



Solar-Geophysical Data prompt reports

Data for January and February 2003

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

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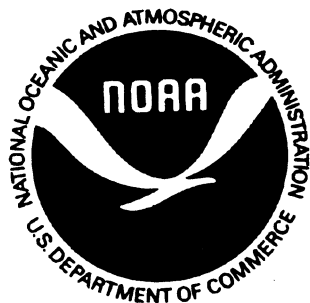
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NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

NATIONAL ENVIRONMENTAL SATELLITE,
DATA, AND INFORMATION SERVICE

NATIONAL GEOPHYSICAL
DATA CENTER

BOULDER,
COLORADO



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Gregory W. Withee, Assistant Administrator

MARCH 2003 NUMBER 703 - Part I

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Data for January and February 2003

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NATIONAL GEOPHYSICAL DATA CENTER

Christopher G. Fox, Acting Director

Boulder, Colorado

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SOLAR-GEOPHYSICAL DATA

Number 703

(Issued in Two Parts)

Editor: Helen E. Coffey

Chief: Herbert W. Kroehl
Solar-Terrestrial Physics Division

Staff: Edward H. Erwin

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-- MONTHLY PLOTS	

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CODE	KIND OF OBSERVATION	JUL 02	AUG	SEP	OCT	NOV	DEC	JAN 03	FEB
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A.1	Sunspot Drawings	697A 58	698A 50	699A 52	700A 50	701A 48	702A 50	703A 44	
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A.2c	American Sunspot Numbers	696A 27	697A 27	698A 27	699A 27	700A 27	701A 28	702A 29	703A 25
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A.3d	Mean Solar Magnetic Field (Stanford)	696A 43	697A 49	698A 41	699A 41	700A 39	701A 39	702A 39	703A 34
A.3e	Stanford Magnetograms	697A 58	698A 50	699A 52	700A 50	701A 48	702A 50	703A 44	
A.4	H-alpha Filtergrams	697A 58	698A 50	699A 52	700A 50	701A 48	702A 50	703A 44	
A.5d	PhotometricCa II Faculae(SanFernando)	Jan 92-Dec 96 in 631B 22; 1997-1998 in 663B 66							
A.6c	Stanford Solar Mag Field Synoptic Maps	697A 52	698A 44	699A 46	700A 44	701A 42	702A 44	703A 38	
A.6d	Kitt Peak Solar Mag Field Synoptic Map								
A.6f	Active Prominences and Filaments	701B 61	702B 78	703B 52					
A.6g	Sac Peak Coronal Line Synoptic Maps	697A 54	698A 46	699A 48	700A 46	701A 44	702A 46	703A 40	
A.6h	Photometric White Light (San Fernando)	Jul-Dec 96 630B 32; 1997-1998 in 663B 51							
A.7h	Coronal Line Emission (Sac Peak)	697A 58	698A 50	699A 52	700A 50	701A 48	702A 50	703A 44	
A.7j	Coronal Hole Daily Maps (NSO/KP)	697A 89	698A 81	699A 82	700A 81	701A 78	702A 81	703A 75	
A.7k	Coronal Index (Slovak Academy)	1939-1996 in 644B 28							
A.7m	Coronal Mass Ejections (CSPSW)								
A.8aa	2800 MHz- Solar Flux (Penticton)	696A 27	697A 27	698A 27	699A 27	700A 27	701A 28	702A 29	703A 25
A.8ac	2800 MHz- Adj. Solar Flux (Penticton)	696A 27	697A 27	698A 27	699A 27	700A 27	701A 28	702A 29	703A 25
A.8g	Adjusted Daily Solar Fluxes (Sagamore)	696A 27	697A 27	698A 27	699A 27	700A 27	701A 28	702A 29	703A 25
A.10g	Nancay Radioheliograph -164&327 MHz	697A153	698A151	699A149	700A138	701A124	702A122	703A119	
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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							
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A.16e	VIRGO/SOHO Solar Irradiance	Jan 96-Sep 00 in 678B 46							
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A.17d	ACE Interplanetary Mag Field	701B 63	702B 81	703B 54					
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C.1d	Flare Patrol Observations	701B 19	702B 24	703B 17					
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D.1cb	Monthly Mean aa Indices	697A163	698A165	699A163	700A152	701A138	702A135	703A132	
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The entry "697A 58" under Jul 02, for example, means that the sunspot drawings for Jul 02 appear in SOLAR-GEOPHYSICAL DATA No. 697, Part I, and that they begin on page 58. "A" denotes Part I and "B", Part II. Blanks indicate data not yet received and dashes mark unavailable data.

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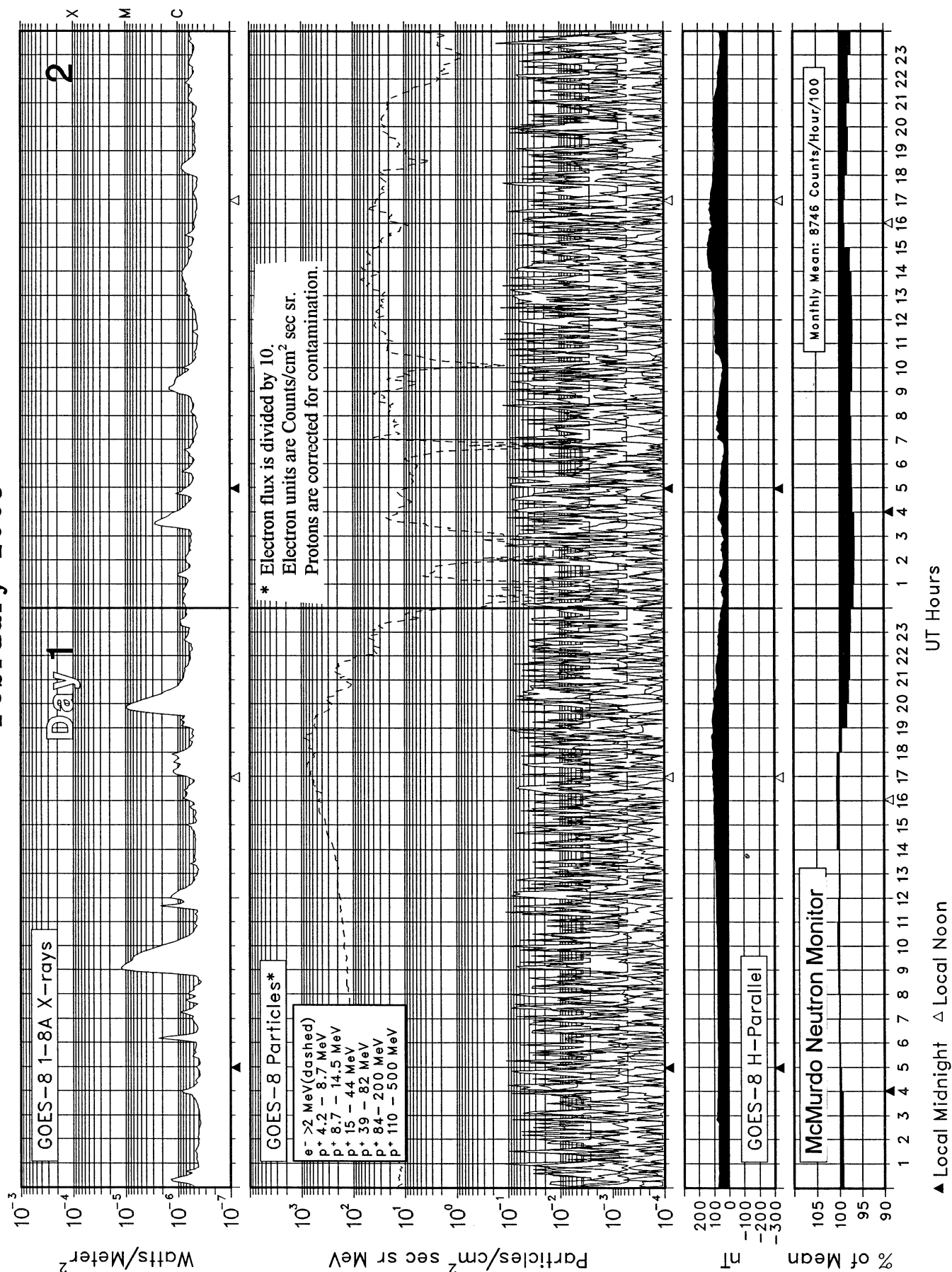
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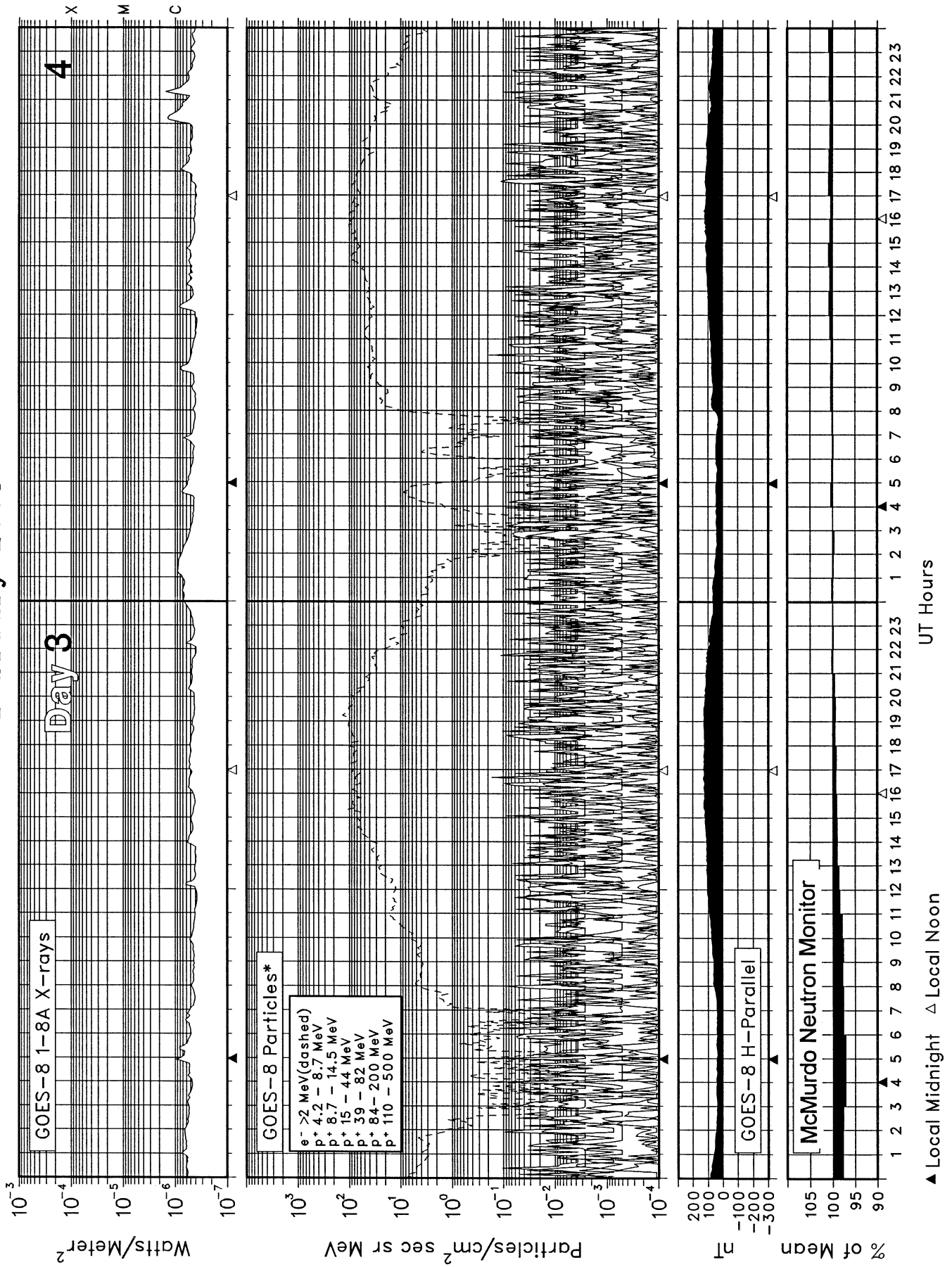
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February 2003

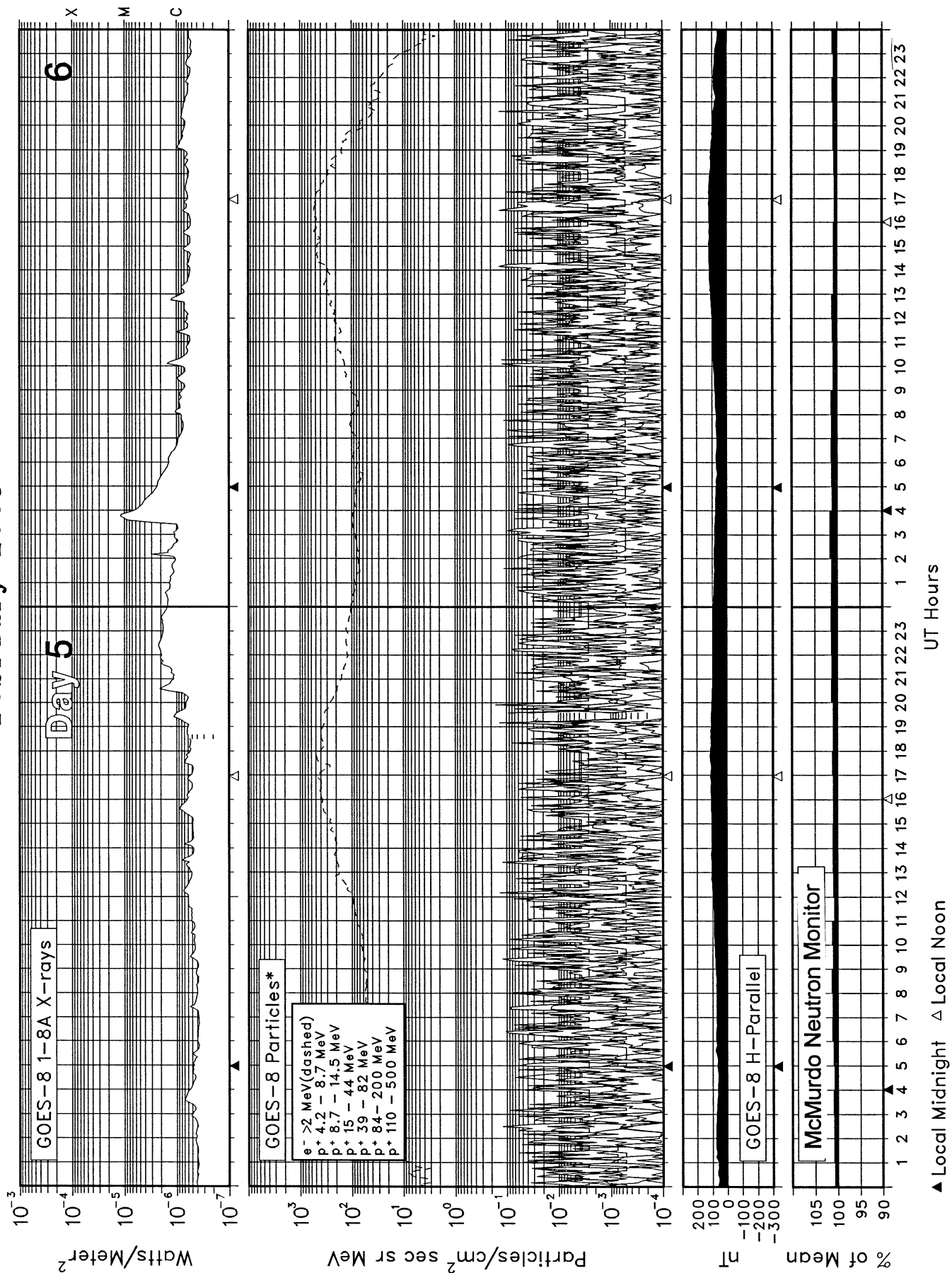


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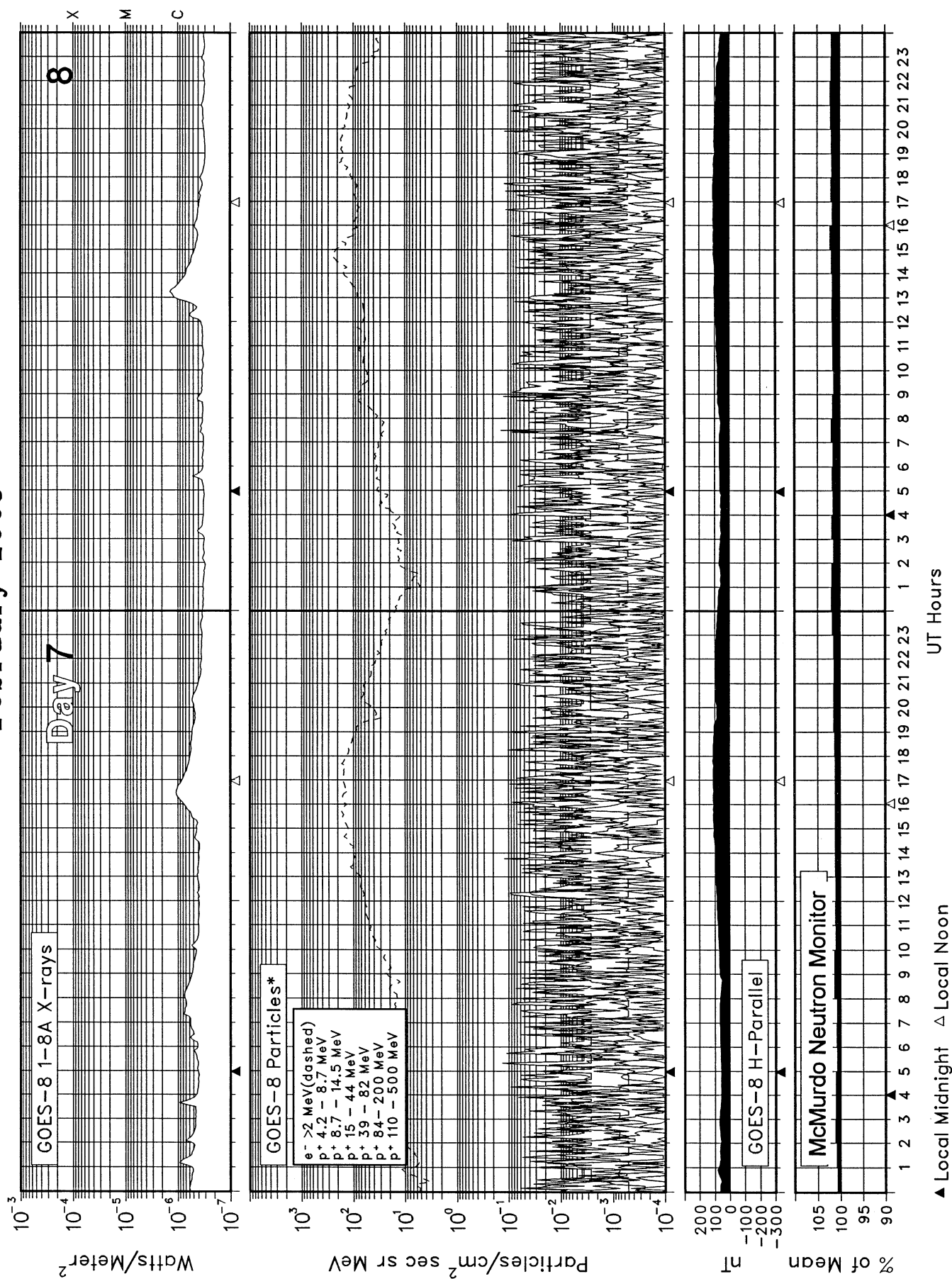


SOLAR-TERRESTRIAL ENVIRONMENT February 2003



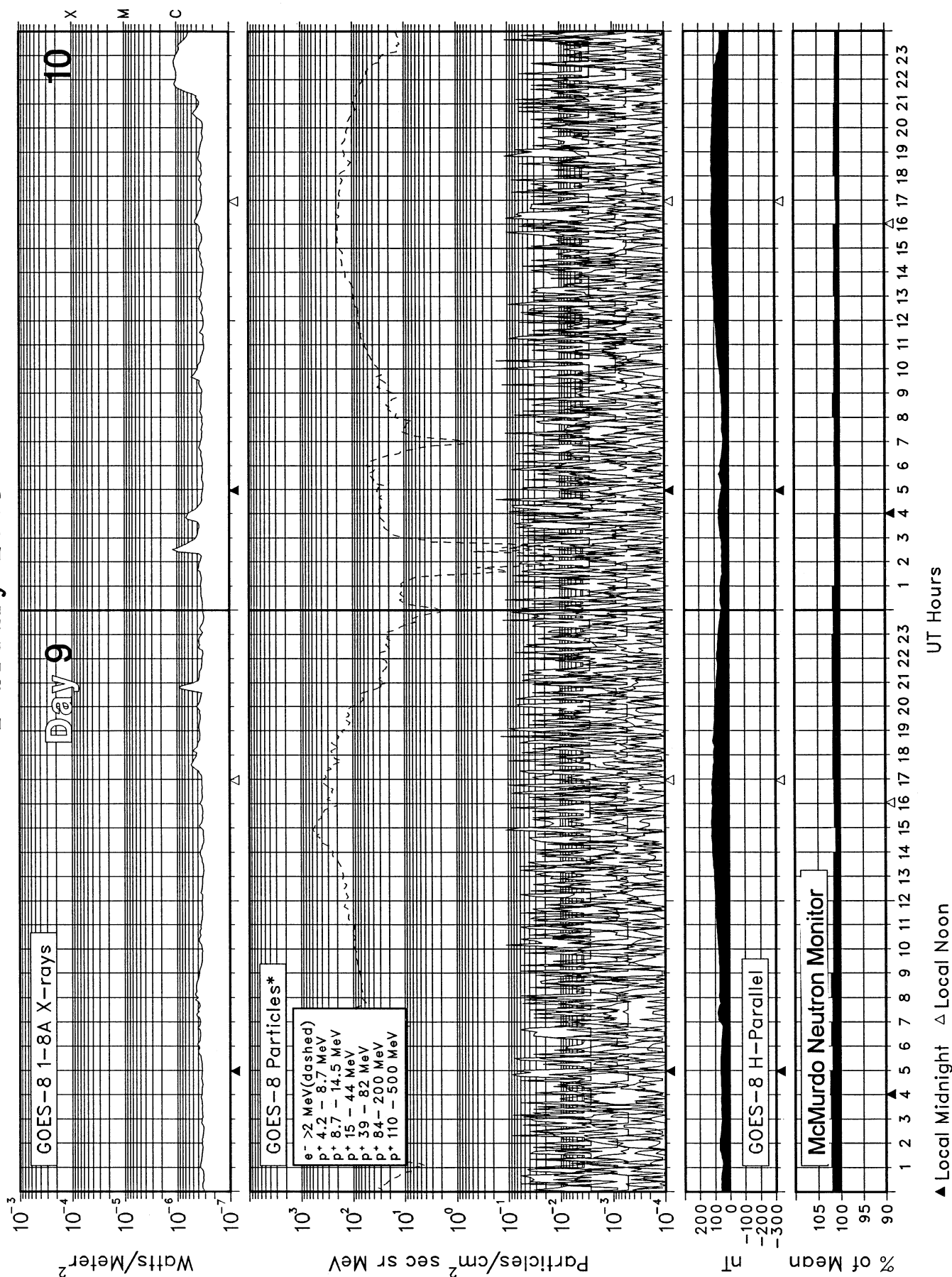
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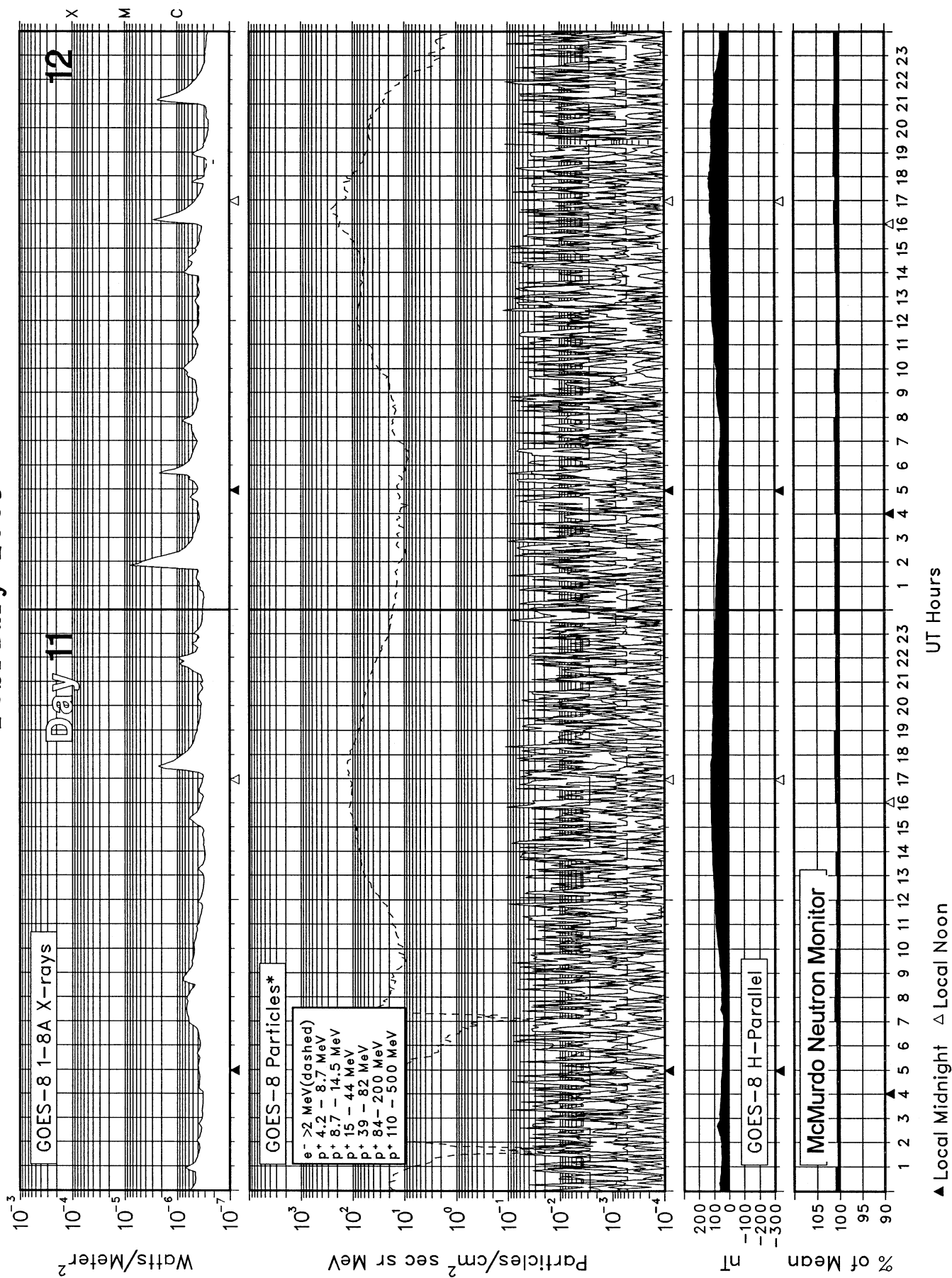
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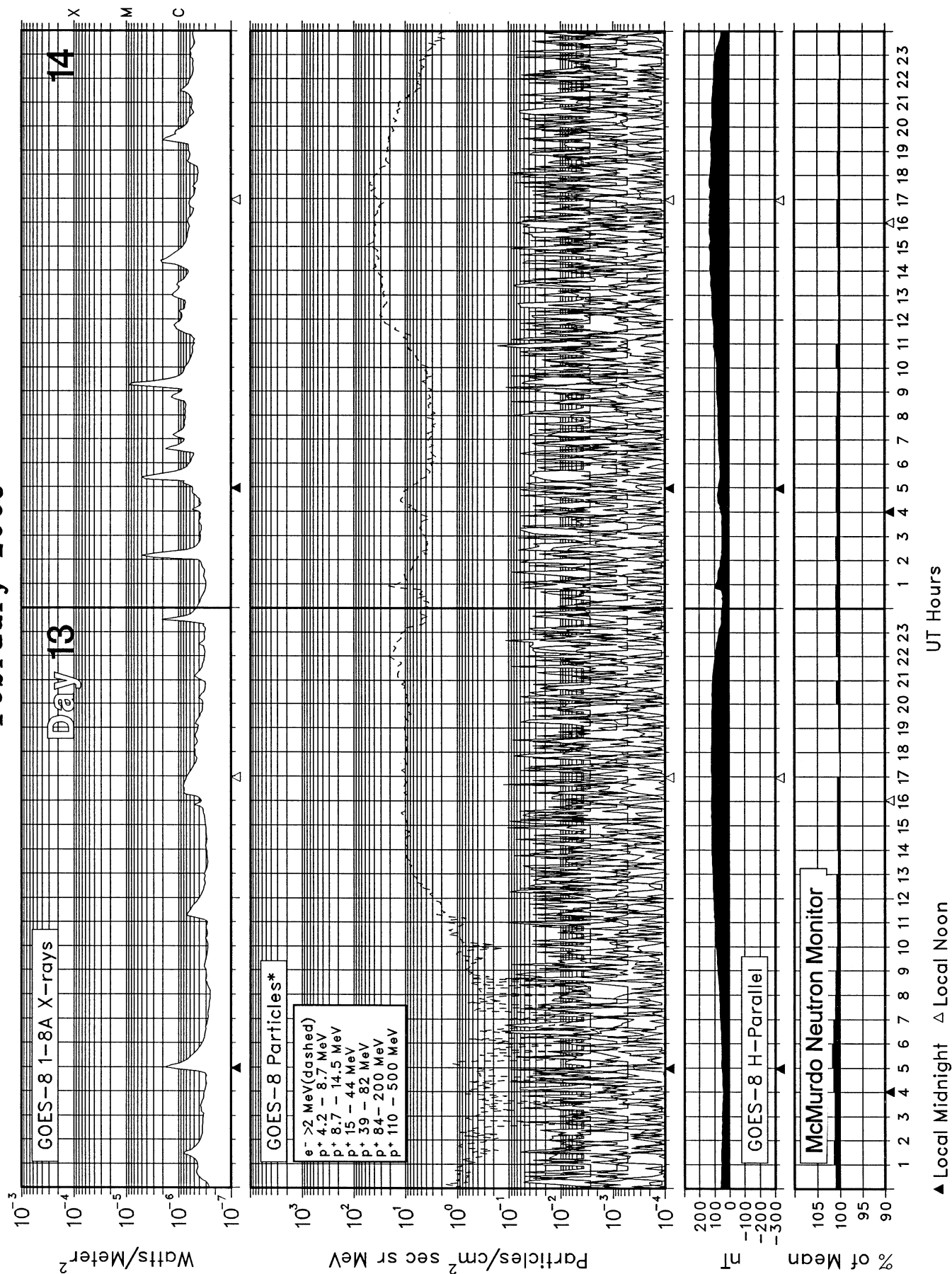
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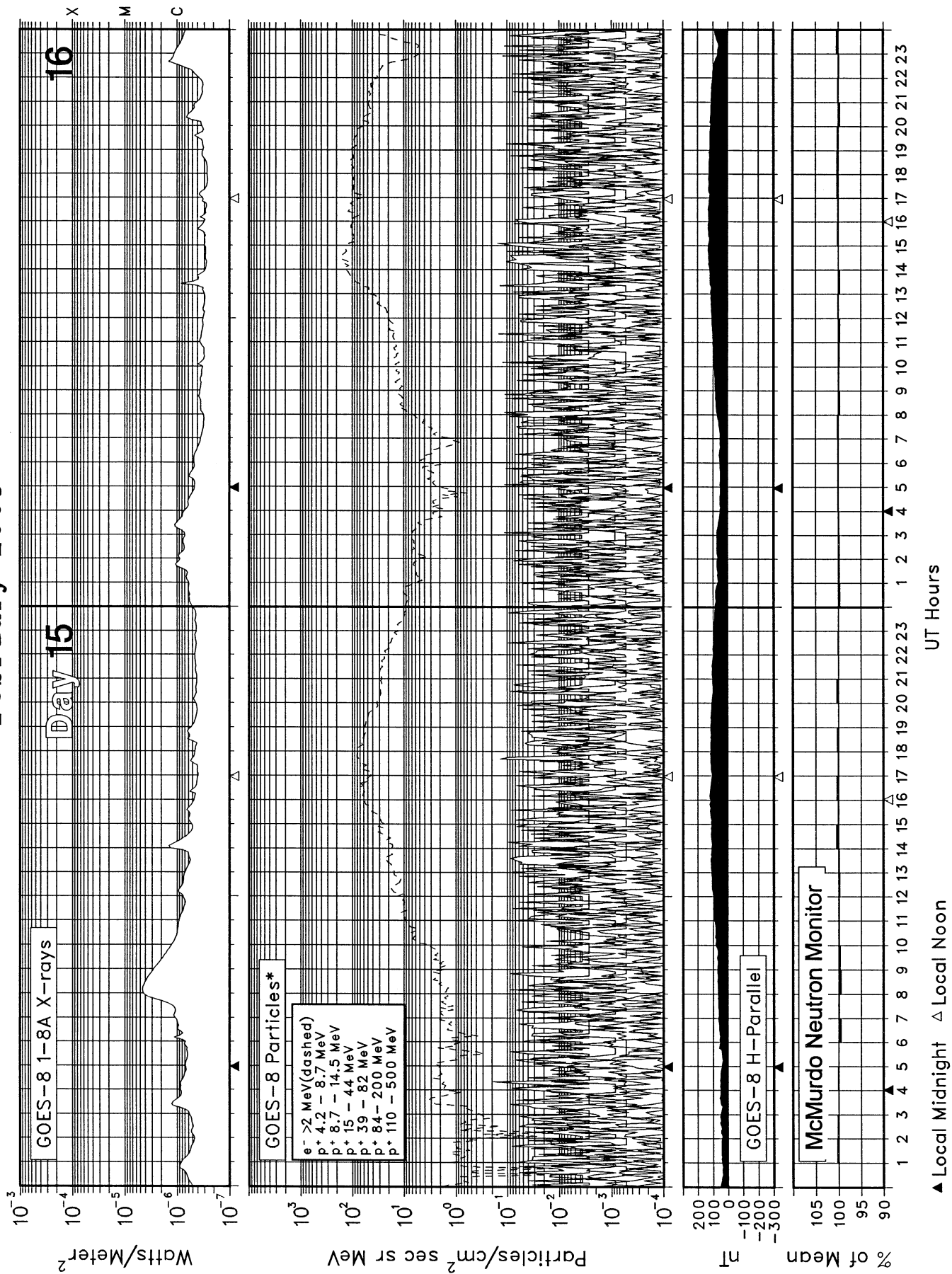
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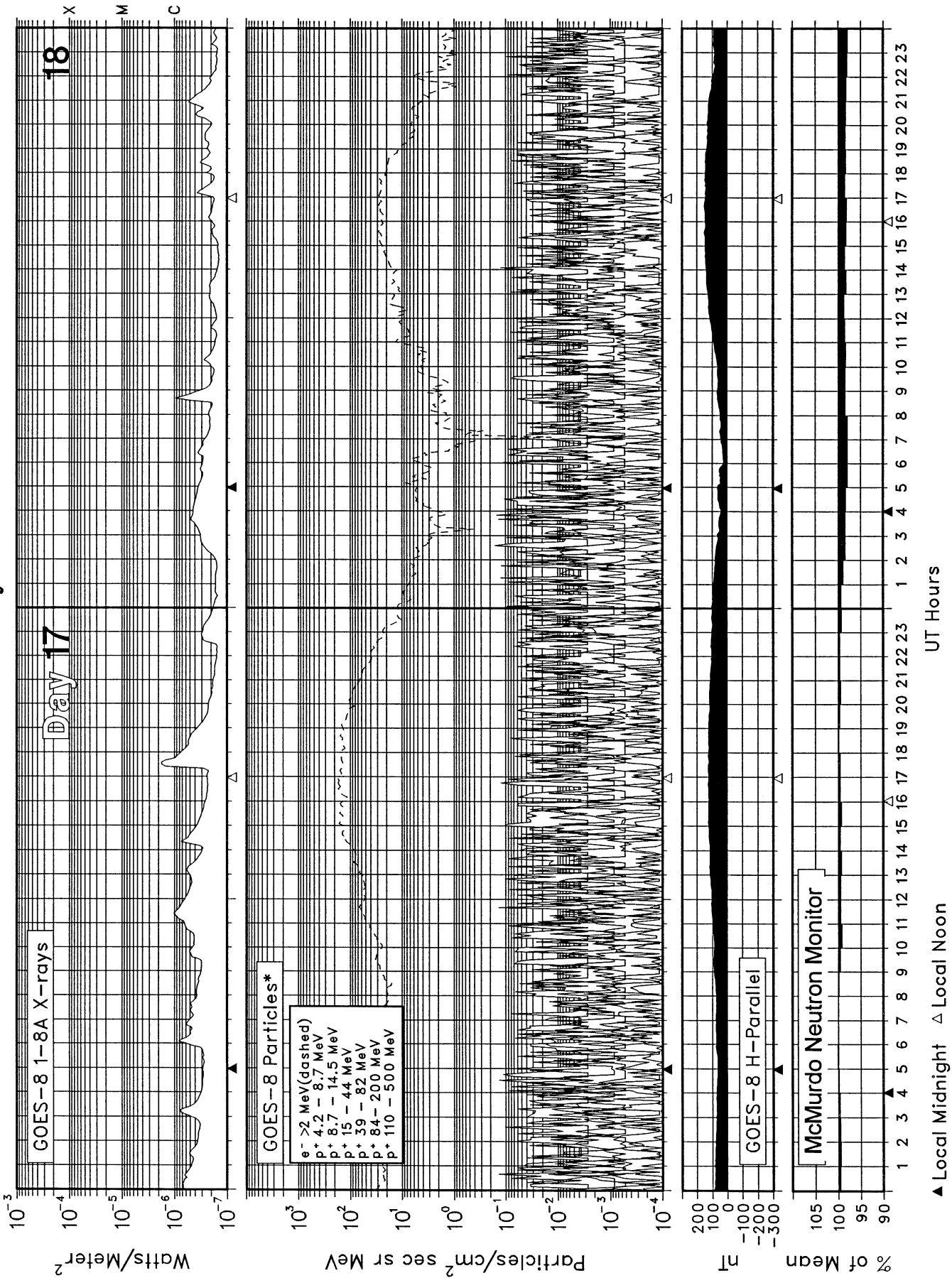


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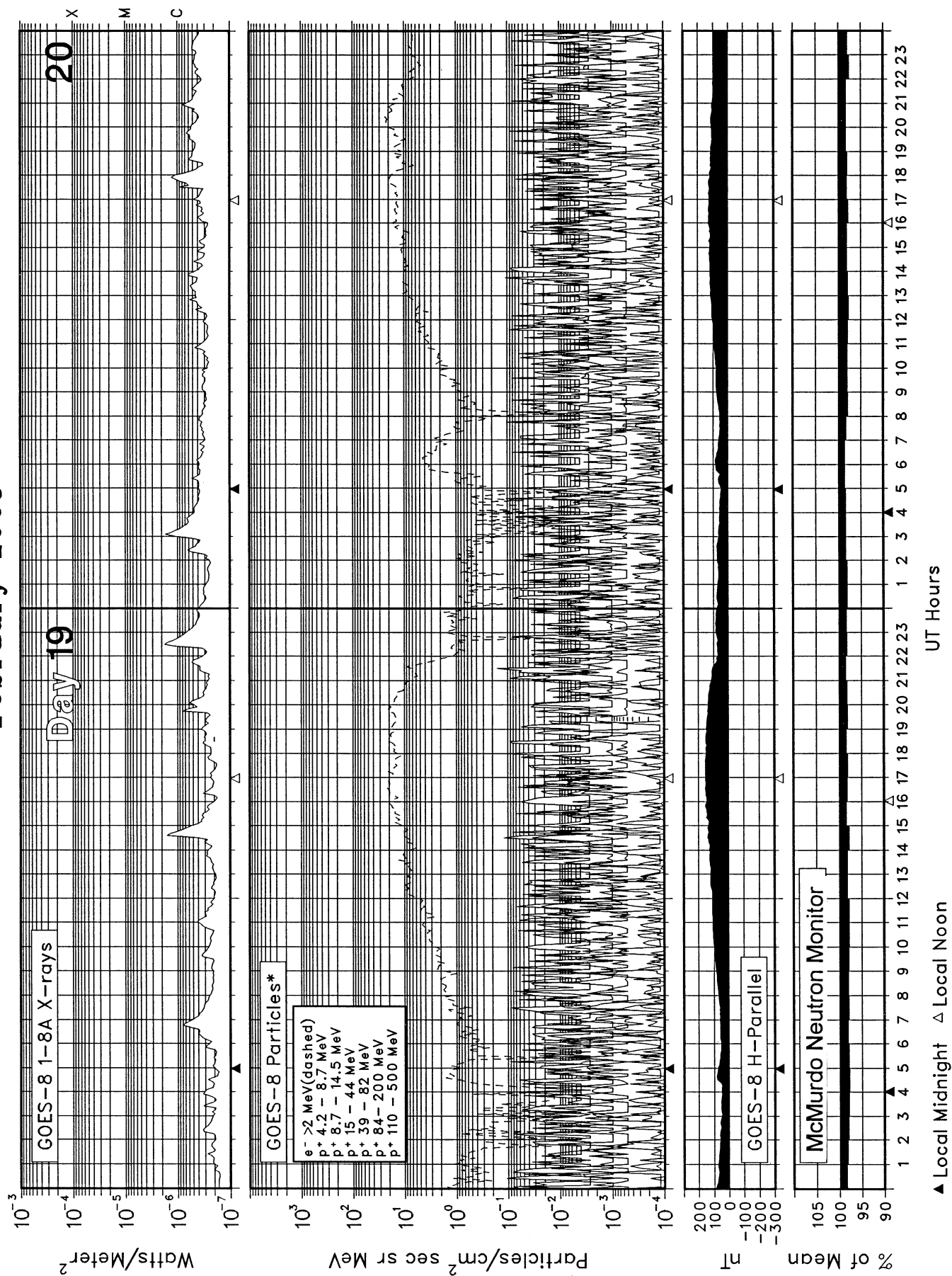
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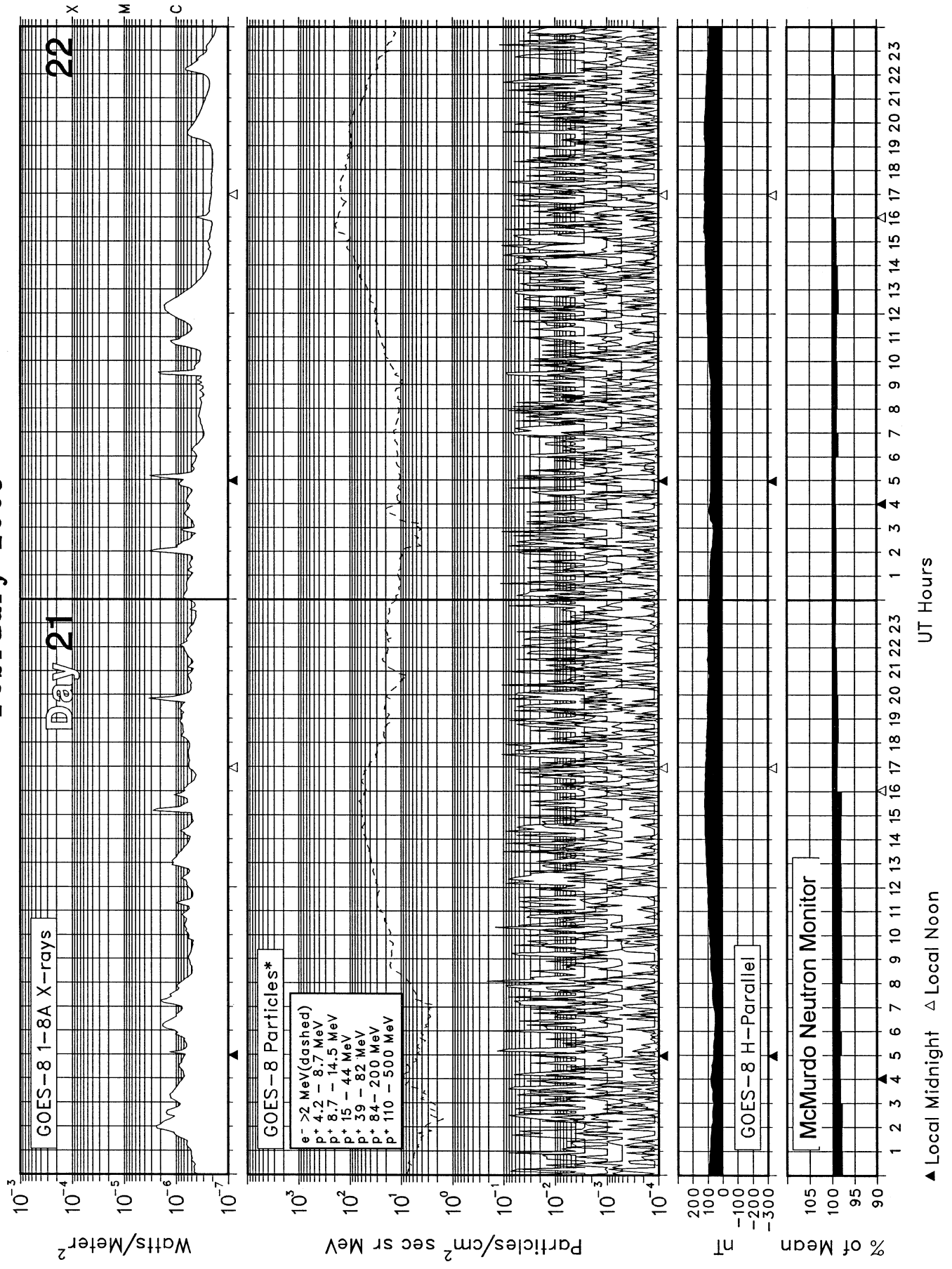
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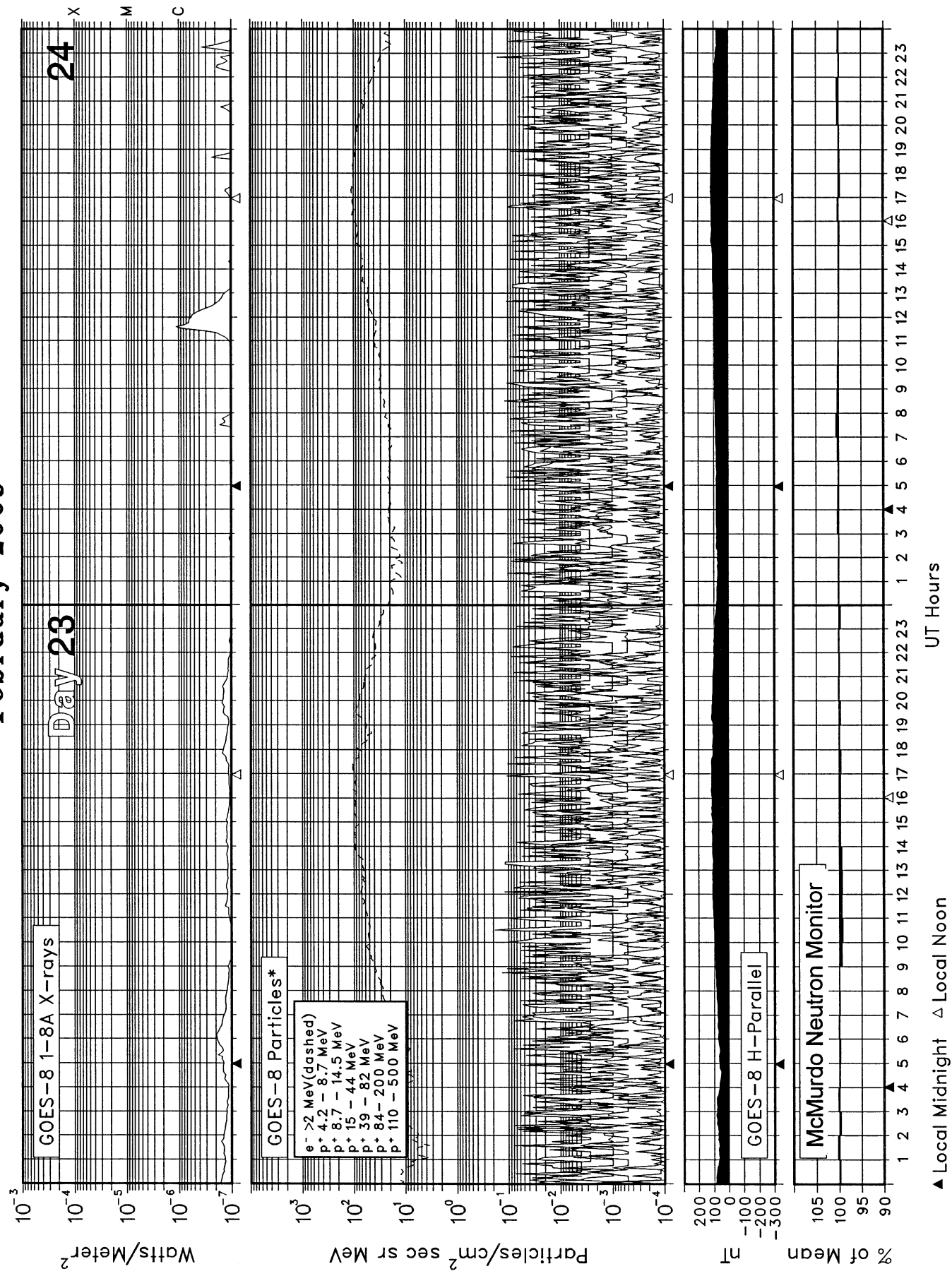
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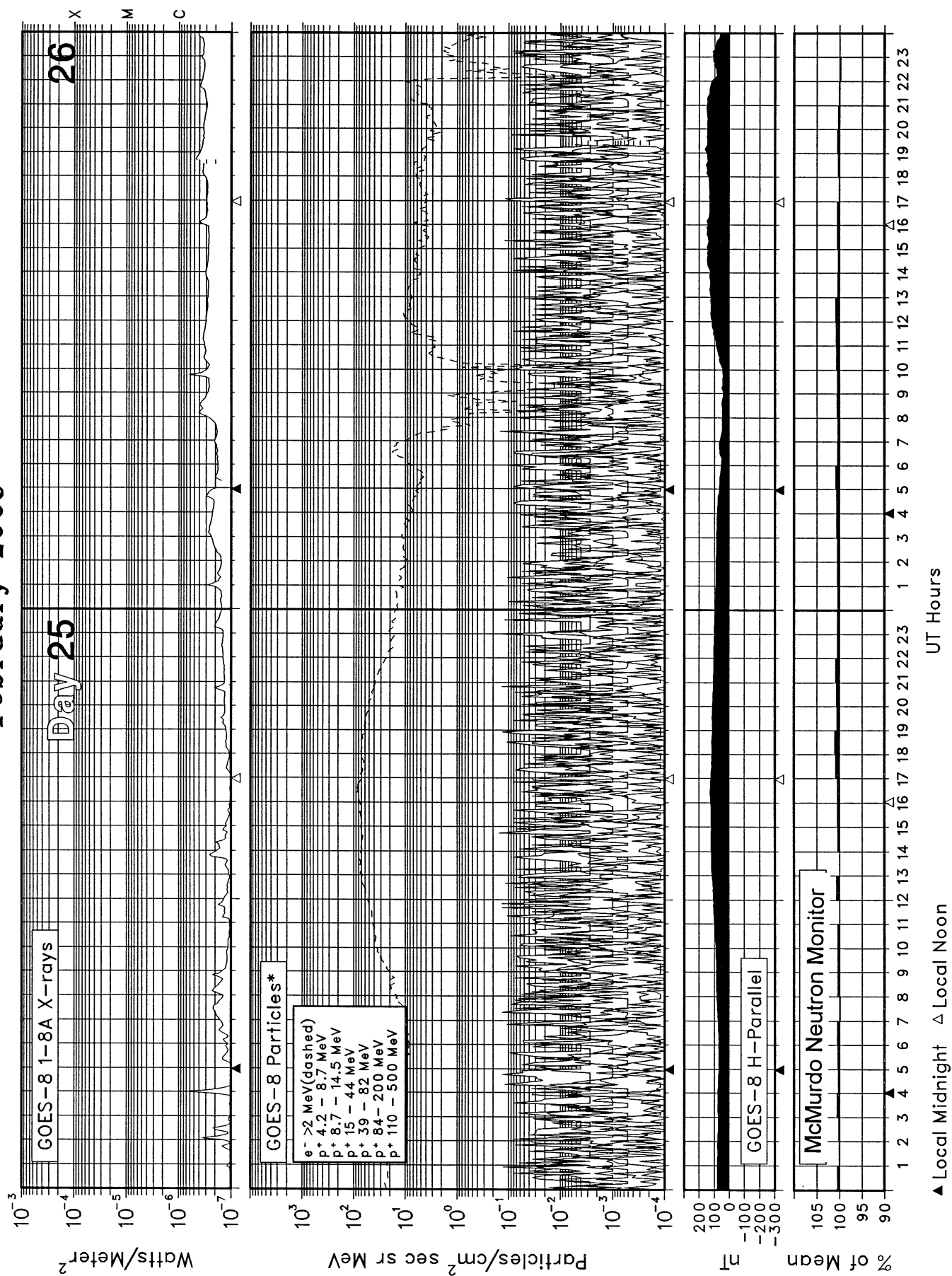
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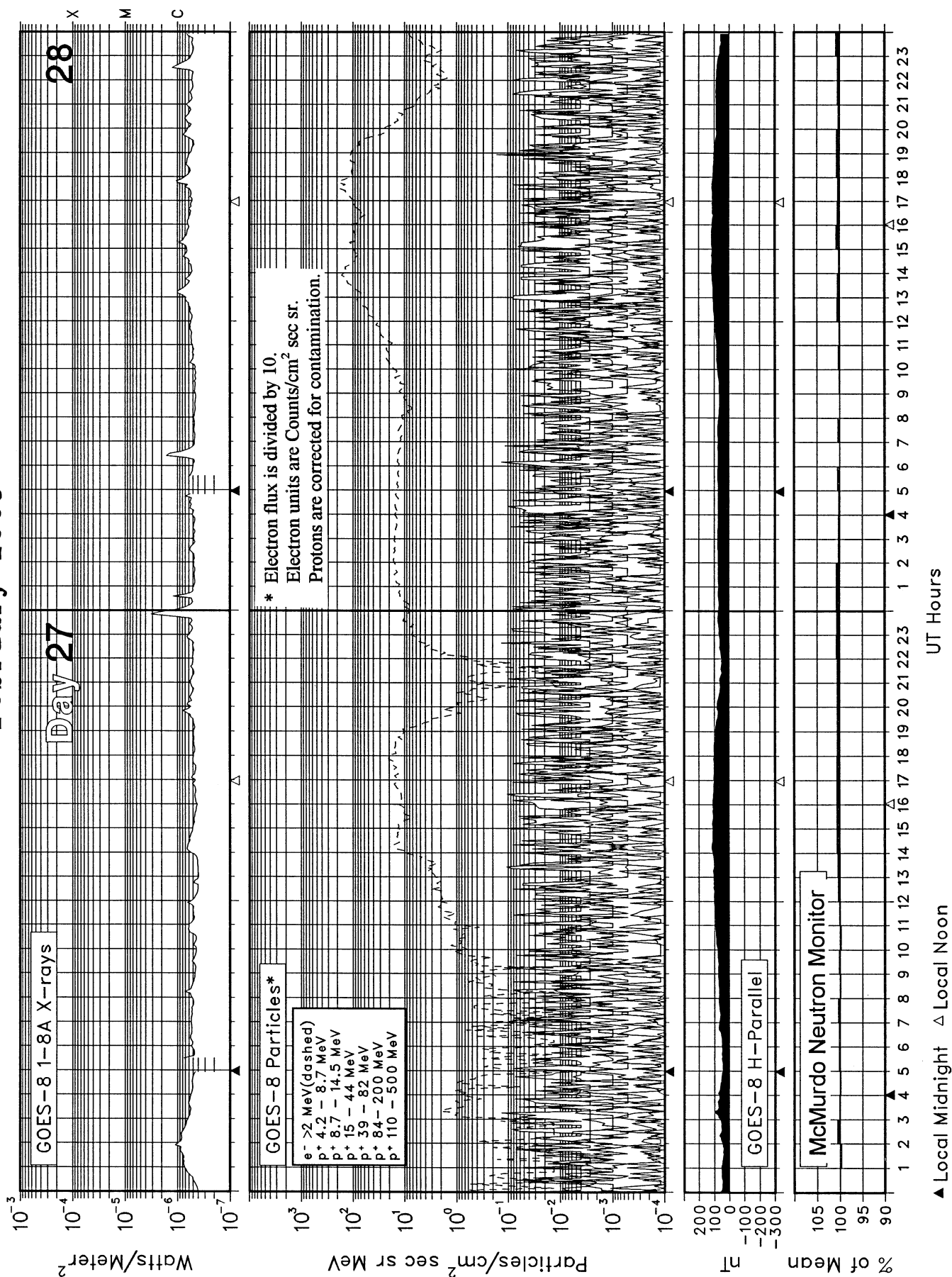
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February 2003



SOLAR-TERRESTRIAL ENVIRONMENT

February 2003



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Feb 03

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

FEBRUARY 2003

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			
032	01	31	96	120	13	266	S21	W95	0	0	0	01	Q	SOL: Eruptive MAG: Active PRO: Quiet
						267	S16	W66	0	0	0	01	Q	
						269	S06	W59	0	0	0	01	Q	
						271	S05	W91	0	0	0	01	Q	
						272	S05	W44	0	0	0	01	Q	
						273	N07	W73	0	0	0	01	Q	
						274	S07	E32	0	0	0	01	Q	
033	02	01	75	126	11	269	S06	W72	0	0	0	02	Q	SOL: Eruptive MAG: Active PRO: Quiet
						272	S05	W57	0	0	0	02	Q	
						273	N07	W87	0	0	0	02	Q	
						274	S07	E18	0	0	0	02	Q	
						276	S15	E78	3	1	0	02	E	
034	03	02	61	127	34	269	S07	W86	0	0	0	03	Q	SOL: Eruptive MAG: Active PRO: Quiet
						272	S04	W71	0	0	0	03	Q	
						274	S06	E05	0	0	0	03	Q	
						276	S14	E66	5	0	0	03	E	
035	04	03	69	133	17	272	S04	W87	0	0	0	04	Q	SOL: Eruptive MAG: Active PRO: Quiet
						274	S05	W09	0	0	0	04	Q	
						276	S14	E54	0	0	0	04	E	
036	05	04	77	135	16	274	S05	W22	0	0	0	05	Q	SOL: Eruptive MAG: Active PRO: Quiet
						276	S13	E40	0	0	0	05	E	
						277	S20	E66	1	0	0	05	E	
						278	N20	E77	0	0	0	05	Q	
037	06	05	89	140	9	274	S05	W37	0	0	0	06	E	SOL: Eruptive MAG: Active PRO: Quiet
						276	S13	E27	0	0	0	06	E	
						277	S20	E54	1	0	0	06	E	
						278	N19	E65	2	0	0	06	E	
						279	S10	E02	0	0	0	06	Q	
038	07	06	135	150	14	274	S05	W50	0	0	0	07	E	SOL: Eruptive MAG: Active PRO: Quiet
						276	S13	E15	1	0	0	07	E	
						277	S18	E41	5	0	0	07	E	
						278	N18	E53	9	0	0	07	E	
						279	S13	W12	0	0	0	07	Q	
						280	S08	E29	2	0	0	07	Q	
						281	S14	E73	0	0	0	07	Q	
039	08	07	153	147	11	274	S05	W63	1	0	0	08	Q	SOL: Eruptive MAG: Active PRO: Quiet
						276	S13	W01	0	0	0	08	E	
						277	S19	E25	1	0	0	08	E	
						278	N18	E40	0	0	0	08	E	
						280	S07	E16	0	0	0	08	Q	
						281	S14	E60	0	0	0	08	Q	
						282	N12	E35	0	0	0	08	Q	
						283	N01	E52	0	0	0	08	Q	
040	09	08	162	139	12	274	S05	W76	0	0	0	09	Q	SOL: Eruptive MAG: Quiet PRO: Quiet
						276	S13	W14	0	0	0	09	Q	
						277	S21	E17	0	0	0	09	Q	
						278	N18	E26	0	0	0	09	Q	
						279	S12	W35	0	0	0	09	Q	
						280	S07	E00	0	0	0	09	Q	
						281	S13	E46	0	0	0	09	Q	
						283	N01	E38	0	0	0	09	Q	
						284	N12	W14	0	0	0	09	Q	
						285	S10	E75	0	0	0	09	Q	
041	10	09	194	141	14	274	S05	W86	0	0	0	10	Q	SOL: Eruptive MAG: Quiet PRO: Quiet
						276	S12	W26	1	0	0	10	Q	
						277	S19	E06	0	0	0	10	Q	
						278	N17	E12	0	0	0	10	Q	
						280	S07	W13	1	0	0	10	Q	

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

FEBRUARY 2003

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)	Geoadvise(1)
							Lat	Lon	Opt	M	X			
						281	S15	E33	0	0	0	10	Q	
						282	N11	E08	0	0	0	10	Q	
						283	N00	E25	0	0	0	10	Q	
						284	N13	W26	0	0	0	10	Q	
						285	S11	E65	0	0	0	10	Q	
						286	S11	W17	0	0	0	10	Q	
042	11	10	163	136	16	276	S14	W39	0	0	0	11	Q	SOL: Eruptive
						277	S19	W07	0	0	0	11	Q	MAG: Quiet
						278	N18	W02	0	0	0	11	Q	PRO: Quiet
						280	S05	W28	0	0	0	11	Q	
						281	S14	E20	0	0	0	11	Q	
						282	N11	W06	0	0	0	11	Q	
						283	N01	E13	0	0	0	11	Q	
						284	N14	W41	0	0	0	11	Q	
						285	S11	E51	0	0	0	11	Q	
						286	S13	W32	0	0	0	11	Q	
043	12	11	134	135	10	276	S14	W51	0	0	0	12	Q	SOL: Eruptive
						277	S18	W21	1	0	0	12	Q	MAG: Quiet
						278	N18	W16	0	0	0	12	Q	PRO: Quiet
						280	S06	W42	1	0	0	12	Q	
						281	S15	E07	0	0	0	12	Q	
						282	N10	W19	0	0	0	12	Q	
						283	N00	E00	0	0	0	12	Q	
						284	N12	W56	0	0	0	12	Q	
						285	S11	E38	0	0	0	12	Q	
044	13	12	119	132	9	276	S14	W64	0	0	0	13	Q	SOL: Eruptive
						277	S18	W34	0	0	0	13	Q	MAG: Quiet
						278	N18	W29	0	0	0	13	Q	PRO: Quiet
						280	S06	W55	2	0	0	13	E	
						281	S15	W06	0	0	0	13	Q	
						282	N10	W32	3	0	0	13	Q	
						283	N00	W13	0	0	0	13	Q	
						285	S11	E25	0	0	0	13	Q	
045	14	13	113	131	7	276	S14	W77	0	0	0	14	Q	SOL: Eruptive
						277	S18	W47	0	0	0	14	Q	MAG: Quiet
						278	N18	W42	0	0	0	14	Q	PRO: Quiet
						280	S06	W68	1	0	0	14	Q	
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						285	S11	E12	0	0	0	14	Q	
046	15	14	113	131	19	276	S14	W90	0	0	0	15	Q	SOL: Eruptive
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						278	N18	W55	0	0	0	15	Q	PRO: Quiet
						281	S15	W32	0	0	0	15	Q	
						282	N10	W58	0	0	0	15	E	
						283	N00	W39	0	0	0	15	Q	
						285	S11	W01	0	0	0	15	Q	
						287	N12	W50	0	0	0	15	Q	
047	16	15	96	124	18	278	N18	W68	0	0	0	16	Q	SOL: Eruptive
						281	S15	W45	0	0	0	16	Q	MAG: Active
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048	17	16	41	119	13	282	N11	W82	0	0	0	17	Q	SOL: Eruptive
						285	S12	W27	0	0	0	17	Q	MAG: Active
						288	N11	E59	0	0	0	17	Q	PRO: Quiet

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Feb 03

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

FEBRUARY 2003

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			
049	18	17	16	112	12	288	N12	E44	0	0	0	18	Q	SOL: Eruptive MAG: Active PRO: Quiet
									0	0	0	18		
									0	0	0	18		
050	19	18	51	110	18	288	N12	E32	0	0	0	19	Q	SOL: Eruptive MAG: Active PRO: Quiet
						289	N11	W52	0	0	0	19	Q	
						290	N17	E46	0	0	0	19	Q	
051	20	19	57	116	12	288	N13	E15	2	0	0	20	Q	SOL: Eruptive MAG: Active PRO: Quiet
						289	N09	W66	0	0	0	20	Q	
						290	N18	E31	5	0	0	20	Q	
052	21	20	66	118	17	288	N13	E01	0	0	0	21	Q	SOL: Eruptive MAG: Active PRO: Quiet
						289	N10	W81	0	0	0	21	Q	
						290	N17	E18	2	0	0	21	E	
053	22	21	87	120	13	288	N13	W10	0	0	0	22	Q	SOL: Eruptive MAG: Quiet PRO: Quiet
						289	N09	W91	0	0	0	22	Q	
						290	N17	E05	3	0	0	22	E	
						291	S23	E03	0	0	0	22	Q	
054	23	22	53	107	12	288	N14	W27	0	0	0	23	Q	SOL: Eruptive MAG: Active PRO: Quiet
						290	N18	W06	5	0	0	23	E	
						291	S23	W08	0	0	0	23	Q	
055	24	23	41	104	10	290	N14	W40	0	0	0	24	Q	SOL: Eruptive MAG: Quiet PRO: Quiet
						290	N18	W21	0	0	0	24	E	
									0	0	0	24		
056	25	24	44	102	6	290	N15	W54	0	0	0	25	Q	SOL: Eruptive MAG: Quiet PRO: Quiet
						290	N18	W33	1	0	0	25	E	
									0	0	0	25		
057	26	25	48	102	5	288	N16	W66	0	0	0	26	Q	SOL: Eruptive MAG: Quiet PRO: Quiet
						290	N18	W47	2	0	0	26	Q	
						292	S08	W14	0	0	0	26	Q	
058	27	26	45	109	14	288	N16	W81	0	0	0	27	Q	SOL: Eruptive MAG: Active PRO: Quiet
						290	N18	W60	1	0	0	27	Q	
						292	S08	W28	0	0	0	27	Q	
059	28	27	82	118	23	288	N14	W94	0	0	0	28	Q	SOL: Eruptive MAG: Active PRO: Quiet
						290	N18	W75	0	0	0	28	Q	
						292	S07	W42	0	0	0	28	Q	
						293	S21	E26	0	0	0	28	Q	
						294	S08	E42	0	0	0	28	Q	
						295	S19	E65	0	0	0	28	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

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

FEBRUARY 2003

Proton (PRO) Geoadvice

'Quiet'
'Proton' event expected (10pfu at > 10 MeV)
'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

STRATALERT BERLIN 01 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.

STILL DISTURBED TEMPERATURE DISTRIBUTION IN THE MIDDLE AND UPPER STRATOSPHERE
WITH A REVERSED TEMPERATURE GRADIENT BETWEEN 60N AND THE POLE AT 2 AND 1 HPA.

STRATALERT BERLIN 02 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.

STILL DISTURBED TEMPERATURE DISTRIBUTION IN THE MIDDLE AND UPPER STRATOSPHERE WITH A
REVERSED TEMPERATURE GRADIENT BETWEEN 60N AND THE POLE FROM 10 HPA UPWARDS.

STRATALERT BERLIN 03 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.

STILL DISTURBED TEMPERATURE DISTRIBUTION IN THE MIDDLE AND UPPER STRATOSPHERE,
TEMPERATURE GRADIENT REVERSED FROM 10 TO 1HPA.

STRATALERT BERLIN 04 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.

IN THE MIDDLE AND UPPER STRATOSPHERE STILL DISTURBED TEMPERATURE DISTRIBUTION,
TEMPERATURE GRADIENT REVERSED FROM 10 TO 1HPA.

STRATALERT BERLIN 05 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.

IN THE MIDDLE AND UPPER STRATOSPHERE STILL DISTURBED TEMPERATURE DISTRIBUTION,
TEMPERATURE GRADIENT REVERSED FROM 20 TO 1 HPA.

STRATALERT BERLIN 06 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.

IN THE MIDDLE AND UPPER STRATOSPHERE STILL DISTURBED TEMPERATURE DISTRIBUTION,
TEMPERATURE GRADIENT REVERSED FROM 20 TO 1 HPA.

STRATALERT BERLIN 07 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.

IN THE MIDDLE AND UPPER STRATOSPHERE STILL DISTURBED TEMPERATURE DISTRIBUTION.

STRATALERT BERLIN 08 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.

IN THE MIDDLE AND UPPER STRATOSPHERE STILL DISTURBED TEMPERATURE DISTRIBUTION.

STRATALERT BERLIN 09 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.

IN THE MIDDLE AND UPPER STRATOSPHERE STILL DISTURBED TEMPERATURE DISTRIBUTION.

STRATALERT BERLIN 10 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.

IN THE MIDDLE AND UPPER STRATOSPHERE STILL SLIGHTLY DISTURBED TEMPERATURE DISTRIBUTION

STRATALERT BERLIN 11 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.

IN THE MIDDLE AND UPPER STRATOSPHERE SLIGHTLY DISTURBED TEMPERATURE DISTRIBUTION.

STRATALERT BERLIN 12 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.

IN THE MIDDLE AND UPPER STRATOSPHERE SLIGHTLY DISTURBED TEMPERATURE DISTRIBUTION.

STRATALERT BERLIN 13 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.

IN THE MIDDLE AND UPPER STRATOSPHERE SLIGHTLY DISTURBED TEMPERATURE DISTRIBUTION
WITH A WARM REGION OVER SIBERIA, LEADING TO REVERSED TEMPERATURE GRADIENT BETWEEN
60N AND THE POLE FROM 5 TO 1 HPA.

STRATALERT BERLIN 14 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.

IN THE MIDDLE AND UPPER STRATOSPHERE STILL SLIGHTLY DISTURBED TEMPERATURE DISTRIBUTION.

STRATALERT BERLIN 15 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.

NEW WARM PULS DEVELOPING OVER SIBERIA IN THE MIDDLE AND UPPER STRATOSPHERE LEADING TO A
REVERSED TEMPERATURE GRADIENT FROM 10 HPA UP TO 1 HPA.

STRATALERT BERLIN 16 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.

STRONG WAVE TWO CIRCULATION PATTERN THROUGHOUT THE STRATOSPHERE WITH A REVERSED
TEMPERATURE GRADIENT FROM 30 HPA UP TO 1 HPA AND EASTERLY ZONAL MEAN WINDS

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Feb 03

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

FEBRUARY 2003

AT 1 AND 2 HPA.

STRATALERT BERLIN 17 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.
WAVE TWO CIRCULATION PATTERN THROUGHOUT THE STRATOSPHERE WITH A REVERSED TEMPERATURE GRADIENT THROUGHOUT THE STRATOSPHERE AND EASTERLY ZONAL MEAN WINDS AT 1 AND 2 HPA.

STRATALERT BERLIN 18 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.
THERE IS A STRONG WAVE TWO FORMATION IN THE MIDDLE ATMOSPHERE WITH A CONTINUING REVERSED TEMPERATURE GRADIENT ON ALL LEVELS AND EASTERLY ZONAL MEAN WINDS ON 3HPA AND ABOVE.

STRATALERT BERLIN 19 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.
THE WAVE TWO PATTERN PERSISTS WITH A CONTINUING REVERSED TEMPERATURE GRADIENT ON ALL LEVELS AND EASTERLY WINDS ON 3 AND 5HPA.

STRATALERT BERLIN 20 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.
THE WAVE TWO FORMATION IS STILL EVIDENT. THERE IS A REVERSED TEMPERATURE GRADIENT THROUGHOUT THE STRATOSPHERE AND EASTERLY WINDS ON 3HPA AND 1HPA AT 60N.

STRATALERT BERLIN 21 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.
THE WAVE TWO FORMATION IS STILL EVIDENT. THERE IS A REVERSED TEMPERATURE GRADIENT THROUGHOUT THE STRATOSPHERE AND EASTERLY WINDS AT 1 HPA AT 60N.

STRATALERT BERLIN 22 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.
THE WAVE TWO FORMATION IS STILL EVIDENT. THERE IS A REVERSED TEMPERATURE GRADIENT BETWEEN 50 AND 10 HPA AS WELL AS AT 1HPA.

STRATALERT BERLIN 23 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.
THE WAVE TWO FORMATION IS STILL EVIDENT. THERE IS A REVERSED TEMPERATURE GRADIENT BETWEEN 50 AND 10 HPA.

STRATALERT BERLIN 24 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.
IN THE LOWER AND MIDDLE STRATOSPHERE THE WAVE TWO FORMATION IS STILL EVIDENT.
A WEAKLY REVERSED TEMPERATURE GRADIENT EXISTS FROM 10 TO 1 HPA.

STRATALERT BERLIN 25 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.
FURTHER DISTURBED TEMPERATURE DISTRIBUTION OVER HIGH LATITUDES IN THE MIDDLE AND UPPER STRATOSPHERE.

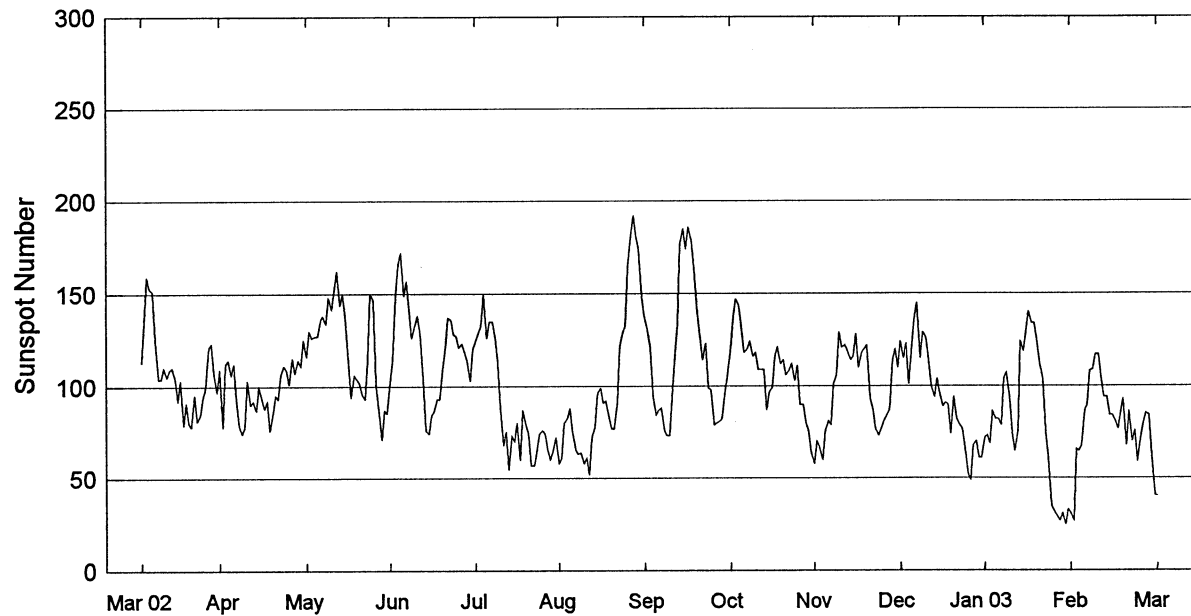
STRATALERT BERLIN 26 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.
FURTHER DISTURBED STRATOSPHERE FROM 10 TO 3 HPA. TEMPERATURES COLD ENOUGH FOR PSC FORMATION OVER THE EUROPEAN ARCTIC WITHIN 3 DAYS.

STRATALERT BERLIN 27 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.
DISTURBED TEMPERATURE DISTRIBUTION FROM 10 HPA UPWARDS, EXCEPT AT 20 HPA. TEMPERATURES COLD ENOUGH FOR PSC FORMATION EXIST OVER THE EUROPEAN ARCTIC.

STRATALERT BERLIN 28 FEBRUARY 2003 1400 UTC STRATALERT EXISTS.
DISTURBED TEMPERATURE PATTERN FROM 10 HPA UPWARDS. TEMPERATURES LOW ENOUGH FOR PSC FORMATION PERSISTS OVER THE NORWEGIAN SEA.

International Relative Sunspot Numbers Mar 2002 - Feb 2003

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Feb 03



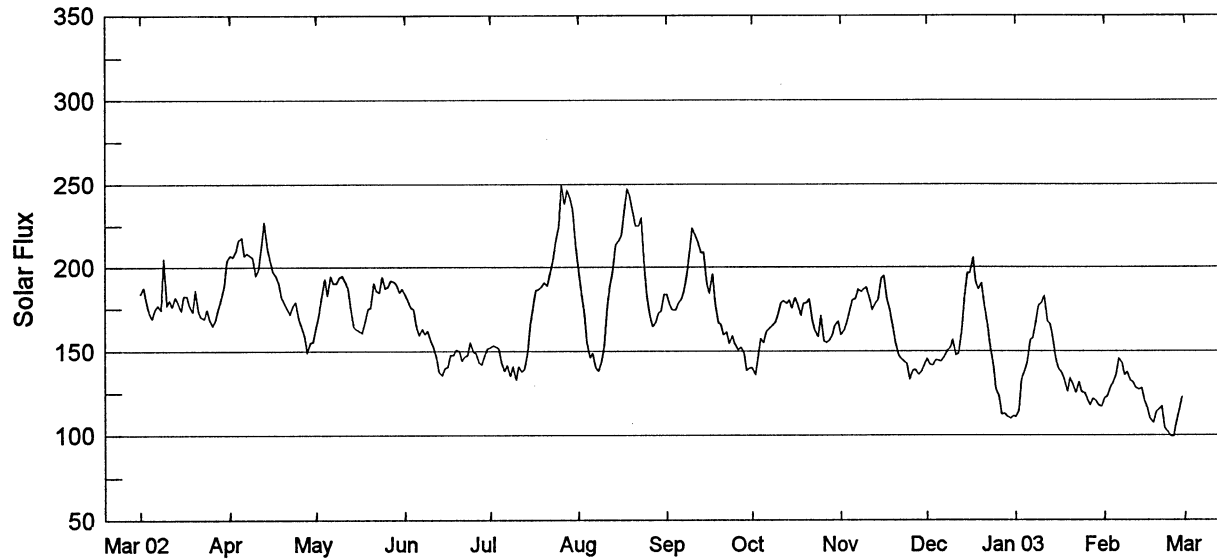
Day	Mar 02	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 03*	Feb*
1	109	116	102	124	58	137	120	58	124	72	31	40
2	78	130	114	129	61	132	136	70	115	66	27	43
3	112	126	149	133	80	121	147	67	123	64	66	36
4	114	127	166	150	82	95	144	60	107	80	65	35
5	106	127	172	126	88	84	132	76	122	82	68	54
6	112	136	149	135	75	87	118	81	137	82	86	68
7	93	138	157	135	66	88	120	79	145	79	90	82
8	79	134	142	127	63	76	124	101	115	98	108	87
9	74	148	126	113	64	73	116	106	129	107	109	93
10	78	142	133	88	58	73	118	129	126	94	117	73
11	103	152	138	68	61	99	109	121	114	74	117	73
12	90	162	130	75	52	117	109	122	100	65	104	71
13	92	144	104	55	72	134	109	119	94	75	94	59
14	87	150	76	73	78	177	87	114	104	124	94	45
15	100	138	74	70	96	185	97	116	102	119	84	31
16	94	113	84	80	99	174	99	128	89	129	84	22
17	88	94	86	60	91	186	116	110	91	140	81	10
18	92	106	93	87	92	179	121	118	83	134	77	20
19	76	104	93	79	83	164	112	120	74	134	87	33
20	85	102	107	74	77	140	114	122	94	124	93	44
21	95	95	121	57	77	127	106	93	82	112	68	46
22	93	93	137	57	91	114	108	88	79	104	86	34
23	106	114	136	65	121	123	112	77	77	75	70	28
24	111	150	128	74	129	99	103	73	67	57	76	28
25	109	147	127	76	133	98	111	77	56	35	59	32
26	101	101	121	74	164	79	90	81	49	32	72	30
27	115	88	123	66	182	80	90	84	68	29	80	43
28	107	71	119	60	192	81	80	87	70	27	85	34
29	114	87	114	66	181	82	76	114	61	31	84	
30	111	85	103	72	174	97	64	120	61	29	62	
31	125		120		148	106		110		33	41	
Mean	98.4	120.7	120.8	88.3	99.6	116.4	109.6	97.5	95.5	80.8	79.5	46.2

* = Provisional.

Penticton 2800 MHz (10.7cm) Solar Flux

Mar 2002 - Feb 2003

Adjusted to 1 AU



Day	Mar 02	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 03	Feb
1	184.3	206.7	164.9	183.9	152.3	198.3	183.8	140.1	159.7	145.5	111.2	122.1
2	187.6	205.9	171.7	180.0	153.5	185.7	176.9	136.0	162.1	142.0	114.4	123.0
3	179.6	209.4	182.0	175.4	152.4#	172.7	174.4	146.1	166.5	141.8	133.1	128.7
4	172.0	216.3	192.7	174.7	151.3	155.3	174.2	157.6	174.4	144.5	138.2	131.0
5	169.4	217.6	183.2	163.7	143.5	146.0	178.1	155.1	180.0	144.4	143.2	136.2
6	175.0	206.7	194.3	159.1	138.0	148.8	180.9	161.6	181.2	143.9	156.8	145.4
7	177.0	208.4	190.3	163.1	141.5	140.1	185.6	163.5	186.4	146.6	157.8	143.3
8	174.2	206.8	190.2	159.9	135.3	138.3	194.4	165.1	185.5	149.8	168.0	135.4
9	204.8x	205.8	193.7	161.9	140.9	144.0	209.0	166.8	187.0	151.6	176.9	137.6
10	176.9	195.1	194.8	156.2	133.1	152.4	223.5	171.4	187.7	156.5	178.7	132.6
11	180.0	198.3	191.8	152.4	141.0	176.9	219.0	178.7	181.0	147.7	182.6	131.4
12	176.2	213.0	187.1	146.2	137.7	188.8	215.1	179.7	174.6	148.4	167.7	128.2
13	182.1	227.3	175.6	137.6	139.4	196.8	208.6	178.3	178.6	161.8	166.2	127.3
14	178.6	211.6	164.2	135.6	148.6	213.5	209.2	180.2	180.2	180.1	158.6	128.1
15	174.0	204.7	162.7	139.7	164.8#	215.7	189.9	175.7	193.2	196.6	145.0	120.6
16	182.7	197.2	162.0	141.0	177.2	219.1	184.5	181.4	194.8	196.5	139.9	115.7
17	182.7	195.0	160.7	147.5	185.9	232.3	195.9	177.7	180.5	205.8	137.1	109.4
18	176.5	189.8	166.8	147.5	186.6	246.9	178.4	171.3	174.8	190.6	133.0	107.4
19	173.3	181.4	175.0	150.5	188.3	242.6	166.7	178.1	164.3	186.7	126.1	113.6
20	186.3	179.0	175.4	149.8	190.7	232.8	165.8	178.7	155.3	190.3	133.7	115.7
21	172.8	175.1	190.4	144.2	188.7	225.0	159.8	180.8	147.2	177.9	129.4	117.0
22	170.4	171.7	185.6	146.6	195.8	225.1	161.1	167.7	145.5	166.4	125.4	104.3
23	169.4	177.2	184.8	147.5	204.6	229.5	154.8	161.9	143.8	153.7	131.6	101.8
24	174.3	178.9	193.9	155.3	215.0	199.8	158.9	158.5	142.5	142.5	125.8	99.9
25	169.1	169.3	187.4	149.5	224.5	182.4	154.2	170.9	133.2	127.6	124.9	99.5
26	164.9	164.7	188.0	148.6	249.1	172.2	150.6	156.1	138.5	123.2	121.2	107.2
27	168.4	159.0	191.6	143.2	238.0	164.7	152.2	155.2	138.8	112.7	117.7	115.4
28	175.6	149.2	191.4	141.9	246.2	166.4	149.1	156.3	136.0	113.1	121.8	122.6
29	180.8	155.2	189.8	147.5	241.1	172.6	138.6	159.4	137.5	111.0	120.7	
30	188.2	155.6	185.1	151.4	234.1	173.5#	140.1	165.3	142.1	110.1	117.6	
31	204.0		187.0		214.8	183.7		167.7		111.3	116.9	
Mean	178.4	191.1	182.4	153.4	179.2	188.4	177.8	165.9	165.1	152.3	139.4	121.4

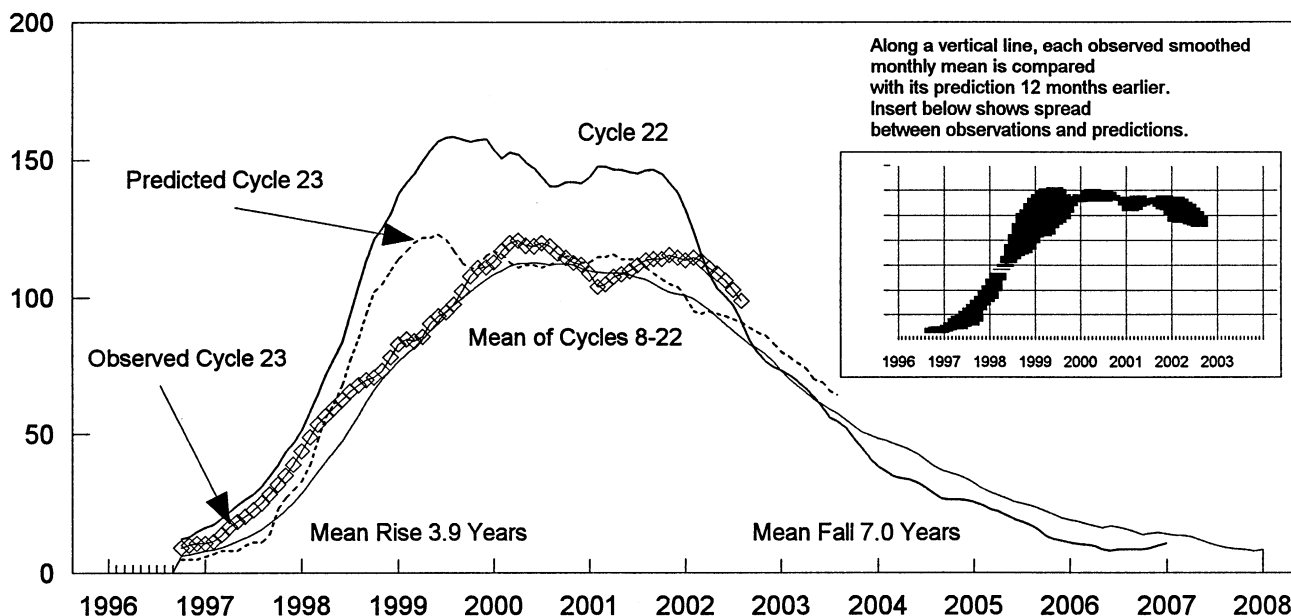
NOTE: # 1700 or 1800UT reading - burst in progress (IP) at 2000UT; x Burst IP at 2000UT.

