September 29, 2002
16:17 UT Fair
Bp = 6.7
Po = 25.8
Lo = 92.4



1617 UT
0556 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)---



... 50 abs. units
... 100 abs. units

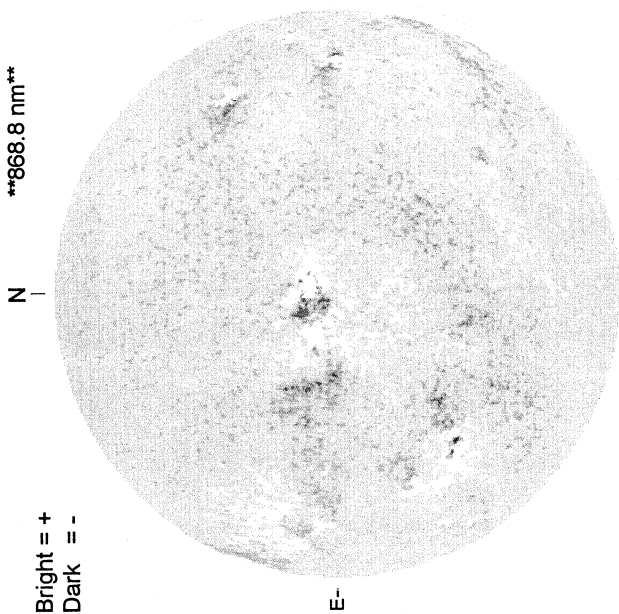
LOMNICKY
29.9.2002
05 56 UT
0610 UT, 530.3 nm
... 50 abs. units
... 100 abs. units

S

SEPTEMBER 30, 2002 (P = 25.89, Bo = 6.77, Lo = 88.15)

KITT PEAK MAGNETOGRAM

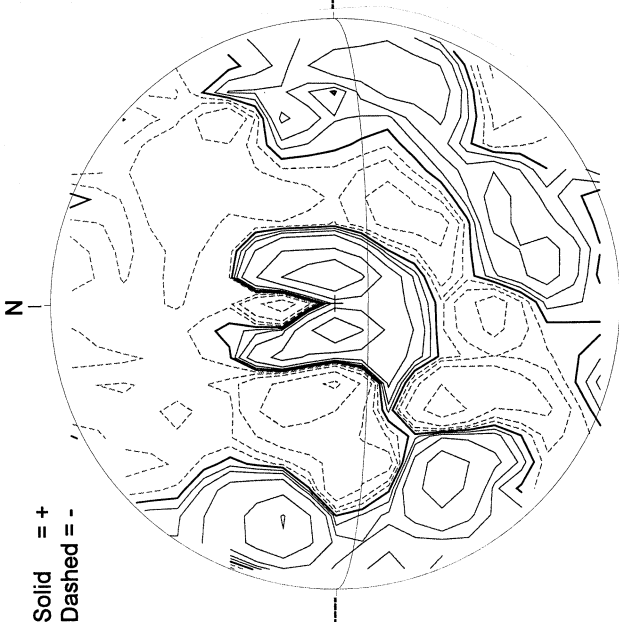
868.8 nm



Bright = +
Dark = -

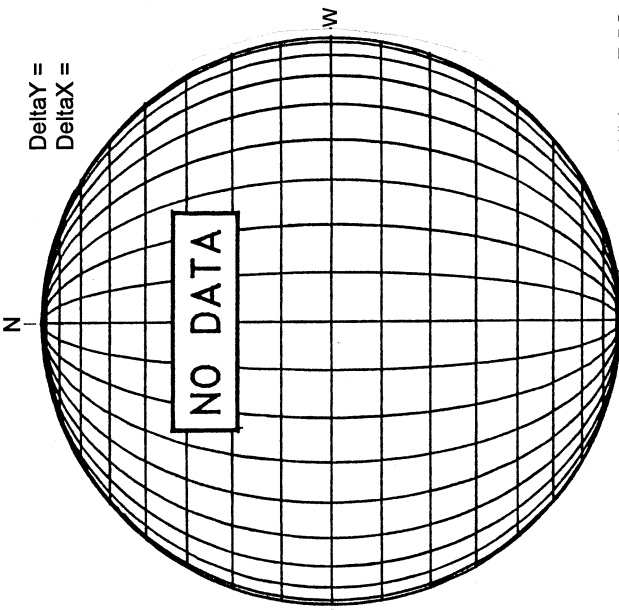
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

Delta Y =
Delta X =



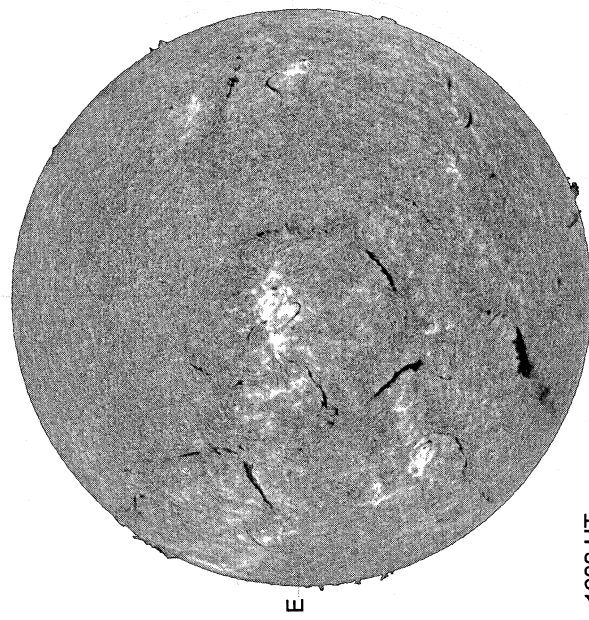
NO DATA

White = +7.5G
Black = -7.5G

1657 UT

2206 UT

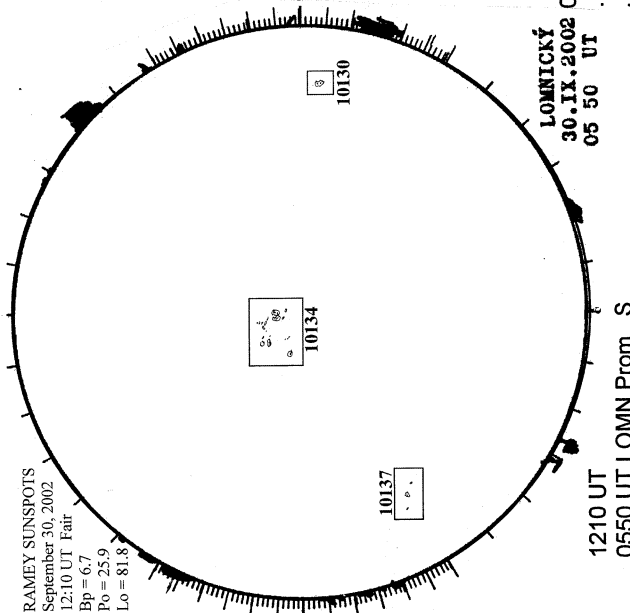
BIG BEAR H-ALPHA



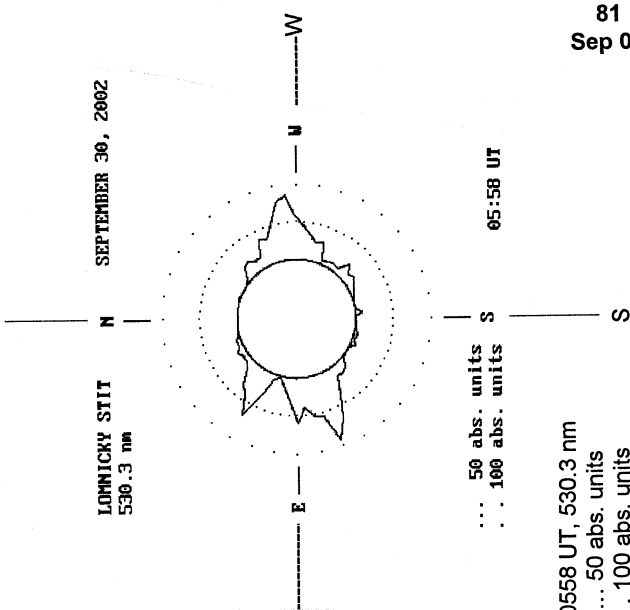
1608 UT

RAMEY SUNSPOT

RAMEY SUNSPOTS
September 30, 2002
12:10 UT Fair
Bp = 6.7
Po = 25.9
Lo = 81.8



LOMNICKY PEAK CORONA (1.04 Radii)----

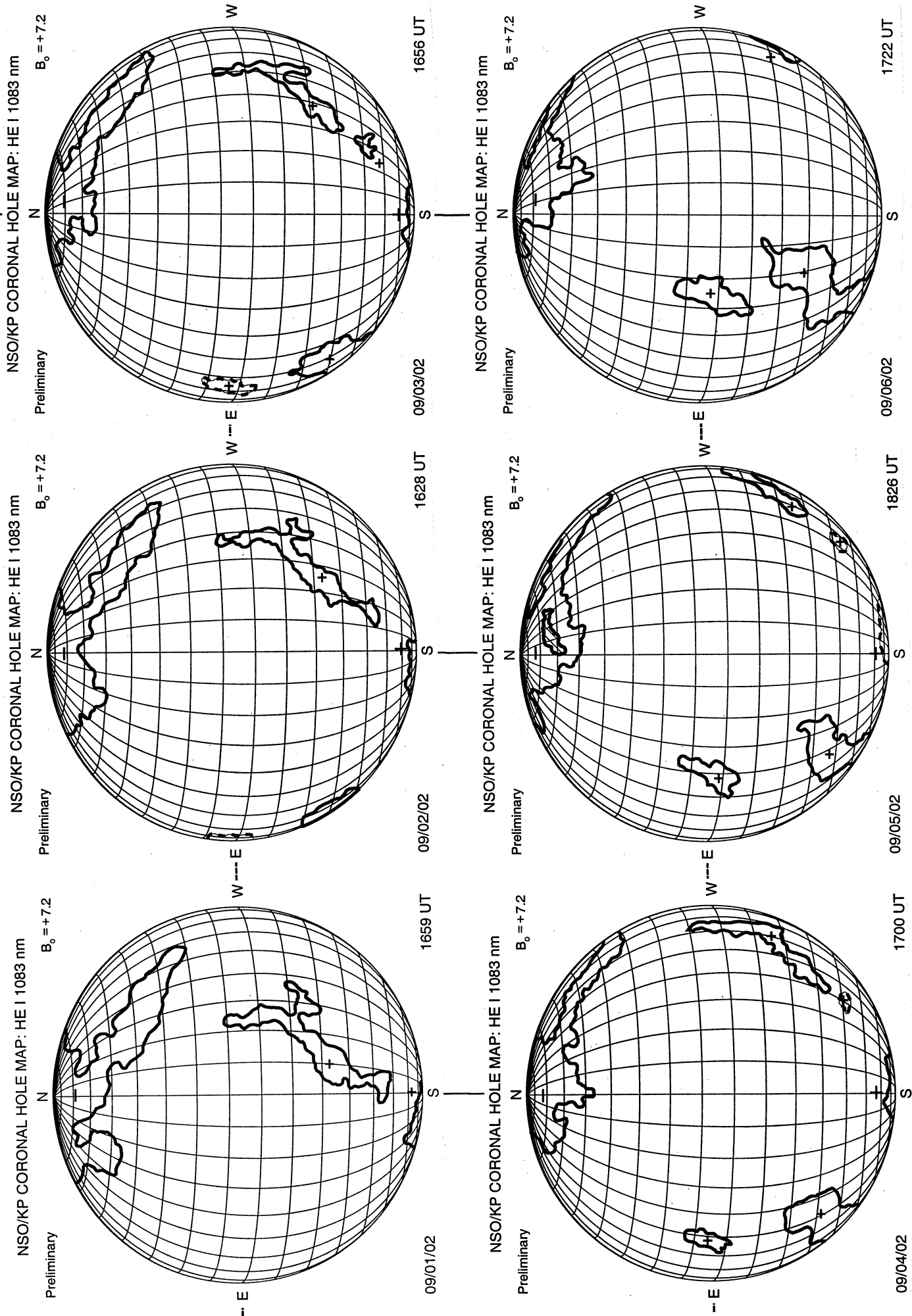


LOMNICKY STIT
530.3 nm

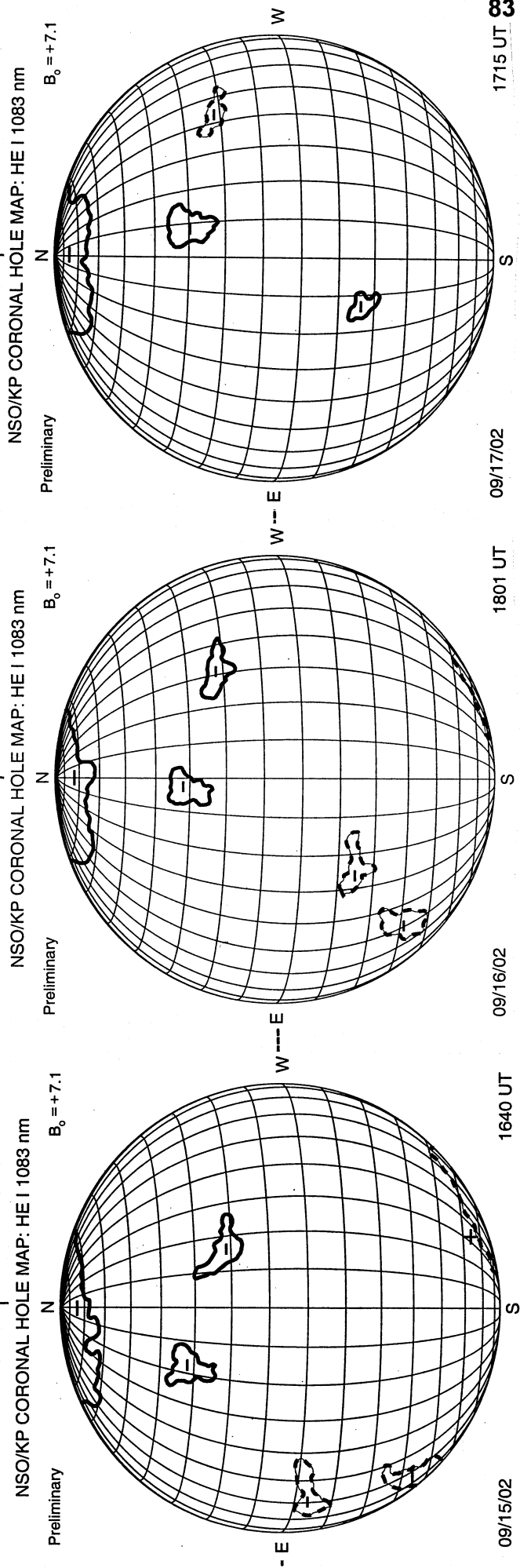
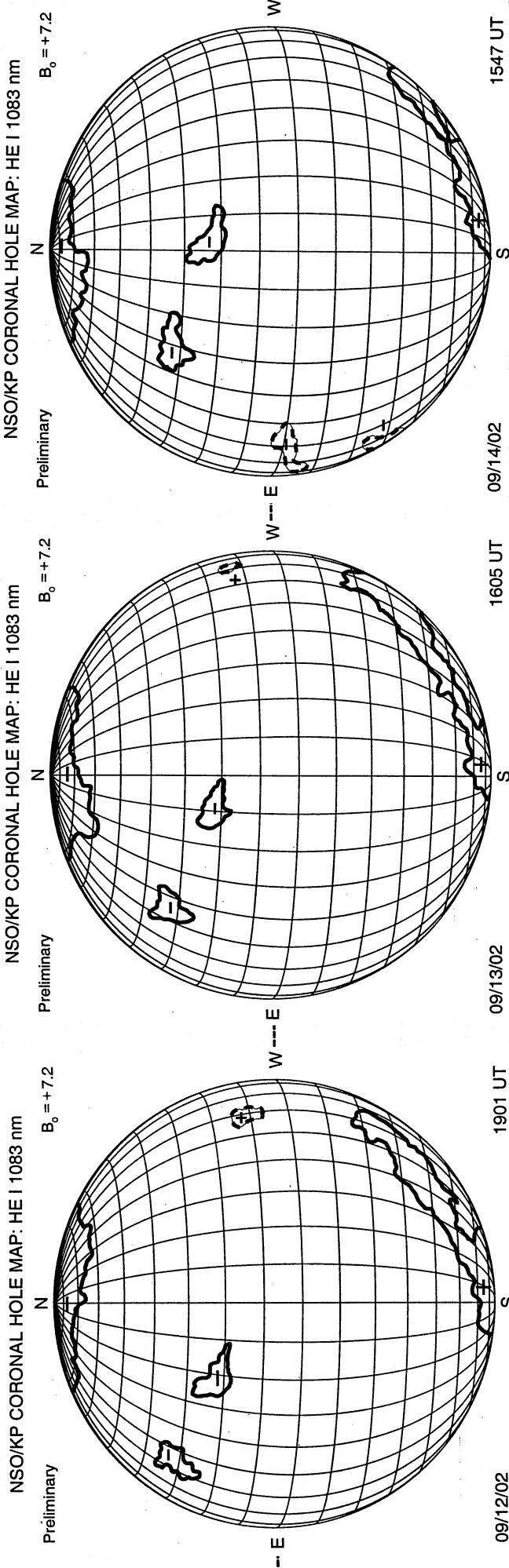
... 50 abs. units
... 100 abs. units

LOMNICKY
30.IX.2002 0558 UT, 530.3 nm
05 50 UT
... 50 abs. units
... 100 abs. units

KITT PEAK CORONAL HOLE MAPS HE I 1083 nm September 2002

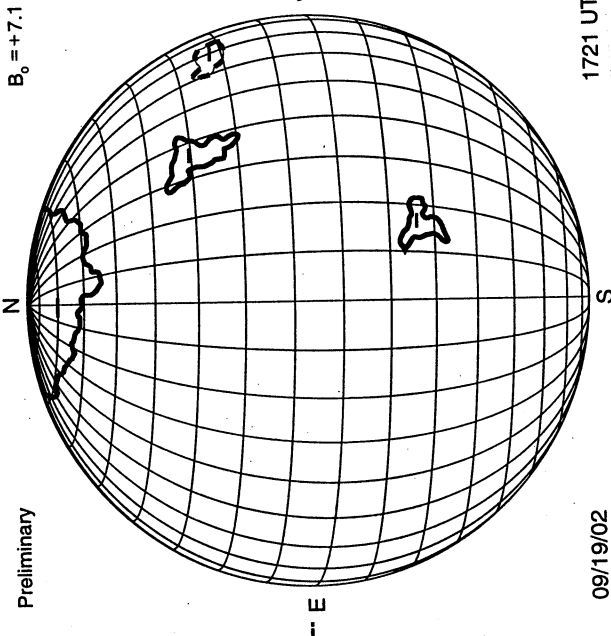


KITT PEAK CORONAL HOLE MAPS HE I 1083 nm September 2002

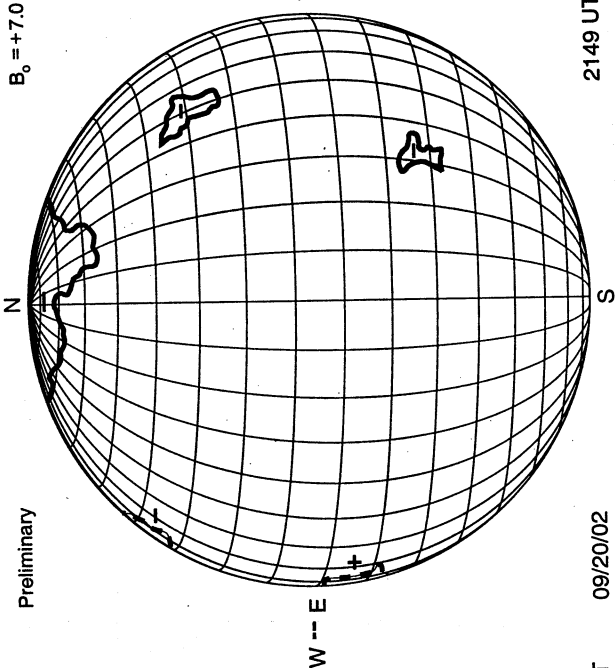


KITT PEAK CORONAL HOLE MAPS HE I 1083 nm September 2002

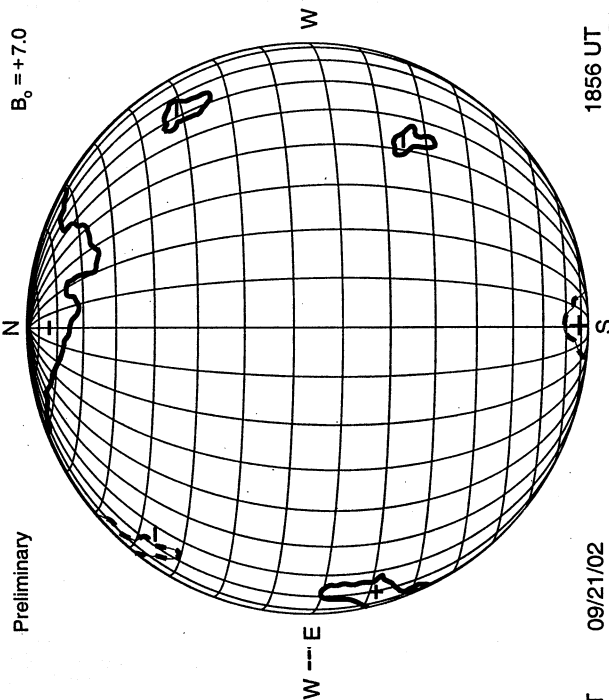
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



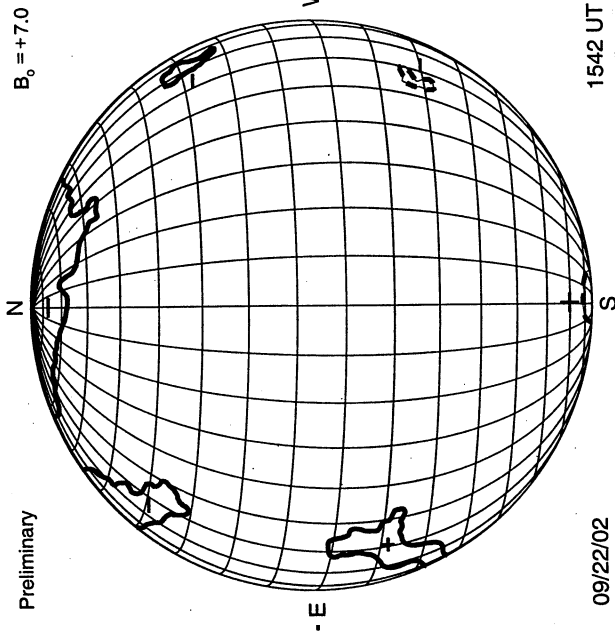
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



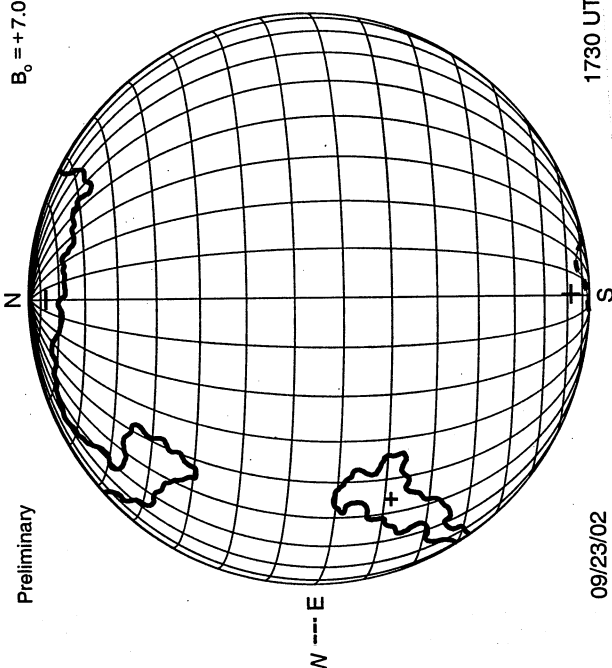
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



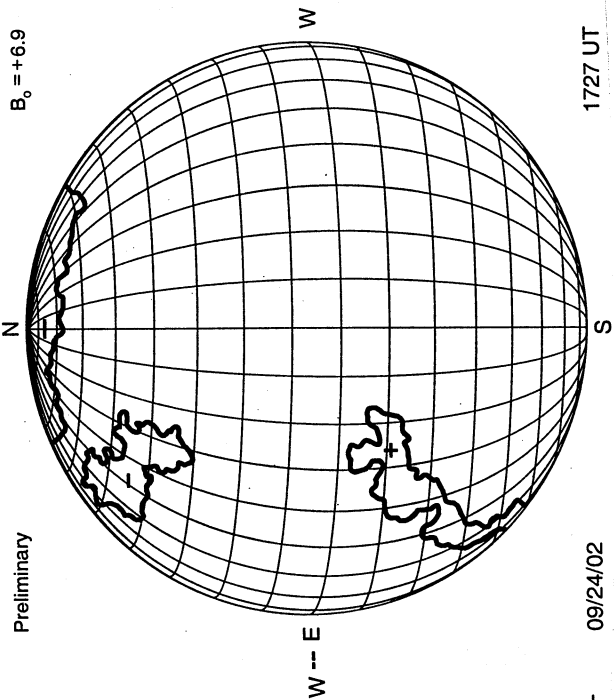
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



NSO/KP CORONAL HOLE MAP: HE I 1083 nm



NSO/KP CORONAL HOLE MAP: HE I 1083 nm



1856 UT

09/21/02

2149 UT

09/20/02

1721 UT

09/19/02

1727 UT

09/24/02

1730 UT

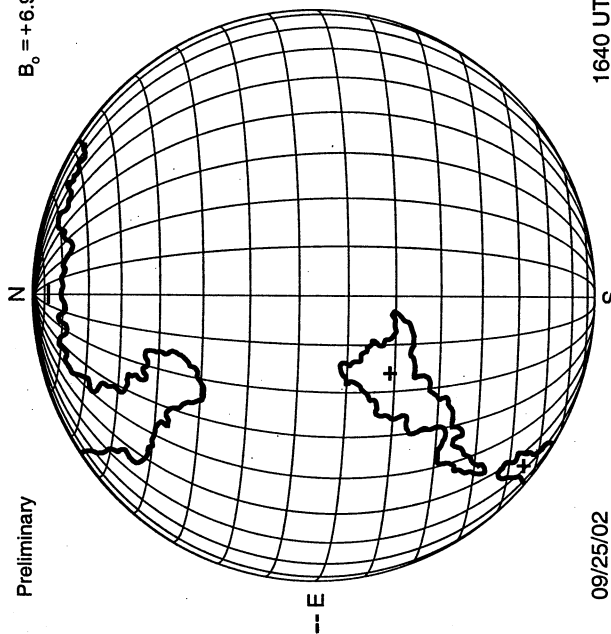
09/23/02

1542 UT

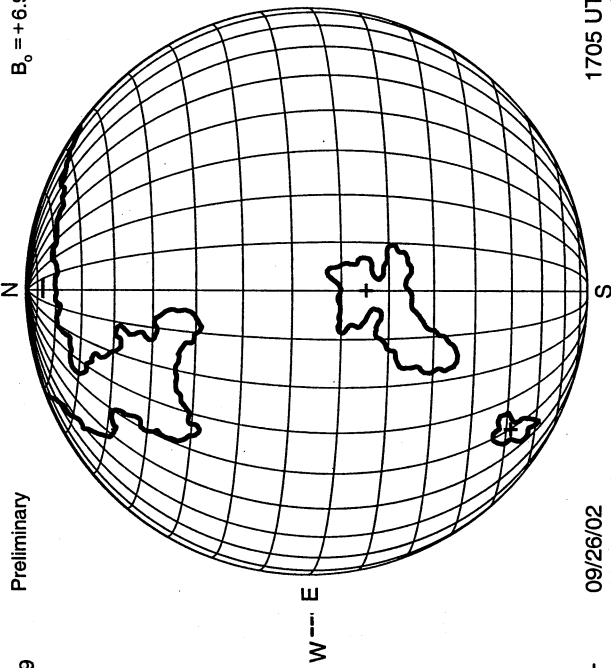
09/22/02

KITT PEAK CORONAL HOLE MAPS HE I 1083 nm September 2002

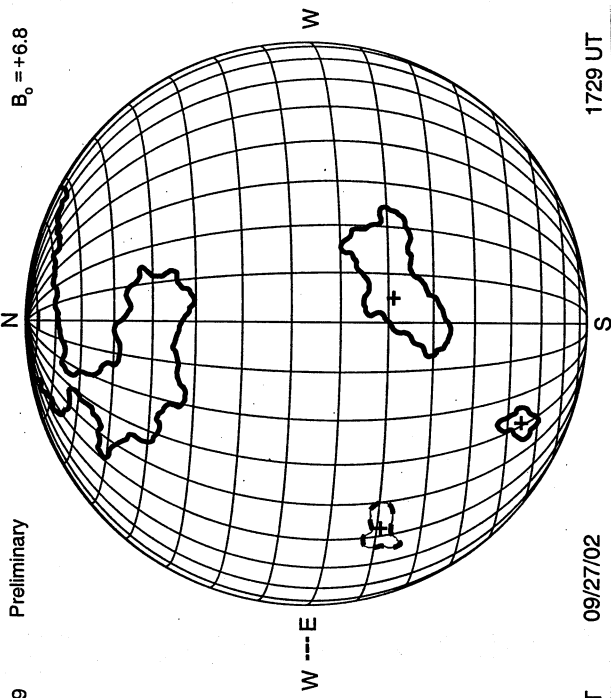
NSO/KP CORONAL HOLE MAP: HE I 1083 nm
Preliminary
 $B_o = +6.9$



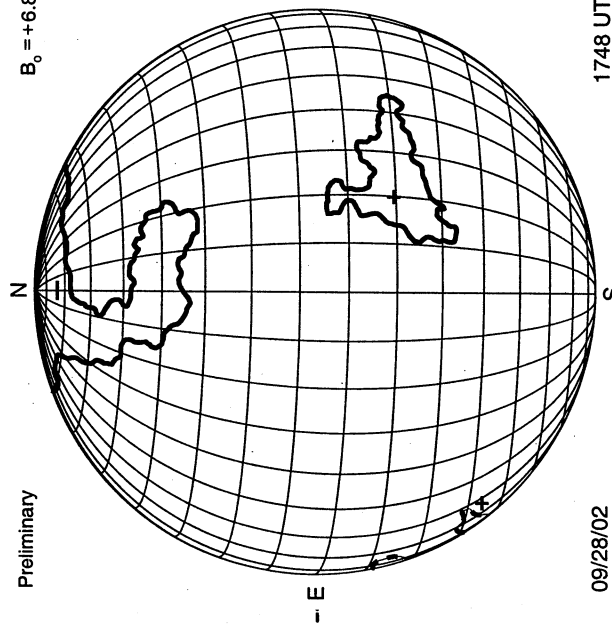
NSO/KP CORONAL HOLE MAP: HE I 1083 nm
Preliminary
 $B_o = +6.9$



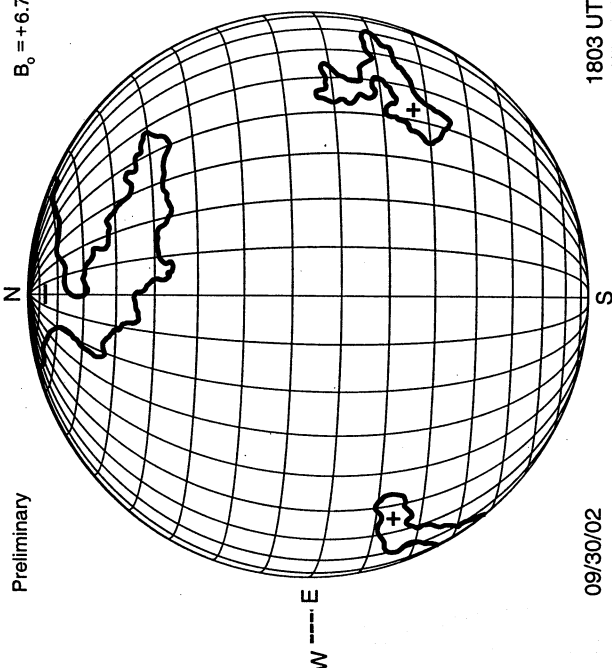
NSO/KP CORONAL HOLE MAP: HE I 1083 nm
Preliminary
 $B_o = +6.8$



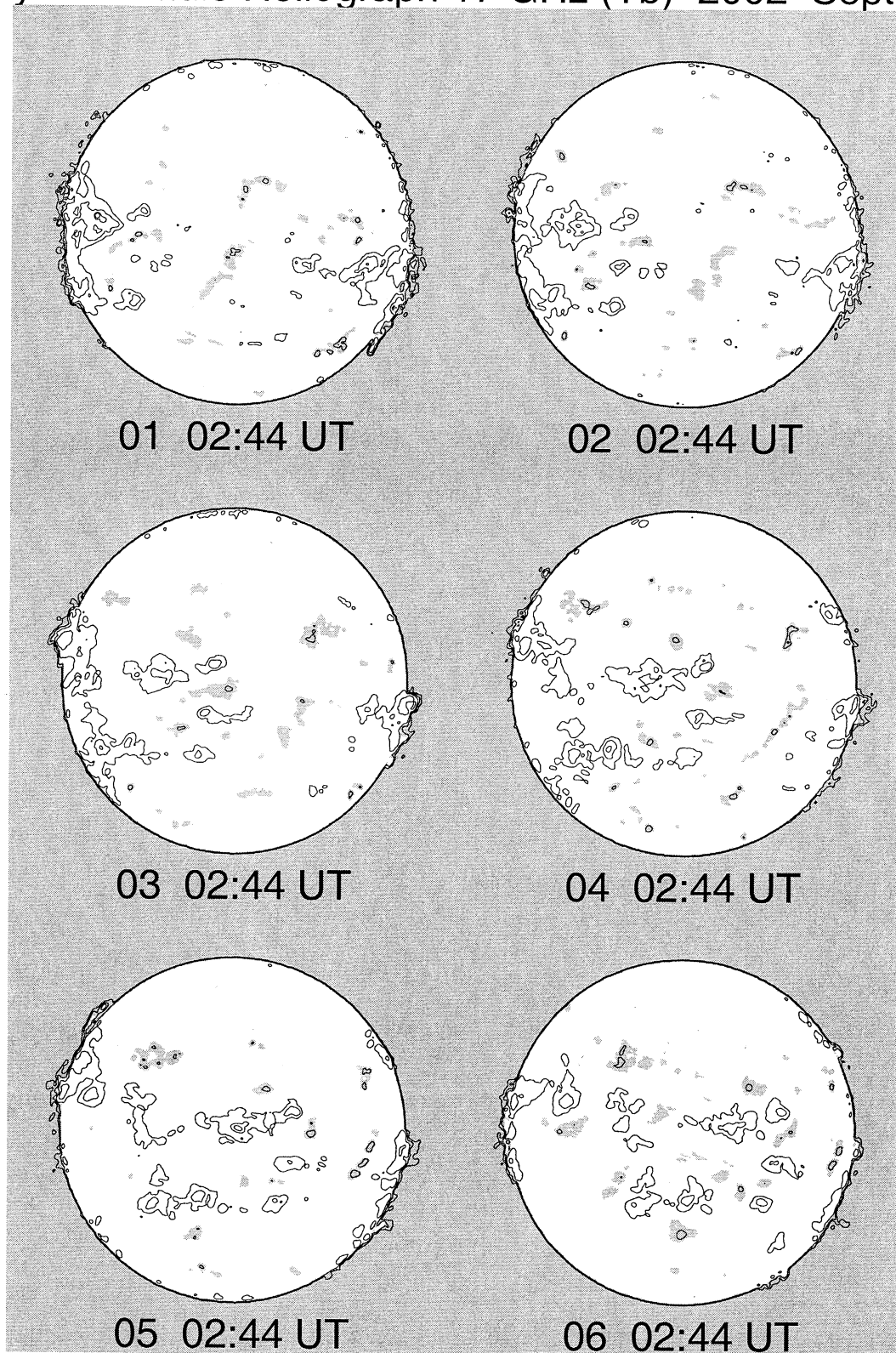
NSO/KP CORONAL HOLE MAP: HE I 1083 nm
Preliminary
 $B_o = +6.8$



NSO/KP CORONAL HOLE MAP: HE I 1083 nm
Preliminary
 $B_o = +6.7$

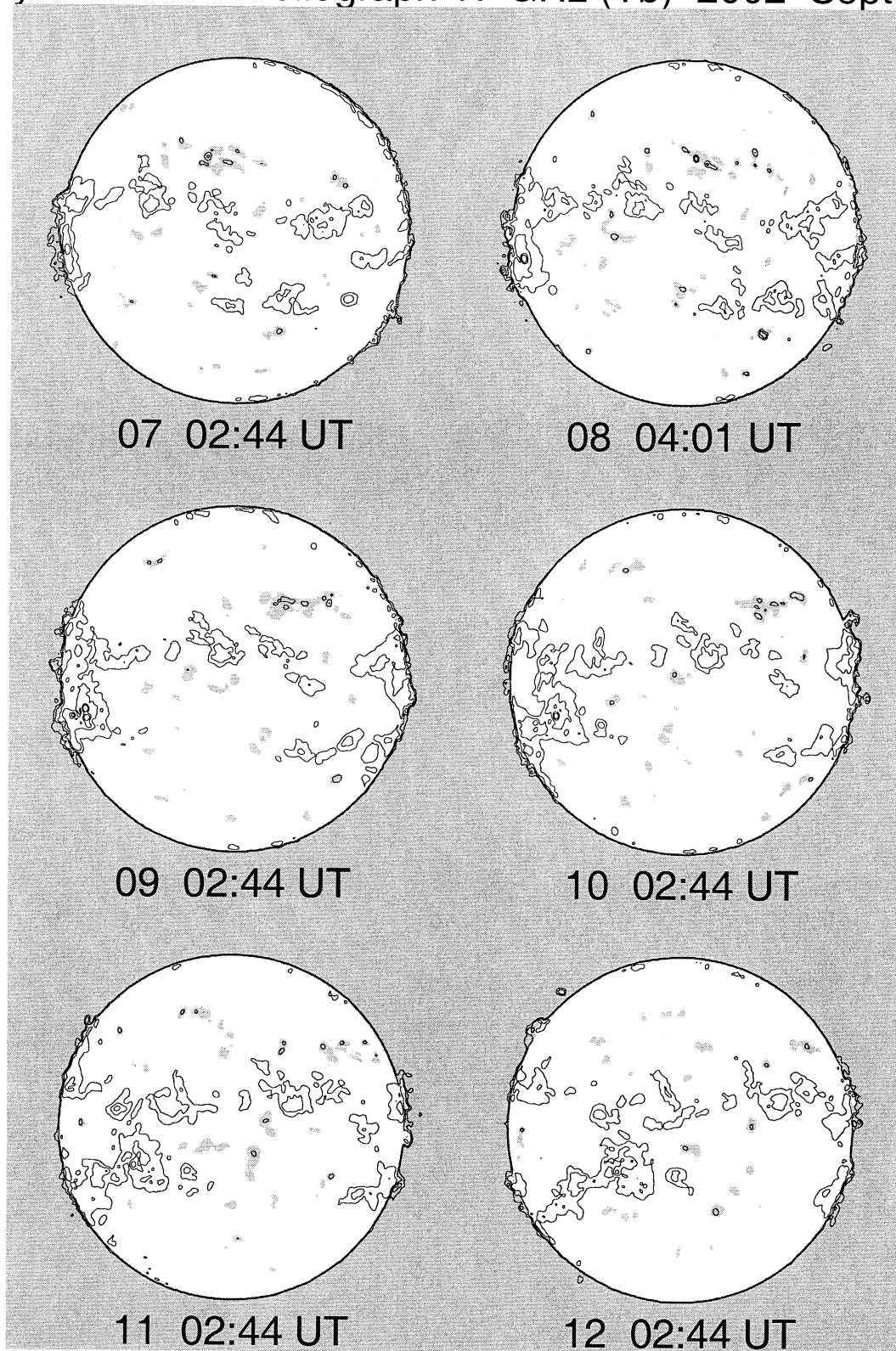


Nobeyama Radio Heliograph 17 GHz (Tb) 2002 September



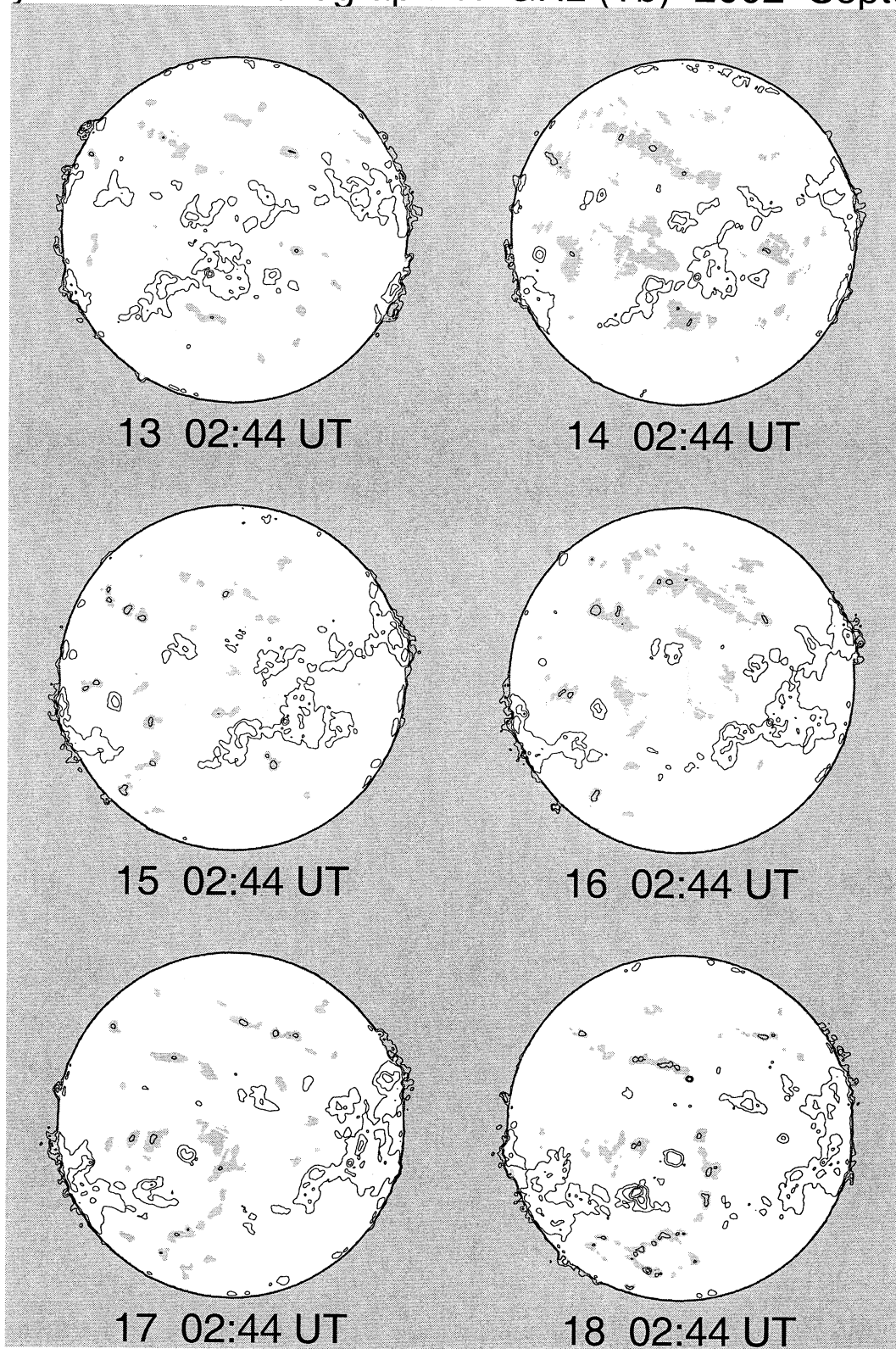
Contour Levels Tb=[5,8,12,20,50,100] x 10^3 K
Grey level Tb $\leq$ 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2002 September



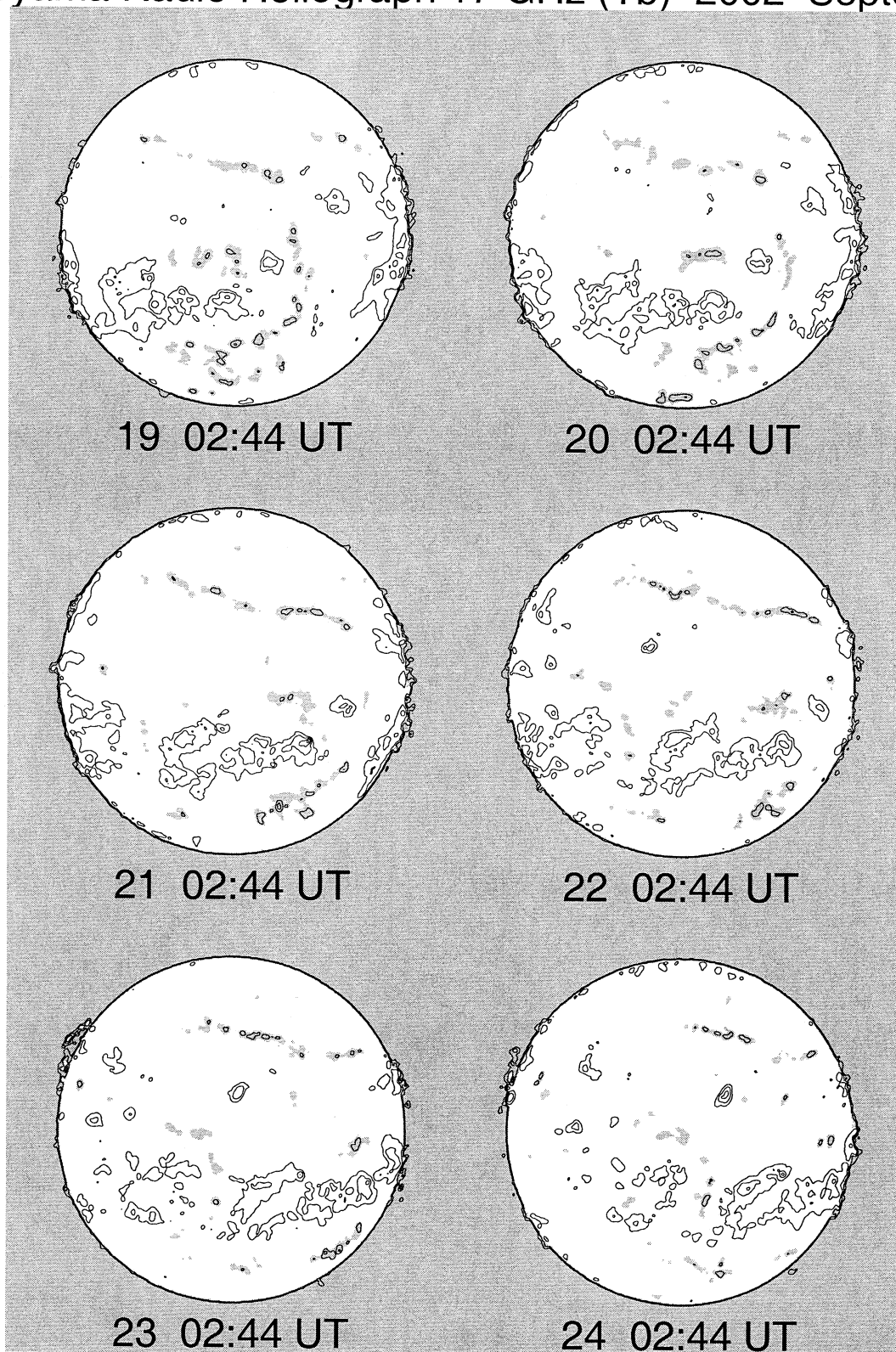
Contour Levels Tb=[5,8,12,20,50,100] x 10³ K
Grey level Tb ≤ 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2002 September



Contour Levels $T_b = [5, 8, 12, 20, 50, 100] \times 10^3 \text{ K}$
Grey level $T_b \leq 9,500 \text{ K}$

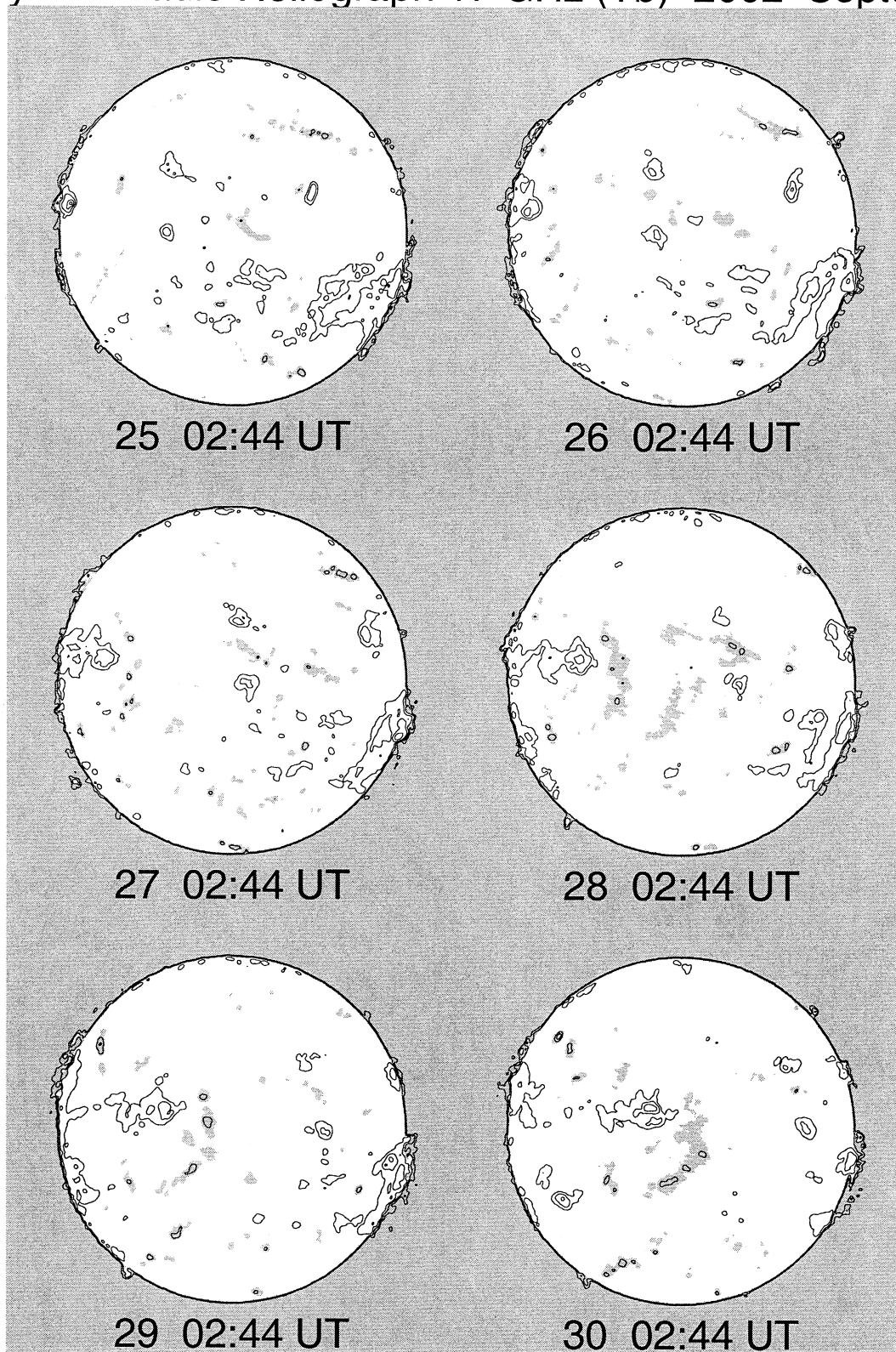
Nobeyama Radio Heliograph 17 GHz (Tb) 2002 September



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

90
Sep 02

Nobeyama Radio Heliograph 17 GHz (Tb) 2002 September



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

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

91
Sep 02

SEPTEMBER 2002

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
10090F		HOLL	09 01 1438	S03	E15	09 2.7		B	BXO	10	3	3	3
10090F		RAMY	09 02 1226	S06	E04	09 2.8		B	BXO	10	2	3	3
10090F		RAMY	09 03 1221	S06	W10	09 2.8		B	BXO	10	2	3	3
10090F	31409	MWIL	09 03 1500	S03	W13	09 2.6	3	(AP)					
10097		RAMY	08 31 1355	N13	E40	09 3.6		B	DSO	30	3	4	3
10097		HOLL	08 31 1532	N13	E40	09 3.7		B	BXO	10	3	5	3
10097		TACH	09 01 0459	N12	E27	09 3.2			BRI	10	5	3	5
10097		SVTO	09 01 0819	N12	E29	09 3.5		B	DSO	30	4	4	3
10097		RAMY	09 01 1301	N13	E27	09 3.6		B	DSO	30	8	6	2
10097		HOLL	09 01 1438	N13	E25	09 3.5		B	CAO	30	13	7	3
10097	31402	MWIL	09 01 1700	N13	E23	09 3.4	4	(B)					
10097		VORO	09 02 0006	N13	E20	09 3.5			BXI	32	14	5	2
10097		TACH	09 02 0800	N14	E13	09 3.3			BRO	34	3	4	4
10097		RAMY	09 02 1226	N12	E14	09 3.6		B	DAO	100	16	7	3
10097		HOLL	09 02 1445	N13	E13	09 3.6		B	DAI	110	21	9	4
10097	31402	MWIL	09 02 2000	N13	E09	09 3.5	4	B					
10097		VORO	09 03 0151	N13	E06	09 3.5			CAI	96	11	6	2
10097		SVTO	09 03 0630	N13	E04	09 3.6		B	DAO	80	10	8	2
10097		TACH	09 03 0643	N14	E02	09 3.4			BRI	45	8	5	3
10097		RAMY	09 03 1221	N12	W01	09 3.4		B	DAO	110	25	8	3
10097	31402	MWIL	09 03 1500	N13	W02	09 3.5	4	(BP)					
10097		VORO	09 03 2246	N13	W06	09 3.5			DAI	122	11	7	3
10097		TACH	09 04 0425	N14	W08	09 3.6			CAI	77	6	5	4
10097		SVTO	09 04 0600	N13	W10	09 3.5		B	DAO	100	12	7	3
10097		RAMY	09 04 1258	N13	W14	09 3.5		B	DAI	60	17	7	3
10097	31402	MWIL	09 04 1500	N13	W15	09 3.5	4	B					
10097		HOLL	09 04 1523	N13	W15	09 3.5		B	DAI	60	18	8	3
10097		TACH	09 05 0534	N10	W21	09 3.6			CAI	87	10	7	3
10097		SVTO	09 05 0620	N13	W24	09 3.4		B	DAO	150	14	8	2
10097		RAMY	09 05 1215	N11	W29	09 3.3		B	DAO	140	17	8	3
10097		HOLL	09 05 1421	N13	W28	09 3.5		B	DAO	60	10	8	4
10097		VORO	09 05 2208	N13	W33	09 3.4			CAI	93	10	7	3
10097		SVTO	09 06 0700	N12	W37	09 3.5		B	DSO	40	5	8	3
10097		RAMY	09 06 1305	N12	W43	09 3.3		B	DSO	50	6	9	2
10097		HOLL	09 06 1426	N13	W43	09 3.3		B	DAO	50	10	8	3
10097	31402	MWIL	09 06 1800	N13	W44	09 3.4	4	B					
10097		VORO	09 06 2201	N13	W46	09 3.4			CAI	51	6	6	3
10097		TACH	09 07 0542	N11	W48	09 3.6			CAO	148	3	7	3
10097		LEAR	09 07 0758	N13	W52	09 3.4		B	DSO	50	3	6	2
10097		SVTO	09 07 1227	N12	W59	09 3.1		A	HSX	40	1	1	3
10097		RAMY	09 07 1327	N11	W56	09 3.3		B	CSO	20	2	7	3
10097		HOLL	09 07 1422	N13	W57	09 3.3		B	CAO	60	7	7	3
10097	31402	MWIL	09 07 1430	N13	W56	09 3.4	4	(B)					
10097		LEAR	09 08 0015	N13	W61	09 3.4		B	CAO	30	2	6	4
10097		TACH	09 08 0547	N14	W64	09 3.4			AXX	6	1	1	3
10097		RAMY	09 08 1210	N13	W71	09 3.1		B	CSO	40	3	3	3
10097		HOLL	09 08 1430	N13	W71	09 3.2		A	AXX	10	1	1	4
10099		TACH	09 01 0459	S02	E33	09 3.7			AR	4	2	1	5
10099		SVTO	09 01 0819	S03	E35	09 4.0		B	CAO	20	4	3	3
10099		RAMY	09 01 1301	S04	E33	09 4.0		B	DSO	30	5	4	2
10099		HOLL	09 01 1438	S03	E31	09 3.9		B	DAO	60	9	4	3
10099	31403	MWIL	09 01 1700	S04	E29	09 3.9	4	(B)					
10099		VORO	09 02 0006	S04	E26	09 3.9			CAO	60	7	4	2
10099		TACH	09 02 0800	S01	E17	09 3.6			BRI	25	5	4	4
10099		RAMY	09 02 1226	S04	E18	09 3.9		B	DSO	80	7	6	3
10099		HOLL	09 02 1445	S04	E16	09 3.8		B	DSO	70	8	6	4
10099	31403	MWIL	09 02 2000	S03	E13	09 3.8	4	BP					
10099		VORO	09 03 0151	S03	E09	09 3.7			CAI	106	7	6	2
10099		SVTO	09 03 0630	S04	E07	09 3.8		B	DSO	60	6	5	2
10099		TACH	09 03 0643	S02	E04	09 3.6			CAI	60	5	4	3
10099		RAMY	09 03 1221	S05	E04	09 3.8		B	DAO	130	18	7	3
10099	31403	MWIL	09 03 1500	S04	E02	09 3.8	5	(B)					
10099		TACH	09 04 0425	S02	W05	09 3.8			CSO	44	2	6	4
10099		SVTO	09 04 0600	S04	W06	09 3.8		B	DSO	50	6	7	3
10099		RAMY	09 04 1258	S04	W11	09 3.7		B	CSO	30	4	8	3
10099	31403	MWIL	09 04 1500	S04	W13	09 3.6	5	BP					
10099		HOLL	09 04 1523	S05	W12	09 3.7		B	CSO	20	4	7	3

