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Part I (Prompt Reports)

NO. 492 AUGUST 1985

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JULY 1985
JUNE 1985

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

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3	Jan 58 - Dec 58	Microfilm	11	Jan 66 - Sep 66	Microfilm	19	Jul 70 - Dec 70	Microfilm
4	Jan 59 - Dec 59	Microfilm	12	Oct 66 - Dec 66	Microfilm	20	Jan 71 - Jun 71	Microfilm
5	Jan 60 - Dec 60	Microfilm	13	Jan 67 - Dec 67	Microfilm	21	Jul 71 - Dec 71	Microfilm
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NUMBER 492

(Issued in Two Parts)

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ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SUMMARY OF THE GEOALERT MESSAGES JULY 1985

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
182	01	30	012	072	008	S07E56	2	0	0		01	S07E56	Q	SOLQUIET MAGQUIET
183	02	01	037	074	014	S08W51	0	0	0		02	S08W51	Q	SOLQUIET
						S07E41	3	0	0			S07E41	Q	MAGQUIET
						S15E71	1	0	0			S15E71	Q	
184	03	02	031	082	005	S07E29	1	0	0	PRESTO TENFLARE 410 FLUX UNITS	03	S07E29	Q	SOLQUIET
						S14E56	5	1	0	02/2115 UT DURATION 32 MINUTES		S14E56	E	MAGQUIET
185	04	03	038	079	008	S08E16	0	0	0		04	S08E16	Q	SOLQUIET
						S14E45	1	0	0			S14E45	Q	MAGALERT MINOR 04/05
186	05	04	055	078	025	N06W13	0	0	0		05	N06W13	Q	SOLQUIET
						S08W00	0	0	0			S08W00	Q	MAGALERT
						S14E29	3	0	0			S14E29	E	MINOR 05/XX
						S18E32	1	0	0			S18E32	Q	
187	06	05	060	081	015	S08W13	0	0	0		06	S08W13	Q	SOLQUIET
						S14E16	1	0	0			S14E16	Q	MAGNIL
						S18E18	4	0	0			S18E18	Q	
188	07	06	060	085	017	S09W26	0	0	0		07	S09W26	Q	SOLQUIET
						S14E03	3	0	0			S14E03	Q	MAGQUIET
						S18E05	5	0	0			S18E05	E	
189	08	07	095	095	021	S09W41	0	0	0		08	S09W41	Q	SOLQUIET
						S08W20	0	0	0			S08W20	Q	MAGQUIET
						S16W09	3	0	0			S16W09	E	
						S14W09	1	0	0			S14W09	Q	
						S02E35	0	0	0			S02E35	Q	
190	09	08	086	095	013	S09W56	0	0	0		09	S09W56	Q	SOLALERT
						S08W35	2	0	0			S08W35	Q	09/XX
						S25W24	7	0	0			S25W24	E	MAGQUIET
191	10	09	094	101	013	S08W67	0	0	0	PRESTO PROTON EVENT BEGAN	10	S08W67	Q	SOLALERT
						S07W48	1	0	0	09/0235 UT MAXIMUM 140P/CM2/SEC		S07W48	Q	10/XX
						S15W36	6	1	0	/STER>10MEV AT 09/0325 UT.		S15W36	A	MAGALERT
						N04W08	1	0	0	TENFLARE 320 FLUX UNITS		N04W08	Q	10/11
										09/0128 UT.				FLARE
192	11	10	050	099	010	S09W81	0	0	0		11	S09W81	Q	SOLALERT
						S07W62	4	0	0			S07W62	Q	MAGALERT
						S15W49	7	0	0			S15W49	E	11/XX
						N04W21	0	0	0			N04W21	Q	FLARE
193	12	11	079	094	014	S08W76	5	0	0		12	S08W76	Q	SOLALERT
						S16W64	3	0	0			S16W64	A	12/XX
						N04W35	0	0	0			N04W35	Q	MAGALERT MINOR 12/XX
194	13	12	053	090	027	S08W87	0	0	0		13	S08W87	Q	SOLALERT
						S16W77	3	0	0			S16W77	E	13/XX
						N04W48	0	0	0			N04W48	Q	MAGNIL
195	14	13	028	083	011	S15W92	7	0	0		14	S15W92	Q	SOLNIL
						N04W60	0	0	0			N04W60	Q	MAGQUIET
196	15	14	011	074	015	N04W75	0	0	0		15	N04W75	Q	SOLQUIET MAGQUIET
197	16	15	000	071	010	SPOTNIL					16	SPOTNIL		SOLQUIET MAGQUIET
198	17	16	012	070	005	S14E68	0	0	0		17	S14E68	Q	SOLQUIET MAGQUIET

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SUMMARY OF THE GEOALERT MESSAGES JULY 1985