DAILY SOLAR INDICES
February 2003

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	32	27	40	44	125.8	531	291	163	122.1	110	83	43	31	17
2	33	1	43	45	126.7	520	248	145	123.0	102	77	---	---	---
3	34	2	36	41	132.5	543	279	165	128.7	114	85	43	32	13
4	35	3	35	44	134.8	525	285	169	131.0	117	89	44	34	16
5	36	4	54	60	140.1	546	290	179	136.2	126	93	46	35	16
6	37	5	68	79	149.5	540	306	178	145.4	132	105	50	34	13
7	38	6	82	86	147.3	516	292	176	143.3	136	107	52	35	15
8	39	7	87	92	139.2	543	292	170	135.4	133	105	52	33	12
9	40	8	93	101	141.4	546	288	168	137.6	133	105	52	33	14
10	41	9	73	84	136.2	541	288	167	132.6	124	103	53	34	15
11	42	10	73	83	134.9	551	301	173	131.4	134	105	52	35	20
12	43	11	71	79	131.6	538	286	163	128.2	119	100	49	33	22
13	44	12	59	65	130.6	557	317	171	127.3	119	97	51	34	26
14	45	13	45	50	131.4	550	327	179	128.1	113	94	52	33	25
15	46	14	31	22	123.6	551	323	169	120.6	114	88	46	33	22
16	47	15	22	20	118.5	551	310	163	115.7	110	83	46	32	24
17	48	16	10	12	112.1	536	287	159	109.4	100	79	45	32	22
18	49	17	20	31	109.9	512	287	154	107.4	97	78	44	31	21
19	50	18	33	39	116.3	564	278	149	113.6	104	78	40	35	56
20	51	19	44	54	118.3	534	260	164	115.7	104	78	44	34	15
21	52	20	46	49	119.6	521	258	164	117.0	107	78	48	40	28
22	53	21	34	38	106.6	501	237	145	104.3	97	72	35	35	33
23	54	22	28	33	104.0	511	249	145	101.8	94	70	40	32	21
24	55	23	28	33	102.0	527	247	140	99.9	92	69	41	32	19
25	56	24	32	35	101.6	535	264	147	99.5	94	71	42	31	29
26	57	25	30	35	109.4	546	272	153	107.2	101	75	47	32	28
27	58	26	43	43	117.6	544	269	158	115.4	108	78	46	32	14
28	59	27	34	38	124.9	545	284	171	122.6	118	83	43	33	24
MEAN			46.2	51.3	124.5	536	282	162	121.4	112	86	46	33	21

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	109	106	103	99	96	93	90	86	103
									(4)	(7)	(8)	(8)	(2)
2003	82	78	76	73	70	68	66	64	62	59	57	56	68
	(8)	(8)	(8)	(9)	(10)	(11)	(11)	(11)	(12)	(13)	(15)	(16)	(11)
Solar Cycle 22				Solar Cycle 23				Min, Max, and Pred					

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

+ April 2000 marks Cycle 23 maximum.

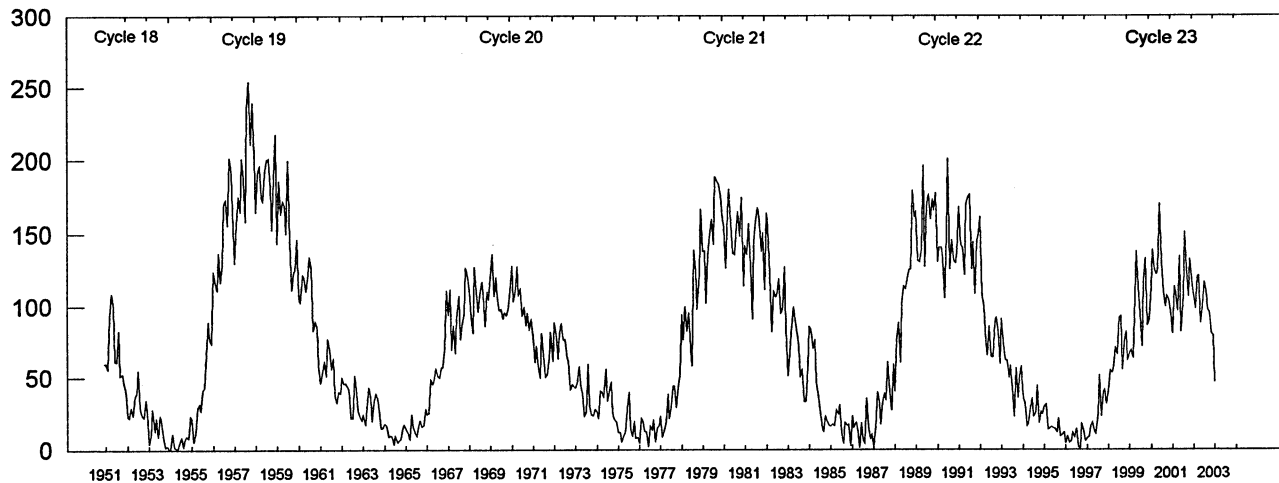
Observed and Predicted Numbers. For the end of Cycle 22, and the rise and decline of Cycle 23, the table above lists observed smoothed sunspot numbers up to the one that includes the most recent monthly mean. We based these smoothed values on final monthly means through Sept 2002 and on provisional numbers 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 August 2003 prediction. There exists a 90% chance that in August 2003, the actual smoothed number will fall somewhere between 53 and 75.

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 - Feb 2003

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Feb 03



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	95.5	80.8	104.0
2003	79.5	46.2											62.9

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

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Feb 03

H α S O L A R F L A R E S

FEBRUARY 2003

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
															Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
GOES	01	0013	0019	0025			10276			12	C	1.5						9.0E-04
GOES		0354	0359	0404			10276			10	B	9.5						4.9E-04
GOES		0605	0613	0617			10276			12	C	2.6						1.3E-03
GOES		0712	0716	0720			10276			8	B	9.7						4.0E-04
GOES		0740	0744	0749			10276			9	B	8.1						3.7E-04
GOES		0800	0804	0807			10276			7	B	7.7						2.8E-04
GOES		0848	0905	0938			10276			50	M	1.2						2.4E-02
GOES		1133	1141	1145			10276			12	C	2.7						1.0E-03
GOES		1159	1203	1208			10276			9	C	1.4						7.3E-04
GOES		1322	1325	1329			10276			7	B	6.0						2.3E-04
GOES		1457	1501	1503			10276			6	B	8.5						2.5E-04
HOLL		1542	1545	1553	S15	E86		02	8.2	11	SF		3	E		71		
RAMY		1543E	1543U	1608	S19	E71		02	7.1	25D	SF		3	E		24		
GOES		1702	1715	1723			10276			21	C	1.3						1.4E-03
GOES		1904	1908	1910			10276			6	C	1.0						3.0E-04
GOES		1932	1954	2010	S14	E89	10276			38	SF	C 9.9						1.5E-02
HOLL		1946	1948	1952	S14	E89	10276	02	8.5	6	SF		3	E		42		
HOLL		2012	2015	2019	S13	E86	10276	02	8.3	7	SF		3	E		18		
GOES		2314	2318	2335	S15	E78	10276			21	SF	C 1.0						1.1E-03
HOLL		2323	2332	2357D	S15	E79	10276	02	7.9	34D	SF		3	E		47		
LEAR		2324	2325	2345	S15	E78	10276	02	7.9	21	SF		3	E		25		H
LEAR	02	0118	0122U	0132	S15	E78	10276	02	7.9	14	SF		2	E		32		H
GOES		0121	0124	0126	S15	E78	10276			5	SF	C 1.3						3.3E-04
GOES		0319	0334	0348	S15	E77	10276			29	SF	C 2.8						3.6E-03
LEAR		0327	0333	0337	S15	E77	10276	02	8.0	10	SF		2	E		51		
LEAR		0357	0400	0405	S15	E77	10276	02	8.0	8	SF		2	E		45		
GOES		0442	0447	0452			10276			10	C	1.1						5.7E-04
GOES		0533	0543	0545	S15	E67	10276			12	SF	C 1.4						4.8E-04
LEAR		0535	0543	0548	S15	E67	10276	02	7.3	13	SF		3	E		42		
LEAR		0632	0636	0639	S15	E67	10276	02	7.3	7	SF		3	E		21		
GOES		0634	0637	0639	S15	E67	10276			5	SF	C 1.1						2.2E-04
GOES		0853	0910	0936			10276			43	C	1.4						3.0E-03
GOES		0958	1001	1003			10276			5	B	9.1						2.3E-04
GOES		1127	1130	1132			10276			5	B	6.7						1.6E-04
GOES		1530	1533	1535			10276			5	C	1.0						2.3E-04
GOES		2147	2150	2153			10276			6	B	7.4						2.3E-04
GOES	03	0451	0456	0501			10276			10	C	1.0						5.2E-04
GOES		1209	1213	1218			10276			9	B	7.0						3.3E-04
GOES		2211	2215	2220			10276			9	B	6.6						3.1E-04
GOES	04	1212	1222	1232			10277			20	B	8.3						8.7E-04
GOES		1337	1340	1342			10277			5	B	6.6						1.7E-04
GOES		2004	2015	2031			10278			27	C	1.4						1.9E-03
GOES		2113	2121	2126	S20	E67	10277			13	SF	C 1.6						9.3E-04
HOLL		2116	2122	2132	S20	E67	10277	02	10.0	16	SF		3	E		34		F
RAMY	05	1411E	1411U	1416	S16	E63	10277	02	10.4	5D	SF		3	E		15		
RAMY		1547E	1547U	1553	N20	E73	10278	02	11.2	6D	SF		3	E		34		
RAMY		1651E	1651U	1701	N20	E69	10287	02	11.0	10D	SF		3	E		28		
GOES		1729	1733	1739						10	B	7.7						4.2E-04
GOES		2026	2037	2049						23	C	2.1						2.2E-03
GOES		2135	2139	2144						9	C	2.2						1.0E-03
GOES	06	0207	0212	0214						7	C	3.4						1.0E-03
LEAR		0224E	0224	0233	S17	E55	10277	02	10.3	9D	SF		3	E		36		F
LEAR		0234	0239	0242	S17	E55	10277	02	10.3	8	SF		3	E		12		
LEAR		0302	0302	0306	N18	E62	10278	02	10.8	4	SF		3	E		19		
GOES		0330	0349	0401						31	M	1.2						1.7E-02
LEAR		0333	0348	0447	N18	E64	10278	02	11.0	74	1N		3	E		172		FE
LEAR		0502	0505	0509	S17	E54	10277	02	10.3	7	SF		3	E		16		H
LEAR		0523	0532	0541	N17	E59	10278	02	10.7	18	SF		3	E		25		FH
LEAR		0842	0847	0900	N19	E59	10278	02	10.9	18	SF		2	E		21		FH
LEAR		0914	0924	0942	N19	E58	10278	02	10.8	28	SF		2	E		36		F
GOES		1001	1008	1015	N20	E59	10278			14	SF	C 1.5						1.1E-03
LEAR		1004	1005	1013	N20	E59	10278	02	10.9	9	SF		2	E		17		F
GOES		1119	1125	1129	N20	E56	10278			10	SF	C 1.1						4.9E-04

H α SOLAR FLARES

FEBRUARY 2003

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)	
L-RAMY	06	1131E	1131U	1138	N20	E56	10278	02	10.8	7D	SF		2	E		25		FH
GOES		1242	1248	1255	S16	E50	10277			13	SF	C 1.3						8.8E-04
RAMY		1245	1250	1306	S16	E50	10277	02	10.3	21	SF		3	E		22		F
RAMY		1313	1313	1327	S15	E22	10276	02	8.2	14	SF		3	E		11		F
RAMY		1652	1653	1657	N19	E57	10278	02	11.0	5	SF		3	E		25		
RAMY		1843	1845	1848	S20	E43	10277	02	10.1	5	SF		3	E		15		
RAMY		1907	1908	1917	N20	E53	10278	02	10.8	10	SF		3	E		15		F
HOLL		2311	2312	2314	N00	E65	10280	02	11.8	3	SF		3	E		12		
HOLL		2318	2318	2324	N00	E65	10280	02	11.8	6	SF		3	E		21		FH
GOES	07	0105	0110	0123	S17	E42	10277			18	SF	B 9.8						9.1E-04
LEAR		0107	0110	0126	S17	E42	10277	02	10.2	19	SF		3	E		10		F
GOES		0202	0205	0214						12		B 7.1						4.7E-04
GOES		0334	0341	0347						13		B 9.8						6.2E-04
GOES		1533	1628	1704	S03	W61	10274			91	SF	C 1.0						4.7E-03
RAMY		1605	1625	1709	S03	W61	10274	02	3.1	64	SF		3	E		34		F
GOES	08	0532	0536	0540						8		B 5.5						2.4E-04
GOES		1239	1315	1339						60		C 1.4						3.6E-03
RAMY	09	1503E	1503U	1510	S08	W06	10280	02	9.2	7D	SF		3	E		30		F
GOES		2040	2050	2058	S14	W23	10276			18	SF	B 9.4						8.3E-04
RAMY		2043E	2043U	2051	S14	W23	10276	02	8.1	8D	SF		3	E		19		F
GOES	10	0222	0230	0242			10277			20		C 1.2						1.1E-03
GOES		0344	0348	0407						23		B 6.6						8.5E-04
GOES		2124	2242	2341			10274			137		C 1.1						7.8E-03
GOES	11	0050	0056	0103						13		B 7.0						5.1E-04
LEAR		0837	0840	0859	S05	W33	10280	02	8.9	22	SF		2	E		20		F
RAMY		1512	1515	1532D	S19	W15	10277	02	10.5	20D	SF		3	E		22		F
GOES		1718	1731	1743			10280			25		C 2.3						2.3E-03
GOES		2155	2200	2204			10276			9		B 9.9						4.9E-04
GOES	12	0142	0151	0202	S05	W43	10280			20	1F	C 8.7						5.6E-03
LEAR		0145	0157	0248	S05	W43	10280	02	8.8	63	1F		3	E		171		UF
GOES		0525	0528	0530			10283			5		B 7.2						1.9E-04
GOES		0536	0542	0549	N10	W22	10282			13	SF	C 2.4						1.3E-03
LEAR		0539	0539	0601	N10	W22	10282	02	10.6	22	SF		2	E		27		FH
GOES		0744	0751	0757						13		B 8.0						5.6E-04
GOES		0954	1001	1009						15		B 7.5						6.3E-04
GOES		1354	1400	1415	N11	W26	10282			21	SF	B 7.7						8.3E-04
RAMY		1356E	1356U	1423	N11	W26	10282	02	10.6	27D	SF		3	E		37		F
GOES		1601	1612	1620	S03	W54	10280			19	SF	C 2.9						2.1E-03
RAMY		1603E	1603U	1607	S03	W54	10280	02	8.6	4D	SF		3	E		15		
RAMY		1604E	1604U	1639	N11	W29	10282	02	10.5	35D	SF		3	E		73		F
GOES		1745	1748	1750			10280			5		B 7.2						1.7E-04
GOES		1846	1855	1906			10282			20		B 5.0						5.1E-04
GOES		2101	2112	2123			10282			22		C 2.3						2.1E-03
GOES	13	0115	0129	0135	S03	W55	10280			20	SF	B 8.4						8.1E-04
LEAR		0123	0125	0133	S03	W55	10280	02	8.9	10	SF		2	E		19		F
GOES		0450	0502	0510	N09	W39	10282			20	SF	C 1.8						1.4E-03
LEAR		0457	0505	0509	N09	W39	10282	02	10.3	12	SF		2	E		33		F
GOES		1110	1120	1143			10282			33		B 7.1						1.2E-03
GOES		1547	1551	1554			10276			7		B 5.4						2.0E-04
GOES		1613	1618	1709	N11	W42	10282			56	SF	B 8.2						2.5E-03
RAMY		1616E	1616U	1625	N11	W42	10282	02	10.5	9D	SF		3	E		23		F
GOES		2324	2332	2337	N13	W84	10284			13	SF	C 2.2						1.1E-03
LEAR		2327	2328	2339	N13	W84	10284	02	7.6	12	SF		3	E		46		FH
GOES	14	0202	0212	0218	N13	W82	10284			16	SF	C 5.0						3.2E-03
LEAR		0203	0205	0208	N13	W82	10284	02	7.9	5	SF		3	E		31		
GOES		0402	0406	0411			10276			9		B 5.6						2.7E-04
GOES		0518	0526	0533	N13	W84	10284			15	1F	C 5.2						3.6E-03
LEAR		0519	0521	0536	N13	W84	10284	02	7.9	17	1F		3	E		108		
GOES		0628	0637	0646			10282			18		C 1.7						1.4E-03
GOES		0702	0711	0718						16		C 1.2						1.1E-03

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H α SOLAR FLARES

FEBRUARY 2003

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/	CMP	Dur	Imp	Obs	Time	Area Measurement		Corr	Remarks
							USAF Region						Mo	Day		
GOES	14	0837	0847	0857			10284		20	C 1.4						1.4E-03
GOES		0907	0918	0923	N13	W86	10284		16	SF M 1.2						5.6E-03
LEAR		0914	0917	0924	N13	W86	10284	02	7.9	10	SF		3	E	78	
GOES		1126	1147	1157			10284		31	C 1.2						2.0E-03
GOES		1247	1303	1311			10284		24	C 1.3						1.6E-03
GOES		1417	1425	1433			10276		16	C 2.2						1.8E-03
GOES		1919	1928	1937			10280		18	C 2.1						1.7E-03
GOES		2127	2131	2137			10287		10	B 9.4						5.2E-04
GOES	15	0046	0052	0056					10	B 9.1						5.4E-04
GOES		0310	0328	0338					28	C 1.2						1.7E-03
GOES		0606	0610	0615			10282		9	C 1.2						5.6E-04
GOES		0727	0810	0902			10276		95	C 4.5						1.9E-02
GOES		1356	1405	1417			10282		21	C 1.4						1.5E-03
GOES		1619	1622	1626	S20	E73	10288		7	SF B 6.4						2.4E-04
RAMY		1622	1622	1626	S20	E73		02	21.3	4	SF		3	E	23	
GOES		1733	1738	1741					8	B 5.4						2.6E-04
GOES		1820	1830	1840					20	B 6.2						6.4E-04
GOES	16	0130	0145	0216			10276		46	C 1.0						2.5E-03
GOES		0302	0325	0340			10276		38	C 1.1						2.1E-03
GOES		1005	1008	1010					5	B 4.6						1.2E-04
GOES		1320	1326	1330					10	B 9.5						3.9E-04
GOES		2014	2024	2039					25	B 6.6						8.8E-04
GOES		2236	2242	2254					18	C 1.4						1.4E-03
GOES	17	0248	0311	0325					37	B 7.9						1.2E-03
GOES		0548	0608	0619					31	B 8.4						1.1E-03
GOES		1034	1129	1148					74	C 1.0						3.2E-03
GOES		1414	1421	1433					19	B 7.5						7.1E-04
GOES		1721	1729	1745					24	C 1.9						2.0E-03
GOES	18	0833	0841	0850					17	B 9.8						6.9E-04
GOES		1704	1711	1723					19	B 3.6						3.6E-04
GOES		2003	2027	2040					37	B 3.9						6.5E-04
GOES		2043	2056	2112					29	B 5.3						7.5E-04
GOES	19	0217	0225	0237					20	B 3.3						3.6E-04
GOES		0322	0327	0332	N13	E29	10288		10	SF B 3.6						1.7E-04
LEAR		0324	0324	0328	N13	E29	10288	02	21.3	4	SF		3	E	12	
GOES		0548	0552	0601					13	B 3.1						2.2E-04
GOES		0640	0648	0657	N17	E38	10290		17	SF B 8.0						7.2E-04
LEAR		0643	0643	0654	N17	E38	10290	02	22.2	11	SF		3	E	19	F
GOES		0933	0939	0952					19	B 3.6						3.6E-04
GOES		1045	1103	1114					29	B 4.2						6.2E-04
RAMY		1319	1325U	1329	N17	E39	10290	02	22.5	10	SF		3	E	13	F
RAMY		1416	1420U	1600D	N17	E35	10290	02	22.2	104D	SF		3	E	13	F
GOES		1430	1437	1448	N17	E35	10290		18	SF C 1.8						1.3E-03
GOES		1618	1622	1626					8	B 3.4						1.4E-04
RAMY		1825	1830	1934	N17	E37	10290	02	22.6	69	SF		3	E	15	
GOES		1941	1948	1953	N12	E21	10288		12	SF B 9.1						4.4E-04
RAMY		1944	1946	1948	N12	E21	10288	02	21.4	4	SF		3	E	31	F
RAMY		2004	2006	2012	N17	E34	10290	02	22.4	8	SF		3	E	13	F
GOES		2222	2232	2246			10290		24	C 1.7						1.9E-03
GOES	20	0218	0225	0235					17	B 6.4						5.6E-04
GOES		0256	0306	0316					20	C 1.7						1.5E-03
GOES		0522	0525	0531					9	B 5.4						2.7E-04
GOES		1046	1051	1059					13	B 4.6						3.2E-04
GOES		1221	1225	1227	N18	E28	10290		6	SF B 5.9						1.6E-04
RAMY		1224E	1224U	1231	N18	E28	10290	02	22.6	7D	SF		3	E	44	
GOES		1247	1251	1254	N19	E28	10290		7	SF B 6.0						2.3E-04
RAMY		1249E	1249U	1302	N19	E28	10290	02	22.7	13D	SF		3	E	47	
GOES		1348	1354	1358					10	B 7.0						3.6E-04
GOES		1422	1426	1431					9	B 4.9						2.4E-04
GOES		1450	1453	1456					6	B 4.7						1.5E-04
GOES		1642	1645	1648					6	B 4.6						1.5E-04
GOES		1658	1701	1705					7	B 5.2						1.9E-04

H α SOLAR FLARES

FEBRUARY 2003

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
															Time (UT)	Apparent (10 ⁻⁶ Disk)	Corr (Sq Deg)	
GOES	20	1728	1733	1735						7		C	1.3					3.3E-04
GOES		1834	1842	1903						29		B	6.5					9.1E-04
GOES		2132	2135	2139						7		B	5.6					2.1E-04
GOES	21	0149	0200	0212						23		C	2.5					2.8E-03
GOES		0229	0234	0244						15		C	1.6					1.4E-03
GOES		0502	0506	0509	N11	E14	10290			7	SF	C	1.6					4.8E-04
LEAR		0505	0505	0512	N11	E14	10290	02	22.3	7	SF			3	E		45	F
GOES		0546	0617	0629			10289			43		C	1.8					3.5E-03
GOES		0707	0717	0721						14		C	2.1					1.5E-03
GOES		1115	1122	1127						12		C	1.0					6.4E-04
GOES		1250	1255	1321	N16	E07	10289			31	SF	C	1.3					2.0E-03
RAMY		1253E	1253U	1311	N16	E07	10290	02	22.1	180	SF			3	E		20	F
GOES		1508	1514	1518	N15	E07	10290			10	SF	C	3.7					1.5E-03
RAMY		1511E	1511U	1548	N16	E05	10290	02	22.0	370	SF			3	E		39	
SVTO		1512	1515	1522	N15	E07	10290	02	22.2	10	SF			3	E		18	FH
GOES		1546	1551	1555						9		C	1.1					5.3E-04
GOES		1946	1950	1954			10290			8		C	4.3					1.4E-03
GOES		2110	2113	2115						5		B	7.3					1.8E-04
GOES	22	0155	0203	0207	N11	E02	10290			12	SF	C	4.3					1.8E-03
LEAR		0159	0203	0217	N11	E02	10290	02	22.2	18	SF			3	E		66	
GOES		0250	0254	0257						7		C	1.1					3.5E-04
GOES		0444	0450	0500						16		B	9.6					8.2E-04
GOES		0504	0510	0513	N16	W02	10290			9	SF	C	4.7					1.4E-03
LEAR		0509	0512	0515	N16	W02	10290	02	22.1	6	SF			3	E		23	
GOES		0924	0929	0931	N16	W05	10290			7	SF	C	5.8					9.9E-04
SVTO		0929E	0929	0935	N16	W03	10290	02	22.2	60	SF			3	E		16	
LEAR		0929	0930	0938	N16	W05	10290	02	22.0	9	SF			3	E		55	F
GOES		1032	1044	1046	N16	E03	10290			14	SF	C	2.1					7.6E-04
SVTO		1044	1044	1047	N16	E03	10290	02	22.7	3	SF			3	E		18	
GOES		1049	1052	1054						5		C	1.5					3.9E-04
GOES		1125	1220	1238	N17	W06	10290			73	SF	C	1.7					5.1E-03
RAMY		1221	1226	1230	N17	W06	10290	02	22.0	9	SF			3	E		21	F
GOES		1555	1600	1603						8		B	5.3					1.8E-04
GOES		1848	1933	2026						98		B	6.1					2.4E-03
GOES		2205	2215	2225						20		B	6.7					6.9E-04
GOES	24	0729	0733	0736						7		B	2.2					6.7E-05
GOES		1125	1136	1144	N16	W29	10290			19	SF	C	1.1					8.8E-04
RAMY		1126E	1126U	1217	N16	W29	10290	02	22.3	510	SF			3	E		28	F
GOES		1716	1719	1721						5		B	1.7					4.2E-05
GOES		1838	1843	1845						7		B	3.2					8.5E-05
GOES		2036	2039	2042						6		B	1.5					4.7E-05
GOES		2045	2049	2051						6		B	1.9					5.6E-05
GOES		2219	2230	2232						13		B	2.2					1.4E-04
GOES		2246	2249	2254						8		B	1.7					7.2E-05
GOES		2309	2317	2321						12		B	4.2					1.9E-04
GOES	25	0140	0144	0149						9		B	1.7					7.6E-05
GOES		0201	0206	0209						8		B	4.7					1.4E-04
GOES		0223	0230	0233	N18	W35	10290			10	SF	B	2.7					1.2E-04
LEAR		0227	0229	0234	N18	W35	10290	02	22.4	7	SF			3	E		32	F
GOES		0353	0401	0405			10288			12		B	8.1					2.8E-04
GOES		1343	1348	1400						17		B	2.6					2.3E-04
GOES		1416	1420	1423	N18	W45	10290			7	SF	B	2.2					8.1E-05
RAMY		1419	1420	1425	N18	W45	10290	02	22.2	6	SF			3	E		15	F
GOES		1450	1453	1457						7		B	1.6					6.3E-05
GOES		2042	2045	2049						7		B	2.2					8.3E-05
GOES	26	0057	0101	0105						8		B	2.9					1.2E-04
GOES		0941	0946	0948	N16	W61	10290			7	SF	B	7.8					2.2E-04
LEAR		0945	0945	0949	N16	W61	10290	02	21.8	4	SF			2	E		11	
GOES		1600	1605	1612						12		B	4.2					2.8E-04
GOES	27	0155	0158	0201			10288			6		C	1.2					4.0E-04
GOES		0528	0533	0535						7		B	7.8					2.7E-04
GOES		2344	2352	2359						15		C	3.4					2.0E-03

H α SOLAR FLARES

FEBRUARY 2003

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
															Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
GOES	28	0033	0037	0040						7				C 1.5				4.4E-04
GOES		0620	0628	0634						14				C 1.7				1.1E-03
GOES		1250	1315	1323	S06	W19	10293			33	SF			C 1.0				1.6E-03
RAMY		1254E	1254U	1311	S06	W19	10293	02	27.1	17D	SF		3	E		15		F
RAMY		1312	1314	1326	N12	E59		03	5.0	14	SF		3	E		14		
GOES		1732	1735	1737						5				B 9.0				2.2E-04
GOES		1742	1751	1755			10297			13				C 1.1				7.3E-04
GOES		2227	2234	2238			10296			11				C 1.5				7.4E-04

"Remarks"

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

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

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

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

Selected Fixed Frequency Events

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FEBRUARY 2003

Day	Freq Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
						Peak (10 -22 W/m 2 Hz)	Mean		
06	2695 LEAR	8 S	0339.0	0339.0	U	55.0			QL=4 ST=2 TYP=3
	2695 PALE	8 S	0340.0	0340.0	U	57.0			QL=4 ST=2 TYP=3
12	2695 PALE	8 S	0156.0	0157.0	2.0	56.0			QL=4 ST=2 TYP=3
	8800 PALE	8 S	0157.0	0157.0	U	44.0			QL=4 ST=2 TYP=3
21	8800 SGMR	4 S/F	1514.0	1514.0	3.0	49.0			QL=4 ST=2 TYP=3
	8800 SVTO	8 S	1514.0	1514.0	1.0	53.0			QL=4 ST=2 TYP=3
	2695 SGMR	8 S	1948.0	1948.0	1.0	55.0			QL=4 ST=2 TYP=3
	8800 SGMR	4 S/F	1948.0	1948.0	5.0	300.0			QL=4 ST=2 TYP=3
	2695 PALE	8 S	1949.0	1949.0	U	70.0			QL=4 ST=2 TYP=3
	8800 PALE	8 S	1949.0	1949.0	1.0	280.0			QL=4 ST=2 TYP=3
22	8800 LEAR	8 S	0215.0	0215.0	U	57.0			QL=4 ST=2 TYP=3
	8800 PALE	8 S	0215.0	0215.0	U	56.0			QL=4 ST=2 TYP=3
	8800 SVTO	8 S	0928.0	0928.0	U	89.0			QL=4 ST=2 TYP=3

Reports are received routinely from the following observatories:

LEAR = Learmonth

PALE = Palehua

SGMR = Sagamore Hill

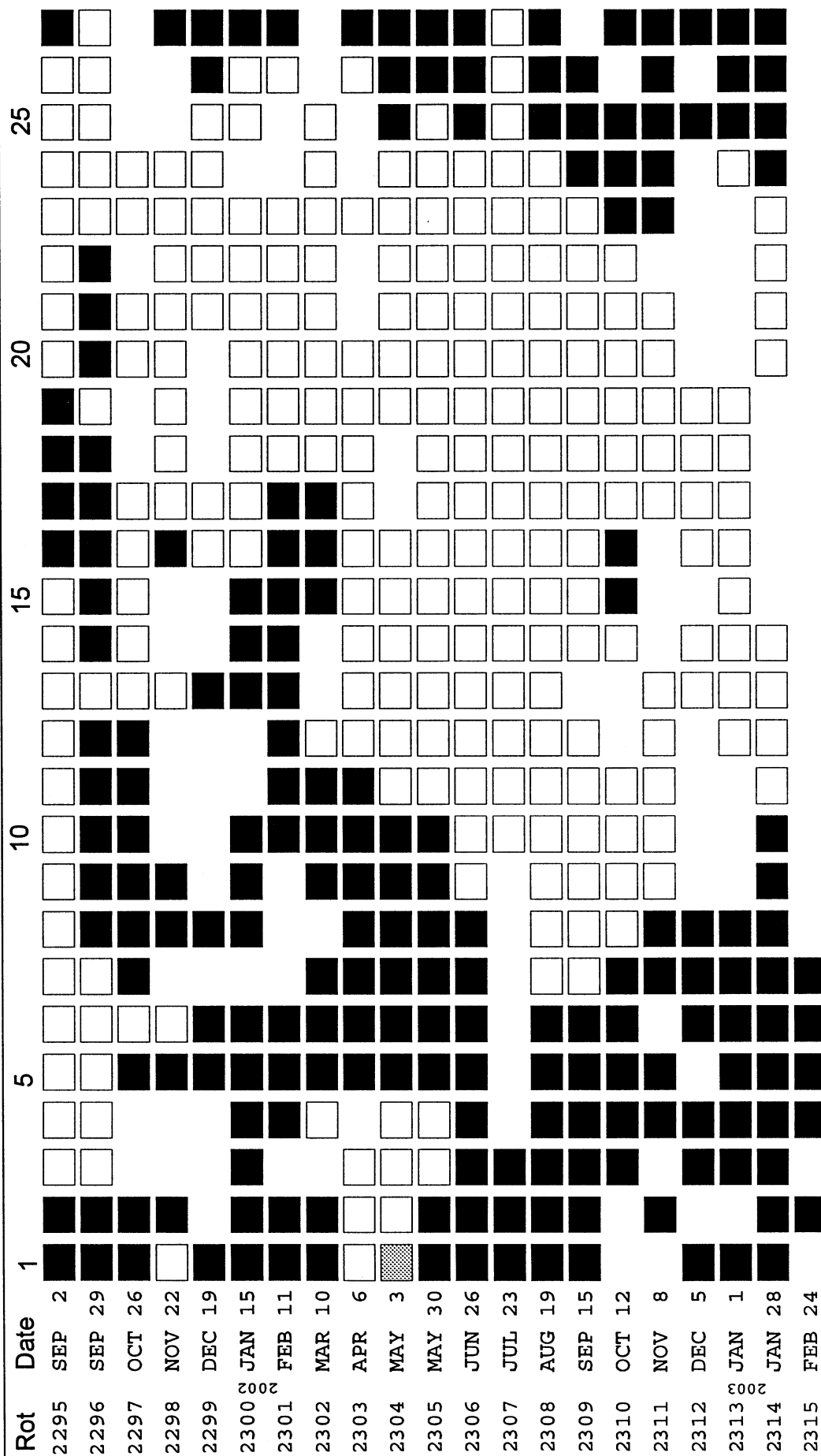
SVTO = San Vito

Explanation of Type Code:

1 Simple 1	7 Minor +	24 Rise	30 Post Burst Increase A	43 Onset of Noise Storm
2 Simple 1F	8 Spike	25 Rise A	31 Post Burst Decrease	44 Noise Storm in Progress
3 Simple 2	20 Simple 3	26 Fall	33 Absorption	45 Complex
4 Simple 2F	21 Simple 3A	27 Rise and Fall	40 Fluctuation	46 Complex F
5 Simple	22 Simple 3F	28 Precursor	41 Group of Bursts	47 Great Burst
6 Minor	23 Simple 3AF	29 Post Burst Increase	42 Series of Bursts	48 Major
1A Simple 1A	4A Simple 2AF	24PF Post Rise F	27F Rise and Fall F	
3A Simple 2A	40 Rise Only	16A Fall A	27AF Rise and Fall AF	
21A Simple 3A GRF	40F Rise Only F	260 Fall Only	31A Post Burst Decrease A	
2A Simple 1AF	4P Post Rise	26F Fall F	32A Absorption A	

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

STANFORD MEAN SOLAR MAGNETIC FIELD



Mean Solar Magnetic Field Polarity:

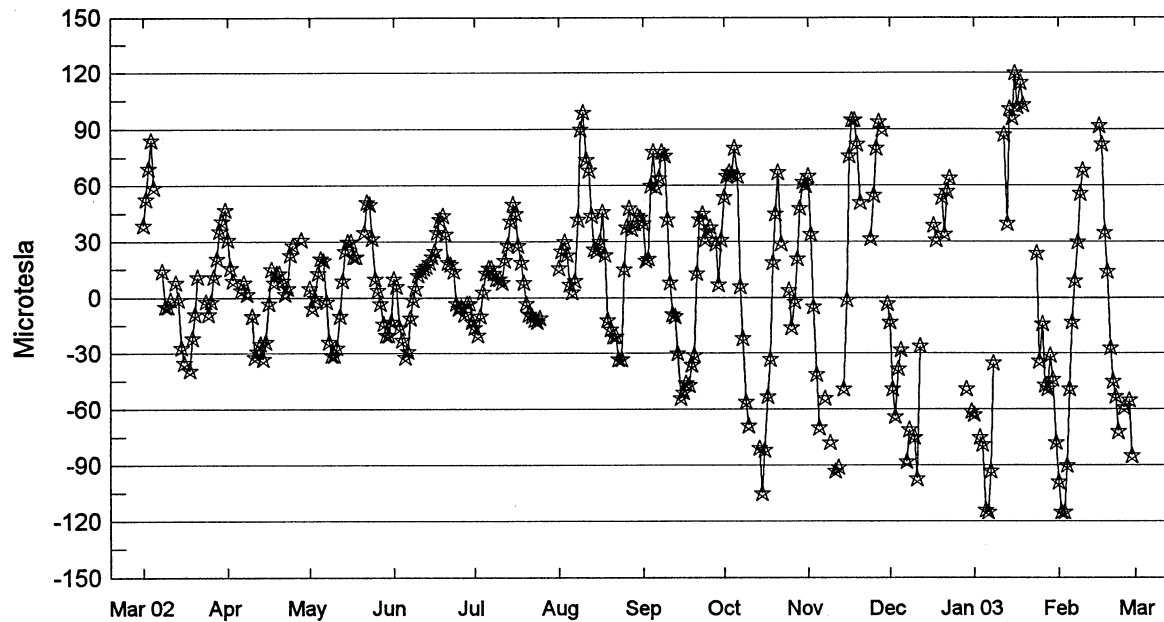
□ = field > 2 microT; ■ = -2 microT ≤ field ≤ 2 microT

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

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

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

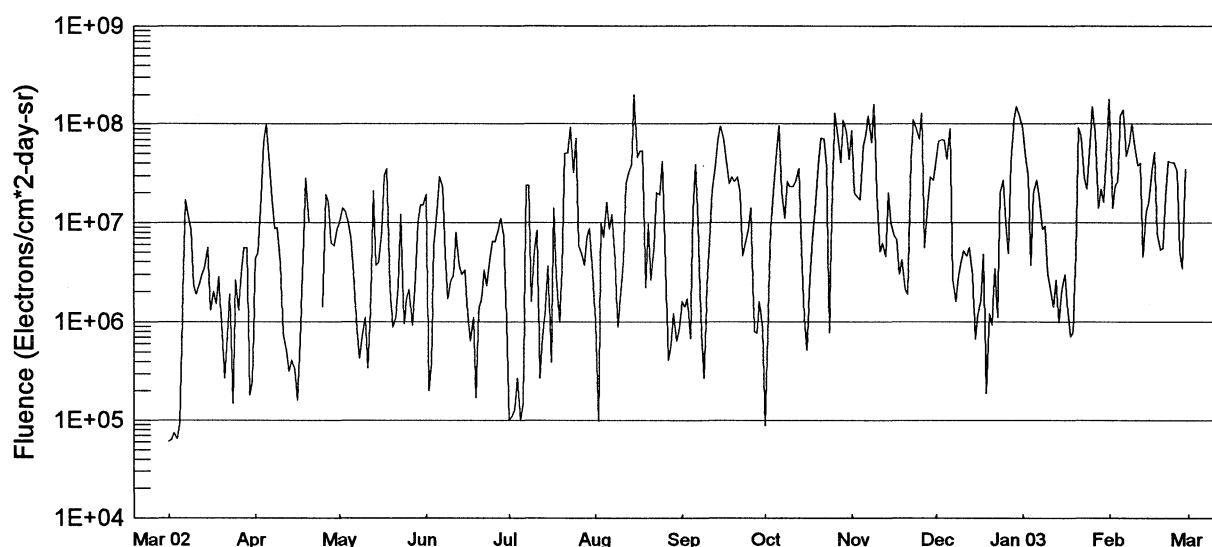
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Day	Mar 02	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 03	Feb
1	39	31	5	10	-16	16	40	54	65	-13	-63	-99
2	53	16	-6	6	-20	25	20	65	34	-49	---	-115
3	69	9	0	-16	-10	30	21	67	-5	-64	-75	-115
4	84	---	13	-23	3	23	60	66	-41	-38	-79	-90
5	59	---	21	-32	13	7	78	80	-70	-28	-114	-49
6	---	4	20	-29	16	3	59	65	---	---	-115	-13
7	---	8	-2	-11	16	9	64	6	-54	-88	-93	9
8	14	2	-24	-1	13	42	78	-22	---	-71	-35	30
9	-5	---	-31	5	10	90	76	-56	-78	---	---	56
10	-5	-10	-31	12	10	99	42	-69	---	-75	---	68
11	-1	-32	-27	14	8	74	8	---	-93	-97	---	---
12	---	-29	-10	16	20	68	-9	---	-91	-26	87	---
13	8	-25	9	17	28	44	-10	---	---	---	40	---
14	-1	-33	25	19	41	26	-30	-81	-49	---	101	---
15	-27	-24	30	22	50	25	-54	-105	-1	---	96	---
16	-35	-3	30	25	45	30	-51	-82	76	---	120	92
17	---	15	22	35	28	46	-46	-53	95	39	102	82
18	-39	8	22	42	19	23	-47	-33	95	31	115	35
19	-22	13	---	44	8	-12	-36	19	82	---	103	14
20	-9	13	---	34	-3	-17	-31	45	51	54	---	-27
21	11	9	35	19	-9	-21	13	67	---	34	---	-45
22	---	2	51	18	-10	-21	42	29	---	57	---	-53
23	---	5	50	14	-12	-33	45	---	---	64	---	-72
24	-2	23	32	-3	-13	-33	31	---	32	---	24	---
25	-9	28	10	-6	-11	15	36	4	55	---	-34	-59
26	-2	---	4	-5	---	38	38	-16	80	---	-14	---
27	11	---	-3	-9	---	48	---	-2	94	---	-47	-55
28	21	31	-14	-3	---	37	29	21	90	---	-49	-85
29	36	---	-20	-3	---	40	7	48	---	-49	-31	---
30	41	---	-20	-13	---	44	31	62	-3	---	-44	---
31	47	---	-13	---	---	43	---	60	---	-61	-78	---

GOES Daily Electron Fluence Mar 2002 - Feb 2003

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Feb 03



Day	Mar 02	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 03	Feb
1	6.1E+04	4.4E+06	9.9E+06	1.9E+07	1.0E+05	1.0E+06	1.6E+06	8.7E+04	8.5E+07	4.2E+07	9.5E+07	1.8E+08
2	6.3E+04	4.9E+06	1.4E+07	2.0E+05	1.1E+05	9.8E+04	1.4E+06	7.4E+05	2.0E+07	6.7E+07	5.1E+07	1.4E+07
3	7.4E+04	1.8E+07	1.3E+07	3.8E+05	1.3E+05	1.0E+07	1.7E+06	8.5E+06	1.8E+07	7.0E+07	2.9E+07	2.4E+07
4	6.5E+04	6.7E+07	1.0E+07	5.9E+06	2.7E+05	7.1E+06	6.8E+05	2.0E+07	1.7E+07	6.8E+07	3.7E+06	2.6E+07
5	9.2E+04	1.0E+08	6.9E+06	1.3E+07	1.0E+05	1.6E+07	1.3E+07	5.1E+07	5.9E+07	4.4E+07	2.0E+07	1.2E+08
6	1.1E+06	3.9E+07	3.1E+06	2.9E+07	1.5E+05	8.6E+06	3.9E+07	9.6E+07	7.8E+07	8.9E+07	2.7E+07	1.4E+08
7	1.7E+07	1.7E+07	8.3E+05	2.3E+07	2.4E+07	1.2E+07	1.0E+07	2.1E+07	1.2E+08	2.7E+06	1.8E+07	4.7E+07
8	1.2E+07	8.7E+06	4.3E+05	4.8E+06	2.4E+07	4.2E+06	7.5E+05	1.1E+07	6.5E+07	1.6E+06	8.6E+06	6.3E+07
9	8.3E+06	8.9E+06	7.1E+05	1.7E+06	1.6E+06	8.8E+05	2.7E+05	2.6E+07	1.6E+08	2.8E+06	9.2E+06	1.0E+08
10	2.3E+06	3.8E+06	1.1E+06	2.6E+06	5.3E+06	2.0E+06	2.3E+06	2.3E+07	2.0E+07	3.9E+06	3.1E+06	6.1E+07
11	1.9E+06	7.4E+05	3.4E+05	2.9E+06	8.3E+06	4.0E+06	6.4E+06	2.3E+07	5.1E+06	5.2E+06	2.0E+06	3.8E+07
12	2.4E+06	5.1E+05	1.8E+06	8.0E+06	2.7E+05	2.5E+07	2.1E+07	2.6E+07	6.2E+06	4.6E+06	1.4E+06	4.0E+07
13	3.0E+06	3.2E+05	2.1E+07	3.7E+06	6.9E+05	3.3E+07	3.7E+07	3.5E+07	4.5E+06	5.6E+06	2.6E+06	4.5E+06
14	3.5E+06	4.1E+05	3.7E+06	3.0E+06	1.4E+06	3.9E+07	6.8E+07	5.4E+06	2.0E+07	3.0E+06	9.8E+05	1.3E+07
15	5.6E+06	3.3E+05	3.9E+06	3.3E+06	3.6E+06	2.0E+08	9.5E+07	1.1E+06	1.0E+07	6.7E+05	2.1E+06	1.6E+07
16	1.3E+06	1.6E+05	7.9E+06	1.2E+06	3.9E+05	4.6E+07	7.2E+07	5.2E+05	7.3E+06	1.2E+06	3.0E+06	3.4E+07
17	2.0E+06	6.5E+05	3.0E+07	6.4E+05	1.4E+07	5.3E+07	4.4E+07	2.7E+06	6.8E+06	1.6E+06	1.3E+06	5.2E+07
18	1.5E+06	4.4E+06	3.5E+07	1.1E+06	2.9E+06	5.3E+07	2.5E+07	6.9E+06	3.0E+06	4.8E+06	7.1E+05	7.7E+06
19	2.8E+06	2.8E+07	2.2E+06	1.7E+05	9.8E+05	2.2E+06	2.9E+07	1.6E+07	4.2E+06	1.9E+05	7.7E+05	5.3E+06
20	9.7E+05	9.9E+06	8.9E+05	1.3E+06	3.3E+06	9.7E+06	2.6E+07	3.8E+07	2.1E+06	1.2E+06	4.7E+06	5.5E+06
21	2.7E+05	-999	1.1E+06	1.7E+06	5.0E+07	2.6E+06	2.9E+07	7.2E+07	1.9E+06	9.3E+05	9.1E+07	1.8E+07
22	7.3E+05	-999	2.3E+06	3.3E+06	5.1E+07	5.7E+06	2.0E+07	7.1E+07	4.3E+07	3.4E+06	7.6E+07	4.2E+07
23	1.9E+06	-999	1.2E+07	2.3E+06	9.2E+07	2.0E+07	4.6E+06	3.7E+07	1.1E+08	1.1E+06	2.9E+07	4.1E+07
24	1.5E+05	-999	9.5E+05	4.3E+06	3.2E+07	1.9E+07	6.0E+06	7.7E+05	9.1E+07	2.0E+07	2.2E+07	4.1E+07
25	2.6E+06	1.4E+06	1.7E+06	6.5E+06	7.2E+07	4.2E+07	8.4E+06	2.2E+07	7.1E+07	2.7E+07	6.5E+07	3.3E+07
26	1.3E+06	1.9E+07	2.1E+06	6.4E+06	5.8E+06	6.2E+06	1.4E+07	1.3E+08	1.3E+08	1.0E+07	1.5E+08	5.2E+06
27	3.0E+06	1.6E+07	9.3E+05	8.3E+06	4.8E+06	4.1E+05	8.0E+05	6.9E+07	5.6E+06	4.9E+06	8.1E+07	3.4E+06
28	5.6E+06	6.2E+06	2.1E+06	1.1E+07	3.7E+06	5.7E+05	7.6E+05	4.1E+07	1.5E+07	4.1E+07	1.4E+07	3.5E+07
29	5.6E+06	5.8E+06	1.0E+07	7.3E+06	7.2E+06	1.2E+06	1.6E+06	1.1E+08	2.9E+07	1.1E+08	2.2E+07	
30	1.8E+05	8.4E+06	1.5E+07	1.0E+06	8.7E+06	6.4E+05	8.5E+05	8.0E+07	2.7E+07	1.5E+08	1.6E+07	
31	2.5E+05		1.5E+07		3.1E+06	8.3E+05		4.4E+07		1.2E+08	6.1E+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.

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Number 703 Part I

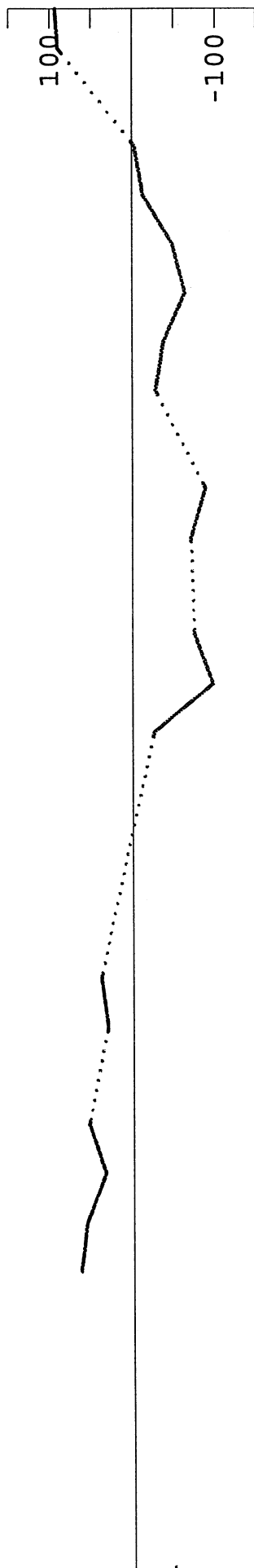
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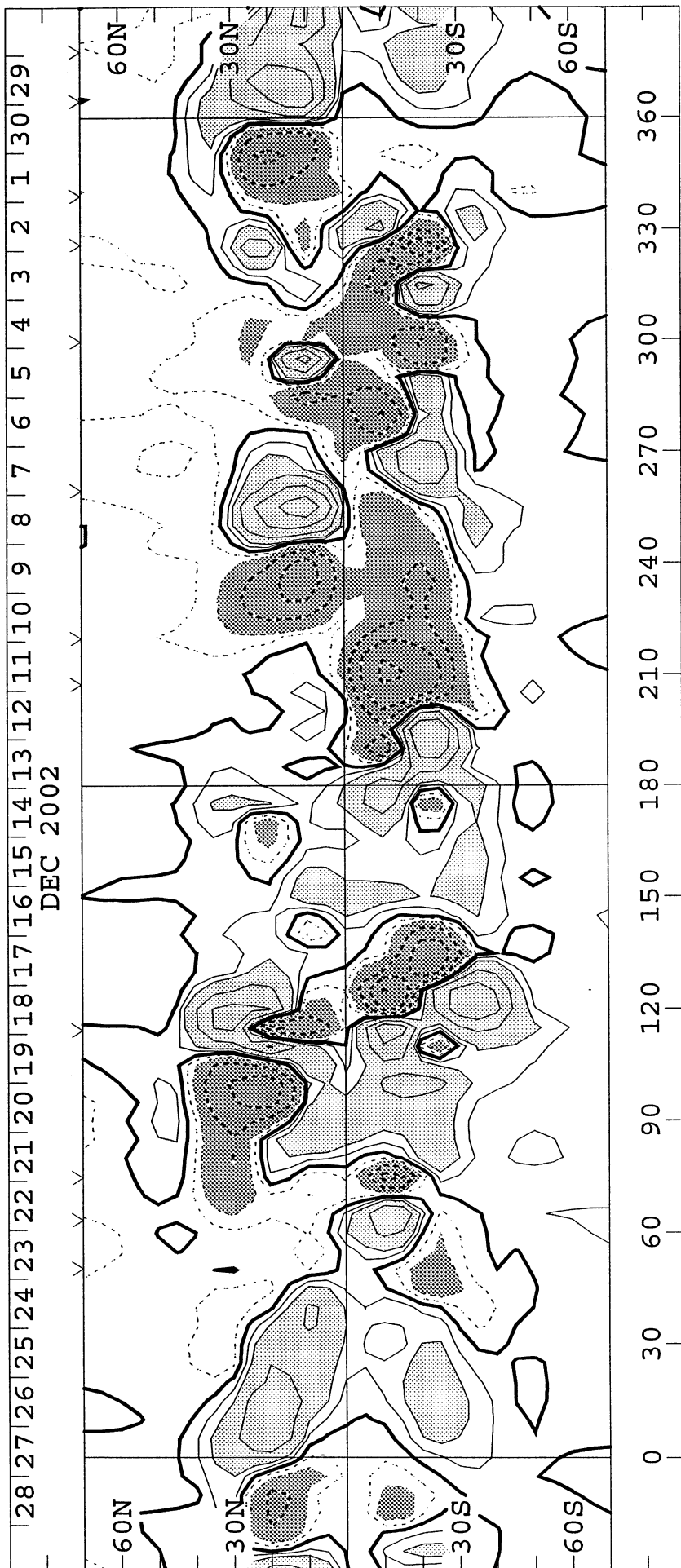
SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION NUMBER 1997
(30 November to 27 December 2002)

WILCOX SOLAR OBSERVATORY

Mean Field



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



1997

Heliographic Longitude

SOLAR MAGNETIC FIELD SYNOPTIC CHART

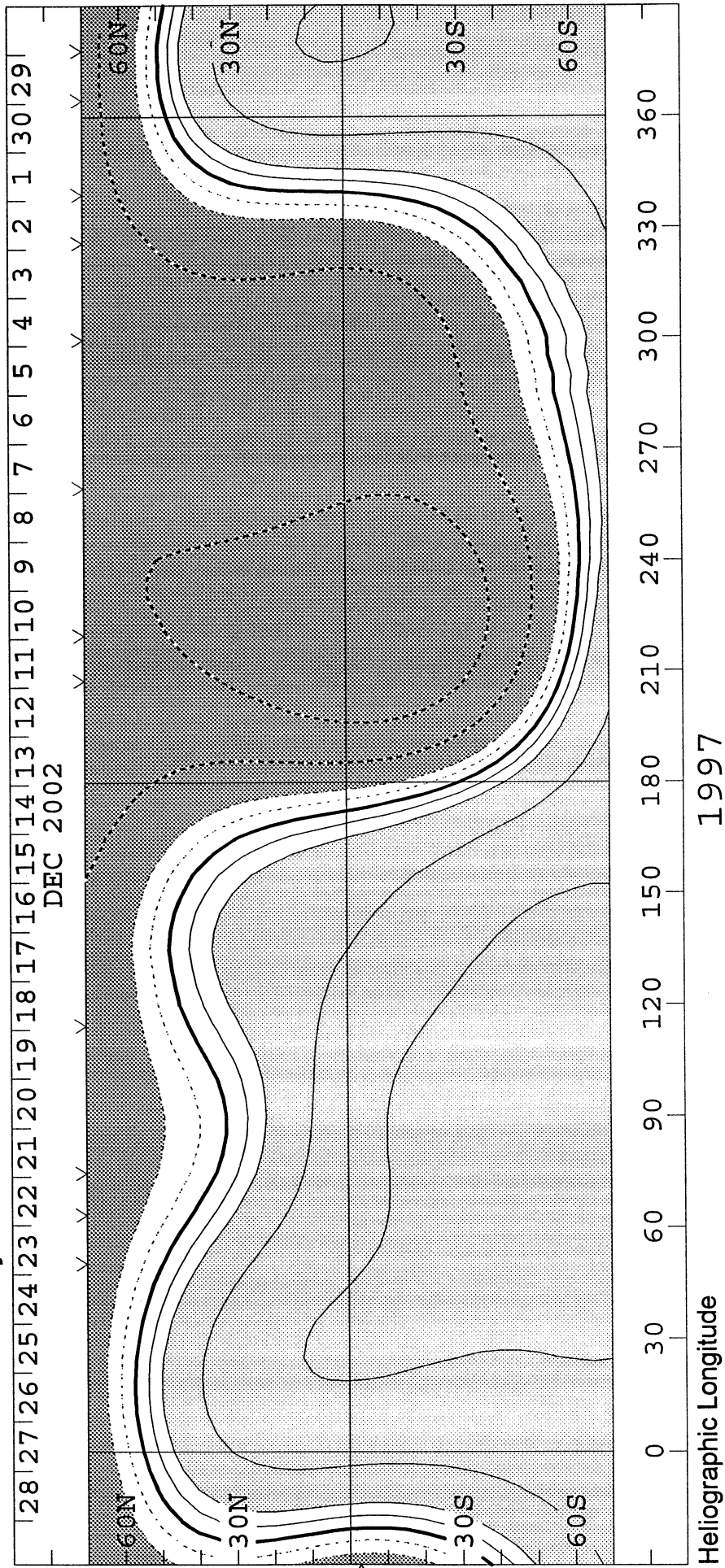
SOURCE SURFACE FIELD

CARRINGTON ROTATION NUMBER 1997

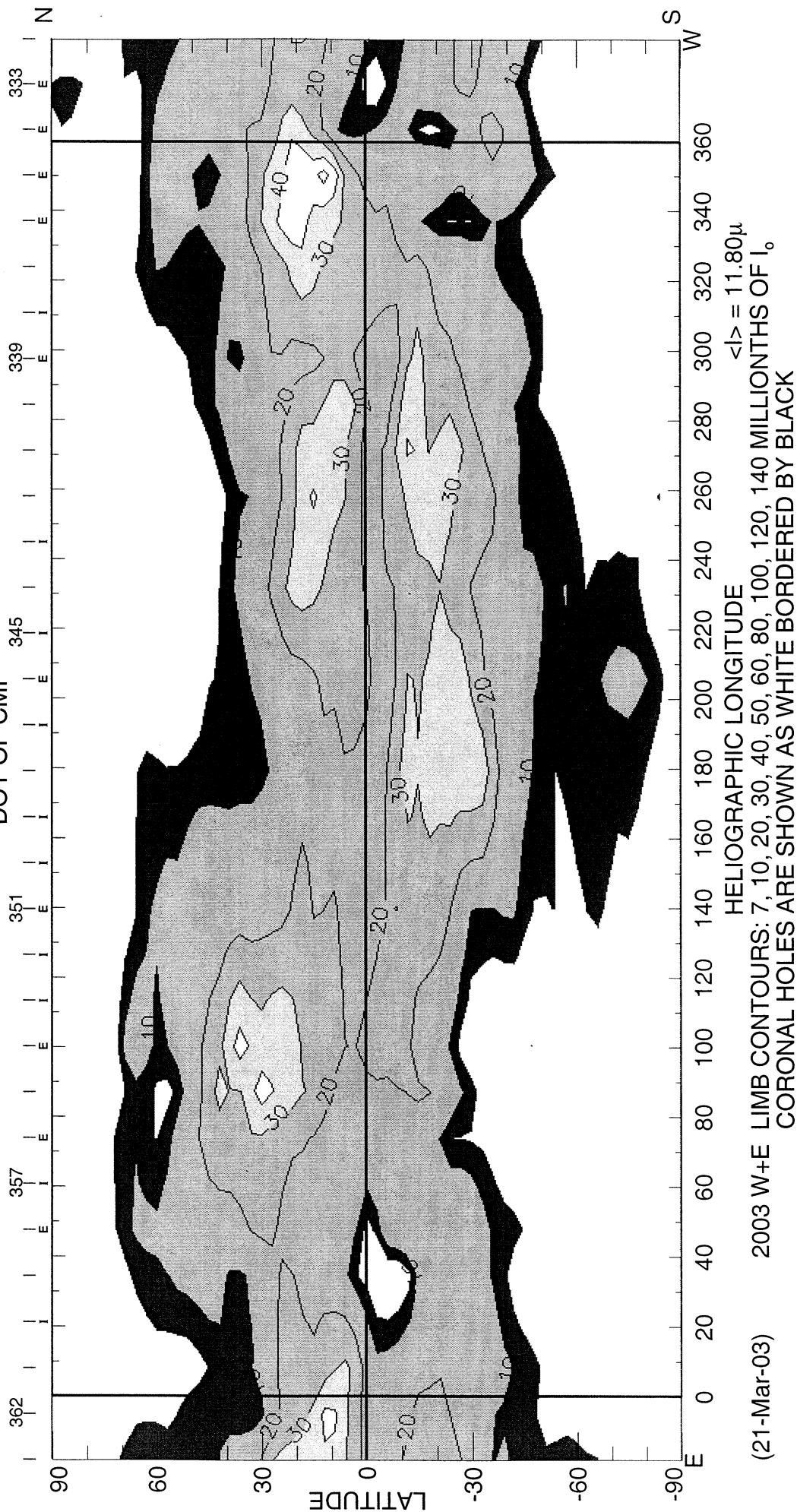
(30 November to 27 December 2002)

Wilcox Solar Observatory

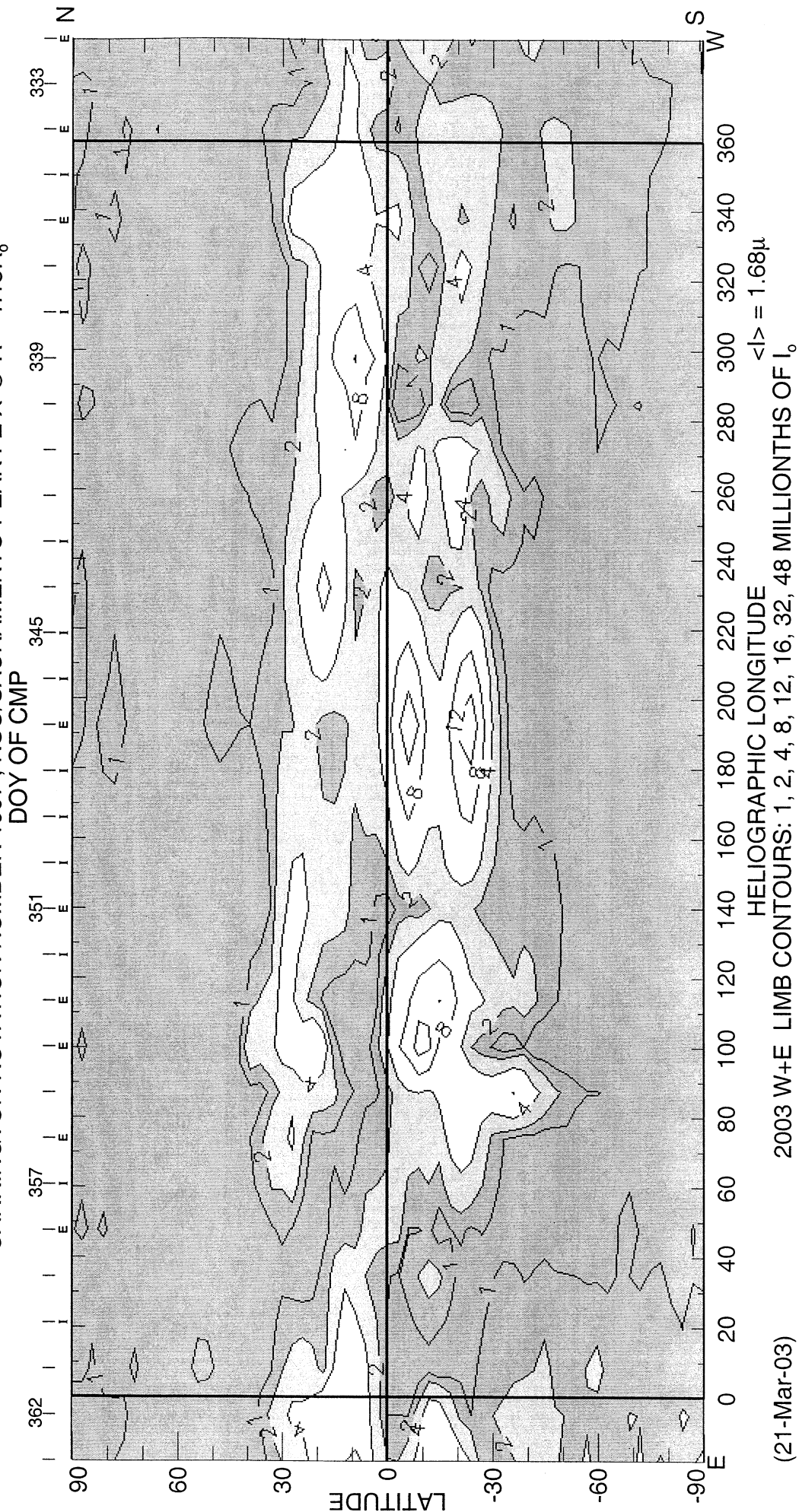
0, +1, 2, 5, 10, 20 microTesla



CARRINGTON ROTATION NUMBER 1997; NSO/SACRAMENTO PEAK FE XIV @ $R = 1.15R_{\odot}$
DOY OF CMP

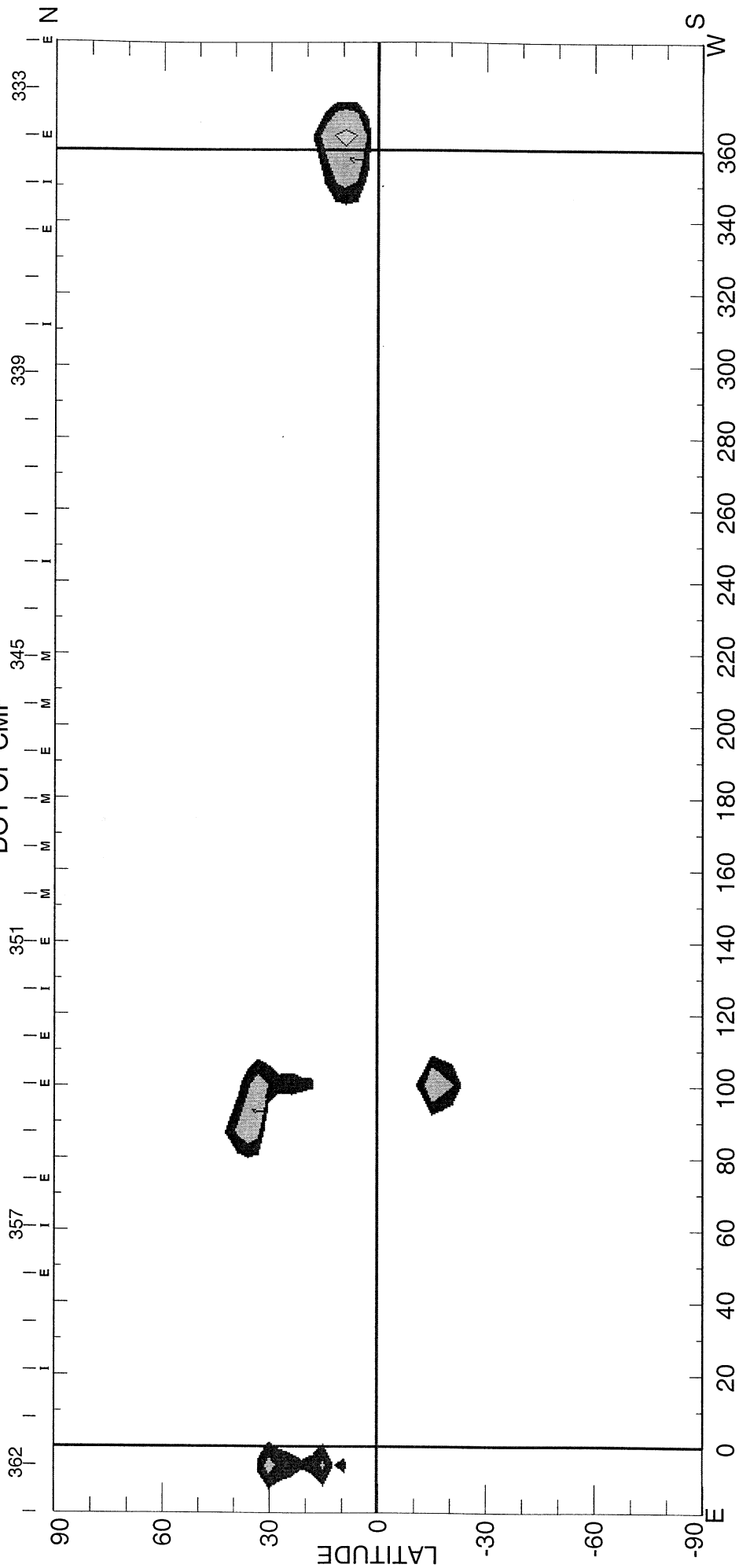


CARRINGTON ROTATION NUMBER 1997 ; NSO/SACRAMENTO PEAK FE X @ $R = 1.15R_{\odot}$



CARRINGTON ROTATION NUMBER 1997 : NSO/SACRAMENTO PEAK CA XV @ $R = 1.15R_{\odot}$

DOY OF CMP



(14-Mar-03) 2003 W+E LIMB CONTOURS: YELMIN, 1, 2, 3, 4, 6, 8, 10, 12, 14, 16, 18, 20 MILLIONTHS OF I_0

SOLAR MAGNETIC FIELD SYNOPSIS CHART
CARRINGTON ROTATION NUMBER 1997
(30 November to 27 December 2002)

National Solar Observatory/Kitt Peak

Dates of Observation

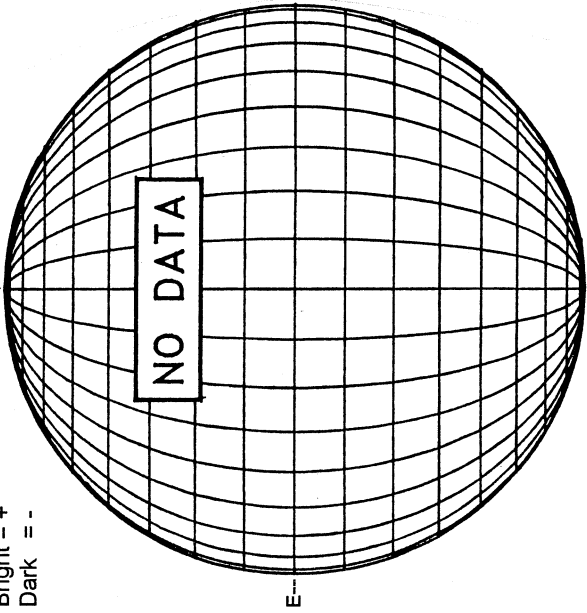
PHOTOGRAPHIC DATA UNAVAILABLE AT TIME OF PUBLICATION.

Heliographic Longitude

JANUARY 1, 2003 (P= 2.25, Bo = -2.98, Lo = 302.15)

KITT PEAK MAGNETOGRAM
868.8 nm

Bright = +
Dark = -



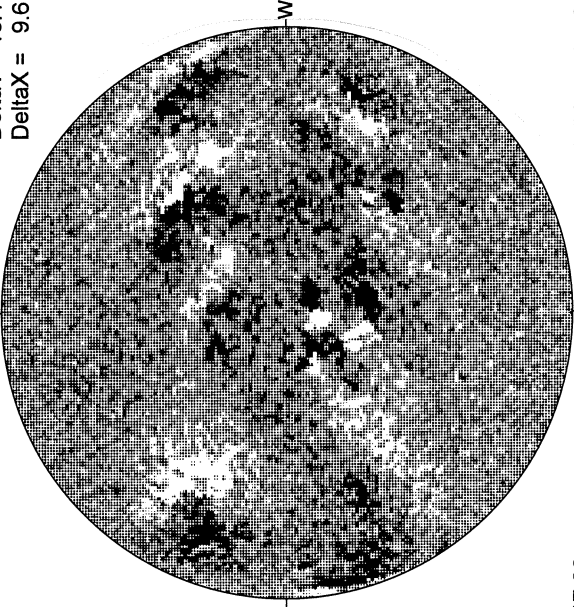
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

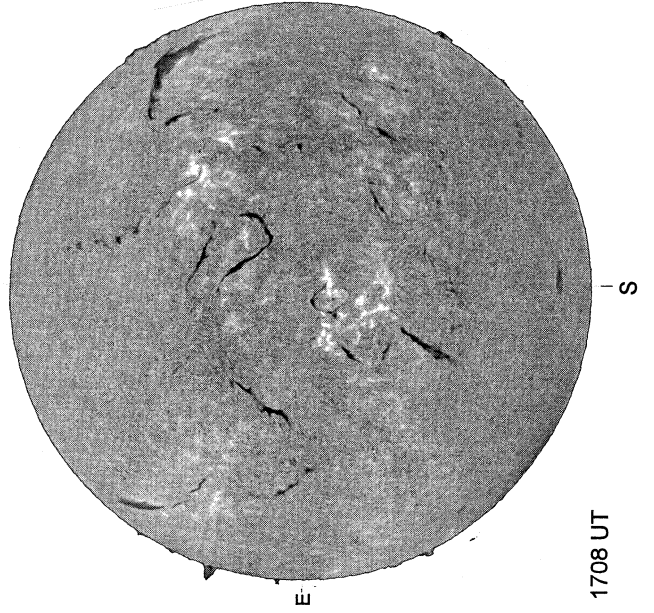
DeltaY = 13.1
DeltaX = 9.6



17.06 -
18.04 UT

White = +7.5G
Black = -7.5G

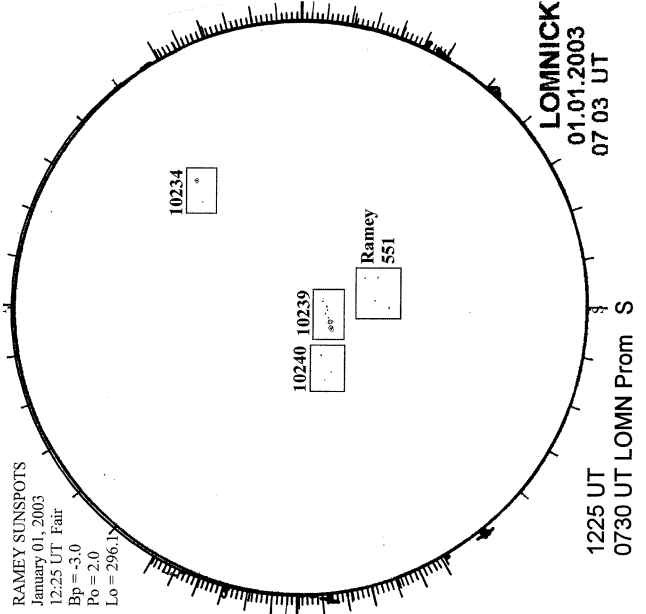
BIG BEAR H-ALPHA



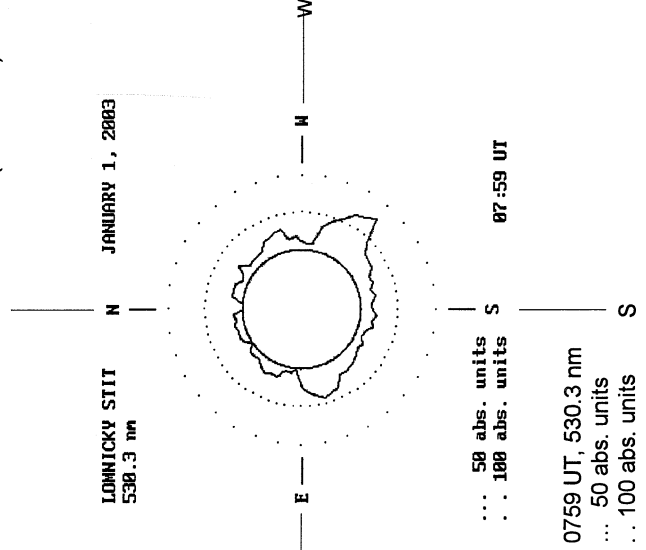
1708 UT

RAMEY SUNSPOT

RAMEY SUNSPOTS
January 01, 2003
12:25 UT Fair
Bp = -3.0
Pb = 2.0
Lo = 296.1



LOMNICKY PEAK CORONA (1.04 Radii)



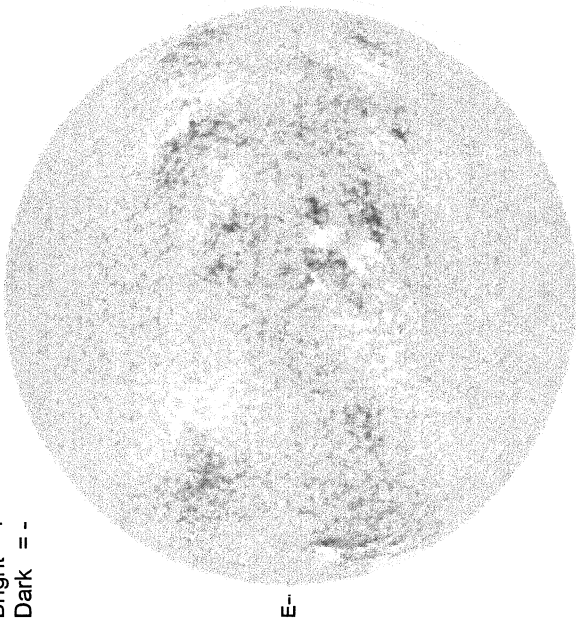
0759 UT, 530.3 nm
... 50 abs. units
... 100 abs. units

JANUARY 2, 2003 (P= 1.76, Bo = -3.10, Lo = 288.98)

KITT PEAK MAGNETOGRAM

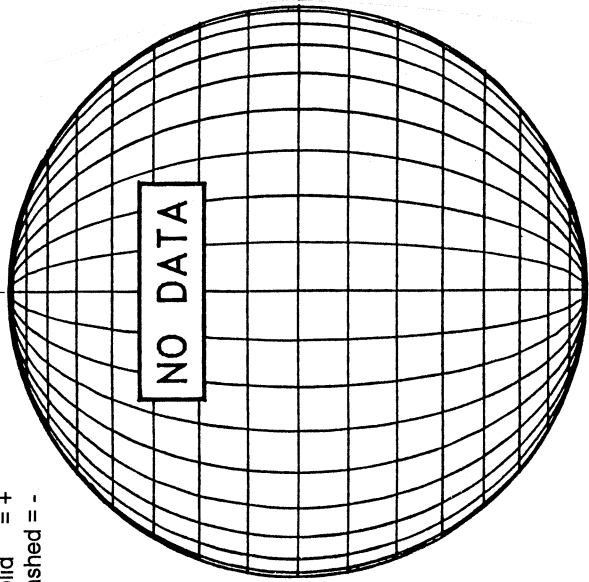
868.8 nm

Bright = +
Dark = -



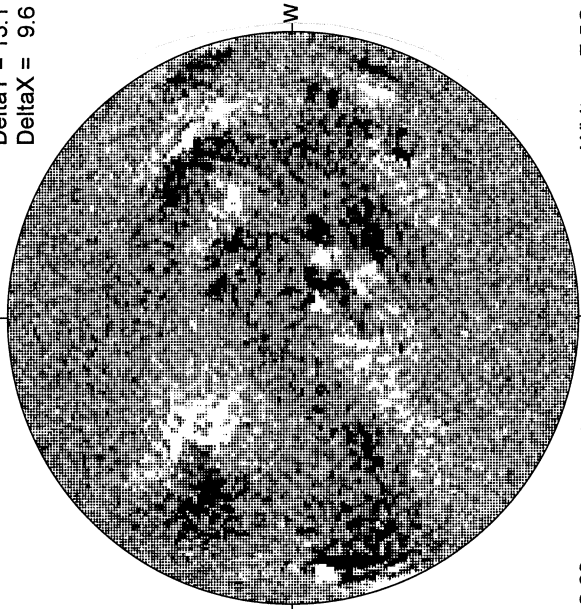
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

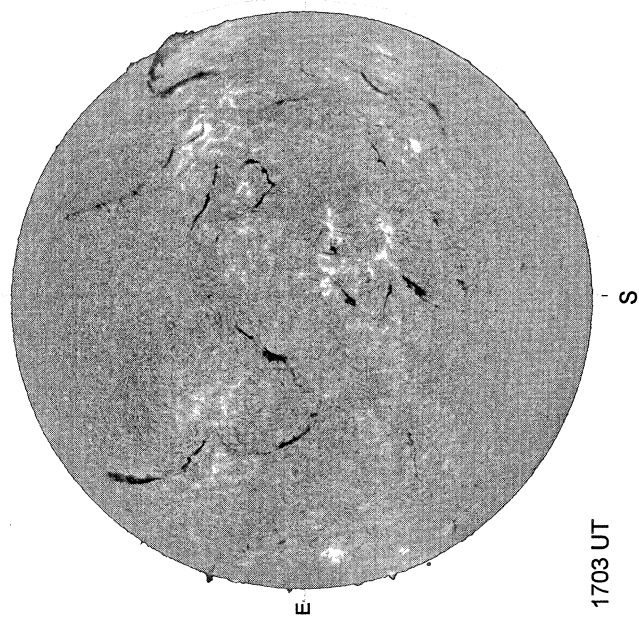
Delta Y = 13.1
Delta X = 9.6



White = +7.5G
Black = -7.5G

18.03 -
19.01 UT

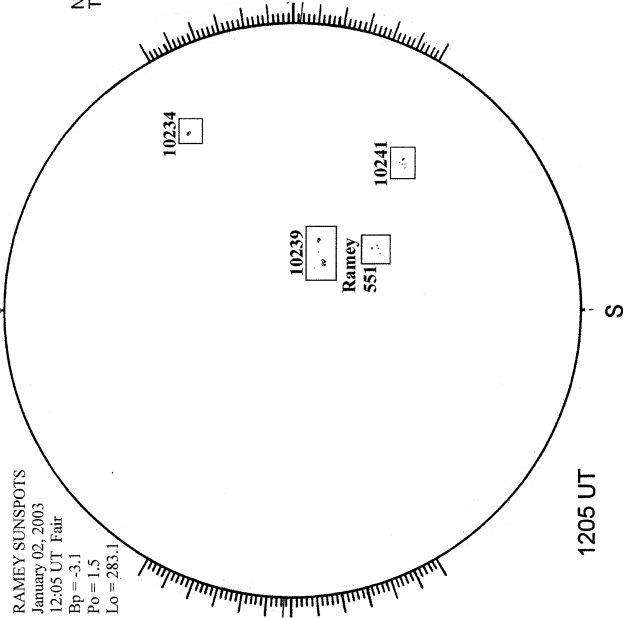
BIG BEAR H-ALPHA



1703 UT

RAMEY SUNSPOT

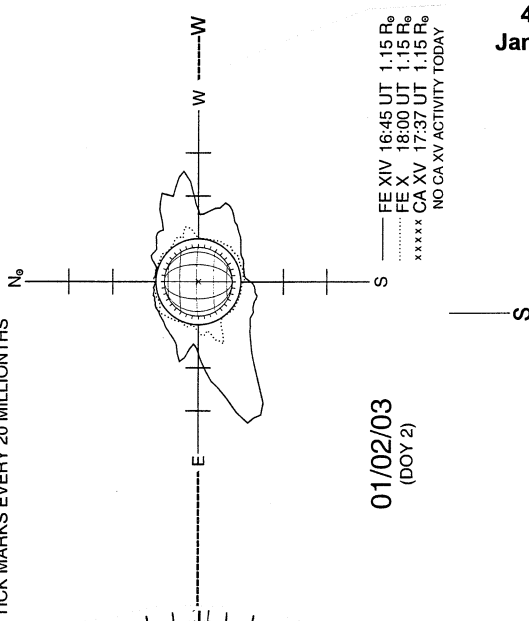
RAMEY SUNSPOTS
January 02, 2003
12:05 UT Fair
Bp = -3.1
Po = 1.5
Lo = 283.1



1205 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS



01/02/03
(DOY 2)

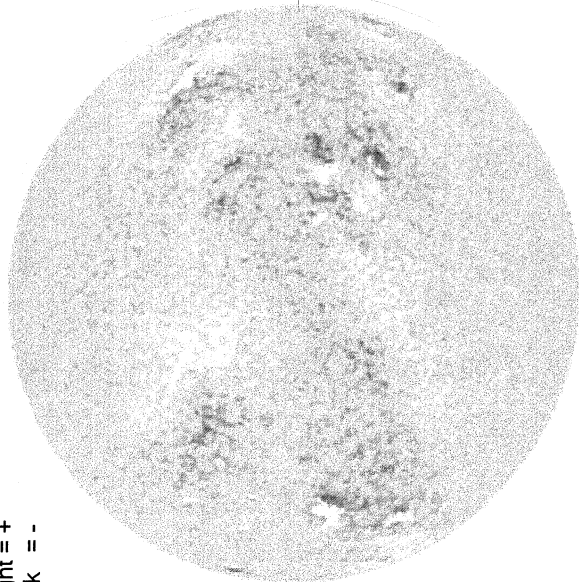
FE XIV 16:45 UT 1.15 R_o
FE X 18:00 UT 1.15 R_o
CA XV 17:37 UT 1.15 R_o
NO CA XV ACTIVITY TODAY

JANUARY 3, 2003 (P= 1.28, Bo = -3.22, Lo = 275.81)

KITT PEAK MAGNETOGRAM

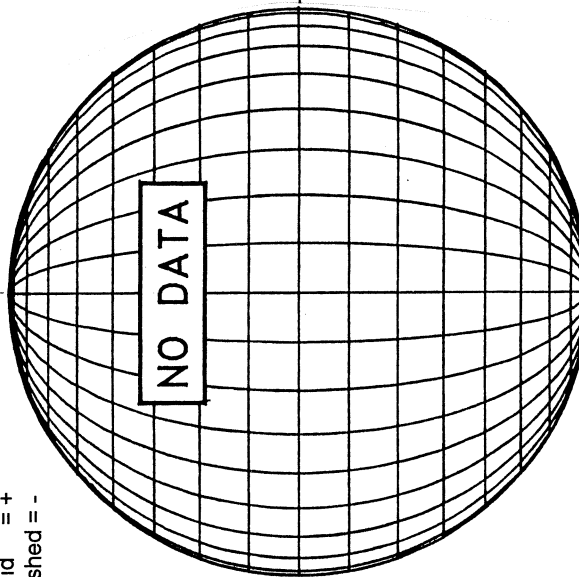
868.8 nm

Bright = +
Dark = -



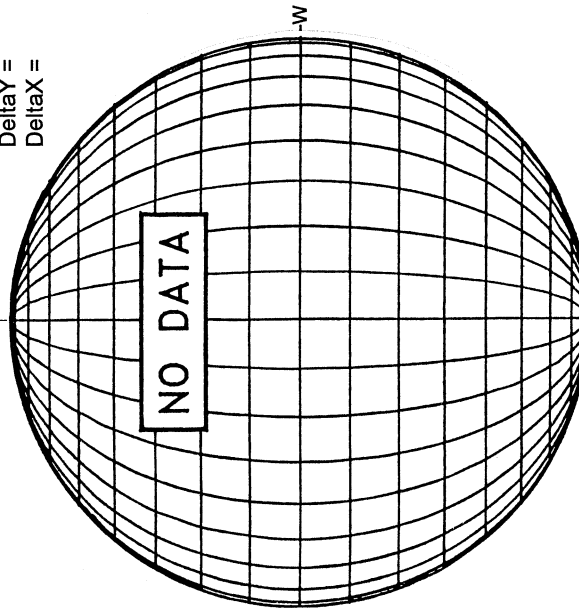
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



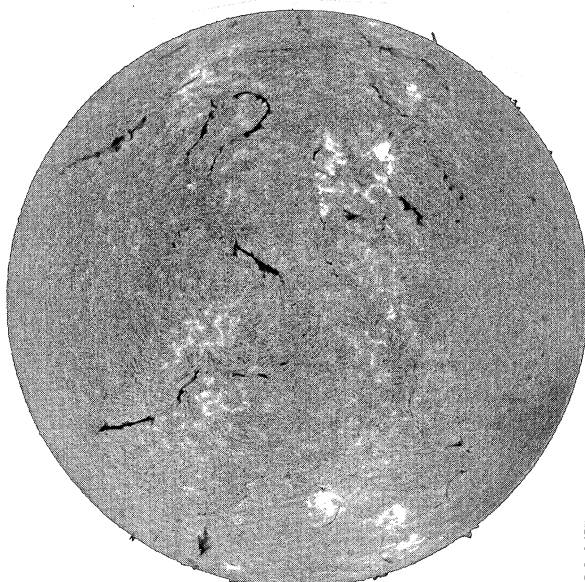
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =

