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Solar - Geophysical Data

Part I (Prompt Reports)

NO. 488 APRIL 1985

DATA FOR
MARCH 1985
FEBRUARY 1985

Michael A. Chinnery, Director
NATIONAL GEOPHYSICAL DATA CENTER
BOULDER, COLORADO

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NUMBER 488

(Issued in Two Parts)

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C O N T E N T S

PART I (PROMPT REPORTS)

PART II (COMPREHENSIVE REPORTS)

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*Solar radio noise bursts observed at Athens, Learmonth, Manila, Palehua and Sagamore Hill during Aug 1979 through Oct 1980 appear in SOLAR-GEOPHYSICAL DATA, No. 461, Part II, pages 103-235.

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Prompt Reports DATA FOR MARCH 1985 Number 488 Part I

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SUMMARY OF THE GEOALERT MESSAGES MARCH 1985

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
060	01	28	011	071	055	N04W47	0	0	0		01	N04W47	Q	SOLQUIET MAGNIL
061	02	01	011	071	014	N03W60	0	0	0		02	N03W60	Q	SOLQUIET MAGQUIET
062	03	02	011	070	016	N04W74	0	0	0		03	N04W74	Q	SOLQUIET MAGQUIET
063	04	03	011	070	013	N04W90	0	0	0		04	N04W90	Q	SOLQUIET MAGALERT 04/06 RECURRENCE
064	05	04	000	070	013	SPOTNIL					05	SPOTNIL		SOLQUIET MAGALERT MINOR 05/XX RECURRENCE
065	06	05	000	069	017	SPOTNIL					06	SPOTNIL		SOLQUIET MAGALERT MINOR 06/XX RECURRENCE
066	07	06	000	069	017	SPOTNIL					07	SPOTNIL		SOLQUIET MAGALERT 07/08
067	08	07	000	069	012	SPOTNIL					08	SPOTNIL		SOLQUIET MAGALERT 08
068	09	08	026	070	023	S02E49 S15E63	0 0	0 0	0 0		09	S02E49 S15E63	Q Q	SOLQUIET MAGNIL
069	10	09	015	070	005	S02E38	0	0	0		10	S02E38	Q	SOLQUIET MAGQUIET
070	11	10	000	069	007	SPOTNIL					11	SPOTNIL		SOLQUIET MAGQUIET
071	12	11	027	071	009	N08W43 S17E24	0 0	0 0	0 0		12	N08W43 S17E24	Q Q	SOLQUIET MAGQUIET
072	13	12	017	069	007	N07W57	0	0	0		13	N07W57	Q	SOLQUIET MAGQUIET
073	14	13	014	070	009	N07W69	0	0	0		14	N07W69	Q	SOLQUIET MAGQUIET STRATWARM
074	15	14	012	070	009	N08W82	0	0	0		15	N08W82	Q	SOLQUIET MAGQUIET
075	16	15	000	070	014	SPOTNIL					16	SPOTNIL		SOLQUIET MAGQUIET
076	17	16	015	071	012	S12E44	0	0	0		17	S12E44	Q	SOLQUIET MAGQUIET
077	18	17	017	073	007	S12E31	1	0	0		18	S12E31	Q	SOLQUIET MAGQUIET
078	19	18	045	075	010	N06W66 S12E18 S11E36	0 0 1	0 0 0	0 0 0		19	N06W66 S12E18 S11E36	Q Q Q	SOLQUIET MAGQUIET

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SUMMARY OF THE GEOALERT MESSAGES MARCH 1985

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
079	20	19	030	075	010	S12E06	0	0	0		20	S12E06	Q	SOLQUIET
						S11E27	1	0	0			S11E27	Q	MAGQUIET
080	21	20	025	075	008	S12W07	0	0	0		21	S12W07	Q	SOLQUIET
						S11E14	0	0	0			S11E14	Q	MAGQUIET
081	22	21	000	077	008	SPOTNIL					22	SPOTNIL		SOLQUIET
														MAGQUIET
082	23	22	013	076	008	N07E74	0	0	0		23	N07E74	Q	SOLQUIET
														MAGQUIET
083	24	23	027	078	008	N04W36	0	0	0		24	N04W36	Q	SOLQUIET
						N07E64	4	0	0			N07E64	E	MAGQUIET
084	25	24	060	080	007	N09W49	0	0	0		25	N09W49	Q	SOLQUIET
						S14W40	0	0	0			S14W40	Q	MAGQUIET
						S07E39	0	0	0			S07E39	Q	
						N07E51	0	0	0			N07E51	Q	
085	26	25	066	079	005	N03W64	0	0	0		26	N03W64	Q	SOLQUIET
						S12W55	0	0	0			S12W55	Q	MAGQUIET
						S12E02	0	0	0			S12E02	Q	
						S07E25	0	0	0			S07E25	Q	
						N07E37	1	0	0			N07E37	Q	
086	27	26	036	077	010	S11W15	0	0	0		27	S11W15	Q	SOLQUIET
						N07E23	0	0	0			N07E23	Q	MAGQUIET
087	28	27	021	075	010	N07E12	0	0	0		28	N07E12	Q	SOLQUIET
														MAGQUIET
088	29	28	030	074	015	S11W40	0	0	0		29	S11W40	Q	SOLQUIET
						N06W05	0	0	0			N06W05	Q	MAGQUIET
089	30	29	024	073	005	S11W54	0	0	0		30	S11W54	Q	SOLQUIET
						N06W18	0	0	0			N06W18	Q	MAGQUIET
090	31	30	040	072	006	S11W67	0	0	0		31	S11W67	Q	SOLQUIET
						S08W44	0	0	0			S08W44	Q	MAGALERT
						N05W31	1	0	0			N05W31	Q	MINOR 01/XX
														RECURRENCE
091	01	31	050	074	012	S11W77	2	0	0		01	S11W77	Q	SOLQUIET
						N06W45	0	0	0			N06W45	Q	MAGALERT
						N04W32	0	0	0			N04W32	Q	MINOR 01/03
						S26E55	0	0	0			S26E55	Q	RECURRENCE

NO=MESSAGE SERIAL NUMBER, DI=DATE OF ISSUE, DO=DATE OF OBSERVATION, WOLF=WOLF NUMBER, 10CM=10CM SOLAR FLUX, A=A INDEX, LOC=LOCATION, TOT=TOTAL, M=NUMBER OF M FLARES, X=NUMBER OF X FLARES, DA=DATE OF FORECAST, DE=DESCRIPTION, Q=QUIET, E=ERUPTIVE, A=ACTIVE, P=PROTON.

NO PRESTO MESSAGES WERE ISSUED THIS MONTH.

STRATWARM MESSAGES MARCH 1985
13 MARCH STRATWARMALERT /THURSDAY/ STRONG MID-STRATOSPHERE WARMING EXISTS OVER CENTRAL SIBERIA SPRINGTIME CHANGE IN PROGRESS.

INTERNATIONAL* (R_I) RELATIVE SUNSPOT NUMBERS

Day	1984 Final Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1985 Prov Jan	Feb	Mar
01	103	109	48	33	14	45	7	16	19	0	18	9
02	94	89	44	36	17	50	8	14	22	0	25	9
03	88	69	45	61	19	61	11	11	19	0	25	7
04	81	52	34	80	25	58	11	14	19	0	22	0
05	61	38	30	72	18	53	0	12	16	0	20	0
06	70	27	23	61	24	32	0	0	21	0	16	0
07	50	35	34	64	27	21	0	11	18	0	7	0
08	33	54	31	74	32	20	12	13	23	12	19	12
09	36	72	26	63	35	13	14	13	21	14	24	10
10	12	85	31	74	31	10	17	21	15	0	19	11
11	21	94	37	57	29	9	22	27	28	0	11	12
12	28	100	39	54	31	9	16	21	29	13	10	12
13	24	118	41	44	28	9	10	16	28	16	10	9
14	32	111	50	34	27	0	9	15	28	26	11	8
15	59	85	80	30	23	8	14	13	26	25	11	0
16	60	97	83	25	23	12	19	11	30	26	10	8
17	56	83	73	21	18	0	24	11	24	29	16	12
18	73	70	62	26	17	0	25	14	12	26	10	24
19	82	74	51	22	11	10	25	13	11	27	19	16
20	69	70	53	18	16	0	17	27	11	63	27	13
21	68	65	43	12	12	9	19	36	14	59	27	9
22	55	77	48	22	10	10	12	36	12	53	25	12
23	59	83	54	25	19	8	11	41	11	39	16	13
24	80	86	58	38	24	8	9	47	16	33	11	36
25	99	75	44	30	36	7	10	59	21	20	11	24
26	124	87	49	25	49	0	10	44	20	0	11	18
27	121	86	40	9	41	0	8	39	14	8	10	16
28	125	69	41	9	37	0	0	39	16	0	9	24
29	120	74	50	12	34	0	8	30	15	9		15
30	107	70	42	16	27	8	11	20	10	0		15
31		63		12	36		14		10	15		14
Mean	70	76	46	37	26	16	12	23	19	16	16	12

*International sunspot numbers have replaced the Zurich vales since January 1981.
The yearly mean sunspot number equaled 45.9 in 1983.

DAILY SOLAR FLUX AT 2800 MHz (10.7 CM) ADJUSTED TO 1 AU

ALGONQUIN RADIO OBSERVATORY, OTTAWA

Day	Apr 84	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 85	Feb	Mar
01	135.7	153.7	116.1	101.7	84.0	94.1	72.0	69.5	77.0	68.4	72.2	69.3
02	134.6*	139.3*	111.3	103.6	86.3	93.2	74.8	70.1	76.8	67.8	73.8	69.1
03	128.8*	123.1	109.6	104.8	88.4	94.5	75.2	72.0	77.9	67.7	73.6	69.0
04	129.5	113.5*	106.8	105.7	85.7	91.9	75.2	72.2	75.9	67.8	70.9	68.6
05	118.7	114.9	104.6	104.4*	85.7	89.8	74.0	71.7	73.4	67.0	71.2	67.5
06	112.1*	108.1	98.9	100.3	89.9	85.9	73.2	71.0	73.0	67.9	70.6	68.1
07	107.8	118.3	97.3	100.1	92.4	85.2	73.5	70.1	72.7	68.1	70.3	68.0
08	100.7	121.9	94.6	101.1	94.0	83.4	74.6	70.5	74.1	67.4	72.5	68.7
09	94.9	138.3	93.6	104.5	94.4	80.6	73.5	72.7	74.5	68.1	73.2	68.7
10	93.9	150.9	92.3	101.3	95.4	79.1	74.1	75.8	75.7	67.4	73.6	68.0
11	97.3	147.9	93.2	96.8	90.8	77.8	74.3	73.1	78.9	67.7	73.2	69.6
12	107.2	148.2*	93.0	94.7	88.0	76.5	73.9	72.8	77.8	68.4	72.3	69.3
13	113.7	151.4	98.6	92.6	86.5	75.0	74.7	71.6	76.2	72.6	70.8	69.5
14	118.8	146.9	110.2	92.2*	84.0	74.5	73.2	72.0	75.8	72.3	70.6	69.5
15	119.7	139.6	116.5*	92.2	82.6	73.3	76.4	72.9	74.9	72.4	70.2	69.6
16	117.2	137.3	110.3	90.1	83.1	73.4	76.6	70.7	74.2	74.7	69.8	70.1
17	122.9*	130.1	109.5*	87.3	81.0	74.6	76.2	71.0	72.6	75.8	70.9	72.1
18	119.9	131.9	108.9	85.5	79.1	73.8	76.5	71.7	70.2	74.1	73.4*	74.6
19	112.5*	137.6	107.8	84.7	76.2	74.6	74.2	72.3	71.0	75.4	76.1	74.2
20	124.1*	138.0	106.6	84.8	75.6	74.1	73.5	74.8	69.9	81.7*	75.0	74.2
21	127.7	145.3*	103.4*	86.7	77.2	75.1	73.2	78.3	69.7	84.9*	74.2	76.1*
22	130.8	130.1	104.6	86.3	75.7	75.9	74.5	78.2	70.7	85.3	73.3	75.9
23	136.6*	130.0	105.3	87.3	76.0	76.1	72.7	79.3	71.3	82.5	71.7	77.3
24	142.9	126.9	103.6	86.8	81.6	76.2	70.8	81.1	71.8	78.2	70.5	79.6
25	152.4	125.7*	104.6	85.9	83.0	74.6	70.2	83.1	72.2	73.9	70.1	78.5
26	174.0	121.0	100.1	83.4	87.7	74.3	69.4	82.5	72.3	71.0	69.7	79.7†
27	183.7*	120.3	101.5	83.0	90.4	73.5	68.6	82.5*	72.0	69.5	68.9	77.4†
28	182.6*	118.5	99.5	82.5	88.6	73.1	69.3	81.0	72.2	69.6	69.7	77.7†
29	178.2*	121.0	100.3	82.3	90.3	71.7	68.2	77.1	72.1	68.7		76.7†
30	170.8	119.7A	101.1	82.2	91.8	72.4	68.8	76.4	71.4	68.3		75.8†
31	115.9		83.0	93.1*		69.8			70.0	69.9A		76.4†
Mean	129.7	131.1	103.5	92.2	85.8	78.9	73.1	74.6	73.5	72.1	71.9	72.5

A = interpolated value; --- = no observation.
*Adjusted for burst in progress at time of measurement; †corrected for antenna drift.
The yearly mean 2800 MHz flux adjusted to 1 astronomical unit equaled 101.1 in 1984.

DAILY SOLAR INDICES

MARCH 1985

Day	Julian Day	Bartels Cycle Day	Sunspot Numbers Int	Sunspot Numbers Amer	Obs Flux Ottawa (2800)	Solar Flux Adjusted to 1 Astronomical Unit SGMR (15400)	SGMR (8800)	SGMR (4995)	Ottawa (2800)	SGMR (2695)	SGMR (1415)	PALE (610)	PALE (410)	PALE (245)
01	60	15	9	10	70.6	551	264	88	69.3	66	55	45	19	10
02	61	16	9	10	70.3	547	259	94	69.1	68	54	--	--	--
03	62	17	7	9	70.2	550	274	96	69.0	64	57	47	20	6
04	63	18	0	0	69.7	553	282	103	68.6	69	55	42	18	9
05	64	19	0	0	68.6	550	272	117	67.5	77	57	46	20	6
06	65	20	0	0	69.1	556	274	100	68.1	63	52	47	20	10
07	66	21	0	0	69.0	---	---	---	68.0	--	--	47	21	9
08	67	22	12	13	69.7	513	267	91	68.7	67	53	--	--	--
09	68	23	10	10	69.7	556	260	86	68.7	67	53	49	21	10
10	69	24	11	12	68.9	558	270	86	68.0	64	54	48	21	9
11	70	25	12	13	70.5	550	260	87	69.6	66	55	51	21	9
12	71	26	12	12	70.1	464	245	89	69.3	66	55	51	22	11
13	72	27	9	10	70.3	---	---	---	69.5	--	--	49	20	8
14	73	1	8	9	70.3	560	265	85	69.5	58	55	49	21	8
15	74	2	0	0	70.4	545	259	94	69.6	67	54	45	20	9
16	75	3	8	6	70.8	---	---	---	70.1	--	--	47	21	9
17	76	4	12	16	72.8	---	---	---	72.1	--	--	--	--	--
18	77	5	24	23	75.3	558	283	108	74.6	74	58	52	21	9
19	78	6	16	17	74.8	564	275	88	74.2	72	59	50	21	9
20	79	7	13	12	74.8	---	---	---	74.2	--	--	52	21	10
21	80	8	9	0	76.6*	561	278	107	76.1*	72	62	54	23	15
22	81	9	12	11	76.4	560	275	95	75.9	73	61	47	--	9
23	82	10	13	15	77.8	---	---	---	77.3	--	--	52	21	8
24	83	11	36	27	80.1	547	274	96	79.6	76	62	51	20	9
25	84	12	24	21	78.9	548	282	101	78.5	75	63	51	21	13
26	85	13	18	19	80.0†	545	---	93	79.7†	75	61	51	22	14
27	86	14	16	19	77.7†	550	265	91	77.4†	76	61	50	21	8
28	87	15	24	21	77.9†	546	254	109	77.7†	68	58	49	20	12
29	88	16	15	18	76.9†	534	268	95	76.7†	72	59	50	21	10
30	89	17	15	16	76.0†	546	272	96	75.8†	73	60	45	20	13
31	90	18	14	17	76.6†	546	282	105	76.4†	71	61	--	--	--
Mean			12	12	73.3	546	269	96	72.5	70	57	49	21	10

*Adjusted for burst for burst in progress at time of measurement.
†Adjusted for antenna drift.

The observed and the adjusted Ottawa fluxes tabulated above are the "Series C" daily values reported by the Algonquin Radio Observatory, Ottawa, Ontario, Canada. The letter "A" following an entry designates an interpolated flux. Numbers in parentheses in the column headings denote frequencies in MHz.

Equipment problems produced the gaps shown here in the Air Weather Service's Sagamore Hill (SGMR) observations.

The International and American sunspot numbers shown above are preliminary values.

OBSERVED AND PREDICTED SOLAR ACTIVITY INDICES

MARCH 1985

	RELATIVE SUNSPOT NUMBERS						2800 MHz RADIO FLUX	
	Zurich or Internat (Ri)		American (Ra)		Derived (Rs)		Adjusted to 1 AU (Sa)	
Date	Monthly Mean	Smoothed	Monthly Mean	Smoothed	Monthly Mean	Smoothed	Monthly Mean	Smoothed
Apr 81	156.4	143	169.2	149	180.7	158	224.7	204
May	127.5	143	141.3	149	152.8	159	198.9	204
Jun	90.9	142	99.0	147	112.9	158	161.9	203
Jul	143.8	140	154.3	146	152.1	157	198.2	203
Aug	158.7	141	170.4	147	182.1	158	226.0	203
Sep	167.3	143	174.5	148	177.7	158	221.9	204
Oct	162.4	142	157.0	146	178.6	156	222.8	202
Nov	137.5	139	138.8	142	157.6	151	203.3	197
Dec	150.1	138	145.0	140	155.5	149	201.4	195
Jan 82	111.1	137	110.4	139	124.2	148	173.4	195
Feb	163.6	133	161.0	134	163.6	144	208.9	191
Mar	153.8	129	155.5	130	163.0	139	208.3	186
Apr	122.0	124	121.9	124	113.9	134	162.9	182
May	82.2	120	82.6	120	97.7	129	147.9	177
Jun	110.4	117	113.5	118	129.6	127	177.4	175
Jul	106.1	115	113.3	117	116.0	125	164.8	174
Aug	107.6	109	110.5	111	123.9	120	172.1	168
Sep	118.8	101	117.8	103	118.5	112	167.1	161
Oct	94.7	96	90.1	97	111.8	106	160.9	155
Nov	98.1	95	93.2	95	114.8	103	163.7	153
Dec	127.0	95	145.0	95	146.7	101	193.2	151
Jan 83	84.3	93	82.8	93	86.7	98	137.7	148
Feb	51.0	90	53.4	90	67.2	94	119.6	145
Mar	66.5	86	60.5	85	64.7	90	117.3	141
Apr	80.7	82	74.5	81	67.5	85	119.9	136
May	99.2	77	97.7	77	86.1	80	137.1	131
Jun	91.1	70	93.1	69	92.4	72	143.0	124
Jul	82.2	66	82.2	63	77.4	66	129.1	118
Aug	71.8	66	69.2	63	75.7	66	127.5	118
Sep	50.3	68	47.4	66	57.0	67	110.2	119
Oct	55.8	68	52.3	66	58.6	67	111.7	120
Nov	33.3	59	30.2	65	35.6	67	90.4	120
Dec	33.4	64	32.3	62	35.7	65	90.5	118
Jan 84	57.0	60	54.4	58	59.4	61	112.4	115
Feb	85.4	56	81.5	54	86.2	58	137.2	101
Mar	83.5	53	83.0	51	68.5	55	120.8	108
Apr	69.7	50*	66.5	48	78.1	52	129.7	105
May	76.4	47*	72.1	45	79.6	49	131.1	103
Jun	46.1	46*	45.2	44	49.8	48	103.5	102
Jul	37.4	44*	36.2	42	37.6	39	92.2	99
Aug	25.5	40*	24.5	41	30.7	41	85.8	95
Sep	15.7	34*	13.6	39	23.2	35	78.9	90
Oct	12.0	33(3)*	9.8	38	16.9	34	73.1	---
Nov	22.8	32(4)*	19.4	37	18.6	33	74.6	---
Dec	18.7	30(6)*	17.0	35	17.4	31	73.5	---
Jan 85	16.5†	29(7)*	14.5	34	15.9	30	72.1	---
Feb	16.1†	28(8)*	16.3	32	15.7	29	71.9	---
Mar	11.9†	27(8)*	----	31	16.3	28	72.5	---
Apr	----	26(9)*	----	30	----	27	----	---
May	----	25(11)*	----	29	----	26	----	---
Jun	----	24(11)*	----	28	----	25	----	---
Jul	----	23(11)*	----	27	----	24	----	---
Aug	----	22(11)*	----	26	----	23	----	---
Sep	----	21(10)*	----	25	----	22	----	---

*An asterisk marks either a value of the observed 12-month running mean or of a predicted 12-month average that is based in part on preliminary observations.

Underlined entries indicate predicted values and parentheses enclose the absolute value of the 90% confidence limits. All tabulated entries of the American sunspot number are final values. The two columns headed "Derived" represent a sunspot number computed from a linear regression equation between the 2800 MHz solar flux (adjusted to 1 astronomical unit) and the Zurich sunspot number.

†International numbers replaced the Zurich values in January 1981.

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS FOR CYCLE 21

MARCH 1985

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1976	15	13	12	13	13	12*	13	14	14	13	14	15
1977	17	18	20	22	24	26	29	33	39	46	52	57
1978	61	65	70	77	83	89	97	104	108	111	113	118
1979	124	131	137	141	147	153	155	155	156	158	162	165*
1980	164	163	161	159	156	155	153	150	150	150	148	143
1981	140	142	143	143	143	142	140	141	143	142	139	138
1982	137	133	129	124	119	117	115	109	101	96	95	95
1983	93	90	86	82	71	71	66	66	68	68	59	64
1984	60	56	53	50	48	47	44	40	34	33 (3)	32 (4)	30 (6)
1985	29 (7)	28 (8)	27 (8)	26 (9)	25 (11)	24 (11)	23 (11)	22 (11)	21 (10)	20 (10)	19 (11)	19 (11)
1986	18 (12)	18 (13)	17 (13)	16 (12)	15 (12)	14 (12)	13 (12)	12 (12)	12 (12)	11 (11)	11 (11)	11 (10)

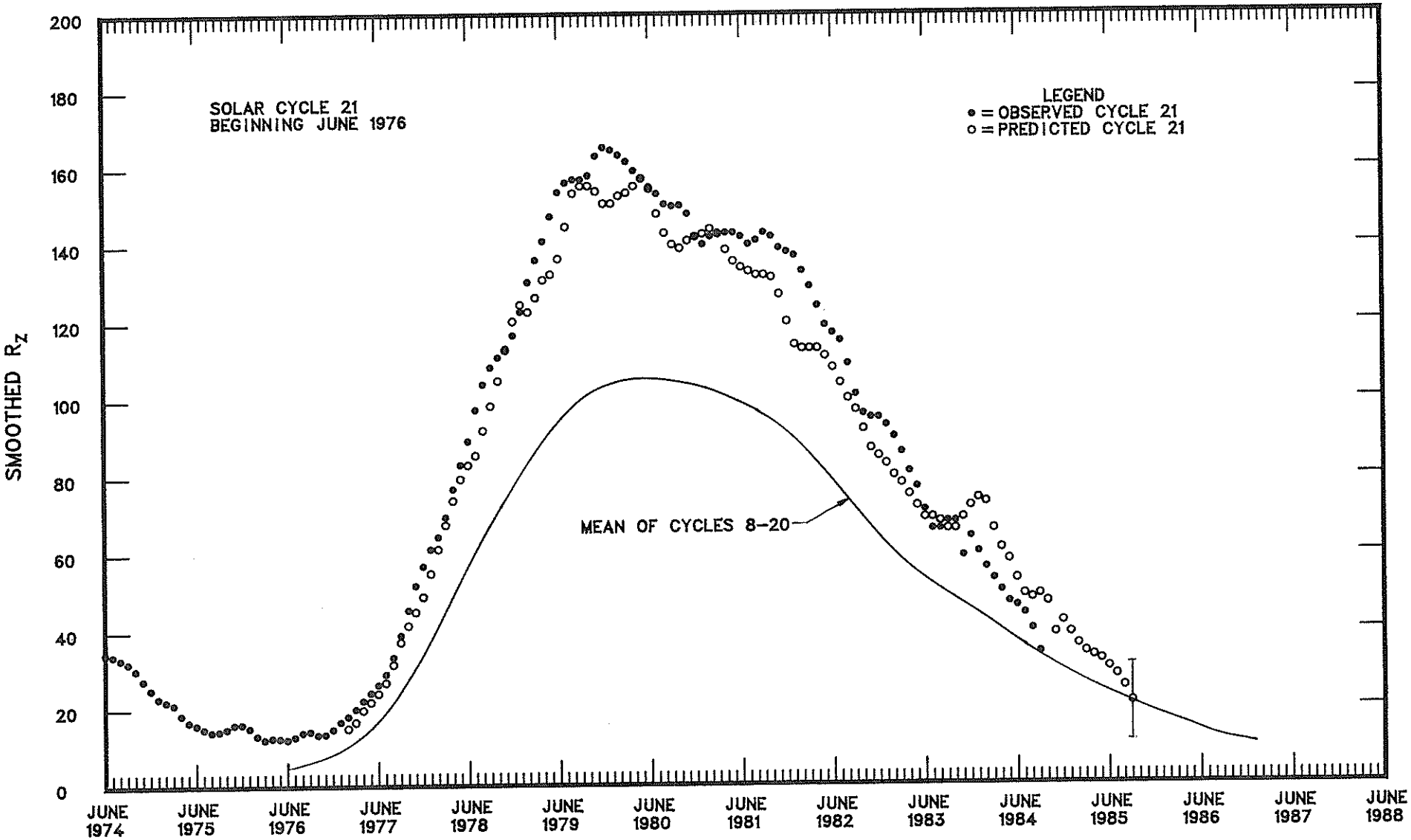
An asterisk marks the minimum and the maximum of Sunspot Cycle 21.

For the current solar cycle, this table gives observed smoothed sunspot numbers up to the one calculated from the most recently measured monthly mean. These smoothed observed values are based on final monthly mean Zurich numbers through 1980, on final international numbers through December 1984, and on provisional international numbers thereafter. Some table entries after the June 1976 value will change slightly, when we incorporate final data for 1985.

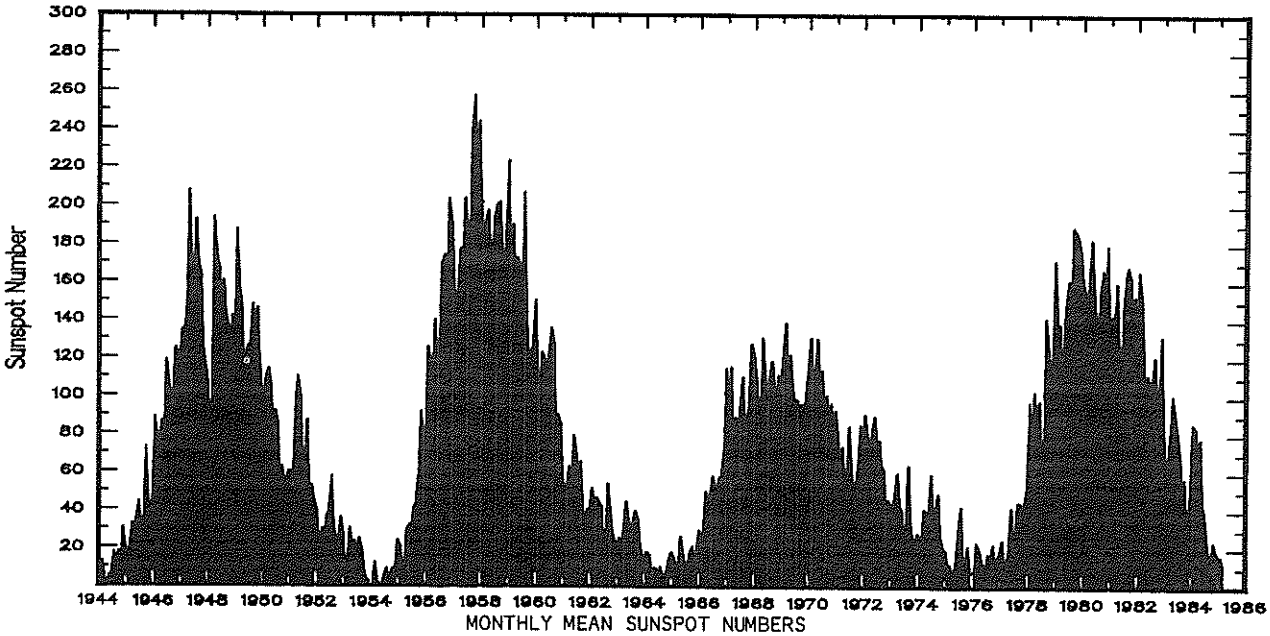
The entries with numbers in parentheses below them denote predictions by the McNish-Lincoln method. (See page 10 in the February 1985 edition of the "Solar-Geophysical Data" supplement.) Adding the number in parentheses to the predicted value generates the upper limit of the 90% confidence interval; subtracting the number in parentheses from the predicted value generates the lower limit. Consider, for example, the September 1985 prediction tabulated above. There exists a 90% chance that in September 1985 the actual smoothed sunspot number will fall somewhere between 11 and 31.

THE MCNISH-LINCOLN PREDICTION METHOD GENERATES USEFUL ESTIMATES OF SMOOTHED SUNSPOT NUMBERS FOR NO MORE THAN 12 MONTHS AHEAD. Beyond a year the predictions regress rapidly toward the mean of all 13 cycles of data used in the computation. Furthermore, the method is very sensitive to the date defined as the beginning of the current sunspot cycle, that is, to the date of the most recent sunspot minimum. In "Solar-Geophysical Data," issues 390-401, we based the current cycle predictions on March 1976 as the end of cycle 20 and the onset of the new cycle 21. Later studies, including one published by M. Waldmeier, showed that June 1976 was more appropriately the minimum epoch. We therefore generated this table using the June 1976 date.

OBSERVED AND ONE-YEAR-AHEAD PREDICTED SMOOTHED SUNSPOT NUMBERS



MONTHLY MEAN SUNSPOT NUMBERS
January 1944 – March 1985



MONTHLY MEAN SUNSPOT NUMBERS

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1944	3.7	0.5	11.0	0.3	2.5	5.0	5.0	16.7	14.3	16.9	10.8	28.4
1945	18.5	12.7	21.5	32.0	30.6	36.2	42.6	25.9	34.9	68.8	46.0	27.4
1946	47.6	86.2	76.6	75.7	84.9	73.5	116.2	107.2	94.4	102.3	123.8	121.7
1947	115.7	133.4	129.8	149.8	201.3	163.9	157.9	188.8	169.4	163.6	128.0	116.5
1948	108.5	86.1	94.8	189.7	174.0	167.8	142.2	157.9	143.3	136.3	95.8	138.0
1949	119.1	182.3	157.5	147.0	106.2	121.7	125.8	123.8	145.3	131.6	143.5	117.6
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
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
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
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
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
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
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
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
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
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
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
1961	57.9	46.1	53.0	61.4	51.0	77.4	70.2	55.9	63.6	37.7	32.6	40.0
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
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
1985	16.5*	16.1*	11.9*									

*Provisional

H - ALPHA S O L A R F L A R E S

MARCH 1985

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
YUNN	11	0815	0824	0831	N09	W36		03	8.6	16	SF			C		31	.4	
YUNN	12	0238	0242	0248	N10	W46		03	8.6	10	SN			C		46	.7	T
YUNN	12	0318	0332	0345	N08	W45		03	8.8	27	SB			C		108	1.7	
YUNN	12	0524	0532	0600	N07	W48		03	8.6	36	SB			C		77	1.2	
RAMY	17	1120	1120	1124	S12	E38	4633	03	20.3	4	SF		3	C		20		
YUNN	18	0537	0540	0551	S12	E28		03	20.3	14	SF			C		31	.4	D
RAMY	19	1344	1344	1353	S10	E34	4634	03	22.1	9	SF		3	C		20		F
HOLL	20	1502	1509U	1525	N04	E90		03	27.3	23	SN		3	C		39		
HOLL	20	1901	1901	1908	S16	E75		03	26.5	7	SF		3	C		16		
RAMY	21	1346	1351	1403	S14	E60	4636	03	26.1	17	SN		3	C		35		
RAMY	21	1509	1511	1520D	N05	E85		03	28.0	11D	SB	C 7.5	3	C				
PALE	21	2230E	2233U	2248	N03	E88	4637	03	28.5	18D	SF	C 2.2	3	C		30		F
PALE	23	0119	0119	0123	N06	E64	4637	03	27.8	4	SF		3	C		19		
LEAR	23	0119	0120	0138	N01	E72	4637	03	28.4	19	SF		3	C		38		
YUNN	23	0123E	0123U	0141	N06	E70		03	28.3	18D	SN			P	0123	32		D
PALE	23	0126	0126	0129	N05	E68	4637	03	28.1	3	SF		3	C		14		
LEAR	23	0313	0314	0327	N01	E72	4637	03	28.5	14	SN		3	C		44		Z
RAMY	23	1202	1206	1223	N06	E71	4637	03	28.8	21	SF		3	C		12		
HOLL	23	1613	1613	1629	N04	E71	4637	03	29.0	16	SF		3	C		18		
RAMY	23	1613	1617	1630	N06	E69	4637	03	28.8	17	SN		3	C		24		F
HOLL	23	2127	2133	2222	S14	E29	4636	03	26.1	55	SF		3	C		54		F
HOLL	25	2333	2334	2410D	N07	E35	4637	03	28.6	37D	SN		3	C		57		F
LEAR	25	2334	2334	2337D	N07	E38	4637	03	28.8	3D	SF		3	C		24		UF
RAMY	30	1148	1149	1159	N04	W23	4637	03	28.8	11	SF		3	C		34		F
LEAR	31	0138	0139	0146	S11	W69	4636	03	25.9	8	SF		3	C		17		
LEAR	31	0659	0723	0729	S10	W72	4636	03	25.9	30	SF		3	C		18		

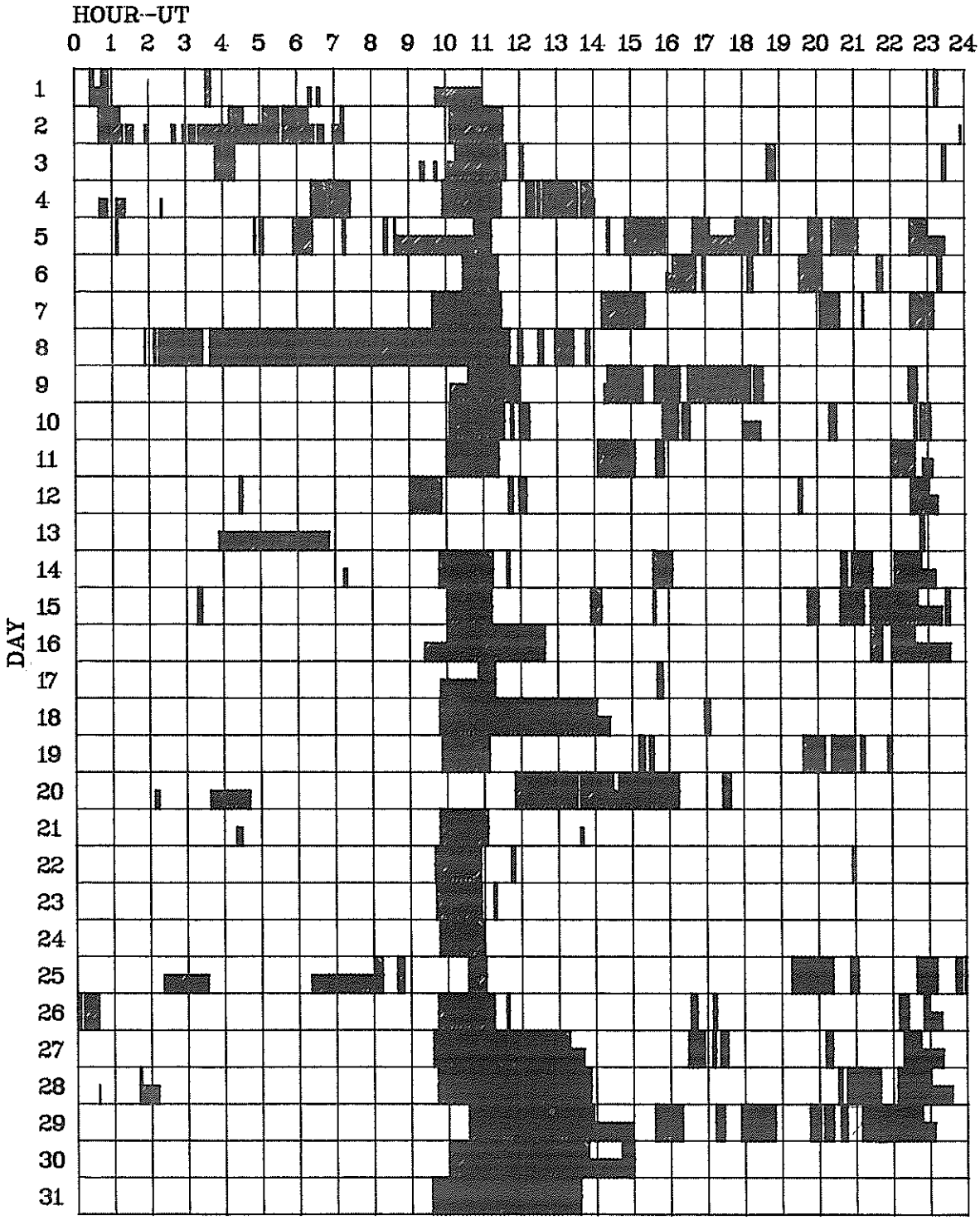
"Remarks":

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

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

MARCH 1985



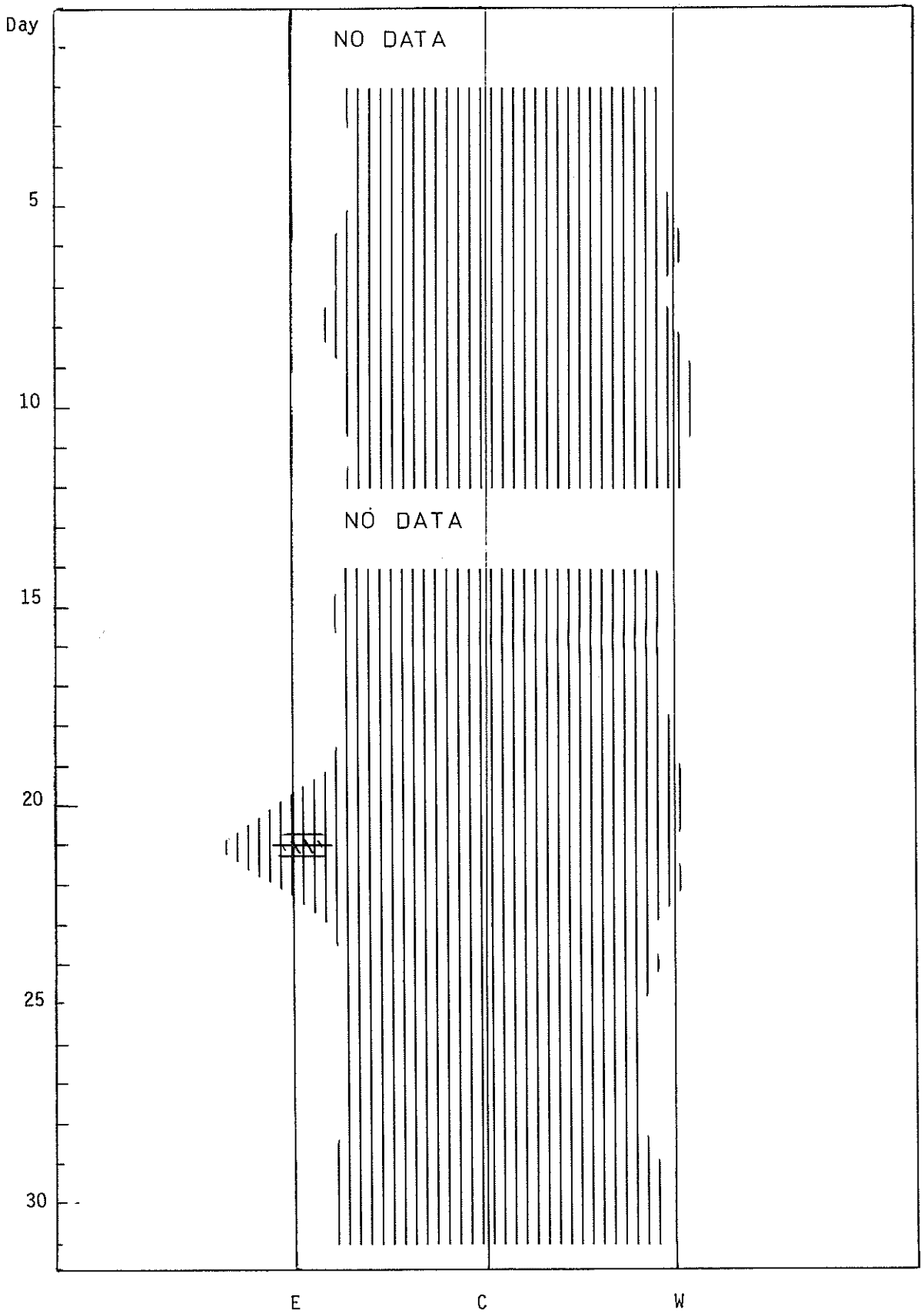
Times of no flare patrol, shown here as shaded areas, combine reports from the observatories listed below. Portions of a panel completely shaded mark dates and times of no patrol of any kind, that is, of neither visual nor cinematographic; portions of a panel with only the bottom half shaded mark times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