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
199	18	17	012	070	024	S14E55	0	0	0		18	S14E55	Q	SOLQUIET MAGQUIET
200	19	18	013	070	012	S14E40	0	0	0		19	S14E40	Q	SOLQUIET MAGQUIET
201	20	19	013	069	012	S14E27	0	0	0		20	S14E27	Q	SOLQUIET MAGQUIET
202	21	20	012	069	008	S14E13	0	0	0		21	S14E13	Q	SOLQUIET MAGQUIET
203	22	21	011	069	011	S13E01	1	0	0		22	S13E01	Q	SOLQUIET MAGQUIET
204	23	22	024	069	007	S13W12	0	0	0		23	S13W12	Q	SOLQUIET
						S13E52	0	0	0			S13E52	Q	MAGQUIET
205	24	23	023	069	015	S13W26	0	0	0		24	S13W26	Q	SOLQUIET
						S13E38	0	0	0			S13E38	Q	MAGALERT 24/25
206	25	24	012	069	014	S13E24	0	0	0		25	S13E24	Q	SOLQUIET MAGALERT MINOR 25
207	26	25	026	073	013	N02W07	0	0	0		26	N02W07	Q	SOLQUIET
						S12E10	0	0	0			S12E10	Q	MAGNIL
208	27	26	024	075	014	N02W21	0	0	0		27	N02W21	Q	SOLQUIET
						N07E83	0	0	0			N07E83	Q	MAGQUIET
209	28	27	024	077	016	S10E65	1	0	0		28	S10E65	Q	SOLQUIET
						N06E69	0	0	0			N06E69	E	MAGQUIET
210	29	28	060	079	011	S07W62	1	0	0		29	S07W62	Q	SOLQUIET
						S30W23	0	0	0			S30W23	Q	MAGQUIET
						S11E52	0	0	0			S11E52	Q	
						N06E59	0	0	0			N06E59	Q	
						S14E69	1	0	0			S14E69	E	
211	30	29	052	081	007	S06W77	1	0	0		30	S06W77	Q	SOLQUIET
						S11E39	0	0	0			S11E39	Q	MAGQUIET
						N07E45	2	0	0			N07E45	Q	
						S15E56	2	0	0			S15E56	E	
212	31	30	058	081	013	S07W91	0	0	0		31	S07W91	Q	SOLQUIET
						S13E43	2	0	0			S13E43	E	MAGQUIET
						N07E31	2	0	0			N07E31	E	
						S11E25	0	0	0			S11E25	Q	
213	01	31	037	080	031	N06E16	9	0	0		01	N06E16	Q	SOLQUIET
						S14E29	0	0	0			S14E29	Q	MAGALERT MINOR 01/XX 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 LATITUDE AND LONGITUDE, 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.

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS) JULY 1985

PRESTO BOULDER	02/2202 UT TENFLARE 190 FLUX UNITS 02/2118 UT DURATION 10 MINUTES
PRESTO TOYOKAWA	03/0040 UT TENFLARE 400 FLUX UNITS 02/2115 UT DURATION 32 MINUTES
PRESTO BOULDER	09/0232 UT TENFLARE 360 FLUX UNITS 09/0152 UT DURATION 16 MINUTES
PRESTO TOYOKAWA	09/0240 UT TENFLARE 320 FLUX UNITS 09/0128 UT DURATION 60 MINUTES
PRESTO BOULDER	09/0350 UT PROTON EVENT BEGAN 09/0235 UT 130 P/CM2/SEC/STER>10MEV PCA BEGAN 09/0315 UT 0.6 DB.

VIX.1 DISAPPEARING FILAMENT (UFILA)

NEW IUWDS CODE 1 JULY 1985

```
                                                          Repeated if filament
                                                          is divided into two
                                                           or more segments
                                                                 E
UFILA  S  IIIII  D1  ymmdd  T1  hhmmq  D2  ymmdd  T2  hhmmn  L1  QXXYY  U1  aaaed  L2  QXXYY  99999
                                                                                            end of
                                                                                            message
                                                                                  coordinates of other end
                                                                                  of filament (or filament
                                                                                  segment) at time of last
                                                                                  observation (T1)
                                                                       descriptive data of filament
                                                                       (of filament segment)
                                                           coordinates of one end of filament
                                                           at time of last observation (T)
                                                   time of 1st observation after disappearance
                                                   and number of segements
                                         date of 1st observation after disappearance
                                 last time filament observed prior to disappearance and
                                 character of disappearance
                        date of last observation prior to disappearance
                station identifier
```

Code for reporting the position, orientation and magnitude of a filament which has disappeared

S Station Identifier

D_1 Date of last observation prior to disappearance in format

ymmdd
y last digit of year
mm month of year
dd day of month

T_1 Universal time of last observation prior to disappearance and character of disappearance in format

hhmmq
hh is hour of day
mm is minute of hour
q general character of disappearance
q=1 slow disappearance taking of more than a half hour
q=2 rapid disappearance taking less than a half hour
q=/ not determined

D_2 Date of first observation after disappearance in same format as D_1

T_2 Universal time of first observation after disappearance and number of filament segments in format

hhmmn

hh is hour of day
mm is minute of hour
n is the number of filament segments encoded

L_1 Coordinates (at the time of last observation) of one end of the filament or filament segment in format

QXXYY
Q quadrant in heliographic coodinates of the point

Q=1 NE (North-east)
Q=2 SE (South-east)
Q=3 SW (South-west)
Q=4 NW (North-west)
XX distance to central meridian in degrees (longitude)
YY Heliographic latitude in degrees

This group should be coded ///// if the coordinates cannot be determined.

