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OCTOBER 1997 NUMBER 638 - Part I

Solar-Geophysical Data prompt reports

Data for August, September 1997 and Late Data

International Standard Serial Number: 0038-0911
Library of Congress Catalog Number: 79-640375 //r81

NATIONAL GEOPHYSICAL DATA CENTER
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Boulder, Colorado

Subscription information is on the inside back cover.

SOLAR-GEOPHYSICAL DATA

Number 638

(Issued in Two Parts)

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CONTENTS

PART I (PROMPT REPORTS)

PART II (COMPREHENSIVE REPORTS)

DETAILED INDEX OF OBSERVATIONS PUBLISHED IN SOLAR-GEOPHYSICAL DATA

CODE	KIND OF OBSERVATION	FEB 97	MAR	APR	MAY	JUN	JUL	AUG	SEP
A.	SOLAR AND INTERPLANETARY								
A.1	Sunspot Drawings	632A 37	633A 39	634A 41	635A 42	636A 41	637A 41	638A 45	
A.2aa	International Provisional Sunspot Numbers	631A 23	632A 24	633A 23	634A 25	635A 24	636A 25	637A 24	638A 24
A.2c	American Sunspot Numbers	631A 23	632A 24	633A 23	634A 25	635A 24	636A 25	637A 24	638A 24
A.3a	Mt. Wilson Magnetograms	632A 37	633A 39	634A 41	635A 42	636A 41	637A 41	638A 45	
A.3b	Sunspot Mag Class and Regions	632A 79	633A 86	634A 86	635A 92	636A 89	637A 88	638A 92	
A.3c	Kitt Peak Magnetograms	632A 37	633A 39	634A 41	635A 42	636A 41	637A 41	638A 45	
A.3d	Mean Solar Magnetic Field (Stanford)	631A 29	632A 29	633A 28	634A 32	635A 28	636A 32	637A 32	638A 36
A.3e	Stanford Magnetograms	632A 37	633A 39	634A 41	635A 42	636A 41	637A 41	638A 45	
A.4	H-alpha Filtergrams	632A 37	633A 39	634A 41	635A 42	636A 41	637A 41	638A 45	
A.5d	Photometric Ca II Faculae (San Fernando)	May 88-Dec 91 in 630B 37; Jan 92-Dec 96 in 631B 22							
A.6c	Stanford Solar Mag Field Synoptic Maps	632A 32	633A 34	634A 36	635A 32	636A 36	637A 36	638A 40	
A.6d	Kitt Peak Solar Mag Field Synoptic Maps	632A 36	633A 38	634A 40	635A 40	636A 40	637A 40	638A 44	
A.6f	Active Prominences and Filaments	636B 17	637B 18	638B 22					
A.6g	Sac Peak Coronal Line Synoptic Maps	632A 34	633A 36	634A 38	635A 36	636A 38	637A 38	638A 42	
A.6h	Photometric White Light (San Fernando)	Aug 95-Jun 96 in 624B 24; Jul-Dec 96 630B 32							
A.7h	Coronal Line Emission (Sac Peak)	632A 37	633A 39	634A 41	635A 42	636A 41	637A 41	638A 45	
A.8aa	2800 MHz- Solar Flux (Penticton)	631A 23	632A 24	633A 23	634A 25	635A 24	636A 25	637A 24	638A 24
A.8ac	2800 MHz- Adj. Solar Flux (Penticton)	631A 23	632A 24	633A 23	634A 25	635A 24	636A 25	637A 24	638A 24
A.8g	Adjusted Daily Solar Fluxes (Learmonth)	631A 23	632A 24	633A 23	634A 25	635A 24	636A 25	637A 24	638A 24
A.10g	Nancay Radioheliograph - 164&327 MHz	632A 88	633A 97	634A100	635A104	636A 99	637A 97	638A107	
A.11g	Solar X-ray GOES (graphs/event table)	636B 10	637B 10	638B 15					
A.11k	Solar UV NOAA-9	May 86-Dec 88 in 566B 84							
A.11l	Solar UV NIMBUS7	Nov 78-Oct 84 in 542B 82							
A.11m	Solar UV SOLSTICE (UARS)	Oct 91-Sep 94 in 607B 46							
A.11n	Solar YOHKOH Soft X-ray Images	632A 65	633A 70	634A 74	635A 73	636A 71	637A 72	638A 76	
A.11o	Solar UV SUSIM (UARS)	Oct 91-Jan 97 in 629B 30							
A.12g	Solar Particles (GOES-7)	631A 4	632A 4	633A 4	634A 4	635A 4	636A 4	637A 4	638A 4
A.12h	Interplanetary Particles (SAMPEX)	Jul 95-Dec 96 in 632B 22; Jan-Feb 97 in 633B 28							
A.13e	Solar Plasma (IMP-8)	636B 19	637B 21	638B 26					
A.16c	ERBS, NOAA-9 & -10 Solar Irradiance	ERBS Oct 84-Dec 95 in 620B 50; Jan-Dec 96 in 632B 64							
A.16d	UARS Solar Irradiance	Oct 91-Dec 96 in 634B 28							
A.17c	Inferred Interplanetary Mag Field	1984-1988 data in 542A168; 1989-Jan 94 in 611A118							
A.17	IMP-8 Interplanetary Mag Field	636B 20	637B 22	638B 27					
C.	SOLAR FLARE-ASSOCIATED EVENTS								
C.1a	H-alpha Flares	631A 26	632A 27	633A 26	634A 28	635A 27	636A 28	637A 27	638A 27
C.1ba	H-alpha Flare Groups	636B 4	637B 4	638B 4					
C.1d	Flare Patrol Obsevations	636B 7	637B 6	638B 8					
C.1h	H-alpha Flare Index (ImpxDur)	Jan 86-Oct 96 in 635B 24							
C.3	Radio Bursts Fixed Frequency	636B 9	637B 8	638B 10					
C.3	Radio Bursts Fixed Frequency Selected	631A 28	----------	633A 28	634A 30	----------	636A 30	637A 30	638A 34
C.4	Radio Bursts Spectral	632A 83	633A 90	634A 92	635A 99	636A 95	637A 93	638A101	
C.6	Sudden Ionospheric Disturbances	632A 82	633A 89	634A 91	635A 98	636A 94	637A 92	638A100	
D.	GEOMAGNETIC EVENTS								
D.1a	Geomagnetic Indices	633A114	633A103	634A106	635A113	636A108	637A106	638A117	
D.1ba	27-day Chart of Kp Indices	632A 99	633A105	634A108	635A115	636A110	637A108	638A119	
D.1cb	Monthly Mean aa Indices	632A100	633A106	634A109	635A116	637A109	637A109	638A120	
D.1d	Principal Magnetic Storms	632A103	633A109	634A113	635A120	636A114	637A112	638A123	
D.1f	Sudden Commencements/Flare Effects	632A104	633A110	634A114	635A121	636A115	637A113	638A124	
D.1g	Equatorial Indices Dst	633A113	634A116	634A112	635A119				
D.1i	Polar Cap (PC) Index	632A102	633A108	634A111	635A118	636A113	637A111	638A122	
F.	COSMIC RAYS								
F.1b	Cosmic Ray Neutron Cts (Climax)	632A 89	633A 98	634A101	635A105	636A100	637A 98	638A109	
F.1h	Cosmic Ray Neutron Cts (Thule)	632A 89	633A 98	634A101	635A105	636A100	----------	----------	
F.1i	Cosmic Ray Neutron Cts (Kiel)	632A 89	633A 98	634A101	635A105	636A100	637A 98	638A109	
F.1n	Cosmic Ray Neutron Cts (Beijing)	632A 89	633A 98	634A101	635A105	636A100	637A 98	638A109	
F.1m	Cosmic Ray Neutron Cts (Haleakala)	632A 89	633A 98	634A101	635A105	636A100	637A 98	638A109	
F.1o	Cosmic Ray Neutron Cts (Moscow)	632A 89	633A 98	634A101	635A105	636A100	637A 98	638A109	
F.1p	Cosmic Ray Neutron Cts (Calgary)	632A 89	633A 98	634A101	635A105	636A100	637A 98	638A109	
F.1r	Cosmic Ray Neutron Cts (Goose Bay)	632A 89	633A 98			636A100	637A 98	638A109	
H.	MISCELLANEOUS								
H.60	ISES Alert Periods	631A 18	632A 20	633A 19	634A 20	635A 19	636A 20	637A 20	638A 19

The entry "632 37" under Feb 97, for example, means that the sunspot drawings for Feb 1997 appear in SOLAR-GEOPHYSICAL DATA No. 632, Part I, and that they begin on page 37. "A" denotes Part I and "B", Part II. Blanks indicate data not yet received and dashes mark unavailable data.

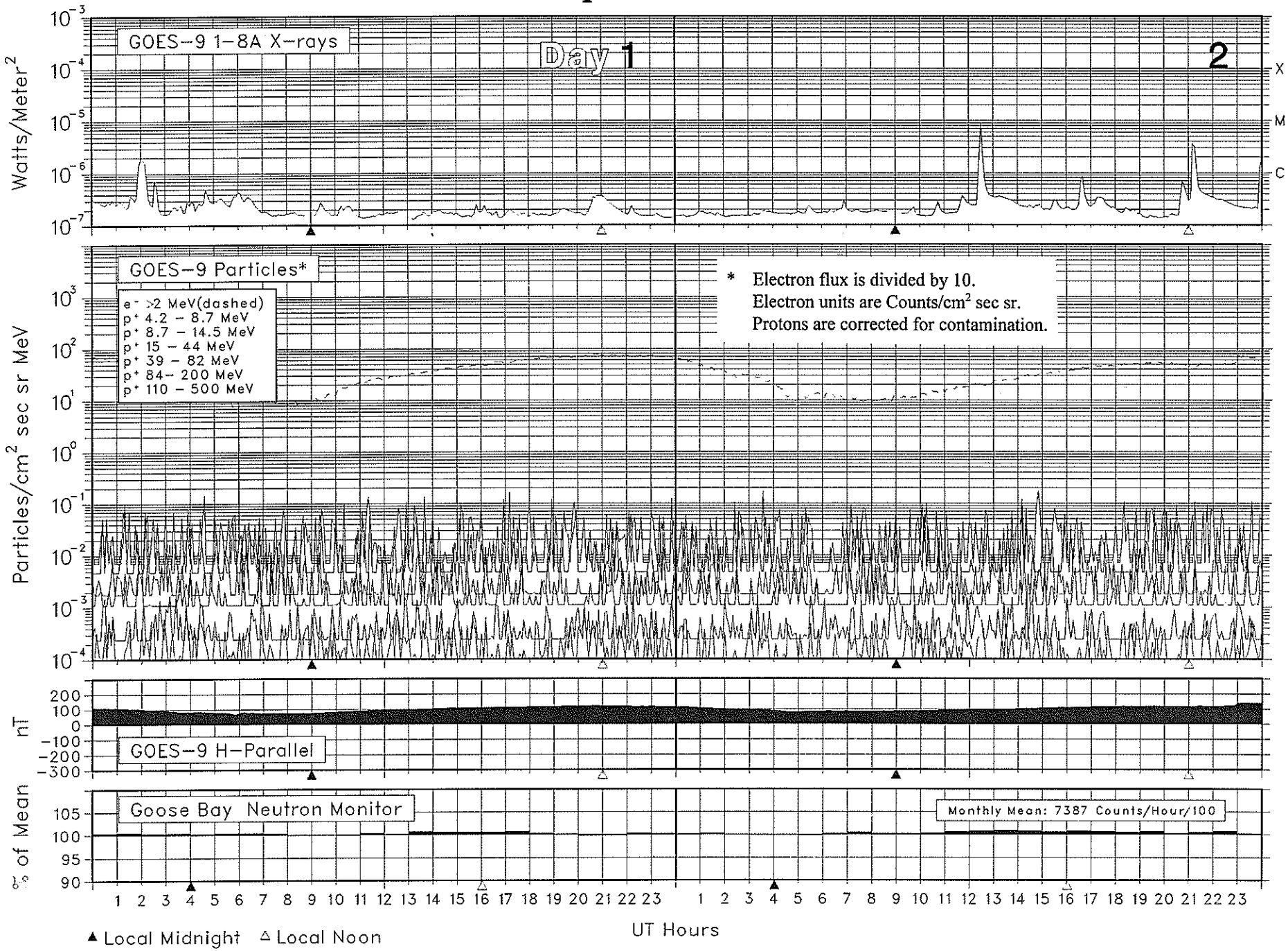
CONTENTS

Prompt Reports

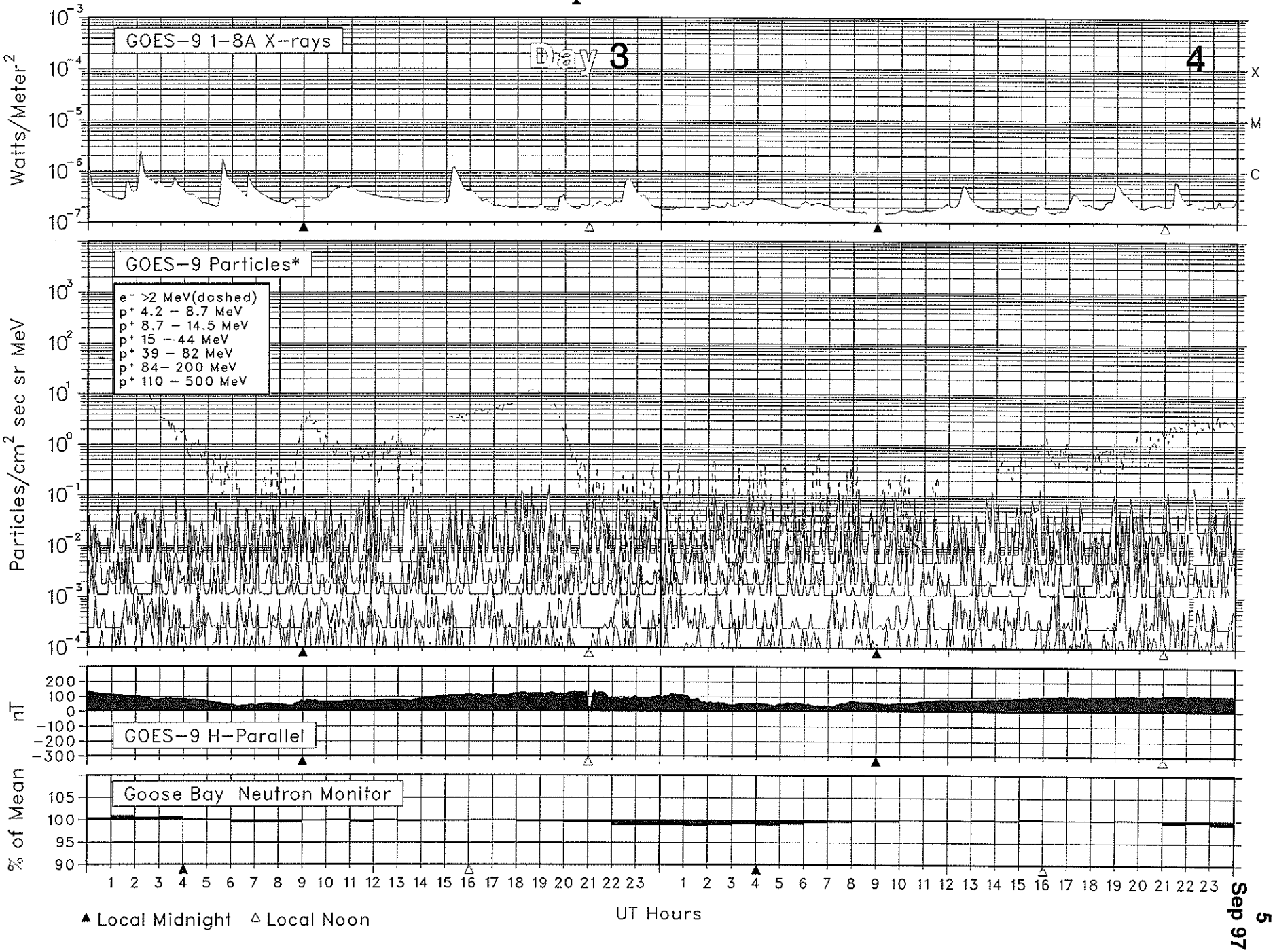
Number 638 Part I

DATA FOR SEPTEMBER 1997

SOLAR-TERRESTRIAL ENVIRONMENT
September 1997



SOLAR-TERRESTRIAL ENVIRONMENT
September 1997



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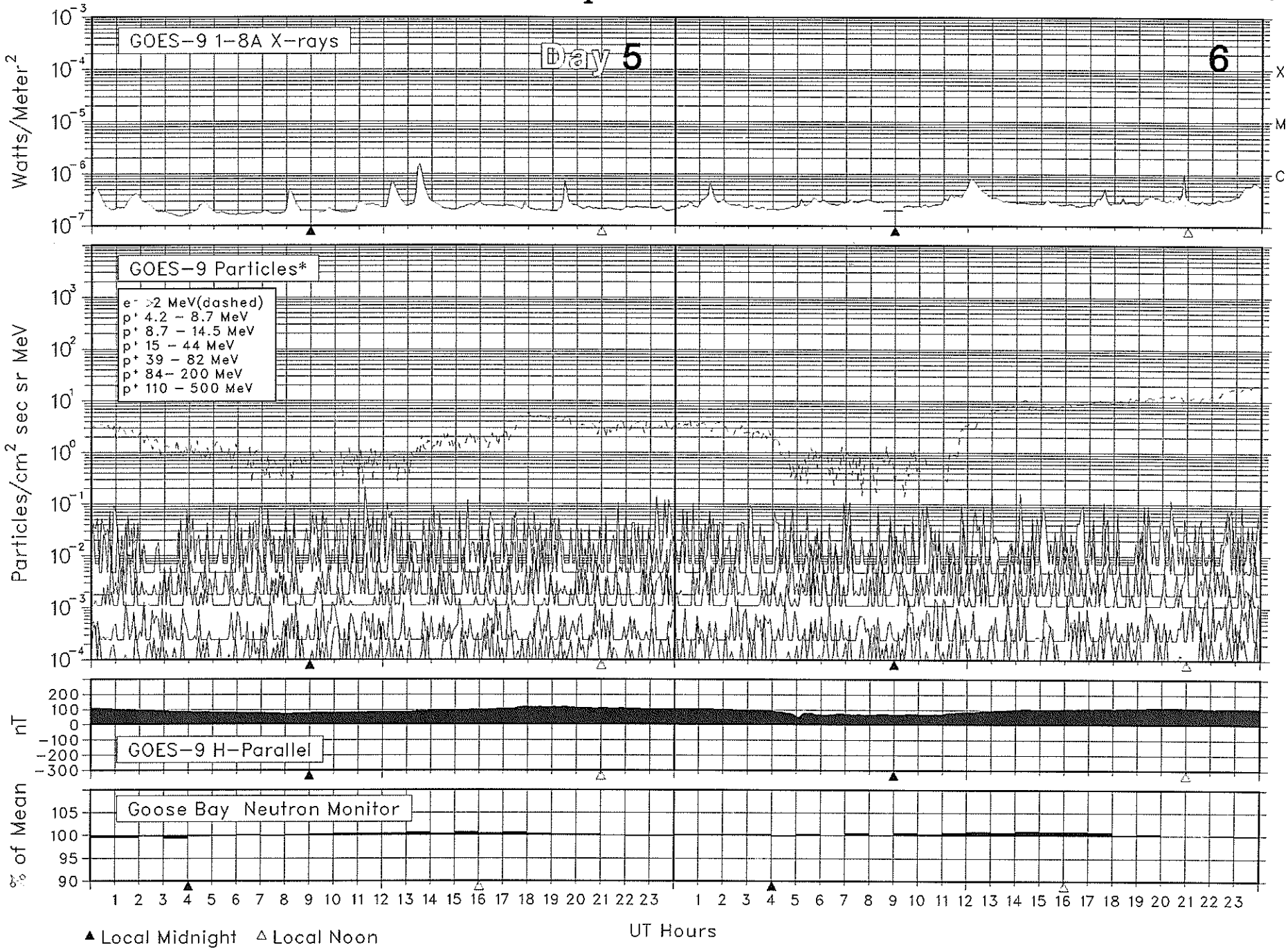
September 1997



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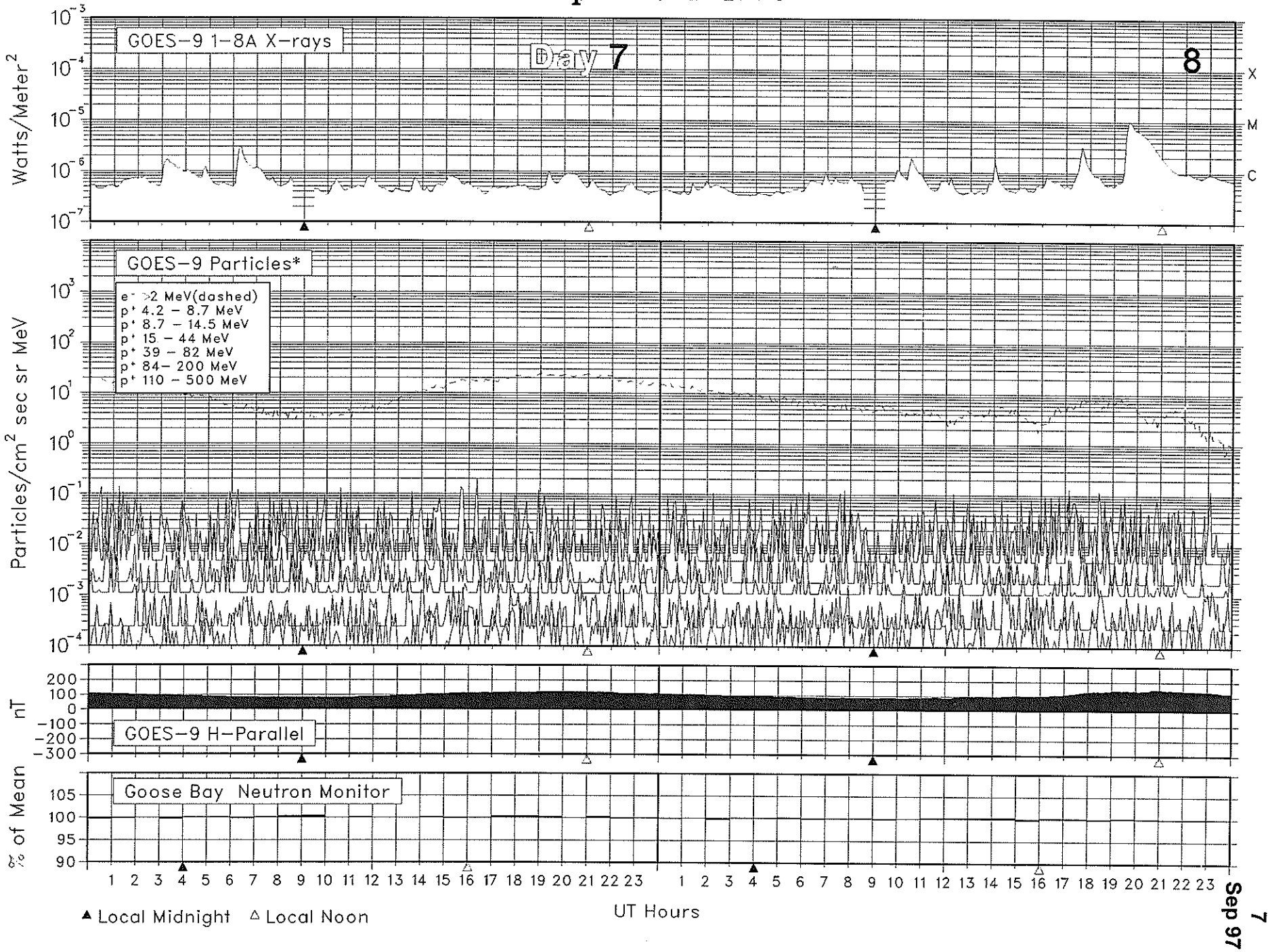
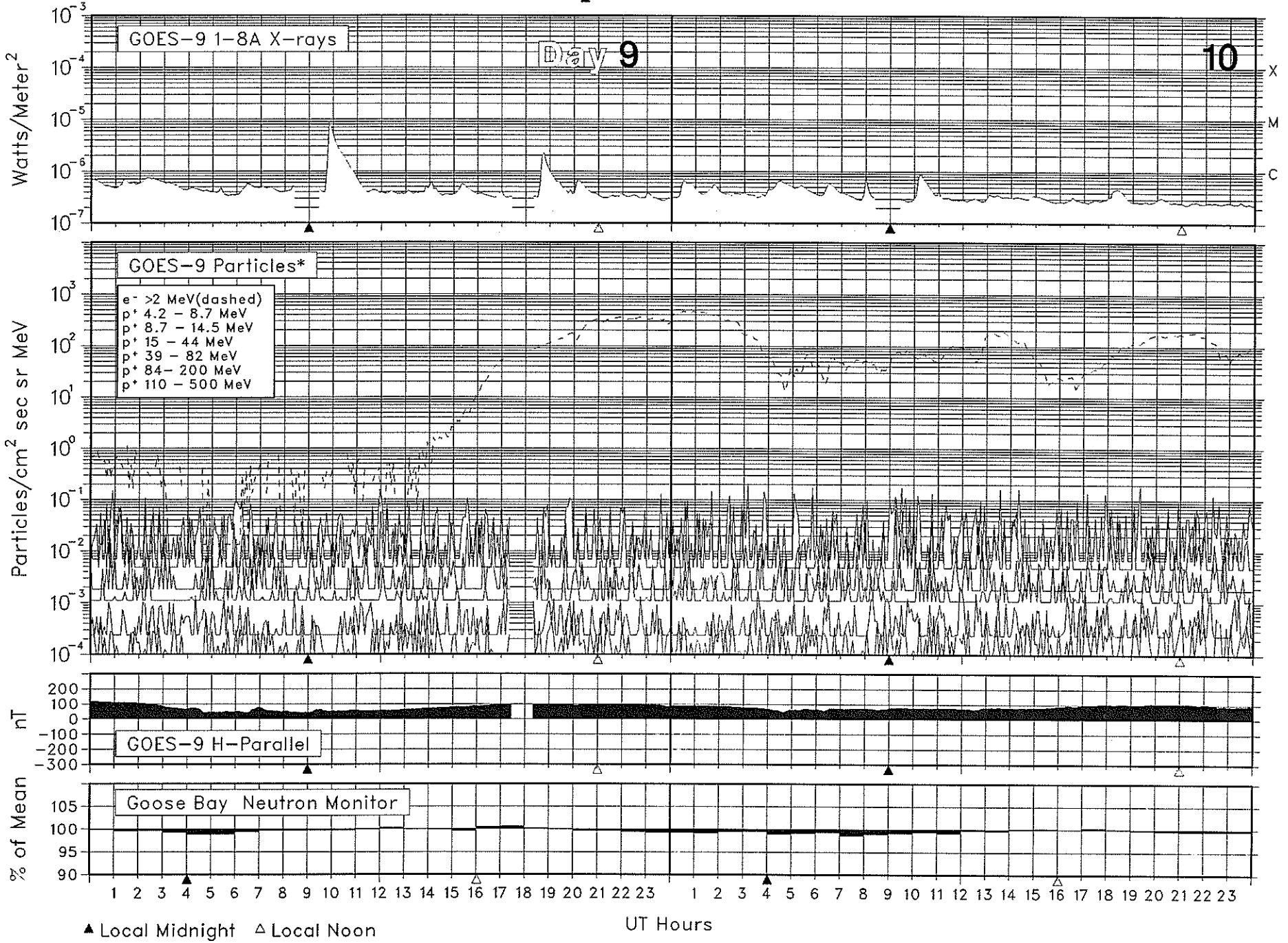
September 1997

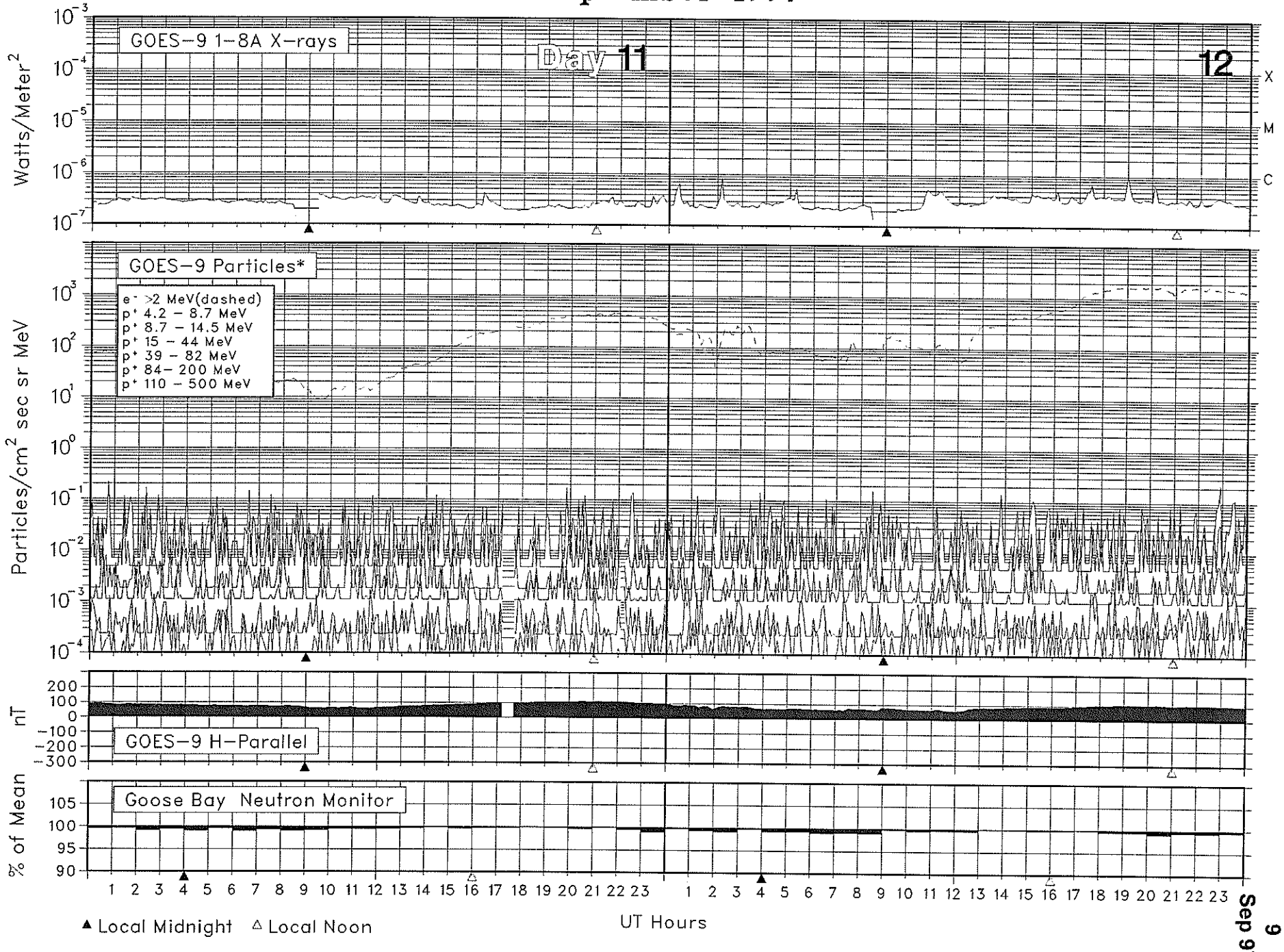


SOLAR-TERRESTRIAL ENVIRONMENT
September 1997

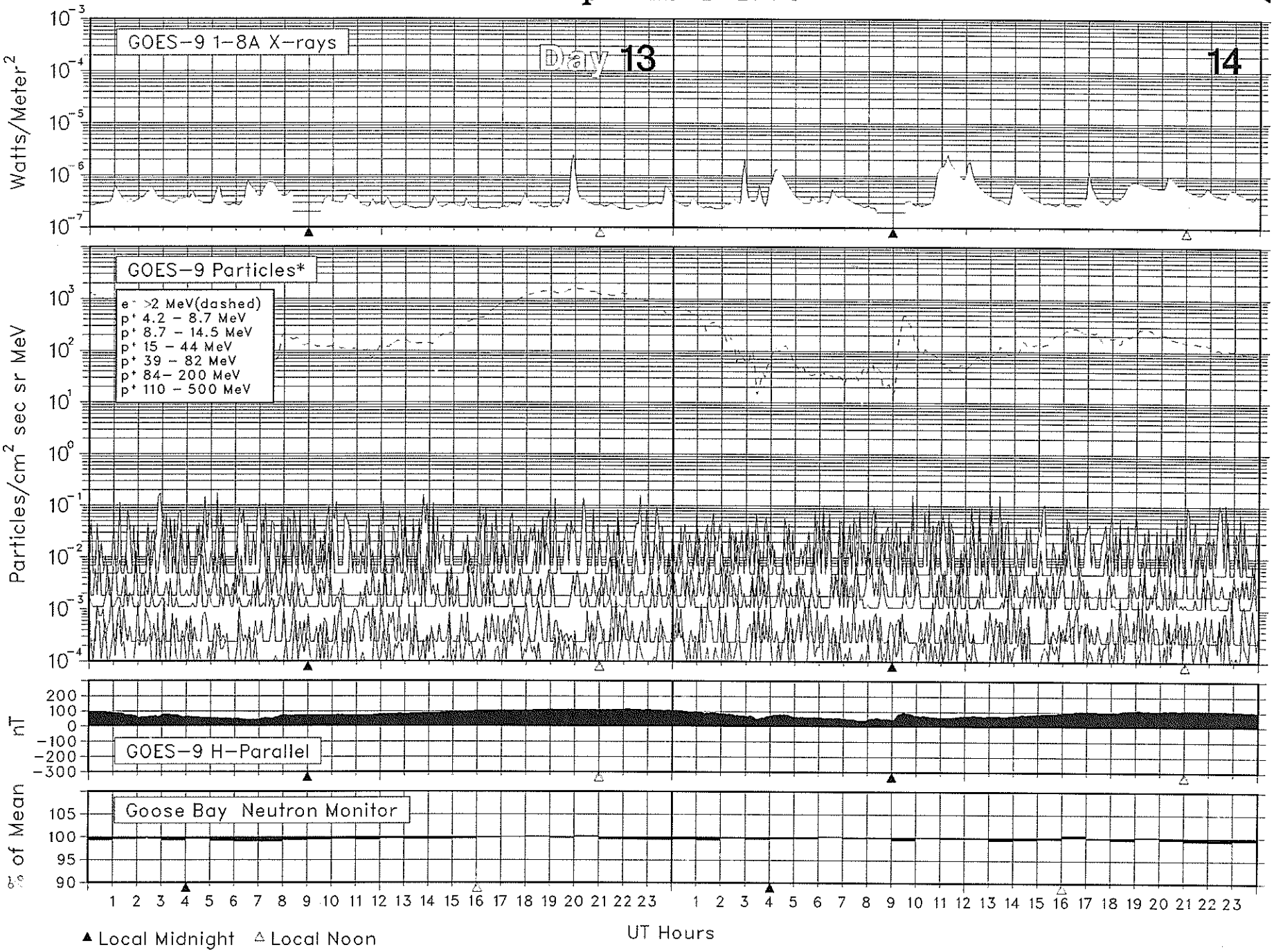
Sep 97 8



SOLAR-TERRESTRIAL ENVIRONMENT
September 1997

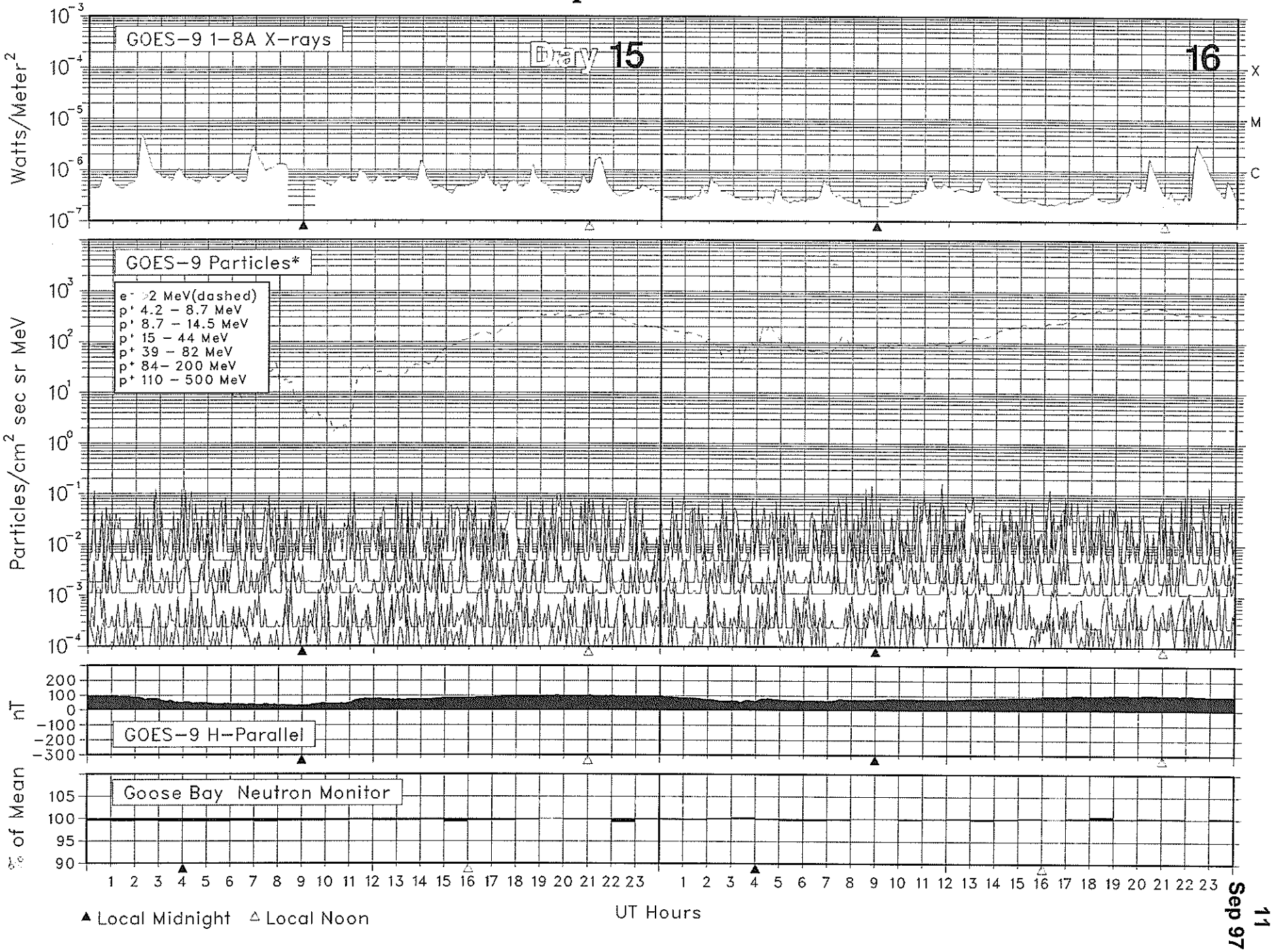


SOLAR-TERRESTRIAL ENVIRONMENT
September 1997



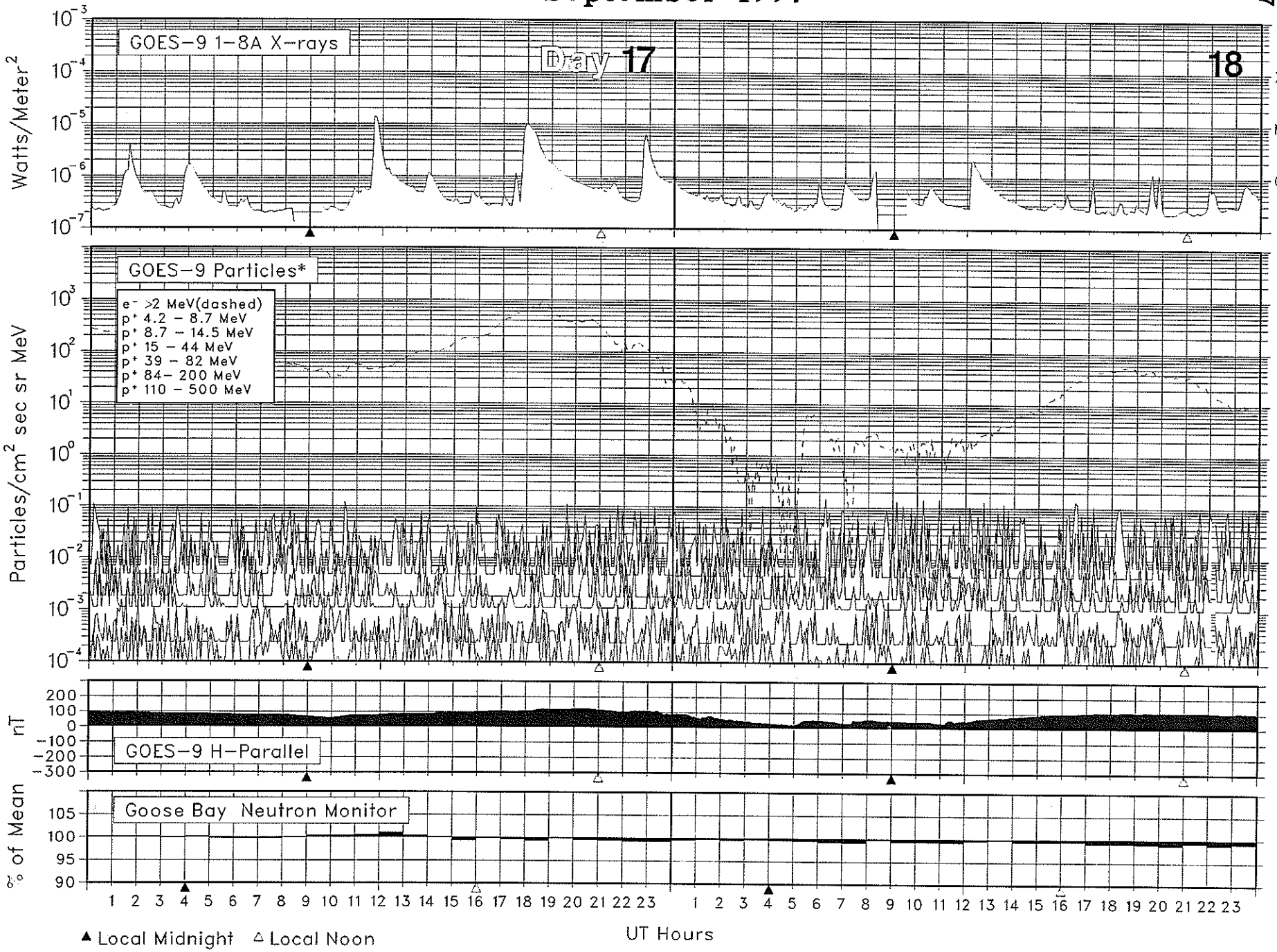
SOLAR-TERRESTRIAL ENVIRONMENT

September 1997

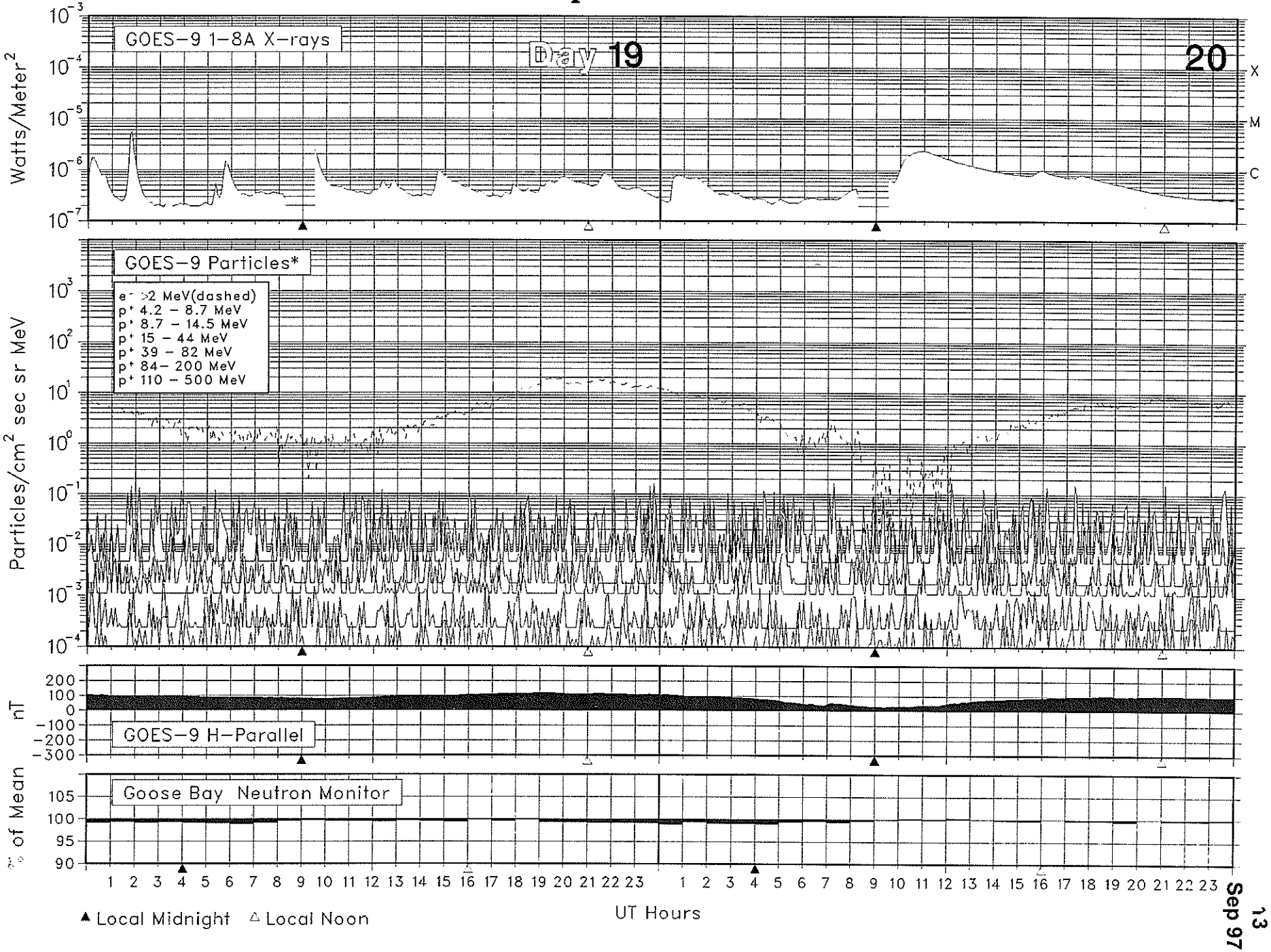


11 Sep 97

SOLAR-TERRESTRIAL ENVIRONMENT
September 1997



SOLAR-TERRESTRIAL ENVIRONMENT
September 1997



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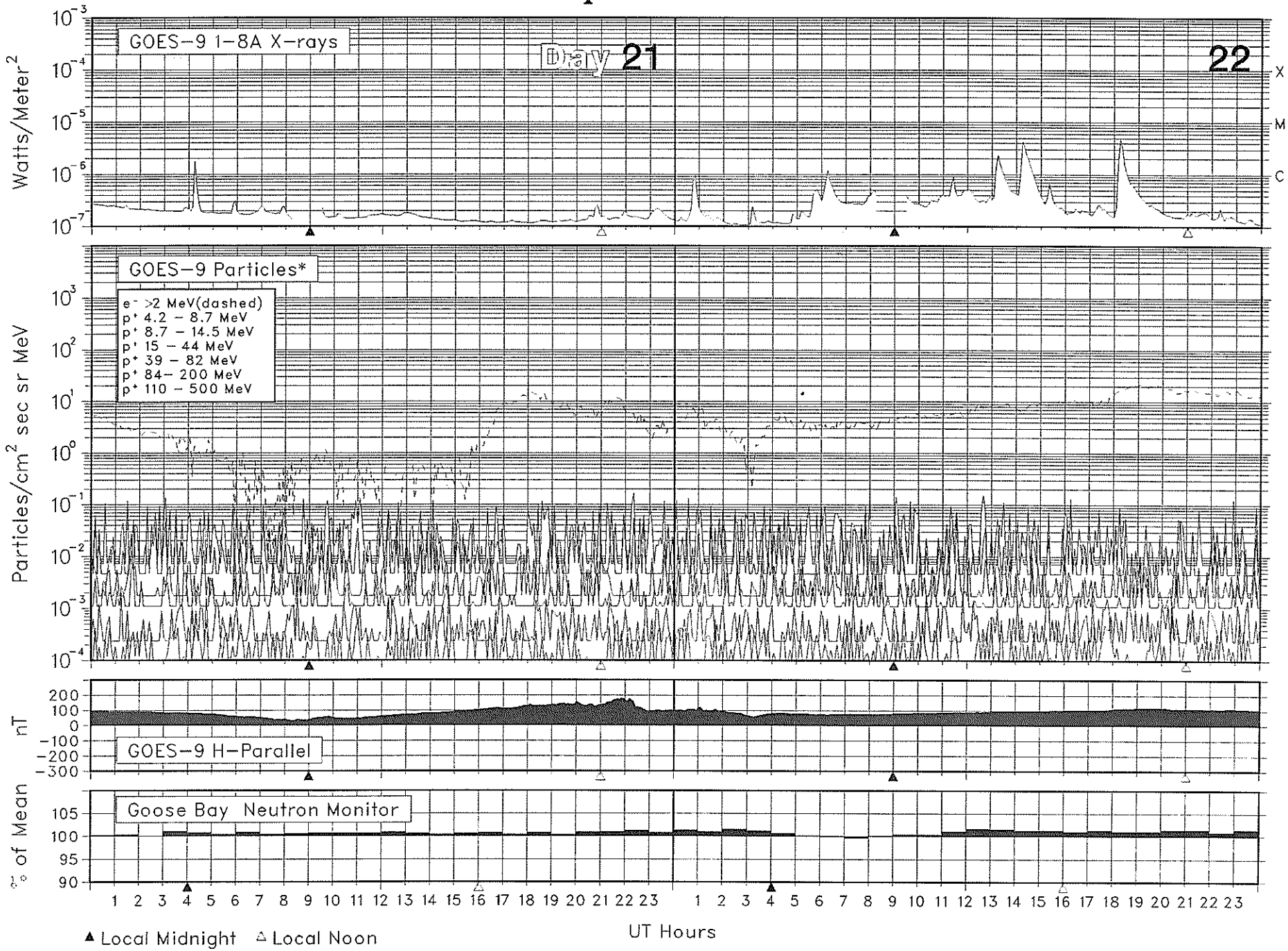
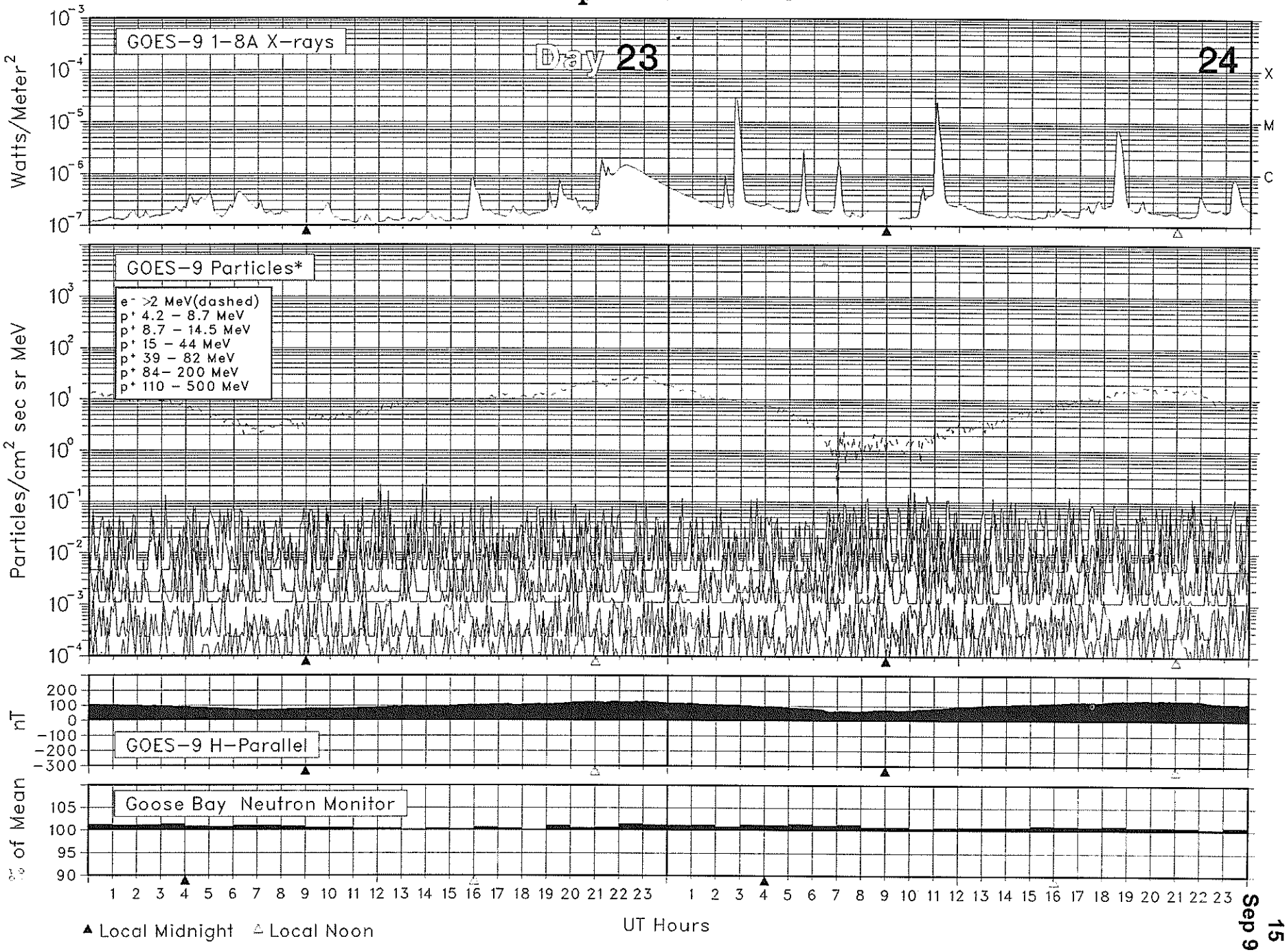
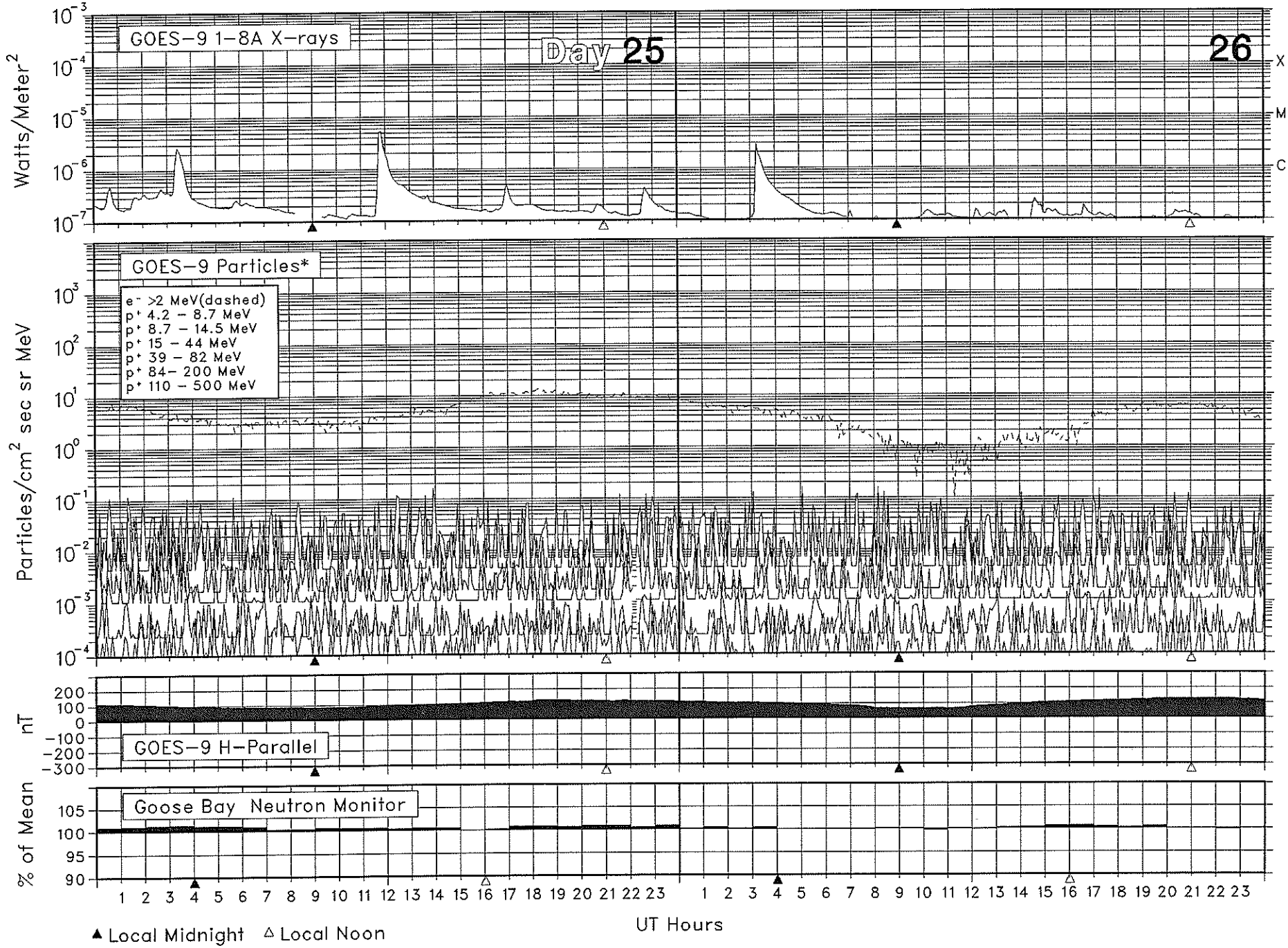
September 1997



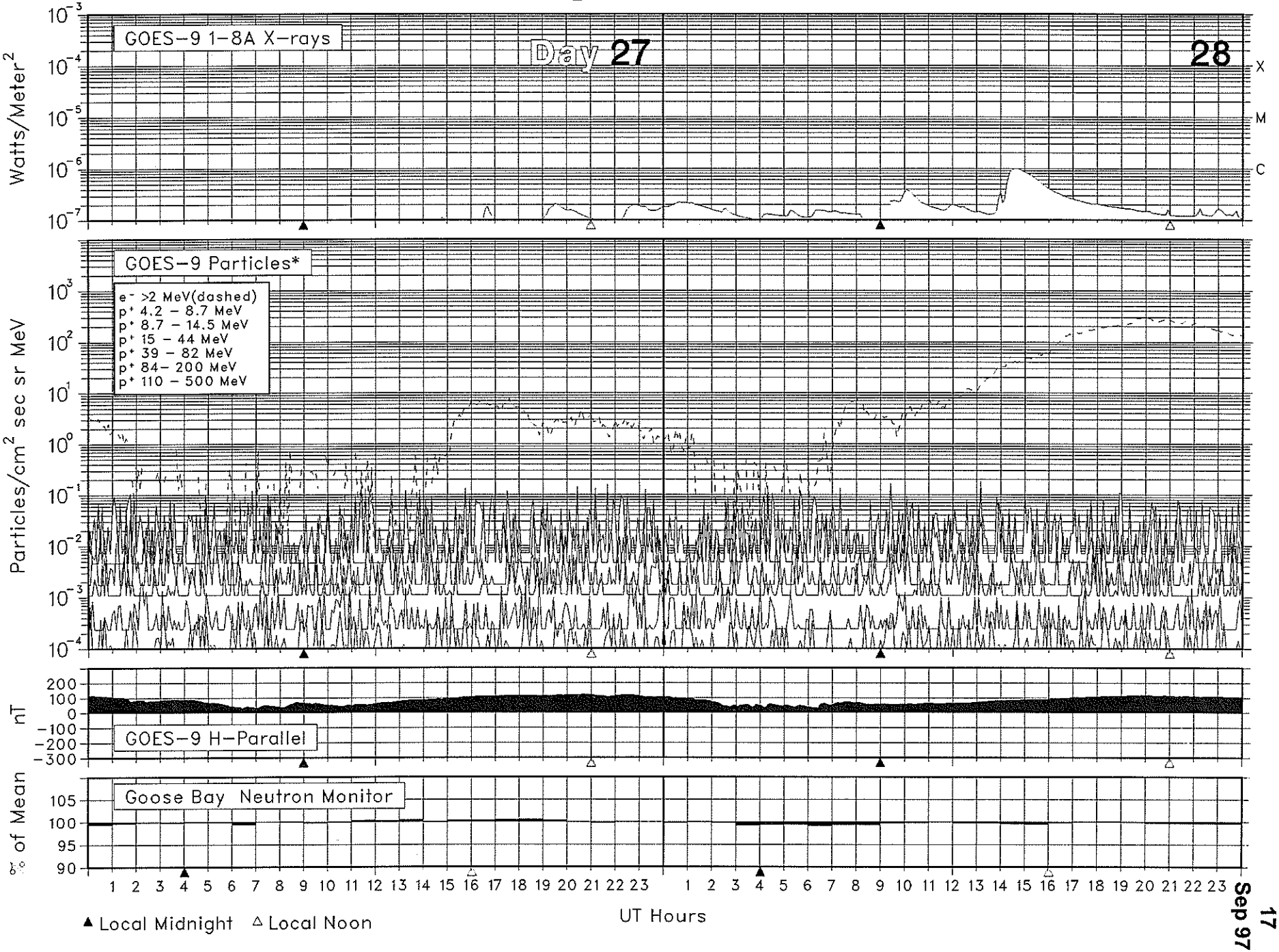
SOLAR-TERRESTRIAL ENVIRONMENT
September 1997



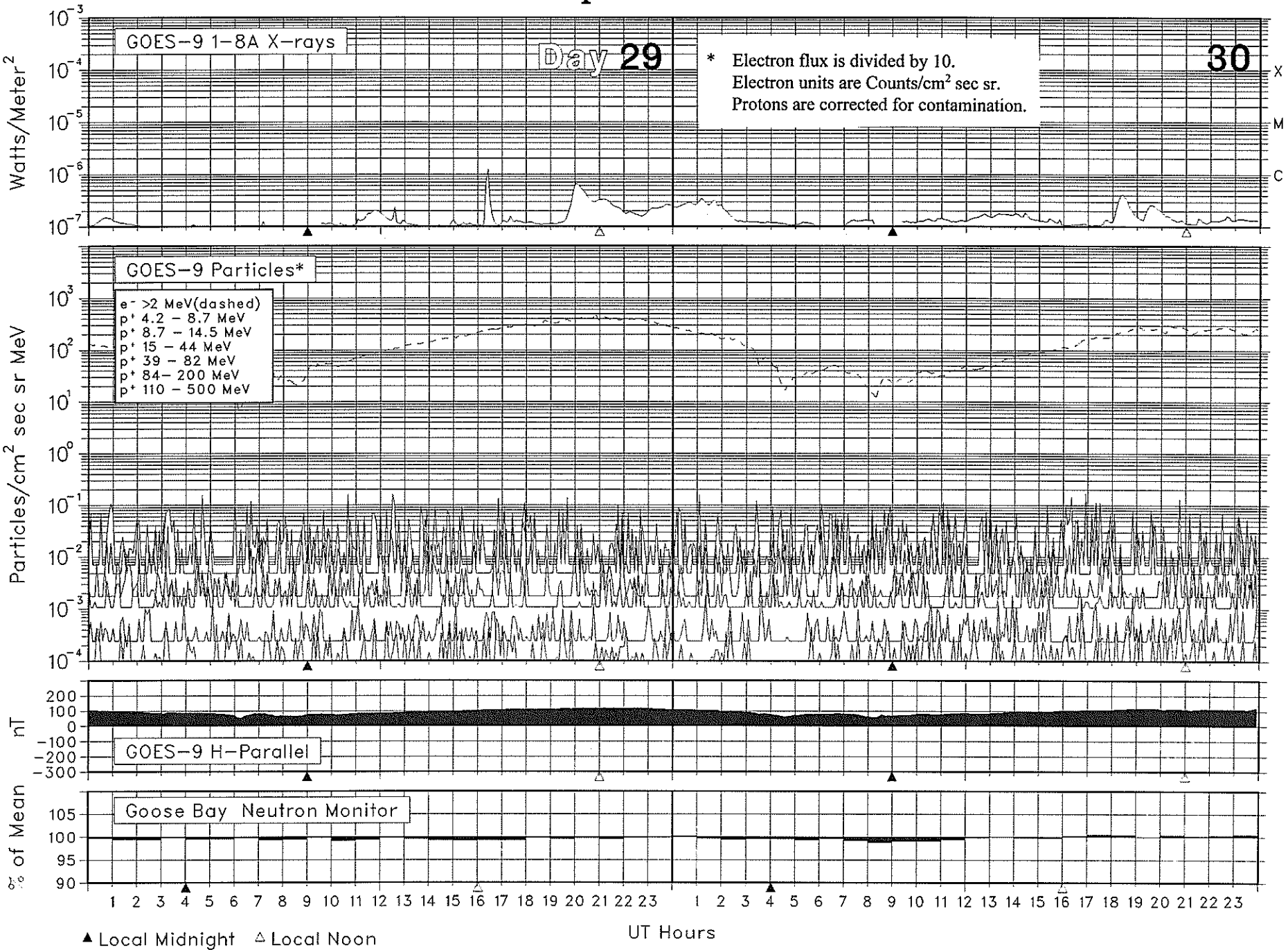
SOLAR-TERRESTRIAL ENVIRONMENT
September 1997



SOLAR-TERRESTRIAL ENVIRONMENT
September 1997



SOLAR-TERRESTRIAL ENVIRONMENT
September 1997



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

SEPTEMBER 1997

Julian Day	Date of Issue	Date of Obs	Wolf No.	10-cm Solar Flux	A-index	Location		Flares			Date of Forecast	Region Forecast(1)	Geoadvice(1)
						Lat	Long	Optical	M	X			
244	01	31	80	96	4	N29	W15	8	0	0	01	E	SOL: Eruptive
						N21	W20	0	0	0	01	Q	MAG: Quiet
						N18	W43	0	0	0	01	Q	PRO: Quiet
						N34	E72	0	0	0	01	Q	
245	02	01	90	93	4	N28	W28	1	0	0	02	E	SOL: Eruptive
						N21	W33	0	0	0	02	Q	MAG: Quiet
						N18	W56	0	0	0	02	Q	PRO: Quiet
						N34	E61	0	0	0	02	Q	
						N22	E70	0	0	0	02	Q	
246	03	02	67	92	2	N28	W42	7	1	0	03	E	SOL: Eruptive
						N21	W46	0	0	0	03	Q	MAG: Quiet
						N34	E50	0	0	0	03	Q	PRO: Quiet
						N21	E58	0	0	0	03	Q	
247	04	03	55	93	16	N28	W55	4	0	0	04	E	SOL: Eruptive
						N34	E37	0	0	0	04	Q	MAG: Active
						S28	E55	3	0	0	04	Q	PRO: Quiet
248	05	04	56	93	14	N27	W65	1	0	0	05	E	SOL: Eruptive
						N33	E26	0	0	0	05	Q	MAG: Active
						N22	E36	0	0	0	05	Q	PRO: Quiet
						S27	E41	2	0	0	05	Q	
249	06	05	79	96	4	N26	W84	1	0	0	06	E	SOL: Eruptive
						N33	E17	0	0	0	06	Q	MAG: Quiet
						N21	E22	4	0	0	06	E	PRO: Quiet
						S27	E28	0	0	0	06	E	
						N22	E64	0	0	0	06	Q	
250	07	06	85	98	8	N25	W91	0	0	0	07	Q	SOL: Eruptive
						N30	E06	0	0	0	07	Q	MAG: Quiet
						N21	E09	1	0	0	07	Q	PRO: Quiet
						S27	E15	0	0	0	07	Q	
						N22	E51	0	0	0	07	Q	
						S24	E75	0	0	0	07	Q	
251	08	07	84	102	3	N34	W13	0	0	0	08	Q	SOL: Eruptive
						N21	W04	1	0	0	08	Q	MAG: Quiet
						S28	E04	1	0	0	08	Q	PRO: Quiet
						N21	E36	0	0	0	08	Q	
						S25	E64	10	0	0	08	E	
252	09	08	97	119	10	N21	W17	0	0	0	09	Q	SOL: Eruptive
						S28	W09	1	1	0	09	E	MAG: Quiet
						N21	E26	3	0	0	09	E	PRO: Quiet
						S25	E53	4	0	0	09	E	
253	10	09	101	116	13	N21	W31	0	0	0	10	Q	SOL: Eruptive
						S28	W22	3	0	0	10	E	MAG: Active
						N22	E13	1	0	0	10	E	PRO: Quiet
						S25	E40	4	0	0	10	E	
254	11	10	95	115	16	S28	W35	1	0	0	11	E	SOL: Eruptive
						N22	W01	4	0	0	11	Q	MAG: Quiet
						S26	E27	0	0	0	11	E	PRO: Quiet
255	12	11	98	109	7	S28	W48	0	0	0	12	E	SOL: Eruptive
						N22	W13	3	0	0	12	E	MAG: Active
						S26	E15	1	0	0	12	E	PRO: Quiet
						N27	E76	0	0	0	12	Q	
256	13	12	97	109	13	S27	W59	0	0	0	13	E	SOL: Active
						N22	W26	8	0	0	13	E	MAG: Quiet
						S26	E02	0	0	0	13	E	PRO: Quiet

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

SEPTEMBER 1997

Julian Day	Date of Issue	Date of Obs	Wolf No.	10-cm Solar Flux	A-index	Location		Flares			Date of Forecast	Region Forecast(1)	Geoadvice(1)
						Lat	Long	Optical	M	X			
257	14	13	85	108	9	S28	W73	0	0	0	14	Q	SOL: Eruptive
						N22	W39	2	0	0	14	E	MAG: Quiet
						S26	W12	0	0	0	14	E	PRO: Quiet
						N27	E50	4	0	0	14	Q	
258	15	14	74	103	8	S27	W85	1	0	0	15	Q	SOL: Eruptive
						N22	W53	2	0	0	15	E	MAG: Quiet
						S26	W25	2	0	0	15	E	PRO: Quiet
						N28	E38	2	0	0	15	Q	
259	16	15	61	98	9	N21	W64	5	0	0	16	E	SOL: Eruptive
						S26	W37	1	0	0	16	Q	MAG: Quiet
						N27	E27	9	0	0	16	E	PRO: Quiet
260	17	16	62	95	6	N22	W77	2	0	0	17	E	SOL: Eruptive
						S25	W55	0	0	0	17	Q	MAG: Quiet
						N28	E14	0	0	0	17	Q	PRO: Quiet
261	18	17	52	93	8	N22	W88	2	2	0	18	E	SOL: Eruptive
						S25	W72	1	0	0	18	Q	MAG: Quiet
						N27	E00	0	0	0	18	Q	PRO: Quiet
262	19	18	30	88	16	S25	W85	0	0	0	19	Q	SOL: Eruptive
						N28	W11	0	0	0	19	Q	MAG: Active
								0	0	0	19		PRO: Quiet
263	20	19	18	88	3	N27	W25	0	0	0	20	Q	SOL: Eruptive
								0	0	0	20		MAG: Quiet
								0	0	0	20		PRO: Quiet
264	21	20	15	88	7	N29	W38	1	0	0	21	Q	SOL: Eruptive
								0	0	0	21		MAG: Quiet
								0	0	0	21		PRO: Quiet
265	22	21	39	85	11	N26	W54	0	0	0	22	Q	SOL: Eruptive
						S22	E72	0	0	0	22	Q	MAG: Active
						S28	E53	0	0	0	22	Q	PRO: Quiet
266	23	22	47	89	8	N25	W68	0	0	0	23	Q	SOL: Eruptive
						S21	E58	2	0	0	23	Q	MAG: Quiet
						S28	E38	10	0	0	23	E	PRO: Quiet
267	24	23	48	92	3	N25	W82	0	0	0	24	Q	SOL: Eruptive
						S21	E44	0	0	0	24	Q	MAG: Active
						S28	E24	8	0	0	24	E	PRO: Quiet
268	25	24	47	93	3	S22	E32	0	0	0	25	Q	SOL: Active
						S28	E10	7	2	0	25	E	MAG: Quiet
								0	0	0	25		PRO: Quiet
269	26	25	50	89	1	S23	E23	0	0	0	26	Q	SOL: Active
						S28	W03	4	0	0	26	E	MAG: Minor
								0	0	0	26		PRO: Quiet
270	27	26	40	89	3	S26	E14	0	0	0	27	Q	SOL: Eruptive
						S29	W16	1	0	0	27	E	MAG: Minor
								0	0	0	27		PRO: Quiet
271	28	27	33	88	11	S25	E06	0	0	0	28	Q	SOL: Eruptive
						S29	W30	0	0	0	28	E	MAG: Minor
								0	0	0	28		PRO: Quiet
272	29	28	23	87	15	S29	W41	0	0	0	29	E	SOL: Eruptive
								0	0	0	29		MAG: Active
								0	0	0	29		PRO: Quiet
273	30	29	27	90	8	S29	W55	2	0	0	30	Q	SOL: Eruptive

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

SEPTEMBER 1997

Julian Day	Date of Issue	Date of Obs	Wolf No.	10-cm Solar Flux	A-index	Location Lat	Location Long	Flares Optical	Flares M	Flares X	Date of Forecast	Region Forecast(1)	Geoadvice(1)
						N20	W44	0	0	0	30	Q	MAG: Quiet
								0	0	0	30		PRO: Quiet

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

Magnetic (MAG) Geoadvice

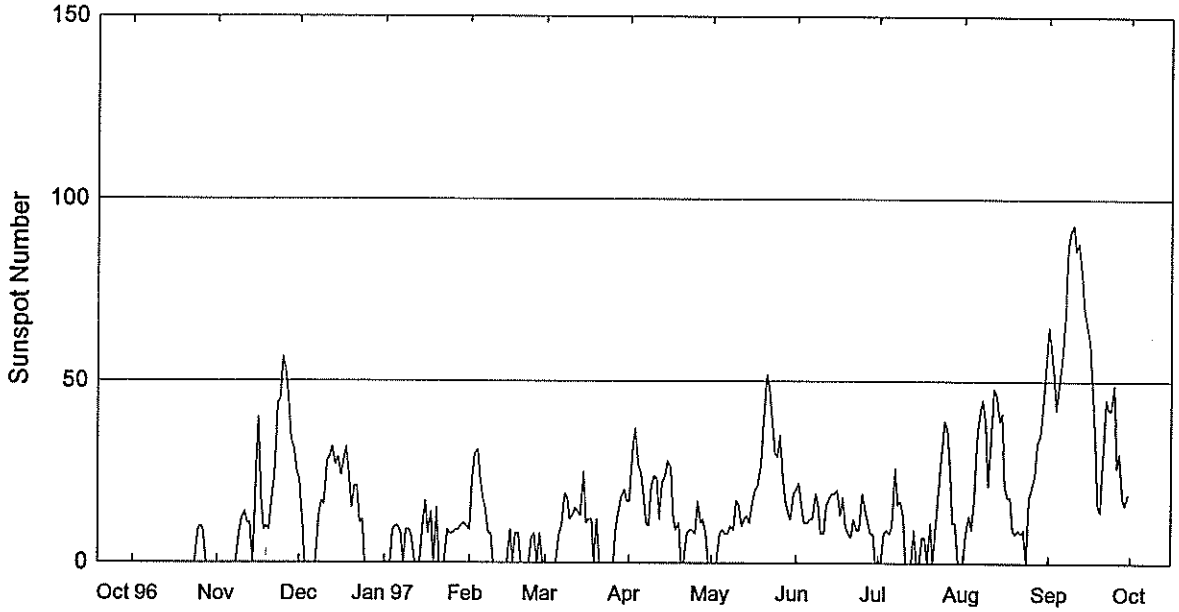
'Quiet'		
'Active'	conditions expected	(A>=20 or K=4)
'Minor'	storm expected	(A>=30 or K=5)
'Major'	storm expected	(A>=50 or K>=6)
'Severe'	storm expected	(A>=100 or K>=7)
'IP'	magstorm in progress	(A>=30 or K>=4)
'Warning'	(activity levels are expected to increase, but no numerical forecast given)	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

Proton (PRO) Geoadvice

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

STRATWARM ALERTS - NONE

International Relative Sunspot Numbers
Oct 1996 - Sep 1997

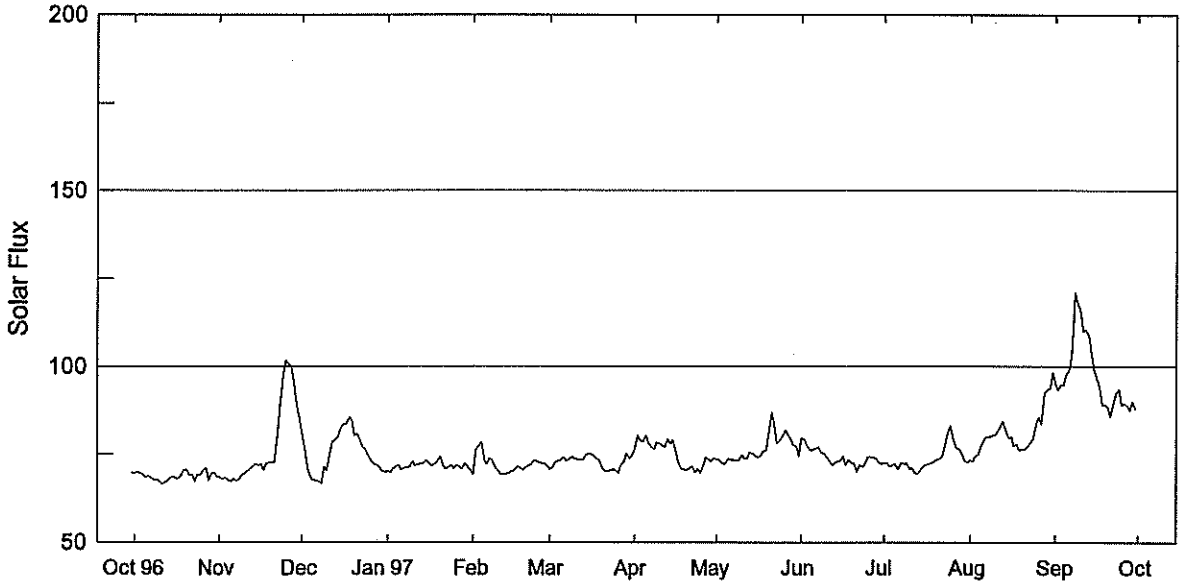


Day	Oct 96	Nov	Dec	Jan 97*	Feb *	Mar*	Apr*	May*	Jun*	Jul*	Aug*	Sep*
1	0	0	23	0	9	0	17	0	20	0	0	65
2	0	0	12	0	23	0	31	0	22	0	8	59
3	0	0	0	0	30	0	37	0	15	8	13	52
4	0	0	0	9	31	0	27	8	11	9	9	42
5	0	0	0	10	23	0	25	9	11	8	17	50
6	0	0	0	10	18	8	20	8	12	10	36	56
7	0	0	0	8	15	10	11	8	12	26	41	68
8	0	0	13	0	8	19	10	10	19	16	45	87
9	0	8	17	9	8	18	21	9	16	17	38	91
10	0	12	16	9	0	12	24	17	8	13	21	93
11	0	14	28	7	0	13	23	16	8	0	36	86
12	0	11	29	0	0	15	12	10	16	0	48	88
13	0	11	32	0	0	14	22	12	18	0	46	80
14	0	0	27	0	0	13	24	13	19	9	39	70
15	0	20	29	11	0	25	28	11	19	0	41	65
16	0	40	24	17	9	11	26	17	20	0	21	61
17	0	18	28	8	0	12	13	20	13	7	18	49
18	0	9	32	14	8	12	9	21	18	7	18	33
19	0	10	23	0	8	0	11	27	10	0	9	16
20	0	9	15	15	0	12	0	39	8	11	8	14
21	0	18	21	0	0	0	0	52	7	0	9	28
22	0	24	21	0	0	0	8	48	12	11	8	45
23	0	44	11	0	0	0	9	40	9	20	9	42
24	0	45	12	9	7	0	9	30	9	29	0	42
25	9	57	0	8	8	0	8	29	19	39	18	49
26	10	52	0	8	0	0	17	35	15	37	21	26
27	9	45	0	9	8	10	11	23	12	28	24	30
28	0	34	0	9	0	14	12	17	8	11	33	18
29	0	31	0	10		18	8	14	8	11	35	16
30	0	25	0	11		20	0	12	0	0	43	19
31	0		0	10		17		19		0	53	
Mean	0.9	17.9	13.3	6.5	7.6	8.8	15.8	18.5	13.1	10.5	24.7	51.3

* = Provisional.