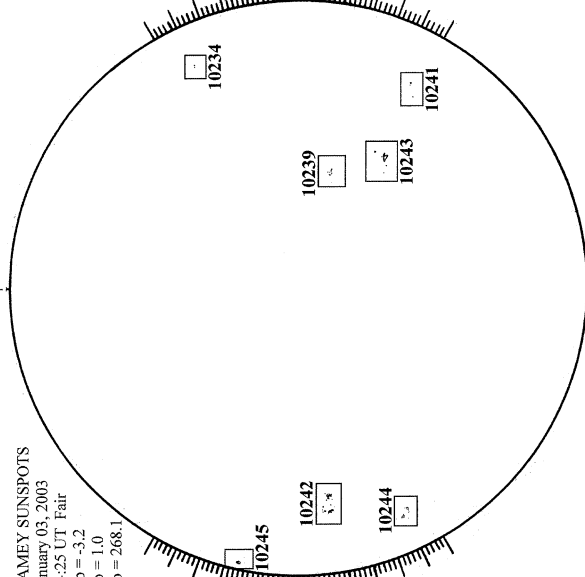


White = +7.5G
Black = -7.5G

BIG BEAR H-ALPHA



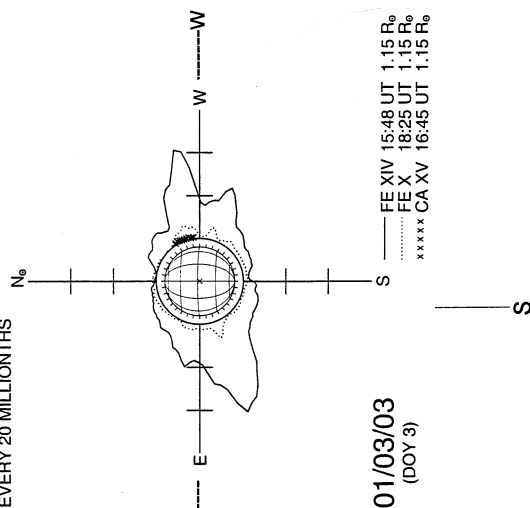
RAMEY SUNSPOT



RAMEY SUNSPOTS
January 03, 2003
14:25 UT Fair
Bp = -3.2
Po = 1.0
Lo = 268.1

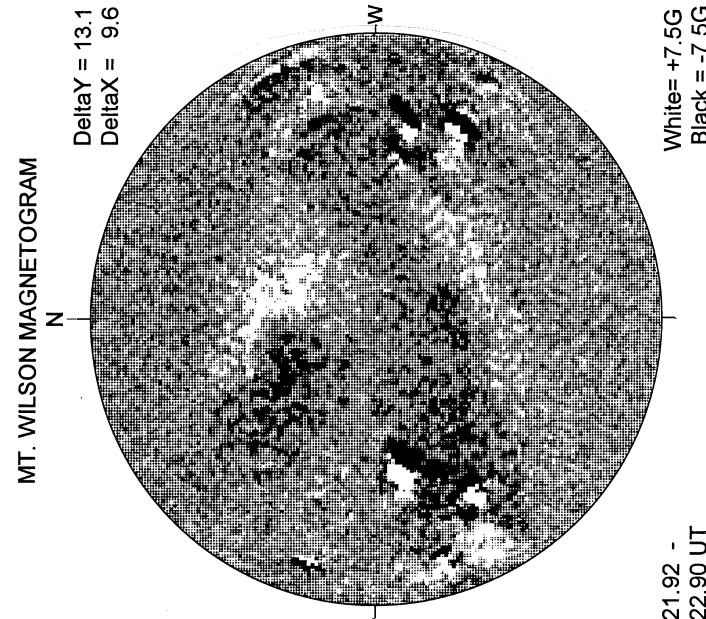
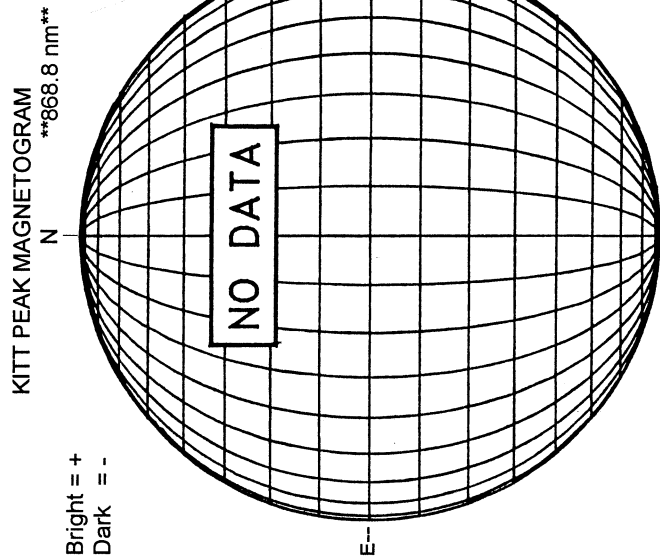
SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS

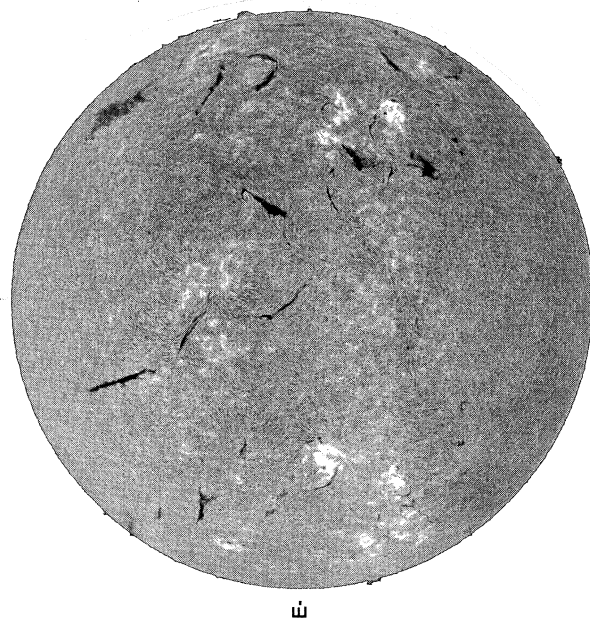


FE XIV 15:48 UT 1.15 R_o
FE X 18:25 UT 1.15 R_o
***** CA XV 16:45 UT 1.15 R_o

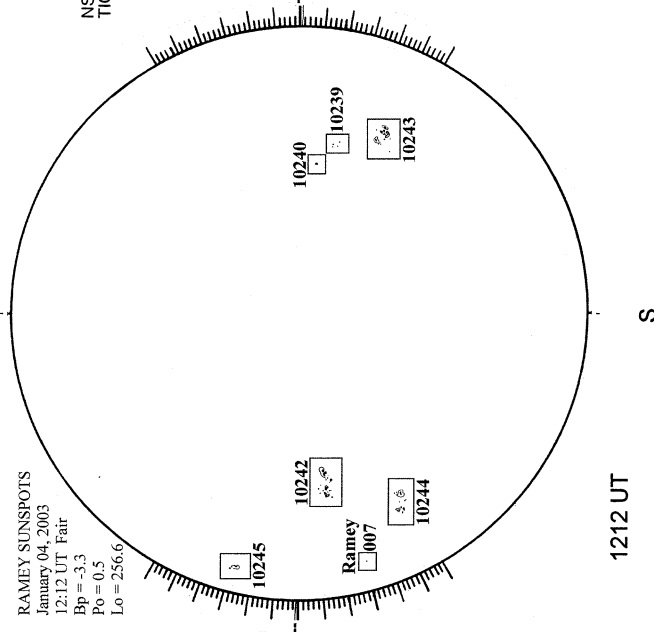
JANUARY 4, 2003 (P= 0.79, Bo = -3.33, Lo = 262.64)



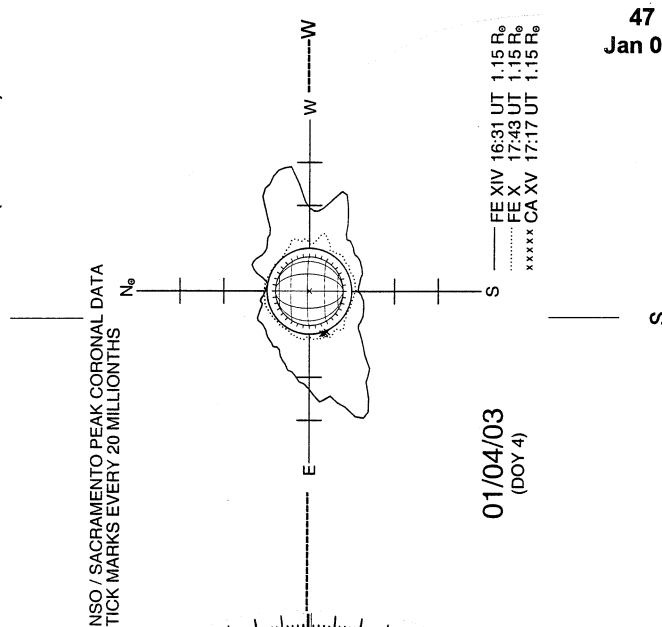
BIG BEAR H-ALPHA



RAMEY SUNSPOT



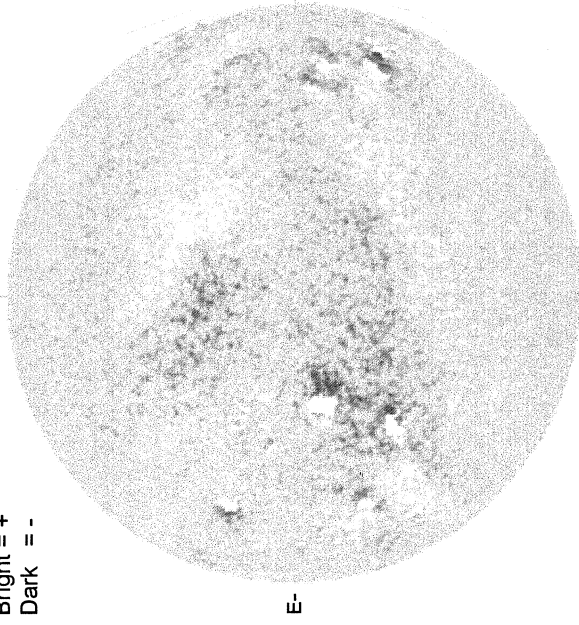
SACRAMENTO PEAK CORONA (1.15 Radii)----



JANUARY 5, 2003 (P= 0.31, Bo = -3.44, Lo = 249.47)

KITT PEAK MAGNETOGRAM
868.8 nm

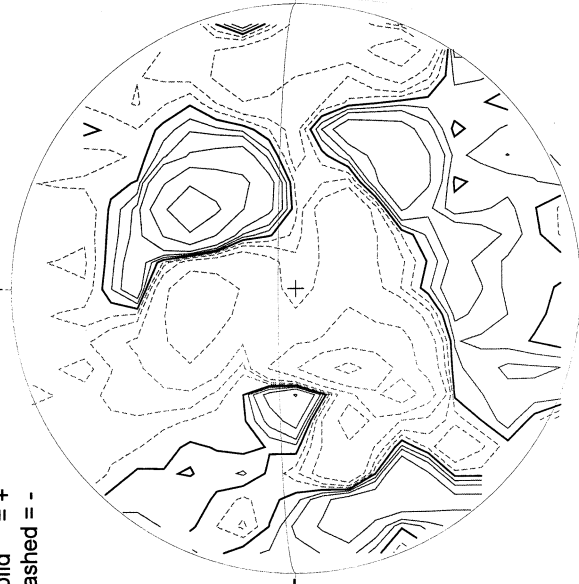
Bright = +
Dark = -



1658 UT

STANFORD MAGNETOGRAM

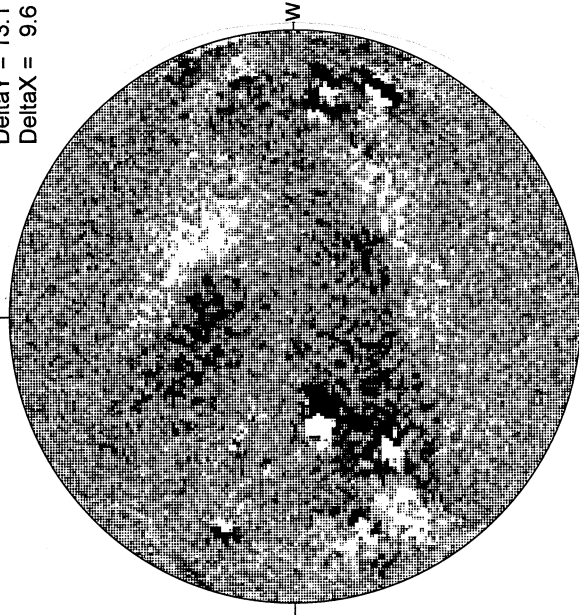
Solid = +
Dashed = -



2026 UT

MT. WILSON MAGNETOGRAM

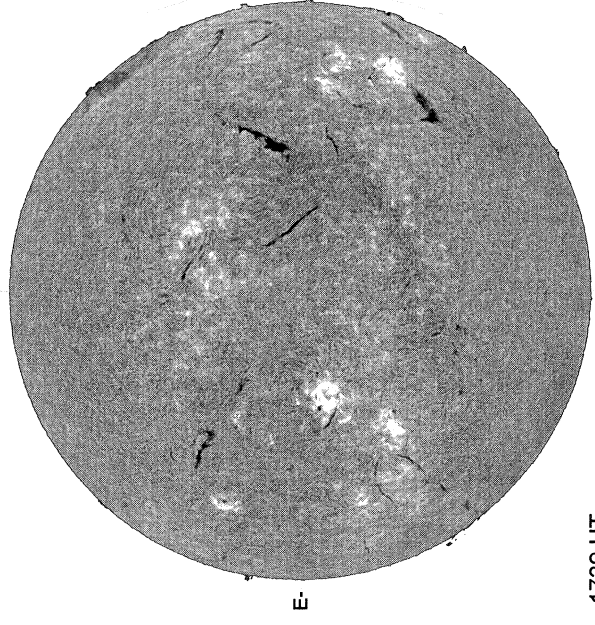
DeltaY = 13.1
DeltaX = 9.6



18.31 -
19.29 UT

White = +7.5G
Black = -7.5G

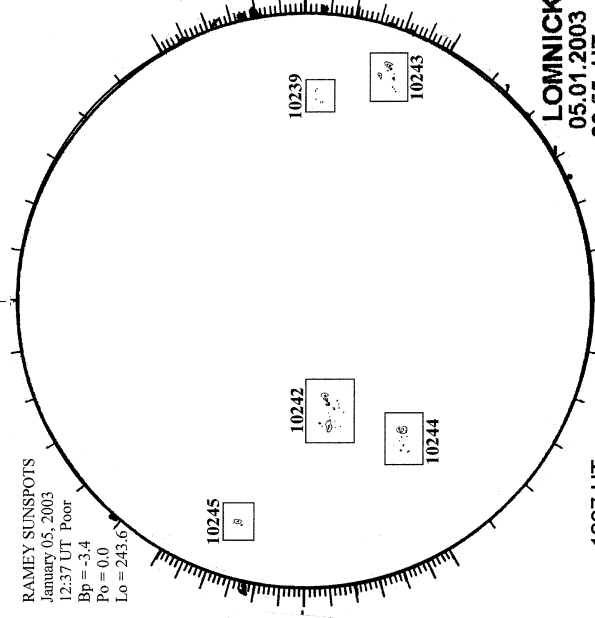
BIG BEAR H-ALPHA



1739 UT

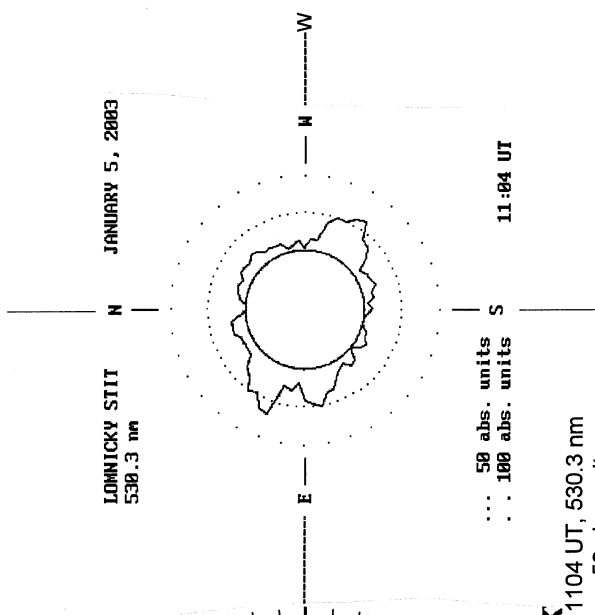
RAMEY SUNSPOT

RAMEY SUNSPOTS
January 05, 2003
12:37 UT Poor
Bp = -3.4
Po = 0.0
Lo = 243.6



1237 UT
0955 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)----



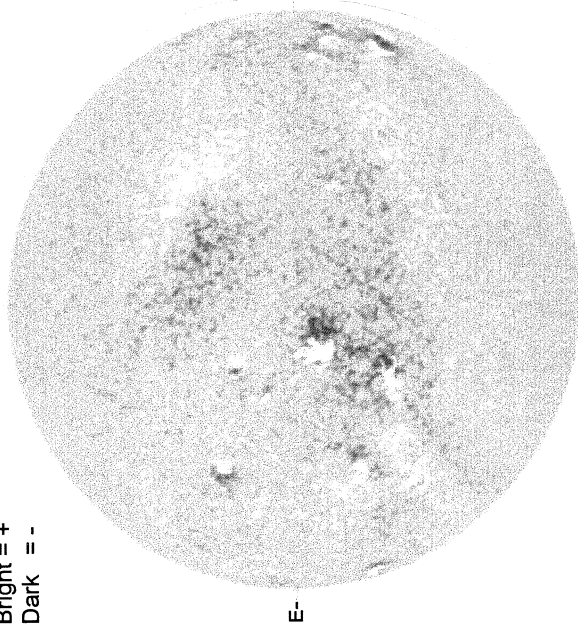
LOMNICKY STIT
530.3 nm
JANUARY 5, 2003
11:04 UT, 530.3 nm
50 abs. units
100 abs. units
50 abs. units
100 abs. units

11:04 UT

JANUARY 6, 2003 (P = -0.18, Bo = -3.56, Lo = 236.30)

KITT PEAK MAGNETOGRAM
868.8 nm

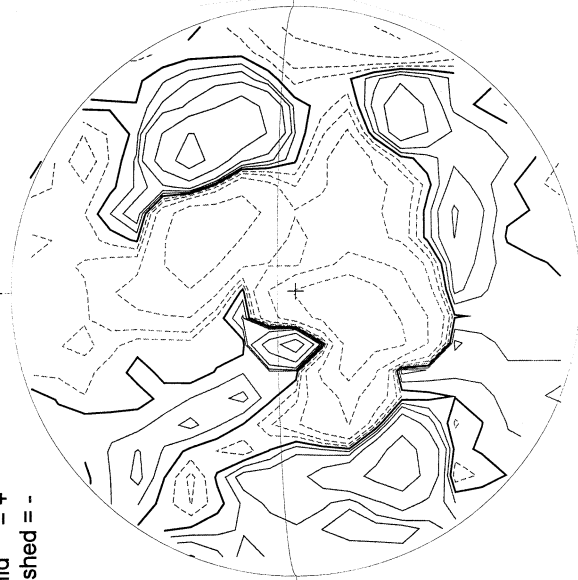
Bright = +
Dark = -



1550 UT

STANFORD MAGNETOGRAM

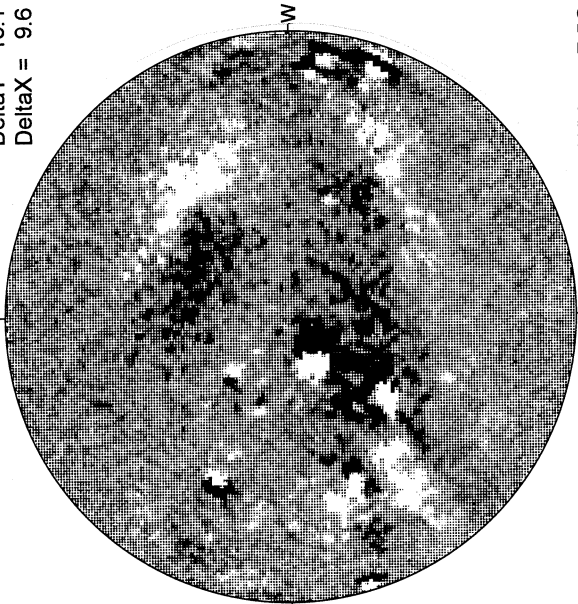
Solid = +
Dashed = -



2221 UT

MT. WILSON MAGNETOGRAM

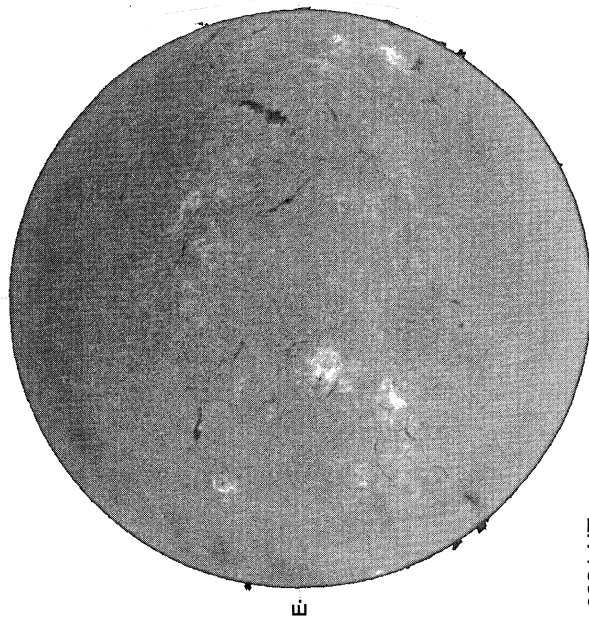
Delta Y = 13.1
Delta X = 9.6



18.28 -
19.26 UT

White = +7.5G
Black = -7.5G

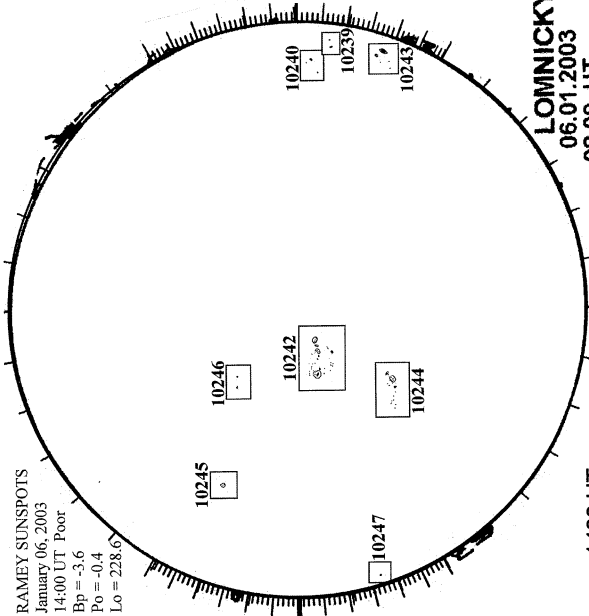
CATANIA H-ALPHA



0821 UT

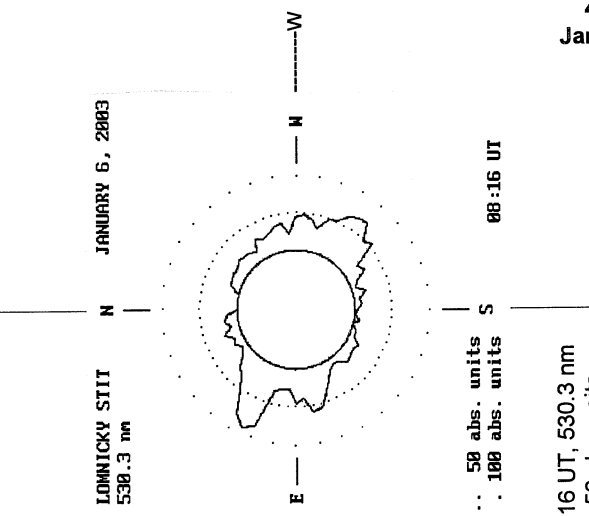
RAMEY SUNSPOT

RAMEY SUNSPOTS
January 06, 2003
14:00 UT Poor
Bp = -3.6
Po = -0.4
Lo = 228.6



1400 UT
0809 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)---



LOMNICKY STII
530.3 nm
JANUARY 6, 2003
08:16 UT
58 abs. units
100 abs. units
0816 UT, 530.3 nm
50 abs. units
100 abs. units

50
Jan 03

JANUARY 7, 2003 (P = -0.66, Bo = -3.67, Lo = 223.13)

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



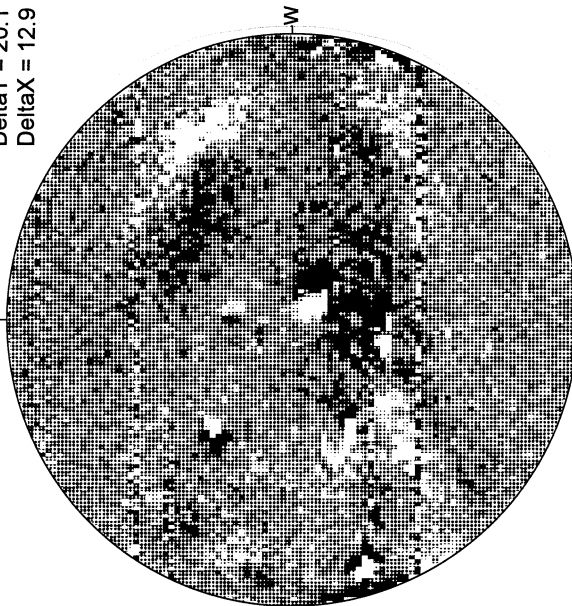
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

Delta Y = 20.1
Delta X = 12.9

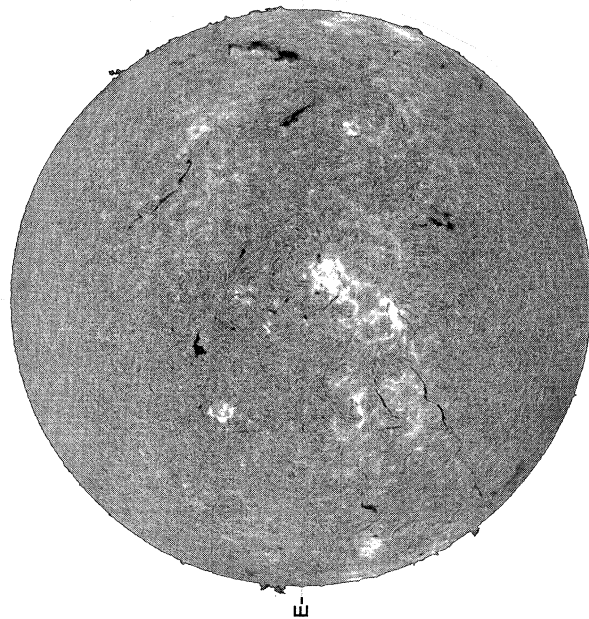


2018 UT

18.49 -
18.92 UT

White = +7.5G
Black = -7.5G

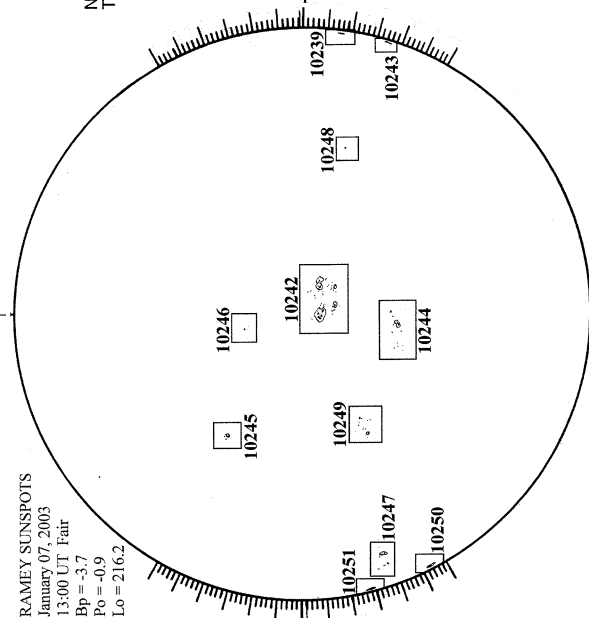
BIG BEAR H-ALPHA



1647 UT

RAMEY SUNSPOTS

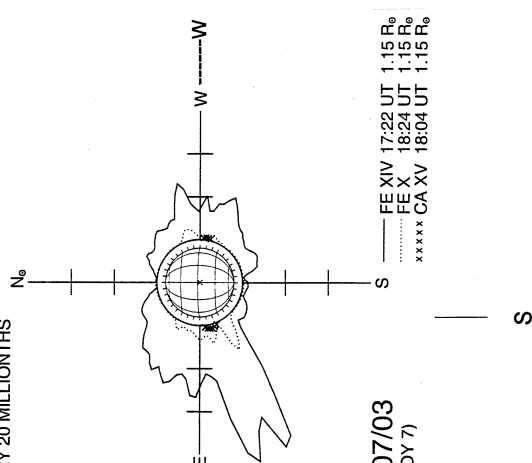
RAMEY SUNSPOTS
January 07, 2003
13:00 UT Fair
Bp = -3.7
Po = -0.9
Lo = 216.2



1300 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS



01/07/03
(DOY 7)

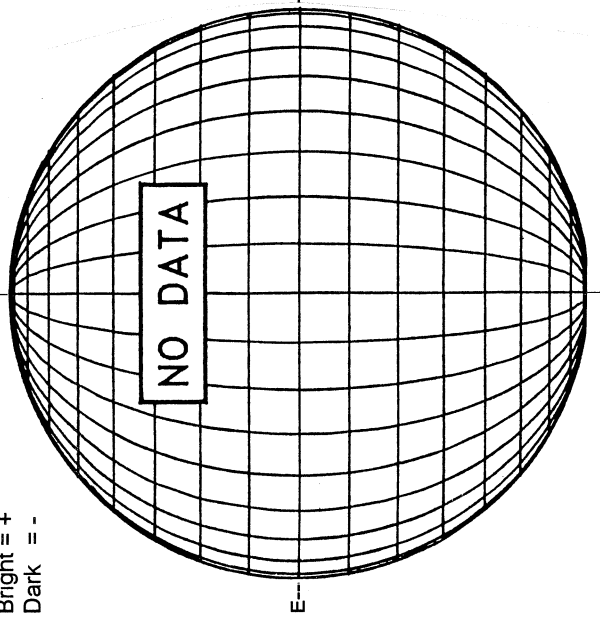
— FE XIV 17:22 UT 1.15 R_o
..... FE X 18:24 UT 1.15 R_o
xxxxx CA XV 18:04 UT 1.15 R_o

JANUARY 8, 2003 (P= -1.15, Bo = -3.78, Lo = 209.96)

KITT PEAK MAGNETOGRAM

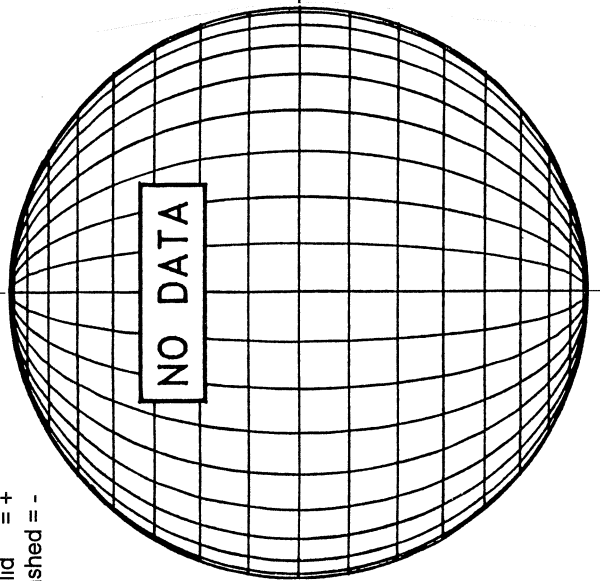
868.8 nm

Bright = +
Dark = -



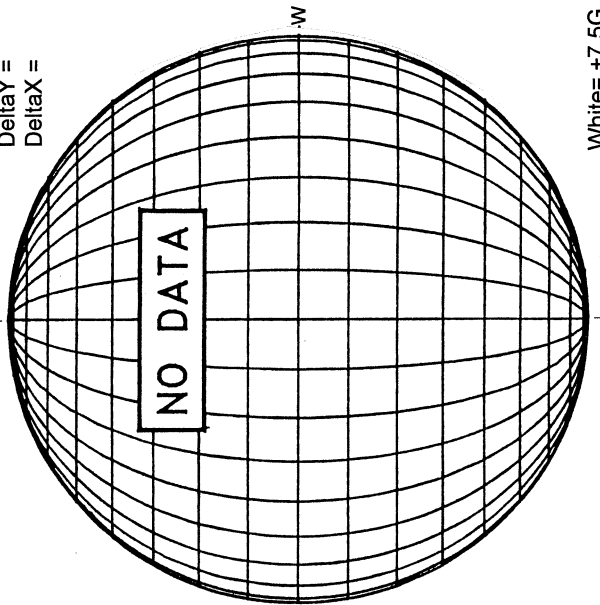
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



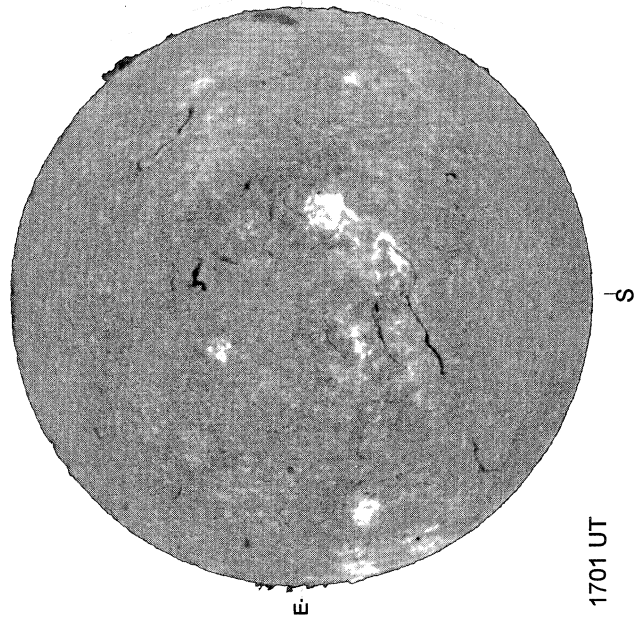
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =



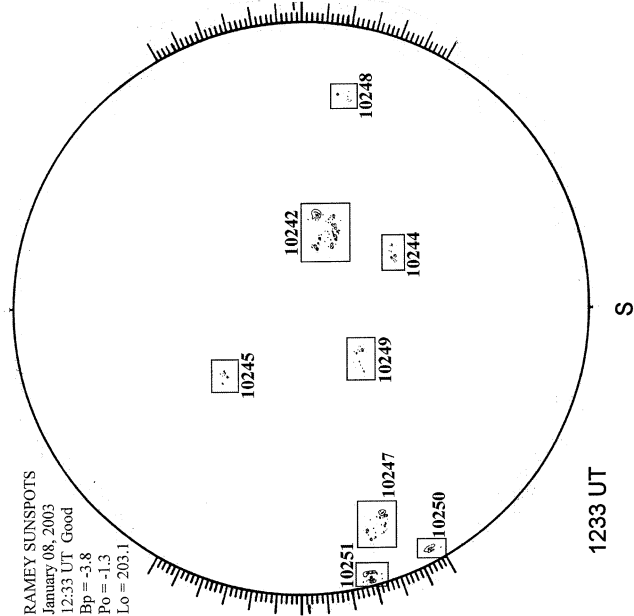
White = +7.5G
Black = -7.5G

BIG BEAR H-ALPHA

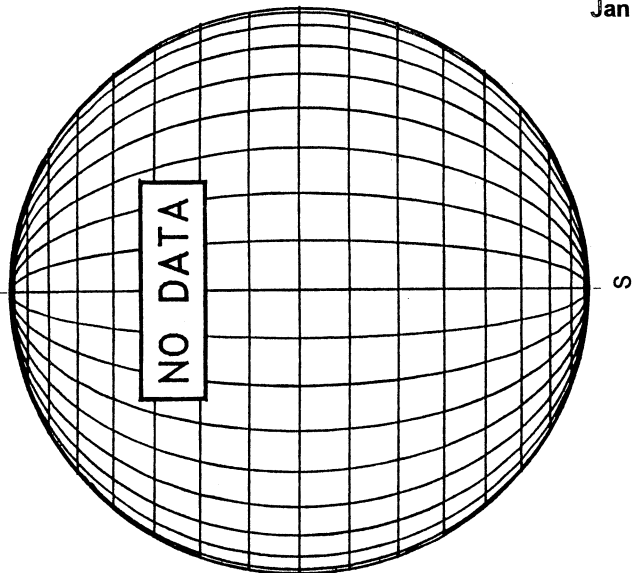


RAMEY SUNSPOT

RAMEY SUNSPOTS
January 08, 2003
12:33 UT Good
Bp = -3.8
Po = -1.3
Lo = 203.1



SACRAMENTO PEAK CORONA (1.15 Radii)----



1701 UT

1233 UT

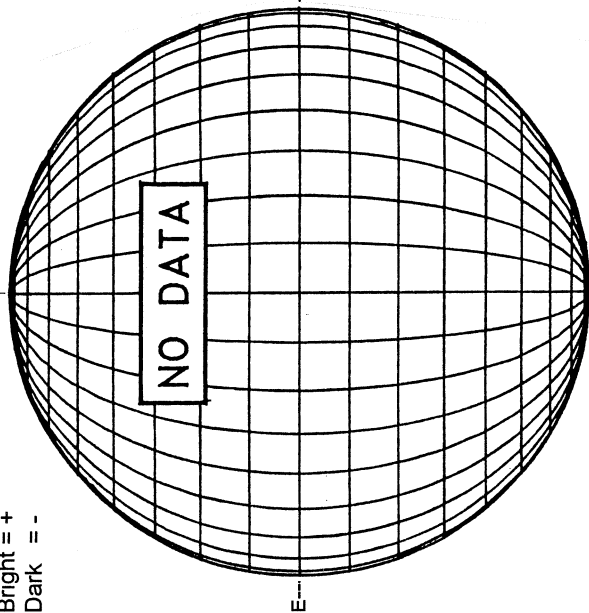
52
Jan 03

JANUARY 9, 2003 (P = -1.63, Bo = -3.89, Lo = 196.79)

KITT PEAK MAGNETOGRAM

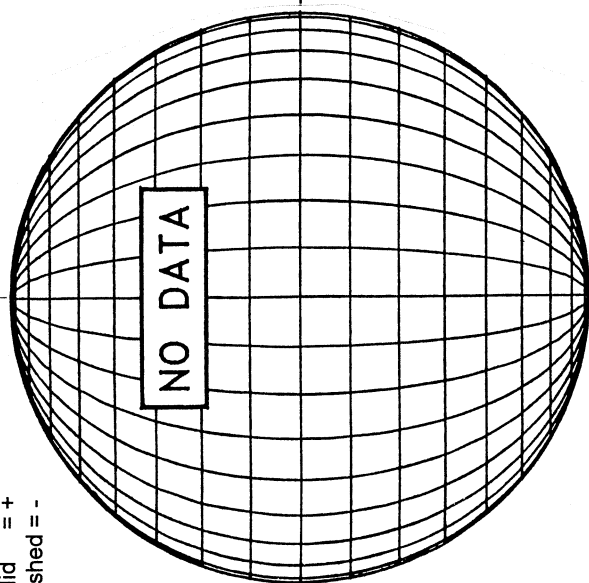
**868.8 nm

Bright = +
Dark = -



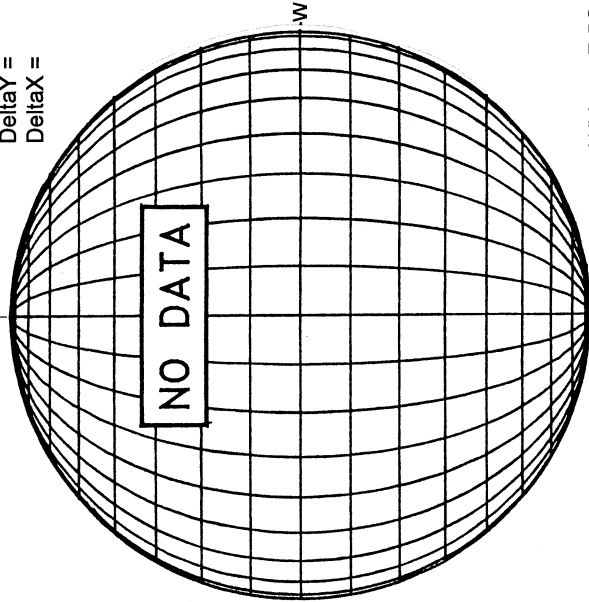
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



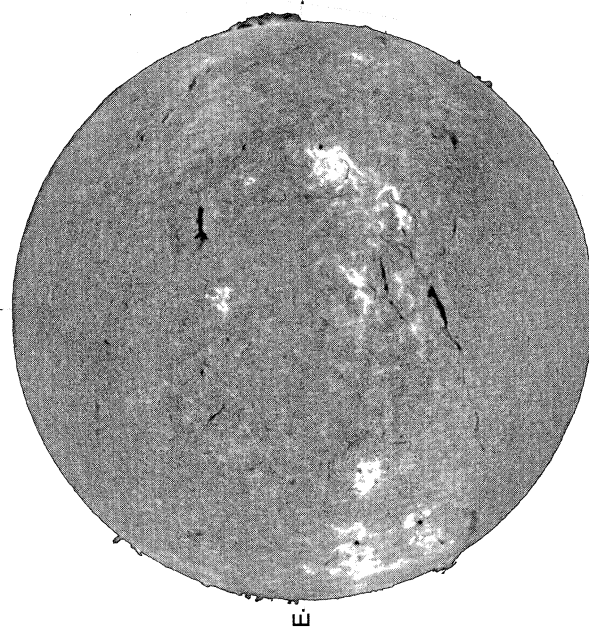
MT. WILSON MAGNETOGRAM

Delta Y =
Delta X =



White = +7.5G
Black = -7.5G

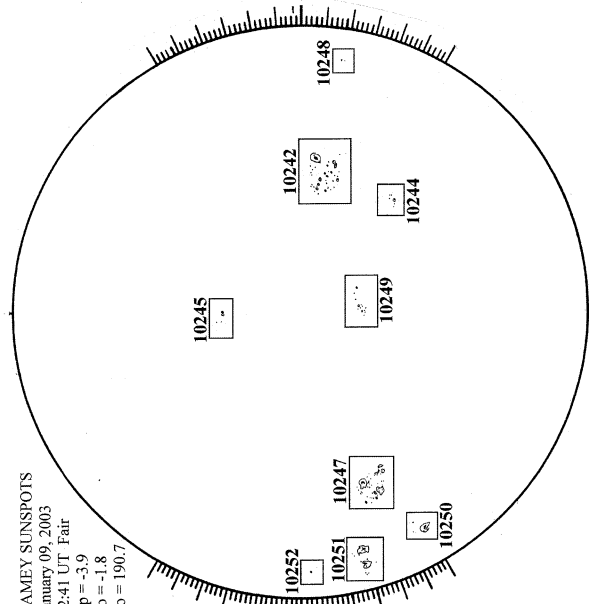
BIG BEAR H-ALPHA



1740 UT

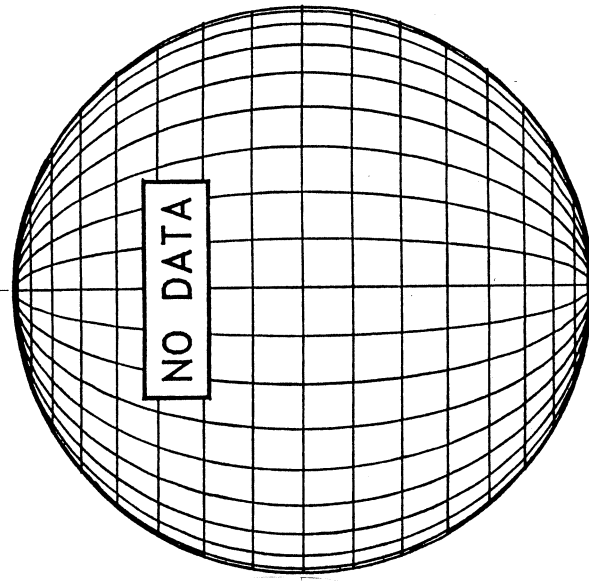
RAMEY SUNSPOT

RAMEY SUNSPOTS
January 09, 2003
12:41 UT Fair
Bp = -3.9
Po = -1.8
Lo = 190.7



1241 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



S

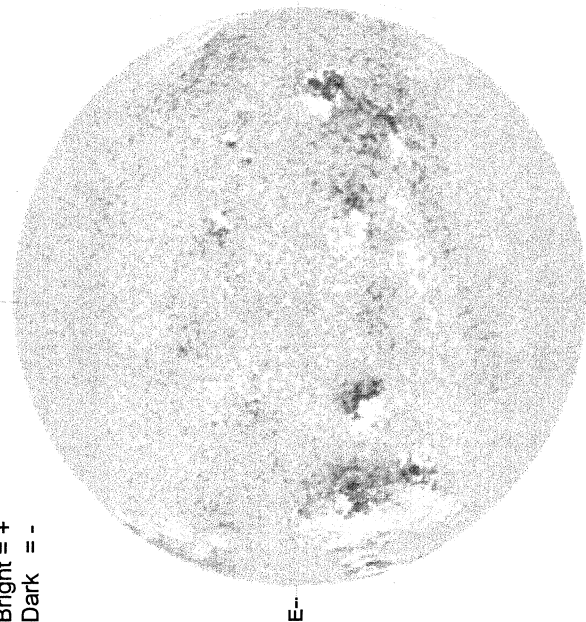
JANUARY 10, 2003 (P= -2.11, Bo = -4.00 Lo = 183.62)

KITT PEAK MAGNETOGRAM

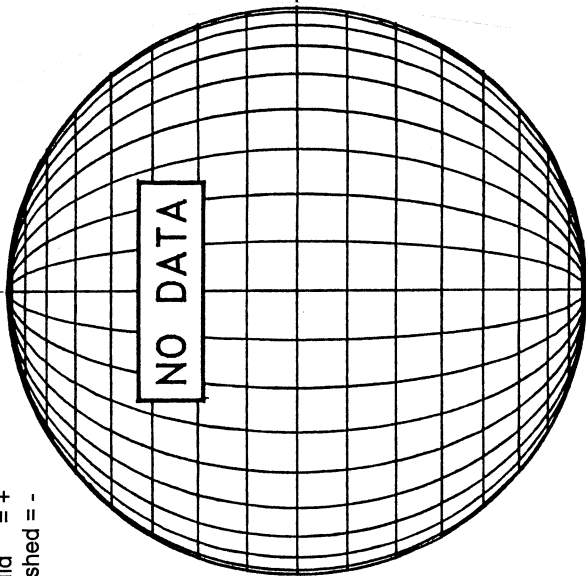
868.8 nm

Bright = +
Dark = -

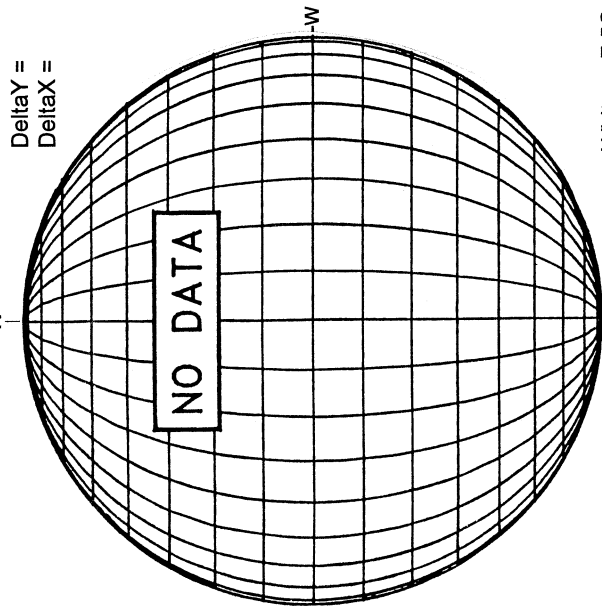
Solid = +
Dashed = -



STANFORD MAGNETOGRAM



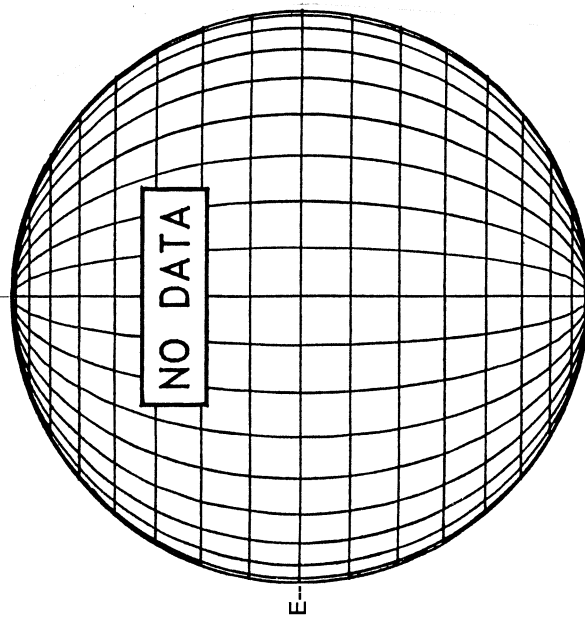
MT. WILSON MAGNETOGRAM



White = +7.5G
Black = -7.5G

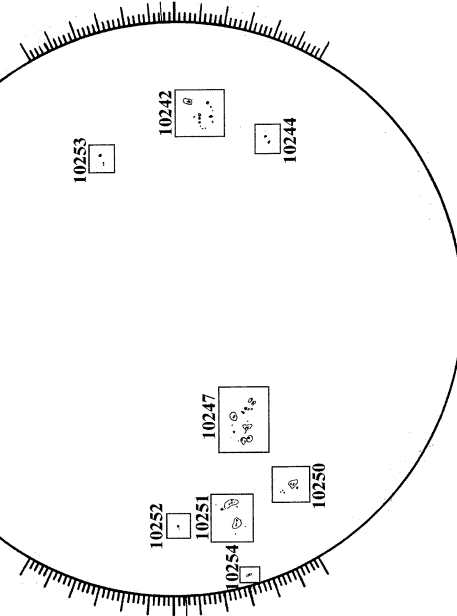
1652 UT

CATANIA H-ALPHA



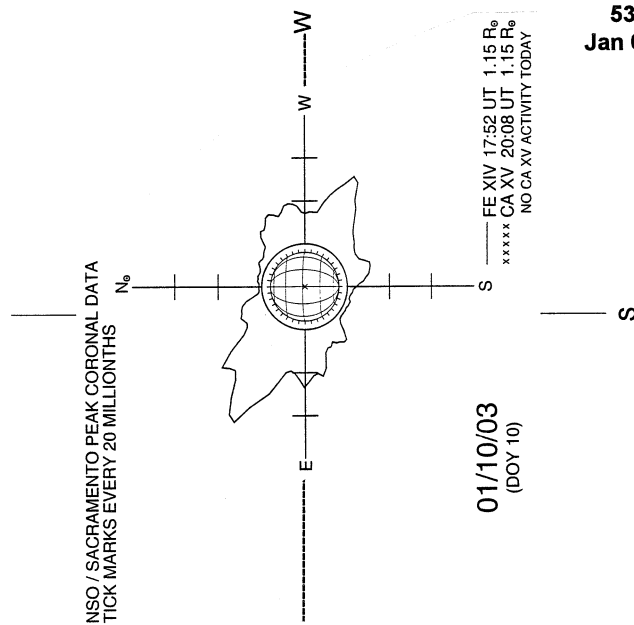
RAMEY SUNSPOTS

RAMEY SUNSPOTS
January 10, 2003
14:50 UT Poor
Bp = -4.0
Po = -2.3
Lo = 177.5



1450 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----



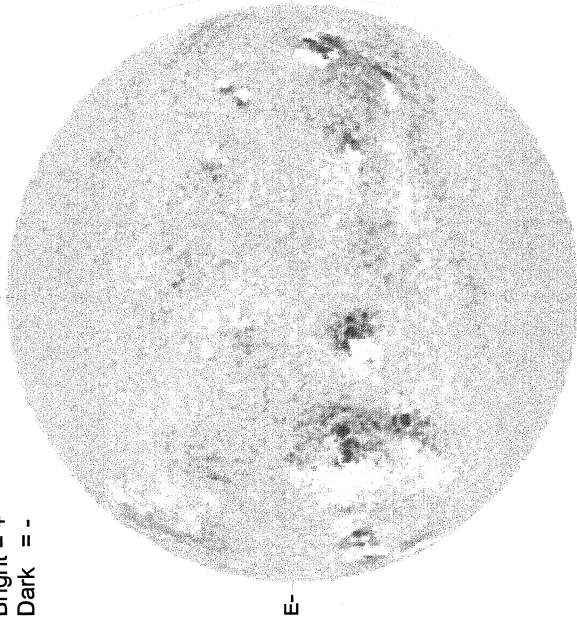
01/10/03
(DOY 10)

JANUARY 11, 2003 (P= -2.59, Bo = -4.10, Lo = 170.45)

54
Jan 03

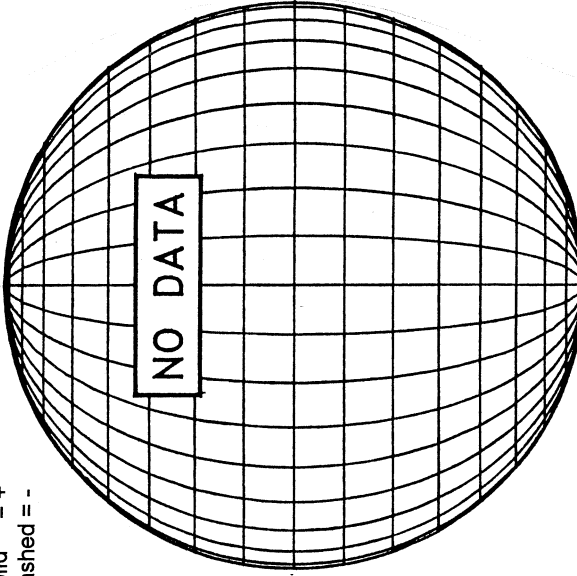
KITT PEAK MAGNETOGRAM
868.8 nm

Bright = +
Dark = -



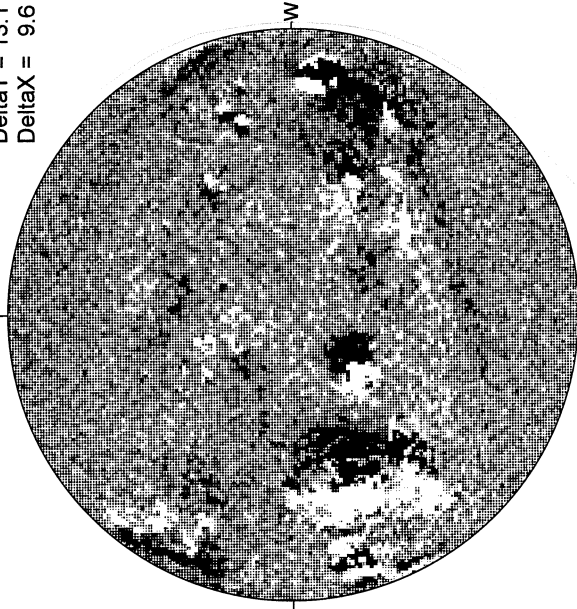
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

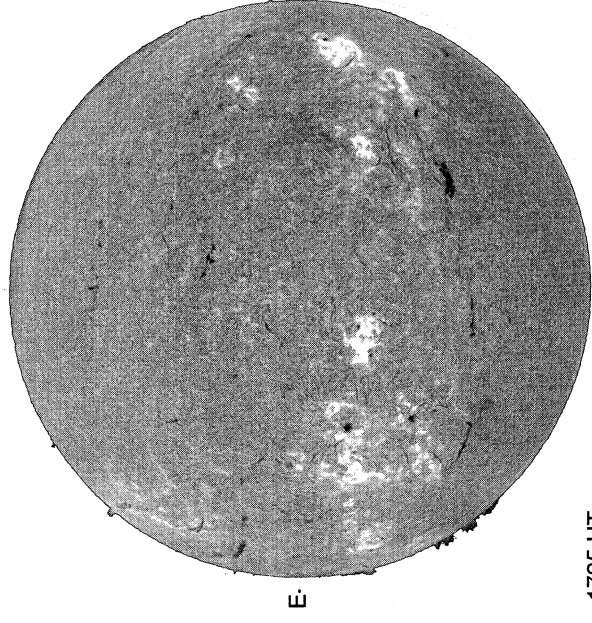
DeltaY = 13.1
DeltaX = 9.6



16.47 -
17.44 UT

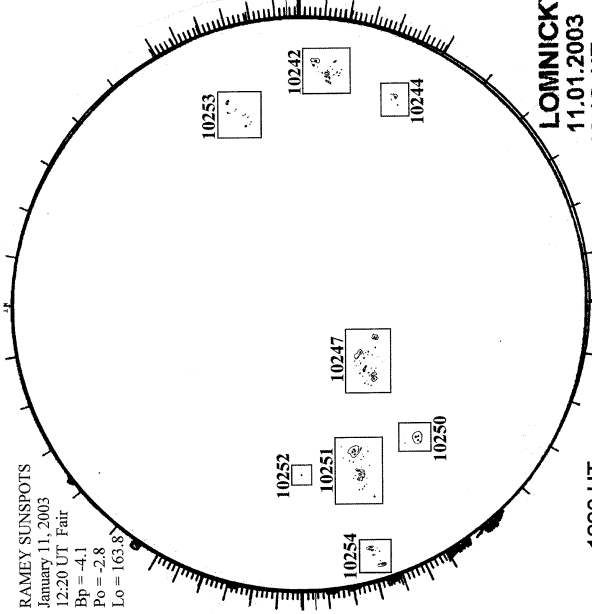
White = +7.5G
Black = -7.5G

BIG BEAR H-ALPHA



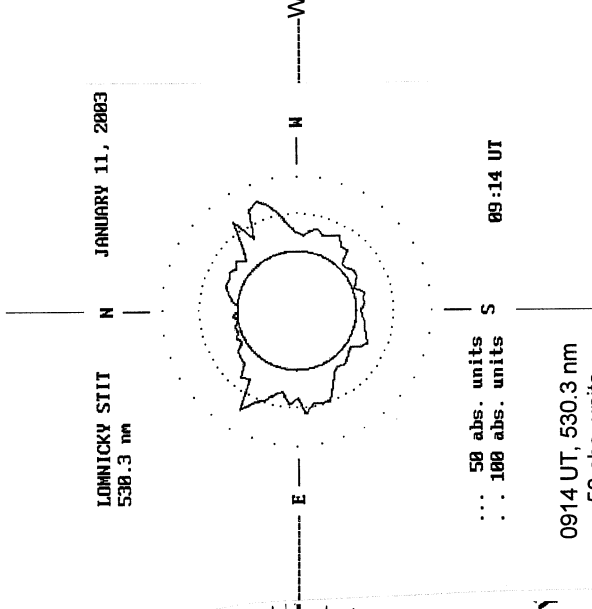
1725 UT

RAMEY SUNSPOTS



1220 UT
1015 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)---



LOMNICKY STIT
530.3 nm

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

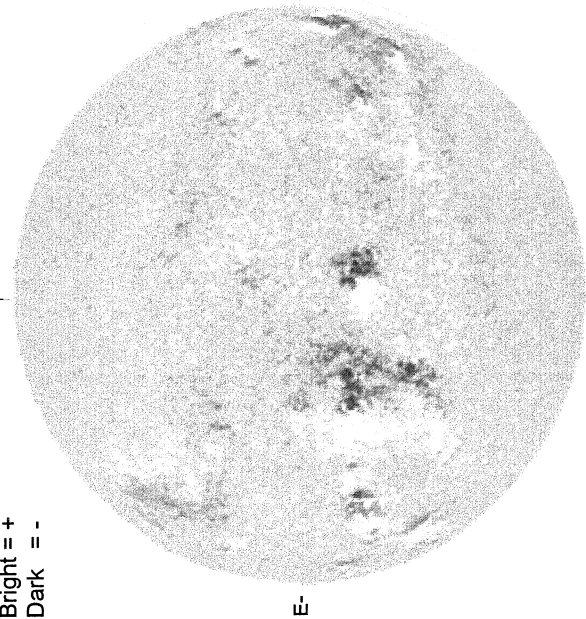
0914 UT, 530.3 nm
... 50 abs. units
... 100 abs. units

08:14 UT

JANUARY 12, 2003 (P= -3.06 Bo = -4.21 Lo = 157.29)

KITT PEAK MAGNETOGRAM
868.8 nm

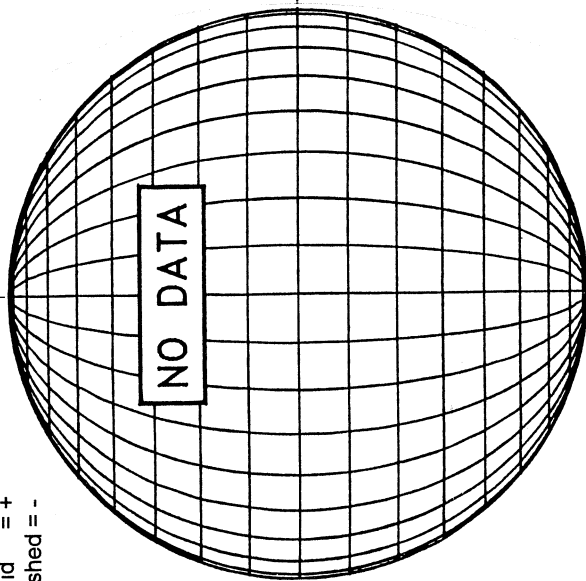
Bright = +
Dark = -



1648 UT

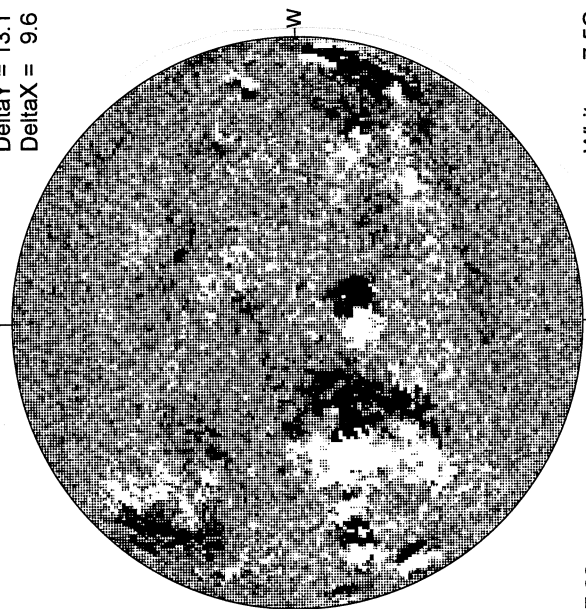
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

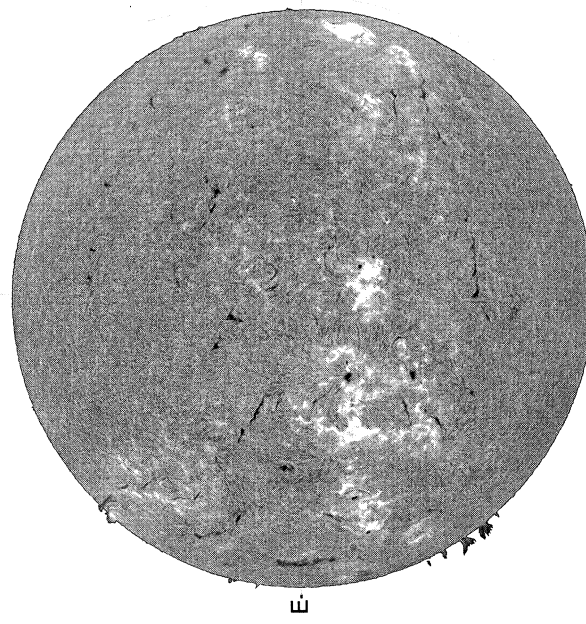
Delta Y = 13.1
Delta X = 9.6



17.22 -
18.20 UT

White = +7.5G
Black = -7.5G

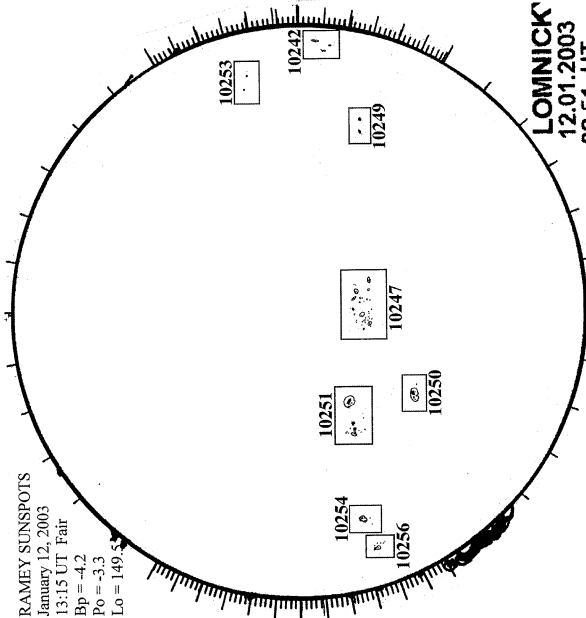
BIG BEAR H-ALPHA



1821 UT

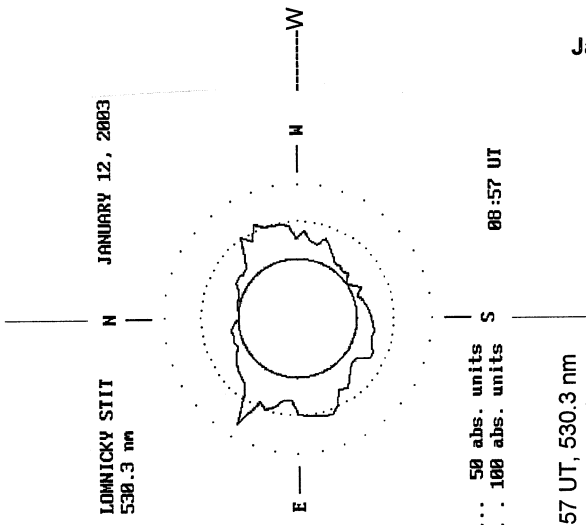
RAMEY SUNSPOTS

RAMEY SUNSPOTS
January 12, 2003
13:15 UT Fair
Bp = -4.2
Po = -3.3
Lo = 149 S



1315 UT
0851 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)----



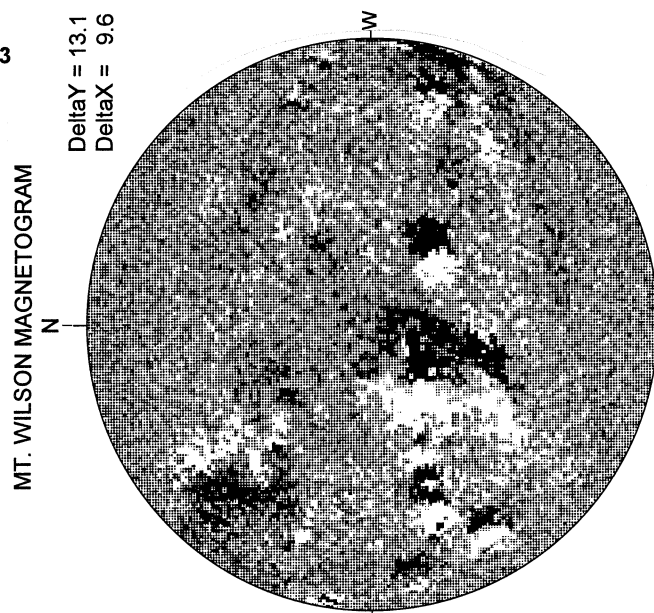
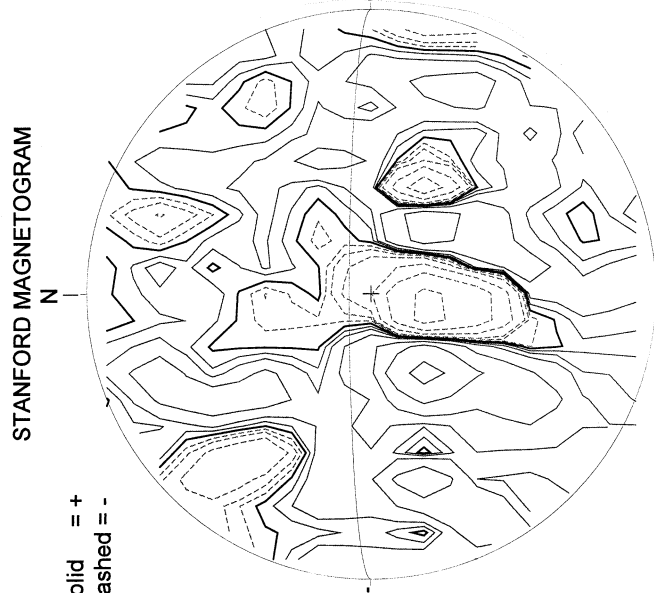
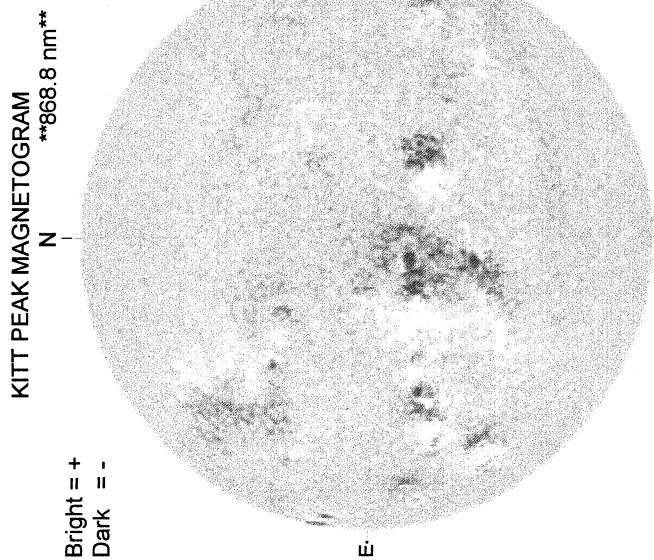
... 50 abs. units
... 100 abs. units

0857 UT, 530.3 nm
... 50 abs. units
... 100 abs. units

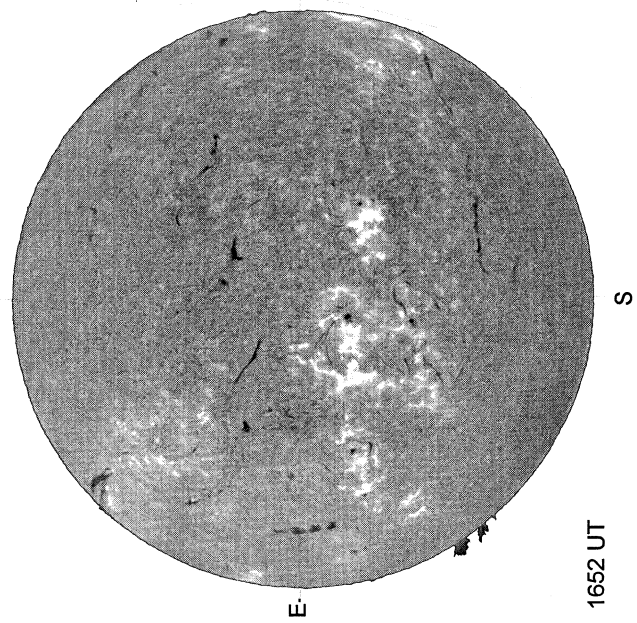
08:57 UT

56
Jan 03

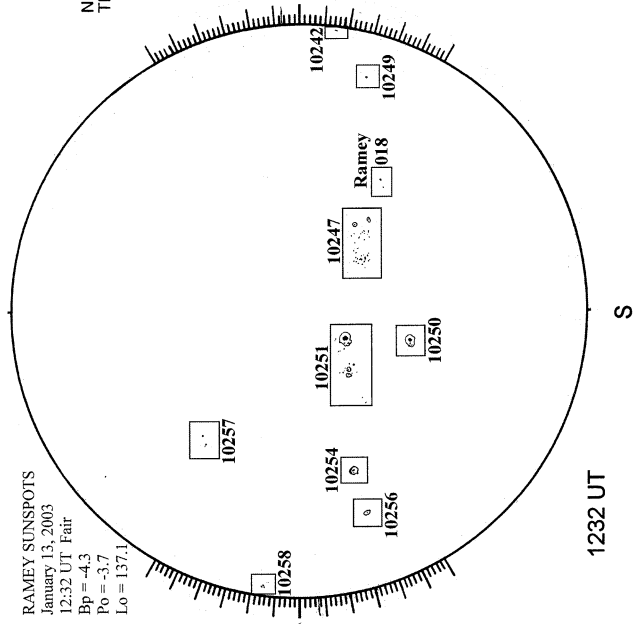
JANUARY 13, 2003 (P = -3.54, Bo = -4.31, Lo = 144.12)



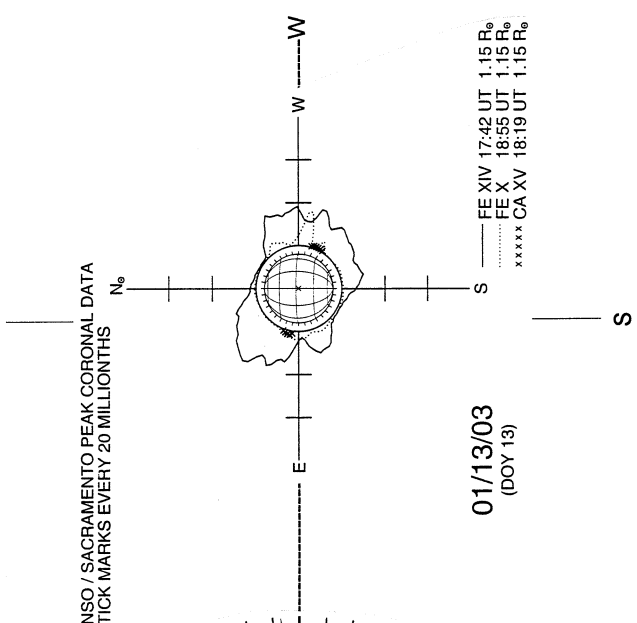
BIB BEAR H-ALPHA



RAMEY SUNSPOT



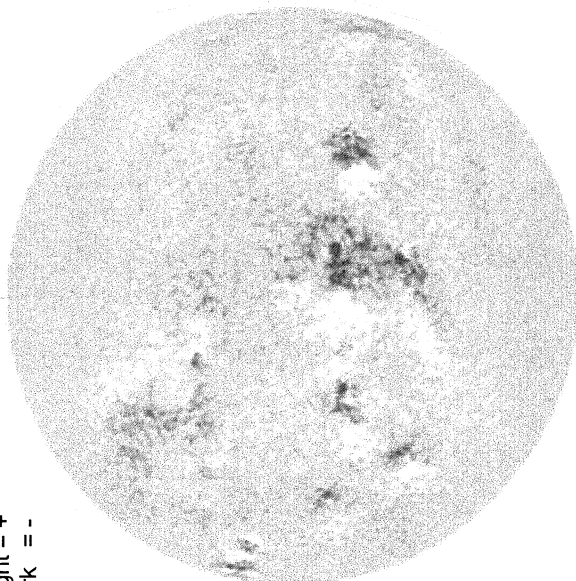
SACRAMENTO PEAK CORONA (1.15 Radii)----



JANUARY 14, 2003 (P= -4.01, Bo = -4.42, Lo = 130.95)

KITT PEAK MAGNETOGRAM
868.8 nm

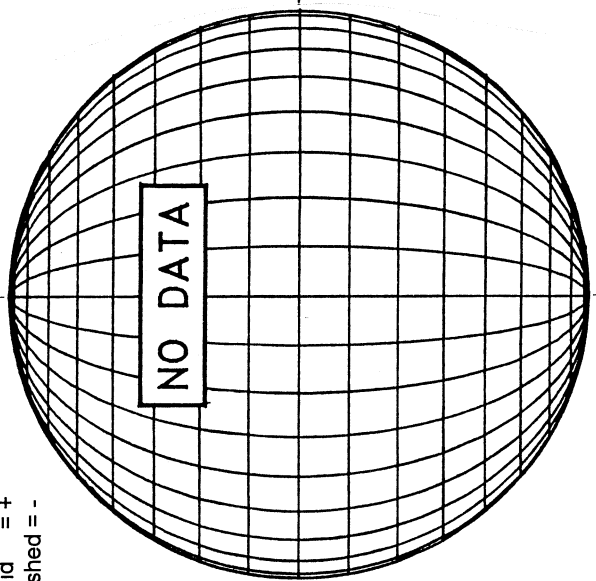
Bright = +
Dark = -



1615 UT

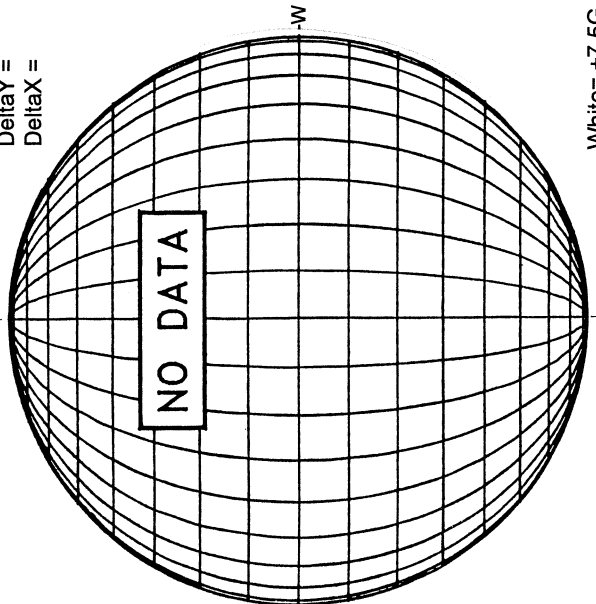
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



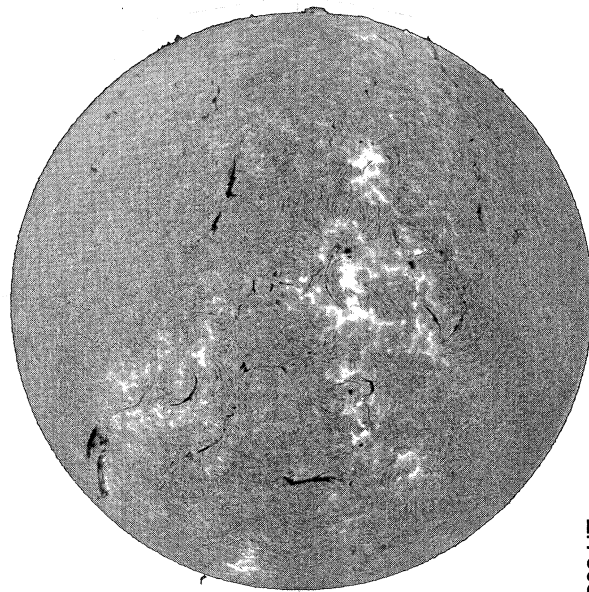
MT. WILSON MAGNETOGRAM

Delta Y =
Delta X =



White = +7.5G
Black = -7.5G

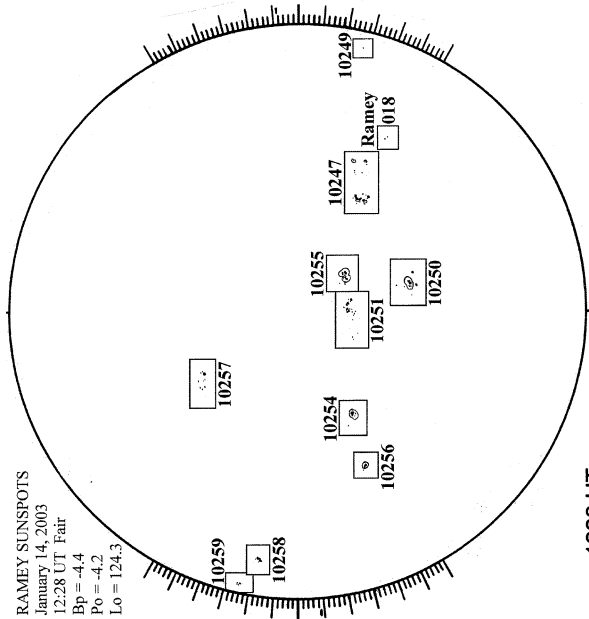
BIG BEAR H-ALPHA



1806 UT

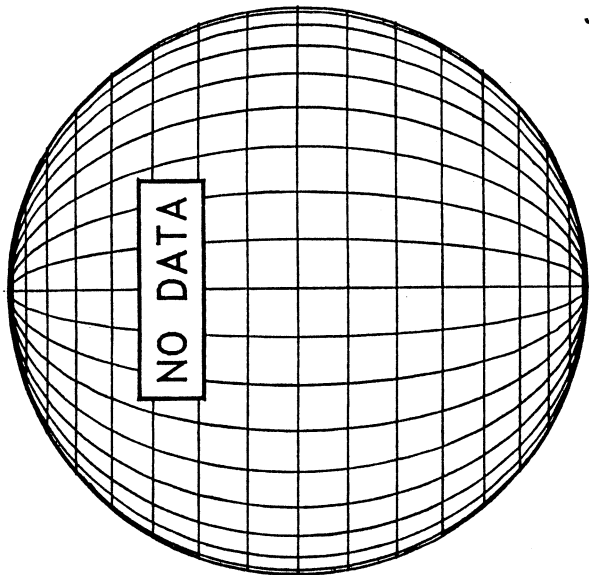
RAMEY SUNSPOT

RAMEY SUNSPOTS
January 14, 2003
12:28 UT Fair
Bp = -4.4
Po = -4.2
Lo = 124.3



1228 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

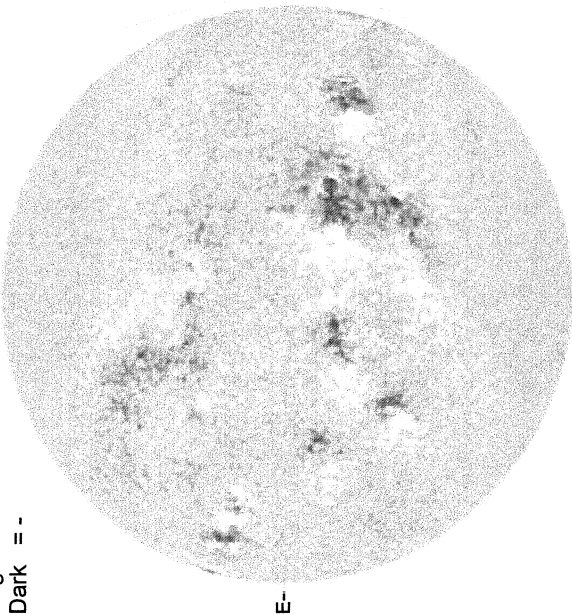


58
Jan 03

JANUARY 15, 2003 (P = -4.48, Bo = -4.52, Lo = 117.78)

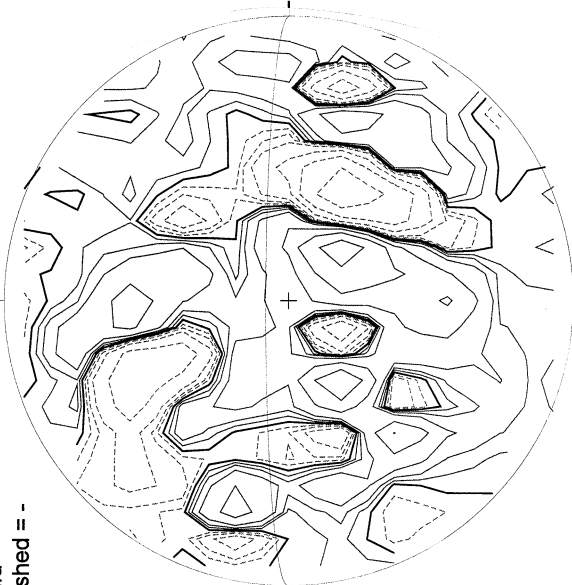
KITT PEAK MAGNETOGRAM
868.8 nm

Bright = +
Dark = -



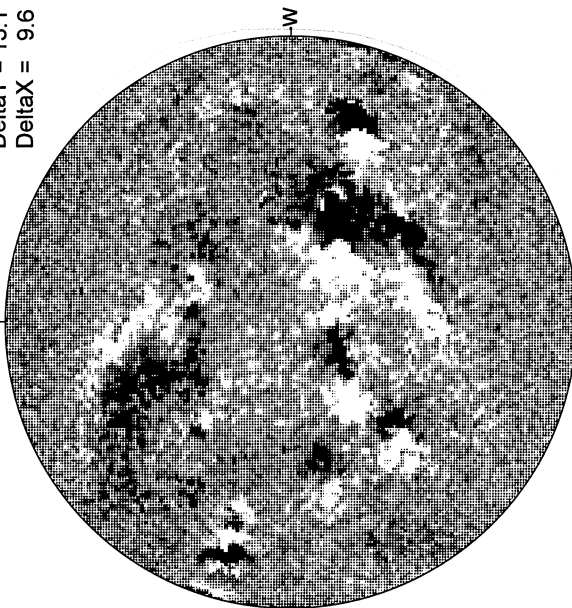
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

