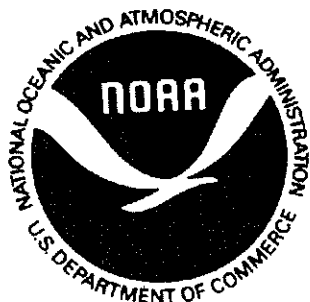




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NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE

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Data for March, February 1993, and Late Data

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Number 584

(Issued in Two Parts)

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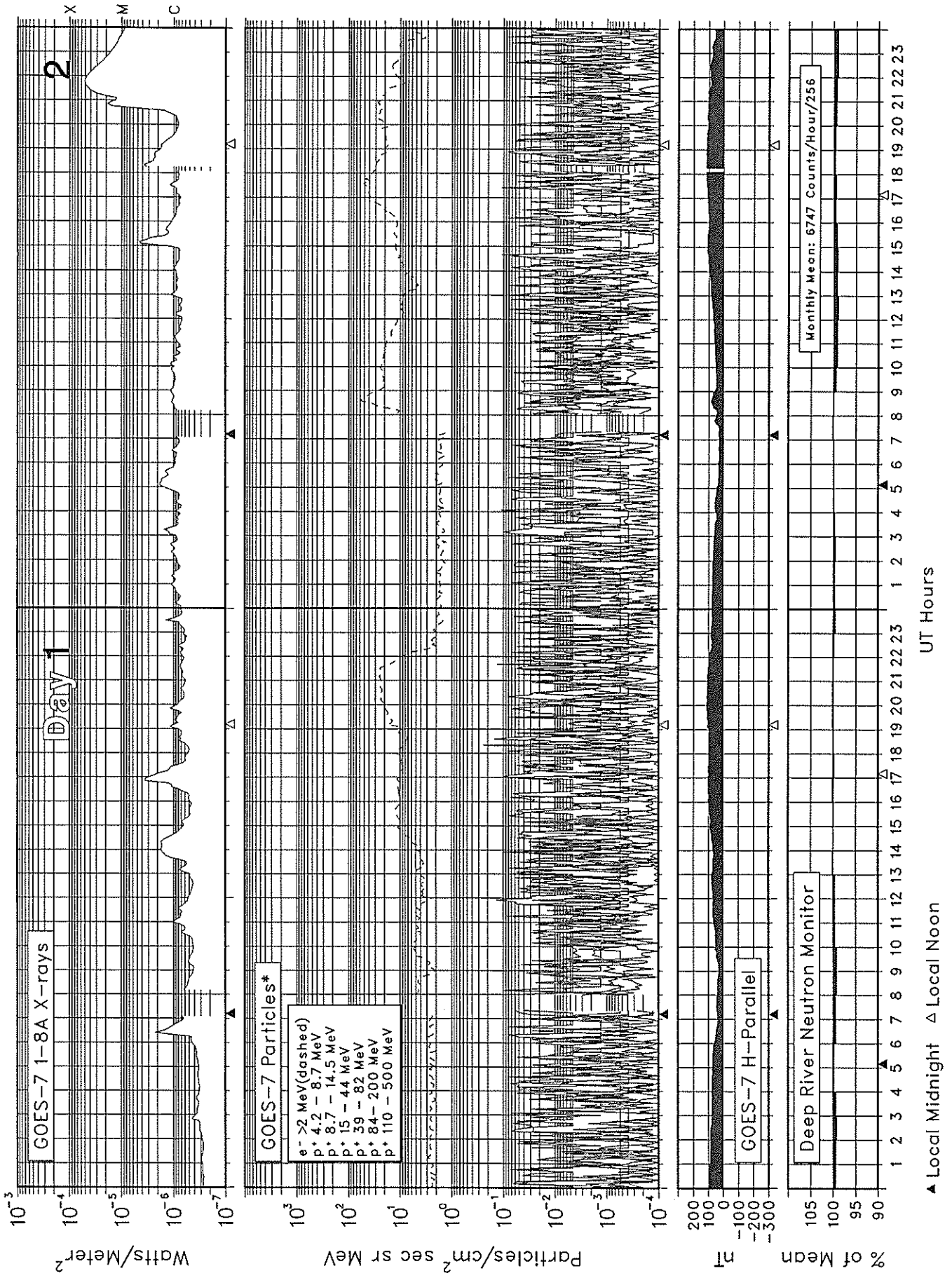
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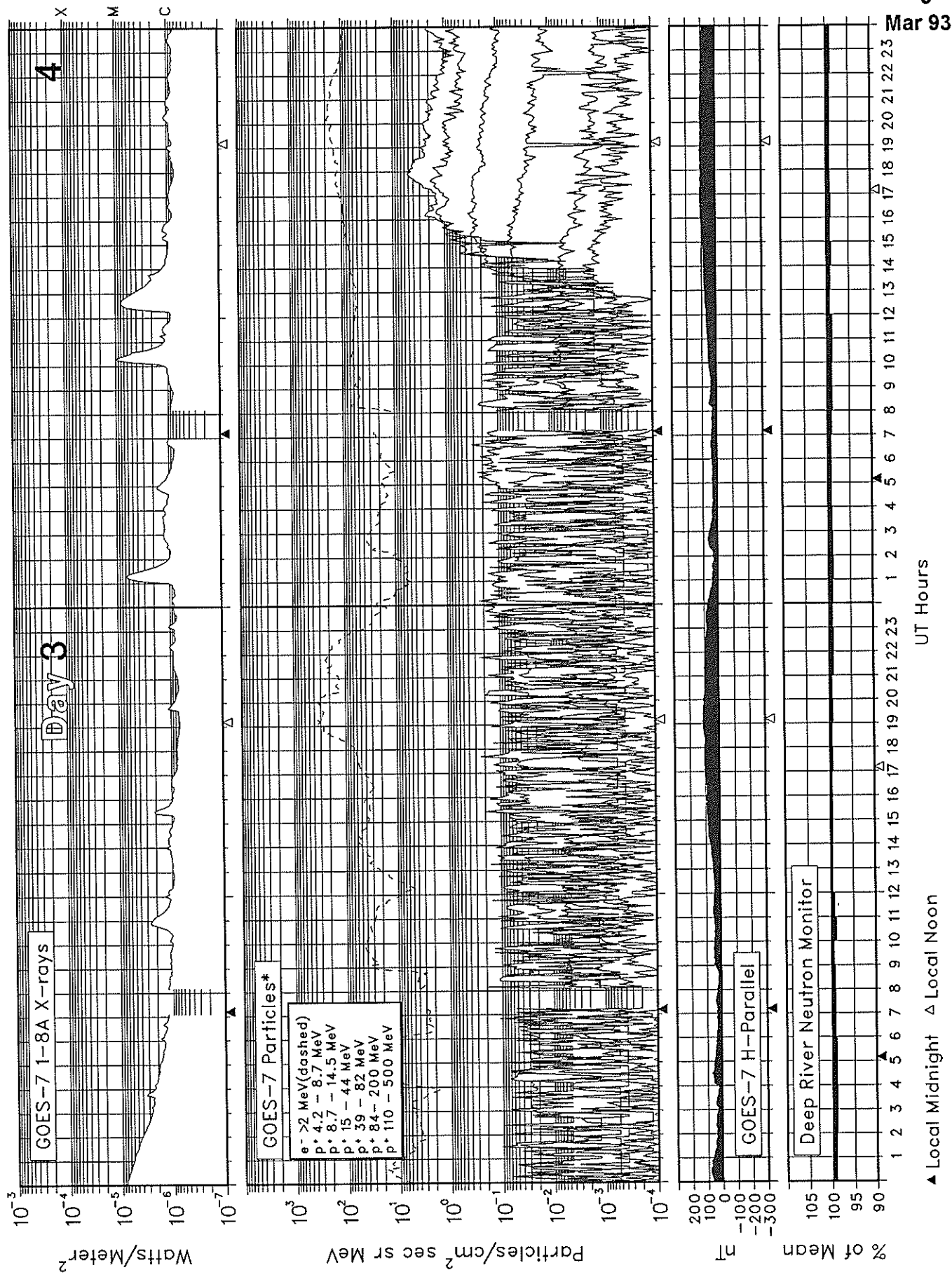
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March 1993



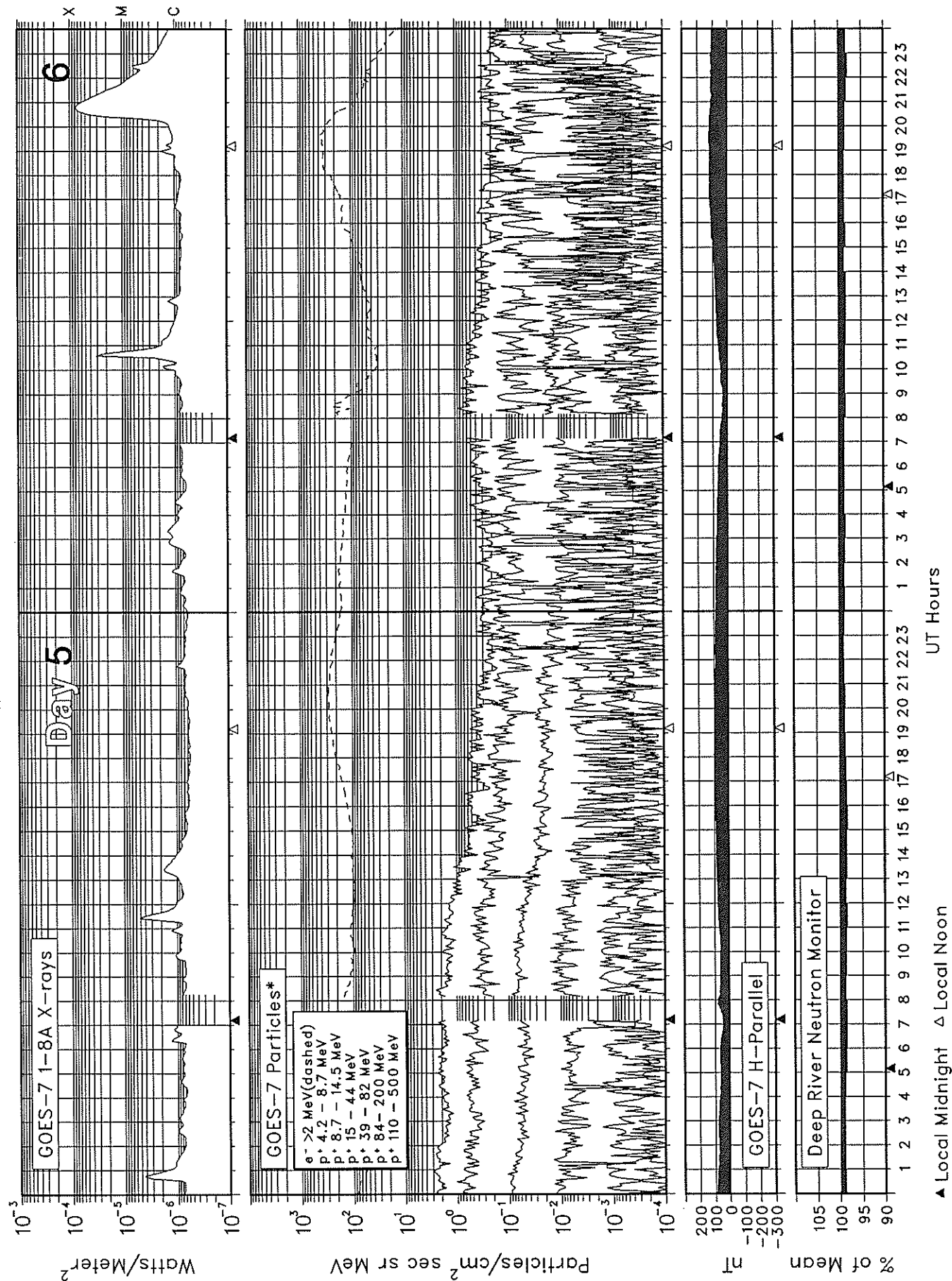
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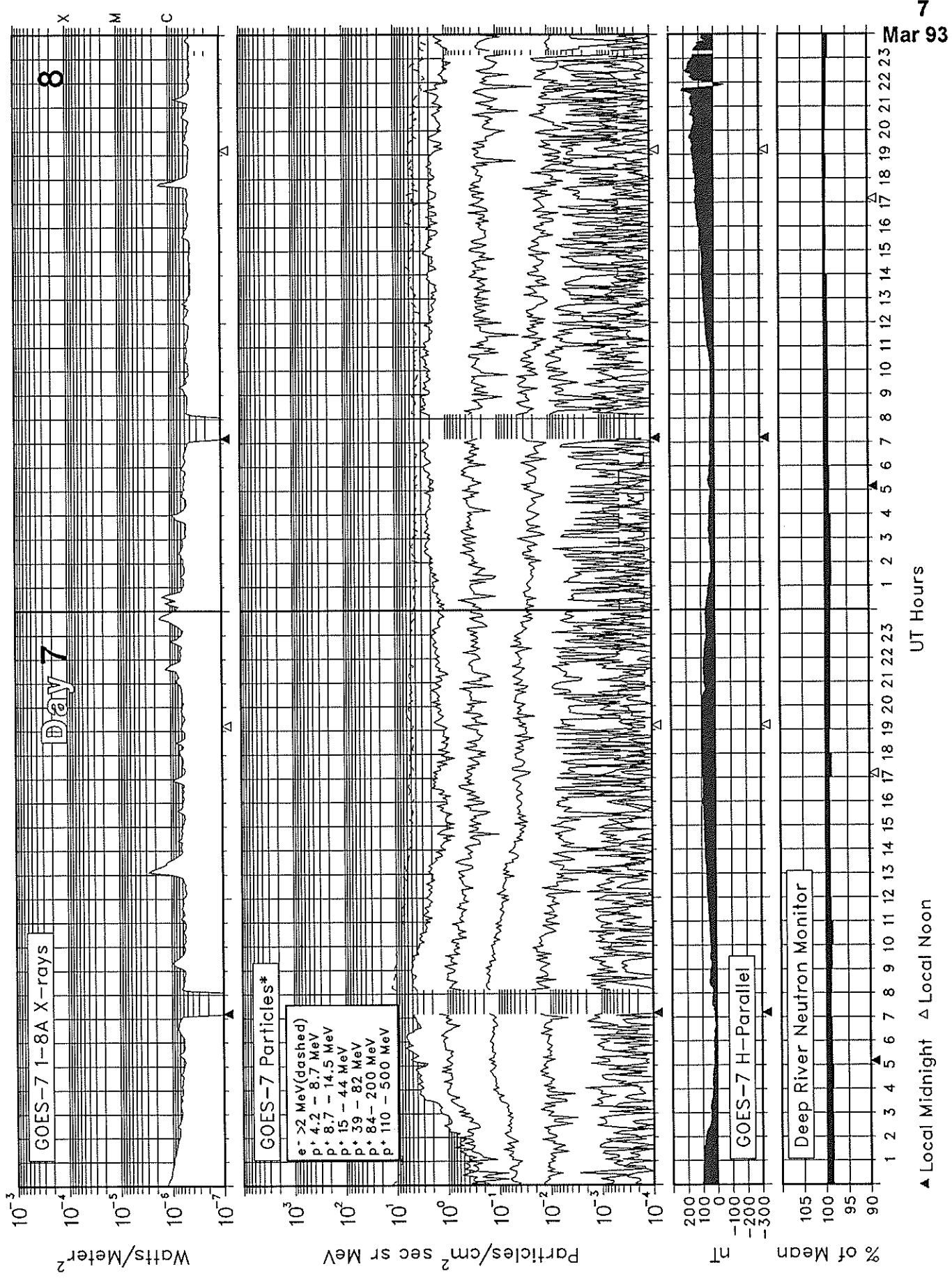
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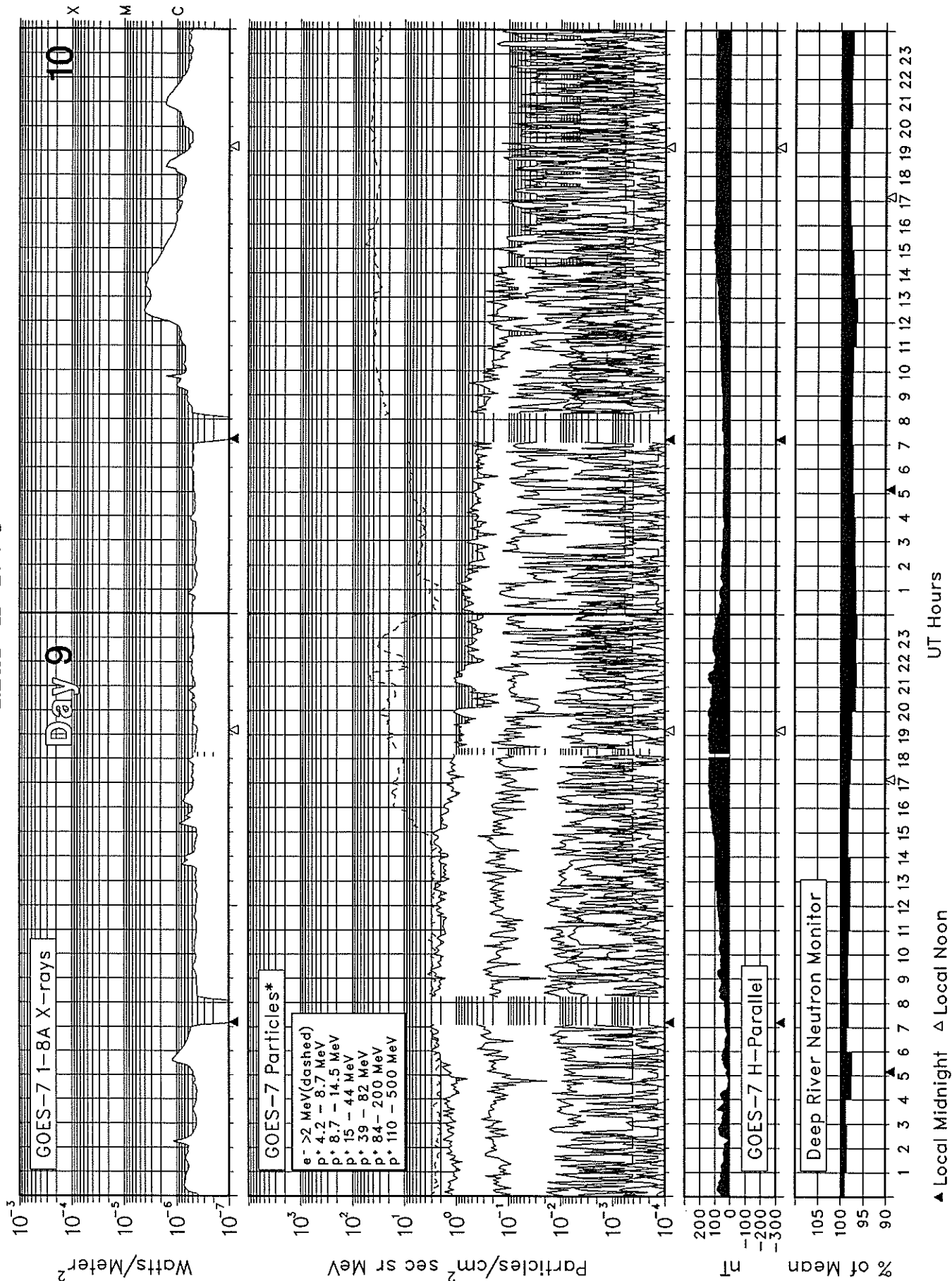
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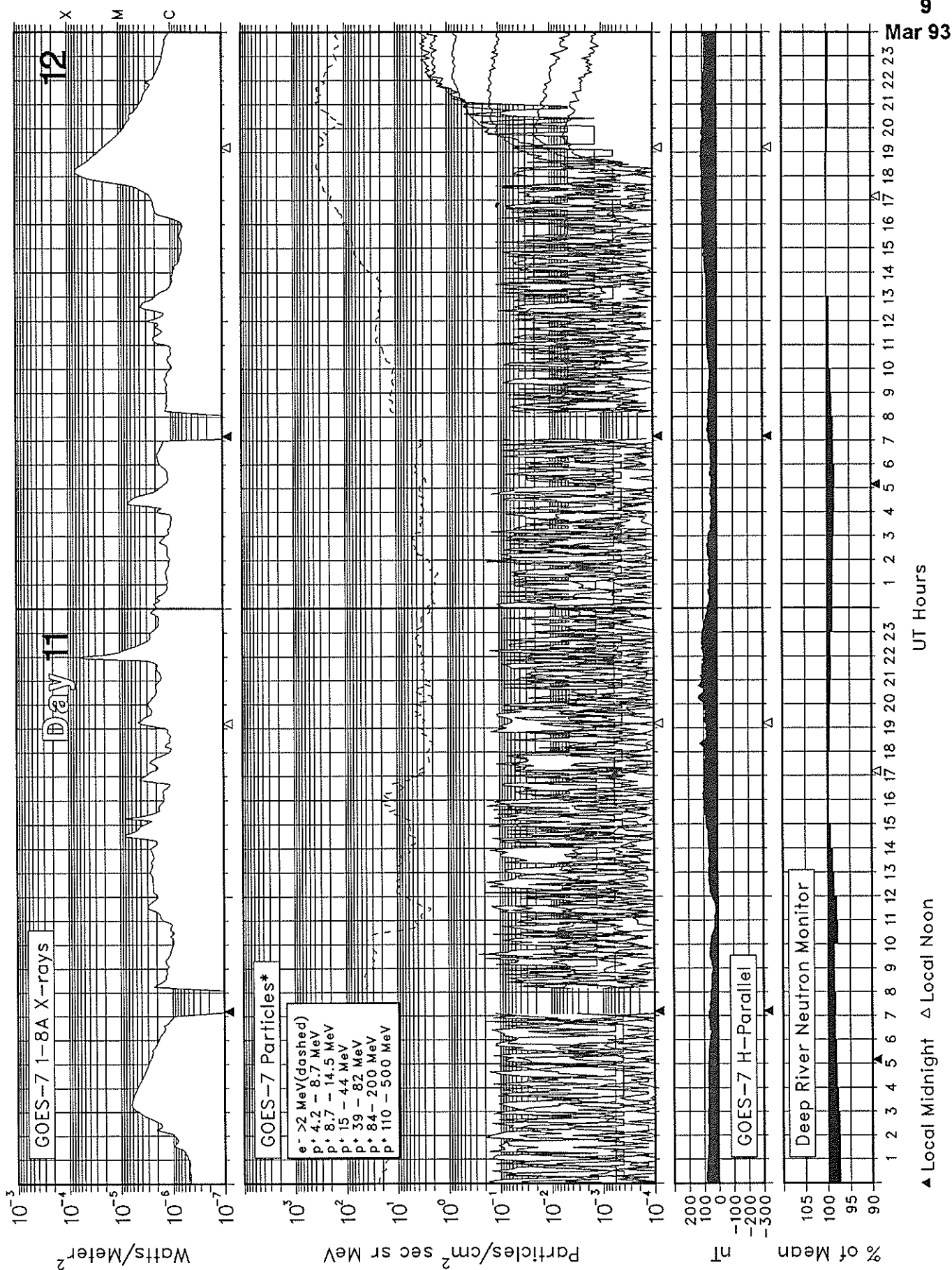
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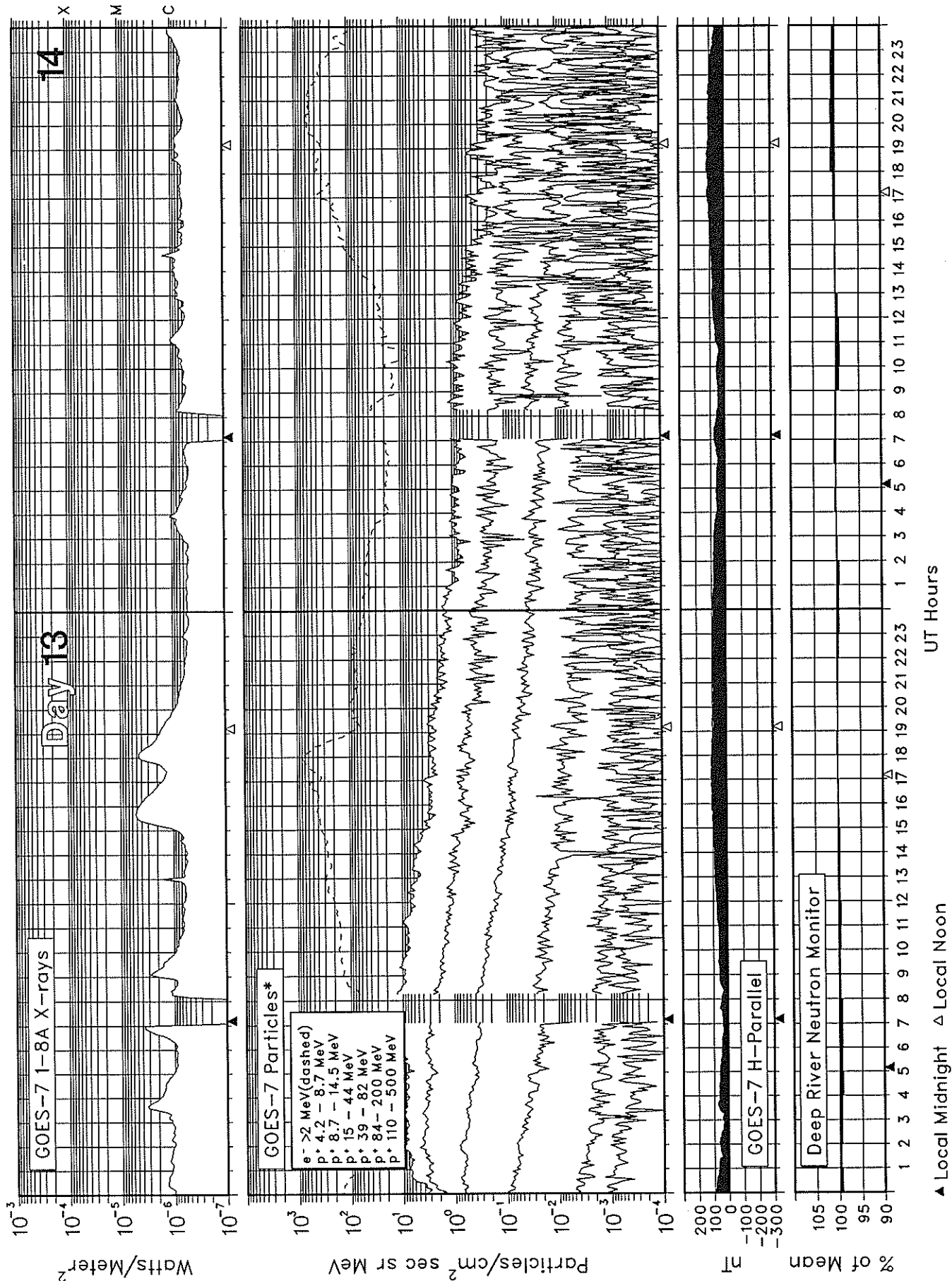
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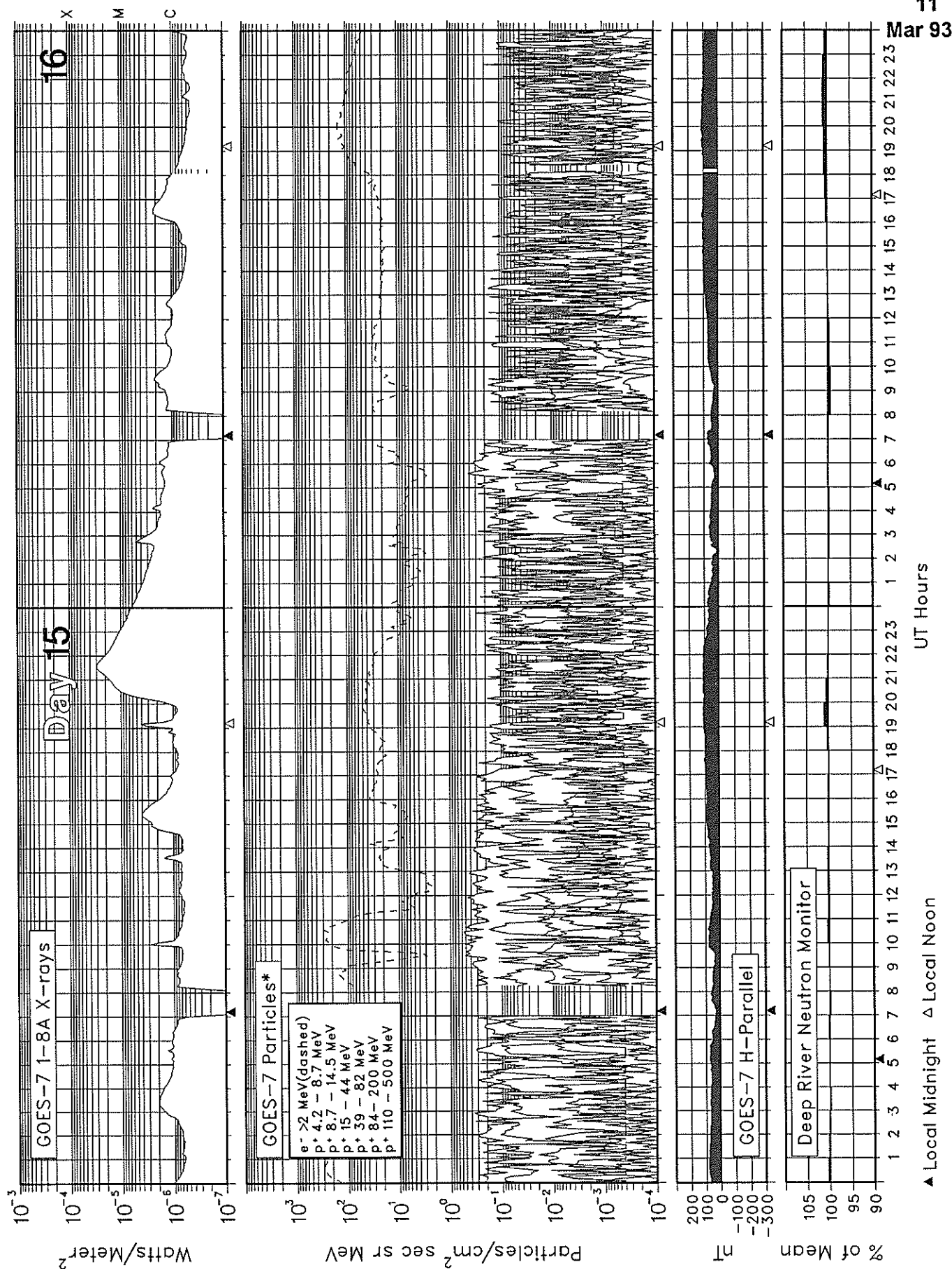
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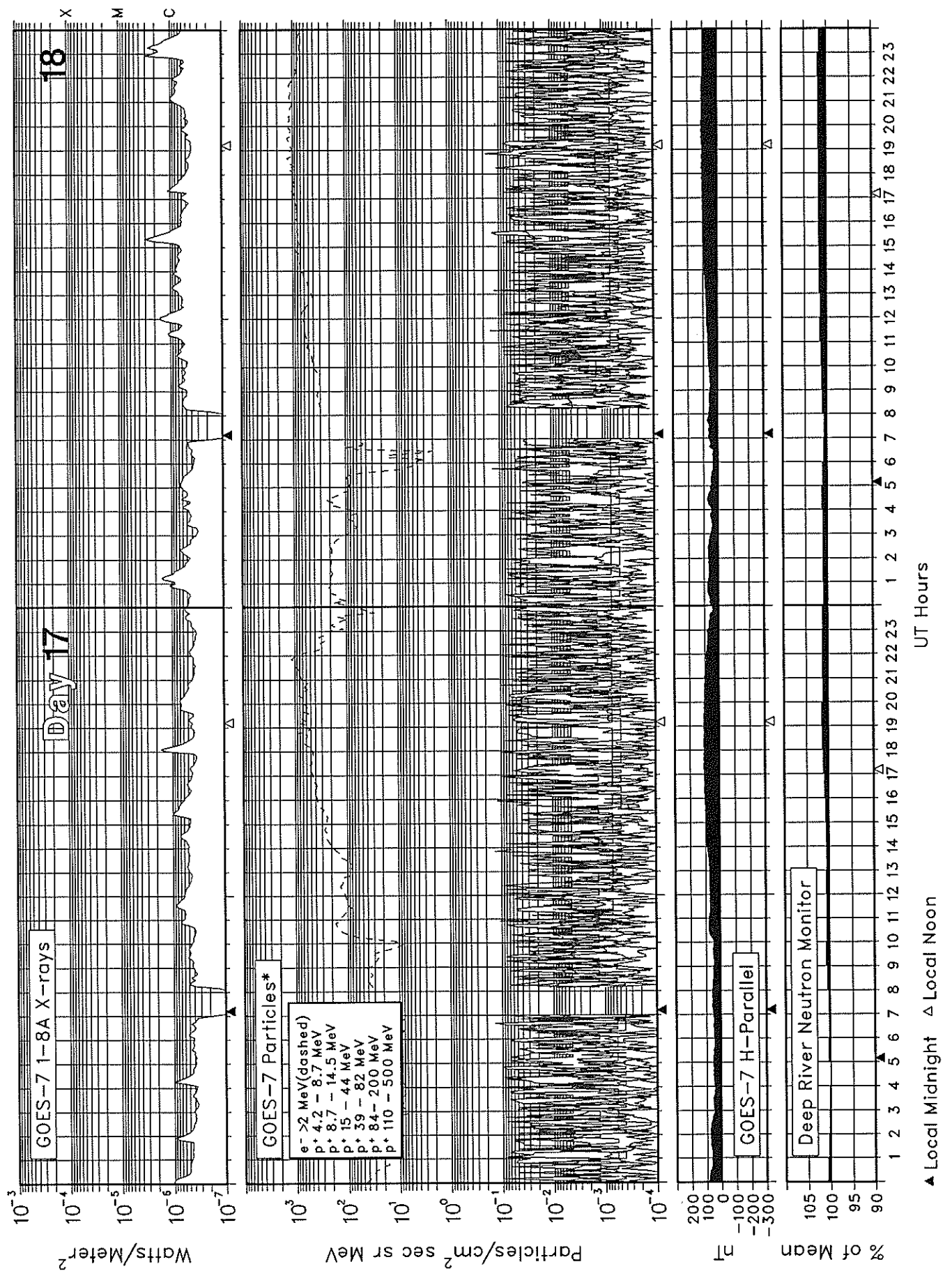
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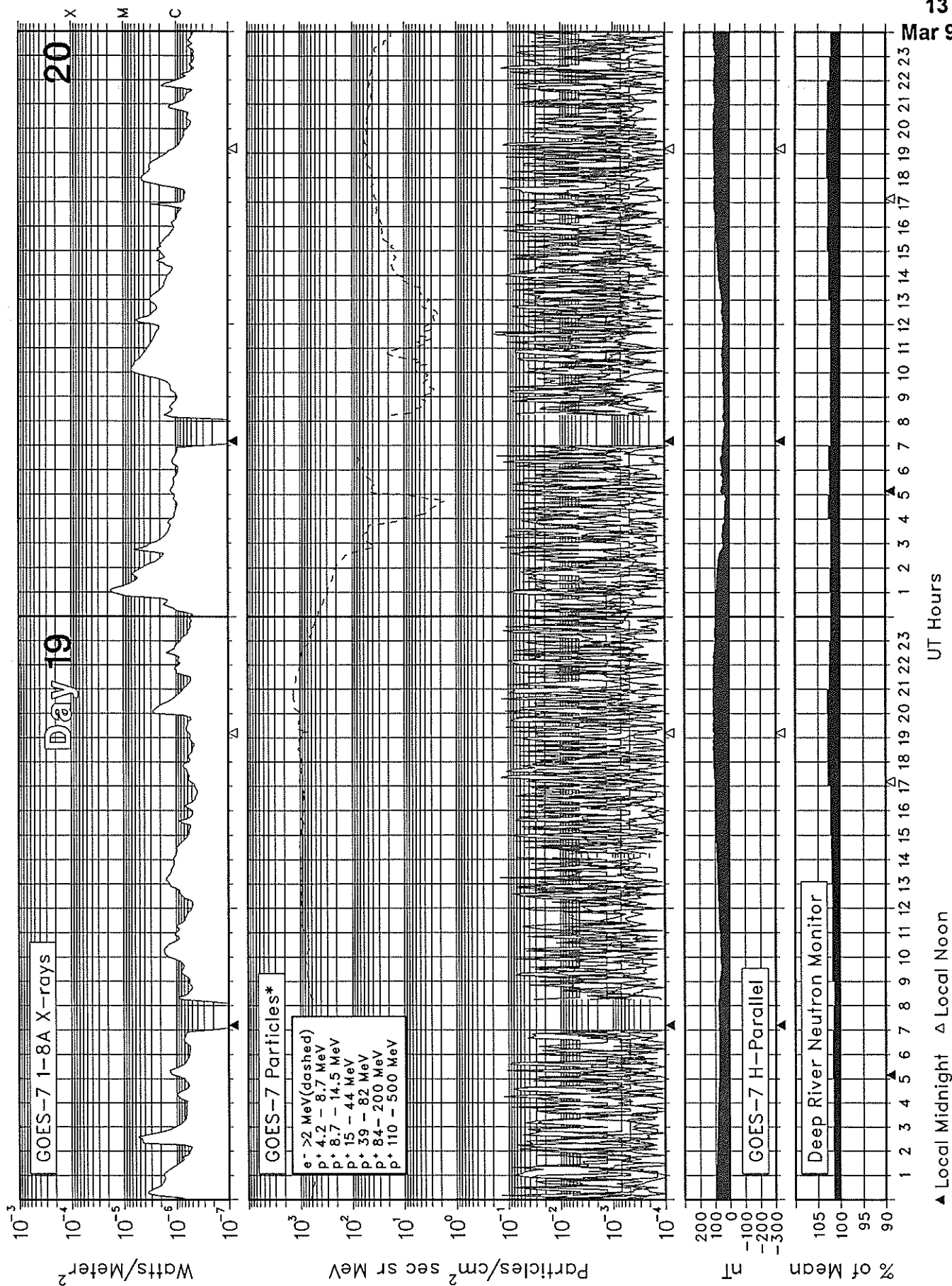


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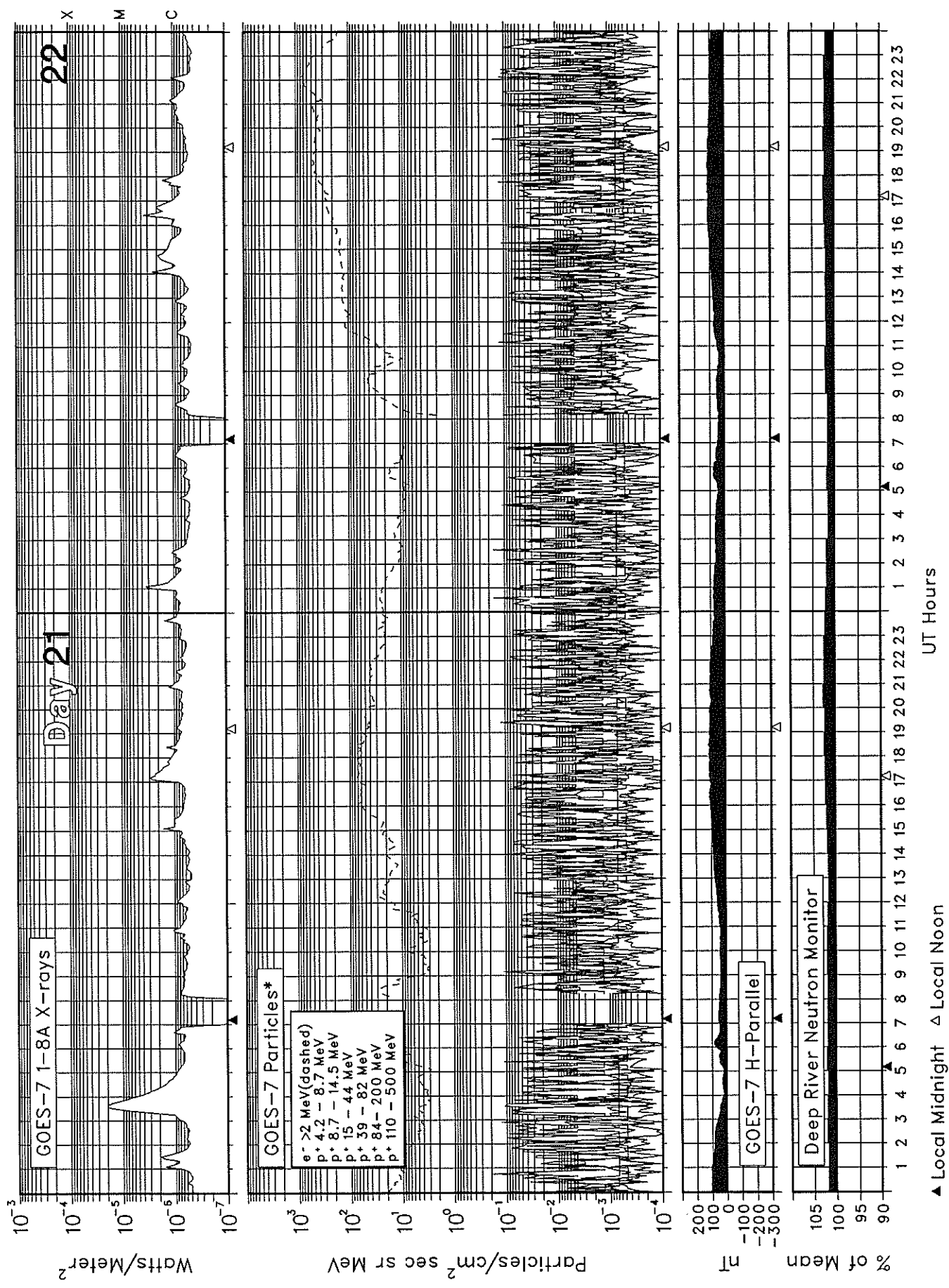
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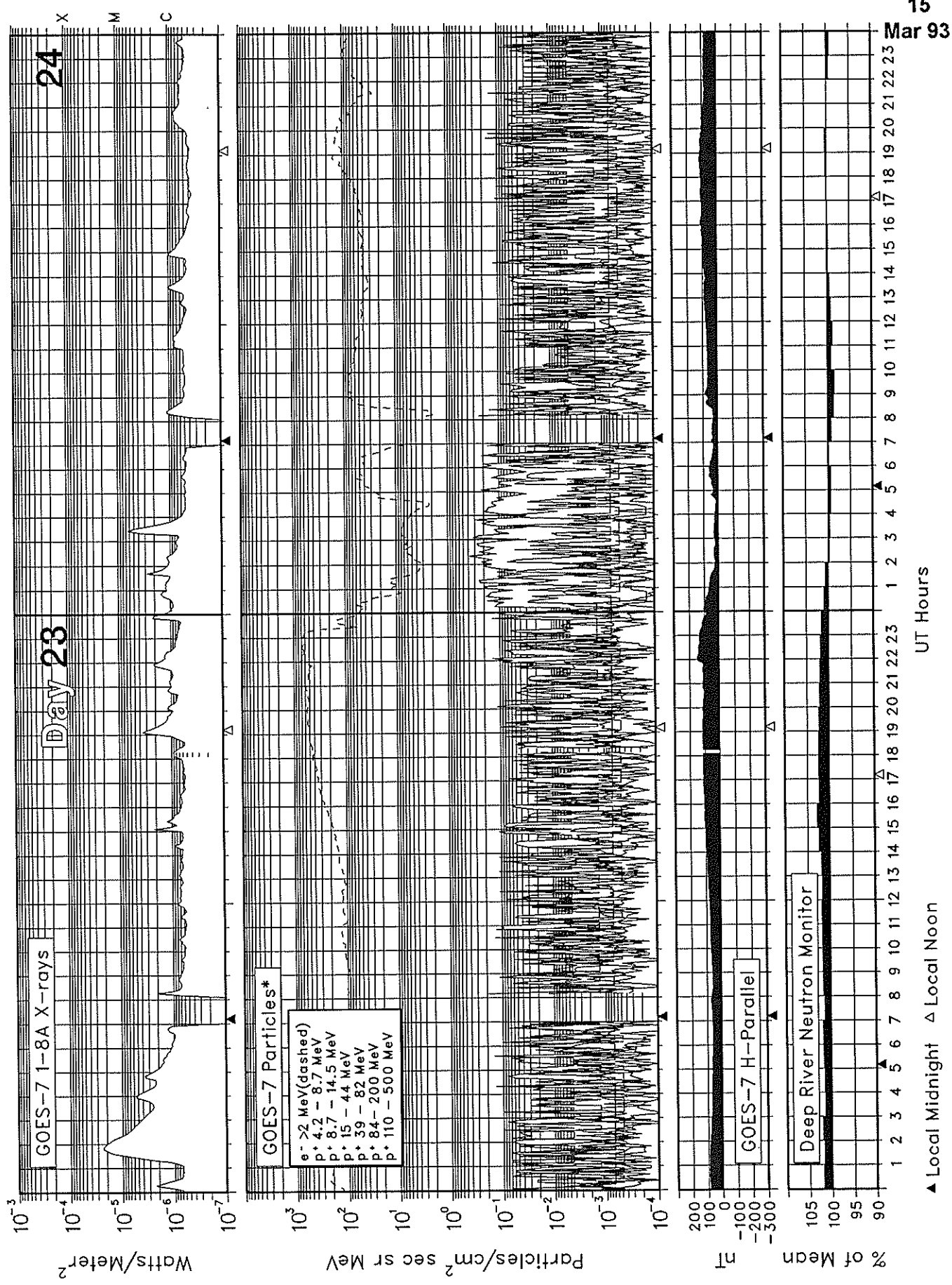
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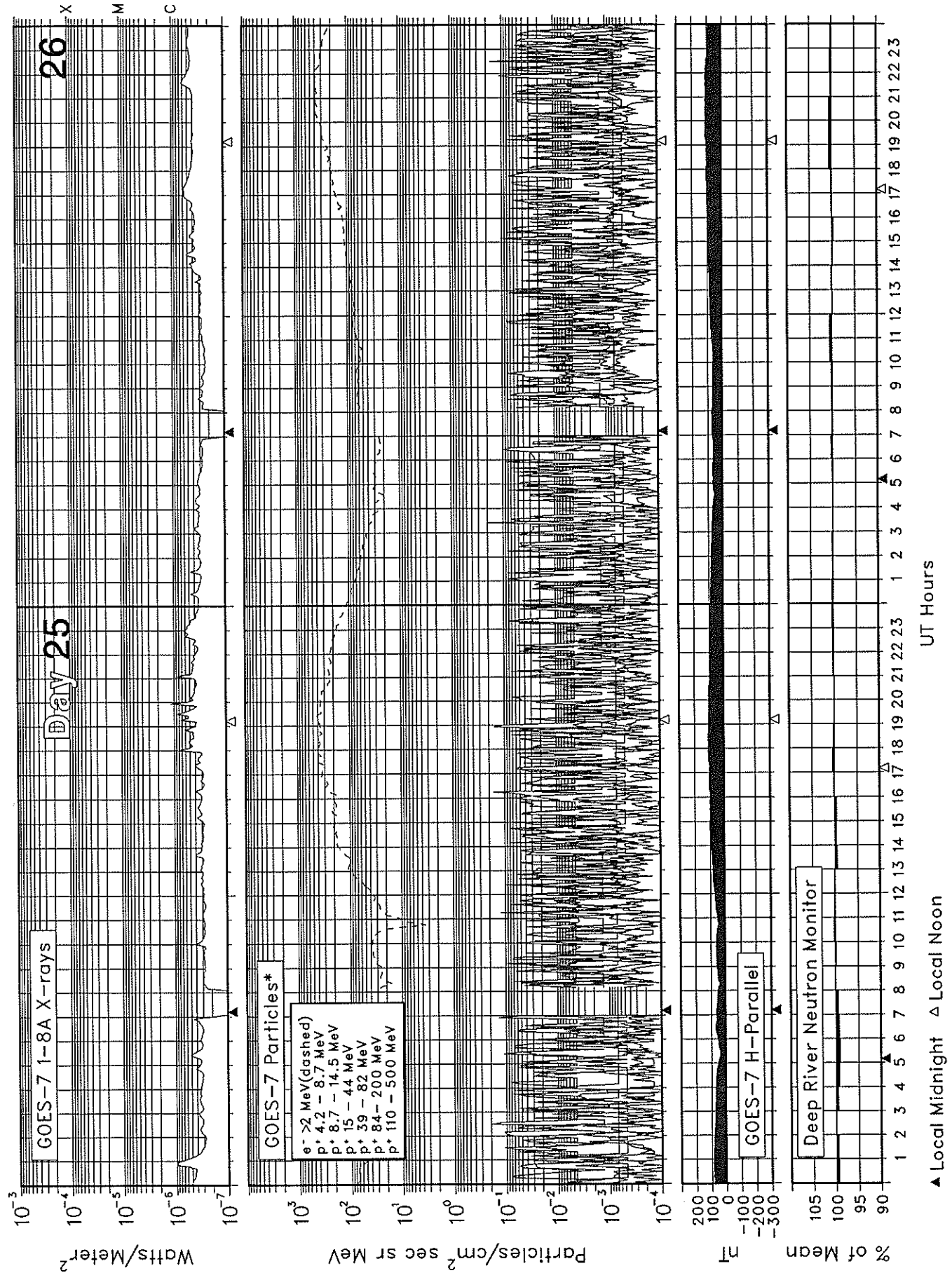
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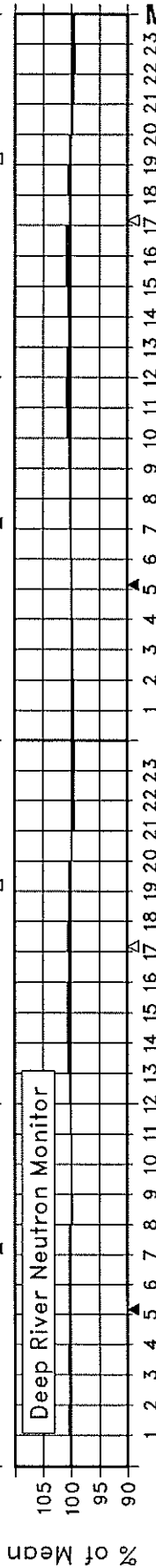
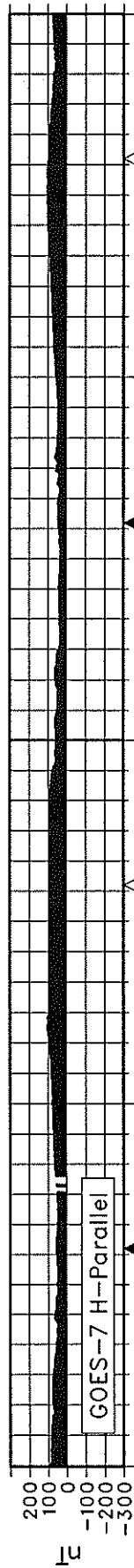
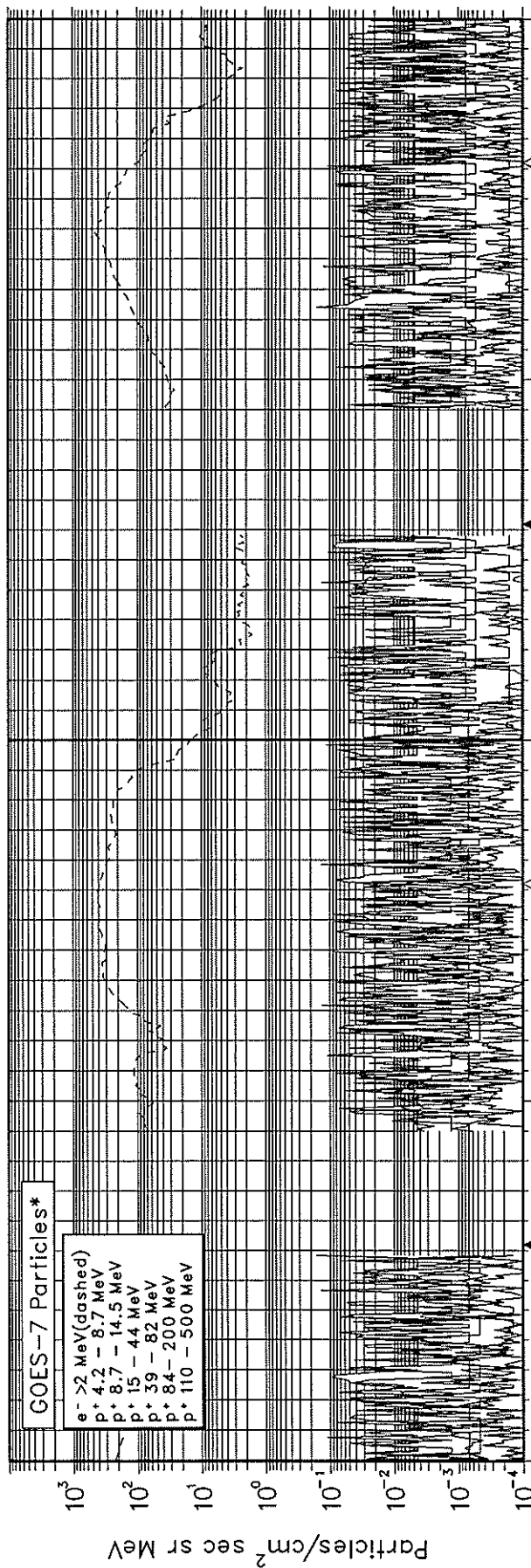
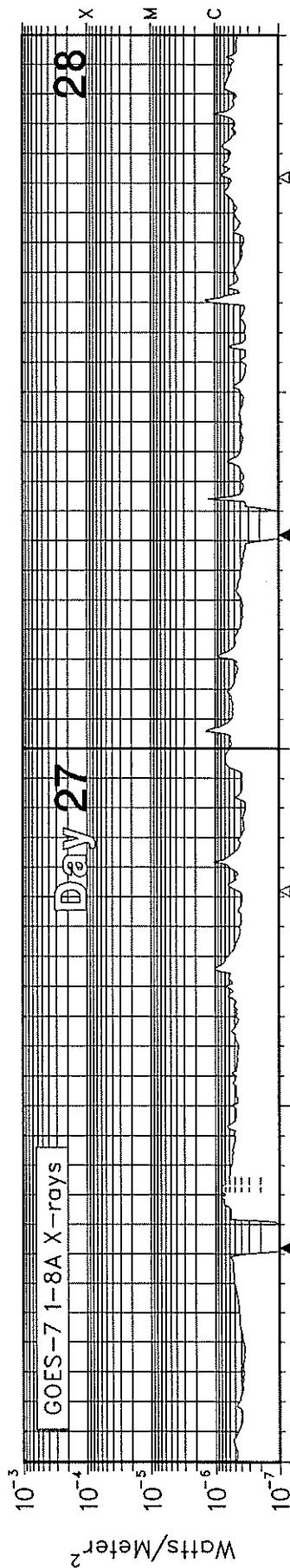


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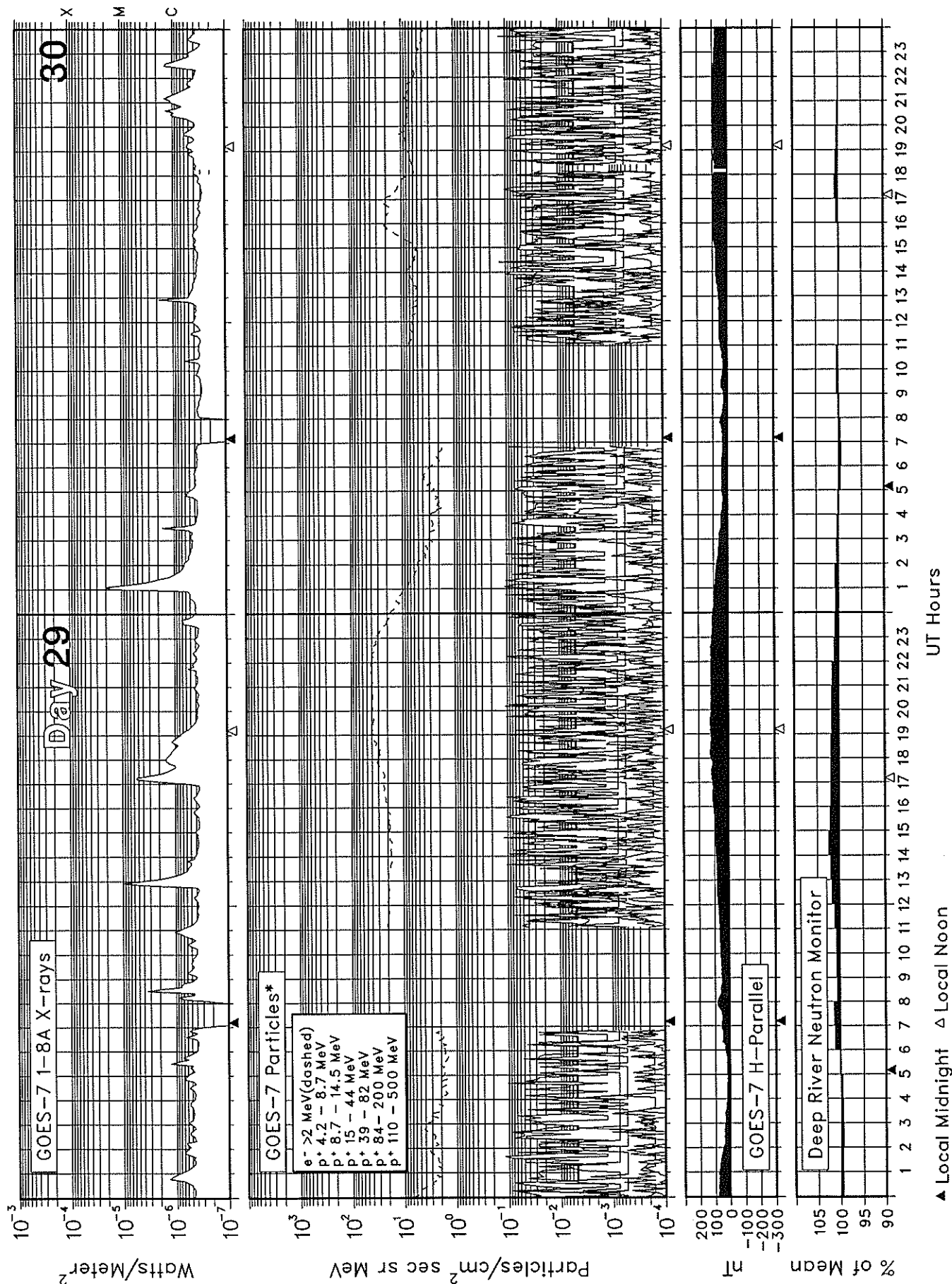


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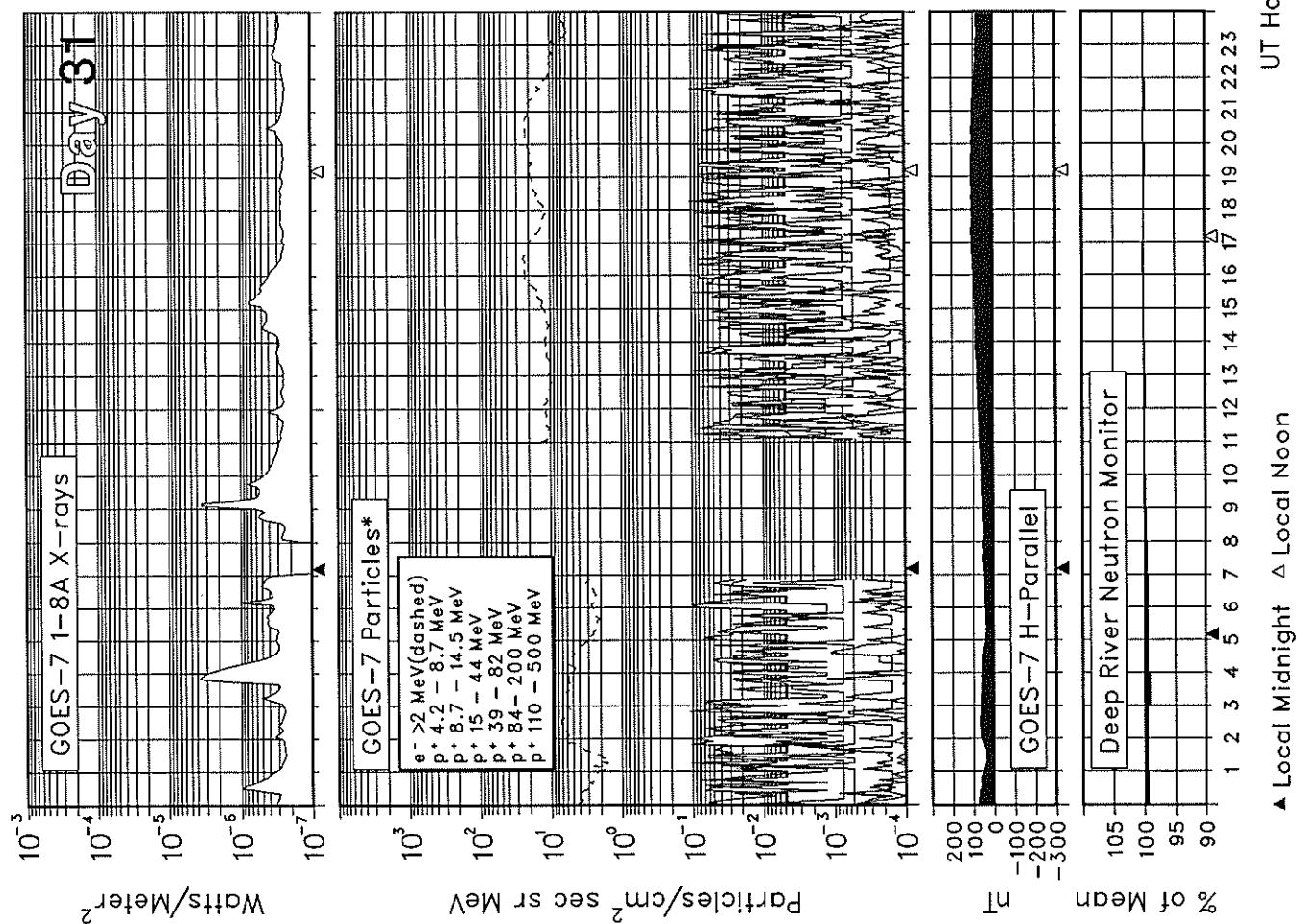
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ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages

MARCH 1993

Julian Day	Date of Issue	Date of Observation	Wolf No.	10-cm Solar Flux	A- index	Location		Flares			Date of Forecast	Location		Region Forecast ¹	Geoalerts
						° Lat	° Long	Total	M	X		° Lat	° Long		
060	01	28	142	124	21	S13	W88	0		0	0	01		Q	SOL: Eruptive MAG: Active PROTON: Quiet
						S11	W84	0		0	0	01		Q	
						S18	W54	0		0	0	01		Q	
						N13	W31	0		0	0	01		Q	
						S11	W11	0		0	0	01		Q	
						N10	E26	2		0	0	01		E	
						N18	W66	0		0	0	01		Q	
						S23	W35	0		0	0	01		Q	
						N23	E46	0		0	0	01		Q	
061	02	01	141	132	12	S18	W68	0		0	0	02		Q	SOL: Eruptive MAG: Quiet PROTON: Quiet
						N14	W43	0		0	0	02		Q	
						S12	W25	0		0	0	02		Q	
						N08	E13	5		0	0	02		E	
						N18	W80	0		0	0	02		Q	
						S24	W48	0		0	0	02		Q	
						N25	E33	0		0	0	02		Q	
						S11	E79	1		0	0	02		Q	
062	03	02	122	144	15	N13	W57	1		0	0	03		Q	SOL: Eruptive MAG: Quiet PROTON: Quiet
						S11	W38	0		0	0	03		Q	
						N08	W02	4		0	0	03		E	
						N25	E23	0		0	0	03		Q	
						S10	E66	0		0	0	03		Q	
						S05	E82	2		1	0	03		E	
063	04	03	110	151	19	N13	W72	0		0	0	04		Q	SOL: Eruptive MAG: Minor PROTON: Quiet
						S11	W50	0		0	0	04		Q	
						N09	W14	5		0	0	04		E	
						S11	E53	0		0	0	04		Q	
						S07	E66	1		0	0	04		E	
064	05	04	156	167	20	N12	W88	0		0	0	05		Q	SOL: Active MAG: Minor PROTON: Quiet
						S11	W64	1		0	0	05		Q	
						N10	W28	4		1	0	05		E	
						S10	E40	0		0	0	05		E	
						S06	E53	3		0	0	05		E	
						N08	E60	1		0	0	05		E	
						N17	W21	0		0	0	05		Q	
065	06	05	163	165	5	S11	W78	0		0	0	06		Q	SOL: Eruptive MAG: Active PROTON: Quiet
						N09	W41	2		0	0	06		E	
						S10	E28	1		0	0	06		E	
						S06	E40	4		0	0	06		E	
						N08	E47	1		0	0	06		E	
						N17	W35	0		0	0	06		Q	
						N17	E23	0		0	0	06		Q	
066	07	06	149	167	8	S08	E59	0		0	0	06		Q	
						S12	W90	0		0	0	07		Q	SOL: Active MAG: Active PROTON: Quiet
						N10	W55	2		0	0	07		E	
						S10	E15	0		0	0	07		E	
						S07	E26	5		1	0	07		A	
						N08	E34	0		0	0	07		Q	
						N17	E10	0		0	0	07		Q	
						S08	E47	0		0	0	07		Q	

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages

MARCH 1993

Julian Day	Date of Issue	Date of Observation	Wolf No.	10-cm Solar Flux	A- index	Location		Flares			Date of Forecast		Location		Region Forecast ¹	Geoalerts
						°Lat	°Long	Total	M	X			°Lat	°Long		
067	08	07	144	153	11	N09	W73	0			0	08	08		E	SOL: Active
						S09	E01	1					08		Q	MAG: Active
						S06	E13	7					08		A	PROTON: Warning
						N08	E22	1					08		Q	
						N18	W03	0					08		Q	
						S08	E32	0					08		Q	
068	09	08	159	146	19	N08	W88	0			0	09	09		Q	SOL: Active
						S09	W13	0					09		Q	MAG: Minor
						S06	W01	3					09		A	PROTON: Quiet
						N08	E09	0					09		Q	
						N18	W17	0					09		Q	
						S08	E18	0					09		Q	
						N02	E14	0					09		Q	
						N11	E26	0					09		Q	
069	10	09	102	143	51	S08	W27	1			0	10	10		Q	SOL: Active
						S05	W15	1					10		A	MAG: Active
						N08	W04	0					10		Q	PROTON: Quiet
						S09	E05	0					10		Q	
						N10	E14	0					10		Q	
070	11	10	127	149	9	S08	W40	0			0	11	11		Q	SOL: Active
						S05	W28	8					11		A	MAG: Quiet
						N09	W20	0					11		Q	PROTON: Quiet
						S08	W08	0					11		Q	
						N10	E01	0					11		Q	
						N08	W73	0					11		Q	
						N16	E78	0					11		Q	
071	12	11	111	150	29	S08	W55	1			0	12	12		Q	SOL: Active
						S05	W44	5					12		A	MAG: Quiet
						N09	W36	0					12		Q	PROTON: Quiet
						S08	W22	1					12		Q	
						N10	W13	0					12		Q	
						N06	W90	0					12		Q	
						N15	E63	9					12		E	
072	13	12	108	161	20	S05	W56	2			0	13	13		A	SOL: Active
						N10	W48	0					13		Q	MAG: Quiet
						S07	W35	0					13		Q	PROTON: In Progress
						N09	W25	0					13		Q	
						N16	E53	7					13		E	
073	14	13	088	142	23	S04	W70	4			0	14	14		A	SOL: Active
						N10	W63	0					14		Q	MAG: Minor
						S06	W48	0					14		Q	PROTON: Quiet
						N16	E40	5					14		E	
074	15	14	066	136	16	S06	W81	1			0	15	15		A	SOL: Active
						N08	W77	0					15		Q	MAG: Minor
						N16	E27	3					15		E	PROTON: Quiet
075	16	15	082	131	39	S06	W93	1			0	16	16		E	SOL: Active
						N17	E13	6					16		E	MAG: Minor
						S09	W16	0					16		Q	PROTON: Quiet
						S18	E67	0					16		Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages

MARCH 1993

Julian Day	Date of Issue	Date of Observation	Wolf No.	10-cm Solar Flux	A- index	Location		Flares			Date of Forecast	Location		Region Forecast ¹	Geoalerts
						° Lat	° Long	Total	M	X		° Lat	° Long		
076	17	16	084	122	23	N17	W00	6		0		0	17	E	SOL: Active MAG: Minor PROTON: Quiet
						S18	E54	0		0		0	17	Q	
						S19	E65	0		0		0	17	Q	
						S14	E73	0		0		0	17	Q	
077	18	17	082	124	17	N17	W14	5		0		0	18	E	SOL: Eruptive MAG: Active PROTON: Quiet
						S17	E43	0		0		0	18	Q	
						S17	E53	0		0		0	18	Q	
						S13	E64	3		0		0	18	Q	
078	19	18	098	127	14	N17	W22	7		0		0	19	E	SOL: Eruptive MAG: Active PROTON: Quiet
						S17	E29	0		0		0	19	Q	
						S18	E40	0		0		0	19	Q	
						S12	E50	1		0		0	19	Q	
						S06	E65	0		0		0	19	Q	
079	20	19	115	135	9	N16	W34	9		0		0	20	E	SOL: Eruptive MAG: Active PROTON: Quiet
						S17	E16	0		0		0	20	Q	
						S18	E27	1		0		0	20	Q	
						S12	E36	2		0		0	20	Q	
						S06	E50	0		0		0	20	Q	
						S14	E66	0		0		0	20	Q	
080	21	20	084	128	14	N17	W47	12		1		0	21	E	SOL: Eruptive MAG: Active PROTON: Quiet
						S16	E02	0		0		0	21	Q	
						S17	E14	0		0		0	21	Q	
						S13	E22	0		0		0	21	Q	
						S16	E53	0		0		0	21	Q	
081	22	21	112	131	19	N17	W59	13		1		0	22	E	SOL: Eruptive MAG: Minor PROTON: Quiet
						S16	W10	0		0		0	22	Q	
						S18	E03	0		0		0	22	Q	
						S12	E09	5		0		0	22	Q	
						N19	W37	0		0		0	22	Q	
						N05	E21	0		0		0	22	Q	
082	23	22	099	128	19	N17	W74	3		0		0	23	E	SOL: Eruptive MAG: Quiet PROTON: Quiet
						S16	W23	0		0		0	23	Q	
						S17	W09	0		0		0	23	Q	
						S12	W04	7		0		0	23	E	
						N06	E09	0		0		0	23	Q	
						N09	W25	0		0		0	23	Q	
083	24	23	097	121	9	N16	W86	6		1		0	24	E	SOL: Eruptive MAG: Quiet PROTON: Quiet
						S15	W36	0		0		0	24	Q	
						S17	W22	0		0		0	24	Q	
						S12	W20	0		0		0	24	E	
						N06	W05	0		0		0	24	Q	
						N10	W38	0		0		0	24	Q	
						S12	E08	0		0		0	24	Q	
084	25	24	079	115	27	S14	W49	0		0		0	25	Q	SOL: Eruptive MAG: Active PROTON: Quiet
						S17	W36	0		0		0	25	Q	
						S11	W33	0		0		0	25	E	
						N11	W52	0		0		0	25	Q	
						S12	W05	0		0		0	25	Q	
						N13	W14	0		0		0	25	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

23
Mar 93

Summary of the Geoalert Messages

MARCH 1993

Julian Day	Date of Issue	Date of Observation	Wolf No.	10-cm Solar Flux	A- index	Location		Flares			Date of Forecast	Location		Region Forecast ¹	Geoalerts
						° Lat	° Long	Total	M	X		° Lat	° Long		
085	26	25	111	117	14	S12	W48	1		0	0	0	26	E	SOL: Eruptive MAG: Active PROTON: Quiet
						S16	W07	0		0		0	26	Q	
						N12	W63	0		0		0	26	Q	
						S11	W15	0		0		0	26	Q	
						N12	W27	0		0		0	26	Q	
						N21	E45	0		0		0	26	Q	
						N04	E78	0		0		0	26	Q	
						N19	W11	0		0		0	26	Q	
086	27	26	098	117	8	S11	W61	0		0	0	0	27	E	SOL: Eruptive MAG: Active PROTON: Quiet
						S16	W18	0		0		0	27	Q	
						N12	W77	0		0		0	27	Q	
						N12	W41	0		0		0	27	Q	
						N22	E32	0		0		0	27	Q	
						N04	E68	1		0		0	27	E	
						N19	W25	0		0		0	27	Q	
087	28	27	085	123	9	S12	W74	0		0	0	0	28	E	SOL: Eruptive MAG: Quiet PROTON: Quiet
						N21	E17	0		0		0	28	Q	
						N03	E55	3		0		0	28	E	
						N20	W38	0		0		0	28	Q	
						S15	E74	1		0		0	28	Q	
						N09	E27	1		0		0	28	Q	
088	29	28	080	126	11	S11	W88	0		0	0	0	29	Q	SOL: Eruptive MAG: Quiet PROTON: Quiet
						N22	E03	0		0		0	29	Q	
						N05	E41	3		0		0	29	E	
						S13	E61	2		0		0	29	Q	
						N10	E14	1		0		0	29	Q	
089	30	29	066	129	13	N22	W10	0		0	0	0	30	Q	SOL: Eruptive MAG: Quiet PROTON: Quiet
						N05	E28	11		1		0	30	E	
						S13	E49	2		0		0	30	E	
						S05	E77	0		0		0	30	E	
090	31	30	104	129	17	N22	W24	0		0	0	0	31	Q	SOL: Eruptive MAG: Quiet PROTON: Quiet
						N05	E16	8		1		0	31	E	
						S13	E36	7		0		0	31	E	
						N09	W09	0		0		0	31	Q	
						S08	E64	0		0		0	31	Q	

¹ Region Forecast and Flare Geoadvice

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%)
Warning condition (activity levels expected to increase, but no
numeric forecast given)
Nil (end of Alert period)
No forecast

Magnetic Geoadvice

Quiet
Active conditions expected (A>=20 or K=4)
Minor storm expected (A>=30 or K=5)
Major magstorm expected (A>=50 or K>=6)
Severe magstorm expected (A>=100 or K>=7)
Magstorm in progress (A>=30 or K>=4)
Warning condition (activity levels expected
to increase, but no numeric forecast given)
Nil (end of Alert period)
No forecast

Proton Geoadvice

Quiet
Proton event expected (10 pfu at >10 MeV)
Major proton event expected (100 pfu at >100 MeV)
Proton event in progress (>10 MeV)
Warning condition (activity levels expected to increase, but no
numeric forecast given)
Nil (end of Alert period)
No forecast

STRATWARM ALERTS

03/01/93 03:30:00

GEOALERT WWA060

STRATWARM ALERT/SUN/STRATWARM EXISTS.

MINOR WARMING OVER NORTHEASTERN SIBERIA, ALASKA AND THE SIBERIAN AND CANADIAN ARCTIC CONTINUES, BUT WEAKENING. TEMPERATURE GRADIENT CONTINUOUSLY REVERSED BETWEEN 60N AND THE POLE FROM 10 HPA UPWARDS INTO THE UPPER STRATOSPHERE.

03/02/93 03:30:00

GEOALERT WWA061

STRATWARM ALERT/MON/STRATWARM EXISTS.

MINOR WARMING OVER NORTHEASTERN SIBERIA, ALASKA, THE SIBERIAN AND CANADIAN ARCTIC AND AROUND THE HUDSON BAY CONTINUES, WEAKENING. TEMPERATURE GRADIENT ONLY STILL REVERSED BETWEEN 60N AND THE POLE ABOVE 10 HPA IN THE UPPER STRATOSPHERE.

03/03/93 03:30:00

GEOALERT WWA062

STRATWARM ALERT/TUE/STRATWARM EXISTS.

MINOR WARMING OVER CENTRAL AND NORTHEASTERN SIBERIA, ALASKA, THE SIBERIAN AND CANADIAN ARCTIC AND THE BAFFIN AREA CONTINUES, BUT TEMPERATURE GRADIENT ONLY STILL REVERSED BETWEEN 60N AND THE POLE IN THE UPPER STRATOSPHERE.

03/04/93 03:30:00

GEOALERT WWA063

STRATWARM ALERT/WED/STRATWARM EXISTS.

MINOR WARMING OVER NORTHEASTERN SIBERIA, ALASKA AND THE SIBERIAN AND CANADIAN ARCTIC CONTINUES, INTENSIFYING OVER SIBERIA AND SPREADING NORTHEASTWARDS. TEMPERATURE GRADIENT REVERSED BETWEEN 60N AND THE POLE AT 10 HPA AND ABOVE IN THE UPPER STRATOSPHERE.

03/05/93 03:30:00

GEOALERT WWA064

STRATWARM ALERT/THURSDAY/STRATWARM EXISTS.

INTENSE WARMING CENTRED OVER NORTHEASTERN SIBERIA CONTINUES, WARM AIR SPREADING NORTHEASTWARDS. TEMPERATURE GRADIENT REVERSE BETWEEN 60N AND THE POLE IN THE MIDDLE AND UPPER STRATOSPHERE FROM 30HPA UPWARDS.

03/06/93 03:30:00

GEOALERT WWA065

STRATWARM ALERT/FRIDAY/STRATWARM EXISTS.

IN TENSE WARMING CONTINUES OVER SIBERIA, CANADA, AND THE POLAR REGION. TEMPERATURE GRADIENT REVERSED BETWEEN 60N AND THE POLE FROM 50HPA UPWARDS. DEVELOPMENT INTO FINAL WARMING POSSIBLE.

03/07/93 03:30:00

GEOALERT WWA066

STRATWARM ALERT/SATURDAY/STRATWARM EXISTS.

WARMING OF THE POLAR REGION CONTINUES. TEMPERATURE GRADIENT BETWEEN 60N AND THE POLE REVERSED THROUGHOUT THE STRATOSPHERE, NET MEAN EASTERLY WINDS AT 60N AT 1 HPA. POSSIBLY BEGINNING OF THE FINAL WARMING.

03/08/93 03:30:00

GEOALERT WWA067

STRATWARM ALERT/SUNDAY/STRATWARM EXISTS.

A LARGE WARM REGION COVERS THE HIGH LATITUDES AND THE COLD CENTRE IS DISPLACED TO EUROPE. TEMPERATURE GRADIENT BETWEEN 60N AND THE POLE REVERSED THROUGHOUT THE STRATOSPHERE AND NET MEAN EASTERLY WINDS POLEWARDS OF 60N AT 1 HPA.

03/09/93 03:30:00

GEOALERT WWA068

STRATWARM ALERT/MONDAY/STRATWARM EXISTS.

A LARGE WARM REGION COVERS THE HIGH LATITUDES AND THE COLDEST AIR DISPLACED TO EASTERN EUROPE. TEMPERATURE GRADIENT REVERSED BETWEEN 60N AND THE POLE THROUGHOUT THE STRATOSPHERE, AND MEAN ZONAL WIND AT 60N CONTINUOUSLY DECREASING TO VALUES VERY WEAK FROM WEST AT 10 HPA AND FROM EAST AT 1 HPA.

26
Mar 93

03/10/93 03:30:00

GEOALERT WWA069

STRATWARM ALERT/TUE/STRATWARM EXISTS.

A LARGE WARM REGION OVER THE HIGH LATITUDES CONTINUES AND THE COLDEST AIR DISPLACED TO THE CENTRAL URAL. TEMPERATURE GRADIENT REVERSED BETWEEN 60N AND THE POLE THROUGHOUT THE STRATOSPHERE. MEAN ZONAL WIND AT 60N IS VERY WEAK FROM WEST AT 10HPA AND FROM EAST AT 1HPA.

03/11/93 03:30:00

GEOALERT WWA070

STRATWARM ALERT/WED/STRATWARM EXISTS.

THE LARGE WARM REGION OVER THE HIGH LATITUDES IS SLOWLY WEAKENING, BUT THE TEMPERATURE GRADIENT IS CONTINUOUSLY REVERSED BETWEEN 60N AND THE POLE THROUGHOUT THE STRATOSPHERE. A NEW WARMING OVER THE MEDITERRANEAN AREA AT 10 HPA IS INTENSIFYING, SPREADING NORTHEASTWARDS.

03/12/93 03:30:00

GEOALERT WWA071

STRATWARM ALERT/THU/STRATWARM EXISTS.

MINOR WARMING OVER THE POLAR REGION CONTINUES TO WEAKEN, BUT TEMPERATURE GRADIENT REMAINS REVERSED BETWEEN 60N AND THE POLE THROUGHOUT THE STRATOSPHERE. THE WARM REGION OVER THE MEDITERRANEAN AND MIDDLE EAST CONTINUES. WARM AIR IS SPREADING NORTHEAST AND EASTWARDS.

03/13/93 03:30:00

GEOALERT WWA072

STRATWARM ALERT/FRI/STRATWARM EXISTS.

MINOR WARMING OVER THE POLAR REGION CONTINUES TO WEAKEN, BUT TEMPERATURE GRADIENT REMAINS REVERSED BETWEEN 60N AND THE POLE (BELOW 1.5 HPA IN THE STRATOSPHERE).

03/14/93 03:30:00

GEOALERT WWA073

STRATWARM ALERT/SAT/STRATWARM EXISTS.

MINOR WARMING OVER THE POLAR REGION. TEMPERATURE GRADIENT REVERSED BETWEEN 60N AND THE POLE FROM 10 HPA UPWARDS INTO THE UPPER STRATOSPHERE.

03/15/93 03:30:00

GEOALERT WWA074

STRATWARM ALERT/SUN/STRATWARM EXISTS.

MINOR WARMING OVER THE POLAR REGION, TEMPERATURE GRADIENT REVERSED BETWEEN 60 N AND THE POLE AT 10 HPA AND ABOVE IN THE UPPER STRATOSPHERE.

03/16/93 03:30:00

GEOALERT WWA075

STRATWARM ALERT/MON/STRATWARM EXISTS.

MINOR WARMING OVER SIBERIA INTENSIFYING, AND WARM AIR SPREADING NORTHWARDS. TEMPERATURE GRADIENT REVERSED BETWEEN 60N AND THE POLE AT 10 HPA AND ABOVE IN THE UPPER STRATOSPHERE.

03/17/93 03:30:00

GEOALERT WWA076

STRATWARM ALERT/TUE/STRATWARM EXISTS.

MINOR WARMING OVER SIBERIA CONTINUES, WARM AIR SPREADING NORTHWARDS. COLD CENTRE IS DISPLACED TO NORTHERN EUROPE. TEMPERATURE GRADIENT CONTINUOUSLY REVERSED BETWEEN 60N AND THE POLE AT 10 HPA AND ABOVE IN THE UPPER STRATOSPHERE.

03/18/93 03:30:00

GEOALERT WWA077

STRATWARM ALERT/WED/STRATWARM EXISTS.