Penticton 2800 MHz (10.7cm) Solar Flux
Oct 96 - Sep 97

Adjusted to 1 AU



Day	Oct 96	Nov	Dec	Jan 97	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	69.6	68.5	80.8	70.0	69.2	70.5*	76.2	73.4	79.6	72.4	73.2	95.1
2	69.8	67.9	75.7	69.7	76.2	71.1	80.4	73.3	79.1	72.4	72.9	93.3
3	69.6	68.3	70.7	70.8	77.4	72.8	78.8	72.3	77.4	71.4	74.3	94.7
4	69.4	67.8	68.6	71.4	78.4	72.8	78.6	72.1	76.1	72.0	74.9	94.6
5	68.5	67.1	67.6	71.9	73.3	73.4	80.3	73.6	76.1	72.0	76.9	97.6
6	68.8	68.0	67.6	70.6	72.2	74.2	78.3	73.4	76.4	70.6	79.0	99.1
7	68.2	67.3	67.1	70.9	73.7	73.1	77.0	73.3	76.9	72.6	80.1	103.6
8	67.7	67.8	66.6	71.3	73.2	73.6	76.3	73.3	75.4	72.1	79.9	121.1
9	67.7	68.9	71.5	71.3	71.2	74.1	78.3	73.0	75.3	72.3	80.3	117.7
10	67.4	69.6	70.2	72.9	70.4	73.8	78.0	74.6*	74.2	70.8	80.4	116.4
11	66.4	70.0	75.2	71.6	69.3	73.4	77.4	73.8	73.0	70.9	81.6	110.0
12	66.9	70.7	78.6	72.1	69.1	73.4	76.9	73.7	71.8	69.6	83.0	110.3
13	67.3	71.5	79.2	72.1	69.3	73.3	79.3	75.4	72.3	69.3	84.2	108.9
14	68.2	72.1	80.0	72.4	69.6	74.7	77.9	75.1	72.9	70.3	81.6	103.7
15	68.6	71.9	82.3	73.3	70.1	75.0	79.2	74.7	73.0	71.5	79.6	99.1
16	68.1	72.2	83.5	72.4	70.3	75.0	75.6	73.9	74.4	71.9	79.8	96.4
17	68.0	70.4	83.6	71.7	71.4	74.4	72.3	74.4	71.8	72.2	77.4	94.0
18	69.0	72.4	85.6	72.2	71.2	73.7	70.7	75.8	73.5	72.3	77.7	89.0
19	70.4	72.6	84.6	72.9	70.4	73.1	70.6	76.0	72.4	72.8	76.1	89.1
20	70.6	72.7	80.3	74.3	71.0	71.0	70.4	81.1	72.5	73.5	76.3	88.4
21	69.0	72.6	80.9	71.8	71.6	70.0	70.9	86.9	69.8	73.6	76.3	85.8
22	69.1	80.6	78.9	70.7	71.9	70.1	71.5	83.0	71.8	74.5	77.2	89.6
23	67.1	88.7	76.9	71.1	73.0	70.3	69.7	78.1	71.3	78.1	78.2	92.3
24	69.1	97.3	76.4	71.9	73.1	70.6	70.7	78.9	72.2	81.2	79.4	93.5
25	69.1	101.7	74.7	70.9	72.6	70.2	69.6	80.1	74.1	83.0	83.7	88.9
26	70.3	100.8	73.0	71.9	72.4	69.5	71.8	82.0#	74.2	79.0	85.5	89.5
27	71.2	100.0	72.2	71.3	72.4	71.9	74.1	80.4	74.1	76.8	83.5	88.8
28	67.5	95.4	71.8	70.8	71.5	72.9	73.4	79.5	73.6	76.5	92.3	87.5
29	69.4	88.5	71.4	72.4		75.1	72.9	77.6	72.6	75.0	93.3	90.0
30	69.7	85.1	70.1	71.5		73.8	73.7	77.2	72.1	73.2	93.8	87.9
31	68.6		69.8	70.3		74.6		74.5		72.5	98.2	
Mean	68.7	76.9	75.3	71.6	72.0	72.8	75.0	76.3	74.0	73.4	81.0	97.2

NOTE: *=Average of 1700 and 2300UT readings. #=1900UT reading.

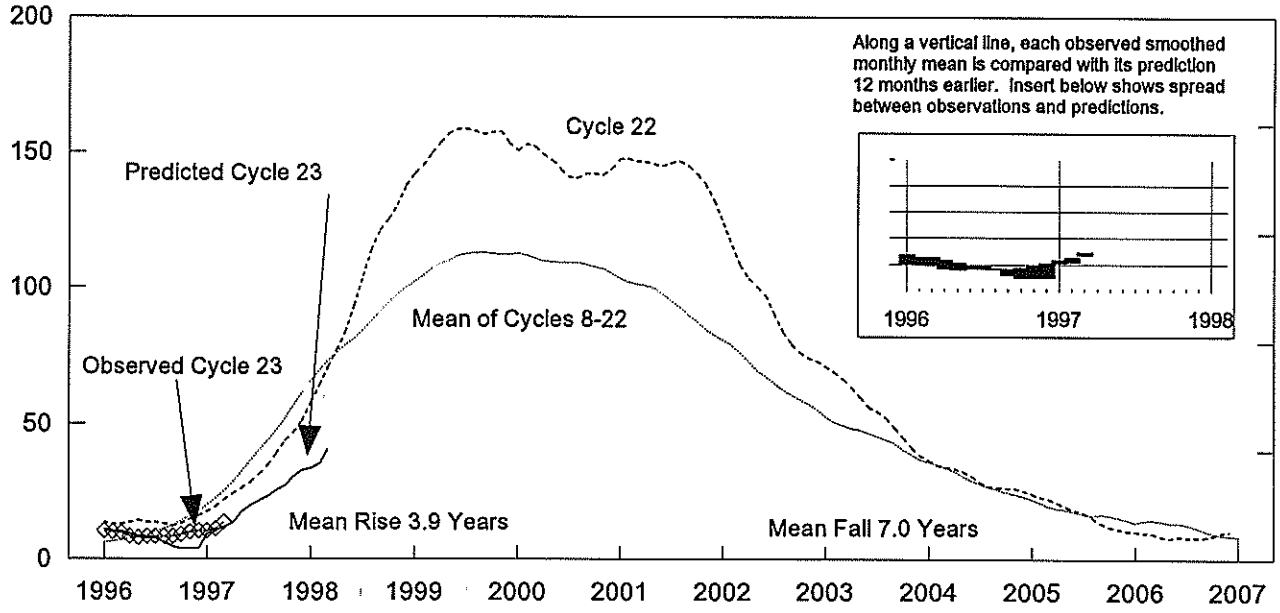
DAILY SOLAR INDICES

September 1997

Day	Day of Year	Bartels Cycle Day	Sunspot Numbers Int	Amer	Obs Flux Penticton (2800)	Solar Flux Adjusted to 1 Astronomical Unit — LEAR (15400)	LEAR (8800)	LEAR (4995)	Pentic (2800)	LEAR (2695)	LEAR (1415)	LEAR (610)	LEAR (410)	LEAR (245)
1	244	19	65	59	93.4	529	213	136	95.1	91	65	39	25	11
2	245	20	59	53	91.7	534	209	135	93.3	92	64	38	26	10
3	246	21	52	46	93.1	547	211	136	94.7	93	66	38	26	16
4	247	22	42	38	93.0	541	212	137	94.6	93	66	40	34	44
5	248	23	50	53	96.0	496	199	139	97.6	93	65	39	29	39
6	249	24	56	57	97.6	538	210	140	99.1	94	65	39	30	32
7	250	25	68	69	102.0	544	213	149	103.6	97	68	41	39	64
8	251	26	87	84	119.4	542	219	158	121.1	100	68	45	35	46
9	252	27	91	98	116.1	545	226	171	117.7	111	72	44	40	51
10	253	1	93	98	114.9	539	222	170	116.4	113	73	44	35	33
11	254	2	86	95	108.6	544	214	161	110.0	110	74	42	34	39
12	255	3	88	87	109.0	545	212	155	110.3	109	72	41	36	24
13	256	4	80	83	107.6	555	217	154	108.9	106	72	41	31	24
14	257	5	70	67	102.5	539	214	148	103.7	102	70	40	28	16
15	258	6	65	66	98.0	549	208	146	99.1	103	69	40	28	17
16	259	7	61	63	95.4	538	213	141	96.4	95	67	38	26	12
17	260	8	49	47	93.1	537	211	137	94.0	92	62	37	26	12
18	261	9	33	32	88.1	549	206	133	89.0	88	64	39	28	14
19	262	10	16	17	88.4	549	205	130	89.1	85	61	37	30	15
20	263	11	14	15	87.7	551	206	131	88.4	87	62	38	26	12
21	264	12	28	29	85.2	556	207	129	85.8	82	60	38	33	12
22	265	13	45	44	88.9	548	208	129	89.6	82	59	36	27	12
23	266	14	42	41	91.7	540	214	135	92.3	85	61	37	26	12
24	267	15	42	43	92.9	553	213	137	93.5	88	64	39	33	32
25	268	16	49	45	88.5	553	214	136	88.9	91	64	38	21	20
26	269	17	26	27	89.1	552	213	134	89.5	87	62	44	38	19
27	270	18	30	23	88.4	548	215	132	88.8	84	61	38	27	14
28	271	19	18	19	87.2	552	215	132	87.5	83	61	39	28	21
29	272	20	16	18	89.7	549	212	131	90.0	84	62	39	26	13
30	273	21	19	21	87.7	552	215	131	87.9	85	61	37	22	13
MEAN			51.3	51.3	96.2	544	212	141	97.2	94	65	40	30	23

The International numbers shown above are preliminary values; the American numbers are final.

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
1992	124	115	108	103	100	97	91	84	80	76	74	73	93.8
1993	71	69	67	64	60	56	55	52	48	45	41	38	55.5
1994	37	35	34	34	33	31	29	27	27	27	26	26	30.5
1995	24	23	22	21	19	18	17	16	13	12	11	11	17.3
1996	11	10	10	9	8	9	9	8	9	9	10	11	9.4
1997	11	11	14	15	17	19	22	25	28	32	35	39	22
( )				(1)	(3)	(5)	(7)	(8)	(10)	(13)	(16)	(19)	(7)
1998	42	47	51	55	60	63	67	70	73	76	80	83	64
( )	(22)	(24)	(27)	(30)	(33)	(36)	(39)	(42)	(43)	(42)	(43)	(44)	(35)

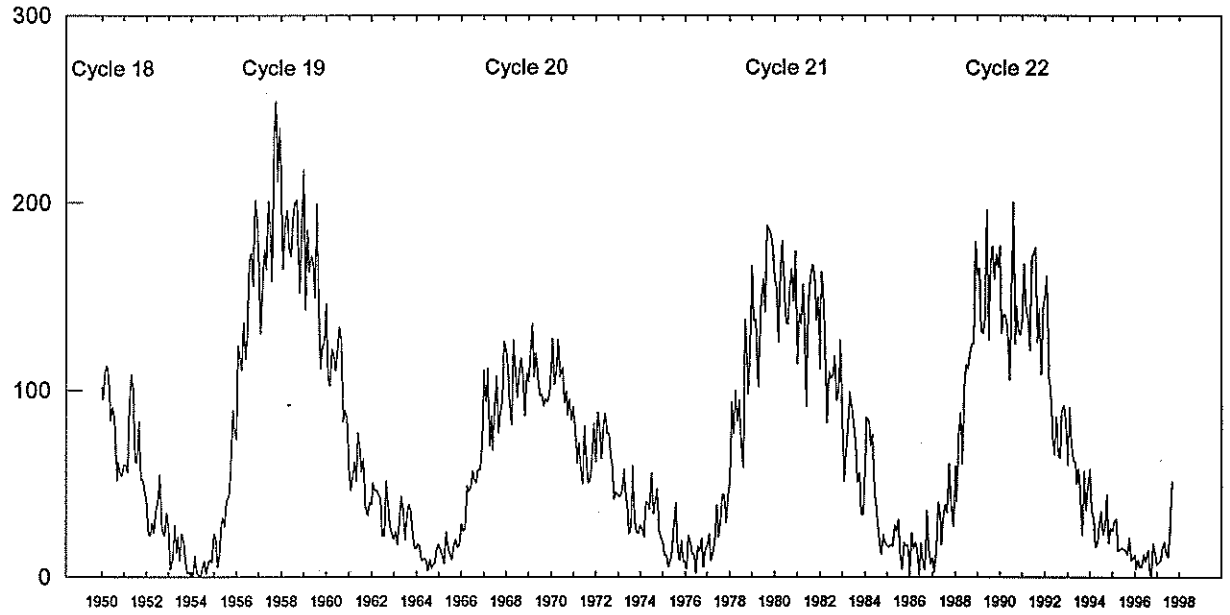
Solar Cycle 22 | Solar Cycle 23 | Min, Max, and Predictions

July 1989 marks the maximum of Solar Cycle 22. May 1996 marks the minimum of Solar Cycle 22 and the onset of Cycle 23.

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 Dec 1996 and on provisional numbers thereafter. Table entries with numbers in parentheses below them denote predictions by the McNish-Lincoln method. (See page 9 in the Jul 1987 supplement to *Solar-Geophysical Data*.) Adding the number in parentheses to the predicted value generates the upper limit of the 90% confidence interval. Subtracting the number from the predicted value generates the lower limit. Consider, for example, the March 1998 prediction. There exists a 90% chance that in March 1998, the actual smoothed number will fall somewhere between 24 and 78.

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 minimum value of 8.0 that occurred in May 1996. For next solar maximum discussions, visit http://www.sec.noaa.gov.

Mean Monthly Sunspot Numbers
Jan 1950 - Sep 1997



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean	
1950	101.6	94.8	109.7	113.4	106.2	83.6	91.0	85.2	51.3	61.4	54.8	54.1	83.9	
1951	59.9	59.9	55.9	92.9	108.5	100.6	61.5	61.0	83.1	51.6	52.4	45.8	69.4	
1952	40.7	22.7	22.0	29.1	23.4	36.4	39.3	54.9	28.2	23.8	22.1	34.3	31.5	
1953	26.5	3.9	10.0	27.8	12.5	21.8	8.6	23.5	19.3	8.2	1.6	2.5	13.9	
1954	0.2	0.5	10.9	1.8	0.8	0.2	4.8	8.4	1.5	7.0	9.2	7.6	4.4	m
1955	23.1	20.8	4.9	11.3	28.9	31.7	26.7	40.7	42.7	58.5	89.2	76.9	38.0	
1956	73.6	124.0	118.4	110.7	136.6	116.6	129.1	169.6	173.2	155.3	201.3	192.1	141.7	
1957	165.0	130.2	157.4	175.2	164.6	200.7	187.2	158.0	235.8	253.8	210.9	239.4	190.2	M
1958	202.5	164.9	190.7	196.0	175.3	171.5	191.4	200.2	201.2	181.5	152.3	187.6	184.8	
1959	217.4	143.1	185.7	163.3	172.0	168.7	149.6	199.6	145.2	111.4	124.0	125.0	159.0	
1960	146.3	106.0	102.2	122.0	119.6	110.2	121.7	134.1	127.2	82.8	89.6	85.6	122.3	
1961	57.9	46.1	53.0	61.4	51.0	77.4	70.2	55.8	63.6	37.7	32.6	39.9	53.9	
1962	38.7	50.3	45.6	46.4	43.7	42.0	21.8	21.8	51.3	39.5	26.9	23.2	37.6	
1963	19.8	24.4	17.1	29.3	43.0	35.9	19.6	33.2	38.8	35.3	23.4	14.9	27.9	
1964	15.3	17.7	16.5	8.6	9.5	9.1	3.1	9.3	4.7	6.1	7.4	15.1	10.2	m
1965	17.5	14.2	11.7	6.8	24.1	15.9	11.9	8.9	16.8	20.1	15.8	17.0	15.1	
1966	28.2	24.4	25.3	48.7	45.3	47.7	56.7	51.2	50.2	57.2	57.2	70.4	47.0	
1967	110.9	93.6	111.8	69.5	86.5	67.3	91.5	107.2	76.8	88.2	94.3	126.4	93.8	
1968	121.8	111.9	92.2	81.2	127.2	110.3	96.1	109.3	117.2	107.7	86.0	109.8	105.9	M
1969	104.4	120.5	135.8	106.8	120.0	106.0	96.8	98.0	91.3	95.7	93.5	97.9	105.5	
1970	111.5	127.8	102.9	109.5	127.5	106.8	112.5	93.0	99.5	86.6	95.2	83.5	104.5	
1971	91.3	79.0	60.7	71.8	57.5	49.8	81.0	61.4	50.2	51.7	63.2	82.2	66.6	
1972	61.5	88.4	80.1	63.2	80.5	88.0	76.5	76.8	64.0	61.3	41.6	45.3	68.9	
1973	43.4	42.9	46.0	57.7	42.4	39.5	23.1	25.6	59.3	30.7	23.9	23.3	38.0	
1974	27.6	26.0	21.3	40.3	39.5	36.0	55.8	33.6	40.2	47.1	25.0	20.5	34.5	
1975	18.9	11.5	11.5	5.1	9.0	11.4	28.2	39.7	13.9	9.1	19.4	7.8	15.5	
1976	8.1	4.3	21.9	18.8	12.4	12.2	1.9	16.4	13.5	20.6	5.2	15.3	12.6	m
1977	16.4	23.1	8.7	12.9	18.6	38.5	21.4	30.1	44.0	43.8	29.1	43.2	27.5	
1978	51.9	93.6	76.5	99.7	82.7	95.1	70.4	58.1	138.2	125.1	97.9	122.7	92.5	
1979	166.6	137.5	138.0	101.5	134.4	149.5	159.4	142.2	188.4	186.2	183.3	176.3	155.4	M
1980	159.6	155.0	126.2	164.1	179.9	157.3	136.3	135.4	155.0	164.7	147.9	174.4	154.6	
1981	114.0	141.3	135.5	156.4	127.5	90.9	143.8	158.7	167.3	162.4	137.5	150.1	140.4	
1982	111.2	163.6	153.8	122.0	82.2	110.4	106.1	107.6	118.8	94.7	98.1	127.0	115.9	
1983	84.3	51.0	66.5	80.7	99.2	91.1	82.2	71.8	50.3	55.8	33.3	33.4	66.6	
1984	57.0	85.4	83.5	69.7	76.4	46.1	37.4	25.5	15.7	12.0	22.8	18.7	45.9	
1985	16.5	15.9	17.2	16.2	27.5	24.2	30.7	11.1	3.9	18.6	16.2	17.3	17.9	
1986	2.5	23.2	15.1	18.5	13.7	1.1	18.1	7.4	3.8	35.4	15.2	6.8	13.4	m
1987	10.4	2.4	14.7	39.6	33.0	17.4	33.0	38.7	33.9	60.6	39.9	27.1	29.4	
1988	59.0	40.0	76.2	88.0	60.1	101.8	113.8	111.6	120.1	125.1	125.1	179.2	100.2	
1989	161.3	165.1	131.4	130.6	138.5	196.2	126.9	168.9	176.7	159.4	173.0	165.5	157.6	M
1990	177.3	130.5	140.3	140.3	132.2	105.4	149.4	200.3	125.2	145.5	131.4	129.7	142.6	
1991	136.9	167.5	141.9	140.0	121.3	169.7	173.7	176.3	125.3	144.1	108.2	144.4	145.7	
1992	150.0	161.1	106.7	99.8	73.8	65.2	85.7	64.5	63.9	88.7	91.8	82.6	94.3	
1993	59.3	91.0	69.8	62.2	61.3	49.8	57.9	42.2	22.4	56.4	35.6	48.9	54.6	
1994	57.8	35.5	31.7	16.1	17.8	28.0	35.1	22.5	25.7	44.0	18.0	26.2	29.9	
1995	24.2	29.9	31.1	14.0	14.5	15.6	14.5	14.3	11.8	21.2	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	6.5	7.6	8.8	15.8	18.5	13.1	10.5	24.7	51.3				17.4	

Values are preliminary after Dec 1996. For the yearly means, each 'M' marks a sunspot cycle maximum and each 'm' a minimum.

Hα S.O L A R F L A R E S

SEPTEMBER 1997

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
GOES	01	0132	0139	0146						14		B 3.9						2.9E-04
GOES		0152	0201	0214						22		C 2.2						2.1E-03
GOES		0233	0238	0241						8		C 1.1						3.2E-04
GOES		0337	0340	0342						5		B 2.9						7.8E-05
GOES		0353	0356	0402	N24	W14	8076			9	SF	B 2.9						1.3E-04
LEAR		0358	0358	0401	N24	W14	8076	08	31.1	3	SF		3	E		19		
GOES		0436	0442	0446						10		B 5.2						2.5E-04
GOES		0920	0927	0933						13		B 2.5						1.7E-04
GOES		1607	1610	1616						9		B 2.1						1.1E-04
GOES		2211	2214	2220						9		B 2.6						1.2E-04
GOES	02	0654	0658	0700	N29	W35	8076			6	SF	B 3.8						1.1E-04
SVTO		0656	0658	0702	N29	W35	8076	08	30.6	6	SF		3	E		38		
LEAR		0657	0658	0700	N30	W32	8076	08	30.9	3	SF		3	E		13		
GOES		1140	1144	1155	N30	W36	8076			15	SF	B 3.5						2.6E-04
RAMY		1142	1143	1147	N30	W36	8076	08	30.7	5	SF		3	E		12		
SVTO		1144	1148	1150	N29	W37	8076	08	30.7	6	SF		3	E		10		
GOES		1225	1230	1234	N28	W37	8076			9	1N	M 1.0						2.8E-03
GOES		1526	1534	1542	N29	W35	8076			16	SF	B 2.7						2.4E-04
RAMY		1529	1530	1536	N29	W35	8076	08	31.0	7	SF		3	E		13		
GOES		1635	1639	1643	N29	W39	8076			8	SF	C 1.2						3.9E-04
SVTO		1638E	1638U	1649D	N29	W39	8076	08	30.7	11D	SF		3	E		19		
GOES		2106	2113	2119	N24	W36	8076			13	SF	C 4.1						1.9E-03
HOLL		2114	2115	2121	N24	W36	8076	08	31.1	7	SF		3	E		37		
GOES		2354	2359	2403	N32	W41	8076			9	SF	C 2.8						8.4E-04
LEAR		2358	2358	2409	N32	W41	8076	08	30.8	11	SF		3	E		56		FH
GOES	03	0205	0212	0217	N32	W43	8076			12	1F	C 2.7						1.2E-03
LEAR		0208	0210	0222	N32	W43	8076	08	30.8	14	1F		3	E		103		FH
GOES		0332	0336	0340						8		B 7.2						3.1E-04
GOES		0531	0537	0553						22		C 1.7						1.4E-03
GOES		0639	0642	0645	N30	W46	8076			6	SF	C 1.0						2.9E-04
LEAR		0640	0641	0648	N33	W44	8076	08	30.9	8	SF		3	E		38		
SVTO		0641	0641	0651	N30	W46	8076	08	30.8	10	SF		3	E		52		
SVTO		0900	0903	0911	N28	W43	8076	08	31.0	11	SF		3	E		25		F
LEAR		0901	0903	0907	N31	W44	8076	08	31.0	6	SF		3	E		15		
SVTO		1406	1407	1413	S27	E58		09	8.1	7	SF		3	E		17		
HOLL		1406	1407	1417	S27	E58		09	8.1	11	SF		3	E		11		
GOES		1509	1520	1534	N28	W48	8076			25	SF	C 1.1						1.3E-03
SVTO		1511	1519	1543	N28	W48	8076	08	31.0	32	SF		3	E		27		F
RAMY		1512	1516	1536	N28	W48	8076	08	31.0	24	SF		3	E		53		F
HOLL		1513	1516	1534	N24	W46	8076	08	31.1	21	SF		3	E		29		
SVTO		1608E	1615U	1626D	S27	E57		09	8.1	18D	SF		3	E		12		
RAMY		1712	1713	1716	S27	E57		09	8.1	4	SF		3	E		14		
GOES		1942	1957	2000						18		B 3.7						2.9E-04
GOES		2225	2241	2253						28		B 7.4						1.0E-03
HOLL		2326E	2332	2335	S26	E57	8083	09	8.4	9D	SF		3	E		12		
RAMY	04	1233	1233	1240	N28	W60	8076	08	30.9	7	SF		3	E		14		
HOLL		1854	1857	1859	S27	E45	8083	09	8.3	5	SF		3	E		18		
HOLL		1900	1903	1920	S27	E43	8083	09	8.1	20	SF		3	E		30		
GOES		2122	2127	2135						13		B 7.4						4.4E-04
GOES		2313	2316	2318	S28	E43	8083			5	SF	B 2.8						7.4E-05
HOLL		2315	2315	2324	S28	E43	8083	09	8.3	9	SF		3	E		18		
HOLL	05	0001	0008	0024	N23	E36	8082	09	7.8	23	SF		3	E		32		
GOES		1055	1102	1116						21		B 3.0						3.5E-04
GOES		1214	1224	1233						19		B 7.3						6.9E-04
GOES		1320	1330	1338	N28	W74	8076			18	SF	C 1.7						1.2E-03
SVTO		1324	1324	1329	N27	W75	8076	08	30.8	5	SF		3	E		23		F
RAMY		1324	1325	1333	N28	W74	8076	08	30.9	9	SF		3	E		22		
SVTO		1552	1552	1556	N20	E27	8082	09	7.7	4	SF		3	E		13		F
RAMY		1559	1600	1604	N21	E27	8082	09	7.7	5	SF		3	E		23		
SVTO		1559E	1600U	1605D	N20	E27	8082	09	7.7	6D	SF		3	E		21		F
GOES		1748	1751	1754						6		B 3.2						1.0E-04
GOES		1924	1932	1936	N21	E23	8082			12	SF	B 8.4						3.9E-04
HOLL		1925	1931	1942	N22	E23	8082	09	7.6	17	SF		3	E		43		
RAMY		1925	1932	1950	N21	E23	8082	09	7.6	25	SF		3	E		53		

Hα SOLAR FLARES

SEPTEMBER 1997

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
GOES	06	0123	0128	0132						9		B 7.0						3.0E-04
GOES		1115	1119	1123	N21	E16	8082			8	SF	B 4.2						1.8E-04
SVTO		1118	1118	1125	N21	E16	8082	09	7.7	7	SF		3	E		15		F
HOLL		1736	1736	1740	S26	E86		09	13.4	4	SF		3	E		18		
GOES		2032	2035	2038						6		B 3.8						1.3E-04
GOES		2046	2052	2054						8		C 1.1						3.6E-04
GOES	07	0300	0317	0349						49		C 1.6						3.9E-03
GOES		0445	0449	0454						9		C 1.4						6.4E-04
GOES		0606	0620	0629	S31	E77	8085			23	SF	C 3.1						2.7E-03
SVTO		0611E	0615U	0621D	S24	E75	8085	09	13.0	10D	SF		2	E		68		H
LEAR		0614	0615	0619	S31	E77	8085	09	13.3	5	SF		3	E		58		H
SVTO		0738	0740	0747	S24	E75	8085	09	13.1	9	SF		2	E		30		H
SVTO		0945	0947	0951	S24	E73	8085	09	13.0	6	SF		2	E		21		
SVTO		1336	1337	1356	N21	E00	8082	09	7.6	20	SF		3	E		33		F
SVTO		1446	1447	1459	S25	E68	8085	09	12.9	13	SF		2	E		19		
HOLL		1551	1551	1554	S24	E68	8085	09	12.9	3	SF		3	E		20		
HOLL		1642	1644	1648	S24	E67	8085	09	12.9	6	SF		3	E		22		
RAMY		1709	1710	1714	S26	E64	8085	09	12.7	5	SF		3	E		18		
HOLL		1709	1712	1716	S24	E67	8085	09	12.9	7	SF		3	E		25		
HOLL		1739	1741	1750	S24	E66	8085	09	12.8	11	SF		3	E		13		
RAMY		1743	1748	1752	S26	E65	8085	09	12.8	9	SF		3	E		20		
HOLL		1900	1901	1905	S24	E66	8085	09	12.9	5	SF		3	E		26		
HOLL		1916	1918	1921	S26	E05	8083	09	8.2	5	SF		3	E		13		
RAMY		1919	1919	1924	S29	E06	8083	09	8.3	5	SF		3	E		23		
HOLL		1920	1921	1928	S24	E66	8085	09	12.9	8	SF		3	E		33		
GOES	08	0117	0120	0127						10		B 5.9						2.9E-04
GOES		0154	0158	0202						8		B 6.7						2.7E-04
SVTO		0908	0915	0924	N23	E35	8084	09	11.1	16	SF		3	E		18		
GOES		0952	0958	1006						14		C 1.0						7.9E-04
GOES		1024	1030	1039	S25	E58	8085			15	SF	C 2.3						1.4E-03
SVTO		1026	1027	1031	S25	E58	8085	09	12.9	5	SF		3	E		26		
GOES		1207	1211	1215						8		B 8.1						3.3E-04
GOES		1342	1403	1407	S27	E55	8085			25	SF	C 1.8						1.2E-03
RAMY		1359	1402	1409	S27	E55	8085	09	12.9	10	SF		3	E		44		
SVTO		1359	1402	1416	S27	E60	8085	09	13.2	17	SF		3	E		31		F
HOLL		1359	1404	1410	S25	E56	8085	09	12.9	11	SF		3	E		33		
GOES		1606	1613	1628	S25	E56	8085			22	SF	B 7.7						9.0E-04
HOLL		1608	1609	1618	S25	E56	8085	09	13.0	10	SF		3	E		21		
RAMY		1702	1702	1711	N21	E30	8084	09	11.0	9	SF		3	E		11		F
RAMY		1733	1738	1756	S26	E53	8085	09	12.8	23	SF		3	E		59		
GOES		1735	1739	1746	S26	E53	8085			11		C 3.5						1.7E-03
HOLL		1744E	1744U	1754	S25	E54	8085	09	12.9	10D	SF		3	E		62		
GOES		1923	1927	1948	S28	W07	8083			25	SF	M 1.0						9.5E-03
HOLL		1928	1932	2110	S28	W07	8083	09	8.3	102	SF		4	E		71		FE
RAMY		1928	1936	2115	S27	W08	8083	09	8.2	107	SF		3	E		98		FE
GOES		2000	2015	2021						21		C 5.4						6.1E-03
RAMY		2027	2030	2033	N21	E29	8084	09	11.1	6	SF		3	E		20		
HOLL		2029	2030	2033	N22	E30	8084	09	11.1	4	SF		3	E		18		
GOES	09	0517	0520	0523						6		B 5.6						1.7E-04
LEAR		0911	0914	0922	N21	E24	8084	09	11.2	11	SF		3	E		13		F
GOES		0945	0953	1003	S20	E44	8085			18	1N	C 9.7						6.5E-03
SVTO		0948	0951	1035	S20	E44	8085	09	12.8	47	1N		3	E		135		F
GOES		1351	1352	1356	S28	W17	8083			5	SF	B 6.4						1.6E-04
HOLL		1352	1358	1418	S28	W17	8083	09	8.2	26	SF		3	E		14		
RAMY		1353	1353	1414D	S27	W18	8083	09	8.2	21D	SF		3	E		13		
SVTO		1353	1357	1413	S28	W18	8083	09	8.2	20	SF		3	E		15		
GOES		1401	1404	1408			8083			7		B 7.8						2.6E-04
RAMY		1516	1520	1527D	S23	E42	8085	09	12.9	11D	SF		3	E		22		F
RAMY		1751	1752	1755	S26	W19	8083	09	8.3	4	SF		3	E		18		
GOES		1835	1844	1852	S25	E43	8085			17	1F	C 2.5						1.6E-03
HOLL		1837	1842	1940	S25	E43	8085	09	13.1	63	1F		4	E		117		F
RAMY		1838	1842	1915	S23	E40	8085	09	12.8	37	1F		3	E		108		F
RAMY		1950	1953	1957	S29	E45	8085	09	13.3	7	SF		3	E		17		
GOES		2004	2011	2023						19		B 7.1						7.2E-04
HOLL		2303	2305	2308	S27	W20	8083	09	8.4	5	SF		3	E		22		

Hα SOLAR FLARES

SEPTEMBER 1997

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
GOES	10	0023	0033	0057						34		B 6.8						1.2E-03
LEAR		0759	0759	0810	S23	W32	8083	09	7.9	11	SF		3	E		18		
SVTO		0759	0803	0812	S24	W32	8083	09	7.9	13	SF		3	E		27		F
SVTO		0846	0846	0854	N20	E06	8084	09	10.8	8	SF		3	E		28		
GOES		1008	1014	1027						19		C 1.0						9.0E-04
SVTO		1102	1102	1109	N19	E05	8084	09	10.8	7	SF		3	E		15		
SVTO		1302	1304	1310	N19	E04	8084	09	10.8	8	SF		3	E		11		
HOLL		1811	1813	1823	N22	E01	8084	09	10.8	12	SF		3	E		15		
SVTO	11	1152	1153	1201	S24	E22	8085	09	13.2	9	SF		3	E		25		
GOES		1333	1337	1343						10		B 3.7						2.0E-04
GOES		1619	1622	1627	N24	W07	8084			8	SF	B 4.9						1.9E-04
HOLL		1621	1622	1627	N24	W07	8084	09	11.1	6	SF		3	E		28		
HOLL		2243	2243	2249	N23	W08	8084	09	11.3	6	SF		3	E		11		H
GOES		2320	2324	2326	N23	W08	8084			6	SF	B 5.2						1.4E-04
HOLL		2323	2324	2327	N23	W08	8084	09	11.3	4	SF		3	E		32		
GOES	12	0016	0028	0030	N22	W16	8084			14	SF	B 8.5						4.6E-04
LEAR		0028	0029	0031	N22	W16	8084	09	10.8	3	SF		3	E		10		
GOES		0041	0044	0047						6		B 3.0						9.6E-05
GOES		0207	0211	0213	N22	W17	8084			6	SF	C 1.1						2.8E-04
LEAR		0211	0214	0217	N22	W17	8084	09	10.8	6	SF		3	E		16		
SVTO		1411	1420	1429	N22	W19	8084	09	11.1	18	SF		3	E		11		
GOES		1459	1503	1506						7		B 4.7						1.7E-04
SVTO		1604E	1604U	1610D	N24	W20	8084	09	11.1	6D	SF		3	E		27		
RAMY		1606	1607	1610	N23	W18	8084	09	11.3	4	SF		4	E		19		
RAMY		1731	1732	1737	N23	W19	8084	09	11.3	6	SF		3	E		18		
GOES		1855	1900	1904	N23	W19	8084			9	SF	C 1.1						4.1E-04
RAMY		1859	1900	1914	N23	W19	8084	09	11.3	15	SF		3	E		33		F
GOES		2004	2009	2011	N22	W20	8084			7	SF	C 1.0						3.0E-04
RAMY		2008	2008	2016	N22	W20	8084	09	11.3	8	SF		3	E		17		
GOES		2159	2202	2205						6		B 3.8						1.2E-04
GOES	13	0056	0103	0114						18		B 6.6						6.0E-04
GOES		0623	0630	0640	N21	W26	8086			17	SF	B 8.4						6.8E-04
LEAR		0628	0631	0639	N24	W24	8084	09	11.4	11	SF		3	E		19		F
LEAR		0629	0632	0637	N22	E61	8086	09	17.9	8	SF		3	E		16		F
SVTO		0629	0632	0638	N21	W26	8084	09	11.3	9	SF		3	E		10		
SVTO		0629	0632U	0652D	N29	E61	8086	09	18.0	23D	SF		3	E		15		
SVTO		0653E	0653U	0730D	N29	E61	8086	09	18.1	37D	SF		3	E		20		
SVTO		0840E	0846U	0858D	N29	E60	8086	09	18.1	18D	SF		3	E		14		
LEAR		0841	0842	0902	N23	E61	8086	09	18.1	21	SF		3	E		27		
SVTO		0942E	0948U	0955D	N28	E60	8086	09	18.1	13D	SF		3	E		13		
SVTO		1212	1215U	1227D	N22	W28	8084	09	11.3	15D	SF		3	E		15		
SVTO		1524E	1531U	1542D	N10	E52	8086	09	17.5	18D	SF		2	E		30		
RAMY		1531	1533	1542	N29	E58	8086	09	18.2	11	SF		4	E		26		
GOES		1747	1757	1801						14		B 4.9						3.3E-04
GOES		1945	1956	2001						16		C 2.4						1.4E-03
GOES		2336	2342	2356						20		B 6.6						6.6E-04
GOES	14	0250	0255	0258	S23	W79	8083			8	SF	C 2.8						8.1E-04
LEAR		0254	0254	0258	S23	W79	8083	09	8.0	4	SF		3	E		27		
GOES		0327	0332	0336						9		B 7.3						3.1E-04
GOES		0351	0414	0420						29		C 1.2						1.4E-03
GOES		0626	0632	0639	S25	W18	8085			13	SF	B 5.1						3.4E-04
SVTO		0629	0630	0645	S25	W18	8085	09	12.9	16	SF		3	E		27		F
SVTO		0954	0955	0958	N28	E46	8086	09	18.0	4	SF		3	E		17		
GOES		1043	1115	1128	S25	W21	8085			45	1F	C 2.7						4.2E-03
SVTO		1057E	1116U	1158D	S25	W21	8085	09	12.8	61D	1F		3	E		183		F
RAMY		1109E	1109U	1159D	S25	W19	8085	09	13.0	50D	SF		2	E		91		U
GOES		1202	1210	1214						12		C 1.9						1.1E-03
GOES		1351	1359	1420	N22	W42	8084			29	SF	B 6.7						1.0E-03
RAMY		1355	1357	1406	N22	W42	8084	09	11.3	11	SF		3	E		10		
GOES		1658	1702	1706	N28	E43	8086			8	SF	C 1.5						4.7E-04
RAMY		1701	1702	1708	N28	E43	8086	09	18.1	7	SF		3	E		27		F
GOES		2011	2016	2032	N22	W52	8084			21	SF	C 1.0						1.2E-03
HOLL		2013	2022	2039	N22	W52	8084	09	10.8	26	SF		3	E		30		
LEAR	15	0032	0033	0050	N28	E37	8086	09	17.9	18	SF		3	E		15		

Hα S O L A R F L A R E S

SEPTEMBER 1997

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
GOES	15	0202	0214	0227	N22	W56	8084			25	SF	C 4.4						4.4E-03
LEAR		0206	0213	0224	N22	W56	8084	09	10.8	18	SF		3	E		76		
LEAR		0505	0506	0509	N28	E34	8086	09	17.9	4	SF		3	E		19		
GOES		0638	0654	0706	N22	W59	8084			28	SF	C 3.1						3.6E-03
SVTO		0641	0700	0710	N20	W53	8084	09	11.2	29	SF		2	E		15		F
LEAR		0644	0652	0708	N22	W59	8084	09	10.7	24	SF		3	E		50		
SVTO		0735	0735	0743	N20	W52	8084	09	11.3	8	SF		3	E		45		FH
LEAR		0736	0736	0741	N22	W59	8084	09	10.8	5	SF		3	E		11		
LEAR		0803	0804	0810	N28	E33	8086	09	17.9	7	SF		3	E		29		
SVTO		0803	0806U	0809D	N28	E37	8086	09	18.2	6D	SF		2	E		13		
SVTO		1126	1134	1142	N27	E35	8086	09	18.2	16	SF		3	E		26		
GOES		1349	1358	1407			8086			18		C 1.5						1.3E-03
HOLL		1352	1401	1409	N22	W62	8084	09	10.8	17	SF		3	E		46		
SVTO		1355	1356	1403	N21	W55	8084	09	11.4	8	SF		3	E		16		F
HOLL		1358	1403	1416	N28	E33	8086	09	18.2	18	SN		3	E		76		H
SVTO		1403	1403	1407	N26	E33	8086	09	18.1	4	SF		3	E		21		
GOES		1623	1627	1630	N28	E29				7	SF	B 9.5						3.3E-04
HOLL		1637	1637	1644	N28	E29	8086	09	17.9	7	SF		3	E		24		
HOLL		1641	1642	1656	S25	W34	8085	09	13.1	15	SF		3	E		34		
HOLL		1832	1837	1847	N28	E28	8086	09	18.0	15	SF		3	E		51		
GOES		1835	1842	1844	N28	E28	8086			9		C 1.4						6.3E-04
RAMY		1837	1837	1844	N28	E30	8086	09	18.1	7	SF		3	E		38		
GOES		2037	2046	2053	N28	E27	8086			16	SF	B 7.7						6.0E-04
HOLL		2039	2045	2052	N28	E27	8086	09	18.0	13	SF		4	E		31		
HOLL		2040	2123	2145	N19	W62	8084	09	11.1	65	SF		3	E		54		
GOES		2107	2125	2136	N28	E28	8086			29	SF	C 1.8						2.5E-03
HOLL		2132	2132	2142	N28	E28	8086	09	18.1	10	SF		3	E		29		
GOES	16	0137	0143	0148						11		B 5.0						2.9E-04
GOES		0200	0205	0211						11		B 8.3						4.4E-04
GOES		0442	0448	0501						19		B 4.5						4.4E-04
GOES		0640	0648	0704	N22	W71	8084			24	SF	B 6.5						7.9E-04
LEAR		0701	0702	0705	N22	W71	8084	09	10.8	4	SF		3	E		27		
GOES		1026	1030	1033						7		B 4.3						1.4E-04
GOES		1930	1939	1949						19		B 7.1						6.9E-04
GOES		2010	2030	2041						31		C 1.6						1.3E-03
GOES		2112	2115	2118						6		B 4.2						1.2E-04
GOES		2206	2222	2238	N21	W74	8084			32	SF	C 3.4						3.9E-03
HOLL		2214	2215	2247	N21	W74	8084	09	11.2	33	SF		3	E		23		F
GOES	17	0117	0136	0139						22		C 5.6						2.3E-03
GOES		0342	0405	0423						41		C 1.7						3.0E-03
GOES		0621	0624	0628						7		B 3.8						1.5E-04
GOES		1050	1054	1056						6		B 8.1						2.0E-04
GOES		1135	1143	1152	N21	W82	8084			17	SN	M 1.7						9.8E-03
RAMY		1138E	1141U	1210	N21	W82	8084	09	11.2	32D	SN		3	E		78		H
GOES		1345	1357	1410						25		C 1.2						1.4E-03
GOES		1658	1702	1707						9		B 4.4						1.9E-04
GOES		1725	1730	1737	S26	W70	8085			12	SF	C 1.2						6.3E-04
HOLL		1729	1731	1736	S26	W70	8085	09	12.3	7	SF		3	E		41		
RAMY		1730	1732	1735	S24	W70	8085	09	12.3	5	SF		3	E		19		
GOES		1745	1803	1827	N21	W84	8084			42	SF	M 1.0						1.9E-02
HOLL		1749	1750	1810	N21	W84	8084	09	11.3	21	SF		3	E		73		F
RAMY		1749	1759	1807	N22	W82	8084	09	11.4	18	SF		3	E		43		F
GOES		2239	2251	2258						19		C 7.1						4.5E-03
GOES		2358	2401	2402						4		C 1.6						2.9E-04
GOES	18	0235	0238	0244						9		B 4.6						2.1E-04
GOES		0553	0558	0601						8		C 1.1						3.4E-04
GOES		0654	0701	0714						20		B 8.0						7.5E-04
GOES		0803	0818	0820						17		C 1.4						1.0E-03
GOES		1208	1213	1222						14		C 2.9						1.5E-03
GOES		1604	1608	1611						7		B 5.8						1.9E-04
GOES		1705	1710	1713						8		C 1.5						4.0E-04
GOES		1745	1748	1751						6		B 2.6						8.6E-05
GOES		1816	1819	1821						5		B 5.1						1.2E-04
GOES		1852	1856	1858						6		B 3.6						1.1E-04
GOES		1933	1936	1938						5		C 1.5						3.9E-04

Hα SOLAR FLARES

SEPTEMBER 1997

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
GOES	18	1947	1953	1956						9		C 1.6						5.1E-04
GOES		2149	2206	2214						25		B 6.1						7.3E-04
GOES		2310	2331	2341						31		B 5.7						1.1E-03
GOES	19	0001	0013	0027						26		C 1.8						2.1E-03
GOES		0139	0150	0153	S17	W88	8085			14	1F	C 8.6						3.1E-03
LEAR		0147	0150	0153	S17	W88	8085	09	12.4	6	1F		3	E		141		
GOES		0515	0521	0525						10		B 6.2						2.6E-04
GOES		0535	0548	0557						22		C 1.5						1.4E-03
GOES		0911	0929	0940						29		C 2.6						3.1E-03
GOES		1435	1445	1507						32		B 9.7						1.6E-03
GOES		1747	1753	1806						19		B 5.4						5.4E-04
GOES	20	0027	0048	0155						88		B 8.0						3.6E-03
LEAR		0834	0834	0837	N28	W29	8086	09	18.1	3	SF		3	E		15		
GOES		0949	1044	1220						151		C 2.3						1.7E-02
GOES	21	0411	0417	0420						9		C 2.6						6.4E-04
GOES		0549	0554	0558						9		B 3.8						1.6E-04
GOES		0750	0754	0759						9		B 2.6						1.3E-04
GOES		0917	0924	0928						11		B 5.7						2.9E-04
GOES		2044	2049	2053						9		B 3.2						1.3E-04
GOES		2301	2304	2308						7		B 2.1						8.1E-05
GOES	22	0046	0049	0051	S25	E69	8087			5	SF	C 1.7						3.3E-04
LEAR		0050	0051	0053	S25	E69	8087	09	27.4	3	SF		3	E		16		
GOES		0308	0313	0315						7		B 3.5						9.3E-05
LEAR		0446	0450	0454	S33	E45	8088	09	25.8	8	SF		3	E		11		
GOES		0449	0453	0457	S33	E45	8088			8		B 2.0						8.5E-05
LEAR		0530	0542	0552	S33	E44	8088	09	25.7	22	SF		3	E		27		
GOES		0538	0543	0559	S33	E44	8088			21		B 5.2						5.7E-04
SVTO		0546E	0549U	0557D	S53	E44	8088	09	26.0	11D	SF		3	E		11		F
GOES		0604	0616	0620	S33	E44	8088			16	SF	C 1.4						7.6E-04
LEAR		0607	0625	0635	S33	E44	8088	09	25.7	28	SF		3	E		49		
SVTO		0612E	0645U	0646D	S28	E47	8088	09	25.9	34D	SF		3	E		29		F
LEAR		0639	0644	0648	S32	E40	8088	09	25.4	9	SF		3	E		20		
SVTO		0747	0758	0834	S28	E46	8088	09	25.9	47	SF		3	E		25		F
GOES		0755	0758	0804	S28	E46	8088			9		B 4.4						2.2E-04
GOES		0905	0913	0917	S32	E41	8088			12	SF	C 2.2						7.2E-04
LEAR		0907	0912	0927	S32	E41	8088	09	25.6	20	SF		3	E		66		
SVTO		0912E	0913U	0936D	S28	E46	8088	09	26.0	24D	1N		3	E		113		
GOES		1119	1126	1130	S20	E65	8087			11	SF	C 1.0						4.8E-04
RAMY		1122	1123U	1129	S20	E65	8087	09	27.4	7	SF		3	E		17		
GOES		1306	1315	1324						18		C 2.6						1.7E-03
GOES		1410	1416	1426	S28	E43	8088			16	SF	C 4.7						2.9E-03
RAMY		1412E	1418U	1451	S28	E43	8088	09	25.9	39D	SF		3	E		56		
GOES		1515	1521	1526						11		B 7.2						3.5E-04
HOLL		1640	1643	1645	S28	E42	8088	09	26.0	5	SF		3	E		13		
GOES		1720	1724	1727						7		B 3.1						1.2E-04
GOES		1806	1817	1824	S28	E40	8088			18	SF	C 5.1						2.9E-03
HOLL		1811	1814	1824	S28	E40	8088	09	25.9	13	SF		3	E		54		
HOLL		2106	2107	2110	S29	E42	8088	09	26.2	4	SF		3	E		11		
GOES		2220	2224	2226						6		B 3.0						8.3E-05
GOES	23	0217	0220	0226						9		B 2.1						9.9E-05
LEAR		0317	0319	0322	S29	E38	8088	09	26.1	5	SF		3	E		12		
LEAR		0325	0326	0331	S29	E38	8088	09	26.1	6	SF		3	E		11		
GOES		0332	0335	0340						8		B 2.1						9.6E-05
LEAR		0341	0346	0354	S29	E38	8088	09	26.1	13	SF		3	E		18		
LEAR		0354	0356	0402	S29	E38	8088	09	26.1	8	SF		3	E		18		
GOES		0404	0413	0416						12		B 4.0						2.3E-04
GOES		0546	0550	0555						9		B 2.6						1.3E-04
GOES		0704	0708	0711	S29	E36	8088			7	SF	B 3.4						1.3E-04
LEAR		0707	0710	0717	S29	E36	8088	09	26.1	10	SF		3	E		11		
GOES		0825	0828	0832						7		B 2.3						8.7E-05
GOES		1129	1132	1136						7		B 1.7						6.6E-05
GOES		1544	1555	1602	S28	E28	8088			18	SF	B 9.5						6.7E-04
RAMY		1550	1552	1601	S28	E28	8088	09	25.8	11	SF		3	E		18		

Hα SOLAR FLARES

SEPTEMBER 1997

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
HOLL	23	1550	1553	1559	S29	E32	8088	09	26.2	9	SF		3	E		13		F
HOLL		1845	1846	1850	S29	E30	8088	09	26.1	5	SF		3	E		14		F
GOES		1902	1906	1909	S28	E29	8088			7	SF	B 5.8						1.6E-04
HOLL		1903	1908	1921	S28	E29	8088	09	26.1	18	SF		3	E		22		
GOES		1924	1932	1938						14		B 8.3						4.7E-04
GOES		2105	2117	2123						18		C 1.9						1.3E-03
GOES		2127	2131	2136						9		C 1.4						6.7E-04
GOES		2136	2214	2350						134		C 1.5						8.6E-03
GOES	24	0217	0221	0225						8		C 1.1						3.5E-04
GOES		0243	0248	0252	S31	E19	8088			9	1B	M 5.9						1.5E-02
LEAR		0247	0247	0309	S31	E19	8088	09	25.6	22	1B		3	E		167		
GOES		0523	0535	0538	S29	E15	8088			15	SF	C 4.5						1.2E-03
LEAR		0534	0534	0543	S29	E15	8088	09	25.4	9	SF		3	E		39		
GOES		0654	0704	0707	S29	E15	8088			13	SF	C 2.5						1.0E-03
LEAR		0656	0700	0716	S29	E15	8088	09	25.5	20	SF		3	E		35		
GOES		0736	0739	0741						5		B 2.4						6.1E-05
GOES		0845	0850	0852						7		B 3.5						1.1E-04
GOES		0854	0857	0859						5		B 3.1						8.2E-05
GOES		0906	0913	0916	S29	E13	8088			10	SN	C 2.2						6.3E-04
LEAR		0911	0913	0923	S29	E13	8088	09	25.4	12	SN		3	E		42		
GOES		1021	1030	1032						11		B 9.1						2.8E-04
GOES		1057	1106	1110	S28	E18	8088			13	SF	M 3.0						1.1E-02
RAMY		1103E	1110U	1121	S28	E18	8088	09	25.9	18D	SF		3	E		21		F
GOES		1539	1542	1544						5		B 2.4						6.3E-05
GOES		1658	1722	1725						27		B 2.8						3.7E-04
GOES		1740	1748	1753						13		B 3.6						2.4E-04
GOES		1824	1834	1845	S29	E15	8088			21	1N	C 8.3						6.5E-03
HOLL		1825	1831	1854	S29	E15	8088	09	25.9	29	1N		3	E		172		E
RAMY		1827	1831	1855	S29	E16	8088	09	26.0	28	1N		3	E		160		F
GOES		1931	1935	1938						7		B 3.6						1.4E-04
GOES		2151	2158	2207						16		B 4.2						3.2E-04
GOES		2312	2323	2335	S29	E06	8088			23	SF	B 8.3						9.3E-04
HOLL		2315	2315	2320	S28	E12	8088	09	25.9	5	SF		3	E		11		F
LEAR		2316	2317	2322	S29	E06	8088	09	25.4	6	SF		3	E		12		
GOES	25	0035	0040	0044	S29	E05	8088			9	SF	B 5.6						2.5E-04
LEAR		0038	0040	0046	S29	E05	8088	09	25.4	8	SF		3	E		29		
GOES		0135	0246	0312						97		B 4.0						1.7E-03
GOES		0317	0328	0339	S29	E04	8088			22	SN	C 2.7						2.4E-03
LEAR		0319	0327	0345	S29	E04	8088	09	25.4	26	SN		3	E		83		
LEAR		0346	0346	0350	S29	E04	8088	09	25.5	4	SF		3	E		13		
GOES		1140	1149	1155	S27	E02	8088			15	1N	C 7.2						3.4E-03
SVTO		1143	1154	1223	S27	E02	8088	09	25.6	40	1N		3	E		135		FH
RAMY		1144E	1157U	1213	S27	E04	8088	09	25.8	29D	1F		3	E		122		FE
GOES		1655	1701	1706						11		B 5.6						2.9E-04
GOES		2233	2241	2255						22		B 4.2						4.3E-04
GOES	26	0312	0317	0320	S26	W08	8088			8	SN	C 4.4						1.0E-03
LEAR		0315	0318	0343	S26	W08	8088	09	25.5	28	SN		3	E		99		F
GOES		0703	0707	0710						7		B 1.7						5.9E-05
GOES		1213	1218	1224						11		B 1.7						9.7E-05
GOES		1433	1441	1450						17		B 2.5						2.1E-04
GOES		1637	1642	1648						11		B 1.9						1.1E-04
GOES	27	1634	1640	1647						13		B 1.9						1.3E-04
GOES	28	1354	1400	1405						11		B 3.7						2.0E-04
GOES		1411	1442	1534						83		C 1.0						4.0E-03
GOES		2053	2056	2058						5		B 2.1						4.9E-05
GOES		2212	2215	2217						5		B 2.3						5.4E-05
GOES	29	0708	0711	0714						6		B 1.3						4.3E-05
GOES		1105	1108	1110						5		B 1.6						3.7E-05
GOES		1231	1236	1238	S31	W52	8088			7	SF	B 3.3						9.0E-05
RAMY		1234	1235	1239	S31	W52	8088	09	25.4	5	SF		4	E		27		H
GOES		1456	1459	1502						6		B 1.7						5.0E-05
GOES		1620	1624	1627	S32	W52	8088			7	SF	C 2.6						5.1E-04

Hα SOLAR FLARES

SEPTEMBER 1997

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
├RAMY	29	1623	1625	1635	S32	W52	8088	09	25.6	12	SF		4	E		64		F
└HOLL		1623	1625	1636	S33	W53	8088	09	25.5	13	SN		3	E		70		F
GOES		1952	2006	2025						33		B 6.6						1.1E-03
GOES	30	1549	1552	1554						5		B 1.4						3.6E-05

"Remarks"

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

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

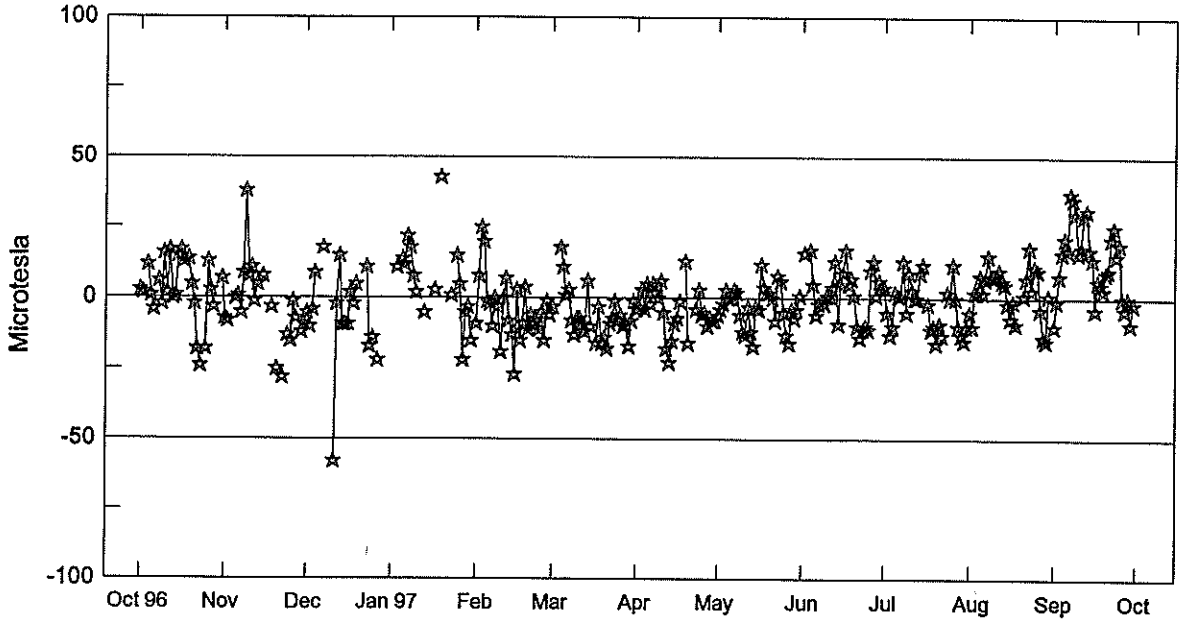
NOTE: Beginning July 1997, the times of all GOES X-ray events are now included in this table.

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

SEPTEMBER 1997

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
02	2695	SGMR	4	S/F	1227.0	1229.0	6.0	13.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	1228.0	1229.0	7.0	12.0			QL=4 ST=2 TYP=3
	2800	PENT	1	S	2109.0	2111.0	5.0	62.0			
	2695	SGMR	8	S	2110.0	2110.0	1.0	50.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	2110.0	2110.0	1.0	56.0			QL=4 ST=2 TYP=3
	8800	PALE	4	S/F	2110.0	2110.0	170.0	79.0			QL=4 ST=1 TYP=3
	2695	PALE	4	S/F	2110.0	2111.0	170.0	57.0			QL=4 ST=1 TYP=3
	2800	PENT	1	S	2357.0	2358.0	5.0	53.0			
	2695	LEAR	8	S	2357.0	2358.0	1.0	50.0			QL=4 ST=2 TYP=3
	2695	PALE	8	S	2357.0	2358.0	2.0	47.0			QL=4 ST=2 TYP=3
03	2695	LEAR	8	S	0006.0	0007.0	1.0	130.0			QL=4 ST=2 TYP=3
08	2800	PENT	45	C	1929.0	1932.0	3.0U	222.0			
	2695	PALE	4	S/F	1929.0	1931.0	22.0	220.0			QL=4 ST=2 TYP=3
	8800	PALE	4	S/F	1930.0	1931.0	14.0	230.0			QL=4 ST=2 TYP=3
	8800	SGMR	48	C	1930.0	1931.0	15.0	340.0			QL=4 ST=2 TYP=8
	2695	SGMR	48	C	1930.0	1931.0	19.0	220.0			QL=4 ST=2 TYP=8
09	2695	LEAR	8	S	0949.0	0949.0	1.0	40.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0949.0	0949.0	1.0	120.0			QL=4 ST=2 TYP=3
	8800	SVTO	4	S/F	0949.0	0949.0	3.0	170.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	0949.0	0949.0	2.0	55.0			QL=4 ST=2 TYP=3
10	2800	PENT	4	S/F	0025.0	0026.0	3.0	8.0			
12	2800	PENT	1	S	1605.0	1605.0	2.0	17.0			
	2695	SGMR	8	S	1605.0	1605.0	1.0	37.0			QL=4 ST=3 TYP=3
	2695	SVTO	8	S	1605.0	1605.0	1.0	41.0			QL=4 ST=2 TYP=3
	8800	SGMR	8	S	2006.0	2007.0	1.0	34.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	2007.0	2007.0	U	7.0			QL=4 ST=2 TYP=3
13	2695	PALE	4	S/F	1948.0	1950.0	8.0	8.0			QL=4 ST=2 TYP=3
	8800	SGMR	4	S/F	1948.0	1950.0	3.0	11.0			QL=4 ST=2 TYP=3
	2695	SGMR	4	S/F	1948.0	1950.0	3.0	8.0			QL=4 ST=2 TYP=3
22	2695	LEAR	8	S	0047.0	0048.0	1.0	28.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0047.0	0048.0	2.0	130.0			QL=4 ST=2 TYP=3
	2800	PENT	4	S/F	0048.0	0049.0	2.0	36.0			
	8800	PALE	8	S	0048.0	0048.0	U	97.0			QL=4 ST=2 TYP=3
	2695	PALE	8	S	0048.0	0048.0	U	34.0			QL=4 ST=2 TYP=3
	2800	PENT	1	S	1812.0	1814.0	8.0	9.0			
23	2695	PALE	4	S/F	2129.0	2130.0	5.0	34.0			QL=4 ST=2 TYP=3
	2800	PENT	40	F	2130.0	2131.0	20.0	28.0			
	2695	SGMR	8	S	2130.0	2130.0	1.0	28.0			QL=4 ST=2 TYP=3
24	8800	PALE	4	S/F	0246.0	0247.0	3.0	310.0			QL=4 ST=2 TYP=3
	2695	PALE	49	GB	0246.0	0248.0	5.0	650.0			QL=4 ST=2 TYP=6
	2695	LEAR	49	GB	0246.0	0248.0	1274.0	710.0			QL=4 ST=1 TYP=6
	8800	LEAR	4	S/F	0246.0	0247.0	1274.0	400.0			QL=4 ST=1 TYP=3
	2695	LEAR	8	S	0534.0	0534.0	U	67.0			QL=4 ST=2 TYP=3
	8800	LEAR	8	S	0534.0	0534.0	U	75.0			QL=4 ST=2 TYP=3
	2695	SVTO	8	S	0534.0	0534.0	U	73.0			QL=4 ST=2 TYP=3
	2695	SVTO	48	C	1101.0	1104.0	3.0	76.0			QL=4 ST=2 TYP=8
	8800	SVTO	8	S	1101.0	1101.0	U	36.0			QL=2 ST=2 TYP=3
	2695	SGMR	48	C	1101.0E	1104.0U	3.0D	60.0			QL=2 ST=3 TYP=8
	2695	PALE	4	S/F	1824.0	1831.0	7.0	47.0			QL=4 ST=2 TYP=3
	2800	PENT	40	F	1827.0	1832.0	20.0	43.0			
	8800	SGMR	8	S	1830.0	1831.0	1.0	27.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1830.0	1831.0	1.0	47.0			QL=4 ST=2 TYP=3
	2695	SGMR	8	S	1842.0	1842.0	U	6.0			QL=4 ST=2 TYP=3
25	2695	SGMR	4	S/F	1144.0	1146.0	4.0	23.0			QL=4 ST=3 TYP=3
	8800	SGMR	4	S/F	1144.0	1147.0	4.0	12.0			QL=4 ST=3 TYP=3
	2695	SVTO	20	GRF	1145.0	1146.0	1.0	29.0			QL=4 ST=3 TYP=2

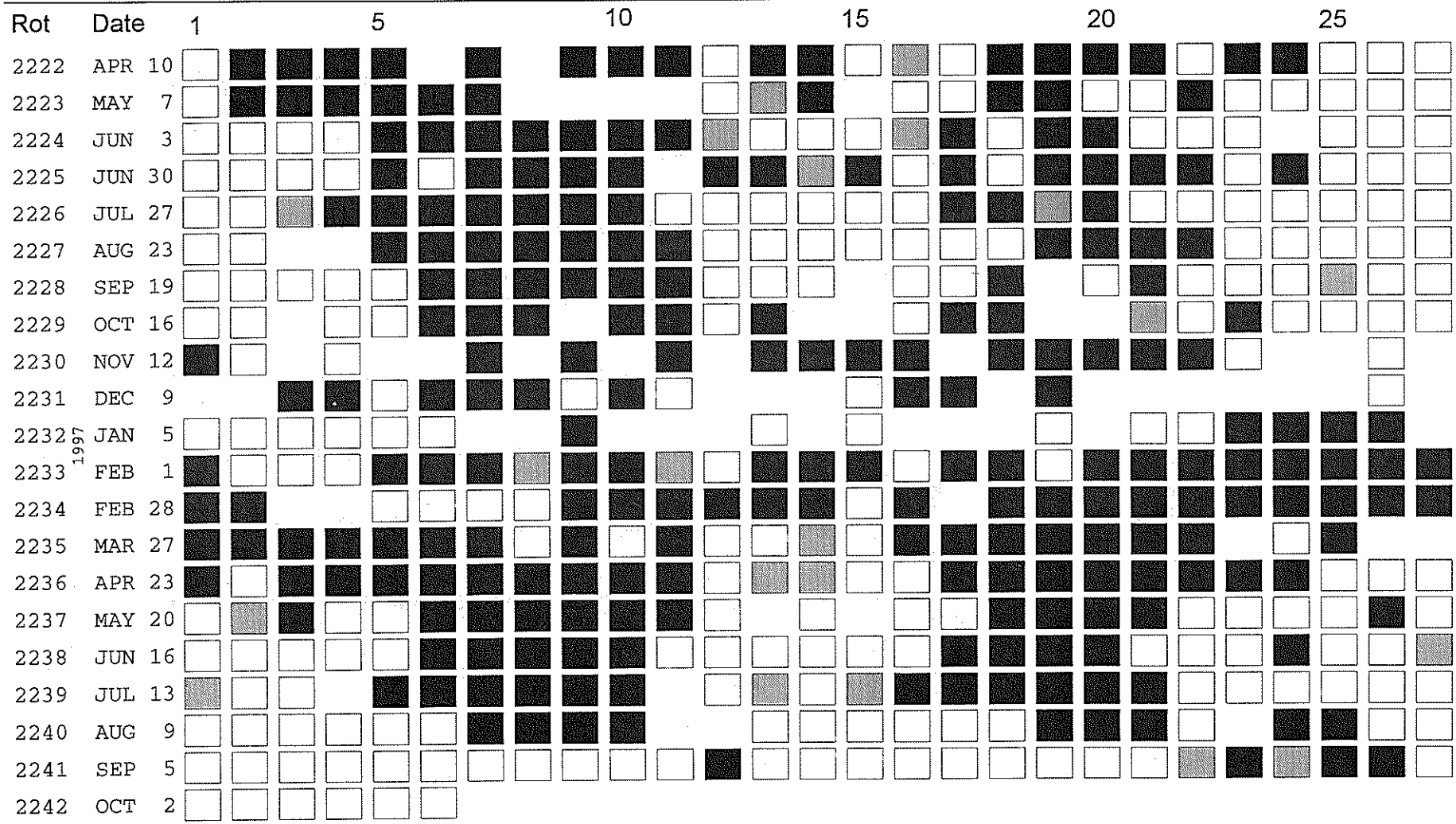
Stanford Mean Solar Magnetic Field (Microtesla)
"Sun-As-A-Star"



Day	Oct 96	Nov	Dec	Jan 97	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	3	-7	-5	---	-9	-3	-4	-6	---	4	-5	-10
2	2	-8	-10	---	8	---	-3	-4	16	-5	-10	-1
3	---	---	-4	11	25	---	3	-2	---	-13	2	8
4	12	---	9	---	20	18	-4	3	17	-10	2	16
5	1	0	---	14	-1	11	5	0	5	-2	8	21
6	-4	1	---	12	-2	1	-2	0	-6	1	2	17
7	---	-5	18	22	-10	3	5	3	-2	1	7	37
8	6	9	---	18	0	-8	2	2	-1	13	15	35
9	-2	38	---	8	-3	-13	0	-6	-2	-5	8	30
10	16	8	---	2	-19	-7	6	-12	1	9	8	16
11	2	11	-58	---	0	-7	-5	-13	1	3	8	18
12	17	-1	-2	---	7	-9	-18	-3	4	0	10	29
13	0	5	15	-5	-8	-12	-23	-12	13	0	6	31
14	1	---	-9	---	-13	6	-15	-17	-9	9	5	17
15	15	8	-9	---	-27	-10	-9	-3	5	12	-2	14
16	17	---	-9	---	3	---	-7	-4	9	---	-7	-4
17	13	---	2	3	-15	-16	-1	12	17	-2	-1	6
18	---	-3	-2	---	-9	-3	---	4	5	-11	-9	5
19	14		5	43	4	-16	13	2	7	-10	---	3
20	5	-25	---	---	-11	-14	-16	2	1	-16	---	9
21	-2	---	---	---	-6	-18	---	0	-10	-9	1	10
22	-18	-28	---	---	-9	-9	---	-8	-14	-13	7	21
23	-24	---	11	1	-8	-7	-4	8	-11	---	18	25
24	---	-13	-17	---	-11	-1	3	6	-10	2	3	15
25	-18	-15	-14	15	-5	-8	-6	-5	-11	0	11	19
26	13	-1	---	5	-15	-6	-5	-13	10	12	10	0
27	3	-7	-22	-22	-1	-10	-10	-16	13	0	-4	-4
28	-3	---	---	-5	-6	-9	-7	-4	1	-10	-14	0
29	---	-12	---	-3		-17	-8	-7	6	-13	-15	-9
30	---	-9	---	-15		-8	-8	-4	4	-15	1	-2
31	7		---	---		-1		1		-10	---	

Note: --- Indicates no data available for the day.

STANFORD MEAN SOLAR MAGNETIC FIELD

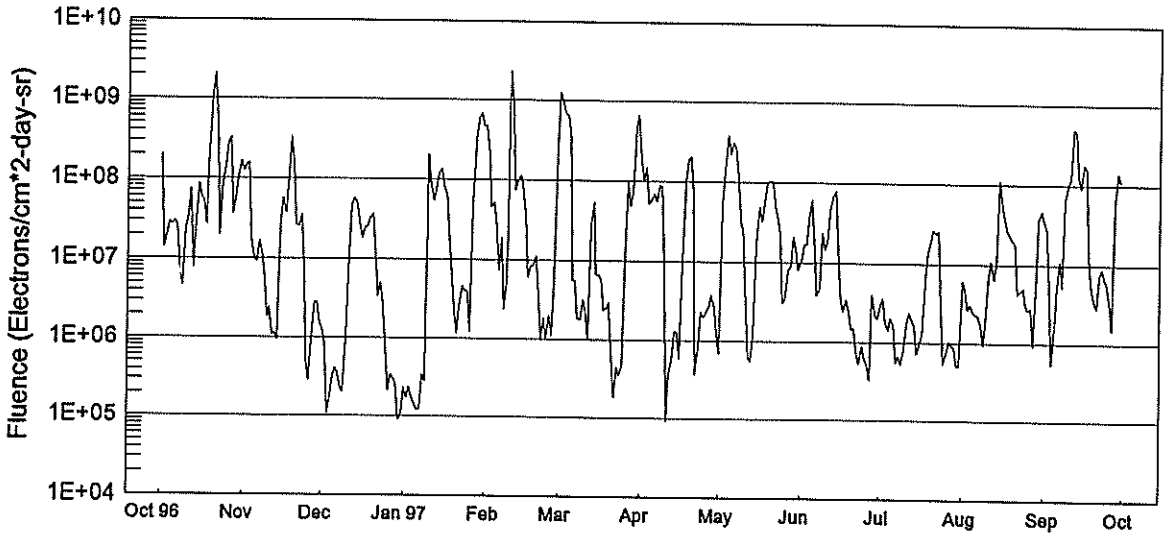


Mean Solar Magnetic Field Polarity: = field > 2 microT; = -2 microT ≤ field ≤ 2 microT

= 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.

GOES Daily Electron Fluence
Oct 96 - Sep 97



Day	Oct 96	Nov	Dec	Jan 97	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2.0E+08	1.2E+08	1.3E+06	2.3E+05	4.7E+08	1.2E+09	1.8E+08	6.8E+05	1.0E+07	2.9E+06	6.1E+06	3.5E+07
2	1.3E+07	1.4E+08	8.8E+05	1.7E+05	2.0E+08	9.0E+08	1.0E+08	5.2E+07	1.6E+07	3.6E+06	5.4E+06	2.8E+07
3	2.1E+07	1.5E+08	1.0E+05	2.3E+05	4.5E+07	7.0E+08	1.4E+08	1.3E+08	1.6E+07	1.8E+06	2.6E+06	5.5E+06
4	2.8E+07	1.7E+07	1.7E+05	1.8E+05	5.3E+07	6.3E+08	5.2E+07	3.8E+08	3.7E+07	1.4E+06	3.1E+06	5.4E+05
5	2.7E+07	1.0E+07	3.1E+05	1.4E+05	2.4E+07	3.4E+08	5.6E+07	2.2E+08	6.1E+07	2.0E+06	2.5E+06	1.7E+06
6	2.9E+07	9.2E+06	4.1E+05	1.2E+05	7.5E+06	5.6E+06	6.8E+07	3.1E+08	1.3E+07	1.6E+06	2.3E+06	5.4E+06
7	2.6E+07	1.6E+07	3.4E+05	1.2E+05	1.9E+07	5.5E+06	5.6E+07	2.6E+08	3.9E+06	5.5E+05	2.2E+06	1.1E+07
8	6.5E+06	1.2E+07	2.1E+05	3.4E+05	2.4E+06	1.8E+06	8.7E+07	1.1E+08	4.6E+06	6.6E+05	1.7E+06	5.3E+06
9	4.6E+06	6.8E+06	2.0E+05	2.8E+05	6.0E+06	1.8E+06	8.4E+07	2.9E+07	2.3E+07	5.2E+05	9.3E+05	6.6E+07
10	2.4E+07	1.8E+06	9.7E+05	2.0E+08	2.3E+09	3.2E+06	9.8E+06	2.6E+07	1.4E+07	7.6E+05	1.9E+06	1.0E+08
11	3.1E+07	2.4E+06	1.1E+07	8.6E+07	9.7E+08	2.3E+06	9.1E+04	3.1E+06	1.8E+07	1.7E+06	6.3E+06	1.2E+08
12	7.3E+07	1.0E+06	4.7E+07	5.4E+07	7.4E+07	1.0E+06	3.7E+05	6.1E+05	4.8E+07	2.4E+06	1.0E+07	5.0E+08
13	7.7E+06	1.1E+06	5.8E+07	8.2E+07	9.6E+07	2.6E+07	5.7E+05	5.5E+05	6.8E+07	1.9E+06	6.4E+06	4.6E+08
14	2.3E+07	9.4E+05	5.1E+07	1.2E+08	1.1E+08	5.3E+07	1.2E+06	1.2E+06	7.8E+07	1.6E+06	1.0E+07	1.3E+08
15	8.5E+07	2.6E+07	2.7E+07	1.3E+08	8.2E+07	6.6E+06	1.2E+06	1.6E+07	1.4E+07	7.2E+05	1.1E+08	9.1E+07
16	5.8E+07	5.7E+07	1.8E+07	7.9E+07	3.4E+07	6.6E+06	5.9E+05	4.9E+07	3.7E+06	1.0E+06	5.7E+07	1.8E+08
17	5.3E+07	3.7E+07	2.4E+07	6.2E+07	6.1E+06	5.8E+06	9.7E+06	3.2E+07	2.4E+06	1.3E+06	3.8E+07	1.6E+08
18	2.6E+07	1.0E+08	2.5E+07	1.7E+07	8.3E+06	2.4E+06	1.0E+08	5.5E+07	3.4E+06	5.4E+06	2.7E+07	1.2E+07
19	2.2E+08	3.3E+08	3.2E+07	6.8E+06	8.4E+06	2.4E+06	1.8E+08	9.8E+07	2.5E+06	1.3E+07	2.2E+07	5.1E+06
20	1.1E+09	1.4E+08	3.6E+07	2.4E+06	1.1E+07	2.9E+06	2.0E+08	1.0E+08	1.4E+06	1.8E+07	2.0E+07	3.6E+06
21	2.0E+09	2.7E+07	1.1E+07	1.1E+06	3.7E+06	5.6E+05	6.9E+07	1.0E+08	1.5E+06	2.6E+07	1.8E+07	2.9E+06
22	5.0E+08	2.5E+07	3.4E+06	2.6E+06	9.9E+05	1.8E+05	3.6E+05	5.0E+07	7.3E+05	2.4E+07	4.2E+06	7.3E+06
23	2.0E+07	3.5E+07	5.1E+06	4.6E+06	1.8E+06	4.5E+05	8.4E+05	3.6E+07	5.2E+05	2.5E+07	4.5E+06	8.9E+06
24	8.1E+07	7.9E+06	2.8E+06	3.9E+06	1.0E+06	3.5E+05	2.3E+06	2.1E+07	9.0E+05	2.9E+06	4.9E+06	6.7E+06
25	1.4E+08	5.0E+05	9.5E+05	4.0E+06	2.0E+06	4.8E+05	2.0E+06	3.1E+06	6.1E+05	5.4E+05	2.9E+06	5.6E+06
26	2.8E+08	2.8E+05	2.1E+05	1.2E+06	1.1E+06	1.2E+07	2.3E+06	3.4E+06	5.2E+05	7.2E+05	2.6E+06	3.0E+06
27	3.2E+08	8.9E+05	3.4E+05	5.2E+07	5.7E+06	9.4E+07	2.7E+06	8.0E+06	3.2E+05	1.0E+06	2.7E+06	1.5E+06
28	3.6E+07	2.8E+06	3.0E+05	3.3E+08	2.2E+08	4.7E+07	3.8E+06	8.8E+06	4.0E+06	9.3E+05	9.4E+05	6.6E+07
29	5.7E+07	2.8E+06	2.6E+05	5.7E+08		7.3E+07	2.7E+06	2.1E+07	2.2E+06	8.7E+05	6.9E+06	1.4E+08
30	1.0E+08	1.5E+06	9.0E+04	6.8E+08		4.9E+08	1.2E+06	1.4E+07	2.0E+06	5.1E+05	3.6E+07	1.1E+08
31	1.6E+08		1.0E+05	4.7E+08		6.6E+08		8.2E+06		5.0E+05	4.6E+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. GOES9 data began April, 1996.