Holloman	Istanbul	Learmonth Palehua	Purple Mt. Ramey	Wendelstein Yunnan

14
Mar 85

SOLAR INTERFEROMETRIC OBSERVATIONS

Nancay MARCH 1985 169 MHz

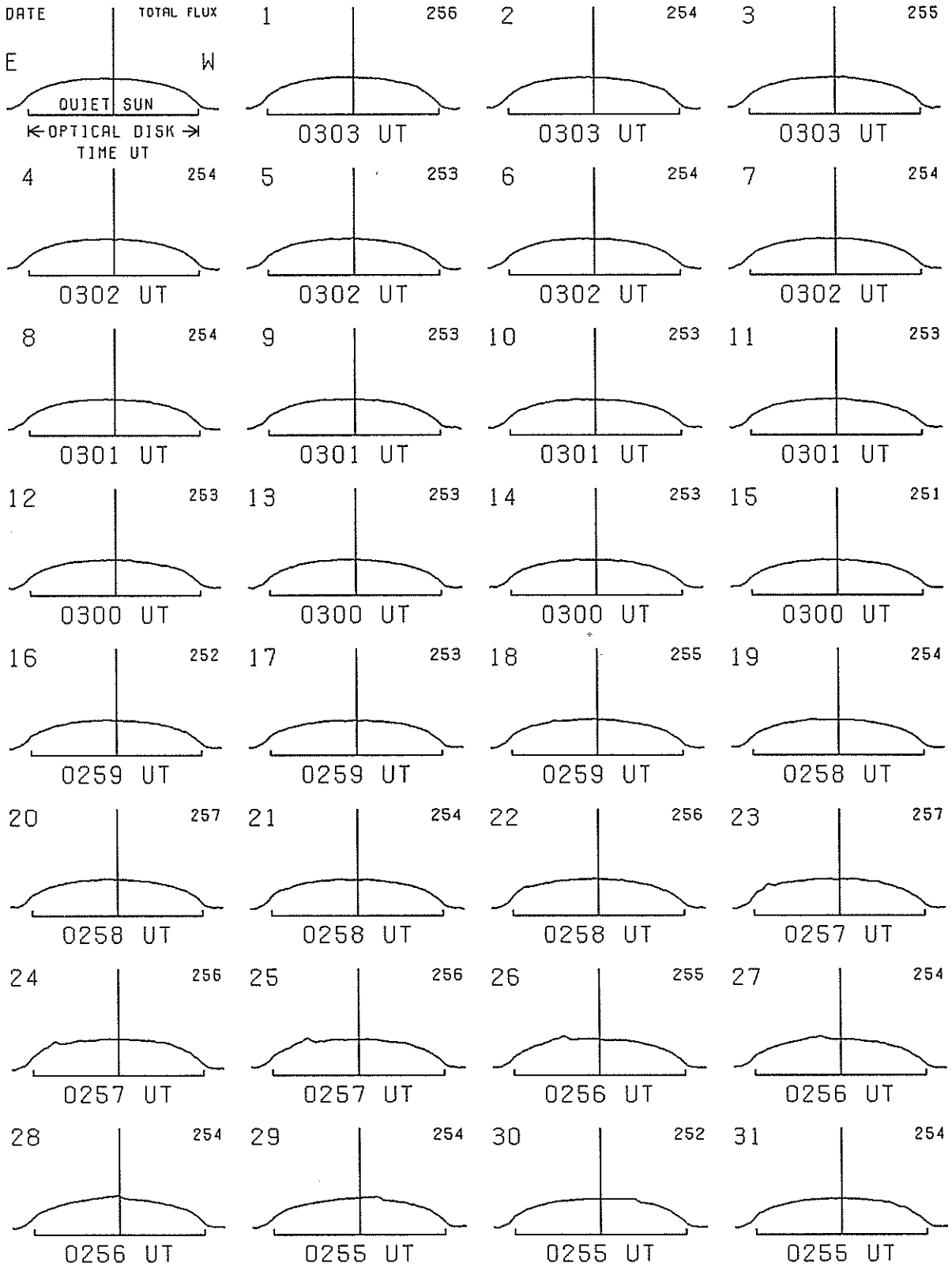


EAST-WEST SOLAR SCANS

MARCH 1985

TOYOKAWA, JAPAN

3 CM
FAN BEAM WITH 1.1 MINUTES OF ARC

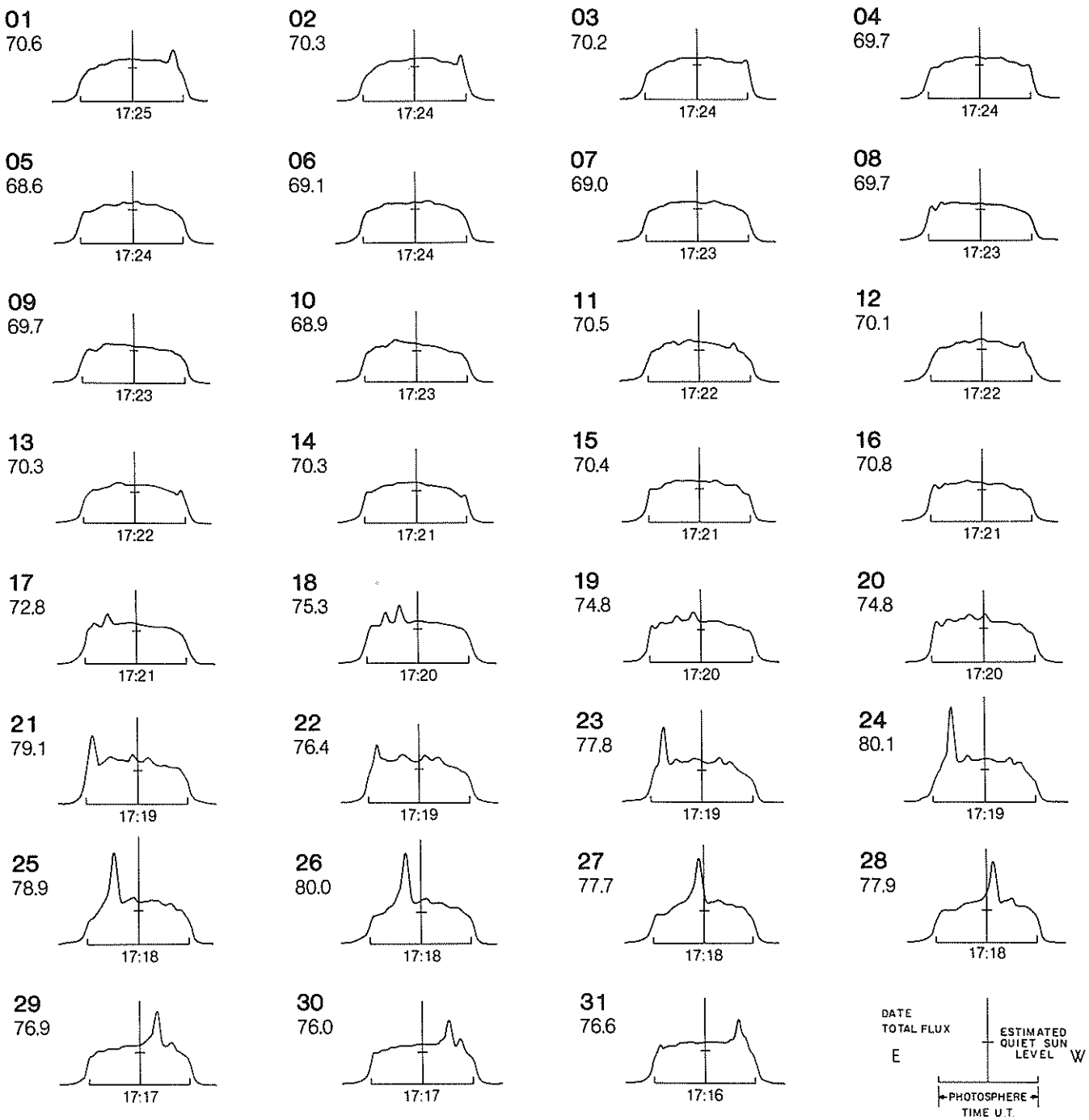


EAST-WEST SOLAR SCANS

MARCH 1985

ALGONQUIN RADIO OBSERVATORY
CANADA

10·7 cm
Fan Beam with 1·5 minutes of arc
E-W Resolution

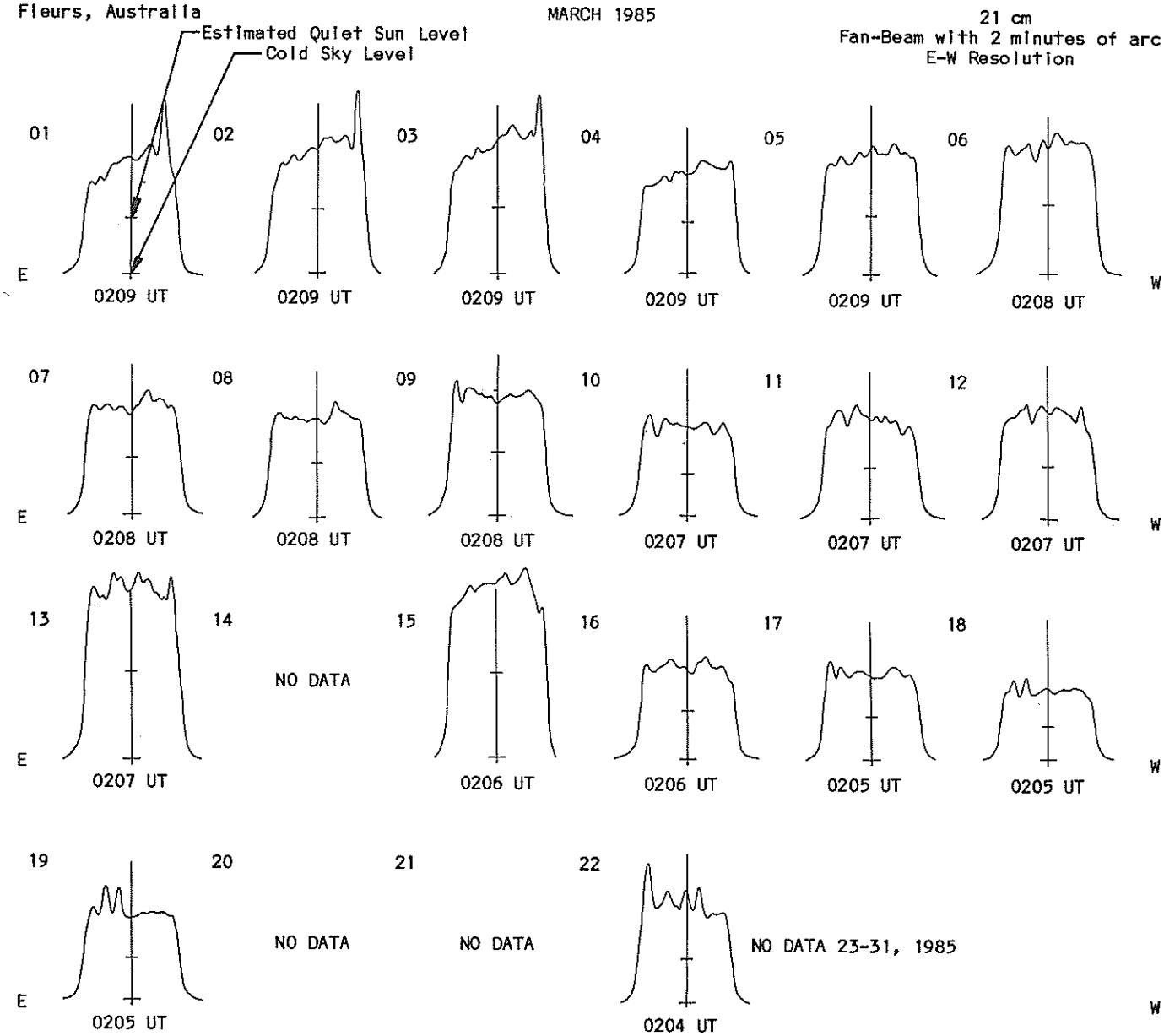


E A S T - W E S T S O L A R S C A N S

Fleurs, Australia

MARCH 1985

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution



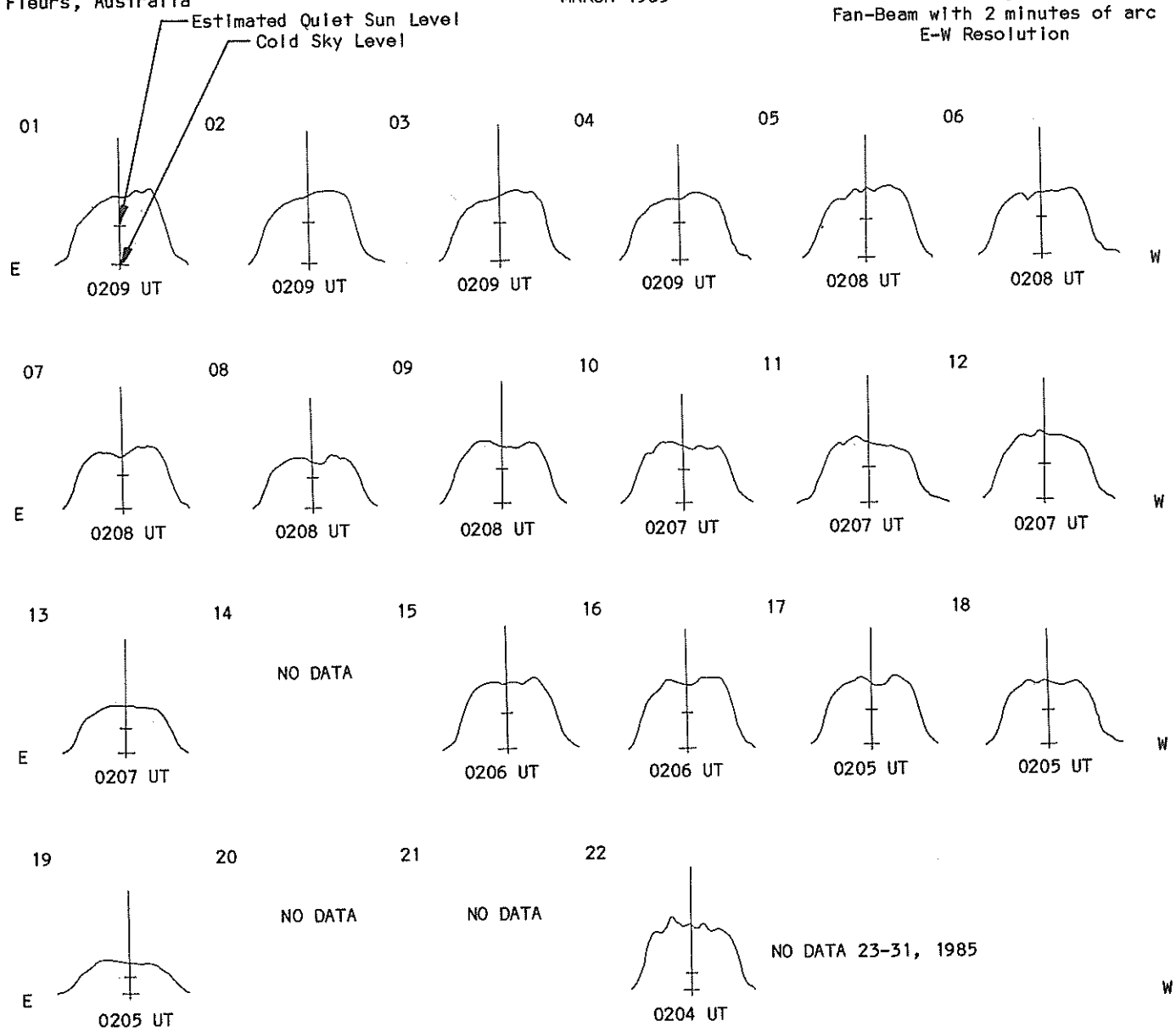
18
Mar 85

E A S T - W E S T S O L A R S C A N S

Fleurs, Australia

MARCH 1985

43 cm
Fan-Beam with 2 minutes of arc
E-W Resolution



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

MARCH 1985

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
08	2800	OTTA	20	GRF	1430.0	1435.0	55.0	1.2	0.6		
17	2800	OTTA	20	GRF	1950.0	2005.0	60.0	1.2	0.6		
18	8800	ATHN	20	GRF	0812.0	0814.0	3.0	13.0			QL=5 ST=3 TYP=2
	2800	OTTA	20	GRF	1927.0	2020.0	100.0	1.4	0.7		
21	2800	OTTA	21	GRF	1504.0	1511.0	35.0	1.2	0.8		
	2800	OTTA	2	S/F	1504.5	1505.0	1.0	3.6	1.8		
	2800	OTTA	1	S	1506.6	1507.0	1.5	1.4	0.8		
	2800	OTTA	20	GRF	1550.0	1645.0	235.0	2.6	1.3		
	2800	OTTA	21	GRF	2220.0	2235.0	40.0	3.6	1.8		
	2800	OTTA	4	S/F	2224.0	2225.7	5.0	12.4	4.6		
	2800	OTTA	2	S/F	2233.9	2234.3	1.0	6.2			
23	8800	LEAR	4	S/F	0116.6	0118.8	6.7	8.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0117.5	0119.3	3.1	6.0			QL=6 ST=2 TYP=3
	2800	OTTA	1	S	1611.5	1612.5	2.5	1.8	0.6		
25	2695	PENT	2	S/F	2331.5	2333.2	5.0	5.8	2.2		

Observatories:
BERN = Berne MANI = Manila OTTA = Ottawa ARO PENT = Penticton SGMR = Sagamore Hill
LEAR = Learmonth ATHN = Athens PALE = Palehua

Explanation of Type Code:

1 Simple 1	7 Minor +	24 Rise	30 Post Burst increase A	43 Onset on 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	32 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
				49 Major +

Remarks:
QL = Quality (1=poor to 6=excellent)
ST = Status (1=real time; 2=final; 3=correction; 4=deletion)
TYP= Type (1=noise storm;2=rise in base level;3=minor;4=group;5=major;6=major plus;7=Castelli U-type burst)

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

Day	Apr 84	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 85	Feb	Mar
1	-34	56	24	38	17	-38	-42	-13	-32	5	38	31
2	-23	53	27	44	-2	-20	-63	·	·	14	35	27
3	9	40	42	33	-35	-42	·	-64	·	21	32	16
4	29	36	·	62	-40	-58	-76	-37	·	38	30	13
5	34	24	66	41	-44	-77	·	·	·	·	15	·
6	31	15	·	5	-37	-86	·	-22	15	·	·	·
7	38	15	65	-28	-50	-89	·	-4	28	37	·	-8
8	41	30	53	-41	-82	-95	·	10	44	26	·	-17
9	25	7	24	-62	-83	-81	-21	12	30	·	-4	-13
10	·	19	-18	-56	-73	-55	·	·	·	6	-5	·
11	17	47	-37	-66	-84	-27	·	16	39	-10	-1	-4
12	31	42	-47	-70	-91	-8	·	·	27	-8	-2	-1
13	46	32	-57	-96	-71	3	·	48	12	-10	-8	-3
14	56	20	-63	-91	-67	11	·	24	-10	-1	-9	-15
15	56	-5	-61	-102	-13	10	·	·	-12	1	-23	-12
16	52	-39	-75	-93	6	12	·	·	-20	-7	-17	-6
17	28	-62	-73	-59	11	21	32	-4	-11	-3	-13	10
18	21	-57	-89	-39	21	23	36	-25	·	-25	·	·
19	-40	-58	-59	-11	18	49	·	-23	-8	-35	-12	-7
20	-53	-62	-66	14	19	52	15	·	·	·	-17	-6
21	-52	-59	-52	9	21	44	-7	·	·	·	-15	-12
22	-18	-66	-31	31	26	34	-32	-6	-24	-30	-12	-12
23	-14	-68	11	7	39	20	-38	1	-35	·	-7	-5
24	9	-79	·	30	47	-5	-24	-15	-46	·	-6	·
25	-17	-76	37	22	52	-26	-14	-10	·	-9	2	1
26	-34	-42	33	26	31	-35	-18	-20	·	-12	-6	·
27	-49	13	16	53	25	-26	-15	·	-23	-2	13	·
28	-40	57	26	43	11	-19	-32	·	-22	32	20	37
29	-15	66	15	54	-4	-19	·	-45	·	0		24
30	28	·	32	36	-13	-30	·	·	-9	19		16
31		38		31	-36		-71		-3	28		12

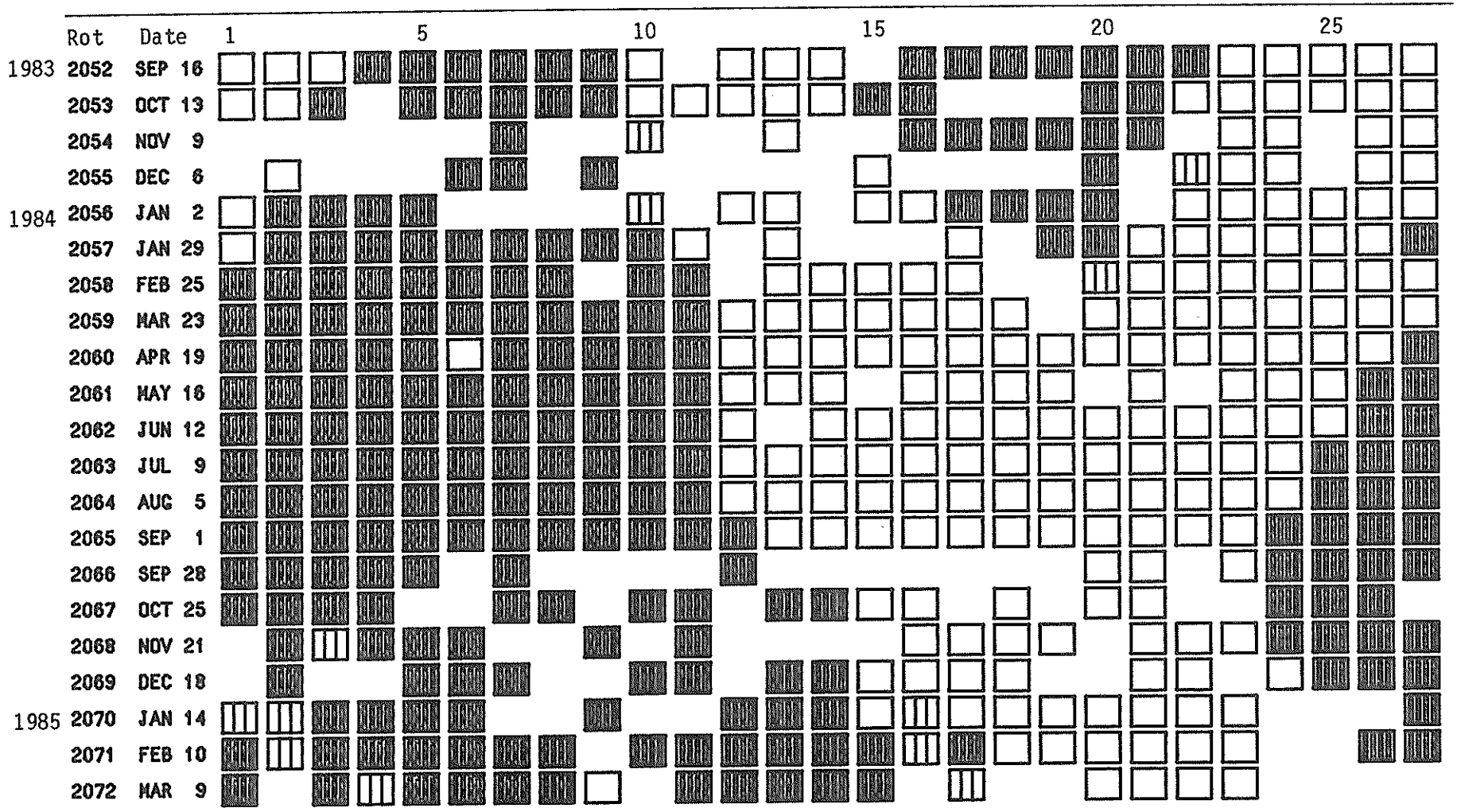
Dot symbol indicates no data available for the day.

VOSTOK INFERRED INTERPLANETARY MAGNETIC FIELD
PRELIMINARY DATA

April 1984 - March 1985

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
1	A					A	A	A	T	T	A	A
2	A					A	A	T	T	T	A	A
3	T					A	T	T	AT	T	A	AT
4	T					A	T	AT	T	T	T	A
5	T					A	T	AT	T	T	AT	A
6	T					AT	AT	T	A	T	A	A
7	A					T	T	T	T	T	A	A
8	A					T	T	T	AT	T	AT	AT
9	T					T	T	T	T	AT	A	T
10	A					T	-	T	A	AT	T	T
11	A					T	T	T	A	A	AT	T
12	A					A	T	T	A	AT	A	T
13	A					T	T	T	AT	T	T	T
14	T					T	T	T	A	A	A	T
15	T					T	T	A	A	A	T	A
16	A					T	A	A	A	A	T	T
17	T					T	AT	A	AT	T	T	T
18	T					T	A	T	T	T	A	A
19	A					A	AT	A	A	T	-	T
20	A					A	-	T	T	A	T	TA
21	T					-	T	A	AT	T	AT	T
22	T					A	A	A	T	A	T	T
23	T					A	A	T	AT	T	T	T
24	T					-	AT	T	T	T	T	T
25	T					A	A	T	T	T	-	T
26	T					A	T	T	T	T	-	T
27	T					A	T	AT	-	-	-	T
28	-					A	T	-	-	-	-	A
29	-					T	T	-	-	-		-
30	-					-	T	-	-	-		-
31							T		-	-		-

STANFORD MEAN SOLAR MAGNETIC FIELD

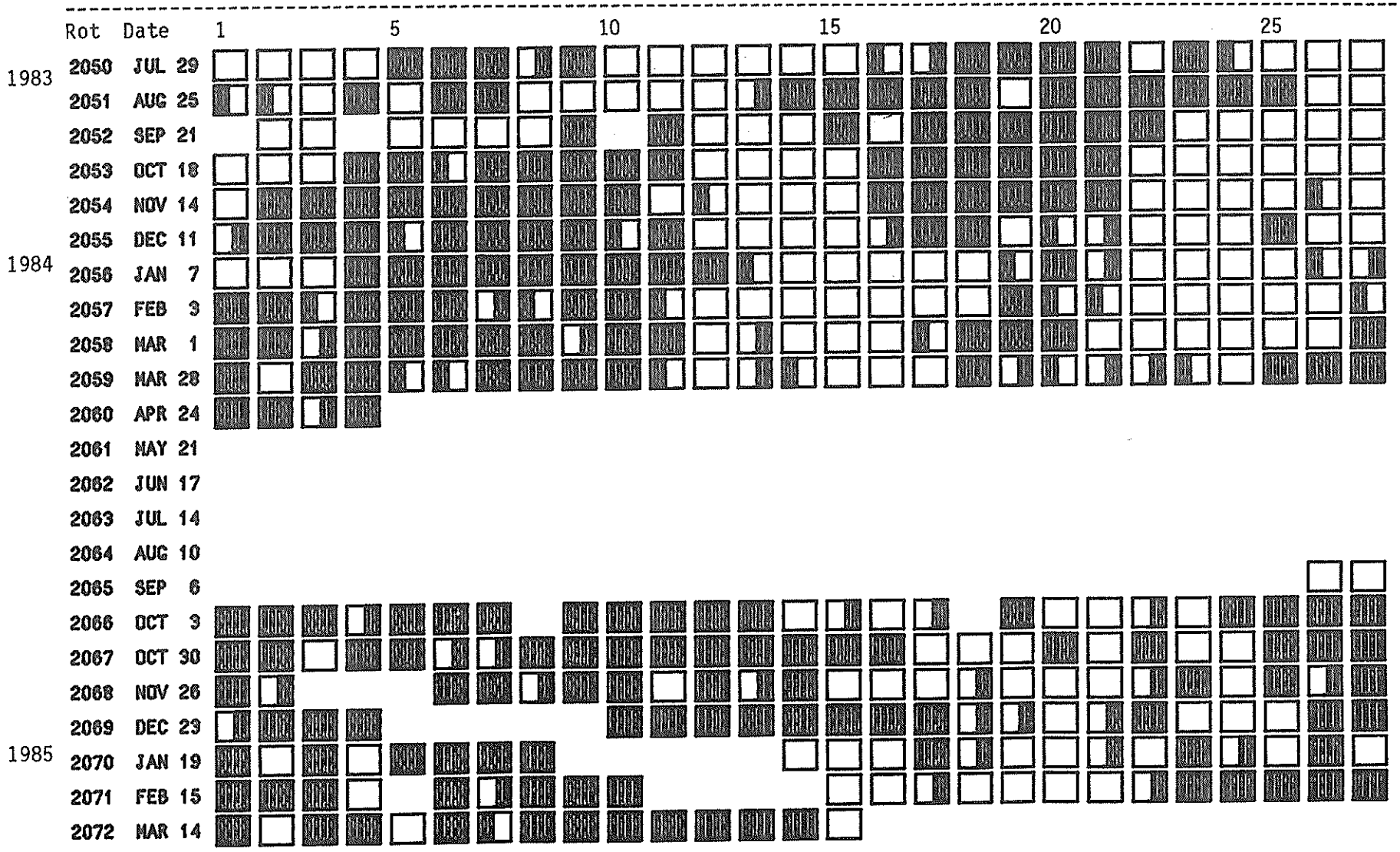


Mean Solar Magnetic Field Polarity: □ = field > 2 microT; ▥ = -2 microT ≤ field ≤ 2 microT

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

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

VOSTOK INFERRED INTERPLANETARY MAGNETIC FIELD



Inferred Interplanetary Magnetic Field Polarity:

No box = no data available = definitely towards the Sun = definitely away from the Sun

The chart shows the daily inferences of the polarity of the interplanetary magnetic field based principally on the magnetograms produced by the magnetometer at the Vostok Antarctic Station of the USSR.

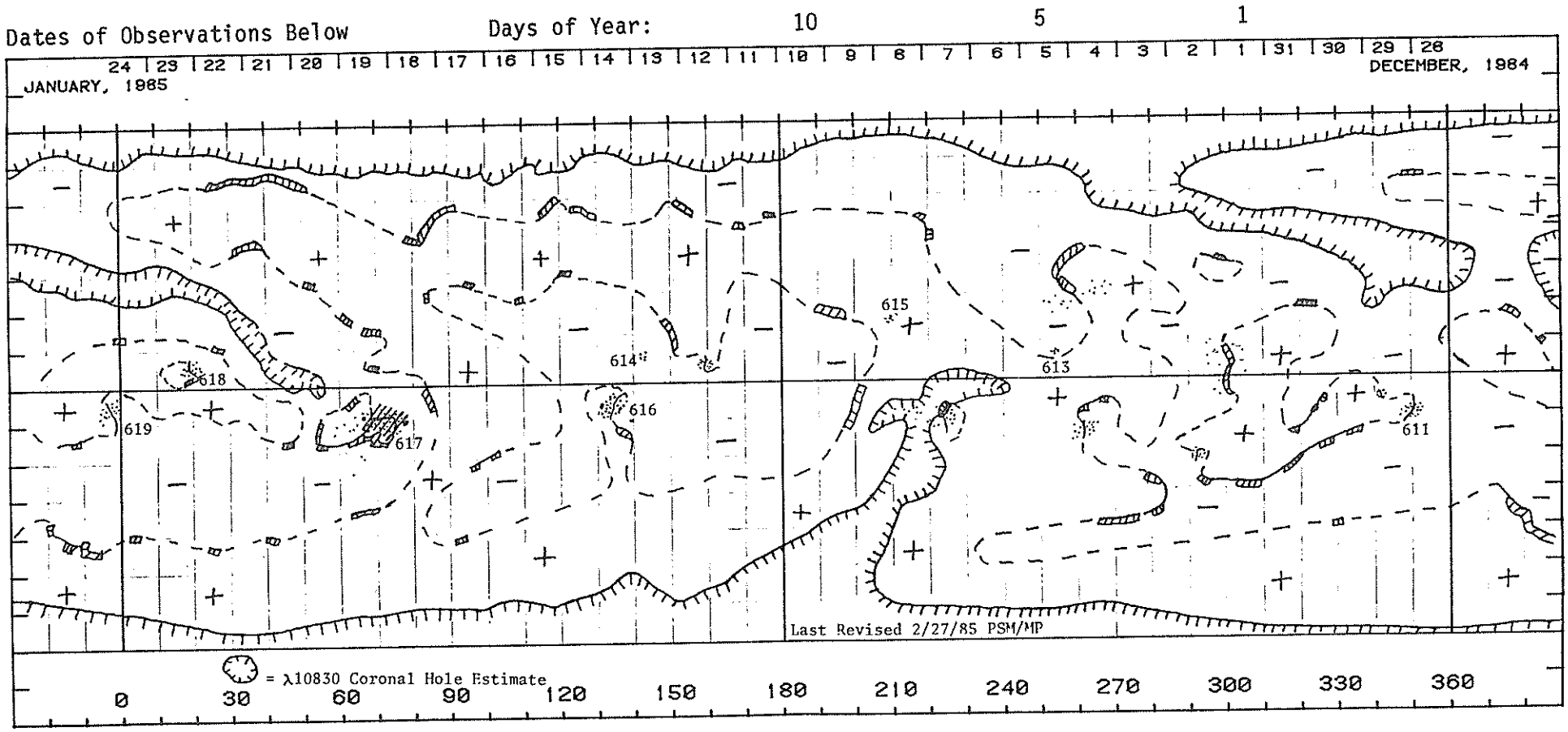
23 Mar 85

C O N T E N T S

Prompt Reports DATA FOR FEBRUARY 1985 Number 488 Part I

PRELIMINARY H-ALPHA SOLAR SYNOPTIC CHART

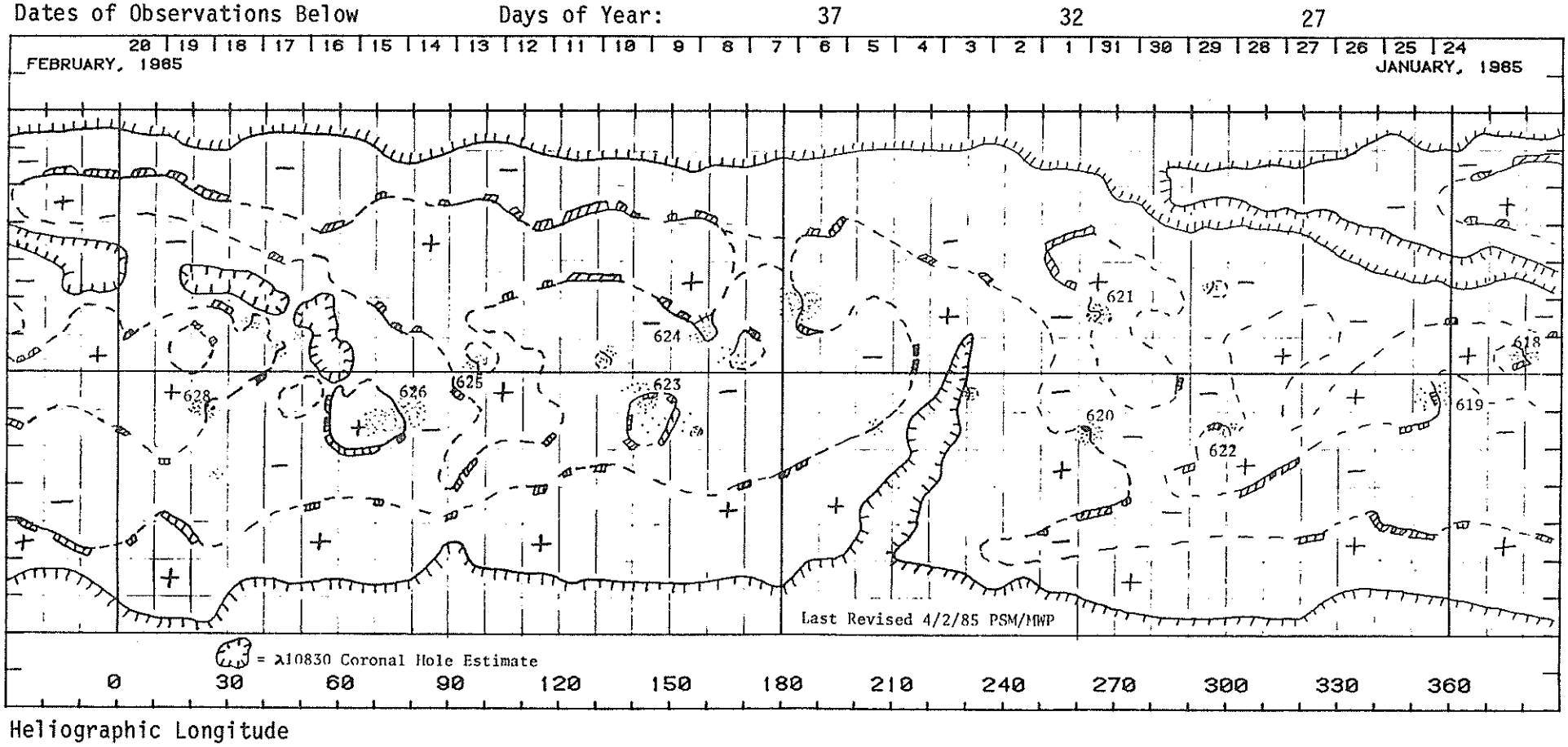
CARRINGTON ROTATION NUMBER 1757
(December 28 to January 24, 1985)



P R E L I M I N A R Y H - ALPHA S O L A R S Y N O P T I C C H A R T

CARRINGTON ROTATION NUMBER 1758

(January 24 to February 20, 1985)



27 Feb 85

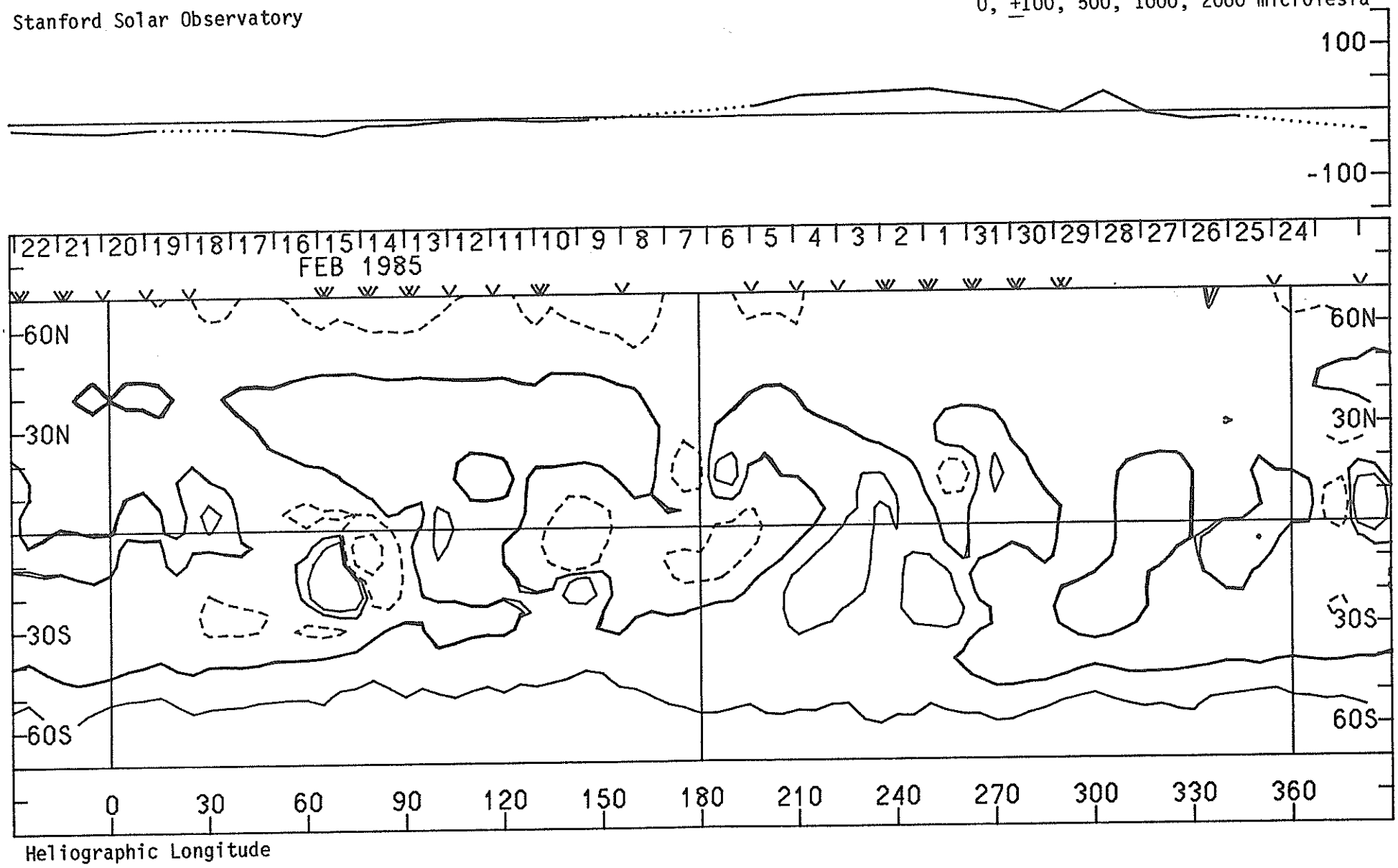
28
Feb 85

SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1758
(January 24 to February 20, 1985)

Stanford Solar Observatory

0, ±100, 500, 1000, 2000 microTesla

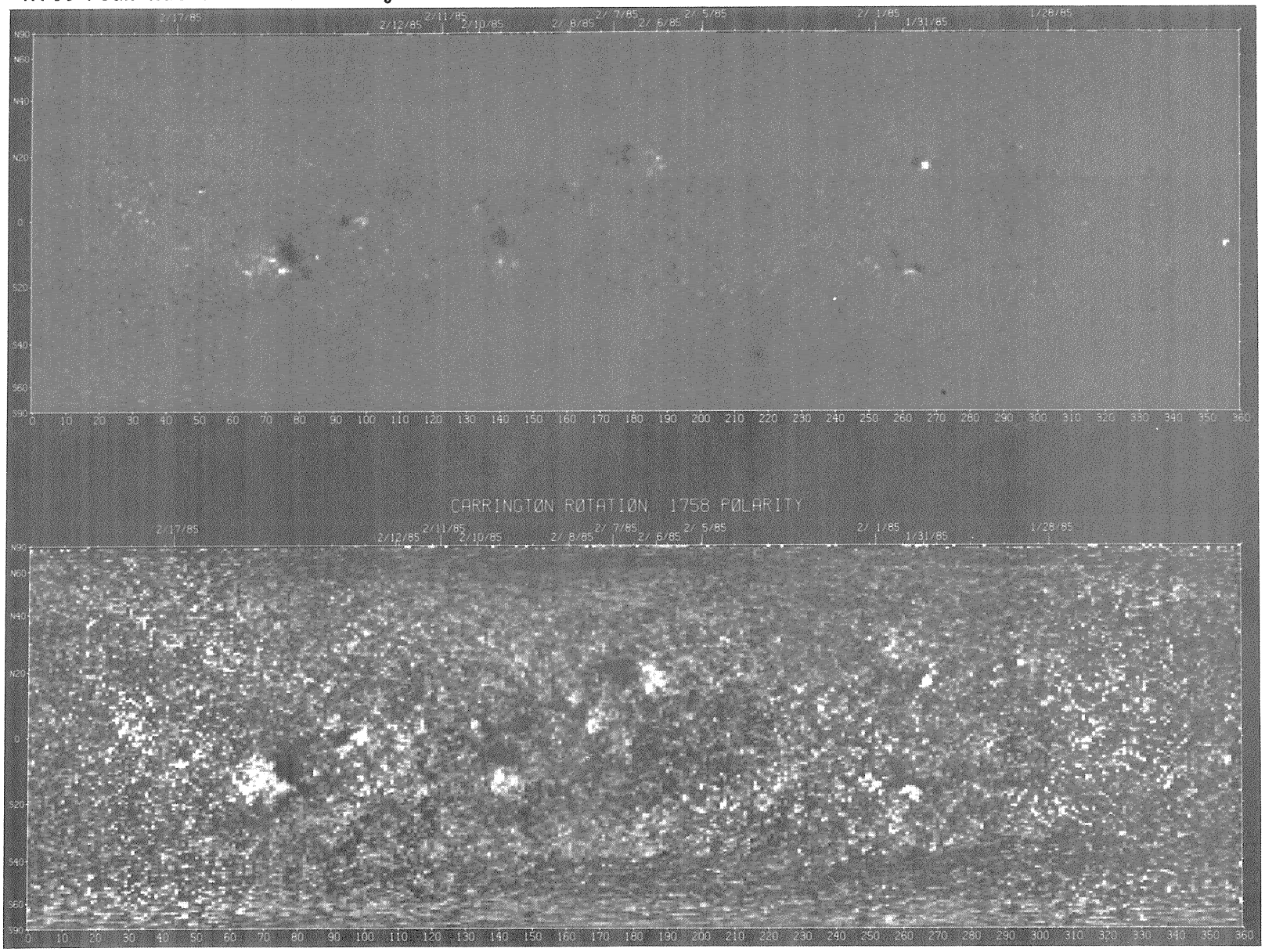


SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1758
(January 24 to February 20, 1985)

Kitt Peak National Observatory

Dates of Observations



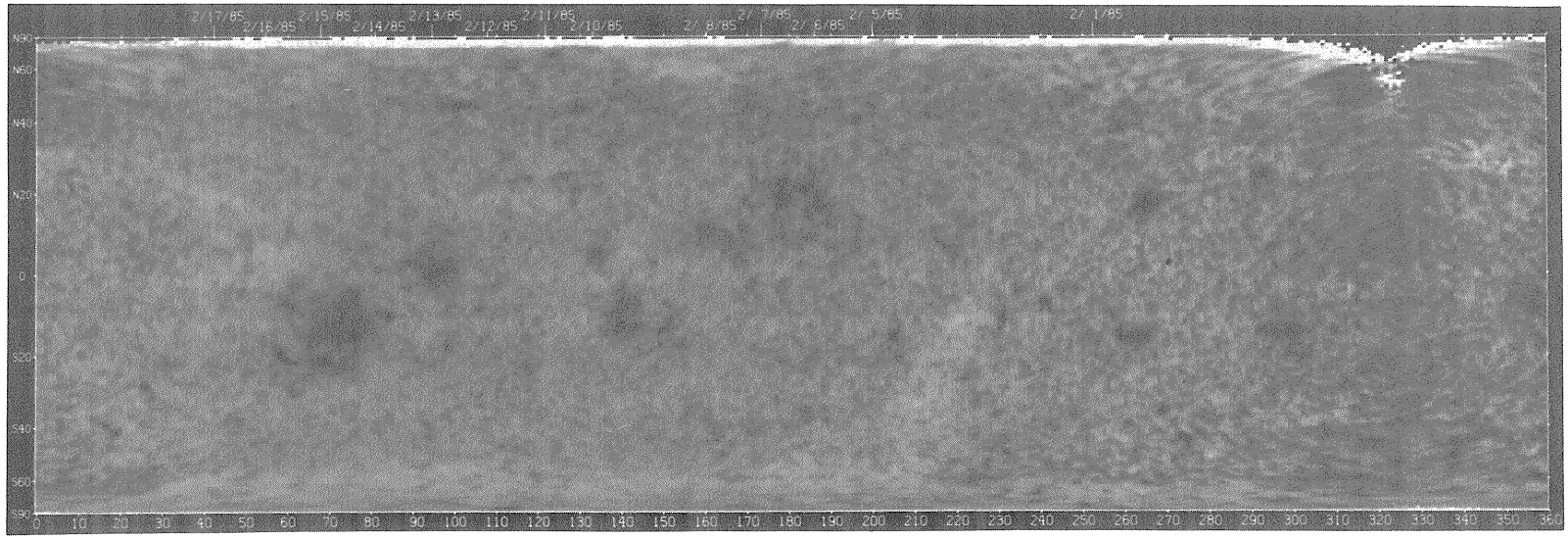
29
Feb 85

HELIUM 10830 ANGSTROM SYNOPTIC MAP OF THE SOLAR CORONA

CARRINGTON ROTATION NUMBER 1758
(January 24 to February 20, 1985)

Kitt Peak National Observatory

Dates of Observations

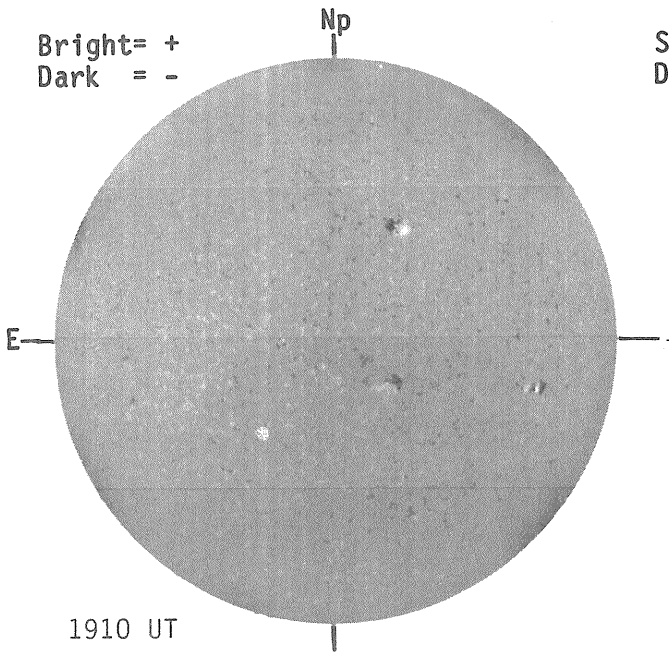


Heliographic Longitude

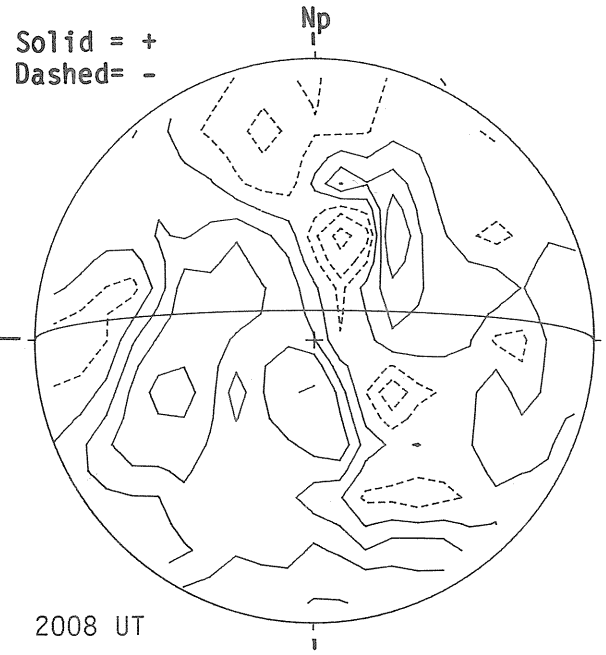
Regions for which no observations were available are black.
Irregularly shaped light areas mark either coronal holes or filament cavities.
Gray-scale display represents the strength of the helium 10830A absorption line.