MINOR WARMING OVER SIBERIA AND POLAR REGION CONTINUES. TEMPERATURE GRADIENT CONTINUOUSLY REVERSED BETWEEN 60 N AND THE POLE AT 10 HPA AND ABOVE IN THE UPPER STRATOSPHERE.

03/19/93 03:30:00

GEOALERT WWA078

STRATWARM ALERT/THU/STRATWARM EXISTS.

MINOR WARMING OVER SIBERIA AND THE POLAR REGION CONTINUES. TEMPERATURE GRADIENT CONTINUOUSLY REVERSED BETWEEN 60N AND THE POLE AT 10 HPA AND ABOVE IN THE UPPER STRATOSPHERE.

03/20/93 03:30:00

GEOALERT WWA079

STRATWARM ALERT/FRI/STRATWARM EXISTS.

MINOR WARMING OVER SIBERIA AND THE POLAR REGION CONTINUES. THE COLDEST AIR DISPLACED TO WESTERN CANADA. MEAN ZONAL WIND AT 60N CONTINUOUSLY DECREASING AT 10HPA. TEMPERATURE GRADIENT REVERSED BETWEEN 60N AND THE POLE AT 30HPA AND ABOVE IN THE UPPER STRATOSPHERE. FINAL WARMING IN PROGRESS.

03/21/93 03:30:00

GEOALERT WWA080

STRATWARM ALERT/SAT/STRATWARM EXISTS.

MINOR WARMING OVER SIBERIA, ALASKA AND THE POLAR REGION CONTINUES. TEMPERATURE GRADIENT REVERSED BETWEEN 60N AND THE POLE FROM 50 HPA UPWARDS INTO THE UPPER STRATOSPHERE. FINAL WARMING IN PROGRESS.

Mar 93

03/22/93 03:30:00

GEOALERT WWA081

STRATWARM ALERT/SUN/STRATWARM EXISTS.

MINOR WARMING OVER SIBERIA AND THE POLAR REGION CONTINUES. TEMPERATURE GRADIENT REVERSED BETWEEN 60N AND THE POLE FROM 50 HPA UPWARDS INTO THE UPPER STRATOSPHERE TO AROUND 5 HPA. FINAL WARMING IN PROGRESS.

03/23/93 03:30:00

GEOALERT WWA082

STRATWARM ALERT/MON/STRATWARM EXISTS.

FINAL WARMING IN PROGRESS.

03/24/93 03:30:00

GEOALERT WWA083

STRATWARM ALERT/TUE/STRATWARM EXISTS.

MINOR WARMING OVER THE POLAR REGION CONTINUES. TEMPERATURE GRADIENT REVERSED BETWEEN 60N AND THE POLE FROM 30 HPA UPWARDS INTO THE UPPER STRATOSPHERE. FINAL WARMING IN PROGRESS.

03/25/93 03:30:00

GEOALERT WWA084

STRATWARM ALERT/WED/STRATWARM EXISTS.

MINOR WARMING OVER SIBERIA, THE POLAR REGION, AND GREENLAND CONTINUES. TEMPERATURE GRADIENT REVERSED BETWEEN 60N AND THE POLE FROM 10 HPA UPWARDS INTO THE UPPER STRATOSPHERE. FINAL WARMING IN PROGRESS.

03/26/93 03:30:00

GEOALERT WWA085

STRATWARM ALERT/THU/STRATWARM EXISTS.

MINOR WARMING OVER SIBERIA AND THE POLAR REGION SLOWLY WEAKENING, BUT TEMPERATURE GRADIENT CONTINUOUSLY REVERSED BETWEEN 60N AND THE POLE AT 10 HPA AND ABOVE IN THE UPPER STRATOSPHERE. FINAL WARMING IN PROGRESS.

03/27/93 03:30:00

GEOALERT WWA086

STRATWARM ALERT/FRI/STRATWARM EXISTS.

TEMPERATURE GRADIENT CONTINUOUSLY REVERSED BETWEEN 60N AND THE POLE AT 10 HPA AND ABOVE IN THE UPPER STRATOSPHERE. FINAL WARMING IN PROGRESS.

03/28/93 03:30:00

GEOALERT WWA087

STRATWARM ALERT/SAT/STRATWARM EXISTS.

TEMPERATURE GRADIENT CONTINUOUSLY REVERSED BETWEEN 60N AND THE POLE AT 10 HPA AND ABOVE IN THE UPPER STRATOSPHERE. FINAL WARMING IN PROGRESS.

03/29/93 03:30:00

GEOALERT WWA088

STRATWARM ALERT/SUN/STRATWARM EXISTS.

TEMPERATURE GRADIENT CONTINUOUSLY REVERSED BETWEEN 60N AND THE POLE AT 10 HPA AND ABOVE IN THE UPPER STRATOSPHERE. FINAL WARMING IN PROGRESS.

03/30/93 03:30:00

GEOALERT WWA089

STRATWARM ALERT/MONDAY/STRATWARM EXISTS.

REVERSED TEMPERATURE GRADIENT BETWEEN 60 N AND THE POLE AT 10 HPA ABOVE IN THE UPPER STRATOSPHERE. FINAL WARMING IN PROGRESS.

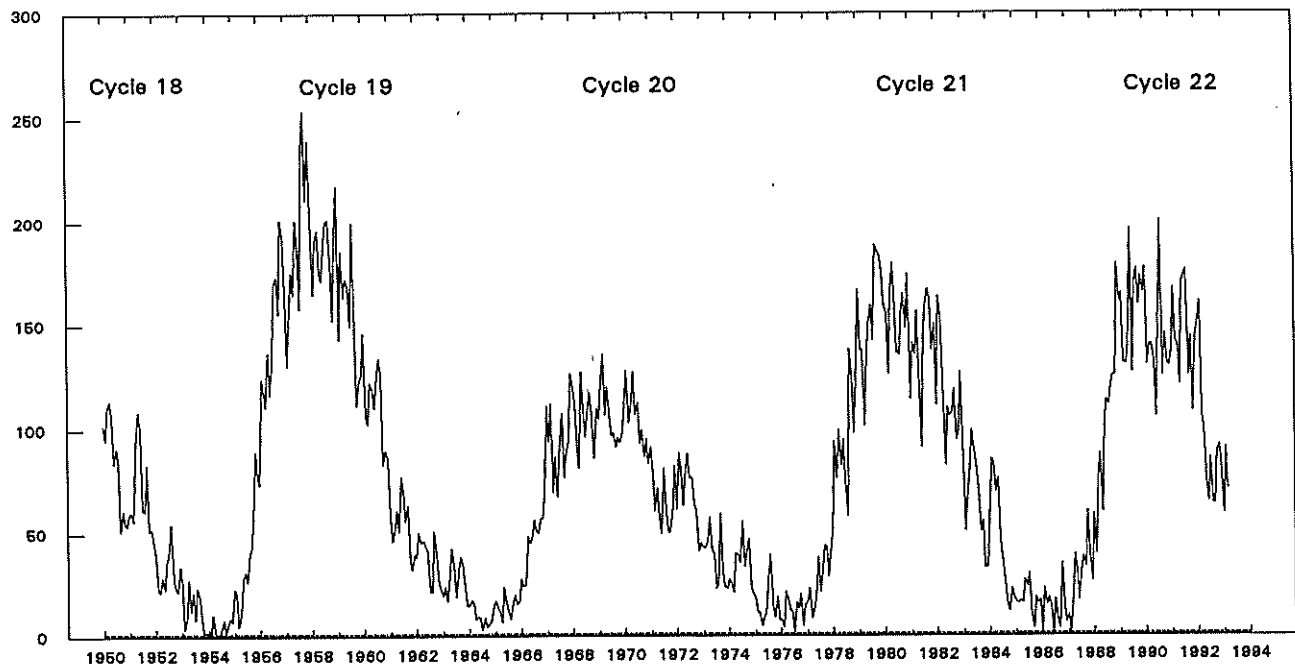
03/31/93 03:30:00

GEOALERT WWA090

STRATWARM ALERT/TUE/STRATWARM EXISTS.

REVERSED TEMPERATURE GRADIENT BETWEEN 60N AND THE POLE AT 10 HPA AND ABOVE IN THE UPPER STRATOSPHERE. FINAL WARMING IN PROGRESS.

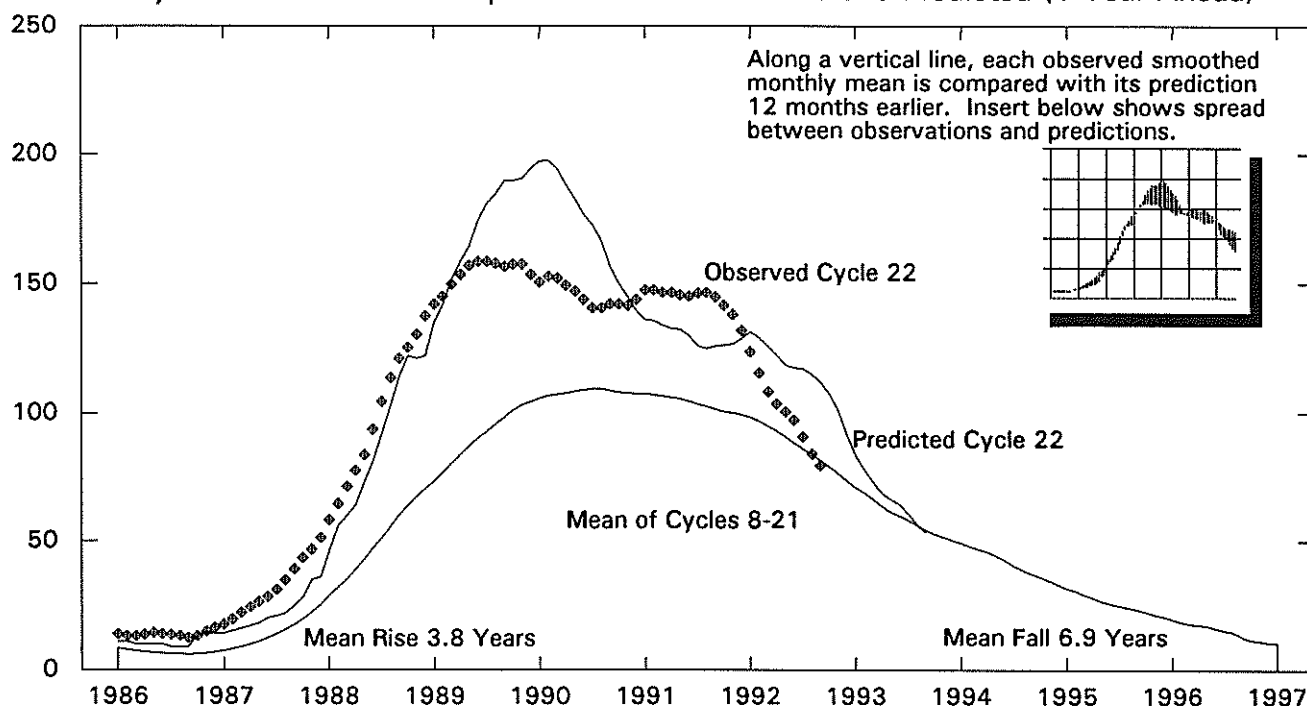
Monthly Mean Sunspot Numbers Jan 1950 - Feb 1993



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	112.3
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	59.1	90.5	70.5										73.4

Values are preliminary since Jan 1993. For the yearly means, each 'M' marks a sunspot cycle maximum and each 'm' a minimum.

Cycle 22 Smoothed Sunspot Numbers: Observed and Predicted (1 Year Ahead)



Smoothed Sunspot Numbers (Observed and Predicted) for Parts of Solar Cycles 21 and 22

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
1986	14	13	13	14	14	14	14	13	12	13	15	16	14
1987	18	20	22	24	26	28	31	35	39	44	47	51	32
1988	58	65	71	78	84	94	104	114	121	125	130	138	98
1989	142	145	150	154	157	158	158	158	157	157	158	154	154
1990	151	153	152	149	147	144	141	140	142	142	142	144	146
1991	148	148	147	146	146	145	146	147	145	142	138	132	144
1992 ()	124	115	108	103	100	97	91	84	80	77 (3)	74 (5)	72 (6)	94 (5)
1993 ()	69 (7)	68 (8)	65 (9)	62 (10)	60 (11)	59 (11)	57 (12)	55 (13)	53 (14)	52 (16)	51 (17)	50 (18)	58 (13)
1994 ()	48 (19)	47 (20)	46 (20)	45 (21)	43 (21)	42 (21)	40 (23)	38 (24)	36 (25)	35 (25)	34 (25)	32 (25)	40 (23)

Solar Cycle 21
 Solar Cycle 22
 Min, Max, and Predictions

September 1986 marks the minimum of Solar Cycle 21 and the onset of Cycle 22, which in turn, reached a maximum in July 1989.

Observed and Predicted Numbers. For the end of Cycle 21, and the rise and decline of Cycle 22, 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 1992 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 September 1993 prediction. There exists a 90% chance that in September 1993 the actual smoothed number will fall somewhere between 39 and 67.

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 14 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 12.3 that occurred in Sep 1986.

INTERNATIONAL RELATIVE SUNSPOT NUMBERS

Day	Apr 92	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan [†] 93	Feb [†]	Mar [†]
01	103	88	31	78	65	47	85	104	65	46	22	86
02	95	86	38	66	90	49	98	88	56	37	34	80
03	88	90	72	63	103	44	95	68	59	36	69	84
04	64	98	74	71	103	46	105	86	59	52	85	98
05	50	96	81	78	94	47	122	95	51	66	119	105
06	60	93	70	77	89	52	113	95	48	84	129	96
07	64	72	64	79	86	44	103	96	34	81	128	93
08	57	82	60	83	93	38	88	74	63	89	134	82
09	58	79	70	102	93	57	91	76	91	94	126	89
10	54	73	74	129	74	54	73	74	99	100	114	81
11	62	68	82	133	60	59	57	84	116	91	95	86
12	66	80	102	132	53	63	41	83	109	94	97	77
13	68	87	86	126	61	77	36	62	113	107	92	67
14	75	78	77	151	82	77	43	69	115	69	78	56
15	82	65	60	161	76	75	40	70	112	58	73	60
16	97	45	64	159	96	76	54	84	109	59	84	56
17	117	41	64	140	90	62	55	100	105	62	68	60
18	129	59	59	102	71	54	73	102	98	66	78	69
19	139	54	63	88	69	63	92	108	97	68	88	72
20	163	59	56	66	59	62	75	98	97	52	97	70
21	176	110	55	65	48	65	98	85	84	47	92	78
22	171	106	69	67	44	66	104	95	91	34	100	73
23	166	113	73	54	36	89	95	115	79	30	101	63
24	146	99	70	43	38	90	114	122	78	45	90	42
25	159	66	64	37	20	75	113	125	81	51	88	40
26	123	57	59	54	30	84	125	116	90	37	86	46
27	96	80	38	61	34	86	138	116	73	38	86	51
28	97	59	43	53	33	62	131	99	86	37	82	51
29	89	41	70	39	40	72	111	92	78	35		54
30	80	30	67	47	35	81	100	74	69	36		58
31		33		53	36		82		56	32		61
Mean	99.8	73.8	65.2	85.7	64.5	63.9	88.7	91.8	82.6	59.1	90.5	70.5

[†]=preliminary. The yearly mean sunspot number equals 94.3 for 1992.

Dominion Radio Observatory PENTICTON 2800 MHz (10.7 cm) SOLAR FLUX Adjusted to 1 AU

Day	Apr 92	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 93	Feb	Mar
01	185.9	133.0	101.4	134.1	113.6	101.6	118.2	144.8	127.1	118.3	121.5	129.6
02	161.2	138.0	105.0	141.2	128.2	106.3	119.5	138.8	126.0	117.4	124.7	141.0
03	159.8	127.8	110.1	141.1	135.1	108.9	120.2	132.9	121.3	120.6	133.0	148.6
04	154.0	137.0	111.5	141.3	134.7	106.4	126.1	140.4	115.9	117.1	143.2	163.8
05	154.7	135.4	118.4	150.6	134.3	121.2	130.1	133.6	112.4	120.8	155.6	162.5
06	143.0	133.0	123.2	155.4	141.9	141.3	137.3	130.5	115.9	125.8	178.8	164.0
07	141.8	131.5	119.2	159.9	145.4	133.6	135.8	132.4	116.1	126.3	171.2	150.9
08	151.6	145.3	118.7	156.6	147.5	130.8	125.4	129.7	124.8	128.6	183.4	144.3
09	140.2	129.2	122.3	165.0	141.1	118.5	121.0	129.9	129.6	124.5	180.3	140.6
10	141.2	126.9	129.3	175.7	136.3	118.4	112.1	133.7	137.5	127.7	175.0	146.7
11	144.0	128.8	133.1	173.9	133.9	120.1	110.0	132.0	159.0	127.4	168.8	148.0
12	144.7	127.8	130.6	177.8	131.7	118.7	106.5	124.7	163.1	135.6	144.9	158.7
13	147.1	128.2	127.5	181.4	132.3	128.8	108.2	122.2	167.6	136.6	131.7	139.9
14	155.2	129.3	127.2	181.3	132.0	123.1	104.9	123.4	161.8	128.8	137.9	134.2
15	150.3	124.8	124.7	173.3	133.8	121.5	97.8	124.1	150.4	121.9	131.6	129.7
16	158.9	118.5	122.9	162.8	140.0	127.9	99.9	133.7	145.8	129.1	130.5	120.5
17	185.6	115.5	134.4	140.4	137.1	120.6	105.8	148.9	145.5	121.9	121.4	122.4
18	204.8	120.2	119.8	130.2	132.7	118.5	111.4	158.2L	144.9	117.7	123.2	126.2
19	207.7	134.5	119.1	122.3	138.0	113.4	123.4	157.1	142.2	112.7	113.4	133.4
20	206.5	140.3	116.8	127.5	159.1	107.1	131.9	155.0	143.2	106.5	120.6	127.0
21	197.1	145.5	121.3	111.8	127.8	110.4	139.2	161.3K	140.8	103.3	120.3	129.7
22	184.8	148.4	120.0	107.7	124.4	112.3	149.2	162.0	137.6	101.0	130.3	126.6
23	174.7	145.6	125.5	101.9	113.2	112.6	140.3	171.7	139.3	102.7	129.6	120.1
24	162.9	136.9	121.8	103.2	104.0	112.6	145.1	169.4	132.0	101.6	132.7	114.4
25	155.7	126.1	127.4	101.5	100.1	116.5	159.4	162.4	132.0	102.6	125.5	116.0
26	145.0	122.1	115.3	104.3	94.4	117.3	167.9	158.2	127.2	103.3	123.8	116.4
27	139.1	117.7	113.1	103.4	95.8	121.6	168.9	152.6	121.2	107.6	121.6	122.4
28	130.4	113.9	112.0	98.5	97.6	116.6	172.3	144.7	123.4	108.6	121.4	125.8
29	132.5	108.1	114.4	101.1	97.1	117.7	161.6	136.0	121.3	110.7		128.3
30	129.9	101.7	127.0	99.9	96.6	116.2	225.8*	135.9	121.9	109.6		128.7
31		101.8		106.3	99.0		147.3		125.8	115.6		124.9
Mean	159.7	128.2	120.4	136.5	125.1	118.0	130.0*	142.0	134.6	117.2	139.1	135.0

* = corrected for burst in progress; K = wet snow on antenna (2300 UT measurement); L = value enhanced by burst

DAILY SOLAR INDICES

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Mar 93

March 1993

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)
01	60	21	86	80	132.0	559	245	161	129.6	120	86	58	32	15
02	61	22	80	81	143.5	575	---	183	141.0	130	91	59	33	---
03	62	23	84	84	151.1	---	277	199	148.6	146	102	65	33	16
04	63	24	98	102	166.5	---	279	208	163.8	151	102	66	35	16
05	64	25	105	114	165.2	---	285	212	162.5	159	107	65	34	17
06	65	26	96	101	166.6	571	278	203	164.0	162	100	64	37	18
07	66	27	93	98	153.2	565	277	200	150.9	154	106	65	35	20
08	67	1	82	102	146.4	566	276	202	144.3	154	111	74	---	---
09	68	2	89	95	142.6	553	281	192	140.6	140	106	64	39	---
10	69	3	81	82	148.7	---	288	193	146.7	137	98	59	46	---
11	70	4	86	79	149.9	581	302	214	148.0	151	104	69	---	---
12	71	5	77	76	160.6	559	277	188	158.7	141	101	61	41	36
13	72	6	67	66	141.5	562	281	195	139.9	143	92	57	34	---
14	73	7	56	54	135.7	540	268	179	134.2	---	94	57	37	---
15	74	8	60	58	131.1	543	264	182	129.7	127	92	60	38	---
16	75	9	56	58	121.7	544	259	170	120.5	121	89	54	31	15
17	76	10	60	57	123.6	544	252	163	122.4	112	82	60	29	14
18	77	11	69	65	127.3	538	240	163	126.2	118	83	---	29	14
19	78	12	72	73	134.5	543	257	173	133.4	123	88	64	48	19
20	79	13	70	70	128.0	555	263	179	127.0	135	94	58	32	15
21	80	14	78	86	130.6	545	260	177	129.7	126	93	57	32	16
22	81	15	73	70	127.5	557	261	174	126.6	114	93	60	34	---
23	82	16	63	61	120.8	532	257	173	120.1	125	94	60	32	14
24	83	17	42	48	115.0	---	254	169	114.4	121	93	60	31	14
25	84	18	40	44	116.5	550	258	166	116.0	115	85	58	30	15
26	85	19	46	54	116.9	524	253	161	116.4	110	89	56	31	16
27	86	20	51	58	122.9	544	247	159	122.4	112	85	57	32	18
28	87	21	51	54	126.2	537	256	167	125.8	118	88	58	32	17
29	88	22	54	52	128.7	539	257	170	128.3	125	95	57	32	17
30	89	23	58	60	129.0	524	255	171	128.7	126	92	60	32	16
31	90	24	61	67	125.1	544	244	165	124.9	126	98	60	28	14
Mean			70.5	72.5	136.4	550	265	181	135.0	131	95	61	34	17

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

The observed and the adjusted Penticton fluxes tabulated here are the "Series C" daily values reported by the Dominion Radio Astrophysical Observatory, Penticton, British Columbia, Canada. Numbers in parentheses in the column headings denote frequencies in MHz.

Equipment problems produced any gaps in the Air Weather Service's Learmonth (LEAR) observations.

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Mar 93

H α SOLAR FLARES

MARCH 1993

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	See	Obs Type	Area Measurement			Remarks
															Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
LEAR	01	0620	0626	0637	N09	E23	7435	03	3.0	17	1F	C 2.6	3	E		148		F
GOES		1031	1035	1043						12		B 7.5						
GOES		1059	1102	1108						9		C 1.1						
RAMY		1404E	1422	1443	N09	E17	7435	03	2.9	39D	SF		3	E		63		F
HOLL		1533E	1652	1740D	N09	E17	7435	03	2.9	127D	1N	C 3.9	3	E		128		FE
HOLL		1827	1833	1848	N07	E16	7435	03	3.0	21	SF		3	E		23		F
GOES		1903	1908	1914						11		C 1.2						
PALE		1918	1919	1929	S11	E80	7439	03	7.8	11	SF		3	E		22		
RAMY		1948	1952	2005D	N09	E15	7435	03	2.9	17D	SF		3	E		25		F
PALE		1950	1953	2004	N10	E16	7435	03	3.0	14	SF		3	E		24		
GOES		2328	2332	2336						8		C 1.5						
GOES	02	0631	0634	0637						6		C 1.2						
GOES		1007	1010	1013						6		C 1.3						
GOES		1042	1045	1048						6		C 1.0						
SVTO		1212	1213	1219	N12	W57	7433	02	26.3	7	SF	C 1.1	3	E		27		
SVTO		1301	1302	1308	N09	E05	7435	03	2.9	7	SF		3	E		13		
HOLL		1503	1510	1531	S07	E82		03	8.8	28	SF	C 5.0	3	E		44		F
HOLL		1720	1731	1747	N07	E03	7435	03	2.9	27	SF		3	E		68		F
HOLL		1807	1820	1926	N07	E03	7435	03	3.0	79	1F	C 4.2	3	E		101		FE
PALE		1810	1823	1929D	N07	E04	7435	03	3.0	79D	1F	C 4.2	3	E		103		FE
RAMY		1855E	1900U	1948	N08	E01	7435	03	2.9	53D	SF		3	E		48		F
HOLL		2040	2043	2052	N07	E02	7435	03	3.0	12	SF		3	E		22		F
HOLL		2046	2046	2057	S08	E82	7440	03	9.0	11	SF		3	E		21		F
RAMY		2052E	2052U	2105	S06	E78	7440	03	8.7	13D	SF		3	E		11		F
HOLL		2104	2107	2131	S07	E81	7440	03	8.9	27	SF	M 5.1	3	E		25		F
PALE		2104	2113	2125	S04	E87	7440	03	9.4	21	SF		3	E		60		
PALE	03	0334	0338	0347	N07	W02	7435	03	3.0	13	SF	C 3.7	3	E		41		F
LEAR		0335	0335	0344	N08	W02	7435	03	3.0	9	SF		3	E		13		F
LEAR		0604	0606	0609	N08	W04	7435	03	2.9	5	SF		3	E		21		F
GOES		0705	0709	0714						9		C 3.0						
SVTO		1021	1054	1132	N07	W09	7435	03	2.7	71	SF	C 2.7	3	E		44		
HOLL		1521	1528	1555	S09	E70	7440	03	8.9	34	SF	C 2.4	3	E		59		F
RAMY		1527	1527	1537	S10	E67	7440	03	8.7	10	SF		3	E		20		F
HOLL		1731	1732	1735	N11	W11	7435	03	2.9	4	SF		3	E		19		F
GOES		1943	1948	1959						16		C 1.1						
GOES		2204	2222	2229						25		C 1.0						
HOLL		2310	2315	2331	N11	W15	7435	03	2.8	21	SF	C 1.1	3	E		53		F
PALE	04	0102	0107	0141	N11	W15	7435	03	2.9	39	1N	C 6.8	3	E		145		FH
LEAR		0104	0107	0155	N11	W16	7435	03	2.8	51	1F	C 6.8	3	E		142		F
GOES		0444	0459	0510						26		C 1.7						
LEAR		1009	1019	1027D	N09	W20	7435	03	2.9	18D	SN		2	E		87		F
SVTO		1016	1017	1106	N10	W23	7435	03	2.7	50	1N	M 1.0	3	E		167		FH
SVTO		1030	1035	1053	S07	E63	7440	03	9.1	23	SF		3	E		28		
GOES		1112	1116	1119						7		C 1.5						
RAMY		1217	1225	1357	S14	W56	7434	02	28.3	100	2N	C 8.1	3	E		309		UF
RAMY		1221	1223	1256	S10	E59	7440	03	8.9	35	1F		3	E		105		F
SVTO		1227E	1228U		S13	W58	7434	02	28.1	693D	1F		3	E		123		
SVTO		1228E	1229U	1248D	S02	E63	7440	03	9.2	20D	SF		2	E		27		
SVTO		1331E	1332U	1437	N09	E66		03	9.5	66D	1F		4	E		139		
SVTO		1342	1348	1357	S08	E62	7440	03	9.2	15	SF		3	E		59		
HOLL		1348E	1348U	1520D	N05	E63	7441	03	9.3	92D	SF		1	E		82		H
RAMY		1515	1521	1532	S01	W26	7435	03	2.7	17	SF	C 1.4	3	E		46		
HOLL		1518	1520	1525	N10	W23	7435	03	2.9	7	SF		3	E		16		FH
HOLL		1811	1903	2009	N11	W25	7435	03	2.9	118	SF		3	E		77		
GOES		1902	1905	1907						5		C 1.3						
LEAR	05	0039	0042	0117	N09	E62	7441	03	9.7	38	1F	C 4.5	3	E		105		F
LEAR		0622	0622	0632	N11	W30	7435	03	3.0	10	SF	C 1.9	3	E		69		
LEAR		0645	0646	0656	S03	E44	7440	03	8.6	11	SF		3	E		24		F
GOES		0945	0956	1005						20		C 1.0						
GOES		1052	1056	1103						11		C 1.3						
GOES		1120	1126	1136						16		C 5.9						
RAMY		1156	1206	1213	N11	W33	7435	03	3.0	17	SF		3	E		19		
RAMY		1318	1322	1329	S08	E36	7439	03	8.2	11	SF	C 1.7	3	E		26		F
RAMY		1545	1546	1551	S06	E46	7440	03	9.1	6	SF		3	E		28		F

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
															Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
HOLL	05	1623	1824	2027	S09	E42	7440	03	8.8	244	SF		3	E		26		FT
RAMY		1636	1639	1646	S08	E45	7440	03	9.1	10	SF		3	E		32		
RAMY		1732	1736	1742	S04	E41	7440	03	8.8	10	SF		3	E		34		
RAMY		1820	1824	1834	S05	E40	7440	03	8.7	14	SF		3	E		22		
RAMY		2146	2147	2156	S09	E40	7440	03	8.9	10	SF C	1.1	2	E		41		F
HOLL		2146	2147	2200	S09	E41	7440	03	9.0	14	SF C	1.1	3	E		38		F
LEAR	06	0047	0055	0059	S06	E39	7440	03	8.9	12	SF		3	E		43		F
GOES		0132	0145	0150						18		C 1.2						
GOES		0231	0255	0309						38		C 1.3						
GOES		0310	0323	0327						17		C 1.4						
LEAR		0818	0818	0824	S09	E35	7440	03	9.0	6	SF		3	E		34		F
GOES		1006	1010	1013						7		C 2.7						
GOES		1025	1029	1031						6		C 2.2						
GOES		1032	1038	1052						20		M 3.8						
RAMY		1246	1247	1258	N11	W48	7435	03	2.9	12	SF C	1.3	3	E		23		F
HOLL		1856	1859	1910	N12	W51	7435	03	2.9	14	1F C	2.0	3	E		133		
PALE		1856	1900	1911	N12	W50	7435	03	3.0	15	1F C	2.0	3	E		120		F
RAMY		1857	1900	1909	N11	W52	7435	03	2.9	12	SF C	2.0	3	E		78		F
HOLL		1912	1915	1927	S10	E28	7440	03	8.9	15	SF		3	E		50		F
PALE		1912	1915	1930	S09	E31	7440	03	9.1	18	SF C	1.9	3	E		31		F
RAMY		1914	1915	1925	S10	E28	7440	03	8.9	11	SF		3	E		21		F
HOLL		1944	2033	2208	S05	E29	7440	03	9.0	144	3B M	7.7	3	E		613		ZF
PALE		2014	2033	2218	S04	E29	7440	03	9.0	124	3B M	7.7	3	E		631		ZF
RAMY		2019E	2027	2046D	S04	E29	7440	03	9.0	27D	1N		3	E		237		FE
HOLL		2222E	2227U	2315D	S02	E29	7440	03	9.1	53D	SF		2	E		79		F
PALE		2226	2229	2242	S09	E29	7440	03	9.1	16	SB C	7.9	3	E		79		F
LEAR		2240E	2240U	2244	S06	E25	7440	03	8.8	4D	SF		2	E		57		F
GOES	07	0450	0531	0543						53		B 9.0						
SVTO		0735E	0736U	0740D	S04	E25	7440	03	9.2	5D	SF		2	E		33		
SVTO		0920E	0920U	0945D	S12	E11	7439	03	8.2	25D	SF B	9.3	3	E		11		
SVTO		0939E	0939U	0949D	S05	E24	7440	03	9.2	10D	SF		3	E		13		
RAMY		1253	1254	1258	S05	E20	7440	03	9.0	5	SF		3	E		46		F
RAMY		1259E	1314U	1350	S05	E19	7440	03	9.0	51D	SF		3	E		69		F
SVTO		1312E	1334U	1358D	S05	E18	7440	03	8.9	46D	SF		2	E		39		FH
GOES		1647	1657	1705						18		B 9.6						
PALE		1828	1830	1834	S04	E18	7440	03	9.1	6	SF B	8.5	3	E		12		
HOLL		2134	2137	2154	S05	E16	7440	03	9.1	20	SF C	1.4	3	E		39		F
PALE		2134	2138	2157	S05	E17	7440	03	9.2	23	SF C	1.4	3	E		41		
RAMY		2137E	2139U	2151D	S05	E16	7440	03	9.1	14D	SF C	1.4	3	E		29		F
HOLL		2238	2248	2257	S06	E12	7440	03	8.8	19	SF C	1.2	3	E		46		F
HOLL		2316	2347	2430D	N10	E21	7441	03	9.5	74D	SN C	1.6	3	E		85		F
GOES	08	0016	0020	0024						8		C 1.5						
LEAR		0022	0036	0057	S05	E11	7740	03	8.8	35	SF C	1.5	3	E		76		
PALE		0226	0226	0244	S04	E14	7440	03	9.1	18	SF		3	E		10		
LEAR		0358	0358	0415	N11	E18	7441	03	9.5	17	SF C	1.1	3	E		29		F
RAMY		1207	1209	1219	S03	E11	7440	03	9.3	12	SF		3	E		12		
GOES		1242	1245	1247						5		B 6.8						
GOES		1742	1749	1754						12		C 2.1						
HOLL		1802	1804	1806	S04	E05	7440	03	9.1	4	SF		3	E		12		F
GOES		2116	2121	2127						11		B 8.2						
GOES	09	0210	0218	0223						13		C 1.4						
GOES		0520	0537	0601						41		C 1.2						
GOES		0810	1342	1441						391		B 8.7						T
GOES		1338	1342	1351						13		B 9.5						
HOLL		1517	1518	1625	S06	W09	7440	03	9.0	68	SF B	9.6	3	E		32		F
RAMY		1518	1518	1550	S06	W10	7440	03	8.9	32	SF B	9.6	3	E		22		F
HOLL		1925	1925	1941	S10	W24	7439	03	8.0	16	SF		3	E		13		F
SVTO	10	0916	0947	1002	S04	W20	7440	03	8.9	46	SF C	2.3	3	E		73		
LEAR		0917	0946	0952	S03	W20	7440	03	8.9	35	SF C	2.3	3	E		61		F
SVTO		1106	1109	1140	S04	W22	7440	03	8.8	34	SF		3	E		17		
RAMY		1138	1359	1436	S03	W20	7440	03	9.0	178	SF		3	E		26		FH
SVTO		1141	1219	1440	S05	W18	7440	03	9.1	179	1F C	4.1	3	E		189		F
HOLL		1419E	1420U	1432	S02	W21	7440	03	9.0	13D	SF		1	E		35		

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur Day	(Min)	Imp Opt	Xray	Obs See	Type	Time (UT)	Area Measurement		Remarks
																Apparent (10-6 Disk)	Corr (Sq Deg)	
HOLL	10	1613	1625	1656	S04	W29	7440	03	8.5	43	SF		3	E		45		F
RAMY		1616	1625	1643	S05	W25	7440	03	8.8	27	SF		3	E		24		F
HOLL		1700	1700	1709	S04	W22	7440	03	9.1	9	SF		3	E		12		F
HOLL		1807	1824	1911	S03	W28	7440	03	8.7	64	1F C	1.7	3	E		146		F
PALE		1808	1821	1901	S03	W31	7440	03	8.4	53	1F		3	E		105		F
RAMY		1814	1823	1904	S04	W28	7440	03	8.7	50	SF		3	E		91		F
HOLL		1957	1957	2020	S03	W25	7440	03	9.0	23	SF		3	E		28		
PALE		2055	2057	2125	S02	W27	7440	03	8.8	30	SF C	1.6	3	E		23		
HOLL		2059	2059U	2108	S02	W26	7440	03	8.9	9	SF C	1.6	3	E		21		F
GOES	11	0210	0218	0225						15		C	2.3					
PALE		0214	0246	0358	S03	W27	7440	03	9.1	104	1F		3	E		100		F
LEAR		0229	0302	0445	S04	W42	7440	03	8.0	136	1F C	6.3	3	E		118		F
PALE		0252	0253	0256	N15	E77	7448	03	16.9	4	SF		3	E		20		
LEAR		0712	0719	0731	S05	W36	7440	03	8.6	19	SF C	1.7	3	E		38		F
SVTO		0757E	0800U	0813	N18	E81	7448	03	17.5	160	SF C	3.4	3	E		30		
SVTO		1057	1149	1201	S10	W45	7439	03	8.1	64	SF C	3.0	3	E		84		F
SVTO		1345	1350	1410	N18	E66	7448	03	16.6	25	SF		3	E		17		
RAMY		1356	1402	1406	N15	E77	7448	03	17.4	10	SF		3	E		10		
RAMY		1432	1436	1459	N15	E73	7448	03	17.1	27	SF C	9.7	3	E		86		
SVTO		1432	1436	1501	N18	E77	7448	03	17.5	29	SF		3	E		78		
RAMY		1515	1515	1527	S04	W34	7440	03	9.1	12	SF M	1.1	3	E		14		F
HOLL		1525E	1615U	1624D	N13	E66	7448	03	16.6	59D	SF		2	E		39		
HOLL		1634E	1648U	1722D	N13	E63	7448	03	16.4	48D	SF		3	E		60		F
RAMY		1646	1648	1655	N14	E73	7448	03	17.2	9	SF C	4.5	4	E		45		FH
HOLL		1815	1817	1820	S03	W36	7440	03	9.1	5	SF		3	E		19		F
RAMY		1815	1822	1831	N15	E73	7448	03	17.3	16	SF		4	E		12		
HOLL		1816	1822	1830	N12	E70	7448	03	17.0	14	SF		3	E		13		F
PALE		1859	1901	1907	N16	E71	7448	03	17.2	8	SF		3	E		26		
HOLL		1903	1907	1912	S06	W39	7440	03	8.9	9	SF C	4.6	3	E		15		FH
HOLL		2001	2007	2015	N13	E72	7448	03	17.3	14	SF		3	E		16		
HOLL		2104	2106	2109	S07	W21	7444	03	10.3	5	SF		3	E		12		
HOLL		2144	2157	2225	N13	E72	7448	03	17.3	41	1B		3	E		170		F
PALE		2151	2158	2221D	N15	E74	7448	03	17.5	30D	2B M	7.3	3	E		253		F
PALE	12	0025	0026	0033	N15	E72	7448	03	17.5	8	SF		3	E		24		
GOES		0358	0406	0413						15		C	1.9					
LEAR		0418	0418	0426	N15	E68	7448	03	17.3	8	SF C	7.0	3	E		18		F
LEAR		0708	0712	0737	N15	E66	7448	03	17.3	29	SF C	4.9	3	E		28		F
SVTO		0708	0720	0736	N16	E68	7448	03	17.4	28	SB		2	E		30		F
RAMY		1142	1145	1151	N15	E64	7448	03	17.3	9	SF		3	E		22		F
SVTO		1159	1201	1217	N15	E64	7448	03	17.3	18	SN		3	E		44		
RAMY		1159	1201	1218	N13	E65	7448	03	17.4	19	SN C	3.2	3	E		52		
SVTO		1232	1232	1238	N17	E63	7448	03	17.3	6	SF C	3.8	3	E		16		
HOLL		1648E	1648U	1701	S01	W52	7440	03	8.8	13D	SF		3	E		35		F
HOLL		1703	1820	2042	N00	W51	7440	03	8.9	219	3B M	7.0	3	E		709		ZU
PALE		1711	1814	2025D	S04	W46	7440	03	9.3	194D	3B		3	E		860		ZY
RAMY		1714	1801	1821	S04	W47	7440	03	9.2	67	3N		3	E		655		ZU
HOLL		1833	1843	1853	N15	E56	7448	03	17.0	20	SF		3	E		45		
PALE		1842	1844	1855	N16	E57	7448	03	17.1	13	SF		3	E		66		
HOLL		2157	2157	2200	S04	W54	7440	03	8.9	3	SF C	3.9	3	E		14		
LEAR	13	0233	0236	0247	N15	E52	7448	03	17.0	14	SF		3	E		18		
LEAR		0312	0313	0324	N17	E47	7448	03	16.7	12	SF C	3.3	3	E		26		
SVTO		0705E	0711	0715	S08	W61	7440	03	8.7	10D	SF C	4.2	2	E		12		
SVTO		0901	0902	0943	N17	E51	7448	03	17.2	42	SF C	2.9	4	E		18		F
SVTO		1020	1029	1034	S08	W61	7440	03	8.8	14	SF		4	E		48		F
SVTO		1257	1301	1305	S08	W63	7440	03	8.8	8	SF C	3.9	4	E		38		F
RAMY		1300	1301	1306	S06	W63	7440	03	8.8	6	SF C	3.9	3	E		38		F
HOLL		1509	1521	1703	N17	E50	7448	03	17.4	114	SF C	5.1	3	E		33		F
RAMY		1511	1522	1635D	N16	E47	7448	03	17.2	84D	SF		3	E		30		F
SVTO		1519E	1523U	1603	N18	E46	7448	03	17.1	44D	SF		2	E		23		F
HOLL		1747	1819	1831	S01	W63	7440	03	9.0	44	SF C	4.5	3	E		64		F
PALE		1803E	1819	1831	S01	W69	7440	03	8.6	28D	SF		3	E		73		F
PALE		1909	1912	1917	N18	E42	7448	03	17.0	8	SF		3	E		10		
PALE	14	0337	0355	0355D	N16	E40	7448	03	17.2	18D	SF C	1.1	3	E		45		
SVTO		0811	0813	0818	S08	W73	7440	03	8.9	7	SF C	1.1	3	E		19		

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Time (UT)	Area Measurement		Remarks
																Apparent (10-6 Disk)	Corr (Sq Deg)	
SVTO	14	0927	0936	0946	N19	E42	7448	03	17.6	19	SF		4	E		24		FH
GOES		1103	1109	1125						22		C 1.0						
GOES		1431	1441	1446						15		C 1.6						
RAMY		1833	1834	1850	N17	E24	7448	03	16.6	17	SF		3	E		41		
GOES	15	0213	0323	0412						119		C 2.0						
GOES		0958	1003	1010						12		C 3.0						
SVTO		1301	1307	1319	N17	E23	7448	03	17.3	18	SF		3	E		25		F
SVTO		1332	1343	1400	N17	E23	7448	03	17.3	28	SF	C 1.6	3	E		65		F
GOES		1441	1528	1556						75		C 4.0						
GOES		1849	1852	1854						5		C 1.6						
GOES		1904	1911	1914						10		C 5.5						
PALE		1929	1929	1932D	N16	E24	7448	03	17.6	30	SF		3	E		18		
RAMY		2026	2029	2033	N17	E18	7448	03	17.2	7	SF		3	E		16		
HOLL		2039	2045	2120	S03	W88	7440	03	9.3	41	2F	M 2.9	3	E		255		
RAMY		2045	2053	2057	S06	W91	7440	03	9.0	12	SF		3	E		24		
HOLL		2105	2109	2114	N16	E15	7448	03	17.0	9	SF		3	E		11		F
PALE		2131E	2134U	2144D	S04	W85	7440	03	9.5	130	1F		3	E		218		
HOLL		2143	2143	2144	N16	E15	7448	03	17.0	1	SF		3	E		12		F
LEAR	16	0241	0244	0325	N14	E16	7448	03	17.3	44	SN	C 5.5	3	E		95		F
GOES		0411	0415	0418						7		C 2.9						
LEAR		0601	0602	0617	N16	E10	7448	03	17.0	16	SF		3	E		35		F
LEAR		0751	0754	0817	N16	E09	7448	03	17.0	26	SF		3	E		33		F
SVTO		0911	0914	0919	N15	E07	7448	03	16.9	8	SF	C 2.2	3	E		13		
SVTO		1231	1231	1243	N15	E05	7448	03	16.9	12	SF		2	E		22		F
RAMY		1233E	1233U	1245	N14	E06	7448	03	17.0	120	SF	C 1.2	3	E		24		F
GOES		1601	1629	1707						66		C 2.2						
HOLL		1721	1727	1802	N16	E04	7448	03	17.0	41	SF		3	E		22		
RAMY		1732	1733	1736	N16	E03	7448	03	16.9	4	SF		3	E		23		
HOLL		2353	2409	2438	N17	E04	7448	03	17.3	45	SF	C 1.0	3	E		42		F
GOES	17	0149	0156	0201						12		C 1.1						
GOES		0411	0417	0426						15		C 1.0						
LEAR		0757	0758	0806	N17	E00	7448	03	17.3	9	SF	B 8.1	3	E		21		F
HOLL		1522E	1526	1616	N17	W03	7448	03	17.4	540	SF	C 1.0	3	E		35		F
RAMY		1530E	1531U	1549	N18	W04	7448	03	17.3	190	SF		3	E		35		F
PALE		1719	1719	1734	N18	W10	7448	03	17.0	15	SF		3	E		15		
PALE		1720	1720	1724	S14	E61	7452	03	22.3	4	SF		3	E		13		
PALE		1735	1736	1741	N17	W06	7448	03	17.3	6	SF		3	E		31		
PALE		1743	1801	1801D	N14	W03	7448	03	17.5	180	SF		3	E		39		FH
PALE		1744	1744	1748	S12	E65	7452	03	22.6	4	SF		3	E		12		
PALE		1755	1756	1801	S12	E65	7452	03	22.6	6	SF		3	E		16		
HOLL		1801	1802	1832	N19	W03	7448	03	17.5	31	SF	C 1.7	3	E		38		F
GOES	18	0051	0055	0101						10		C 1.1						
GOES		0110	0115	0122						12		C 1.6						
PALE		0223	0227	0249	S14	E64	7452	03	22.9	26	SF		3	E		21		
LEAR		0412	0412	0419	N17	W10	7448	03	17.4	7	SF		3	E		20		F
GOES		0429	0434	0440						11		B 6.8						
RAMY		1154	1201	1227	N17	W15	7448	03	17.3	33	SF	C 1.9	3	E		54		F
RAMY		1437	1445	1457	N15	W13	7448	03	17.6	20	SF		3	E		23		F
RAMY		1514	1518	1606	N18	W16	7448	03	17.4	52	SF	C 3.2	3	E		48		F
HOLL		1517E	1518U	1544D	N17	W16	7448	03	17.4	270	SF		1	E		57		F
SVTO		1517E	1518U	1545	N16	W17	7448	03	17.3	280	SF		2	E		53		F
RAMY		1656	1709	1713	N16	W20	7448	03	17.2	17	SF		3	E		17		F
RAMY		1721	1721	1732	N17	W14	7448	03	17.6	11	SF	C 1.3	3	E		28		FH
LEAR		2254E	2312U	2329	N17	W22	7448	03	17.3	350	SF	C 2.7	2	E		36		F
HOLL		2255E	2256U	2359	N16	W22	7448	03	17.3	640	SN	C 3.1	3	E		80		FE
HOLL	19	0006	0012	0024D	N16	W22	7448	03	17.3	180	1N		3	E		113		FE
LEAR		0009	0017	0053	N12	W21	7448	03	17.4	44	SF	C 3.6	3	E		51		F
LEAR		0219	0220	0256	N16	W23	7448	03	17.3	37	SF	C 5.6	3	E		55		F
LEAR		0512	0520	0535	S13	E45	7452	03	22.6	23	SF	C 1.3	3	E		20		F
SVTO		0621	0621	0624	N14	W24	7448	03	17.4	3	SF		3	E		18		
SVTO		0625	0627	0633	N14	W34	7448	03	16.7	8	SF		3	E		26		
LEAR		0818	0819	0825	N14	W22	7448	03	17.7	7	SF	C 1.0	3	E		18		F
SVTO		0950	1011	1041	S17	E33	7451	03	21.9	51	SF	C 1.7	3	E		44		F

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
															Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
GOES	19	1233	1309	1341						68				C 1.5				
[RAMY		1254	1310	1355	N14	W27	7448	03	17.5	61	SF		3	E		48		F
[SVTO		1254	1311	1347	N13	W29	7448	03	17.3	53	SF		3	E		20		F
SVTO		1427	1432	1449	N14	W28	7448	03	17.5	22	SF		3	E		19		F
[HOLL		1532	1533	1541	S15	E40	7452	03	22.7	9	SF		2	E		38		F
[SVTO		1532	1533	1546	S13	E40	7452	03	22.7	14	SF	B 9.7	3	E		29		F
[HOLL		1722E	1727U	1758	N15	E31		03	22.1	360	SF		3	E		54		UF
[PALE		1723E	1730U	1800D	N16	E32		03	22.1	370	SF		3	E		48		F
[HOLL		1959	2001	2035	N21	W29	7448	03	17.6	36	SN	C 2.8	3	E		80		F
[PALE		1959	2007U	2035	N21	W29	7448	03	17.6	36	SN		3	E		92		E
HOLL		2154	2157	2202	N17	W32	7448	03	17.5	8	SF	C 1.6	3	E		12		
HOLL		2326	2326	2331	N20	W31	7448	03	17.6	5	SF		3	E		18		
PALE	20	0041E	0150U		N21	W31	7448	03	17.6	1399D	1N		3	E		152		
[LEAR		0047	0100	0320	N18	W37	7448	03	17.2	153	1N	M 1.8	3	E		206		FH
[HOLL		0049	0051	0107D	N18	W37	7448	03	17.2	180	1N		2	E		106		FH
PALE		0246	0247	0319	N18	W33	7448	03	17.6	33	SN	C 7.2	3	E		96		F
LEAR		0706	0706	0719	N15	W38	7448	03	17.4	13	SF	C 3.8	3	E		24		F
[LEAR		0743	0748	0819	N18	W41	7448	03	17.2	36	SF	C 1.8	3	E		78		F
[SVTO		0745E	0746U	0758D	N16	W45	7448	03	16.9	13D	SF		2	E		34		F
SVTO		0916	0916	0922	N14	W40	7448	03	17.4	6	SF		3	E		16		
SVTO		0949	1002	1056	N16	W41	7448	03	17.3	67	SF	C 7.2	3	E		63		HF
[SVTO		1203	1213	1227	N15	W40	7448	03	17.5	24	SF		3	E		41		F
[RAMY		1203	1213	1232	N17	W42	7448	03	17.3	29	SF	C 6.4	3	E		37		F
SVTO		1255	1322	1334	N14	W41	7448	03	17.4	39	SF	C 2.5	3	E		19		F
HOLL		1426	1435	1444	N18	W44	7448	03	17.2	18	SF	C 2.5	3	E		34		F
[RAMY		1650	1656	1708	N18	W42	7448	03	17.5	18	SF	C 3.9	3	E		47		
[HOLL		1651	1657	1706	N19	W41	7448	03	17.6	15	SN	C 3.9	3	E		54		
PALE		1655E	1702U	1708D	N17	W42	7448	03	17.5	13D	SF		2	E		26		H
[PALE		1735E	1753U	1922D	N18	W43	7448	03	17.4	107D	1N	C 4.6	3	E		132		FH
[HOLL		1736	1752	1932	N19	W43	7448	03	17.4	116	1N	C 4.6	3	E		134		FE
[RAMY		1737	1753	1929	N17	W45	7448	03	17.3	112	1F		3	E		136		F
GOES		2046	2057	2106						20		C 1.4						
HOLL		2143	2143	2205	N20	W49	7448	03	17.1	22	SF	C 2.0	3	E		30		F
GOES	21	0026	0029	0031						5		B 8.1						
GOES		0103	0109	0112						9		C 1.8						
LEAR		0121	0127	0156	S13	E23	7452	03	22.8	35	SF	C 2.3	3	E		82		
LEAR		0322	0341	0423	N16	W47	7448	03	17.6	61	1N	M 2.1	3	E		114		FE
[LEAR		0640	0643	0656	N18	W51	7448	03	17.4	16	SF	C 1.1	3	E		43		F
[SVTO		0642	0643	0655	N17	W51	7448	03	17.4	13	SF	C 1.1	3	E		35		F
[LEAR		0709	0717	0736	N18	W53	7448	03	17.3	27	SF	C 1.8	3	E		62		F
[SVTO		0712	0718	0722	N17	W52	7448	03	17.3	10	SF	C 1.8	3	E		24		
SVTO		0748	0754	0805	N17	W53	7448	03	17.3	17	SF		3	E		14		
SVTO		0805	0807	0813	N17	W52	7448	03	17.4	8	SF		3	E		21		F
[LEAR		0816	0849	0917	N18	W53	7448	03	17.3	61	SF		3	E		42		F
[SVTO		0839	0849	0908	N17	W53	7448	03	17.3	29	SF		3	E		24		FH
SVTO		1031	1033	1055	S11	E14	7452	03	22.5	24	SF		3	E		11		
SVTO		1054	1054	1100	N17	W55	7448	03	17.3	6	SF	C 1.4	3	E		21		E
SVTO		1111	1120	1131	S12	E17	7452	03	22.7	20	SF		3	E		11		F
GOES		1156	1159	1201						5		B 9.0						
GOES		1252	1256	1258						6		B 8.8						
[SVTO		1506	1508	1512	N17	W56	7448	03	17.4	6	SF		3	E		26		
[RAMY		1507	1508	1512	N19	W56	7448	03	17.3	5	SF	C 3.4	4	E		22		
[SVTO		1522	1532	1535	N17	W54	7448	03	17.5	13	SF		3	E		13		
[RAMY		1526	1526	1534	N19	W54	7448	03	17.5	8	SF		4	E		37		
RAMY		1705	1706	1745	S12	E13	7452	03	22.7	40	SF	C 3.3	3	E		68		F
PALE		1719E	1729U	1834D	S12	E11	7452	03	22.5	75D	SF		3	E		73		F
RAMY		1720	1723	1727	N19	W57	7448	03	17.4	7	SF		3	E		20		
RAMY		1730	1735	1738	N18	W63	7448	03	16.9	8	SF		3	E		22		
[RAMY		1824	1826	1830	N19	W58	7448	03	17.3	6	SF	C 2.3	3	E		23		
[PALE		1824	1827	1833	N19	W56	7448	03	17.5	9	SF	C 2.3	3	E		21		E
[HOLL		1825E	1828U	1831	N20	W57	7448	03	17.4	6D	SF		2	E		13		F
HOLL		1828	1858	1920	S11	E07	7452	03	22.3	52	SF		3	E		23		F
PALE		2021E	2023U	2028D	N17	W56	7448	03	17.6	7D	SF		3	E		26		
GOES		2052	2057	2108						16		C 1.3						
GOES		2132	2135	2139						7		C 1.0						
GOES		2337	2344	2348						11		C 1.6						

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Dur Day	(Min)	Imp Opt	Xray	See	Obs Type	Time (UT)	Area Measurement		Remarks
																Apparent (10-6 Disk)	Corr (Sq Deg)	
LEAR	22	0100	0107	0135	S12	E03	7452	03	22.3	35	SF	C 3.8	3	E		95		F
GOES		0154	0157	0201						7		C 1.0						
GOES		0444	0448	0451						7		B 8.7						
GOES		0538	0541	0544						6		B 7.4						
GOES		0810	0842	1107						177		B 8.9						
GOES		1012	1016	1019						7		B 9.5						
RAMY		1057E	1057U	1101	N15	W68	7448	03	17.3	40	SF		2	E		25		
GOES		1131	1135	1147						16		B 8.8						
HOLL		1345E	1348U	1350D	S12	W03	7452	03	22.3	50	SF	C 2.5	2	E		28		F
SVTO		1345	1405	1428	S11	W03	7452	03	22.3	43	SF	C 2.5	3	E		73		F
RAMY		1445	1446	1455	S12	W04	7452	03	22.3	10	SF	C 2.4	3	E		13		F
GOES		1558	1602	1616						18		C 1.1						
HOLL		1608	1624	1708	S11	W06	7452	03	22.2	60	SN	C 4.4	3	E		57		F
HOLL		1728	1731	1736	S12	W05	7452	03	22.3	8	SF		3	E		20		F
HOLL		1738	1744	1750	S11	W05	7452	03	22.3	12	SF	C 1.3	3	E		30		F
RAMY		1743	1744	1749	S11	W05	7452	03	22.4	6	SF	C 1.3	3	E		14		F
GOES		1748	1752	1757						9		C 1.5						
RAMY		1947	1948	1951	N19	W84	7448	03	16.4	4	SF		3	E		25		
HOLL		1947	1948	1952	N20	W81	7448	03	16.6	5	SF		3	E		29		
HOLL		2103	2112	2116	N18	W75	7448	03	17.2	13	SF	C 1.2	3	E		19		F
HOLL		2203	2205	2229	S11	W08	7452	03	22.3	26	SF	C 1.1	3	E		56		F
GOES	23	0010	0018	0027						17		C 2.3						
PALE		0128E	0157U	0248D	N19	W76	7448	03	17.3	80D	SF		3	E		69		YF
LEAR		0129	0144	0204	N18	W78	7448	03	17.1	35	SF	M 2.3	3	E		47		F
LEAR		0234	0237	0240	N18	W77	7448	03	17.2	6	SF		3	E		17		F
GOES		0347	0359	0410						23		C 5.6						
GOES		0445	0451	0458						13		C 3.8						
GOES		0734	0740	0751						17		C 1.5						
GOES		0809	0816	0821						12		C 2.6						
SVTO		1038E	1038U	1046D	N18	W76	7448	03	17.6	80	SF		2	E		62		
HOLL		1421	1423	1434	N18	W85	7448	03	17.1	13	SF	B 9.5	2	E		20		
HOLL		1504	1506	1535	N16	W78	7448	03	17.7	31	1N	C 2.6	3	E		238		E
RAMY		1505	1506	1517	N16	W88	7448	03	16.9	12	1N		3	E		143		
SVTO		1505	1507	1517	N14	W88	7448	03	17.0	12	1N		3	E		121		
GOES		1901	1906	1916						15		C 4.2						
GOES		2005	2009	2014						9		C 1.2						
GOES		2045	2051	2125						40		C 1.1						
HOLL		2147	2150	2159	N18	W90	7448	03	17.0	12	SF	C 2.3	3	E		40		
GOES		2347	2355	2403						16		C 2.5						
LEAR	24	0140	0142	0145	N16	W90	7448	03	17.2	5	SF		3	E		39		
PALE		0140	0142	0146	N15	W88	7448	03	17.4	6	SN	C 3.1	3	E		85		
GOES		0320	0326	0337						17		C 6.6						
GOES		0809	0826	0851						42		C 1.1						
GOES		1319	1335	1345						26		C 1.0						
GOES		1448	1457	1514						26		C 1.0						
GOES	25	0046	0057	0105						19		C 1.0						
GOES		0959	1003	1006						7		B 5.4						
GOES		1338	1341	1343						5		B 4.6						
GOES		1618	1621	1623						5		B 5.6						
HOLL		1801	1801	1813	S09	W46	7452	03	22.3	12	SF	C 1.1	3	E		10		
GOES		1848	1852	1854						6		B 7.6						
GOES		1914	1920	1922						8		C 1.0						
GOES		1926	1931	1937						11		B 9.5						
GOES		1954	1959	2002						8		C 1.5						
GOES		2104	2107	2110						6		C 1.1						
GOES		2226	2229	2232						6		B 5.2						
GOES	26	0031	0034	0036						5		B 6.2						
GOES		0123	0127	0129						6		B 6.1						
RAMY		1431	1432	1436	N04	E49		03	30.3	5	SF	B 6.3	3	E		11		F
HOLL		1614	1614	1632	N03	E68	7461	03	31.7	18	SF		3	E		34		
GOES	27	1116	1120	1124						8		B 7.8						
RAMY		1201	1201	1205	N05	E66	7461	04	1.4	4	SF		3	E		13		
RAMY		1305	1307	1310	N05	E65	7461	04	1.4	5	SF		3	E		18		F

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Time (UT)	Area Measurement		Remarks
																Apparent (10-6 Disk)	Corr (Sq Deg)	
RAMY	27	1501	1502	1505	N02	E58	7461	03	31.9	4	SF		3	E		14		
GOES		1630	1636	1647						17		C 1.0						
HOLL		1915	1923	1936	N09	E24		03	29.6	21	SF		3	E		74		F
PALE		2003E	2009U	2024D	S13	E79	7463	04	2.8	21D	SF		3	E		26		
PALE		2007E	2023U	2031	N05	E55	7461	03	31.9	24D	SF	C 1.2	3	E		42		
GOES	28	0032	0038	0044						12		C 1.5						
GOES		0303	0309	0315						12		B 9.9						
LEAR		0825	0825	0828	N07	E48	7461	03	31.9	3	SF	C 1.8	3	E		14		F
SVTO		0834	0837	0841	N04	E50	7461	04	1.1	7	SF		3	E		15		
SVTO		0941	0941	0951	N12	E16		03	29.6	10	SF		3	E		27		
GOES		1302	1306	1309						7		B 4.6						
GOES		1330	1335	1338						8		B 8.1						
RAMY		1501	1503	1509	S12	E66	7463	04	2.6	8	SF	C 2.1	3	E		41		F
HOLL		1530	1530	1538	N06	E43	7461	03	31.9	8	SF		3	E		12		F
RAMY		1530	1530	1540	N03	E46	7461	04	1.1	10	SF	B 6.6	3	E		13		F
HOLL		1913	1915	1930	S13	E63	7463	04	2.5	17	SF	B 8.0	3	E		26		
PALE		1914E	1918U	1930	S11	E63	7463	04	2.5	16D	SF		3	E		16		
GOES		2117	2123	2128						11		C 1.1						
PALE	29	0045	0047	0111	N05	E42	7461	04	1.2	26	SF	C 1.6	3	E		47		
PALE		0147	0147	0213	N05	E38	7461	03	31.9	26	SF	B 7.1	3	E		17		
GOES		0212	0215	0218						6		B 8.9						
PALE		0214	0215	0233	N05	E38	7461	03	31.9	19	SF		3	E		29		
PALE		0233	0238	0248	N05	E38	7461	03	31.9	15	SF		3	E		34		
PALE		0249	0252	0254	N05	E38	7461	03	31.9	5	SF		3	E		16		
PALE		0258	0300	0310	N05	E44	7461	04	1.4	12	SF	B 7.0	3	E		41		
GOES		0448	0454	0508						20		B 7.0						
LEAR		0530	0532	0535	N05	E43	7461	04	1.4	5	SF	C 1.7	3	E		29		
LEAR		0538	0538	0544	N06	E41	7461	04	1.3	6	SF		3	E		20		F
GOES		0543	0547	0550						7		B 8.2						
GOES		0633	0639	0642						9		B 7.0						
GOES		0650	0654	0657						7		B 6.4						
LEAR		0815	0817	0820	N05	E41	7461	04	1.4	5	SF	C 1.2	3	E		27		
LEAR		0832	0833	0841	N05	E41	7461	04	1.4	9	SF	C 9.4	3	E		68		
SVTO		0832	0833	0841	N05	E41	7461	04	1.4	9	SN	C 9.4	3	E		60		E
SVTO		1023	1023	1044D	S10	E57	7463	04	2.7	21D	SF	B 6.2	2	E		28		
GOES		1052	1057	1102						10		C 1.1						
RAMY		1252	1256	1315	N04	E36	7461	04	1.2	23	SF	M 1.0	3	E		75		F
RAMY		1350	1351	1418D	S12	E53	7463	04	2.6	28D	SF		3	E		17		
SVTO		1350	1352	1400D	S10	E54	7463	04	2.6	10D	SF		3	E		19		
RAMY		1719	1719	1736	N03	E32	7461	04	1.1	17	SF		3	E		36		
RAMY		1723E	1723U	1736	N03	E32	7461	04	1.1	13D	SF	C 7.1	3	E		36		F
GOES		1741	1802	1813						32		C 1.5						
GOES		1842	1844	1845						3		C 1.2						
GOES		2144	2147	2150						6		B 7.0						
GOES		2332	2347	2351						19		B 8.1						
LEAR	30	0100	0103	0145	N04	E31	7461	04	1.3	45	1B	M 2.6	3	E		233		F
PALE		0102E	0107U	0135D	N06	E25	7461	03	31.9	33D	1F		2	E		116		
HOLL		0104E	0106U	0107D	N02	E28	7461	04	1.1	3D	SN		1	E		46		F
LEAR		0114	0116	0123	S11	E48	7463	04	2.7	9	SF		3	E		19		
LEAR		0329	0332	0340	S11	E47	7463	04	2.7	11	SF	C 1.9	3	E		27		
GOES		0447	0456	0507						20		B 5.8						
SVTO		0745	0747	0756	S10	E44	7463	04	2.6	11	SF	B 8.3	3	E		16		
LEAR		0746	0747	0755	S13	E41	7463	04	2.4	9	SF		3	E		13		
GOES		1024	1028	1030						6		B 8.7						
RAMY		1130	1134	1141	S12	E39	7463	04	2.4	11	SF	B 6.1	3	E		22		
RAMY		1254	1255	1259	N05	E26	7461	04	1.5	5	SF	C 3.3	3	E		42		
HOLL		1744	1747	1756	N04	E20	7461	04	1.2	12	SF		3	E		14		
HOLL		1855	1858	1900	S13	E39	7463	04	2.7	5	SF		3	E		16		
HOLL		1940	1943	1959	N04	E19	7461	04	1.2	19	SF		3	E		26		F
HOLL		2013	2033	2049	N03	E22	7461	04	1.5	36	SF	C 1.5	3	E		45		F
HOLL		2037	2052	2104	S14	E34	7463	04	2.4	27	SF		3	E		30		
HOLL		2056	2058	2142	N04	E17	7461	04	1.1	46	SF	C 1.4	3	E		35		F
HOLL		2226	2229	2248	N04	E17	7461	04	1.2	22	SF	C 1.4	3	E		21		F
PALE		2258	2300	2314	S14	E36	7463	04	2.7	16	SF		3	E		23		
HOLL		2302	2302	2318	S13	E32	7463	04	2.4	16	SF		3	E		21		F

H α SOLAR FLARES

MARCH 1993

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Time (UT)	Area Measurement		Remarks
																Apparent (10-6 Disk)	Corr (Sq Deg)	
HOLL	30	2330	2332	2403	N03	E17	7461	04	1.2	33	SF	B 5.3	3	E		36		F
LEAR		2332	2332	2345	N01	E16	7461	04	1.2	13	SF	B 5.3	3	E		16		F
PALE		2332	2333	2350	N04	E18	7461	04	1.3	18	SF	B 5.3	3	E		34		
LEAR		2347	2347	2401	N02	E15	7461	04	1.1	14	SF		3	E		18		
HOLL	31	0027	0028	0055	N04	E16	7461	04	1.2	28	SF		2	E		40		
PALE		0027	0029U	0057	N05	E18	7461	04	1.4	30	SF		3	E		56		
LEAR		0027	0034	0049	N01	E15	7461	04	1.1	22	SF	C 1.0	3	E		99		F
GOES		0201	0209	0211						10		B 3.6						
LEAR		0206	0208	0218	S15	E31	7463	04	2.4	12	SF		3	E		17		
PALE		0206	0208	0220	S11	E31	7463	04	2.4	14	SF		3	E		25		
GOES		0311	0316	0323						12		B 5.7						
LEAR		0345	0347	0429	N02	E15	7461	04	1.3	44	SF	C 3.8	3	E		72		FE
PALE		0346	0348	0410D	N05	E16	7461	04	1.3	24D	SN		2	E		82		E
LEAR		0609	0611	0626	S11	E28	7463	04	2.4	17	SF	C 1.3	3	E		64		F
LEAR		0843	0843	0848	N06	E07	7461	03	31.9	5	SF		3	E		21		
LEAR		0902	0908	0920	S11	E29	7463	04	2.5	18	SF	B 5.7	3	E		43		F
GOES		0943	0947	0950						7		B 8.4						
SVTO		1144E	1157U	1204D	S10	E25	7463	04	2.4	20D	SF		2	E		18		F
RAMY		1146	1147	1150	S11	E25	7463	04	2.4	4	SF		3	E		15		
RAMY		1155	1156	1207	S11	E25	7463	04	2.4	12	SF	B 4.3	3	E		13		
HOLL		1421	1422	1435	N04	E08	7461	04	1.2	14	SF	B 4.8	3	E		15		F
RAMY		1510	1511	1519	S11	E26	7463	04	2.6	9	SF		3	E		10		
HOLL		1510	1515	1522	S12	E26	7463	04	2.6	12	SF	B 8.0	3	E		12		F
SVTO		1516	1517	1529	S12	E25	7463	04	2.5	13	SF		3	E		15		F
SVTO		1526	1526	1531	N04	E07	7461	04	1.2	5	SF		3	E		22		F
HOLL		1706	1709	1711	S11	E21	7463	04	2.3	5	SF		3	E		16		H
HOLL		2020	2030	2041	S12	E23	7463	04	2.6	21	SF	B 4.5	3	E		30		

"Remarks"

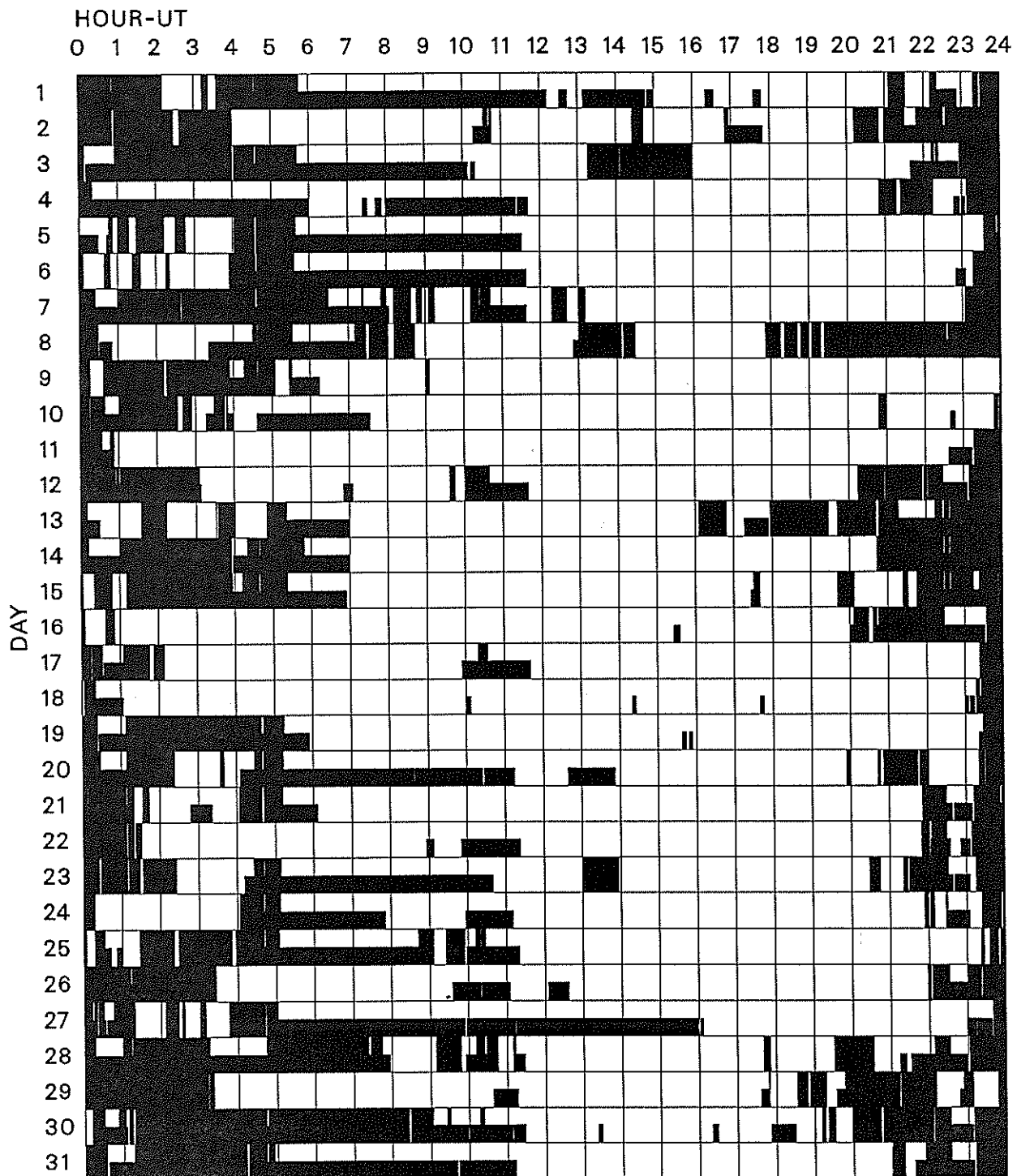
A = Eruptive prominence whose base is less than 90 degrees from central meridian.
 B = Probably the end of a more important flare.
 C = Invisible 10 minutes before.
 D = Brilliant point.
 E = Two or more brilliant points.
 F = Several eruptive centers.
 G = No visible spots in the neighborhood.
 H = 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

INTERVALS OF NO FLARE PATROL OBSERVATION FOR PRECEDING SOLAR FLARE TABLE

MARCH 1993



Times of no flare patrol, shown here as shaded areas, combine reports from the observatories listed below. Portions of a panel completely shaded mark dates and times of no patrol of any kind, that is, of neither visual nor cinematographic; portions of a panel with only the bottom half shaded mark times of strictly visual patrol.