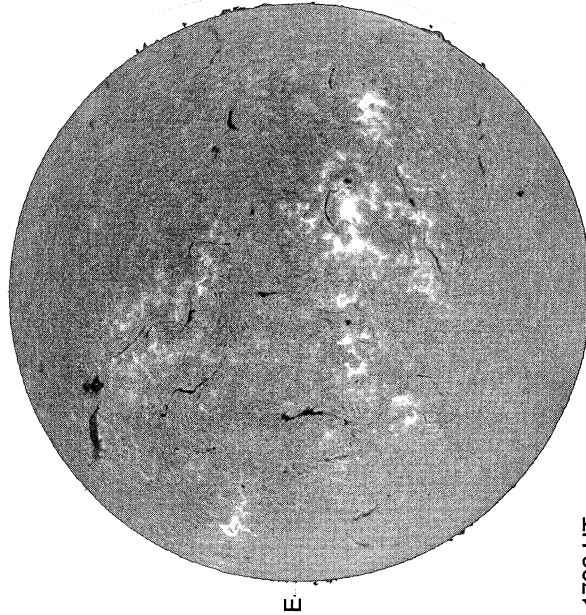
DeltaY = 13.1
DeltaX = 9.6



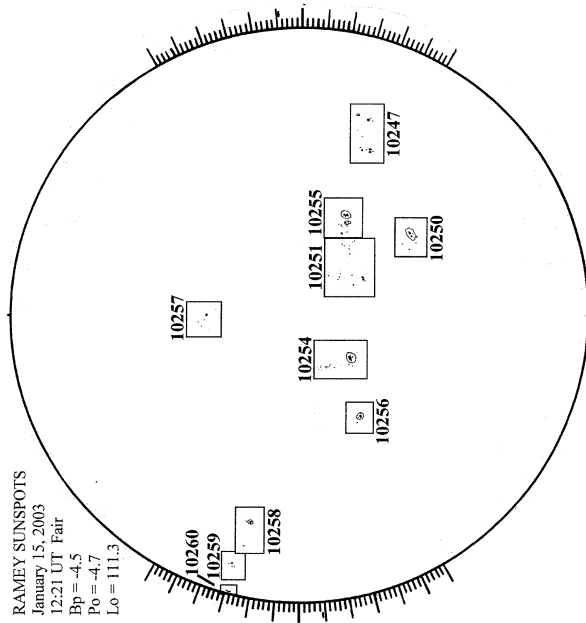
White = +7.5G
Black = -7.5G

22.06 -
23.04 UT

BIG BEAR H-ALPHA

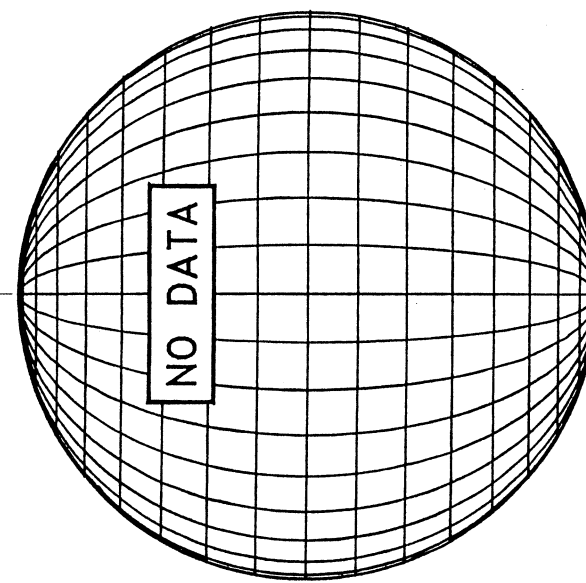


RAMEY SUNSPOT



RAMEY SUNSPOTS
January 15, 2003
12:21 UT Fair
Bp = -4.5
Po = -4.7
Lo = 111.3

LOMNICKY PEAK CORONA (1.04 Radii)----

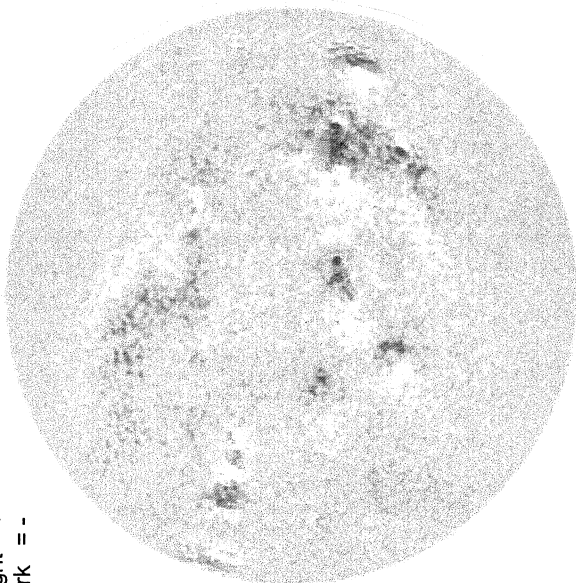


JANUARY 16, 2003 (P= -4.95, Bo = -4.62, Lo = 104.61)

KITT PEAK MAGNETOGRAM

868.8 nm

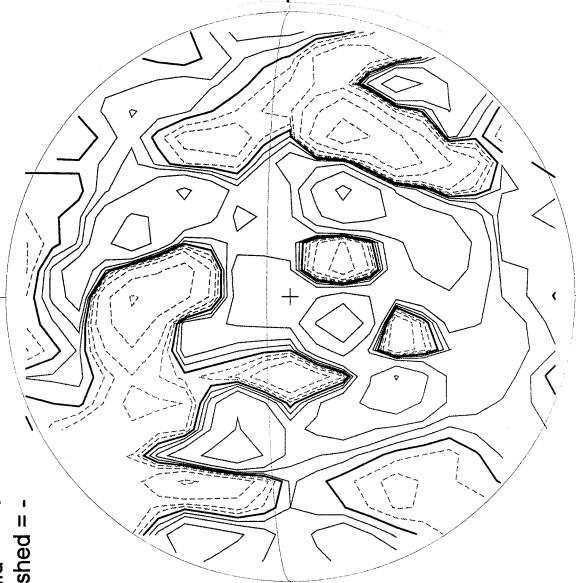
Bright = +
Dark = -



1644 UT

STANFORD MAGNETOGRAM

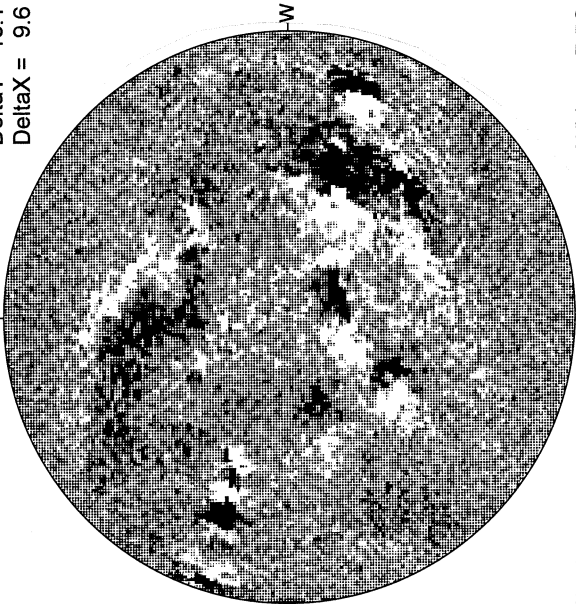
Solid = +
Dashed = -



2153 UT

MT. WILSON MAGNETOGRAM

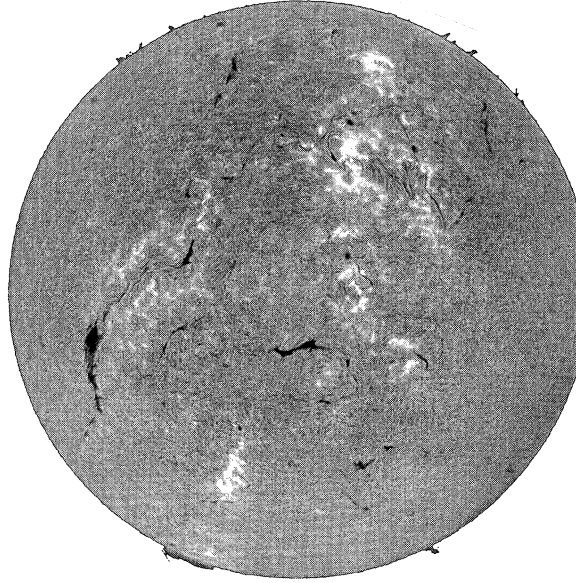
DeltaY = 13.1
DeltaX = 9.6



17.45 -
18.42 UT

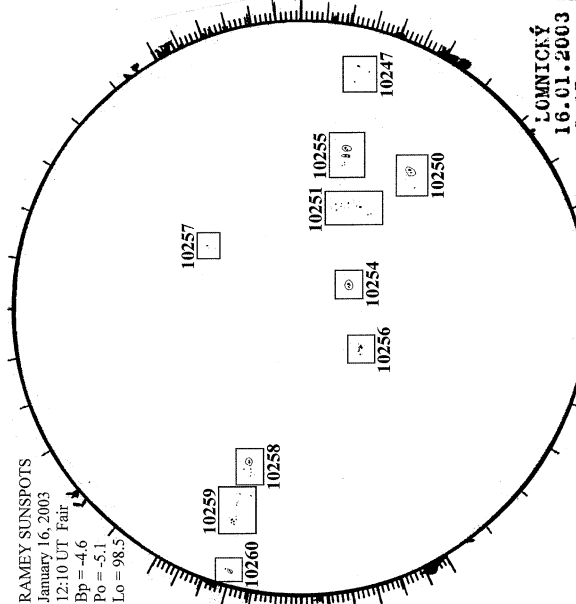
White = +7.5G
Black = -7.5G

BIG BEAR H-ALPHA



1715 UT

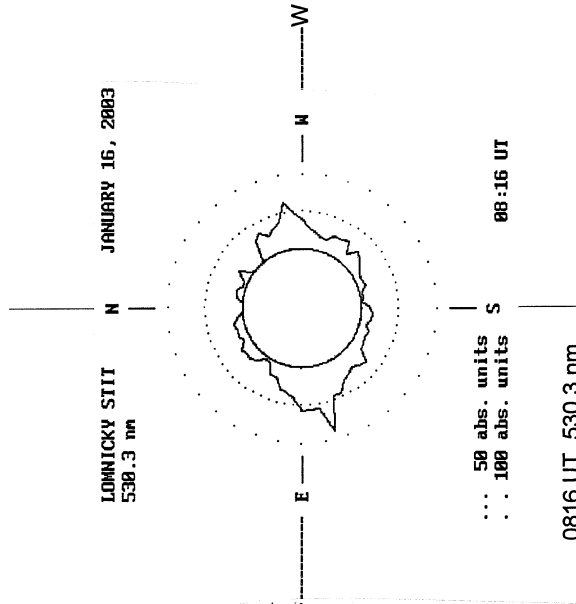
RAMEY SUNSPOT



1210 UT

0807 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)----



50 abs. units
100 abs. units

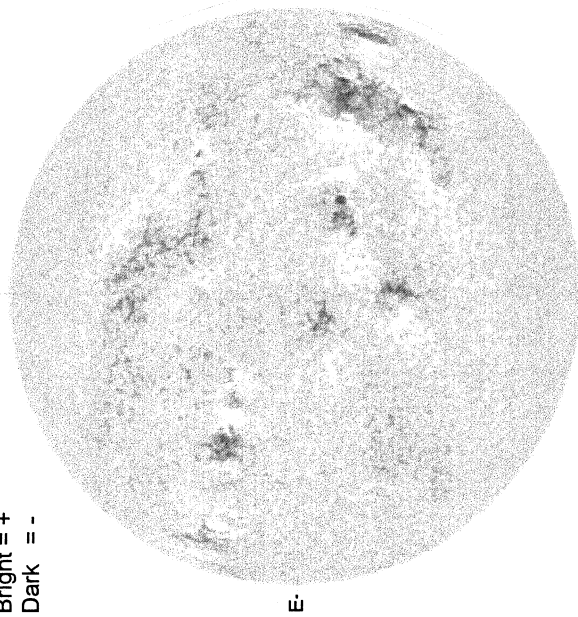
08:16 UT

0816 UT, 530.3 nm
50 abs. units
100 abs. units

JANUARY 17, 2003 (P = -5.42, Bo = -4.72, Lo = 91.45)

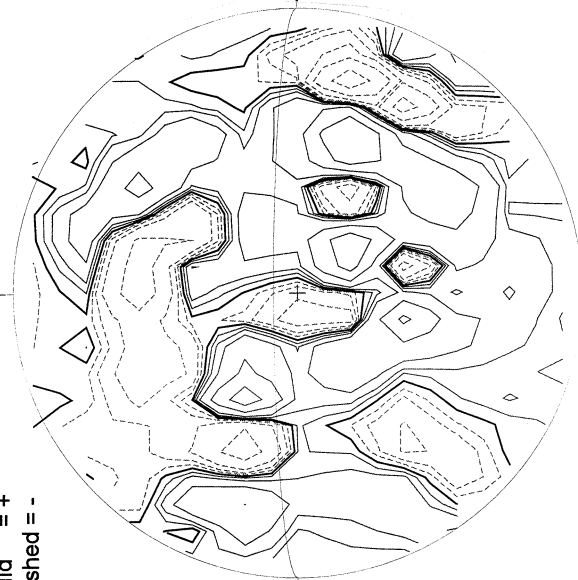
KITT PEAK MAGNETOGRAM
868.8 nm

Bright = +
Dark = -



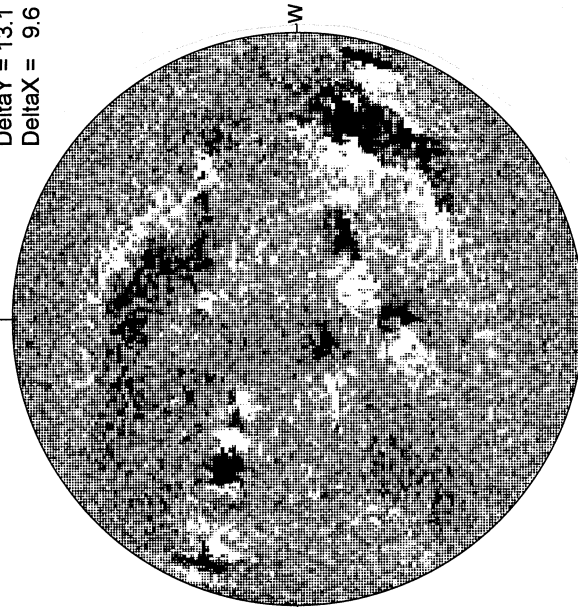
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



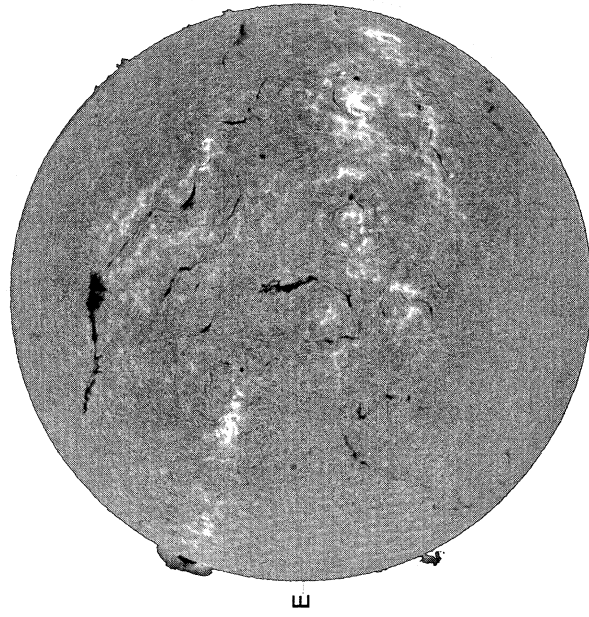
MT. WILSON MAGNETOGRAM

DeltaY = 13.1
DeltaX = 9.6



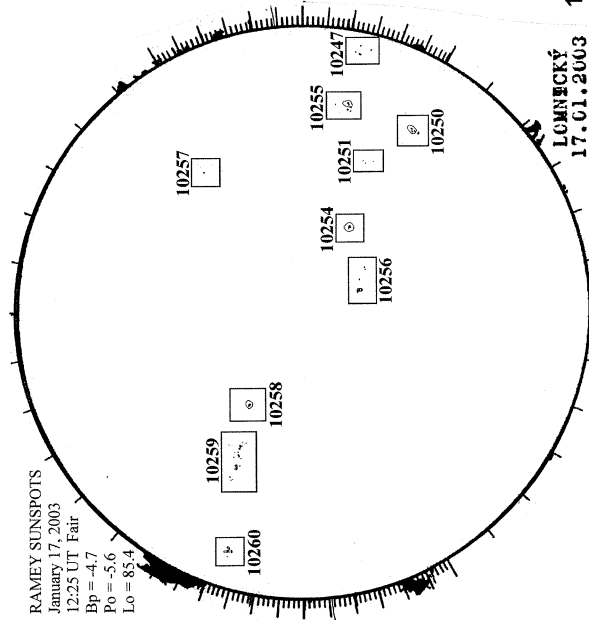
White = +7.5G
Black = -7.5G

BIG BEAR H-ALPHA

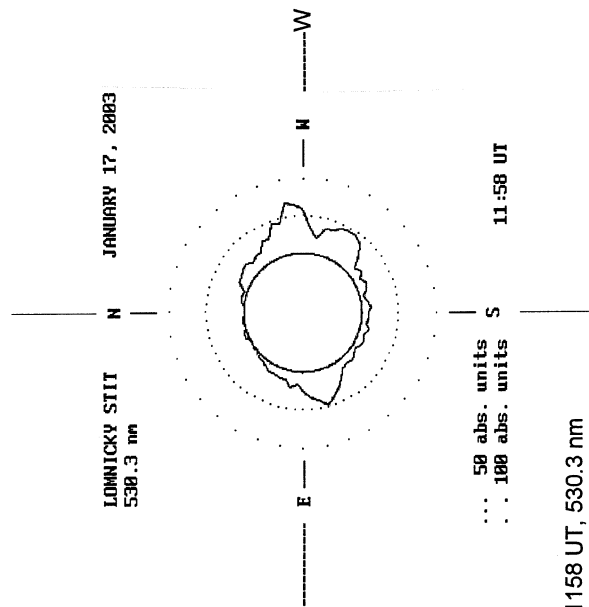


RAMEY SUNSPOT

RAMEY SUNSPOTS
January 17, 2003
12:25 UT Fair
Bp = -4.7
Po = -5.6
Lo = 85.4



LOMNICKY PEAK CORONA (1.04 Radii)----



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

1158 UT, 530.3 nm
... 50 abs. units
... 100 abs. units

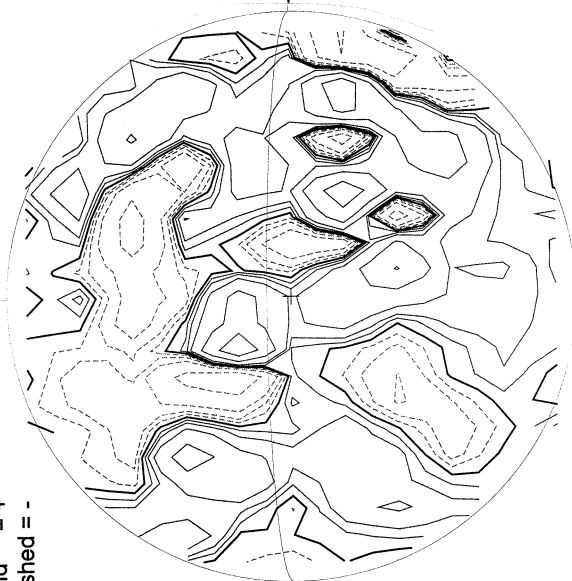
JANUARY 18, 2003 (P= -5.88, Bo = -4.81, Lo = 78.28)



1628 UT

STANFORD MAGNETOGRAM

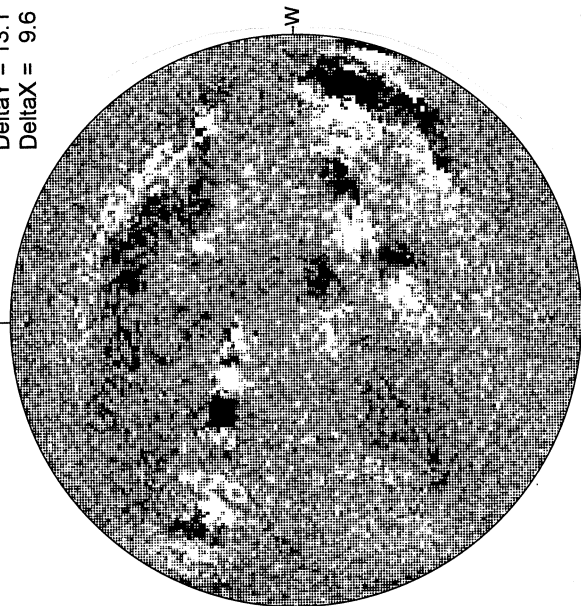
Solid = +
Dashed = -



2019 UT

MT. WILSON MAGNETOGRAM

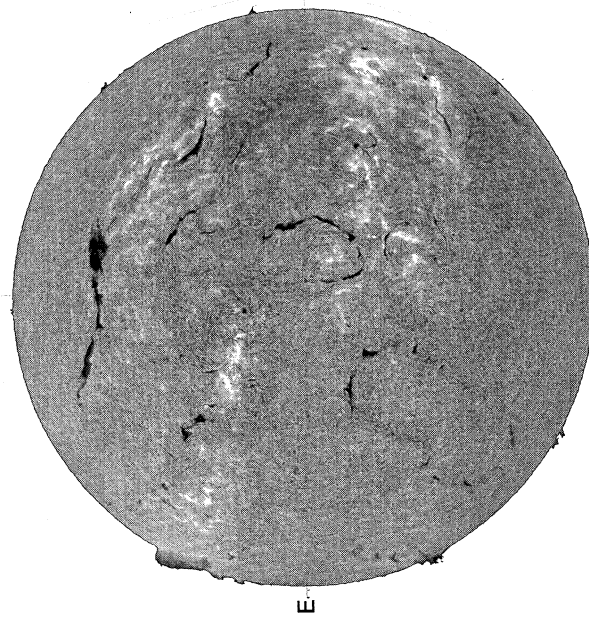
Delta Y = 13.1
Delta X = 9.6



16.70 -
17.68 UT

White = +7.5G
Black = -7.5G

BIG BEAR H-ALPHA

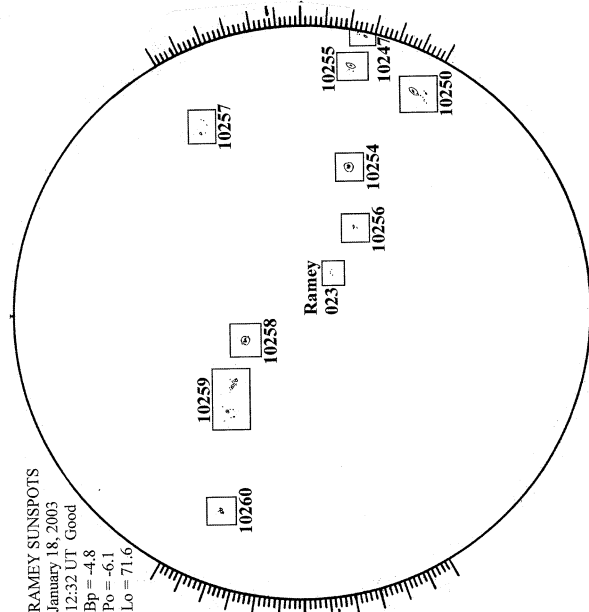


1705 UT

RAMEY SUNSPOT

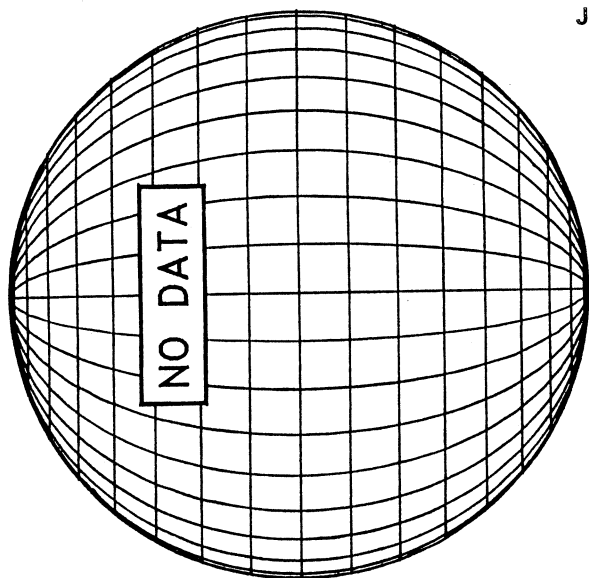
RAMEY SUNSPOTS

January 18, 2003
12:32 UT Good
Bp = -4.8
Po = -6.1
Lo = 71.6



1232 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

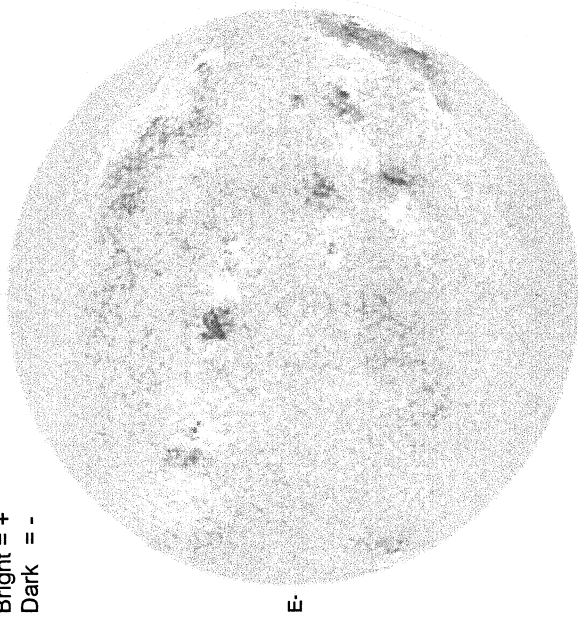


61
Jan 03

JANUARY 19, 2003 (P = -6.34, Bo = -4.91, Lo = 65.11)

KITT PEAK MAGNETOGRAM
868.8 nm

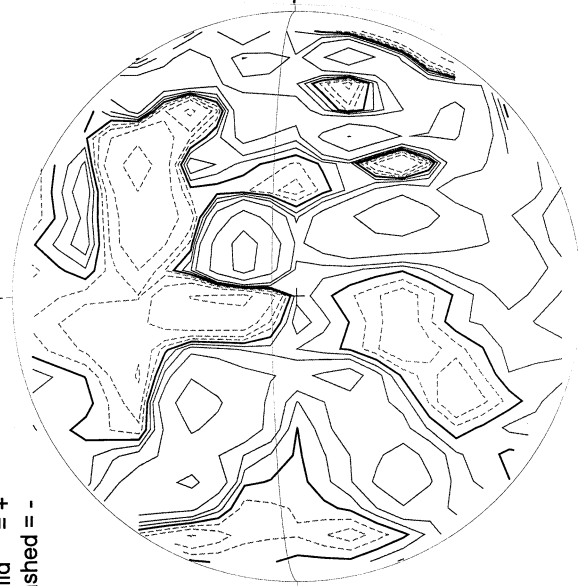
Bright = +
Dark = -



1638 UT

STANFORD MAGNETOGRAM

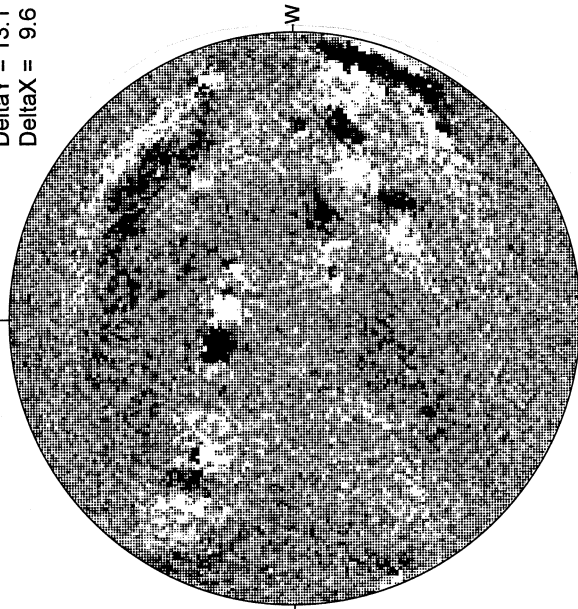
Solid = +
Dashed = -



2220 UT

MT. WILSON MAGNETOGRAM

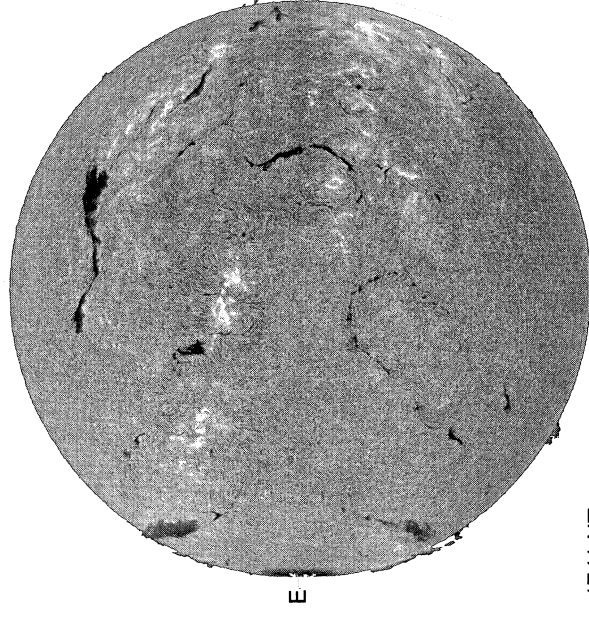
DeltaY = 13.1
DeltaX = 9.6



16.98 -
17.96 UT

White = +7.5G
Black = -7.5G

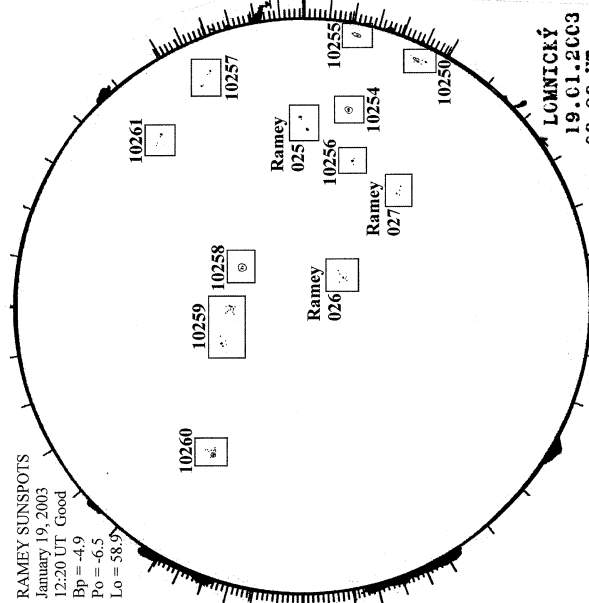
BIG BEAR H-ALPHA



1741 UT

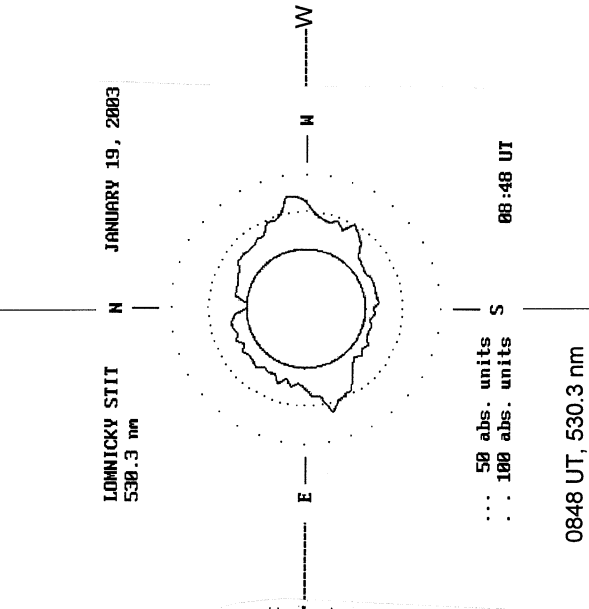
RAMEY SUNSPOT

RAMEY SUNSPOTS
January 19, 2003
12:20 UT Good
Bp = -4.9
Po = -6.5
Lo = 58.9



1220 UT
0828 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)----

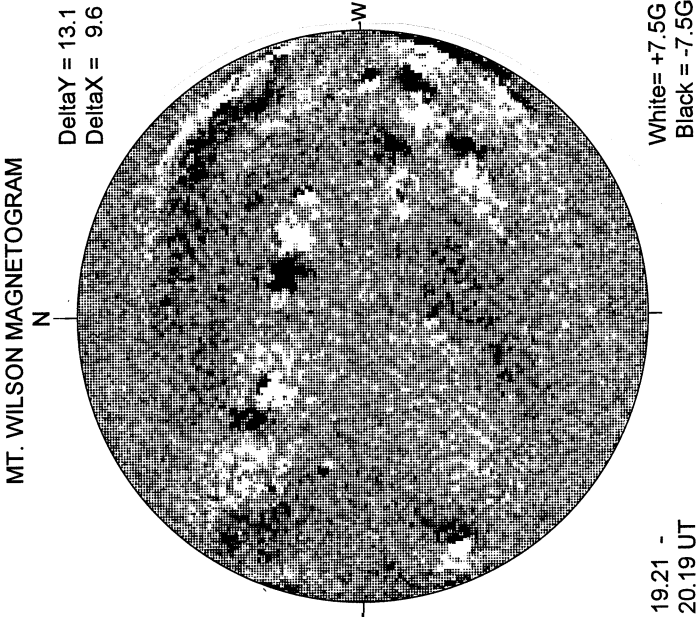


... 50 abs. units
... 100 abs. units
0848 UT, 530.3 nm
... 50 abs. units
... 100 abs. units

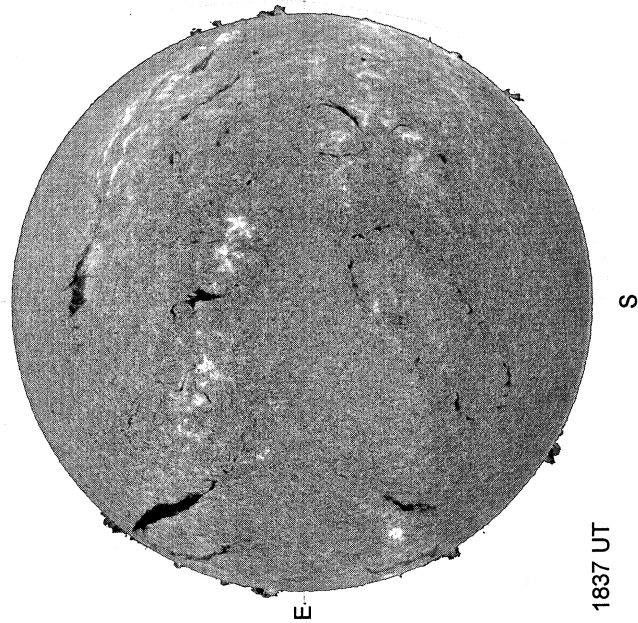
08:48 UT

LOMNICKÝ
19.01.2003
08:28 UT

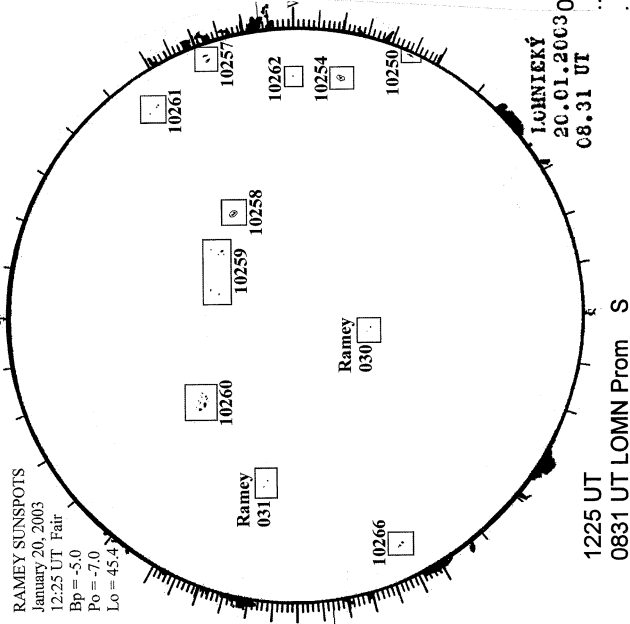
JANUARY 20, 2003 (P= -6.80, Bo = -5.00, Lo = 51.94)



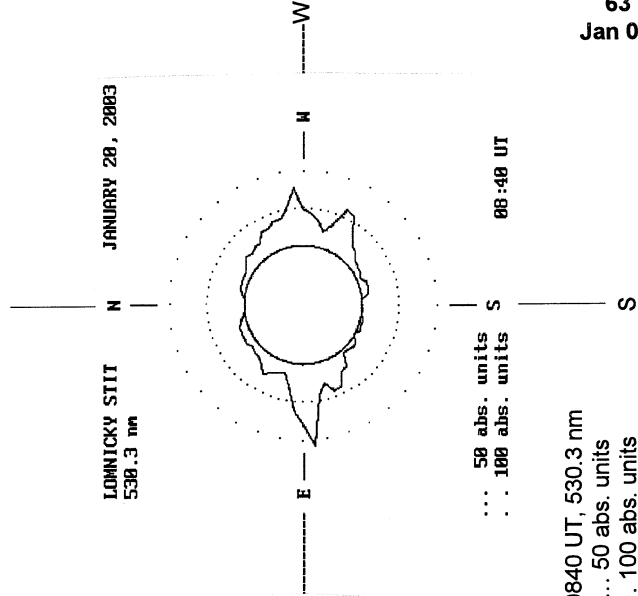
BIG BEAR H-ALPHA



RAMEY SUNSPOT



LOMNICKY PEAK CORONA (1.04 Radii)----



JANUARY 21, 2003 (P= -7.25, Bo = -5.10, Lo = 38.78)

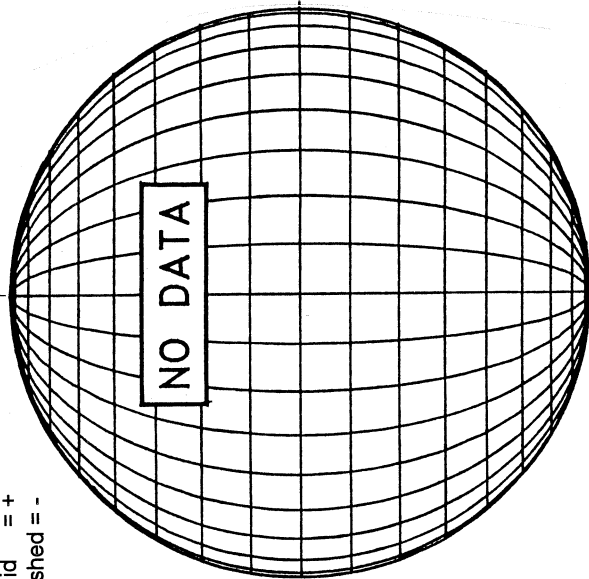
KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -

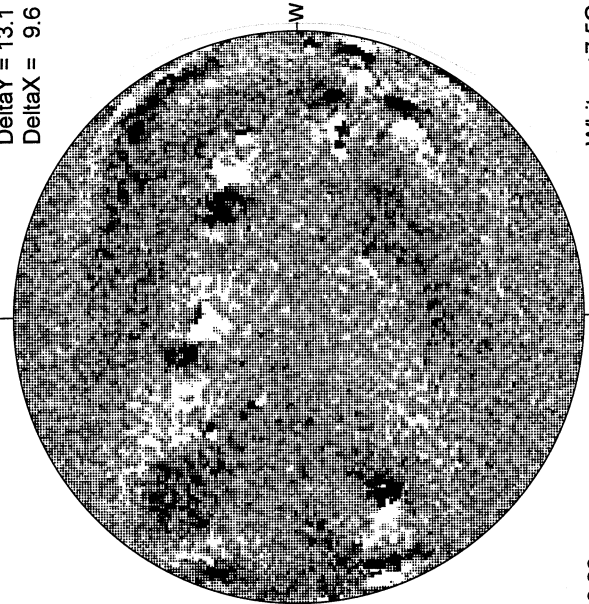
Solid = +
Dashed = -

STANFORD MAGNETOGRAM



MT. WILSON MAGNETOGRAM

DeltaY = 13.1
DeltaX = 9.6

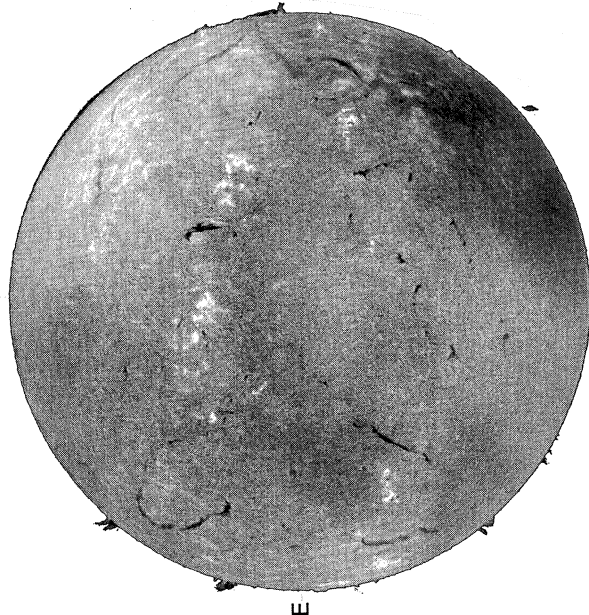


White = +7.5G
Black = -7.5G

20.86 -
21.84 UT

1646 UT

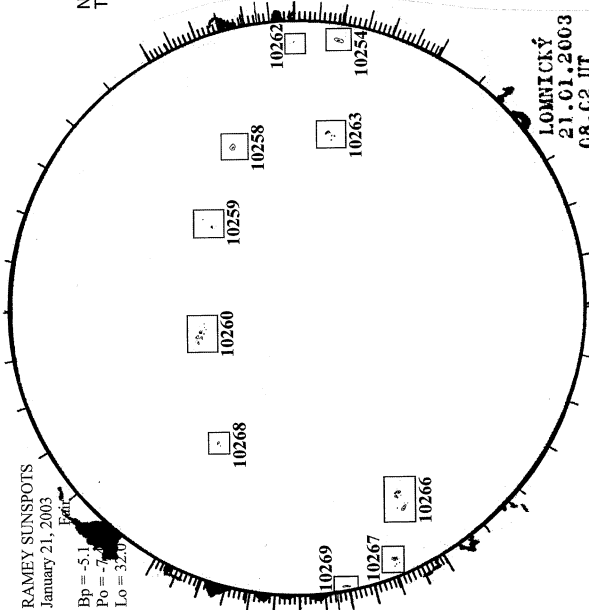
BIG BEAR H-ALPHA



1923 UT

RAMEY SUNSPOT

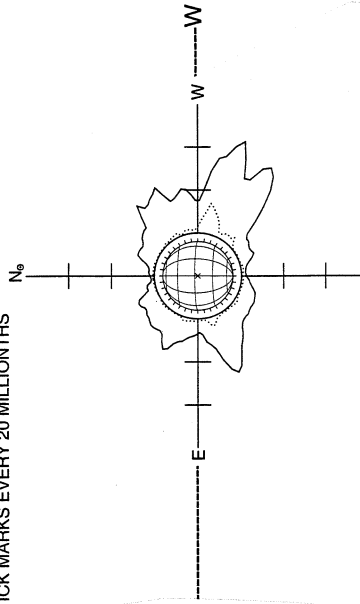
RAMEY SUNSPOTS
January 21, 2003
Bp = -5.1
Po = -7.4
Lo = 32.0



0802 UT LOMN Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS



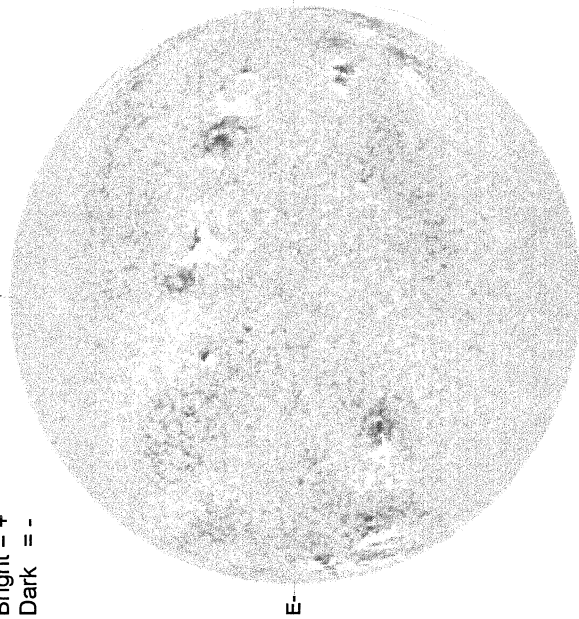
01/21/03
(DOY 21)

FE XIV 22:20 UT 1.15 R_o
FE X 21:25 UT 1.15 R_o
***** CA XV 22:57 UT 1.15 R_o
NO CA XV ACTIVITY TODAY

JANUARY 22, 2003 (P= -7.70, Bo = -5.19, Lo = 25.61)

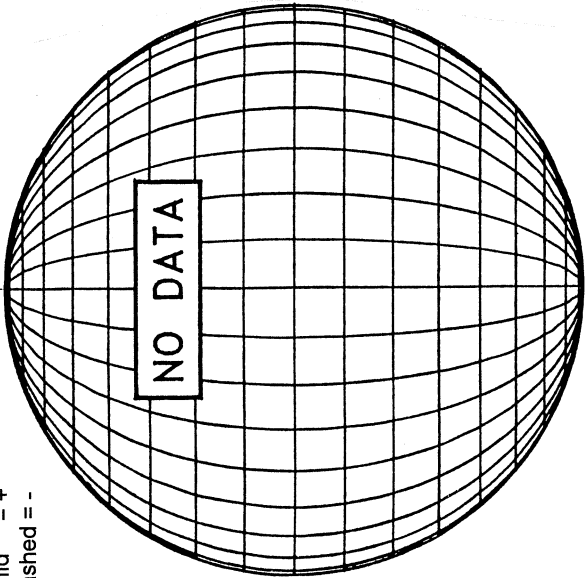
KITT PEAK MAGNETOGRAM
868.8 nm

Bright = +
Dark = -



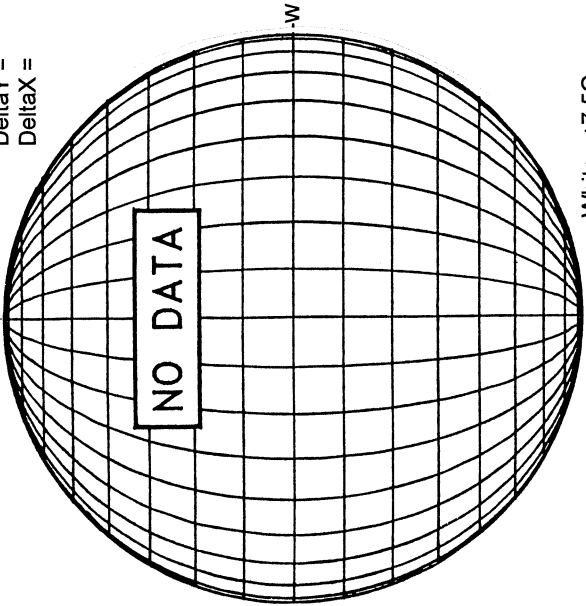
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

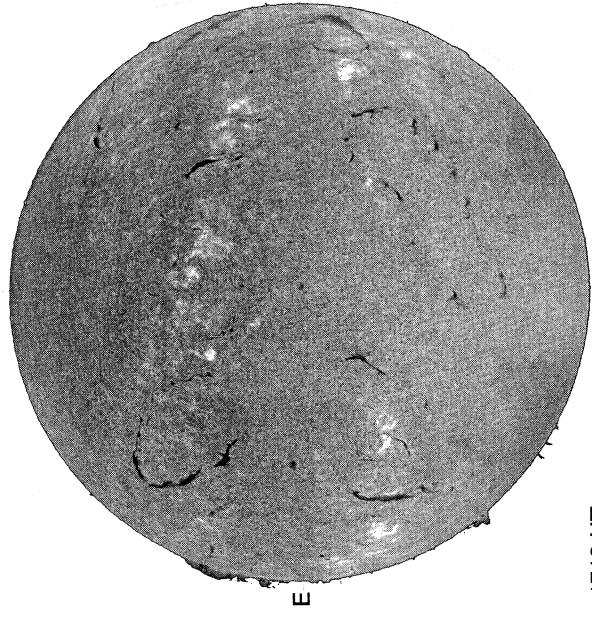
Delta Y =
Delta X =



White = +7.5G
Black = -7.5G

1627 UT

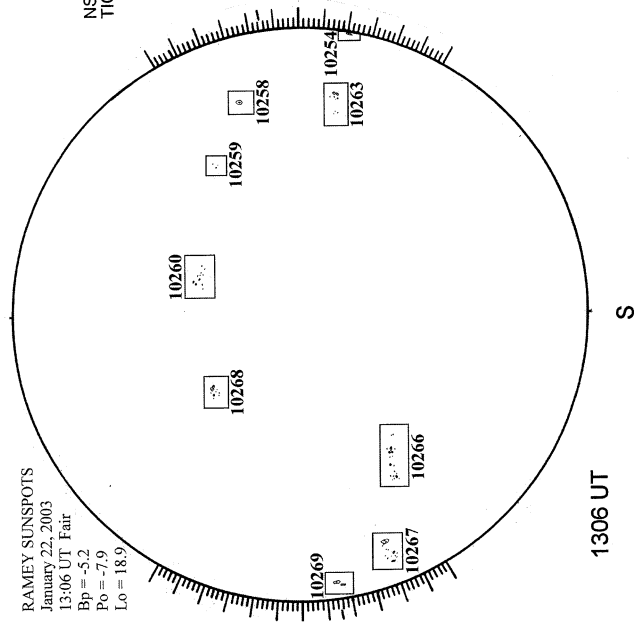
BIG BEAR H-ALPHA



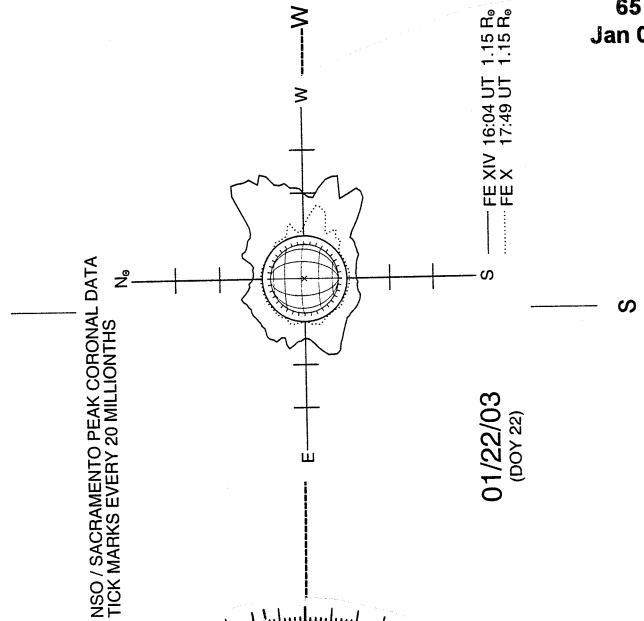
1713 UT

RAMEY SUNSPOT

RAMEY SUNSPOTS
January 22, 2003
13:06 UT Fair
Bp = -5.2
Po = -7.9
Lo = 18.9



SACRAMENTO PEAK CORONA (1.15 Radii)---



01/22/03
(DOY 22)

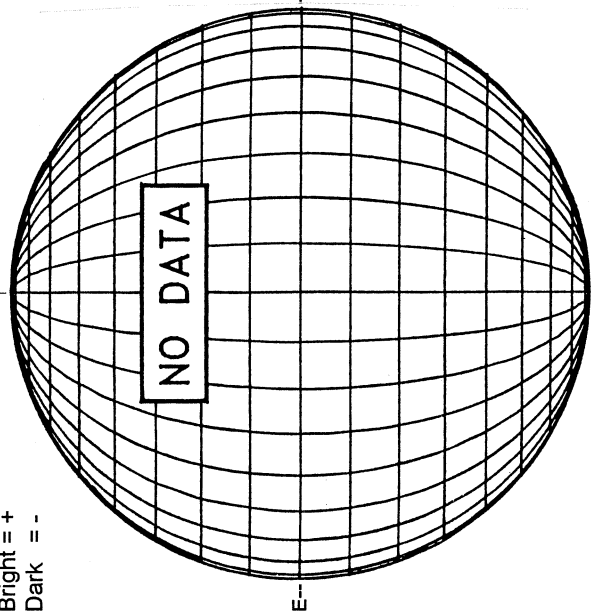
FE XIV 16:04 UT 1.15 R_o
FE X 17:49 UT 1.15 R_o

JANUARY 23, 2003 (P= -8.15, Bo = -5.28, Lo = 12.44)

KITT PEAK MAGNETOGRAM

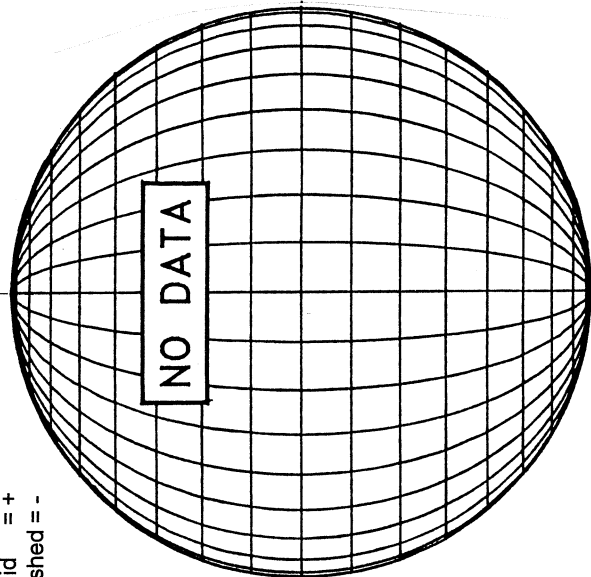
868.8 nm

Bright = +
Dark = -



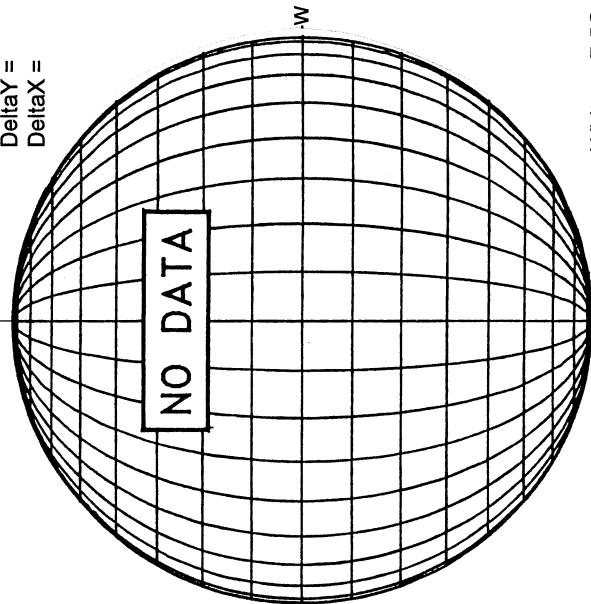
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



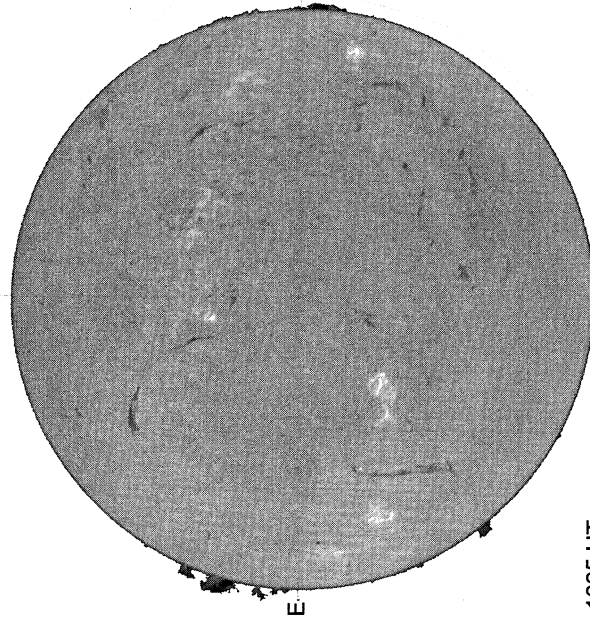
MT. WILSON MAGNETOGRAM

Delta Y =
Delta X =

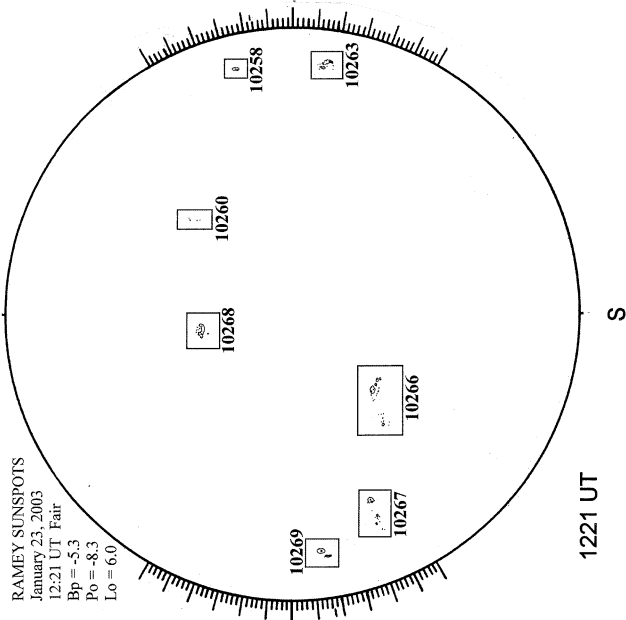


White = +7.5G
Black = -7.5G

CATANIA H-ALPHA

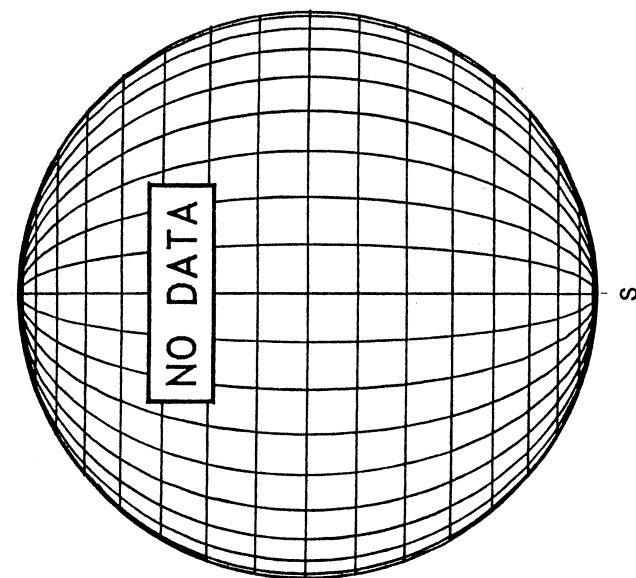


RAMEY SUNSPOT



RAMEY SUNSPOTS
January 23, 2003
12:21 UT Fair
Bp = -5.3
Po = -8.3
Lo = 6.0

SACRAMENTO PEAK CORONA (1.15 Radii)---



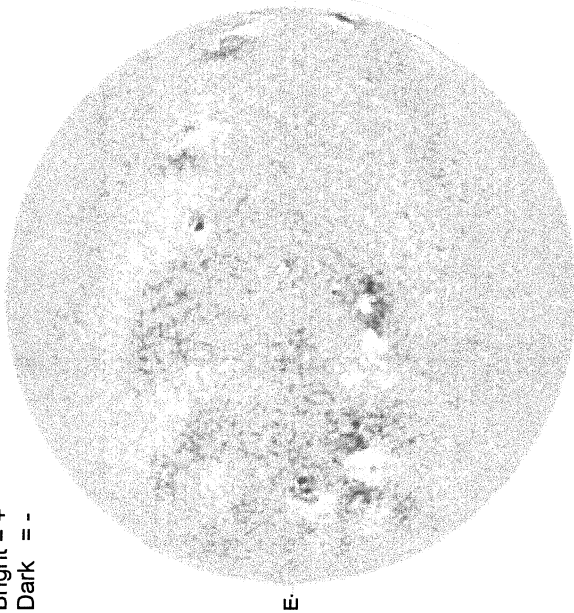
1005 UT

1221 UT

JANUARY 24, 2003 (P= -8.59, Bo = -5.36, Lo = 359.28)

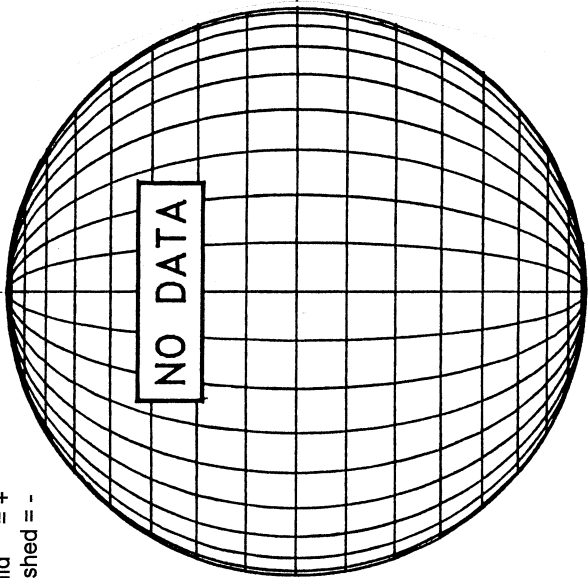
KITT PEAK MAGNETOGRAM
868.8 nm

Bright = +
Dark = -



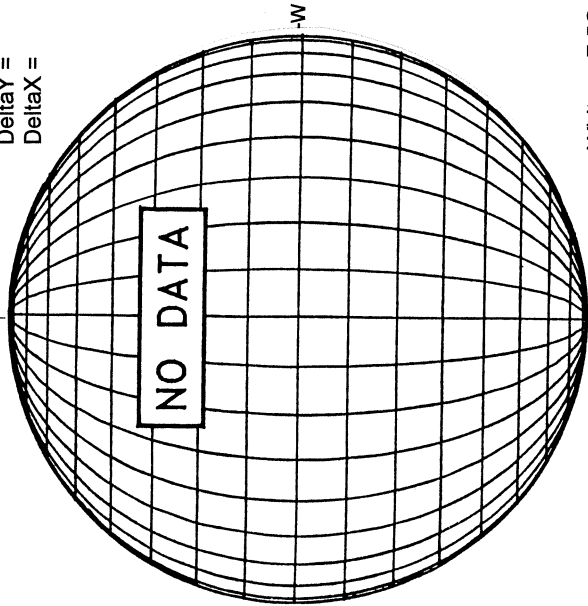
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

Delta Y =
Delta X =



White = +7.5G
Black = -7.5G

1629 UT

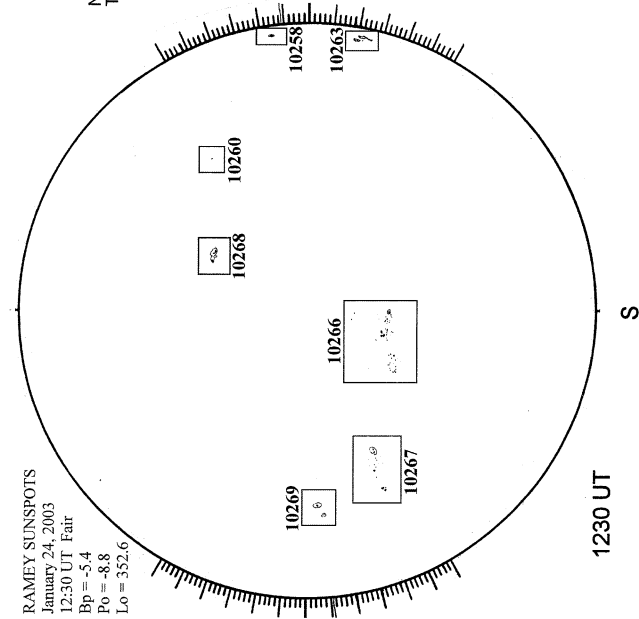
BIG BEAR H-ALPHA



1656 UT

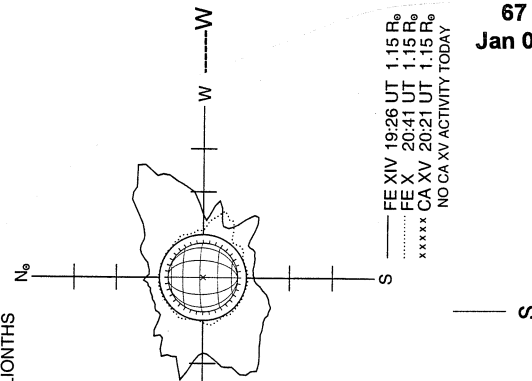
RAMEY SUNSPOT

RAMEY SUNSPOTS
January 24, 2003
12:30 UT Fair
Bp = -5.4
Po = 8.8
Lo = 352.6



SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS



01/24/03
(DOY 24)

FE XIV 19:26 UT 1.15 R_o
FE X 20:41 UT 1.15 R_o
***** CA XV 20:21 UT 1.15 R_o
NO CA XV ACTIVITY TODAY

67
Jan 03

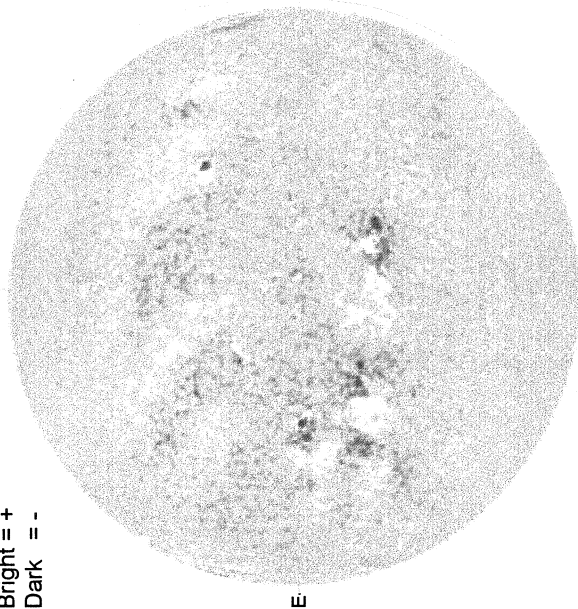
JANUARY 25, 2003 (P= -9.03, Bo = -5.45, Lo = 346.11)

68
Jan 03

KITT PEAK MAGNETOGRAM

868.8 nm

Bright = +
Dark = -



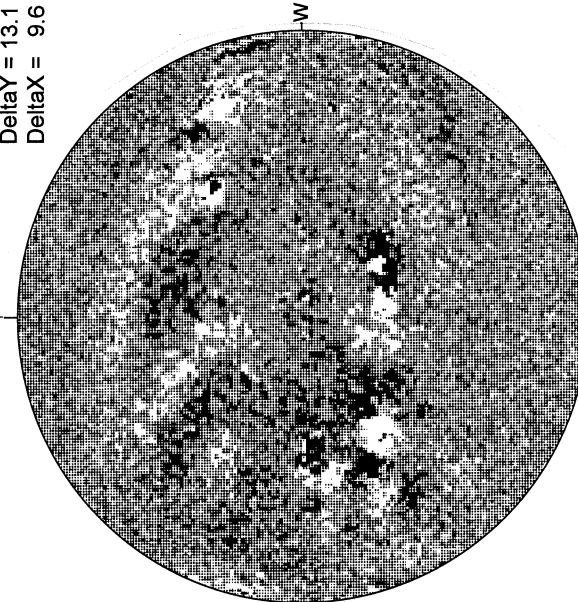
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



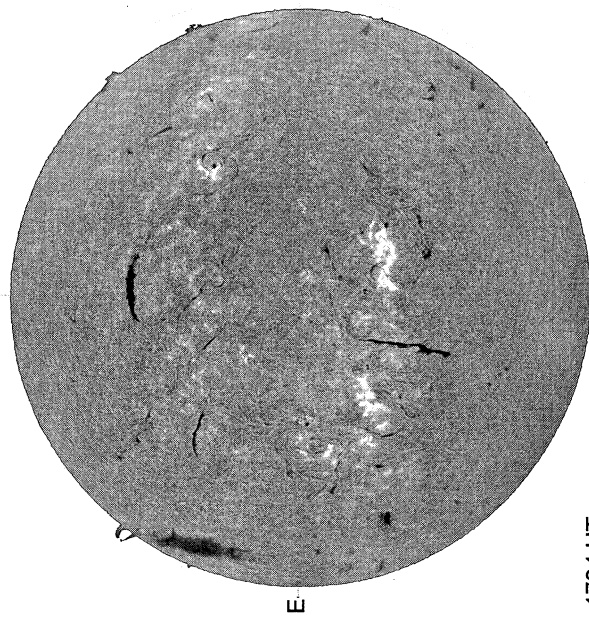
MT. WILSON MAGNETOGRAM

DeltaY = 13.1
DeltaX = 9.6



White = +7.5G
Black = -7.5G

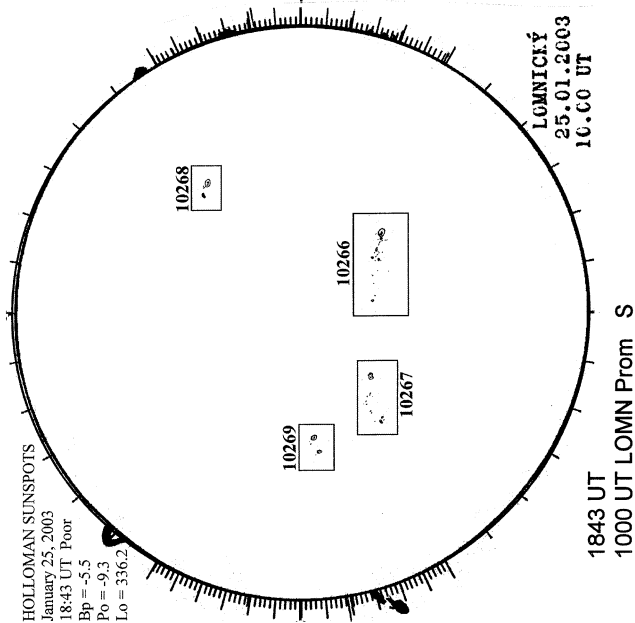
BIG BEAR H-ALPHA



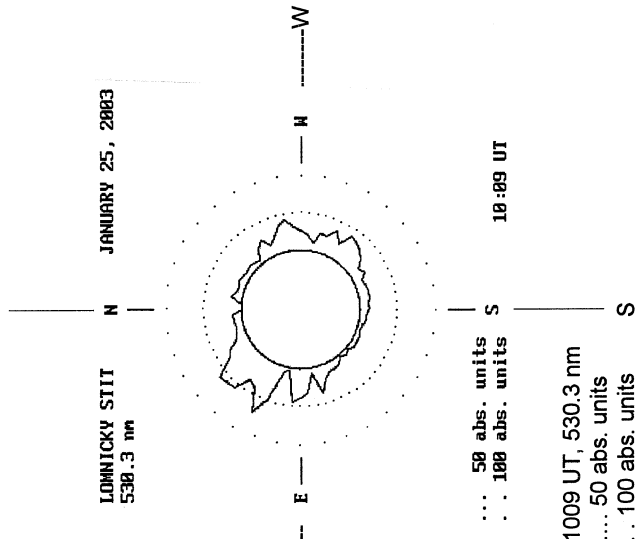
HOLLOMAN SUNSPOT

HOLLOMAN SUNSPOTS

January 25, 2003
18:43 UT Poor
Bp = -5.5
Po = -9.3
Lo = 336.2



LOMNICKY PEAK CORONA (1.04 Radii)---



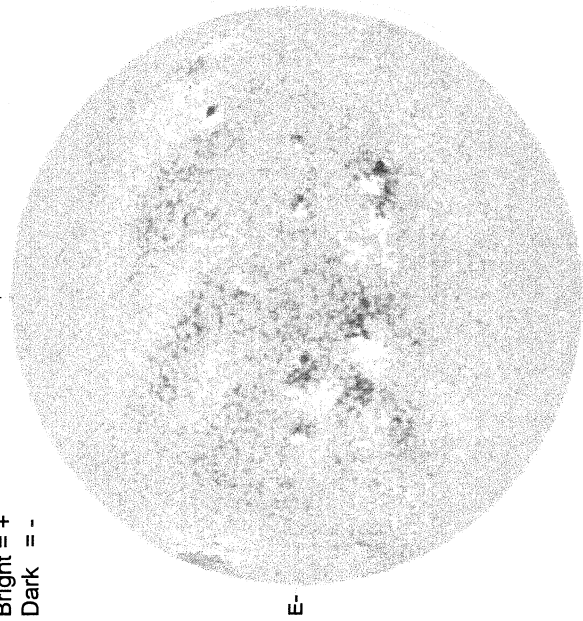
... 50 abs. units
... 100 abs. units

1009 UT, 530.3 nm
... 50 abs. units
... 100 abs. units

JANUARY 26, 2003 (P= -9.47, Bo = -5.53, Lo = 332.94)

KITT PEAK MAGNETOGRAM
868.8 nm

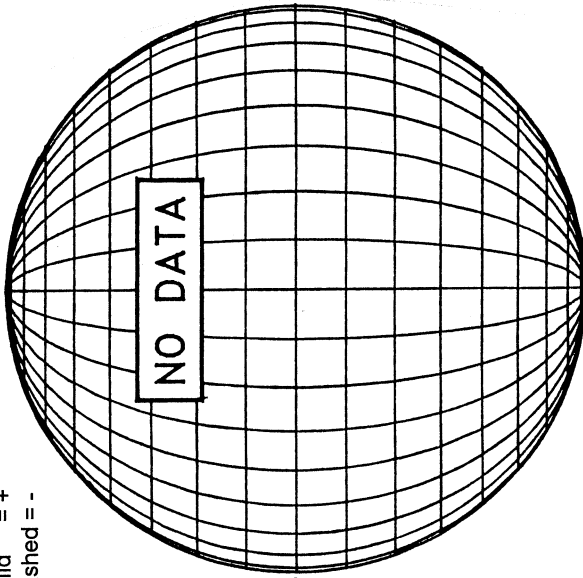
Bright = +
Dark = -



1619 UT

STANFORD MAGNETOGRAM

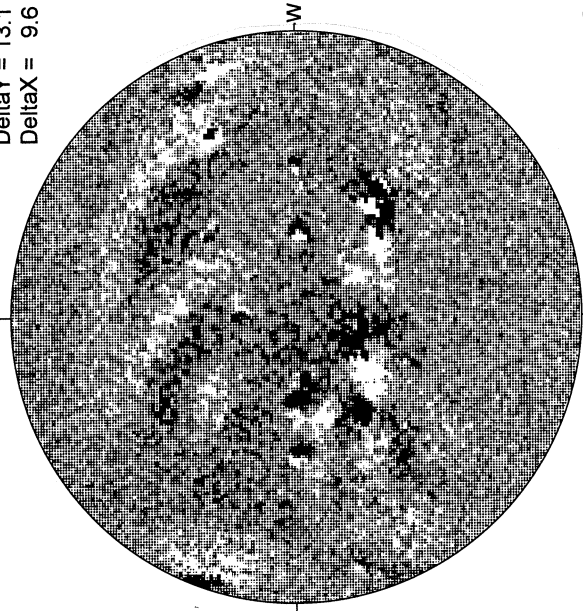
Solid = +
Dashed = -



NO DATA

MT. WILSON MAGNETOGRAM

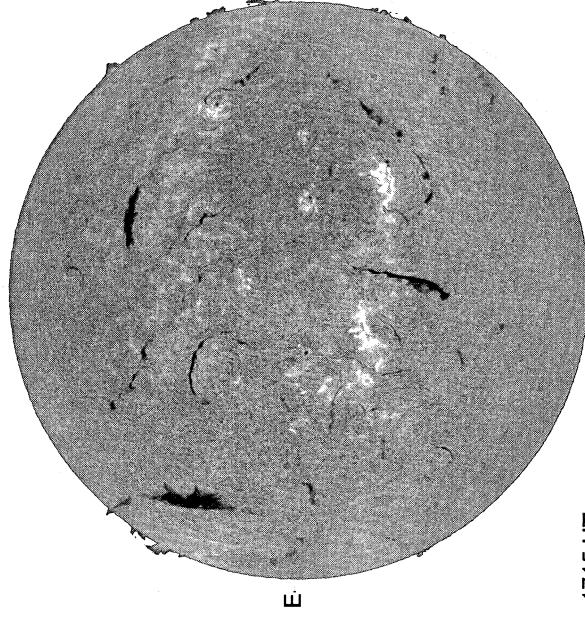
Delta Y = 13.1
Delta X = 9.6



16.87 -
17.85 UT

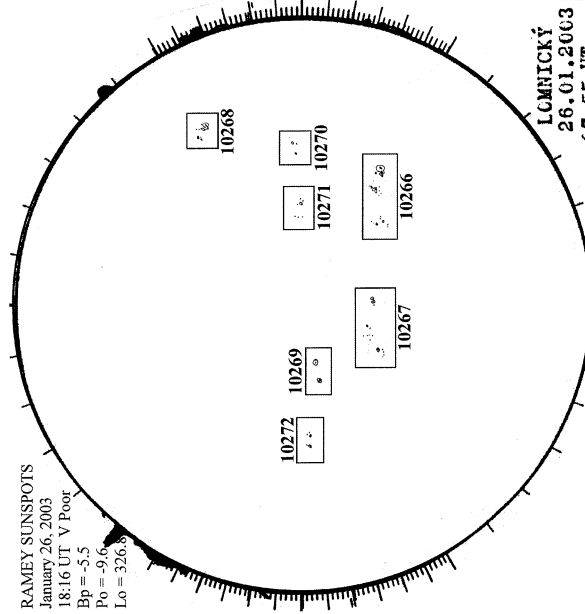
White = +7.5G
Black = -7.5G

BIG BEAR H-ALPHA



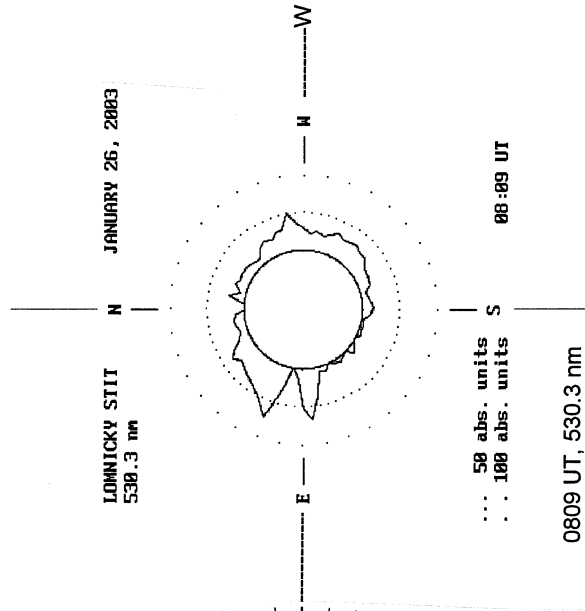
1715 UT

RAMEY SUNSPOT



RAMEY SUNSPOTS
January 26, 2003
18:16 UT V Poor
Bp = -5.5
Po = -9.6
Lo = 326.8

LOMNICKY PEAK CORONA (1.04 Radii)----



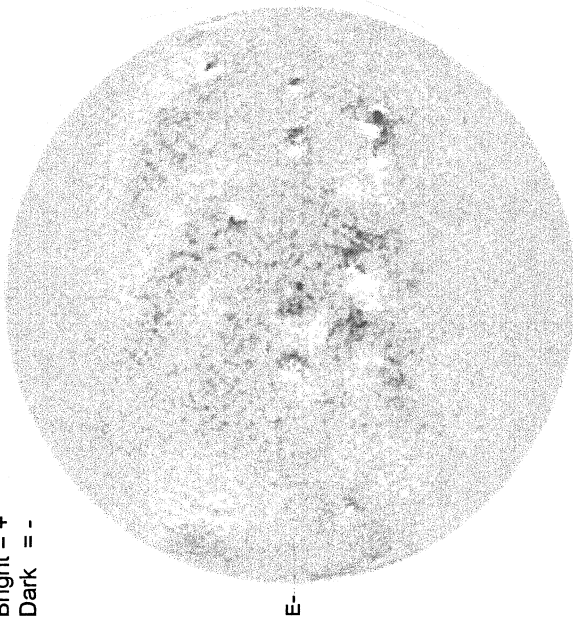
LOMNICKÝ STIT
538.3 nm
JANUARY 26, 2003

... 50 abs. units
... 100 abs. units
0809 UT, 530.3 nm
... 50 abs. units
... 100 abs. units
08:09 UT

JANUARY 27, 2003 (P= -9.90, Bo = -5.62, Lo = 319.78)

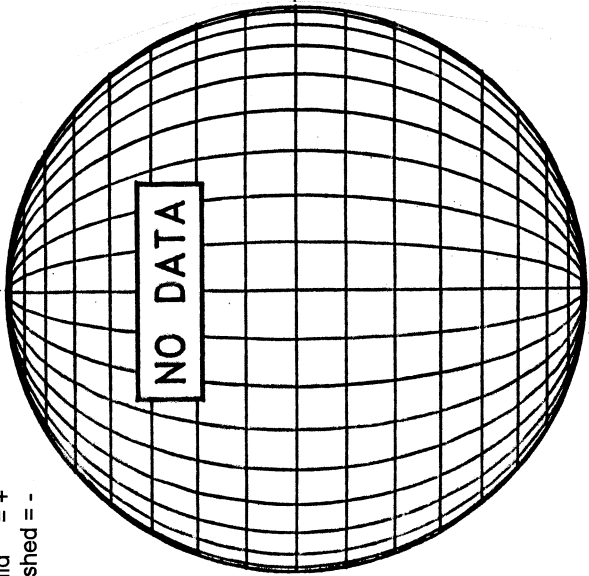
KITT PEAK MAGNETOGRAM
868.8 nm

Bright = +
Dark = -



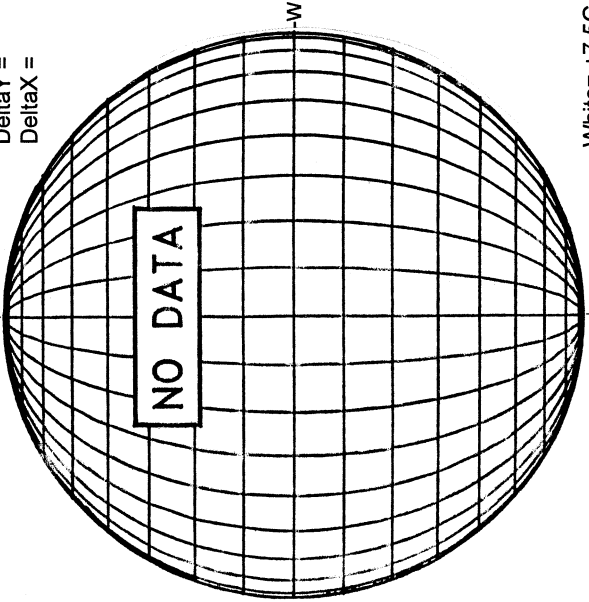
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

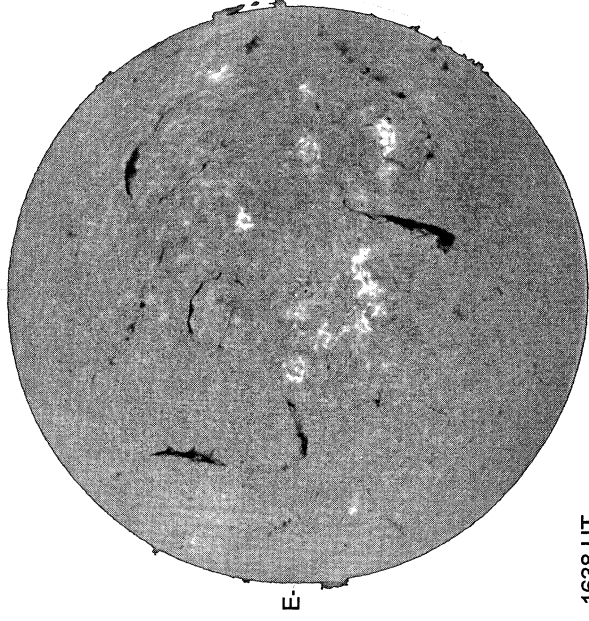
Delta Y =
Delta X =



White = +7.5G
Black = -7.5G

1739 UT

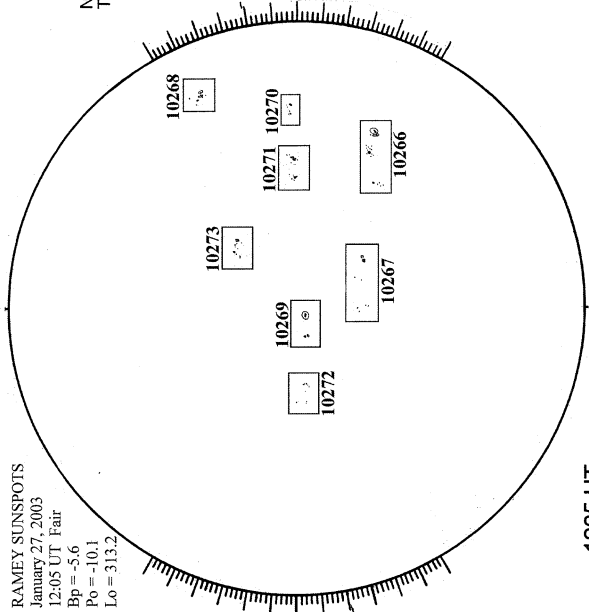
BIG BEAR H-ALPHA



1638 UT

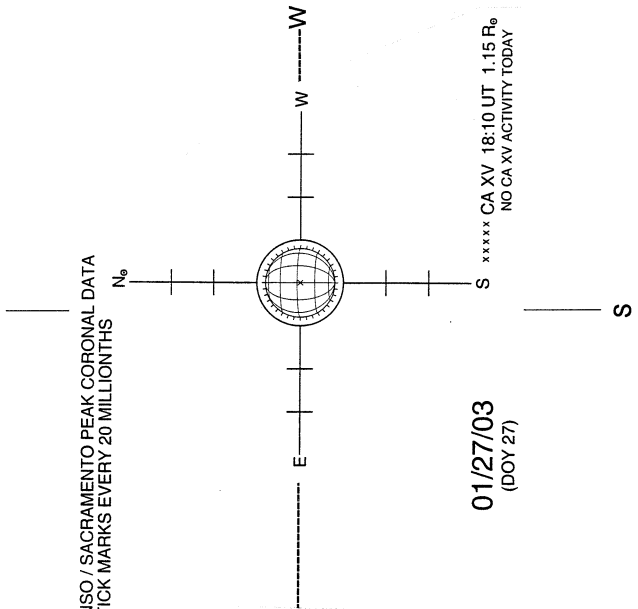
RAMEY SUNSPOT

RAMEY SUNSPOTS
January 27, 2003
12:05 UT Fair
Bp = -5.6
Po = -10.1
Lo = 313.2



1205 UT

SACRAMENTO PEAK CORONA (1.15 Radii)---

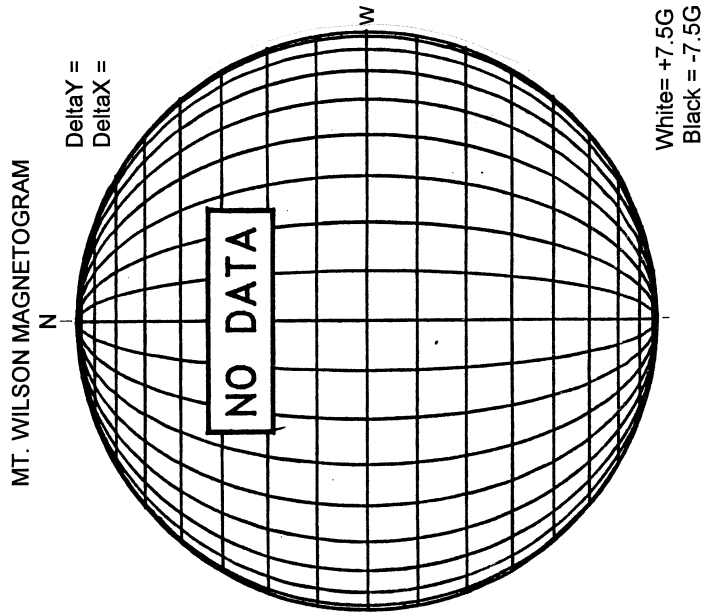
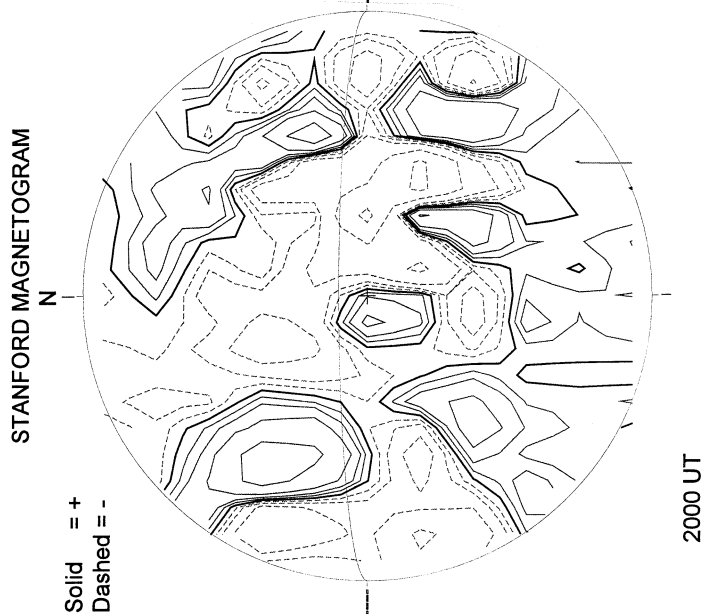
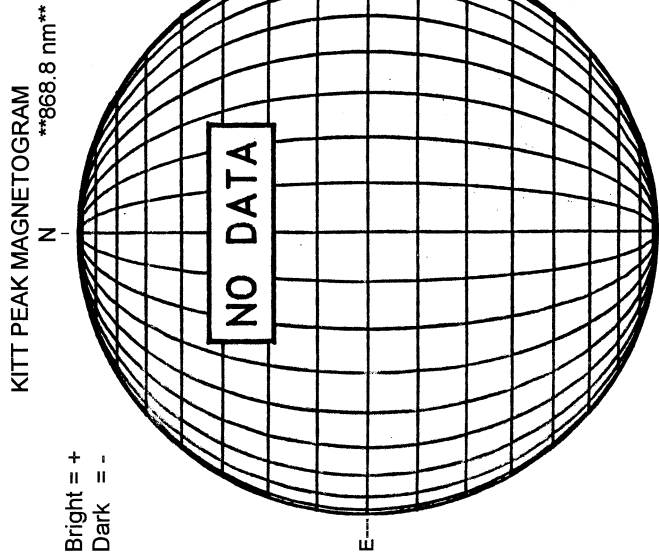