U_1 Descriptive data on filament segment in format

aaaed

aaa reduction in the uncorrected area of the envelope containing the dark matter in the filament segment (in heliographic square degrees at disk centre) replaced by /// if undetermined for any reason

e extent to which the filament segment has disappeared

e=0 no disappearance
e=1 incomplete disappearance with section of filament segment remaining
e=2 faint trace of entire filament segment remains
e=3 complete disappearance
e=/ not determined or not relevant

d darkness of filament segment
d=1 faint
d=2 normal
d=3 dark
d=/ not determined or not relevant

L_2 Coordinates of the other end of the filament (or filament segment) in the same format as L_1

E An end of code group, always coded as 99999

NOTES

1. The properties of one filament disappearance only can be encoded in a single UFILA Code

2. A "filament" consists of one or more dark sections which appear to lie along one magnetic inversion line

3. The location and orientation of a filament is described by specifying two or more positions along the filaments. The first position (L1) corresponds to one endpoint. Subsequent positions (L2,L3.....) refer to points of inflection where the gross orientation of the filament changes markedly. Between two consecutive points the filament should lie approximately along a great circle arc. The final position refers to the other endpoint

4. The interval between two consecutive positions is called a "filament segment" and its characteristics are specified in the U-groups. The filament need not appear continuous, in the form of dark absorbing material, over the entire segment. Filament material is nearly always irregular in shape and density which complicates the measurement of its area. Measurement of the area of a segment is made by first constructing an envelope which loosely encloses the dark matter of the filament segment. The area indicated in the code should be the reduction in the area of this envelope between the times D1T1 and D2T2

5. If a filament extends from the disk to beyond the limb then one endpoint will correspond to a disk position and the other endpoint will correspond to a limb position. If the filament lies entirely beyond the limb (prominence) only two positions indicating the limb extent of the prominence should be given In these cases the area may include measurements made of material both on the disk and above the limb

6. Properties that cannot be encoded should be replaced by slashes(/).

INTERNATIONAL (R_I) RELATIVE SUNSPOT NUMBERS

Day	1984 Final Aug	Sep	Oct	Nov	Dec	1985 Final Jan	Feb	Mar	1985 Prov Apr	May	Jun	Jul
01	14	45	7	16	19	0	18	13	25	19	10	21
02	17	50	8	14	22	0	22	13	21	15	0	27
03	19	61	11	11	19	0	25	9	23	14	11	30
04	25	58	11	14	19	0	22	0	17	18	26	32
05	18	53	0	12	16	0	20	0	23	16	35	38
06	24	32	0	0	21	0	16	0	19	14	37	43
07	27	21	0	11	18	0	7	0	11	32	38	71
08	32	20	12	13	23	11	16	14	9	44	42	67
09	35	13	14	13	21	14	24	15	9	56	42	85
10	31	10	17	21	15	0	19	13	0	49	58	82
11	29	9	22	27	28	0	13	16	0	49	66	61
12	31	9	16	21	29	13	10	18	0	33	54	45
13	28	9	10	16	28	16	11	14	0	32	45	25
14	27	0	9	15	28	26	13	10	10	32	36	9
15	23	8	14	13	26	25	11	0	0	32	37	8
16	23	12	19	11	30	26	10	11	0	31	30	9
17	18	0	24	11	24	29	12	20	0	38	21	11
18	17	0	25	14	12	26	10	35	10	41	18	11
19	11	10	25	13	11	27	19	27	9	40	10	11
20	16	0	17	27	11	55	27	19	11	37	9	11
21	12	9	19	36	14	59	27	9	17	36	9	10
22	10	10	12	36	12	50	25	15	31	34	9	10
23	19	8	11	41	11	39	16	22	28	32	12	18
24	24	8	9	47	16	33	11	36	30	25	13	12
25	36	7	10	59	21	20	11	30	37	19	12	10
26	49	0	10	44	20	9	11	33	33	11	10	13
27	41	0	8	39	14	8	10	27	31	12	8	12
28	37	0	0	39	16	0	9	36	27	12	8	36
29	34	0	8	30	15	9		25	26	10	9	51
30	27	8	11	20	10	0		29	26	8	11	46
31	36		14		10	17		23		8		40
Mean	26	16	12	23	19	16	16	17	16	27	24	31

The yearly mean sunspot number equaled 45.9 in 1984.