CONTENTS

Prompt Reports

Number 638 Part I

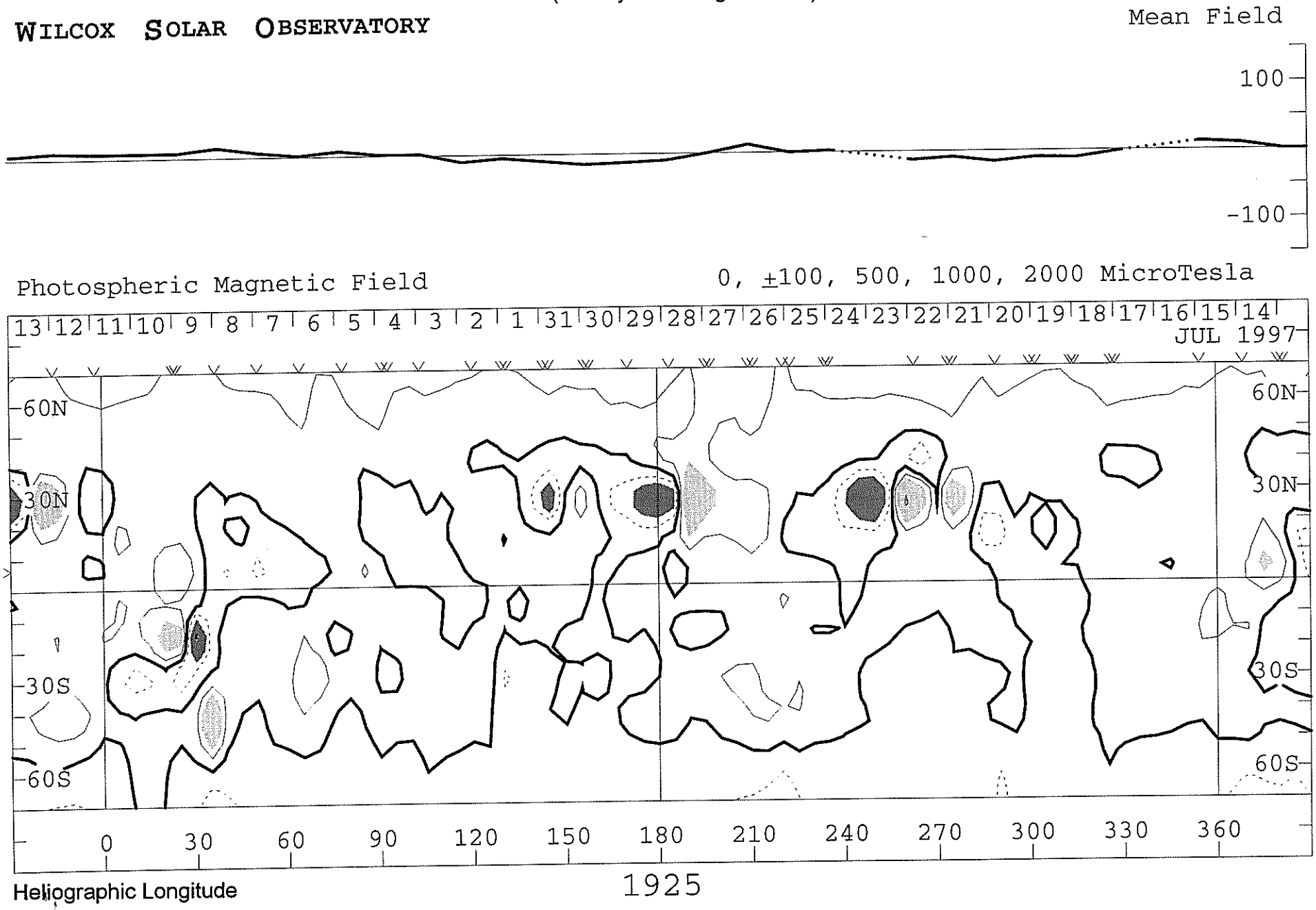
DATA FOR AUGUST 1997

SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1925

(15 July to 11 August 1997)

WILCOX SOLAR OBSERVATORY



SOLAR MAGNETIC FIELD SYNOPTIC CHART

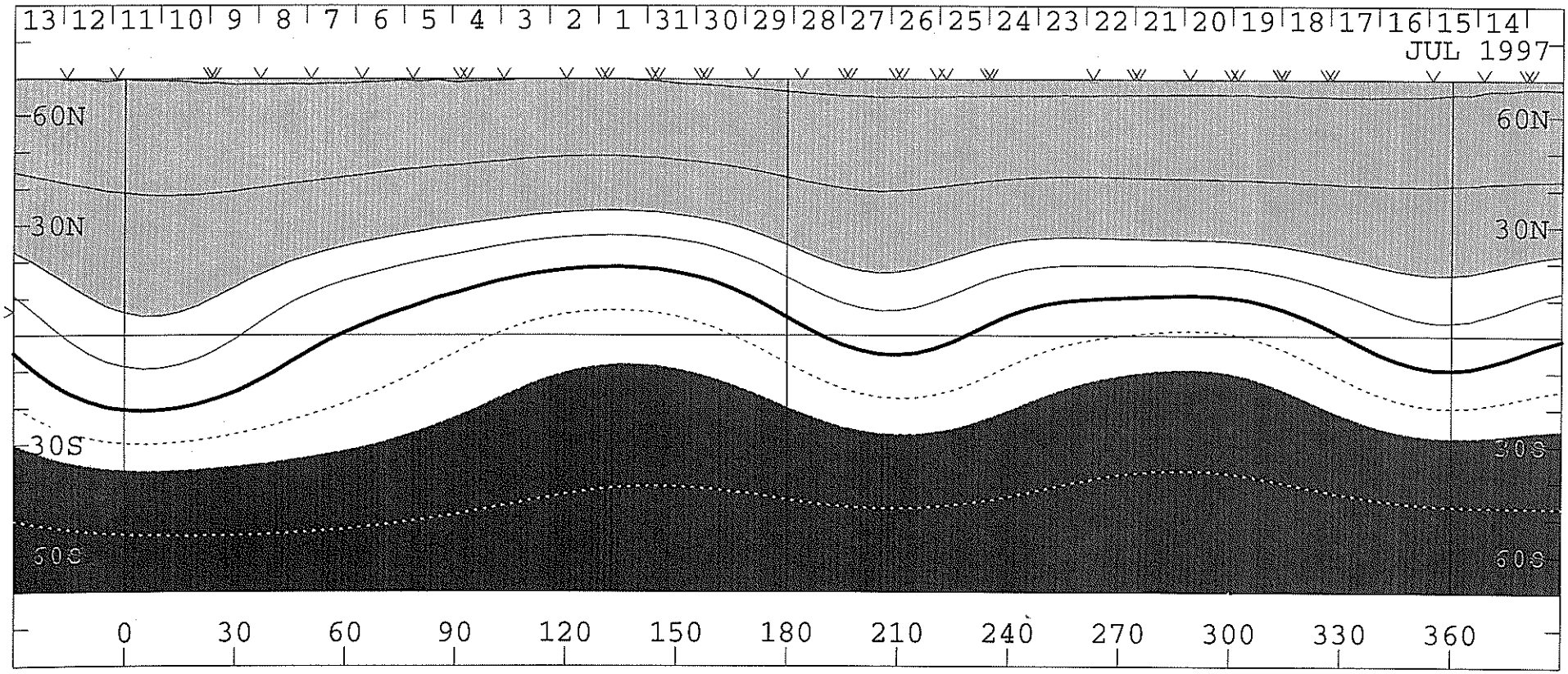
SOURCE SURFACE FIELD

CARRINGTON ROTATION NUMBER 1925

(15 July to 11 August 1997)

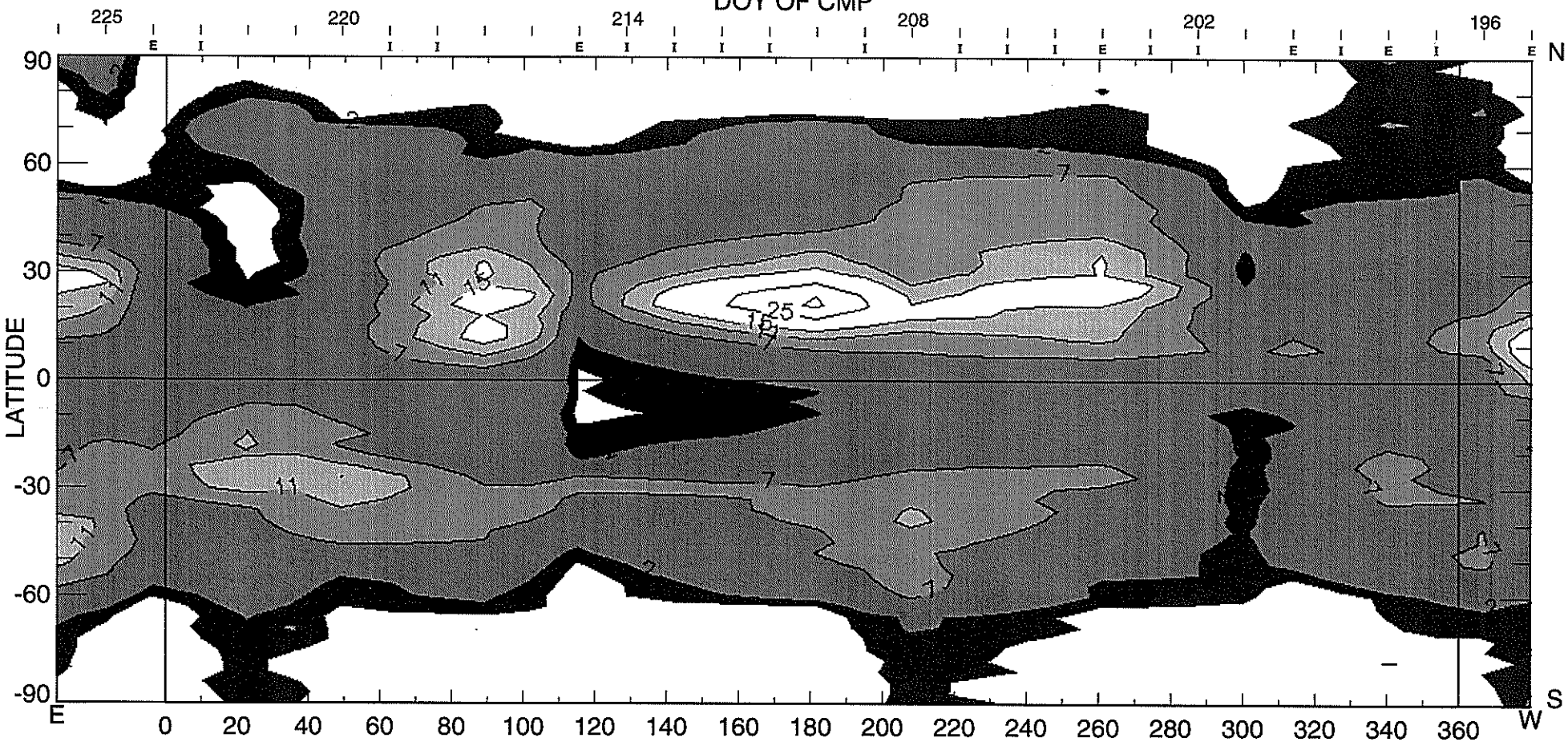
Wilcox Solar Observatory

0, ±1, 2, 5, 10, 20 microTesla

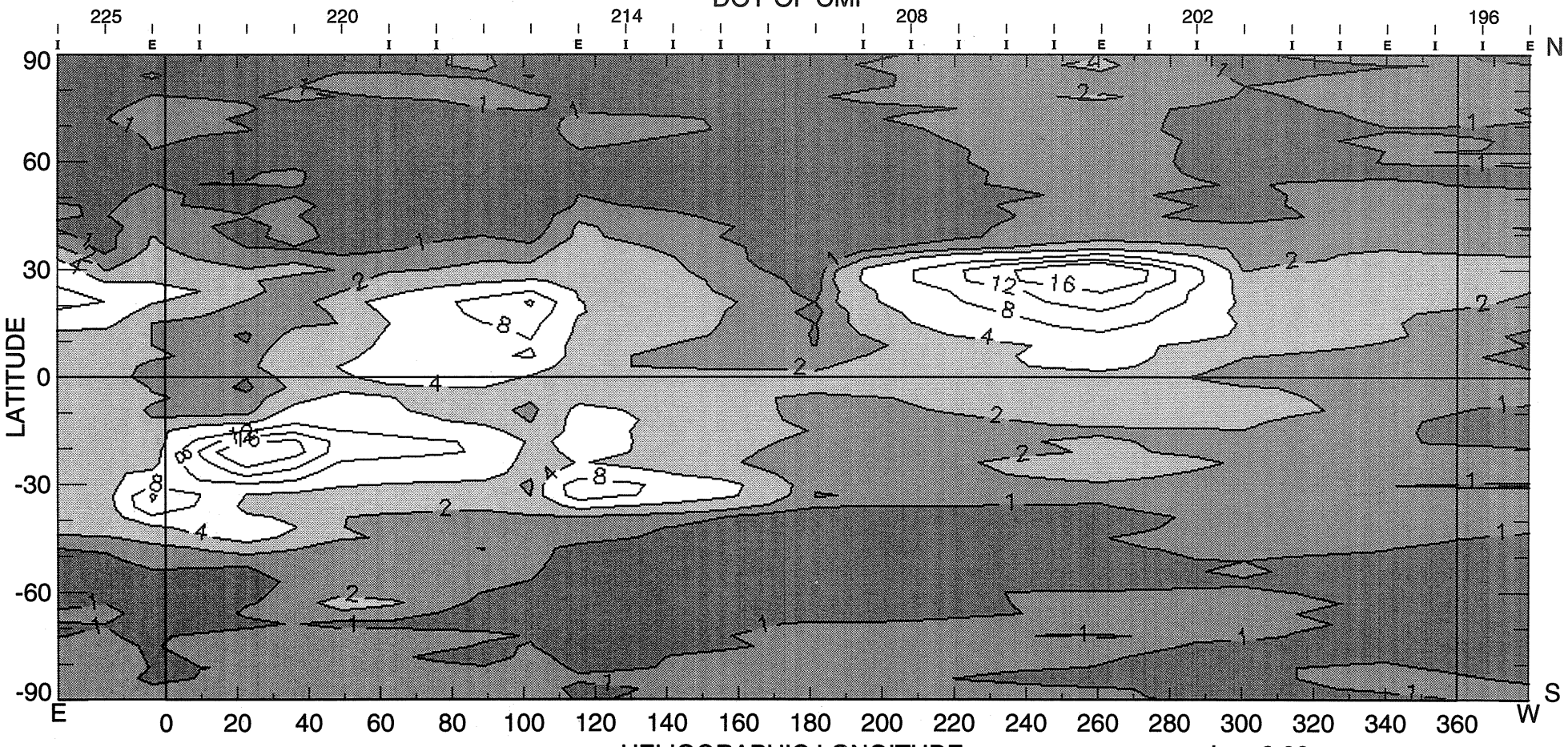


41
Aug 97

CARRINGTON ROTATION NUMBER 1925 ; NSO/SACRAMENTO PEAK FE XIV @ R = 1.15R_o



CARRINGTON ROTATION NUMBER 1925 ; NSO/SACRAMENTO PEAK FE X @ R = 1.15R_o



<I> = 2.03μ

(09-Oct-97)

1997 W+E LIMB CONTOURS: 1, 2, 4, 8, 12, 16, 32, 48 MILLIONTHS OF I_o

NOTE: No Ca XV emission observed at Sacramento Peak for rotation 1925.

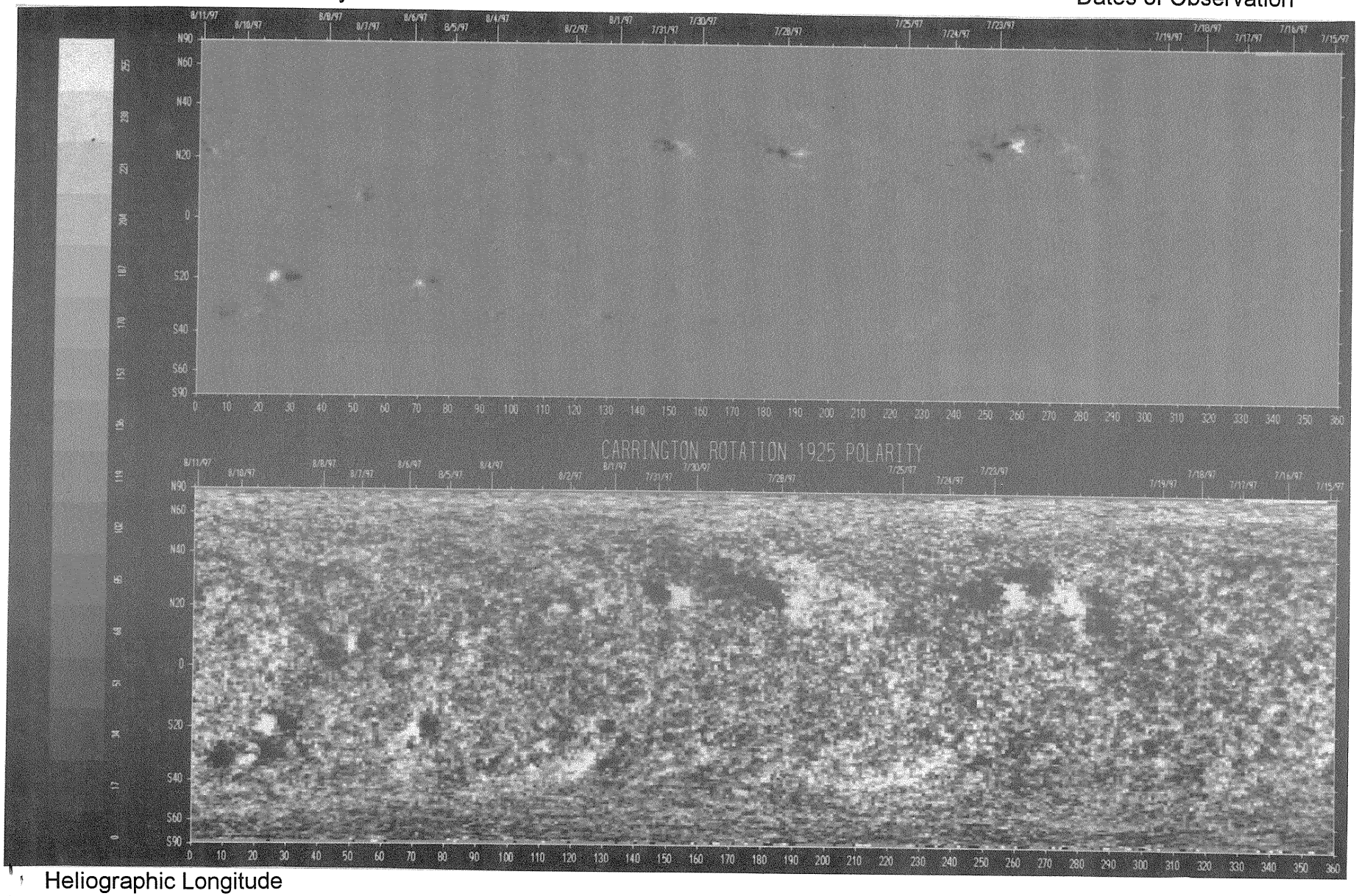
SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1925

(15 July to 11 August 1997)

National Solar Observatory/Kitt Peak

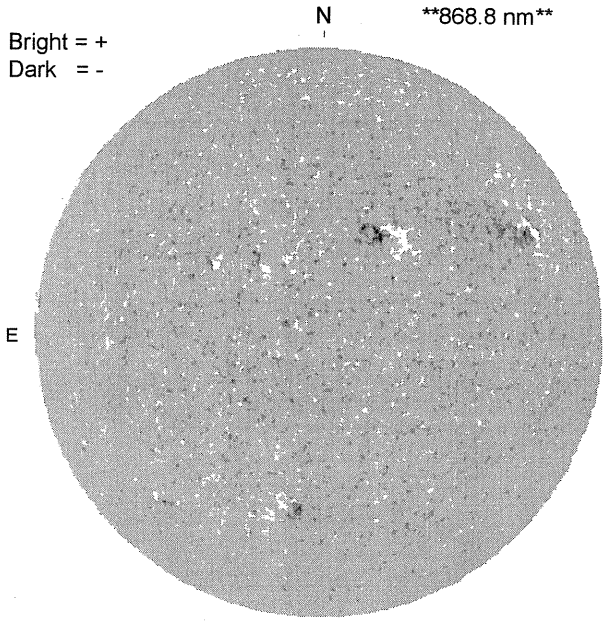
Dates of Observation



Heliographic Longitude

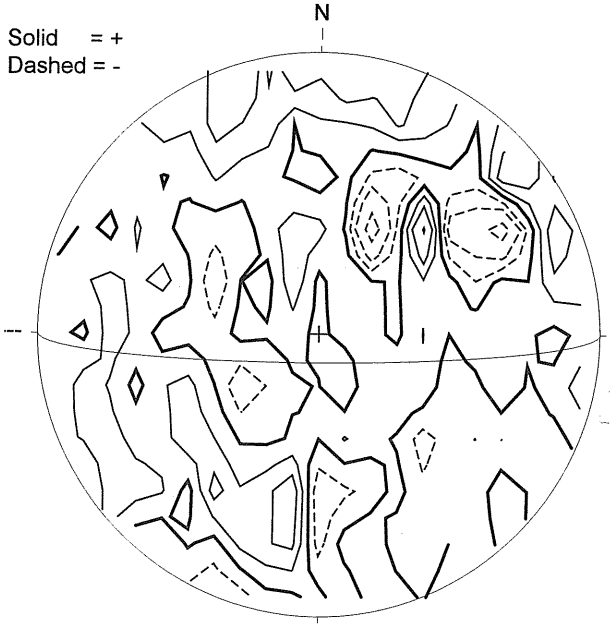
AUGUST 1, 1997 (P= 10.82 , B0 = 5.79 , L0 = 141.76)

KITT PEAK MAGNETOGRAM



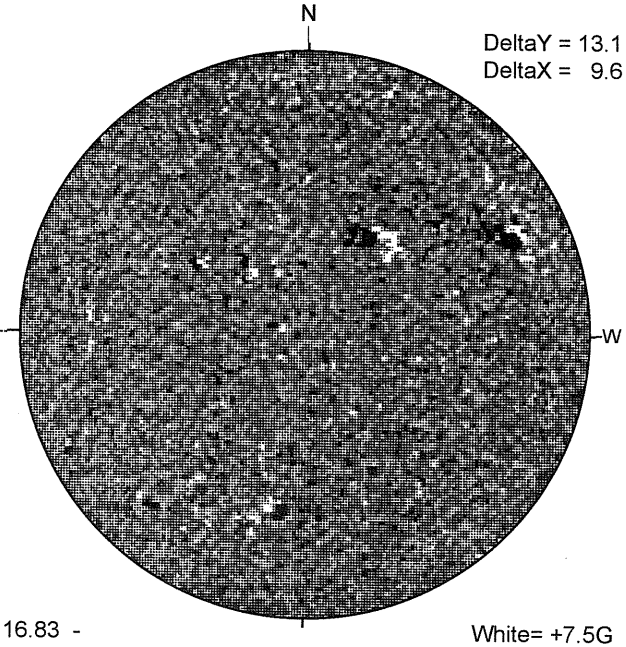
1524 UT

STANFORD MAGNETOGRAM



2204 UT

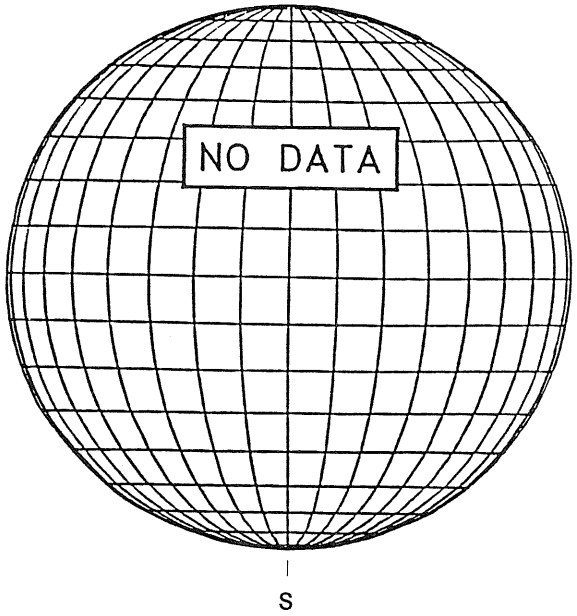
MT. WILSON MAGNETOGRAM



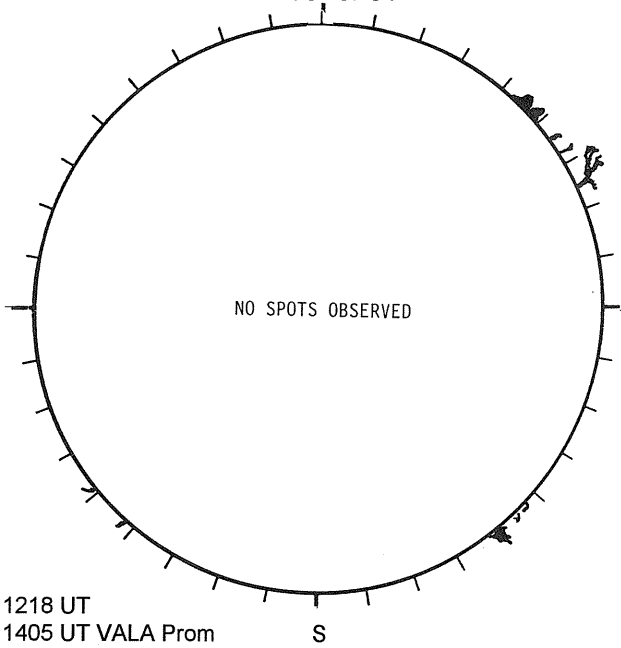
16.83 -
17.75 UT

White= +7.5G
Black = -7.5G

MEUDON H-ALPHA

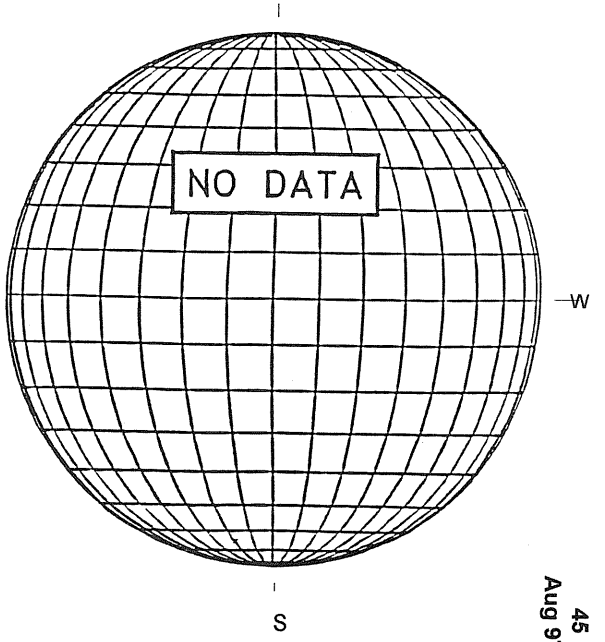


RAMEY SUNSPOT



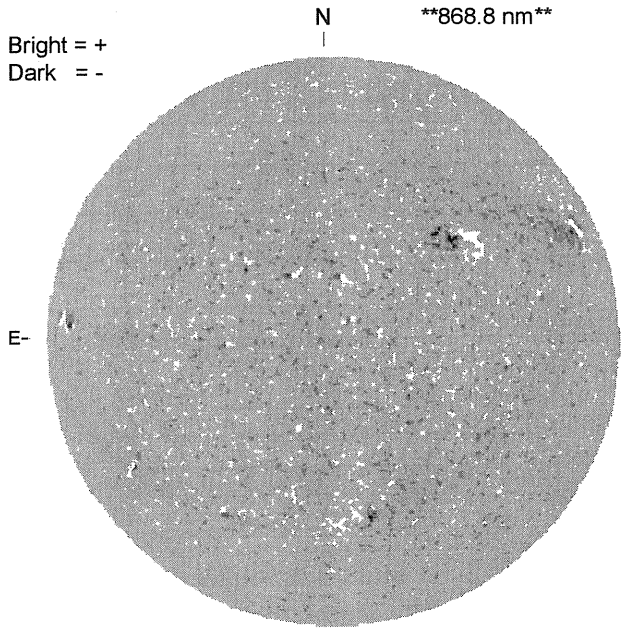
1218 UT
1405 UT VALA Prom

SACRAMENTO PEAK CORONA (1.15 Radii)----



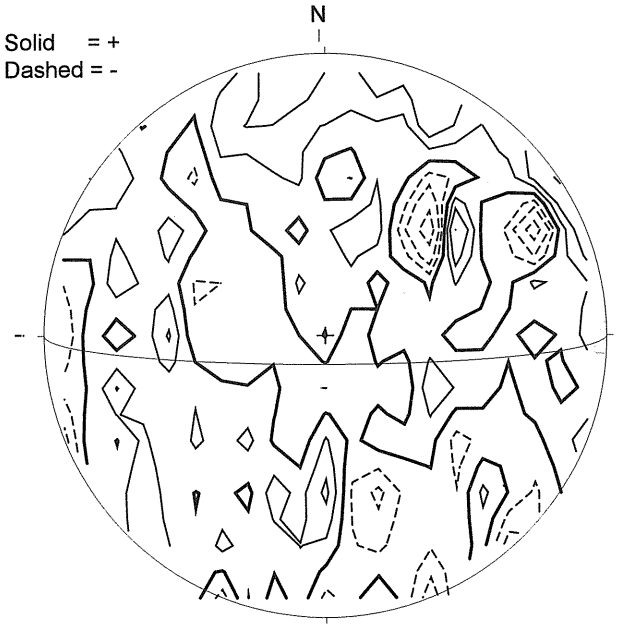
AUGUST 2, 1997 (P= 11.22, Bo = 5.86, Lo = 128.53)

KITT PEAK MAGNETOGRAM



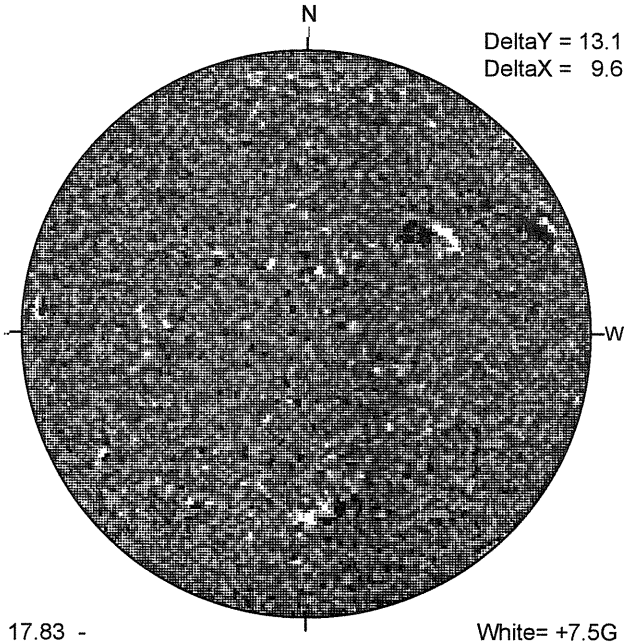
1708 UT

STANFORD MAGNETOGRAM



1544 UT

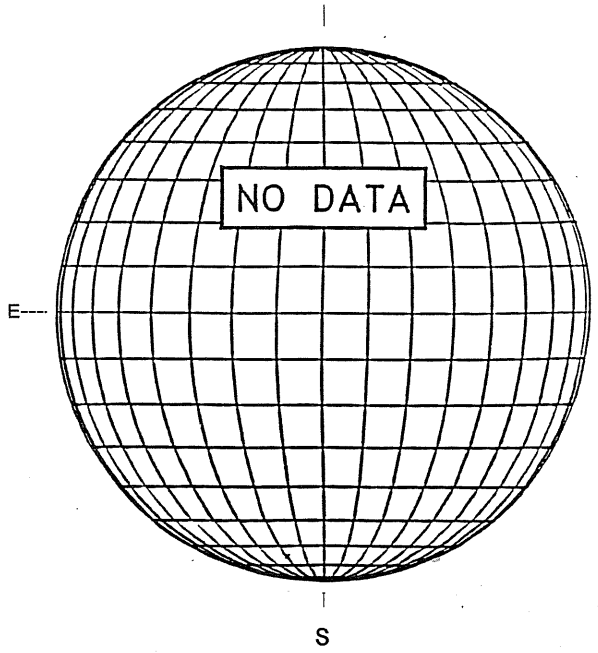
MT. WILSON MAGNETOGRAM



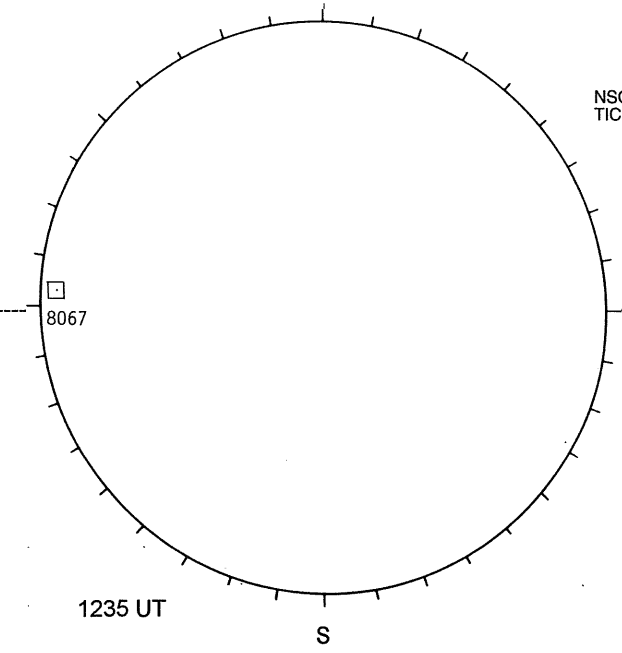
17.83 -
18.30 UT

White= +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA

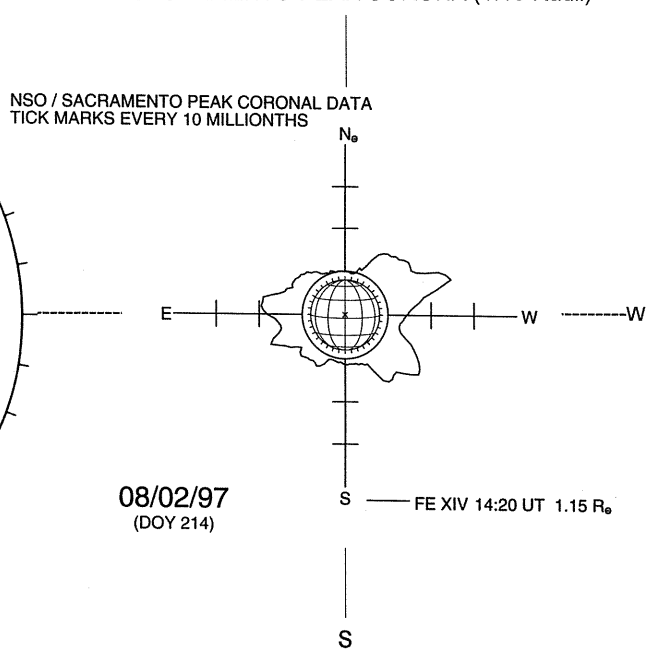


RAMEY SUNSPOT



1235 UT

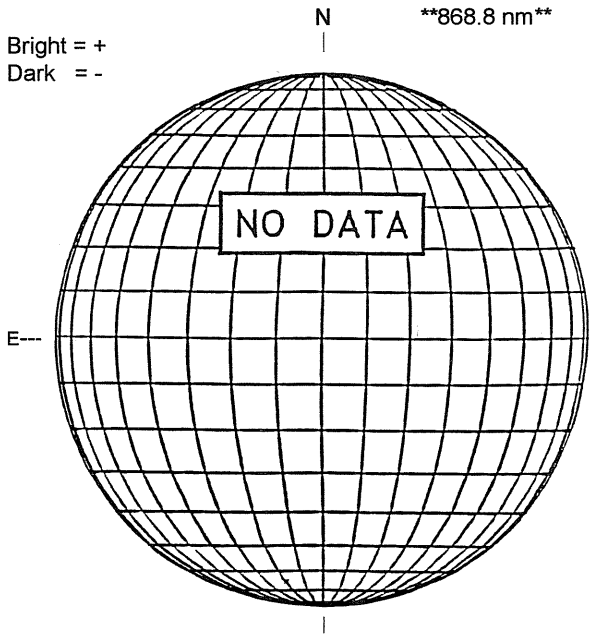
SACRAMENTO PEAK CORONA (1.15 Radii)----



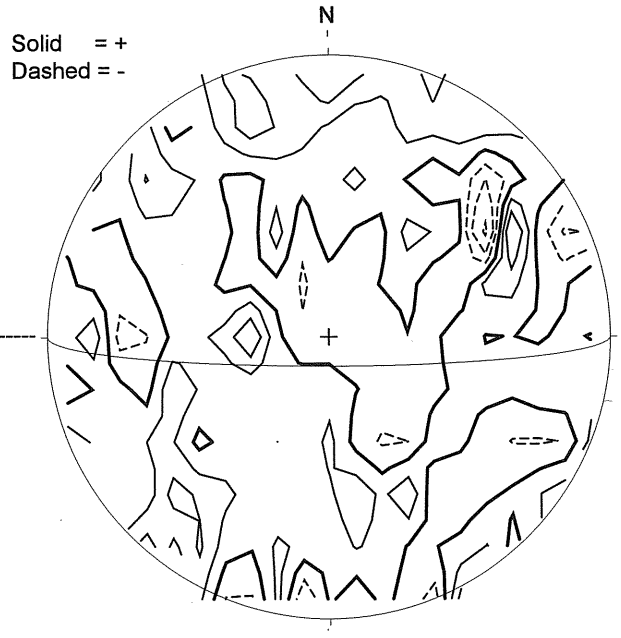
08/02/97
(DOY 214)

AUGUST 3, 1997 (P= 11.61, Bo = 5.93 , Lo = 115.31)

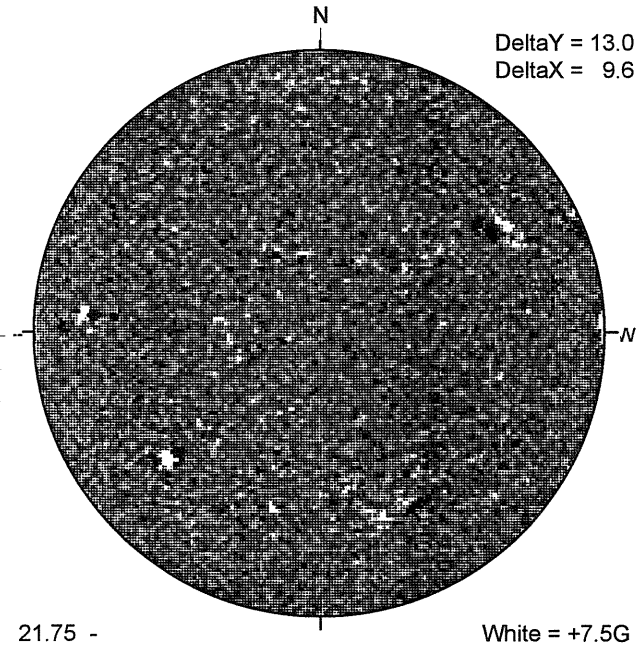
KITT PEAK MAGNETOGRAM



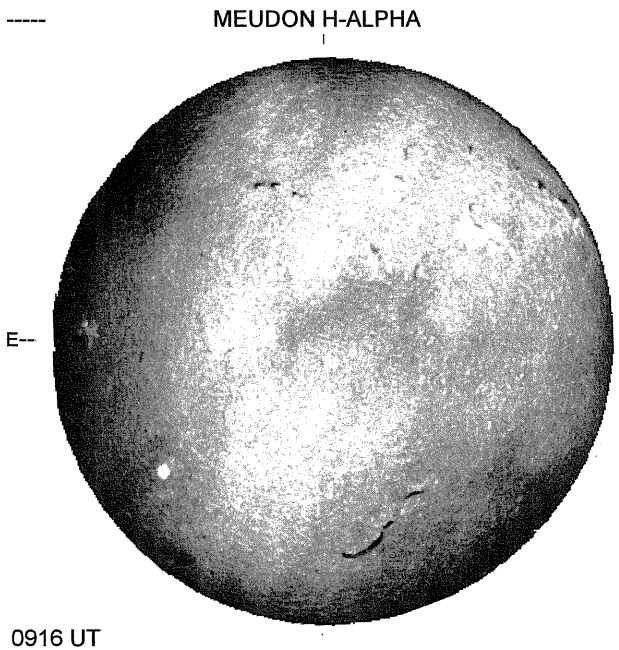
STANFORD MAGNETOGRAM



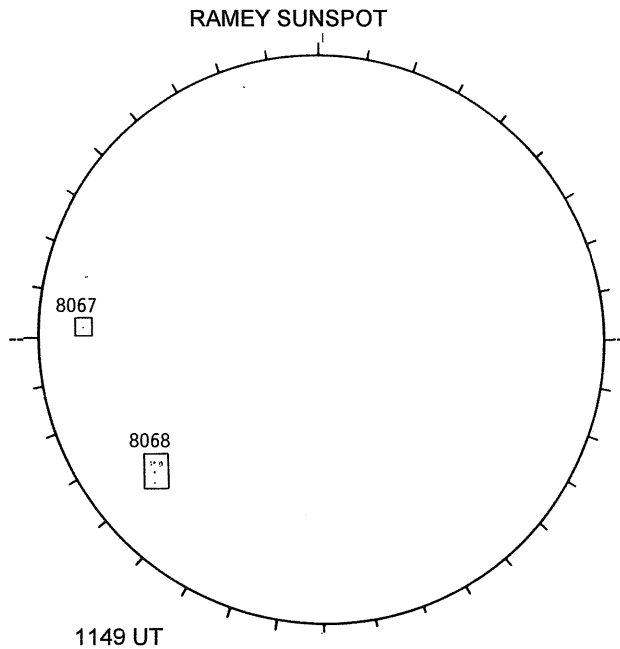
MT. WILSON MAGNETOGRAM



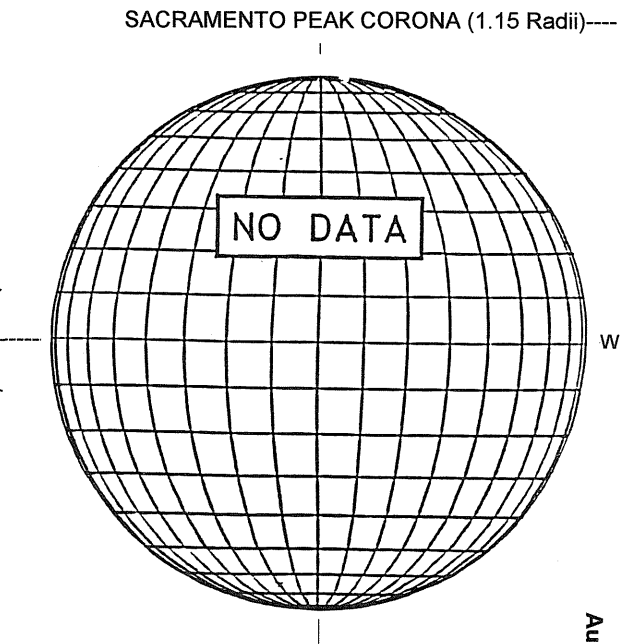
MEUDON H-ALPHA



RAMEY SUNSPOT



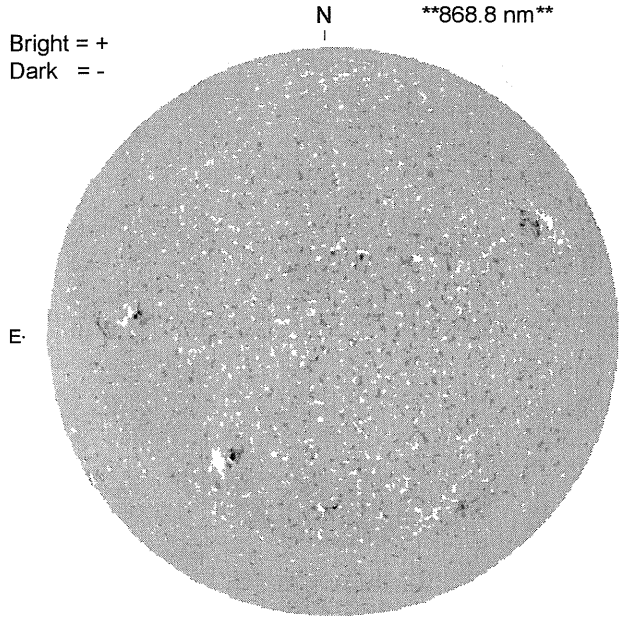
SACRAMENTO PEAK CORONA (1.15 Radii)----



47
Aug 97

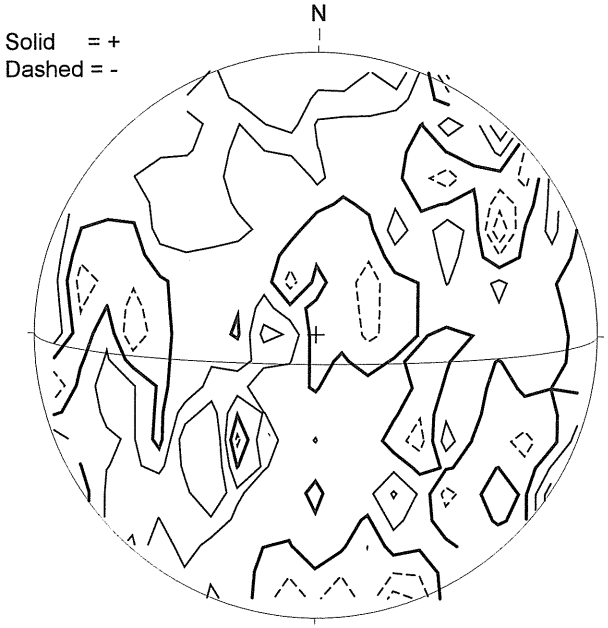
AUGUST 4, 1997 (P= 12.00 , Bo = 6.00 Lo = 102.09)

KITT PEAK MAGNETOGRAM



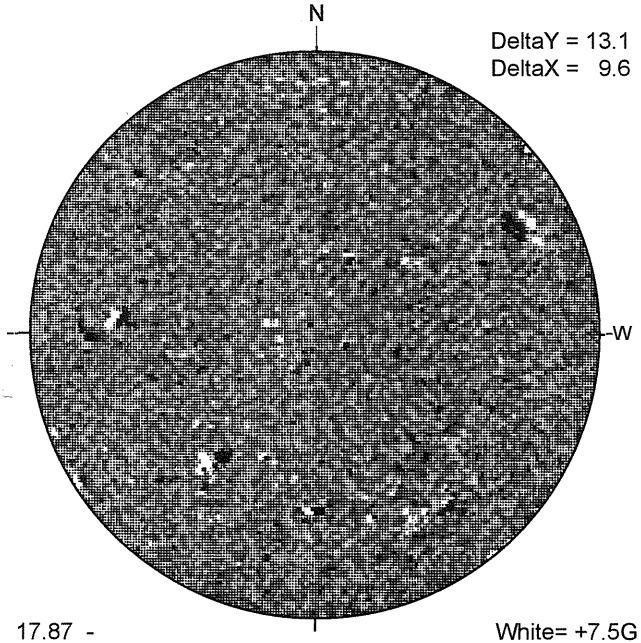
1448 UT

STANFORD MAGNETOGRAM



1650 UT

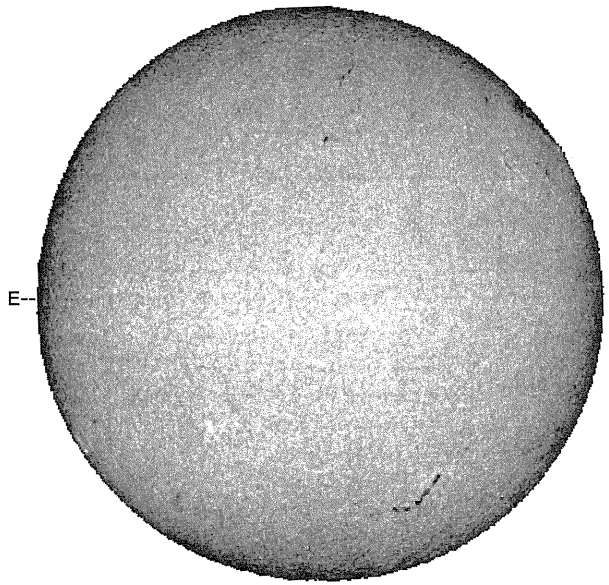
MT. WILSON MAGNETOGRAM



17.87 -
18.80 UT

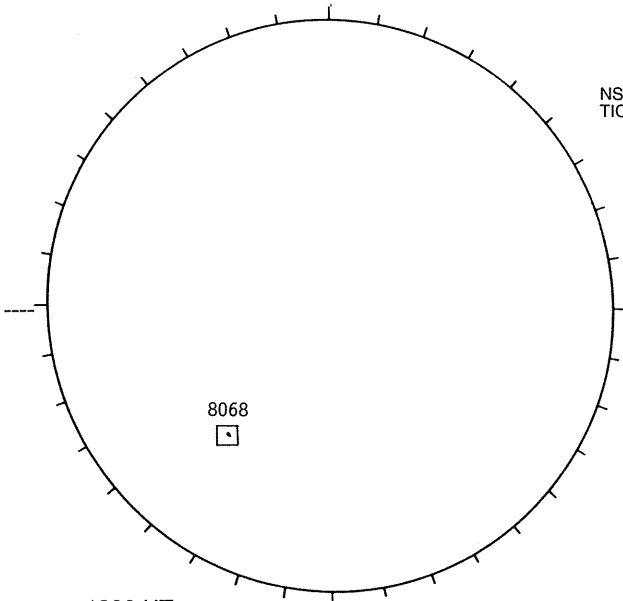
White= +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



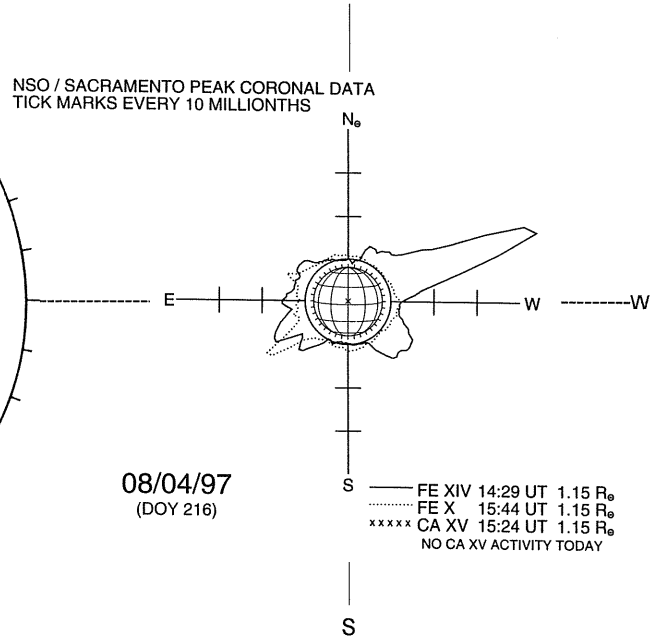
1348 UT

RAMEY SUNSPOT



1333 UT

SACRAMENTO PEAK CORONA (1.15 Radii)----

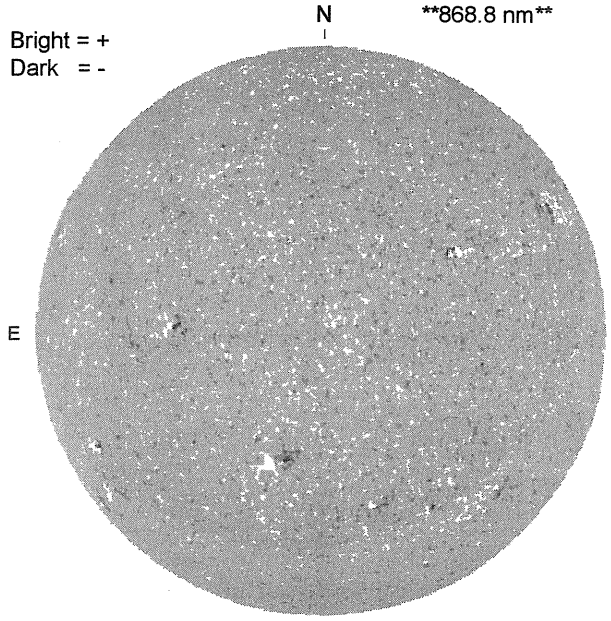


08/04/97
(DOY 216)

FE XIV 14:29 UT 1.15 R_e
FE X 15:44 UT 1.15 R_e
CA XV 15:24 UT 1.15 R_e
NO CA XV ACTIVITY TODAY

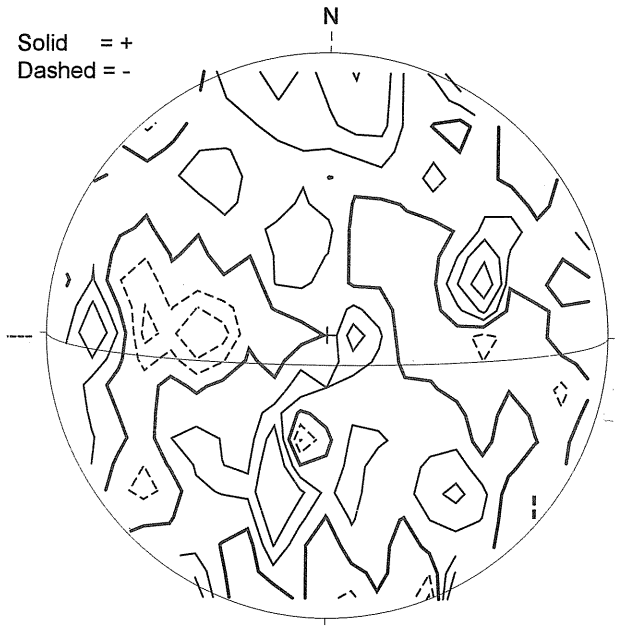
AUGUST 5, 1997 (P= 12.38 , Bo = 6.07 , Lo = 88.86)

KITT PEAK MAGNETOGRAM



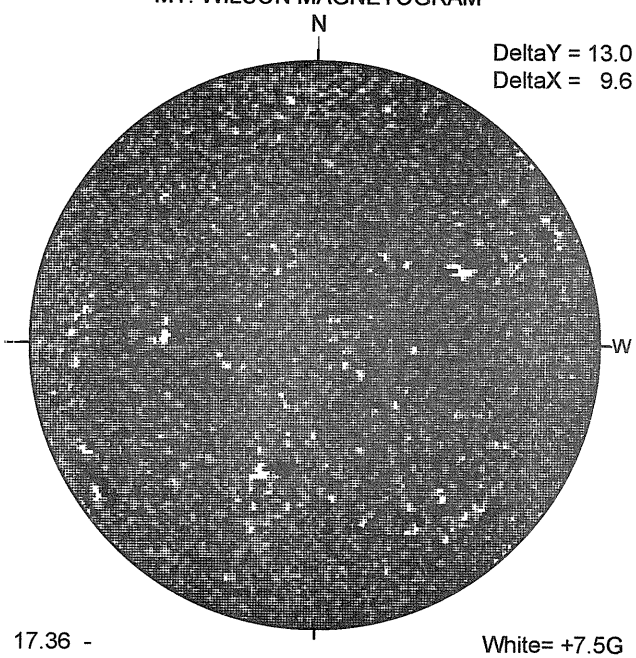
1436 UT

STANFORD MAGNETOGRAM



1939 UT

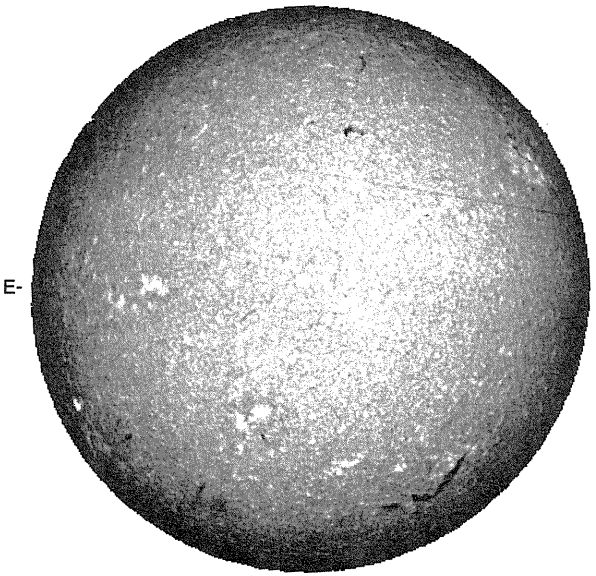
MT. WILSON MAGNETOGRAM



17.36 -
18.29 UT

White= +7.5G
Black = -7.5G

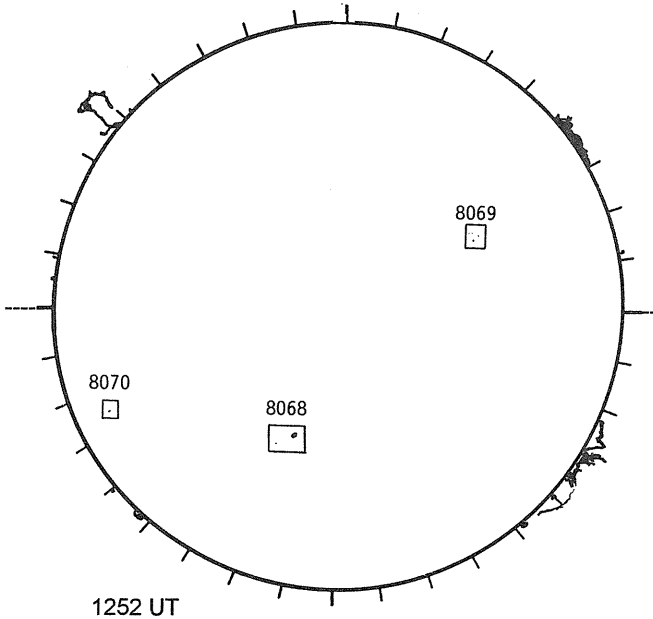
MEUDON H-ALHPA



0814 UT

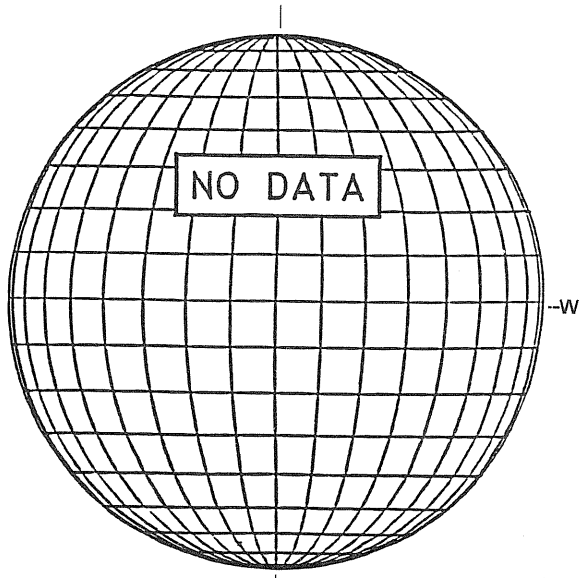
S

RAMEY SUNSPOT



1252 UT
0756 UT VALA Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----



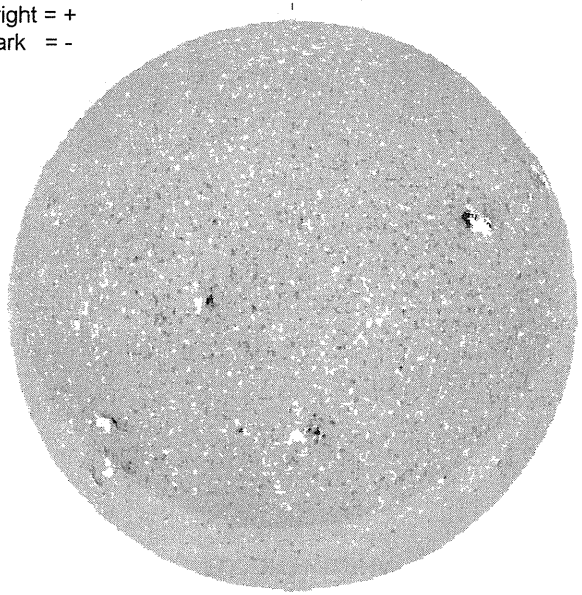
S

AUGUST 6, 1997 (P= 12.77, Bo = 6.13 , Lo = 75.64)

KITT PEAK MAGNETOGRAM

N **868.8 nm**

Bright = +
Dark = -



1419 UT

STANFORD MAGNETOGRAM

N

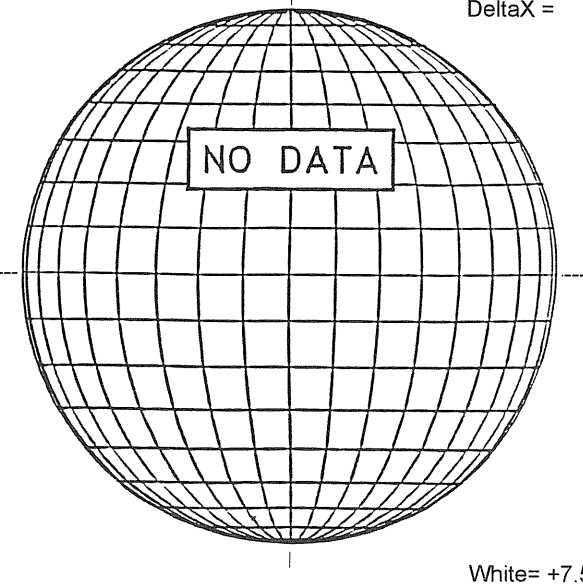
Solid = +
Dashed = -

2050 UT

MT. WILSON MAGNETOGRAM

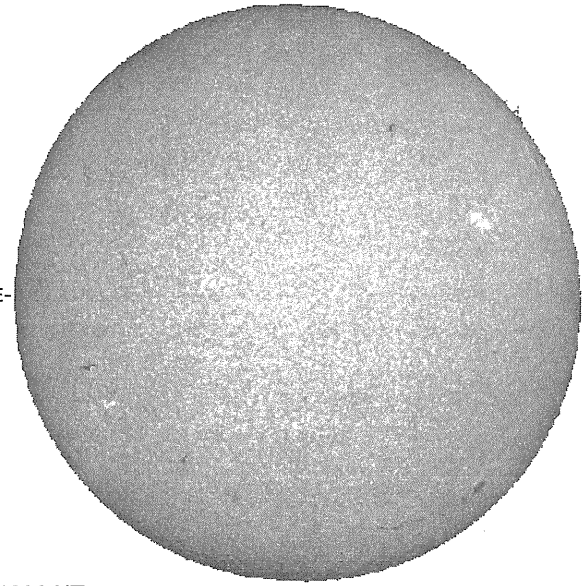
N

DeltaY =
DeltaX =



White= +7.5G
Black = -7.5G

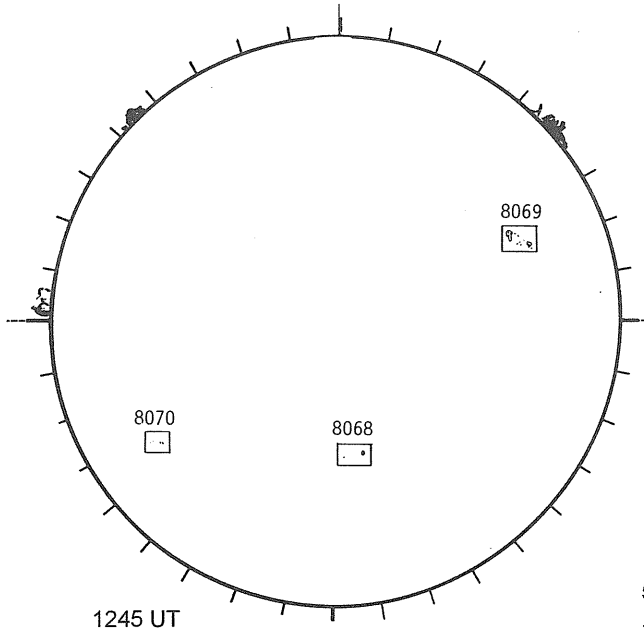
SACRAMENTO PEAK H-ALPHA



1336 UT

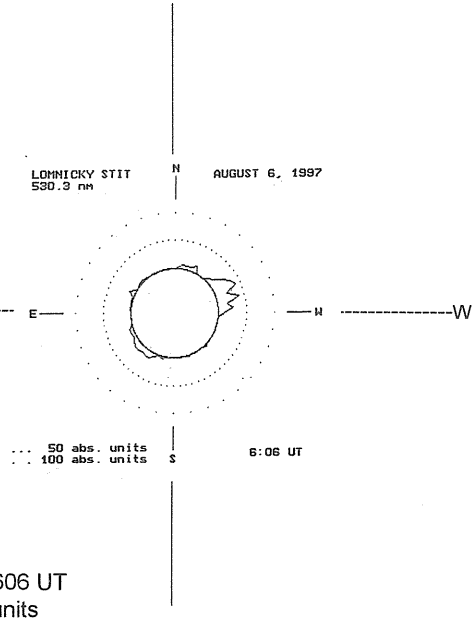
S

RAMEY SUNSPOT



1245 UT
1519 UT VALA Prom S

LOMNICKY PEAK CORONA (1.04 Radii)



530.3 nm, 0606 UT
... 50 abs. units
. . 100 abs. units

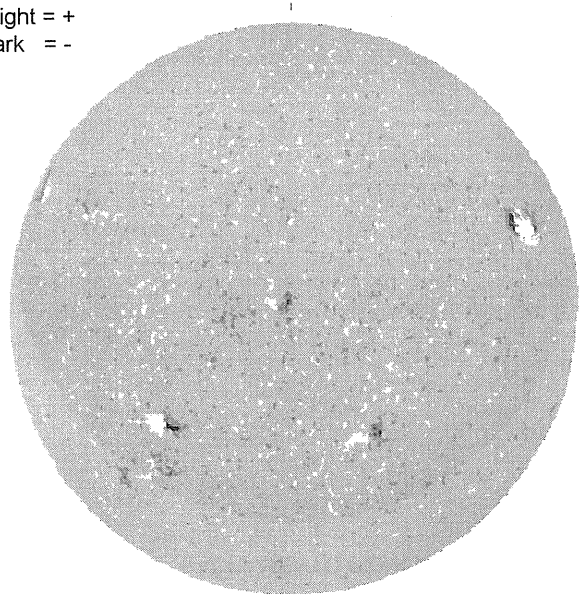
S

AUGUST 7, 1997 (P= 13.14, Bo = 6.20 Lo = 62.42)

KITT PEAK MAGNETOGRAM

N **868.8 nm**

Bright = +
Dark = -



E-

1716 UT

STANFORD MAGNETOGRAM

N

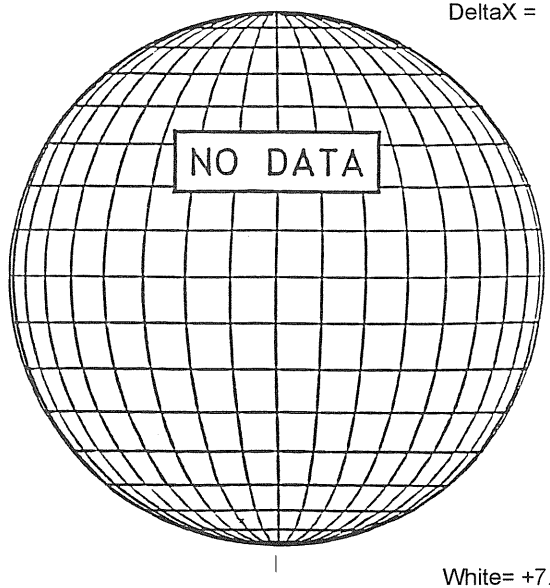
Solid = +
Dashed = -

2150 UT

MT. WILSON MAGNETOGRAM

N

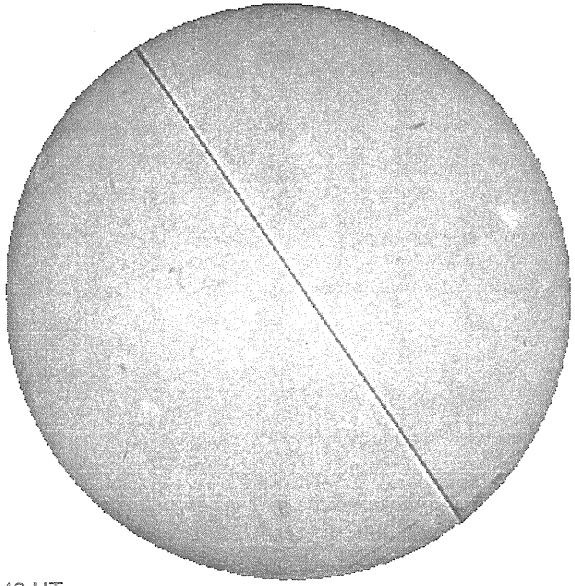
DeltaY =
DeltaX =



--W

White= +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA

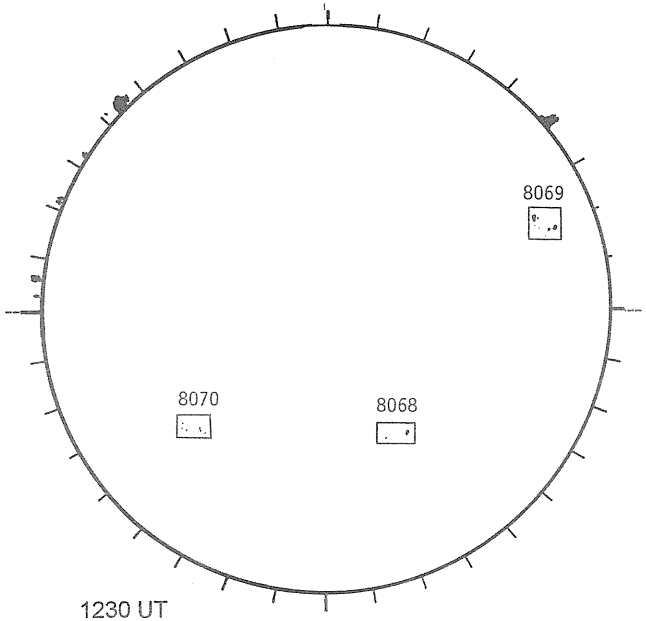


E--

1346 UT

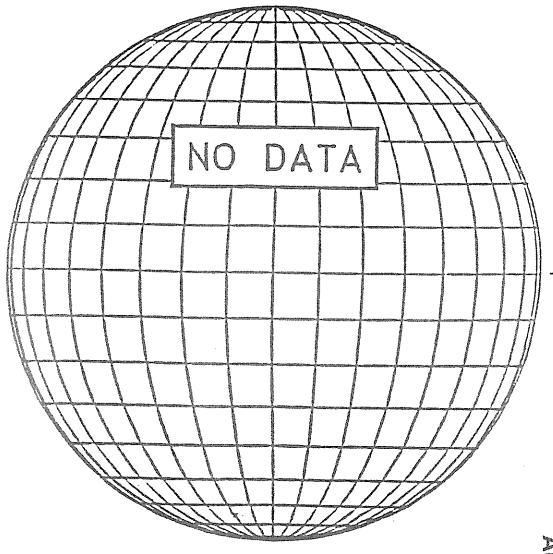
S

RAMEY SUNSPOT



1230 UT
1146 UT VALA Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----



-W

S

51
Aug 97

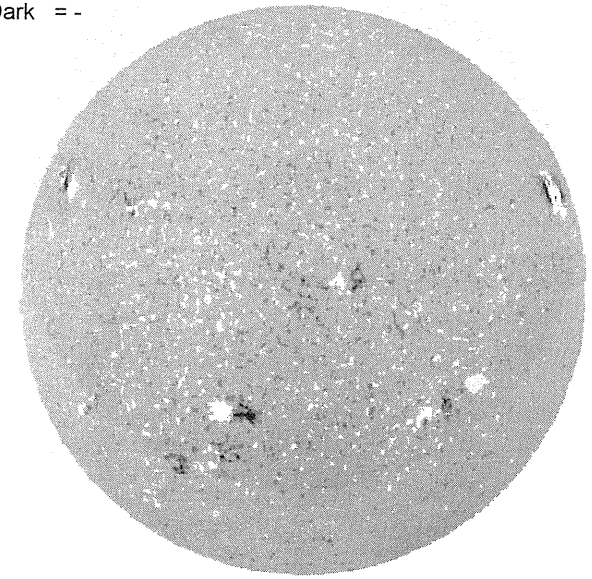
AUGUST 8, 1997 (P= 13.52, Bo = 6.26 , Lo = 49.19)

KITT PEAK MAGNETOGRAM

N

868.8 nm

Bright = +
Dark = -



1433 UT

STANFORD MAGNETOGRAM

N

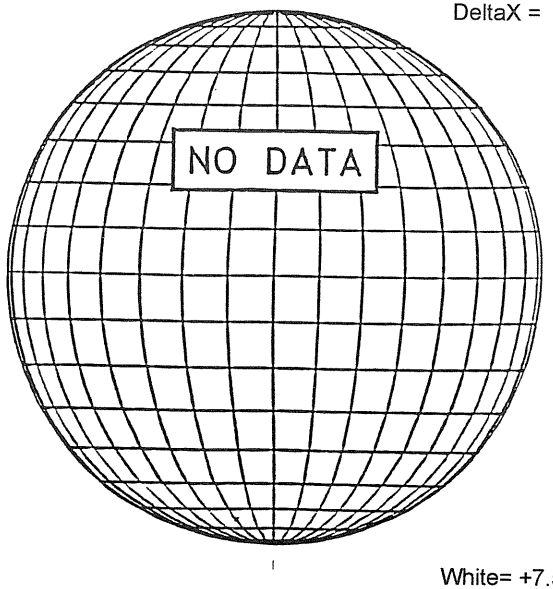
Solid = +
Dashed = -

2251 UT

MT. WILSON MAGNETOGRAM

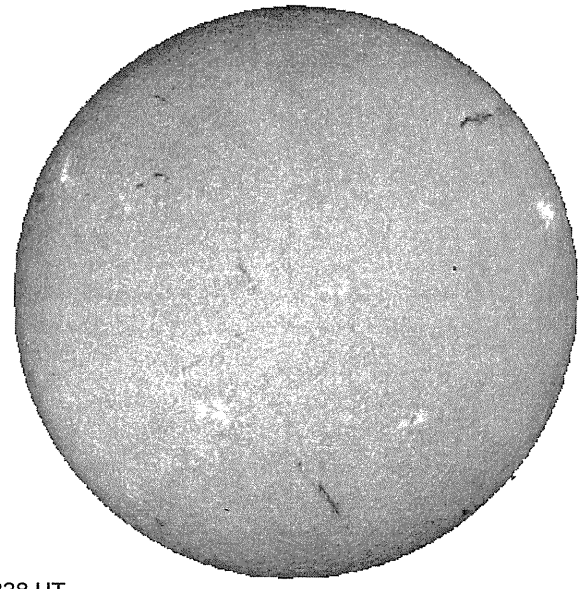
N

DeltaY =
DeltaX =



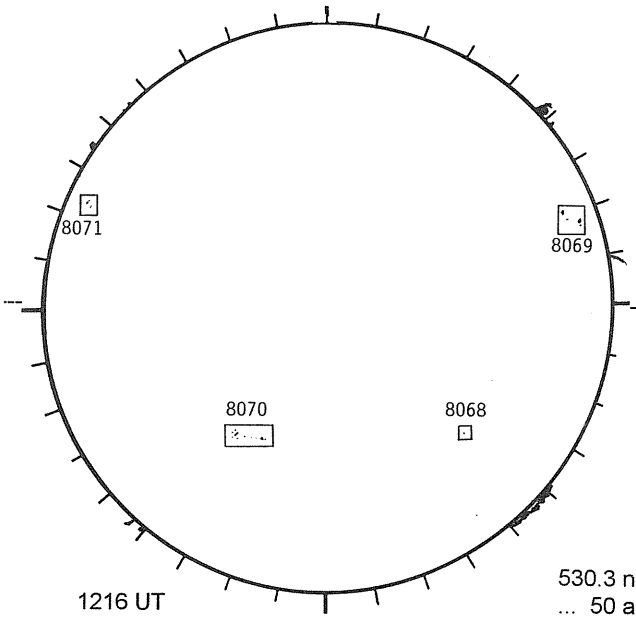
White= +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



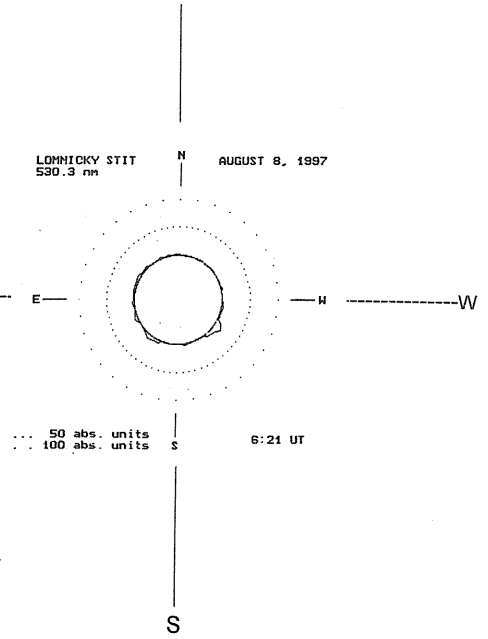
1338 UT

RAMEY SUNSPOT



1216 UT
1030 UT VALA Prom S

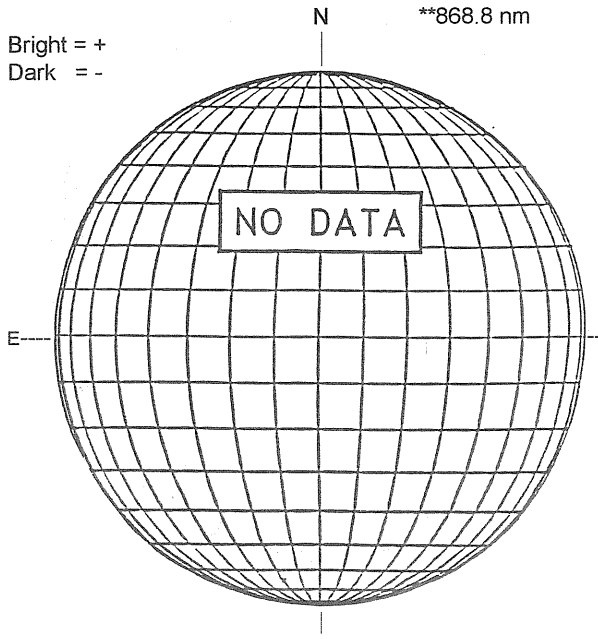
LOMNICKY PEAK CORONA (1.04 Radii)----



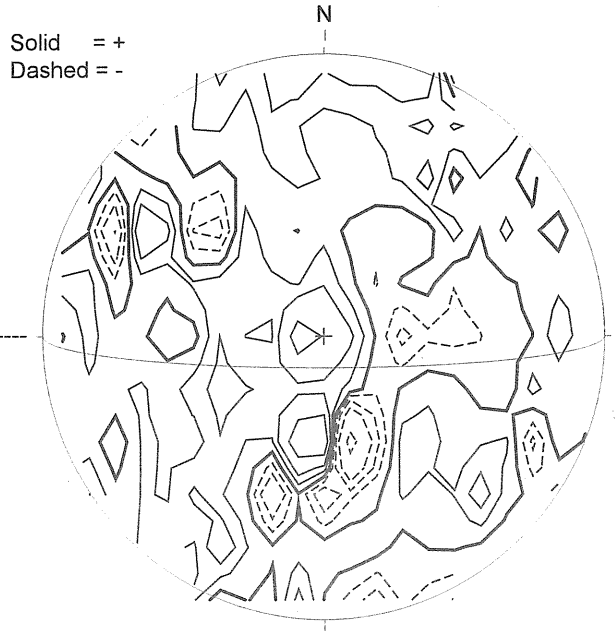
530.3 nm, 0621 UT
... 50 abs. units
. . 100 abs. units