92
Sep 02

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

SEPTEMBER 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
10099		TACH	09 05 0534	S06 W21	09 3.7			AXX	22	1	1	3
10099		SVTO	09 05 0620	S05 W21	09 3.7		B	CSO	30	4	7	2
10099		RAMY	09 05 1215	S06 W23	09 3.8		B	CSO	40	5	9	3
10099		HOLL	09 05 1421	S04 W26	09 3.6		B	CSO	30	4	7	4
10099		VORO	09 05 2208	S04 W32	09 3.5			HRX	18	1		3
10099		SVTO	09 06 0700	S05 W38	09 3.4		A	HSX	20	1	1	3
10099		HOLL	09 06 1426	S03 W38	09 3.8		B	CSO	30	7	8	3
10099	31403	MWIL	09 06 1800	S04 W44	09 3.5	4	AP					
10099		VORO	09 06 2201	S04 W46	09 3.5			AXX	11	1		3
10099		TACH	09 07 0542	S05 W48	09 3.6			AXX	11	1	1	3
10099		LEAR	09 07 0758	S04 W53	09 3.4		B	CAO	30	3	3	2
10099		HOLL	09 07 1422	S03 W56	09 3.4		A	AXX	20	6	3	3
10099	31403	MWIL	09 07 1430	S04 W56	09 3.4	4	(B)					
10099		LEAR	09 08 0015	S03 W62	09 3.4		A	AXX		1		4
10094		RAMY	08 29 1220	S17 E73	09 4.1		B	CSO	30	3	4	3
10094	31398	MWIL	08 29 1500	S18 E69	09 3.9	3	(B)					
10094		HOLL	08 29 1532	S17 E70	09 4.0		B	CSO	50	3	8	3
10094		VORO	08 30 0044	S17 E64	09 3.9			HAX	46	1		3
10094		TACH	08 30 0540	S16 E61	09 3.9			DSI	138	4	5	3
10094		SVTO	08 30 0820	S17 E61	09 4.0		B	DSO	140	5	6	3
10094		RAMY	08 30 1155	S17 E60	09 4.0		B	DSO	160	6	6	2
10094		HOLL	08 30 1448	S18 E57	09 3.9		B	DAO	160	14	6	4
10094	31398	MWIL	08 30 1600	S18 E56	09 3.9	4	(B)					
10094		TACH	08 31 0413	S17 E47	09 3.7			DSI	145	4	5	4
10094		SVTO	08 31 0602	S18 E49	09 4.0		B	DSO	140	2	5	3
10094		RAMY	08 31 1355	S18 E46	09 4.1		B	DSO	220	5	6	3
10094		HOLL	08 31 1532	S18 E43	09 3.9		B	DAI	230	7	6	3
10094		TACH	09 01 0459	S16 E34	09 3.8			DAI	111	5	5	5
10094		SVTO	09 01 0819	S18 E35	09 4.0		B	DAO	170	7	7	3
10094		RAMY	09 01 1301	S18 E33	09 4.0		B	DSO	180	5	6	2
10094		HOLL	09 01 1438	S18 E32	09 4.0		B	DAO	160	13	7	3
10094	31398	MWIL	09 01 1700	S18 E29	09 3.9	5	(BP)					
10094		VORO	09 02 0006	S18 E26	09 4.0			CAI	197	6	4	2
10094		TACH	09 02 0800	S15 E18	09 3.7			CSO	77	3	3	4
10094		RAMY	09 02 1226	S19 E21	09 4.1		B	DSO	140	9	6	3
10094		HOLL	09 02 1445	S18 E17	09 3.9		B	DHO	180	7	6	4
10094	31398	MWIL	09 02 2000	S18 E15	09 4.0	5	BP					
10094		VORO	09 03 0151	S17 E11	09 3.9			CSI	167	6	4	2
10094		SVTO	09 03 0630	S18 E10	09 4.0		B	CSO	140	4	6	2
10094		TACH	09 03 0643	S15 E05	09 3.6			CSO	112	3	4	3
10094		RAMY	09 03 1221	S18 E07	09 4.0		B	CSO	180	5	8	3
10094	31398	MWIL	09 03 1500	S18 E03	09 3.8	5	(BP)					
10094		VORO	09 03 2246	S17 E00	09 3.9			CSO	161	4	4	3
10094		TACH	09 04 0425	S16 W04	09 3.9			HSX	98	1	2	4
10094		SVTO	09 04 0600	S18 W04	09 3.9		B	CSO	120	2	6	3
10094		RAMY	09 04 1258	S18 W08	09 3.9		B	CAO	170	5	6	3
10094	31398	MWIL	09 04 1500	S18 W10	09 3.9	5	(BP)					
10094		HOLL	09 04 1523	S19 W11	09 3.8		A	HSX	130	2	2	3
10094		TACH	09 05 0534	S18 W16	09 4.0			HSX	133	1	2	3
10094		SVTO	09 05 0620	S19 W19	09 3.8		A	HSX	110	1	2	2
10094		RAMY	09 05 1215	S19 W20	09 4.0		B	CAO	130	5	6	3
10094		HOLL	09 05 1421	S18 W23	09 3.8		B	CAO	120	7	4	4
10094		VORO	09 05 2208	S18 W26	09 3.9			CSI	171	6	3	3
10094		SVTO	09 06 0700	S19 W32	09 3.8		B	CSO	90	3	5	3
10094		RAMY	09 06 1305	S19 W37	09 3.7		A	HSX	110	1	2	2
10094		HOLL	09 06 1426	S18 W36	09 3.8		B	CAO	140	6	4	3
10094	31398	MWIL	09 06 1800	S18 W38	09 3.8	5	BP					
10094		VORO	09 06 2201	S18 W40	09 3.9			HAX	173	2		3
10094		TACH	09 07 0542	S17 W43	09 4.0			HSX	154	1	2	3
10094		LEAR	09 07 0758	S17 W47	09 3.8		A	HSX	100	1	3	2
10094		SVTO	09 07 1227	S19 W49	09 3.8		A	HSX	100	1	4	3
10094		RAMY	09 07 1327	S20 W49	09 3.8		A	HSX	100	1	2	3
10094		HOLL	09 07 1422	S18 W51	09 3.7		A	HSX	150	1	2	3
10094	31398	MWIL	09 07 1430	S18 W51	09 3.7	4	(AP)					
10094		LEAR	09 08 0015	S17 W56	09 3.7		A	HSX	110	1	2	4
10094		TACH	09 08 0547	S16 W54	09 4.1			HSX	77	1	2	3
10094		SVTO	09 08 0625	S20 W60	09 3.7		A	HSX	80	1	2	2
10094		RAMY	09 08 1210	S19 W62	09 3.8		A	HSX	140	1	2	3

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

93
Sep 02

SEPTEMBER 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
10094	31398	HOLL	09 08 1430	S18 W64	09 3.7		A	HSX	100	1	2	4
10094		MWIL	09 08 1730	S18 W66	09 3.7	5	AP					
10094		VORO	09 08 2227	S18 W66	09 3.9			HAX	187	2		3
10094		LEAR	09 09 0020	S17 W68	09 3.8		A	HSX	120	1	2	3
10094		TACH	09 09 0545	S18 W68	09 4.1			HSX	80	1	2	4
10094		SVTO	09 09 0809	S19 W74	09 3.7		A	HSX	60	1	2	3
10094		RAMY	09 09 1226	S19 W79	09 3.5		A	HSX	60	1	2	3
10094		MWIL	09 09 1445	S18 W78	09 3.7	5	(AP)					
10094		HOLL	09 09 1530	S18 W79	09 3.6		A	HSX	60	1	1	2
10094		VORO	09 09 2320	S19 W80	09 3.9			HAX	58	1		3
10099A	31417	MWIL	09 08 1730	N27 W54	09 4.5	4	B					
10095	31399	TACH	08 29 0521	N08 E89	09 4.9			HSX	137	1	1	4
10095		SVTO	08 29 0845	N06 E86	09 4.8		A	HAX	120	1	3	3
10095		RAMY	08 29 1220	N08 E83	09 4.7		B	EAO	180	7	13	3
10095		MWIL	08 29 1500	N07 E80	09 4.6	4	(B)					
10095		HOLL	08 29 1532	N06 E78	09 4.5		B	EAO	140	11	11	3
10095		VORO	08 30 0044	N08 E73	09 4.5			DAI	345	7	6	3
10095		TACH	08 30 0540	N09 E71	09 4.6			EAI	597	9	14	3
10095		SVTO	08 30 0820	N08 E73	09 4.8		B	FAO	340	8	17	3
10095		RAMY	08 30 1155	N09 E72	09 4.9		BG	EAO	480	14	17	2
10095		HOLL	08 30 1448	N08 E69	09 4.8		BG	FKI	420	40	17	4
10095	31399	MWIL	08 30 1600	N07 E67	09 4.7	5	(BG)					
10095		TACH	08 31 0413	N08 E58	09 4.5			DAI	545	13	17	4
10095		SVTO	08 31 0602	N09 E60	09 4.7		BG	FKO	490	15	17	3
10095		RAMY	08 31 1355	N09 E56	09 4.8		BG	FAI	810	21	20	3
10095		HOLL	08 31 1532	N07 E56	09 4.8		BG	FKC	900	49	23	3
10095		TACH	09 01 0459	N09 E45	09 4.6			EAI	858	20	15	5
10095		SVTO	09 01 0819	N08 E46	09 4.8		BG	FKO	790	18	21	3
10095		RAMY	09 01 1301	N09 E43	09 4.8		BG	FKI	590	21	18	2
10095		HOLL	09 01 1438	N07 E43	09 4.8		BG	FKC	770	58	24	3
10095		MWIL	09 01 1700	N07 E41	09 4.8	5	(BG)					
10095	31399	VORO	09 02 0006	N08 E37	09 4.8			EKI	1025	45	15	2
10095		TACH	09 02 0800	N10 E29	09 4.5			EAI	693	19	14	4
10095		RAMY	09 02 1226	N09 E30	09 4.8		BG	FKC	890	54	19	3
10095		HOLL	09 02 1445	N08 E28	09 4.7		BG	FKI	800	52	20	4
10095		MWIL	09 02 2000	N07 E26	09 4.8	5	BG					
10095		VORO	09 03 0151	N09 E22	09 4.7			EKI	935	72	15	2
10095		SVTO	09 03 0630	N08 E20	09 4.8		BG	FKI	750	29	18	2
10095		TACH	09 03 0643	N09 E16	09 4.5			EAI	458	11	13	3
10095		RAMY	09 03 1221	N09 E17	09 4.8		BG	FKI	910	74	22	3
10095		MWIL	09 03 1500	N07 E15	09 4.7	5	(BG)					
10095	31399	VORO	09 03 2246	N09 E10	09 4.7			EKI	826	61	15	3
10095		TACH	09 04 0425	N09 E07	09 4.7			EAI	377	15	14	4
10095		SVTO	09 04 0600	N08 E06	09 4.7		BG	FKC	600	34	20	3
10095		RAMY	09 04 1258	N08 E03	09 4.8		BG	FKI	550	45	21	3
10095		MWIL	09 04 1500	N08 E01	09 4.7	5	(BG)					
10095		HOLL	09 04 1523	N08 E01	09 4.7		B	FKI	490	44	20	3
10095		TACH	09 05 0534	N07 W05	09 4.8			EAI	809	30	15	3
10095		SVTO	09 05 0620	N08 W07	09 4.7		BG	FKI	600	25	18	2
10095		RAMY	09 05 1215	N08 W10	09 4.8		BG	FKI	540	56	19	3
10095		HOLL	09 05 1421	N08 W13	09 4.6		B	FKC	410	48	21	4
10095	31399	VORO	09 05 2208	N08 W16	09 4.7			EHI	509	40	17	3
10095		SVTO	09 06 0700	N08 W21	09 4.7		BG	FKI	400	21	20	3
10095		RAMY	09 06 1305	N08 W25	09 4.7		B	ESO	340	22	18	2
10095		HOLL	09 06 1426	N08 W26	09 4.6		B	FKC	340	52	21	3
10095		MWIL	09 06 1800	N08 W28	09 4.6	5	BG					
10095		VORO	09 06 2201	N09 W29	09 4.7			EKI	395	29	17	3
10095		TACH	09 07 0542	N07 W31	09 4.9			ESI	250	17	16	3
10095		LEAR	09 07 0758	N08 W36	09 4.6		B	FAO	220	17	17	2
10095		SVTO	09 07 1227	N08 W38	09 4.7		B	FAO	180	8	20	3
10095		RAMY	09 07 1327	N06 W38	09 4.7		B	FSO	230	7	20	3
10095		HOLL	09 07 1422	N08 W38	09 4.7		B	FAI	230	28	21	3
10095	31399	MWIL	09 07 1430	N08 W38	09 4.7	5	(B)					
10095		LEAR	09 08 0015	N09 W42	09 4.8		B	FSO	220	14	17	4
10095		TACH	09 08 0547	N09 W43	09 5.0			CSI	185	5	17	3
10095		SVTO	09 08 0625	N06 W44	09 5.0		B	DSO	180	2	6	2
10095		RAMY	09 08 1210	N07 W50	09 4.8		B	FSO	110	14	19	3

94
Sep 02

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

SEPTEMBER 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
10095	31399	HOLL	09 08	1430	N08	W49	09 4.9		B	FSO	140	9	18	4
10095		MWIL	09 08	1730	N08	W54	09 4.7	5	B					
10095		VORO	09 08	2227	N08	W55	09 4.8			EAI	193	5	17	3
10095		LEAR	09 09	0020	N08	W63	09 4.3		B	DAO	150	3	6	3
10095		TACH	09 09	0545	N07	W63	09 4.5			CSO	124	2	6	4
10095		SVTO	09 09	0809	N08	W68	09 4.2		B	CSO	120	3	5	3
10095		RAMY	09 09	1226	N08	W63	09 4.8		B	FAO	130	8	20	3
10095		MWIL	09 09	1445	N08	W67	09 4.6	5	(AP)					
10095		HOLL	09 09	1530	N07	W66	09 4.7		B	CAO	80	3	15	2
10095		VORO	09 09	2320	N08	W72	09 4.6			CAO	159	6	15	3
10095	31412	LEAR	09 10	0013	N08	W71	09 4.7		B	EAO	150	7	15	3
10095		TACH	09 10	0552	N09	W72	09 4.8			CSO	279	3	11	4
10095		SVTO	09 10	0610	N07	W82	09 4.1		A	HSX	60	1	2	3
10095		RAMY	09 10	1215	N06	W78	09 4.7		A	HAX	120	1	2	3
10095A		MWIL	09 03	1500	N07	E28	09 5.7	4	(B)					
10096		HOLL	08 30	1448	S14	E80	09 5.7		A	HAX	80	1	2	4
10096		MWIL	08 30	1600	S15	E78	09 5.6	5	B					
10096		TACH	08 31	0413	S15	E72	09 5.6			DSO	191	2	6	4
10096		SVTO	08 31	0602	S15	E75	09 5.9		B	DAO	120	2	10	3
10096		RAMY	08 31	1355	S14	E69	09 5.8		B	DSO	110	2	6	3
10096	31401	HOLL	08 31	1532	S15	E67	09 5.7		B	DAO	180	5	6	3
10096		TACH	09 01	0459	S14	E58	09 5.6			DSO	161	2	5	5
10096		SVTO	09 01	0819	S15	E58	09 5.7		B	DSO	120	2	6	3
10096		RAMY	09 01	1301	S14	E58	09 5.9		B	DSO	80	4	6	2
10096		HOLL	09 01	1438	S15	E55	09 5.8		B	DAO	200	6	8	3
10096		MWIL	09 01	1700	S16	E53	09 5.7	4	(BP)					
10096		VORO	09 02	0006	S14	E52	09 5.9			CSI	147	6	8	2
10096		TACH	09 02	0800	S12	E42	09 5.5			CSI	50	4	6	4
10096		RAMY	09 02	1226	S13	E45	09 5.9		B	DSO	200	10	10	3
10096		HOLL	09 02	1445	S16	E43	09 5.9		B	DSO	150	10	10	4
10096	31401	MWIL	09 02	2000	S15	E38	09 5.7	4	BP					
10096		VORO	09 03	0151	S14	E35	09 5.7			DAI	142	4	6	2
10096		SVTO	09 03	0630	S15	E34	09 5.8		B	DSO	140	4	7	2
10096		TACH	09 03	0643	S12	E31	09 5.6			CSI	66	6	7	3
10096		RAMY	09 03	1221	S11	E32	09 5.9		B	DSO	170	16	9	3
10096		MWIL	09 03	1500	S16	E29	09 5.8	5	(BG)					
10096		VORO	09 03	2246	S16	E28	09 6.1			DAI	220	14	13	3
10096		TACH	09 04	0425	S13	E20	09 5.7			DSI	156	6	8	4
10096		SVTO	09 04	0600	S16	E22	09 5.9		B	DSI	130	16	10	3
10096		RAMY	09 04	1258	S16	E18	09 5.9		B	DAI	140	28	9	3
10096	31401	MWIL	09 04	1500	S15	E17	09 5.9	5	BG					
10096		HOLL	09 04	1523	S15	E16	09 5.8		B	DAI	180	24	10	3
10096		TACH	09 05	0534	S15	E08	09 5.8			DAI	195	12	8	3
10096		SVTO	09 05	0620	S17	E07	09 5.8		B	EAI	180	11	11	2
10096		RAMY	09 05	1215	S16	E04	09 5.8		B	DAI	340	30	12	3
10096		HOLL	09 05	1421	S16	E03	09 5.8		B	EAI	160	22	11	4
10096		VORO	09 05	2208	S15	W01	09 5.8			DAI	245	27	10	3
10096		SVTO	09 06	0700	S17	W06	09 5.8		B	ESO	170	11	13	3
10096		RAMY	09 06	1305	S16	W09	09 5.9		B	DAI	160	16	11	2
10096		HOLL	09 06	1426	S15	W11	09 5.8		B	EAI	160	36	13	3
10096	31401	MWIL	09 06	1800	S15	W12	09 5.8	5	BG					
10096		VORO	09 06	2201	S15	W14	09 5.8			CAI	174	21	10	3
10096		TACH	09 07	0542	S14	W19	09 5.8			CAI	129	8	10	3
10096		LEAR	09 07	0758	S16	W21	09 5.7		B	EAO	80	12	11	2
10096		SVTO	09 07	1227	S14	W27	09 5.5		B	DSO	70	3	5	3
10096		RAMY	09 07	1327	S17	W22	09 5.9		B	ESO	80	12	12	3
10096		HOLL	09 07	1422	S16	W24	09 5.8		B	ESO	60	19	13	3
10096		MWIL	09 07	1430	S15	W24	09 5.8	4	(BG)					
10096		LEAR	09 08	0015	S16	W32	09 5.6		B	DAO	90	13	10	4
10096		TACH	09 08	0547	S13	W30	09 6.0			BRI	56	7	6	3
10096	31401	SVTO	09 08	0625	S17	W35	09 5.6		B	DSO	50	7	10	2
10096		RAMY	09 08	1210	S15	W37	09 5.7		B	EAO	70	16	11	3
10096		HOLL	09 08	1430	S16	W38	09 5.7		B	ESO	90	18	11	4
10096		MWIL	09 08	1730	S15	W41	09 5.6	4	B					
10096		VORO	09 08	2227	S15	W43	09 5.7			CAO	40	3	1	3
10096		LEAR	09 09	0020	S14	W44	09 5.7		B	EAO	50	8	12	3
10096		TACH	09 09	0545	S14	W44	09 5.9			AXX	15	1	1	4

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

95
Sep 02

SEPTEMBER 2002

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
10096	31401	SVTO	09 09 0809	S14	W49	09 5.6		A	HSX	20	1	1	3
10096		RAMY	09 09 1226	S14	W52	09 5.6		B	CSO	40	4	4	3
10096		MWIL	09 09 1445	S14	W53	09 5.6	5	(BP)					
10096		HOLL	09 09 1530	S15	W52	09 5.7		B	CAO	20	4	9	2
10096		VORO	09 09 2320	S14	W57	09 5.7			AXX	11	1		3
10096		LEAR	09 10 0013	S12	W59	09 5.6		A	HSX	30	1	1	3
10096		SVTO	09 10 0610	S14	W63	09 5.5		A	AXX	10	2	2	3
10096		RAMY	09 10 1215	S17	W66	09 5.5		B	CAO	40	3	4	3
10096	31401	MWIL	09 10 1430	S14	W67	09 5.5	4	(AP)					
10096A	31410	MWIL	09 03 1500	S19	E37	09 6.4	3	AF					
10098	31404	HOLL	08 31 1532	S10	E80	09 6.6		A	AXX	30	2	1	3
10098		TACH	09 01 0459	S08	E72	09 6.6			HXX	27	1	1	5
10098		SVTO	09 01 0819	S09	E75	09 7.0		A	AXX		1		3
10098		RAMY	09 01 1301	S09	E74	09 7.1		A	HSX	60	1	3	2
10098		HOLL	09 01 1438	S09	E68	09 6.7		A	HSX	50	1	1	3
10098		MWIL	09 01 1700	S10	E67	09 6.7	4	(AP)					
10098		VORO	09 02 0006	S09	E64	09 6.8			AXX	13	1		2
10098		TACH	09 02 0800	S07	E57	09 6.6			AXX	10	1	1	4
10098	31404	RAMY	09 02 1226	S08	E58	09 6.9		A	AXX	30	3	2	3
10098		HOLL	09 02 1445	S10	E55	09 6.7		B	CRO	30	2	2	4
10098		MWIL	09 02 2000	S10	E52	09 6.7	4	AP					
10098		VORO	09 03 0151	S09	E49	09 6.7			AXX	15	3		2
10098		TACH	09 03 0643	S07	E43	09 6.5			AR	3	2	1	3
10098		RAMY	09 03 1221	S09	E44	09 6.8		B	CAO	60	6	5	3
10098		MWIL	09 03 1500	S10	E41	09 6.7	4	(AP)					
10098		VORO	09 03 2246	S09	E38	09 6.8			BXO	18	4	2	3
10098	31404	TACH	09 04 0425	S07	E32	09 6.6			AXX	3	1	1	4
10098		RAMY	09 04 1258	S09	E32	09 6.9		B	BXO	10	6	4	3
10098		MWIL	09 04 1500	S10	E29	09 6.8	4	B					
10098		HOLL	09 04 1523	S10	E29	09 6.8		B	CAO	20	4	4	3
10098		TACH	09 05 0534	S10	E19	09 6.6			AXX	3	1	1	3
10098		SVTO	09 05 0620	S10	E21	09 6.8		B	CSO	10	2	3	2
10098		RAMY	09 05 1215	S10	E17	09 6.8		B	BXO	10	2	3	3
10098		HOLL	09 05 1421	S11	E15	09 6.7		A	AXX	10	2	2	4
10100A		VORO	09 03 0151	N19	E48	09 6.7			HAX	43	5		2
10101	31406	TACH	09 01 0459	N05	E76	09 6.9			HSX	40	1	2	5
10101		RAMY	09 01 1301	N03	E79	09 7.4		A	HAX	30	1	1	2
10101		HOLL	09 01 1438	N03	E74	09 7.1		A	HSX	60	1	1	3
10101		MWIL	09 01 1700	N03	E74	09 7.2	3	(AP)					
10101		VORO	09 02 0006	N03	E70	09 7.2			HAX	78	1		2
10101		TACH	09 02 0800	N05	E62	09 7.0			HSX	48	1	2	4
10101		RAMY	09 02 1226	N04	E62	09 7.1		A	HAX	90	1	2	3
10101		HOLL	09 02 1445	N02	E61	09 7.2		A	HAX	40	1	2	4
10101	31406	MWIL	09 02 2000	N03	E58	09 7.2	4	AP					
10101		VORO	09 03 0151	N03	E54	09 7.1			HAX	71	1		2
10101		SVTO	09 03 0630	N02	E53	09 7.2		B	DAO	20	4	10	2
10101		TACH	09 03 0643	N05	E48	09 6.9			HSX	56	1	1	3
10101		RAMY	09 03 1221	N03	E50	09 7.2		A	HAX	90	2	2	3
10101		MWIL	09 03 1500	N03	E47	09 7.1	4	(AP)					
10101		VORO	09 03 2246	N03	E43	09 7.2			HAX	36	3		3
10101		TACH	09 04 0425	N04	E37	09 7.0			AXX	19	1	1	4
10101	31406	SVTO	09 04 0600	N03	E39	09 7.2		A	HAX	50	3	2	3
10101		RAMY	09 04 1258	N03	E34	09 7.1		A	HRX	10	3	2	3
10101		MWIL	09 04 1500	N03	E34	09 7.2	4	(AP)					
10101		HOLL	09 04 1523	N02	E33	09 7.1		B	CSO	20	3	2	3
10101		TACH	09 05 0534	N01	E24	09 7.0			AXX	11	1	1	3
10101		SVTO	09 05 0620	N02	E26	09 7.2		A	HSX	10	2	1	2
10101		RAMY	09 05 1215	N03	E22	09 7.1		A	HAX	20	1	2	3
10101		HOLL	09 05 1421	N02	E22	09 7.2		A	HSX	10	1	1	4
10101	31406	VORO	09 05 2208	N03	E16	09 7.1			AXX	7	1		3
10101		HOLL	09 06 1426	N02	E10	09 7.3		A	AXX	10	8	3	3
10101		MWIL	09 06 1800	N04	E08	09 7.3	4	AP					
10101		HOLL	09 07 1422	N03	W06	09 7.1		B	BXO	20	7	6	3
10101		MWIL	09 07 1430	N04	W05	09 7.2	3	(B)					
10101		LEAR	09 08 0015	N05	W12	09 7.1		B	DAO	40	8	3	4

96
Sep 02

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 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
10101		TACH	09 08 0547	N06 W14	09 7.2			BRI	16	5	2	3
10101		SVTO	09 08 0625	N03 W16	09 7.1		B	CSO	30	5	4	2
10101		RAMY	09 08 1210	N04 W20	09 7.0		B	DSO	40	7	5	3
10101		HOLL	09 08 1430	N04 W21	09 7.0		B	CSO	30	8	5	4
10101	31406	MWIL	09 08 1730	N05 W23	09 7.0	4	B					
10101		VORO	09 08 2227	N05 W25	09 7.1			BXO	13	2	3	3
10101		LEAR	09 09 0020	N05 W26	09 7.1		B	DAO	30	6	4	3
10101		TACH	09 09 0545	N05 W27	09 7.2			BXO	3	2	4	4
10101		RAMY	09 09 1226	N04 W33	09 7.0		B	DSO	20	5	5	3
10101	31406	MWIL	09 09 1445	N06 W33	09 7.1	4	(BG)					
10101		HOLL	09 09 1530	N05 W32	09 7.2		B	CSO	30	2	3	2
10101		VORO	09 09 2320	N05 W39	09 7.0			BXO	7	5	3	3
10101		LEAR	09 10 0013	N06 W38	09 7.2		B	BXO	10	2	3	3
10101	31406	MWIL	09 10 1430	N01 W45	09 7.2	4	(AP)					
10101		HOLL	09 10 2115	S01 W50	09 7.1		A	AXX	20	2	1	2
10101		LEAR	09 11 0138	N02 W50	09 7.3		B	BXO	10	3	3	1
10100		TACH	09 01 0459	S19 E75	09 6.9			HSX	249	1	5	5
10100		RAMY	09 01 1301	S19 E74	09 7.2		A	HSX	60	1	3	2
10100		HOLL	09 01 1438	S20 E71	09 7.0		A	HSX	180	1	2	3
10100	31405	MWIL	09 01 1700	S19 E69	09 7.0	4	(AP)					
10100		VORO	09 02 0006	S19 E70	09 7.3			DAI	329	7	8	2
10100		TACH	09 02 0800	S18 E65	09 7.3			DSO	133	2	9	4
10100		RAMY	09 02 1226	S18 E61	09 7.2		B	CKO	220	6	7	3
10100		HOLL	09 02 1445	S20 E62	09 7.3		B	DAO	200	6	10	4
10100	31405	MWIL	09 02 2000	S19 E57	09 7.2	5	BP					
10100		VORO	09 03 0151	S18 E56	09 7.3			DAO	256	7	8	2
10100		SVTO	09 03 0630	S20 E54	09 7.4		A	HSX	30	1	2	2
10100		TACH	09 03 0643	S16 E50	09 7.1			DSO	137	2	7	3
10100		RAMY	09 03 1221	S19 E51	09 7.4		B	DAO	180	6	7	3
10100	31405	MWIL	09 03 1500	S19 E47	09 7.2	5	(B)					
10100		VORO	09 03 2246	S18 E44	09 7.3			CAI	249	15	8	3
10100		TACH	09 04 0425	S16 E39	09 7.1			CSO	141	2	6	4
10100		SVTO	09 04 0600	S19 E41	09 7.4		B	DSO	180	5	9	3
10100		RAMY	09 04 1258	S18 E37	09 7.3		B	CAO	180	10	10	3
10100	31405	MWIL	09 04 1500	S19 E34	09 7.2	5	B					
10100		HOLL	09 04 1523	S20 E34	09 7.2		B	CAO	200	9	9	3
10100		TACH	09 05 0534	S16 E27	09 7.3			CSI	124	4	8	3
10100		SVTO	09 05 0620	S20 E28	09 7.4		B	CSO	120	7	9	2
10100		RAMY	09 05 1215	S19 E26	09 7.5		B	CAO	140	13	9	3
10100		HOLL	09 05 1421	S20 E22	09 7.3		B	CSO	120	10	8	4
10100		VORO	09 05 2208	S18 E17	09 7.2			DAI	194	11	4	3
10100		SVTO	09 06 0700	S20 E15	09 7.4		B	DAO	110	7	9	3
10100		RAMY	09 06 1305	S19 E12	09 7.5		B	DAO	140	3	8	2
10100		HOLL	09 06 1426	S19 E12	09 7.5		B	CAO	150	16	9	3
10100	31405	MWIL	09 06 1800	S20 E07	09 7.3	5	B					
10100		VORO	09 06 2201	S18 E07	09 7.4			CAI	120	7	7	3
10100		TACH	09 07 0542	S18 W02	09 7.1			HA	155	2	2	3
10100		LEAR	09 07 0758	S20 W03	09 7.1		B	DAI	40	4	2	2
10100		SVTO	09 07 1227	S19 W04	09 7.2		A	HAX	80	2	3	3
10100		RAMY	09 07 1327	S20 W01	09 7.5		B	DSO	130	4	7	3
10100		HOLL	09 07 1422	S19 W03	09 7.4		B	CAO	100	9	8	3
10100	31405	MWIL	09 07 1430	S20 W04	09 7.3	5	(BP)					
10100		LEAR	09 08 0015	S19 W12	09 7.1		B	DAO	40	4	2	4
10100		TACH	09 08 0547	S16 W12	09 7.3			HA	67	2	2	3
10100		SVTO	09 08 0625	S21 W14	09 7.2		B	CSO	40	3	3	2
10100		RAMY	09 08 1210	S20 W16	09 7.3		B	DSO	60	6	3	3
10100		HOLL	09 08 1430	S18 W18	09 7.2		B	CSO	60	4	3	4
10100	31405	MWIL	09 08 1730	S20 W21	09 7.1	5	AP					
10100		VORO	09 08 2227	S18 W23	09 7.2			HAX	81	3		3
10100		LEAR	09 09 0020	S18 W25	09 7.1		B	DAO	30	3	2	3
10100		TACH	09 09 0545	S17 W26	09 7.3			HA	40	2	1	4
10100		SVTO	09 09 0809	S19 W29	09 7.1		A	HSX	30	3	2	3
10100		RAMY	09 09 1226	S20 W31	09 7.1		B	DAO	50	3	3	3
10100	31405	MWIL	09 09 1445	S19 W32	09 7.2	5	(AP)					
10100		HOLL	09 09 1530	S19 W33	09 7.1		B	CSO	30	3	3	2
10100		VORO	09 09 2320	S19 W36	09 7.2			HAX	40	2		3
10100		LEAR	09 10 0013	S18 W38	09 7.1		A	HSX	40	1	1	3
10100		TACH	09 10 0552	S18 W39	09 7.3			HSX	72	1	1	4

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

97
Sep 02

SEPTEMBER 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
10100		SVTO	09 10	0610	S19	W41	09 7.1		A	HSX	30	2	1	3
10100		RAMY	09 10	1215	S20	W44	09 7.1		B	DSO	40	4	3	3
10100	31405	MWIL	09 10	1430	S18	W45	09 7.2	4	(BP)					
10100		HOLL	09 10	2115	S18	W49	09 7.1		B	CSO	30	3	3	2
10100		VORO	09 10	2254	S18	W50	09 7.1			HRX	25	1		3
10100		LEAR	09 11	0138	S17	W51	09 7.2		B	CAO	30	3	3	1
10100		TACH	09 11	0626	S19	W54	09 7.1			AXX	20	1	1	4
10100		SVTO	09 11	0855	S19	W56	09 7.1		A	HRX	10	1	1	2
10100	31405	RAMY	09 11	1240	S20	W59	09 7.0		A	HSX	40	2	1	3
10100		MWIL	09 11	1430	S18	W58	09 7.2	4	(AP)					
10100		VORO	09 11	2237	S19	W62	09 7.2			HRX	2	1		3
10100		LEAR	09 12	0020	S16	W62	09 7.3		B	CAO	30	3	3	3
10100		TACH	09 12	0511	S19	W66	09 7.2			AXX	3	1	1	4
10092B		RAMY	09 02	1226	S17	E70	09 7.8		B	CSO	90	3	3	3
10102	31407	MWIL	09 01	1700	N08	E80	09 7.7	4	AF					
10102		VORO	09 02	0006	N09	E78	09 7.8			HRX	22	1		2
10102		TACH	09 02	0800	N12	E71	09 7.7			AXX	22	1	1	4
10102		RAMY	09 02	1226	N11	E71	09 7.8		A	HSX	60	1	1	3
10102		HOLL	09 02	1445	N08	E70	09 7.9		A	HSX	40	1	1	4
10102	31407	MWIL	09 02	2000	N08	E67	09 7.8	4	AF					
10102		VORO	09 03	0151	N09	E63	09 7.8			HRX	21	1		2
10102		SVTO	09 03	0630	N08	E62	09 7.9		A	HSX	10	2	1	2
10102		TACH	09 03	0643	N11	E59	09 7.7			AXX	24	1	1	3
10102		RAMY	09 03	1221	N09	E59	09 7.9		A	HSX	40	1	1	3
10102	31407	MWIL	09 03	1500	N08	E56	09 7.8	4	(AF)					
10102		VORO	09 03	2246	N09	E51	09 7.8			HRX	20	1		3
10102		TACH	09 04	0425	N10	E47	09 7.7			AXX	11	1	1	4
10102		SVTO	09 04	0600	N08	E48	09 7.8		A	HSX	20	1	1	3
10102		RAMY	09 04	1258	N09	E43	09 7.8		A	HSX	10	1	1	3
10102	31407	MWIL	09 04	1500	N08	E44	09 7.9	4	(AF)					
10102		HOLL	09 04	1523	N08	E43	09 7.9		A	HAX	10	1	1	3
10102		TACH	09 05	0534	N07	E33	09 7.7			AXX	18	1	1	3
10102		SVTO	09 05	0620	N08	E35	09 7.9		A	HSX	10	1	1	2
10102		RAMY	09 05	1215	N09	E31	09 7.8		A	HSX	10	1	1	3
10102		HOLL	09 05	1421	N08	E31	09 7.9		A	HSX	10	1	1	4
10102		VORO	09 05	2208	N09	E25	09 7.8			AXX	9	1		3
10102		RAMY	09 13	1222	N05	W69	09 8.3		A	HRX	10	1	1	3
10102	31427	HOLL	09 13	1421	N07	W69	09 8.4		A	AXX	20	2	2	3
10102		MWIL	09 13	1500	N07	W68	09 8.5	2	(B)					
10102		RAMY	09 14	1240	N05	W88	09 7.9		A	HSX	30	1	1	2
10102B	31414	MWIL	09 07	1430	N14	E07	09 8.1	4	(AP)					
10102A		RAMY	09 11	1240	N22	W39	09 8.5		B	CSO	20	3	4	3
10102A	31423	MWIL	09 11	1430	N27	W39	09 8.6	4	(AP)					
10102C		TACH	09 05	0534	S13	E52	09 9.1			DAI	159	9	8	3
10103	31411	RAMY	09 03	1221	N15	E80	09 9.6		B	DAO	150	10	6	3
10103		MWIL	09 03	1500	N15	E78	09 9.5	4	(B)					
10103		VORO	09 03	2246	N16	E72	09 9.4			CAO	104	5	6	2
10103		TACH	09 04	0425	N18	E71	09 9.6			DSO	144	2	10	4
10103		SVTO	09 04	0600	N15	E70	09 9.5		B	DAO	160	8	10	3
10103		RAMY	09 04	1258	N16	E64	09 9.4		B	DSO	70	7	8	3
10103	31411	MWIL	09 04	1500	N15	E65	09 9.5	4	B					
10103		HOLL	09 04	1523	N14	E63	09 9.4		B	DSO	60	7	7	3
10103		SVTO	09 05	0620	N15	E56	09 9.5		B	DAO	110	8	9	2
10103		RAMY	09 05	1215	N15	E51	09 9.4		B	DAO	180	27	10	3
10103		HOLL	09 05	1421	N14	E50	09 9.4		B	DSI	80	21	8	4
10103		VORO	09 05	2208	N16	E44	09 9.2			DAI	219	17	6	3
10103		SVTO	09 06	0700	N14	E40	09 9.3		B	DAO	130	12	9	3
10103		RAMY	09 06	1305	N16	E37	09 9.3		B	DSO	140	14	8	2
10103		HOLL	09 06	1426	N15	E37	09 9.4		B	DAI	160	32	8	3
10103	31411	MWIL	09 06	1800	N15	E36	09 9.5	5	B					
10103		VORO	09 06	2201	N16	E33	09 9.4			CAI	117	21	8	3
10103		TACH	09 07	0542	N14	E25	09 9.1			CAI	147	16	7	3
10103		LEAR	09 07	0758	N15	E28	09 9.4		B	DAI	130	27	8	2

98
Sep 02

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

SEPTEMBER 2002

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
10103		SVTO	09 07 1227	N15	E25	09 9.4		B	DAO	150	9	10	3
10103		RAMY	09 07 1327	N16	E25	09 9.4		B	DSO	240	15	10	3
10103		HOLL	09 07 1422	N15	E24	09 9.4		B	DAI	200	50	9	3
10103	31411	MWIL	09 07 1430	N15	E24	09 9.4	4	(B)					
10103		LEAR	09 08 0015	N15	E18	09 9.4		B	DAI	180	26	8	4
10103		TACH	09 08 0547	N15	E15	09 9.4		B	CAI	136	9	5	3
10103		SVTO	09 08 0625	N15	E15	09 9.4		B	EAO	250	10	11	2
10103		RAMY	09 08 1210	N16	E12	09 9.4		B	DAI	220	35	10	3
10103	31411	HOLL	09 08 1430	N16	E12	09 9.5		B	DAI	180	31	9	4
10103		MWIL	09 08 1730	N15	E10	09 9.5	5	B					
10103		VORO	09 08 2227	N16	E06	09 9.4			DAI	300	20	7	3
10103		LEAR	09 09 0020	N15	E06	09 9.5		B	DSI	180	28	8	3
10103		TACH	09 09 0545	N13	E02	09 9.4			CAI	218	13	6	4
10103		SVTO	09 09 0809	N15	E01	09 9.4		B	DAI	290	27	10	3
10103		RAMY	09 09 1226	N16	W01	09 9.4		B	DAI	210	46	10	3
10103	31411	MWIL	09 09 1445	N15	W01	09 9.5	5	(BG)					
10103		HOLL	09 09 1530	N16	W02	09 9.5		B	DAC	290	38	8	2
10103		VORO	09 09 2320	N15	W07	09 9.4			DAI	419	35	4	3
10103		LEAR	09 10 0013	N15	W07	09 9.5		BG	EKC	720	44	11	3
10103		TACH	09 10 0552	N16	W10	09 9.5			DAI	337	32	9	4
10103		SVTO	09 10 0610	N15	W11	09 9.4		B	DAI	290	24	10	3
10103	31411	RAMY	09 10 1215	N15	W16	09 9.3		B	EKI	750	43	11	3
10103		MWIL	09 10 1430	N15	W13	09 9.6	5	(BG)					
10103		HOLL	09 10 2115	N14	W18	09 9.5		B	EAI	300	30	12	2
10103		VORO	09 10 2254	N15	W19	09 9.5			DAI	585	44	7	3
10103		LEAR	09 11 0138	N16	W20	09 9.5		BG	EAI	530	43	11	1
10103		TACH	09 11 0626	N14	W23	09 9.5			DAI	326	21	7	4
10103		SVTO	09 11 0855	N15	W24	09 9.5		B	ESI	280	29	12	2
10103	31411	RAMY	09 11 1240	N14	W27	09 9.5		B	EKC	520	37	12	3
10103		MWIL	09 11 1430	N15	W26	09 9.6	5	(BG)					
10103		VORO	09 11 2237	N16	W31	09 9.6			DAI	522	25	8	3
10103		LEAR	09 12 0020	N16	W33	09 9.5		BG	EAI	330	25	12	3
10103		TACH	09 12 0511	N15	W35	09 9.6			DAI	448	15	9	4
10103		RAMY	09 12 1230	N15	W39	09 9.6		B	EAI	280	32	13	4
10103		HOLL	09 12 1436	N17	W40	09 9.6		B	EAC	360	35	13	3
10103		SVTO	09 12 1458	N14	W42	09 9.4		B	ESI	360	11	14	2
10103		VORO	09 12 2247	N15	W46	09 9.5			DAI	382	23	11	3
10103		LEAR	09 13 0044	N17	W46	09 9.5		B	EAI	340	30	13	3
10103		TACH	09 13 0510	N16	W47	09 9.6			EAI	391	21	13	4
10103		RAMY	09 13 1222	N15	W52	09 9.6		B	EAO	150	20	13	3
10103	31411	HOLL	09 13 1421	N17	W54	09 9.5		B	EAC	380	19	14	3
10103		MWIL	09 13 1500	N16	W55	09 9.4	5	(B)					
10103		VORO	09 13 2315	N16	W59	09 9.5			DAI	312	15	10	3
10103		LEAR	09 14 0008	N17	W59	09 9.5		B	FAI	290	18	17	2
10103		TACH	09 14 0447	N16	W61	09 9.6			DAI	194	8	11	4
10103		SVTO	09 14 0727	N15	W64	09 9.5		B	ESO	220	7	14	2
10103	31411	RAMY	09 14 1240	N13	W67	09 9.5		B	EAO	200	15	12	2
10103		MWIL	09 14 1500	N16	W67	09 9.5	4	(B)					
10103		HOLL	09 14 1545	N15	W70	09 9.3		B	EAO	140	8	12	4
10103		VORO	09 14 2234	N15	W72	09 9.5			DAI	141	7	1	3
10103		SVTO	09 15 0630	N12	W82	09 9.1		B	DSO	60	2	4	2
10103		LEAR	09 15 0636	N16	W75	09 9.6		B	EAO	120	7	15	1
10103		TACH	09 15 0643	N16	W74	09 9.7			BRI	21	4	11	3
10103		RAMY	09 15 1201	N14	W77	09 9.7		B	EAO	90	8	15	3
10103	31411	MWIL	09 15 1500	N17	W78	09 9.7	4	AF					
10103A		RAMY	09 12 1230	N29	W32	09 10.0		A	AXX	10	1	1	4
10103A		HOLL	09 12 1436	N31	W33	09 10.0		A	AXX	10	1	1	3
10103B	31424	MWIL	09 11 1430	N17	W11	09 10.8	4	(AP)					
10104		VORO	09 06 2201	N11	E72	09 12.3			AXX	15	1		3
10104		TACH	09 07 0542	N10	E65	09 12.1			AXX	12	1	1	3
10104		LEAR	09 07 0758	N09	E66	09 12.3		A	HSX	20	1	2	2
10104		SVTO	09 07 1227	N11	E65	09 12.4		A	AXX	20	2	1	3
10104		RAMY	09 07 1327	N12	E65	09 12.4		A	HSX	20	1	1	3
10104		HOLL	09 07 1422	N11	E64	09 12.4		A	HSX	40	1	1	3
10104	31415	MWIL	09 07 1430	N11	E63	09 12.3	4	(AP)					
10104		LEAR	09 08 0015	N09	E57	09 12.3		A	HSX	40	1	2	4

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

99
Sep 02

SEPTEMBER 2002

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
10104		TACH	09 08 0547	N11 E50	09 12.0			AXX	8	1	1	3
10104		SVTO	09 08 0625	N12 E55	09 12.4		A	HRX	20	1	1	2
10104		RAMY	09 08 1210	N10 E50	09 12.3		A	HRX	20	1	1	3
10104		HOLL	09 08 1430	N11 E49	09 12.3		A	HSX	20	1	1	4
10104	31415	MWIL	09 08 1730	N10 E47	09 12.3	4	AP					
10104		VORO	09 08 2227	N11 E43	09 12.2			AXX	14	1		3
10104		LEAR	09 09 0020	N09 E43	09 12.2		A	HSX	10	1	1	3
10104		TACH	09 09 0545	N09 E35	09 11.9			AXX	3	1	1	4
10104		SVTO	09 09 0809	N10 E39	09 12.3		A	HSX	10	1	1	3
10104		RAMY	09 09 1226	N10 E36	09 12.2		B	CSO	20	4	3	3
10104	31415	MWIL	09 09 1445	N10 E35	09 12.2	4	(AP)					
10104		HOLL	09 09 1530	N10 E34	09 12.2		A	AXX	10	1	1	2
10104		LEAR	09 10 0013	N10 E28	09 12.1		B	BXO	20	4	2	3
10104		RAMY	09 12 1230	N09 W04	09 12.2		A	AXX		2	2	4
10104		RAMY	09 13 1222	N10 W17	09 12.2		B	BXO		4	3	3
10106		TACH	09 08 0547	N28 E54	09 12.5			AXX	2	1	1	3
10106		RAMY	09 08 1210	N28 E54	09 12.7		B	CSO	20	4	6	3
10106		HOLL	09 08 1430	N28 E56	09 13.0		B	BXO	10	2	3	4
10106		VORO	09 08 2227	N28 E49	09 12.8			BXO	14	2	3	3
10106		LEAR	09 09 0020	N27 E49	09 12.8		B	BXO	10	2	3	3
10106		TACH	09 09 0545	N26 E39	09 12.3			AXX	7	1	1	4
10106		SVTO	09 09 0809	N27 E39	09 12.4		B	CRO	20	3	4	3
10106		RAMY	09 09 1226	N28 E39	09 12.6		B	CSO	20	3	3	3
10106		HOLL	09 09 1530	N27 E39	09 12.7		B	BXO	20	3	3	2
10109		VORO	09 09 2320	S08 E31	09 12.3			BXO	6	2	1	3
10109		LEAR	09 10 0013	S09 E31	09 12.3		B	BXO	20	4	2	3
10109		TACH	09 10 0552	S08 E27	09 12.3			BXO	18	3	2	4
10109		SVTO	09 10 0610	S08 E27	09 12.3		B	CSO	20	3	3	3
10109		RAMY	09 10 1215	S08 E24	09 12.3		B	DSO	30	5	4	3
10109	31422	MWIL	09 10 1430	S08 E22	09 12.2	4	(BF)					
10109		HOLL	09 10 2115	S08 E18	09 12.2		B	DSO	50	6	4	2
10109		VORO	09 10 2254	S08 E17	09 12.2			CAI	41	5	3	3
10109		LEAR	09 11 0138	S08 E17	09 12.3		B	DSO	40	7	4	1
10109		TACH	09 11 0626	S08 E13	09 12.2			BRI	8	5	4	4
10109		SVTO	09 11 0855	S08 E13	09 12.3		B	DSO	50	8	6	2
10109		RAMY	09 11 1240	S08 E10	09 12.3		B	DSO	70	14	6	3
10109	31422	MWIL	09 11 1430	S08 E09	09 12.3	4	(B)					
10109		VORO	09 11 2237	S08 E03	09 12.2			DAI	79	10	2	3
10109		LEAR	09 12 0020	S08 E02	09 12.2		B	DAO	60	16	5	3
10109		TACH	09 12 0511	S08 E01	09 12.3			BRI	18	9	4	4
10109		RAMY	09 12 1230	S08 W04	09 12.2		B	DSO	30	20	7	4
10109		HOLL	09 12 1436	S07 W05	09 12.2		B	DAO	60	13	6	3
10109		SVTO	09 12 1458	S08 W04	09 12.3		B	DAO	100	5	6	2
10109		VORO	09 12 2247	S08 W10	09 12.2			BRI	140	8	5	3
10109		LEAR	09 13 0044	S08 W10	09 12.3		B	DAO	50	11	6	3
10109		TACH	09 13 0510	S08 W12	09 12.3			BRI	60	7	5	4
10109		RAMY	09 13 1222	S09 W17	09 12.2		B	DSO	20	9	6	3
10109		HOLL	09 13 1421	S08 W18	09 12.2		B	DAO	40	8	7	3
10109	31422	MWIL	09 13 1500	S08 W18	09 12.3	4	(B)					
10109		VORO	09 13 2315	S07 W23	09 12.2			BRI	127	5	6	3
10109		LEAR	09 14 0008	S07 W24	09 12.2		B	DAO	50	9	7	2
10109		TACH	09 14 0447	S07 W25	09 12.3			BRO	13	3	7	4
10109		SVTO	09 14 0727	S08 W29	09 12.1		B	CRO	20	3	3	2
10109		RAMY	09 14 1240	S08 W30	09 12.3		B	CSO	60	10	6	2
10109	31422	MWIL	09 14 1500	S08 W34	09 12.1	4	(B)					
10109		HOLL	09 14 1545	S08 W35	09 12.0		B	BXO	10	2	2	4
10110	31420	MWIL	09 09 1445	N20 E36	09 12.4	3	(B)					
10110		VORO	09 09 2320	N20 E31	09 12.3			BXI	10	4	3	3
10110		LEAR	09 10 0013	N19 E30	09 12.3		B	CSO	30	6	2	3
10110		TACH	09 10 0552	N21 E28	09 12.4			BRI	26	8	4	4
10110		SVTO	09 10 0610	N21 E29	09 12.5		B	CSO	20	5	5	3
10110		RAMY	09 10 1215	N20 E23	09 12.3		B	DAO	70	12	7	3
10110	31420	MWIL	09 10 1430	N20 E25	09 12.5	4	(B)					
10110		HOLL	09 10 2115	N20 E19	09 12.3		B	DSO	70	10	6	2
10110		VORO	09 10 2254	N21 E18	09 12.3			CAI	47	7	5	3
10110		LEAR	09 11 0138	N20 E18	09 12.4		B	DAO	50	9	6	1

100
Sep 02

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

SEPTEMBER 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
10110		TACH	09	11	0626	N20 E14	09	12.3			CAI	57	5	5	4
10110		SVTO	09	11	0855	N21 E14	09	12.4		B	DSO	140	7	9	2
10110		RAMY	09	11	1240	N20 E11	09	12.4		B	DAO	90	11	6	3
10110	31420	MWIL	09	11	1430	N20 E11	09	12.4	5	(BG)					
10110		VORO	09	11	2237	N21 E06	09	12.4			DAI	44	7	5	3
10110		LEAR	09	12	0020	N20 E06	09	12.5		B	DSO	40	9	8	3
10110		TACH	09	12	0511	N21 E03	09	12.4			BRI	10	8	6	4
10110		RAMY	09	12	1230	N18 W05	09	12.1		B	DRO	20	8	3	4
10110		HOLL	09	12	1436	N19 W03	09	12.4		B	CSO	30	11	7	3
10110		SVTO	09	12	1458	N18 W04	09	12.3		B	DSO	60	6	9	2
10110		VORO	09	12	2247	N18 W10	09	12.2			BRI	12	5	3	3
10110		LEAR	09	13	0044	N19 W09	09	12.3		B	DAO	40	8	9	3
10110		TACH	09	13	0510	N19 W11	09	12.4			BRI	14	4	8	4
10110		RAMY	09	13	1222	N17 W18	09	12.1		B	DRO	10	5	5	3
10110		HOLL	09	13	1421	N17 W19	09	12.1		B	BXO	10	6	5	3
10110	31428	MWIL	09	13	1500	N17 W19	09	12.2	3	(B)					
10110		VORO	09	13	2315	N18 W24	09	12.1			AXX	8	6		3
10110		LEAR	09	14	0008	N17 W23	09	12.2		B	DRO	40	9	5	2
10110		RAMY	09	15	1201	N16 W44	09	12.2		B	CSO	20	3	4	3
10110	31428	MWIL	09	15	1500	N16 W45	09	12.2	4	(BP)					
10110		HOLL	09	15	1518	N17 W46	09	12.1		B	CRO	20	2	3	3
10110		VORO	09	16	0047	N18 W49	09	12.3			AXX	10	5		3
10110		LEAR	09	16	0100	N17 W49	09	12.3		B	DAO	30	2	4	1
10110		TACH	09	16	0532	N17 W51	09	12.3			BRO	14	3	3	3
10110		SVTO	09	16	0610	N17 W56	09	12.0		B	CSO	40	2	4	3
10110	31428	MWIL	09	16	1445	N18 W56	09	12.3	4	(AF)					
10110		HOLL	09	16	1530	N18 W58	09	12.2		A	HAX	30	1	1	4
10110		LEAR	09	17	0005	N19 W61	09	12.3		A	HSX	20	1	1	4
10110		VORO	09	17	0332	N19 W63	09	12.3			HRX	7	1		3
10110		TACH	09	17	0531	N17 W65	09	12.3			AXX	6	1	1	4
10110		SVTO	09	17	0800	N17 W68	09	12.2		A	HRX	20	2	2	3
10110		RAMY	09	17	1215	N15 W70	09	12.2		A	HSX	30	1	1	3
10110	31428	MWIL	09	17	1445	N18 W70	09	12.3	4	(AF)					
10110		HOLL	09	17	1600	N18 W69	09	12.4		A	AXX	40	2	2	3
10110		LEAR	09	18	0010	N19 W75	09	12.3		A	HRX	20	1	1	4
10111		VORO	09	09	2320	N13 E40	09	13.0			AXX	1	1		3
10111		TACH	09	11	0626	N11 E22	09	12.9			AXX	3	1	2	4
10111	31425	MWIL	09	11	1430	N08 E17	09	12.9	4	(AF)					
10111		LEAR	09	12	0020	N11 E15	09	13.1		B	BXO	10	6	6	3
10111		RAMY	09	12	1230	N11 E07	09	13.0		B	BXO	10	7	5	4
10111		HOLL	09	12	1436	N10 E05	09	13.0		B	BXO	10	4	3	3
10111		LEAR	09	13	0044	N12 W02	09	12.9		B	BXO	20	11	4	3
10111		RAMY	09	13	1222	N10 W07	09	13.0		B	BXO		4	3	3
10111		HOLL	09	13	1421	N11 W08	09	13.0		B	BXO	10	7	3	3
10111	31425	MWIL	09	13	1500	N11 W08	09	13.0	3	(AF)					
10111		VORO	09	13	2315	N11 W13	09	13.0			BXI	7	8	2	3
10111		LEAR	09	14	0008	N11 W12	09	13.1		B	CRO	20	12	4	2
10111		RAMY	09	14	1240	N09 W20	09	13.0		B	BXO	20	5	4	2
10111A		TACH	09	07	0542	S06 E80	09	13.2			HXX	61	1	1	3
10111A		TACH	09	08	0547	S06 E70	09	13.5			HA	95	3	6	3
10111A		RAMY	09	13	1222	S09 W08	09	12.9		B	BXO		3	3	3
10111A		LEAR	09	14	0008	S07 W11	09	13.2		B	DAO	20	6	4	2
10111A		RAMY	09	14	1240	S10 W19	09	13.1		B	DSO	20	6	5	2
10112		VORO	09	10	2254	N01 E32	09	13.3			AXX	5	1		3
10112		VORO	09	11	2237	N01 E18	09	13.3			AXX	25	7		3
10112		RAMY	09	12	1230	N00 E10	09	13.3		A	AXX	10	4	2	4
10112		HOLL	09	12	1436	N01 E09	09	13.3		A	AXX	10	7	2	3
10112		HOLL	09	13	1421	N02 W02	09	13.4		A	AXX	10	4	2	3
10112	31430	MWIL	09	14	1500	N03 W16	09	13.4	3	(AP)					
10105		LEAR	09	07	0758	S09 E80	09	13.3		B	DAO	90	2	5	2
10105		SVTO	09	07	1227	S05 E81	09	13.6		B	EAO	300	2	13	3
10105		RAMY	09	07	1327	S04 E85	09	13.9		B	DAO	180	2	10	3
10105		HOLL	09	07	1422	S06 E85	09	14.0		B	CKO	540	9	10	3
10105	31416	MWIL	09	07	1430	S06 E80	09	13.6	5	AP					
10105		LEAR	09	08	0015	S07 E72	09	13.4		B	DKO	590	6	8	4