Holloman

Learmonth

Palehua

Ramey

San Vito

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

Selected Fixed Frequency Events

43
Mar 93

MARCH 1993

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 ⁻²² W/m ² Hz)	Mean (10 ⁻²² W/m ² Hz)	Int	Remarks
01	2695	SGMR	20 GRF	1649.0	1656.0	38.0	43.0			QL=4 ST=2 TYP=2
	8800	SGMR	20 GRF	1649.0	1656.0	38.0	42.0			QL=4 ST=2 TYP=2
02	8800	PALE	4 S/F	2040.0	2045.0	7.0	38.0			QL=4 ST=2 TYP=3
	2695	PALE	4 S/F	2041.0	2045.0	6.0	17.0			QL=4 ST=2 TYP=3
	8800	SGMR	4 S/F	2041.0	2045.0	17.0	71.0			QL=4 ST=2 TYP=3
	8800	SGMR	4 S/F	2103.0	2138.0	49.0	150.0			QL=2 ST=2 TYP=5
	2695	PALE	4 S/F	2110.0	2149.0	56.0	180.0			QL=4 ST=3 TYP=5
	2695	SGMR	4 S/F	2111.0	2149.0	46.0	180.0			QL=2 ST=2 TYP=5
	8800	PALE	4 S/F	2111.0	2115.0	55.0	46.0			QL=4 ST=3 TYP=5
03	8800	PALE	8 S	0344.0	0345.0	2.0	41.0			QL=4 ST=2 TYP=3
04	2695	SVTO	8 S	1221.0	1221.0	U	24.0			QL=2 ST=2 TYP=3
	8800	SGMR	4 S/F	1221.0	1224.0	20.0	50.0			QL=4 ST=2 TYP=3
	2695	SGMR	20 GRF	1221.0	1242.0	22.0	30.0			QL=4 ST=2 TYP=2
	8800	SVTO	8 S	1223.0	1223.0	1.0	41.0			QL=4 ST=2 TYP=3
	8800	SGMR	4 S/F	1341.0	1342.0	3.0	58.0			QL=4 ST=2 TYP=3
05	8800	SGMR	4 S/F	1658.0	1659.0	3.0	120.0			QL=2 ST=2 TYP=3
06	2695	SGMR	4 S/F	2018.0	2023.0	28.0	370.0			QL=4 ST=2 TYP=5
	2695	PALE	4 S/F	2018.0	2023.0	89.0	370.0			QL=4 ST=2 TYP=5
	8800	SGMR	4 S/F	2018.0	2024.0	222.0	160.0			QL=4 ST=1 TYP=3
	8800	SGMR	4 S/F	2023.0	2024.0	45.0	160.0			QL=4 ST=2 TYP=3
	8800	PALE	4 S/F	2023.0	2024.0	74.0	150.0			QL=4 ST=2 TYP=5
	8800	PALE	8 S	2227.0	2227.0	1.0	32.0			QL=4 ST=2 TYP=3
	2695	PALE	8 S	2227.0	2227.0	1.0	21.0			QL=4 ST=2 TYP=3
07	8800	SGMR	8 S	1425.0	1425.0	U	32.0			QL=4 ST=2 TYP=3
	8800	PALE	8 S	2147.0	2147.0	U	30.0			QL=4 ST=2 TYP=3
08	2695	SVTO	49 GB	0802.0	0805.0	8.0	680.0			QL=2 ST=2 TYP=6
10	2695	SGMR	8 S	1210.0	1211.0	1.0	38.0			QL=4 ST=2 TYP=3
	2695	SVTO	4 S/F	1210.0	1211.0	6.0	52.0			QL=4 ST=2 TYP=3
	8800	SVTO	4 S/F	1320.0	1322.0	4.0	97.0			QL=2 ST=2 TYP=3
	2695	SGMR	4 S/F	1321.0	1322.0	3.0	110.0			QL=4 ST=2 TYP=3
	8800	SGMR	8 S	1321.0	1322.0	2.0	94.0			QL=4 ST=2 TYP=3
	2695	SVTO	4 S/F	1321.0	1322.0	3.0	150.0			QL=2 ST=2 TYP=3
11	8800	SGMR	4 S/F	1514.0	1515.0	4.0	470.0			QL=2 ST=2 TYP=3
	8800	SVTO	8 S	1514.0	1515.0	2.0	450.0			QL=4 ST=2 TYP=3
	2695	SGMR	8 S	1515.0	1515.0	1.0	56.0			QL=4 ST=2 TYP=3
	2695	SVTO	8 S	1515.0	1515.0	U	56.0			QL=2 ST=2 TYP=3
	8800	SGMR	4 S/F	2154.0	2156.0	8.0	82.0			QL=2 ST=2 TYP=5
	2695	SGMR	4 S/F	2154.0	2155.0	8.0	51.0			QL=4 ST=2 TYP=3
	2695	PALE	4 S/F	2154.0	2155.0	126.0	47.0			QL=4 ST=1 TYP=3
	8800	PALE	4 S/F	2154.0	2156.0	126.0	130.0			QL=4 ST=1 TYP=3
	8800	PALE	4 S/F	2159.0	2201.0	5.0	94.0			QL=4 ST=2 TYP=3
12	8800	SGMR	4 S/F	1742.0	1841.0	140.0	480.0			QL=4 ST=2 TYP=5
	2695	SGMR	49 GB	1742.0	1802.0	140.0	1200.0			QL=4 ST=2 TYP=7
	2695	PALE	49 GB	1744.0	1841.0	376.0	1100.0			QL=4 ST=3 TYP=7
	8800	PALE	4 S/F	1744.0	1841.0	376.0	310.0			QL=4 ST=3 TYP=5
	8800	PALE	4 S/F	2032.0	2034.0	4.0	110.0			QL=4 ST=2 TYP=3
	8800	SGMR	8 S	2034.0	2034.0	1.0	58.0			QL=4 ST=2 TYP=3
15	8800	SGMR	8 S	1442.0	1443.0	2.0	55.0			QL=2 ST=2 TYP=3
	8800	SVTO	8 S	1442.0	1443.0	2.0	44.0			QL=4 ST=2 TYP=3
	2695	SVTO	8 S	1442.0	1443.0	2.0	30.0			QL=2 ST=2 TYP=3
	8800	PALE	4 S/F	2115.0	2123.0	33.0	170.0			QL=4 ST=1 TYP=3
	2695	PALE	20 GRF	2116.0	2124.0	32.0	390.0			QL=4 ST=1 TYP=2
	2695	SGMR	20 GRF	2116.0	2123.0	30.0	380.0			QL=4 ST=2 TYP=2
	8800	SGMR	20 GRF	2117.0	2123.0	29.0	170.0			QL=4 ST=2 TYP=2
19	2695	PALE	4 S/F	2253.0	2253.0	67.0	29.0			QL=4 ST=1 TYP=3
20	8800	LEAR	4 S/F	0048.0	0049.0	5.0	110.0			QL=4 ST=2 TYP=3

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Mar 93

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

Selected Fixed Frequency Events

MARCH 1993

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Mean	Int	Remarks
20	8800	PALE	4 S/F	0048.0	0049.0	8.0	100.0			QL=4 ST=2 TYP=3
	2695	PALE	4 S/F	0048.0	0051.0	8.0	43.0			QL=4 ST=2 TYP=3
	2695	LEAR	4 S/F	0049.0	0051.0	3.0	45.0			QL=4 ST=2 TYP=3
	8800	LEAR	8 S	0102.0	0102.0	2.0	30.0			QL=4 ST=2 TYP=3
	2695	LEAR	4 S/F	0103.0	0103.0	3.0	16.0			QL=4 ST=2 TYP=3
	8800	PALE	4 S/F	0103.0	0103.0	4.0	34.0			QL=4 ST=2 TYP=3
	2695	LEAR	4 S/F	0148.0	0150.0	18.0	15.0			QL=4 ST=2 TYP=3
	2695	PALE	8 S	0226.0	0226.0	1.0	23.0			QL=4 ST=3 TYP=3
	8800	LEAR	4 S/F	0240.0	0241.0	3.0	300.0			QL=4 ST=2 TYP=3
	8800	PALE	4 S/F	0240.0	0241.0	8.0	410.0			QL=4 ST=3 TYP=5
	2695	LEAR	8 S	0241.0	0241.0	1.0	89.0			QL=4 ST=2 TYP=3
	8800	SGMR	4 S/F	1202.0	1202.0	3.0	44.0			QL=4 ST=2 TYP=3
	8800	SVTO	8 S	1202.0	1202.0	1.0	28.0			QL=4 ST=2 TYP=3
	2695	SGMR	8 S	1204.0	1205.0	1.0	33.0			QL=4 ST=2 TYP=3
	2695	SVTO	8 S	1204.0	1205.0	1.0	38.0			QL=2 ST=2 TYP=3
	8800	SGMR	4 S/F	1208.0	1209.0	12.0	250.0			QL=4 ST=2 TYP=5
	2695	SVTO	8 S	1209.0	1209.0	1.0	230.0			QL=2 ST=2 TYP=3
	8800	SVTO	8 S	1209.0	1209.0	1.0	220.0			QL=4 ST=2 TYP=3
	2695	SGMR	20 GRF	1209.0	1209.0	11.0	180.0			QL=4 ST=2 TYP=2
	8800	SVTO	4 S/F	1504.0	1504.0	3.0	40.0			QL=4 ST=2 TYP=3
21	2695	SGMR	8 S	1653.0	1653.0	1.0	40.0			QL=4 ST=2 TYP=3
	8800	SGMR	8 S	1654.0	1654.0	1.0	72.0			QL=4 ST=2 TYP=3
	8800	PALE	8 S	2142.0	2142.0	2.0	70.0			QL=4 ST=2 TYP=3
	8800	SGMR	8 S	2142.0	2142.0	U	60.0			QL=4 ST=2 TYP=3
	2695	LEAR	8 S	0323.0	0323.0	U	29.0			QL=4 ST=2 TYP=3
	8800	LEAR	4 S/F	0325.0	0331.0	29.0	91.0			QL=4 ST=2 TYP=3
	2695	LEAR	4 S/F	0326.0	0331.0	15.0	140.0			QL=4 ST=2 TYP=3
	2695	PALE	4 S/F	0327.0	0331.0	16.0	120.0			QL=4 ST=2 TYP=3
22	8800	PALE	4 S/F	0330.0	0331.0	6.0	73.0			QL=4 ST=2 TYP=3
	8800	SVTO	8 S	0617.0	0617.0	U	26.0			QL=4 ST=2 TYP=3
	8800	SGMR	8 S	1624.0	1624.0	2.0	99.0			QL=4 ST=2 TYP=3
	2695	SVTO	8 S	1624.0	1624.0	U	26.0			QL=2 ST=2 TYP=3
	8800	SVTO	8 S	1624.0	1624.0	U	30.0			QL=2 ST=2 TYP=3
23	2695	PALE	20 GRF	0116.0	0122.0U	10.0	27.0			QL=4 ST=2 TYP=2
	2695	PALE	4 S/F	0126.0	0137.0	43.0	310.0			QL=4 ST=2 TYP=5
	2695	LEAR	4 S/F	0129.0	0137.0	29.0	260.0			QL=4 ST=2 TYP=5
	8800	LEAR	4 S/F	0135.0	0137.0	28.0	220.0			QL=4 ST=2 TYP=3
	8800	PALE	4 S/F	0135.0	0137.0	25.0	190.0			QL=4 ST=2 TYP=3
24	2695	PALE	8 S	0139.0	0139.0	2.0	48.0			QL=4 ST=2 TYP=3
	8800	PALE	8 S	0139.0	0139.0	2.0	27.0			QL=4 ST=2 TYP=3
25	2695	SGMR	8 S	1344.0	1344.0	U	36.0			QL=4 ST=2 TYP=3
	2695	SVTO	8 S	1344.0	1344.0	U	35.0			QL=2 ST=2 TYP=3
	2695	SGMR	8 S	1544.0	1544.0	U	43.0			QL=2 ST=2 TYP=3
	8800	SGMR	8 S	1544.0	1544.0	U	34.0			QL=4 ST=2 TYP=3
	2695	SVTO	8 S	1544.0	1544.0	U	50.0			QL=2 ST=2 TYP=3
	2695	PALE	8 S	1801.0	1801.0	1.0	42.0			QL=4 ST=2 TYP=3
	2695	SGMR	8 S	1801.0	1801.0	2.0	38.0			QL=2 ST=2 TYP=3
	2695	SGMR	8 S	1918.0	1919.0	2.0	35.0			QL=2 ST=2 TYP=3
26	2695	SVTO	8 S	1411.0	1411.0	U	30.0			QL=2 ST=2 TYP=3
	8800	SGMR	8 S	1330.0	1331.0	2.0	43.0			QL=4 ST=2 TYP=3
28	8800	SVTO	8 S	1331.0	1331.0	U	39.0			QL=4 ST=2 TYP=3
	8800	LEAR	8 S	0044.0	0046.0	2.0	33.0			QL=4 ST=2 TYP=3
29	8800	PALE	8 S	0045.0	0046.0	2.0	45.0			QL=4 ST=2 TYP=3
	2695	PALE	8 S	0045.0	0045.0	1.0	12.0			QL=4 ST=2 TYP=3
	8800	PALE	8 S	0212.0	0212.0	1.0	20.0			QL=4 ST=2 TYP=3
	2695	LEAR	8 S	0833.0	0833.0	1.0	170.0			QL=4 ST=2 TYP=3
	2695	SVTO	8 S	0833.0	0833.0	1.0	190.0			QL=2 ST=2 TYP=3
	8800	SVTO	8 S	0833.0	0833.0	1.0	240.0			QL=4 ST=2 TYP=3
	2695	SGMR	4 S/F	1251.0	1252.0	7.0	74.0			QL=2 ST=2 TYP=3
	8800	SGMR	4 S/F	1251.0	1252.0	7.0	100.0			QL=4 ST=2 TYP=3
	8800	SVTO	8 S	1251.0	1252.0	2.0	100.0			QL=4 ST=2 TYP=3
	8800	SVTO	8 S	1251.0	1252.0	2.0	100.0			QL=4 ST=2 TYP=3

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

Selected Fixed Frequency Events

45
Mar 93

MARCH 1993

Day	Freq Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
						Peak (10 -22 W/m 2 Hz)	Mean		
29	L2695 SVTO	8 S	1251.0	1252.0	2.0	79.0			QL=2 ST=2 TYP=3
30	2695 LEAR	8 S	0101.0	0102.0	2.0	250.0			QL=4 ST=2 TYP=3
	8800 LEAR	4 S/F	0101.0	0102.0	3.0	440.0			QL=4 ST=2 TYP=3
	2695 PALE	8 S	0101.0	0102.0	2.0	240.0			QL=4 ST=2 TYP=3
	8800 PALE	8 S	0101.0	0102.0	2.0	400.0			QL=4 ST=2 TYP=3
	2695 SVTO	8 S	1254.0	1254.0	1.0	63.0			QL=2 ST=2 TYP=3
	2695 SGMR	4 S/F	1254.0	1254.0	666.0	44.0			QL=2 ST=1 TYP=3
31	2695 PALE	8 S	2038.0	2038.0	1.0	37.0			QL=4 ST=2 TYP=3
	8800 SVTO	8 S	0557.0	0557.0	U	22.0			QL=2 ST=3 TYP=3
	8800 LEAR	8 S	0907.0	0908.0	1.0	36.0			QL=4 ST=2 TYP=3

Reports are received routinely from the following observatories:

LEAR = Learmonth

PALE = Palehua

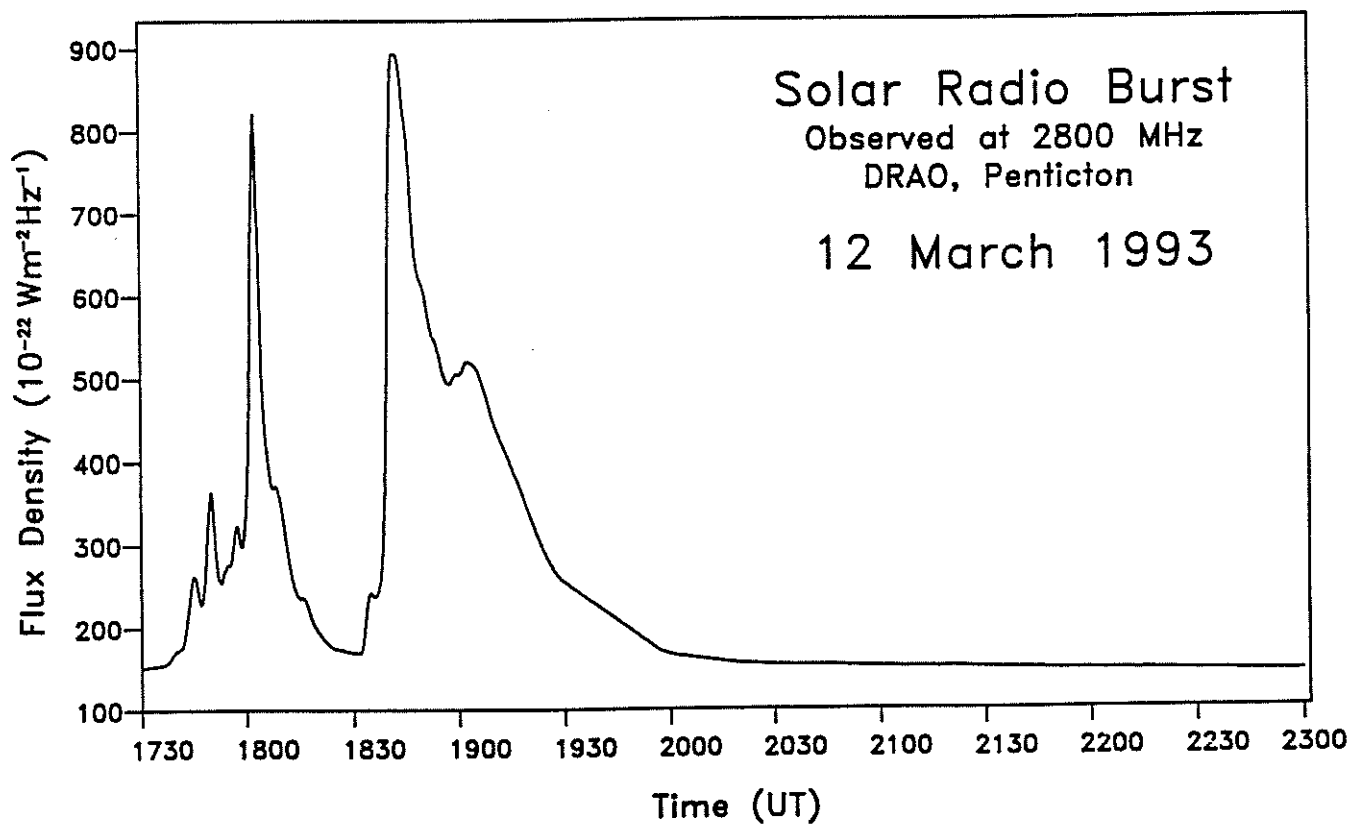
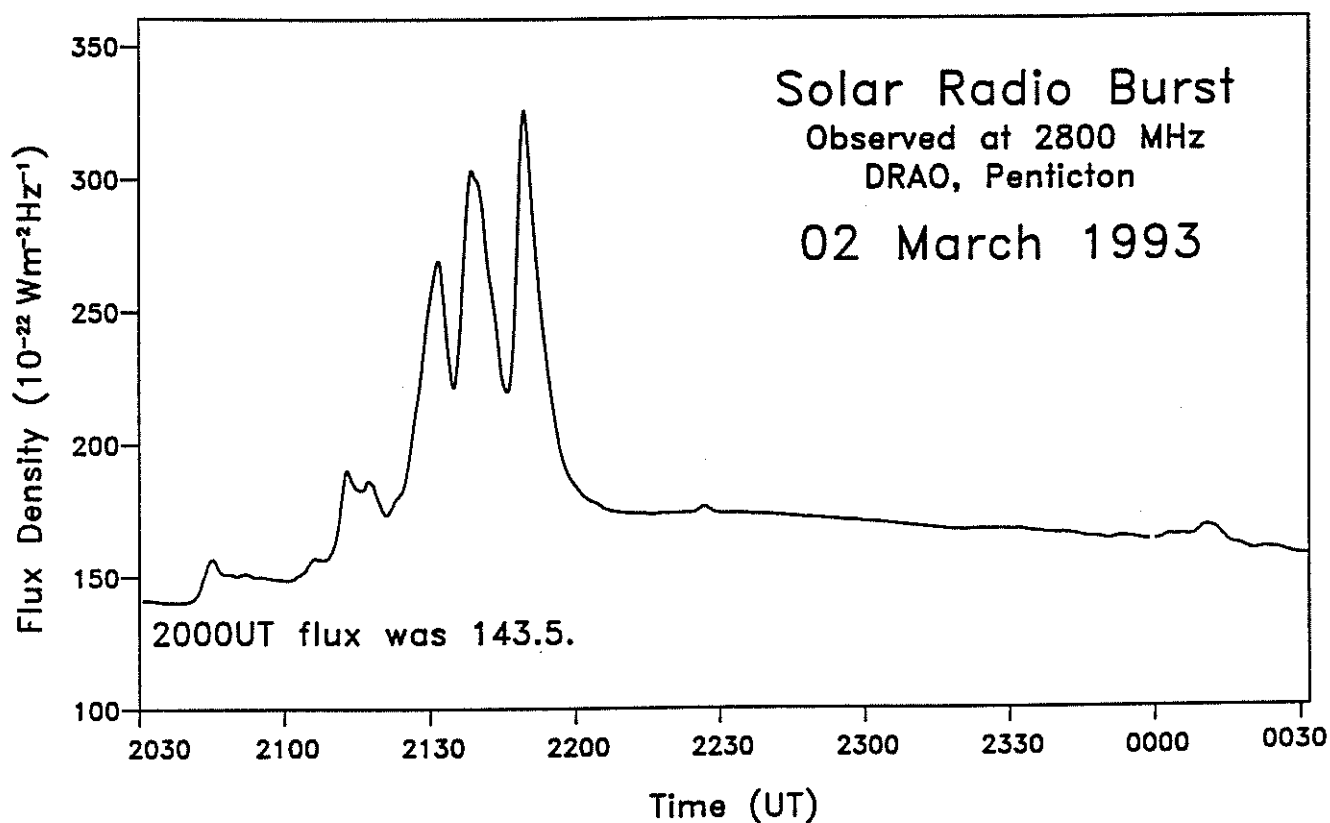
SGMR = Sagamore Hill

SVTO = San Vito

Explanation of Type Code:

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

RSTN Site Information: Beginning in April 1986, the RSTN sites LEAR, PALE, SGMR, and SVTO fixed frequency solar radio data are periodically adjusted to several world standard stations. These world standard stations include: Kislovodsk, USSR 15,500 MHz; Penticton, Canada 2800 MHz; Hiraiso, Japan 500 and 200 MHz; and Toyokawa, Japan 9400, 3750, 2000 and 1000 MHz.

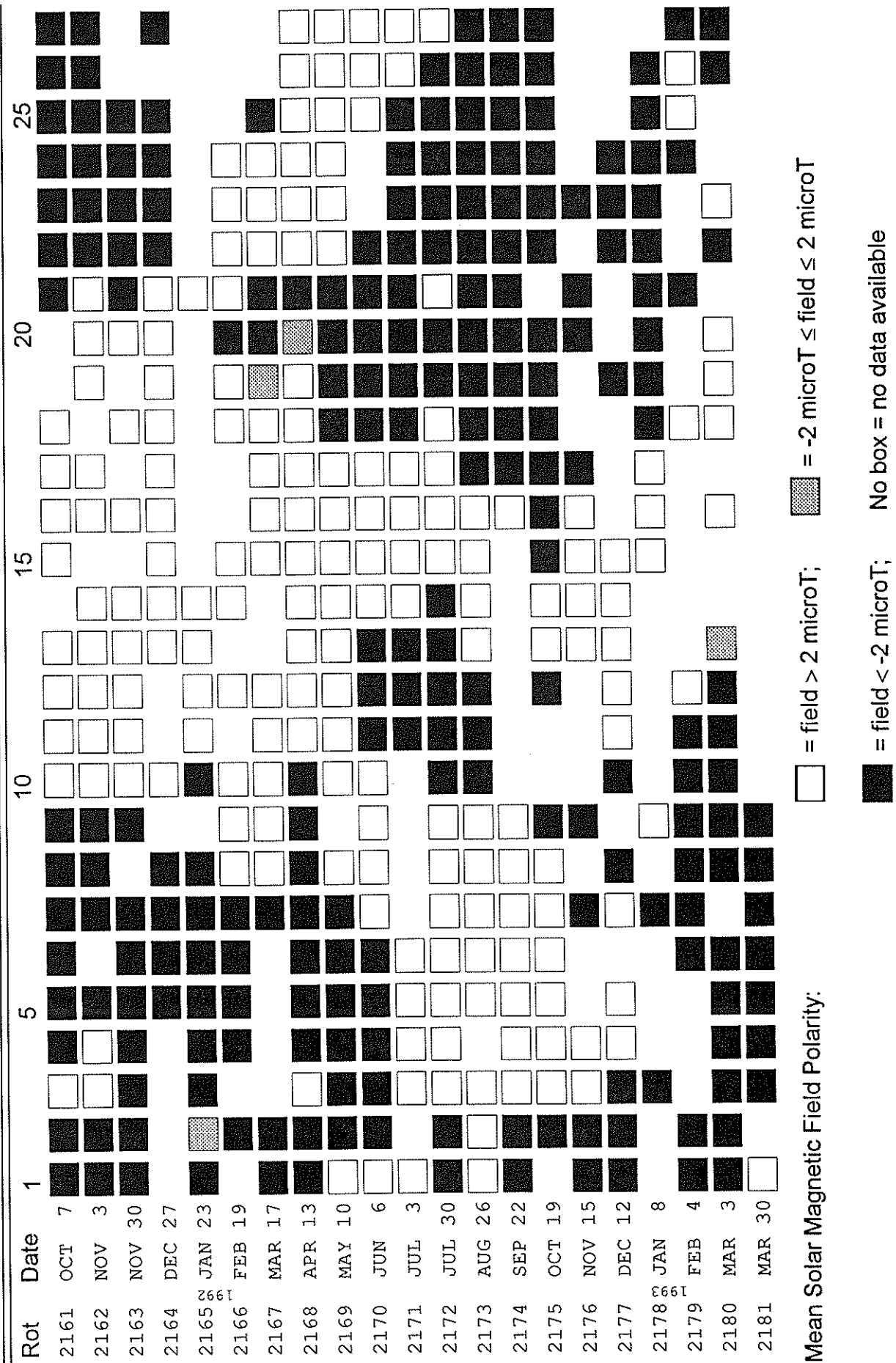


STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

Day	1992						1993					
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
1	53	7	14	8	39	88	.	19	-16	.	-8	1
2	25	0	17	17	60	67	.	-5	.	-33	-25	-30
3	10	-1	23	13	58	43	.	-24	.	-28	.	-38
4	0	21	47	.	58	-22	.	-41	-39	-22	-61	-44
5	-14	25	52	33	46	-27	.	-57	-38	.	-52	-56
6	-13	32	17	39	38	-18	.	-47	.	.	.	-51
7	11	43	-5	21	37	13	4	-48	-20	.	.	-58
8	21	43	-12	18	-4	24	-17	.	.	.	.	-40
9	1	33	-18	.	-45	19	-40	-29	.	.	-27	.
10	-7	15	-18	.	-44	29	-68	-7	.	-38	-30	-25
11	.	-13	-2	.	-10	-18	-57	-1	.	.	-28	-41
12	.	-19	20	.	-2	-25	-31	-5	-50	.	-51	-37
13	-34	-30	20	-52	10	-53	-38	-16	-41	.	-46	-50
14	-61	-44	18	-46	9	-46	-29	-24	-15	-3	-36	-19
15	4	-50	6	-16	34	-33	-33	-23	8	.	21	0
16	-81	-14	-18	2	14	-30	-14	-19	11	1	.	.
17	-138	25	-13	8	-19	-26	-5	20	.	.	.	.
18	-121	.	-19	24	-4	-26	-13	57	6	.	.	65
19	-59	21	12	25	11	-9	.	.	-9	.	.	.
20	-42	28	35	-31	-14	-13	-5	.	.	.	.	41
21	-19	39	23	-56	-12	-22	.	-2	-3	.	48	36
22	-9	35	10	-55	-17	-23	24	.	11	67	.	4
23	3	62	-21	-59	-3	-1	50	-9	42	69	.	.
24	20	88	-50	-55	-6	17	66	.	57	61	-43	-26
25	46	85	-45	-42	1	54	47	.	49	-14	.	4
26	70	50	-36	-26	4	79	20	.	40	-53	.	.
27	72	-64	-11	-5	25	85	-7	60	.	-62	-1	.
28	49	-51	.	1	55	60	.	62	.	-44	13	-11
29	42	-27	.	4	.	39	.	55	.	-19	.	-11
30	27	-13	17	-1	101	7	-14	11	-59	-28	.	8
31	.	8	.	-5	97	.	22	.	.	-2	.	.

Dot symbol indicates no data available for the day.

STANFORD MEAN SOLAR MAGNETIC FIELD



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

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Prompt Reports

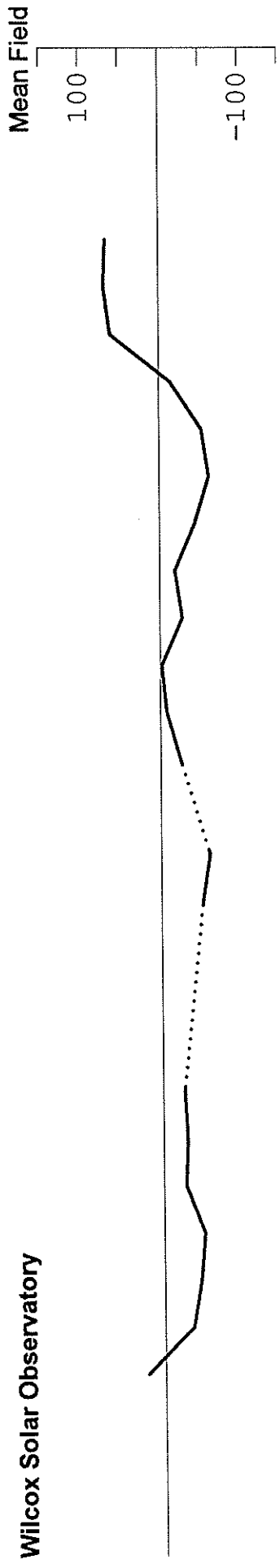
Number 584 Part I

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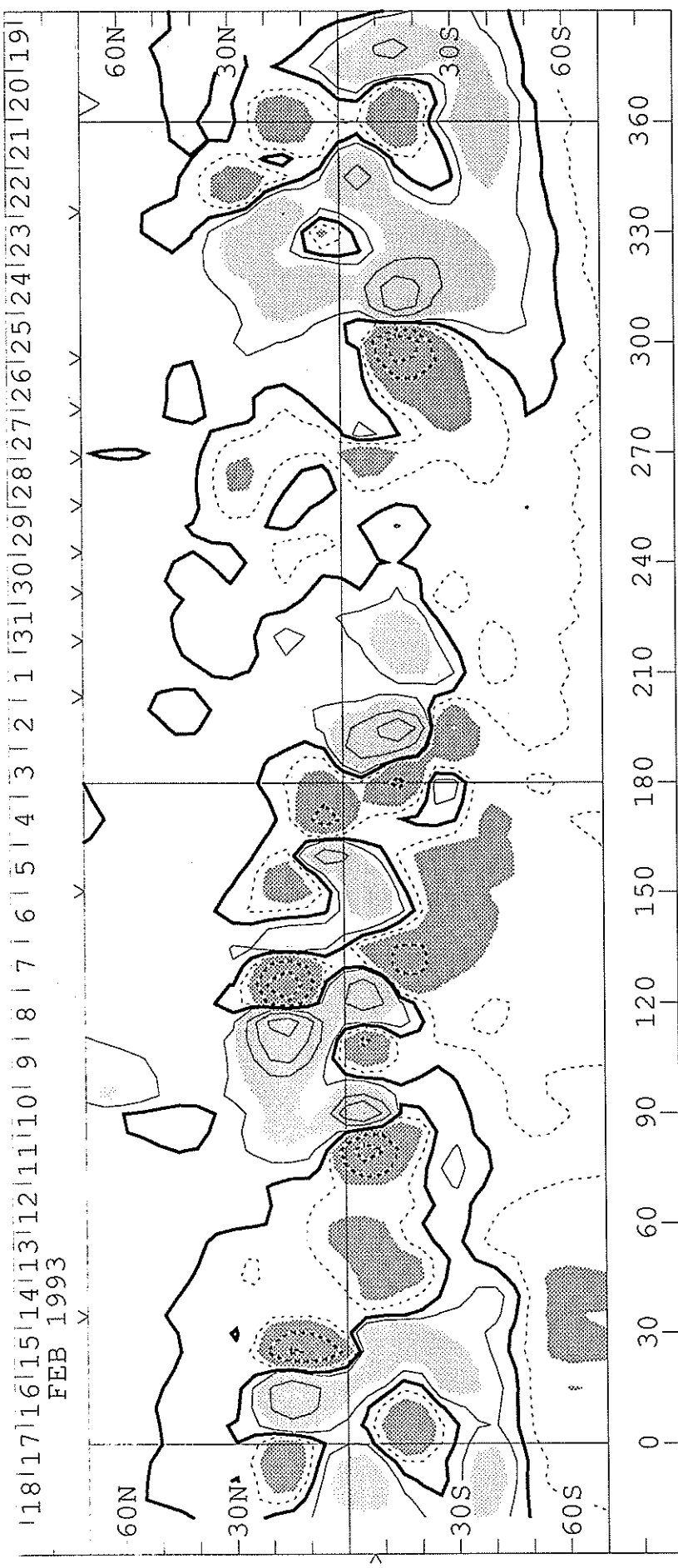
SOLAR MAGNETIC FIELD SYNOPSIS CHART
CARRINGTON ROTATION NUMBER 1865
(21 January to 17 February 1993)

Wilcox Solar Observatory



Photospheric Magnetic Field

0, +100, 500, 1000, 2000 MicroTesla



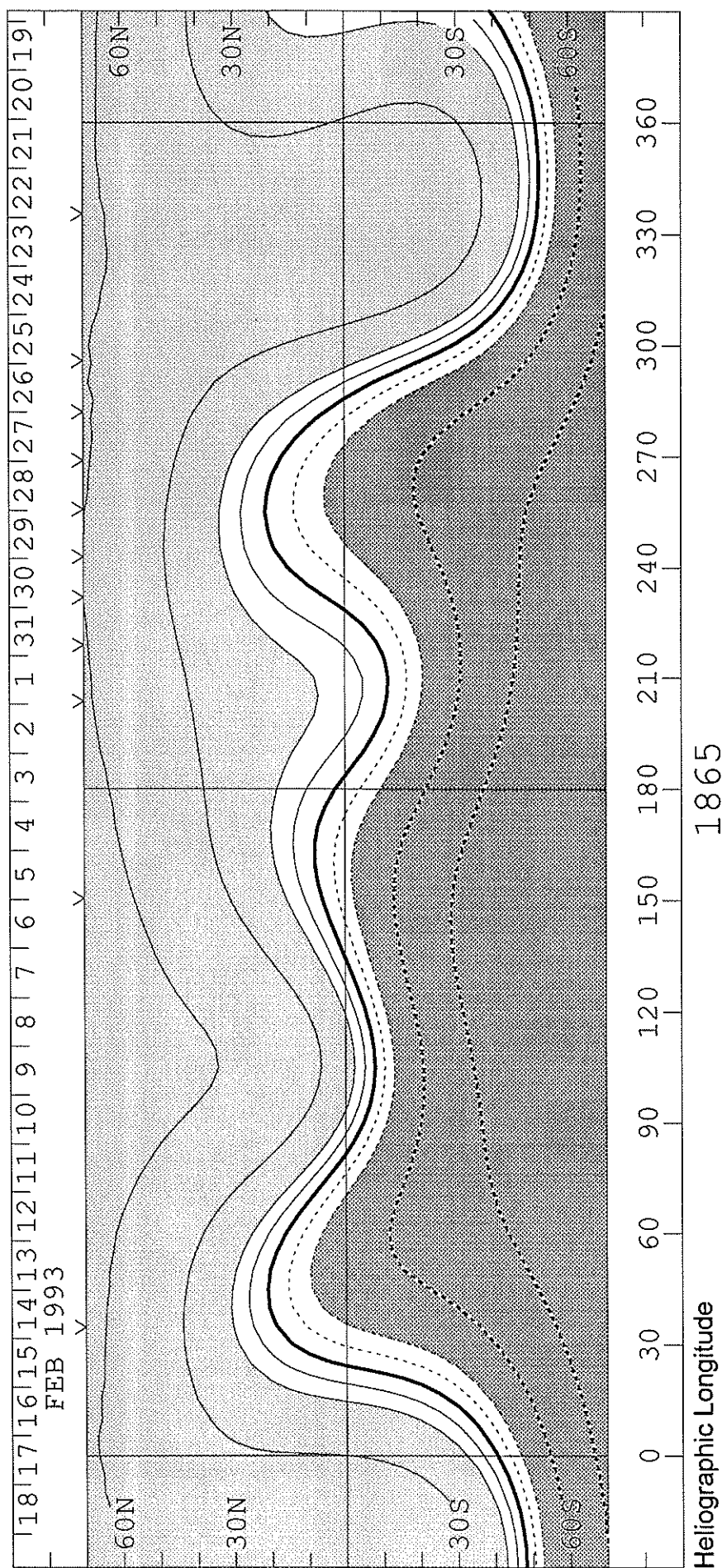
Heliographic Longitude

1865

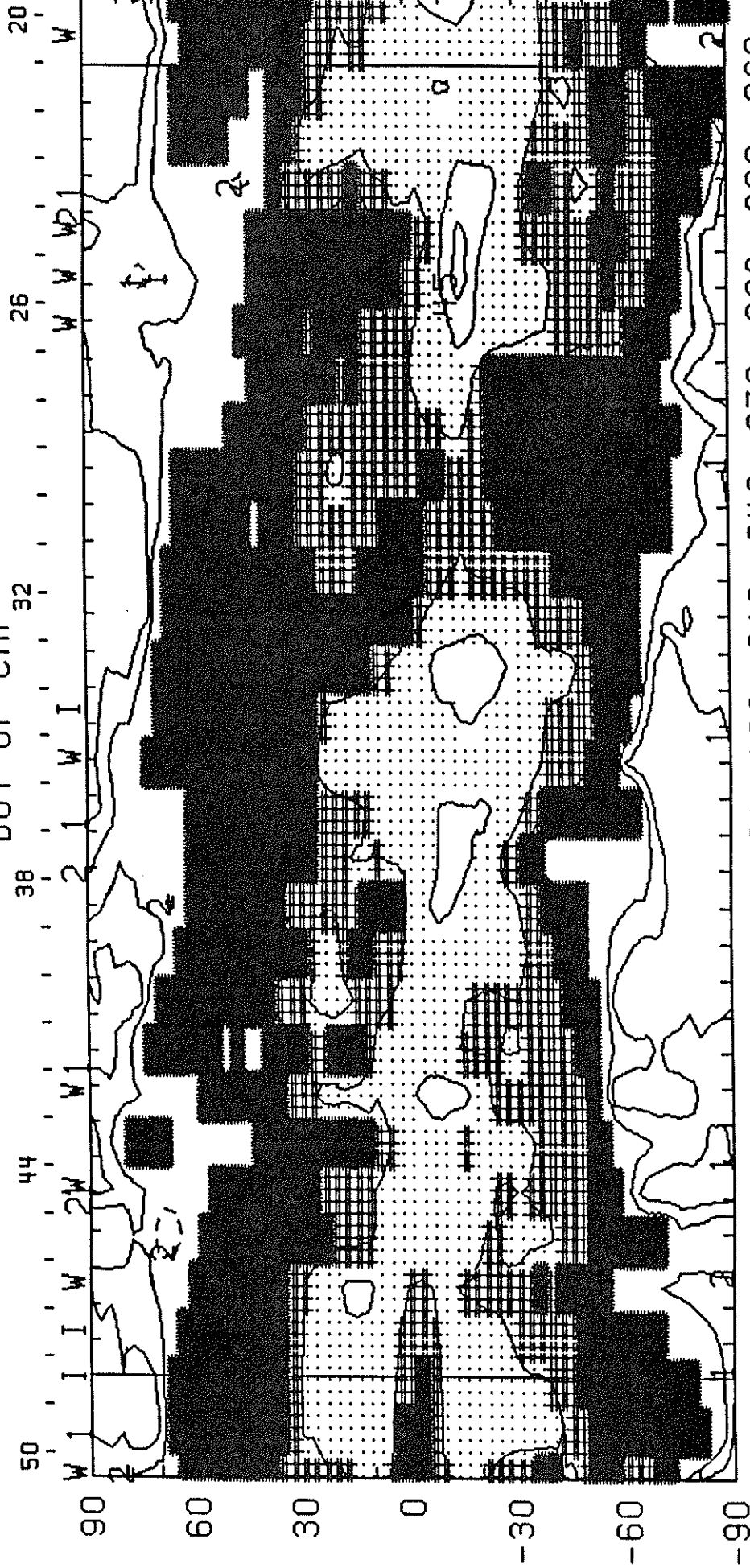
(21 January to 17 February 1993)

0, ± 1 , 2, 5, 10, 20 microTesla

FEB 1993

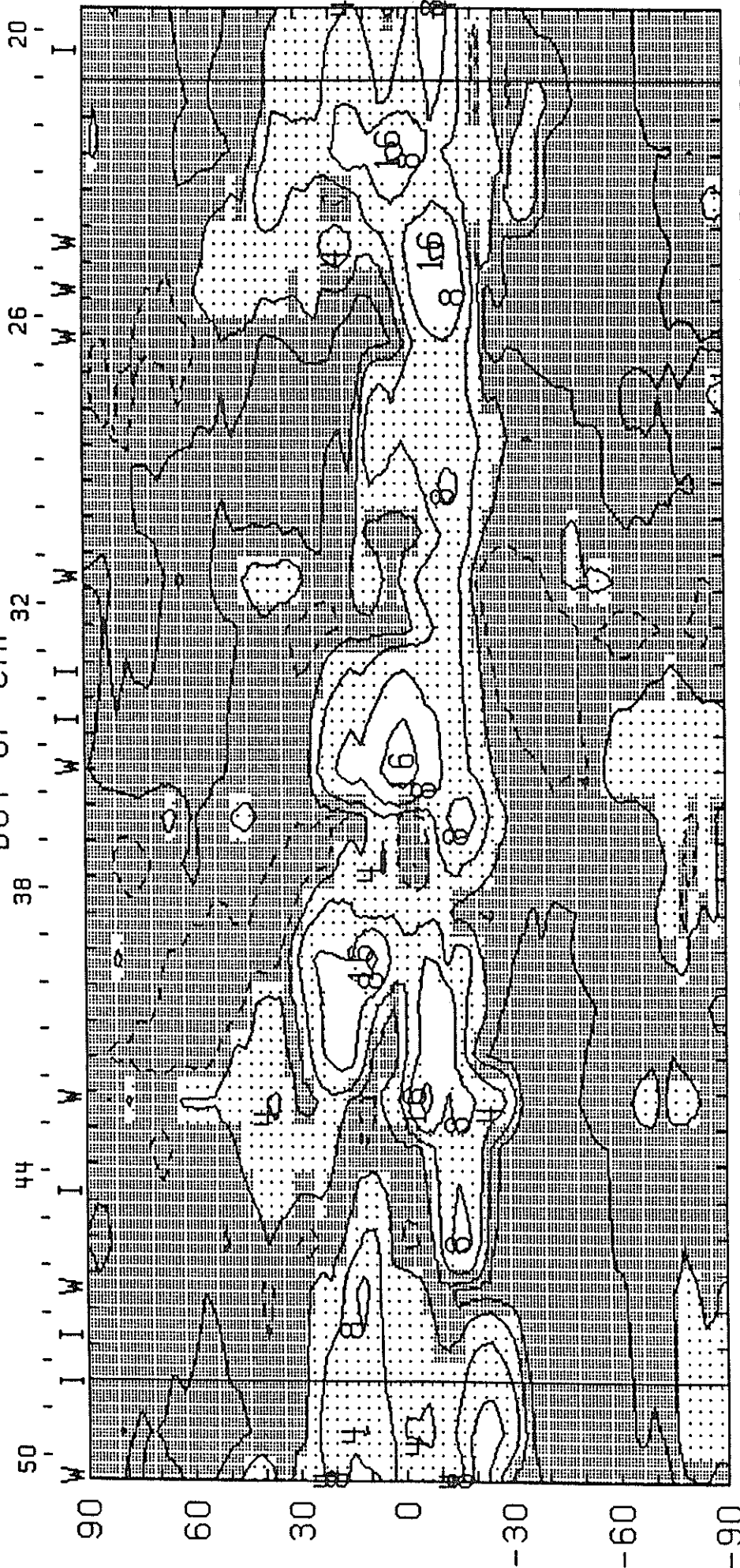


CARRINGTON ROTATION NUMBER 1865: SAC. PEAK FE XIV AT R = 1.15
DOY OF CMP 32



E
HELIOGRAPHIC LONGITUDE Iave = 9.39μ W
1993 E+W LIMB CONTOURS: 1,2,6,10,15,30,45,60,75 MILLIONTHS OF I
(13-Apr-93) CORONAL HOLES ARE SHOWN AS WHITE SURROUNDED BY BLACK

CARRINGTON ROTATION NUMBER 1865 : SAC. PEAK FE X AT R = 1.15
 DOY OF CMP

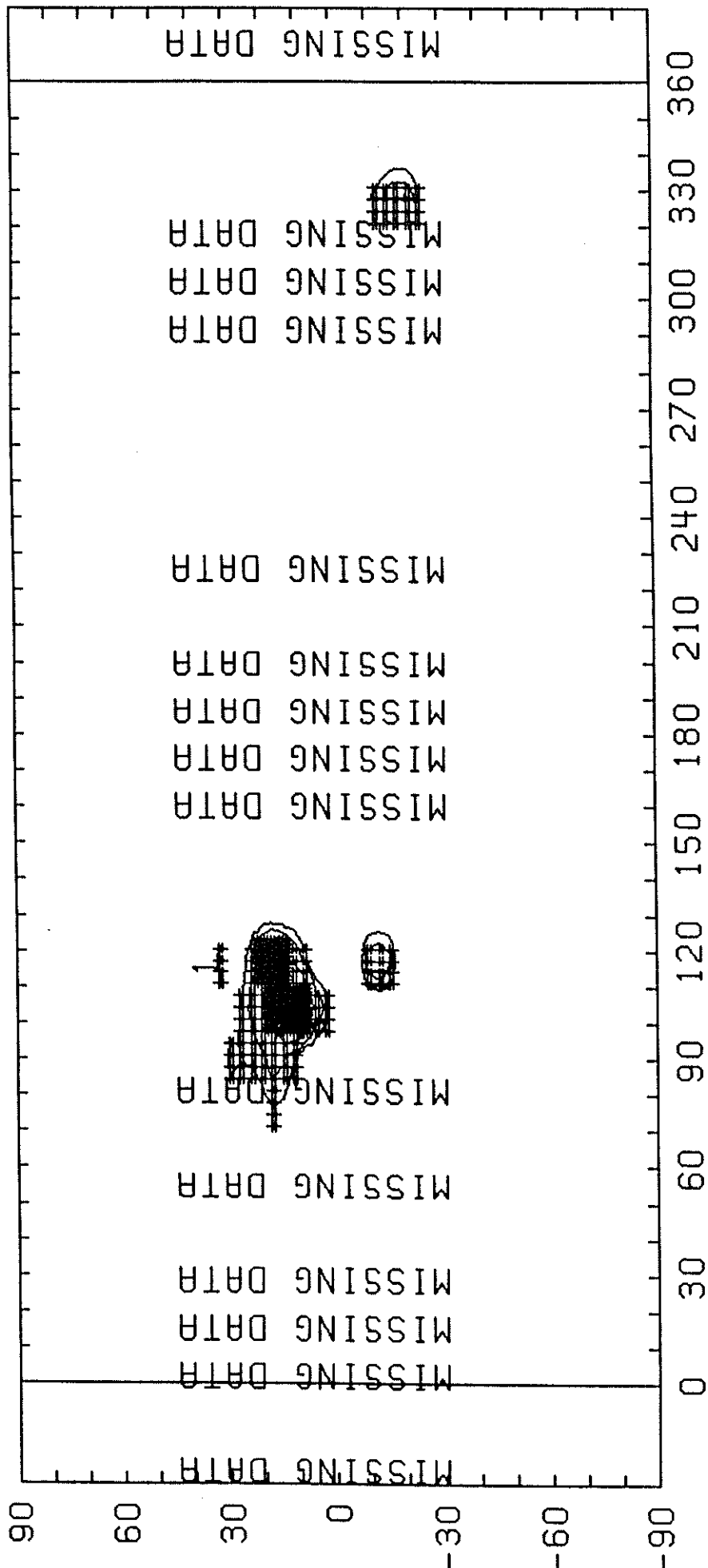


E
 HELIOGRAPHIC LONGITUDE Iave = 2.28μ W
 1993 E+W LIMB CONTOURS: 1,2,4,8,16,32,48,64,80 MILLIONTHS OF Io
 (13-Apr-93)

CARRINGTON ROTATION NUMBER 1865 : SAC. PEAK CA XV at R = 1.13

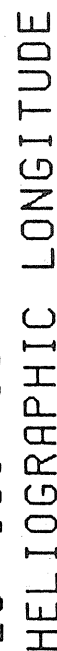
DOY OF CMP₃₂

50 44 38 26 20



E
1993 EAST LIMB CONTOURS: YELLOW-MINIMUM, 1,2,4,8 MILLIONTHS OF Io
(13-Apr-93)

DOY OF CMF2

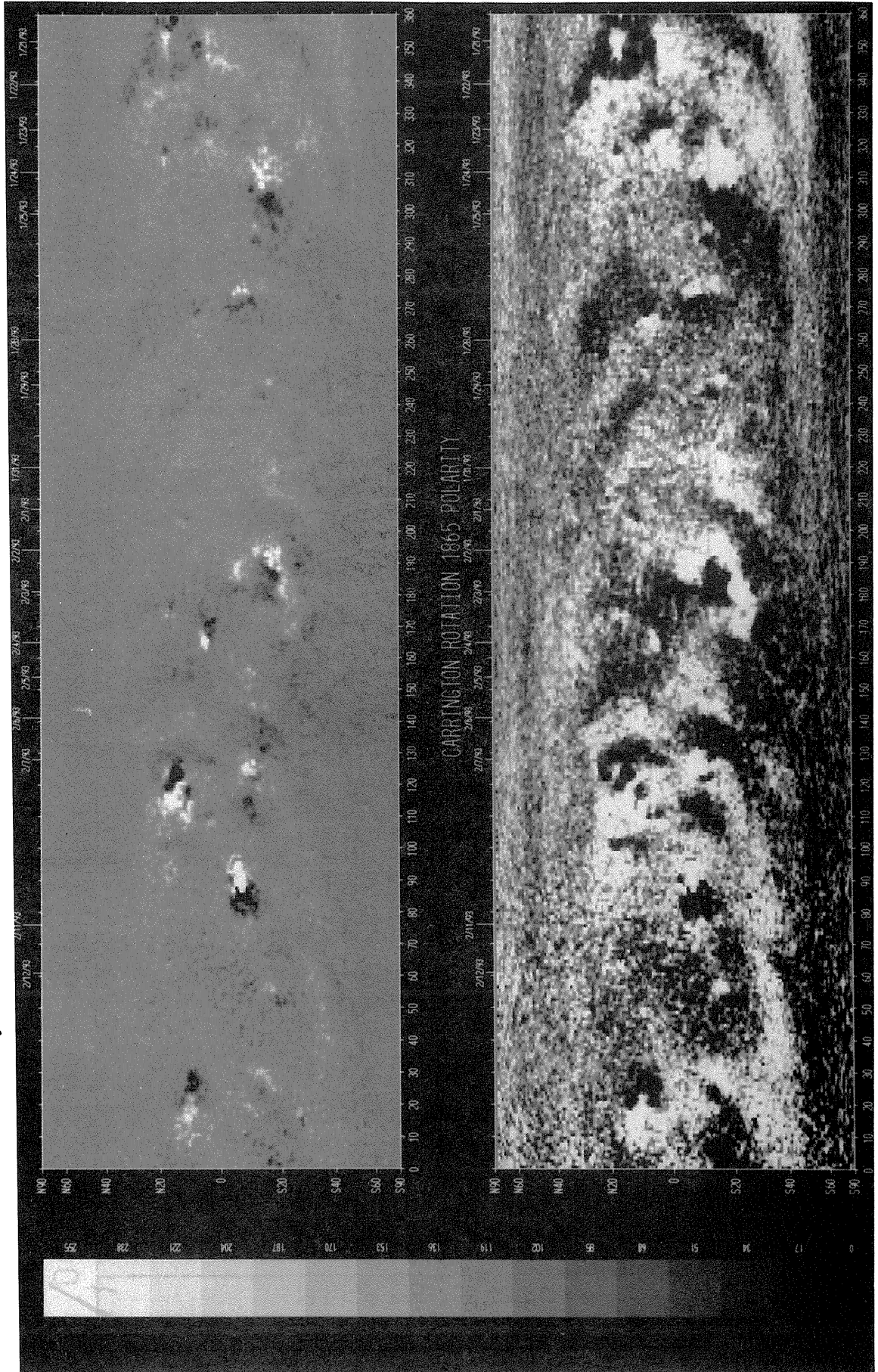


(13-Apr-93)

SOLAR MAGNETIC FIELD SYNOPSIS CHART
CARRINGTON ROTATION NUMBER 1865
(21 January to 17 February 1993)

National Solar Observatory/Kitt Peak

Dates of Observation

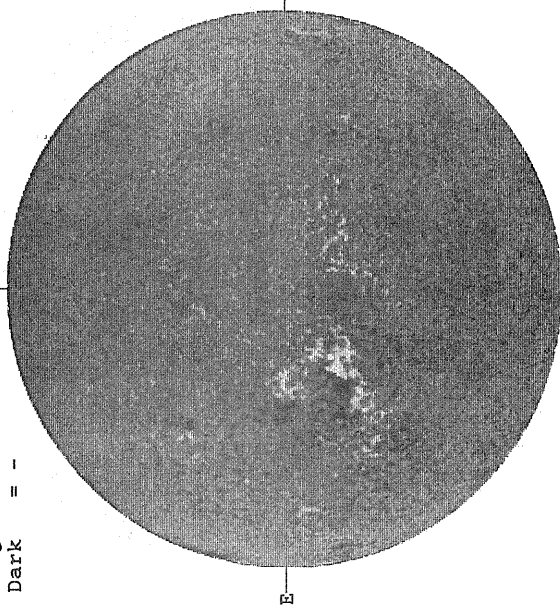


Heliographic Longitude

FEBRUARY 1, 1993 (P=-12.21, B₀ = -6.02, L₀ = 215.98)

KITT PEAK MAGNETOGRAM
5507A

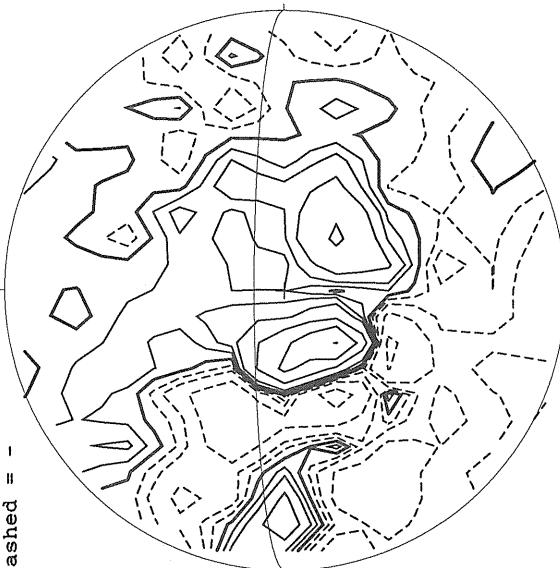
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1705 UT

STANFORD MAGNETOGRAM

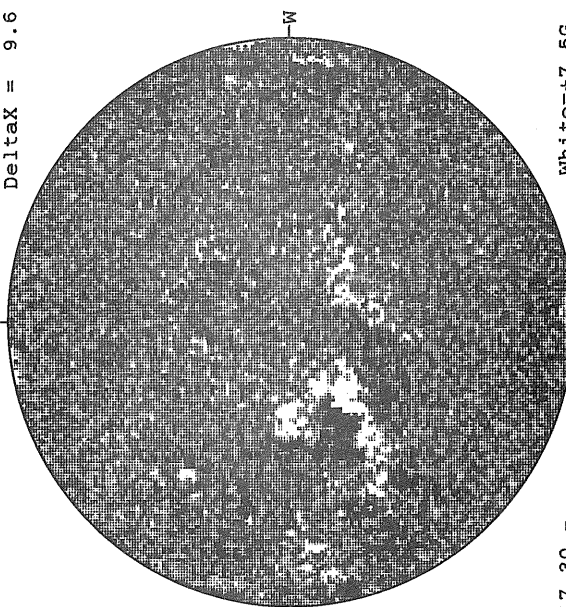
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2225 UT

MT. WILSON MAGNETOGRAM

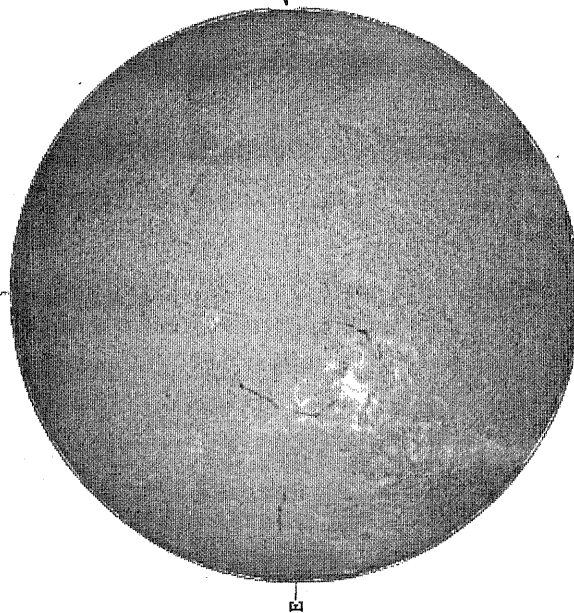
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17.30 -
18.27 UT

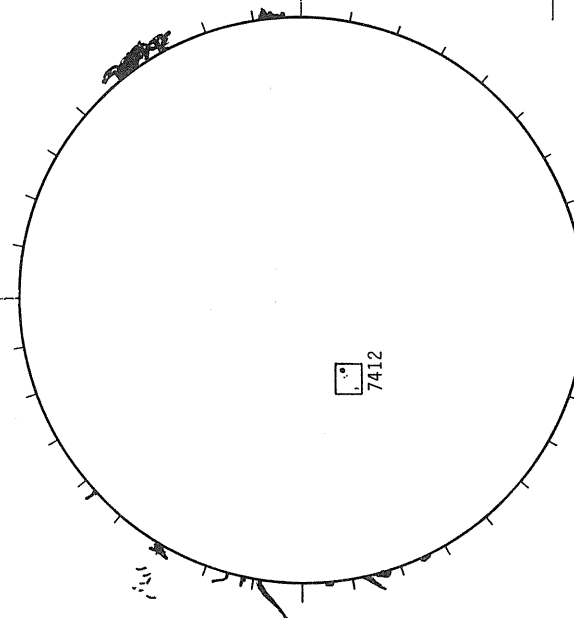
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Black = -7.5G

SACRAMENTO PEAK H-ALPHA



1542 UT

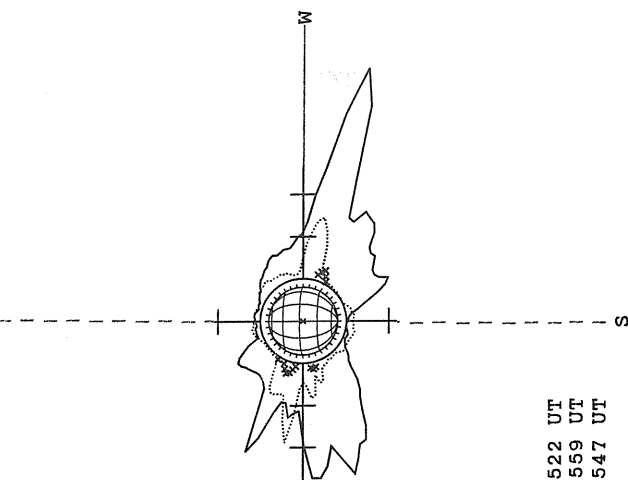
BOULDER SUNSPOT



1543 UT

0805 UT LOMNICKY FROM

SACRAMENTO PEAK CORONA (1.15 Radii)

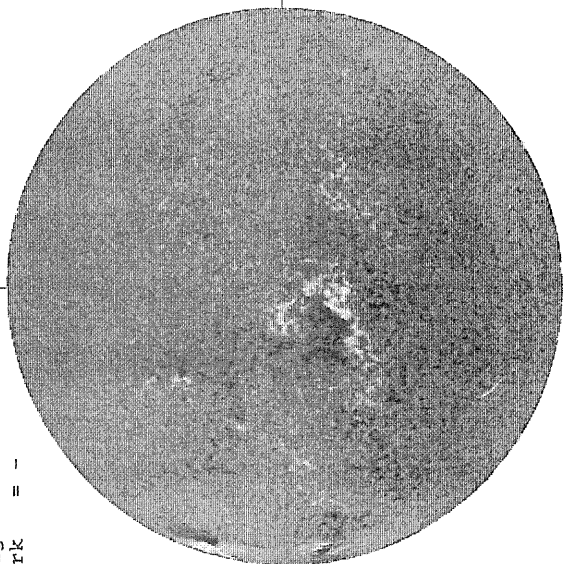


— Fe XIV, 1522 UT
... Fe X, 1559 UT
xxxx Ca XV, 1547 UT

FEBRUARY 2, 1993 (P=-12.61, B₀ = -6.09, L₀ = 202.81)

KITT PEAK MAGNETOGRAM
N **5507A**

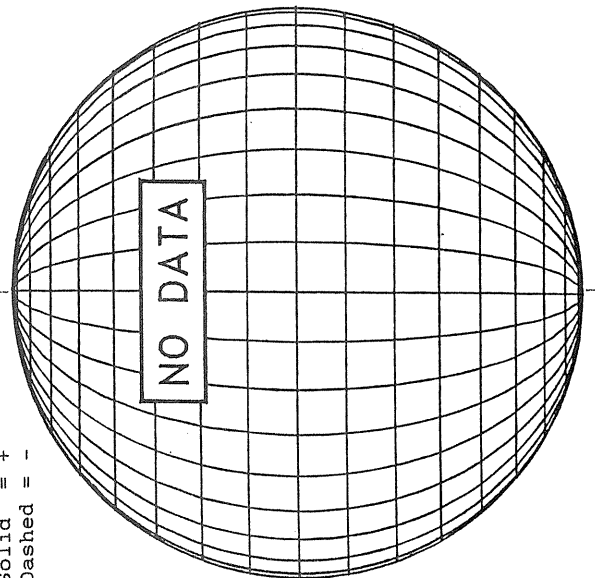
Bright = +
Dark = -



1645 UT

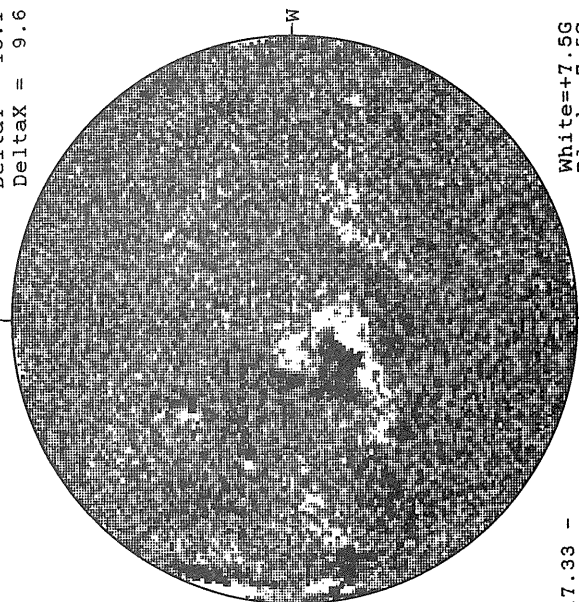
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

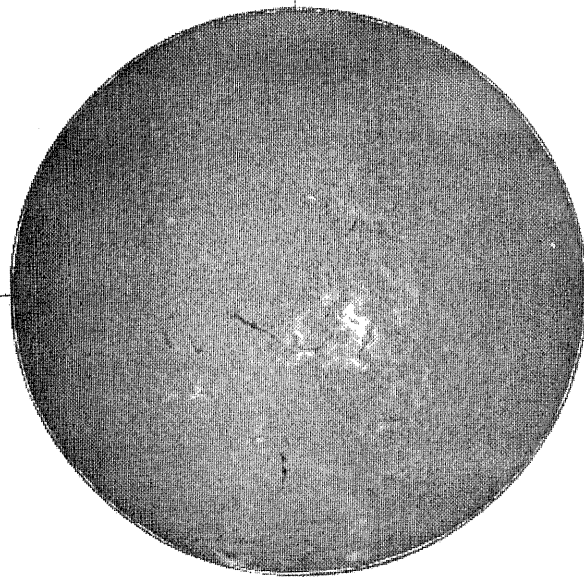
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DeltaX = 9.6



White = +7.5G
Black = -7.5G

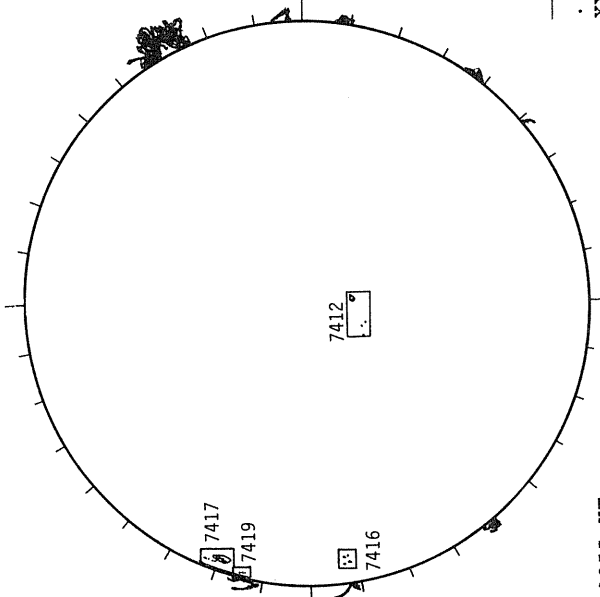
17.33 -
18.30 UT

SACRAMENTO PEAK H-ALPHA



1541 UT

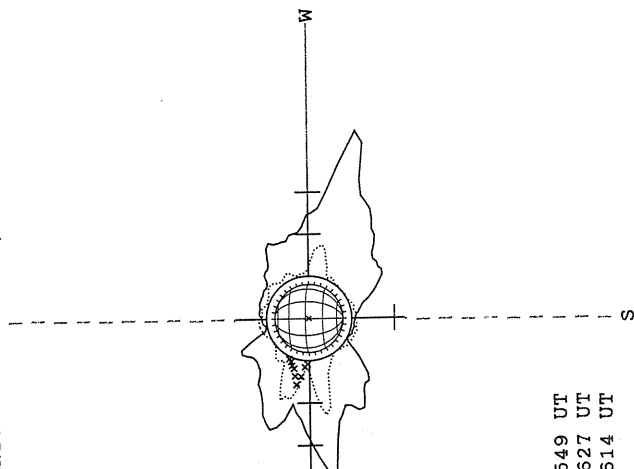
PALEHUA SUNSPOT



2255 UT

0835 UT LOMNICKY From

SACRAMENTO PEAK CORONA (1.15 Radii)



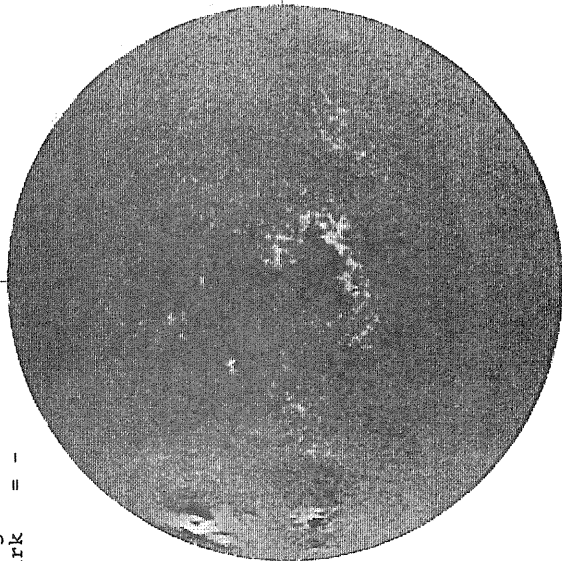
— Fe XIV, 1549 UT
... Fe X, 1627 UT
xxxx Ca XV, 1614 UT

FEBRUARY 3, 1993 (P=-13.01, B₀ = -6.16, L₀ = 189.64)

KITT PEAK MAGNETOGRAM

5507A

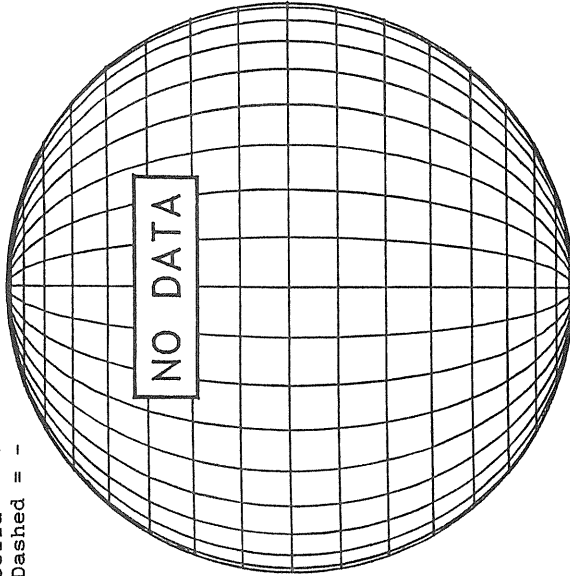
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1635 UT

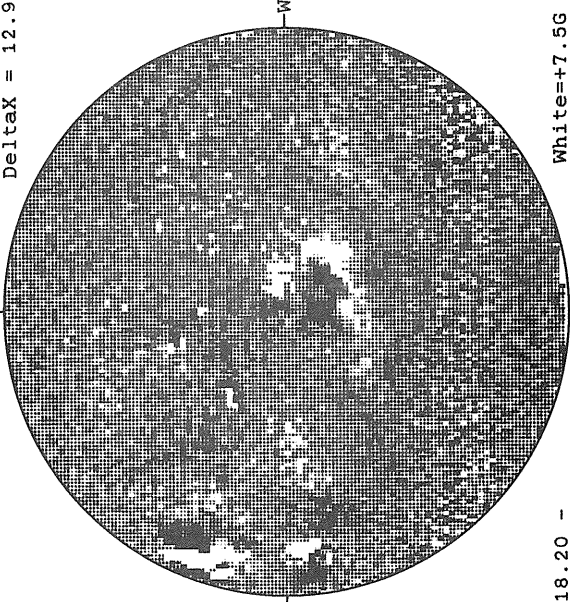
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

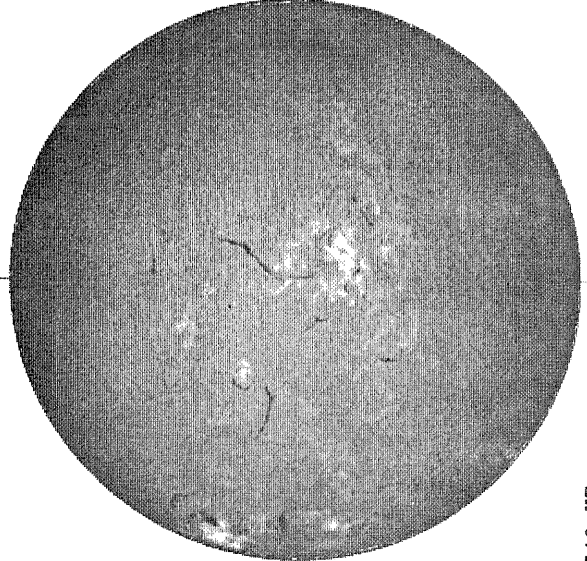
Delta_y = 20.1
Delta_x = 12.9



18.20 -
18.63 UT

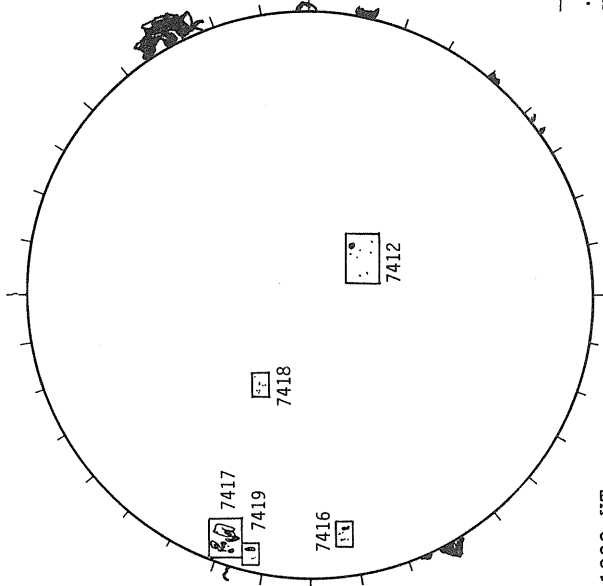
White = +7.5G
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SACRAMENTO PEAK H-ALPHA



1542 UT

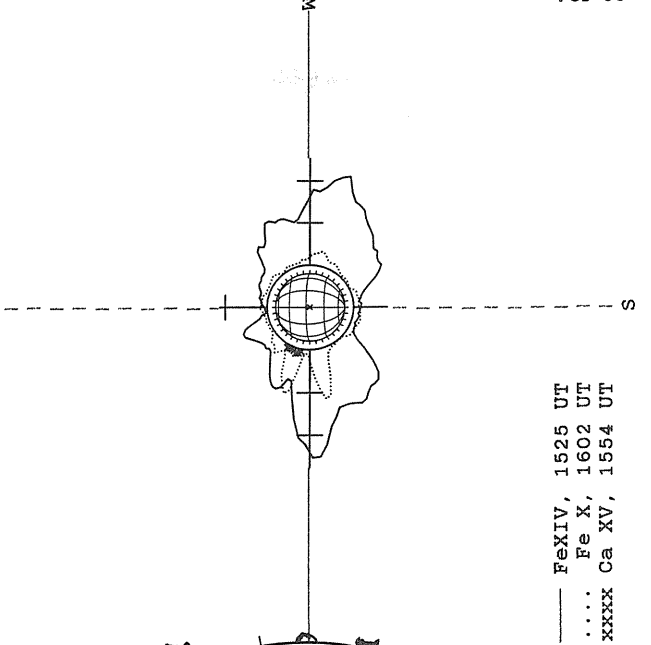
RAMEY SUNSPOT



1323 UT

1012 UT LOMNICKY FROM

SACRAMENTO PEAK CORONA (1.15 Radii)



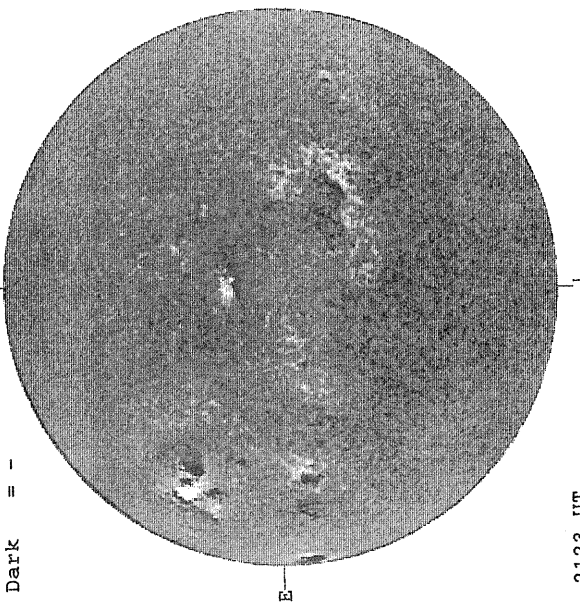
— Fe XIV, 1525 UT
... Fe X, 1602 UT
xxxx Ca XV, 1554 UT

FEBRUARY 4, 1993 (P=-13.41, B₀ = -6.23, L₀ = 176.48)

KITT PEAK MAGNETOGRAM

5507A

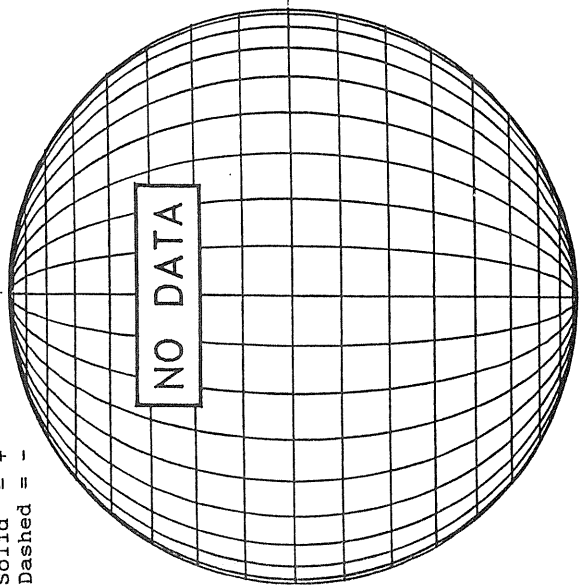
Bright = +
Dark = -



2123 UT

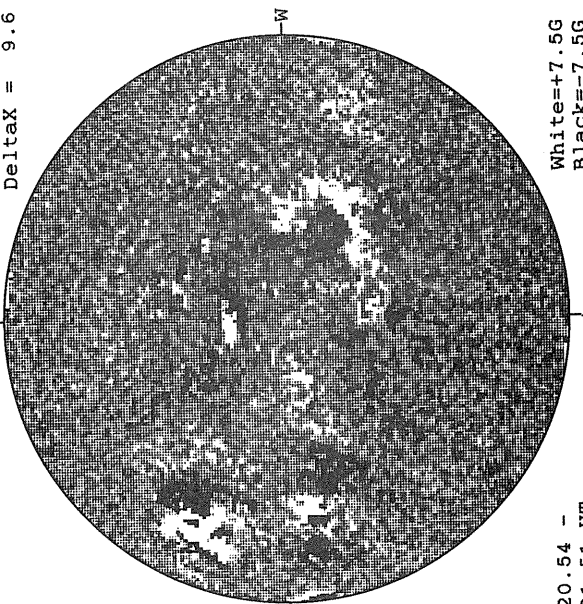
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

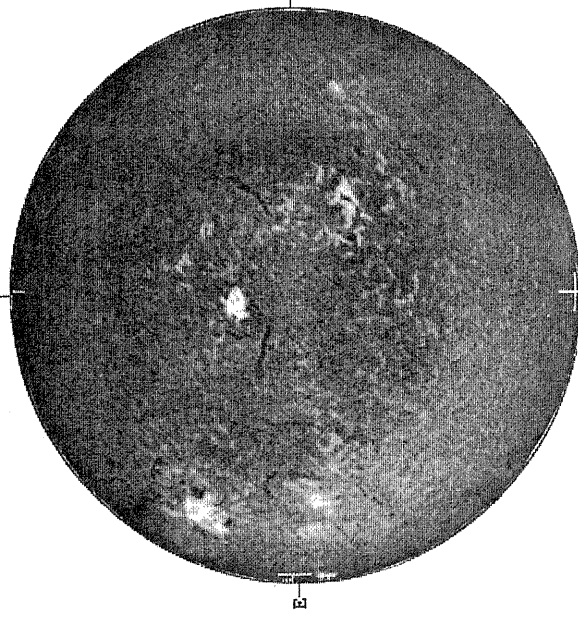
DeltaY = 13.1
DeltaX = 9.6



White = +7.5G
Black = -7.5G

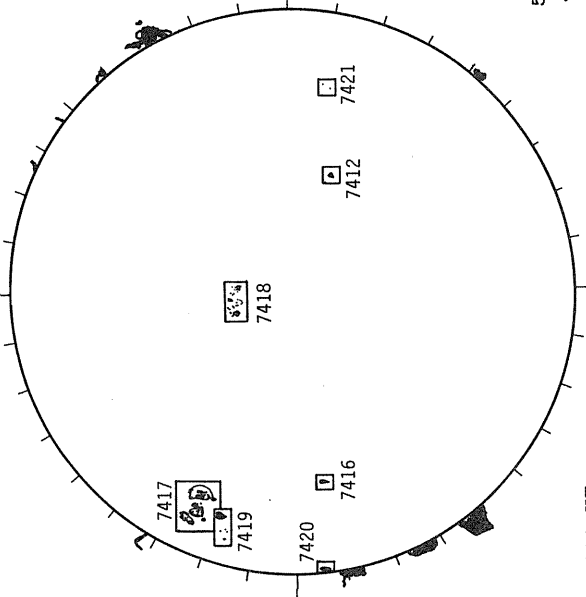
20.54 -
21.51 UT

BOULDER H-ALPHA



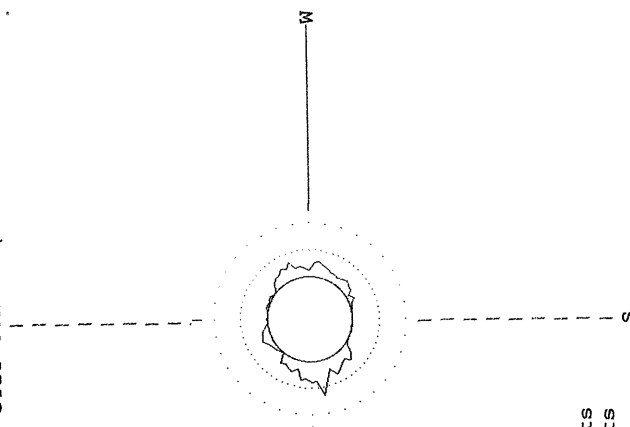
1622 UT

BOULDER SUNSPOT



1641 UT
0757 UT LOMNICKY Prom S

LOMNICKY STIT CORONA (1.15 Radii)

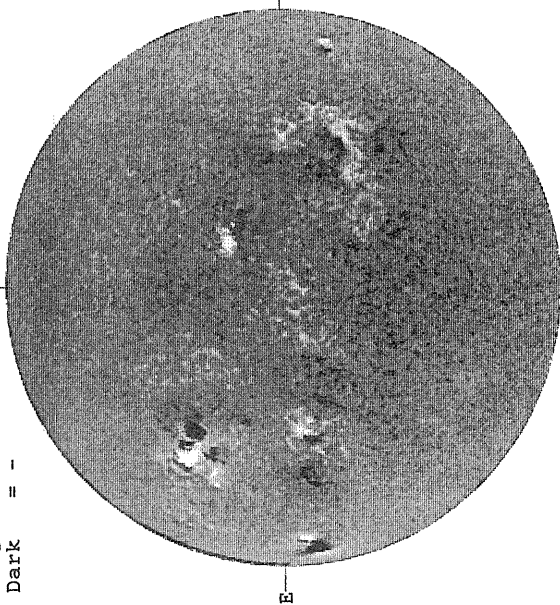


5303A, 0817 UT
... 50 abs. units
... 100 abs. units

FEBRUARY 5, 1993 (P=-13.80, B_O = -6.29, L_O = 163.31)

KITT PEAK MAGNETOGRAM
N **5507A**

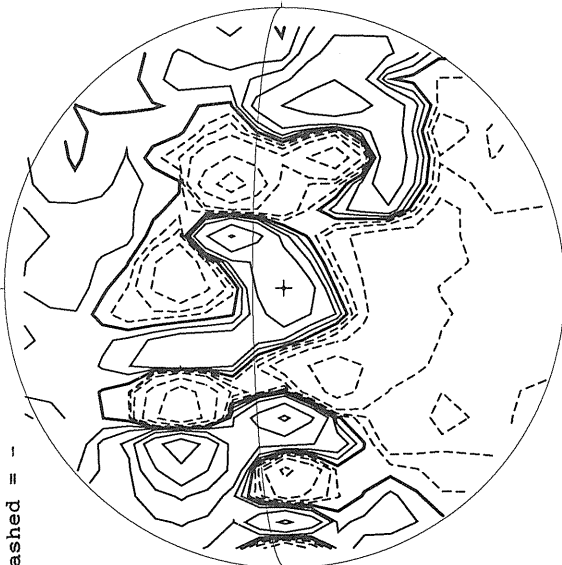
Bright = +
Dark = -



1739 UT

STANFORD MAGNETOGRAM
N

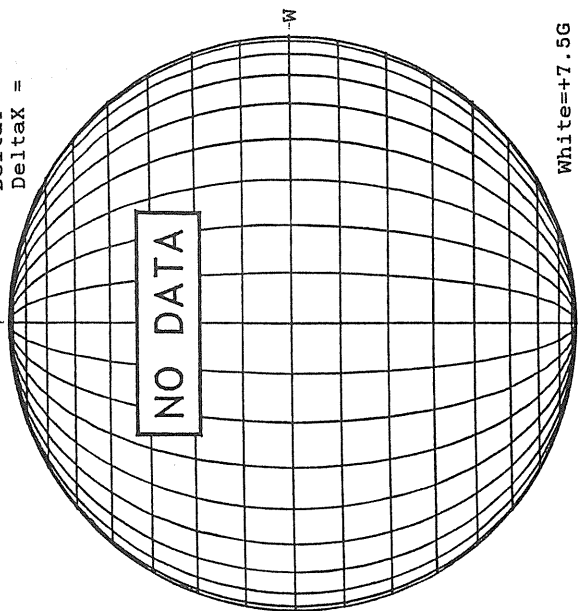
Solid = +
Dashed = -



2330 UT

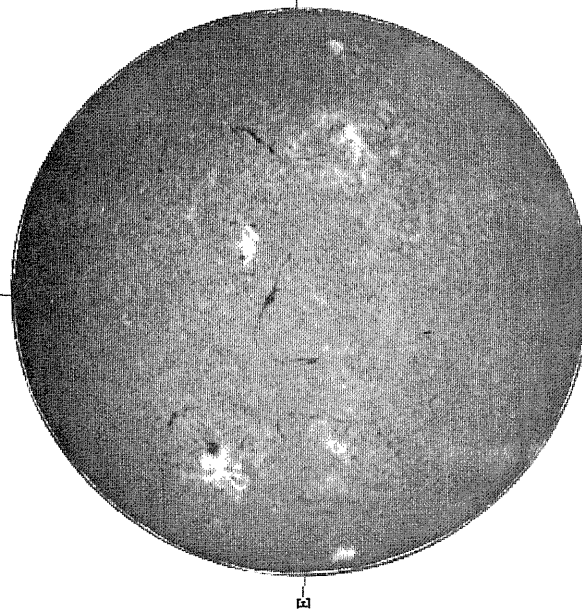
MT. WILSON MAGNETOGRAM
N

Delta y =
Delta x =



White = +7.5G
Black = -7.5G

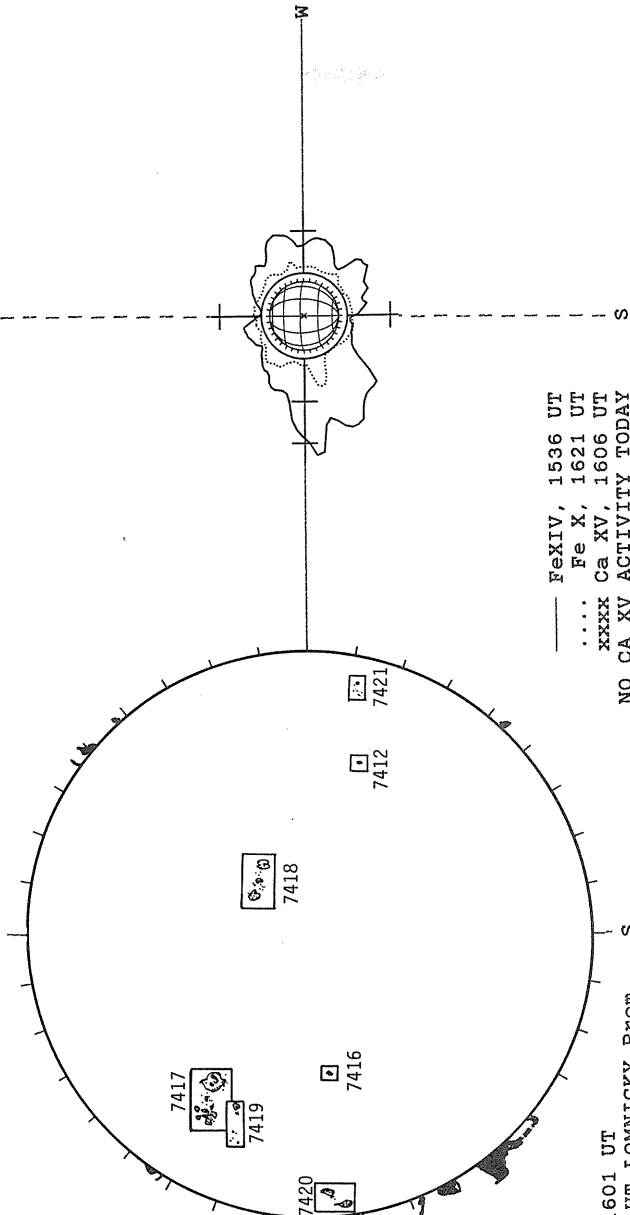
SACRAMENTO PEAK H-ALPHA



1536 UT

BOULDER SUNSPOT

SACRAMENTO PEAK CORONA (1.15 Radii)



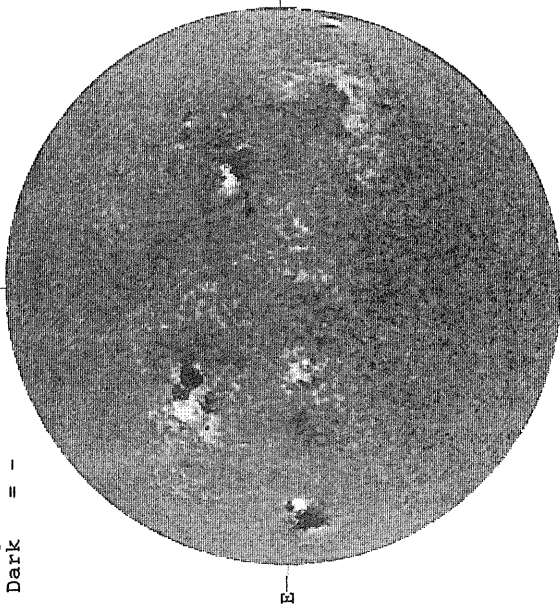
1601 UT
0759 UT LOMNICKY From S

— Fe XIV, 1536 UT
.... Fe X, 1621 UT
xxxx Ca XV, 1606 UT
NO CA XV ACTIVITY TODAY

FEBRUARY 6, 1993 (P=-14.19, B₀ = -6.36, L₀ = 150.14)

KITT PEAK MAGNETOGRAM
5507A

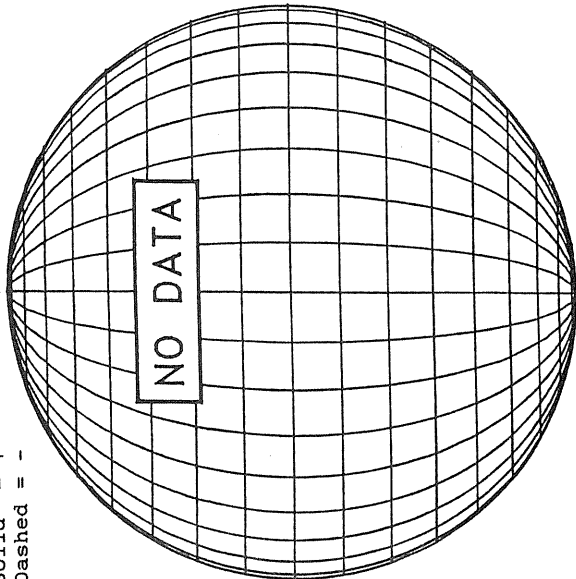
Bright = +
Dark = -



1729 UT

STANFORD MAGNETOGRAM

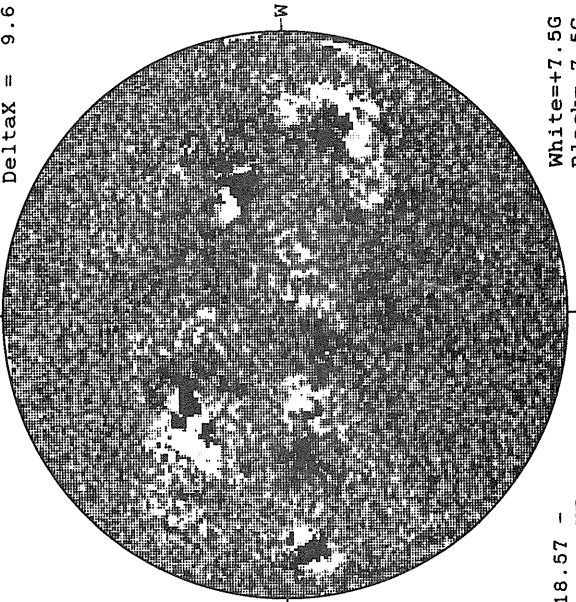
Solid = +
Dashed = -



NO DATA

MT. WILSON MAGNETOGRAM

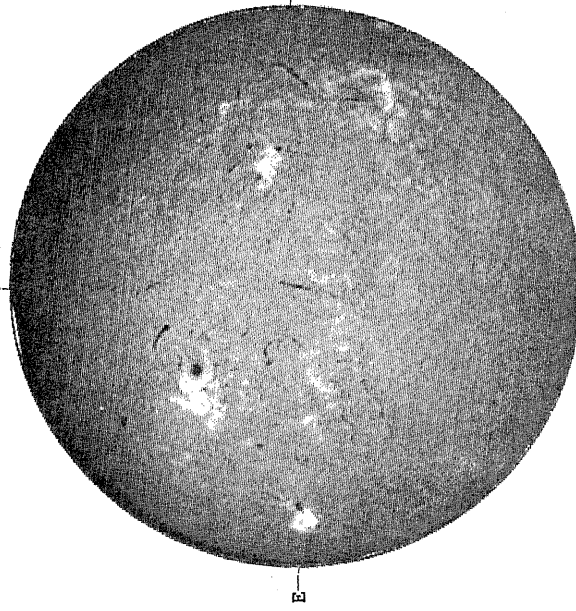
Delta_y = 13.0
Delta_x = 9.6



18.57 -
19.54 UT

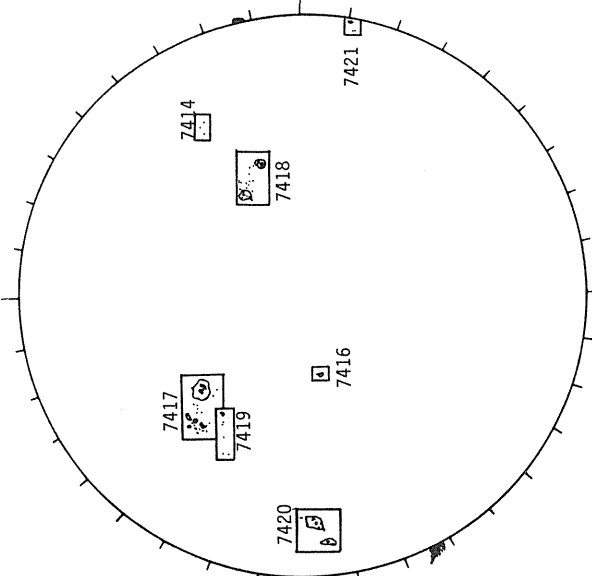
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Black = -7.5G