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

ALGONQUIN RADIO OBSERVATORY, OTTAWA

Day	Aug 84	Sep	Oct	Nov	Dec	Jan 85	Feb	Mar	Apr	May	Jun	Jul
01	84.0	94.1	72.0	69.5	77.0	68.4	72.2	69.3	72.2	80.6*	69.5	76.9
02	86.3	93.2	74.8	70.1	76.8	67.8	73.8	69.1	72.6	76.5	72.4	79.1*
03	88.4	94.5	75.2	72.0	77.9	67.7	73.6	69.0	72.5A	72.6	74.6	81.3
04	85.7	91.9	75.2	72.2	75.9	67.8	70.9	68.6	71.9	70.8	77.5	80.4
05	85.7	89.8	74.0	71.7	73.4	67.0	71.2	67.5	71.2	71.4	84.3	83.3
06	89.9	85.9	73.2	71.0	73.0	67.9	70.6	68.1	70.5	75.0	87.4	87.5
07	92.4	85.2	73.5	70.1	72.8	68.1	70.3	68.0	70.3	79.1	88.4	97.7
08	94.0	83.4	74.6	70.5	74.1	67.4	72.5	68.7	69.9	83.7	88.9	96.7*
09	94.4	80.6	73.5	72.7	74.5	68.1	73.2	68.7	69.4	89.6	89.8	100.9*
10	95.4	79.1	74.1	75.8	75.7	67.4	73.6	68.0	69.7	91.7	91.7	104.6*
11	90.8	77.8	74.3	73.1	78.9	67.7	73.2	69.6	69.0	89.9	91.2	97.3
12	88.0	76.5	73.9	72.8	77.8	68.4	72.3	69.3	69.6	92.1	89.8	92.9
13	86.5	75.0	74.7	71.6	76.2	72.6	70.8	69.5	69.8	91.9	89.2	85.5
14	84.0	74.5	73.2	72.0	75.8A	72.3	70.6	69.5	70.6	90.7*	85.3	76.4
15	82.6	73.3	76.4	72.9	74.9	72.4	70.2	69.6	70.0	92.0*	83.8	73.0
16	83.1	73.4	76.6	70.7	74.2	74.7	69.8	70.1	69.4	95.5	80.9	71.9
17	81.0	74.6	76.2	71.0	72.6	75.8	70.9	72.1	70.2	92.3	77.3	71.9
18	79.1	73.8	76.5	71.7	70.2	74.1	73.4*	74.6	71.7	92.7	73.8	71.8
19	76.2	74.6	74.2	72.3	71.0	75.4	76.1	74.2	71.7	89.6	72.2	71.7
20	75.6	74.1	73.5	74.8	69.9	81.7*	75.0	74.2	72.3	86.7	71.9	71.7
21	77.2	75.1	73.2	78.3	69.7	84.9*	74.2	76.1*	77.9	84.4*	71.5	71.2
22	75.7	75.9	74.5	78.2	70.7	85.3	73.3	75.9	89.8	82.7*	71.6	71.0
23	76.0	76.1	72.7	79.3	71.3	82.5	71.7	77.3	93.3*	80.0	71.8	71.1
24	81.6	76.2	70.8	81.1	71.8	78.2	70.5	79.6	89.0*	78.3	70.8	71.0
25	83.0	74.6	70.2	83.1	72.2	73.9	70.1	78.5	95.2	77.2	71.0	75.6
26	87.7	74.3	69.4	82.5	72.3	71.0	69.7	79.7†	88.3*	75.5	70.0	77.4
27	90.4	73.5	68.6	82.5*	72.0	69.5	68.9	77.4†	80.6	74.6	70.2	79.2
28	88.6	73.1	69.3	81.1	72.2	69.6	69.7	77.7†	78.1	72.7	71.0	81.2
29	90.3	71.7	68.2	77.1	72.1	68.7		76.7†	83.2	72.5	72.3	83.5
30	91.8	72.4	68.8	76.4	71.4	68.3		75.8†	80.8	71.4	74.8	83.8
31	93.1*		69.8		70.0	69.9A		76.4†		69.6		82.4
Mean	85.8	78.9	73.1	74.6	73.5	72.1	71.9	72.5	75.7	82.0	78.5	81.3

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.

ERRATA: In SGD issues number 485-488, solar fluxes for 31st day of 1984 must be shifted right 1 column.

DAILY SOLAR INDICES

JULY 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)	SGMR (610)	SGMR (410)	SGMR (245)
01	182	2	21	22	74.4	552	255	111	76.9	89	62	--	20	8
02	183	3	27	27	76.5*	590	---	---	79.1*	--	--	--	20	9
03	184	4	30	29	78.6	546	261	112	81.3	76	63	43	21	10
04	185	5	32	36	77.8	551	255	110	80.4	76	66	45	21	9
05	186	6	38	45	80.6	548	270	114	83.3	80	67	59	22	11
06	187	7	43	48	84.6	546	275	122	87.5	83	68	51	23	14
07	188	8	71	67	94.5	550	284	135	97.7	94	75	52	23	14
08	189	9	67	78	93.5*	559	284	138	96.7*	94	76	52	22	11
09	190	10	85	85	97.6*	561	288	133	100.9*	98	77	57	23	11
10	191	11	82	75	101.2*	556	286	136	104.6*	97	77	58	25	14
11	192	12	61	61	94.1	557	281	135	97.3	93	71	55	25	15
12	193	13	45	41	89.9	562	272	128	92.9	88	71	55	23	12
13	194	14	25	19	82.8	557	269	117	85.5	79	67	55	21	10
14	195	15	9	10	74.0	539	257	112	76.4	71	61	52	--	9
15	196	16	8	8	70.7	528	264	107	73.0	69	59	44	21	9
16	197	17	9	10	69.6	542	257	104	71.9	68	58	45	21	8
17	198	18	11	11	69.6	543	260	103	71.9	67	58	50	21	10
18	199	19	11	11	69.5	544	260	104	71.8	67	58	48	21	9
19	200	20	11	12	69.4	540	247	104	71.7	67	56	48	20	9
20	201	21	11	10	69.4	548	246	104	71.7	69	58	43	20	9
21	202	22	10	10	69.0	545	251	104	71.2	66	56	45	21	10
22	203	23	10	13	68.8	544	252	103	71.0	66	59	46	21	9
23	204	24	18	17	68.9	545	261	104	71.1	65	56	50	20	9
24	205	25	12	10	68.8	546	274	105	71.0	67	60	53	21	10
25	206	26	10	12	73.3	548	262	109	75.6	70	59	47	18	9
26	207	27	13	10	75.0	---	228	92	77.4	68	61	48	20	9
27	208	1	12	15	76.8	---	---	---	79.2	--	--	--	--	--
28	209	2	36	35	78.8	565	272	115	81.2	78	68	55	24	10
29	210	3	51	45	81.0	552	267	113	83.5	77	69	55	24	11
30	211	4	46	42	81.3	546	252	115	83.8	80	71	58	22	12
31	212	5	40	41	80.0	544	265	111	82.4	80	68	62	23	11
Mean			31	31	78.7	550	264	113	81.3	77	65	51	22	10

*Adjusted for burst in progress at time of measurement.