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

101
Sep 02

SEPTEMBER 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
10105		SVTO	09 08	0625	S06	E74	09 13.8		B	DKO	540	5	10	2
10105		RAMY	09 08	1210	S07	E72	09 13.9		BG	FKO	920	16	25	3
10105		HOLL	09 08	1430	S08	E72	09 14.0		BG	FKI	880	33	24	4
10105	31416	MWIL	09 08	1730	S08	E69	09 13.9	5	BG					
10105		VORO	09 08	2227	S06	E63	09 13.6			HKX	1017	11		3
10105		LEAR	09 09	0020	S08	E64	09 13.8		BG	FKI	1280	20	16	3
10105		TACH	09 09	0545	S09	E63	09 14.0			EKI	891	13	12	4
10105		SVTO	09 09	0809	S08	E64	09 14.1		BG	FKO	1190	24	25	3
10105	31416	RAMY	09 09	1226	S08	E60	09 14.0		BGD	FKI	1210	34	23	3
10105		MWIL	09 09	1445	S08	E55	09 13.7	6	(BG)					
10105		HOLL	09 09	1530	S08	E59	09 14.1		BG	FKC	1490	59	22	2
10105		VORO	09 09	2320	S06	E50	09 13.7			HKX	939	29		3
10105		LEAR	09 10	0013	S09	E53	09 14.0		BGD	FKI	1530	43	23	3
10105		TACH	09 10	0552	S08	E49	09 13.9			EKI	1586	30	17	4
10105		SVTO	09 10	0610	S08	E52	09 14.1		BG	FKO	1270	27	23	3
10105	31416	RAMY	09 10	1215	S08	E48	09 14.1			FKI	1880	53	21	3
10105		MWIL	09 10	1430	S08	E42	09 13.7	6	(BG)					
10105		HOLL	09 10	2115	S09	E43	09 14.1		BG	FKC	1340	33	25	2
10105		VORO	09 10	2254	S07	E37	09 13.7			HKX	1109	25	11	3
10105		LEAR	09 11	0138	S09	E41	09 14.1		BGD	FKI	1540	65	23	1
10105		SVTO	09 11	0855	S09	E37	09 14.1		B	FKO	1100	25	25	2
10105	31416	RAMY	09 11	1240	S09	E33	09 14.0		BG	FKI	1490	73	24	3
10105		MWIL	09 11	1430	S08	E28	09 13.7	6	(BG)					
10105		VORO	09 11	2237	S07	E24	09 13.7			HKX	859	20	6	3
10105		LEAR	09 12	0020	S08	E28	09 14.1		BGD	FKC	1250	60	24	3
10105		TACH	09 12	0511	S06	E23	09 13.9			CAI	1595	28	20	4
10105		RAMY	09 12	1230	S08	E21	09 14.1		BG	FKI	1170	60	22	4
10105		HOLL	09 12	1436	S08	E21	09 14.2		BG	FKC	1200	78	23	3
10105		SVTO	09 12	1458	S09	E21	09 14.2		B	FKO	1090	19	26	2
10105		VORO	09 12	2247	S07	E11	09 13.8			HKX	752	23		3
10105		LEAR	09 13	0044	S08	E13	09 14.0		BGD	FKI	1160	77	24	3
10105		TACH	09 13	0510	S09	E12	09 14.1			FKI	1426	40	22	4
10105		RAMY	09 13	1222	S10	E08	09 14.1		BGD	FKI	1170	71	27	3
10105	31416	HOLL	09 13	1421	S08	E08	09 14.2		BGD	FKC	1210	81	25	3
10105		MWIL	09 13	1500	S08	E01	09 13.7	6	(BG)					
10105		VORO	09 13	2315	S06	W03	09 13.7			HKX	820	29		3
10105		LEAR	09 14	0008	S08	E01	09 14.1		BGD	FKI	1100	74	24	2
10105		TACH	09 14	0447	S10	E01	09 14.3			FKI	1378	32	19	4
10105		SVTO	09 14	0727	S10	W02	09 14.2		BD	FKO	1250	22	25	2
10105	31416	RAMY	09 14	1240	S10	W03	09 14.3		BG	FKI	1120	75	21	2
10105		MWIL	09 14	1500	S08	W12	09 13.7	6	(BG)					
10105		HOLL	09 14	1545	S06	W15	09 13.5		B	EKO	650	44	15	4
10105		VORO	09 14	2234	S06	W16	09 13.7			HKX	602	23		3
10105		SVTO	09 15	0630	S08	W21	09 13.7		B	CKO	730	10	9	2
10105		LEAR	09 15	0636	S08	W21	09 13.7		BG	DKO	660	22	8	1
10105	31416	RAMY	09 15	1201	S08	W24	09 13.7		B	DKI	670	26	10	3
10105		MWIL	09 15	1500	S07	W25	09 13.7	6	(BG)					
10105		HOLL	09 15	1518	S06	W25	09 13.8		B	DKI	690	27	9	3
10105		VORO	09 16	0047	S06	W30	09 13.8			HKX	654	18		3
10105		LEAR	09 16	0100	S07	W30	09 13.8		BG	DKI	650	12	7	1
10105	31416	SVTO	09 16	0610	S08	W34	09 13.7		BG	DKO	720	17	7	3
10105		MWIL	09 16	1445	S07	W38	09 13.8	6	(BG)					
10105		HOLL	09 16	1530	S07	W38	09 13.8		BG	DKI	720	21	8	4
10105		LEAR	09 17	0005	S08	W44	09 13.7		BG	DKI	600	29	9	4
10105		VORO	09 17	0332	S06	W44	09 13.8			HKX	612	14		3
10105		SVTO	09 17	0800	S08	W48	09 13.7		BG	EKO	410	26	11	3
10105	31416	RAMY	09 17	1215	S10	W50	09 13.7		B	DKI	590	21	9	3
10105		MWIL	09 17	1445	S08	W51	09 13.8	5	(BG)					
10105		HOLL	09 17	1600	S07	W50	09 13.9		B	DKI	640	26	9	3
10105		VORO	09 17	2253	S07	W55	09 13.8			HKX	654	17		3
10105		LEAR	09 18	0010	S08	W57	09 13.7		BG	EKI	610	29	14	4
10105		TACH	09 18	0547	S08	W55	09 14.1			EAI	441	21	15	3
10105		SVTO	09 18	0850	S09	W63	09 13.6		B	EKO	550	26	14	3
10105	31416	RAMY	09 18	1155	S09	W63	09 13.8		BG	EKO	570	8	11	4
10105		MWIL	09 18	1500	S08	W64	09 13.8	5	(BG)					
10105		HOLL	09 18	1622	S08	W67	09 13.6		B	CKO	460	22	18	2
10105		LEAR	09 19	0151	S08	W71	09 13.7		BG	EKO	500	11	14	3
10105		SVTO	09 19	0619	S08	W75	09 13.6		A	HHX	300	1	6	3
10105		VORO	09 19	0636	S07	W73	09 13.8			HKX	420	7		3

102
Sep 02

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

SEPTEMBER 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
10105	31416	RAMY	09 19	1206	S08 W74	09 13.9			B	CKO	270	2	8	4
10105		MWIL	09 19	1445	S08 W78	09 13.8		5	(AP)					
10105		HOLL	09 19	1510	S08 W79	09 13.7			A	HKX	180	1	3	2
10105		VORO	09 19	2250	S07 W81	09 13.9				HAX	149	1		3
10105		LEAR	09 20	0018	S07 W79	09 14.1			B	DKO	210	4	6	4
10107	31418	RAMY	09 08	1210	N12 E75	09 14.1			B	CSO	50	6	7	3
10107		HOLL	09 08	1430	N11 E76	09 14.3			B	CSO	60	4	8	4
10107		MWIL	09 08	1730	N11 E74	09 14.3		4	B					
10107		VORO	09 08	2227	N12 E68	09 14.0				DAI	128	2	4	3
10107		LEAR	09 09	0020	N11 E68	09 14.1			B	DAO	80	5	5	3
10107	31418	TACH	09 09	0545	N11 E63	09 14.0				DSO	92	3	5	4
10107		SVTO	09 09	0809	N11 E66	09 14.3			B	DSO	70	4	6	3
10107		RAMY	09 09	1226	N12 E61	09 14.1			B	DAO	40	5	7	3
10107		MWIL	09 09	1445	N11 E61	09 14.2		5	(B)					
10107		HOLL	09 09	1530	N12 E60	09 14.2			B	DSO	130	6	8	2
10107	31418	VORO	09 09	2320	N12 E56	09 14.2				DAI	122	7	6	3
10107		LEAR	09 10	0013	N11 E55	09 14.1			B	DAO	100	6	7	3
10107		TACH	09 10	0552	N11 E53	09 14.2				CAI	101	8	7	4
10107		SVTO	09 10	0610	N11 E53	09 14.2			B	DAO	120	7	7	3
10107		RAMY	09 10	1215	N11 E50	09 14.3			B	DAO	210	13	8	3
10107	31418	MWIL	09 10	1430	N11 E48	09 14.2		5	(B)					
10107		HOLL	09 10	2115	N11 E43	09 14.1			B	DAO	170	13	8	2
10107		VORO	09 10	2254	N11 E42	09 14.1				DAI	112	10	7	3
10107		LEAR	09 11	0138	N10 E42	09 14.2			B	DAO	120	14	8	1
10107		TACH	09 11	0626	N11 E38	09 14.1				DAI	136	8	6	4
10107	31418	SVTO	09 11	0855	N11 E38	09 14.2			B	DSO	140	11	8	2
10107		RAMY	09 11	1240	N11 E36	09 14.2			B	DAO	200	18	9	3
10107		MWIL	09 11	1430	N11 E35	09 14.2		5	(B)					
10107		VORO	09 11	2237	N12 E29	09 14.1				DAI	261	15	7	3
10107		LEAR	09 12	0020	N10 E29	09 14.2			B	DAO	220	16	8	3
10107	31418	TACH	09 12	0511	N09 E26	09 14.2				DAI	154	7	7	4
10107		RAMY	09 12	1230	N11 E22	09 14.2			B	DAI	150	28	8	4
10107		HOLL	09 12	1436	N11 E22	09 14.3			B	DAI	230	24	9	3
10107		SVTO	09 12	1458	N11 E21	09 14.2			B	DSO	180	6	8	2
10107		VORO	09 12	2247	N12 E16	09 14.1				DAI	174	20	7	3
10107	31418	LEAR	09 13	0044	N11 E15	09 14.1			B	DAI	240	23	9	3
10107		TACH	09 13	0510	N10 E12	09 14.1				DAI	190	16	8	4
10107		RAMY	09 13	1222	N10 E08	09 14.1			B	DAI	170	24	8	3
10107		HOLL	09 13	1421	N11 E07	09 14.1			B	DAI	150	23	8	3
10107		MWIL	09 13	1500	N11 E07	09 14.1		4	(B)					
10107	31418	VORO	09 13	2315	N12 E03	09 14.2				DAI	156	21	7	3
10107		LEAR	09 14	0008	N11 E02	09 14.1			B	DAI	230	29	8	2
10107		TACH	09 14	0447	N11 W01	09 14.1				CAI	124	20	7	4
10107		SVTO	09 14	0727	N11 W03	09 14.1			B	DAI	200	13	9	2
10107		RAMY	09 14	1240	N10 W05	09 14.1			B	DAO	220	24	10	2
10107	31418	MWIL	09 14	1500	N11 W06	09 14.2		5	(B)					
10107		HOLL	09 14	1545	N11 W08	09 14.0			B	DAI	140	25	9	4
10107		VORO	09 14	2234	N12 W10	09 14.2				CAI	151	14	7	3
10107		SVTO	09 15	0630	N11 W15	09 14.1			B	DAO	100	8	8	2
10107		LEAR	09 15	0636	N11 W15	09 14.1			B	DAO	140	15	8	1
10107	31418	TACH	09 15	0643	N11 W15	09 14.1				BRI	39	9	6	3
10107		RAMY	09 15	1201	N11 W18	09 14.1			B	DAO	90	16	8	3
10107		MWIL	09 15	1500	N11 W18	09 14.3		4	(B)					
10107		HOLL	09 15	1518	N11 W21	09 14.0			B	DAO	100	7	8	3
10107		VORO	09 16	0047	N12 W24	09 14.2				CAI	100	7	7	3
10107	31418	LEAR	09 16	0100	N11 W24	09 14.2			B	DAO	80	9	8	1
10107		TACH	09 16	0532	N11 W27	09 14.2				CAO	129	4	6	3
10107		SVTO	09 16	0610	N11 W28	09 14.1			B	DAO	70	7	7	3
10107		MWIL	09 16	1445	N11 W33	09 14.1		5	(B)					
10107		HOLL	09 16	1530	N12 W34	09 14.1			B	DAO	90	6	8	4
10107	31418	LEAR	09 17	0005	N11 W38	09 14.1			B	DAO	60	5	6	4
10107		VORO	09 17	0332	N12 W42	09 14.0				HAX	104	5		3
10107		TACH	09 17	0531	N11 W43	09 14.0				HA	61	2	1	4
10107		SVTO	09 17	0800	N11 W44	09 14.0			A	HSX	70	4	2	3
10107		RAMY	09 17	1215	N11 W49	09 13.8			B	DAO	130	4	3	3
10107	31418	MWIL	09 17	1445	N12 W48	09 14.0		5	(BG)					
10107		HOLL	09 17	1600	N13 W48	09 14.0			B	DSO	90	3	3	3
10107		VORO	09 17	2253	N12 W52	09 14.0				DAI	47	3		3

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

103
Sep 02

SEPTEMBER 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
10107		LEAR	09 18	0010	N13	W54	09 13.9		B	CAO	40	5	3	4
10107		TACH	09 18	0547	N12	W56	09 14.0			AR	26	2	1	3
10107		SVTO	09 18	0850	N11	W58	09 14.0		A	HSX	30	2	2	3
10107		RAMY	09 18	1155	N10	W60	09 14.0		A	HAX	40	2	1	4
10107	31418	MWIL	09 18	1500	N11	W61	09 14.0	4	(AP)					
10107		HOLL	09 18	1622	N12	W64	09 13.9		A	AXX	20	5	2	2
10107		LEAR	09 19	0151	N12	W68	09 13.9		A	HSX	20	2	2	3
10107		TACH	09 19	0438	N13	W66	09 14.2			AR	13	2	2	4
10107		VORO	09 19	0636	N12	W70	09 14.0			HRX	14	3		3
10107	31418	MWIL	09 19	1445	N11	W75	09 14.0	4	(AP)					
10107		HOLL	09 19	1510	N12	W77	09 13.8		A	AXX		1		2
10107		LEAR	09 20	0018	N12	W79	09 14.1		A	HAX	20	1	1	4
10108		RAMY	09 09	1226	S23	E70	09 14.9		B	CSO	30	3	3	3
10108	31421	MWIL	09 09	1445	S23	E67	09 14.8	4	(AP)					
10108		HOLL	09 09	1530	S22	E68	09 14.9		A	AXX	10	2	1	2
10108		VORO	09 09	2320	S23	E64	09 14.9			AXX	13	3	6	3
10108		LEAR	09 10	0013	S24	E60	09 14.6		B	CRO	30	3	2	3
10108		TACH	09 10	0552	S23	E56	09 14.5			AXX	5	1	1	4
10108		SVTO	09 10	0610	S23	E59	09 14.8		A	AXX		1		3
10108		RAMY	09 10	1215	S22	E56	09 14.8		B	BXO	20	2	4	3
10108	31421	MWIL	09 10	1430	S24	E52	09 14.6	4	(AP)					
10108		VORO	09 10	2254	S23	E47	09 14.6			AXX	5	1		3
10108		LEAR	09 11	0138	S24	E46	09 14.6		A	HSX	20	1	1	1
10108		RAMY	09 11	1240	S24	E42	09 14.8		B	BXO	10	2	3	3
10108	31421	MWIL	09 11	1430	S24	E39	09 14.6	4	(AP)					
10108		VORO	09 11	2237	S23	E34	09 14.6			AXX	6	3		3
10108		LEAR	09 12	0020	S24	E33	09 14.6		A	AXX		1		3
10114	31419	MWIL	09 08	1730	S12	E80	09 14.7	5	AP					
10114		VORO	09 08	2227	S10	E74	09 14.5			HKX	672	1		3
10114	31419	MWIL	09 09	1445	S12	E68	09 14.7	5	(D)					
10114		VORO	09 09	2320	S11	E59	09 14.4			HKX	661	16	7	3
10114	31419	MWIL	09 10	1430	S12	E55	09 14.7	5	(BG)					
10114		VORO	09 10	2254	S11	E50	09 14.7			HKX	756	14		3
10114		TACH	09 11	0626	S08	E38	09 14.1			FKI	1747	17	18	4
10114	31419	MWIL	09 11	1430	S12	E42	09 14.8	5	(BG)					
10114		VORO	09 11	2237	S11	E37	09 14.7			HKX	786	19		3
10114		VORO	09 12	2247	S12	E25	09 14.8			DKI	471	26	5	3
10114	31419	MWIL	09 13	1500	S12	E15	09 14.7	5	(BG)					
10114		VORO	09 13	2315	S11	E10	09 14.7			HKX	430	37	3	3
10114		RAMY	09 14	1240	S12	E04	09 14.8		BG	DKC	550	40	10	2
10114	31419	MWIL	09 14	1500	S12	E02	09 14.8	5	(BG)					
10114		HOLL	09 14	1545	S12	E02	09 14.8		BG	DKC	430	57	9	4
10114		VORO	09 14	2234	S11	W02	09 14.8			DAI	465	31	3	3
10114		SVTO	09 15	0630	S11	W07	09 14.7		BD	DKI	430	13	9	2
10114		LEAR	09 15	0636	S12	W07	09 14.7		BGD	DKO	390	31	9	1
10114		TACH	09 15	0643	S09	W13	09 14.3			EKI	930	35	14	3
10114		RAMY	09 15	1201	S12	W09	09 14.8		BG	DAI	320	34	9	3
10114	31419	MWIL	09 15	1500	S12	W11	09 14.8	5	(BG)					
10114		HOLL	09 15	1518	S11	W12	09 14.7		BG	DAC	170	23	7	3
10114		VORO	09 16	0047	S11	W17	09 14.7			CAI	220	16	4	3
10114		LEAR	09 16	0100	S12	W17	09 14.8		BG	DAO	220	12	6	1
10114		TACH	09 16	0532	S10	W24	09 14.4			EAI	874	48	11	3
10114		SVTO	09 16	0610	S11	W19	09 14.8		B	DAO	220	18	7	3
10114	31419	MWIL	09 16	1445	S12	W25	09 14.7	5	(BG)					
10114		HOLL	09 16	1530	S10	W25	09 14.8		B	DAI	150	19	6	4
10114		LEAR	09 17	0005	S10	W30	09 14.7		BG	DAO	180	17	6	4
10114		VORO	09 17	0332	S11	W31	09 14.8			CAI	182	9	4	3
10114		TACH	09 17	0531	S10	W38	09 14.4			EAI	931	19	15	4
10114		SVTO	09 17	0800	S11	W36	09 14.6		B	DSO	100	14	7	3
10114		RAMY	09 17	1215	S12	W37	09 14.7		B	DSO	160	14	7	3
10114	31419	MWIL	09 17	1445	S11	W38	09 14.7	5	(BG)					
10114		HOLL	09 17	1600	S12	W39	09 14.7		B	CAO	70	11	6	3
10114		VORO	09 17	2253	S09	W43	09 14.7			HSX	106	1		3
10114		LEAR	09 18	0010	S10	W43	09 14.8		B	DAO	110	6	8	4
10114		SVTO	09 18	0850	S12	W48	09 14.7		A	HSX	90	1	2	3
10114		RAMY	09 18	1155	S12	W51	09 14.6		A	HSX	100	1	2	4
10114	31419	MWIL	09 18	1500	S10	W53	09 14.6	5	(AP)					

104
Sep 02

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

SEPTEMBER 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
10114		HOLL	09 18 1622	S10 W54	09 14.6		A	HSX	80	2	2	2
10114		LEAR	09 19 0151	S11 W58	09 14.7		B	CSO	150	4	6	3
10114		TACH	09 19 0438	S07 W64	09 14.4			EAO	390	5	10	4
10114		SVTO	09 19 0619	S11 W62	09 14.6		A	HSX	90	1	3	3
10114		VORO	09 19 0636	S10 W61	09 14.7			HSX	117	1		3
10114		RAMY	09 19 1206	S13 W63	09 14.7		B	CSO	130	2	4	4
10114	31419	MWIL	09 19 1445	S10 W66	09 14.6	5	(AP)					
10114		HOLL	09 19 1510	S12 W67	09 14.6		B	CAO	90	2	6	2
10114		VORO	09 19 2250	S10 W70	09 14.7			HAX	97	1		3
10114		LEAR	09 20 0018	S11 W69	09 14.8		B	DAO	160	4	6	4
10114		TACH	09 20 0646	S11 W74	09 14.7			HSX	119	1	2	3
10114		RAMY	09 20 1210	S13 W80	09 14.5		A	HSX	120	1	2	3
10114		SVTO	09 20 1302	S11 W79	09 14.6		A	HSX	60	1	2	2
10114		HOLL	09 20 1414	S10 W79	09 14.6		A	HAX	80	1	2	4
10114	31419	MWIL	09 20 1445	S10 W79	09 14.7	4	(AP)					
10114		LEAR	09 21 0114	S14 W85	09 14.6		A	HAX	20	1	1	3
10124		LEAR	09 18 0010	N03 W36	09 15.3		B	BXO	20	5	3	4
10124		TACH	09 18 0547	N02 W39	09 15.3			AR	19	2	2	3
10124		SVTO	09 18 0850	N03 W42	09 15.2		B	CRO	10	2	2	3
10124		RAMY	09 18 1155	N02 W43	09 15.3		B	CSO	10	2	3	4
10124	31439	MWIL	09 18 1500	N02 W45	09 15.3	4	(B)					
10124		HOLL	09 18 1622	N03 W46	09 15.2		A	AXX	10	2	2	2
10124		LEAR	09 19 0151	N03 W51	09 15.3		B	CSO	10	2	2	3
10116	31426	MWIL	09 11 1430	N14 E69	09 16.8	4	(AP)					
10116		LEAR	09 15 0636	N15 E14	09 16.3		B	CSO	20	4	3	1
10116		TACH	09 15 0643	N13 E10	09 16.0			BXO	4	2	6	3
10116		RAMY	09 15 1201	N16 E11	09 16.3		B	CSO	10	6	3	3
10116	31431	MWIL	09 15 1500	N14 E09	09 16.3	4	(B)					
10116		HOLL	09 15 1518	N14 E09	09 16.3		B	CSO	30	3	3	3
10116		VORO	09 16 0047	N15 E04	09 16.3			BRI	12	3	2	3
10116		LEAR	09 16 0100	N15 E05	09 16.4		B	DSO	20	2	3	1
10116		TACH	09 16 0532	N14 E01	09 16.3			BRI	8	6	3	3
10116		SVTO	09 16 0610	N14 E01	09 16.3		B	DSO	20	3	3	3
10116	31431	MWIL	09 16 1445	N15 W03	09 16.4	4	(B)					
10116		HOLL	09 16 1530	N16 W04	09 16.3		B	BXO	10	3	3	4
10116		LEAR	09 17 0005	N15 W10	09 16.2		B	BXO	20	5	4	4
10116		VORO	09 17 0332	N16 W09	09 16.5			AXX	6	4		3
10116		TACH	09 17 0531	N12 W10	09 16.5			AR	13	2	1	4
10116		SVTO	09 17 0800	N15 W12	09 16.4		A	HRX	20	3	1	3
10116		RAMY	09 17 1215	N14 W16	09 16.3		B	DSO	40	7	4	3
10116	31431	MWIL	09 17 1445	N15 W16	09 16.4	5	(BG)					
10116		HOLL	09 17 1600	N15 W16	09 16.4		B	DSO	30	8	4	3
10116		VORO	09 17 2253	N15 W19	09 16.5			DRI	40	11	1	3
10116		LEAR	09 18 0010	N16 W22	09 16.3		B	DSO	40	9	5	4
10116		TACH	09 18 0547	N15 W24	09 16.4			CAO	55	4	2	3
10116		SVTO	09 18 0850	N14 W25	09 16.5		B	CSO	30	3	3	3
10116		RAMY	09 18 1155	N14 W27	09 16.4		B	DSO	30	2	3	4
10116	31431	MWIL	09 18 1500	N15 W29	09 16.4	5	(B)					
10116		HOLL	09 18 1622	N16 W29	09 16.5		B	CAO	40	4	2	2
10116		LEAR	09 19 0151	N16 W35	09 16.4		B	DAO	50	11	4	3
10116		TACH	09 19 0438	N16 W35	09 16.5			BRO	44	4	3	4
10116		SVTO	09 19 0619	N15 W38	09 16.4		B	DSO	40	6	5	3
10116		VORO	09 19 0636	N16 W38	09 16.4			DAI	75	7	2	3
10116		RAMY	09 19 1206	N15 W42	09 16.3		B	DAO	40	4	3	4
10116	31431	MWIL	09 19 1445	N15 W42	09 16.4	4	(B)					
10116		HOLL	09 19 1510	N16 W43	09 16.4		B	DAO	60	6	4	2
10116		VORO	09 19 2250	N15 W47	09 16.4			DRO	51	2	3	3
10116		LEAR	09 20 0018	N15 W48	09 16.4		B	DAO	30	3	4	4
10116		TACH	09 20 0646	N15 W52	09 16.3			CSO	44	2	5	3
10116		RAMY	09 20 1210	N12 W57	09 16.2		B	DAO	70	2	5	3
10116		SVTO	09 20 1302	N14 W56	09 16.3		B	DSO	30	2	6	2
10116		HOLL	09 20 1414	N16 W56	09 16.3		B	CSO	40	2	3	4
10116	31431	MWIL	09 20 1445	N15 W56	09 16.4	5	(B)					
10116		VORO	09 20 2239	N17 W58	09 16.5			HRX	18	1		3
10116		LEAR	09 21 0114	N16 W61	09 16.4		B	CAO	30	3	6	3
10116		TACH	09 21 0543	N15 W62	09 16.5			BRO	19	3	3	4
10116	31431	MWIL	09 21 1445	N16 W69	09 16.4	4	(B)					

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

105
Sep 02

SEPTEMBER 2002

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
10116		RAMY	09 21 1502	N14 W69	09 16.4		B	CSO	30	3	4	1
10116		HOLL	09 21 1505	N15 W70	09 16.3		B	CSO	50	2	5	4
10116		VORO	09 21 2246	N18 W71	09 16.5			HRX	16	1		3
10116A		TACH	09 18 0547	S41 W16	09 16.9			HSX	63	1	1	3
10118	31435	MWIL	09 16 1445	N14 E18	09 18.0	4	(B)					
10118		HOLL	09 16 1530	N14 E18	09 18.0		A	AXX	10	2	2	4
10118		LEAR	09 17 0005	N13 E12	09 17.9		B	BXO	10	4	2	4
10115		RAMY	09 13 1222	S03 E65	09 18.4		B	CRO	10	3	3	3
10115		HOLL	09 13 1421	S04 E63	09 18.3		A	AXX	20	3	2	3
10115	31429	MWIL	09 13 1500	S04 E63	09 18.3	3	(B)					
10115		VORO	09 13 2315	S04 E57	09 18.2			CAI	32	3	2	3
10115		TACH	09 14 0447	S04 E54	09 18.2			CAI	63	5	3	4
10115		SVTO	09 14 0727	S03 E54	09 18.3		B	DAO	100	3	4	2
10115		RAMY	09 14 1240	S03 E51	09 18.3		B	DAI	130	16	5	2
10115	31429	MWIL	09 14 1500	S04 E49	09 18.3	4	(B)					
10115		HOLL	09 14 1545	S03 E48	09 18.2		B	DAO	120	19	7	4
10115		VORO	09 14 2234	S03 E43	09 18.1			CAI	105	17	5	3
10115		SVTO	09 15 0630	S03 E39	09 18.2		B	DSO	110	9	8	2
10115		LEAR	09 15 0636	S03 E39	09 18.2		B	DAO	130	11	7	1
10115		TACH	09 15 0643	S04 E38	09 18.1			CAI	80	7	5	3
10115		RAMY	09 15 1201	S02 E37	09 18.3		B	DAO	120	14	7	3
10115	31429	MWIL	09 15 1500	S04 E35	09 18.2	5	(B)					
10115		HOLL	09 15 1518	S04 E34	09 18.2		B	DSO	120	17	8	3
10115		VORO	09 16 0047	S03 E28	09 18.1			DAI	163	11	7	3
10115		LEAR	09 16 0100	S04 E29	09 18.2		B	DSO	110	7	8	1
10115		TACH	09 16 0532	S03 E25	09 18.1			DAI	212	11	7	3
10115		SVTO	09 16 0610	S03 E26	09 18.2		B	DSO	130	7	8	3
10115	31429	MWIL	09 16 1445	S03 E21	09 18.2	5	(B)					
10115		HOLL	09 16 1530	S03 E20	09 18.1		B	DAI	160	9	9	4
10115		LEAR	09 17 0005	S03 E15	09 18.1		B	DAO	160	9	10	4
10115		VORO	09 17 0332	S02 E13	09 18.1			DAI	185	12	8	3
10115		TACH	09 17 0531	S02 E12	09 18.1			DAI	163	8	8	4
10115		SVTO	09 17 0800	S03 E11	09 18.1		B	EAI	140	21	11	3
10115		RAMY	09 17 1215	S03 E09	09 18.2		B	EAI	270	32	11	3
10115	31429	MWIL	09 17 1445	S03 E07	09 18.1	5	(BG)					
10115		HOLL	09 17 1600	S03 E06	09 18.1		B	EAI	280	21	11	3
10115		VORO	09 17 2253	S02 E02	09 18.1			DAI	238	28	8	3
10115		LEAR	09 18 0010	S03 E01	09 18.1		B	EAI	320	29	11	4
10115		TACH	09 18 0547	S02 W03	09 18.0			DAI	250	25	8	3
10115		SVTO	09 18 0850	S04 W03	09 18.1		B	EAI	200	21	11	3
10115		RAMY	09 18 1155	S03 W05	09 18.1		B	DAO	230	13	10	4
10115	31429	MWIL	09 18 1500	S03 W06	09 18.2	5	(BG)					
10115		HOLL	09 18 1622	S04 W07	09 18.1		B	DAI	220	24	10	2
10115		LEAR	09 19 0151	S02 W12	09 18.2		B	EAO	200	22	11	3
10115		TACH	09 19 0438	S03 W14	09 18.1			CAI	158	7	10	4
10115		SVTO	09 19 0619	S03 W16	09 18.1		B	ESO	130	7	12	3
10115		VORO	09 19 0636	S02 W15	09 18.1			DAI	226	19	9	3
10115		RAMY	09 19 1206	S03 W18	09 18.1		BG	DSO	200	8	10	4
10115	31429	MWIL	09 19 1445	S03 W20	09 18.1	5	(B)					
10115		HOLL	09 19 1510	S04 W21	09 18.1		B	DAI	150	16	10	2
10115		VORO	09 19 2250	S02 W25	09 18.1			DAI	173	5	9	3
10115		LEAR	09 20 0018	S03 W25	09 18.1		BG	EAO	180	22	13	4
10115		TACH	09 20 0646	S03 W29	09 18.1			EAI	198	9	10	3
10115		RAMY	09 20 1210	S05 W31	09 18.2		B	DSO	240	8	10	3
10115		SVTO	09 20 1302	S03 W33	09 18.1		B	CSO	160	7	11	2
10115		HOLL	09 20 1414	S04 W34	09 18.0		B	EAO	110	12	11	4
10115	31429	MWIL	09 20 1445	S03 W34	09 18.1	5	(BP)					
10115		VORO	09 20 2239	S03 W42	09 17.8			HAX	157	3		3
10115		LEAR	09 21 0114	S03 W43	09 17.8		B	DAO	160	3	5	3
10115		TACH	09 21 0543	S03 W43	09 18.0			CAI	185	4	4	4
10115		SVTO	09 21 0645	S05 W47	09 17.8		B	CAO	150	3	5	3
10115	31429	MWIL	09 21 1445	S03 W51	09 17.8	5	(AP)					
10115		RAMY	09 21 1502	S03 W50	09 17.9		B	CSO	100	3	3	1
10115		HOLL	09 21 1505	S03 W50	09 17.9		A	HAX	170	3	5	4
10115		VORO	09 21 2246	S03 W56	09 17.8			HSX	181	1		3
10115		LEAR	09 22 0017	S03 W58	09 17.7		A	HAX	150	1	2	2

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

SEPTEMBER 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
10115	31429	TACH	09 22 0627	S06 W59	09 17.8			HSX	205	1	4	4
10115		MWIL	09 22 1445	S03 W65	09 17.7	5	(AP)					
10115		RAMY	09 22 1450	S08 W65	09 17.7		A	HAX	220	1	2	1
10115		HOLL	09 22 1505	S03 W67	09 17.6		A	HAX	130	2	2	3
10115		VORO	09 22 2255	S03 W69	09 17.8			HAX	135	2		2
10115		TACH	09 23 0713	S04 W75	09 17.7			HSX	93	1	2	4
10115		SVTO	09 23 0730	S04 W76	09 17.6		A	HSX	120	2	2	3
10115		RAMY	09 23 1245	S06 W80	09 17.5		A	HSX	30	1	2	1
10115		HOLL	09 23 1540	S03 W80	09 17.7		A	HAX	60	2	2	4
10115A		LEAR	09 14 0008	S15 E57	09 18.3		B	DAO	80	9	4	2
10115B		HOLL	09 18 1622	S21 E07	09 19.2		A	AXX	10	1	1	2
10119	31432	RAMY	09 15 1201	S12 E51	09 19.3		B	BXO	10	2	2	3
10119		MWIL	09 15 1500	S15 E47	09 19.2	3	(AF)					
10119		HOLL	09 15 1518	S15 E49	09 19.3		A	AXX	10	1	1	3
10119		VORO	09 16 0047	S13 E41	09 19.1			AXX	8	3		3
10119	31432	TACH	09 16 0532	S14 E40	09 19.2			BRI	6	6	5	3
10119		SVTO	09 16 0610	S14 E42	09 19.4		B	CRO	30	6	5	3
10119		MWIL	09 16 1445	S15 E35	09 19.3	4	(B)					
10119		HOLL	09 16 1530	S14 E35	09 19.3		B	CAO	50	10	5	4
10119	31432	LEAR	09 17 0005	S14 E29	09 19.2		B	DAO	60	9	6	4
10119		VORO	09 17 0332	S13 E26	09 19.1			HAX	95	11		3
10119		TACH	09 17 0531	S13 E27	09 19.3			CAI	92	5	4	4
10119		SVTO	09 17 0800	S13 E26	09 19.3		B	CSO	90	9	7	3
10119	31432	RAMY	09 17 1215	S14 E23	09 19.2		B	DAO	100	11	8	3
10119		MWIL	09 17 1445	S15 E22	09 19.3	5	(BG)					
10119		HOLL	09 17 1600	S14 E21	09 19.2		B	DAI	120	12	7	3
10119		VORO	09 17 2253	S13 E15	09 19.1			HAX	162	16		3
10119	31432	LEAR	09 18 0010	S15 E16	09 19.2		B	DAI	180	23	7	4
10119		TACH	09 18 0547	S14 E12	09 19.1			DAI	237	15	5	3
10119		SVTO	09 18 0850	S15 E13	09 19.3		B	CSO	190	13	8	3
10119		RAMY	09 18 1155	S13 E11	09 19.3		B	DAI	280	12	8	4
10119	31432	MWIL	09 18 1500	S14 E08	09 19.2	5	(BG)					
10119		HOLL	09 18 1622	S14 E07	09 19.2		B	DAC	210	15	7	2
10119		LEAR	09 19 0151	S14 E02	09 19.2		BGD	DKI	350	23	8	3
10119		TACH	09 19 0438	S15 E01	09 19.3			DAI	277	8	5	4
10119	31432	SVTO	09 19 0619	S14 W01	09 19.2		BD	DAI	280	10	9	3
10119		VORO	09 19 0636	S13 W00	09 19.3			DAI	404	19	6	3
10119		RAMY	09 19 1206	S15 W04	09 19.2		BD	DKI	460	18	7	4
10119		MWIL	09 19 1445	S14 W05	09 19.2	5	(BG)					
10119	31432	HOLL	09 19 1510	S14 W07	09 19.1		B	DKC	420	22	7	2
10119		VORO	09 19 2250	S13 W10	09 19.2			DKI	462	32	6	3
10119		LEAR	09 20 0018	S13 W12	09 19.1		BGD	DKC	490	32	8	4
10119		TACH	09 20 0646	S14 W13	09 19.3			DKI	514	20	6	3
10119	31432	RAMY	09 20 1210	S16 W17	09 19.2		BGD	DKC	580	21	10	3
10119		SVTO	09 20 1302	S14 W17	09 19.2		BD	DKC	510	18	9	2
10119		HOLL	09 20 1414	S14 W19	09 19.1		BD	EKC	460	30	11	4
10119		MWIL	09 20 1445	S14 W19	09 19.2	6	(BG)					
10119	31432	VORO	09 20 2239	S14 W22	09 19.3			DAI	581	29	7	3
10119		LEAR	09 21 0114	S13 W24	09 19.2		BD	DKC	610	34	10	3
10119		TACH	09 21 0543	S14 W25	09 19.3			DKI	616	21	6	4
10119		SVTO	09 21 0645	S15 W27	09 19.2		BG	DKC	670	11	10	3
10119	31432	MWIL	09 21 1445	S14 W32	09 19.2	6	(D)					
10119		RAMY	09 21 1502	S15 W31	09 19.3		BGD	DKO	720	16	10	1
10119		HOLL	09 21 1505	S14 W31	09 19.3		BD	DKC	700	48	10	4
10119		VORO	09 21 2246	S13 W35	09 19.3			DKI	805	35	8	3
10119	31432	LEAR	09 22 0017	S14 W35	09 19.4		BGD	EKI	580	33	13	2
10119		TACH	09 22 0627	S12 W39	09 19.3			EKI	860	20	11	4
10119		MWIL	09 22 1445	S14 W45	09 19.2	5	(D)					
10119		RAMY	09 22 1450	S17 W44	09 19.3		BG	EKO	660	18	12	1
10119	31432	HOLL	09 22 1505	S12 W45	09 19.2		BD	EKC	700	37	11	3
10119		VORO	09 22 2255	S14 W48	09 19.3			DKI	742	32	8	2
10119		SVTO	09 23 0730	S15 W50	09 19.5		B	FKI	680	10	19	3
10119		RAMY	09 23 1245	S16 W56	09 19.3		BG	EKO	640	9	12	1
10119	31432	HOLL	09 23 1540	S13 W55	09 19.5		BG	EKC	770	14	11	4
10119		VORO	09 23 2236	S14 W61	09 19.3			DKI	584	17	9	3
10119		LEAR	09 24 0015	S13 W64	09 19.2		BG	EKI	600	17	12	3

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

107
Sep 02

SEPTEMBER 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
10119		RAMY	09 24	1310	S18	W73	09 19.0		BG	FKO	360	7	16	1
10119		SVTO	09 24	1430	S14	W67	09 19.5		B	EKI	360	7	15	2
10119		HOLL	09 24	1545	S12	W73	09 19.1		BD	EKI	360	9	12	4
10119		VORO	09 24	2230	S13	W74	09 19.3			BAI	765	11	8	3
10119		LEAR	09 25	0020	S13	W75	09 19.3		BG	EKI	420	12	12	4
10119		TACH	09 25	0439	S13	W76	09 19.4			DAO	244	3	9	4
10119		SVTO	09 25	0614	S17	W79	09 19.2		A	HSX	30	1	1	3
10119		HOLL	09 25	1415	S15	W80	09 19.5		A	HSX	30	1	2	3
10123		VORO	09 17	0332	S14	E40	09 20.2			AXX	23	7		3
10123		TACH	09 17	0531	S15	E38	09 20.1			AXX	2	1	1	4
10123		SVTO	09 17	0800	S16	E38	09 20.2		A	HRX	20	3	3	3
10123	31438	RAMY	09 17	1215	S16	E37	09 20.3	4	B	CSO	20	5	4	3
10123		MWIL	09 17	1445	S16	E34	09 20.2		(B)					
10123		HOLL	09 17	1600	S17	E32	09 20.1		B	BXO	10	5	3	3
10123		LEAR	09 18	0010	S17	E28	09 20.1		B	CSO	20	8	4	4
10123		TACH	09 18	0547	S16	E25	09 20.1			BRI	8	5	2	3
10123		SVTO	09 18	0850	S16	E25	09 20.3		B	CRO	20	3	4	3
10123	31438	RAMY	09 18	1155	S15	E23	09 20.2	4	B	BXO	10	3	3	4
10123		MWIL	09 18	1500	S16	E21	09 20.2		(B)					
10123		HOLL	09 18	1622	S17	E20	09 20.2		B	BXO	20	6	4	2
10123		LEAR	09 19	0151	S16	E15	09 20.2		B	DAO	40	13	8	3
10123		TACH	09 19	0438	S15	E14	09 20.2			BXI	37	5	8	4
10123		SVTO	09 19	0619	S13	E15	09 20.4		B	BXO	10	2	4	3
10123		VORO	09 19	0636	S12	E15	09 20.4			BRI	23	10	3	3
10123		VORO	09 19	0636	S16	E15	09 20.4			AXX	28	12		3
10123	31442	RAMY	09 19	1206	S14	E10	09 20.2	5	B	DSO	50	8	8	4
10123		MWIL	09 19	1445	S13	E10	09 20.4	4	(B)					
10123	31438	MWIL	09 19	1445	S16	E07	09 20.1		(B)					
10123		HOLL	09 19	1510	S15	E08	09 20.2		B	DSI	40	16	9	2
10123		VORO	09 19	2250	S12	E05	09 20.3			CRI	42	10	5	3
10123		LEAR	09 20	0018	S13	E03	09 20.2		B	DAO	60	16	10	4
10123		TACH	09 20	0646	S14	W01	09 20.2			BRI	45	10	8	3
10123		RAMY	09 20	1210	S15	W04	09 20.2		BG	EAO	100	18	11	3
10123		SVTO	09 20	1302	S15	W04	09 20.2		BG	DAI	100	11	10	2
10123		HOLL	09 20	1414	S15	W05	09 20.2		B	DAI	110	9	10	4
10123	31442	MWIL	09 20	1445	S13	W03	09 20.4	4	(B)					
10123	31438	MWIL	09 20	1445	S16	W07	09 20.1	5	(B)					
10123		VORO	09 20	2239	S12	W08	09 20.3			CRI	47	7	5	3
10123		VORO	09 20	2239	S15	W12	09 20.0			DRI	46	8	4	3
10123		LEAR	09 21	0114	S14	W10	09 20.3		B	DAO	50	19	10	3
10123		TACH	09 21	0543	S15	W14	09 20.2			DAI	121	13	10	4
10123		SVTO	09 21	0645	S15	W14	09 20.2		B	ESO	70	12	11	3
10123	31442	MWIL	09 21	1445	S13	W17	09 20.3	5	(BP)					
10123	31438	MWIL	09 21	1445	S17	W22	09 19.9	5	(BP)					
10123		RAMY	09 21	1502	S16	W20	09 20.1		B	DSO	40	8	7	1
10123		HOLL	09 21	1505	S16	W21	09 20.0		B	DAO	60	12	8	4
10123		VORO	09 21	2246	S12	W23	09 20.2			CRI	33	4	1	3
10123		VORO	09 21	2246	S16	W28	09 19.8			HAX	47	1		3
10123		LEAR	09 22	0017	S12	W24	09 20.2		B	CAO	40	6	5	2
10123		TACH	09 22	0627	S14	W23	09 20.5			AR	10	3	2	4
10123	31442	MWIL	09 22	1445	S14	W32	09 20.2	4	(B)					
10123	31438	MWIL	09 22	1445	S17	W37	09 19.8	5	(AP)					
10123		RAMY	09 22	1450	S17	W35	09 19.9		B	CSO	40	2	4	1
10123		HOLL	09 22	1505	S13	W35	09 20.0		B	DAO	40	6	6	3
10123		VORO	09 22	2255	S17	W41	09 19.8			HRX	22	2		2
10123		TACH	09 23	0713	S15	W49	09 19.6			EAI	673	14	15	4
10123		SVTO	09 23	0730	S16	W45	09 19.9		B	CSO	40	3	7	3
10123		RAMY	09 23	1245	S19	W48	09 19.9		A	HSX	10	1	1	1
10123		HOLL	09 23	1540	S15	W50	09 19.9		A	HSX	30	1	1	4
10123		VORO	09 23	2236	S17	W53	09 19.9			AXX	18	1		3
10123		LEAR	09 24	0015	S14	W52	09 20.1		B	CSO	30	2	4	3
10123		TACH	09 24	0638	S15	W60	09 19.7			DAI	653	8	7	3
10123		RAMY	09 24	1310	S19	W61	09 19.9		A	AXX	10	1		1
10123		SVTO	09 24	1430	S19	W61	09 19.9		A	AXX	10	1	1	2
10123		HOLL	09 24	1545	S17	W65	09 19.7		A	AXX	10	1	1	4
10123		LEAR	09 25	0020	S16	W67	09 19.9		A	HSX	20	1	1	4
10120	31436	MWIL	09 16	1445	S18	E60	09 21.2	4	(BP)					

108
Sep 02

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

SEPTEMBER 2002

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
10120		HOLL	09 16 1530	S19	E61	09 21.3		A	HSX	40	1	1	4
10120		LEAR	09 17 0005	S20	E55	09 21.2		B	CAO	40	4	4	4
10120		VORO	09 17 0332	S18	E54	09 21.2			DRI	13	4	3	3
10120		TACH	09 17 0531	S17	E50	09 21.0			AR	18	2	2	4
10120		SVTO	09 17 0800	S18	E50	09 21.1		B	CRO	50	4	6	3
10120		RAMY	09 17 1215	S18	E51	09 21.4		B	DSO	40	3	4	3
10120	31436	MWIL	09 17 1445	S18	E48	09 21.3	4	(B)					
10120		HOLL	09 17 1600	S19	E48	09 21.3		A	HAX	20	3	3	3
10120		VORO	09 17 2253	S17	E43	09 21.2			BRI	16	4	3	3
10120		LEAR	09 18 0010	S19	E42	09 21.2		B	CRO	20	5	4	4
10120		TACH	09 18 0547	S18	E36	09 21.0			BXO	6	2	4	3
10120		SVTO	09 18 0850	S18	E38	09 21.3		B	CRO	30	3	4	3
10120		RAMY	09 18 1155	S17	E37	09 21.3		B	BXO	20	3	3	4
10120	31436	MWIL	09 18 1500	S19	E36	09 21.4	4	(B)					
10120		HOLL	09 18 1622	S19	E34	09 21.3		B	BXO	20	4	5	2
10120		LEAR	09 19 0151	S19	E28	09 21.2		B	CSO	20	5	4	3
10120		TACH	09 19 0438	S19	E27	09 21.2			AR	20	2	2	4
10120		SVTO	09 19 0619	S18	E27	09 21.3		A	AXX		1		3
10120		VORO	09 19 0636	S17	E26	09 21.2			BRI	16	5	2	3
10120		RAMY	09 19 1206	S19	E23	09 21.2		B	DSO	20	3	3	4
10120	31436	MWIL	09 19 1445	S19	E22	09 21.3	4	(BF)					
10120		HOLL	09 19 1510	S18	E21	09 21.2		B	CAO	20	4	4	2
10120		VORO	09 19 2250	S18	E17	09 21.2			HRX	12	1		3
10120		LEAR	09 20 0018	S18	E16	09 21.2		B	CAO	20	3	3	4
10120		TACH	09 20 0646	S17	E12	09 21.2			BXO	7	2	2	3
10120		RAMY	09 20 1210	S19	E10	09 21.3		B	DSO	40	7	4	3
10120		SVTO	09 20 1302	S18	E09	09 21.2		B	BXO	10	3	4	2
10120		HOLL	09 20 1414	S18	E08	09 21.2		B	BXO	10	4	4	4
10120	31436	MWIL	09 20 1445	S18	E08	09 21.2	4	(B)					
10120		LEAR	09 21 0114	S19	E02	09 21.2		B	BXO	10	3	2	3
10117		SVTO	09 15 0630	S08	E80	09 21.3		A	HSX	90	1	3	2
10117		LEAR	09 15 0636	S10	E80	09 21.3		A	HAX	60	1	2	1
10117		TACH	09 15 0643	S09	E77	09 21.0			HSX	170	1	3	3
10117		RAMY	09 15 1201	S08	E79	09 21.4		A	HSX	120	1	2	3
10117	31433	MWIL	09 15 1500	S10	E75	09 21.3	4	(AP)					
10117		HOLL	09 15 1518	S10	E75	09 21.3		A	HAX	180	2	3	3
10117		VORO	09 16 0047	S09	E70	09 21.3			HSX	283	1		3
10117		LEAR	09 16 0100	S11	E71	09 21.4		A	HSX	150	1	2	1
10117		TACH	09 16 0532	S09	E68	09 21.3			HSX	285	1	2	3
10117		SVTO	09 16 0610	S11	E71	09 21.6		B	DSO	140	2	9	3
10117	31433	MWIL	09 16 1445	S10	E62	09 21.3	5	(AP)					
10117		HOLL	09 16 1530	S10	E62	09 21.3		A	HKX	200	1	2	4
10117		LEAR	09 17 0005	S10	E57	09 21.3		A	HSX	60	1	2	4
10117		VORO	09 17 0332	S09	E55	09 21.3			HSX	271	1		3
10117		TACH	09 17 0531	S08	E53	09 21.2			HSX	186	1	2	4
10117		SVTO	09 17 0800	S10	E53	09 21.3		A	HSX	120	1	4	3
10117		RAMY	09 17 1215	S09	E51	09 21.3		A	HAX	240	1	2	3
10117	31433	MWIL	09 17 1445	S10	E49	09 21.3	5	(BP)					
10117		HOLL	09 17 1600	S10	E50	09 21.4		A	HKX	150	1	3	3
10117		VORO	09 17 2253	S09	E44	09 21.2			HSX	250	1		3
10117		LEAR	09 18 0010	S10	E44	09 21.3		A	HHX	230	2	3	4
10117		TACH	09 18 0547	S10	E39	09 21.2			HSX	204	1	2	3
10117		SVTO	09 18 0850	S08	E40	09 21.4		A	HSX	100	1	2	3
10117		RAMY	09 18 1155	S09	E39	09 21.4		A	HSX	220	1	2	4
10117	31433	MWIL	09 18 1500	S10	E36	09 21.3	5	(AP)					
10117		HOLL	09 18 1622	S10	E36	09 21.4		A	HAX	120	2	2	2
10117		LEAR	09 19 0151	S10	E30	09 21.3		A	HSX	240	1	2	3
10117		TACH	09 19 0438	S11	E28	09 21.3			HSX	192	1	2	4
10117		SVTO	09 19 0619	S09	E27	09 21.3		A	HSX	130	1	3	3
10117		VORO	09 19 0636	S09	E27	09 21.3			HSX	213	1		3
10117		RAMY	09 19 1206	S10	E24	09 21.3		A	HSX	220	1	2	4
10117	31433	MWIL	09 19 1445	S10	E23	09 21.3	5	(BP)					
10117		HOLL	09 19 1510	S10	E23	09 21.4		A	HAX	220	3	2	2
10117		VORO	09 19 2250	S09	E18	09 21.3			HSX	217	1		3
10117		LEAR	09 20 0018	S10	E18	09 21.4		A	HSX	200	1	2	4
10117		TACH	09 20 0646	S09	E14	09 21.3			HSX	161	1	2	3
10117		RAMY	09 20 1210	S10	E12	09 21.4		A	HSX	200	1	2	3
10117		SVTO	09 20 1302	S09	E11	09 21.4		A	HSX	200	1	2	2

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

109
Sep 02

SEPTEMBER 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
10117	31433	HOLL	09 20	1414	S10 E10	09 21.3			A	HHX	150	1	3	4
10117		MWIL	09 20	1445	S10 E10	09 21.4	5		(AP)					
10117		VORO	09 20	2239	S09 E05	09 21.3				HSX	227	1		3
10117		LEAR	09 21	0114	S09 E03	09 21.3			A	HSX	220	1	2	3
10117		TACH	09 21	0543	S08 E04	09 21.5				CSO	210	2	5	4
10117	31433	SVTO	09 21	0645	S10 E01	09 21.3			A	HSX	120	1	4	3
10117		MWIL	09 21	1445	S09 W03	09 21.4	6		(BP)					
10117		RAMY	09 21	1502	S10 W02	09 21.5			A	HSX	200	1	3	1
10117		HOLL	09 21	1505	S09 W02	09 21.5			A	HKX	150	5	6	4
10117		VORO	09 21	2246	S08 W08	09 21.3				HKX	196	1		3
10117	31433	LEAR	09 22	0017	S09 W08	09 21.4			A	HSX	160	4	5	2
10117		TACH	09 22	0627	S04 W18	09 20.9				CSO	231	3	5	4
10117		MWIL	09 22	1445	S09 W17	09 21.3	5		(AP)					
10117		RAMY	09 22	1450	S10 W17	09 21.3			A	HSX	200	1	2	1
10117		HOLL	09 22	1505	S09 W17	09 21.3			A	HHX	150	2	2	3
10117	31433	VORO	09 22	2255	S08 W21	09 21.4				HHX	231	1		2
10117		TACH	09 23	0713	S08 W26	09 21.3				CAO	134	3	3	4
10117		SVTO	09 23	0730	S10 W26	09 21.3			B	CSO	220	3	6	3
10117		RAMY	09 23	1245	S10 W28	09 21.4			B	CSO	170	2	3	1
10117		HOLL	09 23	1540	S09 W30	09 21.4			A	HKX	160	2	3	4
10117	31433	VORO	09 23	2236	S08 W34	09 21.4				HSX	200	1		3
10117		LEAR	09 24	0015	S08 W34	09 21.5			B	CSO	210	3	7	3
10117		TACH	09 24	0638	S08 W38	09 21.4				HSX	199	1	3	3
10117		RAMY	09 24	1310	S11 W43	09 21.3			A	HSX	100	1	2	1
10117		SVTO	09 24	1430	S08 W44	09 21.3			A	HSX	140	1	2	2
10117	31433	HOLL	09 24	1545	S08 W45	09 21.3			A	HAX	140	1	2	4
10117		VORO	09 24	2230	S08 W48	09 21.3				HSX	222	1		3
10117		LEAR	09 25	0020	S09 W47	09 21.5			B	DSO	220	4	5	4
10117		TACH	09 25	0439	S08 W49	09 21.5				CSI	180	4	5	4
10117		SVTO	09 25	0614	S11 W51	09 21.4			BG	DSO	190	4	7	3
10117	31433	HOLL	09 25	1415	S08 W56	09 21.4			B	CSO	160	5	6	3
10117		MWIL	09 25	1600	S09 W56	09 21.5	5		(BP)					
10117		LEAR	09 26	0015	S08 W61	09 21.4			B	CSO	200	3	6	3
10117		VORO	09 26	0238	S08 W64	09 21.3				HAX	239	1		3
10117		SVTO	09 26	0717	S10 W68	09 21.2			A	HSX	140	1	4	3
10117	31433	HOLL	09 26	1559	S07 W72	09 21.3			A	HSX	180	1	2	3
10117		VORO	09 26	2337	S08 W76	09 21.3				HAX	134	1		3
10117		LEAR	09 27	0050	S08 W77	09 21.3			A	HSX	120	1	2	3
10117		TACH	09 27	0616	S09 W78	09 21.4				HSX	147	1	5	3
10121	31434	MWIL	09 15	1500	S14 E85	09 22.0	4		AP					
10121	31434	MWIL	09 16	1445	S14 E69	09 21.8	4		(AP)					
10121	31434	HOLL	09 16	1530	S16 E72	09 22.1			B	DSO	130	3	10	4
10121		LEAR	09 17	0005	S14 E65	09 21.9			A	HSX	40	1	1	4
10121		VORO	09 17	0332	S13 E62	09 21.8				HAX	68	1		3
10121		TACH	09 17	0531	S12 E61	09 21.8				HSX	56	1	1	4
10121		SVTO	09 17	0800	S13 E60	09 21.9			A	HSX	60	1	1	3
10121	31434	RAMY	09 17	1215	S13 E59	09 22.0			A	HSX	70	1	1	3
10121		MWIL	09 17	1445	S14 E56	09 21.8	5		(AP)					
10121		HOLL	09 17	1600	S15 E58	09 22.0			A	HAX	70	1	2	3
10121		VORO	09 17	2253	S13 E51	09 21.8				HAX	78	1		3
10121		LEAR	09 18	0010	S14 E51	09 21.9			A	HSX	70	1	2	4
10121	31434	SVTO	09 18	0850	S13 E48	09 22.0			A	HSX	50	1	2	3
10121		RAMY	09 18	1155	S12 E45	09 21.9			A	HSX	30	1	1	4
10121		MWIL	09 18	1500	S14 E43	09 21.9	5		(B)					
10121		HOLL	09 18	1622	S15 E43	09 21.9			B	CAO	40	3	3	2
10121		LEAR	09 19	0151	S14 E38	09 21.9			B	CSO	60	4	4	3
10121	31434	TACH	09 19	0438	S15 E34	09 21.8				HSX	30	1	1	4
10121		SVTO	09 19	0619	S13 E34	09 21.8			A	HSX	20	1	1	3
10121		VORO	09 19	0636	S13 E34	09 21.8				HAX	68	1		3
10121		RAMY	09 19	1206	S13 E32	09 21.9			A	HSX	40	1	2	4
10121		MWIL	09 19	1445	S14 E30	09 21.9	5		(BP)					
10121	31434	HOLL	09 19	1510	S14 E31	09 22.0			B	CAO	50	5	4	2
10121		VORO	09 19	2250	S13 E25	09 21.8				HAX	84	1		3
10121		LEAR	09 20	0018	S13 E24	09 21.8			A	HSX	50	1	1	4
10121		TACH	09 20	0646	S12 E21	09 21.9				HSX	40	1	1	3
10121		RAMY	09 20	1210	S14 E19	09 21.9			A	HSX	60	1	1	3
10121	31434	SVTO	09 20	1302	S13 E17	09 21.8			A	HSX	60	1	1	2
10121		HOLL	09 20	1414	S13 E17	09 21.9			A	HSX	40	1	2	4