SACRAMENTO PEAK H-ALPHA



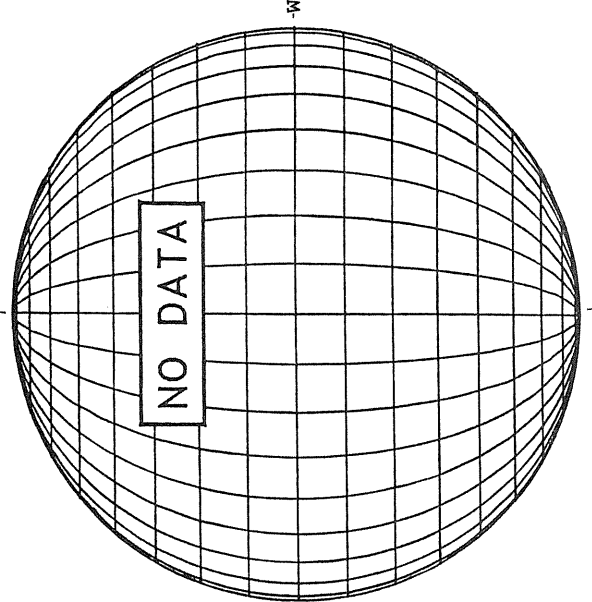
1535 UT

BOULDER SUNSPOT



1613 UT
1645 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



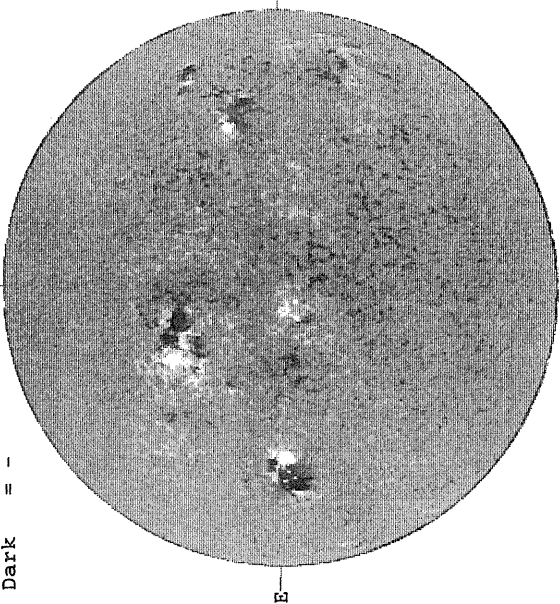
NO DATA

FEBRUARY 7, 1993 (P=-14.57 B₀ = -6.42, L₀ = 136.98)

KITT PEAK MAGNETOGRAM

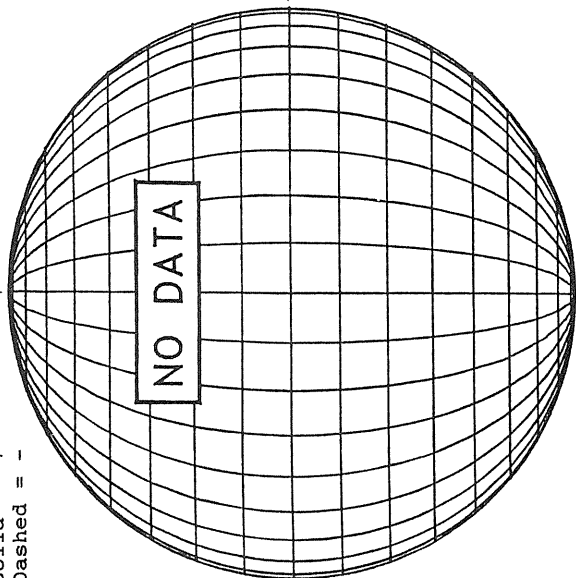
5507A

Bright = +
Dark = -



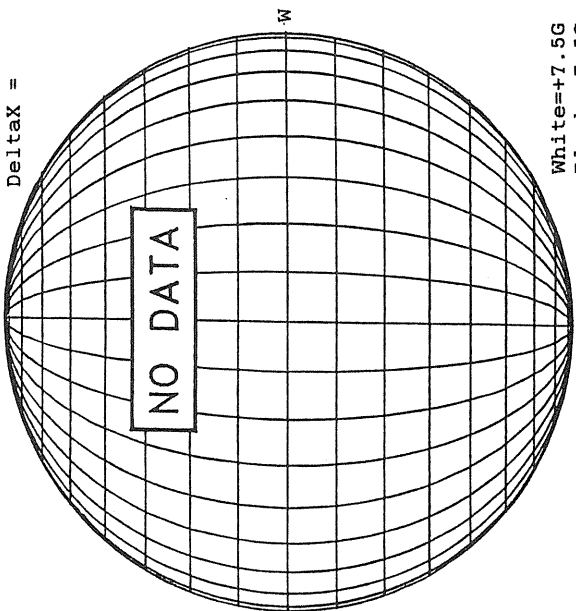
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



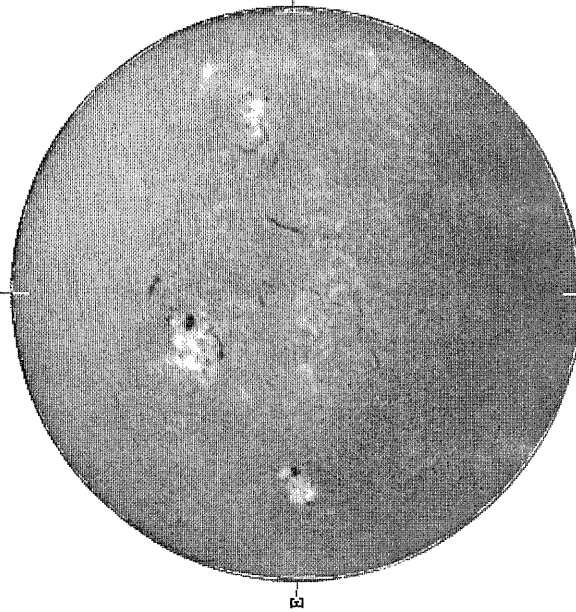
MT. WILSON MAGNETOGRAM

Delta Y =
Delta X =



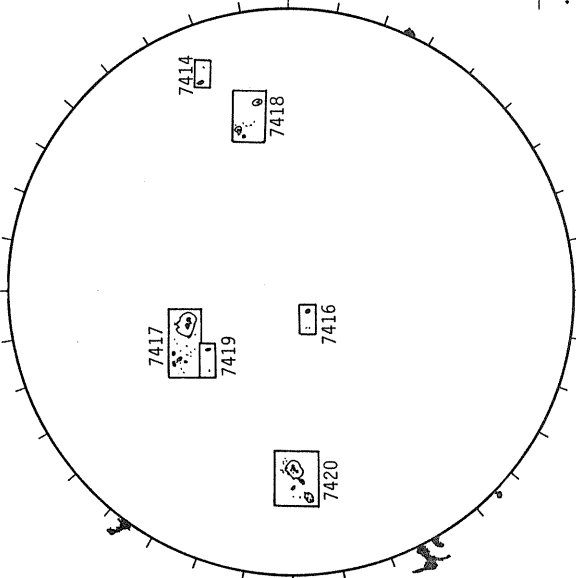
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BOULDER H-ALPHA



1633 UT

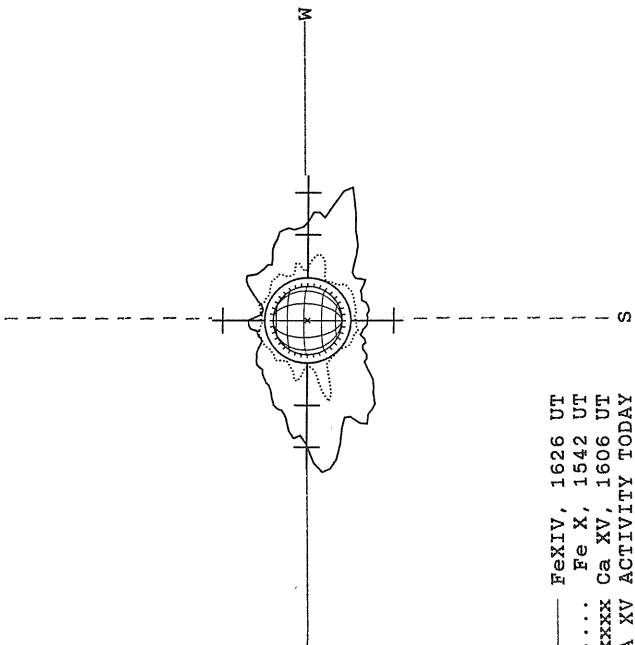
BOULDER SUNSPOT



1627 UT

0950 UT LOMNICKY FROM

SACRAMENTO PEAK CORONA (1.15 Radii)

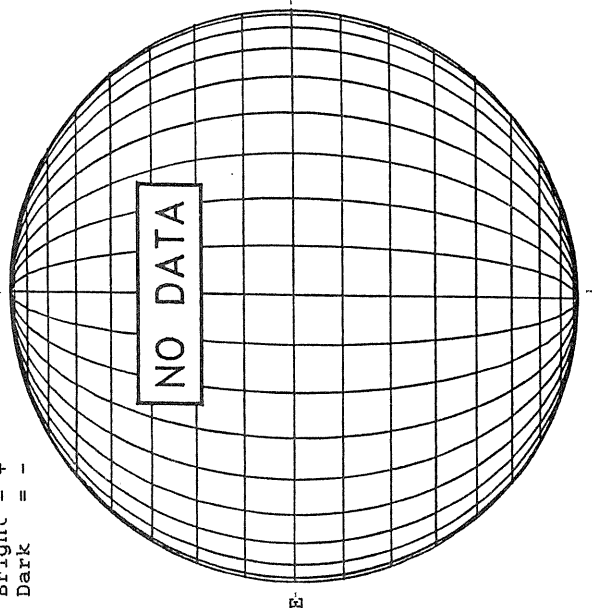


Fe XIV, 1626 UT
Fe X, 1542 UT
XXXX Ca XV, 1606 UT
NO CA XV ACTIVITY TODAY

FEBRUARY 8, 1993 (P=-14.94, B₀ = -6.47, L₀ = 123.81)

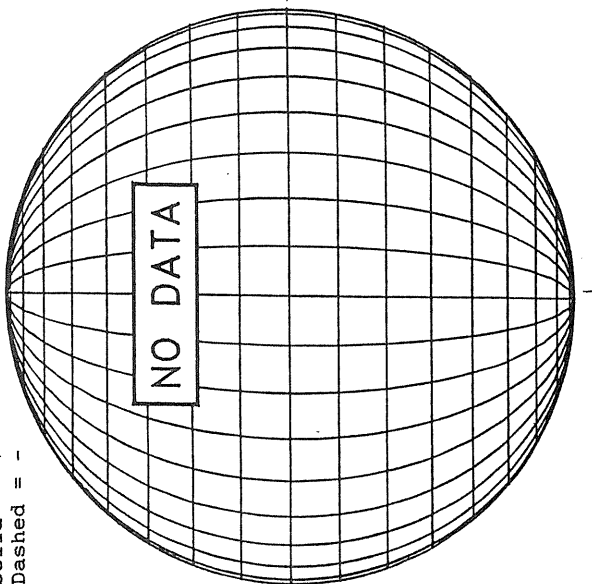
KITT PEAK MAGNETOGRAM
N **5507A**

Bright = +
Dark = -



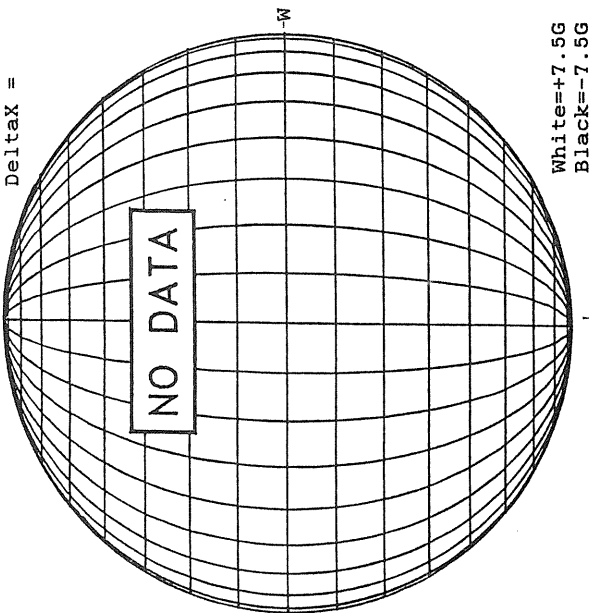
STANFORD MAGNETOGRAM
N

Solid = +
Dashed = -



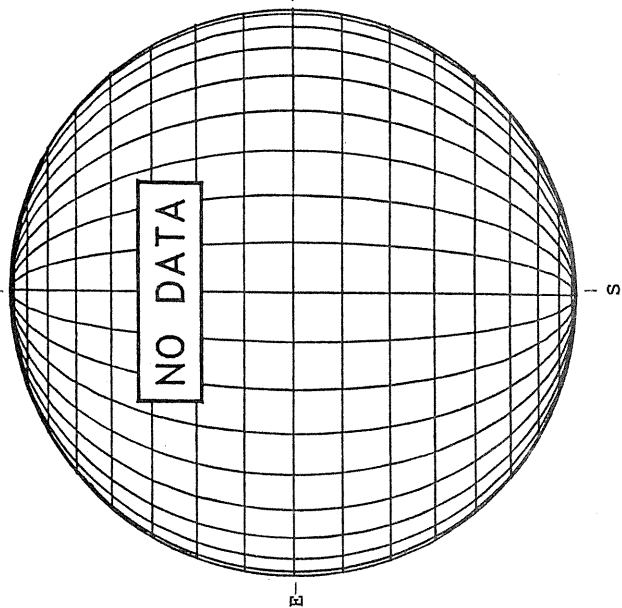
MT. WILSON MAGNETOGRAM
N

Delta Y =
Delta X =

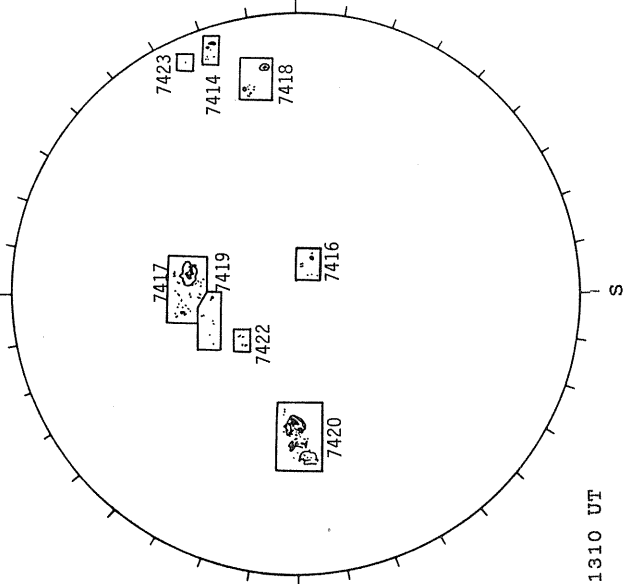


White = +7.5G
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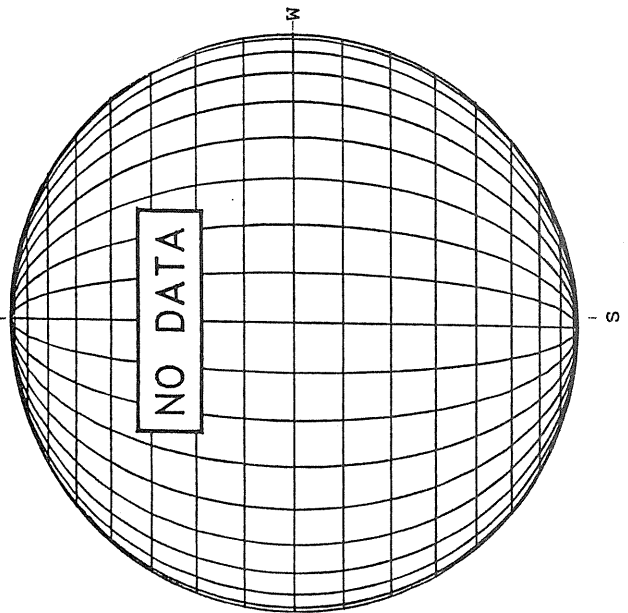
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

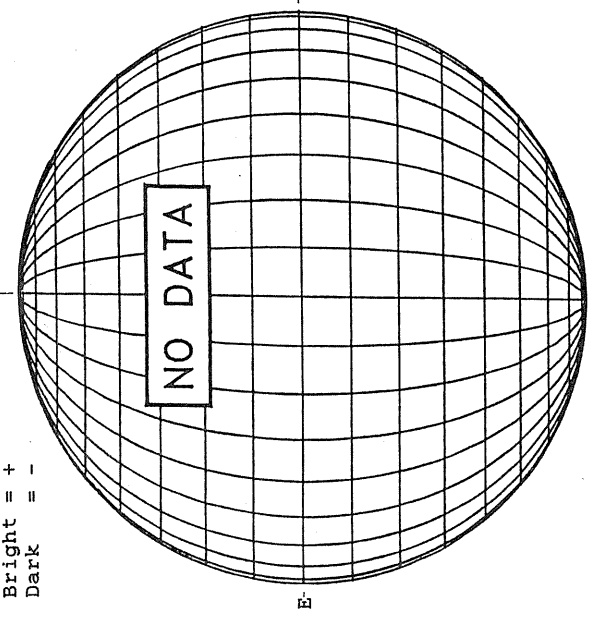


1310 UT

FEBRUARY 9, 1993 (P=-15.31 B₀ =-6.53, L₀ = 110.64)

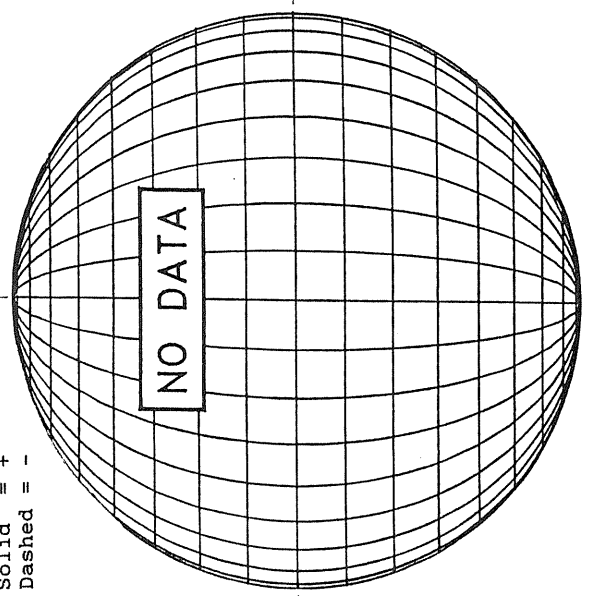
KITT PEAK MAGNETOGRAM
5507A

Bright = +
Dark = -



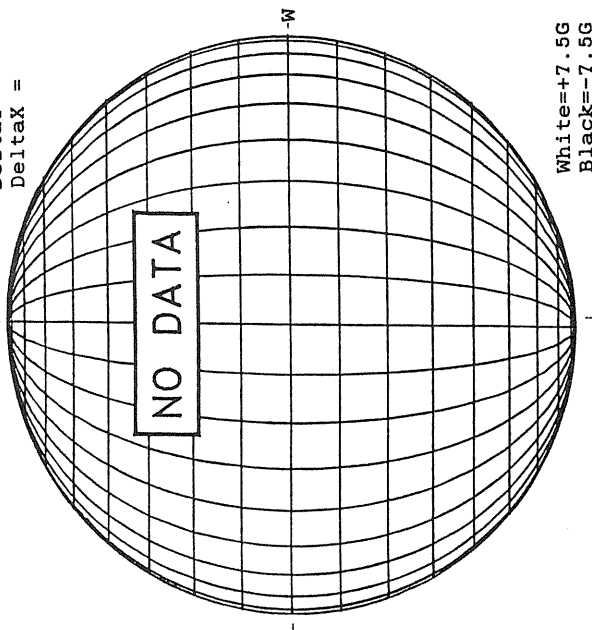
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



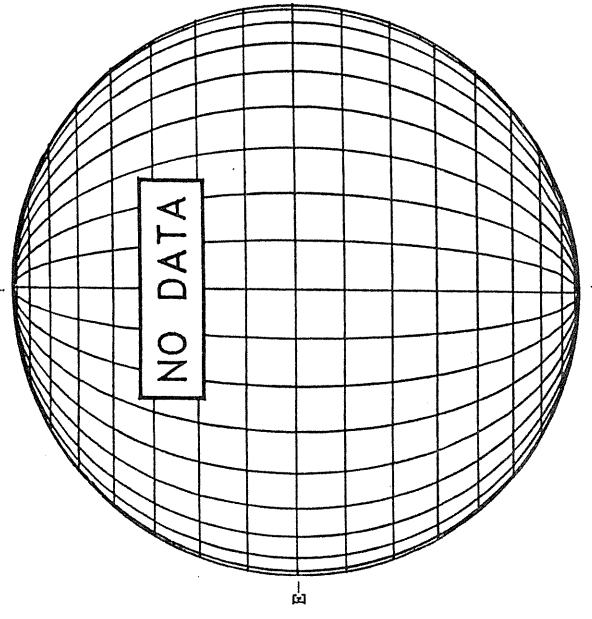
MT. WILSON MAGNETOGRAM

Deltaγ =
Deltaξ =

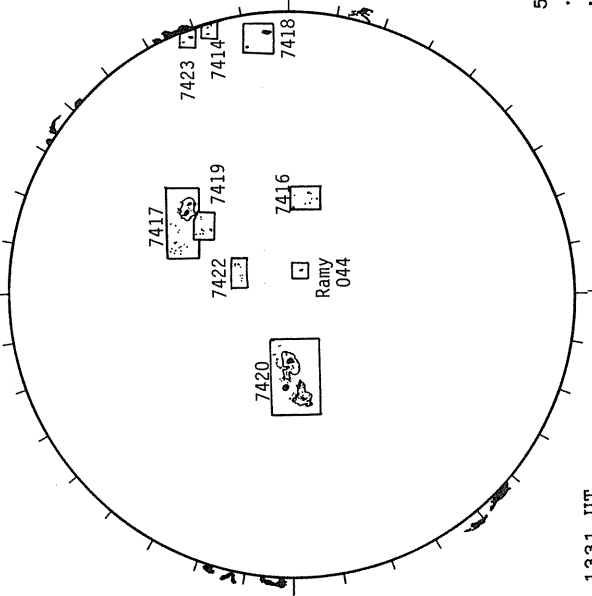


White=+7.5G
Black=-7.5G

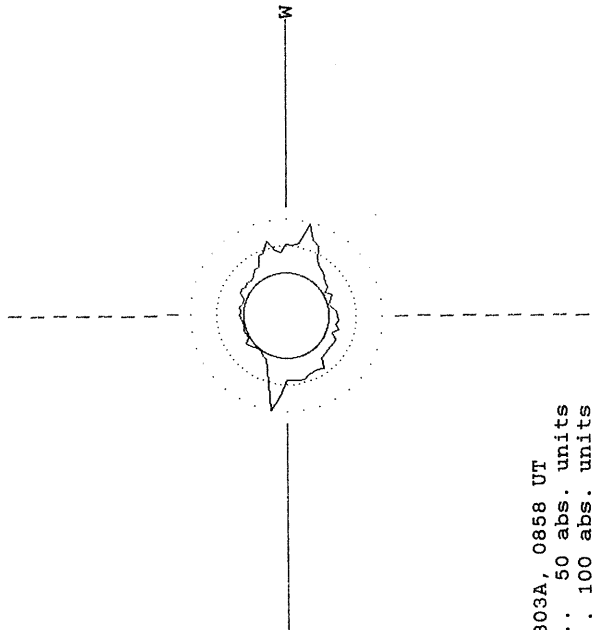
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOT



LOMNICKY STIT CORONA (1.15 Radii)



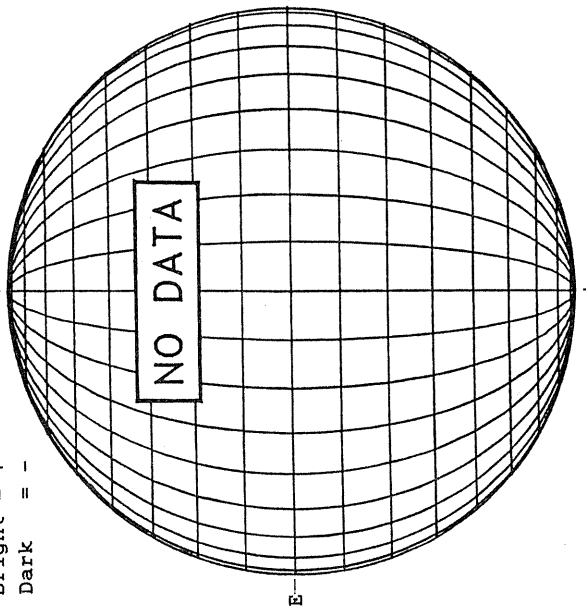
5303A, 0858 UT
... 50 abs. units
... 100 abs. units

1331 UT
0741 UT LOMNICKY PROM

FEBRUARY 10, 1993 (P=-15.68, B₀ =-6.58, L₀ = 97.47)

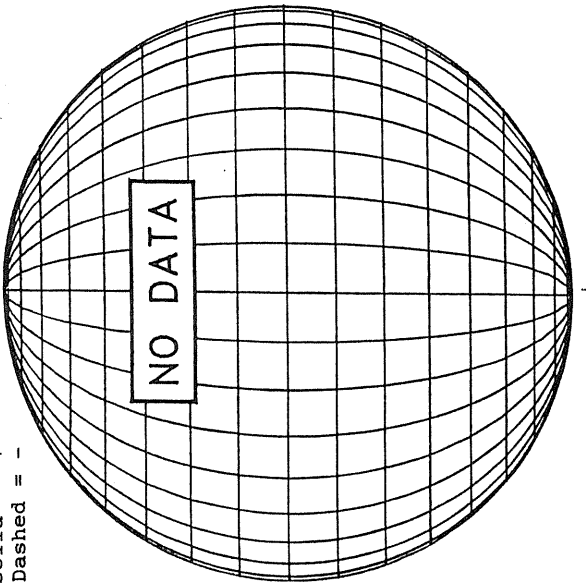
KITT PEAK MAGNETOGRAM
5507A

Bright = +
Dark = -



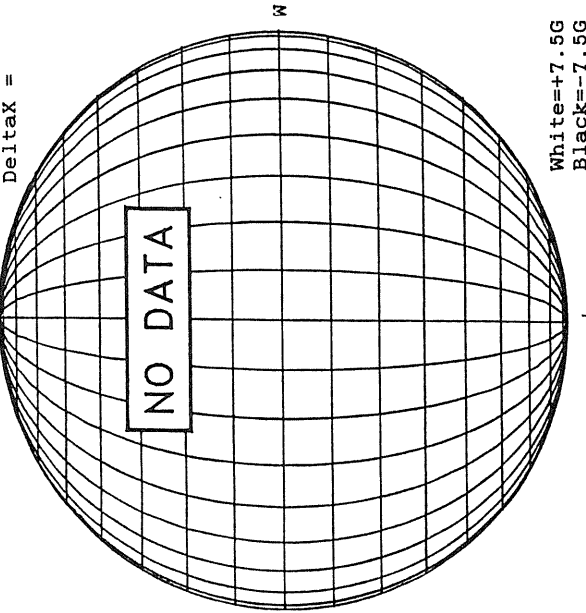
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



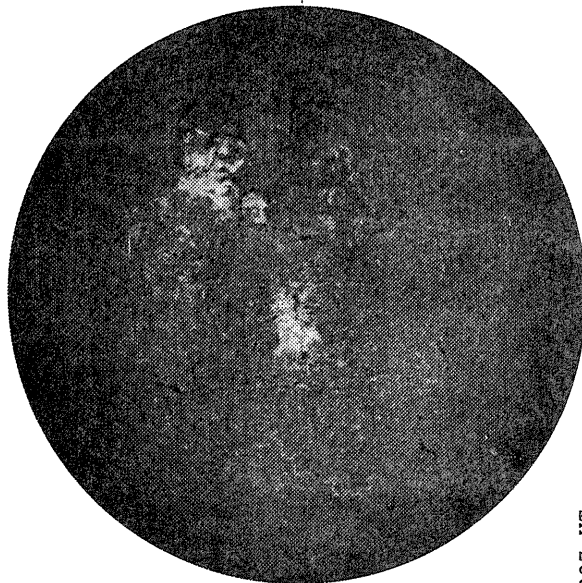
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =



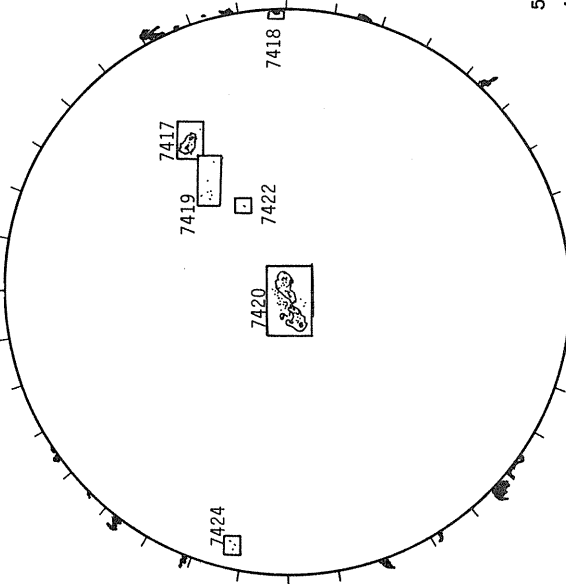
White=+7.5G
Black=-7.5G

LARISSA H-ALPHA



1227 UT

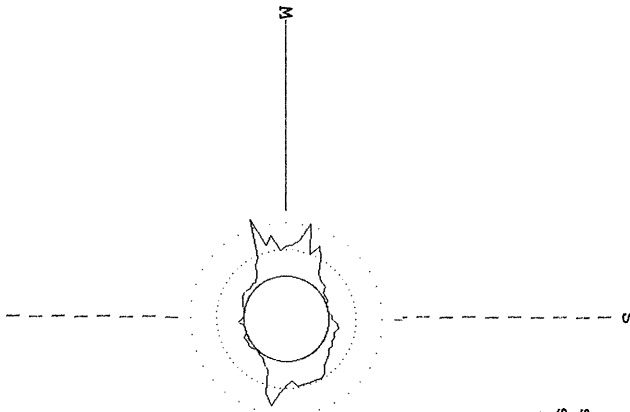
RAMEY SUNSPOT



1621 UT

0713 UT LOMNICKY Prom

LOMNICKY STIT CORONA (1.15 Radii)



5303A, 0754 UT
... 50 abs. units
... 100 abs. units

FEBRUARY 11, 1993 (P=-16.04, B₀ = -6.64, L₀ = 84.31)

KITT PEAK MAGNETOGRAM

5507A

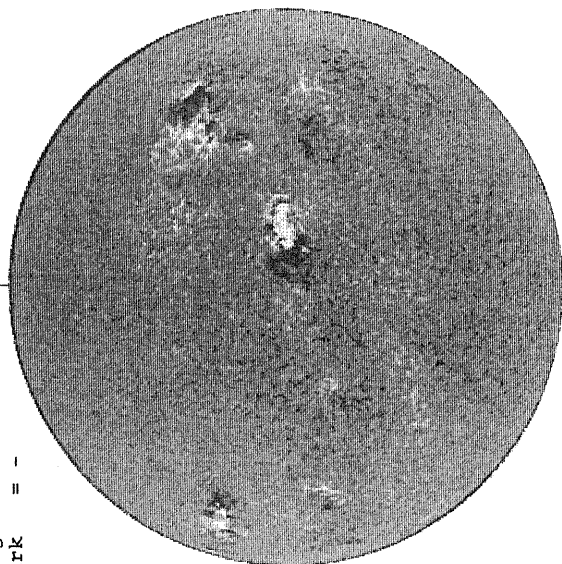
Bright = +
Dark = -

Solid = +
Dashed = -

STANFORD MAGNETOGRAM

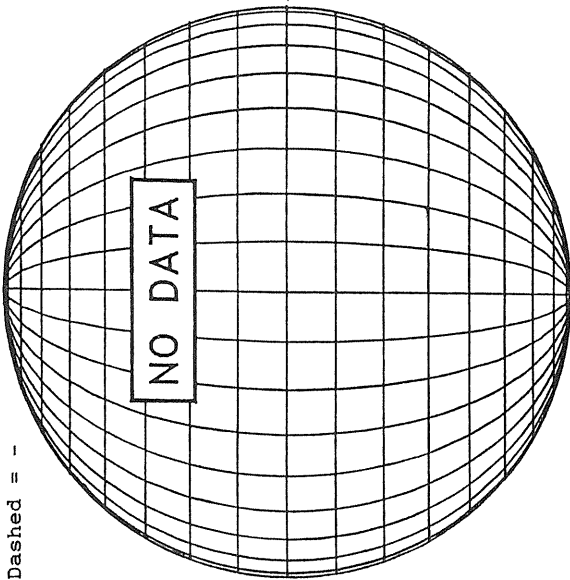
MT. WILSON MAGNETOGRAM

Delta_Y =
Delta_X =

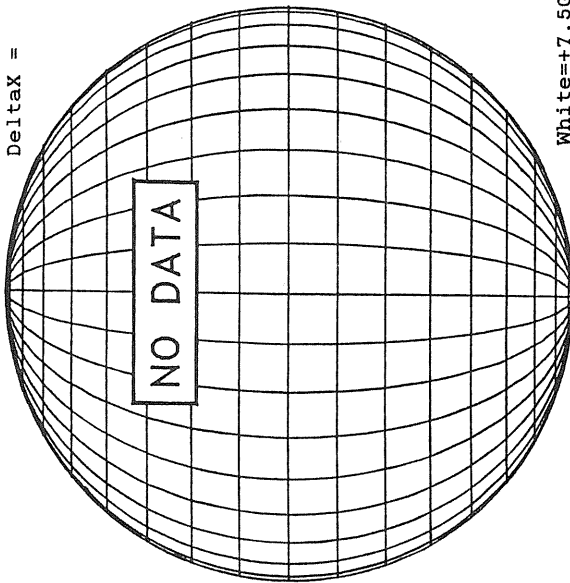


E

1501 UT



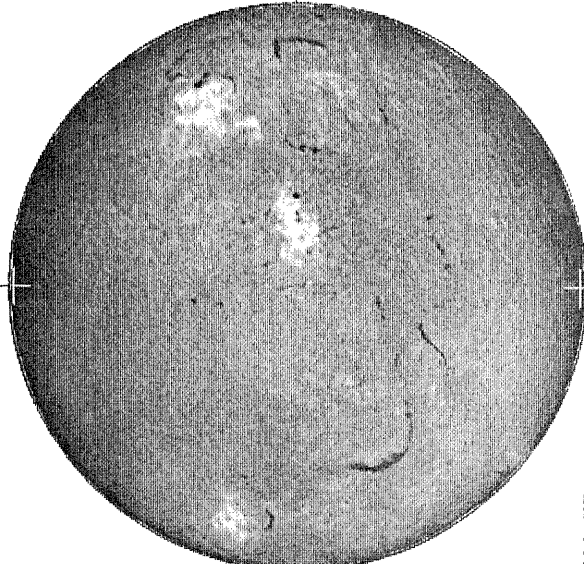
NO DATA



NO DATA

White = +7.5G
Black = -7.5G

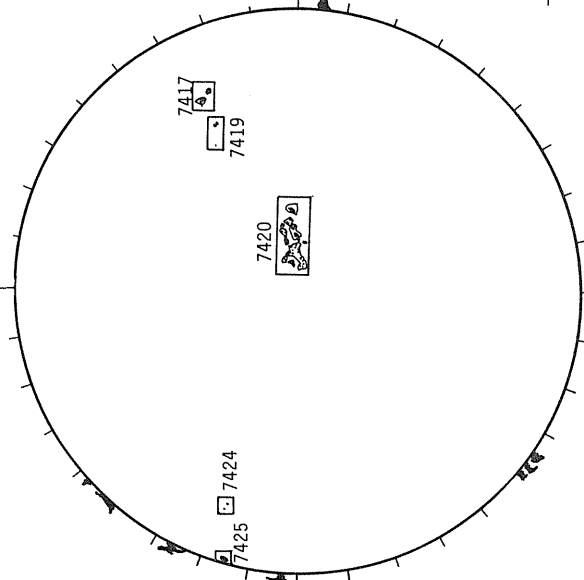
BOULDER H-ALPHA



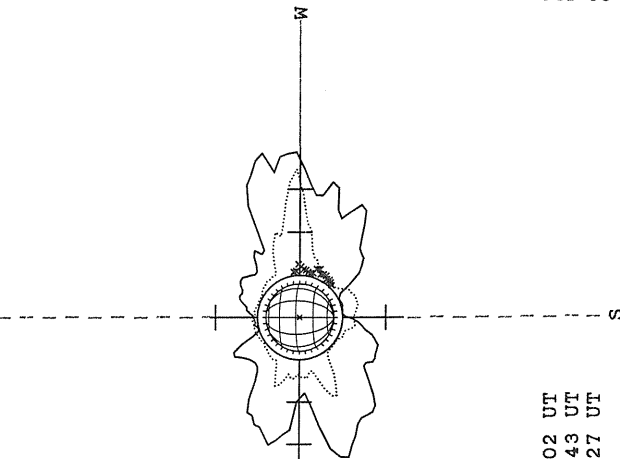
E

1732 UT

BOULDER SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)



— Fe XIV, 1702 UT
.... Fe X, 1943 UT
xxxx Ca XV, 1927 UT

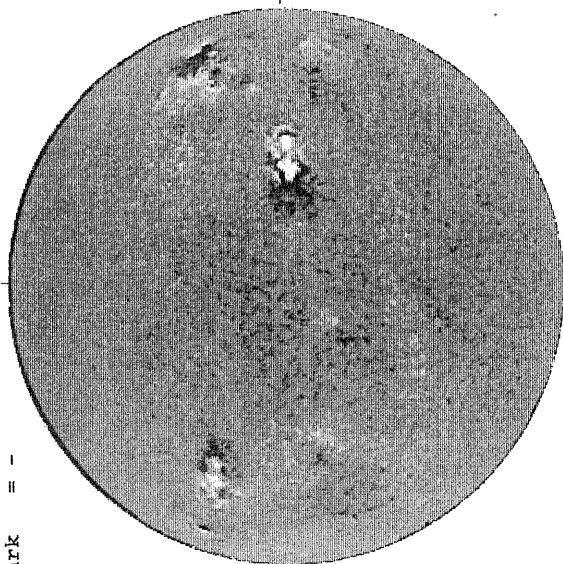
1634 UT
0714 UT LOMNICKY Prom

FEBRUARY 12, 1993 (P=-16.39, B₀ =-6.69, L₀ = 71.14)

KITT PEAK MAGNETOGRAM

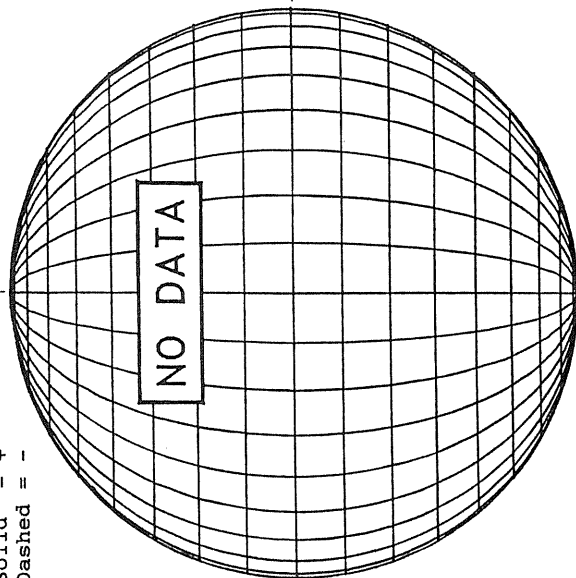
5507A

Bright = +
Dark = -



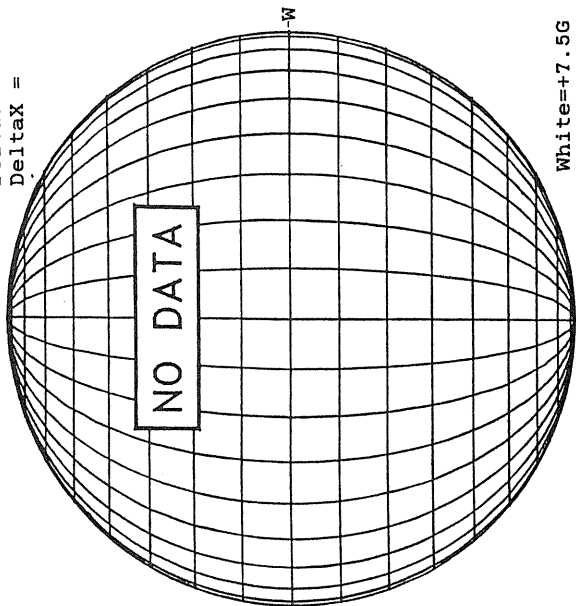
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =



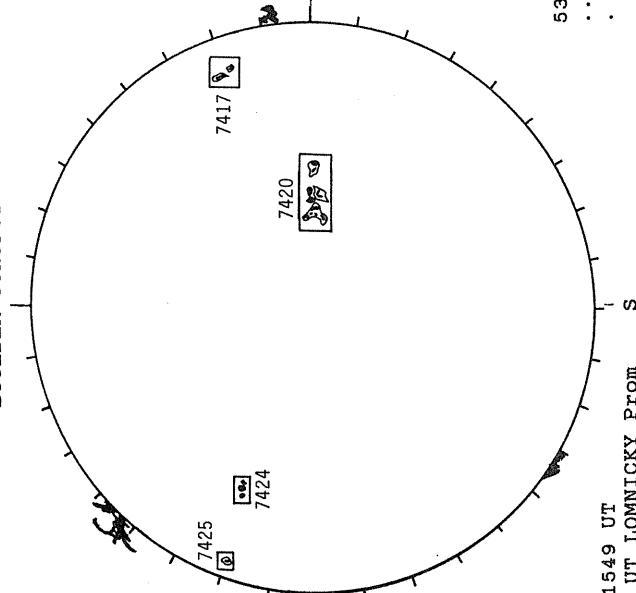
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



1601 UT

BOULDER SUNSPOT

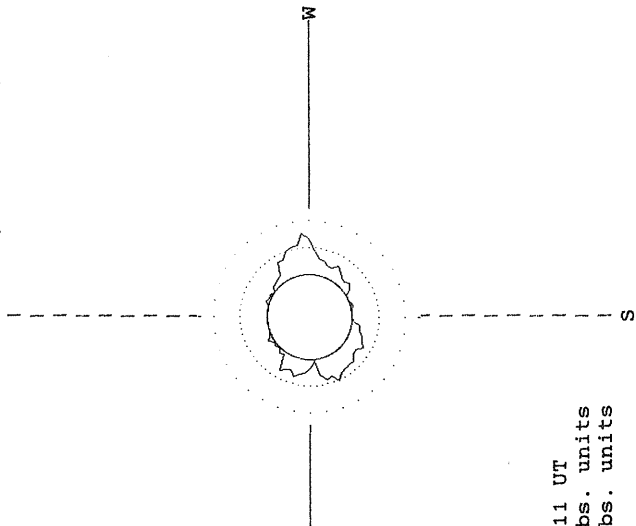


0911 UT LOMNICKY PROM

1549 UT

5303A, 1211 UT
... 50 abs. units
... 100 abs. units

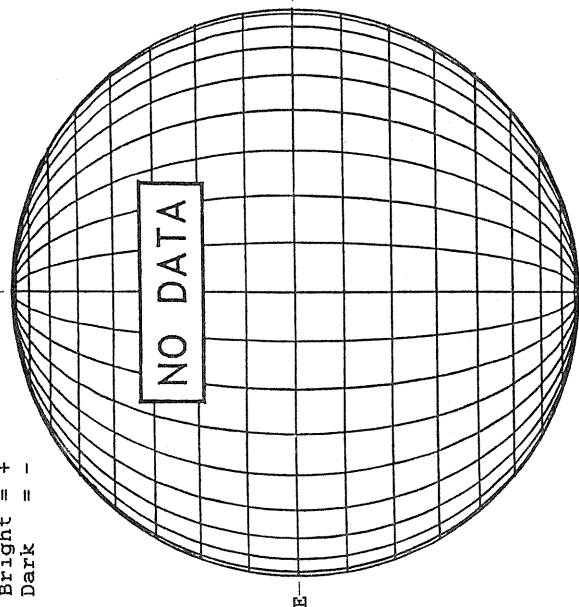
LOMNICKY STIT CORONA (1.15 Radii)



FEBRUARY 13, 1993 (P=-16.74, B₀ =-6.73, L₀ = 57.97)

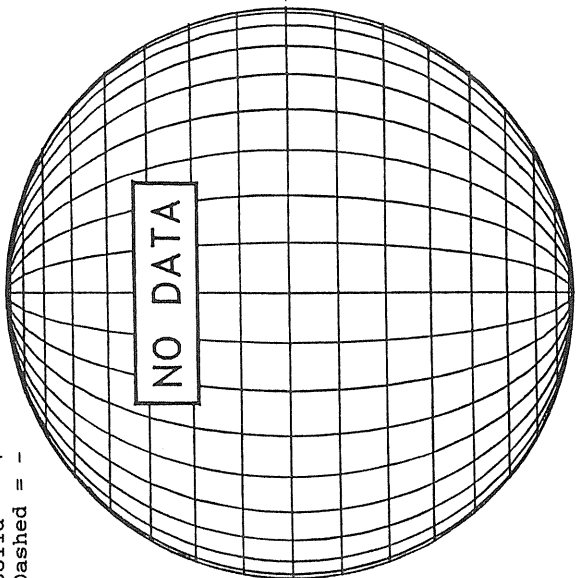
KITT PEAK MAGNETOGRAM
5507A

Bright = +
Dark = -



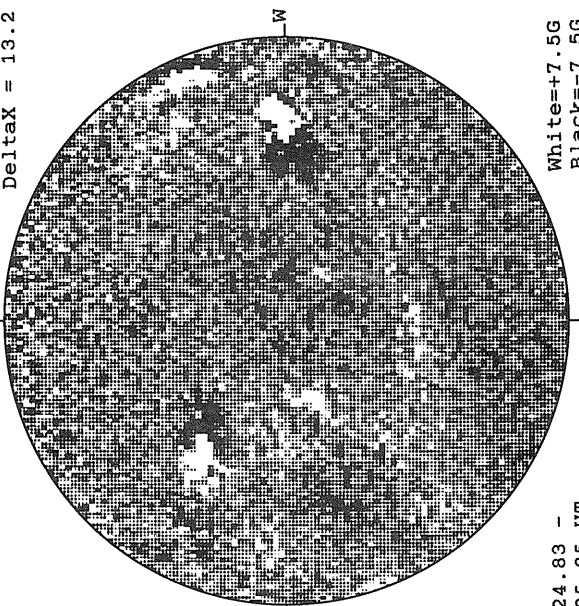
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

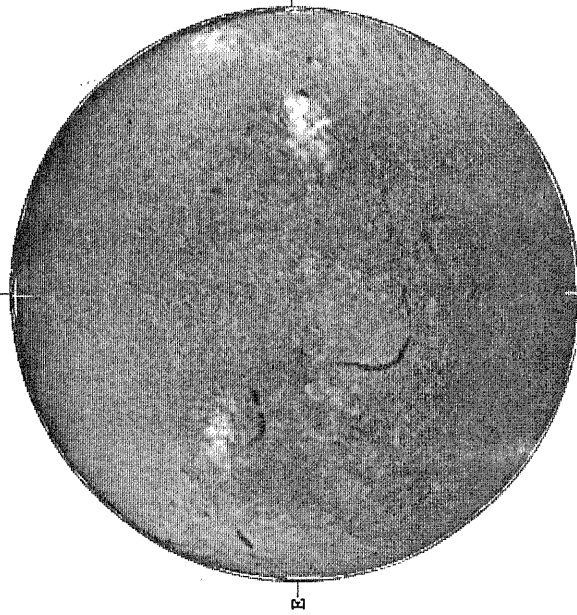
DeltaY = 20.5
DeltaX = 13.2



24.83 -
25.25 UT

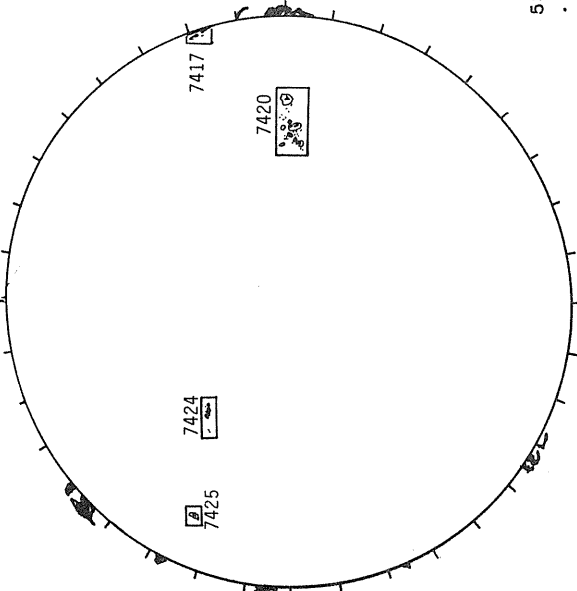
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



1625 UT

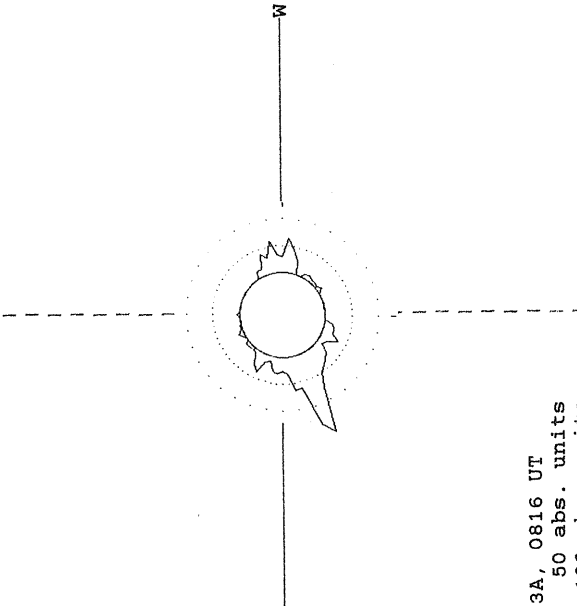
BOULDER SUNSPOT



1617 UT

0743 UT LOMNICKY Prom

LOMNICKY STIT CORONA (1.15 Radii)



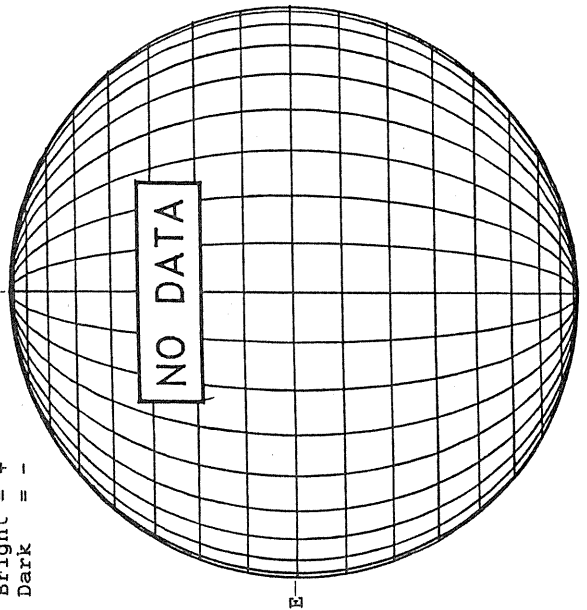
5303A, 0816 UT
... 50 abs. units
... 100 abs. units

FEBRUARY 14, 1993 (P=-17.09, B₀ =-6.78, L₀ = 44.80)

KITT PEAK MAGNETOGRAM

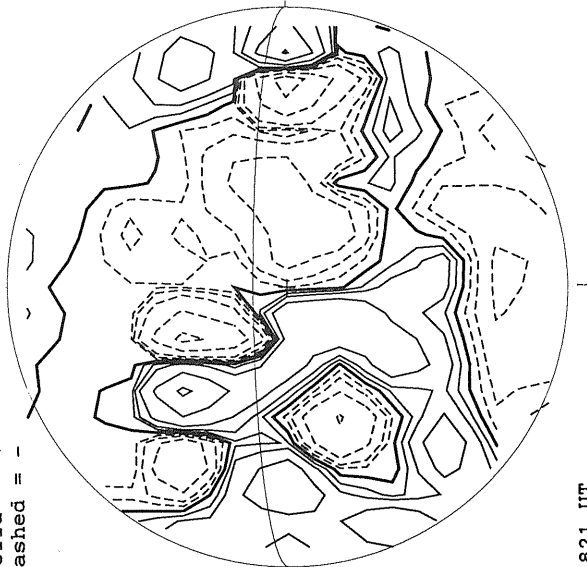
5507A

Bright = +
Dark = -



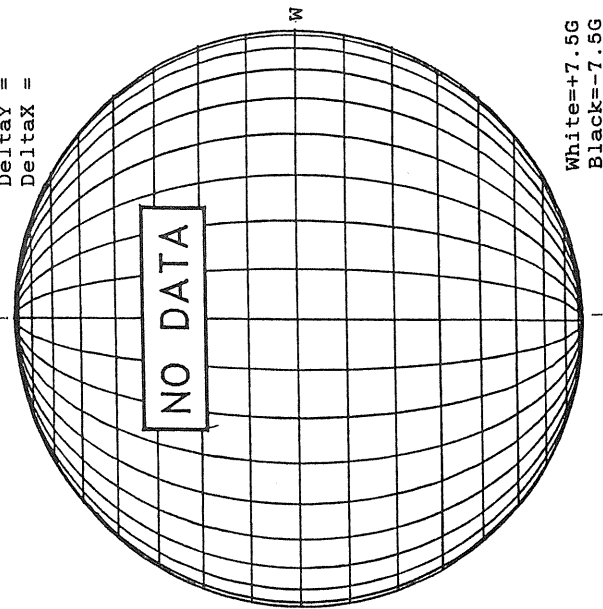
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



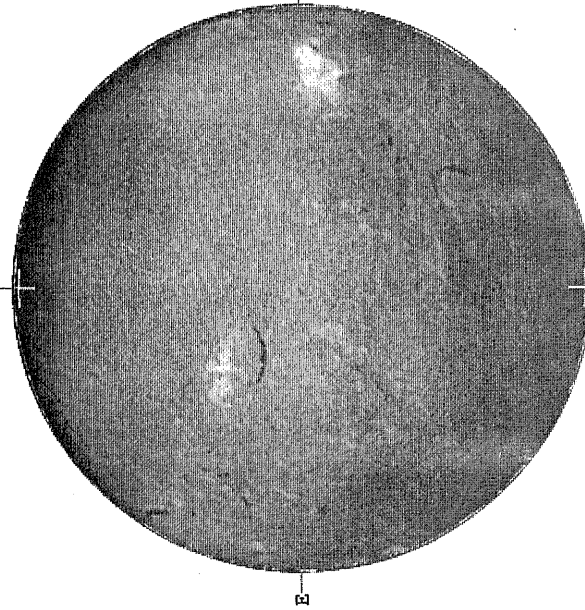
MT. WILSON MAGNETOGRAM

Delta Y =
Delta X =



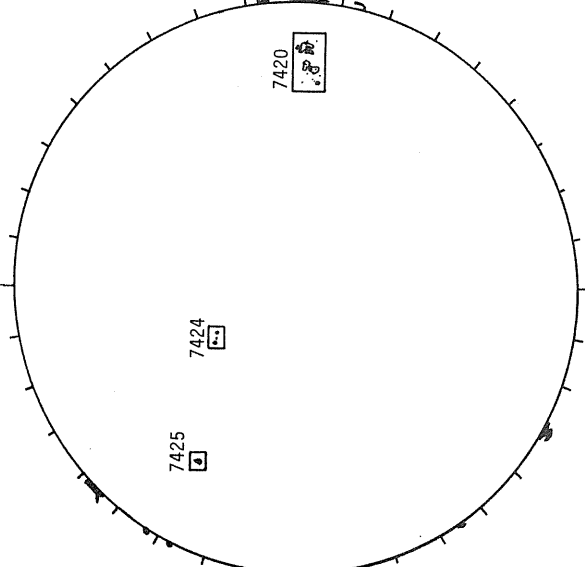
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



1622 UT

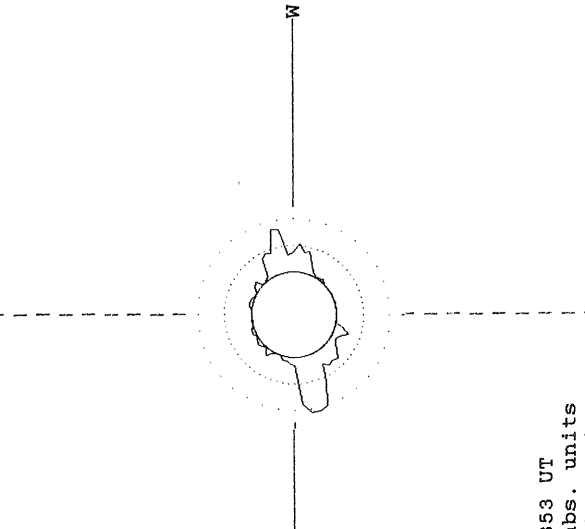
BOULDER SUNSPOT



1612 UT

0756 UT LOMNICKY Prom

LOMNICKY STIT CORONA (1.15 Radii)

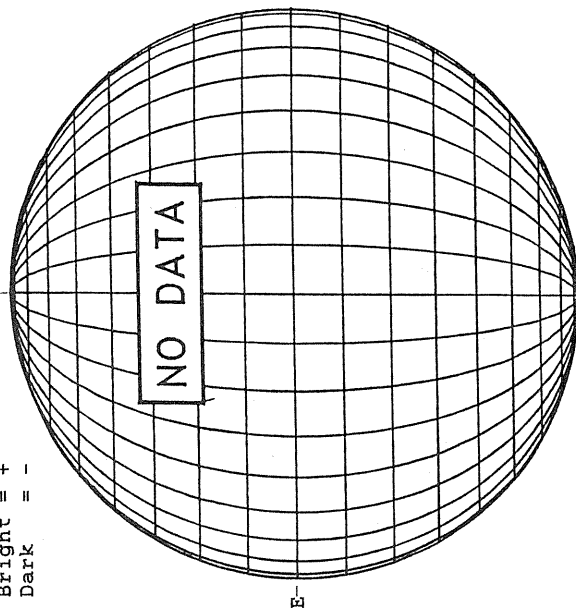


5303A, 0853 UT
... 50 abs. units
... 100 abs. units

FEBRUARY 15, 1993 (P=-17.43, B₀ =-6.82, L₀ = 31.64)

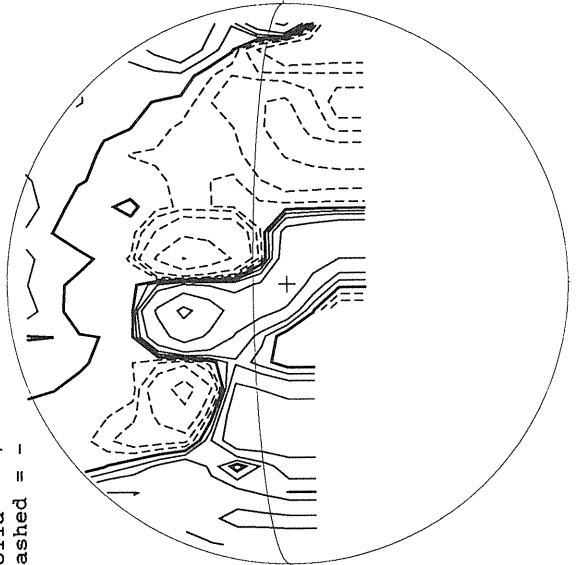
KITT PEAK MAGNETOGRAM
5507A

Bright = +
Dark = -



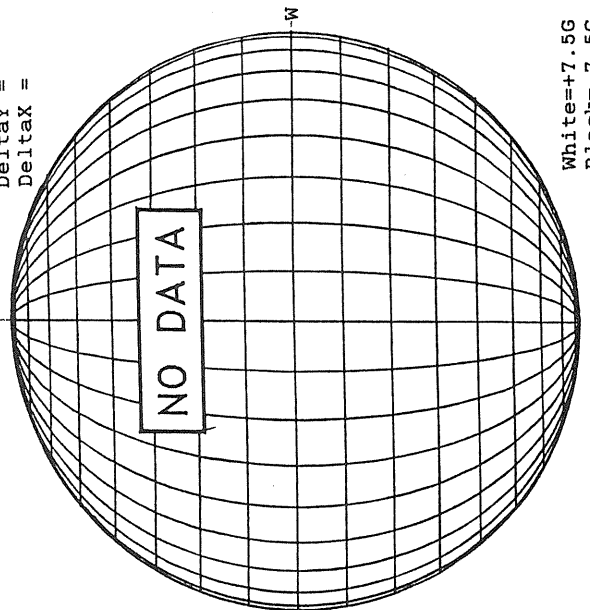
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



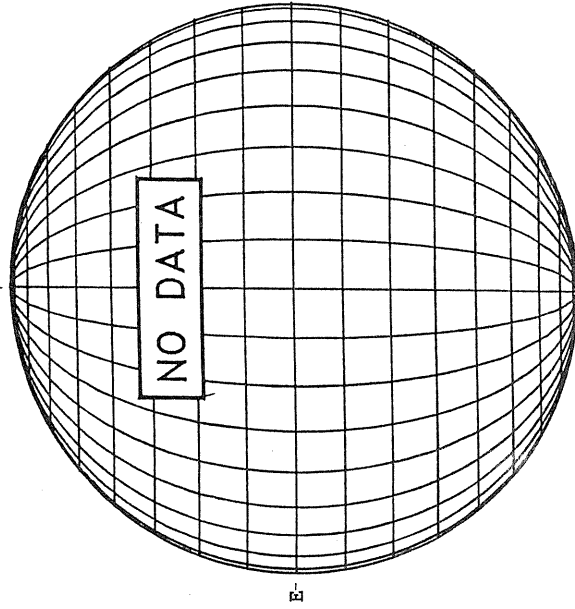
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =

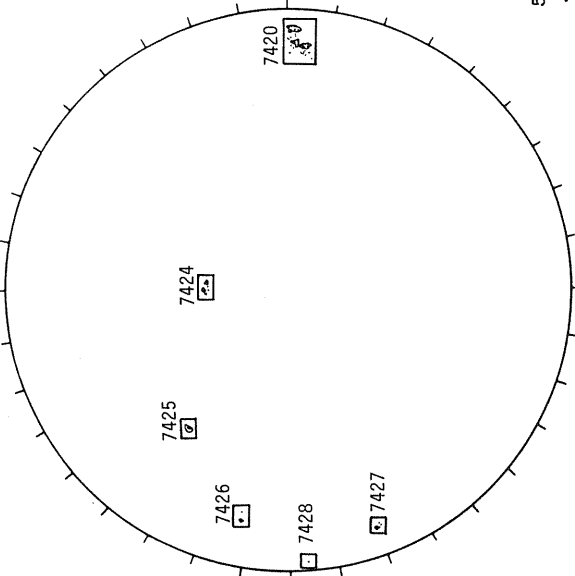


White=+7.5G
Black=-7.5G

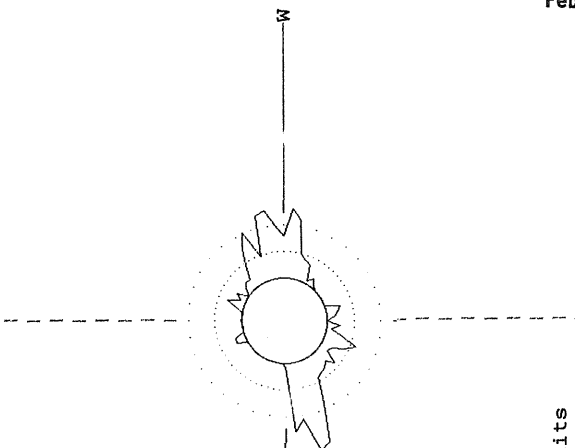
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOT



LOMNICKY STIT CORONA (1.15 Radii)



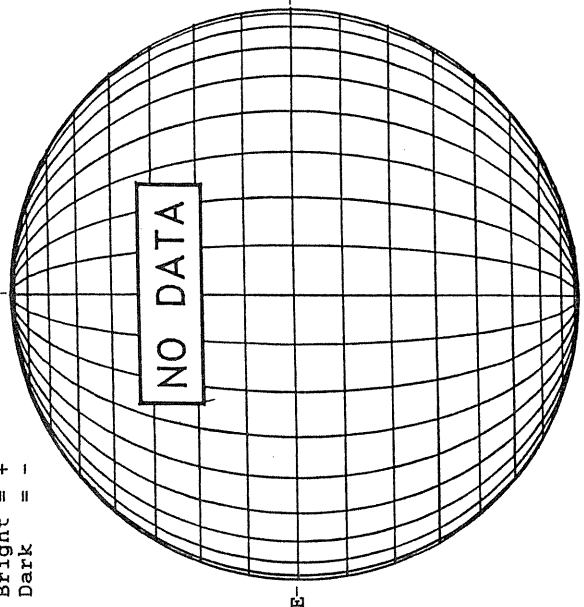
5303A, 0747 UT
... 50 abs. units
... 100 abs. units

FEBRUARY 16, 1993 (P=-17.76, B₀ = -6.86, L₀ = 18.47)

KITT PEAK MAGNETOGRAM

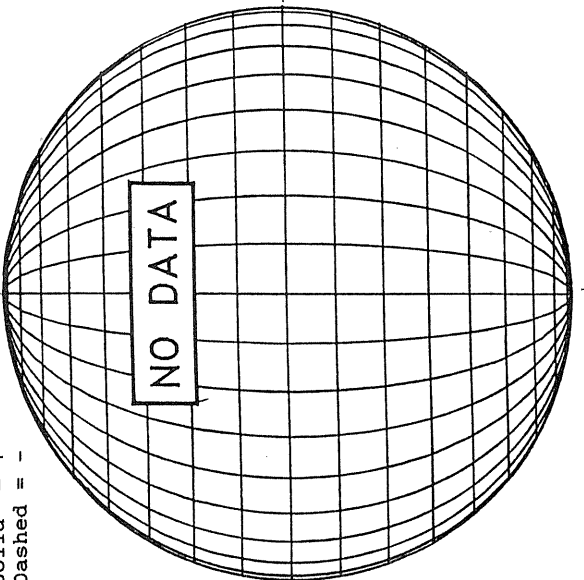
5507A

Bright = +
Dark = -



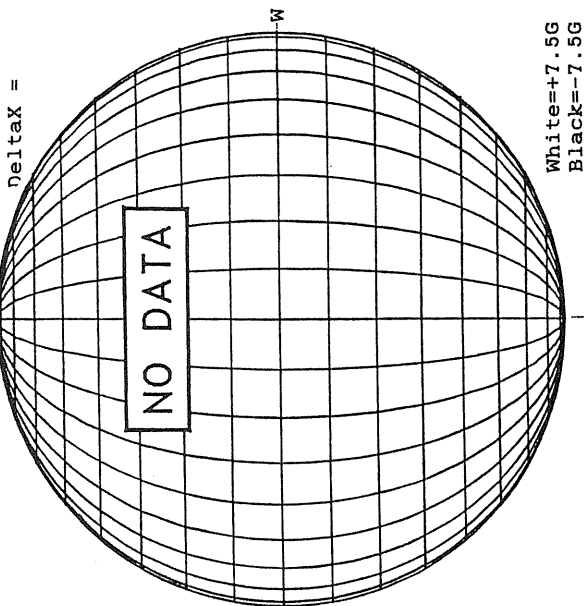
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

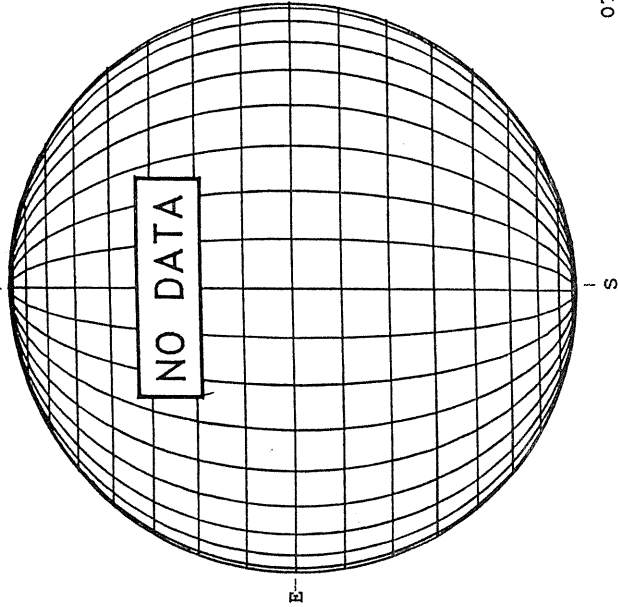


MT. WILSON MAGNETOGRAM

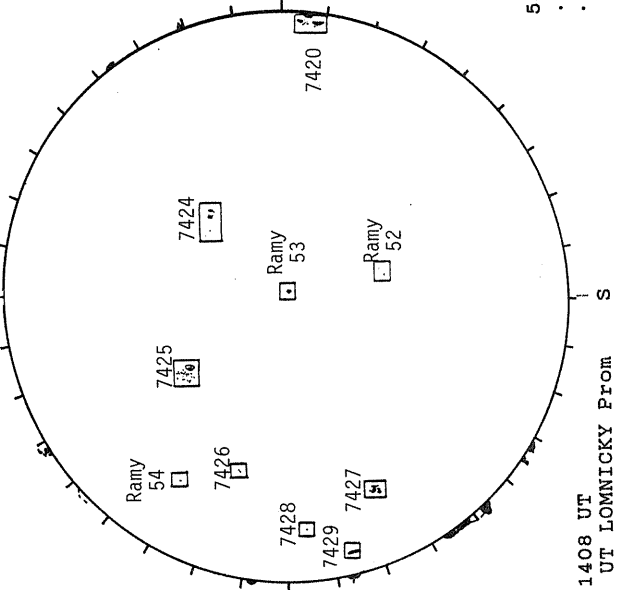
Deltay =
Deltax =



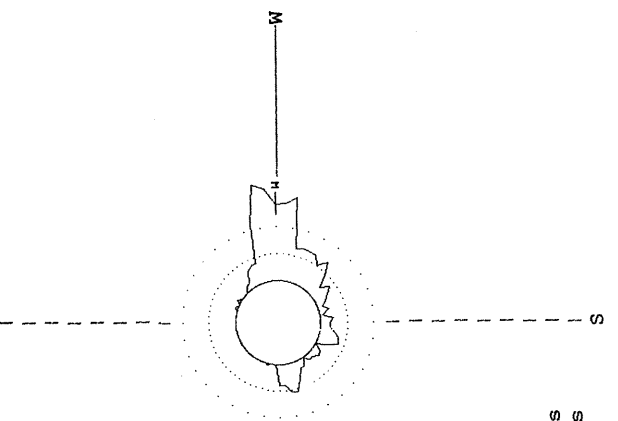
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOT



LOMNICKY STIT CORONA (1.15 Radii)

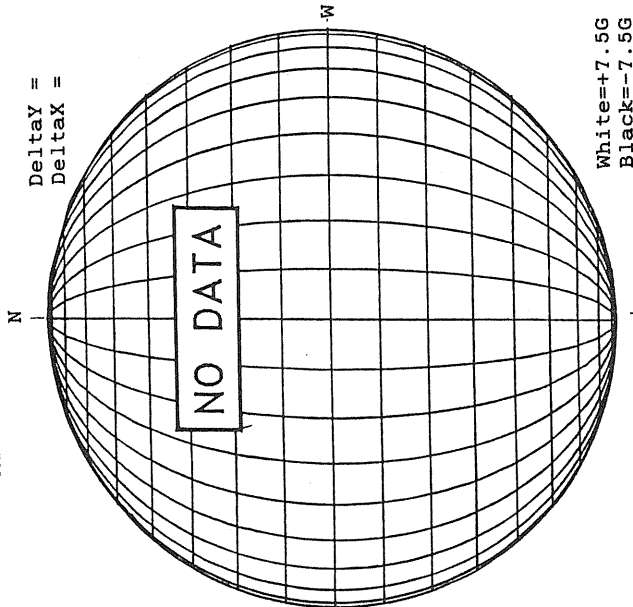


5303A, 0814 UT
... 50 abs. units
... 100 abs. units

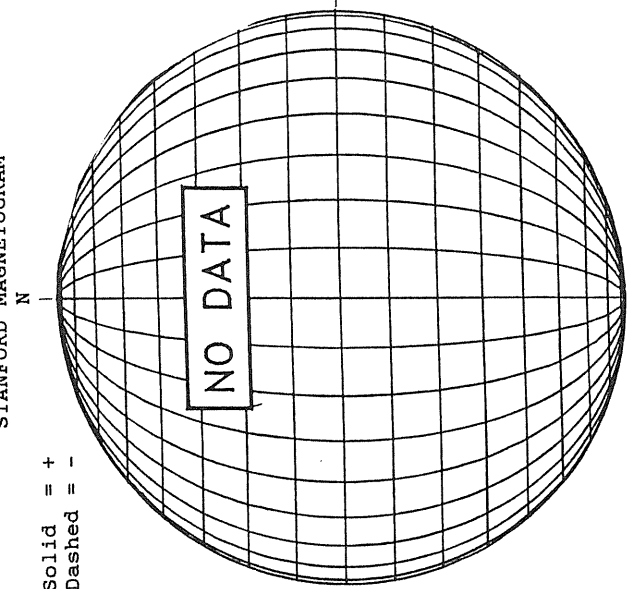
1408 UT
0701 UT LOMNICKY FROM

FEBRUARY 17, 1993 (P=-18.09, B₀ =-6.90, L₀ = 5.30)

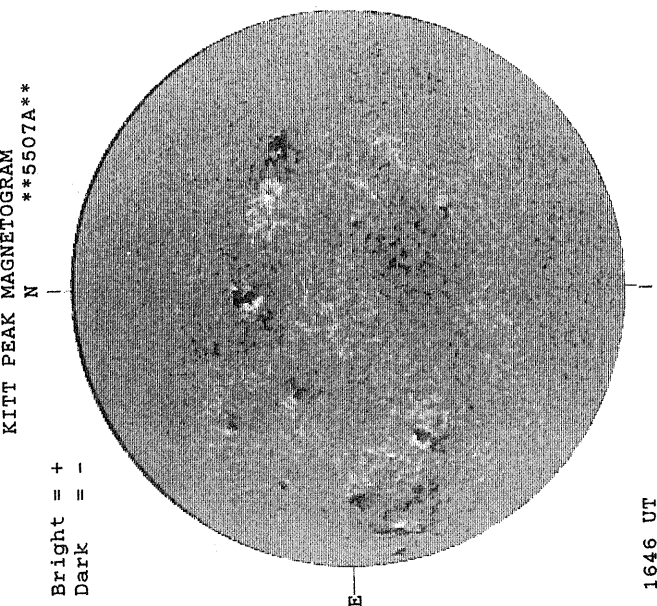
MT. WILSON MAGNETOGRAM



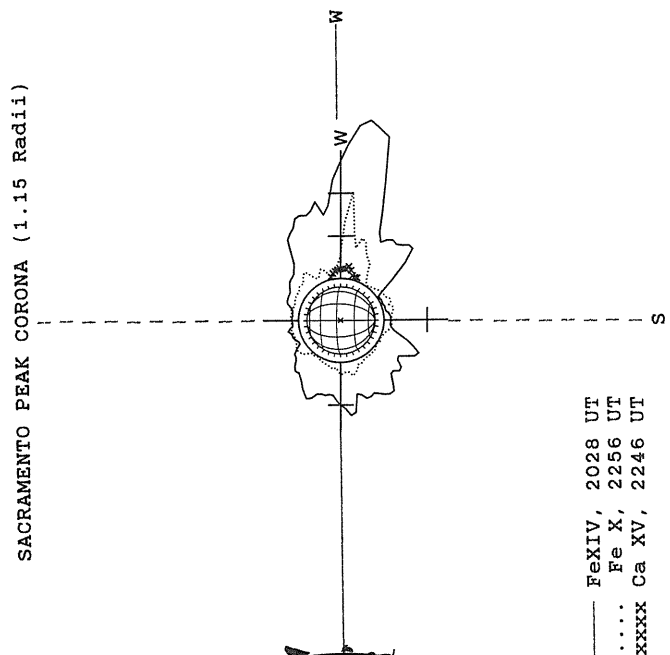
STANFORD MAGNETOGRAM



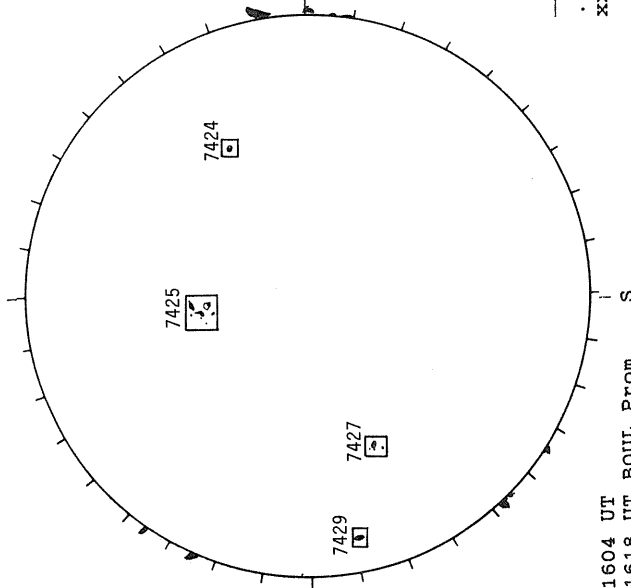
KITT PEAK MAGNETOGRAM
5507A



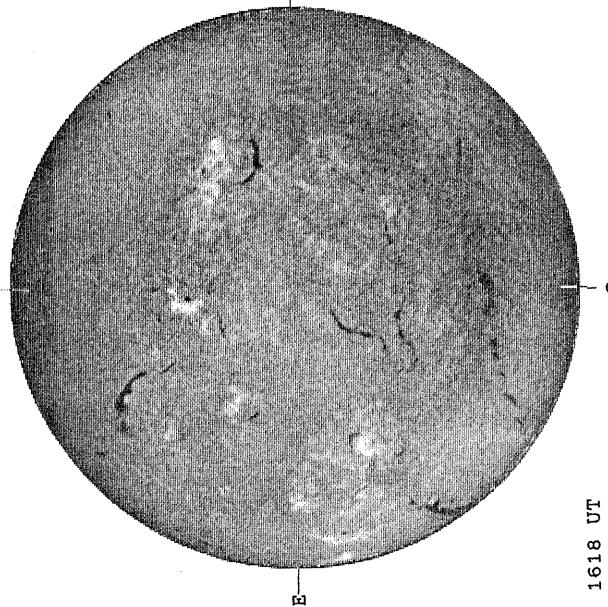
SACRAMENTO PEAK CORONA (1.15 Radii)



BOULDER SUNSPOT



BOULDER H-ALPHA

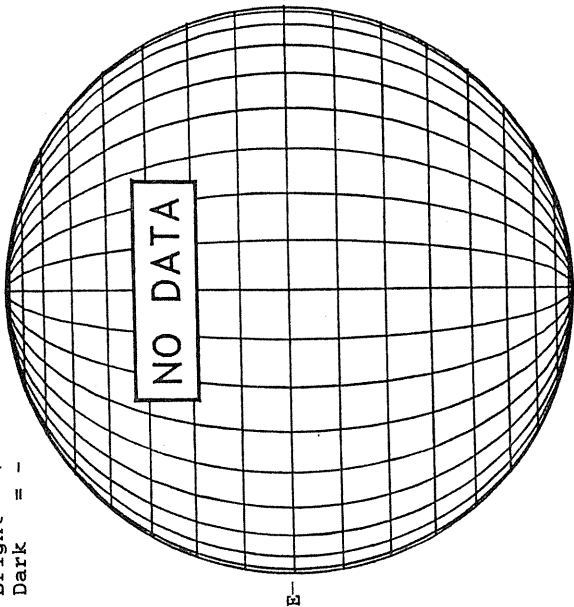


FEBRUARY 18, 1993 (P=-18.41, B₀ = -6.94, I₀ = 352.13)