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

JULY 1985

Date	RELATIVE SUNSPOT NUMBERS: Zurich or Internat (Ri) Monthly Mean	Zurich or Internat (Ri) Smoothed	American (Ra) Monthly Mean	American (Ra) Smoothed	Derived (Rs) Monthly Mean	Derived (Rs) Smoothed	2800 MHz RADIO FLUX Adjusted to 1 AU (Sa) Monthly Mean	2800 MHz RADIO FLUX Adjusted to 1 AU (Sa) Smoothed
Sep 81	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	48	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	38	30.7	41	85.8	95
Sep	15.7	34	13.6	32*	23.2	35	78.9	90
Oct	12.0	29*	9.8	27*	16.9	31	73.1	86
Nov	22.8	25*	19.4	23*	18.6	26	74.6	72
Dec	18.7	18*	17.0	20*	17.4	23	73.5	79
Jan 85	16.5	20*	14.5	19*	15.9	21	72.1	77
Feb	15.9	19(2)*	16.3	18	15.7	20	71.9	---
Mar	17.2	18(4)*	11.8*	17	16.3	19	72.5	---
Apr	16.1†	18(5)*	17.1*	16	19.8	18	75.7	---
May	27.4†	17(6)*	24.0*	16	26.6	18	82.0	---
Jun	24.2†	17(7)*	22.2*	15	22.8	17	78.5	---
Jul	30.8†	16(7)*	30.8*	15	25.8	17	81.3	---
Aug	----	15(7)*	----	14	----	16	----	---
Sep	----	15(7)*	----	13	----	15	----	---
Oct	----	13(8)*	----	12	----	14	----	---
Nov	----	12(9)*	----	11	----	13	----	---
Dec	----	12(10)*	----	10	----	12	----	---
Jan 86	----	11(10)*	----	10	----	12	----	---

*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. 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

JULY 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	120	117	115	109	101	96	95	95
1983	93	90	86	82	71	71	66	66	68	68	67	64
1984	60	56	53	50	48	47	44	40	34	29	25	18
1985	21	19 (2)	18 (4)	18 (5)	17 (6)	17 (7)	16 (7)	15 (7)	15 (7)	13 (8)	12 (9)	12 (10)
1986	11 (10)	11 (11)	10 (11)	10 (11)	9 (11)	8 (11)	8 (11)	7 (11)	7 (10)	7 (10)	8 (10)	8 (9)

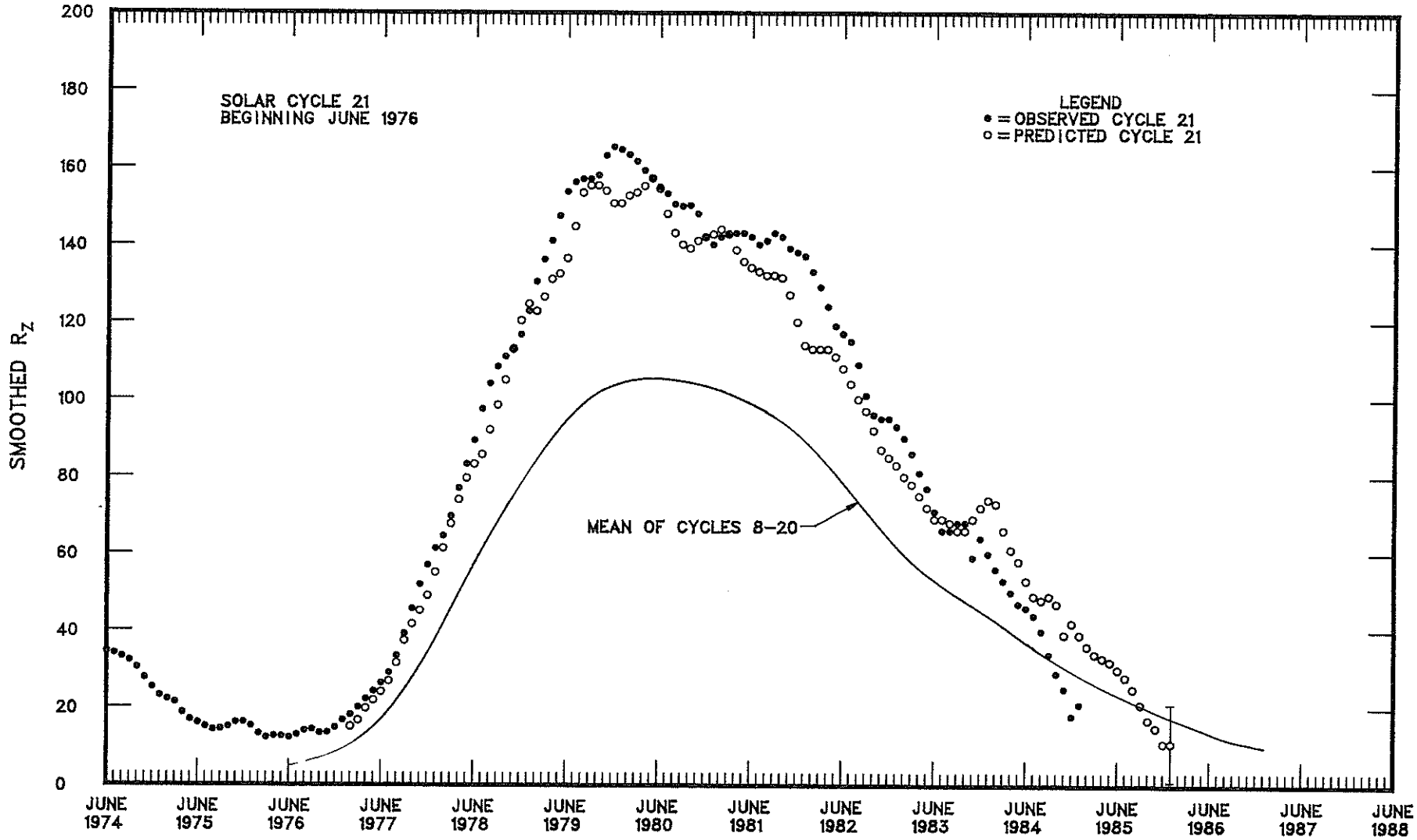
An asterisk marks the minimum and the maximum of Sunspot Cycle 21.