F E B R U A R Y 01, 1 9 8 5 (P -12.21, B_o=-5.93, L_o= 262.97)

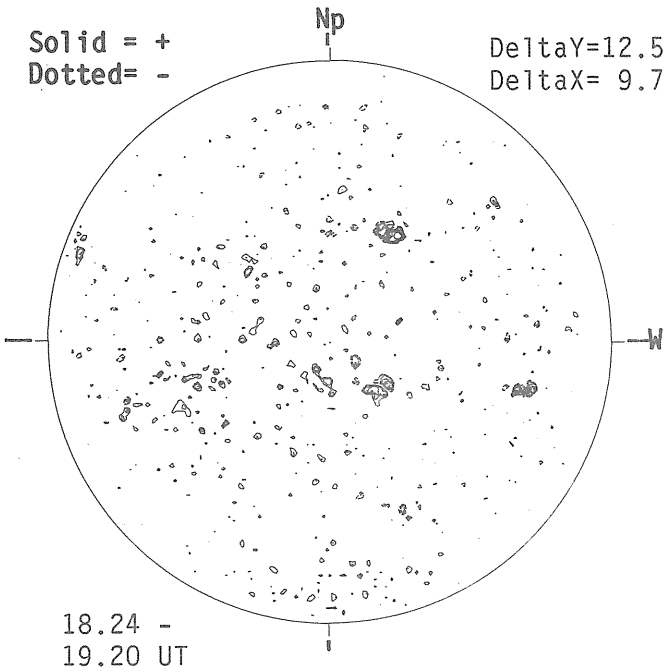
KITT PEAK MAGNETOGRAM



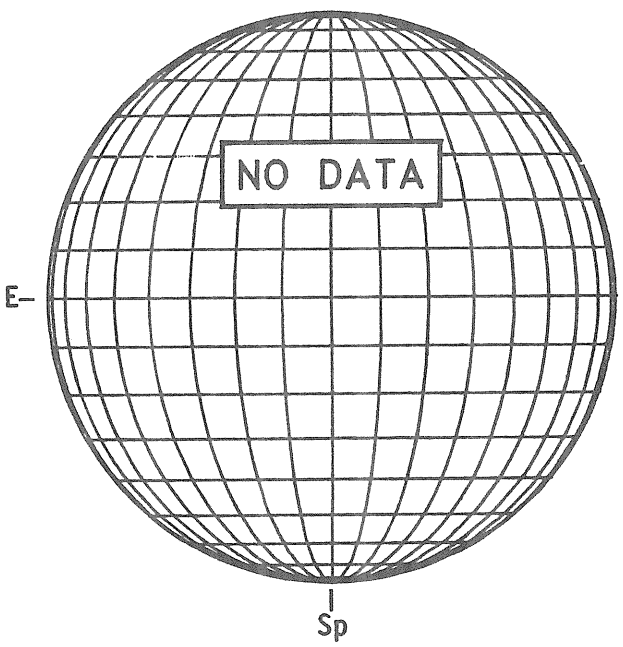
STANFORD MAGNETOGRAM



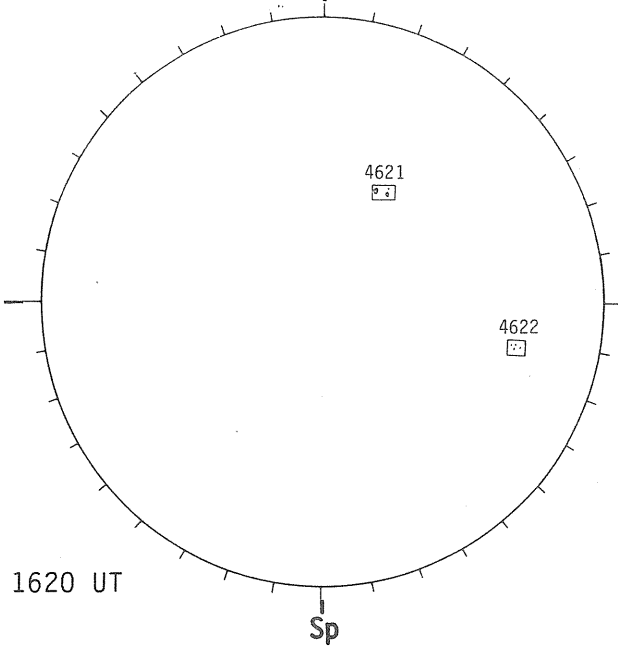
MT. WILSON MAGNETOGRAM



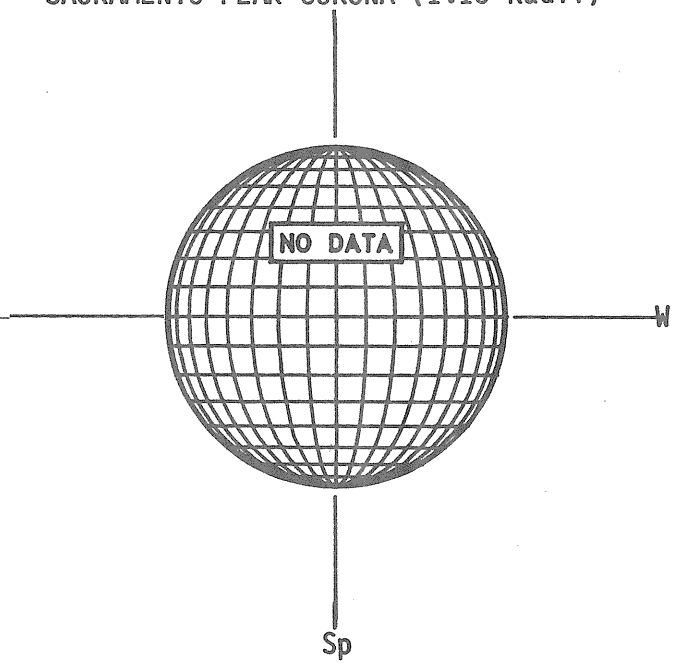
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

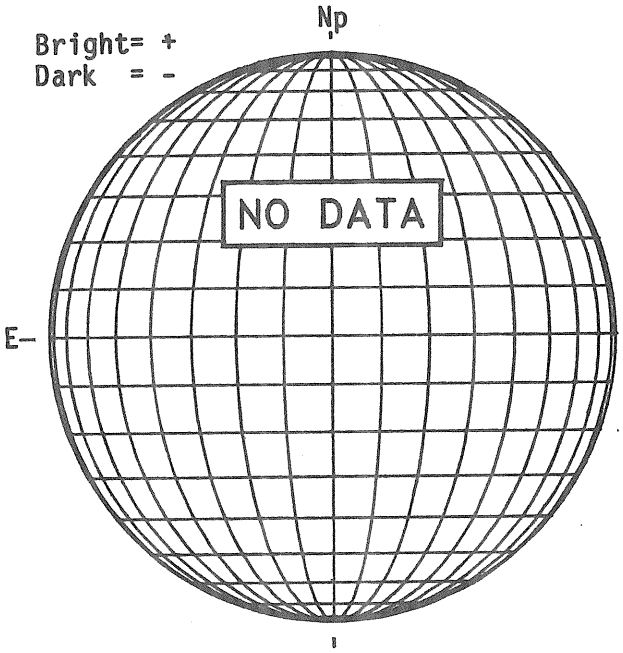


31
Feb 85

F E B R U A R Y 02, 1 9 8 5 (P -12.62, B_0=-6.00, L_0= 249.81)

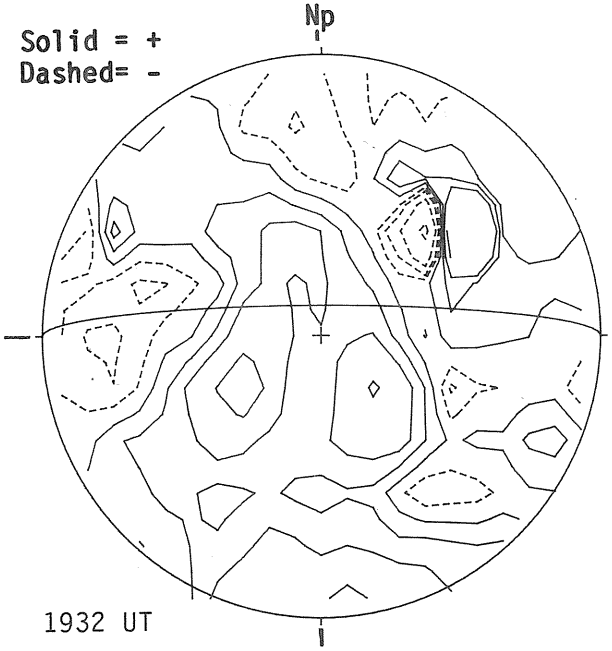
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



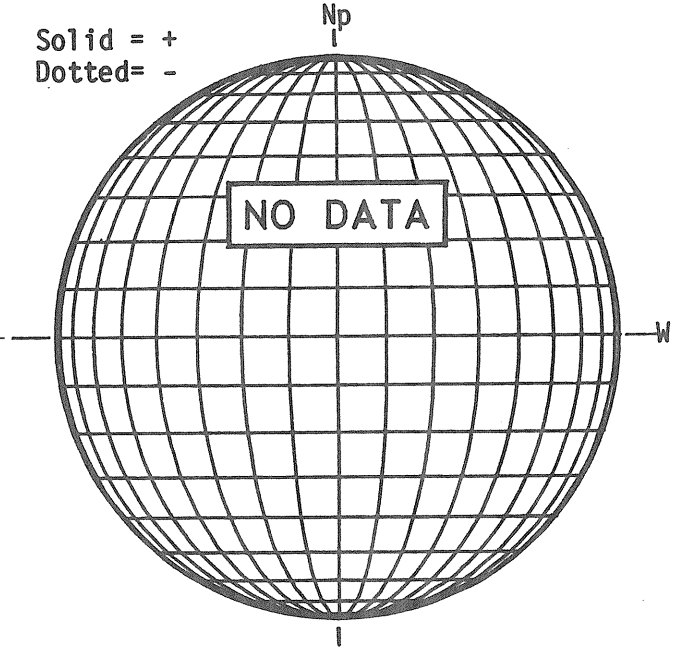
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

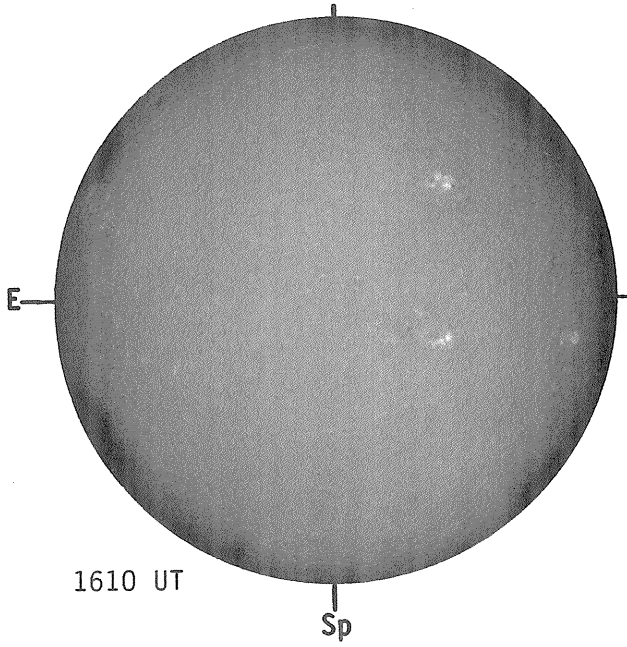


MT. WILSON MAGNETOGRAM

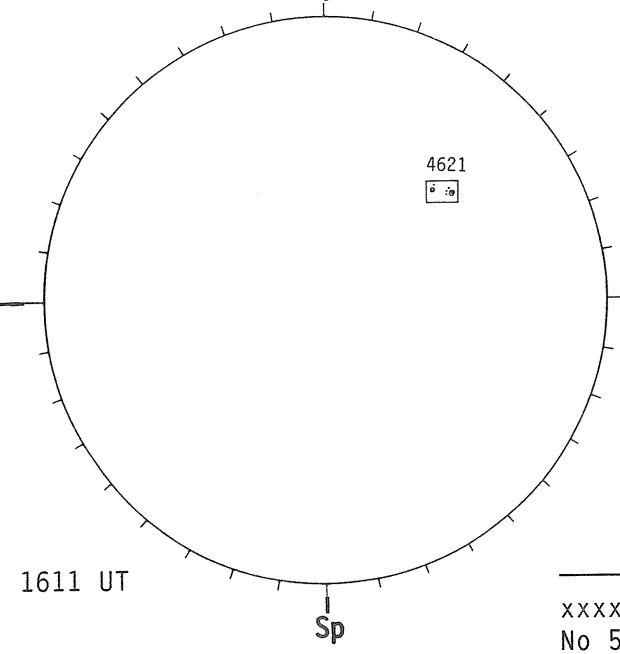
Solid = +
Dotted= -



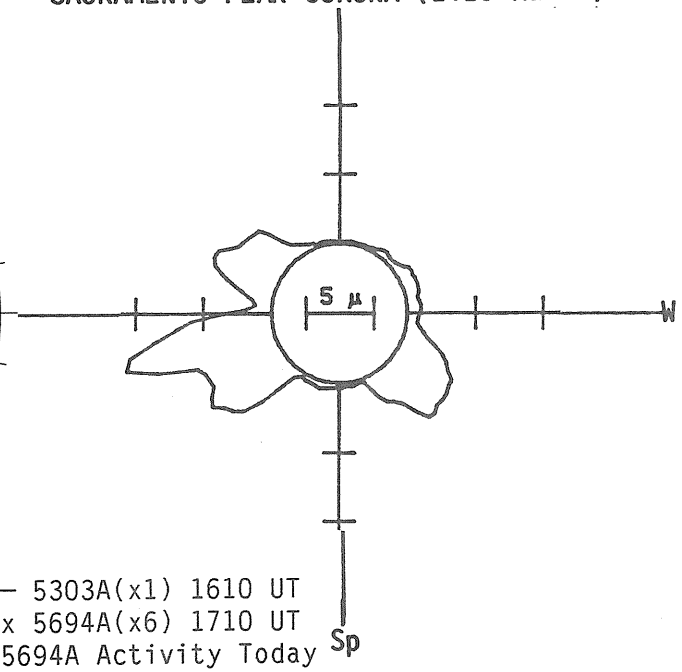
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

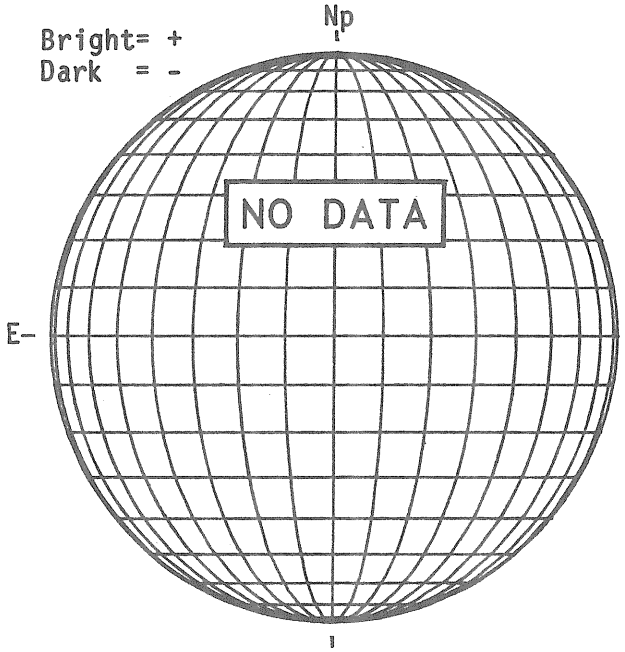


—— 5303A(x1) 1610 UT
xxxx 5694A(x6) 1710 UT
No 5694A Activity Today

F E B R U A R Y 03, 1 9 8 5 (P -13.02, B_0=-6.07, L_0= 236.64)

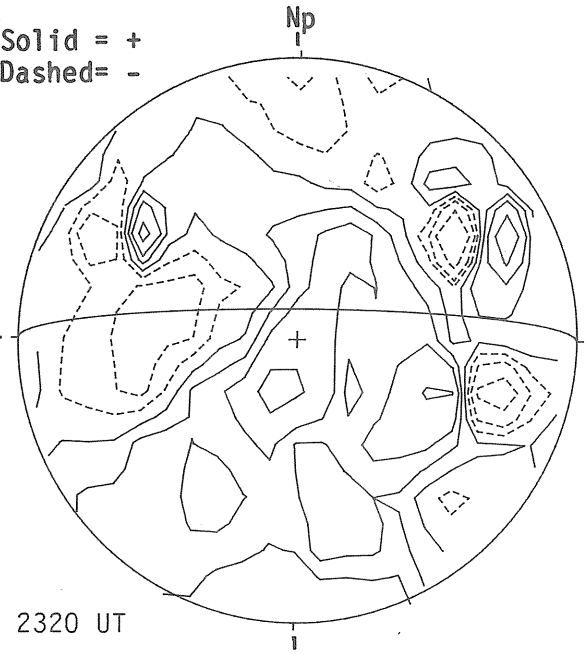
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



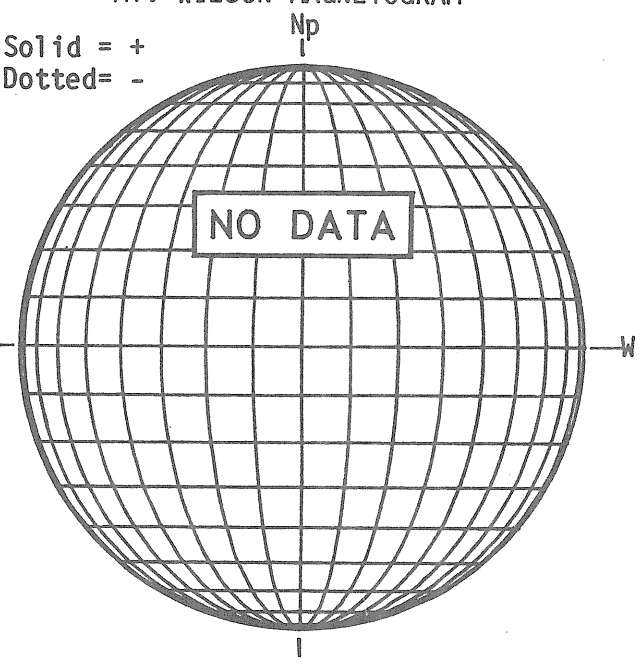
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

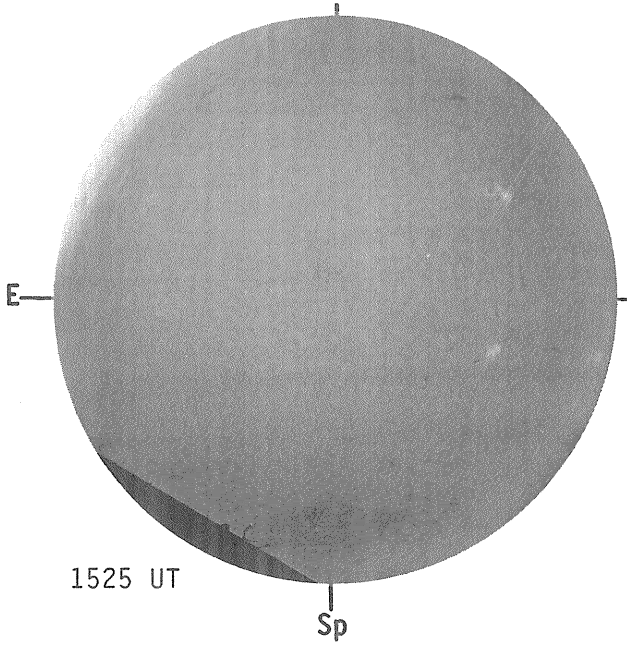


MT. WILSON MAGNETOGRAM

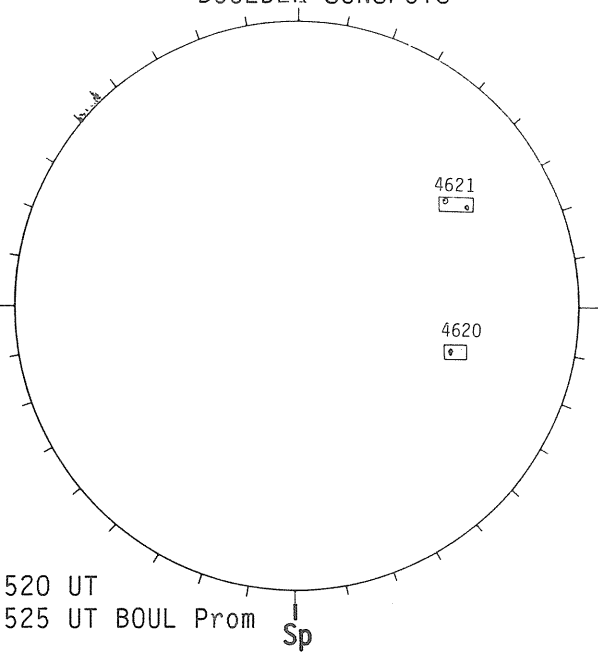
Solid = +
Dotted= -



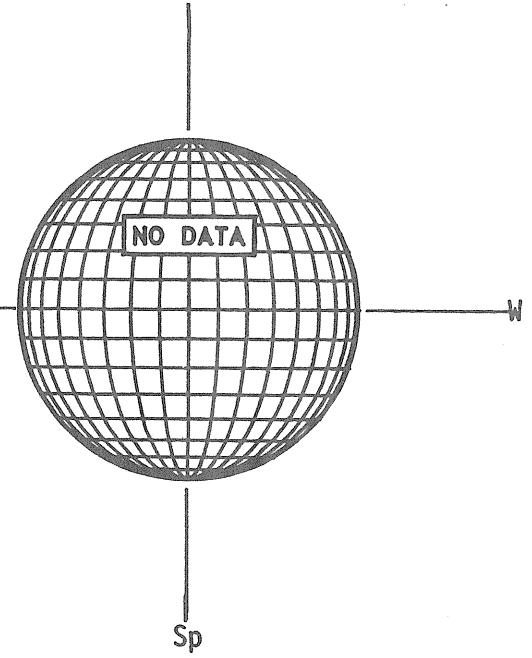
BOULDER PEAK H-ALPHA



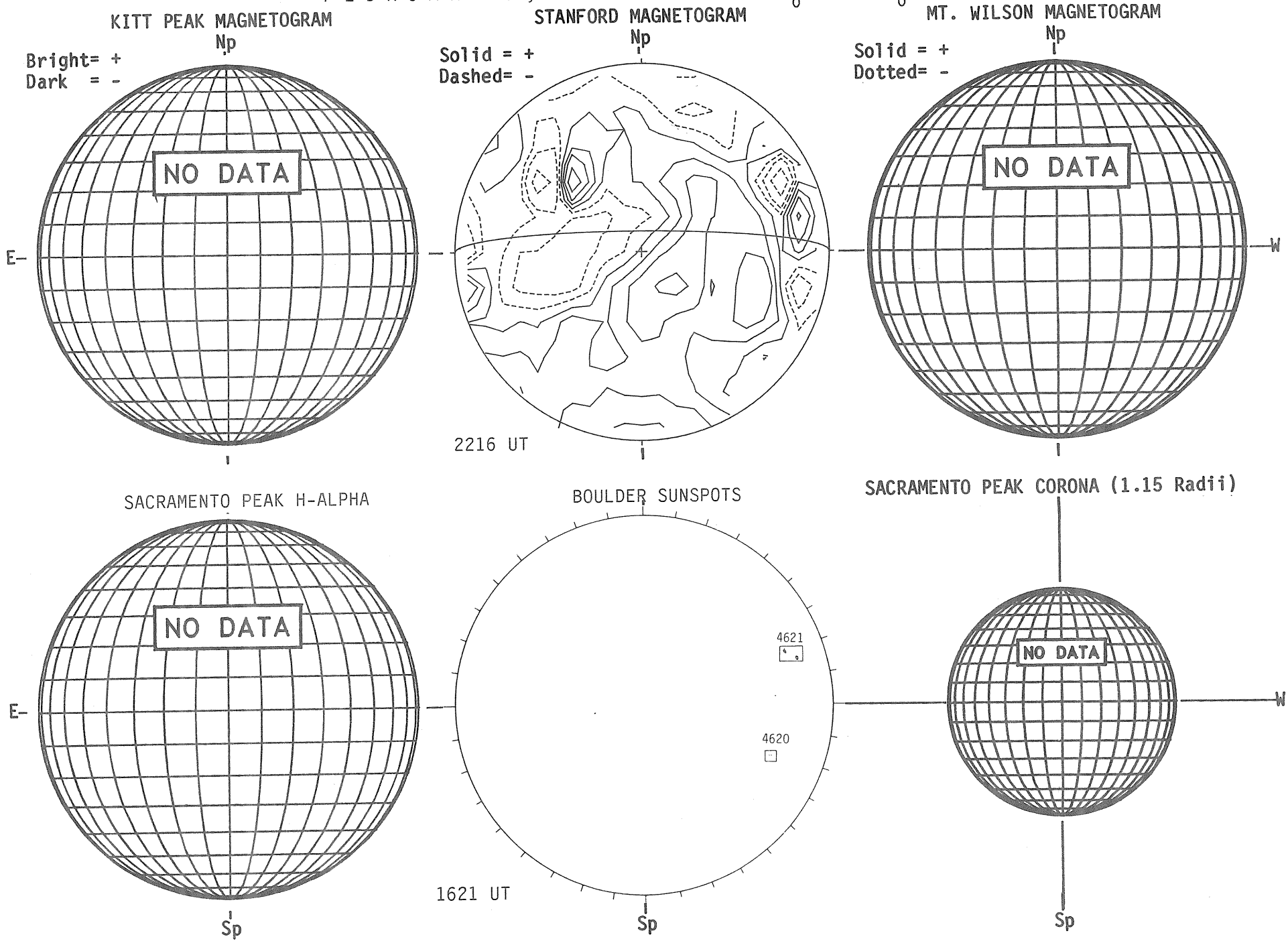
BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



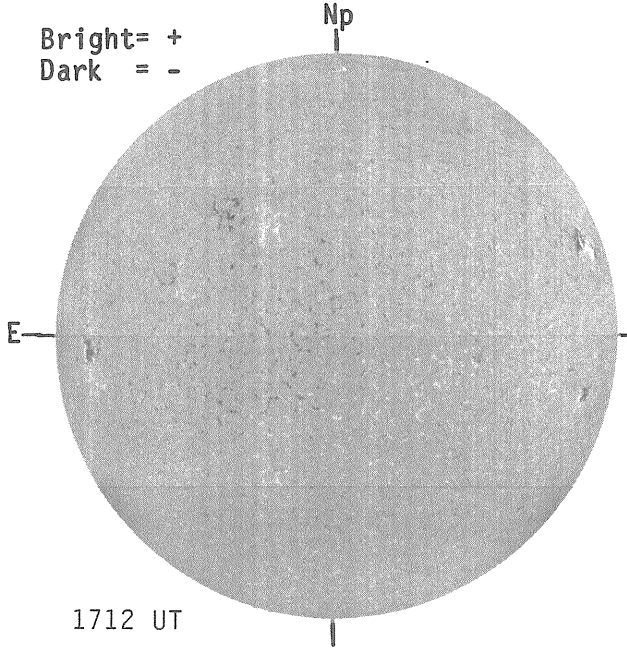
F E B R U A R Y 04, 1 9 8 5 (P -13.41, B_0=-6.14, L_0= 223.47)



F E B R U A R Y 05, 1 9 8 5 (P -13.80, B_o=-6.20, L_o= 210.30)

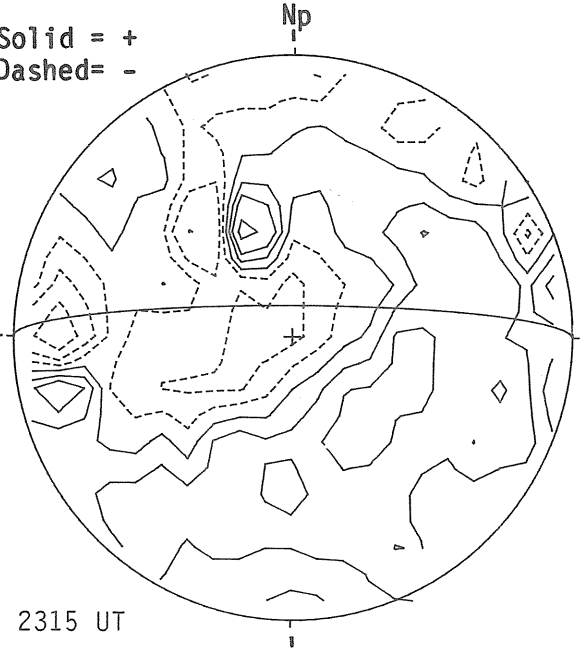
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

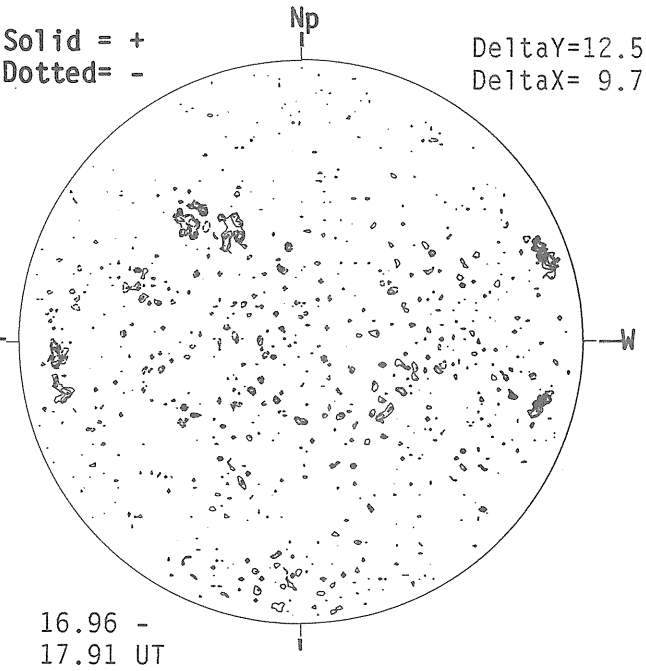
Solid = +
Dashed= -



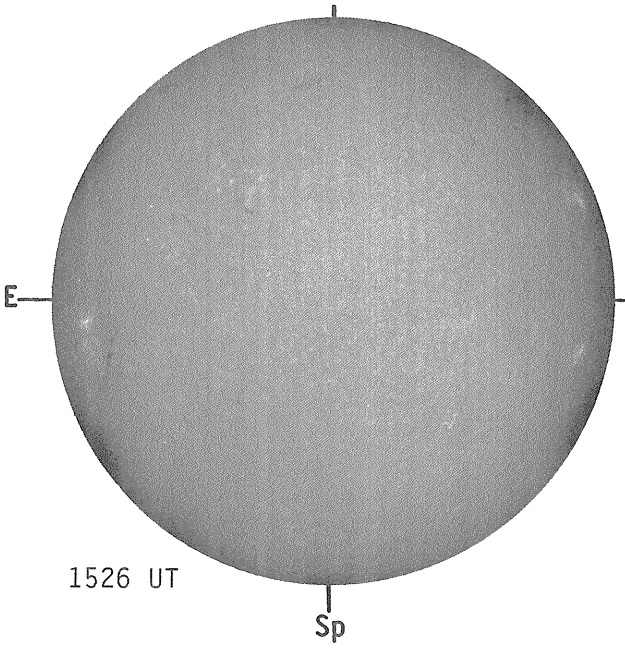
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

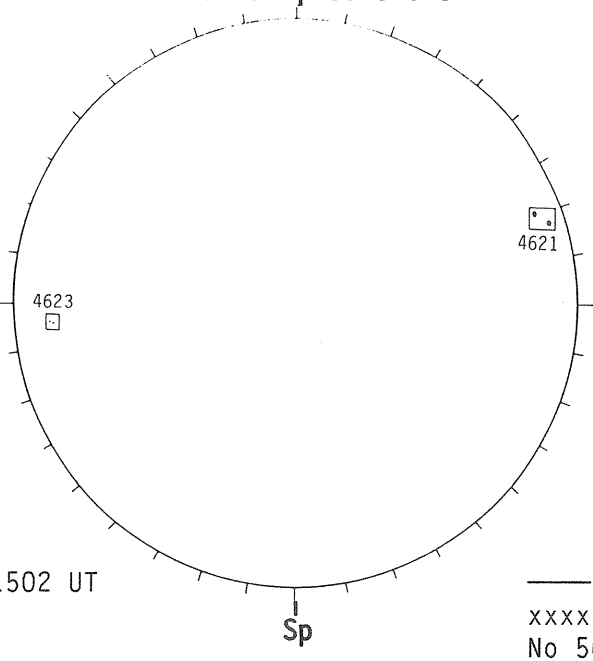
DeltaY=12.5
DeltaX= 9.7



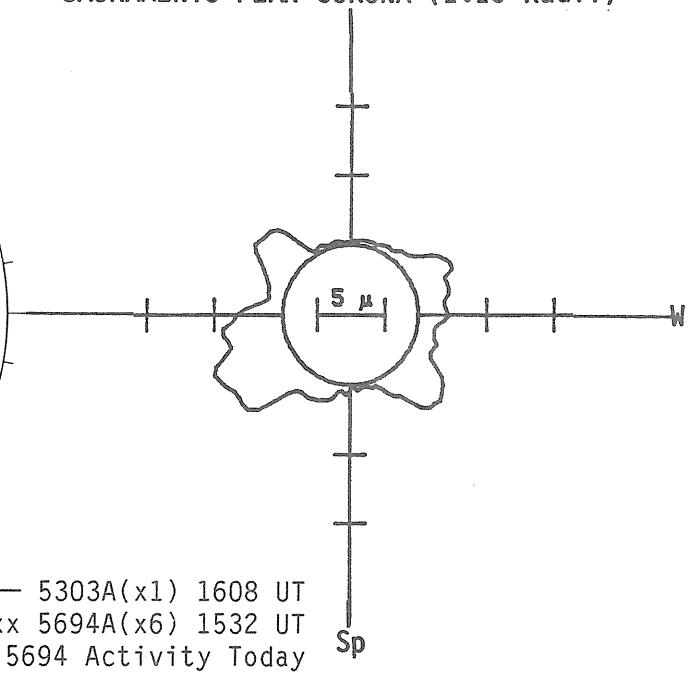
SACRAMENTO PEAK H-ALPHA



HOLLOMAN SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

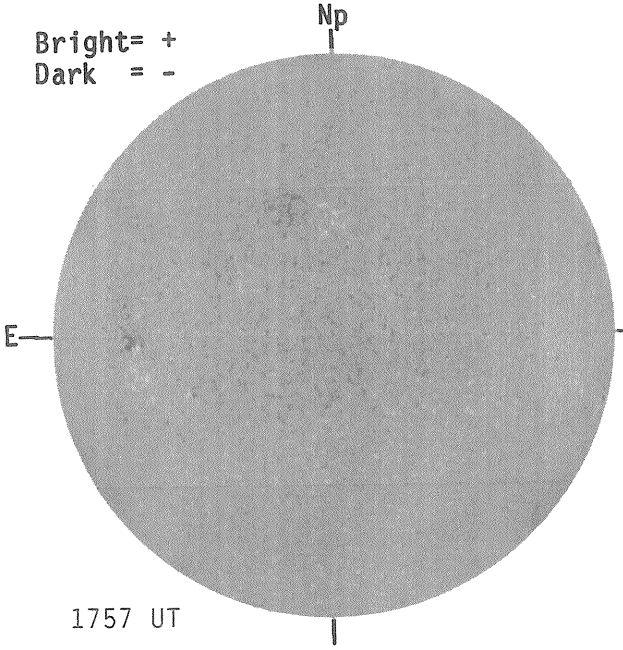


—— 5303A(x1) 1608 UT
xxxx 5694A(x6) 1532 UT
No 5694 Activity Today

F E B R U A R Y 06, 1 9 8 5 (P -14.19, B_0=-6.26, L_0= 197.14)

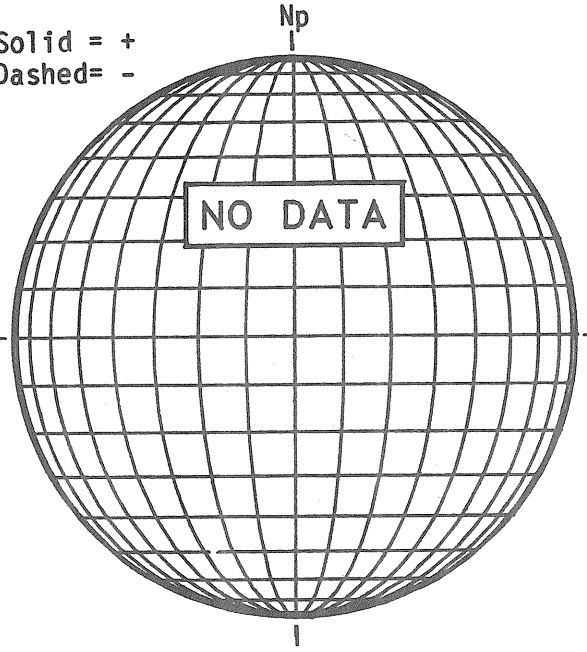
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

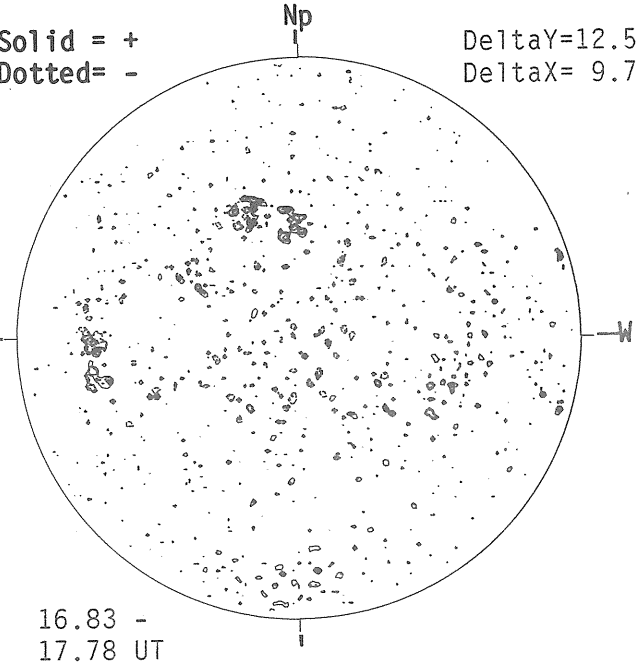
Solid = +
Dashed= -



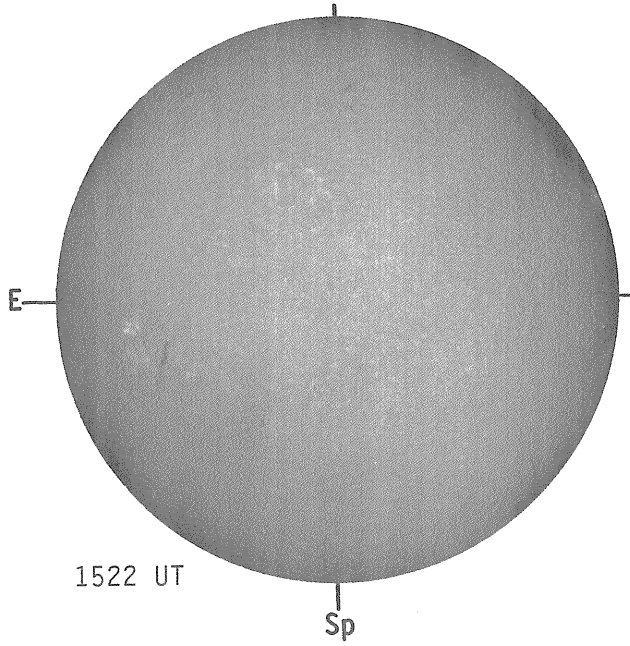
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

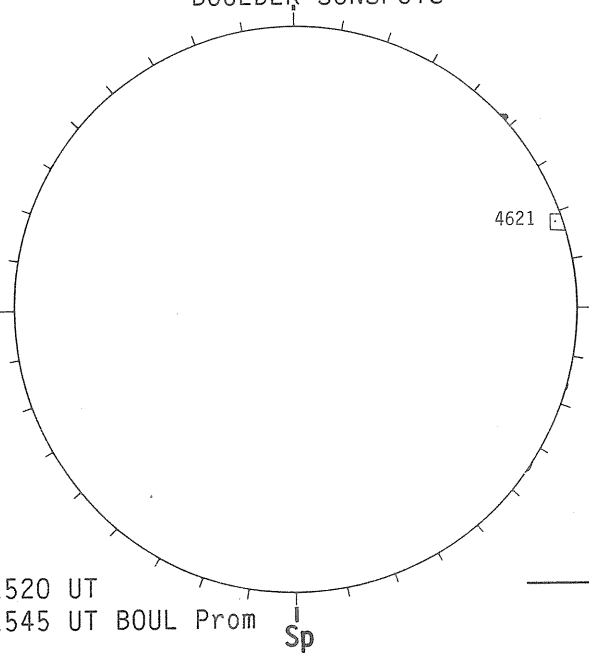
DeltaY=12.5
DeltaX= 9.7



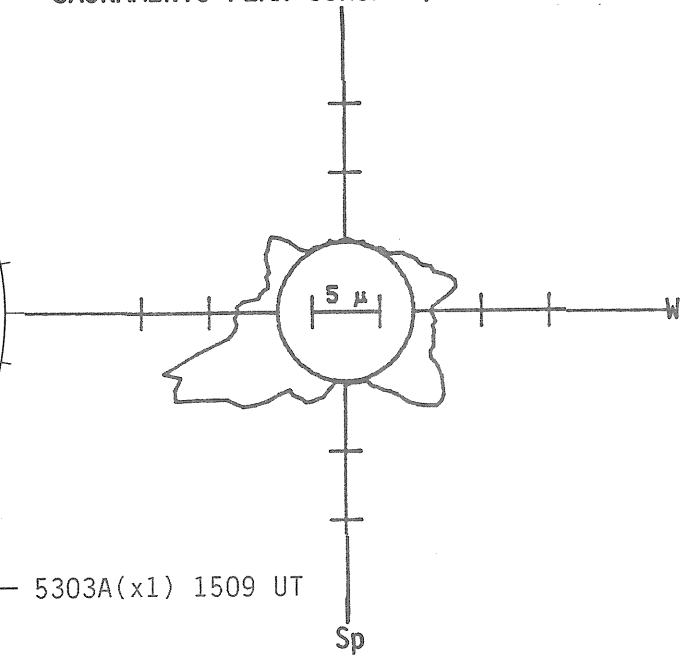
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

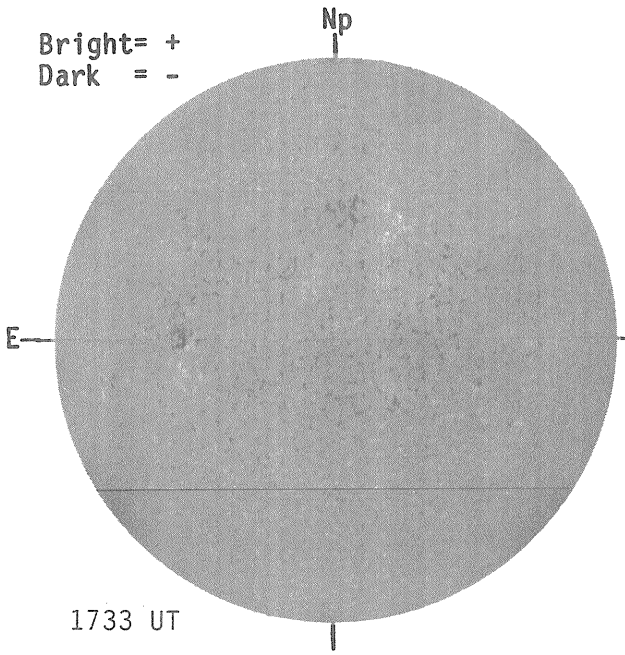


—— 5303A(x1) 1509 UT

F E B R U A R Y 07, 1 9 8 5 (P -14.57, B_0=-6.32, L_0= 183.97)

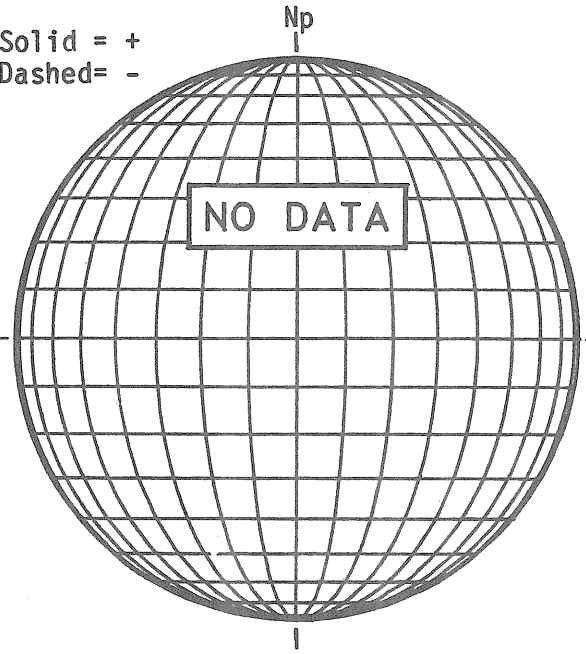
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

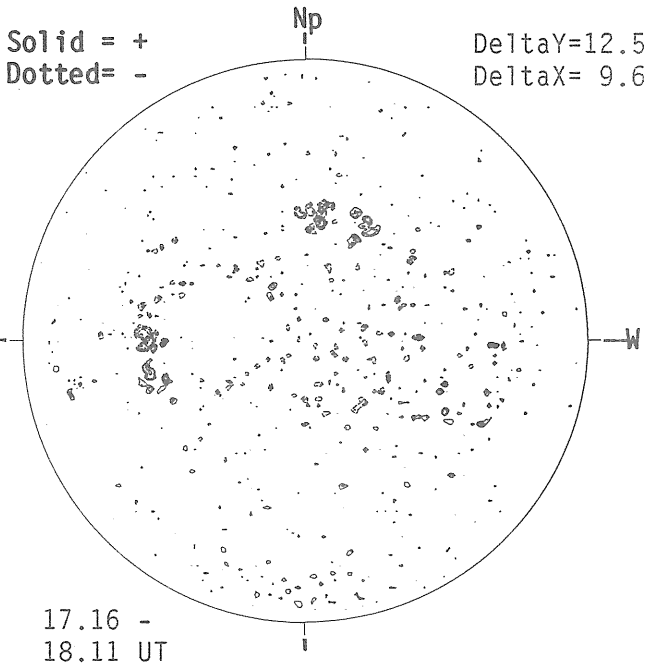
Solid = +
Dashed= -



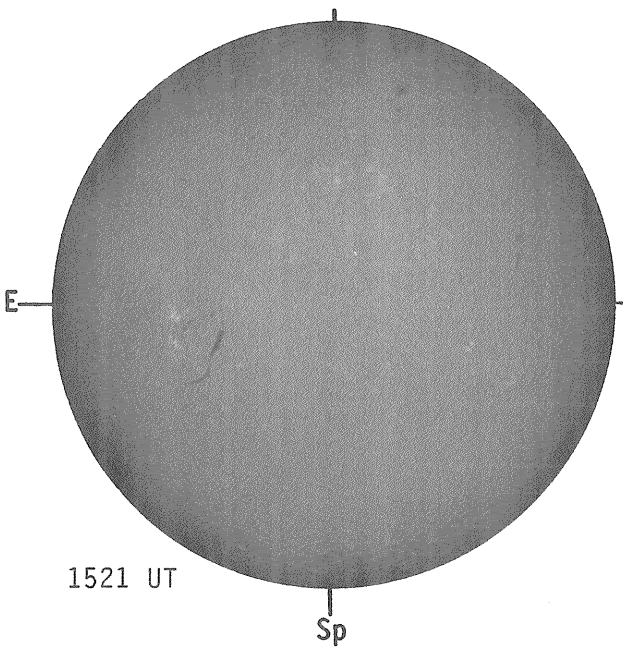
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

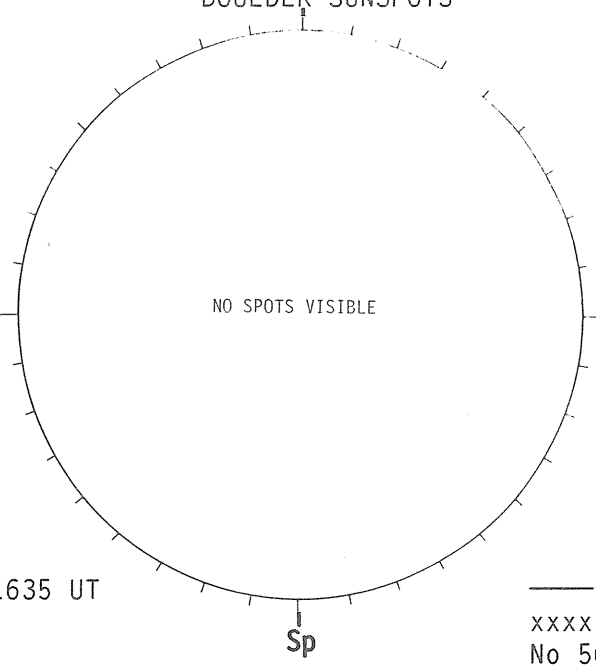
DeltaY=12.5
DeltaX= 9.6



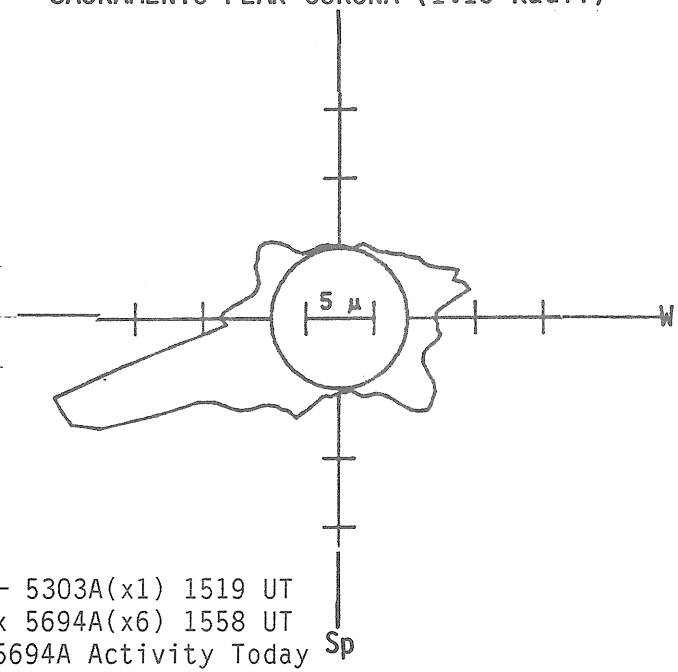
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

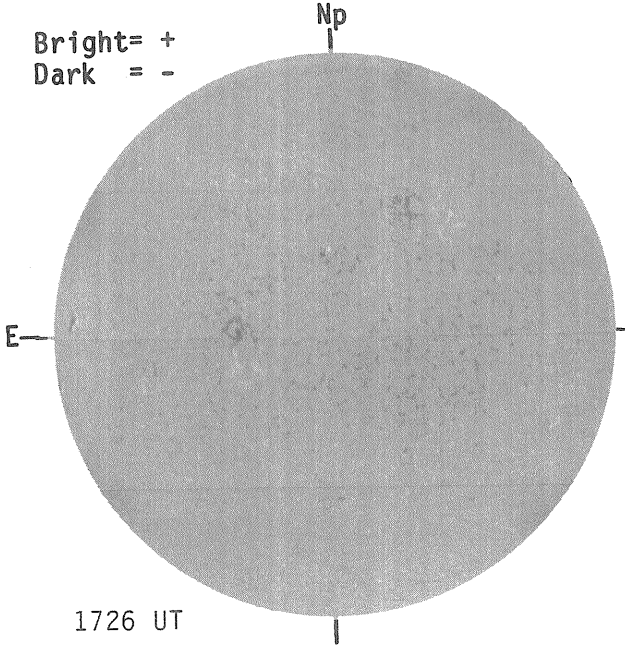


—— 5303A(x1) 1519 UT
xxxx 5694A(x6) 1558 UT
No 5694A Activity Today

F E B R U A R Y 08, 1 9 8 5 (P -14.94, B_0=-6.38, L_0= 170.80)

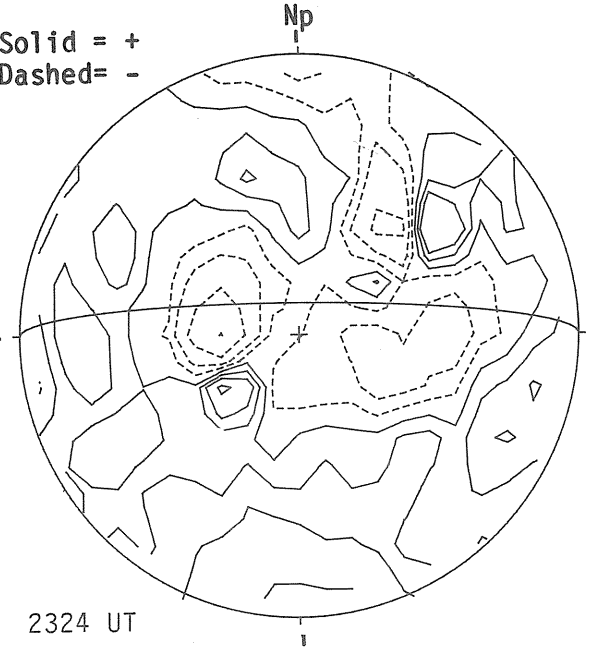
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



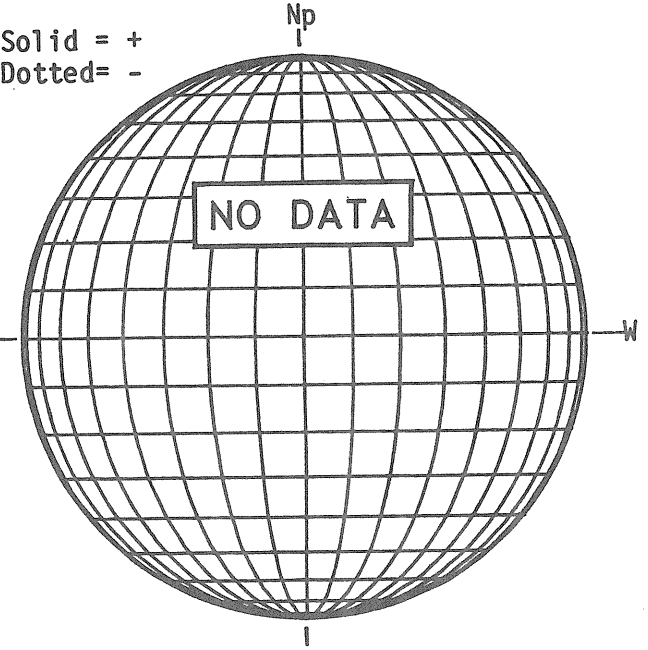
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