110
Sep 02

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 2002

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
10121	31434	MWIL	09 20 1445	S13 E17	09 21.9	5	(AP)					
10121		VORO	09 20 2239	S12 E12	09 21.8			HAX	57	1		3
10121		LEAR	09 21 0114	S13 E10	09 21.8		A	HSX	50	1	1	3
10121		TACH	09 21 0543	S12 E08	09 21.8			HSX	54	1	1	4
10121		SVTO	09 21 0645	S13 E07	09 21.8		A	HAX	50	1	2	3
10121	31434	MWIL	09 21 1445	S13 E03	09 21.8	5	(AP)					
10121		RAMY	09 21 1502	S12 E03	09 21.8		A	HSX	40	1	2	1
10121		HOLL	09 21 1505	S13 E03	09 21.8		A	HAX	40	1	2	4
10121		VORO	09 21 2246	S12 W02	09 21.8			HAX	56	1		3
10121		LEAR	09 22 0017	S13 W03	09 21.8		A	HAX	50	1	1	2
10121		TACH	09 22 0627	S13 W04	09 22.0			HSX	43	1	1	4
10121	31434	MWIL	09 22 1445	S13 W11	09 21.8	5	(AP)					
10121		RAMY	09 22 1450	S13 W09	09 21.9		A	HAX	40	2	1	1
10121		HOLL	09 22 1505	S12 W11	09 21.8		A	HAX	40	2	2	3
10121		VORO	09 22 2255	S12 W14	09 21.9			HAX	28	2		2
10121		TACH	09 23 0713	S12 W19	09 21.9			HSX	51	1	1	4
10121		SVTO	09 23 0730	S14 W19	09 21.9		A	HAX	20	1	2	3
10121		RAMY	09 23 1245	S13 W23	09 21.8		B	CSO	20	3	5	1
10121		HOLL	09 23 1540	S12 W23	09 21.9		A	HSX	40	4	2	4
10121		VORO	09 23 2236	S12 W27	09 21.9			HRX	26	1		3
10121		LEAR	09 24 0015	S12 W29	09 21.8		A	HAX	20	3	2	3
10121		TACH	09 24 0638	S12 W32	09 21.9			AXX	16	1	1	3
10121		SVTO	09 24 1430	S14 W36	09 21.9		A	HSX	10	1	1	2
10121		HOLL	09 24 1545	S12 W38	09 21.8		A	HAX	20	2	1	4
10121		VORO	09 24 2230	S09 W44	09 21.6			BRO	13	2	1	3
10121		LEAR	09 25 0020	S12 W42	09 21.8		A	HSX	20	1	1	4
10127		TACH	09 16 0532	S12 E79	09 22.2			HXX	81	1	1	3
10127	31437	MWIL	09 16 1445	S17 E79	09 22.6	4	AP					
10127		TACH	09 17 0531	S16 E70	09 22.5			HSX	53	1	2	4
10127	31437	MWIL	09 17 1445	S18 E67	09 22.7	4	(AP)					
10127		TACH	09 18 0547	S18 E56	09 22.5			HSX	82	1	1	3
10127	31437	MWIL	09 18 1500	S18 E52	09 22.6	5	(AP)					
10127		TACH	09 19 0438	S20 E44	09 22.5			HSX	80	1	1	4
10127	31437	MWIL	09 19 1445	S17 E40	09 22.6	5	(AP)					
10127		LEAR	09 20 0018	S14 E31	09 22.3		B	DAO	40	4	3	4
10127		TACH	09 20 0646	S14 E28	09 22.4			DAI	85	7	5	3
10127		RAMY	09 20 1210	S13 E26	09 22.5		B	DAO	50	13	2	3
10127		HOLL	09 20 1414	S15 E24	09 22.4		B	CAO	60	13	4	4
10127	31437	MWIL	09 20 1445	S15 E25	09 22.5	5	(BG)					
10127		VORO	09 20 2239	S14 E17	09 22.2			BRI	49	11	2	3
10127		LEAR	09 21 0114	S14 E16	09 22.3		BG	DAO	120	17	7	3
10127		TACH	09 21 0543	S15 E15	09 22.4			DAI	230	12	6	4
10127		SVTO	09 21 0645	S15 E14	09 22.3		B	DAO	140	14	9	3
10127	31437	MWIL	09 21 1445	S14 E10	09 22.4	5	(BG)					
10127		RAMY	09 21 1502	S12 E10	09 22.4		B	DAO	100	13	7	1
10127		HOLL	09 21 1505	S15 E09	09 22.3		B	DAI	140	25	6	4
10127		VORO	09 21 2246	S13 E03	09 22.2			CAI	76	9	3	3
10127		LEAR	09 22 0017	S14 E04	09 22.3		B	DAO	190	19	8	2
10127		TACH	09 22 0627	S17 E02	09 22.4			DAI	191	11	5	4
10127	31437	MWIL	09 22 1445	S14 W03	09 22.4	5	(BG)					
10127		RAMY	09 22 1450	S12 W03	09 22.4		B	DSO	190	12	9	1
10127		HOLL	09 22 1505	S13 W05	09 22.2		B	DAI	180	18	9	3
10127		VORO	09 22 2255	S12 W11	09 22.1			DAI	39	8	0	2
10127		TACH	09 23 0713	S14 W12	09 22.4			DAI	220	10	6	4
10127		SVTO	09 23 0730	S13 W12	09 22.4		B	DAO	130	11	8	3
10127		RAMY	09 23 1245	S14 W14	09 22.5		B	DAO	190	8	8	1
10127		HOLL	09 23 1540	S13 W18	09 22.3		B	DAI	200	19	9	4
10127		VORO	09 23 2236	S11 W22	09 22.3			CAI	134	10	5	3
10127		LEAR	09 24 0015	S12 W22	09 22.3		B	DAI	180	20	9	3
10127		TACH	09 24 0638	S13 W24	09 22.5			DAI	207	11	6	3
10127		RAMY	09 24 1310	S15 W29	09 22.3		B	EAO	180	12	11	1
10127		SVTO	09 24 1430	S15 W31	09 22.2		B	EAO	80	12	11	2
10127		HOLL	09 24 1545	S12 W30	09 22.4		B	DAI	260	32	8	4
10127		VORO	09 24 2230	S12 W35	09 22.3			CAI	128	15	4	3
10127		LEAR	09 25 0020	S12 W35	09 22.4		B	DAI	250	30	10	4
10127		TACH	09 25 0439	S14 W36	09 22.5			DAI	260	13	8	4
10127		SVTO	09 25 0614	S14 W38	09 22.4		B	DSO	170	11	10	3
10127		HOLL	09 25 1415	S17 W40	09 22.5		BG	DAI	210	13	9	3

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

111
Sep 02

SEPTEMBER 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
10127	31437	MWIL	09 25 1600	S14 W42	09 22.5	5	(BG)					
10127		LEAR	09 26 0015	S12 W48	09 22.4		B	DAI	310	17	10	3
10127		VORO	09 26 0238	S12 W52	09 22.2			DAC	221	14	3	3
10127		SVTO	09 26 0717	S14 W54	09 22.2		B	DSO	240	4	10	3
10127		HOLL	09 26 1559	S13 W56	09 22.4		BG	DAO	250	10	9	3
10127		VORO	09 26 2337	S12 W65	09 22.1			HAX	272	1		3
10127		LEAR	09 27 0050	S12 W62	09 22.4		B	CAO	260	7	10	3
10127		TACH	09 27 0616	S16 W63	09 22.5			DAI	431	7	8	3
10127		HOLL	09 27 1434	S14 W70	09 22.3		B	CAO	120	6	9	3
10127		RAMY	09 27 1802	S17 W76	09 22.0		A	HSX	240	1	2	1
10127		VORO	09 28 0035	S12 W78	09 22.1			HAX	262	1		3
10127		LEAR	09 28 0120	S10 W80	09 22.0		B	CAO	120	4	3	1
10127		TACH	09 28 0528	S14 W75	09 22.5			DSO	270	2	9	3
10122		VORO	09 16 0047	S14 E88	09 22.7			HRX	52	1		3
10122		LEAR	09 17 0005	S19 E74	09 22.6		A	HSX	40	1	1	4
10122		VORO	09 17 0332	S17 E72	09 22.6			HAX	27	1		3
10122		SVTO	09 17 0800	S18 E70	09 22.7		A	HSX	60	1	1	3
10122		RAMY	09 17 1215	S18 E68	09 22.7		A	HAX	60	1	1	3
10122		HOLL	09 17 1600	S18 E68	09 22.8		A	HAX	100	1	2	3
10122		VORO	09 17 2253	S17 E61	09 22.6			HAX	47	1		3
10122		LEAR	09 18 0010	S19 E60	09 22.6		A	HAX	50	1	2	4
10122		SVTO	09 18 0850	S16 E57	09 22.7		A	HSX	80	1	2	3
10122		RAMY	09 18 1155	S16 E55	09 22.7		A	HSX	50	1	1	4
10122		HOLL	09 18 1622	S18 E52	09 22.6		A	HAX	40	2	2	2
10122		LEAR	09 19 0151	S18 E46	09 22.6		A	HSX	60	1	2	3
10122		SVTO	09 19 0619	S17 E44	09 22.6		B	CRO	30	2	1	3
10122		VORO	09 19 0636	S17 E43	09 22.5			HAX	66	1		3
10122		RAMY	09 19 1206	S17 E41	09 22.6		A	HSX	30	1	1	4
10122		HOLL	09 19 1510	S18 E39	09 22.6		A	HSX	60	1	2	2
10122		VORO	09 19 2250	S15 E33	09 22.4			DAI	92	6	3	3
10122		LEAR	09 20 0018	S18 E33	09 22.5		A	HAX	50	1	1	4
10122		RAMY	09 20 1210	S17 E27	09 22.5		A	HSX	110	1	5	3
10122		SVTO	09 20 1302	S15 E25	09 22.4		B	DAO	150	12	8	2
10122		HOLL	09 20 1414	S18 E27	09 22.6		A	HSX	50	1	2	4
10122		VORO	09 20 2239	S15 E21	09 22.5			DAI	169	4	1	3
10122		LEAR	09 21 0114	S18 E20	09 22.6		A	HAX	60	1	1	3
10122		SVTO	09 21 0645	S18 E17	09 22.6		A	HSX	70	1	2	3
10122		RAMY	09 21 1502	S17 E14	09 22.7		A	HSX	70	1	2	1
10122		HOLL	09 21 1505	S17 E13	09 22.6		A	HSX	40	1	2	4
10122		VORO	09 21 2246	S14 E08	09 22.5			DSI	194	12	0	3
10122		LEAR	09 22 0017	S18 E08	09 22.6		A	HSX	60	5	3	2
10122		RAMY	09 22 1450	S18 E01	09 22.7		A	HSX	20	1	1	1
10122		HOLL	09 22 1505	S17 W01	09 22.5		A	HAX	40	1	2	3
10122		VORO	09 22 2255	S15 W05	09 22.6			DKI	155	7	0	2
10122		SVTO	09 23 0730	S18 W09	09 22.6		A	HAX	20	1	1	3
10122		HOLL	09 23 1540	S17 W14	09 22.6		A	HSX	30	1	1	4
10122		VORO	09 23 2236	S14 W17	09 22.6			DAI	165	8	0	3
10122		LEAR	09 24 0015	S17 W19	09 22.6		A	HAX	20	1	1	3
10122		HOLL	09 24 1545	S16 W28	09 22.5		A	HSX	20	2	1	4
10122		VORO	09 24 2230	S14 W31	09 22.6			DAI	172	17	1	3
10122		LEAR	09 25 0020	S17 W32	09 22.6		A	HSX	30	2	2	4
10122		SVTO	09 25 0614	S19 W35	09 22.6		A	HSX	30	1	1	3
10122		HOLL	09 25 1415	S17 W44	09 22.2		A	HSX	20	1	1	3
10122		LEAR	09 26 0015	S16 W47	09 22.4		B	CSO	30	7	4	3
10122		VORO	09 26 0238	S14 W46	09 22.6			CRI	75	9	0	3
10122		SVTO	09 26 0717	S19 W49	09 22.6		A	HSX	30	1	1	3
10122		HOLL	09 26 1559	S17 W54	09 22.6		B	DAO	60	4	3	3
10122		VORO	09 26 2337	S16 W57	09 22.7			BRI	83	10	0	3
10122		LEAR	09 27 0050	S17 W60	09 22.5		B	CAO	40	6	2	3
10122		HOLL	09 27 1434	S18 W67	09 22.5		B	DSO	70	3	3	3
10122		RAMY	09 27 1802	S19 W65	09 22.8		A	HAX	130	2	1	1
10122		LEAR	09 28 0120	S16 W75	09 22.4		B	CAO	60	3	3	1
10132	31446	VORO	09 21 2246	N19 E11	09 22.8			HRX	25	1		3
10132		LEAR	09 22 0017	N19 E11	09 22.8		B	CSO	30	5	3	2
10132		TACH	09 22 0627	N22 E08	09 22.9			CSI	58	3	4	4
10132		MWIL	09 22 1445	N19 E04	09 22.9	4	(B)					
10132		RAMY	09 22 1450	N19 E05	09 23.0		B	CSO	70	7	5	1

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

SEPTEMBER 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
10132		HOLL	09 22 1505	N18 E03	09 22.8		B	DAI	90	12	4	3
10132		VORO	09 22 2255	N20 W00	09 22.9			CRI	159	19	3	2
10132		TACH	09 23 0713	N19 W06	09 22.8			CAO	319	12	2	4
10132		SVTO	09 23 0730	N19 W05	09 22.9		B	CAO	200	11	6	3
10132		RAMY	09 23 1245	N20 W09	09 22.8		B	DAO	240	9	4	1
10132		HOLL	09 23 1540	N19 W10	09 22.9		B	DKI	250	22	4	4
10132		VORO	09 23 2236	N20 W13	09 22.9			DAI	391	23	3	3
10132		LEAR	09 24 0015	N20 W14	09 22.9		B	DKI	410	28	7	3
10132		TACH	09 24 0638	N21 W18	09 22.9			DAI	313	12	3	3
10132		RAMY	09 24 1310	N18 W23	09 22.8		BD	DKI	440	13	5	1
10132		SVTO	09 24 1430	N18 W23	09 22.8		B	CKO	300	10	6	2
10132		HOLL	09 24 1545	N19 W24	09 22.8		B	DKI	400	17	6	4
10132		VORO	09 24 2230	N20 W26	09 22.9			DAC	520	30	2	3
10132		LEAR	09 25 0020	N20 W28	09 22.9		BD	DKI	470	30	7	4
10132		TACH	09 25 0439	N21 W30	09 22.9			CAI	379	12	14	4
10132		SVTO	09 25 0614	N19 W31	09 22.9		B	CKO	300	9	8	3
10132		HOLL	09 25 1415	N19 W36	09 22.8		BD	DKC	400	19	6	3
10132	31446	MWIL	09 25 1600	N19 W34	09 23.1	5	(BD)					
10132		LEAR	09 26 0015	N20 W41	09 22.9		BD	DKI	360	22	8	3
10132		VORO	09 26 0238	N20 W40	09 23.0			DKC	356	38	3	3
10132		SVTO	09 26 0717	N19 W45	09 22.9		B	DSO	220	6	8	3
10132		HOLL	09 26 1559	N20 W48	09 23.0		BG	DAI	210	12	7	3
10132		VORO	09 26 2337	N19 W51	09 23.1			DAI	242	16	4	3
10132		LEAR	09 27 0050	N20 W53	09 23.0		B	DAC	210	16	8	3
10132		TACH	09 27 0616	N19 W54	09 23.1			DAI	170	5	4	3
10132		HOLL	09 27 1434	N19 W61	09 22.9		BG	DAI	180	11	6	3
10132		RAMY	09 27 1802	N15 W61	09 23.1		B	DAO	140	3	4	1
10132		VORO	09 28 0035	N20 W65	09 23.0			DAI	229	12	4	3
10132		LEAR	09 28 0120	N21 W67	09 22.9		B	DAI	100	6	5	1
10132		TACH	09 28 0528	N20 W68	09 23.0			DAI	163	9	3	3
10132		HOLL	09 28 1900	N20 W76	09 23.0		B	DAO	120	7	8	3
10132		LEAR	09 29 0035	N21 W78	09 23.0		B	DAO	100	7	6	3
10125		LEAR	09 18 0010	S09 E80	09 24.0		A	AXX	10	1	1	4
10125		RAMY	09 18 1155	S07 E76	09 24.2		A	AXX	10	1	1	4
10125	31440	MWIL	09 18 1500	S08 E74	09 24.2	4	(B)					
10125		HOLL	09 18 1622	S08 E75	09 24.3		A	AXX	20	3	1	2
10125		LEAR	09 19 0151	S10 E67	09 24.1		B	CSO	30	2	5	3
10125		TACH	09 19 0438	S11 E62	09 23.8			AXX	6	1	1	4
10125		VORO	09 19 0636	S07 E63	09 24.0			AXX	13	1		3
10125		RAMY	09 19 1206	S07 E60	09 24.0		A	AXX	10	1		4
10125	31440	MWIL	09 19 1445	S09 E60	09 24.1	4	(B)					
10125		HOLL	09 19 1510	S08 E61	09 24.2		A	AXX	10	2	2	2
10125		VORO	09 19 2250	S07 E54	09 24.0			AXX	5	1		3
10125		LEAR	09 20 0018	S09 E52	09 23.9		B	CAO	30	3	2	4
10125		RAMY	09 20 1210	S09 E46	09 23.9		B	BXO	30	4	5	3
10125		SVTO	09 20 1302	S08 E47	09 24.1		A	AXX		1		2
10125		HOLL	09 20 1414	S08 E46	09 24.0		A	AXX	10	1		4
10125	31440	MWIL	09 20 1445	S09 E46	09 24.1	4	(AP)					
10125		LEAR	09 21 0114	S09 E39	09 24.0		B	CAO	20	3	2	3
10125	31440	MWIL	09 21 1445	S09 E32	09 24.0	4	(AP)					
10125	31440	MWIL	09 22 1445	S09 E18	09 24.0	4	(AP)					
10125		HOLL	09 22 1505	S09 E18	09 24.0		A	HSX	20	4	2	3
10125		TACH	09 23 0713	S08 E09	09 24.0			AR	3	3	1	4
10125		SVTO	09 23 0730	S09 E09	09 24.0		A	HSX	10	2	1	3
10125		RAMY	09 23 1245	S08 E08	09 24.1		A	AXX		1		1
10125		LEAR	09 24 0015	S08 E01	09 24.1		B	BXO	20	9	6	3
10125		RAMY	09 24 1310	S05 W11	09 23.7		A	AXX		1		1
10125		LEAR	09 25 0020	S07 W13	09 24.0		B	CSO	20	5	5	4
10125		HOLL	09 25 1415	S07 W17	09 24.3		A	HSX	10	1	1	3
10125	31440	MWIL	09 25 1600	S07 W20	09 24.2	4	(BF)					
10125		LEAR	09 26 0015	S07 W24	09 24.2		B	CSO	20	5	5	3
10125		HOLL	09 27 1434	S08 W48	09 24.0		B	CSO	30	5	4	3
10125		RAMY	09 27 1802	S10 W46	09 24.3		A	AXX	30	2	1	1
10125		VORO	09 28 0035	S07 W52	09 24.1			DAI	119	13	2	3
10125		LEAR	09 28 0120	S06 W54	09 24.0		B	DAO	70	9	4	1
10125		TACH	09 28 0528	S07 W54	09 24.2			DAO	159	4	4	3
10125		RAMY	09 28 1400	S10 W61	09 24.0		B	CAO	60	3	4	1
10125		HOLL	09 28 1900	S08 W63	09 24.1		B	DAO	140	5	6	3

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

113
Sep 02

SEPTEMBER 2002

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
10125		LEAR	09 29 0035	S07	W66	09 24.1		B	DAO	180	11	8	3
10125		TACH	09 29 0724	S09	W68	09 24.2			DAO	184	3	3	2
10125		SVTO	09 29 0800	S11	W68	09 24.2		B	DAO	100	2	10	3
10125		HOLL	09 29 1617	S08	W75	09 24.0		B	CAO	140	2	8	3
10125		LEAR	09 30 0020	S08	W77	09 24.2		A	HAX	60	1	1	2
10125		TACH	09 30 0533	S09	W79	09 24.3			HSX	72	1	2	4
10125		SVTO	09 30 0635	S12	W80	09 24.2		A	HSX	30	1	1	3
10125A	31441	MWIL	09 19 1445	S15	E65	09 24.5	4	(AP)					
10125B		TACH	09 22 0627	N11	E36	09 25.0			AXX	6	1	1	4
10126	31443	MWIL	09 19 1445	S23	E78	09 25.6	4	AP					
10126		HOLL	09 19 1510	S23	E79	09 25.7		A	HSX	60	1	1	2
10126		VORO	09 19 2250	S23	E74	09 25.6			HRX	51	1		3
10126		LEAR	09 20 0018	S23	E73	09 25.6		B	CAO	220	5	6	4
10126		RAMY	09 20 1210	S24	E71	09 26.0		B	DAO	180	4	6	3
10126		SVTO	09 20 1302	S23	E70	09 25.9		B	DSO	120	3	5	2
10126		HOLL	09 20 1414	S24	E67	09 25.8		B	DSO	170	3	5	4
10126	31443	MWIL	09 20 1445	S24	E69	09 25.9	4	(B)					
10126		VORO	09 20 2239	S22	E63	09 25.8			CAI	121	5	4	3
10126		LEAR	09 21 0114	S23	E63	09 25.9		B	DAO	140	5	6	3
10126		TACH	09 21 0543	S24	E57	09 25.6			CAI	37	5	5	4
10126		SVTO	09 21 0645	S23	E60	09 25.9		B	DSO	90	4	7	3
10126	31443	MWIL	09 21 1445	S24	E56	09 25.9	5	(B)					
10126		RAMY	09 21 1502	S22	E56	09 25.9		B	DAO	60	6	6	1
10126		HOLL	09 21 1505	S22	E58	09 26.1		B	DAO	100	5	5	4
10126		VORO	09 21 2246	S22	E51	09 25.9			DAI	82	4	4	3
10126		LEAR	09 22 0017	S23	E50	09 25.9		B	DSO	100	6	6	2
10126		TACH	09 22 0627	S23	E48	09 26.0			CSO	60	2	4	4
10126	31443	MWIL	09 22 1445	S23	E43	09 25.9	4	(B)					
10126		RAMY	09 22 1450	S21	E46	09 26.1		B	DAO	70	3	6	1
10126		HOLL	09 22 1505	S23	E43	09 25.9		B	DAO	70	5	4	3
10126		VORO	09 22 2255	S22	E39	09 25.9			BRI	28	4	5	2
10126		TACH	09 23 0713	S21	E34	09 25.9			BXO	26	2	5	4
10126		TACH	09 23 0713	S24	E27	09 25.4			CSO	47	2	5	4
10126		SVTO	09 23 0730	S26	E28	09 25.5		B	DAO	50	5	6	3
10126		RAMY	09 23 1245	S21	E31	09 25.9		A	HSX	10	1	1	1
10126		HOLL	09 23 1540	S22	E28	09 25.8		A	AXX	10	2	1	4
10126		VORO	09 23 2236	S21	E24	09 25.8			AXX	12	2		3
10126		VORO	09 23 2236	S23	E16	09 25.2			HRX	31	1		3
10126		LEAR	09 24 0015	S22	E23	09 25.8		A	HSX	10	2	1	3
10126		TACH	09 24 0638	S22	E19	09 25.7			AXX	2	1	1	3
10126		TACH	09 24 0638	S24	E13	09 25.3			CAO	68	4	6	3
10126		SVTO	09 24 1430	S25	E12	09 25.5		B	DAO	40	4	9	2
10126		HOLL	09 24 1545	S22	E14	09 25.7		A	AXX	10	1	1	4
10126		VORO	09 24 2230	S22	E02	09 25.1			HRX	24	2		3
10126		TACH	09 25 0439	S24	E02	09 25.3			BXI	39	5	7	4
10126		VORO	09 26 0238	S23	W11	09 25.3			AXX	12	5		3
10131		LEAR	09 21 0114	S07	E59	09 25.5		A	AXX	10	1		3
10131		VORO	09 21 2246	S05	E48	09 25.5			AXX	6	1		3
10131	31448	LEAR	09 22 0017	S07	E48	09 25.6		B	CRO	30	2	2	2
10131		MWIL	09 22 1445	S06	E39	09 25.5	4	(B)					
10131		RAMY	09 22 1450	S06	E40	09 25.6		B	CAO	30	2	3	1
10131		HOLL	09 22 1505	S07	E39	09 25.5		A	HAX	20	3	2	3
10131		VORO	09 22 2255	S05	E35	09 25.6			BRI	11	3	2	2
10131		TACH	09 23 0713	S05	E30	09 25.5			BXO	4	2	3	4
10131		SVTO	09 23 0730	S06	E30	09 25.5		B	CSO	20	2	3	3
10131		RAMY	09 23 1245	S05	E27	09 25.5		B	CSO	10	3	3	1
10131		HOLL	09 23 1540	S06	E24	09 25.4		A	AXX	10	2	2	4
10131		LEAR	09 24 0015	S06	E19	09 25.4		A	HSX	10	2	2	3
10131		HOLL	09 24 1545	S06	E11	09 25.5		B	BXO	10	3	5	4
10131		LEAR	09 25 0020	S06	E04	09 25.3		B	BXO	10	4	4	4
10131		LEAR	09 27 0050	S06	W23	09 25.3		B	BXO		2	1	3
10133		TACH	09 20 0646	S23	E74	09 26.0			DSO	186	2	6	3
10133	31447	MWIL	09 22 1445	S27	E37	09 25.5	3	(B)					
10133		VORO	09 22 2255	S26	E33	09 25.5			HRX	21	1		2

114
Sep 02

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

SEPTEMBER 2002

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
10133		SVTO	09 23 0730	S23	E33	09 25.8		A	HRX	10	1	1	3
10133		RAMY	09 23 1245	S24	E25	09 25.5		B	DSO	70	4	7	1
10133		HOLL	09 23 1540	S25	E25	09 25.6		B	DAO	90	9	6	4
10133		VORO	09 23 2236	S26	E21	09 25.6			HAX	58	4		3
10133		LEAR	09 24 0015	S26	E17	09 25.3		B	DSO	70	9	7	3
10133		RAMY	09 24 1310	S26	E12	09 25.5		B	DSO	30	4	8	1
10133		SVTO	09 24 1430	S22	E17	09 25.9		B	DRO	10	2	2	2
10133		HOLL	09 24 1545	S25	E09	09 25.3		B	DAO	40	7	8	4
10133		VORO	09 24 2230	S26	E08	09 25.5			BRI	37	6	2	3
10133		LEAR	09 25 0020	S26	E05	09 25.4		B	DAO	70	9	9	4
10133		SVTO	09 25 0614	S25	E03	09 25.5		B	CSO	40	7	9	3
10133		HOLL	09 25 1415	S26	W03	09 25.4		B	DAO	40	7	8	3
10133	31447	MWIL	09 25 1600	S26	W03	09 25.4	4	(B)					
10133		LEAR	09 26 0015	S25	W08	09 25.4		B	DAO	50	8	10	3
10133		VORO	09 26 0238	S26	W04	09 25.8			HRX	9	1		3
10133		HOLL	09 26 1559	S26	W15	09 25.5		B	CSO	10	3	8	3
10133		LEAR	09 27 0050	S27	W17	09 25.7		A	AXX		1		3
10133		TACH	09 27 0616	S27	W18	09 25.8			AXX	1	1	1	3
10133		VORO	09 28 0035	S25	W25	09 26.1			AXX	7	1		3
10128		LEAR	09 20 0018	N10	E75	09 25.6		A	AXX	10	1		4
10128		RAMY	09 20 1210	N11	E70	09 25.8		B	CSO	60	2	4	3
10128		SVTO	09 20 1302	N11	E69	09 25.7		A	AXX		1		2
10128		HOLL	09 20 1414	N11	E68	09 25.7		A	AXX		1		4
10128		VORO	09 20 2239	N11	E62	09 25.6			AXX	9	1		3
10128		LEAR	09 21 0114	N10	E61	09 25.6		A	AXX	10	1		3
10128	31444	MWIL	09 21 1445	N10	E53	09 25.6	4	(AP)					
10128		RAMY	09 21 1502	N08	E59	09 26.0		A	AXX	10	1	1	1
10128		TACH	09 25 0439	N11	E09	09 25.9			AXX	3	1	1	4
10128		RAMY	09 27 1802	N03	W18	09 26.4		A	HSX	150	1	2	1
10128		RAMY	09 28 1400	N04	W27	09 26.6		B	CSO	300	2	5	1
10130	31445	MWIL	09 21 1445	N07	E70	09 26.8	4	(AP)					
10130		LEAR	09 22 0017	N07	E65	09 26.9		B	BXO	20	2	4	2
10130	31445	MWIL	09 22 1445	N07	E56	09 26.8	3	(AP)					
10130		RAMY	09 22 1450	N08	E56	09 26.8		A	AXX	20	1	1	1
10130		HOLL	09 22 1505	N05	E56	09 26.8		A	AXX	20	3	1	3
10130		VORO	09 22 2255	N07	E50	09 26.7			AXX	16	2		2
10130		TACH	09 23 0713	N07	E45	09 26.7			HA	35	2	1	4
10130		SVTO	09 23 0730	N06	E46	09 26.7		A	AXX	10	2	2	3
10130		RAMY	09 23 1245	N07	E42	09 26.7		A	HSX	20	1	1	1
10130		HOLL	09 23 1540	N06	E42	09 26.8		B	CAO	30	5	5	4
10130		VORO	09 23 2236	N06	E36	09 26.6			HRX	14	1		3
10130		LEAR	09 24 0015	N07	E37	09 26.8		B	CSO	20	9	5	3
10130		TACH	09 24 0638	N06	E34	09 26.8			CAO	33	4	6	3
10130		RAMY	09 24 1310	N07	E30	09 26.8		B	DSO	40	4	4	1
10130		SVTO	09 24 1430	N07	E31	09 26.9		B	CSO	40	5	8	2
10130		HOLL	09 24 1545	N05	E28	09 26.7		B	DAO	60	17	6	4
10130		VORO	09 24 2230	N06	E23	09 26.6			CAI	123	13	4	3
10130		LEAR	09 25 0020	N06	E23	09 26.7		B	DAO	90	15	7	4
10130		TACH	09 25 0439	N06	E20	09 26.7			CAI	110	11	4	4
10130		SVTO	09 25 0614	N06	E19	09 26.7		B	DSO	110	4	5	3
10130		HOLL	09 25 1415	N06	E15	09 26.7		B	DAO	160	10	6	3
10130	31445	MWIL	09 25 1600	N06	E14	09 26.7	5	(B)					
10130		LEAR	09 26 0015	N05	E09	09 26.7		B	DAO	250	8	6	3
10130		VORO	09 26 0238	N06	E08	09 26.7			DAI	246	7	5	3
10130		SVTO	09 26 0717	N06	E04	09 26.6		B	DSO	250	3	8	3
10130		HOLL	09 26 1559	N06	E00	09 26.7		B	DAO	230	14	7	3
10130		VORO	09 26 2337	N06	W04	09 26.7			CAI	209	7	5	3
10130		LEAR	09 27 0050	N05	W06	09 26.6		B	DAO	180	8	7	3
10130		TACH	09 27 0616	N05	W08	09 26.7			CSO	176	3	6	3
10130		HOLL	09 27 1434	N06	W13	09 26.6		B	DAO	150	9	7	3
10130		RAMY	09 27 1802	N06	W11	09 26.9		A	HAX	40	1	1	1
10130		VORO	09 28 0035	N06	W18	09 26.7			CSO	156	3	5	3
10130		LEAR	09 28 0120	N06	W19	09 26.6		B	DAO	120	5	6	1
10130		TACH	09 28 0528	N05	W20	09 26.7			DSO	167	4	5	3
10130		HOLL	09 28 1900	N05	W30	09 26.5		B	DSO	100	3	7	3
10130		LEAR	09 29 0035	N06	W32	09 26.6		B	DSO	160	6	6	3
10130		TACH	09 29 0724	N05	W35	09 26.7			CSO	196	2	4	2

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

115
Sep 02

SEPTEMBER 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
10130		SVTO	09 29 0800	N04 W37	09 26.6		B	DSO	90	3	6	3
10130		HOLL	09 29 1617	N05 W40	09 26.7		B	CAO	140	5	6	3
10130		LEAR	09 30 0020	N06 W47	09 26.5		B	CSO	120	4	4	2
10130		TACH	09 30 0533	N03 W49	09 26.6			HA	139	2	2	4
10130		SVTO	09 30 0635	N02 W50	09 26.5		A	HSX	90	2	3	3
10130		LEAR	10 01 0120	N05 W63	09 26.4		A	HSX	100	2	2	1
10130		SVTO	10 01 0620	N02 W63	09 26.6		A	HSX	80	2	2	3
10130		TACH	10 01 0621	N04 W61	09 26.8			HA	136	3	4	3
10130		RAMY	10 01 1305	N00 W68	09 26.6		B	DSO	60	2	2	3
10130		HOLL	10 01 1745	N05 W70	09 26.6		B	DAO	100	3	2	3
10130		LEAR	10 02 0130	N05 W75	09 26.5		B	DSO	60	2	2	4
10130		VORO	10 02 0312	N05 W75	09 26.6			HRX	78	2		3
10130		TACH	10 02 0449	N04 W74	09 26.8			HA	104	2	3	3
10130		SVTO	10 02 1114	N01 W85	09 26.2		A	HSX	30	1	1	3
10130		RAMY	10 02 1125	N02 W81	09 26.5		B	DSO	60	2	2	4
10130		HOLL	10 02 1441	N05 W83	09 26.5		A	HAX	90	1	2	3
10129		LEAR	09 22 0017	N25 E65	09 27.0		A	AXX		1		2
10129		TACH	09 22 0627	N23 E62	09 27.0			AXX	8	1	1	4
10129	31449	MWIL	09 22 1445	N26 E58	09 27.1	3	(AP)					
10129		HOLL	09 22 1505	N25 E59	09 27.2		A	AXX	20	1	1	3
10129		VORO	09 22 2255	N27 E53	09 27.1			AXX	5	1		2
10129		SVTO	09 23 0730	N26 E50	09 27.2		A	AXX	10	1	1	3
10129		VORO	09 23 2236	N27 E41	09 27.1			AXX	18	5		3
10129		LEAR	09 24 0015	N25 E38	09 26.9		B	DSO	30	8	8	3
10129		TACH	09 24 0638	N27 E35	09 27.0			BRO	26	3	4	3
10129		RAMY	09 24 1310	N28 E30	09 26.9		B	DAO	50	5	4	1
10129		SVTO	09 24 1430	N27 E32	09 27.1		B	DAO	10	3	3	2
10129		HOLL	09 24 1545	N25 E30	09 27.0		B	CSO	20	12	4	4
10129		VORO	09 24 2230	N27 E26	09 27.0			BRI	35	8	4	3
10129		LEAR	09 25 0020	N26 E25	09 26.9		B	DSO	30	8	6	4
10129		TACH	09 25 0439	N27 E22	09 26.9			BRI	9	5	5	4
10129		HOLL	09 25 1415	N26 E17	09 26.9		B	CSO	30	7	6	3
10129	31449	MWIL	09 25 1600	N27 E17	09 27.0	4	(B)					
10129		LEAR	09 26 0015	N26 E13	09 27.0		B	DAO	40	13	7	3
10129		VORO	09 26 0238	N28 E10	09 26.9			BRI	37	8	4	3
10129		SVTO	09 26 0717	N27 E07	09 26.8		B	CSO	30	5	5	3
10129		HOLL	09 26 1559	N27 E04	09 27.0		B	DAO	30	8	5	3
10129		VORO	09 26 2337	N27 W01	09 26.9			BRI	29	9	4	3
10129		LEAR	09 27 0050	N27 W01	09 26.9		B	BXO	20	11	5	3
10129		TACH	09 27 0616	N27 W04	09 26.9			BRI	8	5	4	3
10129		HOLL	09 27 1434	N27 W08	09 27.0		A	HSX	10	1	1	3
10129		RAMY	09 27 1802	N27 W09	09 27.0		A	AXX	10	1	1	1
10129		VORO	09 28 0035	N27 W16	09 26.8			BRI	11	8	3	3
10129		LEAR	09 28 0120	N28 W12	09 27.1		B	DAO	50	5	3	1
10129		TACH	09 28 0528	N28 W13	09 27.2			BRI	4	4	4	3
10129		HOLL	09 28 1900	N28 W23	09 27.0		B	CSO	10	4	3	3
10129		LEAR	09 29 0035	N28 W27	09 26.9		B	DAO	30	6	4	3
10129		TACH	09 29 0724	N27 W30	09 27.0			BXO	4	2	4	2
10129		SVTO	09 29 0800	N25 W32	09 26.8		A	AXX	10	2	1	3
10129		LEAR	09 30 0020	N28 W40	09 26.9		B	BXO	20	2	2	2
10129		TACH	09 30 0533	N27 W43	09 26.9			AR	11	3	1	4
10129		VORO	10 02 0312	N25 W77	09 26.3			AXX	8	1		3
10136		LEAR	09 29 0035	S27 W26	09 27.0		B	CSO	20	2	3	3
10136		TACH	09 29 0724	S26 W29	09 27.0			AXX	2	1	1	2
10136		SVTO	09 29 0800	S27 W26	09 27.3		A	HSX	10	1	1	3
10136		RAMY	10 01 1305	S31 W55	09 27.3		B	BXO	10	3	3	3
10135		VORO	09 26 2337	S25 E18	09 28.4			AXX	3	1		3
10135		LEAR	09 27 0050	S27 E18	09 28.4		A	AXX		1		3
10135		TACH	09 27 0616	S25 E14	09 28.3			AXX	1	1	1	3
10135		HOLL	09 27 1434	S26 E10	09 28.4		B	DSO	30	4	3	3
10135		RAMY	09 27 1802	S24 E11	09 28.6		B	DSO	60	3	4	1
10135		VORO	09 28 0035	S24 E04	09 28.3			CRI	29	6	2	3
10135		LEAR	09 28 0120	S25 E03	09 28.3		B	DAO	30	4	3	1
10135		TACH	09 28 0528	S24 E02	09 28.4			BRI	13	5	3	3
10135		RAMY	09 28 1400	S27 E00	09 28.6		B	DSO	40	4	4	1
10135		HOLL	09 28 1900	S25 W06	09 28.3		B	DAO	50	7	5	3

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

SEPTEMBER 2002

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
10135		LEAR	09 29 0035	S25	W09	09 28.3		B	DRO	20	5	5	3
10135		TACH	09 29 0724	S25	W12	09 28.4			BRO	7	3	3	2
10135		SVTO	09 29 0800	S25	W12	09 28.4		B	CSO	20	3	5	3
10135		HOLL	09 29 1617	S24	W18	09 28.3		B	BXO	10	3	4	3
10135		LEAR	09 30 0020	S23	W23	09 28.2		B	BXO	20	2	3	2
10135		TACH	09 30 0533	S26	W25	09 28.3			AR	4	2	1	4
10130A		RAMY	09 30 1210	N54	W01	09 30.4		A	HAX	90	2	2	3
10134		RAMY	09 24 1310	N15	E80	09 30.6		B	BXO	30	4	3	1
10134		VORO	09 24 2230	N13	E73	09 30.4			BXO	55	4		3
10134		LEAR	09 25 0020	N09	E76	09 30.7		B	DAO	90	6	10	4
10134		TACH	09 25 0439	N10	E74	09 30.7			DAI	187	5	7	4
10134		SVTO	09 25 0614	N12	E75	09 30.9		B	ESO	180	5	13	3
10134		HOLL	09 25 1415	N11	E67	09 30.6		B	DAI	200	11	8	3
10134	31450	MWIL	09 25 1600	N12	E66	09 30.6	5	(B)					
10134		LEAR	09 26 0015	N09	E62	09 30.7		B	EAO	150	7	12	3
10134		VORO	09 26 0238	N13	E59	09 30.6			CRI	122	9	1	3
10134		SVTO	09 26 0717	N13	E60	09 30.8		B	ESO	180	5	12	3
10134		HOLL	09 26 1559	N10	E55	09 30.8		BG	EAI	300	16	11	3
10134		VORO	09 26 2337	N12	E48	09 30.6			DAI	130	15	4	3
10134		LEAR	09 27 0050	N10	E50	09 30.8		BG	DAI	110	19	10	3
10134		TACH	09 27 0616	N10	E46	09 30.7			DAI	253	9	8	3
10134		HOLL	09 27 1434	N11	E42	09 30.8		BG	EAC	230	19	11	3
10134		RAMY	09 27 1802	N14	E41	09 30.8		B	DAO	160	12	8	1
10134		VORO	09 28 0035	N12	E36	09 30.7			DAI	248	27	2	3
10134		LEAR	09 28 0120	N10	E36	09 30.8		BGD	DAI	140	12	9	1
10134		TACH	09 28 0528	N10	E34	09 30.8			DAI	181	18	9	3
10134		RAMY	09 28 1400	N13	E29	09 30.8		B	DAO	110	10	10	1
10134		HOLL	09 28 1900	N11	E27	09 30.8		BG	EAC	220	40	11	3
10134		LEAR	09 29 0035	N11	E23	09 30.7		BGD	DAI	260	37	10	3
10134		TACH	09 29 0724	N11	E20	09 30.8			DAI	271	15	6	2
10134		SVTO	09 29 0800	N13	E19	09 30.8		BGD	EAI	210	23	13	3
10134		HOLL	09 29 1617	N12	E16	09 30.9		BG	FAC	290	55	17	3
10134		LEAR	09 30 0020	N12	E11	09 30.8		BG	DAI	270	28	8	2
10134		TACH	09 30 0533	N10	E11	10 1.0			EAI	420	33	15	4
10134		SVTO	09 30 0635	N14	E06	09 30.7		BG	DAI	260	18	10	3
10134		RAMY	09 30 1210	N13	E04	09 30.8		B	DSI	280	24	10	3
10134		LEAR	10 01 0120	N13	W05	09 30.7		BG	DAO	300	17	8	1
10134		SVTO	10 01 0620	N12	W06	09 30.8		BG	ESI	380	15	11	3
10134		RAMY	10 01 1305	N13	W08	09 30.9		BGD	EAI	420	31	12	3
10134		HOLL	10 01 1745	N12	W11	09 30.9		B	DKO	280	29	8	3
10134		LEAR	10 02 0130	N14	W17	09 30.8		BGD	DKI	370	11	8	4
10134		VORO	10 02 0312	N14	W17	09 30.8			DKI	404	12	6	3
10134		SVTO	10 02 1114	N13	W23	09 30.7		BG	ESI	320	10	12	3
10134		RAMY	10 02 1125	N12	W22	09 30.8		BG	DAO	360	16	9	4
10134		HOLL	10 02 1441	N15	W25	09 30.7		BG	DKI	360	14	10	3
10134	31450	MWIL	10 02 2100	N14	W27	09 30.8	5	(BG)					
10134	31452	MWIL	10 02 2100	N19	W27	09 30.8	3	B					
10134		VORO	10 02 2240	N13	W28	09 30.8			DAI	366	15	6	2
10134		LEAR	10 03 0120	N16	W31	09 30.7		BG	DAI	200	13	9	3
10134		SVTO	10 03 0617	N12	W34	09 30.7		B	EAO	240	9	12	2
10134		RAMY	10 03 1205	N10	W34	09 30.9		BG	EKI	360	21	12	3
10134		HOLL	10 03 1435	N14	W36	09 30.9		BG	EHI	240	22	14	3
10134	31450	MWIL	10 03 1515	N14	W38	09 30.8	5	(BG)					
10134	31452	MWIL	10 03 1515	N17	W39	09 30.7	4	(AP)					
10134		VORO	10 03 2259	N13	W42	09 30.8			DAI	256	16	6	2
10134		LEAR	10 04 0115	N15	W45	09 30.6		BG	DAI	180	14	8	2
10134		SVTO	10 04 0915	N13	W48	09 30.8		BG	DAI	170	5	9	3
10134		RAMY	10 04 1215	N07	W50	09 30.8		B	DAO	250	9	10	3
10134		HOLL	10 04 1418	N13	W51	09 30.7		BG	DAI	200	11	9	2
10134	31450	MWIL	10 04 1515	N13	W51	09 30.8	5	(BP)					
10134		VORO	10 04 2315	N13	W55	09 30.8			DAI	176	18	8	3
10134		LEAR	10 05 0120	N17	W57	09 30.7		BG	DAO	180	8	9	2
10134		RAMY	10 05 1215	N10	W64	09 30.7		B	DAO	180	8	9	3
10134		HOLL	10 05 1425	N13	W65	09 30.7		B	DAO	180	7	9	4
10134	31450	MWIL	10 05 1515	N12	W65	09 30.7	5	(B)					
10134		LEAR	10 06 0205	N13	W71	09 30.7		B	EAO	120	4	11	2
10134		TACH	10 06 0725	N13	W75	09 30.6			CAO	207	3	8	4

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

117
Sep 02

SEPTEMBER 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
10134	31450	RAMY	10 06	1115	N11	W76	09 30.7		B	DSO	80	2	10	3
10134		MWIL	10 06	1445	N12	W85	09 30.2	5	AP					
10134		HOLL	10 06	1641	N12	W85	09 30.3		A	HSX	60	1	2	2
10138	31451	HOLL	09 24	1545	N10	E84	10 1.0		B	CAO	60	3	5	4
10138		VORO	09 24	2230	N09	E80	09 30.9			HAX	123	2		3
10138		MWIL	09 25	1600	N08	E72	10 1.1	5	(AP)					
10138	31451	VORO	09 26	0238	N09	E66	10 1.1			HAX	79	1		3
10138		VORO	09 26	2337	N09	E54	10 1.0			HAX	58	1		3
10138		VORO	09 28	0035	N09	E40	10 1.0			HAX	53	1		3
10138	31451	LEAR	09 30	0020	N09	E18	10 1.4		B	DAO	80	7	7	2
10138		SVTO	09 30	0635	N09	E12	10 1.2		A	HSX	40	2	1	3
10138		LEAR	10 01	0120	N09	W02	09 30.9		B	CSO	40	3	5	1
10138	31451	SVTO	10 01	0620	N09	W02	10 1.1		A	HAX	40	2	1	3
10138		TACH	10 01	0621	N11	W05	09 30.9			DAI	484	12	5	3
10138		HOLL	10 01	1745	N10	W07	10 1.2		B	CAO	40	10	5	3
10138	31451	LEAR	10 02	0130	N11	W12	10 1.1		A	HSX	20	2	2	4
10138		VORO	10 02	0312	N09	W13	10 1.1			HAX	44	2		3
10138		TACH	10 02	0449	N11	W15	10 1.1			DAI	384	9	11	3
10138	31451	SVTO	10 02	1114	N08	W18	10 1.1		A	HSX	20	2	2	3
10138		HOLL	10 02	1441	N09	W21	10 1.0		A	HSX	30	1	1	3
10138		MWIL	10 02	2100	N10	W24	10 1.1	4	(AP)					
10138	31451	VORO	10 02	2240	N09	W24	10 1.1			HAX	28	2		2
10138		LEAR	10 03	0120	N13	W25	10 1.2		A	HSX	20	4	3	3
10138		SVTO	10 03	0617	N07	W29	10 1.1		A	HSX	20	1	1	2
10138	31451	TACH	10 03	0650	N12	W31	09 30.9			DAI	326	15	9	3
10138		HOLL	10 03	1435	N09	W32	10 1.2		B	CSO	30	3	6	3
10138		MWIL	10 03	1515	N10	W33	10 1.1	4	(BP)					
10138	31451	VORO	10 03	2259	N09	W38	10 1.1			HAX	22	1		2
10138		LEAR	10 04	0115	N12	W39	10 1.1		A	HSX	20	2	2	2
10138		TACH	10 04	0601	N12	W45	09 30.9			CAI	252	10	7	2
10138	31451	SVTO	10 04	0915	N09	W44	10 1.1		A	AXX		1		3
10138		HOLL	10 04	1418	N09	W44	10 1.3		B	BXO	10	3	3	2
10138		MWIL	10 04	1515	N10	W49	09 30.9	4	(AP)					
10138	31451	LEAR	10 05	0120	N15	W56	09 30.8		A	HSX	20	3	2	2
10138		TACH	10 05	0448	N13	W58	09 30.8			CAO	159	6	8	3

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

SEPTEMBER 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	0931	0935	1000	2+	5	1	1	1		6	0930	C6.7	10087
01	1213	1230	1255	2-	5					3	1205	C3.1	
01	1639	1645	1652	1-	3					3	1637	C3.3	
01	2016	2025	2111	2	3					3	2013	C3.1	
02	0907	0910	0925	1-	1					1	0905	C1.9	
03	0743	0745	0800	1-	1					1	0741	C2.6	
04	0624	0630	0648	1	3					2	0622	C2.3	10096
04	1449	1453	1527	2	1					1	1448	C2.5	10096
05	1236	1245	1315	3-	5	1	1	1		7	1234	C5.1	10096
05	2041	2044	2127	2+	1					1	2040	C8.6	10096
06	1626	1631	1706	1+	3					5	1623	C9.2	
06	1638	1645	1702	1	1					2	1636	C5.3	
07	0920	0924	0948	1	1		1				*		
07	1735	1744	1817	2	3					3	1735	C5.4	
08	0136	0140	0215	2	1					1	0135	M1.5	10105
08	0455	0510	0535	1	1		1				No flare		
08	0626	0640	0703	1	1		1				No flare		
08	0708	0716	0749	1	1		1				No flare		
08	1445	1450	1514	1+	5					2	1445	C4.0	10107
09	0653	0713	0754	2	1		1				No flare		
10	0649	0712	0849	3	1		1				No flare		
10	1021	1030	1114	2-	5					3	1018	C3.6	10105
10	1452	1457	1543	3	5	1	2	1		12	1449	M2.9	10105
10	1713	1724	1759	2-	3					2	1711	C5.6	10105
10	1735	1741	1749	1-	1					1	1734	C6.5	10105
10	1953	1958	2026	2	1					1	1948	C3.7	
11	0730	0739	0827	3	5	1	1	1		7	0726	M2.2	10105
11	1042	1054	1145	2	5	1	2	1		4	1038	C4.5	
12	0700	0710	0743	2-	3		1			2	0707	C2.8	10107
12	1149	1154	1206	1-	5					2	1147	C2.5	10107
13	0645	0707	0821	2	3		1			1	0657	C2.8	10105
13	0702	0715	0730	1+	1					1	0657	C2.8	10105
13	0834	0845	0906	1	1		1				No flare		
13	0906	0930	1118	3	1		1				*		
14	0642	0654	0824	2	1		1				*		
14	1209	1213	1326	2+	1					1	1221	C4.1	10105
15	0441	0448	0508	1+	3					2	0441	C3.9	
15	0750	0754	0824	2-	5	1		1		2	0747	C3.7	10105
15	1532	1538	1556	1	3					3	1533	C3.1	10114
15	1731	1737	1826	2	3					4	1729	M1.0	10105
15	1921	1924	1942	1	1					1	No flare		
16	0750	0758	0813	1	1		1				No flare		
16	0832	0846U	0946	1	1		1				0853	C1.6	
16	1541	1559	1627	1+	3		1			1	1546	C4.6	10119
17	0916	0921	0952	1	5					4	0917	C8.8	10119
17	1029U	1052D	1111U	2	1					1	1036	C4.3	10119
18	1019	1032	1057	2+	5	1	1	1		5	1013	C3.1	10119
18	1545	1552	1634	2+	1					1	1532	C2.2	10119
18	1601	1615U	1638	1	1		1				1532	C2.2	10119
18	1716	1724	1805	2	3					3	1714	C3.9	10105

* = no flare patrol.

SEPTEMBER 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			
19	0513	0517	0800	3+	1					1	0512	C4.7	10125
19	0812	0818	0836	2	5	1	1	1		3	0807	C3.7	10119
19	1302	1320U	1421	1	1			1			No flare		
19	1405	1407	1440	2	1					1	No flare		
19	1429	1433	1455	1-	5	1	2			2	1427	C3.3	10105
20	0507	0511	0545	2-	3					2	0508	M1.5	10126
20	0646	0708U	0842	2	1			1			No flare		
20	0924	0931	1002	3	5	1	2	1		6	0921	M1.8	10126
20	1112	1116	1126	1-	1					1	1108	C2.1	10126
20	1335	1345	1442	1	1			1			1323	C2.1	
21	1658	1704	1737	2-	3					4	1656	C2.6	10119
22	0547	0552	0616	1+	3					2	0547	C2.4	10119
22	0842	0850U	0912	1	1			1			No flare		
23	1000	1004	1031	1	1			1			*		
23	1311	1322	1416	1	1			1			No flare		
24	0943	0956	1125	2	1			1			No flare		
24	1557	1603	1648	2-	3					3	1555	C3.1	10119
25	1602	1606	1653	2+	1					1	1558	C2.0	
25	1723	1729	1816	2+	1					1	1721	C2.2	
26	0910	0916	0932	1	1			1			No flare		
26	0932	0938	1020	2	1			1			1002	C1.3	10132
27	0806	0830	0933	2	3			1		4	0808	C4.8	10134
27	1249	1255	1335	2-	5			1		1	1259	M1.8	10134
27	1303	1313	1416	3	5	1	2	1		10	1259	M1.8	10134
27	1443	1455	1520	2-	5			1		1	*		
27	1514	1521	1611	1	1			1			No flare		
27	1639	1653	1744	2	3					4	1639	C3.2	10134
27	1900	1906	1934	2-	3					3	1859	C3.4	10134
27	1936	1943	2037	2	3					5	1933	M1.4	10134
28	1042	1052	1107	1-	5	1	2			2	1035	C3.4	10134
28	1254	1312	1413	1	1			1			No flare		
28	1415	1429	1523	1	1			1			*		
29	0635	0640	0729	2	5					5	0632	M2.6	10134
29	0850	0856	0913	2	5	1		1		8	0837	C7.8	10125
29	1445	1450	1502	1-	5	1	1			8	1444	C9.3	10134
29	2324	2330	2348	1	1					1	2320	C5.3	10134
30	0146	0151	0232	2	3					2	0142	M2.1	10134
30	0527	0532	0539	1-	1					1	0526	C5.3	10134
30	0534	0552	0624	1+	3			1		1	0541	C5.1	10134
30	0636	0639	0707	1+	3					2	0633	C3.2	10134
30	0711	0724	0750	1	1			1			No flare		
30	0805	0821	0846	1	3			1		2	0803	C2.1	10134
30	0915	0919	0945	1+	1					1	0915	C2.2	10134
30	1859	1903	1917	1	1					1	1854	C2.2	10134

* = no flare patrol.

OBSERVATORIES REPORTING FOR SEPTEMBER 2002

Alberta, Canada	SES	Merja, Spain	SES
Bedford, Massachusetts, USA	SES	Panska Ves, Czech Republic	SES, SEA, SWF
Bern, Switzerland	SES	Sofia, Bulgaria	SES
Brookline, Massachusetts, USA	SES	Sussex, United Kingdom	SES
Edenvale, Rep of S. Africa	SES	Torrington, Connecticut, USA	SES
Hoogstraten, Belgium	SES	Udine City, Italy	SES
Isola del Gran Sasso, Italy	SES	Upice, Czech Republic	SEA
Marlborough, Massachusetts, USA	SES	Villiersdorp, South Africa	SES
Milan, Italy	SES		

Observations are not necessarily continuous.

