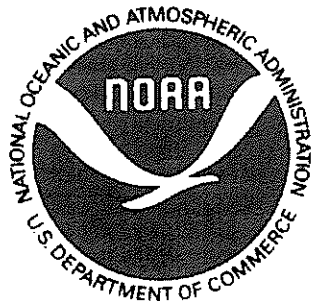




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NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE

Thomas N. Pyke, Jr., Assistant Administrator

FEBRUARY 1993 NUMBER 582 - Part I

Solar-Geophysical Data prompt reports

Data for January 1993, December 1992, and Late Data

International Standard Serial Number: 0038-0911

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

NATIONAL GEOPHYSICAL DATA CENTER

Michael A. Chinnery, Director

Boulder, Colorado

Subscription information is on the inside back cover.

SOLAR-GEOPHYSICAL DATA

Number 582

(Issued in Two Parts)

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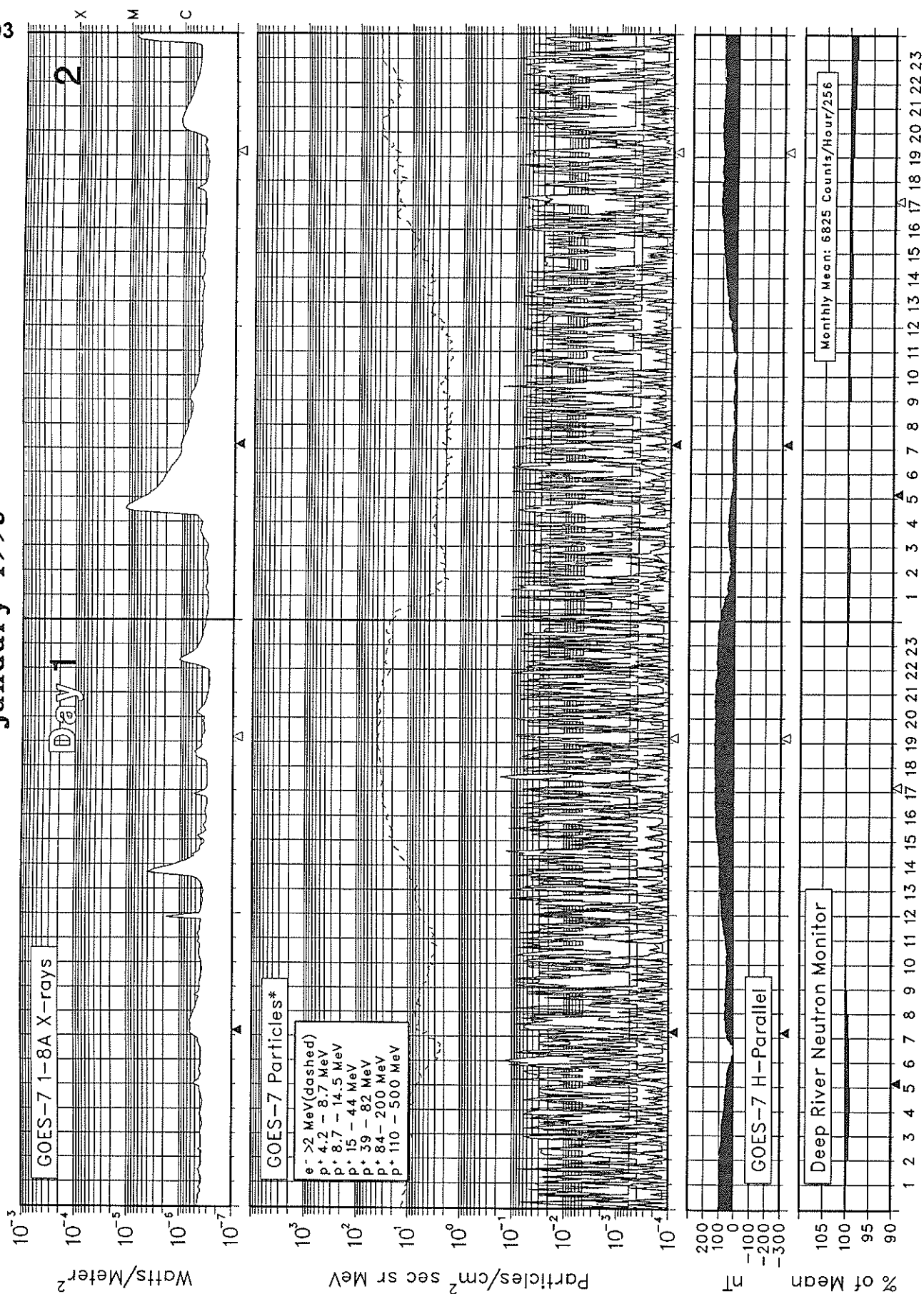
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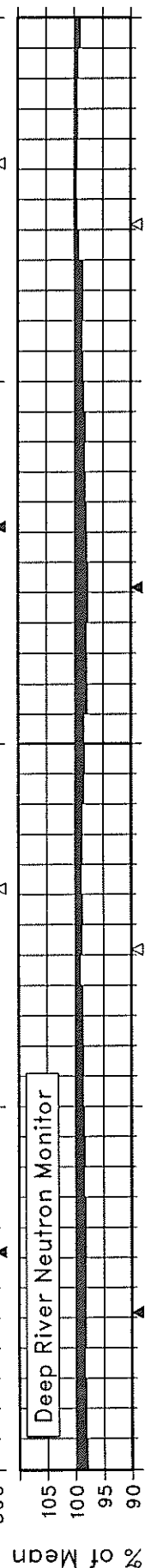
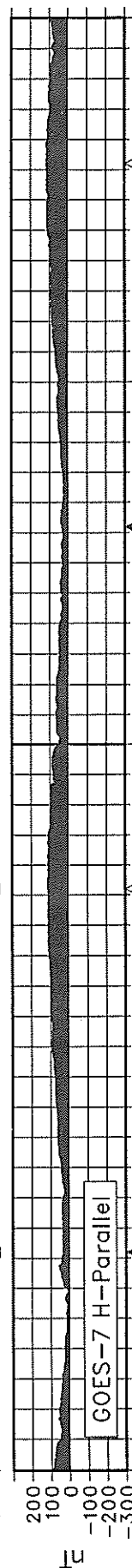
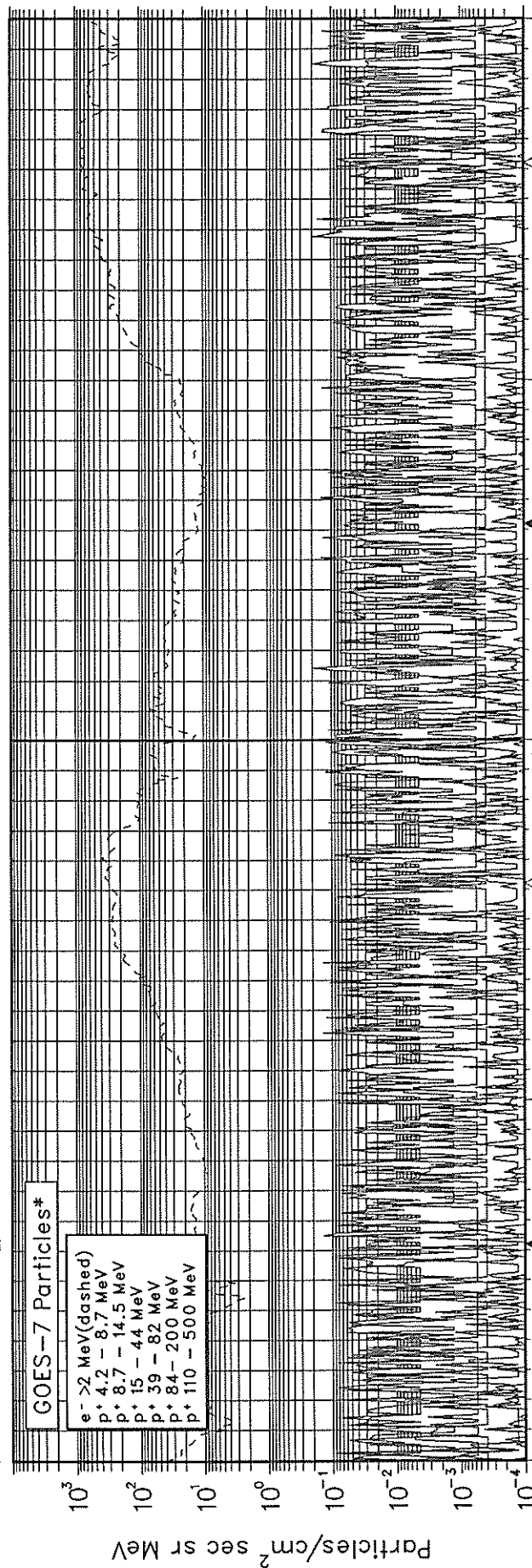
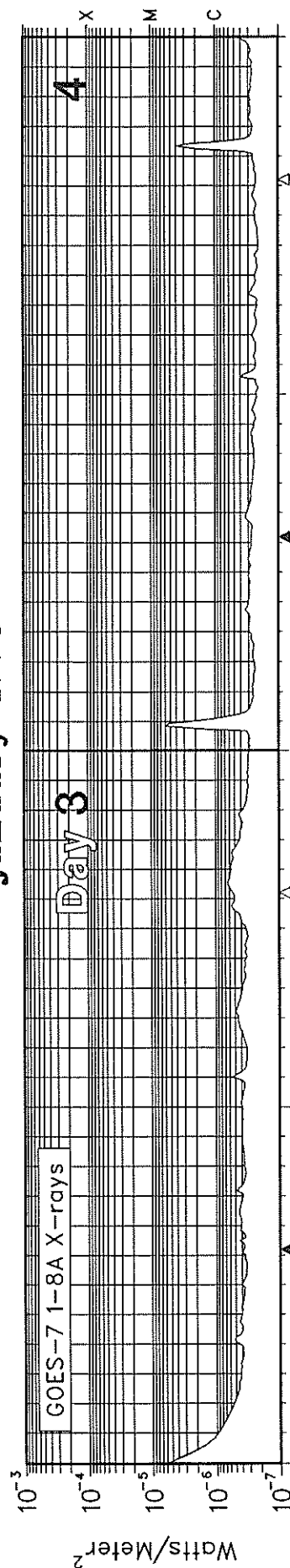
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SOLAR-TERRESTRIAL ENVIRONMENT

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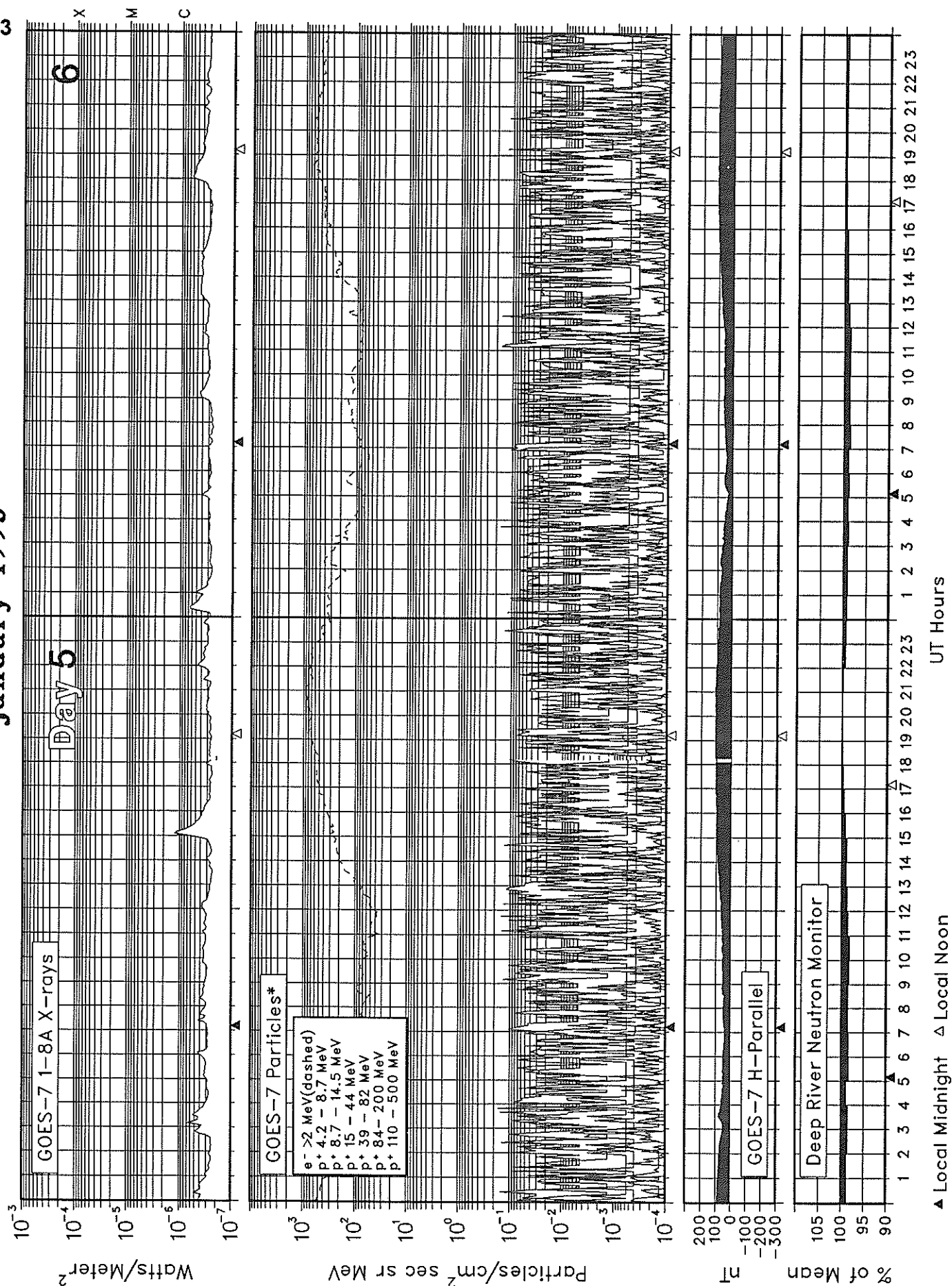


▲ Local Midnight ▲ Local Noon UT Hours

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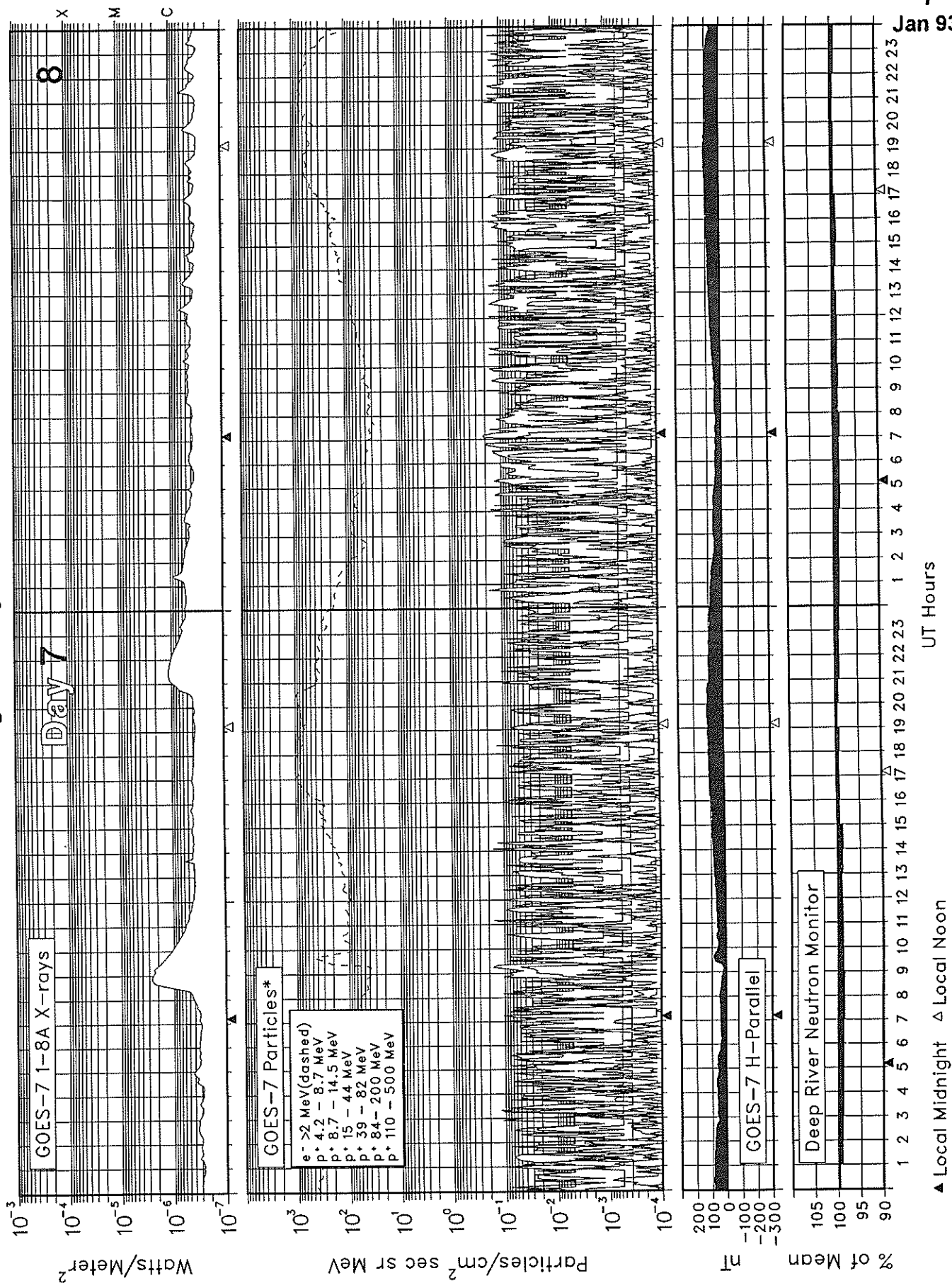


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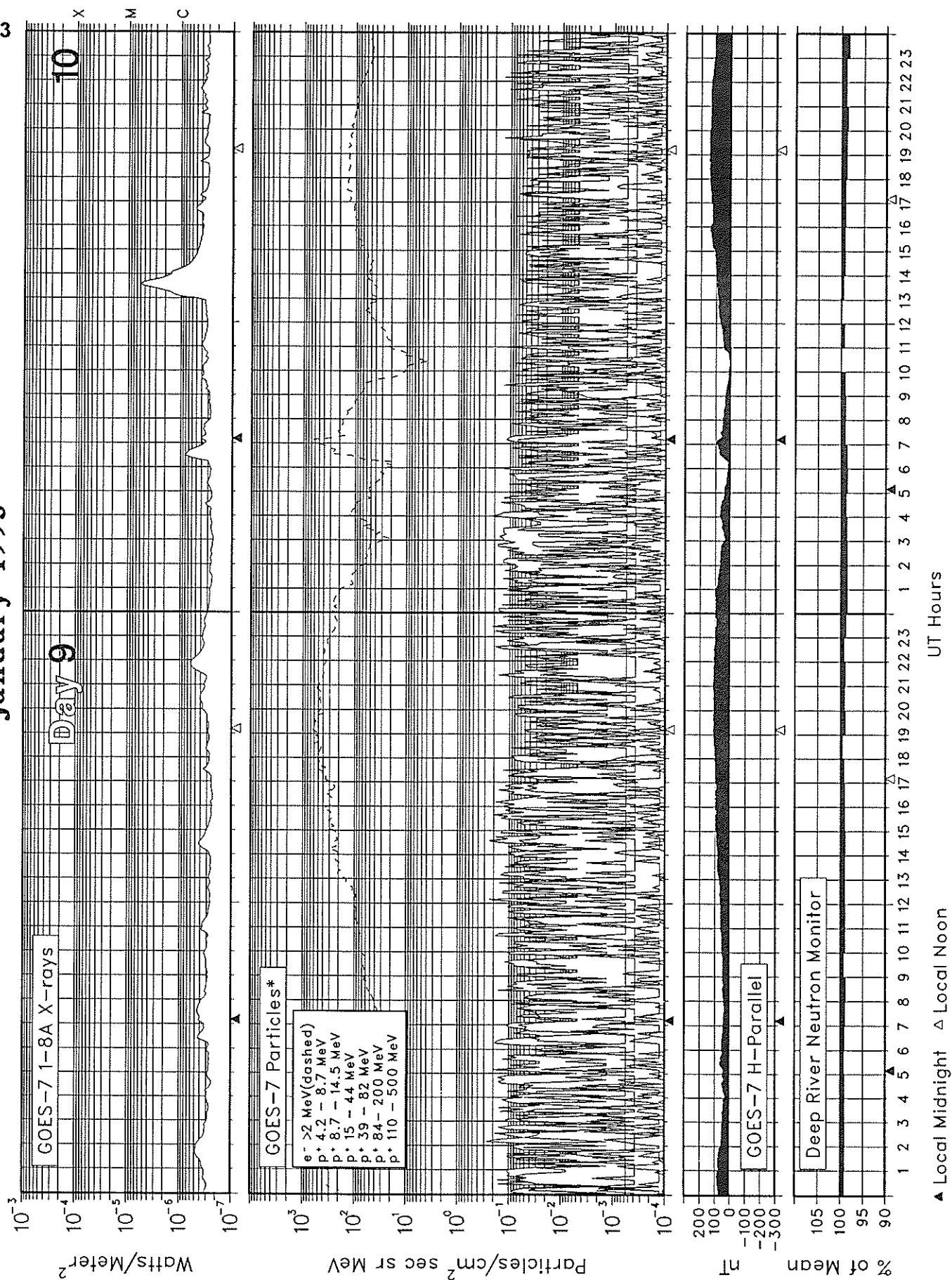


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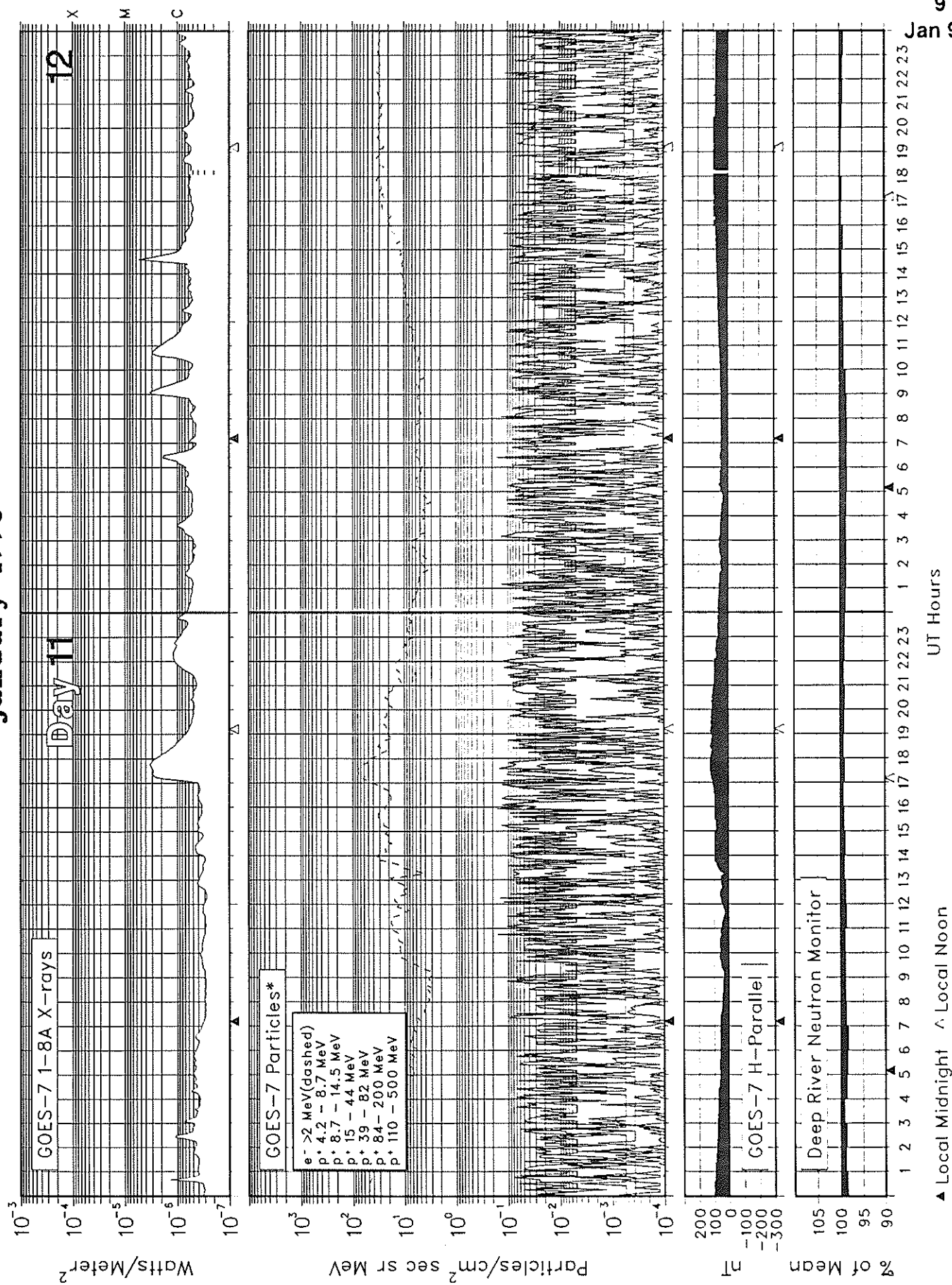
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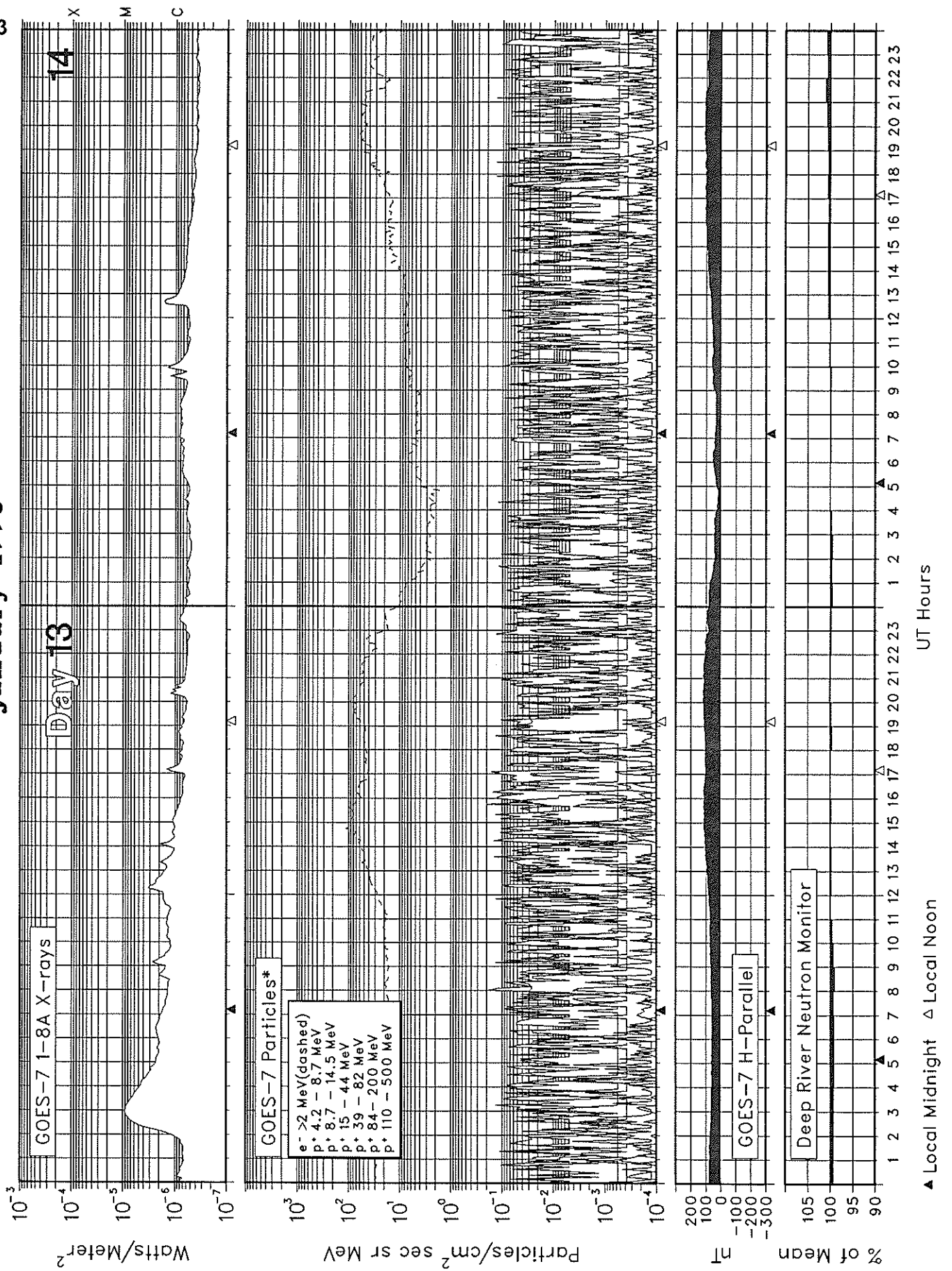


UT Hours

▲ Local Midnight ^ Local Noon

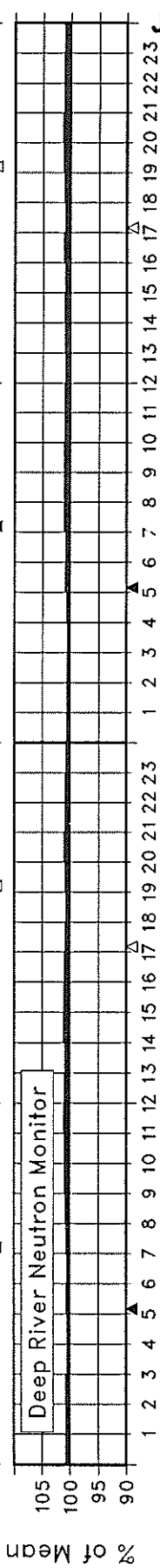
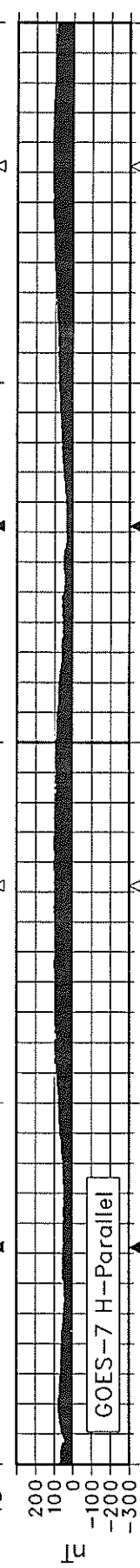
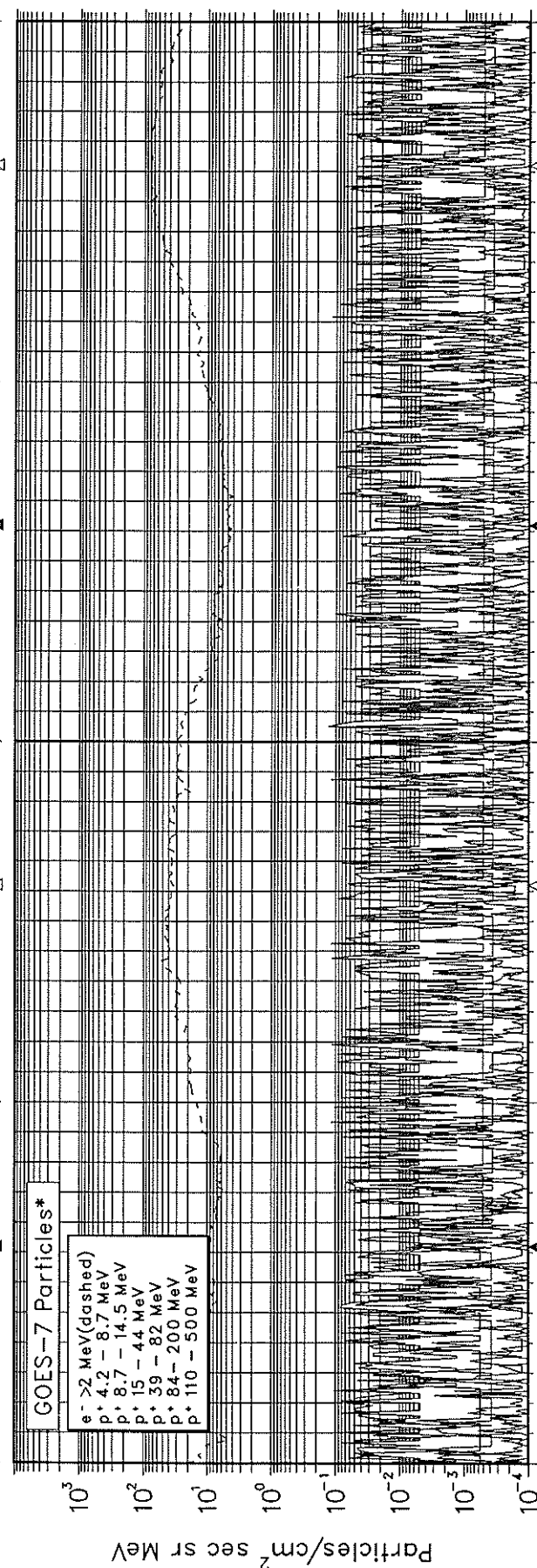
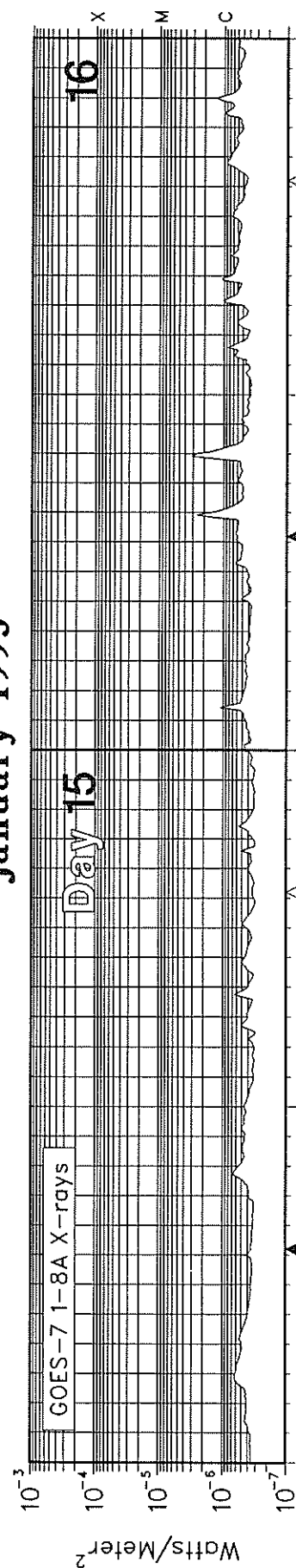
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SOLAR-TERRESTRIAL ENVIRONMENT

January 1993



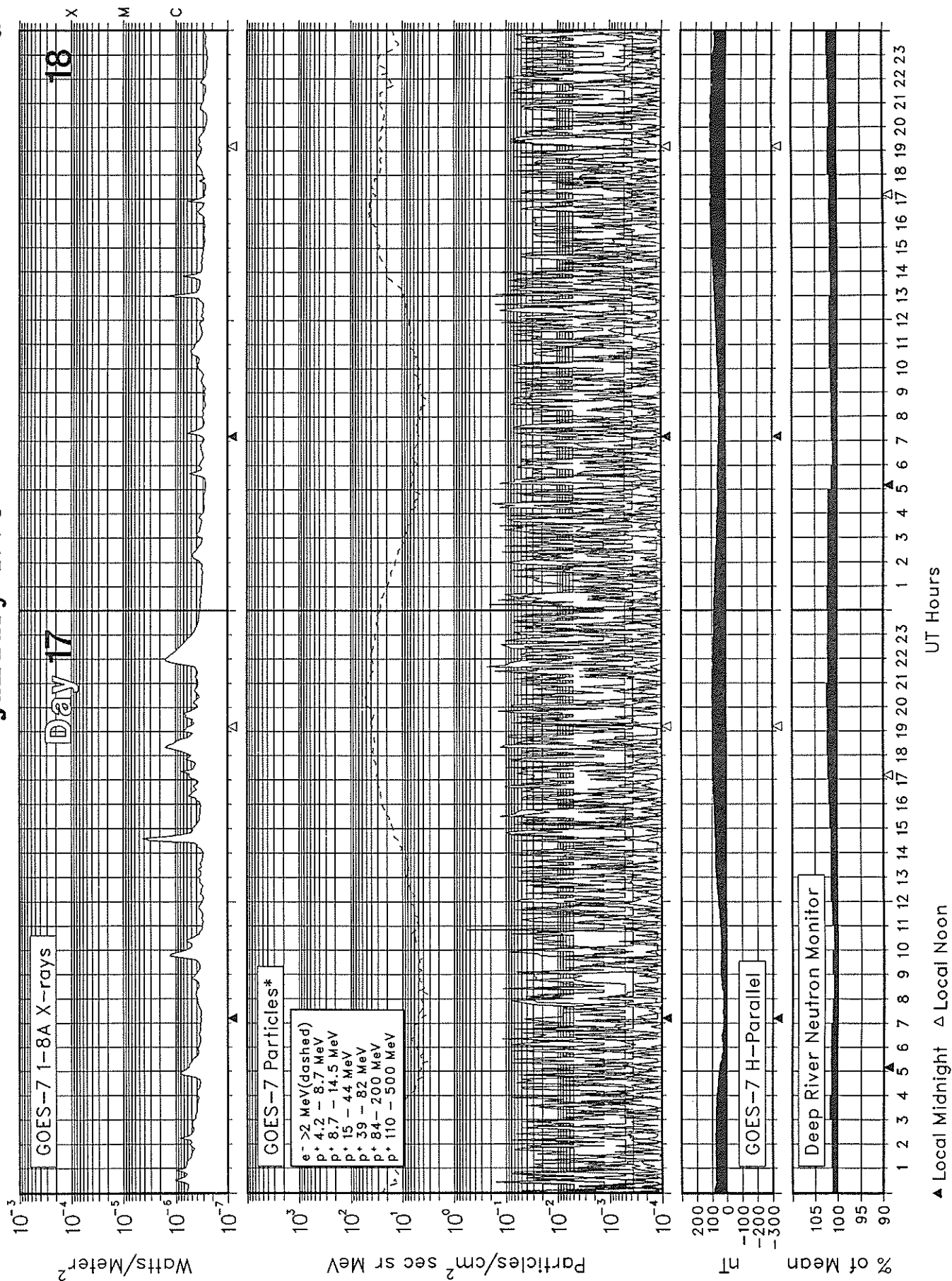
▲ Local Midnight Δ Local Noon

UT Hours

SOLAR-TERRESTRIAL ENVIRONMENT

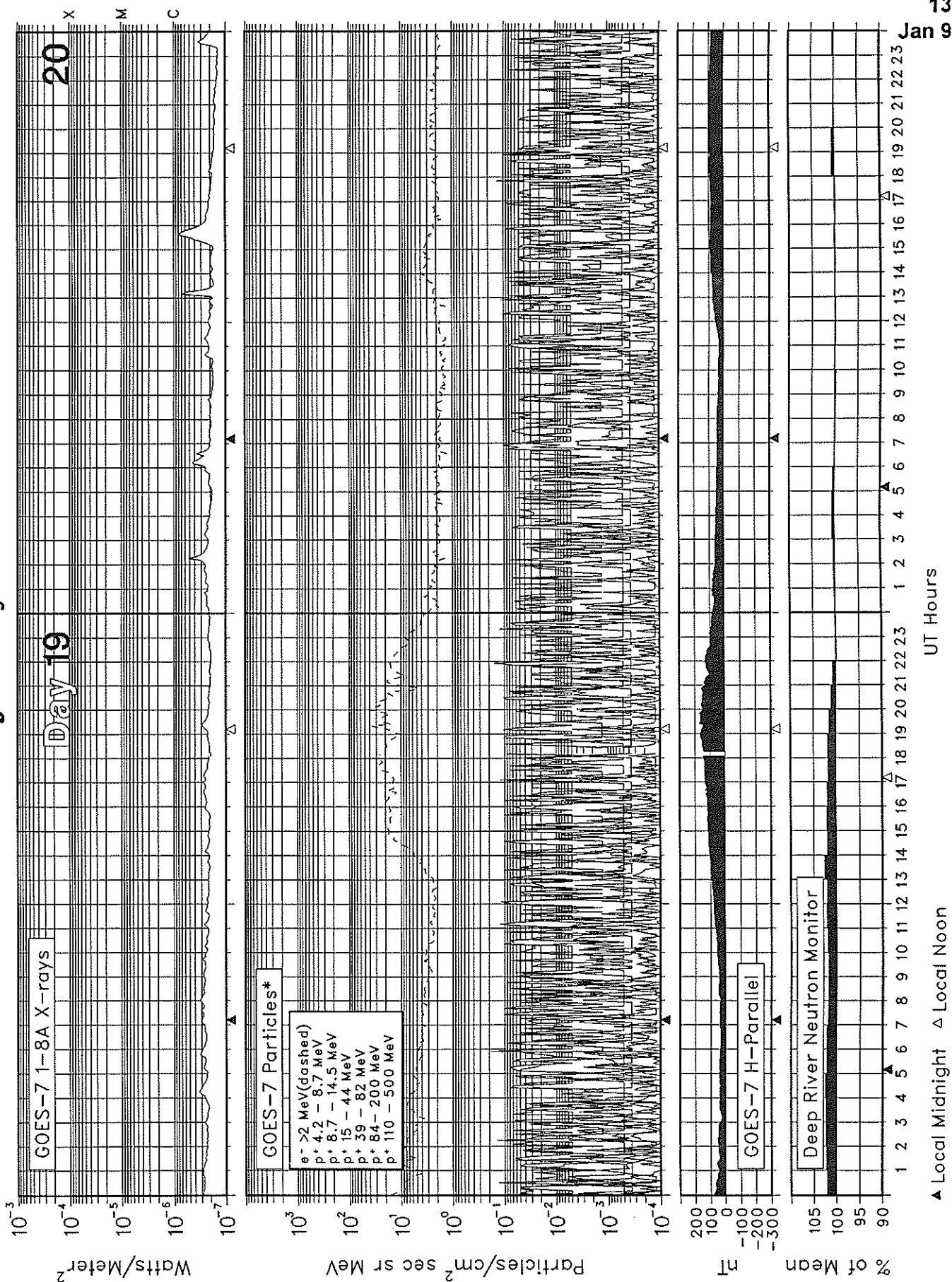
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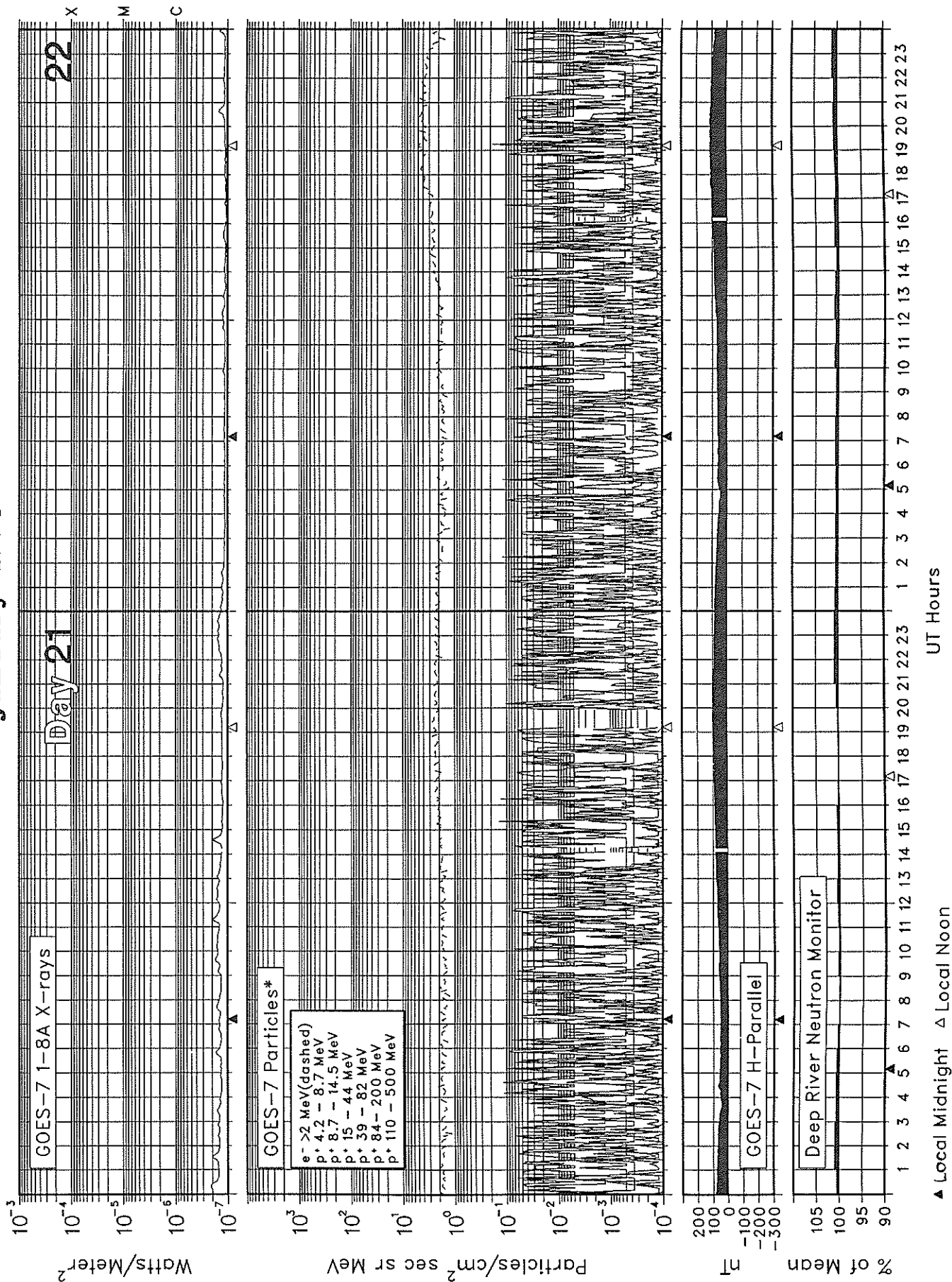
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January 1993



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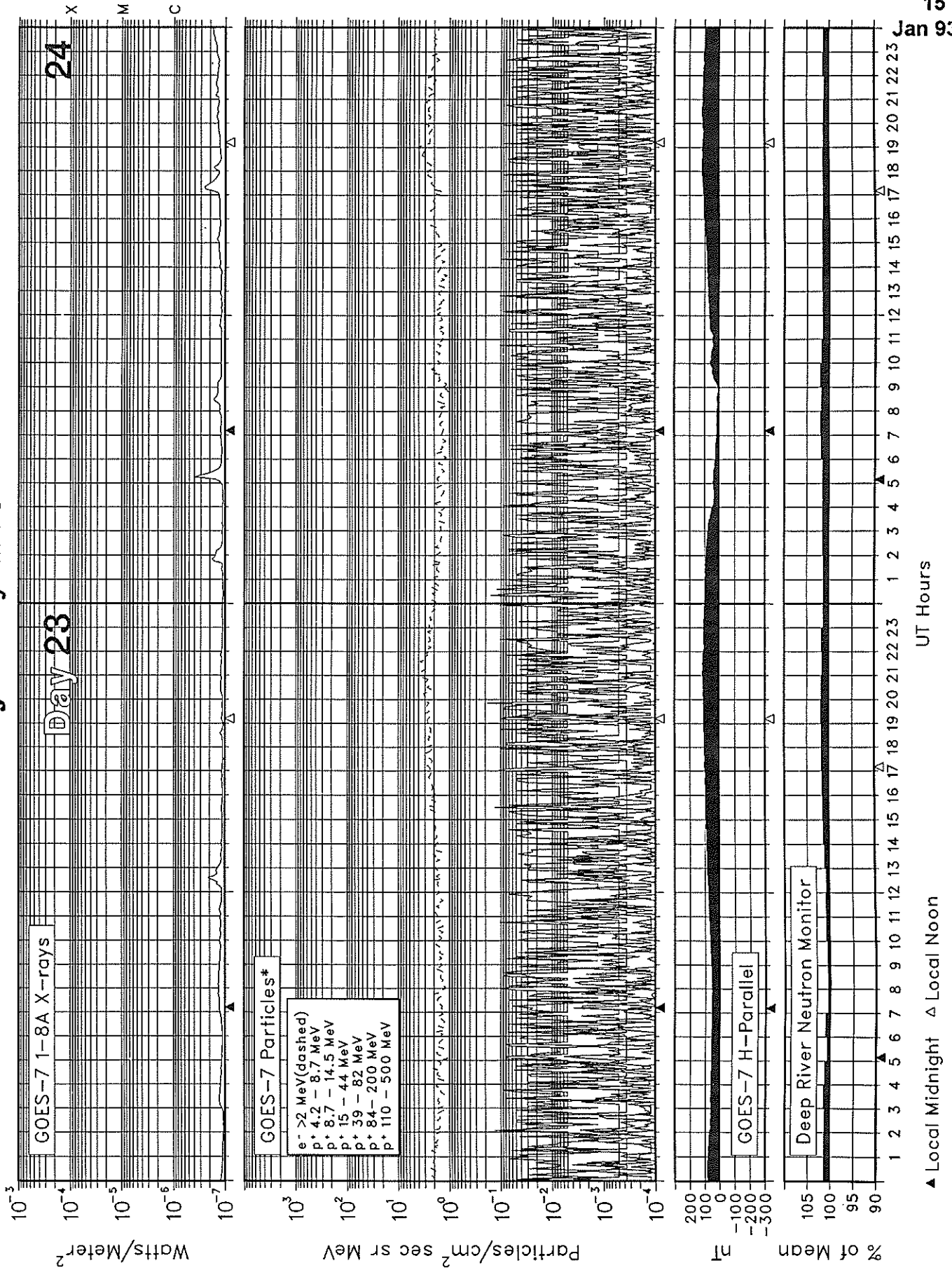
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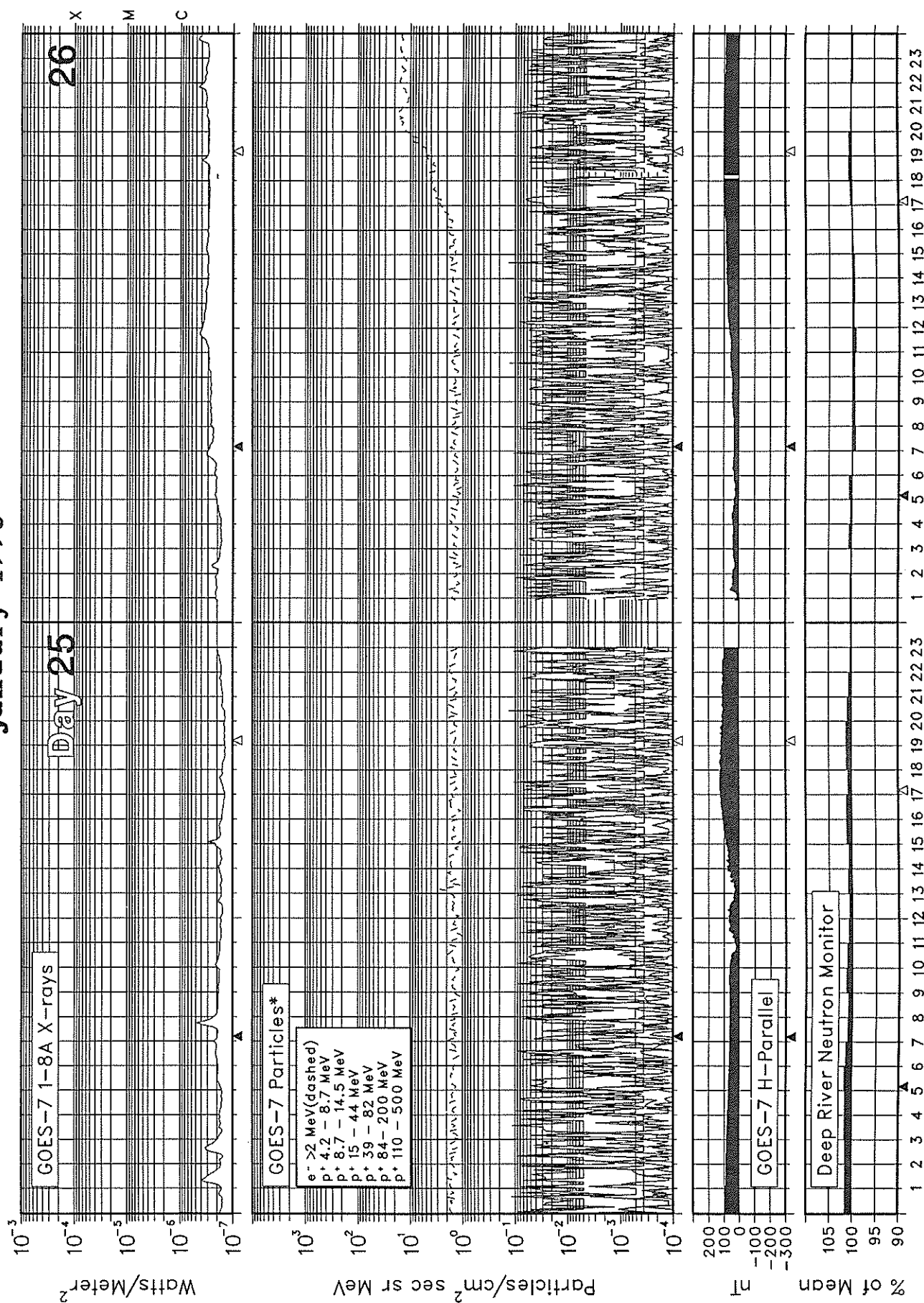
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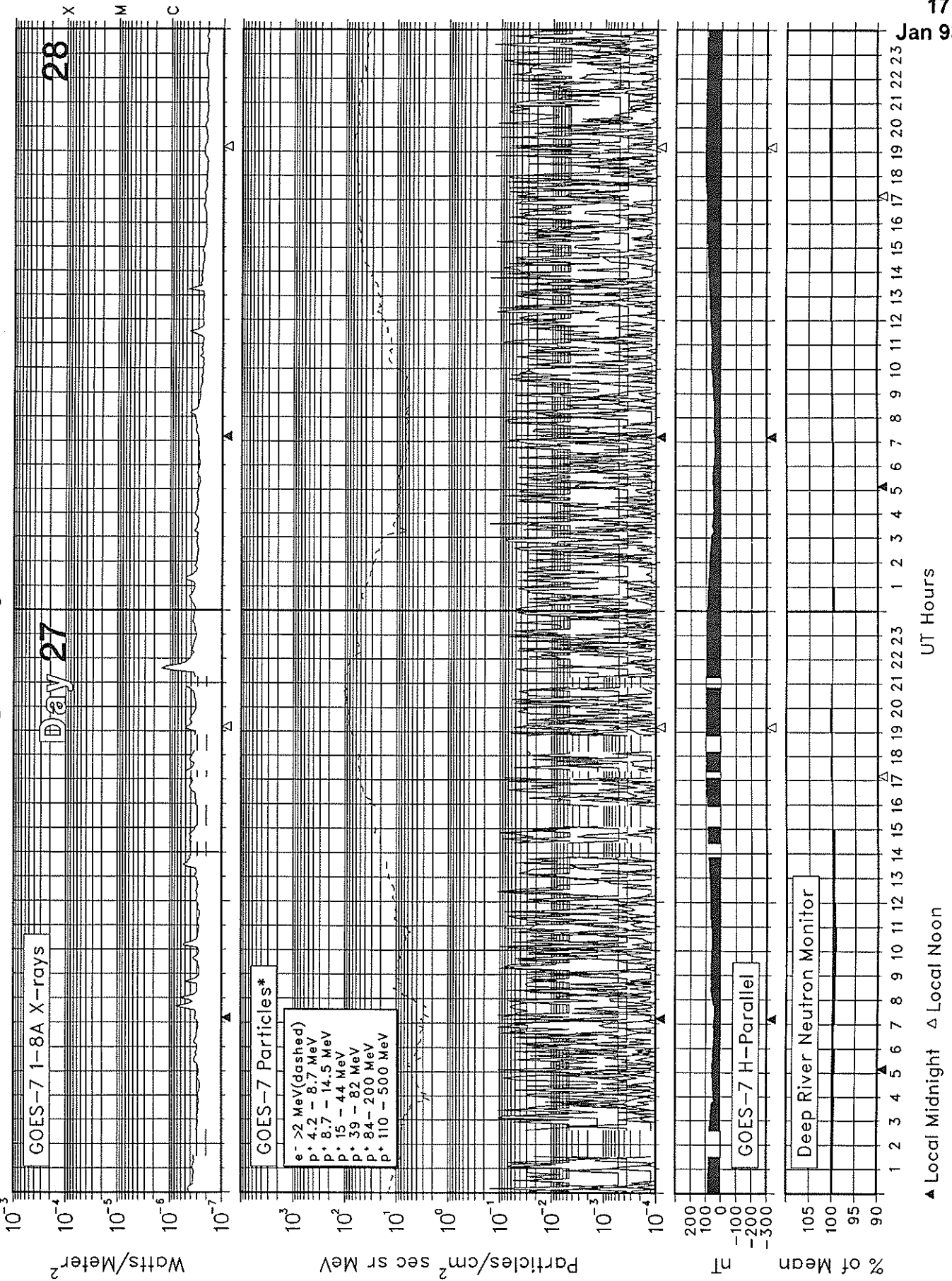
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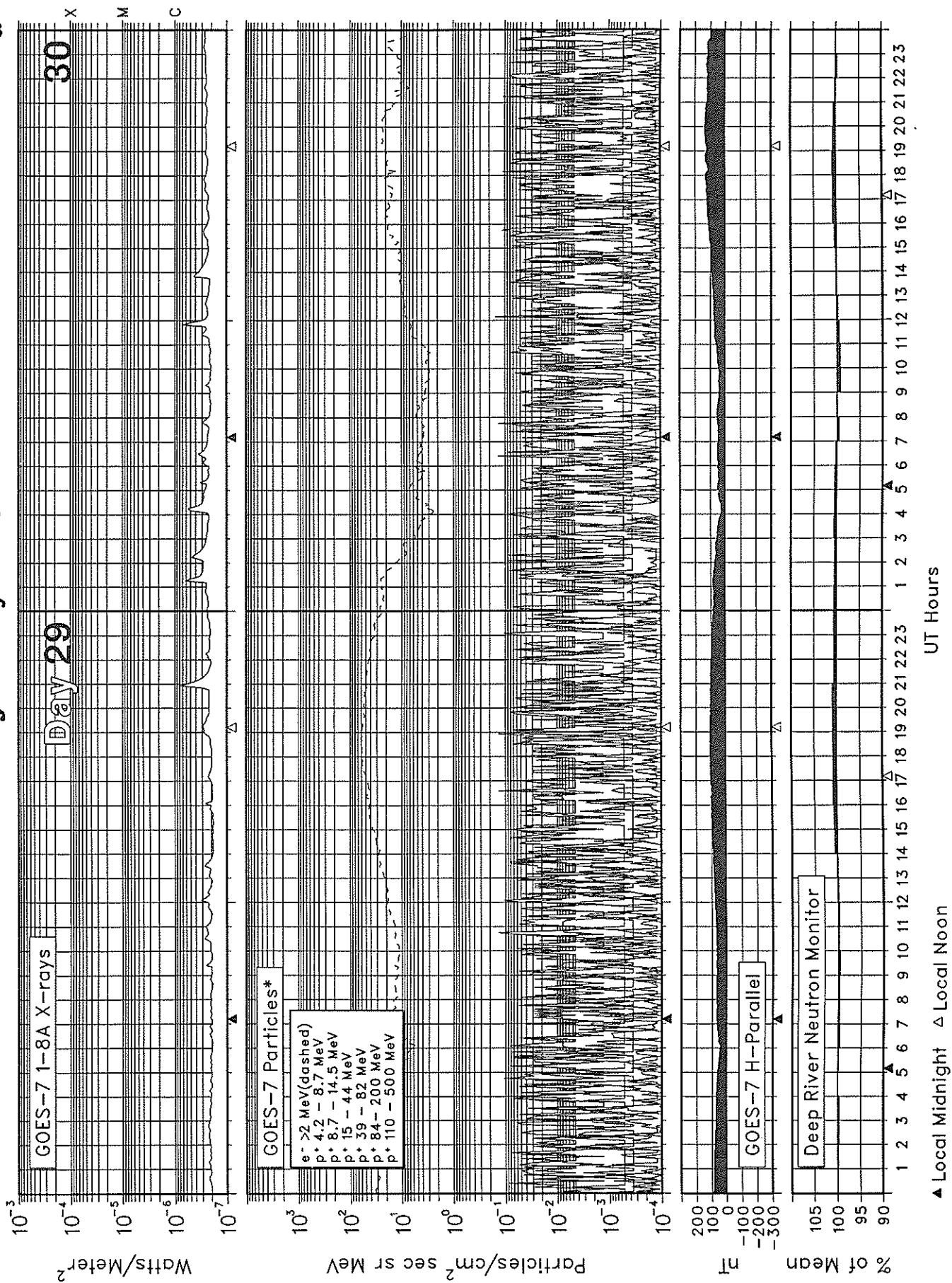
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January 1993



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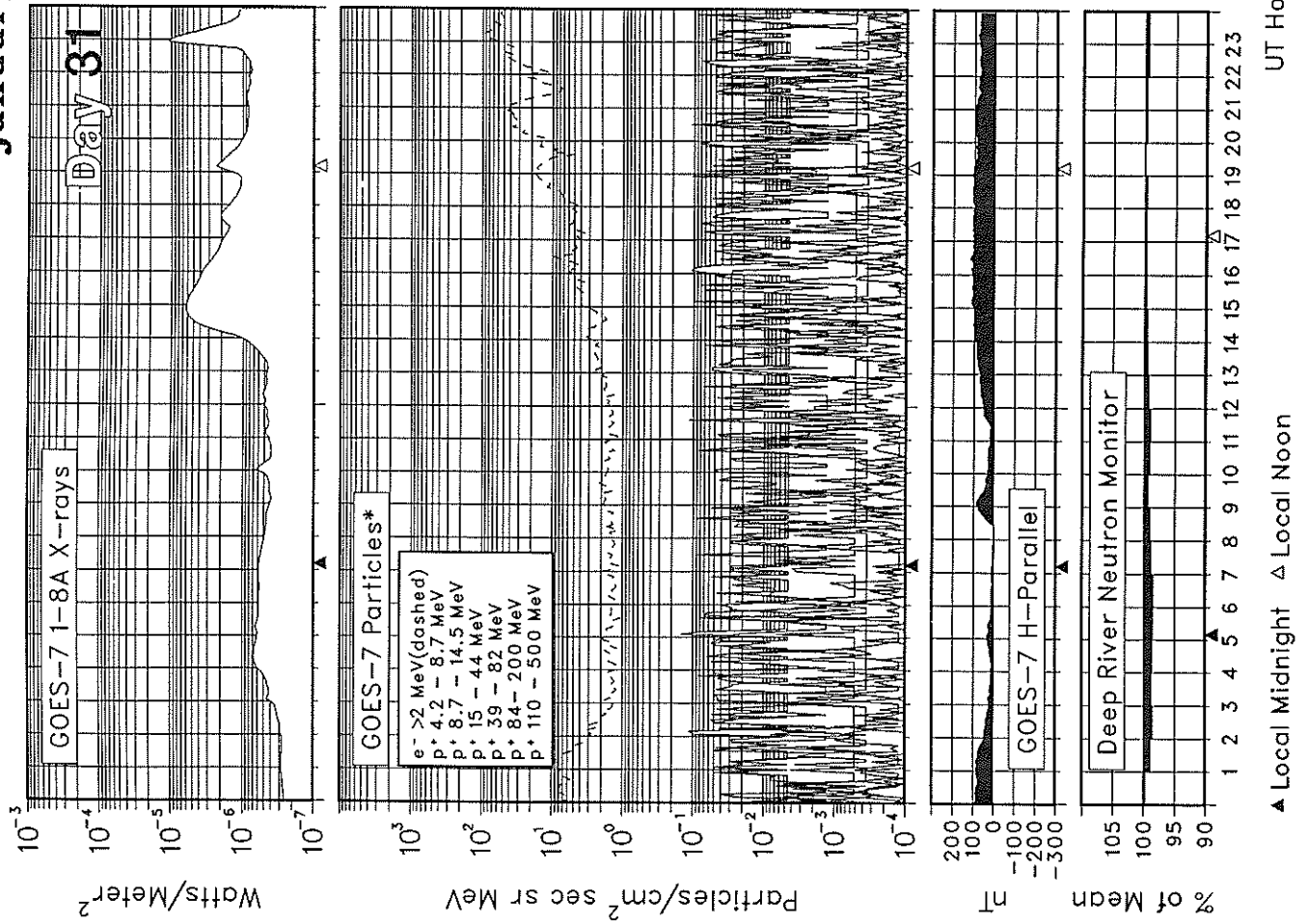
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SOLAR-TERRESTRIAL ENVIRONMENT