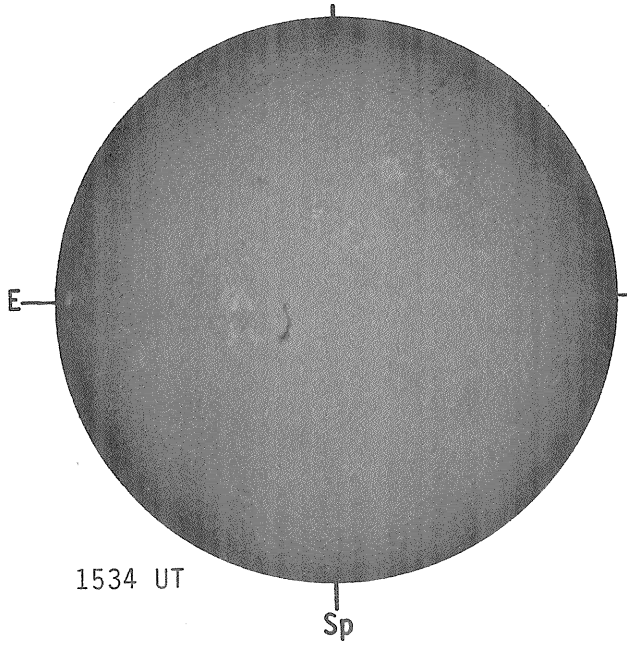


MT. WILSON MAGNETOGRAM

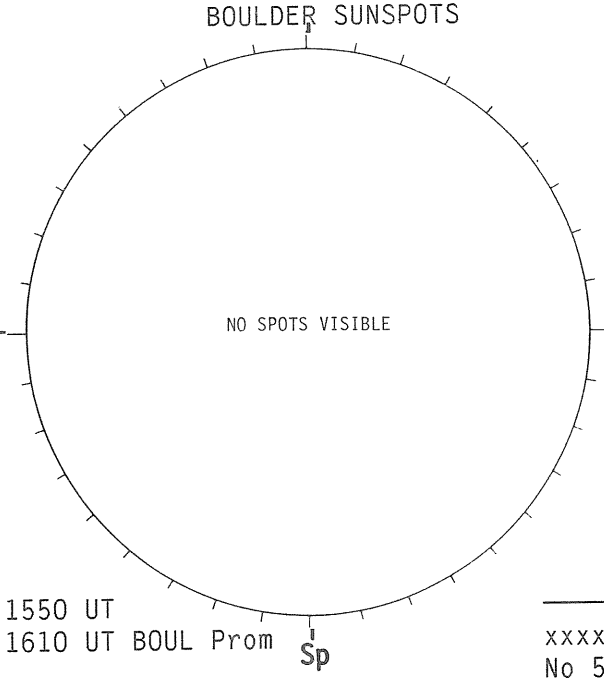
Solid = +
Dotted= -



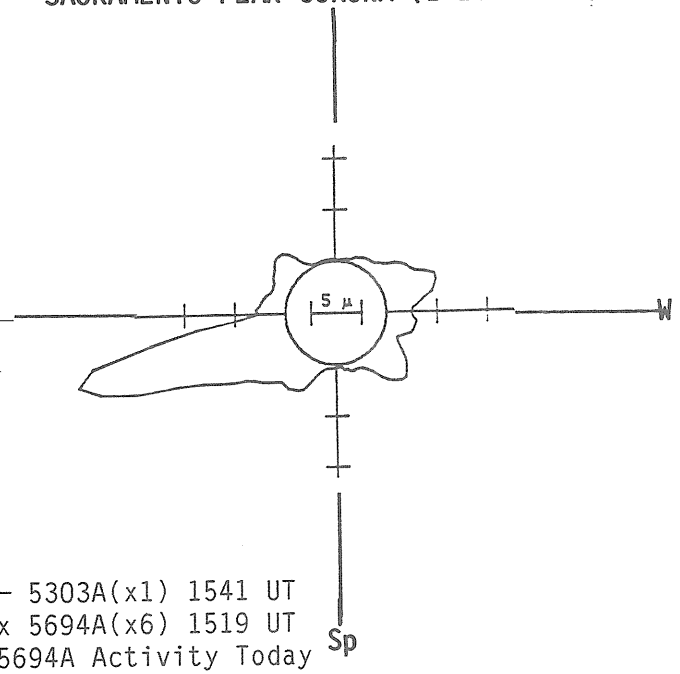
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

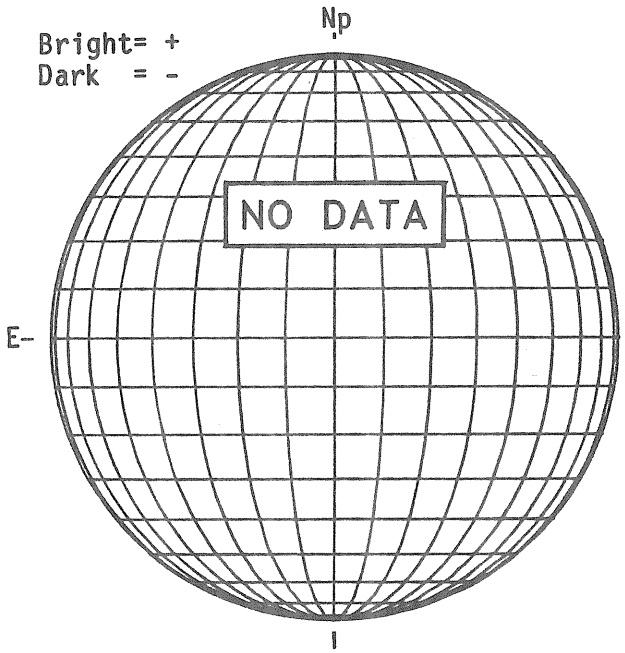


—— 5303A(x1) 1541 UT
xxxx 5694A(x6) 1519 UT
No 5694A Activity Today

F E B R U A R Y 09, 1 9 8 5 (P -15.31, B_0=-6.44, L_0= 157.64)

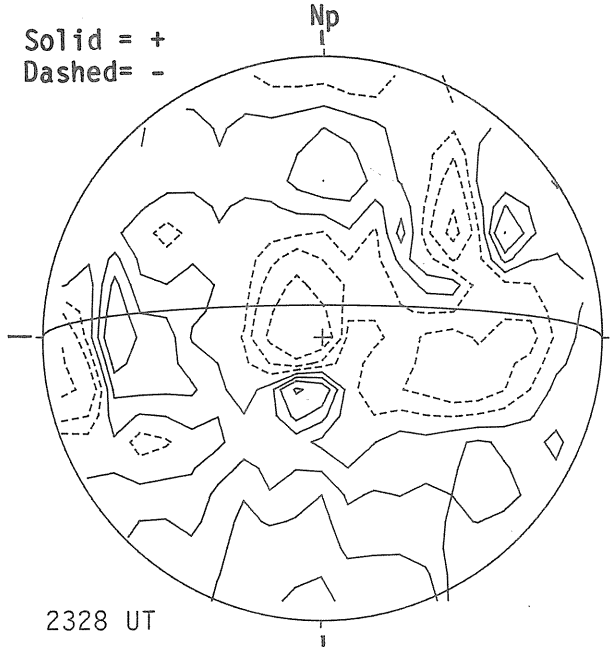
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



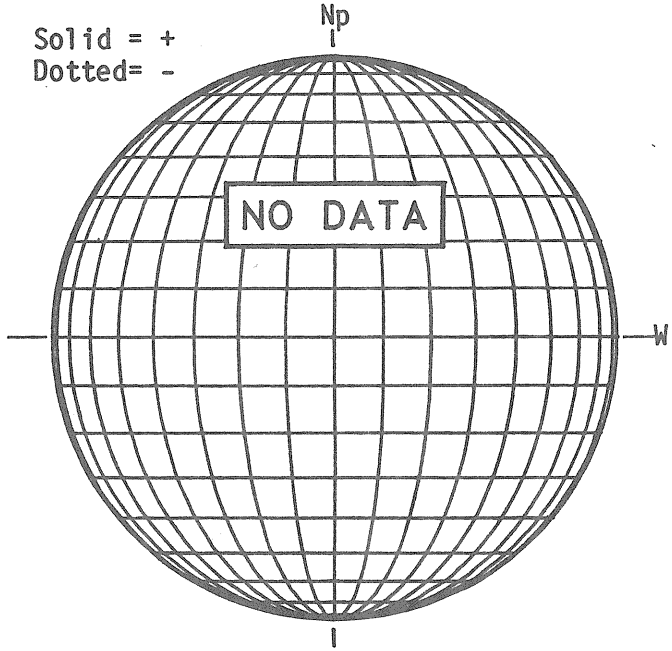
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

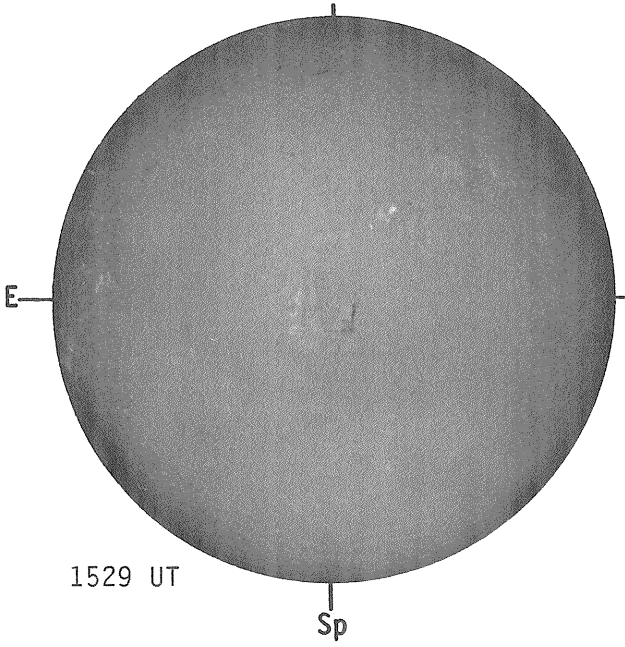


MT. WILSON MAGNETOGRAM

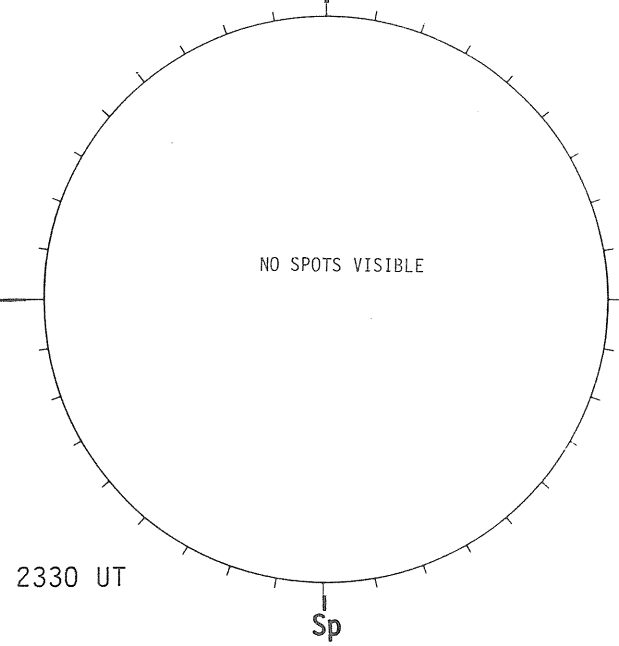
Solid = +
Dotted= -



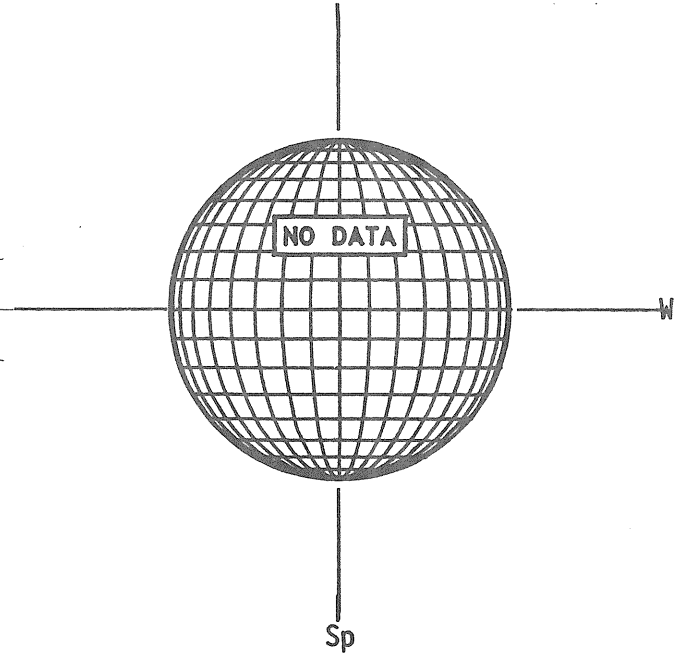
SACRAMENTO PEAK H-ALPHA



HOLLOMAN SUNSPOTS



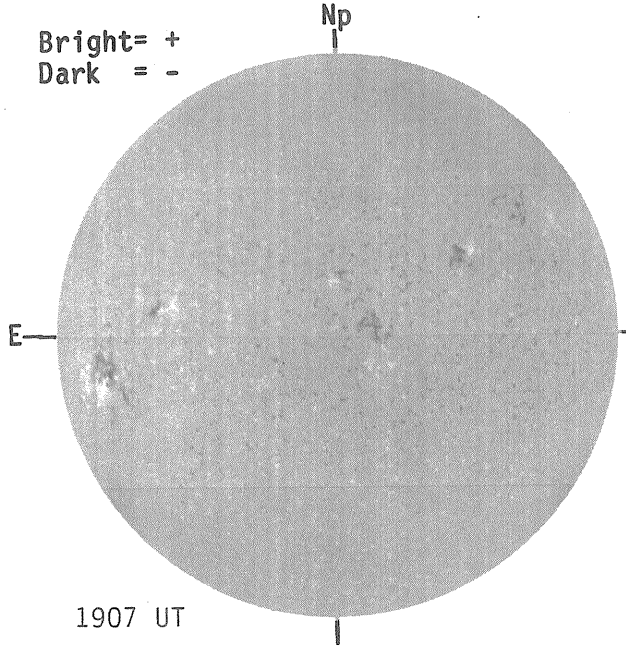
SACRAMENTO PEAK CORONA (1.15 Radii)



F E B R U A R Y 10, 1 9 8 5 (P -15.67, B_0=-6.49, L_0= 144.47)

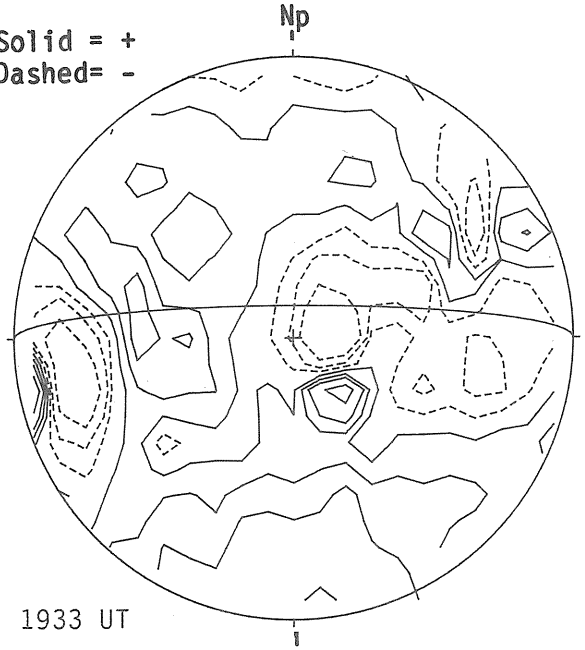
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

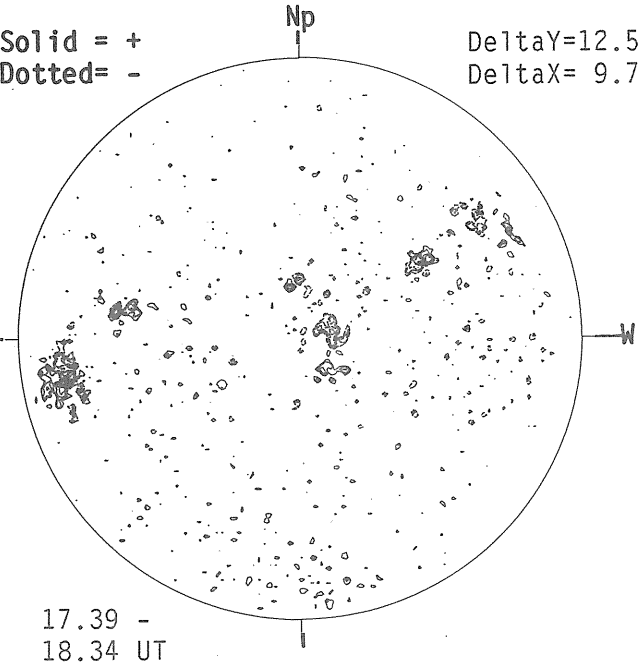
Solid = +
Dashed= -



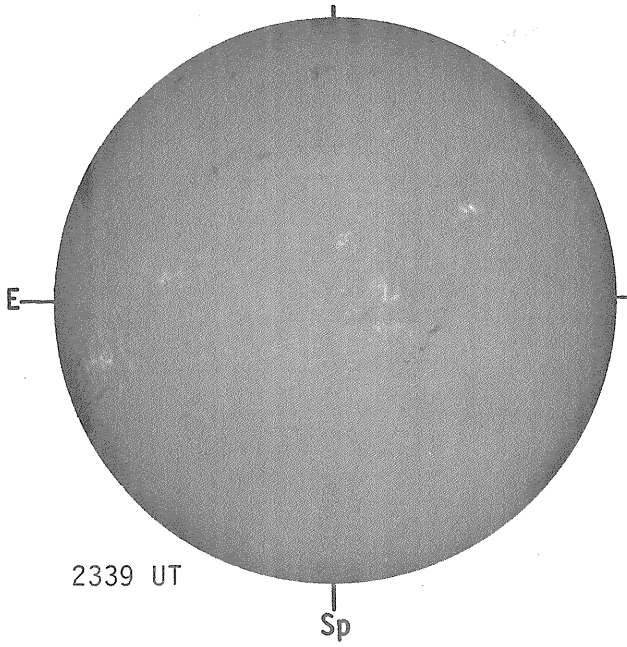
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

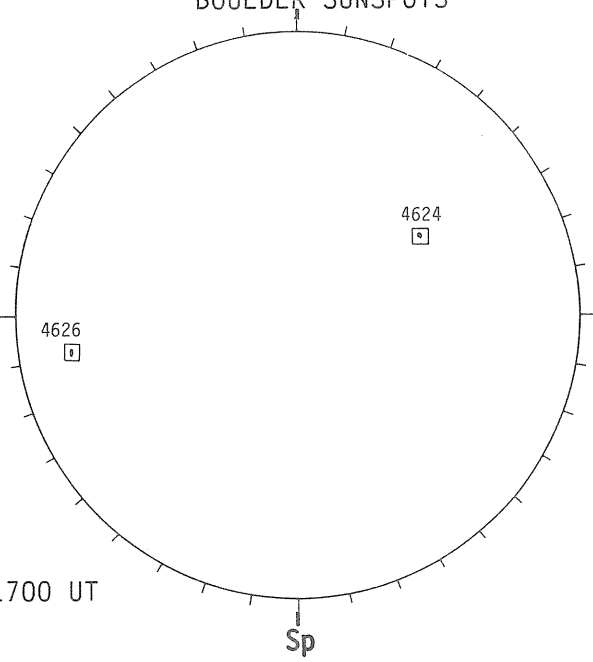
DeltaY=12.5
DeltaX= 9.7



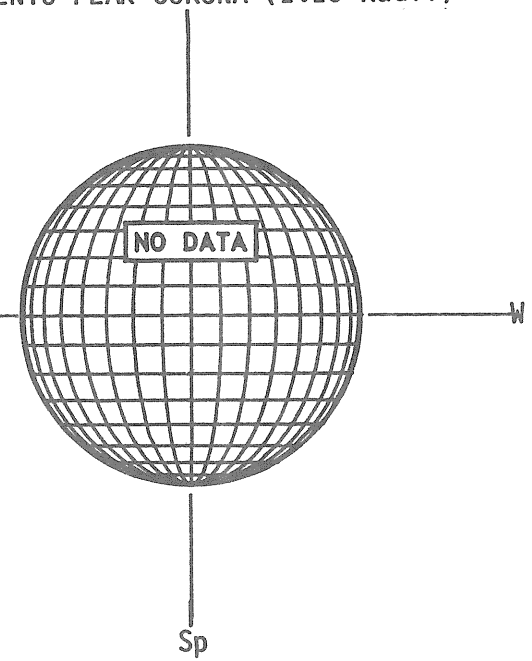
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



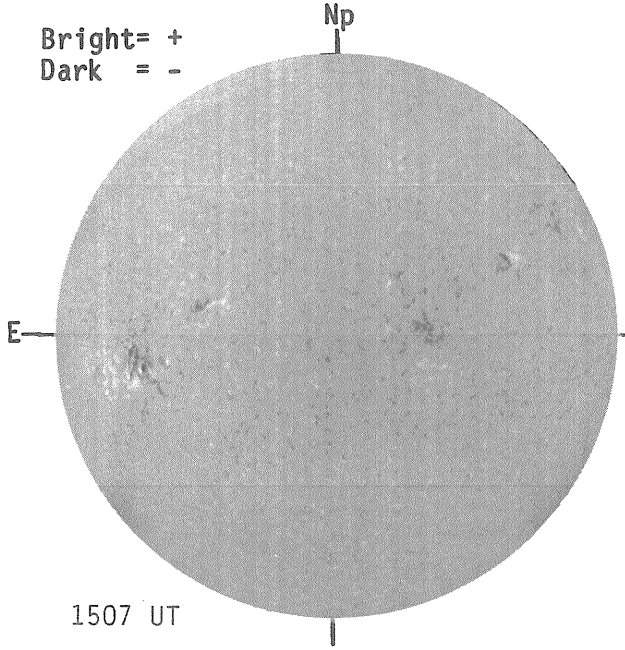
SACRAMENTO PEAK CORONA (1.15 Radii)



F E B R U A R Y 11, 1 9 8 5 (P -16.03, B_0=-6.54, L_0= 131.30)

KITT PEAK MAGNETOGRAM

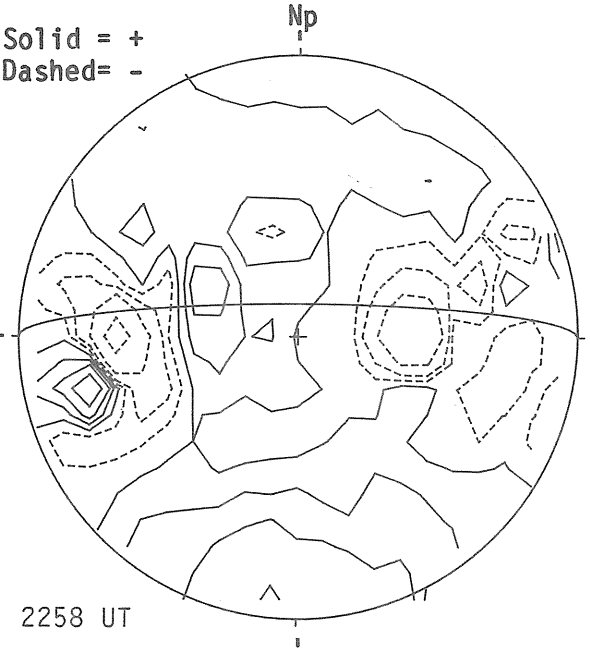
Bright= +
Dark = -



1507 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

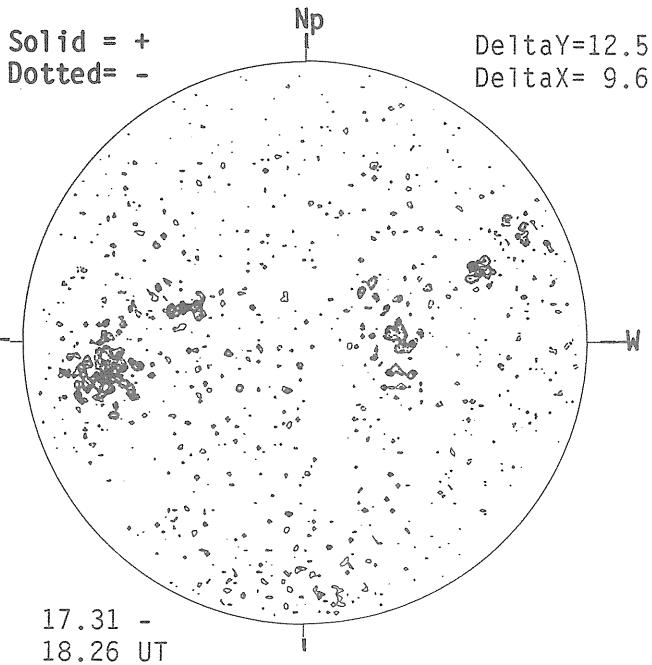


2258 UT

MT. WILSON MAGNETOGRAM

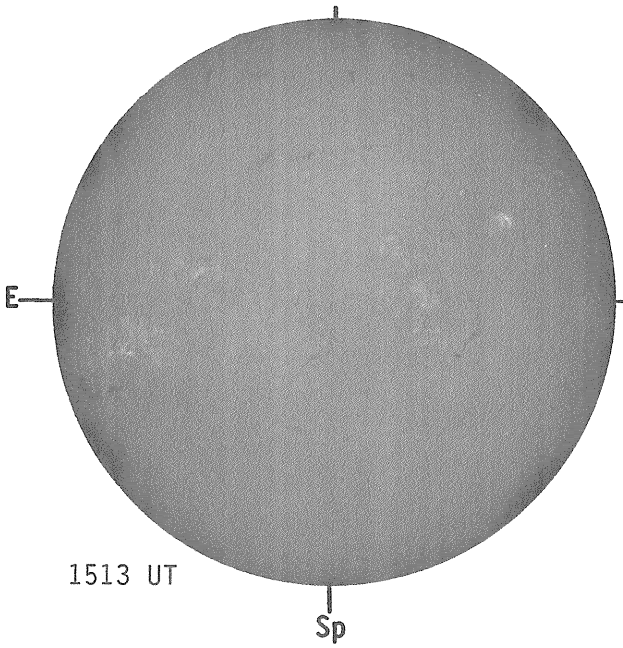
Solid = +
Dotted= -

DeltaY=12.5
DeltaX= 9.6



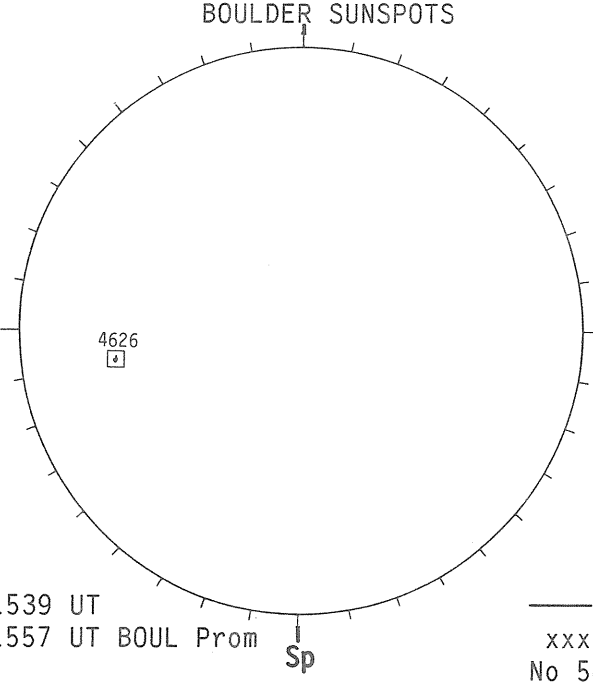
17.31 -
18.26 UT

SACRAMENTO PEAK H-ALPHA



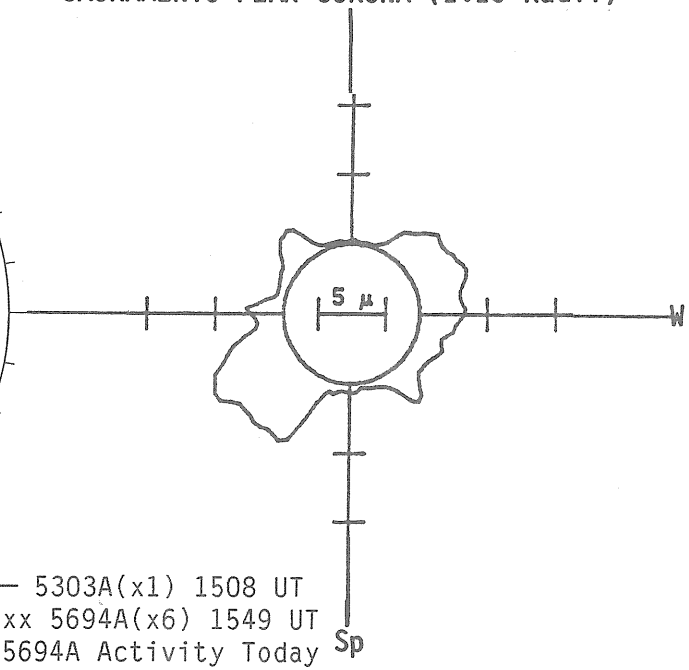
1513 UT

BOULDER SUNSPOTS



1539 UT
1557 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

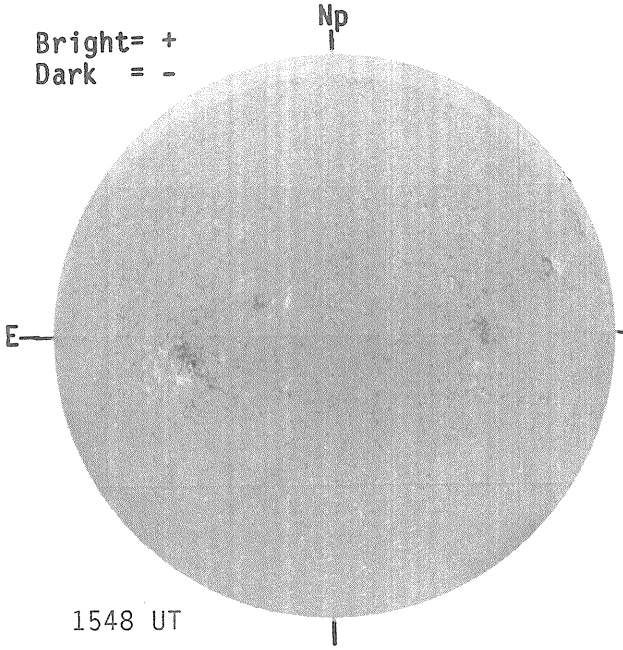


—— 5303A(x1) 1508 UT
xxxx 5694A(x6) 1549 UT
No 5694A Activity Today

F E B R U A R Y 12, 1 9 8 5 (P -16.39, B_0=-6.59, L_0= 118.13)

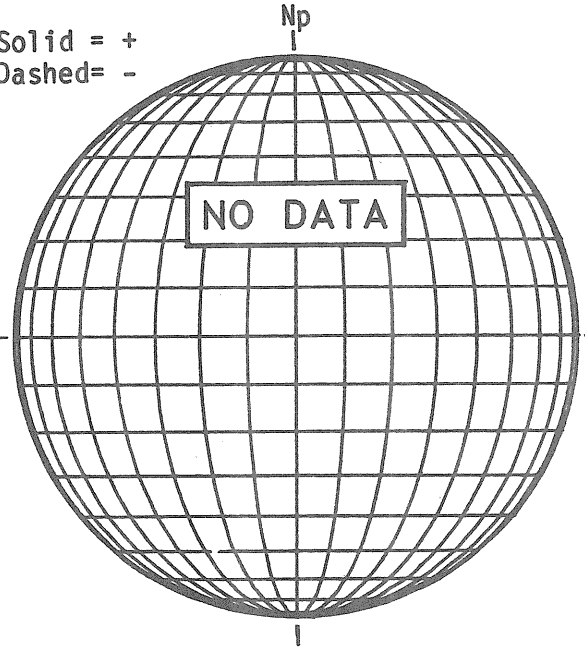
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

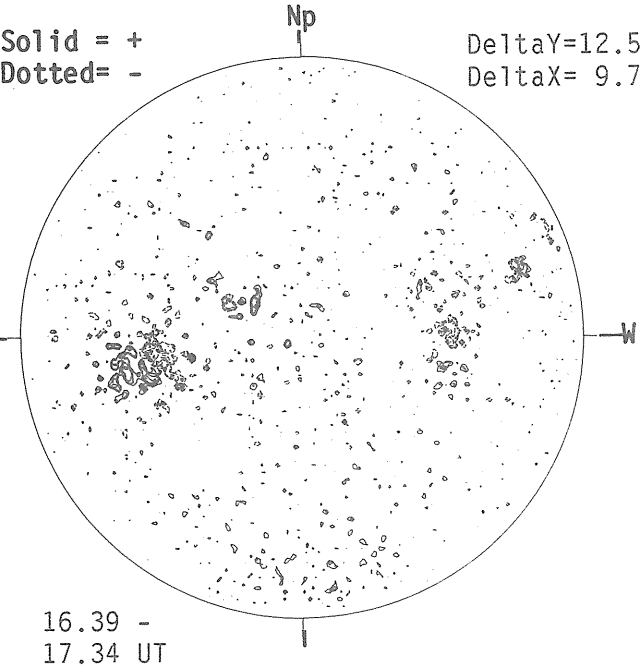
Solid = +
Dashed= -



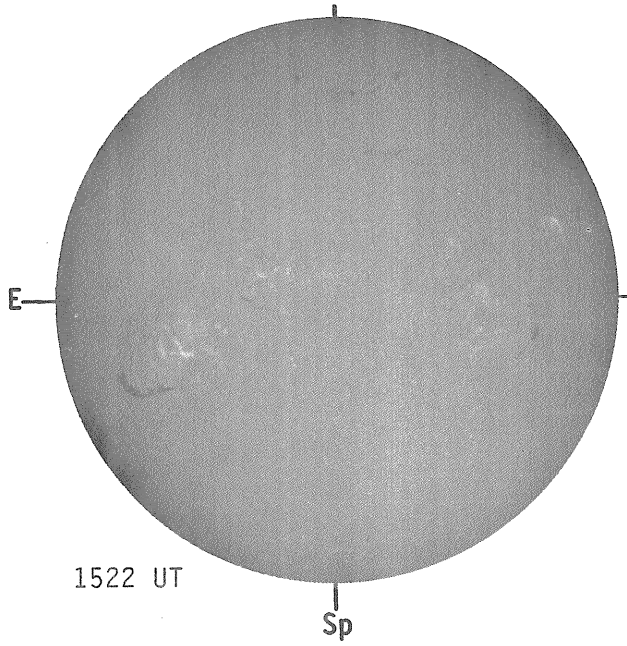
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

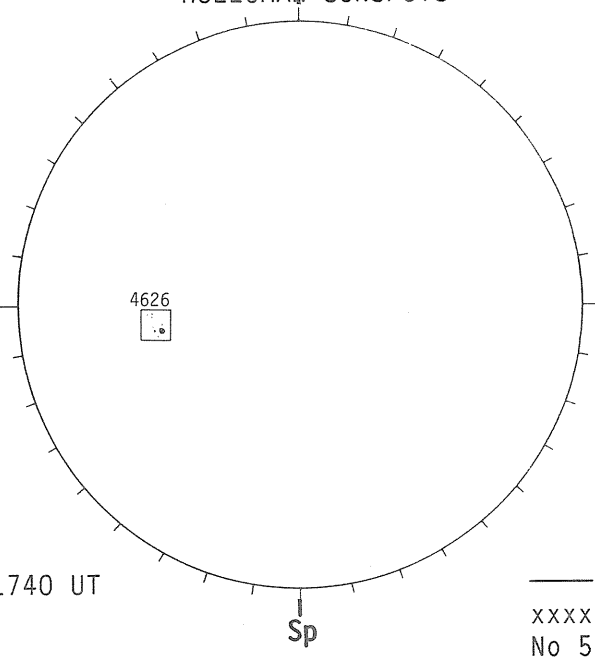
DeltaY=12.5
DeltaX= 9.7



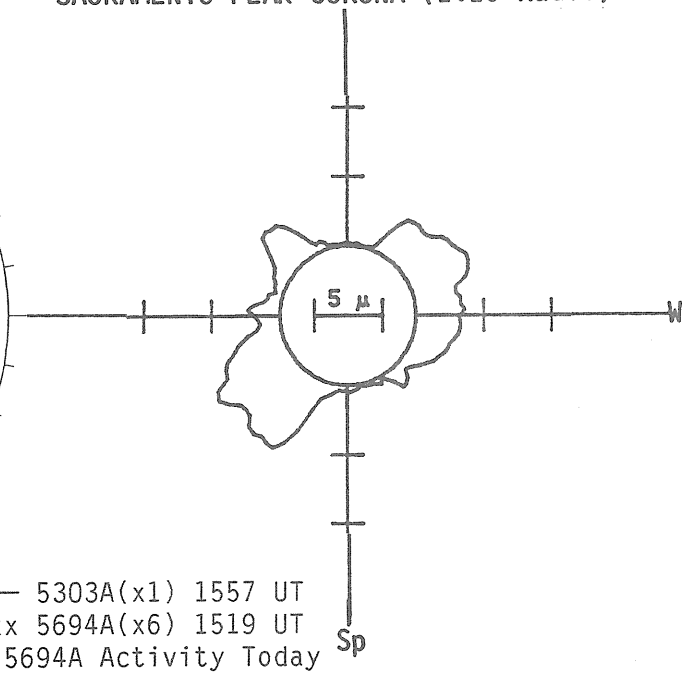
SACRAMENTO PEAK H-ALPHA



HOLLOMAN SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

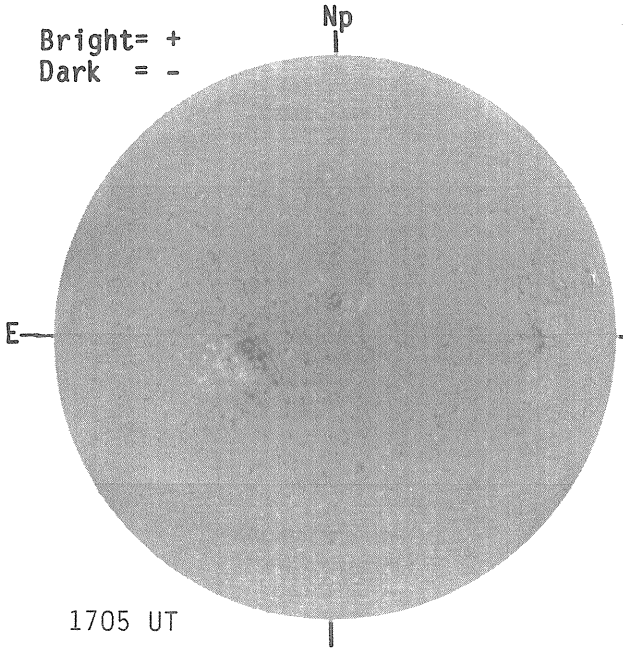


—— 5303A(x1) 1557 UT
xxxx 5694A(x6) 1519 UT
No 5694A Activity Today

F E B R U A R Y 13, 1 9 8 5 (P -16.74, B_0=-6.64, L_0= 104.97)

KITT PEAK MAGNETOGRAM

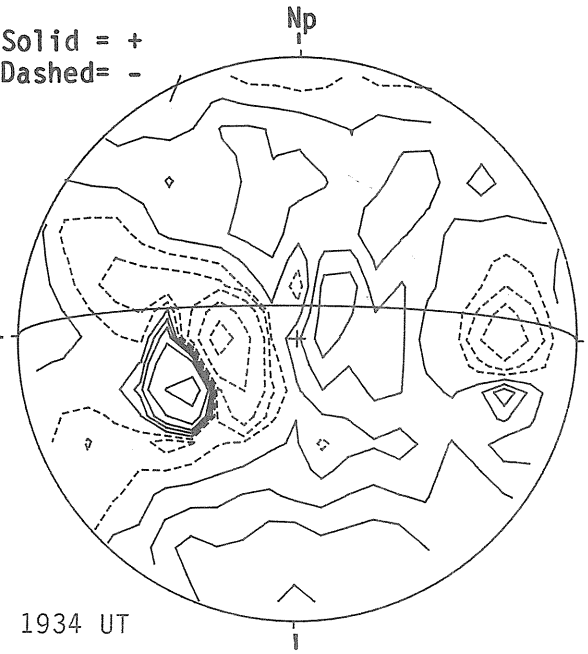
Bright= +
Dark = -



1705 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

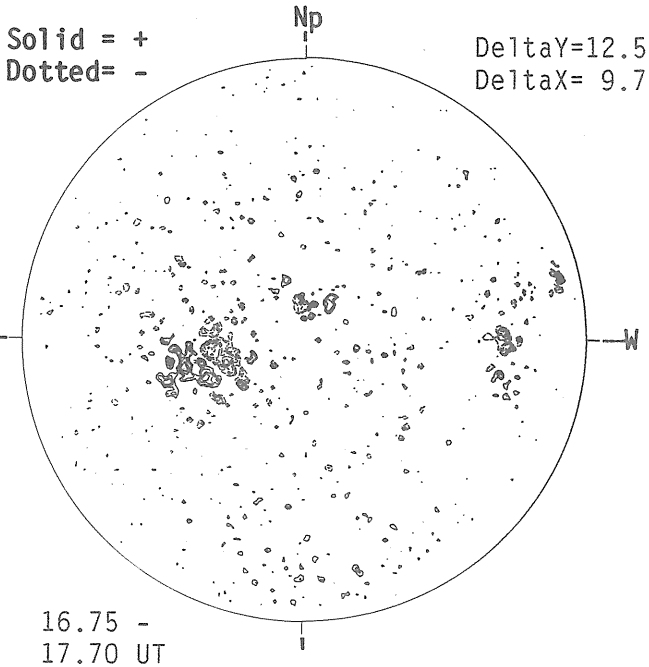


1934 UT

MT. WILSON MAGNETOGRAM

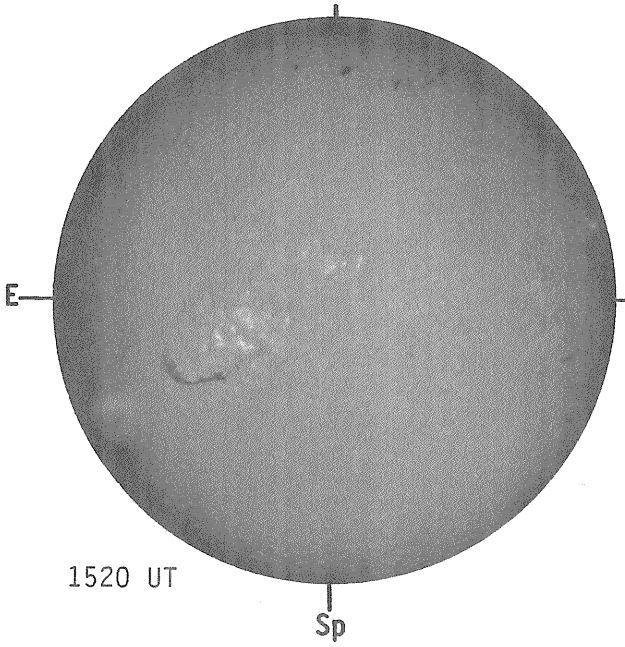
Solid = +
Dotted= -

DeltaY=12.5
DeltaX= 9.7



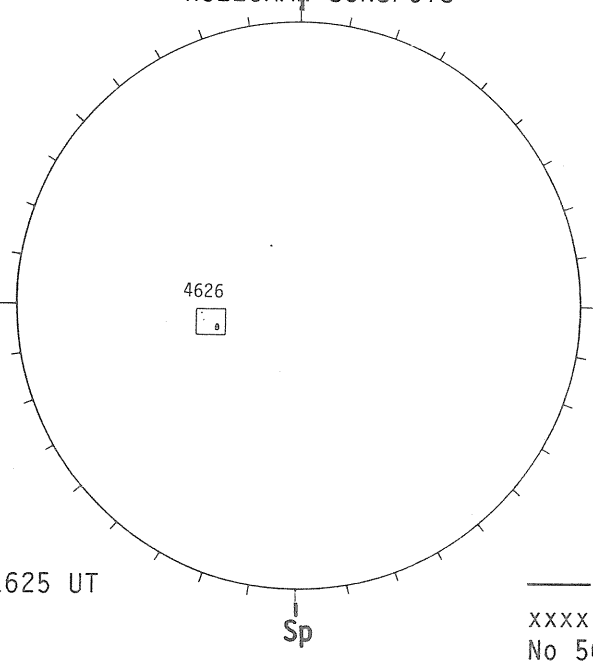
16.75 -
17.70 UT

SACRAMENTO PEAK H-ALPHA



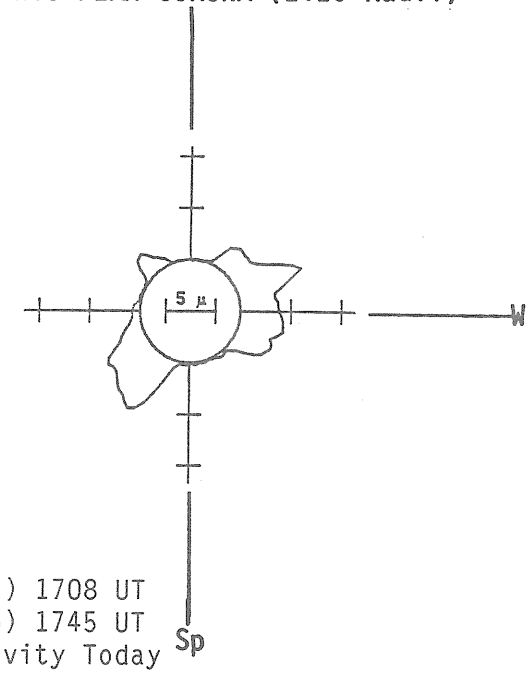
1520 UT

HOLLOMAN SUNSPOTS



1625 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

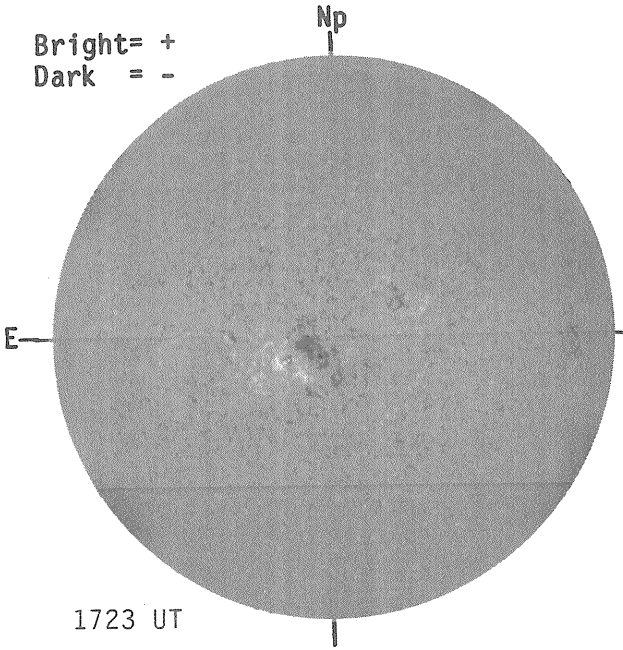


—— 5303A(x1) 1708 UT
xxxx 5694A(x6) 1745 UT
No 5694A Activity Today

F E B R U A R Y 14, 1 9 8 5 (P -17.08, B_0=-6.68, L_0= 91.80)