01/27/03
(DOY 27)

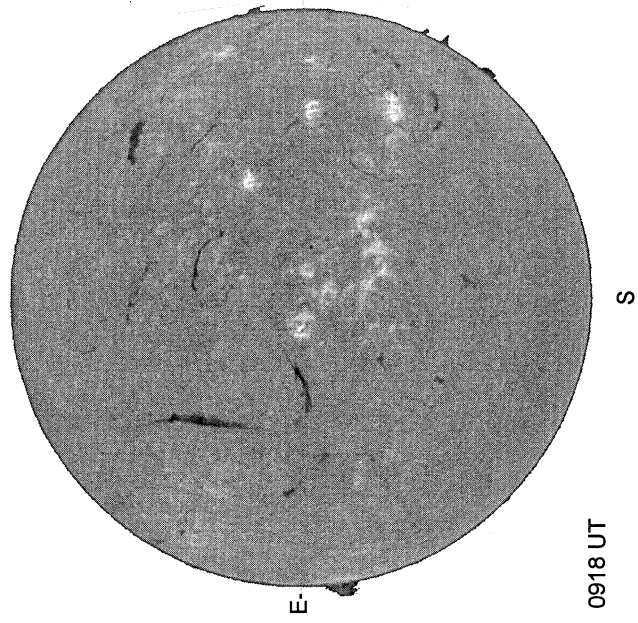
NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 20 MILLIONTHS

S ***** CA XV 18:10 UT 1.15 R_o
NO CA XV ACTIVITY TODAY

JANUARY 28, 2003 (P = -10.33, Bo = -5.70, Lo = 306.61)

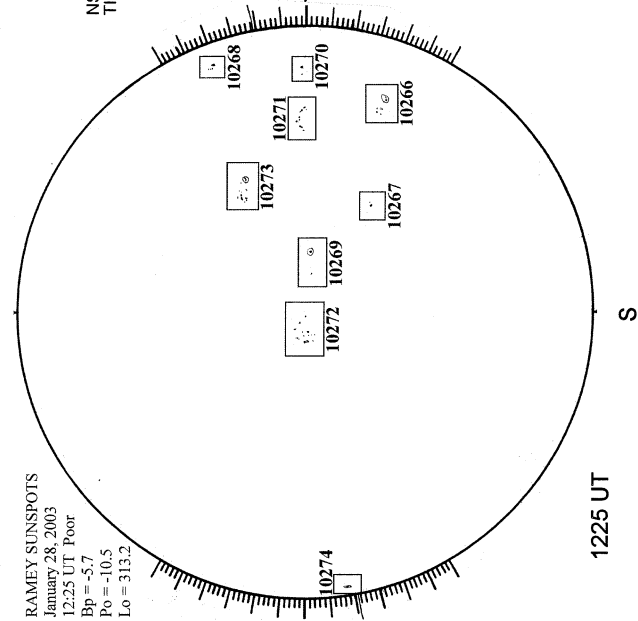


CATANIA H-ALPHA

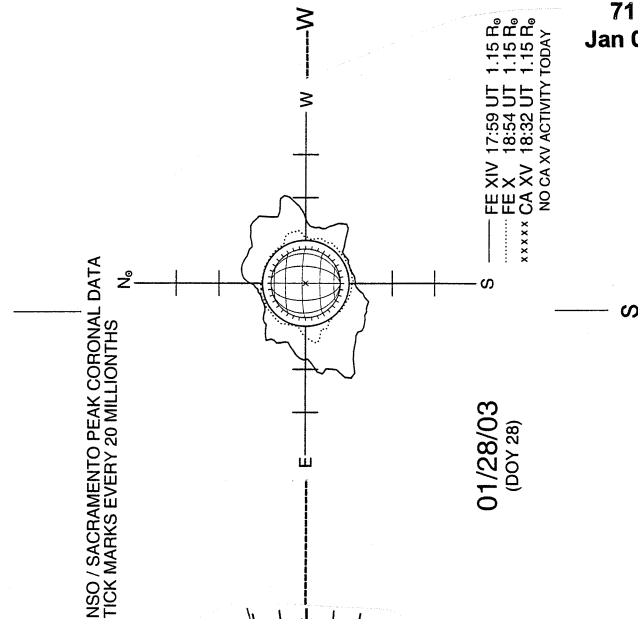


RAMEY SUNSPOT

RAMEY SUNSPOTS
January 28, 2003
12:25 UT Poor
Bp = -5.7
Po = -10.5
Lo = 313.2



SACRAMENTO PEAK CORONA (1.15 Radii)----

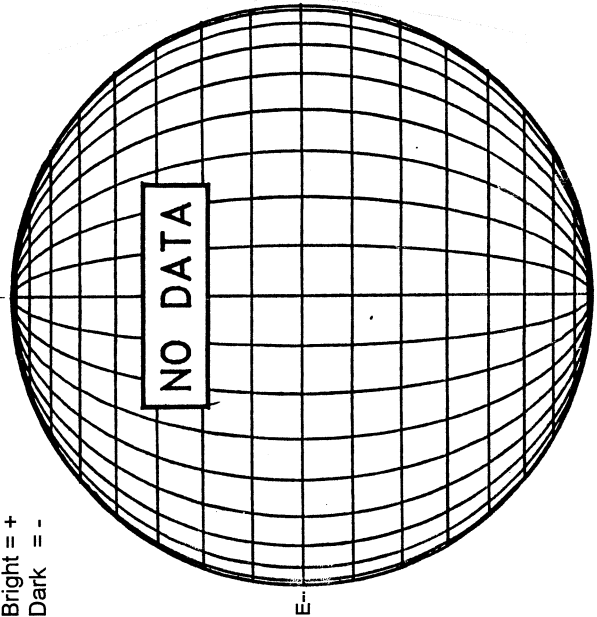


JANUARY 29, 2003 (P= -10.76, Bo = -5.77, Lo = 293.44)

72
Jan 03

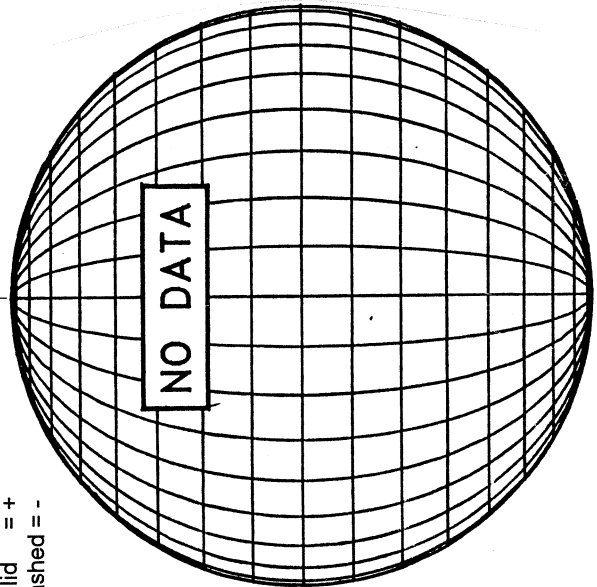
KITT PEAK MAGNETOGRAM
868.8 nm

Bright = +
Dark = -



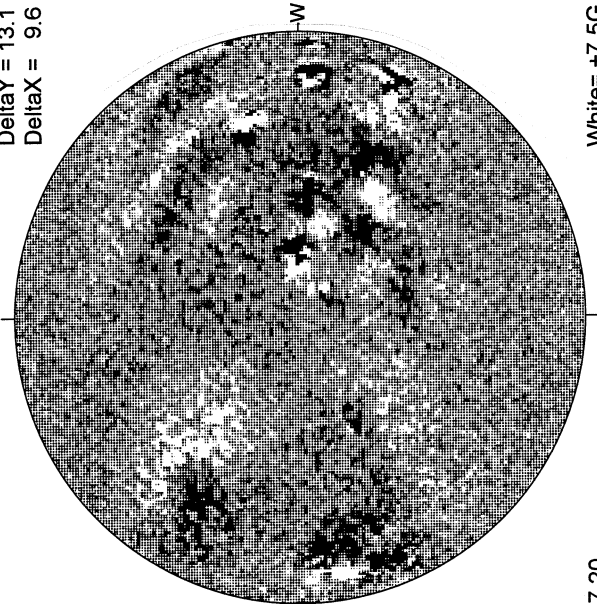
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

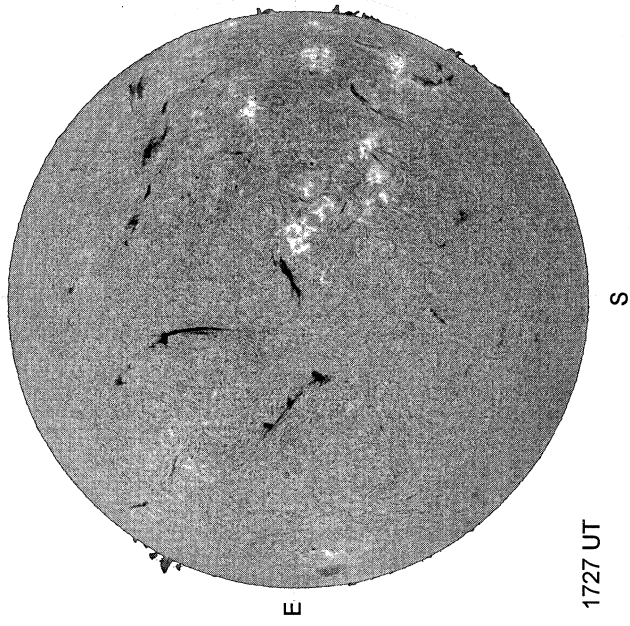
DeltaY = 13.1
DeltaX = 9.6



17.20 -
18.17 UT

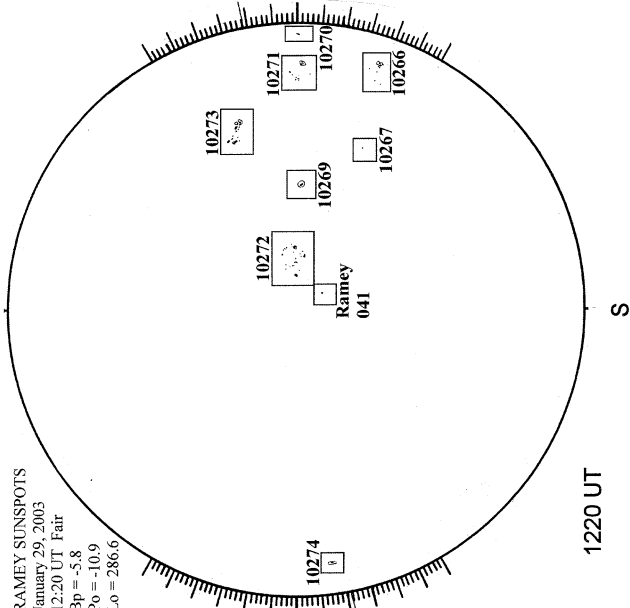
White= +7.5G
Black = -7.5G

BIG BEAR H-ALPHA



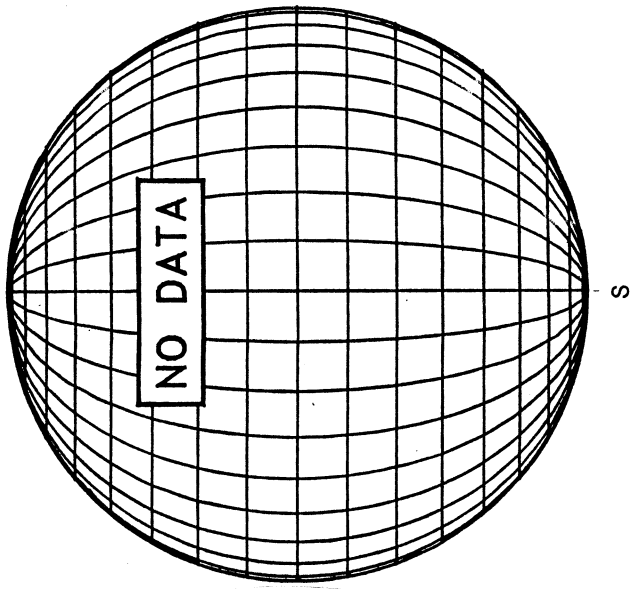
1727 UT

RAMEY SUNSPOT



RAMEY SUNSPOTS
January 29, 2003
12:20 UT Fair
Bp = -5.8
Po = -10.9
Lo = 286.6

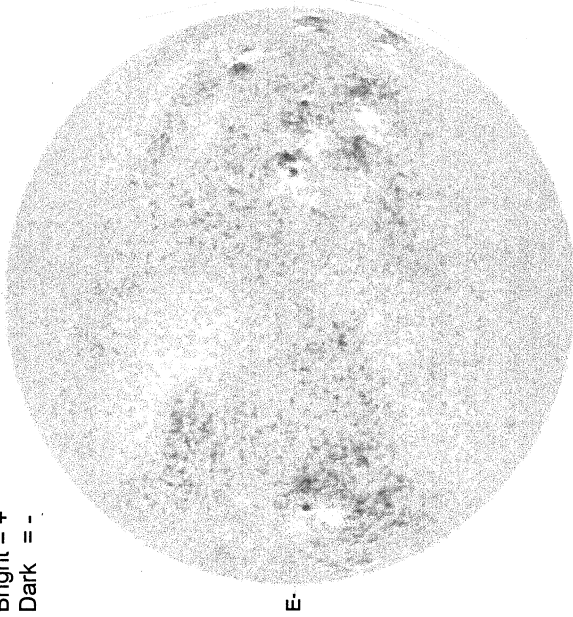
SACRAMENTO PEAK CORONA (1.15 Radii)----



JANUARY 30, 2003 (P= -11.18, Bo = -5.85, Lo = 280.28)

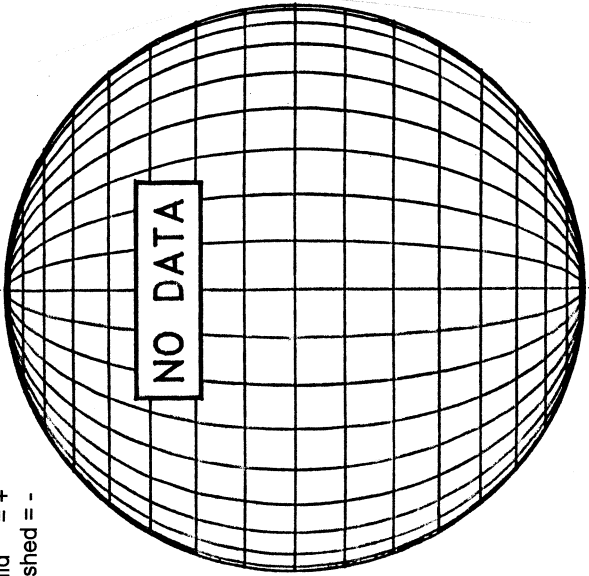
KITT PEAK MAGNETOGRAM
868.8 nm

Bright = +
Dark = -



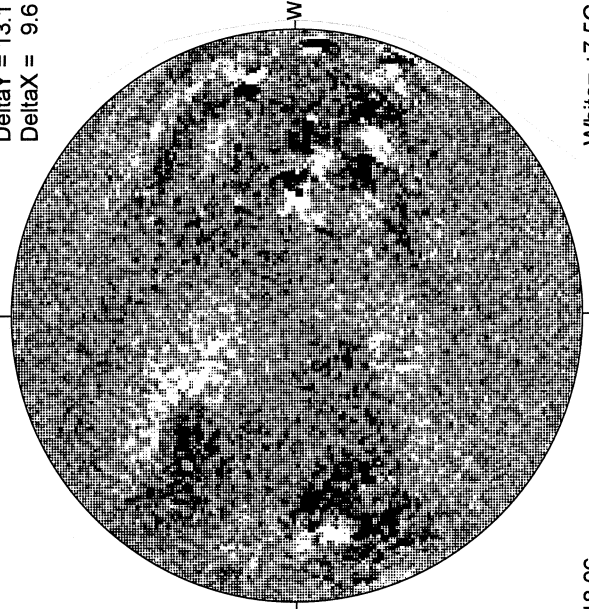
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



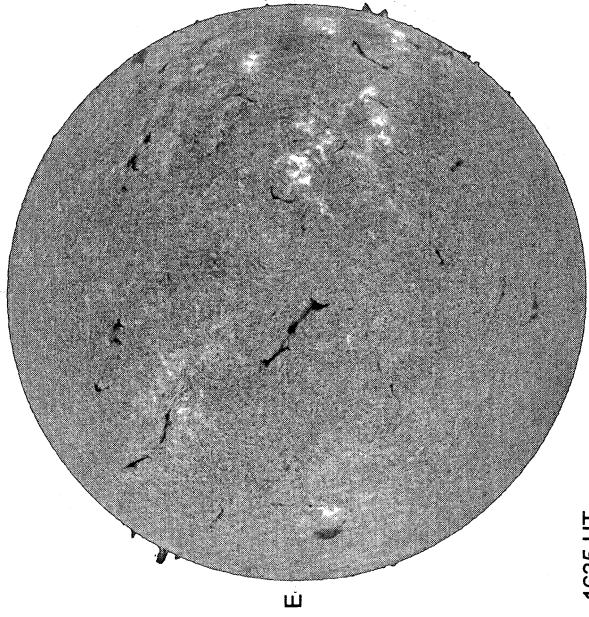
MT. WILSON MAGNETOGRAM

Delta Y = 13.1
Delta X = 9.6

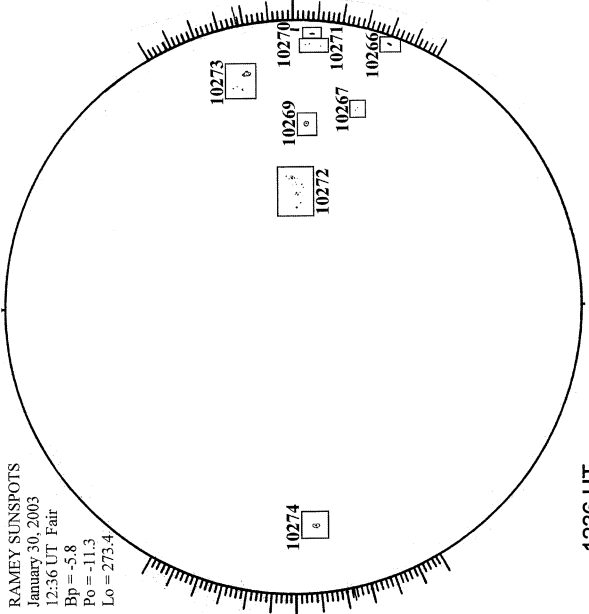


White = +7.5G
Black = -7.5G

BIG BEAR H-ALPHA

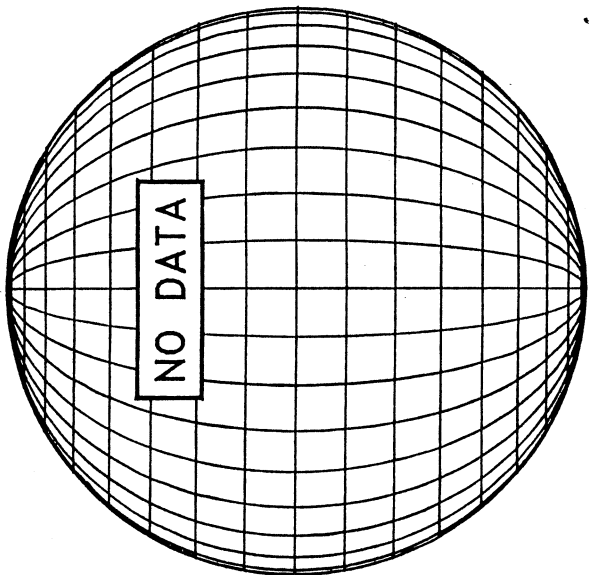


RAMEY SUNSPOT



RAMEY SUNSPOTS
January 30, 2003
12:36 UT Fair
Bp = -5.8
Po = -11.3
Lo = 273.4

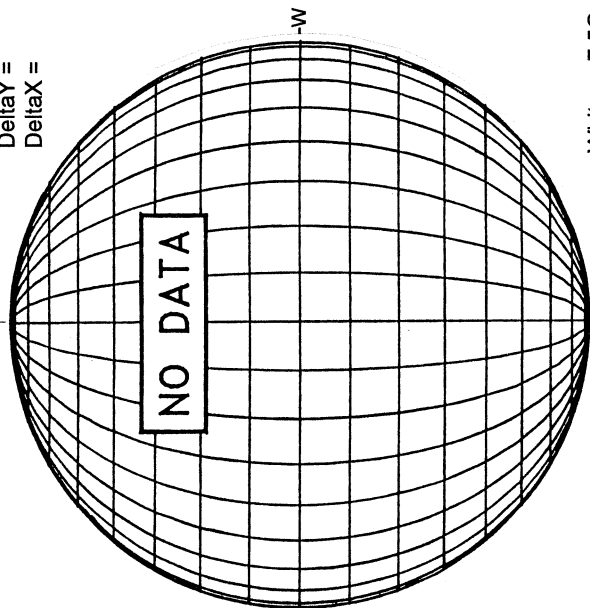
SACRAMENTO PEAK CORONA (1.15 Radii)----



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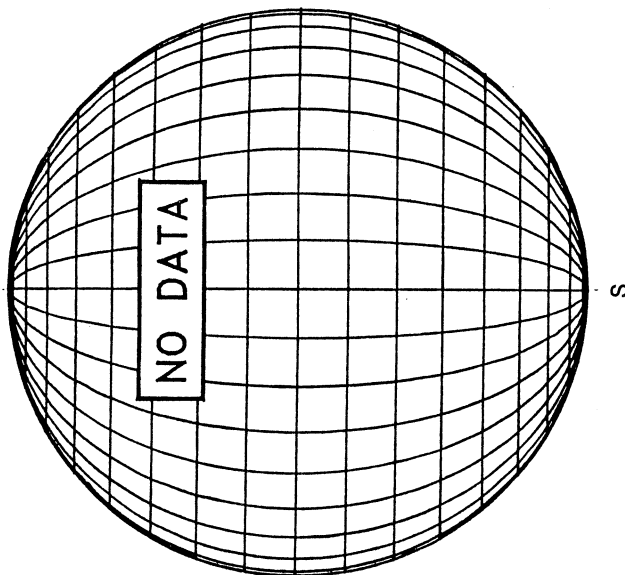
MT. WILSON MAGNETOGRAM

Delta Y =
Delta X =



White = +7.5G
Black = -7.5G

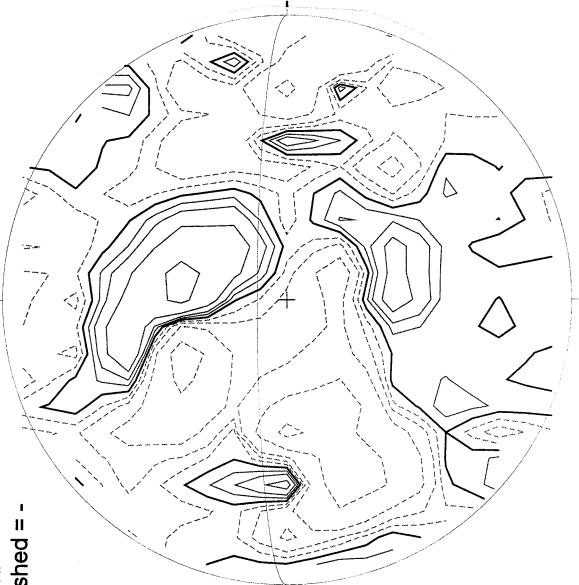
SACRAMENTO PEAK CORONA (1.15 Radii)----



JANUARY 31, 2003 (P = -11.60, Bo = -5.93, Lo = 267.11)

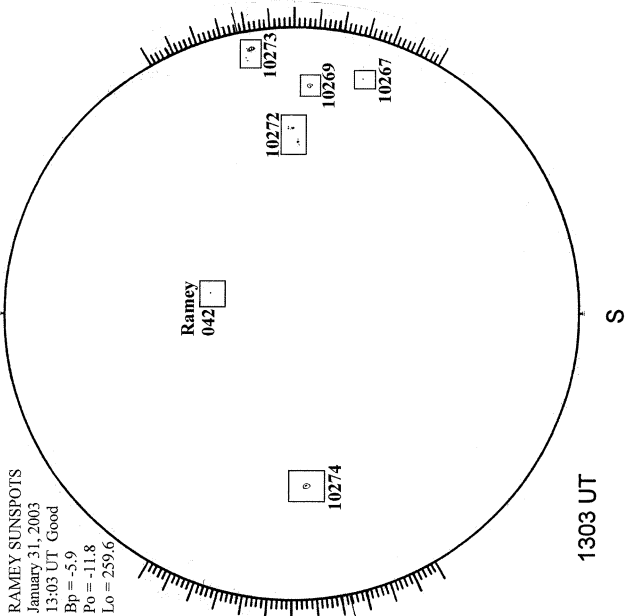
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



2101 UT

RAMEY SUNSPOT



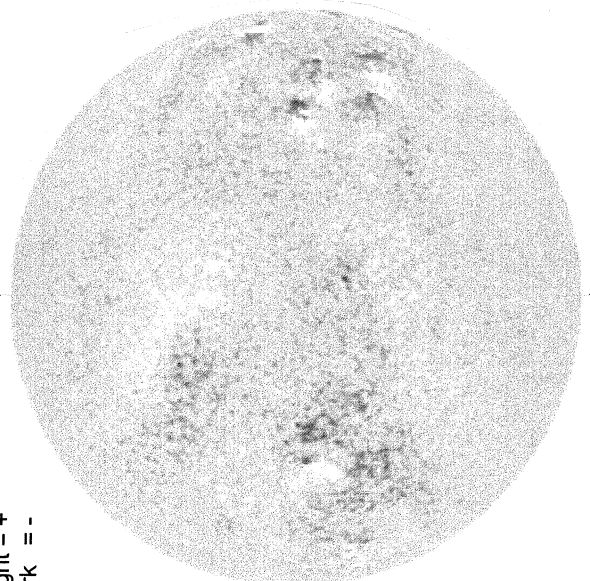
RAMEY SUNSPOTS
January 31, 2003
13:03 UT Good
Bp = -5.9
Po = -11.8
Lo = 259.6

1303 UT

KITT PEAK MAGNETOGRAM

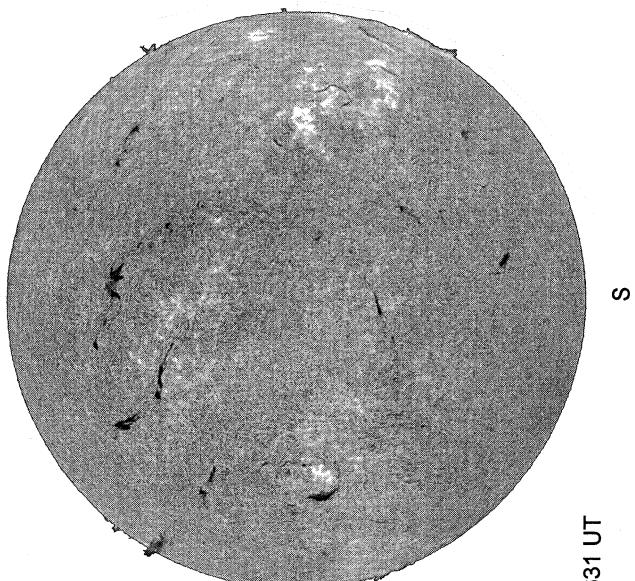
868.8 nm

Bright = +
Dark = -



1652 UT

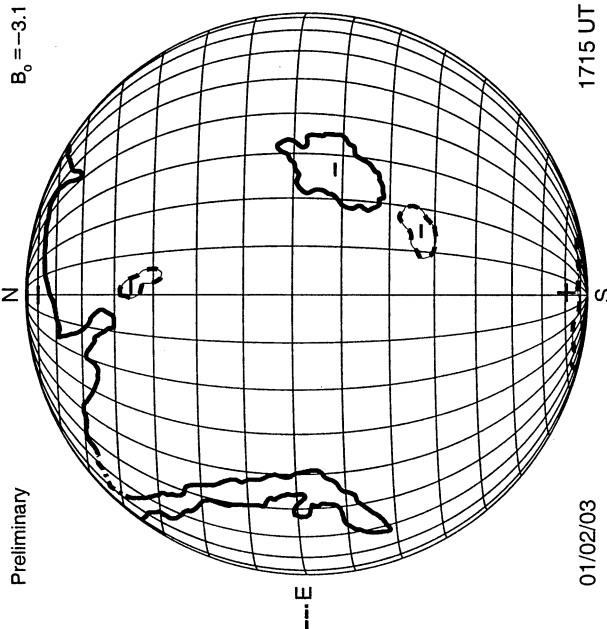
BIG BEAR H-ALPHA



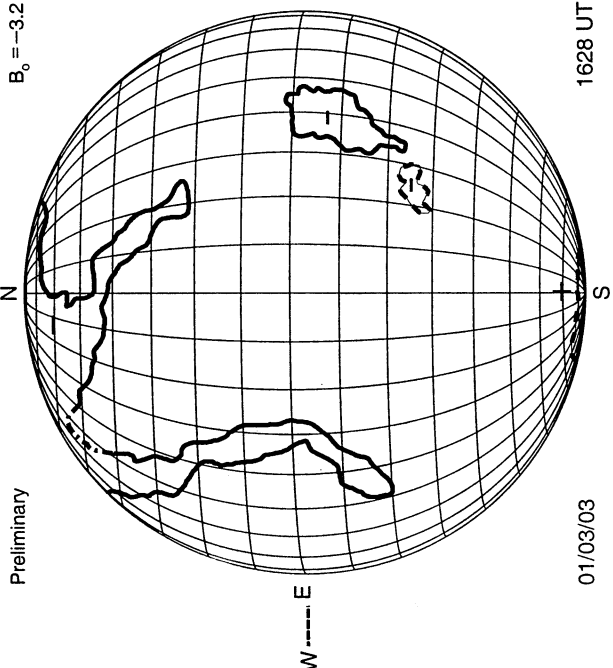
1631 UT

KITT PEAK CORONAL HOLE MAPS HE I 1083 nm January 2003

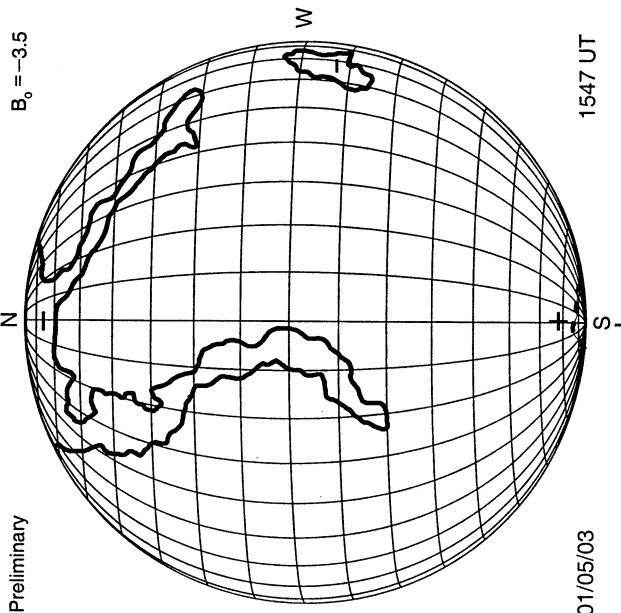
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



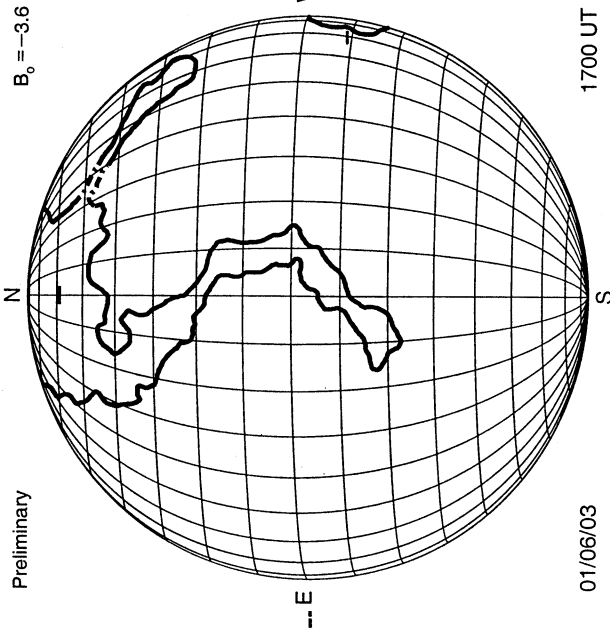
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



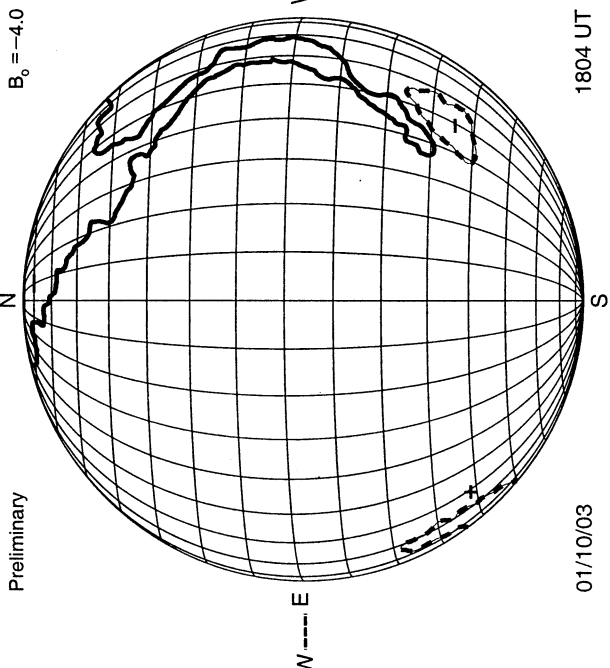
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



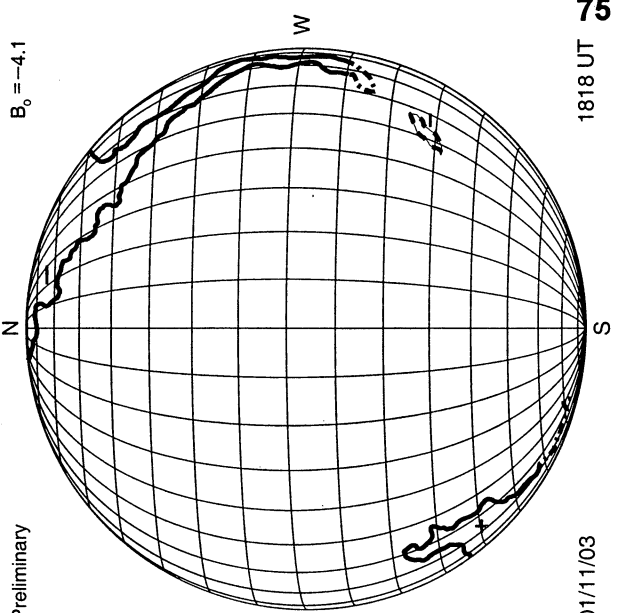
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



NSO/KP CORONAL HOLE MAP: HE I 1083 nm

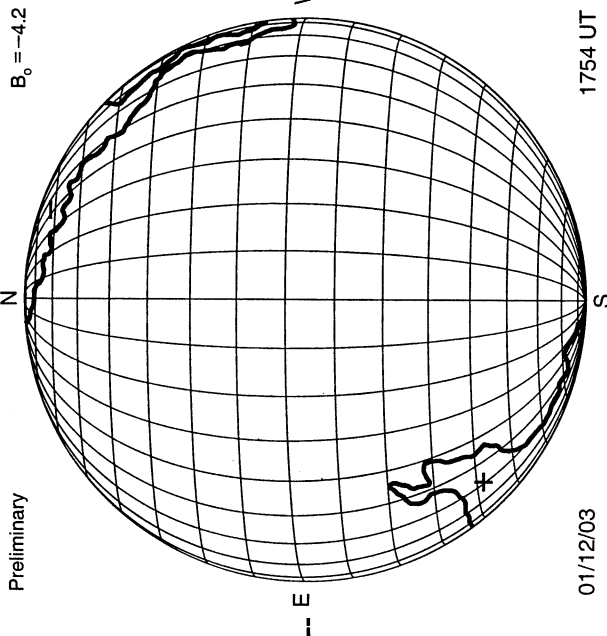


NSO/KP CORONAL HOLE MAP: HE I 1083 nm

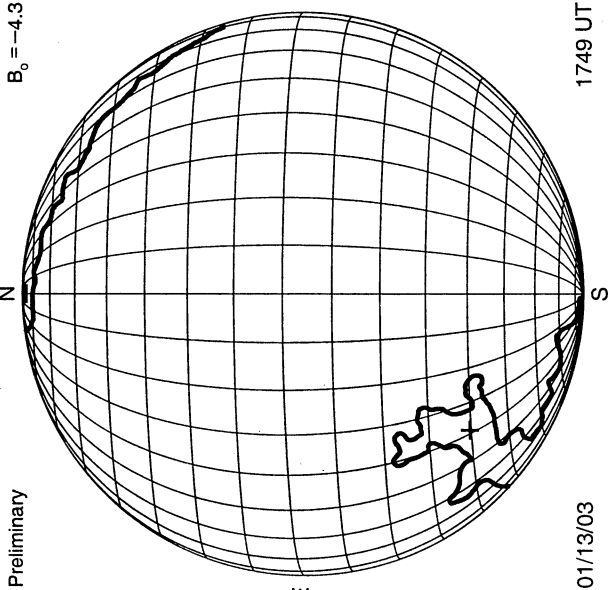


KITT PEAK CORONAL HOLE MAPS HE I 1083 nm January 2003

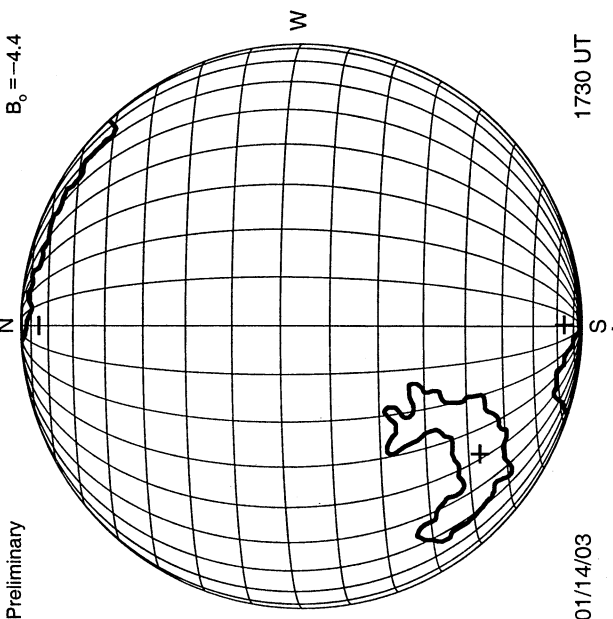
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



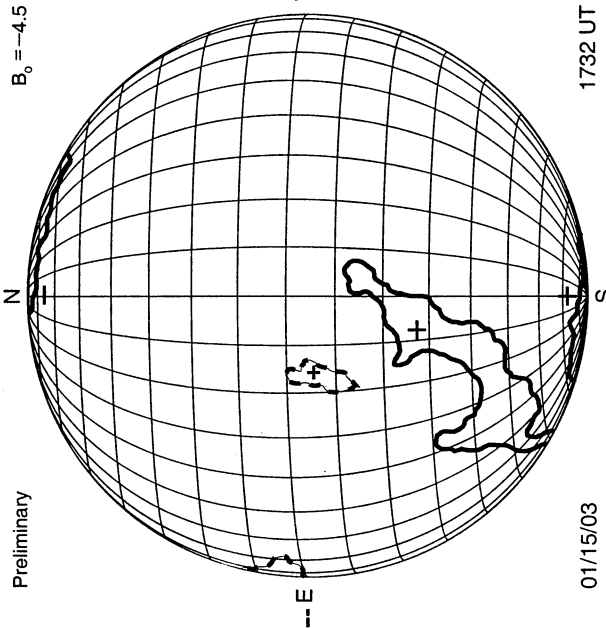
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



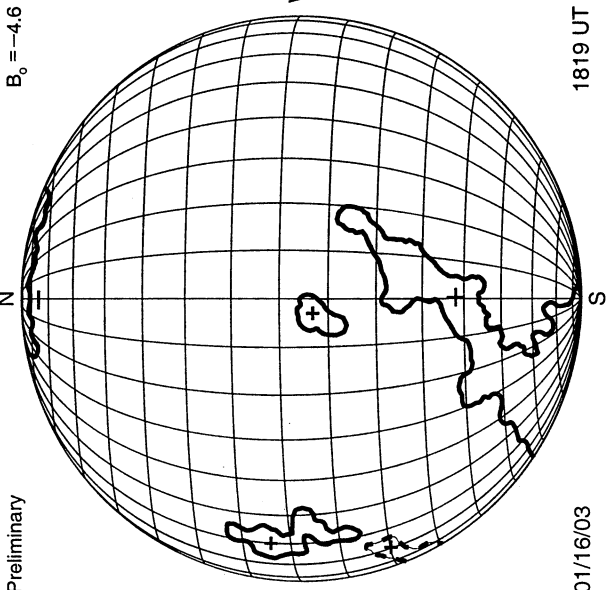
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



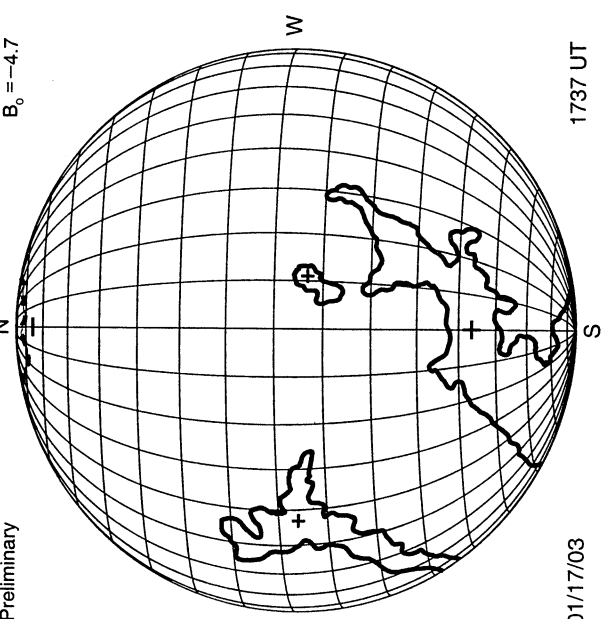
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



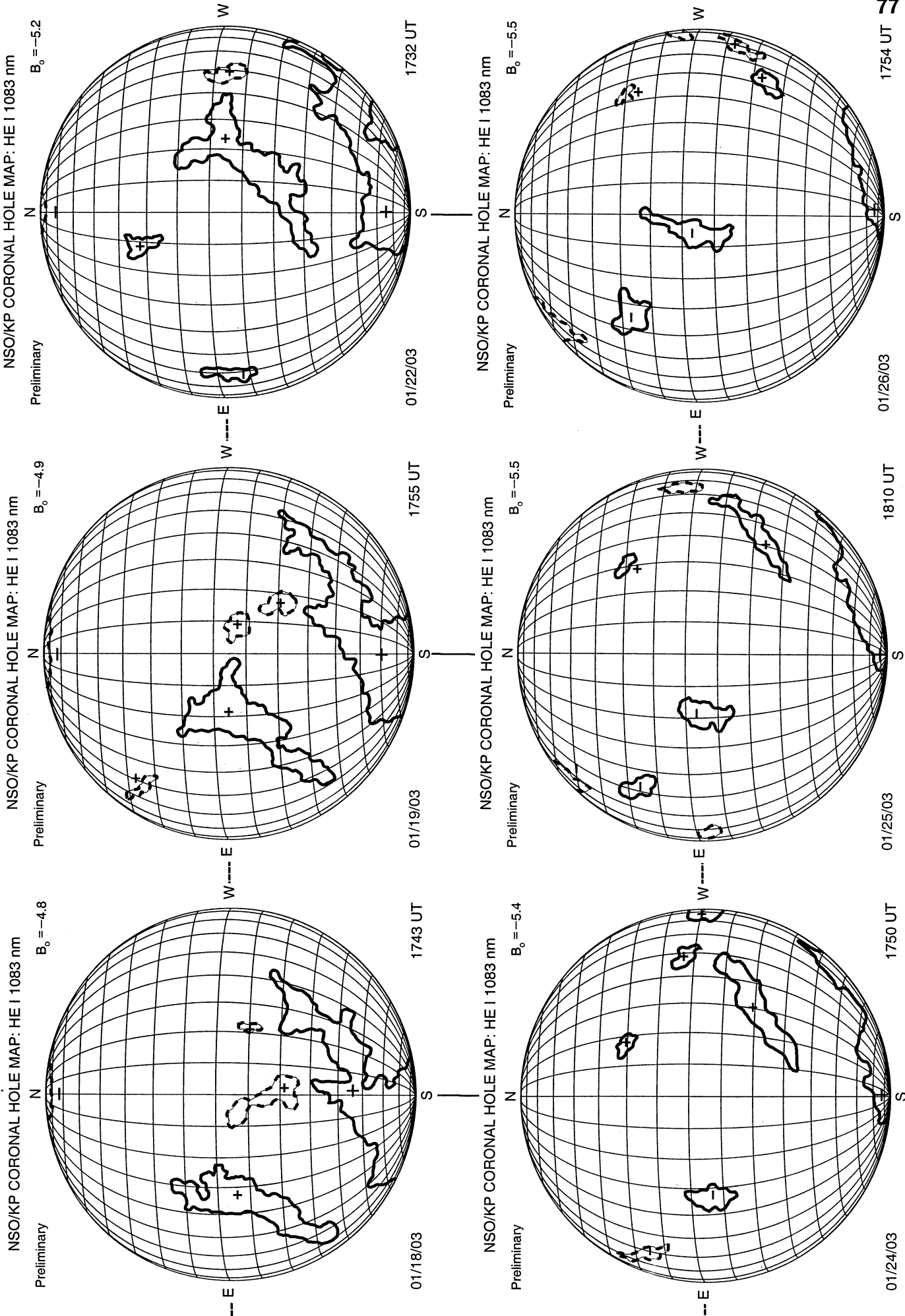
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



NSO/KP CORONAL HOLE MAP: HE I 1083 nm

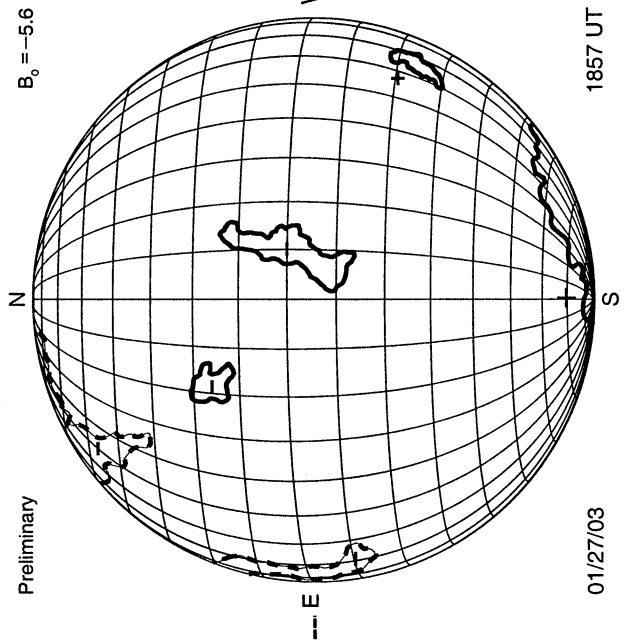


KITT PEAK CORONAL HOLE MAPS HE I 1083 nm January 2003

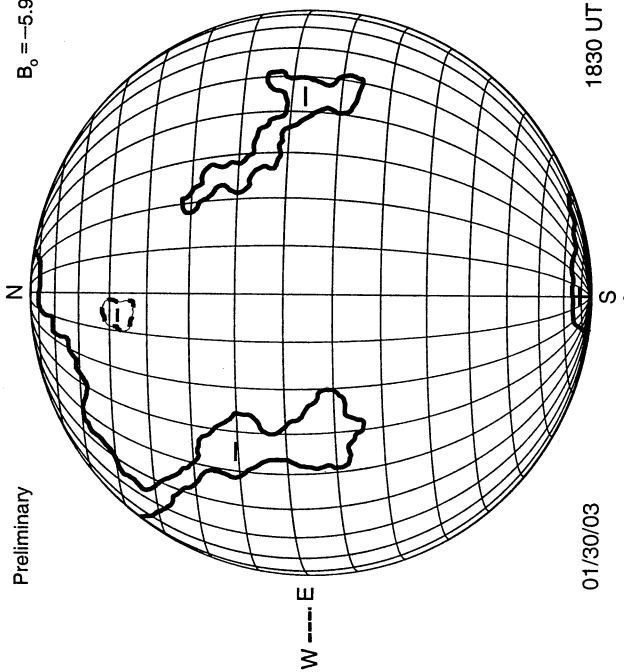


KITT PEAK CORONAL HOLE MAPS HE I 1083 nm
January 2003

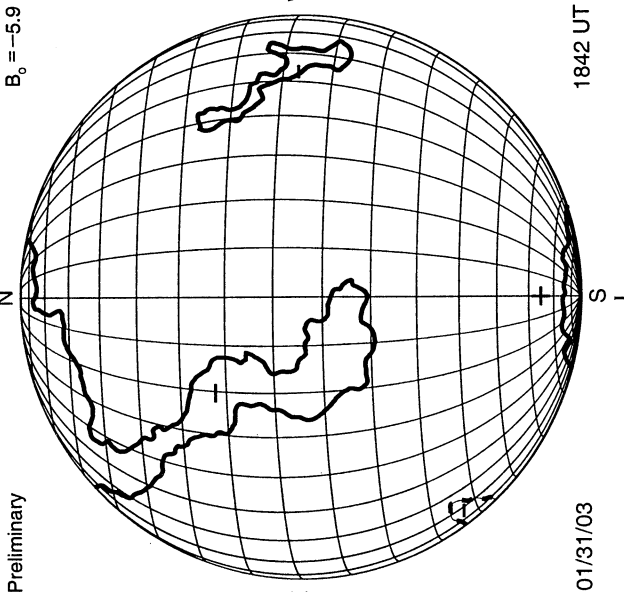
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



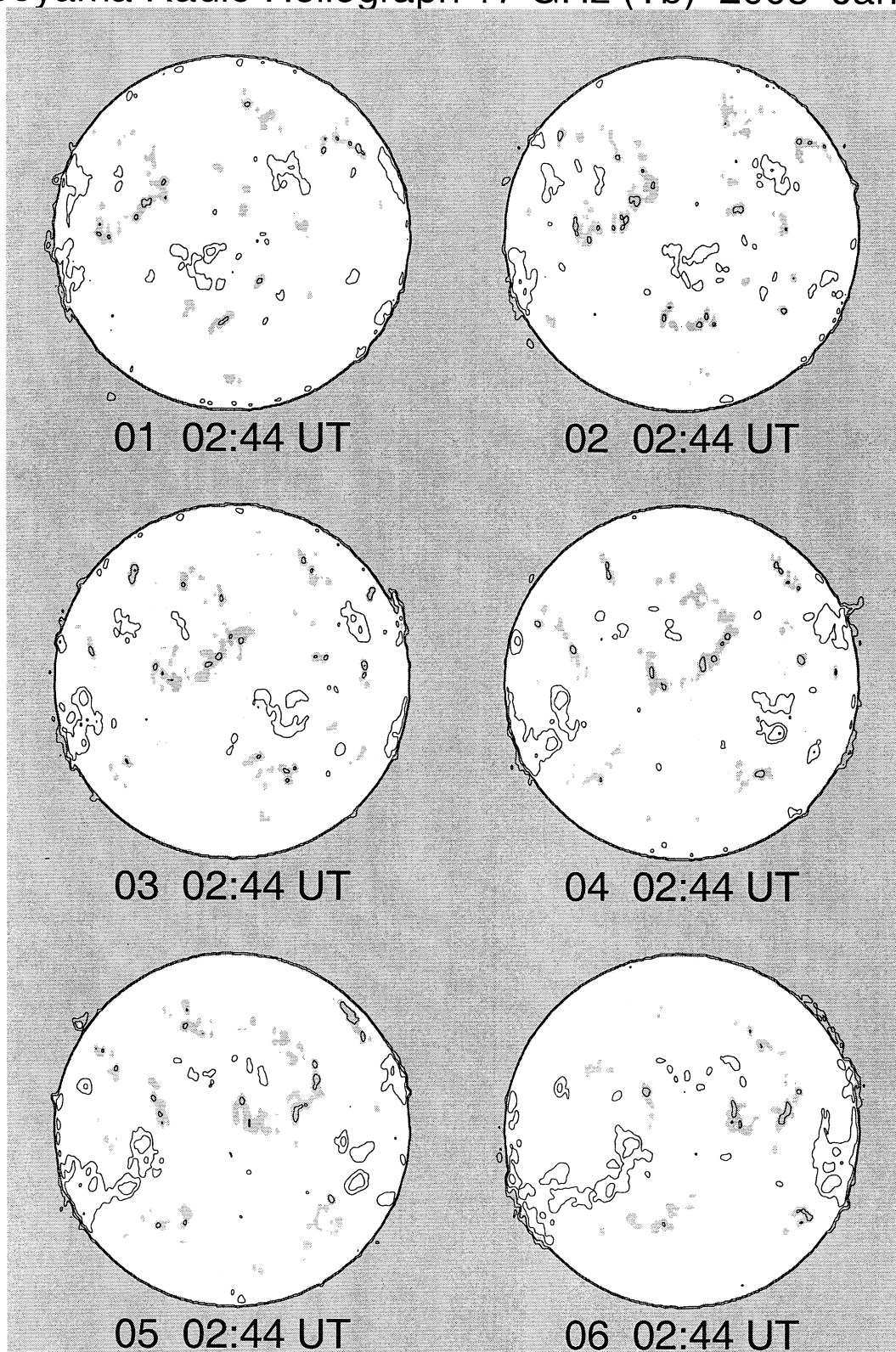
NSO/KP CORONAL HOLE MAP: HE I 1083 nm



NSO/KP CORONAL HOLE MAP: HE I 1083 nm

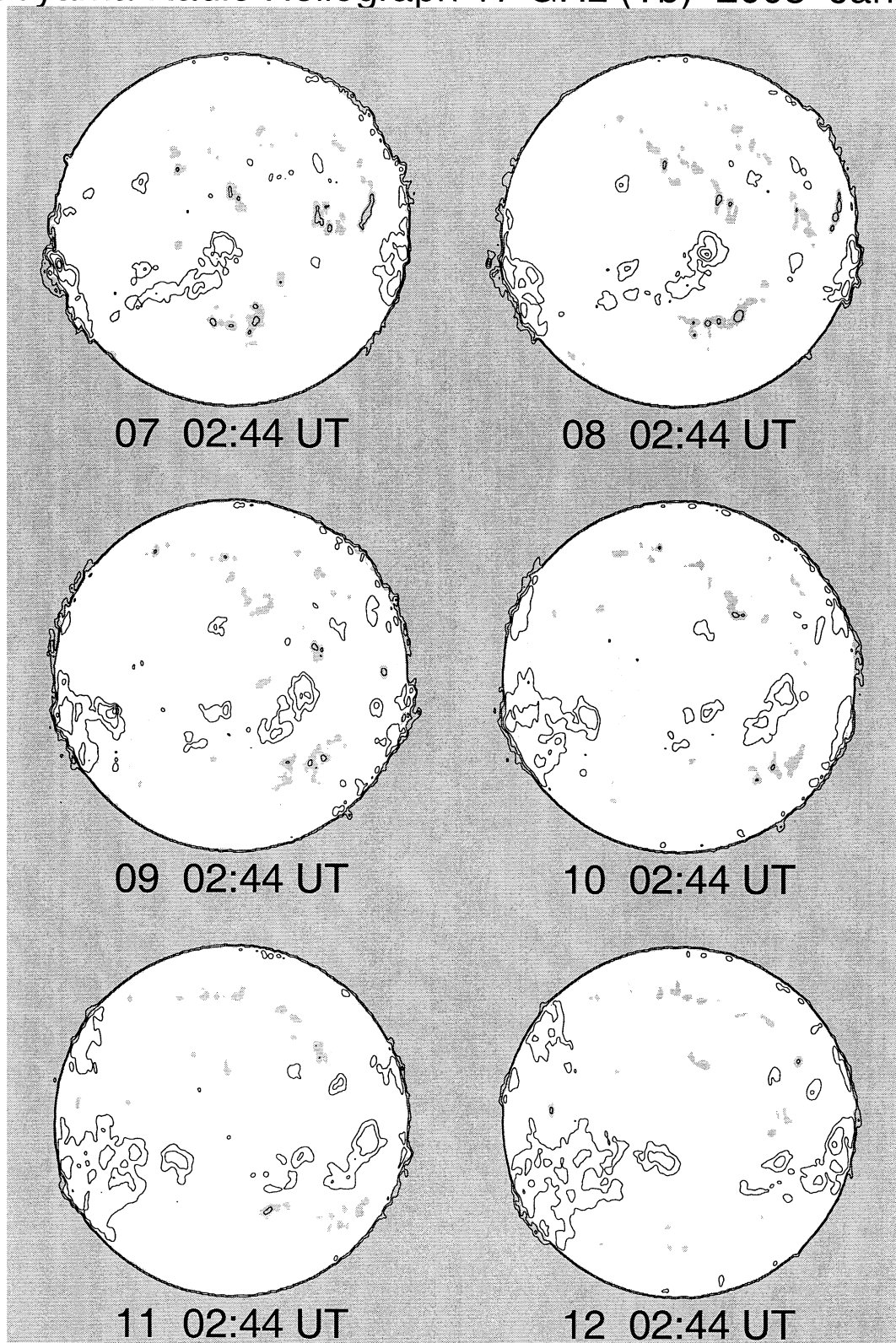


Nobeyama Radio Heliograph 17 GHz (Tb) 2003 January



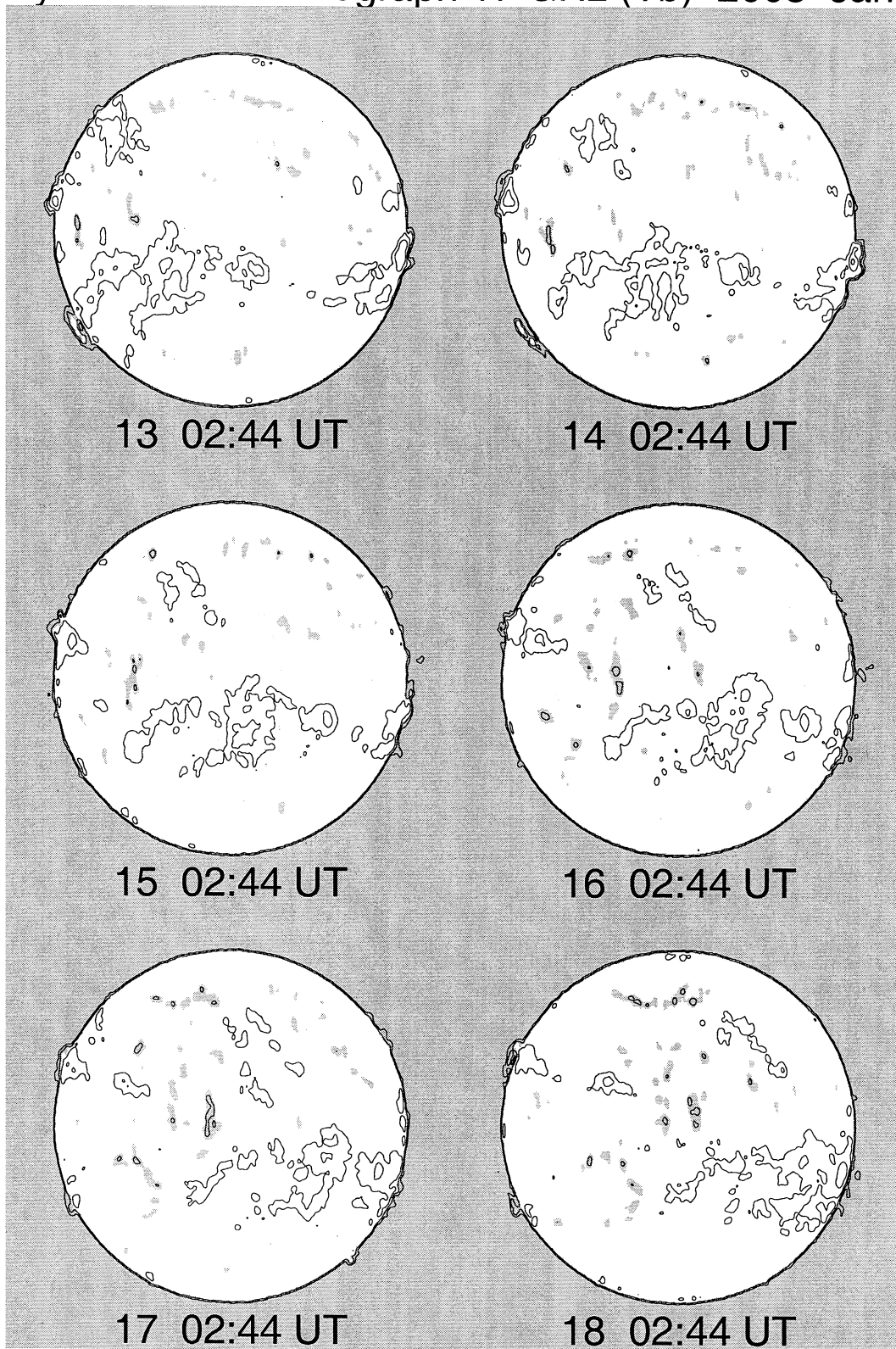
Contour Levels Tb=[5,8,12,20,50,100] x 10³ K
Grey level Tb <= 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2003 January



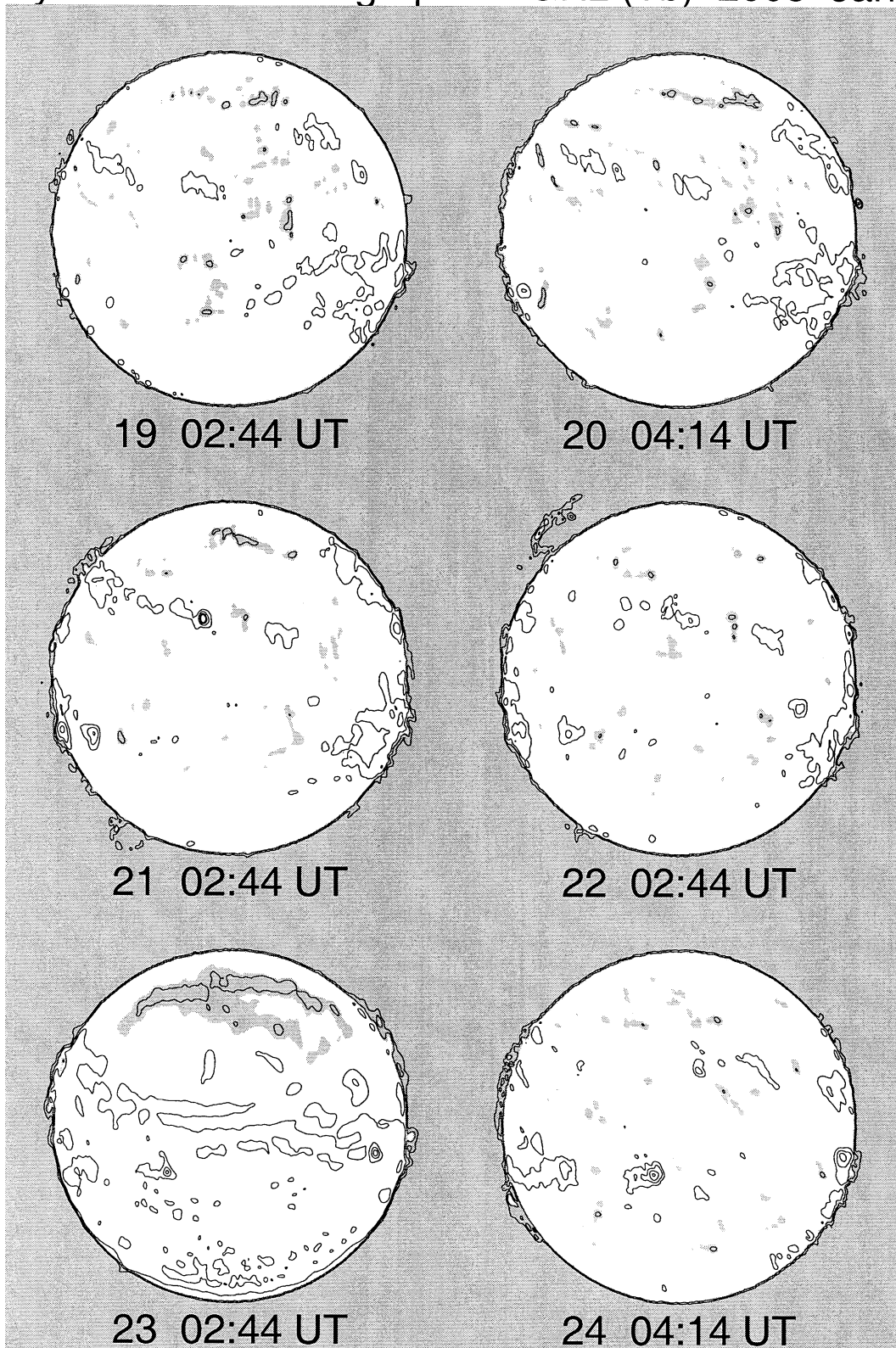
Contour Levels $T_b = [5, 8, 12, 20, 50, 100] \times 10^3 \text{ K}$
Grey level $T_b \leq 9,500 \text{ K}$

Nobeyama Radio Heliograph 17 GHz (Tb) 2003 January



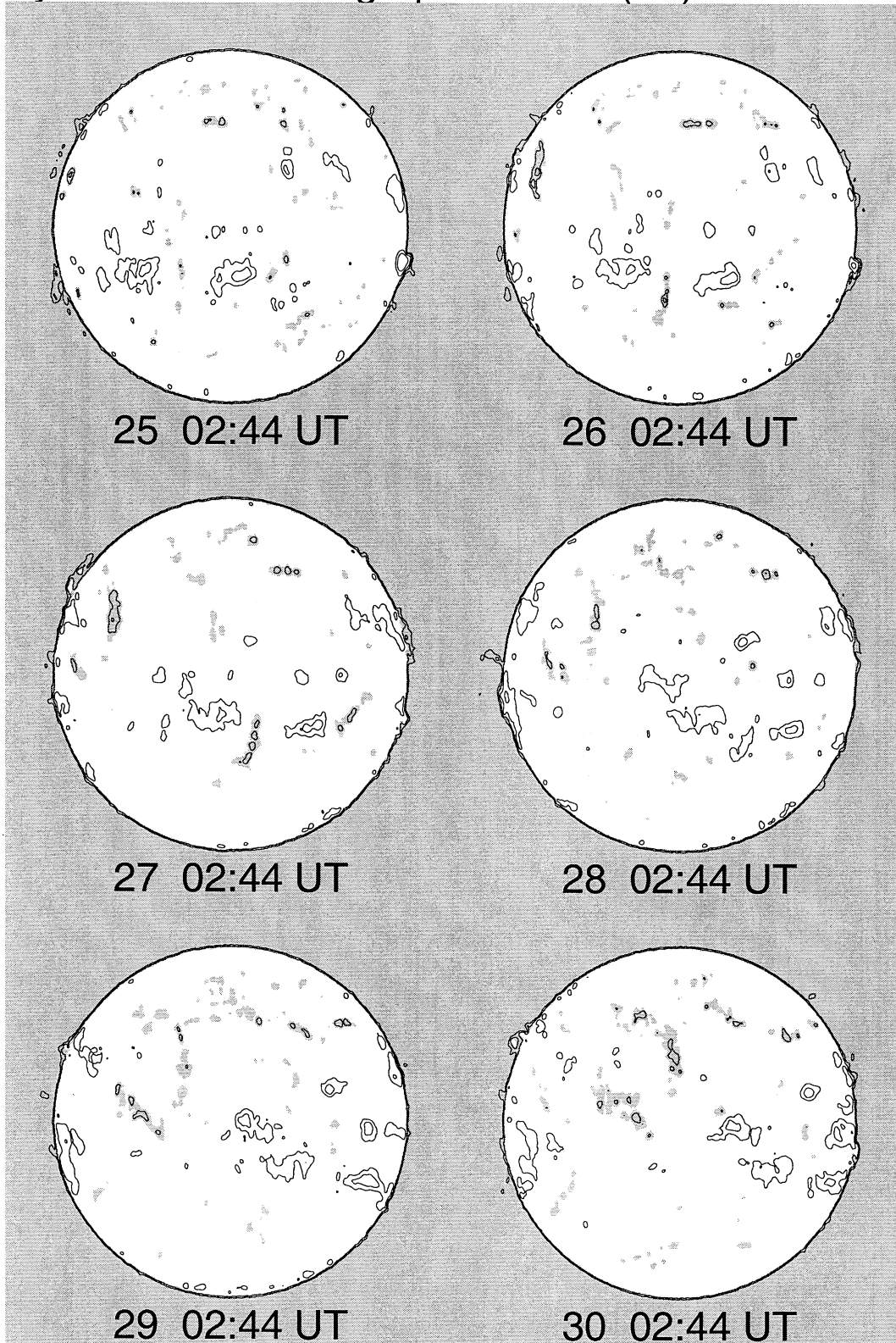
Contour Levels Tb=[5,8,12,20,50,100] x 10³ K
Grey level Tb <= 9,500 K

Nobeyama Radio Heliograph 17 GHz (Tb) 2003 January



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

Nobeyama Radio Heliograph 17 GHz (Tb) 2003 January



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

Grey level $T_b \leq 9,500 \text{ K}$

EDITOR'S NOTE: No observation on 31 January 2003.

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

JANUARY 2003

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
10243		RAMY	01 01 1225	S17	W02	01 1.4		B	BXO	20	4	6	3
10243		HOLL	01 01 1640	S18	W08	01 1.1		A	AXX		1	1	3
10243		RAMY	01 02 1205	S20	W12	01 1.6		B	BXO	20	4	3	3
10243		HOLL	01 02 1530	S19	W15	01 1.5		A	AXX	10	5	2	4
10243		LEAR	01 03 0018	S19	W21	01 1.4		B	DAO	40	5	3	4
10243		TACH	01 03 0749	S20	W24	01 1.5			BRO	18	4	4	2
10243		SVTO	01 03 1155	S18	W28	01 1.4		B	CAO	40	3	3	3
10243		RAMY	01 03 1425	S19	W29	01 1.4		B	DAO	50	9	5	3
10243		HOLL	01 03 1536	S19	W31	01 1.3		B	DSO	50	5	4	4
10243		LEAR	01 04 0018	S18	W34	01 1.4		B	DAI	170	12	4	3
10243		VORO	01 04 0031	S19	W34	01 1.4			DAI	145	13	3	3
10243		TACH	01 04 0706	S21	W37	01 1.4			DAI	118	7	7	3
10243		SVTO	01 04 0743	S18	W38	01 1.4		B	DSO	130	8	6	3
10243		RAMY	01 04 1212	S20	W41	01 1.4		BG	DAO	170	15	7	3
10243		HOLL	01 04 1528	S19	W44	01 1.3		BG	DAI	140	17	8	2
10243	31578	MWIL	01 04 1700	S19	W42	01 1.5	5	(B)					
10243		LEAR	01 05 0035	S19	W47	01 1.4		BG	DAO	190	15	8	3
10243		VORO	01 05 0215	S19	W47	01 1.5			DAI	187	9	7	2
10243		SVTO	01 05 0840	S18	W53	01 1.3		B	DAO	180	8	8	3
10243		RAMY	01 05 1237	S19	W55	01 1.3		BG	DAO	190	10	10	2
10243	31578	MWIL	01 05 1600	S19	W55	01 1.5	5	(B)					
10243		HOLL	01 05 1600	S19	W58	01 1.2		BG	DAI	230	17	5	3
10243		VORO	01 06 0020	S20	W60	01 1.4			DAI	334	16	7	3
10243		LEAR	01 06 0105	S19	W61	01 1.4		BG	DAO	220	12	9	1
10243		SVTO	01 06 0835	S18	W66	01 1.3		B	CAO	130	9	11	3
10243		RAMY	01 06 1400	S19	W67	01 1.5		BG	DAO	140	6	9	2
10243		LEAR	01 07 0010	S19	W73	01 1.4		B	DAO	160	10	10	2
10243		VORO	01 07 0040	S18	W75	01 1.3			DAI	117	15	4	3
10243		SVTO	01 07 0920	S17	W78	01 1.5		A	HAX	30	1	2	3
10243		RAMY	01 07 1300	S17	W85	01 1.1		A	HSX	30	1	1	3
10243		VORO	01 08 0024	S23	W87	01 1.3			HAX	17	1		3
10239	31575	MWIL	12 28 1545	S09	E55	01 1.8	4	(AF)					
10239		HOLL	12 28 1545	S10	E55	01 1.8		A	AXX	10	1	1	4
10239		VORO	12 28 2331	S09	E49	01 1.6			AXX	9	9		3
10239		LEAR	12 29 0018	S10	E49	01 1.7		B	CSO	30	2	2	2
10239		TACH	12 29 0713	S08	E45	01 1.7			AXX	7	1	1	3
10239		RAMY	12 29 1506	S09	E41	01 1.7		B	DRO	20	8	5	2
10239		VORO	12 30 0035	S08	E35	01 1.6			BRO	43	10	5	3
10239		LEAR	12 30 0120	S09	E40	01 2.0		B	DAO	50	8	6	2
10239		SVTO	12 30 0902	S08	E32	01 1.8		B	DSO	40	9	6	3
10239		RAMY	12 30 1305	S08	E28	01 1.6		B	DSO	30	9	7	2
10239	31575	MWIL	12 30 1600	S08	E27	01 1.7	5	(B)					
10239		VORO	12 31 0025	S08	E21	01 1.6			CAI	64	12	5	3
10239		LEAR	12 31 0031	S09	E22	01 1.7		B	DAO	80	11	7	3
10239		TACH	12 31 0633	S09	E16	01 1.5			BRI	15	5	5	2
10239		RAMY	12 31 1225	S03	E16	01 1.7		B	DAO	70	13	8	4
10239	31575	MWIL	12 31 1600	S08	E13	01 1.6	4	(BF)					
10239		VORO	12 31 2336	S08	E09	01 1.6			DRI	39	18	2	3
10239		LEAR	01 01 0150	S09	E08	01 1.7		B	DAO	70	7	6	2
10239		SVTO	01 01 1020	S08	E03	01 1.6		B	DAO	60	8	6	3
10239		RAMY	01 01 1225	S09	E02	01 1.7		B	DSI	80	10	7	3
10239	31575	MWIL	01 01 1600	S08	W01	01 1.6	4	(BF)					
10239		HOLL	01 01 1640	S09	E01	01 1.8		B	DAI	100	17	6	3
10239		VORO	01 02 0003	S06	W06	01 1.5			DAI	80	13	4	3
10239		LEAR	01 02 0010	S09	W05	01 1.6		B	DAO	70	8	7	4
10239		RAMY	01 02 1205	S08	W12	01 1.6		B	DAO	60	5	7	3
10239		HOLL	01 02 1530	S09	W11	01 1.8		B	EAI	80	16	12	4
10239		LEAR	01 03 0018	S08	W18	01 1.7		B	DAO	80	4	6	4
10239		TACH	01 03 0749	S09	W22	01 1.7			HSX	41	1	2	2
10239		SVTO	01 03 1155	S08	W23	01 1.8		A	HAX	30	3	2	3
10239		RAMY	01 03 1425	S09	W24	01 1.8		B	BXO	10	6	2	3
10239		HOLL	01 03 1536	S08	W25	01 1.8		B	CAO	30	6	3	4
10239		LEAR	01 04 0018	S08	W30	01 1.8		A	HAX	20	2	1	3
10239		VORO	01 04 0031	S09	W29	01 1.8			AXX	10	2		3
10239		TACH	01 04 0706	S10	W34	01 1.7			AXX	9	1	1	3
10239		SVTO	01 04 0743	S08	W34	01 1.8		A	HSX	20	1	1	3
10239		RAMY	01 04 1212	S10	W38	01 1.6		B	BXO	20	4	3	3
10239		HOLL	01 04 1528	S10	W38	01 1.8		B	BXO	10	3	3	2

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

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Jan 03

JANUARY 2003

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time		Lat	CMD	CMP		Max	Mag	Spot	Corrected	Spot	Long.	Qual
			Mo	Day	(UT)		Mo	Day	H	Class	Class	Area (10-6 Hemi)	Count	Extent (Deg)	
10239	31575	MWIL	01	04	1700	S10 W39	01	1.8	4	(BP)					
10239		LEAR	01	05	0035	S09 W44	01	1.7		A	HRX	10	2	2	3
10239		VORO	01	05	0215	S06 W38	01	2.2			BRO	20	3	3	2
10239		SVTO	01	05	0840	S05 W43	01	2.1		B	CRO	30	5	5	3
10239		VORO	01	06	0020	S06 W50	01	2.3			CRO	45	10	4	3
10239		SVTO	01	06	0835	S04 W56	01	2.2		B	BXO	10	2	6	3
10239		RAMY	01	06	1400	S08 W68	01	1.5		B	BXO	10	2	4	2
10239		LEAR	01	07	0010	S05 W64	01	2.2		B	CSO	20	2	5	2
10239		LEAR	01	07	0010	S08 W76	01	1.3		B	CSO	60	4	5	2
10239		VORO	01	07	0040	S07 W70	01	1.8			CAI	60	6	7	3
10239		SVTO	01	07	0920	S07 W75	01	1.8		A	HAX	60	1	3	3
10239		RAMY	01	07	1300	S08 W85	01	1.2		A	HSX	30	1	1	3
10239		HOLL	01	07	1652	S08 W82	01	1.5		A	HAX	60	2	4	4
10239		MWIL	01	07	1700	S09 W85	01	1.3	4	(AP)					
10239B		TACH	01	04	0706	N19 W29	01	2.1			AXX	1	1	1	3
10239A		HOLL	01	02	1530	S18 W05	01	2.3		A	AXX	10	3	3	4
10240	31576	VORO	12	31	0025	S08 E32	01	2.4			BRO	29	6		3
10240		LEAR	12	31	0031	S09 E33	01	2.5		B	DAO	30	7	3	3
10240		TACH	12	31	0633	S08 E29	01	2.4			BRO	9	3	2	2
10240		RAMY	12	31	1225	S04 E26	01	2.5		B	DSO	40	7	4	4
10240		RAMY	12	31	1225	S09 E23	01	2.2		B	BXO	20	3	4	4
10240		MWIL	12	31	1600	S07 E23	01	2.4	3	(BP)					
10240		VORO	12	31	2336	S09 E19	01	2.4			BRI	12	7	3	3
10240		LEAR	01	01	0150	S08 E18	01	2.4		B	DSO	30	4	3	2
10240		SVTO	01	01	1020	S08 E12	01	2.3		B	BXO	10	2	1	3
10240		RAMY	01	01	1225	S08 E12	01	2.4		B	BXO	20	3	4	3
10240		MWIL	01	01	1600	S07 E07	01	2.2	3	(AP)					
10240		HOLL	01	01	1640	S08 E09	01	2.4		B	BXO	10	2	4	3
10240		HOLL	01	02	1530	S08 E00	01	2.6		A	AXX	10	2	2	4
10240		RAMY	01	04	1212	S06 W32	01	2.1		A	HRX	10	1	1	3
10240	31576	HOLL	01	04	1528	S06 W33	01	2.2		B	CSO	10	3	3	2
10240		MWIL	01	04	1700	S06 W33	01	2.2	4	(B)					
10240		LEAR	01	05	0035	S05 W38	01	2.2		B	CSO	30	9	4	3
10240		RAMY	01	05	1237	S07 W43	01	2.3		B	BXO	30	5	5	2
10240	31576	MWIL	01	05	1600	S05 W46	01	2.2	4	(B)					
10240		HOLL	01	05	1600	S05 W48	01	2.1		B	CAO	30	7	5	3
10240		LEAR	01	06	0105	S06 W52	01	2.1		B	DSO	40	5	6	1
10240		RAMY	01	06	1400	S05 W57	01	2.3		B	CSO	10	3	5	2
10240	31576	LEAR	01	07	0010	S05 W64	01	2.2		B	CSO	20	2	5	2
10240		HOLL	01	07	1652	S04 W76	01	2.0		B	CSO	30	3	3	4
10240		MWIL	01	07	1700	S06 W72	01	2.3	4	(AP)					
10248		RAMY	01	07	1300	S12 W37	01	4.7		A	AXX		1		3
10248		HOLL	01	07	1652	S11 W37	01	4.9		B	CSO	20	4	3	4
10248		VORO	01	08	0024	S11 W41	01	4.9			BXO	15	6	1	3
10248		LEAR	01	08	0111	S11 W42	01	4.9		B	CSO	30	4	3	2
10248		RAMY	01	08	1233	S12 W49	01	4.8		B	CSO	30	8	4	4
10248		LEAR	01	09	0037	S09 W57	01	4.7		A	AXX	90	1		3
10248		VORO	01	09	0055	S10 W56	01	4.8			AXX	16	1		3
10248		TACH	01	09	0507	S10 W60	01	4.7			AXX	3	1	1	2
10248		RAMY	01	09	1241	S11 W63	01	4.8		B	CSO	10	2	3	3
10248A		VORO	01	06	0020	N17 E00	01	6.0			AXX	10	3		3
10242		HOLL	01	02	1530	S08 E65	01	7.5		B	CSO	30	6	3	4
10242		LEAR	01	03	0018	S08 E58	01	7.4		B	DAI	100	16	5	4
10242		TACH	01	03	0749	S08 E53	01	7.3			CAO	108	3	5	2
10242		SVTO	01	03	1155	S08 E51	01	7.3		B	DAO	110	6	5	3
10242		RAMY	01	03	1425	S07 E50	01	7.3		B	DAI	60	16	5	3
10242		HOLL	01	03	1536	S08 E49	01	7.3		B	DAI	90	19	7	4
10242		LEAR	01	04	0018	S08 E44	01	7.3		B	DAI	210	19	6	3
10242		VORO	01	04	0031	S07 E43	01	7.2			DAI	126	12	5	3
10242		TACH	01	04	0706	S06 E38	01	7.1			CAI	119	8	5	3
10242		SVTO	01	04	0743	S08 E39	01	7.2		B	DAO	170	9	9	3
10242		RAMY	01	04	1212	S08 E38	01	7.3		B	DAI	190	21	8	3
10242		HOLL	01	04	1528	S07 E35	01	7.3		BG	DAC	140	23	8	2

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(Ordered by Central Meridian Passage Date)