January 1993

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ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages

January 1993

Julian Day	Date of Issue	Date of Obser- vation	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		
001	01	31	081	130	10	N16	W91	1			1	0	01	E	SOL: Eruptive MAG: Quiet PROTON: Quiet
						N13	W77	0			0	0	01	Q	
						S12	W52	2			0	0	01	Q	
						N05	W53	0			0	0	01	Q	
						S04	W59	0			0	0	01	Q	
						N04	W82	1			0	0	01	Q	
						S04	E84	0			0	0	01	Q	
002	02	01	075	122	8	N12	W91	0			0	0	02	Q	SOL: Eruptive MAG: Quiet PROTON: Quiet
						S12	W67	1			0	0	02	Q	
						N04	W70	0			0	0	02	Q	
						S04	W71	0			0	0	02	Q	
						S04	E69	0			0	0	02	Q	
						S23	E71	0			0	0	02	Q	
003	03	02	079	121	12	S14	W78	1			0	0	03	Q	SOL: Eruptive MAG: Active PROTON: Quiet
						N03	W82	0			0	0	03	Q	
						S04	E56	0			0	0	03	Q	
						S23	E59	0			0	0	03	Q	
						S08	W30	0			0	0	03	Q	
						S17	E73	0			0	0	03	Q	
004	04	03	078	125	24	S12	W89	0			0	0	04	Q	SOL: Eruptive MAG: Active PROTON: Quiet
						N05	W93	0			0	0	04	Q	
						S05	E41	0			0	0	04	Q	
						S23	E45	0			0	0	04	Q	
						S08	W43	0			0	0	04	Q	
						N12	W35	0			0	0	04	Q	
005	05	04	097	121	18	S04	E29	0			0	0	05	Q	SOL: Eruptive MAG: Quiet PROTON: Quiet
						S22	E29	0			0	0	05	Q	
						S07	W57	0			0	0	05	Q	
						N12	W48	0			0	0	05	Q	
						S08	E76	0			0	0	05	Q	
						N14	E20	0			0	0	05	Q	
						S18	E15	0			0	0	05	Q	
006	06	05	099	125	14	S04	E14	0			0	0	06	Q	SOL: Eruptive MAG: Quiet PROTON: Quiet
						S23	E17	0			0	0	06	Q	
						S06	W70	3			0	0	06	E	
						S10	E63	2			0	0	06	Q	
						S18	E02	0			0	0	06	Q	
						S17	E20	0			0	0	06	Q	
007	07	06	126	131	11	S05	E02	1			0	0	07	E	SOL: Eruptive MAG: Quiet PROTON: Quiet
						S24	E04	0			0	0	07	E	
						S07	W85	1			0	0	07	Q	
						S10	E51	0			0	0	07	Q	
						S18	W11	0			0	0	07	Q	
						S17	E08	0			0	0	07	Q	
						N11	E72	0			0	0	07	Q	
						S12	E41	0			0	0	07	Q	
008	08	07	127	131	17	S05	W12	2			0	0	08	E	SOL: Eruptive MAG: Quiet PROTON: Quiet
						S23	W09	1			0	0	08	E	
						S10	E37	1			0	0	08	Q	
						S20	W26	0			0	0	08	Q	
						S17	W08	0			0	0	08	Q	
						N11	E57	0			0	0	08	Q	
						S11	E29	0			0	0	08	Q	
						N10	W63	0			0	0	08	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

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Jan 93

Summary of the Geoalert Messages

January 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		
009	09	08	144	133	7	S05	W25	0		0	0	09		E	SOL: Eruptive MAG: Quiet PROTON: Quiet
						S23	W21	0		0		09		Q	
						S20	W03	0		0		09		Q	
						S12	E27	0		0		09		Q	
						S18	W20	2		0		09		E	
						N12	E46	0		0		09		Q	
						N10	W78	0		0		09		Q	
						N07	E43	0		0		09		Q	
010	10	09	131	129	13	S05	W38	1		0	0	10		Q	SOL: Eruptive MAG: Quiet PROTON: Quiet
						S22	W35	0		0		10		Q	
						S20	W17	0		0		10		Q	
						S12	E15	0		0		10		Q	
						S18	W33	0		0		10		Q	
						N13	E33	0		0		10		Q	
						S12	E01	0		0		10		Q	
						N08	E29	0		0		10		Q	
011	11	10	142	132	24	S05	W51	0		0	0	11		Q	SOL: Eruptive MAG: Quiet PROTON: Quiet
						S22	W49	1		0		11		Q	
						S19	W32	0		0		11		Q	
						S12	E01	0		0		11		Q	
						S17	W45	1		0		11		E	
						N13	E20	0		0		11		Q	
						S13	W13	0		0		11		Q	
						N08	E16	0		0		11		Q	
012	12	11	135	132	15	S05	W64	0		0	0	12		Q	SOL: Eruptive MAG: Quiet PROTON: Quiet
						S20	W46	0		0		12		Q	
						S12	W12	1		0		12		Q	
						S16	W59	2		0		12		E	
						N13	E07	0		0		12		Q	
						S13	W25	0		0		12		Q	
						N07	E03	0		0		12		Q	
						N07	W12	3		0		12		E	
013	13	12	165	140	6	S04	W79	0		0	0	13		Q	SOL: Eruptive MAG: Quiet PROTON: Quiet
						S20	W58	0		0		13		Q	
						S12	W25	4		0		13		E	
						S17	W71	3		0		13		E	
						N17	W06	0		0		13		Q	
						S13	W39	0		0		13		Q	
						N08	W11	0		0		13		E	
						N08	W26	1		0		13		E	
014	14	13	146	141	8	S09	W03	0		0	0	13		Q	SOL: Eruptive MAG: Quiet PROTON: Quiet
						S03	W93	2		0		14		Q	
						S12	W38	2		0		14		Q	
						S19	W86	1		0		14		E	
						N15	W18	0		0		14		Q	
						N08	W24	0		0		14		Q	
						N06	W40	1		0		14		E	
						S09	W17	1		0		14		E	
						S11	E75	0		0	0	14		Q	
						S26	E68	0		0		14		Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geolert Messages

January 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	Geolerts
						°Lat	°Long	Total	M	X		°Lat	°Long		
015	15	14	105	133	15	S12	W52	1		0	0	15		Q	SOL: Eruptive MAG: Quiet PROTON: Quiet
						N08	W31	0		0		15		Q	
						N06	W54	0		0		15		Q	
						S09	W31	0		0		15		E	
						S11	E63	0		0		15		Q	
						S26	E56	0		0		15		Q	
						N13	E85	0		0		15		Q	
016	16	15	079	126	12	S12	W66	0		0	0	16		Q	SOL: Eruptive MAG: Quiet PROTON: Quiet
						N06	W67	1		0		16		Q	
						S09	W44	0		0		16		E	
						S11	E47	0		0		16		Q	
						S25	E43	0		0		16		Q	
						N14	E67	1		0		16		Q	
017	17	16	102	133	5	N07	W82	2		0	0	17		Q	SOL: Eruptive MAG: Quiet PROTON: Quiet
						S09	W57	6		0		17		E	
						S11	E35	1		0		17		Q	
						S26	E30	2		0		17		Q	
						N14	E56	2		0		17		Q	
						N14	W40	0		0		17		Q	
						S12	E27	0		0		17		Q	
018	18	17	089	126	13	S12	W92	0		0	0	18		Q	SOL: Eruptive MAG: Quiet PROTON: Quiet
						S09	W70	5		0		18		E	
						S11	E22	0		0		18		Q	
						S26	E17	2		0		18		Q	
						N15	E42	0		0		18		Q	
						N14	W54	1		0		18		Q	
019	19	18	094	122	6	S10	W83	0		0	0	19		E	SOL: Eruptive MAG: Quiet PROTON: Quiet
						S12	E09	2		0		19		E	
						S25	E04	1		0		19		Q	
						N16	E29	0		0		19		Q	
						N13	W68	0		0		19		Q	
						S12	E77	0		0		19		Q	
020	20	19	091	116	15	S09	W95	0		0	0	20		Q	SOL: Eruptive MAG: Active PROTON: Quiet
						S12	W05	0		0		20		E	
						S23	W10	1		0		20		Q	
						N14	E15	0		0		20		Q	
						N14	W84	0		0		20		Q	
						S12	E66	0		0		20		Q	
021	21	20	065	110	9	S13	W18	0		0	0	21		Q	SOL: Quiet MAG: Quiet PROTON: Quiet
						S24	W24	0		0		21		Q	
						N14	E04	1		0		21		Q	
						S14	E52	0		0		21		E	
022	22	21	069	107	4	S12	W32	1		0	0	22		Q	SOL: Quiet MAG: Quiet PROTON: Quiet
						S25	W36	0		0		22		Q	
						N14	W11	0		0		22		Q	
						S13	E39	0		0		22		Q	
						S07	E70	0		0		22		Q	
023	23	22	049	104	4	S11	W47	0		0	0	23		Q	SOL: Quiet MAG: Quiet PROTON: Quiet
						N15	W25	0		0		23		Q	
						S12	E24	0		0		23		Q	
						S06	E59	0		0		23		Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

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Jan 93

Summary of the Geoalert Messages

January 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		
024	24	23	047	106	2	S13	W57	0		0	0	24		Q	SOL: Quiet
						N15	W37	1		0	0	24		Q	MAG: Quiet
						S14	E13	0		0	0	24		Q	PROTON: Quiet
						S06	E46	0		0	0	24		Q	
025	25	24	077	105	8	S11	W70	0		0	0	25		Q	SOL: Eruptive
						N14	W50	2		0	0	25		Q	MAG: Active
						S14	E03	0		0	0	25		Q	PROTON: Quiet
						S06	E33	0		0	0	25		Q	
						N12	W66	2		0	0	25		Q	
						N17	W09	0		0	0	25		Q	
026	26	25	075	106	16	N14	W63	0		0	0	26		Q	SOL: Quiet
						S15	W11	0		0	0	26		Q	MAG: Active
						S07	E20	0		0	0	26		Q	PROTON: Quiet
						N10	W76	3		0	0	26		Q	
						N17	W23	0		0	0	26		Q	
						S20	W15	0		0	0	26		Q	
027	27	26	060	107	21	N15	W76	0		0	0	27		Q	SOL: Quiet
						S13	W26	0		0	0	27		Q	MAG: Active
						S07	E07	0		0	0	27		Q	PROTON: Quiet
						N09	W91	0		0	0	27		Q	
						N18	W35	0		0	0	27		Q	
028	28	27	061	111	8	N14	W90	0		0	0	28		Q	SOL: Eruptive
						S14	W39	0		0	0	28		Q	MAG: Quiet
						S06	W06	0		0	0	28		Q	PROTON: Quiet
						S11	W23	0		0	0	28		Q	
						S14	E75	0		0	0	28		Q	
029	29	28	070	112	7	S14	W52	0		0	0	29		Q	SOL: Eruptive
						S06	W19	0		0	0	29		Q	MAG: Active
						S12	W37	1		0	0	29		Q	PROTON: Quiet
						S15	E63	0		0	0	29		Q	
						N12	E55	0		0	0	29		Q	
030	30	29	059	114	5	S13	W65	0		0	0	30		Q	SOL: Quiet
						S11	W50	1		0	0	30		Q	MAG: Active
						S16	E53	0		0	0	30		Q	PROTON: Quiet
						N15	E37	0		0	0	30		Q	
031	31	30	050	113	10	S13	W81	0		0	0	31		Q	SOL: Quiet
						S12	W65	2		0	0	31		Q	MAG: Active
						S15	E40	1		0	0	31		Q	PROTON: Quiet

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

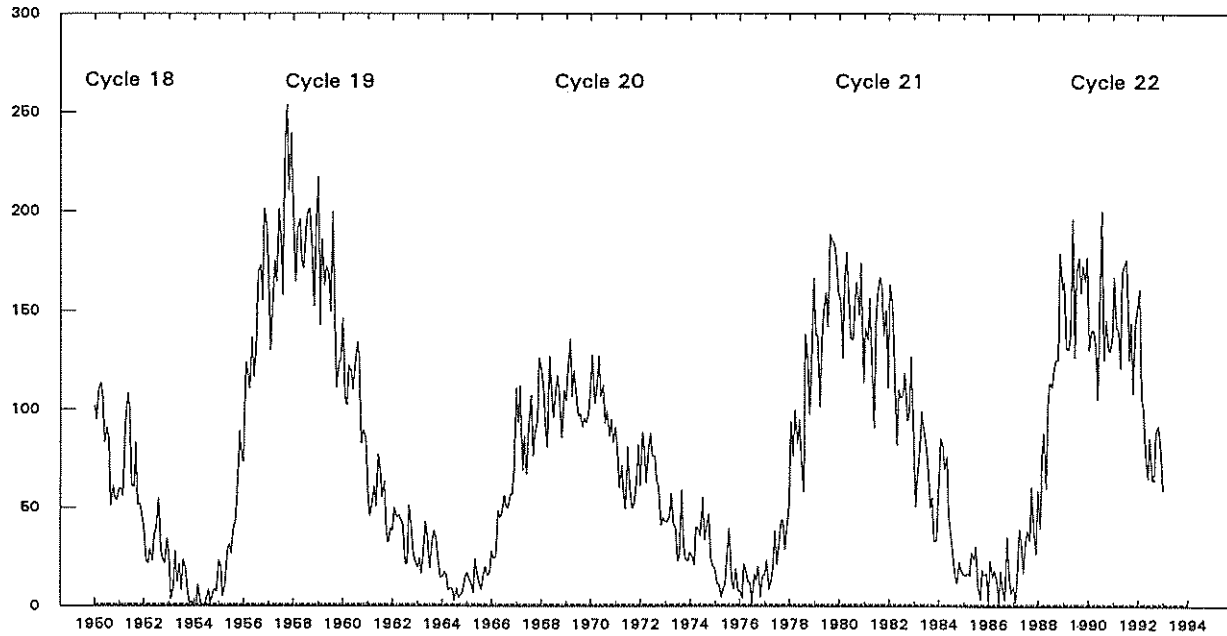
Quiet
Proton event expected (10 pfu at >10 MeV)
Major proton event expected (100 pfu at >100 MeV)
Proton event in progress (>10 MeV)
Warning condition (activity levels expected to increase, but no
numeric forecast given)
Nil (end of Alert period)
No forecast

STRATWARM ALERTS

No Stratwarms observed during this month.

Monthly Mean Sunspot Numbers Jan 1950 - Jan 1993

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Jan 93



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	88.3	92.0	83.3	94.5
1993	59.1												59.1

Values are preliminary since Oct 1992. For the yearly means, each 'M' marks a sunspot cycle maximum and each 'm' a minimum.

INTERNATIONAL RELATIVE SUNSPOT NUMBERS

Day	Feb 92	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct [†]	Nov [†]	Dec [†]	Jan [†] 93
01	238	166	103	88	31	78	65	47	85	109	65	46
02	221	124	95	86	38	66	90	49	98	88	56	37
03	194	106	88	90	72	63	103	44	84	68	59	36
04	178	92	64	98	74	71	103	46	105	86	59	52
05	164	65	50	96	81	78	94	47	122	95	51	66
06	159	69	60	93	70	77	89	52	119	95	48	84
07	157	103	64	72	64	79	86	44	103	96	34	81
08	179	106	57	82	60	83	93	38	88	74	58	89
09	187	118	58	79	70	102	93	57	91	76	96	94
10	173	125	54	73	74	129	74	54	73	78	95	100
11	182	122	62	68	82	133	60	59	57	84	132	91
12	141	125	66	80	102	132	53	63	41	83	109	94
13	148	138	68	87	86	126	61	77	36	59	113	107
14	137	130	75	78	77	151	82	77	43	69	106	69
15	111	110	82	65	60	161	76	75	40	74	112	58
16	110	107	97	45	64	159	96	76	54	84	109	59
17	109	85	117	41	64	140	90	62	55	100	105	62
18	99	75	129	59	59	102	71	54	73	102	98	66
19	101	78	139	54	63	88	69	63	92	108	104	68
20	117	88	163	59	56	66	59	62	75	98	97	52
21	137	91	176	110	55	65	48	65	98	85	84	47
22	144	90	171	106	69	67	44	66	104	95	91	34
23	150	92	166	113	73	54	36	89	95	115	84	30
24	188	109	146	99	70	43	38	90	114	116	82	45
25	192	119	159	66	64	37	20	75	113	125	81	51
26	196	116	123	57	59	54	30	84	125	116	95	37
27	192	111	96	80	38	61	34	86	130	116	73	38
28	191	110	97	59	43	53	33	62	131	103	80	37
29	176	121	89	41	70	39	40	72	111	88	78	35
30		107	80	30	67	47	35	81	100	74	69	36
31		111		33		53	36		82		59	32

Mean 161.1 106.7 99.8 73.8 65.2 85.7 64.5 63.9 88.3 92.0 83.3 59.1

[†]=preliminary. The preliminary 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	Feb 92	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 93
01	275.5	196.8	185.9	133.0	101.4	134.1	113.6	101.6	118.2	144.8	127.1	118.3
02	280.1	178.3	161.2	138.0	105.0	141.2	128.2	106.3	119.5	138.8	126.0	117.4
03	263.2	160.3	159.8	127.8	110.1	141.1	135.1	108.9	120.2	132.9	121.3	120.6
04	244.4	157.1	154.0	137.0	111.5	141.3	134.7	106.4	126.1	140.4	115.9	117.1
05	239.4	152.4	154.7	135.4	118.4	150.6	134.3	121.2	130.1	133.6	112.4	120.8
06	232.1	153.1	143.0	133.0	123.2	155.4	141.9	141.3	137.3	130.5	115.9	125.8
07	234.0	157.2	141.8	131.5	119.2	159.9	145.4	133.6	135.8	132.4	116.1	126.3
08	218.9	179.4	151.6	145.3	118.7	156.6	147.5	130.8	125.4	129.7	124.8	128.6
09	229.3	169.4	140.2	129.2	122.3	165.0	141.1	118.5	121.0	129.9	129.6	124.5
10	234.5	167.0	141.2	126.9	129.3	175.7	136.3	118.4	112.1	133.7	137.5	127.7
11	218.4	163.1	144.0	128.8	133.1	173.9	133.9	120.1	110.0	132.0	159.0	127.4
12	204.9	161.7	144.7	127.8	130.6	177.8	131.7	118.7	106.5	124.7	163.1	135.6
13	193.0	163.3	147.1	128.2	127.5	181.4	132.3	128.8	108.2	122.2	167.6	136.6
14	198.7	162.9	155.2	129.3	127.2	181.3	132.0	123.1	104.9	123.4	161.8	128.8
15	197.9	167.2	150.3	124.8	124.7	173.3	133.8	121.5	97.8	124.1	150.4	121.9
16	195.2	159.7	158.9	118.5	122.9	162.8	140.0	127.9	99.9	133.7	145.8	129.1
17	201.7	157.6	185.6	115.5	134.4	140.4	137.1	120.6	105.8	148.9	145.5	121.9
18	201.6	159.0	204.8	120.2	119.8	130.2	132.7	118.5	111.4	158.2L	144.9	117.7
19	191.2	166.1	207.7	134.5	119.1	122.3	138.0	113.4	123.4	157.1	142.2	112.7
20	199.0	167.2	206.5	140.3	116.8	127.5	159.1	107.1	131.9	155.0	143.2	106.5
21	212.3	166.4	197.1	145.5	121.3	111.8	127.8	110.4	139.2	161.3K	140.8	103.3
22	229.5	159.7	184.8	148.4	120.0	107.7	124.4	112.3	149.2	162.0	137.6	101.0
23	244.0	165.3	174.7	145.6	125.5	101.9	113.2	112.6	140.3	171.7	139.3	102.7
24	250.1	174.7	162.9	136.9	121.8	103.2	104.0	112.6	145.1	169.4	132.0	101.6
25	248.3	185.1	155.7	126.1	127.4	101.5	100.1	116.5	159.4	162.4	132.0	102.6
26	248.0	177.9	145.0	122.1	115.3	104.3	94.4	117.3	167.9	158.2	127.2	103.3
27	239.5	180.0	139.1	117.7	113.1	103.4	95.8	121.6	168.9	152.6	121.2	107.6
28	228.8	185.4	130.4	113.9	112.0	98.5	97.6	116.6	172.3	144.7	123.4	108.6
29	213.9	192.4	132.5	108.1	114.4	101.1	97.1	117.7	161.6	136.0	121.3	110.7
30		182.1	129.9	101.7	127.0	99.9	96.6	116.2	225.8*	135.9	121.9	109.6
31		191.2		101.8		106.3	99.0		147.3		125.8	115.6

Mean 226.5 169.6 159.7 128.2 120.4 136.5 125.1 118.0 130.0* 142.0 134.6 117.2

* = 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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January 1993

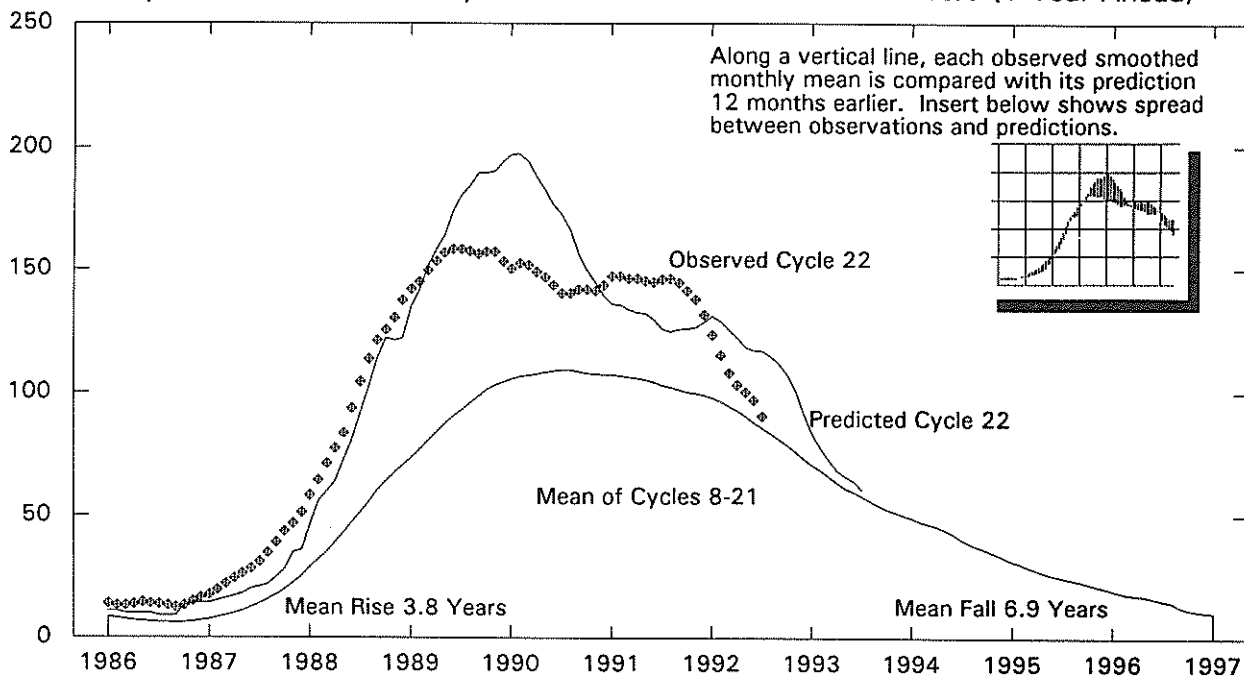
Day	Day of Year	Bartels Cycle Day	Sunspot Numbers		Obs Flux Pentiction (2800)	Solar Flux Adjusted to 1 Astronomical Unit								
			Int	Amer		LEAR (15400)	LEAR (8800)	LEAR (4995)	Pentic (2800)	LEAR (2695)	LEAR (1415)	LEAR (610)	LEAR (410)	LEAR (245)
01	1	16	46	52	122.3	530	249	165	118.3	115	75	56	32	13
02	2	17	37	50	121.4	529	252	165	117.4	115	62	53	31	12
03	3	18	36	50	124.7	529	251	166	120.6	117	72	56	32	13
04	4	19	52	59	121.1	529	249	165	117.1	118	78	55	33	14
05	5	20	66	71	124.9	511	225	158	120.8	116	73	57	33	13
06	6	21	84	84	130.1	511	253	167	125.8	116	80	--	25	--
07	7	22	81	83	130.6	516	257	169	126.3	108	83	49	29	13
08	8	23	89	98	132.9	500	254	168	128.6	125	87	60	35	13
09	9	24	94	96	128.8	515	250	164	124.5	122	84	60	33	12
10	10	25	100	97	132.1	504	249	164	127.7	122	83	58	32	14
11	11	26	91	90	131.7	---	252	165	127.4	118	76	59	33	13
12	12	27	94	105	140.2	516	243	172	135.6	130	83	62	35	16
13	13	1	107	99	141.3	---	263	197	136.6	145	--	77	33	12
14	14	2	69	73	133.1	553	260	179	128.8	131	86	--	39	20
15	15	3	58	56	126.0	565	247	171	121.9	123	81	59	36	18
16	16	4	59	65	133.4	558	231	164	129.1	122	79	55	35	18
17	17	5	62	64	126.0	556	245	170	121.9	119	63	57	37	--
18	18	6	66	66	121.6	554	254	165	117.7	114	69	60	36	17
19	19	7	68	61	116.4	553	242	159	112.7	109	84	55	35	15
20	20	8	52	51	110.0	---	222	---	106.5	103	71	55	33	17
21	21	9	47	44	106.6	540	240	150	103.3	100	71	--	32	12
22	22	10	34	34	104.2	541	242	146	101.0	98	70	48	26	12
23	23	11	30	33	106.0	539	230	145	102.7	100	75	--	--	15
24	24	12	45	43	104.8	540	241	145	101.6	97	69	--	26	10
25	25	13	51	51	105.8	542	238	147	102.6	98	--	--	--	--
26	26	14	37	40	106.5	538	240	147	103.3	98	--	48	26	12
27	27	15	38	41	110.9	---	237	148	107.6	99	73	52	29	12
28	28	16	37	44	112.0	---	241	153	108.6	104	80	50	28	11
29	29	17	35	37	114.0	453	240	151	110.7	99	71	47	27	11
30	30	18	36	35	113.0	532	240	155	109.6	110	78	49	29	13
31	31	19	32	40	119.0	472	245	155	115.6	107	76	54	30	13
Mean			59.1	61.7	121.0	528	245	161	117.2	113	76	56	32	14

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

The observed and the adjusted Pentiction fluxes tabulated here are the "Series C" daily values reported by the Dominion Radio Astrophysical Observatory, Pentiction, 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.

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	88	86	83	80	76	96
()								(4)	(6)	(8)	(8)	(8)	(7)
1993	74	72	69	66	64	62	60	59	56	55	54	53	62
()	(8)	(8)	(10)	(10)	(11)	(11)	(11)	(12)	(13)	(14)	(16)	(17)	(12)
1994	52	50	49	48	46	44	42	40	39	38	36	34	43
()	(18)	(18)	(19)	(20)	(20)	(21)	(22)	(23)	(24)	(25)	(25)	(25)	(22)

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 Sep 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 July 1993 prediction. There exists a 90% chance that in July 1993 the actual smoothed number will fall somewhere between 49 and 71.

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.

H α SOLAR FLARES

JANUARY 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	Area Measurement			Remarks
															Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
GOES	01	0459	0503	0508						9	B	5.9						
GOES		1150	1154	1157						7	C	3.2						
GOES		1333	1343	1354						21	C	4.2						
GOES		1650	1653	1655						5	B	7.2						
PALE		1835E	1836U	1839D	S13	W60	7379	12	28.3	40	SF	B 5.8	3	E		20		
GOES		2003	2011	2024						21	B	4.9						
GOES		2157	2220	2242						45	C	1.0						
GOES	02	0419	0436	0506						47	M	1.1						
GOES		1739	1742	1746						7	B	6.1						
GOES		1943	2015	2128						105	C	1.1						
LEAR		2341	2345	2422	S13	W79	7379	12	28.1	41	SF	C 8.4	3	E		73		
PALE		2343	2348U	2508D	S13	W73	7379	12	28.6	85D	1F		3	E		102		
GOES	04	0043	0055	0101						18	C	6.6						
GOES		1235	1239	1243						8	B	5.0						
GOES		2011	2025	2029						18	C	4.6						
GOES	05	0019	0023	0026						7	B	5.6						
GOES		0308	0312	0317						9	B	7.3						
LEAR		0530	0536	0539	S08	W63	7388	12	31.5	9	SF		3	E		27		
LEAR		0554	0558	0608	S08	W64	7388	12	31.4	14	SF	B 5.3	3	E		55		
SVTO		1050	1140	1200	S09	W67	7388	12	31.4	70	SF		3	E		27		
RAMY		1506	1508	1518	S11	E80	7391	01	11.6	12	SF	C 1.3	3	E		28		F
GOES		1756	1759	1802						6	B	3.7						
HOLL		2049	2051	2056	S12	E69	7391	01	11.1	7	SF		3	E		11		
GOES	06	0016	0026	0039						23	B	6.7						
LEAR		0101	0102	0110	S04	E13	7386	01	7.0	9	SF	B 5.8	3	E		21		F
LEAR		0627	0633	0636	S08	W79	7388	12	31.3	9	SF		3	E		19		
GOES		2148	2151	2153						5	B	5.2						
LEAR	07	0752	0757	0809	S06	W01	7386	01	7.2	17	SF		3	E		32		F
LEAR		0809	0842	1018	S08	W01	7386	01	7.3	129	1N	C 2.6	3	E		234		FE
SVTO		0832E	0842U	1004	S04	W02	7386	01	7.2	92D	1F		2	E		155		F
LEAR		0917	0918	0929	S23	E03	7387	01	7.6	12	SF		3	E		40		
SVTO		0917	0919	0929	S24	W02	7387	01	7.2	12	SF		3	E		22		F
GOES		1339	1343	1345						6	B	7.0						
HOLL		2048	2054	2128	S11	E38	7391	01	10.7	40	SF	C 1.1	3	E		36		F
SVTO	08	1019	1022	1024	S17	W12	7394	01	7.5	5	SF	B 6.9	3	E		14		H
SVTO		1327	1335	1346	S16	W11	7394	01	7.7	19	SF		3	E		16		
GOES		1743	1746	1750						7	B	4.6						
GOES		2123	2128	2134						11	B	6.9						
GOES		2323	2328	2338						15	B	4.5						
HOLL	09	2152	2204	2225D	S02	W41	7386	01	6.8	33D	SF		3	E		28		F
LEAR	10	0642	0642	0646	S23	W35	7387	01	7.6	4	SF	B 9.1	3	E		96		F
SVTO		1300	1329U	1400D	S19	W39	7394	01	7.6	60D	1F		3	E		155		F
RAMY		1305	1333	1417	S19	W38	7394	01	7.6	72	SF	C 6.3	3	E		74		FH
GOES		1840	1843	1846						6	B	4.7						
GOES		2040	2044	2046						6	B	5.4						
PALE	11	0043	0044	0048	N06	E02	7399	01	11.2	5	SF	C 1.7	3	E		18		
PALE		0222	0230	0239	N06	E01	7399	01	11.2	17	SF	C 2.0	3	E		18		
PALE		0258	0310	0317	N06	E00	7399	01	11.1	19	SF	B 8.1	3	E		67		
SVTO		1324E	1332U	1336	S16	W54	7394	01	7.5	12D	SF		1	E		20		
HOLL		1738E	1758U	1919D	S16	W56	7394	01	7.5	101D	SF	C 3.2	1	E		88		F
HOLL		2037	2045U	2132	S12	W09	7391	01	11.2	55	SF	C 1.1	2	E		31		
LEAR	12	0602	0624	0650	S12	W14	7391	01	11.2	48	SF	C 1.9	3	E		69		F
GOES		0705	0709	0712						7	B	6.7						
SVTO		0855	0901	0937	S14	W15	7391	01	11.2	42	SF	C 3.4	3	E		67		FH
LEAR		0856	0859	0925	S11	W18	7391	01	11.0	29	SF		3	E		55		F
SVTO		0913	0921	0932	N06	W18	7399	01	11.0	19	SF		3	E		10		F
SVTO		0953	0959	1004	S12	W14	7391	01	11.3	11	SF		3	E		17		F
SVTO		1028	1041	1121	S21	W66	7394	01	7.4	53	SF	C 3.0	3	E		54		F

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H α SOLAR FLARES

JANUARY 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	Time (UT)	Area Measurement		Remarks
																Apparent (10-6 Disk)	Corr (Sq Deg)	
SVTO	12	1223	1227	1253	S10	E01		01	12.6	30	SF	B 8.6	3	E		25		F
SVTO		1432	1437	1454	S12	W18	7391	01	11.2	22	SN	C 6.1	2	E		38		F
HOLL		1737	1739	1748	S16	W66	7394	01	7.7	11	SF		3	E		17		F
HOLL		1833	1841	1904	S15	W69	7394	01	7.5	31	SF		3	E		26		F
PALE	13	0257E	0314	0333D	S08	W77	7386	01	7.3	36D	1F	C 9.2	3	E		120		UY
LEAR		0421	0422	0424	S07	W73	7386	01	7.7	3	SF		3	E		20		F
LEAR		0629	0629	0636	N05	W29	7399	01	11.1	7	SF		3	E		25		
SVTO		0823E	0825U	0830	S17	W90	7394	01	6.5	7D	SF	C 2.0	2	E		30		
LEAR		0829E	0914U	0940	S09	W09	7400	01	12.7	71D	SF	C 3.3	2	E		84		
SVTO		1212	1214	1240	S14	W30	7391	01	11.2	28	SF	C 3.4	3	E		30		F
SVTO		1251	1251	1303	S15	W30	7391	01	11.3	12	SF		3	E		13		F
GOES		1317	1322	1327						10		C 1.9						
GOES		1401	1406	1411						10		C 2.1						
GOES		1704	1713	1718						14		C 1.4						
GOES		2017	2023	2026						9		C 1.3						
GOES		2028	2031	2033						5		C 1.5						
PALE	14	0053	0055	0059	S15	W36	7391	01	11.3	6	SF		3	E		15		
GOES		0931	0937	0941						10		C 1.3						
GOES		0951	0958	1007						16		C 1.4						
GOES		1233	1239	1253						20		C 1.7						
GOES	15	0931	0947	1001						30		B 6.8						
GOES		1541	1546	1554						13		B 6.8						
HOLL		2035	2036	2047	N12	E68	7403	01	21.0	12	SF	B 5.4	2	E		48		
GOES		2120	2127	2132						12		B 5.8						
PALE		2355	2355	2355D	N04	W67	7399	01	11.0	12D	SF		3	E		22		
PALE	16	0049	0049	0054	N06	W66	7399	01	11.1	5	SF		3	E		24		
LEAR		0049	0049	0059	N06	W66	7399	01	11.1	10	SF		3	E		22		
PALE		0101	0101	0107	N04	W68	7399	01	10.9	6	SF		3	E		14		
LEAR		0126	0128	0138	N12	E67	7403	01	21.1	12	SF	C 1.3	3	E		90		
PALE		0129E	0129U	0140D	N14	E69	7403	01	21.3	11D	SF		2	E		97		
GOES		0503	0509	0512						9		B 5.4						
LEAR		0612	0619	0623	S09	W48	7400	01	12.6	11	SF	B 7.5	3	E		51		F
LEAR		0718	0718	0723	S07	W47	7400	01	12.8	5	SF		3	E		60		F
LEAR		0748	0753	0817	S09	W50	7400	01	12.6	29	SF	C 3.0	3	E		63		F
SVTO		0752E	0755U	0807	S06	W50	7400	01	12.6	15D	SF		3	E		47		F
LEAR		0931	0937	0942	S26	E41	7402	01	19.6	11	SF		3	E		31		F
SVTO		0932	0942	0956	S26	E43	7402	01	19.7	24	SF		3	E		29		H
SVTO		0947	0957	1023	S09	W50	7400	01	12.6	36	1F	C 4.1	3	E		120		F
LEAR		0948	1000	1017	S10	W52	7400	01	12.5	29	1F		3	E		136		
SVTO		1009	1015	1023	S26	E43	7402	01	19.8	14	SF		3	E		17		
LEAR		1011	1011	1015	S26	E40	7402	01	19.5	4	SF		3	E		15		F
GOES		1314	1338	1345						31		B 9.2						
GOES		1503	1514	1520						17		C 1.0						
RAMY		1552	1552	1556	S09	W53	7400	01	12.7	4	SF	C 1.3	3	E		12		F
HOLL		1643E	1644U	1651	N12	E58	7403	01	21.1	8D	SF	B 9.0	3	E		65		
HOLL		1929	1937	2010	S12	E44	7401	01	20.1	41	SF	B 9.4	3	E		25		F
GOES		2125	2130	2139						14		C 1.0						
GOES		2156	2201	2206						10		C 1.5						
LEAR		2344	2346	2355	S11	W59	7400	01	12.6	11	SF		3	E		45		
LEAR	17	0028	0032	0046	S10	W59	7400	01	12.6	18	SF	C 1.1	3	E		22		F
LEAR		0055	0055	0105	S07	W57	7400	01	12.8	10	SF	C 1.0	3	E		22		
LEAR		0136	0137	0142	N11	W42	7404	01	13.9	6	SF		3	E		10		
LEAR		0212	0217	0228	S11	W61	7400	01	12.5	16	SF	C 1.0	3	E		85		F
LEAR		0447	0455	0525	S27	E30	7402	01	19.5	38	SF	B 8.5	3	E		75		F
GOES		0847	0852	0857						10		B 5.1						
LEAR		0952	0953	1003	S26	E26	7402	01	19.4	11	SF	C 1.3	3	E		26		
GOES		1022	1025	1028						6		B 7.3						
RAMY		1431	1432	1441	S09	W65	7400	01	12.7	10	SF	C 5.0	3	E		29		F
GOES		1619	1622	1627						8		B 6.2						
RAMY		1720	1720	1723	S09	W66	7400	01	12.8	3	SF	C 1.1	3	E		22		
GOES		1749	1753	1758						9		B 6.7						
GOES		1803	1823	1831						28		C 1.6						
GOES		1859	1903	1912						13		B 8.0						

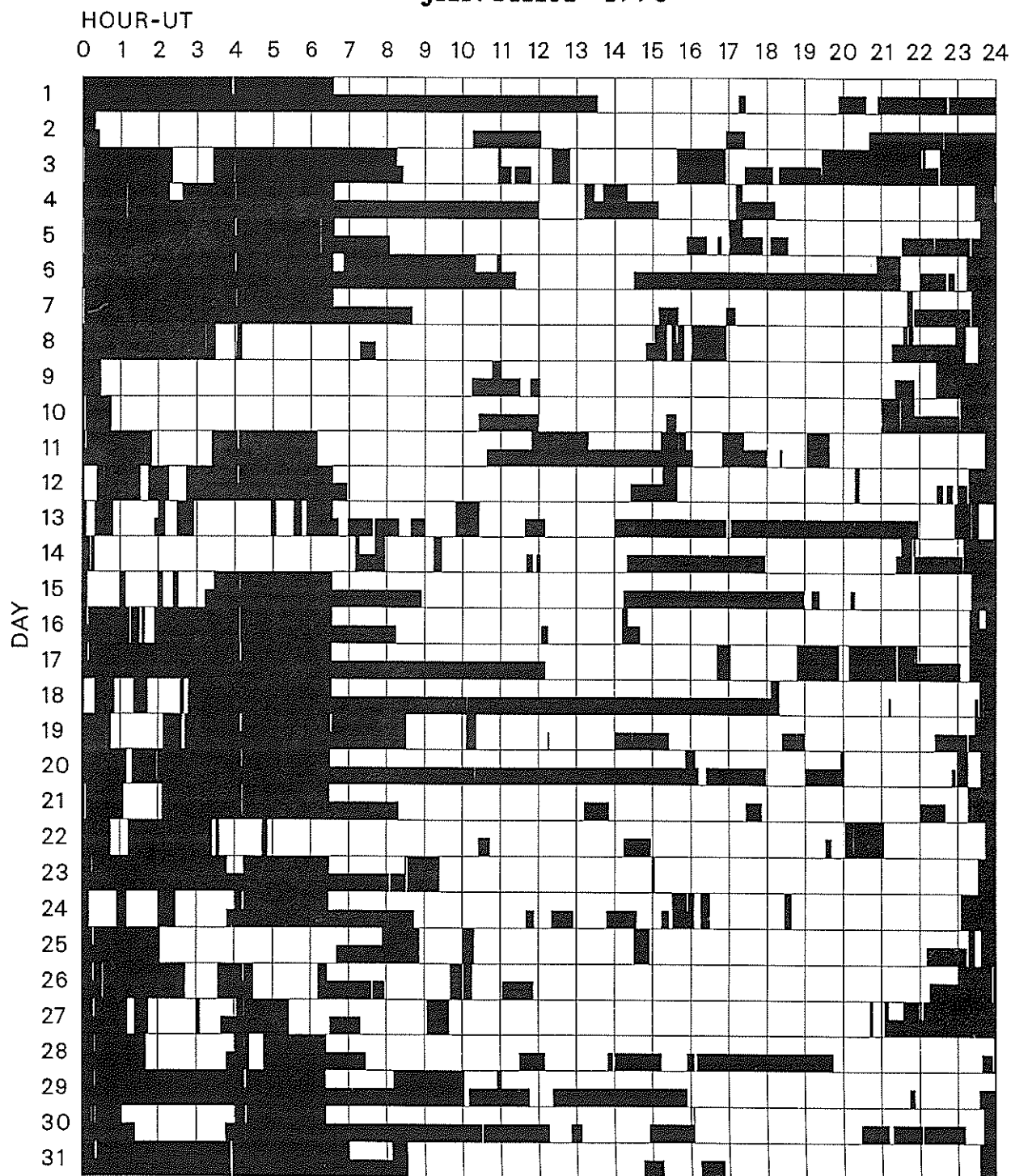
H α SOLAR FLARES31
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JANUARY 1993

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Area Measurement			Remarks
															Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	
GOES	17	1935	1938	1943						8		B 6.9						
GOES		2146	2202	2221						35		C 1.6						
LEAR	18	0212	0214	0238	S27	E19	7402	01	19.6	26	SF	B 4.8	3	E		38		
GOES		0306	0310	0312						6		B 5.0						
LEAR		0539	0541	0545	S12	E22	7401	01	19.9	6	SF	B 5.9	3	E		30		F
LEAR		0721	0721	0729	S13	E18	7401	01	19.7	8	SF	B 6.4	3	E		27		F
GOES		1259	1303	1306						7		C 2.4						
GOES		1347	1351	1355						8		B 8.8						
GOES		1654	1658	1701						7		B 7.7						
GOES		1743	1746	1748						5		B 5.6						
HOLL	19	1716	1717	1736	S25	W04	7402	01	19.4	20	SF		3	E		21		F
GOES	20	0213	0217	0219						6		B 6.1						
GOES		0607	0615	0623						16		B 4.5						
GOES		0635	0639	0641						6		B 4.3						
GOES		1252	1255	1257						5		B 2.5						
GOES		1309	1314	1318						9		B 9.8						
GOES		1512	1540	1553						41		B 7.9						
LEAR		2332	2332	2350	N16	E06	7403	01	21.4	18	SF	B 3.4	3	E		21		F
LEAR	21	0115	0139	0142	S14	W21	7401	01	19.5	27	SF	B 2.0	3	E		24		F
GOES		1430	1435	1442						12		B 2.0						
SVTO	23	1233	1239	1248	N16	W30	7403	01	21.2	15	SF	B 2.3	3	E		19		FH
GOES	24	0143	0149	0156						13		B 1.8						
LEAR		0515	0517	0521	N14	W40	7403	01	21.2	6	SF	B 4.0	3	E		32		
GOES		0821	0828	0840						19		B 1.6						
HOLL		1713	1713	1730	N17	W42	7403	01	21.5	17	SF		3	E		25		F
RAMY		1714	1715	1737	N16	W43	7403	01	21.4	23	SF	B 2.5	3	E		11		FH
RAMY		2026	2028	2035	N09	W61	7408	01	20.3	9	SF		3	E		22		
RAMY		2106	2114	2155D	N09	W62	7408	01	20.2	49D	SF		3	E		12		
HOLL		2107	2204	2236	N11	W62	7408	01	20.2	89	SF		3	E		77		FS
PALE	25	0121	0123	0129	N08	W64	7408	01	20.2	8	SF	B 4.1	3	E		21		
GOES		0228	0243	0253						25		B 3.3						
GOES		0741	0746	0750						9		B 5.6						
SVTO		1105	1131	1145	N08	W71	7408	01	20.1	40	SF		3	E		12		FH
SVTO		1221	1228	1236	N08	W72	7408	01	20.1	15	SF		3	E		10		F
GOES		1504	1507	1509						5		B 3.7						
GOES	27	0735	0742	0745						10		B 8.8						
GOES		0758	0802	0806						8		B 7.1						
GOES		0839	0843	0847						8		B 5.5						
GOES		0937	0940	0943						6		B 4.2						
GOES		1009	1015	1020						11		B 6.4						
GOES		1325	1331	1339						14		B 5.7						
GOES		1905	1911	1916						11		B 5.3						
GOES		2130	2139	2145						15		C 1.5						
GOES	28	1127	1131	1136						9		B 4.4						
SVTO		1317	1317	1323	S13	W32	7411	01	26.1	6	SF	B 5.9	3	E		18		F
GOES	29	1031	1034	1037						6		B 3.1						
GOES		1604	1607	1609						5		B 3.0						
HOLL		2054	2105	2136	S13	W55	7411	01	25.7	42	SF	B 7.9	3	E		88		F
LEAR	30	0117	0118	0122	S12	W50	7411	01	26.3	5	SF	B 8.1	3	E		10		
PALE		0216	0216	0219	S17	E51	7412	02	3.0	3	SF	B 4.9	3	E		12		
GOES		0408	0417	0423						15		B 5.9						
GOES		0519	0523	0525						6		B 3.6						
GOES		1147	1153	1158						11		B 7.9						
RAMY		1352	1353	1358	S10	W60	7411	01	26.1	6	SF	B 6.0	3	E		24		E
GOES	31	1333	1500	1608						155		C 6.3						
GOES		1855	1911	1929						34		C 2.3						
GOES		2248	2301	2316						28		H 1.1						

INTERVALS OF NO FLARE PATROL OBSERVATION FOR PRECEDING SOLAR FLARE TABLE

JANUARY 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

33
Jan 93

JANUARY 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		
01	2695 SVTO	8 S	1152.0	1152.0	U	33.0			QL=2 ST=2 TYP=3
10	8800 SGMR	20 GRF	1339.0	1347.0	621.0	29.0			QL=2 ST=1 TYP=2

Reports are received routinely from the following observatories:

LEAR = Learmonth

PALE = Palehua

SGMR = Sagamore Hill

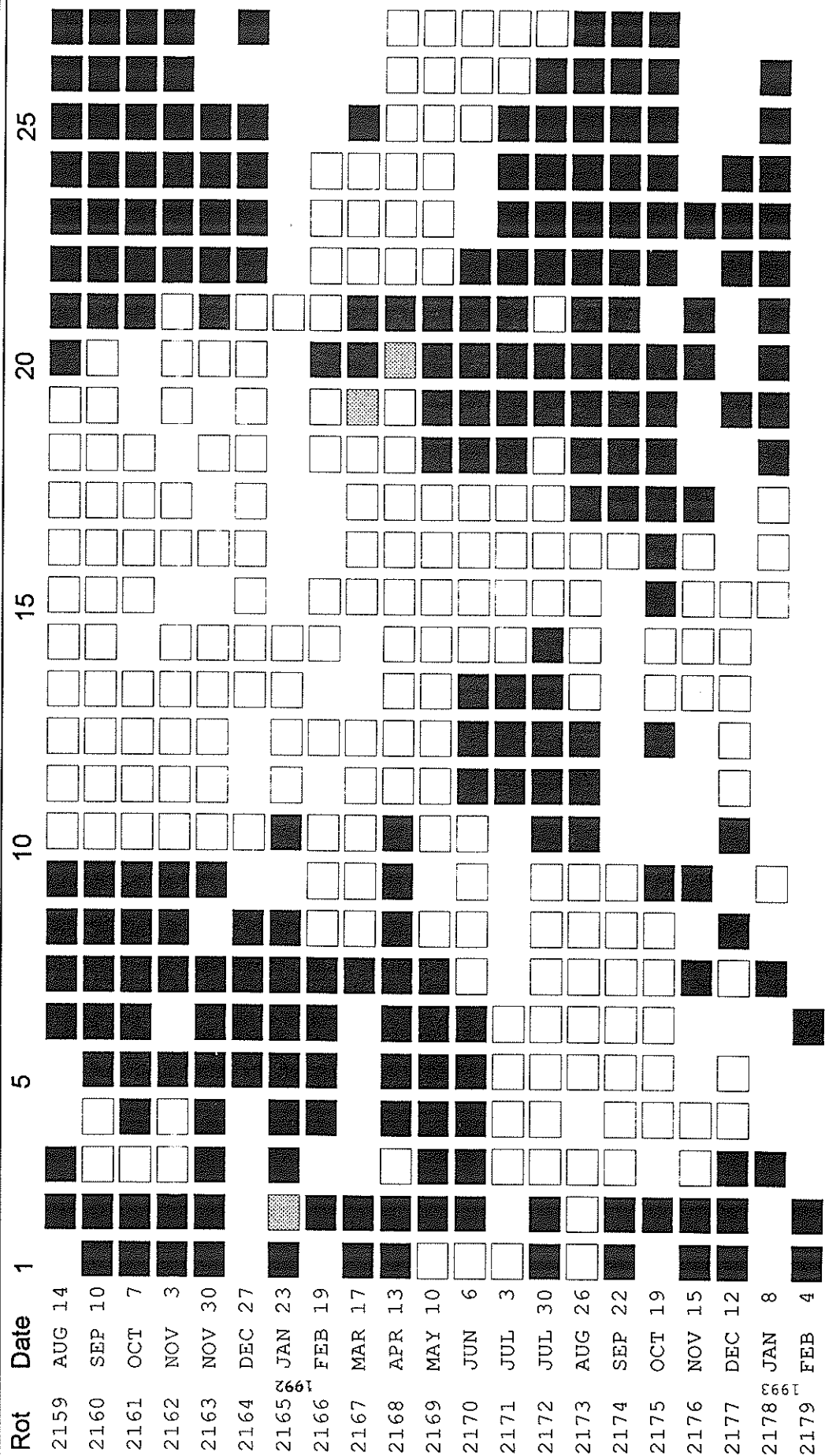
SVTO = San Vito

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



Mean Solar Magnetic Field Polarity: = field > 2 microT; = -2 microT ≤ field ≤ 2 microT; = field < -2 microT; = no data available

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

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

Day	1992											1993
	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
1	-6	73	53	7	14	8	39	88	.	19	-16	.
2	25	.	25	0	17	17	60	67	.	-5	.	-33
3	72	61	10	-1	23	13	58	43	.	-24	.	-28
4	8	78	0	21	47	.	58	-22	.	-41	-39	-22
5	28	.	-14	25	52	33	46	-27	.	-57	-38	.
6	.	.	-13	32	17	39	38	-18	.	-47	.	.
7	.	27	11	43	-5	21	37	13	4	-48	-20	.
8	.	19	21	43	-12	18	-4	24	-17	.	.	.
9	.	-3	1	33	-18	.	-45	19	-40	-29	.	.
10	.	15	-7	15	-18	.	-44	29	-68	-7	.	-38
11	.	17	.	-13	-2	.	-10	-18	-57	-1	.	.
12	7	8	.	-19	20	.	-2	-25	-31	-5	-50	.
13	.	28	-34	-30	20	-52	10	-53	-38	-16	-41	.
14	.	.	-61	-44	18	-46	9	-46	-29	-24	-15	-3
15	.	.	4	-50	6	-16	34	-33	-33	-23	8	.
16	.	.	-81	-14	-18	2	14	-30	-14	-19	11	1
17	.	-31	-138	25	-13	8	-19	-26	-5	20	.	.
18	.	-54	-121	.	-19	24	-4	-26	-13	57	6	.
19	.	.	-59	21	12	25	11	-9	.	.	-9	.
20	-33	.	-42	28	35	-31	-14	-13	-5	.	.	.
21	.	.	-19	39	23	-56	-12	-22	.	-2	-3	.
22	-34	.	-9	35	10	-55	-17	-23	24	.	11	67
23	-75	-50	3	62	-21	-59	-3	-1	50	-9	42	69
24	-64	13	20	88	-50	-55	-6	17	66	.	57	61
25	-11	40	46	85	-45	-42	1	54	47	.	49	-14
26	75	40	70	50	-36	-26	4	79	20	.	40	-53
27	58	39	72	-64	-11	-5	25	85	-7	60	.	-62
28	63	55	49	-51	.	1	55	60	.	62	.	-44
29	.	.	42	-27	.	4	.	39	.	55	.	-19
30	.	.	27	-13	17	-1	101	7	-14	11	-59	-28
31	.	82	.	8	.	-5	97	.	22	.	.	-2

Dot symbol indicates no data available for the day.

CONTENTS

Prompt Reports

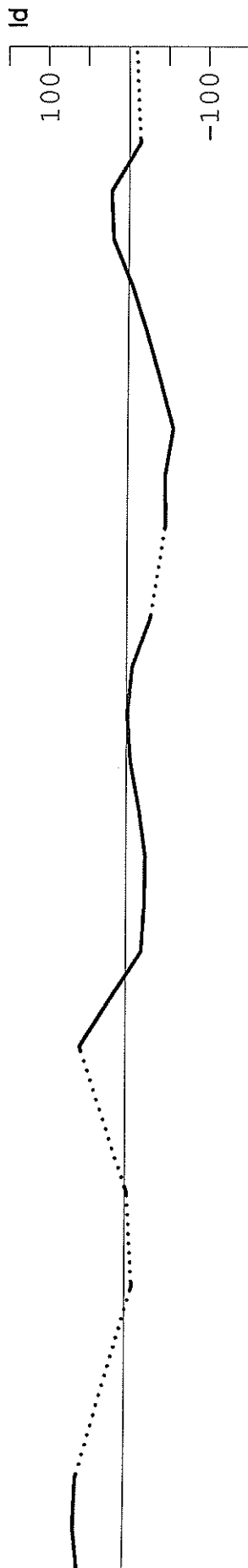
Number 582 Part I

DATA FOR DECEMBER 1992

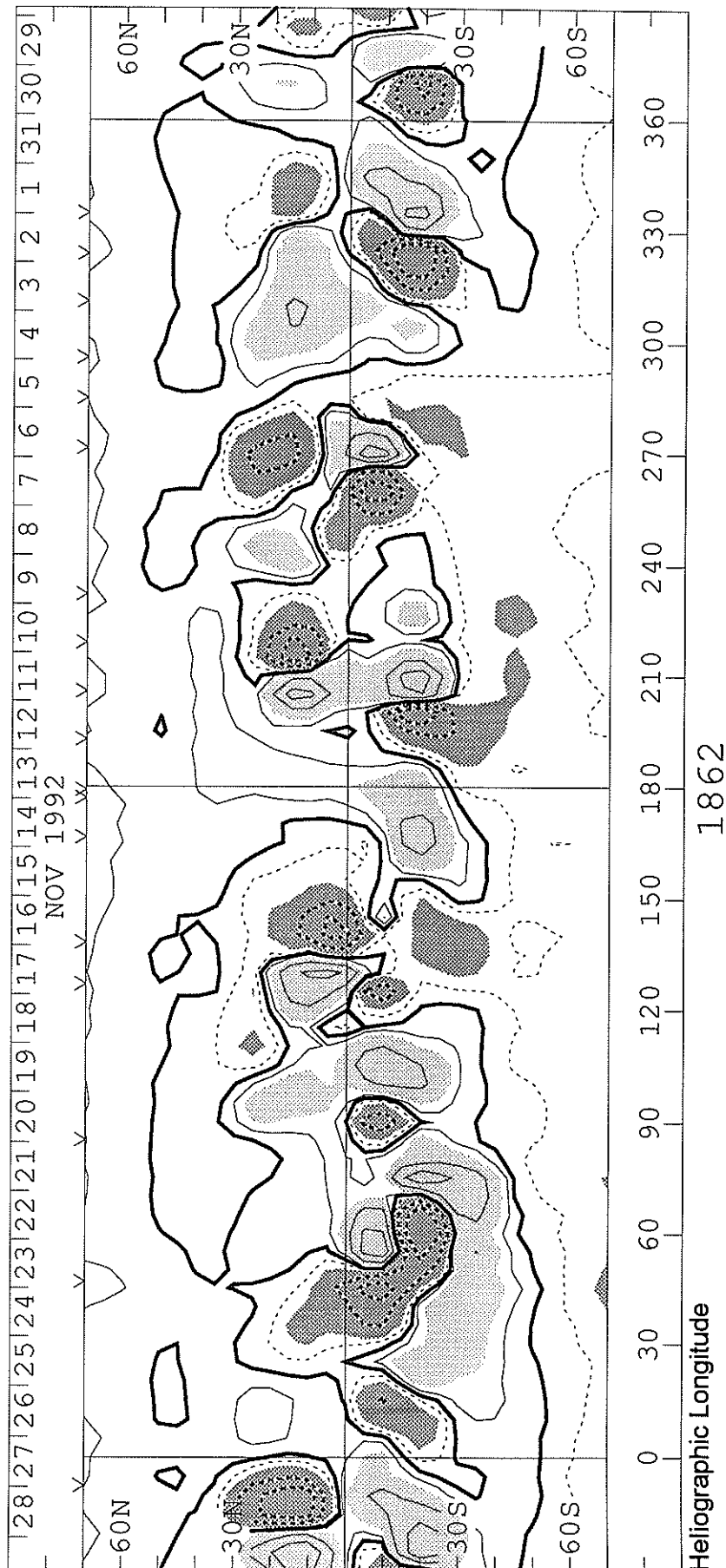
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WILCOX SOLAR OBSERVATORY
SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION NUMBER 1862
(31 October to 27 November 1992)

Mean Field



Photospheric Magnetic Field 0, +100, 500, 1000, 2000 MicroTesla

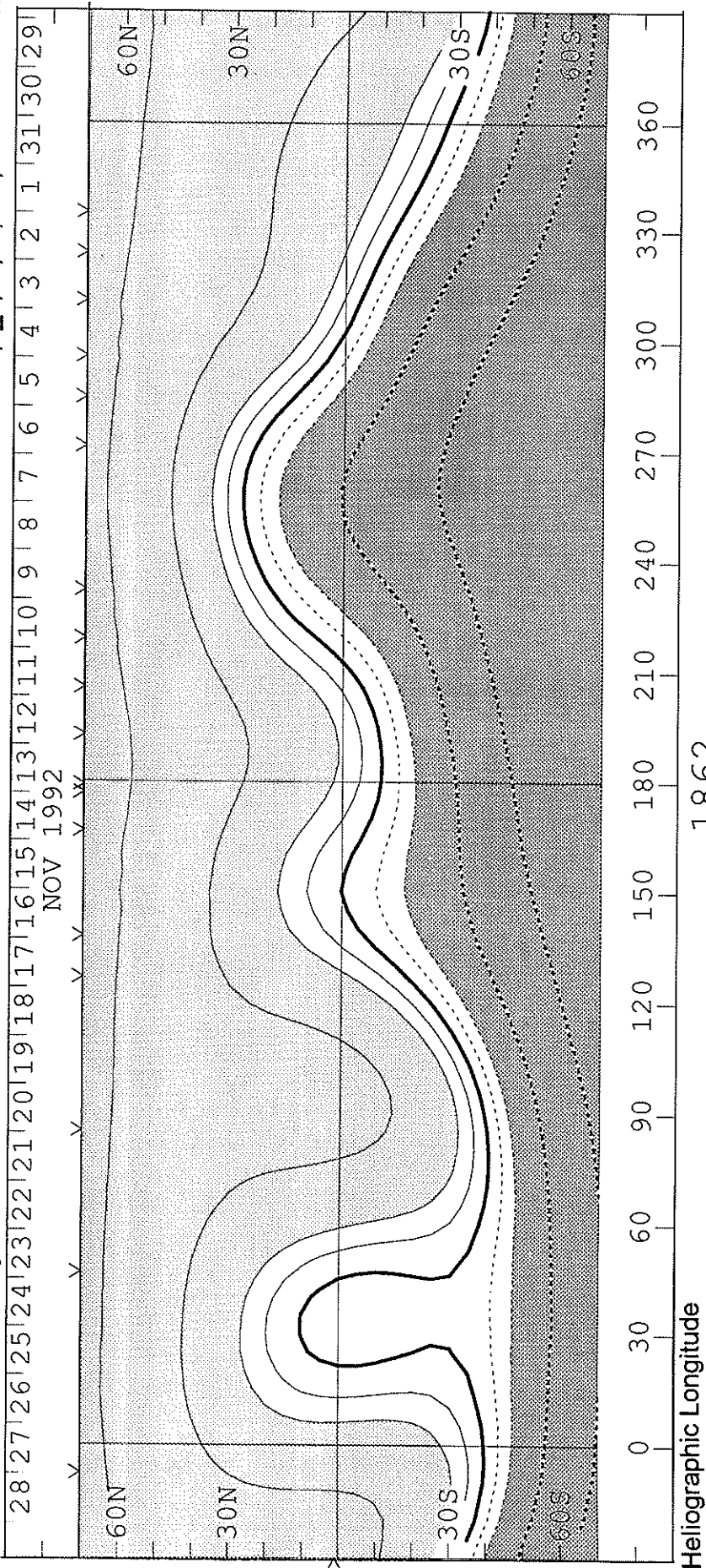


SOLAR MAGNETIC FIELD SYNOPSIS CHART

SOURCE SURFACE FIELD
CARRINGTON ROTATION NUMBER 1862
(31 October to 27 November 1992)