KITT PEAK MAGNETOGRAM

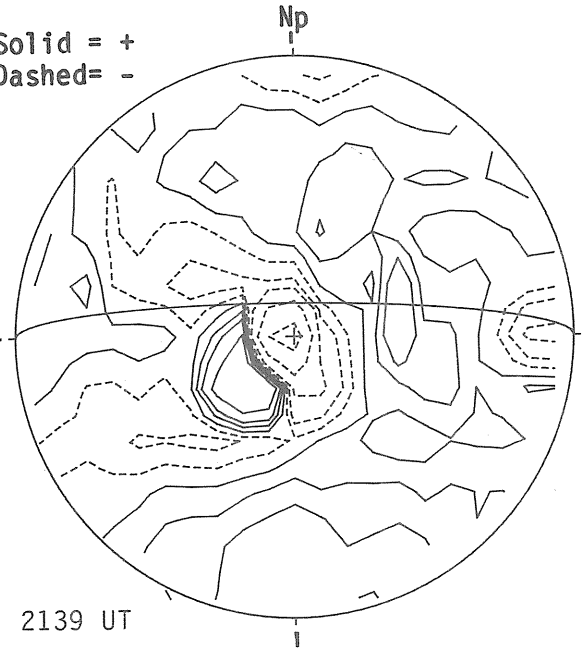
Bright= +
Dark = -



1723 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

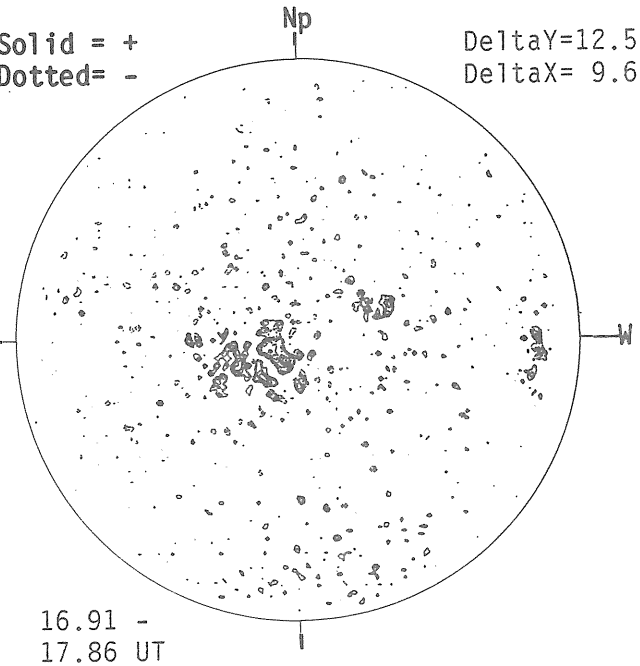


2139 UT

MT. WILSON MAGNETOGRAM

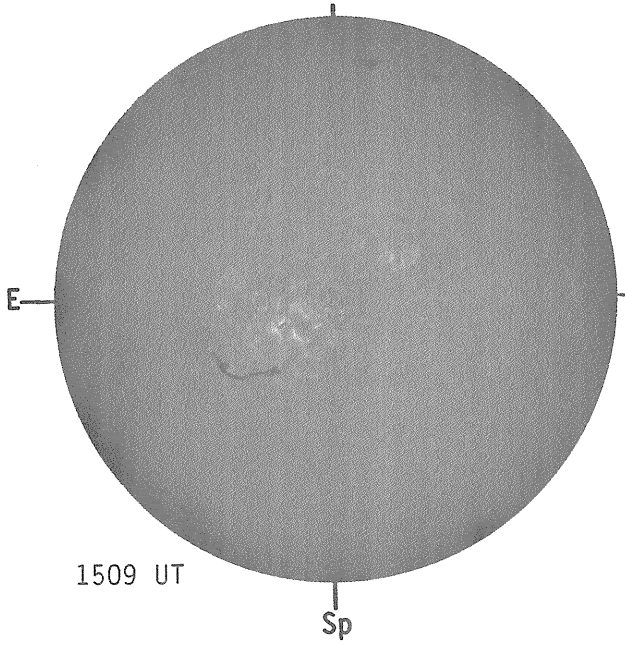
Solid = +
Dotted= -

DeltaY=12.5
DeltaX= 9.6



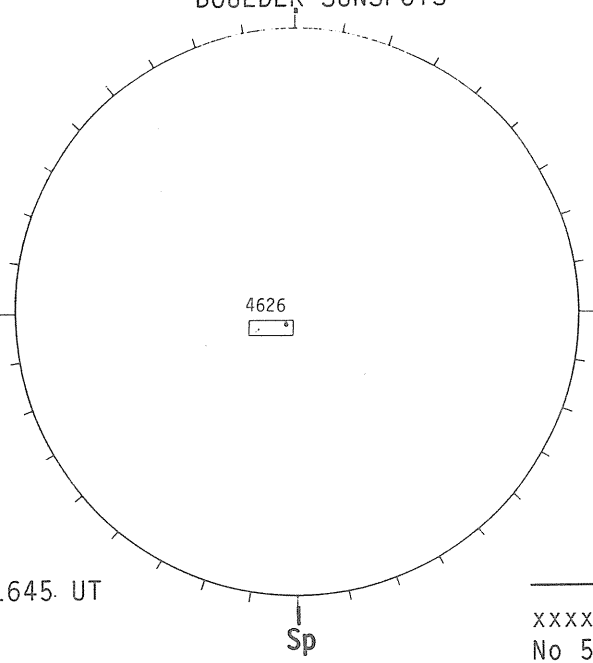
16.91 -
17.86 UT

SACRAMENTO PEAK H-ALPHA



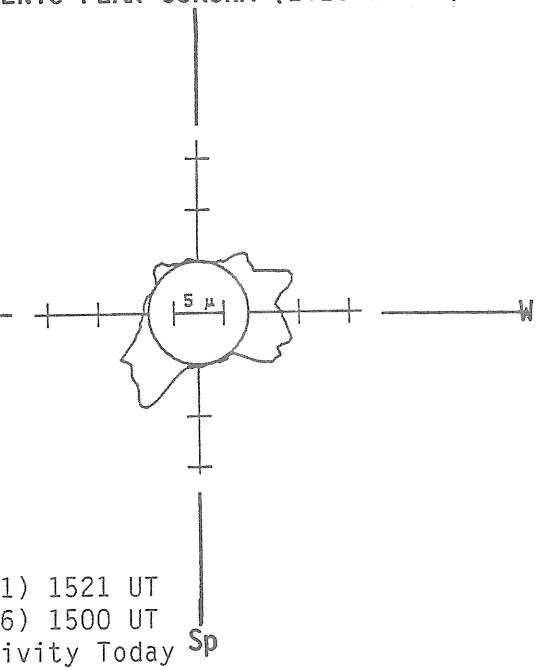
1509 UT

BOULDER SUNSPOTS



1645 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

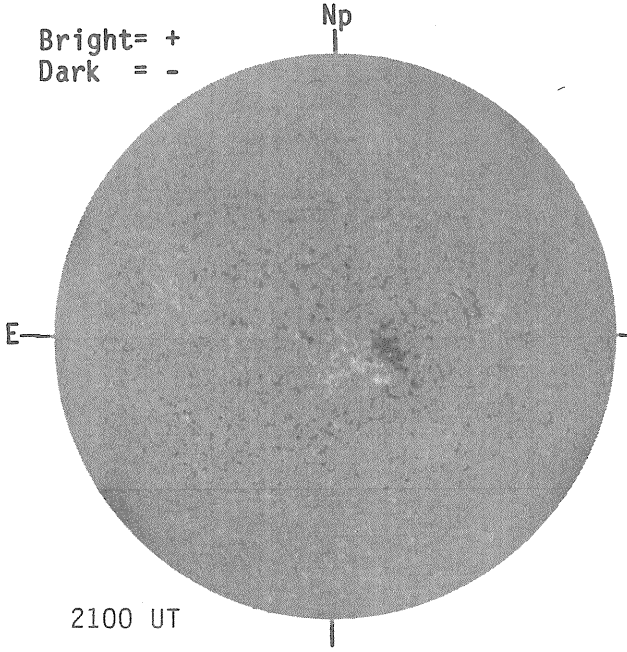


—— 5303A(x1) 1521 UT
xxxx 5694A(x6) 1500 UT
No 5694A Activity Today

F E B R U A R Y 15, 1 9 8 5 (P -17.42, B_o=-6.73, L_o= 78.63)

KITT PEAK MAGNETOGRAM

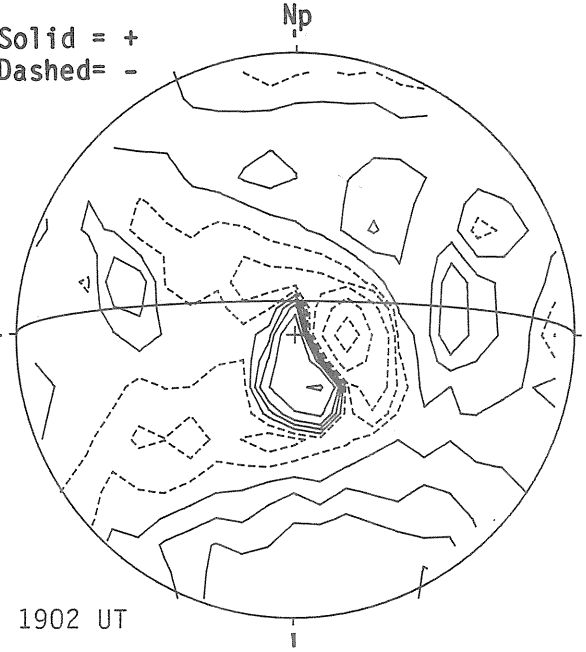
Bright= +
Dark = -



2100 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

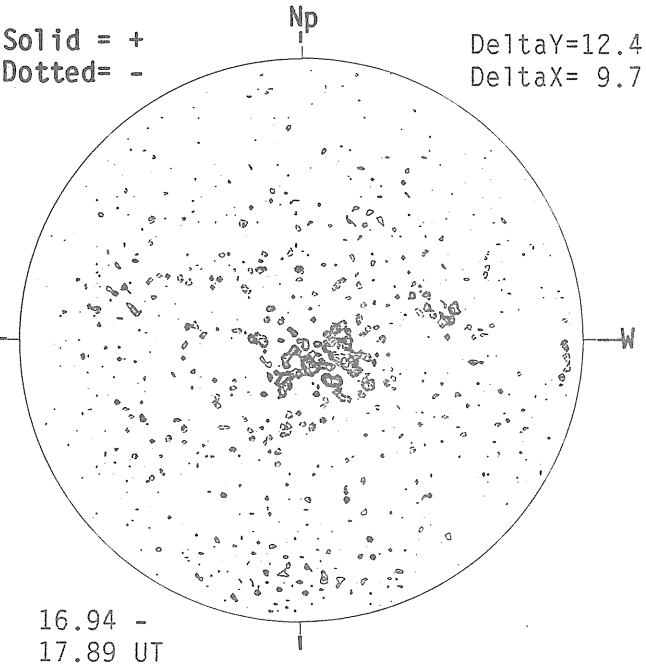


1902 UT

MT. WILSON MAGNETOGRAM

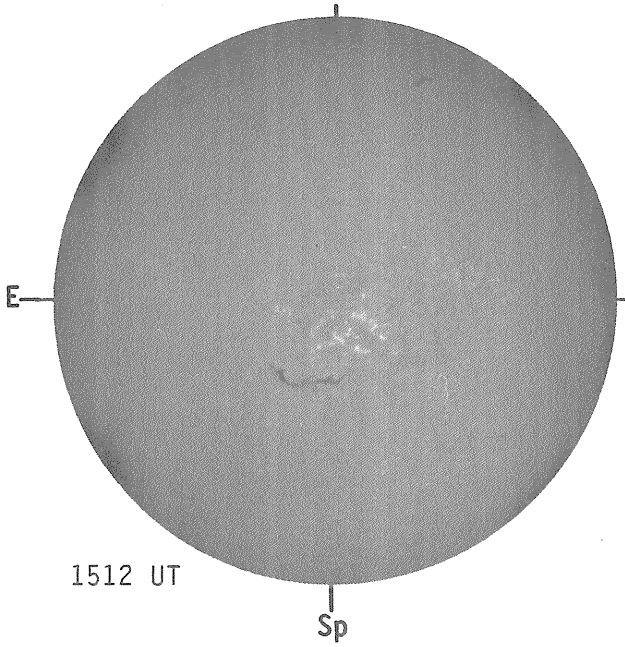
Solid = +
Dotted= -

DeltaY=12.4
DeltaX= 9.7



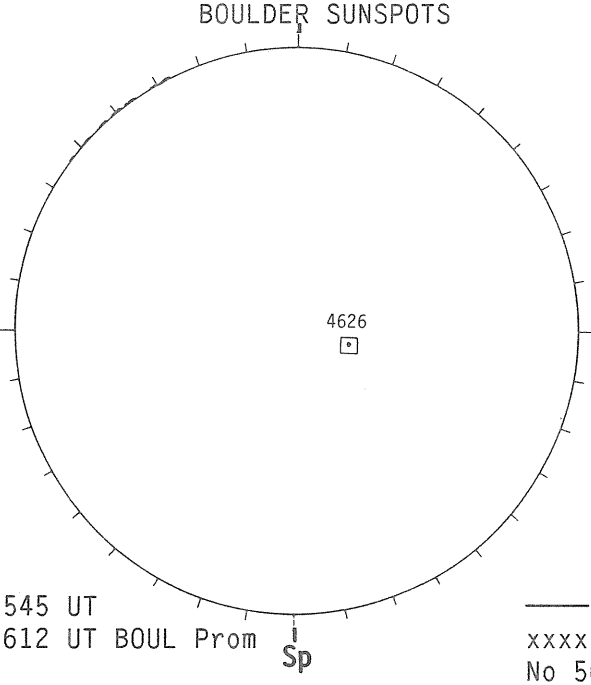
16.94 -
17.89 UT

SACRAMENTO PEAK H-ALPHA



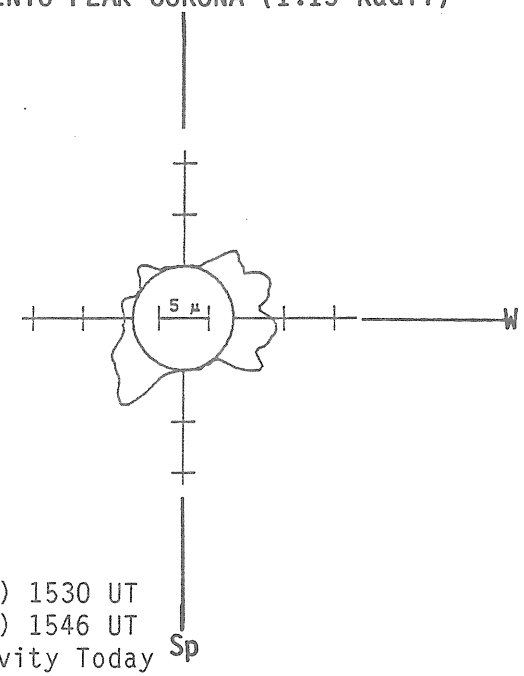
1512 UT

BOULDER SUNSPOTS



1545 UT
1612 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

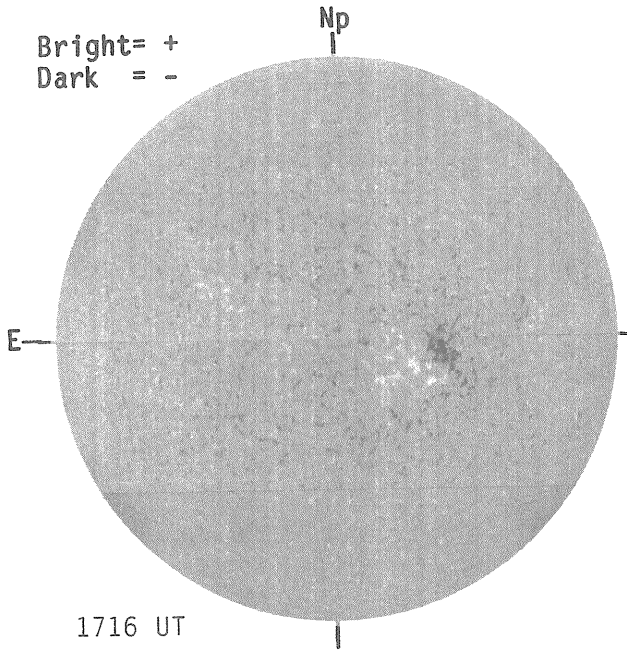


—— 5303A(x1) 1530 UT
xxxx 5694A(x6) 1546 UT
No 5694A Activity Today

F E B R U A R Y 16, 1 9 8 5 (P -17.75, B_0=-6.77, L_0= 65.46)

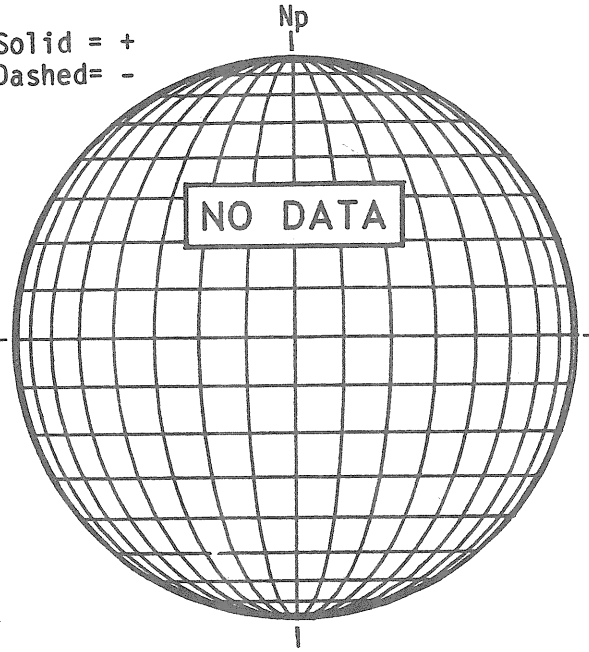
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

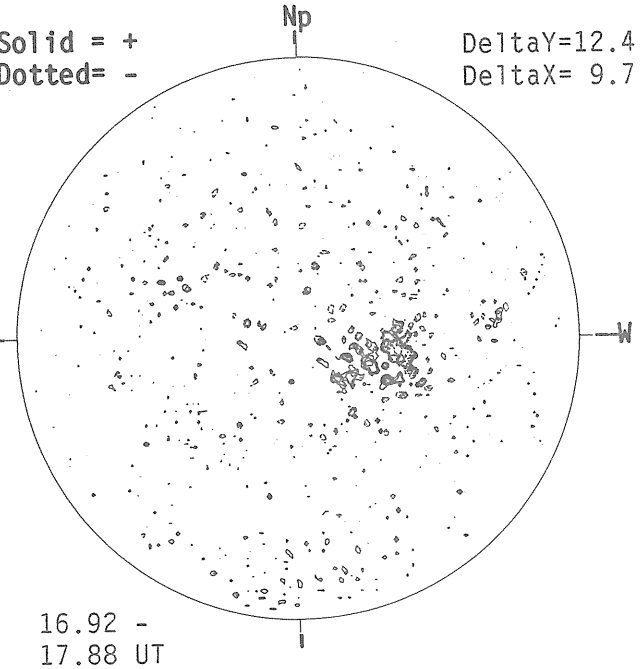
Solid = +
Dashed= -



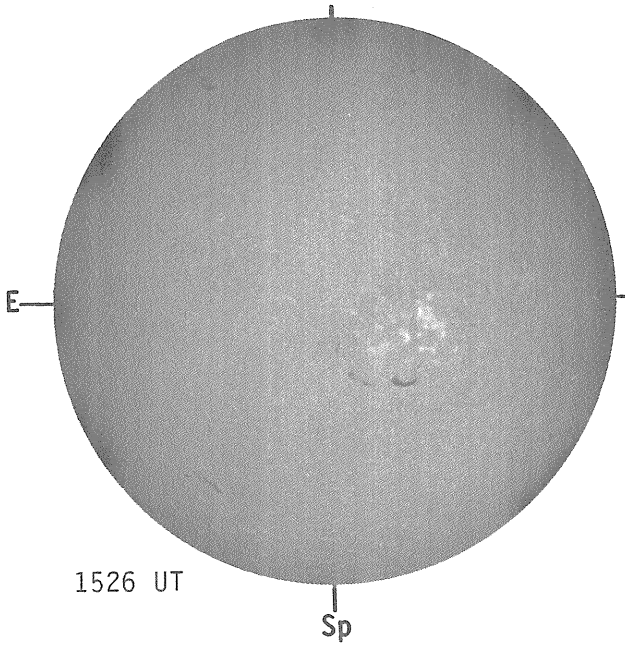
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

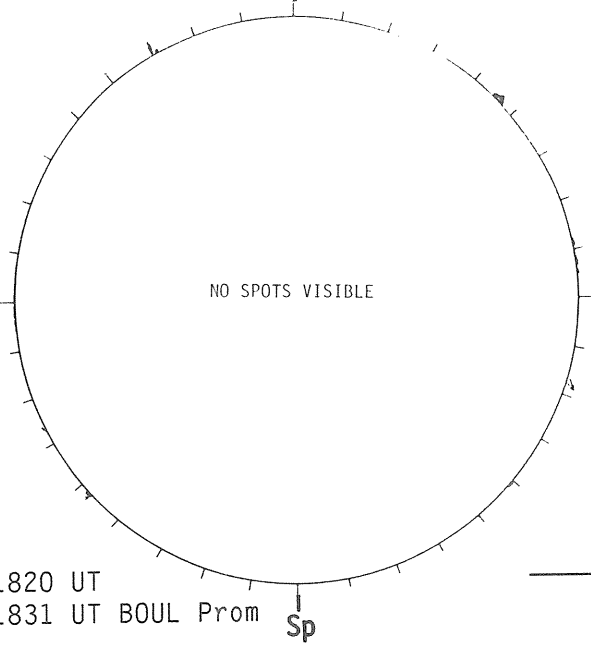
DeltaY=12.4
DeltaX= 9.7



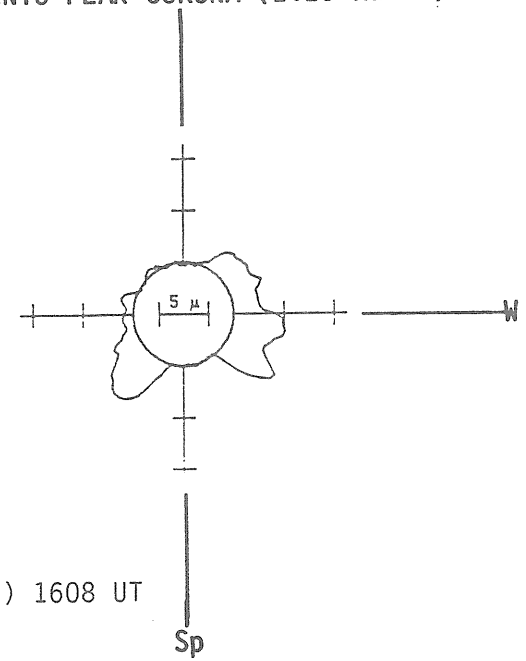
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

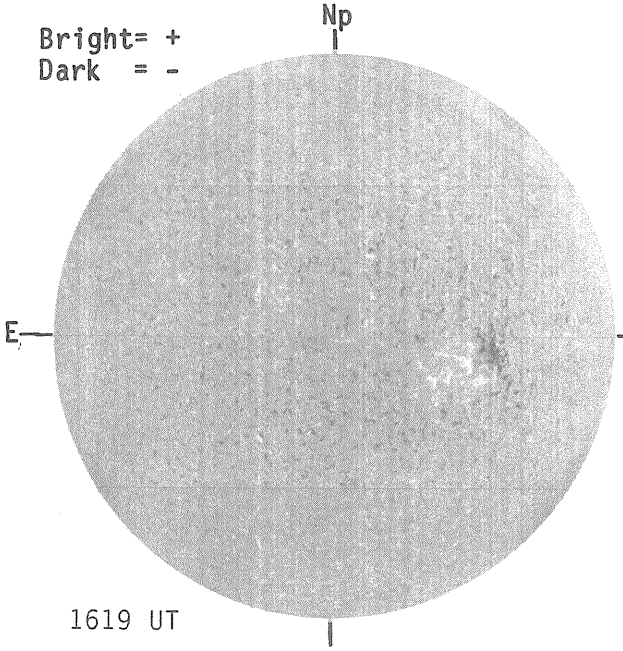


—— 5303A(x1) 1608 UT

F E B R U A R Y 17, 1 9 8 5 (P -18.07, B_o=-6.81, L_o= 52.29)

KITT PEAK MAGNETOGRAM

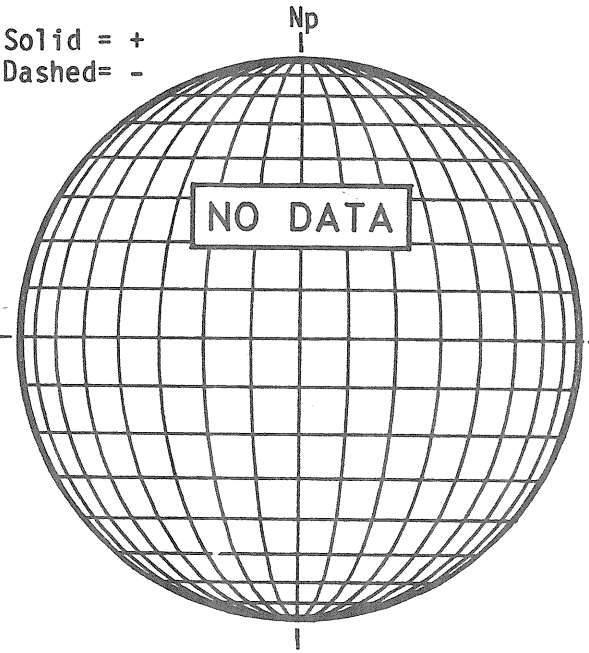
Bright= +
Dark = -



1619 UT

STANFORD MAGNETOGRAM

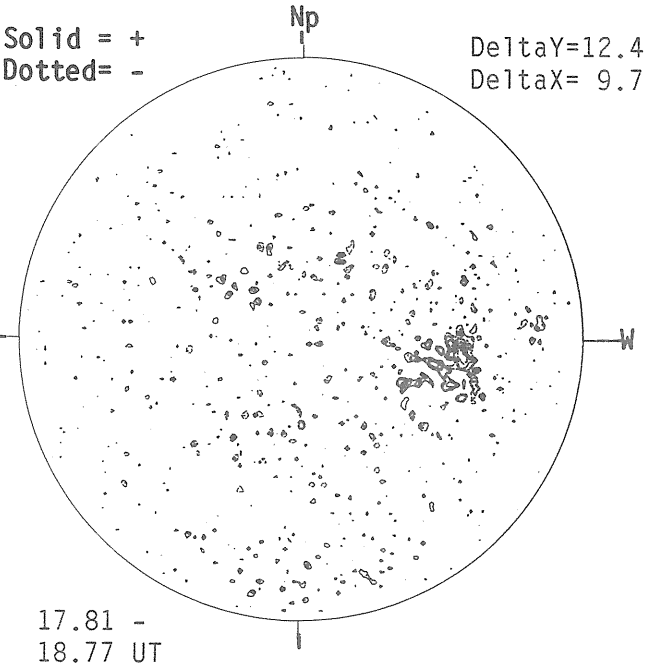
Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

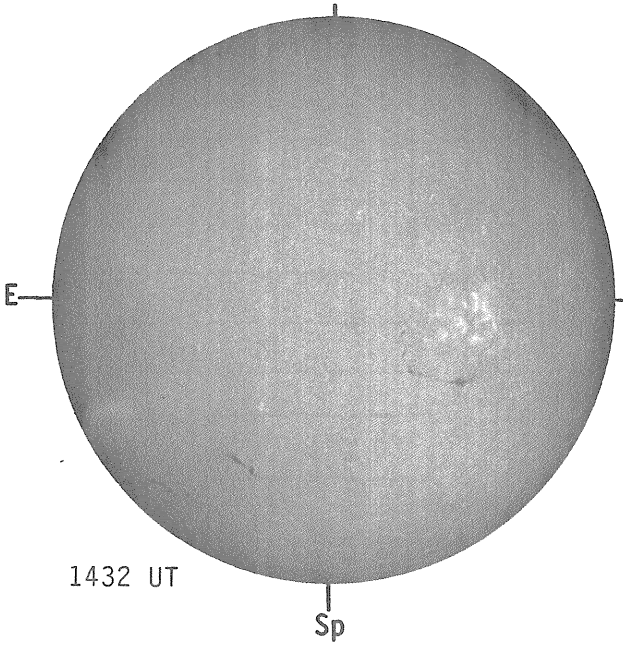
Solid = +
Dotted= -

DeltaY=12.4
DeltaX= 9.7



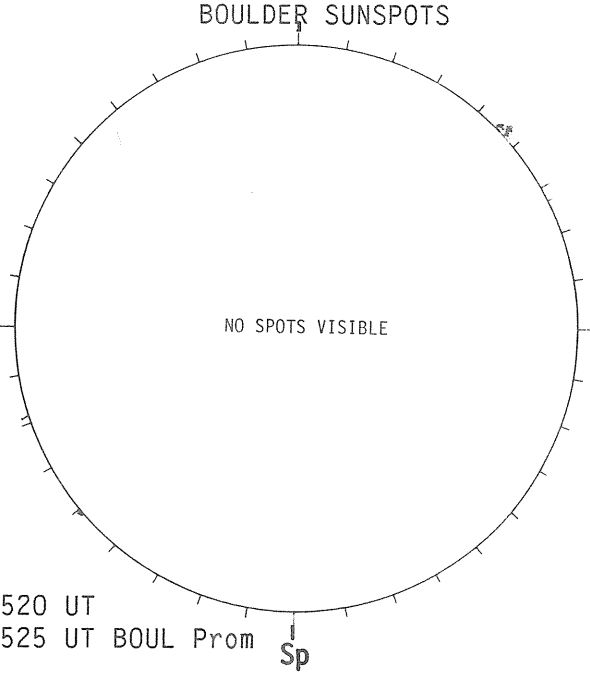
17.81 -
18.77 UT

SACRAMENTO PEAK H-ALPHA



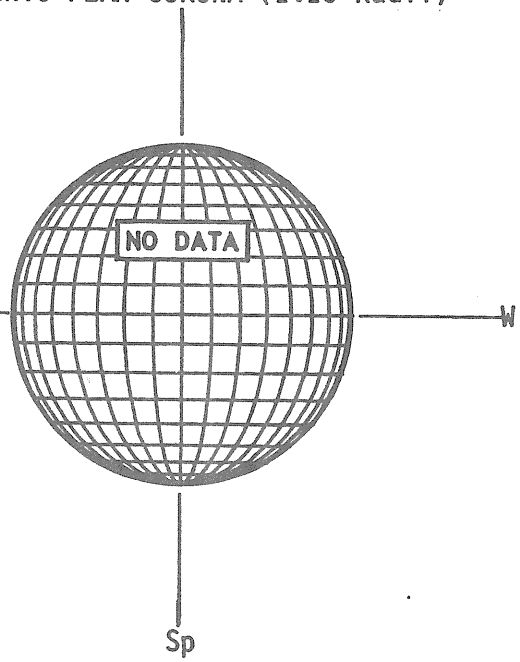
1432 UT

BOULDER SUNSPOTS

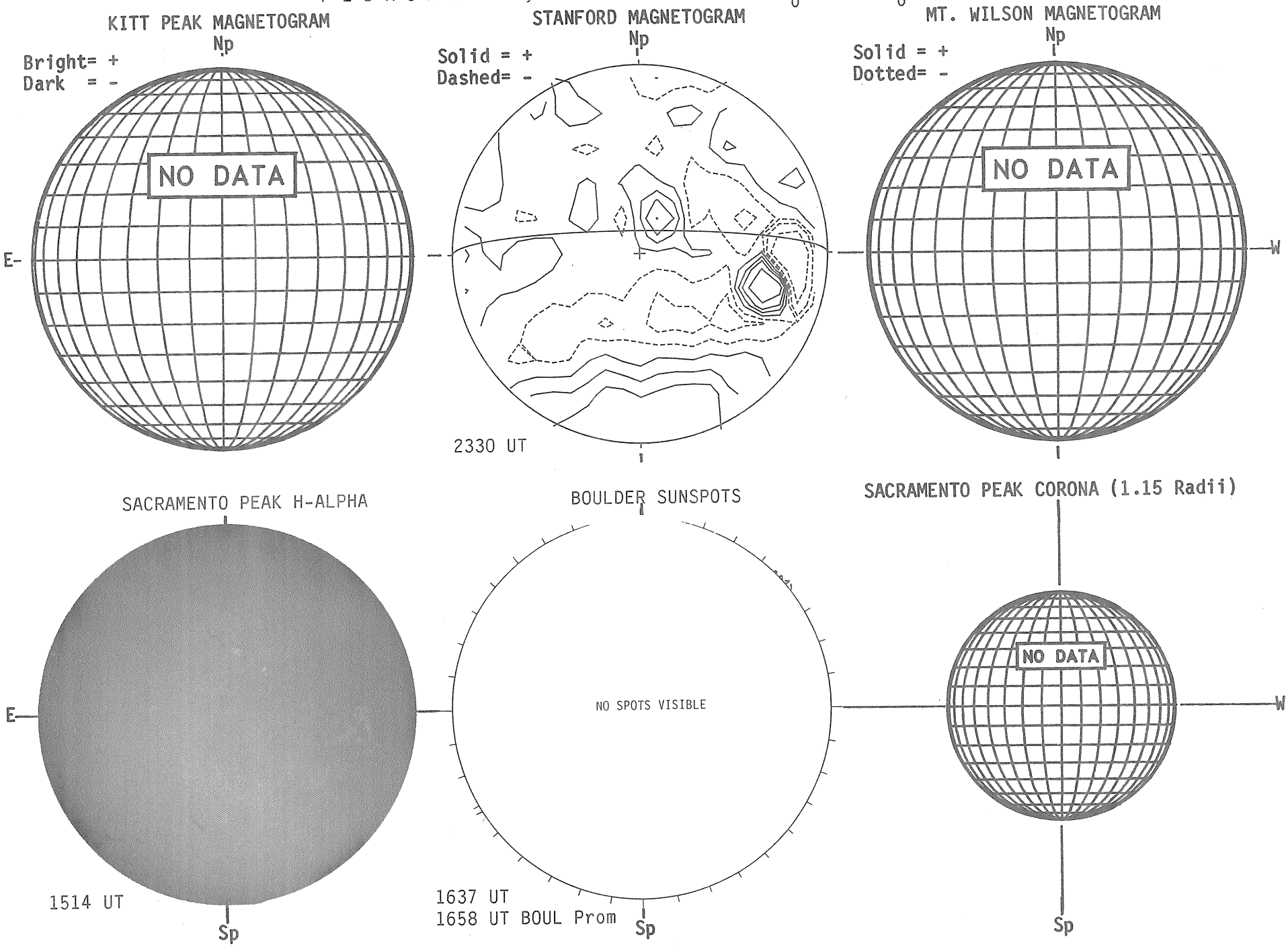


1520 UT
1525 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



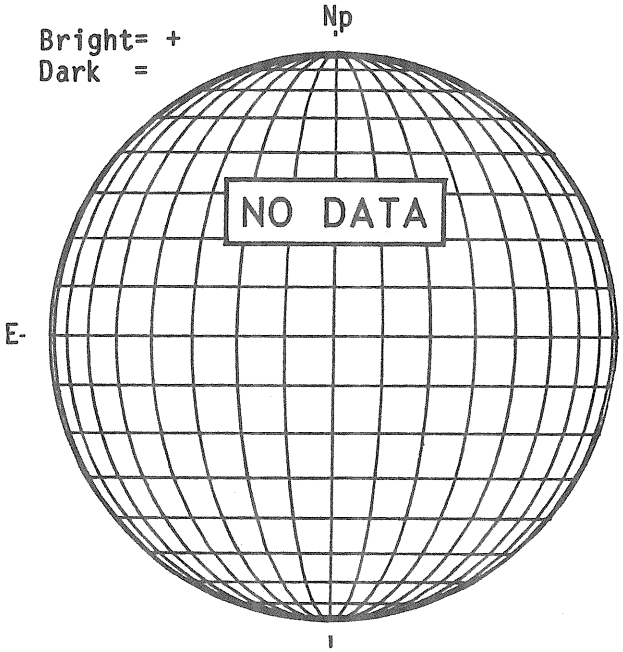
F E B R U A R Y 18, 1 9 8 5 (P -18.39, B_0=-6.85, L_0= 39.13)



FEBRUARY 19, 1985 (P -18.71, B_0=-6.88, L_0= 25.96)

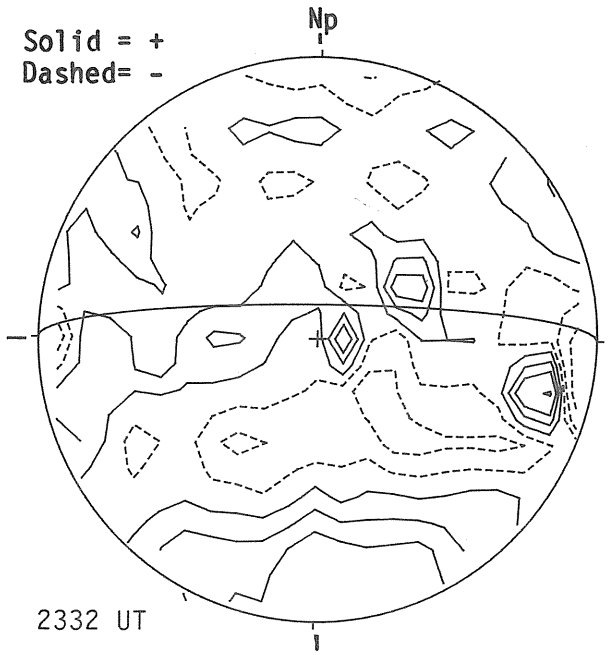
KITT PEAK MAGNETOGRAM

Bright= +
Dark =



STANFORD MAGNETOGRAM

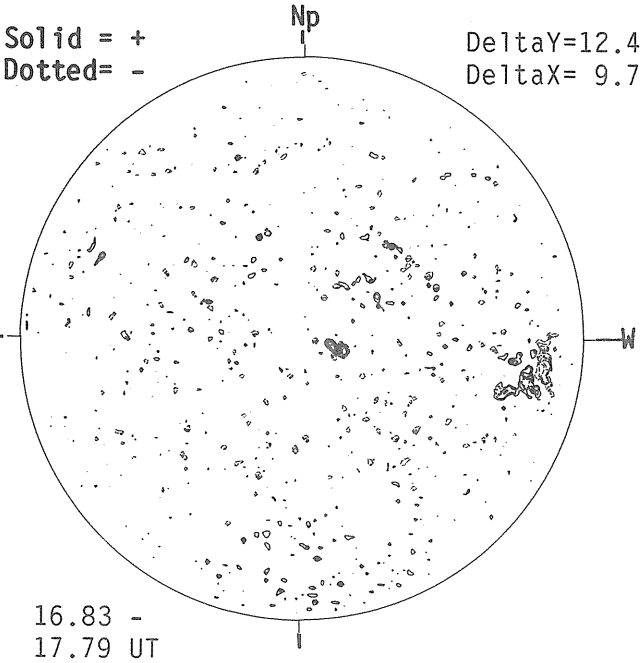
Solid = +
Dashed= -



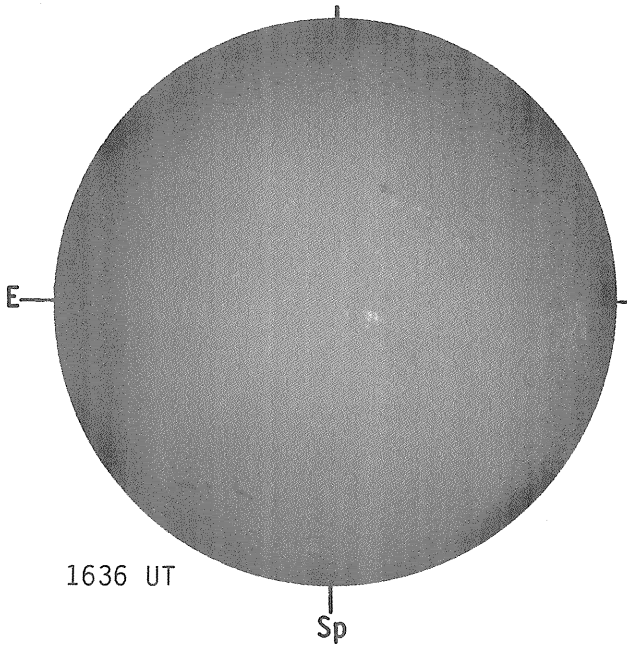
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

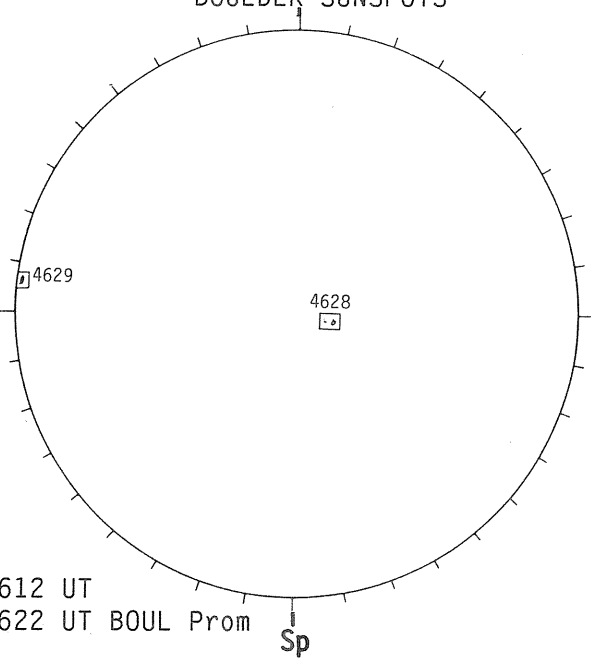
DeltaY=12.4
DeltaX= 9.7



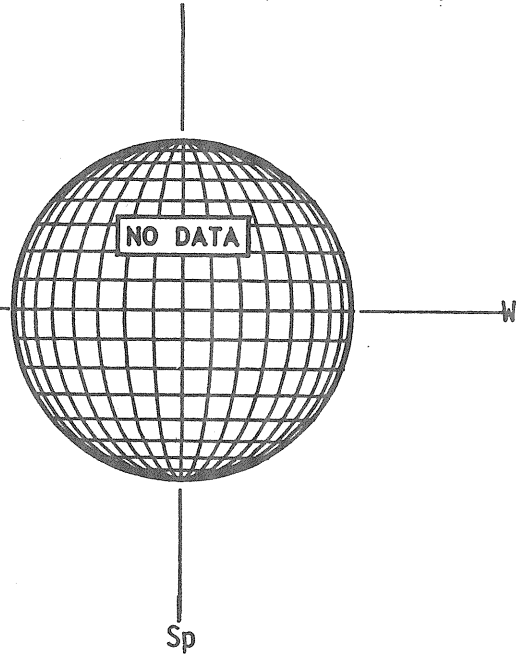
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



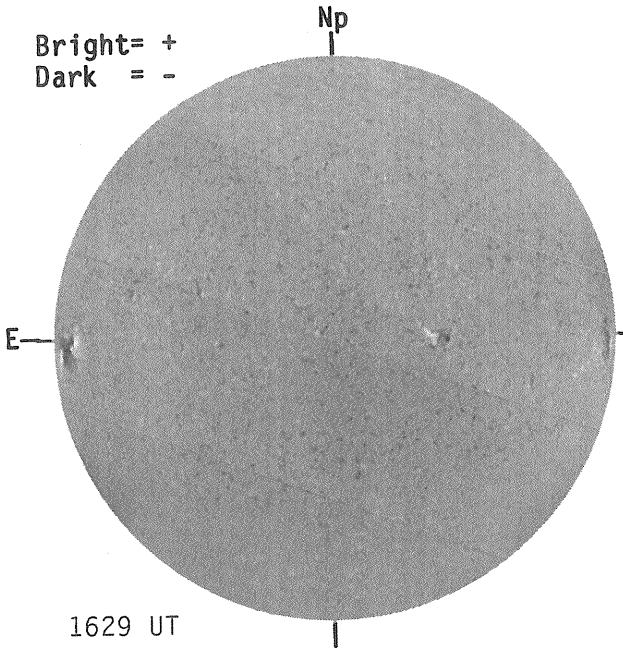
SACRAMENTO PEAK CORONA (1.15 Radii)



F E B R U A R Y 20, 1 9 8 5 (P -19.02, B_0=-6.91, L_0= 12.79)

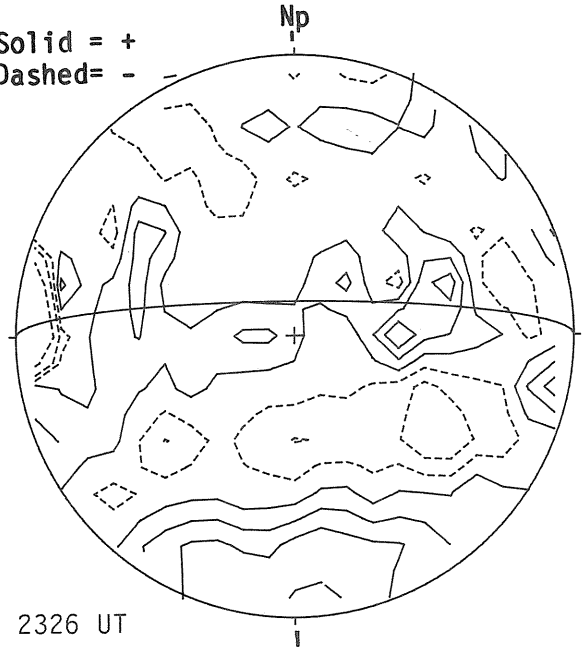
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



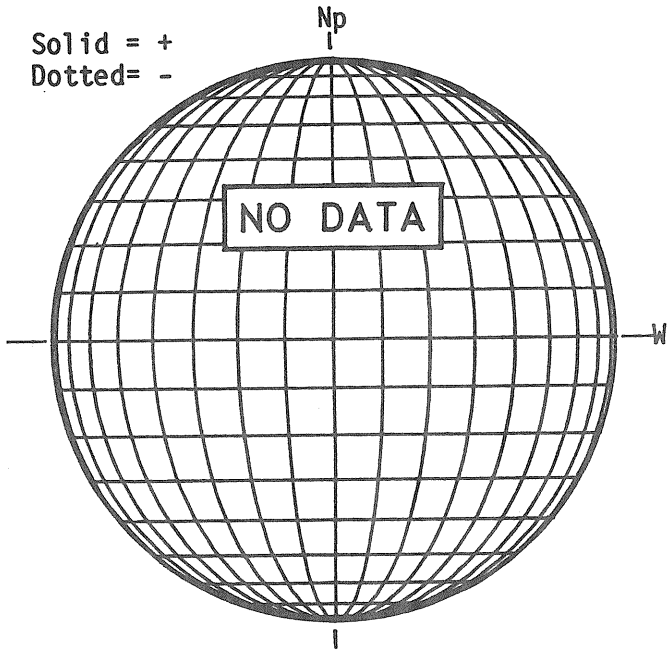
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

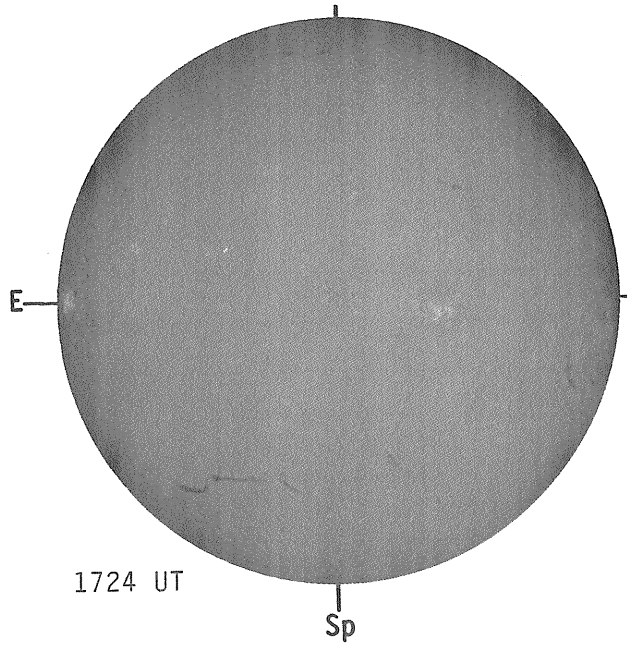


MT. WILSON MAGNETOGRAM

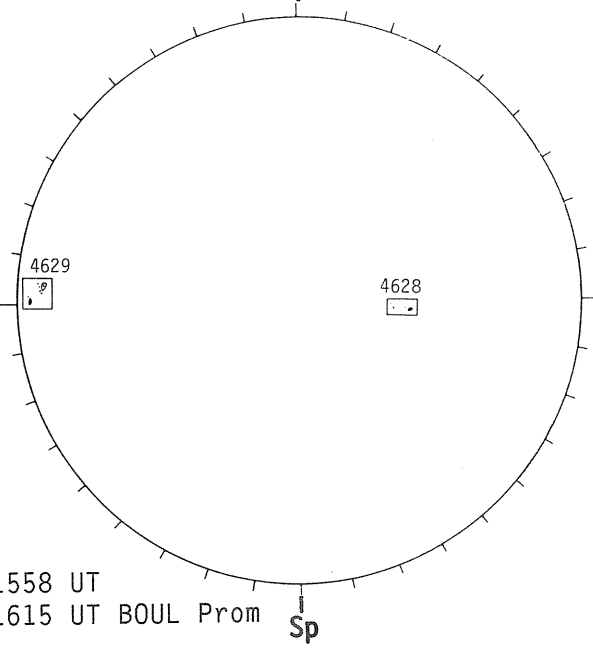
Solid = +
Dotted= -



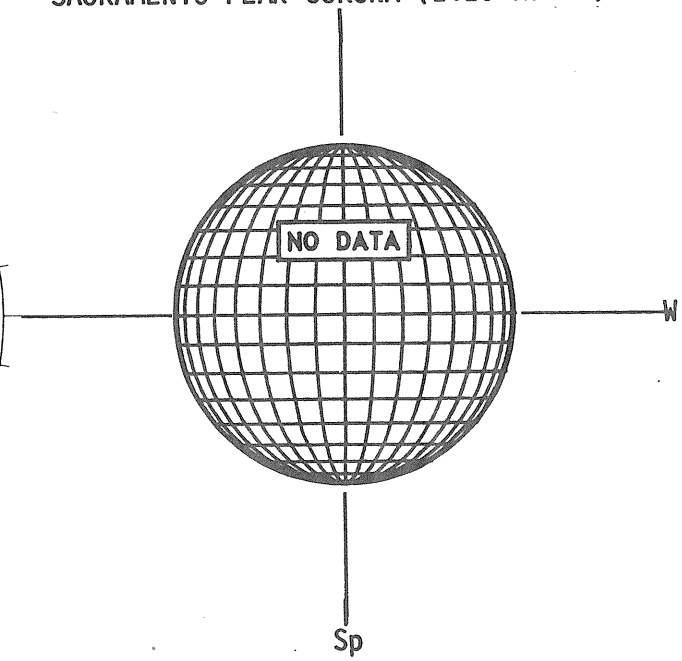
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