120
Sep 02

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

SEPTEMBER 2002

OBSERVATION			Sta	EVENT			Int (1-3)	FREQUENCY		Remarks
Start Day (UT)	End (UT)	Start (UT)		End (UT)	Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
01	0000 0730	CULG	0001.0	0001.0	III	B	1	550	800	100-200MHz no data
		CULG	0007.0	0128.0	I	S	1	70	180	
		LEAR	0008.0	0957.0	CONT		2	34	180	
		CULG	0058.0	0252.0	III	N	1	57X	130	
		LEAR	0058.0	0059.0	III		2	25	100	
	0000 0907	HIRA	0058.5	0059.0	III	B	1	25X	100	
		CULG	0223.0	0225.0	III	G	3	57X	860	
		LEAR	0223.0	0225.0	III		3	25	180	
		HIRA	0223.5	0225.0	III	G	2	25X	900	
		CULG	0244.0	0247.0	III	G	1	550	780	
		CULG	0258.0	0259.0	III	G	2	57X	190	
		HIRA	0258.0	0259.5	III	G	1	40	210	
		LEAR	0258.0	0259.0	III		2	25	180	
		CULG	0322.0	0730.00	I	S,C	1	100	180	
		CULG	0346.0	0346.0	III	B	1	57X	110	
	0425 1744	HIRA	0423.5	0424.5	III	B	1	30	280	
		CULG	0424.0	0424.0	III	B	1	57X	220	
		LEAR	0424.0	0424.0	III		2	25	179	
		POTS	0429 U	1744 U	I	S,N,DC	2	200U	380	
		POTS	0443.8	0451.0	DCIM		2	440	750	
		CULG	0448.0	0449.0	III	G	2	500	750	
		HIRA	0450.5	0451.0	III	B	1	90	170	
		CULG	0451.0	0451.0	III	B	1	85	180	
		SVTO	0451.0	1703.0	CONT		1	25	180	
		CULG	0510.0	0730.00	III	N	1	57X	120	
	0526 1637	POTS	0511.7	0512.0	DCIM	RS	2	460	660	
		LEAR	0547.0	0548.0	III		2	25	180	
		SVTO	0547.0	0548.0	III		2	25	180	
		HIRA	0547.5	0549.0	III	G	1	30	220	
		POTS	0547.6	0548.8	III	G	2	40X	350	
		CULG	0548.0	0549.0	III	G	2	57X	180	
		POTS	0549.2	0549.4	DCIM		1	600	740	
		SVTO	0559.0	0600.0	III		2	25	180	
		POTS	0559.6	0600.5	III	G	2	40X	260	
		IZMI	0559.7	0600.9	III	G,C	2	25X	190	
	0610 1715	CULG	0600.0	0601.0	III	G	3	57X	150	
		IZMI	0603.0E	1200.00	I	S,C	2	60	270X	
		IZMI	0603.0E	1200.00	III	N	1	45U	95U	
		IZMI	0621.7	0622.0	III	G	2	45	100	
		ONDR	0628.4	0638.5	DCIM	G	2	1161	2000X	
		BLEN	0628.5	0638.9	III	GG,RS	2	1100	2000X	
		BLEN	0651.2	0659.0	III	GG,RS	3	200X	2000X	
		CULG	0654.0	0655.0	III	G	2	150	760	
		ONDR	0654.0	0659.0	DCIM	G	1	800X	2000X	
		HIRA	0654.5	0655.0	III	G	1	220	780	
	0610 1715	POTS	0654.5	0655.1	DCIM		2	230	770	
		IZMI	0717.9	0721.0	III	GG	2	25X	125	
		POTS	0718	1111 U	III	GG,N	1	40X	90	
		IZMI	0734.4	0734.9	III	G	2	25X	175	
		ONDR	0739.4	0741.3	DCIM	G	1	2000X	4500X	
		POTS	0829.5	0833.0	III	GG	3	40X	630	
		IZMI	0829.8	0832.5	III	GG,C	2	25X	270X	
		BLEN	0830.0	0833.0	III	GG,RS	3	200X	600	
		HIRA	0830.0	0832.5	III	G	2	30	410	
		LEAR	0830.0	0832.0	III		3	25	180	
	0610 1715	SVTO	0830.0	0830.0	III		2	25	180	
		ONDR	0830.1	0830.4	DCIM	G	1	2000X	4500X	
		IZMI	0844.4	0844.6	III	B	2	45	90	
		IZMI	0918.1	0920.3	III	G	1	25X	90	
		ONDR	0931.2	0931.4	DCIM	GG,SP	2	1081	1770	
		ONDR		0931.3	0931.5	DCIM		1	2391	4500X
		POTS		1025.7	1026.2	DCIM		2	430	660
		BLEN		1025.8	1027.1	III	GG,RS	2	400	1600
		POTS		1030.6	1031.6	DCIM		2	200U	420
		IZMI		1101.0	1102.8	III	GG,C	2	25X	270X
	0610 1715	POTS	1101.0	1106.3	III	GG	3	40X	450	
		SVTO	1101.0	1103.0	V		3	25	180	
		SGMR	1102.0	1103.0	III		1	30	80	
		BLEN	1102.2	1102.9	III	GG	2	200X	1000	

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

Spectral Observations

121
Sep 02

SEPTEMBER 2002

OBSERVATION		Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Start	End				Spectral	Event		Lower	Upper	
Day (UT)	(UT)		(UT)	(UT)	Class	Remarks		(MHz)	(MHz)	
01		IZMI	1102.6	1103.6	V	G	2	25X	160	
		IZMI	1106.1	1106.3	III	B	2	25X	160	
		IZMI	1108.7	1110.4	III	G	1	25X	160	
		IZMI	1108.7	1110.4	III	G	1	25X	160	
		ONDR	1213.5	1215.5	DCIM	GG	2	1006	1648	
		BLN	1214.5	1215.5	III	GG	2	1000	1600	
		POTS	1222	1224	III	G	1	40X	85	
		POTS	1302.8	1303.1	III	G	2	40X	85	
		HOLL	1309.0	0108.0	CONT		1	105	180	
		POTS	1318.7	1321.7	I	DC	2	200U	270	
		POTS	1324.8	1325.7	III	G	3	40X	85	
		HOLL	1325.0	1325.0	III		1	25	180	
		SGMR	1325.0	1325.0	III		1	30	80	
		SVTO	1325.0	1325.0	III		2	25	180	
		POTS	1355.5	1402.3	III	GG,N	2	40X	430	
		SGMR	1358.0	1402.0	III		1	30	50	
		SVTO	1402.0	1402.0	III		1	25	57	
		BLN	1446.0	1450.0	III	GG	2	380	1300	
		ONDR	1446.0	1446.2	DCIM	G,SP	2	800X	1259	
		POTS	1446.0	1446.4	DCIM		2	460	800X	
		POTS	1509.9	1510.2	III	B	2	200U	470	
		POTS	1514.7	1516.4	III	G,N	1	40X	85	
		POTS	1519.8	1520.3	DCIM		1	200U	400	
		ONDR	1606.3	1606.4	DCIM	G	2	800X	1789	
		BLN	1606.5	1606.8	III	GG, RS	2	400	1800	
		POTS	1606.5	1606.8	DCIM		2	450	780	
		PALE	1832.0	0432.0	CONT		1	25	180	
		CULG	2030.0E	2400.0D	III	S	1	57X	180	
	2030 2400	CULG	2030.0E	2400.0D	I	S,C	1	100	180	
	2009 2400	HIRA	2057.0	2058.0	III	G	2	80	800	
		CULG	2058.0	2058.0	III	G	2	80	280	
		HIRA	2233.5	2235.0	III	G	1	70	700	
		CULG	2234.0	2235.0	III	G	1	70	750	
		LEAR	2251.0	0957.0	CONT		2	25	180	
		HOLL	2314.0	2314.0	III		1	25	96	
02		CULG	0000.0E	0730.0D	III	S	1	57X	180	
	0000 0730	CULG	0000.0E	0126.0	I	S,C	1	100	180	
		HOLL	0007.0	0008.0	III		1	25	180	
		LEAR	0007.0	0008.0	III		3	25	180	
		PALE	0007.0	0008.0	III		1	38	180	
	0000 0906	HIRA	0007.5	0008.5	III	B	3	40	800	
		CULG	0008.0	0009.0	III	G	3	57X	1300	
		CULG	0012.0	0017.0	II	FN	3	57X	100	
		CULG	0012.0	0019.0	II	SH	3	60	180	ESS 750
		HIRA	0012.0	0015.0	II		2	40	210	
		LEAR	0012.0	0014.0	II		2	34	180	ESS 0703
		PALE	0012.0	0015.0	II		1	33	180	ESS 0773
		HIRA	0104.5	0106.0	III	G	1	25X	120	
		CULG	0116.0	0117.0	III	G	3	57X	280	
		LEAR	0116.0	0117.0	III		3	25	180	
		PALE	0116.0	0117.0	III		3	25	180	
		HIRA	0116.5	0117.5	III	G	3	25X	300	
		CULG	0129.0	0130.0	III	G	2	57X	380	
		HIRA	0129.0	0130.0	III	G	2	25X	600	
		HIRA	0133.5	0134.0	III	B	1	25X	430	
		CULG	0134.0	0134.0	III	B	3	57X	450	
		LEAR	0246.0	0247.0	III		3	25	180	
		HIRA	0246.5	0247.5	III	B	3	25X	430	
		CULG	0247.0	0248.0	III	G	3	57X	1200	
		CULG	0408.0	0409.0	III	G	3	57X	250	
		HIRA	0408.0	0408.5	III	B	2	30	190	
		CULG	0409.0	0730.0D	I	S,C	2	70	250	
	0427 1741	POTS	0427 E	1703 U	I	S,N,DC	2	200U	380	100-200MHz no data
		SVTO	0436.0	1701.0	CONT		2	25	180	
		IZMI	0600.0E	1200.0D	III	N	2	25X	95U	
	0600 1200	IZMI	0600.0E	1200.0D	I	S	2	80	270X	
		POTS	0648	1528 U	III	GG,N	2	40X	85	
	0610 1715	BLN	0711.2	0720.6	III	III,U	1	200X	1800	

122
Sep 02

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

SEPTEMBER 2002

OBSERVATION		Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Start Day (UT)	End (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
02	0528 1635	IZMI	0713.9	0716.5	III	GG,C,FS	2	25X	270X	
		POTS	0714.7	0720.5	III	GG,N	3	40X	730	
		CULG	0715.0	0716.0	III	G	3	57X	500	
		SVTO	0715.0	0717.0	III		1	25	180	
		ONDR	0715.2	0720.4	DCIM	G	1	800X	1944	
		HIRA	0715.5	0716.0	III	B	1	50	700	
		IZMI	0717.2	0720.7	III	GG,FS	2	40	270X	
		CULG	0720.0	0721.0	III	G	3	57X	280	
		HIRA	0720.0	0720.5	III	B	1	50	280	
		IZMI	0734.9	0735.9	III	G	2	25X	270X	
		POTS	0734.9	0735.3	III	GG,N	3	40X	420	
		HIRA	0735.0	0735.5	III	B	1	40	290	
		IZMI	0735.0	0735.5	III	V	2	25X	90U	
		SVTO	0735.0	0735.0	III		1	25	180	
		POTS	0735.1	0735.7	V	B	3	40X	70	
		IZMI	0805.6	0806.6	III	GG	2	45	270	
		IZMI	0823.9	0824.1	III	G,C	2	40	175	
		ONDR	0824.0	0825.1	DCIM	G	1	800X	1283	
		SVTO	0841.0	1701.0	III	N	1	25	180	
		IZMI	0910.1	0916.5	III	GG	2	25X	95	
		IZMI	0954.4	0955.5	III	G	2	25X	95	
		IZMI	0954.6	0955.5	I	GG	2	85	100	
		IZMI	1007.5	1010.8	III	GG	2	25X	270X	
		POTS	1007.7	1011.5	III	GG	3	40X	420	
		IZMI	1022.0	1022.8	III	G	2	25X	90	
		IZMI	1114.0	1114.7	III	G,C	2	35	270X	
		POTS	1114.1	1114.7	III	G	3	40X	460	
		IZMI	1117.7	1124.9	III	GG	2	25X	90	
		IZMI	1155.5	1157.9	III	GG,FS	2	45	240	
		POTS	1202.3	1203.2	III	G	2	40X	330	
		SGMR	1251.0	1251.0	III		1	30	50	
		HOLL	1310.0	0107.0	CONT		1	25	180	
		HOLL	1354.0	0030.0	III	N	1	25	180	
		POTS	1419.6	1420.5	III	G	2	40X	320	
	2010 2400	HIRA								
		CULG	2030.0E	2400.0D	III	S	1	57X	180	
	2030 2400	CULG	2030.0E	2400.0D	I	S,C	2	60	170	
		LEAR	2250.0	0958.0	CONT		1	37	180	
03	0000 0730	CULG	0000.0E	0202.0	I	S,C	1	60	160	
		CULG	0000.0E	0730.0D	III	S,C	1	57X	180	
		LEAR	0001.0	0001.0	III		1	25	180	
	0000 0904	HIRA	0001.5	0002.0	III	B	1	25X	250	
		CULG	0002.0	0002.0	III	G	2	57X	190	
		HIRA	0030.5	0031.0	III	B	1	25X	230	
		CULG	0105.0	0108.0	III	G	2	57X	180	
		HIRA	0105.0	0108.5	III	G	1	25X	230	
		HIRA	0137.5	0138.0	III	B	1	25X	130	
		HIRA	0153.5	0154.5	III	G	1	150	290	
		CULG	0154.0	0154.0	III	G	1	60	260	
		CULG	0255.0	0304.0	I	S	1	140	260	
		CULG	0425.0	0425.0	III	G	2	57X	150	
	0429 1739	HIRA	0425.0	0425.5	III	B	1	60	140	
		POTS	0433 E	1739 U	I	S,N	2	200U	380	100-200MHz no data
		SVTO	0437.0	1700.0	CONT		1	25	180	
		IZMI	0600.9	0602.0	III	G	2	45	95U	
		HIRA	0604.5	0605.5	III	B	1	30	130	
		IZMI	0604.5	0605.5	III	G,C	2	25X	140	
		CULG	0605.0	0605.0	III	G	2	57X	170	
		IZMI	0605.0E	1200.0D	III	N	1	25X	95U	
	0605 1200	IZMI	0605.0E	1200.0D	I	N	2	80	240	
		IZMI	0611.7	0612.2	III	G,C	2	45	165	
		IZMI	0616.0	0623.2	III	GG	2	25X	140X	
		SVTO	0617.0	0618.0	III		2	25	180	
		IZMI	0617.5	0618.5	III	G,C	2	25X	250	
		POTS	0617.8	0618.2	III	G	2	40X	400	
		CULG	0618.0	0618.0	III	G	3	57X	240	
		HIRA	0618.0	0618.5	III	B	3	25X	220	
		POTS	0619.5	0622.5	III	G,N	2	40X	85	

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

Spectral Observations

123
Sep 02

SEPTEMBER 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)	
03		CULG	0626.0	0730.0D	I	S,C	1	75	160	
		IZMI	0626.5	0634.0	III	GG	2	25X	155	
		POTS	0701.1	0701.4	III	B	3	40X	85	
		CULG	0704.0	0704.0	III	B	2	57X	150	
		HIRA	0704.0	0704.5	III	B	1	25X	130	
		SVTO	0704.0	0704.0	III		2	25	82	
		IZMI	0704.1	0704.4	III	B	2	25X	140	
		POTS	0709	1528 U	III	GG,N	2	40X	85	
		IZMI	0717.6	0717.9	III	G	2	25X	155	
		IZMI	0726.2	0729.2	I	GG,DC	2	105	150	
		IZMI	0726.4	0730.8	III	GG	1	35	180	
		IZMI	0740.5	0742.4	III	GG	1	25X	270X	
		IZMI	0803.3	0803.4	III	B	2	40	90	
		IZMI	0804.8	0817.6	III	GG	2	25X	270	
		HIRA	0807.0	0811.0	III	G	1	40	210	
		IZMI	0857.2	0859.2	III	G,FS	2	25X	130	
		IZMI	0911.0	0914.6	III	G	2	25X	175	
		IZMI	0937.3	0940.7	III	GG	2	25X	160	
		SVTO	1003.0	1005.0	III		2	25	180	
		IZMI	1003.5	1004.5	III	GG,C	2	25X	270X	
	0545 1710	BLN	1003.6	1004.6	III	GG,S	2	200X	460	
		POTS	1003.7	1005.3	III	GG	3	40X	450	
		IZMI	1004.2	1005.1	V		2	25X	160	
		IZMI	1026.1	1026.3	III	G	2	25X	95	
		IZMI	1036.9	1037.4	III	G	2	35	150	
		IZMI	1039.2	1042.3	III	GG	2	35X	270X	
		POTS	1041.2	1041.6	III	G	2	40X	400	
	0529 1633	SGMR	1228.0	1304.0	III	N	2	30	70	
		SVTO	1228.0	1347.0	III	N	1	25	180	
		ONDR	1245.0	1245.5	DCIM	G,W	1	2000X	4500X	
		POTS	1254.6	1304.4	III	GG,N	3	40X	420	
		SVTO	1256.0	1301.0	III		2	25	180	
		HOLL	1301.0	1304.0	III		1	25	153	
		SVTO	1301.0	1301.0	III		2	25	180	
		BLN	1301.2	1301.7	III	GG	2	200X	800	
		HOLL	1413.0	0106.0	III	N	1	25	180	
		HOLL	1414.0	0106.0	CONT		1	25	180	
		SGMR	1621.0	1621.0	III		1	30	50	
		PALE	1844.0	1847.0	III		1	25	180	
		SGMR	1844.0	1847.0	V		2	30	80	
		SGMR	2008.0	2010.0	V		2	30	80	
	2030 2400	CULG	2030.0E	2400.0D	III	S,C	1	57X	170	
		CULG	2030.0E	2400.0D	I	S,C	2	75	180	
		CULG	2050.0	2052.0	III	G	3	57X	160	
		HOLL	2149.0	2153.0	III		2	25	180	
04	2011 2400	SGMR	2149.0	2152.0	V		2	30	80	
		HIRA	2149.5	2153.0	III	G	2	25X	120	
		HIRA	2213.0	2217.0	III	G	1	25X	70	
		CULG	2227.0	2227.0	III	B	2	57X	90	
		HIRA	2227.0	2227.5	III	B	1	25X	100	
		HIRA	2233.5	2234.0	III	B	1	130	340	
		LEAR	2249.0	0958.0	CONT		2	25	180	
	0432 1735	CULG	0000.0E	0057.0	I	S	1	65	170	
		CULG	0000.0E	0730.0D	III	S,C	1	57X	160	
		HIRA	0034.0	0034.5	III	B	1	25X	140	
		CULG	0041.0	0041.0	III	B	2	57X	180	
		HIRA	0041.0	0041.5	III	B	1	25X	140	
		CULG	0057.0	0215.0	I	S	2	60	140	
		HIRA	0119.5	0124.5	III	G	1	25X	220	
		CULG	0215.0	0730.0D	I	S	1	65	170	
		CULG	0343.0	0343.0	III	G	2	57X	330	
		HIRA	0343.0	0343.5	III	B	1	25X	220	
		POTS	0447 U	0523 U	I	S,N	1	200U	380	100-200MHz no data
		SVTO	0452.0	1658.0	CONT		1	25	180	
		CULG	0513.0	0513.0	III	G	3	57X	400	
		LEAR	0513.0	0515.0	III		2	25	180	
		SVTO	0513.0	0515.0	III		2	25	180	
		HIRA	0513.5	0515.5	III	G	2	25X	390	

124
Sep 02

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

SEPTEMBER 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)	
04	0531	1631	POTS	0513.5	0515.4	III	G	2	40X	420	
			ONDR								
	0556	1200	IZMI	0556.0E	1200.0D	III	N	2	25X	95U	
			IZMI	0556.0E	1200.0D	I	S,C	2	45U	270U	
			IZMI	0616.9	0617.7	III	G	1	200	270X	
			POTS	0634 U	1558 U	I	S,N	2	45	390	
			SVTO	0641.0	0643.0	III		1	25	50	
			IZMI	0641.6	0643.3	III	G	2	25X	60U	
			POTS	0642	0819 U	III	GG,N	2	40X	85	
			SVTO	0652.0	0842.0	III	N	1	25	180	
			HIRA	0712.5	0713.0	III	B	1	50	230	
			IZMI	0712.5	0712.8	III	G,C	2	40	270X	
			IZMI	0717.4	0718.4	III	G	2	25X	65	
			0545 1710	0733.4	0735.8	III	GG	2	200X	400	
			HIRA	0734.5	0735.0	III	G	1	120	300	
			IZMI	0734.5	0735.1	III	GG	2	150	270X	
			IZMI	0742.9	0747.3	III	G	1	25X	160	
			IZMI	0744.7	0745.1	III	G	2	160	270X	
			IZMI	0806.6	0807.0	III	G	2	25X	65	
			IZMI	0821.2	0822.8	III	G	2	25X	60	
			IZMI	0825.3	0825.9	III	G	1	130U	230U	
			LEAR	0827.0	0828.0	III		2	25	180	
			BLEN	0827.9	0828.9	III	GG	3	200X	500	
			IZMI	0827.9	0829.1	III	GG,C	2	25X	270X	
			POTS	0827.9	0829.2	III	GG	3	40X	520	
			HIRA	0828.0	0829.0	III	G	3	30	380	
			SVTO	0828.0	0828.0	III		3	25	180	
			IZMI	0923.6	0928.7	III	GG	2	25X	65	
			IZMI	1003.6	1003.9	III	G	2	30	160	
			IZMI	1050.0	1050.1	III	B	2	220	270X	
			HOLL	1311.0	2138.0	CONT		1	74	180	
			HOLL	1416.0	1541.0	III	N	1	25	134	
			SGMR	1416.0	1427.0	III	N	1	30	55	
			SVTO	1416.0	1514.0	III	N	1	25U	180U	
			POTS	1416.3	1428.4	III	GG,N	2	40X	85	
			POTS	1628 U	1735 U	I	S,N	1	240	420	
			BLEN	1633.3	1637.3	III	G	2	200X	350	
			POTS	1634.6	1636.7	III	GG	2	200U	330	
			SVTO	1635.0	1635.0	III		1	112	180	
			HOLL	1654.0	1701.0	III		1	25	84	
			PALE	1849.0	0418.0	CONT		1	25	180	
			2030 2400	CULG	2030.0E	2400.0D	III	S,C	1	57X	160
			2011 2400	HIRA	2137.5	2138.5	III	G	1	25X	100
			PALE	2226.0	0348.0	CONT		1	25	88	
			HOLL	2228.0	2305.0	III	N	1	25	86	
			LEAR	2248.0	0335.0	CONT		1	25	180	
05	0000	0730	CULG	0000.0E	0730.0D	III	S,C	1	57X	160	
			HOLL	0014.0	0015.0	III		1	25	85	
		0901	HIRA	0014.0	0015.0	III	G	1	25X	450	
			HOLL	0030.0	0031.0	III		1	32	86	
			CULG	0112.0	0114.0	III	G	1	57X	840	
			HIRA	0112.0	0114.0	III	G	1	25X	1100	
	0434	1733	POTS	0448	0458	I	S,N	2	200U	330	100-200MHz no data
			HIRA	0525.5	0526.0	III	B	1	100	340	
			POTS	0525.6	0525.8	III	B	2	200U	370	
			CULG	0526.0	0526.0	III	B	1	57X	300	
			POTS	0622 U	0735 U	I	S,N	2	200U	340	
	0600	1200	IZMI	0718.0	0718.1	III	B	1	50	90	
			LEAR	0728.0	0729.0	III		1	25	180	
			SVTO	0728.0	0729.0	III		1	39	180	
			IZMI	0728.8	0729.7	III	G	2	40	270X	
			POTS	0728.8	0729.8	III	GG	2	40X	370	
			CULG	0729.0	0730.0	III	G	1	57X	300	
			HIRA	0729.0	0730.0	III	G	1	50	330	
			IZMI	0731.1	0731.5	III	G	1	120	270X	
			IZMI	0748.9	0749.6	III	G	1	125	210	
			HIRA	0753.0	0754.0	III	B	1	25X	140	
			SVTO	0753.0	0802.0	III		2	25	150	

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

Spectral Observations

125
Sep 02

SEPTEMBER 2002

OBSERVATION		Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Start	End				Spectral	Event		Lower	Upper	
Day	(UT)	(UT)	(UT)	(UT)	Class	Remarks		(MHz)	(MHz)	
05			0753.2	0753.7	III	GG	2	160	270X	
			POTS 0753.3	0802.4	III	G,N	3	40X	260	
			HIRA 0802.0	0803.0	III	G	1	30	170	
			IZMI 0802.0	0803.1	III	G,FS	2	25X	175	
			LEAR 0802.0	0802.0	III		1	25	180	
			POTS 0823 U	0913 U	I	S,N	1	230	350	
			IZMI 0848.0	0848.2	III	B	1	45	95	
			IZMI 0936.2	0939.4	III	G	1	45	140	
			IZMI 0953.9	0954.2	III	G,C	2	110	270X	
			IZMI 1032.2	1033.0	III	G	2	105	190	
			IZMI 1043.7	1043.9	III	G,FS	2	50	270X	
			POTS 1043.7	1044.1	III	G	2	50	420	
			POTS 1116.8	1117.6	DCIM		2	200U	600	
			IZMI 1117.4	1117.6	III	G,C	2	200	270X	
			IZMI 1145.8	1145.9	III	G	1	110	270X	
			POTS 1222.7	1223.3	III	GG	2	200U	320	
			SVTO 1252.0	1252.0	III		2	44	180	
			POTS 1252.2	1254.7	III	GG	2	40X	420	
			HOLL 1314.0	1315.0	III		1	43	180	
			SVTO 1314.0	1315.0	III		1	44	150	
			POTS 1314.7	1315.3	III	B	2	40X	85	
			SGMR 1315.0	1315.0	III		1	45	60	
			HOLL 1349.0	1349.0	III		1	43	180	
			SVTO 1349.0	1349.0	III		1	46	180	
			POTS 1349.1	1349.4	III	B	2	45	300	
			POTS 1355	1402	I	S,N	1	200U	300	
			POTS 1428	1443	I	S,N	1	200U	320	
			POTS 1609.2	1609.6	III	G	2	200U	350	
			SVTO 1619.0	1632.0	III	N	1	28	180	
			HOLL 1620.0	1930.0	III	N	1	25	180	
			POTS 1621	1700	I	S,N	1	200U	280	
			SGMR 1621.0	1659.0	III	N	2	30	80	
	0532	1629	ONDR 1624.4	1628.5	DCIM	GG,FS	2	800X	1817	
			POTS 1628.1	1628.3	III	B	2	40X	65	
			POTS 1632	1637	DCIM		2	320	700	
			POTS 1633.5	1647	II		2	40X	250	
			PALE 1635.0	0429.0	CONT		1	25	180	
			SVTO 1635.0	1649.0	II		2	32	180	ESS 0679
			POTS 1710 U	1733 U	I	S,N	1	200U	350	
			HOLL 1947.0	1948.0	III		1	25	63	
			SGMR 1947.0	1948.0	III		1	30	55	
	2030	2400	CULG 2030.0E	2400.0	I	S	1	60	180	
			CULG 2110.0	2111.0	III	G	2	57X	160	
			SGMR 2110.0	2110.0	III		1	30	60	
	2012	2400	HIRA 2110.0	2111.0	III	B	1	30	140	
			CULG 2117.0	2150.0	III	N	1	57X	100	
			SGMR 2140.0	2140.0	III		1	30	60	
			HOLL 2144.0	2144.0	III		1	25	118	
			HIRA 2144.5	2144.5	III	B	1	25X	100	
			LEAR 2247.0	0958.0	CONT		1	25	180	
06	0000	0730	CULG 0002.0	0334.0	III	S	1	57X	160	
			CULG 0037.0	0711.0	I	S	1	75	160	
	0434	1731	POTS 0434 U	1329 U	I	S,N	2	200U	380	100-200MHz no data
			SVTO 0449.0	0709.0	CONT		1	25	180	
			CULG 0453.0	0455.0	III	G	1	57X	100	
			CULG 0512.0	0512.0	III	G	1	100	280	
	0000	0900	HIRA 0512.0	0512.5	III	G	1	110	300	
			POTS 0512.1	0515.6	III	GG,N	2	200U	400	
	0533	1626	ONDR							
			CULG 0556.0	0556.0	III	B	1	57X	90	
			IZMI 0602.0E	1110.0U	III	N	1	25X	95U	
	0602	1200	IZMI 0602.0E	1200.0D	I	N	1	50	270	
			CULG 0623.0	0624.0	III	G	1	57X	90	
			CULG 0638.0	0647.0	III	GG	1	57X	120	
			IZMI 0638.2	0644.7	III	GG	2	45	145	
			CULG 0718.0	0720.0	III	G	2	57X	180	
			LEAR 0718.0	0719.0	III		1	25	180	
			SVTO 0718.0	0719.0	III		1	25	168	

126
Sep 02

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

SEPTEMBER 2002

OBSERVATION		Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Start	End				Spectral	Event		Lower	Upper	
Day (UT)	(UT)		(UT)	(UT)	Class	Remarks		(MHz)	(MHz)	
06		IZMI	0718.4	0719.8	III	GG	2	25X	255	
		HIRA	0718.5	0720.0	III	G	1	30	220	
		POTS	0719.1	0720.4	III	GG	2	40X	320	
		IZMI	0755.6	0757.4	III	G	1	25X	120	
		SVTO	0854.0	0855.0	III		1	36	180	
		IZMI	0854.5	0855.9	III	GG,C	2	25X	270X	
		LEAR	0855.0	0855.0	III		1	25	180	
		POTS	0855.6	0857.0	III	GG	3	40X	400	
		IZMI	0914.7	0914.8	III	B	2	110	175	
		IZMI	0941.4	0941.6	III	B	1	75	155	
		IZMI	0958.3	1005.0	III	GG	1	40	160	
		IZMI	1011.1	1011.6	III	G	1	115	180	
		IZMI	1059.7	1101.9	III	G	1	45	95	
		POTS	1101.1	1101.6	III	B	2	40X	85	
		POTS	1125.3	1126.6	III	GG	2	200	520	
		IZMI	1126.8	1127.9	III	GG	1	180	270X	
		IZMI	1132.1	1132.1	III	B	1	180	270X	
	1135 1710	BLEN								
		POTS	1136.2	1136.4	III	B	2	40X	85	
		IZMI	1137.6	1137.8	III	B	2	25X	95	
		SGMR	1209.0	1210.0	III		1	30	80	
		POTS	1228.5	1231.5	III	G	2	40X	85	
		POTS	1251.8	1308 U	II		2	40X	80	
		POTS	1307.0	1308.4	III	G	2	200U	450	
		POTS	1450 U	1558 U	I	S,N	1	200U	300	
		HOLL	1623.0	1628.0	III		1	25	180	
		SVTO	1623.0	1628.0	III		1	31	162	
		POTS	1623.5	1630 U	I	S,N,DC	2	200U	270	
		POTS	1624.7	1625.1	III	B	2	40X	250	
		SGMR	1625.0	1625.0	III		1	30	60	
		POTS	1713	1730 U	I	S,N	2	200U	340	
		HOLL	2009.0	2010.0	III		1	46	180	
		PALE	2009.0	2010.0	III		1	84	180	
		PALE	2056.0	0107.0	III	N	1	25	180	
	2030 2400	CULG	2101.0	2323.0	III	N	1	57X	180	
		HOLL	2113.0	2119.0	III		1	25	135	
	2012 2400	HIRA	2113.5	2119.5	III	G	1	25X	110	
		CULG	2117.0	2120.0	III	G	2	57X	130	
		CULG	2143.0	2145.0	III	G	3	57X	280	
		HIRA	2143.0	2145.5	III	G	2	30	300	
		HOLL	2143.0	2230.0	III	N	1	25	180	
		HIRA	2158.5	2200.0	III	G	2	40	200	
		CULG	2159.0	2200.0	III	G	2	57X	180	
		LEAR	2246.0	0400.0	III	N	1	25	180	
07	0000 0730	CULG	0012.0	0100.0	III	N	1	60	140	
		CULG	0208.0	0209.0	III	G	1	57X	230	
	0000 0859	HIRA	0208.5	0209.5	III	G	1	100	300	
		CULG	0240.0	0349.0	III	N	1	57X	180	
		CULG	0416.0	0520.0	III	N	1	57X	180	
		HIRA	0436.0	0441.0	III	G	1	40	270	
		LEAR	0436.0	0441.0	III		1	25	180	
	0435 1731	POTS	0512.5	0518.8	III	G,N	2	200U	370	100-200MHz no data
		POTS	0523	1036 U	I	S,N,DC	2	200U	400	
	0535 1624	ONDR								
		CULG	0537.0	0538.0	III	G	1	65	280	
		HIRA	0537.0	0537.5	III	B	1	120	350	
		CULG	0557.0	0651.0	III	N	1	57X	180	
	0600 1200	IZMI	0600.0E	1200.0D	I	N	1	85	270X	
		IZMI	0613.0	0613.1	III	B	2	45	220	
		IZMI	0635.0U	1200.0U	III	N	1	45	95	
		IZMI	0649.7	0650.6	I	GG	2	230	270X	
		IZMI	0649.9	0650.8	III	G,FS	2	55	190	
		HIRA	0650.0	0650.5	III	B	1	80	200	
		LEAR	0650.0	0650.0	III		1	25	180	
		POTS	0717.4	0736.3	III	GG,N	3	40X	380	
		HIRA	0718.5	0736.0	III	G	2	40	300	
		IZMI	0718.8	0722.8	III	GG,U,C	2	40	270X	
		LEAR	0719.0	0740.0	III	N	2	25	180	

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

Spectral Observations

127
Sep 02

SEPTEMBER 2002

OBSERVATION		Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Start	End				Spectral	Event		Lower	Upper	
Day (UT)	(UT)		(UT)	(UT)	Class	Remarks		(MHz)	(MHz)	
07		CULG	0720.0	0728.0	III	GG	1	57X	180	
		CULG	0721.0	0722.0	III	G	3	57X	290	
		SVTO	0721.0	0721.0	III		2	25U	180U	
		IZMI	0721.2	0725.9	I	S	2		270X	
		POTS	0721.8	0722.8	V	G	3	40X	60	
		IZMI	0724.7	0728.0	III	GG,FS	2	45	180	
		IZMI	0730.5	0738.6	III	GG	2	45	270X	
		POTS	0823.0	0825.2	III	GG,N	2	200U	240	
		IZMI	0823.8	0824.8	III	GG	2	190	270X	
		IZMI	0902.9	0903.7	III	G	1	185	270	
		IZMI	0915.8	0916.0	III	B	1	45	90	
		IZMI	0919.8	0928.8	III	GG	2	25X	270X	
		LEAR	0922.0	0922.0	III		1	63	180	
		POTS	0922.5	0922.9	III	G	2	40X	420	
		IZMI	0935.8	0937.2	III	GG,C	2	110	230	
		IZMI	0940.3	0941.5	III	GG	2	45	160	
		IZMI	0951.5	0951.7	III	B,U	1	55	70	
		IZMI	1029.9	1038.8	III	GG,C	2	45	270X	
		POTS	1034.3	1035.3	III	G	1	50	85	
		IZMI	1052.0	1056.0	III	GG,FS	1	45	170	
		POTS	1112	1529 U	I	S,N,DC	2	200U	350	
		POTS	1124.6	1130.0	III	G,N	2	40X	480	
		IZMI	1127.9	1129.9	III	GG	2	45	270X	
		POTS	1354.5	1404.7	III	GG,N	2	200U	280	
		POTS	1405.4	1405.8	III	B	1	40X	80	
		POTS	1426.9	1428.2	III	G	1	50	80	
		POTS	1611 U	1652 U	I	S,N	1	200U	400	
	0550 1710	BLEN	1619.7	1621.0	DCIM	C	1	1400	2000X	
		BLEN	1619.8	1624.0	DCIM	C	1	1100	2000X	
		PALE	1621.0	1946.0	III	N	1	25	180	
		POTS	1720	1731 U	I	S,N,DC	2	200U	400U	
		POTS	1722	1729 U	III	GG	2	200U	400U	
		HOLL	1734.0	1747.0	III	N	1	25	180	
		SGMR	1734.0	1745.0	III	N	2	30	80	
		HOLL	1946.0	1946.0	III		1	25	59	
	2013 2400	HIRA								
		PALE	2105.0	2105.0	III		1	25	77	
	2030 2400	CULG	2105.0	2105.0	III	B	1	57X	90	
		CULG	2157.0	2157.0	III	B	1	57X	90	
		CULG	2204.0	2204.0	III	B	1	57X	90	
		CULG	2337.0	2337.0	III	B	1	57X	90	
08	0000 0730	LEAR	0038.0	0336.0	CONT		1	106	180	
		CULG	0039.0	0137.0	III	N	1	57X	180	
		PALE	0105.0	0342.0	CONT		1	25	180	
		LEAR	0137.0	0144.0	V		2	25	180	
		CULG	0138.0	0140.0	III	G	3	57X	300	
	0000 0857	PALE	0138.0	0143.0	V		3	25	180	
		HIRA	0138.0	0141.0	III	B	3	25X	350	
		CULG	0140.0	0142.0	V		1	60	180	
		CULG	0142.0	0144.0	III	G	2	60	280	
		CULG	0142.0	0158.0	II	SH	2	57X	260	ESS 650
		HIRA	0142.0	0158.5	II		2	50	240	
		CULG	0145.0	0147.0	III	G	1	57X	180	
		LEAR	0145.0	0202.0	II		1	41	150	ESS 0823
		CULG	0157.0	0245.0	CONT		1	57X	130	
	0437 1725	POTS	0446	0500	I	S,N	2	200U	270	100-200MHz no data
		CULG	0450.0	0450.0	III	B	1	100	180	
		POTS	0521	0748 U	I	S,N	1	200U	350	
	0536 1622 0600 1200	ONDR								
		IZMI	0612.0U	1120.0U	III	N	1	45	95	
		IZMI	0621.6	0621.8	III	G,FS	2	50	65	
		CULG	0652.0	0652.0	III	B	1	57X	130	
		IZMI	0732.8	0733.7	III	G,FS,C	1	35	90	
		IZMI	0858.1	0858.2	III	B	1	55	100	
		POTS	1030	1126	I	S,N	1	220	380	
		IZMI	1053.1	1053.3	III	G	1	110	260	
		POTS	1124	1138 U	III	GG,N	1	40X	80	
		IZMI	1124.4	1126.1	III	G	1	50	85	

128
Sep 02

SOLAR RADIO EMISSION Spectral Observations

SEPTEMBER 2002

OBSERVATION			EVENT		FREQUENCY		Remarks
Start	End	Sta	Start	End	Lower	Upper	
Day (UT)	(UT)		(UT)	(UT)	(MHz)	(MHz)	
08		IZMI	1137.8	1138.0	III	G	1 30 65
		POTS	1145	1203	I	S,N	1 200U 400
		POTS	1229.8	1231.8	I	S	1 200U 330
		POTS	1231.1	1211.5	III	G	2 45 300
		POTS	1247	1253	I	S	1 200U 300
		POTS	1250	1302	III	G,N	1 50 85
		HOLL	1441.0	1722.0	III	N	1 25 139
		SGMR	1441.0	1441.0	III		1 30 60
		POTS	1441.9	1453.8	III	G	2 40X 85
		SVTO	1442.0	1528.0	III	N	1 25 127
		POTS	1501.6	1504.3	UNCLF		1 55 70
		POTS	1502	1530	I	S,N	1 280 380
0550	1710	BLEN	1524.0	1529.3	DCIM	C	1 1400 2000X
		POTS	1527.5	1529.4	III	GG	2 40X 280
		SGMR	1528.0	1528.0	III		1 30 60
		POTS	1545	1643	I	S,N	2 200U 380
2014	2400	HIRA					
2030	2400	CULG	2345.0	2346.0	III	G	1 57X 150
09	0000 0730	CULG	0019.0	0019.0	III	B	1 57X 90
		CULG	0032.0	0032.0	III	B	1 57X 120
		CULG	0125.0	0130.0	III	G	1 57X 180
		LEAR	0127.0	0229.0	III	N	1 25 180
0000	0856	HIRA	0127.0	0129.0	III	G	1 60 170
		HIRA	0140.5	0141.0	III	B	1 60 130
		CULG	0141.0	0141.0	III	G	1 57X 180
		CULG	0208.0	0209.0	III	G	1 57X 180
		HIRA	0208.0	0209.0	III	B	1 60 220
		CULG	0326.0	0329.0	III	G	1 65 180
		LEAR	0326.0	0328.0	III		1 101 180
		HIRA	0326.5	0328.5	III	G	1 100 200
		CULG	0451.0	0451.0	III	B	1 57X 180
0538	1620	ONDR					
0600	1200	IZMI	0600.0E	1127.0U	III	N	1 45 95
0438	1720	POTS	0601	0736	I	S,N	1 250 370 100-200MHz no data
		IZMI	0614.8	0614.9	III	B	1 150 190
		HIRA	0632.5	0633.0	III	B	1 180 450
0550	1710	BLEN	0632.5	0635.6	III	GG,S	2 130 540
		IZMI	0632.7	0634.8	III	GG	2 120 270X
		POTS	0632.7	0634.8	III	GG	2 200U 530
		IZMI	0734.2	0734.7	III	G	2 50 210
		IZMI	0737.5	0737.6	III	G	2 80 140
		POTS	0823	1720 U	I	S,N	2 200U 380
		IZMI	0824.2	0824.4	III	B	1 200 270X
		POTS	0838.8	0839.8	UNCLF		2 200U 320
		IZMI	0838.9	0839.9	III	GG	2 110 270
		HIRA	0839.0	0839.5	III	B	1 110 210
		LEAR	0839.0	0839.0	III		1 110 180
		SVTO	0839.0	0904.0	III	N	2 33 180
		IZMI	0851.0U	0901.0	III	S	2 30 170
		POTS	0851.8	0900.5	III	GG,N	1 40X 85
		IZMI	0903.6	0904.8	III	GG	2 90 270
		IZMI	0911.2	0911.3	III	B	2 110 175
		IZMI	0917.5	0917.8	III	G	2 110 175
		SVTO	1041.0	1041.0	III		1 113U 147U
		IZMI	1041.2	1041.7	III	GG,C	2 95 270X
		IZMI	1045.8	1052.0	III	GG	1 110 160
		IZMI	1107.3	1110.9	III	GG	2 105 225
		IZMI	1113.1	1113.4	III	G	1 130 175
		IZMI	1131.7	1131.9	CONT		2 130 145
		POTS	1333.0	1337.4	III	GG	2 65 620
		POTS	1402.1	1403.9	III	G	2 200U 360
		HOLL	1437.0	1437.0	III		1 25 151
		POTS	1458.7	1511.6	III	GG,N	2 200U 370
		POTS	1522.8	1523.1	III	G	1 40X 80
		HOLL	1733.0	1901.0	III	N	1 25 180
2030	2400	CULG	2039.0	2039.0	III	B	1 57X 90
		CULG	2042.0	2043.0	III	G	1 57X 180
		HOLL	2042.0	2043.0	III		1 75 180

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

Spectral Observations

129
Sep 02

SEPTEMBER 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)	
09	2015	2400	HIRA	2042.0	2043.5	III	G	2	60	210	
			CULG	2103.0	2217.0	I	S	1	110	180	
			CULG	2122.0	2131.0	III	G	1	57X	140	
			HIRA	2154.5	2158.0	III	G	1	70	300	
			CULG	2155.0	2158.0	III	G	1	65	280	
			CULG	2246.0	2254.0	III	G	1	57X	90	
10			LEAR	0004.0	0004.0	III		1	92	180	
			LEAR	0004.0	0004.0	III	N	1	92	180	
			LEAR	0004.0	0004.0	III	N	1	92	180	
	0000	0730	CULG	0004.0	0004.0	III	B	1	57X	180	
	0000	0854	HIRA	0004.0	0004.5	III	B	1	100	210	
			CULG	0051.0	0052.0	III	G	1	57X	180	
			HIRA	0051.0	0051.5	III	B	1	80	210	
			LEAR	0051.0	0216.0	III	N	1	34	180	
			CULG	0108.0	0109.0	III	G	1	57X	180	
			HIRA	0108.0	0109.0	III	B	1	60	200	
			CULG	0127.0	0301.0	III	N	1	57X	180	
			CULG	0308.0	0311.0	III	G	2	57X	200	
			LEAR	0308.0	0312.0	III		1	25	180	
			HIRA	0308.5	0311.5	III	G	1	50	300	
			CULG	0311.0	0420.0	I	S	1	130	180	
			CULG	0449.0	0451.0	III	G	1	57X	120	
	0441	1724	POTS	0452	1724 U	I	S,N,DC	2	200U	380	100-200MHz no data
			POTS	0556.3	0559.5	III	GG	3	40X	420	
			CULG	0557.0	0600.0	III	G	3	57X	280	
			LEAR	0557.0	0600.0	III		2	25	180	
			SVTO	0557.0	0600.0	III		2	28	180	
			CULG	0626.0	0730.0D	III	N	1	57X	90	
	0702	1200	IZMI	0702.0E	1200.0D	I	N	1	180	270X	
			IZMI	0732.4	0732.6	III	B	1	85	160	
			IZMI	0745.0U	1142.0U	III	N	1	95	95U	
			HIRA	0757.0	0759.5	III	G	3	30	320	
	0539	1618	ONDR	0820.3	0820.5	DCIM	G	1	800X	1311	
	0550	1655	BLEN	0820.5	0821.0	DCIM	P	2	720	1550	
			IZMI	0828.7	0828.9	III	B	1	80	160	
			IZMI	0834.7	0835.3	III	G	2	25	95	
			SVTO	0835.0	0836.0	III		1	25	180	
			HIRA	0836.0	0836.5	III	B	1	100	210	
			LEAR	0855.0	0855.0	III		1	58	180	
			POTS	0921.2	0930.3	III	GG	2	40X	80	
			IZMI	0921.6	0922.9	III	GG	1	30	175	
			IZMI	0926.3	0931.6	III	GG	2	30	170	
			IZMI	0949.6	0951.5	III	G	1	50	95	
			IZMI	1003.9	1004.6	III	GG,C	2	125	270X	
			SVTO	1004.0	1030.0	III	N	2	25	180	
			IZMI	1013.9	1015.3	III	G	1	40	270X	
			ONDR	1020.2	1022.5	DCIM	G	2	2000X	4500X	
			ONDR	1020.3	1025.0	DCIM	G	1	800X	2000X	
			BLEN	1020.6	1025.1	DCIM	C,RS	3	200X	2000X	
			IZMI	1020.7	1022.9	III	GG,C	2	25	270X	
			POTS	1021.0	1037.0	III	GG,N	3	40X	450	
			IZMI	1022.9	1024.4	III	GG,C	2	25	270X	
			IZMI	1029.4	1030.9	III	GG	2	45	270X	
			IZMI	1126.5	1135.6	III	GG	2	40	270X	
			POTS	1128.5	1135.0	III	GG,N	2	40X	350	
			BLEN	1130.8	1135.2	III	GG	1	200X	400	
			IZMI	1138.4	1138.7	III	G	1	180	240	
			IZMI	1158.1	1158.3	III	B	1	55	160	
			BLEN	1451.7	1456.1	III	GG,RS,C	1	200X	2000X	
			HOLL	1452.0	1455.0	III		2	25	180	
			ONDR	1452.0	1455.2	DCIM	G	2	2000X	4500X	
			POTS	1452.0	1453.8	III	GG	3	40X	730	
			SGMR	1452.0	1458.0	V		3	30	80	
			SVTO	1452.0	1454.0	III		3	25	180	
			ONDR	1452.3	1455.0	DCIM	G	2	800X	2000X	
			POTS	1453	1456.5	V	G	3	40X	80	
			POTS	1454.1	1454.5	DCIM		2	330	530U	
			HOLL	1456.0	1524.0	II		1	25	180	ESS 0356

130
Sep 02

SOLAR RADIO EMISSION Spectral Observations

SEPTEMBER 2002

OBSERVATION			EVENT				FREQUENCY			Remarks
Start	End	Sta	Start	End	Spectral	Event	Int	Lower	Upper	
Day (UT)	(UT)		(UT)	(UT)	(UT)	Class	Remarks	(1-3)	(MHz)	(MHz)
10		SVTO	1456.0	1522.0	II		2	27	180	ESS 0662
		POTS	1500.4	1518.7	II		3	40X	75	
		SGMR	1503.0	1522.0	II		3	30	55	ESS 0710
		HOLL	1520.0	1655.0	IV		1	44	173	
		SVTO	1524.0	1648.0	IV		1	49	180	
		HOLL	1601.0	1601.0	III		1	25	164	
		SGMR	1601.0	1601.0	III		1	30	55	
		SVTO	1601.0	1601.0	III		1	25	168	
		POTS	1654.9	1656.2	III	GG	2	200U	340	
		HOLL	1734.0	1744.0	III	N	2	25	180	
		SGMR	1804.0	1814.0	V		1	30	80	
		HOLL	1811.0	1811.0	III		1	75	180	
		HOLL	1956.0	1957.0	V		1	25	180	
		PALE	1956.0	1957.0	III		1	25	180	
		SGMR	1956.0	2013.0	III	N	1	30	80	
		HOLL	2012.0	2013.0	III		1	25	180	
		PALE	2012.0	2013.0	III		1	25	180	
2030	2400	CULG	2030.0E	2124.0	III	N	1	57X	180	
2016	2400	HIRA	2052.5	2053.0	III	B	1	25X	140	
		HOLL	2113.0	2123.0	III		1	25	180	
		CULG	2114.0	2115.0	III	G	2	57X	180	
		HIRA	2114.0	2123.5	III	G	2	25X	290	
		SGMR	2114.0	2123.0	III		1	30	80	
		CULG	2117.0	2117.0	III	B	1	57X	90	
		PALE	2119.0	2119.0	III		1	25	180	
		CULG	2252.0	2253.0	III	G	3	57X	290	
		HIRA	2252.0	2254.0	III	G	3	25X	400	
		HOLL	2252.0	2253.0	V		2	25	180	
		LEAR	2252.0	2253.0	III		2	25	180	
		PALE	2252.0	2253.0	III		2	25	180	
		CULG	2315.0	2322.0	III	G	1	57X	180	
		HIRA	2315.0	2321.0	III	G	1	25X	200	
		LEAR	2315.0	2321.0	III		1	25	180	
		PALE	2315.0	2321.0	III		1	25	180	
		HOLL	2316.0	2321.0	III		1	25	180	
		LEAR	2359.0	0628.0	III	N	1	25	123	
11	0000 0730	CULG	0005.0	0204.0	III	N	1	57X	140	
		CULG	0139.0	0139.0	III	B	1	57X	320	
	0000 0853	HIRA	0139.0	0139.5	III	B	1	50	310	
		CULG	0255.0	0300.0	III	G	1	57X	180	
		CULG	0417.0	0419.0	III	G	2	57X	180	
		HIRA	0417.0	0418.5	III	G	1	25X	220	
		CULG	0434.0	0435.0	III	G	1	57X	180	
		HIRA	0434.5	0435.0	III	B	1	30	200	
		CULG	0449.0	0609.0	III	N	1	57X	150	
0443	1720	POTS	0529	1720 U	I	S,N,DC	2	200U	400	100-200MHz no data
0604	1202	IZMI	0633.3	0634.2	III	G	1	210	270X	
0541	1616	ONDR	0729.5	0739.2	DCIM	GG	2	2000X	4500X	
		ONDR	0731.2	0734.5	DCIM	GG,FS	2	1011	2000X	
0555	1655	BLN	0731.9	0737.9	DCIM	P,RS	3	700	4000X	
		IZMI	0738.0U	0825.0U	III	N	1	45	95	
		IZMI	0753.0	1200.0D	I	S	1	110	270X	
		POTS	0754	0811	III	G,N	3	40X	320	
		HIRA	0754.0	0755.0	III	G	1	50	280	
		LEAR	0754.0	0810.0	III	N	1	25	180	
		SVTO	0754.0	0810.0	III	N	2	25	180	
		IZMI	0754.1	0754.9	III	GG,FS	2	25X	270X	
		IZMI	0758.9	0800.4	III	G,C	2	25X	260	
		HIRA	0759.0	0810.5	III	G	1	30	250	
		IZMI	0802.0	0803.3	III	G	2	30	270X	
		IZMI	0806.7	0808.3	III	GG,FS	2	25X	270X	
		IZMI	0810.2	0810.5	III	G,FS	2	35	190	
		IZMI	1016.7	1017.9	III	GG	2	50	270X	
		POTS	1016.7	1021.4	III	GG,N	3	40X	500	
		IZMI	1018.7	1020.1	III	GG	2	180	270X	
		BLN	1040.6	1041.7	DCIM	S	1	500	4000X	
		IZMI	1100.6	1100.7	III	B	1	80	160	
		IZMI	1157.3	1158.2	III	G	1	180	270X	

100-200MHz no data

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

Spectral Observations

131
Sep 02

SEPTEMBER 2002

OBSERVATION			EVENT		FREQUENCY		Remarks
Start	End	Sta	Start	End	Lower	Upper	
Day (UT)	(UT)		(UT)	(UT)	(MHz)	(MHz)	
11		POTS	1246	1259	III	40X	280
		HOLL	1318.0	1830.0	III	56	180
		POTS	1328.6	1331.5	III	200U	350
		POTS	1329.7	1330.7	DCIM	460	590
		POTS	1341	1350	III	40X	80
		POTS	1431	1458	III	40X	70
	2017 2400	HIRA					
	2030 2400	CULG	2030.0E	2400.0D	III	57X	140
		CULG	2340.0	2341.0	III	57X	180
12	0000 0851	HIRA					
	0000 0730	CULG	0000.0E	0740.0D	III	57X	180
	0447 1715	POTS	0530	0702 U	I	220	350
		POTS	0530.4	0530.9	DCIM	270	430
	0542 1614	ONDR					
		IZMI	0558.0E	1200.0D	I	45	270
	0558 1200	IZMI	0558.0E	1200.0D	III	25X	95U
		IZMI	0558.7	0558.9	III	50	150
		IZMI	0611.6	0611.8	III	55	150
		IZMI	0630.6	0632.6	III	85	150
		IZMI	0702.9	0705.1	III	45	190
		POTS	0730	0914	III	40X	80
		IZMI	0732.5	0737.0	III	25X	65
		IZMI	0753.0	0755.0	III	45	160
		IZMI	0846.5	0847.4	III	40	270
		POTS	0847.2	0847.4	III	200U	270
		POTS	0856 U	0929	I	200U	330
		IZMI	0856.7	0856.8	III	25X	90
		IZMI	0900.3	0900.6	III	60	160
		IZMI	0909.3	0914.6	III	40	95
		IZMI	0917.6	0918.9	III	40	270X
		POTS	0917.6	0925.6	III	40X	400
		IZMI	0924.9	0925.1	III	40	270X
	0600 1655	BLEN	0924.9	0925.1	III	140	500
		IZMI	0941.1	0943.8	III	30	190
		POTS	0941.2	0941.4	III	40X	75
		IZMI	0954.4	0954.7	III	110	180
		IZMI	1009.8	1011.1	III	25X	270
		IZMI	1020.5	1020.5	III	130	180
		POTS	1040.7	1045	UNCLF	57	78
		POTS	1057	1329	I	200U	340
		IZMI	1101.7	1101.8	III	110	175
		SVTO	1116.0	1349.0	III	25	180
		POTS	1116.3	1127	III	40X	280
		IZMI	1116.7	1124.4	III	25X	260
		IZMI	1133.0	1138.6	III	35	250
		POTS	1221.6	1224.4	III	45	280
		POTS	1248.0	1253.5	III	200U	330
		POTS	1252	1255	III	40X	75
		POTS	1328.4	1328.6	III	70	240
		POTS	1332	1528 U	III	40X	75
		POTS	1336	1339	III	40X	400
		BLEN	1336.7	1339.8	III	100X	1800
		HOLL	1337.0	1349.0	III	25	180
		SGMR	1337.0	1346.0	III	30	80
		SVTO	1337.0	1337.0	III	25	180
		HOLL	1414.0	1648.0	III	25	83
		POTS	1506.1	1506.4	III	40X	80
		POTS	1514	1535	III	40X	80
		POTS	1518	1535	I	50	350
		POTS	1550 U	1650 U	I	200U	320
		PALE	1635.0	2230.0	III	25	180
		HOLL	1810.0	1838.0	III	25	180
		SGMR	1834.0	1840.0	III	30	70
	2020 2400	CULG	2020.0E	2106.0	III	57X	180
		HOLL	2057.0	2059.0	III	25	138
	2018 2400	HIRA	2057.5	2058.0	III	40	140
		CULG	2106.0	2400.0D	III	57X	180
		LEAR	2240.0	0810.0	CONT	42	180

100-200MHz no data

132
Sep 02

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

SEPTEMBER 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)	
13	0000	0849	HIRA								
	0000	0740	CULG	0000.0E	0357.0	III	S,C	1	57X	180	
			CULG	0357.0	0617.0	III	S,C	2	57X	180	
			LEAR	0426.0	1000.0	III	N	1	25	180	
			SVTO	0447.0	1643.0	CONT		1	25	180	
	0450	1713	POTS	0516 U	0621 U	I	S,N	2	50	380	100-200MHz no data
			IZMI	0600.0E	1200.0D	III	N	1	25X	150U	
	0600	1200	IZMI	0600.0E	1200.0D	I	S,C	2	45	270X	
	0600	1655	BLEN	0600.0X	1655.0X	I	DC	2	100X	300	
			CULG	0617.0	0740.0D	III	S,C	1	57X	180	
			POTS	0648 U	0850 U	I	S,N	2	45	300	
			POTS	0709.7	1523 U	III	GG,N	1	40X	85	
			IZMI	0846.0	0850.4	III	G	2	25X	180	
			POTS	0850 U	1659 U	I	S,N	2	200U	360	
			IZMI	0857.3	0857.6	III	G,U,C	2	55	90	
			IZMI	0923.5	0926.6	III	G	2	35	95	
			IZMI	1043.3	1044.3	III	G,C	2	50	90	
			IZMI	1142.3	1142.5	III	B	2	25X	95	
			HOLL	1320.0	1322.0	III		1	25	83	
			HOLL	1345.0	1736.0	III	N	1	25	121	
			SGMR	1345.0	1353.0	III		1	30	60	
			POTS	1345.8	1354 U	III	GG	2	40X	300	
	0544	1611	ONDR	1500.0	1500.5	DCIM	G	1	2000X	4090	
			PALE	1635.0	2028.0	CONT		1	25	180	
			HOLL	2004.0	2004.0	III		1	25	86	
			SGMR	2004.0	2005.0	III		1	30	60	
			CULG	2020.0E	2400.0D	I	S,C	1	110	180	
	2020	2400	CULG	2020.0E	2400.0D	III	S	1	57X	180	
			PALE	2111.0	2111.0	III		1	25	66	
	2018	2400	HIRA	2111.5	2112.0	III	B	1	25X	80	
			HIRA	2120.5	2121.0	III	B	1	90	310	
			LEAR	2239.0	0855.0	CONT		1	40	180	
			LEAR	2304.0	0600.0	III	N	1	25	180	
			CULG	2318.0	2318.0	III	B	2	57X	180	
			HIRA	2318.0	2318.5	III	B	2	25X	200	
			HOLL	2318.0	2318.0	III		1	25	131	
14			CULG	0000.0E	0154.0	I	S,C	1	70	180	
	0000	0740	CULG	0000.0E	0740.0D	III	S	1	57X	180	
	0555	1645	BLEN	0557.5X	0600.1	DCIM	P,RS	2	400	390U	
			IZMI	0600.0E	1200.0D	III	N	1	25X	95U	
	0600	1200	IZMI	0600.0E	1200.0D	I	S,C	2	45U	270X	
			IZMI	0603.9	0607.4	III	G,C	2	30	100	
			LEAR	0607.0	0607.0	III		1	25	96	
	0000	0848	HIRA	0607.0	0625.0	III	G	1	30	200	
			LEAR	0614.0	0614.0	III		1	25	107	
			IZMI	0614.5	0625.1	III	GG	2	25X	240	
			LEAR	0619.0	0625.0	III		1	25	180	
			IZMI	0629.1	0631.5	III	GG,FS	1	45	210	
			IZMI	0728.5	0734.7	III	GG,RS	2	40	95	
			LEAR	0729.0	1000.0	III	N	1	25	180	
			IZMI	0746.3	0746.6	III	G,RS	2	50	65	
			IZMI	0750.2	0755.1	III	GG,C	2	25X	270X	
			BLEN	0750.8	0753.0	III	GG,S	2	100X	600	
			HIRA	0751.0	0754.0	III	G	1	30	380	
			LEAR	0751.0	0753.0	III		2	25	180	
	0545	1609	ONDR	1222.1	1223.1	DCIM	G,W	1	2000X	4500X	
			BLEN	1222.2	1223.8	III	GG,RS	2	100X	4000X	
			SGMR	1356.0	1404.0	III		1	30	55	
			HOLL	1427.0	1429.0	III		1	25	73	
			HOLL	1440.0	0052.0	CONT		1	96	180	
			HOLL	1444.0	2242.0	III	N	1	25	137	
			SGMR	1530.0	1557.0	III	N	1	30	80	
			BLEN	1546.9	1557.4	III	GG,RS	3	130	4000X	
			PALE	1715.0	0420.0	CONT		1	25	180	
			SGMR	1716.0	1732.0	V		1	30	55	
			SGMR	1938.0	1939.0	III		1	30	80	
			SGMR	2013.0	2145.0	III	N	1	30	80	
			CULG	2020.0E	2400.0D	III	S	1	57X	150	