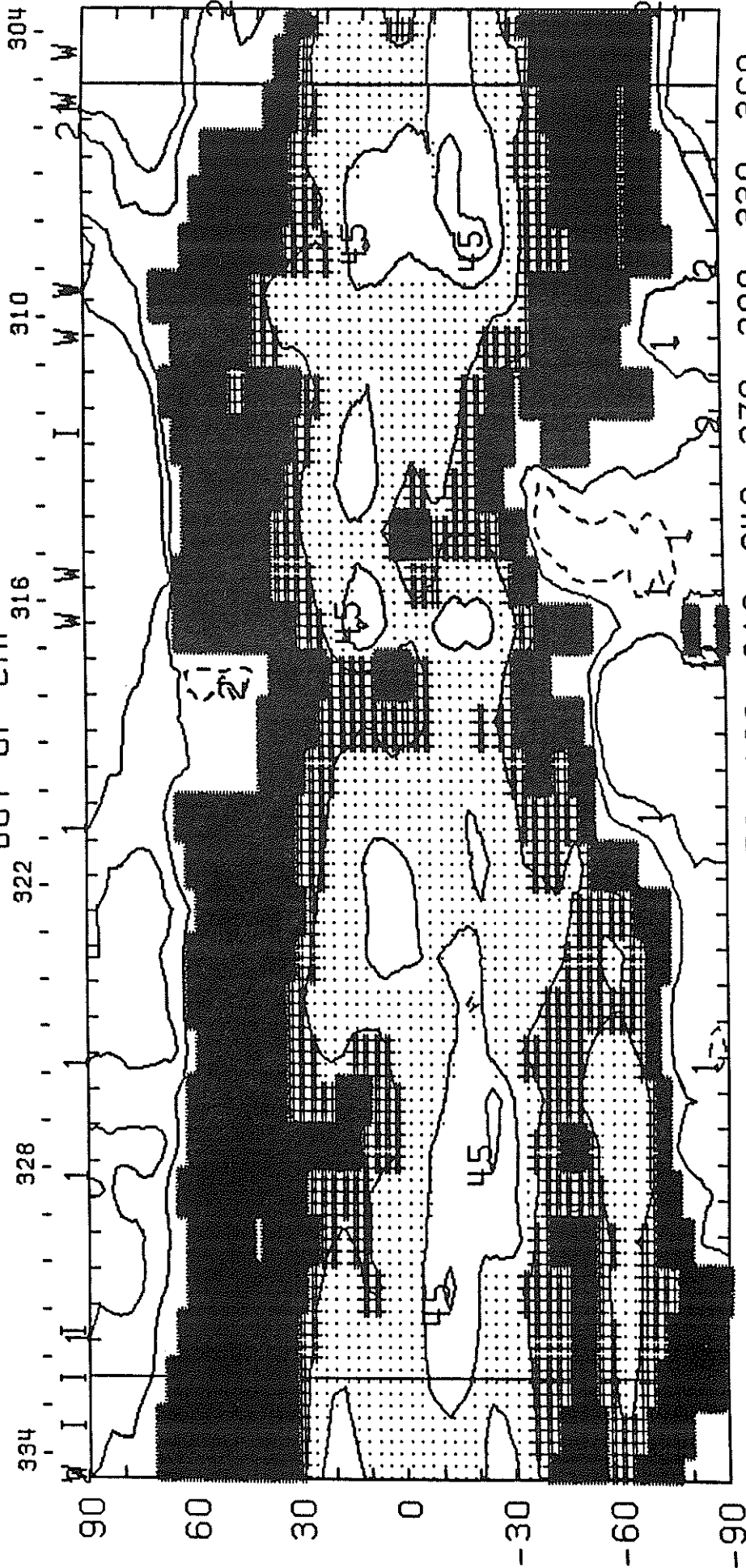
Wilcox Solar Observatory

0, ± 1 , 2, 5, 10, 20 microTesla



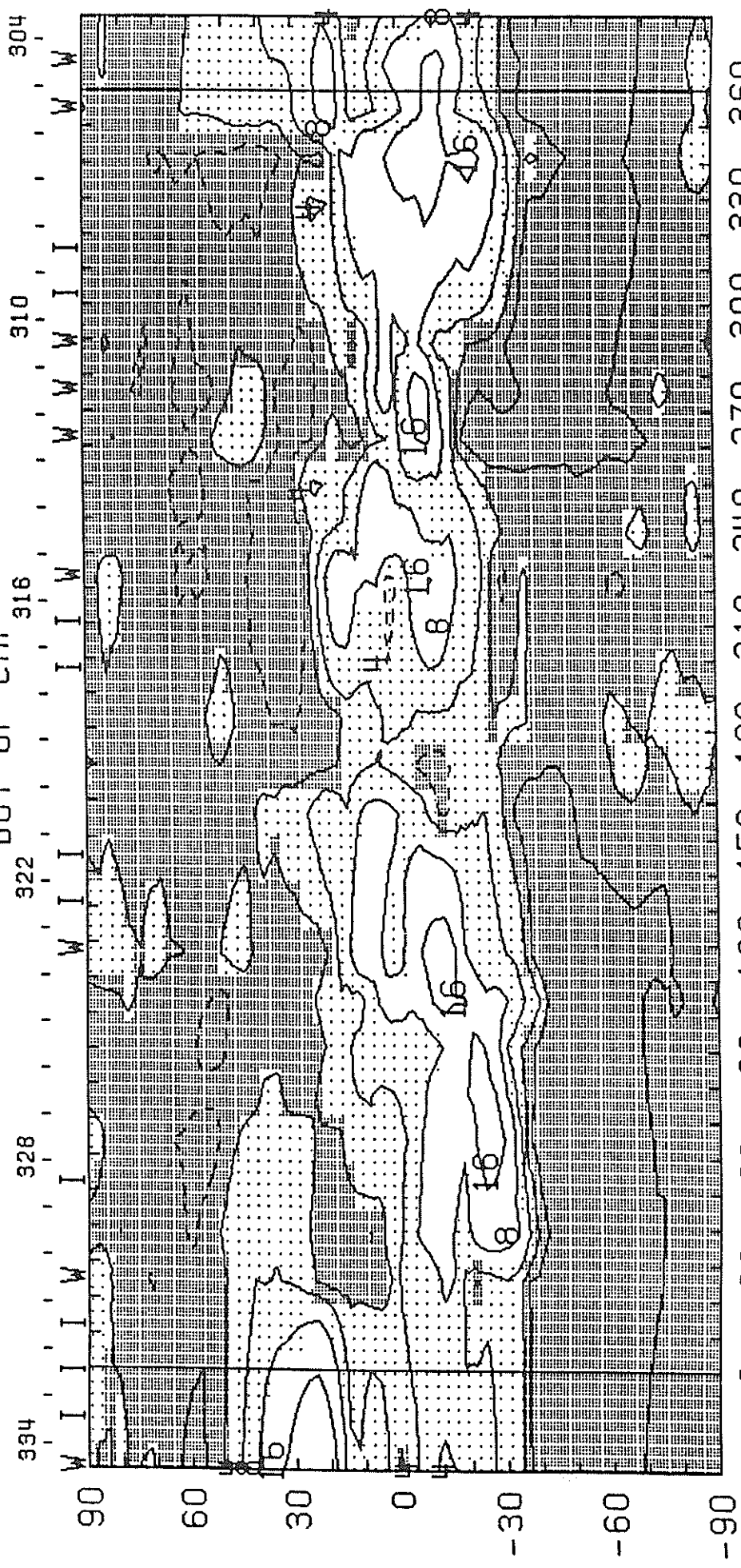
1862

CARRINGTON ROTATION NUMBER 1862; SAC. PEAK FE XIV AT $R = 1.15$
DOY OF CMP



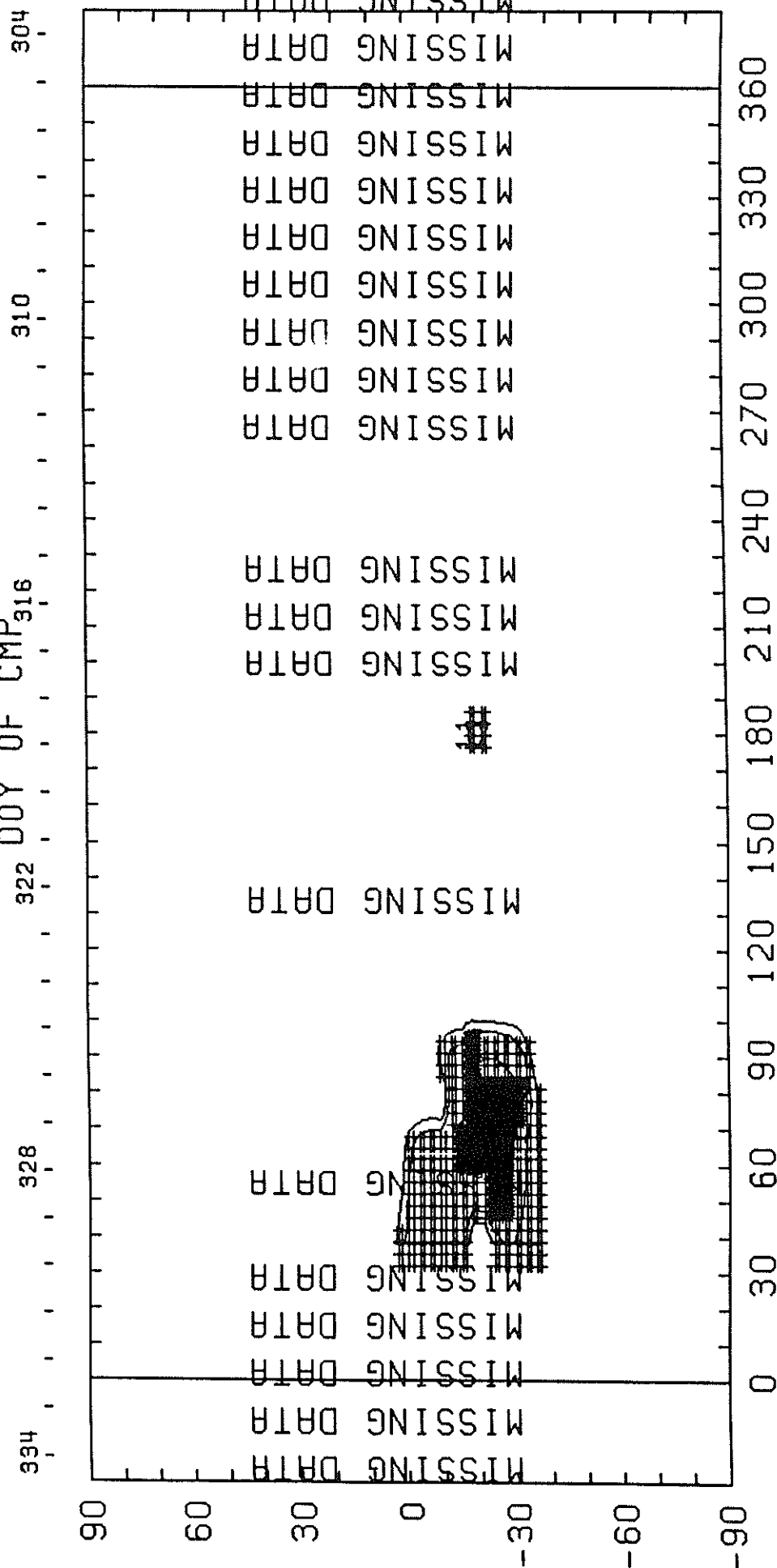
E
HELIOGRAPHIC LONGITUDE $I_{ave} = 11.34 \mu$ W
1992 E+W LIMB CONTOURS: 1, 2, 6, 10, 15, 30, 45, 60, 75 MILLIONTHS OF I
(29-Jan-93) CORONAL HOLES ARE SHOWN AS WHITE SURROUNDED BY BLACK

CARRINGTON ROTATION NUMBER 1862; SAC. PEAK FE X AT R = 1.15
 DOY OF CMP



E
 HELIOGRAPHIC LONGITUDE
 Iove = 3.16 μ W
 1992 E+W LIMB CONTOURS: 1,2,4,8,16,32,48,64,80 MILLIONTHS OF I₀
 (11-Feb-93)

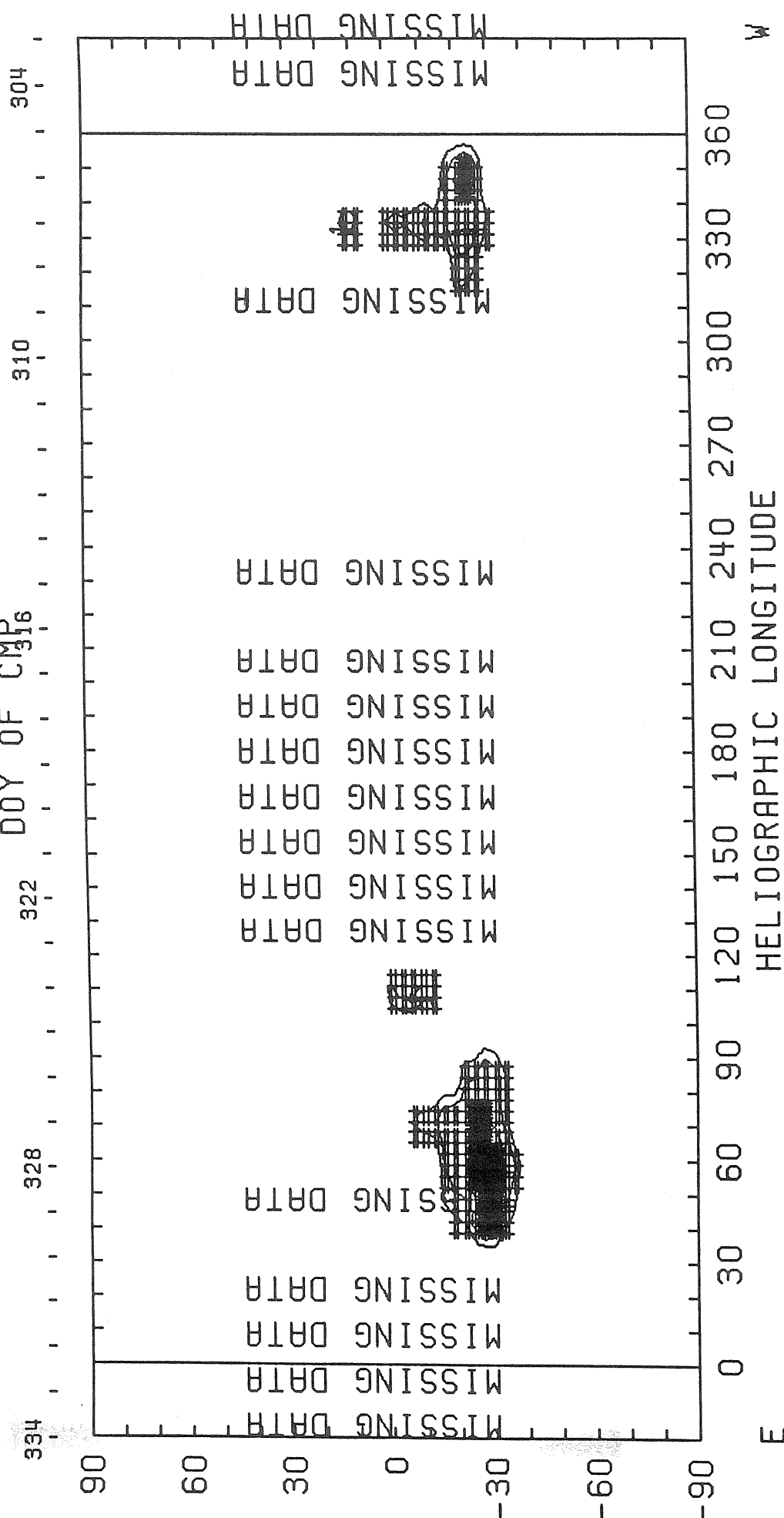
CARRINGTON ROTATION NUMBER 1862 ; SAC. PEAK CA XV at R = 1.13

DOY OF CMP₃₁₆

HELIOGRAPHIC LONGITUDE

E
HELIOGRAPHIC LONGITUDE
1992 EAST LIMB CONTOURS: YELLOW-MINIMUM, 1, 2, 4, 8 MILLIONTHS OF Io
(29-Jan-93) W

DOY OF CMPS

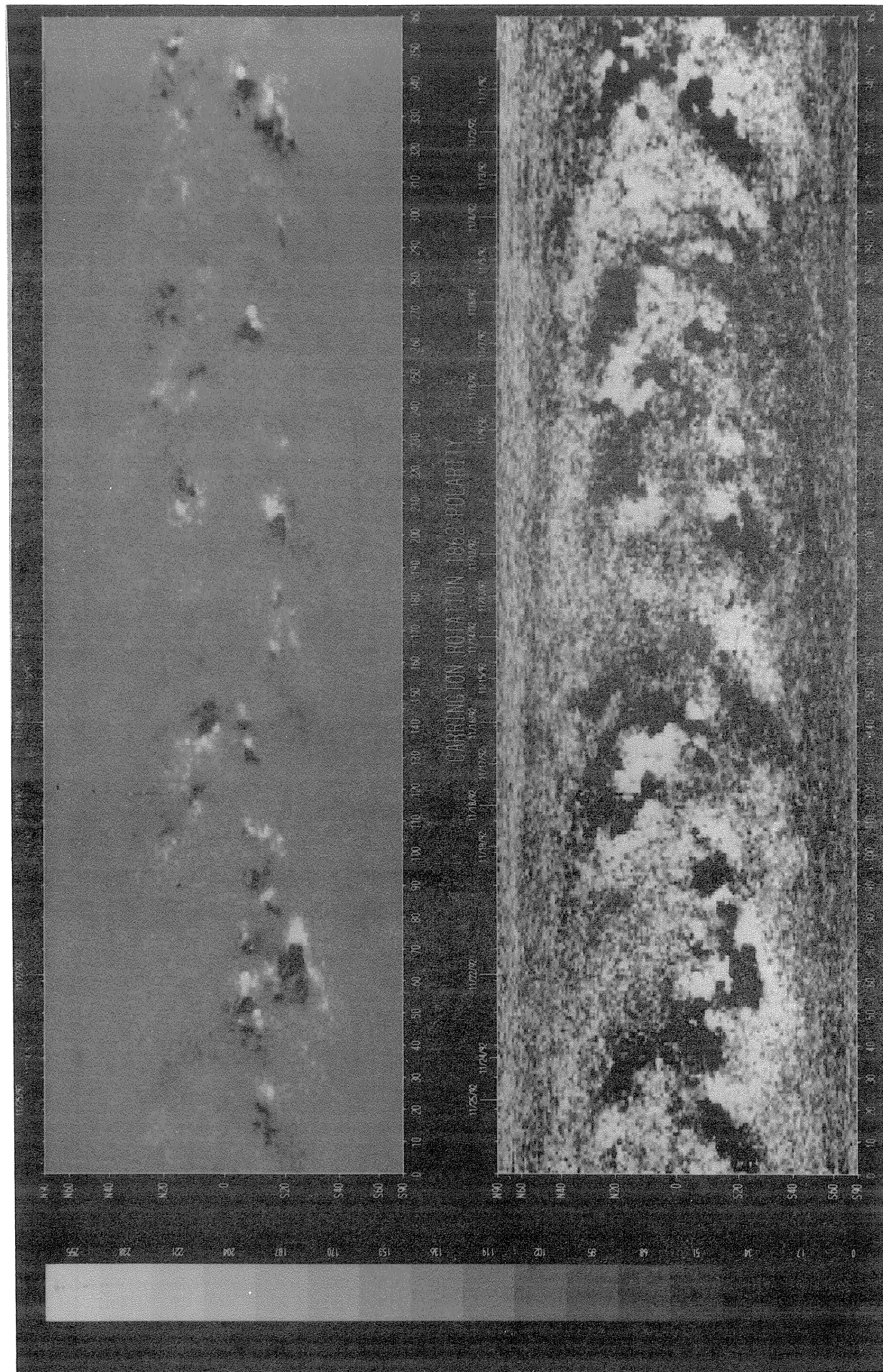


1992 WEST LIMB CONTOURS: YELLOW-MINIMUM, 1, 2, 4, 8 MILLIONTHS OF 10
(29-Jan-93)

SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION NUMBER 1862
(31 October to 27 November 1992)

National Solar Observatory/Kitt Peak

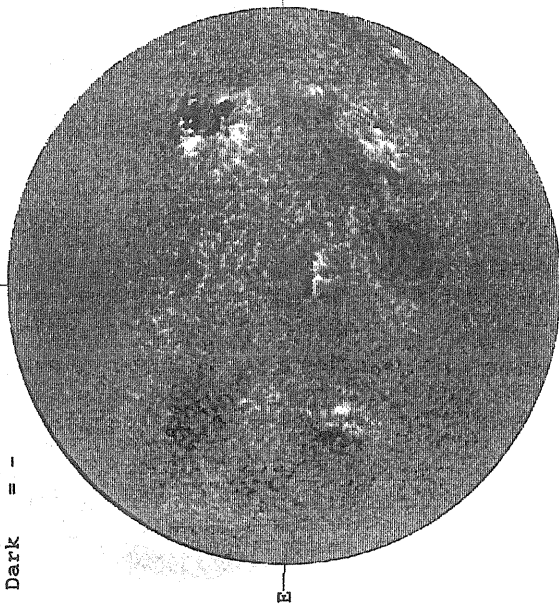
Dates of Observation



DECEMBER 1, 1992 (P= 16.00, B₀ = 0.83, I₀ = 312.59)

KITT PEAK MAGNETOGRAM
N **5507A**

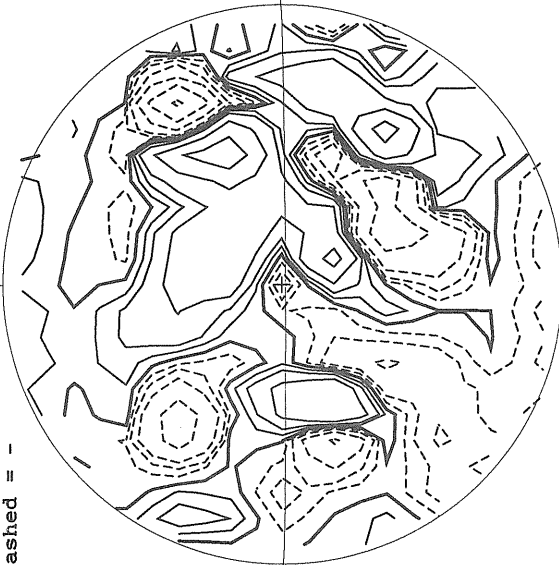
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Dark = -



1625 UT

STANFORD MAGNETOGRAM
N

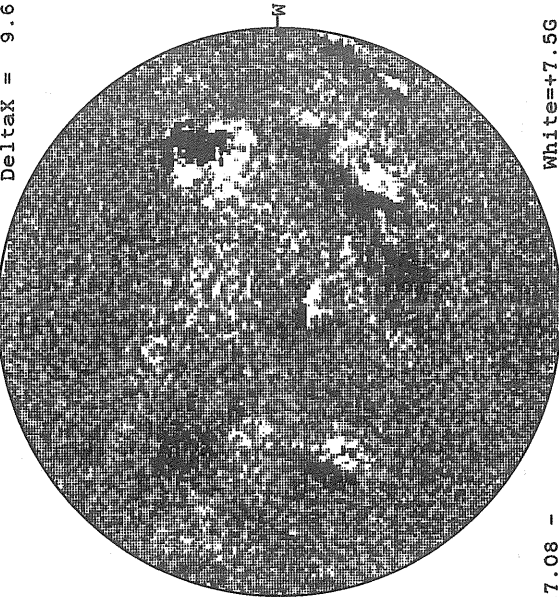
Solid = +
Dashed = -



1957 UT

MT. WILSON MAGNETOGRAM
N

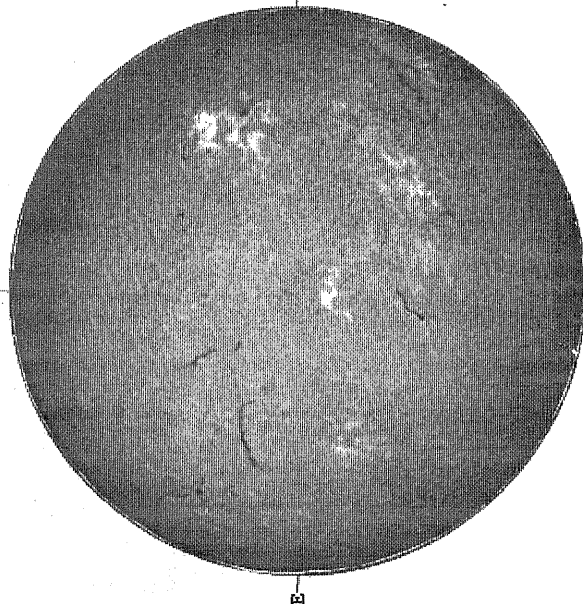
Delta λ = 13.0
Delta λ = 9.6



17.08 -
18.05 UT

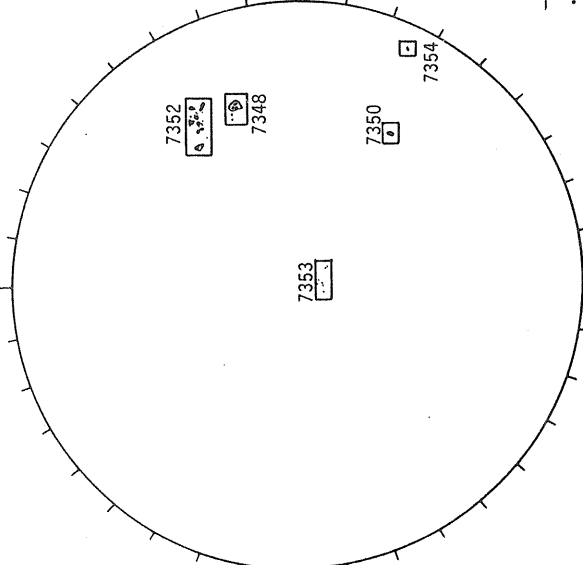
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



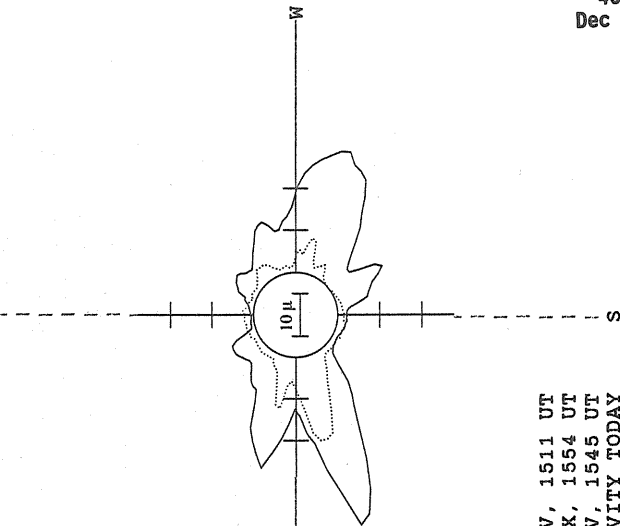
1518 UT

HOLLOMAN SUNSPOT



1718 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

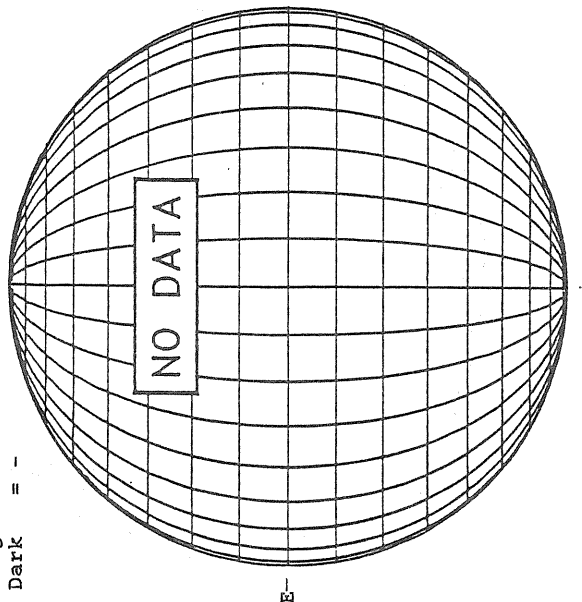


— FeXIV, 1511 UT
.... Fe X, 1554 UT
xxxx Ca XV, 1545 UT
NO CA XV ACTIVITY TODAY

DECEMBER 2, 1992 (P= 15.61, B₀ = 0.71, L₀ = 299.41)

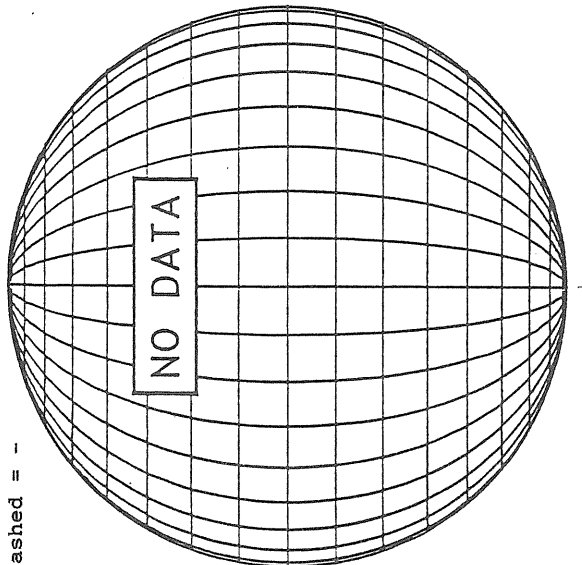
KITT PEAK MAGNETOGRAM
5507A

Bright = +
Dark = -



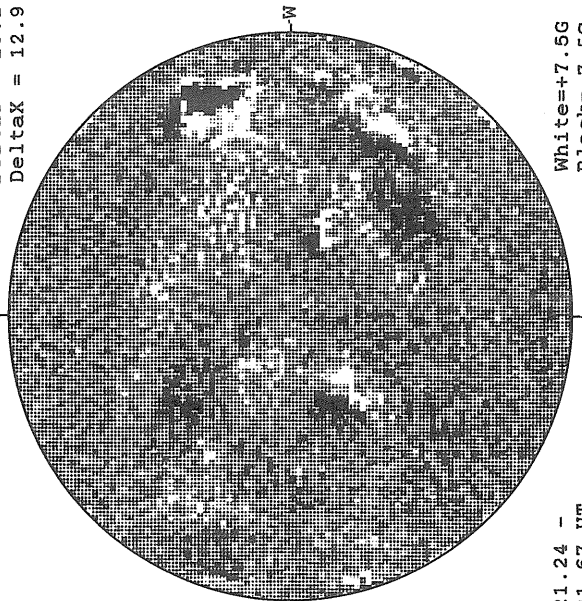
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

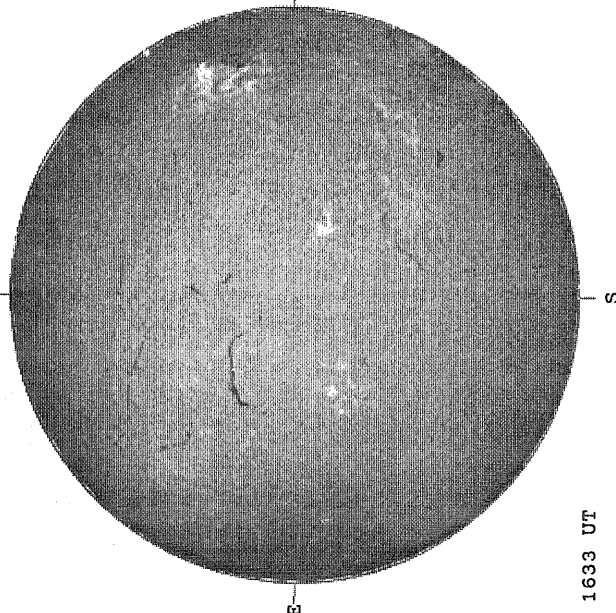
Delta_y = 20.2
Delta_x = 12.9



21.24 -
21.67 UT

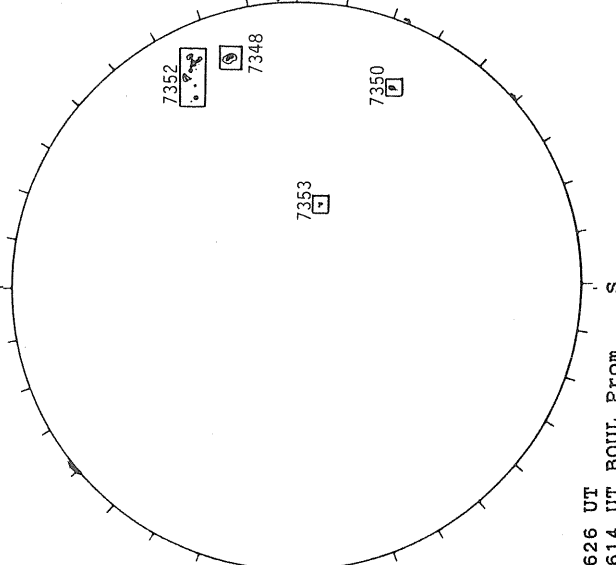
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SACRAMENTO PEAK H-ALPHA



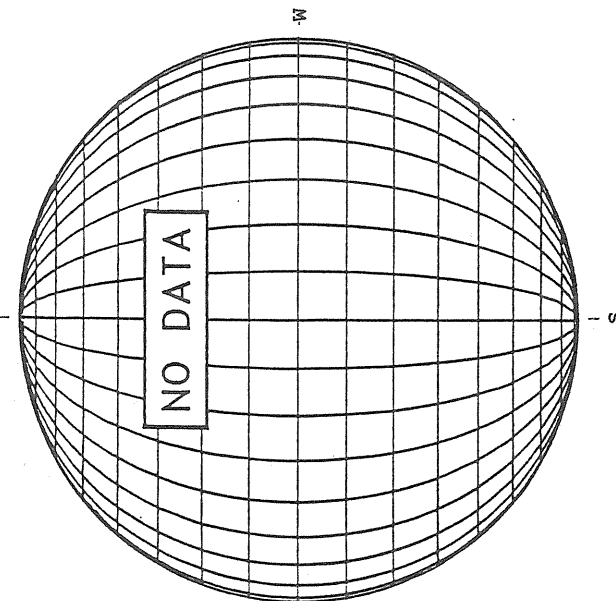
1633 UT

BOULDER SUNSPOT



1626 UT
1614 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



DECEMBER 3, 1992 (P= 15.21, B_O = 0.58, L_O = 286.23)

KITT PEAK MAGNETOGRAM
5507A

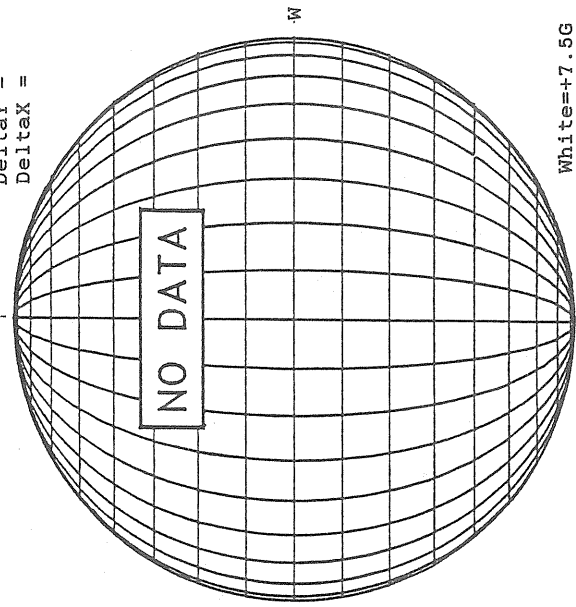
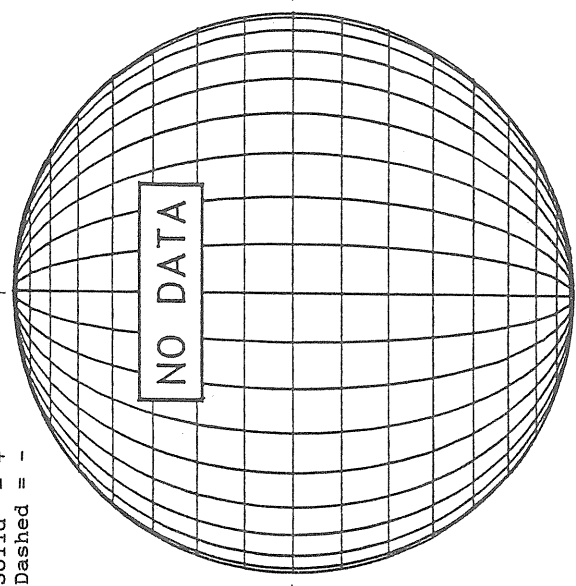
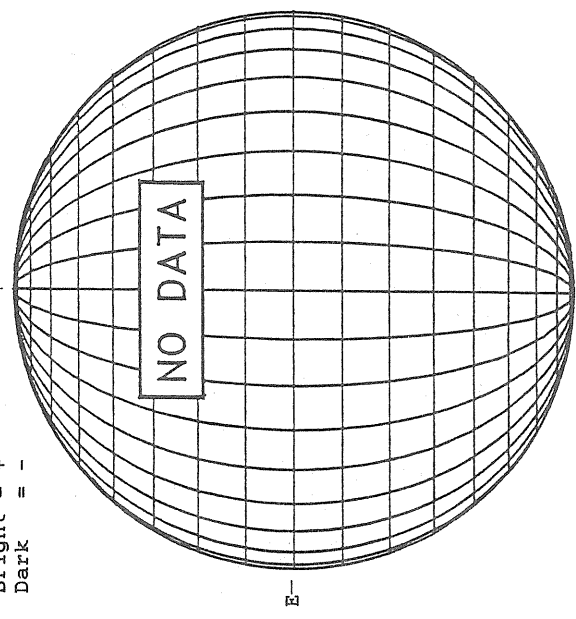
Bright = +
Dark = -

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

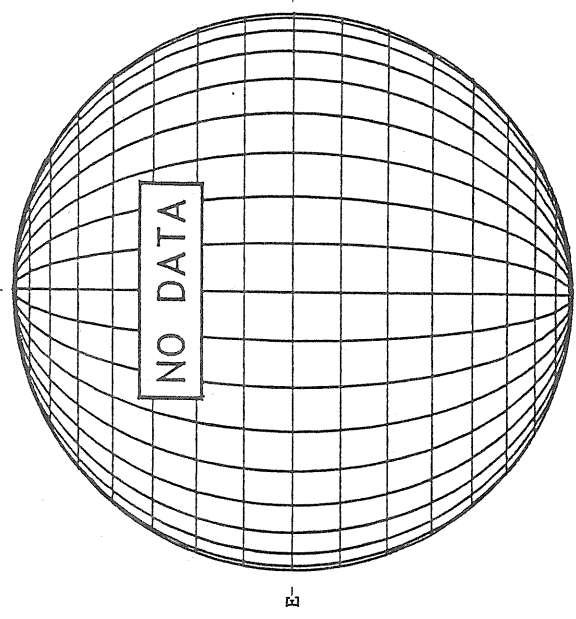
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =

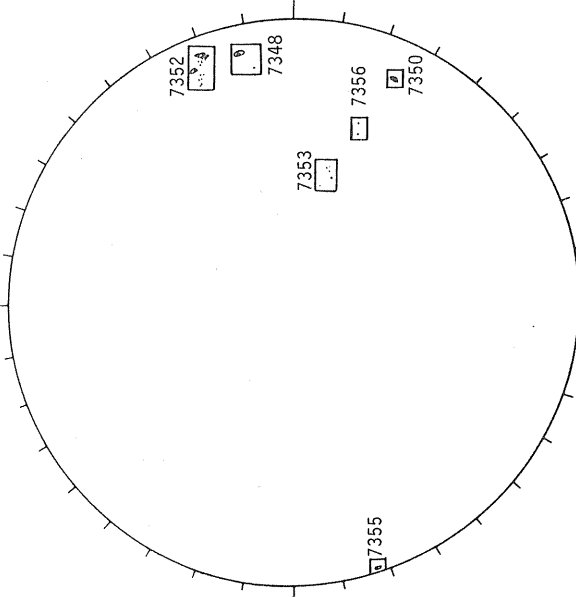


White=+7.5G
Black=-7.5G

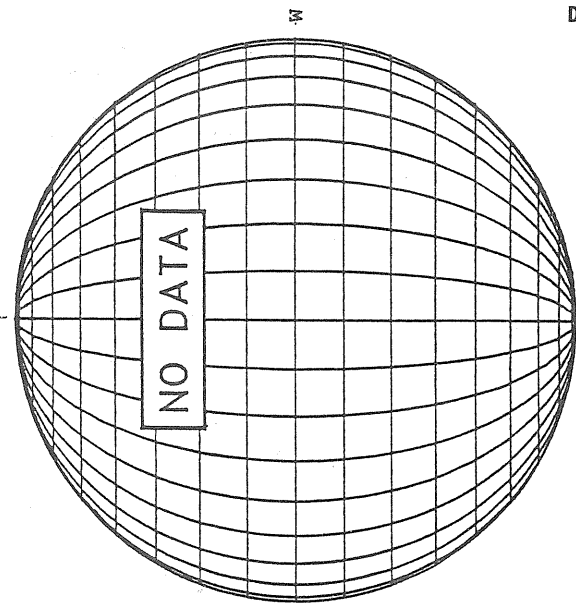
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOT



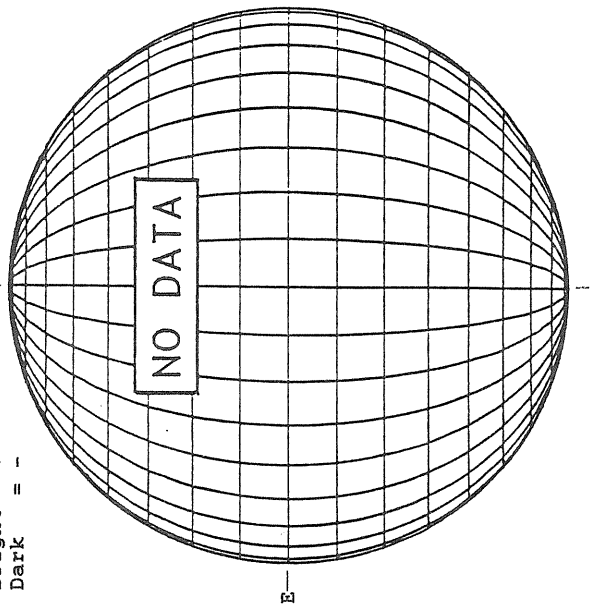
SACRAMENTO PEAK CORONA (1.15 Radii)



DECEMBER 4, 1992 (P= 14.81, B₀ = 0.45, L₀ = 273.05)

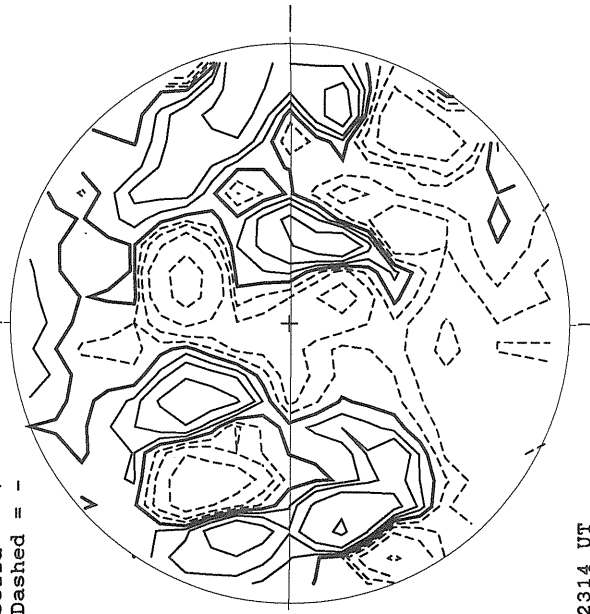
KITT PEAK MAGNETOGRAM
5507A

Bright = +
Dark = -



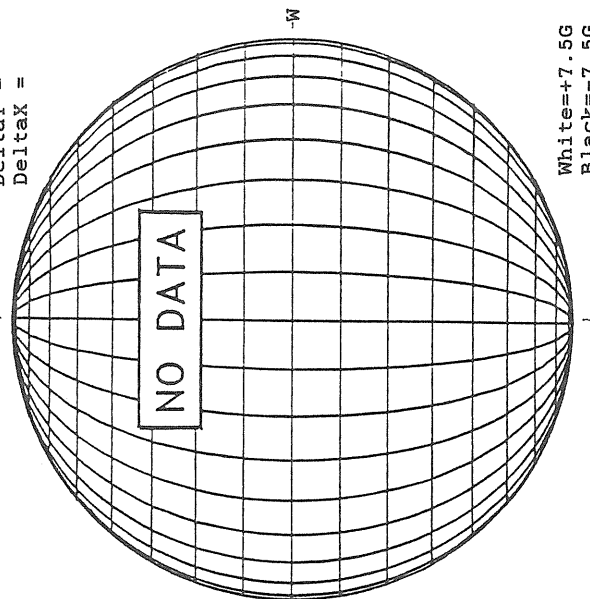
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



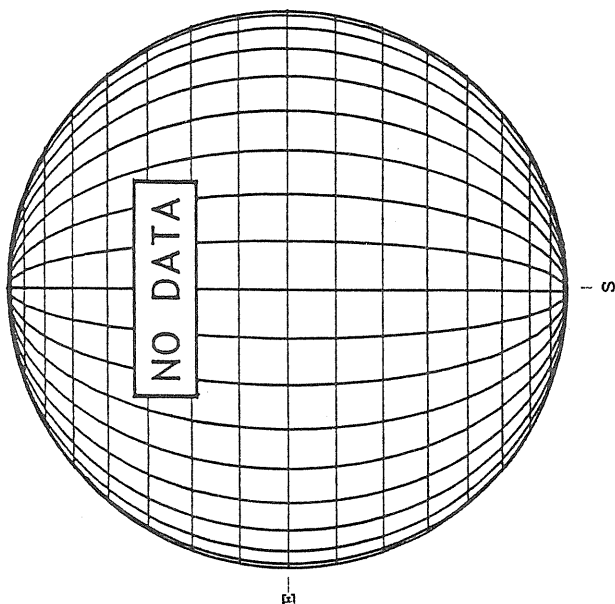
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =

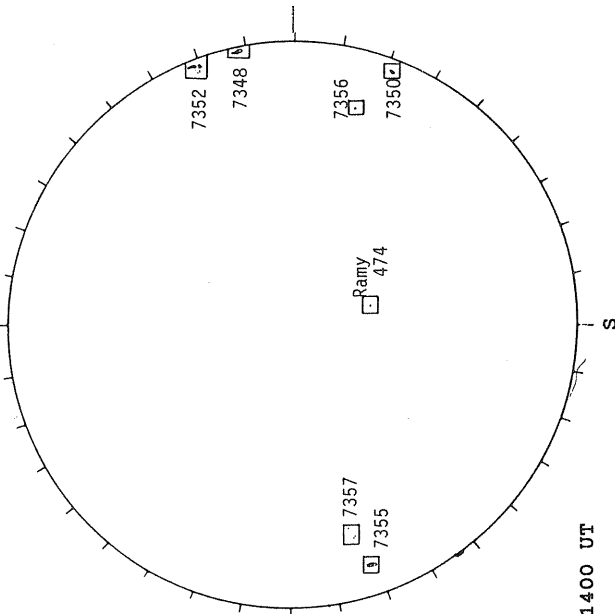


White=+7.5G
Black=-7.5G

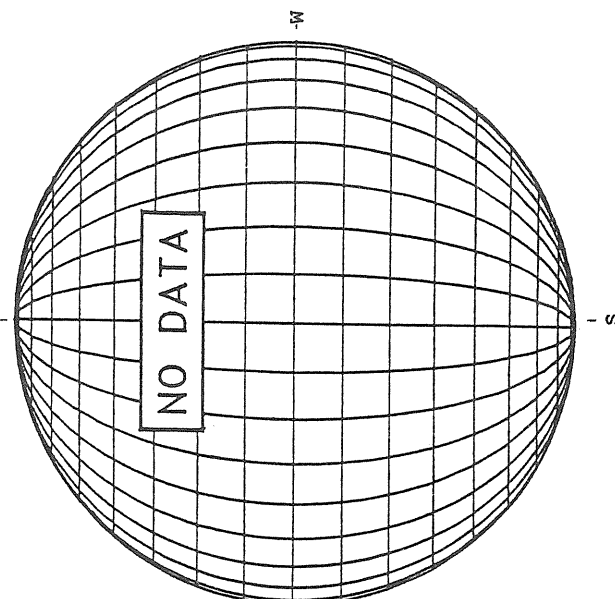
BOULDER H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)



DECEMBER 5, 1992 (P= 14.41, B₀ = 0.33, L₀ = 259.87)

KITT PEAK MAGNETOGRAM
5507A

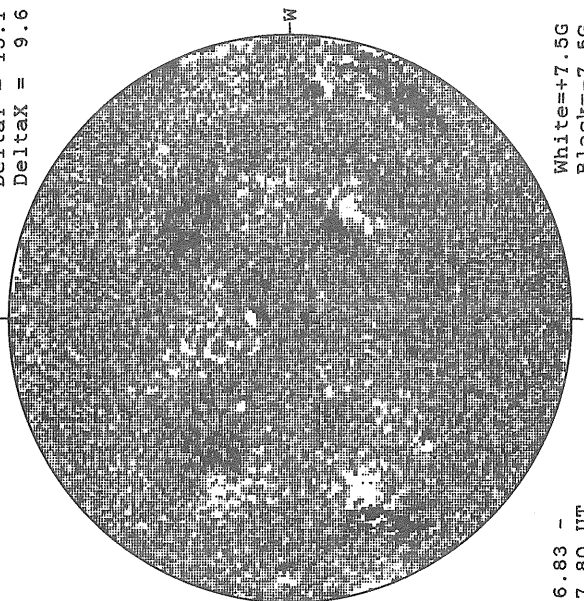
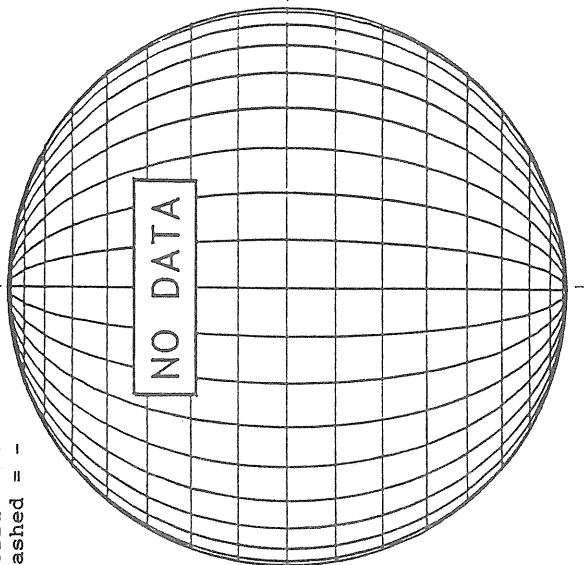
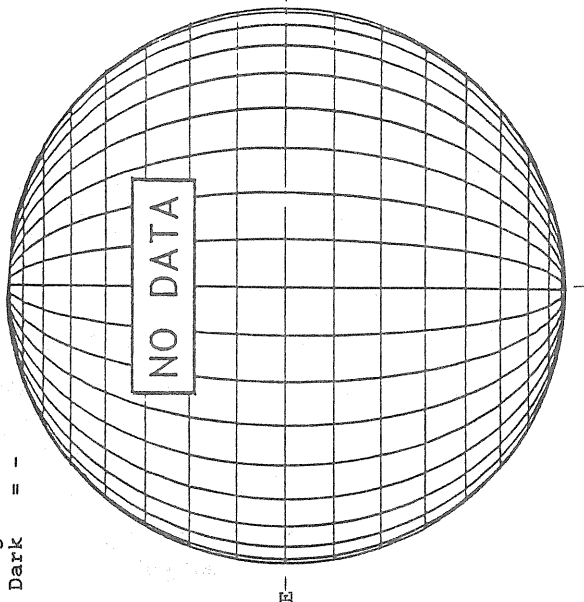
Bright = +
Dark = -

Solid = +
Dashed = -

STANFORD MAGNETOGRAM

MT. WILSON MAGNETOGRAM

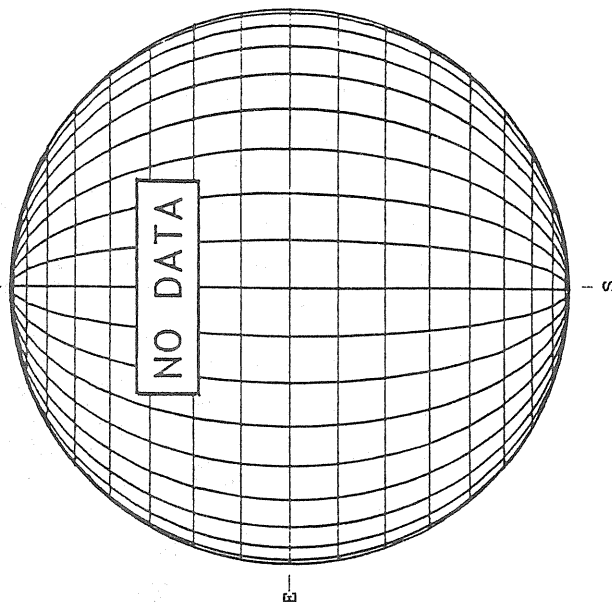
DeltaY = 13.1
DeltaX = 9.6



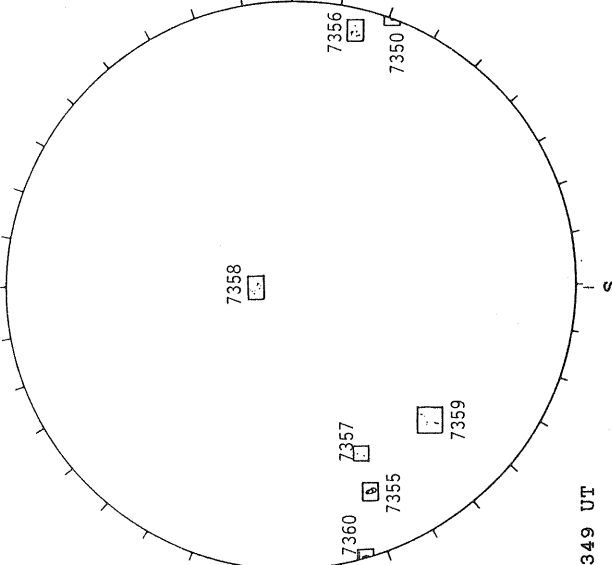
16.83 -
17.80 UT

White=+7.5G
Black=-7.5G

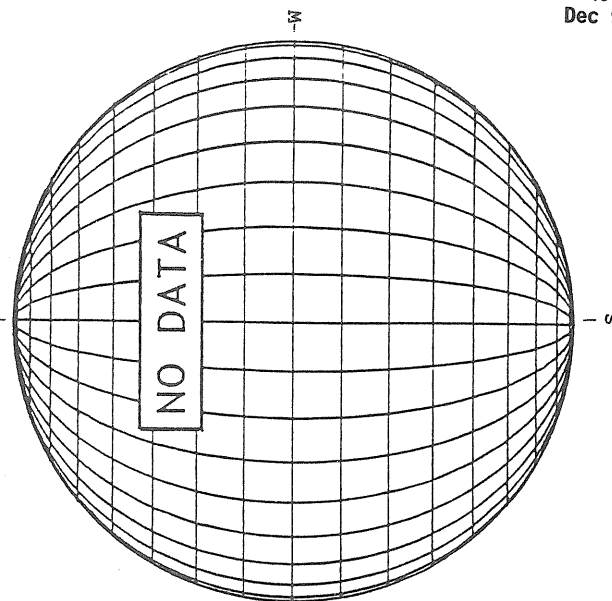
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOT



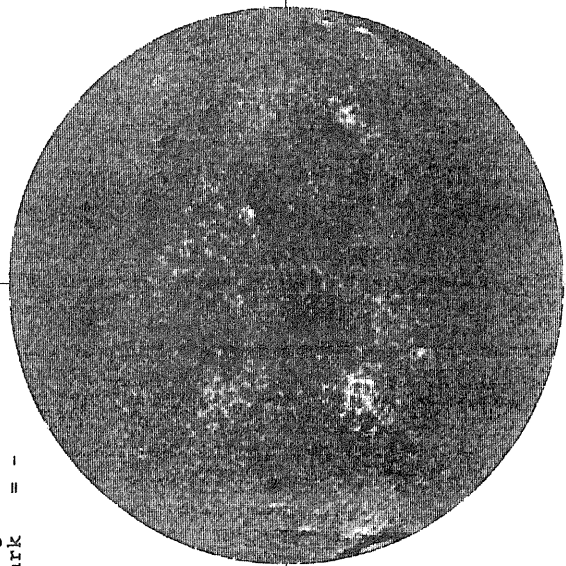
SACRAMENTO PEAK CORONA (1.15 Radii)



DECEMBER 6, 1992 (P= 13.99, B₀ = 0.20, L₀ = 246.70)

KITT PEAK MAGNETOGRAM
N **5507A**

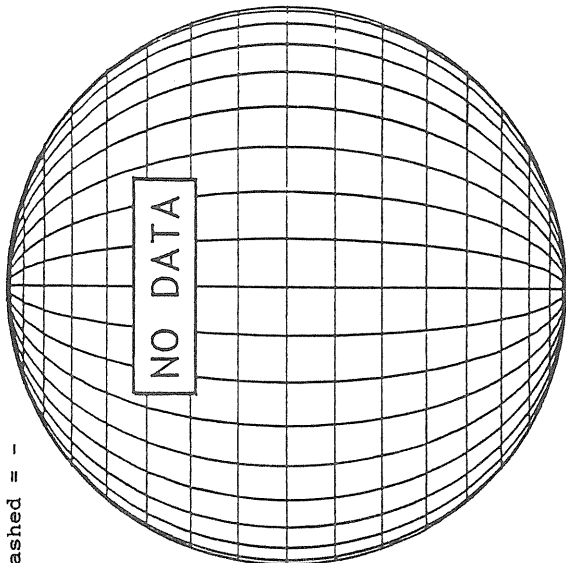
Bright = +
Dark = -



1823 UT

STANFORD MAGNETOGRAM
N

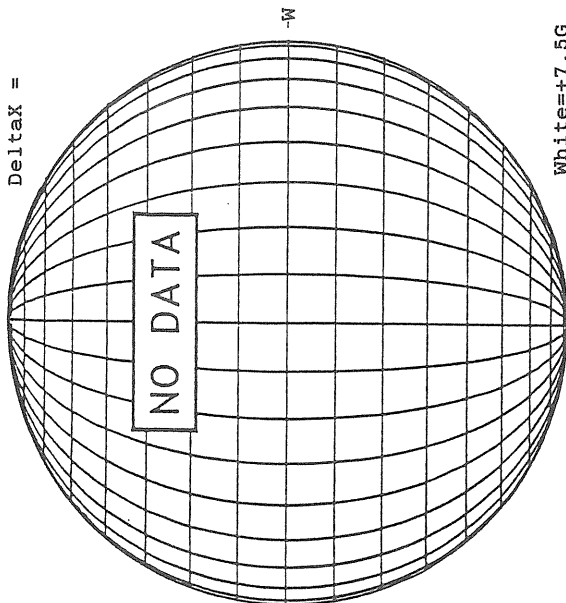
Solid = +
Dashed = -



NO DATA

MT. WILSON MAGNETOGRAM
N

Delta tau =
Delta tau =



NO DATA

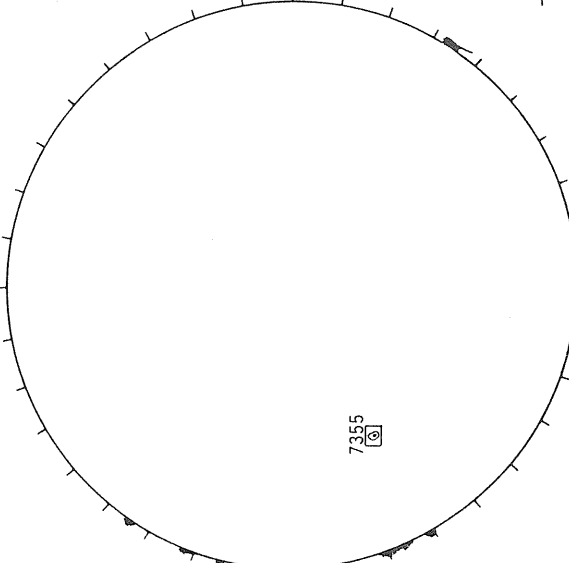
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



1619 UT

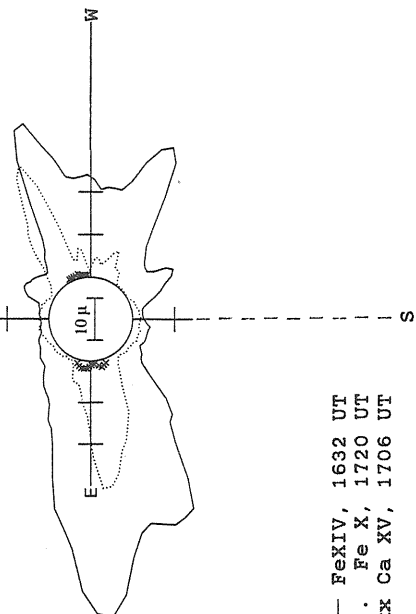
BOULDER SUNSPOT



7355
[6]

1625 UT
1619 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

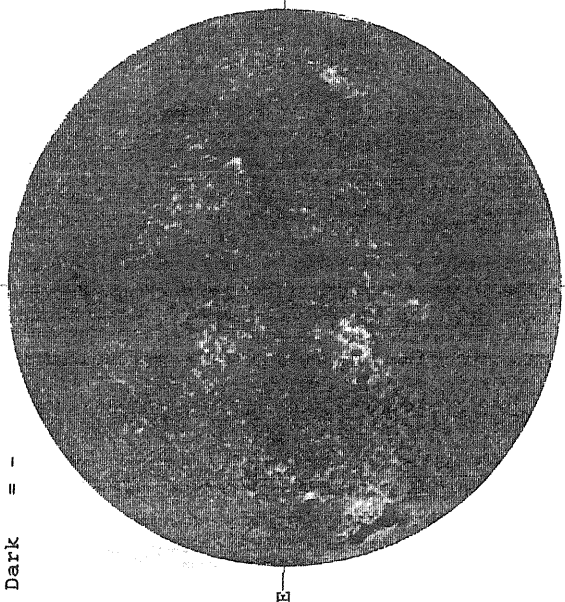


— Fe XIV, 1632 UT
.... Fe X, 1720 UT
xxxxx Ca XV, 1706 UT

DECEMBER 7, 1992 (P= 13.58 B₀ = 0.07, L₀ = 233.52)

KITT PEAK MAGNETOGRAM
N **5507A**

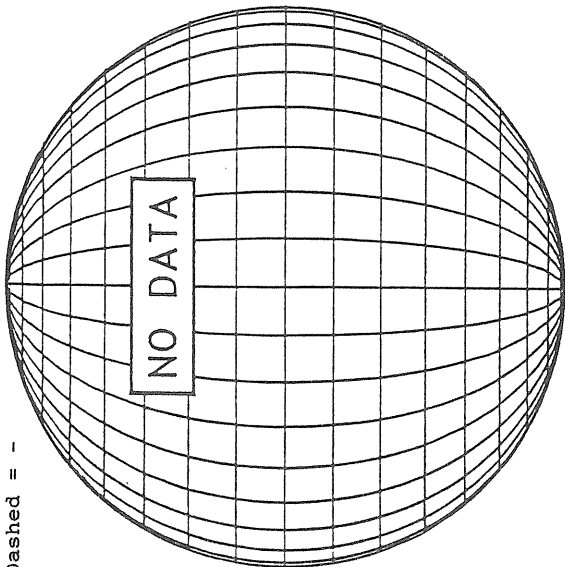
Bright = +
Dark = -



1643 UT

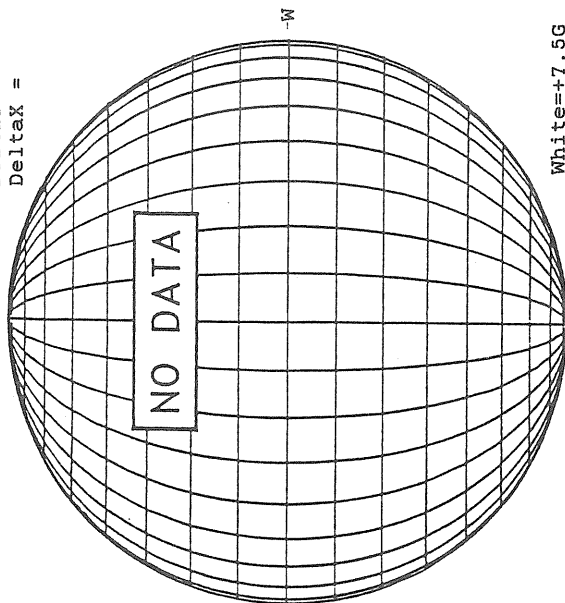
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



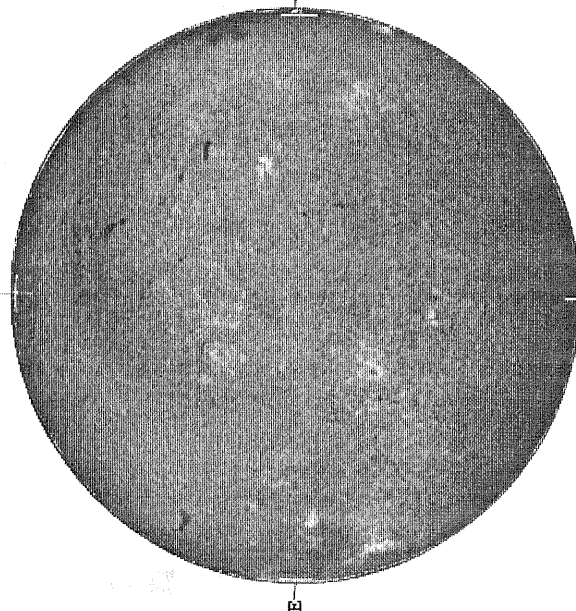
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =



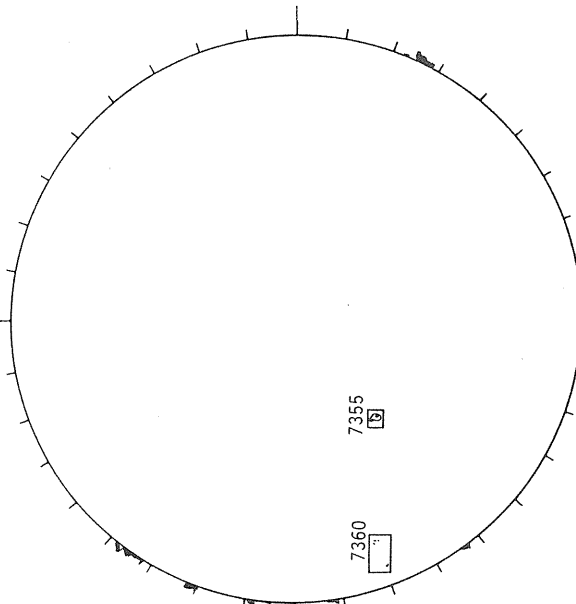
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



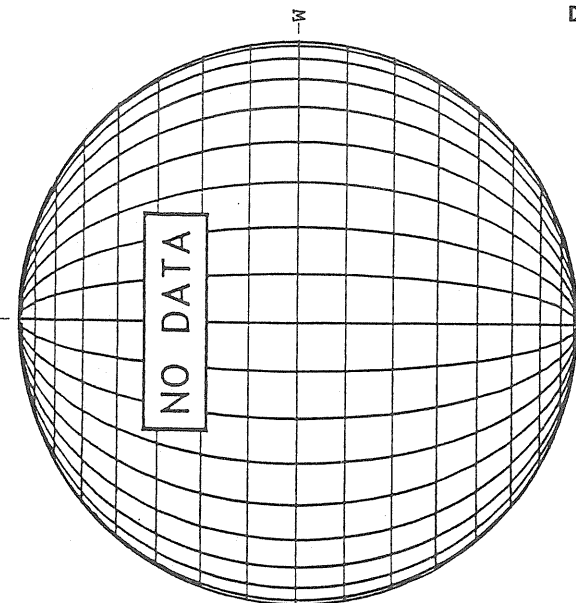
1543 UT

BOULDER SUNSPOT



1554 UT
1543 UT BOUL Prom

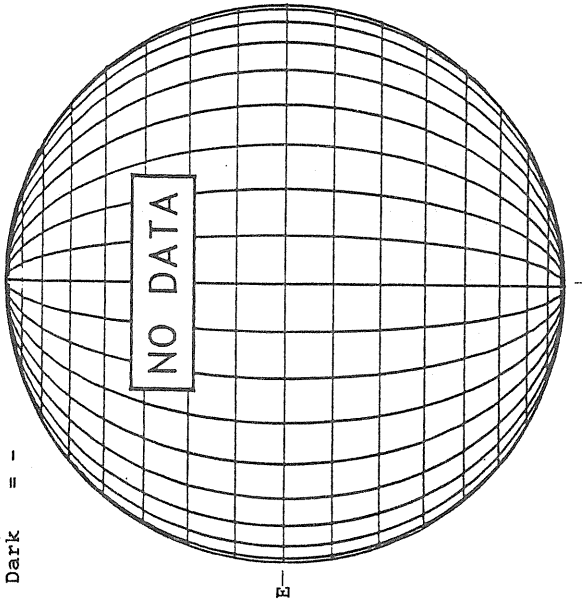
SACRAMENTO PEAK CORONA (1.15 Radii)



DECEMBER 8, 1992 (P= 13.16, B₀ = -0.06, L₀ = 220.34)

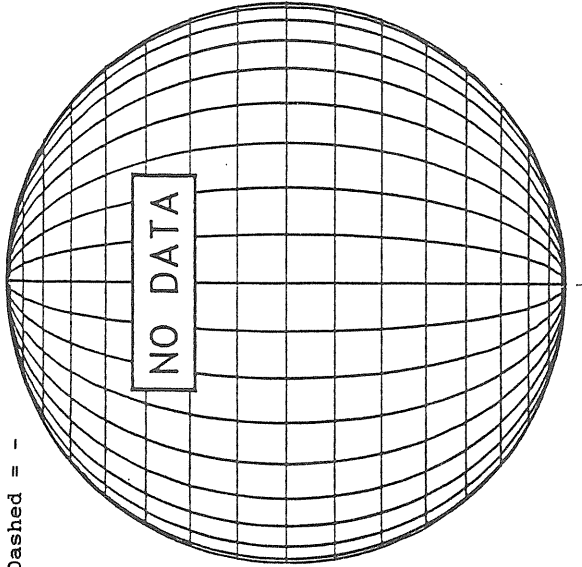
KITT PEAK MAGNETOGRAM
5507A

Bright = +
Dark = -



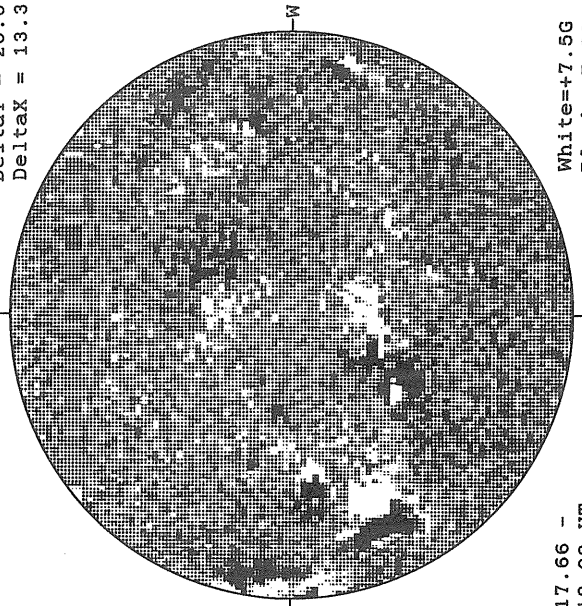
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

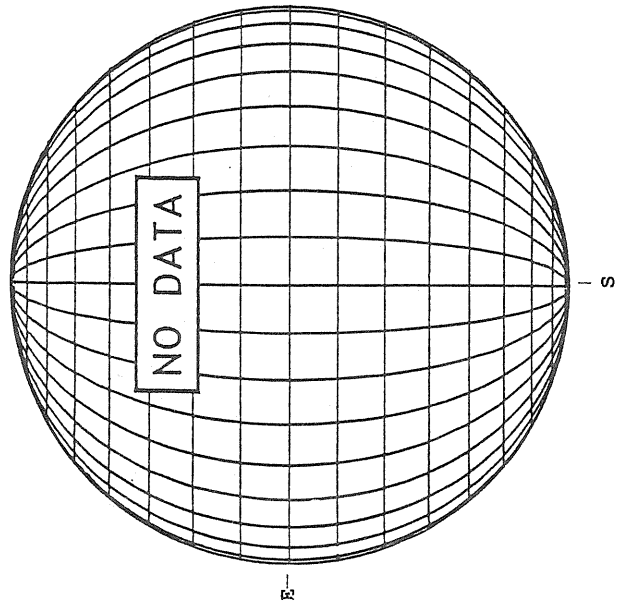
DeltaY = 20.6
DeltaX = 13.3



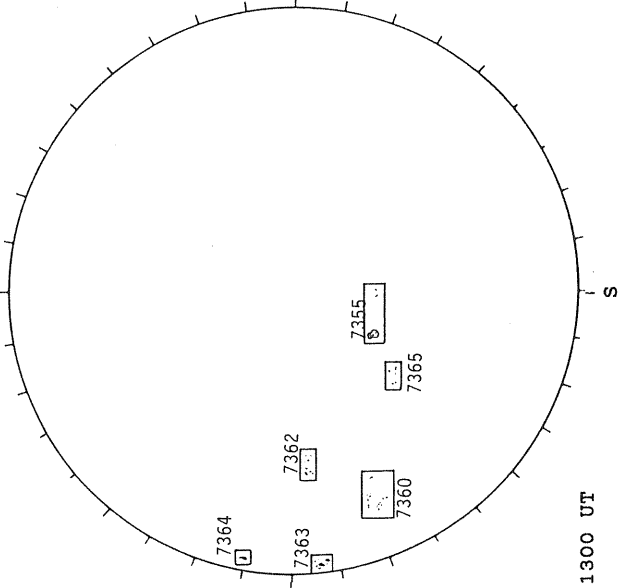
17.66 -
18.08 UT

White = +7.5G
Black = -7.5G

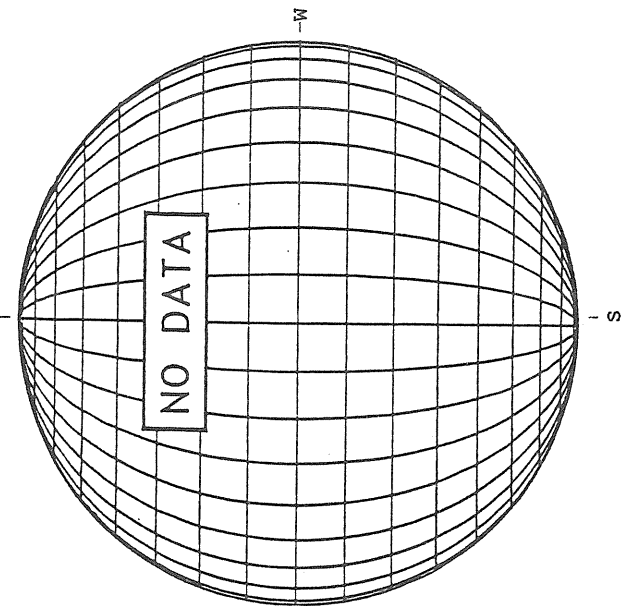
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

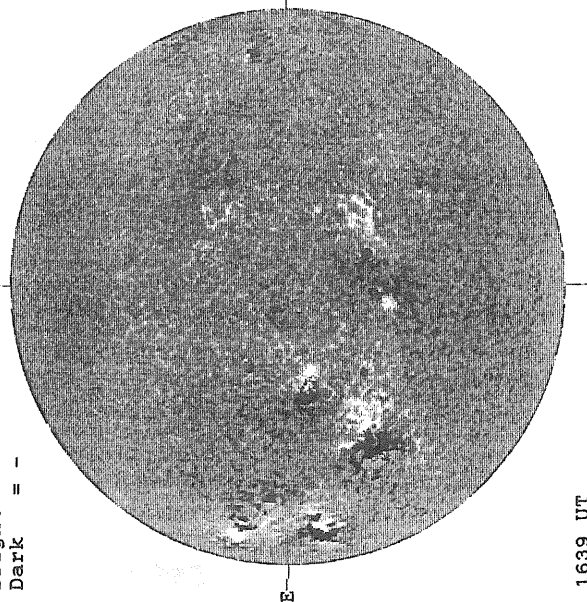


DECEMBER 9, 1992 (P= 12.73 B₀ = -0.19, I₀ = 207.16)

KITT PEAK MAGNETOGRAM

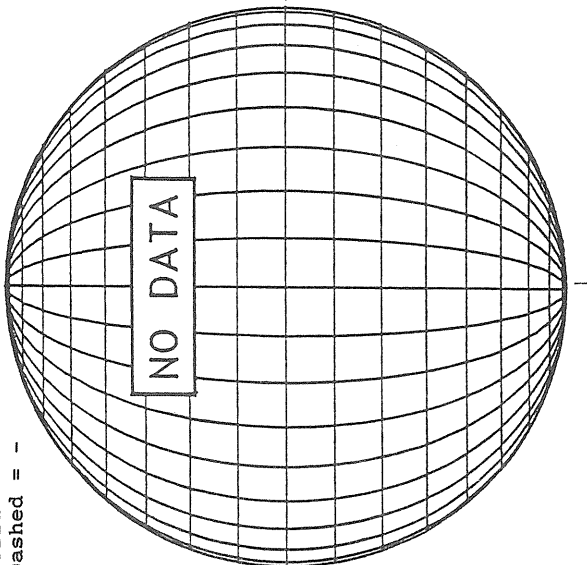
5507A

Bright = +
Dark = -



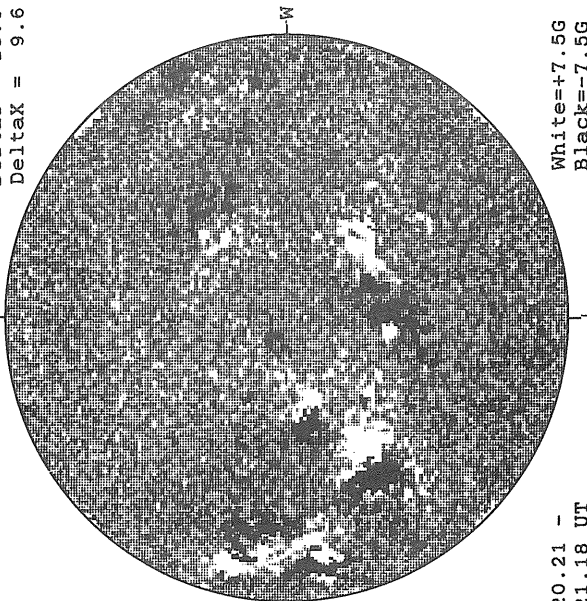
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



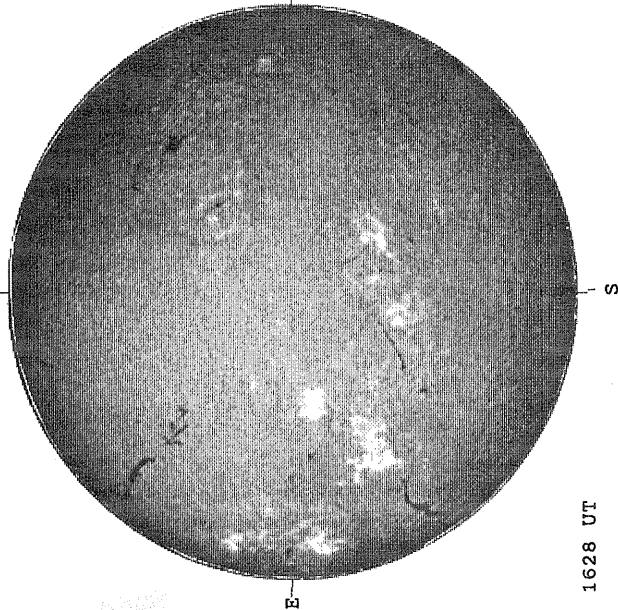
MT. WILSON MAGNETOGRAM

Delta_Y = 13.0
Delta_X = 9.6

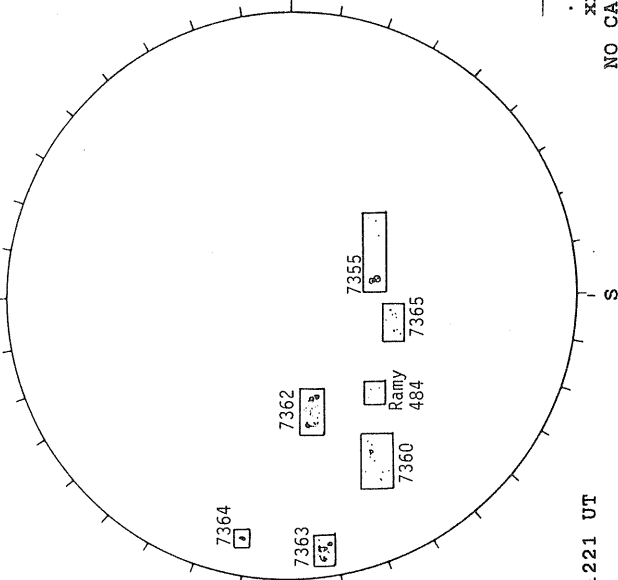


White = +7.5G
Black = -7.5G

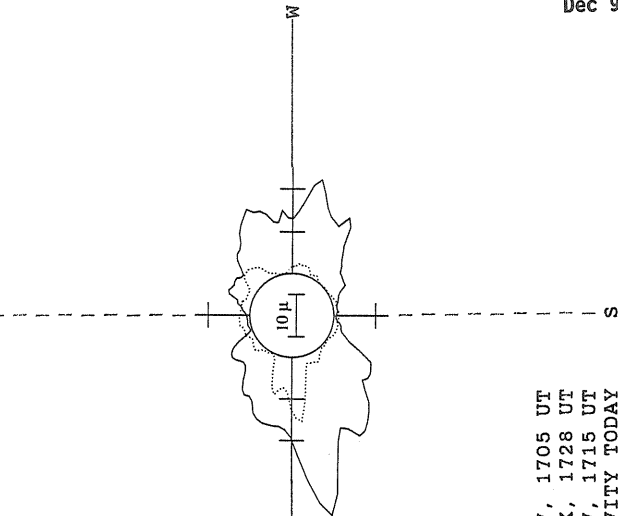
SACRAMENTO PEAK H-ALPHA



RAWLEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

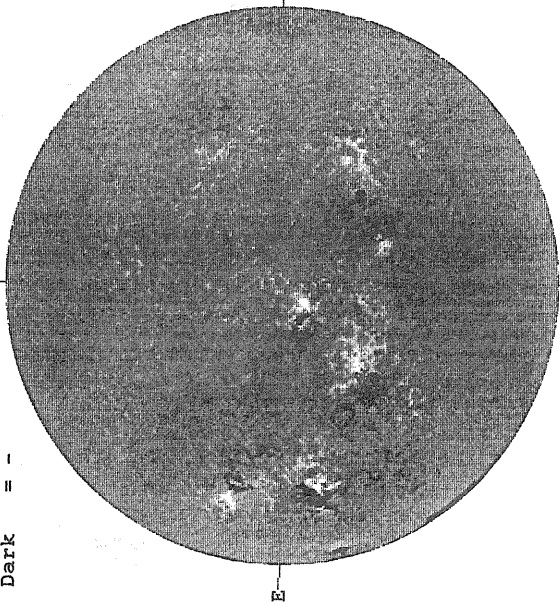


— Fe XIV, 1705 UT
... Fe X, 1728 UT
xxxx Ca XV, 1715 UT
NO CA XV ACTIVITY TODAY

DECEMBER 10, 1992 (P= 12.30, B₀ = -0.31, L₀ = 193.99)

KITT PEAK MAGNETOGRAM
N
5507A

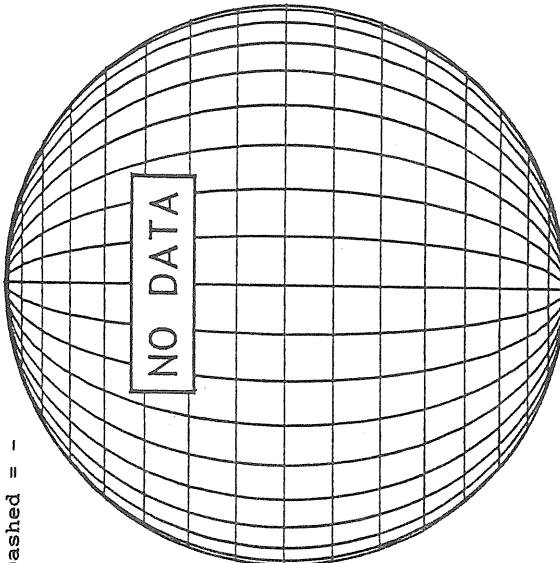
Bright = +
Dark = -



1559 UT

STANFORD MAGNETOGRAM
N

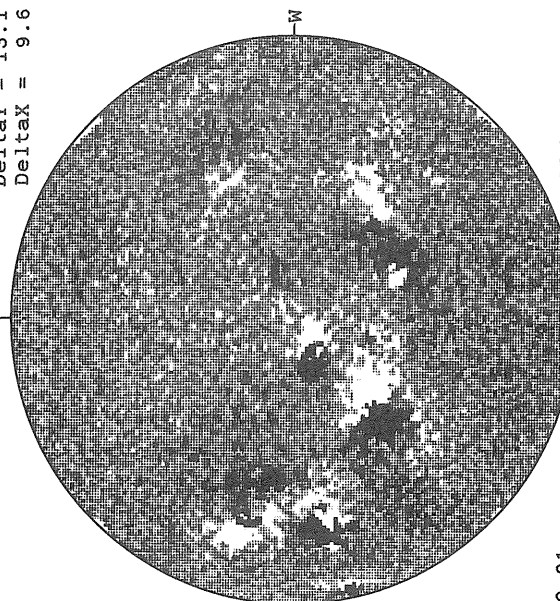
Solid = +
Dashed = -



20.21 -
21.19 UT

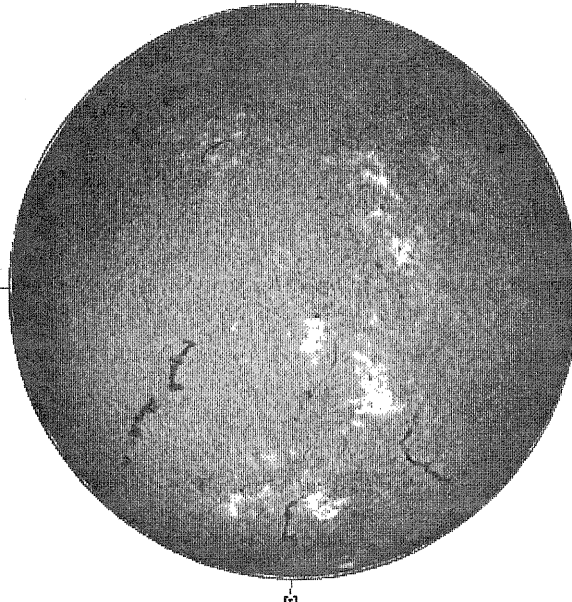
MT. WILSON MAGNETOGRAM
N

DeltaY = 13.1
DeltaX = 9.6



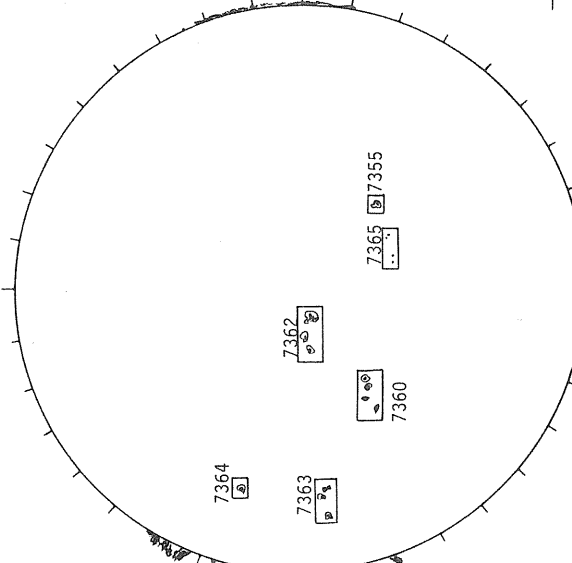
White = +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



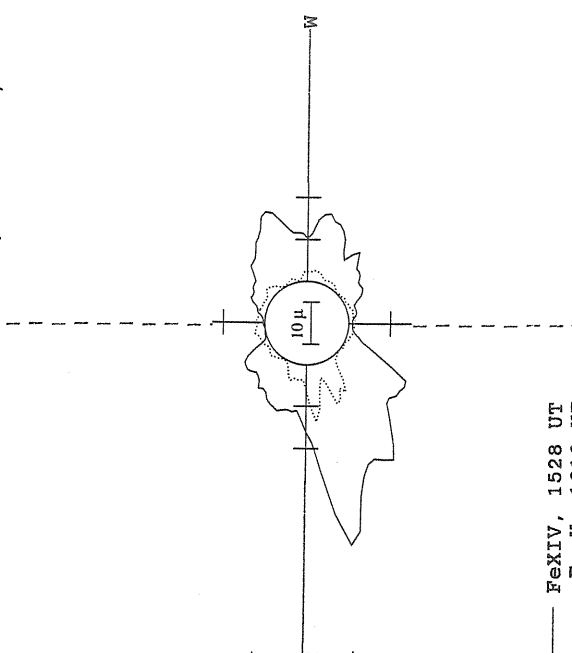
1701 UT

BOULDER SUNSPOT



1558 UT
1612 UT BOUL PROM

SACRAMENTO PEAK CORONA (1.15 Radii)

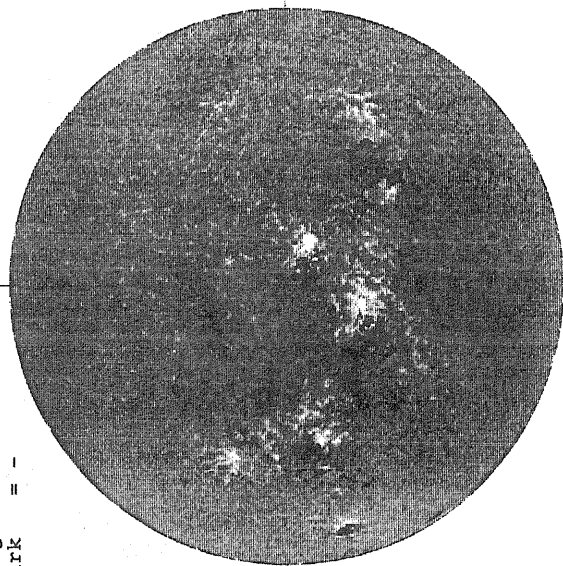


— Fe XIV, 1528 UT
.... Fe X, 1610 UT
xxxx Ca XV, 1553 UT
NO CA XV ACTIVITY TODAY

DECEMBER 11, 1992 (P = 11.86, B₀ = -0.44, L₀ = 180.81)

KITT PEAK MAGNETOGRAM
5507A

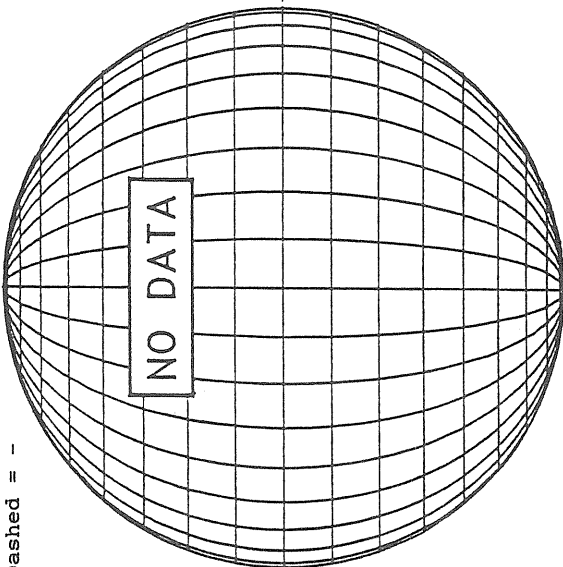
Bright = +
Dark = -



1557 UT

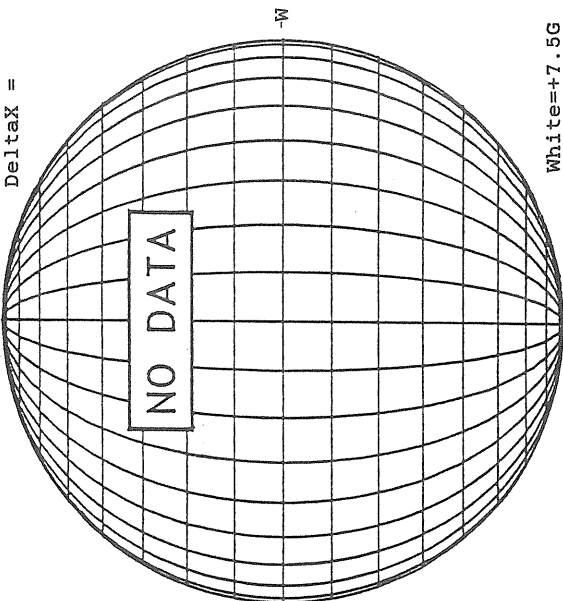
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



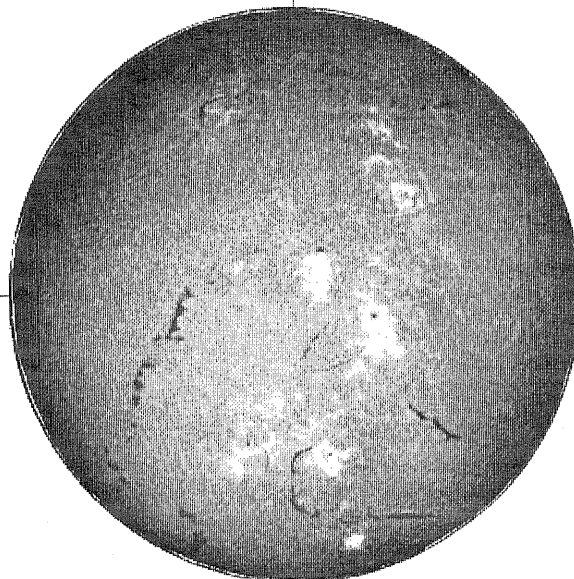
MT. WILSON MAGNETOGRAM

Delta y =
Delta x =



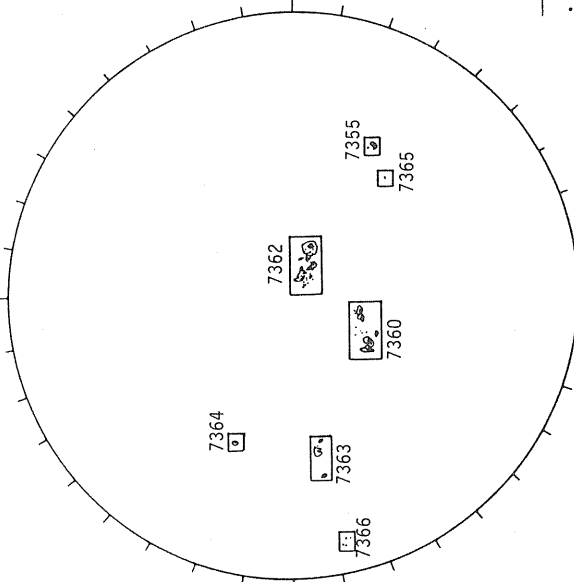
White = +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



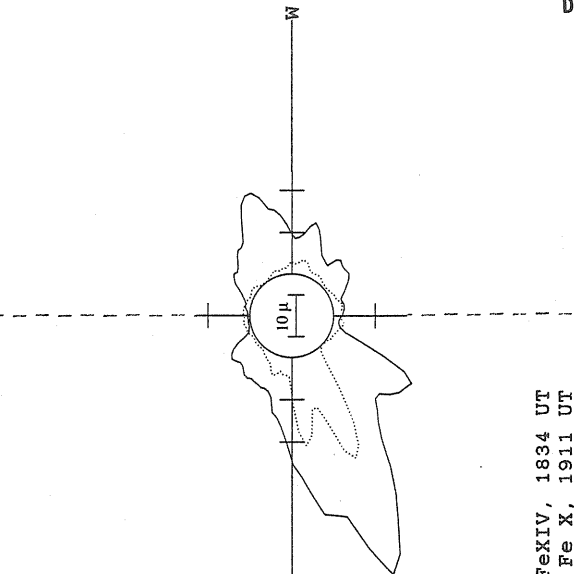
1559 UT

BOULDER SUNSPOT



1649 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

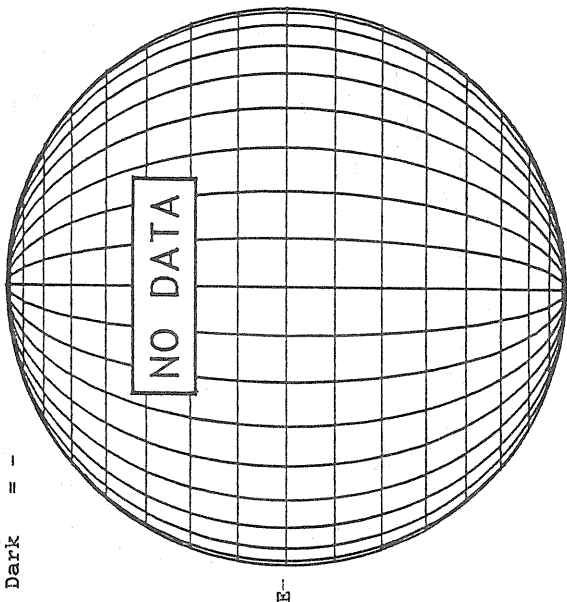


— Fe XIV, 1834 UT
.... Fe X, 1911 UT
xxxx Ca XV, 1902 UT
NO CA XV ACTIVITY TODAY

DECEMBER 12, 1992 (P= 11.42, B₀ = -0.57, L₀ = 167.63)

KITT PEAK MAGNETOGRAM
5507A

Bright = +
Dark = -



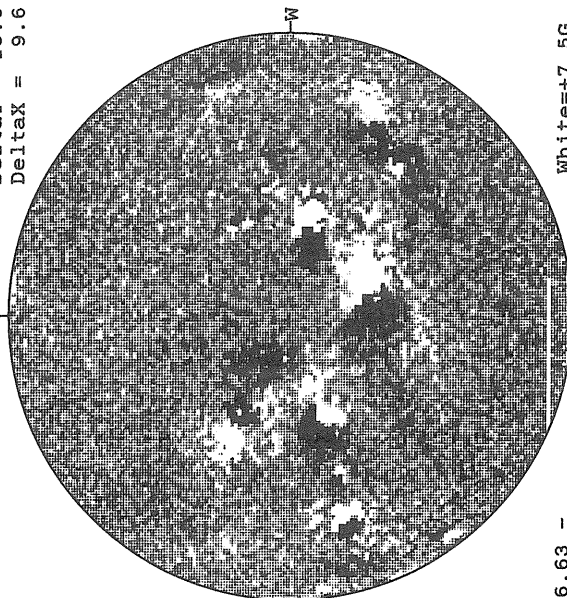
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

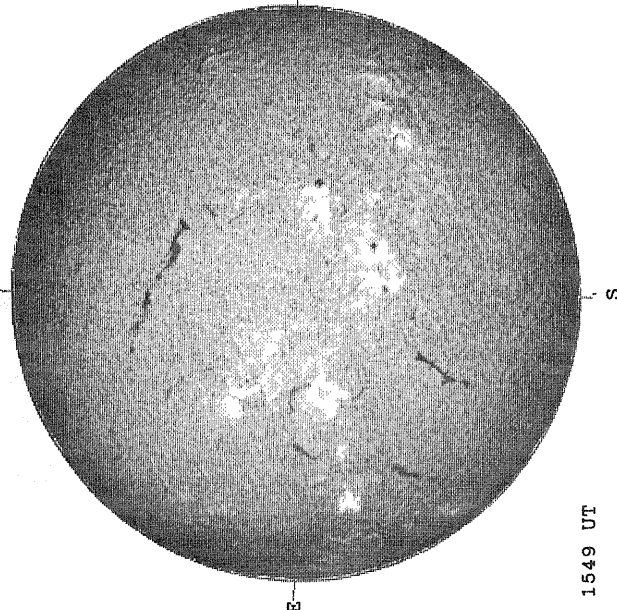


MT. WILSON MAGNETOGRAM

DeltaY = 13.0
DeltaX = 9.6

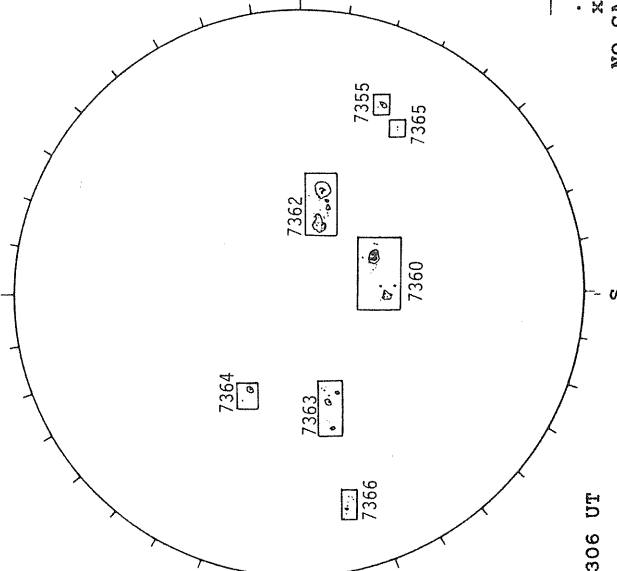


SACRAMENTO PEAK H-ALPHA



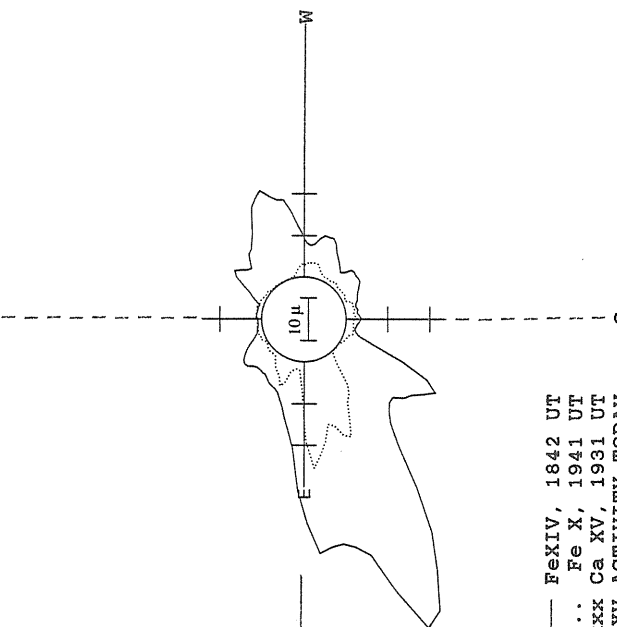
1549 UT

RAMEY SUNSPOT



1306 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

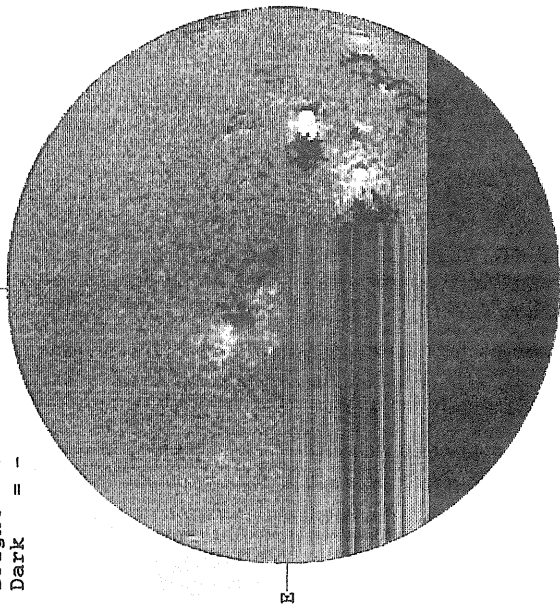


— FeXIV, 1842 UT
.... Fe X, 1941 UT
xxxx Ca XV, 1931 UT
NO CA XV ACTIVITY TODAY

DECEMBER 13, 1992 (P= 10.98, B₀ = -0.70, L₀ = 154.46)

KITT PEAK MAGNETOGRAM
5507A

Bright = +
Dark = -



1801 UT

STANFORD MAGNETOGRAM

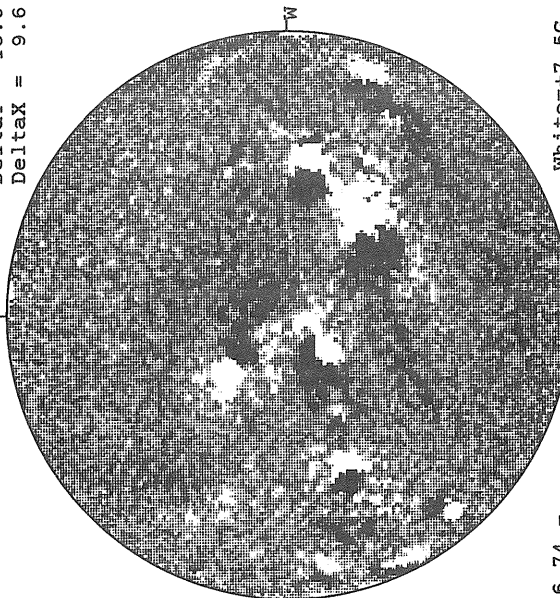
Solid = +
Dashed = -



2246 UT

MT. WILSON MAGNETOGRAM

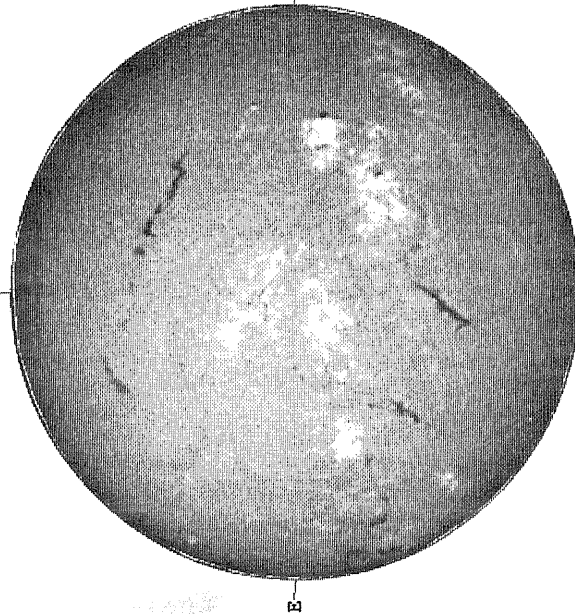
DeltaY = 13.0
DeltaX = 9.6



16.74 -
17.71 UT

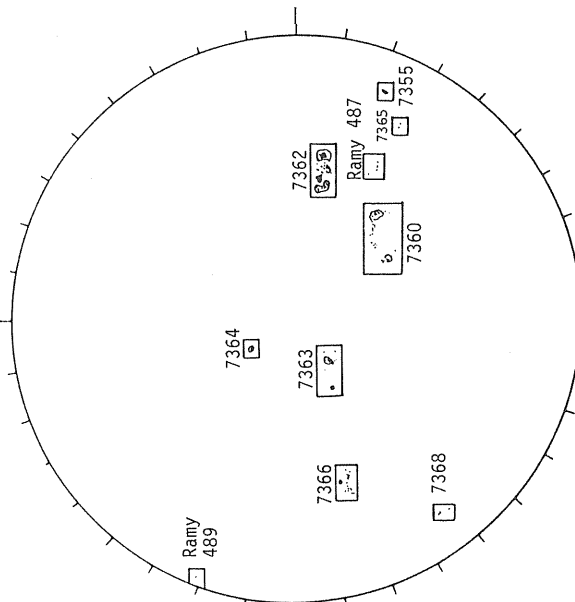
White = +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



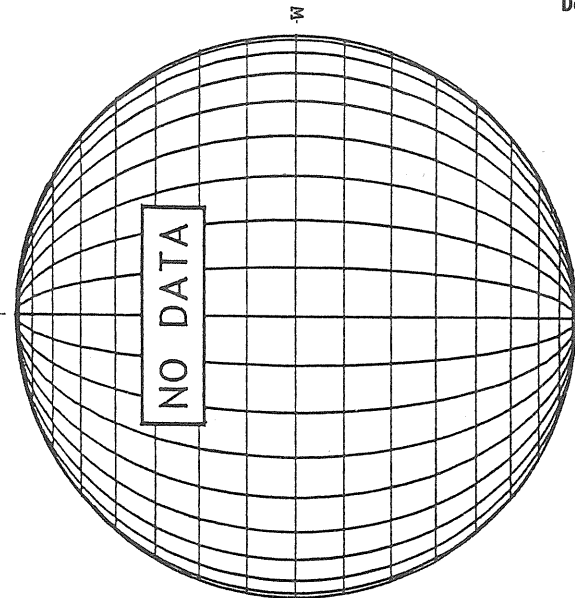
2125 UT

RAMEY SUNSPOT



1552 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



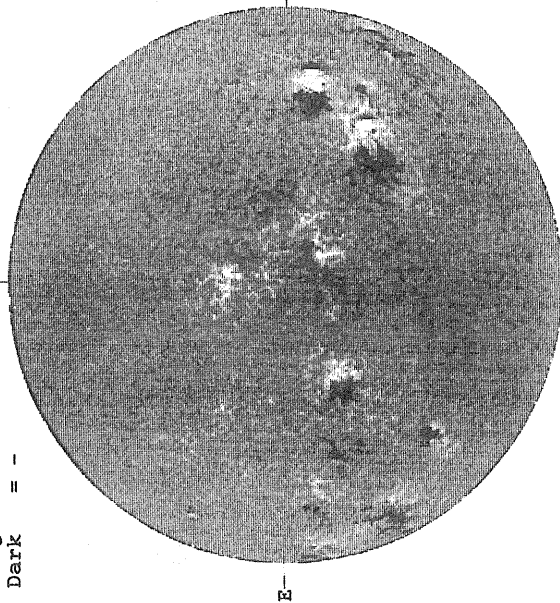
NO DATA

DECEMBER 14, 1992 (P= 10.53, B₀ = -0.82, L₀ = 141.28)

KITT PEAK MAGNETOGRAM

5507A

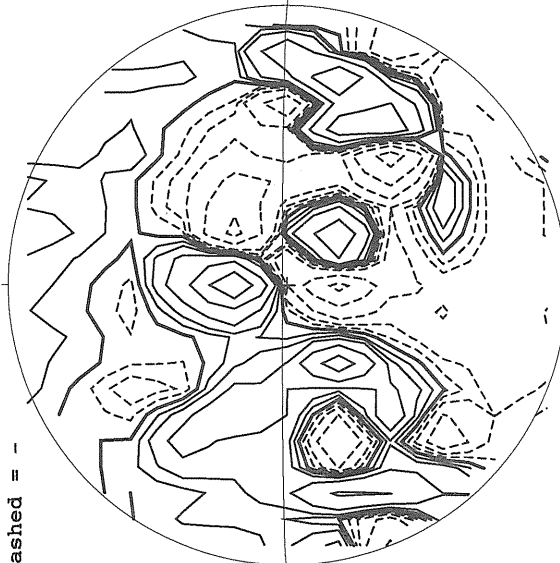
Bright = +
Dark = -



1623 UT

STANFORD MAGNETOGRAM

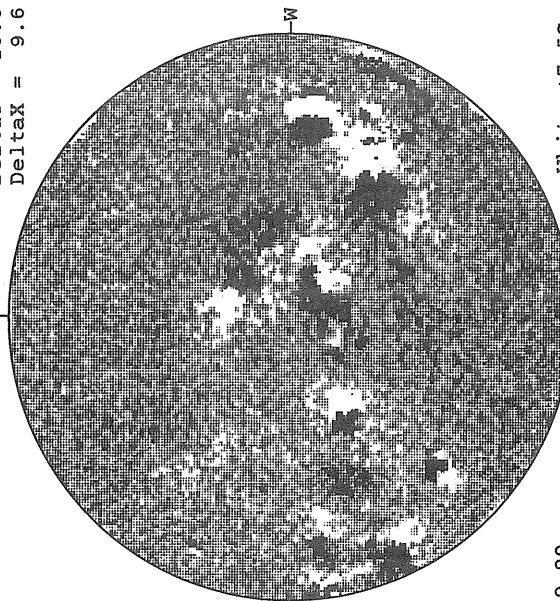
Solid = +
Dashed = -



1949 UT

MT. WILSON MAGNETOGRAM

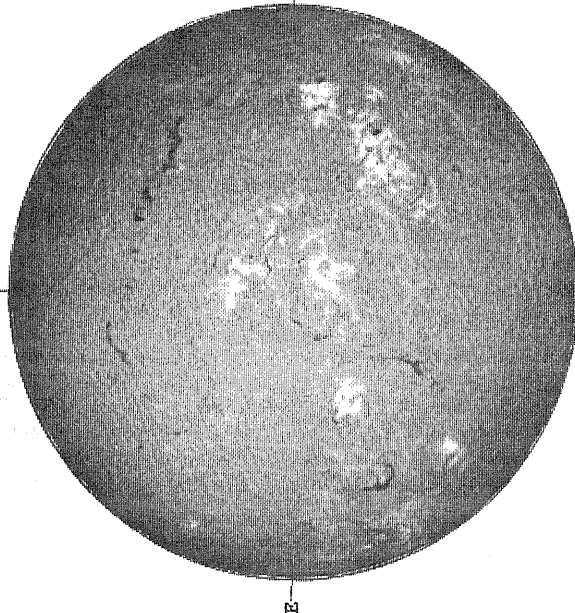
DeltaY = 13.0
DeltaX = 9.6



19.90 -
20.87 UT

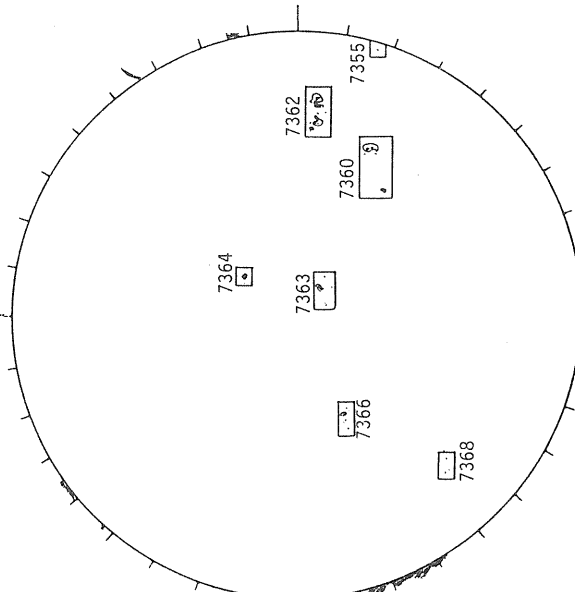
White = +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



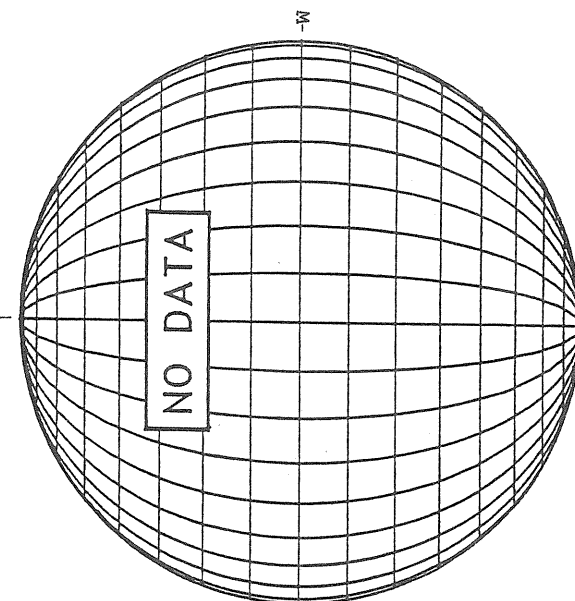
1528 UT

BOULDER SUNSPOT



1615 UT
1626 UT BOUL Prom

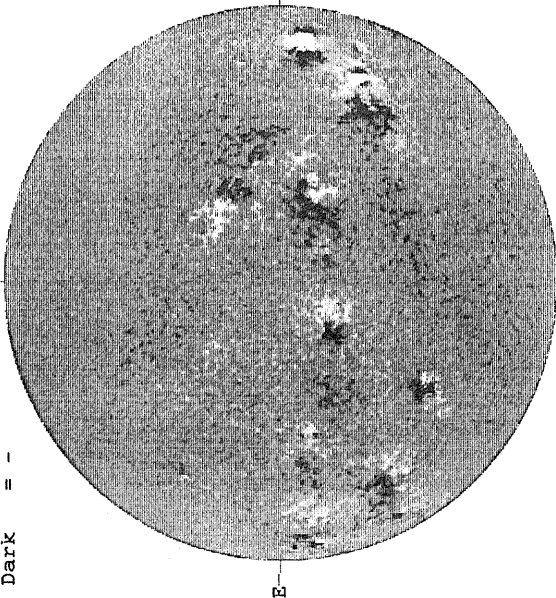
SACRAMENTO PEAK CORONA (1.15 Radii)



DECEMBER 15, 1992 (P= 10.08, B₀ = -0.95, L₀ = 128.11)

KITT PEAK MAGNETOGRAM
5507A

Bright = +
Dark = -



1617 UT

STANFORD MAGNETOGRAM

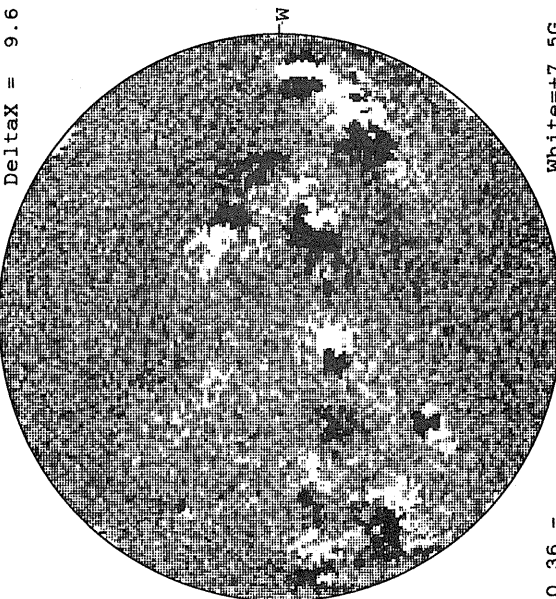
Solid = +
Dashed = -



2253 UT

MT. WILSON MAGNETOGRAM

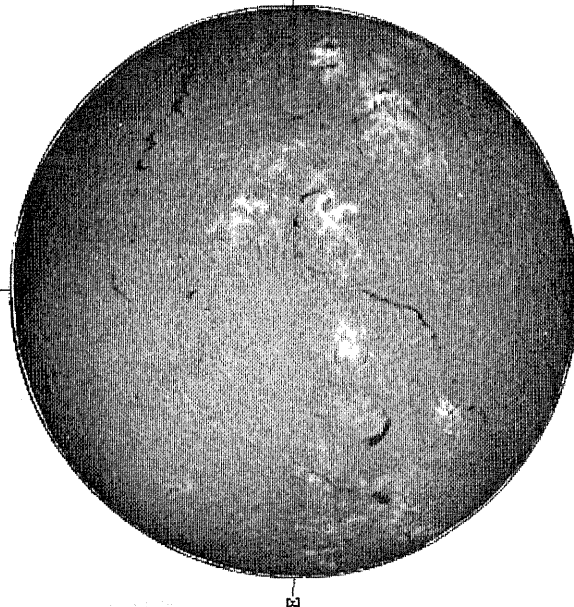
DeltaY = 13.0
DeltaX = 9.6



20.36 -
21.33 UT

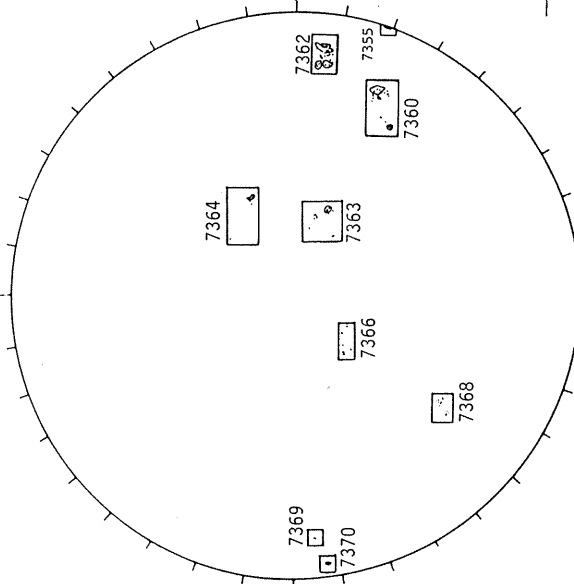
White = +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



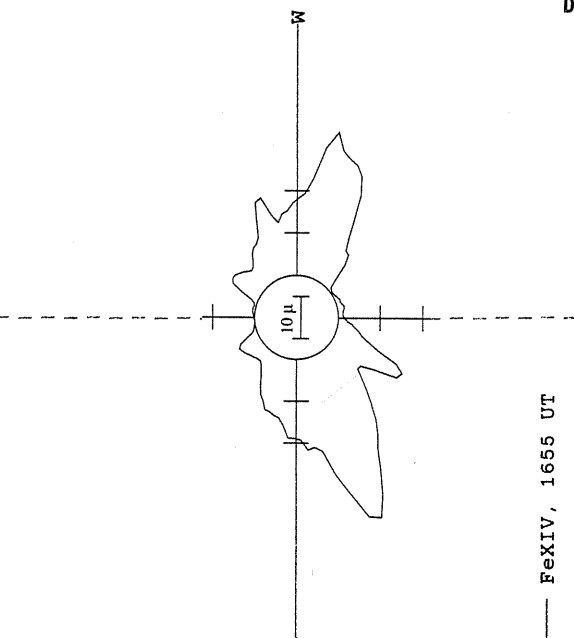
1556 UT

RAMEY SUNSPOT



1550 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

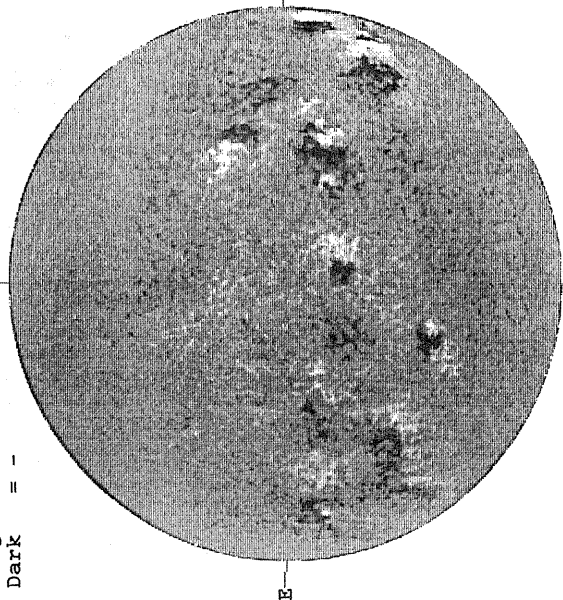


FeXIV, 1655 UT

DECEMBER 16, 1992 ($P = 9.62$, $B_0 = -1.08$, $L_0 = 114.93$)

KITT PEAK MAGNETOGRAM
N **5507A**

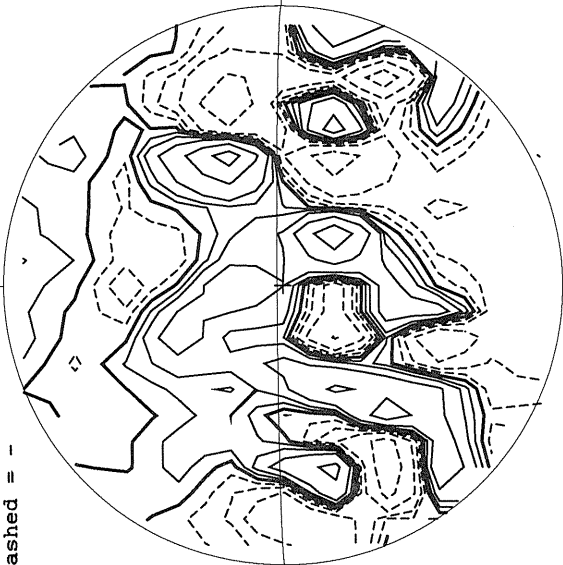
Bright = +
Dark = -



1632 UT

STANFORD MAGNETOGRAM
N

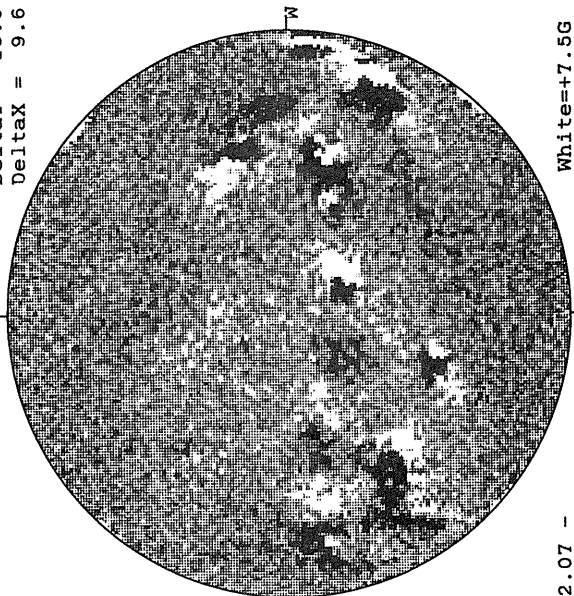
Solid = +
Dashed = -



1841 UT

MT. WILSON MAGNETOGRAM
N

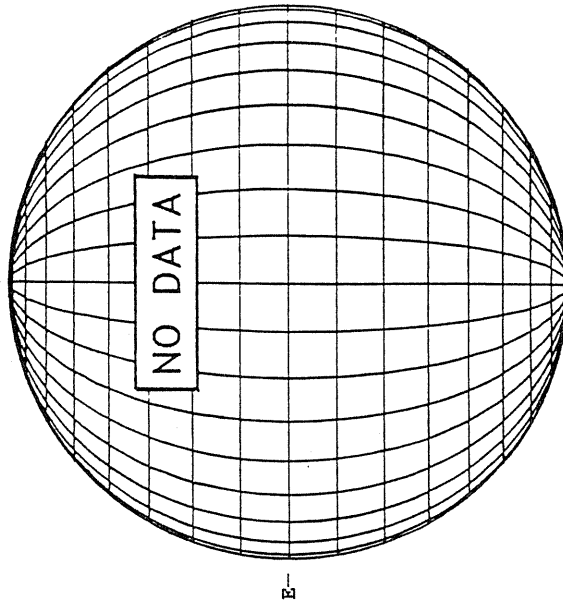
DeltaY = 13.0
DeltaX = 9.6



22.07 -
23.04 UT

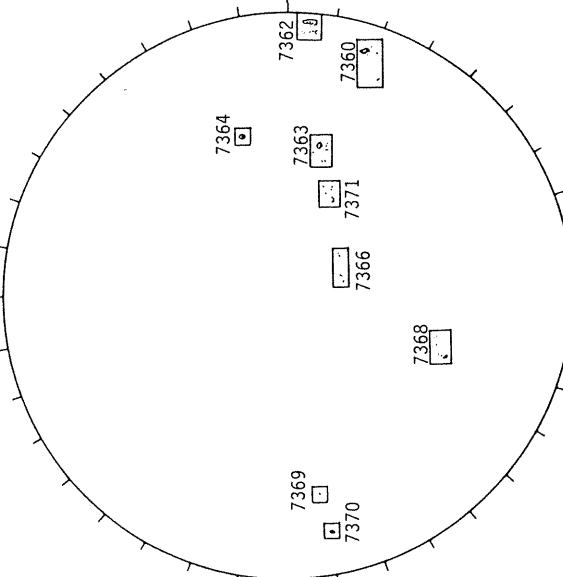
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



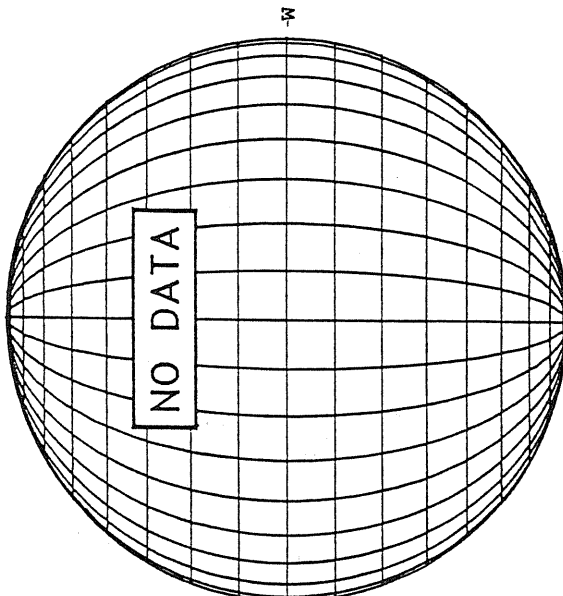
E

HOLLOMAN SUNSPOT



1810 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



S

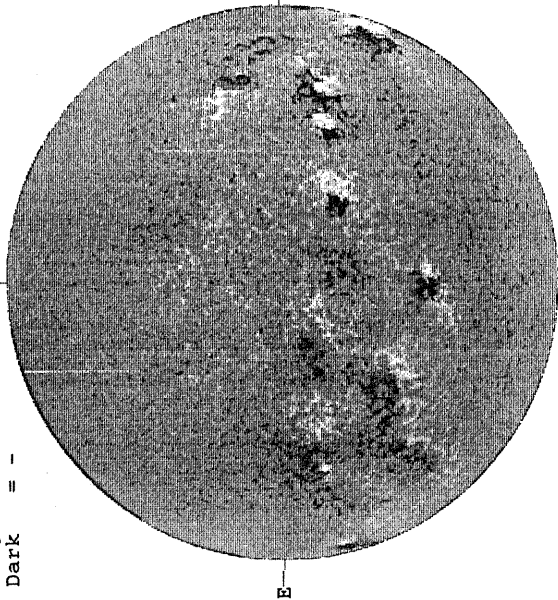
NO DATA

NO DATA

DECEMBER 17, 1992 (P= 9.17, B₀ =-1.20, L₀ = 101.76)