KITT PEAK MAGNETOGRAM

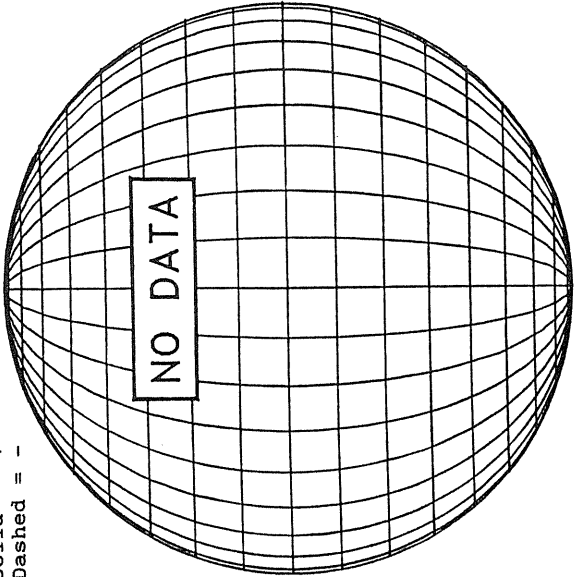
5507A

Bright = +
Dark = -



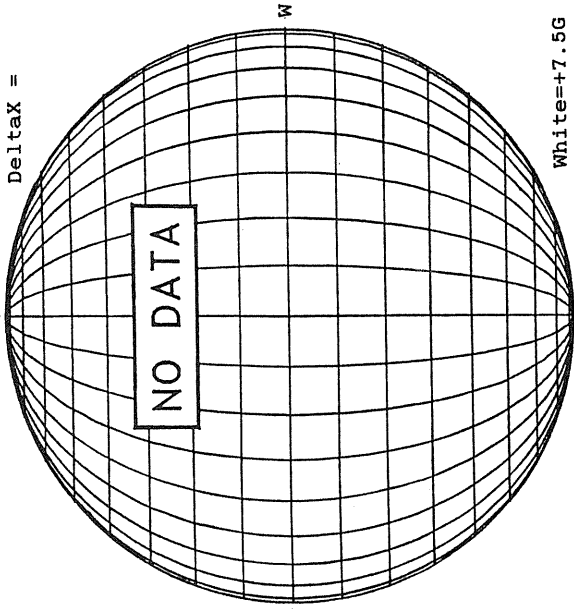
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



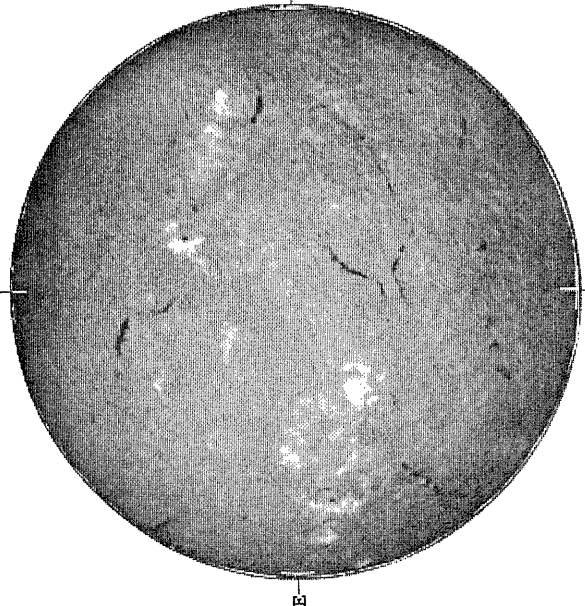
MT. WILSON MAGNETOGRAM

Deltay =
Deltax =



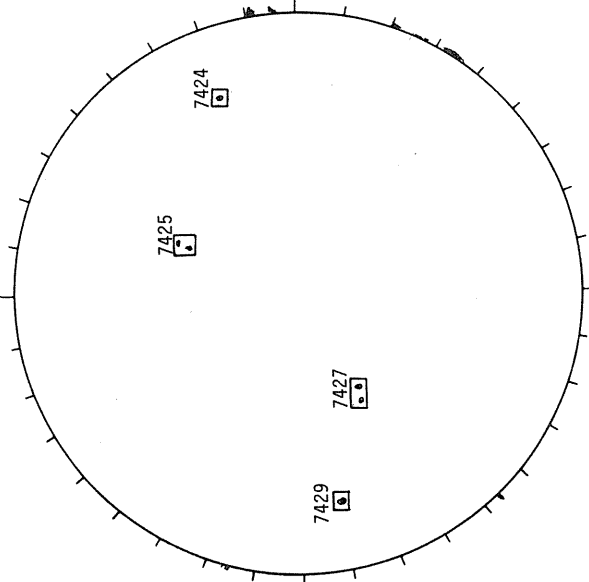
White = +7.5G
Black = -7.5G

BOULDER H-ALPHA



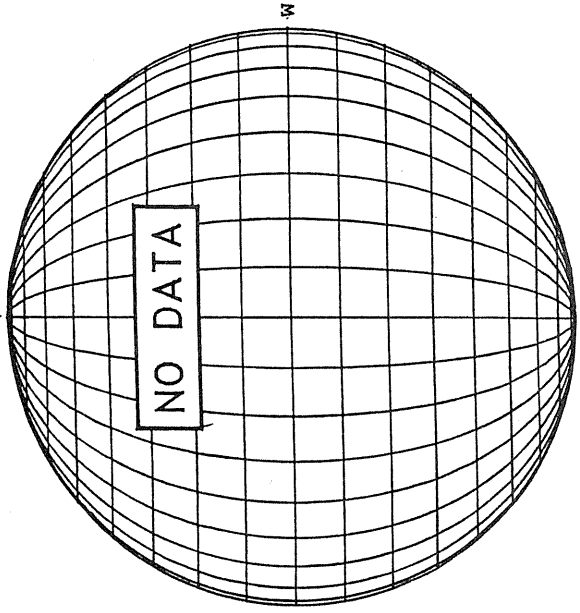
1718 UT

BOULDER SUNSPOT



1501 UT
1718 UT BOUL Prom

LOMNICKY STIT CORONA (1.15 Radii)

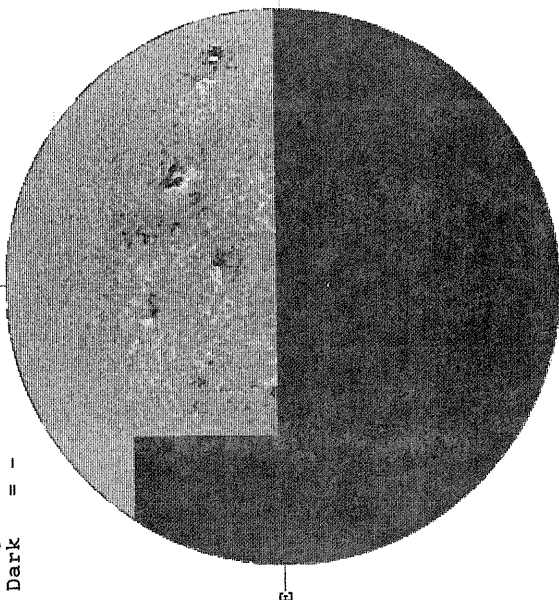


S

FEBRUARY 19, 1993 (P=-18.72, B₀ =-6.98, L₀ = 338.96)

KITT PEAK MAGNETOGRAM
5507A

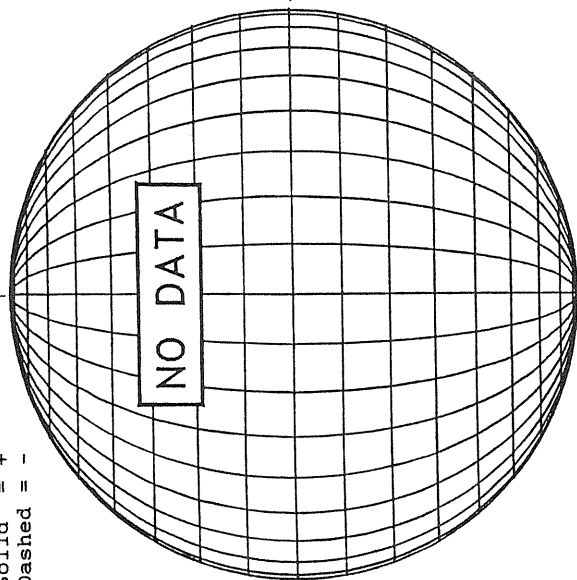
Bright = +
Dark = -



1633 UT

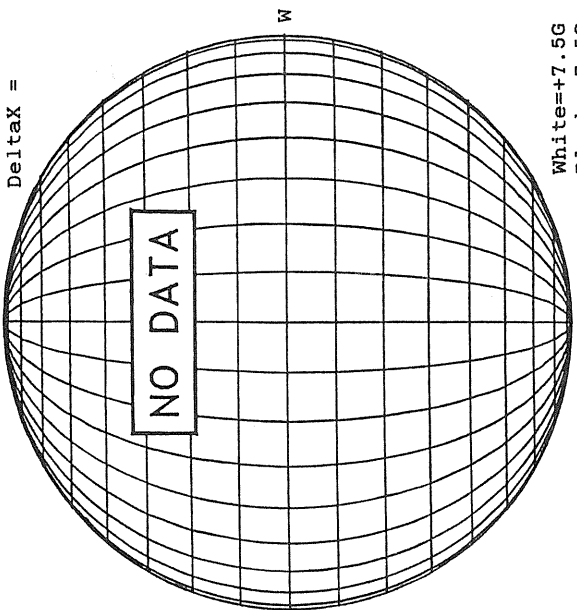
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =



White=+7.5G
Black=-7.5G

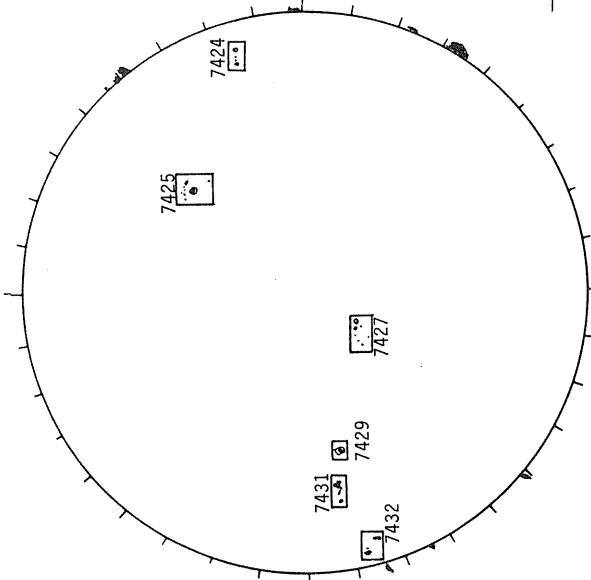
NO DATA

BOULDER H-ALPHA



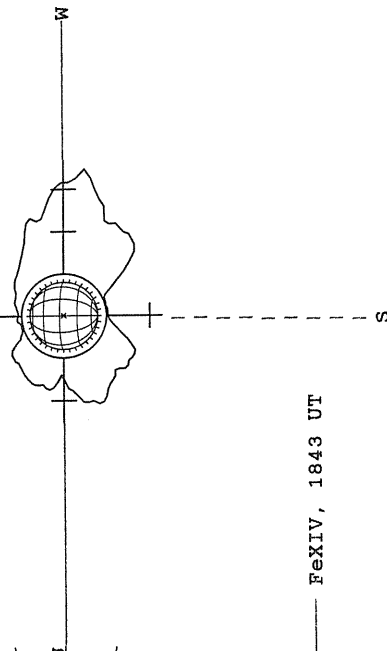
1524 UT

BOULDER SUNSPOT



1532 UT
1524 UT BOUL FROM

SACRAMENTO PEAK CORONA (1.15 Radii)

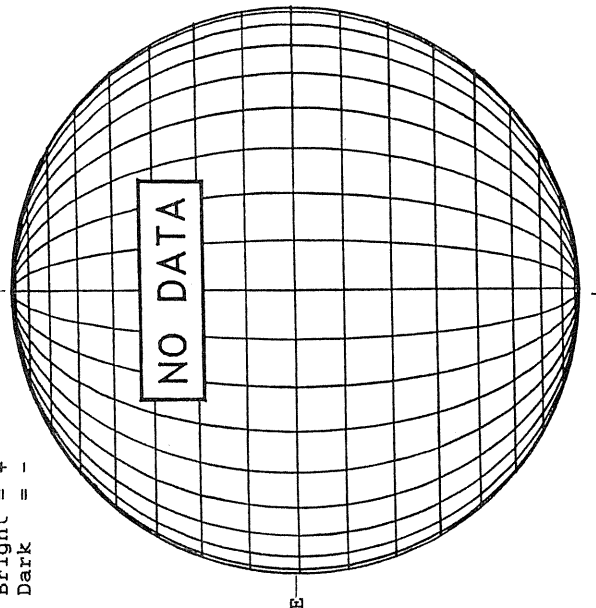


FeXIV, 1843 UT

FEBRUARY 20, 1993 (P=-19.03, B₀ = -7.01, L₀ = 325.79)

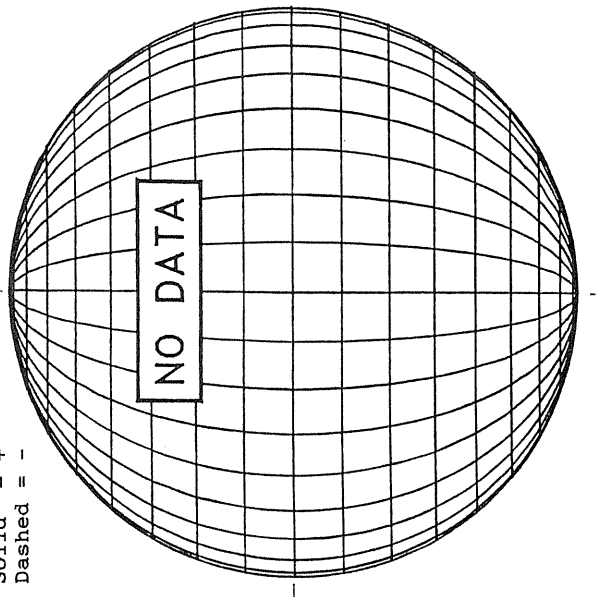
KITT PEAK MAGNETOGRAM
5507A

Bright = +
Dark = -



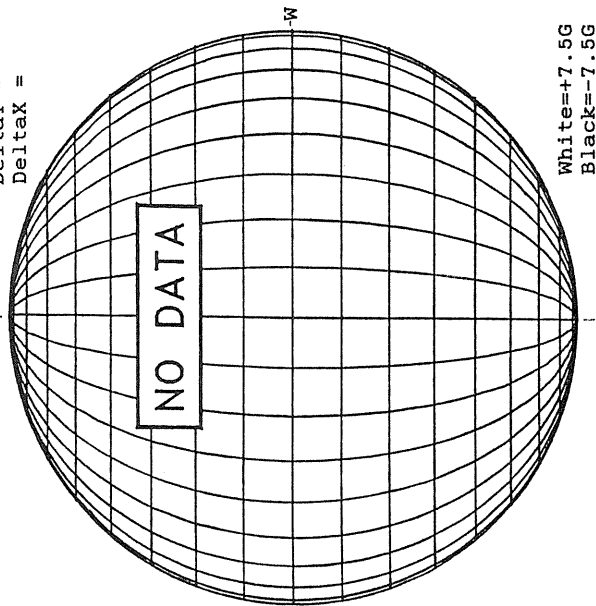
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



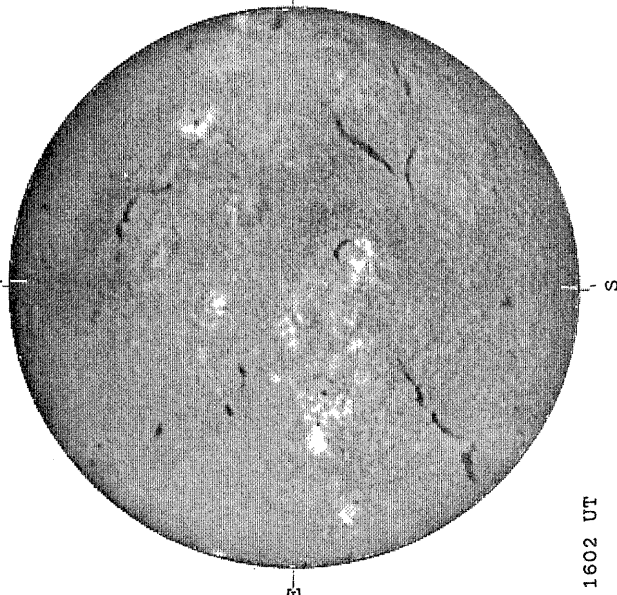
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =

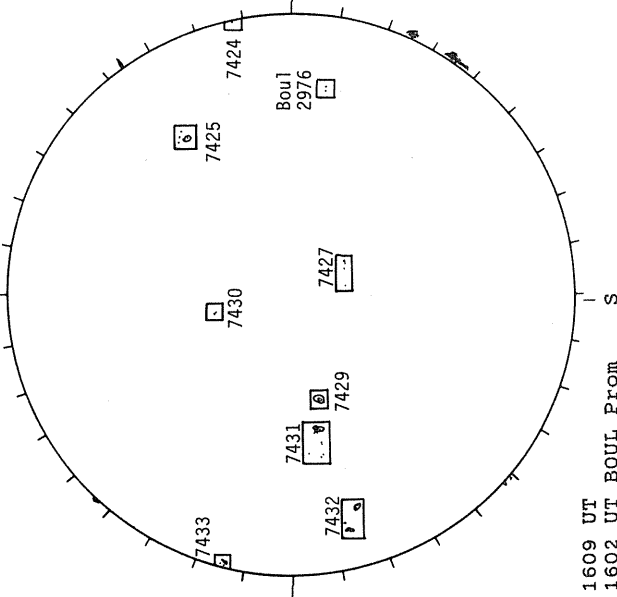


White = +7.5G
Black = -7.5G

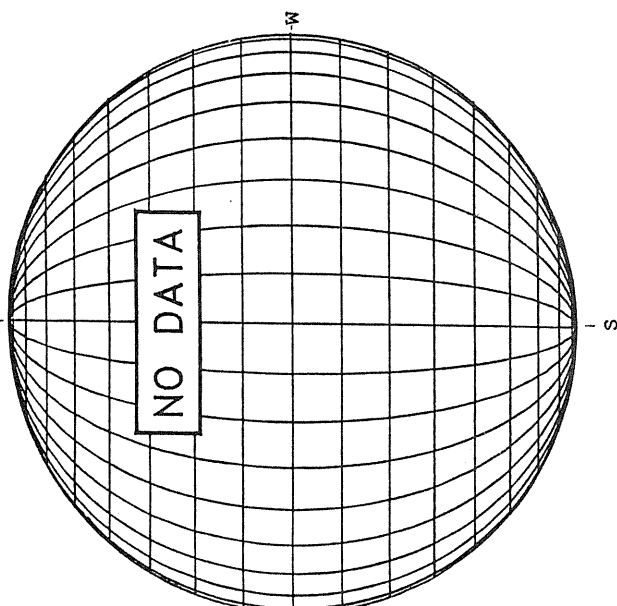
BOULDER H-ALPHA



BOULDER SUNSPOT



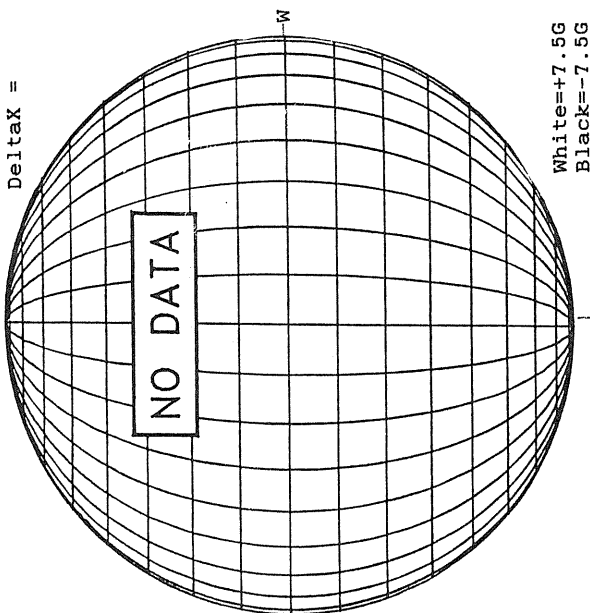
SACRAMENTO PEAK CORONA (1.15 Radii)



FEBRUARY 21, 1993 (P=-19.34, B₀ =-7.04 L₀ = 312.62)

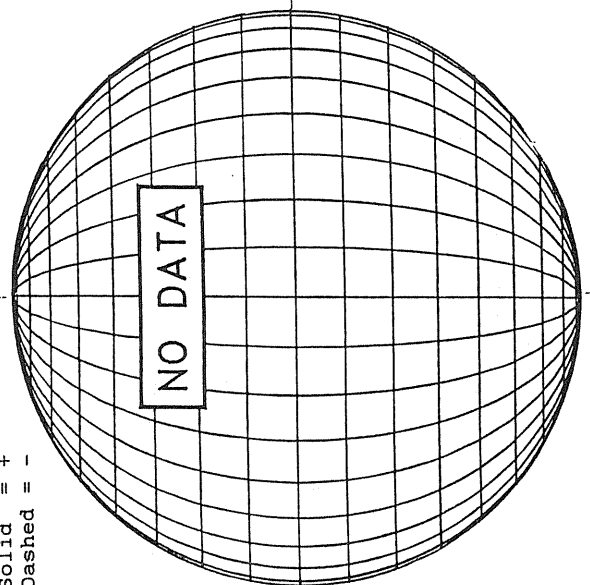
MT. WILSON MAGNETOGRAM

Delta_Y =
Delta_X =



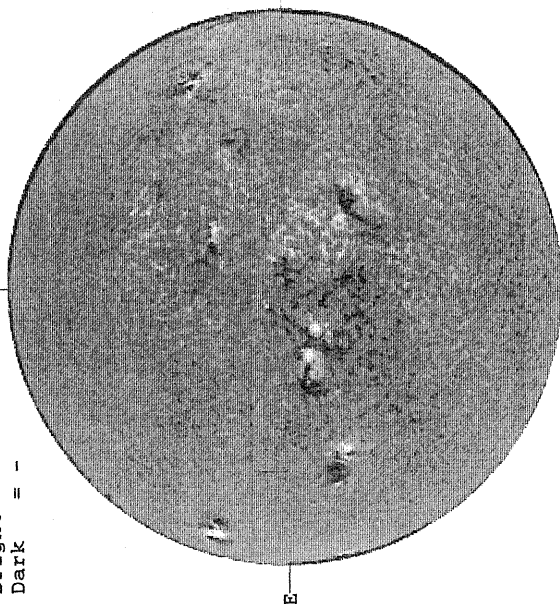
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



KITT PEAK MAGNETOGRAM
5507A

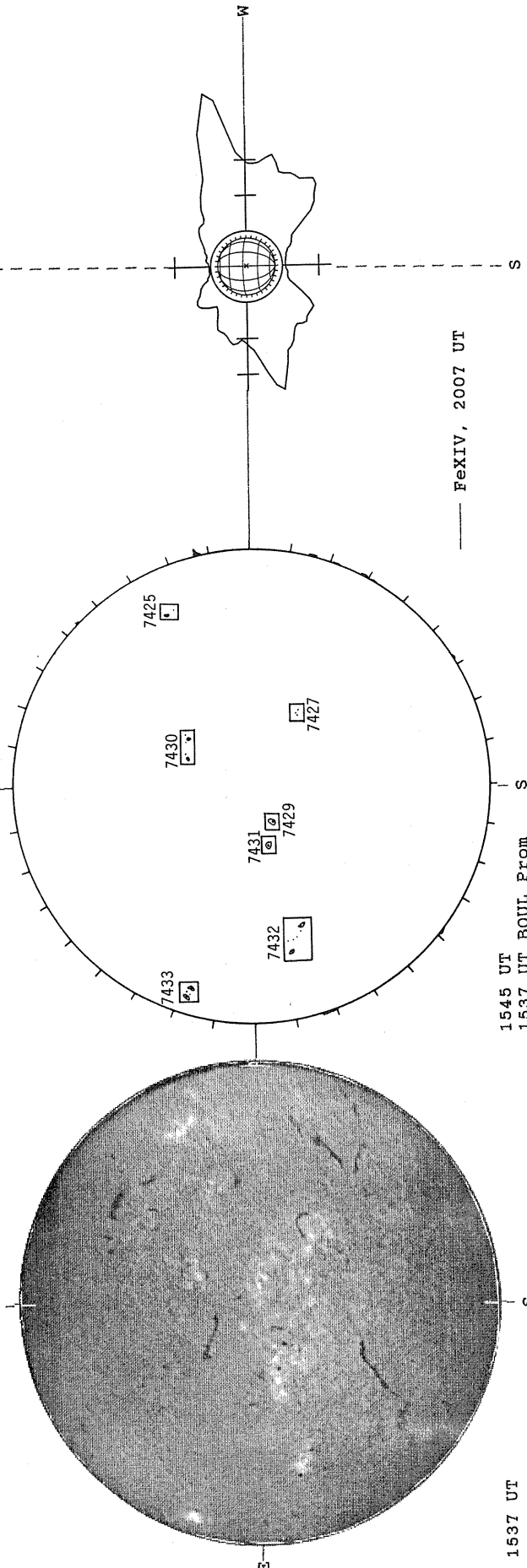
Bright = +
Dark = -



SACRAMENTO PEAK CORONA (1.15 Radii)

BOULDER SUNSPOT

BOULDER H-ALPHA

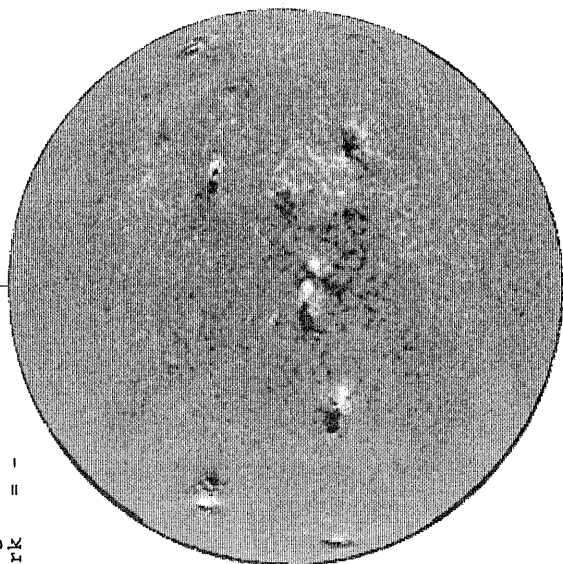


FEBRUARY 22, 1993 (P=-19.64, B₀ = -7.07, L₀ = 299.46)

KITT PEAK MAGNETOGRAM

5507A

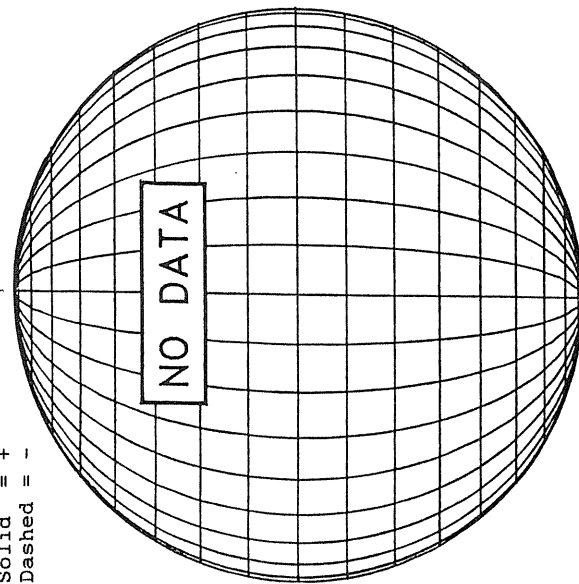
Bright = +
Dark = -



1734 UT

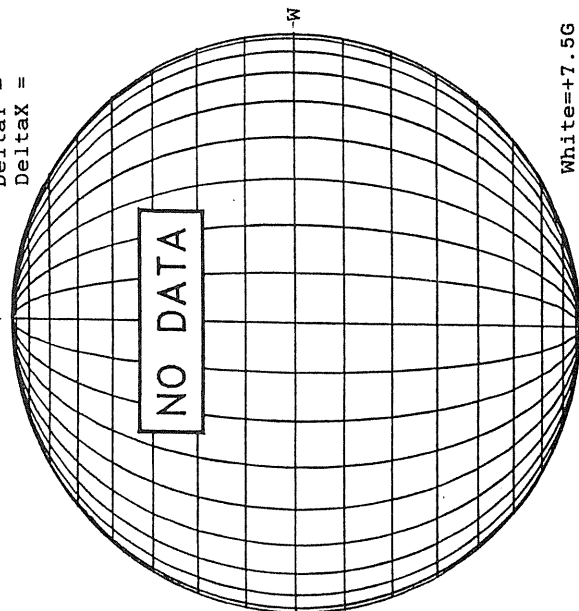
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



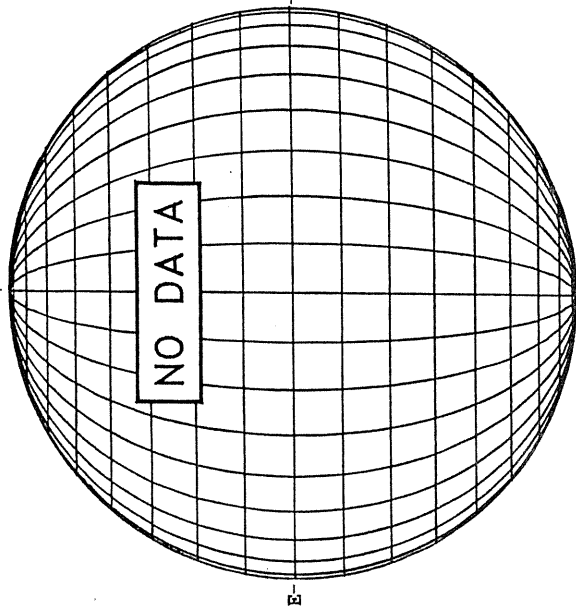
MT. WILSON MAGNETOGRAM

Delta Y =
Delta X =



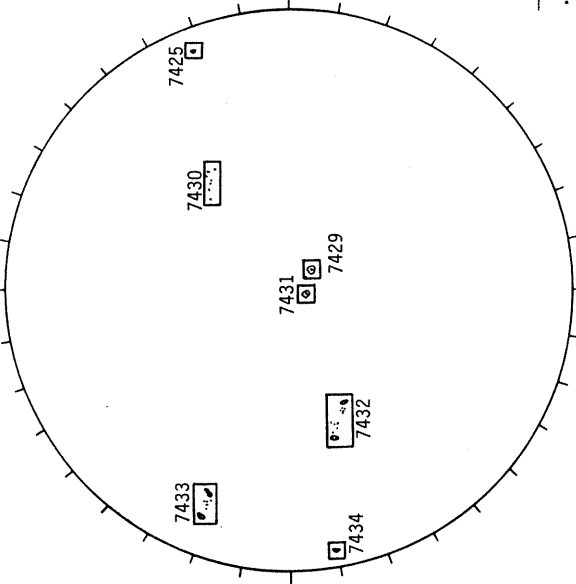
White = +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



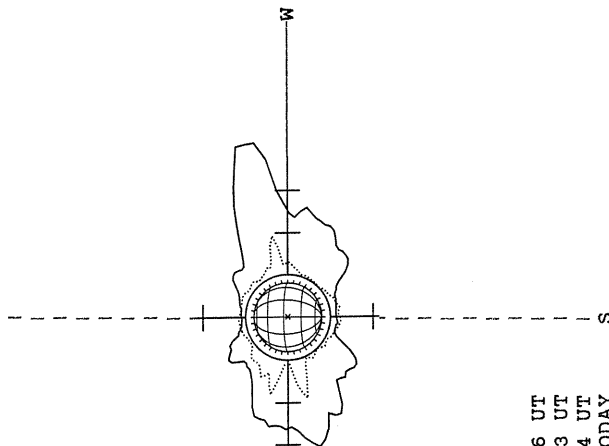
E

BOULDER SUNSPOT



1459 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

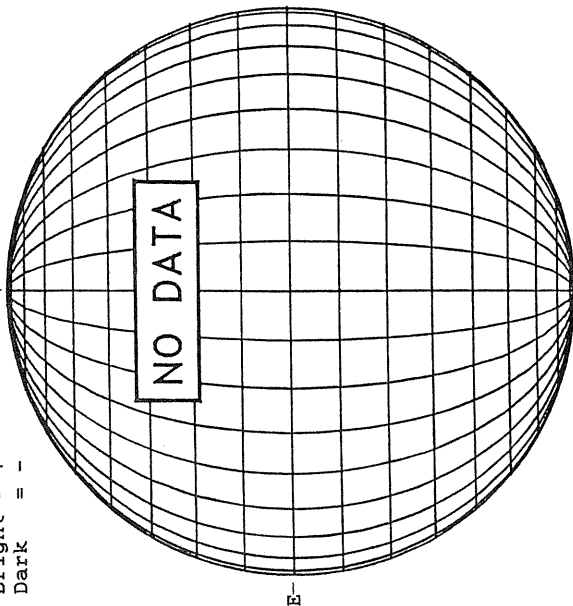


— Fe XIV, 2006 UT
.... Fe X, 2043 UT
xxxx Ca XV, 2034 UT
NO CA XV ACTIVITY TODAY

FEBRUARY 23, 1993 (P=-19.93, B₀ =-7.09, L₀ = 286.29)

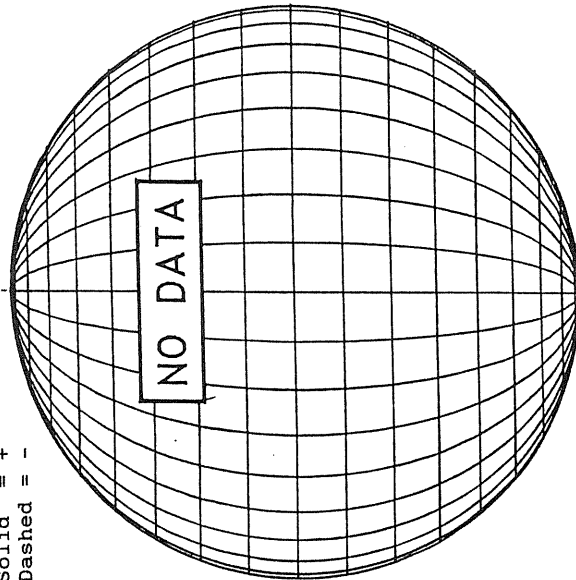
KITT PEAK MAGNETOGRAM
5507A

Bright = +
Dark = -



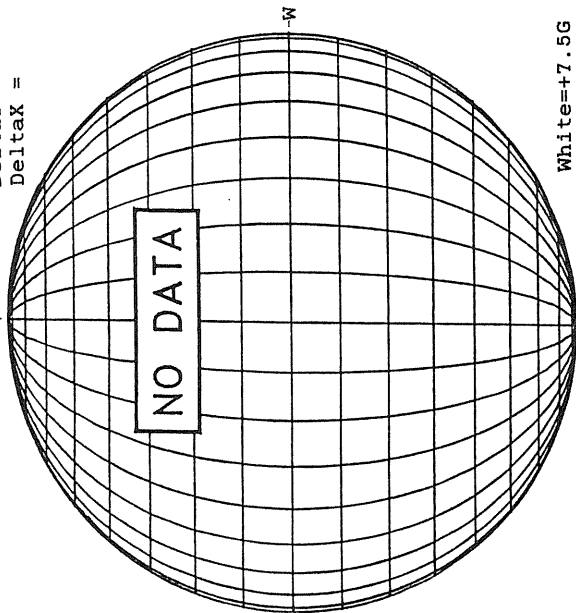
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



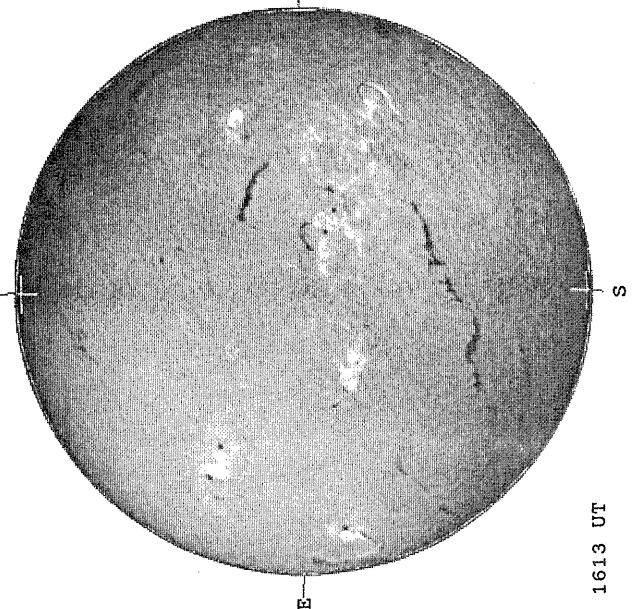
MT. WILSON MAGNETOGRAM

Delta_Y =
Delta_X =



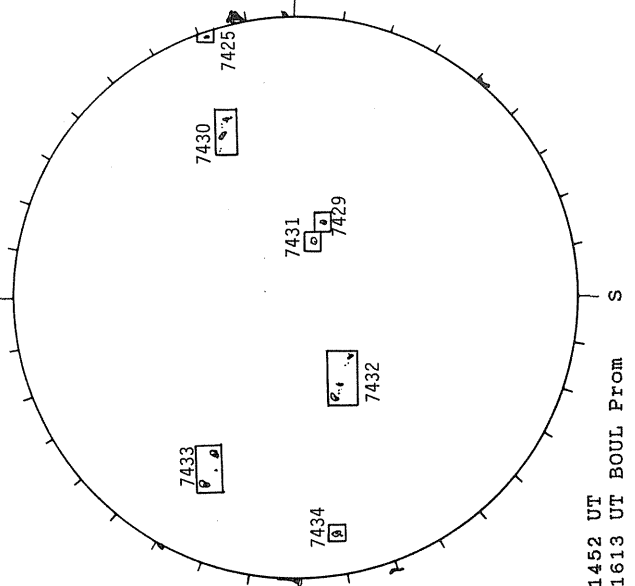
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



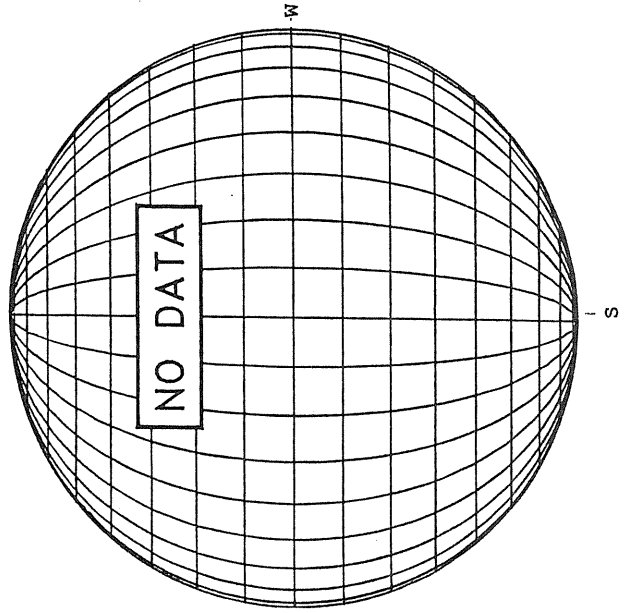
1613 UT

BOULDER SUNSPOT



1452 UT
1613 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

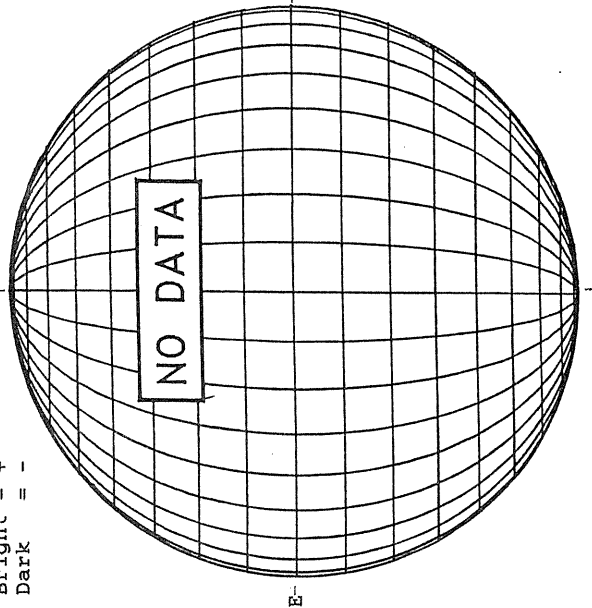


FEBRUARY 24, 1993 (P=-20.21 B₀ =-7.12, L₀ = 273.12)

KITT PEAK MAGNETOGRAM

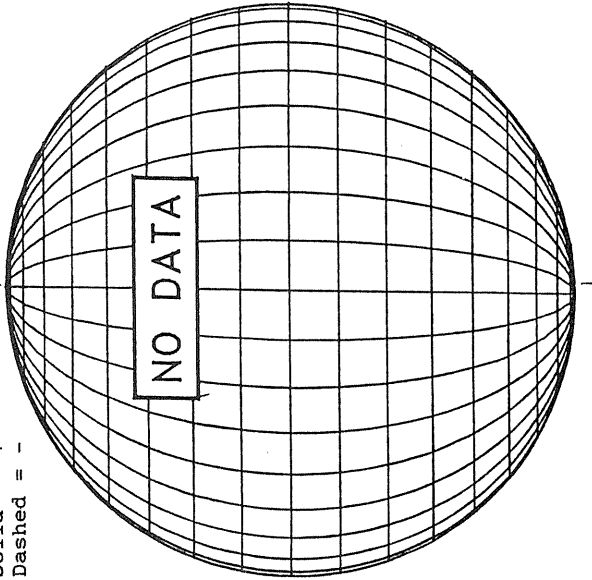
5507A

Bright = +
Dark = -



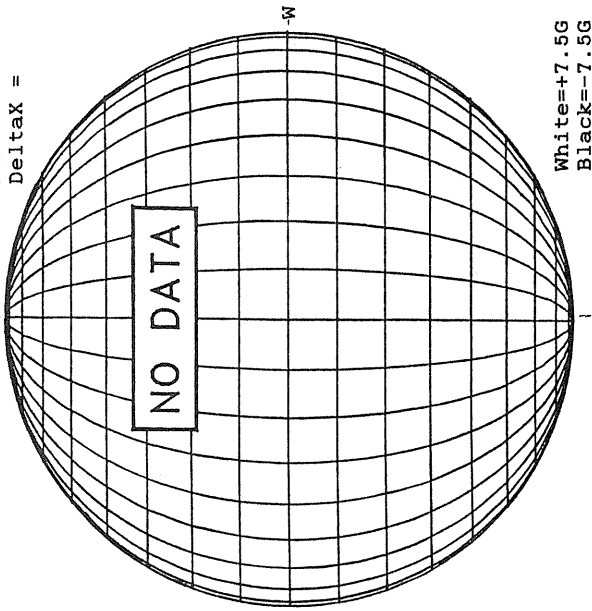
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



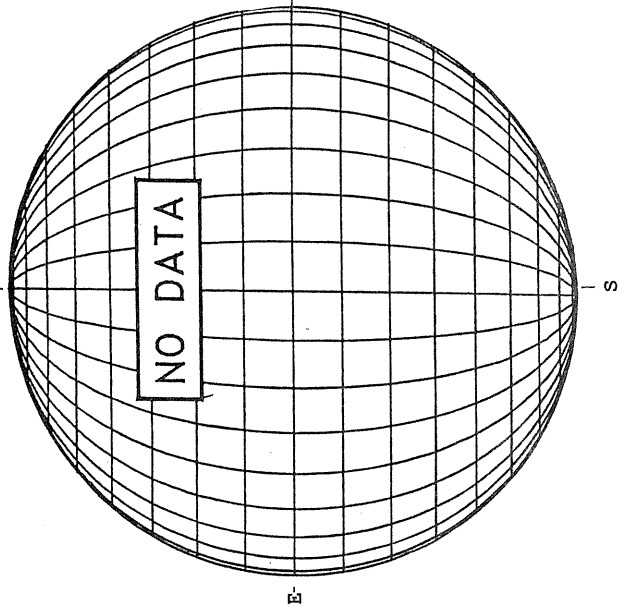
MT. WILSON MAGNETOGRAM

Delta Y =
Delta X =

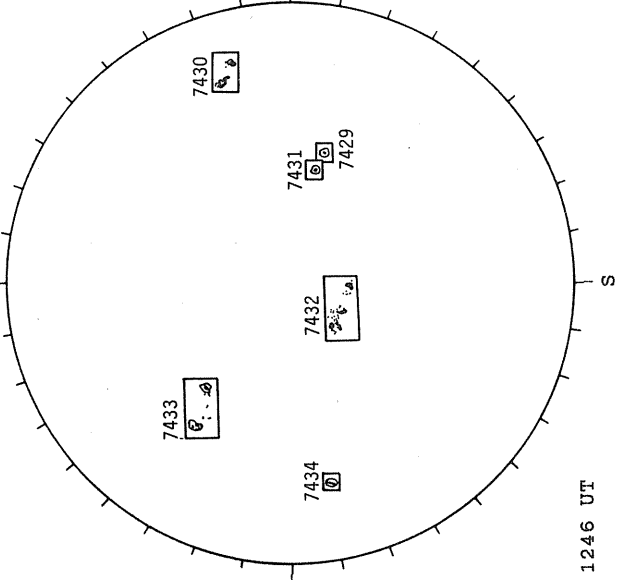


White=+7.5G
Black=-7.5G

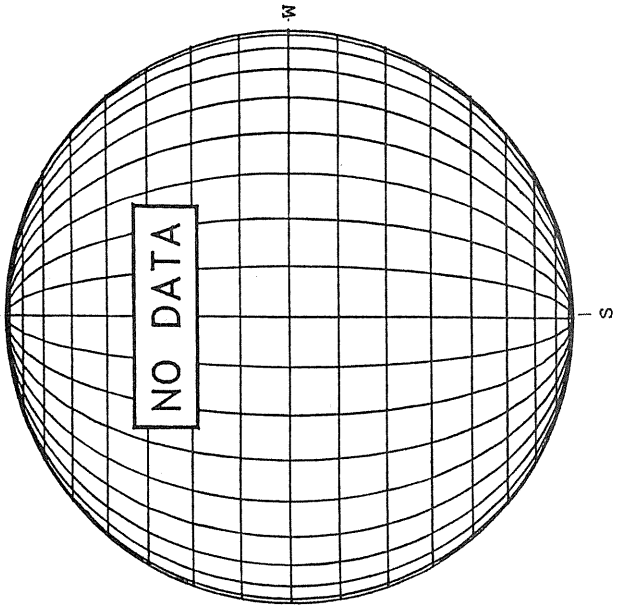
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)



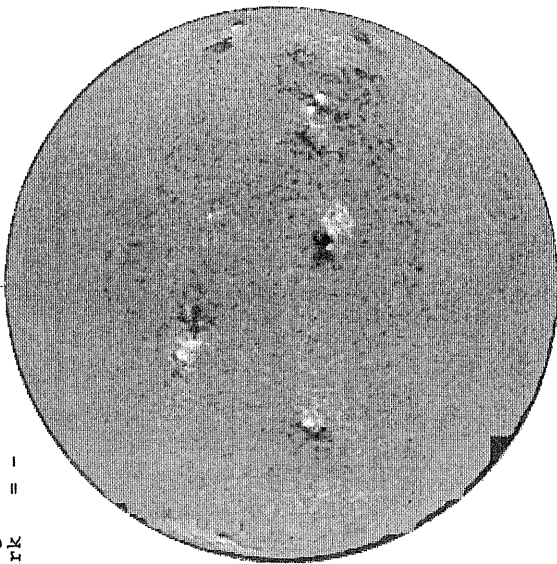
1246 UT

FEBRUARY 25, 1993 (P=-20.49 B₀ =-7.14, L₀ = 259.94)

KITT PEAK MAGNETOGRAM

5507A

Bright = +
Dark = -



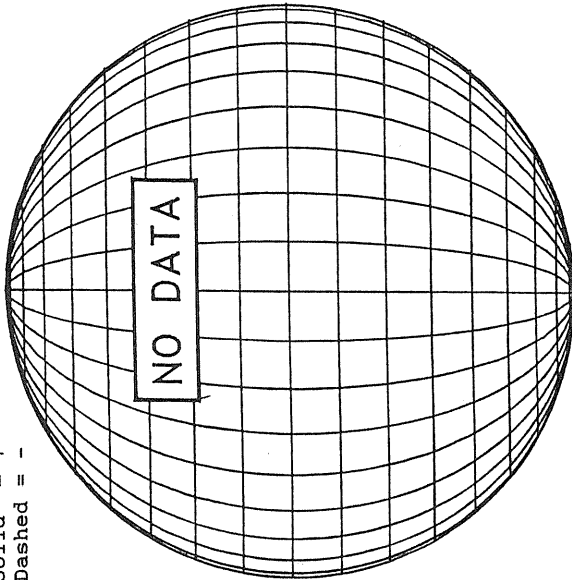
E

1717 UT

STANFORD MAGNETOGRAM

N

Solid = +
Dashed = -

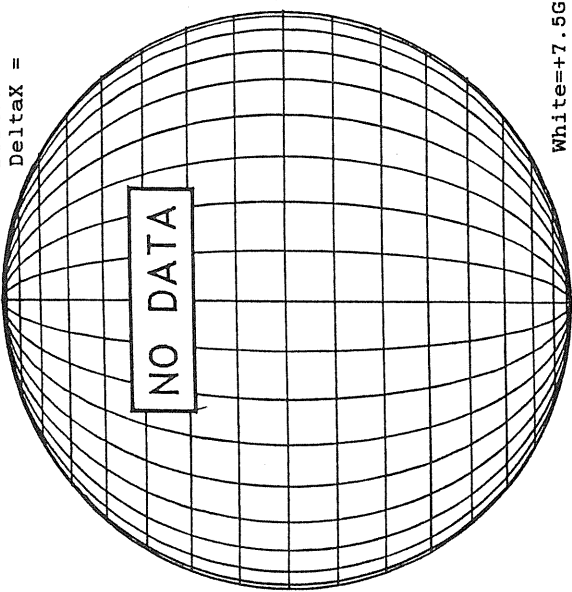


NO DATA

MT. WILSON MAGNETOGRAM

N

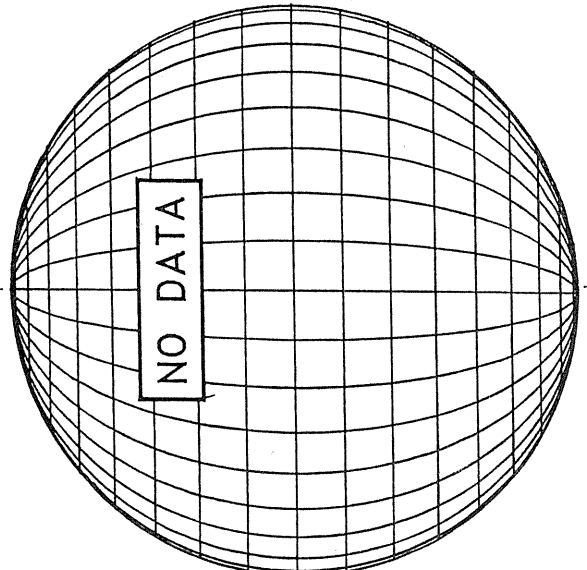
Deltay =
Deltax =



NO DATA

White=+7.5G
Black=-7.5G

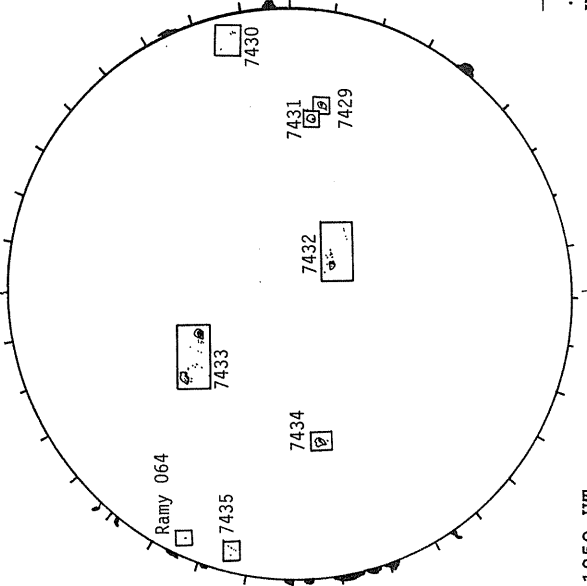
SACRAMENTO PEAK H-ALPHA



NO DATA

E

RAMEY SUNSPOT



Ramy 064

7433

7434

7432

7431

7429

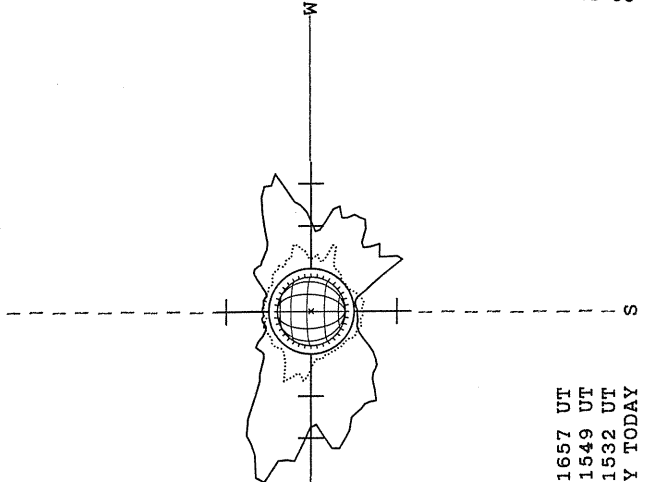
7430

0906 UT LOWNICKY Prom

1250 UT

FeXIV, 1657 UT
Fe X, 1549 UT
xxxx Ca XV, 1532 UT
NO CA XV ACTIVITY TODAY

SACRAMENTO PEAK CORONA (1.15 Radii)

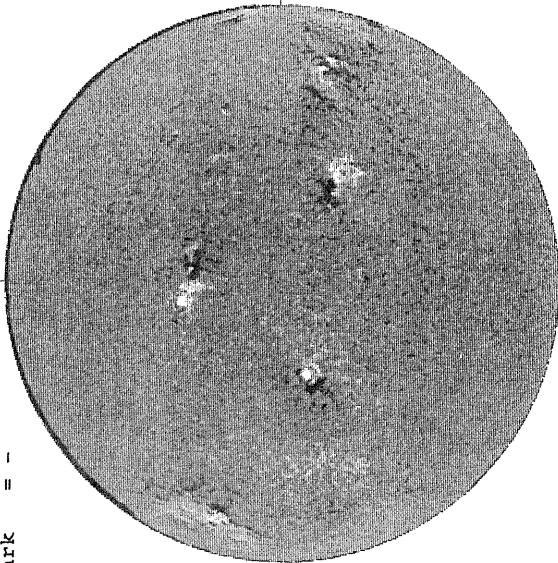


S

FEBRUARY 26, 1993 (P=-20.77, B₀ = -7.16, L₀ = 246.77)

KITT PEAK MAGNETOGRAM
5507A

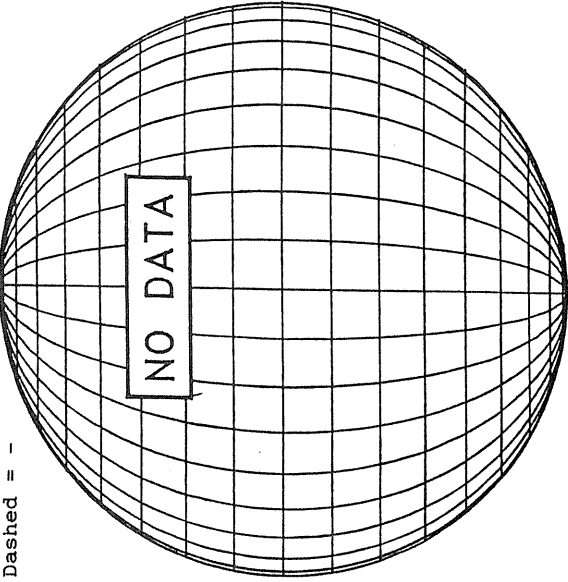
Bright = +
Dark = -



1502 UT

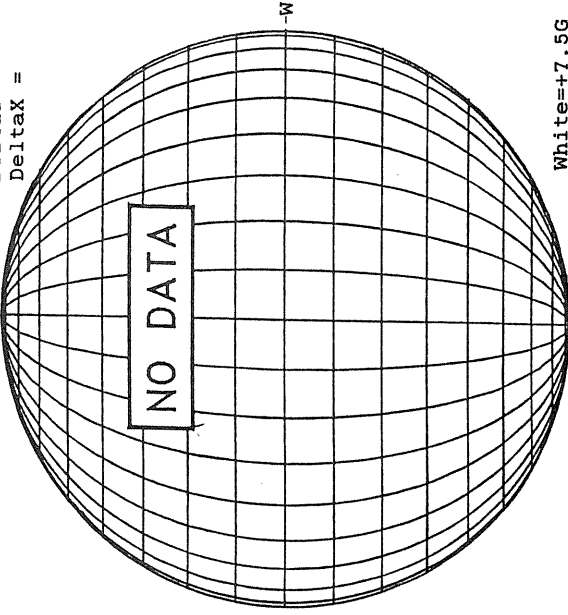
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



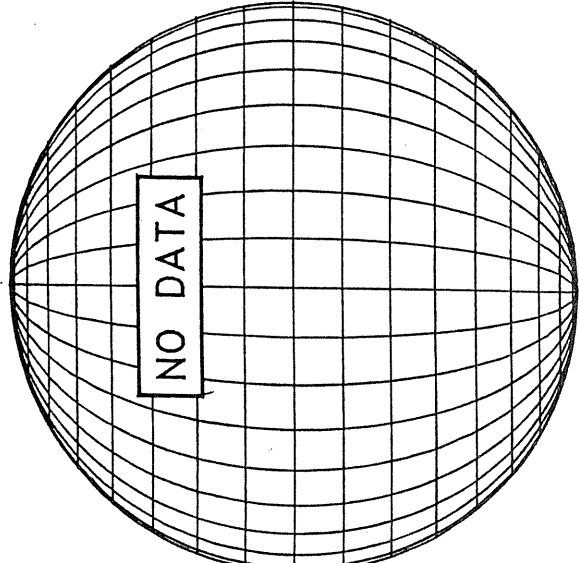
MT. WILSON MAGNETOGRAM

Deltay =
Deltax =

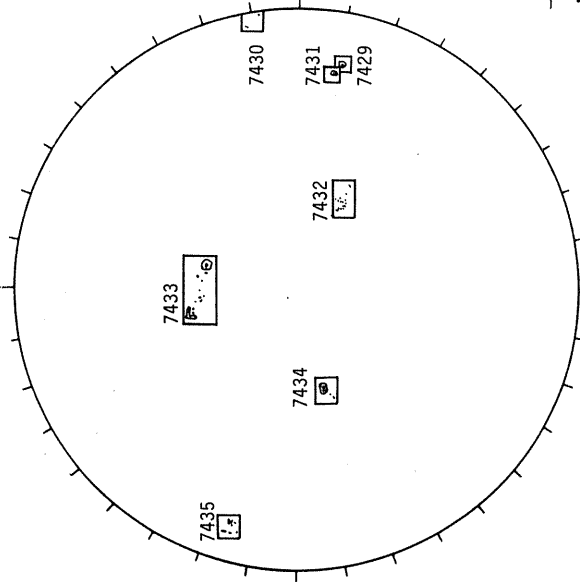


White = +7.5G
Black = -7.5G

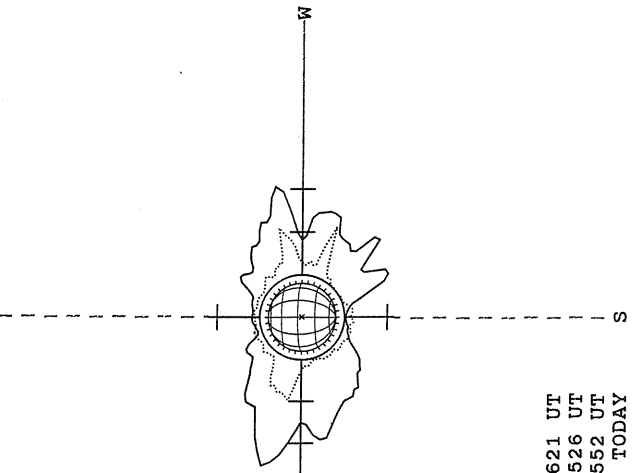
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)



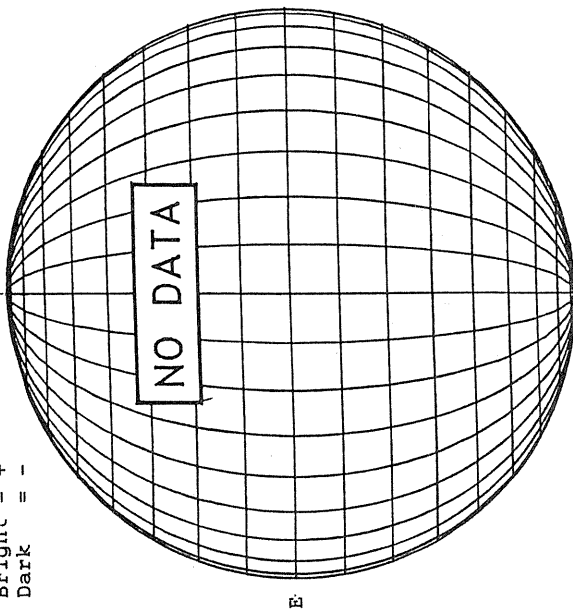
— FeXIV, 1621 UT
.... Fe X, 1526 UT
xxxx Ca XV, 1552 UT
NO CA XV ACTIVITY TODAY

FEBRUARY 27, 1993 (P=-21.03, $B_0 = -7.18$, $L_0 = 233.60$)

KITT PEAK MAGNETOGRAM

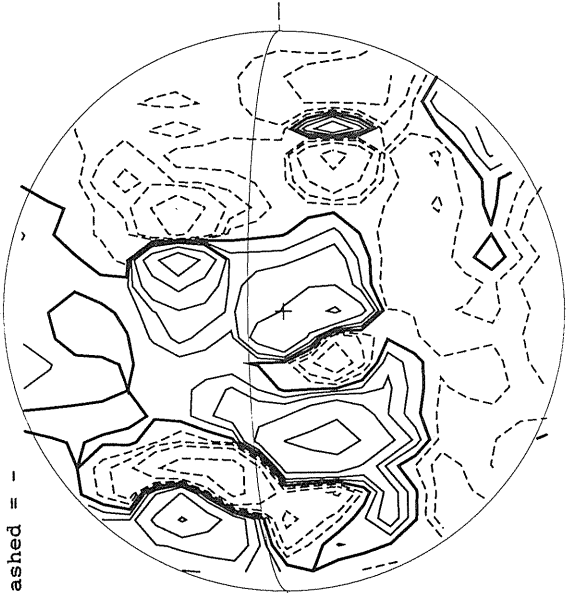
5507A

Bright = +
Dark = -



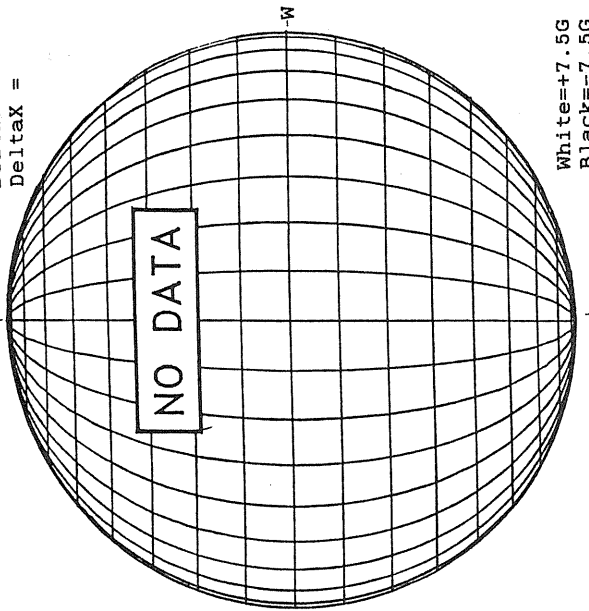
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



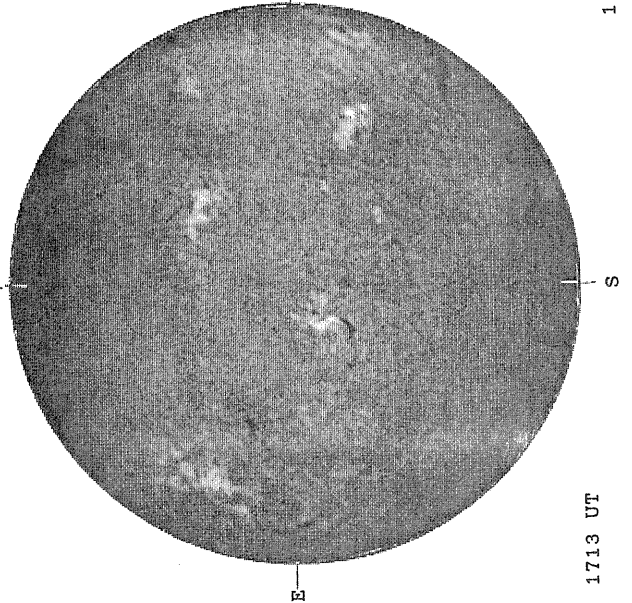
MT. WILSON MAGNETOGRAM

Delta γ =
Delta α =



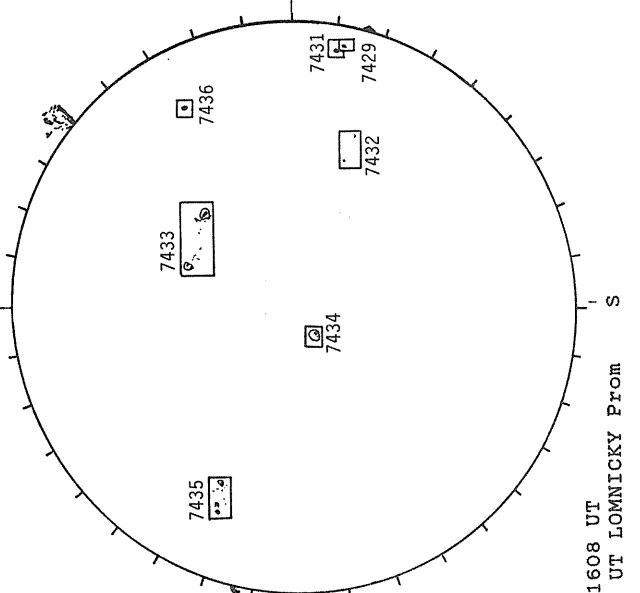
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



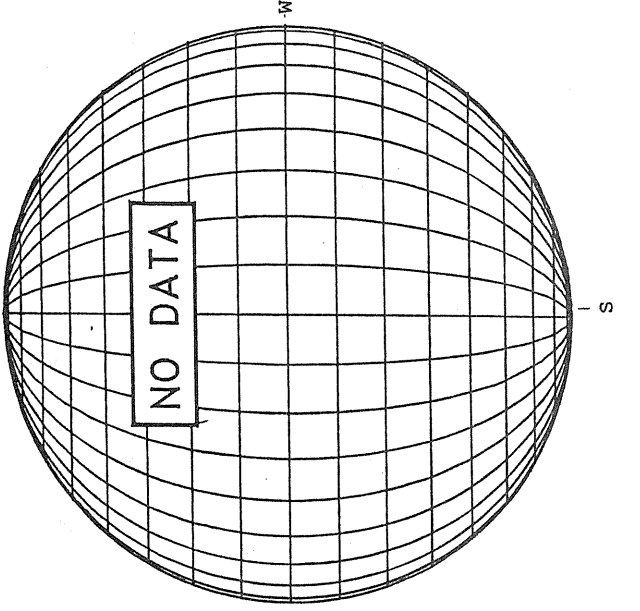
1713 UT

BOULDER SUNSPOT



1608 UT
1158 UT LOMNICKY PROM

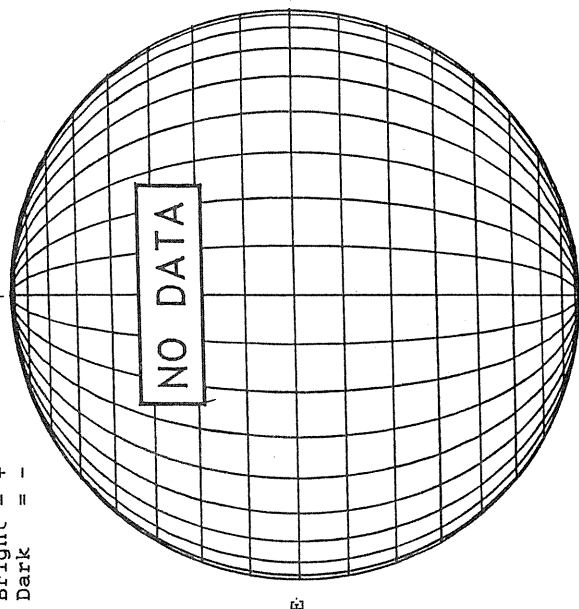
LOMNICKY STIT CORONA (1.15 Radii)



FEBRUARY 28, 1993 (P=-21.30 B₀ = -7.19, L₀ = 220.43)

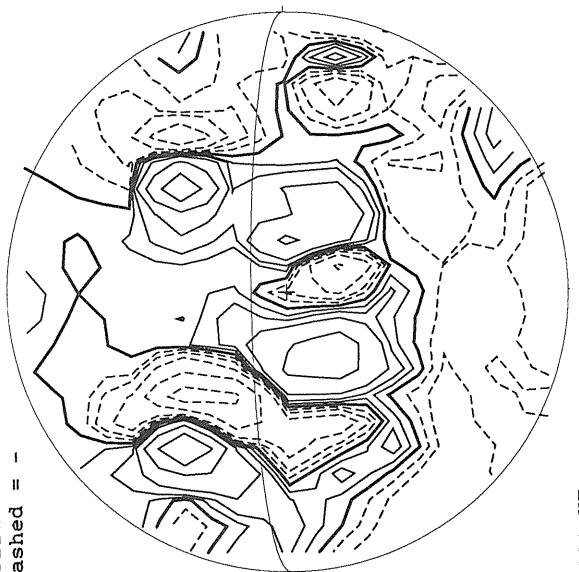
KITT PEAK MAGNETOGRAM
5507A

Bright = +
Dark = -



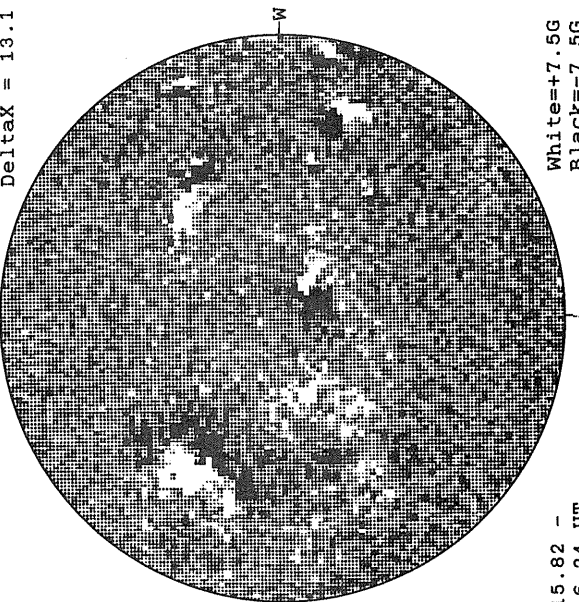
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

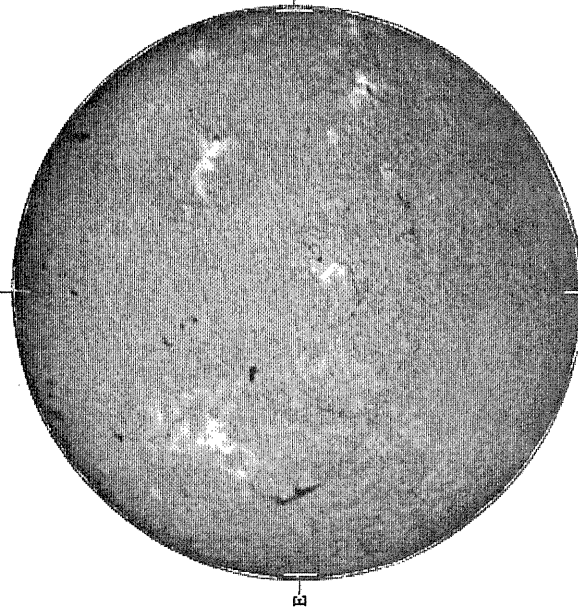
Delta_y = 20.2
Delta_x = 13.1



15.82 -
16.24 UT

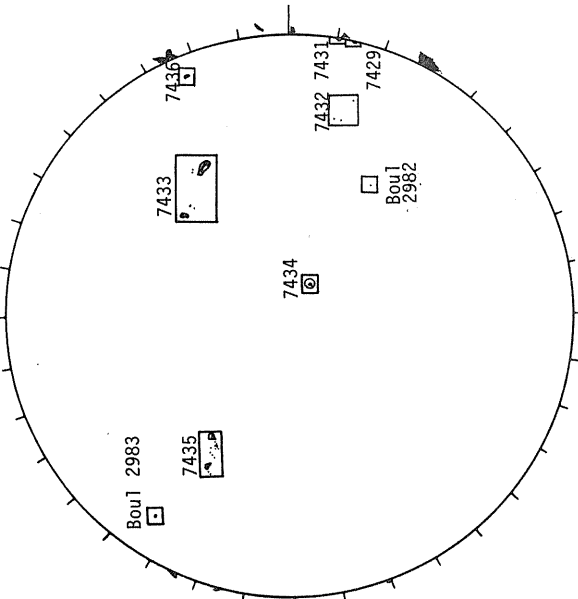
White = +7.5G
Black = -7.5G

BOULDER H-ALPHA



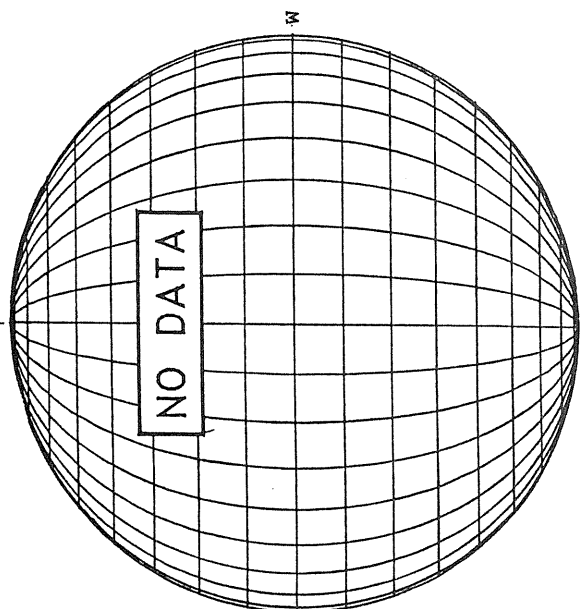
1549 UT

BOULDER SUNSPOT



1525 UT
1549 UT BOUL Prom

LOMNICKY STIT CORONA (1.15 Radii)

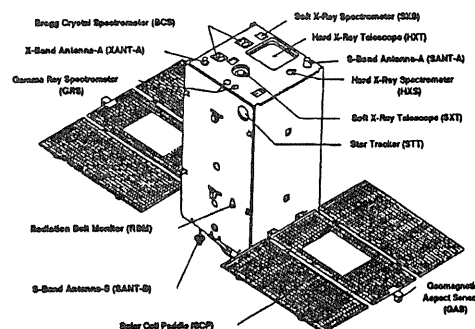


S

DAILY SOFT X-RAY IMAGES FROM YOHKOH

The YOHKOH ("sunbeam") mission is a Japanese program designed to answer many questions in solar flare and coronal physics that have been raised by the highly successful Hinotori and SMM missions. It includes the United States and the United Kingdom as participating partners. The Japanese Institute for Space and Astronautical Sciences (ISAS) provided overall program management, the launch vehicle, the spacecraft, and two science instruments -- a Hard X-ray Telescope, one of the primary mission instruments, and a Wide Band Spectrometer. The other primary instrument, a Soft X-ray Telescope, was prepared by the Lockheed Palo Alto Research Laboratory, under NASA support, in collaboration with the National Astronomical Observatory of Japan and the University of Tokyo. The U.K., in collaboration with the E. O. Hulburt Center for Space Research, provided a Bragg Crystal Spectrometer. The NASA Deep Space Network cooperates in tracking Yohkoh.

The Soft X-ray Telescope (SXT) uses low-scatter grazing incidence optics to form direct images on a CCD detector. It employs a Nariai-Werner design which differs from the more commonly used Wolter Type 1 in that both mirror segments have been made hyperbolic in order to gain better off-axis performance at the expense of a slight loss of on-axis resolution. The optical system includes an entrance aperture filter, the X-ray mirror, a filter wheel assembly, a rotating shutter, and the CCD camera. A detailed description of the SXT has been published in Tsuneta, et al., **Solar Physics, Vol. 136**, pp. 37-67, 1991.



ISAS bears full responsibility for YOHKOH operations. U.S. and U.K. investigators in residence at ISAS participate in mission operations and scientific analyses. With the approval of Professor Y. Ogawara, Yohkoh Program Manager, and the YOHKOH Science Committee, the Lockheed Palo Alto Research Laboratory is kindly providing daily digital SXT images for publication in SGD. The digital images are 512x512 (5" pixels) or 256x256 (10" pixels) in size. They combine two exposures differing by a factor of 35 in duration and are printed with a logarithmic intensity scale to cope with the great range in intensity of the X-ray corona. The brightest features are typically more than 100,000 times brighter than the faintest. The mean wavelength of the pictures is about 20 angstroms. We display these images of the solar corona in soft X-rays in both positive and negative forms. They are printed on a dye sublimation printer at NGDC.