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

Spectral Observations

133
Sep 02

SEPTEMBER 2002

OBSERVATION			Sta	EVENT		Int (1-3)	FREQUENCY		Remarks
Day	Start (UT)	End (UT)		Start (UT)	End (UT)		Lower (MHz)	Upper (MHz)	
14	2020 2400 2019 2400		CULG	2020.0E	2400.0D	I	S,C	1	100 180
			HIRA	2111.0	2111.5	III	B	1	25X 210
			HIRA	2137.5	2138.0	III	B	1	25X 160
			HIRA	2154.5	2203.0	III	G	2	25X 180
			CULG	2155.0	2157.0	III	G	2	57X 160
			CULG	2202.0	2203.0	III	G	2	57X 180
			LEAR	2238.0	1001.0	CONT		1	25 180
15	0000 0740		CULG	0000.0E	0740.0D	III	S	1	57X 180
			CULG	0000.0E	0740.0D	I	S,C	1	100 250
			CULG	0019.0	0020.0	III	G	2	57X 150
			HOLL	0019.0	0020.0	V		1	25 156
			LEAR	0019.0	0020.0	V		2	25 146
	0000 0846		HIRA	0019.0	0021.0	III	G	2	25X 130
			LEAR	0047.0	0156.0	III	N	2	25 137
			HIRA	0047.5	0048.5	III	B	1	25X 110
	2020 2400		HIRA	0116.5	0117.0	III	B	1	40 160
			HIRA	0155.0	0157.0	III	G	1	25X 120
			IZMI	0602.0E	1200.0D	III	N	1	25X 95U
	0602 1200		IZMI	0602.0E	1200.0D	I	S,C	2	45U 270X
			IZMI	0848.5E	0852.2D	III	G,C	2	25X 270X
			BLEN	0848.5	0853.2	III	GG	1	200 550
	0555 1645		LEAR	0944.0	0949.0	III		2	25 180
			IZMI	0944.1E	0947.6D	III	GG,FS,C	2	25X 260
			BLEN	1531.0	1536.8	III	GG,RS	2	400 2400
	0547 1607		ONDR	1536.2	1537.1	DCIM	G	1	800X 1812
			HOLL	1546.0	1552.0	III		1	25 163
			SGMR	1546.0	1552.0	III		1	30 70
			HOLL	1813.0	0002.0	CONT		1	68 167
			CULG	2020.0E	2242.0	III	S	1	57X 120
	2020 2400		CULG	2020.0E	2350.0	I	S,C	1	100 180
			CULG	2117.0	2117.0	III	B	1	57X 180
			LEAR	2237.0	0052.0	CONT		1	74 180
			CULG	2308.0	2312.0	III	G	1	57X 80
			HIRA	2339.5	2340.0	III	B	1	80 200
			CULG	2340.0	2340.0	III	B	1	57X 180
			LEAR	2353.0	2353.0	III		1	25 180
			HIRA	2353.5	2354.0	III	B	1	50 210
			CULG	2354.0	2354.0	III	B	1	57X 180
16	0000 0740		CULG	0002.0	0513.0	III	S,C	1	57X 180
			CULG	0010.0	0740.0D	I	S,C	1	65 170
			LEAR	0018.0	0023.0	III		1	25 180
			PALE	0018.0	0020.0	III		1	25 92
			HOLL	0019.0	0020.0	III		1	25 142
	0000 0845		HIRA	0019.0	0020.5	III	G	1	30 220
			LEAR	0057.0	1001.0	III	N	3	25 180
			CULG	0142.0	0155.0	III	GG	3	57X 230
			HIRA	0142.0	0155.0	III	G	3	25X 260
			PALE	0142.0	0420.0	III	N	2	25 180
			LEAR	0308.0	0311.0	III		3	25 180
			CULG	0309.0	0310.0	III	G	3	57X 360
			HIRA	0309.0	0312.5	III	G	3	25X 400
			CULG	0312.0	0312.0	III	B	1	75 340
			LEAR	0315.0	1001.0	CONT		1	25 180
	0454 1706		CULG	0316.0	0321.0	II	SH	1	60 90
			CULG	0321.0	0322.0	III	G	3	57X 160
			HIRA	0321.0	0322.5	III	G	2	30 190
			POTS	0454 U	1706 U	I	S,C,N	3	200U 470
			CULG	0457.0	0458.0	III	G	2	57X 120
			HIRA	0457.0	0458.0	III	B	1	30 120
			CULG	0513.0	0740.0D	III	N	1	57X 150
	0548 1605		ONDR						
			IZMI	0600.0E	1200.0D	III	N	1	25X 95U
	0600 1200		IZMI	0600.0E	1200.0D	I	S,C	2	45U 270X
			IZMI	0612.5	0616.3	III	GG,FS	2	25X 95
			IZMI	0638.5	0638.8	III	B,FS	2	55 150
			POTS	0659.9	1556 U	III	GG,N	2	40X 85
			IZMI	0724.3	0725.5	III	G,C	2	25X 95

ESS 750

100-200MHz no data

134
Sep 02

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

SEPTEMBER 2002

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)	
16			HIRA	0724.5	0754.0	III	G	1	30	110		
			IZMI	0732.6	0735.1	III	G	2	25X	70		
			IZMI	0737.5	0739.6	III	GG	2	25X	140		
			IZMI	0753.2	0754.1	III	G	2	25X	95		
			IZMI	0756.7	0756.8	III	G	2	25X	95		
			IZMI	0824.7	0825.2	III	G	2	25X	240		
			IZMI	0835.8	0838.5	III	G	2	25X	130		
			IZMI	0847.9	0849.6	III	GG,C	2	25X	270X		
			IZMI	0850.1	0900.4	III	GG	2	25X	215		
			IZMI	0907.2	0909.3	III	G	2	25X	240		
			IZMI	0913.1	0913.3	III	B	1	40	95		
			IZMI	0921.2	0925.8	III	GG	2	25X	140		
			IZMI	0935.5	0938.2	III	G	2	25X	210		
			IZMI	0949.4	0949.5	III	B	1	40	100		
			IZMI	0952.0	0953.2	III	G	2	25X	90		
			IZMI	1012.1	1012.6	III	G,C	2	25X	45		
			IZMI	1017.0	1017.7	III	G	2	25X	130		
			IZMI	1045.5	1045.7	III	B	1	30	90		
			IZMI	1057.9	1058.1	III	G	2	25X	90		
			SGMR	1122.0	1122.0	III			1	30	60	
			IZMI	1122.3	1123.0	III	G,C		2	25X	100	
			POTS	1122.3	1125.8	III	G		3	40X	450	
			IZMI	1124.8	1125.8	III	G		2	25X	270X	
		0600 1640	BLEN	1124.8	1125.8	III	GG,RS		2	160	490	
			IZMI	1132.2	1133.8	III	GG		2	25X	215	
			IZMI	1135.1	1135.6	III	G		2	40	150	
			IZMI	1137.1	1139.6	III	GG		2	25X	95	
			IZMI	1148.5	1148.7	III	G		2	35	65	
			IZMI	1155.6	1155.9	III	B		2	30	90	
			HOLL	1336.0	2122.0		CONT		1	59	180	
			POTS	1347.0	1347.7		DCIM		2	300	570	
			HOLL	1354.0	0058.0	III	N		1	25	180	
			SGMR	1400.0	1402.0	III			1	30	80	
			SGMR	1546.0	1558.0	III	N		1	30	60	
			BLEN	1549.3	1555.8	III	GG,C		3	100X	4000X	
			POTS	1555.1	1555.9	III	GG		2	200U	650	
			POTS	1702.3	1702.8	III	G		2	200U	320	
			SGMR	1825.0	1826.0	III			1	30	50	
			PALE	1959.0	2004.0	III			1	25	180	
			SGMR	1959.0	2013.0	III	N		2	30	80	
		2020 2400	CULG	2020.0E	2336.0	III	N		1	57X	180	
		2020 2400	HIRA	2206.5	2219.5	III	G		2	25X	330	
			CULG	2207.0	2211.0	III	G		2	57X	180	
			CULG	2213.0	2214.0	III	G		3	57X	250	
			HIRA	2228.5	2232.0	III	G		1	50	200	
			LEAR	2236.0	1002.0	III	N		1	25	180	
			HIRA	2237.5	2241.0	III	G		1	25X	110	
			CULG	2238.0	2238.0	III	B		2	57X	130	
17	0000 0844	HIRA	0047.5	0048.0	III	B		1	25X	100		
		CULG	0048.0	0051.0	III	G		2	57X	180		
	0000 0740	HIRA	0049.5	0050.0	III	B		1	25X	160		
		CULG	0055.0	0058.0	III	G		3	57X	150		
		HIRA	0056.0	0056.5	III	B		1	25X	120		
		CULG	0107.0	0438.0	III	N		1	57X	180		
		CULG	0114.0	0115.0	III	G		2	57X	170		
		HIRA	0114.0	0115.0	III	B		1	30	100		
		HIRA	0139.5	0143.0	III	G		1	30	200		
		HIRA	0151.5	0204.0	III	G		3	25X	210		
		CULG	0155.0	0204.0	III	GG		2	57X	180		
		CULG	0200.0	0203.0	III	G		3	57X	180		
		CULG	0204.0	0221.0	II	SH		3	57X	100	ESS 900	
		HIRA	0204.0	0224.0	II			3	25X	110		
		LEAR	0204.0	0227.0	II			2	25	109	ESS 0610	
		PALE	0204.0	0217.0	II			1	25	98	ESS 0542	
		CULG	0306.0	0308.0	III	G		2	57X	150		
		HIRA	0306.0	0308.0	III	G		1	25X	130		
		CULG	0411.0	0412.0	III	G		1	57X	850		
		HIRA	0411.0	0412.0	III	B		1	30	1000		

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

Spectral Observations

135
Sep 02

SEPTEMBER 2002

OBSERVATION		Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Start	End				Spectral	Event		Lower	Upper	
Day (UT)	(UT)		(UT)	(UT)	Class	Remarks		(MHz)	(MHz)	
17		HIRA	0414.5	0417.0	III	G	1	30	300	
		CULG	0415.0	0417.0	III	G	2	57X	180	
		LEAR	0420.0	0421.0	III		2	25	180	
		CULG	0421.0	0422.0	III	G	3	57X	180	
		HIRA	0421.0	0423.0	III	G	3	25X	550	
		HIRA	0433.0	0437.5	III	G	1	25X	190	
0457	1706	POTS	0517	0700 U	I	S,N	2	200U	400	100-200MHz no data
		POTS	0548.9	0552.7	III	G	3	40X	400	
		CULG	0549.0	0553.0	III	G	3	57X	300	
		HIRA	0549.0	0552.5	III	G	3	25X	300	
		LEAR	0549.0	0552.0	V		2	25	180	
		SVTO	0549.0	0552.0	V		2	25	180	
0550	1640	BLN	0550.0X	0557.4	III	GG,RS	3	100X	550	
		POTS	0551.4	0552.3	V	B	3	40X	80	
		POTS	0553.5	0554.3	DCIM		2	200U	800X	
		POTS	0603	0700 U	III	GG,N	1	40X	60	
0601	1200	IZMI	0603.5	0604.0	III	G	1	45	140	
		CULG	0604.0	0740.0D	III	N	1	57X	180	
		IZMI	0610.0U	0725.0	I	N	1	45	270	
		IZMI	0615.0U	1200.0D	III	N	1	25X	95U	
		SVTO	0624.0	0625.0	III		1	25	180	
		HIRA	0624.5	0625.0	III	B	1	50	240	
		IZMI	0624.7	0627.1	III	G	2	40	250	
		IZMI	0644.7	0645.5	III	G	1	40	95	
		BLN	0646.3	0655.1	DCIM	P	1	700	2100	
0550	1603	ONDR	0647.4	0706.3	DCIM	G	1	800X	2000X	
		POTS	0700 U	1400 U	IV		2	200U	700	
		POTS	0700.0	0702.3	III	G	3	40X	450	
		BLN	0700.4	0706.4	III	GG,S,C	3	150	2200	
		IZMI	0700.7	0701.9	III	GG,C	2	30	270X	
		CULG	0701.0	0702.0	III	G	2	57X	240	
		HIRA	0701.0	0702.0	III	B	2	50	250	
		POTS	0705.6	0706.6	DCIM		2	300	720	
		IZMI	0705.9	0706.0	III	B	2	190	210	
		BLN	0717.0	0754.1	IV	P	3	100X	4000X	
		LEAR	0722.0	1002.0	CONT		1	50	180	
		IZMI	0725.0U	1200.0D	I	S,C	2	45	270X	
		POTS	0732	0830 U	III	GG,N	1	40X	80	
		ONDR	0732.3	0802.3	DCIM	G	1	2000X	4500X	
		ONDR	0733.2	0805.1	DCIM	G	1	800X	2000X	
		LEAR	0743.0	1431.0	CONT		1	25	180	
		IZMI	0801.0	0810.0	III	GG	2	45	95	
		IZMI	0822.1	0825.3	I	GG,DC	2	160	210	
		IZMI	0824.6	0826.0	III	GG,FS	2	130	170	
		IZMI	0914.1	0925.6	III	GG,C	2	25X	270X	
		ONDR	0915.3	0921.5	DCIM	GG,FS	2	2000X	4500X	
		ONDR	0916.5	0922.0	DCIM	GG	2	800X	2000X	
		POTS	0916.7	0925.3	III	GG	3	40X	800X	
		BLN	0916.8	0925.1	III	GG,RS,S	3	130	4000X	
		LEAR	0917.0	0923.0	III		2	25	180	
		POTS	0925.5	1023	III	GG,N	2	40X	80	
		POTS	0928.8	0937	II		2	40X	85	
		IZMI	0929.0	0932.3	II		2	40	70	
		IZMI	0929.8	0936.5	III	GG	2	25X	270X	
		POTS	1022.3	1023.2	DCIM		1	530	770	
		SVTO	1037.0	1242.0	III	N	2	25	180	
		BLN	1037.3	1053.0	III	GG,RS,S	3	130	4000X	
		IZMI	1037.4	1042.6	III	GG,C	2	25X	270X	
		ONDR	1037.4	1040.2	DCIM	GG,FS	2	800X	2000X	
		POTS	1037.5	1040.3	III	GG	3	40X	800X	
		ONDR	1038.0	1040.2	DCIM	G	2	2000X	4500X	
		POTS	1040.3	1149	III	GG,N	2	40X	85	
		IZMI	1043.2	1045.9	III	GG	2	80	270X	
		IZMI	1048.0	1057.5	III	GG,C	2	25X	270X	
		POTS	1048.1	1050.1	III	GG	3	40X	650	
		IZMI	1111.1	1111.5	III	B	2	25X	95	
		POTS	1235.0	1246 U	III	GG,N	2	40X	85	
		SGMR	1235.0	1235.0	III		1	30	60	
		BLN	1235.1	1235.7	III	GG,C	1	130	4000X	

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

SEPTEMBER 2002

OBSERVATION		Sta	EVENT		Spectral Class	Event Remarks	Int (1-3)	FREQUENCY		Remarks
Start Day	End Day		Start (UT)	End (UT)				Lower (MHz)	Upper (MHz)	
17	2020 2400	POTS	1400 U	1706 U	I	S,N	2	200U	400	
		HOLL	1602.0	2040.0	III	N	1	25	180	
		CULG	2020.0E	2400.0D	III	S,C	1	57X	180	
		HOLL	2145.0	2149.0	III		1	25	174	
		CULG	2146.0	2148.0	III	G	3	57X	300	
	2021 2400	SGMR	2146.0	2146.0	III		1	30	55	
		HIRA	2146.0	2148.0	III	G	2	25X	250	
		LEAR	2252.0	1002.0	CONT		1	35	180	
		HOLL	2327.0	2328.0	III		1	25	180	
		LEAR	2327.0	2328.0	III		2	35	180	
		HIRA	2327.5	2328.5	III	B	1	50	270	
		CULG	2328.0	2328.0	III	G	2	57X	280	
		LEAR	2352.0	0017.0	III	N	2	25	180	
		HIRA	2353.0	0015.0	III	G	1	25X	280	
		CULG	2358.0	2400.0	III	G	2	57X	280	
18	0000 0740	CULG	0000.0E	0740.0D	III	S,C	1	57X	180	
		CULG	0010.0	0010.0	III	G	2	57X	180	
	0000 0843	HIRA	0125.0	0125.5	III	B	1	30	150	
		HIRA	0215.5	0216.0	III	G	1	30	210	
		HIRA	0219.0	0220.0	III	B	1	30	200	
		HIRA	0242.5	0243.0	III	B	1	30	170	
	0501 1702	POTS	0501 E	1702 U	I	S,N	2	200U	400	100-200MHz no data
		IZMI	0559.0E	1200.0D	I	N	2	80	270X	
	0559 1200	IZMI	0559.0E	1200.0D	III	N	2	25X	95	
		IZMI	0625.0	0625.3	III	G	1	40	95	
		IZMI	0715.3	0718.4	III	G	2	45	95	
		IZMI	0728.8	0830.0U	I	S	2	80U	270X	
		IZMI	0729.2	0840.0U	III	S	2	25X	270U	
		POTS	0732	1600 U	III	GG,N	2	40X	85	
		HIRA	0803.5	0804.5	III	B	1	40	120	
		IZMI	0847.1	0847.2	III	B	2	40	65	
		IZMI	0926.9	0938.0	III	GG	2	25X	95	
		IZMI	0952.3	0954.4	III	G,FS	2	35	90	
	0600 1635	IZMI	0959.6	0959.7	III	B	2	35	65	
		IZMI	1010.7	1020.8	III	GG	2	25X	270X	
		ONDR	1011.3	1021.1	DCIM	GG	1	800X	2000X	
		POTS	1012.7	1013.7	DCIM		2	300	800X	
		BLN	1015.0	1021.0	III	GG,C	1	140	4000X	
	0551 1600	ONDR	1016.0	1020.5	DCIM	G	1	2000X	4500X	
		POTS	1018	1051 U	III	GG,N	3	40X	700	
		IZMI	1021.2	1055.0U	III	S	2	25X	270X	
		POTS	1021.4	1022.3	DCIM		2	350	600	
		BLN	1032.6	1047.5	DCIM	P	1	200	900	
		IZMI	1048.8	1049.2	III	GG,C	2	25X	180	
		IZMI	1146.3	1149.5	III	GG	1	35	95	
		POTS	1258 U	1528 U	I	S,N	2	60	100U	
		HOLL	1343.0	0042.0	CONT		1	25	180	
		HOLL	1502.0	0040.0	III	N	1	25	180	
	2020 2400	SGMR	1528.0	1629.0	CONT		1	30	45	
		POTS	1529	1543	III	GG	2	200U	750	
		ONDR	1529.0	1542.2	DCIM	GG	2	2000X	3514	
		BLN	1530.4	1542.0	DCIM	C	3	200	3200	
		ONDR	1532.0	1542.1	DCIM	GG	1	800X	2000X	
		BLN	1609.1	1609.5	III	GG,S	2	140	700	
		PALE	1636.0	0417.0	CONT		1	25	180	
		POTS	1638	1647	III	GG	2	200U	400U	
		SGMR	1855.0	1903.0	III		1	30	80	
		CULG	2020.0E	2400.0D	I	S	1	60	160	
	2022 2400	CULG	2020.0E	2400.0D	III	S,C	1	57X	180	
		HIRA								
		LEAR	2234.0	1002.0	CONT		2	52	180	
		LEAR	2307.0	1002.0	III	N	1	25	180	
		LEAR	2352.0	0257.0	III	N	2	25	180	
19	0000 0841	CULG	0000.0E	0740.0D	I	S	1	80	160	
		CULG	0000.0E	0740.0D	III	S,C	1	57X	180	
		HIRA	0132.0	0135.0	III	G	1	25X	320	
		CULG	0133.0	0133.0	III	B	2	57X	150	

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

Spectral Observations

137
Sep 02

SEPTEMBER 2002

OBSERVATION			Sta	Start		EVENT		Int	FREQUENCY		Remarks
Day	Start (UT)	End (UT)		(UT)	(UT)	Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
19	0506	1702	POTS	0506	E 1702	U I	S,N	2	200U	400	100-200MHz no data
			CULG	0521.0	0522.0	II	FN	2	57X	70	
			CULG	0521.0	0524.0	II	SH	2	70	140	ESS 1000
			HIRA	0521.0	0539.0	II		1	50	110	
			LEAR	0529.0	0543.0	II		1	36	97	ESS 0305
			CULG	0530.0	0539.0	II	UE	2	57X	90	
			SVTO	0530.0	0543.0	II		1	25U	42U	ESS 0350
			POTS	0535	0545	II		1	40X	70	aerial off-sun
			IZMI	0551.0E	1200.0D	III	N	2	25X	270U	
	0551	1200	IZMI	0551.0E	1200.0D	I	S,C	2	45U	270X	
	0553	1558	ONDR								
			POTS	0720	1528	U III	GG,N	1	40X	80	
			IZMI	0720.9	0721.9	III	G	2	50	85	
	0600	1635	BLEN	0731.3	0741.4	III	GG	2	140	300	
			IZMI	0733.0	0733.9	III	GG	2	35	270X	
			HIRA	0733.5	0734.0	III	B	1	40	200	
			IZMI	0752.0	0752.2	III	G,HARM	2	55	210	
			BLEN	0809.7	0811.0	DCIM	C	1	140	4000X	
			IZMI	0814.8	0815.1	III	B	2	25X	170	
			IZMI	0952.0	0952.3	III	G,C	2	25X	160	
			IZMI	1001.2	1003.5	III	G	2	25X	135	
			IZMI	1059.0	1059.2	III	G	2	120	215	
			IZMI	1116.3	1118.0	I	GG,DC	2	85	145	
			IZMI	1154.1	1156.1	III	G	1	35	95	
			HOLL	1321.0	0048.0	CONT		1	25	180	
			PALE	1636.0	0416.0	CONT		1	25	180	
			HOLL	1809.0	1809.0	III		1	25	75	
			HOLL	1809.0	1958.0	III	N	1	25	180	
			SGMR	1809.0	1809.0	III		1	30	80	
			CULG	2020.0E	2400.0D	I	S	1	80	180	
	2020	2400	CULG	2020.0E	2400.0D	III	S,C	1	57X	180	
			HOLL	2216.0	2216.0	III		1	25	62	
	2023	2400	HIRA	2216.0	2216.5	III	B	1	25X	300	
			LEAR	2233.0	1002.0	CONT		1	25	180	
			LEAR	2233.0	1002.0	III	N	1	25	180	
			HOLL	2240.0	2242.0	III		1	25	169	
			CULG	2241.0	2241.0	III	B	2	57X	140	
			HIRA	2241.0	2243.0	III	G	1	25X	280	
			HOLL	2249.0	2355.0	III	N	1	25	122	
20			CULG	0000.0E	0430.0D	I	S	1	70	180	
	0000	0430	CULG	0000.0E	0430.0D	III	S,C	1	57X	180	
	0000	0839	HIRA	0020.5	0021.0	III	B	1	100	230	
			CULG	0156.0	0156.0	III	B	2	57X	180	
			HIRA	0156.0	0156.5	III	B	1	25X	150	
			HIRA	0216.5	0217.0	III	B	1	60	200	
			CULG	0254.0	0254.0	III	B	3	57X	250	
			HIRA	0254.0	0254.5	III	B	3	25X	210	
			CULG	0414.0	0415.0	III	G	2	57X	180	
			HIRA	0414.0	0415.0	III	G	1	25X	270	
			SVTO	0453.0	0924.0	CONT		2	25	180	
	0500	1702	POTS	0500	E 1702	U IV		2	45	580	100-200MHz no data
			CULG	0550.0E	0740.0D	I	S	1	70	180	
	0550	0740	CULG	0550.0E	0740.0D	III	S,C	1	57X	300	
	0600	1200	IZMI	0600.0E	1200.0D	I	S,C	2	45U	270X	
	0600	1630	BLEN	0600.0X	1630.0X	I	DC	3	140X	500	
			IZMI	0610.0U	1200.0D	III	N	2	25X	270X	
			IZMI	0614.7	0619.2	III	GG	2	180X	180	
			POTS	0640	U 0714	III	GG	2	40X	400	
			IZMI	0641.9	0700.0	III	GG	2	25X	270X	
			CULG	0644.0	0644.0	III	B	2	57X	130	
			CULG	0656.0	0656.0	III	B	2	57X	300	
			HIRA	0656.0	0657.0	III	B	1	50	130	
			SVTO	0656.0	0656.0	III		1	25	180	
			POTS	0743	U 1003	U III	GG,N	2	40X	450	
			SVTO	0743.0	1442.0	III	N	1	25	180	
			IZMI	0743.6	0747.0	III	G	2	25X	140	
			SVTO	0757.0	0758.0	III		1	25	180	
			IZMI	0806.7	0809.4	III	G	2	25X	270X	

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

SEPTEMBER 2002

OBSERVATION			EVENT				FREQUENCY			Remarks
Start Day	End (UT)	Sta	Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	Lower (MHz)	Upper (MHz)	
20		HIRA	0808.5	0809.5	III	B	1	40	230	
		IZMI	0849.2	0849.7	III	G	2	25X	270X	
		SVTO	0924.0	1632.0	IV		2	25	180	
	0554 1556	ONDR	0925.2	0928.0	DCIM	G	1	2000X	4500X	
		BLEN	0925.4	0928.0	III	GG,RS,C	3	600	4000X	
		IZMI	0941.8	1001.0	III	S	2	25X	270X	
		POTS	1003 U	1513 U	III	GG,N	2	40X	85	
		IZMI	1023.2	1023.6	III	G	2	25X	100	
		POTS	1234	1240	III	GG	3	40X	700	
		SGMR	1237.0	1239.0	III		2	30	80	
		SVTO	1237.0	1239.0	III		2	25	180	
		ONDR	1237.2	1239.0	DCIM	GG	2	880	1395	
		BLEN	1237.8	1239.0	DCIM	S	2	1000	1400	
		SGMR	1311.0	1409.0	III	N	1	30	80	
		HOLL	1322.0	0046.0	CONT		1	25	180	
		POTS	1602.4	1606.6	III	G	3	40X	400	
		SGMR	1603.0	1608.0	V		2	30	80	
		BLEN	1604.0	1611.4	DCIM	S	2	800	1500	
		HOLL	1605.0	1612.0	III		1	25	180	
		SGMR	1923.0	1933.0	III		1	30	80	
		HOLL	1924.0	1933.0	III		1	25	180	
		SGMR	1928.0	1929.0	III		1	30	80	
	2010 2400	CULG	2010.0E	2400.0D	I	S,C	2	80	180	
		CULG	2010.0E	2400.0D	III	S,C	1	57X	180	
		HIRA	2023.5	2024.0	III	B	1	25X	100	
	2024 2400	HOLL	2028.0	2029.0	III		1	25	180	
		HIRA	2028.5	2029.5	III	G	3	30	120	
		CULG	2029.0	2029.0	III	G	3	57X	160	
		CULG	2114.0	2114.0	III	B	2	57X	160	
		CULG	2119.0	2119.0	III	B	2	57X	150	
		HOLL	2123.0	2123.0	III		1	25	120	
		CULG	2124.0	2124.0	III	B	2	57X	120	
		HIRA	2205.0	2205.5	III	B	2	25X	70	
		HOLL	2205.0	2215.0	III	N	1	25	81	
		HIRA	2215.0	2215.5	III	B	2	25X	120	
		LEAR	2232.0	1003.0	CONT		1	25	180	
21		CULG	0000.0E	0444.0	I	S	2	70	150	
	0000 0740	CULG	0000.0E	0740.0D	III	S,C	1	57X	180	
		CULG	0317.0	0326.0	II	SH	1	57X	260	ESS 900
		LEAR	0317.0	0325.0	II		1	33U	180U	ESS 0597
	0000 0838	HIRA	0317.0	0325.0	II		1	40	230	
		CULG	0318.0	0322.0	II	FN	1	57X	130	
		CULG	0410.0	0410.0	III	B	2	57X	100	
		LEAR	0410.0	0410.0	III		2	25	110	
		HIRA	0410.5	0411.0	III	B	2	25X	70	
	0517 1653	POTS	0517 E	1653 U	I	S,N,C,DC	2	40X	400	100-200MHz no data
		CULG	0539.0	0740.0D	I	S	1	100	180	
		IZMI	0600.0E	1200.0D	III	N	2	25X	95	
	0600 1200	IZMI	0600.0E	1200.0D	I	S,C	2	45U	270X	
		IZMI	0607.0	0607.7	III	G	2	45	180	
		IZMI	0626.3	0627.3	III	G	2	40	270X	
		POTS	0650.5	1518 U	III	GG,N	1	40X	85	
		CULG	0652.0	0652.0	III	B	2	57X	330	
		HIRA	0652.0	0652.5	III	B	1	40	350	
		LEAR	0652.0	0652.0	III		2	25	180	
		SVTO	0652.0	0653.0	III		1	25	180	
		IZMI	0652.1	0653.0	III	G	2	25X	270X	
		POTS	0652.1	0653.1	III	G	3	40X	440	
	0600 1630	BLEN	0652.1	0652.5	III	GG	2	140X	460	
		IZMI	0652.4	0652.6	V		2	45	65	
	0556 1554	ONDR	0758.0	0759.3	DCIM	GG	2	875	1405	
		BLEN	0845.0	1630.0X	I	DC	2	140X	400	
		IZMI	0850.9	0853.8	III	GG	2	40	210	
		POTS	0928.5	0929.1	III	G	2	200U	380	
		BLEN	0928.6	0929.1	III	GG,U	2	160	380	
		IZMI	0928.6	0929.0	III	G	2	50	270X	
		IZMI	0931.4	0931.5	III	G	2	110	270X	
		IZMI	0956.0	0959.7	III	GG	2	40	270X	

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

Spectral Observations

139
Sep 02

SEPTEMBER 2002

OBSERVATION		Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Start Day (UT)	End (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
21		IZMI	1002.4	1005.7	III	G	2	25X	130	
		IZMI	1010.0U	1010.0U	CONT		2	45U	160U	
		IZMI	1129.9	1130.1	III	G	2	25X	140	
		HOLL	1322.0	0045.0	CONT		1	64	180	
		PALE	1637.0	0415.0	III	N	1	25	180	
		HOLL	1757.0	1931.0	III	N	1	25	180	
		SGMR	1818.0	1819.0	III		1	30	75	
	2010 2400	CULG	2010.0E	2400.0D	III	S,C	1	57X	180	
	2024 2400	HIRA								
		HOLL	2034.0	2208.0	III	N	1	25	180	
		CULG	2039.0	2043.0	III	G	2	57X	180	
		CULG	2054.0	2054.0	III	G	2	57X	100	
		CULG	2141.0	2259.0	I	S	1	80	180	
		LEAR	2231.0	1003.0	CONT		2	45	180	
22	0000 0740	CULG	0000.0E	0605.0	III	S,C	1	57X	180	
		CULG	0149.0	0410.0	I	S	2	80	250	
		CULG	0410.0	0740.0D	I	S	1	100	230	
		LEAR	0428.0	0429.0	III		2	25	180	
	0000 0836	HIRA	0428.5	0429.0	III	B	2	50	320	
		CULG	0429.0	0429.0	III	B	2	57X	380	
	0501 1637	POTS	0501 E	1637 U	I	S,N,DC	2	200U	400	100-200MHz no data
		IZMI	0550.0E	1200.0D	III	N	1	25X	95	
	0550 1200	IZMI	0550.0E	1200.0D	I	S	2	45	270X	
	0557 1551	ONDR								
		CULG	0605.0	0740.0D	III	N	1	57X	100	
	0610 1315	BLEN	0610.0X	1315.0X	I	DC	2	140X	400	
		IZMI	0640.7	0645.1	III	GG	2	40	170	
		IZMI	0647.4	0650.2	III	G	2	40	65	
		CULG	0656.0	0657.0	III	G	3	57X	250	
		HIRA	0656.0	0657.0	III	B	2	30	300	
		LEAR	0656.0	0657.0	III		3	25	180	
		LEAR	0656.0	0657.0	V		3	25	180	
		IZMI	0656.1	0657.1	III	GG	2	25	210	
		POTS	0656.1	0657.2	III	G	3	40X	350	
		IZMI	0656.2	0657.6	V		2	25X	65	
		POTS	0656.6	0657.6	V	G	3	40X	65	
		POTS	0739	1529 U	III	GG,N	2	40X	85	
		IZMI	0744.0	0747.2	III	G	2	25X	95	
		IZMI	0850.5	0850.7	III	B	2	35	115	
		IZMI	0902.1	0902.4	III	G,HARM	2	25X	120	
		IZMI	0908.8	0909.6	III	G	2	25X	130	
		IZMI	0911.0U	0944.0	III	S	2	25X	270X	
		POTS	0934	1023	I	S,N,DC	2	60	85	
		POTS	1115.3	1117.3	III	G	3	40X	450	
		BLEN	1116.5	1117.2	III	GG,S	3	140X	1000	
		IZMI	1116.6	1117.5	III	GG,C	2	25X	270X	
		POTS	1117.0	1117.5	V	B	3	40X	65	
		SGMR	1117.0	1117.0	III		1	30	55	
		POTS	1145	1218	I	S,N,DC	2	50	85	
		SGMR	1219.0	1654.0	III	N	1	30	60	
		POTS	1231.2	1232.5	III	GG	2	40X	330	
		POTS	1243 U	1410 U	I	S,N,DC	2	40X	80	
		HOLL	1320.0	0043.0	CONT		1	54	180	
		HOLL	1419.0	2049.0	III	N	1	25	180	
		POTS	1426.8	1427.5	III	G	3	40X	350	
		PALE	1637.0	0413.0	CONT		1	25	180	
		CULG	2010.0E	2400.0D	I	S	1	100	180	
	2010 2400	CULG	2010.0E	2400.0D	III	S	1	57X	180	
	2025 2400	HIRA	2046.5	2047.5	III	B	1	30	110	
		HIRA	2049.0	2050.0	III	B	2	25X	220	
		SGMR	2049.0	2050.0	III		1	30	80	
		CULG	2050.0	2050.0	III	B	3	57X	180	
		HOLL	2131.0	2131.0	III		1	25	85	
		HIRA	2131.5	2132.0	III	B	1	25X	70	
		CULG	2201.0	2202.0	III	G	2	57X	180	
		HIRA	2201.0	2202.5	III	G	2	25X	110	
		HOLL	2201.0	2252.0	III	N	1	25	180	
		HIRA	2344.5	2345.0	III	B	1	30	90	

140
Sep 02

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

Spectral Observations

SEPTEMBER 2002

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)
23			CULG	0000.0E	0740.0D	I	S	1	100	260	
	0000	0740	CULG	0000.0E	0740.0D	III	S	1	57X	180	
	0000	0835	HIRA	0345.5	0346.0	III	B	1	30	190	
			CULG	0346.0	0346.0	III	B	2	57X	180	
			HIRA	0358.5	0359.0	III	B	2	25X	160	
			CULG	0359.0	0359.0	III	B	3	57X	180	
			SVTO	0456.0	1627.0	III	N	1	25	180	
			CULG	0514.0	0514.0	III	B	2	57X	520	
			HIRA	0514.0	0522.0	III	G	2	25X	240	
	0514	1651	POTS	0514.0U	0519.5	III	G,N	2	40X	550	100-200MHz no data
			POTS	0515 U	1651 U	I	S,N,DC	2	200U	400	
			CULG	0515.0	0520.0	III	G	2	57X	260	
	0559	1549	ONDR								
			IZMI	0559.6	0601.4	III	G	2	25X	95	
			IZMI	0600.0E	1200.0D	III	N	2	25X	95U	
	0600	0638	IZMI	0600.0E	1200.0D	I	S	2	45U	270X	
			IZMI	0608.7	0610.9	III	G	2	45	90	
			POTS	0610.3	0610.6	III	B	1	40X	80	
			IZMI	0636.9	0637.0	III	G,C	2	55	190	
			IZMI	0639.0	0640.4	III	G	2	55	190	
			POTS	0646.9	0654.5	III	GG,N	3	40X	430	
			CULG	0647.0	0649.0	III	G	2	57X	330	
			HIRA	0647.0	0649.5	III	G	2	40	200	
	0610	1620	BLEN	0648.5	0649.3	III	GG,S	3	140X	1900	
			POTS	0655	1526 U	III	GG,N	1	40X	80	
			IZMI	0724.8	0725.8	III	G	2	40	95	
			IZMI	0727.4	0730.3	III	GG	1	30	140	
			BLEN	0733.9	0734.9	III	GG,RS	3	140X	1550	
			CULG	0734.0	0735.0	III	G	3	57X	280	
			HIRA	0734.0	0735.0	III	G	3	40	270	
			POTS	0734.0	0734.9	III	GG	3	40X	750	
			SVTO	0734.0	0734.0	III		2	25	180	
			HIRA	0809.0	0812.0	III	G	1	40	190	
			POTS	0809.3	0812.4	III	GG	3	40X	240	
			IZMI	0837.7	0838.9	III	G	1	25X	90	
			IZMI	1115.4	1120.4	III	GG	2	25X	270X	
			POTS	1115.4	1120.7	III	GG	3	40X	450	
			SVTO	1116.0	1119.0	III		2	25	180	
			POTS	1147.0	1148.9	III	G	3	40X	280	
			SGMR	1147.0	1147.0	III		2	30	80	
			POTS	1219.7	1220.9	III	G	3	40X	330	
			POTS	1240.6	1241.3	III	G	2	40X	270	
			SGMR	1247.0	1247.0	III		2	30	80	
			HOLL	1318.0	1318.0	III		1	25	140	
			POTS	1318.2	1318.5	III	B	2	40X	330	
			SVTO	1330.0	1627.0	CONT		1	75U	159U	
			HOLL	1341.0	1343.0	III		1	25	180	
			HOLL	1412.0	1902.0	III	N	1	25	138	
			PALE	1640.0	0412.0	III	N	1	25	180	
			CULG	2010.0E	2400.0D	I	S	1	100	180	
	2010	2400	CULG	2010.0E	2216.0	III	S	1	57X	90	
			HOLL	2053.0	2057.0	III		1	25	180	
	2026	2400	HIRA	2053.5	2054.0	III	B	3	50	300	
			CULG	2054.0	2054.0	III	G	3	57X	180	
			CULG	2129.0	2129.0	III	G	2	57X	180	
			HIRA	2129.5	2130.0	III	B	1	50	260	
			CULG	2219.0	2400.0D	III	N	1	57X	180	
			LEAR	2229.0	0418.0	CONT		1	25	180	
			HIRA	2230.0	2231.0	III	G	1	25X	130	
			HOLL	2230.0	2231.0	III		1	25	141	
24			CULG	0000.0E	0135.0	I	S,C	1	75	260	
	0000	0740	CULG	0000.0E	0141.0	III	N	1	57X	180	
	0000	0833	HIRA	0029.0	0029.5	III	B	1	25X	210	
			CULG	0159.0	0400.0	III	N	1	57X	250	
			CULG	0225.0	0226.0	III	G	2	57X	230	
			HIRA	0225.5	0226.0	III	B	2	80	250	
			HIRA	0250.0	0250.5	III	B	1	120	230	
			CULG	0320.0	0426.0	I	S	1	130	280	

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

Spectral Observations

141
Sep 02

SEPTEMBER 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)	
24			CULG	0516.0	0516.0	III	B	1	57X	180	100-200MHz no data
	0519	1652	POTS	0519 U	1652 U	I	S,N	2	200U	370	
			IZMI	0600.0E	1200.0D	III	N	1	25X	90U	
	0600	1200	IZMI	0600.0E	1200.0D	I	N	1	200	270X	
	0601	1547	ONDR								
			POTS	0601.2	0602.2	DCIM		2	290	800X	
			CULG	0627.0	0627.0	III	B	1	57X	90	
			POTS	0658	1437 U	III	GG,N	2	40X	80	
			CULG	0702.0	0702.0	III	B	1	57X	75	
			CULG	0714.0	0714.0	III	B	1	57X	85	
			IZMI	0714.3	0714.5	III	B	1	50	95	
			IZMI	0718.6	0718.8	III	B	2	35	90	
			CULG	0719.0	0719.0	III	B	1	57X	80	
			IZMI	0838.3	0839.1	III	GG	2	50	270X	
			POTS	0838.3	0851.5	III	G,N	2	40X	480	
			IZMI	0843.4	0844.6	III	GG	2	110	270X	
			IZMI	0846.7	0847.0	III	G	1	140	270	
	0610	1620	BLEN	0846.7	0851.6	III	GG	2	140X	500	
			IZMI	0847.0	0849.7	III	G	2	40	95	
			IZMI	0850.8	0851.5	III	GG,C	2	60	270X	
			SVTO	0851.0	1200.0	III	N	1	25	180	
			IZMI	0855.4	0858.1	III	G,U	2	45	190	
			IZMI	0911.9	0912.4	III	G	2	25X	95	
			IZMI	0917.3	0920.5	III	G	2	25X	250	
			IZMI	0941.8	0944.3	III	G	2	25X	160	
			IZMI	1003.6	1005.3	III	G,C	2	25X	270X	
			POTS	1003.6	1005.4	III	G	3	40X	420	
			POTS	1022.9	1023.4	III	G	3	40X	380	
			IZMI	1023.0	1023.4	III	G,C	2	50	270X	
			SVTO	1053.0	1053.0	III		1	74	180	
			BLEN	1053.3	1058.0	III	GG	2	120X	500	
			IZMI	1053.4	1053.8	III	G,C	2	40	270X	
			POTS	1053.5	1058.1	III	G,N	2	40X	500	
			IZMI	1056.0	1058.0	III	G	2	50	270X	
			IZMI	1129.7	1130.9	III	G	1	45	65	
			BLEN	1340.0	1340.3	III	GG	2	180	340	
			POTS	1340.0	1340.4	III	G	2	40X	340	
			SVTO	1340.0	1340.0	III		1	25U	80U	
			HOLL	1411.0	1413.0	III		1	25	180	
			SGMR	1412.0	1412.0	III		1	30	50	
			SVTO	1412.0	1412.0	III		1	25	148	
			POTS	1412.1	1412.6	III	G	2	40X	270	
			HOLL	1541.0	1542.0	III		1	25	109	
			SVTO	1541.0	1541.0	III		1	25U	80U	
			HOLL	1623.0	1623.0	III		1	25	142	
			SGMR	1623.0	1624.0	III		1	30	80	
			SVTO	1623.0	1623.0	III		1	25	80	
			POTS	1623.4	1623.8	III	G	2	40X	350	
			HOLL	1729.0	1729.0	III		1	25	116	
			SGMR	1729.0	1729.0	III		1	30	65	
			HOLL	1800.0	1801.0	III		1	25	180	
			SGMR	1800.0	1801.0	III		1	30	80	
			HOLL	1834.0	1851.0	III	N	1	25	180	
			HOLL	1941.0	1942.0	III		1	25	180	
			SGMR	1941.0	1942.0	III		3	30	80	
			CULG	2010.0E	2400.0D	I	S	1	65	180	
	2010	2400	CULG	2010.0E	2035.0	III	N	1	57X	160	
			CULG	2139.0	2141.0	III	G	1	57X	180	
			HOLL	2139.0	2139.0	III		1	45	86	
			CULG	2208.0	2209.0	III	G	2	57X	190	
			HOLL	2208.0	2208.0	III		1	25	180	
	2027	2400	HIRA	2208.0	2209.0	III	B	3	25X	170	
			LEAR	2228.0	0322.0	CONT		1	69	180	
			CULG	2231.0	2241.0	III	G	1	57X	100	
			CULG	2342.0	2351.0	III	G	1	57X	170	
25	0000	0740	CULG	0000.0E	0117.0	I	S	1	80	160	
			CULG	0016.0	0152.0	III	N	1	57X	180	
			CULG	0049.0	0050.0	III	G	2	57X	180	

142
Sep 02

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

SEPTEMBER 2002

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	0000 0831		LEAR	0049.0	0050.0	III			1	25	180	100-200MHz no data	
			HIRA	0049.5	0050.5	III	G	2	30	160			
			CULG	0159.0	0159.0	III	B	1	57X	280			
			HIRA	0159.0	0159.5	III	B	1	120	250			
			CULG	0248.0	0248.0	III	B	1	57X	75			
			LEAR	0411.0	0412.0	III		1	89	180			
			CULG	0412.0	0412.0	III	B	2	57X	300			
			HIRA	0412.0	0412.5	III	B	2	90	320			
			CULG	0447.0	0447.0	III	B	1	70	370			
			HIRA	0447.0	0447.5	III	B	1	120	200			
	0522 1647		LEAR	0447.0	0447.0	III			1	66	180		
			CULG	0453.0	0454.0	III	G	1	57X	380			
			POTS	0522 U	0858 U	I	S,N	2	200U	340			
			LEAR	0605.0	0608.0	III		1	31	164			
			SVTO	0605.0	0608.0	III		1	37	142			
			0600 1200		IZMI	0605.5	0608.1	III	GG,C,FS	2	40		160
					CULG	0606.0	0608.0	III	G	2	57X		180
					HIRA	0606.0	0608.0	III	G	1	40		140
					POTS	0705	0717	III	G,N	1	40X		80
					LEAR	0713.0	0716.0	III		1	31		136
	SVTO	0713.0			0716.0	III		1	33	150			
	IZMI	0713.3			0716.8	III	G	2	40	210			
	HIRA	0713.5			0714.0	III	B	1	80	130			
	CULG	0714.0			0716.0	III	G	1	70	150			
	IZMI	0736.6			0736.9	III	G,F,S	1	50	175			
	0615 1620		CULG	0737.0	0737.0	III	B	1	57X	150			
			POTS	0747	0915	III	G,N	1	40X	85			
			LEAR	0802.0	0806.0	III		1	25	180			
			HIRA	0802.5	0806.0	III	G	1	40	280			
			IZMI	0802.9	0806.0	III	G	2	25X	265			
			SVTO	0803.0	0806.0	III		1	25	83			
			IZMI	0818.0	1020.0U	I	N	1	110	180			
			LEAR	0833.0	0834.0	III		1	30	131			
			SVTO	0833.0	0834.0	III		1	32	124			
			IZMI	0833.7	0834.7	III	G,C	2	35	175			
			LEAR	0914.0	0914.0	III		1	25	151			
			IZMI	0914.1	0914.3	III	G,C	2	40	160			
			POTS	0931.5	0931.9	III	G	2	200U	480			
			BLEN	0931.5	0932.0	III	G,RS	2	200	550			
			IZMI	0931.7	0931.8	III	B	2	180	270X			
			POTS	0932.0	0932.9	I	S,DC	1	220	320			
			POTS	0943.2	0943.5	I	DC	1	260	320			
			LEAR	0950.0	0950.0	III		1	52	180			
			POTS	1004	1014	III	G,N	1	40X	85			
			IZMI	1004.6	1007.1	III	G	1	40	95			
	0602 1545		SVTO	1006.0	1007.0	III			1	37U	83U		
			IZMI	1012.9	1013.9	III	G	1	40	90			
			IZMI	1015.1	1015.2	III	B	1	200	270X			
			POTS	1015.1	1015.5	III	G,U	1	200	370			
			POTS	1039.8	1041.0	III	G	1	200U	380			
IZMI			1040.4	1040.9	III	G	1	160	270X				
IZMI			1112.4	1117.1	III	G	1	45	90				
POTS			1136	1149	I	S,N	1	250	390				
POTS			1208 U	1243 U	III	G,N	1	40X	80				
POTS			1255	1258	I	S,N	1	200U	400				
ONDR			1258.2	1258.3	DCIM	G	2	800X	1841				
BLEN			1258.3	1258.7	III	GG,RS,U	3	200	2020				
POTS			1258.4	1258.7	III	G,U	2	200U	800X				
POTS			1302.8	1303.0	III	B	1	40X	85				
POTS			1325.6	1325.9	III	B	1	40X	55				
POTS			1341.2	1341.6	III	G	1	40X	65				
POTS			1401	1403	I	S,N	1	200U	250				
SVTO			1405.0	1439.0	III		1	29U	170U				
BLEN			1405.5	1407.1	III	GG,RS	1	140	1800				
POTS			1405.5	1407.1	III	GG	2	40X	450				
HOLL	1406.0	1413.0	III		1	25	180						
POTS	1411	1602 U	I	S,N	1	200	350						
POTS	1413.1	1413.5	III	B	2	40X	80						
POTS	1413.2	1413.5	III	B	2	200U	280						

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

Spectral Observations

143
Sep 02

SEPTEMBER 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)	
25		HOLL	1545.0	1545.0	III		1	25	132	
		PALE	2004.0	0339.0	III	N	1	25	180	
	2010 2400	CULG	2010.0E	2353.0	III	N	1	57X	320	
		HOLL	2051.0	0030.0	III	N	1	25	180	
		CULG	2054.0	2057.0	III	G	3	57X	800	
	2027 2400	HIRA	2054.0	2101.0	III	G	3	60	500	
		HIRA	2126.5	2127.0	III	G	1	100	320	
		LEAR	2227.0	0447.0	III	N	1	25	180	
		HIRA	2259.0	2259.5	III	B	2	100	320	
26		HIRA	0030.0	0036.0	III	G	1	80	370	
	0000 0740	CULG	0030.0	0036.0	III	G	1	80	380	
	0000 0830	HIRA	0030.0	0036.0	III	G	1	80	310	
		CULG	0059.0	0059.0	III	B	1	120	180	
		CULG	0147.0	0147.0	III	B	1	100	200	
		CULG	0206.0	0206.0	III	B	3	57X	420	
		HIRA	0206.0	0206.5	III	B	2	60	260	
		CULG	0207.0	0209.0	III	G	1	80	520	
		CULG	0236.0	0238.0	III	G	2	70	700	
		HIRA	0236.5	0237.5	III	G	2	80	480	
		CULG	0319.0	0320.0	III	G	1	57X	140	
		CULG	0327.0	0400.0	III	N	1	70	460	
		HIRA	0339.5	0340.0	III	B	2	70	230	
		CULG	0404.0	0404.0	III	B	1	57X	80	
		CULG	0510.0	0516.0	III	G	1	200	450	
		HIRA	0510.5	0511.0	III	B	1	210	480	
	0510 1644	POTS	0510.5U	0520.0	DCIM		2	230	520	100-200MHz no data
		POTS	0543	1113 U	I	S,N	1	200U	400	
	0604 1542	ONDR								
		LEAR	0606.0	0611.0	III		1	27	116	
		CULG	0608.0	0612.0	III	G	1	57X	130	
	0638 1200	IZMI	0638.0E	0900.0U	III	N	2	40U	95U	
		POTS	0643	0900 U	III	GG,N	1	40X	80	
		CULG	0648.0	0740.0D	III	N	1	57X	160	
		POTS	0700	0714	DCIM		1	270	500	
		LEAR	0713.0	0731.0	III	N	1	25	180	
		IZMI	0713.6	0714.7	III	G	2	35	140	
		IZMI	0720.3	0723.2	III	GG	2	40	155	
	0615 1615	BLEN	0747.6	0748.3	III	GG,U	3	330	730	
		POTS	0748.4	0749.0	DCIM		2	330	650	
		IZMI	0758.2	0804.1	III	GG	2	40	55	
		IZMI	0813.0	0813.1	III	B	2	45	90	
		HIRA	0815.0	0819.0	III	G	2	200	770	
		IZMI	0815.4	0818.8	III	GG	2	35	270X	
		POTS	0816.0	0820.5	III	GG	2	40X	750	
		IZMI	0823.4	0826.3	III	GG	2	30	155	
		LEAR	0826.0	0826.0	III		1	25	118	
		IZMI	0836.5	0837.3	III	G	2	95	190	
		POTS	0907.8	0908.5	III	GG	2	200U	370	
		IZMI	1004.5	1012.4	III	GG	1	40	270X	
		POTS	1005.7	1010	DCIM		2	200U	670	
		IZMI	1014.1	1014.6	III	G	2	135	270X	
		POTS	1015.2	1015.8	III	G	2	200U	280	
		IZMI	1053.3	1053.5	III	B	2	180	215	
		POTS	1056.3	1059.2	DCIM		2	210	540	
		POTS	1138 U	1441	I	S,N	2	200U	400	
		POTS	1312	1404 U	III	GG,N	1	40X	85	
		HOLL	1348.0	1400.0	III	N	1	25	123	
		POTS	1348.3	1350.2	III	G	3	40X	600	
		SGMR	1350.0	1351.0	III		1	30	60	
	2010 2400	CULG	2010.0E	2149.0	III	N	1	57X	180	
		HOLL	2104.0	2109.0	III		1	25	135	
		PALE	2104.0	2109.0	III		1	25	180	
		SGMR	2104.0	2109.0	III		1	30	80	
	2028 2400	HIRA	2104.5	2110.0	III	G	1	30	150	
		CULG	2105.0	2110.0	III	G	2	57X	180	
		HIRA	2121.5	2122.0	III	B	1	40	200	
27	0000 0828	HIRA	0036.5	0037.0	III	B	1	80	120	

144
Sep 02

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

Spectral Observations

SEPTEMBER 2002

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)
27	0000	0740	CULG	0037.0	0037.0	III	G	1	57X	150	100-200MHz no data
			LEAR	0316.0	0400.0	III	N	1	33	117	
			CULG	0345.0	0356.0	UNCLF		1	57X	90	
			CULG	0419.0	0421.0	III	G	1	57X	270	
	0521	1640	POTS	0521 E	0600 U	I	S,N	1	200U	360	
			CULG	0526.0	0527.0	III	G	1	57X	300	
			POTS	0526.2	0530.1	III	G,N	2	200U	380	
			POTS	0623 U	0847	I	S,N	1	200U	370	
			CULG	0624.0	0626.0	III	G	1	57X	410	
			LEAR	0624.0	0625.0	III		1	25	180	
	0550	1205	IZMI	0624.3	0625.8	III	GG	2	25X	270X	ESS 0400
			POTS	0624.4	0625.8	III	G	2	40X	400	
	0615	1615	BLEN	0624.8	0625.6	III	G	2	120X	400	
			CULG	0638.0	0640.0	III	G	1	57X	100	
			IZMI	0638.2	0639.3	III	G	1	45	95	
			IZMI	0643.5	0644.0	III	G	1	60	100	
			IZMI	0701.0U	0955.0U	I	N	1	60	270	
			IZMI	0714.0	0714.1	III	B	1	45	65	
			IZMI	0823.3	0823.3	III	B	1	50	65	
			IZMI	0842.5	0844.7	III	G	1	45	90	
			IZMI	0857.3	0858.2	III	G	1	45	100	
			POTS	0908	0928	I	S,N	1	200U	330	
			POTS	1021.1	1021.4	III	G,U	1	200U	400	
			POTS	1039	1151	I	S,N	1	300	400	
			POTS	1242.4	1243.0	DCIM		2	270	520	
			ONDR	1301.1	1321.5	DCIM	GG	2	800X	2000X	
			POTS	1301.3	1311.8	III	GG	3	40X	800X	
	0605	1540	ONDR	1301.3	1318.2	DCIM	GG	2	2000X	4500X	
			BLEN	1301.4	1311.4	II	C	3	120X	4000X	
			SGMR	1304.0	1316.0	III		1	30	70	
			POTS	1313.3	1326	II		3	40X	85	
			SGMR	1316.0	1325.0	II		2	30	60	
			ONDR	1343.3	1344.4	DCIM	G	2	1194	1639	
			POTS	1435.5	1444.5	I	S,N	1	40X	75	
			POTS	1436	1443	III	G,N	1	200U	400	
			ONDR	1436.1	1445.4	DCIM	G,W	1	2000X	4500X	
			ONDR	1437.5	1443.4	DCIM	G	1	800X	2000X	
			BLEN	1438.2	1443.2	III	C	2	170	4000X	
			POTS	1440.8	1442.9	III	G	2	200U	270	
			POTS	1612.0	1614.2	I	S,N	1	260	340	
			BLEN	1613.5	1615.0X	DCIM	P	2	400	1000	
			POTS	1613.5	1614.9	DCIM		1	350	520	
			HOLL	1932.0	2039.0	III	N	1	25	180	
			PALE	1933.0	1938.0	III		1	25	180	
			SGMR	1933.0	1937.0	III		1	30	55	
	2000	2400	CULG	2008.0	2008.0	III	B	2	57X	130	
			CULG	2034.0	2039.0	III	G	1	57X	180	
			HOLL	2115.0	2116.0	III		1	25	152	
	2029	2400	HIRA	2115.5	2116.0	III	B	1	60	200	
			CULG	2116.0	2116.0	III	G	1	57X	180	
			CULG	2133.0	2133.0	III	B	1	70	100	
			CULG	2300.0	2300.0	III	B	1	130	180	
28	0000	0740	CULG	0027.0	0028.0	III	G	1	57X	100	
			CULG	0053.0	0055.0	III	G	1	120	180	
			CULG	0101.0	0116.0	III	GG	1	57X	1000	
			LEAR	0101.0	0118.0	III	N	1	25	180	
			CULG	0505.0	0508.0	III	G	1	57X	75	
			CULG	0531.0	0531.0	III	B	1	57X	180	
	0600	1200	IZMI	0605.7	0606.4	III	G	1	60	145	
			CULG	0606.0	0658.0	III	N	1	57X	180	
			IZMI	0610.0	0611.1	III	GG	2	45	270X	
			LEAR	0610.0	0611.0	III		1	25	147	
			SVTO	0610.0	1412.0	III	N	2	25	180	
	0000	0827	HIRA	0610.0	0611.0	III	G	2	30	230	
	0521	1640	POTS	0610.1	0611.0	III	G	1	40X	300	
			POTS	0615	0721 U	III	G,N	1	40X	75	
			IZMI	0634.0	0634.8	III	G	1	45	65	
			IZMI	0643.0	0643.1	III	G	2	110	190	