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 March 1985, and on provisional international numbers thereafter.

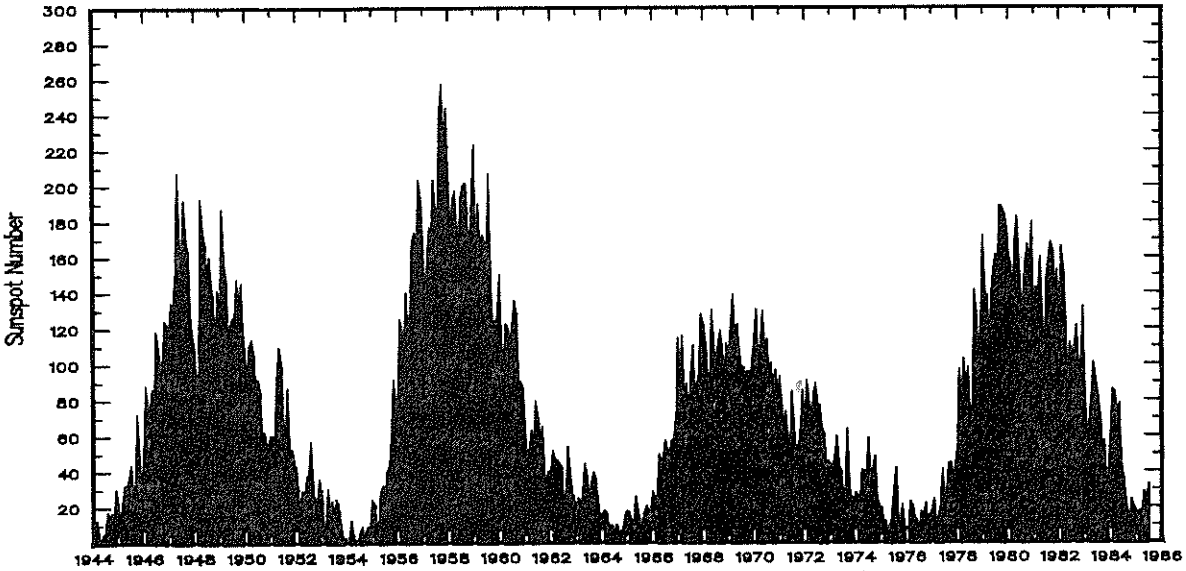
The entries with numbers in parentheses below them denote predictions by the McNish-Lincoln method. (See page 9 in the May 1985 edition of the "Solar-Geophysical Data" supplement.) Adding the number in parentheses to the predicted value generates the upper limit of the 90% confidence interval; subtracting the number in parentheses from the predicted value generates the lower limit. Consider, for example, the January 1986 prediction tabulated above. There exists a 90% chance that in January 1986 the actual smoothed sunspot number will fall somewhere between 1 and 21.

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 – July 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	55.8	63.6	37.7	32.6	39.9
1962	38.7	50.3	45.6	46.4	43.7	42.0	21.8	21.8	51.3	39.5	26.9	23.2
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	15.9	17.2	16.1*	27.4*	24.2*	30.8*					