AUGUST 9, 1997 (P= 13.88, Bo = 6.32, Lo = 35.97)

KITT PEAK MAGNETOGRAM

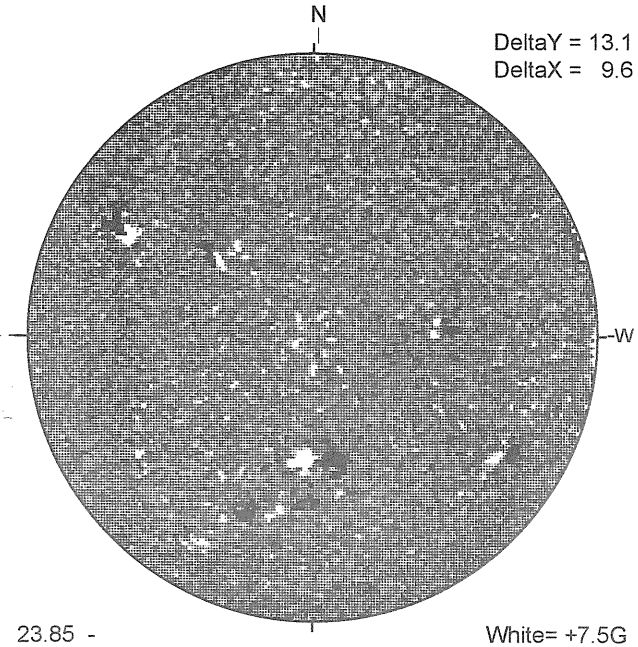


STANFORD MAGNETOGRAM



2148 UT

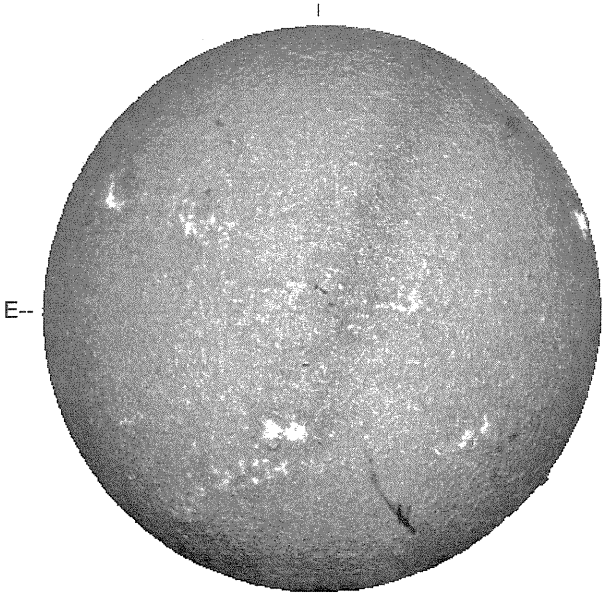
MT. WILSON MAGNETOGRAM



23.85 -
24.78 UT

White= +7.5G
Black = -7.5G

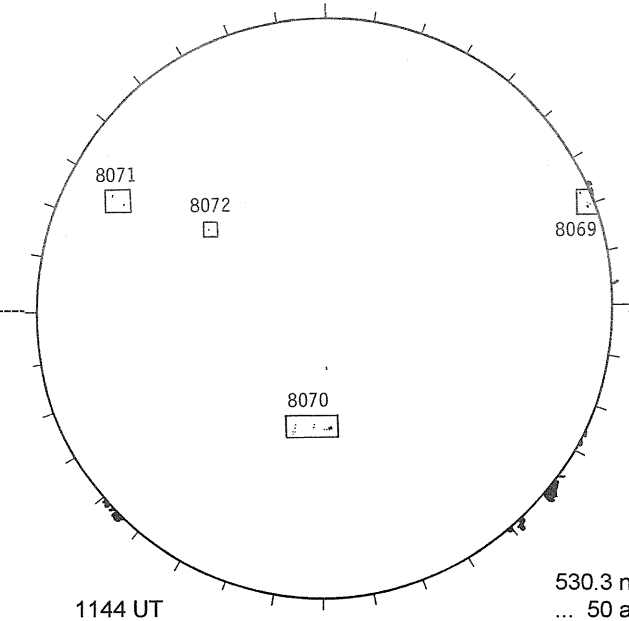
MEUDON H-ALPHA



0715 UT

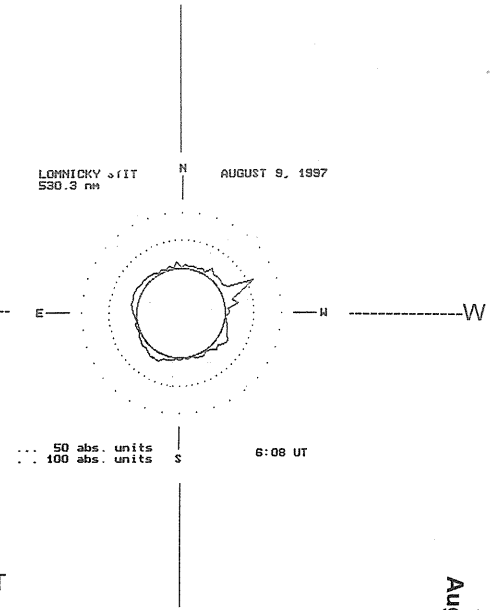
S

RAMEY SUNSPOT



1144 UT
0555 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)----



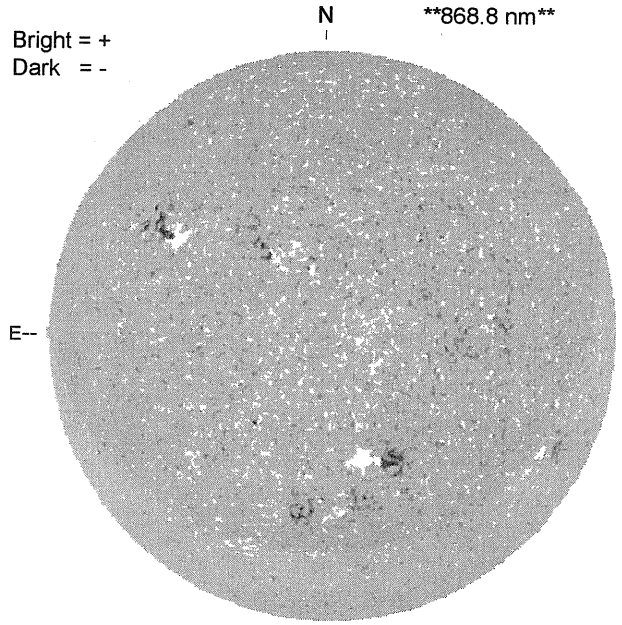
530.3 nm, 0608 UT
... 50 abs. units
. . 100 abs. units

S

53
Aug 97

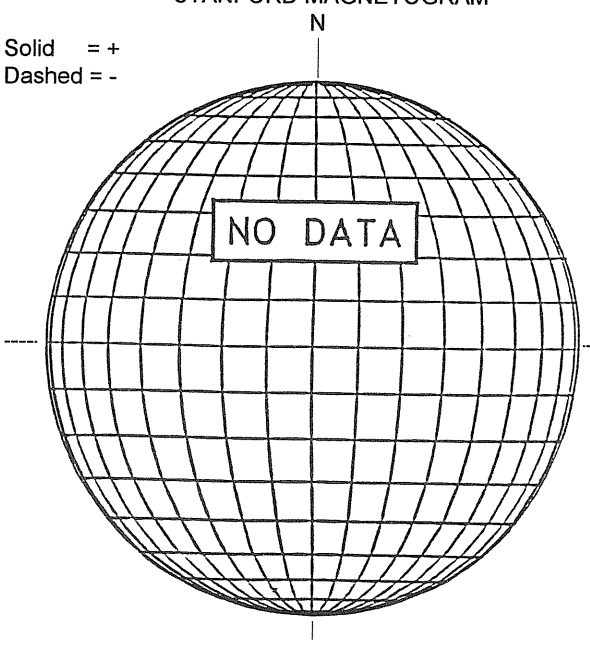
AUGUST 10, 1997 (P= 14.25, Bo = 6.38, Lo = 22.75)

KITT PEAK MAGNETOGRAM

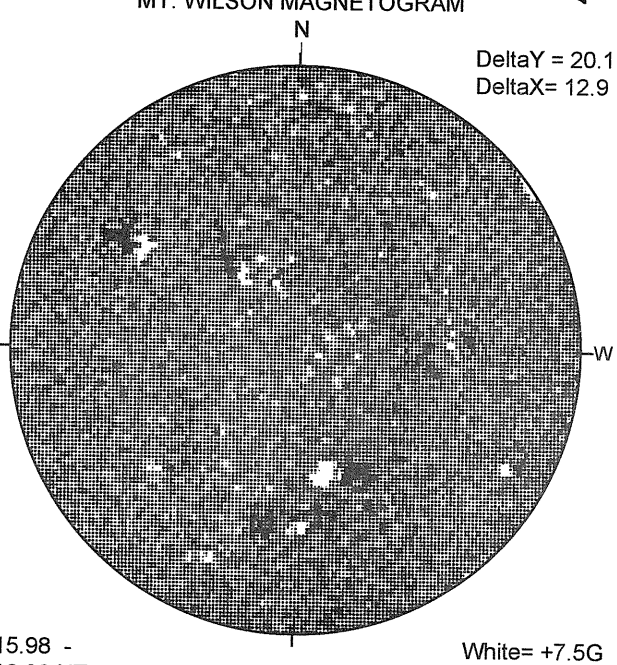


1446 UT

STANFORD MAGNETOGRAM



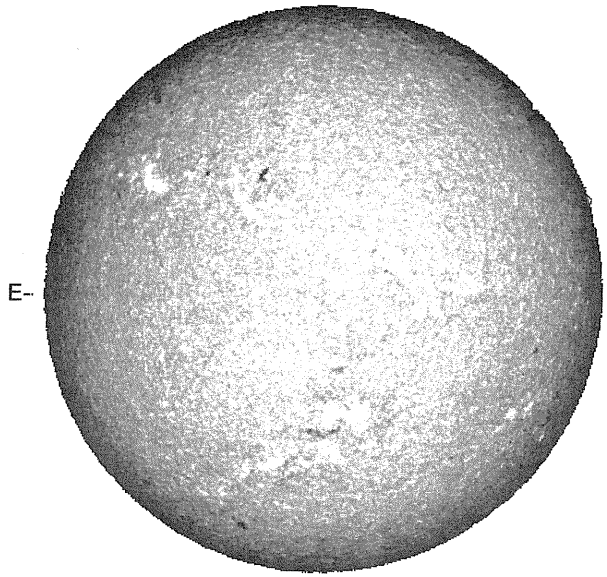
MT. WILSON MAGNETOGRAM



15.98 -
16.39 UT

White= +7.5G
Black = -7.5G

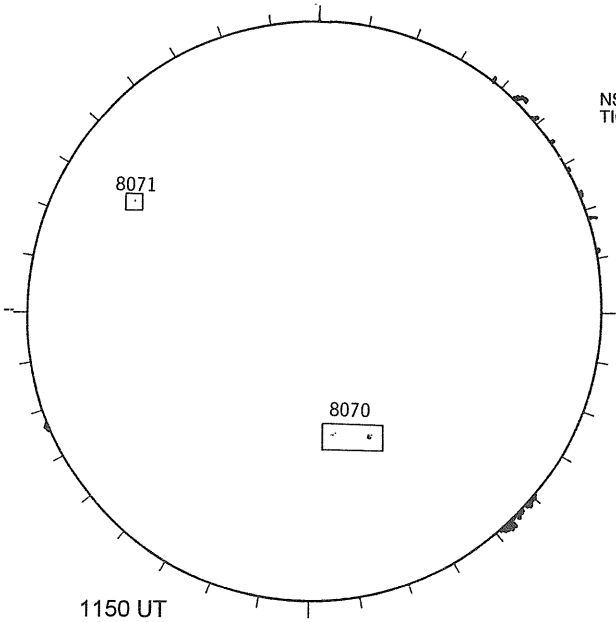
MEUDON H-ALPHA



0724 UT

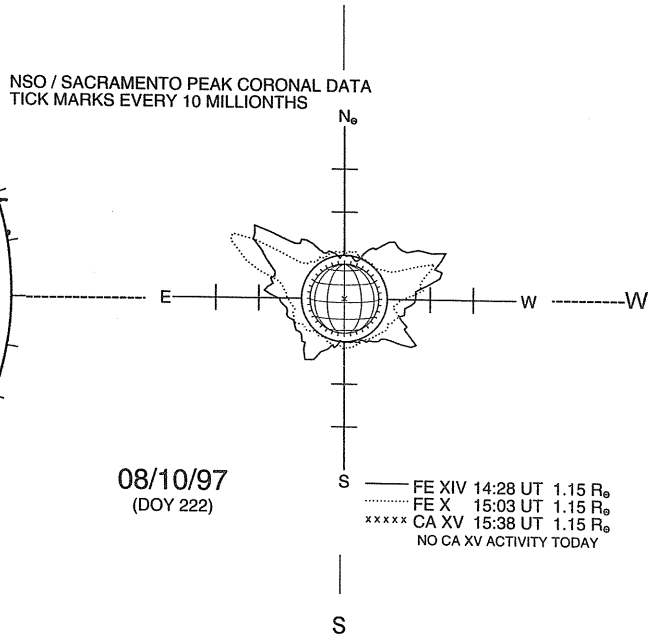
S

RAMEY SUNSPOT



1150 UT
1320 UT LOMN Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----



08/10/97
(DOY 222)

FE XIV 14:28 UT 1.15 $R_\odot$
FE X 15:03 UT 1.15 $R_\odot$
CA XV 15:38 UT 1.15 $R_\odot$
NO CA XV ACTIVITY TODAY

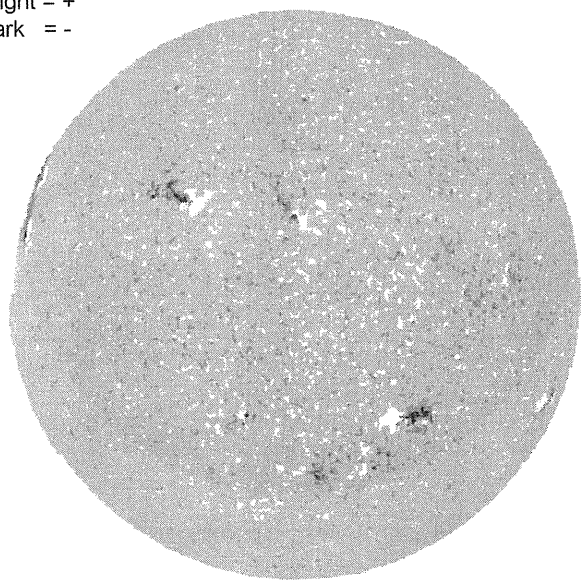
AUGUST 11, 1997 (P= 14.61, Bo = 6.44, Lo = 9.53)

KITT PEAK MAGNETOGRAM

N

868.8 nm

Bright = +
Dark = -



E

1604 UT

STANFORD MAGNETOGRAM

N

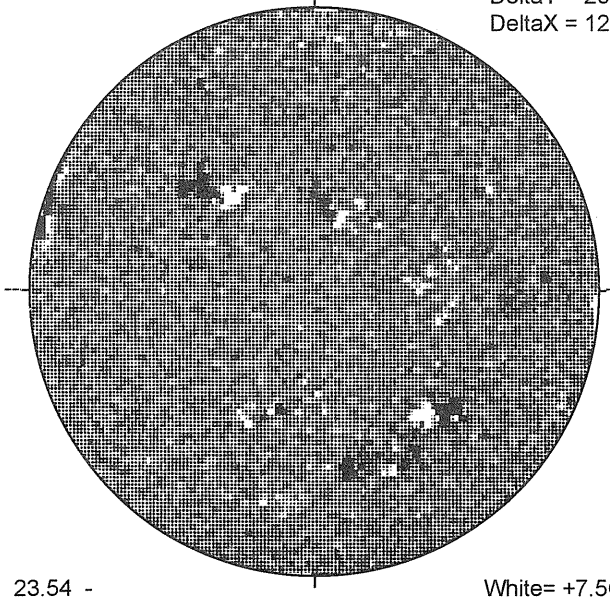
Solid = +
Dashed = -

2136 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 20.1
DeltaX = 12.9

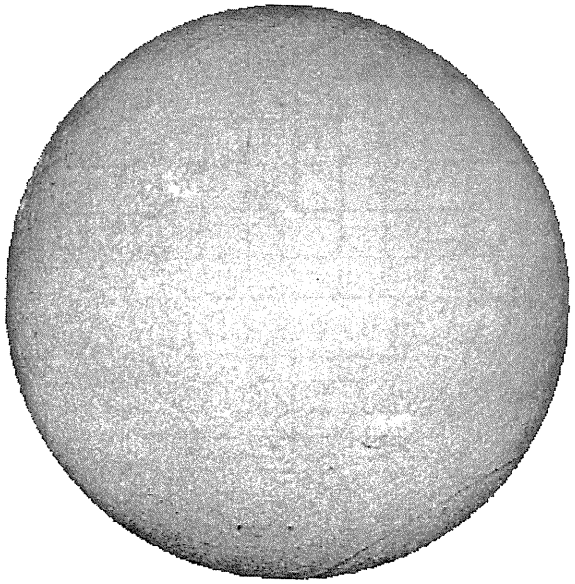


W

23.54 -
23.94 UT

White= +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA

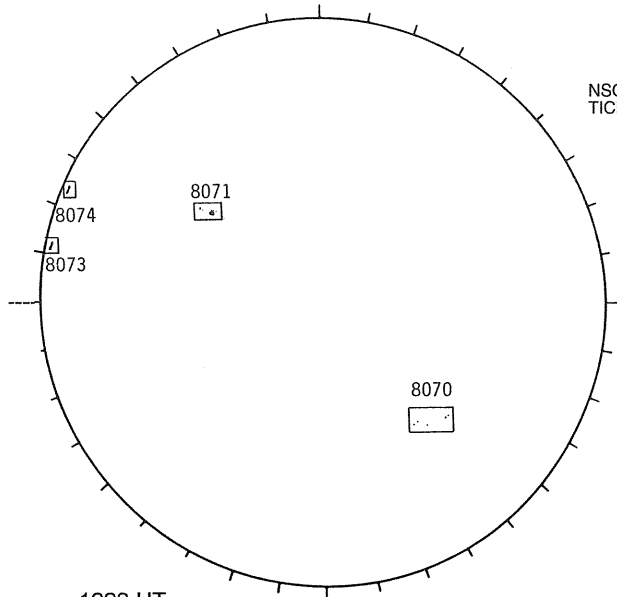


E

1348 UT

S

RAMEY SUNSPOT

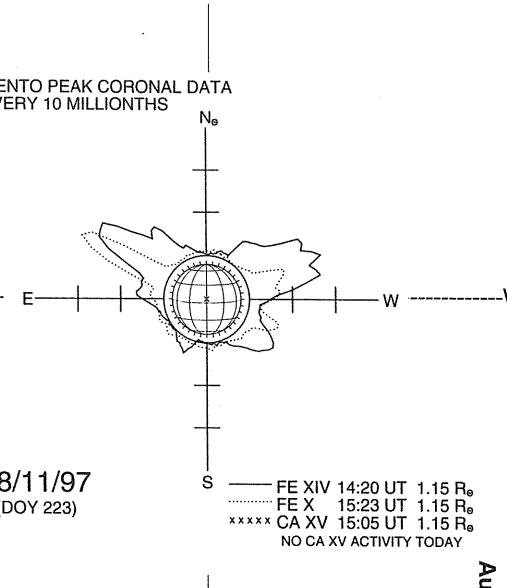


1223 UT

S

SACRAMENTO PEAK CORONA (1.15 Radii)

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 10 MILLIONTHS



08/11/97
(DOY 223)

FE XIV 14:20 UT 1.15 $R_\odot$
FE X 15:23 UT 1.15 $R_\odot$
xxxxx CA XV 15:05 UT 1.15 $R_\odot$
NO CA XV ACTIVITY TODAY

S

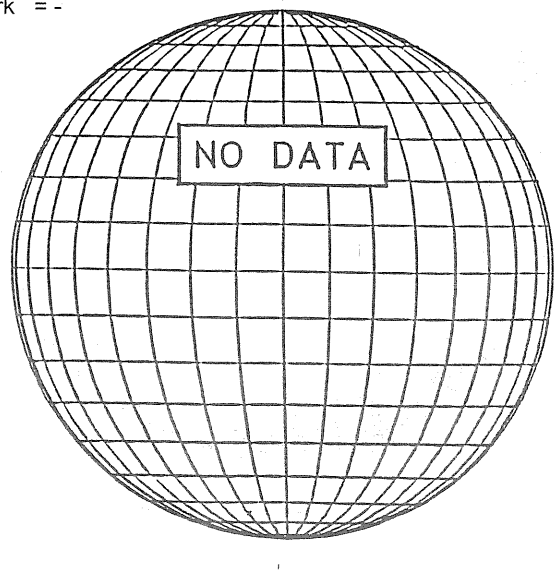
55
Aug 97

AUGUST 12, 1997 (P= 14.96, Bo = 6.49, Lo = 356.31)

KITT PEAK MAGNETOGRAM

N **868.8 nm**

Bright = +
Dark = -

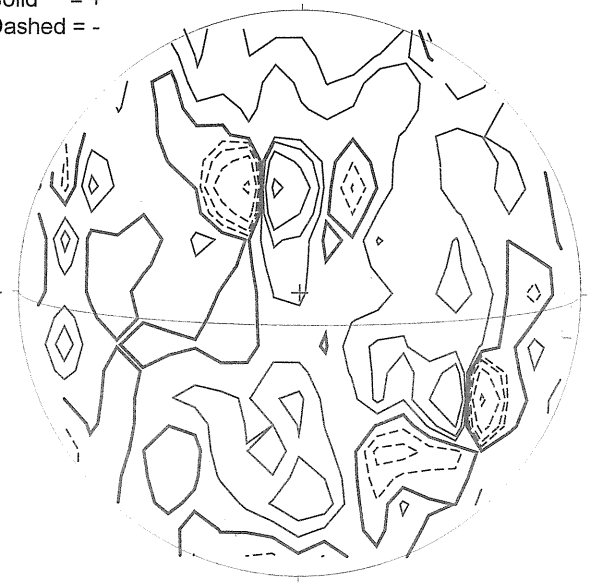


E--

STANFORD MAGNETOGRAM

N

Solid = +
Dashed = -

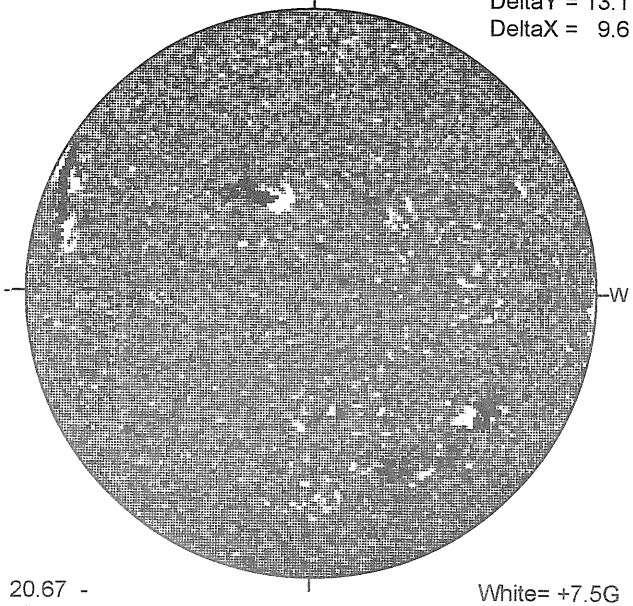


2220 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

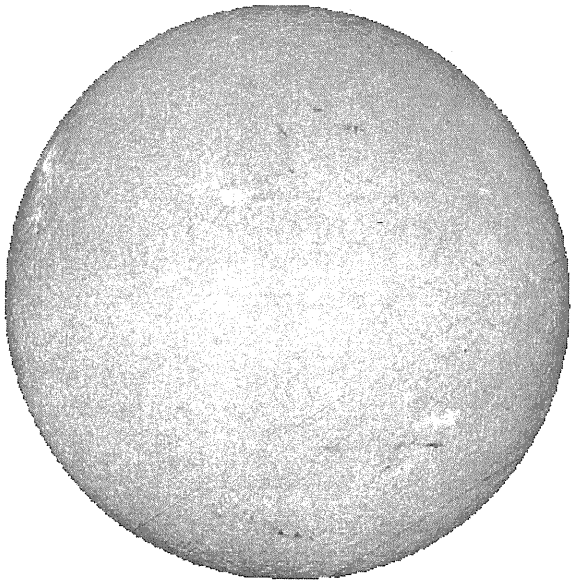


--W

20.67 -
21.60 UT

White= +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA

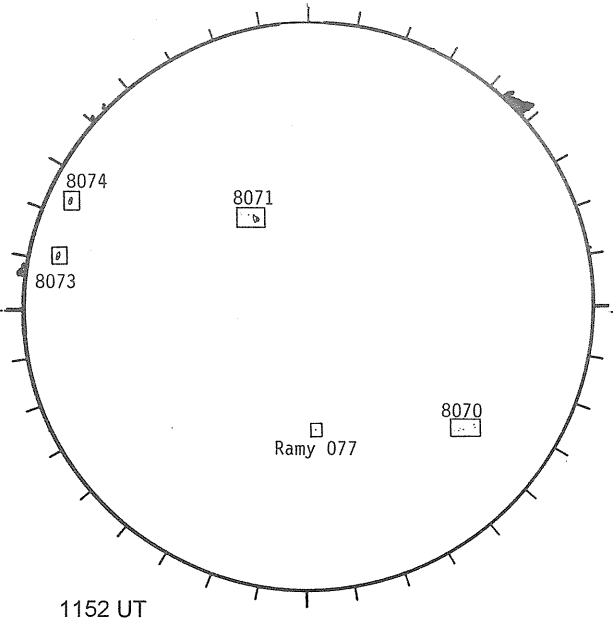


E-

1345 UT

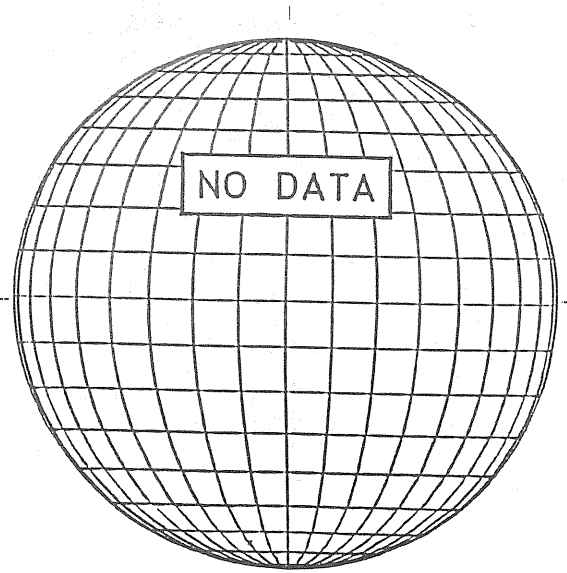
S

RAMEY SUNSPOT



1152 UT
0825 UT VALA Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----



--W

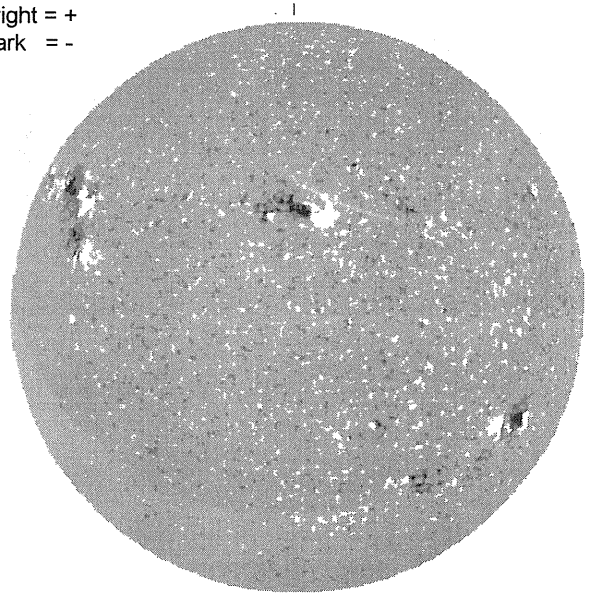
S

AUGUST 13, 1997 (P= 15.32, Bo = 6.55, Lo = 343.09)

KITT PEAK MAGNETOGRAM

N **868.8 nm**

Bright = +
Dark = -



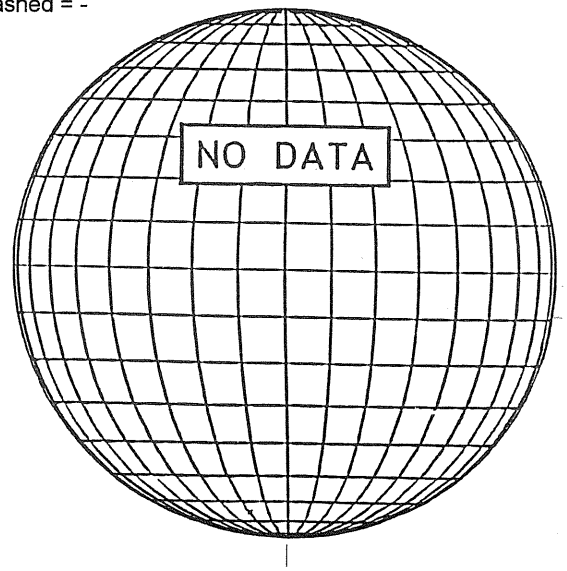
E-

1737 UT

STANFORD MAGNETOGRAM

N

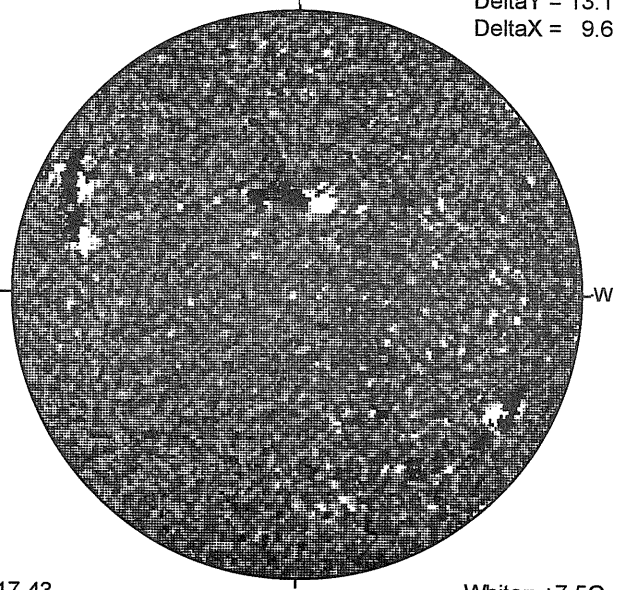
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

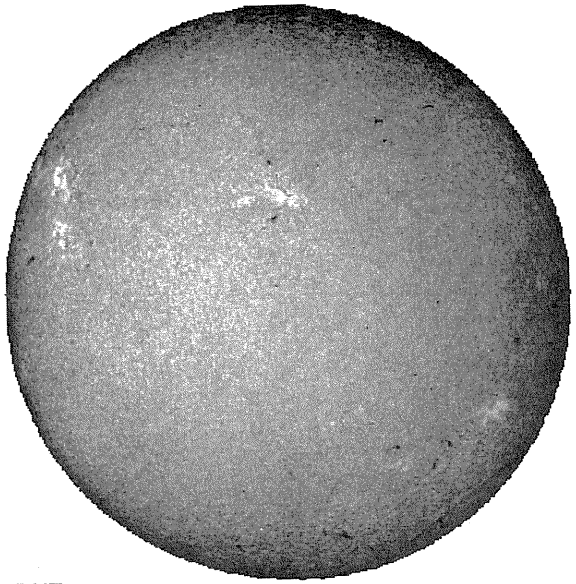


-W

17.43 -
18.36 UT

White= +7.5G
Black = -7.5G

---- SACRAMENTO PEAK H-ALPHA

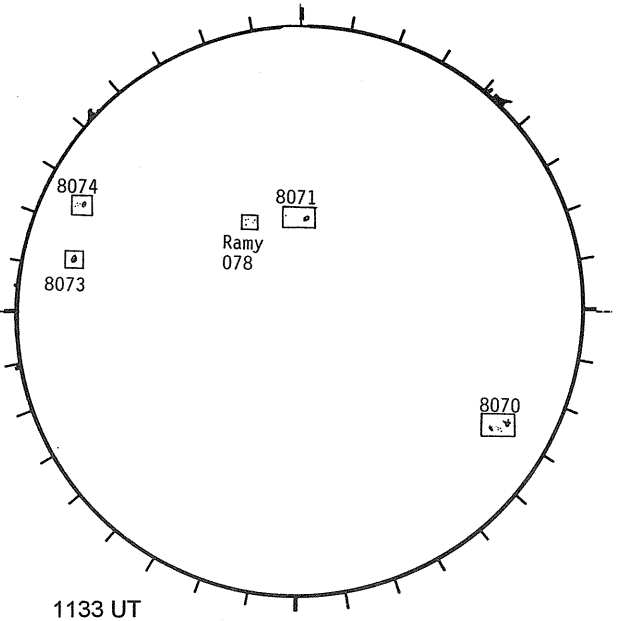


E--

1325 UT

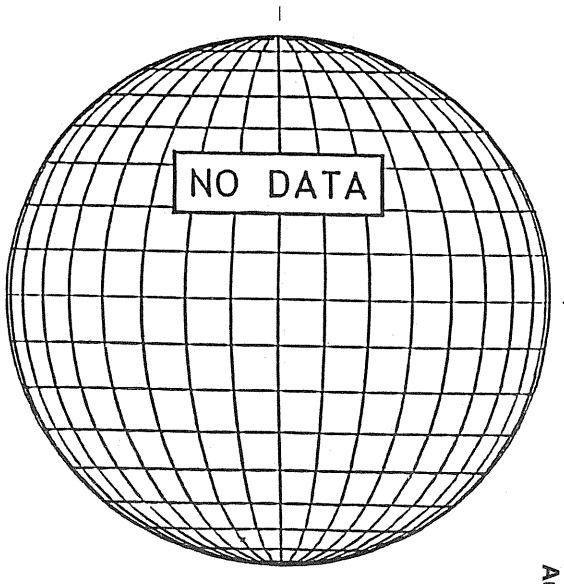
S

RAMEY SUNSPOT



1133 UT
0723 UT VALA Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----



-W

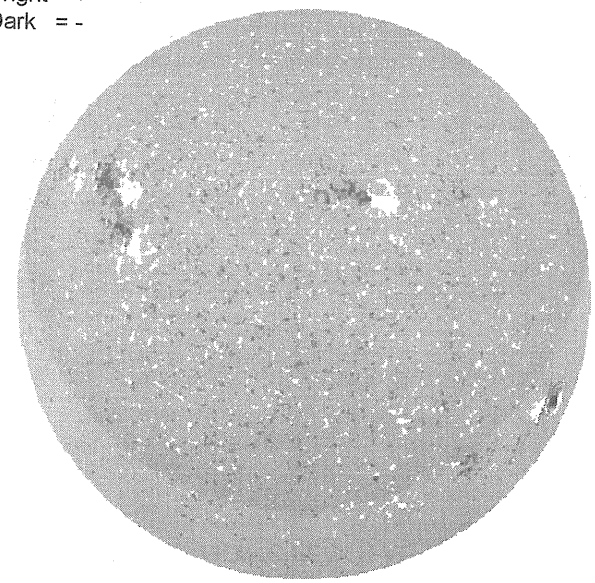
S

AUGUST 14, 1997 (P= 15.66, Bo = 6.60, Lo= 329.87)

KITT PEAK MAGNETOGRAM

N **868.8 nm**

Bright = +
Dark = -



E-

1637 UT

STANFORD MAGNETOGRAM

N

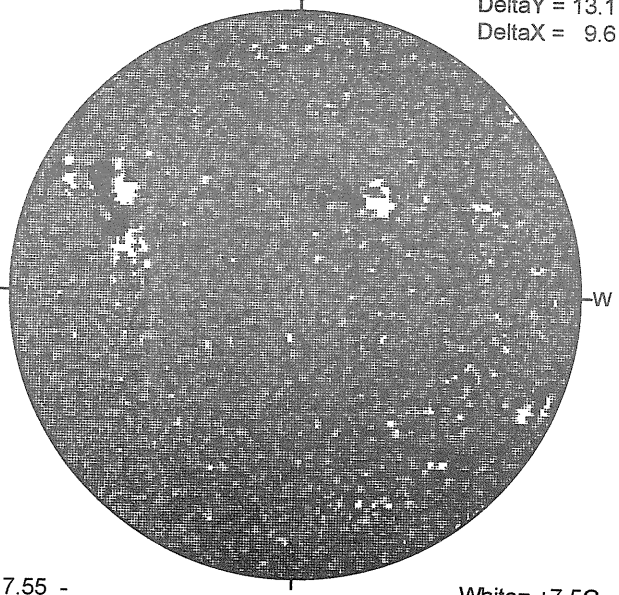
Solid = +
Dashed = -

2141 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

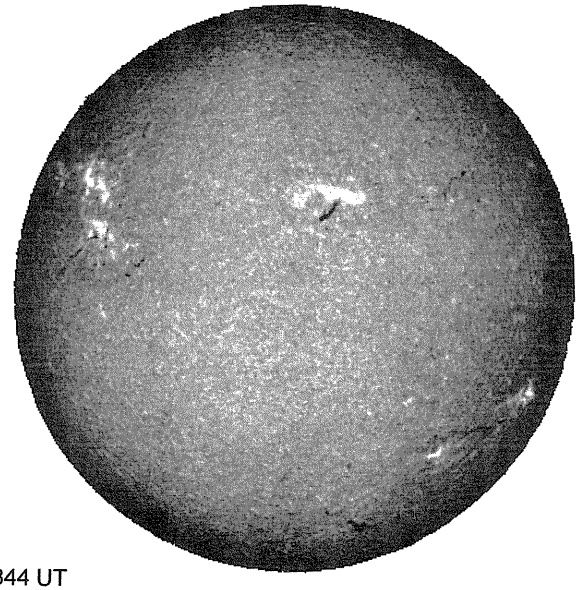


W

17.55 -
18.47 UT

White= +7.5G
Black = -7.5G

---- MEUDON H-ALPHA

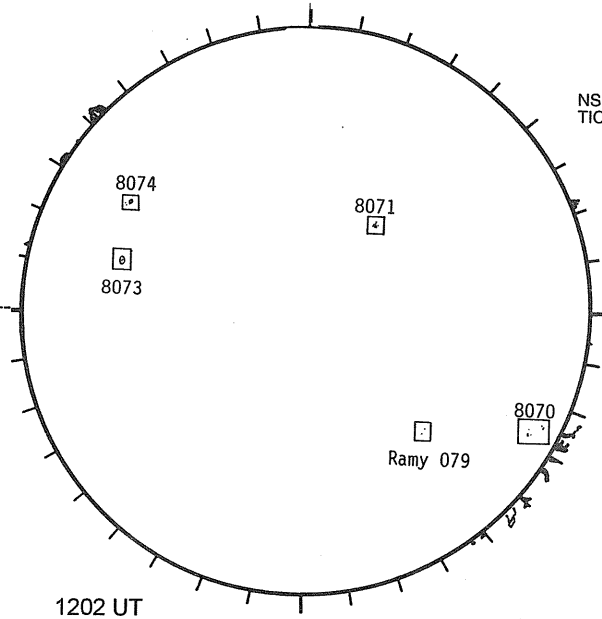


E-

0844 UT

S

RAMEY SUNSPOT

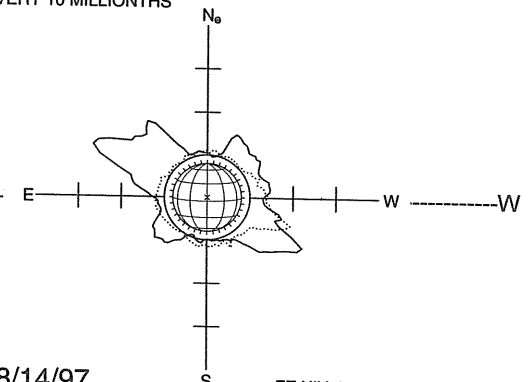


1202 UT
0857 UT VALA Prom

S

SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 10 MILLIONTHS



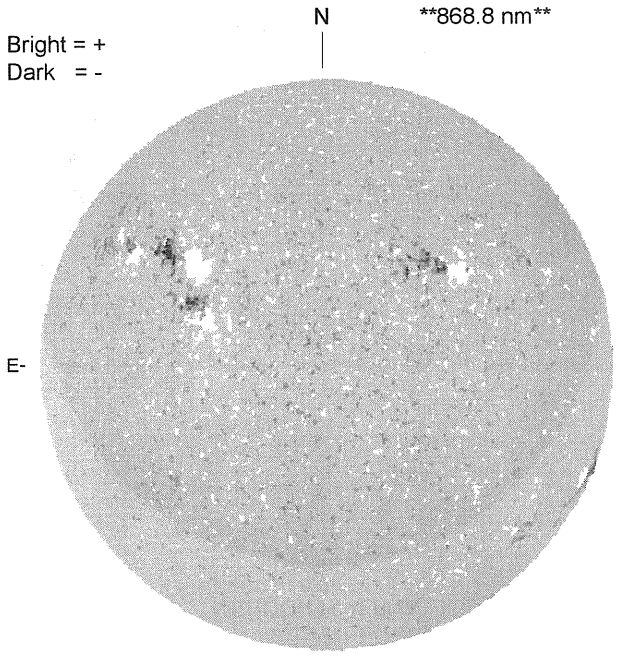
08/14/97
(DOY 226)

FE XIV 16:11 UT 1.15 R_e
FE X 17:00 UT 1.15 R_e
xxxxx CA XV 16:43 UT 1.15 R_e
NO CA XV ACTIVITY TODAY

S

AUGUST 15, 1997 (P= 16.01, Bo = 6.65, Lo = 316.65)

KITT PEAK MAGNETOGRAM

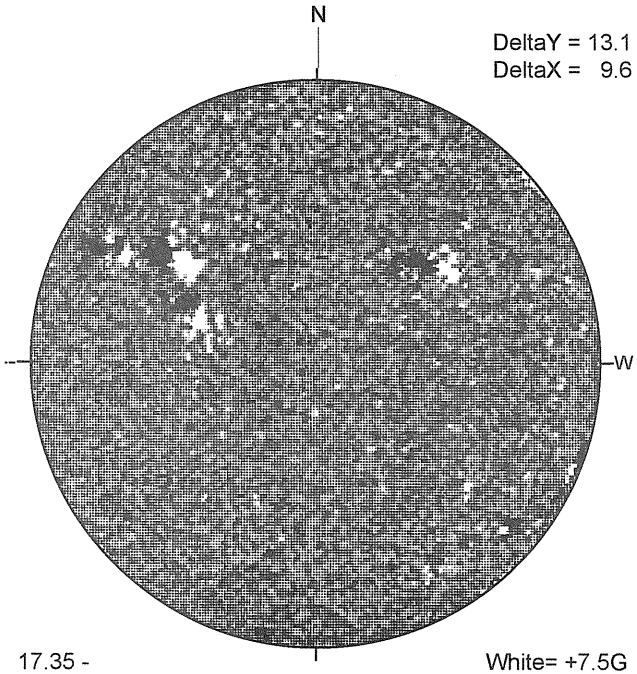


1540 UT

STANFORD MAGNETOGRAM

2039 UT

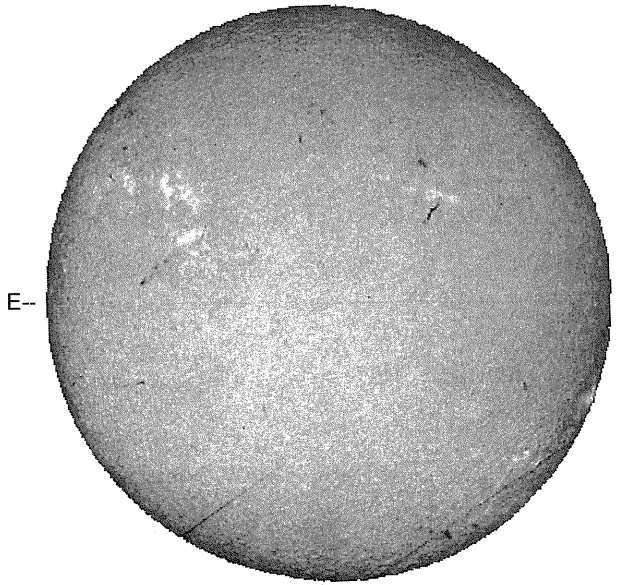
MT. WILSON MAGNETOGRAM



17.35 -
18.28 UT

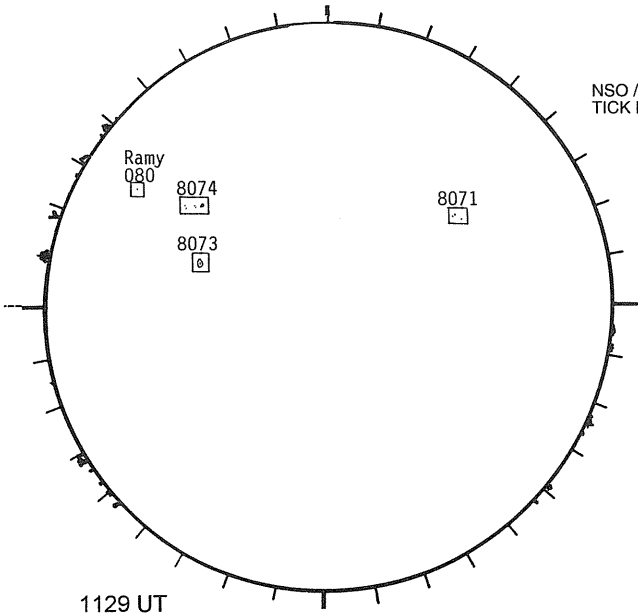
White= +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



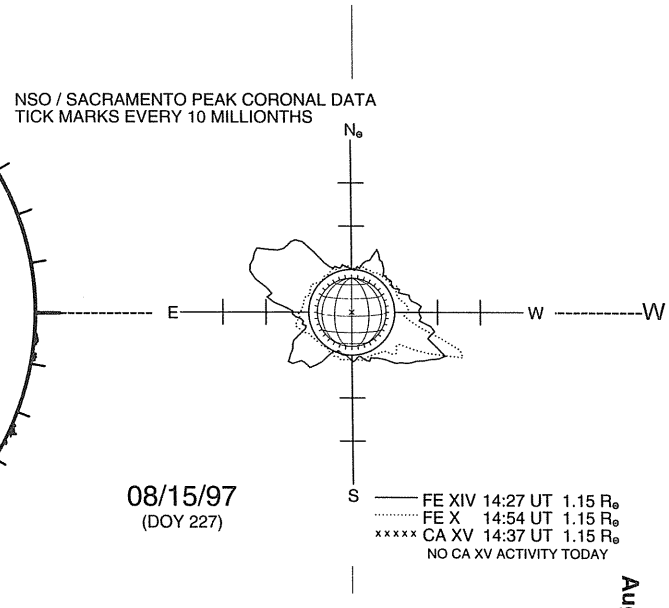
1338 UT

RAMEY SUNSPOT



1129 UT
1030 UT VALA Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----



S

59
Aug 97

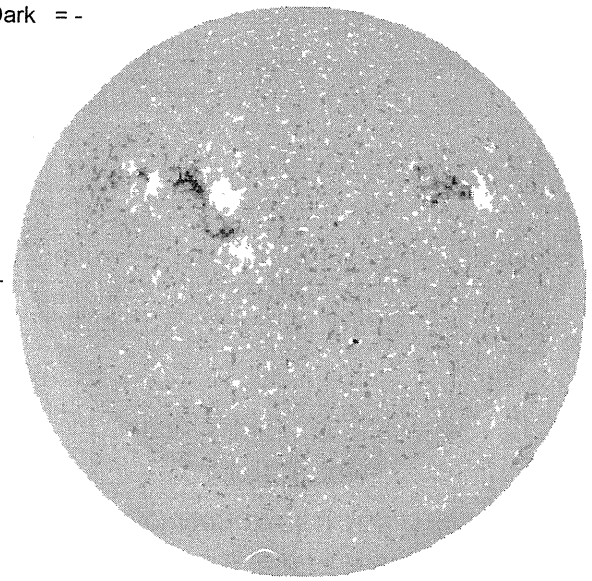
AUGUST 16, 1997 (P= 16.34, Bo = 6.69, Lo = 303.43)

KITT PEAK MAGNETOGRAM

N

868.8 nm

Bright = +
Dark = -



E-

1643 UT

STANFORD MAGNETOGRAM

N

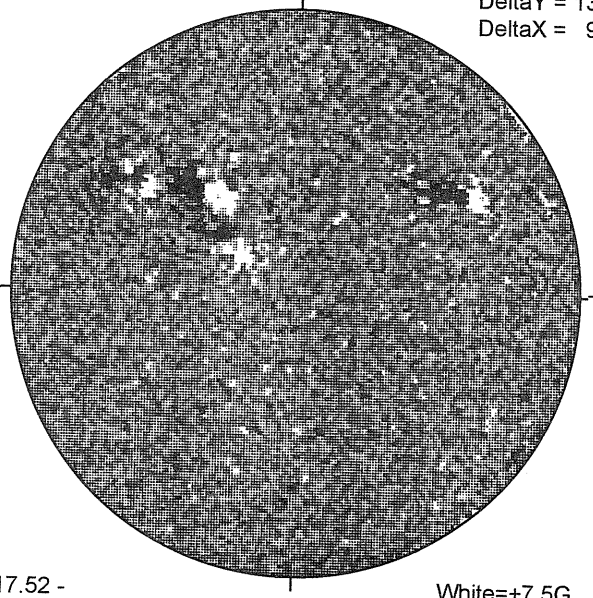
Solid = +
Dashed = -

2023 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

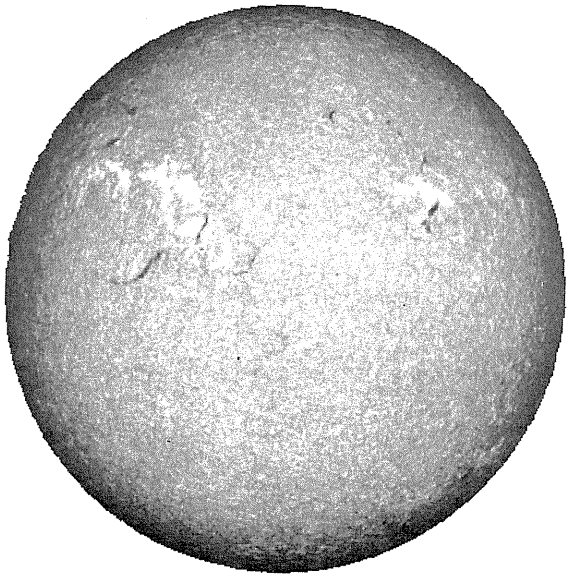


-W

17.52 -
18.44 UT

White=+7.5G
Black = 7.5G

MEUDON H-ALPHA

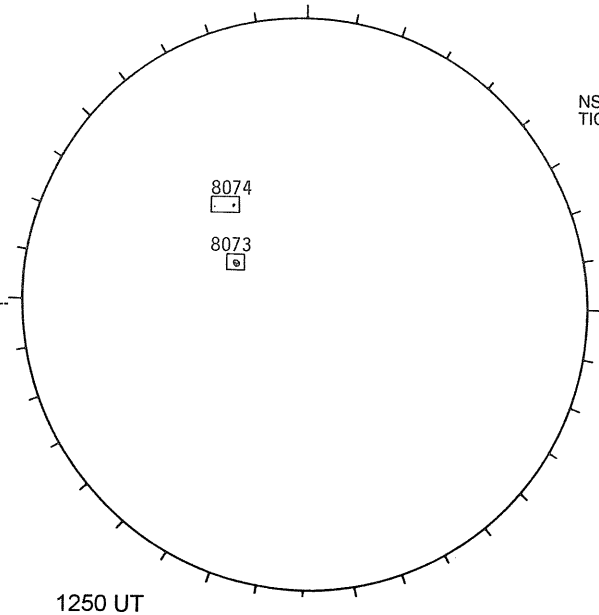


E-

0646 UT

S

RAMEY SUNSPOT

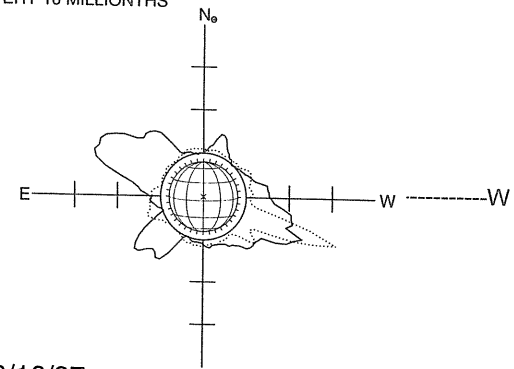


1250 UT

S

SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 10 MILLIONTHS



08/16/97
(DOY 228)

FE XIV 16:56 UT 1.15 R_e
FE X 17:46 UT 1.15 R_e
xxxxx CA XV 18:43 UT 1.15 R_e
NO CA XV ACTIVITY TODAY

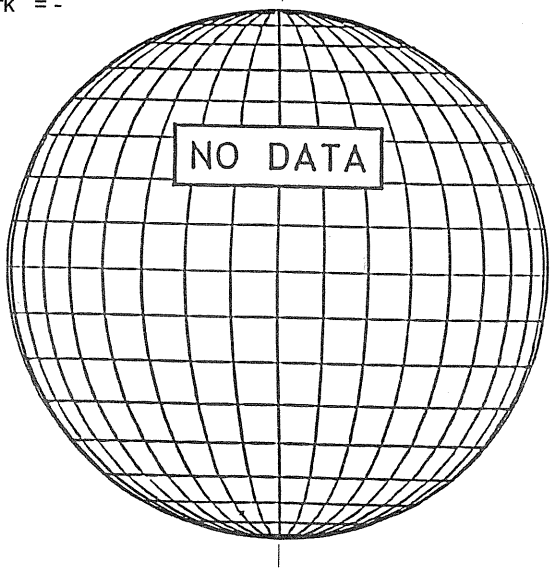
S

AUGUST 17, 1997 (P= 16.68, Bo = 6.74, Lo = 290.22)

KITT PEAK MAGNETOGRAM

N **868.8 nm**

Bright = +
Dark = -



E--

STANFORD MAGNETOGRAM

N

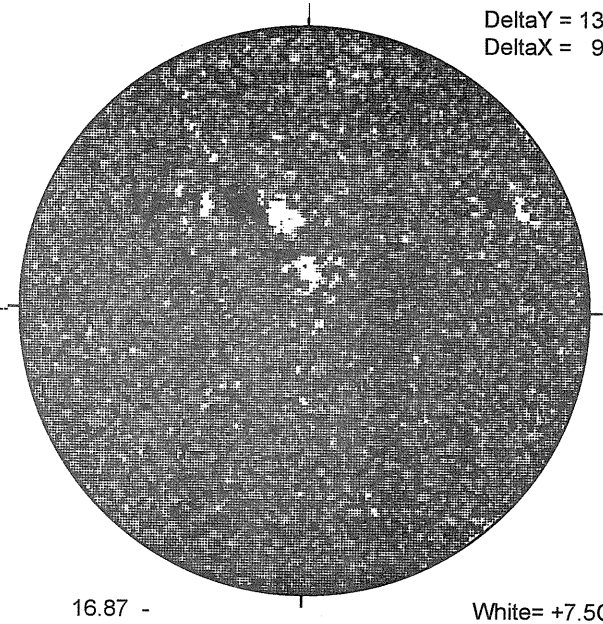
Solid = +
Dashed = -

2231 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

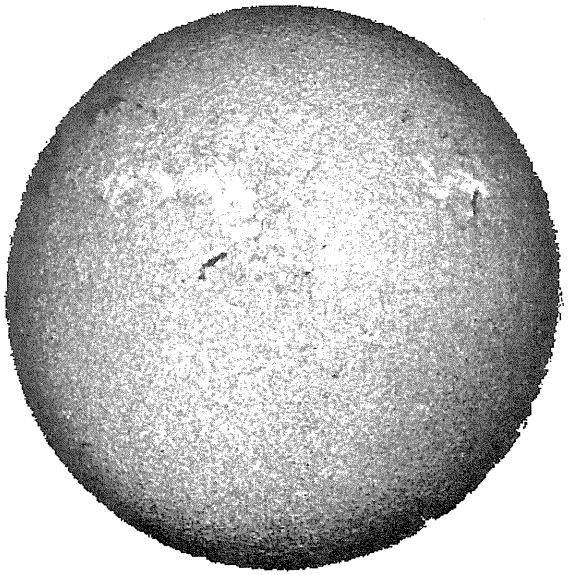


-W

16.87 -
17.80 UT

White= +7.5G
Black = -7.5G

MEUDON H-ALPHA

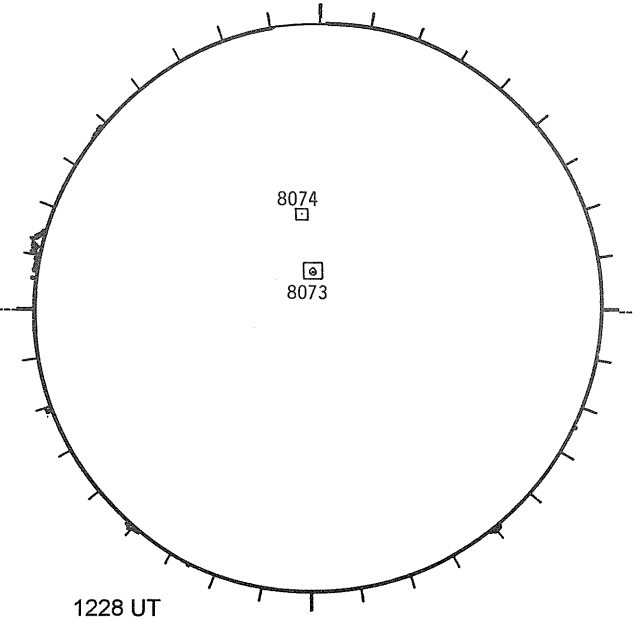


E-

0727 UT

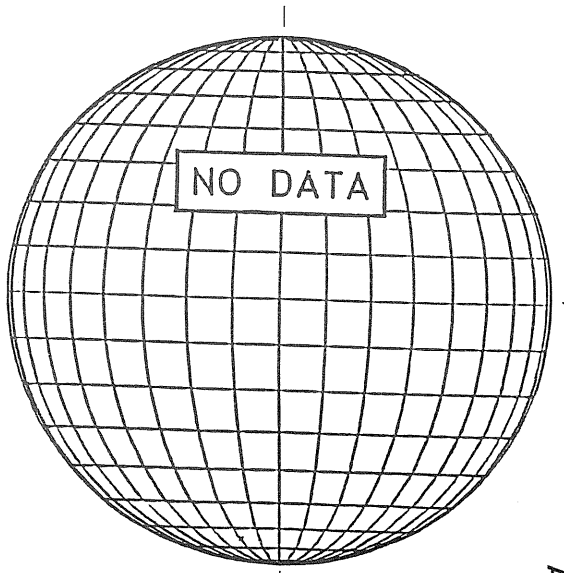
S

RAMEY SUNSPOT



1228 UT
0759 UT VALA Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----



-W

S

61
Aug 97

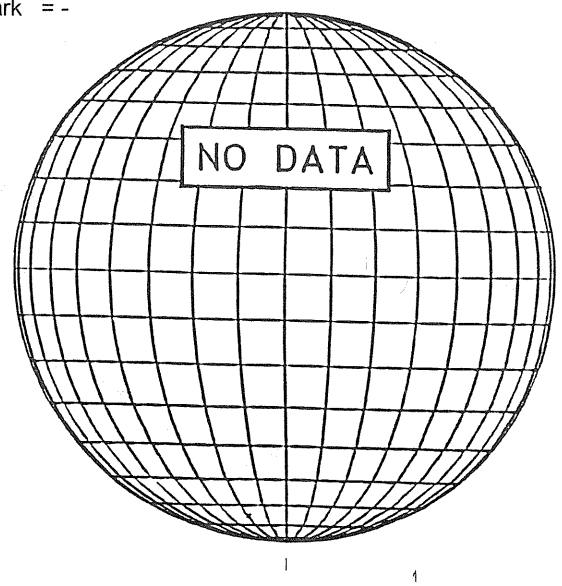
AUGUST 18, 1997 (P= 17.00, Bo = 6.78, Lo = 277.00)

KITT PEAK MAGNETOGRAM

N

868.8 nm

Bright = +
Dark = -



STANFORD MAGNETOGRAM

N

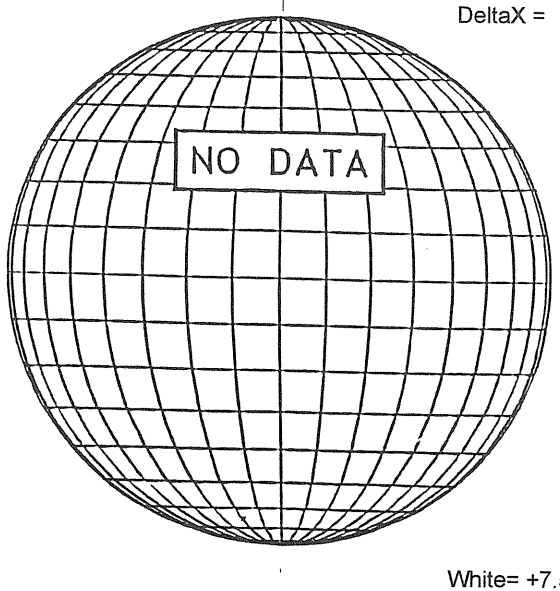
Solid = +
Dashed = -

2114 UT

MT. WILSON MAGNETOGRAM

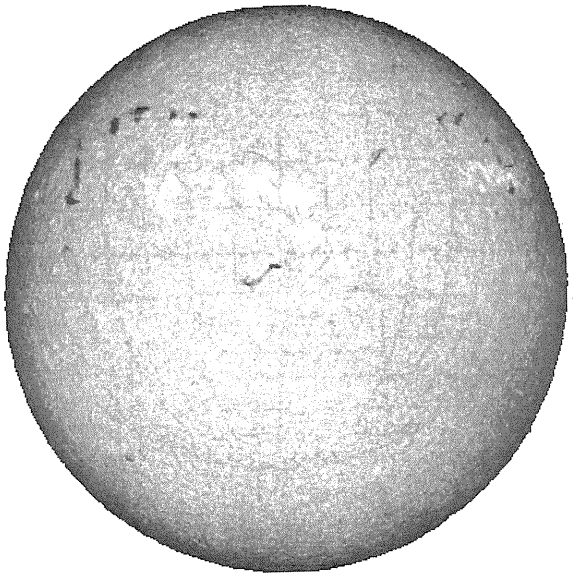
N

DeltaY =
DeltaX =



White= +7.5G
Black = -7.5G

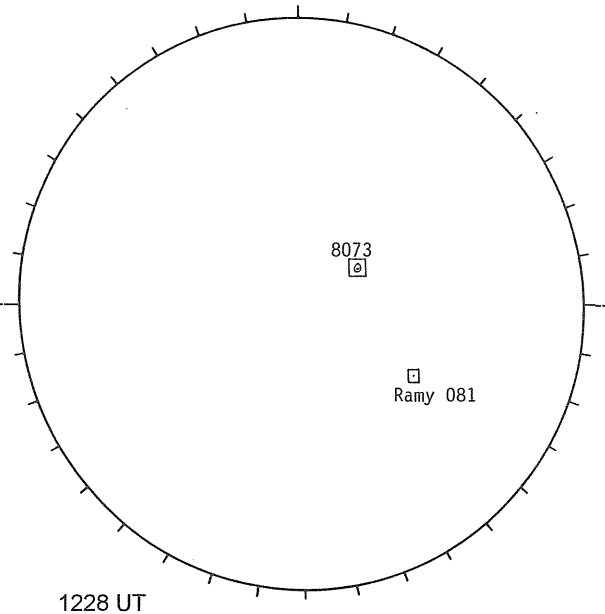
MEUDON H-ALPHA



0639 UT

S

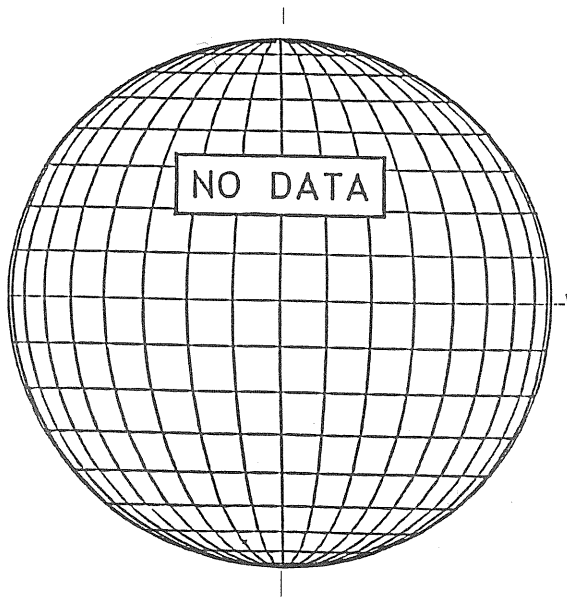
RAMEY SUNSPOT



1228 UT

S

SACRAMENTO PEAK CORONA (1.15 Radii)----



S

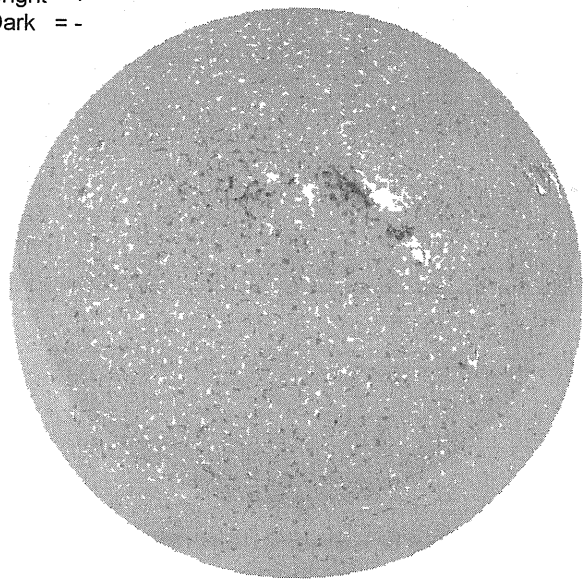
AUGUST 19, 1997 (P= 17.33, Bo = 6.83, Lo = 263.78)

KITT PEAK MAGNETOGRAM

N

868.8 nm

Bright = +
Dark = -



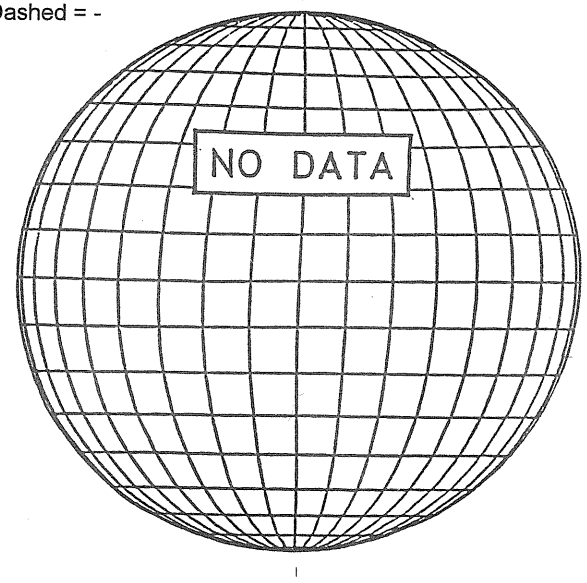
E

1433 UT

STANFORD MAGNETOGRAM

N

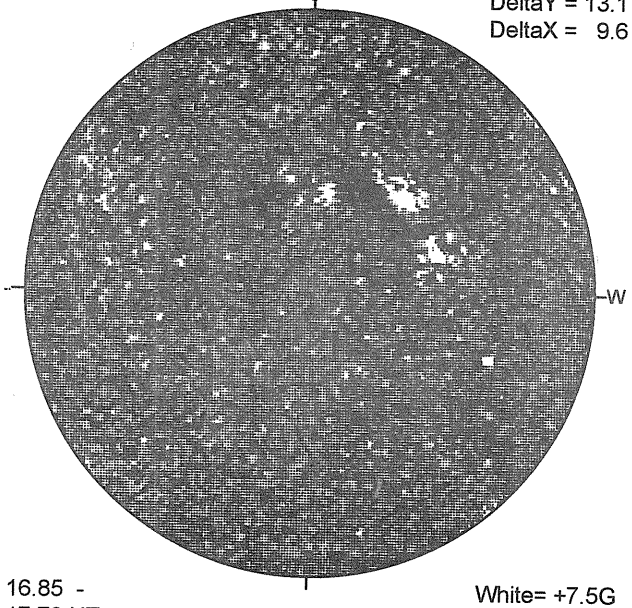
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

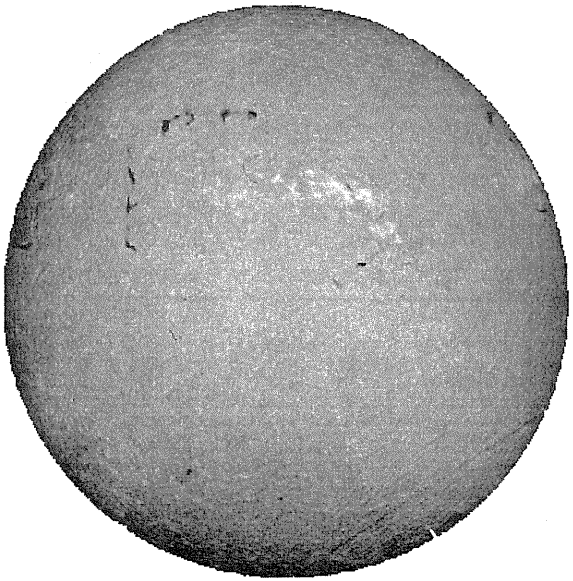


W

16.85 -
17.78 UT

White= +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA

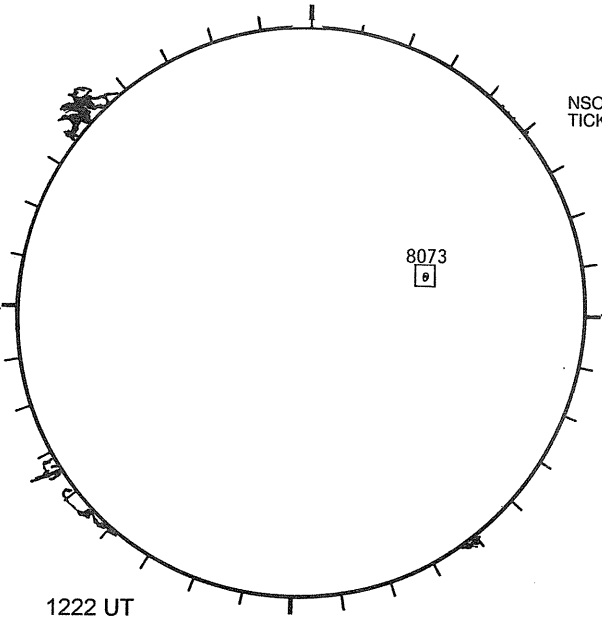


E

1335 UT

S

RAMEY SUNSPOT

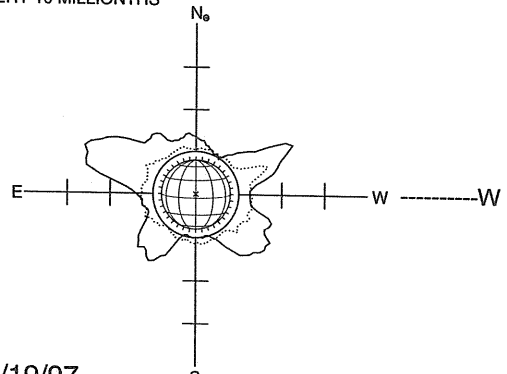


1222 UT
1037 UT VALA Prom

S

SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 10 MILLIONTHS



08/19/97
(DOY 231)

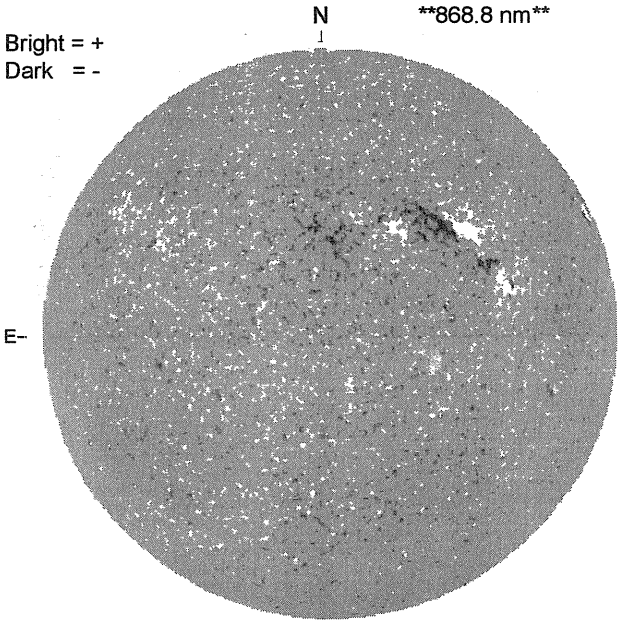
FE XIV 14:15 UT 1.15 $R_\odot$
FE X 15:08 UT 1.15 $R_\odot$
xxxxx CA XV 14:49 UT 1.15 $R_\odot$
NO CA XV ACTIVITY TODAY

S

63
Aug 97

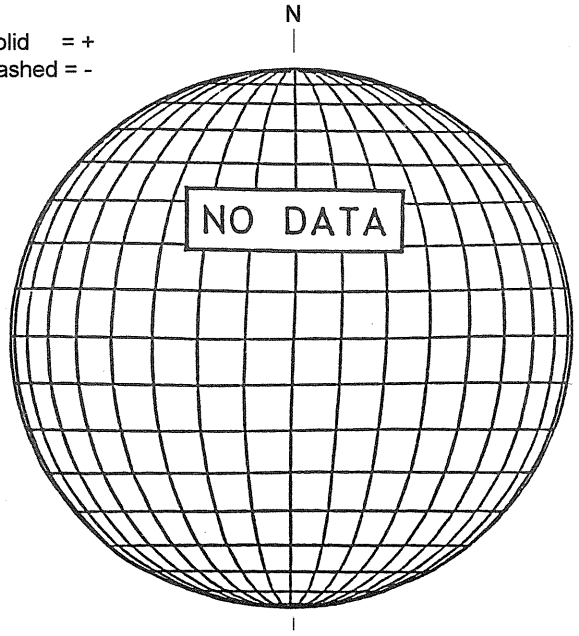
AUGUST 20, 1997 (P= 17.65, Bo = 6.87, Lo = 250.57)

KITT PEAK MAGNETOGRAM

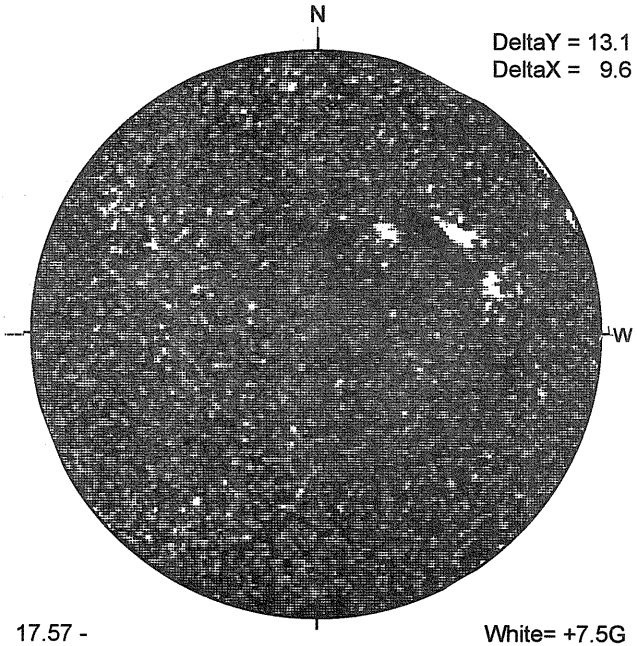


1524 UT

STANFORD MAGNETOGRAM



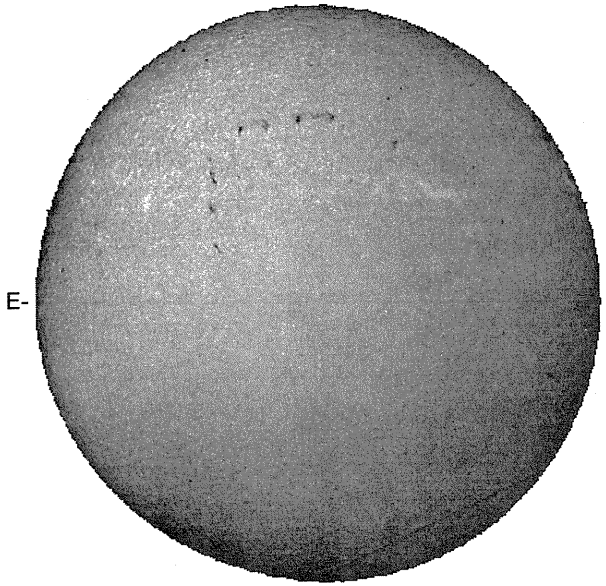
MT. WILSON MAGNETOGRAM



17.57 -
18.50 UT

White= +7.5G
Black = -7.5G

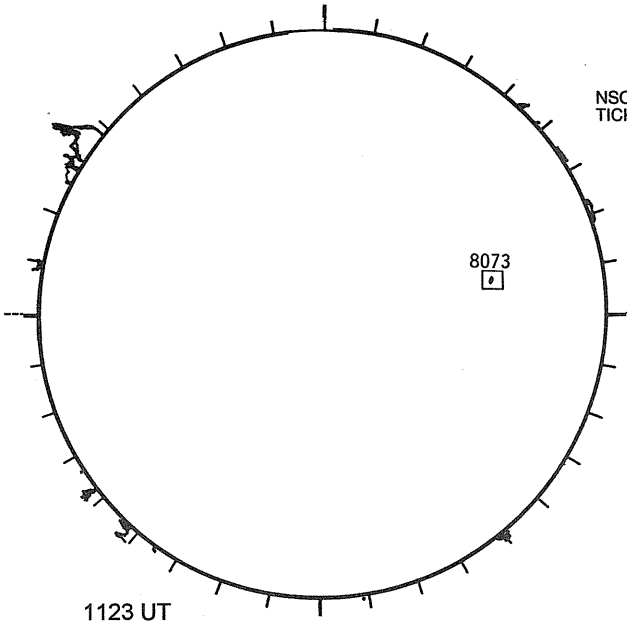
----- SACRAMENTO PEAK H-ALPHA



1403 UT

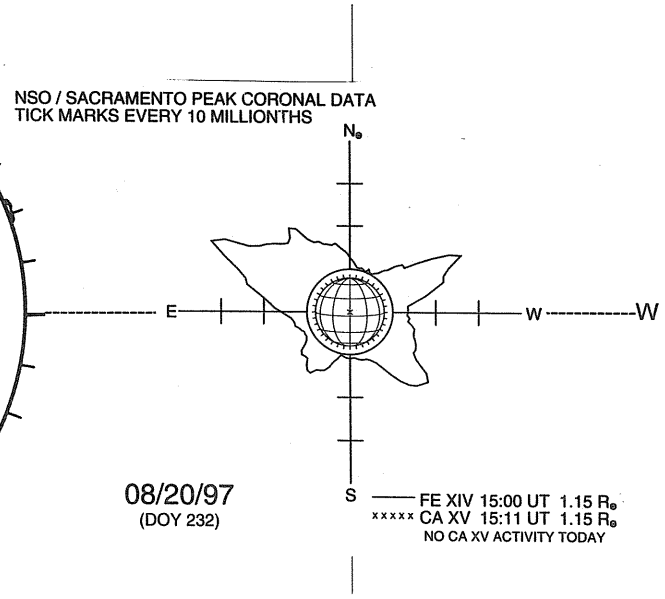
S

RAMEY SUNSPOT



1123 UT
0546 UT VALA Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----



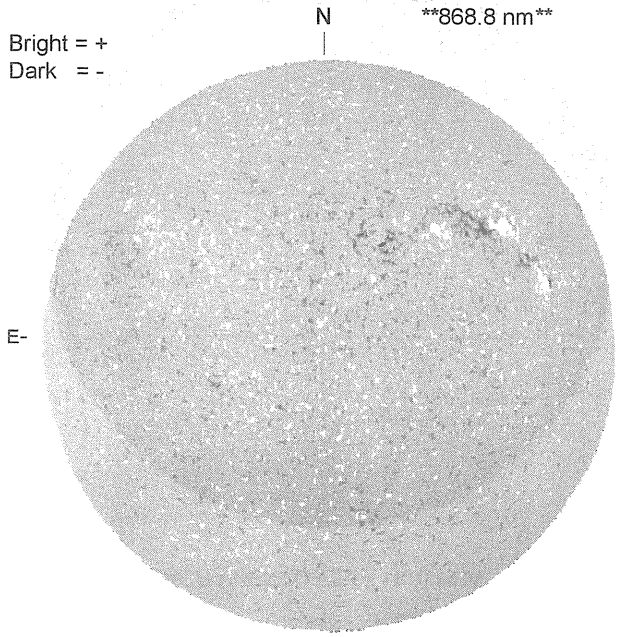
08/20/97
(DOY 232)