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

Spectral Observations

145
Sep 02

SEPTEMBER 2002

OBSERVATION			EVENT			FREQUENCY			Remarks	
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)		Lower (MHz)
28			IZMI	0646.0	0648.0	III	GG	2	45	250
			POTS	0646.1	0647.4	III	G	1	200U	270
			POTS	0652.7	0705	III	G,N	2	40X	380
			LEAR	0657.0	0700.0	III		1	25	180
	0615	1615	HIRA	0657.5	0701.0	III	G	2	50	270
			BLEN	0657.6	0658.3	III	RS	2	140	1400
			IZMI	0657.7	0658.3	III	GG	2	25X	270X
			IZMI	0700.5	0700.8	III	GG	2	25X	270X
			CULG	0701.0	0701.0	III	B	2	57X	260
			IZMI	0703.0	0703.3	III	G	1	85	250
			LEAR	0807.0	0808.0	III		1	25	145
			POTS	0807.5	0808.9	III	G	2	40X	460
			IZMI	0807.7	0808.8	III	GG	2	40	180
			HIRA	0808.5	0809.0	III	B	1	100	160
			LEAR	0922.0	0929.0	III		1	25	159
			IZMI	0922.5	0923.2	III	G	1	55	135
			IZMI	0926.4	0929.8	III	GG	2	40	160
			POTS	0927.6	0929.1	III	G	2	40X	85
			IZMI	1012.9	1013.7	III	G	2	35	190
			POTS	1012.9	1013.7	III	G	2	40X	85
			POTS	1013.2	1154	I	S,N	1	200U	340
			POTS	1030	1057	III	GG	3	40X	740
			IZMI	1030.0	1050.0	III	S	2	25X	270X
			ONDR	1033.3	1043.2	DCIM	GG	1	800X	2000X
			BLEN	1034.1	1051.5	DCIM	P	3	140	4000X
	0607	1538	ONDR	1038.4	1045.0	DCIM	G,W	1	2000X	4500X
			IZMI	1050.0	1111.0	III	N	1	45	270
			POTS	1108	1126	III	GG,N	2	40X	400
			IZMI	1111.7	1111.8	III	G	2	135	240
			IZMI	1117.4	1118.2	III	GG	2	35	160
			POTS	1201.3	1240 U	III	GG,N	3	40X	270
			POTS	1240 U	1314	III	GG,N	2	40X	85
			POTS	1304	1510	I	S,N,C	2	200U	400
			POTS	1329	1419	III	GG,N	2	40X	560
			HOLL	1335.0	1337.0	III		1	25	180
			SGMR	1336.0	1336.0	III		1	30	55
			HOLL	1346.0	0025.0	III	N	1	25	180
			BLEN	1359.5	1412.4	DCIM	P	2	130	2000
			ONDR	1407.5	1411.4	DCIM	G	1	800X	1972
			SGMR	1410.0	2132.0	III	N	2	30	80
			POTS	1429	1458	III	G,N	1	40X	80
			POTS	1558.4	1559.2	III	G	2	40X	380
			POTS	1605	1611	I	S,N	1	200U	330
	2000	2400	PALE	1757.0	0407.0	III	N	1	25	180
			CULG	2008.0	2012.0	III	G	2	57X	280
			CULG	2012.0	2015.0	III	G	1	57X	450
			CULG	2024.0	2048.0	III	N	1	57X	180
			CULG	2043.0	2045.0	III	G	3	57X	300
	2030	2400	HIRA	2043.5	2045.0	III	G	3	30	280
			CULG	2046.0	2048.0	III	G	1	57X	630
			CULG	2124.0	2127.0	III	G	3	57X	180
			HIRA	2124.5	2134.0	III	G	3	25X	210
			CULG	2130.0	2134.0	III	G	3	57X	550
			HIRA	2145.5	2146.0	III	B	1	25X	100
			CULG	2221.0	2222.0	III	G	1	57X	110
			HIRA	2221.0	2222.0	III	B	1	25X	100
			LEAR	2224.0	1005.0	III	N	2	25	132
			CULG	2258.0	2258.0	III	G	2	57X	180
			HIRA	2258.0	2258.5	III	B	1	30	110
			CULG	2310.0	2359.0	III	N	1	57X	180
			CULG	2312.0	2316.0	III	G	2	57X	180
			HIRA	2312.0	2312.5	III	B	1	30	150
			HIRA	2315.5	2316.0	III	B	1	25X	130
29	0000	0740	CULG	0020.0	0740.00	III	N	1	57X	180
	0000	0826	HIRA	0020.0	0530.0	III	G	1	25X	240
			CULG	0112.0	0115.0	III	G	2	57X	150
			CULG	0413.0	0413.0	III	B	2	57X	180
			SVTO	0521.0	1616.0	III	N	2	25	180

146
Sep 02

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

SEPTEMBER 2002

OBSERVATION			Sta	EVENT		Spectral Class	Event Remarks	Int (1-3)	FREQUENCY		Remarks
Start Day	End (UT)	(UT)		Start (UT)	End (UT)				Lower (MHz)	Upper (MHz)	
29	0523	1637	POTS	0548. U	1238 U	I	S,N,DC	2	200U	400	100-200MHz no data
	0551	1200	IZMI	0553.0U	1200.0D	III	N	2	25X	270X	
			IZMI	0602.1	0609.4	III	GG,C,FS	2	25X	270X	
			SVTO	0603.0	0609.0	III		2	25	180	
			HIRA	0603.5	0609.5	III	G	2	25X	300	
			POTS	0603.7	0643.5	III	GG,N	3	40X	800X	
			CULG	0604.0	0609.0	III	G	3	57X	1500	
			SVTO	0619.0	0620.0	III		2	25	180	
	0615	1615	BLEN	0619.7	0620.5	III	GG,RS,V	3	100X	2700	
			IZMI	0619.9	0621.4	III	GG,C	2	25X	270X	
			CULG	0620.0	0621.0	III	G	3	57X	280	
			HIRA	0620.0	0622.0	III	G	3	25X	330	
			IZMI	0620.8	0623.3	I	GG	2	50	180	
			SVTO	0629.0	0630.0	III		2	25	180	
			SVTO	0629.0	0643.0	III	N	3	25	180	
			IZMI	0629.2	0631.6	III	GG	2	25X	270X	
			HIRA	0629.5	0631.5	III	G	2	30	220	
			BLEN	0629.7	0642.7	III	GG,RS,V	3	100X	4000X	
			CULG	0630.0	0631.0	III	G	3	57X	1100	
	0609	1535	ONDR	0630.0	0643.0	DCIM	GG,FS	2	800X	2000X	
			IZMI	0632.7	0640.2	III	GG,C	3	25X	270X	
			HIRA	0634.0	0639.0	III	G	3	25X	2000	
			LEAR	0634.0	0637.0	III		3	25	180	
			BLEN	0634.8	0642.6	DCIM	P	3	400	4000X	
			CULG	0635.0	0637.0	III	G	3	57X	1800X	
			CULG	0639.0	0643.0	III	G	3	57X	1000	
			HIRA	0640.5	0643.5	III	G	2	25X	320	
			IZMI	0640.6	0643.4	III	GG	2	25X	270X	
			POTS	0647	0901 U	III	GG,N	2	40X	85	
			IZMI	0734.3	0735.8	III	GG	2	25X	75	
			IZMI	0737.3	0742.5	III	GG	2	25X	160	
			HIRA	0747.0	0750.0	III	G	2	30	130	
			IZMI	0747.0	0753.2	III	GG,C	2	25X	270X	
			LEAR	0747.0	0750.0	V		2	25	180	
			SVTO	0747.0	0750.0	V		3	25	150	
			POTS	0747.6	0749.3	III	GG	3	40X	85	
			IZMI	0747.9	0750.3	V		2	25X	70X	
			POTS	0748.5	0751.8	V	G	3	40X	65	
			IZMI	0823.7	0827.0	III	GG	2	25X	270X	
			POTS	0824.0	0826.3	III	G	2	40X	270	
			IZMI	0830.8	0831.4	III	G,C	2	40	125	
			ONDR	0838.0	0856.5	DCIM	G,W	1	2000X	4500X	
			BLEN	0848.1	0856.8	DCIM	P	2	140	4000X	
			ONDR	0848.2	0856.5	DCIM	G	2	800X	2000X	
			IZMI	0851.7	0856.9	III	GG,FS	2	25X	270X	
			BLEN	0854.0	0855.7	III	G	2	140	4000X	
			IZMI	0906.0	0908.5	III	GG	2	40	190	
			IZMI	0946.7	0949.9	III	GG	2	25X	250	
			IZMI	1032.2	1036.1	III	GG	2	25X	270X	
			IZMI	1039.4	1040.4	III	G	2	25	145	
			IZMI	1051.5	1055.4	III	GG	2	25X	140	
			IZMI	1103.0	1103.6	III	G,C	2	25X	155	
			IZMI	1117.2	1119.1	III	GG	2	25X	210	
			IZMI	1129.7	1140.5	III	GG	2	25X	240	
			IZMI	1143.5	1144.4	III	G	2	25X	145	
			BLEN	1147.9	1148.7	III	G	2	140	800	
			IZMI	1147.9	1148.8	III	G	2	25X	180	
			SGMR	1237.0	1241.0	III		1	30	80	
			HOLL	1400.0	1511.0	III	N	2	25	180	
			SGMR	1402.0	1511.0	III	N	3	30	80	
			POTS	1407.7	1424	I	S,N	1	200U	400	
			SVTO	1408.0	1410.0	V		2	25	180	
			POTS	1408.3	1419.7	III	GG	3	40X	85	
			POTS	1408.4	1408.9	DCIM		2	360	420	
			POTS	1409.0U	1411.3	V	G	3	40X	75	
			POTS	1418.3	1419.1	DCIM		2	310	550	
			POTS	1418.9	1419.2	V	B	3	40X	65	
			ONDR	1446.1	1449.3	DCIM	G	1	2000X	4500X	
			BLEN	1446.5	1452.3	III	GG,C,RS	3	140	4000X	

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

Spectral Observations

147
Sep 02

SEPTEMBER 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)	
29		POTS	1447.0	1459.6	III	GG	3	40X	400	
		SVTO	1447.0	1450.0	III		2	25	180	
		POTS	1451 U	1500	I	S,N	1	200U	400	
		POTS	1511.3	1511.7	III	G	2	40X	85	
	2000 2400	CULG	2000.0E	2312.0	III	N	1	57X	160	
		HOLL	2002.0	2046.0	III	N	1	25	152	
		CULG	2013.0	2013.0	III	G	2	57X	180	
		LEAR	2222.0	0419.0	CONT		1	25	180	
		CULG	2224.0	2225.0	III	G	2	57X	130	
		HOLL	2224.0	2225.0	III		1	25	86	
		LEAR	2224.0	2225.0	III		2	25	136	
	2031 2400	HIRA	2224.0	2225.5	III	G	2	25X	110	
		LEAR	2301.0	2302.0	III		2	25	125	
		CULG	2302.0	2302.0	III	B	2	57X	160	
		HIRA	2302.0	2302.5	III	B	1	60	110	
		CULG	2325.0	2345.0	III	N	1	57X	160	
30	0000 0740	CULG	0026.0	0740.0D	III	N	1	30U	180	
		CULG	0045.0	0120.0	III	N	2	57U	180	
	0000 0824	HIRA	0045.0	0119.0	III	G	1	25X	200	
		LEAR	0047.0	0119.0	III	N	2	25	180	
		CULG	0237.0	0237.0	III	B	2	57U	160	
		CULG	0241.0	0507.0	I	S	1	130	180	
		HIRA	0305.0	0313.0	III	G	3	25X	400	
		LEAR	0309.0	0312.0	III		3	25	180	
		CULG	0310.0	0313.0	III	G	3	57U	360	
		LEAR	0338.0	0404.0	III	N	2	25	180	
		CULG	0350.0	0353.0	III	G	2	57X	180	
		HIRA	0350.0	0353.0	III	G	1	30	200	
		CULG	0403.0	0405.0	III	G	3	18	740	
		HIRA	0403.0	0405.0	III	G	3	25X	210	
		HIRA	0419.5	0425.5	III	G	3	25X	400	
		CULG	0420.0	0425.0	III	GG	3	18X	850	
		LEAR	0420.0	0425.0	V		3	25	180	
		LEAR	0425.0	0430.0	II		1	28	106	ESS 1062
		HIRA	0425.5	0429.0	II		1	50	100	
		CULG	0426.0	0428.0	II	FN	1	35	50	
		CULG	0426.0	0430.0	II	SH	2	57U	100	ESS 950
		LEAR	0517.0	0524.0	III		2	25	180	
		HIRA	0517.5	0524.5	III	G	1	25X	210	
	0519 1635	POTS	0519 U	0553 U	I	S,N	2	200U	400	100-200MHz no data
		SVTO	0519.0	0523.0	III		2	25	180	
		POTS	0519.7U	0523.4	III	G	2	40X	270	
		CULG	0520.0	0523.0	III	G	3	20	180	
		LEAR	0540.0	0547.0	III		3	25	180	
		HIRA	0540.5	0548.0	III	G	3	25X	300	
		SVTO	0541.0	0547.0	III		2	25	180	
		POTS	0541.7	0547.8	III	GG	3	40X	800X	
		CULG	0542.0	0546.0	III	G	3	18	1000	
		IZMI	0550.0E	0552.7	III	GG	2	40	95	
	0550 1200	IZMI	0550.0E	1200.0D	III	N	1	45U	95U	
		POTS	0625 U	1635 U	I	S,N,DC	2	200U	400	
		LEAR	0625.0	0628.0	III		1	25	126	
		SVTO	0625.0	0629.0	III		1	25	84	
		IZMI	0625.5	0628.6	III	GG	2	25X	140	
		POTS	0625.5	0628.6	III	GG	2	40X	85	
		HIRA	0627.5	0628.5	III	B	1	30	110	
		POTS	0627.6	0628.1	DCIM		2	330U	500	
	0615 1610	BLN	0627.6	0628.1	III	GG	1	200	500	
		POTS	0640.8	0641.2	III	B	2	40X	50	
		IZMI	0655.5	0704.1	III	GG,C	2	25X	270X	
		POTS	0655.7	0705.9	III	GG,N	3	40X	660	
		SVTO	0656.0	0706.0	III		2	25	180	
		LEAR	0657.0	0704.0	III		2	25	180	
		HIRA	0658.5	0704.0	III	G	3	30	480	
		CULG	0659.0	0704.0	III	G	3	25	480	
		BLN	0700.0	0703.5	III	GG,S	2	100X	1600	
		IZMI	0704.8	0706.0	III	B	2	25X	95	
		LEAR	0706.0	0708.0	II		1	43	58	ESS 0717

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

SEPTEMBER 2002

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)
30			SVTO	0706.0	0708.0	II		1	48	58	ESS 0724
			POTS	0706.8	0710	II		2	40X	58	
			IZMI	0706.9	0708.5	II		2	48	55	
			IZMI	0714.0U	1200.0D	I	S	1	110	270X	
			LEAR	0717.0	0832.0	III	N	1	25	180	
			SVTO	0717.0	0833.0	III	N	1	25	180	
			IZMI	0717.8	0718.0	III	B	1	35	170	
			POTS	0717.9	0832 U	III	GG,N	2	40X	85	
			IZMI	0720.0	0735.0	III	GG	2	40	95	
			POTS	0928	1419	III	GG,N	3	40X	85	
			IZMI	1001.5	1002.6	III	GG	2	30	110	
			IZMI	1010.0	1011.8	III	GG,C	2	25X	190	
			SVTO	1010.0	1328.0	III	N	2	25	180	
			IZMI	1013.9	1015.5	III	GG,C	2	25X	125	
			POTS	1014.6	1015.0	DCIM		2	400	620	
			IZMI	1029.5	1036.3	III	GG,C	2	25X	215	
			BLEN	1033.8	1042.7	DCIM	P,C	2	150	4000X	
			IZMI	1038.1	1043.3	III	GG,C	2	25X	160	
0610	1533		ONDR	1039.0	1042.5	DCIM	G,W	1	2000X	4500X	
			POTS	1040.8	1041.6	DCIM		2	400	580	
			IZMI	1046.6	1047.1	III	G	2	25X	95	
			IZMI	1100.7	1101.1	III	G	2	35	190	
			IZMI	1115.1	1116.2	III	G,C	2	30	165	
			IZMI	1126.4	1129.8	III	GG	2	30	270X	
			POTS	1127.4	1127.9	III	G	2	40X	430	
			SGMR	1138.0	1227.0	III	N	3	30	80	
			SVTO	1138.0	1145.0	V		3	25	180	
			IZMI	1138.3	1147.1	III	GG,C	2	25X	270X	
			BLEN	1138.7	1143.9	III	GG,RS	2	100X	1800	
			POTS	1139	1144	III	GG	3	40X	400	
			ONDR	1140.1	1143.4	DCIM	G	1	800X	1986	
			IZMI	1150.9	1151.3	III	G	2	25X	160	
			POTS	1214.3	1215.1	III	GG	2	200U	390	
			SGMR	1323.0	1323.0	III		3	30	80	
			HOLL	1452.0	1454.0	III		1	25	142	
			SGMR	1452.0	1454.0	III		2	30	65	
			POTS	1452.2	1455.5	III	GG	3	40X	85	
			BLEN	1452.7	1455.3	DCIM	P	2	380	540	
			PALE	1808.0	0332.0	III	N	1	25	180	
			HOLL	1957.0	2347.0	III	N	1	25	180	
			PALE	1957.0	0201.0	III	N	1	25	180	
2000	2400		CULG	2006.0	2007.0	III	G	3	20	150	
			CULG	2015.0	2400.0D	III	N	1	57U	180	
			CULG	2019.0	2021.0	III	G	3	25	180	
			CULG	2055.0	2055.0	III	B	1	25	160	
2031	2400		HIRA	2055.0	2055.5	III	B	1	30	180	
			CULG	2120.0	2400.0D	I	S	1	110	180	
			CULG	2124.0	2133.0	III	GG	3	20	180	
			HIRA	2124.0	2126.0	III	G	2	30	200	
			SGMR	2124.0	2131.0	III		2	30	80	
			HIRA	2128.0	2132.0	III	G	2	30	130	
			HIRA	2158.5	2200.0	III	B	2	25X	400	
			CULG	2159.0	2200.0	III	G	3	25	280	
			HIRA	2208.0	2209.0	III	B	1	50	190	
			LEAR	2222.0	0024.0	CONT		1	75	180	
			LEAR	2336.0	0350.0	III	N	1	35	135	

SOLAR RADIO NOISE STORM AT 164 MHZ FROM NANÇAY RADIOHELIOGRAPH SEPTEMBER 2002

DAY	HELIOGRAPHICS POSITIONS MEAN VALUES ¹		IMP ²	OBSERVING TIME ³	
	E-W	S-N		START(UT)	END(UT)
01/09/02	-0.47	+0.14	V	8H21 E	15H21 D
02/09/02	-0.48	+0.11	III	8H20 E	15H20 D
02/09/02	-0.16	-0.29	III	8H20 E	15H20 D
03/09/02	-0.06	+0.06	III	8H20 E	15H20 D
04/09/02	+0.16	+0.09	IV	8H20 E	15H20 D
05/09/02	+0.39	+0.09	III	8H19 E	15H19 D
06/09/02	+0.81	-0.14	III	8H19 E	15H19 D
07/09/02	-1.21	-0.81	I	8H19 E	15H19 D
07/09/02	+0.60	-0.64	I	8H19 E	15H19 D
08/09/02	-0.99	-0.87	I	8H18 E	15H18 D
09/09/02	-1.07	+0.05	I	8H18 E	10H16
10/09/02	-0.95	-0.19	II	8H18 E	15H18 D
10/09/02	-0.78	-0.62	II	8H18 E	15H18 D
11/09/02	-0.54	-0.23	III	8H17 E	15H17 D
11/09/02	-0.36	-0.59	II	8H17 E	11H10
12/09/02	-0.57	+0.00	II	8H17 E	15H17 D
12/09/02	-0.34	-0.20	II	8H17 E	15H17 D
13/09/02	-0.22	+0.05	IV	8H17 E	15H17 D
14/09/02	+0.03	-0.14	IV	8H16 E	15H16 D
15/09/02	+0.33	-0.25	V	8H16 E	15H16 D
16/09/02	+0.59	-0.26	V	8H16 E	15H16 D
17/09/02	-0.36	-0.40	II	9H05 E	15H16 D
17/09/02	+0.53	-0.36	III	9H05 E	15H16 D
17/09/02	+0.78	-0.12	II	9H05 E	15H16 D
18/09/02	-0.17	-0.39	IV	8H23 E	15H15 D
19/09/02	+0.16	-0.47	IV	8H15 E	15H15 D
20/09/02*	+0.36	-0.47	V	8H27 E	15H15 D
20/09/02*	+0.43	-0.60	V	8H27 E	15H15 D
21/09/02	+0.70	-0.67	IV	8H14 E	15H14 D
21/09/02	+0.53	-0.20	III	8H14 E	11H34
22/09/02	+1.04	-0.36	III	8H13 E	15H13 D
22/09/02	+1.15	-0.87	II	8H13 E	9H59 D
23/09/02	+1.22	+0.00	III	8H17 E	15H14 D
24/09/02	+0.64	+0.29	II	12H37 E	15H13 D
24/09/02	+1.30	+0.08	I	14H37	15H13 D
25/09/02	+1.69	-0.09	I	8H12 E	15H12 D
26/09/02	-0.36	+0.00	I	8H12 E	12H16
26/09/02	-0.08	+0.06	I	12H16	15H12 D
27/09/02	-1.10	+0.08	II	8H12 E	11H28
27/09/02	-1.02	+0.05	I	13H30	15H12 D
30/09/02	+0.05	-0.17	II	8H11 E	15H11 D
30/09/02	+0.71	-0.05	I	11H49	15H11 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
SEPTEMBER 2002**

	HELIOGRAPHICS POSITIONS MEAN VALUES ¹		IMP ²	OBSERVING TIME ³	
DAY					
01/09/02	-0.59	-0.02	III	8H21 E	15H21 D
01/09/02	-0.48	+0.11	II	11H45	15H21 D
02/09/02	-0.76	-0.42	I	12H14	15H21 D
02/09/02	-0.40	-0.06	I	8H20 E	15H20 D
02/09/02	-0.22	-0.23	I	8H20 E	15H20 D
03/09/02	-0.11	-0.59	I	8H20 E	15H20 D
03/09/02	-0.06	+0.00	I	8H20 E	15H20 D
04/09/02	-0.31	-0.26	I	8H20 E	13H08
04/09/02	-0.19	-0.55	I	13H56	15H20 D
04/09/02	+0.11	+0.00	I	8H20 E	15H20 D
05/09/02	-1.32	+0.11	I	8H19 E	10H25
05/09/02	+0.03	-0.22	I	8H19 E	15H19 D
05/09/02	+0.40	-0.02	I	8H19 E	15H19 D
06/09/02	+0.33	-0.36	II	8H19 E	15H19 D
06/09/02	+0.68	-0.08	II	8H19 E	15H19 D
07/09/02	-1.16	-0.53	I	8H19 E	15H19 D
07/09/02	+0.67	-0.57	I	8H19 E	15H19 D
08/09/02	-1.10	-0.51	I	8H18 E	15H18 D
09/09/02	-0.99	-0.45	I	8H18 E	15H18 D
10/09/02	-0.81	-0.28	I	8H18 E	15H18 D
10/09/02	-0.71	-0.57	II	8H18 E	15H18 D
11/09/02	-0.56	-0.26	II	8H17 E	15H17 D
11/09/02	-0.37	-0.62	II	8H17 E	15H17 D
12/09/02	-0.51	-0.03	I	8H17 E	15H17 D
12/09/02	-0.31	-0.28	I	8H17 E	15H17 D
12/09/02	-0.16	-0.51	I	12H05	15H17 D
13/09/02	-0.22	+0.05	II	8H17 E	15H17 D
13/09/02	-0.12	-0.26	II	8H17 E	15H17 D
14/09/02	+0.03	+0.12	I	8H16 E	15H16 D
14/09/02	+0.06	-0.05	II	8H16 E	15H16 D
14/09/02	+0.17	-0.23	I	8H16 E	15H16 D
15/09/02	+0.36	-0.28	III	8H16 E	15H16 D
16/09/02	+0.59	-0.23	III	8H16 E	15H16 D
17/09/02	-0.08	-0.14	II	9H05 E	15H16 D
17/09/02	+0.68	-0.29	II	9H05 E	15H16 D
17/09/02	+0.81	-0.05	II	12H49	15H16 D

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

	HELIOGRAPHICS POSITIONS MEAN VALUES ¹		IMP ²	OBSERVING TIME ³	
DAY					
18/09/02	-0.19	-0.42	II	8H23 E	15H15 D
18/09/02	+0.20	-0.19	I	8H23 E	12H21
18/09/02	+0.99	-0.02	I	12H21	15H15 D
19/09/02	+0.06	-0.42	III	8H15 E	15H15 D
20/09/02*	+0.28	-0.47	III	8H27 E	15H15 D
20/09/02*	+0.37	-0.65	III	8H27 E	15H15 D
21/09/02	-0.34	-0.36	I	8H14 E	15H14 D
21/09/02	+0.56	-0.36	II	8H14 E	15H14 D
21/09/02	+0.68	-0.56	II	8H14 E	15H14 D
22/09/02	-0.11	-0.45	I	8H13 E	15H13 D
22/09/02	+0.26	+0.22	II	8H13 E	15H13 D
22/09/02	+0.62	-0.26	I	8H13 E	12H15
23/09/02	+1.10	-0.19	I	8H17 E	12H00
24/09/02	+0.28	+0.31	I	12H37 E	15H13 D
24/09/02	+0.54	+0.22	I	12H37 E	15H13 D
24/09/02	+0.99	-0.22	I	13H23	15H13 D
25/09/02	+0.71	+0.25	I	8H12 E	15H12 D
25/09/02	+1.07	-0.28	I	8H12 E	15H12 D
26/09/02	+0.03	-0.06	II	8H12 E	15H12 D
26/09/02	+0.99	-0.33	I	12H02	15H12 D
30/09/02	-0.02	-0.08	I	8H11 E	15H11 D
30/09/02	+0.78	+0.02	I	8H11 E	15H11 D

28, 29 SEPTEMBER: 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 of the very strong other source**

****** no flux measurements available**

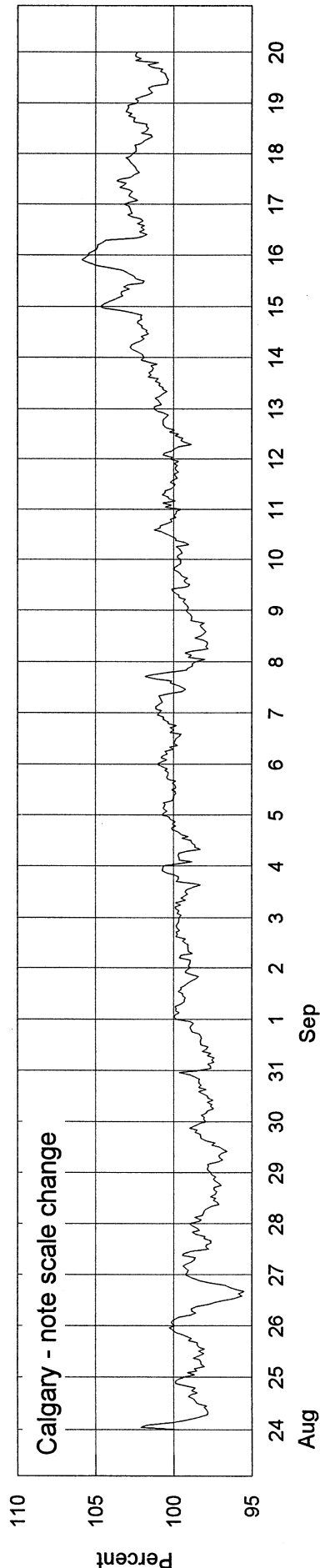
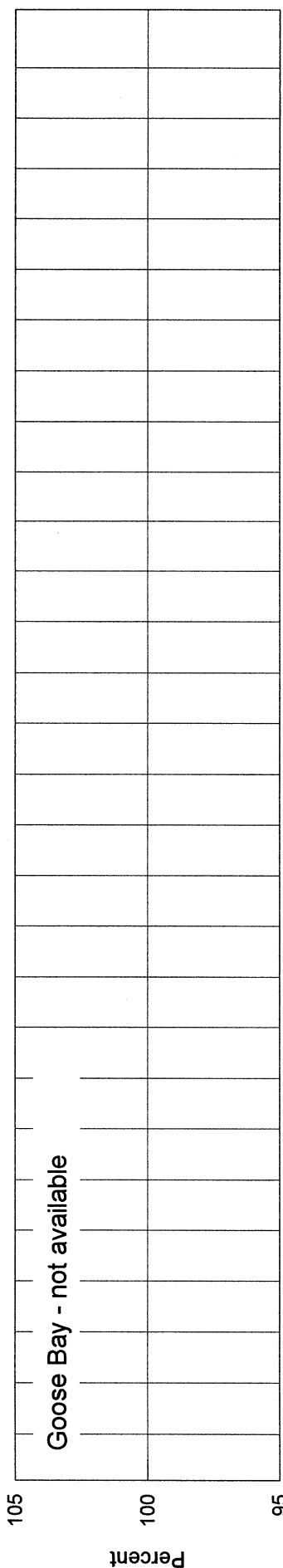
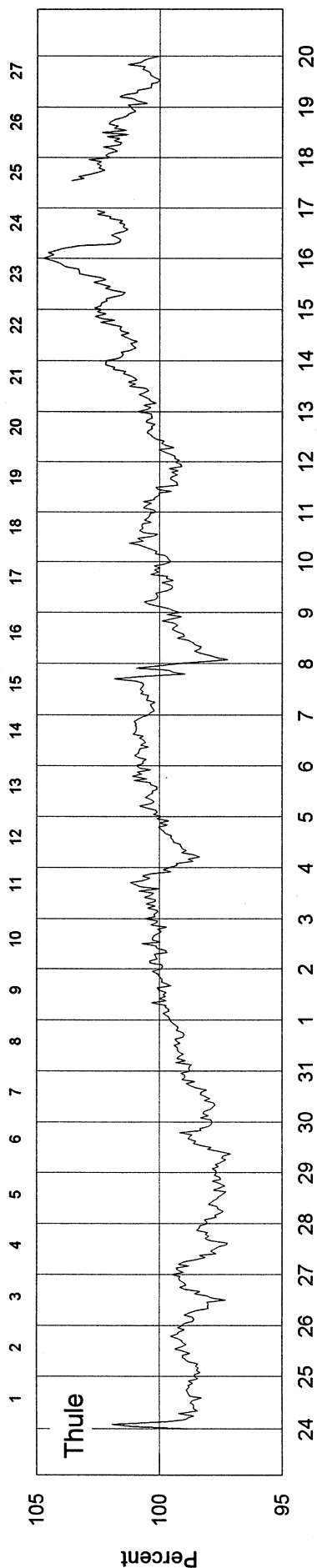
COSMIC RAY INDICES
(Neutron Monitor)
September 2002

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	8643.4		3405.8	5495.9	8204.1	3629.4	1842.6	3436.2
2	8675.7		3404.7	5500.3	8214.0	3644.5	1859.4	3447.0
3	8677.0	not	3413.0	5505.0	8206.9	3638.7	1857.5	3427.4
4	8711.3	available	3410.0	5507.3	8211.6	3656.2	1883.3	3439.2
5	8645.5		3436.3	5530.2	8250.6	3662.4	1876.2	3438.2
6	8667.7		3436.2	5535.7	8267.6	3674.1	1886.9	3449.4
7	8745.7		3437.0	5547.7	8290.1	3707.4	1897.6	3464.0
8	8512.1		3373.0	5458.7	8165.7	3613.5	1873.8	3417.8
9	8602.1		3409.3	5470.0	8176.3	3629.2	1875.9	3436.5
10	8665.3		3426.3	5517.9	8252.7	3649.8	1887.2	3459.7
11	8686.2		3429.5	5508.1	8249.2	3664.1	1896.0	3461.9
12	8674.5		3432.2	5507.1	8247.9	3660.8	1896.1	3449.4
13	8704.9		3465.2	5556.2	8311.7	3695.7	1908.9	3468.1
14	8774.1		3504.7	5607.7	8349.7	3737.3	1915.7	3487.5
15	8802.5		3553.0	5677.3	8457.1	3780.3	1931.8	3508.0
16	8826.5		3535.5	5658.4	8485.8	3764.2	1932.3	3505.1
17	8821.8		3522.5	5625.5	8446.3	3749.9	1916.9	3493.0
18	8767.6		3504.2	5595.0	8391.1	3724.3	1905.3	3479.1
19	8774.1		3475.5	5574.7	8336.0	3705.4	1905.1	3468.0
20	8690.2		3455.2	5573.4	8306.4	3677.4	1900.0	3448.4
21	8696.7		3454.3	5562.7	8287.6	3668.2	1900.0	3446.5
22	8614.9		3449.0	5542.1	8237.8	3652.1	1900.1	3442.8
23	8639.2		3439.7	5534.5	8225.2	3643.4	1889.5	3438.8
24	8686.5		3420.2	5528.8	8181.8	3643.5	1889.6	3432.1
25	8796.3		3473.7	5595.5	8255.6	3701.3	1897.5	3454.7
26	8765.3		3504.8	5617.4	8357.3	3720.0	1906.3	3458.9
27	8639.0		3474.5	5581.1	8311.2	3685.2	1903.7	3457.5
28	8673.0		3457.3	5570.4	8298.9	3677.3	1901.4	3448.3
29	8728.2		3486.5	5582.5	8330.3	3695.8	1901.5	3453.4
30	8756.7		3475.2	5612.3	8372.7	3723.5	1913.0	3466.3
31								
Mean	8702.0		3455.5	5556.0	8289.3	3682.6	1895.0	3456.1

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.

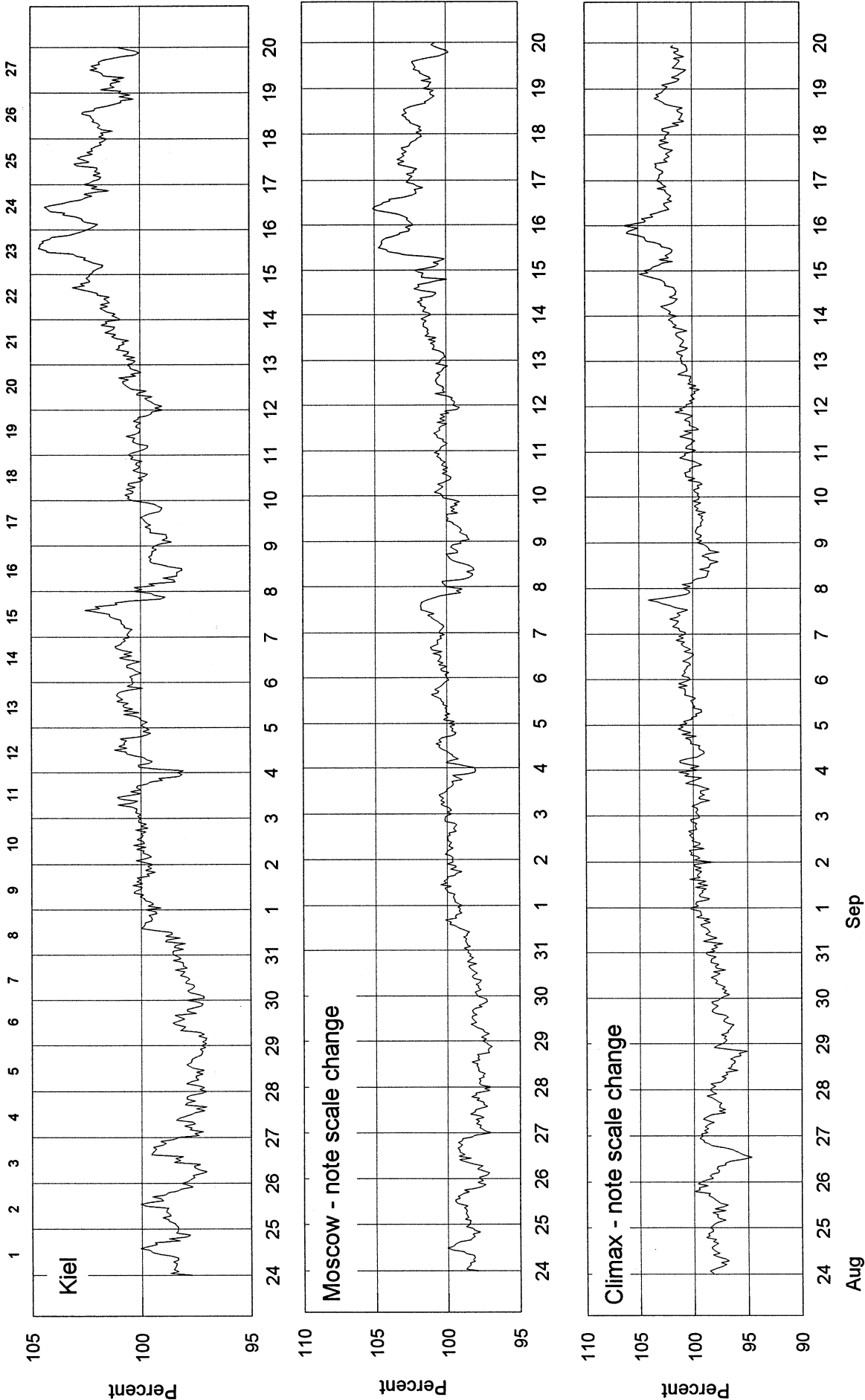
COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2308 - Beginning 24 August 2002



COSMIC RAY INDICES (Neutron Monitor)

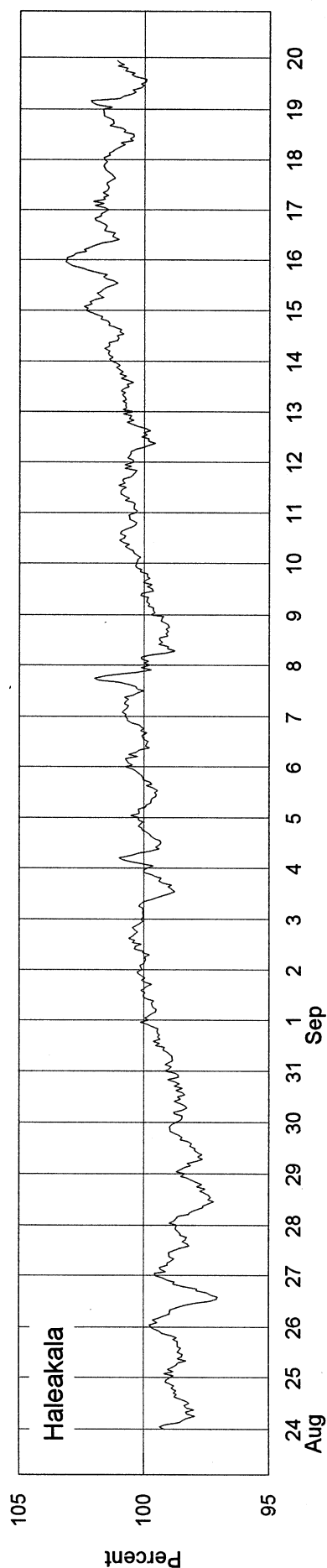
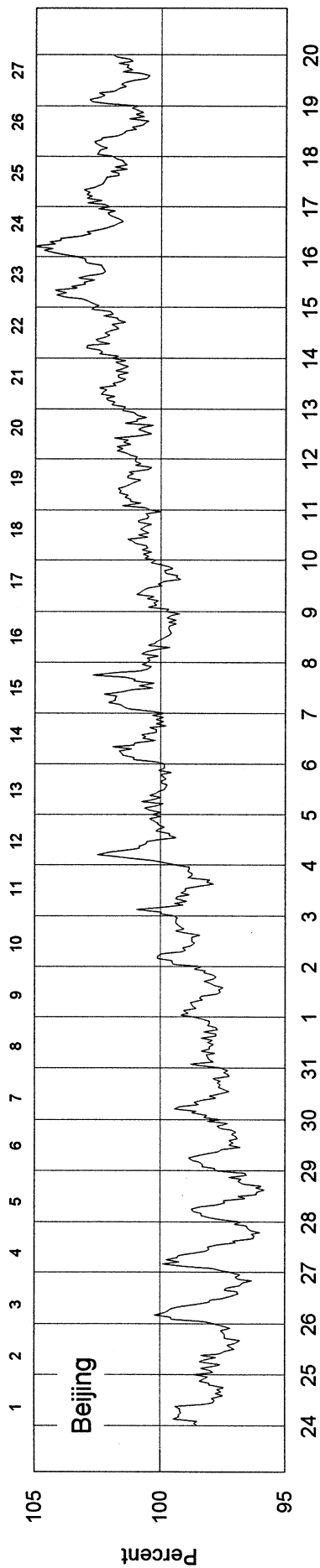
Bartels Rotation 2308 - Beginning 24 August 2002



COSMIC RAY INDICES

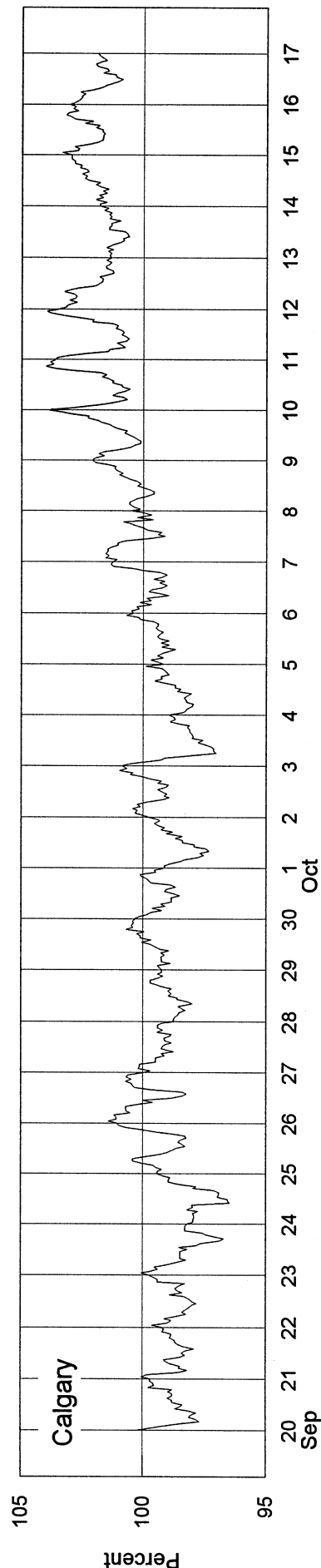
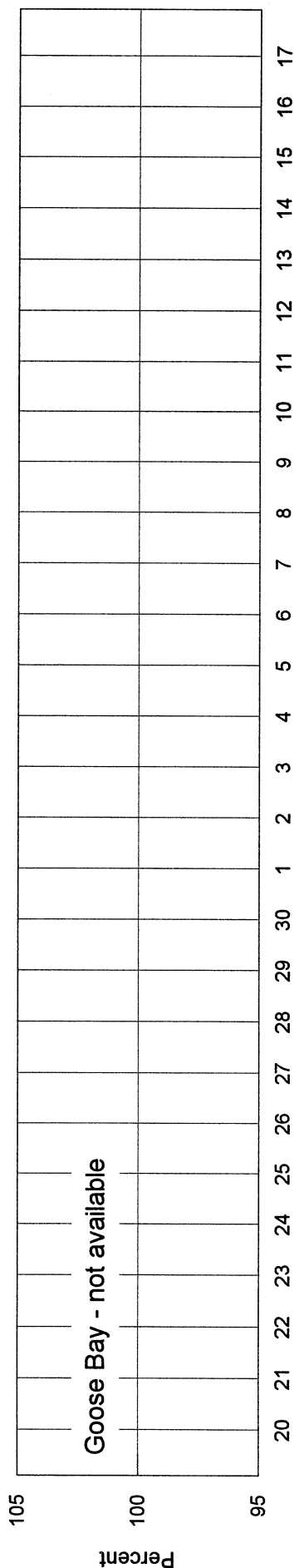
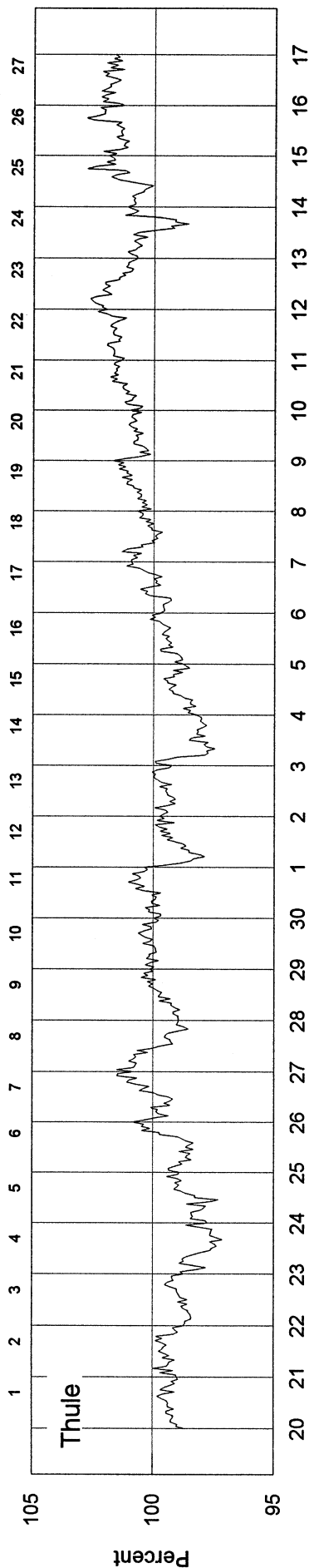
(Neutron Monitor)

Bartels Rotation 2308 - Beginning 24 August 2002



COSMIC RAY INDICES (Neutron Monitor)

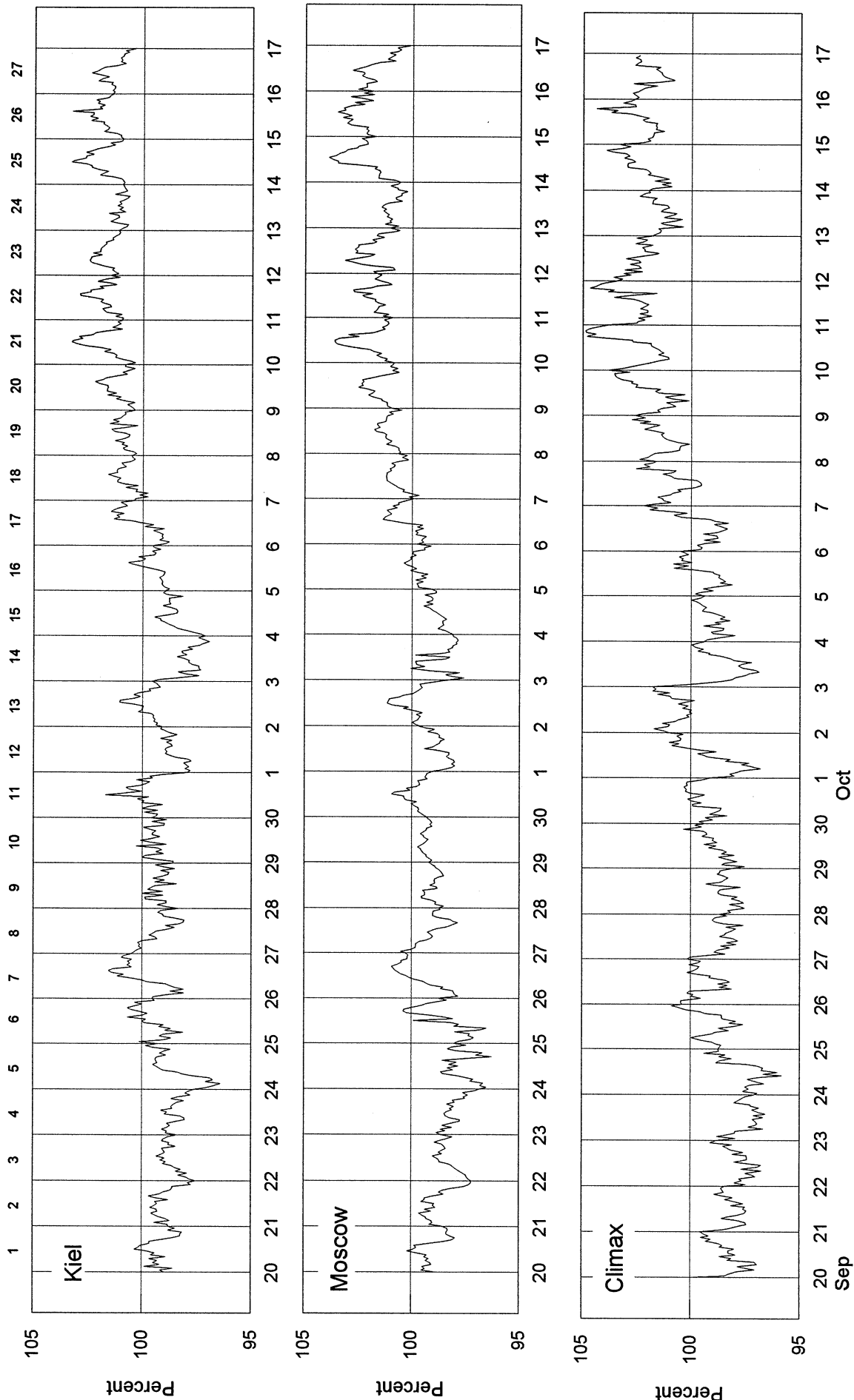
Bartels Rotation 2309 - Beginning 20 Sept 2002



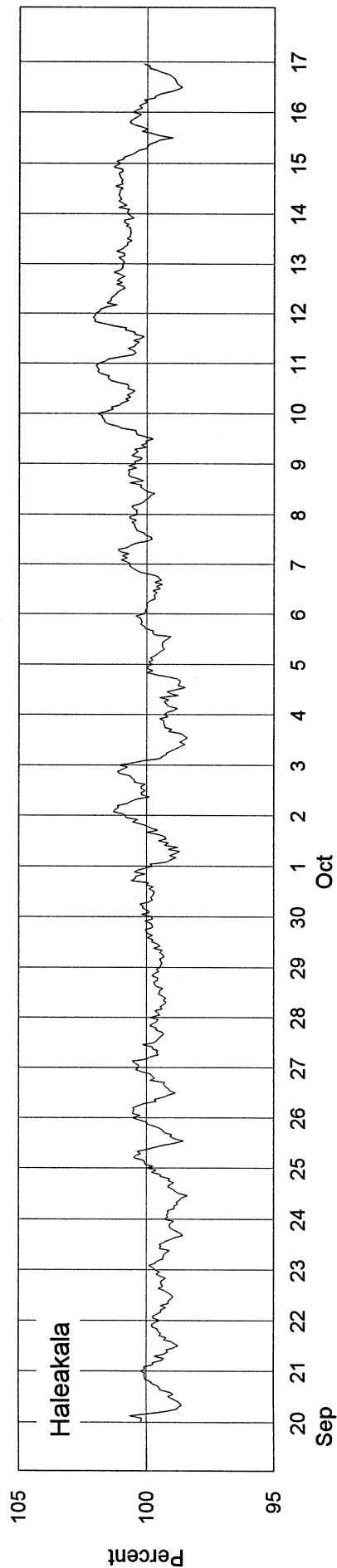
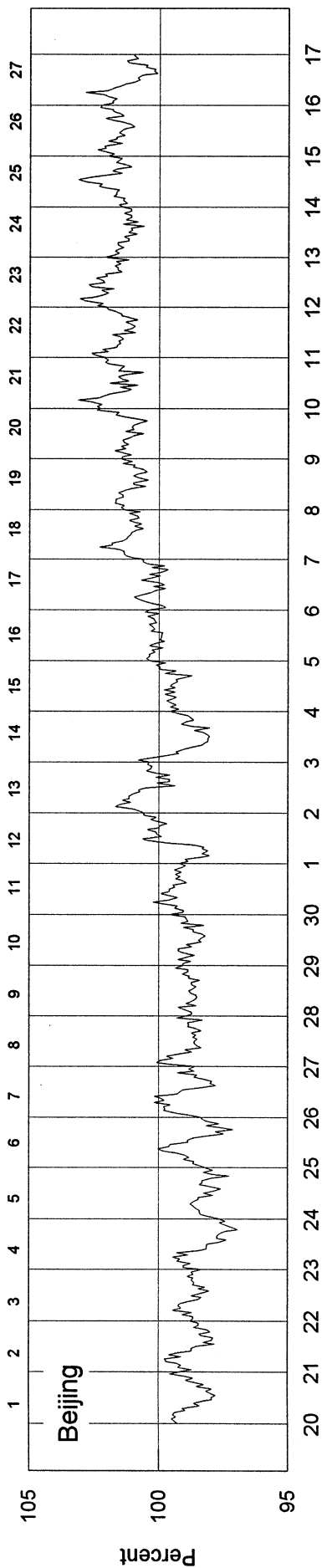
COSMIC RAY INDICES

(Neutron Monitor)

Bartels Rotation 2309 - Beginning 20 Sept 2002

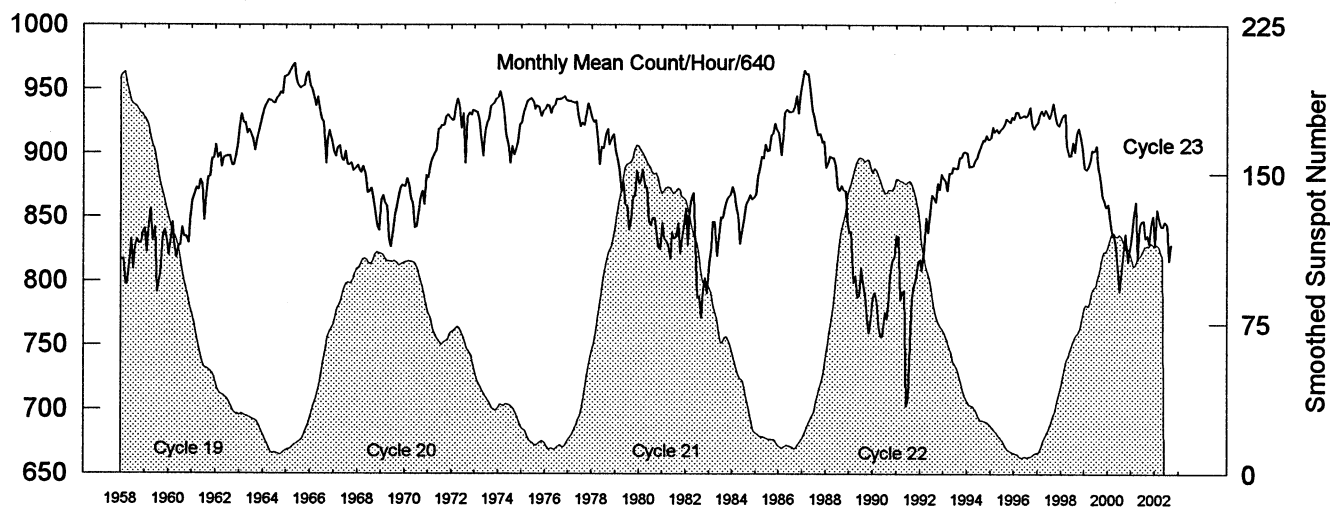


COSMIC RAY INDICES (Neutron Monitor) Bartels Rotation 2309 - Beginning 20 Sept 2002



Moscow Neutron Monitor Pressure-Corrected Values Jan 1958 - Sep 2002

159
Sep 02



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1958	8171*	8175*	7973*	7971*	8145*	8330*	8087*	8266*	8324*	8291*	8294*	8378*	8200*
1959	8405	8223	8443	8565	8309	8416	7911	7972	8054	8351	8397	8325	8281
1960	8199	8313	8459	8264*	8178*	8272*	8272*	8417	8348	8348	8295	8464	8319*
1961	8619	8682	8731*	8708*	8791*	8759*	8472	8676	8808	8816	8957	8956	8748*
1962	9061	8959	8996	8891	8964*	8974	8977	8977	8908	8902	8973	9056	8940*
1963	9201	9308	9243	9239	9154	9180	9147	9109	9020	9110	9194	9259	9180
1964	9321	9353	9395	9416	9410	9396	9384	9425	9442	9473	9458	9594	9422
1965	9602	9608	9642	9685	9701	9586	9530	9505	9520	9525	9608	9630	9595
1966	9531	9502	9439	9367	9438	9336	9261	9242*	8916	9105*	9178	9094	9284*
1967	9006	8973	9038	9059	8956	8940	9015	8913	8911	8924	8860	8873	8956
1968	8904	8875*	8844*	8892*	8825*	8690*	8689	8725	8635*	8533*	8428	8394	8703*
1969	8628	8666	8606	8584	8334	8261	8378	8510	8612	8689	8731	8751	8562
1970	8735	8799	8749	8639	8608	8418	8420	8540	8656	8702	8596	8827	8641
1971	8805	8921	8952	8982	9028	9185	9190	9219	9215	9285	9302	9276	9113
1972	9260	9254	9367	9419	9364	9192	9311	8916	9275	9319	9298	9336	9275
1973	9333	9321	9258	9107	8975	9160	9233	9263	9368	9376	9392	9423	9267
1974	9431	9481	9390	9327	9153	9062	8916	9054	8983	9027	9092	9222	9178
1975	9238	9317	9361	9405	9415	9425	9395	9339	9370	9361	9285*	9330	9353*
1976	9339	9375	9370	9310	9363	9371	9423	9418	9423	9428	9440	9415	9380
1977	9405	9404	9401	9392	9399	9318	9209	9236	9216	9302	9384*	9341	9334*
1978	9279	9243	9254	9113	8907	9050	9035	9149	9189	9062	9118	9145	9216
1979	9012	8955	8860	8693	8778	8599	8592	8396	8470	8662	8661	8857	8740
1980	8752	8776	8871	8737	8732	8463	8430	8490	8491	8379	8259	8242	8552
1981	8451	8330	8311	8277	8176	8379	8332	8338	8452	8206	8289	8439	8332
1982	8565	8277	8565	8649	8686	8279	7870	7882	7712	7931	8023	7902	8195
1983	8150	8253	8460	8460	8194	8343	8498	8492	8575	8625	8658	8670	8448
1984	8736	8686	8574	8505	8286	8421	8476	8590	8632	8669	8641	8644	8575
1985	8671	8813	8878	8973	8958	9066	9018	9017	9140	9155	9233	9183	9009
1986	9162	8982	9125	9316	9339	9328	9326	9327	9368	9444	9312	9472	9292
1987	9553	9646	9619	9618	9505	9349	9268	9202	9149	9153	9085	9094	9353
1988	8885	8922	8979	8968	8961	8904	8724	8704	8745	8716	8699	8474	8807
1989	8381	8385	7985	8043	7868	7888	8102	7977	7897	7709	7592	7701	7961
1990	7871	7910	7846	7652	7574	7569	7755	7701	7864	8037	8168	8185	7844
1991	8356	8347	7850	7915	7926	7025	7082	7510	7863	7964	8008	8153	7833
1992	8169	8078	8247	8490	8378	8535	8670	8649	8614	8767	8717	8833	8512
1993	8804	8784	8705	8846	8842	8888	8884	8880	8968	8968	9010	9011	8882
1994	9001	8895	8899	8898	8942	8963	9013	9055	9110	9098	9141	9112	9011
1995	9122	9206	9169	9193	9159	9186	9203	9228	9272	9257	9241	9286	9210
1996	9266	9328	9324	9287	9291	9302	9295	9302	9364	9226	9192	9227	9284
1997	9240	9311	9334	9302	9340	9318	9277	9322	9390	9281	9233	9217	9297
1998	9273	9306	9312	9057	8981	8983	9088	9007	9157	9196	9133	9036	9127
1999	8883	8867	8887	8937	9021	9018	9058	8904	8794	8660	8627	8574	8853
2000	8600	8481	8377	8358	8283	8107	7921	8081	8224	8365	8146	8215	8263
2001	8314	8521	8617	8168	8428	8468	8473	8334	8359	8289	8447	8505	8410
2002	8277	8555	8462	8434	8420	8462	8438	8157	8289				8388

Multiply table entries by 64 to obtain hourly counting rate. Moscow, Russia: N55, E37, Alt= 200 m, Cutoff Rigidity= 2.42GV.
NOTE: * Indicates data have been restored using the corresponding data of other cosmic ray stations.