*Provisional

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Corr (Sq Deg)	Remarks
RAMY	01	1404	1405	1419	S13	E75		07	07.2	15	SF		3	C				
HOLL	01	1740	1741	1750	S06	E48	4670	07	05.3	10	SN		2	C		34		
RAMY	01	1744	1744	1754	S07	E48	4670	07	05.3	10	SF		3	C		28		
PALE	02	0051E	0051U	0053	S09	E41	4670	07	05.1	2D	SF		2	C		29		
LEAR	02	0426	0519	0545	S12	E69	4671	07	07.4	79	SF		3	C		54		
LEAR	02	0612	0619	0704	S12	E67	4671	07	07.3	52	SF		3	C		41		
RAMY	02	1121E		1133D	S14	E63	4671	07	07.2	12D	SF	C 1.8	3	C				
RAMY	02	1651	1709	1723	S14	E60	4671	07	07.2	32	SF		3	C		80		
HOLL	02	1703E	1703U	1725	S14	E57	4671	07	07.0	22D	SN		3	C		76		F
PALE	02	1722	1722	1732	S15	E58	4671	07	07.1	10	SF		1	C		40		
PALE	02	2056	2116	2310	S15	E56	4671	07	07.1	134	1N		3	C		218		K
PALE	02	2056	2133U	2310	S15	E56	4671	07	07.1	134	2B	M 4.5	3	C		516		FEK
WEND	03	1617	1626	1650	S13	E54		07	07.7	33	SN			C	1626	30	.5	E
RAMY	03	1844	1844	1856	S12	E50	4671	07	07.5	12	SF		3	C		37		
LEAR	04	0213	0214	0219	S11	E46	4671	07	07.5	6	SF		3	C		27		F
LEAR	04	0903	0913	0913D	S11	E38	4671	07	07.2	10D	SF		3	C		63		F
WEND	04	1212	1215	1240	S13	E40		07	07.5	28	SF			C	1215	44	.6	
RAMY	04	1213	1216	1235	S18	E39	4671	07	07.5	22	SF		3	C		35		F
HOLL	04	2110	2117	2120	S18	E35	4672	07	07.5	10	SN		3	C		42		
PALE	04	2117	2118	2120	S19	E34	4672	07	07.5	3	SF		3	C		23		
PEKG	05	0245	0324	0339	S19	E31		07	07.5	54	SN			P	0324	50	.7	D
LEAR	05	0329	0331	0339	S17	E30	4672	07	07.4	10	SF		3	C		22		F
RAMY	05	1134	1144	1213	S18	E25	4672	07	07.4	39	SN		3	C		32		
RAMY	05	1347	1352	1410	S18	E24	4672	07	07.4	23	SN		3	C		57		
HOLL	05	1352E	1353	1415D	S18	E24	4672	07	07.4	23D	SF		3	C		42		
RAMY	05	1708	1709	1712	S17	E23	4672	07	07.5	4	SF		3	C		24		
HOLL	05	1708	1711U	1713D	S17	E23	4672	07	07.5	5D	SF		3	C		24		
PALE	05	2300		2523	S11	E19	4671	07	07.4	143	SF		1	C		33		
LEAR	06	0022	0026	0033	S11	E16	4671	07	07.2	11	SF		3	C		40		H
LEAR	06	0238	0248	0311	S11	E16	4671	07	07.3	33	SF	C 1.0	3	C		83		
LEAR	06	0345	0346	0353	S11	E13	4671	07	07.1	8	SF		3	C		27		F
PALE	06	0347	0349	0359	S11	E17	4671	07	07.4	12	SF		2	C		58		E
PALE	06	1644	1649	1704	S20	E09	4672	07	07.4	20	SF		3	C		28		
RAMY	06	1647	1650	1654	S16	E09	4672	07	07.4	7	SF		3	C		32		
RAMY	06	1716	1719	1929	S18	E09	4672	07	07.4	133	SF		3	C		56		K
RAMY	06	1716	1925	1929	S18	E09	4672	07	07.4	133	SN		3	C		96		K
PALE	06	1724	1740	1750	S17	E09	4672	07	07.4	26	SF		3	C		28		E
HOLL	06	1744E	1744U	1826	S21	E09	4672	07	07.4	42D	SF		3	C		63		F
PALE	06	1834	1838	1851	S17	E08	4672	07	07.4	17	SF		3	C		34		
HOLL	06	1922	1924	1927D	S20	E08	4672	07	07.4	5D	SN		3	C		60		F
PALE	06	1923	1923	1943	S19	E09	4672	07	07.5	20	SB		3	C		51		E
PALE	06	1946	1952	2004	S20	E08	4672	07	07.4	18	SF		3	C		28		
GOES	06	2234	2306	2323						49		C 1.0						
LEAR	07	0012	0013	0018	S16	E05	4672	07	07.4	6	SF	C 1.3	3	C		33		F
PALE	07	0049	0050	0100	S20	E05	4672	07	07.4	11	SF		2	C		26		E
LEAR	07	0526	0527	0535	S13	E00	4671	07	07.2	9	SN	C 3.0	3	C		124		F
PEKG	07	0527	0529	0535	S16	E01		07	07.3	8	1B	C 3.0		C	0529	336	3.7	E
GOES	07	1027	1037	1045						18		C 1.3						
PALE	07	1700	1747	1820	S21	W03	4672	07	07.5	80	SF		3	C		69		E
HOLL	07	1735E	1735U	1804	S22	W03	4672	07	07.5	29D	SN		3	C		127		F
GOES	07	1833	1838	1850						17		C 1.0						
GOES	07	1931	1937	1946						15		C 1.1						
GOES	07	2002	2014	2018						16		C 1.7						
GOES	07	2024	2027	2030						6		C 2.7						
GOES	07	2223	2228	2235						12		C 1.4						
GOES	08	0357	0408	0415						18		C 1.2						
LEAR	08	0400	0400	0426	S14	W12	4671	07	07.2	26	SN		3	C		23		F
PALE	08	0410	0412	0421D	S17	W11	4672	07	07.3	11D	SF		2	C		35		
LEAR	08	0521	0521	0523	S21	W10	4672	07	07.4	2	SF		3	C		23		
LEAR	08	0548	0603	0611	S14	W13	4671	07	07.2	23	SF		3	C		26		
LEAR	08	0850	0850	0859	S11	W14	4671	07	07.3	9	SN	C 1.2	3	C		25		
GOES	08	1141	1147	1152						11		C 1.4						
GOES	08	1314	1317	1319						5		C 1.1						
GOES	08	1437	1440	1446						9		C 1.0						