FE XIV 15:00 UT 1.15 $R_\odot$
xxxxx CA XV 15:11 UT 1.15 $R_\odot$
NO CA XV ACTIVITY TODAY

S

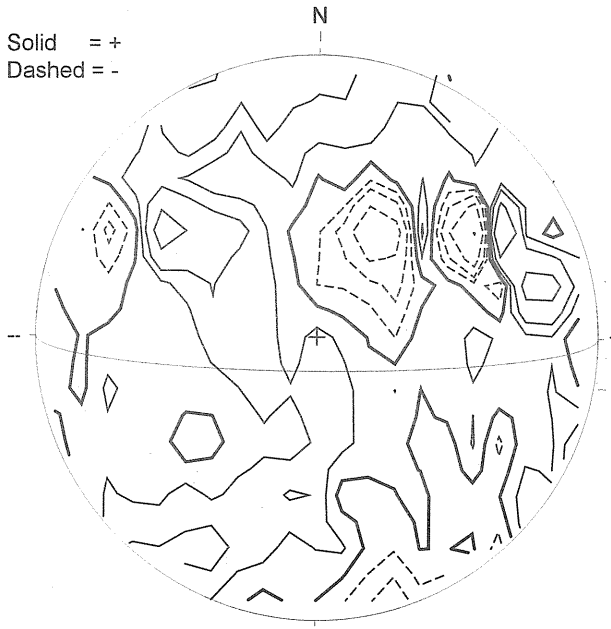
AUGUST 21, 1997 (P= 17.96, Bo = 6.90, Lo = 237.35)

KITT PEAK MAGNETOGRAM



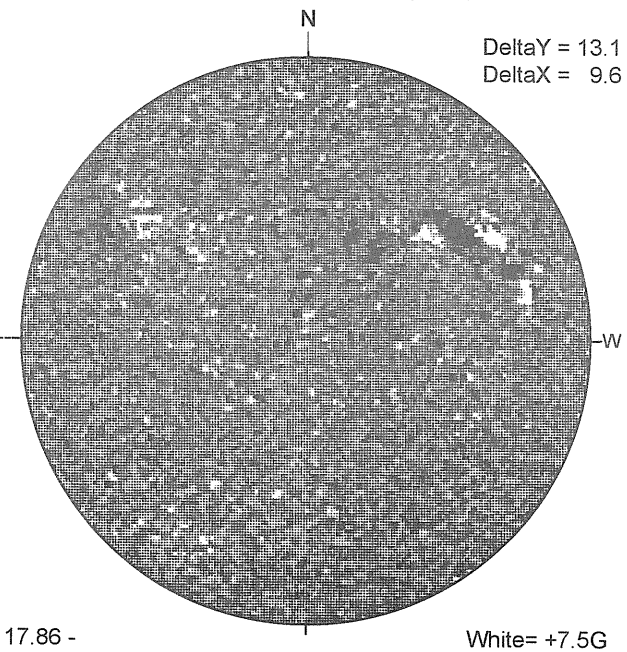
1438 UT

STANFORD MAGNETOGRAM



1907 UT

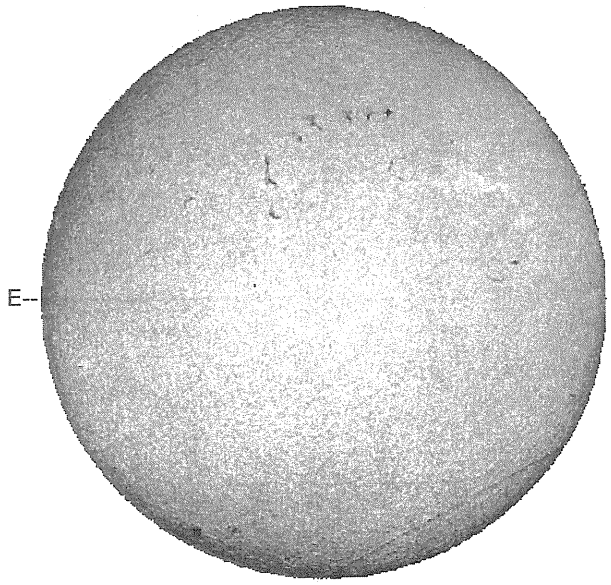
MT. WILSON MAGNETOGRAM



17.86 -
18.79 UT

White= +7.5G
Black = -7.5G

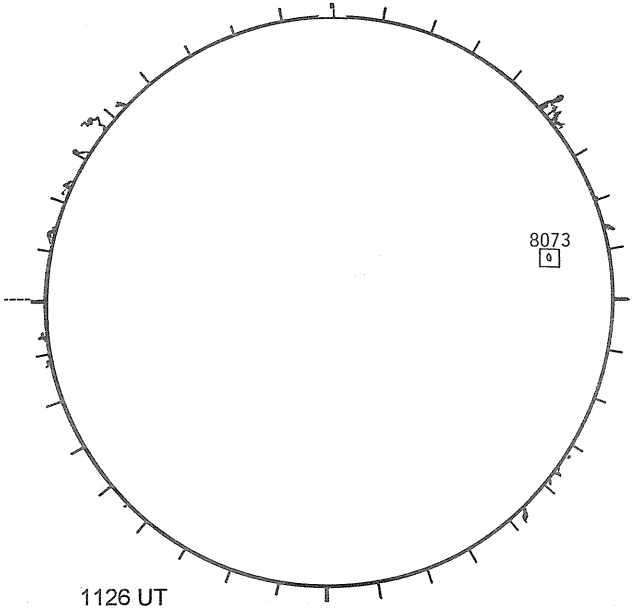
SACRAMENTO PEAK H-ALPHA



1349 UT

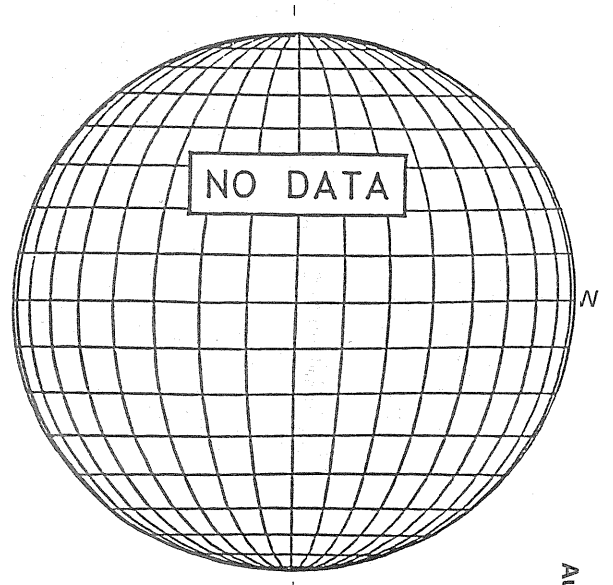
S

RAMEY SUNSPOT



1126 UT
0635 UT VALA Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)--



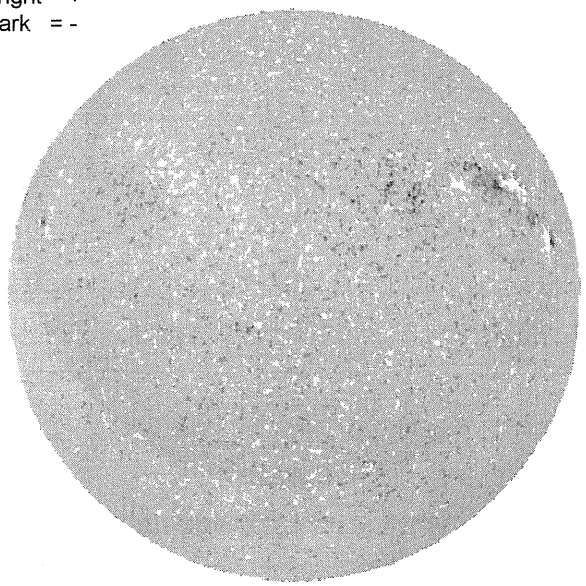
S

AUGUST 22, 1997 (P= 18.27, Bo = 6.94, Lo = 224.13)

KITT PEAK MAGNETOGRAM

N **868.8 nm**

Bright = +
Dark = -



1521 UT

STANFORD MAGNETOGRAM

N

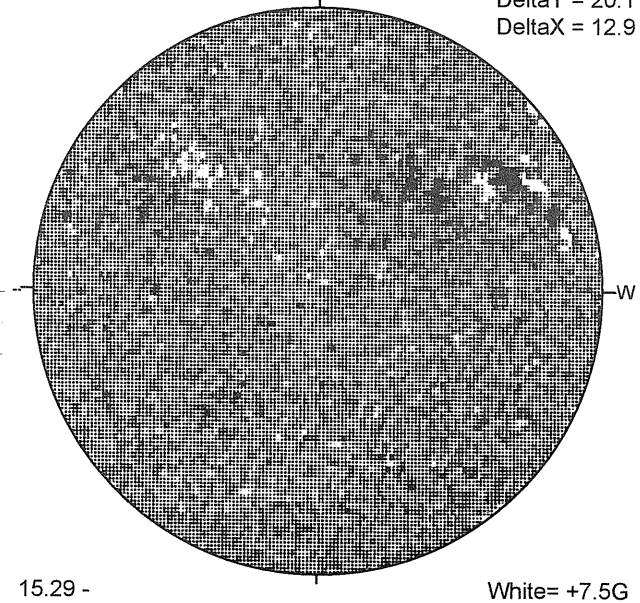
Solid = +
Dashed = -

2114 UT

MT. WILSON MAGNETOGRAM

N

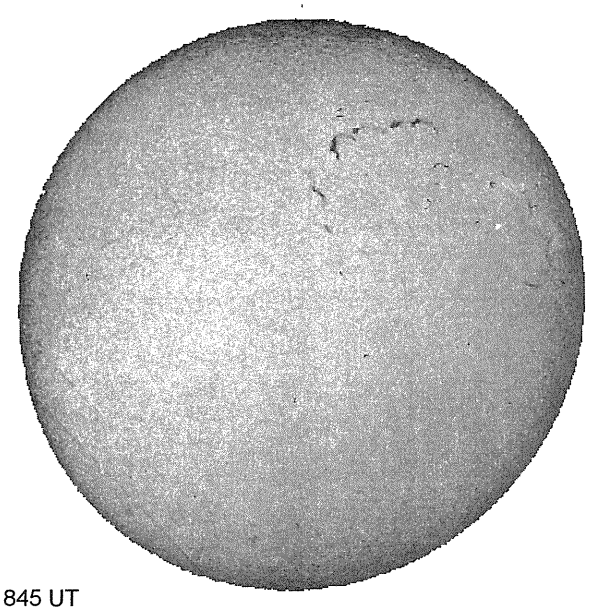
DeltaY = 20.1
DeltaX = 12.9



15.29 -
15.70 UT

White= +7.5G
Black = -7.5G

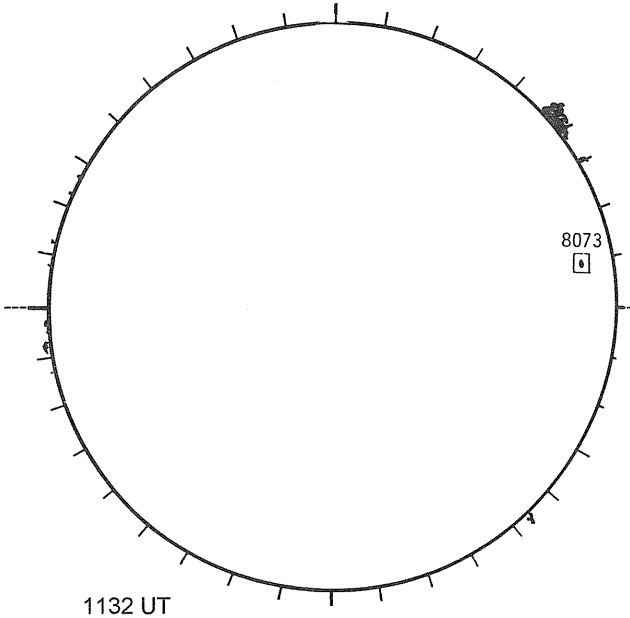
SACRAMENTO PEAK H-ALPHA



1845 UT

S

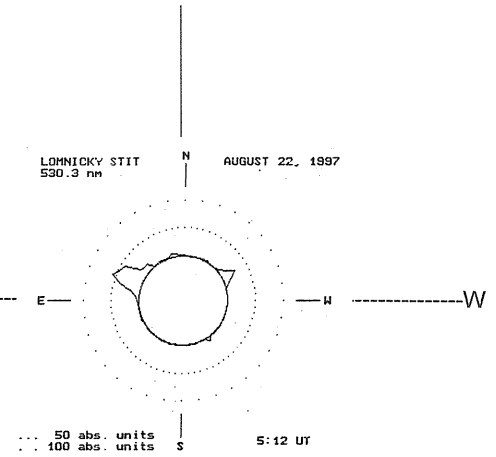
RAMEY SUNSPOT



1132 UT
0640 UT VALA Prom

S

LOMNICKY PEAK CORONA (1.04 Radii)



530.3 nm, 0512 UT
. . 50 abs. units
... 100 abs. units

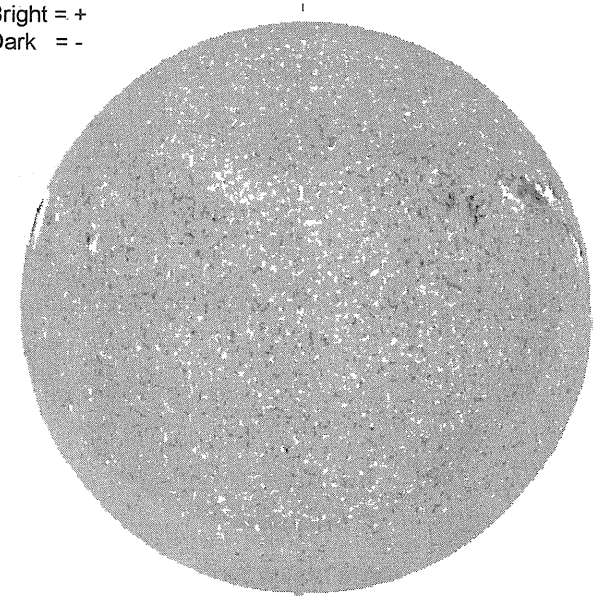
S

AUGUST 23, 1997 (P= 18.57, Bo = 6.98, Lo = 210.92)

KITT PEAK MAGNETOGRAM

N **868.8 nm**

Bright = +
Dark = -



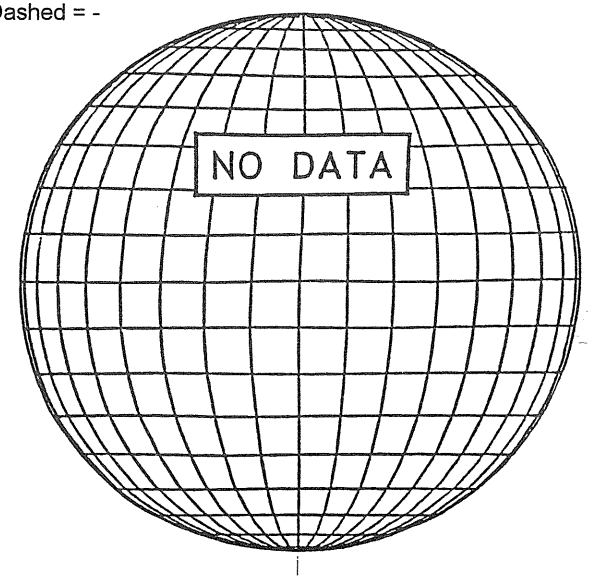
E

1435 UT

STANFORD MAGNETOGRAM

N

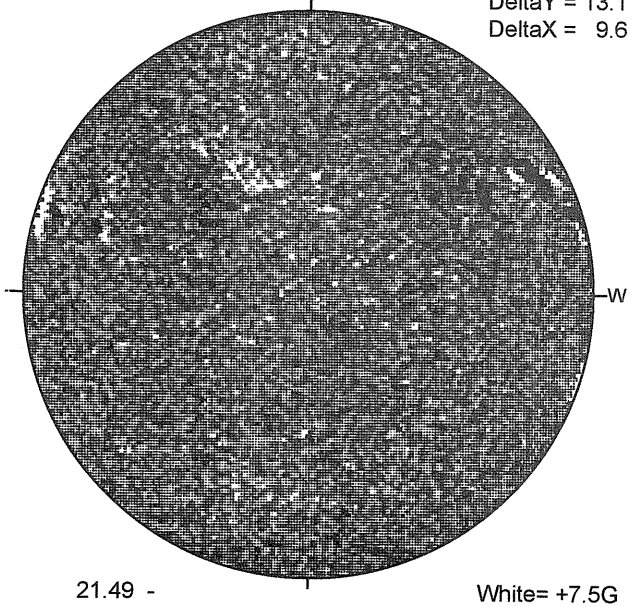
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

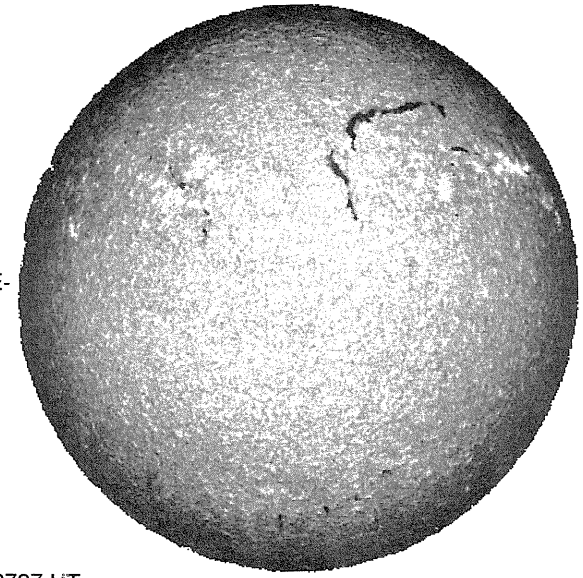


W

21.49 -
22.42 UT

White= +7.5G
Black = -7.5G

MEUDON H-ALPHA

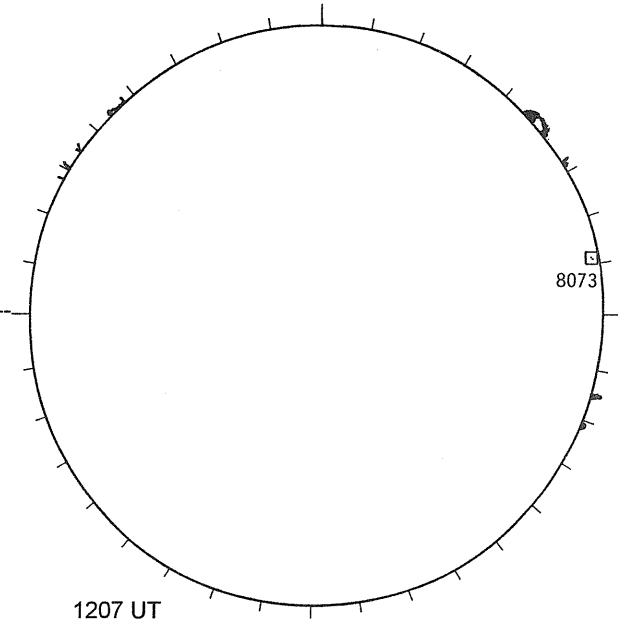


E-

0737 UT

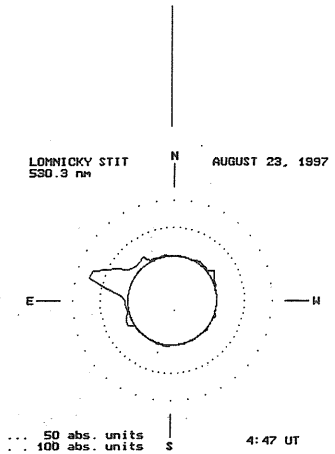
S

RAMEY SUNSPOT



1207 UT
0424 UT LOMN Prom S

LOMNICKY PEAK CORONA (1.04 Radii)



530.3 nm, 0447 UT
... 50 abs. units
. . 100 abs. units

S

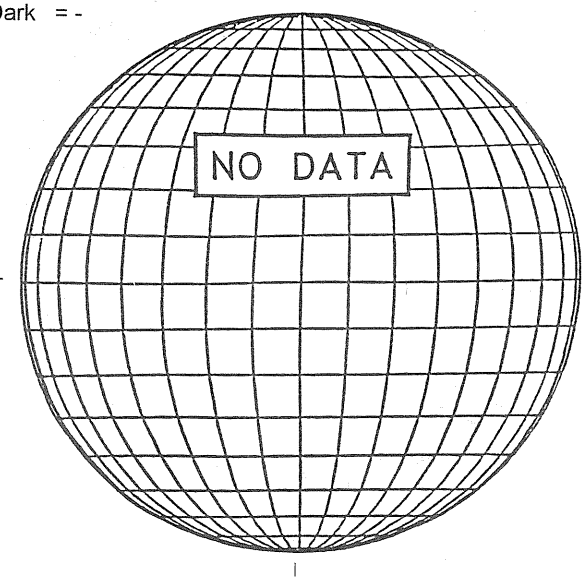
67
Aug 97

AUGUST 24, 1997 (P= 18.87, Bo = 7.01, Lo = 197.71)

KITT PEAK MAGNETOGRAM

N **868.8 nm**

Bright = +
Dark = -



STANFORD MAGNETOGRAM

N

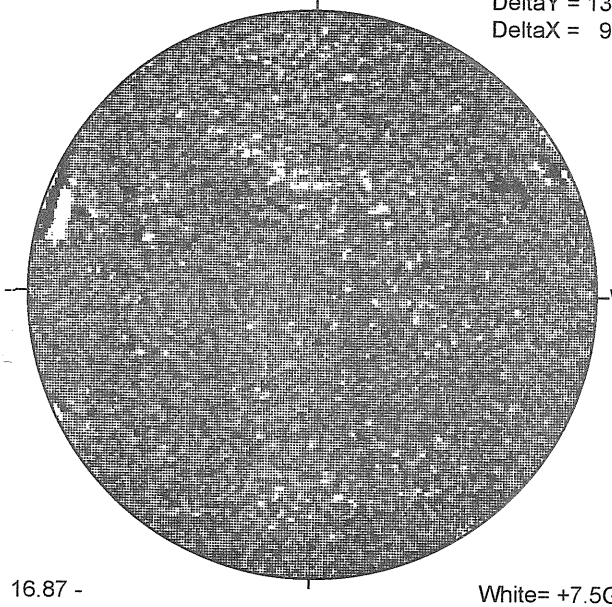
Solid = +
Dashed = -

1939 UT

MT. WILSON MAGNETOGRAM

N

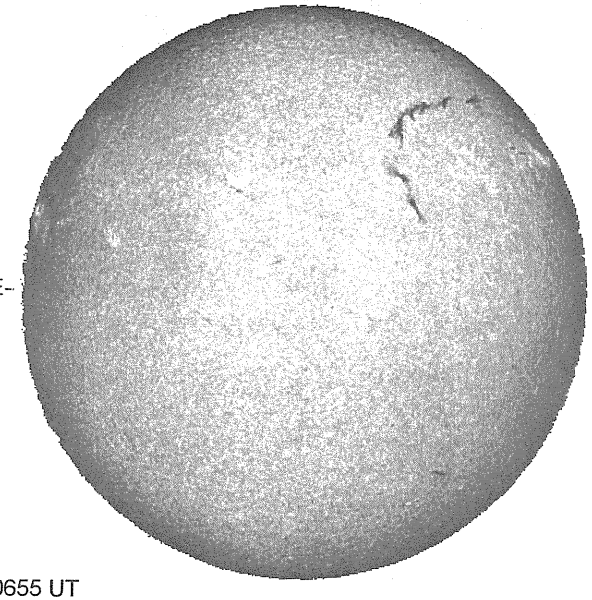
DeltaY = 13.1
DeltaX = 9.6



16.87 -
17.80 UT

White= +7.5G
Black = -7.5G

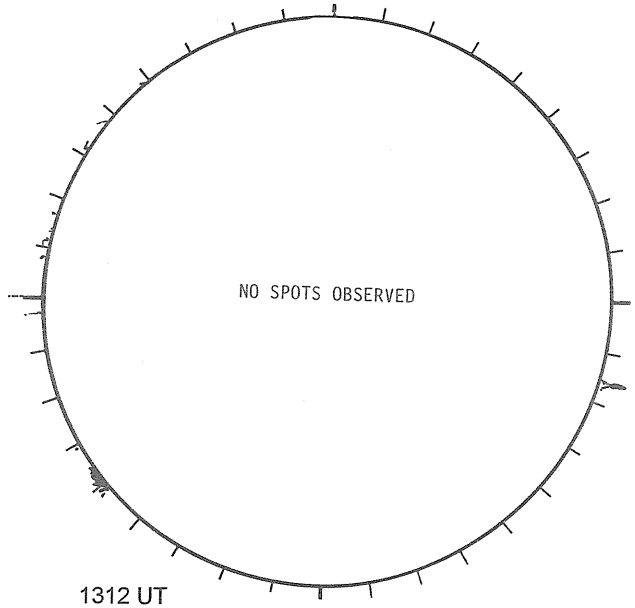
MEUDON H-ALPHA



0655 UT

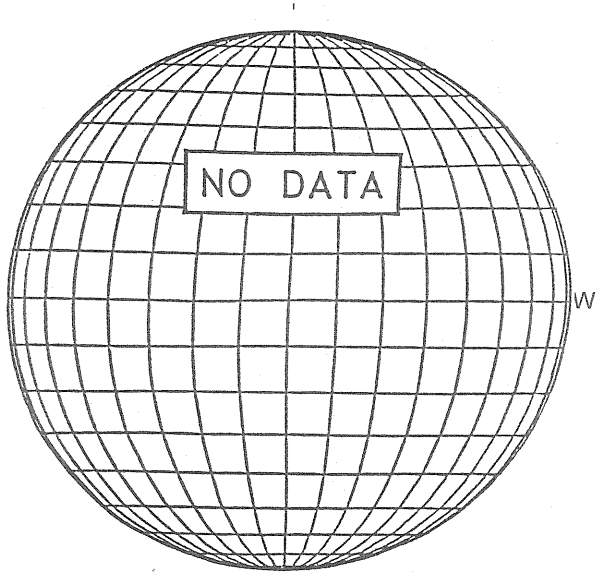
S

RAMEY SUNSPOT



1312 UT
0921 UT VALA Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----



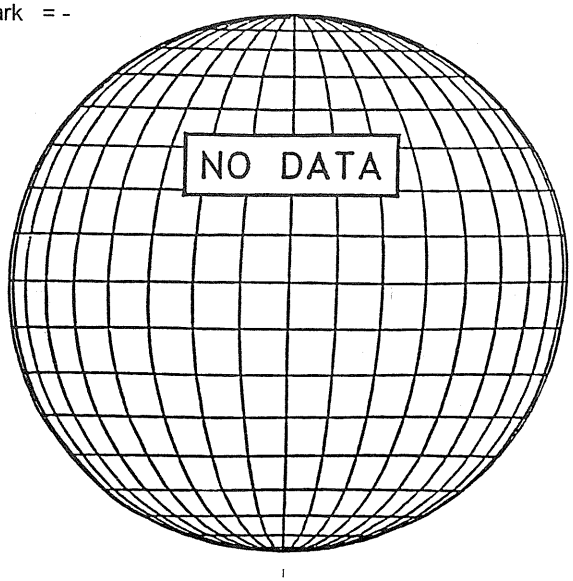
S

AUGUST 25, 1997 (P= 19.17, Bo = 7.04, Lo = 184.49)

KITT PEAK MAGNETOGRAM

N **868.8 nm**

Bright = +
Dark = -



STANFORD MAGNETOGRAM

N

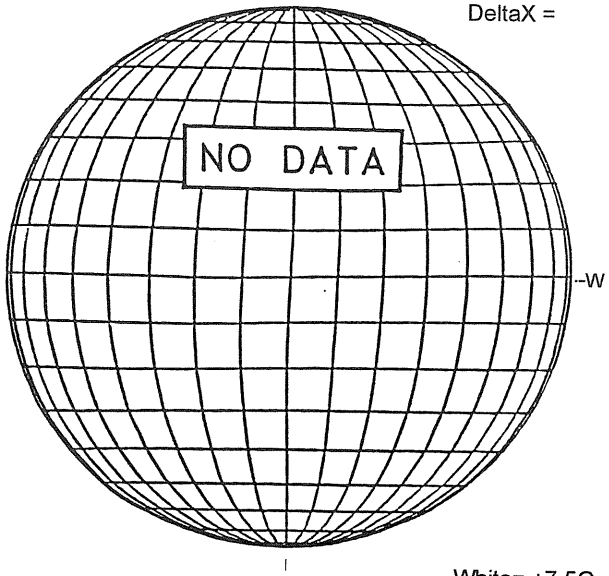
Solid = +
Dashed = -

2121 UT

MT. WILSON MAGNETOGRAM

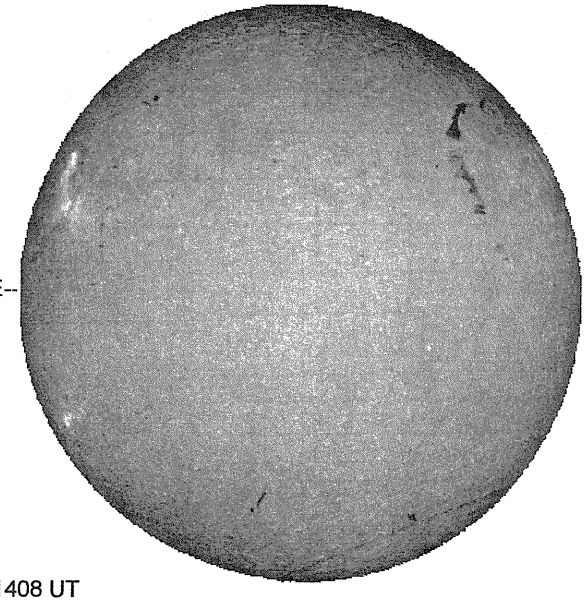
N

DeltaY =
DeltaX =



White= +7.5G
Black = -7.5G

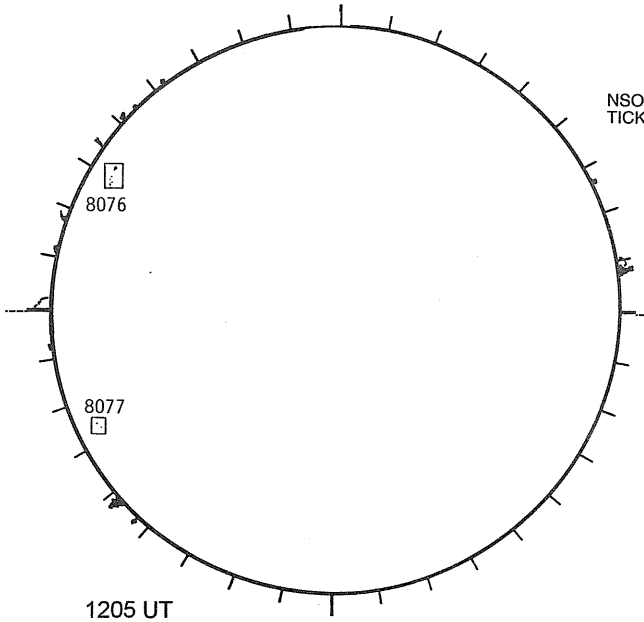
----- SACRAMENTO PEAK H-ALPHA



1408 UT

S

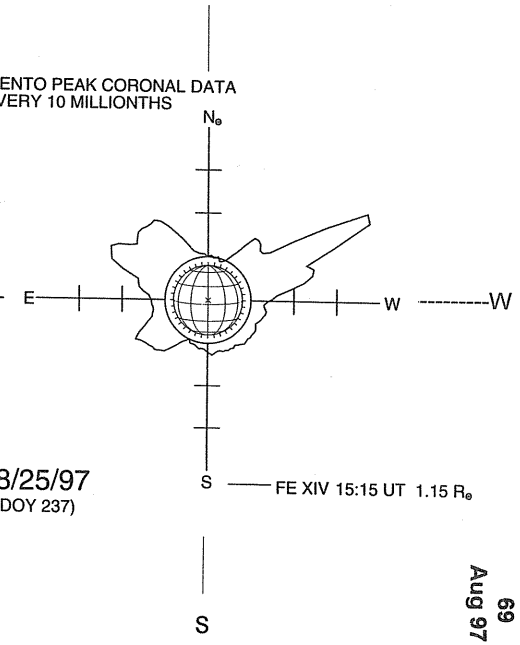
RAMEY SUNSPOT



1205 UT
1016 UT VALA Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 10 MILLIONTHS



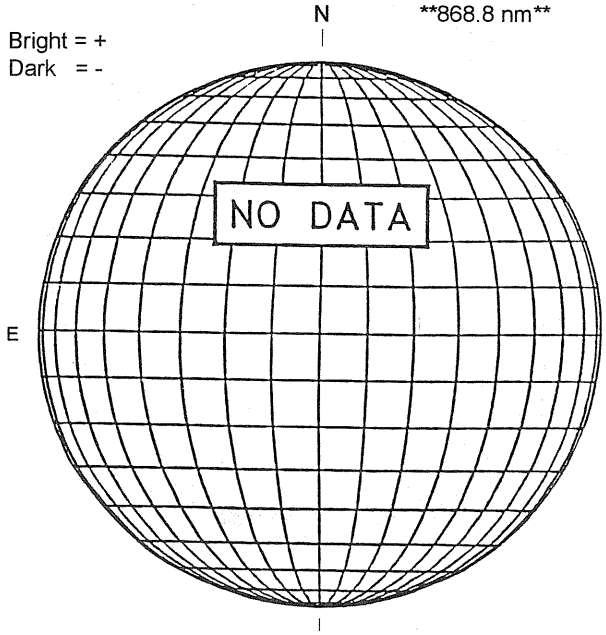
08/25/97
(DOY 237)

FE XIV 15:15 UT 1.15 R⊙

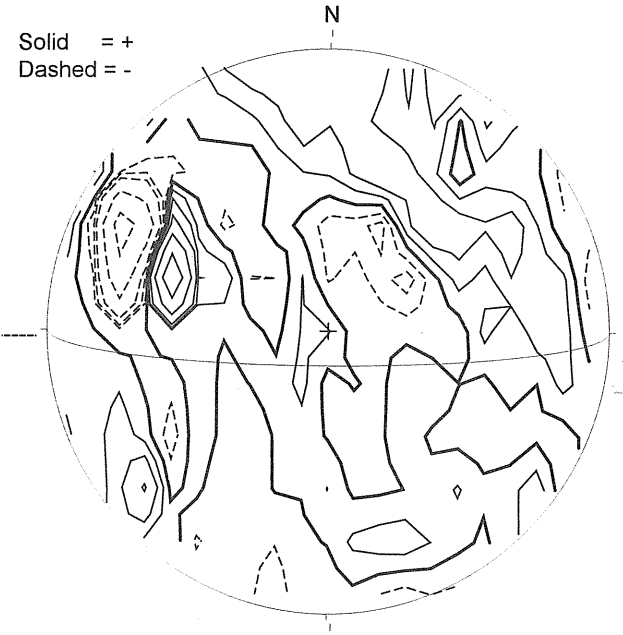
S

AUGUST 26, 1997 (P= 19.45, Bo = 7.07, Lo = 171.28)

KITT PEAK MAGNETOGRAM

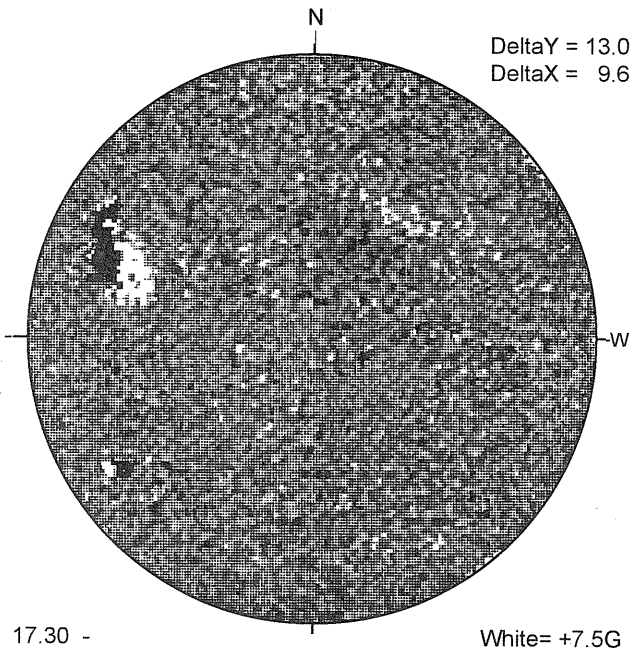


STANFORD MAGNETOGRAM



2216 UT

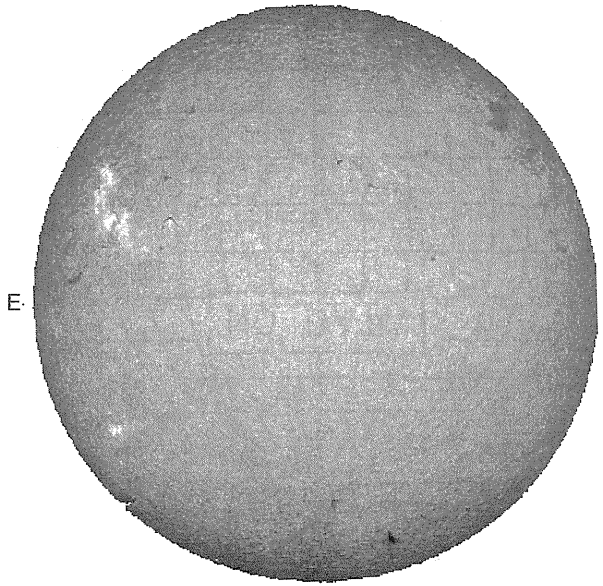
MT. WILSON MAGNETOGRAM



17.30 -
18.23 UT

White= +7.5G
Black = -7.5G

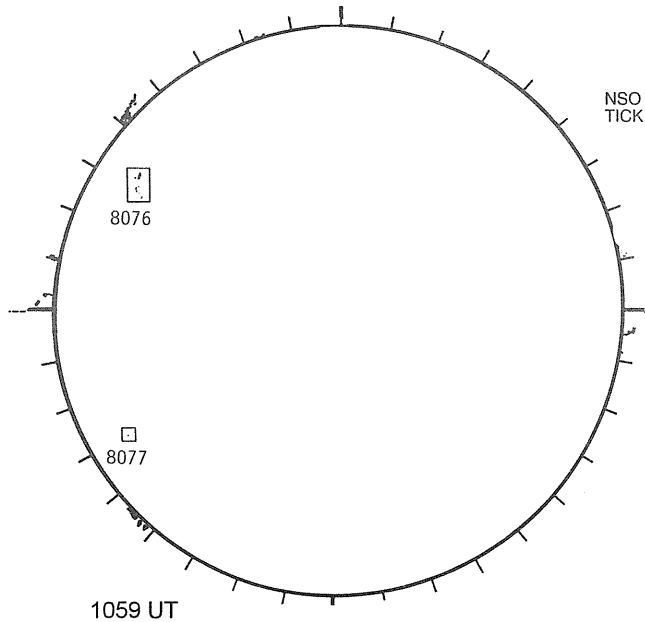
SACRAMENTO PEAK H-ALPHA



1340 UT

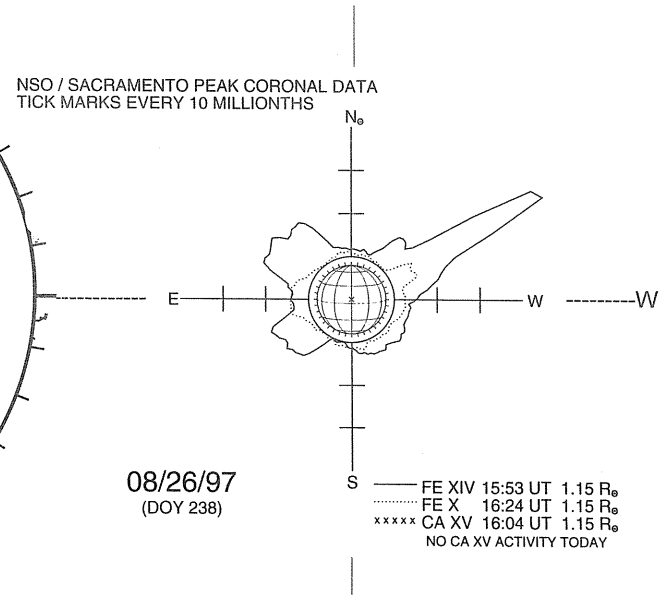
S

RAMEY SUNSPOT



1059 UT
0646 UT VALA Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)



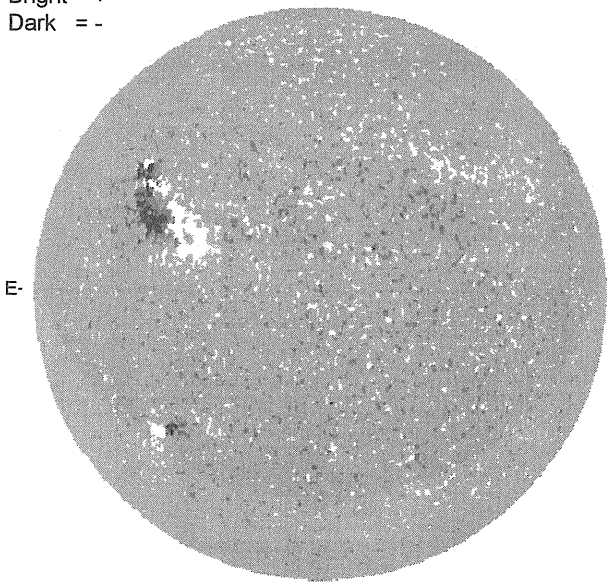
S

AUGUST 27, 1997 (P= 19.74, Bo = 7.09, Lo = 158.07)

KITT PEAK MAGNETOGRAM

N **868.8 nm**

Bright = +
Dark = -



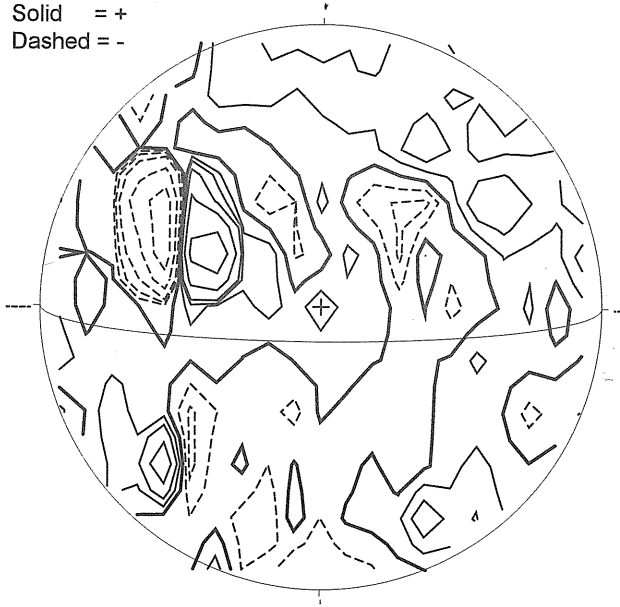
E-

1530 UT

STANFORD MAGNETOGRAM

N

Solid = +
Dashed = -

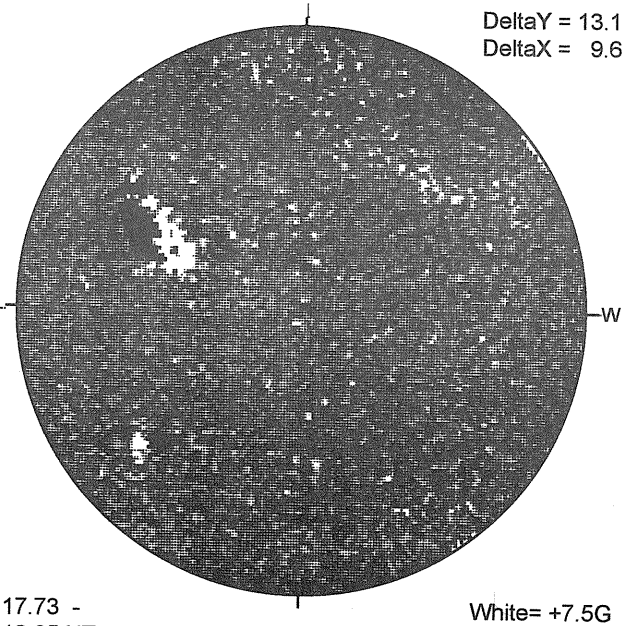


2030 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 13.1
DeltaX = 9.6

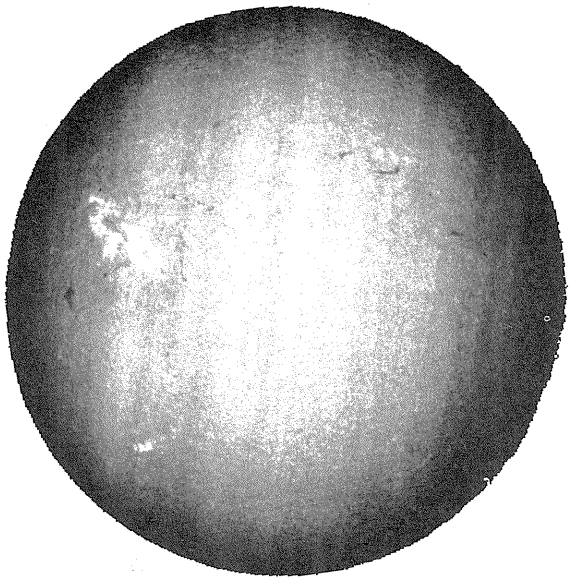


W

17.73 -
18.65 UT

White= +7.5G
Black = -7.5G

MEUDON H-ALPHA

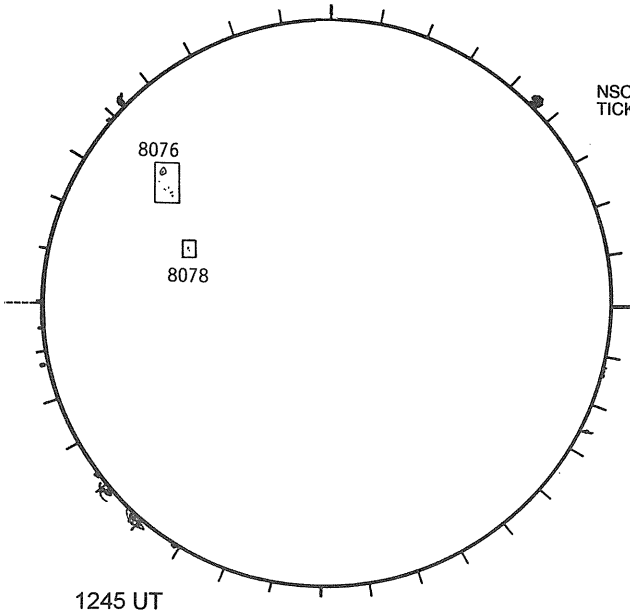


E--

1324 UT

S

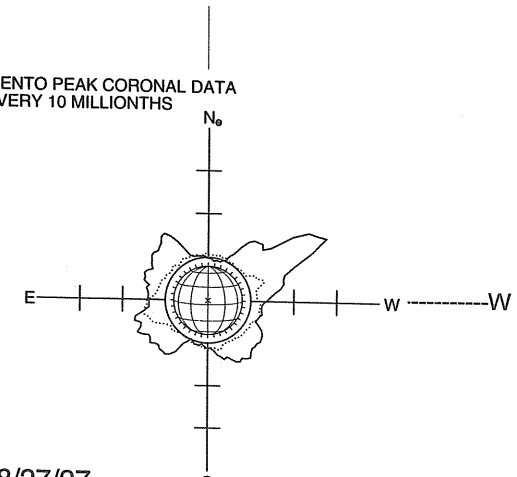
RAMEY SUNSPOT



1245 UT
0652 UT VALA Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 10 MILLIONTHS



08/27/97
(DOY 239)

FE XIV 14:41 UT 1.15 R
FE X 15:11 UT 1.15 R
CA XV 14:59 UT 1.15 R
NO CA XV ACTIVITY TODAY

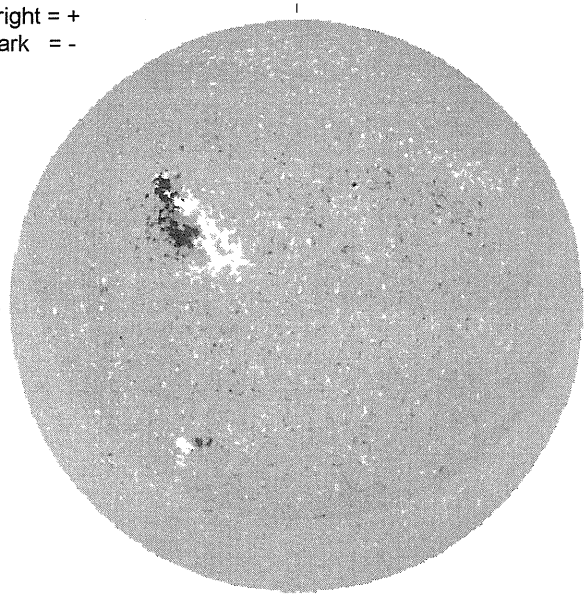
S

71
Aug 97

AUGUST 28, 1997 (P= 20.02, Bo = 7.12, Lo = 144.86)

KITT PEAK MAGNETOGRAM

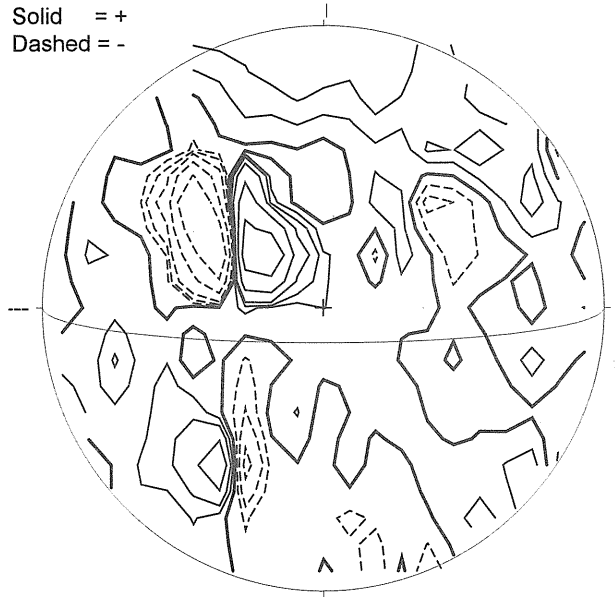
N
868.8 nm
Bright = +
Dark = -
E-



1440 UT

STANFORD MAGNETOGRAM

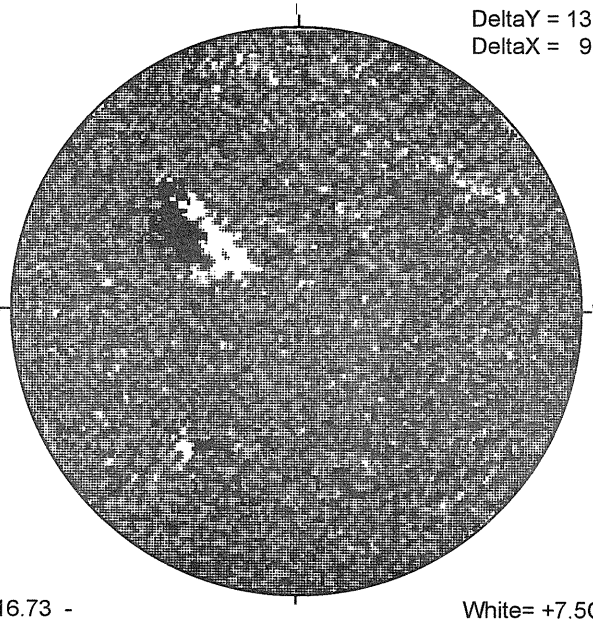
N
Solid = +
Dashed = -



1930 UT

MT. WILSON MAGNETOGRAM

N
DeltaY = 13.1
DeltaX = 9.6
W

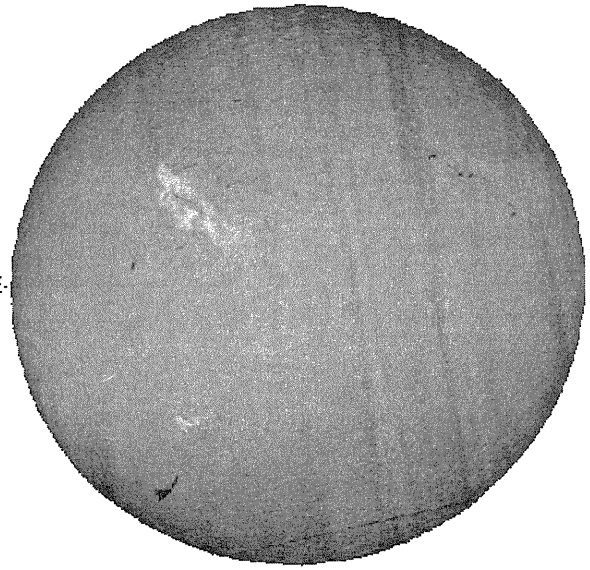


16.73 -
17.66 UT

White= +7.5G
Black = -7.5G

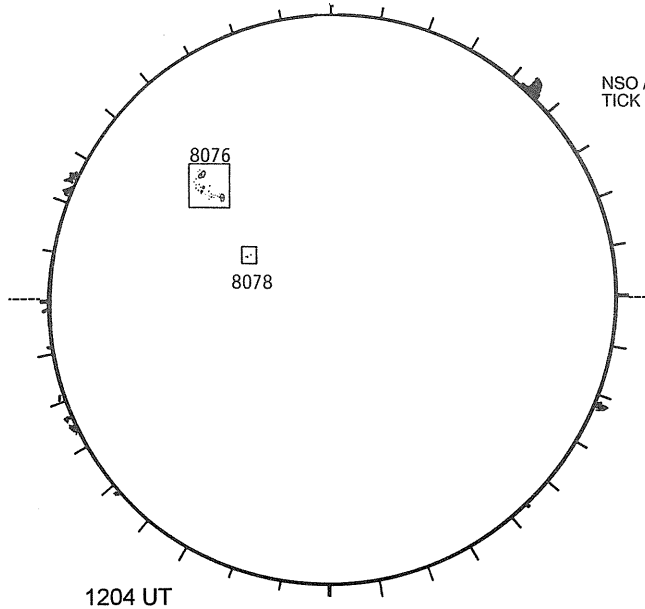
SACRAMENTO PEAK H-ALPHA

E-



1441 UT
S

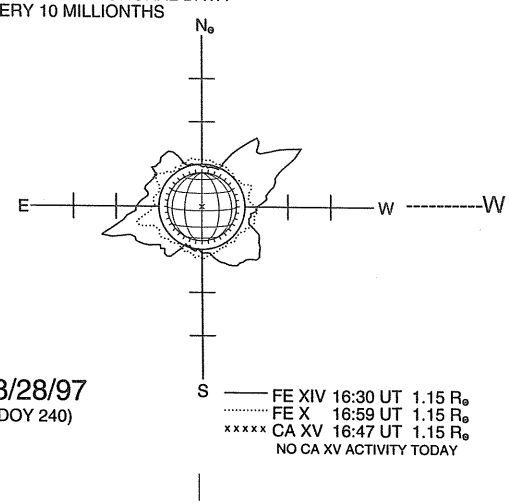
RAMEY SUNSPOT



1204 UT
0747 UT VALA Prom S

SACRAMENTO PEAK CORONA (1.15 Radii)----

NSO / SACRAMENTO PEAK CORONAL DATA
TICK MARKS EVERY 10 MILLIONTHS



08/28/97
(DOY 240)

FE XIV 16:30 UT 1.15 R
FE X 16:59 UT 1.15 R
CA XV 16:47 UT 1.15 R
NO CA XV ACTIVITY TODAY

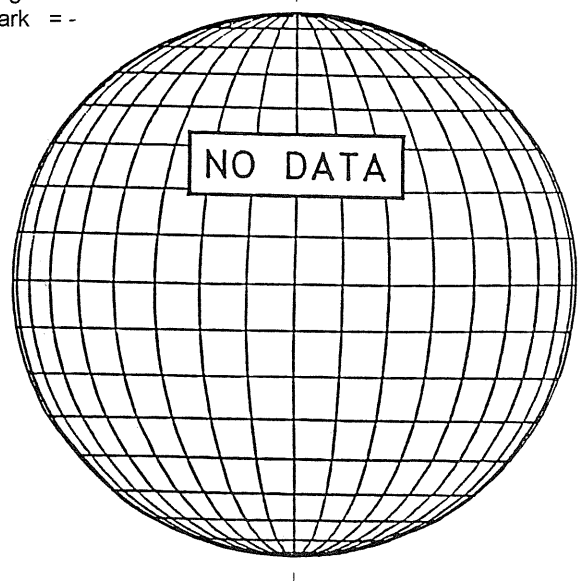
S

AUGUST 29, 1997 (P= 20.29, Bo = 7.14, Lo = 131.64)

KITT PEAK MAGNETOGRAM

N **868.8 nm**

Bright = +
Dark = -

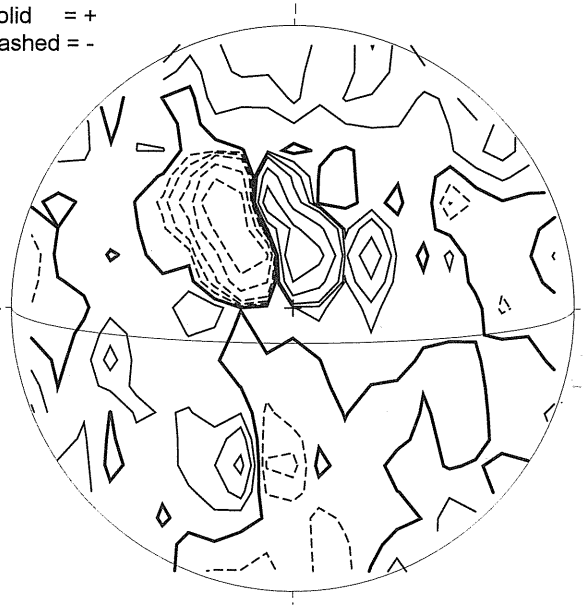


E-

STANFORD MAGNETOGRAM

N

Solid = +
Dashed = -

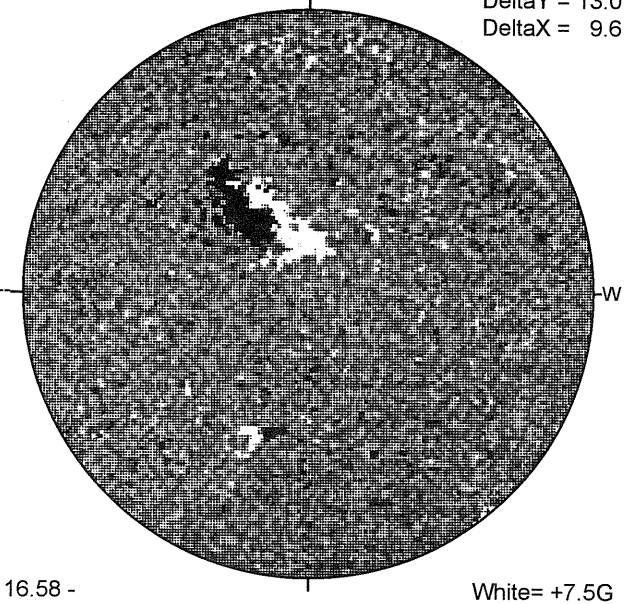


2205 UT

MT. WILSON MAGNETOGRAM

N

DeltaY = 13.0
DeltaX = 9.6

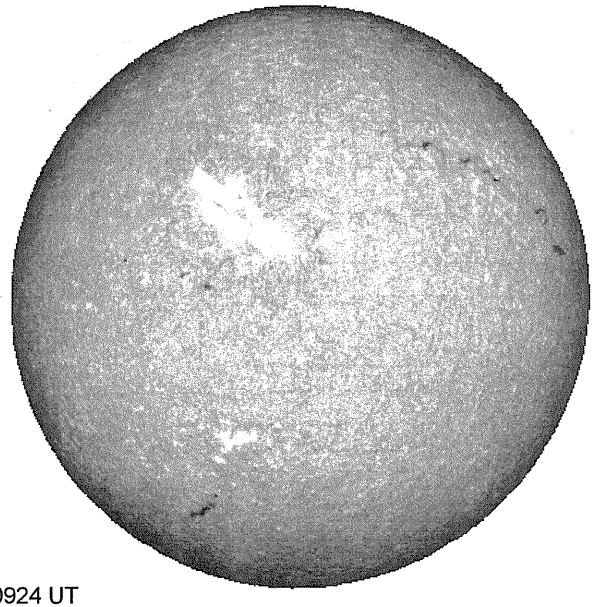


-W

16.58 -
17.51 UT

White= +7.5G
Black = -7.5G

----- MEUDON H-ALPHA

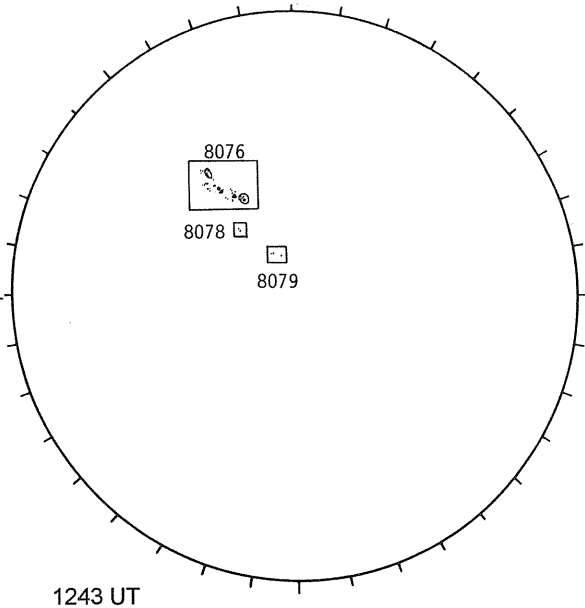


E

0924 UT

S

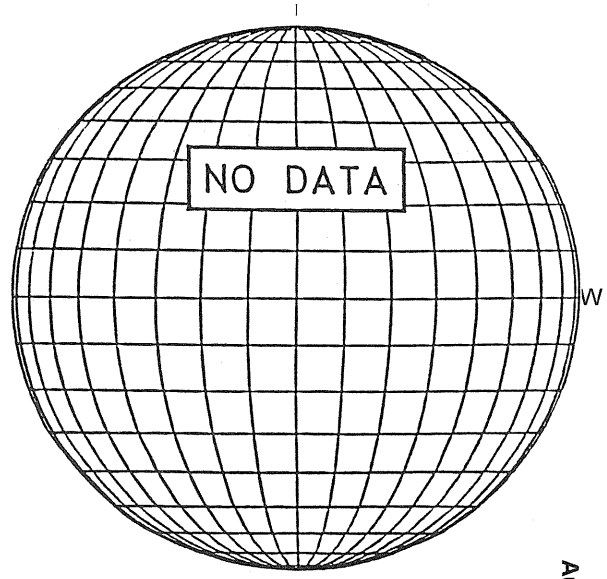
RAMEY SUNSPOT



1243 UT

S

SACRAMENTO PEAK CORONA (1.15 Radii)----



W

S

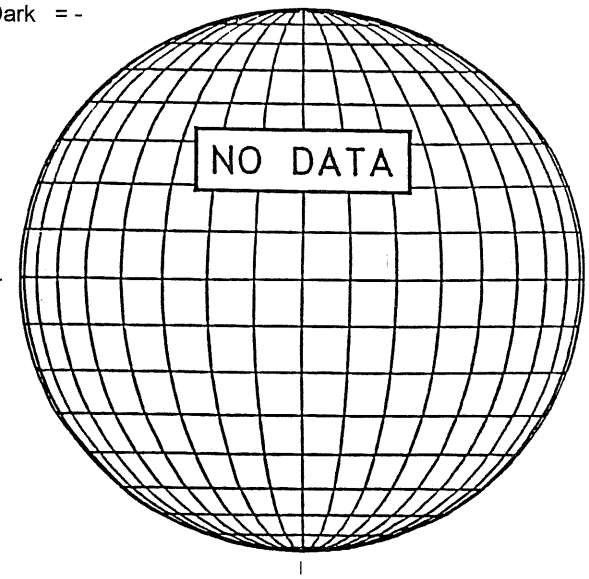
73
Aug 97

AUGUST 30, 1997 (P= 20.56, Bo = 7.16, Lo = 118.43)

KITT PEAK MAGNETOGRAM

N **868.8 nm**

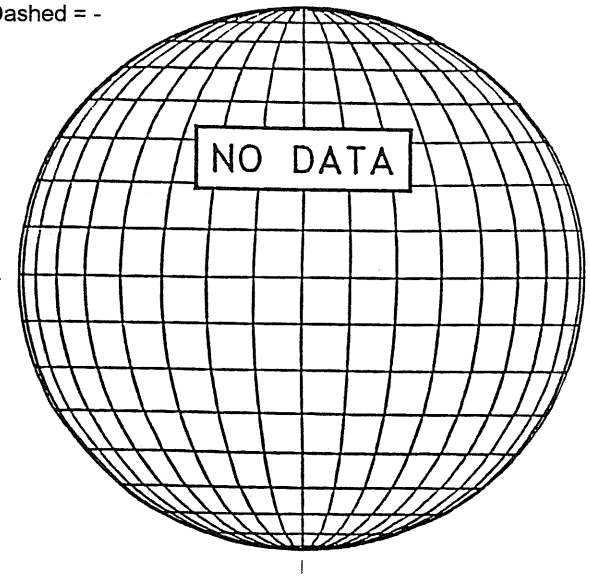
Bright = +
Dark = -



STANFORD MAGNETOGRAM

N

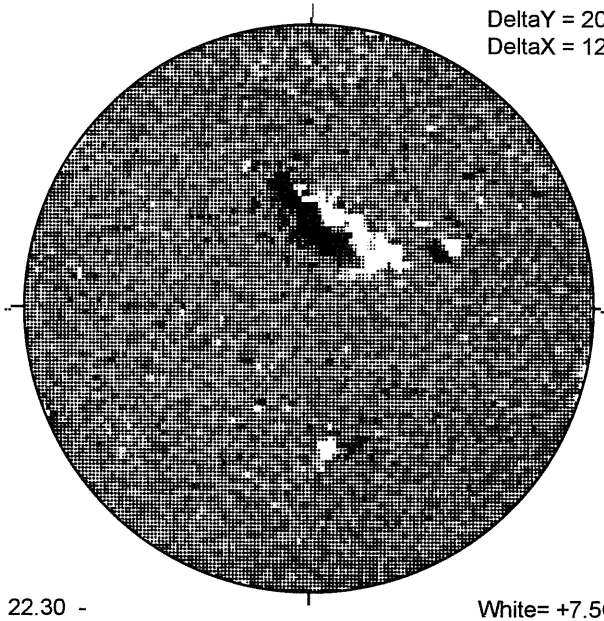
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

N

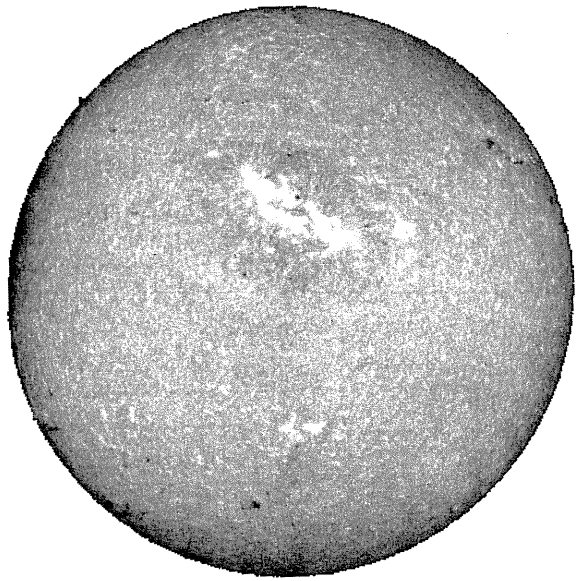
DeltaY = 20.1
DeltaX = 12.9



22.30 -
22.70 UT

White= +7.5G
Black = -7.5G

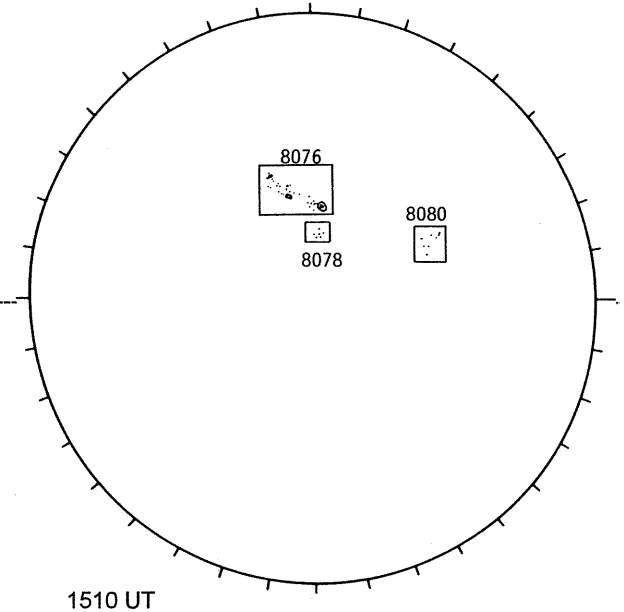
MEUDON H-ALPHA



1358 UT

S

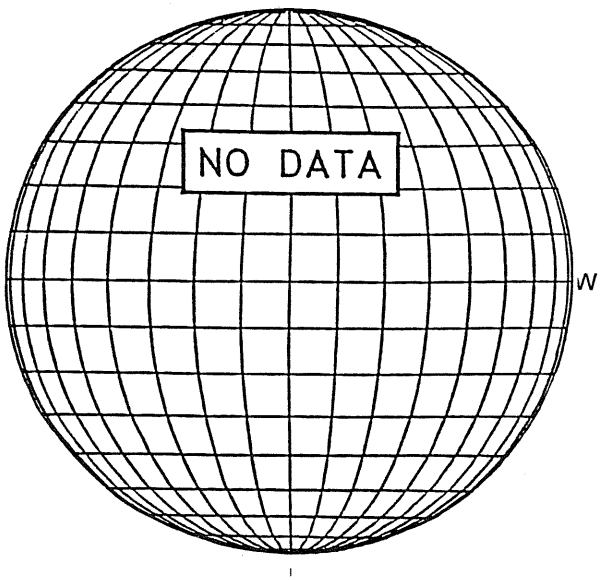
HOLLOMAN SUNSPOT



1510 UT

S

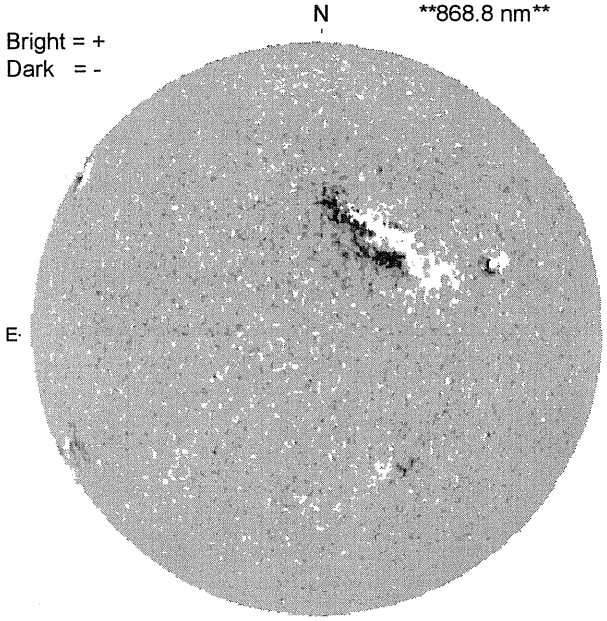
SACRAMENTO PEAK CORONA (1.15 Radii)----



S

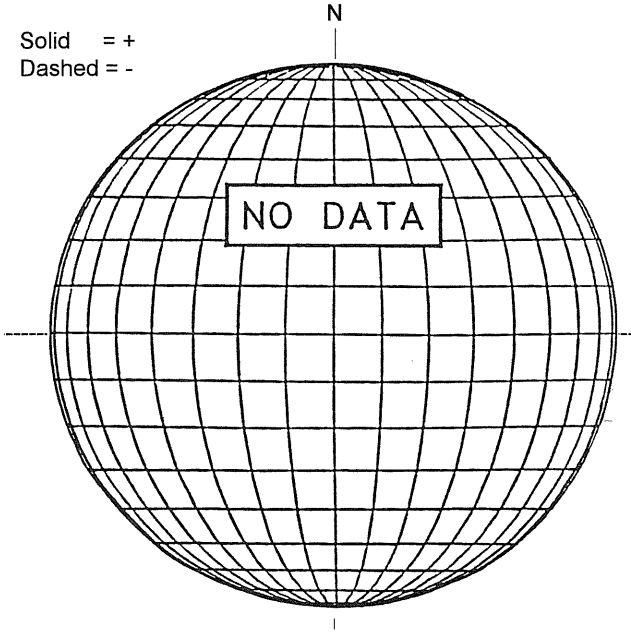
AUGUST 31, 1997 (P= 20.82, Bo = 7.18, Lo = 105.22)