YOHKOH
SOFT X-RAY
TELESCOPE
IMAGES

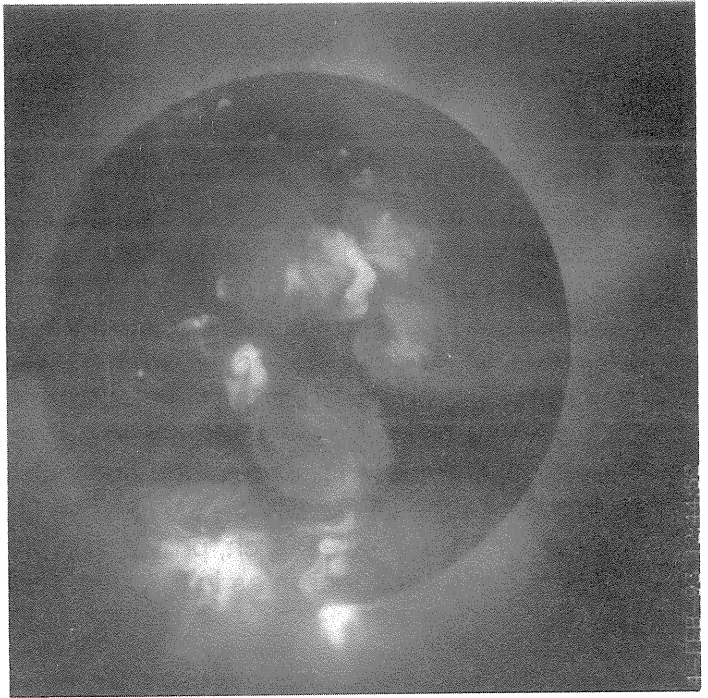
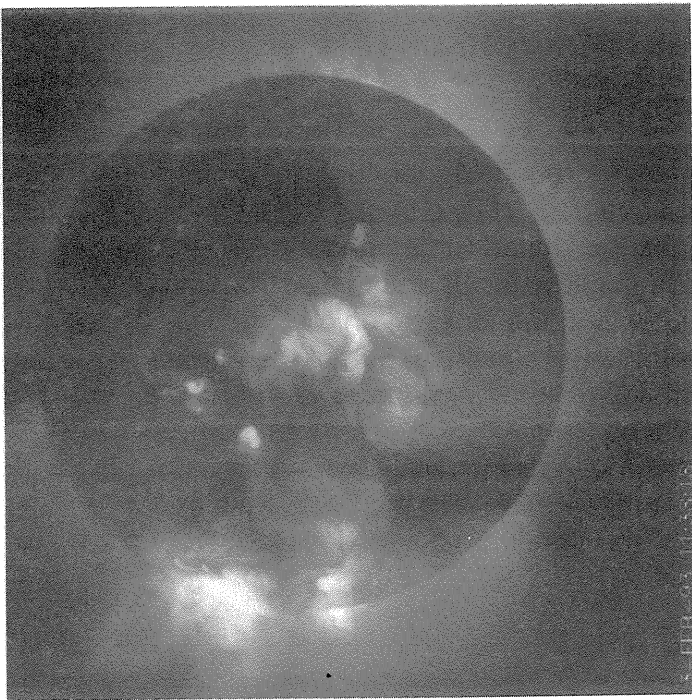
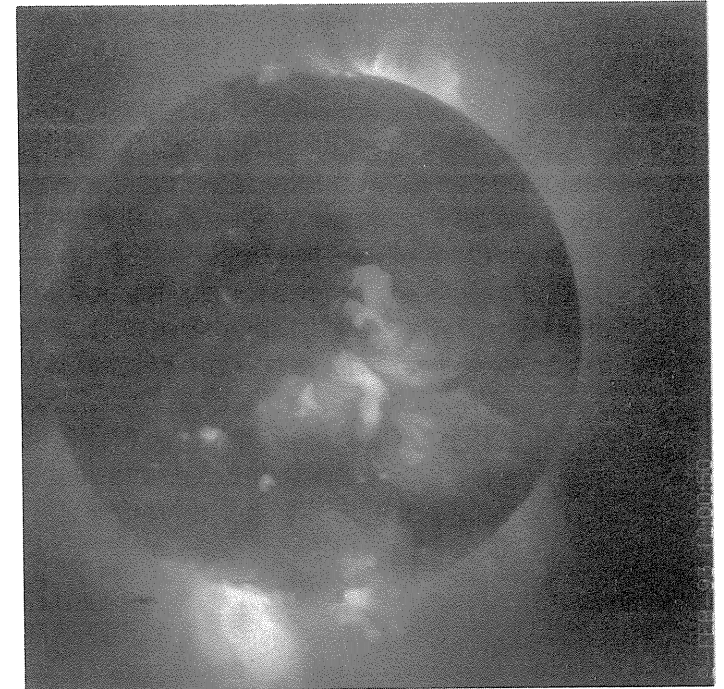
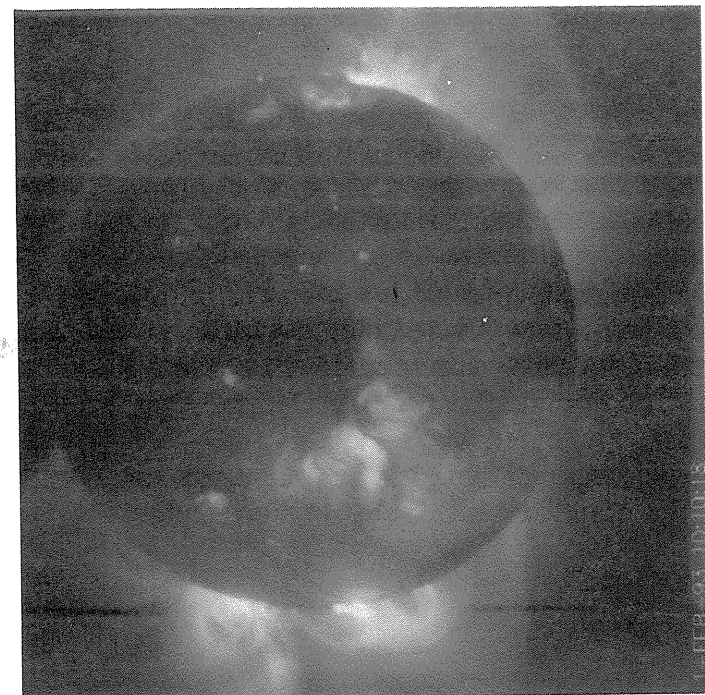
February
1993

Day 1
10:10:18 UT

Day 3
11:38:18 UT

Day 2
12:00:50 UT

Day 4
12:44:52 UT

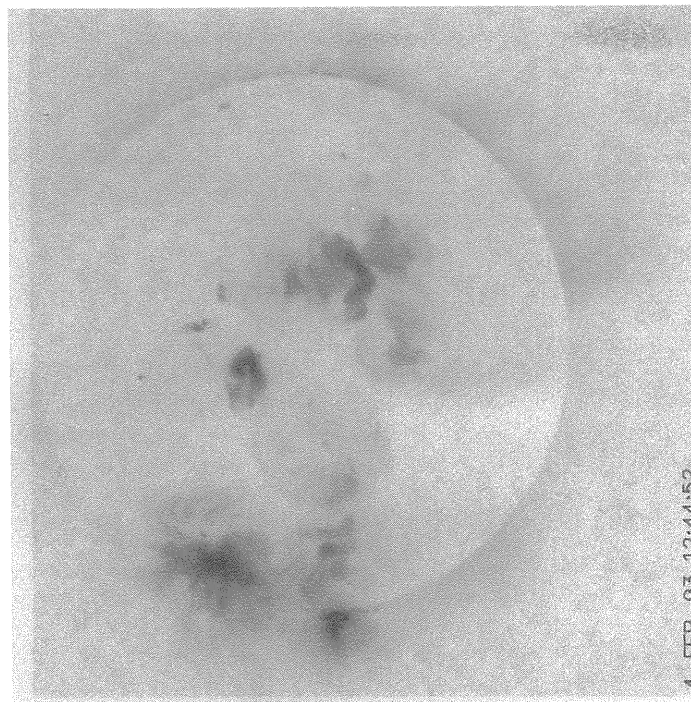
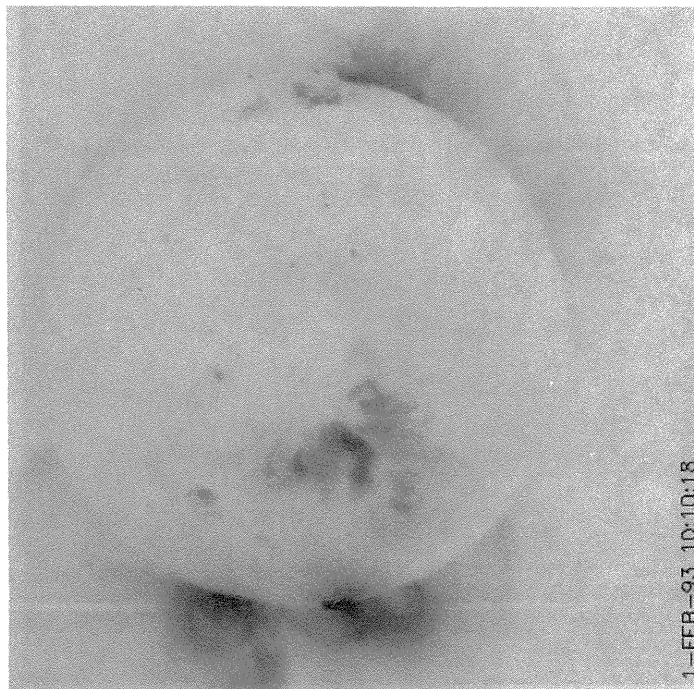


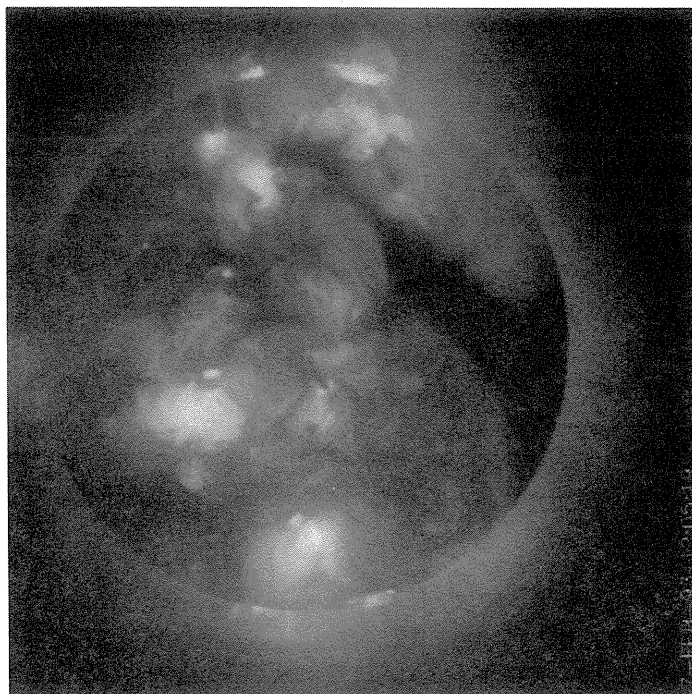
**YOHKOH
SOFT X-RAY
TELESCOPE
IMAGES**

**February
1993**

Day 1 Day 3
10:10:18 UT 11:38:18 UT

Day 2 Day 4
12:00:50 UT 12:44:52 UT

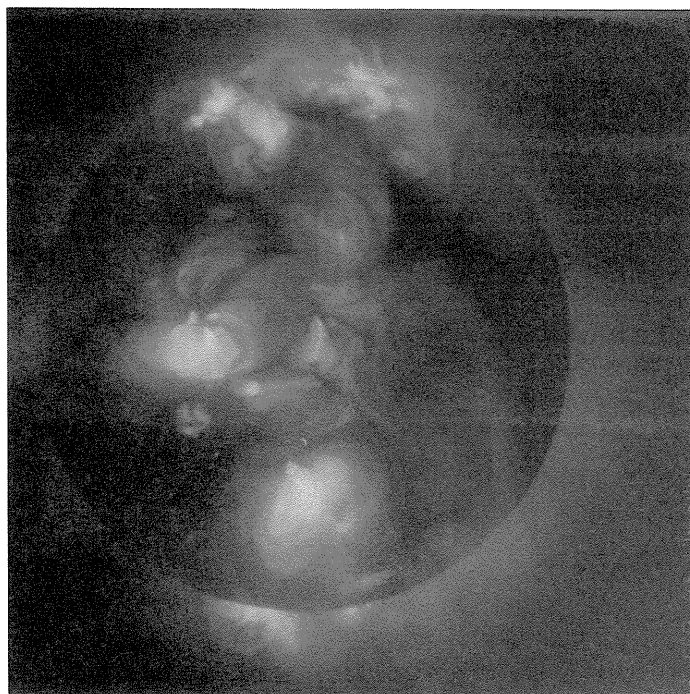




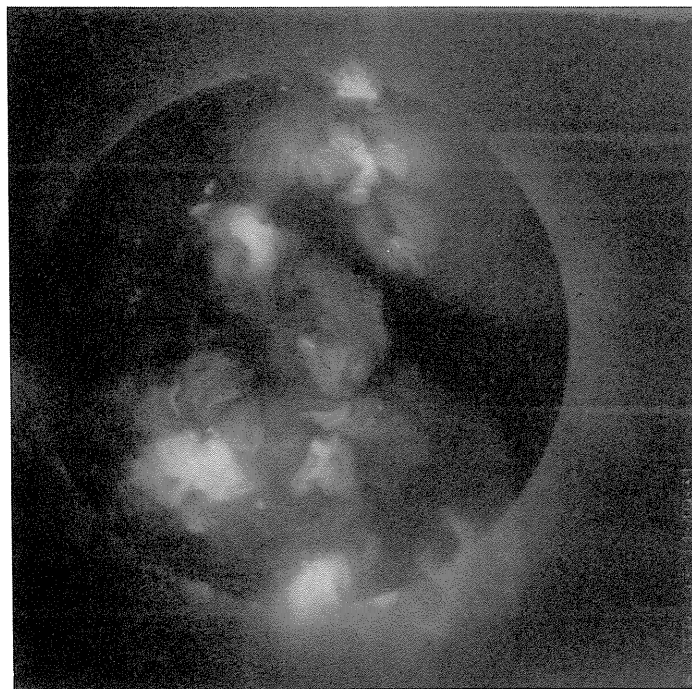
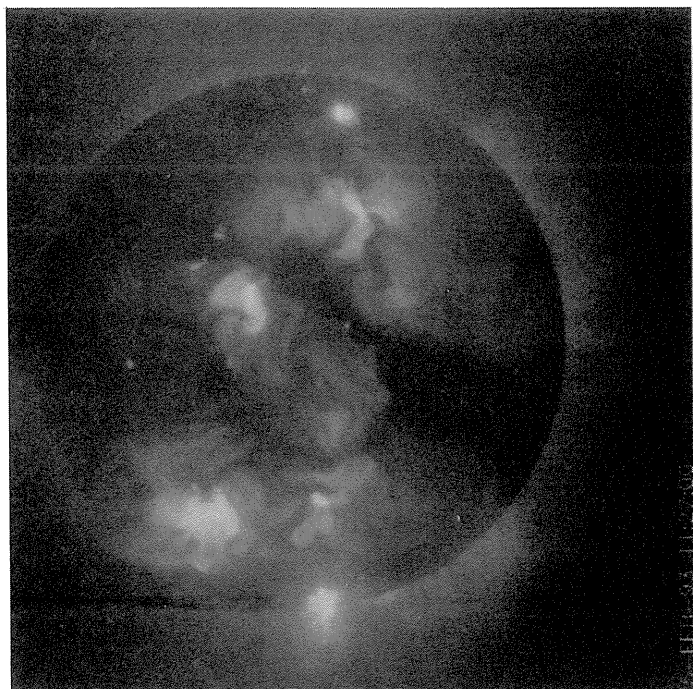
**YOHKOH
SOFT X-RAY
TELESCOPE
IMAGES**

**February
1993**

Day 5 Day 7
11:27:00 UT 12:05:19 UT



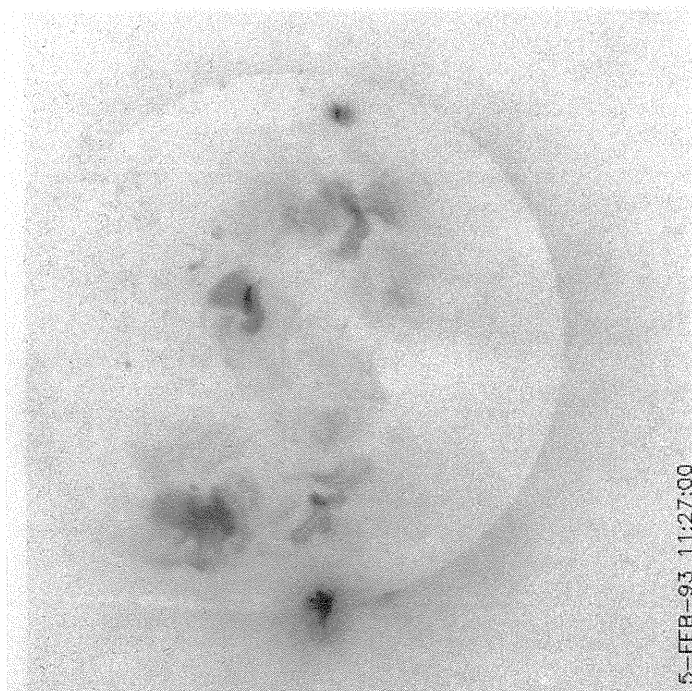
Day 6 Day 8
11:49:31 UT 12:28:51 UT



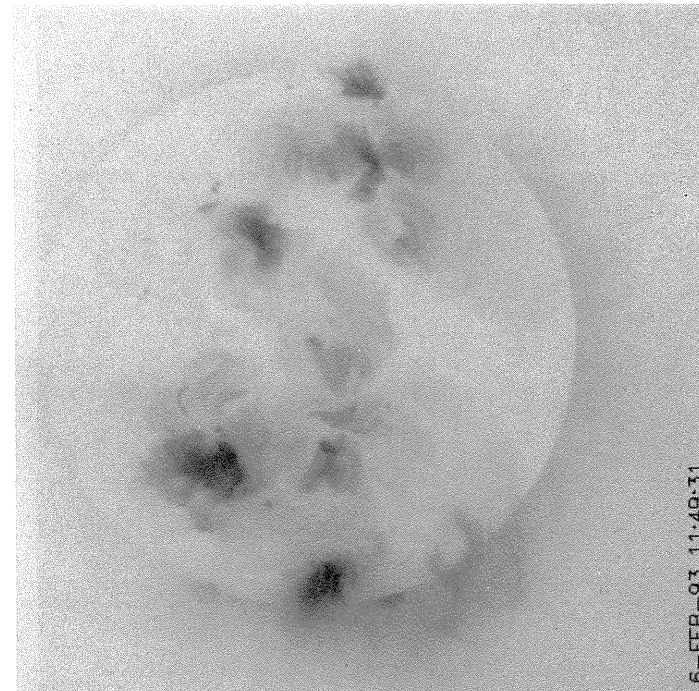
YOHKOH
SOFT X-RAY
TELESCOPE
IMAGES

February
1993

Day 5 Day 7
11:27:00 UT 12:05:19 UT

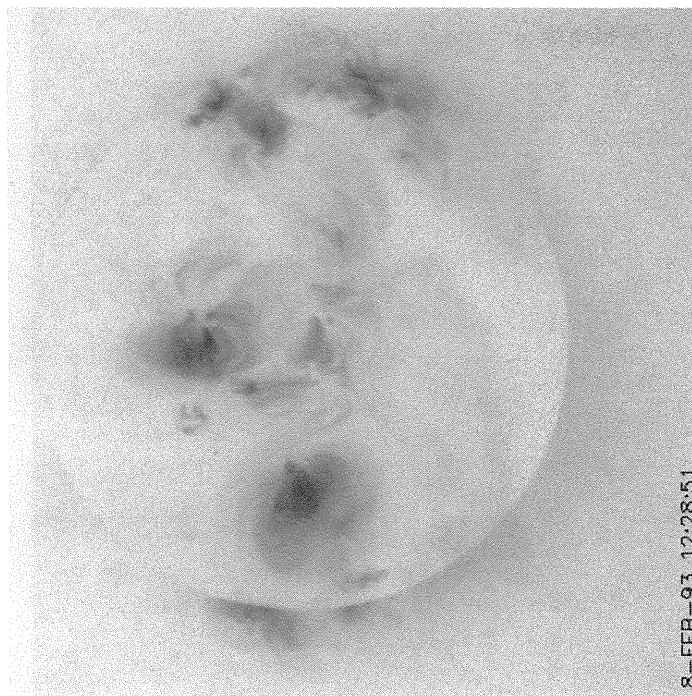


5-FEB-93 11:27:00

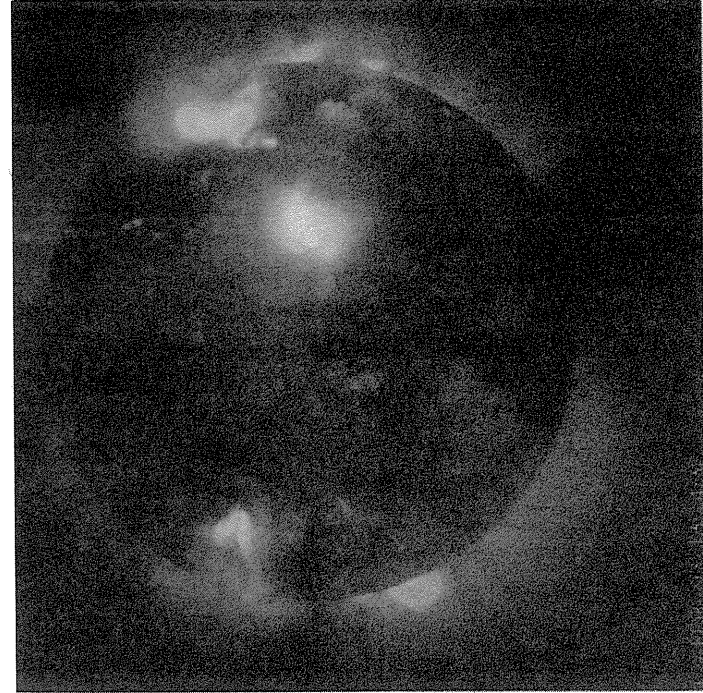
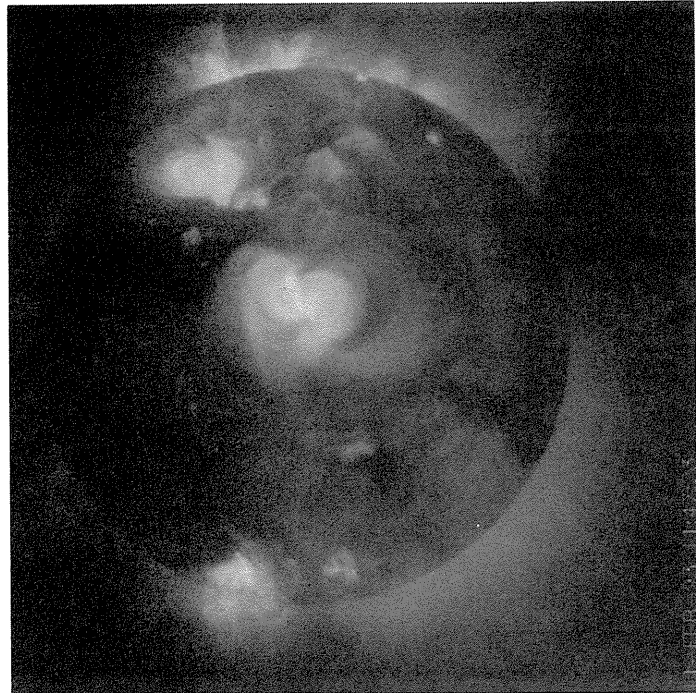


6-FEB-93 11:49:31

Day 6 Day 8
11:49:31 UT 12:28:51 UT



8-FEB-93 12:28:51

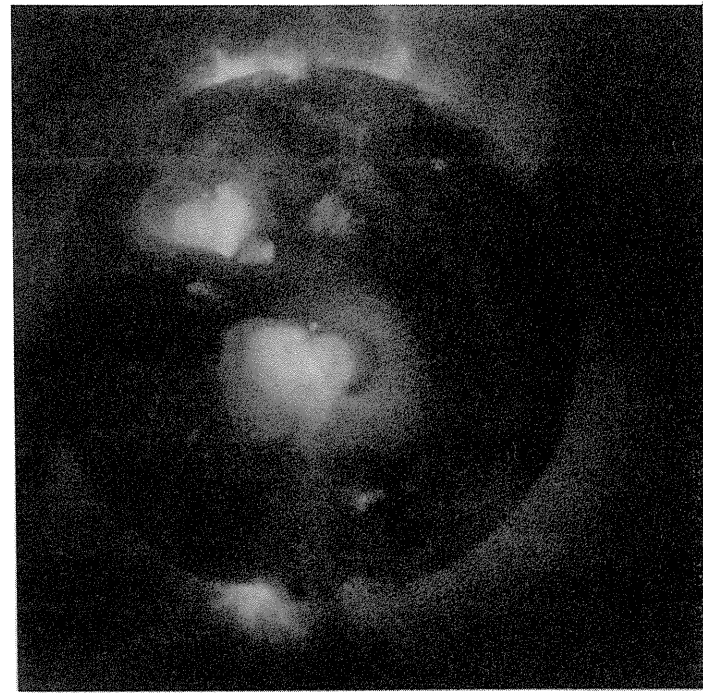
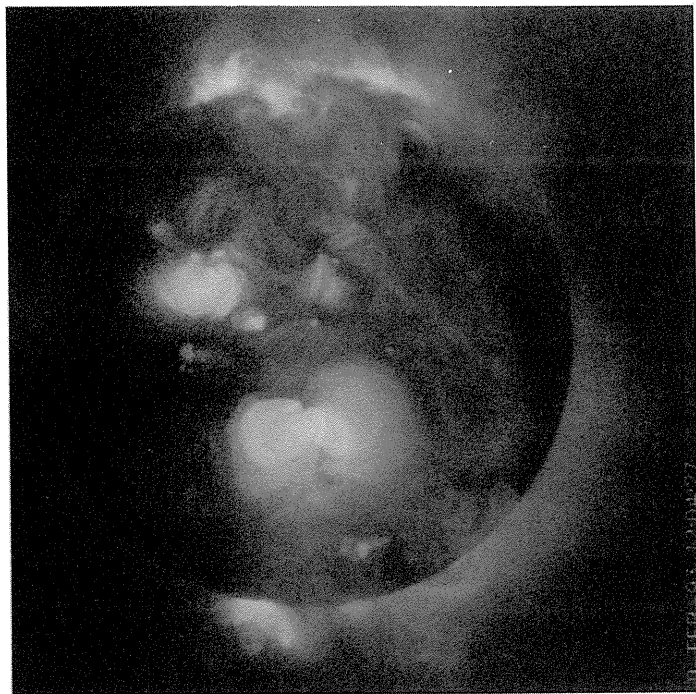


**YOHKOH
SOFT X-RAY
TELESCOPE
IMAGES**

**February
1993**

Day 9 Day 11
12:04:27 UT 11:47:23 UT

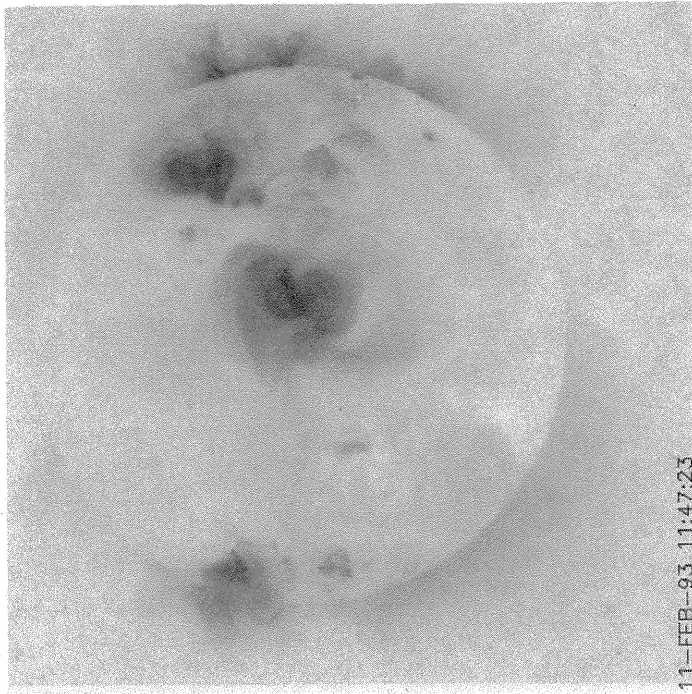
Day 10 Day 12
12:25:37 UT 13:14:32 UT



YOHKOH
SOFT X-RAY
TELESCOPE
IMAGES

February
1993

Day 9 Day 11
12:04:27 UT 11:47:23 UT

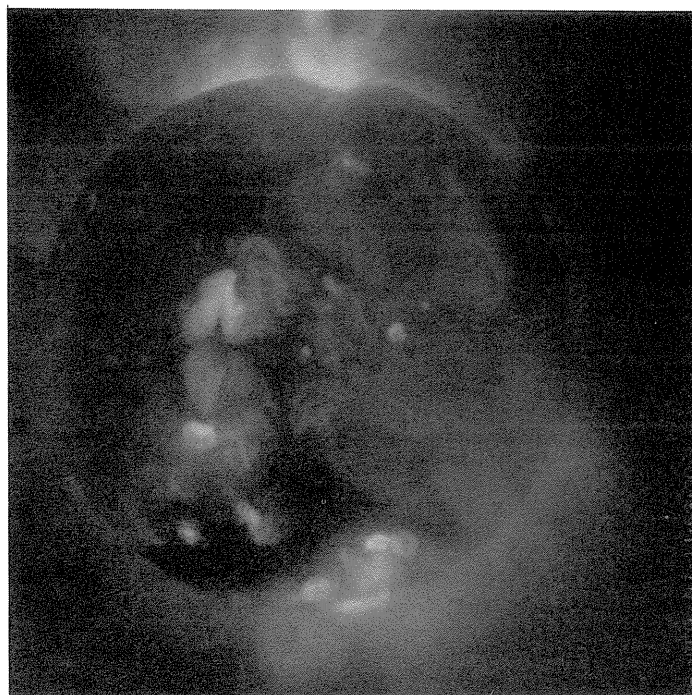
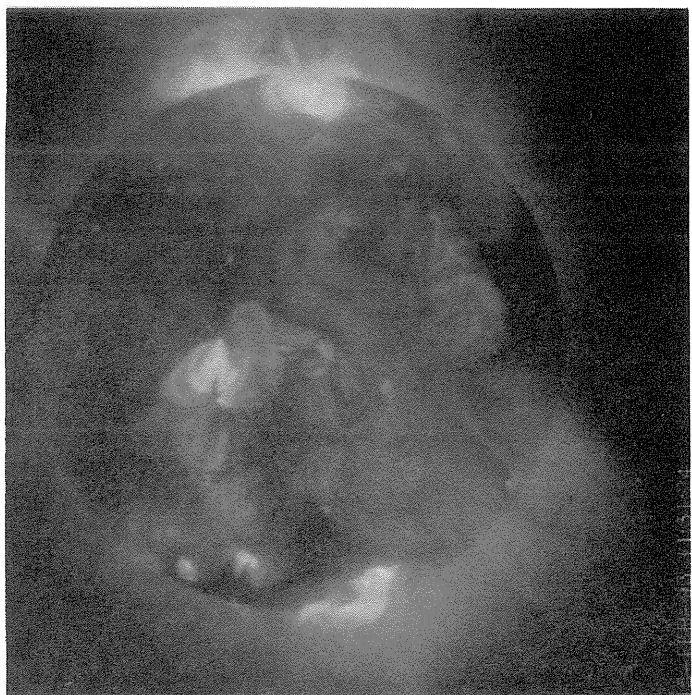
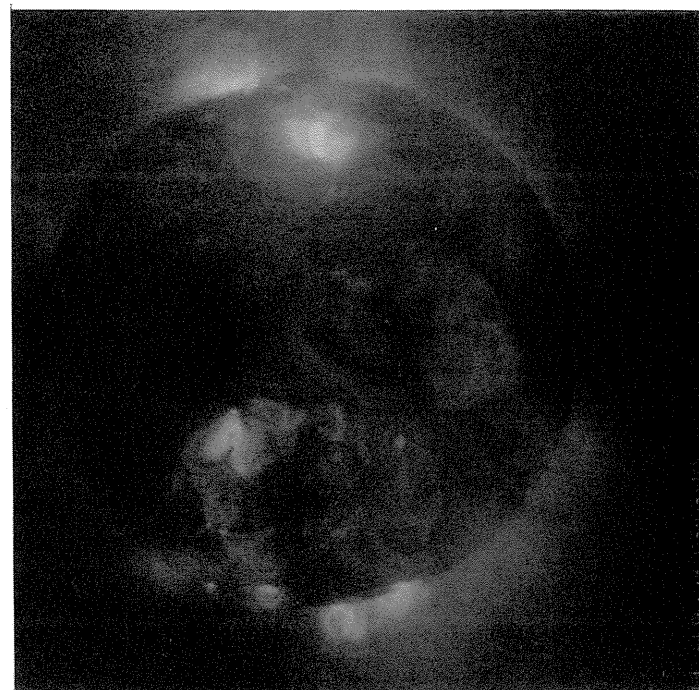
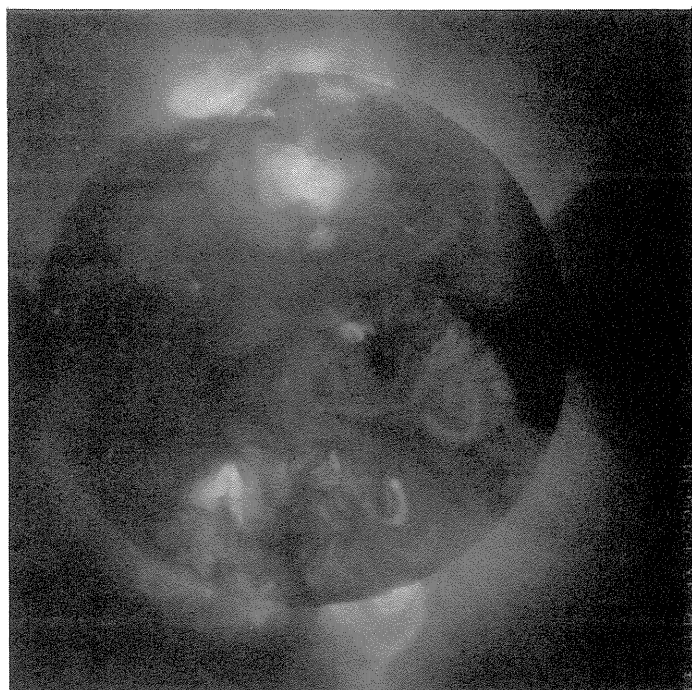


Day 10 Day 12
12:25:37 UT 13:14:32 UT

**YOHKOH
SOFT X-RAY
TELESCOPE
IMAGES**

**February
1993**

Day 13 Day 15
12:29:14 UT 11:31:24 UT

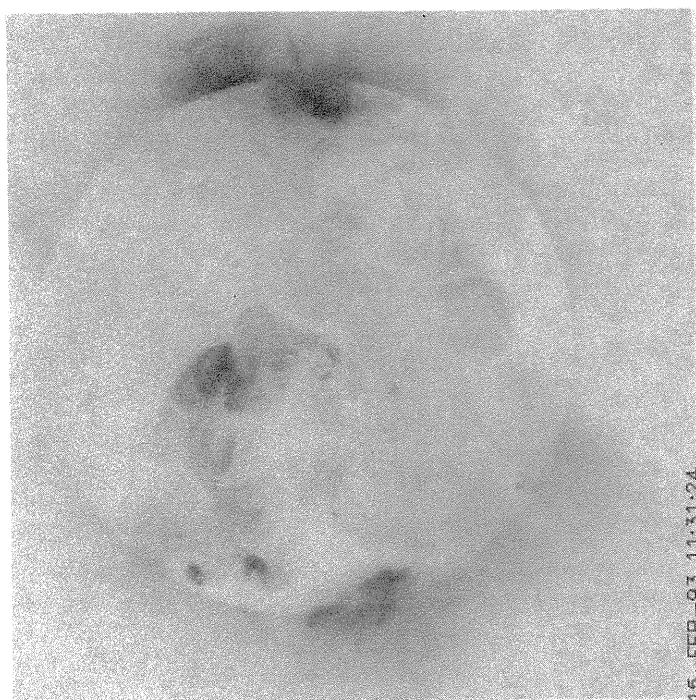
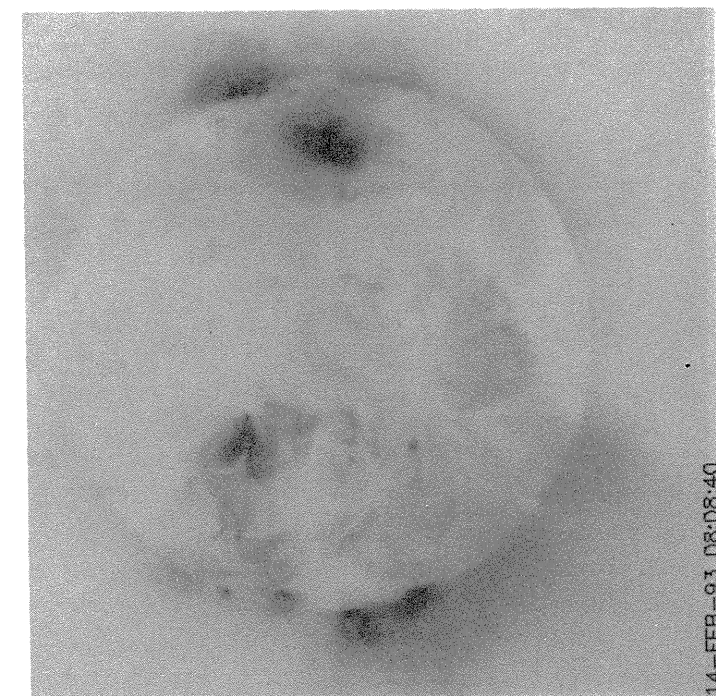


Day 14 Day 16
08:08:40 UT 11:58:00 UT

**YOHKOH
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**February
1993**

Day 13 Day 15
12:29:14 UT 11:31:24 UT

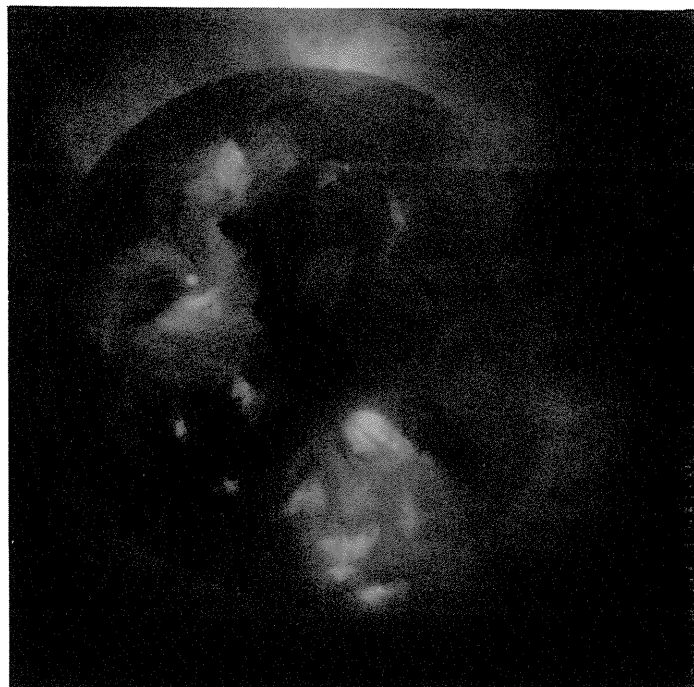


Day 14 Day 16
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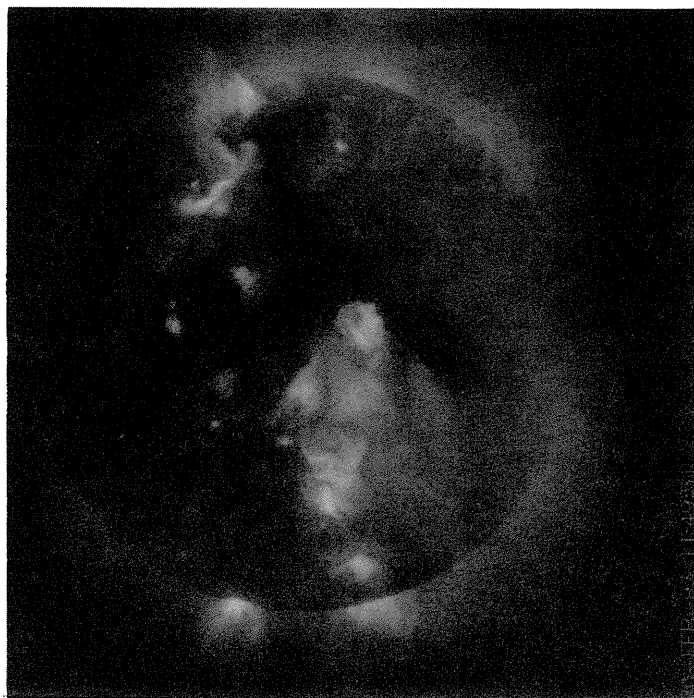
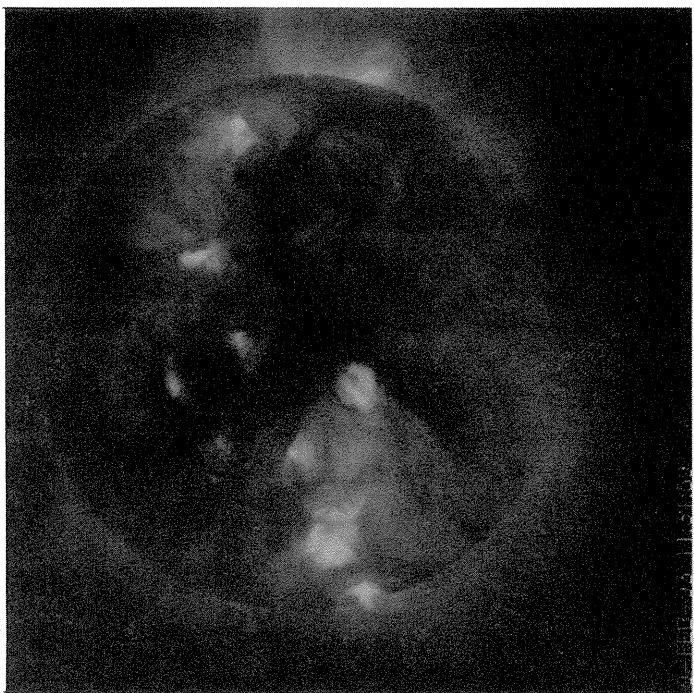
**YOHKOH
SOFT X-RAY
TELESCOPE
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**February
1993**

Day 17 Day 19
12:10:38 UT 11:31:59 UT



Day 18 Day 20
12:31:35 UT 11:49:51 UT



**YOHKOH
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Day 17 Day 19
12:10:38 UT 11:31:59 UT



17-FEB-93 12:10:38



19-FEB-93 11:31:59



18-FEB-93 12:31:35



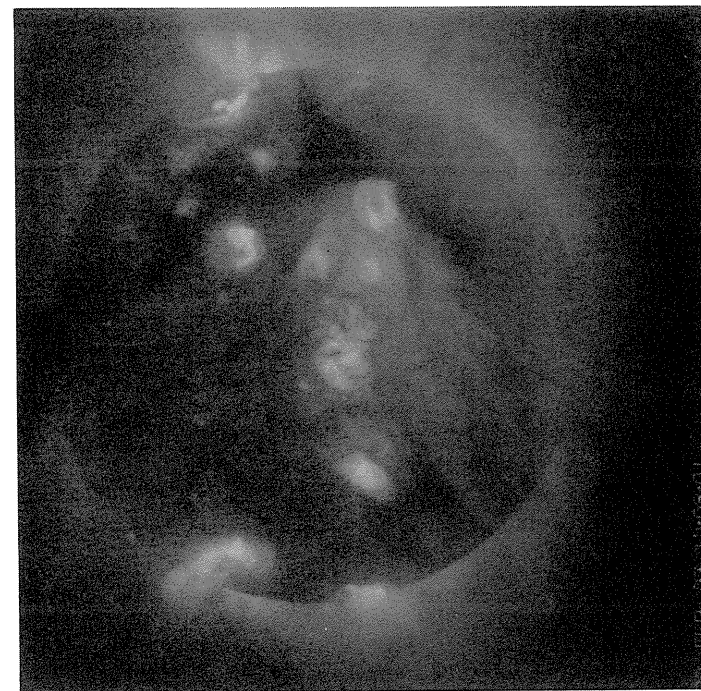
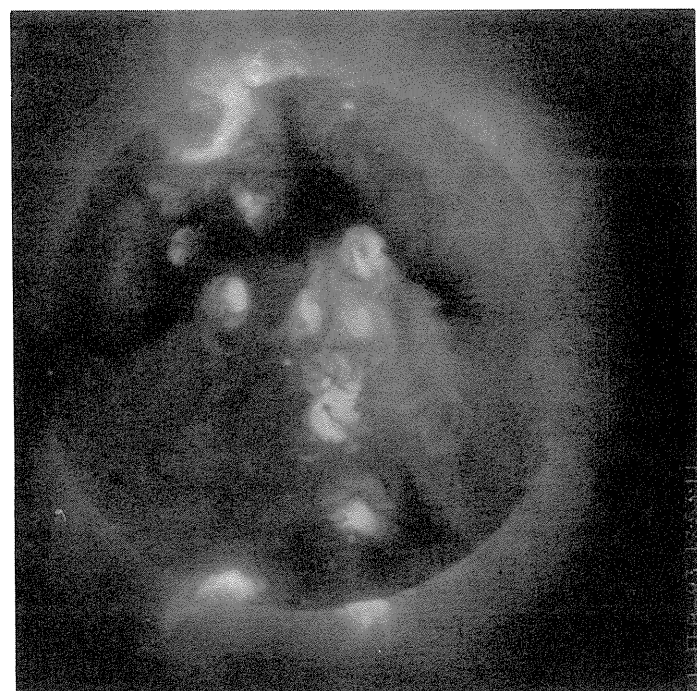
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Day 18 Day 20
12:31:35 UT 11:49:51 UT

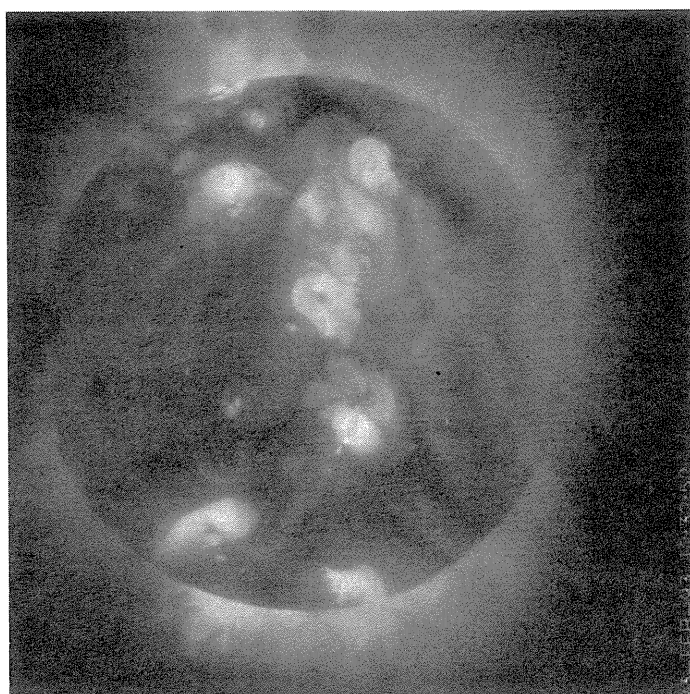
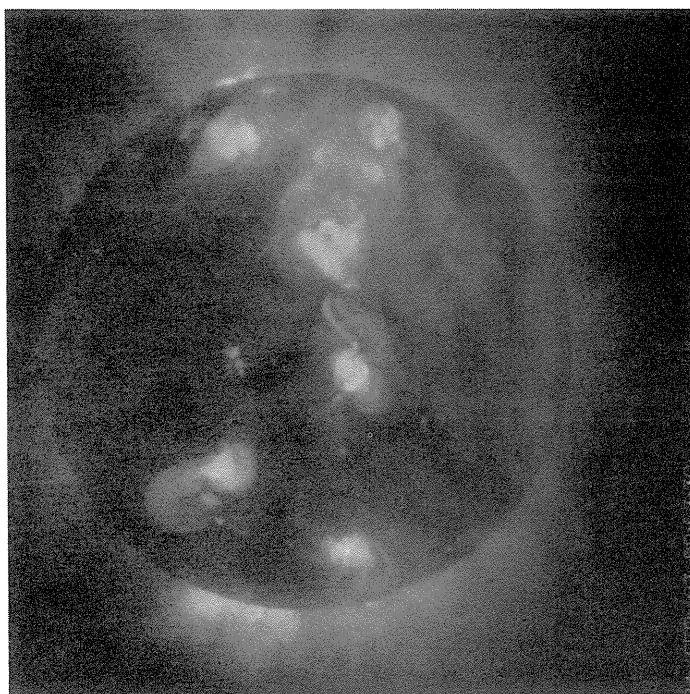
YOHKOH
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TELESCOPE
IMAGES

February
1993

Day 21 Day 23
17:53:11 UT 12:32:52 UT



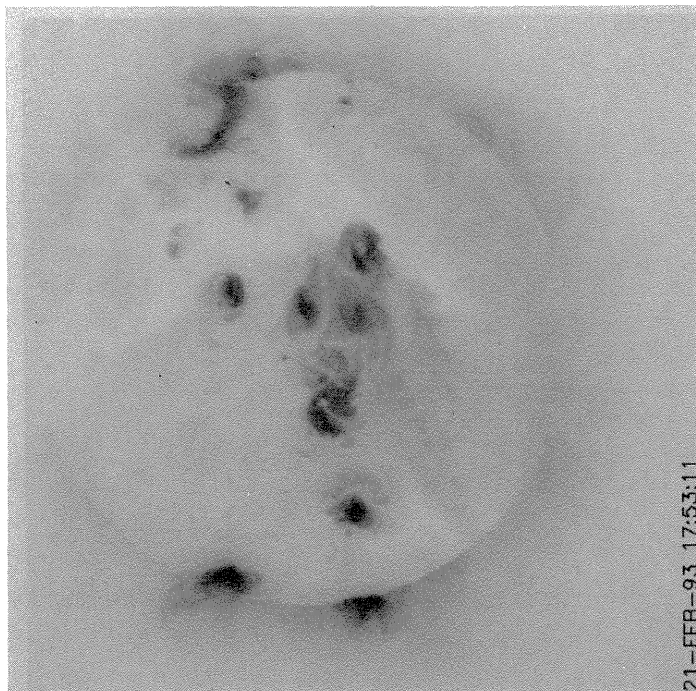
Day 22 Day 24
12:08:01 UT 09:53:30 UT



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**February
1993**

Day 21 Day 23
17:53:11 UT 12:32:52 UT



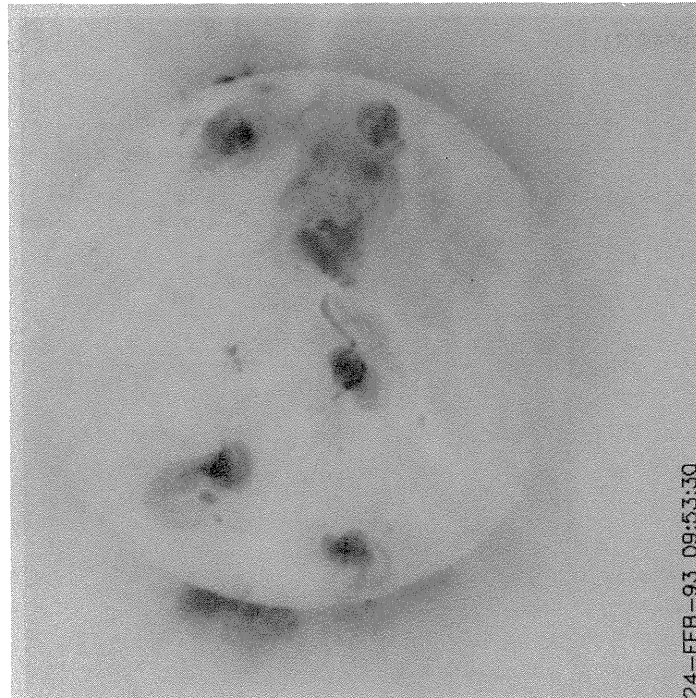
21-FEB-93 17:53:11



23-FEB-93 12:32:52



22-FEB-93 12:08:01



24-FEB-93 09:53:30

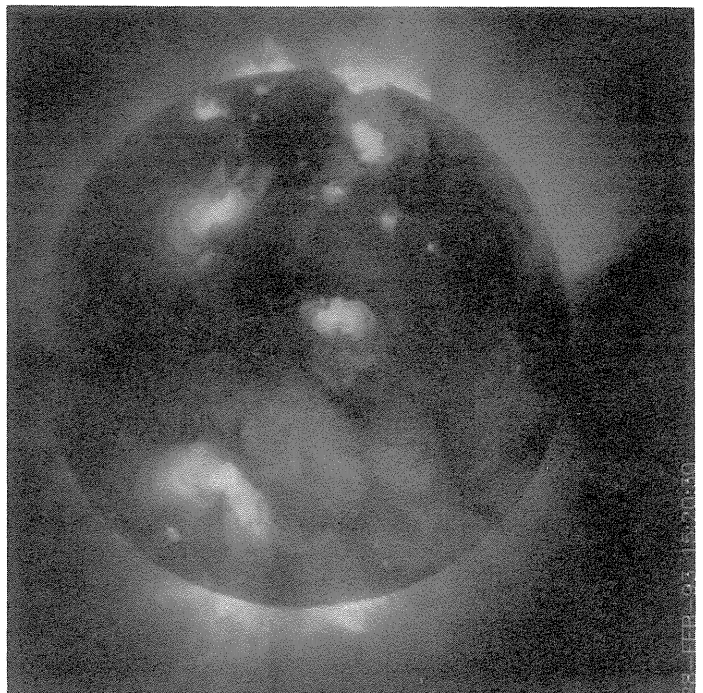
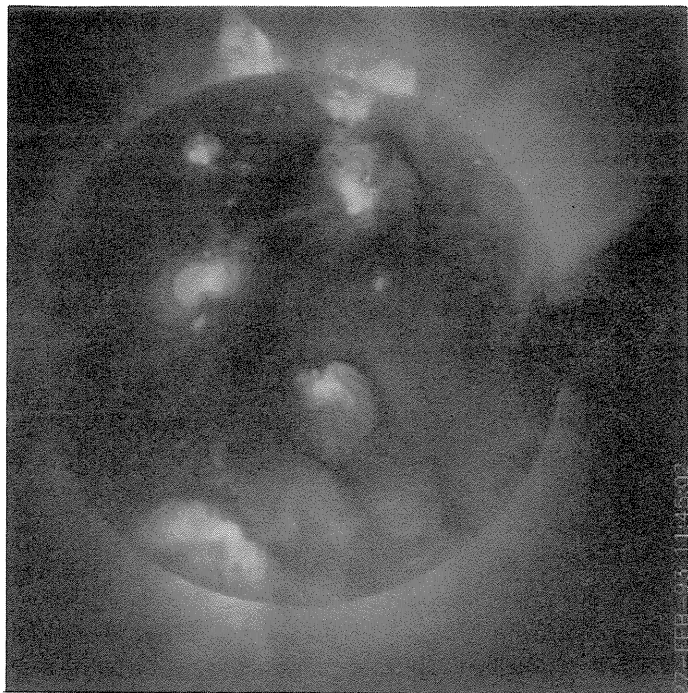
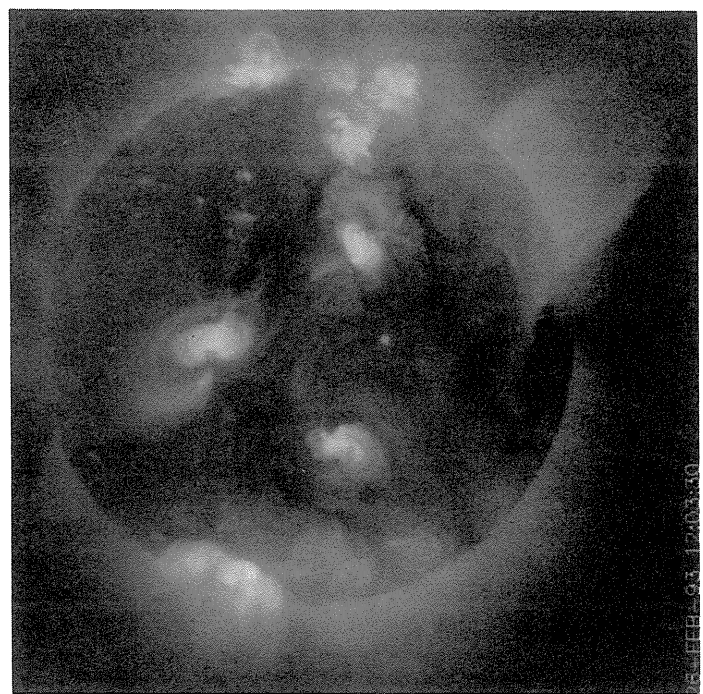
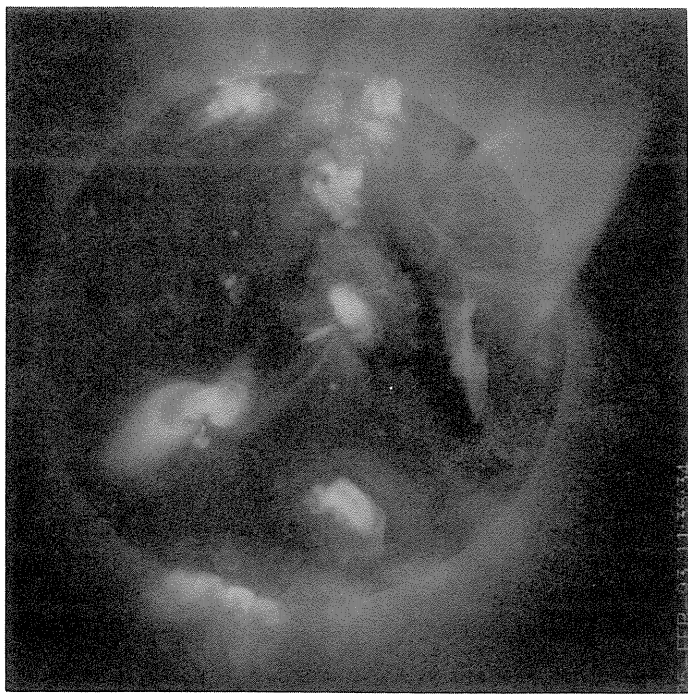
Day 22 Day 24
12:08:01 UT 09:53:30 UT

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Day 25 Day 27
11:35:34 UT 11:45:02 UT

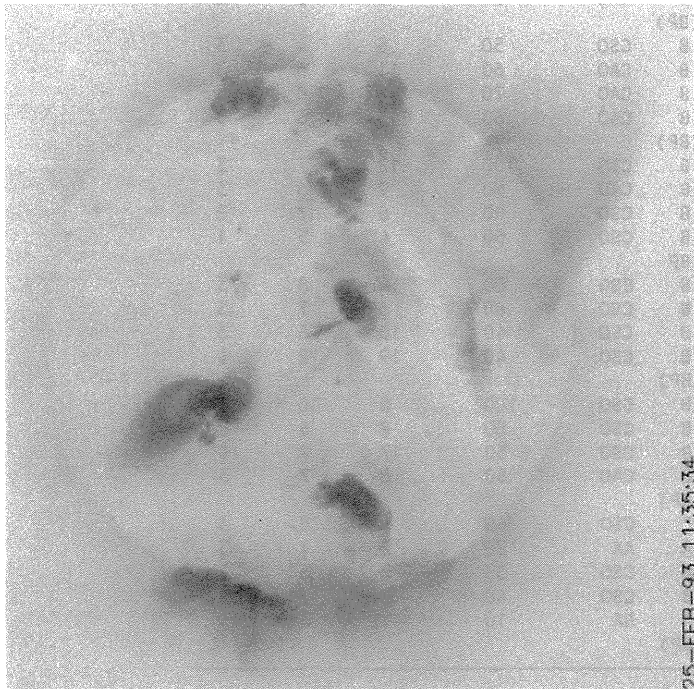
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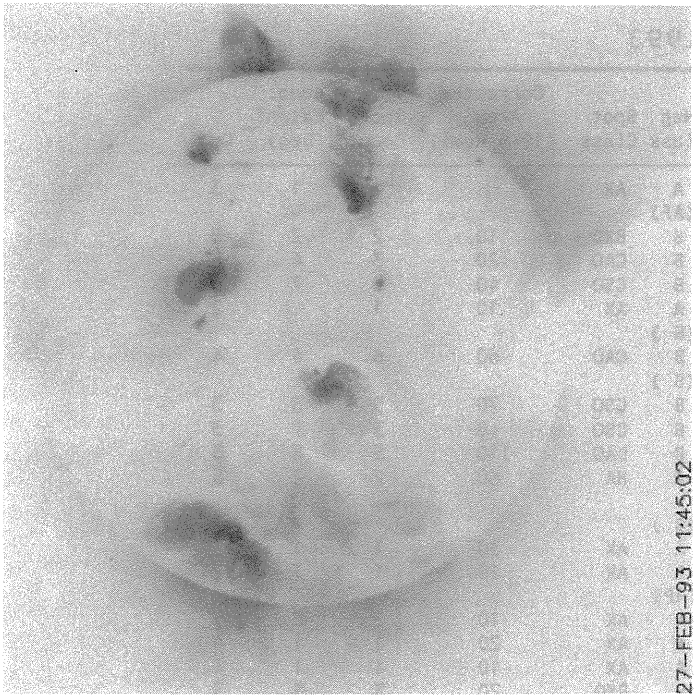
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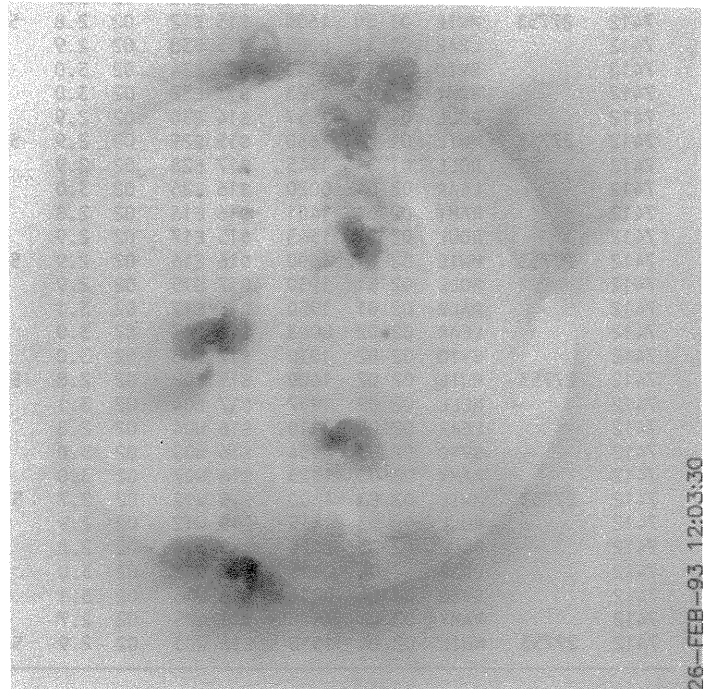
Day 25 Day 27
11:35:34 UT 11:45:02 UT



25-FEB-93 11:35:34



27-FEB-93 11:45:02



26-FEB-93 12:03:30



28-FEB-93 15:20:30

Day 26 Day 28
12:03:30 UT 15:20:30 UT

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Feb 93

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

FEBRUARY 1993

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
7421	27761	RAMY	02 04 1520	S13 W45	02 1.2		A	AX		1	1	3
7421		MWIL	02 04 1530	S13 W46	02 1.2	4	(AF)					
7421		BOUL	02 04 1641	S12 W48	02 1.1		B	BXO	10	2	2	3
7421		RAMY	02 05 1241	S12 W58	02 1.1		B	CAO	20	3	4	3
7421		BOUL	02 05 1601	S13 W63	01 31.9		B	CSO	40	6	7	4
7421	27761	HOLL	02 05 1805	S12 W65	01 31.8		A	AX	10	1		2
7421		MWIL	02 05 2450	S12 W67	02 1.0	4	(B)					
7421		RAMY	02 06 1254	S11 W70	02 1.3		B	CAO	60	6	4	4
7421		MWIL	02 06 1530	S12 W75	02 1.0	4	(B)					
7421		HOLL	02 06 1555	S11 W78	01 31.8		B	CSO	70	5	8	3
7421	27761	BOUL	02 06 1613	S11 W76	01 31.9		B	CSO	40	3	7	3
7421		LEAR	02 07 0050	S12 W81	01 31.9		B	DAO	110	5	8	3
7421		RAMY	02 07 1310	S13 W85	02 1.1		A	HA	60	2	2	5
7413	27752	MWIL	01 27 1600	N11 E71	02 2.0	4	(B)					
7413		LEAR	01 28 0146	N17 E65	02 2.0		A	AX	30	1	1	3
7413		RAMY	01 28 1520	N15 E54	02 1.7		A	AX	10	1	1	2
7413		MWIL	01 28 1600	N11 E56	02 1.9	4	(AP)					
7413		HOLL	01 28 2015	N16 E56	02 2.1		A	AX	10	2	2	3
7413	27752	LEAR	01 29 0028	N17 E50	02 1.8		A	AX	20	1	1	4
7413		LEAR	01 30 0007	N15 E38	02 1.9		A	AX	10	1	1	4
7413		SVTO	01 31 1043	N15 E17	02 1.7		B	BXO	20	3	3	3
7413		RAMY	01 31 1523	N18 E19	02 2.1		A	AX		1		3
7412	27753	RAMY	01 27 1244	S14 E85	02 2.9		A	HA	90	1	2	3
7412		MWIL	01 27 1600	S15 E81	02 2.8	5	(AP)					
7412		BOUL	01 27 1607	S14 E79	02 2.6		A	HS	110	1	2	3
7412		PALE	01 27 1818	S13 E79	02 2.7		A	HR	30	1	1	3
7412		HOLL	01 27 1900	S18 E80	02 2.9		A	HS	60	1	2	1
7412	27753	LEAR	01 28 0146	S17 E78	02 3.0		A	HS	120	2	3	3
7412		SVTO	01 28 1050	S16 E72	02 2.9		B	CSO	120	3	9	4
7412		RAMY	01 28 1520	S14 E70	02 2.9		B	CAO	140	4	10	2
7412		BOUL	01 28 1555	S16 E72	02 3.1		B	CSO	130	4	9	3
7412		MWIL	01 28 1600	S15 E70	02 3.0	5	(BP)					
7412	27753	HOLL	01 28 2015	S17 E67	02 2.9		B	CSO	50	3	1	3
7412		LEAR	01 29 0028	S16 E65	02 2.9		B	CSO	170	6	7	4
7412		SVTO	01 29 1125	S16 E59	02 2.9		B	CSO	80	4	9	3
7412		MWIL	01 29 1740	S16 E56	02 3.0	5	(BP)					
7412		HOLL	01 29 1815	S15 E57	02 3.1		B	CSO	70	2	5	3
7412	27753	LEAR	01 30 0007	S15 E55	02 3.2		B	CSO	90	4	9	4
7412		RAMY	01 30 1310	S16 E45	02 3.0		B	CAO	70	10	6	3
7412		BOUL	01 30 1541	S15 E43	02 2.9		B	CAO	50	6	3	3
7412		MWIL	01 30 1600	S15 E42	02 2.8	5	(BP)					
7412		LEAR	01 31 0005	S15 E38	02 2.9		B	CSO	50	5	4	3
7412	27753	SVTO	01 31 1043	S15 E34	02 3.0		B	CAO	60	11	6	3
7412		RAMY	01 31 1523	S13 E32	02 3.0		B	CAO	70	12	8	3
7412		BOUL	01 31 1557	S14 E30	02 2.9		B	CAO	60	13	6	3
7412		MWIL	01 31 1630	S15 E29	02 2.9	5	(BP)					
7412		HOLL	01 31 1945	S17 E28	02 2.9		B	CSO	100	12	7	3
7412	27753	LEAR	02 01 0020	S16 E26	02 3.0		B	CAO	50	9	6	3
7412		RAMY	02 01 1401	S16 E16	02 2.8		B	CSO	50	6	7	2
7412		BOUL	02 01 1543	S15 E17	02 2.9		B	CSO	50	4	5	1
7412		MWIL	02 01 1600	S16 E16	02 2.9	5	BP					
7412		HOLL	02 01 1930	S17 E15	02 2.9		B	CSO	80	15	8	3
7412	27753	PALE	02 01 1950	S15 E17	02 3.1		B	CSO	60	6	7	3
7412		LEAR	02 02 0003	S16 E13	02 3.0		B	CSO	40	10	6	3
7412		SVTO	02 02 1030	S17 E08	02 3.0		B	CSO	40	19	12	4
7412		MWIL	02 02 1600	S15 E02	02 2.8	5	(BP)					
7412		HOLL	02 02 1957	S17 E04	02 3.1		B	CSO	100	8	10	2
7412	27753	LEAR	02 03 0210	S16 W04	02 2.8		B	CSO	80	7	6	2
7412		SVTO	02 03 0954	S16 W05	02 3.0		B	CSO	50	17	9	4
7412		RAMY	02 03 1323	S16 W07	02 3.0		B	CAO	50	8	7	3
7412		MWIL	02 03 1600	S15 W12	02 2.7	5	(BP)					
7412		HOLL	02 03 1855	S15 W12	02 2.9		B	CSO	40	6	8	3
7412	27753	PALE	02 03 2028	S15 W14	02 2.8		A	AX	20	2	1	3
7412		LEAR	02 04 0015	S16 W13	02 3.0		B	CSO	30	8	6	2
7412		SVTO	02 04 0816	S16 W16	02 3.1		B	CSO	40	2	7	3
7412		RAMY	02 04 1520	S15 W25	02 2.7		A	HA	10	1	3	3
7412		MWIL	02 04 1530	S16 W23	02 2.9	5	(BP)					

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

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FEBRUARY 1993

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
7412		BOUL	02 04 1641	S14 W26	02 2.7		A	HA	30	1	1	3
7412		PALE	02 04 1925	S15 W27	02 2.8		A	HA	20	1	1	4
7412		SVTO	02 05 1215	S15 W36	02 2.8		A	HS	20	1	1	3
7412		RAMY	02 05 1241	S15 W36	02 2.8		A	HA	10	1	1	3
7412		BOUL	02 05 1601	S15 W38	02 2.8		A	HS	10	1	1	4
7412		HOLL	02 05 1805	S13 W39	02 2.8		A	HS	10	1	1	2
7412	27753	MWIL	02 05 2450	S15 W42	02 2.8	3	(AP)					
7412		RAMY	02 06 1254	S14 W49	02 2.8		A	AX		1		4
7412	27753	MWIL	02 06 1530	S15 W52	02 2.7	3	(AP)					
7412A		LEAR	02 03 0210	N12 E02	02 3.2		A	AX	10	1	1	2
7414	27758	MWIL	02 02 1600	N17 E16	02 3.9	4	(B)					
7414		HOLL	02 02 1957	N17 E15	02 4.0		B	BXO	20	2	2	2
7414		LEAR	02 03 0210	N18 E08	02 3.7		B	BXO	20	2	3	2
7414		HOLL	02 03 1855	N16 E02	02 3.9		A	AX		2	2	3
7414	27758	MWIL	02 04 1530	N15 W07	02 4.1	3	(B)					
7414		SVTO	02 05 1215	N15 W21	02 3.9		B	CRO	40	3	5	3
7414		SVTO	02 06 1109	N13 W34	02 3.9		B	CSO	40	8	7	4
7414		RAMY	02 06 1254	N16 W35	02 3.9		B	BXO	10	3	3	4
7414	27758	MWIL	02 06 1530	N16 W37	02 3.8	4	(B)					
7414		HOLL	02 06 1555	N16 W37	02 3.8		B	BXO	20	3	3	3
7414		BOUL	02 06 1613	N16 W38	02 3.8		A	AX	10	3	3	3
7414		PALE	02 06 2305	N17 W39	02 4.0		B	DSO	40	8	4	3
7414		LEAR	02 07 0050	N16 W42	02 3.8		B	DAO	50	4	6	3
7414		SVTO	02 07 0743	N15 W47	02 3.8		B	DSO	30	4	6	3
7414		RAMY	02 07 1310	N15 W49	02 3.8		B	DAO	80	9	5	5
7414		HOLL	02 07 1515	N15 W49	02 3.9		B	DRO	50	5	6	3
7414		BOUL	02 07 1627	N14 W52	02 3.7		B	DRO	30	3	5	3
7414		LEAR	02 08 0025	N15 W56	02 3.8		B	DSO	90	4	8	4
7414		SVTO	02 08 0820	N14 W60	02 3.8		B	CSO	50	6	7	4
7414		RAMY	02 08 1310	N15 W64	02 3.7		B	DAO	120	9	9	5
7414		HOLL	02 08 1850	N16 W70	02 3.5		B	DSO	100	4	10	1
7414		PALE	02 08 2005	N15 W67	02 3.8		B	DAO	60	7	8	2
7414		LEAR	02 09 0031	N16 W70	02 3.7		B	EAO	130	6	13	3
7414		SVTO	02 09 0754	N13 W72	02 3.9		B	CAO	60	5	10	3
7414		RAMY	02 09 1331	N14 W74	02 4.0		B	CAO	40	3	10	4
7414		PALE	02 09 2015	N15 W75	02 4.2		B	CRO	50	3	5	3
7414		LEAR	02 10 0016	N15 W80	02 3.9		B	BXO	30	2	3	3
7423		HOLL	02 07 1515	N18 W49	02 3.9		A	AX		1		3
7423		RAMY	02 08 1310	N20 W60	02 3.9		A	AX		1		5
7423		HOLL	02 08 1850	N22 W63	02 3.9		A	AX		1		1
7423		LEAR	02 09 0031	N19 W68	02 3.8		B	BXO	30	2	5	3
7423		SVTO	02 09 0754	N19 W69	02 4.1		B	BXO	30	3	5	3
7423		RAMY	02 09 1331	N18 W71	02 4.1		B	CAO	30	2	4	4
7423		PALE	02 09 2015	N20 W73	02 4.3		A	AX	20	1	1	3
7423		LEAR	02 10 0016	N20 W79	02 4.0		B	BXO	20	2	3	3
7423A		HOLL	02 03 1855	S07 E08	02 4.4		B	BXO		3	3	3
7418		LEAR	02 03 0210	N07 E22	02 4.7		B	BXO	20	3	3	2
7418		SVTO	02 03 0954	N05 E22	02 5.0		B	BX	20	9	3	4
7418		RAMY	02 03 1323	N05 E19	02 5.0		B	BXO	20	8	3	3
7418	27760	MWIL	02 03 1600	N04 E18	02 5.0	4	(B)					
7418		HOLL	02 03 1855	N05 E17	02 5.0		B	BXO	10	8	4	3
7418		PALE	02 03 2028	N06 E16	02 5.0		B	BXO	20	3	3	3
7418		LEAR	02 04 0015	N05 E12	02 4.9		B	CRO	20	12	6	2
7418		SVTO	02 04 0816	N04 E07	02 4.9		B	DRO	40	21	6	3
7418		RAMY	02 04 1520	N05 E03	02 4.9		B	DAI	80	23	7	3
7418	27760	MWIL	02 04 1530	N05 E03	02 4.9	5	(B)					
7418		BOUL	02 04 1641	N06 E02	02 4.8		B	DAO	110	27	7	3
7418		PALE	02 04 1925	N06 E00	02 4.8		B	DSI	220	31	7	4
7418		SVTO	02 05 1215	N05 W09	02 4.8		B	DAO	390	26	7	3
7418		RAMY	02 05 1241	N05 W09	02 4.8		B	DKI	270	26	8	3
7418		BOUL	02 05 1601	N05 W11	02 4.8		B	DKI	350	32	8	4
7418		HOLL	02 05 1805	N05 W12	02 4.8		B	DAO	390	14	8	2
7418	27760	MWIL	02 05 2450	N05 W15	02 4.9	5	(B)					
7418		SVTO	02 06 1109	N05 W22	02 4.8		B	DSO	450	22	10	4

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SUNSPOT GROUPS (Ordered by Central Meridian Passage Date)

FEBRUARY 1993

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
7418	27760	RAMY	02 06 1254	N06 W23	02 4.8		B	DAO	270	19	10	4
7418		MWIL	02 06 1530	N05 W24	02 4.8	5	(B)					
7418		HOLL	02 06 1555	N05 W24	02 4.9		B	DAO	280	22	10	3
7418		BOUL	02 06 1613	N05 W24	02 4.9		B	DAO	330	23	9	3
7418		PALE	02 06 2305	N04 W27	02 4.9		B	DAO	310	23	8	3
7418		LEAR	02 07 0050	N05 W28	02 4.9		B	DAO	220	17	10	3
7418		SVTO	02 07 0743	N05 W34	02 4.8		B	EAO	300	13	11	3
7418		RAMY	02 07 1310	N05 W37	02 4.8		B	DAO	300	22	10	5
7418		HOLL	02 07 1515	N04 W36	02 4.9		B	EAO	210	13	11	3
7418		BOUL	02 07 1627	N03 W37	02 4.9		B	DSO	210	8	9	3
7418		LEAR	02 08 0025	N04 W43	02 4.8		B	DSO	230	14	10	4
7418		SVTO	02 08 0820	N03 W46	02 4.9		B	DSO	210	5	10	4
7418		RAMY	02 08 1310	N04 W50	02 4.8		B	DAO	180	14	10	5
7418		HOLL	02 08 1850	N04 W51	02 5.0		B	DAO	100	6	9	1
7418		PALE	02 08 2005	N05 W53	02 4.9		B	DAO	150	9	10	2
7418		LEAR	02 09 0031	N04 W56	02 4.8		B	DAO	200	8	10	3
7418		SVTO	02 09 0754	N04 W59	02 4.9		B	DAO	100	7	9	3
7418		RAMY	02 09 1331	N03 W62	02 4.9		B	DAO	110	2	7	4
7418		PALE	02 09 2015	N05 W65	02 5.0		B	CAO	80	5	7	3
7418		LEAR	02 10 0016	N04 W70	02 4.8		B	DAO	130	6	6	3
7418	27760	SVTO	02 10 1031	N02 W76	02 4.8		B	CAO	30	3	2	3
7418		RAMY	02 10 1621	N03 W84	02 4.4		A	HS	40	1	2	3
7418		MWIL	02 10 1815	N03 W82	02 4.6	3	X					
7416	27757	RAMY	02 01 1401	S11 E85	02 8.0		A	HA	100	2	2	2
7416		MWIL	02 01 1600	S10 E85	02 8.0	4	AP					
7416		HOLL	02 01 1930	S12 E80	02 7.8		A	AX	30	1	1	3
7416		PALE	02 01 1950	S09 E82	02 8.0		A	AX	30	1	1	3
7416		LEAR	02 02 0003	S10 E80	02 8.0		A	AX	30	2	2	3
7416		SVTO	02 02 1030	S12 E70	02 7.7		B	DRO	30	8	10	4
7416		MWIL	02 02 1600	S10 E72	02 8.1	5	(B)					
7416		HOLL	02 02 1957	S11 E67	02 7.9		B	BXO	100	4	5	2
7416		LEAR	02 03 0210	S14 E65	02 8.0		B	CSO	100	6	5	2
7416		SVTO	02 03 0954	S11 E62	02 8.1		B	CAO	60	6	6	4
7416		RAMY	02 03 1323	S09 E59	02 8.0		B	CAO	60	10	5	3
7416		MWIL	02 03 1600	S10 E58	02 8.0	5	(BP)					
7416		HOLL	02 03 1855	S12 E57	02 8.1		B	CSO	60	7	4	3
7416		PALE	02 03 2028	S09 E54	02 7.9		B	BXO	30	3	3	3
7416		LEAR	02 04 0015	S10 E55	02 8.1		B	CAO	40	7	5	2
7416		SVTO	02 04 0816	S11 E52	02 8.2		B	CSO	50	6	7	3
7416		RAMY	02 04 1520	S09 E46	02 8.1		B	CAO	20	4	5	3
7416		MWIL	02 04 1530	S10 E44	02 7.9	4	(BP)					
7416		BOUL	02 04 1641	S10 E43	02 7.9		A	HA	40	2	1	3
7416	27757	PALE	02 04 1925	S10 E42	02 8.0		A	HA	60	2	2	4
7416		SVTO	02 05 1215	S10 E32	02 7.9		A	HS	40	2	1	3
7416		RAMY	02 05 1241	S09 E33	02 8.0		B	CAO	40	8	5	3
7416		BOUL	02 05 1601	S09 E30	02 7.9		A	HA	20	2	1	4
7416		HOLL	02 05 1805	S10 E30	02 8.0		B	CSO	50	4	5	2
7416		MWIL	02 05 2450	S10 E26	02 8.0	4	(BP)					
7416		SVTO	02 06 1109	S10 E21	02 8.0		B	CSO	40	5	4	4
7416		RAMY	02 06 1254	S09 E20	02 8.0		B	CAO	40	7	4	4
7416		MWIL	02 06 1530	S10 E18	02 8.0	4	(AP)					
7416		HOLL	02 06 1555	S10 E17	02 7.9		A	HS	40	1	1	3
7416		BOUL	02 06 1613	S09 E17	02 7.9		A	HA	20	2	1	3
7416		PALE	02 06 2305	S10 E15	02 8.1		B	CSO	30	5	4	3
7416		LEAR	02 07 0050	S10 E15	02 8.2		B	CAO	30	5	4	3
7416		SVTO	02 07 0743	S10 E08	02 7.9		A	HS	30	1	1	3
7416		RAMY	02 07 1310	S08 E08	02 8.1		B	CAO	40	8	4	5
7416		HOLL	02 07 1515	S10 E07	02 8.2		B	CSO	20	3	4	3
7416		BOUL	02 07 1627	S10 E06	02 8.1		B	CSO	20	3	4	3
7416		LEAR	02 08 0025	S10 W01	02 7.9		A	HS	20	4	1	4
7416	27757	SVTO	02 08 0820	S09 W03	02 8.1		B	CSO	20	5	3	4
7416		RAMY	02 08 1310	S10 W05	02 8.2		B	CAO	30	9	4	5
7416		HOLL	02 08 1850	S09 W11	02 7.9		B	CSO	10	2	3	1
7416		PALE	02 08 2005	S10 W07	02 8.3		B	CAO	20	6	4	2
7416		LEAR	02 09 0031	S11 W13	02 8.0		A	HS	20	1	1	3
7416		SVTO	02 09 0754	S09 W16	02 8.1		A	AX	10	3	1	3
7416		RAMY	02 09 1331	S10 W19	02 8.1		B	CAO	20	7	3	4
7416		PALE	02 09 2015	S09 W23	02 8.1		B	CRO	20	4	3	3

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

FEBRUARY 1993

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
7416		LEAR	02 10 0016	S11	W27	02 8.0		A	AX	10	2	1	3
7416		SVTO	02 10 1031	S08	W32	02 8.0		A	AX	10	1	1	3
7416		PALE	02 10 1945	S08	W39	02 7.9		B	BXO	20	2	3	3
7416		RAMY	02 13 1340	S06	W74	02 8.0		A	AX	10	2	2	5
7417	27756	MWIL	02 01 1600	N14	E88	02 8.3	5	AP					
7417		HOLL	02 01 1930	N14	E80	02 7.8		A	HS	240	1	2	3
7417		LEAR	02 02 0003	N14	E78	02 7.9		A	HS	180	1	5	3
7417		SVTO	02 02 1030	N14	E73	02 7.9		B	CKO	650	7	7	4
7417	27756	MWIL	02 02 1600	N14	E74	02 8.2	6	(B					
7417		HOLL	02 02 1957	N15	E71	02 8.2		B	EHO	700	10	12	2
7417		LEAR	02 03 0210	N19	E65	02 8.0		B	EKO	650	17	10	2
7417		SVTO	02 03 0954	N14	E66	02 8.4		B	EKO	950	13	11	4
7417		RAMY	02 03 1323	N16	E65	02 8.5		BG	EKI	1100	23	12	3
7417	27756	MWIL	02 03 1600	N16	E63	02 8.4	6	(B)					
7417		HOLL	02 03 1855	N15	E63	02 8.5		B	FKI	1100	22	16	3
7417		PALE	02 03 2028	N17	E59	02 8.3		B	CAO	760	23	11	3
7417		LEAR	02 04 0015	N15	E60	02 8.5		B	EKI	980	17	14	2
7417		SVTO	02 04 0816	N13	E55	02 8.5		B	EKO	880	21	12	3
7417		RAMY	02 04 1520	N16	E50	02 8.4		BG	EKI	850	16	12	3
7417	27756	MWIL	02 04 1530	N16	E51	02 8.5	5	(B)					
7417		BOUL	02 04 1641	N16	E52	02 8.6		B	FKI	1270	37	16	3
7417		PALE	02 04 1925	N16	E49	02 8.5		BG	EKC	1090	24	13	4
7417		SVTO	02 05 1215	N15	E41	02 8.6		B	EKI	1150	33	12	3
7417		RAMY	02 05 1241	N17	E40	02 8.6		BG	EKI	910	36	13	3
7417		BOUL	02 05 1601	N16	E37	02 8.5		B	EKI	930	56	14	4
7417		HOLL	02 05 1805	N16	E38	02 8.6		B	EHI	910	27	14	2
7417	27756	MWIL	02 05 2450	N16	E34	02 8.6	5	(B)					
7417		SVTO	02 06 1109	N15	E27	02 8.5		B	EKI	1120	46	13	4
7417		RAMY	02 06 1254	N17	E27	02 8.6		BG	EKI	880	45	14	4
7417	27756	MWIL	02 06 1530	N15	E25	02 8.5	5	(B)					
7417		HOLL	02 06 1555	N16	E25	02 8.5		B	EHI	800	36	13	3
7417		BOUL	02 06 1613	N17	E25	02 8.6		B	EKO	630	30	13	3
7417		PALE	02 06 2305	N17	E25	02 8.9		B	EKI	730	40	13	3
7417		LEAR	02 07 0050	N18	E21	02 8.6		B	FHI	810	58	16	3
7417		SVTO	02 07 0743	N15	E14	02 8.4		B	FKI	790	36	14	3
7417		RAMY	02 07 1310	N16	E13	02 8.5		BG	EKI	850	52	12	5
7417		HOLL	02 07 1515	N16	E13	02 8.6		B	EKI	770	44	13	3
7417		BOUL	02 07 1627	N16	E11	02 8.5		B	EKO	700	18	13	3
7417		LEAR	02 08 0025	N17	E07	02 8.5		B	EKI	750	50	13	4
7417		SVTO	02 08 0820	N16	E03	02 8.6		BG	EKI	780	24	13	4
7417		RAMY	02 08 1310	N15	W01	02 8.5		BG	EKI	740	43	12	5
7417		HOLL	02 08 1850	N17	W03	02 8.5		B	EKI	670	22	12	1
7417		PALE	02 08 2005	N16	W02	02 8.7		BG	EKI	750	41	13	2
7417		LEAR	02 09 0031	N16	W06	02 8.6		BG	EKI	590	30	13	3
7417		SVTO	02 09 0754	N18	W09	02 8.6		BG	EKO	700	27	13	3
7417		RAMY	02 09 1331	N16	W13	02 8.6		BG	CKO	550	30	13	4
7417		PALE	02 09 2015	N16	W15	02 8.7		BG	FKI	630	31	17	3
7417		LEAR	02 10 0016	N16	W22	02 8.3		BG	FKO	580	24	17	3
7417		SVTO	02 10 1031	N17	W24	02 8.6		BG	EKO	500	13	12	3
7417		RAMY	02 10 1621	N16	W32	02 8.2		B	CKI	570	8	7	3
7417	27756	MWIL	02 10 1815	N15	W33	02 8.3	5	BP					
7417		PALE	02 10 1945	N17	W33	02 8.3		B	CKO	590	4	6	3
7417		HOLL	02 10 2210	N17	W34	02 8.3		B	CKO	480	6	6	3
7417		LEAR	02 11 0007	N16	W36	02 8.3		BD	CKO	530	6	6	3
7417		SVTO	02 11 0855	N16	W38	02 8.5		BG	EKO	390	5	12	3
7417		RAMY	02 11 1410	N16	W39	02 8.6		B	CKO	450	4	12	3
7417		BOUL	02 11 1634	N15	W45	02 8.3		B	DAO	190	2	4	2
7417		PALE	02 11 1958	N16	W46	02 8.3		B	DAO	430	7	7	3
7417		LEAR	02 12 0010	N16	W50	02 8.2		BD	CKO	340	6	6	4
7417		RAMY	02 12 1310	N16	W55	02 8.4		B	CKO	320	10	12	5
7417		HOLL	02 12 1509	N15	W60	02 8.1		B	CAO	340	5	5	3
7417		BOUL	02 12 1549	N15	W59	02 8.2		B	DKO	330	2	5	1
7417		PALE	02 12 2030	N16	W60	02 8.3		B	CAO	400	10	8	3
7417		LEAR	02 13 0108	N17	W67	02 7.9		B	DSO	290	3	4	3
7417		RAMY	02 13 1340	N17	W68	02 8.4		B	CKO	350	7	7	5
7417		BOUL	02 13 1617	N18	W77	02 7.8		B	DSO	170	4	8	3
7417		PALE	02 13 2215	N18	W75	02 8.2		B	CKO	180	7	7	2
7417		LEAR	02 14 0014	N17	W75	02 8.3		B	DAO	240	3	4	3