KITT PEAK MAGNETOGRAM
5507A

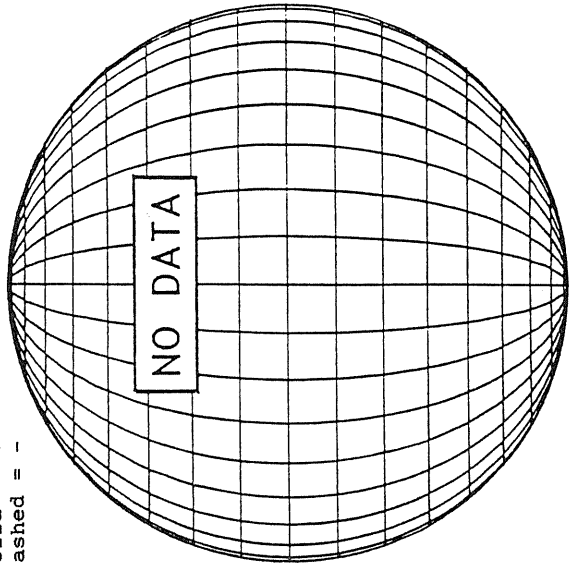
Bright = +
Dark = -



1728 UT

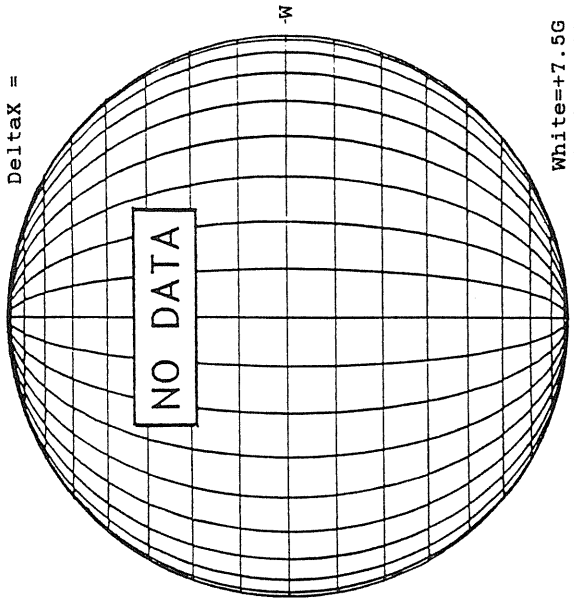
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



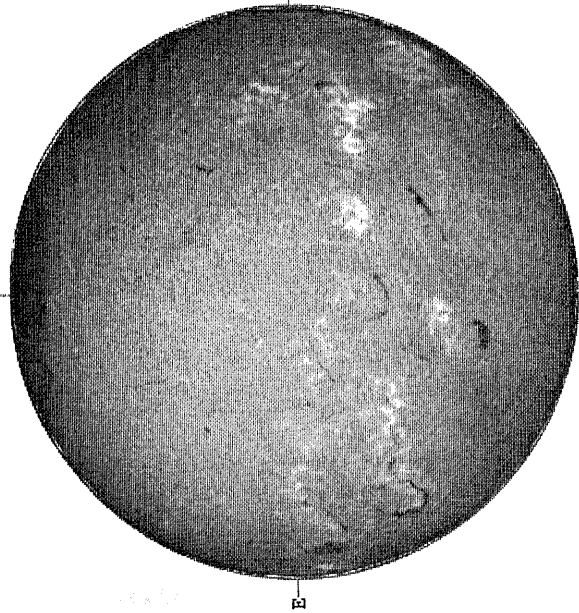
MT. WILSON MAGNETOGRAM

Delta Y =
Delta X =



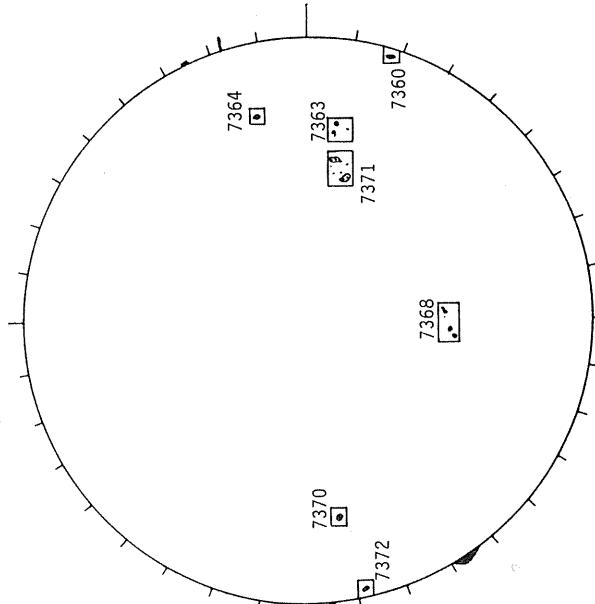
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



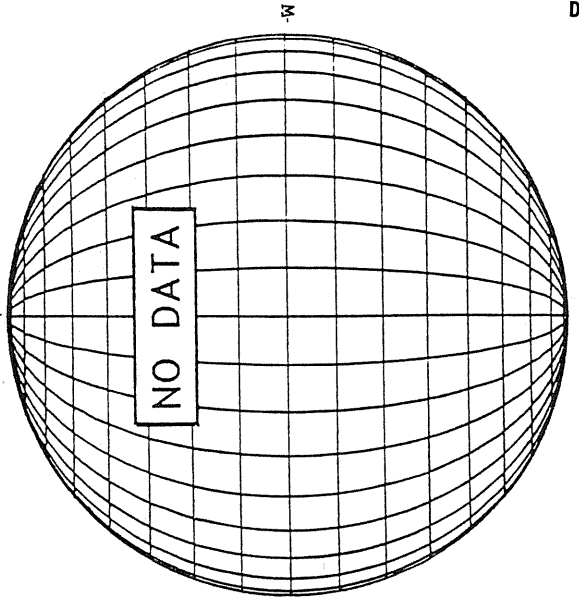
1715 UT

BOULDER SUNSPOT



1608 UT
1617 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

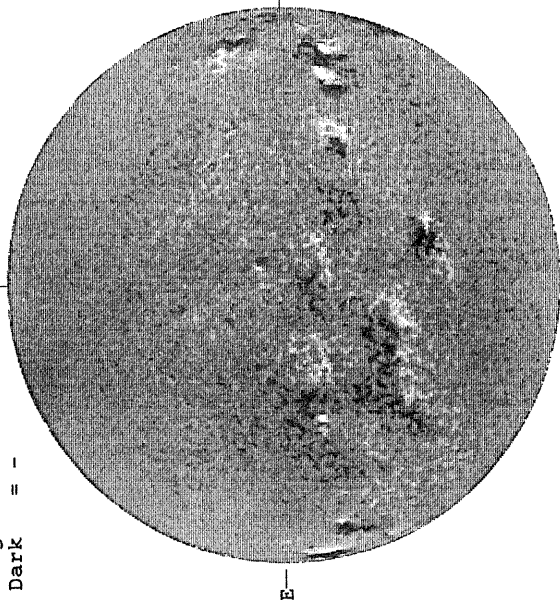


62
Dec 92

DECEMBER 18, 1992 (P= 8.70, B₀ = -1.33, L₀ = 88.58)

KITT PEAK MAGNETOGRAM
N
5507A

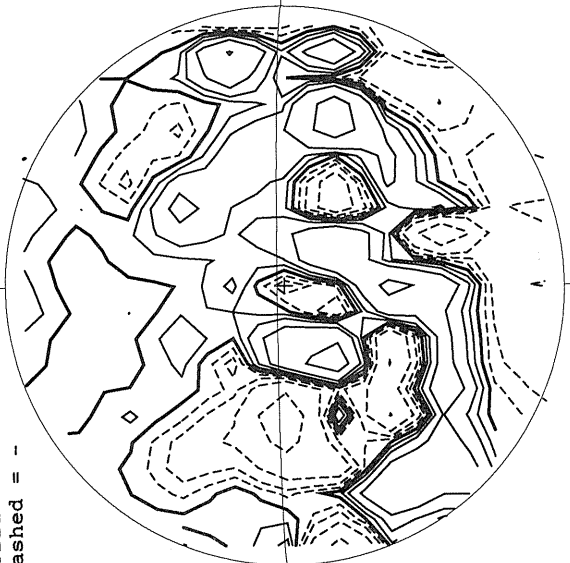
Bright = +
Dark = -



1802 UT

STANFORD MAGNETOGRAM
N

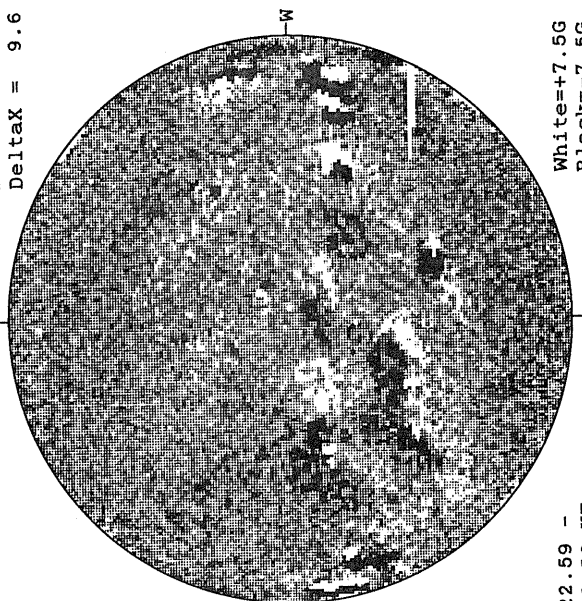
Solid = +
Dashed = -



2236 UT

MT. WILSON MAGNETOGRAM
N

Delta_Y = 13.0
Delta_X = 9.6



22.59 -
23.56 UT

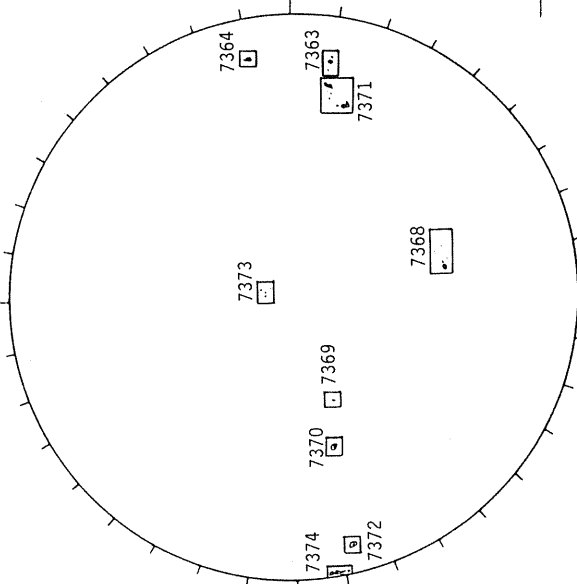
White = +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



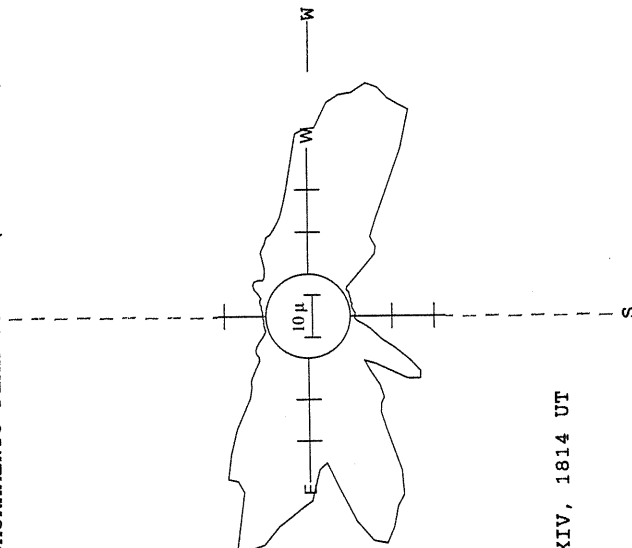
1637 UT

HOLLOMAN SUNSPOT



1555 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

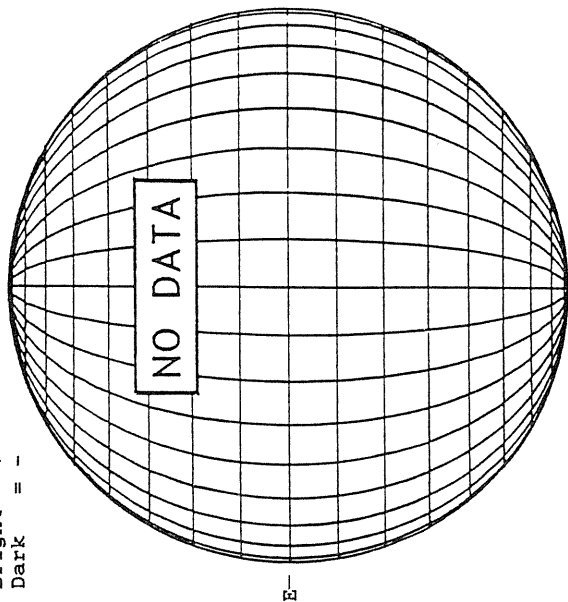


Fe XIV, 1814 UT

DECEMBER 19, 1992 (P= 8.24, B₀ = -1.46, L₀ = 75.41)

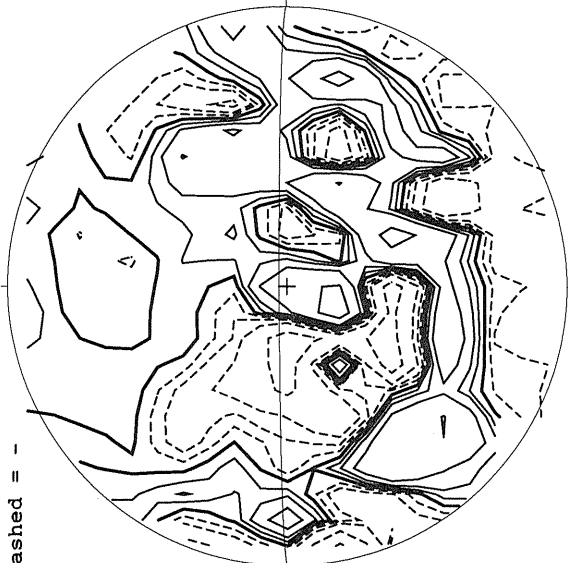
KITT PEAK MAGNETOGRAM
5507A

Bright = +
Dark = -



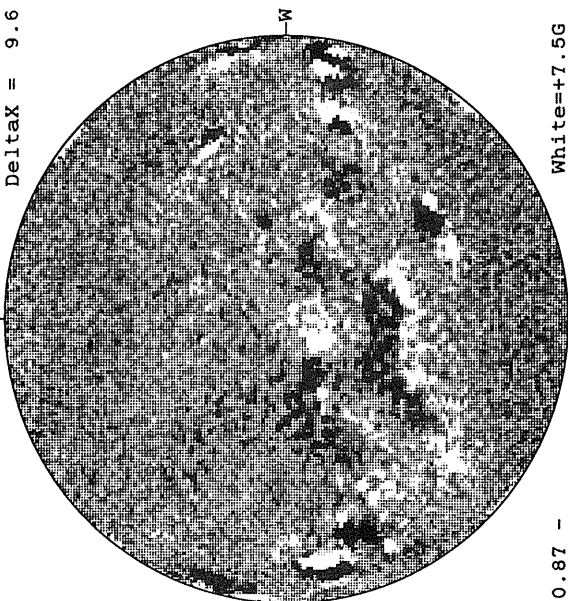
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

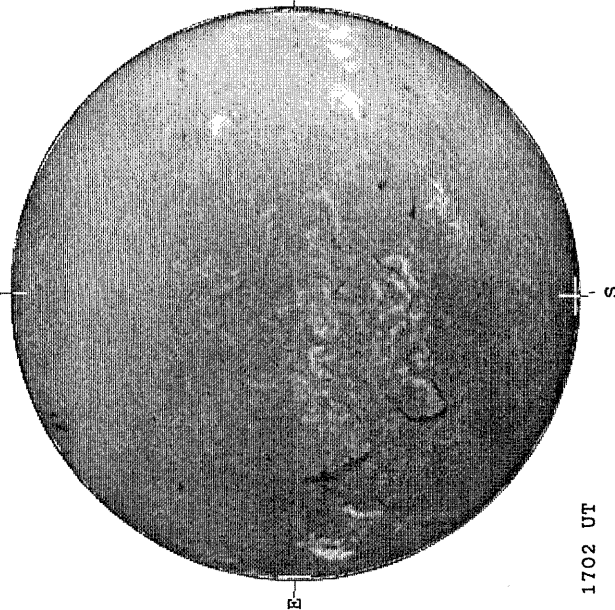
Delta Y = 13.0
Delta X = 9.6



20.87 -
21.85 UT

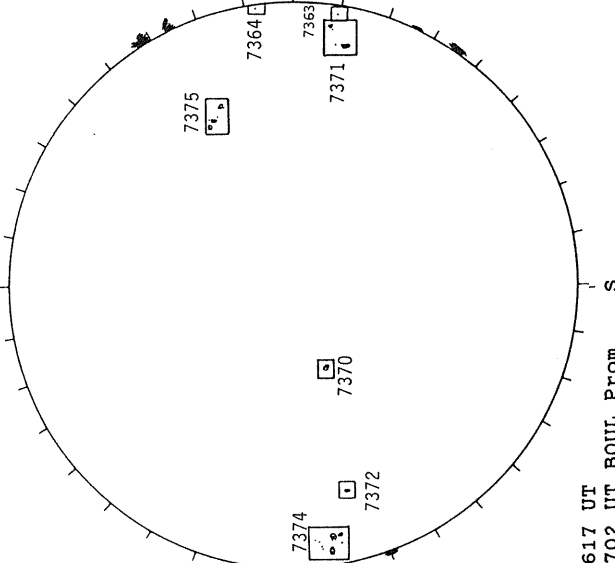
White = +7.5G
Black = -7.5G

BOULDER H-ALPHA



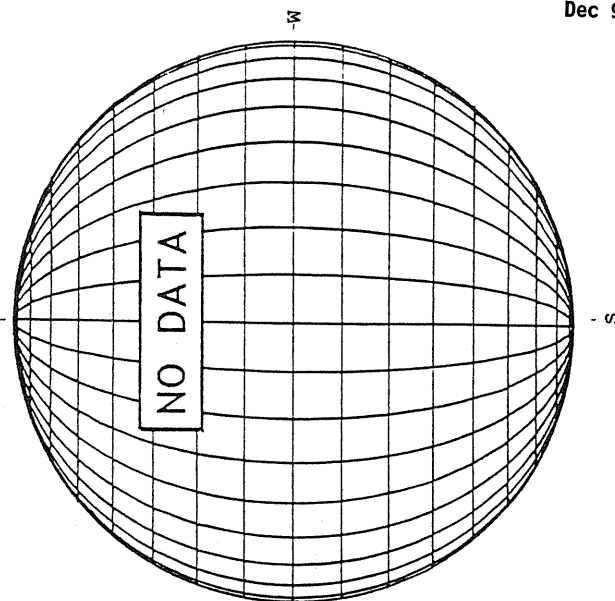
1702 UT

BOULDER SUNSPOT



1617 UT
1702 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

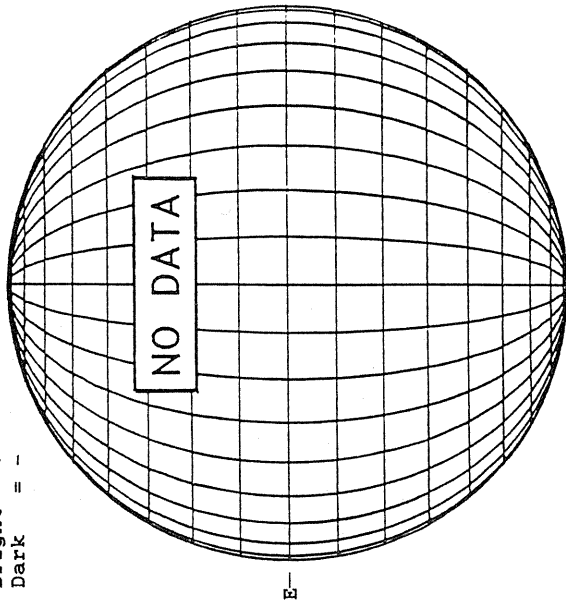


DECEMBER 20, 1992 (P= 7.77, B₀ = -1.58, L₀ = 62.24)

KITT PEAK MAGNETOGRAM

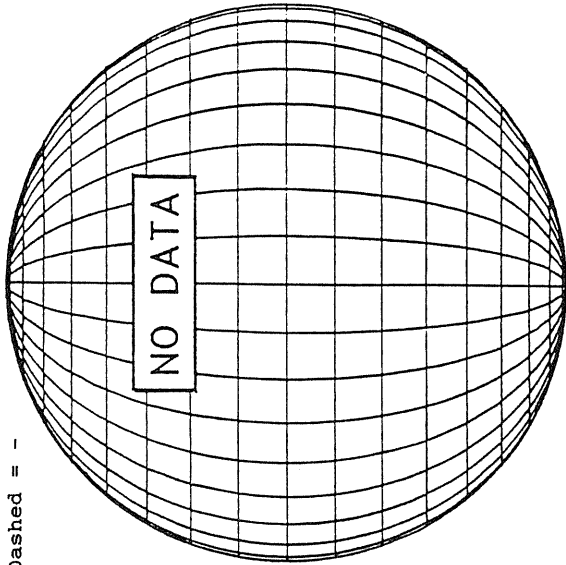
5507A

Bright = +
Dark = -



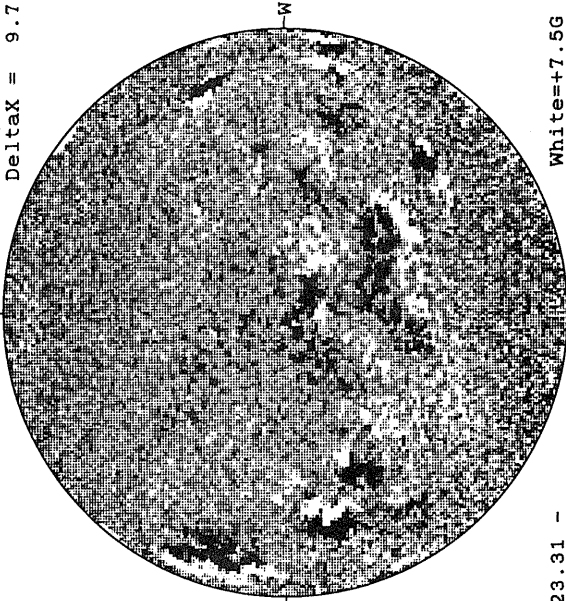
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

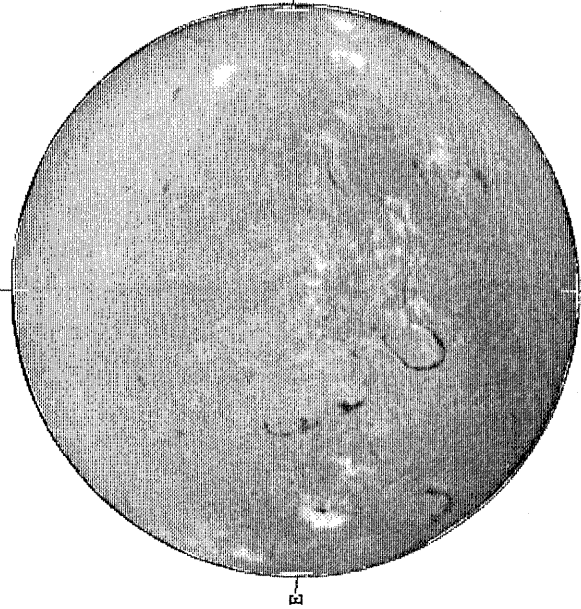
DeltaY = 13.1
DeltaX = 9.7



23.31 -
24.28 UT

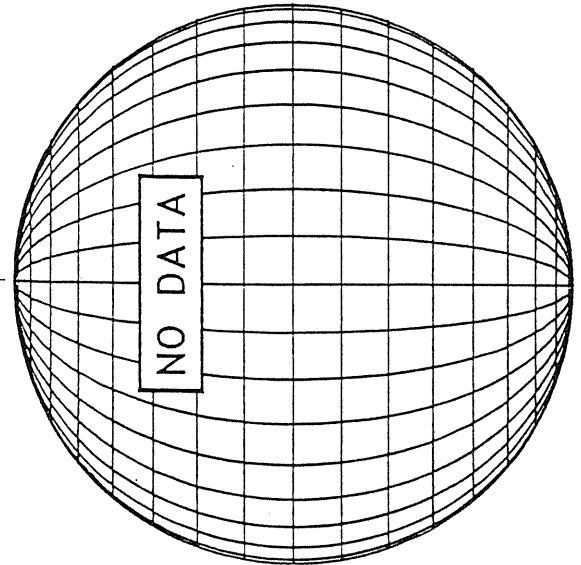
White = +7.5G
Black = -7.5G

BOULDER H-ALPHA



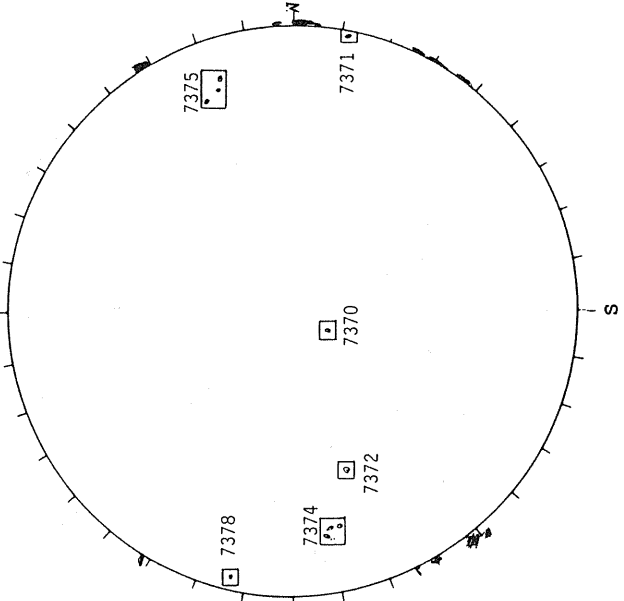
1612 UT

BOULDER SUNSPOT



1617 UT
1612 UT BOUL Prom

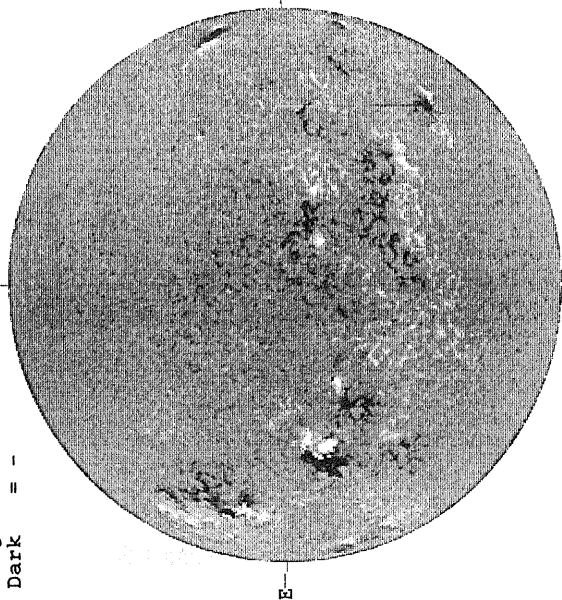
SACRAMENTO PEAK CORONA (1.15 Radii)



DECEMBER 21, 1992 (P= 7.30, B₀ = -1.71 L₀ = 49.06)

KITT PEAK MAGNETOGRAM
5507A

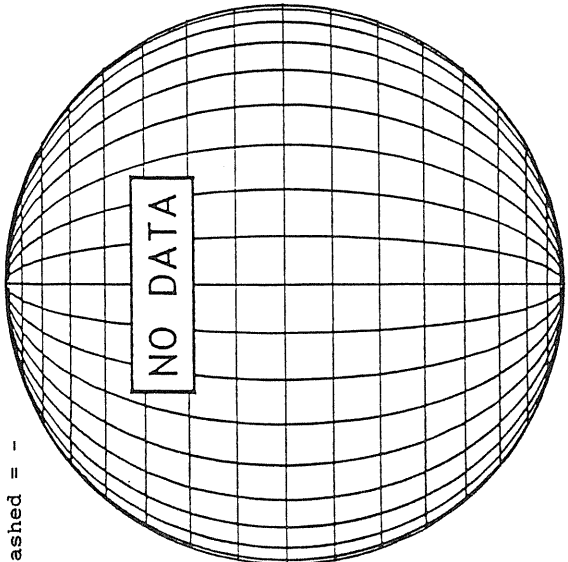
Bright = +
Dark = -



1608 UT

STANFORD MAGNETOGRAM

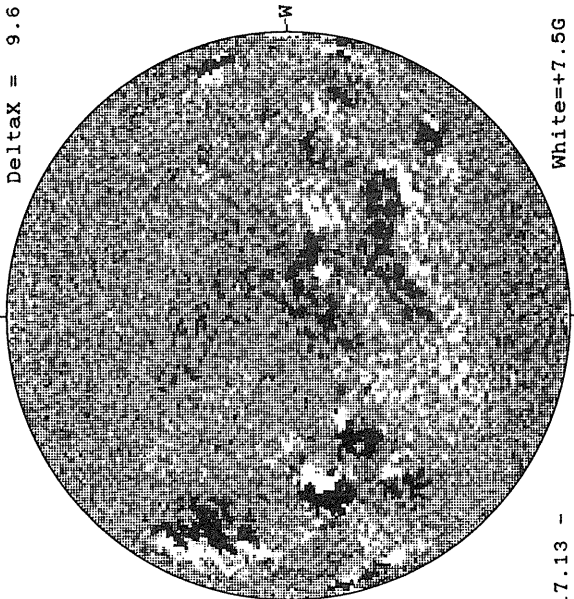
Solid = +
Dashed = -



17.13 -
18.10 UT

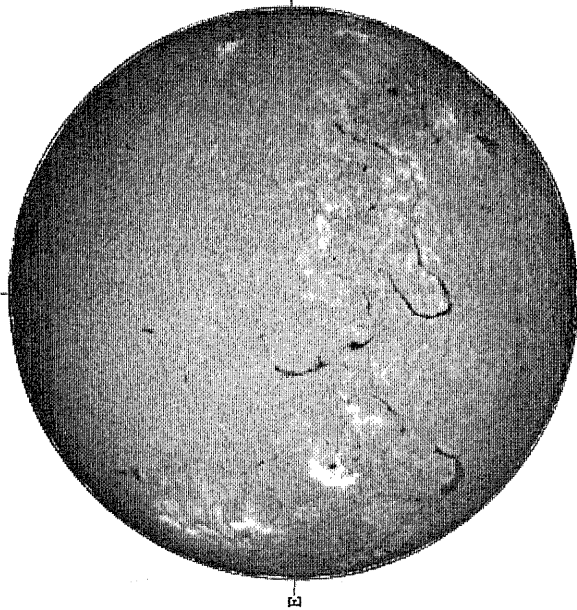
MT. WILSON MAGNETOGRAM

DeltaY = 13.0
DeltaX = 9.6



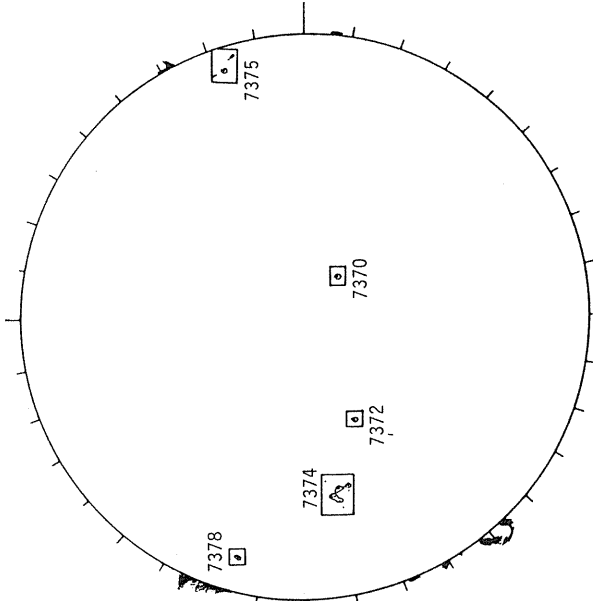
White = +7.5G
Black = -7.5G

SACRAMENTO PEAK H-ALPHA



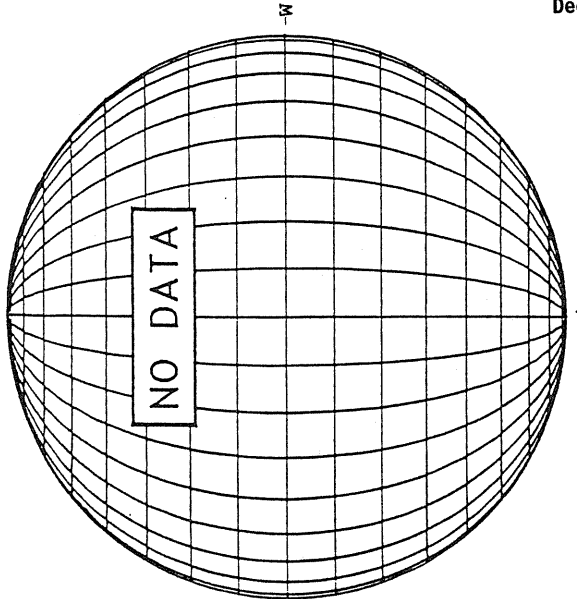
1516 UT

BOULDER SUNSPOT



1556 UT
1613 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

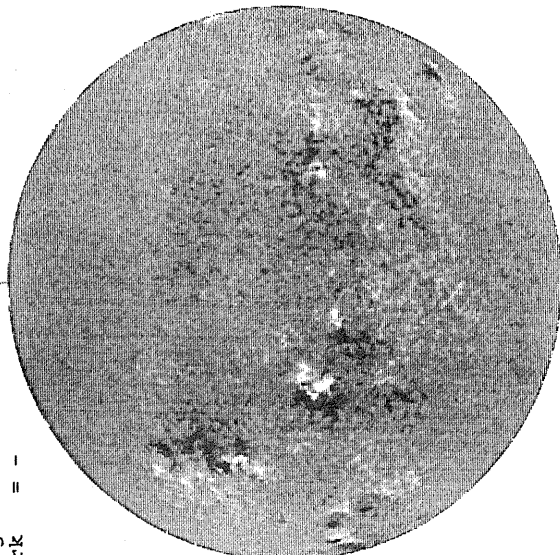


DECEMBER 22, 1992 (P= 6.83, B₀ = -1.83, L₀ = 35.89)

KITT PEAK MAGNETOGRAM

5507A

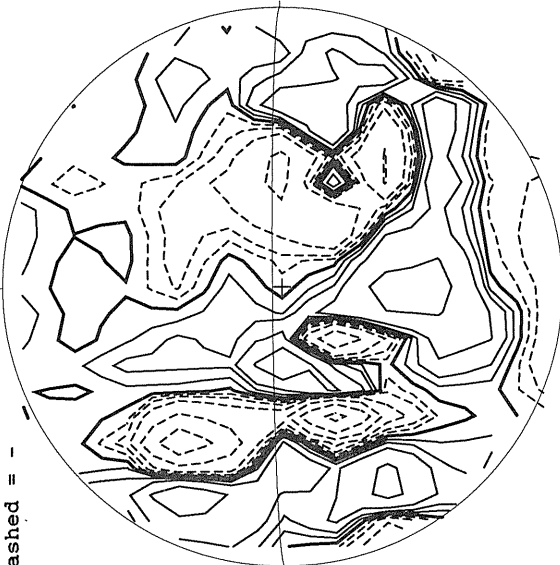
Bright = +
Dark = -



1810 UT

STANFORD MAGNETOGRAM

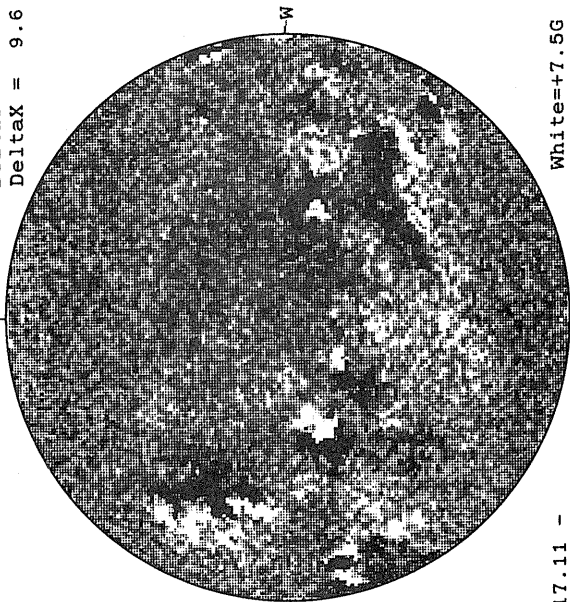
Solid = +
Dashed = -



2047 UT

MT. WILSON MAGNETOGRAM

Deltay = 13.1
Deltax = 9.6



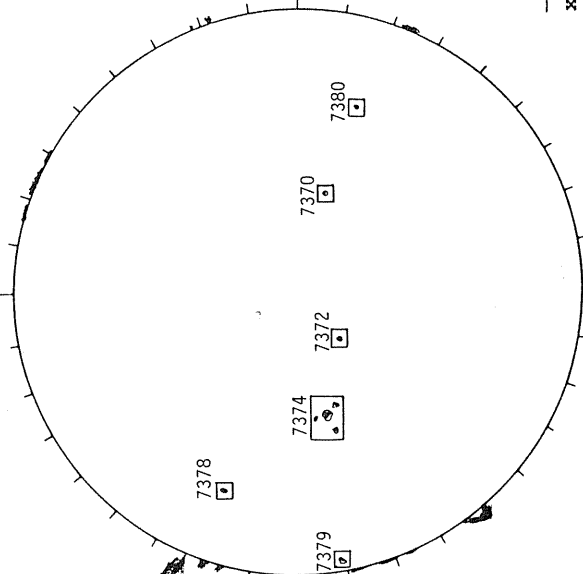
17.11 -
18.08 UT

BOULDER H-ALPHA



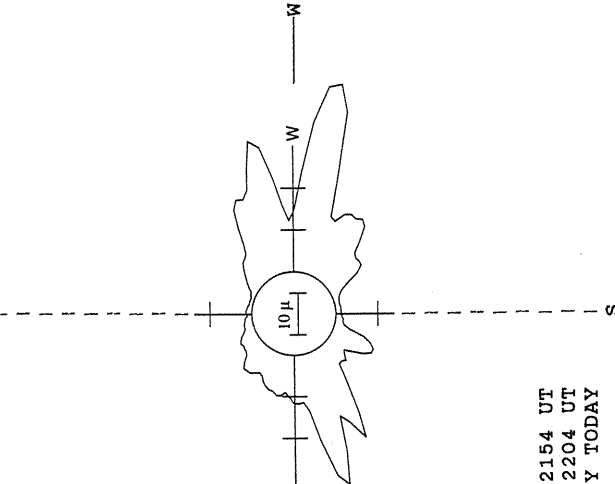
1604 UT

BOULDER SUNSPOT



1553 UT
1604 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

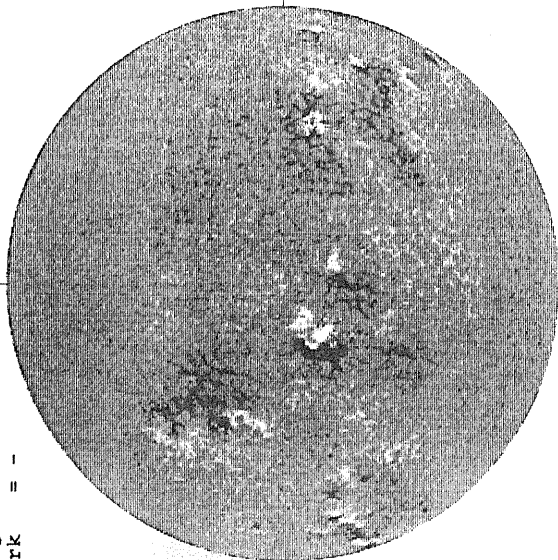


FeXIV, 2154 UT
Ca XV, 2204 UT
NO CA XV ACTIVITY TODAY

DECEMBER 23, 1992 (P= 6.35, B₀ = -1.96, L₀ = 22.72)

KITT PEAK MAGNETOGRAM
N
5507A

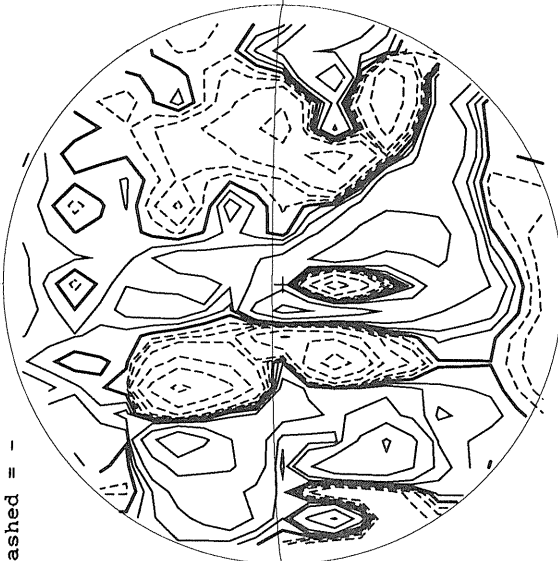
Bright = +
Dark = -



1608 UT

STANFORD MAGNETOGRAM
N

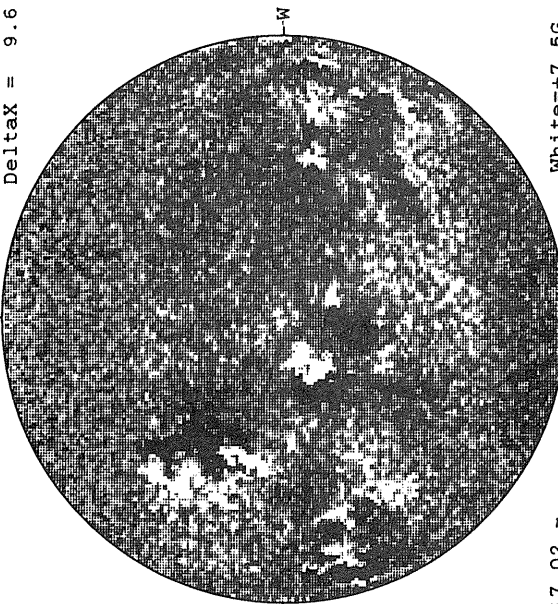
Solid = +
Dashed = -



2043 UT

MT. WILSON MAGNETOGRAM
N

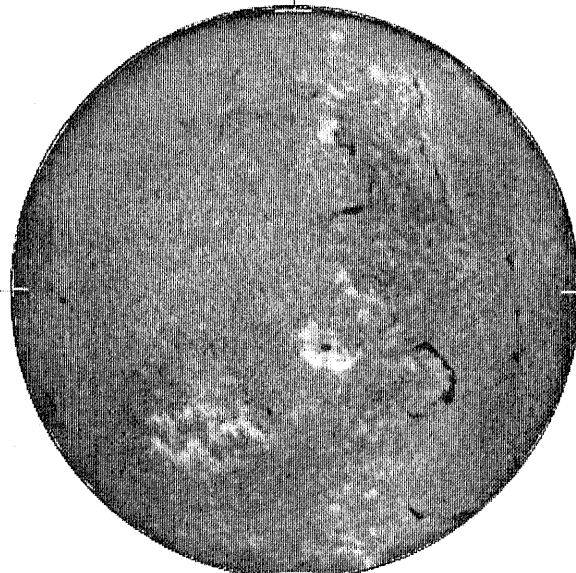
Delta γ = 13.1
Delta α = 9.6



17.02 ~
17.99 UT

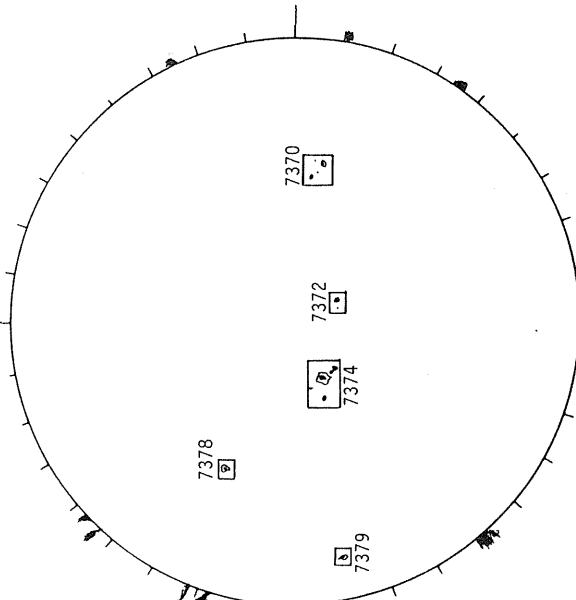
White = +7.5G
Black = -7.5G

BOULDER H-ALPHA



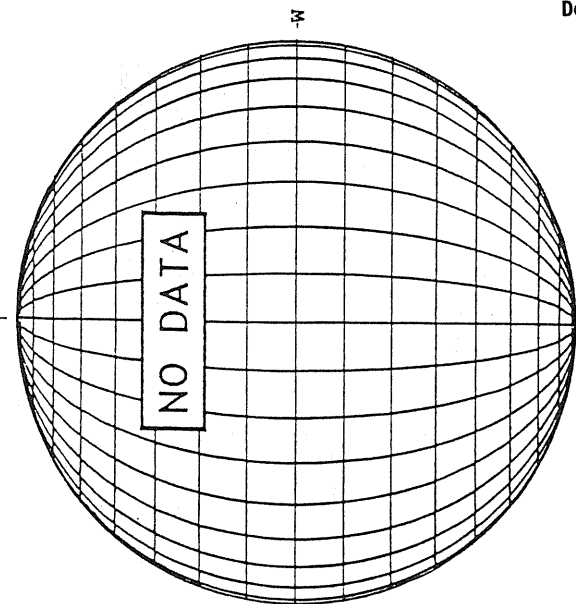
1704 UT

BOULDER SUNSPOT



1642 UT
1704 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

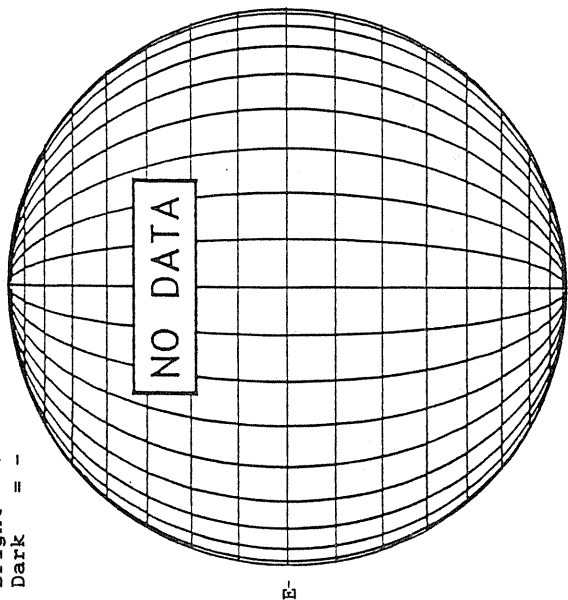


NO DATA

DECEMBER 24, 1992 (P= 5.88 Bo=-2.08, Lo = 9.55)

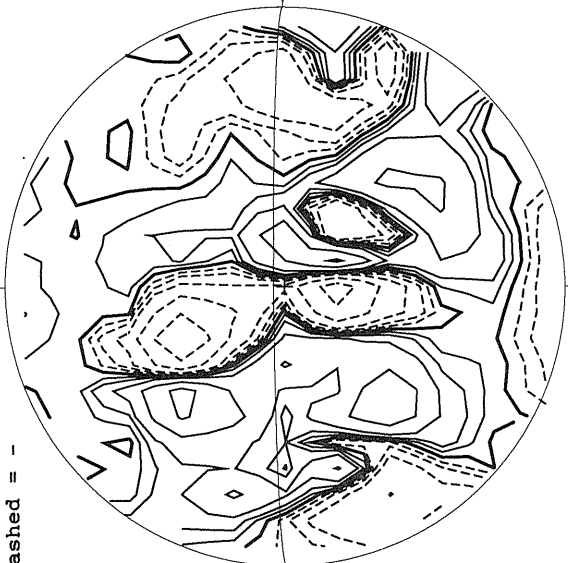
KITT PEAK MAGNETOGRAM
5507A

Bright = +
Dark = -



STANFORD MAGNETOGRAM

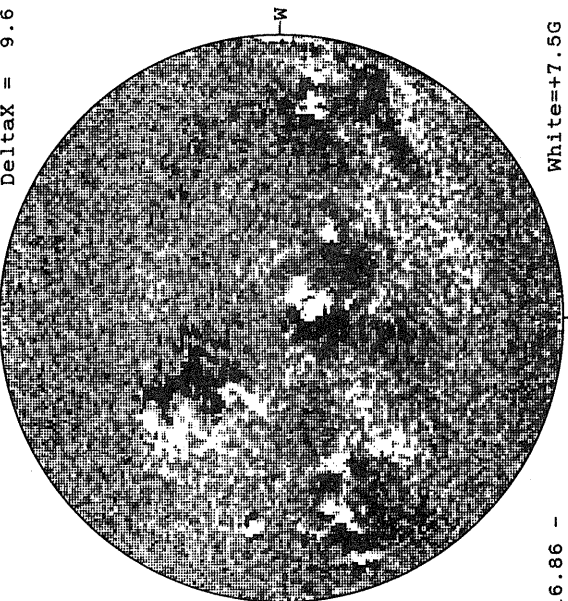
Solid = +
Dashed = -



1817 UT

MT. WILSON MAGNETOGRAM

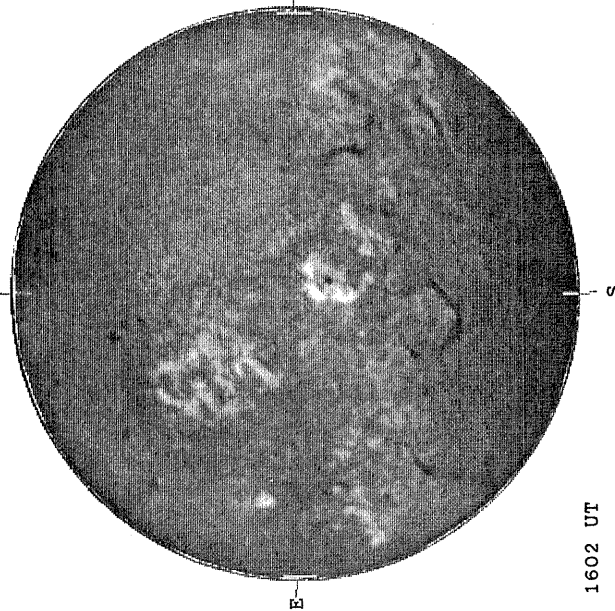
DeltaY = 13.1
DeltaX = 9.6



16.86 -
17.83 UT

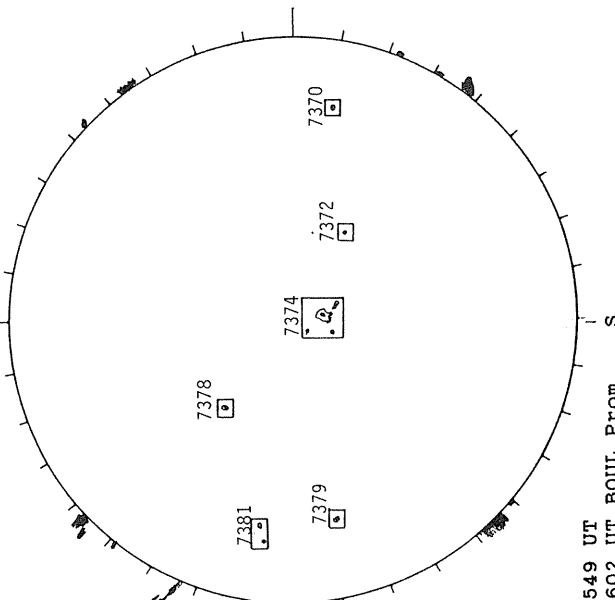
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



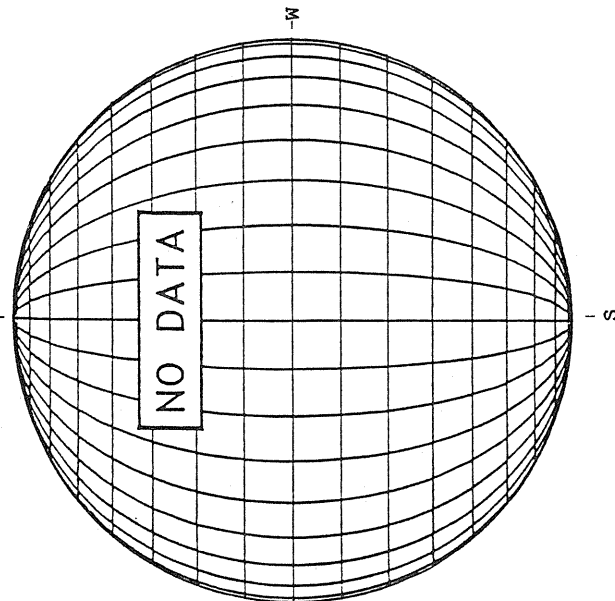
1602 UT

BOULDER SUNSPOT



1549 UT
1602 UT BOUL Prom

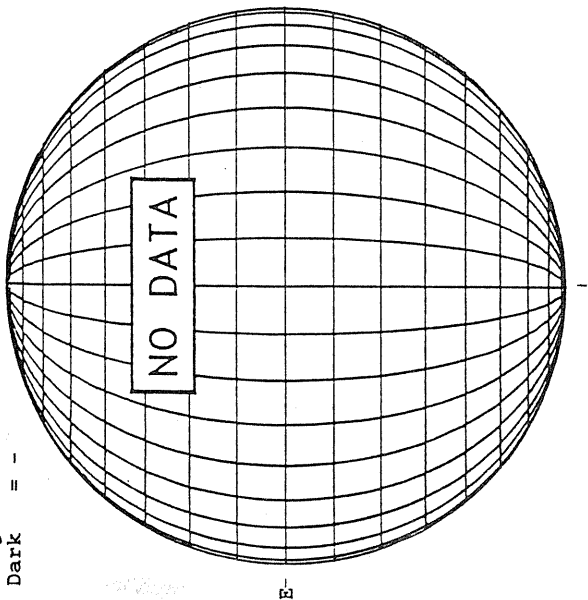
SACRAMENTO PEAK CORONA (1.15 Radii)



DECEMBER 25, 1992 (P= 5.40 B₀ = -2.20, L₀ = 356.37)

KITT PEAK MAGNETOGRAM
5507A

Bright = +
Dark = -



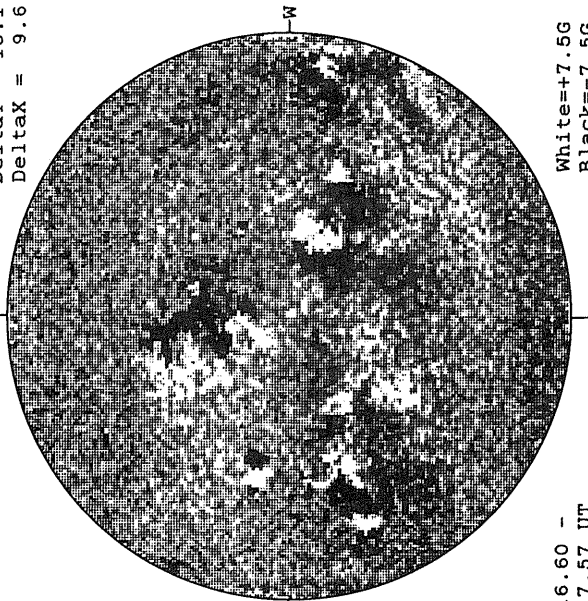
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

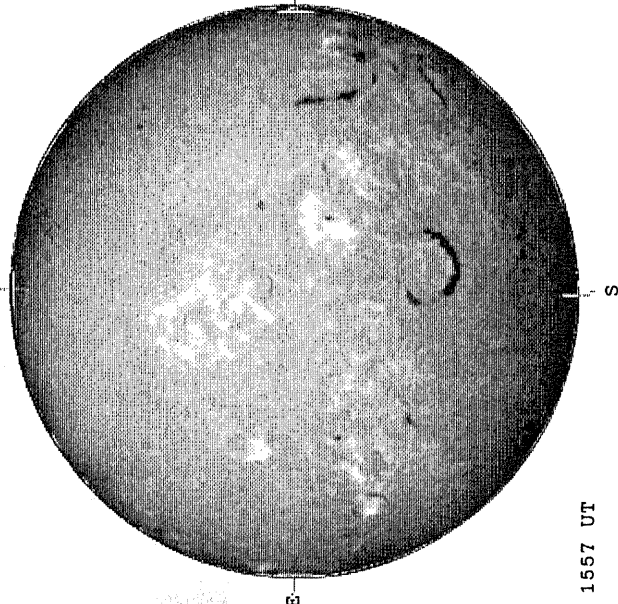
DeltaY = 13.1
DeltaX = 9.6



16.60 -
17.57 UT

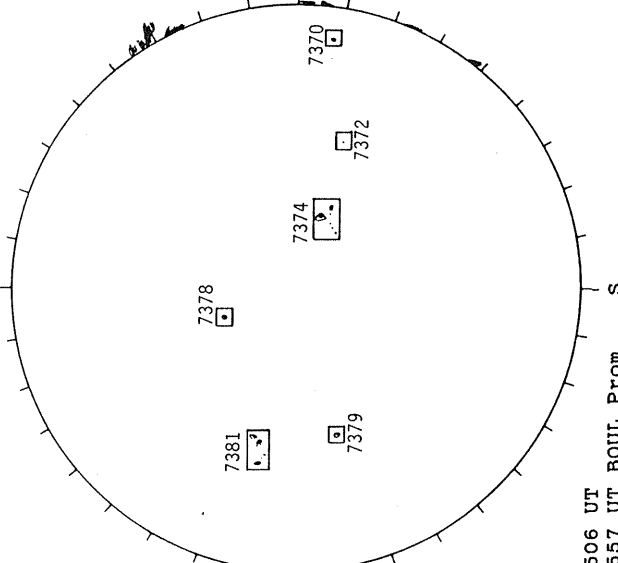
White = +7.5G
Black = -7.5G

BOULDER H-ALPHA



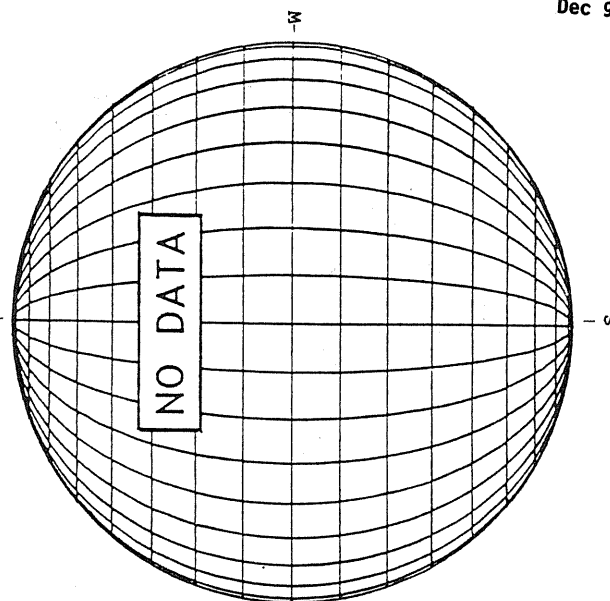
1557 UT

BOULDER SUNSPOT



1506 UT
1557 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

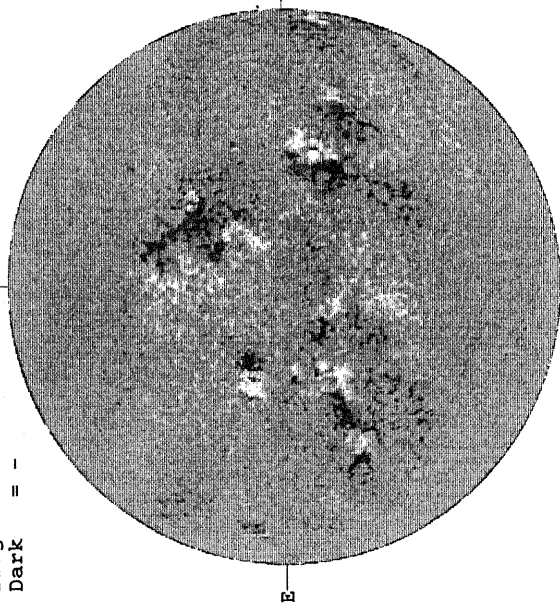


DECEMBER 26, 1992 (P= 4.92, B₀ = -2.32, L₀ = 343.20)