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time (UT)	Mo	Day	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
10242	31579	MWIL	01 04	1700	S07	E35	01	7.3	5		(BG)					
10242		LEAR	01 05	0035	S08	E31	01	7.3			BG	DAI	200	25	9	3
10242		VORO	01 05	0215	S07	E28	01	7.2				DAI	166	14	7	2
10242		SVTO	01 05	0840	S08	E26	01	7.3			BG	DAI	140	18	10	3
10242		RAMY	01 05	1237	S08	E23	01	7.2			B	DKI	240	19	10	2
10242	31579	MWIL	01 05	1600	S07	E22	01	7.3	5		(B)					
10242		HOLL	01 05	1600	S08	E21	01	7.2			B	DAI	200	48	8	3
10242		VORO	01 06	0020	S07	E17	01	7.3				DAI	312	28	8	3
10242		LEAR	01 06	0105	S08	E17	01	7.3			BG	DAI	190	35	9	1
10242		SVTO	01 06	0835	S08	E13	01	7.3			B	DAC	180	21	10	3
10242		RAMY	01 06	1400	S09	E09	01	7.2			B	DAI	160	33	9	2
10242		LEAR	01 07	0010	S08	E04	01	7.3			BG	DAI	360	37	9	2
10242		VORO	01 07	0040	S07	E04	01	7.3				DAI	242	32	7	3
10242		SVTO	01 07	0920	S07	W03	01	7.2			B	DAC	300	17	10	3
10242		RAMY	01 07	1300	S03	W04	01	7.2			BG	DKI	360	46	9	3
10242		HOLL	01 07	1652	S08	W05	01	7.3			B	EKC	350	42	11	4
10242	31579	MWIL	01 07	1700	S08	W05	01	7.3	5		(B)					
10242		VORO	01 08	0024	S08	W08	01	7.4				DAI	491	33	7	3
10242		LEAR	01 08	0111	S08	W10	01	7.3			B	DKI	380	42	10	2
10242		RAMY	01 08	1233	S08	W16	01	7.3			BG	DAC	360	48	9	4
10242		LEAR	01 09	0037	S08	W22	01	7.4			BG	DKI	440	38	9	3
10242		VORO	01 09	0055	S07	W21	01	7.5				DAI	316	28	7	3
10242		TACH	01 09	0507	S10	W25	01	7.3				DAI	191	20	10	2
10242		RAMY	01 09	1241	S08	W29	01	7.3			BG	DAI	280	38	10	3
10242		HOLL	01 09	1612	S08	W30	01	7.4			BG	DAC	150	26	8	2
10242		VORO	01 10	0022	S08	W35	01	7.4				CSI	285	22	7	3
10242		LEAR	01 10	0156	S08	W36	01	7.4			B	DAI	310	30	8	3
10242		SVTO	01 10	0725	S08	W39	01	7.4			B	CAI	90	15	8	3
10242		TACH	01 10	0729	S08	W41	01	7.2				DAI	232	17	6	3
10242		RAMY	01 10	1450	S08	W43	01	7.4			BG	DSO	210	13	10	2
10242		HOLL	01 10	1605	S07	W43	01	7.4			BG	DAC	160	31	10	3
10242		LEAR	01 11	0032	S08	W48	01	7.4			BG	DAI	290	35	9	4
10242		VORO	01 11	0158	S07	W49	01	7.4				DAI	316	10	6	2
10242		RAMY	01 11	1220	S07	W55	01	7.4			BG	DAI	270	21	10	3
10242		HOLL	01 11	1610	S07	W58	01	7.3			B	DAO	340	25	9	4
10242		LEAR	01 12	0020	S07	W61	01	7.4			B	DAO	200	21	9	3
10242		RAMY	01 12	1315	S06	W71	01	7.2			B	DAO	90	5	6	3
10242		HOLL	01 12	1625	S07	W71	01	7.4			B	DAO	210	10	8	3
10242		LEAR	01 13	0020	S07	W74	01	7.5			B	DAO	120	4	5	3
10242		RAMY	01 13	1232	S07	W83	01	7.3			A	HSX	20	1	1	3
10246		VORO	01 06	0020	N09	E22	01	7.7				CRO	24	7	2	3
10246		LEAR	01 06	0105	N09	E22	01	7.7			B	DSO	20	4	3	1
10246		SVTO	01 06	0835	N08	E18	01	7.7			B	CRO	10	2	3	3
10246		RAMY	01 06	1400	N08	E14	01	7.6			B	BXO		3	3	2
10246		LEAR	01 07	0010	N09	E09	01	7.7			B	DRO	20	3	4	2
10246		VORO	01 07	0040	N09	E09	01	7.7				BRO	9	5	3	3
10246		RAMY	01 07	1300	N08	E03	01	7.8			A	AXX		1		3
10246		HOLL	01 07	1652	N09	E02	01	7.8			A	AXX		1		4
10246	31583	MWIL	01 07	1700	N08	E01	01	7.8	3		(AF)					
10244		HOLL	01 02	1530	S22	E70	01	8.0			A	AXX	10	1	1	4
10244		LEAR	01 03	0018	S22	E66	01	8.1			A	AXX	10	2	1	4
10244		TACH	01 03	0749	S23	E64	01	8.2				HSX	35	1	2	2
10244		SVTO	01 03	1155	S23	E58	01	8.0			B	DAO	120	3	4	3
10244		RAMY	01 03	1425	S23	E60	01	8.2			B	DSO	40	7	4	3
10244		HOLL	01 03	1536	S23	E58	01	8.1			B	DAO	80	12	6	4
10244		LEAR	01 04	0018	S23	E53	01	8.1			B	DAO	140	9	6	3
10244		VORO	01 04	0031	S22	E52	01	8.0				DAI	88	7	4	3
10244		TACH	01 04	0706	S21	E49	01	8.0				CSO	107	3	6	3
10244		SVTO	01 04	0743	S23	E47	01	7.9			B	DSO	130	6	7	3
10244		RAMY	01 04	1212	S23	E47	01	8.1			BG	DAO	170	11	8	3
10244		HOLL	01 04	1528	S22	E44	01	8.0			B	DSI	100	13	9	2
10244	31580	MWIL	01 04	1700	S22	E44	01	8.1	5		(B)					
10244		LEAR	01 05	0035	S23	E39	01	8.0			B	DAO	140	14	8	3
10244		VORO	01 05	0215	S22	E38	01	8.0				DAI	53	6	5	2
10244		SVTO	01 05	0840	S23	E34	01	8.0			B	DSO	170	11	7	3
10244		RAMY	01 05	1237	S22	E33	01	8.1			BG	DAO	140	10	8	2
10244		HOLL	01 05	1600	S22	E28	01	7.8			B	DKI	130	24	7	3

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time		Lat	CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
10244	31580	MWIL	01	05	1600	S22 E30	01 8.0	5	(B)					
10244		VORO	01	06	0020	S22 E26	01 8.0			CAI	145	12	6	3
10244		LEAR	01	06	0105	S23 E25	01 8.0		B	DAO	150	20	8	1
10244		SVTO	01	06	0835	S24 E20	01 7.9		B	CSO	40	9	9	3
10244		RAMY	01	06	1400	S23 E18	01 8.0		BG	DAO	80	14	8	2
10244		LEAR	01	07	0010	S23 E12	01 7.9		BG	DAO	120	16	8	2
10244		VORO	01	07	0040	S22 E10	01 7.8			DAI	87	16	4	3
10244		SVTO	01	07	0920	S23 E05	01 7.8		B	CSO	100	12	9	3
10244		RAMY	01	07	1300	S23 E04	01 7.8		BG	DAO	50	12	8	3
10244		HOLL	01	07	1652	S22 E03	01 7.9		B	DAI	80	18	9	4
10244	31580	MWIL	01	07	1700	S22 E02	01 7.9	5	(BP)					
10244		VORO	01	08	0024	S22 W02	01 7.9			CAI	78	18	10	3
10244		LEAR	01	08	0111	S23 W01	01 8.0		B	CAO	140	22	13	2
10244		RAMY	01	08	1233	S22 W11	01 7.7		B	DSO	40	11	4	4
10244		LEAR	01	09	0037	S22 W18	01 7.6		B	CSO	40	10	3	3
10244		VORO	01	09	0055	S22 W17	01 7.7			HRX	26	5		3
10244		TACH	01	09	0507	S23 W20	01 7.7			AR	3	3	2	2
10244		RAMY	01	09	1241	S22 W25	01 7.6		B	CSO	20	6	4	3
10244		HOLL	01	09	1612	S22 W27	01 7.6		B	CSO	10	3	3	2
10244		VORO	01	10	0022	S22 W31	01 7.6			AXX	15	2		3
10244		LEAR	01	10	0156	S22 W32	01 7.6		B	CSO	20	4	2	3
10244		SVTO	01	10	0725	S22 W36	01 7.5		B	BXO	10	2	3	3
10244		TACH	01	10	0729	S22 W36	01 7.5			AR	7	2	2	3
10244		RAMY	01	10	1450	S22 W39	01 7.6		B	DAO	30	2	3	2
10244		HOLL	01	10	1605	S22 W41	01 7.5		B	CSO		4	2	3
10244		LEAR	01	11	0032	S23 W43	01 7.7		A	HSX	20	2	1	4
10244		VORO	01	11	0158	S22 W43	01 7.8			HRX	23	1		2
10244		RAMY	01	11	1220	S22 W50	01 7.7		B	CAO	40	5	4	3
10244		HOLL	01	11	1610	S21 W52	01 7.7		B	DAO	10	4	2	4
10244		LEAR	01	12	0020	S22 W57	01 7.6		B	BXO	20	4	3	3
10244		HOLL	01	12	1625	S22 W68	01 7.4		A	AXX	20	2	2	3
10253		RAMY	01	10	1450	N11 W31	01 8.3		B	CSO	20	3	3	2
10253		HOLL	01	10	1605	N11 W32	01 8.3		B	CSO	10	4	3	3
10253		LEAR	01	11	0032	N09 W36	01 8.3		B	DAO	60	9	7	4
10253		VORO	01	11	0158	N10 W38	01 8.2			HAX	77	3	3	2
10253		RAMY	01	11	1220	N10 W41	01 8.4		B	DAO	70	11	10	3
10253		HOLL	01	11	1610	N09 W45	01 8.3		B	CAO	60	12	5	4
10253		LEAR	01	12	0020	N09 W49	01 8.3		B	DSO	30	6	9	3
10253		RAMY	01	12	1315	N09 W55	01 8.4		B	DSO	20	2	6	3
10253		HOLL	01	12	1625	N08 W58	01 8.3		B	DAO	40	4	7	3
10253		LEAR	01	13	0020	N09 W60	01 8.5		B	CRO	20	5	6	3
10249		RAMY	01	04	1212	S14 E63	01 9.3		A	AXX	10	1	1	3
10249		HOLL	01	04	1528	S13 E62	01 9.3		A	AXX	10	1	1	2
10249	31582	MWIL	01	04	1700	S15 E61	01 9.3	3	(B)					
10249		LEAR	01	05	0035	S15 E56	01 9.3		A	AXX	10	3	2	3
10249		LEAR	01	07	0010	S15 E31	01 9.3		A	AXX	10	2	1	2
10249		VORO	01	07	0040	S14 E30	01 9.3			AXX	7	5		3
10249		SVTO	01	07	0920	S16 E25	01 9.3		B	CRO	10	2	4	3
10249		RAMY	01	07	1300	S16 E23	01 9.3		B	CSO	20	12	4	3
10249		HOLL	01	07	1652	S16 E22	01 9.4		B	DSO	30	8	4	4
10249	31584	MWIL	01	07	1700	S15 E22	01 9.4	4	(B)					
10249		VORO	01	08	0024	S16 E18	01 9.4			CAI	64	11	4	3
10249		LEAR	01	08	0111	S16 E16	01 9.3		B	DAO	120	10	6	2
10249		RAMY	01	08	1233	S16 E11	01 9.3		B	DSO	30	10	6	4
10249		LEAR	01	09	0037	S15 E04	01 9.3		B	DSO	60	15	6	3
10249		VORO	01	09	0055	S15 E04	01 9.3			BXI	25	8	4	3
10249		TACH	01	09	0507	S16 E01	01 9.3			BRI	4	6	5	2
10249		RAMY	01	09	1241	S16 W02	01 9.4		B	DSO	30	13	6	3
10249		HOLL	01	09	1612	S15 W04	01 9.4		B	CAO	30	8	6	2
10249		VORO	01	10	0022	S15 W08	01 9.4			BXI	38	5	5	3
10249		LEAR	01	10	0156	S15 W09	01 9.4		B	DAO	40	11	7	3
10249		TACH	01	10	0729	S14 W13	01 9.3			BRI	5	6	4	3
10249		HOLL	01	11	1610	S15 W30	01 9.4		A	HSX	40	4	2	4
10249		LEAR	01	12	0020	S16 W35	01 9.3		B	DAO	60	3	4	3
10249		RAMY	01	12	1315	S15 W42	01 9.4		B	DRO	30	3	4	3
10249		HOLL	01	12	1625	S15 W43	01 9.4		B	DAO	30	4	5	3
10249		LEAR	01	13	0020	S15 W47	01 9.4		B	DAO	40	3	5	3

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JANUARY 2003

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
10249		RAMY	01 13 1232	S16	W58	01 9.1		A	HRX	10	1	1	3
10249		HOLL	01 13 1550	S12	W60	01 9.1		A	AXX		1	1	2
10249		VORO	01 14 0035	S15	W64	01 9.2			HRX	8	2		3
10249		LEAR	01 14 0035	S15	W64	01 9.2		A	HSX	20	1	1	2
10249		RAMY	01 14 1228	S15	W71	01 9.1		A	AXX		1	1	3
10249		LEAR	01 15 0823	S14	W77	01 9.5		A	AXX	30	2	1	3
10245		RAMY	01 03 1425	N12	E79	01 9.5		A	HSX	50	1	2	3
10245		HOLL	01 03 1536	N12	E78	01 9.5		A	HAX	90	1	2	4
10245		LEAR	01 04 0018	N11	E71	01 9.3		A	HAX	110	1	2	3
10245		VORO	01 04 0031	N12	E70	01 9.3			HAX	79	1		3
10245		TACH	01 04 0706	N13	E69	01 9.5			HSX	151	1	3	3
10245		SVTO	01 04 0743	N10	E68	01 9.4		A	HSX	100	1	2	3
10245		RAMY	01 04 1212	N12	E64	01 9.3		B	CAO	110	2	4	3
10245		HOLL	01 04 1528	N13	E64	01 9.5		B	CAO	100	4	3	2
10245	31581	MWIL	01 04 1700	N12	E62	01 9.4	4	(BP)					
10245		LEAR	01 05 0035	N11	E59	01 9.5		A	HAX	100	2	2	3
10245		VORO	01 05 0215	N12	E57	01 9.4			HAX	77	1		2
10245		SVTO	01 05 0840	N11	E55	01 9.5		A	HSX	70	4	3	3
10245		RAMY	01 05 1237	N12	E52	01 9.4		B	CSO	100	3	3	2
10245		HOLL	01 05 1600	N12	E50	01 9.4		A	HAX	60	3	2	3
10245	31581	MWIL	01 05 1600	N12	E50	01 9.4	5	(BP)					
10245		VORO	01 06 0020	N13	E45	01 9.4			HAX	57	6		3
10245		LEAR	01 06 0105	N11	E46	01 9.5		A	HSX	90	2	2	1
10245		SVTO	01 06 0835	N12	E42	01 9.5		A	HAX	10	1	1	3
10245		RAMY	01 06 1400	N12	E39	01 9.5		A	HAX	40	2	1	2
10245		LEAR	01 07 0010	N11	E34	01 9.6		B	CSO	50	3	3	2
10245		VORO	01 07 0040	N12	E33	01 9.5			CAI	46	8	2	3
10245		SVTO	01 07 0920	N12	E28	01 9.5		A	HAX	30	2	2	3
10245		RAMY	01 07 1300	N12	E26	01 9.5		A	HSX	20	4	1	3
10245		HOLL	01 07 1652	N12	E24	01 9.5		B	DSO	30	3	3	4
10245	31581	MWIL	01 07 1700	N13	E24	01 9.5	4	(BP)					
10245		VORO	01 08 0024	N12	E19	01 9.4			HAX	33	6		3
10245		LEAR	01 08 0111	N11	E19	01 9.5		A	HAX	40	4	2	2
10245		RAMY	01 08 1233	N11	E13	01 9.5		B	CSO	30	8	4	4
10245		LEAR	01 09 0037	N12	E07	01 9.5		B	CAO	40	7	3	3
10245		VORO	01 09 0055	N12	E07	01 9.6			HRX	28	3	2	3
10245		TACH	01 09 0507	N12	E04	01 9.5			AR	3	2	2	2
10245		RAMY	01 09 1241	N12	E01	01 9.6		B	DSO	30	4	3	3
10245		HOLL	01 09 1612	N12	W03	01 9.4		A	HAX	10	1	1	2
10245		LEAR	01 10 0156	N12	W08	01 9.5		B	CAO	10	3	2	3
10245B		VORO	01 06 0020	N13	E61	01 10.6			AXX	3	1		3
10245A		RAMY	01 13 1232	S20	W28	01 11.4		B	BXO	10	2	3	3
10245A		HOLL	01 13 1550	S19	W31	01 11.3		A	AXX		1	1	2
10245A		RAMY	01 14 1228	S21	W40	01 11.4		B	BXO	10	2	1	3
10247		RAMY	01 06 1400	S17	E78	01 12.5		A	HSX	20	1	1	2
10247		LEAR	01 07 0010	S18	E70	01 12.3		A	HAX	60	2	2	2
10247		VORO	01 07 0040	S17	E70	01 12.3			HAX	60	3		3
10247		SVTO	01 07 0920	S18	E65	01 12.3		B	CAO	60	4	8	3
10247		RAMY	01 07 1300	S18	E66	01 12.6		B	DAO	60	8	9	3
10247		HOLL	01 07 1652	S17	E65	01 12.6		B	CAO	80	4	7	4
10247	31585	MWIL	01 07 1700	S17	E63	01 12.5	4	(B)					
10247		VORO	01 08 0024	S17	E59	01 12.5			DAI	161	11	8	3
10247		LEAR	01 08 0111	S18	E59	01 12.5		B	DAO	270	8	9	2
10247		RAMY	01 08 1233	S18	E53	01 12.5		B	DAI	220	23	10	4
10247		LEAR	01 09 0037	S17	E46	01 12.5		B	DAI	420	39	10	3
10247		VORO	01 09 0055	S16	E45	01 12.4			DAI	342	23	9	3
10247		TACH	01 09 0507	S17	E42	01 12.4			DAI	137	21	6	2
10247		RAMY	01 09 1241	S18	E40	01 12.6		B	EAI	380	39	11	3
10247		HOLL	01 09 1612	S17	E36	01 12.4		B	DSI	170	26	9	2
10247		VORO	01 10 0022	S16	E32	01 12.4			DAI	428	26	8	3
10247		LEAR	01 10 0156	S17	E32	01 12.5		B	EAI	380	45	11	3
10247		SVTO	01 10 0725	S18	E29	01 12.5		BG	EAC	190	18	11	3
10247		TACH	01 10 0729	S16	E27	01 12.3			DAI	209	19	8	3
10247		RAMY	01 10 1450	S17	E24	01 12.4		BG	EAI	340	17	11	2
10247		HOLL	01 10 1605	S17	E23	01 12.4		B	EAI	300	47	11	3

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time		Lat CMD		CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
10247		LEAR	01	11	0032	S17 E19	01 12.5		BG	DAI	340	55	10	4
10247		VORO	01	11	0158	S17 E18	01 12.4			DAI	376	13	9	2
10247		RAMY	01	11	1220	S16 E12	01 12.4		B	EAI	260	32	11	3
10247		HOLL	01	11	1610	S18 E11	01 12.5		B	EAI	300	48	12	4
10247		LEAR	01	12	0020	S17 E06	01 12.5		B	EAI	290	40	11	3
10247		RAMY	01	12	1315	S16 W03	01 12.3		B	ESI	150	36	11	3
10247		HOLL	01	12	1625	S16 W03	01 12.4		B	EAI	240	56	11	3
10247		LEAR	01	13	0020	S16 W07	01 12.5		B	EAI	210	45	11	3
10247		RAMY	01	13	1232	S17 W16	01 12.3		B	ESI	80	35	11	3
10247		HOLL	01	13	1550	S15 W17	01 12.4		B	EAI	180	26	13	2
10247		LEAR	01	14	0035	S16 W21	01 12.4		B	DKI	190	27	10	2
10247		VORO	01	14	0035	S16 W22	01 12.3			EAI	211	45	9	3
10247		SVTO	01	14	0915	S17 W24	01 12.6		B	ESO	190	21	11	3
10247		RAMY	01	14	1228	S18 W28	01 12.4		B	DAO	120	17	10	3
10247		HOLL	01	14	1520	S15 W29	01 12.4		B	ESO	120	16	12	3
10247		VORO	01	15	0036	S16 W35	01 12.4			DRI	140	12	0	3
10247		SVTO	01	15	0728	S15 W39	01 12.3		B	CRO	20	5	11	3
10247		LEAR	01	15	0823	S16 W35	01 12.7		B	DAO	130	18	10	3
10247		RAMY	01	15	1221	S16 W41	01 12.4		B	DSO	60	12	10	3
10247		HOLL	01	15	1543	S15 W43	01 12.4		B	DSO	50	4	10	2
10247		LEAR	01	16	0121	S16 W53	01 12.0		B	CSO	40	2	3	2
10247		SVTO	01	16	0801	S17 W57	01 12.0		B	DSO	70	2	3	3
10247		RAMY	01	16	1210	S13 W58	01 12.1		B	CAO	40	3	4	3
10247		HOLL	01	16	1615	S14 W60	01 12.1		B	CSO	40	5	4	2
10247		VORO	01	17	0032	S16 W61	01 12.4			BRI	22	7	9	3
10247		LEAR	01	17	0545	S15 W68	01 12.1		B	CSO	20	2	4	2
10247		RAMY	01	17	1225	S12 W71	01 12.2		B	CSO	40	4	5	3
10247		HOLL	01	17	1610	S13 W69	01 12.5		B	BXO	10	2	3	3
10247		LEAR	01	18	0604	S17 W78	01 12.3		A	AXX	20	1	1	2
10247		RAMY	01	18	1232	S13 W83	01 12.2		B	CSO	40	4	9	4
10250		RAMY	01	07	1300	S27 E85	01 14.2		A	HSX	70	1	2	3
10250		HOLL	01	07	1652	S27 E82	01 14.1		A	HSX	120	2	2	4
10250	31586	MWIL	01	07	1700	S26 E83	01 14.1	4	(AP)					
10250		VORO	01	08	0024	S26 E77	01 14.0			HKX	255	1		3
10250		LEAR	01	08	0111	S27 E77	01 14.0		A	HAX	150	2	2	2
10250		RAMY	01	08	1233	S28 E72	01 14.1		B	CAO	210	3	5	4
10250		LEAR	01	09	0037	S27 E65	01 14.1		B	CAO	200	5	8	3
10250		VORO	01	09	0055	S26 E64	01 14.0			HKX	255	3		3
10250		TACH	01	09	0507	S28 E64	01 14.2			HA	181	2	5	2
10250		RAMY	01	09	1241	S27 E59	01 14.1		B	CAO	160	5	5	3
10250		HOLL	01	09	1612	S26 E55	01 13.9		B	CAO	110	3	7	2
10250		VORO	01	10	0022	S25 E49	01 13.8			HKX	241	8	5	3
10250		LEAR	01	10	0156	S26 E51	01 14.0		B	DAO	220	8	6	3
10250		SVTO	01	10	0725	S26 E48	01 14.0		B	CAO	160	5	7	3
10250		TACH	01	10	0729	S26 E44	01 13.7			CAI	159	7	5	3
10250		RAMY	01	10	1450	S26 E45	01 14.1		B	CAO	140	7	5	2
10250		HOLL	01	10	1605	S26 E45	01 14.2		B	CAO	150	8	5	3
10250		LEAR	01	11	0032	S27 E39	01 14.1		B	DKO	180	9	4	4
10250		VORO	01	11	0158	S26 E38	01 14.0			HKX	236	4		2
10250		RAMY	01	11	1220	S27 E32	01 14.0		B	CSO	180	5	4	3
10250		HOLL	01	11	1610	S27 E31	01 14.1		A	HKX	180	6	4	4
10250		LEAR	01	12	0020	S27 E25	01 14.0		B	CSO	200	12	6	3
10250		RAMY	01	12	1315	S27 E18	01 13.9		B	CKO	180	5	4	3
10250		HOLL	01	12	1625	S26 E18	01 14.1		B	CKO	150	10	6	3
10250		LEAR	01	13	0020	S26 E13	01 14.0		B	CAO	130	4	3	3
10250		RAMY	01	13	1232	S26 E06	01 14.0		B	CAO	160	3	3	3
10250		HOLL	01	13	1550	S27 E04	01 14.0		B	HHX	90	3	3	2
10250		VORO	01	14	0035	S26 E00	01 14.0			HKX	178	10		3
10250		LEAR	01	14	0035	S26 E00	01 14.0		B	CAO	190	7	4	2
10250		SVTO	01	14	0915	S27 W03	01 14.1		B	CAO	180	6	6	3
10250		RAMY	01	14	1228	S26 W07	01 14.0		B	CAO	150	10	6	3
10250		HOLL	01	14	1520	S26 W08	01 14.0		B	DSI	170	22	9	3
10250		VORO	01	15	0036	S26 W11	01 14.2			HHX	186	3		3
10250		SVTO	01	15	0728	S27 W17	01 14.0		A	HSX	110	2	3	3
10250		LEAR	01	15	0823	S27 W12	01 14.4		B	CAO	190	5	5	3
10250		RAMY	01	15	1221	S27 W19	01 14.0		B	CAO	170	6	5	3
10250		HOLL	01	15	1543	S27 W21	01 14.0		B	CAO	120	4	3	2
10250		LEAR	01	16	0121	S26 W24	01 14.2		B	CAO	160	5	5	2

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(Ordered by Central Meridian Passage Date)

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat	CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
10250		SVTO	01 16 0801	S28	W27	01 14.2		B	CSO	130	4	4	3
10250		RAMY	01 16 1210	S28	W31	01 14.1		B	CSO	120	3	4	3
10250		HOLL	01 16 1615	S26	W34	01 14.0		A	HHX	90	2	3	2
10250		VORO	01 17 0032	S27	W37	01 14.1			HHX	164	4		3
10250		LEAR	01 17 0545	S27	W40	01 14.1		A	HAX	120	3	2	2
10250		RAMY	01 17 1225	S26	W46	01 13.9		B	DAO	140	4	4	3
10250		HOLL	01 17 1610	S26	W45	01 14.2		B	CSO	110	6	8	3
10250		VORO	01 18 0134	S26	W50	01 14.2			HAX	138	5		3
10250		LEAR	01 18 0604	S29	W53	01 14.1		A	HAX	140	5	2	2
10250		SVTO	01 18 1108	S27	W57	01 14.0		A	HAX	100	1	2	3
10250		RAMY	01 18 1232	S26	W58	01 14.0		B	DAO	140	9	6	4
10250		HOLL	01 18 1645	S27	W60	01 14.0		B	DAI	180	6	4	3
10250		VORO	01 19 0025	S27	W63	01 14.1			HKX	161	11		3
10250		LEAR	01 19 0310	S27	W65	01 14.1		B	CAO	120	8	6	3
10250		RAMY	01 19 1220	S25	W71	01 14.0		B	DAO	120	7	5	4
10250		HOLL	01 19 1630	S26	W75	01 13.9		A	HAX	120	2	2	3
10250		VORO	01 20 0108	S26	W76	01 14.1			HAX	130	1		2
10250		LEAR	01 20 0147	S27	W77	01 14.1		A	HAX	110	1	2	3
10250		SVTO	01 20 0845	S26	W80	01 14.1		A	HSX	40	1	1	3
10250		RAMY	01 20 1225	S24	W86	01 13.9		A	HAX	60	1	1	3
10255	31587	MWIL	01 07 1700	S13	E84	01 14.0	4	(AP)					
10255		VORO	01 08 0024	S13	E82	01 14.2			HKX	424	4	8	3
10255		VORO	01 09 0055	S13	E69	01 14.2			DKI	479	6	8	3
10255		TACH	01 09 0507	S15	E67	01 14.3			DSO	376	2	7	2
10255		VORO	01 10 0022	S13	E58	01 14.4			DKI	481	11	6	3
10255		TACH	01 10 0729	S12	E51	01 14.1			DAO	445	6	8	3
10255		VORO	01 11 0158	S13	E41	01 14.2			DKO	570	5	7	2
10255		LEAR	01 13 0020	S13	E14	01 14.1		B	CHO	180	9	5	3
10255		RAMY	01 13 1232	S13	E06	01 14.0		B	CKO	220	9	4	3
10255		HOLL	01 13 1550	S15	E08	01 14.3		B	DHI	210	19	10	2
10255		LEAR	01 14 0035	S13	E01	01 14.1		B	CKO	300	13	5	2
10255		VORO	01 14 0035	S13	E03	01 14.2			DKI	348	20	8	3
10255		SVTO	01 14 0915	S13	W05	01 14.0		A	HAX	210	7	4	3
10255		RAMY	01 14 1228	S13	W07	01 14.0		A	HKX	220	7	4	3
10255		HOLL	01 14 1520	S12	W06	01 14.2		B	CSO	120	7	6	3
10255		VORO	01 15 0036	S13	W10	01 14.3			CKI	259	25	8	3
10255		SVTO	01 15 0728	S13	W15	01 14.2		B	CSO	140	11	8	3
10255		LEAR	01 15 0823	S13	W13	01 14.4		A	HKX	230	14	4	3
10255		RAMY	01 15 1221	S13	W19	01 14.1		B	DAO	120	9	5	3
10255		HOLL	01 15 1543	S13	W18	01 14.3		B	EAI	130	20	11	2
10255		LEAR	01 16 0121	S13	W25	01 14.2		B	CSO	210	15	3	2
10255		SVTO	01 16 0801	S14	W32	01 13.9		B	DSO	130	3	4	3
10255		RAMY	01 16 1210	S12	W34	01 13.9		B	DAO	160	7	7	3
10255		HOLL	01 16 1615	S13	W35	01 14.0		B	CSO	90	5	6	2
10255		VORO	01 17 0032	S13	W40	01 14.0			DHI	167	6		3
10255		LEAR	01 17 0545	S13	W43	01 14.0		B	DAO	130	3	3	2
10255		RAMY	01 17 1225	S12	W49	01 13.8		B	CAO	130	5	4	3
10255		HOLL	01 17 1610	S12	W46	01 14.2		B	CSO	140	10	9	3
10255		VORO	01 18 0134	S13	W54	01 14.0			HSX	137	4		3
10255		LEAR	01 18 0604	S15	W57	01 13.9		A	HAX	140	3	3	2
10255		SVTO	01 18 1108	S13	W61	01 13.9		A	HAX	80	1	2	3
10255		RAMY	01 18 1232	S12	W61	01 13.9		B	CAO	120	3	3	4
10255		HOLL	01 18 1645	S12	W62	01 14.0		A	HAX	120	1	2	3
10255		VORO	01 19 0025	S14	W67	01 13.9			HAX	131	2		3
10255		LEAR	01 19 0310	S13	W69	01 13.9		A	HSX	150	1	2	3
10255		RAMY	01 19 1220	S12	W76	01 13.8		A	HSX	120	1	3	4
10255		HOLL	01 19 1630	S13	W78	01 13.8		A	HAX	120	1	2	3
10255		VORO	01 20 0108	S14	W81	01 13.9			HAX	80	1		2
10255		LEAR	01 20 0147	S14	W80	01 14.0		A	HAX	120	1	2	3
10255		SVTO	01 20 0845	S14	W88	01 13.7		A	HSX	20	1	1	3
10252		RAMY	01 09 1241	S04	E68	01 14.6		A	HSX	20	1	1	3
10252		HOLL	01 09 1612	S03	E63	01 14.4		A	AXX		1		2
10252		LEAR	01 10 0156	S03	E59	01 14.5		B	CAO	20	2	3	3
10252		TACH	01 10 0729	S02	E53	01 14.3			AXX	4	1	1	3
10252		RAMY	01 10 1450	S03	E50	01 14.3		A	HSX	20	2	2	2
10252		HOLL	01 10 1605	S03	E49	01 14.3		B	BXO	10	2	1	3
10252		LEAR	01 11 0032	S03	E47	01 14.5		B	CAO	20	2	4	4

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(Ordered by Central Meridian Passage Date)

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time		Lat CMD		CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
10252		VORO	01 11	0158	S02 E43	01 14.3				AXX	11	1		2
10252		RAMY	01 11	1220	S03 E37	01 14.3			A	AXX	10	1	1	3
10252		HOLL	01 11	1610	S04 E36	01 14.4			A	HAX	20	5	3	4
10252		LEAR	01 12	0020	S03 E31	01 14.3			A	AXX	10	2	2	3
10251		RAMY	01 07	1300	S14 E86	01 14.0			A	HSX	60	1	2	3
10251		HOLL	01 07	1652	S14 E84	01 14.0			A	HAX	60	1	2	4
10251		LEAR	01 08	0111	S15 E78	01 13.9			A	HAX	180	3	4	2
10251		RAMY	01 08	1233	S14 E78	01 14.4			BG	DKI	330	11	10	4
10251		LEAR	01 09	0037	S13 E70	01 14.3			BG	DKI	430	15	10	3
10251		RAMY	01 09	1241	S14 E65	01 14.4			BG	EAO	300	14	13	3
10251		HOLL	01 09	1612	S13 E61	01 14.3			B	ESO	210	4	11	2
10251		LEAR	01 10	0156	S13 E56	01 14.3			B	EAO	360	15	12	3
10251		SVTO	01 10	0725	S13 E52	01 14.2			B	CAO	320	5	11	3
10251		RAMY	01 10	1450	S13 E48	01 14.2			BG	DKO	430	13	10	2
10251		HOLL	01 10	1605	S13 E48	01 14.3			B	FHO	290	16	16	3
10251		LEAR	01 11	0032	S14 E45	01 14.4			B	FKO	390	34	16	4
10251		RAMY	01 11	1220	S14 E36	01 14.2			BG	EKO	400	29	15	3
10251		HOLL	01 11	1610	S13 E37	01 14.5			B	EKI	360	37	15	4
10251		LEAR	01 12	0020	S15 E32	01 14.4			B	EKO	370	31	15	3
10251		RAMY	01 12	1315	S14 E22	01 14.2			BG	DKO	250	18	10	3
10251		HOLL	01 12	1625	S14 E22	01 14.3			B	FKI	320	33	16	3
10251		LEAR	01 13	0020	S13 E21	01 14.6			B	DAO	100	20	8	3
10251		RAMY	01 13	1232	S14 E15	01 14.6			B	CSO	60	12	9	3
10251		HOLL	01 13	1550	S18 E17	01 14.9			B	BXO	10	5	5	2
10251		LEAR	01 14	0035	S15 E09	01 14.7			B	DAO	90	23	9	2
10251		VORO	01 14	0035	S16 E11	01 14.8				HRX	4	2		3
10251		SVTO	01 14	0915	S14 E02	01 14.5			B	CSO	80	10	3	3
10251		RAMY	01 14	1228	S14 E01	01 14.6			B	DAO	50	18	9	3
10251		HOLL	01 14	1520	S14 E05	01 15.0			B	BXO	20	10	5	3
10251		SVTO	01 15	0728	S16 W06	01 14.8			B	BXO	10	3	3	3
10251		LEAR	01 15	0823	S14 W03	01 15.1			B	ERO	110	27	13	3
10251		RAMY	01 15	1221	S15 W10	01 14.7			B	CRO	30	17	10	3
10251		HOLL	01 15	1543	S15 W09	01 15.0			B	DAO	40	5	5	2
10251		LEAR	01 16	0121	S14 W18	01 14.7			B	ESO	60	13	12	2
10251		SVTO	01 16	0801	S17 W19	01 14.9			B	CSO	20	2	2	3
10251		RAMY	01 16	1210	S14 W21	01 14.9			B	DSO	40	11	7	3
10251		HOLL	01 16	1615	S16 W23	01 14.9			B	BXO	60	3	5	2
10251		LEAR	01 17	0545	S14 W34	01 14.7			B	BXO	20	11	8	2
10251		RAMY	01 17	1225	S17 W34	01 14.9			B	BXO	10	3	3	3
10251		HOLL	01 17	1610	S16 W35	01 15.0			A	AXX	110	1	1	3
10251		LEAR	01 18	0604	S13 W46	01 14.8			A	AXX	10	2	1	2
10251A		LEAR	01 10	0156	S12 E68	01 15.2			A	HSX	10	1	1	3
10257		RAMY	01 13	1232	N16 E28	01 15.6			B	BXO		3	3	3
10257		HOLL	01 13	1550	N15 E28	01 15.8			B	DSO	20	3	3	2
10257		VORO	01 14	0035	N15 E21	01 15.6				DRI	32	4	3	3
10257		LEAR	01 14	0035	N16 E21	01 15.6			B	DAO	20	5	4	2
10257		SVTO	01 14	0915	N17 E15	01 15.5			B	DSO	30	5	4	3
10257		RAMY	01 14	1228	N16 E15	01 15.6			B	CSO	20	9	5	3
10257		HOLL	01 14	1520	N16 E14	01 15.7			B	CSO	20	5	4	3
10257		VORO	01 15	0036	N15 E08	01 15.6				BRI	12	5	2	3
10257		LEAR	01 15	0823	N17 E08	01 15.9			B	BXO	20	4	8	3
10257		RAMY	01 15	1221	N16 E01	01 15.6			B	CSO	10	4	3	3
10257		HOLL	01 15	1543	N16 E01	01 15.7			B	CSO	20	2	4	2
10257		LEAR	01 16	0121	N14 W08	01 15.4			A	HSX	20	1	1	2
10257		RAMY	01 16	1210	N16 W13	01 15.5			A	AXX	10	1	1	3
10257		HOLL	01 16	1615	N15 W15	01 15.5			A	AXX		1	1	2
10257		VORO	01 17	0032	N14 W22	01 15.3				BXI	15	4	4	3
10257		LEAR	01 17	0545	N15 W27	01 15.2			A	HSX	10	1	1	2
10257		RAMY	01 17	1225	N17 W31	01 15.2			A	AXX	10	1	1	3
10257		HOLL	01 17	1610	N16 W31	01 15.3			B	BXO	10	3	4	3
10257		VORO	01 18	0134	N16 W36	01 15.3				BRI	25	6	3	3
10257		LEAR	01 18	0604	N14 W40	01 15.2			B	BXO	20	6	4	2
10257		RAMY	01 18	1232	N17 W44	01 15.2			B	CSO	20	5	6	4
10257		HOLL	01 18	1645	N16 W43	01 15.4			B	DAO	30	8	8	3
10257		VORO	01 19	0025	N15 W48	01 15.4				BXI	35	6	4	3
10257		LEAR	01 19	0310	N15 W51	01 15.3			B	DSO	30	4	6	3

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(Ordered by Central Meridian Passage Date)
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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time (UT)		Lat	CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
10257		RAMY	01	19	1220	N18 W57	01 15.2		B	DSO	30	5	6	4
10257		HOLL	01	19	1630	N16 W59	01 15.2		B	DAO	80	2	6	3
10257		VORO	01	20	0108	N15 W65	01 15.1			HAX	34	5		2
10257		LEAR	01	20	0147	N15 W63	01 15.3		B	CSO	80	6	8	3
10257		SVTO	01	20	0845	N15 W68	01 15.2		B	DSO	180	7	4	3
10257		RAMY	01	20	1225	N18 W71	01 15.1		B	DAO	120	2	5	3
10257		HOLL	01	20	1527	N16 W70	01 15.3		B	CAO	70	3	8	3
10257		LEAR	01	21	0003	N15 W77	01 15.2		B	DAO	80	2	2	2
10257		VORO	01	21	0044	N15 W77	01 15.2			BSO	43	4	3	3
10254		VORO	01	10	0022	S14 E83	01 16.3			HAX	69	1		3
10254		LEAR	01	10	0156	S15 E83	01 16.4		A	HSX	110	1	2	3
10254		SVTO	01	10	0725	S15 E81	01 16.4		A	HRX	30	1	2	3
10254		TACH	01	10	0729	S15 E82	01 16.5			HXX	33	1	2	3
10254		RAMY	01	10	1450	S16 E77	01 16.4		A	HAX	60	1	1	2
10254		HOLL	01	10	1605	S16 E75	01 16.3		A	HSX	60	1	1	3
10254		LEAR	01	11	0032	S16 E74	01 16.6		B	EAO	200	4	11	4
10254		VORO	01	11	0158	S15 E73	01 16.6			DAO	175	3	10	2
10254		RAMY	01	11	1220	S15 E68	01 16.7		B	DAO	220	14	10	3
10254		HOLL	01	11	1610	S17 E68	01 16.8		B	EAO	160	16	13	4
10254		LEAR	01	12	0020	S16 E57	01 16.3		B	CAO	150	8	6	3
10254		RAMY	01	12	1315	S16 E49	01 16.3		B	CAO	90	4	3	3
10254		HOLL	01	12	1625	S15 E48	01 16.3		B	CAO	140	5	5	3
10254		LEAR	01	13	0020	S14 E42	01 16.2		B	CAO	120	3	2	3
10254		RAMY	01	13	1232	S14 E35	01 16.2		A	HAX	100	2	2	3
10254		HOLL	01	13	1550	S16 E32	01 16.1		A	HSX	70	1	2	2
10254		VORO	01	14	0035	S14 E28	01 16.1			HHX	142	7		3
10254		LEAR	01	14	0035	S14 E29	01 16.2		A	HAX	160	2	2	2
10254		SVTO	01	14	0915	S13 E25	01 16.3		A	HSX	110	4	4	3
10254		RAMY	01	14	1228	S15 E22	01 16.2		B	CAO	90	4	4	3
10254		HOLL	01	14	1520	S14 E21	01 16.2		B	CSO	80	7	4	3
10254		VORO	01	15	0036	S13 E16	01 16.2			HHX	130	5		3
10254		SVTO	01	15	0728	S15 E11	01 16.1		A	HAX	80	2	2	3
10254		LEAR	01	15	0823	S15 E16	01 16.6		B	CSO	170	6	4	3
10254		RAMY	01	15	1221	S15 E09	01 16.2		B	CSO	150	4	4	3
10254		HOLL	01	15	1543	S15 E08	01 16.3		B	CAO	80	5	5	2
10254		LEAR	01	16	0121	S14 E02	01 16.2		A	HAX	100	2	2	2
10254		SVTO	01	16	0801	S14 W03	01 16.1		A	HSX	100	1	4	3
10254		RAMY	01	16	1210	S14 W05	01 16.1		A	HAX	100	1	2	3
10254		HOLL	01	16	1615	S13 W08	01 16.1		B	CSO	60	2	1	2
10254		VORO	01	17	0032	S14 W11	01 16.2			HHX	118	3		3
10254		LEAR	01	17	0545	S14 W14	01 16.2		A	HSX	120	2	2	2
10254		RAMY	01	17	1225	S14 W18	01 16.1		A	HSX	100	1	2	3
10254		HOLL	01	17	1610	S13 W19	01 16.2		A	HSX	100	1	2	3
10254		VORO	01	18	0134	S14 W24	01 16.2			HHX	125	4		3
10254		LEAR	01	18	0604	S15 W27	01 16.2		A	HAX	100	1	2	2
10254		SVTO	01	18	1108	S14 W31	01 16.1		A	HAX	60	1	3	3
10254		RAMY	01	18	1232	S13 W31	01 16.2		A	HSX	120	1	3	4
10254		HOLL	01	18	1645	S13 W33	01 16.2		A	HAX	70	2	2	3
10254		VORO	01	19	0025	S14 W37	01 16.2			HHX	140	3		3
10254		LEAR	01	19	0310	S14 W39	01 16.2		A	HSX	100	2	2	3
10254		RAMY	01	19	1220	S13 W45	01 16.1		A	HSX	90	1	2	4
10254		HOLL	01	19	1630	S13 W48	01 16.1		A	HKX	80	2	3	3
10254		VORO	01	20	0108	S14 W51	01 16.2			HSX	101	2		2
10254		LEAR	01	20	0147	S14 W52	01 16.1		A	HSX	100	1	2	3
10254		SVTO	01	20	0845	S13 W56	01 16.1		A	HSX	100	1	2	3
10254		RAMY	01	20	1225	S11 W59	01 16.1		A	HSX	70	1	2	3
10254		HOLL	01	20	1527	S12 W59	01 16.2		A	HSX	100	1	1	3
10254		LEAR	01	21	0003	S13 W63	01 16.2		A	HSX	100	1	2	2
10254		VORO	01	21	0044	S13 W64	01 16.2			HAX	94	2		3
10254		SVTO	01	21	0826	S13 W68	01 16.2		A	HSX	80	1	2	2
10254		RAMY	01	21	1235	S11 W73	01 16.0		A	HSX	120	1	2	3
10254		HOLL	01	21	1557	S12 W73	01 16.2		A	HSX	56	1	2	3
10254		VORO	01	22	0012	S13 W77	01 16.2			HAX	109	1		3
10254		LEAR	01	22	0220	S13 W76	01 16.4		A	HSX	110	1	2	2
10254		SVTO	01	22	0740	S12 W86	01 15.8		A	HSX	60	1	5	3
10254		RAMY	01	22	1306	S11 W87	01 16.0		A	HSX	60	1	3	3
10254		HOLL	01	22	1602	S11 W88	01 16.0		A	HSX	30	1	1	3
10262		VORO	01	19	0025	S05 W32	01 16.6			BRI	15	6	2	3

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(Ordered by Central Meridian Passage Date)

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time		Lat	CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
10262		LEAR	01	19	0310	S05 W34	01 16.6		B	DRO	20	3	4	3
10262		RAMY	01	19	1220	S04 W39	01 16.6		B	DSO	30	3	4	4
10262		HOLL	01	19	1630	S05 W42	01 16.5		B	DSO	50	2	4	3
10262		VORO	01	20	0108	S05 W47	01 16.5			BXO	9	3	4	2
10262		LEAR	01	20	0147	S05 W47	01 16.5		B	CAO	30	3	5	3
10262		RAMY	01	20	1225	S02 W58	01 16.2		A	AXX	10	1	1	3
10262		HOLL	01	20	1527	S03 W58	01 16.3		A	AXX		1		3
10262		RAMY	01	21	1235	S02 W69	01 16.4		A	AXX	10	1	1	3
10262		HOLL	01	21	1557	S02 W70	01 16.4		A	AXX		1		3
10261		HOLL	01	18	1645	N23 W26	01 16.7		B	CSO	10	2	8	3
10261		VORO	01	19	0025	N25 W32	01 16.5			AXX	5	3		3
10261		LEAR	01	19	0310	N25 W34	01 16.5		A	AXX		1		3
10261		RAMY	01	19	1220	N27 W41	01 16.3		B	CRO	20	4	4	4
10261		HOLL	01	19	1630	N25 W45	01 16.2		B	CSO	70	3	3	3
10261		VORO	01	20	0108	N24 W49	01 16.3			AXX	19	5		2
10261		LEAR	01	20	0147	N24 W48	01 16.4		B	CSO	50	5	5	3
10261		SVTO	01	20	0845	N26 W52	01 16.3		B	CRO	50	5	4	3
10261		RAMY	01	20	1225	N28 W54	01 16.3		B	CSO	30	3	4	3
10261		HOLL	01	20	1527	N24 W55	01 16.4		B	BXO	10	3	6	3
10261		LEAR	01	21	0003	N24 W59	01 16.4		B	DAO	40	3	4	2
10261		VORO	01	21	0044	N25 W60	01 16.4			BSO	21	2	2	3
10256		LEAR	01	12	0020	S17 E67	01 17.1		B	CSO	90	3	3	3
10256		RAMY	01	12	1315	S17 E60	01 17.1		B	CAO	70	7	3	3
10256		HOLL	01	12	1625	S17 E59	01 17.2		A	HAX	70	5	3	3
10256		LEAR	01	13	0020	S17 E54	01 17.1		B	CAO	90	6	3	3
10256		RAMY	01	13	1232	S16 E47	01 17.1		A	HSX	60	1	2	3
10256		HOLL	01	13	1550	S18 E45	01 17.1		A	HSX	60	1	2	2
10256		VORO	01	14	0035	S16 E40	01 17.0			HAX	93	3		3
10256		LEAR	01	14	0035	S17 E38	01 16.9		B	CSO	80	3	7	2
10256		SVTO	01	14	0915	S15 E38	01 17.3		A	HSX	50	1	2	3
10256		RAMY	01	14	1228	S16 E34	01 17.1		B	CSO	50	2	3	3
10256		HOLL	01	14	1520	S16 E32	01 17.1		A	HSX	70	1	2	3
10256		VORO	01	15	0036	S15 E28	01 17.1			HSX	55	2		3
10256		SVTO	01	15	0728	S18 E23	01 17.1		A	AXX	10	1	1	3
10256		LEAR	01	15	0823	S17 E28	01 17.5		A	HSX	60	1	2	3
10256		RAMY	01	15	1221	S16 E21	01 17.1		B	CSO	70	3	3	3
10256		HOLL	01	15	1543	S17 E20	01 17.2		A	HAX	60	1	2	2
10256		LEAR	01	16	0121	S16 E15	01 17.2		A	HAX	40	3	3	2
10256		SVTO	01	16	0801	S16 E12	01 17.2		B	DSO	40	2	2	3
10256		RAMY	01	16	1210	S16 E09	01 17.2		B	DAO	40	5	3	3
10256		HOLL	01	16	1615	S16 E07	01 17.2		A	HAX	30	1	1	2
10256		VORO	01	17	0032	S15 E02	01 17.2			HAX	34	5		3
10256		LEAR	01	17	0545	S16 W01	01 17.2		B	DAO	40	5	5	2
10256		RAMY	01	17	1225	S16 W07	01 17.0		B	CAO	50	6	5	3
10256		HOLL	01	17	1610	S16 W07	01 17.1		B	CAO	40	4	4	3
10256		VORO	01	18	0134	S15 W11	01 17.2			HRX	14	3		3
10256		LEAR	01	18	0604	S18 W18	01 16.9		B	CSO	40	11	10	2
10256		SVTO	01	18	1108	S16 W17	01 17.2		A	AXX	10	2	2	3
10256		RAMY	01	18	1232	S15 W19	01 17.1		B	CSO	20	3	3	4
10256		HOLL	01	18	1645	S15 W23	01 16.9		B	CSO	20	6	5	3
10256		VORO	01	19	0025	S15 W23	01 17.3			AXX	2	1		3
10256		LEAR	01	19	0310	S16 W27	01 17.1		B	CRO	10	3	4	3
10256		RAMY	01	19	1220	S14 W32	01 17.1		B	CRO	10	3	3	4
10256A		RAMY	01	19	1220	S23 W26	01 17.5		A	AXX		4	3	4
10256A		LEAR	01	20	0147	S26 W32	01 17.6		B	BXO	10	4	3	3
10256B		RAMY	01	18	1232	S11 W09	01 17.8		A	AXX		4	2	4
10256B		HOLL	01	18	1645	S12 W08	01 18.1		B	BXO	20	9	4	3
10258		RAMY	01	13	1232	N07 E78	01 19.4		B	BXO	10	3	3	3
10258		VORO	01	14	0035	N07 E68	01 19.1			ARX	59	8		3
10258		LEAR	01	14	0035	N07 E68	01 19.1		A	HRX	50	4	3	2
10258		SVTO	01	14	0915	N09 E63	01 19.1		B	CRO	70	6	3	3
10258		RAMY	01	14	1228	N07 E62	01 19.2		B	CAO	40	4	3	3
10258		HOLL	01	14	1520	N05 E59	01 19.0		A	HAX	40	1	1	3
10258		VORO	01	15	0036	N07 E53	01 19.0			HAX	63	9		3

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time		Lat	CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
10258		SVTO	01	15	0728	N06 E49	01 19.0		A	HSX	30	1	1	3
10258		LEAR	01	15	0823	N07 E48	01 18.9		B	CAO	100	5	8	3
10258		RAMY	01	15	1221	N08 E51	01 19.3		B	CSO	60	4	9	3
10258		HOLL	01	15	1543	N06 E45	01 19.0		A	HAX	50	1	2	2
10258		LEAR	01	16	0121	N08 E38	01 18.9		A	HAX	60	2	2	2
10258		SVTO	01	16	0801	N07 E36	01 19.0		A	HSX	50	2	2	3
10258		RAMY	01	16	1210	N08 E34	01 19.0		B	CSO	110	5	6	3
10258		HOLL	01	16	1615	N07 E31	01 19.0		A	HSX	70	1	1	2
10258		VORO	01	17	0032	N08 E25	01 18.9			HAX	70	1		3
10258		LEAR	01	17	0545	N07 E22	01 18.9		A	HSX	70	1	2	2
10258		RAMY	01	17	1225	N07 E18	01 18.9		A	HSX	80	1	2	3
10258		HOLL	01	17	1610	N07 E17	01 18.9		A	HSX	60	1	2	3
10258		VORO	01	18	0134	N07 E11	01 18.9			HSX	88	3		3
10258		LEAR	01	18	0604	N08 E08	01 18.8		A	HAX	60	1	2	2
10258		SVTO	01	18	1108	N07 E06	01 18.9		A	HAX	40	1	2	3
10258		RAMY	01	18	1232	N07 E05	01 18.9		A	HAX	90	1	2	4
10258		HOLL	01	18	1645	N07 E03	01 18.9		A	HAX	100	3	2	3
10258		VORO	01	19	0025	N07 W01	01 18.9			HSX	85	2		3
10258		LEAR	01	19	0310	N07 W03	01 18.9		A	HSX	90	2	2	3
10258		RAMY	01	19	1220	N08 W09	01 18.8		A	HSX	100	2	2	4
10258		HOLL	01	19	1630	N08 W10	01 18.9		A	HAX	100	2	2	3
10258		VORO	01	20	0108	N07 W15	01 18.9			HSX	85	2		2
10258		LEAR	01	20	0147	N07 W15	01 18.9		A	HAX	80	1	2	3
10258		SVTO	01	20	0845	N08 W19	01 18.9		A	HSX	60	2	2	3
10258		RAMY	01	20	1225	N08 W22	01 18.9		A	HSX	60	2	2	3
10258		HOLL	01	20	1527	N07 W23	01 18.9		A	HSX	60	1	2	3
10258		LEAR	01	21	0003	N08 W28	01 18.9		A	HSX	60	1	2	2
10258		VORO	01	21	0044	N07 W28	01 18.9			HAX	66	1		3
10258		SVTO	01	21	0826	N07 W33	01 18.9		A	HSX	40	1	2	2
10258		RAMY	01	21	1235	N09 W35	01 18.9		A	HAX	50	1	1	3
10258		HOLL	01	21	1557	N08 W37	01 18.9		A	HSX	48	1	1	3
10258		VORO	01	22	0012	N07 W41	01 18.9			HAX	78	1		3
10258		LEAR	01	22	0220	N07 W42	01 18.9		A	HSX	60	1	1	2
10258		SVTO	01	22	0740	N07 W46	01 18.9		A	HSX	60	1	1	3
10258		RAMY	01	22	1306	N09 W49	01 18.9		A	HSX	60	1	1	3
10258		HOLL	01	22	1602	N08 W50	01 18.9		A	HSX	60	1	1	3
10258		VORO	01	23	0005	N06 W54	01 19.0			HAX	72	1		3
10258		LEAR	01	23	0055	N08 W55	01 18.9		A	HSX	80	1	2	2
10258		SVTO	01	23	0845	N07 W61	01 18.8		A	HSX	40	1	1	3
10258		RAMY	01	23	1221	N09 W61	01 18.9		A	HSX	40	1	2	3
10258		HOLL	01	23	1528	N08 W64	01 18.8		A	HSX	40	1	1	3
10258		VORO	01	24	0019	N07 W68	01 18.9			HAX	65	1		3
10258		LEAR	01	24	0020	N08 W68	01 18.9		A	HSX	70	1	1	2
10258		RAMY	01	24	1230	N08 W78	01 18.7		A	HSX	60	1	1	3
10258		HOLL	01	24	1647	N08 W79	01 18.8		A	HAX	60	1	1	3
10258		VORO	01	25	0028	N07 W81	01 18.9			HAX	52	1		3
10258		LEAR	01	25	0120	N08 W81	01 19.0		A	HAX	30	1	1	1
10263		VORO	01	19	0025	S13 E02	01 19.2			AXX	4	1		3
10263		LEAR	01	19	0310	S13 E00	01 19.1		A	AXX		2	1	3
10263		RAMY	01	19	1220	S13 W06	01 19.1		B	CRO	10	7	4	4
10263		HOLL	01	19	1630	S12 W07	01 19.2		A	AXX	10	3	2	3
10263		LEAR	01	20	0147	S13 W14	01 19.0		B	CRO	10	3	3	3
10263		SVTO	01	21	0826	S13 W35	01 18.7		B	CSO	40	3	2	2
10263		RAMY	01	21	1235	S12 W38	01 18.7		B	CAO	50	5	4	3
10263		HOLL	01	21	1557	S12 W40	01 18.6		B	CAO	300	5	2	3
10263		VORO	01	22	0012	S13 W44	01 18.7			CAI	51	6	0	3
10263		LEAR	01	22	0220	S13 W42	01 18.9		B	CAO	90	11	7	2
10263		SVTO	01	22	0740	S12 W47	01 18.8		B	DSO	70	5	4	3
10263		RAMY	01	22	1306	S11 W49	01 18.8		B	DSO	40	9	8	3
10263		HOLL	01	22	1602	S11 W50	01 18.9		B	DAO	50	9	6	3
10263		VORO	01	23	0005	S13 W54	01 18.9			CAI	111	9	7	3
10263		LEAR	01	23	0055	S12 W55	01 18.9		B	DAO	220	15	7	2
10263		SVTO	01	23	0845	S12 W62	01 18.7		B	DAO	120	3	7	3
10263		RAMY	01	23	1221	S10 W62	01 18.8		B	DAO	180	10	6	3
10263		HOLL	01	23	1528	S11 W64	01 18.8		B	CSO	110	14	5	3
10263		VORO	01	24	0019	S11 W69	01 18.8			HKX	471	10		3
10263		LEAR	01	24	0020	S11 W68	01 18.9		B	DKO	320	11	4	2
10263		RAMY	01	24	1230	S11 W76	01 18.8		B	DAO	180	7	4	3

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
10263		HOLL	01 24 1647	S10 W80	01 18.7		B	DAO	180	6	5	3
10263		VORO	01 25 0028	S12 W82	01 18.8			HKX	275	10	1	3
10263		LEAR	01 25 0120	S11 W81	01 19.0		B	DAO	120	4	4	1
10259		SVTO	01 14 0915	N15 E81	01 20.5		A	HSX	60	2	2	3
10259		RAMY	01 14 1228	N11 E76	01 20.2		B	CSO	20	4	3	3
10259		HOLL	01 14 1520	N11 E75	01 20.3		A	HAX	30	1	2	3
10259		VORO	01 15 0036	N12 E69	01 20.2			DRI	60	6	1	3
10259		SVTO	01 15 0728	N11 E65	01 20.2		A	AXX		1		3
10259		LEAR	01 15 0823	N11 E69	01 20.5		A	HAX	80	4	3	3
10259		RAMY	01 15 1221	N11 E62	01 20.2		B	CSO	20	4	4	3
10259		HOLL	01 15 1543	N11 E62	01 20.3		B	CSO	40	2	2	2
10259		LEAR	01 16 0121	N11 E54	01 20.1		A	HAX	40	2	1	2
10259		SVTO	01 16 0801	N12 E52	01 20.2		B	CRO	20	2	1	3
10259		RAMY	01 16 1210	N09 E45	01 19.9		B	DSO	50	12	10	3
10259		HOLL	01 16 1615	N09 E44	01 20.0		B	ESO	50	6	11	2
10259		VORO	01 17 0032	N11 E37	01 19.8			BRI	56	11	9	3
10259		LEAR	01 17 0545	N10 E36	01 19.9		B	EAO	50	17	11	2
10259		RAMY	01 17 1225	N09 E31	01 19.8		B	DAI	80	17	10	3
10259		HOLL	01 17 1610	N09 E30	01 19.9		B	EAO	50	16	11	3
10259		VORO	01 18 0134	N10 E23	01 19.8			DAI	70	17	6	3
10259		LEAR	01 18 0604	N11 E21	01 19.8		B	DAO	110	19	10	2
10259		SVTO	01 18 1108	N11 E18	01 19.8		B	CRX	20	5	8	3
10259		RAMY	01 18 1232	N10 E18	01 19.9		B	DAO	80	15	10	4
10259		HOLL	01 18 1645	N09 E16	01 19.9		B	EAI	80	17	12	3
10259		VORO	01 19 0025	N10 E11	01 19.8			DRI	49	17	7	3
10259		LEAR	01 19 0310	N10 E10	01 19.9		B	EAO	70	23	11	3
10259		RAMY	01 19 1220	N10 E04	01 19.8		B	DSO	40	18	9	4
10259		HOLL	01 19 1630	N10 E01	01 19.8		B	EAO	80	17	11	3
10259		VORO	01 20 0108	N11 W03	01 19.8			CAO	56	5	8	2
10259		LEAR	01 20 0147	N10 W03	01 19.8		B	DAO	70	17	10	3
10259		SVTO	01 20 0845	N11 W07	01 19.8		B	DSO	80	7	9	3
10259		RAMY	01 20 1225	N12 W09	01 19.8		B	CAO	30	6	10	3
10259		HOLL	01 20 1527	N09 W11	01 19.8		B	ESO	30	10	12	3
10259		LEAR	01 21 0003	N11 W16	01 19.8		B	EAO	40	8	11	2
10259		VORO	01 21 0044	N10 W16	01 19.8			BRO	7	2	9	3
10259		SVTO	01 21 0826	N12 W16	01 20.1		A	AXX	10	2	1	2
10259		RAMY	01 21 1235	N14 W19	01 20.1		B	CRO	20	2	4	3
10259		HOLL	01 21 1557	N12 W20	01 20.1		B	CAO	22	5	4	3
10259		VORO	01 22 0012	N12 W25	01 20.1			AXX	3	1		3
10259		LEAR	01 22 0220	N11 W26	01 20.1		B	BXO	10	3	2	2
10259		SVTO	01 22 0740	N12 W29	01 20.1		A	AXX	10	2	1	3
10259		RAMY	01 22 1306	N13 W33	01 20.0		B	BXO	10	3	2	3
10259A		SVTO	01 20 0845	S19 E06	01 20.8		A	AXX		1		3
10259A		RAMY	01 20 1225	S20 E04	01 20.8		B	CSO	10	2	3	3
10259A		HOLL	01 20 1527	S19 E02	01 20.8		A	AXX		1		3
10260		RAMY	01 15 1221	N14 E82	01 21.7		A	HSX	30	1	4	3
10260		HOLL	01 15 1543	N13 E82	01 21.8		A	HSX	120	1	2	2
10260		LEAR	01 16 0121	N14 E75	01 21.7		A	HAX	80	1	1	2
10260		SVTO	01 16 0801	N15 E75	01 22.0		A	HSX	60	1	3	3
10260		RAMY	01 16 1210	N15 E71	01 21.9		A	HAX	60	2	2	3
10260		HOLL	01 16 1615	N13 E70	01 21.9		A	HSX	90	1	2	2
10260		VORO	01 17 0032	N15 E64	01 21.9			HAX	82	3		3
10260		LEAR	01 17 0545	N14 E62	01 21.9		B	CAO	50	3	5	2
10260		RAMY	01 17 1225	N14 E60	01 22.0		B	DAO	90	4	3	3
10260		HOLL	01 17 1610	N13 E57	01 22.0		B	CSO	50	2	2	3
10260		VORO	01 18 0134	N14 E51	01 21.9			HAX	38	5		3
10260		LEAR	01 18 0604	N16 E49	01 22.0		A	HAX	60	5	3	2
10260		SVTO	01 18 1108	N15 E46	01 21.9		A	AXX		1		3
10260		RAMY	01 18 1232	N14 E46	01 22.0		B	DAO	40	4	3	4
10260		HOLL	01 18 1645	N13 E44	01 22.0		A	HAX	40	3	2	3
10260		VORO	01 19 0025	N15 E38	01 21.9			HAX	44	6		3
10260		LEAR	01 19 0310	N15 E37	01 21.9		B	CAO	50	6	3	3
10260		RAMY	01 19 1220	N14 E33	01 22.0		B	CSO	40	12	4	4
10260		HOLL	01 19 1630	N14 E29	01 21.9		B	DAO	70	12	3	3
10260		VORO	01 20 0108	N14 E24	01 21.9			HAX	43	4		2
10260		LEAR	01 20 0147	N15 E23	01 21.8		B	DAO	90	9	4	3

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
10260		SVTO	01 20 0845	N15 E19	01 21.8		B	CSO	70	9	5	3
10260		RAMY	01 20 1225	N15 E17	01 21.8		B	DAI	50	10	5	3
10260		HOLL	01 20 1527	N14 E16	01 21.8		B	DAI	50	11	5	3
10260		LEAR	01 21 0003	N14 E11	01 21.8		B	DAI	90	17	5	2
10260		VORO	01 21 0044	N15 E11	01 21.9			CAO	56	12	2	3
10260		SVTO	01 21 0826	N15 E07	01 21.9		B	DSO	60	5	4	2
10260		RAMY	01 21 1235	N16 E05	01 21.9		B	DAO	70	8	7	3
10260		HOLL	01 21 1557	N14 E03	01 21.9		B	CSO	20	11	4	3
10260		VORO	01 22 0012	N16 W02	01 21.8			BRO	31	7	1	3
10260		LEAR	01 22 0220	N15 W03	01 21.9		B	DAO	80	16	5	2
10260		SVTO	01 22 0740	N15 W05	01 21.9		B	DSO	40	7	4	3
10260		RAMY	01 22 1306	N16 W08	01 21.9		B	DSO	40	11	6	3
10260		HOLL	01 22 1602	N13 W10	01 21.9		B	BXO	20	15	5	3
10260		VORO	01 23 0005	N15 W15	01 21.9			BXI	16	7	1	3
10260		LEAR	01 23 0055	N16 W13	01 22.0		B	DRO	40	11	4	2
10260		RAMY	01 23 1221	N16 W21	01 21.9		B	BXO	10	4	2	3
10260		HOLL	01 23 1528	N15 W23	01 21.9		B	BXO		3	2	3
10260		VORO	01 24 0019	N15 W28	01 21.9			AXX	3	1		3
10260		LEAR	01 24 0020	N16 W28	01 21.9		B	BXO	20	6	3	2
10260		RAMY	01 24 1230	N17 W34	01 21.9		A	AXX	10	1	1	3
10260		HOLL	01 24 1647	N16 W36	01 22.0		A	AXX		1		3
10260		LEAR	01 25 0120	N15 W42	01 21.9		A	AXX		1		1
10260		LEAR	01 26 0145	N15 W55	01 21.9		A	AXX		1		2
10260A		RAMY	01 20 1225	N04 E36	01 23.2		B	BXO	10	2	3	3
10260A		HOLL	01 20 1527	N03 E35	01 23.2		A	AXX		1		3
10268		RAMY	01 21 1235	N13 E29	01 23.7		B	CAO	20	2	3	3
10268		HOLL	01 21 1557	N12 E26	01 23.6		B	CSO	110	3	3	3
10268		VORO	01 22 0012	N14 E21	01 23.6			BRO	27	4	2	3
10268		LEAR	01 22 0220	N13 E21	01 23.7		B	CAO	50	8	3	2
10268		SVTO	01 22 0740	N12 E18	01 23.7		B	BXO	20	4	4	3
10268		RAMY	01 22 1306	N12 E16	01 23.7		B	DAO	40	9	4	3
10268		HOLL	01 22 1602	N12 E14	01 23.7		B	CAO	30	14	4	3
10268		VORO	01 23 0005	N13 E09	01 23.7			HAX	71	10	2	3
10268		LEAR	01 23 0055	N13 E09	01 23.7		A	HAX	90	9	3	2
10268		SVTO	01 23 0845	N14 E05	01 23.7		B	CAO	100	4	5	3
10268		RAMY	01 23 1221	N12 E03	01 23.7		B	CAO	70	9	3	3
10268		HOLL	01 23 1528	N13 E01	01 23.7		B	DAO	60	10	3	3
10268		VORO	01 24 0019	N13 W04	01 23.7			HAX	129	8	1	3
10268		LEAR	01 24 0020	N13 W04	01 23.7		B	CAO	140	7	3	2
10268		RAMY	01 24 1230	N15 W12	01 23.6		BD	DKO	100	5	3	3
10268		HOLL	01 24 1647	N13 W12	01 23.8		B	DAO	100	7	3	3
10268		VORO	01 25 0028	N13 W18	01 23.7			HKX	167	9		3
10268		LEAR	01 25 0120	N14 W18	01 23.7		BD	DAO	190	6	4	1
10268		HOLL	01 25 1843	N14 W27	01 23.7		B	DAO	100	7	5	2
10268		VORO	01 26 0052	N13 W31	01 23.7			HAX	109	7	3	3
10268		LEAR	01 26 0145	N14 W31	01 23.7		B	DAO	140	5	5	2
10268		TACH	01 26 0509	N14 W33	01 23.7			DAO	192	4	3	4
10268		SVTO	01 26 0745	N15 W35	01 23.7		B	DSO	100	3	4	3
10268		HOLL	01 26 1529	N14 W37	01 23.8		B	DAO	80	8	5	3
10268		RAMY	01 26 1816	N16 W39	01 23.8		B	DAO	100	10	5	1
10268		LEAR	01 27 0143	N14 W45	01 23.7		B	CAO	80	6	5	1
10268		RAMY	01 27 1205	N16 W51	01 23.6		B	DAO	50	7	5	3
10268		SVTO	01 27 1503	N15 W54	01 23.5		B	CAO	20	2	3	2
10268		HOLL	01 27 1550	N16 W51	01 23.8		B	CAI	80	6	3	3
10268		LEAR	01 28 0200	N14 W58	01 23.7		B	CAO	60	4	3	2
10268		TACH	01 28 0737	N14 W62	01 23.6			AXX	24	1	1	2
10268		SVTO	01 28 0750	N12 W65	01 23.4		A	HRX	10	3	2	3
10268		RAMY	01 28 1225	N18 W64	01 23.6		B	CSO	50	4	3	2
10268		HOLL	01 28 1550	N20 W69	01 23.4		B	BXO	10	2	2	2
10268		LEAR	01 29 0115	N15 W72	01 23.6		B	CSO	30	3	5	4
10270		HOLL	01 26 1529	S04 W32	01 24.2		B	DSO	40	3	4	3
10270		RAMY	01 26 1816	S03 W33	01 24.3		B	DSO	20	3	4	1
10270		LEAR	01 27 0143	S05 W38	01 24.2		B	CAO	40	3	3	1
10270		RAMY	01 27 1205	S03 W45	01 24.1		B	CSO	20	6	4	3
10270		SVTO	01 27 1503	S04 W47	01 24.1		B	BXO	10	2	4	2
10270		HOLL	01 27 1550	S03 W46	01 24.2		B	DSO	30	2	3	3

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time		Lat	CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
10270		LEAR	01	28	0200	S05 W51	01 24.3		B	DSO	50	2	4	2
10270		TACH	01	28	0737	S05 W56	01 24.1			AR	10	2	2	2
10270		SVTO	01	28	0750	S07 W58	01 24.0		A	HRX	10	2	3	3
10270		RAMY	01	28	1225	S02 W58	01 24.2		B	CAO	40	2	3	2
10270		HOLL	01	28	1550	N02 W61	01 24.1		A	AXX	10	1	1	2
10270		LEAR	01	29	0115	S04 W67	01 24.0		A	HSX	20	1	1	4
10270		RAMY	01	29	1220	S01 W77	01 23.8		A	HAX	30	1	1	3
10270		RAMY	01	30	1236	S05 W85	01 24.2		A	HSX	30	1	1	1
10270A		VORO	01	25	0028	N12 W10	01 24.3			AXX	1	1		3
10266		HOLL	01	19	1630	S23 E74	01 25.4		A	AXX	10	1	1	3
10266		VORO	01	20	0108	S22 E68	01 25.3			AXX	5	1		2
10266		LEAR	01	20	0147	S23 E68	01 25.3		A	AXX	20	2	1	3
10266		SVTO	01	20	0845	S23 E64	01 25.3		A	HRX	20	1	1	3
10266		RAMY	01	20	1225	S23 E61	01 25.2		B	DAO	30	3	3	3
10266		HOLL	01	20	1527	S23 E59	01 25.2		B	CSO	50	7	3	3
10266		LEAR	01	21	0003	S22 E56	01 25.3		B	DAO	150	11	5	2
10266		VORO	01	21	0044	S21 E55	01 25.2			DAI	122	11	4	3
10266		SVTO	01	21	0826	S22 E51	01 25.3		B	DAO	60	4	6	2
10266		RAMY	01	21	1235	S24 E49	01 25.3		B	DAO	100	10	7	3
10266		HOLL	01	21	1557	S22 E46	01 25.2		B	DSO	68	11	7	3
10266		VORO	01	22	0012	S21 E42	01 25.2			DAI	86	5	7	3
10266		LEAR	01	22	0220	S22 E40	01 25.2		B	DAO	160	15	10	2
10266		SVTO	01	22	0740	S23 E38	01 25.2		B	DSO	70	6	8	3
10266		RAMY	01	22	1306	S23 E34	01 25.2		B	EAO	80	20	12	3
10266		HOLL	01	22	1602	S22 E31	01 25.0		B	ESO	30	21	12	3
10266		VORO	01	23	0005	S22 E27	01 25.1			DAI	90	9	9	3
10266		LEAR	01	23	0055	S22 E27	01 25.1		B	DAO	170	16	10	2
10266		SVTO	01	23	0845	S22 E18	01 24.7		B	DSO	70	8	6	3
10266		RAMY	01	23	1221	S22 E20	01 25.0		BG	EAI	250	23	11	3
10266		HOLL	01	23	1528	S22 E18	01 25.0		BG	EAO	80	21	12	3
10266		VORO	01	24	0019	S22 E13	01 25.0			DAI	233	24	12	3
10266		LEAR	01	24	0020	S22 E13	01 25.0		BG	EAO	200	23	13	2
10266		RAMY	01	24	1230	S25 E07	01 25.1		BG	EAI	130	37	14	3
10266		HOLL	01	24	1647	S22 E05	01 25.1		BG	EAI	120	24	14	3
10266		VORO	01	25	0028	S21 W07	01 24.5			DAI	202	30		3
10266		LEAR	01	25	0120	S21 E00	01 25.0		BG	EAI	140	25	15	1
10266		HOLL	01	25	1843	S21 W08	01 25.2		BG	FAI	140	29	16	2
10266		VORO	01	26	0052	S21 W18	01 24.6			CAI	187	14	6	3
10266		LEAR	01	26	0145	S21 W13	01 25.1		BG	FAI	200	33	16	2
10266		TACH	01	26	0509	S21 W10	01 25.4			BRI	5	6	1	4
10266		TACH	01	26	0509	S21 W20	01 24.7			CAI	137	15	5	4
10266		SVTO	01	26	0745	S22 W18	01 24.9		BG	ESI	180	11	15	3
10266		HOLL	01	26	1529	S22 W22	01 24.9		BG	FAI	130	23	16	3
10266		RAMY	01	26	1816	S20 W25	01 24.8		BG	FAI	160	21	16	1
10266		LEAR	01	27	0143	S22 W31	01 24.7		BG	DAO	200	12	8	1
10266		RAMY	01	27	1205	S21 W34	01 24.9		BG	EAI	140	21	14	3
10266		SVTO	01	27	1503	S21 W39	01 24.6		B	DAO	100	5	7	2
10266		HOLL	01	27	1550	S21 W34	01 25.0		BG	EAO	110	16	15	3
10266		LEAR	01	28	0200	S21 W44	01 24.7		BG	DSO	160	7	8	2
10266		TACH	01	28	0737	S21 W46	01 24.8			CAO	81	5	6	2
10266		SVTO	01	28	0750	S24 W48	01 24.6		B	DSO	100	6	6	3
10266		RAMY	01	28	1225	S19 W50	01 24.7		B	DAO	140	8	6	2
10266		HOLL	01	28	1550	S23 W46	01 25.1		BG	DSO	120	4	7	2
10266		LEAR	01	29	0115	S21 W56	01 24.7		B	DAO	100	7	5	4
10266		SVTO	01	29	1007	S23 W65	01 24.4		A	HSX	40	1	2	3
10266		RAMY	01	29	1220	S19 W61	01 24.8		B	CAO	110	7	8	3
10266		LEAR	01	30	0005	S21 W68	01 24.8		B	CAO	80	6	7	3
10266		VORO	01	30	0051	S21 W71	01 24.6			HRX	80	2		3
10266		SVTO	01	30	1140	S22 W79	01 24.4		A	HSX	60	1	2	3
10266		RAMY	01	30	1236	S20 W78	01 24.5		A	HSX	30	1	1	1
10266		HOLL	01	30	1600	S20 W80	01 24.5		A	HSX	50	1	1	3
10266		LEAR	01	31	0026	S21 W83	01 24.6		A	HAX	70	3	2	4
10271		HOLL	01	26	1529	S06 W17	01 25.4		B	CSO	20	3	5	3
10271		RAMY	01	26	1816	S05 W19	01 25.3		B	CSO	10	8	5	1
10271		LEAR	01	27	0143	S06 W23	01 25.4		B	CAO	40	4	5	1
10271		RAMY	01	27	1205	S05 W29	01 25.3		B	DAO	30	12	7	3

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(Ordered by Central Meridian Passage Date)

JANUARY 2003

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
10271		SVTO	01 27 1503	S05 W31	01 25.3		B	CRO	10	2	5	2
10271		HOLL	01 27 1550	S05 W31	01 25.3		B	DAO	50	4	6	3
10271		LEAR	01 28 0200	S06 W38	01 25.2		B	CAO	30	4	6	2
10271		TACH	01 28 0737	S06 W42	01 25.2			AR	17	2	1	2
10271		SVTO	01 28 0750	S08 W41	01 25.2		B	CRO	30	9	6	3
10271		RAMY	01 28 1225	S04 W44	01 25.2		B	DAO	50	9	7	2
10271		HOLL	01 28 1550	S04 W45	01 25.3		B	CSO	40	6	7	2
10271		LEAR	01 29 0115	S06 W50	01 25.3		B	DAO	50	7	7	4
10271		SVTO	01 29 1007	S06 W56	01 25.2		B	CSO	50	4	7	3
10271		RAMY	01 29 1220	S04 W56	01 25.3		B	DAO	110	11	7	3
10271		LEAR	01 30 0005	S06 W63	01 25.3		B	DAO	90	6	8	3
10271		VORO	01 30 0051	S05 W62	01 25.4			CAI	52	5	6	3
10271		SVTO	01 30 1140	S06 W75	01 24.9		A	HAX	60	1	2	3
10271		RAMY	01 30 1236	S06 W68	01 25.4		B	BXO	10	3	3	1
10271		HOLL	01 30 1600	S05 W75	01 25.0		A	HSX	30	1	1	3
10271		LEAR	01 31 0026	S05 W79	01 25.1		A	HAX	60	2	2	4
10271		VORO	01 31 0032	S06 W79	01 25.1			HAX	34	3		3
10273		LEAR	01 27 0143	N06 W07	01 26.5		B	BXO	10	2	3	1
10273		RAMY	01 27 1205	N06 W12	01 26.6		B	CSO	20	10	4	3
10273		SVTO	01 27 1503	N06 W15	01 26.5		B	CRO	10	3	5	2
10273		HOLL	01 27 1550	N06 W14	01 26.6		B	DSO	40	10	5	3
10273		LEAR	01 28 0200	N06 W20	01 26.6		B	DAO	110	18	5	2
10273		TACH	01 28 0737	N06 W24	01 26.5			CSI	53	4	3	2
10273		SVTO	01 28 0750	N05 W26	01 26.4		B	DSO	100	11	6	3
10273		RAMY	01 28 1225	N07 W26	01 26.6		B	DSO	100	13	8	2
10273		HOLL	01 28 1550	N07 W28	01 26.6		B	DSO	60	4	6	2
10273		LEAR	01 29 0115	N06 W33	01 26.6		B	DSO	110	20	7	4
10273		SVTO	01 29 1007	N06 W39	01 26.5		B	DSO	50	11	7	3
10273		RAMY	01 29 1220	N08 W38	01 26.7		B	DAI	130	14	7	3
10273		LEAR	01 30 0005	N06 W46	01 26.6		B	DAO	130	17	7	3
10273		VORO	01 30 0051	N06 W45	01 26.7			DAI	115	13	5	3
10273		SVTO	01 30 1140	N05 W54	01 26.4		B	DAO	140	8	9	3
10273		HOLL	01 30 1600	N08 W55	01 26.5		B	DSO	90	6	8	3
10273		LEAR	01 31 0026	N08 W58	01 26.7		B	DAO	160	12	8	4
10273		VORO	01 31 0032	N06 W58	01 26.7			DAI	115	9	6	3
10273		SVTO	01 31 0925	N06 W68	01 26.3		A	HSX	80	2	2	3
10273		RAMY	01 31 1303	N07 W67	01 26.5		B	CAO	100	7	7	4
10273		HOLL	01 31 1615	N07 W69	01 26.5		A	HAX	140	5	2	2
10273		LEAR	02 01 0005	N07 W72	01 26.7		B	CAO	100	5	7	2
10273		VORO	02 01 0020	N05 W74	01 26.6			HAX	143	3		3
10273		TACH	02 01 0620	N05 W78	01 26.5			HSX	126	1	4	3
10273		KAND	02 01 0800	N06 W80	01 26.4			HA		1	2	2
10273		RAMY	02 01 1211	N08 W84	01 26.3		B	CSO	60	2	6	4
10273		HOLL	02 01 1630	N07 W81	01 26.7		A	HAX	120	1	2	3
10267		LEAR	01 20 0147	S20 E90	01 26.9		A	AXX	10	1	1	3
10267		HOLL	01 20 1527	S20 E81	01 26.8		A	HAX	50	1	2	3
10267		LEAR	01 21 0003	S18 E78	01 26.9		B	DAO	120	4	4	2
10267		VORO	01 21 0044	S18 E78	01 27.0			HAX	108	1		3
10267		SVTO	01 21 0826	S19 E74	01 27.0		B	CRO	60	3	3	2
10267		RAMY	01 21 1235	S21 E72	01 27.0		B	CAO	150	6	8	3
10267		HOLL	01 21 1557	S19 E73	01 27.2		B	CSO	84	6	10	3
10267		VORO	01 22 0012	S17 E68	01 27.2			CAI	142	5	9	3
10267		LEAR	01 22 0220	S18 E67	01 27.2		B	CAO	240	14	10	2
10267		SVTO	01 22 0740	S19 E64	01 27.2		B	CAO	120	6	10	3
10267		RAMY	01 22 1306	S21 E62	01 27.3		B	EAO	140	13	11	3
10267		HOLL	01 22 1602	S20 E60	01 27.2		B	EAO	130	10	12	3
10267		VORO	01 23 0005	S18 E55	01 27.2			DAI	117	5	10	3
10267		LEAR	01 23 0055	S18 E54	01 27.1		B	EAO	190	11	11	2
10267		SVTO	01 23 0845	S19 E53	01 27.4		B	EAO	80	4	11	3
10267		RAMY	01 23 1221	S21 E49	01 27.3		B	EAO	80	13	11	3
10267		HOLL	01 23 1528	S20 E48	01 27.3		B	CAO	110	10	11	3
10267		VORO	01 24 0019	S18 E42	01 27.2			CSI	105	8	11	3
10267		LEAR	01 24 0020	S18 E43	01 27.3		B	EAO	130	7	12	2
10267		RAMY	01 24 1230	S19 E36	01 27.3		B	EAO	120	13	12	3
10267		HOLL	01 24 1647	S20 E35	01 27.4		B	EAO	140	11	12	3
10267		VORO	01 25 0028	S19 E29	01 27.2			DAI	132	10	11	3
10267		LEAR	01 25 0120	S19 E29	01 27.3		B	EAO	140	12	12	1

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(Ordered by Central Meridian Passage Date)

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time		Lat	CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
10267		HOLL	01	25	1843	S21 E18	01 27.1		B	EAO	80	14	12	2
10267		VORO	01	26	0052	S20 E15	01 27.2			CAI	94	7	11	3
10267		LEAR	01	26	0145	S19 E15	01 27.2		B	EAO	100	15	12	2
10267		TACH	01	26	0509	S18 E13	01 27.2			CAI	58	10	10	4
10267		SVTO	01	26	0745	S19 E12	01 27.2		B	ESO	60	7	11	3
10267		HOLL	01	26	1529	S20 E06	01 27.1		B	DSO	60	14	12	3
10267		RAMY	01	26	1816	S21 E05	01 27.1		B	ESO	50	15	13	1
10267		LEAR	01	27	0143	S19 W02	01 26.9		B	CAO	50	4	5	1
10267		RAMY	01	27	1205	S19 W07	01 27.0		B	ESO	30	10	12	3
10267		SVTO	01	27	1503	S19 W12	01 26.7		A	HRX	10	2	2	2
10267		HOLL	01	27	1550	S19 W07	01 27.1		B	CSO	30	5	12	3
10267		LEAR	01	28	0200	S19 W17	01 26.8		A	HAX	40	2	2	2
10267		TACH	01	28	0737	S19 W19	01 26.9			AXX	14	1	1	2
10267		SVTO	01	28	0750	S21 W20	01 26.8		A	HRX	10	2	2	3
10267		RAMY	01	28	1225	S19 W24	01 26.7		B	CAO	10	2	3	2
10267		HOLL	01	28	1550	S18 W23	01 26.9		B	CSO	20	2	2	2
10267		LEAR	01	29	0115	S19 W25	01 27.1		B	EAO	40	16	14	4
10267		RAMY	01	29	1220	S17 W36	01 26.8		B	BXO	10	2	4	3
10267		LEAR	01	30	0005	S17 W39	01 27.0		B	BXO	20	9	9	3
10267		VORO	01	30	0051	S17 W38	01 27.1			ARX	2	1		3
10267		RAMY	01	30	1236	S17 W47	01 26.9		A	AXX	10	2	1	1
10267		RAMY	01	31	1303	S16 W60	01 27.0		A	AXX		1		4
10269		RAMY	01	21	1235	S10 E81	01 27.6		A	HAX	60	1	1	3
10269		HOLL	01	21	1557	S08 E80	01 27.7		B	CSO	60	4	2	3
10269		VORO	01	22	0012	S06 E77	01 27.8			DAI	172	5	2	3
10269		LEAR	01	22	0220	S07 E77	01 27.9		A	HSX	150	2	2	2
10269		SVTO	01	22	0740	S08 E74	01 27.9		B	DSO	120	3	5	3
10269		RAMY	01	22	1306	S09 E72	01 27.9		B	DSO	80	2	6	3
10269		HOLL	01	22	1602	S08 E68	01 27.8		B	DSO	100	2	3	3
10269		VORO	01	23	0005	S07 E64	01 27.8			HAX	227	2	2	3
10269		LEAR	01	23	0055	S07 E63	01 27.7		B	DAO	130	3	4	2
10269		SVTO	01	23	0845	S07 E61	01 27.9		B	DSO	110	3	4	3
10269		RAMY	01	23	1221	S09 E59	01 27.9		B	DAO	100	4	4	3
10269		HOLL	01	23	1528	S08 E55	01 27.8		B	DSO	100	3	4	3
10269		VORO	01	24	0019	S07 E51	01 27.8			HSX	189	3	2	3
10269		LEAR	01	24	0020	S07 E51	01 27.8		B	DSO	160	2	4	2
10269		RAMY	01	24	1230	S06 E45	01 27.9		B	DSO	110	3	5	3
10269		HOLL	01	24	1647	S08 E43	01 27.9		B	DAO	130	3	3	3
10269		VORO	01	25	0028	S07 E37	01 27.8			HSX	155	3	3	3
10269		LEAR	01	25	0120	S07 E37	01 27.8		B	DSO	130	2	5	1
10269		HOLL	01	25	1843	S08 E27	01 27.8		B	DSO	80	5	4	2
10269		VORO	01	26	0052	S07 E23	01 27.7			HSX	86	5	3	3
10269		LEAR	01	26	0145	S08 E24	01 27.9		B	DAO	100	4	5	2
10269		TACH	01	26	0509	S06 E21	01 27.8			CSO	66	3	4	4
10269		SVTO	01	26	0745	S07 E20	01 27.8		B	DSO	70	2	5	3
10269		HOLL	01	26	1529	S07 E16	01 27.8		B	DSO	80	4	6	3
10269		RAMY	01	26	1816	S09 E14	01 27.8		B	DSO	60	3	5	1
10269		LEAR	01	27	0143	S08 E10	01 27.8		B	DAO	100	3	5	1
10269		RAMY	01	27	1205	S08 E03	01 27.7		B	DSO	100	3	5	3
10269		SVTO	01	27	1503	S08 E03	01 27.8		B	CSO	40	2	5	2
10269		HOLL	01	27	1550	S04 E03	01 27.9		B	DSO	90	4	7	3
10269		LEAR	01	28	0200	S08 W04	01 27.8		B	CSO	70	3	5	2
10269		TACH	01	28	0737	S07 W07	01 27.8			CSO	31	2	4	2
10269		SVTO	01	28	0750	S08 W08	01 27.7		B	CSO	80	3	6	3
10269		RAMY	01	28	1225	S07 W10	01 27.8		B	CSO	70	2	5	2
10269		HOLL	01	28	1550	S05 W14	01 27.6		A	HSX	40	1	1	2
10269		LEAR	01	29	0115	S07 W17	01 27.8		B	CSO	80	4	7	4
10269		SVTO	01	29	1007	S08 W25	01 27.5		A	HSX	40	1	2	3
10269		RAMY	01	29	1220	S07 W27	01 27.5		A	HSX	70	1	2	3
10269		LEAR	01	30	0005	S07 W29	01 27.8		B	CSO	80	4	7	3
10269		VORO	01	30	0051	S07 W32	01 27.6			HAX	47	3		3
10269		SVTO	01	30	1140	S08 W38	01 27.6		A	HSX	70	1	2	3
10269		RAMY	01	30	1236	S07 W40	01 27.5		A	HSX	40	1	1	1
10269		HOLL	01	30	1600	S06 W41	01 27.6		A	HSX	50	1	1	3
10269		LEAR	01	31	0026	S07 W46	01 27.6		A	HSX	70	2	2	4
10269		VORO	01	31	0032	S07 W46	01 27.6			HAX	62	4		3
10269		SVTO	01	31	0925	S07 W52	01 27.5		A	HSX	30	1	1	3
10269		RAMY	01	31	1303	S06 W54	01 27.5		A	HAX	40	1	2	4

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(Ordered by Central Meridian Passage Date)

JANUARY 2003

NOAA/ USAF Group	Mt Wilson Group	Sta	Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
10269	31609	HOLL	01	31	1615	S05	W55	01	27.6		A	HSX	50	1	2	2
10269		LEAR	02	01	0005	S06	W58	01	27.8		B	CAO	50	2	3	2
10269		VORO	02	01	0020	S07	W59	01	27.7			HAX	69	2	3	3
10269		TACH	02	01	0620	S08	W64	01	27.6			HSX	112	1	3	3
10269		KAND	02	01	0800	S08	W63	01	27.7			HA		1	1	2
10269		RAMY	02	01	1211	S06	W66	01	27.7		B	CSO	50	2	4	4
10269		HOLL	02	01	1630	S06	W68	01	27.7		A	HAX	40	2	1	3
10269		MWIL	02	01	2200	S07	W71	01	27.7	4	(AP)					
10269		LEAR	02	02	0007	S06	W73	01	27.6		A	HAX	70	1	1	3
10269		VORO	02	02	0041	S07	W73	01	27.7			HRX	40	3		3
10269		TACH	02	02	0625	S08	W74	01	27.8			AXX	9	1	1	3
10269		SVTO	02	02	0714	S08	W77	01	27.6		A	HSX	30	1	1	2
10272	31613	VORO	01	26	0052	S05	E36	01	28.7			AXX	3	1		3
10272		TACH	01	26	0509	S04	E34	01	28.7			AXX	3	1	1	4
10272		SVTO	01	26	0745	S04	E34	01	28.9		B	DSO	50	2	4	3
10272		HOLL	01	26	1529	S06	E30	01	28.9		B	CSO	10	4	4	3
10272		RAMY	01	26	1816	S07	E28	01	28.8		B	DSO	20	5	4	1
10272		LEAR	01	27	0143	S06	E23	01	28.8		B	BXO	20	5	4	1
10272		RAMY	01	27	1205	S08	E18	01	28.8		B	BXO	10	8	5	3
10272		SVTO	01	27	1503	S08	E14	01	28.7		A	HRX	10	2	2	2
10272		HOLL	01	27	1550	S04	E16	01	28.8		B	CAO	30	8	7	3
10272		LEAR	01	28	0200	S05	E09	01	28.7		B	BXO	20	4	4	2
10272		TACH	01	28	0737	S05	E06	01	28.8			BRO	12	4	5	2
10272		SVTO	01	28	0750	S06	E07	01	28.8		B	DRO	20	5	7	3
10272		RAMY	01	28	1225	S06	E05	01	28.9		B	DAI	60	18	6	2
10272		HOLL	01	28	1550	S07	E01	01	28.7		B	DSO	20	6	6	2
10272		LEAR	01	29	0115	S06	W03	01	28.8		B	DAO	70	25	7	4
10272		SVTO	01	29	1007	S06	W09	01	28.7		B	DSO	40	8	7	3
10272		RAMY	01	29	1220	S06	W10	01	28.8		BG	DAI	70	19	9	3
10272		LEAR	01	30	0005	S06	W16	01	28.8		B	DAO	70	20	7	3
10272		VORO	01	30	0051	S06	W16	01	28.8			DRI	65	12	6	3
10272		SVTO	01	30	1140	S07	W23	01	28.8		B	DAO	60	8	8	3
10272		RAMY	01	30	1236	S06	W24	01	28.7		B	DRO	20	15	7	1
10272		HOLL	01	30	1600	S05	W26	01	28.7		BG	DSI	60	14	8	3
10272		LEAR	01	31	0026	S05	W31	01	28.7		B	DAI	90	16	6	4
10272		VORO	01	31	0032	S05	W31	01	28.7			DRI	62	17	4	3
10272		SVTO	01	31	0925	S06	W36	01	28.7		B	DAO	30	3	5	3
10272		RAMY	01	31	1303	S04	W38	01	28.7		B	DRO	20	7	5	4
10272		HOLL	01	31	1615	S05	W40	01	28.7		B	DSO	30	4	4	2
10272		LEAR	02	01	0005	S05	W45	01	28.7		B	DSO	50	5	5	2
10272		VORO	02	01	0020	S06	W44	01	28.8			DAC	96	6	4	3
10272		TACH	02	01	0620	S06	W49	01	28.7			DSO	80	2	6	3
10272		KAND	02	01	0800	S06	W48	01	28.8			DAO		4	5	2
10272		RAMY	02	01	1211	S04	W51	01	28.8		B	DAO	60	11	6	4
10272		HOLL	02	01	1630	S05	W52	01	28.9		B	DAO	100	9	5	3
10272		MWIL	02	01	2200	S05	W57	01	28.7	4	(AP)					
10272		LEAR	02	02	0007	S04	W58	01	28.8		B	DAO	60	7	5	3
10272		VORO	02	02	0041	S05	W58	01	28.8			DRC	41	3	4	3
10272		TACH	02	02	0625	S06	W59	01	28.9			BXO	15	2	5	3
10272		SVTO	02	02	0714	S06	W63	01	28.7		B	DSO	40	3	5	2
10272		LEAR	02	03	0017	S04	W71	01	28.8		B	DAO	50	4	6	3
10272		SVTO	02	03	0705	S04	W81	01	28.3		A	HRX	30	1	1	3
10275	31618	LEAR	01	29	0115	S11	E04	01	29.3		B	CAO	10	2	2	4
10275		RAMY	01	29	1220	S11	W04	01	29.2		A	AXX	10	1	1	3
10275		LEAR	01	30	0005	S11	W10	01	29.2		B	CRO	10	6	3	3
10275A		LEAR	01	31	0026	N11	E02	01	31.2		B	CRO	20	5	3	4
10275A	31618	VORO	01	31	0032	N11	E03	01	31.2			AXX	6	3		3
10275A		RAMY	01	31	1303	N11	W04	01	31.2		A	AXX		1		4
10275A		VORO	02	04	0019	N06	W49	01	31.3			AXX	6	3		3
10275B		RAMY	02	01	1211	S13	W14	01	31.4		B	BXO	10	4	3	4
10275B	31618	HOLL	02	01	1630	S13	W16	01	31.5		A	AXX	10	3	3	3
10275B		MWIL	02	01	2200	S13	W20	01	31.4	3	(AP)					
10275B		LEAR	02	02	0007	S13	W22	01	31.3		A	HRX	10	1		3
10275B		VORO	02	02	0041	S13	W22	01	31.4			AXX	4	1		3

SUDDEN IONOSPHERIC DISTURBANCES JANUARY 2003

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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			
02	1100	1107	1136	1	1		1				No flare		
02	1138	1157	1224	1	1		1				No flare		
02	1250	1321	1443	1	1		1				1258	C1.5	
04	0856	0903	0933	2	1					1	0853	C1.9	10244
05	0554	0608	0706	2+	1					1	0551	C5.8	10243
05	0816	0830	0852	2	1		1				No flare		
05	0858	0909	0935	1	1		1				No flare		
05	1308	1319	1418	1	1		1				No flare		
05	1454	1504	1528	1	1		1				No flare		
06	0903	0910	0925	1	1		1				No flare		
06	0939	0944	1004	1	1					1	0937	C2.7	10244
06	1001	1006	1029	1	1		1				*		
07	0732	0745	0806	2+	3					2	0729	M1.0	10244
07	0827	0834	0910	2-	3					2	0828	C7.7	10242
07	0934	0938	0952	1	1					1	0932	C2.3	
07	2331	2339	2405	2	1					1	2325	M4.9	10251
08	0543	0553	0658	2+	1					1	0540	C6.2	10244
08	0721	0728	0758	2	1					1	0721	C3.4	10242
08	0844	0848	0902	1-	3					2	0844	C2.6	
08	1222	1233	1315	1	1		1				*		
08	1341	1352	1419	1	1		1				*		
08	1526	1532	1601	1+	3					2	1525	C2.5	
08	1625	1629	1634	1-	1					1	1621	C1.7	10242
08	1639	1653	1724	2	1					1	1704E		10242
09	0132	0138	0214	2	1					1	0127	C9.8	10242
09	0530	0541	0630	2+	1					1	0532	M1.0	10251
09	0750	0754	0819	1	3					2	0748	C2.6	
09	0854	0904	0929	2	1		1				0912		10242
09	1322	1326	1345	1	1		1				1319	C2.5	10251
09	1404	1417	1438	1	1		1				*		
09	1722	1728	1754	2-	3					2	1720	C2.4	10251
09	1833	1843	1921	2	3					2	1830	C4.3	10251
11	1020	1031	1117	1+	5		1			3	1022	C2.7	10244
11	1052	1056	1109	1-	1					1	1050	C3.0	
11	1602	1609	1646	2	3					2	1601	C2.3	10242
12	0702	0704	0724	1	1					1	0637	C2.2	
12	0730	0739	0809	2	1					1	0729	C3.7	
12	1416	1427	1451	1+	5		1			4	1412	C6.1	
13	0908	0927	0950	2	1		1				No flare		
13	1252	1308	1329	1	5		1			2	1257	C2.4	
13	1409	1413	1426	1-	5		1			1	1406	C3.1	
14	0622	0634	0739	2+	1					1	0620	C6.4	
14	0945	0948	1009	1	1					1	0942	C2.1	
14	1042	1045	1108	2+	5	1		1		1	1039	C2.5	
14	1158	1228U	1416	1	1		1				No flare		
14	1423	1438	1526	1	1		1				No flare		
15	0910	0925	1058	1	1		1				0907	C1.2	
16	0446	0450	0507	1	1					1	0442	C1.8	10258
16	1350	1400	1430	1	1		1				No flare		
17	1324	1333	1428	1	1		1				No flare		
19	1231	1243	1257	1	1		1				1249	B4.6	10260
19	1358	1402	1412	1-	1					1	*		
20	0707	0710	0802	1+	1					1	0704	C4.3	10260

* = no flare patrol.