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(Ordered by Central Meridian Passage Date)

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7417		SVTO	02 14 0904	N17 W85	02 7.9		B	DSO	140	2	3	4
7417		RAMY	02 14 1348	N18 W84	02 8.2		A	HH	120	1	3	4
7417		HOLL	02 14 1815	N15 W86	02 8.2		B	FKI	610	31	16	2
7419	27759	MWIL	02 02 1600	N10 E80	02 8.7	5	AP					
7419		SVTO	02 03 0954	N09 E71	02 8.7		B	CAO	100	4	7	4
7419		RAMY	02 03 1323	N10 E69	02 8.7		B	CAO	120	6	6	3
7419	27759	MWIL	02 03 1600	N11 E68	02 8.8	5	(X)					
7419		HOLL	02 03 1855	N09 E67	02 8.8		B	CAO	80	3	6	3
7419		PALE	02 03 2028	N12 E66	02 8.8		B	EH1	100	4	9	3
7419		LEAR	02 04 0015	N15 E64	02 8.8		B	CSO	130	4	8	2
7419		SVTO	02 04 0816	N12 E61	02 8.9		B	DAO	150	6	11	3
7419		RAMY	02 04 1520	N12 E55	02 8.8		B	CAO	70	6	9	3
7419	27759	MWIL	02 04 1530	N10 E56	02 8.8	5	(B)					
7419		BOUL	02 04 1641	N12 E58	02 9.1		B	CAO	140	10	10	3
7419		PALE	02 04 1925	N11 E55	02 8.9		B	CAO	160	4	10	4
7419		SVTO	02 05 1215	N10 E46	02 9.0		B	CSO	100	7	10	3
7419		RAMY	02 05 1241	N12 E45	02 8.9		B	DAO	100	10	10	3
7419		BOUL	02 05 1601	N11 E43	02 8.9		B	EA0	80	7	11	4
7419		HOLL	02 05 1805	N10 E42	02 8.9		B	CSO	60	9	11	2
7419	27759	MWIL	02 05 2450	N11 E38	02 8.9	5	(B)					
7419		SVTO	02 06 1109	N11 E32	02 8.9		B	CSO	30	11	10	4
7419		RAMY	02 06 1254	N10 E32	02 8.9		B	EA0	60	10	11	4
7419	27759	MWIL	02 06 1530	N10 E31	02 9.0	5	(BP)					
7419		HOLL	02 06 1555	N10 E31	02 9.0		B	CSO	60	7	11	3
7419		BOUL	02 06 1613	N12 E30	02 8.9		B	CAO	40	7	11	3
7419		PALE	02 06 2305	N11 E29	02 9.1		B	CSO	60	15	11	3
7419		LEAR	02 07 0050	N16 E25	02 8.9		B	CSO	80	8	12	3
7419		SVTO	02 07 0743	N11 E22	02 9.0		B	CSO	60	10	12	3
7419		RAMY	02 07 1310	N12 E20	02 9.0		B	CAO	60	11	12	5
7419		HOLL	02 07 1515	N10 E17	02 8.9		B	CSO	30	4	5	3
7419		BOUL	02 07 1627	N11 E14	02 8.7		B	CSO	30	2	5	3
7419		LEAR	02 08 0025	N11 E12	02 8.9		B	CSO	40	8	12	4
7419		SVTO	02 08 0820	N08 E09	02 9.0		B	CSO	40	6	10	4
7419		RAMY	02 08 1310	N11 E05	02 8.9		B	CAO	20	8	10	5
7419		HOLL	02 08 1850	N10 W02	02 8.6		A	HS	10	2	1	1
7419		PALE	02 08 2005	N10 E04	02 9.1		B	DAO	30	9	8	2
7419		LEAR	02 09 0031	N12 W03	02 8.8		B	CSO	30	4	9	3
7419		SVTO	02 09 0754	N10 W05	02 8.9		B	CRO	20	5	13	3
7419		RAMY	02 09 1331	N12 W13	02 8.6		B	CAO	20	8	5	4
7419		PALE	02 09 2015	N11 W10	02 9.1		B	BXO	20	10	7	3
7419		LEAR	02 10 0016	N11 W15	02 8.9		B	BXO	10	7	8	3
7419		SVTO	02 10 1031	N10 W21	02 8.9		B	CRO	20	8	9	3
7419	27759	RAMY	02 10 1621	N10 W23	02 8.9		B	CRO	20	7	9	3
7419		MWIL	02 10 1815	N11 W25	02 8.9	4	X					
7419		PALE	02 10 1945	N11 W25	02 8.9		B	CRO	30	5	5	3
7419		HOLL	02 10 2210	N11 W25	02 9.0		B	BXO	20	6	9	3
7419		LEAR	02 11 0007	N12 W27	02 9.0		B	BXO	20	7	5	3
7419		SVTO	02 11 0855	N10 W34	02 8.8		B	BXO	30	7	5	3
7419		RAMY	02 11 1410	N11 W32	02 9.2		B	BXO	20	9	7	3
7419		BOUL	02 11 1634	N11 W34	02 9.1		B	BXO	30	3	6	2
7419		PALE	02 11 1958	N11 W37	02 9.0		B	BXO	30	5	6	3
7419		LEAR	02 12 0010	N12 W39	02 9.1		B	BXO	20	8	8	4
7419		RAMY	02 12 1310	N12 W47	02 9.0		B	BXO	20	14	10	5
7419		HOLL	02 12 1509	N12 W49	02 8.9		B	BXO	20	6	8	3
7419		PALE	02 12 2030	N12 W49	02 9.2		B	BXO	30	6	8	3
7419		LEAR	02 13 0108	N12 W54	02 9.0		B	BXO	20	3	6	3
7419		RAMY	02 13 1340	N12 W59	02 9.1		B	BXO	20	6	10	5
7419A		SVTO	02 09 0754	S08 W01	02 9.2		B	BXO	10	2	3	3
7419A		RAMY	02 09 1331	S08 W04	02 9.3		A	AX		1		4
7422		PALE	02 06 2305	N03 E33	02 9.4		B	DAO	60	3	7	3
7422		LEAR	02 07 0050	N06 E30	02 9.3		A	AX	10	1	1	3
7422		RAMY	02 07 1310	N04 E22	02 9.2		A	AX		2		5
7422		HOLL	02 07 1515	N04 E21	02 9.2		A	AX		1		3
7422		LEAR	02 08 0025	N06 E17	02 9.3		A	AX	20	4	4	4
7422		RAMY	02 08 1310	N04 E10	02 9.3		B	BXO	10	5	2	5
7422		HOLL	02 08 1850	N03 E08	02 9.4		B	CRO	10	3	3	1

SUNSPOT GROUPS

(Ordered by Central Meridian Passage Date)

FEBRUARY 1993

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
7422		PALE	02 08 2005	N03 E07	02 9.3		B	BXO	20	4	4	2
7422		LEAR	02 09 0031	N04 E05	02 9.4		B	DAO	40	4	4	3
7422		SVTO	02 09 0754	N05 W02	02 9.2		B	BXO	10	5	4	3
7422		RAMY	02 09 1331	N04 W04	02 9.3		B	BXO	20	11	4	4
7422		PALE	02 09 2015	N03 W07	02 9.3		B	CRO	30	8	4	3
7422		LEAR	02 10 0016	N04 W10	02 9.3		B	CSO	30	6	5	3
7422		SVTO	02 10 1031	N04 W16	02 9.2		B	BXO	10	3	3	3
7422		RAMY	02 10 1621	N03 W17	02 9.4		A	AX		1		3
7422	27763	MWIL	02 10 1815	N03 W18	02 9.4	3	X					
7422		PALE	02 10 1945	N02 W21	02 9.2		A	AX	10	1	1	3
7422		HOLL	02 10 2210	N03 W20	02 9.4		A	AX	10	1		3
7422		LEAR	02 11 0007	N03 W22	02 9.4		A	AX		1	1	3
7422		SVTO	02 11 0855	N03 W24	02 9.6		A	AX	10	1	1	3
7422		RAMY	02 11 1410	N03 W29	02 9.4		A	AX	10	3	2	3
7420		SVTO	02 04 0816	S10 E82	02 10.5		A	AX	30	1	2	3
7420		RAMY	02 04 1520	S06 E78	02 10.5		A	HS	60	1	2	3
7420	27762	MWIL	02 04 1530	S07 E80	02 10.6	4	(AP					
7420		BOUL	02 04 1641	S07 E80	02 10.7		A	HS	120	1	3	3
7420		PALE	02 04 1925	S08 E81	02 10.9		B	CAO	120	4	9	4
7420		SVTO	02 05 1215	S08 E71	02 10.8		B	EKI	540	22	11	3
7420		RAMY	02 05 1241	S07 E71	02 10.8		B	DKO	480	12	10	3
7420		BOUL	02 05 1601	S07 E70	02 10.9		B	EKO	550	20	12	4
7420		HOLL	02 05 1805	S08 E69	02 10.9		B	DAO	380	8	11	2
7420	27762	MWIL	02 05 2450	S07 E67	02 11.0	5	(B)					
7420		SVTO	02 06 1109	S07 E58	02 10.8		B	EKO	600	28	11	4
7420		RAMY	02 06 1254	S07 E57	02 10.8		BD	EKI	710	34	14	4
7420	27762	MWIL	02 06 1530	S08 E58	02 11.0	5	(B)					
7420		HOLL	02 06 1555	S08 E56	02 10.9		B	EKI	670	25	12	3
7420		BOUL	02 06 1613	S06 E56	02 10.9		B	EKO	730	6	11	3
7420		PALE	02 06 2305	S07 E55	02 11.1		B	EKI	770	22	12	3
7420		LEAR	02 07 0050	S06 E53	02 11.0		B	EKI	790	34	13	3
7420		SVTO	02 07 0743	S07 E45	02 10.7		B	EKO	680	24	15	3
7420		RAMY	02 07 1310	S06 E44	02 10.8		BD	EKI	950	48	13	5
7420		HOLL	02 07 1515	S08 E43	02 10.8		B	EKI	870	33	11	3
7420		BOUL	02 07 1627	S07 E43	02 10.9		B	EKO	730	29	13	3
7420		LEAR	02 08 0025	S06 E40	02 11.0		B	EKI	970	33	15	4
7420		SVTO	02 08 0820	S07 E34	02 10.9		B	EKI	860	22	13	4
7420		RAMY	02 08 1310	S07 E32	02 10.9		BG	EKI	1050	49	14	5
7420		HOLL	02 08 1850	S08 E30	02 11.0		B	EKI	970	23	11	1
7420		PALE	02 08 2005	S08 E29	02 11.0		BG	EKI	1000	41	13	2
7420		LEAR	02 09 0031	S07 E26	02 11.0		BG	EKI	1090	35	13	3
7420		SVTO	02 09 0754	S06 E22	02 11.0		B	EKI	1340	28	14	3
7420		RAMY	02 09 1331	S07 E18	02 10.9		BG	EKI	1080	86	15	4
7420		PALE	02 09 2015	S09 E15	02 11.0		BG	E I	1150	44	15	3
7420		LEAR	02 10 0016	S08 E13	02 11.0		BG	FKI	1110	56	18	3
7420		SVTO	02 10 1031	S07 E07	02 11.0		BG	EKI	1260	51	13	3
7420		RAMY	02 10 1621	S07 E03	02 10.9		BGD	EKI	1200	56	12	3
7420	27762	MWIL	02 10 1815	S07 E01	02 10.8	5	B					
7420		PALE	02 10 1945	S07 E00	02 10.8		BG	EKI	1500	43	13	3
7420		HOLL	02 10 2210	S07 E00	02 10.9		B	EKC	1100	38	15	3
7420		LEAR	02 11 0007	S07 W02	02 10.8		BG	EKI	1160	68	14	3
7420		SVTO	02 11 0855	S07 W04	02 11.1		BG	EKI	1000	52	12	3
7420		RAMY	02 11 1410	S07 W09	02 10.9		BGD	EKC	1360	67	14	3
7420		BOUL	02 11 1634	S06 W12	02 10.8		B	EKI	910	28	13	2
7420		PALE	02 11 1958	S06 W13	02 10.8		BG	EKI	1150	31	14	3
7420		LEAR	02 12 0010	S07 W15	02 10.9		BG	EKC	1140	56	14	4
7420		RAMY	02 12 1310	S06 W23	02 10.8		B	EKI	890	64	14	5
7420		HOLL	02 12 1509	S06 W22	02 11.0		B	EKI	780	41	14	3
7420		BOUL	02 12 1549	S06 W25	02 10.8		B	EKO	930	10	15	1
7420		PALE	02 12 2030	S07 W23	02 11.1		B	EKI	750	45	14	3
7420		LEAR	02 13 0108	S07 W30	02 10.8		B	FKI	840	38	15	3
7420		RAMY	02 13 1340	S06 W35	02 10.9		B	EKI	740	58	14	5
7420		BOUL	02 13 1617	S06 W38	02 10.8		B	EAI	520	34	14	3
7420		PALE	02 13 2215	S07 W40	02 10.9		B	EKI	750	52	14	2
7420		LEAR	02 14 0014	S07 W45	02 10.6		B	EKI	700	31	14	3
7420		SVTO	02 14 0904	S07 W43	02 11.1		B	EKI	520	30	13	4
7420		RAMY	02 14 1348	S05 W52	02 10.7		BG	EKI	720	57	15	4
7420	27762	MWIL	02 14 1600	S05 W54	02 10.6	5	(D)					

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7420		BOUL	02 14 1612	S06 W55	02 10.5		B	EAO	500	21	14	2
7420		HOLL	02 14 1815	S05 W54	02 10.7		B	FKI	610	31	16	2
7420		LEAR	02 15 0025	S06 W58	02 10.7		B	DKO	650	47	15	3
7420		RAMY	02 15 1233	S07 W64	02 10.7		BG	EKI	630	36	14	4
7420		HOLL	02 15 1700	S05 W68	02 10.6		B	EKO	530	17	12	3
7420		LEAR	02 16 0020	S05 W70	02 10.8		B	EKO	690	25	15	3
7420		RAMY	02 16 1408	S07 W79	02 10.7		B	EAI	380	19	15	4
7420		HOLL	02 16 1935	S06 W80	02 10.8		B	DAO	120	4	4	2
7420		LEAR	02 17 0015	S07 W83	02 10.8		B	DAO	90	4	4	3
7424		PALE	02 09 2015	N07 E78	02 15.7		A	AX	10	1	1	3
7424		LEAR	02 10 0016	N08 E72	02 15.4		B	BXO	30	2	3	3
7424		SVTO	02 10 1031	N09 E69	02 15.6		B	CSO	50	4	1	3
7424		RAMY	02 10 1621	N09 E65	02 15.5		B	CRO	30	3	4	3
7424	27764	MWIL	02 10 1815	N09 E65	02 15.6	3	X					
7424		PALE	02 10 1945	N09 E67	02 15.8		A	AX	40	3	2	3
7424		HOLL	02 10 2210	N07 E63	02 15.6		A	AX	20	2	2	3
7424		LEAR	02 11 0007	N09 E63	02 15.7		B	BXO	20	4	2	3
7424		SVTO	02 11 0855	N08 E59	02 15.8		B	BXO	40	7	7	3
7424		RAMY	02 11 1410	N08 E58	02 15.9		B	CAO	40	10	11	3
7424		BOUL	02 11 1634	N10 E57	02 16.0		B	BXO	30	2	3	2
7424		PALE	02 11 1958	N09 E57	02 16.1		B	CRO	60	5	6	3
7424		LEAR	02 12 0010	N08 E50	02 15.7		B	BXO	20	9	6	4
7424		RAMY	02 12 1310	N09 E42	02 15.7		B	DAO	70	13	6	5
7424		HOLL	02 12 1509	N08 E43	02 15.8		B	CRO	30	9	6	3
7424		BOUL	02 12 1549	N09 E40	02 15.7		B	DSO	90	3	4	1
7424		PALE	02 12 2030	N08 E42	02 16.0		B	CRO	70	22	5	3
7424		LEAR	02 13 0108	N08 E33	02 15.5		B	DSO	70	10	6	3
7424		RAMY	02 13 1340	N08 E29	02 15.7		B	DAO	70	19	6	5
7424		BOUL	02 13 1617	N10 E25	02 15.5		B	DSO	60	9	7	3
7424		PALE	02 13 2215	N09 E27	02 15.9		B	DAO	80	12	6	2
7424		LEAR	02 14 0014	N08 E18	02 15.3		B	DSO	90	17	7	3
7424		SVTO	02 14 0904	N08 E17	02 15.6		B	DSO	60	10	6	4
7424		RAMY	02 14 1348	N09 E15	02 15.7		B	DAO	70	18	8	4
7424	27764	MWIL	02 14 1600	N10 E11	02 15.5	5	(D)					
7424		BOUL	02 14 1612	N10 E11	02 15.5		B	DSO	30	3	3	2
7424		HOLL	02 14 1815	N09 E10	02 15.5		B	DSO	50	13	4	2
7424		LEAR	02 15 0025	N09 E06	02 15.5		B	DSO	50	10	4	3
7424		RAMY	02 15 1233	N10 E02	02 15.7		B	CAO	40	9	6	4
7424		HOLL	02 15 1700	N09 W03	02 15.5		B	CSO	30	5	4	3
7424		LEAR	02 16 0020	N10 W08	02 15.4		B	CSO	20	5	5	3
7424		RAMY	02 16 1408	N09 W17	02 15.3		B	CAO	20	8	6	4
7424		HOLL	02 16 1935	N10 W17	02 15.5		B	CAO	50	6	6	2
7424		LEAR	02 17 0015	N09 W22	02 15.3		B	CSO	30	3	3	3
7424		RAMY	02 17 1245	N09 W28	02 15.4		B	CAO	40	5	4	5
7424		SVTO	02 17 1305	N10 W27	02 15.5		B	CAO	80	5	5	3
7424		BOUL	02 17 1604	N10 W32	02 15.3		A	HS	40	1	1	2
7424		HOLL	02 17 1800	N09 W30	02 15.5		B	CSO	20	2	5	2
7424	27764	MWIL	02 17 2200	N10 W36	02 15.2	5	(BP)					
7424		LEAR	02 18 0003	N10 W35	02 15.4		B	CRO	20	2	3	2
7424		RAMY	02 18 1255	N10 W43	02 15.3		B	CAO	40	6	3	5
7424		SVTO	02 18 1340	N11 W42	02 15.4		B	CSO	50	3	4	2
7424		BOUL	02 18 1501	N10 W45	02 15.2		A	HS	50	1	1	1
7424		HOLL	02 18 1945	N10 W47	02 15.3		B	CSO	30	5	5	2
7424		LEAR	02 19 0134	N11 W50	02 15.3		B	CSO	50	7	4	2
7424		SVTO	02 19 0915	N10 W53	02 15.4		B	BXO	40	5	5	4
7424		RAMY	02 19 1323	N10 W57	02 15.3		B	DAO	50	7	5	5
7424		BOUL	02 19 1532	N09 W58	02 15.3		B	DSO	60	4	7	3
7424		HOLL	02 19 1610	N10 W57	02 15.4		B	DSO	40	4	6	2
7424		LEAR	02 20 0022	N11 W63	02 15.3		B	CSO	50	5	6	3
7424		HOLL	02 20 1535	N10 W75	02 15.0		A	AX	10	1		3
7424		BOUL	02 20 1609	N11 W71	02 15.3		A	AX	10	1		3
7424		LEAR	02 21 0032	N12 W80	02 15.0		A	AX	30	1	1	3
7424A		LEAR	02 12 0010	N09 E58	02 16.4		B	BXO		2	1	4
7424A		RAMY	02 12 1310	N08 E52	02 16.4		B	BXO	20	5	6	5
7424A		HOLL	02 12 1509	N08 E49	02 16.3		A	AX		2	2	3
7424A		PALE	02 12 2030	N08 E48	02 16.4		B	BXO	200	3	3	3
7424A		HOLL	02 14 1815	N10 E23	02 16.5		A	AX		1		2

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time		Lat	CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7424A	27767	RAMY	02 16	1408	N07	W01	02 16.5		A	AX		1		4
7424A		MWIL	02 17	2200	N12	W23	02 16.2	4	(AF)					
7424B		HOLL	02 20	1535	S11	W49	02 17.0		A	AX	10	2	1	3
7424B		BOUL	02 20	1609	S12	W48	02 17.0		A	AX	10	2	1	3
7424B		LEAR	02 21	0032	S13	W53	02 17.0		B	BXO	20	2	3	3
7425	27765	RAMY	02 11	1410	N13	E78	02 17.5		A	HS	40	1	2	3
7425		BOUL	02 11	1634	N13	E79	02 17.6		A	HS	60	1	2	2
7425		LEAR	02 12	0010	N14	E77	02 17.8		A	HA	60	1	2	4
7425		RAMY	02 12	1310	N14	E67	02 17.6		A	HS	120	1	4	5
7425		HOLL	02 12	1509	N13	E67	02 17.7		A	HS	50	1	2	3
7425		BOUL	02 12	1549	N15	E68	02 17.8		A	HS	180	1	3	1
7425		PALE	02 12	2030	N14	E68	02 18.0		A	HS	100	1	2	3
7425		LEAR	02 13	0108	N15	E59	02 17.5		A	HS	150	1	2	3
7425		RAMY	02 13	1340	N13	E55	02 17.7		A	HS	90	2	2	5
7425		BOUL	02 13	1617	N16	E53	02 17.7		A	HS	110	1	3	3
7425		PALE	02 13	2215	N16	E52	02 17.9		A	HS	70	1	2	2
7425		LEAR	02 14	0014	N17	E46	02 17.5		A	HS	110	1	2	3
7425		SVTO	02 14	0904	N14	E45	02 17.8		B	CSO	90	3	3	4
7425		RAMY	02 14	1348	N13	E43	02 17.8		B	CAO	90	3	3	4
7425		MWIL	02 14	1600	N15	E41	02 17.8	5	(AP)					
7425		BOUL	02 14	1612	N15	E40	02 17.7		A	HS	70	1	2	2
7425		HOLL	02 14	1815	N14	E40	02 17.8		A	HS	120	1	2	2
7425		LEAR	02 15	0025	N15	E36	02 17.7		A	HS	90	1	2	3
7425		RAMY	02 15	1233	N16	E30	02 17.8		A	HA	70	1	2	4
7425		HOLL	02 15	1700	N13	E28	02 17.8		A	HS	100	1	2	3
7425		LEAR	02 16	0020	N15	E23	02 17.7		A	HS	80	1	2	3
7425		RAMY	02 16	1408	N15	E17	02 17.9		B	DSI	130	23	4	4
7425		HOLL	02 16	1935	N16	E15	02 17.9		B	DSO	100	12	5	2
7425		LEAR	02 17	0015	N15	E13	02 18.0		B	DAO	190	16	4	3
7425		RAMY	02 17	1245	N15	E05	02 17.9		B	DAI	150	20	6	5
7425		SVTO	02 17	1305	N15	E06	02 18.0		B	DSO	120	24	9	3
7425		BOUL	02 17	1604	N16	E03	02 17.9		B	DAO	170	11	5	2
7425		HOLL	02 17	1800	N15	E02	02 17.9		B	DSO	120	14	8	2
7425		MWIL	02 17	2200	N16	W01	02 17.8	5	(D)					
7425		LEAR	02 18	0003	N17	W02	02 17.8		B	DAO	100	14	5	2
7425		RAMY	02 18	1255	N15	W08	02 17.9		B	DAO	140	27	6	5
7425		SVTO	02 18	1340	N15	W08	02 18.0		B	DSO	90	19	9	2
7425		BOUL	02 18	1501	N17	W11	02 17.8		B	DSO	90	2	3	1
7425		HOLL	02 18	1945	N15	W11	02 18.0		BG	DSO	130	14	6	2
7425		LEAR	02 19	0134	N16	W15	02 17.9		B	DSO	130	14	6	2
7425		SVTO	02 19	0915	N15	W18	02 18.0		B	CSO	110	17	6	4
7425		RAMY	02 19	1323	N16	W20	02 18.0		B	DAO	110	16	6	5
7425		BOUL	02 19	1532	N15	W23	02 17.9		B	CSO	100	8	5	3
7425		HOLL	02 19	1610	N15	W22	02 18.0		B	CSO	80	13	7	2
7425		LEAR	02 20	0022	N16	W27	02 18.0		B	CSO	120	11	5	3
7425		HOLL	02 20	1535	N17	W35	02 18.0		A	CSO	60	5	4	3
7425		BOUL	02 20	1609	N16	W36	02 17.9		A	HS	70	4	3	3
7425		LEAR	02 21	0032	N16	W40	02 18.0		B	CSO	90	3	4	3
7425		SVTO	02 21	1030	N16	W45	02 18.0		B	CSO	80	3	3	2
7425		RAMY	02 21	1320	N14	W46	02 18.1		B	CAO	70	4	3	3
7425		BOUL	02 21	1545	N15	W49	02 17.9		A	HS	40	2	2	2
7425		HOLL	02 21	2035	N16	W50	02 18.1		B	CSO	70	3	3	3
7425		LEAR	02 22	0002	N15	W55	02 17.8		B	CSO	70	3	5	3
7425		BOUL	02 22	1459	N16	W61	02 18.0		A	HS	70	1	2	1
7425		MWIL	02 22	1700	N16	W63	02 17.9	5	X					
7425		HOLL	02 22	1850	N18	W64	02 17.9		B	CSO	50	3	3	2
7425		LEAR	02 23	0004	N16	W65	02 18.1		A	HS	50	1	2	3
7425		RAMY	02 23	1216	N17	W72	02 18.0		A	HS	40	1	2	3
7425		BOUL	02 23	1452	N16	W76	02 17.8		A	HS	60	1	2	2
7425		LEAR	02 24	0003	N16	W80	02 17.9		A	HA	60	1	2	3
7426		SVTO	02 14	0904	N05	E69	02 19.5		A	AX	10	1	1	4
7426		RAMY	02 14	1348	N05	E67	02 19.6		A	HR	10	2	2	4
7426		HOLL	02 14	1815	N04	E64	02 19.5		A	AX		1		2
7426		LEAR	02 15	0025	N06	E60	02 19.5		A	AX	10	1	1	3
7426		RAMY	02 15	1233	N06	E52	02 19.4		B	CAO	20	3	4	4
7426		HOLL	02 15	1700	N06	E49	02 19.4		B	CRO	30	3	4	3

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7426		LEAR	02 16 0020	N07 E48	02 19.6		A	AX	10	1	1	3
7426		RAMY	02 16 1408	N06 E39	02 19.5		B	BXO	10	2	1	4
7426		HOLL	02 16 1935	N05 E37	02 19.6		A	AX		1		2
7426		LEAR	02 17 0015	N06 E35	02 19.6		A	AX		1	1	3
7426		HOLL	02 17 1800	N08 E24	02 19.5		A	AX	10	1		2
7426A		RAMY	02 16 1408	N19 E44	02 19.9		A	AX		1		4
7426A		RAMY	02 17 1245	N20 E33	02 20.0		B	BXO	20	6	3	5
7426A		RAMY	02 19 1323	N23 E06	02 20.0		A	HR		1		5
7427		LEAR	02 14 0014	S22 E79	02 20.1		B	BXO	30	2	3	3
7427		RAMY	02 14 1348	S22 E77	02 20.5		A	HA	80	6	3	4
7427	27766	MWIL	02 14 1600	S22 E75	02 20.4	4	(X)					
7427		HOLL	02 14 1815	S23 E72	02 20.3		A	HS	50	3	2	2
7427		LEAR	02 15 0025	S22 E69	02 20.3		B	CRO	50	3	3	3
7427		RAMY	02 15 1233	S21 E62	02 20.3		A	HA	60	4	4	4
7427		HOLL	02 15 1700	S23 E60	02 20.3		B	BXO	20	4	3	3
7427		LEAR	02 16 0020	S22 E58	02 20.5		B	CSO	50	5	4	3
7427		RAMY	02 16 1408	S21 E49	02 20.3		A	HA	60	8	2	4
7427		HOLL	02 16 1935	S22 E45	02 20.3		B	DAO	70	7	4	2
7427		LEAR	02 17 0015	S20 E44	02 20.4		B	CAO	70	4	4	3
7427		RAMY	02 17 1245	S21 E38	02 20.4		B	CAO	100	10	4	5
7427		SVTO	02 17 1305	S21 E36	02 20.3		B	CAO	70	11	4	3
7427		BOUL	02 17 1604	S19 E34	02 20.3		B	CAO	70	4	2	2
7427		HOLL	02 17 1800	S20 E35	02 20.4		B	CSO	60	10	5	2
7427	27766	MWIL	02 17 2200	S20 E32	02 20.4	5	(BP)					
7427		LEAR	02 18 0003	S20 E30	02 20.3		B	DAI	50	7	3	2
7427		RAMY	02 18 1255	S19 E23	02 20.3		B	DAI	110	24	4	5
7427		SVTO	02 18 1340	S20 E23	02 20.3		B	DAO	80	12	7	2
7427		BOUL	02 18 1501	S19 E22	02 20.3		B	DSO	110	2	4	1
7427		HOLL	02 18 1945	S20 E20	02 20.3		B	CAO	50	10	6	2
7427		LEAR	02 19 0134	S19 E18	02 20.4		B	DSO	80	13	6	2
7427		SVTO	02 19 0915	S19 E12	02 20.3		B	CSO	80	11	6	4
7427		RAMY	02 19 1323	S18 E12	02 20.5		B	CAO	60	13	7	5
7427		BOUL	02 19 1532	S19 E08	02 20.2		B	CSO	60	7	5	3
7427		HOLL	02 19 1610	S20 E09	02 20.4		B	CSO	30	10	6	2
7427		LEAR	02 20 0022	S19 E05	02 20.4		B	CSO	50	11	6	3
7427		HOLL	02 20 1535	S19 W05	02 20.3		B	CSO	20	8	6	3
7427		BOUL	02 20 1609	S17 W05	02 20.3		B	CRO	10	4	6	3
7427		LEAR	02 21 0032	S18 W10	02 20.3		B	CSO	40	6	7	3
7427		SVTO	02 21 1030	S18 W14	02 20.4		B	BXO	30	6	6	2
7427		RAMY	02 21 1320	S18 W17	02 20.3		B	CRO	10	5	3	3
7427		BOUL	02 21 1545	S17 W18	02 20.3		A	AX	10	3	2	2
7427		HOLL	02 21 2035	S18 W21	02 20.2		A	AX	10	3	2	3
7427		LEAR	02 22 0002	S20 W23	02 20.2		B	BXO	20	7	4	3
7427		HOLL	02 22 1850	S18 W34	02 20.2		A	AX		1		2
7427		LEAR	02 23 0004	S19 W36	02 20.2		B	BXO	10	2	3	3
7430		RAMY	02 18 1255	N08 E31	02 20.9		A	AX		1		5
7430		RAMY	02 19 1323	N08 E17	02 20.8		A	HR	10	1		5
7430		HOLL	02 20 1535	N08 E04	02 20.9		B	BXO		2	1	3
7430		BOUL	02 20 1609	N09 E04	02 21.0		A	AX		2	1	3
7430		LEAR	02 21 0032	N08 E00	02 21.0		B	DAO	50	11	4	3
7430		SVTO	02 21 1030	N08 W05	02 21.1		B	DRO	100	5	7	2
7430		RAMY	02 21 1320	N08 W07	02 21.0		B	DAO	30	4	6	3
7430		BOUL	02 21 1545	N09 W09	02 21.0		B	DSO	40	5	7	2
7430		HOLL	02 21 2035	N08 W11	02 21.0		B	CSO	20	7	7	3
7430		LEAR	02 22 0002	N08 W14	02 20.9		B	DSO	40	5	7	3
7430		BOUL	02 22 1459	N09 W22	02 21.0		B	BXO	40	7	7	1
7430	27770	MWIL	02 22 1700	N08 W24	02 20.9	5	X					
7430		HOLL	02 22 1850	N08 W24	02 21.0		B	CSO	50	9	8	2
7430		LEAR	02 23 0004	N08 W27	02 21.0		B	DAO	100	20	8	3
7430		RAMY	02 23 1216	N08 W33	02 21.0		B	DAO	130	17	9	3
7430		BOUL	02 23 1452	N09 W36	02 20.9		B	DAO	120	8	8	2
7430		LEAR	02 24 0003	N08 W41	02 20.9		B	DAO	140	14	10	3
7430		RAMY	02 24 1246	N09 W48	02 20.9		B	DAO	170	17	9	4
7430		PALE	02 24 2310	N09 W58	02 20.6		B	BXO	30	8	11	1
7430		LEAR	02 25 0041	N08 W56	02 20.8		B	CAO	120	7	7	2
7430		SVTO	02 25 1205	N08 W60	02 21.0		A	AX	10	1		4

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time		Lat	CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7430		RAMY	02 25	1250	N09	W61	02 20.9		B	CAO	40	6	10	4
7430		HOLL	02 25	1820	N12	W64	02 20.9		B	CSO	40	4	10	3
7430		PALE	02 25	2312	N09	W69	02 20.8		B	CSO	60	2	4	3
7430		LEAR	02 26	0124	N07	W70	02 20.8		B	CAO	90	4	10	3
7430		SVTO	02 26	1015	N07	W70	02 21.2		B	CRO	40	3	3	2
7430		RAMY	02 26	1315	N08	W74	02 21.0		B	CRO	30	3	10	4
7430A		SVTO	02 18	1340	N04	E32	02 21.0		A	AX		1		2
7430A		LEAR	02 20	0022	N03	E17	02 21.3		A	AX	10	1	1	3
7430A		HOLL	02 20	1535	N04	E09	02 21.3		B	BXO		2	1	3
7428		SVTO	02 14	0904	S05	E85	02 20.7		B	BXO	20	2	2	4
7428		RAMY	02 15	1233	S05	E72	02 20.9		A	AX		1		4
7428		HOLL	02 15	1700	S09	E71	02 21.0		A	AX		1		3
7428		LEAR	02 16	0020	S05	E68	02 21.1		A	AX	10	1	1	3
7428		RAMY	02 16	1408	S06	E58	02 20.9		A	HR	10	1	1	4
7428		HOLL	02 16	1935	S07	E57	02 21.1		A	AX		1		2
7428		LEAR	02 17	0015	S05	E54	02 21.0		A	AX	10	1	1	3
7428		RAMY	02 18	1255	S06	E38	02 21.4		A	AX		1		5
7428		SVTO	02 18	1340	S07	E38	02 21.4		A	AX	10	1	1	2
7429		LEAR	02 16	0020	S13	E83	02 22.3		A	HX	90	1	2	3
7429		RAMY	02 16	1408	S13	E79	02 22.5		A	HS	120	1	3	4
7429		HOLL	02 16	1935	S16	E74	02 22.4		A	HS	120	1	2	2
7429		LEAR	02 17	0015	S12	E70	02 22.3		A	HS	160	1	3	3
7429		RAMY	02 17	1245	S15	E66	02 22.5		B	CAO	100	2	5	5
7429		SVTO	02 17	1305	S13	E64	02 22.4		B	CAO	60	2	4	3
7429		BOUL	02 17	1604	S13	E61	02 22.3		A	HA	80	1	2	2
7429		HOLL	02 17	1800	S13	E65	02 22.6		B	CSO	120	1	2	2
7429	27768	MWIL	02 17	2200	S13	E58	02 22.3	5	(B)					
7429		LEAR	02 18	0003	S13	E57	02 22.3		A	HA	70	1	2	2
7429		RAMY	02 18	1255	S14	E52	02 22.5		B	CAO	100	7	6	5
7429		SVTO	02 18	1340	S15	E49	02 22.3		B	CSO	70	3	3	2
7429		BOUL	02 18	1501	S12	E49	02 22.3		A	HS	100	1	2	1
7429		HOLL	02 18	1945	S15	E49	02 22.5		B	CSO	120	3	7	2
7429		LEAR	02 19	0134	S14	E44	02 22.4		B	CSO	110	2	4	2
7429		SVTO	02 19	0915	S14	E38	02 22.2		A	HS	100	1	3	4
7429		RAMY	02 19	1323	S15	E39	02 22.5		B	CAO	110	2	8	5
7429		BOUL	02 19	1532	S13	E34	02 22.2		A	HA	110	1	2	3
7429		HOLL	02 19	1610	S16	E35	02 22.3		B	CSO	120	3	6	2
7429		LEAR	02 20	0022	S15	E34	02 22.6		B	CSO	110	2	7	3
7429		HOLL	02 20	1535	S14	E22	02 22.3		A	HS	100	1	2	3
7429		BOUL	02 20	1609	S12	E22	02 22.3		A	HS	100	1	2	3
7429		LEAR	02 21	0032	S13	E18	02 22.4		A	HS	90	2	2	3
7429		SVTO	02 21	1030	S13	E11	02 22.3		B	CAO	120	3	2	2
7429		RAMY	02 21	1320	S12	E13	02 22.5		B	DAO	190	2	8	3
7429		BOUL	02 21	1545	S12	E09	02 22.3		A	HS	80	1	2	2
7429		HOLL	02 21	2035	S13	E07	02 22.4		A	HS	100	1	2	3
7429		LEAR	02 22	0002	S13	E05	02 22.4		A	HS	100	1	2	3
7429		BOUL	02 22	1459	S11	W04	02 22.3		A	HS	100	1	2	1
7429	27768	MWIL	02 22	1700	S12	W02	02 22.5	5	(AP)					
7429		HOLL	02 22	1850	S13	W06	02 22.3		A	HS	120	1	2	2
7429		LEAR	02 23	0004	S13	W08	02 22.4		A	HS	100	1	2	3
7429		RAMY	02 23	1216	S12	W13	02 22.5		B	CAO	80	4	4	3
7429		BOUL	02 23	1452	S12	W17	02 22.3		A	HS	80	1	2	2
7429		LEAR	02 24	0003	S13	W21	02 22.4		A	HS	70	1	2	3
7429		RAMY	02 24	1246	S12	W28	02 22.4		A	HS	90	1	2	4
7429		PALE	02 24	2310	S12	W33	02 22.5		B	DSO	100	2	6	1
7429		LEAR	02 25	0041	S13	W35	02 22.4		A	HS	70	1	2	2
7429		RAMY	02 25	1250	S13	W41	02 22.4		A	HS	90	2	3	4
7429		HOLL	02 25	1820	S12	W44	02 22.4		A	HS	80	1	2	3
7429		PALE	02 25	2312	S12	W45	02 22.6		B	DSO	120	2	6	3
7429		LEAR	02 26	0124	S12	W48	02 22.4		A	HS	70	1	2	3
7429		SVTO	02 26	1015	S13	W52	02 22.5		A	HS	50	1	2	2
7429		RAMY	02 26	1315	S13	W56	02 22.3		A	HA	100	1	2	4
7429		HOLL	02 26	1900	S12	W56	02 22.6		A	HS	50	1	1	3
7429		PALE	02 26	1920	S12	W57	02 22.5		B	DSO	170	2	4	3
7429		LEAR	02 27	0146	S13	W62	02 22.4		A	HS	100	1	2	3
7429		SVTO	02 27	0800	S12	W65	02 22.4		A	HS	80	1	2	2

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time (UT)	Lat	CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7429		RAMY	02 27 1300	S13	W66	02 22.6		A	HS	100	1	2	4
7429		BOUL	02 27 1608	S13	W70	02 22.4		A	HS	40	1	1	3
7429		LEAR	02 28 0002	S14	W73	02 22.5		A	HS	60	1	2	4
7429		RAMY	02 28 1255	S13	W79	02 22.6		A	HS	30	1	1	4
7429		HOLL	02 28 1520	S12	W81	02 22.5		A	HA	60	1	2	2
7429		BOUL	02 28 1525	S13	W85	02 22.2		A	HS	20	1	1	4
7429		PALE	02 28 1910	S11	W88	02 22.2		A	HA	30	1	1	3
7429	27768	MWIL	02 28 1930	S12	W83	02 22.5	4	X					
7431		RAMY	02 17 1245	S13	E77	02 23.3		A	AX	10	1		5
7431		SVTO	02 17 1305	S12	E74	02 23.1		A	AX		1		3
7431	27769	MWIL	02 17 2200	S12	E70	02 23.2	4	(B)					
7431		LEAR	02 18 0003	S12	E69	02 23.2		B	BXO	10	4	3	2
7431		RAMY	02 18 1255	S12	E61	02 23.1		B	DRO	40	6	6	5
7431		SVTO	02 18 1340	S13	E58	02 22.9		B	CRO	30	3	4	2
7431		HOLL	02 18 1945	S13	E58	02 23.2		B	CSO	50	4	6	2
7431		LEAR	02 19 0134	S11	E55	02 23.2		B	BXO	80	10	6	2
7431		SVTO	02 19 0915	S13	E48	02 23.0		B	CRO	50	9	8	4
7431		RAMY	02 19 1323	S12	E48	02 23.2		B	CAO	70	14	7	5
7431		BOUL	02 19 1532	S12	E47	02 23.2		B	DAO	80	5	7	3
7431		HOLL	02 19 1610	S12	E46	02 23.1		B	DAO	90	10	8	2
7431		LEAR	02 20 0022	S12	E42	02 23.2		B	DAO	110	10	7	3
7431		HOLL	02 20 1535	S13	E33	02 23.1		B	CAO	60	12	7	3
7431		BOUL	02 20 1609	S11	E32	02 23.1		B	CAO	80	9	8	3
7431		LEAR	02 21 0032	S12	E28	02 23.1		B	CAO	100	13	7	3
7431		SVTO	02 21 1030	S11	E24	02 23.2		B	CAO	130	9	8	2
7431		RAMY	02 21 1320	S12	E20	02 23.1		B	CAO	80	6	8	3
7431		BOUL	02 21 1545	S11	E15	02 22.8		A	HS	90	1	2	2
7431		HOLL	02 21 2035	S11	E15	02 23.0		B	CSO	120	3	8	3
7431		LEAR	02 22 0002	S11	E13	02 23.0		B	CSO	110	13	8	3
7431		BOUL	02 22 1459	S11	E01	02 22.7		A	HS	80	1	1	1
7431	27771	MWIL	02 22 1700	S06	E08	02 23.3	3	X					
7431		HOLL	02 22 1850	S12	E02	02 22.9		B	CAO	120	3	5	2
7431		LEAR	02 23 0004	S12	E01	02 23.1		B	CSO	120	13	11	3
7431		RAMY	02 23 1216	S11	W06	02 23.0		B	CAO	100	13	11	3
7431		BOUL	02 23 1452	S11	W12	02 22.7		A	HS	60	1	1	2
7431		LEAR	02 24 0003	S11	W12	02 23.1		B	CSO	100	2	4	3
7431		RAMY	02 24 1246	S11	W19	02 23.1		B	CSO	90	4	9	4
7431		LEAR	02 25 0041	S11	W25	02 23.1		A	HS	70	1	2	2
7431		RAMY	02 25 1250	S11	W32	02 23.1		A	HA	100	1	2	4
7431		HOLL	02 25 1820	S11	W40	02 22.7		A	HS	80	1	2	3
7431		LEAR	02 26 0124	S11	W38	02 23.2		A	HS	80	1	2	3
7431		SVTO	02 26 1015	S12	W49	02 22.7		A	HA	40	1	2	2
7431		RAMY	02 26 1315	S12	W45	02 23.2		A	HA	80	1	2	4
7431		HOLL	02 26 1900	S11	W54	02 22.7		A	HS	50	1	1	3
7431		LEAR	02 27 0146	S11	W51	02 23.2		A	HA	90	1	2	3
7431		SVTO	02 27 0800	S11	W62	02 22.7		A	HS	60	1	2	2
7431		RAMY	02 27 1300	S12	W64	02 22.7		A	HA	40	1	2	4
7431		BOUL	02 27 1608	S12	W68	02 22.5		A	HS	50	1	1	3
7431		LEAR	02 28 0002	S13	W69	02 22.8		A	HS	50	1	2	4
7431		RAMY	02 28 1255	S12	W77	02 22.7		A	HS	30	1	1	4
7431		HOLL	02 28 1520	S10	W80	02 22.6		A	HA	60	1	2	2
7431		BOUL	02 28 1525	S11	W81	02 22.5		A	HS	40	1	2	4
7431		PALE	02 28 1910	S09	W82	02 22.6		A	HA	30	1	1	3
7431		LEAR	03 01 0005	S12	W80	02 23.1		A	HS	60	1	1	4
7436		LEAR	02 27 0146	N19	W38	02 24.2		B	BXO	20	2	3	3
7436		SVTO	02 27 0800	N17	W43	02 24.1		B	CRO	40	5	4	2
7436		RAMY	02 27 1300	N17	W44	02 24.2		B	CAO	30	5	3	4
7436		BOUL	02 27 1608	N18	W48	02 24.0		A	HA	20	2	1	3
7436		LEAR	02 28 0002	N17	W53	02 24.0		A	HA	50	1	2	4
7436		RAMY	02 28 1255	N18	W60	02 24.0		A	HA	20	1	2	4
7436		HOLL	02 28 1520	N18	W59	02 24.1		A	HS	90	1	2	2
7436		BOUL	02 28 1525	N17	W62	02 23.9		A	HS	40	1	1	4
7436		PALE	02 28 1910	N19	W63	02 24.0		A	HS	40	1	1	3
7436	27775	MWIL	02 28 1930	N17	W65	02 23.9	4	AP					
7436		LEAR	03 01 0005	N18	W68	02 23.9		A	AX	10	1	1	4
7436		RAMY	03 01 1405	N17	W70	02 24.4		A	HR	10	1	1	3
7436	27775	MWIL	03 01 1600	N17	W76	02 24.0	4	(AP)					

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7436		LEAR	03 02 0016	N18 W81	02 23.9		A	AX	30	1	1	3
7436A		RAMY	02 23 1216	N07 E13	02 24.5		B	BXO	10	3	3	3
7432		RAMY	02 18 1255	S17 E79	02 24.5		B	BXO	20	3	3	5
7432		SVTO	02 18 1340	S18 E80	02 24.7		B	BXO	10	2	3	2
7432		HOLL	02 18 1945	S17 E78	02 24.7		B	BXO	30	2	5	2
7432		LEAR	02 19 0134	S16 E79	02 25.0		B	DSO	120	2	5	2
7432		SVTO	02 19 0915	S17 E70	02 24.7		B	DAO	60	3	8	4
7432		RAMY	02 19 1323	S17 E69	02 24.8		B	DAO	130	5	9	5
7432		BOUL	02 19 1532	S17 E68	02 24.8		B	DAO	110	3	7	3
7432		HOLL	02 19 1610	S17 E70	02 25.0		B	DSO	40	4	7	2
7432		LEAR	02 20 0022	S17 E65	02 24.9		B	DAO	130	6	10	3
7432		HOLL	02 20 1535	S18 E54	02 24.8		B	EAO	130	4	11	3
7432		BOUL	02 20 1609	S16 E57	02 25.0		B	DAO	150	5	9	3
7432		LEAR	02 21 0032	S16 E52	02 25.0		B	DSO	200	4	10	3
7432		SVTO	02 21 1030	S17 E45	02 24.8		B	DAO	180	8	8	2
7432		RAMY	02 21 1320	S17 E44	02 24.9		B	EAO	150	11	11	3
7432		BOUL	02 21 1545	S15 E42	02 24.8		B	DAO	120	7	9	2
7432		HOLL	02 21 2035	S17 E41	02 25.0		B	ESO	170	15	11	3
7432		LEAR	02 22 0002	S17 E39	02 25.0		B	DAO	240	23	10	3
7432		BOUL	02 22 1459	S16 E29	02 24.8		B	DSO	150	13	9	1
7432	27772	MWIL	02 22 1700	S16 E29	02 24.9	5	X					
7432		HOLL	02 22 1850	S17 E28	02 24.9		B	EAO	130	14	12	2
7432		LEAR	02 23 0004	S18 E27	02 25.0		B	EHO	220	22	11	3
7432		RAMY	02 23 1216	S17 E19	02 24.9		B	EAO	180	27	11	3
7432		BOUL	02 23 1452	S16 E17	02 24.9		B	DAO	210	10	9	2
7432		LEAR	02 24 0003	S18 E13	02 25.0		B	EAO	140	36	11	3
7432		RAMY	02 24 1246	S17 E06	02 25.0		B	EAO	140	41	11	4
7432		PALE	02 24 2310	S17 E01	02 25.0		B	BXO	40	16	10	1
7432		LEAR	02 25 0041	S17 W02	02 24.9		B	CAO	80	12	11	2
7432		RAMY	02 25 1250	S17 W07	02 25.0		B	EAO	90	27	11	4
7432		HOLL	02 25 1820	S17 W10	02 25.0		B	CAO	40	15	11	3
7432		PALE	02 25 2312	S18 W12	02 25.0		B	BXO	40	12	11	3
7432		LEAR	02 26 0124	S17 W16	02 24.8		B	BXO	40	15	8	3
7432		SVTO	02 26 1015	S17 W18	02 25.0		B	DSO	50	13	9	2
7432		RAMY	02 26 1315	S17 W21	02 24.9		B	CRO	30	16	8	4
7432		HOLL	02 26 1900	S17 W24	02 25.0		B	BXO	30	6	9	3
7432		PALE	02 26 1920	S17 W23	02 25.0		B	BXO	30	5	9	3
7432		LEAR	02 27 0146	S16 W28	02 25.0		B	BXO	40	11	8	3
7432		SVTO	02 27 0800	S16 W32	02 24.9		B	CAO	40	8	7	2
7432		RAMY	02 27 1300	S17 W35	02 24.9		B	BXO	20	7	8	4
7432		BOUL	02 27 1608	S18 W36	02 24.9		B	BXO	10	3	7	3
7432		LEAR	02 28 0002	S19 W41	02 24.9		B	BXO	10	6	7	4
7432		RAMY	02 28 1255	S18 W50	02 24.7		A	AX		1		4
7432		HOLL	02 28 1520	S18 W52	02 24.7		A	AX		1		2
7432		BOUL	02 28 1525	S17 W48	02 25.0		B	BXO	10	3	8	4
7432		PALE	02 28 1910	S17 W52	02 24.8		B	BXO	20	5	10	3
7432	27772	MWIL	02 28 1930	S17 W54	02 24.7	4	X					
7432		LEAR	03 01 0005	S17 W56	02 24.8		B	BXO	20	6	9	4
7432		RAMY	03 01 1405	S18 W61	02 25.0		A	AX	10	2	2	3
7432	27772	MWIL	03 01 1600	S18 W67	02 24.7	4	(AP)					
7432		HOLL	03 01 1805	S18 W66	02 24.8		B	BXO	10	4	9	3
7432A		HOLL	02 28 1520	S15 W44	02 25.3		B	BXO		2	3	2
7437		RAMY	02 28 1255	S23 W28	02 26.4		A	AX		1		4
7437		HOLL	02 28 1520	S23 W30	02 26.3		A	AX		1		2
7437		BOUL	02 28 1525	S23 W29	02 26.4		A	AX		1		4
7437		PALE	02 28 1910	S22 W33	02 26.3		A	AX	10	2	1	3
7437	27776	MWIL	02 28 1930	S24 W33	02 26.3	3	AP					
7437		LEAR	03 01 0005	S24 W36	02 26.3		B	BXO	10	2	2	4
7437		RAMY	03 01 1405	S23 W42	02 26.4		A	AX	10	2	1	3
7437	27776	MWIL	03 01 1600	S25 W44	02 26.3	3	(AP)					
7433		HOLL	02 20 1535	N10 E79	02 26.6		B	DAO	60	3	6	3
7433		BOUL	02 20 1609	N14 E80	02 26.7		B	CSO	40	3	5	3
7433		LEAR	02 21 0032	N12 E73	02 26.5		B	DAI	210	16	8	3
7433		SVTO	02 21 1030	N10 E70	02 26.7		B	DSO	220	7	6	2

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

FEBRUARY 1993

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
7433		RAMY	02 21 1320	N13 E65	02 26.4		B	DAO	300	5	9	3
7433		BOUL	02 21 1545	N13 E64	02 26.5		B	DSO	230	4	7	2
7433		HOLL	02 21 2035	N11 E61	02 26.4		B	EAO	380	10	11	3
7433		LEAR	02 22 0002	N12 E60	02 26.5		B	DKO	480	14	10	3
7433		BOUL	02 22 1459	N14 E51	02 26.5		B	ESO	280	9	11	1
7433	27773	MWIL	02 22 1700	N13 E51	02 26.5	5	B					
7433		HOLL	02 22 1850	N11 E50	02 26.5		B	EAO	390	12	11	2
7433		LEAR	02 23 0004	N12 E48	02 26.6		B	EKO	370	10	11	3
7433		RAMY	02 23 1216	N12 E40	02 26.5		B	EAO	320	10	11	3
7433		BOUL	02 23 1452	N13 E39	02 26.6		B	DSO	260	3	6	2
7433		LEAR	02 24 0003	N12 E35	02 26.6		B	EAO	340	13	12	3
7433		RAMY	02 24 1246	N11 E26	02 26.5		B	EKO	290	15	11	4
7433		PALE	02 24 2310	N12 E22	02 26.6		B	ESO	110	6	12	1
7433		LEAR	02 25 0041	N13 E21	02 26.6		B	EAO	240	10	12	2
7433		RAMY	02 25 1250	N12 E15	02 26.7		B	EAO	370	33	12	4
7433		HOLL	02 25 1820	N12 E11	02 26.6		B	EAO	240	15	12	3
7433		PALE	02 25 2312	N12 E09	02 26.6		B	ESO	230	11	13	3
7433		LEAR	02 26 0124	N14 E07	02 26.6		B	EAO	260	11	13	3
7433		SVTO	02 26 1015	N12 E03	02 26.6		B	ESO	270	23	14	2
7433		RAMY	02 26 1315	N12 E01	02 26.6		B	EAO	280	16	12	4
7433		HOLL	02 26 1900	N12 W01	02 26.7		B	EAO	240	12	13	3
7433		PALE	02 26 1920	N12 W02	02 26.6		B	ESO	230	12	12	3
7433		LEAR	02 27 0146	N12 W06	02 26.6		B	EAO	250	20	13	3
7433		SVTO	02 27 0800	N13 W08	02 26.7		B	DSO	310	16	13	2
7433		RAMY	02 27 1300	N13 W12	02 26.6		B	EAO	250	28	13	4
7433		BOUL	02 27 1608	N13 W14	02 26.6		B	EAO	250	18	12	3
7433		LEAR	02 28 0002	N13 W18	02 26.6		B	EAO	240	24	11	4
7433		RAMY	02 28 1255	N13 W25	02 26.6		B	EAO	160	18	13	4
7433		HOLL	02 28 1520	N12 W25	02 26.7		B	EAO	140	11	13	2
7433		BOUL	02 28 1525	N12 W28	02 26.5		B	EAO	200	14	12	4
7433		PALE	02 28 1910	N16 W27	02 26.7		B	EAO	160	10	12	3
7433	27773	MWIL	02 28 1930	N14 W29	02 26.6	5	B					
7433		LEAR	03 01 0005	N13 W32	02 26.7		B	EAO	130	16	13	4
7433		RAMY	03 01 1405	N13 W37	02 26.9		B	EAO	120	13	13	3
7433		BOUL	03 01 1508	N13 W40	02 26.7		B	ESO	80	6	13	2
7433	27773	MWIL	03 01 1600	N14 W41	02 26.7	5	(B)					
7433		HOLL	03 01 1805	N16 W35	02 27.2		A	HS	20	2	1	3
7433		PALE	03 01 1905	N13 W41	02 26.8		B	ESO	120	4	13	3
7433		LEAR	03 02 0016	N13 W43	02 26.9		B	CAO	140	13	12	3
7433		SVTO	03 02 0750	N12 W48	02 26.8		B	ESO	90	11	13	3
7433		RAMY	03 02 1449	N12 W52	02 26.8		B	CAO	110	10	13	2
7433		BOUL	03 02 1504	N13 W54	02 26.6		B	CSO	100	6	12	3
7433	27773	MWIL	03 02 1600	N14 W56	02 26.5	5	(B)					
7433		HOLL	03 02 1635	N13 W53	02 26.8		B	CSO	120	7	14	3
7433		PALE	03 02 1950	N12 W55	02 26.8		B	CSO	100	6	13	3
7433		LEAR	03 03 0035	N15 W59	02 26.6		B	EAO	160	5	18	3
7433		SVTO	03 03 1027	N13 W62	02 26.8			CAO	120	4	7	4
7433		RAMY	03 03 1232	N14 W62	02 26.9		B	CAO	100	5	11	3
7433	27773	MWIL	03 03 1545	N12 W72	02 26.3	4	(BP)					
7433		HOLL	03 03 1545	N13 W65	02 26.8		B	CSO	120	2	12	3
7433		BOUL	03 03 1548	N10 W67	02 26.7		A	HA	120	1	2	3
7433		PALE	03 03 1805	N12 W71	02 26.5		A	HS	60	1	3	3
7433		LEAR	03 04 0030	N12 W75	02 26.5		A	HA	60	1	2	2
7434		RAMY	02 21 1320	S12 E84	02 27.9		A	HS	30	1	1	3
7434		HOLL	02 21 2035	S14 E78	02 27.7		A	HA	90	1	2	3
7434		LEAR	02 22 0002	S14 E79	02 28.0		B	CSO	60	2	3	3
7434		BOUL	02 22 1459	S11 E71	02 28.0		A	HS	150	9	2	1
7434	27774	MWIL	02 22 1700	S13 E71	02 28.1	5	AP					
7434		HOLL	02 22 1850	S14 E70	02 28.1		A	HA	130	1	2	2
7434		LEAR	02 23 0004	S13 E68	02 28.1		A	HA	160	2	2	3
7434		RAMY	02 23 1216	S13 E59	02 28.0		B	CAI	120	6	2	3
7434		BOUL	02 23 1452	S12 E58	02 28.0		A	HS	140	2	2	2
7434		LEAR	02 24 0003	S13 E56	02 28.2		B	CSO	170	5	5	3
7434		RAMY	02 24 1246	S13 E48	02 28.1		A	HA	160	3	3	4
7434		PALE	02 24 2310	S13 E42	02 28.1		A	HS	50	1	2	1
7434		LEAR	02 25 0041	S13 E41	02 28.1		A	HA	80	1	2	2
7434		RAMY	02 25 1250	S12 E34	02 28.1		A	HA	170	2	3	4
7434		HOLL	02 25 1820	S12 E31	02 28.1		A	HS	120	1	2	3

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

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time		Lat	CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7434		PALE	02 25	2312	S12	E29	02 28.1		A	HS	140	1	3	3
7434		LEAR	02 26	0124	S12	E27	02 28.1		A	HA	150	1	2	3
7434		SVTO	02 26	1015	S12	E23	02 28.1		B	CAO	110	8	5	2
7434		RAMY	02 26	1315	S12	E22	02 28.2		A	HA	150	3	3	4
7434		HOLL	02 26	1900	S12	E18	02 28.1		A	HS	150	3	3	3
7434		PALE	02 26	1920	S13	E18	02 28.2		B	CSO	150	3	3	3
7434		LEAR	02 27	0146	S12	E14	02 28.1		A	HS	140	1	2	3
7434		SVTO	02 27	0800	S12	E11	02 28.2		A	HA	160	1	3	2
7434		RAMY	02 27	1300	S12	E08	02 28.1		A	HS	120	2	2	4
7434		BOUL	02 27	1608	S11	E06	02 28.1		A	HA	130	2	2	3
7434		LEAR	02 28	0002	S12	E03	02 28.2		A	HS	100	3	2	4
7434		RAMY	02 28	1255	S11	W05	02 28.2		A	HA	110	3	3	4
7434		HOLL	02 28	1520	S12	W07	02 28.1		A	HS	150	2	2	2
7434		BOUL	02 28	1525	S11	W06	02 28.2		A	HA	110	2	2	4
7434		PALE	02 28	1910	S09	W11	02 28.0		A	HS	150	3	2	3
7434	27774	MWIL	02 28	1930	S12	W08	02 28.2	5	AP					
7434		LEAR	03 01	0005	S13	W13	02 28.0		B	CAO	140	7	7	4
7434		RAMY	03 01	1405	S12	W18	02 28.2		A	HA	120	4	4	3
7434		BOUL	03 01	1508	S11	W20	02 28.1		A	HS	100	2	2	2
7434	27774	MWIL	03 01	1600	S12	W20	02 28.1	5	(G)					
7434		HOLL	03 01	1805	S12	W21	02 28.2		B	CSO	150	3	4	3
7434		LEAR	03 02	0016	S11	W25	02 28.1		A	HS	100	2	2	3
7434		SVTO	03 02	0750	S12	W28	02 28.2		A	A	70	5	3	3
7434		RAMY	03 02	1449	S12	W33	02 28.1		A	HA	90	2	2	2
7434		BOUL	03 02	1504	S11	W33	02 28.1		A	HS	100	2	2	3
7434	27774	MWIL	03 02	1600	S12	W34	02 28.1	5	(AP)					
7434		HOLL	03 02	1635	S11	W33	02 28.2		A	HS	100	2	2	3
7434		PALE	03 02	1950	S11	W36	02 28.1		B	CSO	120	3	3	3
7434		LEAR	03 03	0035	S11	W39	02 28.1		A	HS	80	2	2	3
7434		SVTO	03 03	1027	S12	W43	02 28.2		A	HS	100	3	2	4
7434		RAMY	03 03	1232	S11	W42	02 28.4		B	CAO	80	4	4	3
7434		HOLL	03 03	1545	S11	W46	02 28.2		B	CSO	80	2	2	3
7434	27774	MWIL	03 03	1545	S12	W47	02 28.1	5	(AP)					
7434		BOUL	03 03	1548	S12	W47	02 28.1		A	HA	80	2	2	3
7434		PALE	03 03	1805	S10	W47	02 28.2		A	HS	60	1	3	3
7434		LEAR	03 04	0030	S12	W53	02 28.0		B	CAO	80	2	3	2
7434		SVTO	03 04	1030	S11	W55	02 28.3		B	CAO	30	2	2	2
7434		RAMY	03 04	1305	S12	W57	02 28.2		A	HA	30	2	3	3
7434		HOLL	03 04	1505	S10	W59	02 28.2		A	HA	70	1	2	3
7434	27774	MWIL	03 04	1530	S12	W60	02 28.1	4	(AP)					
7434		BOUL	03 04	1559	S12	W61	02 28.1		A	HA	110	3	2	3
7434		PALE	03 04	2308	S08	W65	02 28.1		A	HS	130	2	3	3
7434		LEAR	03 05	0024	S11	W65	02 28.1		A	HS	40	1	2	2
7434		RAMY	03 05	1320	S12	W71	02 28.2		A	HS	50	1	2	3
7434	27774	MWIL	03 05	1515	S12	W72	02 28.2	4	(AP)					
7434		BOUL	03 05	1539	S11	W74	02 28.1		A	HA	60	1	2	3
7434		HOLL	03 05	1810	S10	W74	02 28.2		A	HA	60	1	1	3
7434		PALE	03 05	1858	S11	W75	02 28.1		A	HS	60	1	2	3
7434		LEAR	03 06	0006	S12	W77	02 28.2		A	HS	30	2	2	4

Stations reporting:

BOUL = Boulder
CULG = Culgoora

HOLL = Holloman
LEAR = Learmonth

MWIL = Mt. Wilson
PALE = Palehua

RAMY = Ramey
SVTO = San Vito

SUDDEN IONOSPHERIC DISTURBANCES

FEBRUARY 1993

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type					Flare (UT)	X-ray Class	NOAA Region
						SWF	SEA	SPA	LF- SPA	SES			
01	0158	0207	0318	3	5	2		1			0155	M2.2	
01	0456	0500	0512	1-	1			1			*		
01	0516	0526	0536	1-	1			1			0516	C2.1	
01	0540	0554	0630	1-	1			1			*		
01	0656	0704	0828	2+	5		1	1			0655	M1.4	
01	0912	0916	0922	1-	5			1		1	0908	C1.6	
01	1001	1008	1050	1-	5		1	1		5	1001	C6.9	
01	1054	1100	1116	1-	5			1		4	1057	C3.3	
01	1321	1335	1359	1-	5		1			1	1316		
01	1753	1759	1824	1+	3					8	1753	C2.7	
01	1946	1954	2020	1	5			1		6	1944	C4.9	
01	2214	2224	2246	1-	5			1		3	2210	C2.1	
02	0344	0352	0446	2	3	1		1			0343	C6.3	7412
02	0452	0508	0618	1-	1			1			0451	C2.8	
02	0735	0747	0836	1	1		1				No flare		
03	0512	0520	0606	1-	1			1			0315	C1.7	
03	0820	0826	0840	1-	1			1			0818	C1.2	
03	1125	1137	1219	1	1		1				No flare		
03	1452	1500	1602	2	5		1			10	1456E	C8.8	7417
03	2037	2039	2053	1-	1					1	2038	C1.3	
04	0326	0330	0342	1-	1			1			0325	C1.4	7416
04	1038	1046	1112	1-	5		1	1			1038	C4.4	
04	1416	1429	1456	1+	5		1			1	1406	C1.8	7418
04	1456	1500	1512	1-	1					1	1456	C1.4	
04	1517	1521	1530	1-	1					1	1518	C1.4	
04	2001	2003	2042	2	1					1	2002		7417
04	2348	2356	2412	1-	1			1			2335	C1.9	
05	0210	0218	0244	1-	1			1			0208	C3.0	
05	0252	0300	0318	1-	1			1			0251E	C2.2	7420
05	0350	0358	0412	1-	1			1			*		
05	0416	0420	0450	1-	1			1			0414	C2.3	
05	0448	0458	0514D	1-	1			1			0448	M1.0	
05	0514E	0542	0656D	2+	3	1		1			0448	M1.0	
05	0656E	0702	0740	1-	1			1			*		
05	0755	0758	0820	1	5			1		2	0755E	C7.7	7420
05	0902	0908	0920	1-	5			1		1	0900	C4.8	
05	1120	1124	1130	1-	5			1		2	1116	C2.6	
05	1432	1440	1455	1	5		1			2	1432	C1.8	
05	1830	1832	1836	1-	1					1	1830	C1.3	7418
05	2030	2033	2044	1-	3					2	2030	C1.7	
05	2125	2126	2130	1-	1					1	2127		7420
05	2155	2200	2212	1-	5			1		1	2155E	C2.2	7417
06	0308	0314	0326	1-	1			1			0240		7420
06	0524	0530	0616	1+	1			1			0524	C5.6	
06	0802	0816	0840	1+	5			1		1	0759	C3.7	
06	1042	1052	1116	1-	1			1			No flare		
06	1345	1347	1406	1-	5					8	1341	C4.5	7420
06	1355	1400	1410	1-	1					1	1407		7417
06	1643	1648	1715	1+	5					13	1640E	M1.1	7420
06	1723	1739	1752	1+	3					4	1719	C3.5	7420
06	1819	1824	1843	1+	5	2				10	1812	M9.6	7417
06	1855	1858	1910	1-	1					1	1843		7420
06	2000	2003	2019	1-	3					5	2000		7420
06	2022	2024	2034	1-	3					7	2022	C4.5	
06	2046	2052	2100	1-	5			1		7	2039	C7.5	7420
06	2134	2140	2152	1-	5			1		3	2132	C5.3	7420
06	2202	2210	2238	1-	5	1		1		5	2205	C7.9	7418
06	2334	2340	2352	1-	1			1			2333	C2.4	
06	2354	2420	2456	1-	1			1			2351		7412
07	0106	0110	0124	1-	5			1		1	0104	C2.2	
07	0156	0200	0206	1-	1			1			0154	C1.6	

* = no flare patrol.

FEBRUARY 1993

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type					Flare (UT)	X-ray Class	NOAA Region
						SWF	SEA	SPA	LF- SPA	SES			
07	0226	0230	0238	1-	1			1			0225	C1.5	
07	0256	0302	0318	1-	5			1		1	0234	C2.1	
07	0326	0328	0336	1-	1			1			*		
07	0412	0418	0438	1-	5			1		1	0412	C1.7	
07	0556	0606	0620D	1-	5			1		1	0554	C1.5	
07	0620E	0626	0640	1-	1			1			0619	C1.6	
07	0800	0829	0838	1	1		1				0814		7420
07	1022	1028	1038	1-	5			1		2	1017	C2.0	7420
07	1050	1058	1112	1	5					2	1038	C3.7	
07	1358	1402	1416	1-	5		1			6	1356	C2.7	7420
07	1514	1516	1522	1-	1					1	No flare		
07	1844	1853	1938	2	3					11	1851	C1.3	7400
07	2342	2408	2442	1	5	1		1		1	2337	C5.5	
08	0222	0236	0312	2+	5	1		1		1	0230E	C9.2	7420
08	0300	0310	0344	1	3	1		1			No flare		
08	0418	0422	0432	1-	1			1			0416	C1.2	
08	0702	0706	0750	1	1			1			0703	C3.9	7420
08	0808	0816	0830	1-	5			1		1	0815E	C2.5	7417
08	1254	1305	1328	1	1		1				1301	C1.2	7420
08	1704	1712	1749	2-	3					5	1702	C7.1	7420
08	2310	2316	2338	1-	5			1		1	2309	C3.3	
09	0100	0110	0124	1-	1			1			0059	C1.9	
09	0134	0158	0222	1-	5			1		1	0131	C2.7	
09	0416	0426	0452	1-	1			1			0423E	C2.6	7420
09	0520	0542	0614	1-	1			1			0528E		7420
09	0716	0724	0818	2	5	1		1		1	0718E	M1.0	7420
09	0956	0959	1015	1	1					1	0955	C2.2	7420
09	1131	1133	1141	1-	3					2	1136	C2.6	7419
09	1237	1242	1305	1-	3					3	1235	C3.9	7420
09	1415	1415	1422	1-	1					1	1408	C1.6	7420
09	1901	1907	1931	1	3					3	1902	C2.5	7417
09	2224	2234	2310	1-	5			1		1	2227	C3.8	7420
09	2356	2402	2436	1-	1			1			2355	C3.0	7417
10	0116	0124	0148	1-	1			1			0112	C2.3	7420
10	0606	0612	0652	1-	1			1			0605	C2.4	
10	0718	0724	0736D	1-	5			1		1	0714	C2.0	7420
10	0736E	0744	0832	2+	5	1		1		1	0734	M1.0	7420
10	0838	0842	0912	3-	5			1		4	0836	M1.5	7420
10	1800	1805	1820	1	1					1	1803	C1.1	7420
10	1853	1855	1902	1-	3					2	1853	C1.4	7420
10	1913	1925	1954	2	3					5	1922	C1.5	7420
10	2004	2008	2034	2	5	1		1		11	2003	M2.4	7420
10	2044	2045	2057	1-	3					3	2045	C4.0	7420
10	2344	2348	2406	1-	1			1			2343	C2.2	
11	0022	0034	0100	1-	1			1			0022	C2.7	7420
11	0126	0134	0206	1-	1			1			0124	C1.1	7420
11	0224	0228	0248	1-	1			1			0233	C1.2	7420
11	0304	0324	0356	1-	1			1			0302	C3.5	7420
11	0500	0506	0542	1+	1			1			0501	C4.3	7420
11	0724	0738	0801	2	3					2	0727	C1.2	7420
11	1444	1446	1454	1-	3					2	1442	C1.8	7420
11	1550	1552	1625	1+	5					9	1539	C7.9	7420
11	1614	1615	1628	1-	1					1	1610		7417
11	1712	1719	1747	1+	3					6	1653	C2.3	7420
11	1804	1808	1831	1	3					9	1801	M2.7	7420
11	1831	1834	1840	1+	5	1				9	No flare		
12	0034	0048	0140	1+	5	1		1		1	0039	C5.9	7420
12	0434	0440	0452D	1-	1			1			No flare		
12	0452E	0458	0514	1-	1			1			No flare		
12	0754	0758	0816	1-	5		1	1		3	0752	C4.7	7417
12	1044	1045	1101	1-	3					2	1041	C1.3	
12	1104	1108	1122	1	1		1				No flare		

* = no flare patrol.

SUDDEN IONOSPHERIC DISTURBANCES

FEBRUARY 1993

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type					Flare (UT)	X-ray Class	NOAA Region
						SWF	SEA	SPA	LF- SPA	SES			
12	1234	1235	1257	1	1					1	1234		7420
12	1256	1302	1336	1+	5		1			2	1258	C4.4	7420
12	1445	1450U	1507	1	1		1				No flare		
12	2225	2230	2237	1-	1					1	2229	C1.2	
12	2258	2259	2335	2	1					1	2259	C1.1	7424
13	0002	0008	0040	1-	5			1		1	0001		7420
13	0055	0059	0148	2+	1					1	0055		7417
13	0134	0140	0212	1-	1			1			0132	C1.9	
13	0230	0236	0258	1-	1			1			0228	C1.2	
13	0346	0352	0410D	1-	5			1		1	0344	C1.8	
13	0410E	0416	0446	1-	1			1			0408	C2.1	
13	0526	0534	0606D	2-	3	1		1			0525	C6.4	
13	0606E	0612	0652D	1-	1			1			0605	C3.0	7420
13	0652E	0658	0722	1-	1			1			0650	C1.6	
13	0732	0736	0748	1-	5			1		1	0733	C2.2	7417
13	0752	0800	0810	1-	1			1			No flare		
13	1036	1042	1110	1-	5		1	1			1036	C5.9	7420
13	1141	1149	1206	1	1		1				No flare		
13	1227	1229	1236	1-	1					1	1227		7420
13	1249	1255	1325	1	1		1				1238	C3.1	7420
13	1308E	1324	1400	2+	1					1	1238	C3.1	7420
13	1400	1413	1439	1	1		1				1400	C1.2	7420
13	1446	1452	1510	1-	5		1			8	1448	C3.5	7420
13	1531	1535	1601	1	3					4	1535E	C1.3	7420
13	1713	1717	1734	1-	3					7	1713	C1.9	7420
13	1754	1803	1851	2	3					11	1753	C3.2	
13	1918	1921	1935	1-	3					7	1919	C2.0	
13	2119	2125	2140	1	1					1	2119	C1.5	
13	2253	2253	2258	1-	1					1	2254	C1.0	7424
13	2338	2348	2356	1-	1			1			2336	C1.5	
14	0008	0010	0019	1-	1					1	0007		7420
14	0054	0102	0146	1	1			1			0053	C5.1	7420
14	0258	0308	0444	1-	1			1			0303	C2.5	7420
14	0454	0458	0526	1-	1			1			*		
14	0608	0620	0718	1+	1			1			0617	C3.6	7420
14	0746	0800	0820	1-	1			1			0744	C1.9	
14	1027	1032	1058	1-	5		1	1			1027	C3.6	7420
14	1142	1214	1228	1	1		1				1141		7424
14	1254	1300	1346	1-	5	2	2	1		8	1252	M2.0	
14	1822	1825	1834	1-	3					4	1822	C2.6	
14	2305	2314	2408	2-	5	2		1		3	2305	C9.2	7420
15	0048	0054	0106	1-	1			1			0044	C2.3	
15	0110	0122	0154	1-	1			1			0110	C2.8	
15	0238	0239	0300	1	1					1	0238	B8.0	
15	0422	0428	0450	1-	1			1			0420	C1.4	
15	0752	0756	0810	1-	1			1			0751	C1.1	7420
15	0827	0908	0922	1	1		1				No flare		
15	1330	1331	1345D	1-	1					1	1330		7424
15	1350	1353	1358	1-	1					1	1354	B9.9	
15	1914	1919	1930	1-	3					6	1917	C5.1	7420
15	1936	1948	2022	1-	5			1		8	1917	C5.1	7420
15	2306	2312	2330	1-	5			1		1	2242	C1.4	7427
16	0030	0036	0042	1-	1			1			*		
16	0220	0226	0246	1-	1			1			0225	C1.1	7427
16	0438	0446	0522	2-	5	2		1			0437	C7.0	7427
16	0534	0540	0622	1-	1			1			0532	C3.7	
16	0728	0734	0752	1-	5			1		2	0725	C2.2	
16	1225	1241	1323	2	1		1				No flare		
16	1335	1351	1407	1	1		1				*		
16	1420	1430	1450	1	5	2	3			7	1416	M2.1	7420
16	1655	1700	1715D	1	1					1	1652	C5.5	
16	1713	1726	1750	1+	3					7	1652	C5.5	
16	1746	1749	1807	1	3					6	*		

* = no flare patrol.

SUDDEN IONOSPHERIC DISTURBANCES

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Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type					Flare (UT)	X-ray Class	NOAA Region
						SWF	SEA	SPA	LF- SPA	SES			
16	1913	1916	1928	1-	3						6	1911	C2.1
16	2012	2027	2050	2-	1						1	2001	C1.8
16	2126	2132	2152	1-	5			1			6	2129	C4.5
17	0112	0118	0202	1-	1			1				0112	C4.2
17	0314	0328	0410	1	5			1		1		0301	
17	0526	0534	0556	1-	1			1				*	
17	0704	0710	0736	1-	1			1				0703	C1.9
17	0938	0948	1012	1-	5		1	1				No flare	
17	1021	1036	1036	1	1		1					1036	M5.8
17	1034	1046	1144	3-	5	2	2	1		2		1036	M5.8
17	1257	1311	1332	1	5		1			1		1302	
17	1440	1509U	1528	1	1		1					1449E	
17	2025	2030	2110	1	1					1		2009	C1.3
17	2248	2304	2332	1-	5			1		1		2246	C2.2
18	0300	0310	0420	3	3	1		1				0259	M4.0
18	0430	0440	0518	1-	1			1				0428	C2.0
18	0756	0759	0805	1-	1					1		0756	B8.8
18	0810	0816	0824	1-	1			1				0810	C1.1
18	0845	0850	0909	1	1		1					*	
18	0918	0929	0939	1	1		1					0928	M1.6
18	0942	1000	1046	2-	5		1	1		1		0928	M1.6
18	1056	1104	1134	1-	5		1	1		3		1058E	M1.1
18	1239	1257	1325	2+	1					1		1241	
18	1332	1340	1400	1+	1					1		1340	C1.5
18	1402	1411	1440	1+	5		1			4		1410	C2.5
18	1747	1750	1801	1-	1					1		1748	C1.1
18	2016	2019	2029	1-	1					1		2014	C1.4
18	2232	2252	2326	1-	5	1		1				2233	C4.4
19	1040	1044U	1124	1	1		1					1041	B7.5
19	1408	1415	1428	1-	3					2		1405	C1.7
19	1413	1434	1522	1	1		1					1411E	
19	1719	1724	1745	1	3					2		1719	B8.9
20	0037	0046	0055	1	1	1						*	
20	1259	1310	1325	1	1		1					1302	B1.8
20	1541	1558	1628	2	5		1			9		1538	C3.8
20	1645	1650	1720	1+	1					1		1640	C2.8
20	1733	1744	1809	2-	3					6		No flare	
20	1924	1930	1957	1+	3					8		1921E	C2.7
20	2256	2302	2318	1-	5			1		1		2254	C2.3
21	0024	0046	0222	2+	5	1		1		1		0027	M1.4
21	0300	0310	0336	1-	1			1				0259	C2.2
21	0432	0440	0520	2-	1			1				0431	C5.0
21	0709	0712	0725	1-	1					1		0707	B7.0
21	1303	1306	1325	1	1					1		1258	C1.6
21	1352	1359	1413	1-	3					2		1348	C2.3
21	1656	1659	1713	1-	1					1		1658	B5.2
21	1906	1907	1916	1-	1					1		1904	B7.0
21	1946	1947	1957	1-	3					2		1944	B6.0
22	0435	0442	0522	1-	1			1				0432	C2.2
22	0732	0746	0804	1-	5			1		2		0729	C1.1
22	1254	1302	1338	1	1		1					1255	C2.3
22	1702	1710	1733	1	3					2		1658	C1.8
22	1933	1945	2008	2-	3					2		1929	C1.5
22	2100	2111	2209	2+	3					2		2100E	C3.4
22	2323	2330	2334U	1-	1					1		2323	C1.2
23	0038	0048	0048D	1-	5			1		1		0035	C1.8
23	0228	0236	0300	1-	1			1				0228	C2.7
23	0412	0420	0442	1-	1			1				0408	C1.4
23	0904	0917	0953	1	1		1					No flare	
23	1509	1513	1524	1-	3					3		1511	B8.0

* = no flare patrol.

SUDDEN IONOSPHERIC DISTURBANCES

FEBRUARY 1993

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type					Flare (UT)	X-ray Class	NOAA Region
						SWF	SEA	SPA	LF- SPA	SES			
23	2100	2106	2116	1-	3					3	2058	C2.0	
23	2159	2200	2210	1-	1					1	2157	B6.1	
24	0127	0130	0143	1-	1					1	0125	B9.8	
24	1002	1022	1100	1	1		1				No flare		
24	1647	1651	1704	1-	3					7	1646	C2.0	
24	1731	1731	1738	1-	1					1	1731	B9.1	7430
25	0454	0506	0532D	1	3	1		1			0452	C8.4	7434
25	0532E	0550	0644	2	1			1			*		
25	1022	1044U	1108	1	1		1				No flare		
27	1430	1436	1455	1	1		1				*		
28	1124	1139	1202	1	1		1				No flare		
28	1218	1229U	1256	1	1		1				1218		7435

* = no flare patrol.