KITT PEAK MAGNETOGRAM

5507A

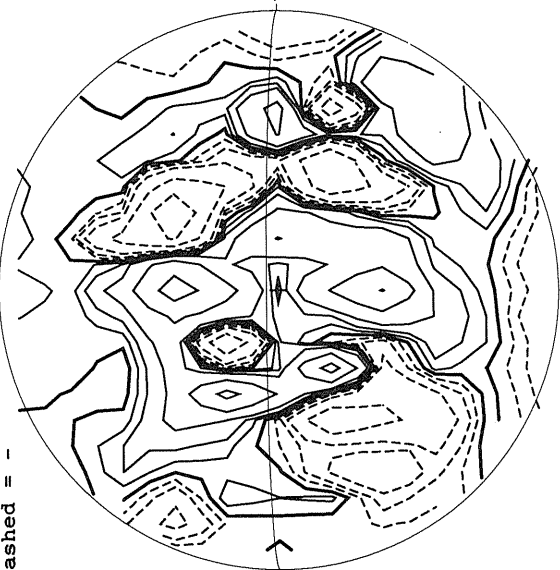
Bright = +
Dark = -



1620 UT

STANFORD MAGNETOGRAM

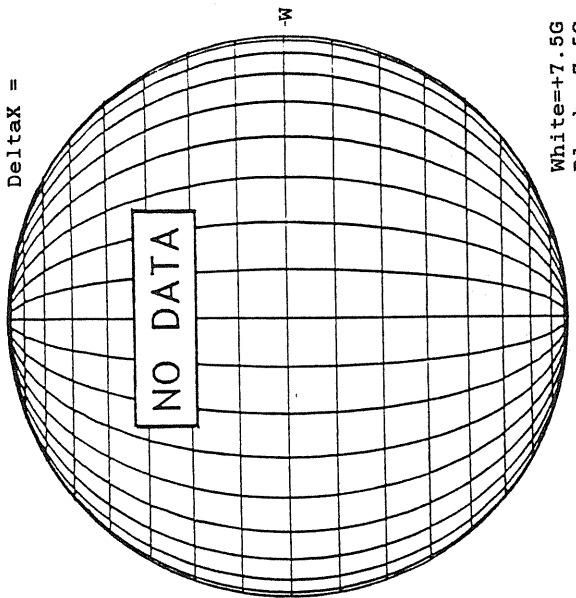
Solid = +
Dashed = -



1902 UT

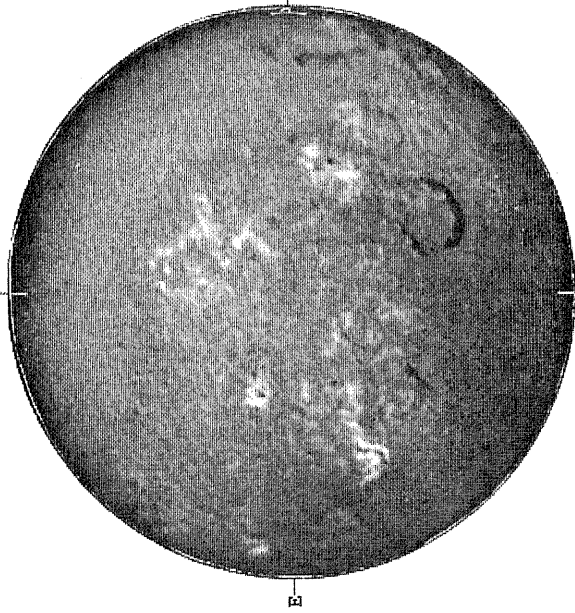
MT. WILSON MAGNETOGRAM

Deltay =
Deltax =



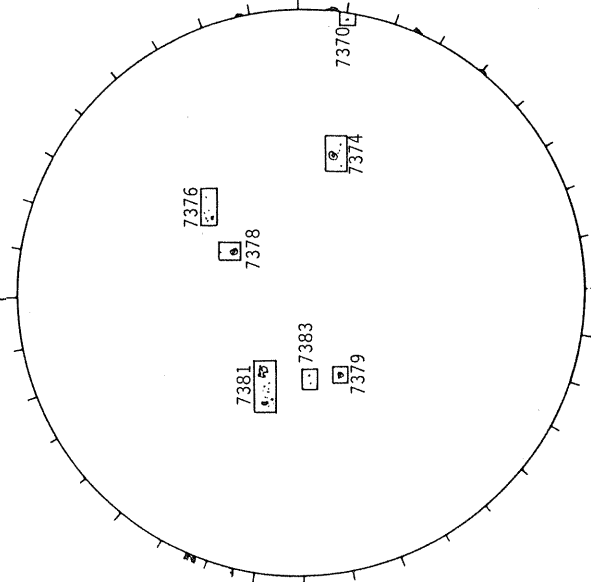
White = +7.5G
Black = -7.5G

BOULDER H-ALPHA



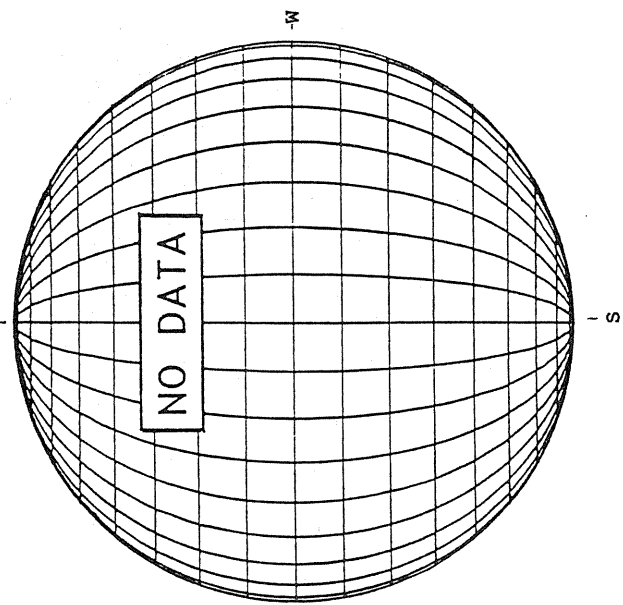
1602 UT

BOULDER SUNSPOT



1610 UT
1602 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

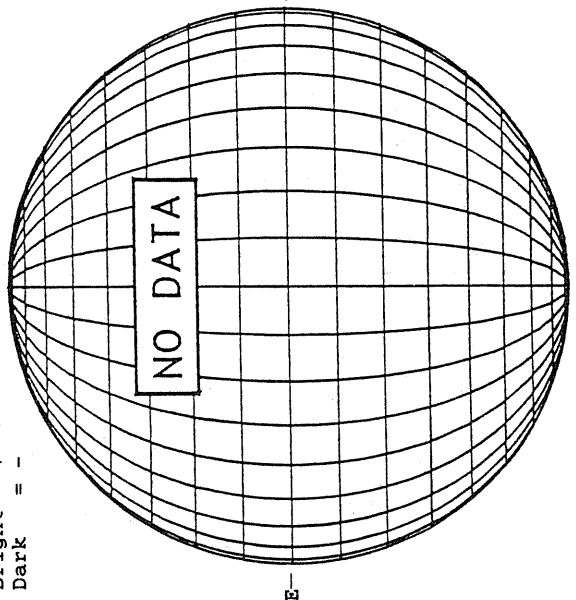


DECEMBER 27, 1992 (P= 4.43, B₀ = -2.44, I₀ = 330.03)

KITT PEAK MAGNETOGRAM

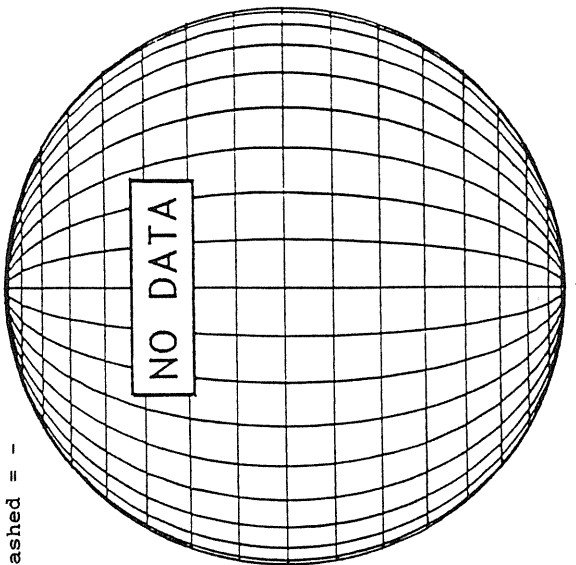
5507A

Bright = +
Dark = -



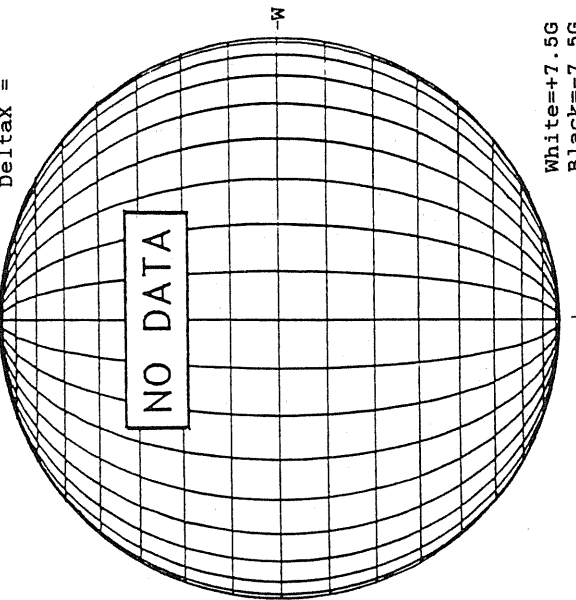
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



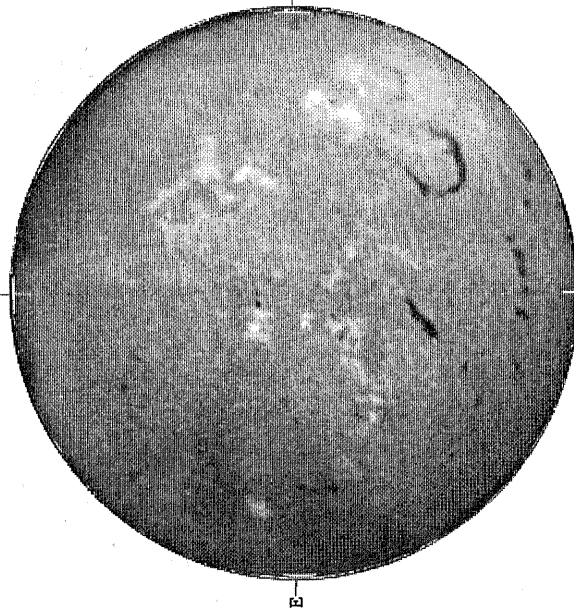
MT. WILSON MAGNETOGRAM

Delta Y =
Delta X =



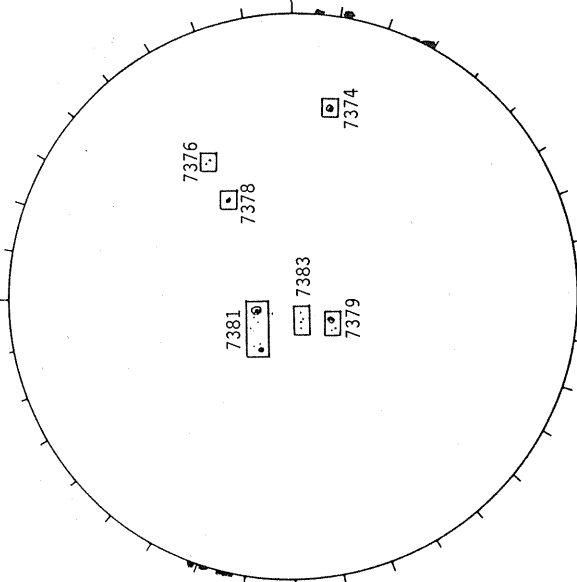
White = +7.5G
Black = -7.5G

BOULDER H-ALPHA



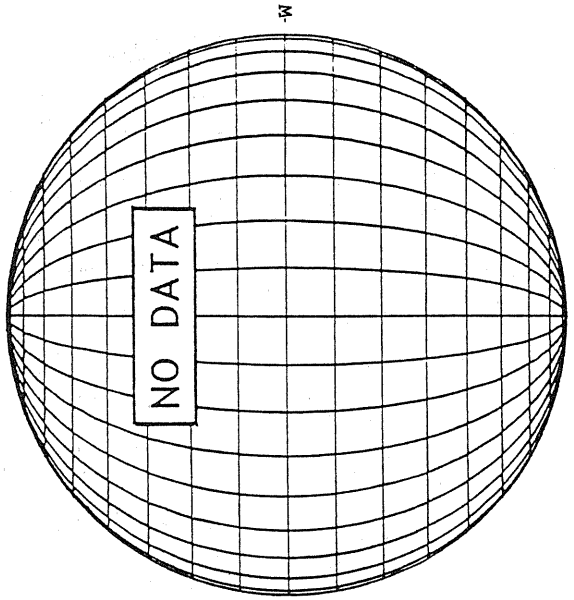
1700 UT

BOULDER SUNSPOT



1625 UT
1700 UT BOUL PROM

SACRAMENTO PEAK CORONA (1.15 Radii)

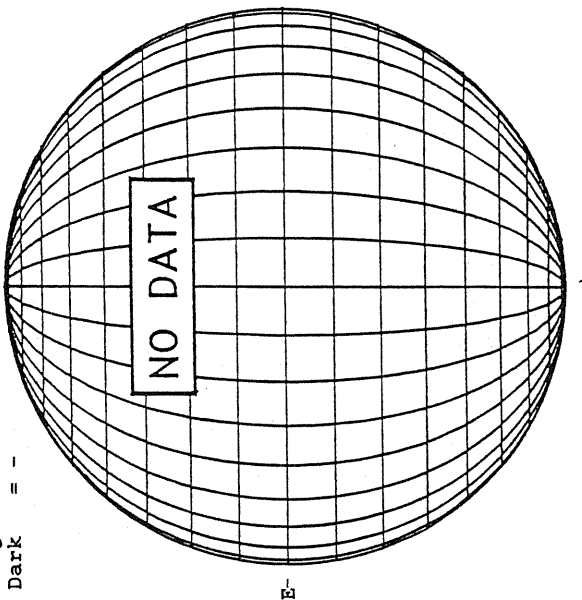


DECEMBER 28, 1992 (P= 3.95 B₀ = -2.57, L₀ = 316.86)

KITT PEAK MAGNETOGRAM

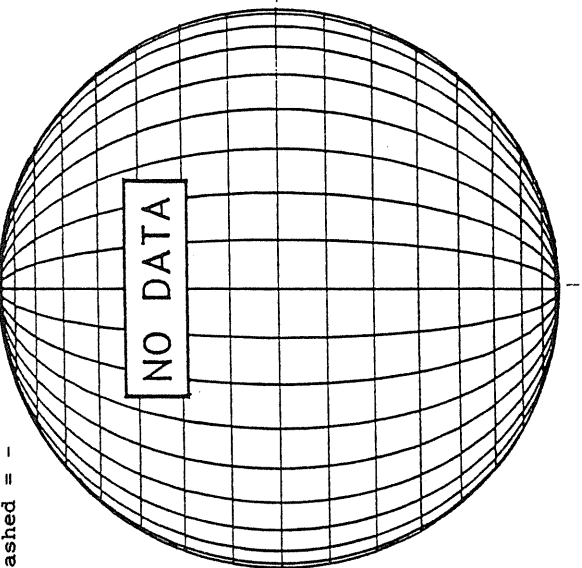
5507A

Bright = +
Dark = -



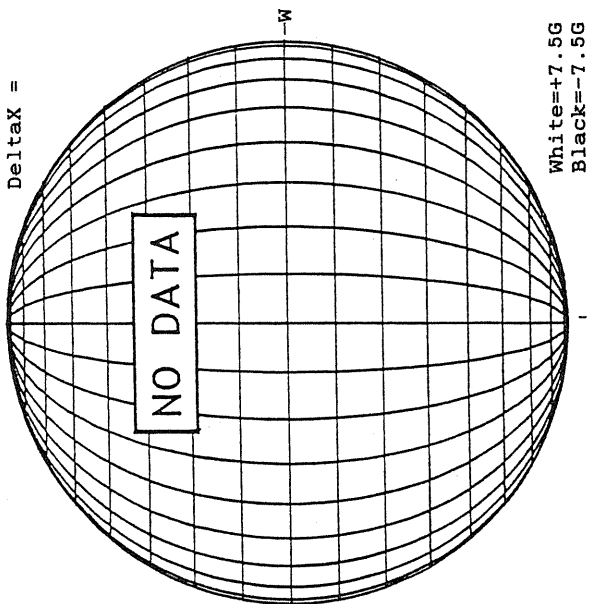
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



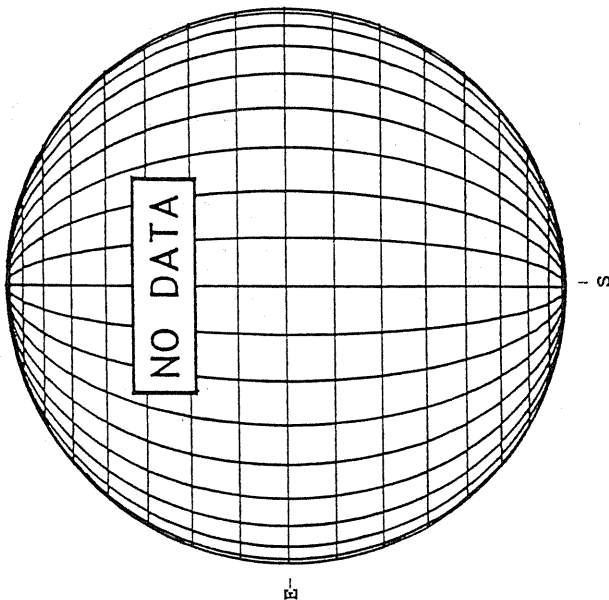
MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =

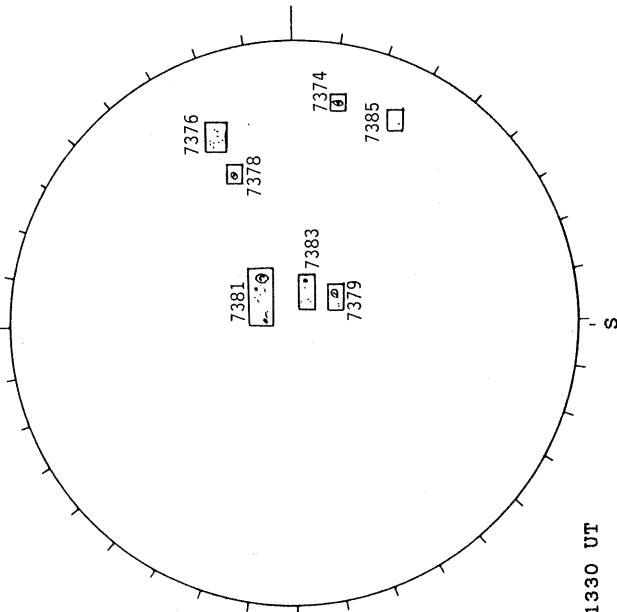


White = +7.5G
Black = -7.5G

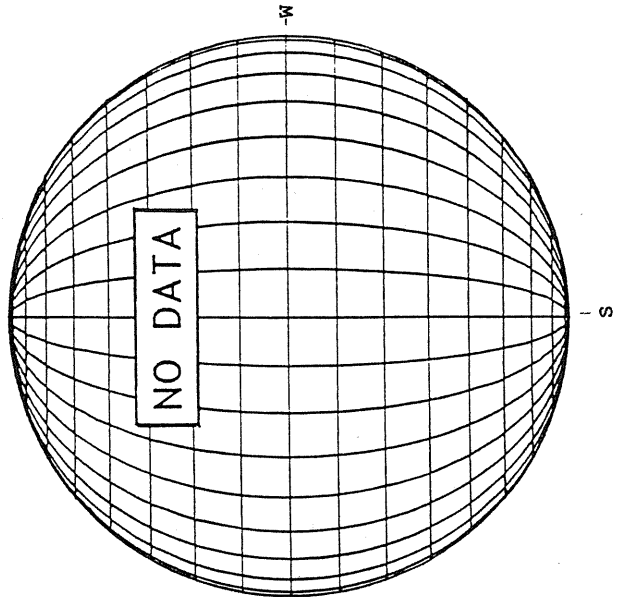
BOULDER H-ALPHA



RAMEY SUNSPOT



SACRAMENTO PEAK CORONA (1.15 Radii)

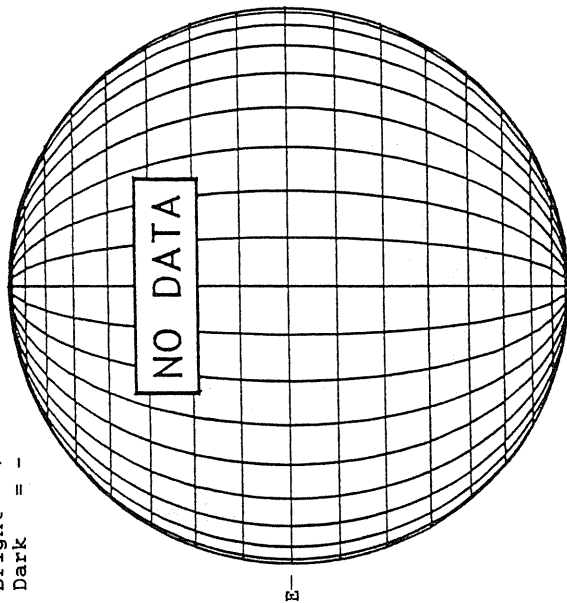


DECEMBER 29, 1992 (P= 3.47, B₀ = -2.68, L₀ = 303.69)

KITT PEAK MAGNETOGRAM

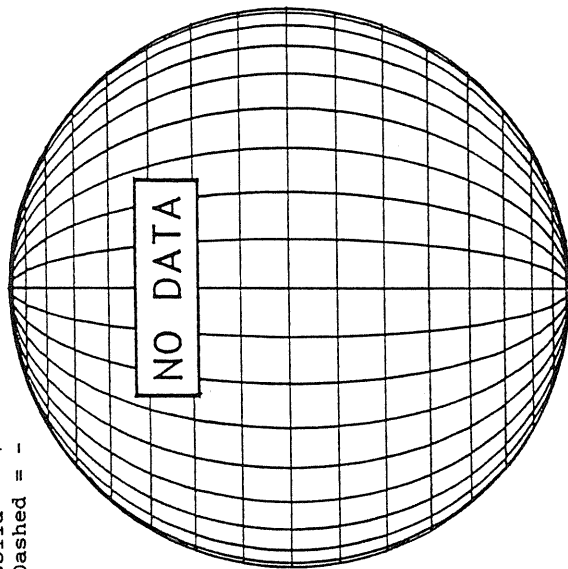
5507A

Bright = +
Dark = -



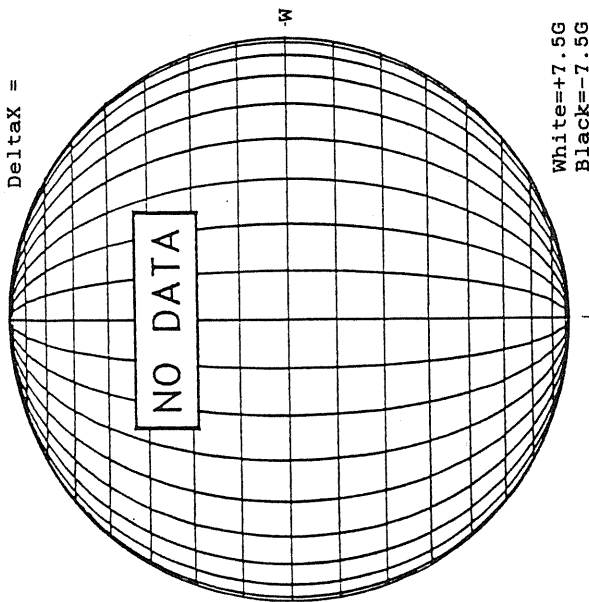
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

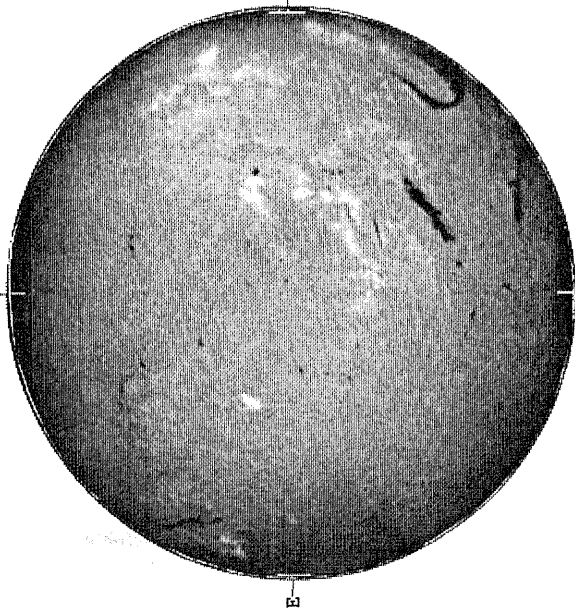


MT. WILSON MAGNETOGRAM

DeltaY =
DeltaX =

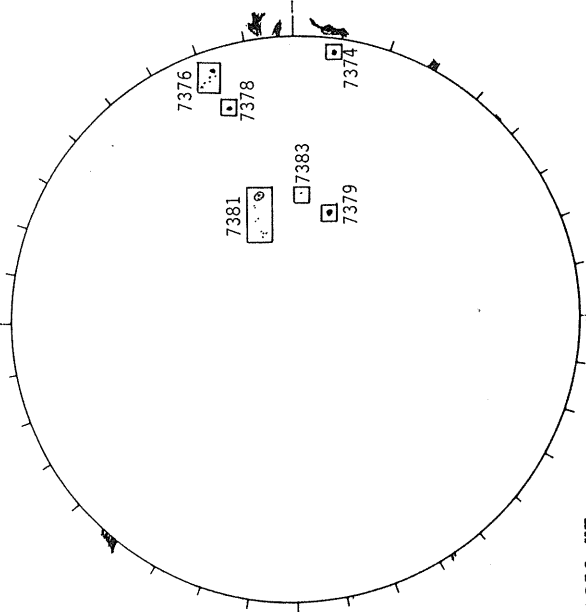


BOULDER H-ALPHA



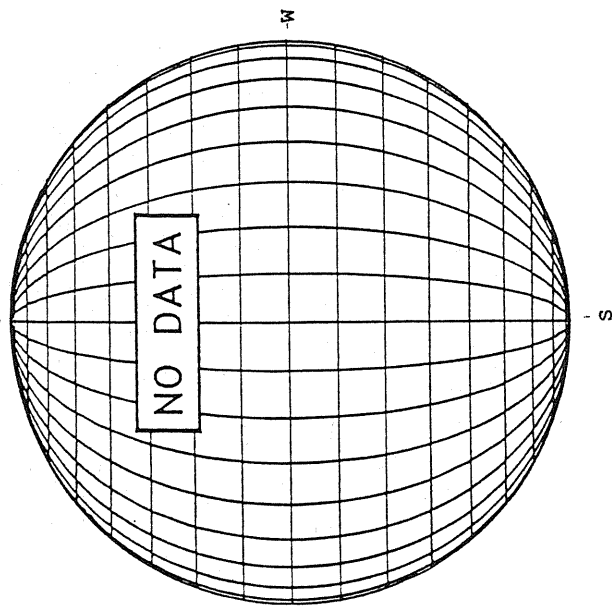
1702 UT

BOULDER SUNSPOT



1653 UT
1702 UT BOUL FROM

SACRAMENTO PEAK CORONA (1.15 Radii)

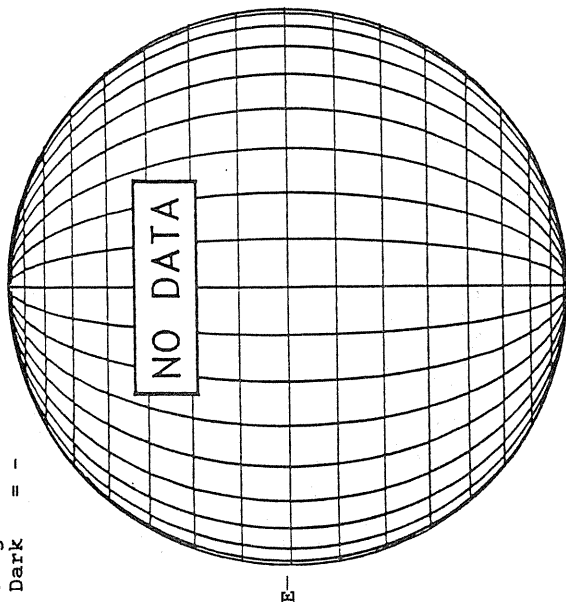


DECEMBER 30, 1992 (P= 2.98, B₀ = -2.80, L₀ = 290.52)

KITT PEAK MAGNETOGRAM

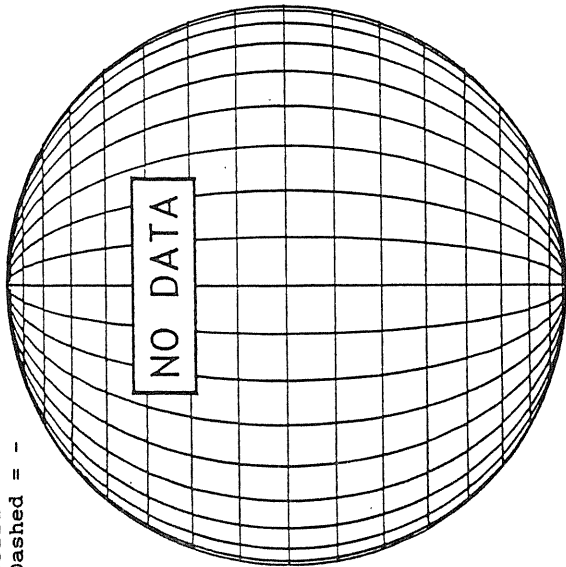
5507A

Bright = +
Dark = -



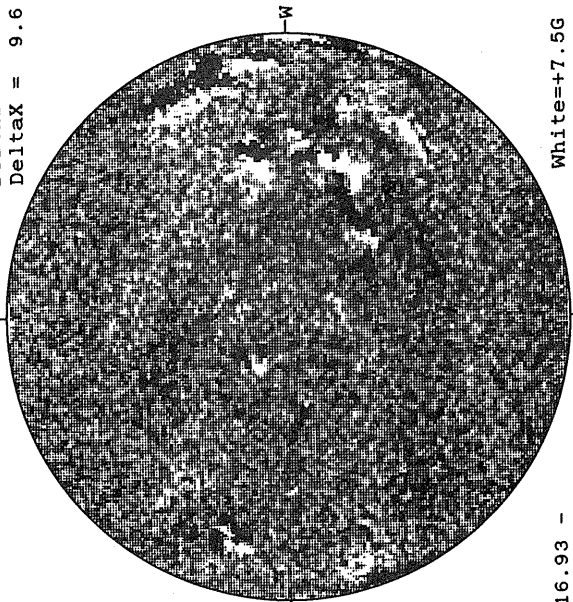
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

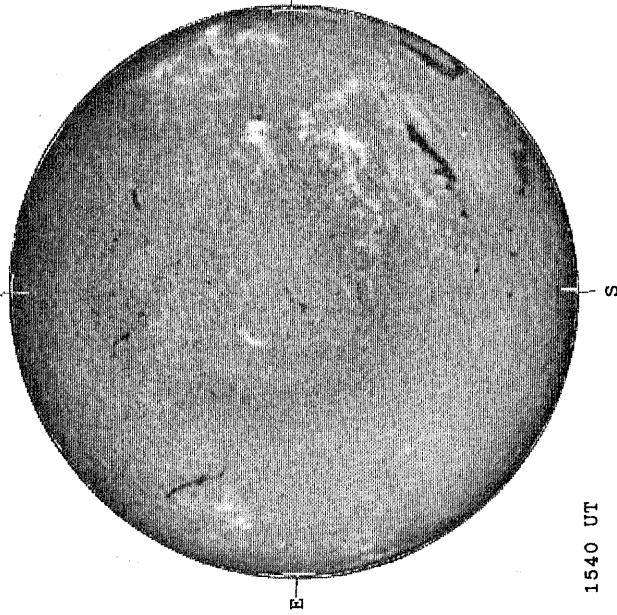
DeltaY = 13.0
DeltaX = 9.6



16.93 -
17.90 UT

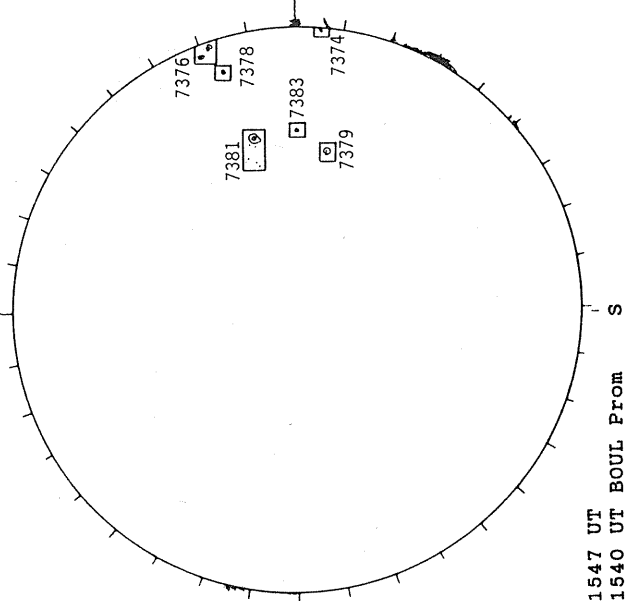
White = +7.5G
Black = -7.5G

BOULDER H-ALPHA



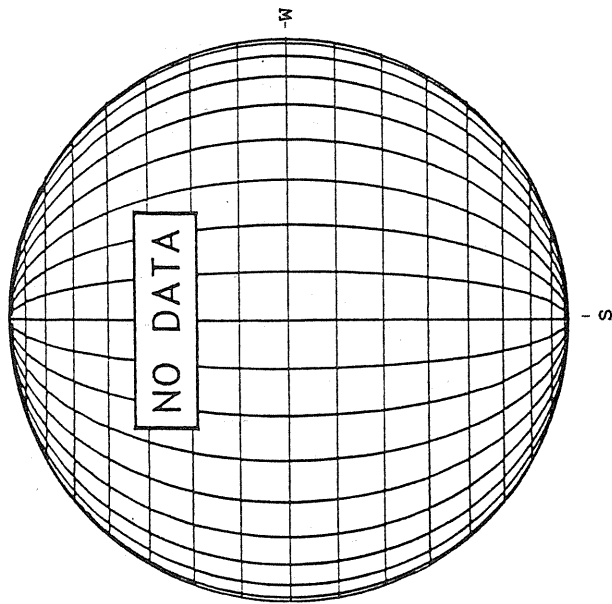
1540 UT

BOULDER SUNSPOT



1547 UT
1540 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

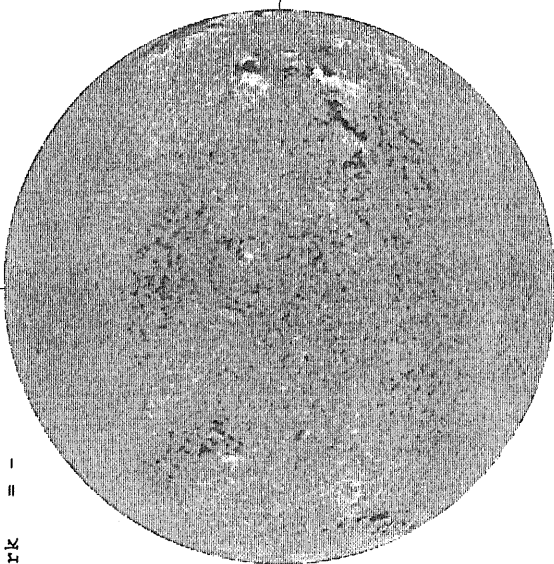


DECEMBER 31, 1992 (P= 2.50, B₀ = -2.92 L₀ = 277.35)

KITT PEAK MAGNETOGRAM

5507A

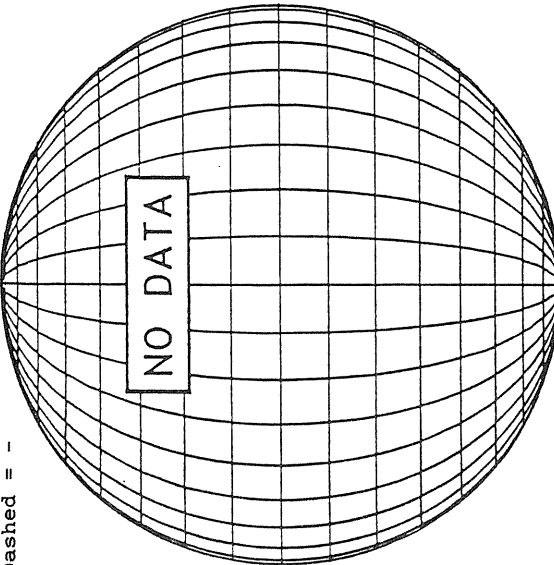
Bright = +
Dark = -



2141 UT

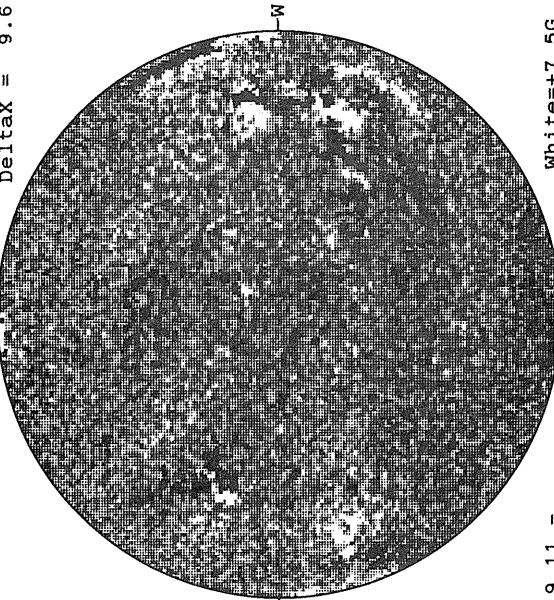
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

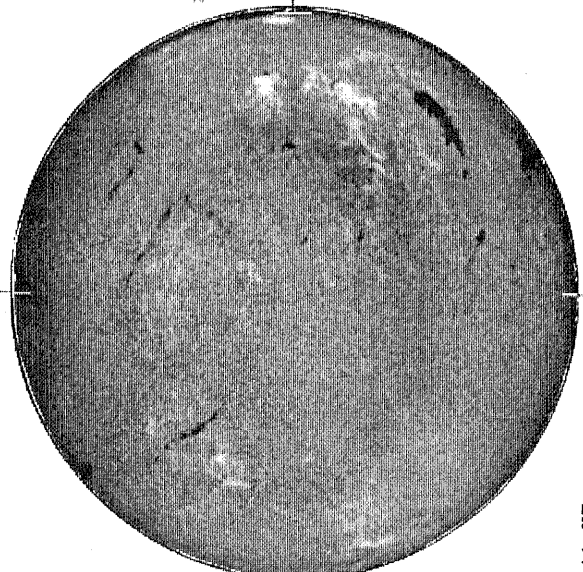
DeltaY = 13.0
DeltaX = 9.6



19.11 -
20.08 UT

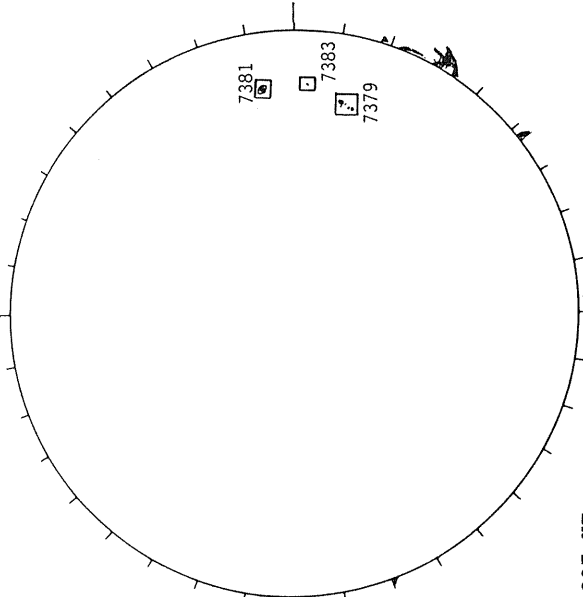
White = +7.5G
Black = -7.5G

BOULDER H-ALPHA



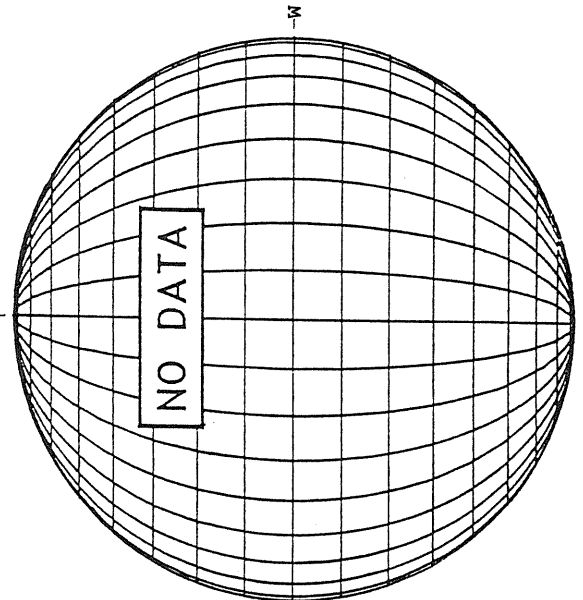
1641 UT

BOULDER SUNSPOT



1627 UT
1641 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



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Dec 92

SUNSPOT GROUPS
(Ordered by Central Meridian Passage Date)

DECEMBER 1992

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
7352A		RAMY	11 29 1310	N02	E22	12 1.2		A	AX	10	3	2	3
7361		PALE	12 05 2201	S17	W60	12 1.3		A	AX	20	2	1	3
7361		LEAR	12 06 0015	S15	W61	12 1.4		B	BXO	20	2	1	2
7361		SVTO	12 06 1012	S14	W66	12 1.4		A	AX	20	2	3	2
7361		RAMY	12 06 1259	S16	W68	12 1.4		A	AX	10	1	1	3
7361		PALE	12 06 1930	S17	W72	12 1.3		A	AX	30	1	1	2
7361		RAMY	12 07 1250	S14	W80	12 1.5		A	HS	30	1	1	3
7361		PALE	12 07 2305	S18	W88	12 1.3		A	AX	50	2	1	2
7361		LEAR	12 08 0004	S17	W88	12 1.3		A	HS	30	1	2	3
7353		RAMY	11 25 1330	S05	E78	12 1.4		A	HA	30	1	2	2
7353	27699	MWIL	11 25 1530	S05	E80	12 1.6	3	(B					
7353		HOLL	11 25 1600	S04	E79	12 1.6		A	HS	100	1	2	3
7353		PALE	11 25 1830	S01	E78	12 1.6		A	HS	60	1	1	3
7353		LEAR	11 26 0005	S04	E74	12 1.5		A	HA	80	1	2	4
7353		RAMY	11 26 1240	S04	E66	12 1.5		B	CAO	30	8	10	4
7353		BOUL	11 26 1549	S05	E65	12 1.5		A	AX	10	2		1
7353	27699	MWIL	11 26 1600	S04	E65	12 1.5	3	(B)					
7353		HOLL	11 26 1640	S04	E67	12 1.7		B	CAO	60	6	8	3
7353		PALE	11 26 1907	S03	E64	12 1.6		B	CAO	60	3	8	3
7353		LEAR	11 27 0012	S05	E61	12 1.6		B	CSO	80	8	10	3
7353		SVTO	11 27 0752	S03	E53	12 1.3		B	CSO	50	7	8	3
7353	27699	MWIL	11 27 1530	S04	E52	12 1.5	4	(B)					
7353		HOLL	11 27 1540	S04	E54	12 1.7		B	CSO	80	11	9	3
7353		PALE	11 27 1930	S04	E49	12 1.5		B	DXO	20	2	6	3
7353		RAMY	11 27 2017	S03	E51	12 1.6		B	CAO	30	6	7	2
7353		LEAR	11 28 0040	S03	E49	12 1.7		B	CAO	50	3	7	2
7353		SVTO	11 28 0810	S04	E43	12 1.5		B	BXO	30	5	7	3
7353		RAMY	11 28 1238	S04	E42	12 1.7		B	CAO	20	5	8	3
7353		HOLL	11 28 1620	S04	E40	12 1.7		B	BXO	20	4	6	3
7353		BOUL	11 28 1641	S03	E41	12 1.7		B	BXO	10	2	6	3
7353	27699	MWIL	11 28 1715	S04	E37	12 1.5	4	(B)					
7353		PALE	11 28 2320	S03	E33	12 1.4		A	HR	10	1	1	2
7353		LEAR	11 29 0012	S05	E32	12 1.4		A	HA	20	1	1	2
7353		RAMY	11 29 1310	S04	E24	12 1.3		B	CAO	100	2	3	3
7353		BOUL	11 29 1622	S04	E24	12 1.5		B	BXO	10	4	5	3
7353		HOLL	11 29 1640	S04	E25	12 1.6		B	BXO	20	9	6	3
7353	27699	MWIL	11 29 1730	S04	E24	12 1.5	4	(B)					
7353		PALE	11 29 2238	S03	E20	12 1.4		B	BXO	10	3	3	2
7353		LEAR	11 30 0004	S04	E21	12 1.6		B	CAO	20	5	5	3
7353		SVTO	11 30 1117	S07	E15	12 1.6		B	BXO	20	9	5	2
7353		RAMY	11 30 1254	S04	E14	12 1.6		B	CRO	20	8	5	3
7353	27699	MWIL	11 30 1600	S03	E12	12 1.6	4	(G)					
7353		HOLL	11 30 2002	S04	E12	12 1.7		B	BXI	70	10	6	2
7353		LEAR	12 01 0004	S05	E09	12 1.7		B	CAO	30	7	6	3
7353		SVTO	12 01 0950	S04	E03	12 1.6		B	BXO	30	4	5	3
7353		RAMY	12 01 1237	S04	E02	12 1.7		B	CAO	30	10	6	4
7353	27699	MWIL	12 01 1600	S04	W01	12 1.6	5	(BG)					
7353		HOLL	12 01 1718	S05	W01	12 1.6		B	BXO	10	7	6	2
7353		PALE	12 01 2220	S04	W04	12 1.6		B	BXO	20	4	4	2
7353		LEAR	12 02 0007	S05	W06	12 1.5		B	BXO	10	7	6	2
7353		SVTO	12 02 1055	S06	W12	12 1.5		B	BXO	10	5	3	3
7353		RAMY	12 02 1215	S05	W14	12 1.5		A	AX	10	3	2	3
7353		HOLL	12 02 1635	S05	W16	12 1.5		A	AX	10	3	2	4
7353		PALE	12 02 1816	S06	W17	12 1.5		A	AXO	20	3	2	4
7353	27699	MWIL	12 02 2030	S05	W19	12 1.4	3	(AP)					
7353		LEAR	12 03 0002	S06	W20	12 1.5		B	BXO	10	5	3	2
7353		SVTO	12 03 1007	S06	W25	12 1.5		B	CRO	20	3	2	3
7353		RAMY	12 03 1255	S05	W26	12 1.6		B	CRO	10	6	5	4
7353	27699	MWIL	12 03 1845	S06	W32	12 1.4	3	X					
7353		PALE	12 03 1957	S09	W32	12 1.4		A	AX	20	6	2	3
7353		LEAR	12 04 0003	S07	W35	12 1.4		B	BXO	10	5	4	2
7353		SVTO	12 04 0905	S06	W38	12 1.5		A	AX	20	1	1	3
7353A		RAMY	11 30 1254	S09	E43	12 3.8		B	BXO	10	2	2	3
7358		PALE	12 04 2220	N07	E09	12 5.6		A	AX	10	5	2	2
7358		LEAR	12 05 0018	N07	E08	12 5.6		B	BXO	40	5	3	2

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

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Dec 92

DECEMBER 1992

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
7358	27703	RAMY	12 05	1349	N07	E01	12 5.6		B	CRO	20	9	3	4
7358		MWIL	12 05	1600	N07	W01	12 5.6	5	(B)					
7358		PALE	12 05	2201	N08	W04	12 5.6		B	CRO	20	7	3	3
7358		LEAR	12 06	0015	N07	W07	12 5.5		B	BXO	30	6	4	2
7358		SVTO	12 06	1012	N08	W12	12 5.5		B	BXO	20	5	4	2
7358		RAMY	12 06	1259	N07	W13	12 5.6		B	BXO	10	7	4	3
7358		PALE	12 06	1930	N08	W16	12 5.6		A	AX	10	2	2	2
7359	27704	RAMY	12 05	1349	N28	E32	12 8.1		B	CRO	20	5	5	4
7359		MWIL	12 05	1600	N29	E30	12 8.0	5	(BF)					
7359		PALE	12 05	2201	N28	E27	12 8.0		B	BXO	10	3	3	3
7359		LEAR	12 06	0015	N29	E25	12 8.0		B	BXO	20	3	4	2
7359		SVTO	12 06	1012	N27	E20	12 8.0		B	BXO	20	3	4	2
7359		RAMY	12 06	1259	N28	E18	12 7.9		B	BXO		2	3	3
7357	27706	PALE	12 03	1957	N10	E60	12 8.3		A	AX	20	2	2	3
7357		LEAR	12 04	0003	N13	E56	12 8.2		B	BXO	10	2	3	2
7357		RAMY	12 04	1400	N13	E48	12 8.2		B	BXO	10	4	3	4
7357		PALE	12 04	2220	N10	E51	12 8.8		A	AX	10	1		2
7357		RAMY	12 05	1349	N14	E38	12 8.4		B	BXO	10	2	2	4
7357		PALE	12 05	2201	N13	E37	12 8.7		A	AX	10	1		3
7357		LEAR	12 08	0004	N15	E05	12 8.4		B	BXO	10	2	3	3
7357		MWIL	12 08	1700	N17	W03	12 8.5	4	(AP)					
7357		MWIL	12 09	1615	N17	W18	12 8.3	3	(AP)					
7357		PALE	12 09	1930	N12	W17	12 8.5		A	AX	10	2	1	2
7355	27701	MWIL	12 02	2030	S18	E88	12 9.5	5	AF					
7355		LEAR	12 03	0002	S17	E80	12 9.1		A	HA	60	1	3	2
7355		SVTO	12 03	1007	S17	E77	12 9.3		A	HS	120	1	4	3
7355		RAMY	12 03	1255	S17	E78	12 9.5		A	HS	120	1	2	4
7355		MWIL	12 03	1845	S17	E72	12 9.2	5	AF					
7355		PALE	12 03	1957	S14	E73	12 9.3		A	HS	120	1	2	3
7355		LEAR	12 04	0003	S18	E69	12 9.2		A	HS	50	1	2	2
7355		SVTO	12 04	0905	S17	E64	12 9.2		A	HS	20	1	2	3
7355		RAMY	12 04	1400	S17	E62	12 9.3		A	HS	120	2	2	4
7355		PALE	12 04	2220	S15	E60	12 9.5		A	HS	120	2	2	2
7355		LEAR	12 05	0018	S17	E55	12 9.2		A	HA	130	1	4	2
7355		RAMY	12 05	1349	S17	E49	12 9.3		A	HA	120	2	2	4
7355	27701	MWIL	12 05	1600	S17	E47	12 9.2	5	(AF)					
7355		PALE	12 05	2201	S17	E44	12 9.3		A	HS	110	2	2	3
7355		LEAR	12 06	0015	S17	E42	12 9.2		A	HA	110	2	3	2
7355		SVTO	12 06	1012	S17	E36	12 9.2		A	HS	150	2	2	2
7355		RAMY	12 06	1259	S17	E36	12 9.3		A	HA	80	2	2	3
7355		PALE	12 06	1930	S17	E32	12 9.2		A	HS	100	1	2	2
7355		RAMY	12 07	1250	S17	E22	12 9.2		A	HA	70	3	2	3
7355		BOUL	12 07	1554	S16	E21	12 9.2		A	HA	110	2	2	2
7355		PALE	12 07	2305	S15	E14	12 9.0		B	CSO	120	4	8	2
7355		LEAR	12 08	0004	S18	E16	12 9.2		A	HA	100	2	2	3
7355		RAMY	12 08	1300	S17	E04	12 8.8		B	CAO	120	8	10	4
7355		HOLL	12 08	1516	S16	E03	12 8.9		B	CSO	80	6	11	1
7355	27701	MWIL	12 08	1700	S17	E06	12 9.2	5	(AF)					
7355		LEAR	12 09	0003	S17	W02	12 8.8		B	CAO	100	7	10	3
7355		RAMY	12 09	1221	S17	W10	12 8.7		B	CSO	90	7	13	4
7355		HOLL	12 09	1545	S13	W16	12 8.4		B	CSO	60	5	13	3
7355		MWIL	12 09	1615	S17	W06	12 9.2	5	(AF)					
7355		PALE	12 09	1930	S18	W07	12 9.3		A	HA	90	2	2	2
7355		LEAR	12 10	0003	S17	W13	12 9.0		B	CAO	70	3	6	3
7355		RAMY	12 10	1300	S17	W22	12 8.9		B	CSO	80	5	11	3
7355		BOUL	12 10	1558	S16	W18	12 9.3		A	HA	80	2	2	1
7355		MWIL	12 10	1600	S18	W19	12 9.2	5	(AF)					
7355		HOLL	12 10	1610	S15	W25	12 8.8		B	CAO	120	3	13	3
7355		PALE	12 10	1920	S18	W21	12 9.2		A	HS	40	2	1	3
7355	27701	LEAR	12 11	0005	S17	W22	12 9.3		B	DSO	90	5	3	3
7355		SVTO	12 11	1010	S17	W28	12 9.3		A	HA	70	2	2	3
7355		RAMY	12 11	1320	S17	W34	12 9.0		B	CAO	60	4	8	4
7355		BOUL	12 11	1649	S17	W33	12 9.2		A	HA	60	2	2	2
7355		HOLL	12 11	1735	S16	W33	12 9.2		B	CSO	90	3	7	3
7355		PALE	12 11	2045	S18	W32	12 9.4		B	CSO	30	3	3	2
7355		LEAR	12 12	0006	S17	W37	12 9.2		B	CAO	50	4	3	3

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

DECEMBER 1992

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
7355		SVTO	12 12 0900	S18	W42	12 9.2		A	HS	60	2	2	3
7355		RAMY	12 12 1306	S17	W43	12 9.3		B	CSO	50	2	2	3
7355	27701	MWIL	12 12 1600	S18	W46	12 9.2	5	(AF)					
7355		HOLL	12 12 1720	S17	W47	12 9.1		A	HS	70	1	2	4
7355		PALE	12 12 2035	S21	W45	12 9.4		A	HS	30	1	2	2
7355		LEAR	12 13 0019	S18	W50	12 9.2		A	HS	60	1	2	3
7355	27701	MWIL	12 13 1600	S18	W59	12 9.2	5	AF					
7355		PALE	12 13 2145	S20	W59	12 9.4		A	HA	40	1	2	2
7355		LEAR	12 14 0008	S16	W63	12 9.2		A	HS	40	1	2	3
7355		RAMY	12 14 1305	S18	W68	12 9.4		A	HA	50	1	2	4
7355	27701	MWIL	12 14 1615	S17	W71	12 9.3	5	(AF)					
7355		BOUL	12 14 1615	S17	W76	12 8.9		A	AX	20	1		1
7355		PALE	12 14 2100	S19	W74	12 9.2		A	HS	50	1	1	3
7355		LEAR	12 15 0005	S17	W78	12 9.1		A	HS	30	1	2	4
7355		SVTO	12 15 1105	S17	W80	12 9.4		A	HS	60	1	3	3
7355		RAMY	12 15 1550	S18	W88	12 8.9		A	HS	90	1	2	3
7365		RAMY	12 08 1300	S21	E18	12 9.9		B	CAO	20	6	5	4
7365		HOLL	12 08 1516	S21	E17	12 9.9		B	CRO	20	6	4	1
7365	27707	MWIL	12 08 1700	S21	E16	12 9.9	4	(B)					
7365		LEAR	12 09 0003	S21	E12	12 9.9		B	DSO	30	7	5	3
7365		RAMY	12 09 1221	S21	E07	12 10.0		B	DAO	30	9	6	4
7365		HOLL	12 09 1545	S21	E03	12 9.9		B	CRO	20	9	7	3
7365	27707	MWIL	12 09 1615	S21	E03	12 9.9	5	(B)					
7365		PALE	12 09 1930	S21	E02	12 10.0		B	BXO	20	10	7	2
7365		LEAR	12 10 0003	S21	W01	12 9.9		B	DSO	40	14	6	3
7365		RAMY	12 10 1300	S21	W08	12 9.9		B	DAO	40	18	8	3
7365		BOUL	12 10 1558	S19	W09	12 10.0		B	CSO	40	4	6	1
7365	27707	MWIL	12 10 1600	S21	W10	12 9.9	3	(B)					
7365		HOLL	12 10 1610	S19	W13	12 9.7		B	DRO	100	21	7	3
7365		PALE	12 10 1920	S21	W11	12 10.0		B	BXO	20	7	7	3
7365		LEAR	12 11 0005	S21	W14	12 9.9		B	CAO	10	13	7	3
7365		SVTO	12 11 1010	S21	W20	12 9.9		B	BXO	20	8	6	3
7365		RAMY	12 11 1320	S22	W22	12 9.9		B	CRO	20	10	7	4
7365		BOUL	12 11 1649	S20	W26	12 9.7		A	AX	10	1		2
7365		HOLL	12 11 1735	S20	W26	12 9.7		A	AX	10	2	1	3
7365		PALE	12 11 2045	S22	W27	12 9.8		A	AX	10	2	1	2
7365		LEAR	12 12 0006	S21	W30	12 9.7		B	BXO	2	2	3	3
7365		SVTO	12 12 0900	S21	W36	12 9.6		B	BXO	10	2	2	3
7365		RAMY	12 12 1306	S21	W37	12 9.7		A	AX	10	2	1	3
7365		PALE	12 13 2145	S21	W50	12 10.1		A	AX	90	1	1	2
7367		RAMY	12 09 1221	S17	E21	12 11.1		B	BXO	10	3	3	4
7367		HOLL	12 09 1545	S16	E18	12 11.0		A	AX		2	2	3
7367		LEAR	12 13 0019	S16	W25	12 11.1		B	DAO	50	4	4	3
7367		LEAR	12 14 0008	S14	W39	12 11.0		A	AX	20	2	2	3
7367		RAMY	12 14 1305	S16	W46	12 11.0		A	AX	10	2	1	4
7367A		HOLL	12 11 1735	N12	W08	12 11.1		A	AX	10	1	1	3
7367A		LEAR	12 12 0006	N10	W11	12 11.2		A	AX		1	1	3
7362		RAMY	12 06 1259	S04	E65	12 11.4		B	BXO	10	2	2	3
7362		PALE	12 06 1930	S03	E62	12 11.4		A	AX	20	1	1	2
7362		RAMY	12 07 1250	S04	E49	12 11.2		A	AX	10	3	1	3
7362		PALE	12 07 2305	S05	E46	12 11.4		B	BXO	30	4	3	2
7362		LEAR	12 08 0004	S05	E45	12 11.4		B	CSO	60	7	6	3
7362		RAMY	12 08 1300	S03	E37	12 11.3		B	DAO	50	10	6	4
7362		HOLL	12 08 1516	S04	E36	12 11.3		B	CRO	10	7	5	1
7362	27708	MWIL	12 08 1700	S04	E35	12 11.3	5	(B)					
7362		LEAR	12 09 0003	S04	E31	12 11.3		B	DSI	70	29	7	3
7362		RAMY	12 09 1221	S03	E23	12 11.2		B	DAI	140	35	7	4
7362		HOLL	12 09 1545	S05	E22	12 11.3		BG	EAI	170	26	12	3
7362	27708	MWIL	12 09 1615	S04	E22	12 11.3	5	(B)					
7362		PALE	12 09 1930	S04	E20	12 11.3		B	DAI	140	24	8	2
7362		LEAR	12 10 0003	S04	E18	12 11.3		BG	DAI	180	32	9	3
7362		RAMY	12 10 1300	S04	E10	12 11.3		B	DAI	240	34	9	3
7362		BOUL	12 10 1558	S03	E09	12 11.3		B	DKO	370	5	8	1
7362	27708	MWIL	12 10 1600	S05	E07	12 11.2	5	(D)					
7362		HOLL	12 10 1610	S04	E08	12 11.3		BG	DAI	440	30	9	3

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat	CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7362		PALE	12 10 1920	S04	E06	12 11.2		BG	DKO	200	19	10	3
7362		LEAR	12 11 0005	S05	E04	12 11.3		BG	EKI	390	55	11	3
7362		SVTO	12 11 1010	S04	W02	12 11.3		BG	DHI	410	44	10	3
7362		RAMY	12 11 1320	S04	W03	12 11.3		B	EKI	310	47	11	4
7362		BOUL	12 11 1649	S04	W06	12 11.2		B	DKI	520	35	9	2
7362		HOLL	12 11 1735	S04	W06	12 11.3		B	EKC	660	44	12	3
7362		PALE	12 11 2045	S05	W08	12 11.3		B	EKI	420	45	11	2
7362		LEAR	12 12 0006	S05	W09	12 11.3		B	DKI	480	43	10	3
7362		SVTO	12 12 0900	S06	W16	12 11.2		B	EHI	540	27	11	3
7362		RAMY	12 12 1306	S06	W17	12 11.3		B	EKI	610	47	11	3
7362	27708	MWIL	12 12 1600	S05	W19	12 11.2	5	(B)					
7362		HOLL	12 12 1720	S05	W19	12 11.3		B	EKI	660	46	12	4
7362		PALE	12 12 2035	S07	W18	12 11.5		B	DKI	550	43	10	2
7362		LEAR	12 13 0019	S05	W24	12 11.2		B	EKI	530	24	11	3
7362	27708	MWIL	12 13 1600	S05	W32	12 11.3	5	(B)					
7362		PALE	12 13 2145	S08	W33	12 11.4		B	EKI	530	35	12	2
7362		LEAR	12 14 0008	S04	W36	12 11.3		B	EKI	640	16	12	3
7362		RAMY	12 14 1305	S06	W42	12 11.4		B	EKI	620	24	11	4
7362		BOUL	12 14 1615	S05	W45	12 11.3		B	EKI	510	11	11	1
7362	27708	MWIL	12 14 1615	S05	W45	12 11.3	5	(B)					
7362		PALE	12 14 2100	S07	W47	12 11.3		B	DKO	540	19	10	3
7362		LEAR	12 15 0005	S06	W50	12 11.3		B	EKI	750	23	11	4
7362		SVTO	12 15 1105	S06	W55	12 11.3		B	DKI	740	13	10	3
7362		RAMY	12 15 1550	S06	W58	12 11.3		BGD	DKO	720	16	10	3
7362	27708	MWIL	12 15 1600	S05	W58	12 11.3	5	(B)					
7362		PALE	12 15 2017	S07	W58	12 11.5		B	DKO	760	24	9	3
7362		LEAR	12 16 0615	S06	W66	12 11.3		B	EKI	700	15	11	2
7362		SVTO	12 16 1110	S07	W68	12 11.4		B	DKI	750	11	10	3
7362		RAMY	12 16 1348	S07	W70	12 11.3		BG	DKO	460	14	9	3
7362	27708	MWIL	12 16 1715	S05	W72	12 11.3	5	(B)					
7362		HOLL	12 16 1810	S05	W74	12 11.2		B	DKO	420	12	10	3
7362		LEAR	12 17 0004	S05	W75	12 11.4		B	EKO	300	12	11	3
7362		SVTO	12 17 1410	S07	W80	12 11.6		A	HR	60	1	2	1
7362		RAMY	12 17 1415	S07	W80	12 11.6		A	HA	60	3	4	3
7362		HOLL	12 17 1600	S04	W88	12 11.1		A	HS	60	1	2	3
7360		RAMY	12 05 1349	S16	E85	12 12.0		A	HS	60	1	2	4
7360	27705	MWIL	12 05 1600	S17	E82	12 11.9	4	X					
7360		PALE	12 05 2201	S16	E80	12 12.0		A	HS	30	1	1	3
7360		LEAR	12 06 0015	S17	E80	12 12.1		A	HA	60	1	1	2
7360		SVTO	12 06 1012	S16	E77	12 12.3		A	AX	20	3	1	2
7360		RAMY	12 06 1259	S18	E70	12 11.9		A	AX	20	2	2	3
7360		PALE	12 06 1930	S16	E68	12 12.0		A	AX	20	1	1	2
7360		RAMY	12 07 1250	S17	E60	12 12.1		B	BXO	20	4	9	3
7360		BOUL	12 07 1554	S17	E61	12 12.3		B	BXO	20	4	13	2
7360		PALE	12 07 2305	S17	E51	12 11.8		A	AX	20	2	2	2
7360		LEAR	12 08 0004	S18	E55	12 12.2		B	BXO	30	6	10	3
7360		RAMY	12 08 1300	S17	E48	12 12.2		B	CRO	60	16	11	4
7360		HOLL	12 08 1516	S17	E47	12 12.2		B	CSO	30	6	11	1
7360	27705	MWIL	12 08 1700	S18	E48	12 12.4	5	(BG)					
7360		LEAR	12 09 0003	S17	E44	12 12.3		B	CSO	50	14	12	3
7360		RAMY	12 09 1221	S16	E37	12 12.3		B	CSO	40	10	11	4
7360		HOLL	12 09 1545	S18	E32	12 12.1		B	CSO	30	10	11	3
7360	27705	MWIL	12 09 1615	S17	E34	12 12.3	4	(BP)					
7360		PALE	12 09 1930	S17	E34	12 12.4		B	CRO	30	14	10	2
7360		LEAR	12 10 0003	S17	E30	12 12.3		B	DSO	70	12	6	3
7360		RAMY	12 10 1300	S16	E24	12 12.4		B	DAI	80	39	9	3
7360		BOUL	12 10 1558	S15	E22	12 12.3		B	DSO	200	4	8	1
7360	27705	MWIL	12 10 1600	S17	E21	12 12.3	5	(D)					
7360		HOLL	12 10 1610	S17	E22	12 12.3		B	DAI	180	28	8	3
7360		PALE	12 10 1920	S17	E21	12 12.4		B	DAO	90	17	9	3
7360		LEAR	12 11 0005	S18	E18	12 12.4		B	DAO	180	32	10	3
7360		SVTO	12 11 1010	S16	E12	12 12.3		BG	DSI	270	54	10	3
7360		RAMY	12 11 1320	S17	E12	12 12.5		B	EAI	290	38	12	4
7360		BOUL	12 11 1649	S16	E07	12 12.2		B	DAI	310	22	10	2
7360		HOLL	12 11 1735	S16	E08	12 12.3		B	EAI	490	33	11	3
7360		PALE	12 11 2045	S18	E08	12 12.5		B	EAI	290	35	11	2
7360		LEAR	12 12 0006	S18	E04	12 12.3		B	EAO	410	42	12	3
7360		SVTO	12 12 0900	S17	W01	12 12.3		B	EHI	420	27	12	3