KITT PEAK MAGNETOGRAM

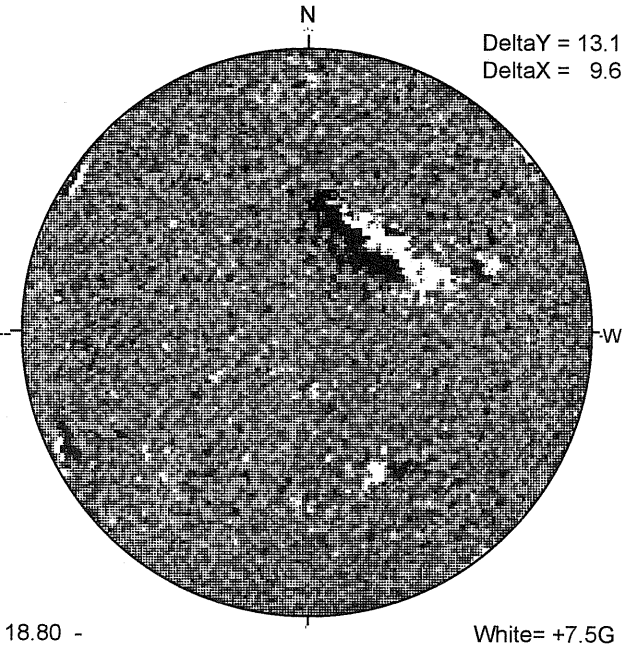


1537 UT

STANFORD MAGNETOGRAM



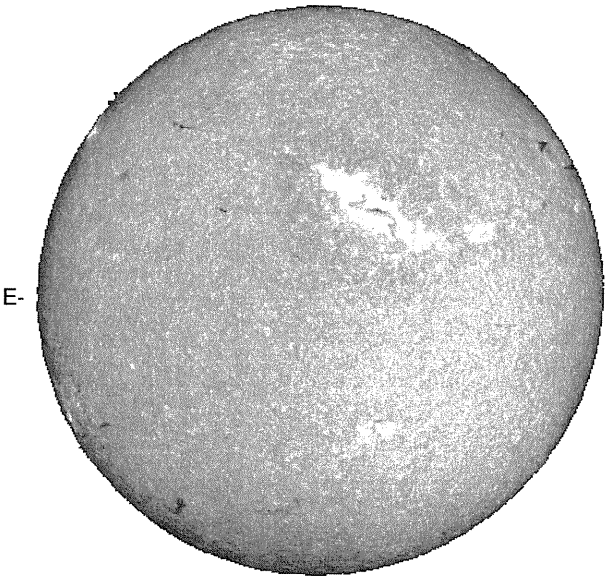
MT. WILSON MAGNETOGRAM



18.80 -
19.73 UT

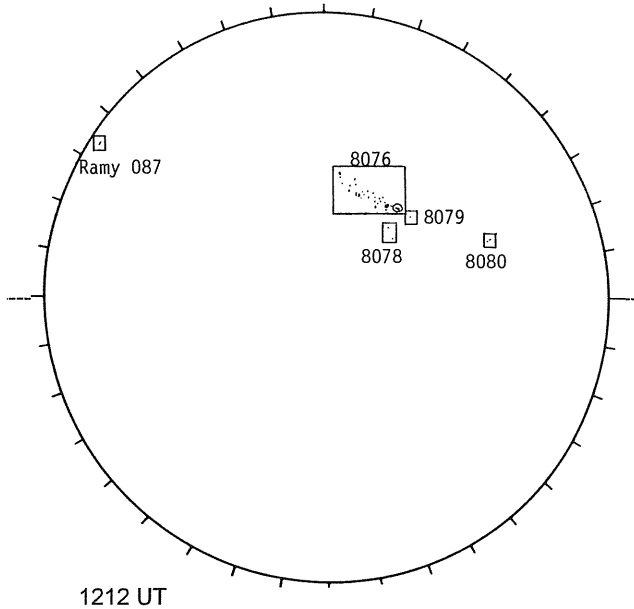
White= +7.5G
Black = -7.5G

MEUDON H-ALPHA



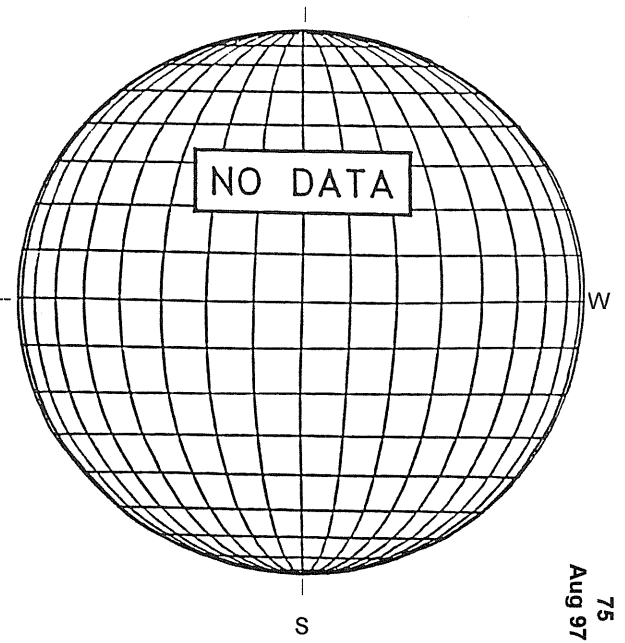
0953 UT

RAMEY SUNSPOT



1212 UT

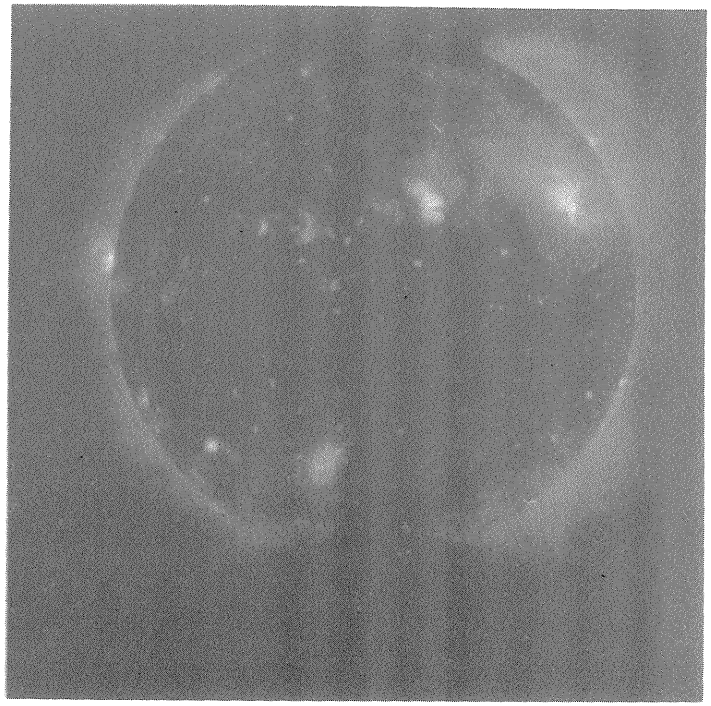
SACRAMENTO PEAK CORONA (1.15 Radii)



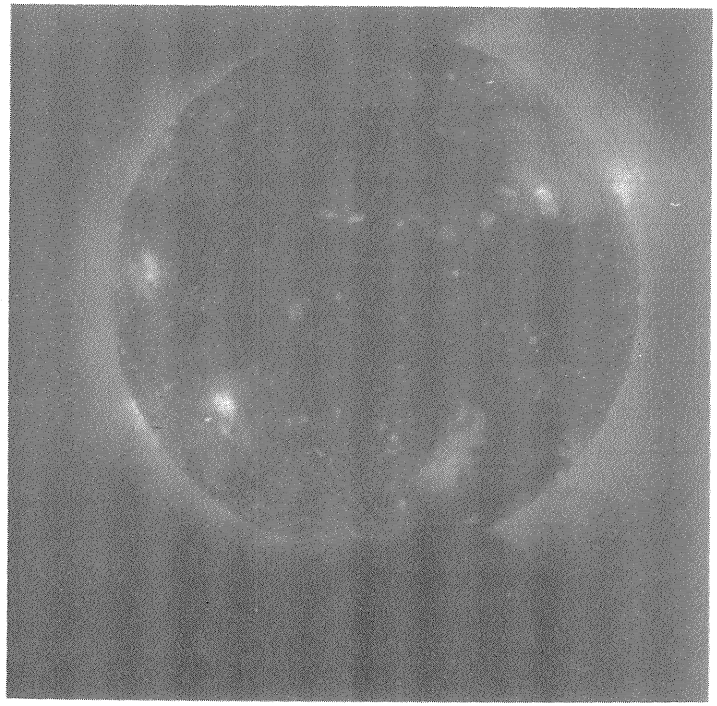
75
Aug 97

YOHKOH SOFT X-RAY TELESCOPE IMAGES

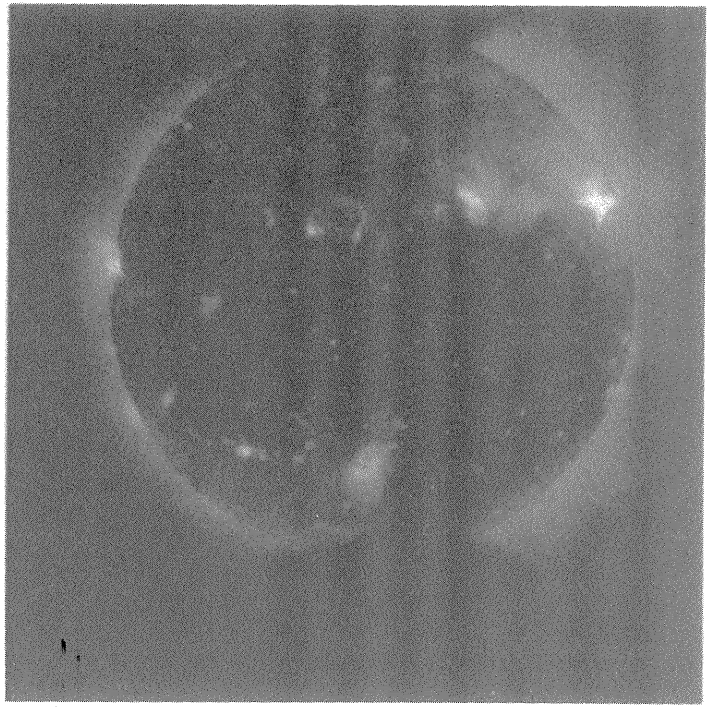
August 1997



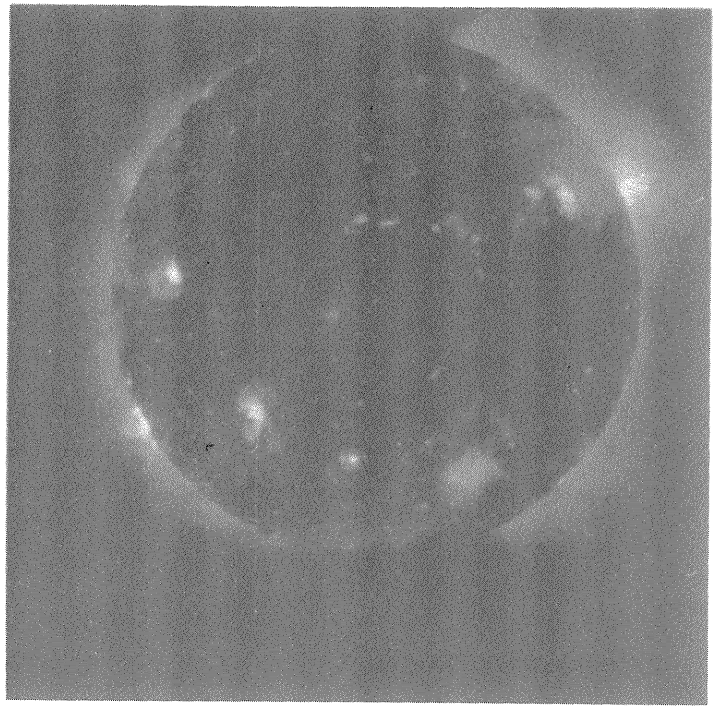
Day 1
10:45:24 UT



Day 3
18:55:14 UT



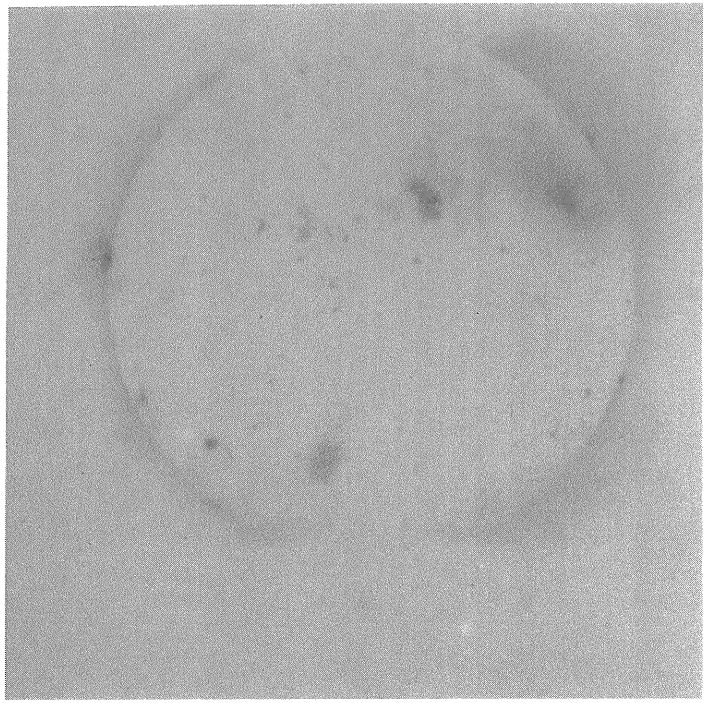
Day 2
07:56:50 UT



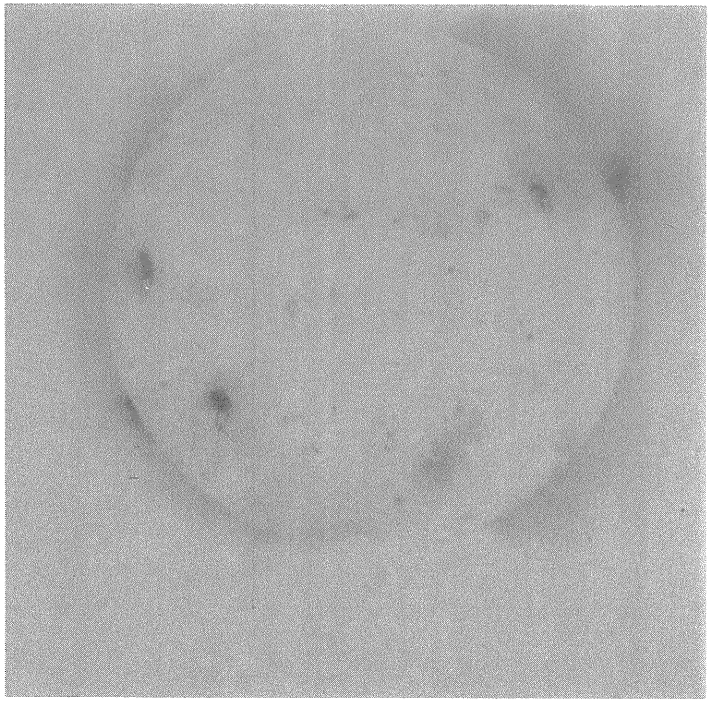
Day 4
08:24:25 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

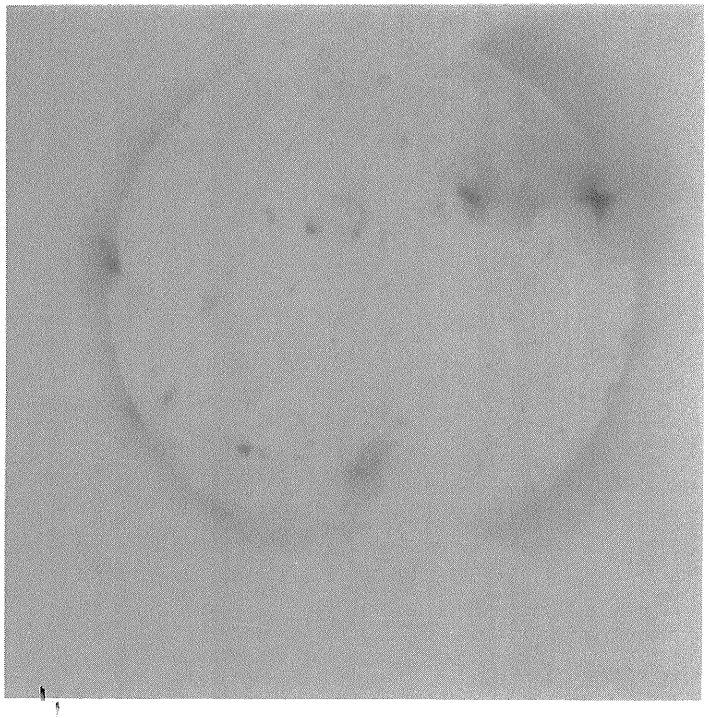
August
1997



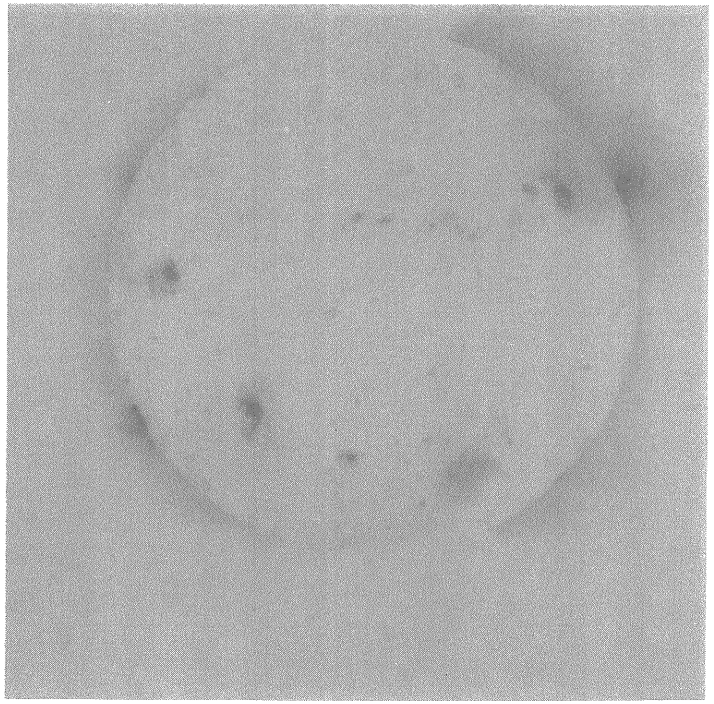
Day 1
10:45:24 UT



Day 3
18:55:14 UT



Day 2
07:56:50 UT

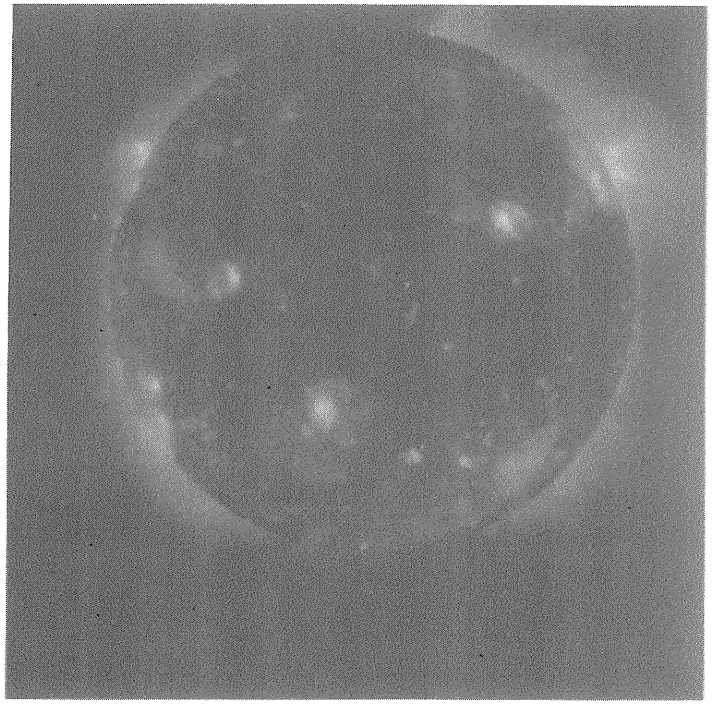


Day 4
08:24:25 UT

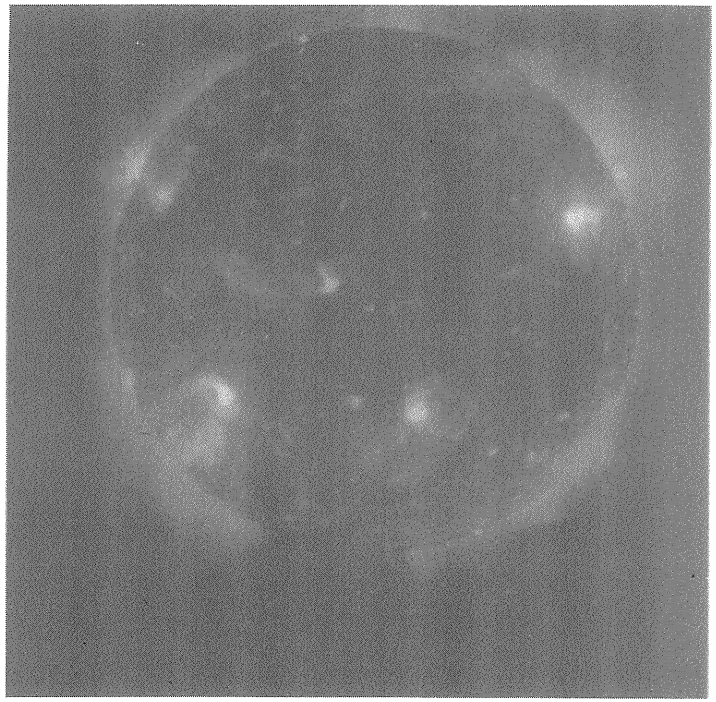
77
Aug 97

YOHKOH SOFT X-RAY TELESCOPE IMAGES

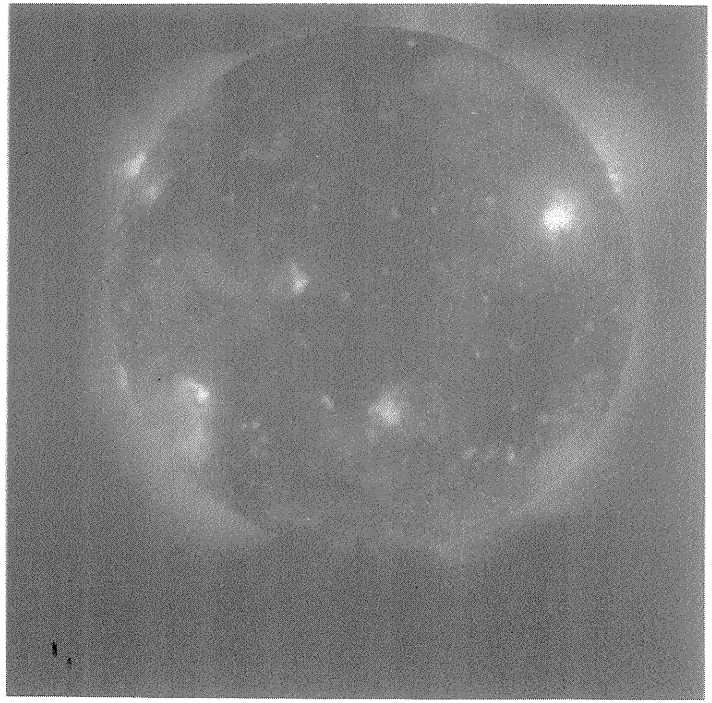
August
1997



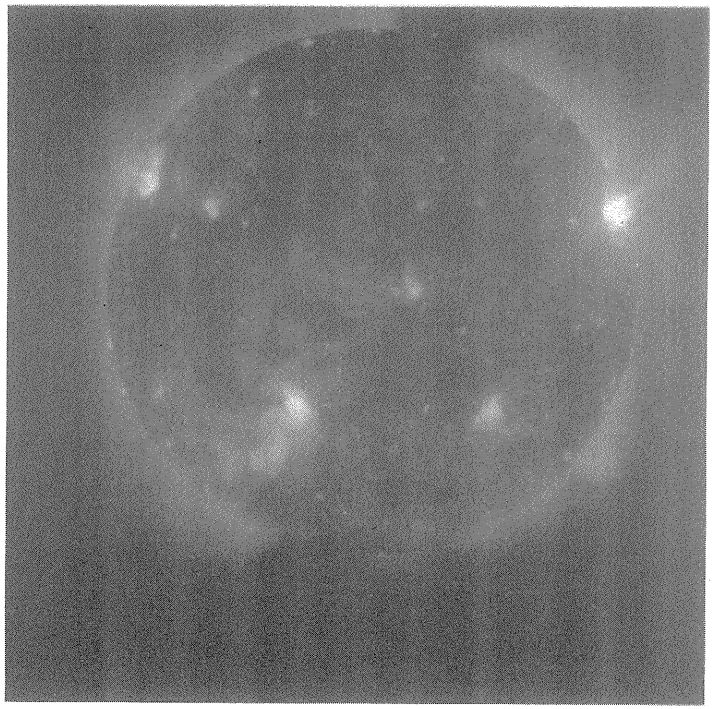
Day 5
15:01:27 UT



Day 7
05:49:53 UT



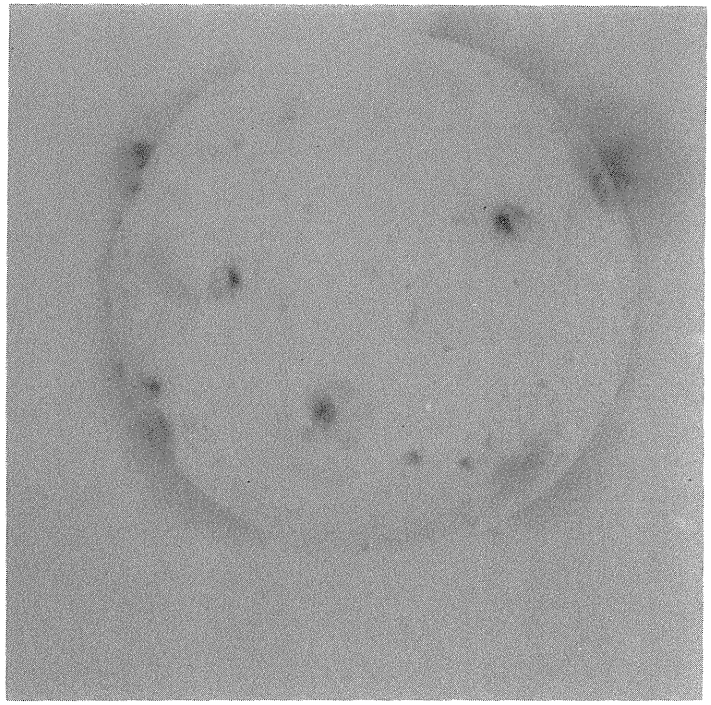
Day 6
18:24:47 UT



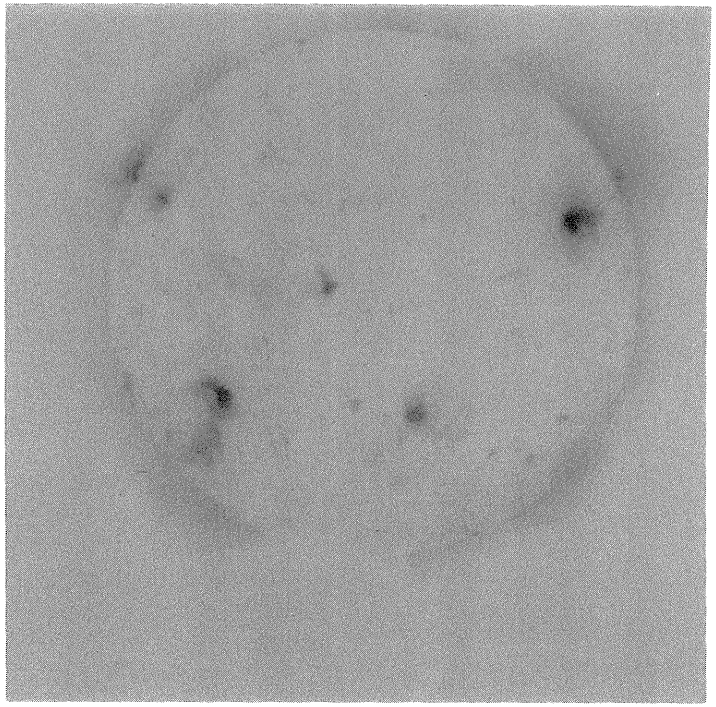
Day 8
15:29:31 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

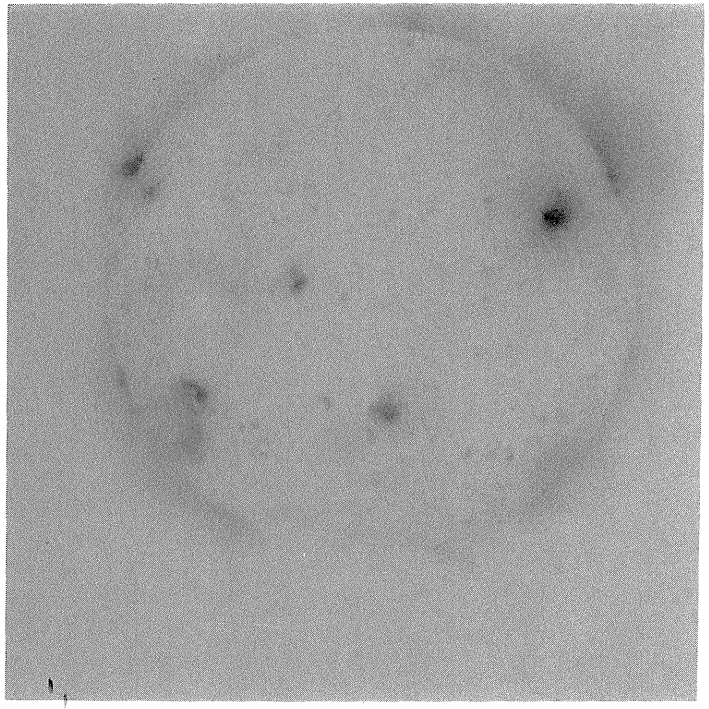
August
1997



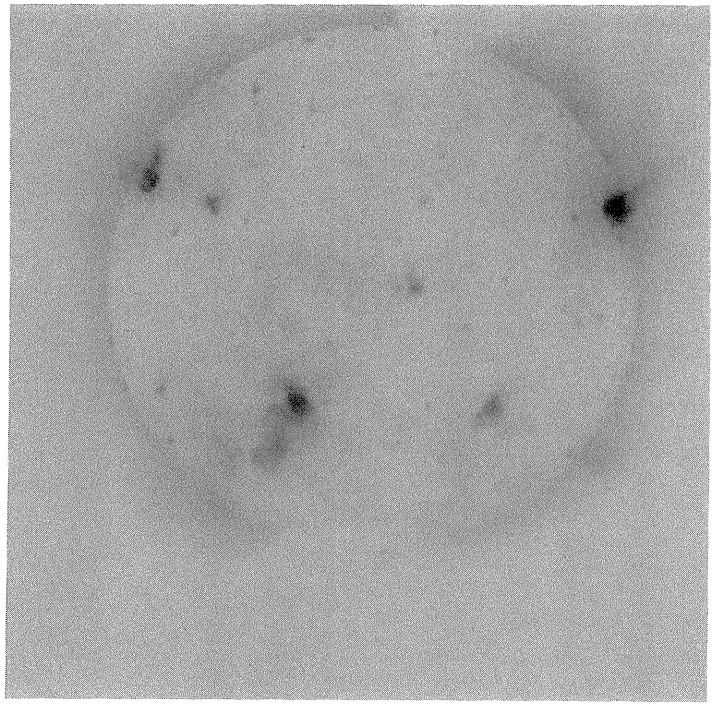
Day 5
15:01:27 UT



Day 7
05:49:53 UT



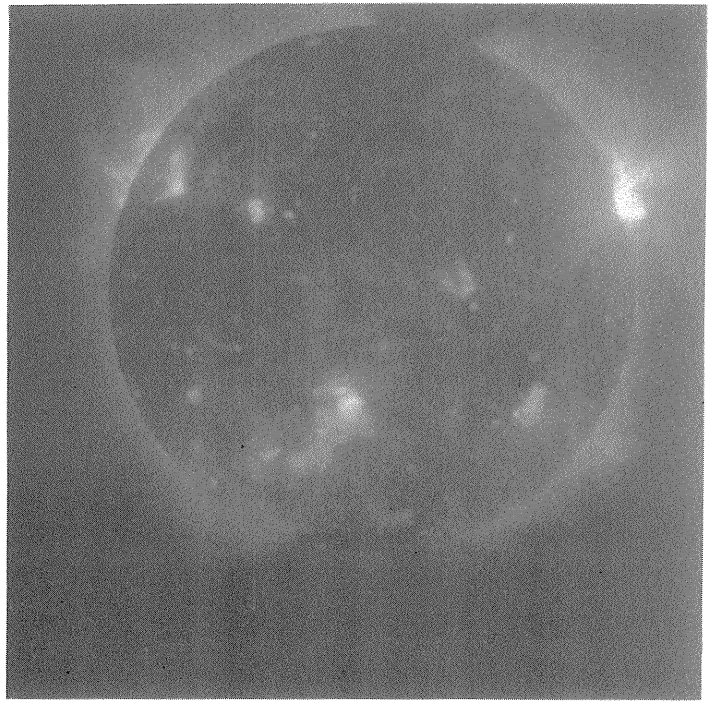
Day 6
18:24:47 UT



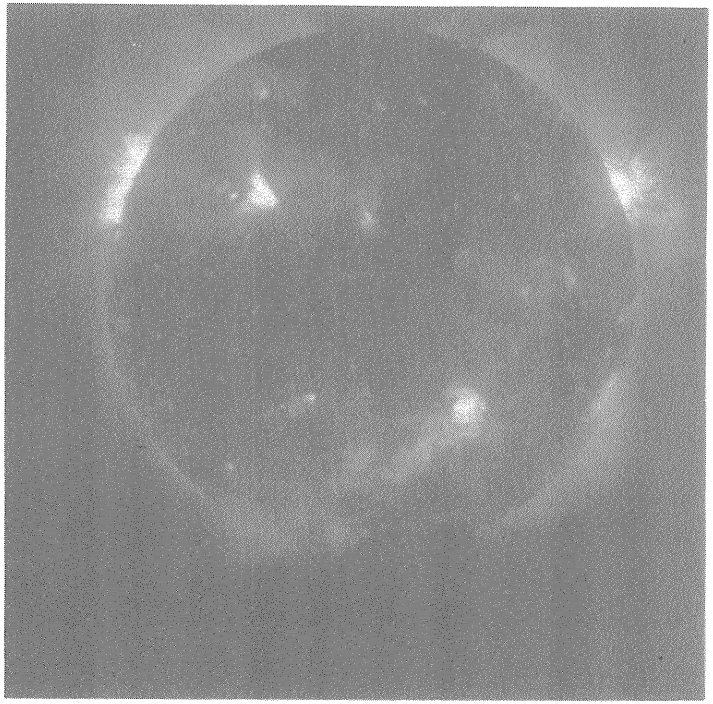
Day 8
15:29:31 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

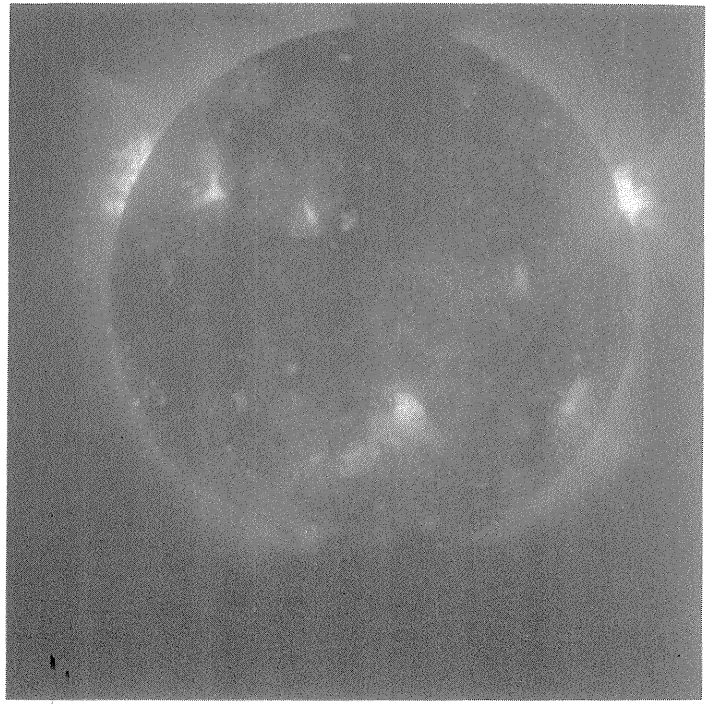
August
1997



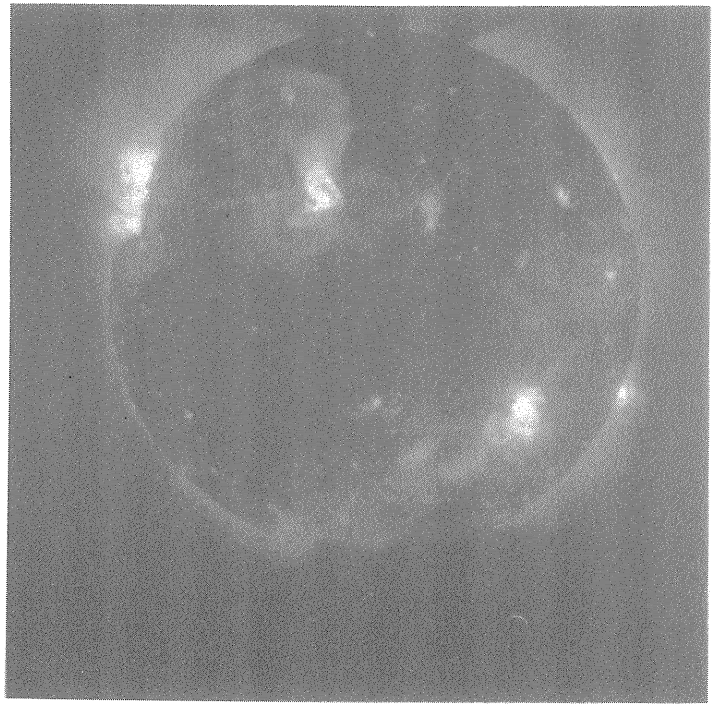
Day 9
12:39:50 UT



Day 11
13:19:50 UT



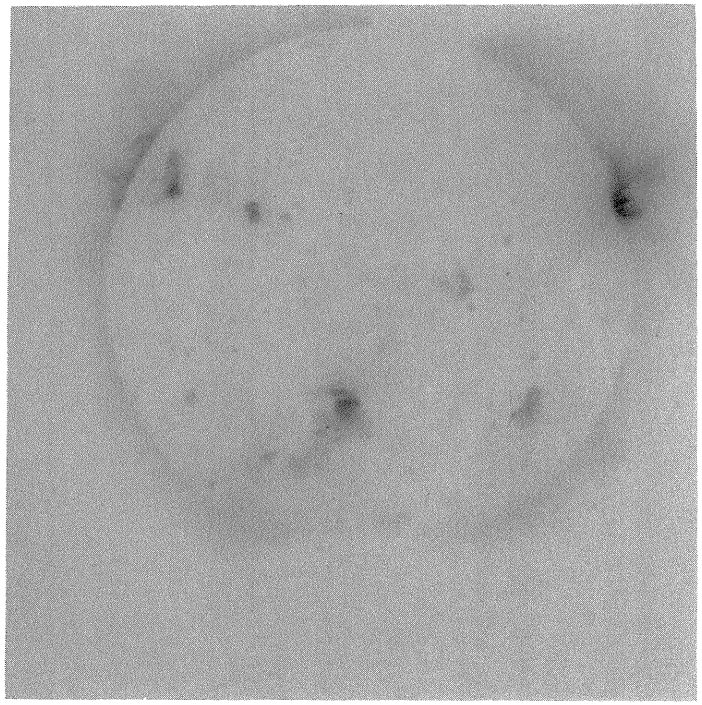
Day 10
11:36:18 UT



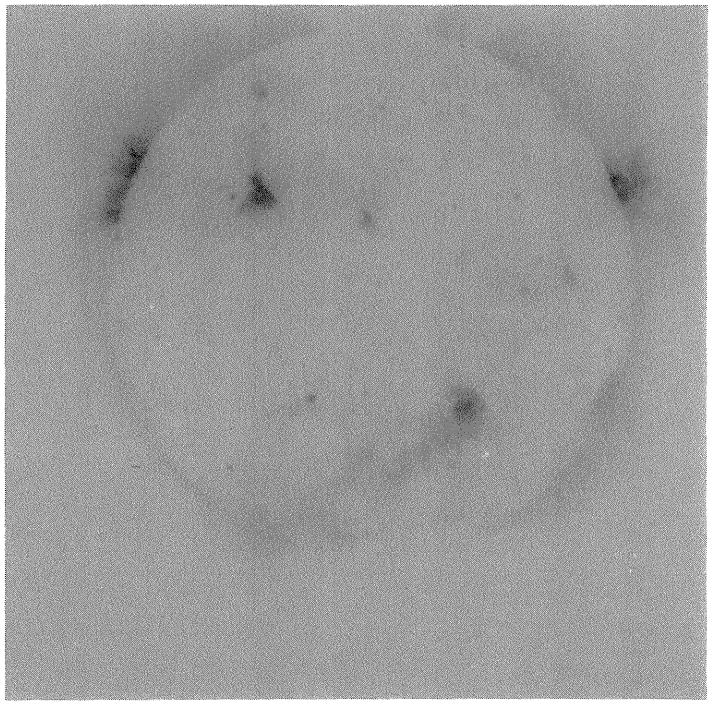
Day 12
14:01:22 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

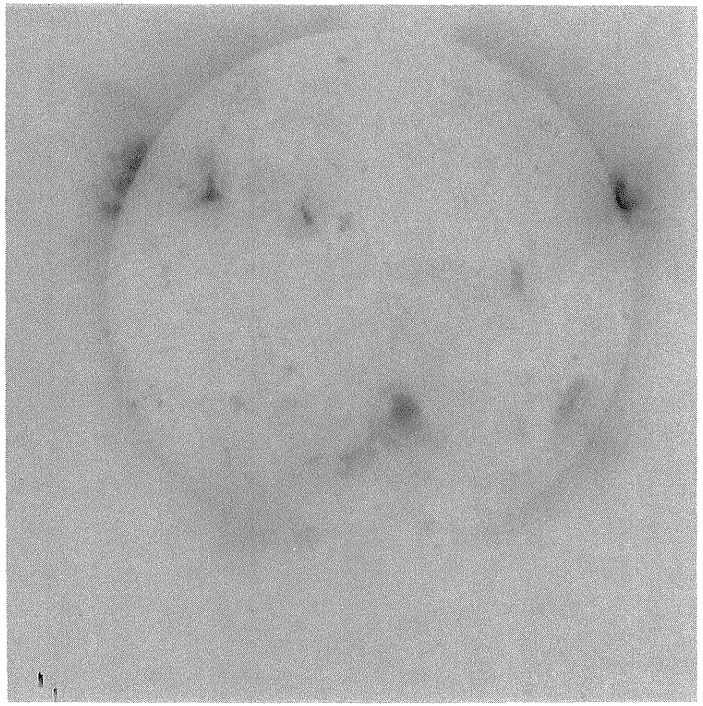
August
1997



Day 9
12:39:50 UT



Day 11
13:19:50 UT

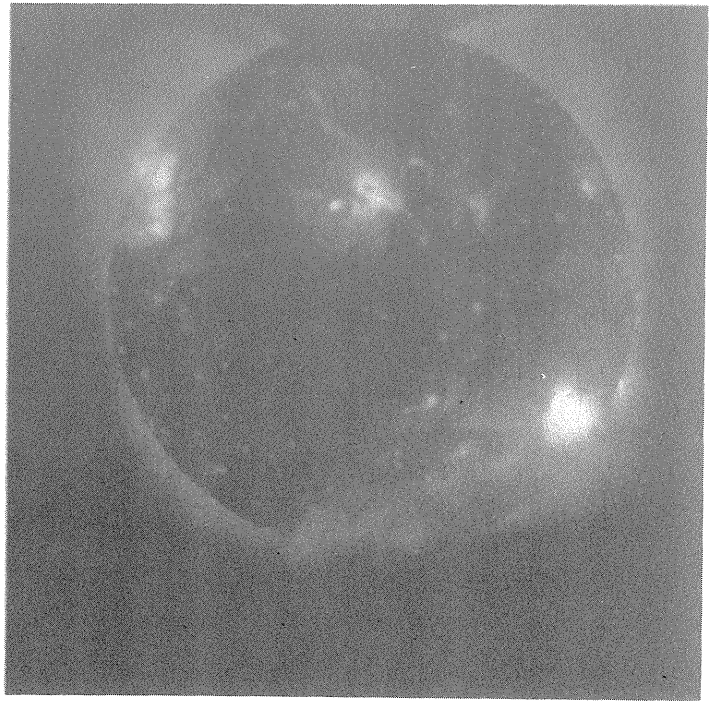


Day 10
11:36:18 UT

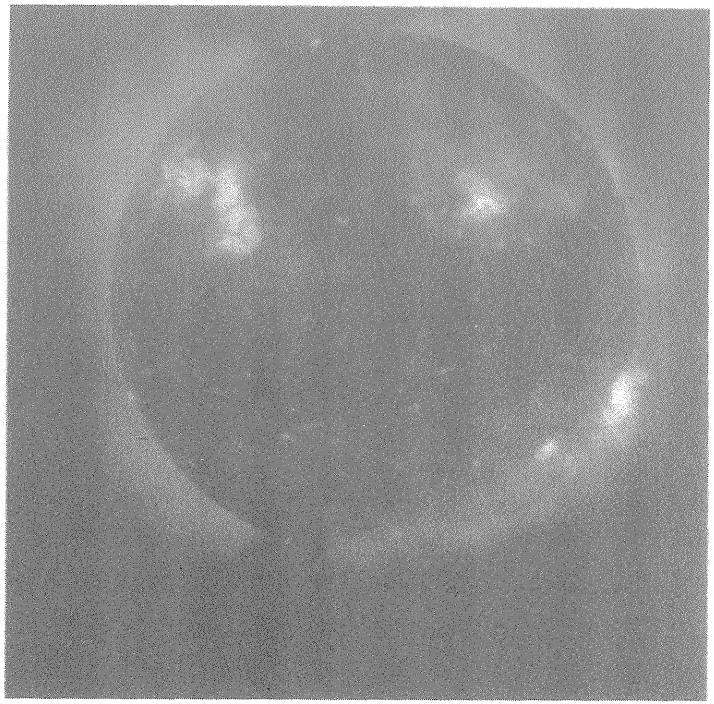
Day 12
14:01:22 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

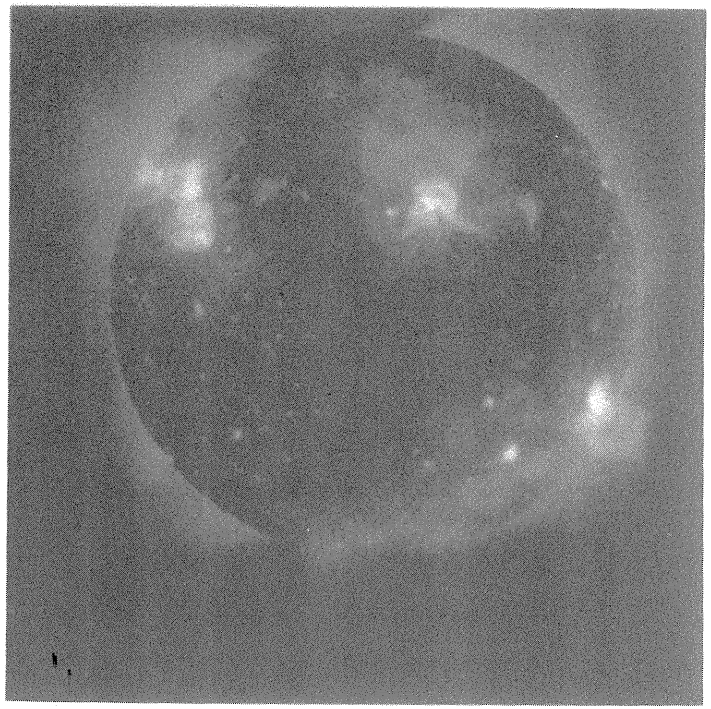
August
1997



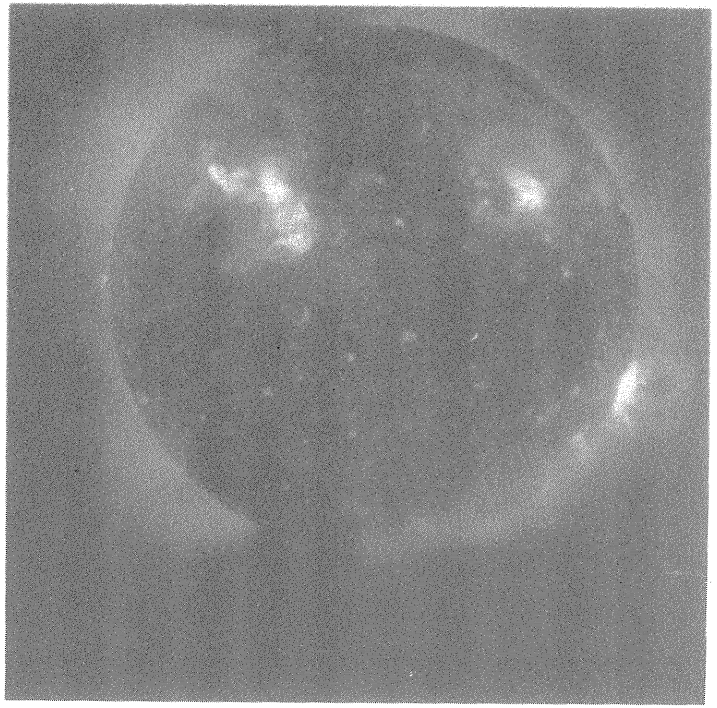
Day 13
12:44:36 UT



Day 15
11:43:13 UT



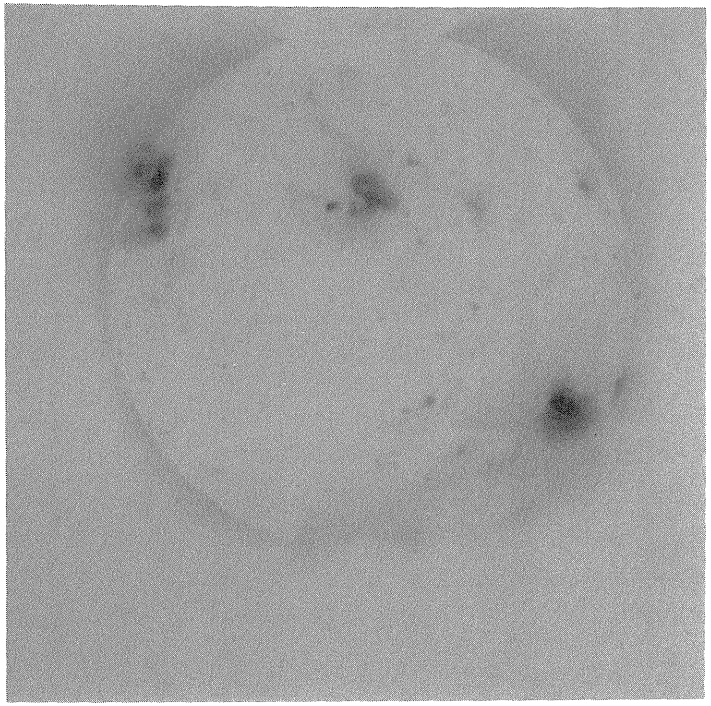
Day 14
12:57:15 UT



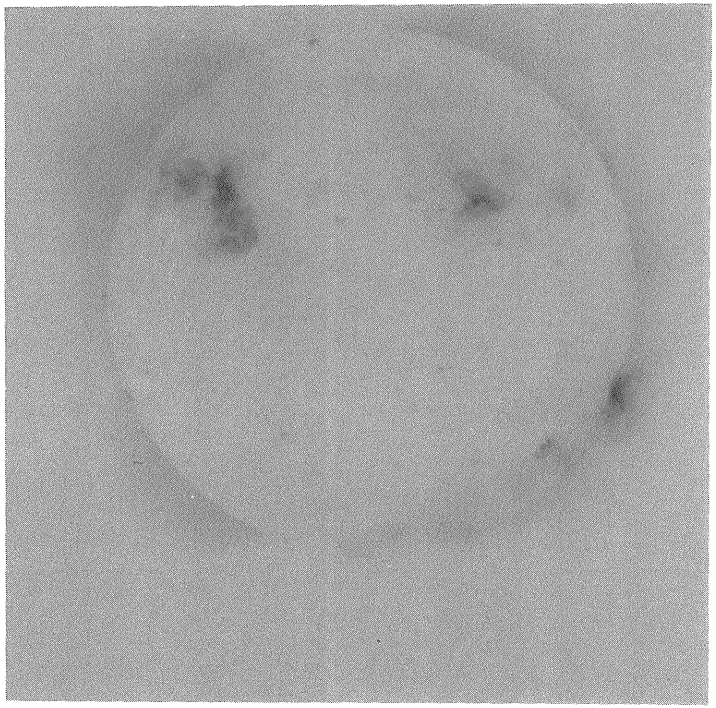
Day 16
12:01:35 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

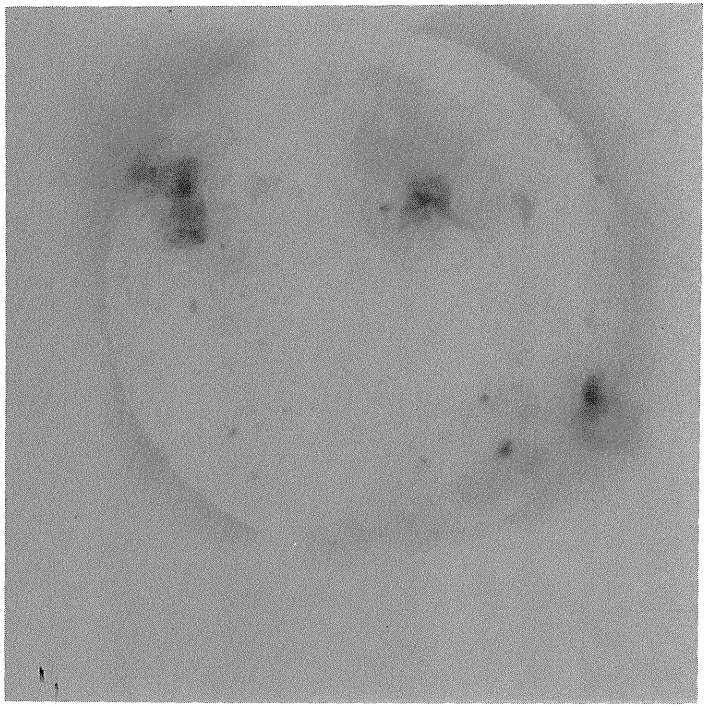
August
1997



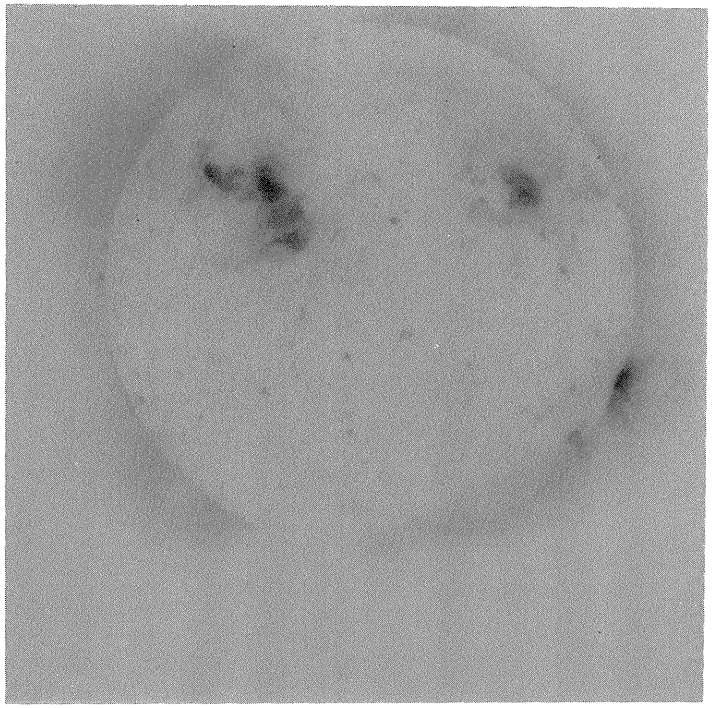
Day 13
12:44:36 UT



Day 15
11:43:13 UT



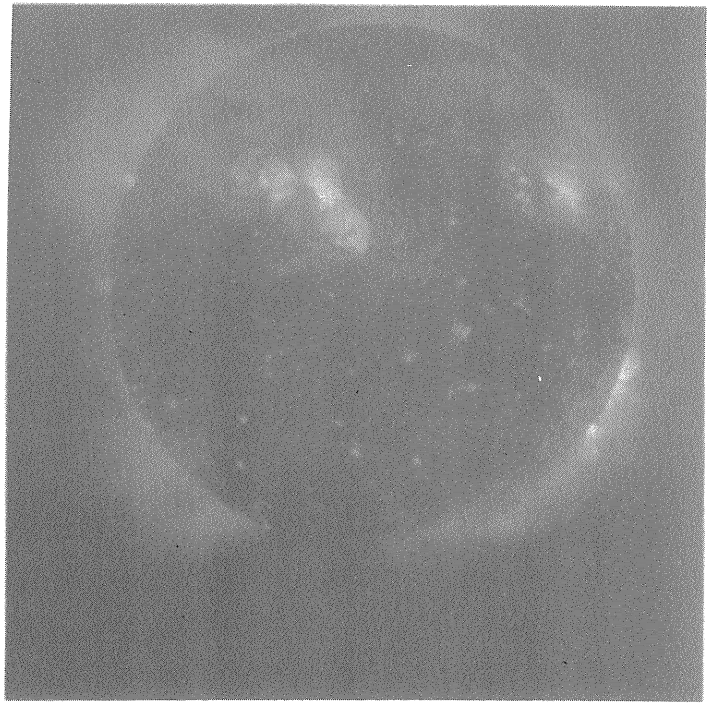
Day 14
12:57:15 UT



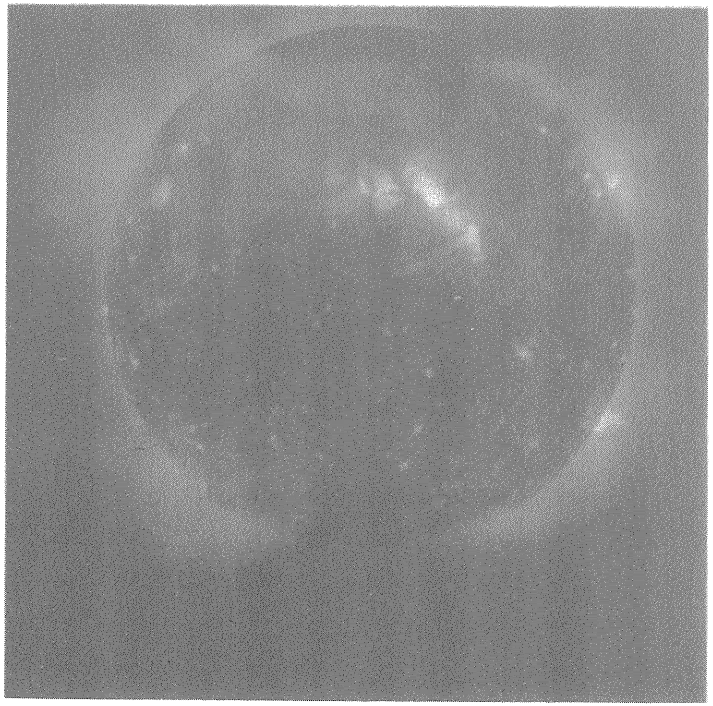
Day 16
12:01:35 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

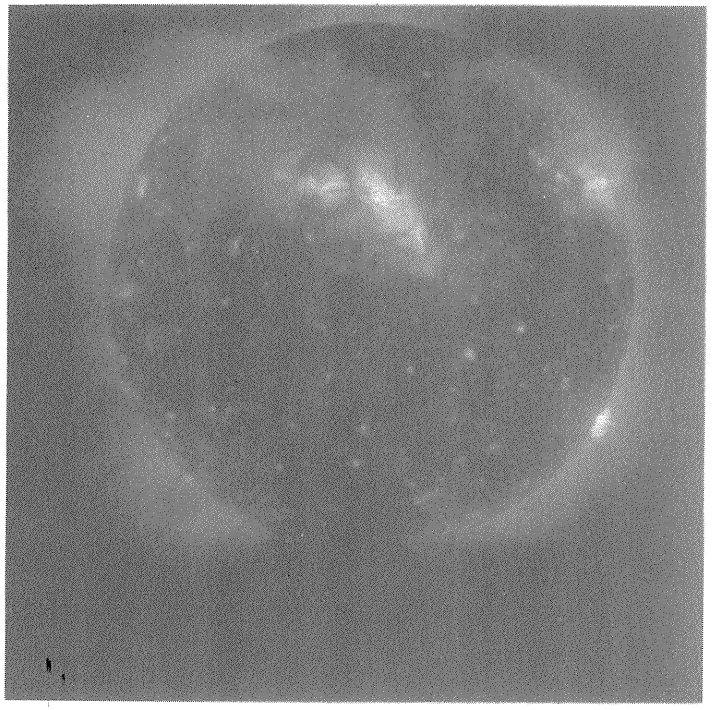
August
1997



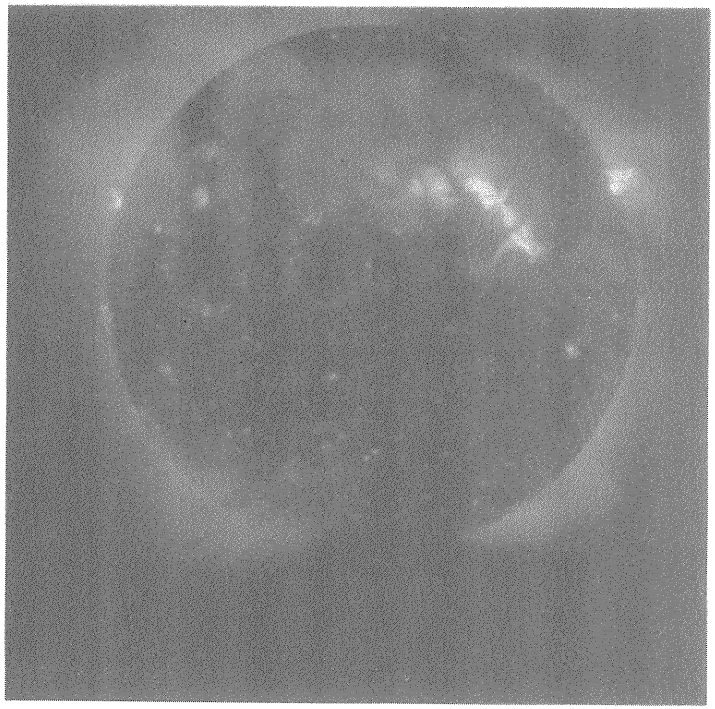
Day 17
12:01:59 UT



Day 19
11:24:02 UT



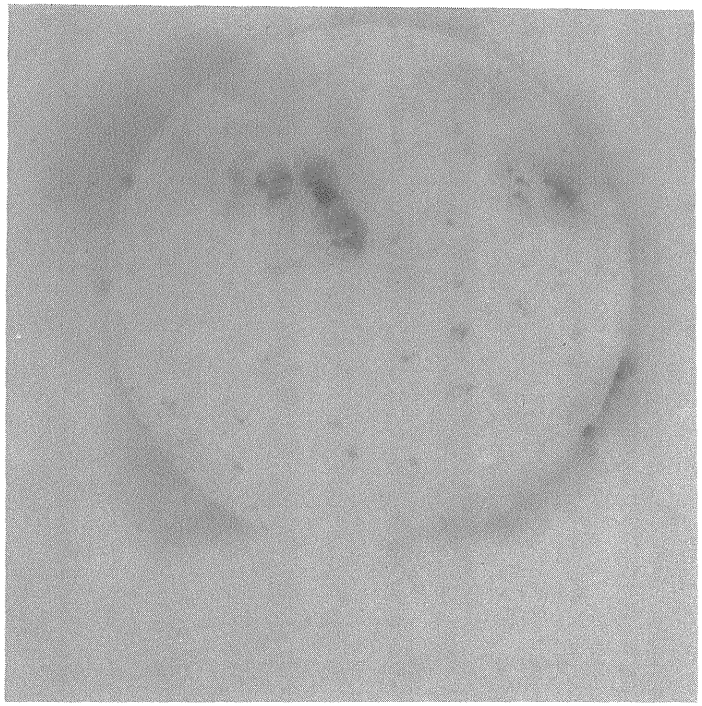
Day 18
12:15:18 UT



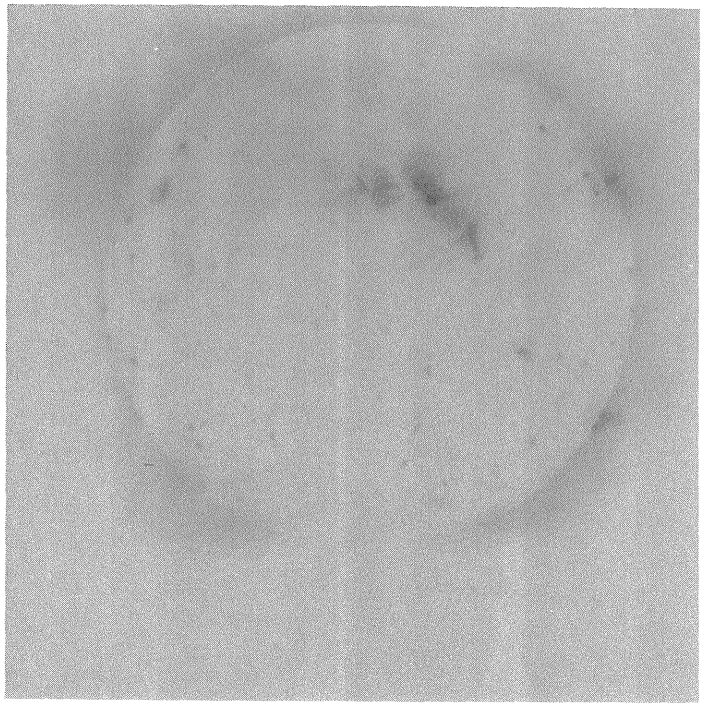
Day 20
11:39:16 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

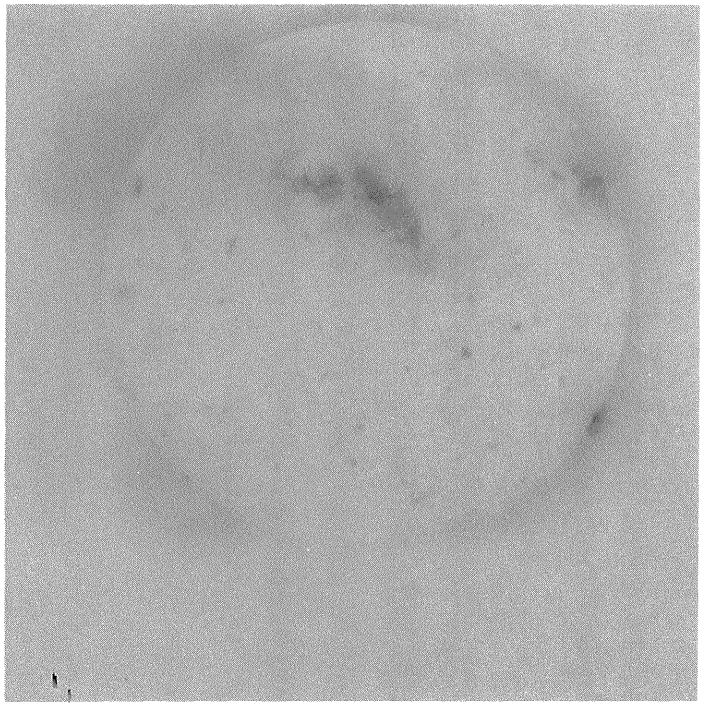
August
1997



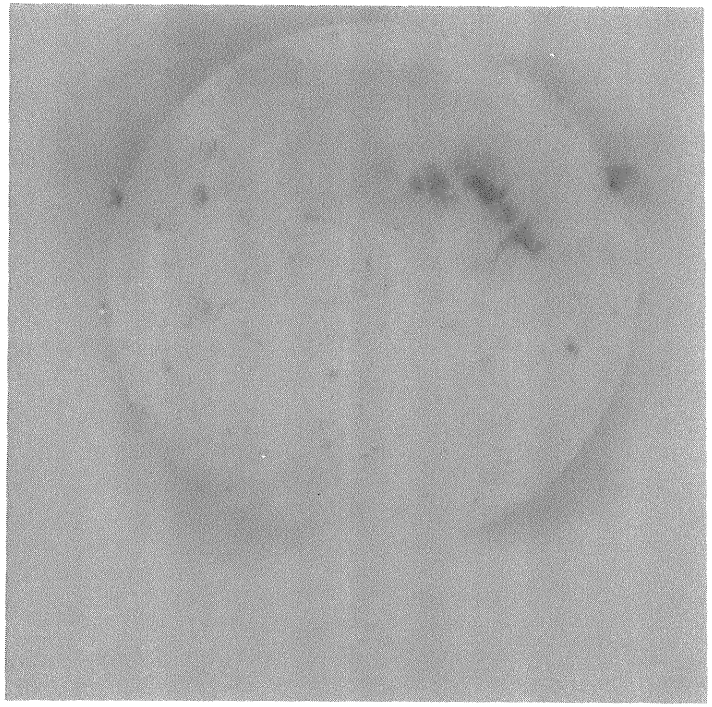
Day 17
12:01:59 UT



Day 19
11:24:02 UT



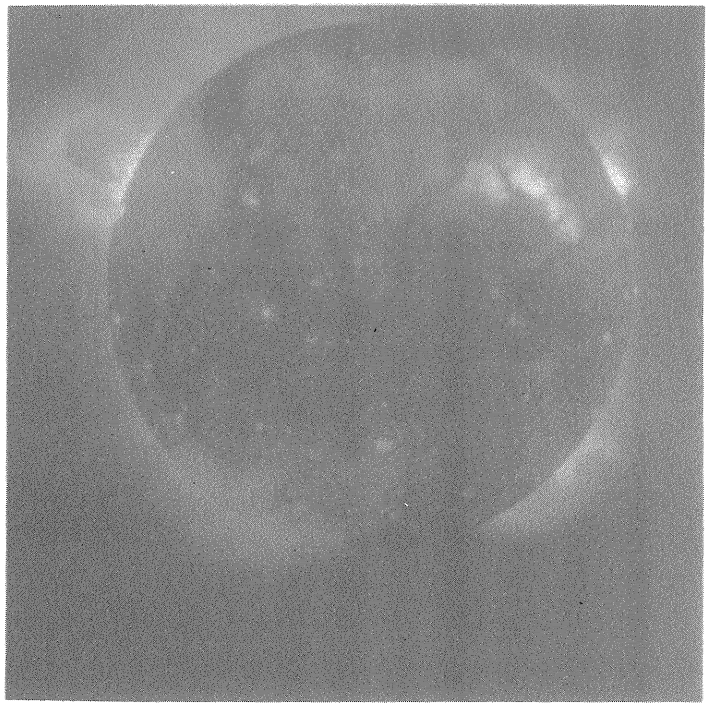
Day 18
12:15:18 UT



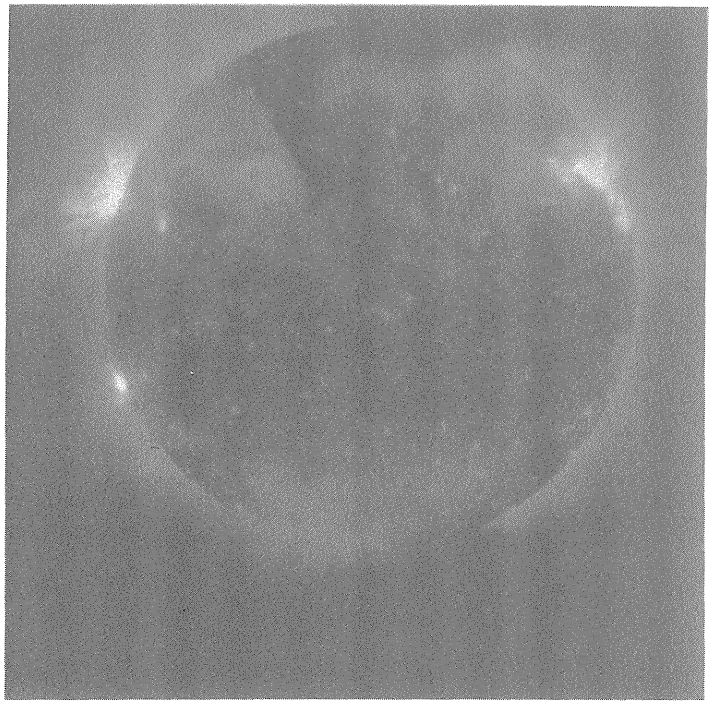
Day 20
11:39:16 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