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SUDDEN IONOSPHERIC DISTURBANCES

JANUARY 2003

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			
21	0225	0229	0246	1	1					1	0223	C8.1	
21	0551	0558	0634	2	1					1	0550	C4.1	10260
21	0810	0827	0843	1	1		1				0757	C2.9	
21	0922	0928	0935	1-	1					1	0920	C1.8	
21	1307	1311	1331	1-	1					1	1246	C3.0	10260
21	1503	1520	1636	2+	5		1			5	1459	M1.9	
22	0439	0445	0528	2+	1					1	0435	M1.2	10260
22	0805	0906	0938	1	1		1				No flare		
23	0436	0442	0511	1+	1					1	0442	M1.0	
23	1236	1241	1324	3	5	1	2	1		7	1228	M2.5	10266
23	1407	1416	1444	1	1		1				*		
24	0315	0329	0442	3	1					1	0312	M1.9	10266
24	0504	0508	0542	2	1					1	0459	C2.8	10266
24	0924	0944U	1100	1	1		1				No flare		
24	1516	1530	1537D	1	1					1	1517	C5.6	10266
24	1537	1550	1635	2	3					3	1517	C5.6	10266
25	1843	1854	1910	1+	3					2	1842	C4.4	10268
26	1032	1039	1056	1	1					1	1022	C2.6	10268
27	1232	1243	1301	1	1		1				*		
27	1424	1442	1525	1	1		1				No flare		
29	0938	0942	1000	1	1		1				*		
30	1206	1225	1252	1	1		1				1158	B5.5	
31	1105	1117	1153	1	1		1				No flare		
31	1232	1243	1303	1	1		1				No flare		

* = no flare patrol.

OBSERVATORIES REPORTING FOR JANUARY 2003

Alberta, Canada	SES	Milan, Italy	SES
Athens, Georgia, USA	SES	Panska Ves, Czech Republic	SES, SEA, SWF
Bedford, Massachusetts, USA	SES	Sofia, Bulgaria	SES
Bern, Switzerland	SES	Sussex, United Kingdom	SES
Brookline, Massachusetts, USA	SES	Torrington, Connecticut, USA	SES
Isola del Gran Sasso, Italy	SES	Upice, Czech Republic	SEA
Marlborough, Massachusetts, USA	SES	Villiersdorp, South Africa	SES

Observations are not necessarily continuous.

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

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Jan 03

JANUARY 2003

OBSERVATION			Sta	EVENT		Event Remarks	Int (1-3)	FREQUENCY		Remarks
Day	Start (UT)	End (UT)		Start (UT)	End (UT)	Spectral Class		Lower (MHz)	Upper (MHz)	
01	0000	0733	HIRA							
	0000	0800	CULG							
	0839	1332	ONDR							
	0850	1440	BLEN							
	0815	1405	POTS	1146.5	1147.0	III	G	1	40X	70 100-200MHz no data
	2000	2400	CULG							
	2148	2400	HIRA							
02	0000	0734	HIRA							
	0000	0800	CULG							
	0838	1333	ONDR							
	0850	1440	BLEN							
	0814	1405	POTS	1224.2	1235.7	III	G,N	1	40X	85 100-200MHz no data
	2000	2400	CULG	2310.0	2310.0	III	B	1	60	90
			LEAR	2312.0	2314.0	III		1	25	180
			CULG	2313.0	2314.0	III	G	3	18	260
			HOLL	2313.0	2314.0	III		1	25	77
	2148	2400	HIRA	2313.0	2314.0	III	B	1	25X	220
03	0000	0735	HIRA	0151.5	0152.0	III	B	1	200	310
			LEAR	0515.0	0515.0	III		1	25	60
	0000	0800	CULG	0515.0	0516.0	III	G	1	35	85
			CULG	0602.0	0602.0	III	B	1	40	90
	0813	1405	POTS	0935.4	0935.6	III	B,U	1	200U	280 100-200MHz no data
	0704	1200	IZMI	0935.5	0936.0	III	G	1	55	150
			POTS	0944.2	0944.9	I	DC	1	280	350
			POTS	1242.0	1245.1	III	G	1	45	85
			POTS	1248.4	1250.3	III	G	1	200U	350
	0838	1335	ONDR	1325.2	1325.5	DCIM	GG	2	1269	1934
			SGMR	1421.0	1422.0	III		2	30	80
			SVTO	1421.0	1428.0	III		2	25	180
	0850	1440	BLEN	1421.4	1422.0	III	G	2	100X	350
			HOLL	1819.0	1820.0	III		1	25	130
	2000	2400	CULG	2053.0	2054.0	III	G	1	18	180
			CULG	2119.0	2120.0	III	B	1	18	180
	2148	2400	HIRA							
			CULG	2210.0	2213.0	III	G	2	18	90
			CULG	2303.0	2303.0	III	G	1	18	150
04			LEAR	0142.0	0142.0	III		1	65	180
			PALE	0142.0	0142.0	III		1	98	180
	0000	0736	HIRA	0142.0	0142.5	III	B	3	70	400
	0000	0800	CULG	0142.0	0142.0	III	B	2	50U	500
			CULG	0210.0	0212.0	III	G	1	23	130
			CULG	0358.0	0358.0	III	B	1	35	80
			CULG	0507.0	0507.0	III	B	1	35	80
			CULG	0553.0	0553.0	III	B	1	23	80
	0700	1200	IZMI	0700.0E	0930.0U	I	N	1	110	250
			IZMI	0711.2	0711.4	CONT		1	155	190
	0813	1406	POTS	0816 U	1012 U	I	S,N	1	200U	300 100-200MHz no data
	0837	1336	ONDR							
	0850	1440	BLEN							
			POTS	1102	1313	I	S,N,DC	1	45	340
			IZMI	1112.1	1112.4	III	G	1	110	155
			POTS	1115.3	1115.4	III	B	1	200U	320
			IZMI	1128.2	1128.4	III	G	1	125	160
	2000	2400	CULG							
	2149	2400	HIRA							
05	0000	0800	CULG	0123.0	0123.0	III	B	1	57U	180
			CULG	0130.0	0130.0	III	G	1	80	190
			LEAR	0130.0	0130.0	III		1	114	180
	0000	0737	HIRA	0130.0	0130.5	III	B	1	100	210
			CULG	0602.0	0651.0	III	N	1	30	180
	0700	1200	IZMI	0705.0U	0732.0U	I	N	1	80	160
			IZMI	0722.4	0723.7	III	GG,FS,C	2	40	270X
			HIRA	0722.5	0723.5	III	B	1	40	300
			CULG	0723.0	0736.0	III	GG	3	20	180
			IZMI	0726.5	0728.6	II	HARM	2	120	215

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

JANUARY 2003

OBSERVATION			EVENT				FREQUENCY			Remarks	
Start Day	End (UT)	(UT)	Sta	Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	Lower (MHz)		Upper (MHz)
05			IZMI	0726.8	0732.2	III	GG	2	45	210	
			LEAR	0727.0	1007.0	III	N	1	25	180	
			IZMI	0754.7	0754.8	III	B	1	45	95	
			IZMI	0757.5	0758.1	III	G	1	45	95	
			CULG	0758.0	0758.0	III	G	1	30	80	
	0837	1338	ONDR								
	0812	1407	POTS	0952.3	0955.1	DCIM		2	220	540	100-200MHz no data
			IZMI	1001.5	1006.9	II		1	50U	95	
			POTS	1025	1332 U	I	S,N	1	220	380	
			POTS	1119.8	1120.2	DCIM		2	220	440	
			POTS	1200	1205.4	DCIM		2	200U	440	
	0850	1440	BLEN	1205.0X	1206.4	DCIM	S,C	2	200	4000X	
	2000	2400	CULG	2014.0	2014.0	III	G	1	25	80	
			CULG	2019.0	2019.0	III	B	1	23	70	
			CULG	2141.0	2141.0	III	B	1	20	130	
	2149	2400	HIRA								
06	0000	0800	CULG	0242.0	0243.0	III	G	1	150	320	
	0000	0738	HIRA	0242.5	0243.0	III	B	1	130	300	
			LEAR	0409.0	0411.0	V		2	25	180	
			HIRA	0409.5	0411.0	III	B	3	25X	200	
			CULG	0410.0	0412.0	III	G	3	18X	190	
			HIRA	0627.5	0628.0	III	B	1	50	100	
			CULG	0628.0	0628.0	III	B	1	18	90	
	0652	1200	IZMI	0813.7	0814.3	III	G	1	45	85	
	0812	1408	POTS	0817 U	1124	I	S,N	1	200U	380	100-200MHz no data
	0839	1339	ONDR								
	0850	1450	BLEN	0932.0	0945.5	DCIM	P	2	200	4000X	
			IZMI	0933.6	0936.9	III	G	1	110	270	
			POTS	0934	0942	DCIM		1	200U	480	
			IZMI	1002.0	1006.9	I	N	1	120	150	
			POTS	1002.1	1004.1	III	G	2	40X	80	
			POTS	1042	1050	III	GG	1	40X	80	
			POTS	1149.8	1152.3	DCIM		2	200U	480	
			IZMI	1151.6	1151.9	III	G	2	180	270X	
			POTS	1201.5	1318 U	I	S,N	1	200U	330	
			POTS	1238.0	1238.6	III	G	2	40X	80	
			POTS	1329.0	1329.4	III	B	3	40X	85U	
			POTS	1349.5	1349.7	III	B	2	40X	85U	
			POTS	1400.1	1401.3	DCIM		2	200U	400U	
			HOLL	1424.0	1426.0	III		1	25U	180U	
			SGMR	1424.0	1426.0	III		2	30	80	
			SVTO	1424.0	1425.0	III		2	25	180	
			HOLL	1447.0	1448.0	III		1	25	180	
			SVTO	1447.0	1447.0	III		1	58	83	
			HOLL	1452.0	1610.0	CONT		1	25	83	
			HOLL	1528.0	1528.0	III		1	25	180	
			HOLL	1926.0	2005.0	III	N	1	25	180	
			HOLL	2109.0	2125.0	III		1	25	84	
	2000	2400	CULG	2109.0	2109.0	III	B	1	50	130	
			CULG	2123.0	2126.0	III	G	1	25	150	
			CULG	2136.0	2136.0	III	G	1	40U	100	
	2149	2400	HIRA	2347.5	2348.0	III	B	1	200	620	
			CULG	2348.0	2348.0	III	B	1	300	670	
07	0000	0739	HIRA								
	0654	1200	IZMI	0706.0	0821.0U	I	N	1	160	210	
			IZMI	0714.0	0714.3	III	G	1	120	210	
	0000	0800	CULG	0746.0	0748.0	III	G	1	18	57	
			LEAR	0747.0	0747.0	III		1	25	55	
			SVTO	0747.0	0747.0	III		1	25U	67U	
			LEAR	0754.0	0800.0	III		1	25	111	
			CULG	0756.0	0800.0D	III	G	2	20	130	
			IZMI	0757.0	0758.5	III	G	1	40	165	
	0811	1409	POTS	0820 U	1000	I	S,N	1	200U	400	100-200MHz no data
	0836	1341	ONDR								
			POTS	0849.1	0850.2	III	G	1	40X	60	
	0850	1450	BLEN								
			POTS	1003	1018	III	GG,N	1	40X	80	

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

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JANUARY 2003

OBSERVATION			Sta	Start		EVENT		Int	FREQUENCY		Remarks
Day	Start (UT)	End (UT)		(UT)	(UT)	Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
07			IZMI	1011.8	1012.0	III	B	1	110	170	
			POTS	1033	1409 U	I	S,N	1	200U	380	
	2000	2400	CULG	2000.0E	2031.0	III	N	1	20	60	
	2149	2400	HIRA								
08	0000	0740	HIRA								
	0000	0800	CULG	0153.0	0157.0	III	G	1	23	80	
			CULG	0542.0	0542.0	III	B	1	18	90	
			CULG	0656.0	0658.0	III	G	1	23	160	
			LEAR	0656.0	0658.0	III		1	25	180	
	0703	1200	IZMI	0720.0	0720.3	III	G	1	180	270X	
	0810	1409	POTS	0810 E	1409 U	I	S,N,DC	2	200U	380	100-200MHz no data
			IZMI	0811.3	0811.5	III	G	1	180	270X	
	0835	1343	ONDR								
	0850	1500	BLEN								
			IZMI	0956.0U	1200.0D	I	N	1	180U	270	
			IZMI	1047.4	1049.2	III	G	1	180	270X	
			SVTO	1141.0	1142.0	III		1	35	152	
			IZMI	1141.8	1141.9	III	B	2	95U	175	
			POTS	1141.8	1142.1	III	G	2	40X	85U	
			SVTO	1205.0	1206.0	III		2	40	180	
			POTS	1205.6	1206.6	III	G	3	40X	350	
			SVTO	1248.0	1421.0	CONT		1	50	180	
			POTS	1251.7	1252.9	III	G	1	40X	65	
			POTS	1259.2	1259.5	III	B	1	40X	55	
			POTS	1320.9	1321.3	III	G	1	40X	80	
			POTS	1348.4	1348.7	III	B	2	40X	85U	
			HOLL	1528.0	1528.0	III		1	25	180	
	2000	2400	CULG	2020.0	2020.0	III	B	1	27	90	
			CULG	2050.0	2055.0	III	G	1	27	90	
			CULG	2138.0	2138.0	III	B	1	57U	90	
			CULG	2202.0	2202.0	III	B	1	60U	160	
			CULG	2225.0	2226.0	III	G	1	27	90	
			CULG	2238.0	2249.0	III	G	1	18	100	
	2149	2400	HIRA	2243.0	2243.5	III	B	1	25X	100	
			CULG	2258.0	2258.0	III	B	1	27	90	
			CULG	2307.0	2308.0	III	G	1	35	90	
09			LEAR	0134.0	0142.0	III		1	25	180	
	0000	0800	CULG	0134.0	0142.0	III	G	1	18	140	
	0000	0740	HIRA	0134.5	0142.5	III	G	1	40	200	
			LEAR	0334.0	0339.0	III		1	25	180	
			HIRA	0334.5	0339.0	III	G	1	40	200	
			CULG	0335.0	0339.0	III	G	3	20	180	
			CULG	0341.0	0420.0	III	N	1	20	160	
			LEAR	0355.0	0356.0	III		1	25	109	
			HIRA	0355.5	0356.0	III	B	1	50	70	
			LEAR	0410.0	0411.0	III		1	25	86	
			CULG	0437.0	0438.0	III	G	1	25	180	
			HIRA	0437.5	0438.0	III	B	1	60	140	
			CULG	0624.0	0631.0	III	G	1	35	90	
			HIRA	0642.5	0643.0	III	B	1	70	110	
			CULG	0643.0	0643.0	III	B	1	40	140	
	0700	1200	IZMI	0722.7	0722.8	III	G,U	1	230	270X	
	0810	1410	POTS	0810 E	1042 U	I	S,N	1	200U	380	100-200MHz no data
			IZMI	0846.7	0846.9	III	G,C	2	225	270X	
			POTS	0846.7	0847.0	DCIM		2	230	360	
			LEAR	0955.0	0956.0	III		1	25	180	
			SVTO	0955.0	0956.0	III		1	25	180	
			IZMI	0955.3	0956.4	III	GG	2	30	270X	
			POTS	0955.8	0956.5	III	GG	2	40X	500	
			POTS	1000.4	1005.0	DCIM		1	270	450	
			IZMI	1021.7	1021.8	III	B	2	245	270X	
			IZMI	1046.0	1046.1	III	B	1	110U	160	
			POTS	1234	1250	III	GG	2	40X	300	
	0834	1345	ONDR	1320.4	1321.0	DCIM		1	2000X	4500X	
	0850	1500	BLEN	1320.8	1321.2	DCIM	S,C	2	600	4000X	
			POTS	1322.0	1322.1	III	B	1	40X	60	
			POTS	1356	1410 U	I	S,N	1	200U	300	

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

JANUARY 2003

OBSERVATION			Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Start Day (UT)	End Day (UT)	Time (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
09	2000	2400	HOLL	1456.0	1456.0	III		1	25	180	
			SGMR	1456.0	1456.0	III		1	30	80	
			SVTO	1456.0	1456.0	III		1	56U	180U	
			HOLL	1917.0	2015.0	III	N	2	25	180	
			SGMR	1926.0	1937.0	III	N	1	30	80	
			CULG	2021.0	2021.0	III	G	1	25	45	
			HOLL	2110.0	2112.0	V		2	25	180	
			PALE	2110.0	2112.0	V		1	25	180	
			CULG	2111.0	2111.0	III	B	3	18X	500	
			CULG	2111.0	2112.0	V		3	20	100	
			CULG	2112.0	2113.0	III	G	1	27U	100	
			CULG	2142.0	2146.0	III	G	1	25	180	
			HOLL	2142.0	2145.0	III		1	25	122	
			CULG	2225.0	2330.0	III	N	1	23	160	
			LEAR	2330.0	2330.0	III		1	25	180	
			HIRA	2330.0	2330.5	III	B	1	40	150	
10	0000	0800	CULG	0006.0	0006.0	III	G	1	40	120	
			CULG	0056.0	0206.0	III	N	1	30	170	
			CULG	0244.0	0302.0	III	N	1	20	120	
	0000	0741	LEAR	0440.0	0440.0	III		1	25	180	
			HIRA	0440.5	0441.0	III	B	1	60	150	
			CULG	0441.0	0523.0	III	N	1	27	180	
			CULG	0716.0	0719.0	III	G	1	27	90	
			CULG	0729.0	0751.0	III	N	1	35	140	
			CULG	0735.0	0736.0	III	G	1	30	400	
	0700	1200	IZMI	0735.3	0736.3	III	GG	2	55	270X	
			IZMI	0803.9	0804.0	III	B	1	35	65	
	0808	1412	POTS	0820 U	0842	I	S,N	1	200U	330	100-200MHz no data
			POTS	0831.2	0832.7	DCIM		1	200U	460	
	0833	1346	ONDR								
			BLEN								
	0850	1500	IZMI	0906.9	0907.0	III	G	1	75	140	
			POTS	0945.0	0945.2	DCIM		1	220	400	
			IZMI	0945.8	0946.3	III	G	1	45	85	
			POTS	1058	1350 U	I	S,N	1	200U	320	
			POTS	1249.9	1250.2	III	B	1	40X	80	
			HOLL	1600.0	1600.0	III		1	25	92	
	2000	2400	CULG	2041.0	2041.0	III	B	1	18	45	
			CULG	2113.0	2116.0	III	G	2	18	180	
			HOLL	2114.0	2115.0	III		1	25	180	
			PALE	2114.0	2115.0	III		1	29	46	
			CULG	2222.0	2308.0	III	N	1	18	90	
			CULG	2314.0	2400.00	III	S	1	20	140	
	2148	2400	LEAR	2315.0	0400.0	III	N	1	25	180	
			HIRA	2335.0	2414.0	III	G	1	25X	200	
			PALE	2343.0	0348.0	CONT		1	25	180	
			CULG	2345.0	2400.00	III	GG	2	18	180	
11	0000	0800	CULG	0000.0E	0001.0	III	G	2	18	180	
			CULG	0000.0E	0332.0	III	S,C	1	18	180	
			LEAR	0436.0	0437.0	III		1	25	50	
	0000	0742	CULG	0437.0	0437.0	III	B	1	20	70	
			HIRA	0450.5	0451.0	III	B	1	110	210	
			CULG	0451.0	0451.0	III	G	1	57	180	
			LEAR	0522.0	0523.0	III		1	25	180	
			HIRA	0522.5	0523.0	III	B	2	50	330	
			CULG	0523.0	0523.0	III	B	1	30	360	
			LEAR	0532.0	0533.0	III		1	25	61	
			HIRA	0532.5	0533.0	III	B	1	30	110	
			CULG	0533.0	0533.0	III	B	1	23	90	
			CULG	0631.0	0655.0	III	GG	1	23	180	
			LEAR	0634.0	1055.0	III	N	1	25	180	
			HIRA	0635.0	0639.0	III	G	1	40	200	
			SVTO	0636.0	0636.0	III		1	25	40	
	0736	1200	IZMI	0808.0U	1005.0U	III	N	1	40	270X	
	0806	1414	POTS	0821 U	1414 U	I	S,N	1	200U	370	100-200MHz no data
	0832	1348	ONDR								
	0850	1500	BLEN								

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OBSERVATION		Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day	Start End (UT) (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
11	2000 2400	IZMI	0919.0U	0950.0U	III	S	2	35	270X	
		POTS	0922	0945	III	GG,N	1	40X	85U	
		SVTO	0930.0	1117.0	III	N	1	25U	180U	
		POTS	0957.0	1000.7	III	G	3	40X	85U	
		IZMI	1000.2	1000.6	III	G,S	2	25X	135	
		IZMI	1024.6	1026.4	I	GG	2	55	85	
		IZMI	1119.0	1200.0D	I	S	2	110U	180	
		POTS	1247.0	1248.0	DCIM		2	260	350	
		POTS	1323.1	1323.3	III	B	1	40X	80	
		SVTO	1405.0	1406.0	III		1	25U	84U	
		POTS	1405.2	1406.3	III	G	3	40X	85U	
		HOLL	1445.0	1447.0	III		1	25	180	
		SGMR	1445.0	1448.0	III		2	30	80	
		SVTO	1445.0	1447.0	III		1	25U	180U	
		CULG	2000.0E	2043.0	III	N	1	18	90	
		CULG	2019.0	2152.0	I	S	1	60	90	
		CULG	2137.0	2139.0	III	G	2	20	140	
		HOLL	2137.0	2139.0	III		1	25	133	
		PALE	2137.0	2139.0	III		1	25	55	
		CULG	2235.0	2237.0	III	G	1	20	160	
		HOLL	2241.0	2242.0	III		1	25	114	
		LEAR	2241.0	2242.0	III		1	25	118	
		PALE	2241.0	2242.0	III		1	25	58	
	2148 2400	HIRA	2241.5	2242.0	III	B	1	25X	100	
		CULG	2242.0	2242.0	III	B	2	18X	90	
12	0000 0800	CULG	0030.0	0044.0	III	G	1	23	90	
		LEAR	0042.0	0055.0	III	N	1	25	135	
		CULG	0055.0	0055.0	III	B	2	18X	130	
		CULG	0119.0	0121.0	III	G	1	20	90	
		CULG	0146.0	0155.0	III	G	1	20	160	
		LEAR	0151.0	0155.0	III		1	25	180	
	0000 0743	HIRA	0153.5	0155.5	III	G	1	25X	140	
		CULG	0221.0	0250.0	III	N	1	20	90	
		CULG	0316.0	0319.0	III	G	3	18X	90	
		HIRA	0316.0	0319.0	III	G	2	25X	110	
		LEAR	0316.0	0321.0	III		1	25	116	
		CULG	0321.0	0419.0	III	N	1	18	90	
		LEAR	0406.0	0416.0	III		1	25	180	
		CULG	0410.0	0418.0	III	GG	3	18	240	
		HIRA	0410.0	0418.0	III	G	2	25X	310	
		CULG	0531.0	0531.0	III	B	1	35	70	
	0700 1200	CULG	0616.0	0616.0	III	B	1	100	200	
		HIRA	0616.0	0616.5	III	B	1	160	220	
		CULG	0724.0	0800.0D	III	N	2	18X	180	
		LEAR	0727.0	0827.0	III	N	1	25	180	
		SVTO	0727.0	1517.0	III	N	1	25	180	
		IZMI	0727.0	0829.0U	III	N	1	45	95	
		IZMI	0727.2	0735.0	III	GG	2	40	175	
		IZMI	0736.9	0739.1	III	GG	2	45	95	
		IZMI	0757.1	0757.3	UNCLF		2	45	65	
		IZMI	0758.9	0759.4	III	G	2	35	85	
	0804 1417	IZMI	0815.7	0823.4	III	GG,C	2	30	175	
		POTS	0818.3U	0821.5	III	GG	1	40X	80	100-200MHz no data
	0830 1350	IZMI	0826.2	0828.2	III	G	1	55	90	
		ONDR								
	0850 1500	BLEN								
		POTS	0906.2	0906.8	DCIM		2	200U	310	
		POTS	1055.7	1056.1	DCIM		1	200U	280	
		IZMI	1055.8	1056.0	III	G	1	225	270X	
		POTS	1127	1142	I	S,N	1	200U	280	
		IZMI	1156.4	1156.8	III	G	2	45	170	
		POTS	1156.4	1157.0	III	G	2	40X	310	
		POTS	1158.8	1203.0	III	G	2	210	400	
		POTS	1300.8	1301.2	III	G	2	220	320	
		POTS	1303.7	1303.9	DCIM		1	270	290	
		POTS	1304.0	1304.2	III	B	1	40X	80	
		POTS	1321	1339	III	GG,N	1	200U	380	
		POTS	1406	1417 U	III	GG,N	1	40X	80	

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OBSERVATION			Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day	Start (UT)	End (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
12	2000	2400	CULG	2100.0	2101.0	III	G	1	30	180	
			CULG	2308.0	2312.0	III	G	1	25	130	
	2148	2400	HIRA	2308.0	2312.5	III	G	1	30	210	
			CULG	2358.0	2359.0	III	G	3	18X	700	
			HIRA	2358.0	2405.0	III	G	2	25X	400	
13	0000	0800	CULG	0002.0	0008.0	III	G	3	18X	450	
	0000	0744	HIRA	0033.5	0034.0	III	B	1	40	110	
			CULG	0034.0	0034.0	III	B	1	18	90	
			LEAR	0034.0	0034.0	III		1	25	104	
			CULG	0042.0	0042.0	III	B	1	18	90	
			CULG	0136.0	0150.0	III	GG	1	20	170	
			HIRA	0138.0	0143.5	III	G	1	25X	200	
			LEAR	0139.0	0143.0	III		1	25	108	
			CULG	0351.0	0353.0	III	G	1	25	90	
			HIRA	0351.0	0351.5	III	B	1	25X	80	
			CULG	0558.0	0559.0	III	G	2	35	240	
			HIRA	0558.0	0559.0	III	G	2	50	250	
			LEAR	0558.0	0558.0	III		1	25U	180U	
			LEAR	0604.0	0605.0	III		1	25U	180U	
			CULG	0605.0	0605.0	III	G	1	27	180	
			HIRA	0605.5	0606.5	III	G	1	50	270	
			CULG	0619.0	0723.0	III	N	1	40	180	
	0700	1200	IZMI	0712.1	0712.4	III	G	2	85	190	
			IZMI	0722.2	0723.4	III	G	2	45	250	
			SVTO	0723.0	0745.0	III	N	1	32	180	
			CULG	0737.0	0738.0	III	G	1	18	230	
			LEAR	0737.0	0745.0	III	N	1	25	180	
			IZMI	0737.1	0737.6	III	GG,C	2	45	270X	
			IZMI	0737.5	0738.1	III	GG,C	2	40	270X	
			IZMI	0740.4	0745.3	III	GG,C	2	35	270X	
	0719	1200	CULG	0741.0	0745.0	III	G	3	25	220	
			POTS	0828.2	0829.7	UNCLF		1	200U	400	100-200MHz no data
	0803	1416	IZMI	0828.4	0829.3	III	G	1	110	215	
			ONDR								
	0830	1352	BLEN								
	0850	1500									
	0702	1200	IZMI	0903.9	0904.1	III	G	1	110	200	
			POTS	0916	0929	I	S,N	1	200U	380	
			POTS	0943	1034 U	I	S,N	1	200U	280	
			IZMI	0944.2	0944.3	III	B	2	110	195	
			IZMI	1011.8	1014.5	III	GG	1	45	190	
			POTS	1101.9	1102.6	III	G	1	45	75	
			POTS	1107.6	1108.0	III	G	2	200U	450	
			IZMI	1107.7	1107.9	III	G	2	110	270X	
			POTS	1108.0	1111.4	I	S,N	1	240	350	
			IZMI	1115.6	1115.9	III	G	1	120	180	
			POTS	1138	1312	I	S,N,DC	1	200U	400	
			IZMI	1138.6	1139.1	III	G	2	110	175	
			POTS	1138.6	1140.6	III	G	1	45	60	
			IZMI	1140.3	1140.4	III	G	2	110	155	
			IZMI	1145.2	1147.5	III	GG	1	110	170	
			POTS	1253.5	1305.5	III	GG	3	40X	340	
			SVTO	1254.0	1357.0	III	N	1	34	180	
			POTS	1334.7	1335.4	III	G	1	40X	55	
			POTS	1347	1416 U	I	S,N	1	200U	270	
			POTS	1355.7	1357.7	III	G	1	40X	85U	
			HOLL	1447.0	1453.0	III		1	25	180	
			SGMR	1447.0	1449.0	III		1	30	80	
			SVTO	1447.0	1452.0	III		1	33	180	
			HOLL	1608.0	1612.0	CONT		1	25	44	
			HOLL	1608.0	1617.0	III		1	25	180	
			HOLL	1930.0	1933.0	III		1	25	180	
			PALE	1930.0	1931.0	III		1	25	138	
	2000	2400	CULG	2219.0	2231.0	III	GG	1	20	130	
			HIRA	2221.0	2230.5	III	G	1	25X	110	
	2148	2400	PALE	2358.0	0005.0	III		1	25	180	
14	0000	0800	LEAR	0321.0	0325.0	III		1	25	180	
			CULG	0321.0	0324.0	III	G	2	18	160	

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OBSERVATION			Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day	Start (UT)	End (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
14	0000 0745		HIRA	0321.5	0324.0	III	G	1	30	200	
			CULG	0554.0	0555.0	III	G	2	18	180	
			HIRA	0554.0	0555.0	III	B	1	25X	200	
			LEAR	0554.0	0554.0	III		2	25	180	
			CULG	0556.0	0556.0	III	G	1	40	90	
	0828	1354	ONDR								
	0802	1417	POTS	0858	1127	I	S,N,DC	2	200U	400	100-200MHz no data
	0850	1500	BLEN	0906.0	0950.0	I	DC	2	200	400	
	0658	1202	IZMI	0911.0	1034.0	I	S	2	180	270X	
			POTS	0940.5	0941.7	III	GG	2	200U	290	
			IZMI	0940.6	0941.5	III	G	2	180	270X	
			IZMI	1110.4	1111.2	III	G,C	2	140	270X	
			POTS	1110.4	1110.6	III	G,RS	2	200U	360	
			IZMI	1116.1	1117.8	III	GG	2	35	250	
			POTS	1116.8	1117.8	III	G	2	40X	280	
			SVTO	1117.0	1117.0	III		1	25U	81U	
			POTS	1121.4	1123.5	III	GG	2	200U	280	
			IZMI	1121.5	1121.7	III	G,U	2	140	265	
			POTS	1141.6	1143.1	III	G	2	200U	380	
			IZMI	1142.7	1143.2	III	G,U	2	120	270X	
			POTS	1202	1417 U	I	S,N	1	200U	370	
			SVTO	1203.0	1204.0	III		1	25U	82U	
			POTS	1203.3	1204.2	III	G	2	40X	360	
			POTS	1332	1342	I	S,N	1	230	330	
	2000	2400	CULG	2000.0	2001.0	III	G	1	30	90	
	2147	2400	HIRA	2229.5	2230.0	III	B	1	100	200	
			CULG	2230.0	2231.0	III	G	1	60	180	
			HIRA	2332.0	2332.5	III	B	1	50	100	
			LEAR	2332.0	2332.0	III		1	40	93	
			CULG	2333.0	2338.0	III	G	1	30	90	
15	0000	0746	HIRA								
			LEAR	0141.0	0142.0	III		1	25	96	
	0000	0800	CULG	0141.0	0143.0	III	G	1	27	130	
			CULG	0729.0	0740.0	III	G	1	25	90	
	0700	1200	IZMI	0729.2	0729.3	III	B	1	45	90	
			IZMI	0737.7	0739.5	III	G	1	45	90	
			IZMI	0808.1	0808.4	III	G	1	40	85	
			IZMI	0808.1	0808.4	III	G	1	40	85	
	0802	1419	POTS	0813	0822 U	I	S,N	1	230	320	100-200MHz no data
	0827	1356	ONDR								
	0850	1500	BLEN								
			IZMI	0916.8	0918.3	III	G	2	35	160	
			POTS	0916.9	0920.0	III	GG	2	40X	380	
			LEAR	0917.0	0920.0	III		1	25	180	
			SVTO	0917.0	0920.0	III		1	30U	83U	
			IZMI	0918.6	0920.3	III	GG	1	45	95	
			IZMI	0931.4	0931.6	III	B	1	50	90	
			POTS	0931.5	0931.7	III	B	1	40X	80	
			POTS	1022.1	1022.9	I	DC	1	200U	240	
			IZMI	1031.5	1031.6	III	B	1	45	90	
			POTS	1126	1133	I	S,N	1	200U	240	
			POTS	1314	1407	I	S,N	1	200U	300	
	2147	2400	HIRA								
	2000	2400	CULG	2338.0	2338.0	III	B	1	30	90	
			CULG	2356.0	2356.0	III	B	1	30	90	
16	0000	0800	CULG	0047.0	0047.0	III	B	1	18	45	
			HIRA	0106.5	0107.0	III	B	1	130	560	
	0000	0747	CULG	0107.0	0110.0	III	G	1	130	240	
			CULG	0120.0	0800.00	I	S	1	80	160	
			LEAR	0205.0	1032.0	CONT		1	75	137	
			CULG	0301.0	0302.0	III	G	1	60	160	
			CULG	0350.0	0351.0	III	G	1	30	90	
			LEAR	0404.0	0404.0	III		1	25	55	
			CULG	0405.0	0405.0	III	B	1	30	60	
			CULG	0605.0	0607.0	III	G	1	35	80	
	0658	1200	IZMI	0658.8	0705.0	I	GG,DC	2	110	140	
			CULG	0712.0	0712.0	III	B	1	25	80	
			IZMI	0712.4	0712.5	III	B	1	55	85	

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OBSERVATION			Sta	EVENT		Event Remarks	Int (1-3)	FREQUENCY		Remarks
Start	End	Day		Start	End	Spectral Class		Lower (MHz)	Upper (MHz)	
(UT)	(UT)	(UT)		(UT)	(UT)					
16	0826 1358		ONDR							
	0850 1500		BLEN							
	0802 1420		POTS	0902.9	0904.0	DCIM	1	330	410	100-200MHz no data
			POTS	1007	1020	I	1	230	390	
			POTS	1035.1	1035.4	I	1	200U	230	
			IZMI	1110.5	1110.7	III	1	55	85	
			POTS	1110.6	1110.8	III	1	40X	60	
	2146 2400		HIRA							
	2000 2400		CULG	2328.0	2338.0	III	1	30	90	
17	0000 0800		CULG	0051.0	0051.0	III	1	35	90	
			CULG	0137.0	0137.0	III	1	40	160	
			CULG	0452.0	0452.0	III	1	30	100	
			LEAR	0452.0	0452.0	III	1	25	86	
	0000 0748		HIRA	0452.0	0452.5	III	1	30	120	
			LEAR	0558.0	0559.0	III	1	25	180	
			HIRA	0558.5	0559.5	III	1	30	190	
			CULG	0559.0	0559.0	III	3	23	170	
			CULG	0601.0	0601.0	III	1	30	75	
			HIRA	0601.5	0602.0	III	1	40	100	
			CULG	0624.0	0624.0	III	1	30	80	
			LEAR	0631.0	0634.0	III	1	25	180	
			HIRA	0631.5	0634.0	III	1	30	180	
			CULG	0632.0	0634.0	III	3	23	120	
			SVTO	0633.0	0634.0	III	1	25U	62U	
			CULG	0658.0	0700.0	III	1	23	75	
			CULG	0702.0	0703.0	III	1	27	150	
			HIRA	0707.0	0707.5	III	1	40	140	
			LEAR	0707.0	0710.0	III	1	25	134	
	0700 1200		IZMI	0707.1	0708.0	III	1	45	170	
			IZMI	0710.4	0710.8	III	1	45	125	
			HIRA	0710.5	0711.0	III	1	40	110	
			CULG	0711.0	0711.0	III	2	23	150	
			CULG	0718.0	0718.0	III	1	30	80	
			CULG	0733.0	0735.0	III	3	20	180	
			LEAR	0733.0	0734.0	III	1	25	180	
			SVTO	0733.0	0734.0	III	1	25	180	
			IZMI	0733.4	0734.2	III	2	40	190	
			HIRA	0733.5	0734.5	III	1	50	180	
			CULG	0742.0	0742.0	III	1	27	45	
			CULG	0745.0	0746.0	III	3	20	180	
			LEAR	0745.0	0746.0	III	1	25	180	
			SVTO	0745.0	0745.0	V	1	25	180	
			IZMI	0745.2	0745.8	III	2	35	190	
	0756 1422		POTS	0813	0825	I	1	200U	370	100-200MHz no data
			IZMI	0821.3	0821.5	III	1	45	120	
			IZMI	0823.2	0823.8	III	1	170	270	
			POTS	0823.2	0824.3	III	2	200U	290	
	0825 1400		ONDR							
	0850 1500		BLEN							
			IZMI	0911.8	0912.4	III	1	45	140	
			POTS	1207.7	1208.1	III	1	200U	410	
	2000 2400		CULG	2145.0	2153.0	III	1	20	170	
	2146 2400		HIRA							
			HOLL	2150.0	2150.0	III	1	25	81	
			CULG	2220.0	2226.0	III	1	18	130	
18	0000 0749		HIRA							
	0000 0800		CULG	0132.0	0132.0	III	1	30	90	
			CULG	0138.0	0138.0	III	1	27	75	
			CULG	0441.0	0441.0	III	1	30	80	
			LEAR	0441.0	0603.0	III	1	25	107	
			CULG	0450.0	0454.0	III	1	25	90	
	0756 1423		POTS	0822	0923	I	1	200U	300	100-200MHz no data
	0823 1402		ONDR							
	0850 1500		BLEN							
			POTS	0854.0	0855.8	DCIM	2	210	450	
			POTS	0904	0907	DCIM	1	290	420	
			POTS	0913.6	0917.6	DCIM	2	200U	420	

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

Spectral Observations

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JANUARY 2003

OBSERVATION			Sta	EVENT			Int (1-3)	FREQUENCY		Remarks		
Day	Start (UT)	End (UT)		Start (UT)	End (UT)	Spectral Class		Event Remarks	Lower (MHz)		Upper (MHz)	
18	0700	1200	POTS	0958.8	0959.0	III	B	1	200U	290		
			IZMI	0958.8	0958.9	III	B	1	45	95		
			POTS	1002.2	1002.4	DCIM		1	220	340		
			POTS	1016	1023	I	S	1	220	270		
			POTS	1042	1317	I	S,N	1	210	400		
			POTS	1344.7	1345.2	DCIM		2	270	370		
			POTS	1406	1423 U	I	S,N	1	200U	310		
	2000	2400	HOLL	2136.0	2137.0	III		1	25	180		
			CULG	2137.0	2138.0	III	G	1	27	140		
			HIRA									
			CULG	2225.0	2231.0	III	G	1	57U	140		
			LEAR	2251.0	2251.0	III		1	25	98		
			2146	2400								
19	0000	0800	CULG	0000.0	0000.0	III	B	1	25	130		
			CULG	0347.0	0348.0	III	G	1	60	150		
	0000	0750	HIRA	0347.5	0348.0	III	G	1	80	120		
			HIRA	0414.5	0416.0	III	G	1	90	330		
			CULG	0415.0	0416.0	III	G	1	70	360		
			LEAR	0415.0	0415.0	III		1	94	180		
			LEAR	0425.0	0425.0	III		3	25	180		
			HIRA	0425.5	0426.0	III	B	1	25X	140		
			CULG	0426.0	0426.0	III	B	3	18	140		
			CULG	0514.0	0602.0	III	N	1	23	160		
			LEAR	0514.0	0514.0	III		1	25	92		
			HIRA	0514.5	0515.0	III	B	1	25X	110		
			LEAR	0655.0	0656.0	III		1	25	121		
			HIRA	0655.5	0656.0	III	B	1	50	110		
			CULG	0656.0	0656.0	III	B	1	45	110		
			SVTO	0701.0	0701.0	III		1	29U	180U		
			LEAR	0708.0	0709.0	III		1	25	76		
	0700	1200	HIRA	0708.5	0709.0	III	B	1	40	80		
			IZMI	0708.9	0709.1	III	B	1	45	95		
			CULG	0709.0	0709.0	III	B	1	23	75		
	0822	1404	ONDR									
			IZMI	0927.7	0928.2	III	G	1	45	95		
	0754	1425	IZMI	0957.2	0957.2	III	B	1	45	85		
			POTS	1100	1139	I	S,N	1	220	340	100-200MHz no data	
			IZMI	1136.9	1138.2	III	GG,C	2	40	260		
			SVTO	1137.0	1137.0	III		1	28U	180U		
			POTS	1137.3	1138.2	III	G	2	40X	260		
			POTS	1231	1358	I	S,N,DC	2	200U	400		
			SVTO	1251.0	1253.0	III		1	29U	180U		
			POTS	1252.3	1253.1	III	G,RS	2	40X	270		
			BLEN	1412.3	1417.5	III	GG,RS,S	3	200	1200		
			POTS	1412.9	1416.4	DCIM		2	200U	510		
	0850	1500	HOLL	1447.0	1448.0	III		1	25	180		
			SVTO	1447.0	1448.0	III		1	25	180		
			BLEN	1447.2	1448.3	III	GG	2	140	300		
			HOLL	1621.0	1622.0	III		1	87	180		
			CULG	2119.0	2119.0	III	B	1	20	140		
	2000	2400										
	2145	2400	HIRA									
			CULG	2158.0	2158.0	III	B	1	30	90		
20	0000	0751	HIRA	0149.0	0150.5	III	G	1	50	180		
			CULG	0149.0	0150.0	III	G	1	20	160		
	0000	0800	HIRA	0308.5	0309.0	III	B	1	40	110		
			CULG	0309.0	0309.0	III	B	1	30	100		
	0700	1200	IZMI	0706.9	0714.7	III	GG	2	30	270X		
			CULG	0708.0	0714.0	III	GG	3	23	230		
			HIRA	0708.0	0714.5	III	G	2	40	220		
			LEAR	0708.0	0714.0	III	N	1	25	180		
			SVTO	0708.0	0714.0	III		1	25	180		
			CULG	0717.0	0724.0	III	G	1	25	85		
			IZMI	0718.2	0722.3	III	G	1	45	95		
			POTS	0816.0	0816.5	DCIM		1	330	430	100-200MHz no data	
	0753	1426										
	0820	1406	ONDR									
			SVTO	0941.0	0941.0	III		1	25U	152U		
			IZMI	1020.7	1021.4	III	G	1	110	210		
			POTS	1021.7	1022.6	I	S	1	200U	330		

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

JANUARY 2003

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	0840 1510	POTS	1109	1128	I	S,N	1	260	330	
		POTS	1123.9	1124.3	III	G	1	200U	370	
		POTS	1238	1426 U	I	S,N	1	200U	300	
		POTS	1255.7	1255.9	III	G	1	200U	330	
		POTS	1411.4	1411.6	III	B	1	40X	65	
		POTS	1418.0	1418.3	III	G	1	45	80	
		BLN	1448.0	1502.5	III	GG,S	2	140	400	
		SVTO	1457.0	1459.0	III		1	25U	144U	
		HOLL	1458.0	1500.0	III		1	25	157	
		HOLL	1919.0	1921.0	III		1	25	131	
	PALE	1920.0	1921.0	III		1	25	110		
	2055 2400	SGMR	1920.0	1920.0	III		1	30	55	
		CULG	2120.0	2121.0	III	G	1	57U	140	
		HOLL	2130.0	2131.0	III		1	25	180	
		CULG	2131.0	2132.0	III	G	3	18	160	
		PALE	2131.0	2131.0	III		1	25	58	
		CULG	2322.0	2338.0	III	GG	1	25	180	
		LEAR	2322.0	2338.0	III	N	1	25	180	
		CULG	2323.0	2325.0	III	G	3	20	400	
		HOLL	2323.0	2326.0	III		1	25	180	
2145 2400		HIRA	2323.0	2327.5	III	G	2	25X	460	
CULG	2355.0	2355.0	III	B	1	20	90			
21	0000 0752 0000 0800	LEAR	0224.0	0244.0	III	N	1	25	180	
		PALE	0224.0	0226.0	III	N	2	29	162	
		HIRA	0224.5	0229.0	III	G	3	30	330	
		CULG	0225.0	0229.0	III	G	3	18X	480	
		CULG	0228.0	0234.0	II	FN	1	40	75	FLA
		CULG	0229.0	0234.0	II	SH	1	60	130	ESS 700
		CULG	0229.0	0246.0	III	N	1	20	160	
		LEAR	0229.0	0235.0	II		1	39	121	ESS 0514
		HIRA	0229.5	0234.0	II		1	60	110	
		CULG	0323.0	0356.0	III	N	1	23	90	
	0818 1408 0657 1200	CULG	0425.0	0426.0	III	G	2	25	90	
		HIRA	0425.0	0425.5	III	B	1	50	80	
		LEAR	0425.0	0439.0	III	N	1	25	180	
		CULG	0431.0	0440.0	III	GG	1	23	170	
		HIRA	0432.0	0439.5	III	G	1	40	230	
		CULG	0552.0	0555.0	III	G	3	18X	750	
		HIRA	0552.0	0554.5	III	G	2	40	460	
		LEAR	0552.0	0554.0	III		3	25	180	
		LEAR	0557.0	0601.0	II		2	52U	148U	ESS 0542
		HIRA	0557.5	0602.0	II		1	80	120	
	0750 1428	CULG	0558.0	0604.0	II	FN	1	40	70	FLA
		CULG	0558.0	0604.0	II	SH	1	60	140	ESS 700
		CULG	0747.0	0747.0	III	B	1	27	70	
		ONDR	0849.2	0849.3	III	B	1	40	95	
		LEAR	0850.0	0854.0	III		1	25	180	
		SVTO	0850.0	0854.0	III		1	28U	152U	
		IZMI	0851.0	0851.7	III	G	2	45	270X	
		POTS	0851.0	0854.7	III	G	2	40X	470	100-200MHz no data
		IZMI	0853.5	0854.5	III	G,C	2	25X	240	
		POTS	1015.5	1016.5	III	G	2	40X	480	
	0840 1510	IZMI	1015.6	1016.3	III	G	2	40	270X	
		SVTO	1057.0	1058.0	III		1	50	126	
		POTS	1057.9	1058.1	III	B	2	40X	80	
POTS		1057.9	1058.4	DCIM		2	210	370		
IZMI		1058.0	1058.2	III	G,C	2	25X	95		
POTS		1058.0	1058.3	V	B	2	40X	60		
POTS		1121.3	1121.5	III	B	1	40X	60		
POTS		1145.0	1151.2	III	G,RS	2	40X	450		
IZMI		1146.0	1146.2	III	G	2	55	270X		
POTS		1206.0	1210.0	III	G	2	40X	340		
SVTO	1208.0	1208.0	III		1	29	76			
POTS	1231.9	1238.6	III	G,N	1	40X	330			
POTS	1248	1309	III	GG,N	3	40X	340			
SVTO	1249.0	1326.0	III	N	2	25	180			
BLN	1304.7	1307.7	III	G	2	100X	400			

FLA
ESS 700

ESS 0514

ESS 0542

FLA
ESS 700

100-200MHz no data

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

Spectral Observations

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JANUARY 2003

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)	
21	2000	2400	POTS	1323.5	1323.8	III	G	1	40X	60	
			POTS	1333.3	1335.4	III	G	1	200U	280	
			POTS	1347.3	1349.0	III	G	1	40X	65	
			SVTO	1415.0	1417.0	III		1	42	161	
			POTS	1415.9	1417.4	III	G	2	40X	270	
			HOLL	1611.0	1614.0	III		1	25	141	
			HOLL	1824.0	1830.0	III		1	25	133	
			CULG	2132.0	2134.0	III	G	2	20	120	
			HOLL	2133.0	2144.0	III	N	1	25	180	
			PALE	2133.0	2144.0	III	N	1	25	177	
	2145	2400	CULG	2138.0	2141.0	III	G	3	18	400	
			CULG	2144.0	2144.0	III	B	2	20	90	
			CULG	2150.0	2153.0	III	G	1	57U	110	
			CULG	2252.0	2257.0	III	G	2	23	90	
			HOLL	2252.0	2306.0	III	N	1	25	139	
			LEAR	2252.0	2306.0	III	N	2	25	180	
			PALE	2256.0	2306.0	III	N	1	25	51	
			HIRA	2257.0	2258.0	III	B	1	30	70	
			CULG	2303.0	2303.0	III	B	1	27	40	
			CULG	2304.0	2306.0	III	G	3	18X	160	
			HIRA	2304.5	2306.5	III	G	2	25X	240	
22	0000	0800	LEAR	0054.0	0102.0	III		1	25	101	
			CULG	0055.0	0059.0	III	G	1	25	75	
			CULG	0118.0	0119.0	III	G	2	18	70	
			CULG	0259.0	0311.0	III	G	3	18X	180	
	0000	0753	LEAR	0259.0	0313.0	III	N	1	25	180	
			HIRA	0259.5	0300.0	III	G	1	25X	200	
			CULG	0312.0	0313.0	III	G	1	23	180	
			HIRA	0312.5	0313.0	III	B	1	50	200	
			CULG	0325.0	0325.0	III	B	2	23	100	
			HIRA	0325.0	0325.5	III	B	1	30	100	
			CULG	0356.0	0357.0	III	B	3	23	120	
			HIRA	0356.0	0357.0	III	B	1	25X	110	
			LEAR	0356.0	0357.0	III		1	25	180	
			LEAR	0415.0	0634.0	III	N	1	25	180	
			HIRA	0417.5	0418.0	III	B	1	30	250	
			CULG	0418.0	0418.0	III	B	1	27	160	
			CULG	0436.0	0449.0	III	GG	3	18	280	
			HIRA	0436.0	0450.5	III	G	2	25X	240	
			HIRA	0507.5	0508.0	III	B	1	25X	210	
	0700	1014	CULG	0508.0	0508.0	III	B	1	27	150	
			CULG	0530.0	0540.0	III	G	1	30	160	
			HIRA	0530.0	0540.0	III	G	1	25X	230	
			IZMI	0703.5	0704.6	III	G	1	45	85	
			LEAR	0714.0	0714.0	III		1	25	148	
			SVTO	0714.0	0714.0	III		1	25U	84U	
			HIRA	0714.5	0715.0	III	B	1	30	200	
			IZMI	0714.5	0715.2	III	G	2	25X	180	
			CULG	0715.0	0715.0	III	B	1	18	170	
			IZMI	0746.6	0746.8	III	B	1	45	90	
			CULG	0747.0	0800.00	III	N	1	25	90	
			CULG	0750.0	0750.0	III	G	3	23	500	
			IZMI	0750.0	0751.9	III	GG,C	2	30	270X	
			LEAR	0750.0	0750.0	III		1	25	180	
			SVTO	0750.0	0750.0	III		1	25	180	
	0747	1430	POTS	0750.0	0751.2	III	GG	2	40X	480	100-200MHz no data
			POTS	0756.3	0756.7	DCIM		1	350	480	
			IZMI	0815.5	0815.6	III	B	1	45	65	
	0817	1410	ONDR								
			BLEN								
			IZMI	0854.5	0854.6	III	G	1	45	85	
	2000	2400	HOLL	1748.0	1748.0	III		1	25	149	
			HOLL	1814.0	1815.0	III		1	25	135	
			CULG	2004.0	2004.0	III	B	1	20	57	
			CULG	2053.0	2056.0	III	G	1	27	70	
			CULG	2154.0	2155.0	III	G	1	27	180	
			CULG	2223.0	2226.0	III	G	1	18	140	
	2144	2400	HIRA	2224.5	2225.0	III	B	1	30	180	

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SOLAR RADIO EMISSION Spectral Observations

JANUARY 2003

OBSERVATION					EVENT		Event Remarks	Int (1-3)	FREQUENCY		Remarks
Start Day	End (UT)	Sta	Start (UT)	End (UT)	Spectral Class				Lower (MHz)	Upper (MHz)	
22		CULG	2241.0	2244.0	III	G		1	18	50	
		CULG	2309.0	2310.0	III	G		1	200	950	
		HIRA	2309.5	2310.0	III	B		1	130	250	
		LEAR	2315.0	2316.0	III			1	25	180	
		HIRA	2315.5	2316.5	III	G		1	40	270	
		CULG	2316.0	2317.0	III	G		1	25	170	
		CULG	2343.0	2346.0	III	G		1	27	140	
23	0000 0800	CULG	0054.0	0100.0	III	G		1	27	130	
		LEAR	0216.0	0224.0	III			1	25	180	
	0000 0754	HIRA	0216.5	0225.0	III	G		1	25X	210	
		CULG	0217.0	0219.0	III	G		2	18X	1000	
		CULG	0222.0	0225.0	III	G		1	23	180	
		CULG	0427.0	0432.0	III	G		1	23	700	
		HIRA	0427.0	0431.5	III	G		1	25X	1000	
		LEAR	0427.0	0457.0	III	N		2	25	180	
		CULG	0431.0	0431.0	III	B		3	18	140	
		HIRA	0432.0	0444.0	II			1	30	80	
		HIRA	0432.0	0444.0	II			3	60	140	
		LEAR	0432.0	0444.0	II			3	31	170	ESS 0476
		CULG	0433.0	0444.0	II	FN		2	30	85	
		CULG	0433.0	0445.0	II	SH		3	57	160	ESS 450
		CULG	0443.0	0448.0	III	G		3	18X	850	
		HIRA	0443.5	0447.0	III	G		1	25X	600	
		CULG	0447.0	0503.0	II	SH		3	35	140	ESS 450
		HIRA	0447.0	0501.0	II			3	40	130	
		LEAR	0447.0	0502.0	II			3	25	146	ESS 0413
		CULG	0448.0	0500.0	II	FN		2	20	65	
		CULG	0455.0	0457.0	III	G		1	18	160	
		LEAR	0705.0	0706.0	III			1	25	180	
	0700 1200	IZMI	0705.6	0706.6	III	GG,C		2	40	270X	
		CULG	0706.0	0708.0	III	G		2	18	300	
		HIRA	0706.0	0706.5	III	B		1	30	320	
		IZMI	0707.9	0708.3U	III	G		1	45	90	
	0745 1433	POTS	0801.4	0801.8	DCIM			1	350	420	100-200MHz no data
		POTS	0804.6	0810.3	III	GG		2	200U	430	
		IZMI	0805.8	0809.1	III	GG		1	130	270X	
		POTS	0826.5	0828.8	DCIM			2	250	460	
		POTS	0904.7	0905.5	III	G		1	200	300	
		LEAR	1012.0	1013.0	III			1	74	172	
		IZMI	1043.0	1043.7	III	G,U		2	110	170	
		IZMI	1044.2	1044.3	III	B		1	45	80	
		POTS	1044.3	1044.5	III	B		1	40X	80	
		POTS	1124.4	1129.0	III	GG		2	40X	280	
		IZMI	1124.5	1126.0	III	GG		1	55	210	
		SVTO	1127.0	1128.0	III			1	25	180	
		IZMI	1127.8	1128.9	III	GG		2	25X	270X	
		POTS	1145.0	1148.0	III	GG		1	200U	320	
		ONDR	1223.3	1223.4	DCIM	G		2	964	1311	
		ONDR	1233.2	1251.3	DCIM	G		1	800X	2000X	
		SVTO	1236.0	1237.0	III			2	25	180	
	0815 1413	ONDR	1236.1	1241.4	DCIM	GG		2	2000X	4500X	
	0830 1515	BLEN	1236.4	1248.5	II	H		3	100X	4000X	
		POTS	1236.6	1237.4	III	G		3	40X	660	
		POTS	1236.9	1240.7	DCIM			2	330	500	
		POTS	1237.5	1250	IV			2	40X	430	
		SVTO	1239.0	1253.0	II			2	41	180	ESS 0578
		POTS	1239.2	1256.2	II	F,H		3	40X	380	
		POTS	1321 U	1433 U	I	S,N		1	200U	270	
	2000 2400	CULG	2042.0	2042.0	III	B		1	25	45	
		LEAR	2344.0	2344.0	III			1	25	180	
	2144 2400	HIRA	2344.5	2345.0	III	B		1	30	230	
24		LEAR	0126.0	0127.0	III			1	25	180	
	0000 0433	HIRA	0126.5	0127.0	III	B		1	40	110	
	0000 0800	CULG	0317.0	0336.0	IV			3	200U	1000	
		HIRA	0317.5	0328.0	II			3	40	130	
		HIRA	0318.0	0337.0	IV			3	100	700	
		HIRA	0318.5	0328.0	II			3	80	250	

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OBSERVATION		Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day	Start End (UT) (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
24		CULG	0319.0	0334.0	II	SH	2	50	260	SWF ESS 600
		LEAR	0319.0	0329.0	II		1	86	180	ESS 0556
		PALE	0319.0	0331.0	II		2	50	180	ESS 0658
		CULG	0320.0	0330.0	II	FN	3	35	120	
		CULG	0321.0	0324.0	III	G	2	18	1300	
		CULG	0337.0	0337.0	III	B	1	35	70	
	0500 0755	HIRA								
	0814 1415	ONDR								
	0702 1200	IZMI	0814.6	0814.8	III	B	1	45	85	
		IZMI	0826.0	0826.2	II	G	1	45	95	
	0830 1515	BLEN								
		IZMI	0836.3	0905.5	III	N	1	40	95	
		IZMI	0842.5	0845.6	III	GG	2	45	95	
		IZMI	0903.5	0903.8	III	G	1	45	65	
	0743 1437	IZMI	0919.0	0919.2	III	G	1	45	160	
		POTS	0944	0955	I	S,N,DC	1	200U	390	100-200MHz no data
		IZMI	0945.1	0945.1	III	B	1	90	145	
		IZMI	0946.9	0947.0	III	B	2	90	190	
		LEAR	0954.0	0955.0	III		1	25	180	
		SVTO	0954.0	0955.0	III		1	29U	82U	
		POTS	0954.6	0955.1	III	G	2	40X	350	
		IZMI	0954.7	0955.2	III	G,C	1	25X	250	
		IZMI	1015.5	1016.0	III	G	1	60	150	
		IZMI	1020.7	1020.9	III	B	1	45	120	
		POTS	1020.8	1021.1	III	B	1	40X	230	
		POTS	1209	1212	UNCLF		1	200U	270	
		POTS	1217.1	1217.3	UNCLF		1	45	60	
		POTS	1325.9	1328.1	III	G,N	1	40X	280	
		HOLL	1847.0	1853.0	III		1	25U	138U	
		HOLL	2003.0	2009.0	III		1	25	180	
	2000 2400	CULG	2003.0	2004.0	III	G	1	20	150	
		CULG	2008.0	2011.0	III	G	1	20	180	
		CULG	2051.0	2051.0	III	G	2	18	150	
		CULG	2207.0	2214.0	III	GG	1	23	180	
		LEAR	2238.0	1054.0	III	N	1	25	180	
		CULG	2249.0	2249.0	III	B	1	25	130	
		CULG	2300.0	2302.0	III	G	2	18	180	
		HOLL	2300.0	2301.0	III		1	25	180	
	2143 2400	HIRA	2300.5	2302.0	III	G	1	25X	300	
25	0000 0800	CULG	0015.0	0017.0	III	G	1	23	150	
		CULG	0027.0	0028.0	III	G	1	18	150	
		CULG	0043.0	0043.0	III	B	1	27	90	
		CULG	0109.0	0201.0	III	N	1	20	180	
	0000 0756	HIRA	0116.5	0118.0	III	G	1	40	230	
		CULG	0238.0	0238.0	III	B	1	20	130	
		CULG	0338.0	0346.0	III	GG	1	23	150	
		HIRA	0342.0	0345.0	III	G	1	30	130	
		CULG	0433.0	0508.0	III	N	1	20	180	
		CULG	0609.0	0609.0	III	B	2	18	90	
		CULG	0636.0	0636.0	III	B	1	20	90	
		CULG	0658.0	0700.0	III	G	1	23	140	
	0719 1200	IZMI	0732.6	0732.7	III	B	2	40	180	
		CULG	0733.0	0733.0	III	B	2	27	180	
	0740 1441	POTS	0740	0944	I	S,N	2	200U	380	100-200MHz no data
		IZMI	0746.7	0748.7	III	G	1	45	95	
		CULG	0747.0	0749.0	III	B	1	27	90	
		IZMI	0806.0	0816.0U	I	N	1	200	270X	
	0812 1417	ONDR								
		IZMI	0823.0	0827.4	III	GG	2	40	250	
		IZMI	0839.8	0840.0	III	B	1	45	90	
		IZMI	0908.2	0910.4	III	GG	2	45	215	
		POTS	0908.6	0910.1	III	G	1	40X	350	
		IZMI	0923.2	0923.6	III	GG	2	45	190	
		POTS	0923.2	0923.6	III	G	1	40X	370	
		IZMI	0948.4	1000.4	III	G	1	40	180	
		SVTO	1010.0	1010.0	III		1	30U	83U	
		IZMI	1010.7	1010.9	III	G	2	35	130	
		POTS	1010.7	1011.0	III	G	2	40X	85U	

JANUARY 2003

OBSERVATION			EVENT			FREQUENCY			Remarks		
Start	End	Sta	Start	End	Spectral	Event	Int	Lower		Upper	
Day	(UT)		(UT)	(UT)	(UT)	Class	Remarks	(1-3)	(MHz)	(MHz)	
25			POTS	1123.7	1128.5	III	GG	2	40X	300	
			IZMI	1124.1	1127.9	III	GG	2	25X	220	
	0820	1520	BLEN	1124.7	1125.5	III	G,RS	2	100X	500	
			POTS	1236.7	1304.3	III	GG,N	2	40X	400	
			POTS	1323.8	1332.8	III	GG,N	3	40X	470	
			SGMR	1325.0	1325.0	III		1	30	55	
			SVTO	1325.0	1328.0	III		2	25	153	
			BLEN	1325.6	1331.3	III	GG,S	2	100X	2800	
			POTS	1341	1441 U	I	S,N,DC	2	250	390	
			POTS	1427.3	1435.3	III	G,N	2	40X	85U	
			PALE	1850.0	1851.0	III		1	25	180	
			HOLL	1851.0	1851.0	III		1	25	153	
	2000	2400	CULG	2005.0	2130.0	III	N	1	18	180	
			HOLL	2056.0	2210.0	III	N	1	25	165	
			PALE	2059.0	2104.0	III		1	25	180	
			CULG	2100.0	2100.0	III	B	2	18	180	
			PALE	2122.0	0207.0	III	N	1	25	180	
			CULG	2123.0	2125.0	III	G	2	18	130	
			CULG	2131.0	2131.0	III	B	2	18	90	
	2142	2400	HIRA	2156.0	2203.0	III	G	1	40	180	
			CULG	2157.0	2203.0	III	G	3	18	90	
			CULG	2210.0	2210.0	III	B	3	18	90	
			HIRA	2210.0	2210.5	III	B	2	30	150	
			LEAR	2210.0	2210.0	III		1	25	180	
			LEAR	2251.0	2252.0	III		1	25	128	
			CULG	2252.0	2259.0	III	G	2	18	60U	
			HIRA	2252.0	2259.5	III	G	1	25X	110	
			LEAR	2254.0	2304.0	III		1	25	140	
			HIRA	2303.5	2304.5	III	G	1	70	130	
			LEAR	2336.0	2340.0	III		1	26	87	
			HIRA	2337.0	2337.5	III	B	1	30	90	
			LEAR	2358.0	0001.0	III		1	25	101	
			HIRA	2359.0	2401.0	III	G	1	25X	100	
26			LEAR	0008.0	0010.0	III		1	25	83	
	0000	0758	HIRA	0010.0	0010.5	III	B	1	25X	80	
			LEAR	0033.0	0037.0	III		2	25	154	
			HIRA	0033.5	0038.0	III	G	1	25X	170	
			LEAR	0044.0	0102.0	III	N	1	25	93	
	0000	0800	CULG	0412.0	0432.0	III	N	1	23	60U	
	0704	1200	IZMI	0704.6	0704.7	III	B	1	45	90	
			SVTO	0802.0	0802.0	III		1	25	180	
			LEAR	0815.0	0815.0	III		1	41	85	
			SVTO	0815.0	0815.0	III		1	25U	74U	
			IZMI	0815.1	0815.8	III	G,FS	1	40	140	
			IZMI	0931.8	0932.0	III	B	1	45	85	
			IZMI	1020.2	1023.4	III	GG	1	40	95	
	0736	1444	POTS	1020.2	1022.6	III	G,N	1	40X	80	100-200MHz no data
			POTS	1022	1112 U	I	S,N	1	200U	300	
			ONDR	1023.1	1044.3	DCIM	GG	1	800X	2000X	
	0810	1419	ONDR	1023.2	1045.2	DCIM	GG	1	2000X	4500X	
	0820	1520	BLEN	1023.8	1046.5	DCIM	P,S,C	3	100X	4000X	
			IZMI	1025.9	1028.9	III	GG,FS	1	40	175	
			SVTO	1030.0	1039.0	III		1	25	180	
			IZMI	1030.3	1039.2	III	S,FS	2	25X	240	
			IZMI	1039.4	1052.0	III	N	1	40	270X	
			IZMI	1053.6	1053.7	III	B	2	35	210	
			POTS	1118.6	1118.9	III	G	2	200U	340	
			POTS	1146	1204	I	S,N	1	240	330	
			POTS	1232	1252	I	S,N	1	270	340	
			POTS	1232.8	1233.1	III	G	1	200U	280	
			BLEN	1321.5	1325.7	III	GG,RS	1	1600	4000X	
			POTS	1342.1	1350.6	III	G,N	1	200U	350	
			POTS	1346	1444 U	I	S,N	1	210	330	
			HOLL	1529.0	1537.0	III		1	25	160	
			HOLL	1939.0	1939.0	III		1	25	87	
	2000	2400	CULG	2022.0	2023.0	III	G	1	23	45	
			CULG	2032.0	2053.0	III	N	1	27	120	
	2142	2400	HIRA								

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JANUARY 2003

OBSERVATION			Sta	Start (UT)	End (UT)	EVENT		Int (1-3)	FREQUENCY		Remarks
Day	Start (UT)	End (UT)				Spectral Class	Event Remarks		Lower (MHz)	Upper (MHz)	
26			CULG	2220.0	2220.0	III	G	1	23	50	
27			LEAR	0209.0	0210.0	III		1	25	180	
	0000	0758	HIRA	0209.5	0210.5	III	G	1	25X	280	
	0000	0800	CULG	0210.0	0210.0	III	G	2	18	70	
			CULG	0339.0	0340.0	III	G	3	18	80	
			HIRA	0339.0	0339.5	III	B	1	25X	260	
			LEAR	0339.0	0339.0	III		1	25	180	
			CULG	0449.0	0500.0	III	G	1	18	60	
			LEAR	0751.0	0806.0	III	N	1	25	180	
			SVTO	0751.0	0840.0	III	N	1	28U	75U	
	0700	1200	IZMI	0751.4	0751.6	III	B	1	40	145	
			CULG	0752.0	0752.0	III	B	2	18	60U	
			CULG	0755.0	0755.0	III	B	1	18	50	
	0732	1448	POTS	0800.5	0807.9	III	GG	2	40X	300	100-200MHz no data
			IZMI	0800.7	0805.9	III	GG	2	25X	270X	
	0809	1421	ONDR								
			IZMI	1004.8	1004.9	III	B	1	45	90	
			SVTO	1015.0	1015.0	III		1	28U	41U	
			IZMI	1016.9	1017.0	III	B	2	55	265	
			POTS	1119.5	1119.8	III	G	1	40X	80	
			POTS	1146.3	1204.2	III	GG,N	2	200U	340	
			IZMI	1146.4	1147.5	III	GG	2	115	270X	
			HOLL	1719.0	1720.0	III		1	25	43	
	2000	2400	CULG	2129.0	2129.0	III	B	1	50	70	
			CULG	2148.0	2201.0	II	UE	1	27	57U	ESS 300
			HOLL	2151.0	2159.0	III		1	25	49	
			PALE	2154.0	2200.0	III		1	25	48	
			HOLL	2210.0	2213.0	III		1	25	51	
			CULG	2211.0	2213.0		UNCLF	1	27	50	
	2141	2400	HIRA	2211.0	2213.0	II		1	30	50	
			CULG	2242.0	2242.0	III	G	1	30	50	
28			LEAR	0120.0	0121.0	III		1	25	172	
	0000	0759	HIRA	0120.5	0121.5	III	B	1	40	160	
	0000	0800	CULG	0121.0	0121.0	III	B	1	25	60	
			HIRA	0248.0	0251.0	III	G	1	40	110	
			LEAR	0248.0	0250.0	III		1	28	101	
			CULG	0500.0	0521.0	III	N	1	25	75U	
			CULG	0614.0	0614.0	III	B	1	23	60U	
			HIRA	0651.5	0652.0	III	B	1	30	200	
			CULG	0652.0	0652.0	III	G	1	27	80U	
	0658	1200	IZMI	0705.6	0706.5	III	G,FS	1	55	145	
			IZMI	0708.8	0709.6	III	G	1	45	90	
			CULG	0709.0	0710.0	III	G	1	20	50	
	0807	1423	ONDR								
	0728	1452	POTS	0814	0830	III	GG,N	2	40X	290	100-200MHz no data
			SVTO	0814.0	0819.0	III		1	25	180	
			IZMI	0814.6	0815.5	III	G	1	40	190	
			IZMI	0817.8	0819.4	III	GG	2	25	165	
			SVTO	0822.0	0826.0	III		2	25	180	
			IZMI	0822.1	0827.0	III	GG	2	35	190	
			IZMI	0824.1	0824.6	III	G	2	25X	215	
			IZMI	0829.2	0830.4	III	G	1	45	165	
			IZMI	0833.2	0833.7	III	G	1	45	90	
			IZMI	1011.3	1012.1	III	G	1	140	215	
			POTS	1137.2	1138.2		UNCLF	2	200U	260	
			POTS	1314.9	1316.2	III	G	3	40X	260	
			SGMR	1315.0	1316.0	III		1	30	45	
			SVTO	1315.0	1316.0	III		2	25U	83U	
			SGMR	1535.0	1536.0	III		2	30	50	
	2000	2400	CULG	2029.0	2029.0	III	B	1	27	75	
			CULG	2042.0	2043.0	III	G	2	18	180	
			HOLL	2042.0	2042.0	III		1	25	151	
			HOLL	2136.0	2139.0	III		2	25	180	
			PALE	2136.0	2140.0	III		1	25	180	
			CULG	2137.0	2140.0	III	G	3	18X	190	
			HOLL	2150.0	2154.0	III		1	25	180	
			CULG	2151.0	2155.0	III	G	1	20	140	

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SOLAR RADIO EMISSION Spectral Observations

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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)	
28	2140	2400	HIRA	2151.0	2154.5	III	G	1	25X	170	
			CULG	2237.0	2239.0	III	G	3	18	180	
			HIRA	2237.0	2238.5	III	G	1	25X	300	
			HOLL	2237.0	2238.0	III		1	25	146	
			LEAR	2237.0	2238.0	III		1	25	180	
			PALE	2237.0	2238.0	III		1	25	75	
29			LEAR	0218.0	1053.0	III	N	1	25	180	
	0000	0800	CULG	0218.0	0218.0	III	B	1	25	150	
	0000	0800	HIRA	0218.0	0218.5	III	B	1	30	200	
			CULG	0234.0	0237.0	III	G	1	25	140	
			HIRA	0234.0	0237.0	III	G	1	25X	190	
	0805	1426	ONDR								
	0700	1200	IZMI	0828.4	0828.5	III	G	1	45	160	
	0724	1456	POTS	0952.8	0957.3	III	GG	2	40X	350	100-200MHz no data
			LEAR	0953.0	0955.0	III		1	25	180	
			SVTO	0953.0	0955.0	III		1	25	168	
			IZMI	0953.1	0955.7	III	GG	2	25X	270X	
			IZMI	0954.6	0955.3	V	G	2	40	65	
			POTS	1123.8	1124.0	III	B	1	40X	85	
			POTS	1130	1139	I	S,N	1	200U	260	
			POTS	1334	1456 U	I	S,N	1	210	320	
			POTS	1338.5	1339.7	UNCLF		1	200U	350	
	2000	2400	CULG								
	2140	2400	HIRA								
30	0000	0801	HIRA								
	0000	0800	CULG	0602.0	0602.0	III	B	1	30	60	
	0803	1428	ONDR								
	0720	1500	POTS	1038.4	1038.9	DCIM		2	230	420	100-200MHz no data
	1045	1530	BLEN								
			POTS	1348.9	1349.2	DCIM		1	220	360	
	2000	2400	CULG	2108.0	2108.0	III	B	1	25	80	
	2139	2400	HIRA								
31	0000	0802	HIRA								
	0000	0800	CULG	0317.0	0319.0	III	G	1	23	140	
			CULG	0709.0	0710.0	III	G	1	20	40	
	0801	1430	ONDR								
	0820	1530	BLEN								
	0700	1200	IZMI	0920.7	0920.8	III	B	1	40	60	
			IZMI	1011.0	1011.8	III	G	1	40	95	
	0716	1504	POTS	1011.3	1011.7	III	B	1	40X	65	100-200MHz no data
			HOLL	1849.0	1849.0	III		1	25	86	
	2000	2400	CULG	2208.0	2227.0	II	SH	3	35	110	ESS 550
			CULG	2209.0	2217.0	II	FN	1	25U	50	
			HOLL	2209.0	2219.0	II		1	30	86	ESS 0501
	2138	2400	HIRA	2209.0	2219.5	II		2	50	110	
			PALE	2210.0	2221.0	II		1	41U	98U	ESS 0355

SOLAR RADIO NOISE STORM AT 164 MHZ**FROM NANCAY RADIOHELIOGRAPH**

JANUARY 2003

	HELIOGRAPHICS POSITIONS MEAN VALUES ¹		IMP ²	OBSERVING TIME ³	
DAY	E-W	S-N		START(UT)	END(UT)
07/01/03*	-1.18	-0.11	I	8H26 E	12H04
07/01/03	+0.31	+0.11	I	8H26 E	15H27 D
08/01/03*	-0.81	-0.12	II	10H13	15H27 D
08/01/03*	+0.43	-0.03	I	8H26 E	15H27 D
08/01/03*	+1.49	-0.11	II	11H56	15H27 D
09/01/03*	-0.95	-0.43	I	8H47 E	15H28 D
09/01/03*	+0.57	+0.16	I	8H47 E	15H28 D
10/01/03*	+0.65	+0.43	I	8H27 E	14H47 D
11/01/03*	+1.05	+0.45	II	8H28 E	14H20
13/01/03*	+0.29	-0.16	I	8H28 E	14H50 D
15/01/03*	-0.40	+0.06	II	8H29 E	15H30 D
16/01/03*	-0.17	-0.14	II	8H29 E	15H30 D
19/01/03*	+0.29	-0.42	I	8H30 E	13H45
20/01/03*	+0.60	+0.25	I	12H45	15H32 D
23/01/03*	-0.23	-0.29	III	13H35 E	15H33 D
24/01/03*	-0.06	-0.19	I	8H32 E	15H33 D
28/01/03*	+0.26	-0.20	I	8H34 E	15H33 D

¹ POSITIVE E-W AND S-N COORDINATES CORRESPOND TO THE N-W QUADRANT² IMP1: FLUX < 5 SFU IMP2: 5 < FLUX < 20 SFU IMP3: 20 < FLUX < 100 SFU

IMP4: 100 < FLUX < 300 SFU IMP5 > 300 SFU

³ E NOISE STORM IN PROGRESS AT THE BEGINNING OF THE NANCAY OBSERVATIONS

D NOISE STORM IN PROGRESS AT THE END OF THE NANCAY OBSERVATIONS

SOLAR RADIO NOISE STORM AT 327 MHZ

FROM NANÇAY RADIOHELIOGRAPH

JANUARY 2003

	HELIOGRAPHICS POSITIONS MEAN VALUES ¹		IMP ²	OBSERVING TIME ³	
DAY					
07/01/03*	-1.13	-0.22	I	8H26 E	15H27 D
07/01/03*	+1.16	-0.29	I	8H26 E	15H27 D
08/01/03*	-1.07	-0.26	I	8H26 E	15H27 D
08/01/03*	-0.78	-0.28	II	8H26 E	15H27 D
08/01/03*	+1.41	-0.33	I	12H20	15H27 D
09/01/03*	-0.84	-0.31	I	8H47 E	15H28 D
09/01/03*	-0.59	-0.40	I	8H47 E	15H28 D
10/01/03	-0.64	-0.11	I	8H27 E	14H47 D
10/01/03*	-0.43	-0.33	I	8H27 E	14H47 D
11/01/03*	-0.20	-0.33	I	8H28 E	15H29 D
12/01/03	-0.02	-0.40	I	8H28 E	15H29 D
13/01/03*	+0.09	-0.08	I	8H28 E	14H50 D
13/01/03*	+0.34	-0.22	I	8H28 E	14H50 D
14/01/03*	+0.33	-0.08	II	8H26 E	15H30 D
15/01/03*	-0.33	-0.17	I	8H29 E	15H30 D
16/01/03*	-0.11	-0.25	I	8H29 E	15H30 D
19/01/03*	+0.84	-0.25	I	11H13	14H20
23/01/03*	-0.43	-0.23	II	13H35 E	15H33 D
24/01/03*	+0.02	-0.23	I	8H32 E	15H33 D
25/01/03*	-0.22	-0.2	I	8H32 E	12H54
25/01/03*	+0.28	-0.31	I	8H32 E	15H33 D
26/01/03*	+0.57	-0.28	I	8H32 E	15H33 D

02, 03, 04, 05, 06, and 31 JANUARY : 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 increased uncertainties in the deviation, the positions which are indicated are estimated within 0.2 R.