OBSERVATORIES REPORTING FOR FEBRUARY 1993

Amherst, New Hampshire, USA	SES	Locust Grove, Georgia, USA	SES
Athens, Georgia, USA	SES	Madison, Wisconsin, USA	SES
Ayrshire, Scotland	SES	Manahawkin, New Jersey, USA	SES
Boksborg, Rep of S. Africa	SES	Maui, Hawaii, USA	SWF
Cranford, New Jersey, USA	SES	Nampa, Idaho, USA	SES
Darmstadt, Germany	SWF	Nerja, Spain	SES
Durham, New Hampshire, USA	SES	Panska Ves, Czechoslovakia	SES, SEA, SWF
Farsta, Sweden	SES	Paterson, New Jersey, USA	SES
Gettysburg, Pennsylvania, USA	SES	Rimavska Sobota, Czechoslovakia	SEA
Hiraiso, Japan	SWF	Rochester, New Hampshire, USA	SES
Houston, Texas, USA	SES	San Francisco, California, USA	SES
Hudson, Ohio, USA	SES	Tucson, Arizona, USA	SES
Huntsville, Alabama, USA	SES	Upice, Czechoslovakia	SEA
Inubo, Japan	SPA	Wellington, Ohio, USA	SES
Itapetinga, Brazil	SPA, SES	Windsor Locks, Connecticut, USA	SES
LaCrescenta, California, USA	SES	Zilina, Czechoslovakia	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

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FEBRUARY 1993

Observation			Decimetric Band			Metric Band			Dekametric Band			Spectral Type		
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)		Int (1-3)	
01			LEAR				0404.0	0415.0	1				S	
			LEAR				0624.0	0625.0	1				III	
	0633	1507	POTS				0702.9	0703.0	1				UNCLF	
	0700	1200	IZMI				0703.6	0703.8	1				IIIG	
	0810	1430	ONDR											
			POTS				0842.7	0843.1	1				IIIG	
			IZMI				0842.8	0843.0	1				IIIG	
			POTS				0909.9	0910.0	1				UNCLF	
			POTS				0958.7	1000.9	1				I	
			IZMI				1003.9	1004.3	1				IIIG	
			POTS				1003.9	1005.7	1				IIIG,I,U	
			POTS				1003.9	1005.7	1				RS	
			POTS				1055.6	1055.7	1				UNCLF	
			POTS				1057.0U	1507.0U	1				I,S,DC	
			POTS				1135.3	1135.4	1				UNCLF	
			POTS				1333.4	1334.1	1				DCIM	
			POTS				1410.9	1411.0	1				I	
			POTS				1429.4	1430.1	1				I,DC	
			POTS				1438.3	1438.6	1				UNCLF	
			PALE				2032.0	2033.0	1				III	
			SGMR				2032.0	2033.0	1				III	
			PALE				2054.0	2055.0	1				III	
			SGMR				2055.0	2055.0	1				III	
			PALE				2214.0	2215.0	1				III	
02	0639	1452	POTS				0700.0U	1505.0U	1				I,S,DC	
			POTS				0731.7	0731.9	1				IIIB	
	0700	1200	IZMI				0732.0	0732.2	2				IIIB	
	0805	1430	ONDR											
			POTS				0822.1	0822.3	1				IIIG	
			POTS				0849.0	0849.6	2				RSG	
			IZMI				0853.0E	0856.6	1				IIIGG	
			IZMI				0853.0E	0904.0	1				IN	
			POTS				0934.0	0934.1	1				IIIB	
			POTS				1232.8	1232.9	1				IIIB	
			POTS				1408.5	1412.5	1				IIIG,RS	
	03			LEAR				0135.0	0135.0	1				III
		0639	1452	POTS				0700.0E	1452.0U	1				I,S,DC
				POTS				0859.6	0859.7	1				UNCLF
			POTS				0925.5	0925.6	1				IIIB	
			POTS				0942.4	0944.0	1				IIIG	
			POTS				0947.5	0947.6	1				IIIB	
0805		1435	ONDR				1021.2	1022.5	1				IIIG	
			POTS				1029.4	1029.5	1				UNCLF	
			ONDR	1047.1	1048.3	1	1047.1	1048.3	1				IIIGG	
			POTS				1121.0	1121.3	1				UNCLF	
			ONDR				1201.4	1202.2	1				IIIG	
			POTS				1224.0	1224.1	1				UNCLF	
			POTS				1301.8	1301.9	1				IIIB	
			POTS				1311.0	1311.1	1				I	
			POTS				1435.9	1436.6	1				IIIG	
04	0637	1501	POTS				0654.0U	1501.0U	1				I,S	
	0700	1200	IZMI				0720.4	0720.6	1				III	
			POTS				0726.9	0727.7	1				UNCLF	
			POTS				0742.8	0742.9	1				IIIB	
	0805	1435	ONDR											
			POTS				0809.6	0809.7	1				IIIB	
			POTS				0846.9	0847.0	1				IIIB	
			POTS				0943.8	0943.9	1				IIIB	
			POTS				1058.4	1058.6	1				IIIG	
			POTS				1123.1	1123.5	1				IIIG,UG	
			POTS				1153.5	1153.6	1				IIIB	
			IZMI				1158.2	1159.6	1				IIIGG	
			POTS				1230.7	1233.0	2				IIIG,V	
			POTS				1308.9	1309.0	1				IIIB	
			POTS				1328.2	1328.3	1				IIIB	
			POTS				1356.3	1358.6	1				IIIG	

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

FEBRUARY 1993

Observation			Decimetric Band			Metric Band			Dekametric Band			Spectral Type	
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)		Int (1-3)
05			LEAR				0248.0	0249.0	1				III
			LEAR				0452.0	0452.0	1				III
			LEAR				0633.0	0633.0	1				III
			POTS				0649.0U	1454.0U	2				IIIG/INT1
	0637	1454	POTS				0649.0U	1454.0U	2				I,S,C,DC
			LEAR				0713.0	0720.0	2				III
			LEAR				0804.0	0804.0	2				III
			POTS				0804.4	0804.5	1				RS
			POTS				0856.9	0857.3	1				IIIB,V
			LEAR				0857.0	0857.0	1				III
	0700	1200	IZMI				0909.5	0909.7	1				III
			IZMI				0916.2	0916.3	1				III
			IZMI				0923.0	0923.2	1				III
	0820	1435	ONDR	1139.9	1140.5	2							DCIM
			ONDR	1147.0	1403.0	1	1447.0	1403.0	1				IN
			ONDR	1234.0	1235.2	2							DCIM
			POTS				1429.6	1431.1	2				IIIG
			POTS				1447.7	1447.9	1				IIIB,V
			SGMR				1540.0	1540.0	2				V
			SGMR				1546.0	1546.0	1				III
			SGMR				1602.0	1602.0	1				III
06			LEAR				0018.0	0019.0	1				III
			LEAR				0111.0	0112.0	2				III
			LEAR				0418.0	0428.0	2				S
	0748	1440	ONDR	0759.0	1402.0	1	0929.0	1402.0	1				IN
			PALE				2210.0	2212.0	1				V
07			LEAR				0042.0	0042.0	1				III
			LEAR				0143.0	0144.0	1				III
			LEAR				0204.0	0213.0	2				III
			PALE				0204.0	0205.0	1				V
			LEAR				0236.0	0237.0	1				III
			LEAR				0307.0	0309.0	1				III
			LEAR				0401.0	0409.0	3				III
			LEAR				0704.0	0705.0	2				III
	0700	1200	IZMI				0704.9	0705.1	2				III
			IZMI				0750.6	0751.0	1				IIIGU
			LEAR				0751.0	0802.0	2				S
			SVTO				0751.0	0752.0	2				III
			IZMI				0751.5	0752.4	2				IIIG,V,U
			IZMI				0800.5	0801.5	1				IIIG
	0744	1445	ONDR	0801.0	1442.3	1	0823.0	1402.3	1				IN
			IZMI				0821.2	0822.4	1				IIIG,DP
			LEAR				0836.0	0837.0	2				III
			IZMI				0836.8	0836.9	1				III
			LEAR				0914.0	0915.0	1				III
			IZMI				0914.2	0915.0	2				IIIG,V
			IZMI				0938.0	0938.1	1				III
			IZMI				1011.4	1012.1	2				IIIG
			IZMI				1021.0	1022.5	2				IIIG,V
			LEAR				1021.0	1022.0	2				III
			ONDR	1021.0	1022.2	2	1021.0	1022.2	2				IIIGG,U
			SVTO				1021.0	1022.0	3				III
			IZMI				1036.2	1036.6	2				IIIG,DP,U
			IZMI				1058.9	1100.5	2				IIIG,V
			ONDR	1058.8	1059.5	3	1058.0	1059.5	3				IIIGG
			SVTO				1059.0	1100.0	3				III
			IZMI				1152.3	1153.0	1				IIIG
			ONDR				1244.9	1245.4	2				IIIB
			SGMR				1245.0	1245.0	1				III
			SVTO				1245.0	1245.0	2				III
			SVTO				1341.0	1400.0	2				S
			ONDR	1354.7	1401.0	3	1354.7	1401.0	3				IIIGG,U
			SGMR				1359.0	1400.0	1				III
			SGMR				1703.0	1703.0	1				III
			SGMR				1844.0	1844.0	1				III
			PALE				1849.0	1851.0	1				III
			SGMR				1849.0	1852.0	1				V

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Observation				Decimetric Band			Metric Band			Dekametric Band			Spectral Type
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	
07			PALE				2146.0	2315.0	3				S
			LEAR				2311.0	2311.0	2				III
			LEAR				2356.0	0021.0	3				III,s
			PALE				2357.0	0007.0	1				V
08			PALE				0019.0	0019.0	1				III
			PALE				0040.0	0041.0	1				III
			LEAR				0041.0	0042.0	2				III
			LEAR				0203.0	0206.0	3				III
			PALE				0203.0	0204.0	1				III
			LEAR				0225.0	0233.0	3				III
			PALE				0225.0	0231.0	1				V
			LEAR				0500.0	0500.0	2				III
			LEAR				0606.0	0606.0	1				III
			POTS				0639.00	1451.00	2				IIIG/INT1
	0619	1451	POTS				0639.00	1451.00	2				I,S,C,DC
			POTS				0642.9	0644.8	2				IIIGG,RSG
			LEAR				0742.0	0743.0	1				III
			POTS				0742.5	0742.6	2				IIIG
	0700	1200	IZMI				0742.7	0743.0	1				IIIG
			IZMI				0744.6	0746.7	1				IIIGG
			IZMI				0745.2	0745.5	2				III
			POTS				0753.7	0756.5	3				IIIGG
			LEAR				0755.0	0823.0	2				S
	0743	1445	ONDR	0802.0	1403.0	1	0841.0	1403.0	1				IN
			POTS				0805.2	0805.9	1				UNCLF
			IZMI				0816.4	0817.5	1				IIIG
			POTS				0816.7	0816.8	2				IIIB
			IZMI				0821.0	1200.0	1				IS
			POTS				0821.4	0821.8	2				RSG
			POTS				0823.2	0823.4	1				UNCLF
			POTS				0840.7	0842.2	3				C
			POTS				0840.7	0842.2	3				IV ?IIIGG
			IZMI				0841.0	0841.8	2				IIIG,V
			ONDR	0841.0	0841.4	3	0841.4	0841.4	3				IIIB,U
			IZMI				0845.6	0806.0	1				IIIG
			POTS				0851.1	0852.8	2				IIIG
			IZMI				0851.4	0851.5	2				III
			IZMI				0852.9	0853.2	1				III
			LEAR				0853.0	0853.0	1				III
			POTS				0905.3	0909.7	3				IV ? IIIGG
			IZMI				0905.6	0906.1	1				IIIG
			LEAR				0909.0	0910.0	2				III
			IZMI				0909.1	0910.1	2				IIIG,CONT
			ONDR	0909.1	0909.6	3	0909.3	0909.9	3				IIIG,DCIM
			IZMI				0920.3	0920.4	1				III
			LEAR				0950.0	0950.0	1				III
			IZMI				0958.5	1100.0	1				IIIS
			POTS				1021.0	1021.3	2				IIIG
			POTS				1046.8	1054.2	2				IIIG
			POTS				1200.0	1201.7	2				UNCLF
			IZMI				1200.9	1202.0	1				IIIG
			SVTO				1201.0	1201.0	2				III
			IZMI				1201.6	1202.0	2				III,V
			POTS				1210.4	1210.6	2				IIIB
			SVTO				1231.0	1231.0	2				III
			POTS				1307.4	1308.7	3				IIIG,C
			ONDR				1307.8	1308.3	2				IIIG
			SGMR				1308.0	1308.0	1				III
			SVTO				1308.0	1309.0	3				III
			SGMR				1528.0	1528.0	1				III
			SGMR				1706.0	1713.0	2				V
			PALE				1959.0	2000.0	1				III
			SGMR				1959.0	2000.0	1				III
			SGMR				2115.0	2115.0	1				III
			PALE				2116.0	2117.0	1				III
			PALE				2222.0	2223.0	2				III
			LEAR				2312.0	0000.0	2				S
			PALE				2313.0	2342.0	2				S

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Observation			Decimetric Band			Metric Band			Dekametric Band			Spectral Type	
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)		Int (1-3)
09			LEAR				0238.0	0349.0	2				S
			PALE				0238.0	0332.0	2				S
			LEAR				0415.0	0421.0	3				V
			LEAR				0433.0	0600.0	2				CONT
			LEAR				0533.0	0544.0	2				S
			LEAR				0629.0	0629.0	2				III
			POTS				0645.0E	1457.0U	2				IIIG/INT1
0645	1457		POTS				0645.0E	1457.0U	2				I,S,DC
0700	1200		IZMI				0700.0	1200.0	1				IS
			POTS				0709.7	0730.8	3			IV	IIIGG
			POTS				0709.7	0730.8	3				RS
			IZMI				0710.1	0729.0	2				IIIGG
			LEAR				0711.0	0725.0	3				V
			IZMI				0825.0	0825.1	1				III
			POTS				0825.9	0826.1	1				UNCLF
			POTS				0844.2	0844.3	1				IIIB,RS
			POTS				0910.3	0915.5U	3			IV	IIIG
			IZMI				0910.6	0912.0	2				IIIG,V
			LEAR				0911.0	0912.0	3				III
0741	1445		ONDR	0911.0	0911.5	3	0911.0	0911.5	3				IIIB
			SVTO				0911.0	0912.0	2				III
			LEAR				0915.0	0915.0	1				III
			IZMI				0915.1	0915.6	1				IIIG
			POTS	0931.3	0931.6	1							DCIM
			ONDR										DCIM
			POTS				0954.7	1003.0	3				IIIGG,DCIM
			LEAR				0955.0	1002.0	3				III
			SVTO				0955.0	1009.0	2				S
			IZMI				0955.2	0955.8	2				IIIG
			ONDR	0958.9	1001.0	3	0959.2	1001.0	3				IIIGG,U
			IZMI				0959.3	1003.0	3				IIIGG
			ONDR	1059.0	1403.0	1	1100.0	1403.0	1				IN
			IZMI				1121.8	1126.5	1				IIIGG
			IZMI				1148.9	1149.0	1				III
			POTS				1150.9	1156.3	1				IIIG
			IZMI				1151.2	1151.4	1				III
			POTS				1237.6	1239.1U	3			IV	
			ONDR	1237.9	1238.8	3	1237.9	1238.8	3				IIIG,U
			SGMR				1238.0	1239.0	1				III
			SVTO				1238.0	1239.0	2				V
			POTS				1436.1	1436.3	2				IIIG,RS
10			POTS				0631.0E	1351.0U	3				IIIG/INT1
0631	1351		POTS				0631.0E	1351.0U	3				I,S,C,DC
			LEAR				0648.0	0648.0	2				III
0700	1200		IZMI				0700.0	1200.0	2				IS
			IZMI				0718.3	0718.8	1				IIIG
			IZMI				0731.7	0731.8	1				III
			LEAR				0735.0	0739.0	3				III
			POTS				0735.6	0740.5U	3			IV	IIIGG
			IZMI				0735.9	0740.8	3				IIIGG
			SVTO				0736.0	0739.0	3				V
0738	1450		ONDR	0746.0	1402.0	2	0746.0	1402.0	2				IN
			LEAR				0816.0	0816.0	1				III
			IZMI				0900.7	0900.8	1				IIIG
			POTS				0913.5	0913.8	3				IIIG
			IZMI				0913.7	0914.1	2				IIIG,U
			POTS				1224.8	1224.9	2				IIIB
			POTS				1231.9	1232.1	2				IIIG
			POTS				1324.0	1324.1	2				IIIB
			POTS				1329.1	1337.4	1				IIIG
			PALE				1836.0	1837.0	1				III
			SGMR				1836.0	1837.0	1				III
			PALE				2153.0	2155.0	1				III
			LEAR				2340.0	2355.0	1				V
11			LEAR				0028.0	0045.0	2				S
			LEAR				0109.0	1001.0	2				CONT
			POTS				0631.0E	1445.0U	3				IIIG/INT1

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Observation				Decimetric Band			Metric Band			Dekametric Band			Spectral Type
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	
11	0631	1446	POTS				0631.0E	1445.0U	3				I,S,C,DC
			SVTO				0648.0	0648.0	2				III
	0700	1200	IZMI				0700.0	1200.0	2				IS,CONT
			IZMI				0701.6	1200.0	2				IIIG,S
	0736	1435	ONDR	0744.5	1402.0	2	0744.5	1402.0	2				IN
			SVTO				0801.0	0902.0	2				CONT
			SVTO				0936.0	1042.0	2				CONT
			POTS	0942.7	0942.8	1							DCIM
			POTS	1001.6	1001.8	1							RS
			ONDR	1006.5	1007.6	2	1006.5	1007.6	2				IIIG
			POTS				1006.8	1007.2	3				IIIG
			POTS				1029.4	1032.6	3				DCIM
			POTS				1029.4	1032.6	3				IIIG,SP
			POTS	1252.3	1255.2	2							IIIG
			POTS	1336.5	1336.7	2							RS
			SGMR				1349.0	1350.0	1				III
			POTS				1355.2	1401.4	2				IIIG
			SGMR				1431.0	1431.0	1				III
			POTS	1444.4	1445.6	2							DCIM
			SGMR				1521.0	1523.0	1				III
			PALE				1902.0	2021.0	2				S
12			LEAR				0555.0	0555.0	2				III
			POTS				0637.0E	1453.0U	2				IIIG/INT1
	0637	1453	POTS				0637.0E	1453.0U	2				I,S,C,DC
	0700	1200	IZMI				0700.0	1200.0	1				IS
	0734	1450	ONDR	0742.0	1403.0	2	0748.5	1403.0	2				IN
			POTS	0804.0	0804.1	2							DCIM
			POTS				0807.3	0807.4	1				RS
			POTS				0836.5	0836.6	1				RSG
			POTS				0922.7	0922.8	1				RS
			POTS				0957.9	0958.0	1				RS
			POTS				1023.1	1023.2	1				RS
			POTS				1152.0	1152.1	1				RS
			POTS				1321.4	1321.5	1				IIIB
			PALE				2021.0	0411.0	2				CONT
13			LEAR				0150.0	0150.0	1				III
			LEAR				0408.0	0800.0	1				CONT
	0700	1200	IZMI				0700.0	1050.0	1				IS
			IZMI										

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Observation			Decimetric Band			Metric Band			Dekametric Band			Spectral Type	
Day (UT)	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)		Int (1-3)
14			PALE				2259.0	2307.0	3				V
15			LEAR				0031.0	0032.0	1				III
			LEAR				0059.0	0059.0	1				III
			LEAR				0141.0	0200.0	3				S
			PALE				0141.0	0202.0	2				S
			LEAR				0400.0	0407.0	1				III
			LEAR				0622.0	0623.0	2				III
			POTS				0637.00	1458.00	1				IIIG/INT1
0717 1458			POTS				0637.00	1458.00	1				I,S,C,DC
0655 1200			IZMI				0658.6	0658.8	1				III
			LEAR				0710.0	0713.0	2				III
			POTS				0710.4	0710.6	1				IIIB
			POTS				0729.0	0730.0	1				UNCLF
			IZMI				0738.8	0739.0	1				III
			IZMI				0743.2	1143.6	1				IIIG
			POTS				0743.2	0743.6	2				IIIG
			LEAR				0750.0	0755.0	3				V
			SVTO				0750.0	0754.0	3				V
			IZMI				0750.5	1154.0	3				IIIG,V
			POTS				0750.7	0753.2	3				IV IIIG,U
			POTS				0755.2	0755.3	1				IIIB
			LEAR				0800.0	0915.0	1				CONT
			LEAR				0803.0	0810.0	2				III
			POTS				0803.7	0803.8	1				IIIB
			IZMI				0803.8	0804.1	1				IIIG
			IZMI				0807.7	0812.4	1				IIIGG
			POTS				0807.8	0827.7	1				I
			IZMI				0850.5	1015.0	1				IS
			POTS				0932.2	0932.8	1				UNCLF
			POTS	0935.1	0935.2	2							DCIM
			POTS	0935.7	0935.8	2							IIIB
			POTS	0951.2	0951.5	2							DCIM
			POTS	0955.4	0955.5	1							DCIM
			POTS				1027.6	1027.7	1				UNCLF
			POTS	1101.0	1101.1	1							DCIM
			POTS				1109.3	1111.7	2				IIIGG
			IZMI				1109.4	1111.6	1				IIIGG
			IZMI				1124.4	1124.8	1				IIIG
			POTS				1124.4	1130.0	2				IIIG,RS
			IZMI				1129.2	1129.8	1				IIIG
			POTS				1200.8	1205.6	2				IIIG,U
			POTS				1212.9	1217.9	3				IIIG,U
			SGMR				1213.0	1217.0	1				III
			SVTO				1213.0	1218.0	2				V
			POTS				1227.9	1245.5	1				IIIG
			POTS				1237.2	1237.3	1				RS
			POTS				1239.7	1241.0	3				IIIG
			POTS	1257.0	1257.7	3							DCIM
			POTS	1303.7	1304.4	2							DCIM
			SGMR				1329.0	1330.0	3				III
			SVTO				1329.0	1331.0	3				V
			POTS				1329.3	1331.6	3				IV IIIG,U
			POTS	1338.9	1342.3	3							DCIM
			SVTO				1344.0	1344.0	1				III
			POTS				1344.4	1356.9	2				DCIM
			POTS				1344.4	1356.9	2				IIIGG,RS
			POTS				1429.2	1437.3	3				IIIG,C
			SGMR				1431.0	1437.0	1				III
			SVTO				1431.0	1432.0	1				III
			SGMR				1537.0	1537.0	1				III
			SGMR				1649.0	1651.0	2				V
			SGMR				1703.0	1704.0	1				V
			SGMR				1721.0	1724.0	2				V
			PALE				1723.0	1724.0	1				III
			SGMR				1738.0	1738.0	1				III
			SGMR				1920.0	1920.0	1				III
16			LEAR				0236.0	0237.0	2				III

Observation			Decimetric Band			Metric Band			Dekametric Band			Spectral Type	
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)		Int (1-3)
16			LEAR		0429.0	0440.0	3						S
			LEAR		0524.0	0524.0	2						III
			POTS		0627.0E	1456.0U	1						IIIG/INT1
	0627	1456	POTS		0627.0E	1456.0U	1						I,S,C,DC
	0700	1200	IZMI		0700.0E	0714.0	1						IN
			IZMI		0707.2	0707.4	1						III
			LEAR		0726.0	0731.0	3						V
			SVTO		0726.0	0730.0	3						V
			IZMI		0726.2	0730.0	3						IIIGG,V
			POTS		0726.2	0729.9	3						IIIGG,C
			IZMI		0733.4	0733.6	1						IIIG,DC
	0830	1505	ONDR										
			IZMI		0924.8	0925.0	1						III
			LEAR		0938.0	0938.0	1						III
			SVTO		0938.0	0938.0	2						III
			POTS		0938.3	0938.5	2						IIIG
			IZMI		0938.4	0938.7	2						IIIG,U
			IZMI		0959.0	1008.0	1						IN
			POTS		1203.3	1203.4	1						IIIB
			SGMR		1556.0	1556.0	1						III
			PALE		1905.0	1906.0	1						III
			SGMR		1905.0	1913.0	1						III
17			PALE		0115.0	0116.0	2						III
			LEAR		0116.0	0117.0	2						III
			LEAR		0148.0	0150.0	2						III
			PALE		0148.0	0149.0	1						III
			LEAR		0303.0	0327.0	2						S
			LEAR		0402.0	0417.0	2						S
			LEAR		0427.0	0428.0	1						III
	0643	1506	POTS		0725.0	1506.0U	1						I,S,C,DC
	0737	1507	ONDR										
			LEAR		0803.0	0811.0	1						III
			POTS		0803.3	0819.0	2						IIIGG
	0700	1200	IZMI		0803.4	0803.8	2						III
			IZMI		0806.9	0807.1	1						IIIG
			IZMI		0810.2	0812.6	2						IIIGG
			LEAR		0841.0	0845.0	1						III
			IZMI		0841.3	0845.3	1						IIIG
			POTS		0841.3	0847.1	2						IIIG
			IZMI										

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Observation			Decimetric Band			Metric Band			Dekametric Band			Spectral Type
Day (UT)	Start (UT)	End (UT)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	
18						0719.0	0720.0	1				III
						0719.4	0719.9	1				IIIG
						0719.7	0719.8	1				IIIB
						0746.8	0824.8	2				IIIGG,I,C
						0747.0	0812.0	1				S
						0747.6	0747.7	1				III
						0748.9	0749.1	1				IIIG
						0755.6	0758.2	1				IIIGG
						0810.1	0813.0	1				IIIGG
						0819.3	0819.4	2				III
						0820.8	0821.2	1				IG
						0823.3	0824.1	2				IIIG
			0928.4	0928.5	1							DCIM
						0933.4	1019.6	3				I,RS,C
						0933.4	1019.6	3				II ? IIIGG
						0934.0	0934.1	1				III
						0938.0	0949.0	1				III
						0938.8	0943.5	1				IIIG
						0940.0	0940.0	2				III
0720 1509			0943.0	1008.9	3							DCIM
			0943.4	0945.9	2							DCIM
						0944.5	1007.0	2				IIIGG,DC
						0949.0	1043.0	2				IV
						0949.0	1030.0	3				IV
			0955.4	0955.5	1							DCIM
						1048.3	1111.0U	3				II H,HARM
						1048.3	1111.0U	3				IV IIIG,
			1051.6	1106.4	3							DCIM
						1054.8	1058.2	2				IIIGG
						1056.0	1108.0	1				CONT
			1058.0	1058.3	1							DCIM
						1059.9	1109.0	2				II
						1100.9	1102.5	1				IIIG
						1101.0	1103.0	3				II
						1111.0U	1505.0U	1				I,S,DC
						1118.8	1118.9	1				III
						1118.8	1118.9	1				IIIB
						1124.1	1200.0D	1				IN
						1132.0	1133.0	2				III
						1132.3	1140.7	3				IIIGG,V,RS
						1132.3	1140.7	3				U,C,SPIKES
						1132.4	1133.5	2				IIIG,V
			1132.6	1132.8	1							CONT
						1135.7	1136.8	2				IIIG,V
						1136.0	1136.0	2				II
						1151.0	1151.2	1				IIIB
						1443.0	1444.0	1				III
						1748.0	1751.0	2				V
						2226.0	2228.0	1				III
						2242.0	2326.0	1				CONT
						2243.0	2246.0	1				III
19						0227.0	0247.0	1				S
						0354.0	0420.0	2				S
0633 1458						0658.9	0659.0	1				IIIG
0718 1508												
						0721.0	0735.0	2				S
						0721.0	0722.0	2				III
						0721.9	0735.5	2				IIIG
						0755.0	0758.0	3				III
						0755.7	0832.7	1				IIIGG,RS
						0758.0	0758.0	2				III
						0825.0	0832.0	2				III
						0832.0	0832.0	2				III
						0855.0	0906.0	2				S
						0855.1	0929.5	2				IIIGG,V
0910 1200						0921.3	0921.4	1				III
						0923.0	0924.0	3				III
						0923.0	0924.0	3				III

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Observation			Decimetric Band			Metric Band			Dekametric Band			Spectral Type	
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)		Int (1-3)
19			IZMI				0923.7	0924.6	2				IIIG
			IZMI				0929.4	0929.5	1				III
			POTS				1028.9	1029.0	1				IIIB
			POTS				1059.0	1059.1	1				IIIB
			POTS				1302.2	1302.3	1				IIIB
			POTS				1400.6	1402.9	1				IIIGG
20			PALE				0243.0	0244.0	1				III
	0716	1512	ONDR										
			LEAR				0915.0	0915.0	2				III
			SVTO				0915.0	0915.0	2				III
	0700	1200	IZMI				0915.1	0915.5	2				IIIG,V
			IZMI				1049.3	1049.6	1				III
			SVTO				1330.0	1333.0	2				III
			SGMR				1826.0	1826.0	1				III
			PALE				2207.0	2305.0	1				S
21			LEAR				0542.0	0549.0	1				III
	0713	1514	ONDR										
	0700	1200	IZMI				0741.4	0743.0	1				IIIG
			LEAR				0845.0	0845.0	1				III
			PALE				1827.0	1828.0	1				III
			SGMR				1827.0	1828.0	1				V
			PALE				1946.0	1946.0	2				III
			PALE				2223.0	2223.0	1				III
22			LEAR				0033.0	0034.0	2				III
			PALE				0033.0	0034.0	1				III
			LEAR				0116.0	0117.0	2				III
			PALE				0116.0	0117.0	2				III
			LEAR				0210.0	0229.0	2				S
			PALE				0210.0	0214.0	1				III
			POTS				0648.0E	1456.0U	2				IIIG/INT1
	0648	1456	POTS				0648.0E	1456.0U	2				I,S,C,DC
	0711	1517	ONDR										
	0700	1200	IZMI				0749.1	0749.2	1				III
			POTS				0749.1	0749.2	2				IIIB
			LEAR				0800.0	0800.0	2				III
			IZMI				0800.4	0800.7	2				IIIG
			POTS				0800.4	0800.5	2				IIIG
			IZMI				0824.0	1200.0D	1				IS
			IZMI				0832.6	0832.7	2				III
			POTS				0832.7	0832.8	3				IIIB,V
			POTS				0858.2	0858.3	1				IIIB
			POTS				1127.4	1129.9	1				IIIG
			POTS				1235.0	1236.6	2				IIIG
			POTS	1438.6	1438.7	1							DCIM
			PALE				1925.0	0102.0	2				CONT
			LEAR				2306.0	0205.0	1				CONT
23			LEAR				0007.0	0009.0	2				III
			LEAR				0040.0	0041.0	2				III
			LEAR				0141.0	0158.0	2				S
			LEAR				0241.0	0322.0	2				S
			LEAR				0605.0	0606.0	2				III
			SVTO				0605.0	0606.0	2				III
			POTS				0623.0E	1458.0U	1				IIIG/INT1
	0623	1458	POTS				0623.0E	1458.0U	1				I,S,C,DC
			LEAR				0629.0	0629.0	1				III
	0700	1200	IZMI				0700.0E	1200.0D	1				IS
	0709	1517	ONDR										
			POTS	0714.1	0715.2	2							DCIM
			LEAR				0717.0	0718.0	2				III
			SVTO				0717.0	0718.0	2				III
			POTS				0717.5	0717.8	3				IIIG,U ?
			IZMI				0717.6	0717.9	2				IIIG,C
			POTS				0749.1	0749.2	1				IIIB
			LEAR				0816.0	0816.0	1				III
			IZMI				0816.5	0817.6	1				IIIGG

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Observation			Decimetric Band			Metric Band			Dekametric Band			Spectral Type	
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)		Int (1-3)
23			POTS				0816.5	0820.8	3				IIIGG
			LEAR				0819.0	0821.0	3				V
			IZMI				0819.3	0820.8	2				IIIGG
			SVTO				0820.0	0821.0	2				V
			POTS				1021.0	1021.1	1				IIIG
			POTS				1111.6	1111.7	1				UNCLF
			POTS				1130.7	1138.2	3				IIIGG,UG
			SVTO				1132.0	1135.0	2				III
			IZMI				1132.2	1138.2	1				IIIS
			IZMI				1132.5	1133.1	2				IIIG
			IZMI				1134.3	1135.0	2				IIIG
			SGMR				1301.0	1301.0	2				V
			SVTO				1301.0	1301.0	2				V
			POTS				1301.2	1301.6	3				IIIG
			POTS				1306.0	1306.1	2				IIIB
			POTS				1309.5	1309.6	1				IIIB
			POTS				1337.3	1337.4	2				IIIB
			SGMR				1432.0	1432.0	1				V
			POTS				1445.2	1458.00	3				IIIGG
			SGMR				1457.0	1500.0	2				V
		SVTO				1457.0	1459.0	3				V	
		POTS	1457.5	1457.6	2							DCIM	
		PALE				1910.0	1937.0	1				S	
24			LEAR				0541.0	0544.0	1				III
			POTS				0635.0E	1450.00	1				IIIG/INT1
	0635	1450	POTS				0635.0E	1450.00	1				I,S,C,DC
	0700	1200	IZMI				0700.0E	1200.00	1				IS
	0706	1518	ONDR										
			POTS				0721.9	0732.2	2				IIIGG
			IZMI				0724.3	0724.7	2				IIIG,V
			LEAR				0725.0	0731.0	2				III
			SVTO				0725.0	0725.0	2				III
			IZMI				0728.1	0728.7	1				IIIG
			LEAR				0746.0	0746.0	1				III
			IZMI				0746.4	0746.7	1				IIIG
			POTS				0746.4	0746.6	2				IIIG
			LEAR				0829.0	0829.0	1				III
			IZMI				0829.7	0829.8	1				III
			IZMI				0847.1	0849.1	2				IIIGG,V
			POTS				0847.1	0849.1	2				IIIG
			LEAR				0848.0	0855.0	2				III
			IZMI				0854.4	0854.6	1				IIIG
			IZMI				0911.9	0912.5	2				IIIG,V,U
			LEAR				0912.0	0912.0	2				III
			POTS				0912.0	0912.6	2				IIIG
			IZMI				1041.8	1042.4	1				IIIG
			PALE				1920.0	1921.0	1				III
			SGMR				1920.0	1921.0	1				III
			PALE				2041.0	2327.0	1				CONT
			SGMR				2118.0	2124.0	2				III
25			LEAR				0031.0	0800.0	1				CONT
			LEAR				0428.0	0428.0	3				III
			LEAR				0448.0	0511.0	2				S
			POTS				0639.0E	1456.00	2				IIIG/INT1
	0639	1456	POTS				0639.0E	1456.00	2				I,S,C,DC
	0700	1200	IZMI				0700.0E	1200.00	2				IS
			IZMI				0748.8	0748.9	1				III
			POTS				0748.8	0748.9	1				IIIB
			POTS				0819.8	0821.7	2				IIIG,V,RS
			IZMI				0819.9	0820.8	2				IIIG,V
			LEAR				0820.0	0827.0	3				III
			SVTO				0820.0	0821.0	2				III
			IZMI				0821.3	0821.6	2				IIIG,V
			IZMI				0827.7	0827.8	1				III
			POTS				0827.7	0827.8	1				IIIB
			ONDR	0904.0	1403.0	1	0904.0	1403.0	1				IN
			POTS				0912.8	0913.6	3				IIIG,RS

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Day	Start (UT)	End (UT)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	
25			LEAR			0913.0	0914.0	3				III
			SVTO			0913.0	0923.0	2				S
			IZMI			0913.2	0914.3	3				IIIG
			LEAR			0923.0	0923.0	2				III
			IZMI			0923.3	0923.6	2				IIIG
			POTS			0923.4	0923.6	1				IIIB
			POTS			1032.5	1032.6	1				IIIB
			POTS			1041.2	1041.3	1				IIIB
			IZMI			1108.6	1108.8	2				IIIGG
			POTS			1109.1	1111.8	2				IIIGG
			SGMR			1224.0	1225.0	1				III
			POTS			1224.8	1227.4	2				IIIG
			POTS			1239.4	1243.4	1				IIIG
			POTS			1322.3	1322.5	1				IIIB
			POTS			1334.5	1335.1	2				IIIG
			SGMR			1352.0	1353.0	1				III
			POTS			1352.2	1353.1	2				IIIGG
			POTS			1452.7	1453.7	1				IIIG
			SGMR			1531.0	1533.0	2				V
			SVTO			1531.0	1533.0	2				III
			SGMR			1657.0	1658.0	1				III
			SGMR			1707.0	1708.0	2				III
			SGMR			1724.0	1743.0	1				S
			PALE			1739.0	1740.0	1				III
			PALE			1800.0	1801.0	1				III
			SGMR			1800.0	1802.0	2				V
			PALE			1834.0	1834.0	1				III
			SGMR			1834.0	1834.0	1				III
			PALE			1939.0	1940.0	1				III
			PALE			2019.0	2019.0	1				III
			SGMR			2019.0	2019.0	1				III
			PALE			2044.0	2045.0	2				III
			SGMR			2044.0	2045.0	1				III
			PALE			2106.0	2107.0	1				III
			PALE			2110.0	2110.0	1				III
			SGMR			2110.0	2110.0	1				III
			PALE			2144.0	2145.0	1				III
			PALE			2214.0	2215.0	2				III
			LEAR			2338.0	2346.0	1				III
26			LEAR			0049.0	0049.0	1				III
			LEAR			0144.0	0146.0	3				III
			PALE			0144.0	0145.0	3				V
			LEAR			0304.0	0308.0	2				III
			LEAR			0335.0	0344.0	3				III
			PALE			0335.0	0336.0	1				III
			LEAR			0358.0	0402.0	3				III
			PALE			0358.0	0401.0	2				III
			LEAR			0438.0	0443.0	2				III
			POTS			0627.0E	1504.0U	1				IIIG/INT1
	0627	1504	POTS			0627.0E	1504.0U	1				I,S,C,DC
			POTS			0721.9	0722.4	2				IIIG
	0700	1200	IZMI			0722.0	0722.5	2				IIIG
			LEAR			0722.0	0722.0	2				III
	0703	1402	ONDR			0722.0	0722.5	1				IIIB
			SVTO			0722.0	0722.0	2				III
			LEAR			0806.0	0806.0	1				III
			IZMI			0806.2	0806.3	1				III
			POTS			0806.2	0833.3	3				IIIGG,V
			IZMI			0811.9	0812.2	2				IIIG
			LEAR			0812.0	0833.0	3				S
			IZMI			0814.7	0819.0	2				IIIGG
			ONDR			0815.2	0818.9	3				IIIGG
			IZMI			0825.9	0826.4	2				IIIG,V
			IZMI			0833.0	0833.4	1				IIIG,C
			IZMI			1027.0	1029.5	2				IIIGG
			POTS			1027.0	1029.4	1				IIIG
			SVTO			1028.0	1028.0	2				III
			IZMI			1102.0	1128.0	1				IN

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Observation			Decimetric Band			Metric Band			Dekametric Band			Spectral Type	
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)		Int (1-3)
26			POTS				1231.6	1232.4	2				IIIG
			SGMR				1232.0	1232.0	1				III
			POTS				1245.0	1245.2	1				IIIG
			SGMR				1523.0	1523.0	1				III
			SVTO				1523.0	1523.0	2				III
			SGMR				1533.0	1533.0	1				III
			SGMR				1710.0	1714.0	1				III
			PALE				1829.0	1832.0	1				III
			SGMR				1829.0	1832.0	2				V
			SGMR				1909.0	1910.0	1				III
			PALE				1915.0	1917.0	1				III
			PALE				1933.0	1933.0	1				III
			SGMR				1933.0	1933.0	1				III
			PALE				2135.0	2136.0	2				V
			PALE				2150.0	2151.0	1				III
			PALE				2214.0	2215.0	2				III
		PALE				2226.0	2229.0	1				III	
27			LEAR				0208.0	0213.0	2				III
			LEAR				0339.0	0346.0	1				III
			PALE				0345.0	0346.0	1				III
			LEAR				0351.0	0353.0	2				III
			LEAR				0403.0	0405.0	3				III
			PALE				0404.0	0404.0	1				III
			LEAR				0446.0	0455.0	1				III
	0700	1205	IZMI				0740.3	0740.9	1				IIIG
	0659	1526	ONDR				0750.0	1401.0	1				IN
			LEAR				0755.0	0756.0	1				III
			IZMI				0755.8	0756.1	2				IIIG,DP
			LEAR				0856.0	0857.0	2				III
			SVTO				0856.0	0856.0	1				III
			IZMI				0856.1	0757.1	2				IIIGG,U
			IZMI				0939.2	0940.0	1				IIIG
			IZMI				1000.5	1001.4	1				IIIG
			IZMI				1145.2	1145.6	1				III
			IZMI				1159.8	1200.0	1				III
			IZMI				1203.1	1203.7	1				IIIG
			PALE				1809.0	1809.0	1				III
			SGMR				1809.0	1810.0	1				III
			PALE				1934.0	1935.0	1				III
			SGMR				1934.0	1935.0	1				III
			PALE				2121.0	2122.0	1				III
			PALE				2145.0	2145.0	1				III
			PALE				2217.0	2217.0	1				III
			LEAR				2337.0	2339.0	2				III
			PALE				2337.0	2339.0	2				III
28			LEAR				0140.0	0140.0	2				III
			LEAR				0456.0	0456.0	1				III
	0657	1529	ONDR										
	0700	1200	IZMI				0743.0	1200.00	1				IS
			IZMI				0752.3	0756.2	1				IIIGG
			IZMI				0827.6	0829.1	1				IIIG
			LEAR				0828.0	1037.0	1				CONT
			SVTO				0901.0	1103.0	1				CONT
			IZMI				0904.0	1200.00	1				IIIS
			SGMR				1652.0	1652.0	1				III
			PALE				2024.0	2025.0	1				III
			SGMR				2024.0	2025.0	1				III

COSMIC RAY INDICES
(Neutron Monitor)

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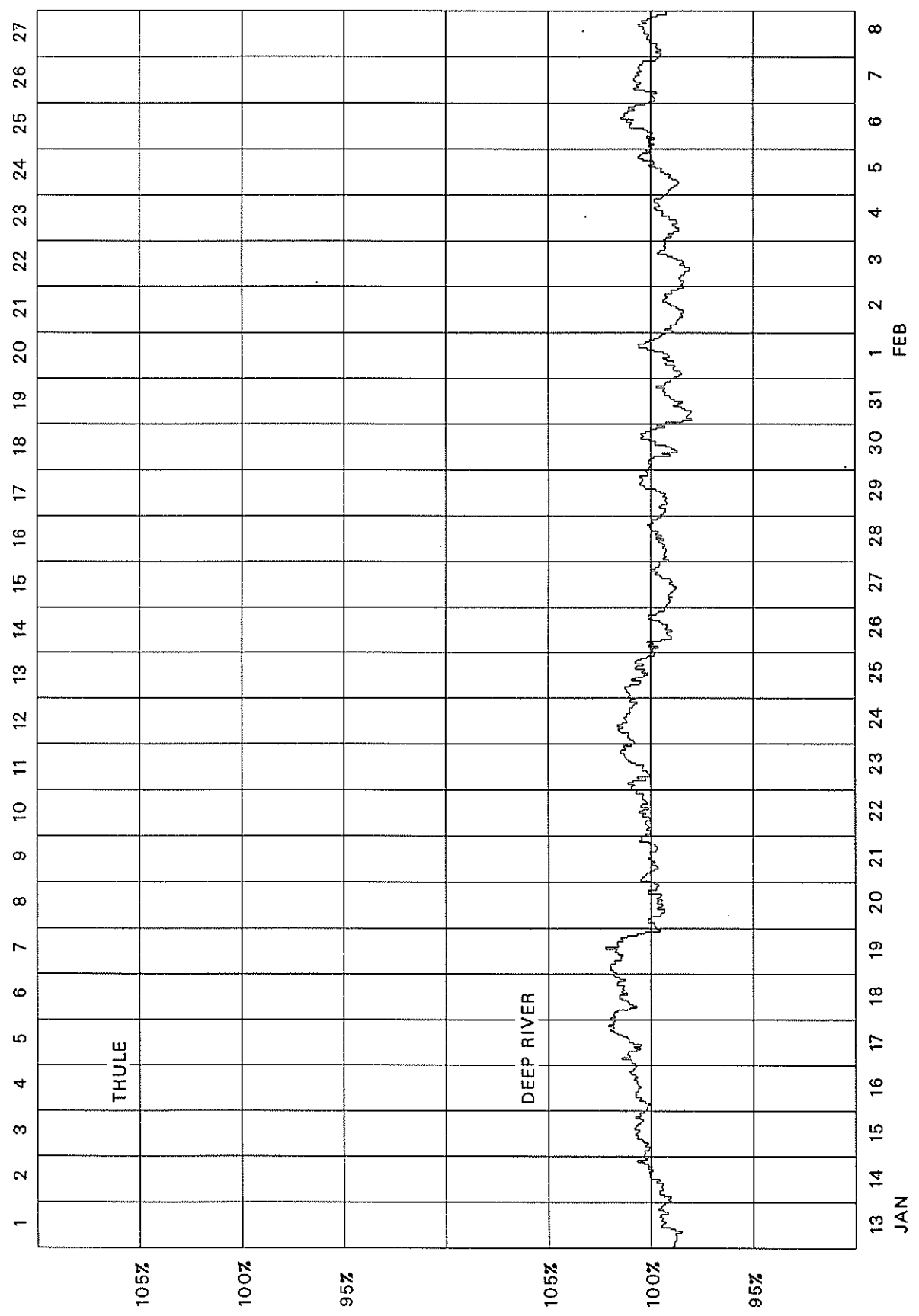
Day	THULE Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	BEIJING Average (cts/h) 256	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1		6814.5	5964.3		1997.6	3542.3	
2		6778.5	5956.2		1989.5	3547.7	
3		6772.0	5952.0		1985.5	3533.5	
4		6805.0	5960.4		1984.7	3534.9	
5		6824.3	5970.9		1983.7	3535.2	
6		6895.5	5992.4		1987.0	3527.9	
7		6879.6	6004.0		2000.8	3530.6	
8		6853.5	5999.7		2000.6	3541.1	
9		6800.9	5974.7		1983.4	3536.0	
10		6793.9	5967.1		1984.4	3537.6	
11		6826.9	5981.8		1986.8	3548.5	
12		6843.4	5990.7		1988.7	3558.0	
13		6860.1	6003.9		1987.3	3556.0	
14		6876.0	6005.1		1995.2	3564.1	
15		6893.0	6023.4		1990.4	3564.8	
16		6895.3	6039.7		1992.5	3547.0	
17		6890.5	6036.4		2000.6	3547.5	
18		6926.8	6069.6		2004.5	3567.9	
19		6955.8	6121.8		1999.6	3584.0	
20		6950.3	6112.1		1997.0	3574.9	
21		6807.6	6004.2		1993.3	3541.6	
22		6695.2	5915.2		1987.3	3524.9	
23		6693.5	5889.3		1976.2	3522.2	
24		6731.9	5907.0		1974.5	3522.0	
25		6765.8	5945.3		1976.0	3533.3	
26		6794.0	5984.0		1984.8	3540.7	
27		6841.6	6020.7		1989.0	3532.4	
28		6808.1	5976.8		2005.6	3520.9	
Mean		6831.2	5991.7		1990.2	3543.5	

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

* = A&B includes only hours when both A&B sections are available.

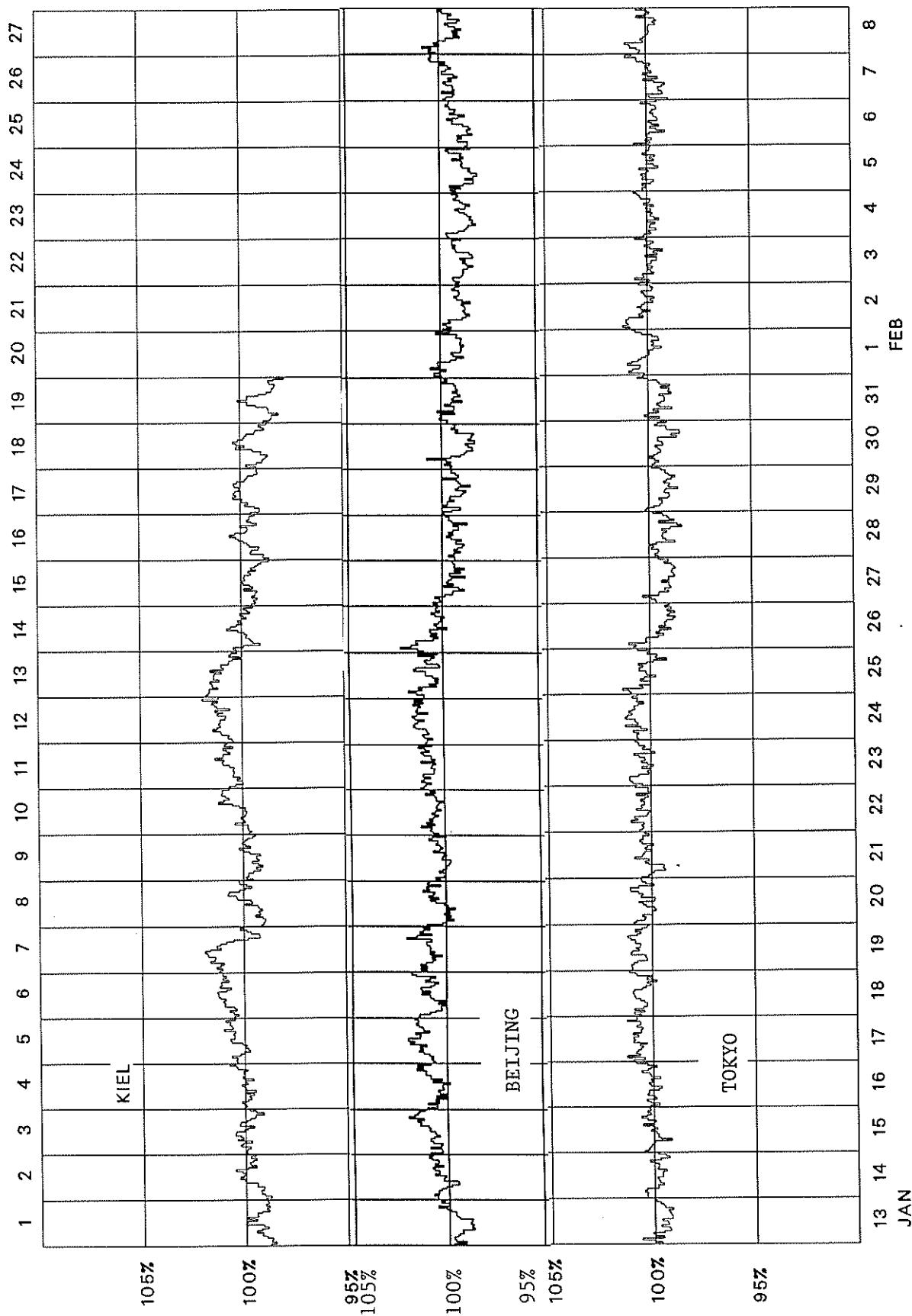
COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2178 (January 1993-February 1993)



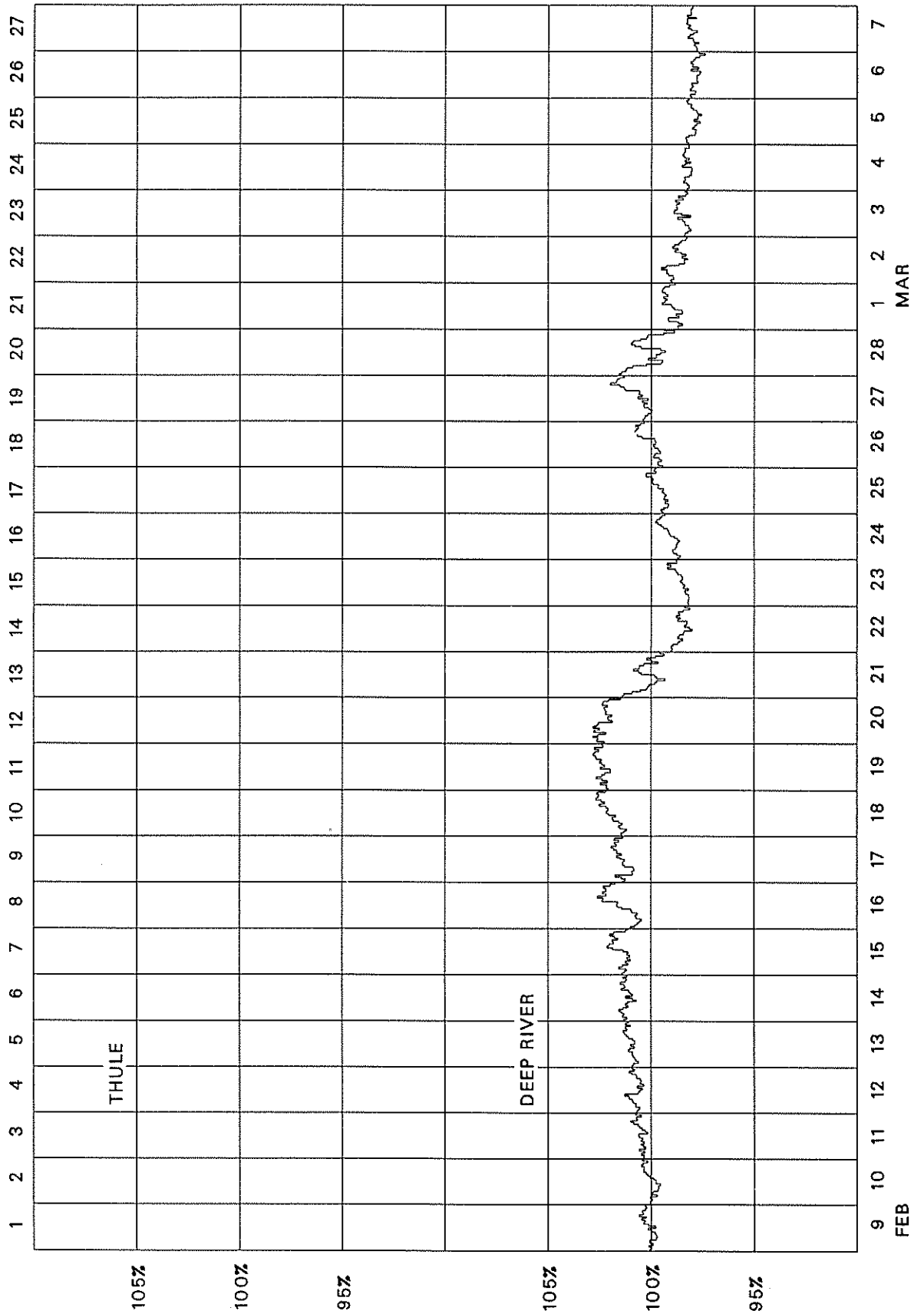
COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2178 (January 1993-February 1993)



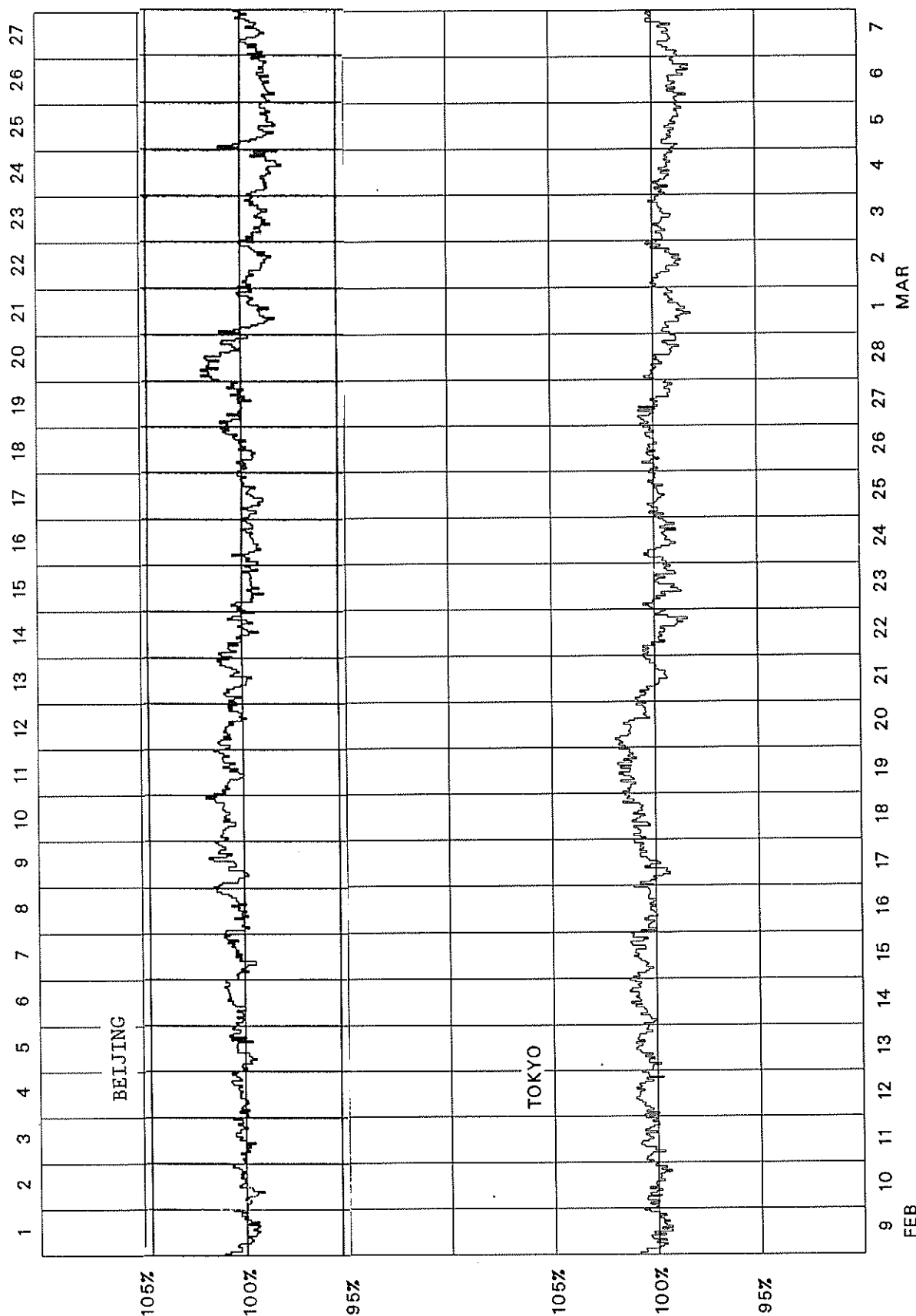
COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2179 (February 1993-March 1993)



COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2179 (February 1993-March 1993)



GEOMAGNETIC ACTIVITY INDICES

February 1993

=====																											
		Kp Three-Hourly Indices								Km Three-Hourly Indices								aa Provisional									
Day		1	2	3	4	5	6	7	8	Sum	Ap	Cp	1	2	3	4	5	6	7	8	Am	N	S	M			

1	D2	5	4	5	4	3	5	3	4	33	31	1.3	4	3	4	4	3	5	3	3	47	47	43	33	56		
2		4	5	3	3	3	4	4	2	27	21	1.1	4	3	3	2	2	3	3	2	27	41	22	35	29		
3		1	3	2	1	1	1	3	4	16	10	0.5	1	2	1	1	1	1	3	3	15	21	13	10	25		
4		3	2	1	1	1	2	2	2	15	7	0.4	3	1	1	1	1	2	2	1	12	17	10	12	15		
5	Q6	1	1	2	1	1	2	2	2	12	6	0.3	1	1	2	1	0	2	1	2	9	14	13	11	15 CC		
6	Q4	1	2	1	1	1	1	2	1	11	5	0.2	0	2	1	1	1	1	2	1	8	11	10	10	11 C		
7		1	4	4	4	2	4	5	5	30	27	1.2	1	3	4	4	2	3	5	4	40	54	40	38	56		
8	D1	5	5	4	4	3	5	5	5	37	40	1.5	4	4	4	4	3	5	4	4	56	69	55	56	68		
9	D5	4	5	3	5	4	4	4	3	32	28	1.2	3	4	2	4	4	4	4	3	39	48	41	44	45		
10		2	2	3	2	3	3	5	2	24	17	0.9	2	2	2	2	3	3	4	2	25	31	30	18	44		
11		4	3	3	3	3	3	3	5	27	20	1.0	4	3	2	2	3	3	3	4	28	43	24	25	42		
12		4	3	2	3	2	2	1	3	20	11	0.7	3	2	2	3	2	1	1	2	17	31	20	33	18		
13		4	3	2	2	3	2	2	3	20	12	0.7	3	2	2	2	3	1	2	2	17	22	17	22	17		
14	Q8K	2	3	1	2	1	1	2	1	13	6	0.3	2	2	1	1	1	1	1	1	9	12	9	13	8 CC		
15	Q1	1	1	1	2	2	1	1	1	9	4	0.2	0	1	1	2	2	0	1	1	7	9	10	8	11 CC		
16	Q5	1	2	2	2	2	1	1	1	11	6	0.2	1	1	2	3	2	1	0	1	10	9	12	14	7 C		
17	D3	2	4	4	5	7	6	2	1	30	36	1.4	2	4	3	5	6	6	2	1	61	56	64	44	76		
18		1	1	2	3	4	3	3	4	20	13	0.8	1	1	1	3	3	3	3	3	24	29	27	16	40		
19	Q10A	3	1	3	2	1	1	2	1	14	7	0.4	3	1	2	2	1	1	2	1	11	14	12	16	10 C		
20		3	4	5	4	4	3	3	5	30	26	1.2	3	3	4	4	3	3	3	5	41	42	39	37	44		
21		2	3	4	4	4	5	5	4	31	27	1.2	2	3	3	4	4	5	4	3	41	48	48	32	65		
22	D4	3	4	6	4	4	4	3	4	32	30	1.3	3	3	5	4	4	4	3	3	43	47	55	53	49		
23		3	3	1	2	2	3	2	1	16	8	0.5	2	2	1	2	2	3	2	1	14	20	14	17	17		
24	Q9	2	3	2	2	2	1	0	1	13	6	0.3	1	2	1	2	2	1	1	1	9	13	10	12	11 CC		
25	Q7	1	3	2	1	2	2	1	1	13	6	0.3	0	2	1	1	2	2	1	0	10	11	13	9	15 KC		
26	Q2	1	1	2	1	2	2	1	1	11	5	0.2	1	1	1	0	2	2	1	1	8	13	9	7	15 CK		
27	Q3K	1	1	1	1	1	0	1	3	8	4	0.2	1	1	1	0	1	0	0	3	7	9	10	8	12 K		
28		4	4	4	4	4	3	2	1	26	19	1.0	3	3	3	4	5	3	2	1	33	28	34	30	32		
=====																											
Mean											16	0.73												23.9	29.0	25.3	27.1

Day	Kn Three-Hourly Indices								An	Ks Three-Hourly Indices								As	Sa	Prov Ri	Ra	Rs	IMF
	1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8						
1	4+	3+	4	4+	4-	5	3+	3+	54	4	3	3	3	3+	4+	3-	3+	40	121.5	22	25	69	
2	4	3+	3-	3-	3-	3+	3+	2-	31	3	3	2+	2+	2-	3	3	2	23	124.7	34	43	73	
3	1	2+	1+	1+	1	1	3+	3+	16	1+	2+	1	1+	1-	0+	3	3	14	133.0	69	67	82	
4	3-	1+	1-	1-	1+	2+	2+	2-	13	3-	1+	1	1+	1+	1+	2-	1+	11	143.2	85	89	93	
5	1	0+	2-	1+	0+	2+	1+	2	9	1-	1	2-	1+	0	2-	2-	2	8	155.6	119	117	106	
6	1-	2-	1	1+	1+	1-	2	1+	9	0+	2-	1-	1+	1+	0+	1+	1-	7	178.8	129	127	131	
7	1	3+	4	4	3-	4-	4+	4	44	1-	3-	3+	3+	2	3+	5-	4+	37	171.2	128	125	123	
8	4	4	4	4-	3+	5-	4+	4+	58	4	4	3+	4	3+	4	5-	4-	52	183.4	134	127	136	
9	3	4	3	4-	4	3+	4-	3	43	3	3+	2	4-	3	4-	4	3-	35	180.3	126	124	133	
10	2+	2	2+	2+	3+	3	5-	2	28	2	1+	2	2-	3	3-	4-	2-	21	175.0	114	110	127	
11	3+	3-	3-	2+	3	3	3	4	31	4	3-	2	2-	3	3-	3	3+	27	168.8	95	95	120	
12	3+	3-	2+	3-	2	1+	1+	2+	19	3-	2	2+	2+	1+	1	1	2+	15	144.9	97	94	94	
13	3	2	2	2	3-	2-	2	2+	18	3	1+	2-	2	2	1	2-	2	15	131.7	92	89	80	
14	1+	2+	1	1+	1	1+	2-	1	10	2-	2	1	1+	0	0	1	1	7	137.9	78	83	87	
15	0+	1	1-	1+	2+	1	1	1-	7	0+	1+	1	2-	2+	0	1-	1-	8	131.6	73	75	80	
16	0+	1+	2+	3	3-	1+	1-	1-	12	1-	1+	2	2+	2	0+	0	1-	9	130.5	84	84	79	
17	1+	4-	3+	5-	6	5+	2	1	57	2-	4	4-	5-	6+	6-	2	0+	65	121.4	68	65	69	
18	1	1-	1	3	3+	3+	4-	3	24	1	1+	1+	3	3+	3-	3+	3	23	123.2	78	86	71	
19	3-	1	2+	1+	2-	1	2	1	13	2	1	3	2-	1	0+	1+	0+	10	113.4	88	87	60	
20	3	3	4	4	4-	3-	3+	4+	44	3-	3	3+	4	3+	3	3-	5-	38	120.6	97	86	68	
21	2	2+	3	4-	4-	5	5-	3+	44	2+	3-	3	4-	4	4	4-	3+	39	120.3	92	95	68	
22	3-	3+	5-	4-	4+	4-	3	4-	46	3	3-	4+	4-	3+	3+	3	3+	40	130.3	100	100	79	
23	2+	3-	1	2+	3-	3	2-	1	17	2-	2-	1	2	2-	2	1+	1-	11	129.6	101	96	78	
24	1-	2	1+	2	2	1+	1+	1+	11	1+	2+	1	2	2-	0	0	1	8	132.7	90	90	81	
25	1-	2	2	1	2	2+	2+	1+	1-	12	0+	1+	1-	1	3-	2-	1	0+	8	125.5	88	85	74
26	1-	1	1+	1-	2	3-	1	1	9	1-	1	1	0+	2-	1+	1	0+	6	123.8	86	82	72	
27	1-	0+	1-	1-	1+	0+	1-	3+	9	1-	1	1-	0+	1	0	0	3-	6	121.6	86	85	69	
28	3+	3+	3+	4	5-	3+	2	1+	39	3	3-	2+	3+	4	3	2	1-	27	121.4	82	91	69	
Mean									26.0									21.8	139.1	90.5	90.1	88.2	

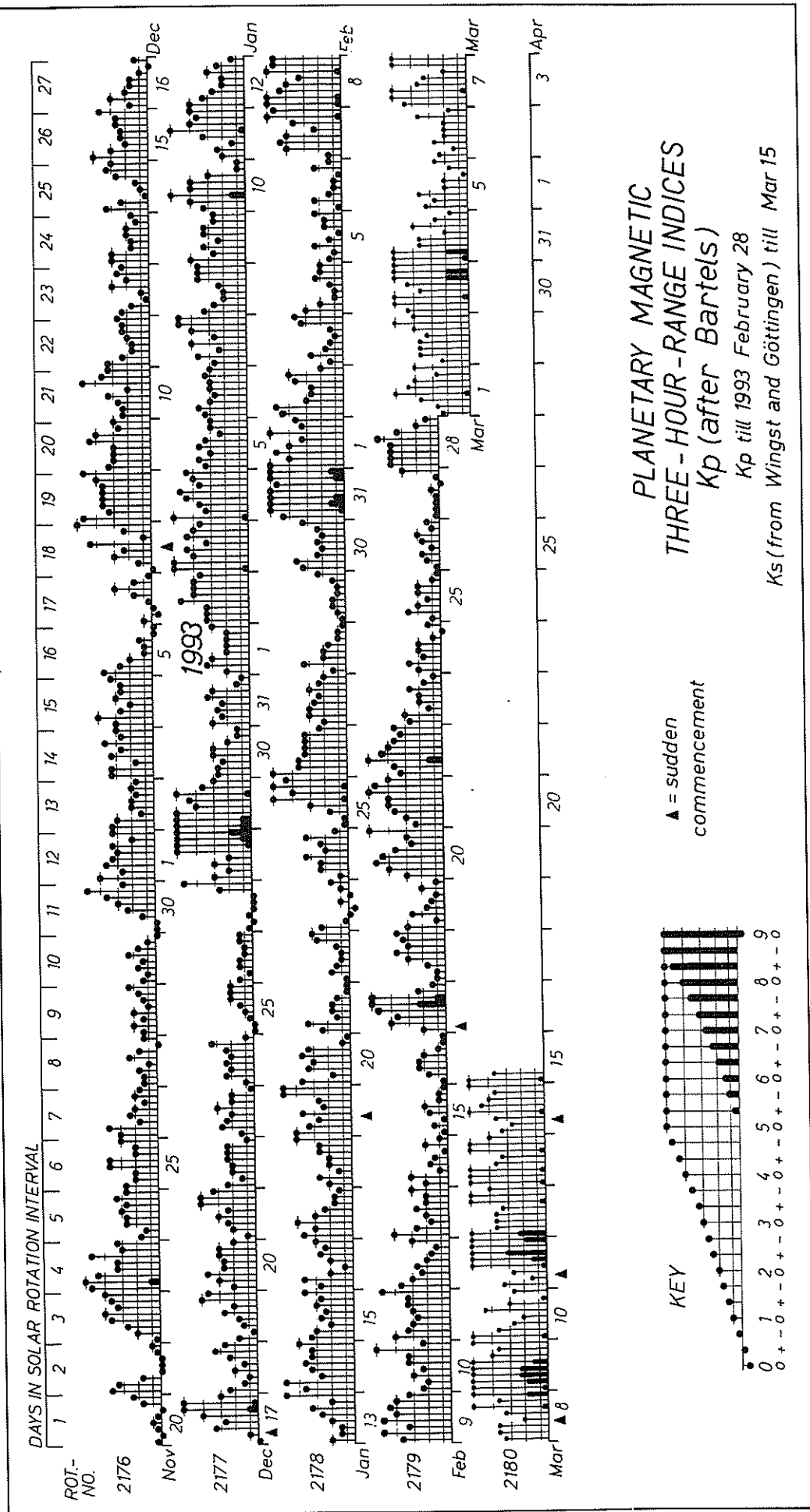
DAILY AVERAGE INDICES Ap

March 1992 to February 1993

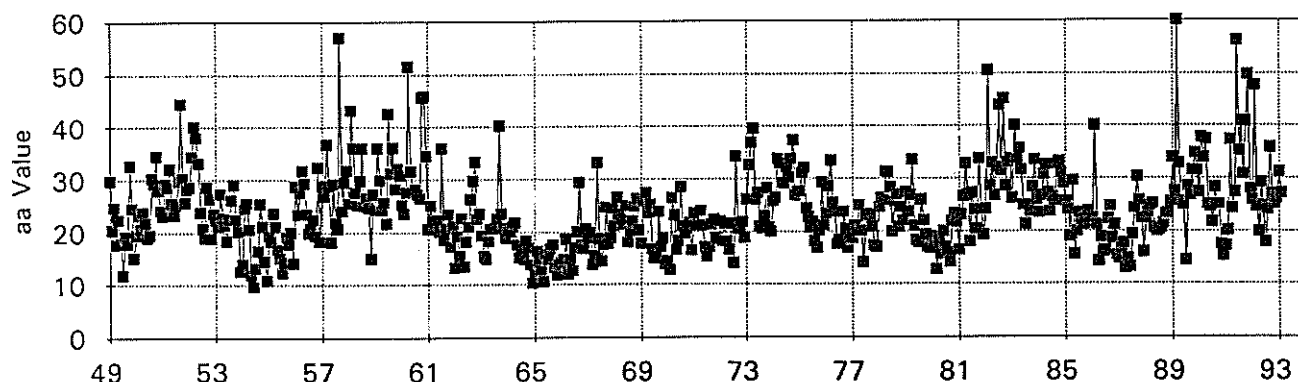
DAY	1992 MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1993 JAN	FEB
1	16	13	15	8	19	8	2	26	16	17	10	31
2	12	6	12	5	16	5	23	9	23	9	24	21
3	11	32	9	6	5	4	48	6	17	15	33	10
4	13	12	12	4	4	15	33	7	25	15	31	7
5	12	15	5	6	9	35	28	5	15	7	17	6
6	8	24	5	5	5	16	17	10	14	5	16	5
7	10	19	13	12	4	26	22	8	12	16	23	27
8	11	20	29	46	5	16	18	8	11	26	15	40
9	25	6	39	17	4	12	84	26	42	19	16	28
10	17	5	179	20	6	7	88	10	12	17	25	17
11	20	3	70	26	4	13	32	24	19	10	21	20
12	12	4	11	40	15	6	5	34	16	8	12	11
13	6	6	21	12	23	11	5	23	17	8	12	12
14	4	6	4	6	12	15	8	25	12	10	22	6
15	9	10	5	10	6	8	10	35	19	14	14	4
16	13	5	4	4	12	8	12	22	10	6	11	6
17	25	4	3	5	5	4	93	16	8	25	13	36
18	17	19	16	27	5	6	31	12	7	9	11	13
19	4	17	14	12	4	9	13	16	7	11	22	7
20	4	18	8	7	8	26	8	12	4	13	14	26
21	23	8	8	9	11	20	7	6	7	14	7	27
22	17	12	50	10	34	39	17	9	17	7	7	30
23	26	8	14	13	16	73	9	5	31	8	4	8
24	22	13	8	22	7	10	4	3	12	8	10	6
25	16	10	10	14	11	5	11	7	12	5	25	6
26	12	8	8	8	4	11	8	14	10	4	22	5
27	11	5	10	11	7	14	4	31	5	8	11	4
28	10	10	13	15	17	5	16	19	6	39	7	19
29	18	7	19	38	5	16	62	27	5	42	5	
30	12	10	14	37	9	6	35	16	13	10	12	
31	14		8		10	4		10		11	59	
MEAN	14	11	21	15	10	15	25	15	14	13	17	16

University of Gottingen

Kp through February 28, 1993



MONTHLY MEAN aa INDICES 01/49-02/93



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											29.2

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Feb 93

PRINCIPAL MAGNETIC STORMS

FEBRUARY 1993

Sta	Geomag Lat	Commencement			SC Amplitudes			Maximum 3-Hour K Index Day(3-Hour Periods)	Ranges			End	
		Day	Time (UT)	Type	D (Min)	H (Gamma)	Z (Gamma)		D K (Min)	H (Gamma)	Z (Gamma)	Day	Hour (UT)
FRD 49.4N	07	03--	..	..	..	..	..	08(2,6) 10(7)	5	24	156	42	11 --
BJI 28.8N	07	05--	..	..	..	..	..	07(3)	6	11	114	21	09 24
KRC 16.4N	07	0430	..	..	..	..	..	07(3,6)	6	7	165	55	10 06
UJJ 13.6N	07	0500	..	..	..	..	..	..	-	5	168	23	09 22
ABG 09.4N	07	0500	..	..	..	..	..	07(3,6)	6	5	182	27	09 22
HYB 07.6N	07	0300	..	..	..	..	..	07(3,6)	6	5	191	23	09 21
GUA 04.3N	07	05--	..	..	..	..	..	07(3)	6	--	120	20	07 16
GUA 04.3N	07	17--	..	..	..	..	..	08(2)	5	--	90	40	08 16
ANN 01.5N	07	0500	..	..	..	..	..	..	-	6	183	61	09 22
ETT 00.7S	07	0300	..	..	..	..	..	..	-	6	217	87	09 21
PMG 18.3S	07	05--	..	..	..	..	..	07(3)	6	10	130	70	10 00
HER 33.6S	07	17--	..	..	..	..	..	07(7) 08(2,7)	5	24	81	103	08 24
CAN 43.6S	07	05--	..	..	..	..	..	08(4) 09(4)	5	21	141	57	10 00
GUA 04.3N	08	19--	..	..	..	..	..	09(2)	5	--	90	50	09 07
HER 33.6S	09	16--	..	..	..	..	..	09(7)	5	15	48	55	10 01
KGL 57.2S	09	1156	SC	..	4	32	5	09(6,7)	5	24	180	104	10 01
FRD 49.4N	17	0302	SC*	..	2.7	50	- 9	17(5)	6	29	141	25	17 17
BJI 28.8N	17	0301	SC	..	2.8	43	0	17(5)	7	11	218	41	17 21
KRC 16.4N	17	0300	SC	..	.2	40	20	17(5,6)	7	6	277	80	18 05
UJJ 13.6N	17	0200	..	..	..	..	..	..	-	3	283	17	17 22
ABG 09.4N	17	0200	..	..	..	..	..	17(5,6)	7	4	308	24	17 22
HYB 07.6N	17	0301	SC	..	.8	33	- 2	17(5,6)	7	4	333	16	17 23
GUA 04.3N	17	02--	..	..	..	..	..	..	-	--	--	--	--
GUA 04.3N	17	0301	SC*	..	.2	43	- 12	17(5)	6	--	260	30	17 18
ANN 01.5N	17	0200	..	..	..	..	..	..	-	3	291	65	17 22
ETT 00.7S	17	0301	SC	..	.2	33	29	..	-	8	357	121	17 20
PMG 18.3S	17	0301	SC	..	.5	46	44	17(5,6)	6	6	230	110	17 18
HER 33.6S	17	0302	SC	..	5 *	36	28	17(5)	7	41	202	204	17 19
GNA 43.3S	17	0300	SC*	..	6.2*	17	* 17 *	17(5,6)	6	20	160	170	17 18
CAN 43.6S	17	0301	SC*	..	1.3*	35	10	17(5)	6	20	159	52	17 18
KGL 57.2S	17	0301	SC	..	12	- 56	- 21	17(7)	8	120	681	264	17 23
FRD 49.4N	20	02--	..	..	..	..	..	20(3) 22(3)	5	20	112	46	23 --
UJJ 13.6N	20	0027	SC	..	.2	11	- 2	..	-	4	92	22	23 01
ABG 09.4N	20	0027	SC	..	.1	9	- 3	20(8) 21(7)	5	3	96	31	23 01
HYB 07.6N	20	0029	SC	..	.2	9	0	20(4,8) 21(7) 22(3,6)	5	3	105	18	22 20
GUA 04.3N	20	00--	..	..	..	..	..	20(2)	5	--	190	20	20 16
ANN 01.5N	20	0027	SC	..	.4	9	6	..	-	4	111	58	23 01
ETT 00.7S	20	0029	SC	..	.1	10	8	..	-	5	154	66	23 21
CAN 43.6S	20	06--	..	..	..	..	..	20(8) 21(5) 22(3)	5	19	121	42	23 00
GUA 04.3N	21	23--	..	..	..	..	..	22(1)	5	--	60	10	22 06
BJI 28.8N	27	2221	SC	..	.6	17	1	28(5)	6	6	151	30	28 22
UJJ 13.6N	27	2221	SC	..	.6	19	- 5	..	-	4	117	17	28 23
ABG 09.4N	27	2221	SC	..	.6	17	- 6	28(4)	5	4	128	15	28 23
HYB 07.6N	27	2220	SC	..	.5	18	- 1	28(3,4,5,6)	5	4	155	12	01 22
GUA 04.3N	27	2219	..	..	..	..	..	28(1)	-	--	80	20	28 06
ANN 01.5N	27	2221	SC	..	.8	17	11	..	-	4	121	45	28 23
ETT 00.7S	27	2220	SC	..	.5	11	9	..	-	5	149	54	28 22
PMG 18.3S	27	2220	SC	..	1	18	14	28(5)	5	8	160	60	28 20
HER 33.6S	27	2221	SC	..	1	18	12	27(8)	4	29	95	54	28 14
GUA 04.3N	28	08--	..	..	..	..	..	28(4)	5	--	100	10	28 20
KGL 57.2S	28	0646	SC	..	1	7	2	28(5)	5	34	162	136	28 21

Stations:

ABG = ALIBAG
ANN = ANNAMALAINAGAR
API = APIA
BJI = BEIJING
CAN = CANBERRA
CMO = COLLEGE

ETT = ETAIYAPURAM
FRD = FREDERICKSBURG
GNA = GNANGARA
GUA = GUAM
HER = HERMANUS

HON = HONOLULU
HYB = HYDERABAD
JAI = JAIPUR
KGL = KERGUELEN
KRC = KARACHI

PMG = PORT MORESBY
SHL = SHILLONG
SIT = SITKA
TRD = TRIVANDRUM
UJJ = UJJAIN
WIT = WITTEVEEN

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LATE DATA

Page

****NEW DATA****

COSMIC RAY MEASUREMENTS BY NEUTRON MONITOR

Beijing January 1993

Daily Counting Rate 142

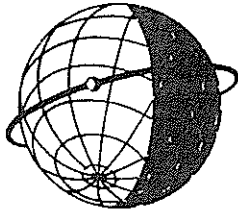
COSMIC RAY INDICES
(Neutron Monitor)

JANUARY 1993

Day	THULE Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	BEIJING Average (cts/h) 256	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4319	6809.1	5955.5		1977.9	3498.2	
2	4308	6787.1	5956.5		1990.2	3498.0	
3	4274	6718.0	5930.1		1985.7	3489.0	
4	4290	6726.7	5963.4		1988.5	3501.0	
5	4295	6753.1	5953.3		1988.1	3508.6	
6	4302	6769.3	5941.6		1986.3	3501.6	
7	4296	6756.9	5942.4		1984.8	3495.2	
8	4294	6752.7	5941.4		1981.0	3505.8	
9	4301	6759.8	5931.7		1988.4	3507.2	
10	4284	6754.5	5919.4		1988.8	3496.5	
11	4273	6742.5	5934.2		1990.5	3507.3	
12	4285	6753.3	5961.5		1994.0	3517.3	
13	4308	6798.4	5978.4		1998.3	3522.2	
14	4345	6841.9	6005.3		2017.1	3531.7	
15	4371	6889.1	6024.4		2028.3	3539.6	
16	4381	6898.4	6027.6		2021.7	3540.8	
17	4393	6942.9	6053.4		2034.3	3563.5	
18	4408	6954.7	6082.2		2025.4	3556.5	
19	4379	6952.5	6079.1		2028.5	3562.2	
20	4315	6836.7	6008.0		2015.7	3550.4	
21	4343	6859.7	6002.7		2012.0	3542.8	
22	4370	6876.8	6043.5		2019.7	3552.1	
23	4382	6913.8	6064.6		2025.4	3552.5	
24	4392	6932.8	6092.0		2032.2	3563.2	
25	4371	6900.5	6094.0		2024.9	3546.5	
26	4310	6826.2	6022.5		2020.1	3519.9	
27	4299	6806.4	5995.3		1999.2	3509.5	
28	4306	6828.2	6002.8		1994.4	3512.7	
29	4324	6842.8	6013.8		1994.9	3510.9	
30	4317	6841.3	5990.1		1989.1	3514.3	
31	4292	6776.4	5954.5		1998.0	3519.4	
Mean	4327	6825.9	5995.7		2004.0	3523.8	

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

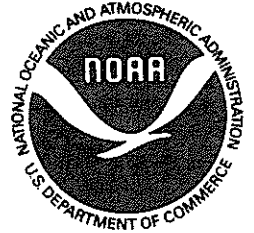
* = A&B includes only hours when both A&B sections are available.



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."