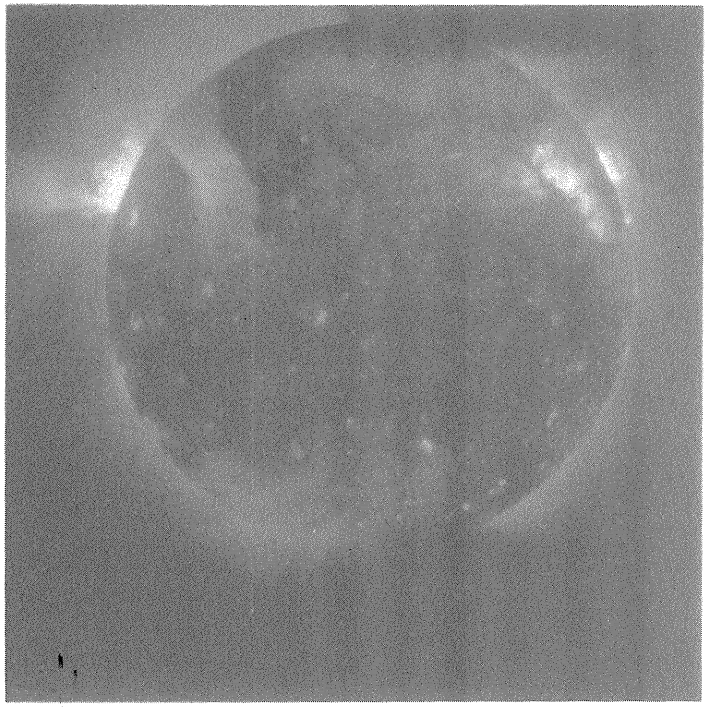
August
1997



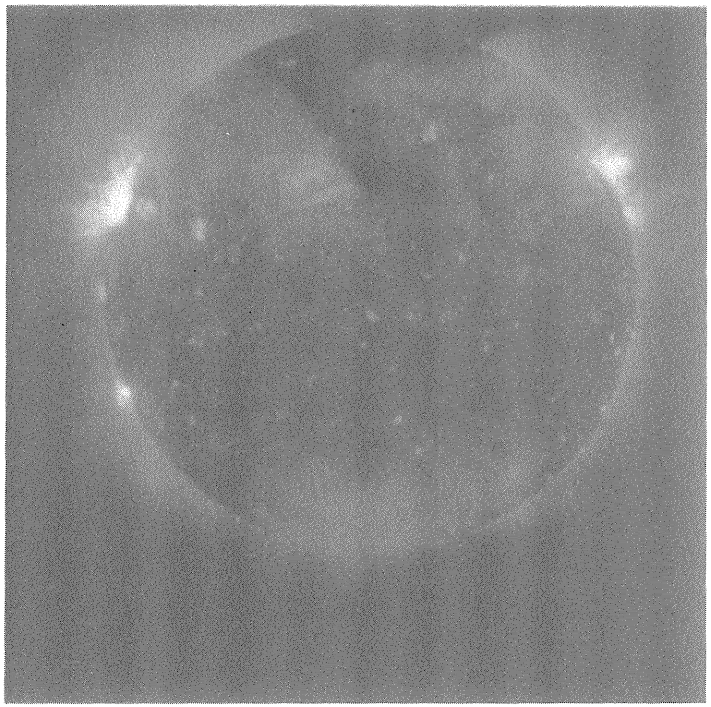
Day 21
14:45:02 UT



Day 23
12:23:11 UT



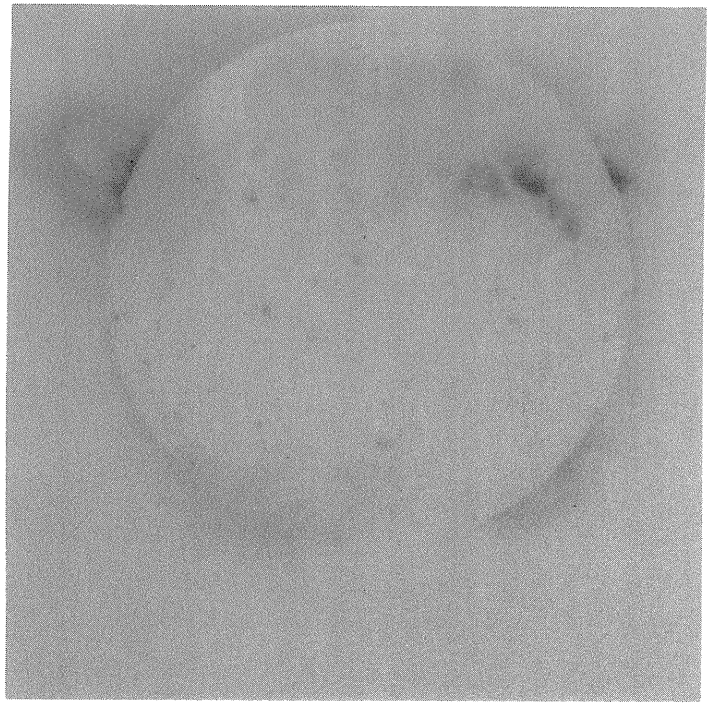
Day 22
11:55:18 UT



Day 24
11:15:33 UT

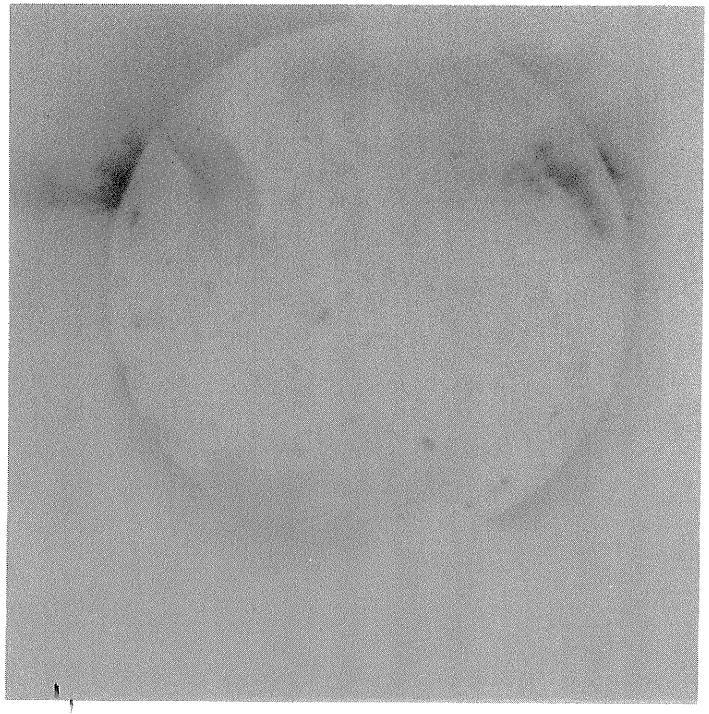
YOHKOH SOFT X-RAY TELESCOPE IMAGES

August
1997

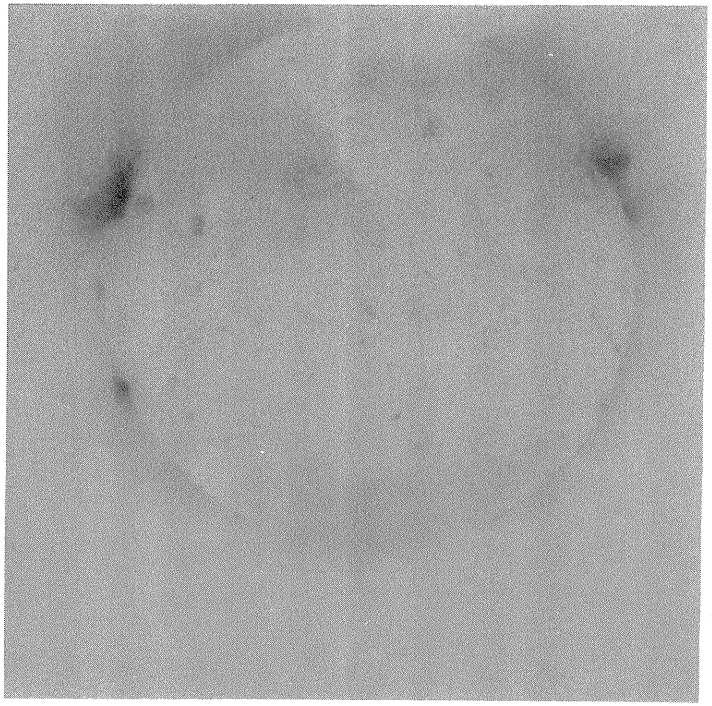


Day 21
14:45:02 UT

Day 23
12:23:11 UT



Day 22
11:55:18 UT

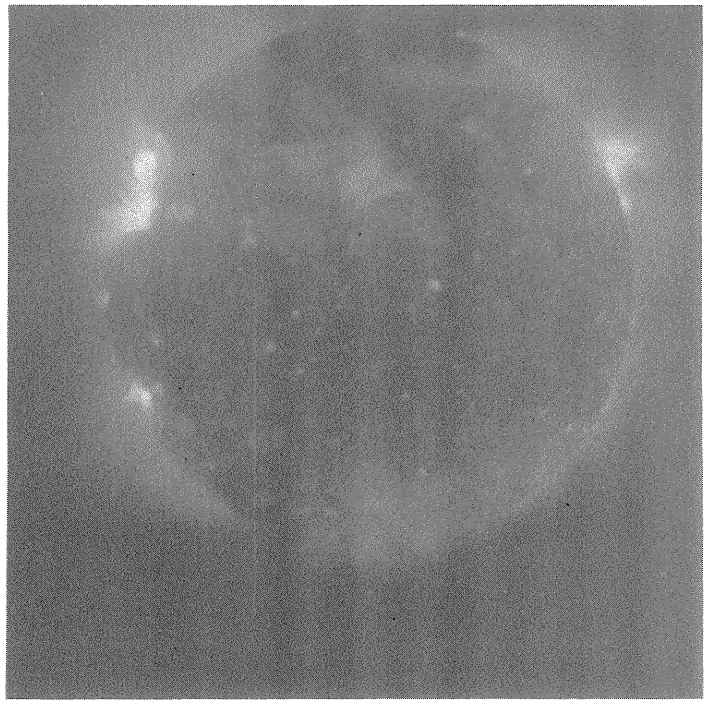


Day 24
11:15:33 UT

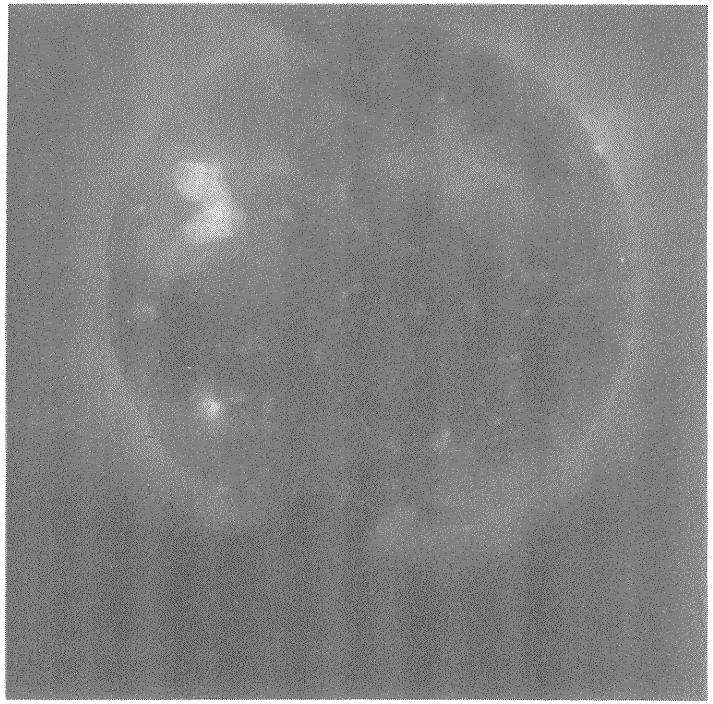
87
Aug 97

YOHKOH SOFT X-RAY TELESCOPE IMAGES

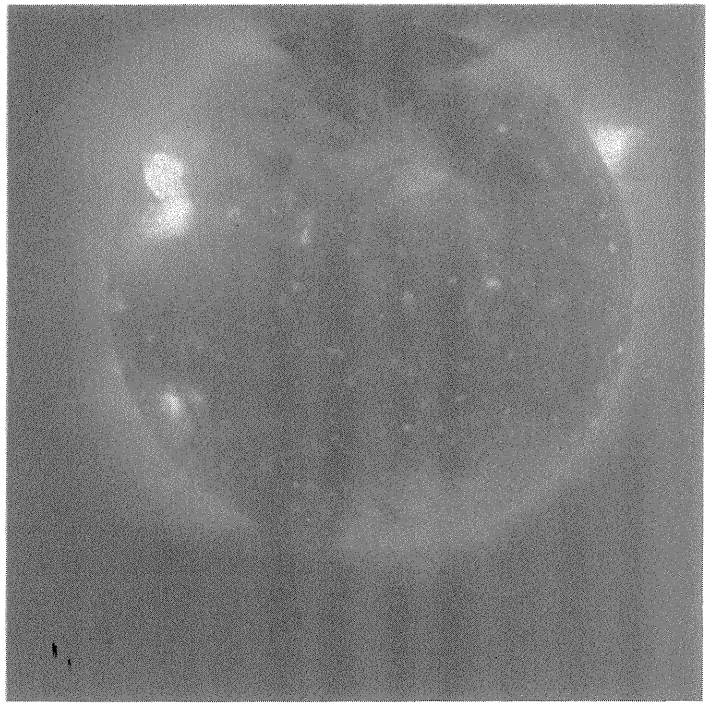
August
1997



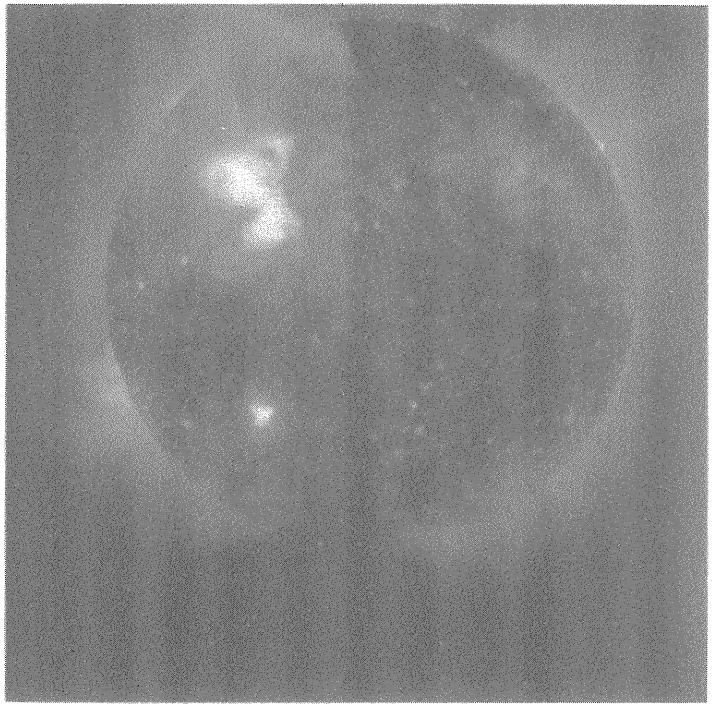
Day 25
11:28:55 UT



Day 27
11:26:49 UT



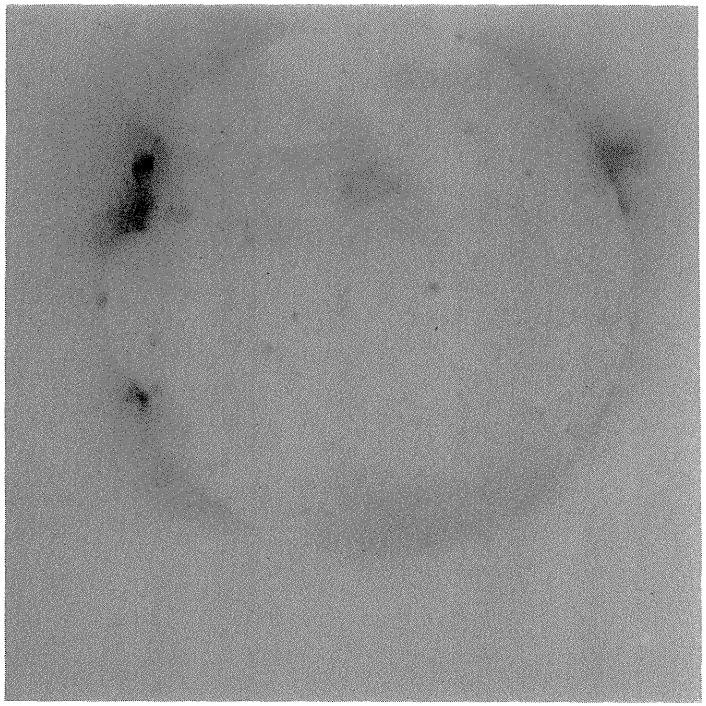
Day 26
11:29:25 UT



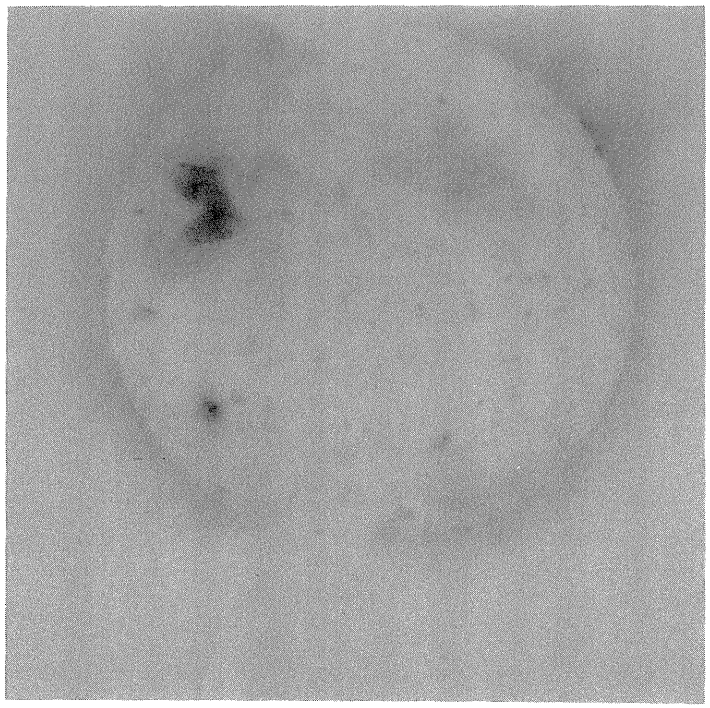
Day 28
11:44:56 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

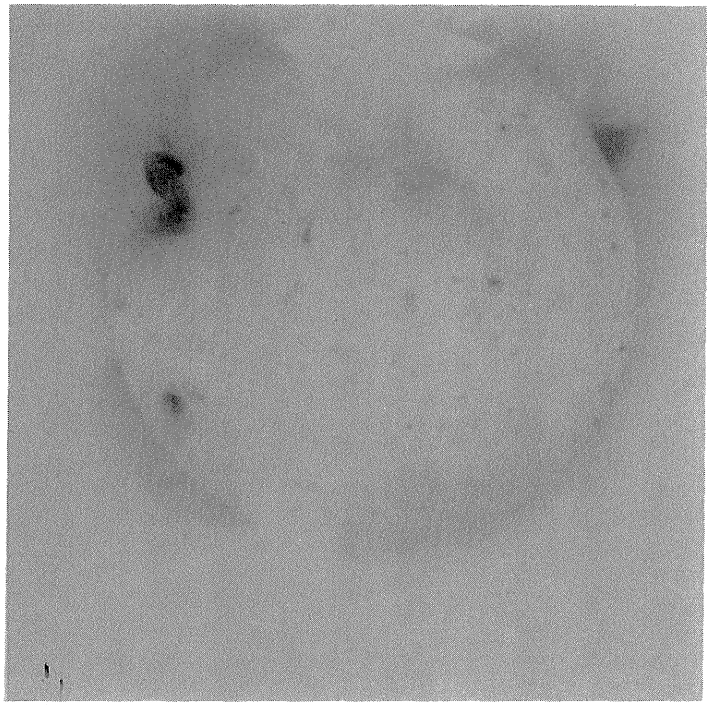
August
1997



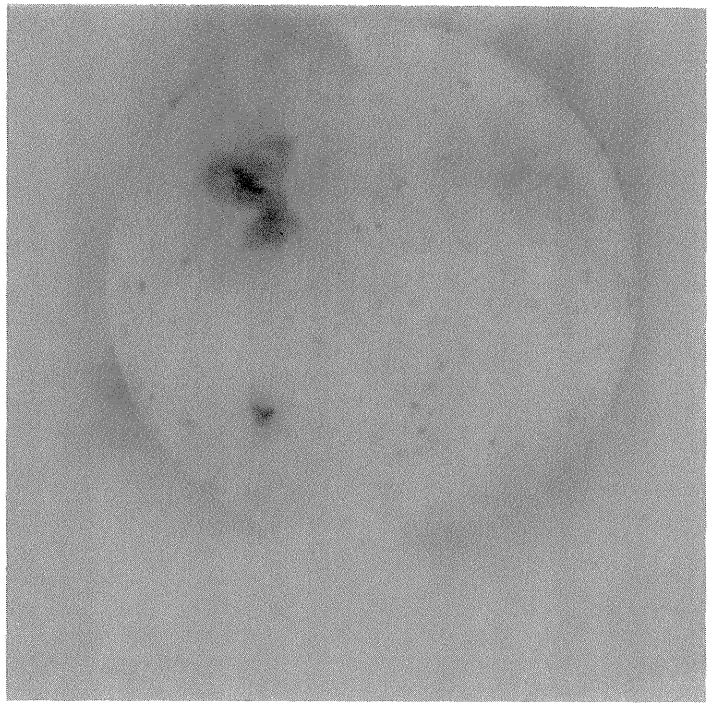
Day 25
11:28:55 UT



Day 27
11:26:49 UT



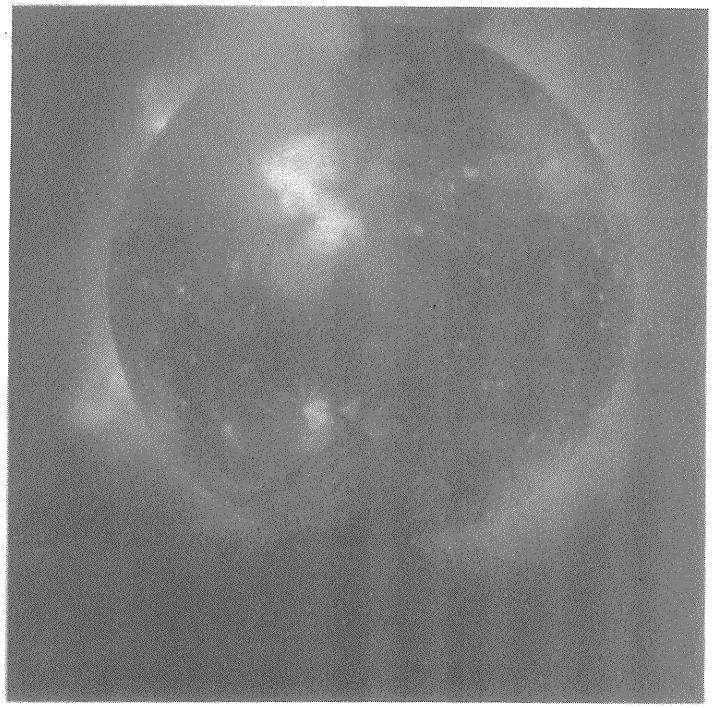
Day 26
11:29:25 UT



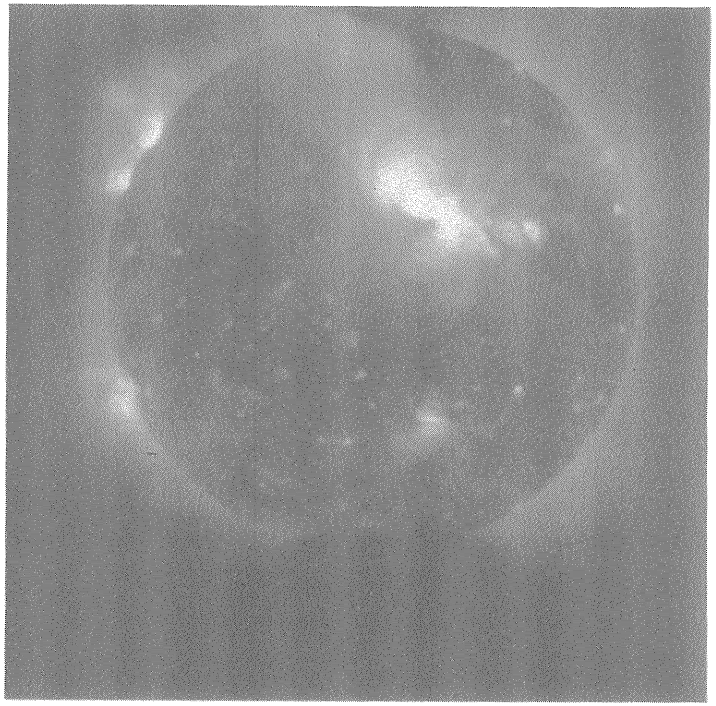
Day 28
11:44:56 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

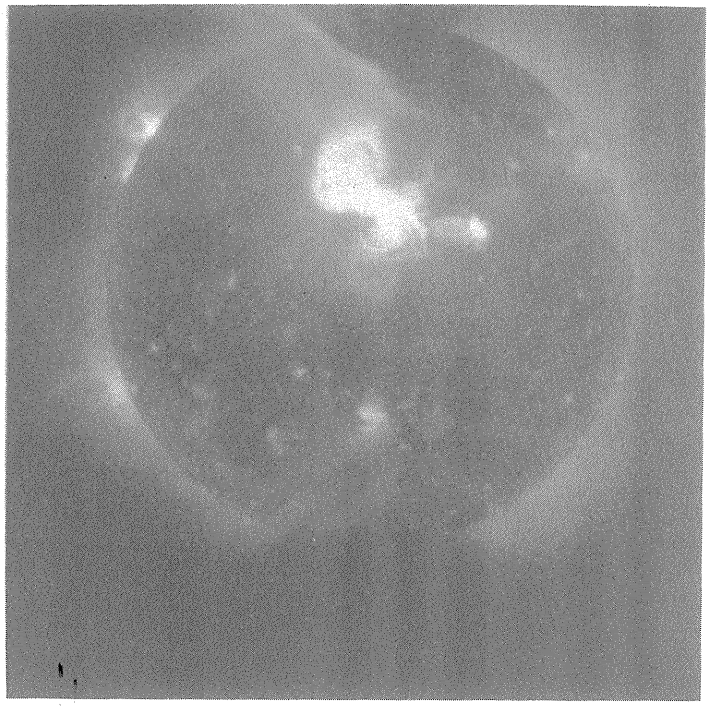
August
1997



Day 29
12:04:12 UT



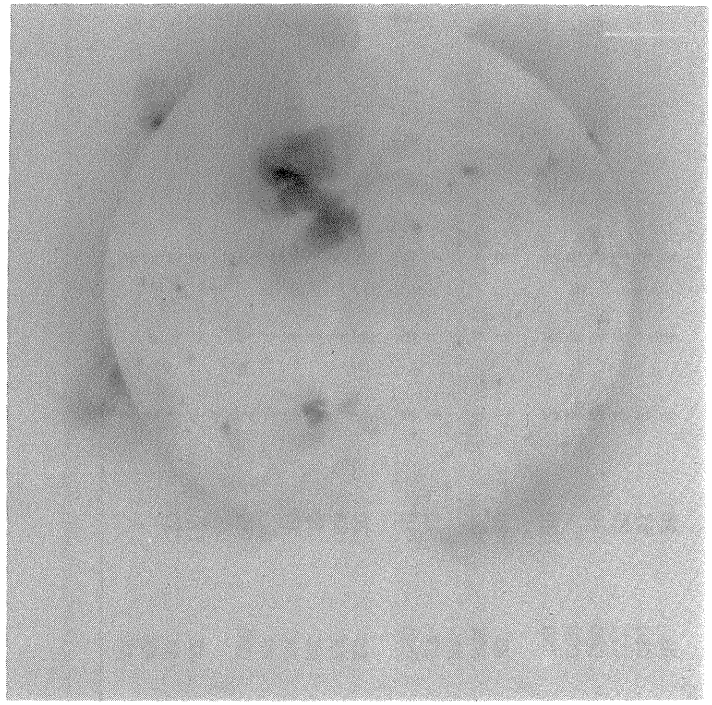
Day 31
11:38:40 UT



Day 30
12:23:32 UT

YOHKOH SOFT X-RAY TELESCOPE IMAGES

August
1997



Day 29
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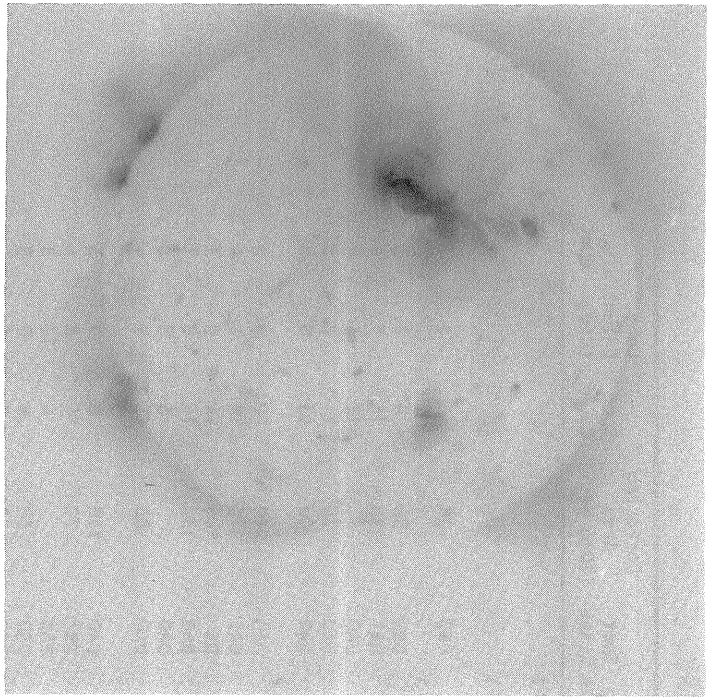
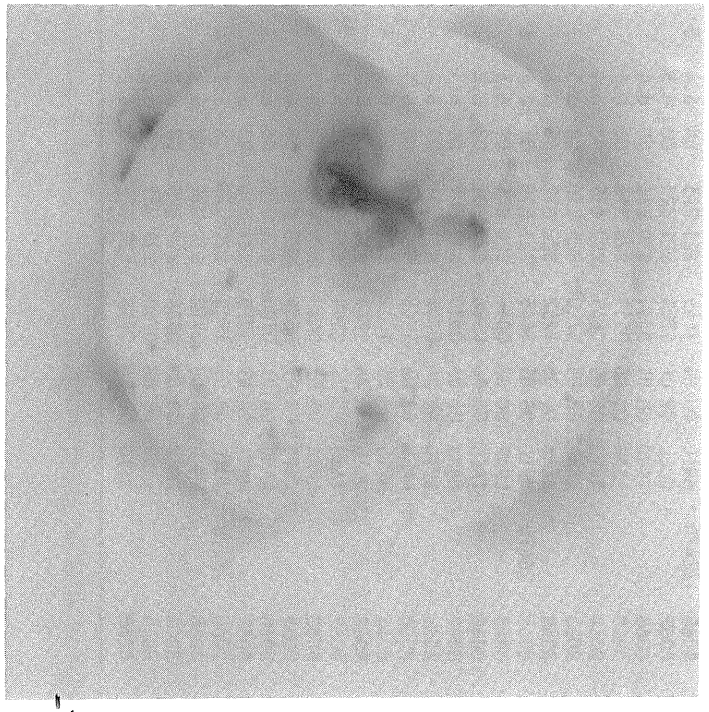


Day 31
11:38:40 UT



Day 30
12:23:32 UT

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

AUGUST 1997

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
8066B	28468	MWIL	07	30	1430	N26	E23	08	1.4	3	(AF)					
8066C	28467	MWIL	07	29	1430	N17	E53	08	2.6	4	(AF)					
8069		RAMY	08	05	1252	N21	W29	08	3.3		B	BXO	10	6	3	3
8069	28471	MWIL	08	05	1445	N21	W31	08	3.2	4	(B)					
8069		LEAR	08	06	0044	N20	W35	08	3.3		B	DSO	50	9	5	3
8069		TACH	08	06	0344	N21	W37	08	3.3			DAI	110	16	5	4
8069		KAND	08	06	0610	N20	W39	08	3.3			DAO		12	6	4
8069		SVTO	08	06	0705	N22	W41	08	3.1		B	DAO	70	11	6	3
8069		RAMY	08	06	1245	N22	W43	08	3.2		B	DAO	100	13	8	4
8069	28471	MWIL	08	06	1445	N20	W44	08	3.2	5	(B)					
8069		HOLL	08	06	1745	N21	W46	08	3.2		B	DAO	210	9	6	2
8069		TACH	08	07	0343	N21	W50	08	3.3			DAI	170	10	6	4
8069		LEAR	08	07	0438	N20	W52	08	3.2		B	DA	100	14	9	3
8069		SVTO	08	07	0640	N20	W54	08	3.1		B	DAO	130	14	8	3
8069		KAND	08	07	0700	N20	W52	08	3.3			DAO		6	8	3
8069		RAMY	08	07	1230	N22	W56	08	3.2		B	DAO	80	13	9	4
8069	28471	MWIL	08	07	1500	N21	W57	08	3.2	5	(B)					
8069		LEAR	08	08	0112	N22	W60	08	3.4		B	DAO	130	8	9	3
8069		TACH	08	08	0338	N20	W65	08	3.2			CSI	79	4	8	4
8069		KAND	08	08	0710	N20	W65	08	3.3			DAO		4	10	3
8069		SVTO	08	08	0718	N22	W65	08	3.3		B	DSO	60	6	8	3
8069		RAMY	08	08	1216	N22	W69	08	3.2		B	DSO	80	8	9	4
8069	28471	MWIL	08	08	1445	N21	W70	08	3.2	5	(B)					
8069		HOLL	08	08	1701	N20	W72	08	3.2		B	CAO	180	9	9	3
8069		SVTO	08	09	0605	N22	W76	08	3.4		B	CRO	20	2	3	2
8069		LEAR	08	09	0610	N20	W75	08	3.5		B	BXO	20	4	7	3
8069		KAND	08	09	0825	N20	W80	08	3.2			CAO		4	11	2
8069		RAMY	08	09	1144	N22	W79	08	3.4		B	CAO	60	7	7	4
8069		HOLL	08	09	1410	N19	W84	08	3.2		A	AX	20	3	1	3
8068		LEAR	08	03	0113	S22	E45	08	6.5		B	BXO	30	3	3	3
8068		SVTO	08	03	0540	S22	E42	08	6.5		B	CSO	30	5	4	3
8068		RAMY	08	03	1149	S22	E39	08	6.5		B	BXO	30	9	4	4
8068		KAND	08	03	1400	S22	E38	08	6.5			CAO		4	4	3
8068	28470	MWIL	08	03	1500	S22	E37	08	6.5	5	(B)					
8068		HOLL	08	03	1556	S22	E37	08	6.5		B	BXO	30	5	4	3
8068		VORO	08	03	2158	S21	E32	08	6.4			AXX	24	1		3
8068		TACH	08	04	0440	S21	E25	08	6.1			HSX	60	1	2	3
8068		SVTO	08	04	0600	S22	E28	08	6.4		B	CSO	30	2	5	3
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8068		KAND	08	04	0900	S21	E28	08	6.5			CSO		2	5	2
8068		RAMY	08	04	1333	S22	E23	08	6.3		A	HS	10	3	1	4
8068	28470	MWIL	08	04	1445	S21	E23	08	6.4	5	(AP)					
8068		HOLL	08	04	1701	S21	E21	08	6.3		A	HS	20	1	1	3
8068		TACH	08	05	0334	S20	E16	08	6.4			CSO	53	2	4	3
8068		LEAR	08	05	0510	S20	E16	08	6.4		B	CSO	20	2	6	3
8068		SVTO	08	05	0545	S22	E15	08	6.4		B	CRO	20	2	5	3
8068		KAND	08	05	0720	S21	E16	08	6.5			CSO		2	5	3
8068		RAMY	08	05	1252	S22	E12	08	6.4		B	CSO	20	2	5	3
8068	28470	MWIL	08	05	1445	S21	E10	08	6.4	4	(B)					
8068		LEAR	08	06	0044	S20	E04	08	6.3		A	HS	10	1	1	3
8068		TACH	08	06	0344	S20	E01	08	6.2			HSX	55	1	1	4
8068		KAND	08	06	0610	S21	E01	08	6.3			HA		1	1	4
8068		SVTO	08	06	0705	S21	W01	08	6.2		A	HS	10	1	1	3
8068		RAMY	08	06	1245	S22	W03	08	6.3		B	CSO	10	2	5	4
8068	28470	MWIL	08	06	1445	S21	W04	08	6.3	4	(AP)					
8068		HOLL	08	06	1745	S22	W07	08	6.2		A	AS	20	1	1	2
8068		TACH	08	07	0343	S20	W12	08	6.2			AR	30	1	1	4
8068		LEAR	08	07	0438	S20	W12	08	6.3		A	AX	10	2	1	3
8068		SVTO	08	07	0640	S20	W14	08	6.2		A	HR	10	1	1	3
8068		KAND	08	07	0700	S21	W13	08	6.3			HS		1	1	3
8068		RAMY	08	07	1230	S21	W16	08	6.3		B	CRO	10	2	6	4
8068	28470	MWIL	08	07	1500	S21	W17	08	6.3	4	(B)					
8068		LEAR	08	08	0112	S19	W24	08	6.2		A	AX		1		3
8068		TACH	08	08	0338	S19	W25	08	6.2			AX	10	1	1	4
8068		KAND	08	08	0710	S21	W27	08	6.2			AX		1		3
8068		SVTO	08	08	0718	S20	W27	08	6.2		A	AX		1		3

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

AUGUST 1997

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
8068		RAMY	08	08	1216	S20	W31	08	6.1		A	AX		1		4
8068	28470	MWIL	08	08	1445	S21	W32	08	6.2	4	(AP)					
8068		HOLL	08	08	1701	S18	W36	08	6.0		A	AX	10	1	1	3
8068A		KAND	08	04	0900	S25	E26	08	6.4			AX		1		2
8068B		VORO	08	04	2320	S19	E26	08	6.9			AXX	12	1		3
8067		SVTO	08	02	0740	N07	E73	08	7.8		A	AX		1		2
8067		LEAR	08	02	0800	N07	E75	08	7.9		A	AX	10	1		3
8067		RAMY	08	02	1235	N05	E70	08	7.8		A	AX	10	1		4
8067	28469	MWIL	08	02	1445	N07	E70	08	7.8	3	(AP)					
8067		HOLL	08	02	1600	N07	E70	08	7.9		A	AX	10	1		3
8067		LEAR	08	03	0113	N06	E64	08	7.8		A	AX		1		3
8067		RAMY	08	03	1149	N05	E58	08	7.8		A	AX		1		4
8067A	28476	MWIL	08	12	1430	N27	W52	08	8.5	4	(B)					
8067A		HOLL	08	12	1600	N27	W54	08	8.4		A	AX	10	1	1	3
8070		KAND	08	05	0720	S19	E64	08	10.2			AX		1		3
8070		RAMY	08	05	1252	S20	E59	08	10.0		A	AX		1		3
8070	28472	MWIL	08	05	1445	S18	E58	08	10.0	4	(AP)					
8070		LEAR	08	06	0044	S19	E52	08	10.0		B	BXO		2	2	3
8070		TACH	08	06	0344	S19	E48	08	9.8			AR	32	3	2	4
8070		KAND	08	06	0610	S19	E48	08	9.9			AX		2		4
8070		SVTO	08	06	0705	S18	E47	08	9.9		B	BXO		3	1	3
8070		RAMY	08	06	1245	S21	E44	08	9.9		B	BXO	10	4	4	4
8070	28472	MWIL	08	06	1445	S18	E44	08	10.0	4	(B)					
8070		HOLL	08	06	1745	S19	E43	08	10.0		B	BXO	30	3	4	2
8070		TACH	08	07	0343	S19	E35	08	9.8			BRO	38	4	4	4
8070		LEAR	08	07	0438	S18	E36	08	9.9		B	DA	20	7	6	3
8070		SVTO	08	07	0640	S19	E34	08	9.9		B	DSO	50	12	5	3
8070		KAND	08	07	0700	S19	E35	08	10.0			CAO		7	6	3
8070		RAMY	08	07	1230	S20	E31	08	9.9		B	CRO	20	8	7	4
8070	28472	MWIL	08	07	1500	S19	E30	08	9.9	5	(B)					
8070		LEAR	08	08	0112	S18	E24	08	9.9		B	DAI	70	14	7	3
8070		TACH	08	08	0338	S18	E23	08	9.9			DAI	140	7	5	4
8070		KAND	08	08	0710	S20	E21	08	9.9			DAO		12	8	3
8070		SVTO	08	08	0718	S20	E21	08	9.9		B	DAO	40	11	7	3
8070		RAMY	08	08	1216	S21	E17	08	9.8		B	DSO	40	12	8	4
8070	28472	MWIL	08	08	1445	S20	E17	08	9.9	5	(B)					
8070		HOLL	08	08	1701	S22	E12	08	9.6		B	DAO	110	11	9	3
8070		SVTO	08	09	0605	S20	E08	08	9.9		B	CRO	30	10	9	2
8070		LEAR	08	09	0610	S19	E08	08	9.9		B	DAO	90	17	9	3
8070		KAND	08	09	0825	S20	E07	08	9.9			DAO		8	8	2
8070		RAMY	08	09	1144	S20	E04	08	9.8		B	CAO	40	11	8	4
8070		HOLL	08	09	1410	S20	E04	08	9.9		B	CSO	30	9	9	3
8070		VORO	08	09	2239	S20	W05	08	9.6			AXX	21	1		3
8070		LEAR	08	10	0346	S20	W04	08	9.8		B	DSO	30	8	8	3
8070		SVTO	08	10	0600	S20	W05	08	9.9		B	CRO	20	9	9	3
8070		KAND	08	10	1115	S20	W09	08	9.8			DAO		3	9	3
8070		RAMY	08	10	1150	S21	W09	08	9.8		B	CRO	20	8	8	3
8070	28472	MWIL	08	10	1445	S20	W13	08	9.6	4	(B)					
8070		HOLL	08	10	1655	S20	W12	08	9.8		B	CAO	40	3	9	3
8070		LEAR	08	11	0100	S20	W17	08	9.7		BG	CSO	200	10	8	3
8070		TACH	08	11	0414	S19	W21	08	9.6			AR	40	1	1	3
8070		SVTO	08	11	0630	S18	W22	08	9.6		B	BXO	10	3	4	3
8070		RAMY	08	11	1223	S20	W24	08	9.7		B	BXO	10	5	8	4
8070	28472	MWIL	08	11	1430	S20	W24	08	9.8	4	(B)					
8070		HOLL	08	11	1430	S22	W23	08	9.8		B	BXO	60	7	7	3
8070		LEAR	08	12	0137	S21	W30	08	9.8		B	BXO	10	7	6	3
8070		TACH	08	12	0412	S20	W30	08	9.9			BRO	45	4	5	3
8070		SVTO	08	12	0910	S19	W34	08	9.8		B	BXO	20	6	6	3
8070		RAMY	08	12	1152	S19	W36	08	9.7		B	BXO	20	8	6	4
8070	28472	MWIL	08	12	1430	S19	W37	08	9.8	4	(B)					
8070		HOLL	08	12	1600	S21	W38	08	9.7		B	BXO	40	7	6	3
8070		VORO	08	12	2220	S21	W39	08	9.9			AXX	16	1		3
8070		LEAR	08	13	0035	S20	W43	08	9.7		B	CAO	30	9	8	4
8070		TACH	08	13	0424	S18	W44	08	9.8			DSI	147	6	5	4

SUNSPOT GROUPS
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AUGUST 1997

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
8070		RAMY	08 13 1133	S19 W48	08 9.8		B	DAO	80	13	8	4
8070		SVTO	08 13 1232	S19 W48	08 9.8		B	DSO	60	12	8	3
8070	28472	MWIL	08 13 1430	S19 W51	08 9.7	5	(B)					
8070		HOLL	08 13 1915	S20 W55	08 9.6		B	CSO	40	7	10	3
8070		LEAR	08 14 0028	S20 W55	08 9.8		B	DSO	40	4	7	3
8070		TACH	08 14 0429	S18 W57	08 9.8			BRO	40	2	7	3
8070		SVTO	08 14 0630	S18 W57	08 9.9		B	DSO	50	4	7	3
8070		RAMY	08 14 1202	S19 W62	08 9.8		B	DSO	40	5	7	4
8070	28472	MWIL	08 14 1430	S19 W65	08 9.6	4	(B)					
8070		HOLL	08 14 1601	S20 W66	08 9.6		B	BXO	10	3	8	3
8070		LEAR	08 15 0207	S20 W69	08 9.8		B	BXO	20	3	7	3
8070		HOLL	08 15 1420	S21 W78	08 9.6		A	AX	10	1		3
8070	28472	MWIL	08 15 1445	S20 W80	08 9.5	4	AP					
8072		SVTO	08 09 0605	N21 E32	08 11.7		A	AX		1		2
8072		RAMY	08 09 1144	N20 E26	08 11.5		A	AX		1		4
8072		HOLL	08 09 1410	N22 E26	08 11.6		A	AX		1		3
8072A		LEAR	08 12 0137	S19 E05	08 12.4		A	AX		1		3
8072A		RAMY	08 12 1152	S18 W01	08 12.4		A	AX		1		4
8072A		RAMY	08 14 1202	S17 W27	08 12.4		B	BXO		2	2	4
8072A	28478	MWIL	08 14 1430	S17 W29	08 12.4	3	(AP)					
8071		RAMY	08 08 1216	N24 E67	08 13.7		B	CRO	30	5	4	4
8071	28473	MWIL	08 08 1445	N26 E68	08 13.9	5	(B)					
8071		HOLL	08 08 1701	N28 E67	08 13.9		GD	DRO	100	2	4	3
8071		SVTO	08 09 0605	N26 E56	08 13.6		B	BXO	10	3	5	2
8071		LEAR	08 09 0610	N25 E58	08 13.7		B	BXO		2	5	3
8071		KAND	08 09 0825	N25 E56	08 13.7			BXO		2	6	2
8071		RAMY	08 09 1144	N25 E55	08 13.7		B	BXO	10	4	6	4
8071		HOLL	08 09 1410	N27 E54	08 13.8		B	BXO	10	2	6	3
8071		LEAR	08 10 0346	N26 E47	08 13.8		B	BX	10	2	3	3
8071		SVTO	08 10 0600	N27 E45	08 13.7		B	BXO		3	4	3
8071		KAND	08 10 1115	N26 E44	08 13.9			AX		1		3
8071		RAMY	08 10 1150	N26 E45	08 14.0		A	AX		1		3
8071	28473	MWIL	08 10 1445	N26 E40	08 13.7	4	(B)					
8071		HOLL	08 10 1655	N27 E39	08 13.7		B	BXO	30	8	6	3
8071		LEAR	08 11 0100	N26 E33	08 13.6		BG	BSO	200	8	5	3
8071		TACH	08 11 0414	N26 E28	08 13.3			AX	22	2	1	3
8071		SVTO	08 11 0630	N25 E30	08 13.6		B	CAO	30	8	8	3
8071		RAMY	08 11 1223	N24 E26	08 13.5		B	CSO	20	6	4	4
8071		HOLL	08 11 1430	N26 E24	08 13.5		B	CSO	50	4	5	3
8071	28473	MWIL	08 11 1430	N26 E25	08 13.5	5	(B)					
8071		LEAR	08 12 0137	N25 E18	08 13.5		B	BXO	10	5	5	3
8071		TACH	08 12 0412	N26 E18	08 13.6			BRO	37	4	4	3
8071		SVTO	08 12 0910	N26 E14	08 13.5		B	BXO	20	8	5	3
8071		RAMY	08 12 1152	N26 E13	08 13.5		B	CAO	50	10	5	4
8071	28473	MWIL	08 12 1430	N26 E11	08 13.4	4	(BP)					
8071		HOLL	08 12 1600	N26 E11	08 13.5		B	DAO	110	8	7	3
8071		VORO	08 12 2220	N26 E08	08 13.5			CAI	34	4	4	3
8071		LEAR	08 13 0035	N25 E06	08 13.5		B	CSO	20	8	5	4
8071		TACH	08 13 0424	N26 E04	08 13.5			CSO	80	4	5	4
8071		RAMY	08 13 1133	N26 E01	08 13.5		B	CAO	30	3	5	4
8071		SVTO	08 13 1232	N26 W01	08 13.4		B	CAO	30	6	6	3
8071	28473	MWIL	08 13 1430	N26 W04	08 13.3	5	(AP)					
8071		HOLL	08 13 1915	N26 W07	08 13.2		A	HA	20	2	2	3
8071		LEAR	08 14 0028	N25 W10	08 13.2		A	HS	10	1	1	3
8071		TACH	08 14 0429	N27 W12	08 13.2			AR	30	1	1	3
8071		SVTO	08 14 0630	N26 W13	08 13.3		B	CRO	10	3	2	3
8071		RAMY	08 14 1202	N26 W16	08 13.2		A	HR	10	3	1	4
8071	28473	MWIL	08 14 1430	N26 W17	08 13.3	5	(AP)					
8071		HOLL	08 14 1601	N26 W18	08 13.3		A	AX	10	3	2	3
8071		LEAR	08 15 0207	N26 W24	08 13.2		A	AX		2	1	3
8071		TACH	08 15 0436	N26 W25	08 13.2			AX	12	2	1	3
8071		SVTO	08 15 0625	N25 W26	08 13.2		B	BXO		2	2	3
8071		RAMY	08 15 1129	N25 W30	08 13.1		B	BXO	10	3	3	4
8071		HOLL	08 15 1420	N27 W30	08 13.2		B	BXO	10	2	3	3
8071	28473	MWIL	08 15 1445	N26 W31	08 13.2	3	(AP)					

S U N S P O T G R O U P S
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AUGUST 1997

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo Day	Time (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
8071A		RAMY	08 13	1133	N25 E11	08 14.3		B	BXO	10	5	3	4
8071A		SVTO	08 13	1232	N25 E09	08 14.2		B	BXO		2	3	3
8071A	28477	MWIL	08 13	1430	N25 E07	08 14.1	3	(AP)					
8071B		RAMY	08 18	1228	S08 W23	08 16.8		A	AX		1		4
8073		SVTO	08 11	0630	N15 E83	08 17.5		A	HS	60	1	7	3
8073		RAMY	08 11	1223	N13 E79	08 17.5		A	HS	40	1	2	4
8073	28474	MWIL	08 11	1430	N14 E79	08 17.6	4	AP					
8073		HOLL	08 11	1430	N17 E81	08 17.7		A	HS	180	1	1	3
8073		LEAR	08 12	0137	N15 E73	08 17.6		A	HH	40	1	2	3
8073		TACH	08 12	0412	N13 E73	08 17.7			HSX	150	1	2	3
8073		SVTO	08 12	0910	N17 E71	08 17.8		A	HR	30	1	3	3
8073		RAMY	08 12	1152	N13 E66	08 17.5		A	HS	40	2	2	4
8073	28474	MWIL	08 12	1430	N15 E66	08 17.6	5	(AP)					
8073		HOLL	08 12	1600	N16 E67	08 17.7		A	HS	140	1	2	3
8073		VORO	08 12	2220	N15 E62	08 17.6			HAX	63	1		3
8073		LEAR	08 13	0035	N14 E61	08 17.6		A	HS	50	1	2	4
8073		TACH	08 13	0424	N14 E58	08 17.6			HSX	120	1	2	4
8073		RAMY	08 13	1133	N13 E55	08 17.6		A	HS	60	1	2	4
8073		SVTO	08 13	1232	N15 E54	08 17.6		A	HS	70	1	2	3
8073	28474	MWIL	08 13	1430	N14 E53	08 17.6	5	(AP)					
8073		HOLL	08 13	1915	N15 E51	08 17.7		A	HS	60	1	2	3
8073		LEAR	08 14	0028	N14 E48	08 17.6		A	HS	30	1	1	3
8073		TACH	08 14	0429	N15 E45	08 17.6			HSX	150	1	2	3
8073		SVTO	08 14	0630	N14 E45	08 17.7		A	HS	80	1	2	3
8073		RAMY	08 14	1202	N15 E42	08 17.7		A	HS	60	1	2	4
8073	28474	MWIL	08 14	1430	N14 E40	08 17.6	5	(AP)					
8073		HOLL	08 14	1601	N14 E40	08 17.7		A	HS	80	1	2	3
8073		LEAR	08 15	0207	N15 E34	08 17.7		A	HS	50	1	2	3
8073		TACH	08 15	0436	N15 E32	08 17.6			HSX	160	1	2	3
8073		SVTO	08 15	0625	N15 E32	08 17.7		B	CSO	90	3	2	3
8073		KAND	08 15	0700	N15 E31	08 17.6			HS		1	2	3
8073		RAMY	08 15	1129	N15 E29	08 17.7		A	HS	60	1	2	4
8073		HOLL	08 15	1420	N15 E28	08 17.7		A	HS	70	1	2	3
8073	28474	MWIL	08 15	1445	N14 E27	08 17.6	5	(AP)					
8073		LEAR	08 16	0100	N15 E21	08 17.6		A	HS	80	1		4
8073		TACH	08 16	0428	N14 E19	08 17.6			HSX	160	1	2	3
8073		SVTO	08 16	0755	N15 E17	08 17.6		A	HS	60	3	2	3
8073		KAND	08 16	0900	N14 E17	08 17.6			HS		1	2	3
8073		HOLL	08 16	1000	N15 E13	08 17.4		A	HS	60	1	1	3
8073		RAMY	08 16	1250	N15 E15	08 17.7		A	HS	60	1	2	4
8073	28474	MWIL	08 16	1445	N14 E14	08 17.7	5	(AP)					
8073		LEAR	08 17	0325	N15 E07	08 17.7		A	HS	60	1	2	3
8073		TACH	08 17	0521	N15 E05	08 17.6			HSX	120	1	2	3
8073		SVTO	08 17	0608	N15 E05	08 17.6		A	HS	40	1	2	3
8073		KAND	08 17	0845	N15 E04	08 17.7			HS		1	1	3
8073		RAMY	08 17	1228	N15 E02	08 17.7		A	HS	50	1	2	4
8073	28474	MWIL	08 17	1445	N14 E01	08 17.7	5	(AP)					
8073		HOLL	08 17	1520	N15 E01	08 17.7		A	HS	100	1	2	3
8073		LEAR	08 18	0100	N15 W05	08 17.7		A	HS	40	1		3
8073		TACH	08 18	0531	N15 W08	08 17.6			HSX	130	1	2	3
8073		KAND	08 18	0715	N14 W08	08 17.7			HS		1	2	3
8073		SVTO	08 18	0820	N14 W09	08 17.7		A	HS	60	1	2	3
8073		RAMY	08 18	1228	N14 W12	08 17.6		A	HS	50	1	2	4
8073	28474	MWIL	08 18	1445	N14 W13	08 17.6	5	(AP)					
8073		HOLL	08 18	1700	N14 W14	08 17.6		A	HS	100	1	2	2
8073		LEAR	08 19	0100	N15 W18	08 17.7		A	HS	80	1	2	3
8073		TACH	08 19	0444	N14 W21	08 17.6			HSX	140	1	2	3
8073		KAND	08 19	0635	N14 W21	08 17.7			HA		1	2	3
8073		RAMY	08 19	1222	N14 W25	08 17.6		A	HS	40	1	2	4
8073	28474	MWIL	08 19	1430	N15 W26	08 17.6	5	(AP)					
8073		HOLL	08 19	1521	N14 W27	08 17.6		B	HS	80	1	2	3
8073		VORO	08 20	0356	N14 W34	08 17.6			HAX	65	1		2
8073		TACH	08 20	0436	N15 W34	08 17.6			HSX	120	1	2	4
8073		KAND	08 20	0730	N14 W35	08 17.7			HA		1	2	2
8073		LEAR	08 20	0812	N13 W35	08 17.7		A	HS	70	1	2	3
8073		RAMY	08 20	1123	N14 W38	08 17.6		A	HS	30	1	2	3
8073		HOLL	08 20	1335	N14 W39	08 17.6		A	HS	50	1	2	3

S U N S P O T G R O U P S
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AUGUST 1997

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo Day	Time (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
8073	28474	MWIL	08 20	1530	N14 W39	08 17.7	5	(AP)					
8073		TACH	08 21	0448	N15 W47	08 17.6			HSX	70	1	1	4
8073		LEAR	08 21	0503	N13 W48	08 17.6		A	HS	80	1	2	3
8073		KAND	08 21	0700	N14 W49	08 17.6			HS		1	1	2
8073		RAMY	08 21	1126	N13 W51	08 17.6		A	HS	50	1	1	5
8073		SVTO	08 21	1315	N13 W52	08 17.6		A	HS	60	1	2	3
8073	28474	MWIL	08 21	1430	N14 W52	08 17.7	5	(AP)					
8073		HOLL	08 21	1710	N14 W55	08 17.5		A	HS	60	1	1	3
8073		LEAR	08 22	0037	N14 W58	08 17.6		A	HS	70	1	2	3
8073		TACH	08 22	0508	N14 W61	08 17.6			HSX	40	1	1	4
8073		KAND	08 22	0730	N13 W63	08 17.5			HS		1	1	2
8073		SVTO	08 22	0830	N14 W63	08 17.6		A	HS	80	1	2	2
8073		RAMY	08 22	1132	N13 W65	08 17.6		A	HS	40	1	1	4
8073	28474	MWIL	08 22	1430	N14 W65	08 17.7	4	(D)					
8073		HOLL	08 22	1705	N13 W70	08 17.4		A	HS	50	1	2	2
8073		LEAR	08 23	0008	N13 W73	08 17.5		A	AX	20	1	1	4
8073		TACH	08 23	0534	N14 W81	08 17.1			AR	10	1	1	3
8073		RAMY	08 23	1207	N13 W78	08 17.6		A	AX	10	2	1	3
8073	28474	MWIL	08 23	1430	N13 W80	08 17.6	4	(AP)					
8074		RAMY	08 11	1223	N25 E80	08 17.7		A	HS	30	1	2	4
8074	28475	MWIL	08 11	1430	N26 E82	08 18.0	4	AP					
8074		LEAR	08 12	0137	N27 E75	08 17.9		A	HH	30	1	2	3
8074		TACH	08 12	0412	N25 E77	08 18.1			HSX	120	1	2	3
8074		SVTO	08 12	0910	N27 E68	08 17.7		A	HA	50	1	2	3
8074		RAMY	08 12	1152	N24 E68	08 17.7		A	HS	40	1	2	4
8074	28475	MWIL	08 12	1430	N26 E69	08 18.0	4	(AP)					
8074		HOLL	08 12	1600	N27 E69	08 18.0		A	HS	10	1	1	3
8074		VORO	08 12	2220	N26 E65	08 18.0			HRX	37	1		3
8074		LEAR	08 13	0035	N26 E63	08 17.9		A	HS	40	2	2	4
8074		TACH	08 13	0424	N26 E61	08 17.9			HR	60	1	2	4
8074		RAMY	08 13	1133	N25 E59	08 18.0		B	CSO	50	5	4	4
8074		SVTO	08 13	1232	N27 E56	08 17.9		B	CSO	30	3	3	3
8074	28475	MWIL	08 13	1430	N26 E56	08 17.9	5	(AP)					
8074		HOLL	08 13	1915	N27 E55	08 18.1		A	HS	40	2	2	3
8074		LEAR	08 14	0028	N26 E49	08 17.8		A	HS	30	1	1	3
8074		TACH	08 14	0429	N26 E47	08 17.8			HSX	70	1	2	3
8074		SVTO	08 14	0630	N27 E48	08 18.0		A	HS	30	1	1	3
8074		RAMY	08 14	1202	N27 E44	08 17.9		A	HS	30	4	3	4
8074	28475	MWIL	08 14	1430	N26 E43	08 17.9	5	(AP)					
8074		HOLL	08 14	1601	N26 E43	08 18.0		A	HS	20	2	2	3
8074		LEAR	08 15	0207	N27 E39	08 18.1		B	CSO	20	5	3	3
8074		TACH	08 15	0436	N27 E36	08 18.0			CSO	36	4	5	3
8074		SVTO	08 15	0625	N27 E35	08 18.0		B	CSO	30	5	6	3
8074		KAND	08 15	0700	N27 E35	08 18.0			CSO		4	6	3
8074		RAMY	08 15	1129	N27 E33	08 18.0		B	CSO	30	5	6	4
8074		HOLL	08 15	1420	N27 E33	08 18.2		B	CSO	30	3	6	3
8074	28475	MWIL	08 15	1445	N27 E30	08 17.9	5	(AP)					
8074		LEAR	08 16	0100	N27 E23	08 17.8		A	HS	20	1		4
8074		TACH	08 16	0428	N26 E21	08 17.8			AR	40	1	1	3
8074		SVTO	08 16	0755	N27 E18	08 17.7		A	HS	20	1	1	3
8074		KAND	08 16	0900	N26 E19	08 17.8			HS		1	1	3
8074		HOLL	08 16	1000	N27 E16	08 17.7		A	CR	10	1	2	3
8074		RAMY	08 16	1250	N27 E19	08 18.0		B	CRO	10	2	5	4
8074	28475	MWIL	08 16	1445	N27 E16	08 17.9	4	(AP)					
8074		LEAR	08 17	0325	N27 E09	08 17.8		A	AX	10	1		3
8074		TACH	08 17	0521	N26 E08	08 17.8			AX	10	1	1	3
8074		SVTO	08 17	0608	N27 E08	08 17.9		A	AX		2	1	3
8074		RAMY	08 17	1228	N27 E04	08 17.8		A	AX		2		4
8074	28475	MWIL	08 17	1445	N27 E03	08 17.8	4	(AP)					
8074		HOLL	08 17	1520	N27 E03	08 17.9		A	AX	10	1	1	3
8074	28475	MWIL	08 18	1445	N27 W07	08 18.1	4	(AP)					
8075		TACH	08 15	0436	N29 E56	08 19.6			AX	5	1	1	3
8075		SVTO	08 15	0625	N28 E54	08 19.5		A	HR	10	1		3
8075		KAND	08 15	0700	N29 E55	08 19.6			AX		1		3
8075		RAMY	08 15	1129	N29 E52	08 19.5		A	AX		1		4
8075		HOLL	08 15	1420	N29 E51	08 19.6		A	AX		1		3
8075	28479	MWIL	08 15	1445	N28 E50	08 19.5	4	(AP)					

SUNSPOT GROUPS
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AUGUST 1997

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8075		LEAR	08 16 0100	N29 E43	08 19.4		A	AX	10	1		4
8080		VORO	08 29 2127	N19 W16	08 28.7			BXO	21	2	2	2
8080		TACH	08 30 0600	N19 W21	08 28.6			BRO	80	3	3	3
8080		SVTO	08 30 0715	N18 W23	08 28.5		B	BXO	10	4	4	4
8080		LEAR	08 30 0837	N18 W23	08 28.6		B	BXO	20	3	4	3
8080		KAND	08 30 1200	N19 W25	08 28.6			BXO		5	5	2
8080	28484	MWIL	08 30 1500	N19 W27	08 28.6	4	(B)					
8080		HOLL	08 30 1510	N18 W26	08 28.6		B	BXO	20	8	5	3
8080		LEAR	08 31 0115	N18 W32	08 28.6		B	CSO	20	3	7	3
8080		SVTO	08 31 0605	N18 W33	08 28.7		A	AX		1		3
8080		TACH	08 31 0638	N18 W33	08 28.8			AX	20	1	1	3
8080		KAND	08 31 0730	N18 W34	08 28.7			AX		2	1	2
8080		RAMY	08 31 1212	N18 W37	08 28.7		A	AX		2	1	4
8080	28484	MWIL	08 31 1530	N19 W38	08 28.7	4	(AP)					
8080		HOLL	08 31 1538	N18 W38	08 28.7		A	AX	20	4	2	3
8080		TACH	09 01 0550	N17 W46	08 28.8			AX	25	1	1	4
8080		SVTO	09 01 0605	N18 W46	08 28.8		A	AX		1		3
8080		LEAR	09 01 0615	N18 W47	08 28.8		B	AR		1		2
8080		RAMY	09 01 1202	N18 W50	08 28.8		A	AX		1		4
8080	28484	MWIL	09 01 1445	N19 W51	08 28.8	3	(AF)					
8080		SVTO	09 02 0740	N23 W60	08 28.8		A	AX	10	3	2	3
8079		TACH	08 27 0516	N17 E35	08 29.9			AX	10	1	1	4
8079	28482	MWIL	08 27 1430	N16 E30	08 29.9	4	(AP)					
8079		TACH	08 28 0624	N18 E20	08 29.8			AX	6	2	1	4
8079		KAND	08 28 0920	N15 E19	08 29.8			AX		5	2	3
8079	28482	MWIL	08 28 1445	N16 E17	08 29.9	3	(AP)					
8079		HOLL	08 28 2011	N15 E12	08 29.7		A	AX	10	3	2	3
8079		RAMY	08 29 1243	N15 E03	08 29.7		A	AX	10	3	3	3
8079	28482	MWIL	08 29 1430	N16 E04	08 29.9	4	(AP)					
8077		RAMY	08 25 1205	S22 E64	08 30.4		B	BXO	20	3	3	2
8077	28480	MWIL	08 25 1430	S23 E65	08 30.6	4	(AF)					
8077		SVTO	08 26 0605	S22 E51	08 30.2		A	AX		2	1	4
8077		RAMY	08 26 1059	S22 E53	08 30.5		A	AX		1		2
8077	28480	MWIL	08 26 1445	S23 E51	08 30.5	4	(AF)					
8077		HOLL	08 26 1502	S22 E51	08 30.5		A	AX	10	1		3
8078		LEAR	08 27 0350	N17 E37	08 30.0		A	AX		1		3
8078		SVTO	08 27 0710	N16 E34	08 29.9		A	AX		2		3
8078		RAMY	08 27 1245	N17 E32	08 30.0		A	AX	10	2	1	3
8078	28483	MWIL	08 27 1430	N20 E32	08 30.0	3	(AF)					
8078		HOLL	08 27 1504	N17 E30	08 29.9		A	AX	20	3	2	3
8078		SVTO	08 28 0545	N16 E21	08 29.8		A	AX	10	4	2	3
8078		KAND	08 28 0920	N20 E20	08 29.9			AX		2	2	3
8078		RAMY	08 28 1204	N16 E22	08 30.2		A	AX		3	2	4
8078	28483	MWIL	08 28 1445	N21 E28	08 30.8	4	(AF)					
8078		HOLL	08 28 1555	N17 E25	08 30.6		A	AX	10	2	2	4
8078		RAMY	08 29 1243	N21 E11	08 30.4		A	AX	10	2	1	3
8078	28483	MWIL	08 29 1430	N21 E12	08 30.5	4	(AF)					
8078		LEAR	08 30 0837	N20 E03	08 30.6		B	BXO	30	3	2	3
8078	28483	MWIL	08 30 1500	N21 W01	08 30.5	3	(AF)					
8078		HOLL	08 30 1510	N20 W02	08 30.5		A	AX	10	7	3	3
8078		LEAR	08 31 0115	N21 W07	08 30.5		B	BXO	10	4	3	3
8078		SVTO	08 31 0605	N21 W09	08 30.6		A	AX	10	3		3
8078		RAMY	08 31 1212	N21 W14	08 30.4		A	AX		2	3	4
8078	28483	MWIL	08 31 1530	N21 W14	08 30.6	3	(B)					
8078		HOLL	08 31 1538	N21 W15	08 30.5		A	AX	10	5	4	3
8078		RAMY	09 01 1202	N21 W27	08 30.5		A	AX	10	10	2	4
8078	28483	MWIL	09 01 1445	N22 W27	08 30.6	4	(BF)					
8078		HOLL	09 01 1800	N22 W30	08 30.5		A	AX	10	5	2	3
8078		LEAR	09 02 0022	N20 W33	08 30.6		B	BXO	10	3	1	3
8078		RAMY	09 02 1307	N21 W41	08 30.5		A	AX		3	2	3
8078	28483	MWIL	09 02 1515	N22 W37	08 30.9	4	(AF)					
8078A		LEAR	08 25 0757	S23 E68	08 30.6		A	AX		1		3
8078A		KAND	08 26 0815	S23 E57	08 30.7			AX		2	2	5

SUNSPOT GROUPS
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AUGUST 1997

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8076		SVTO	08	25	0603	N29	E71	08	30.8		B	BXO	10	3	4	4
8076		KAND	08	25	0700	N30	E75	08	31.2			CAO		2	4	2
8076		LEAR	08	25	0757	N29	E71	08	30.9		B	BX	10	3	4	3
8076		RAMY	08	25	1205	N30	E68	08	30.8		B	CRO	40	5	9	2
8076	28481	MWIL	08	25	1430	N29	E70	08	31.1	5	(G)					
8076		HOLL	08	25	1507	N28	E69	08	31.0		A	HR	80	9	2	3
8076		VORO	08	26	0155	N30	E63	08	31.0			HAX	62	2	1	1
8076		TACH	08	26	0604	N30	E60	08	31.0			CR	141	6	5	4
8076		SVTO	08	26	0605	N30	E60	08	31.0		BG	DAI	100	8	7	4
8076		LEAR	08	26	0642	N29	E59	08	30.9		B	DAO	300	8	6	3
8076		KAND	08	26	0815	N30	E60	08	31.1			DAO		16	6	5
8076		RAMY	08	26	1059	N30	E55	08	30.8		BG	DSI	70	8	9	2
8076	28481	MWIL	08	26	1445	N30	E56	08	31.0	4	(G)					
8076		HOLL	08	26	1502	N30	E56	08	31.0		B	DAI	150	13	8	3
8076		LEAR	08	27	0350	N29	E47	08	30.8		B	DSO	170	11	6	3
8076		TACH	08	27	0516	N31	E47	08	30.9			CR	142	7	5	4
8076		KAND	08	27	0650	N30	E47	08	31.0			CSO		10	8	3
8076		SVTO	08	27	0710	N28	E45	08	30.8		B	DAO	70	11	7	3
8076		RAMY	08	27	1245	N30	E42	08	30.8		B	CSO	80	10	9	3
8076	28481	MWIL	08	27	1430	N29	E42	08	30.9	5	(BF)					
8076		HOLL	08	27	1504	N30	E42	08	30.9		B	CSO	120	13	9	3
8076		VORO	08	27	2333	N30	E37	08	30.9			DAI	232	8	6	3
8076		SVTO	08	28	0545	N29	E35	08	31.0		BG	ESC	120	18	11	3
8076		TACH	08	28	0624	N31	E32	08	30.8			DSX	342	12	6	4
8076		KAND	08	28	0920	N29	E30	08	30.7			DAI		25	10	3
8076		RAMY	08	28	1204	N28	E30	08	30.8		BG	DSI	150	31	10	4
8076	28481	MWIL	08	28	1445	N29	E30	08	31.0	5	(BG)					
8076		HOLL	08	28	1625	N29	E28	08	30.9		B	DSI	310	25	9	4
8076		VORO	08	28	2229	N30	E25	08	30.9			DAI	247	12	9	3
8076		TACH	08	29	0432	N30	E21	08	30.8			DSI	288	17	9	4
8076		KAND	08	29	0645	N28	E20	08	30.8			EAI		17	14	5
8076		SVTO	08	29	1053	N29	E19	08	30.9		BG	ESI	220	27	13	3
8076		RAMY	08	29	1243	N28	E16	08	30.8		BG	ESI	260	40	15	3
8076		HOLL	08	29	1350	N28	E17	08	30.9		BG	ESI	360	28	12	3
8076	28481	MWIL	08	29	1430	N29	E16	08	30.8	5	(BG)					
8076		VORO	08	29	2127	N30	E13	08	30.9			DAI	392	16	11	2
8076		TACH	08	30	0600	N30	E07	08	30.8			EDI	286	16	10	3
8076		SVTO	08	30	0715	N29	E07	08	30.8		BG	ESI	200	30	14	4
8076		LEAR	08	30	0837	N28	E07	08	30.9		B	CSO	180	26	16	3
8076		KAND	08	30	1200	N30	E05	08	30.9			EAI		25	14	2
8076	28481	MWIL	08	30	1500	N29	E03	08	30.9	5	(BP)					
8076		HOLL	08	30	1510	N28	E05	08	31.0		BG	ESI	230	31	16	3
8076		LEAR	08	31	0115	N28	W05	08	30.7		B	EAI	220	25	15	3
8076		SVTO	08	31	0605	N29	W05	08	30.9		BG	EAC	200	33	13	3
8076		TACH	08	31	0638	N30	W06	08	30.8			EKI	530	13	13	3
8076		KAND	08	31	0730	N28	W07	08	30.8			EAI		22	15	2
8076		RAMY	08	31	1212	N29	W09	08	30.8		BG	ESC	150	34	15	4
8076	28481	MWIL	08	31	1530	N29	W11	08	30.8	5	(BP)					
8076		HOLL	08	31	1538	N28	W09	08	30.9		B	ESI	300	36	17	3
8076		TACH	09	01	0550	N30	W19	08	30.8			EAI	607	15	14	4
8076		SVTO	09	01	0605	N29	W18	08	30.9		BGD	FAC	260	24	16	3
8076		LEAR	09	01	0615	N28	W19	08	30.9		BG	FSI	180	20	20	2
8076		RAMY	09	01	1202	N28	W22	08	30.9		B	FSI	170	33	19	4
8076		KAND	09	01	1315	N29	W22	08	30.9			FSI		16	19	2
8076	28481	MWIL	09	01	1445	N28	W23	08	30.9	6	(BG)					
8076		HOLL	09	01	1800	N28	W27	08	30.7		B	FSI	230	32	16	3
8076		VORO	09	01	2151	N29	W29	08	30.7			DAI	313	11	13	3
8076		LEAR	09	02	0022	N26	W30	08	30.8		B	FSO	140	21	17	3
8076		TACH	09	02	0514	N30	W32	08	30.8			EAI	453	11	13	3
8076		SVTO	09	02	0740	N28	W34	08	30.8		B	FHI	360	14	16	3
8076		KAND	09	02	1030	N28	W34	08	30.9			FSO		20	16	5
8076		RAMY	09	02	1307	N28	W37	08	30.7		B	FSI	190	26	16	3
8076	28481	MWIL	09	02	1515	N28	W37	08	30.8	5	(D)					
8076		HOLL	09	02	2025	N28	W40	08	30.8		B	ESI	140	19	11	3
8076		VORO	09	02	2205	N29	W42	08	30.7			DAI	294	10	14	3
8076		TACH	09	03	0536	N28	W46	08	30.7			ESI	287	13	14	3
8076		KAND	09	03	0615	N28	W45	08	30.8			FAO		15	17	2
8076		SVTO	09	03	0720	N27	W45	08	30.9		B	FAI	200	16	18	3
8076		RAMY	09	03	1325	N28	W49	08	30.8		B	ESI	80	15	15	3

S U N S P O T G R O U P S
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AUGUST 1997

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8076		HOLL	09 03 1435	N28 W51	08 30.7		B	ESI	190	20	11	3
8076	28481	MWIL	09 03 1615	N28 W51	08 30.8	5	BG					
8076		VORO	09 03 2150	N29 W54	08 30.8			DAI	187	5	15	2
8076		LEAR	09 04 0405	N27 W56	08 30.9		B	FSO	70	6	16	3
8076		TACH	09 04 0502	N30 W57	08 30.8			ESI	157	6	17	3
8076		KAND	09 04 0740	N28 W60	08 30.7			FSO		6	17	3
8076		RAMY	09 04 1201	N27 W62	08 30.8		B	ESO	80	7	15	4
8076	28481	MWIL	09 04 1430	N29 W62	08 30.8	5	(BG)					
8076		HOLL	09 04 1550	N28 W66	08 30.6		B	CSO	190	3	8	3
8076		VORO	09 04 2158	N29 W68	08 30.7			CAI	183	3	17	2
8076		TACH	09 05 0515	N28 W70	08 30.8			HSX	50	1	1	2
8076		SVTO	09 05 0740	N26 W71	08 30.9		A	AX	20	1	2	2
8076		KAND	09 05 1045	N27 W75	08 30.7			CSO		2	15	3
8076		RAMY	09 05 1224	N26 W75	08 30.8		A	HS	50	1	2	4
8076		HOLL	09 05 1420	N27 W79	08 30.5		A	HS	60	1	2	3
8076	28481	MWIL	09 05 1430	N28 W76	08 30.8	5	AP					
8076		SVTO	09 06 0625	N26 W82	08 31.0		A	AX		1		4
8076	28481	MWIL	09 06 1430	N23 W84	08 31.1	4	AF					
8076		HOLL	09 06 1600	N23 W87	08 31.0		A	AX	10	1	1	2

Stations reporting:

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

SUDDEN IONOSPHERIC DISTURBANCES

AUGUST 1997

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	LF-SES	Flare (UT)	X-ray Class	NOAA Region
01	0810	0817	0831	1	3		2				No flare		
06	0859	0907	0927	1	3		2				0919	B1.4	
09	0956	1005	1042	2+	1		1				No flare		
09	1302	1309	1400	1-	5			1		1	1254	C3.7	
09	1525	1533	1605	1-	1			1			1505	C1.1	
09	1630	1644	1730	1-	5			2			1630	C8.5	8069
09	2347	2352	2500	1-	1			1			2341	C3.2	
10	0725	0733	0830	1-	5		2	1		1	0720	C3.0	
10	0840	0845	0855	1-	1					1	0836	C1.0	
10	2010	2026	2104	1-	5			2			2000	C4.6	
10	2348	2403	2600	2	1			1			2342	C5.5	
14	1601	1705	1730	1	1					1	No flare		
16	0741	0755	0840	1-	1					1	0821	B1.4	
20	1055	1105	1145	1	1					1	No flare		
25	1643	1656	1749	1-	1			1			1639	C1.2	8076
26	0052	0059	0200	1-	1			1			0051	C4.0	8076
26	0530	0540	0630	1-	5			1		1	0526	C4.5	8076
26	0750	0803	0815	1-	1					1	No flare		
27	0807	0817	0845	1-	1					1	No flare		
27	1116	1130	1150	1-	1					1	*		
29	0419	0433	0538	1-	1			1			0417	C4.0	
29	1210	1225	1250	1-	1					1	No flare		
29	1256	1302	1330	1-	1					1	No flare		
29	2304	2340	2510	2+	1			1			2256	M1.4	8076
30	1055	1150	1240	1	1					1	1107	C1.9	8076
31	1131	1149	1235	1	1					1	1126	C2.7	8076

* = no flare patrol.