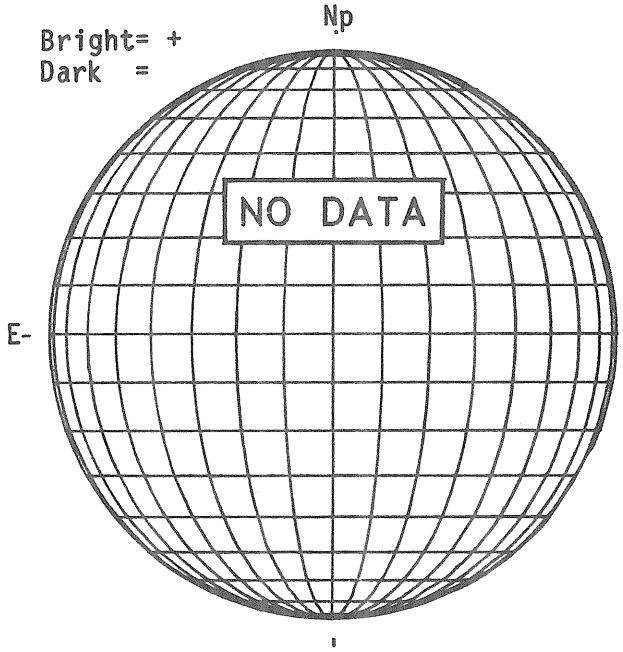
SACRAMENTO PEAK CORONA (1.15 Radii)



F E B R U A R Y 21, 1 9 8 5 (P -19.32, B_o=-6.94, L_o= 359.62)

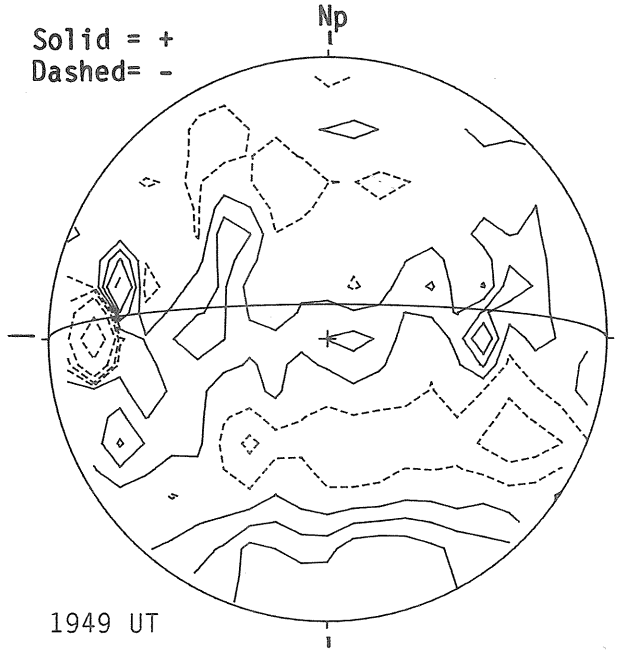
KITT PEAK MAGNETOGRAM

Bright= +
Dark =



STANFORD MAGNETOGRAM

Solid = +
Dashed= -

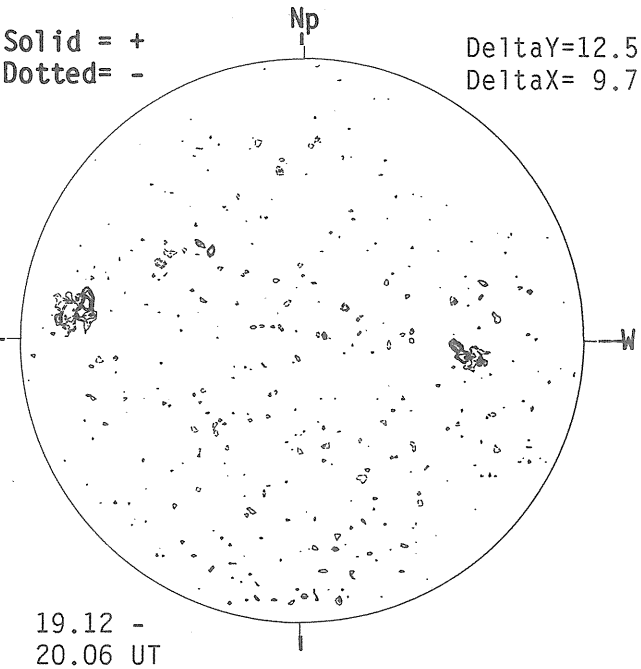


1949 UT

MT. WILSON MAGNETOGRAM

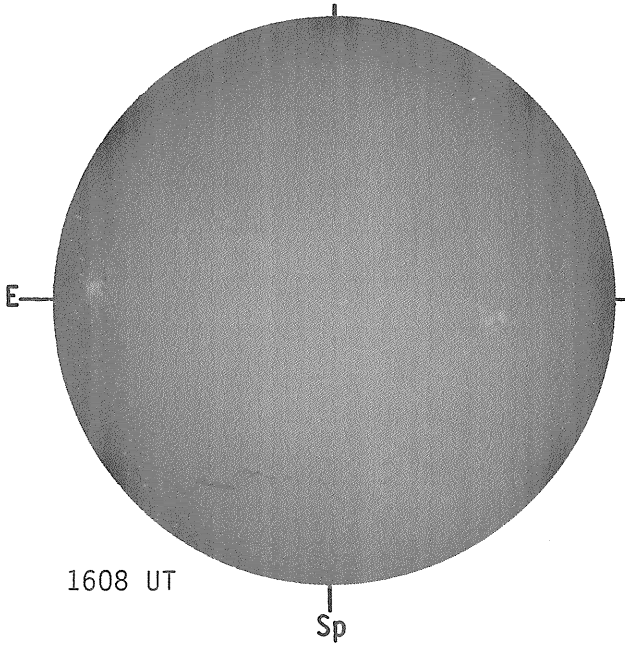
Solid = +
Dotted= -

DeltaY=12.5
DeltaX= 9.7



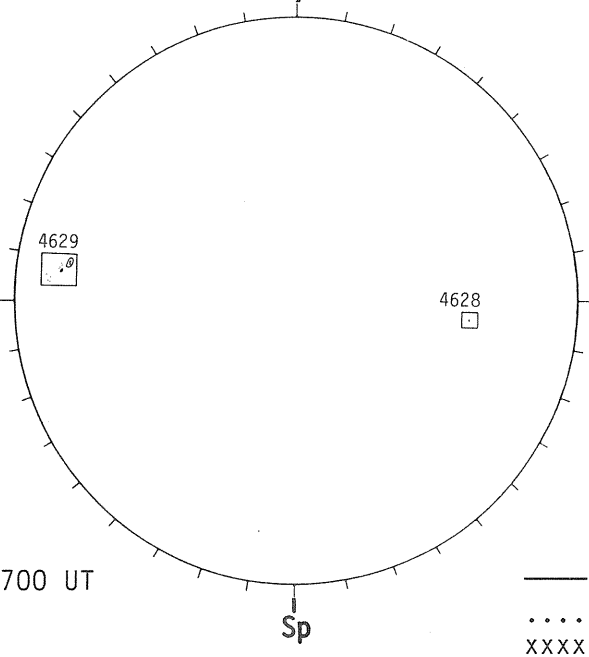
19.12 -
20.06 UT

SACRAMENTO PEAK H-ALPHA



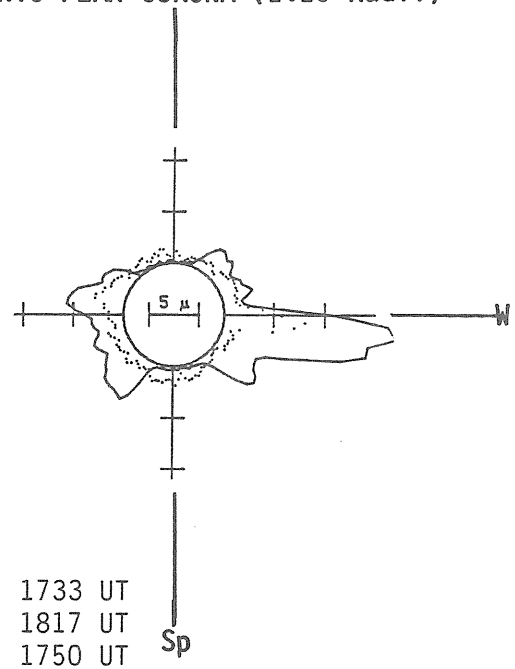
1608 UT

HOLLOMAN SUNSPOTS



1700 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

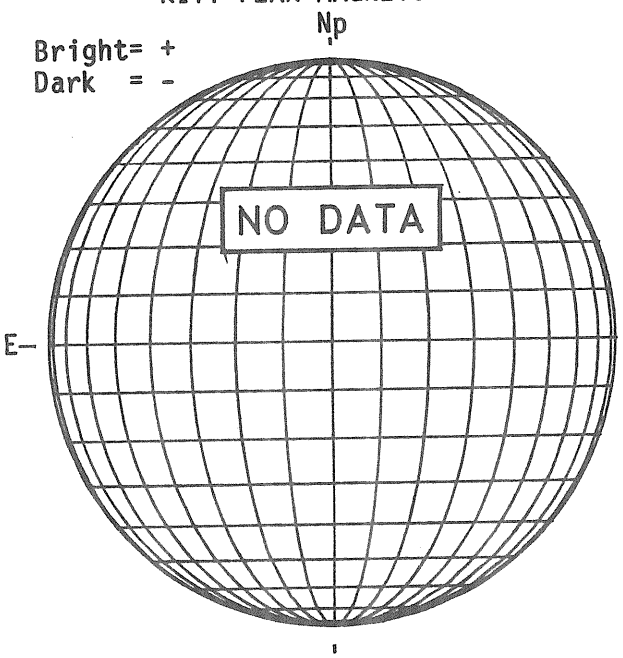


—— 5303A(x1) 1733 UT
.... 6374A(x2) 1817 UT
xxxx 5694A(x6) 1750 UT
No 5694A Activity Today

F E B R U A R Y 22, 1 9 8 5 (P -19.62, B_0=-6.97, L_0= 346.45)

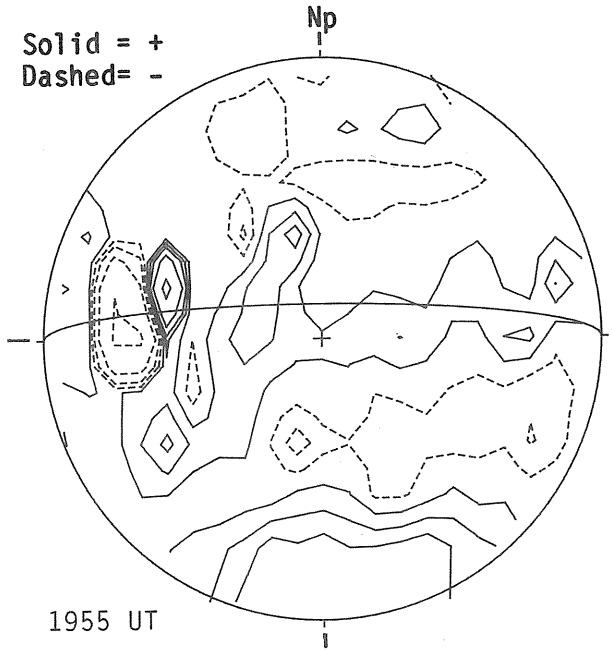
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



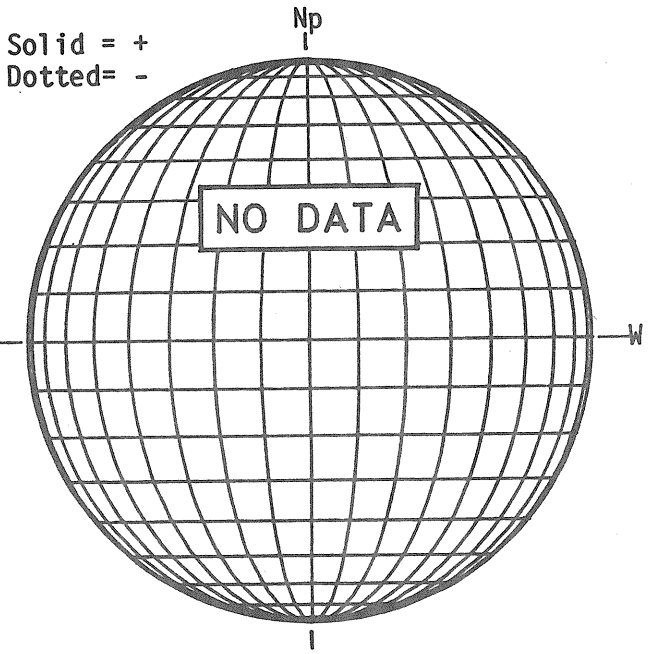
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

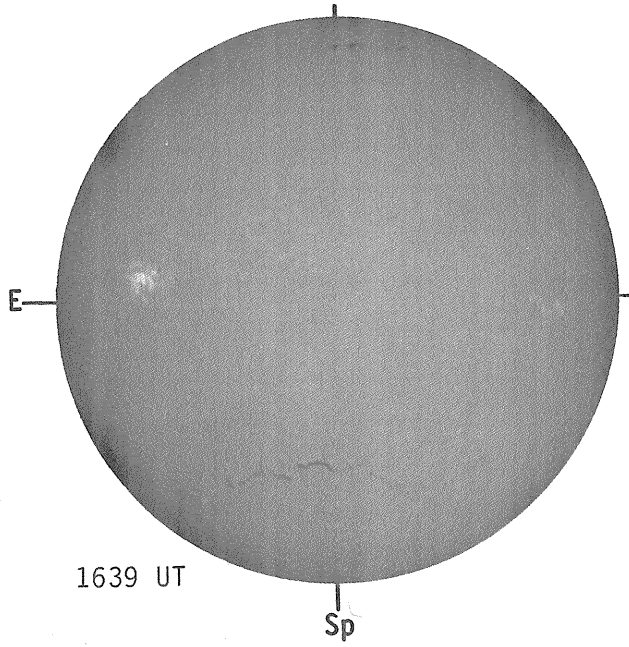


MT. WILSON MAGNETOGRAM

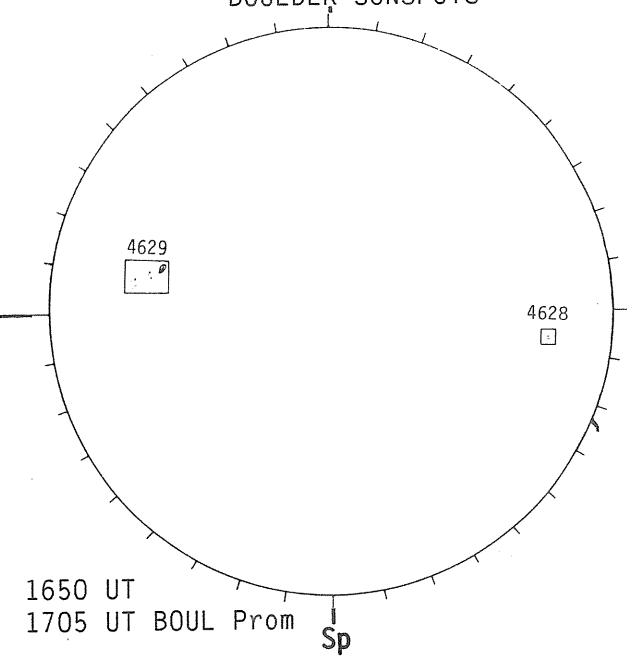
Solid = +
Dotted= -



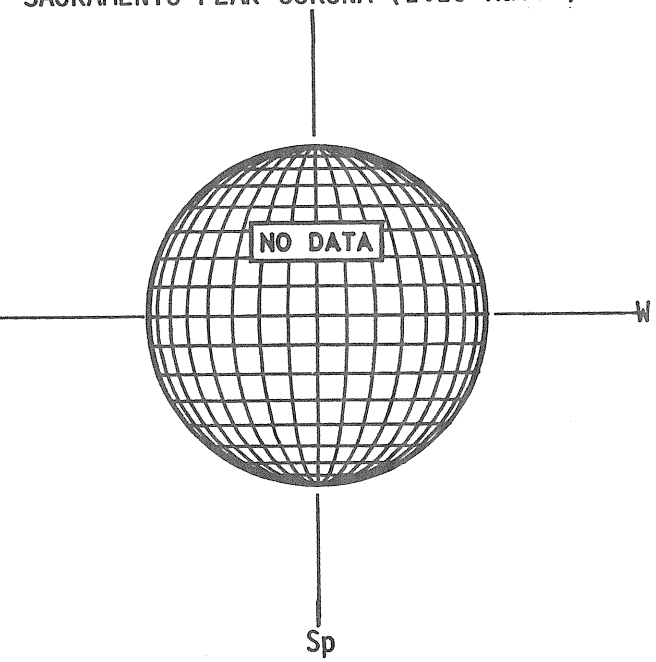
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



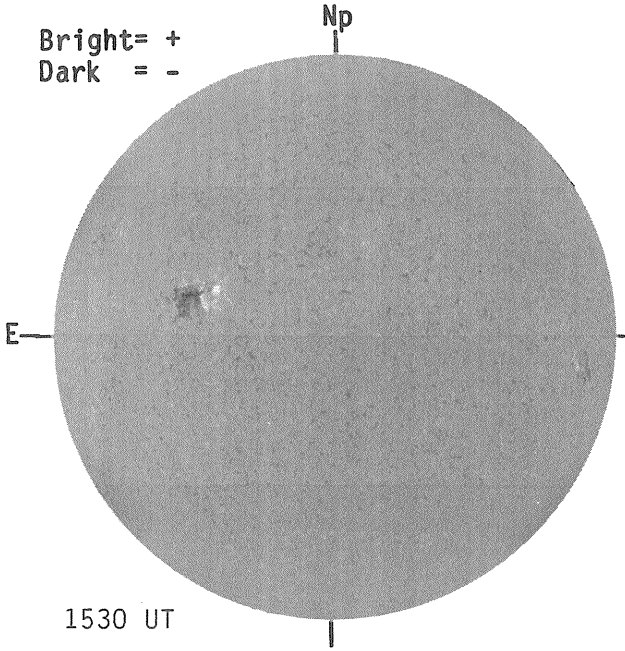
SACRAMENTO PEAK CORONA (1.15 Radii)



F E B R U A R Y 23, 1 9 8 5 (P -19.91, B_0=-7.00, L_0= 333.28)

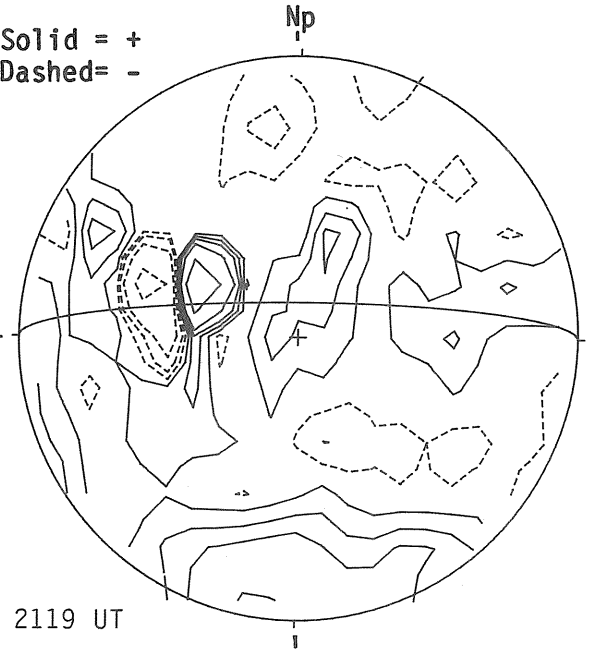
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

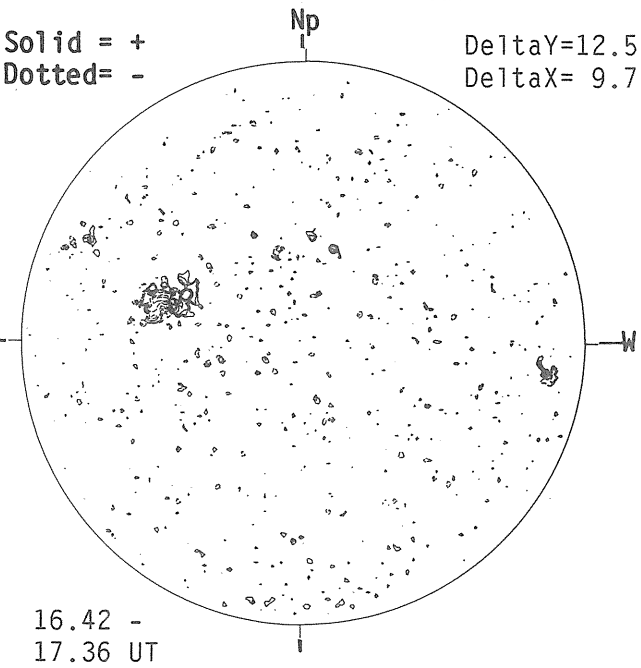
Solid = +
Dashed= -



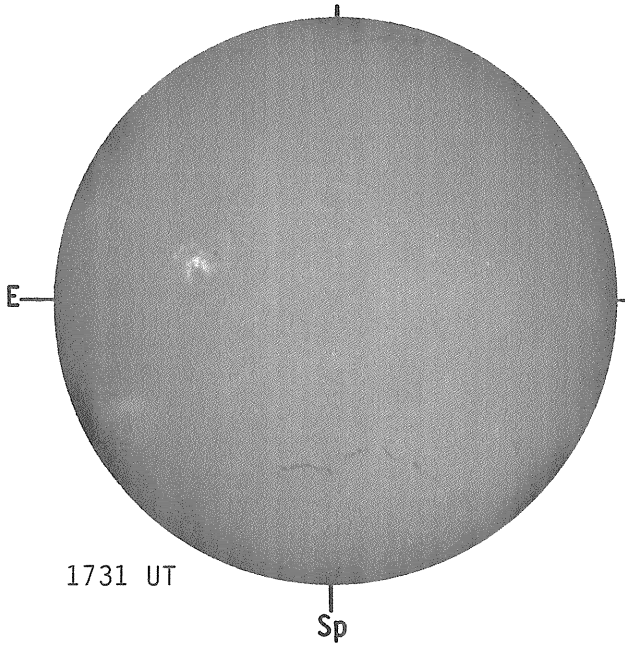
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

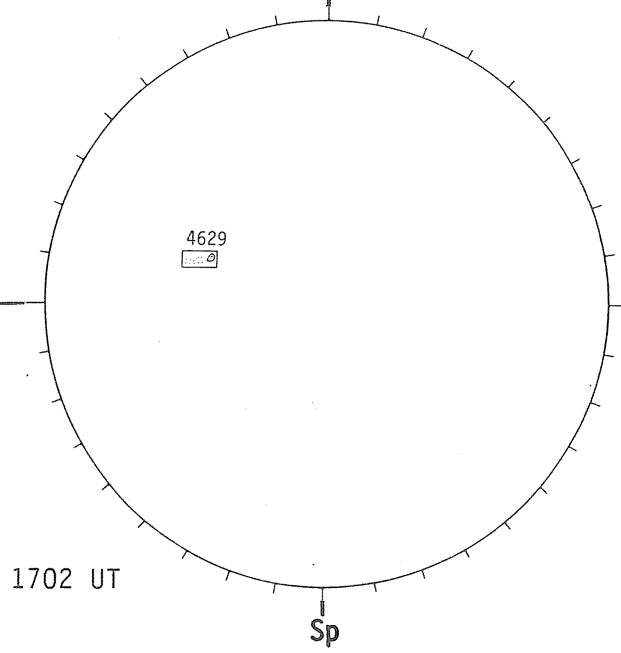
DeltaY=12.5
DeltaX= 9.7



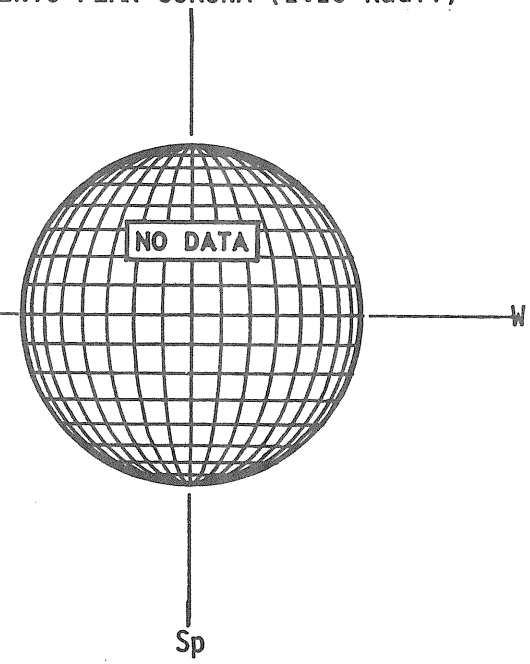
SACRAMENTO PEAK H-ALPHA



HOLLOMAN SUNSPOTS



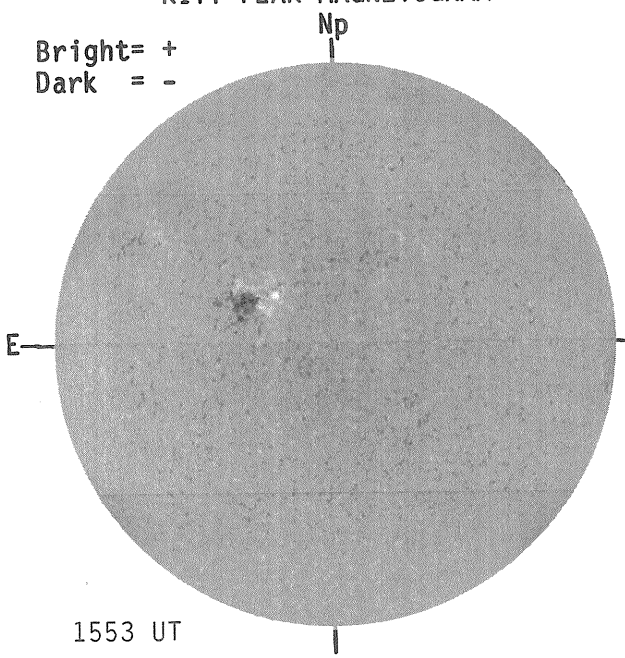
SACRAMENTO PEAK CORONA (1.15 Radii)



F E B R U A R Y 24, 1 9 8 5 (P -20.19, B_0=-7.02, L_0= 320.11)

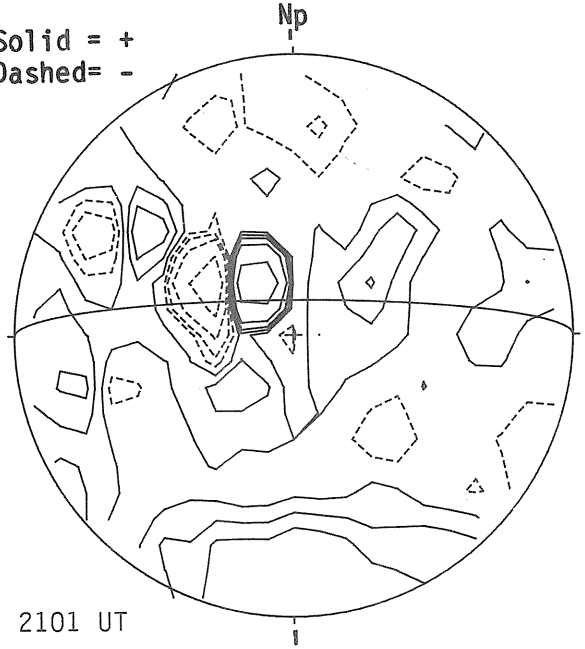
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

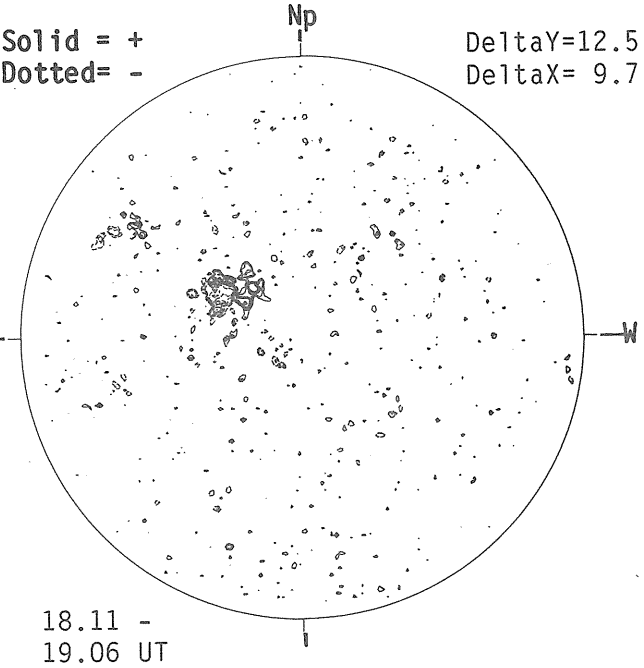
Solid = +
Dashed= -



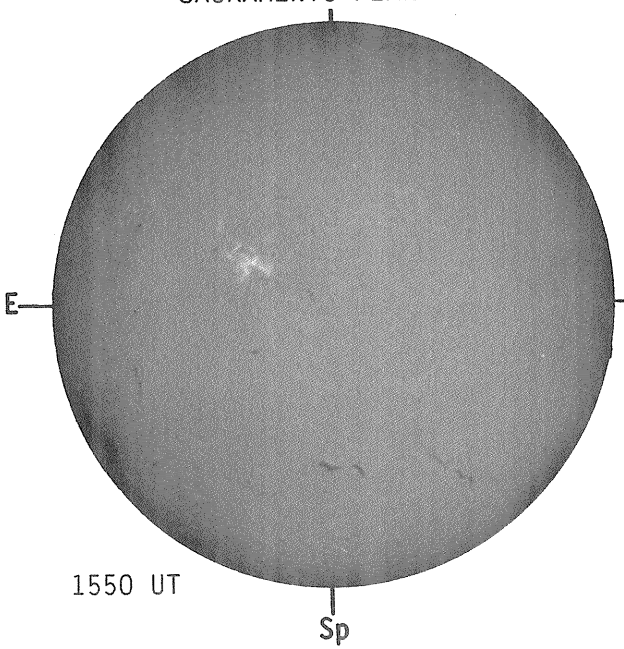
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

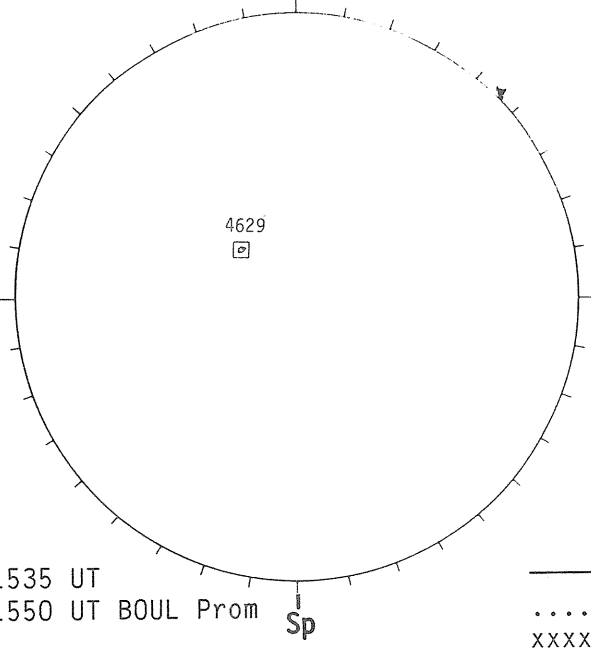
DeltaY=12.5
DeltaX= 9.7



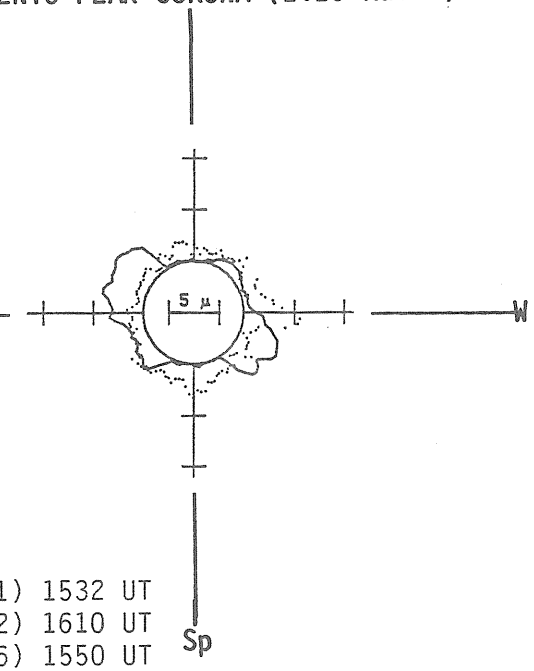
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

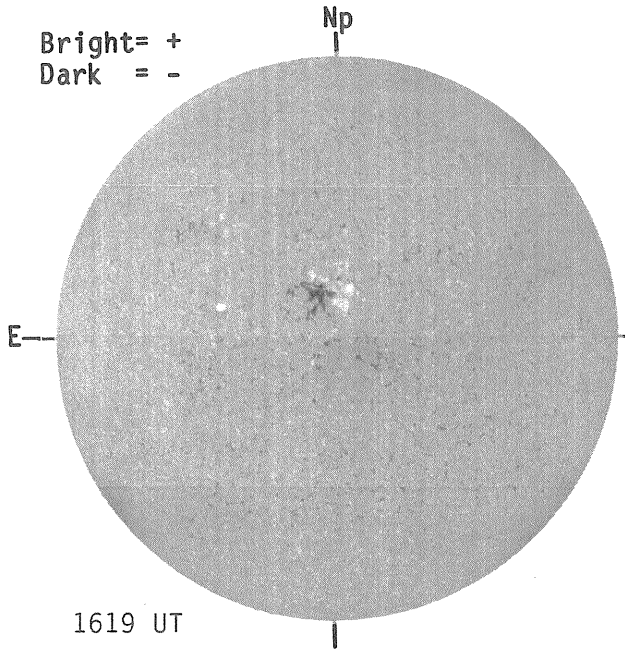


—— 5303A(x1) 1532 UT
.... 6374A(x2) 1610 UT
xxxx 5694A(x6) 1550 UT
No 5694A Activity Today

F E B R U A R Y 25, 1 9 8 5 (P -20.47, B_0=-7.05, L_0= 306.94)

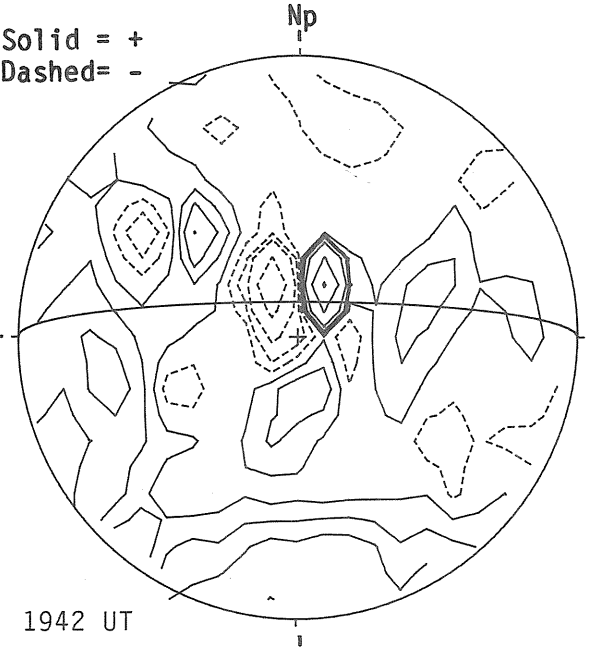
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

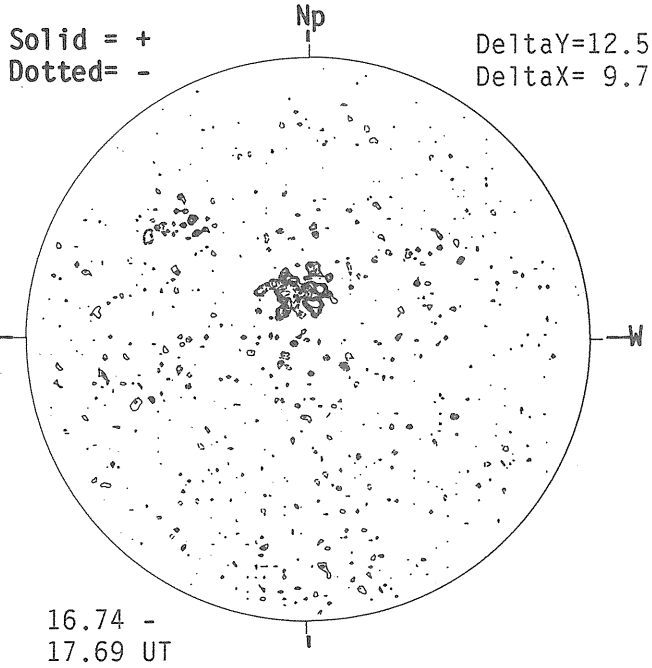
Solid = +
Dashed= -



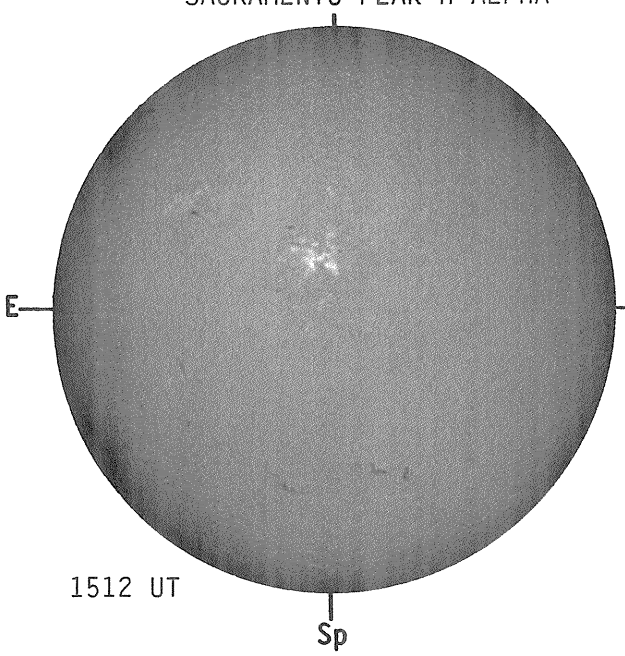
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

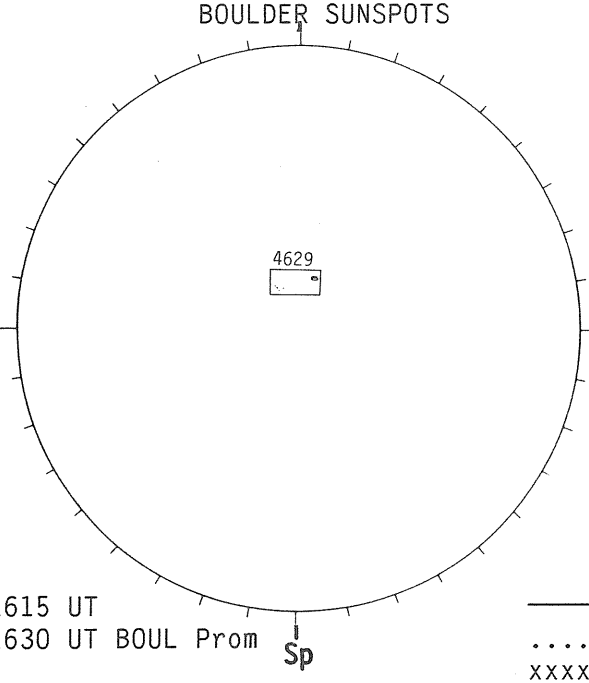
DeltaY=12.5
DeltaX= 9.7



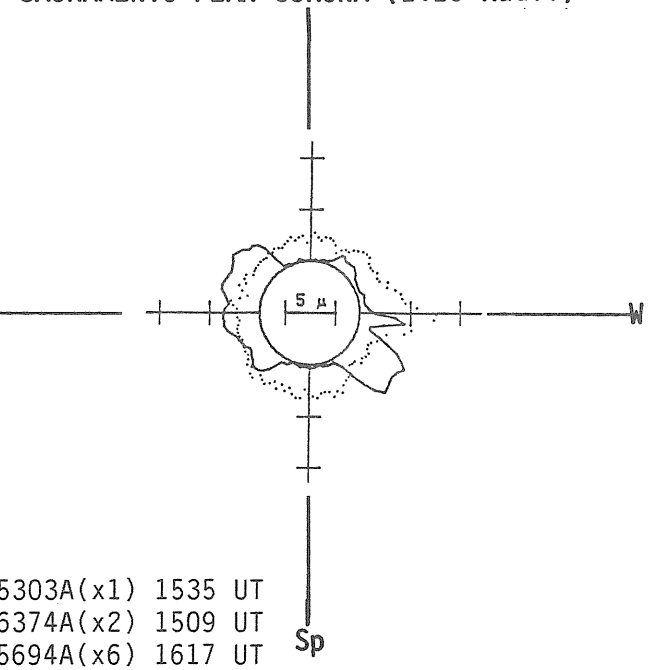
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

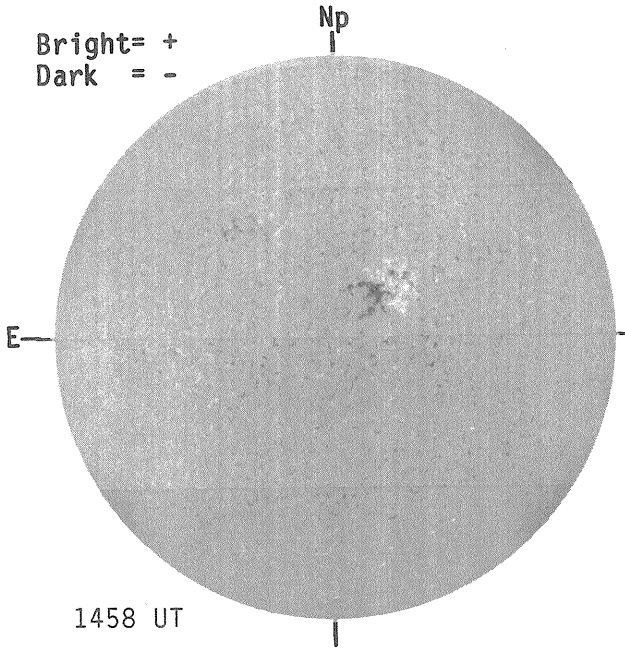


—— 5303A(x1) 1535 UT
.... 6374A(x2) 1509 UT
xxxx 5694A(x6) 1617 UT
No 5694A Activity Today

F E B R U A R Y 26, 1 9 8 5 (P -20.74, B_0=-7.07, L_0= 293.77)

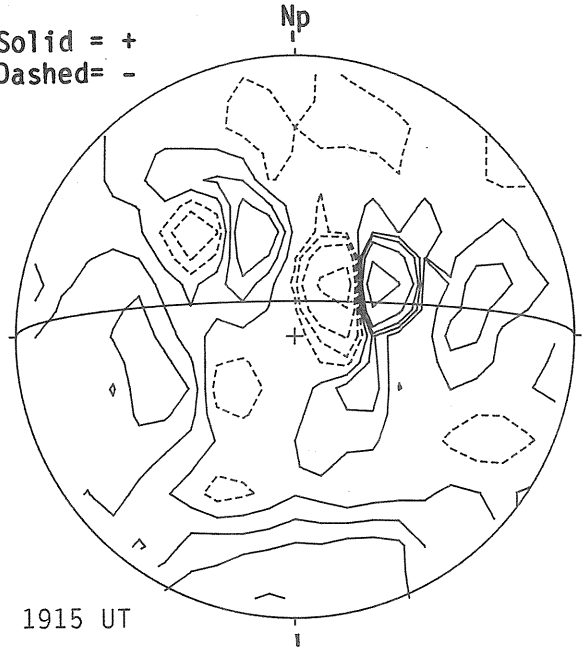
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

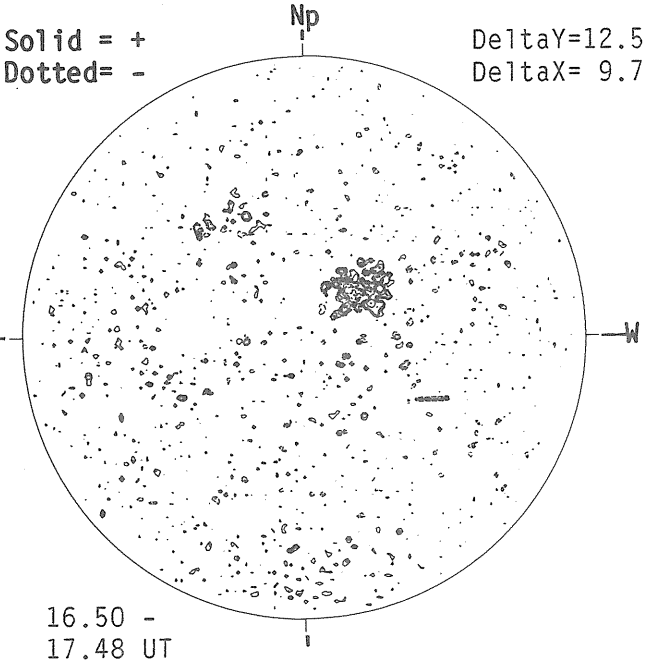
Solid = +
Dashed= -



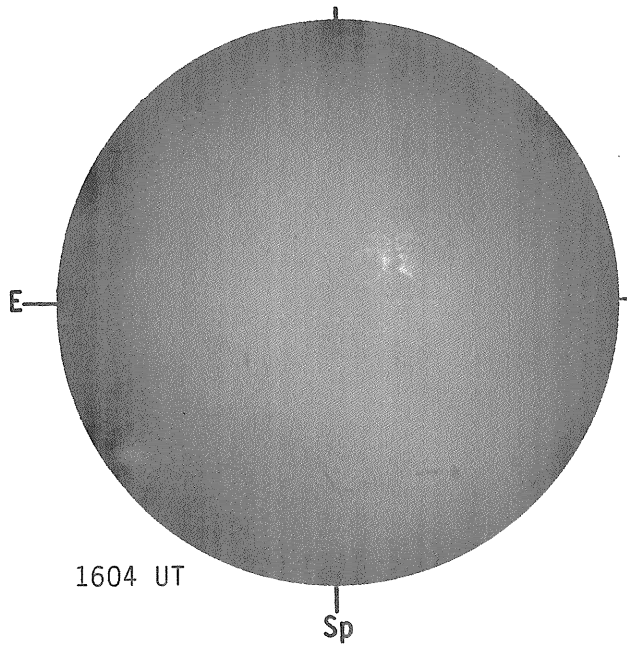
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

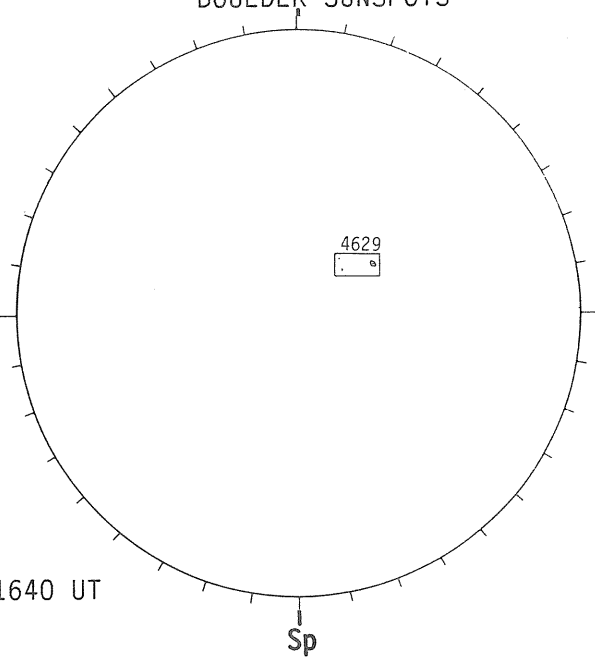
DeltaY=12.5
DeltaX= 9.7



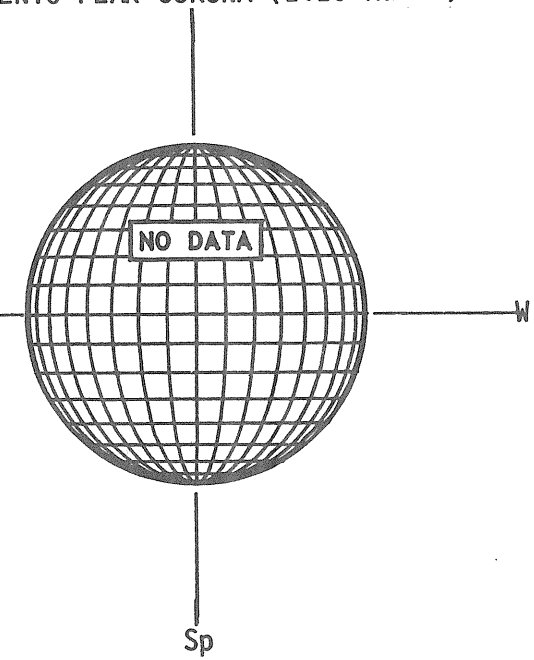
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