** Following a large burst.

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

**** No flux measurements available.

COSMIC RAY INDICES (Neutron Monitor)

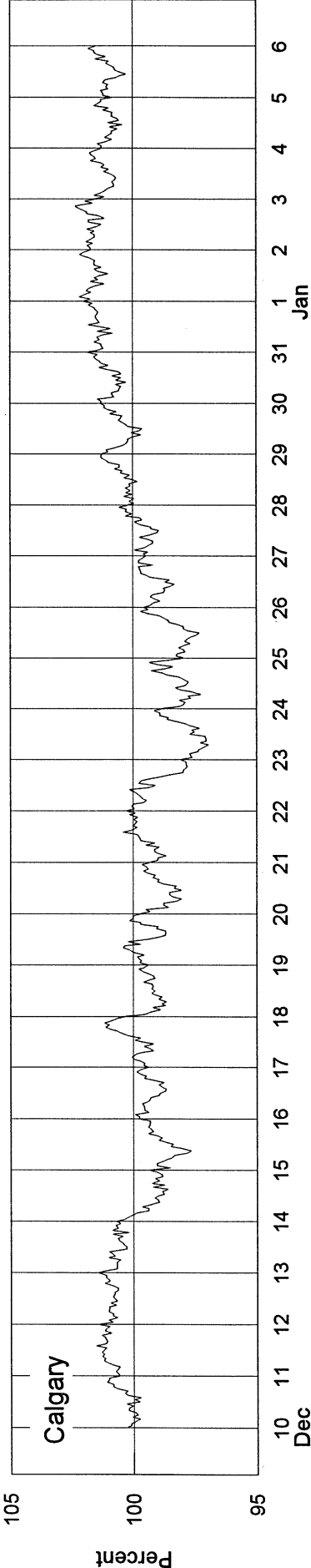
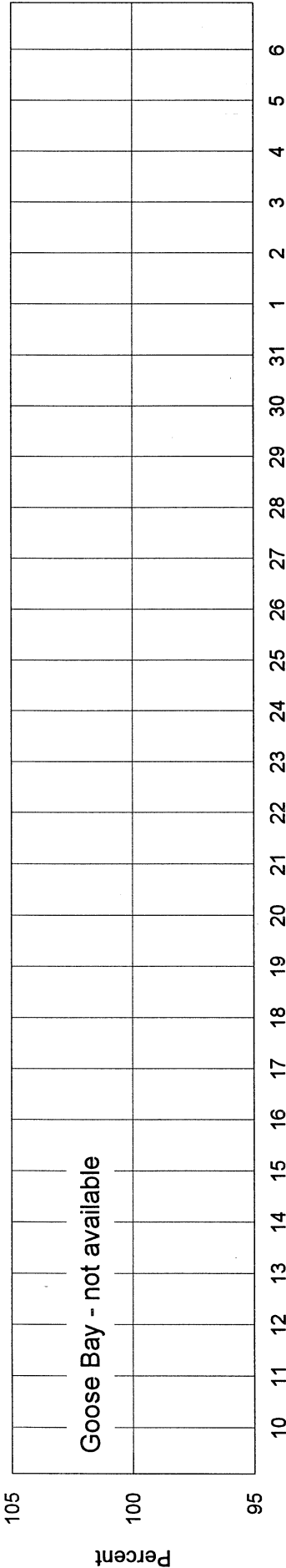
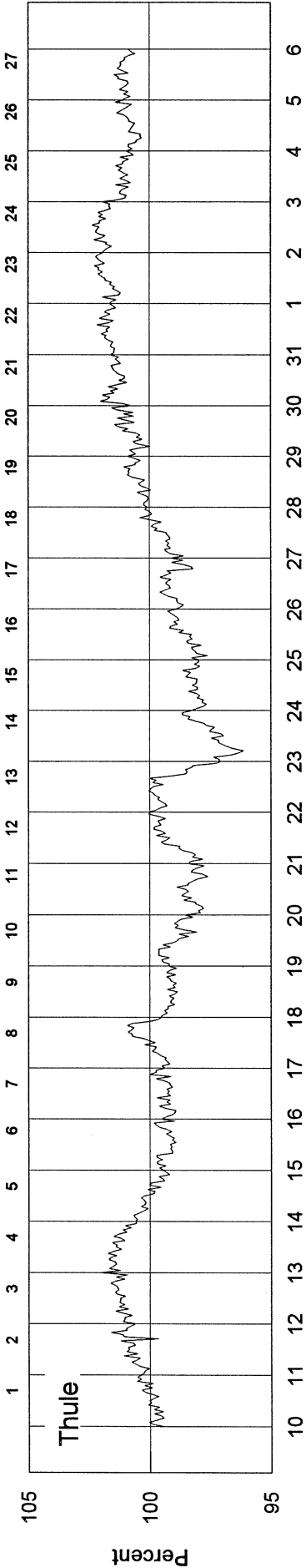
January 2003

Day	THULE 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	4018.7	3524.0	5672.0	8357.1	3798.1	1975.5	3490.7
2	4024.7	3526.3	5645.0	8332.7	3792.6	1983.1	3497.8
3	3991.2	3507.7	5614.3	8283.2	3769.8	1988.0	3495.6
4	3979.9	3501.3	5605.1	8264.5	3762.0	1985.1	3481.0
5	3989.1	3503.3	5604.3	8275.8	3765.3	1979.3	3460.0
6	3966.3	3508.7	5615.4	8267.5	3766.2	1977.6	3467.8
7	3977.5	3520.3	5630.9	8290.8	3773.6	1974.0	3477.5
8	3983.6	3541.3	5631.1	8307.6	3794.2	1967.5	3483.5
9	4008.4	3565.8	5639.7	8291.9	3803.7	1963.3	3476.5
10	3957.8	3531.7	5588.9	8234.5	3760.5	1949.7	3443.9
11	3954.8	3527.5	5590.4	8256.6	3789.8	1947.5	3452.2
12	3982.5	3553.7	5638.4	8272.8	3815.4	1951.8	3466.0
13	4009.6	3578.7	5666.0	8315.9	3826.7	1962.1	3477.5
14	3989.4	3560.8	5618.2	8275.7	3811.6	1976.0 (2)	3466.4
15	3994.7	3558.3	5634.6	8304.5	3817.9	—	3448.6
16	4014.8	3565.0	5653.6	8332.4	3833.5	1966.0	3419.8
17	4024.5	3572.8	5661.4	8351.0	3846.4	1966.0	3459.1
18	4028.5	3568.8	5677.2	8337.8	3849.5	1962.5	3460.9
19	4005.7	3552.3	5664.7	8334.8	3859.6	1963.4	3456.0
20	4008.9	3550.0	5651.8	8321.7	3856.5	1957.0	3438.9
21	4007.3	3550.3	5637.5	8288.6	3844.2	1952.2	3424.6
22	3984.2	3550.0	5637.5	8280.6	3848.8	1953.6	3456.7
23	3949.5	3500.8	5599.1	8194.1	3815.6	1946.4	3448.2
24	3913.9	3473.5	5516.1	8081.3	3777.9	1933.0	3410.9
25	3941.5	3496.3	5543.0	8102.5	3801.4	1934.3	3417.2
26	3945.1	3475.7	5552.3	8126.3	3805.3	1945.6	3434.6
27	3888.1	3418.2	5461.5	8032.1	3716.4	1931.9	3409.9
28	3929.1	3477.0	5525.9	8102.9	3780.1	1946.3	3436.3
29	3962.7	3486.7	5579.2	8152.4	3804.4	1953.8	3446.2
30	3922.8	3481.0	5610.3	8191.3	3815.1	1949.9	3444.5
31	3955.7	3491.8	5628.8	8204.2	3828.3	1951.4	3445.0
Mean	3977.0	3523.2	5612.7	8250.5	3804.2	1959.8	3454.6

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.

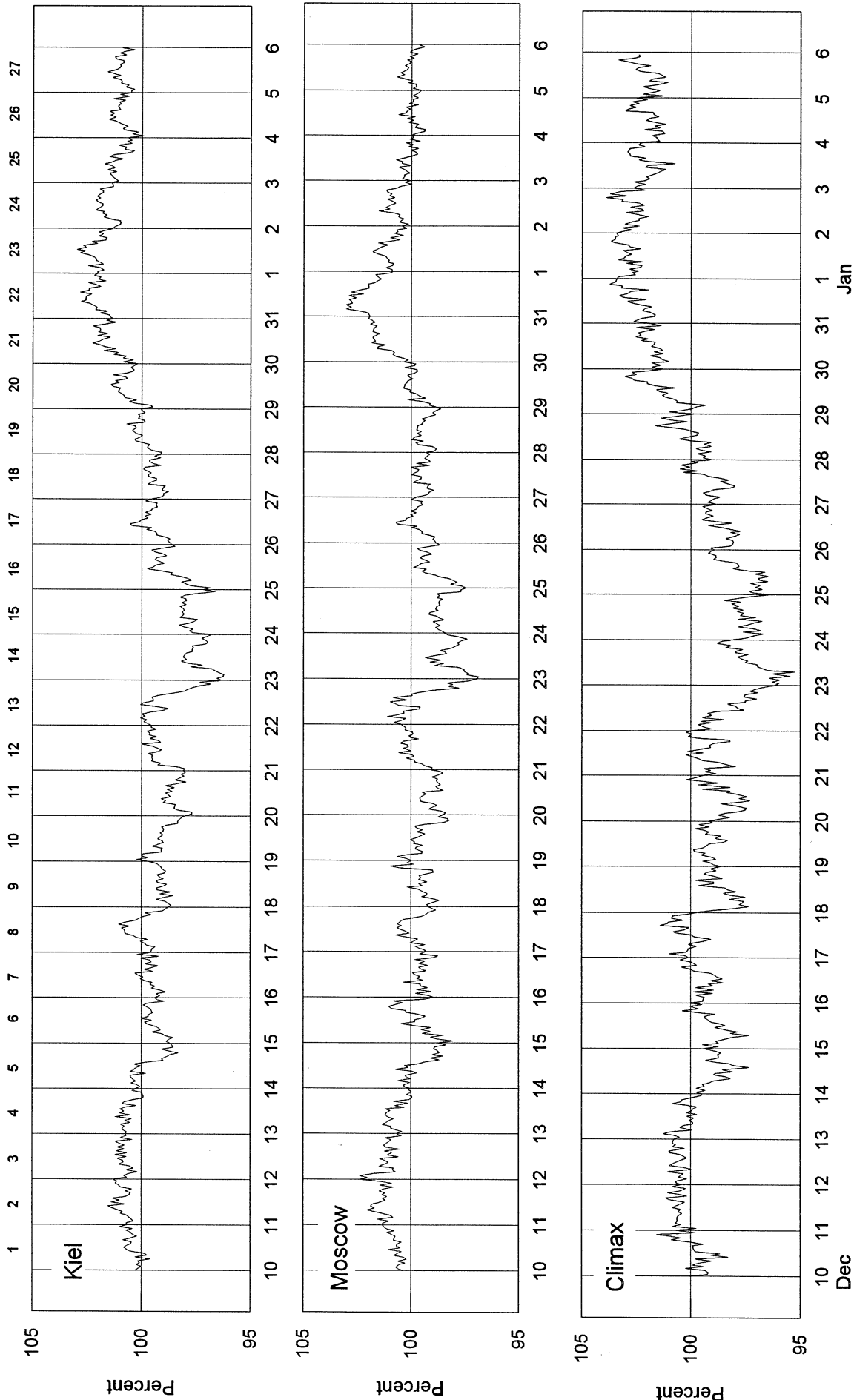
COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2312 - Beginning 10 Dec 2002

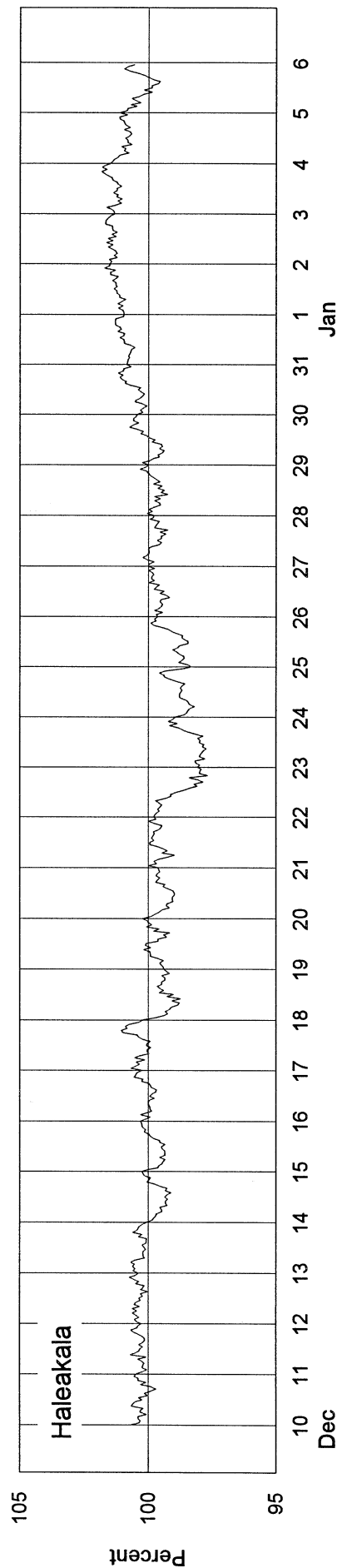
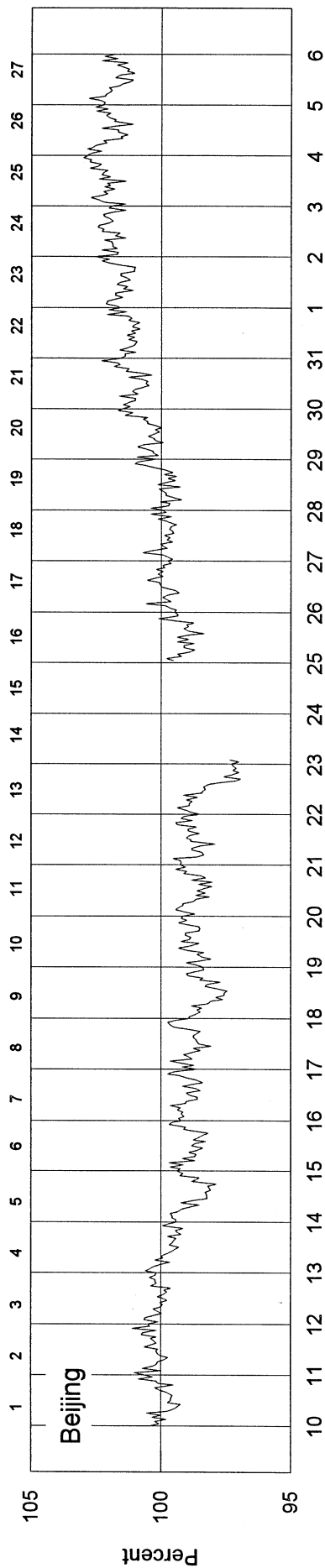


COSMIC RAY INDICES (Neutron Monitor)

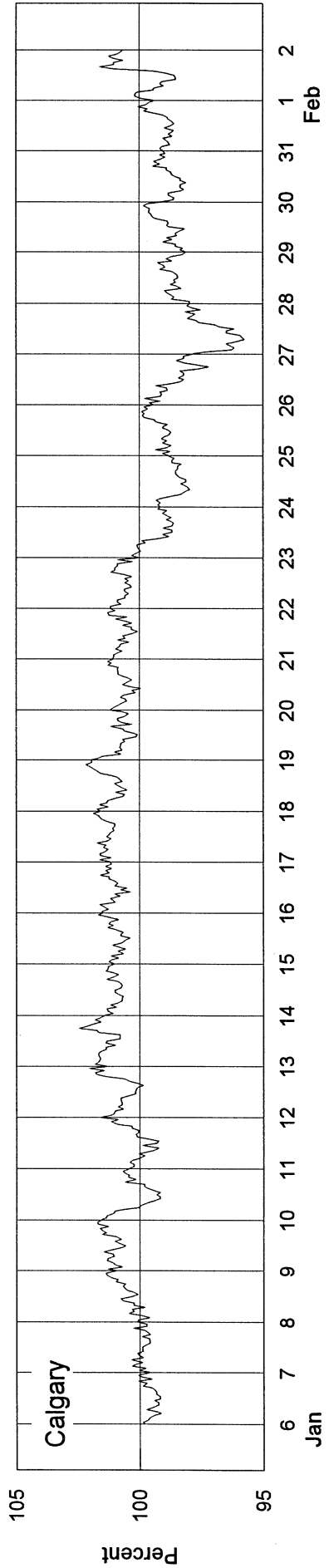
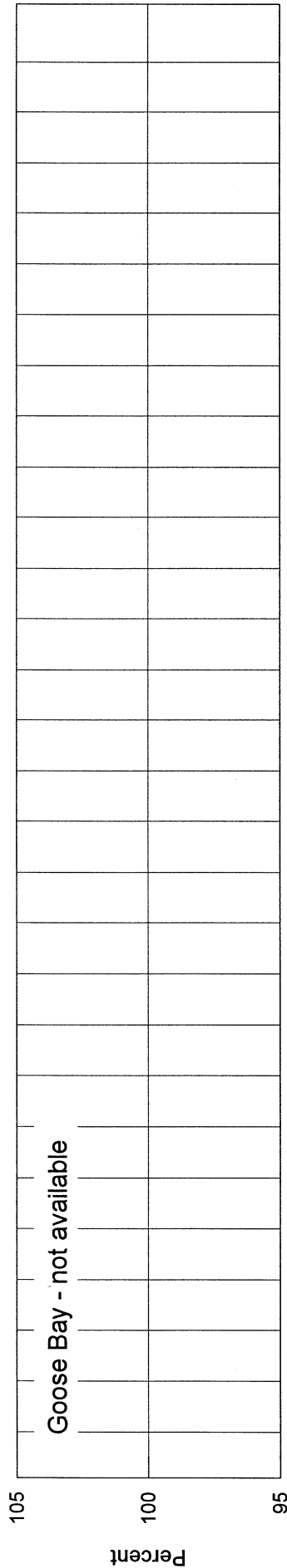
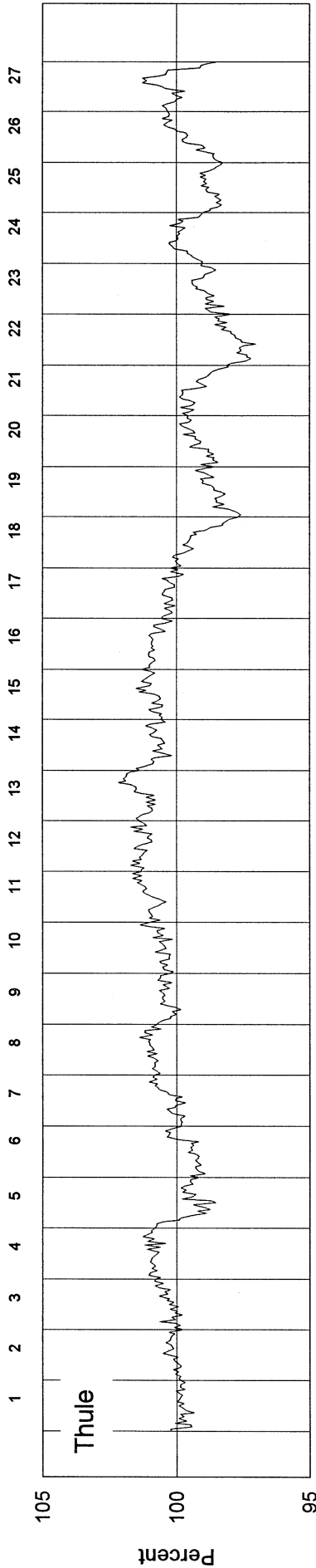
Bartels Rotation 2312 - Beginning 10 Dec 2002



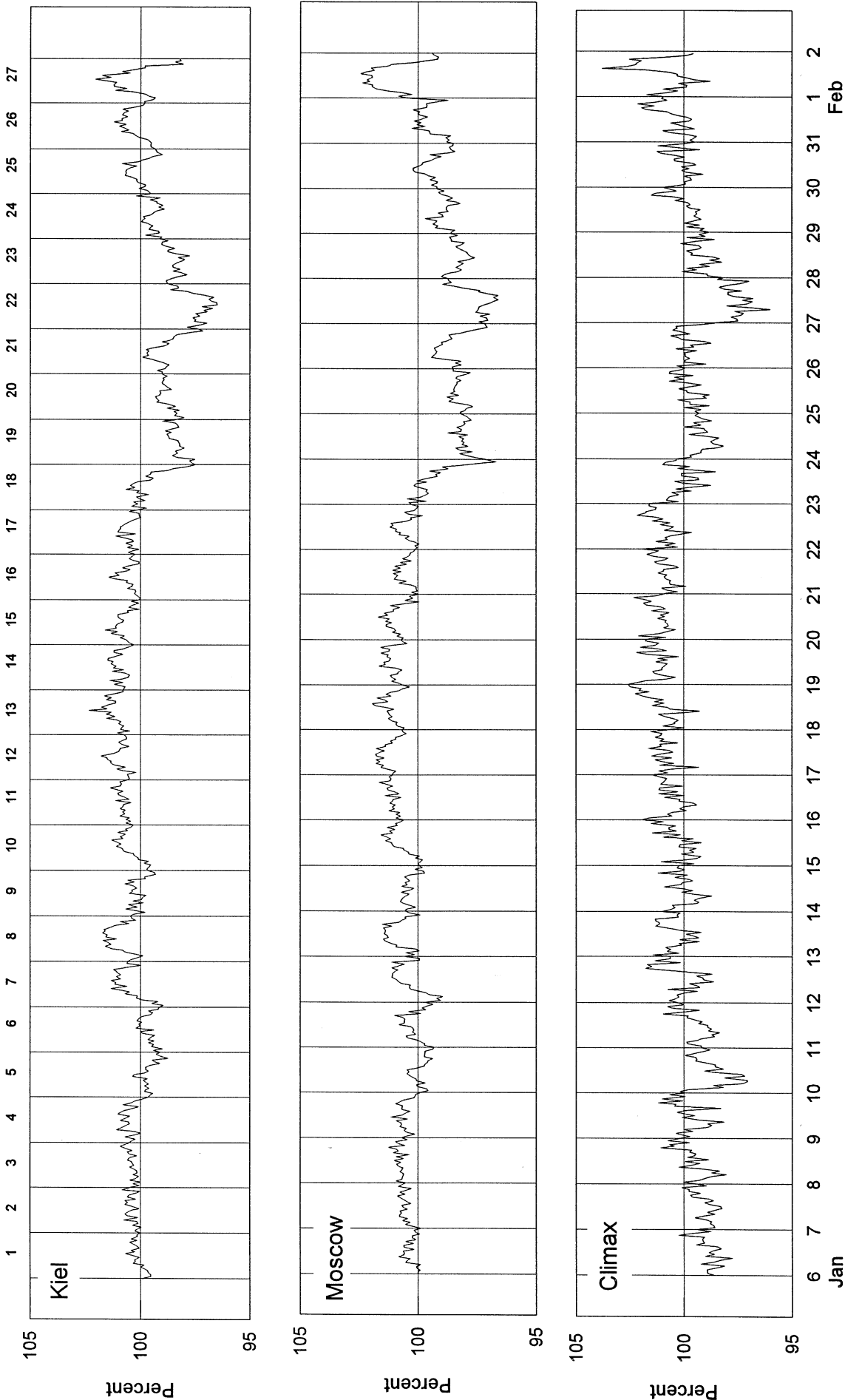
COSMIC RAY INDICES (Neutron Monitor) Bartels Rotation 2312 - Beginning 10 Dec 2002



COSMIC RAY INDICES (Neutron Monitor) Bartels Rotation 2313 - Beginning 6 Jan 2003



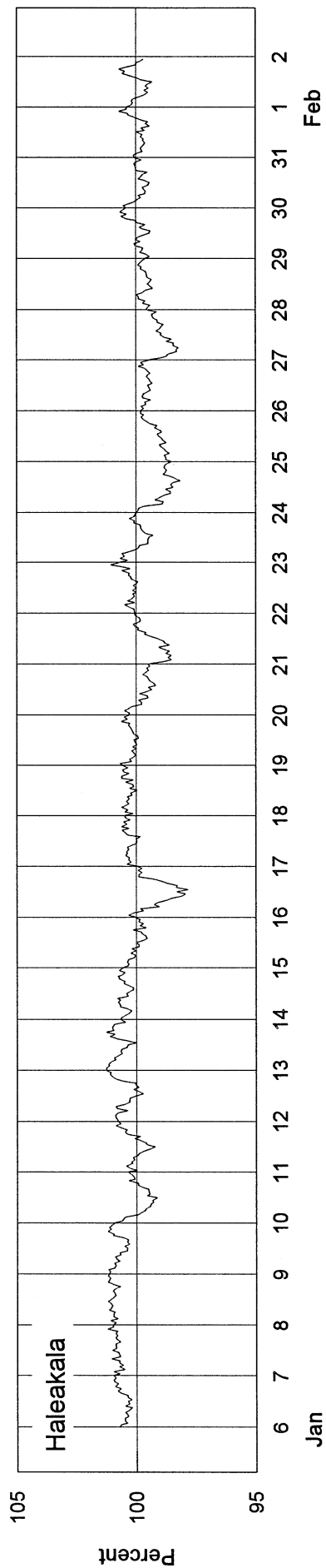
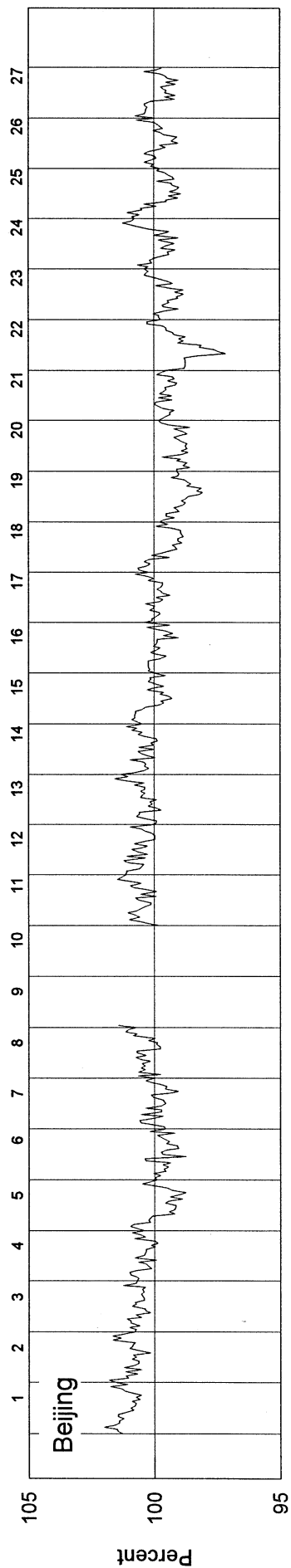
COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2313 - Beginning 6 Jan 2003



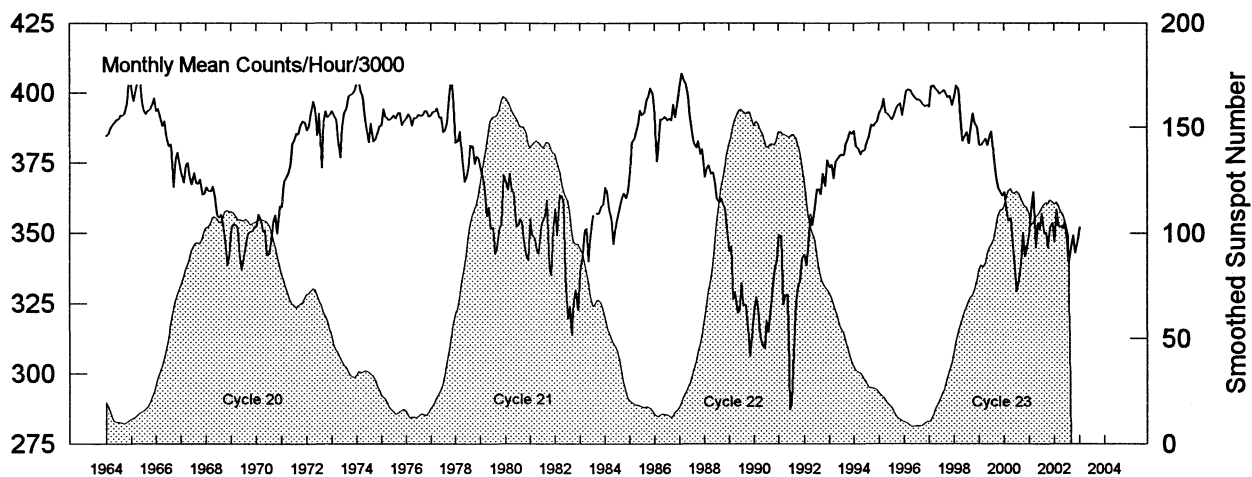
COSMIC RAY INDICES

(Neutron Monitor)

Bartels Rotation 2313 - Beginning 6 Jan 2003



Calgary Neutron Monitor Pressure-Corrected Values Jan 1964 - Jan 2003



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1964	3847	3852	3872	3883	3892	3905	3905	3921	3920	3926	3966	4064	3913
1965	4006	3968	4007	4040	4040	3967	3935	3923	3938	3942	3960	3980	3976
1966	3935	3943	3906	3881	3899	3844	3807	3814	3663	3758	3785	3750	3832
1967	3710	3678	3741	3750	3697	3671	3713	3679	3675	3691	3638	3639	3690
1968	3663	3653	3647	3665	3632	3561	3556	3567	3529	3482	3386	3420	3563
1969	3515	3531	3529	3520	3417	3370	3408	3464	3500	3507	3506	3524	3483
1970	3523	3565	3548	3505	3512	3424	3426	3477	3543	3564	3497	3596	3515
1971	3593	3678	3693	3712	3737	3813	3832	3853	3851	3883	3899	3893	3786
1972	3865	3875	3924	3969	3942	3847	3926	3731	3895	3935	3912	3920	3895
1973	3935	3919	3903	3819	3768	3875	3926	3944	3986	3995	3997	4008	3923
1974	4036	4043	4005	3988	3906	3861	3822	3890	3827	3831	3850	3881	3912
1975	3883	3943	3914	3905	3904	3910	3918	3907	3929	3927	3884	3897	3910
1976	3908	3923	3915	3881	387	3909	3921	3918	3920	3936	3935	3916	3916
1977	3919	3933	3933	3943	3911	3911	3857	3865	3895	4010	4055	3961	3933
1978	3823	3826	3860	3773	3681	3697	3730	3811	3808	3744	3772	3764	3774
1979	3726	3696	3647	3559	3592	3516	3521	3427	3447	3519	3528	3705	3573
1980	3681	3652	3711	3649	3643	3527	3525	3550	3540	3471	3414	3403	3564
1981	3550	3491	3483	3440	3426	3522	3546	3560	3615	3374	3348	3520	3490
1982	3586	3492	3634	3632	3608	3344	3196	3239	3137	3257	3296	3225	3387
1983	3364	3421	3510	3515	3399	3487	3563	No Data	3571	3569	3597	3599	3509
1984	3661	3646	3586	3551	3460	3515	3551	3593	3623	3641	3623	3652	3592
1985	3723	3821	3834	3858	3888	3936	3921	3929	3971	3987	4017	3997	3907
1986	3923	3755	3814	3905	3906	3915	3902	3907	3902	3958	3912	3974	3898
1987	4025	4068	4047	4028	3993	3914	3866	3822	3802	3827	3779	3796	3914
1988	3698	3729	3739	3709	3714	3682	3621	3608	3624	3603	3590	3520	3653
1989	3436	3454	3263	3290	3216	3222	3321	3224	3246	3164	3063	3152	3254
1990	3227	3272	3232	3129	3099	3089	3188	3147	3237	3317	3375	3401	3226
1991	3496	3489	3244	3279	3280	2873	2896	3078	3253	3311	3330	3412	3245
1992	3425	3382	3463	3566	3528	3593	3655	3655	3636	3711	3665	3758	3586
1993	3730	3741	3693	3753	3765	3775	3780	3775	3815	3836	3859	3852	3781
1994	3864	3807	3798	3779	3793	3793	3822	3841	3885	3878	3891	3896	3837
1995	3929	3945	3919	3929	3927	3917	3902	3919	3940	3956	3963	3920	3931
1996	3960	4008	4012	4010	3993	3983	3976	3976	3970	3960	3953	3955	3980
1997	3947	4023	4024	4014	4007	3998	4001	4010	3999	3985	3990	3955	3996
1998	3982	4025	4013	3910	3827	3839	3857	3817	3876	3925	3890	3875	3903
1999	3816	3811	3823	3836	3810	3843	3861	3760	3699	3664	3644	3631	3767
2000	3646	3586	3544	3554	3465	3386	3293	3337	3395	3503	3417	3447	3464
2001	3510	3599	3646	3449	3537	3511	3570	3501	3504	3449	3521	3537	3528
2002	3469	3585	3527	3526	3517	3541	3479	3393	3455	3493	3431	3474	3491
2003	3523												3523

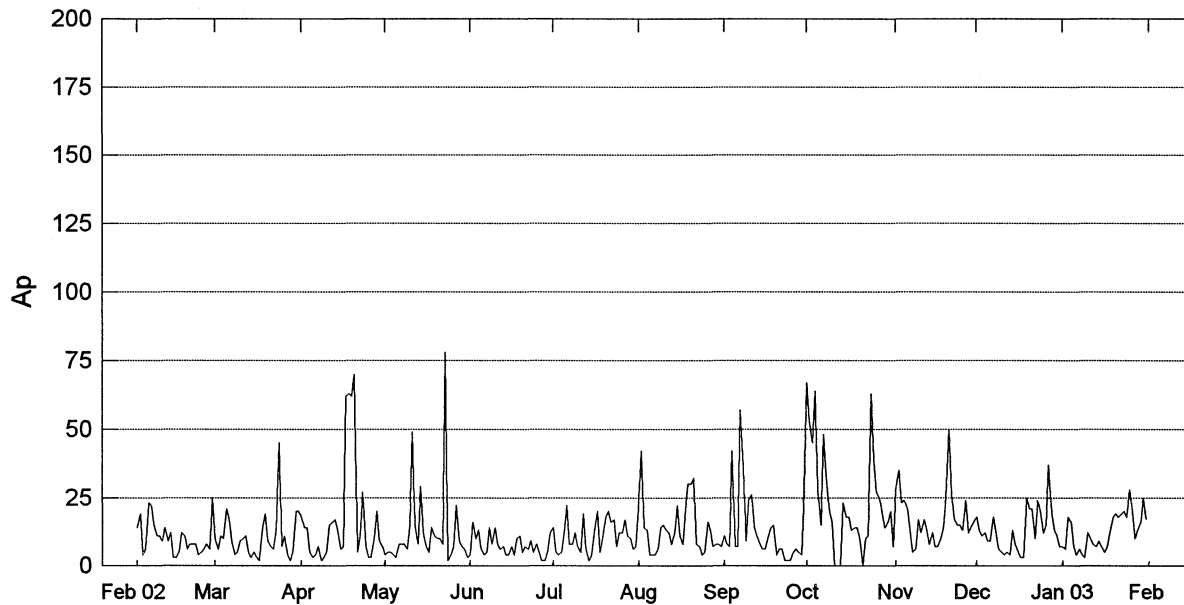
Multiply table entries by 300 to obtain hourly counting rate. Calgary, Canada: N51 W114, Alt=1128m, Cutoff Rigidity=1.09GV.

Geomagnetic Activity Indices

January 2003

Day		Kp Three-Hourly Indices								Sum	Ap	Cp	Km Three-Hourly Indices								Am	aa Provisional						
		1	2	3	4	5	6	7	8				1	2	3	4	5	6	7	8		N	S	M				
1	Q6	1	2+	3-	1+	2	1+	2-	2+	15-	7	0.4	1-	1+	3-	2-	2+	1+	2+	2+	14	16	11	12	15	CC		
2		2+	1	1	2-	2-	2-	2-	2-	13-	6	0.3	2-	1+	1+	2-	2o	2-	2+	2o	13	12	11	9	14	C		
3		3-	1-	2	2-	3-	5	4	4+	23	18	1.0	3o	1+	2+	2-	3-	5o	4o	4o	36	38	41	16	63			
4		5-	4+	2+	2	2+	2+	3	3-	24-	16	0.9	4-	3o	2+	2+	3-	2+	3-	2o	24	40	19	35	24			
5	Q10A	2-	2-	2-	1+	2	2	2	3-	15	7	0.4	1+	2-	1+	1o	3-	3-	2+	3-	15	16	17	10	23			
6	Q3	1-	1-	1-	0+	1-	1+	1+	2+	8	4	0.1	1o	1+	1+	1-	0+	1+	2-	2+	9	9	7	7	10	CK		
7	Q5	1+	2-	1+	2-	1-	1+	3-	2-	12+	6	0.3	1+	2-	2-	2o	1+	2-	3-	2-	13	12	12	9	15	CC		
8	Q2	2	1-	2	1-	1-	1	1-	0+	8	4	0.1	2+	1o	2o	1-	1o	1o	1o	1-	8	8	9	10	7	CC		
9	Q1	0	0	0	0	0+	1	2+	2-	5+	3	0.0	0o	0o	0o	0+	1-	1+	3-	2+	7	6	7	2	11	CC		
10		2+	2+	1+	2	3-	3-	3	4	20+	12	0.7	2+	2-	2o	2+	3-	3-	3o	4-	23	26	30	18	38			
11	Q9A	4-	3+	1-	1-	1	1+	2	3	16-	10	0.5	3o	3-	1o	1o	1+	2-	2+	3-	16	19	14	17	16			
12		2+	2+	3-	2-	2	2	2+	1+	17-	8	0.4	2-	2o	3o	2-	2-	2+	3-	1+	17	16	23	23	16			
13		3	2	1+	2-	1-	1	1	3-	13+	7	0.4	3-	2-	2-	2o	1+	2-	1+	3-	14	15	13	15	13			
14		3+	3	2+	2+	2	2-	2-	1-	1+	17-	9	0.5	3-	3-	3-	2+	2o	2+	1o	1+	17	17	19	22	14		
15	Q7A	3-	2-	1	2	2+	2-	1	1+	14-	7	0.3	2o	1o	1+	2o	2o	2-	1+	2o	12	12	13	13	12	CC		
16	Q4	2-	0+	1	2-	2+	1-	1+	1	10	5	0.2	1+	0+	1o	2o	2o	1o	2-	1+	10	7	9	7	9	CC		
17	Q8A	1	2	2-	2+	3-	2	1	1	14-	7	0.3	1+	1+	2o	3-	3-	2+	2-	1+	14	12	19	16	15			
18		2	2+	3-	3-	4-	2+	3-	3-	21	12	0.7	2-	2+	3-	3o	4-	3-	3+	3+	28	20	37	21	36			
19		2+	2+	3+	4-	3+	4	4-	3+	26	18	1.0	2+	2+	3o	3+	4-	4-	4-	3o	33	40	42	35	47			
20		5-	5-	2+	2+	3-	3	3	3-	25+	19	1.0	4o	4-	2+	3-	3-	3o	3-	3-	30	32	28	33	28			
21	D5*	4-	4-	4-	3+	3+	3	3-	3+	27-	18	1.0	3o	3o	3o	3+	3o	3-	3-	3o	30	38	28	35	31			
22		4-	3	3-	2+	3-	3+	3	5	26	19	1.0	3-	3-	2+	3-	3-	3+	3o	5+	35	42	31	21	52			
23		D4	5+	4+	1+	2+	3+	3	3-	3	25+	20	1.0	5-	3+	2-	2+	3o	3o	3+	3+	33	33	30	32	32		
24		4-	2+	2+	3	3	4-	4-	4	26-	18	1.0	3+	2o	3-	3o	3-	3+	4-	4-	33	32	32	24	40			
25	D1	4-	5-	6-	4+	4	3+	2+	3-	31-	28	1.2	3+	3+	4+	4+	4o	3o	2+	3-	42	48	44	60	33			
26	D3	5-	4-	4-	3+	3+	2+	3-	3+	27	20	1.0	4o	3o	3o	3+	3+	3-	3o	3+	36	42	36	44	34			
27		3+	3	1-	0	1-	3	2-	4-	16	10	0.6	3+	3-	1o	0+	1-	3+	2o	3+	20	25	21	17	29			
28		4-	4+	3-	2+	2-	1+	2	2+	20+	13	0.7	3o	3-	3-	3-	2o	2-	2o	2+	20	24	16	23	17			
29		1+	2-	2	3-	3+	4	4	4	23	16	0.9	2-	1+	2-	3-	3+	4-	4-	4-	30	39	29	17	51			
30	D2	5	3+	4	4-	4-	5-	4-	1+	29+	25	1.2	4+	3-	3o	3+	4-	5-	4-	2-	43	52	41	46	48			
31		4-	3	3+	5-	3+	3	2-	2-	24+	17	0.9	3o	2+	3o	4+	3+	3-	2o	2-	28	27	34	38	23			
Mean											13	0.65												22.7	25.1	23.4	24.2	
Day		Kn Three-Hourly Indices								An	Ks Three-Hourly Indices								Prov					Ra	Rs	IMF		
		1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8	As	Sa	Ri							
1		0+	1+	3-	1+	2+	2-	2o	3-	15	1+	1+	2o	2o	2o	1+	2+	2+	13	111.2	31	27	58					
2		2-	1o	1o	2-	2+	2-	2o	1+	11	1+	2-	1+	2o	2o	2o	2+	2+	14	114.4	27	32	62					
3		2+	1o	2-	2-	2+	5o	4-	4-	32	3+	2o	3-	2o	3-	5-	4+	4o	39	133.1	66	69	82					
4		4-	3o	2+	2+	3-	2+	3o	2o	25	3+	3+	2o	2o	3-	2o	3-	2o	23	138.2	65	79	87					
5		1+	1+	1+	1o	2+	3-	2o	3-	15	1+	2-	1+	1o	3-	3-	3-	3-	16	143.2	68	78	93					
6		1-	0+	1-	0+	1-	1o	2-	2+	7	2-	2-	2-	1o	0+	1+	2o	2+	11	156.8	86	97	107					
7		1o	2-	2-	2+	1+	2-	3-	2-	13	2-	2-	1+	2-	1+	2-	3-	2o	13	157.8	90	102	108					
8		2-	1-	2+	0+	1o	1o	1o	1-	8	2+	1+	2o	1o	1-	1-	1-	1o	9	168.0	108	115	119					
9		0o	0o	0o	0o	0+	1+	2+	2-	6	0+	0+	0+	0+	1o	1+	3-	2+	9	176.9	109	115	129					
10		2-	1+	1+	2o	3o	3-	3-	3+	20	3-	2o	2+	3-	3-	3-	3+	4-	27	178.7	117	112	131					
11		3o	3o	1-	1-	1o	2-	2+	3-	16	3-	3-	1+	1+	2-	2-	2+	3-	17	182.6	117	116	135					
12		2-	1+	3-	2-	2-	3-	3-	1o	15	2o	2+	4-	2o	2o	2o	2+	2-	19	167.7	104	112	119					
13		3-	1+	1+	2-	1o	2-	1o	3-	13	3-	2o	2o	2+	1+	2-	2+	2+	15	166.2	94	98	117					
14		3-	2+	2+	3-	2+	2-	1-	1o	16	3-	3-	3o	2+	2o	2+	1+	2-	19	158.6	94	99	109					
15		2o	1-	1o	2o	2+	2-	1o	1+	11	2-	1o	2o	2o	2o	2o	2-	2+	14	145.0	84	98	95					
16		1+	0+	1o	2-	2o	1-	2-	1o	9	2-	1-	1o	2o	2o	1+	2-	2-	11	139.9	84	92	89					
17		1o	1o	2-	3-	3o	3-	2o	1-	14	1+	1+	2+	2+	3-	2+	2-	2-	15	137.1	81	86	86					
18		1+	2-	3-	3o	4-	3-	3o	3o	26	2+	3-	2+	3o	4-	3o	3+	4-	30	133.0	77	86	82					
19		2+	2o	3-	3+	4-	4-	4-	3o	33	2o	3-	3+	3+	3+	4o	4-	3-	34	126.1	87	91	74					
20		4+	4o	2+	2+	3-	3+	3o	3-	33	3+	3+	2o	3o	3-	3-	3-	3-	26	133.7	93	78	82					
21		3o	3o	3o	4-	4-	3o	3-	3+	34	3o	3-	3o	3o	3-	3-	3-	3o	27	129.4	68	78	78					
22		3o	3-	2+	2+	3o	4-	3o	5o	38	2+	3-	2+	3-	3-	3o	3-	5+	33	125.4	86	85	73					
23		5-	3+	2-	2o	3+	3+	3-	3o	34	4+	3+	2-	2+	3o	3-	3-	3+	32	131.6	70	85	80					
24		3+	2-	3-	3o	3-	3+	4-	4-	31	3+	2o	3-	3o	3-	3+	4-	4o	34	125.8	76	83	74					
25		3+	4-	5-	5-	4+	3o	2+	3-	47	3+	3o	4o	4-	4-	3-	2+	3-	36	124.9	59	72	73					
26		4+	3o	3o	4-	4-	3o	3+	3+	40	4o	3-	3-	3o	3o	3-	3-	3+	31	121.2	72	82	69					
27		3-	2+	1o	0o	0+	3o	2o	3+	17	4-	3o	1+	1o	1o	3+	2o	3+	23	117.7	80	88	65					
28		3o	3+	3-	3-	2o	1+	2-	2o	20	3o	2+	3-	2+	2o	2o	2+	3-	20	121.8	85	89	70					
29		1+	1+	2-	3-	3o	4o	4o	4-	31	2-	1+	2-	3-	3+	4-	3+	4-	28	120.7	84	86	68					
30		4+	3-	3+	3+	4-	5o	4-	2-	46	4+	3-	3-	4-	4-	4+	3+	2o	41	117.6	62	69	65					
31		3-	2+	3o	4+	3+	3o	2-	1+	28	3o	3-	3o	4+	3o	3-	2o	2o	28	116.9	41	47	64					
Mean											22.7									22.8	139.4	79.5	8					

Daily Average Indices Ap Feb 2002 - Jan 2003

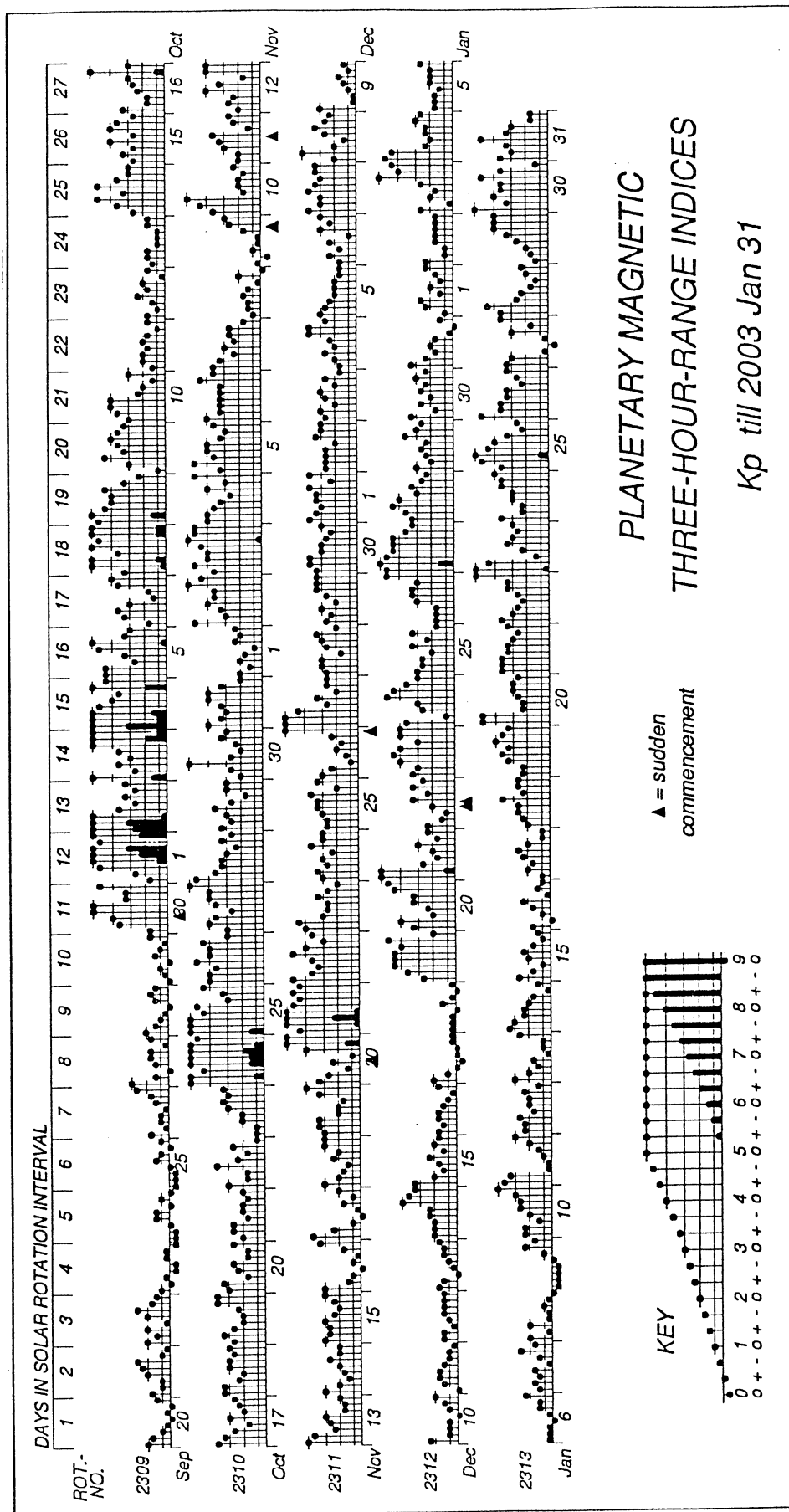


Day	Feb 02	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 03
1	14	10	18	4	4	14	25	11	67	7	18	7
2	19	6	14	5	16	5	42	8	53	28	13	6
3	4	11	14	5	10	4	14	7	45	35	11	18
4	6	10	5	4	13	5	13	42	64	23	12	16
5	23	21	3	3	6	12	4	7	28	24	9	7
6	22	17	4	8	4	22	4	7	15	21	9	4
7	15	9	7	8	5	8	4	57	48	13	18	6
8	11	4	2	8	14	8	6	36	33	5	12	4
9	11	5	3	6	8	12	14	9	20	6	6	3
10	9	9	5	15	14	7	15	24	16	17	5	12
11	14	10	15	49	8	5	13	26	6	12	4	10
12	9	11	16	15	6	19	12	14	6	17	5	8
13	12	5	17	8	7	6	8	11	5	13	4	7
14	3	3	13	29	4	2	12	8	23	8	13	9
15	3	5	6	12	4	4	22	6	18	12	8	7
16	5	3	7	7	7	12	11	6	18	7	5	5
17	12	2	62	5	4	20	8	11	13	7	3	7
18	11	14	63	14	10	5	21	14	14	10	3	12
19	6	19	62	11	11	10	30	15	14	14	25	18
20	8	9	70	10	5	18	30	4	10	25	21	19
21	8	7	5	10	7	20	32	6	8	50	21	18
22	8	6	11	8	6	16	8	6	10	26	10	19
23	4	13	27	78	9	17	7	2	11	17	24	20
24	5	45	7	2	5	7	4	2	63	15	20	18
25	6	7	3	4	8	12	5	2	39	15	12	28
26	8	11	3	7	5	12	16	5	27	13	15	20
27	6	4	10	22	2	17	13	6	25	24	37	10
28	25	2	20	9	2	11	7	5	19	12	19	13
29		5	9	7	5	10	8	4	14	14	13	16
30		20	7	6	12	6	8	28	16	16	11	25
31		20		3		7	7		20		7	17
Mean	10	10	17	12	7	11	14	13	25	17	13	13

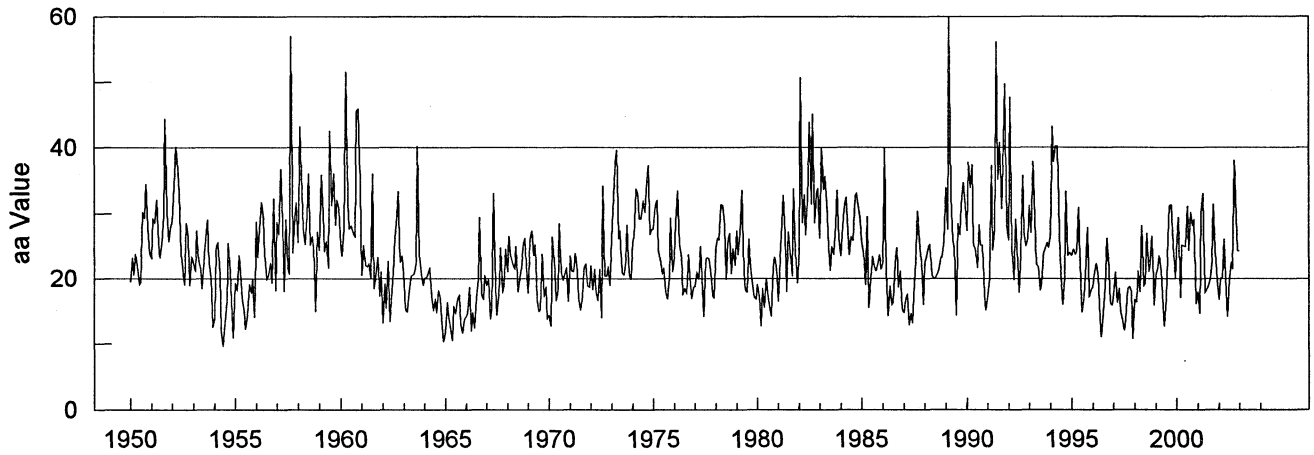
PLANETARY 3-HOUR-RANGE INDICES (Kp) BY 27-DAY SOLAR ROTATION INTERVAL

GeoForschungsZentrum Potsdam

Kp through January 31, 2003



Monthly Mean aa Index Jan 1950 - Jan 2003



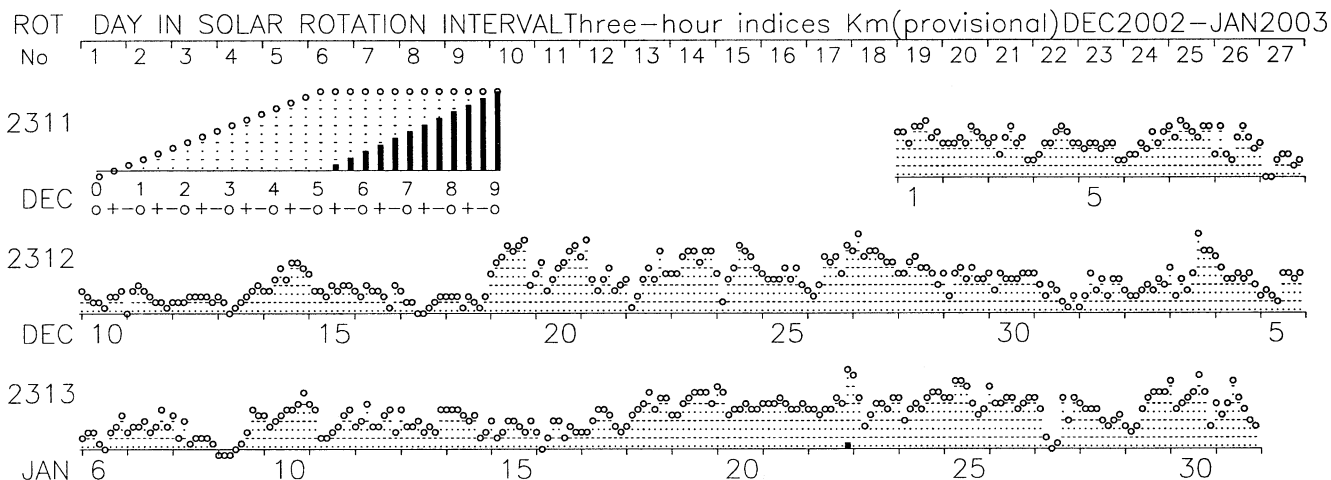
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1950	19.5	23.2	20.6	23.8	21.7	19.0	19.5	30.2	29.3	34.5	28.0	24.0	24.4
1951	23.1	29.2	28.5	32.1	25.5	23.2	25.2	29.7	44.4	30.3	25.7	28.2	28.8
1952	28.5	34.3	40.1	38.0	33.1	23.8	20.7	19.0	28.5	26.4	18.9	23.4	27.9
1953	22.3	21.2	27.4	22.7	21.4	18.4	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	38.1	29.3	24.4	22.7
2003	24.2												24.2

PLANETARY GEOMAGNETIC ACTIVITY

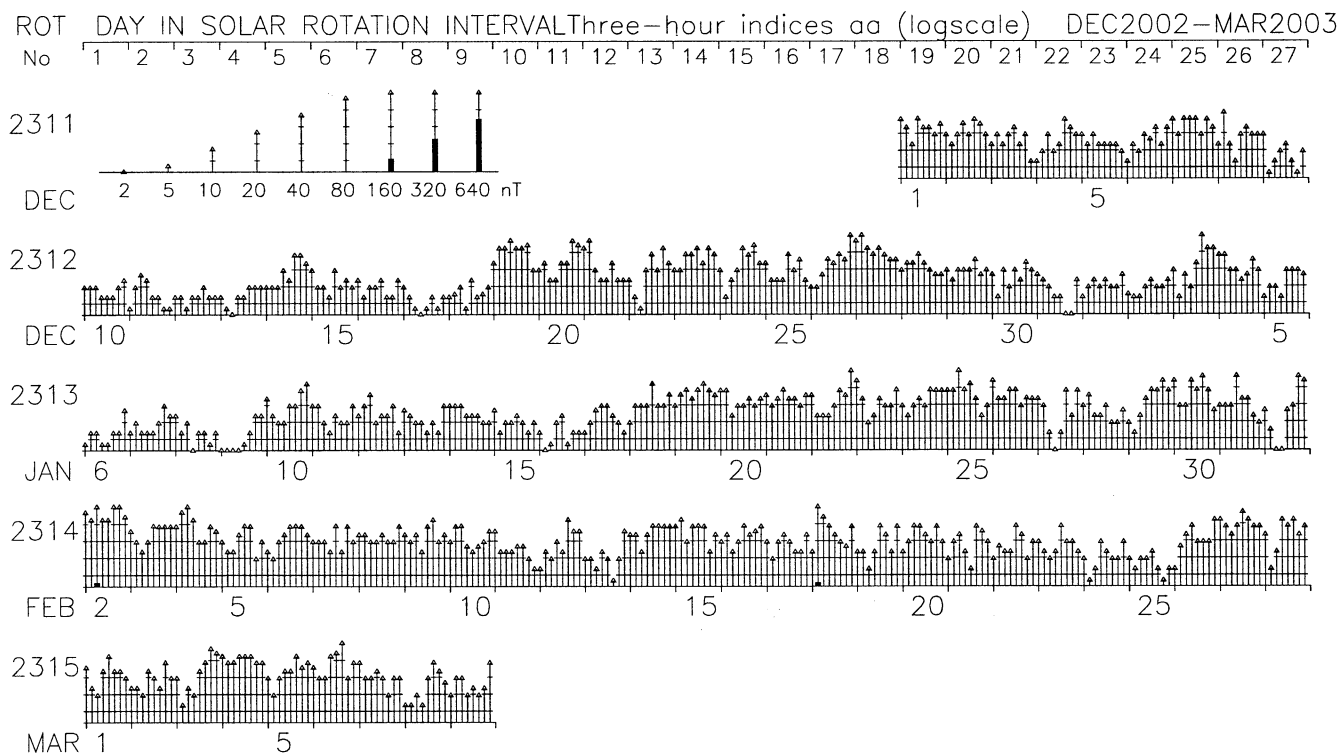
3-HOUR-RANGE INDICES Km AND aa BY 27-DAY SOLAR ROTATION INTERVAL

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

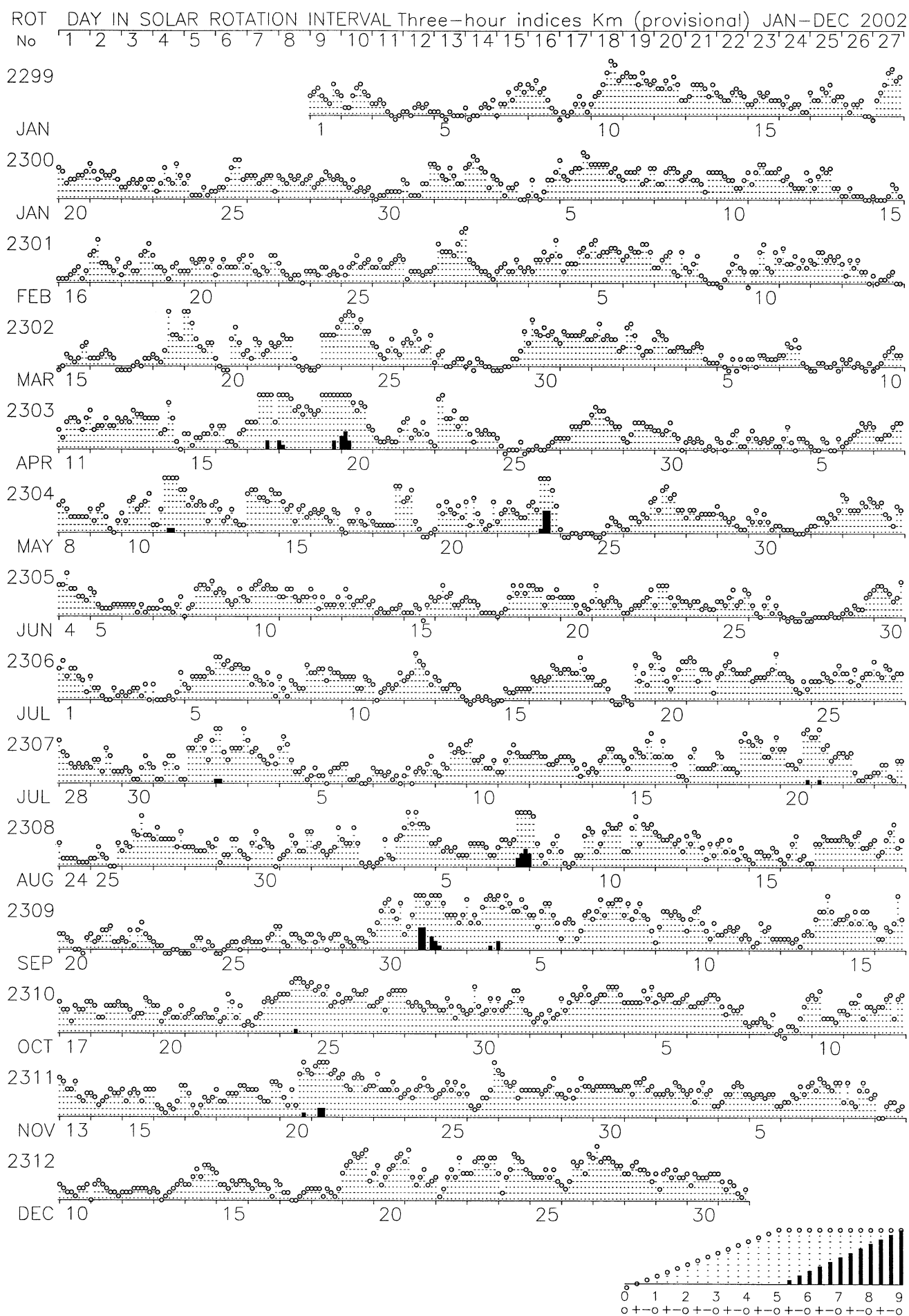
CETP, 4 Avenue de Neptune, F-94107 Saint Maur des Fosses CEDEX – FRANCE



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



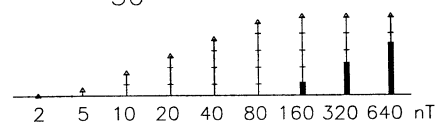
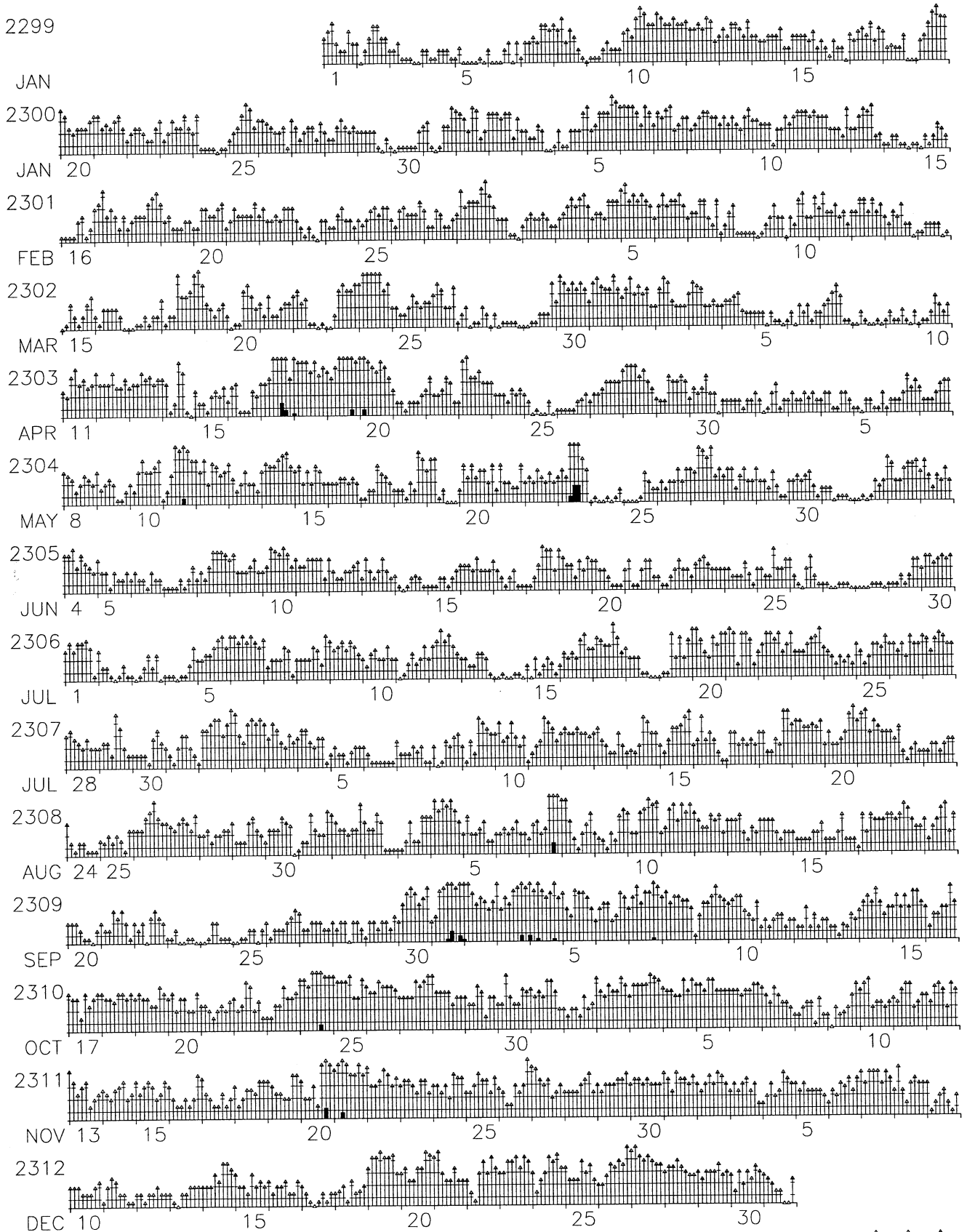
Indices Derivation at C.E.T.P.; Graph Prepared at ISGI Publication Office.



PLANETARY GEOMAGNETIC ACTIVITY – MUSICAL DIAGRAM OF aa 2002

ROT DAY IN SOLAR ROTATION INTERVAL Three-hour indices aa (logscale) JAN–DEC 2002

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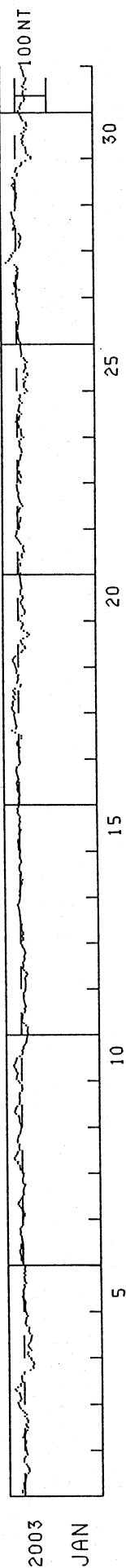


WDC FOR GEOMAGNETISM, KYOTO UNIVERSITY

HOURLY EQUATORIAL DST VALUES (PROVISIONAL)

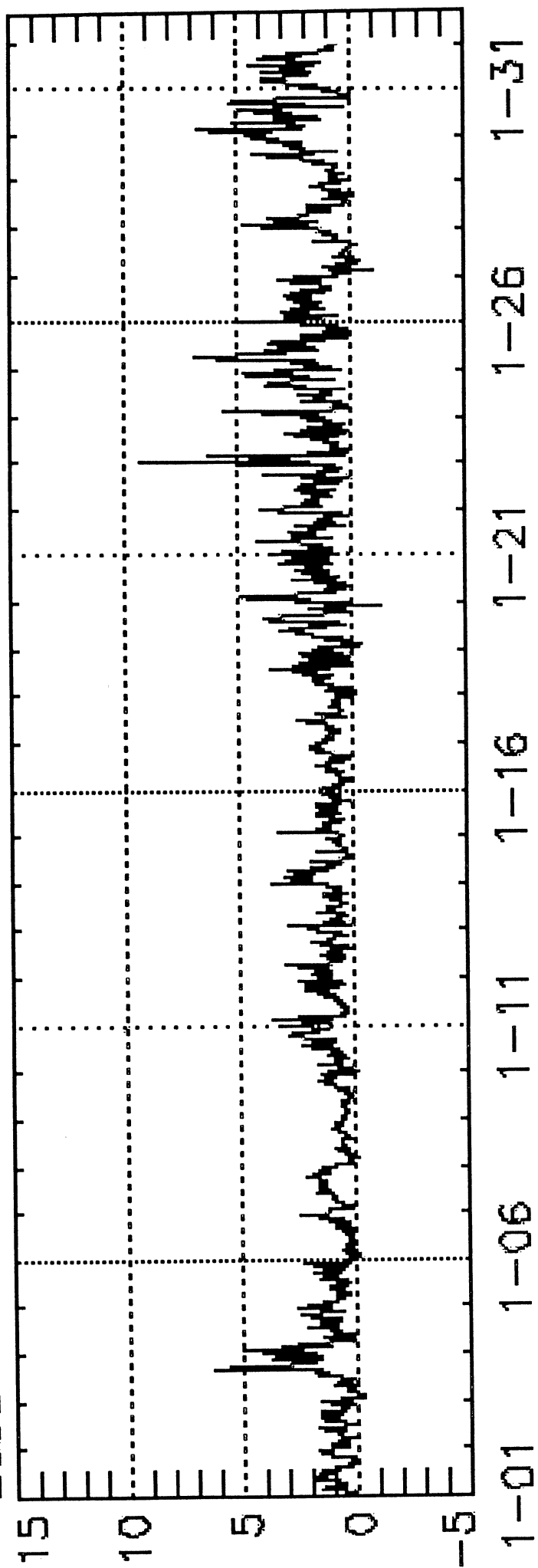
JANUARY 2003

UNIT=NT		U.T.																									
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1	2	9	10	4	4	5	6	2	-1	-3	-4	-10	-13	-14	-11	-8	-3	4	4	4	-1	-8	-6	-3	-3	-3	-3
2	-3	-1	1	-3	-4	1	7	4	-2	-3	-7	-9	-6	-3	-10	-10	-5	0	-5	1	-7	13	19	20	20	20	20
3	23	16	12	13	16	17	27	31	23	14	14	7	9	10	9	0	1	-17	-28	-27	-30	-28	-22	-20	-20	-20	-20
4	-14	-10	-12	-22	-18	-13	-11	-15	-20	-22	-22	-24	-17	-14	-16	-16	-7	-3	-5	-6	-7	-11	-8	-6	-6	-6	-6
5	-4	-4	-3	-4	-6	-4	4	5	0	0	4	-1	-4	-1	-8	-4	-4	-2	-5	-2	-5	-4	-5	-2	-2	-2	-2
6	2	4	8	8	8	10	12	11	8	7	8	4	4	6	5	9	7	9	9	5	0	0	1	0	0	0	0
7	-2	-6	-5	-2	3	7	12	16	22	10	15	6	0	-2	-2	-3	-6	-7	-1	1	0	-2	-3	-3	-3	-3	-3
8	2	7	10	10	15	16	25	27	14	18	15	9	11	11	9	15	15	16	14	11	8	5	5	4	4	4	4
9	6	7	9	10	10	12	20	24	23	20	15	10	8	8	7	10	10	8	1	-2	0	1	7	7	12	12	12
10	18	18	16	13	19	20	24	27	23	21	19	15	8	-1	-4	-2	-5	-6	-9	-14	-15	-15	-18	-22	-22	-22	-22
11	-19	-18	-20	-19	-14	-7	-2	-1	-3	-4	-4	-9	-11	-10	-14	-11	-10	-8	-8	-7	-7	-7	-12	-13	-13	-13	-13
12	-13	-13	-14	-13	-13	-11	-16	-21	-16	-10	-6	-7	-7	-6	-9	-11	-11	-11	-14	-12	-9	-6	-3	-2	-2	-2	-2
13	-2	-8	-7	-3	-7	-7	-3	-4	-7	-4	0	0	1	4	3	4	4	6	7	9	5	3	1	0	0	0	0
14	3	5	5	5	-1	-1	-5	-4	-7	-2	-2	-4	-1	4	-2	1	-2	-2	-3	0	6	1	4	4	4	4	4
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16	4	2	3	1	-1	1	6	7	6	8	9	7	3	3	5	8	8	10	10	7	0	-3	-2	-2	-2	-2	-2
17	17	22	23	19	21	17	12	15	17	12	13	18	11	-6	-8	5	3	9	11	12	13	14	15	14	14	14	14
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21	-5	-4	-3	-7	-9	-9	1	3	-3	-6	-8	-15	-11	-8	-6	-3	-2	-1	-3	2	1	3	4	-9	-9	-9	-9
22	-7	-4	-12	-10	-5	-5	0	0	-3	-4	-4	-8	-9	-9	-12	-13	-12	-12	-7	-5	-8	-6	-11	-21	-21	-21	-21
23	-13	-11	-12	-11	-6	-6	-1	6	-5	-6	-8	-13	-8	-4	-6	-5	-7	-15	-9	-6	-10	-9	-24	-32	-32	-32	-32
24	-28	-22	-23	-23	-26	-20	-28	-35	-33	-22	-24	-29	-26	-27	-32	-26	-23	-14	-15	-13	-13	-12	-11	-11	-11	-11	-11
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26	1	11	4	-9	-1	6	7	7	0	-3	-3	-6	-5	-1	-5	-1	6	33	25	21	13	16	10	3	3	3	3
27	0	-10	-12	-13	-9	-14	-16	-13	-9	2	8	7	4	8	8	6	9	12	13	13	8	0	1	1	1	1	1
28	4	2	-1	-4	-2	-4	2	6	8	12	9	1	3	9	-6	-5	0	-1	-4	-15	-19	-21	-33	-49	-49	-49	-49
29	-49	-41	-34	-35	-32	-33	-27	-23	-25	-21	-25	-26	-21	-29	-36	-28	-38	-35	-35	-25	-20	-18	-13	-13	-13	-13	-13
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WDC C1 for Geomagnetism, Copenhagen
Polar Cap index
Qaanaaq (Thule), THL

2003-01-01



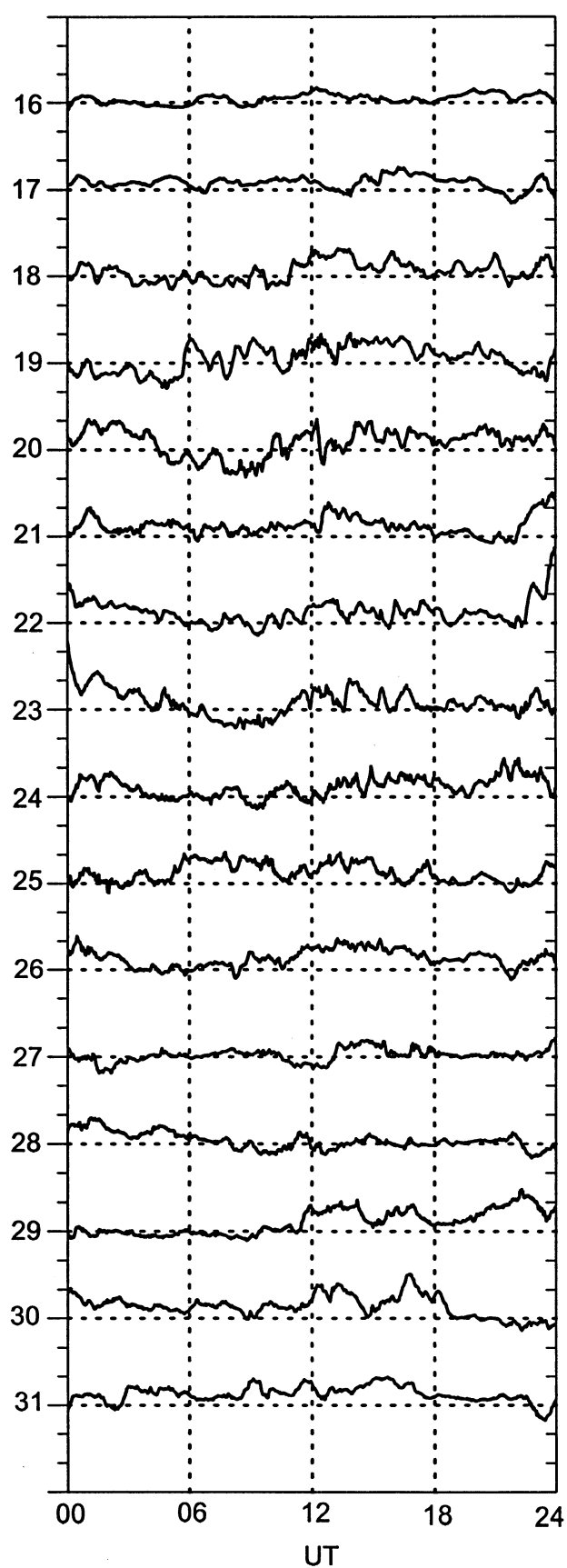
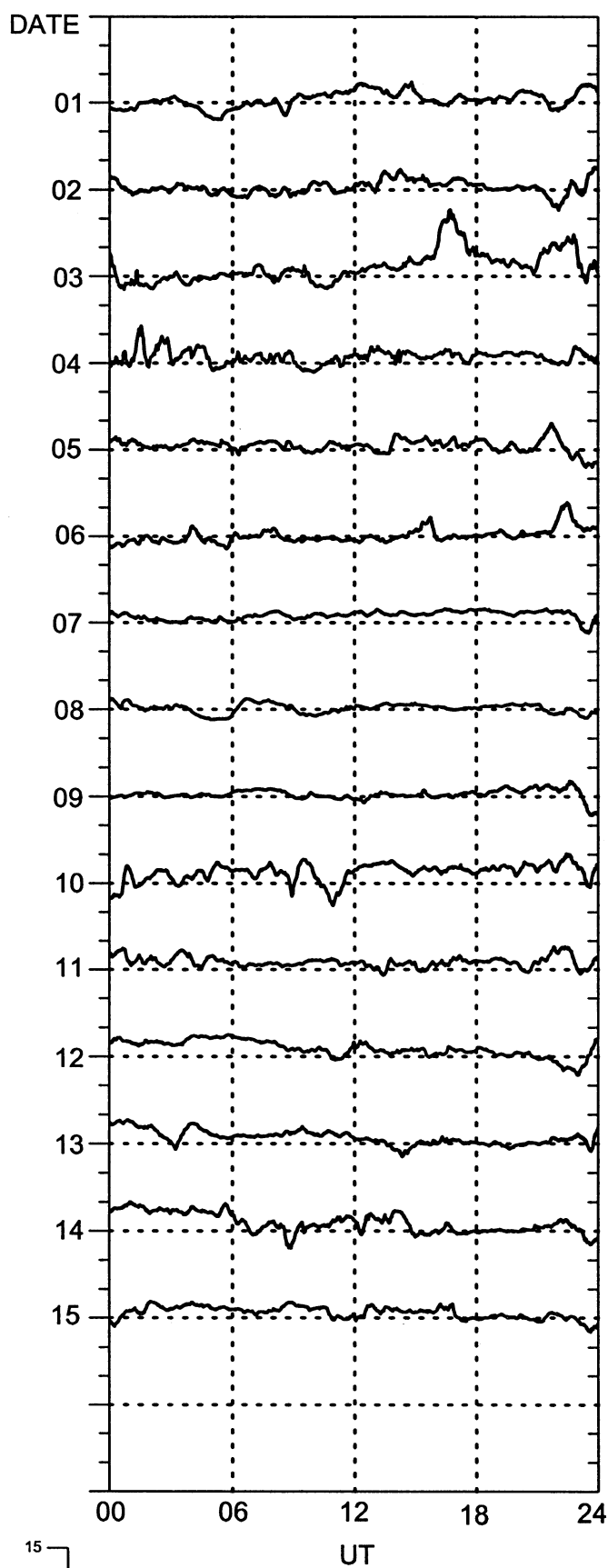
Date, mm-dd

Data source: Solar-Terrestrial Physics Division
Danish Meteorological Institute

138
Jan 03

Vostok

January, 2003



1-min values

Arctic & Antarctic Research Institute

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

JANUARY 2003

Sta	Geomag Lat	Commencement Time		Type	SC Amplitudes			Maximum 3-Hour K Index Day(3-Hour Periods)	Ranges			End Hour Day (UT)
		Day	(UT)		D (Min)	H (Gamma)	Z (Gamma)		D K (Min)	H (Gamma)	Z (Gamma)	
UJJ	13.6N	02	2030	..	..	..	..		-	3	99	04 20
NGP	11.3N	02	2030	..	..	..	..		-	3	136	04 20
ABG	09.4N	02	2030	..	..	..	..	03(5)	6	3	127	04 20
HYB	07.6N	02	0500	..	..	..	..	03(6)	6	3	125	04 24
PND	02.0N	02	2030	..	..	..	..		-	3	124	04 20
TIR	00.6S	02	2030	..	..	..	..		-	3	166	04 20
GNA	43.0S	02	1200	..	..	..	..	03(6) 04(1)	5	17	115	04 21
UJJ	13.6N	18	0430	..	..	..	..		-	4	103	20 22
NGP	11.3N	18	0430	..	..	..	..		-	4	134	20 22
ABG	09.4N	18	0430	..	..	..	..	18(4)	5	4	125	20 22
HYB	07.6N	18	0400	..	..	..	..	18(5)	5	4	124	20 23
PND	02.0N	18	0430	..	..	..	..		-	4	140	20 22
TIR	00.6S	18	0430	..	..	..	..		-	5	217	20 22
KRC	16.4N	19	0248	..	..	..	..	19(5,6)	5	5	98	19 21
KRC	16.4N	22	2100	..	..	..	..	22(8)	5	5	68	23 17
UJJ	13.6N	24	0700	..	..	..	..		-	2	79	25 18
NGP	11.3N	24	0700	..	..	..	..		-	3	110	25 18
ABG	09.4N	24	0700	..	..	..	..	23(1) 24(5,8)	4	4	95	25 18
HYB	07.6N	24	0600	..	..	..	..	24(6) 25(5) 27(1,6)	4	4	99	27 09
PND	02.0N	24	0700	..	..	..	..		-	3	104	25 18
TIR	00.6S	24	0700	..	..	..	..		-	4	173	25 18
HYB	07.6N	27	1400	..	..	..	..	27(6)	4	2	44	28 23
UJJ	13.6N	29	0830	..	..	..	..		-	2	81	30 20
NGP	11.3N	29	0830	..	..	..	..		-	3	100	30 20
ABG	09.4N	29	0830	..	..	..	..	29(5) 30(5)	5	3	96	30 20
HYB	07.6N	29	0500	..	..	..	..	31(4)	5	3	92	31 23
PND	02.0N	29	0830	..	..	..	..		-	2	92	30 20
TIR	00.6S	29	0830	..	..	..	..		-	2	117	30 20

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

Stations reporting no storms observed: CAN

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

January 2003

Storm Sudden Commencements (SSC)			Solar Flare Effects (sfe)		
Day	Time	Quality: Station Group*	Day	Begin-End	Station(s)
NONE			07	2329-2359	GNA CNB
			29	1015-1032	GUI

REPORTING OBSERVATORIES (up to the 4th of March 2003):

SOD NUR NGK VAL DOU BDV CLF HRB NAG GCK EBR SPT GUI HYB GNA CNB LIV

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

Note that we have included data of the Antarctic Station LIVINGSTONE (62° 39' 44" S, 60°23' 41" W) -- Luis F.