OBSERVATORIES REPORTING FOR AUGUST 1997

Inubo, Japan	SPA	Sofia, Bulgaria	SES
Itapetinga, Brazil	SPA	Ziar nad Hronom, Slovakia	SEA
Panska Ves, Czech Republic	SES, SEA, SWF	Zilina, Slovakia	SEA
Rimavska Sobota, Slovakia	SEA		

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

AUGUST 1997

Day	OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	EVENT Spectral Class	EVENT Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
01	0000	0950	HIRA								
	0444	1727	ONDR								
	0418	1745	POTS	0556.9	0557.2	III	B	1	40X	60	
			POTS	0749.0	0749.1	III	B	1	40X	70	
	1943	2400	HIRA								
02	0000	0949	HIRA								
	0445	1725	ONDR								
	0418	1745	POTS	1445.0	1445.7	III	G	1	110U	170U	
	1944	2400	HIRA								
03	0000	0948	HIRA								
	0446	1726	ONDR								
	0418	1745	POTS	1108.5	1108.6	III	G	1	110U	170U	
			POTS	1604.2	1604.3	III	B	1	110U	170U	
			POTS	1604.4	1604.6	UNCLF		1	40X	90U	
	1945	2400	HIRA								
04	0000	0947	HIRA								
	0448	1724	ONDR								
			SGMR	1354.0	1355.0	III		1	30	70	
			SGMR	1405.0	1406.0	III		1	30	70	
	1946	2400	HIRA								
05	0000	0946	HIRA								
	0449	1722	ONDR								
	0418	1745	POTS	0849.6	0849.9	III	G	1	110U	250	
	1946	2400	HIRA								
06	0000	0945	HIRA								
	0418	1745	POTS	0418 E	1745 U	I	S	1	110U	400	
	0450	1722	ONDR								
	1947	2400	HIRA								
07	0000	0944	HIRA								
	0418	0550	POTS	0422	0550	I	S	1	110U	250	
	0451	1719	ONDR								
	0622	1713	POTS	0831	1042	I	S,W	1	130	350	
			POTS	1110	1713 U	I	S,W	1	130	350	
			POTS	1459.8	1500.3	III	G	1	130	170U	
			POTS	1542.6	1543.0	III	G	1	110U	170U	
	1948	2400	HIRA								
08	0000	0943	HIRA								
	0453	1718	ONDR								
	0418	1745	POTS	0802	0803	I	S,W	1	130	150	
			POTS	0952	0954	I	S	1	120	150	
			POTS	0955.5	0955.9	DCIM		1	250	375	
			POTS	1100	1101	I	S,W	1	130	150	
			POTS	1138	1139	I	S,W	1	160	170	
			POTS	1208	1745 U	I	S	1	130	250	
			POTS	1714.9	1715.1	III	B	1	40X	90U	
	1949	2400	HIRA								
09	0000	0942	HIRA								
			LEAR	0057.0	0057.0	III		1	30	47	
			PALE	0057.0	0057.0	III		1	32	55	
	0418	1745	POTS	0418 U	1455	I	S	1	110U	300	
			POTS	0733.1	0733.2	III	B	1	130	170U	
			POTS	1022.9	1023.0	III	G	1	110U	170U	
			POTS	1144.7	1145.0	DCIM		1	250	400	
			POTS	1146.9	1147.8	III	G,C,RS	2	40X	300	
			ONDR	1147.2	1147.4	DCIM	G	1	2000X	2780	
	0454	1718	ONDR	1147.2	1147.4	DCIM	G	1	1000X	2000X	
			POTS	1147.3	1147.8	DCIM		2	500	800X	
			POTS	1610.2	1612.9	III	G,RS	2	110U	400	
	1950	2400	HIRA								
10			PALE	0125.0	0126.0	III		1	28	60	

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

AUGUST 1997

Day	OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	EVENT Spectral Class	EVENT Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
10	0000	0941	HIRA	0125.6	0125.9	III	B	1	25X	80	
			HIRA	0415.4	0415.5	III	B	1	25X	120	
	0418	1745	POTS	0418 E	1051	I	S,W	1	130	170U	
			POTS	0419.0	0419.1	III	B	1	110U	150	
			POTS	0422.3	0422.6	III	B	1	40X	60	
			HIRA	0422.4	0422.6	III	B	1	25X	70	
	0455	1716	ONDR								
			SVTO	0628.0	0629.0	III		2	41U	76U	
			POTS	0628.6	0628.9	III	B	2	40X	80	
			POTS	0738.7	0738.9	III	G	2	40X	170U	
			POTS	1131.9	1132.4	III	G	3	40X	170U	
			SGMR	1132.0	1132.0	III		1	35	73	
			SVTO	1132.0	1132.0	III		2	35U	76U	
			POTS	1150.5	1150.6	III	B	2	40X	70	
			POTS	1511.6	1511.7	III	B	1	110U	160	
			POTS	1621.7	1621.9	III	B	1	40X	90U	
			SGMR	1634.0	1634.0	III		1	30	40	
			POTS	1634.4	1634.7	III	G	1	40X	300	
			POTS	1731.5	1732.7	III	G	3	40X	170U	
			PALE	1732.0	1733.0	III		1	28	54	
			SGMR	1732.0	1732.0	III		1	30U	80U	
			POTS	1732.7	1733.0	V		3	40X	60	
			SGMR	1802.0	1804.0	V		2	30	80	
			PALE	1913.0	1915.0	III		2	25	55	
			SGMR	1913.0	1915.0	III		2	30	80	
	1951	2400	HIRA								
			PALE	1958.0	1959.0	III		1	28U	62U	
			SGMR	1958.0	1959.0	III		1	30	80	
			PALE	2103.0	2103.0	III		1	27	55	
			SGMR	2103.0	2103.0	III		1	40	80	
11	0000	0940	HIRA								
	0456	1714	ONDR								
	0434	1725	POTS	0502.6	0503.7	III	G,RS	1	110U	220	
			POTS	1448.4	1448.7	III	G	1	110U	275	
			PALE	1917.0	1917.0	III		1	25	50	
			SGMR	1917.0	1917.0	III		1	30	50	
			PALE	1933.0	1933.0	III		1	38	53	
			SGMR	1933.0	1933.0	III		1	30	60	
	1952	2400	HIRA								
			SGMR	2205.0	2205.0	III		1	30	40	
12			LEAR	0452.0	0454.0	III		2	30	75	
	0434	1725	POTS	0453.2	0455.5	III	GG	3	40X	450	
			SVTO	0454.0	0455.0	III		2	35U	70U	
	0000	0939	HIRA	0454.8	0455.0	III	B	1	25X	250	
	0458	1712	ONDR								
			POTS	0459	0512	I	S,W	1	130	170U	
			POTS	0850	1634	I	S,W	1	130	170U	
			POTS	0915.5	0915.7	III	B	2	40X	300	
	1953	2400	HIRA	2122.9	2123.5	III	B	1	40	260	
			PALE	2123.0	2123.0	III		1	40	55	
			SGMR	2123.0	2123.0	III		1	36	72	
13			LEAR	0002.0	0002.0	III		1	30	48	
			PALE	0002.0	0008.0	III		2	25	53	
			LEAR	0013.0	0014.0	III		1	30	64	
			PALE	0013.0	0014.0	V		2	25	55	
	0000	0938	HIRA	0013.3	0013.4	III	B	1	30	260	
			PALE	0231.0	0239.0	III		1	37	55	
			LEAR	0238.0	0239.0	III		1	34	40	
			HIRA	0250.0	0251.0	III	G	2	25X	220	
			LEAR	0250.0	0251.0	III		2	30	80	
			PALE	0250.0	0251.0	III		2	28	67	
			LEAR	0334.0	0334.0	III		1	30	38	
	0459	1710	ONDR								
	0434	1725	POTS	0530.0	0538.5	III	GG,RS	3	40X	400	
			LEAR	0534.0	0535.0	III		2	30	80	
			SVTO	0534.0	0535.0	III		3	35	85	

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

AUGUST 1997

Day	OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	EVENT Spectral Class	EVENT Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
13			HIRA	0534.2	0534.4	III	B	2	25X	240	
			POTS	0548	1549	I	S,W	1	110U	350	
			POTS	0703.7	0703.8	III	B	1	120	170U	
			POTS	0830.1	0830.2	III	B	1	110U	170U	
			POTS	1019.2	1020.6	III	G	2	40X	350	
			POTS	1222.3	1222.5	III	G	1	40X	170U	
			POTS	1518.4	1519.0	III	G	1	40X	250	
	1953	2400	HIRA								
14	0000	0936	HIRA								
	0434	1725	POTS	0435 U	1725 U	I	S,W	1	120	170U	
	0500	1708	ONDR								
	1954	2400	HIRA								
15	0000	0935	HIRA								
			LEAR	0104.0	0104.0	III		1	30	38	
			PALE	0104.0	0105.0	III		1	27	51	
	0501	1706	ONDR								
	0434	1725	POTS	1121.4	1121.6	III	G	2	40X	170U	
			POTS	1121.6	1121.8	V		2	40X	50	
	1954	2400	HIRA								
16	0000	0933	HIRA								
			LEAR	0132.0	0132.0	III		1	30	45	
			PALE	0132.0	0132.0	III		1	35	52	
	0503	1706	ONDR								
	0435	1725	POTS	1037.6	1037.7	III	B	1	130	170U	
			POTS	1052.6	1100.2	III	GG	2	40X	350	
			POTS	1113.1	1116.3	III	G,C	1	120	170U	
			POTS	1128.6	1140.3	III	GG,C	1	40X	170U	
			POTS	1238.9	1239.1	III	G	1	110U	170U	
			POTS	1246	1315	I	S,C	1	110U	170U	
			POTS	1344.6	1355.6	III	GG,C	3	40X	450	
			SGMR	1350.0	1356.0	V		2	30	80	
			SVTO	1350.0	1356.0	III		3	35U	82U	
			POTS	1355.6	1356.0	V		3	40X	50	
			POTS	1412	1604	I	S,C	1	110U	400	
			SGMR	1434.0	1436.0	V		1	30	73	
			SVTO	1434.0	1436.0	III		2	35	85	
			POTS	1434.6	1438.4	III	GG,RS	3	40X	350	
	1955	2400	HIRA								
17	0000	0932	HIRA								
	0508	1702	ONDR								
	0435	1725	POTS	1512.9	1513.0	III	B	1	110U	325	
			POTS	1714.1	1715.7	III	G,RS	1	110U	170U	
	1956	2400	HIRA								
18	0000	0931	HIRA								
	0624	1702	ONDR								
	0435	1725	POTS	0727	0740	I	S	1	130	170U	
			POTS	1019.2	1021.6	III	GG	2	40X	350	
			POTS	1051.4	1053.8	III	G	2	40X	300	
			POTS	1246	1251	I	S	1	250	325	
			POTS	1331.4	1331.5	III	G	1	110U	170U	
			POTS	1335	1430	I	S	1	200U	450	
			POTS	1601.4	1602.1	III	G	2	110U	300	
	1957	2400	HIRA	2102.0	2103.3	III	G	1	80	320	
19	0000	0930	HIRA								
	0507	1659	ONDR								
	0435	1725	POTS	0824.6	0824.7	III	B	1	110U	170U	
			POTS	0838.5	0838.7	III	G	1	110U	350	
			POTS	0955.4	1000.6	III	GG	2	60	300	
			POTS	1031.9	1032.5	III	G	2	50	225	
			POTS	1043.7	1044.1	III	G,RS	1	110U	300	
			POTS	1112.2	1114.8	III	GG	2	60	300	
			POTS	1116.2	1116.3	III	B,RS	1	140	170U	
			POTS	1146.6	1146.8	III	G	1	110U	170U	

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

AUGUST 1997

Day	OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
19			POTS	1249.5	1249.7	III	G	1	140	170U	
			POTS	1302.3	1302.4	III	B	1	130	170U	
	1958	2400	HIRA								
20	0000	0928	HIRA								
	0435	1725	POTS	0456.2	0456.6	III	G	1	110U	170U	
	0508	1700	ONDR								
			POTS	0522	0730	I	S	1	110U	325	
			POTS	1424.4	1424.6	III	G	2	40X	170U	
			POTS	1536.4	1536.9	III	G	1	110U	225	
	1959	2400	HIRA								
21	0000	0927	HIRA								
	0517	1656	ONDR								
	0449	1701	POTS	0610	1047	I	S,W	1	130	250	
	2000	2400	HIRA								
22	0000	0926	HIRA								
	0511	1655	ONDR								
	0449	1701	POTS	0647.8	0647.9	III	B	2	110U	170U	
			POTS	0652.4	0652.6	UNCLF		2	110U	130	
			POTS	1104	1108	I	S,W	1	130	160	
	2001	2400	HIRA								
23	0000	0925	HIRA								
	0512	1653	ONDR								
	0449	1701	POTS	0610	0615	I	S,W	1	150	170U	
			POTS	0837	1123	I	S,W	1	130	160	
	2002	2400	HIRA								
24	0000	0924	HIRA								
	0513	1652	ONDR								
	0449	1701	POTS	0554	0555	I	S,W	1	150	170	
			POTS	0649	0650	I	S,W	1	140	150	
			POTS	0843	0846	I	S,W	1	140	170U	
	2003	2400	HIRA								
25	0000	0922	HIRA								
	0515	1650	ONDR								
	0449	1701	POTS	0943	0945	DCIM		1	250	350	
			POTS	1101	1701 U	I	S,C	2	110U	350	
			POTS	1319.5	1319.7	III	G	2	110U	170U	
			POTS	1329.4	1330.5	III	G,C	3	110U	350	
			POTS	1343.7	1344.0	III	G	2	110U	250	
			POTS	1436.1	1436.9	III	GG	2	110U	250	
			POTS	1457.3	1501.8	III	GG	2	110U	170U	
			POTS	1639.9	1640.0	UNCLF		2	250	375	
	2213	2400	HIRA								
26	0000	0811	HIRA								
	0449	1701	POTS	0449 E	1701 U	I	S	1	120	350	
	0516	1646	ONDR								
			SGMR	1216.0	1225.0	III		1	30	56	
			POTS	1228.3	1228.9	III	G	1	130	170U	
	2214	2400	HIRA								
27	0000	0919	HIRA								
	0517	1645	ONDR								
	0449	1701	POTS	1400	1401	I	S,W	1	140	160	
			SGMR	1800.0	1800.0	V		1	30	80	
	2005	2400	HIRA								
28	0000	0918	HIRA								
			LEAR	0409.0	0414.0	III		2	30	80	
			PALE	0409.0	0410.0	III		1	35	55	
			LEAR	0459.0	0501.0	III		2	30	70	
			SVTO	0459.0	0501.0	III		2	35U	75U	
	0449	1701	POTS	0459.3	0502.0	III	GG	3	40X	250	
			POTS	0505.1	0505.3	III	G	2	110U	140	

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

AUGUST 1997

Day	OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	EVENT Spectral Class	EVENT Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
28			POTS	0528.4	0530.9	III	G	2	40X	170U	
			LEAR	0553.0	0554.0	III		1	30	50	
			SVTO	0553.0	0553.0	III		2	41	55	
			POTS	0553.2	0554.4	III	G,C	3	40X	170U	
			POTS	0604.2	0604.7	III	G	2	40X	140	
	0629	1641	ONDR								
			POTS	0630.2	0631.6	III	G,C,U	2	40X	400	
			POTS	0638.6	0640.4	III	G	2	40X	90U	
			LEAR	0703.0	0704.0	III		1	30	45	
			SVTO	0703.0	0703.0	III		1	35	65	
			POTS	0703.2	0705.5	III	G	2	40X	350	
			POTS	0846.3	0846.6	III	G	1	110U	170U	
			POTS	0916.8	0916.9	III	B	1	110U	170U	
			SVTO	0930.0	0931.0	III		1	45	55	
			POTS	0930.3	0931.5	III	G	2	40X	400	
			POTS	0930.8	0931.1	V		2	40X	50	
			POTS	0959.0	1004.4	III	GG,RS	3	40X	650	
			POTS	1000.6	1001.1	DCIM		2	450	600	
			POTS	1052.6	1054.3	III	G	2	40X	250	
			POTS	1053.6	1054.7	DCIM		2	250	500	
			POTS	1203	1220	I	S,W	1	130	325	
			POTS	1313.7	1313.9	DCIM		2	500	600	
			POTS	1315	1610	I	S	2	110U	250	
	2005	2400	HIRA								
			PALE	2124.0	2125.0	III		1	27	55	
			SGMR	2124.0	2125.0	III		1	34	56	
29	0000	0916	HIRA								
	0449	1701	POTS	0620	1701 U	I	S	1	120	400	
	0633	1642	ONDR								
			POTS	1531.1	1531.2	III	B	1	130	170U	
			POTS	1642.6	1642.7	UNCLF		1	40X	60	
			POTS	1643.1	1643.2	III	B	1	150	170U	
	2006	2400	HIRA								
30	0000	0915	HIRA								
	0449	1701	POTS	0451	1701 U	I	S,C	2	40X	350	
	0522	1639	ONDR								
			POTS	0748.0	0748.2	III	B	2	40X	150	
			POTS	0847.3	0847.7	III	G	2	40X	130	
			POTS	1058.7	1058.9	III	B	2	40X	140	
			POTS	1103.8	1104.1	III	B	2	40X	70	
			POTS	1239.7	1239.8	III	B	2	40X	70	
			SGMR	1328.0	1328.0	III		1	30	50	
			POTS	1328.3	1328.5	III	B	2	40X	70	
			SGMR	1352.0	1352.0	III		1	30	40	
			POTS	1352.6	1353.0	III	G	2	40X	70	
			POTS	1417.2	1417.6	III	G	2	40X	70	
			POTS	1456.7	1456.8	III	G	2	40X	90U	
			SGMR	1504.0	1504.0	III		1	30	50	
			POTS	1504.5	1504.7	III	G	2	40X	90U	
			POTS	1520.4	1522.2	III	G	2	40X	90U	
			POTS	1551.3	1551.4	III	B	2	40X	70	
			POTS	1557.5	1559.1	III	G	2	40X	70	
			POTS	1606.4	1606.5	III	B	2	40X	70	
			SGMR	1800.0	1800.0	III		1	30	41	
			PALE	1844.0	1844.0	III		1	44	52	
			SGMR	1844.0	1844.0	III		1	35	55	
	2007	2400	HIRA								
			PALE	2010.0	2011.0	III		1	28	52	
			SGMR	2010.0	2011.0	III		1	30	50	
			PALE	2038.0	2039.0	III		2	27	53	
			SGMR	2038.0	2039.0	III		1	30	57	
31	0000	0913	HIRA								
			LEAR	0308.0	0308.0	III		1	30	43	
			LEAR	0403.0	0407.0	III		2	30	47	
			LEAR	0444.0	0445.0	III		2	30	39	
			LEAR	0445.0	0446.0	III		2	30	39	

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

AUGUST 1997

OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
31		POTS	0449 E	1701 U	I	S,C	2	40X	350	
		POTS	0449 E	1701 U	III	N	2	40X	90U	
0449	1701	POTS	0449 E	1701 U	III	N	1	40X	90U	
		LEAR	0454.0	0454.0	III		1	30	40	
		LEAR	0455.0	0455.0	III		1	30	40	
		LEAR	0621.0	0622.0	III		2	30	47	
		LEAR	0622.0	0623.0	III		2	30	47	
		SVTO	0623.0	0623.0	III		2	35U	57U	
		LEAR	0624.0	0624.0	III		1	34	42	
		LEAR	0625.0	0625.0	III		1	34	42	
		LEAR	0710.0	0711.0	III		1	30	41	
		SVTO	0710.0	0711.0	III		2	35	44	
		LEAR	0735.0	0736.0	III		1	30	45	
		SVTO	0735.0	0736.0	III		2	35	45	
		SVTO	0752.0	0752.0	III		2	35U	46U	
		POTS	0752.6	0758.8	III	G	2	40X	130	
		POTS	0807.2	0809.1	III	G	3	40X	90U	
		LEAR	0808.0	0809.0	III		1	30	45	
		SVTO	0809.0	0809.0	III		2	35	51	
		POTS	0911.1	0911.3	III	B	2	40X	130	
		SGMR	1159.0	1159.0	III		1	42	55	
		SVTO	1159.0	1159.0	III		2	37	57	
		POTS	1159.1	1201.3	III	G	3	40X	90U	
		SGMR	1259.0	1300.0	III		1	31	57	
		SVTO	1259.0	1300.0	III		2	35U	60U	
		POTS	1350.6	1351.6	DCIM		2	200U	450	
		POTS	1350.9	1351.6	UNCLF		2	140	170U	
0523	1638	ONDR	1351.1	1356.4	DCIM	G	1	2000X	4355	
		SGMR	1407.0	1407.0	III		1	31	48	
		SGMR	1520.0	1520.0	III		1	30	55	
		SVTO	1520.0	1520.0	III		2	35U	52U	
		SGMR	1615.0	1615.0	III		1	30	46	
		SGMR	1640.0	1641.0	III		1	30	48	
		PALE	1738.0	1738.0	III		1	27	55	
2008	2400	HIRA								
		PALE	2219.0	2220.0	III		1	29	55	
		LEAR	2331.0	2331.0	III		1	35	65	
		PALE	2331.0	2332.0	III		1	29	55	

Event Remarks:

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

Frequency qualifiers:

- X = Extends beyond instrument range
- U = Uncertain frequency

Remarks:

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

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

SOLAR RADIO NOISE STORM AT 164 MHZ FROM NANÇAY RADIOHELIOGRAPH

AUGUST 1997

	HELIOGRAPHICS POSITIONS MEAN VALUES[1]		IMP[2]	OBSERVING TIME[3]	
DAY	E-W	S-N		START(UT)	END(UT)
06/08/97	+0.76	+0.13	1	8H51 E	15H41 D
07/08/97	+1.12	+0.21	1	8H41 E	15H40 D
08/08/97	+1.21	+0.36	1	8H09 E	15H39 D
09/08/97	+1.25	+0.10	1	8H25 E	15H40 D
12/08/97	-0.16	+0.50	1	8H10 E	15H40 D
13/08/97	+1.10	-0.23	1	8H18 E	15H40 D
14/08/97	+1.03	-0.84	1	8H10 E	10H50
16/08/97	-0.16	+0.34	1	14H20	15H40 D
21/08/97	+1.01	+0.08	1	8H24 E	11H30
25/08/97	-0.86	+0.60	1	10H50	15H37 D
26/08/97	-0.64	+0.65	1	8H05 E	15H35 D
28/08/97	-0.46	+0.55	1	13H10	15H35 D
29/08/97	-0.03	+0.68	1	8H05 E	15H35 D
30/08/97	-0.16	+0.69	2	8H04 E	15H34 D
30/08/97	+0.51	+0.60	1	14H30 E	15H34 D
31/08/97	+0.06	+0.76	1	7H59 E	15H29 D

OTHERS DAYS: NO DETECTABLE NOISE STORM

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[1] POSITIVE E-W AND S-N COORDINATES CORRESPOND TO THE N-W QUADRANT

[2] IMP1: FLUX< 5 SFU IMP2: 5< FLUX < 20 SFU IMP3: 20< FLUX <100 SFU
IMP4: 100< FLUX <300 SFU IMP5> 300 SFU

[3] E NOISE STORM IN PROGRESS AT THE BEGINNING OF THE NANÇAY OBSERVATIONS
D NOISE STORM IN PROGRESS AT THE END OF THE NANCAY OBSERVATIONS

SOLAR RADIO NOISE STORM AT 327 MHZ
FROM NANÇAY RADIOHELIOGRAPH

AUGUST 1997

	HELIOGRAPHICS POSITIONS MEAN VALUES[1]		IMP[2]	OBSERVING TIME[3]	
DAY	E-W	S-N		START(UT)	END(UT)
06/08/97	+0.67	+0.15	1	8H51 E	15H41 D
07/08/97	+0.81	+0.23	1	8H10 E	15H40 D
08/08/97	+1.17	+0.44	1	8H09 E	15H39 D
12/08/97	-0.04	+0.26	1	13H10	15H40 D
16/08/97	+0.01	+0.26	1	13H50	15H40 D
18/08/97	+0.29	+0.18	1	8H09 E	15H39 D
19/08/97	+0.52	+0.07	1	8H14 E	15H38 D
21/08/97	+0.93	+0.08	1	8H24 E	15H38 D
22/08/97	+1.01	+0.13	1	8H07 E	15H37 D
25/08/97	+0.86	+0.52	1	8H16 E	15H37 D
26/08/97	-0.75	+0.58	1	8H05 E	15H35 D
28/08/97	-0.61	+0.55	1	11H20	14H30
29/08/97	-0.08	+0.52	1	8H05 E	15H35 D
30/08/97	-0.04	+0.08	1	14H20	15H34 D
31/08/97	+0.34	+0.47	1	7H59 E	10H20

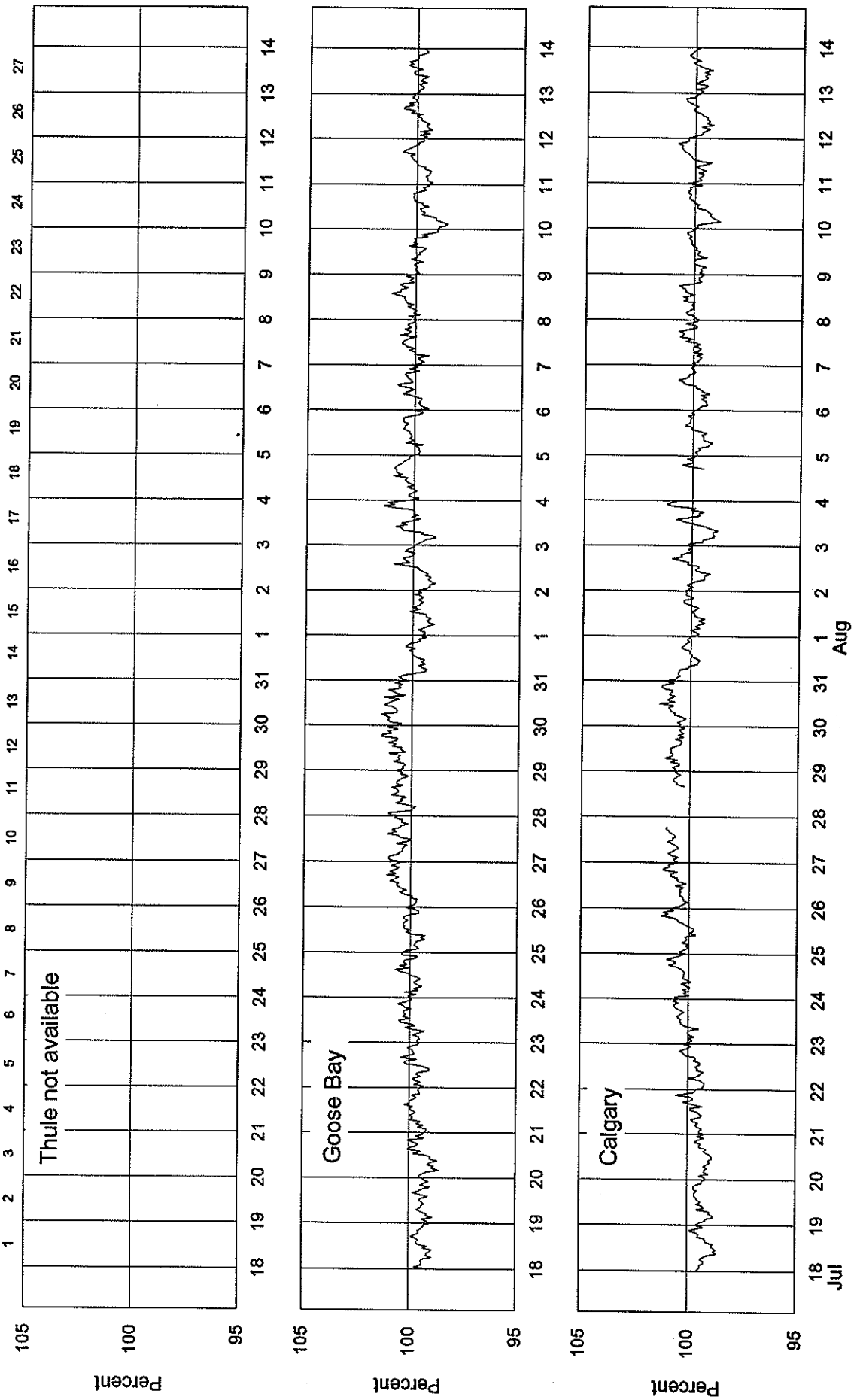
OTHERS DAYS: NO DETECTABLE NOISE STORM

COSMIC RAY INDICES
(Neutron Monitor)
AUGUST 1997

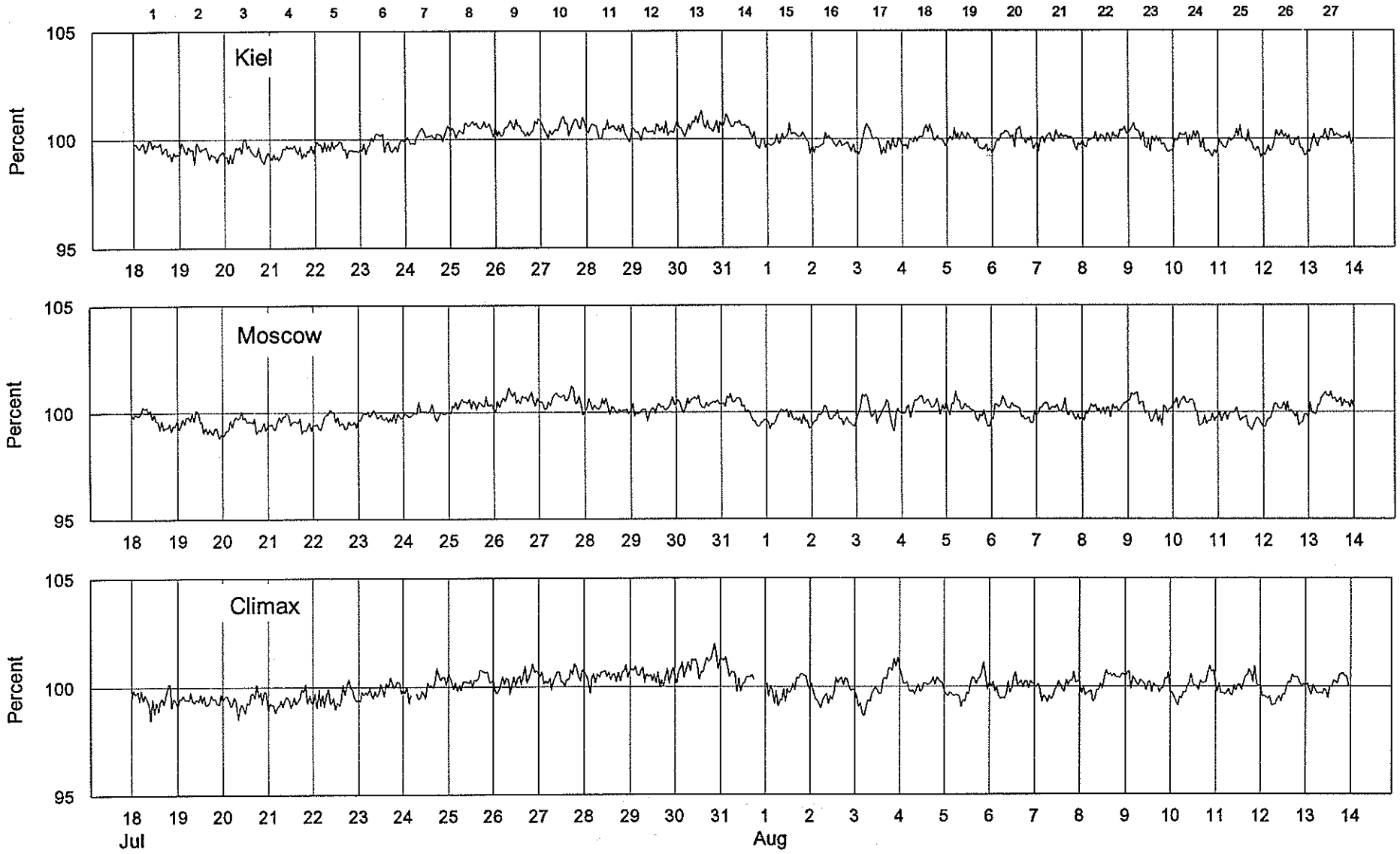
Day	THULE Average (cts/h)/100	GOOSE BAY Average (cts/h)/100	CALGARY Average (cts/h)/300	KIEL Average (cts/h)/100	MOSCOW Average (cts/h)/64	CLIMAX Average (cts/h)/100	BEIJING Average (cts/h)/256	HALEAKALA Average (cts/h)/1000
1	No data	7372.4	3997.8	6326.8	9259.0	4271.9	1911.0	3573.2
2	at time of	7389.8	4002.5	6309.9	9259.0	4267.4	1913.5	3578.4
3	publication	7415.0	3995.8	6317.6	9291.4	4273.0	1915.9	3592.5
4	---	7434.2	4006.8 (8)	6326.8	9313.5	4281.1	1913.3	3591.2
5	---	7414.6	3994.5	6320.6	9293.0	4272.0	1905.3	3582.5
6	---	7414.2	3997.3	6326.0	9291.2	4276.1	1904.5	3588.4
7	---	7418.0	4003.5	6323.5	9293.6	4271.5	1902.9	3591.8
8	---	7432.6	4008.0	6330.2	9295.8	4282.2	1911.4	3590.8
9	---	7395.3	4000.0	6323.4	9302.0	4282.5	1914.6	3595.2
10	---	7370.1	3994.2	6315.6	9293.1	4277.5	1914.7	3594.3
11	---	7395.4	4005.7	6317.6	9259.7	4278.5	1912.8	3592.5
12	---	7399.3	3995.8	6312.8	9277.2	4266.0	1906.2	3592.8
13	---	7401.2	3994.7	6327.2	9327.7	4277.0	1908.7	3592.0
14	---	7412.6	3992.5	6357.9	9373.7	4295.8	1909.1	3600.7
15	---	7427.7	3998.7	6357.9	9400.4	4309.5	1909.9	3600.4
16	---	7421.6	3988.7	6354.5	9388.6	4302.5	1916.3	3593.7
17	---	7438.6	4012.8	6371.5	9411.9	4307.6	1923.8	3597.5
18	---	7433.5	4007.5	6365.7	9386.5	4309.4	1922.5	3599.9
19	---	7424.5	4000.2	6361.0	9353.6	4281.7	1911.8	3589.5
20	---	7445.5	4021.3	6366.2	9338.6	4296.1	1917.0	3592.5
21	---	7434.7	4022.7	6371.6	9334.3	4299.6	1921.3	3600.0
22	---	7430.6	4025.3	6364.4	9331.8	4300.6	1917.0	3602.3
23	---	7445.1	4029.0	6370.9	9336.2	4300.8	1912.4	3598.5
24	---	7448.5	4029.0	6370.2	9326.0	4301.2	1907.7	3598.6
25	---	7433.1	4028.7	6369.2	9308.9	4298.4	1903.3	3596.9
26	---	7453.5	4035.0	6381.6	9324.0	4308.5	1906.1	3596.8
27	---	7451.9	4038.8	6374.0	9327.7	4312.1	1907.5	3602.7
28	---	7413.4	4018.0	6370.0	9319.6	4301.5	1915.7	3609.2
29	---	7424.0	4027.7	6377.4	9332.5	4300.6	1914.5	3606.1
30	---	7408.9	4029.0	6356.0	9324.4	4292.4	1914.5	3595.5
31		7407.3	4018.0	6324.9	9312.5	4282.5	1908.7	3587.2
Mean	---	7419.6	4010.3	6346.5	9322.2	4289.6	1912.1	3594.3

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.

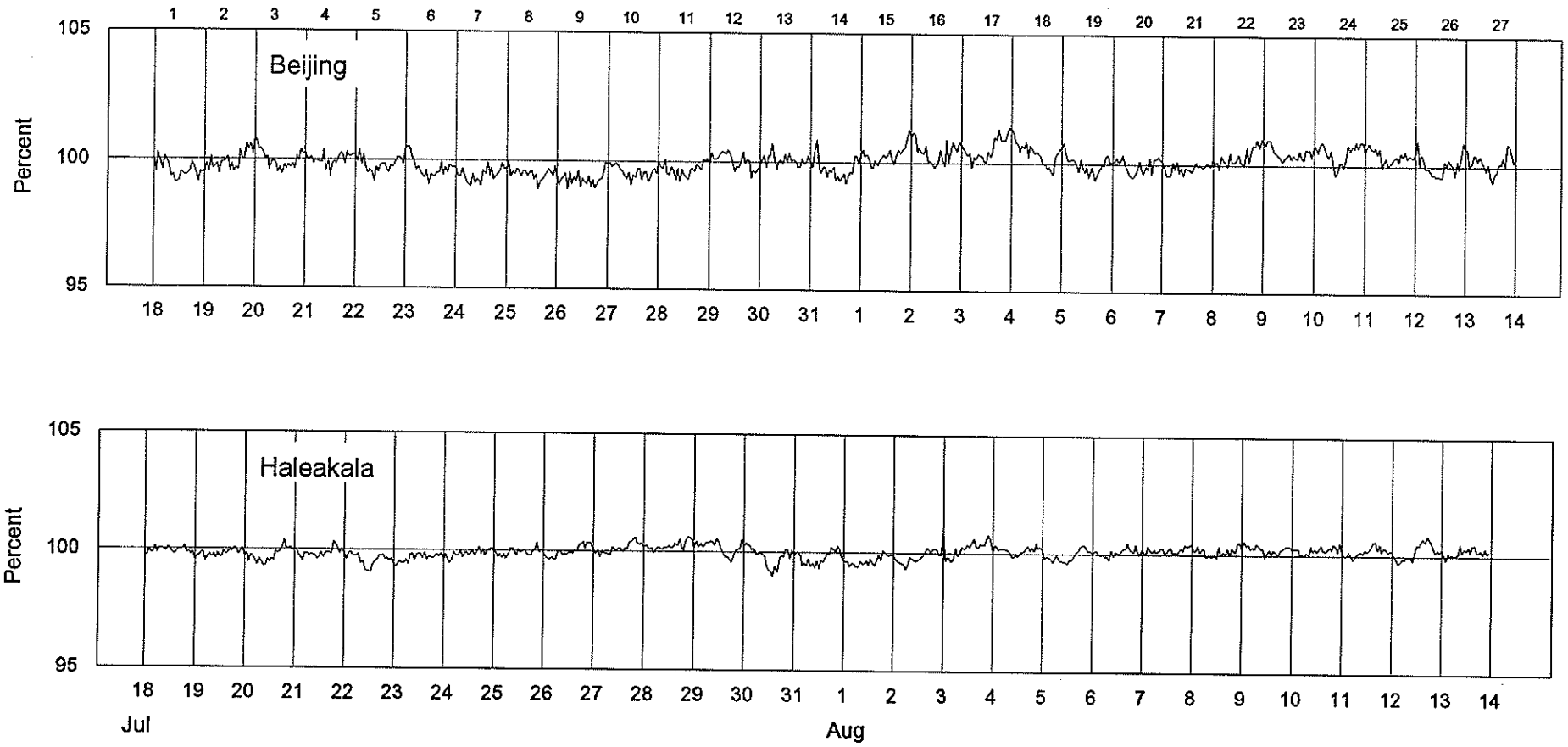
COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2239 - Beginning 18 Jul 97



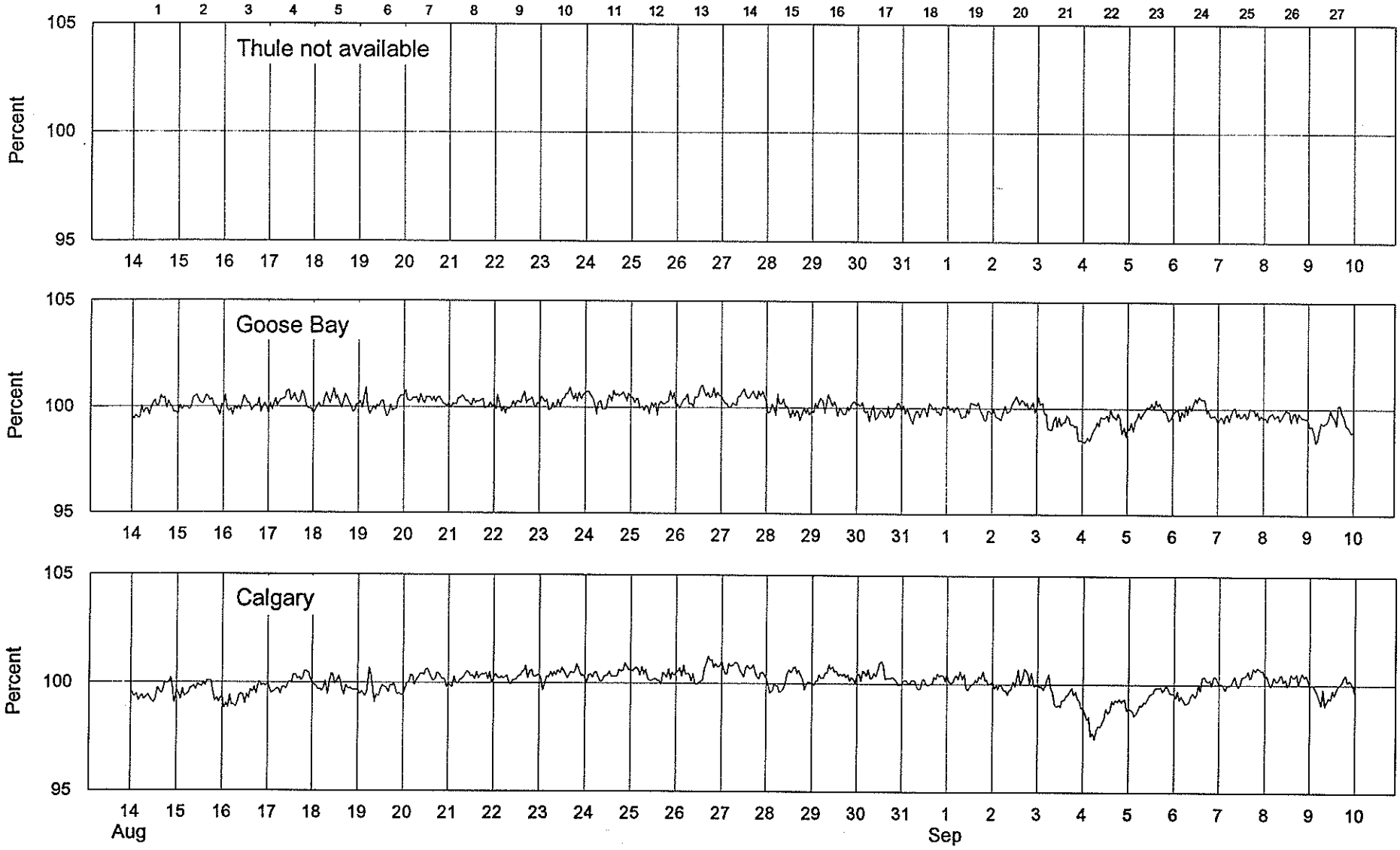
COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2239 - Beginning 18 Jul 97



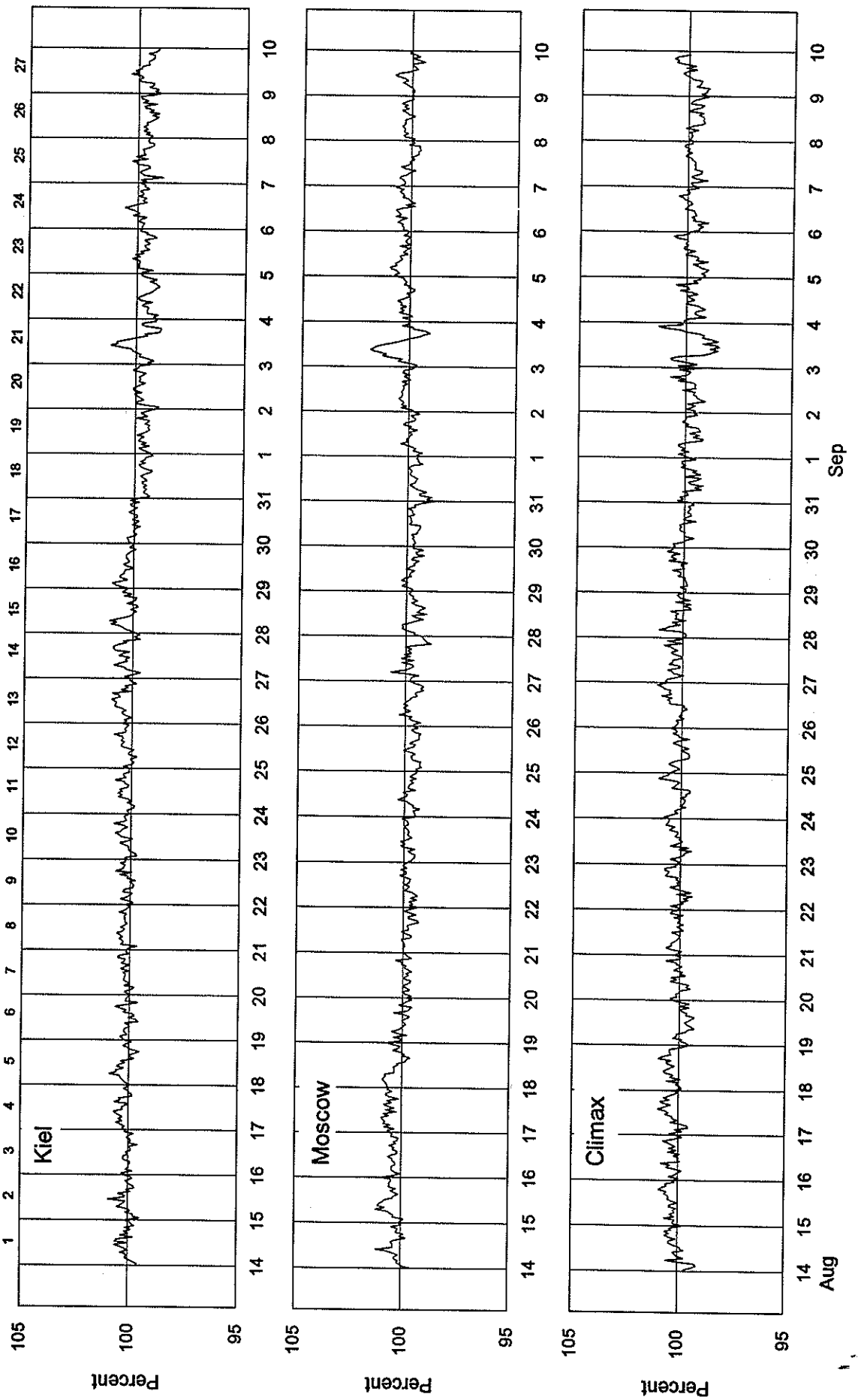
COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2239 - Beginning 18 Jul 97



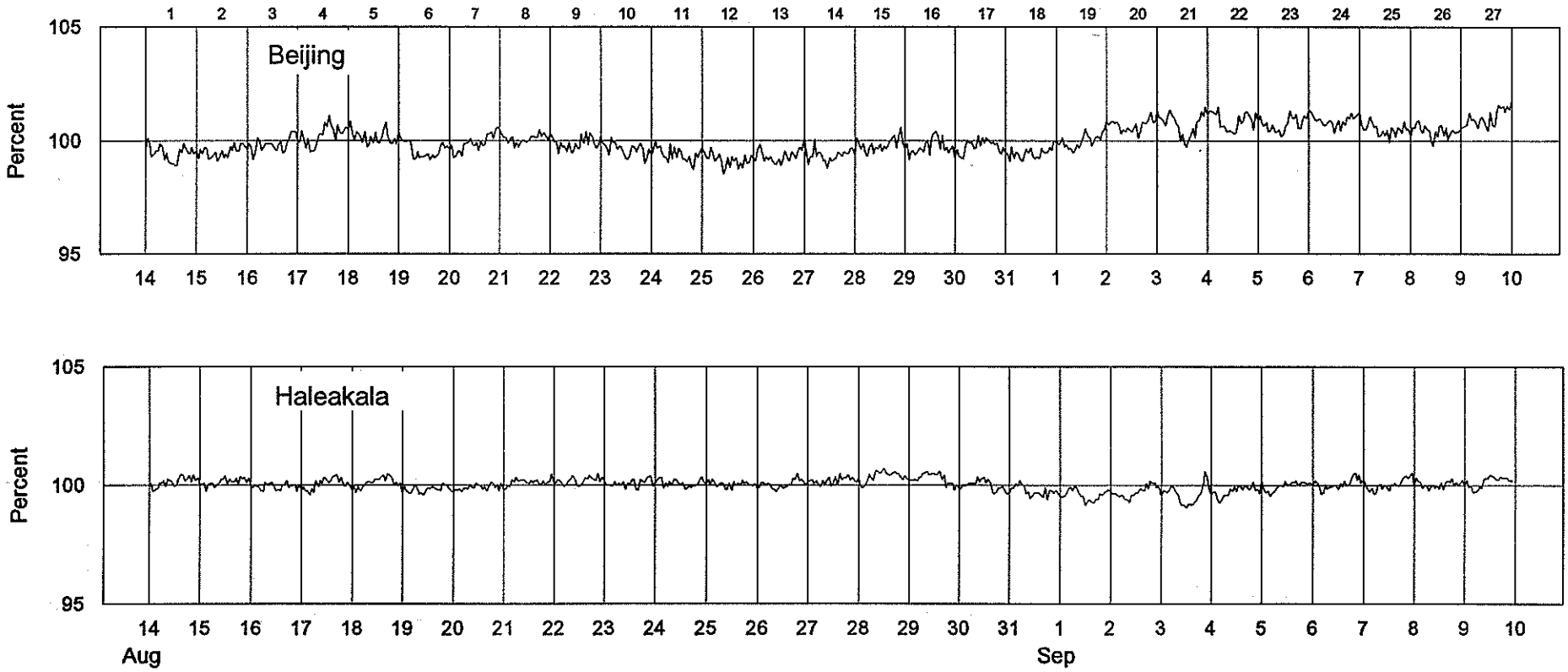
COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2240 - Beginning 14 Aug 97



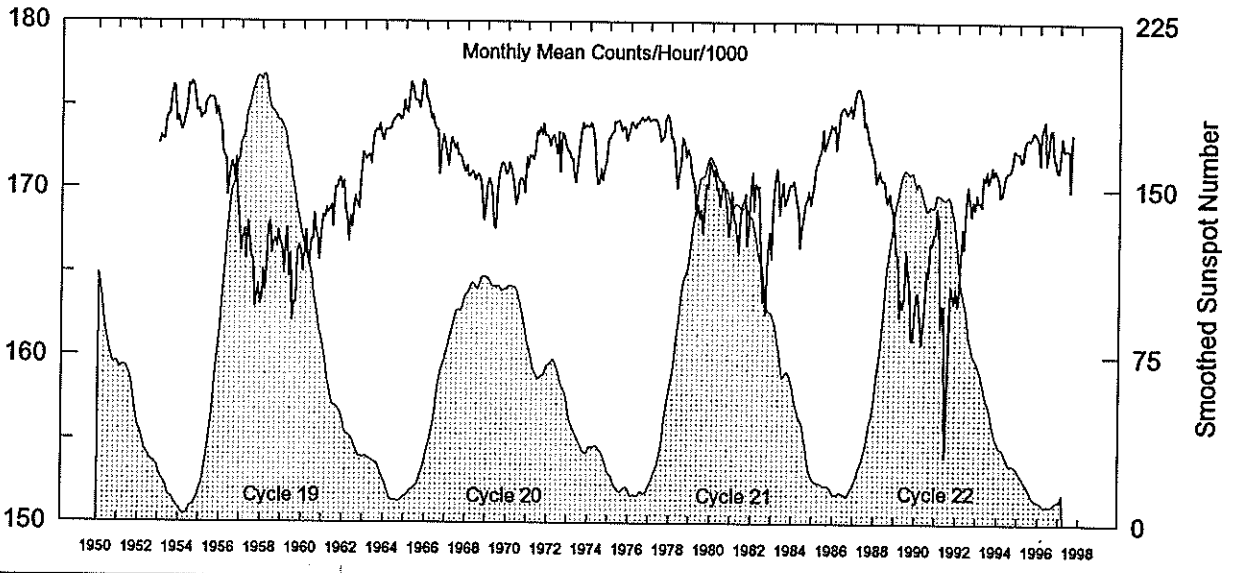
COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2240 - Beginning 14 Aug 97



COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2240 - Beginning 14 Aug 97



Huancayo* Neutron Monitor Pressure-Corrected/Adjusted Values
Jan 1953 - Aug 1997



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

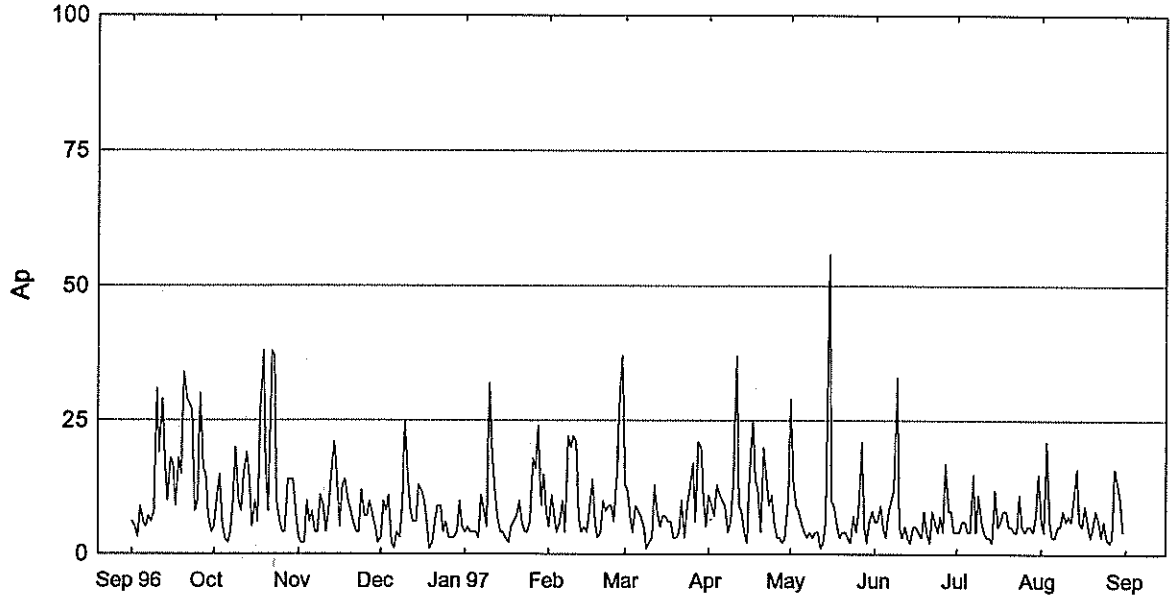
Multiply table entries by 100 to obtain hourly counting rate for Huancayo, Peru: S12 W75, Alt=3400m, Cutoff Rigidity=12.92GV (1980). NOTE: Secular changes in the Earth's magnetic field resulted in a slow lowering of the geomagnetic cutoff rigidity at Huancayo over the 40 year period. This dataset was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

Geomagnetic Activity Indices
August 1997

Day		Kp Three-Hourly Indices 1	2	3	4	5	6	7	8	Sum	Ap	Cp	Km Three-Hourly Indices 1	2	3	4	5	6	7	8	Am	aa Provisional N	S	M	
1		2-	2	1	1+	2-	1+	1+	2+	13-	6	0.3	2-	3-	2-	2-	2-	1o	1+	2o	13	11	10	11	10	CC
2	Q9	2-	1	1-	0+	1-	1	2+	1+	9	4	0.2	2o	2-	1+	1-	1o	1o	2o	1o	9	11	8	7	12	CK
3	D1	1+	1	1+	4-	4-	5	4+	4	24+	21	1.1	2-	2-	2o	3+	3+	4o	3+	3+	31	37	30	19	49	
4		3-	2-	2	2	0+	1-	2+	1	13-	6	0.3	3-	2o	2+	2+	1-	1o	2o	1+	14	15	11	17	9	C
5	Q3	1	1-	1+	1-	0+	1	1-	0+	6	3	0.1	1o	1+	1+	1o	0+	1-	1o	0+	7	6	6	7	5	CC
6	Q2	1+	1+	0	0	1-	1-	1-	0+	5	3	0.0	1+	1+	0o	0+	1-	1-	1-	0+	5	7	4	5	5	CC
7		1-	1	1	1	2+	1+	1-	2+	10+	5	0.2	1o	1o	2-	1+	2+	1+	2-	1+	11	13	8	8	13	CC
8	Q10	1+	2-	0+	2-	2	1+	1-	1	10	5	0.2	1+	2o	1-	2-	2-	2-	1o	2-	10	12	9	10	11	CC
9		1-	0+	2-	1	3-	3-	2+	3	14+	8	0.4	1-	1o	2+	1+	2+	2+	3-	3-	15	20	14	9	25	
10		2-	2-	3-	1	1	1-	1+	1+	11+	6	0.3	2-	2-	3-	2-	1o	1+	2-	2o	13	14	12	15	11	C
11		2	3+	2-	2-	2	1+	1	1	14	7	0.4	2o	3+	2+	2+	2+	1+	1+	1o	16	16	18	20	14	K
12		1	0+	1	2-	1	1	1+	3	10+	6	0.2	1o	1-	1+	2-	1+	1o	1+	3o	10	12	9	8	14	CC
13	D5*	2+	2-	3-	2+	2	2	3+	4-	20	11	0.6	2+	2o	3o	3-	2-	2+	3o	4-	24	28	17	16	30	
14	D3*	3	5-	4+	2	1+	1+	2-	3	21+	16	0.9	3-	5-	4o	3-	1+	2o	1+	3-	30	29	30	45	15	
15		1+	2-	2-	2+	2	2-	1-	1-	12	6	0.3	1+	2-	2-	3-	1+	2o	1-	1o	11	10	13	13	10	C
16		3-	2-	2	2-	1	1-	0	0+	10	5	0.2	2+	2+	3-	2+	1+	0+	0+	1-	11	10	12	17	4	CC
17		2	1	1+	2-	2+	3	4-	1+	16+	9	0.5	2o	1-	2o	3-	3-	3-	3+	1+	19	19	23	15	27	
18		1	1	1+	1	2-	3	2	1	12	6	0.3	1o	1+	2-	1+	2o	2+	2o	1o	11	12	16	8	20	
19	Q4	2-	1+	0	0+	1-	1-	0+	0+	5+	3	0.1	2o	2o	0+	0+	1-	1-	0+	1-	7	7	3	5	4	CK
20		1	1+	1+	2-	1+	0+	1	2+	10+	5	0.2	1o	2-	1+	2o	2-	0+	1+	2o	10	11	10	10	12	CK
21		3-	3+	1	2-	2-	0+	1+	2	14	8	0.4	3-	3o	2-	2o	2-	0+	1+	2o	15	20	11	21	10	
22		3-	2	1+	1	2	2	1-	1+	13	6	0.3	3-	3-	2-	1+	2o	2+	1-	1+	14	16	10	14	12	CC
23	Q5	2-	0+	0	0	0+	1	1	1	5+	3	0.0	2-	1o	0+	0o	1-	1o	1+	1o	6	7	3	4	6	CC
24		2+	1	1-	2-	1+	0+	2	2+	12-	6	0.3	2+	1+	1o	2+	1+	1-	2-	2+	12	12	15	11	16	C
25	Q8	2	2-	1	1	0	0	1-	0+	7-	3	0.1	2o	2-	1o	1+	0o	0+	1-	0+	6	8	5	9	4	CC
26	Q1	0	0	0+	0+	0+	1-	0+	0+	2+	2	0.0	0+	0+	0+	0+	0+	1-	0+	0+	3	4	3	3	4	CC
27	Q6	0+	0+	2-	1-	1-	1-	0+	1+	6	3	0.1	1-	0+	2-	1o	1-	1o	0+	1+	6	7	7	6	8	CK
28	D2*	2+	4+	4+	2+	1	2+	3	3+	23	16	0.9	2o	4o	4o	3o	1+	2-	2+	3o	28	32	22	34	20	
29	D4*	1+	2+	3	4	3-	3	3	2+	22-	13	0.8	1+	3-	3o	4-	3-	3-	3-	2+	25	28	22	27	23	
30		1+	3	2+	2	3-	2+	3-	2+	19-	10	0.5	1o	3-	2+	3-	3o	2+	3-	2o	20	20	22	17	25	
31	Q7	1	1	1-	1	1	1	1	0+	7	4	0.1	1+	1+	1o	1+	1+	1o	1-	0+	7	6	7	7	7	CK
Mean											7	0.33									13.5	14.9	12.6	13.7		

Day	Kn Three-Hourly Indices 1	2	3	4	5	6	7	8	An	Ks Three-Hourly Indices 1	2	3	4	5	6	7	8	As	Sa	Prov Ri	Ra	Rs	IMF
1	2o	3-	2-	2-	2o	1+	1o	2+	14	2-	3-	1+	2-	1o	1-	2-	2-	12	73.2	0	0	17	
2	2-	1-	1+	1-	1o	1+	2+	1+	9	2o	2o	1o	0+	1o	1-	2-	1-	9	72.9	8	5	17	
3	1+	2o	2+	4-	4-	4o	3+	3+	34	2o	1+	2-	3+	3-	4o	3+	3+	28	74.3	13	16	18	
4	3o	2+	3-	3-	1o	1+	2+	1+	17	2+	2-	2o	2o	0+	1-	1+	1+	11	74.9	9	13	19	
5	1-	1+	1+	1+	0+	1o	1o	1-	6	1+	1+	1+	1o	0+	1-	1+	0+	6	76.9	17	20	21	
6	1+	2-	0o	0o	1-	1-	1-	0+	5	1+	1o	0+	0+	1-	0+	1-	1-	4	79.0	36	42	23	
7	1o	1o	2-	1+	3o	2-	1o	3o	13	1-	1+	2-	1o	1+	1o	1-	2-	8	80.1	41	46	25	
8	1o	2o	0+	2-	2o	2-	1o	1o	10	2-	2-	1o	2-	1+	1+	1o	2o	10	79.9	45	48	24	
9	1-	1-	3-	2-	3-	2+	2+	3o	17	1-	1o	2-	1+	2o	2+	3-	3-	14	80.3	38	39	25	
10	2-	2o	3o	1o	1+	2o	2-	2o	14	2-	2-	2+	2o	1o	1-	2-	2-	12	80.4	21	22	25	
11	2o	3+	2+	2+	2o	1+	1+	1+	16	2o	3+	2o	3-	3-	1+	1o	1-	17	81.6	36	39	26	
12	1o	1-	1+	2-	1+	1+	2-	3o	11	1o	1-	1o	2-	1+	1-	1+	3-	10	83.0	48	53	28	
13	2+	2-	3o	3o	2o	3-	3o	3+	24	3-	2o	3o	3-	1+	2o	3o	4-	23	84.2	46	56	29	
14	3o	5-	4o	3-	1+	2-	2-	3-	31	3-	4+	4+	3o	1o	2o	1+	3-	29	81.6	39	45	26	
15	2-	2o	2-	3-	2-	2-	1-	1o	13	1+	1+	2-	2+	1o	2o	0+	1o	10	79.6	41	35	24	
16	2+	2+	2+	2+	1+	0+	0o	0+	11	2o	2o	3-	2o	1o	0+	0+	1-	11	79.8	21	24	24	
17	2-	0+	2-	3-	3-	3o	4-	1+	20	2o	1-	2o	3-	3-	3-	3-	1o	17	77.4	18	20	22	
18	1-	1o	2-	1+	2-	3-	2o	1o	12	1+	1+	1+	1+	2o	2+	2-	1o	12	77.7	18	13	22	
19	2-	1+	0o	0+	1o	1o	0+	1o	6	2o	3-	0+	0+	0+	0+	0+	1-	7	76.1	9	12	20	
20	1+	2-	1o	1+	2-	0+	1+	2+	10	1o	2-	2-	2+	2-	0+	1+	2-	11	76.3	8	11	20	
21	2+	3+	1+	2-	2-	1-	2-	2o	15	3-	3o	2-	2+	1+	0+	1o	2-	15	76.3	9	11	20	
22	2+	2o	1+	1o	2o	2+	1-	1+	13	3-	3o	2-	1+	2o	2o	1-	2-	15	77.2	8	11	21	
23	1+	1-	0+	0o	1-	1+	1+	1o	6	2o	1+	0+	0+	0+	0+	1-	1-	5	78.2	9	3	22	
24	2o	1o	1-	2+	2-	1-	2o	2+	12	2+	2-	1o	2+	1o	1-	2-	2+	12	79.4	0	1	24	
25	2-	2-	1o	2-	0o	0o	1o	0+	7	2+	1+	1-	1o	0+	0+	1-	0+	6	83.7	18	17	28	
26	0o	0o	0+	0o	0+	1o	0+	1-	3	1-	0+	0+	1-	0+	0+	0+	0+	3	85.5	21	24	30	
27	0o	0o	2-	1-	1o	1o	0+	2-	6	1o	1-	1+	1o	1-	1o	0+	1-	6	83.5	24	30	28	
28	2-	4o	4-	3o	1+	2o	2+	3o	27	2o	4o	4o	3+	1+	1+	2+	3o	29	92.3	33	43	38	
29	1+	3o	3o	4o	3o	3o	3o	2+	28	1+	2+	3-	4-	2+	3-	2+	2+	22	93.3	35	48	39	
30	1+	3o	2o	3-	3o	3-	3-	2o	21	1-	3-	2+	2+	3-	2+	3-	2o	19	93.8	43	57	39	
31	1o	1+	0+	1+	1o	1+	1-	1-	7	1+	2-	1+	1+	1+	1o	1-	0+	8	98.2	53	68	44	
Mean									14.1									12.9	81.0	24.7	28.2	25.5	

Daily Average Indices Ap
Sep 1996 - Aug 1997

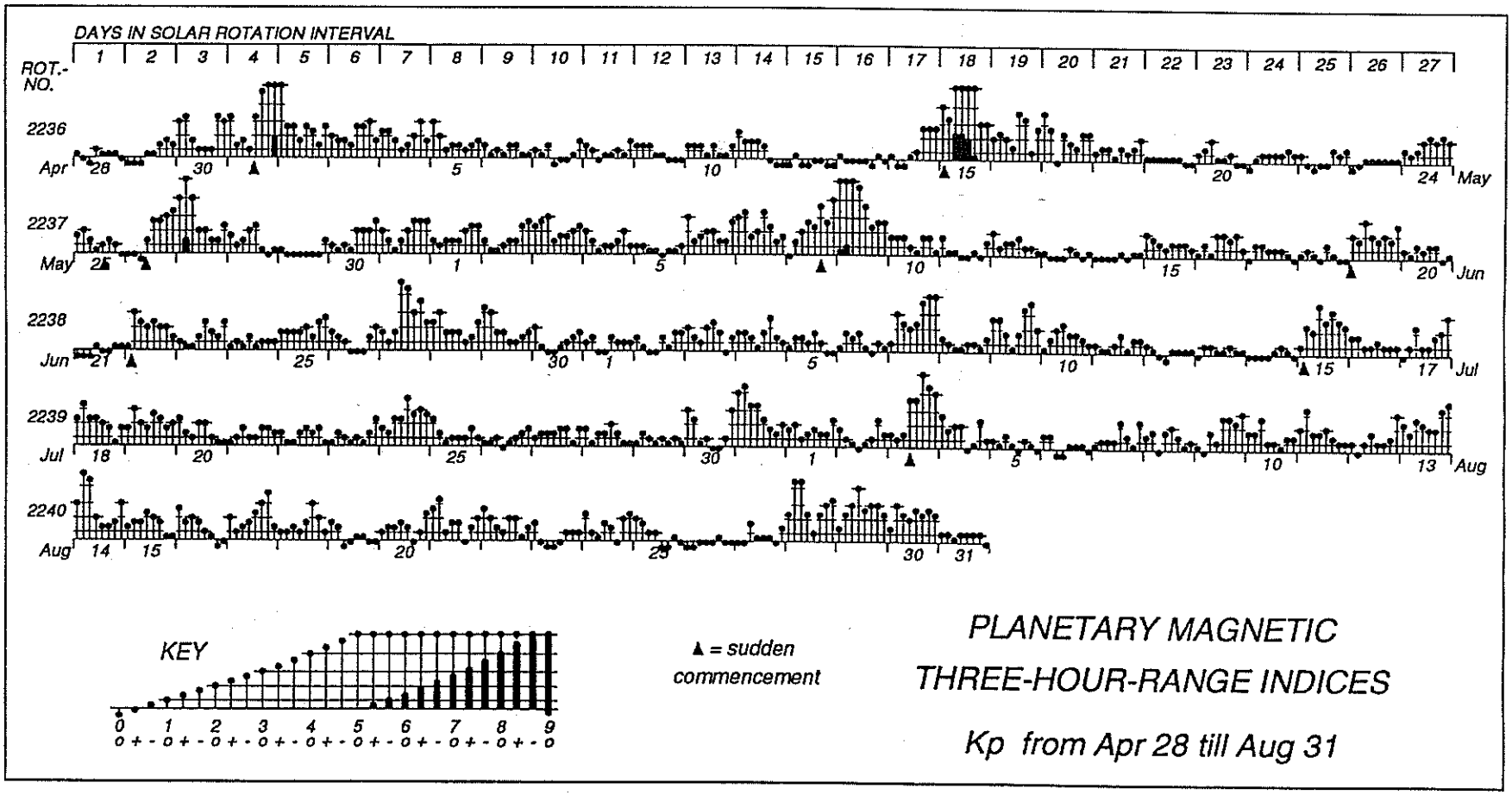


Day	Sep 96	Oct	Nov	Dec	Jan 97	Feb	Mar	Apr	May	Jun	Jul	Aug
1	6	5	3	3	4	5	13	11	29	6	4	6
2	5	10	2	10	5	11	12	9	14	6	4	4
3	3	15	2	8	4	7	7	7	9	9	6	21
4	9	6	10	11	4	4	4	13	8	5	6	6
5	6	3	6	2	4	6	9	11	6	3	4	3
6	5	2	8	1	3	10	8	10	4	8	4	3
7	7	4	4	4	11	4	7	9	3	10	15	5
8	6	10	4	3	8	22	5	4	4	12	4	5
9	8	20	11	9	5	20	1	6	3	33	11	8
10	31	10	9	25	32	22	2	13	4	5	6	6
11	19	8	4	14	18	21	3	37	4	3	4	7
12	29	15	8	8	12	7	13	9	1	5	3	6
13	18	19	16	6	7	4	8	8	2	3	3	11
14	10	14	21	6	4	5	5	4	6	2	2	16
15	18	5	15	13	4	4	7	2	56	5	12	6
16	17	10	5	12	3	8	7	15	10	5	5	5
17	9	6	13	10	2	14	6	25	9	4	6	9
18	18	27	14	6	5	6	6	14	5	3	8	6
19	15	38	10	1	6	3	3	12	3	8	8	3
20	34	16	8	2	7	4	3	4	4	4	5	5
21	29	8	6	6	10	10	4	20	4	2	5	8
22	28	38	4	9	6	8	10	15	3	8	4	6
23	27	37	4	9	4	9	3	9	2	6	4	3
24	8	10	12	4	4	9	9	11	7	4	11	6
25	10	6	7	6	6	6	12	6	4	7	5	3
26	30	4	7	3	18	15	17	3	8	4	4	2
27	16	4	10	3	16	30	6	3	21	17	5	3
28	15	14	7	3	24	37	21	2	5	8	5	16
29	7	14	5	4	9		20	3	2	8	4	13
30	4	14	2	10	15		10	10	6	4	7	10
31		7		5	8		5	5	8		15	4
Mean	15	13	8	7	9	11	8	10	8	7	6	7

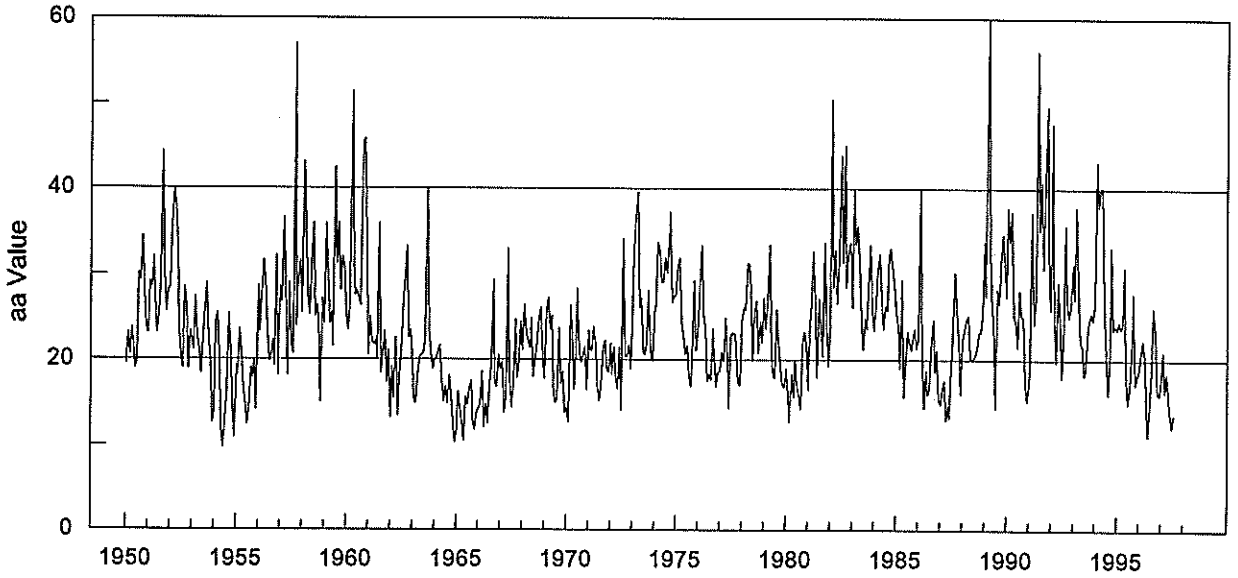
PLANETARY 3-HOUR-RANGE INDICES (Kp) BY 27-DAY SOLAR ROTATION INTERVAL

University of Gottingen

Kp through August 31, 1997



Monthly Mean aa Index Jan 1950 - Aug 1997



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					16.0

PLANETARY GEOMAGNETIC ACTIVITY

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

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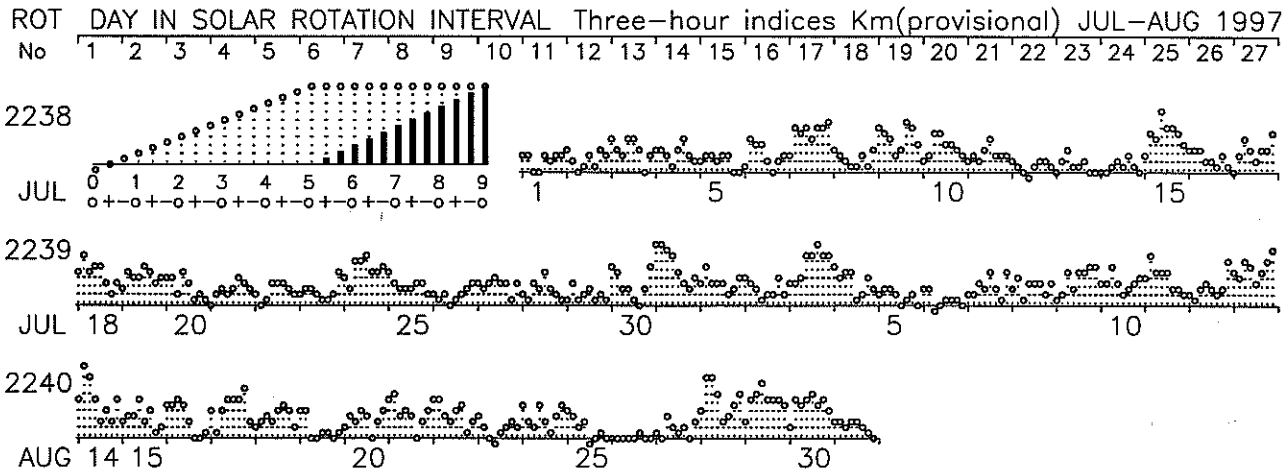

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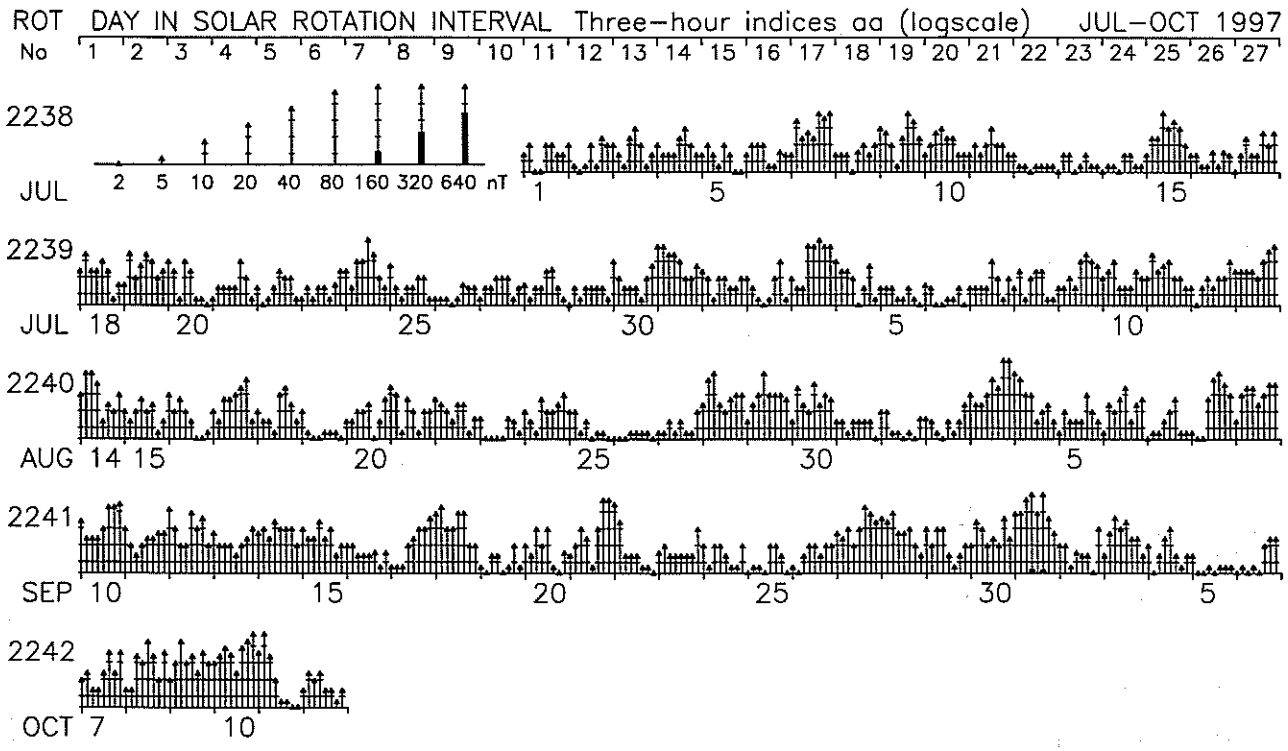

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122
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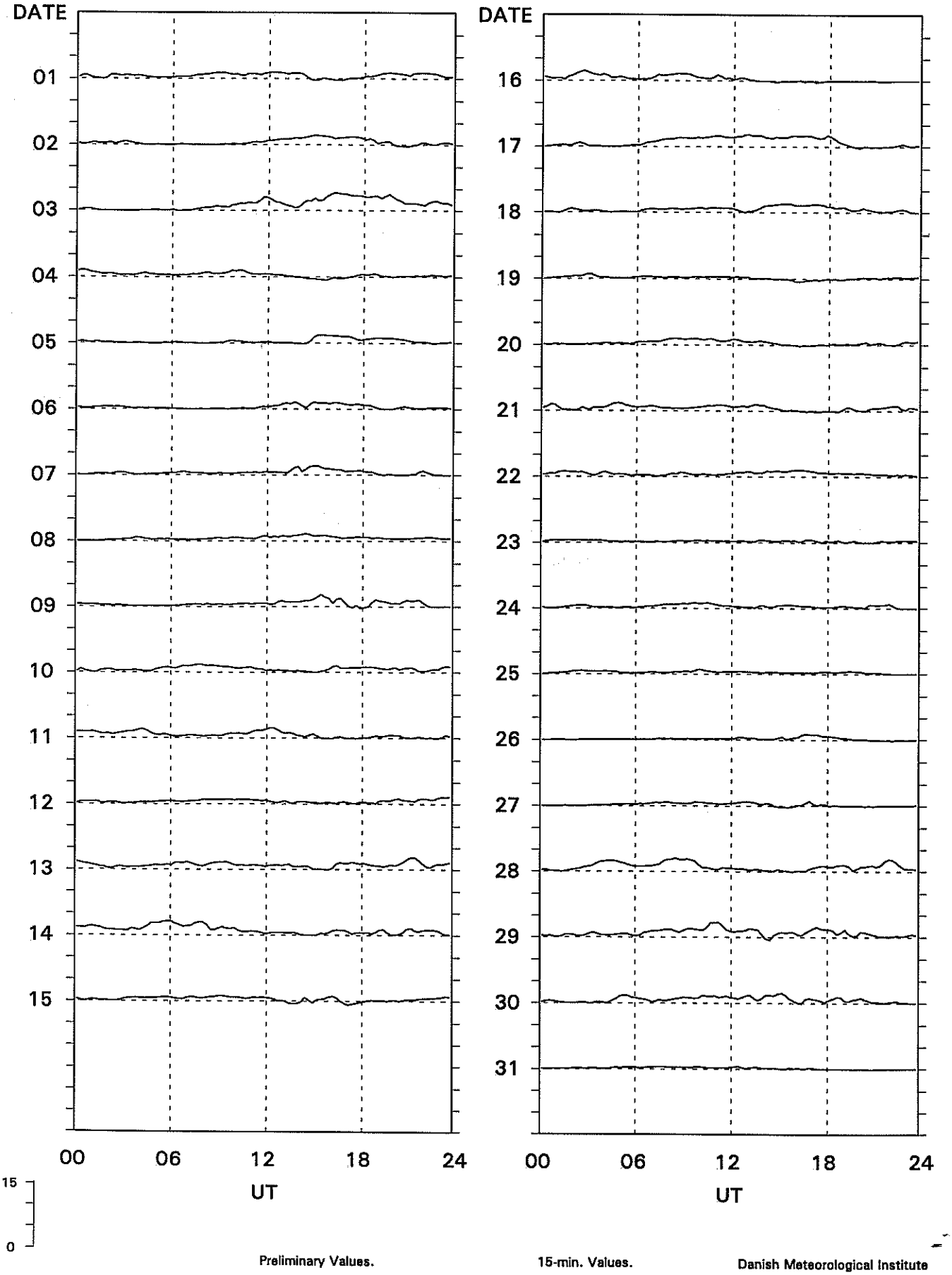
PC-INDEX

Thule

August, 1997



Preliminary Values.

15-min. Values.

Danish Meteorological Institute

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

AUGUST 1997

Sta	Geomag Lat	Commencement Time Day	(UT)	Type	SC Amplitudes D (Min)	H (Gamma)	Z (Gamma)	Maximum 3-Hour K Index Day(3-Hour Periods)	K	Ranges D (Min)	H (Gamma)	Z (Gamma)	End Day	Hour (UT)
KRC	16.4N	03	1023	SC	1.3	22	13	03(5,6) 04(2)	5	9	125	60	04	08
UJJ	13.6N	03	0500	..	..	..	..		-	5	122	42	04	00
NGP	11.3N	03	0500	..	..	..	..		-	5	157	32	04	00
ABG	09.4N	03	0500	..	..	..	..	03(8)	6	6	140	50	04	00
HYB	07.6N	03	0300	..	..	..	..	03(6)	6	7	150	29	04	21
PND	02.0N	03	0500	..	..	..	..		-	4	154	58	04	00
ETT	00.7S	03	0300	..	..	..	..		-	--	196	60	04	21
TRD	01.1S	03	0500	..	..	..	..		-	3	183	83	04	00
AMS	46.8S	03	1042	SC	- 1	- 6	4	03(6,7,8)	4	18	69	37	03	23
CZT	51.5S	03	1042	SC	- 1.5	5.4	- 4.0	03(6,7,8)	4	20	122	52	04	12
PAF	57.2S	03	1042	SC	1.7	13.6	2.3	03(6,7,8)	5	27	148	156	04	12
UJJ	13.6N	12	1800	..	..	..	..		-	5	59	23	14	16
NGP	11.3N	12	1800	..	..	..	..		-	5	67	26	14	16
ABG	09.4N	12	1800	..	..	..	..	17(6)	4	5	53	41	14	16
PND	02.0N	12	1800	..	..	..	..		-	5	76	68	14	16
TRD	01.1S	12	1800	..	..	..	..		-	3	116	49	14	16
UJJ	13.6N	28	0100	..	..	..	..		-	4	53	24	29	22
NGP	11.3N	28	0100	..	..	..	..		-	4	74	24	29	22
ABG	09.4N	28	0100	..	..	..	..	28(3) 29(4,7)	4	4	64	31	29	22
PND	02.0N	28	0100	..	..	..	..		-	3	77	66	29	22
TRD	01.1S	28	0100	..	..	..	..		-	2	143	53	29	22

Stations:

ABG = ALIBAG
AMS = MARTIN DE VIVIES
ANN = ANNAMALAINAGAR
BJI = BEIJING
CAN = CANBERRA
CMO = COLLEGE
CZT = PORT ALFRED
DRV = DUMONT D'URVILLE
ETT = ETAIYAPURAM
FRD = FREDERICKSBURG
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
TRD = TRIVANDRUM
UJJ = UJJAIN

Stations reporting no storms observed: DRV FRD HER

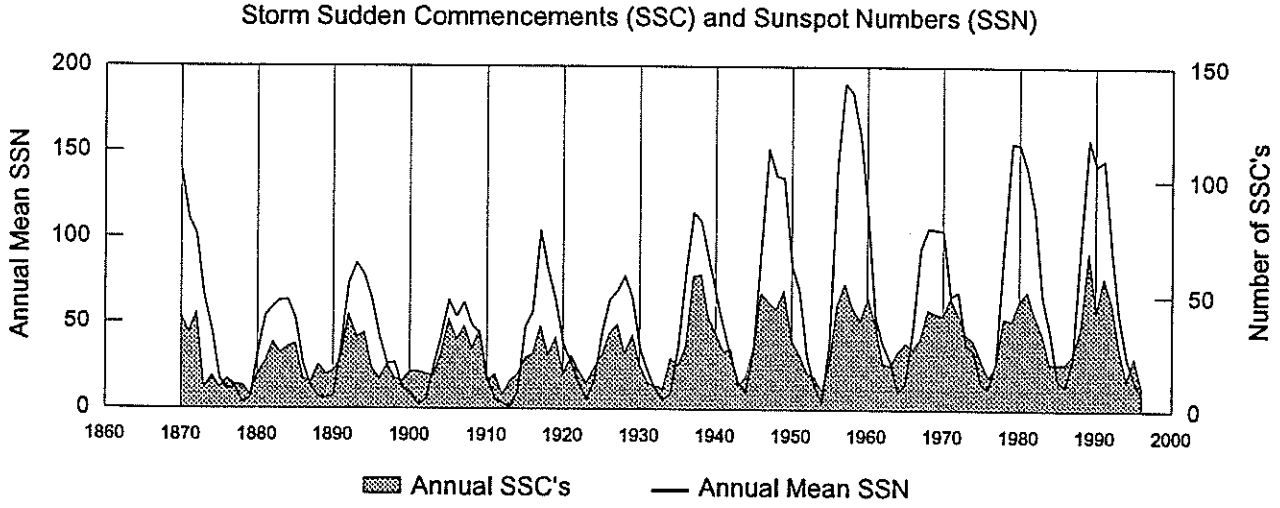
MAGNETIC STORM SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS (PRELIMINARY REPORT ON RAPID MAGNETIC VARIATIONS)

AUGUST 1997

Storm Sudden Commencements (SSC)			Solar Flare Effects (sfe)		
Day	Time	Quality: Station Group*	Day	Begin-End	Station(s)
03	1042	B: HRB SPT C: WNG NGK BDV CLF EBR	26	0053-0100	MMB+

REPORTING OBSERVATORIES (up to the 3rd of October 1997):
DOB NUR WNG NGK BDV CLF HRB NAG GCK MMB EBR COI SPT FRD KAK HTY KNY QUE LNP HYB ETT HER CNB

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



*U.S. GOVERNMENT PRINTING OFFICE: 1997-673-001/29006

WORLD DATA CENTER A
FOR
SOLAR-TERRESTRIAL PHYSICS

The ICSU Panel on WDCs has recommended that it would be appropriate courtesy to acknowledge in publications that data were obtained from the originating station or investigator through the intermediary of the WDCs. The following statement is suggested:

"Data used in this study were provided by WDC-A for Solar-Terrestrial Physics, NOAA E/GC2, 325 Broadway, Boulder Colorado 80303, USA."