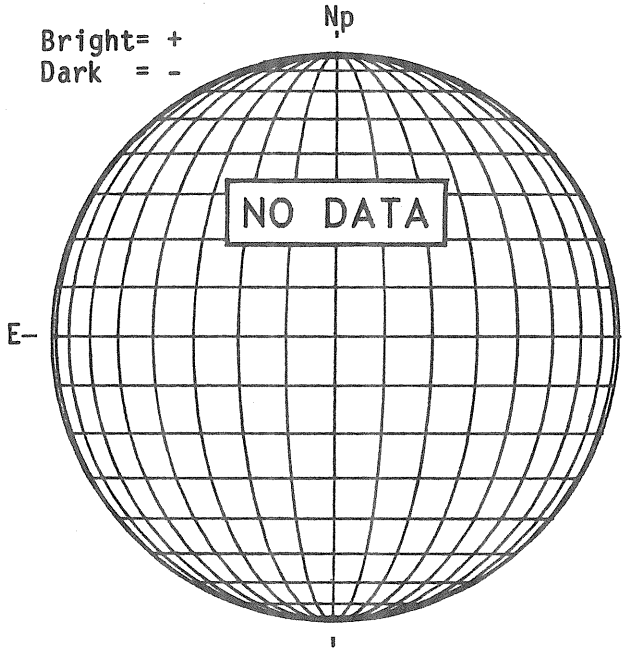
SACRAMENTO PEAK CORONA (1.15 Radii)



F E B R U A R Y 27, 1 9 8 5 (P -21.01, B_0=-7.08, L_0= 280.59)

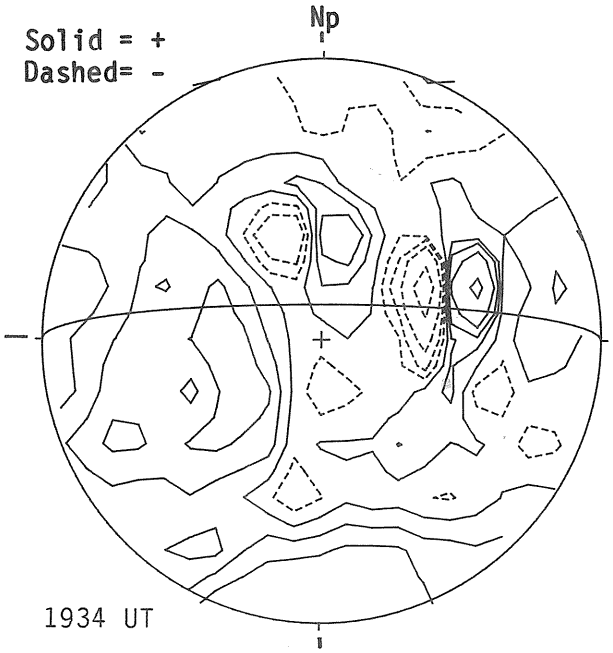
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

Solid = +
Dashed= -

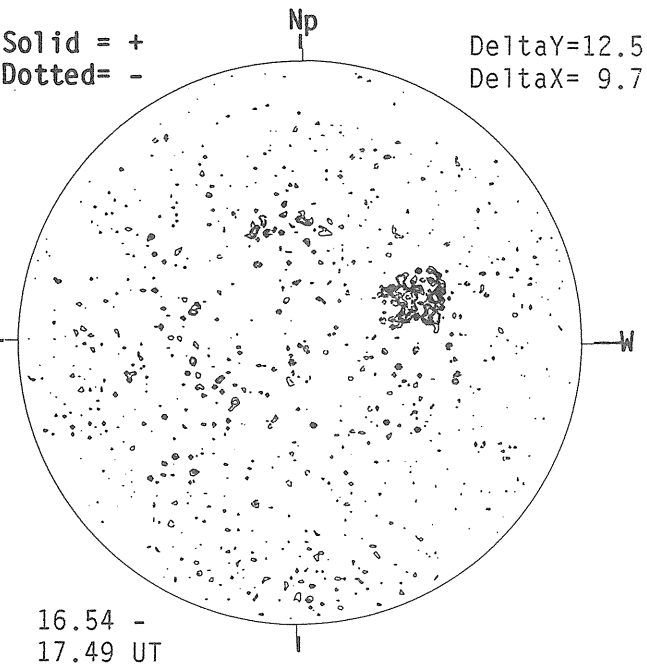


1934 UT

MT. WILSON MAGNETOGRAM

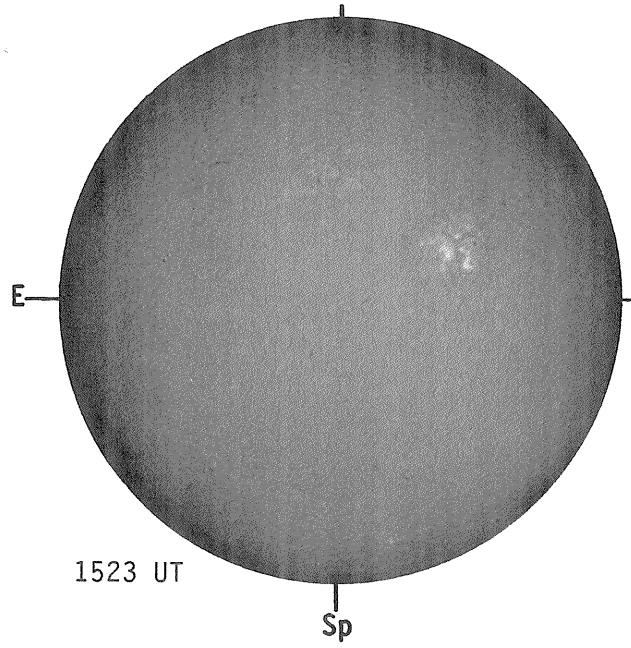
Solid = +
Dotted= -

DeltaY=12.5
DeltaX= 9.7



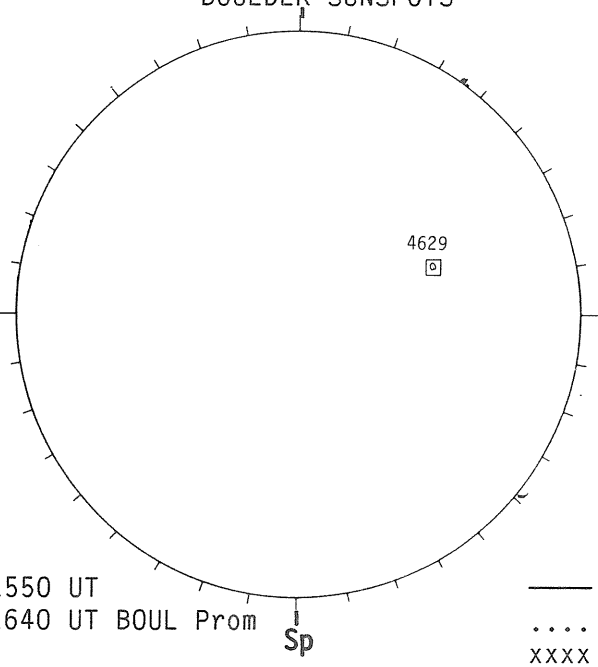
16.54 -
17.49 UT

SACRAMENTO PEAK H-ALPHA



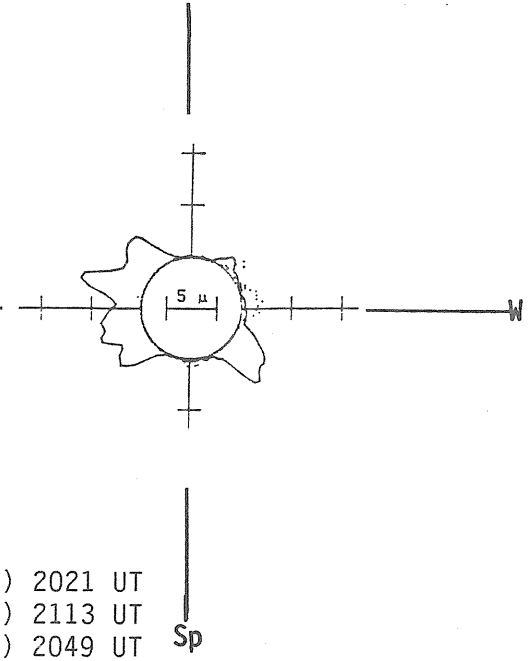
1523 UT

BOULDER SUNSPOTS



1550 UT
1640 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



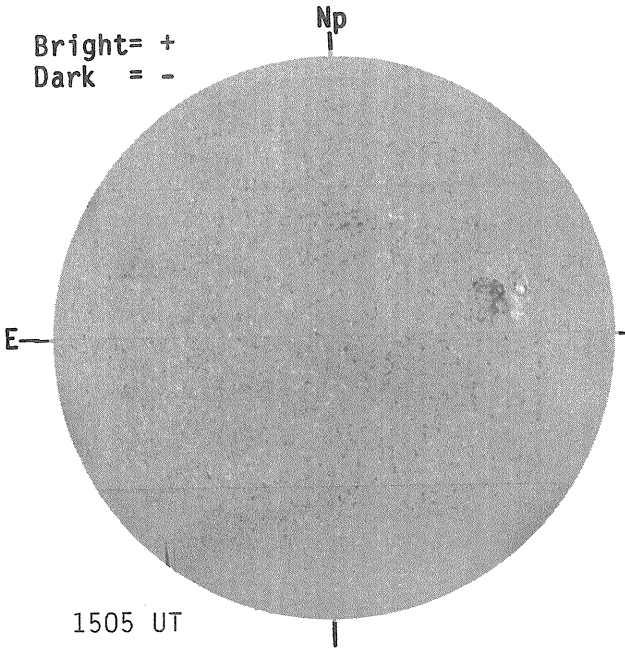
—— 5303A(x1) 2021 UT
.... 6374A(x2) 2113 UT
xxxx 5694A(x6) 2049 UT
No 5694A Activity Today

57
Feb 85

F E B R U A R Y 28, 1 9 8 5 (P -21.27, B_0=-7.10, L_0= 267.42)

KITT PEAK MAGNETOGRAM

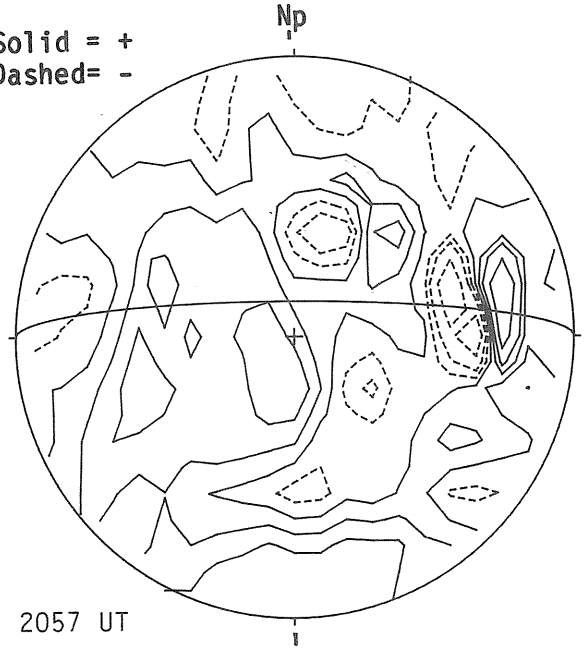
Bright= +
Dark = -



1505 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

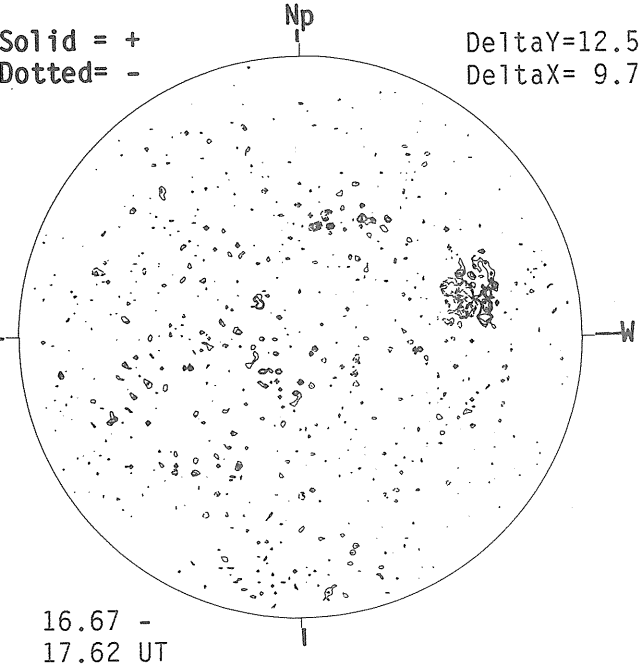


2057 UT

MT. WILSON MAGNETOGRAM

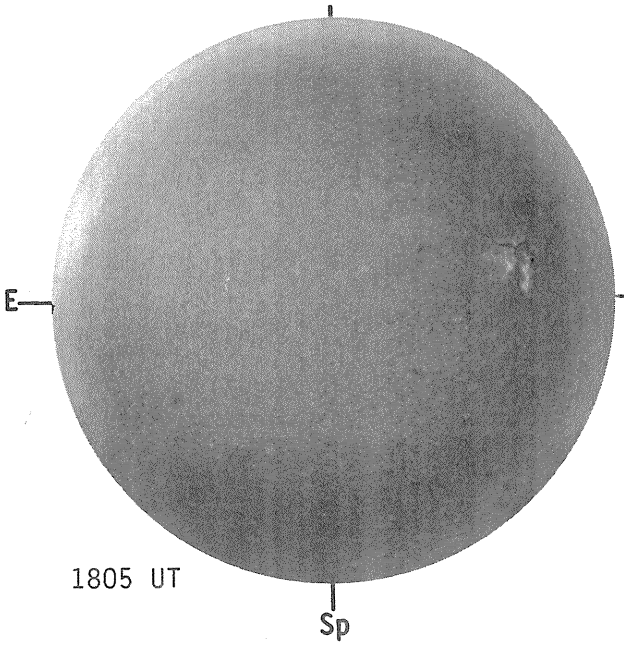
Solid = +
Dotted= -

DeltaY=12.5
DeltaX= 9.7



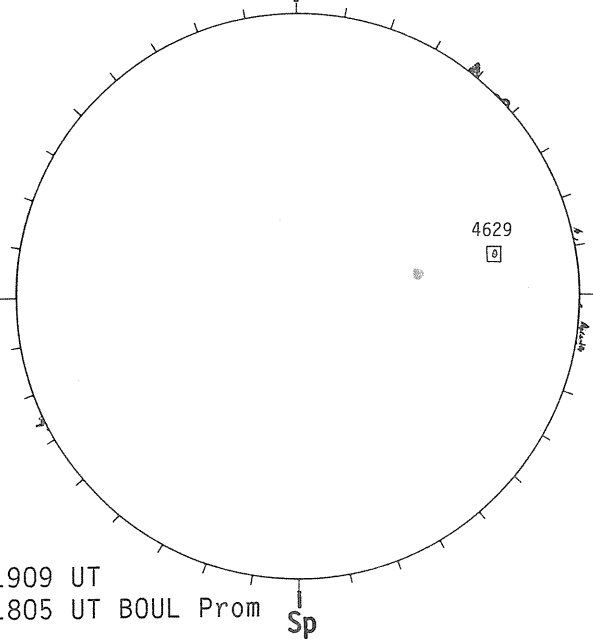
16.67 -
17.62 UT

BOULDER H-ALPHA



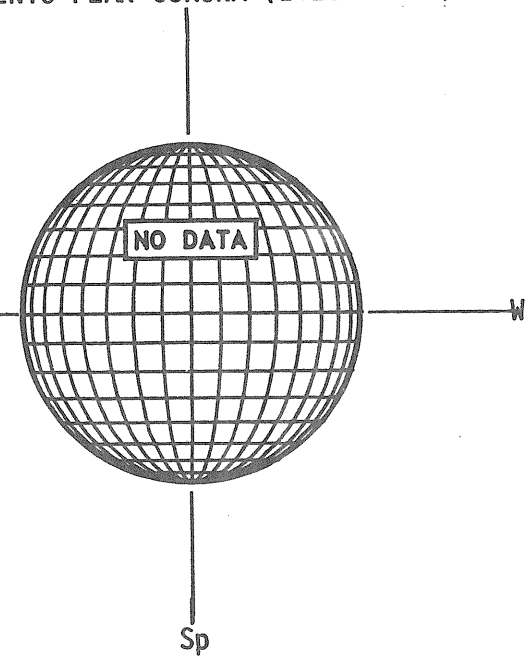
1805 UT

HOLLOMAN SUNSPOTS



1909 UT
1805 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



S U N S P O T G R O U P S
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

FEBRUARY 1985

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4624A		PALE	01	30	2007	S15	E15	02	1.0		A	AXX		1		3
4624A		ATHN	01	31	1100	S15	E07	02	1.0		B	CSO	30	2	2	3
4624B		ATHN	01	31	1100	N19	E07	02	1.0		A	AXX	10	1		3
4624		HOLL	02	08	1618	N11	E02	02	8.8		B	BXO	10	2	3	3
4624		RAMY	02	08	1921	N11	E01	02	8.9		B	BXO	10	2	3	3
4624		PALE	02	08	2155	N11	W01	02	8.8		B	BXO	10	2	4	1
4624		LEAR	02	09	0006	N10	W04	02	8.7		B	CAO	20	5	3	3
4624		ATHN	02	09	0700	N11	W07	02	8.8		B	CSO	20	3	3	3
4624		RAMY	02	09	1227	N10	W10	02	8.8		B	DAO	30	7	4	4
4624		PALE	02	09	1930	N11	W14	02	8.8		B	CRO	20	7	4	3
4624	24202	MWIL	02	09	2300	N11	W17	02	8.7	3	(B)					
4624		LEAR	02	10	0052	N09	W18	02	8.7		B	BXO	10	5	4	3
4624		ATHN	02	10	1020	N11	W22	02	8.8		A	HSX	30	1	2	1
4624	24202	MWIL	02	10	1600	N10	W27	02	8.6	3	(AP)					
4624		HOLL	02	10	1637	N11	W28	02	8.6		B	CSO	20	3	1	3
4624		BOUL	02	10	1700	N10	W26	02	8.8		A	HSX	10	1	1	2
4624		PALE	02	10	1832	N11	W29	02	8.6		A	HRX	20	1	1	3
4624		LEAR	02	11	0100	N11	W31	02	8.7		B	BXO	20	3	3	3
4624		MANI	02	11	0111	N10	W31	02	8.7			BXO	10	2	3	2
4624		RAMY	02	11	1615	N11	W41	02	8.6		B	BXO	10	2	4	3
4624		LEAR	02	14	0007	N09	W73	02	8.5		A	AXX	30	2	3	3
4623		ATHN	02	05	0650	S08	E68	02	10.4			AXX	10	1	1	2
4623		RAMY	02	05	1344	S07	E63	02	10.3		B	BXO	10	2	3	4
4623		HOLL	02	05	1502	S07	E60	02	10.1		B	BXO	10	2	2	3
4623	24200	MWIL	02	05	1545	S07	E60	02	10.2	2	(B)					
4623		PALE	02	05	2218	S09	E56	02	10.1		A	AXX	10	2	1	1
4623		MANI	02	06	0040	S07	E55	02	10.1			AXX	10	2	1	3
4623		LEAR	02	06	0109	S06	E54	02	10.1		A	AXX	20	1	1	2
4623		ATHN	02	06	0700	S08	E50	02	10.0			BXO	10	2	1	3
4623		RAMY	02	06	1340	S06	E47	02	10.1		A	AXX	10	2	2	3
4623	24201	MWIL	02	07	1615	S06	E34	02	10.2	3	(AP)					
4623A		LEAR	02	10	0052	N03	E11	02	10.9		A	AXX		1	1	3
4625		LEAR	02	08	0822	N03	E72	02	13.7		A	AXO	20	2	3	3
4625		RAMY	02	08	1921	S00	E67	02	13.8		A	AXX		1		3
4625		PALE	02	08	2155	S03	E65	02	13.8		A	AXX		1		1
4625		LEAR	02	09	0006	N04	E62	02	13.6		A	AXX	10	3	5	3
4625		ATHN	02	09	0700	N01	E55	02	13.4		A	AXX	10	1		3
4625		RAMY	02	09	1227	N01	E52	02	13.4		A	AXX		1		4
4625A		RAMY	02	09	1330	N12	E59	02	14.0		A	AXX		1		3
4626		HOLL	02	08	1618	S12	E82	02	14.9		A	HSX	40	1	2	3
4626		RAMY	02	08	1921	S11	E82	02	15.0		A	HAX	20	2	3	3
4626		PALE	02	08	2155	S14	E78	02	14.8		A	HRX	20	1	2	1
4626		LEAR	02	09	0006	S06	E79	02	14.9		A	HSO	20	3	6	3
4626		ATHN	02	09	0700	S12	E76	02	15.0		A	AXX	80	2	2	3
4626		RAMY	02	09	1227	S11	E71	02	14.9		A	HAX	20	2	2	4
4626		PALE	02	09	1930	S12	E68	02	14.9		A	HAX	50	2	2	3
4626	24203	MWIL	02	09	2300	S11	E66	02	14.9	4	(AP)					
4626		LEAR	02	10	0052	S12	E68	02	15.2		B	CSO	20	3	2	3
4626		ATHN	02	10	1020	S13	E63	02	15.2		A	HRX	40	1	1	1
4626	24203	MWIL	02	10	1600	S11	E57	02	15.0	4	(AP)					
4626		HOLL	02	10	1637	S12	E58	02	15.1		B	CAO	70	3	3	3
4626		BOUL	02	10	1700	S12	E54	02	14.8		A	HSX	30	2	1	2
4626		PALE	02	10	1832	S12	E55	02	14.9		A	HAX	30	3	2	3
4626		LEAR	02	11	0100	S12	E53	02	15.0		A	HAO	20	2	2	3
4626		MANI	02	11	0111	S12	E53	02	15.0			HAX	50	2	2	2
4626		ATHN	02	11	1030	S13	E49	02	15.1			CAO	30	4	2	1
4626		BOUL	02	11	1539	S12	E42	02	14.8		B	CSO	30	2	2	3
4626		RAMY	02	11	1615	S11	E43	02	14.9		A	HAX	30	2	2	3
4626	24203	MWIL	02	11	1615	S11	E44	02	15.0	5	(BF)					
4626		PALE	02	11	2108	S12	E40	02	14.9		A	HSX	30	2	2	2
4626		MANI	02	11	2345	S12	E40	02	15.0			HSX	30	2	2	2
4626		LEAR	02	12	0326	S13	E37	02	14.9		A	HSO	20	2	2	3
4626		ATHN	02	12	0820	S12	E34	02	14.9			HSX	30	2	2	1
4626		RAMY	02	12	1320	S09	E33	02	15.0		B	CAO	20	6	6	3

S U N S P O T G R O U P S
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

FEBRUARY 1985

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4626	24203	MWIL	02	12	1530	S11	E31	02	15.0	5	(AP)					
4626		HOLL	02	12	1740	S09	E31	02	15.1		B	CSO	40	7	6	3
4626		LEAR	02	13	0135	S10	E26	02	15.0		B	CSO	30	6	5	3
4626		ATHN	02	13	0830	S11	E21	02	14.9			CSO	30	2	2	1
4626		RAMY	02	13	1327	S09	E19	02	15.0		B	CAO	20	3	4	3
4626	24203	MWIL	02	13	1600	S11	E17	02	14.9	4	(AP)					
4626		HOLL	02	13	1625	S09	E18	02	15.0		B	CAO	30	3	4	3
4626		LEAR	02	14	0007	S09	E13	02	15.0		B	CSO	10	5	5	3
4626		MANI	02	14	0108	S09	E13	02	15.0			CSO	30	5	5	3
4626		ATHN	02	14	1100	S10	E07	02	15.0			AXX	10	2		2
4626		RAMY	02	14	1240	S10	E07	02	15.1		B	CAO	30	4	4	4
4626	24203	MWIL	02	14	1530	S11	E05	02	15.0	4	(BP)					
4626		PALE	02	14	2317	S11	W01	02	14.9		B	CRO	20	3	4	2
4626		LEAR	02	15	0220	S13	E01	02	15.2		B	CRO	30	7	9	3
4626		ATHN	02	15	0900	S10	W02	02	15.2		A	HRX	20	1	1	2
4626		RAMY	02	15	1505	S10	W07	02	15.1		B	CAO	30	7	10	4
4626		HOLL	02	15	1524	S10	W05	02	15.3		B	CAO	40	7	10	3
4626	24203	MWIL	02	15	1530	S11	W08	02	15.0	4	(BP)					
4626		BOUL	02	15	1545	S09	W11	02	14.8		B	CSO	20	2	2	2
4626		PALE	02	15	1836	S11	W10	02	15.0		B	CRO	20	6	5	3
4626		MANI	02	16	0045	S11	W13	02	15.1			CRO	30	5	3	3
4626		LEAR	02	16	0115	S11	W14	02	15.0		B	CSO	30	3	3	2
4626		ATHN	02	16	0700	S12	W17	02	15.0		A	HSX	20	1	1	2
4626		RAMY	02	16	1253	S11	W18	02	15.2		A	AXO	10	3	10	3
4626	24203	MWIL	02	16	1545	S11	W23	02	14.9	3	(AP)					
4626		HOLL	02	16	1624	S11	W23	02	15.0		B	BXO	10	4	3	4
4626		PALE	02	16	1915	S09	W26	02	14.9		A	AXX	10	1	1	3
4626		LEAR	02	17	0444	S11	W31	02	14.9		A	AXX		1	1	3
4626A		PALE	02	14	2317	S12	E07	02	15.5		A	AXX		2	1	2
4626B		LEAR	02	18	0200	N13	E02	02	18.2		A	AXX	10	1	1	2
4628		LEAR	02	19	0449	S09	W01	02	19.1		B	BXO	20	5	3	3
4628	24204	MWIL	02	19	1600	S09	W07	02	19.1	5	(B)					
4628		BOUL	02	19	1612	S09	W08	02	19.1		B	CSO	40	6	3	3
4628		HOLL	02	19	1650	S09	W08	02	19.1		B	CAO	40	8	4	3
4628		HOLL	02	19	1650	S09	W08	02	19.1		B	CSO	40	8	4	3
4628		PALE	02	19	1908	S08	W09	02	19.1		B	CRO	50	6	3	3
4628		LEAR	02	20	0137	S09	W12	02	19.2		B	CSO	10	7	4	3
4628		RAMY	02	20	1244	S09	W19	02	19.1		B	CAO	50	8	5	4
4628		BOUL	02	20	1558	S09	W22	02	19.0		B	CSO	30	6	4	3
4628		HOLL	02	20	1800	S08	W23	02	19.0		B	CRO	20	5	6	3
4628		PALE	02	20	1908	S08	W24	02	19.0		B	CRO	20	5	5	3
4628		ATHN	02	21	0700	S08	W27	02	19.3			CSO	20	3	6	2
4628		LEAR	02	21	0712	S10	W30	02	19.0		B	BXO	10	2	5	3
4628		RAMY	02	21	1325	S08	W33	02	19.1		B	CAO	30	6	5	3
4628	24204	MWIL	02	21	1615	S10	W40	02	18.7	3	(AP)					
4628		HOLL	02	21	1700	S08	W38	02	18.9		A	AXX	10	1	1	3
4628		PALE	02	21	1800	S09	W38	02	18.9		B	CSO	20	4	3	3
4628		LEAR	02	22	0100	S11	W44	02	18.7		A	HSX	10	2	1	2
4628		ATHN	02	22	0805	S08	W46	02	18.9			HSX	10	1	1	2
4628		RAMY	02	22	1535	S09	W52	02	18.7		A	AXX		1		3
4628	24204	MWIL	02	22	1545	S10	W52	02	18.7	4	(AP)					
4628		HOLL	02	22	1608	S09	W52	02	18.8		A	AXX	10	1		3
4628		BOUL	02	22	1650	S10	W52	02	18.8		A	AXX	10	2	1	3
4628		PALE	02	22	1900	S09	W55	02	18.7		A	AXX	10	1		3
4628		LEAR	02	23	0019	S09	W58	02	18.7		A	AXX	10	1	1	3
4629	24205	MWIL	02	19	1600	N03	E85	02	26.0	6	(B)					
4629		BOUL	02	19	1612	N05	E81	02	25.7		A	HAX	120	3	6	3
4629		HOLL	02	19	1650	N04	E80	02	25.7		B	CAO	100	4	5	3
4629		PALE	02	19	1908	S03	E80	02	25.8		B	CAO	90	4	5	3
4629		LEAR	02	20	0137	N03	E78	02	25.9		B	DHO	80	9	8	3
4629		RAMY	02	20	1244	N02	E71	02	25.8		B	DAO	300	9	9	4
4629		BOUL	02	20	1558	N02	E69	02	25.8		B	DHO	230	10	9	3
4629		HOLL	02	20	1800	N02	E69	02	25.9		B	DSO	360	10	9	3
4629		PALE	02	20	1908	N03	E67	02	25.8		B	DKO	200	13	9	3
4629		ATHN	02	21	0700	N02	E62	02	25.9			EKI	300	11	11	2
4629		LEAR	02	21	0712	N04	E61	02	25.9		B	DHI	100	7	10	3
4629		RAMY	02	21	1325	N02	E58	02	25.9		B	DSO	200	12	10	3

S U N S P O T G R O U P S
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

FEBRUARY 1985

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4629	24205	MWIL	02	21	1615	N04	E53	02	25.6	5	(B)					
4629		HOLL	02	21	1700	N03	E55	02	25.8		B	DKO	150	11	9	3
4629		PALE	02	21	1800	N03	E55	02	25.9		B	DSO	230	11	11	3
4629		LEAR	02	22	0100	N03	E52	02	25.9		B	DSO	110	9	10	2
4629		ATHN	02	22	0805	N08	E47	02	25.9			EHI	160	13	11	2
4629		RAMY	02	22	1535	N02	E44	02	25.9		B	DAO	110	14	10	3
4629	24205	MWIL	02	22	1545	N04	E39	02	25.6	5	(BP)					
4629		HOLL	02	22	1608	N03	E42	02	25.8		B	CSI	160	13	9	3
4629		BOUL	02	22	1650	N03	E40	02	25.7		B	CSI	80	9	11	3
4629		PALE	02	22	1900	N03	E40	02	25.8		B	DSO	100	11	9	3
4629		LEAR	02	23	0019	N03	E37	02	25.8		B	CHO	120	14	9	3
4629		RAMY	02	23	1354	N02	E25	02	25.4		B	CAO	160	17	9	4
4629	24205	MWIL	02	23	1545	N04	E27	02	25.7	6	(BP)					
4629		HOLL	02	23	1702	N03	E28	02	25.8		B	CSO	110	12	8	1
4629		PALE	02	23	1901	N03	E26	02	25.7		B	CSO	100	11	8	2
4629		LEAR	02	24	0303	N05	E19	02	25.5		B	CSO	60	3	3	1
4629		RAMY	02	24	1405	N03	E16	02	25.8		B	CAO	100	8	8	3
4629		BOUL	02	24	1535	N03	E11	02	25.5		A	HSX	40	2	2	3
4629	24205	MWIL	02	24	1545	N03	E12	02	25.6	5	(AP)					
4629		HOLL	02	24	1721	N03	E14	02	25.8		B	CSO	100	4	9	2
4629		PALE	02	24	1903	N03	E14	02	25.8		B	CSO	80	4	9	2
4629		LEAR	02	25	0104	N03	E06	02	25.5		B	CSO	60	4	4	3
4629		RAMY	02	25	1340	N04	E01	02	25.6		B	CAO	60	8	4	3
4629	24205	MWIL	02	25	1545	N03	W01	02	25.6	5	(BP)					
4629		HOLL	02	25	1550	N04	W02	02	25.5		B	CSO	70	6	5	4
4629		BOUL	02	25	1615	N02	E05	02	26.1		B	CSO		7		2
4629		PALE	02	25	1900	N03	E01	02	25.9		B	CSO	40	8	8	3
4629		LEAR	02	26	0006	N03	W06	02	25.6		B	CSO	60	5	4	3
4629		ATHN	02	26	0630	N03	W07	02	25.7			CSO	40	3	4	2
4629		RAMY	02	26	1341	N02	W12	02	25.7		B	CSO	60	8	7	3
4629	24205	MWIL	02	26	1545	N03	W14	02	25.6	5	(BP)					
4629		BOUL	02	26	1640	N04	W14	02	25.6		B	CSO	40	3	6	2
4629		HOLL	02	26	1930	N03	W17	02	25.5		B	CAO	40	3	4	2
4629		PALE	02	26	2011	N03	W13	02	25.9		B	CSO	40	5	8	3
4629		LEAR	02	27	0110	N03	W20	02	25.6		B	CSO	30	2	2	3
4629	24205	MWIL	02	27	1530	N03	W28	02	25.6	5	(AP)					
4629		BOUL	02	27	1550	N04	W29	02	25.5		A	HAX	40	2	2	2
4629		RAMY	02	27	1655	N04	W29	02	25.5		A	HAX	50	2	2	2
4629		HOLL	02	27	1701	N03	W29	02	25.5		A	HSX	50	1	2	3
4629		PALE	02	27	1857	S04	W31	02	25.5		A	HSX	40	1	2	2
4629		LEAR	02	28	0006	N03	W33	02	25.5		A	HSX	40	1	2	3
4629	24205	MWIL	02	28	1530	N03	W42	02	25.5	5	(AP)					
4629		RAMY	02	28	1549	N04	W43	02	25.4		A	HAX	60	1	2	3
4629		BOUL	02	28	1645	N04	W42	02	25.6		A	HSX	20	1	2	2
4629		HOLL	02	28	1909	N04	W44	02	25.5		A	HSX	40	1	1	3
4629		PALE	02	28	2157	N05	W46	02	25.5		A	HSX	30	1	1	1
4629		MANI	03	01	0102	N03	W40	02	26.1			HSX	50	1	2	3
4629		LEAR	03	01	0104	N03	W48	02	25.5		A	HSX	40	1	1	2
4629		RAMY	03	01	1225	N03	W55	02	25.4		A	HAX	30	1	2	4
4629		BOUL	03	01	1530	N04	W55	02	25.5		A	HSX	30	1	2	2
4629	24205	MWIL	03	01	1615	N03	W56	02	25.5	4	(AP)					
4629		HOLL	03	01	1632	N03	W56	02	25.5		A	HSX	40	1	2	3
4629		PALE	03	01	2048	N04	W58	02	25.5		A	HSX	20	1	1	3
4629		LEAR	03	02	0721	N03	W61	02	25.7		A	HSX	10	1	1	3
4629		RAMY	03	02	1440	N03	W69	02	25.5		A	HAX	30	1	1	4
4629		HOLL	03	02	1717	N05	W74	02	25.2		A	HRX	10	1	2	3
4629		PALE	03	02	1959	N04	W71	02	25.5		A	HSX	20	1	1	3
4629		LEAR	03	03	0127	N04	W78	02	25.2		A	AXX	10	1	1	2

SUDDEN IONOSPHERIC DISTURBANCES

February 1985

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide-spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Known Flare	X-ray Class	NOAA/SESC Region
01	1730	1753	1815	2	1					1	*		
03	0426	0430	0510	1-	3			1		1	0420 UT	C1.7	4620
03	2322	2328	2354	1-	1			1			*		
04	0614	0618	0626	1-	1				1		No Flare		
18	0730	0804	0908	1	3			1		1	0743 UT	C2.3	
18	1452	1455	1515	1-	3					4	1449 UT	C1.2	
18	1552	1558	1615	1	3					4	1549 UT	C1.4	
18	2320	2333	0046	1+	3			1		3	2315 UT	C4.5	
19	0104	0114	0131D	1-	3			1	1		0101 UT	C1.0	
19	0130	0143	0214	1-	3			1	1		0127 UT	C2.6	
19	0222E	0228	0330	1-	3			1	1		0218 UT	C2.7	
19	0530	0538	0616	1-	1			1			*		
19	0703	0708	0730	1-	1			1			No Flare		
19	0731	0744	0809	1-	1			1			No Flare		
19	0828	0832	0855	1-	1			1		2	0823 UT	C1.1	
19	1508	1511	1520	1-	1					2	1503 UT	C1.9	
19	1605	1608	1630	1	3					4	1605 UT		
19	1820	1826	1845	1	3					2	1814 UT	C2.0	
20	0731	0736	0814	1-	3			1	1		No Flare		

* No flare patrol

SIDs by NOAA/SESC REGION

February 1985

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Region Number 4620			1																									
X-Ray			1															4	6									
No Flare				1															2	1								
No Flare Patrol	1		1																1									
No Data																			1									
Event Totals	1		2	1														4	10	1								

OBSERVATORIES REPORTING FOR FEB 1985*

Edenvale, South Africa (A52)	SES	Milton-Freewater, Oregon, USA (A55)	SES
Farsta, Sweden (FA)	SES	Panska Ves, Czechoslovakia (PU)	SEA, SWF, SES
Glenorchy, Tasmania, Australia (GN)	SES	Paterson, New Jersey, USA (A46)	SES
Hiraiso, Japan (HI)	SWF	Sao Paulo, Brasil (UM)	SPA, SES
Houston, Texas, USA (A50)	SES	Sofia, Bulgaria (SF)	SES
Inubo, Japan (IN)	SPA	St. Cloud, Minnesota, USA (SC)	SES
Latrobe, Pennsylvania, USA (A19)	SES	Tavares, Florida, USA (A49)	SES
Lintong, China (LT)	SPA	Tucson, Arizona, USA (A9)	SES
Louisville, Kentucky, USA (A26)	SES	Upice, Czechoslovakia (UI)	SEA
Maui, Hawaii, USA (MI)	SWF	Valley Cottage, New York, USA (A01)	SES

*Observations are not necessarily continuous for each reporting station.

SOLAR RADIO EMISSION SPECTRAL OBSERVATIONS

FEBRUARY 1985

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
01	0750	1550	BLEN										
	1019	1543	WEIS										
02	0728	1525	WEIS										
	0730	1550	BLEN										
	1528	1545	WEIS										
03	0730	1550	BLEN										
	0820	1546	WEIS										
04	0725	1548	WEIS										
	0730	1550	BLEN										
05	0723	1125	WEIS										
	0730	1550	BLEN										
	1137	1551	WEIS										
06	0727	1553	WEIS										
	0730	1550	BLEN										
	1303	1616	WEIS										
07	0725	0942	WEIS										
	0730	1414	BLEN										
08	0951	1616	BLEN										
09	0725	1616	BLEN										
10	0725	1620	BLEN										
11			LEAR				0237.3	0238.0	2				III
	0725	1620	BLEN										
			SGMR				1624.6	1625.3	1				V
			SGMR				1734.5	1736.5	1				V
			SGMR				1826.3	1829.3	1				V
12	0720	1620	BLEN										
13	0720	1620	BLEN										
14	0720	1620	BLEN										
15	0720	1620	BLEN										
	0738	1105	WEIS										
16	0720	1342	BLEN										
17			SGMR				2007.3	2015.1	1				II
			SGMR				2009.8	2011.1	1				III
			SGMR				2024.0	2035.6	1				II
18			LEAR				0752.6	1044.0	1				CONT
	0902	1630	BLEN										
	1333	1426	WEIS										
	1442	1626	WEIS										
19			LEAR				0148.5	0148.6	1				III
	0725	1629	WEIS										
	0953	1630	BLEN										
20	0706	1619	WEIS										
	0710	1630	BLEN										
			PALE				2036.3	2036.6	2				III
21	0710	1630	BLEN										
	0733	0921	WEIS										
	0931	1159	WEIS										
	1206	1347	WEIS										
	1353	1544	WEIS										
	1603	1704	WEIS										
22	0710	1013	BLEN										

SOLAR RADIO EMISSION SPECTRAL OBSERVATIONS

FEBRUARY 1985

Observation Day	Start (UT)	End (UT)	Sta	Decimetric Band Start (UT)	End (UT)	Int (1-3)	Metric Band Start (UT)	End (UT)	Int (1-3)	Dekametric Band Start (UT)	End (UT)	Int (1-3)	Spectral Type
22			SGMR				1248.1	1255.5	1				V
			WEIS				1248.3	1258.0	2				HB
	0708	1645	WEIS				1248.3	1258.0	3				II HARM,H,H
			WEIS				1248.4	1250.7	3				III G
			SGMR				1255.5	2202.0	1				CONT
23	0651	1509	WEIS										
	0719	1043	WEIS										
24	1128	1708	WEIS										
25			LEAR				0159.8	0200.0	1				III
	0800	1708	WEIS										
26			LEAR				0219.8	0220.3	1				III
27	1310	1620	BLEN										
28			LEAR				0545.1	0545.3	1				III
	0710	1620	BLEN										

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

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of burst
C = Underlying continuum (particularly with Type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III

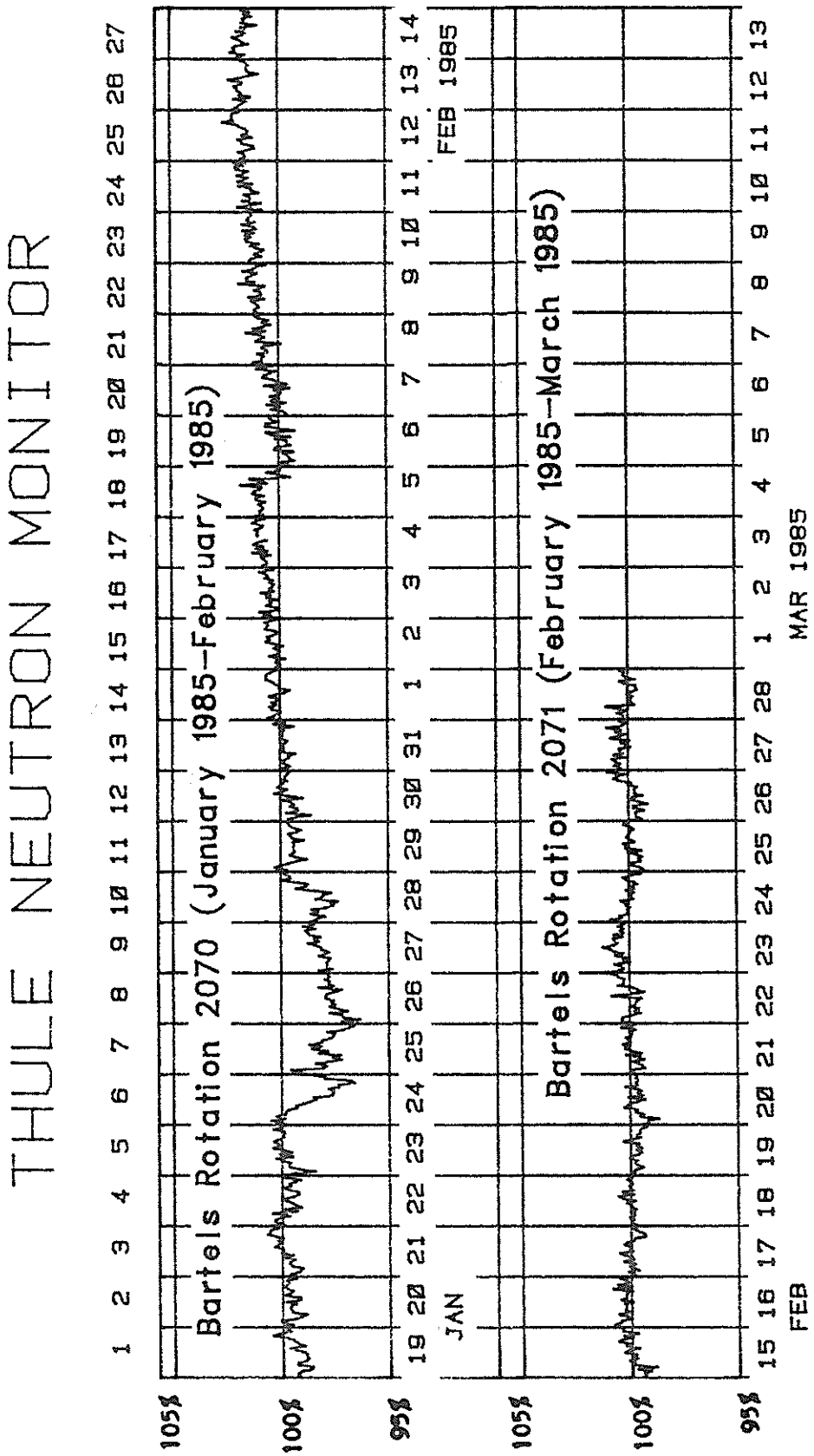
RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity
DCIM = Fast drift

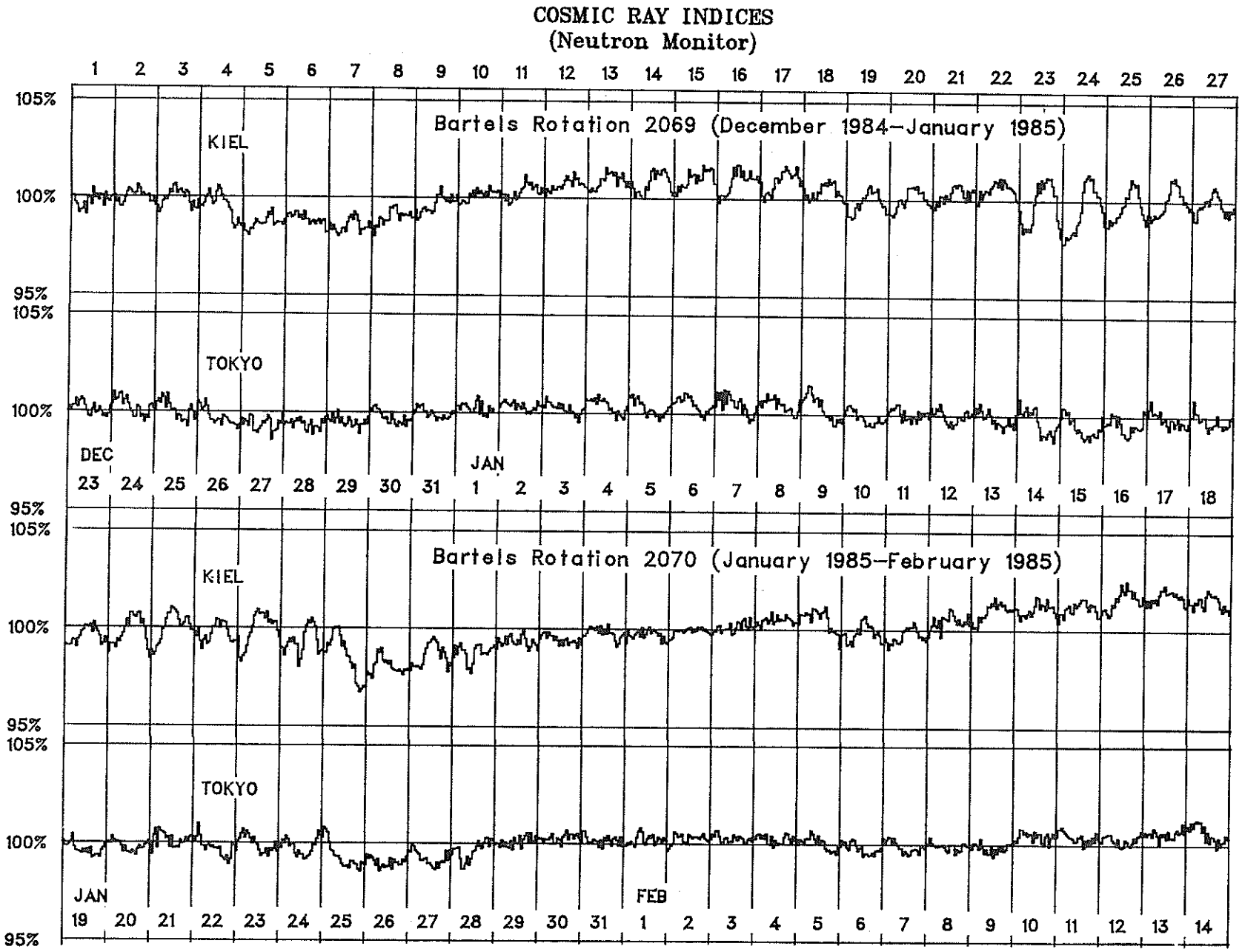
COSMIC RAY INDICES
(Neutron Monitor)

February 1985

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	PREDIGTSTUHL Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4271			5911.4		1118	3606.5	
2	4271			5923.0		1126	3608.0	
3	4281			5935.0		1128	3610.6	
4	4298			5956.7		1127	3608.7	
5	4291			5959.3		1126	3601.8	
6	4256			5920.1		1120	3591.7	
7	4268			5911.2		1119	3595.7	
8	4293			5955.5		1130	3596.6	
9	4307			5987.0		1124	3595.5	
10	4312			5994.7		1118	3616.5	
11	4323			5997.3		1130	3614.2	
12	4333			6023.7		1143	3609.2	
13	4330			6032.3		1144	3621.4	
14	4330			6018.4		1133	3621.9	
15	4329			6016.0		1130	3617.3	
16	4345			6018.7		1134	3618.9	
17	4329			6019.0		1139	3624.6	
18	4333			6014.5		1140	3616.4	
19	4318			5999.7		1143	3607.4	
20	4317			6001.9		1142	3607.6	
21	4327			6006.5		1141	3620.1	
22	4335			6009.5		1142	3622.0	
23	4353			6014.6		1138	3628.0	
24	4333			5983.0		1126	3629.7	
25	4325			5964.8		1128	3619.7	
26	4326			5999.2		1151	3621.0	
27	4349			6013.7		1160	3619.6	
28	4334			6030.1		1172	3620.3	
Mean	4315			5986.3		1135	3613.2	

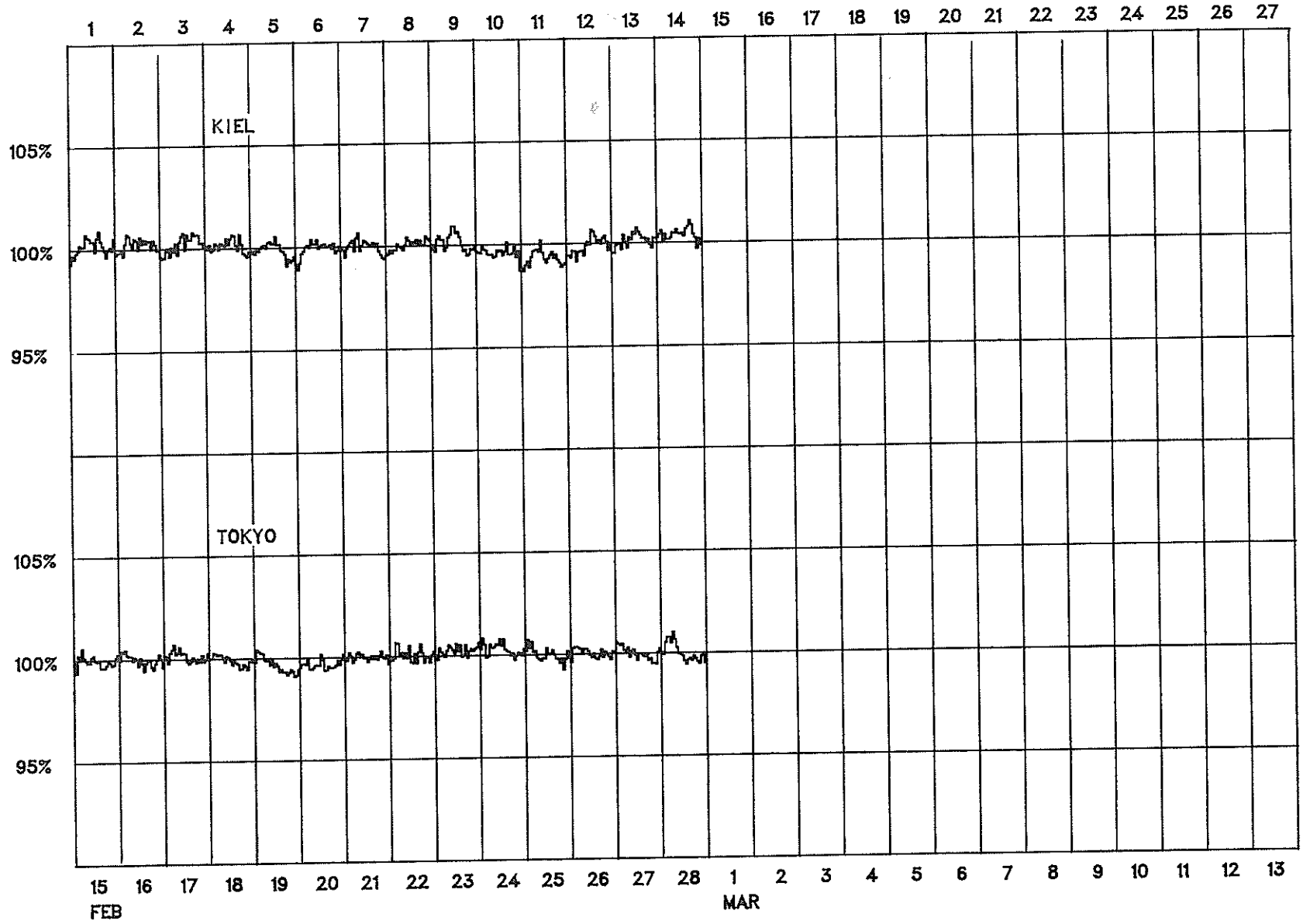
For less than 24-hour coverage, parentheses enclose the number of hours for which data are available.
For Climax and Huancayo, parenthese enclose the number of section hours whenever the sum of both sections falls below 40 hours.