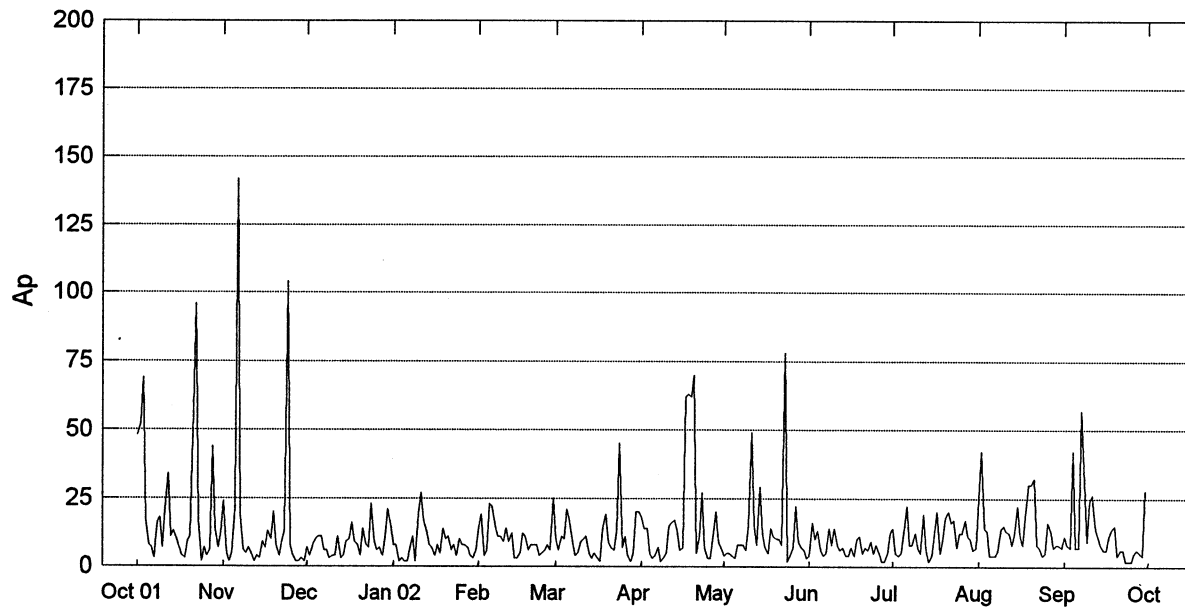
Geomagnetic Activity Indices September 2002

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	4-	2+	2	2-	2-	1+	2	4	19-	11	0.6	3+	2o	2+	2-	1+	2-	2o	4-	20	32	19	23	28																													
2	3+	2+	2-	3	2	1	1-	1-	15-	8	0.4	3-	2+	2+	4-	2+	1-	0+	1-	17	15	19	24	10																													
3	0+	1-	1-	2+	1+	1-	3+	3-	12	7	0.3	0+	1-	1o	3-	1+	1o	3-	3o	13	13	17	11	20																													
4	4+	6+	4+	5	5-	5-	5-	3-	37-	42	1.5	4-	5o	4o	5o	4o	4o	4-	2+	57	62	49	60	52																													
5	2	3+	2-	2-	2-	2-	1+	1+	15-	7	0.4	2+	3-	2-	2o	2-	2o	1+	1+	15	14	17	17	14																													
6	2-	2	2+	2	3-	1+	1+	1+	15-	7	0.4	1+	2+	2+	2+	2+	2o	1+	1+	14	14	15	13	16																													
7	2	3+	3	2-	3-	7-	7+	7	34-	57	1.7	2o	3-	3-	2+	3-	6-	6o	6+	70	59	55	16	98																													
8	7+	6-	3+	2-	1-	2	3	4-	27+	36	1.4	6o	5-	2+	1+	1-	2-	2+	3o	42	45	22	48	19																													
9	2-	1-	0+	1-	2-	2	3+	4	14+	9	0.5	2-	1-	0+	1-	1+	1+	3o	4-	15	17	15	9	24																													
10	4-	2+	2-	3	4	5-	4+	5-	28+	24	1.1	3+	2-	2+	3+	4o	4-	4-	4o	39	43	44	25	63																													
11	2+	2+	4	5	3	5-	4-	5-	30-	26	1.2	2-	2-	4-	5-	2+	4o	4-	4o	40	39	39	33	45																													
12	3+	3	3-	3	3+	3-	3	2	23	14	0.8	3+	3o	3-	3-	3o	2+	3-	2-	24	27	21	23	25																													
13	3+	3	3	3	2-	1+	2	1+	19-	11	0.6	3o	2+	3+	3o	2o	1o	2+	1+	20	20	18	26	12																													
14	3-	3	2+	2+	2-	1+	1+	1-	15+	8	0.4	2+	3-	2-	3-	2-	1o	2o	1+	15	19	16	24	11																													
15	2-	1	1+	2-	1+	2-	2+	2	13	6	0.3	1o	1-	2-	2-	1+	1+	2o	2-	10	14	8	9	13 CC																													
16	1	1	1+	2-	3	1+	1+	0+	11	6	0.3	1o	1-	1+	2+	3o	1o	1+	1-	11	11	12	9	14 K																													
17	0+	3-	2	3	3-	3-	3-	3	19	11	0.6	1-	2+	2+	3o	3-	3-	3-	3-	20	24	22	20	26																													
18	4-	3-	2+	3+	4-	3-	2	3-	23	14	0.8	3o	3-	2+	3o	3+	2o	2o	2+	24	32	30	37	25																													
19	3-	1+	2	3	4-	5-	2	3	22+	15	0.9	3-	1+	2-	3-	3+	4o	2o	3-	24	26	29	18	37																													
20	2	2-	1	1-	0+	1-	0+	1+	8	4	0.1	2-	2-	1+	1o	0+	0+	0o	1+	7	8	8	11	5 C																													
21	2-	1	1	2	2+	3-	1	1-	12+	6	0.3	2-	1o	1+	2o	2o	2+	1o	1o	11	16	11	13	14 C																													
22	2	1+	2	1-	2	3-	2-	1+	14-	6	0.3	1+	1o	2o	1-	2o	3-	2-	1+	12	13	12	9	17 CC																													
23	1	0+	1-	0	0	1-	1-	0	3+	2	0.0	1o	1-	1-	0o	0o	0+	0+	0o	2	5	4	5	4 CC																													
24	0	0	0+	1+	1+	0+	1	0+	5-	2	0.0	0o	0o	1-	1+	1+	0+	1o	1-	5	8	4	5	7 CC																													
25	0	0	0	0+	1+	1	0+	1	4	2	0.0	0o	0o	0+	1-	1o	1o	0+	1o	4	5	5	4	7 CC																													
26	2-	1-	1	1	1-	1+	2-	3-	11-	5	0.2	1+	1o	1o	1o	0+	1+	2-	2+	9	13	10	8	15 CC																													
27	3	1+	0+	1+	2-	2-	1-	2-	12-	6	0.3	2+	1o	1-	2-	2-	1+	1o	2-	10	13	9	12	10 CC																													
28	Q6	2	1+	1	1-	0+	1+	2-	10-	5	0.2	2-	1o	2-	1+	0+	1+	2-	2o	9	10	9	11	9 CC																													
29	Q4	0+	1-	1	0+	1+	1	1-	7	4	0.1	1-	1+	1o	1-	1+	1+	1o	2o	8	10	11	9	12 C																													
30	D4	2-	4-	4	5	5	3+	3+	5-	31-	28	1.2	2-	3-	4-	4+	5-	4-	3o	4+	46	52	48	46	54																												
Mean										13	0.56											20.4	22.7	20.1	21.4																												

Day	Kn Three-Hourly Indices								An	Ks Three-Hourly Indices								As	Sa	Prov Ri	Ra	Rs	IMF
	1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8						
1	3o	2o	3-	2-	2-	2o	2o	3+	20	3+	2+	2+	2-	1o	1+	2o	4-	20	183.8	120	139	137	
2	2+	2+	2+	4-	2+	1-	1-	1+	18	3o	2o	2o	3+	3-	1-	0o	0o	16	176.9	136	153	129	
3	0+	0+	1+	3o	2-	1+	3o	3o	15	1-	1o	1o	2+	1o	0+	3-	3o	12	174.4	147	165	126	
4	3+	5+	4o	5o	4o	4+	4o	2+	61	4o	5o	4+	5-	4-	4-	3o	2+	53	174.2	144	162	126	
5	2o	3o	2-	2+	2o	2+	1+	2-	16	2+	3-	2-	2o	2-	2o	1+	1o	14	178.1	132	158	130	
6	1+	3-	2+	3-	2+	2-	1+	1+	15	1+	2o	2o	2o	2+	2o	1o	1+	13	180.9	118	136	133	
7	2o	3-	2+	3-	3-	6-	6o	6+	73	2o	3o	3-	2o	2+	5+	6o	6+	68	185.6	120	135	138	
8	6-	5-	2+	2-	1-	2+	3-	3+	40	6+	5-	3-	1o	1-	1+	2o	3o	44	194.4	124	136	148	
9	2-	1o	1-	1+	1+	2-	3o	4-	16	1+	1-	0+	0o	1+	1o	3-	4-	13	209.0	116	134	164	
10	3+	1+	2-	4-	4o	4o	4-	4o	38	3+	2-	2+	3+	4o	4-	4-	4+	40	223.5	118	132	179	
11	2-	2-	4-	5o	3-	4o	4-	4o	44	2-	2o	3+	5-	2o	4-	3+	4o	36	219.0	109	135	175	
12	3o	3-	3o	3-	3o	3-	3-	2o	25	3+	3+	2+	3-	3-	2o	3-	1+	23	215.1	109	133	170	
13	3o	2+	3+	3+	2o	1+	3-	2-	22	3o	2o	3o	2+	2+	1o	2+	1o	19	208.6	109	118	163	
14	2o	3-	2o	3o	2-	1+	2+	1o	16	2+	2+	1+	2+	2-	1o	2-	1+	13	209.2	87	111	164	
15	1o	0+	2o	2-	1+	2-	2o	2-	11	1o	1o	2-	2-	1o	1o	2-	2-	9	189.9	97	115	143	
16	1-	0+	1+	3-	3o	1+	2o	1-	12	1+	1o	1o	2o	3-	1-	1o	0+	10	184.5	99	118	137	
17	0+	2o	2+	3o	3o	3-	2+	3-	20	1-	3-	2+	3-	3-	2+	3-	3-	20	195.9	116	134	150	
18	3o	3-	2+	3o	4-	2+	2+	2+	25	3+	3o	2o	3+	3o	2-	2o	2+	24	178.4	121	141	131	
19	2o	1+	2-	2+	3+	4o	2-	3-	23	3o	2-	2-	3-	3+	4-	2o	3o	24	166.7	112	140	118	
20	2-	1+	1+	1o	0+	0+	0+	1+	6	2-	2o	2-	1o	0o	0o	0o	2-	7	165.8	114	128	117	
21	1o	1o	1+	2+	2+	3-	1+	1+	13	2o	1o	2-	2-	2-	2-	1o	1-	10	159.8	106	114	111	
22	1+	1o	2+	1o	2-	3-	2-	2-	13	1+	1o	2o	1-	2o	2+	2-	1+	11	161.1	108	134	112	
23	1o	0+	0+	0o	0o	1o	1-	0o	3	1-	1o	1o	0o	0o	0o	0o	0o	2	154.8	112	133	105	
24	0o	0o	1o	1+	2-	0+	1+	1o	6	0o	0+	0+	1o	1o	0o	1o	0+	4	158.9	103	122	110	
25	0o	0o	0o	1-	1o	1+	0+	1o	4	0o	0o	0+	1-	1-	0+	0+	1o	3	154.2	111	117	105	
26	2-	1o	1o	1o	1-	2-	2-	2+	10	1+	1o	1o	1o	0+	1o	1+	2+	8	150.6	82	102	101	
27	2+	1o	1-	2-	2o	2-	1o	2-	11	2+	1o	1o	2-	1+	1+	1o	2-	10	152.2	90	106	102	
28	2-	1o	1+	1+	1-	1+	2-	2-	9	1+	1o	2-	1+	0o	1+	2-	2-	9	149.1	80	87	99	
29	1-	1o	1-	1-	2-	1+	1o	2+	8	1o	1+	1+	1-	1+	1+	1+	2o	8	138.6	76	77	88	
30	2-	3o	4-	4+	5o	4-	3+	4+	49	2o	3-	4-	4+	4+	3+	3-	4+	44	140.1	64	70	89	
Mean									21.4									19.6	177.8	109.3	126.2	130.0	

Daily Average Indices Ap Oct 2001 -Sep 2002

161
Sep 02

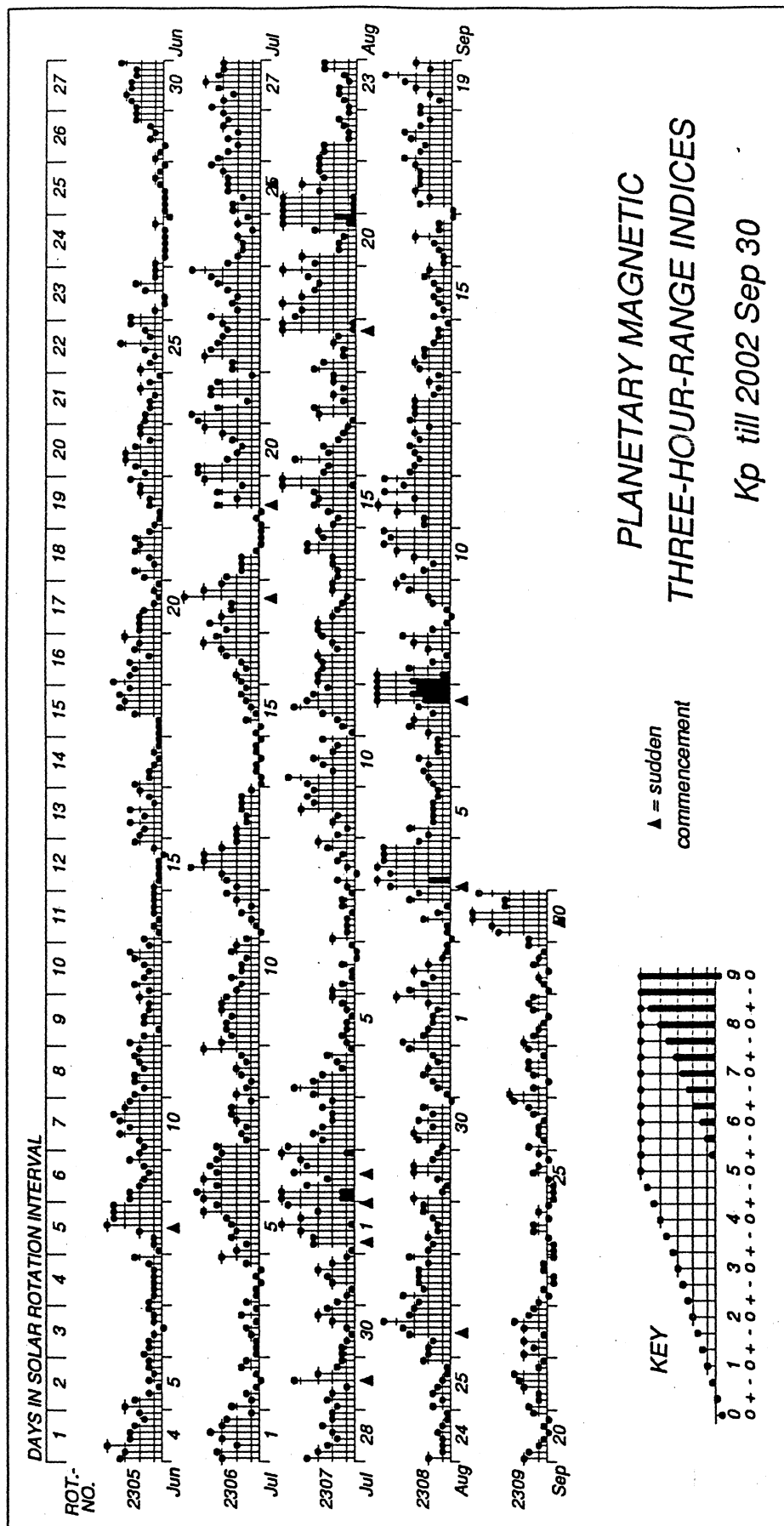


Day	Oct 01	Nov	Dec	Jan 02	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	48	24	7	8	14	10	18	4	4	14	25	11
2	52	5	4	8	19	6	14	5	16	5	42	8
3	69	2	8	2	4	11	14	5	10	4	14	7
4	17	5	10	3	6	10	5	4	13	5	13	42
5	8	21	11	2	23	21	3	3	6	12	4	7
6	7	142	11	2	22	17	4	8	4	22	4	7
7	3	19	6	7	15	9	7	8	5	8	4	57
8	16	6	6	11	11	4	2	8	14	8	6	36
9	18	5	3	2	11	5	3	6	8	12	14	9
10	7	7	4	19	9	9	5	15	14	7	15	24
11	21	5	4	27	14	10	15	49	8	5	13	26
12	34	2	11	17	9	11	16	15	6	19	12	14
13	11	4	3	13	12	5	17	8	7	6	8	11
14	13	3	4	8	3	3	13	29	4	2	12	8
15	10	9	9	7	3	5	6	12	4	4	22	6
16	7	7	10	4	5	3	7	7	7	12	11	6
17	4	13	16	8	12	2	62	5	4	20	8	11
18	3	10	9	5	11	14	63	14	10	5	21	14
19	9	20	8	14	6	19	62	11	11	10	30	15
20	11	8	4	10	8	9	70	10	5	18	30	4
21	57	4	14	11	8	7	5	10	7	20	32	6
22	96	9	8	6	8	6	11	8	6	16	8	6
23	17	13	7	8	4	13	27	78	9	17	7	2
24	2	104	23	4	5	45	7	2	5	7	4	2
25	7	8	9	10	6	7	3	4	8	12	5	2
26	4	4	6	8	8	11	3	7	5	12	16	5
27	6	2	7	8	6	4	10	22	2	17	13	6
28	44	2	4	7	25	2	20	9	2	11	7	5
29	14	3	11	4		5	9	7	5	10	8	4
30	7	2	21	3		20	7	6	12	6	8	28
31	12		15	6		20		3		7	7	
Mean	20	16	9	8	10	10	17	12	7	11	14	13

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

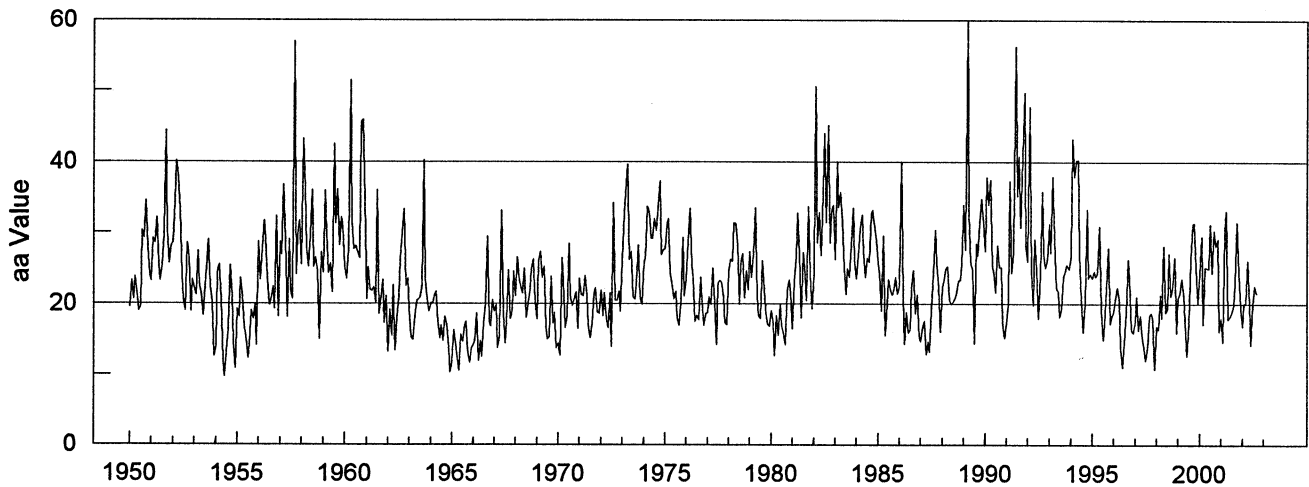
GeoForschungsZentrum Potsdam

Kp through September 30, 2002



Monthly Mean aa Index Jan 1950 - Sep 2002

163
Sep 02



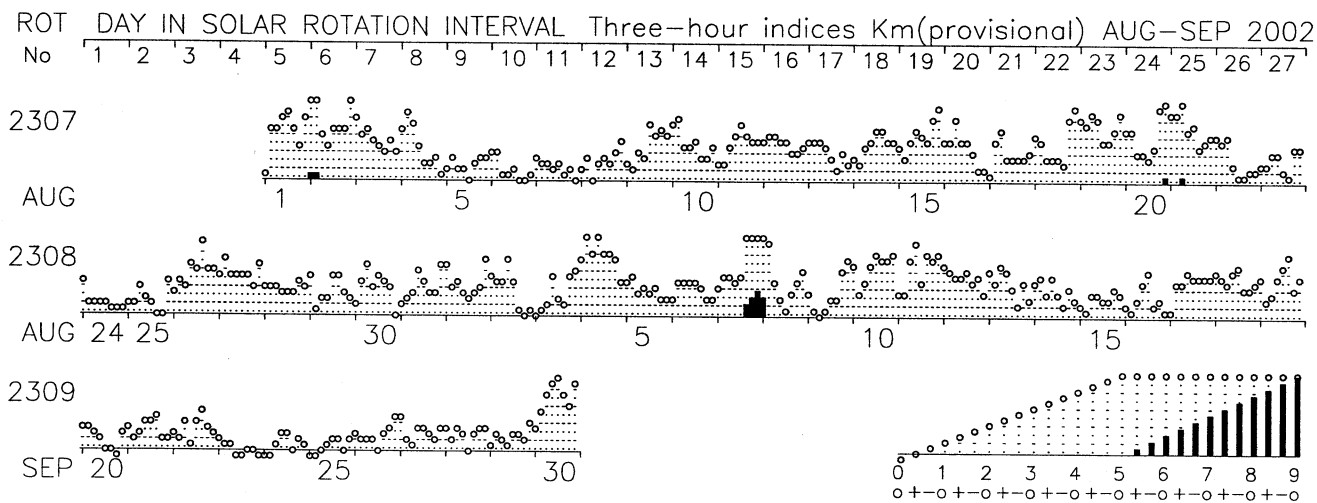
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1950	19.5	23.2	20.6	23.8	21.7	19.0	19.5	30.2	29.3	34.5	28.0	24.0	24.4
1951	23.1	29.2	28.5	32.1	25.5	23.2	25.2	29.7	44.4	30.3	25.7	28.2	28.8
1952	28.5	34.3	40.1	38.0	33.1	23.8	20.7	19.0	28.5	26.4	18.9	23.4	27.9
1953	22.3	21.2	27.4	22.7	21.4	18.4	22.5	26.1	29.0	22.4	20.2	12.6	22.2
1954	13.9	24.5	25.5	20.6	12.0	9.7	13.1	16.5	25.4	21.1	14.5	10.9	17.3
1955	19.3	18.2	23.6	21.1	16.7	15.1	12.3	14.3	19.1	17.8	19.9	14.1	17.6
1956	28.7	23.3	27.6	31.7	29.3	23.5	19.8	20.7	22.4	19.3	32.3	18.2	24.7
1957	28.7	26.8	36.7	28.8	18.1	29.1	21.7	20.7	57.0	24.0	29.5	31.7	29.4
1958	25.5	43.2	36.1	27.6	25.2	29.7	36.0	25.1	26.5	24.7	15.0	27.2	28.5
1959	24.3	35.9	29.9	24.2	25.7	21.6	42.5	31.2	36.1	28.2	32.1	30.8	30.2
1960	25.2	23.5	27.6	51.5	31.6	27.6	28.1	27.2	26.4	45.6	45.9	34.5	32.9
1961	20.6	25.1	22.0	21.8	22.3	20.1	36.0	18.5	20.7	23.3	17.3	21.1	22.4
1962	13.2	19.2	15.5	22.6	13.4	18.1	21.0	26.2	29.8	33.3	22.5	23.5	21.5
1963	19.3	15.3	14.9	18.2	20.4	20.5	20.8	22.5	40.2	23.5	20.7	18.9	21.3
1964	20.1	20.1	21.0	21.7	17.5	15.1	16.9	14.8	18.2	16.9	13.8	10.3	17.2
1965	11.8	16.3	14.3	12.6	10.5	15.7	14.7	16.8	17.5	13.1	11.7	13.8	14.1
1966	14.2	14.8	18.6	12.0	14.8	12.5	17.1	20.0	29.4	17.5	16.8	20.5	17.3
1967	18.9	19.8	13.8	15.5	33.1	18.6	14.4	17.5	24.7	17.8	18.9	24.5	19.8
1968	21.1	26.5	23.3	22.2	21.4	24.9	18.0	20.1	22.0	24.8	26.2	20.3	22.6
1969	17.8	25.8	27.3	23.6	25.2	16.7	15.0	15.3	23.8	17.2	18.7	13.8	20.0
1970	14.4	12.7	26.4	23.1	16.6	18.3	28.4	21.0	19.7	20.6	21.6	16.5	19.9
1971	23.5	21.2	21.1	23.9	21.1	17.0	15.2	17.1	21.4	22.2	18.8	18.6	20.1
1972	21.9	18.3	21.5	18.1	16.6	21.5	14.0	34.2	20.4	20.4	21.8	18.9	20.6
1973	26.1	32.7	36.9	39.6	26.1	27.3	20.9	20.6	22.8	28.2	20.7	19.9	26.8
1974	25.8	26.4	33.7	32.9	29.2	29.2	32.0	30.2	33.7	37.3	26.8	27.5	30.4
1975	27.6	31.1	32.0	24.3	22.7	20.7	21.7	18.1	16.9	20.2	29.3	21.1	23.8
1976	23.3	28.5	33.4	25.4	23.7	17.5	18.4	17.7	23.7	20.4	16.9	18.6	22.3
1977	18.7	21.0	19.9	24.9	20.1	14.2	22.9	23.2	23.0	20.9	17.3	17.0	20.3
1978	24.6	26.2	25.9	31.3	31.2	28.3	19.9	25.6	27.0	20.8	24.6	22.0	25.6
1979	27.3	23.7	26.9	33.5	21.0	18.3	17.9	26.0	22.0	19.3	17.1	16.8	22.5
1980	19.0	17.3	12.7	18.4	15.6	20.0	17.0	15.9	14.2	21.9	23.3	21.7	18.1
1981	16.5	23.1	26.6	32.8	26.9	18.0	27.2	24.0	20.4	33.7	24.1	19.3	24.4
1982	24.2	50.6	28.5	32.9	26.7	32.1	43.9	31.4	45.1	28.5	33.0	33.8	34.2
1983	26.2	40.0	33.6	35.7	31.6	24.9	21.3	24.9	23.7	28.3	33.5	26.0	29.1
1984	23.5	26.7	30.7	32.5	27.2	23.7	26.4	25.8	32.6	33.1	31.0	29.0	28.5
1985	25.7	24.1	19.0	29.5	15.6	19.9	23.4	22.0	21.2	22.2	23.7	21.4	22.3
1986	22.4	40.0	21.1	14.3	18.8	15.9	16.3	22.3	24.7	18.6	21.2	15.3	20.9
1987	14.8	16.6	17.6	12.9	14.7	13.2	19.3	24.3	30.3	25.8	22.4	16.0	19.0
1988	22.4	23.4	24.8	25.2	20.5	20.0	20.2	20.6	21.4	23.2	23.3	25.5	22.5
1989	33.9	27.5	60.1	32.8	25.7	24.9	14.4	28.4	26.7	31.4	34.7	31.4	31.0
1990	27.4	37.8	33.9	37.4	25.1	24.6	21.6	28.2	25.1	25.1	17.4	15.2	26.6
1991	17.2	20.1	37.3	24.3	27.3	56.2	35.2	40.8	30.7	44.1	49.7	28.0	34.2
1992	25.9	47.7	24.5	19.8	29.1	24.8	17.9	24.1	35.8	27.0	25.0	26.1	27.3
1993	31.2	27.1	37.9	29.2	22.1	21.8	18.2	19.2	23.8	24.6	25.5	24.8	25.5
1994	26.5	43.2	37.9	40.2	40.2	27.2	20.6	16.0	20.2	33.3	23.6	24.1	29.4
1995	23.6	24.5	23.8	24.2	30.9	19.1	14.9	17.0	22.2	27.9	17.2	18.2	22.0
1996	18.8	20.8	22.3	20.5	14.0	11.1	14.7	18.8	26.2	23.5	16.3	15.9	18.6
1997	17.4	21.0	16.3	18.4	15.1	13.7	12.1	13.7	18.4	18.7	18.0	10.8	16.1
1998	16.8	16.4	21.2	18.0	28.1	18.8	19.3	27.0	21.1	22.4	26.5	15.9	21.0
1999	20.8	21.3	23.5	21.3	15.8	12.7	16.9	26.2	31.2	31.3	25.1	20.1	22.2
2000	24.2	29.4	17.1	25.1	25.0	24.9	31.1	24.3	30.2	28.1	29.1	16.1	25.4
2001	18.0	14.7	30.2	33.0	17.8	18.2	18.7	19.9	22.7	31.4	24.4	19.5	22.4
2002	16.8	20.0	20.2	26.0	19.9	14.2	19.9	22.5	21.4				20.1

PLANETARY GEOMAGNETIC ACTIVITY

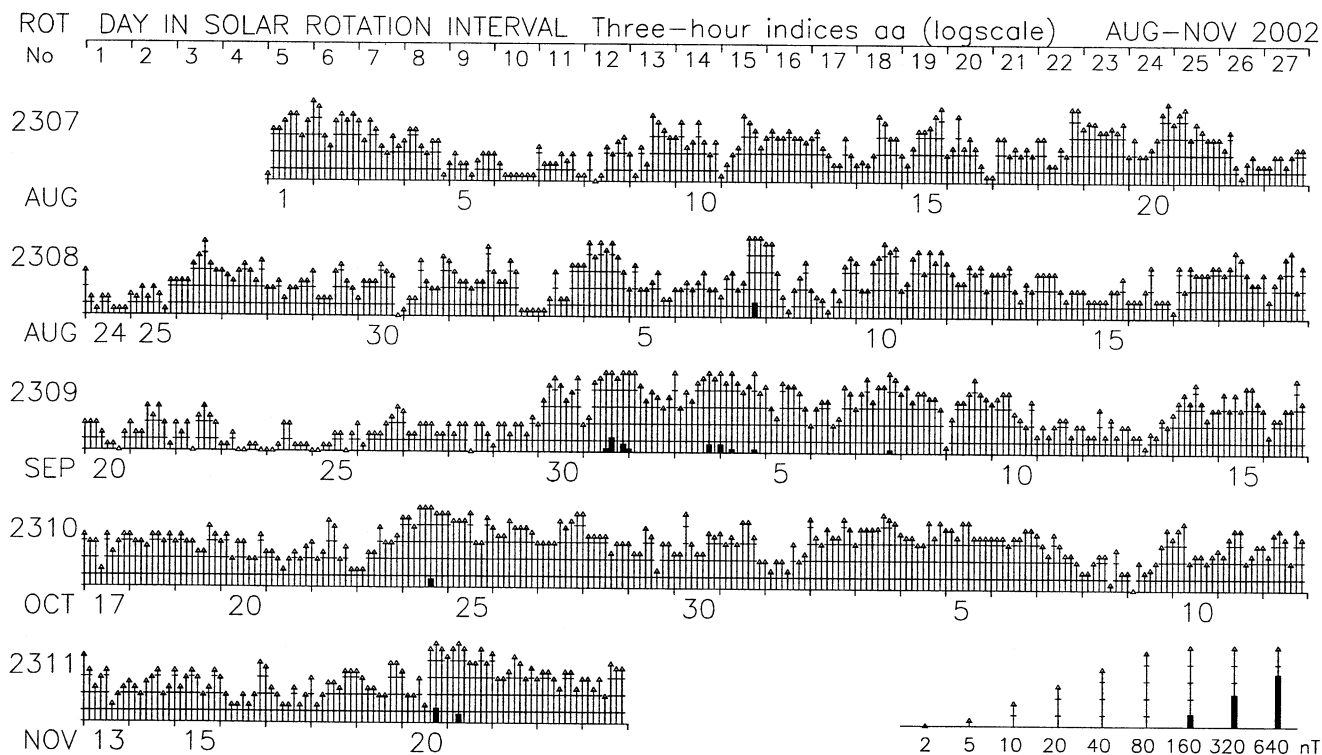
3-HOUR-RANGE INDICES K_m AND a_a BY 27-DAY SOLAR ROTATION INTERVAL

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

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



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

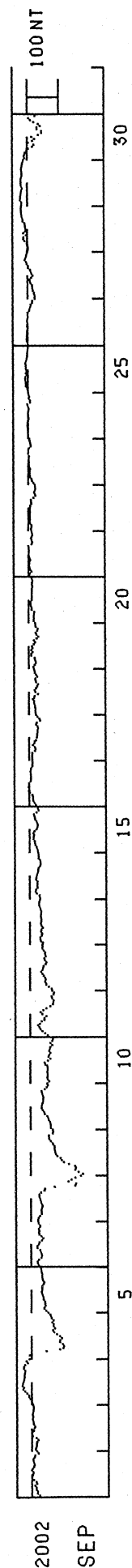


Indices Derivation at C.E.T.P.; Graph Prepared at ISGI Publication Office.

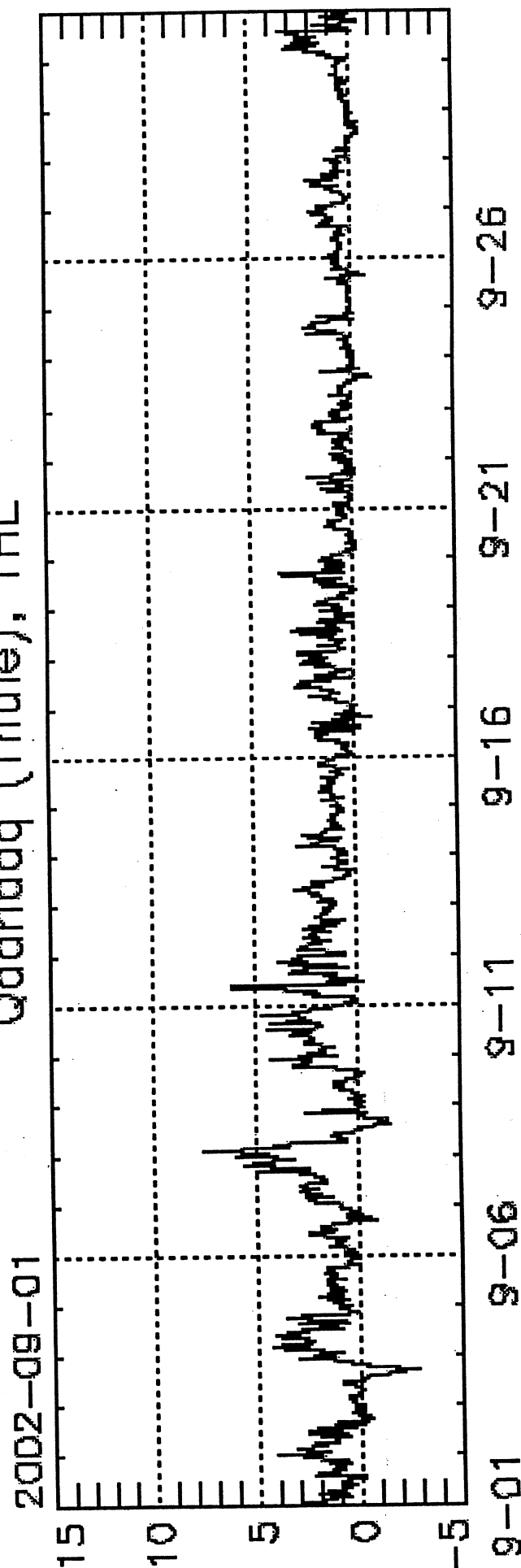
HOURLY EQUATORIAL DST VALUES (PROVISIONAL)

SEPTEMBER 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	-24	-17	-17	-14	-14	-10	-15	-13	-6	0	-2	-3	-3	0	-1	-5	-7	-6	-3	-3	-7	-10	-20	-15		
2	-12	-14	-13	-16	-15	-21	-14	-2	0	-1	-6	-8	-9	-5	-3	-3	-2	-3	-2	-3	-4	-5	-5	-4		
3	-2	2	5	9	10	15	22	28	26	30	30	29	27	24	24	24	23	23	27	27	22	14	17	7		
4	2	7	1	48	-91	-103	-104	-101	-93	-93	-98	-91	-81	-73	-69	-75	-72	-72	-66	-70	-64	-62	-60	-54		
5	-47	-42	-41	-45	-43	-43	-40	-39	-37	-34	-32	-34	-36	-36	-39	-41	-37	-35	-35	-34	-33	-33	-30	-26		
6	-25	-20	-20	-24	-33	-36	-33	-30	-28	-21	-21	-24	-27	-34	-39	-33	-27	-25	-26	-25	-28	-29	-25	-22		
7	-22	-24	-29	-35	-35	-33	-35	-37	-34	-32	-31	-29	-26	-27	-33	-44	-46	-77	-144	-148	-122	-132	-144	-163		
8	-170	-156	-144	-148	-144	-124	-107	-101	-96	-86	-81	-79	-78	-78	-78	-73	-72	-65	-60	-59	-58	-70	-73	-71		
9	-65	-64	-64	-63	-59	-57	-53	-45	-44	-39	-36	-34	-37	-39	-40	-41	-41	-40	-37	-36	-46	-52	-57	-53		
10	-61	-56	-53	-57	-57	-53	-56	-56	-54	-48	-46	-55	-64	-59	-61	-65	-60	-62	-64	-70	-64	-71	-74	-62		
11	-55	-47	-39	-33	-29	-25	-31	-38	-46	-46	-51	-39	-33	-42	-52	-65	-73	-76	-76	-72	-69	-75	-78	-71		
12	-68	-61	-52	-50	-48	-50	-47	-44	-40	-34	-39	-42	-43	-50	-52	-48	-46	-49	-48	-47	-43	-40	-39	-40		
13	-41	-36	-32	-32	-37	-40	-34	-37	-42	-37	-35	-37	-37	-35	-36	-36	-37	-34	-32	-31	-28	-28	-30	-33		
14	-33	-30	-22	-18	-20	-25	-25	-25	-25	-20	-21	-23	-25	-26	-26	-29	-33	-34	-35	-33	-29	-29	-29	-27		
15	-26	-24	-22	-18	-15	-15	-12	-12	-13	-11	-16	-23	-25	-26	-25	-22	-18	-15	-16	-13	-22	-29	-26	-24		
16	-19	-15	-11	-11	-11	-10	-1	3	2	3	2	0	-3	-3	-6	-5	-4	-3	-4	-6	-9	-10	-10	-10		
17	-9	-9	-10	-10	-18	-19	-17	-11	-16	-18	-22	-25	-25	-26	-26	-26	-29	-26	-22	-24	-34	-32	-27	-22		
18	-19	-19	-21	-21	-17	-16	-16	-11	-16	-18	-28	-21	-17	-23	-27	-28	-22	-20	-21	-26	-22	-17	-17	-15		
19	-13	-18	-22	-21	-20	-17	-8	-8	-11	-8	-12	-10	-16	-19	-15	-24	-31	-25	-23	-27	-29	-23	-20	-20		
20	-16	-16	-15	-15	-15	-17	-10	-9	-8	-5	-6	-9	-10	-9	-9	-9	-9	-9	-11	-10	-10	-11	-9	-2		
21	-1	-4	-9	-6	-4	-2	-2	-3	-6	-4	-2	0	-2	-1	2	1	-9	-11	-9	-8	-10	-11	-10	-9		
22	-8	-9	-9	-6	-4	-5	-5	-4	-5	-5	-4	-5	-5	-9	-7	-7	-16	-23	-21	-18	-19	-22	-22	-20		
23	-15	-11	-9	-6	-5	-4	-4	-5	-4	-1	-1	-2	-2	-1	-1	-1	2	2	-2	-5	-7	-6	-4	-3		
24	1	1	1	1	2	3	3	3	2	-1	-2	1	0	0	-1	-1	0	3	-5	-5	-2	-3	-1	0		
25	1	4	7	7	7	9	9	9	6	7	6	7	8	8	9	7	6	4	4	3	3	2	1	1		
26	2	4	5	5	4	3	4	3	2	3	2	1	3	2	2	1	2	-3	-6	-7	-10	-13	-14	-23		
27	-23	-22	-19	-15	-16	-14	-13	-10	-8	-5	-11	-15	-12	-9	-7	-1	-1	-1	4	9	8	6	3	3		
28	-1	-1	-1	1	4	10	14	13	6	13	8	7	7	9	10	16	16	17	20	20	21	22	23	20		
29	20	20	25	25	23	23	22	20	18	20	22	23	23	22	21	19	18	20	20	21	19	19	16	13		
30	10	12	9	7	3	-3	-16	-19	-3	-16	-22	-13	-34	-45	-45	-30	-30	-42	-35	-21	-9	-4	-25	-26		



WDC C1 for Geomagnetism, Copenhagen
Polar Cap index
Qaanaaq (Thule), THL

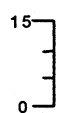
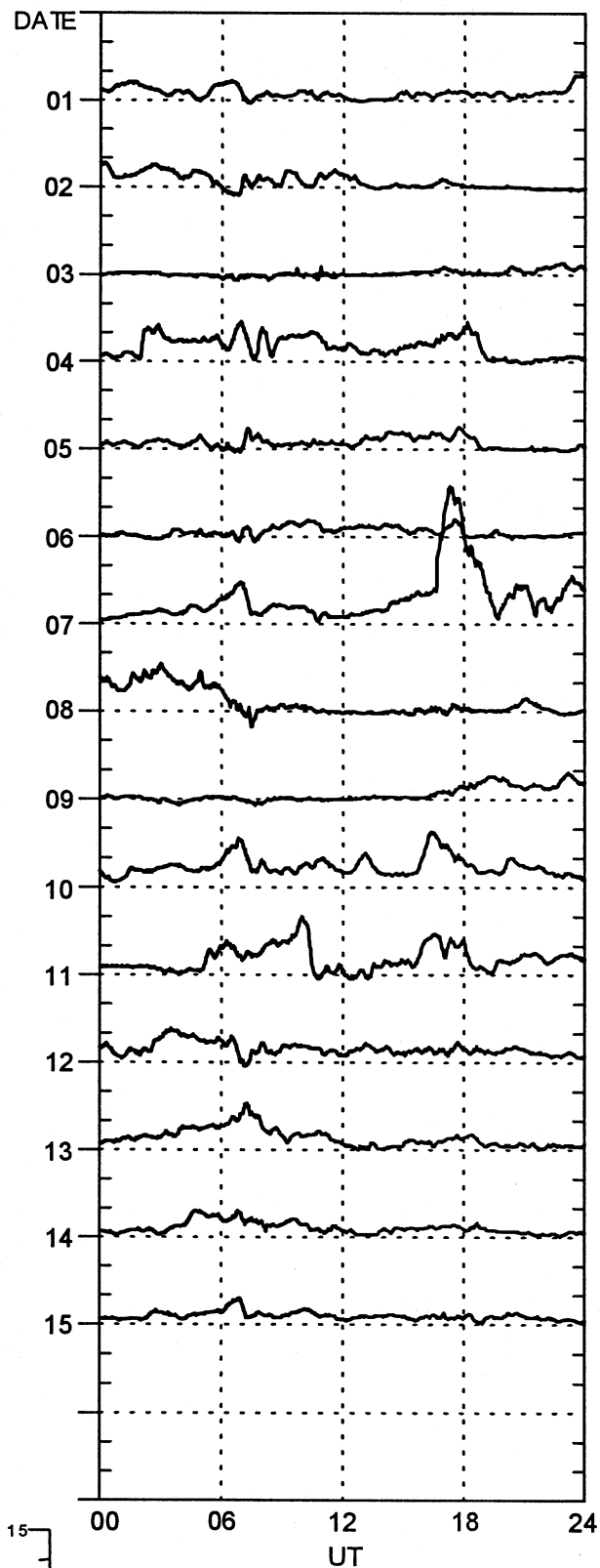


Date, mm-dd
Data source: Salar-Terrestrial Physics Division
Danish Meteorological Institute

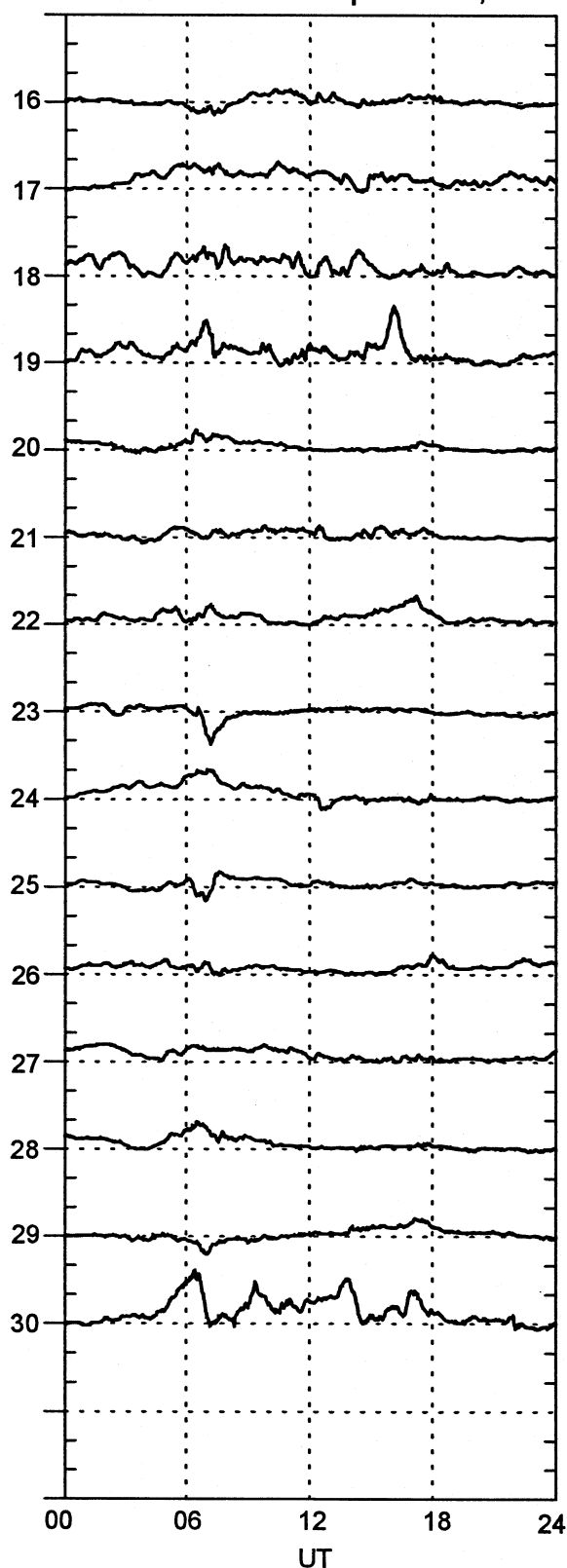
PC INDEX

Vostok

September, 2002



1-min. values



Arctic & Antarctic Research Institute, St.Petersburg

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

SEPTEMBER 2002

Geomag Sta	Lat	Commencement Time		Type	SC Amplitudes			Maximum 3-Hour K Index Day(3-Hour Periods)	Ranges			End	
		Day	(UT)		D (Min)	H (Gamma)	Z (Gamma)		D K (Min)	H (Gamma)	Z (Gamma)	Day	Hour (UT)
UJJ 13.6N	03	0930	..	..	..	..	..		-	5	106	37	04 20
NGP 11.3N	03	0930	..	..	..	..	..		-	4	189	29	04 20
ABG 09.4N	03	0930	..	..	..	..	..	04(1,2,4,5)	5	5	188	51	04 20
HYB 07.6N	03	0200	..	..	..	..	..	04(1,2,3,4)	5	5	207	22	04 20
PND 02.0N	03	0930	..	..	..	..	..		-	3	182	88	04 20
TIR 00.6S	03	0930	..	..	..	..	..		-	5	173	97	04 20
ETT 00.7S	03	0200	..	..	..	..	..		-	2	234	89	05 19
HER 33.6S	03	18--	..	..	..	..	..	04(2)	5	19	124	55	04 21
KRC 16.4N	04	0024	SC	-	2	37	20	04(1,2,4,5)	5	7	142	52	04 19
KRC 16.4N	07	1636	SC	-	1	35	18	07(6)	7	6	178	65	08 05
UJJ 13.6N	07	1635	SC	--		29	- 6		-	6	144	37	08 22
NGP 11.3N	07	1635	SC		0.2	30	- 3		-	5	166	32	08 22
ABG 09.4N	07	1635	SC	-	0.3	24	- 4	07(6)	7	7	162	52	08 22
HYB 07.6N	07	1637	SC	-	0.4	27	- 2	07(6,7)	6	5	76	23	09 02
PND 02.0N	07	1635	SC	-	0.1	25	25		-	5	169	64	08 22
TIR 00.6S	07	1635	SC	-	0.4	23	28		-	7	252	116	08 22
ETT 00.7S	07	1637	..	..	..	..	..		-	3	221	84	08 22
HER 33.6S	07	12--	..	..	..	..	..	07(6) 08(1)	6	29	161	245	08 11
GNA 43.0S	07	1636	SC		1.3	26	0	07(6,7,8)	6	32	135	170	08 12
CAN 43.6S	07	1636	SC		0.87	48	8	07(7)	6	21	217	74	08 09
UJJ 13.6N	09	1800	..	..	..	..	..		-	6	70	42	10 24
NGP 11.3N	09	1800	..	..	..	..	..		-	6	88	50	10 24
ABG 09.4N	09	1800	..	..	..	..	..	10(7)	5	6	95	54	10 24
HYB 07.6N	09	1800	..	..	..	..	..	10(7)	5	6	104	49	10 24
PND 02.0N	09	1800	..	..	..	..	..		-	5	136	81	10 24
TIR 00.6S	09	1800	..	..	..	..	..		-	7	202	60	10 24
ETT 00.7S	09	1700	..	..	..	..	..		-	3	200	76	12 22
GNA 43.0S	09	1800	..	..	..	..	..	10(5)	6	24	76	142	12 09
HER 33.6S	10	05--	..	..	..	..	..	10(8)	5	21	65	69	10 24
UJJ 13.6N	11	0600	..	..	..	..	..		-	5	125	41	12 04
NGP 11.3N	11	0600	..	..	..	..	..		-	5	169	33	12 04
ABG 09.4N	11	0600	..	..	..	..	..	11(7)	-	5	163	34	12 04
HYB 07.6N	11	0500	..	..	..	..	..	11(7)	5	6	169	14	12 21
PND 02.0N	11	0600	..	..	..	..	..		-	3	159	47	12 04
TIR 00.6S	11	0600	..	..	..	..	..		-	4	181	63	12 04
KRC 16.4N	30	0820	..	..	..	..	..	30(5)	6	8	110	48	30 23
UJJ 13.6N	30	0815	SC*	-	0.4	13	- 3		-	4	123	26	30 24
NGP 11.3N	30	0815	SC*		0.1	14	- 2		-	4	150	15	30 24
ABG 09.4N	30	0815	SC*	-	0.3	13	- 4	30(5)	6	5	147	30	30 24
HYB 07.6N	30	0814	SC	-	0.2	14	- 1	30(5,8)	5	4	150	13	01 04
PND 02.0N	30	0815	SC*	-	0.2	15	12		-	3	146	59	30 24
TIR 00.6S	30	0815	SC*	-	0.6	36	28		-	6	174	72	30 24
ETT 00.7S	30	0814	SC	-	0.4	30	18		-	5	227	106	01 04

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)

September 2002

Storm Sudden Commencements (SSC)			Solar Flare Effects (sfe)		
Day	Time	Quality: Station Group*	Day	Begin-End	Station(s)
07	1636	A: CLF* MMB* SPT* KAK* KNY*	05	0316-0354	VAL
		B: NAG* GCK EBR GUI* HYB ETT	16	0309-0320	MMB KAK KNY
		C: NGK* BDV*	20	0924-0936	BDV
			21	1212-1250	GUI
30	0815	A: HYB ETT	29	0635-0700	MMB KAK KNY
		B: SOD* VAL* BDV* HRB NAG* COI* SPT*			
		C: GCK*			

REPORTING OBSERVATORIES (up to the 6th of November 2002):

SOD NGK VAL BDV CLF HRB NAG GCK MMB EBR COI SPT KAK KNY GUI HYB ETT HER 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.