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SUNSPOT GROUPS (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
7360		RAMY	12 12 1306	S17	W04	12 12.2		B	EA0	330	18	13	3
7360	27705	MWIL	12 12 1600	S17	W05	12 12.3	5	(B)					
7360		HOLL	12 12 1720	S17	W06	12 12.3		B	EA1	430	48	13	4
7360		PALE	12 12 2035	S20	W05	12 12.5		B	EA0	300	22	12	2
7360		LEAR	12 13 0019	S19	W11	12 12.2		B	EA0	410	43	13	3
7360	27705	MWIL	12 13 1600	S18	W19	12 12.2	4	(B)					
7360		PALE	12 13 2145	S19	W19	12 12.4		B	EKO	300	20	13	2
7360		LEAR	12 14 0008	S17	W23	12 12.2		B	EA0	350	23	12	3
7360		RAMY	12 14 1305	S18	W28	12 12.4		B	EKO	310	26	11	4
7360		BOUL	12 14 1615	S16	W32	12 12.2		B	EA1	270	5	12	1
7360	27705	MWIL	12 14 1615	S17	W34	12 12.1	5	(B)					
7360		PALE	12 14 2100	S18	W33	12 12.4		B	EHO	290	14	12	3
7360		LEAR	12 15 0005	S17	W37	12 12.2		B	EHO	290	20	13	4
7360		SVTO	12 15 1105	S17	W40	12 12.4		B	EHO	180	12	13	3
7360		RAMY	12 15 1550	S18	W44	12 12.3		B	EKO	340	17	13	3
7360	27705	MWIL	12 15 1600	S17	W47	12 12.1	5	(B)					
7360		PALE	12 15 2017	S18	W47	12 12.3		B	EKO	270	17	11	3
7360		LEAR	12 16 0615	S18	W53	12 12.2		B	EA0	260	19	12	2
7360		SVTO	12 16 1110	S18	W55	12 12.3		B	EKO	160	12	14	3
7360		RAMY	12 16 1348	S20	W56	12 12.3		B	DAO	220	5	14	3
7360	27705	MWIL	12 16 1715	S17	W60	12 12.1	5	(BP)					
7360		HOLL	12 16 1810	S18	W60	12 12.2		B	CA0	140	7	12	3
7360		LEAR	12 17 0004	S18	W62	12 12.3		B	EKO	160	6	12	3
7360		SVTO	12 17 1410	S17	W68	12 12.4		B	EKO	170	3	7	1
7360		RAMY	12 17 1415	S18	W75	12 11.9		A	HA	90	5	5	3
7360		HOLL	12 17 1600	S15	W72	12 12.2		A	HA	120	4	3	3
7360		BOUL	12 17 1608	S18	W77	12 11.8		A	HA	120	1	2	1
7360	27705	MWIL	12 17 1830	S17	W76	12 12.0	5	X					
7360		LEAR	12 18 0007	S17	W77	12 12.1		B	CA0	60	3	5	3
7364		PALE	12 07 2305	N10	E80	12 14.0		A	HS	30	1	1	2
7364		LEAR	12 08 0004	N09	E79	12 13.9		A	HS	60	1	2	3
7364		RAMY	12 08 1300	N09	E70	12 13.8		A	HS	30	1	1	4
7364	27709	HOLL	12 08 1516	N09	E71	12 14.0		A	HS	50	1	1	1
7364		MWIL	12 08 1700	N08	E71	12 14.0	5	(AP)					
7364		LEAR	12 09 0003	N09	E68	12 14.1		A	HS	50	1	2	3
7364		RAMY	12 09 1221	N10	E58	12 13.9		A	HS	40	1	2	4
7364	27709	HOLL	12 09 1545	N08	E60	12 14.1		A	HS	40	1	1	3
7364		MWIL	12 09 1615	N08	E58	12 14.0	5	(AP)					
7364		PALE	12 09 1930	N11	E58	12 14.2		A	HS	40	1	1	2
7364		LEAR	12 10 0003	N10	E56	12 14.2		B	CSO	70	2	4	3
7364		RAMY	12 10 1300	N12	E49	12 14.2		B	CA0	60	7	7	3
7364	27709	BOUL	12 10 1558	N11	E46	12 14.1		A	HS	110	1	2	1
7364		MWIL	12 10 1600	N09	E47	12 14.2	5	(AP)					
7364		HOLL	12 10 1610	N09	E46	12 14.1		B	CSO	60	2	4	3
7364		PALE	12 10 1920	N11	E44	12 14.1		B	CSO	40	2	3	3
7364		LEAR	12 11 0005	N10	E42	12 14.1		B	CA0	70	5	4	3
7364		SVTO	12 11 1010	N10	E36	12 14.1		B	CSO	90	3	4	3
7364		RAMY	12 11 1320	N11	E36	12 14.3		B	CSO	60	4	4	4
7364		BOUL	12 11 1649	N11	E32	12 14.1		A	HS	50	1	1	2
7364		HOLL	12 11 1735	N09	E31	12 14.0		A	HS	70	1	2	3
7364		PALE	12 11 2045	N09	E32	12 14.3		A	HS	50	2	2	2
7364		LEAR	12 12 0006	N09	E29	12 14.2		B	CA0	60	3	4	3
7364		SVTO	12 12 0900	N08	E23	12 14.1		B	CSO	50	2	4	3
7364	27709	RAMY	12 12 1306	N09	E21	12 14.1		B	CSO	50	2	5	3
7364		MWIL	12 12 1600	N09	E20	12 14.2	5	(AP)					
7364		HOLL	12 12 1720	N09	E20	12 14.2		A	HS	70	3	4	4
7364		PALE	12 12 2035	N09	E20	12 14.3		B	CSO	50	12	4	2
7364	27709	LEAR	12 13 0019	N09	E16	12 14.2		B	CSO	50	2	4	3
7364		MWIL	12 13 1600	N08	E07	12 14.2	3	(AP)					
7364		PALE	12 13 2145	N08	E05	12 14.3		A	HS	40	1	2	2
7364		LEAR	12 14 0008	N09	E04	12 14.3		B	CSO	80	4	7	3
7364		RAMY	12 14 1305	N08	W07	12 14.0		A	HS	40	1	2	4
7364	27709	MWIL	12 14 1615	N08	W07	12 14.1	5	(AP)					
7364		BOUL	12 14 1615	N09	W08	12 14.1		A	HS	50	1	1	1
7364		PALE	12 14 2100	N08	W09	12 14.2		A	HS	40	1	2	3
7364		LEAR	12 15 0005	N09	W09	12 14.3		B	CSO	40	3	7	4
7364		SVTO	12 15 1105	N08	W17	12 14.2		A	HS	80	1	3	3
7364		RAMY	12 15 1550	N10	W19	12 14.2		B	CA0	40	3	11	3

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(Ordered by Central Meridian Passage Date)

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NOAA/ USAF Group	Mt Wilson Group	Sta	Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7364	27709	MWIL	12	15	1600	N08	W20	12	14.2	5	(B)					
7364		PALE	12	15	2017	N09	W19	12	14.4		B	CAO	60	8	10	3
7364		LEAR	12	16	0615	N08	W28	12	14.2		B	CAO	60	3	3	2
7364		SVTO	12	16	1110	N08	W32	12	14.1		A	HS	400	1	2	3
7364		RAMY	12	16	1348	N08	W30	12	14.3		B	CSO	50	3	7	3
7364	27709	MWIL	12	16	1715	N08	W34	12	14.2	5	(AP)					
7364		HOLL	12	16	1810	N08	W34	12	14.2		A	HS	50	1	2	3
7364		LEAR	12	17	0004	N08	W38	12	14.1		A	HS	50	2	3	3
7364		SVTO	12	17	1410	N08	W45	12	14.2		B	CAI	80	1	2	1
7364		RAMY	12	17	1415	N07	W47	12	14.1		B	CSO	60	2	6	3
7364		HOLL	12	17	1600	N12	W44	12	14.3		B	DSO	60	2	6	3
7364		BOUL	12	17	1608	N09	W47	12	14.1		A	HA	60	1	1	1
7364	27709	MWIL	12	17	1830	N08	W48	12	14.2	5	(AP)					
7364		LEAR	12	18	0007	N09	W50	12	14.2		B	CAO	40	4	4	3
7364		SVTO	12	18	1030	N08	W57	12	14.2		A	HS	40	1	2	3
7364		RAMY	12	18	1508	N07	W58	12	14.3		A	HS	40	1	2	3
7364		HOLL	12	18	1555	N08	W59	12	14.2		A	HS	60	1	2	2
7364		LEAR	12	19	0007	N09	W64	12	14.2		A	HS	40	1	2	2
7364		SVTO	12	19	0850	N08	W70	12	14.1		A	HS	40	1	2	3
7364		RAMY	12	19	1319	N07	W67	12	14.5		A	HS	30	1	1	3
7364		BOUL	12	19	1617	N08	W70	12	14.4		A	AX		1		2
7364	27709	MWIL	12	19	1645	N08	W73	12	14.2	4	(AP)					
7364		PALE	12	19	2045	N07	W78	12	14.0		A	HA	60	1	1	3
7364		LEAR	12	20	0052	N08	W79	12	14.1		A	HS	60	1	1	2
7363		LEAR	12	08	0004	S09	E80	12	14.0		A	HS	60	1	2	3
7363		RAMY	12	08	1300	S07	E73	12	14.0		B	DAO	70	7	7	4
7363		HOLL	12	08	1516	S07	E72	12	14.0		B	DSO	90	4	6	1
7363	27710	MWIL	12	08	1700	S07	E75	12	14.3	5	(D)					
7363		LEAR	12	09	0003	S07	E73	12	14.5		B	DAO	180	8	9	3
7363		RAMY	12	09	1221	S07	E63	12	14.2		B	DAI	230	15	10	4
7363		HOLL	12	09	1545	S08	E63	12	14.4		B	DAO	120	6	9	3
7363	27710	MWIL	12	09	1615	S07	E62	12	14.3	5	(B)					
7363		PALE	12	09	1930	S06	E61	12	14.4		B	DAO	80	13	9	2
7363		LEAR	12	10	0003	S07	E59	12	14.4		B	DAO	210	13	9	3
7363		RAMY	12	10	1300	S06	E51	12	14.3		B	DAO	210	14	9	3
7363		BOUL	12	10	1558	S06	E49	12	14.3		B	DAO	260	4	10	1
7363	27710	MWIL	12	10	1600	S08	E50	12	14.4	5	(B)					
7363		HOLL	12	10	1610	S08	E48	12	14.3		B	DAI	250	15	8	3
7363		PALE	12	10	1920	S07	E49	12	14.5		B	DAO	130	8	8	3
7363		LEAR	12	11	0005	S08	E46	12	14.4		B	DAO	220	17	9	3
7363		SVTO	12	11	1010	S07	E40	12	14.4		B	DSO	220	14	8	3
7363		RAMY	12	11	1320	S07	E39	12	14.5		B	DAO	240	11	10	4
7363		BOUL	12	11	1649	S06	E35	12	14.3		B	DAO	150	5	10	2
7363		HOLL	12	11	1735	S08	E35	12	14.3		B	DSO	200	15	9	3
7363		PALE	12	11	2045	S08	E37	12	14.6		B	DSO	140	13	8	2
7363		LEAR	12	12	0006	S09	E32	12	14.4		B	DAO	180	17	9	3
7363		SVTO	12	12	0900	S09	E26	12	14.3		B	DSO	140	6	8	3
7363		RAMY	12	12	1306	S06	E25	12	14.4		B	DAO	110	10	8	3
7363	27710	MWIL	12	12	1600	S08	E23	12	14.4	5	(B)					
7363		HOLL	12	12	1720	S08	E22	12	14.4		B	DAI	160	21	10	4
7363		PALE	12	12	2035	S08	E23	12	14.6		B	DAO	100	13	9	2
7363		LEAR	12	13	0019	S08	E19	12	14.4		B	DAO	130	11	10	3
7363	27710	MWIL	12	13	1600	S08	E10	12	14.4	3	(B)					
7363		PALE	12	13	2145	S09	E07	12	14.4		B	DAO	90	15	9	2
7363		LEAR	12	14	0008	S08	E06	12	14.4		B	DAO	140	16	8	3
7363		RAMY	12	14	1305	S07	W01	12	14.5		B	CAO	100	18	9	4
7363		BOUL	12	14	1615	S06	W05	12	14.3		B	CSO	90	5	6	1
7363	27710	MWIL	12	14	1615	S07	W04	12	14.4	5	(B)					
7363		PALE	12	14	2100	S09	W04	12	14.6		B	CSO	40	7	8	3
7363		LEAR	12	15	0005	S07	W08	12	14.4		B	CAO	70	15	8	4
7363		SVTO	12	15	1105	S07	W09	12	14.8		B	CAO	50	14	7	3
7363		RAMY	12	15	1550	S06	W13	12	14.7		B	DSO	70	8	7	3
7363	27710	MWIL	12	15	1600	S07	W17	12	14.4	5	(B)					
7363		PALE	12	15	2017	S08	W19	12	14.4		B	CAO	50	9	3	3
7363		LEAR	12	16	0615	S08	W27	12	14.2		B	CAO	40	4	3	2
7363		SVTO	12	16	1110	S09	W22	12	14.8		B	CSO	30	18	13	3
7363		RAMY	12	16	1348	S09	W28	12	14.5		B	CAO	60	6	5	3
7363	27710	MWIL	12	16	1715	S07	W31	12	14.4	5	(B)					

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7363		HOLL	12 16 1810	S08 W32	12 14.3		B	CAO	60	8	5	3
7363		LEAR	12 17 0004	S08 W33	12 14.5		B	DAO	40	6	5	3
7363		SVTO	12 17 1410	S07 W37	12 14.8		B	DAO	20	14	14	1
7363		RAMY	12 17 1415	S09 W42	12 14.4		B	CAO	40	10	7	3
7363		HOLL	12 17 1600	S08 W42	12 14.5		B	DAI	120	15	8	3
7363		BOUL	12 17 1608	S08 W42	12 14.5		B	CSO	90	4	4	1
7363	27710	MWIL	12 17 1830	S07 W44	12 14.5	5	(B					
7363		LEAR	12 18 0007	S06 W45	12 14.6		B	CRO	20	7	4	3
7363		SVTO	12 18 1030	S08 W55	12 14.3		B	CS	50	6	6	3
7363		RAMY	12 18 1508	S10 W55	12 14.5		B	CAO	50	5	6	3
7363		HOLL	12 18 1555	S08 W57	12 14.4		B	CRO	70	4	6	2
7363		LEAR	12 19 0007	S08 W62	12 14.3		A	HS	40	1	2	2
7363		SVTO	12 19 0850	S07 W67	12 14.3		A	HS	20	1	1	3
7363		RAMY	12 19 1319	S09 W67	12 14.5		A	HA	20	1	1	3
7363		BOUL	12 19 1617	S09 W75	12 14.0		A	AX		1		2
7363	27710	MWIL	12 19 1645	S08 W71	12 14.4	4	(AP)					
7363		PALE	12 19 2045	S11 W76	12 14.1		A	HR	30	1	1	3
7363		LEAR	12 20 0052	S09 W76	12 14.3		A	AX	30	1	1	2
7363		SVTO	12 20 1200	S12 W85	12 14.1		A	AX	10	1	1	3
7363A	27713	MWIL	12 15 1600	N12 W12	12 14.8	4	(AF)					
7371		LEAR	12 16 0615	S10 W15	12 15.1		B	BXO		2	3	2
7371		RAMY	12 16 1348	S11 W18	12 15.2		B	BXO	10	6	4	3
7371	27716	MWIL	12 16 1715	S09 W22	12 15.1	4	(B)					
7371		HOLL	12 16 1810	S09 W22	12 15.1		B	BXO	20	7	4	3
7371		LEAR	12 17 0004	S10 W24	12 15.2		B	DAO	40	14	4	3
7371		RAMY	12 17 1415	S10 W33	12 15.1		B	DAO	140	16	7	3
7371		HOLL	12 17 1600	S08 W33	12 15.2		B	DAI	180	18	8	3
7371		BOUL	12 17 1608	S08 W32	12 15.3		B	DAO	170	9	6	1
7371	27716	MWIL	12 17 1830	S09 W35	12 15.1	5	(B)					
7371		LEAR	12 18 0007	S08 W37	12 15.2		B	DAO	90	15	6	3
7371		SVTO	12 18 1030	S09 W44	12 15.1		B	DAO	180	20	8	3
7371		RAMY	12 18 1508	S11 W45	12 15.2		B	DAI	130	23	10	3
7371		HOLL	12 18 1555	S09 W47	12 15.1		B	DAO	150	11	8	2
7371		LEAR	12 19 0007	S08 W49	12 15.3		B	DAO	190	9	7	2
7371		SVTO	12 19 0850	S08 W55	12 15.2		B	EAO	140	13	11	3
7371		RAMY	12 19 1319	S10 W56	12 15.3		B	EAO	110	12	11	3
7371		BOUL	12 19 1617	S10 W62	12 15.0		B	ESO	130	5	11	2
7371	27716	MWIL	12 19 1645	S09 W59	12 15.3	5	(B)					
7371		PALE	12 19 2045	S11 W60	12 15.3		B	DAO	130	11	10	3
7371		LEAR	12 20 0052	S09 W63	12 15.3		B	EAO	180	8	12	2
7371		SVTO	12 20 1200	S13 W70	12 15.2		B	ESO	200	9	13	3
7371		RAMY	12 20 1318	S09 W71	12 15.2		B	DAO	100	9	10	3
7371		BOUL	12 20 1617	S12 W78	12 14.8		A	HS	100	1	2	1
7371	27716	MWIL	12 20 1630	S10 W72	12 15.3	5	(B)					
7371		HOLL	12 20 2100	S10 W72	12 15.5		B	CSO	140	3	8	1
7371		LEAR	12 21 0021	S11 W77	12 15.2		B	DAO	90	2	9	2
7371		SVTO	12 21 1320	S12 W80	12 15.5		B	BXO	60	3	3	3
7371		RAMY	12 21 1510	S12 W84	12 15.3		B	DAO	20	2	3	3
7371	27716	MWIL	12 21 1630	S10 W86	12 15.2	4	X					
7371A		SVTO	12 16 1110	N20 W03	12 16.2		A	AX		1		3
7371A		RAMY	12 16 1348	N20 W06	12 16.1		A	AX		1		3
7366		RAMY	12 10 1300	S11 E73	12 16.0		A	AX	10	1	1	3
7366	27711	MWIL	12 10 1600	S12 E74	12 16.2	3	(AP)					
7366		HOLL	12 10 1610	S12 E71	12 16.0		A	AX	30	1	1	3
7366		LEAR	12 11 0005	S12 E71	12 16.3		A	AX		1	1	3
7366		SVTO	12 11 1010	S12 E63	12 16.2		B	CAO	60	5	4	3
7366		RAMY	12 11 1320	S12 E63	12 16.3		B	CAO	50	6	6	4
7366		BOUL	12 11 1649	S11 E61	12 16.3		B	BXO	30	4	3	2
7366		HOLL	12 11 1735	S12 E59	12 16.2		B	DRO	130	5	6	3
7366		PALE	12 11 2045	S11 E63	12 16.6		B	DRO	50	12	6	2
7366		LEAR	12 12 0006	S12 E58	12 16.4		B	DAO	90	8	4	3
7366		SVTO	12 12 0900	S13 E51	12 16.2		B	DSO	70	10	6	3
7366		RAMY	12 12 1306	S11 E49	12 16.2		B	DAO	70	12	6	3
7366	27711	MWIL	12 12 1600	S12 E49	12 16.3	3	(B)					
7366		HOLL	12 12 1720	S13 E48	12 16.3		B	DAI	90	26	6	4

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NOAA/ USAF Group	Mt Wilson Group	Sta	Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7366		PALE	12	12	2035	S12	E48	12	16.5		B	DAO	120	7	7	2
7366		LEAR	12	13	0019	S12	E45	12	16.4		B	CAO	60	11	7	3
7366	27711	MWIL	12	13	1600	S12	E36	12	16.4	4	B					
7366		PALE	12	13	2145	S12	E34	12	16.5		B	DAO	70	10	7	2
7366		LEAR	12	14	0008	S13	E33	12	16.5		B	DAO	130	15	7	3
7366		RAMY	12	14	1305	S12	E23	12	16.3		B	DAO	80	25	8	4
7366		BOUL	12	14	1615	S11	E22	12	16.3		B	CSO	60	6	4	1
7366	27711	MWIL	12	14	1615	S11	E23	12	16.4	4	(B)					
7366		PALE	12	14	2100	S12	E22	12	16.5		B	CSO	20	11	6	3
7366		LEAR	12	15	0005	S12	E18	12	16.3		B	CSO	50	22	8	4
7366		SVTO	12	15	1105	S13	E12	12	16.4		B	DAO	50	19	6	3
7366		RAMY	12	15	1550	S11	E09	12	16.3		B	DAO	30	12	6	3
7366	27711	MWIL	12	15	1600	S11	E09	12	16.3	5	(B)					
7366		PALE	12	15	2017	S12	E06	12	16.3		B	CAO	30	15	8	3
7366		LEAR	12	16	0615	S11	E02	12	16.4		B	CAO	20	10	7	2
7366		SVTO	12	16	1110	S12	W03	12	16.2		B	BXO	10	18	7	3
7366		RAMY	12	16	1348	S12	W02	12	16.4		B	DAO	20	14	7	3
7366	27711	MWIL	12	16	1715	S11	W04	12	16.4	4	(B)					
7366		HOLL	12	16	1810	S12	W07	12	16.2		B	BXO	30	5	5	3
7366		LEAR	12	17	0004	S11	W08	12	16.4		B	BXO	10	9	5	3
7366		SVTO	12	17	1410	S12	W13	12	16.6		B	BXO	10	2	3	1
7366		RAMY	12	17	1415	S12	W12	12	16.7		B	CRO	20	9	7	3
7366		HOLL	12	17	1600	S10	W15	12	16.5		A	AX	10	2	1	3
7366	27711	MWIL	12	17	1830	S11	W17	12	16.5	4	(AP)					
7366		LEAR	12	18	0007	S09	W19	12	16.6		B	BXO	20	8	3	3
7366		LEAR	12	19	0007	S10	W34	12	16.4		A	AX	20	3	2	2
7375		SVTO	12	17	1410	N14	W14	12	16.5		A	AX	10	1	1	1
7375		LEAR	12	19	0007	N13	W28	12	16.9		B	DAO	50	3	4	2
7375		RAMY	12	19	1319	N14	W34	12	17.0		B	DAO	50	9	7	3
7375		BOUL	12	19	1617	N15	W37	12	16.9		B	DSO	90	6	6	2
7375	27718	MWIL	12	19	1645	N15	W37	12	16.9	5	(B)					
7375		PALE	12	19	2045	N12	W38	12	17.0		B	DAI	60	16	8	3
7375		LEAR	12	20	0052	N16	W42	12	16.8		B	DAO	90	6	7	2
7375		SVTO	12	20	1200	N12	W47	12	16.9		B	DAO	60	13	9	3
7375		RAMY	12	20	1318	N14	W48	12	16.9		B	DAO	70	11	8	3
7375		BOUL	12	20	1617	N14	W52	12	16.7		B	DSO	70	3	9	1
7375	27718	MWIL	12	20	1630	N15	W50	12	16.9	5	(B)					
7375		HOLL	12	20	2100	N16	W52	12	16.9		B	CSO	50	9	10	1
7375		LEAR	12	21	0021	N14	W52	12	17.1		B	DAO	110	6	8	2
7375		SVTO	12	21	1320	N14	W60	12	17.0		B	ESO	180	15	14	3
7375		RAMY	12	21	1510	N13	W62	12	16.9		B	DAO	120	9	9	3
7375		BOUL	12	21	1556	N15	W66	12	16.7		B	DSO	210	4	9	1
7375		HOLL	12	21	1610	N15	W61	12	17.0		B	DAO	140	7	10	2
7375	27718	MWIL	12	21	1630	N15	W64	12	16.8	5	(B)					
7375		PALE	12	21	2022	N12	W66	12	16.9		B	EAO	180	5	11	3
7375		LEAR	12	22	0014	N14	W65	12	17.1		B	EAO	120	6	12	2
7375		SVTO	12	22	0900	N15	W77	12	16.5		B	DSO	170	4	6	2
7375		RAMY	12	22	1435	N13	W75	12	16.9		B	DSO	90	4	10	3
7375	27718	MWIL	12	22	1600	N15	W77	12	16.8	4	(B)					
7375		HOLL	12	22	1630	N16	W75	12	17.0		B	BXO	30	5	6	2
7375		PALE	12	22	2013	N14	W80	12	16.8		B	DAO	80	3	10	3
7375		LEAR	12	23	0005	N15	W79	12	17.0		B	BXO	20	2	3	3
7368		PALE	12	13	2145	S34	E52	12	18.0		A	AX	30	2	2	2
7368		LEAR	12	14	0008	S36	E48	12	17.8		B	BXO	40	5	3	3
7368		RAMY	12	14	1305	S32	E42	12	17.9		B	DAO	60	12	6	4
7368	27712	MWIL	12	14	1615	S33	E39	12	17.8	4	(B)					
7368		BOUL	12	14	1615	S33	E40	12	17.8		B	BXO	10	3	4	1
7368		PALE	12	14	2100	S33	E39	12	18.0		B	CSO	20	8	5	3
7368		LEAR	12	15	0005	S33	E36	12	17.9		B	DAI	70	21	5	4
7368		SVTO	12	15	1105	S33	E29	12	17.8		B	DAO	60	14	7	3
7368		RAMY	12	15	1550	S32	E27	12	17.8		B	DAO	70	11	5	3
7368	27712	MWIL	12	15	1600	S33	E26	12	17.7	5	(B)					
7368		PALE	12	15	2017	S32	E28	12	18.1		B	DAO	80	13	5	3
7368		LEAR	12	16	0615	S33	E19	12	17.8		B	DAO	50	8	7	2
7368		SVTO	12	16	1110	S32	E16	12	17.7		B	DAO	30	11	6	3
7368		RAMY	12	16	1348	S32	E17	12	17.9		B	DAO	80	10	7	3
7368	27712	MWIL	12	16	1715	S33	E13	12	17.7	5	(B)					

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7368		HOLL	12 16 1810	S33 E12	12 17.7		B	CAO	70	8	6	3
7368		LEAR	12 17 0004	S32 E10	12 17.8		B	DAO	40	16	7	3
7368		SVTO	12 17 1410	S31 E03	12 17.8		B	DRO	70	8	8	1
7368		RAMY	12 17 1415	S32 E05	12 18.0		B	DAO	70	13	7	3
7368		HOLL	12 17 1600	S32 E02	12 17.8		B	DRO	60	8	9	3
7368		BOUL	12 17 1608	S31 E01	12 17.7		B	DSO	100	5	7	1
7368	27712	MWIL	12 17 1830	S33 W00	12 17.8	4	(B)					
7368		LEAR	12 18 0007	S30 W02	12 17.8		B	CRO	20	8	7	3
7368		SVTO	12 18 1030	S33 W09	12 17.7		A	CS	40	12	8	3
7368		RAMY	12 18 1508	S33 W09	12 17.9		B	DAO	40	13	10	3
7368		HOLL	12 18 1555	S32 W11	12 17.8		B	CAO	70	10	7	2
7368		LEAR	12 19 0007	S33 W15	12 17.8		B	DAO	110	8	9	2
7368		SVTO	12 19 0850	S33 W18	12 17.9		B	BXO	20	11	9	3
7368		RAMY	12 19 1319	S33 W23	12 17.7		B	CRO	20	8	10	3
7368	27712	MWIL	12 19 1645	S33 W24	12 17.8	4	(B)					
7368		PALE	12 19 2045	S33 W23	12 18.0		B	BXO	20	11	11	3
7368		LEAR	12 20 0052	S34 W26	12 18.0		B	BXO	30	2	3	2
7368		SVTO	12 20 1200	S34 W28	12 18.3		B	BXO	20	3	4	3
7368		RAMY	12 20 1318	S32 W33	12 17.9		A	AX		1		3
7368	27712	MWIL	12 20 1630	S33 W34	12 18.0	4	(B)					
7373		LEAR	12 18 0007	N05 E07	12 18.5		B	BXO	10	3	2	3
7373		SVTO	12 18 1030	N14 E02	12 18.6		A	AX	10	3	3	3
7373		RAMY	12 18 1508	N14 W02	12 18.5		B	BXO	10	3	2	3
7373		HOLL	12 18 1555	N06 W02	12 18.5		B	BXO	20	4	3	2
7373		LEAR	12 19 0007	N06 W07	12 18.5		A	AX	10	1	1	2
7373		SVTO	12 19 0850	N14 W11	12 18.5		B	BXO	30	9	6	3
7373		RAMY	12 19 1319	N14 W15	12 18.4		B	DAO	50	9	7	3
7373		LEAR	12 20 0052	N07 W20	12 18.5		A	AX	10	1	1	2
7373A		RAMY	12 17 1415	S07 E22	12 19.2		A	AX		1		3
7373A		RAMY	12 23 1345	S08 W64	12 18.8		B	BXO	10	2	3	4
7373B		PALE	12 13 2145	N20 E72	12 19.4		A	AX	10	1	1	2
7373B		RAMY	12 14 1305	N21 E62	12 19.3		A	AX		1		4
7373B		RAMY	12 20 1318	N17 W17	12 19.3		A	AX		1		3
7380		SVTO	12 22 0900	S15 W39	12 19.4		B	CSO	20	2	3	2
7380		RAMY	12 22 1435	S16 W41	12 19.5		B	CRO	20	2	3	3
7380		BOUL	12 22 1553	S14 W44	12 19.3		A	HA	30	1	1	1
7380	27725	MWIL	12 22 1600	S16 W42	12 19.5	4	(B)					
7380		HOLL	12 22 1630	S14 W41	12 19.6		B	BXO		2	3	2
7380		PALE	12 22 2013	S17 W43	12 19.6		B	CRO	20	2	2	3
7380		LEAR	12 23 0005	S16 W47	12 19.4		B	BXO	10	2	4	3
7380		SVTO	12 23 0820	S16 W49	12 19.6		B	BXO	10	2	4	3
7380		RAMY	12 23 1345	S18 W51	12 19.7		B	CRO	10	2	3	4
7380		PALE	12 24 2114	S19 W69	12 19.6		A	AX	30	1	1	3
7369		RAMY	12 14 1305	S06 E77	12 20.3		B	CSO	40	2	12	4
7369		PALE	12 14 2100	S06 E70	12 20.1		A	AX	30	1	1	3
7369		LEAR	12 15 0005	S06 E67	12 20.0		A	AX	10	1	1	4
7369		SVTO	12 15 1105	S06 E61	12 20.0		A	AX	10	1	1	3
7369		RAMY	12 15 1550	S05 E59	12 20.1		A	HR	10	1	1	3
7369	27714	MWIL	12 15 1600	S06 E58	12 20.0	4	(AP)					
7369		PALE	12 15 2017	S05 E57	12 20.1		A	AX	20	1	1	3
7369		LEAR	12 16 0615	S06 E51	12 20.1		A	HS	20	2	3	2
7369		SVTO	12 16 1110	S06 E47	12 20.0		A	AX	10	1		3
7369		RAMY	12 16 1348	S03 E47	12 20.1		A	HR	10	1	1	3
7369	27714	MWIL	12 16 1715	S06 E45	12 20.1	4	(AP)					
7369		HOLL	12 16 1810	S07 E44	12 20.0		A	AX	20	1	1	3
7369		LEAR	12 17 0004	S06 E41	12 20.1		A	AX		1	1	3
7369		RAMY	12 17 1415	S04 E34	12 20.1		A	AX		1		3
7369		HOLL	12 17 1600	S07 E32	12 20.1		A	AX		1	1	3
7369		LEAR	12 18 0007	S04 E34	12 20.5		A	AX		1	1	3
7369		SVTO	12 18 1030	S09 E23	12 20.2		B	BXO	10	2	1	3
7369		HOLL	12 18 1555	S08 E21	12 20.2		A	AX		1	1	2
7369		SVTO	12 20 1200	S09 W03	12 20.3		A	AX	10	1	1	3
7369		RAMY	12 20 1318	S09 W03	12 20.3		A	AX	10	3	2	3
7369	27723	MWIL	12 20 1630	S08 W06	12 20.2	4	(AP)					

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NOAA/ USAF Group	Mt Wilson Group	Sta	Mo	Day	Time (UT)	Lat	CMD	Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7369		SVTO	12	21	1320	S07	W16	12	20.3		A	AX		1		3
7370		PALE	12	14	2100	S08	E84	12	21.2		A	HS	30	1	3	3
7370		LEAR	12	15	0005	S08	E80	12	21.0		A	HS	30	1	2	4
7370		SVTO	12	15	1105	S07	E73	12	20.9		A	HS	40	1	2	3
7370		RAMY	12	15	1550	S07	E72	12	21.0		A	HS	50	1	2	3
7370	27715	MWIL	12	15	1600	S08	E70	12	20.9	4	(AP)					
7370		PALE	12	15	2017	S07	E70	12	21.1		A	HS	50	1	2	3
7370		LEAR	12	16	0615	S08	E64	12	21.0		A	HA	90	2	3	2
7370		SVTO	12	16	1110	S08	E60	12	21.0		A	HS	80	1	2	3
7370		RAMY	12	16	1348	S07	E58	12	20.9		A	HS	70	1	2	3
7370	27715	MWIL	12	16	1715	S08	E57	12	21.0	5	(AP)					
7370		HOLL	12	16	1810	S10	E56	12	21.0		A	HS	70	1	2	3
7370		LEAR	12	17	0004	S08	E53	12	21.0		A	HA	70	2	3	3
7370		SVTO	12	17	1410	S09	E46	12	21.0		A	HA	70	1	3	1
7370		RAMY	12	17	1415	S07	E45	12	21.0		A	HS	60	1	2	3
7370		HOLL	12	17	1600	S09	E44	12	21.0		A	HS	70	1	2	3
7370		BOUL	12	17	1608	S07	E44	12	21.0		A	HS	60	1	2	1
7370	27715	MWIL	12	17	1830	S08	E43	12	21.0	5	(AP)					
7370		LEAR	12	18	0007	S07	E40	12	21.0		A	HS	50	1	2	3
7370		SVTO	12	18	1030	S08	E34	12	21.0		A	HS	70	1	2	3
7370		RAMY	12	18	1508	S07	E32	12	21.0		A	HS	40	1	2	3
7370		HOLL	12	18	1555	S09	E31	12	21.0		A	HS	70	2	2	2
7370		LEAR	12	19	0007	S07	E27	12	21.0		A	HS	70	1	2	2
7370		SVTO	12	19	0850	S08	E22	12	21.0		A	HS	60	1	2	3
7370		RAMY	12	19	1319	S08	E19	12	21.0		B	CSO	60	3	5	3
7370		BOUL	12	19	1617	S08	E17	12	20.9		A	HS	40	1	1	2
7370	27715	MWIL	12	19	1645	S08	E17	12	21.0	5	(AP)					
7370		PALE	12	19	2045	S08	E17	12	21.1		A	HS	60	1	1	3
7370		LEAR	12	20	0052	S08	E13	12	21.0		A	HS	60	1	2	2
7370		SVTO	12	20	1200	S08	E08	12	21.1		B	CSO	60	4	4	3
7370		RAMY	12	20	1318	S08	E06	12	21.0		B	CSO	50	2	3	3
7370		BOUL	12	20	1617	S09	E04	12	21.0		A	HS	30	1	1	1
7370	27715	MWIL	12	20	1630	S09	E04	12	21.0	5	(BF)					
7370		HOLL	12	20	2100	S08	E02	12	21.0		A	HS	40	1	1	1
7370		LEAR	12	21	0021	S08	E00	12	21.0		A	HS	60	1	2	2
7370		SVTO	12	21	1320	S09	W06	12	21.1		A	HS	60	1	2	3
7370		RAMY	12	21	1510	S08	W09	12	20.9		A	HS	60	1	2	3
7370		BOUL	12	21	1556	S09	W08	12	21.1		A	HS	60	1	1	1
7370		HOLL	12	21	1610	S09	W08	12	21.1		A	HS	40	2	2	2
7370	27715	MWIL	12	21	1630	S09	W08	12	21.1	5	(AP)					
7370		PALE	12	21	2022	S10	W11	12	21.0		A	HS	40	1	1	3
7370		LEAR	12	22	0014	S09	W13	12	21.0		A	HS	50	1	2	2
7370		SVTO	12	22	0900	S09	W18	12	21.0		A	HS	60	1	2	2
7370		RAMY	12	22	1435	S10	W20	12	21.1		A	HS	40	1	2	3
7370		BOUL	12	22	1553	S08	W22	12	21.0		A	HS	30	1	1	1
7370	27715	MWIL	12	22	1600	S08	W22	12	21.0	5	(AP)					
7370		HOLL	12	22	1630	S09	W21	12	21.1		A	HS	40	1	2	2
7370		PALE	12	22	2013	S09	W23	12	21.1		B	CSO	70	7	6	3
7370		LEAR	12	23	0005	S09	W27	12	21.0		B	CAO	40	5	3	3
7370		SVTO	12	23	0820	S09	W30	12	21.1		B	CSO	50	7	6	3
7370		RAMY	12	23	1345	S09	W33	12	21.1		B	DSO	70	9	6	4
7370	27715	MWIL	12	23	1615	S08	W35	12	21.0	5	(BP)					
7370		BOUL	12	23	1642	S07	W32	12	21.3		B	DSO	80	4	4	2
7370		HOLL	12	23	1810	S08	W36	12	21.0		B	CSO	70	10	6	2
7370		LEAR	12	24	0010	S09	W39	12	21.1		B	CSO	70	10	5	3
7370		BOUL	12	24	1549	S10	W50	12	20.9		A	HS	60	1	2	1
7370	27715	MWIL	12	24	1600	S08	W47	12	21.1	5	(BP)					
7370		RAMY	12	24	1637	S08	W46	12	21.2		B	CSO	70	5	4	3
7370		PALE	12	24	2114	S11	W47	12	21.3		B	CSO	60	4	4	3
7370		LEAR	12	25	0003	S08	W50	12	21.2		B	CRO	40	2	4	4
7370		SVTO	12	25	1242	S08	W60	12	21.0		A	HS	60	1	2	2
7370		RAMY	12	25	1413	S10	W59	12	21.1		B	CAO	40	2	5	2
7370		BOUL	12	25	1506	S09	W62	12	21.0		A	HS	40	1	1	1
7370	27715	MWIL	12	25	1600	S09	W60	12	21.2	5	(AP)					
7370		LEAR	12	26	0001	S08	W67	12	21.0		A	HS	20	1	2	4
7370		RAMY	12	26	1411	S11	W71	12	21.2		A	HA	30	1	1	2
7370		BOUL	12	26	1610	S11	W77	12	20.9		A	AX		1	1	3
7370		HOLL	12	26	1650	S08	W76	12	21.0		A	HS	60	1	2	4

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat	CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7370	27715	MWIL	12 26 1745	S08	W76	12 21.0	5	AP					
7370		LEAR	12 27 0055	S08	W79	12 21.1		A	HS	30	1	1	3
7370A	27719	MWIL	12 19 1645	S13	E17	12 21.0	3	(AF)					
7372		LEAR	12 17 0004	S11	E79	12 22.9		A	HA	90	2	3	3
7372		SVTO	12 17 1410	S13	E75	12 23.2		A	HA	90	1	2	1
7372		RAMY	12 17 1415	S09	E75	12 23.2		A	HS	60	1	2	3
7372		HOLL	12 17 1600	S13	E75	12 23.3		A	HS	120	1	2	3
7372		BOUL	12 17 1608	S11	E74	12 23.2		A	HA	120	1	2	1
7372	27717	MWIL	12 17 1830	S13	E74	12 23.3	4	(AP)					
7372		LEAR	12 18 0007	S11	E68	12 23.1		A	HS	110	1	2	3
7372		SVTO	12 18 1030	S12	E69	12 23.6		B	CSO	90	5	7	3
7372		RAMY	12 18 1508	S09	E65	12 23.5		B	CAO	110	5	8	3
7372		HOLL	12 18 1555	S12	E61	12 23.2		A	HS	80	1	2	2
7372		LEAR	12 19 0007	S11	E56	12 23.2		A	HS	90	1	2	2
7372		SVTO	12 19 0850	S12	E52	12 23.3		B	CSO	80	4	3	3
7372		RAMY	12 19 1319	S12	E50	12 23.3		A	HA	60	1	2	3
7372		BOUL	12 19 1617	S12	E48	12 23.3		A	HS	40	1	1	2
7372	27717	MWIL	12 19 1645	S12	E48	12 23.3	5	(AP)					
7372		PALE	12 19 2045	S12	E47	12 23.4		B	CSO	60	3	4	3
7372		LEAR	12 20 0052	S12	E44	12 23.3		A	HS	60	1	2	2
7372		SVTO	12 20 1200	S12	E38	12 23.4		B	CSO	50	4	3	3
7372		RAMY	12 20 1318	S12	E37	12 23.3		A	HA	60	1	2	3
7372		BOUL	12 20 1617	S13	E34	12 23.2		A	HS	40	1	1	1
7372	27717	MWIL	12 20 1630	S12	E35	12 23.3	5	(AP)					
7372		HOLL	12 20 2100	S12	E32	12 23.3		A	HS	50	1	2	1
7372		LEAR	12 21 0021	S10	E31	12 23.3		A	HS	60	1	2	2
7372		SVTO	12 21 1320	S13	E25	12 23.4		B	CAO	70	7	4	3
7372		RAMY	12 21 1510	S12	E22	12 23.3		A	HA	40	4	3	3
7372		BOUL	12 21 1556	S12	E21	12 23.2		A	HS	50	1	1	1
7372		HOLL	12 21 1610	S12	E21	12 23.2		A	HA	60	3	2	2
7372	27717	MWIL	12 21 1630	S12	E22	12 23.3	5	(BP)					
7372		PALE	12 21 2022	S13	E21	12 23.4		B	CAO	60	5	6	3
7372		LEAR	12 22 0014	S12	E17	12 23.3		A	HA	40	1	2	2
7372		SVTO	12 22 0900	S12	E13	12 23.3		A	HS	40	2	2	2
7372		RAMY	12 22 1435	S12	E10	12 23.4		A	HA	40	3	2	3
7372		BOUL	12 22 1553	S11	E09	12 23.3		A	HS	30	1	1	1
7372	27717	MWIL	12 22 1600	S12	E10	12 23.4	5	(BP)					
7372		HOLL	12 22 1630	S12	E11	12 23.5		B	CSO	40	5	7	2
7372		PALE	12 22 2013	S12	E10	12 23.6		B	CAO	40	10	6	3
7372		LEAR	12 23 0005	S13	E06	12 23.4		B	CAO	30	6	7	3
7372		SVTO	12 23 0820	S13	E02	12 23.5		B	CSO	30	5	5	3
7372		RAMY	12 23 1345	S13	W01	12 23.5		B	DAO	30	5	7	4
7372	27717	MWIL	12 23 1615	S12	W04	12 23.4	5	(BP)					
7372		BOUL	12 23 1642	S11	W04	12 23.4		B	CAO	30	2	2	2
7372		HOLL	12 23 1810	S12	W05	12 23.4		B	CSO	40	4	6	2
7372		LEAR	12 24 0010	S13	W09	12 23.3		A	HS	30	1	2	3
7372		BOUL	12 24 1549	S13	W18	12 23.3		A	HS	20	1	1	1
7372	27717	MWIL	12 24 1600	S12	W19	12 23.2	4	(AP)					
7372		RAMY	12 24 1637	S12	W18	12 23.3		A	AX		1	1	3
7372		PALE	12 24 2114	S12	W18	12 23.5		A	HR	10	1	1	3
7372		LEAR	12 25 0003	S11	W21	12 23.4		B	BXO	10	3	3	4
7372		SVTO	12 25 1242	S12	W27	12 23.5		B	BXO	20	8	7	2
7372		RAMY	12 25 1413	S12	W32	12 23.2		A	HR	10	1	1	2
7372		BOUL	12 25 1506	S12	W31	12 23.3		A	AX		1		1
7372	27717	MWIL	12 25 1600	S12	W32	12 23.2	4	(AP)					
7372		LEAR	12 26 0001	S12	W37	12 23.2		B	BXO	10	2	3	4
7385	27726	MWIL	12 24 1600	S16	W03	12 24.4	3	(B)					
7385		RAMY	12 28 1330	S23	W50	12 24.7		B	CRO	20	2	3	2
7385		PALE	12 28 2108	S23	W54	12 24.7		A	AX	20	1	1	2
7385		LEAR	12 29 0004	S23	W57	12 24.6		A	AX	10	1	1	3
7374		LEAR	12 18 0007	S09	E89	12 24.7		A	HA	60	1	2	3
7374		SVTO	12 18 1030	S09	E83	12 24.7		B	DAO	90	4	6	3
7374		RAMY	12 18 1508	S06	E79	12 24.5		B	CAO	160	11	8	3
7374		HOLL	12 18 1555	S09	E78	12 24.5		B	DAO	330	5	6	2
7374		LEAR	12 19 0007	S08	E70	12 24.2		B	DAO	410	12	10	2

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7374		SVTO	12 19 0850	S08 E68	12 24.5		B	CKO	260	17	7	3
7374		RAMY	12 19 1319	S08 E68	12 24.6		B	DAI	390	12	9	3
7374		BOUL	12 19 1617	S08 E66	12 24.6		B	ESO	280	10	12	2
7374	27720	MWIL	12 19 1645	S08 E63	12 24.4	5	(B)					
7374		PALE	12 19 2045	S08 E63	12 24.6		B	DAI	220	15	8	3
7374		LEAR	12 20 0052	S08 E62	12 24.7		B	EKI	400	16	13	2
7374		SVTO	12 20 1200	S07 E55	12 24.6		B	DKI	660	19	7	3
7374		RAMY	12 20 1318	S08 E53	12 24.5		B	DAO	420	28	8	3
7374		BOUL	12 20 1617	S10 E51	12 24.5		B	DSO	160	5	5	1
7374	27720	MWIL	12 20 1630	S08 E50	12 24.4	5	(D)					
7374		HOLL	12 20 2100	S08 E50	12 24.6		B	DAI	320	14	7	1
7374		LEAR	12 21 0021	S05 E49	12 24.7		B	DAI	440	42	9	2
7374		SVTO	12 21 1320	S08 E42	12 24.7		B	DKI	560	30	10	3
7374		RAMY	12 21 1510	S08 E41	12 24.7		BD	DKI	320	23	6	3
7374		BOUL	12 21 1556	S08 E39	12 24.6		B	DKO	380	8	6	1
7374		HOLL	12 21 1610	S09 E39	12 24.6		B	DAO	260	11	7	2
7374	27720	MWIL	12 21 1630	S08 E38	12 24.5	5	(D)					
7374		PALE	12 21 2022	S08 E37	12 24.6		B	DSI	380	25	8	3
7374		LEAR	12 22 0014	S09 E34	12 24.6		B	DSI	300	37	9	2
7374		SVTO	12 22 0900	S08 E28	12 24.5		B	DAO	350	30	9	2
7374		RAMY	12 22 1435	S07 E26	12 24.5		B	EA0	340	23	11	3
7374		BOUL	12 22 1553	S08 E26	12 24.6		B	DAO	230	4	7	1
7374	27720	MWIL	12 22 1600	S08 E24	12 24.5	5	(D)					
7374		HOLL	12 22 1630	S08 E23	12 24.4		BG	DAI	300	23	10	2
7374		PALE	12 22 2013	S08 E23	12 24.6		B	DAO	320	40	10	3
7374		LEAR	12 23 0005	S09 E20	12 24.5		BD	EKI	330	45	11	3
7374		SVTO	12 23 0820	S08 E15	12 24.5		BG	EHI	300	32	11	3
7374		RAMY	12 23 1345	S07 E13	12 24.5		B	EKI	280	24	12	4
7374	27720	MWIL	12 23 1615	S09 E11	12 24.5	6	(BG)					
7374		BOUL	12 23 1642	S08 E13	12 24.7		B	DKO	270	5	7	2
7374		HOLL	12 23 1810	S10 E11	12 24.6		B	DSI	230	24	8	2
7374		LEAR	12 24 0010	S09 E07	12 24.5		BG	DKO	280	25	5	3
7374		BOUL	12 24 1549	S07 W01	12 24.6		B	DKO	280	9	6	1
7374	27720	MWIL	12 24 1600	S10 W02	12 24.5	5	(BP)					
7374		RAMY	12 24 1637	S06 W02	12 24.5		B	DAI	280	30	9	3
7374		PALE	12 24 2114	S11 W02	12 24.7		B	DAI	180	31	9	3
7374		LEAR	12 25 0003	S11 W05	12 24.6		B	DAO	220	30	9	4
7374		SVTO	12 25 1242	S07 W13	12 24.5		B	DSO	140	24	8	2
7374		RAMY	12 25 1413	S09 W13	12 24.6		B	DAI	180	17	7	2
7374		BOUL	12 25 1506	S08 W14	12 24.6		B	CSI	130	7	7	1
7374	27720	MWIL	12 25 1600	S08 W17	12 24.4	5	(BP)					
7374		LEAR	12 26 0001	S11 W19	12 24.6		B	DAO	180	22	6	4
7374		RAMY	12 26 1411	S10 W27	12 24.6		B	DAO	190	8	8	2
7374		BOUL	12 26 1610	S09 W29	12 24.5		B	CSO	100	5	5	3
7374		HOLL	12 26 1650	S08 W29	12 24.5		B	CSO	120	8	4	4
7374	27720	MWIL	12 26 1745	S08 W29	12 24.6	5	BP					
7374		LEAR	12 27 0055	S09 W33	12 24.6		B	CHO	150	5	5	3
7374		SVTO	12 27 1025	S11 W39	12 24.5		B	CSO	100	5	6	4
7374		RAMY	12 27 1545	S11 W43	12 24.4		B	CAO	140	2	4	3
7374		BOUL	12 27 1625	S10 W42	12 24.5		A	HS	80	1	2	1
7374		HOLL	12 27 1800	S08 W43	12 24.5		B	CSO	160	2	4	2
7374		PALE	12 27 2205	S10 W45	12 24.5		A	HS	140	1	2	2
7374		LEAR	12 28 0005	S09 W45	12 24.6		A	HS	130	1	3	3
7374		RAMY	12 28 1330	S11 W52	12 24.6		A	HS	100	1	2	2
7374		PALE	12 28 2108	S10 W54	12 24.8		A	HS	110	1	2	2
7374		LEAR	12 29 0004	S10 W60	12 24.5		A	HS	120	1	2	3
7374		RAMY	12 29 1230	S11 W66	12 24.5		A	HA	80	1	2	3
7374		BOUL	12 29 1653	S09 W71	12 24.4		A	HS	110	1	2	1
7374		HOLL	12 29 1817	S09 W69	12 24.6		A	HS	100	1	2	2
7374		LEAR	12 30 0005	S09 W74	12 24.4		A	HS	120	1	2	3
7374		RAMY	12 30 1345	S10 W84	12 24.3		A	HS	40	1	2	3
7374		BOUL	12 30 1547	S07 W81	12 24.6		A	HS	60	1	2	2
7374	27720	MWIL	12 30 1615	S09 W81	12 24.6	4	AP					
7376		SVTO	12 19 0850	N17 E80	12 25.4		A	AX	10	1	1	3
7376		RAMY	12 19 1319	N18 E76	12 25.3		A	AX		1		3
7376	27721	MWIL	12 19 1645	N17 E72	12 25.2	4	(AP)					
7376		PALE	12 19 2045	N19 E73	12 25.4		A	AX	30	1	1	3
7376		LEAR	12 20 0052	N17 E72	12 25.5		A	AX	30	1	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
7376		SVTO	12 20	1200	N18	E64	12 25.4		B	BXO	20	2	4	3
7376		RAMY	12 20	1318	N17	E63	12 25.3		B	CRO	30	4	3	3
7376	27721	MWIL	12 20	1630	N17	E62	12 25.4	4	(AP)					
7376		HOLL	12 20	2100	N18	E60	12 25.4		A	AX	10	2	1	1
7376		LEAR	12 21	0021	N18	E59	12 25.5		B	BXO	40	2	3	2
7376		SVTO	12 21	1320	N16	E53	12 25.6		B	BXO	20	2	4	3
7376		RAMY	12 21	1510	N18	E48	12 25.3		B	BXO	10	2	3	3
7376		HOLL	12 21	1610	N17	E48	12 25.3		B	BXO		2	3	2
7376	27721	MWIL	12 21	1630	N16	E49	12 25.4	4	(AP)					
7376		PALE	12 21	2022	N17	E47	12 25.4		B	BXO	10	3	3	3
7376		LEAR	12 22	0014	N17	E46	12 25.5		B	BXO	40	5	4	2
7376		SVTO	12 22	0900	N16	E39	12 25.3		B	BXO	10	4	3	2
7376		RAMY	12 22	1435	N17	E37	12 25.4		B	BXO	10	5	3	3
7376	27721	MWIL	12 22	1600	N17	E35	12 25.3	4	(AP)					
7376		HOLL	12 22	1630	N17	E35	12 25.3		B	BXO	10	3	3	2
7376		PALE	12 22	2013	N18	E34	12 25.4		A	AX	10	5	2	3
7376		LEAR	12 23	0005	N17	E32	12 25.4		B	BXO	10	5	3	3
7376		SVTO	12 23	0820	N16	E25	12 25.2		B	BXO	10	3	3	3
7376		RAMY	12 23	1345	N17	E24	12 25.4		B	BXO	10	3	3	4
7376		LEAR	12 24	0010	N17	E20	12 25.5		A	AX		3	2	3
7376		RAMY	12 26	1411	N17	W16	12 25.4		B	DAO	30	5	5	2
7376		BOUL	12 26	1610	N17	W17	12 25.4		B	CRO	20	6	6	3
7376		HOLL	12 26	1650	N18	W18	12 25.3		B	CRO	10	5	6	4
7376	27729	MWIL	12 26	1745	N18	W18	12 25.4	5	X					
7376		LEAR	12 27	0055	N17	W22	12 25.4		B	CRO	20	4	3	3
7376		SVTO	12 27	1025	N17	W27	12 25.4		B	DRO	40	7	5	4
7376		RAMY	12 27	1545	N14	W32	12 25.2		B	CRO	40	9	5	3
7376		BOUL	12 27	1625	N14	W29	12 25.5		A	AX	10	2	1	1
7376		HOLL	12 27	1800	N17	W31	12 25.4		B	BXO	30	5	5	2
7376		PALE	12 27	2205	N15	W33	12 25.4		B	BXO	30	3	6	2
7376		LEAR	12 28	0005	N16	W33	12 25.5		B	CRO	20	2	3	3
7376		RAMY	12 28	1330	N14	W43	12 25.3		B	DAO	50	11	5	2
7376		PALE	12 28	2108	N16	W48	12 25.2		B	DAO	50	10	6	2
7376		LEAR	12 29	0004	N15	W50	12 25.2		B	DAO	120	11	8	3
7376		RAMY	12 29	1230	N14	W56	12 25.3		B	DAO	90	9	8	3
7376		BOUL	12 29	1653	N16	W61	12 25.1		B	CSO	140	6	7	1
7376		HOLL	12 29	1817	N17	W60	12 25.2		B	DSO	160	9	10	2
7376		LEAR	12 30	0005	N15	W64	12 25.1		B	DAO	170	9	8	3
7376		RAMY	12 30	1345	N15	W72	12 25.1		B	DAO	230	4	8	3
7376		BOUL	12 30	1547	N16	W73	12 25.1		B	DAO	170	2	9	2
7376	27729	MWIL	12 30	1615	N15	W71	12 25.3	5	(B)					
7376		LEAR	12 31	0006	N17	W76	12 25.2		B	DAO	170	6	10	3
7376	27729	MWIL	12 31	1630	N15	W84	12 25.3	5	X					
7376		RAMY	12 31	1700	N15	W89	12 25.0		A	HA	30	1	2	3
7376		LEAR	01 01	0032	N12	W88	12 25.5		A	AX	30	1	1	3
7384		RAMY	12 26	1411	N04	W08	12 26.0		A	AX	10	3	2	2
7384		HOLL	12 26	1650	N03	W09	12 26.0		B	BXO	10	5	3	4
7384		RAMY	12 27	1545	N02	W22	12 26.0		A	AX		2	2	3
7384	27731	MWIL	12 31	1630	N05	W76	12 26.0	4	(AP)					
7384		RAMY	12 31	1700	N04	W78	12 25.9		A	AX	10	1		3
7378	27722	MWIL	12 19	1645	N13	E79	12 25.6	4	(AP)					
7378		PALE	12 19	2045	N08	E80	12 25.9		A	AX	30	3	1	3
7378		LEAR	12 20	0052	N12	E81	12 26.1		A	HA	60	1	2	2
7378		SVTO	12 20	1200	N13	E70	12 25.8		A	HA	40	1	3	3
7378		RAMY	12 20	1318	N13	E70	12 25.8		A	HS	60	1	2	3
7378		BOUL	12 20	1617	N12	E72	12 26.1		A	HS	60	1	2	1
7378	27722	MWIL	12 20	1630	N13	E70	12 26.0	5	(AP)					
7378		HOLL	12 20	2100	N13	E71	12 26.2		A	HA	60	1	2	1
7378		LEAR	12 21	0021	N14	E68	12 26.1		A	HA	50	1	2	2
7378		SVTO	12 21	1320	N12	E59	12 26.0		B	CAO	80	5	4	3
7378		RAMY	12 21	1510	N13	E57	12 25.9		B	DAI	100	6	3	3
7378		BOUL	12 21	1556	N13	E60	12 26.2		A	HS	80	1	2	1
7378		HOLL	12 21	1610	N11	E57	12 26.0		A	HS	70	3	2	2
7378	27722	MWIL	12 21	1630	N12	E57	12 26.0	5	(BF)					
7378		PALE	12 21	2022	N13	E55	12 26.0		B	CAO	80	10	4	3
7378		LEAR	12 22	0014	N12	E53	12 26.0		B	CAO	80	4	3	2
7378		SVTO	12 22	0900	N12	E47	12 25.9		B	HAO	80	3	3	2

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NOAA/ USAF Group	Mt Wilson Group	Sta	Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7378		RAMY	12	22	1435	N12	E44	12	25.9		A	HA	80	2	2	3
7378		BOUL	12	22	1553	N12	E44	12	26.0		A	HS	80	1	2	1
7378	27722	MWIL	12	22	1600	N12	E44	12	26.0	5	(BF)					
7378		HOLL	12	22	1630	N12	E44	12	26.0		A	HA	80	1	2	2
7378		PALE	12	22	2013	N13	E43	12	26.1		A	HA	60	2	1	3
7378		LEAR	12	23	0005	N11	E39	12	25.9		B	CAO	50	3	3	3
7378		SVTO	12	23	0820	N12	E34	12	25.9		B	CSO	70	3	3	3
7378		RAMY	12	23	1345	N12	E32	12	26.0		B	CSO	80	3	5	4
7378	27722	MWIL	12	23	1615	N12	E31	12	26.0	5	(AP)					
7378		BOUL	12	23	1642	N12	E32	12	26.1		A	HS	80	1	2	2
7378		HOLL	12	23	1810	N11	E30	12	26.0		A	HS	70	3	1	2
7378		LEAR	12	24	0010	N12	E27	12	26.0		A	HS	60	1	2	3
7378		BOUL	12	24	1549	N12	E18	12	26.0		A	HS	50	1	1	1
7378	27722	MWIL	12	24	1600	N11	E19	12	26.1	5	(AP)					
7378		RAMY	12	24	1637	N13	E17	12	26.0		A	HS	60	1	2	3
7378		PALE	12	24	2114	N12	E18	12	26.2		A	HS	60	2	3	3
7378		LEAR	12	25	0003	N12	E14	12	26.0		A	HA	50	1	2	4
7378		SVTO	12	25	1242	N11	E05	12	25.9		B	CSO	40	2	4	2
7378		RAMY	12	25	1413	N11	E04	12	25.9		B	CAO	70	2	4	2
7378		BOUL	12	25	1506	N12	E06	12	26.1		A	HS	40	1	1	1
7378	27722	MWIL	12	25	1600	N11	E06	12	26.1	5	(AP)					
7378		LEAR	12	26	0001	N11	E02	12	26.1		B	CSO	50	3	4	4
7378		RAMY	12	26	1411	N12	W07	12	26.1		B	CSO	70	2	3	2
7378		BOUL	12	26	1610	N13	W09	12	26.0		A	HS	60	2	2	3
7378		HOLL	12	26	1650	N12	W08	12	26.1		B	CSO	60	5	4	4
7378	27722	MWIL	12	26	1745	N12	W09	12	26.1	5	AP					
7378		LEAR	12	27	0055	N12	W13	12	26.0		B	CSO	60	3	2	3
7378		SVTO	12	27	1025	N11	W15	12	26.3		B	CSO	60	4	8	4
7378		RAMY	12	27	1545	N10	W20	12	26.1		B	CAO	70	4	3	3
7378		BOUL	12	27	1625	N10	W20	12	26.2		A	HS	30	1	1	1
7378		HOLL	12	27	1800	N12	W22	12	26.1		A	HS	60	1	1	2
7378		PALE	12	27	2205	N11	W23	12	26.2		A	HS	70	1	2	2
7378		LEAR	12	28	0005	N12	W25	12	26.1		A	HS	60	1	2	3
7378		RAMY	12	28	1330	N10	W32	12	26.1		A	HA	60	1	2	2
7378		PALE	12	28	2108	N11	W36	12	26.2		A	HS	40	1	1	2
7378		LEAR	12	29	0004	N11	W38	12	26.1		A	HS	50	1	2	3
7378		RAMY	12	29	1230	N09	W45	12	26.1		A	HS	40	1	2	3
7378		BOUL	12	29	1653	N11	W49	12	26.0		A	HS	50	1	1	1
7378		HOLL	12	29	1817	N11	W48	12	26.1		A	HS	60	1	2	2
7378		LEAR	12	30	0005	N11	W52	12	26.1		A	HS	50	1	2	3
7378		RAMY	12	30	1345	N11	W59	12	26.1		A	HS	40	1	1	3
7378		BOUL	12	30	1547	N12	W59	12	26.2		A	HS	20	1	1	2
7378	27722	MWIL	12	30	1615	N12	W60	12	26.1	4	(AP)					
7378		LEAR	12	31	0006	N14	W65	12	26.1		A	HS	30	1	1	3
7378	27722	MWIL	12	31	1630	N12	W73	12	26.2	4	AP					
7378		RAMY	12	31	1700	N11	W72	12	26.3		A	AX	10	1		3
7379		RAMY	12	21	1510	S08	E86	12	28.1		A	HA	50	1	2	3
7379		HOLL	12	21	1610	S13	E86	12	28.2		A	HS	60	1	2	2
7379	27724	MWIL	12	21	1630	S12	E85	12	28.1	4	AP					
7379		PALE	12	21	2022	S11	E78	12	27.7		A	HA	90	1	1	3
7379		LEAR	12	22	0014	S11	E80	12	28.0		A	HA	60	1	2	2
7379		SVTO	12	22	0900	S12	E75	12	28.0		A	HA	120	1	2	2
7379		RAMY	12	22	1435	S10	E73	12	28.1		A	HS	120	1	2	3
7379		BOUL	12	22	1553	S11	E71	12	28.0		A	HS	150	1	3	1
7379	27724	MWIL	12	22	1600	S12	E70	12	27.9	5	(AP)					
7379		HOLL	12	22	1630	S11	E71	12	28.0		A	HS	130	1	2	2
7379		PALE	12	22	2013	S10	E71	12	28.2		A	HS	70	1	1	3
7379		LEAR	12	23	0005	S12	E67	12	28.0		A	HS	50	1	2	3
7379		SVTO	12	23	0820	S11	E60	12	27.9		A	HA	80	1	2	3
7379		RAMY	12	23	1345	S11	E64	12	28.4		B	CSO	90	2	5	4
7379	27724	MWIL	12	23	1615	S12	E57	12	28.0	5	(AP)					
7379		BOUL	12	23	1642	S11	E58	12	28.0		A	HA	70	1	1	2
7379		HOLL	12	23	1810	S13	E58	12	28.1		B	CSO	70	2	6	2
7379		LEAR	12	24	0010	S12	E54	12	28.1		A	HS	70	1	2	3
7379		BOUL	12	24	1549	S11	E45	12	28.0		A	HA	80	1	2	1
7379	27724	MWIL	12	24	1600	S11	E44	12	28.0	5	(AP)					
7379		RAMY	12	24	1637	S10	E45	12	28.1		B	CSO	80	3	4	3
7379		PALE	12	24	2114	S10	E43	12	28.1		A	HA	80	1	1	3