THULE NEUTRON MONITOR
Bartels Rotation 2070 (January 1985–February 1985)
Bartels Rotation 2071 (February 1985–March 1985)
105%
100%
95%
JAN
FEB 1985
FEB
MAR 1985


COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2069 (December 1984–January 1985)
KIEL
TOKYO
DEC
JAN
Bartels Rotation 2070 (January 1985–February 1985)
KIEL
TOKYO
JAN
FEB
105%
100%
95%

COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2071 (February 1985–March 1985)



GEOMAGNETIC ACTIVITY INDICES

February 1985

Day		Kp Three-Hourly Indices 1	2	3	4	5	6	7	8	Sum	Ap	Cp	Km Three-Hourly Indices 1	2	3	4	5	6	7	8	Am	aa Provisional N	S	M	
1		3-	3	3+	3+	3-	4	3-	2-	23+	15	0.8	2	2	3	3	3-	3+	3-	1+	23	29	22	27	24	
2		1	4	3-	2+	2+	2+	3-	2+	20-	11	0.7	1+	3+	2+	2	2+	3-	2	2	19	21	14	16	19	
3	Q8A	2-	2-	1	1	3+	3-	3-	0+	14+	8	0.4	1+	1+	1+	2-	3	3-	3	1-	16	17	12	8	21	K
4	Q1	1	1	0+	0+	0+	0	1	1	5	3	0.0	1	1+	0+	1-	0+	0	1+	1	5	5	5	5	5	C
5	D5	1+	3+	4+	3	5-	4-	3+	4-	27+	21	1.1	1	3+	4-	3+	5-	3+	3+	3	38	44	30	25	49	
6	D2	5	4	5+	5-	5+	5+	6-	4-	39	46	1.5	4+	4-	5-	4+	5	5	5-	3+	67	81	59	58	82	
7		3+	3-	4-	4	4+	3+	2+	4-	27+	20	1.0	3-	2+	3+	4-	4	3	2	3+	32	40	28	33	36	
8	D4	4	2+	2-	4+	3	4+	4+	5-	29-	24	1.2	4-	2-	2	4	3	4	4	4	41	51	37	29	59	
9		3	3+	5-	3+	4-	3+	2+	3	27-	19	1.0	3-	3-	4-	3-	4	3	3-	3-	31	28	31	30	29	
10	D3	4-	4-	4+	3	4-	4-	5	2+	29+	24	1.2	3	3-	3+	3-	4-	3	5-	2+	36	43	28	29	43	
11		2	3-	3-	2+	3	3	3+	3+	22+	13	0.8	2-	2+	2+	2+	3	3-	3-	3	22	28	16	16	29	
12		2	3+	3	2	3	3	2-	1-	19-	11	0.6	2-	3	3	2+	3	3	1+	0+	21	21	16	19	18	
13		1-	0	0+	2-	3-	3-	4+	3+	16-	11	0.6	1-	0	0	1+	2+	3-	4-	3	17	23	12	4	31	
14		3	3-	4-	2+	2	4-	3-	4	24	16	0.9	3-	2+	3-	2-	2	4-	3	3+	26	36	17	15	38	
15	Q10A	4-	3	3-	1-	0+	1-	2-	2+	15	9	0.5	3+	2+	2	1-	0+	1-	1+	2+	14	17	7	14	10	C
16	Q5A	0+	1	1	1+	2+	2+	3	2	13+	7	0.3	0+	1	1	1+	3-	2+	3-	2	13	16	14	8	23	
17		2	3+	3	2+	3+	3	3-	1	21-	12	0.7	1+	3-	3-	2+	3+	3	3-	1+	21	25	17	19	23	
18	Q2	0+	1+	2-	1+	1-	1-	1	1-	8-	4	0.1	0+	2-	1+	1+	1	1	1+	1	7	7	5	6	7	CK
19	Q4A	1+	2	1-	1	1	1	3-	3+	13	7	0.4	1	2-	1-	1	1	1	2	3-	11	17	8	8	18	K
20		3+	3	3+	2+	2+	1-	1+	1	17+	10	0.6	3-	2+	3	3-	2+	1	2-	1	18	19	14	23	11	
21	Q9A	0	1	2-	1+	2-	3-	3+	3-	14+	8	0.4	0+	1+	1+	1+	2+	3-	3+	3-	16	19	13	7	26	
22	Q6A	3-	2	1	2	2	2	2-	2	15+	7	0.4	2	1+	1	2-	2+	2-	2-	2	12	18	12	13	17	
23	Q7A	2	2	2-	1+	2	2-	3-	2+	16-	7	0.4	2	2-	1+	2-	2+	2	3-	3-	16	18	14	13	20	
24		4-	4	4-	3-	3-	2+	2+	4	25+	18	1.0	4-	3+	3	3	3-	2	2+	3+	30	32	22	31	24	
25		2+	3+	4-	2+	2	3+	1+	2-	20	12	0.7	2	3-	3	2+	2	3-	1+	2-	19	23	13	20	16	
26	Q3	3-	2+	1+	0	0	1-	2	2-	11-	5	0.2	2+	2-	1+	0	0+	1-	2+	1+	10	14	5	11	9	CC
27		2	2-	1	2-	2-	1+	2+	7-	18+	19	1.0	2-	1+	1+	2-	2+	2-	3-	5+	27	33	22	10	45	
28	D1	6+	7	7-	5	5	4-	3+	2	39	60	1.7	6-	5+	5+	4+	5-	4-	3+	2	73	69	53	81	41	
Mean											15	0.72									24.3	28.4	19.5	24.1		

Day	Kn Three-Hourly Indices 1	2	3	4	5	6	7	8	An	Ks Three-Hourly Indices 1	2	3	4	5	6	7	8	As	S_a	Prov R_I	R_a	R_s	IMF	
1	2+	2+	3	3	3-	3+	3-	2-	25	2	2-	3-	3	3-	3	3-	1+	21	72.2	18	29	16	A	-
2	1	4-	2+	2	3-	3-	2+	2	21	1+	3	2+	2	2+	2+	2	2	17	73.8	25	25	18	A	-
3	2	1+	1+	2	3	3-	4-	1-	18	1	2-	1+	1+	3-	3	2	1-	14	73.6	25	27	17	A	-
4	1	2-	0+	1-	0	0	1+	1-	5	1	1	0+	1-	0+	0	1+	1+	5	70.9	22	27	15	T	-
5	1+	3+	4	3+	5-	4-	4-	3+	44	1	3+	3	3	4+	3	3	3-	32	71.2	20	18	15	AT	-
6	5-	4-	5-	4+	5+	5+	5	3	77	4	4-	5-	4+	5-	4	4	3+	57	70.6	16	13	14	A	-
7	3-	2	4-	4	5-	3+	2	3+	37	3	2+	3-	3	4-	3-	2	3+	27	70.3	7	8	14	A	-
8	4-	2-	2	4+	3+	4	4+	4+	45	4-	2-	2	4-	3	4	4-	4	37	72.5	19	15	16	AT	-
9	3-	3-	4+	3+	4+	3+	2+	3-	35	3-	3-	3	2+	4-	3	3-	3-	27	73.2	24	23	17	A	-
10	3	3-	4-	3	4-	3+	5	2	41	3	3-	3+	2+	4-	3	4	3-	32	73.6	19	22	17	T	-
11	2-	3-	2+	3-	3	3	3	3+	25	2-	2-	2	2+	3-	2+	2+	3-	18	73.2	11	16	17	AT	-
12	2-	3+	3+	2+	3+	4-	2-	1-	24	2	3-	3	2	3	3-	1+	0+	18	72.3	10	12	16	A	-
13	1-	0	0+	2-	3-	3-	4	3	19	1-	0	0	1+	2-	2+	3+	3	15	70.8	10	14	14	T	-
14	3-	3-	3	2	2+	4	3	4-	30	2+	2	2+	2-	2	4-	3-	3	22	70.6	11	12	14	A	-
15	3+	2+	3-	1-	0+	1+	2-	2+	16	3	2+	2-	0+	0+	0+	1-	2	11	70.2	11	13	14	T	-
16	1-	1	1	1+	3-	3-	3-	2	14	0	1	1-	2-	3-	2	2+	2	12	69.8	10	11	13	T	-
17	2-	3-	2+	3-	4-	3	3	1+	24	1+	3	3-	2	3-	3-	2+	1-	19	70.9	16	9	15	T	-
18	1-	2-	2-	1+	1+	1	1+	1-	8	0+	2-	1+	1	0+	1	1	1	6	73.4*	10	0	17	A	-
19	1+	2	1	1	1+	1+	2+	3	13	1	2-	1-	1+	1	1	2	2+	10	76.1	19	20	20	-	-
20	3	2+	3-	2+	2+	1	2-	1+	17	3-	2	3	3	3-	1	2	1-	18	75.0	27	29	19	T	-
21	1-	2-	2-	1+	2+	3-	3+	3-	18	0+	1	1+	1+	2	2+	3+	2+	15	74.2	27	25	18	AT	-
22	2	1+	1	2	3-	2-	2	2	13	2	1+	1	2-	2+	2-	1+	2-	12	73.3	25	25	17	T	-
23	2	2-	2-	2-	2+	2	3-	2+	16	2	2	1+	2-	2	2-	3-	3	16	71.7	16	17	15	T	-
24	4-	3+	3+	3-	3-	2	3-	3+	30	4-	3+	3	3+	2+	2	2	4-	31	70.5	11	12	14	T	-
25	2	3	4-	3-	3-	3	2-	2-	24	2+	2	2+	2-	2-	2+	1+	1+	14	70.1	11	12	14	-	-
26	3-	2-	1+	0	0+	1-	2+	2-	11	2+	2-	1+	0	0+	1	2+	1+	10	69.7	11	12	13	-	-
27	2-	1+	1	1+	3-	2-	3	6-	29	2-	1+	1+	2-	2	2-	2+	5+	24	68.9	10	11	12	-	-
28	6-	6-	5+	4+	5-	4-	4-	2+	81	5	5	5	4+	4+	4-	3	2	64	69.7	9	12	13	-	-
Mean									27.1									21.6	71.9	16.1	16.8	15.7		

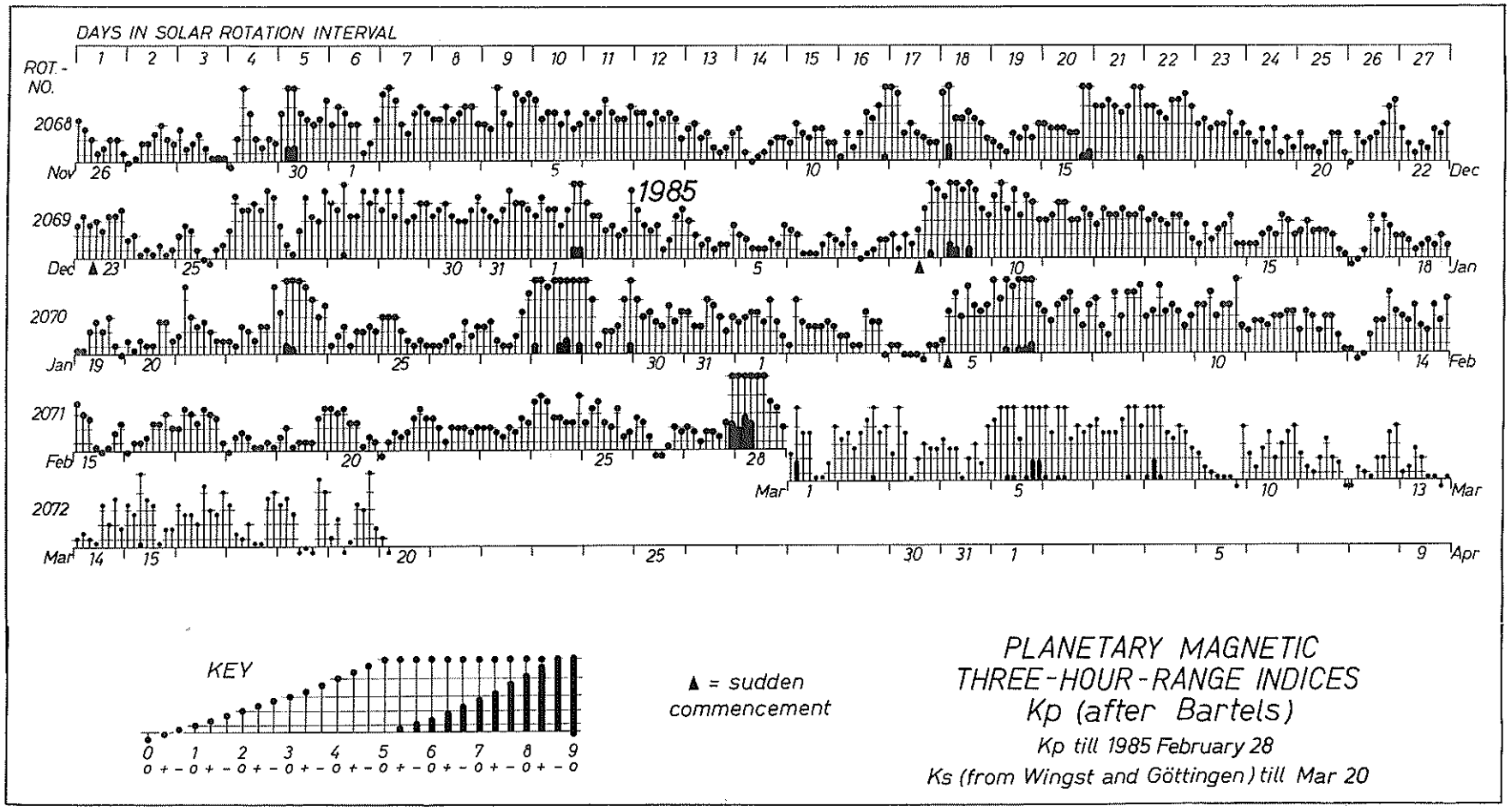
D A I L Y A V E R A G E I N D I C E S Ap

DAY	1984 MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1985 JAN	FEB
1	32	34	22	7	14	75	11	7	27	15	33	15
2	38	46	13	12	12	24	12	10	12	27	17	11
3	35	42	12	32	12	14	12	20	18	22	13	8
4	9	84	13	26	12	14	59	6	18	28	7	3
5	4	57	27	19	12	7	63	7	13	20	6	21
6	31	12	10	12	10	4	12	21	14	22	5	46
7	26	25	4	10	7	4	6	43	20	18	5	20
8	29	58	5	10	10	14	11	24	20	8	19	24
9	13	37	19	20	9	17	12	20	12	6	46	19
10	17	8	27	15	14	8	25	29	18	9	29	24
11	9	13	10	11	11	11	17	28	20	19	20	13
12	11	15	12	7	13	15	13	32	8	17	19	11
13	19	15	9	6	62	8	11	17	10	27	14	11
14	6	18	12	4	40	20	14	15	14	8	9	16
15	9	10	9	24	25	22	10	14	52	24	9	9
16	16	4	7	42	25	15	8	19	112	33	8	7
17	22	8	32	11	43	11	6	3	35	28	9	12
18	18	7	12	27	19	6	3	43	22	15	6	4
19	12	12	22	29	14	14	36	75	21	8	7	7
20	4	20	30	16	12	10	21	63	20	6	6	10
21	7	11	44	3	8	3	10	47	22	13	12	8
22	21	5	32	6	9	1	22	46	14	9	11	7
23	18	6	30	11	8	8	112	27	10	16	36	7
24	10	6	30	22	12	23	52	39	10	4	7	18
25	34	33	16	10	8	18	43	22	10	5	9	12
26	16	103	14	8	6	10	42	14	8	26	6	5
27	23	26	7	10	14	36	25	8	7	17	11	19
28	60	17	8	21	18	36	16	8	6	31	58	60
29	52	18	9	12	12	21	12	7	13	26	24	
30	29	9	17	12	8	16	11	7	36	21	17	
31	25		7		17	12		6		24	15	
MEAN	21	25	17	15	16	16	24	23	21	18	16	15

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

University of Gottingen

Kp through February 28, 1985



R9	Rot.-No.	1st day	C9	
645 876 ■	19	J 8	2. . . . . .34 34. .46 55 2 234 3 66 776	766 654
■ 8 877 788	82	F 4	766 654 677 775 .66 665 766 773 378	434 . .3
■ 7 888 888 ■		M 3	434 . .3 543 233 . .4 533 562 353 2.3	455 775
887 887 668	2032	M 30	455 775 55. 33 774 3 .23 532 565 247	265 665
754 555 467	33	A 26	265 665 675 4. . .2. 2. . 252 353 22.	. .2 677
776 677 888	34	M 23	. .2 677 666 552 . .4 424 767 766 3. .	652 555
875 333 4 ■	35	J 19	652 555 446 656 53. . .4 543 267 ■ 6	765 663
■ 5 225 688	36	J 16	765 663 437 566 555 637 645 68. 566	53. . .4
766 567 788	37	A 12	53. . .4 423 464 555 336 642 356 687	373 444
667 777 888	38	S 8	373 444 433 366 678 653 774 236 623	2565.4
556 546 876	39	0 5	2565.4 446 624 554 432 . .4 643 666	665 223
666 777 775	2040	N 1	665 223 .32 354 533 2.3 3.6 667 764	663 . .2
578 ■ 8 756	41	N 28	663 . .2 33. 665 754 .23 477 676 765	425 554
765 576 666	19	D 25	425 554 232 32. . . .2 573 522 566 644	322 543
556 765 322	83	J 21	322 543 324 533 .2 7 ■ 77 555 566 666	443 765
234 666 542		F 17	443 765 44. .22 576 663 2.2 .67 664	335 663
565 544 445	2045	M 16	335 663 223 73. 666 654 444 666 552	367 765
546 678 766	46	A 12	367 765 323 344 766 436 654 366 423	.27 765
777 677 655	47	M 9	.27 765 527 3.3 676 732 3.. 233 2..	.3. 356
665 667 765	48	J 5	.3. 356 347 342 465 455 4.. 323 3..	222 .44
555 566 764	49	J 2	222 .44 33. .45 . .5 652 2.2 563 .23	452 .64
675 566 544	2050	J 29	452 .64 . . 573 . .662 3 . . 236 465	66. 245
444 555 333	51	A 25	66. 245 64. . . . .54 433 32. 566 375	33. 266
344 356 775	52	S 21	33. 266 432 .35 572 534 .2. .65 537	72. 455
322 .23 553	53	0 18	72. 455 5. . .265 265. . .3 676 675	656 665
33. . .2 235	54	N 14	656 665 62. .34 524 554 2. . 466 3.5	655 64.
543 22. . .2	2055	D 11	655 64. . .2 . .3 343 443 266 655 664	. . . 43.
344 455 776	19	J 7	. . . 43. 2. . .2. 523 3. . 242 556 545	574 222
567 654 676	84	F 3	574 222 255 367 5.2 4.4 424 224 623	666 2.6
544 567 666		M 1	666 2.6 663 423 5.2 455 3.2 553 645	776 667
675 422 455	2059	M 28	776 667 777 367 624 445 2.2 235 3. .	.68 645
777 436 765	2060	A 24	.68 645 254 336 3. . 562 323 2.6 356	766 644
565 532 235	61	M 21	766 644 222 42. 366 533 354 3. . .57	366 4. .
544 334 554	62	J 17	366 4. . 353 235 334 333 332 324 337	666 754
222 3. . 223	63	J 14	666 754 322 232 .45 324 764 42. .44	234 255
322 .23 334	64	A 10	234 255 43. 42. . .2 5 526 654 333 377	3.3 364
2.	65	S 6	3.3 364 434 22. .65 358 777 643 3.3	5.2 575
. .2 .22 . . .	66	0 3	5.2 575 566 644 45. 777 776 654 222	. .6 355
. . . 22. .34	67	0 30	. .6 355 345 535 522 478 655 554 323	2. . 364
322 222 22.	68	N 26	2. . 364 656 555 2.2 546 266 642 .42	4. . 646
22. 22	2069	D 23	4. . 646 656 644 2. . . .57 655 422 22.	. . 3 36.
43. .22 .2.	19	J 19	. . 3 36. 2.3 764 443 2.5 756 564 334	2.3 .23
.22	85	F 15	2.3 .23 222 53. 574 542 765 6.2 .2.	.43 232
.2. 22.		M 14	.43 232 . . . . . 224 .22 556 42. .246	
	2073	A 10	342 24. 33 preliminary	
	74	M 7		

Symbol	.	2	3	4	5	6	7	8	■
$\bar{R}$ =	0	1-15	16-30	31-45	46-60	61-80	81-100	101-130	131-170	171...
R9,C9 =	0	1	2	3	4	5	6	7	8	9
Cp =	0.0-0.1	0.2-0.3	0.4-0.5	0.6-0.7	0.8-0.9	1.0-1.1	1.2-1.4	1.5-1.8	1.9	2.0-2.5

DAILY GEOMAGNETIC CHARACTER FIGURES C9 AND 3-DAY MEAN SUNSPOT NUMBERS R9

(after Bartels)

Editor: Institut für Geophysik, Postfach 2341, D-3400 Göttingen, F.R. Germany

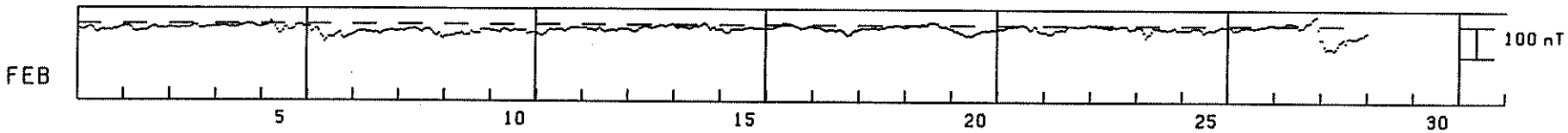
NASA/GODDARD SPACE FLIGHT CENTER

HOURLY EQUATORIAL DST VALUES(PROVISIONAL)

FEBRUARY 1985

UNIT=NT U.T.

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-15	-19	-20	-17	-13	-10	-10	-16	-24	-28	-25	-20	-19	-21	-22	-20	-22	-21	-16	-19	-15	-13	-9	-8
2	-7	-8	-10	-14	-23	-25	-25	-23	-22	-22	-22	-21	-17	-13	-9	-9	-11	-15	-14	-13	-15	-14	-12	-11
3	-12	-14	-13	-16	-15	-12	-13	-13	-12	-13	-10	-5	-4	-6	-13	-14	-14	-14	-10	-11	-11	-10	-8	-8
4	-9	-8	-5	-6	-7	-10	-12	-10	-9	-11	-10	-8	-5	-3	-1	0	0	-1	0	-3	-6	-10	-10	-8
5	-6	-5	-3	2	9	2	-10	-20	-30	-30	-21	-11	-12	-19	-20	-17	-13	-4	-1	-4	-1	-8	-6	-6
6	-9	-25	-22	-14	-14	-22	-37	-44	-57	-50	-41	-41	-42	-40	-33	-29	-26	-40	-46	-43	-39	-37	-34	-32
7	-28	-24	-21	-21	-22	-20	-25	-24	-25	-27	-27	-25	-27	-32	-27	-24	-22	-22	-19	-19	-19	-22	-22	-20
8	-19	-21	-22	-17	-15	-14	-15	-12	-15	-18	-22	-25	-19	-15	-15	-15	-21	-29	-34	-36	-29	-41	-45	-39
9	-37	-38	-36	-34	-34	-30	-31	-31	-26	-34	-33	-32	-31	-23	-27	-28	-29	-27	-17	-16	-16	-17	-16	-20
10	-19	-21	-21	-24	-25	-18	-14	-18	-19	-21	-22	-18	-16	-20	-18	-19	-18	-18	-28	-27	-26	-25	-25	-27
11	-31	-34	-34	-30	-27	-20	-16	-17	-18	-17	-16	-16	-15	-18	-21	-17	-14	-11	-9	-9	-9	-10	-12	-11
12	-10	-11	-15	-14	-16	-18	-20	-14	-10	-16	-21	-23	-20	-18	-18	-17	-19	-20	-14	-13	-13	-14	-15	-16
13	-17	-22	-22	-21	-19	-12	-9	-6	-4	-6	-9	-11	-11	-10	-6	-4	-1	-2	-5	-6	-2	0	2	0
14	-7	-11	-7	-3	-9	-8	-11	-13	-9	-8	-5	-5	-6	-2	1	6	0	-10	-15	-9	-8	-15	-16	-15
15	-15	-21	-26	-25	-22	-16	-14	-16	-15	-16	-15	-13	-12	-11	-9	-8	-10	-12	-11	-12	-11	-12	-14	-13
16	-12	-12	-12	-8	-7	-4	-2	1	5	6	4	2	0	-1	-5	-7	-10	-13	-11	-9	-8	-5	-6	-6
17	-8	-9	-8	-10	-13	-16	-19	-17	-15	-16	-17	-20	-17	-14	-18	-21	-27	-33	-32	-28	-22	-17	-17	-15
18	-12	-11	-12	-12	-12	-12	-9	-9	-10	-13	-11	-10	-8	-8	-5	-3	-3	-2	0	-1	-2	-4	-6	-8
19	-6	-5	-1	0	-1	0	-2	-2	2	2	0	5	7	9	9	6	5	-2	-6	-6	-4	-8	-11	-13
20	-14	-20	-20	-23	-26	-27	-32	-34	-32	-34	-32	-30	-26	-23	-21	-17	-17	-17	-17	-18	-16	-16	-15	-14
21	-12	-12	-12	-10	-6	-3	-3	-3	-2	-3	-1	1	0	0	-4	-11	-15	-12	-4	-6	-17	-22	-23	-23
22	-23	-27	-27	-27	-23	-16	-15	-15	-13	-15	-16	-7	-1	-2	-2	-3	-5	-6	-2	-3	-3	-1	2	2
23	0	0	3	-2	-5	-2	-6	-7	-6	-9	-8	-4	-5	-7	-4	-2	-1	-2	-4	-11	-14	-11	-11	-6
24	-5	-5	-10	-22	-38	-30	-26	-18	-7	-9	-10	-8	-13	-14	-13	-15	-13	-12	-8	-7	-14	-15	-14	-14
25	-15	-15	-14	-14	-11	-7	-9	-10	-9	-14	-23	-22	-17	-14	-16	-17	-16	-12	-8	-5	-4	-6	-6	-2
26	-4	-9	-15	-16	-16	-12	-7	-6	-5	-6	-6	-7	-8	-9	-7	-6	-4	-4	-3	-1	1	2	4	2
27	0	-3	-1	-1	2	5	9	10	11	6	5	2	-8	-7	-6	1	8	10	13	21	27	31	-11	-44
28	-45	-67	-76	-74	-75	-75	-80	-74	-64	-54	-49	-44	-56	-41	-39	-40	-43	-40	-39	-34	-32	-31	-25	-22



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

FEBRUARY 1985

Sta	Geomag Lat	Commencement Time Day	(UT)	Type	SC Amplitudes D (Min)	H (Gamma)	Z (Gamma)	Maximum 3-Hour K Index Day(3-Hour Periods)	K	Ranges D (Min)	H (Gamma)	Z (Gamma)	End Day	Hour (UT)
COL	64.6N	05	0347	SC*	16	135	22	06(6) 07(4,5)	7	234	1620	850	07	22
SIT	60.0N	05	0348	SC*	5 *	39 *	5 *	06(5)	7	--	480	510	07	15
WIT	54.2N	05	0348	SC*	4 *	20	0	06(6,7)	6	45	150	64	07	02
FRD	49.6N	05	0347	SC	1	24	- 4	05(3,5) 06(3,4,5,6,7) 07(3) 08(1) 09(3) 10(7)	5	24	120	45	11	--
BJI	28.5N	05	0348	SC	1.4	17	..	06(5)	6	11	127	23	07	02
HON	21.1N	05	0347	SC	...	14	5	05(3,5) 06(1,2,3,5)	4	27	130	30	06	15
JAI	17.3N	05	0348	SC	- 0.7	17	- 5			7	125	26	06	24
SHL	14.7N	05	0348	SC	0.5	14	5			--	--	--	06	24
UJJ	13.5N	05	0348	SC	- 0.4	21	- 6			6	117	25	06	24
ABG	09.5N	05	0348	SC	- 0.4	19	- 5	05(5,6) 06(1,3,5,7)	5	4	133	35	06	24
HYB	07.6N	05	0348	SC	0.3	23	- 3	05(5) 06(1,3,4,7)	5	5	147	24	06	23
GUA	04.0N	05	0348	SC*	...	15	- 4	05(5)	5	--	100	20	05	18
ANN	01.5N	05	0348	SC	- 1	38	12			6	175	59	06	24
TRV	01.1S	05	0348	SC	- 0.3	35	- 4			5	197	100	06	24
PMG	18.6S	05	0348	SC	5	22	20	05(5) 06(3,5)	5	10	120	70	07	00
HER	33.7S	05	0347	SC	3	17	16	06(3,4)	5	32	112	144	07	03
CNB	43.9S	05	0348	SC*	1.5	* 27	4	05(5) 06(3,5)	5	19	124	65	06	21
KGL	56.5S	05	0352	SC	1	6	2	06(3,4,5,6,7)	5	40	216	164	07	04
GUA	04.0N	06	0040	..	..	..	..	06(3)	5	10	140	20	06	21
COL	64.6N	08	09--	..	..	..	..	08(4) 09(4,5) 10(5)	6	140	1120	710	10	22
HYB	07.6N	08	0500	..	..	..	..	10(7)	5	5	80	34	10	21
GUA	04.0N	09	0039	..	..	..	..	09(5)	5	10	70	30	09	20
HYB	07.6N	16	0600	..	..	..	..	17(5,6)	4	3	108	17	17	23
HYB	07.6N	23	0230	..	..	..	..	24(3)	4	4	69	26	24	23
COL	64.6N	27	21--	..	..	..	..	28(2,5)	7	291	1760	1300	28	21
SIT	60.0N	27	21--	..	..	..	..	28(2)	7	--	--	600	28	17
WIT	54.2N	27	1900	..	..	..	..	27(8)	7	47	228	75	28	24
BJI	28.5N	27	19--	..	..	..	..	28(3)	6	12	179	16	28	24
JAI	17.3N	27	2000	..	..	..	..			4	109	14	28	22
SHS	14.7N	27	2000	..	..	..	..			4	125	23	28	22
UJJ	13.5N	27	2000	..	..	..	..			3	102	13	28	22
ABG	09.5N	27	2000	..	..	..	..	27(8) 28(1)	5	3	111	26	28	22
HYB	07.6N	27	0930	..	..	..	..	27(8) 28(1,2,3)	5	3	117	13	01	12
GUA	04.0N	27	14--	..	..	..	..	27(8)	6	--	150	20	28	18
ANN	01.5N	27	2000	..	..	..	..			3	104	44	28	22
TRV	01.1S	27	2000	..	..	..	..			2	113	71	28	22
PMG	18.6S	27	19--	..	..	..	..	27(8) 28(4,5)	5	8	60	50	28	19
HER	33.7S	27	20--	..	..	..	..	27(8) 28(3)	5	30	117	93	28	21
CNB	43.9S	27	21--	..	..	..	..	27(8) 28(3,4,5)	5	22	140	72	01	11
KGL	56.5S	27	1230	..	..	..	..	27(8) 28(1)	6	59	328	--	28	22

ABG = ALIBAG
ANN = ANNAMALAINAGAR
BJI = BEIJING
CNB = CANBERRA
COL = COLLEGE
FRD = FREDERICKSBURG
GNA = GNANGARA
GUA = GUAM
HER = HERMANUS
HON = HONOLULU
HUA = HUANCAYO
HYB = HYDERABAD
IRK = IRKUTSK
JAI = JAIPUR
KGL = KERGUELEN
PMG = PORT MORESBY
SHL = SHILLONG
SIT = SITKA
TRD = TRIVANDRUM
UJJ = UJJAIN
WIT = WITTEVEEN

RADIO PROPAGATION QUALITY INDICES

FEBRUARY 1985

Day	Bracknell	Teheran	New York	Tokyo	Canberra
1	6.3	7.0	5.5	5.2	6.4
2	7.0	5.2	5.9	4.9	8.0
3	6.4	8.7	6.8	5.8	7.5
4	6.0	8.4	6.2	5.5	8.7
5	8.1	6.4	7.5	6.2	7.3
6	3.9	4.0	5.0	4.2	6.4
7	5.2	4.0	5.6	7.1	6.9
8	5.7	4.8	4.9	6.8	6.3
9	4.1	3.8	4.9	5.9	5.8
10	5.1	4.9	4.3	6.1	5.9
11	4.1	6.0	4.5	6.0	5.6
12	4.1	5.0	5.3	5.9	5.6
13	3.8	4.9	6.2	3.5	5.7
14	3.9	4.9	7.1	3.2	5.6
15	4.1	5.3	6.7	4.2	5.6
16	5.5	5.9	7.4	4.9	6.6
17	5.4	5.8	6.3	5.9	6.6
18	5.2	5.7	7.6	4.9	4.8
19	6.0	5.1	7.3	5.3	5.8
20	6.3	5.6	3.4	6.3	4.9
21	6.1	5.4	6.6	6.3	3.7
22	5.3	4.6	6.8	3.2	3.0
23	6.6	6.3	7.0	3.9	4.8
24	5.6	5.7	5.9	4.9	3.3
25	5.7	4.9	3.7	5.0	3.9
26	6.9	7.0	6.7	5.6	3.9
27	6.3	6.2	7.0	5.6	4.7
28	3.6	2.9	0.2	2.2	2.4
Mean	5.4	5.5	5.8	5.2	5.6

CALCULATION OF QUALITY INDICES (Q)

From all 24 hourly field strength values and from all frequencies of the same circuit a median field strength value is calculated (FD). This daily value is compared with the average value (FA) of the preceeding 27 days (1 sun rotation).

$$Q = 6.0 + 20 \log(FD/FA)/3.0$$

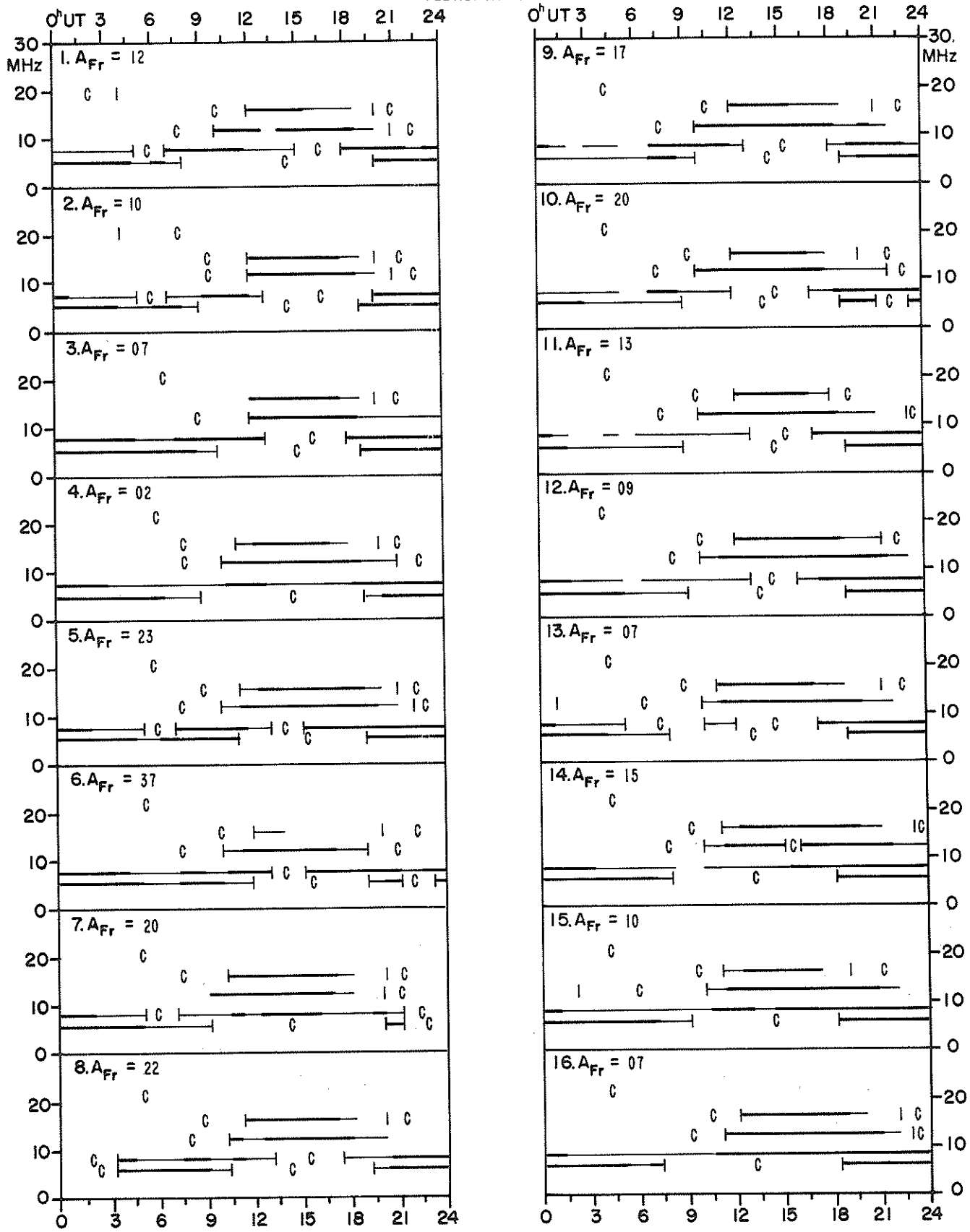
The quality indices vary from 0.0 to 9.9 where 6.0 is normal. Conditions are "normal" (index = 6.0), if they correspond to the average of the preceeding 27 days.

SCALE FOR QUALITY INDICES

0.0 - 1.0 = very poor
1.1 - 3.0 = poor
3.1 - 5.0 = fair
5.1 - 7.0 - normal
7.1 - 9.0 = good
9.1 - 9.9 = very good

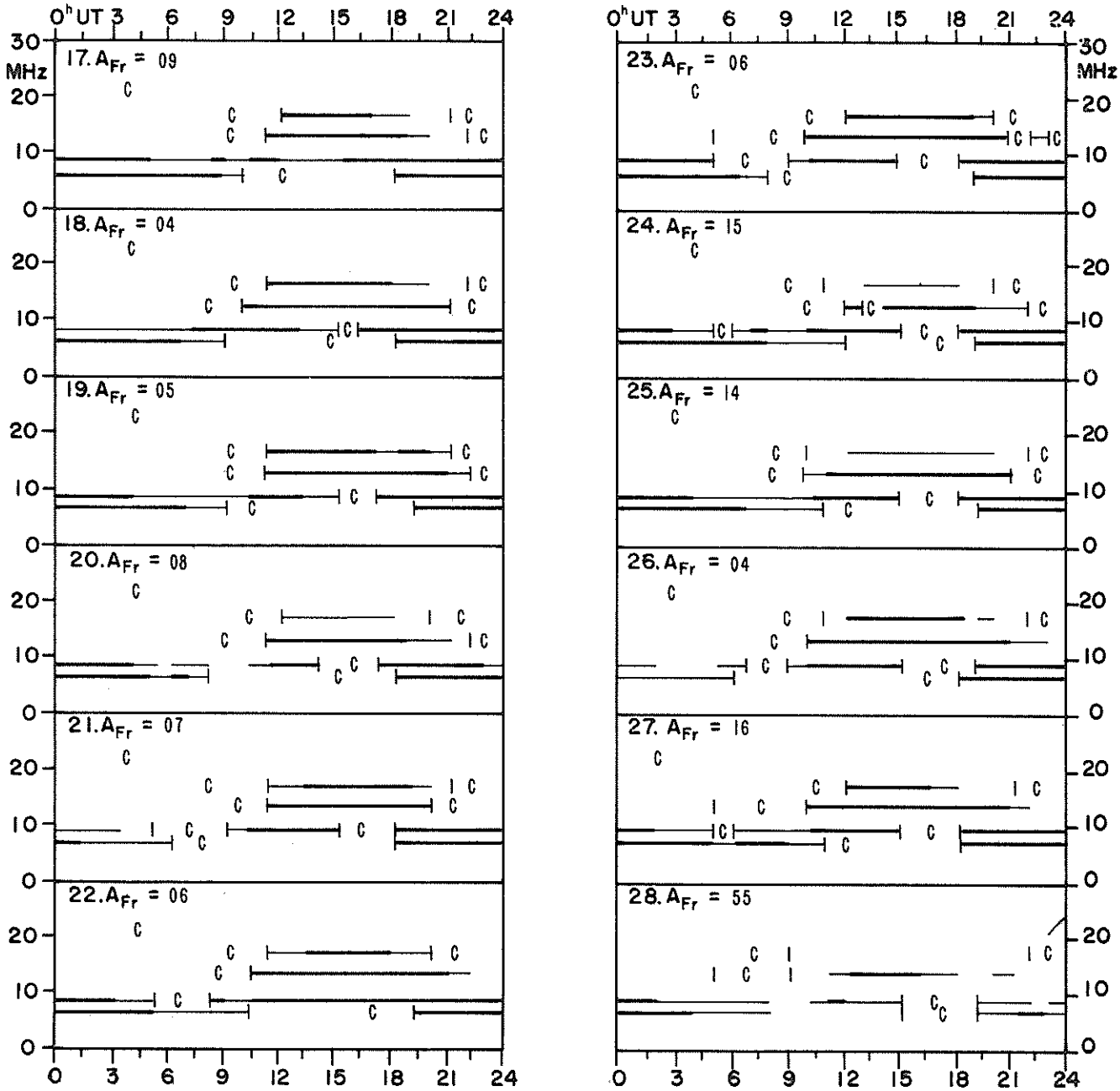
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

FEBRUARY 1985



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

FEBRUARY 1985



Field strengths from five frequencies, 6.4, 8.6, 13.0, 17.0 and 22.5 MHz, observed on a Lüchow - New York circuit are represented above. Heavy solid lines represent field strengths ≥ -12 dB above 1 μv/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μv/m and -40 dB above 1 μv/m are represented by the fine line.

C O N T E N T S

Prompt Reports LATE DATA Number 488 Part I

PIONEER XII (VENUS ORBITER)
ONE-HOUR MAGNETIC FIELD AVERAGES AT APOAPSIS

DECEMBER 1984

Day	Time (UT)	NanoTeslas in Spacecraft Coordinates (Bx)sc	(By)sc	(Bz)sc	Bt	Region W-Wake
1	1050	3.74	-8.22	-1.22	10.20	W
2	1050	6.96	-3.90	-2.60	9.36	W
3	1050	6.27	-4.26	-0.13	8.44	W
4	1050	3.25	7.58	0.49	9.49	W
5	1050	-10.94	-7.67	-3.78	16.87	W
6	1050	-15.32	14.77	-12.65	28.80	W
7	1050	-9.32	5.84	-1.38	13.45	W
8	1050	-9.07	1.04	4.94	12.94	W
9	1050	-6.37	2.91	-5.74	12.10	W
10	1050	-1.57	4.21	-0.85	9.07	W
11	1050	-2.18	4.53	-6.58	11.46	W
12	1050	3.98	4.99	1.34	8.81	W
13	1050	-1.10	2.00	3.85	7.46	W
14	1050	-6.71	-1.20	1.31	7.37	W
15	1050	1.34	3.67	-1.73	6.16	W
16	1050	9.20	-13.38	-4.17	19.30	W
17	1050	-6.48	-4.40	4.74	9.76	W
18	1050	-6.23	-3.50	3.31	8.08	W
19	1050	---	---	---	---	
20	1050	---	---	---	---	
21	1050	---	---	---	---	
22	1050	---	---	---	---	
23	1050	16.72	6.00	1.10	21.28	W
24	1050	---	---	---	---	
25	1050	14.43	-3.16	1.02	16.14	W
26	1050	15.02	-4.43	-0.41	16.44	W
27	1050	14.22	-2.74	0.15	15.58	W
28	1050	7.33	-2.14	-3.16	10.77	W
29	1050	7.61	-2.08	-0.12	9.86	W
30	1050	---	---	---	---	
31	1050	7.15	-2.30	0.13	9.83	W

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

JANUARY 1985

Storm Sudden Commencements (ssc)			Solar Flare Effects (sfe)		
Day	Time	Quality: Station Group*	Day	Begin-End	Station(s)
08	1412	A: COI LNP MPO; B: SOD DOB WNG GCK SPT FRD GNA CAO; C: WIT NGK HAD BDV CLF MMB EBR KAK HTY KNY AMS CZT KGL DUM	02	0938-0954	WIT
			07	1548-1606	MPO
			15	0436-0445	LNP
23	0805	B: WNG NGK LNP AMS CZT; C: GCK KGL	21	0333-0345	CLF
			21	2357-2451	MMB KAK HTY KNY

Reporting Observatories:

SOD DOB NUR WNG WIT NGK HAD BDV CLF GCK MMB EBR COI
SPT FRD KAK HTY KNY LNP MPO GNA CAO AMS CZT KGL DUM

*Three-letter codes identify each observatory.

Hourly Equatorial Dst Values (Provisional)

January 1977

UNIT=GAMMAS

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
																							G.M.T.	
1	-16	-17	-18	-21	-25	-27	-24	-23	-21	-21	-17	-18	-22	-21	-22	-20	-17	-20	-21	-20	-21	-30	-26	-22
2	-23	-26	-26	-28	-27	-23	-23	-23	-23	-23	-22	-22	-27	-26	-24	-22	-18	-17	-18	-16	-16	-15	-15	-15
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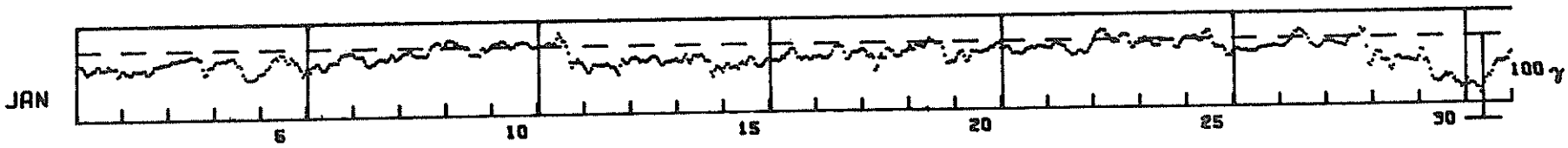

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The ICSU Panel on WDCs has recommended that it would be appropriate courtesy to acknowledge in publications that data were obtained from the originating station or investigator through the intermediary of the WDCs. The following statement is suggested:

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