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SUNSPOT GROUPS (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
7379		LEAR	12 25 0003	S11 E40	12 28.0		A	HA	50	1	1	4
7379		SVTO	12 25 1242	S11 E32	12 27.9		B	CSO	60	2	3	2
7379		RAMY	12 25 1413	S09 E32	12 28.0		A	HA	70	1	2	2
7379		BOUL	12 25 1506	S11 E31	12 28.0		A	HS	60	1	1	1
7379	27724	MWIL	12 25 1600	S11 E30	12 27.9	5	(AP)					
7379		LEAR	12 26 0001	S11 E27	12 28.0		A	HS	60	1	2	4
7379		RAMY	12 26 1411	S11 E19	12 28.0		B	CSO	60	2	3	2
7379		BOUL	12 26 1610	S09 E17	12 27.9		A	HS	60	1	2	3
7379		HOLL	12 26 1650	S11 E18	12 28.0		A	HS	60	1	2	4
7379	27724	MWIL	12 26 1745	S11 E17	12 28.0	5	AP					
7379		LEAR	12 27 0055	S11 E13	12 28.0		A	HS	60	1	2	3
7379		SVTO	12 27 1025	S11 E05	12 27.8		B	CSO	70	3	1	4
7379		RAMY	12 27 1545	S11 E07	12 28.2		B	CAO	70	5	3	3
7379		BOUL	12 27 1625	S11 E06	12 28.1		B	CSO	50	3	3	1
7379		HOLL	12 27 1800	S10 E03	12 28.0		B	CSO	60	4	3	2
7379		PALE	12 27 2205	S12 E03	12 28.1		B	CSO	50	3	3	2
7379		LEAR	12 28 0005	S11 E01	12 28.1		B	CSO	70	3	3	3
7379		RAMY	12 28 1330	S09 W06	12 28.1		B	CSO	60	4	4	2
7379		PALE	12 28 2108	S11 W11	12 28.0		B	CSO	60	9	5	2
7379		LEAR	12 29 0004	S12 W11	12 28.2		B	CSO	70	10	6	3
7379		RAMY	12 29 1230	S11 W17	12 28.2		B	CAO	50	6	6	3
7379		BOUL	12 29 1653	S10 W22	12 28.0		A	HS	50	2	1	1
7379		HOLL	12 29 1817	S10 W23	12 28.0		B	CAO	70	4	3	2
7379		LEAR	12 30 0005	S12 W26	12 28.0		B	CAO	60	5	4	3
7379		RAMY	12 30 1345	S11 W32	12 28.2		B	CAO	50	4	3	3
7379		BOUL	12 30 1547	S10 W34	12 28.1		A	HS	60	2	2	2
7379	27724	MWIL	12 30 1615	S11 W35	12 28.0	5	(AP)					
7379		LEAR	12 31 0006	S10 W39	12 28.1		B	DAO	70	4	4	3
7379		BOUL	12 31 1627	S13 W49	12 28.0		B	CSO	100	5	3	1
7379	27724	MWIL	12 31 1630	S12 W48	12 28.1	5	(AP)					
7379		RAMY	12 31 1700	S13 W47	12 28.2		B	DAO	50	7	4	3
7379		LEAR	01 01 0032	S12 W53	12 28.1		B	DAO	100	5	6	3
7379		RAMY	01 01 1555	S12 W60	12 28.2		B	DAO	50	7	6	3
7379		BOUL	01 01 1627	S12 W63	12 28.0		B	CSO	70	3	3	3
7379	27724	MWIL	01 01 1800	S12 W63	12 28.1	5	(AP)					
7379		PALE	01 01 1955	S13 W67	12 27.9		B	DRO	60	3	3	2
7379		LEAR	01 02 0028	S12 W65	12 28.2		A	HA	20	3	3	2
7379		RAMY	01 02 1410	S13 W72	12 28.2		B	CRO	20	4	6	3
7379		PALE	01 02 2010	S15 W78	12 28.0		A	AX	20	1	1	3
7379		LEAR	01 03 0008	S12 W76	12 28.4		B	BOXO	20	3	5	2
7381		HOLL	12 23 1810	N05 E59	12 28.2		A	AX	10	1		2
7381		BOUL	12 24 1549	N05 E48	12 28.2		B	DAO	70	3	6	1
7381	27727	MWIL	12 24 1600	N06 E48	12 28.2	4	(B)					
7381		RAMY	12 24 1637	N07 E46	12 28.1		B	DAO	30	6	5	3
7381		PALE	12 24 2114	N08 E48	12 28.5		B	DAI	40	9	5	3
7381		LEAR	12 25 0003	N06 E43	12 28.2		B	DAO	70	13	6	4
7381		SVTO	12 25 1242	N05 E35	12 28.1		B	DAO	100	21	7	2
7381		RAMY	12 25 1413	N07 E34	12 28.1		B	DAI	120	20	8	2
7381		BOUL	12 25 1506	N06 E35	12 28.2		B	DSO	190	7	8	1
7381	27727	MWIL	12 25 1600	N05 E34	12 28.2	5	(B)					
7381		LEAR	12 26 0001	N05 E29	12 28.2		B	DAO	130	23	9	4
7381		RAMY	12 26 1411	N07 E21	12 28.2		B	DAO	140	26	9	2
7381		BOUL	12 26 1610	N05 E19	12 28.1		B	DAO	180	21	9	3
7381		HOLL	12 26 1650	N05 E20	12 28.2		B	DAI	180	23	9	4
7381	27727	MWIL	12 26 1745	N06 E18	12 28.1	5	B					
7381		LEAR	12 27 0055	N05 E15	12 28.2		B	DHO	180	14	9	3
7381		SVTO	12 27 1025	N05 E09	12 28.1		B	DAO	250	26	10	4
7381		RAMY	12 27 1545	N04 E07	12 28.2		B	DAO	240	22	9	3
7381		BOUL	12 27 1625	N04 E07	12 28.2		B	DSO	150	8	9	1
7381		HOLL	12 27 1800	N05 E05	12 28.1		B	DSO	260	15	10	2
7381		PALE	12 27 2205	N03 E03	12 28.1		B	EAO	280	16	12	2
7381		LEAR	12 28 0005	N05 E03	12 28.2		B	DHO	210	19	10	3
7381		RAMY	12 28 1330	N04 W05	12 28.2		B	DKI	270	18	10	2
7381		PALE	12 28 2108	N04 W08	12 28.3		B	DSO	240	15	10	2
7381		LEAR	12 29 0004	N04 W12	12 28.1		B	DSO	260	21	10	3
7381		RAMY	12 29 1230	N04 W18	12 28.2		B	ESC	160	21	11	3
7381		BOUL	12 29 1653	N04 W21	12 28.1		B	CSI	130	10	9	1
7381		HOLL	12 29 1817	N04 W22	12 28.1		B	CSO	230	15	8	2

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 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
7381		LEAR	12 30 0005	N04 W25	12 28.1		B	CAO	140	12	8	3
7381		RAMY	12 30 1345	N04 W34	12 28.0		B	CAO	180	12	8	3
7381		BOUL	12 30 1547	N05 W34	12 28.1		B	CAO	190	8	8	2
7381	27727	MWIL	12 30 1615	N04 W36	12 28.0	5	(BP)					
7381		LEAR	12 31 0006	N06 W38	12 28.2		B	CHO	110	11	9	3
7381		BOUL	12 31 1627	N04 W52	12 27.8		A	HA	130	1	3	1
7381	27727	MWIL	12 31 1630	N05 W51	12 27.9	5	(AP)					
7381		RAMY	12 31 1700	N04 W51	12 27.9		A	HA	110	1	2	3
7381		LEAR	01 01 0032	N07 W56	12 27.9		A	HA	90	1	2	3
7381		RAMY	01 01 1555	N03 W62	12 28.1		B	CAO	110	4	8	3
7381		BOUL	01 01 1627	N04 W67	12 27.8		A	HS	100	1	2	3
7381	27727	MWIL	01 01 1800	N04 W66	12 27.9	5	(AP)					
7381		PALE	01 01 1955	N03 W70	12 27.7		A	HS	90	1	1	2
7381		LEAR	01 02 0028	N05 W67	12 28.1		B	BXO	90	1	2	2
7381		RAMY	01 02 1410	N03 W77	12 27.9		A	HS	120	2	2	3
7381		BOUL	01 02 1748	N03 W80	12 27.9		A	HS	50	1	1	3
7381		PALE	01 02 2010	N03 W81	12 27.9		A	HS	50	1	2	3
7381		LEAR	01 03 0008	N05 W80	12 28.1		A	HR	30	1	2	2
7383		LEAR	12 26 0001	S05 E28	12 28.1		B	BXO	10	3	3	4
7383		RAMY	12 26 1411	S04 E21	12 28.2		B	CRO	20	5	4	2
7383		BOUL	12 26 1610	S03 E18	12 28.0		A	AX		2	3	3
7383		HOLL	12 26 1650	S04 E18	12 28.0		B	CRO	10	3	4	4
7383	27730	MWIL	12 26 1745	S05 E17	12 28.0	3	X					
7383		LEAR	12 27 0055	S04 E14	12 28.1		B	BXO	10	2	4	3
7383		SVTO	12 27 1025	S05 E07	12 27.9		B	BXO	10	8	4	4
7383		RAMY	12 27 1545	S05 E06	12 28.1		B	BXO	20	11	4	3
7383		BOUL	12 27 1625	S05 E05	12 28.0		B	BXO	10	4	4	1
7383		HOLL	12 27 1800	S04 E03	12 28.0		B	BXO	20	11	6	2
7383		PALE	12 27 2205	S05 E02	12 28.1		B	BXO	30	7	6	2
7383		LEAR	12 28 0005	S04 E02	12 28.1		B	BRO	20	12	5	3
7383		RAMY	12 28 1330	S05 W06	12 28.1		B	CAO	30	7	5	2
7383		PALE	12 28 2108	S04 W11	12 28.0		B	CRO	20	5	4	2
7383		LEAR	12 29 0004	S05 W13	12 28.0		B	CSO	10	3	5	3
7383		RAMY	12 29 1230	S05 W22	12 27.9		B	CSO	20	3	4	3
7383		BOUL	12 29 1653	S04 W26	12 27.7		A	AX		1		1
7383		HOLL	12 29 1817	S05 W26	12 27.8		A	AX	20	2	1	2
7383		LEAR	12 30 0005	S05 W31	12 27.7		A	HS	10	1	1	3
7383		RAMY	12 30 1345	S05 W38	12 27.7		A	AX	10	1	1	3
7383		BOUL	12 30 1547	S04 W39	12 27.7		A	HS	10	1	1	2
7383	27730	MWIL	12 30 1615	S04 W39	12 27.8	4	(AP)					
7383		LEAR	12 31 0006	S03 W46	12 27.6		A	AX	10	1	1	3
7383		BOUL	12 31 1627	S05 W54	12 27.6		A	AX	20	1	1	1
7383	27730	MWIL	12 31 1630	S04 W54	12 27.6	5	(AP)					
7383		RAMY	12 31 1700	S05 W55	12 27.6		A	HA	10	1	1	3
7383		LEAR	01 01 0032	S03 W58	12 27.8		A	HS	40	1	1	3
7383		RAMY	01 01 1555	S05 W67	12 27.7		A	AX	10	1		3
7383	27730	MWIL	01 01 1800	S04 W68	12 27.8	4	(AP)					
7382A		RAMY	12 30 1345	S25 W24	12 28.7		A	AX		1		3
7382		RAMY	12 23 1345	S15 E78	12 29.5		B	BXO	20	2	3	4
7382		LEAR	12 24 0010	S16 E73	12 29.5		A	AX	20	1	1	3
7382	27728	MWIL	12 24 1600	S18 E62	12 29.4	4	(AP)					
7382		RAMY	12 24 1637	S14 E62	12 29.4		A	AX	10	1	1	3
7382		PALE	12 24 2114	S15 E62	12 29.6		A	AX	30	2	2	3
7382		LEAR	12 25 0003	S17 E60	12 29.6		B	BXO	10	2	2	4
7382		RAMY	12 25 1413	S15 E53	12 29.6		B	BXO	20	3	5	2
7382		LEAR	12 26 0001	S18 E49	12 29.7		B	BXO	10	2	3	4
7382		HOLL	12 27 1800	S18 E25	12 29.6		A	AX		1		2
7388		RAMY	01 02 1410	S07 W24	12 31.8		B	BXO	10	2	2	3
7388		PALE	01 02 2010	S08 W30	12 31.6		B	BXO	20	7	5	3
7388		LEAR	01 03 0008	S07 W29	12 31.8		A	AX		1	1	2
7388		SVTO	01 03 0958	S07 W34	12 31.9		B	CRO	50	11	6	3
7388		RAMY	01 03 1300	S08 W37	12 31.8		B	DAI	80	9	7	3
7388	27734	MWIL	01 03 1615	S07 W39	12 31.7	5	(B)					
7388		PALE	01 03 1830	S08 W42	12 31.6		B	DAO	50	8	6	3
7388		LEAR	01 04 0025	S08 W45	12 31.6		B	DSO	60	6	7	3

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Dec 92

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

DECEMBER 1992

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CHP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
7388		SVTO	01 04 1247	S06 W51	12 31.7		A	DSO	130	11	9	2
7388		RAMY	01 04 1305	S08 W51	12 31.7		B	DAO	150	11	9	3
7388	27734	MWIL	01 04 1630	S07 W53	12 31.7	5	(B)					
7388		BOUL	01 04 1634	S08 W53	12 31.7		B	DAO	130	2	9	1
7388		HOLL	01 04 1730	S06 W54	12 31.7		B	DAO	130	9	9	3
7388		PALE	01 04 1831	S08 W53	12 31.8		B	DAI	90	13	8	3
7388		SVTO	01 05 0928	S04 W62	12 31.7		B	DAO	220	16	9	3
7388		RAMY	01 05 1410	S07 W64	12 31.8		B	DAO	120	9	8	2
7388	27734	MWIL	01 05 1600	S07 W68	12 31.6	5	(B)					
7388		HOLL	01 05 1910	S07 W68	12 31.7		B	DSI	140	9	8	3
7388		PALE	01 05 2240	S07 W69	12 31.8		B	DAO	90	3	8	1
7388		LEAR	01 06 0005	S07 W71	12 31.7		B	DAO	110	7	10	3
7388		SVTO	01 06 0935	S05 W78	12 31.6		B	DAO	140	10	9	3
7388		RAMY	01 06 1214	S08 W79	12 31.6		B	DAO	130	4	9	4

Stations reporting:

BOUL = Boulder
CULG = Culgoora

HOLL = Holloman
LEAR = Learmonth

MWIL = Mt. Wilson
PALE = Palehua

RAMY = Ramey
SVTO = San Vito

SUDDEN IONOSPHERIC DISTURBANCES

93
Dec 92

DECEMBER 1992

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	0526	0536	0610	1-	5			1		2	0525	C2.1	7352
01	0700	0704	0723	1	3		2				No flare		
01	1022	1030	1054	1-	5		1	1		4	1021	C5.1	7352
01	1440	1441	1452	1-	1					1	1438	B9.2	
01	1556	1559	1605	1-	3					2	No flare		
01	1625	1630	1641	1-	3					3	1621	C1.3	
01	1747	1755	1832	2	3					9	1745	M1.5	7352
01	2020	2028	2038	1-	5			1		7	2018	C5.1	7352
02	0304	0312	0328	1-	1			1			0155E	C1.6	7352
02	0630	0636	0654D	1-	5			1		2	0628	C1.8	7352
02	0654E	0700	0720	1-	1			1			0637	C1.4	7348
02	0728	0730	0740	1-	1			1			0725	C2.0	7352
02	0752	0801	0821	1	1		1				No flare		
02	0908	0922	1000	1-	1			1		2	0936	C4.3	7352
02	1100	1106	1116	1	1		1				No flare		
02	1149	1154	1200	1-	1					1	1149	C1.2	7352
02	1551	1552	1600	1-	1					1	1551	B7.1	7352
03	0613	0616	0653	1+	1					1	0608		7352
03	0724	0726	0742	1	1		1				No flare		
03	1344	1352	1420	1	1		1				No flare		
03	2021	2030	2115	2+	1					1	2031	C3.7	7352
03	2258	2306	2330	1-	1			1			2257	C1.8	7352
04	0152	0200	0244D	1-	1			1			0150	C2.6	
04	0244E	0250	0310	1-	1			1			0241	C1.7	7352
04	0412	0418	0506	2	1			1			0411	C5.8	7352
04	0715	0716	0731	1-	3					2	0708		7352
04	0844	0852	0904	1-	1			1			0843	C2.1	
04	1000	1021	1030	1	1		1				No flare		
04	1050	1054	1106	1-	1			1			1047	C3.6	
04	1107	1138	1152	1+	5		1			1	1118	M1.4	7352
04	1136	1142	1256	1-	5	2	5	1		3	1118	M1.4	7352
04	1240	1245	1307	1-	3		1			1	1241	C2.8	7352
04	1340	1348	1404	1	5		1			1	1331	C5.0	
04	1348	1355	1418	1	5		1			6	1331	C5.0	
04	1425	1429	1439	1-	1					1	No flare		
04	1509	1514	1527	1-	3					7	1513	C3.6	7352
04	1730	1732	1823	2	3					13	1733	M2.1	7352
05	0600	0606	0618	1-	1			1			0559	B7.4	
05	1425	1430	1513	2	1					1	1420	C1.0	
05	1543	1547	1558	1-	3					1	No flare		
05	1559	1603	1624	1	3					6	1556	C2.1	
06	0026	0034	0104	1-	1			1			0024	C2.1	
07	0358	0408	0446	1-	1			1			0407	C2.1	7361
07	1340	1350	1350D	2	1					1	1337	C6.0	
07	1412	1433	1500	2-	5		1			4	1337	C6.0	
07	1549	1553	1610	1-	5					7	1551	C4.5	
07	2214	2218	2236	1-	1			1			2213E	C4.3	7360
08	0200	0218	0246	1-	1			1			0159	C1.5	
08	0550	0602	0624	1-	1			1			*		
08	0634	0644	0654D	1-	1			1			No flare		
08	0654E	0700	0736	1+	5		1	1			0651	C5.4	
08	1045	1050	1110	1	1		1				1045	C3.1	
08	1057	1117	1131	1	1		1				1045	C3.1	
08	1458	1507	1526	1	5					2	1456	C2.5	
08	1546	1546	1610	1	1					1	1546		7362
08	1806	1812	1832	1	3					8	1800	C5.1	7363
09	1042	1050	1100	1-	5	1	1	1		3	1040	C2.7	
09	1118	1122	1136	1-	5		2	1		2	1124	C6.3	7363
09	1237	1240	1245	1-	3					2	1239	C1.5	7362
09	2343	2345	2352	1-	3					2	2336	C1.2	

* = no flare patrol.

SUDDEN IONOSPHERIC DISTURBANCES

DECEMBER 1992

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			
10	1043	1045	1051	1-	1					1	1043	C1.2	
10	1201	1205	1222	1-	3					2	1202	C2.4	7362
10	1344	1347	1412	1+	5		1			3	1346	C3.4	7362
10	2256	2258	2316	1-	1			1			2255	C3.6	7362
11	1057	1059	1122	1	3					2	1042	C1.2	
11	1146	1153	1200	1-	3					2	1148	C1.1	
11	1215	1215	1230	1-	1					1	1216	C1.1	7360
11	1259	1300	1336	2	1					1	No flare		
11	1316	1335	1351	1	1		1				*		
11	1447	1450	1503	1-	3					3	1447	C1.4	
11	1508	1518	1535	1	1		1				No flare		
11	1555	1601	1623	1	3					2	1552		7360
12	0554	0602	0612	1-	1			1			0552	C1.2	
12	1215	1230	1230	1	1					1	*		
12	1315	1329	1345	2	1					1	*		
12	1546	1549	1607	1-	5					7	1542		7366
12	2338	2342	2352	1-	3					2	2338	C1.0	
13	0026	0038	0114	1-	1			1			0025	C4.1	7366
13	0502	0508	0524	1-	1			1			0502	C2.4	7366
13	0704	0712	0730	1-	1			1			0704	C3.1	
13	0818	0830	0912	1-	1			1			0808	C5.6	
13	0932	0940	0958	1	1		1				0922		7362
13	1034	1039U	1059	2	1		1				1034	C2.7	
13	1052	1109	1137	1+	1		2				No flare		
13	1138	1142	1200	1	1		1				*		
13	1215	1223	1248	1-	5		1			1	1204	C2.2	7366
13	1253	1258	1303	1-	1					1	*		
13	1311	1317	1400	2-	5		1			1	1311	C2.0	7366
13	1651	1654	1703	1-	3					2	1647	C1.6	
13	2137	2144	2205U	1+	1					1	2137		7362
14	0516	0526	0550	1-	1			1			0513	C1.3	
14	1017	1042	1125	1	1		1				1042	C1.7	
14	1100E	1127	1200	1	1					1	1059		7360
14	1220	1300U	1345	3	1		1				No flare		
14	1744	1749	1828	2	1					1	1747	C3.5	7368
15	0112	0120	0200	1+	3	1		1			0111	C6.9	7360
15	0420	0428	0452	1-	1			1			0419	C1.6	7362
15	0904	0908	0936	1-	5			1		1	0859	C4.5	7368
15	1158	1210	1225	3	1					1	1158E	C2.9	7368
15	1332	1341	1401	1	1		1				*		
15	1655	1700	1721	1	3					4	1657	C1.9	7360
16	0316	0326	0410D	2	3	1		1			0318E	C4.6	7360
16	0410E	0420	0442	1-	1			1			No flare		
16	0458	0514	0542	1-	1			1			No flare		
16	0546	0556	0648	1-	5			1		2	0558E	C4.7	7360
17	1128	1134	1200	1-	5	1	2	1		3	1124	C7.0	
18	0325	0329	0344	1	1					1	0325	C1.1	
19	1202	1209U	1235	1	1			1			1217		
20	0448	0458	0530	1-	1			1			0448	C1.3	7374
20	1613	1630	1657	2	1					1	1447	C3.3	
20	1725	1729	1742	1-	3					6	1727	C2.8	7374
21	0336	0340	0400	1-	1			1			0334	C1.0	
22	1450	1450	1510	1	1					1	1448	C1.7	7374
23	1212	1243	1303	1	1		1				No flare		
23	1402	1405	1419	2	1		1				No flare		

* = no flare patrol.

DECEMBER 1992

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			
24	1247	1300	1317	1+	3					2	1248	B6.9	
25	0140	0148	0220	1-	3	1		1			0138	C2.5	7374
28	0646	0652	0716	1-	1			1			0638	C2.5	7376
28	0750	0805	0853	2	1		1				No flare		
29	0630	0632	0640	1-	1					1	0629	B8.4	
29	0938	0942	0954	1-	5		1	1		2	0935	C1.9	
29	1035	1038	1046	1-	1					1	1035	B8.7	
29	1419	1429	1444	1	1		1				No flare		
29	1716	1719	1733	1-	3					4	1716	C2.6	
29	2146	2154	2210	1-	1			1			No flare		
30	0242	0250	0314	1-	1			1			0253	C1.6	7376
30	0632	0636	0658	1-	5			1		2	0627	C1.4	7376
30	0822	0828	0850	1-	1			1			0819	C2.8	7376
30	0936	0942	1004	1-	5		1	1		2	0938	C5.2	7376
30	2110	2126	2150	2	1					1	2105	C2.7	
30	2204	2212	2224D	1-	1			1			2203	C4.2	
30	2224E	2240	2310	1-	1			1			2226	C4.8	
30	2336	2342	2422	1	1			1			2333	C3.3	
31	0152	0208	0212D	1-	1			1			*		
31	0212	0226	0324D	3	3	1		1			0214	M2.6	7376
31	0324E	0330	0358	1-	1			1			0322	C1.9	
31	0720	0732	0800	1+	3		2				No flare		
31	0810	0814	0838	1-	1			1			0807	C3.5	
31	1301	1314	1329	1+	1					1	1300	C1.3	
31	1423	1426	1434	1-	3					2	1422	C2.1	
31	1626	1640	1700	1-	1					1	1625	C1.9	
31	1925	1932	1956	1+	3					4	1926	C6.3	7379

* = no flare patrol.

OBSERVATORIES REPORTING FOR DECEMBER 1992

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
Boksburg, Rep of S. Africa	SES	Maui, Hawaii, USA	SWF
Cleveland, Ohio, USA	SES	Nampa, Idaho, USA	SES
Cranford, New Jersey, USA	SES	Nerja, Spain	SES
Darmstadt, Germany	SWF	Panska Ves, Czechoslovakia	SES, SEA, SWF
Edenvale, Rep of S. Africa	SES	Paterson, New Jersey, USA	SES
Farsta, Sweden	SES	Piscataway, 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	Shaker Heights, Ohio, USA	SES
Huntsville, Alabama, USA	SES	Tucson, Arizona, USA	SES
Inubo, Japan	SPA	Upice, Czechoslovakia	SEA
Itapetinga, Brazil	SPA, SES	Wellington, Ohio, USA	SES
Johannesburg, Rep of So. Africa	SES	Windsor Locks, Connecticut, USA	SES
Kandilli, Turkey	SEA	Ziar nad Hronom, Czechoslovakia	SEA
LaCrescenta, California, USA	SES	Zilina, Czechoslovakia	SEA

Observations are not necessarily continuous.

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Dec 92

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

Spectral Observations

DECEMBER 1992

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	0700	1200	IZMI				0923.0	0924.2	1				IC
	0700	1200	IZMI				0926.5	0928.2	2				I,DC
	0700	1200	IZMI				0938.8	0940.0	1				IN
			SGMR				1621.0	1621.0	1				III
			PALE				2111.0	2113.0	1				III
02			PALE				0305.0	0307.0	1				III
	0700	1200	IZMI				1054.5	1132.6	1				IS,DC
			PALE				1724.0	1724.0	2				III
05			PALE				2227.0	2227.0	1				III
08			SVTO				1159.0	1201.0	2				V
09			LEAR				0448.0	0448.0	2				III
10			LEAR				0119.0	0120.0	2				III
12			LEAR				0237.0	0237.0	1				III
			LEAR				0408.0	0411.0	2				III
13	0700	1200	IZMI				0827.7	0835.9	1				IS,DC
			LEAR				0836.0	0845.0	1				III
15			LEAR				0809.0	0809.0	1				III
	0700	1200	IZMI				0909.1	0809.6	2				IIIG
			PALE				2108.0	2108.0	1				III
16			LEAR				0724.0	0725.0	2				III
			LEAR				0903.0	0917.0	2				S
	0700	1200	IZMI				0903.7	0927.3	2				IIIGG
			SVTO				0904.0	0911.0	2				III
			SGMR				1623.0	1624.0	1				III
18			LEAR				2314.0	2314.0	2				III
			PALE				2314.0	2314.0	1				III
19			PALE				1932.0	1934.0	1				III
21			LEAR				0550.0	0552.0	3				III
			LEAR				0623.0	0623.0	1				III
			LEAR				0716.0	0731.0	2				S
	0700	1200	IZMI				0716.6	0716.9	1				IIIG
	0700	1200	IZMI				0730.0	0731.8	2				IIIG
			LEAR				0842.0	0842.0	1				III
	0700	1200	IZMI				1141.7	1143.0	1				IIIG
			SGMR				1528.0	1528.0	1				III
			PALE				1916.0	1917.0	1				V
			SGMR				1916.0	1916.0	1				III
			LEAR				2251.0	2254.0	2				III
			PALE				2251.0	2256.0	1				V
22			LEAR				0037.0	0037.0	1				III
			LEAR				0042.0	0200.0	1				CONT
			LEAR				0233.0	0233.0	2				III
			LEAR				0303.0	0303.0	2				III
			LEAR				0343.0	0347.0	3				III
			LEAR				0415.0	0416.0	2				III
			LEAR				0453.0	0456.0	2				III
23			LEAR				0127.0	0127.0	1				III
			LEAR				0159.0	0200.0	1				III
			LEAR				0236.0	0236.0	2				III
24			LEAR				0653.0	0959.0	2				CONT
	0700	1200	IZMI				0700.0E	1200.0D	2				IIIS
	0700	1200	IZMI				0700.0E	1200.0D	2				IS,C
			SVTO				0845.0	0000.0	1				CONT

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

97
Dec 92

DECEMBER 1992

Day	Observation		Sta	Decimetric Band			Metric Band			Dekametric Band			Spectral Type
	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	0700	1200	IZMI				0700.0E	1200.0D	1				IS
			PALE				1849.0	1850.0	1				III
			LEAR				2201.0	2203.0	2				III
26	0700	1200	IZMI				0911.3	9111.4	2				IIIB
	0700	1200	IZMI				1049.3	1049.4	1				IIIBU
27			LEAR				0034.0	0034.0	1				III
			LEAR				0509.0	0509.0	1				III
			LEAR				0621.0	0630.0	1				III
			SVTO				0627.0	0630.0	1				III
			LEAR				0652.0	0654.0	1				III
	0700	1200	IZMI				0700.0	1050.2	1				INW
			LEAR				0851.0	0851.0	1				III
	0700	1200	IZMI				0928.4	0929.4	1				IIIG
			LEAR				1022.0	1022.0	2				III
			SVTO				1034.0	1037.0	1				III
	0700	1200	IZMI				1034.9	1038.1	2				IIIG
			SVTO				1327.0	1328.0	1				III
			PALE				2025.0	2025.0	1				III
			PALE				2026.0	2026.0	1				III
28			LEAR				0507.0	0507.0	1				III
			LEAR				0641.0	0648.0	2				III
			LEAR				0655.0	0659.0	1				II
	0700	1200	IZMI				0658.4	0659.7	1				IDC
			LEAR				0659.0	0748.0	1				IV
	0700	1200	IZMI				0912.2	0913.4	2				IIIG
	0700	1200	IZMI				1046.4	1046.7	1				IIIG
	0700	1200	IZMI				1046.9	1047.6	1				IG
29			LEAR				0627.0	0627.0	1				III
			LEAR				0648.0	0649.0	1				III
			LEAR				0821.0	0823.0	2				III
	0700	1200	IZMI				0821.3	0823.1	2				IIIGG,V,U
			SVTO				0822.0	0823.0	2				III
			SVTO				0900.0	0901.0	2				MWB
	0700	1200	IZMI				0935.6	0937.7	2				IIIG,V
			LEAR				0936.0	0938.0	3				III
			SVTO				0936.0	0938.0	2				III
	0700	1200	IZMI				1022.7	1022.8	1				IIIB
	0700	1200	IZMI				1026.9	1027.0	1				IIIB
	0700	1200	IZMI				1057.3	1057.6	1				III,V,HARM
	0700	1200	IZMI				1105.9	1106.3	2				IIIG
			SGMR				1407.0	1408.0	1				V
			SVTO				1407.0	1408.0	2				III
			SGMR				1718.0	1719.0	1				III
30			LEAR				0240.0	0246.0	3				III
			PALE				0246.0	0246.0	2				III
			LEAR				0250.0	0259.0	1				II
			LEAR				0544.0	0544.0	1				III
			LEAR				0818.0	0821.0	3				III
	0700	1200	IZMI				0818.6	0820.5	2				IIIGG,V
			LEAR				0826.0	0837.0	1				II
	0700	1200	IZMI				0826.6	0834.0	2				II HARM
	0700	1200	IZMI				0835.7	0839.3	2				IIIG
	0700	1200	IZMI				0859.6	0915.5	1				IIIGG
			LEAR				0937.0	0939.0	2				III
			SVTO				0937.0	0939.0	2				V
	0700	1200	IZMI				0937.4	0938.6	2				IIIGG,V
	0700	1200	IZMI				1025.9	1026.3	1				IIIG
	0700	1200	IZMI				1033.0	1039.8	2				II HARM
			SVTO				1033.0	1037.0	2				MWB
	0700	1200	IZMI				1121.2	1121.4	2				IIIG
31			LEAR				0213.0	0215.0	2				III
			LEAR				0220.0	0245.0	1				II
			LEAR				0307.0	0309.0	1				III

Dec 92

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

Spectral Observations

DECEMBER 1992

Observation			Decimetric Band			Metric Band			Dekametric Band			Spectral Type
Start	End	Sta	Start	End	Int	Start	End	Int	Start	End	Int	
Day (UT)	(UT)		(UT)	(UT)	(1-3)	(UT)	(UT)	(1-3)	(UT)	(UT)	(1-3)	
31		LEAR				0324.0	0326.0	2				III
		LEAR				0411.0	0422.0	2				S
		SGMR				1624.0	1624.0	1				III

The symbols used under the column heading SPECTRAL TYPE have the following definitions:

B = Single burst	RS = Reverse slope burst
G = Small group (< 10) of bursts	DP = Drifting pairs
GG = Large group (> 10) of burst	DC = Drifting Chains
C = Underlying continuum (particularly with Type I)	H = Herringbone
S = Storm in the sense of intermittent but apparently connected activity	W = Weak
N = Intermittent activity in this period	P = Pulsations
U = U-shaped burst of Type III	CONT = Continuum
SP = SPIKES	UNCLF = Unclassified activity
	DCIM = Fast drift

Stations Reporting:

CULG = Culgoora	IZMI = IZMIRAN	LEAR = Learmonth	ONDR = Ondrejov	PALE = Palehua
POTS = Potsdam	SGMR = Sagamore Hill		SVTO = San Vito	WEIS = Weissenau

COSMIC RAY INDICES
(Neutron Monitor)

99
Dec 92

DECEMBER 1992

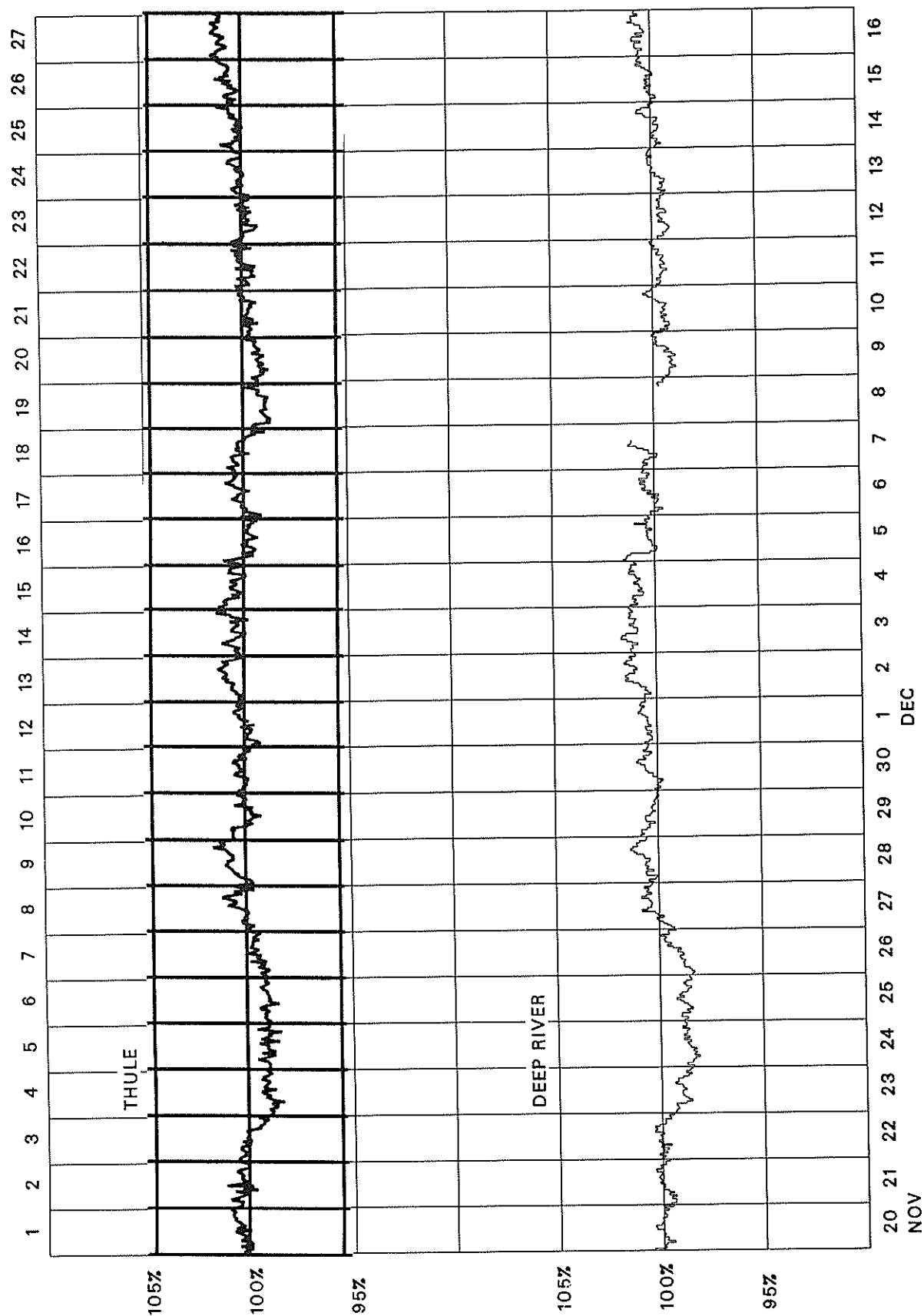
Day	THULE Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4316	6880.7	6027.9		3529.0	
2	4348	6913.7	6071.7		3540.0	
3	4342	6925.5	6092.1		3552.2	
4	4342	6909.4	6104.1		3537.7	
5	4310	6875.4	6029.8		3526.2	
6	4328	6858.7	6014.0		3521.1	
7	4322	6879.4(15)	6002.9		3504.1	
8	4275	6818.2(5)	5944.1		3493.4	
9	4285	6803.9	5941.3		3512.8	
10	4306	6820.4	5959.5		3520.1	
11	4315	6821.9	5960.9		3528.2	
12	4311	6810.4	5982.7		3519.0	
13	4327	6833.1	5985.3		3516.2	
14	4335	6840.4	5992.1		3536.0	
15	4350	6856.4	6018.8		3541.2	
16	4371	6889.4	6059.5		3551.7	
17	4368	6903.5	6042.7		3565.7	
18	4345	6904.2	6057.6		3570.3	
19	4372	6903.6	6047.8		3551.2	
20	4326	6869.8	6003.9		3535.3	
21	4330	6858.2	5997.6		3525.5	
22	4343	6858.1	5999.6		3530.9	
23	4358	6887.6(13)	6027.3		3541.4	
24	4386	6945.0	6051.6		3556.9	
25	4409	6967.3	6077.4		3567.2	
26	4422	7033.2	6098.6		3565.9	
27	4439	7022.2	6118.3		3561.4	
28	4370	6903.2	6052.6		3539.7	
29	4346	6874.2	6066.4		3540.8	
30	4343	6825.0	6006.7		3512.0	
31	4335	6791.4	5987.5		3502.7	
Mean	4344	6880.2	6026.5		3535.3	

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.

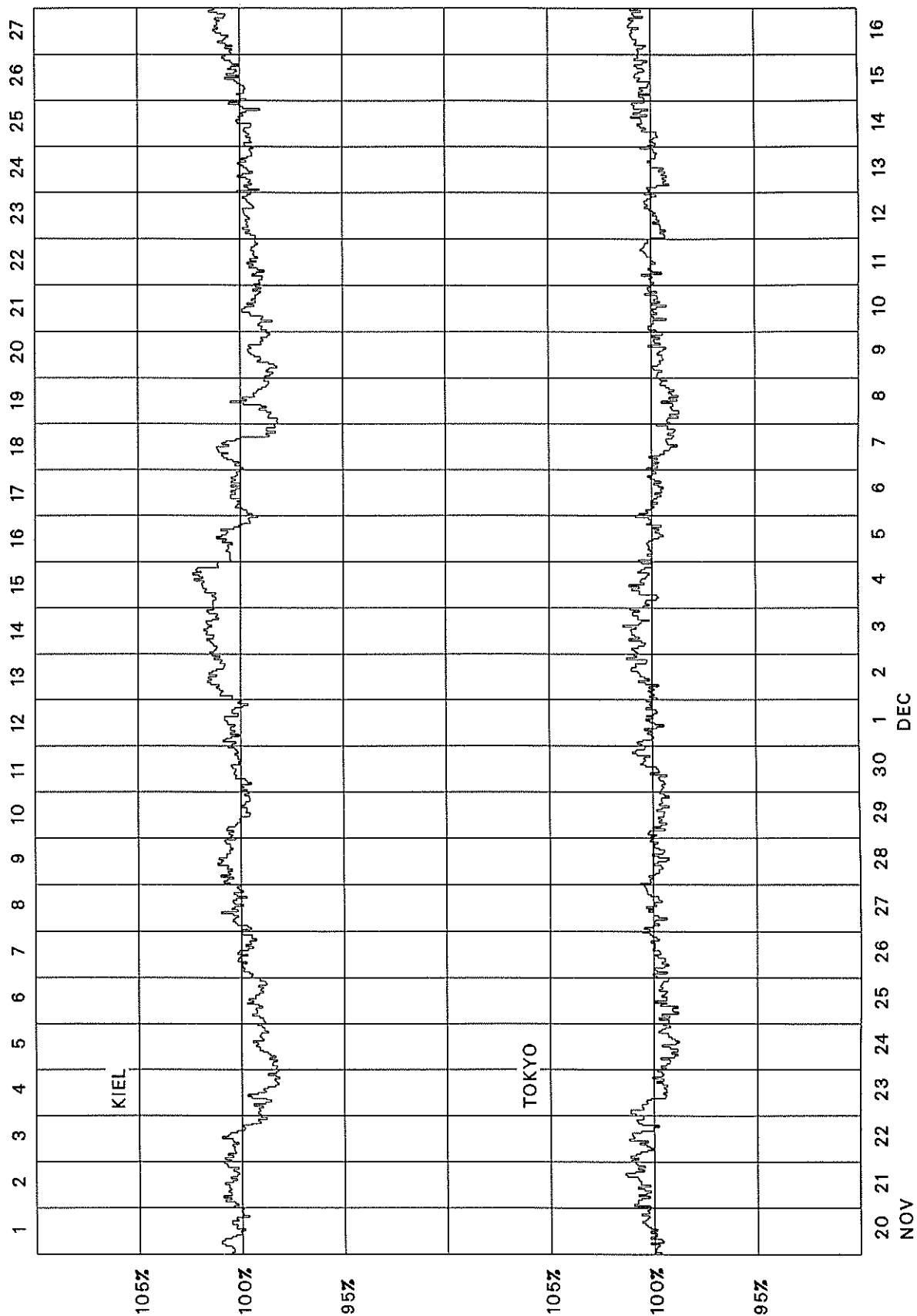
COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2176 (November 1992-December 1992)



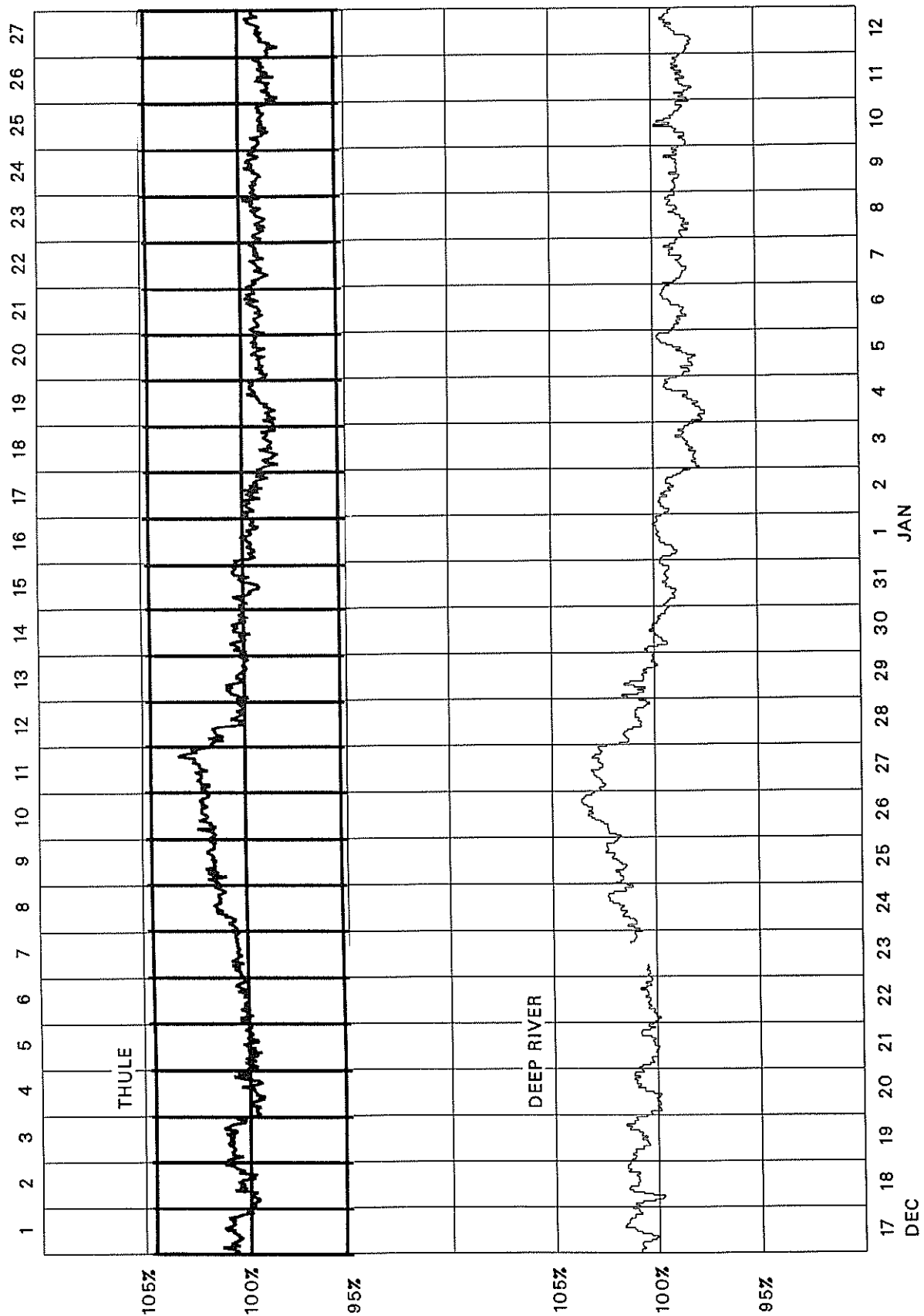
COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2176 (November 1992-December 1992)



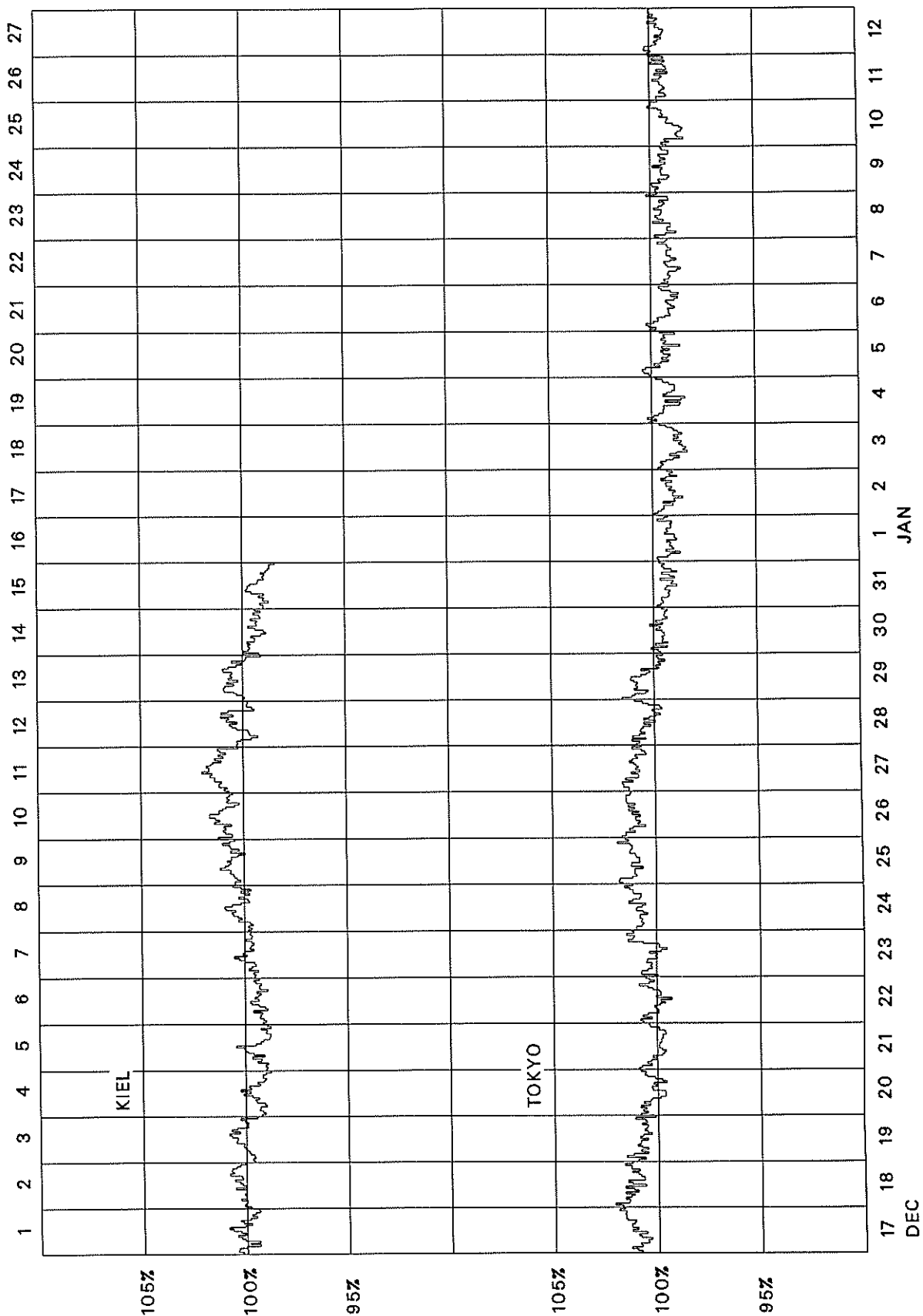
COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2177 (December 1992-January 1993)



COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2177 (December 1992-January 1993)



GEOMAGNETIC ACTIVITY INDICES

December 1992

Day	Kp Three-Hourly Indices								Sum	Ap	Cp	Km Three-Hourly Indices								aa Provisional			
	1	2	3	4	5	6	7	8				1	2	3	4	5	6	7	8	Am	N	S	M
1	4	3-	4-	3+	3	3+	2	3+	25+	17	0.9												
2	3+	3	1+	2	2	2-	2	2-	17	9	0.5												
3	3+	3+	2-	3+	3-	4-	3-	3	24-	15	0.9												
4	3	4	3-	2	3	3-	3-	3+	23+	15	0.8												
5	Q5A	4-	3-	2	1	1	1+	0+	12+	7	0.4												
6	Q3K	1	0	0+	1-	2-	3	2-	9	5	0.2												
7		0+	1+	3	2+	4+	1	2+	20-	16	0.9												
8	D3	5-	3+	4-	4-	4-	4	5-	31+	26	1.2												
9	D5*	3+	3	3	3	4+	4	3-	26+	19	1.0												
10		2+	2+	3-	3+	2	5-	4-	24+	17	0.9												
11		3+	2+	2-	2-	2	2+	2+	18+	10	0.5												
12	Q7A	2+	2-	1-	1	3	2	3-	16-	8	0.4												
13	Q10A	3	3	2-	2-	2	2	1+	16+	8	0.5												
14		3+	2+	1-	1	1+	3-	3+	18-	10	0.6												
15		4	3	2	2+	2+	3-	3-	23-	14	0.8												
16	Q4K	2-	3	2	2-	2-	1	0+	13-	6	0.3												
17	D4	0+	1	3+	3-	4	6-	5+	25+	25	1.2												
18		2+	1+	1	2	1+	2+	3+	16+	9	0.5												
19		2-	1-	1+	2-	3-	2	4	18-	11	0.6												
20		2	3	4-	3-	3-	3	3	22	13	0.8												
21		1	2	2+	3	2+	4	4	22	14	0.8												
22	Q6A	2+	1+	2	2	2+	2+	2+	16-	7	0.4												
23	Q9A	1+	3-	2+	2	3	2	2	16	8	0.4												
24		1	2+	2	2+	2	2+	3+	16+	8	0.5												
25	Q2	0+	0+	1-	1	1+	2	2	10-	5	0.2												
26	Q1	1+	1-	1+	1+	1	1	1+	9+	4	0.2												
27	Q8A	1-	0+	1-	0+	0+	0+	3-	10	8	0.4												
28	D2	3	2	3	2	5	5+	6-	32+	39	1.4												
29	D1	6-	6-	5	4	4+	5+	4-	37-	42	1.5												
30		3-	3-	2+	3	3	2	1+	18+	10	0.6												
31		3	2+	3-	2+	3+	3	1+	19	11	0.6												
Mean									13	0.67													
Day	Kn Three-Hourly Indices								An	Ks Three-Hourly Indices								As	Prov				IMF
	1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8		Sa	Ri	Ra	Rs	
1																			127.1	65	67	75	
2																			126.0	56	61	74	
3																			121.3	59	58	69	
4																			115.9	59	59	63	
5																			112.4	51	49	59	
6																			115.9	48	42	63	
7																			116.1	34	31	63	
8																			124.8	58	69	73	
9																			129.6	96	88	78	
10																			137.5	95	100	87	
11																			159.0	132	126	110	
12																			163.1	109	118	114	
13																			167.6	113	128	119	
14																			161.8	106	118	113	
15																			150.4	112	120	100	
16																			145.8	109	108	95	
17																			145.5	105	104	95	
18																			144.9	98	100	94	
19																			142.2	104	108	92	
20																			143.2	97	106	93	
21																			140.8	84	92	90	
22																			137.6	91	88	87	
23																			139.3	84	80	88	
24																			132.0	82	82	81	
25																			132.0	81	81	81	
26																			127.2	95	90	75	
27																			121.2	73	82	69	
28																			123.4	80	80	71	
29																			121.3	78	78	69	
30																			121.9	69	67	70	
31																			125.8	59	54	74	
Mean																			134.6	83.3	85.0	83.4	

DAILY AVERAGE INDICES Ap

January 1992 to December 1992

DAY	1992 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	12	29	16	13	15	8	19	8	2	26	16	17
2	22	56	12	6	12	5	16	5	23	9	23	9
3	16	92	11	32	9	6	5	4	48	6	17	15
4	16	27	13	12	12	4	4	15	33	7	25	15
5	12	7	12	15	5	6	9	35	28	5	15	7
6	13	7	8	24	5	5	5	16	17	10	14	5
7	8	17	10	19	13	12	4	26	22	8	12	16
8	16	49	11	20	29	46	5	16	18	8	11	26
9	7	79	25	6	39	17	4	12	84	26	42	19
10	14	25	17	5	179	20	6	7	88	10	12	17
11	26	7	20	3	70	26	4	13	32	24	19	10
12	22	11	12	4	11	40	15	6	5	34	16	8
13	27	10	6	6	21	12	23	11	5	23	17	8
14	21	10	4	6	4	6	12	15	8	25	12	10
15	18	4	9	10	5	10	6	8	10	35	19	14
16	27	4	13	5	4	4	12	8	12	22	10	6
17	10	16	25	4	3	5	5	4	93	16	8	25
18	7	14	17	19	16	27	5	6	31	12	7	9
19	6	13	4	17	14	12	4	9	13	16	7	11
20	14	63	4	18	8	7	8	26	8	12	4	13
21	7	69	23	8	8	9	11	20	7	6	7	14
22	7	27	17	12	50	10	34	39	17	9	17	7
23	4	16	26	8	14	13	16	73	9	5	31	8
24	4	28	22	13	8	22	7	10	4	3	12	8
25	4	55	16	10	10	14	11	5	11	7	12	5
26	7	65	12	8	8	8	4	11	8	14	10	4
27	22	60	11	5	10	11	7	14	4	31	5	8
28	14	7	10	10	13	15	17	5	16	19	6	39
29	14	44	18	7	19	38	5	16	62	27	5	42
30	22		12	10	14	37	9	6	35	16	13	10
31	15		14		8		10	4		10		11
MEAN	14	31	14	11	21	15	10	15	25	15	14	13

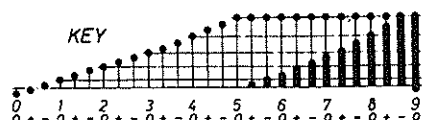
PLANETARY 3-HOUR-RANGE INDICES (Kp) BY 27-DAY SOLAR ROTATION INTERVAL

University of Gottingen

Kp through December 31, 1992



KEY

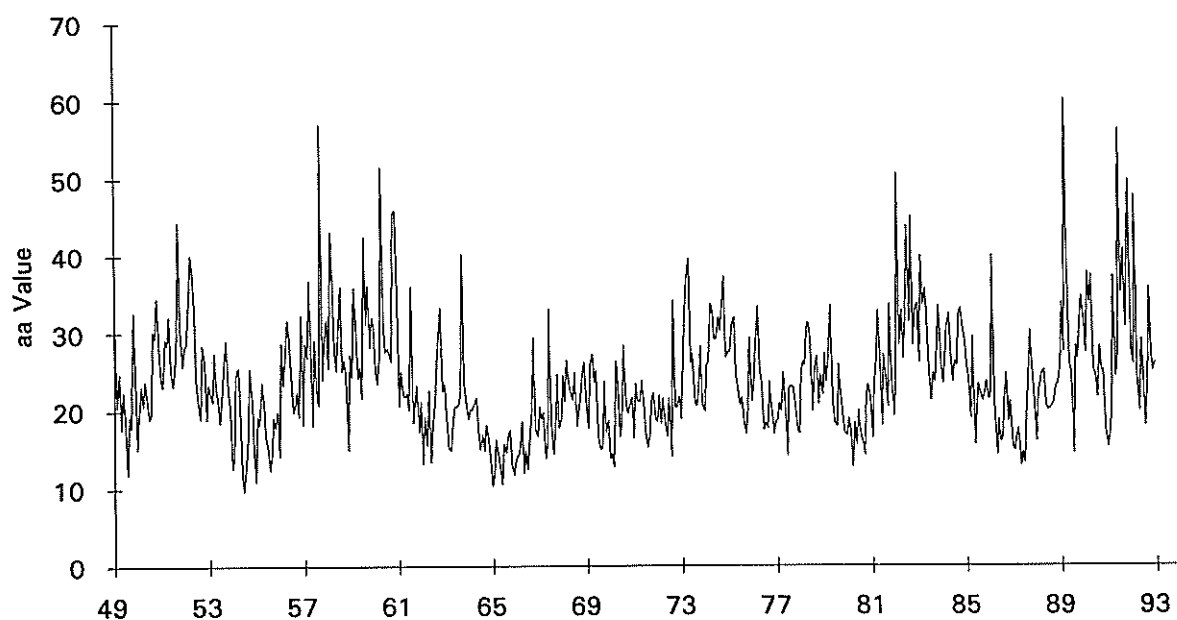


▲ = sudden commencement

PLANETARY MAGNETIC
THREE-HOUR-RANGE INDICES

Kp 1992

(preliminary indices to 1993 January 19)



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1949	29.8	20.4	24.7	17.6	22.4	17.9	11.8	19.2	17.8	32.7	24.6	15.1	21.2
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

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

DECEMBER 1992

Sta	Geomag Lat	Commencement Time		Type	SC Amplitudes			Maximum 3-Hour K Index Day(3-Hour Periods)	Ranges			End Hour Day (UT)
		Day	(UT)		D (Min)	H (Gamma)	Z (Gamma)		D K (Min)	H (Gamma)	Z (Gamma)	
BJI 28.8N	07	0755	SC		.9	20	1	07(5)	6	7	102	09 21
KRC 16.4N	07	0754	SC		- 1.7	32	20	07(5)	6	5	110	-- --
UJJ 13.6N	07	0753	SC		- .4	25	- 6		-	4	118	09 20
ABG 09.4N	07	0753	SC		- .4	23	- 5	07(5)	5	4	129	09 20
HYB 07.6N	07	0754	SC		.1	16	- 1	07(5) 09(5)	5	4	135	09 22
GUA 04.3N	07	07--	..		..	..	..	07(5)	5	--	70	07 16
GUA 04.3N	07	20--	..		..	..	..	07(8)	5	--	80	08 08
ETT 00.7S	07	0754	SC*		.5	20	20		-	4	164	09 22
TRD 01.1S	07	0753	SC		- .1	35	- 38		-	4	174	09 20
HER 33.6S	07	0755	SC		1	17	8	07(5,8)	5	33	139	08 14
KGL 57.2S	07	0756	SC		3	28	8		-	--	--	-- --
KGL 57.2S	07	1348	SC		- 10	- 92	- 32	07(8)	6	33	312	10 02
CMO 64.9N	17	0616	SC*		- 5	50	..	17(6)	7	228	1500	17 22
FRD 49.4N	17	0617	SC*		- 1.5	19	- 4	17(6,7)	5	22	132	18 01
BJI 28.8N	17	1822	SC		- 1.6	34	1	17(6)	6	10	139	18 22
KRC 16.4N	17	0612	SC		- 2.7	47	27	17(6)	7	7	192	18 07
UJJ 13.6N	17	0614	SC		- .4	40	- 9		-	7	193	18 21
ABG 09.4N	17	0614	SC		- .5	37	- 4	17(6)	7	6	218	18 21
HYB 07.6N	17	0616	SC		- .4	40	- 3	17(6,7)	6	7	240	18 21
GUA 04.3N	17	0615	SC*		.2	22	- 7	17(7)	5	--	120	18 06
ETT 00.7S	17	0616	SC		- 1.0	52	39		-	8	304	18 21
TRD 01.1S	17	0614	SC		.1	63	- 70		-	3	316	18 21
HER 33.6S	17	0615	SC		4 *	23	8	17(6)	6	31	183	18 03
GNA 43.0S	17	0615	SC		- 4	39	- 26	17(6,7)	5	21	100	18 03
CAN 43.6S	17	0615	SC		2	57	3	17(3,6,7)	5	14	118	17 21
KGL 57.2S	17	0616	SC		- 16	32	10	17(6)	8	48	778	18 03
HYB 07.6N	19	0500	..		..	..	..	19(7) 21(3,6,7)	4	4	89	21 20
ETT 00.7S	19	0500	..		..	..	..		-	4	136	20 19
CMO 64.9N	27	2009	SC		- 7	17	..	28(5,6)	7	345	2060	29 19
FRD 49.4N	27	2010	SC*		.6	23	- 3	28(8)	6	25	130	30 --
BJI 28.8N	27	2011	SC		.2	14	0	28(7)	6	13	184	30 01
KRC 16.4N	27	2010	SC		- 1	19	10	28(5)	6	6	170	29 18
UJJ 13.6N	27	2009	SC		- .2	15	- 3		-	5	185	29 22
ABG 09.4N	27	2009	SC		- .2	14	- 2	28(5)	6	5	211	29 22
HYB 07.6N	27	2010	SC		- .2	14	- 1	28(5,6)	6	5	236	29 22
GUA 04.3N	27	2013	SC		- .1	4	- 2	27(8)	5	--	70	28 04
ETT 00.7S	27	2009	SC		- .2	12	11		-	8	292	30 08
TRD 01.1S	27	2009	SC		- .1	12	- 16		-	4	288	29 22
GNA 43.0S	27	2010	SC		1.2	0	4	28(5,6,7,8)	5	18	120	30 01
CAN 43.6S	27	2010	SC*		- 4.7*	6	9	27(8) 28(6,7,8) 29(3,6)	5	30	174	29 21
GUA 04.3N	28	11--	..		..	..	..	29(1)	5	--	120	29 19
HER 33.6S	28	10--	..		..	..	..	28(6)	6	40	145	29 18
KGL 57.2S	28	1000	..		..	..	..	28(8)	8	128	817	30 19

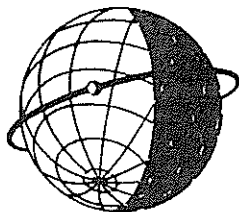
Stations:

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

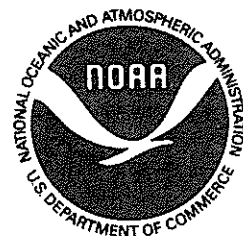
PMG = PORT MORESBY
SHL = SHILLONG
SIT = SITKA
TRD = TRIVANDRUM
UJJ = UJJAIN
WIT = WITTEVEEN



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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."