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Corr (Sq Deg)	Remarks
GOES	08	1555	1559	1602						7		C 1.9						
GOES	08	1603	1606	1610						7		C 3.3						
PALE	08	1715	1716	1721	S09	W31	4674	07	06.4	6	SF		3	C		20		
PALE	08	2303	2303	2313	S09	W35	4674	07	06.3	10	SF		3	C		39		E
PALE	08	2322	2322	2329	S16	W21	4671	07	07.4	7	SF		3	C		72		
GOES	09	0004	0007	0010						6		C 1.2						
MANI	09	0123E		0129D	S05	W40		07	06.1	6D	SN		2	P	7	1 8		
MANI	09	0123E		0129D	S13	W27		07	07.0	6D	1N		2	P	22	0 23		E
GOES	09	0126	0204	0227						61		M 2.9						
MITK	09	0133	0159	0312	S13	W25		07	07.2	99	2B			C	0159	450	5.3	FU
LEAR	09	0136	0140	0154D	S11	W25	4671	07	07.2	18D	SN		3	C		86		K
LEAR	09	0136	0154U	0154D	S11	W25	4671	07	07.2	18D	1B		3	C		239		ZUK
PALE	09	0147	0147	0156D	S16	W22	4671	07	07.4	9D	1B		3	C		176		
LEAR	09	0305	0305	0312	S13	W25	4671	07	07.2	7	SN		3	C		32		F
GOES	09	0514	0517	0519						5		C 1.2						
LEAR	09	0808	0814	0831	N05	E00		07	09.3	23	SN	C 1.9	3	C		48		F
GOES	09	1103	1108	1112						9		C 1.0						
PALE	09	1646E	1651	1707	S19	W35	4671	07	07.0	21D	SB	C 3.6	3	C		70		
HOLL	09	1652	1652U	1718	S18	W33	4671	07	07.2	26	SB	C 3.6	3	C		51		FH
GOES	09	1659	1704	1706						7		C 1.2						
PALE	09	1910	1910	1916	S15	W33	4671	07	07.3	6	SF		3	C		42		
HOLL	09	2013	2019	2035	S18	W34	4671	07	07.2	22	SF		3	C		38		F
PALE	09	2019	2020	2020D	S15	W34	4671	07	07.3	1D	SF		3	C		59		
LEAR	10	0156	0200	0207	S06	W51	4674	07	06.3	11	SF		3	C		34		
LEAR	10	0339	0339	0344	S14	W38	4671	07	07.3	5	SN		3	C		21		
PALE	10	0339	0340	0343	S16	W37	4671	07	07.3	4	SF		3	C		19		
GOES	10	0530	0556	0608						38		C 1.7						
LEAR	10	0653	0655	0700	S14	W40	4671	07	07.3	7	SF		3	C		28		F
GOES	10	1020	1024	1027						7		C 1.9						
GOES	10	1644	1647	1650						6		C 2.2						
PALE	10	1648	1650	1706	S11	W45	4671	07	07.3	18	SN		2	C		45		F
PALE	10	1711	1717	1723	S08	W60	4674	07	06.2	12	SF		3	C		35		
RAMY	10	1713	1717	1721	S09	W58	4674	07	06.4	8	SF		3	C		27		
RAMY	10	1722	1724	1730	S08	W59	4674	07	06.3	8	SF	C 1.1	3	C		17		
GOES	10	1830	1833	1835						5		C 1.3						
PALE	10	2033E	2040U	2050	S17	W47	4671	07	07.3	17D	SN		3	C		19		
PALE	10	2108	2117	2124	S17	W47	4671	07	07.3	16	SF		3	C		26		
PALE	10	2231	2232	2234	S16	W48	4671	07	07.3	3	SN		3	C		24		
LEAR	11	0250	0250	0259	S14	W50	4671	07	07.3	9	SF		3	C		18		
LEAR	11	0325	0327	0346	S13	W51	4671	07	07.3	21	SF		3	C		24		F
LEAR	11	0332	0333	0340	S07	W64	4674	07	06.3	8	SF		3	C		39		
LEAR	11	0507	0509	0518	S05	W66	4674	07	06.3	11	SF		3	C		19		F
LEAR	11	0639	0643	0645	S05	W66	4674	07	06.3	6	SF		3	C		12		F
LEAR	11	0646	0647	0653	S07	W68	4674	07	06.2	7	SF		3	C		25		
LEAR	11	0746	0748	0754	S05	W65	4674	07	06.5	8	SF		3	C		31		
RAMY	11	1345	1346	1410	S18	W59	4671	07	07.1	25	SN	C 5.1	3	C		40		
GOES	12	0139	0144	0148						9		C 1.1						
LEAR	12	0235	0235	0244	S13	W65	4671	07	07.2	9	SF		3	C		15		
GOES	12	0459	0537	0552						53		C 6.3						
LEAR	12	0502	0533	0635	S14	W66	4671	07	07.2	93	SN		3	C		95		F K
LEAR	12	0502	0617	0635	S14	W66	4671	07	07.2	93	SN		3	C		24		K
GOES	12	0613	0617	0622						9		C 3.7						
LEAR	12	0734	0738	0749	S15	W67	4671	07	07.2	15	SF		3	C		22		
LEAR	13	0514	0519	0523	S15	W78	4671	07	07.3	9	SF		3	C		19		
LEAR	13	0541	0542	0546	S14	W79	4671	07	07.3	5	SF		3	C		29		
LEAR	13	0550	0551	0610	S14	W79	4671	07	07.3	20	SN		3	C		21		
LEAR	13	0649	0650	0653	S14	W81	4671	07	07.2	4	SN		3	C		29		
GOES	13	0653	0702	0723						30		C 2.3						
LEAR	13	0849	0850	0858	S15	W78	4671	07	07.5	9	SB		3	C		40		
GOES	13	1317	1321	1326						9		C 2.0						
RAMY	13	1842	1845	1853	S17	W84	4671	07	07.4	11	SN		3	C		60		
PALE	13	1844	1844	1848	S13	W90	4671	07	07.0	4	SN		3	C		21		
GOES	17	1044	1047	1049						5		C 1.0						
GOES	26	2208	2221	2232						24		C 1.2						

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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
GOES	26	2234	2240	2248						14		C 1.1						
PALE	28	2312	2313	2342	N06	E63	4680	08	02.7	30	SF	C 1.3	3	C		51		
HOLL	28	2312	2315	2328	N08	E58	4680	08	02.3	16	SN	C 1.3	3	C		63		FH
LEAR	29	0608	0609	0614	N09	E56	4680	08	02.4	6	SN		3	C		26		
LEAR	29	0718	0728	0729	S04	W68	4683	07	24.2	11	SF		3	C		15		
LEAR	29	0903	0904	0908	S17	E60	4682	08	02.9	5	SF		3	C		18		
RAMY	29	1559	1602U	1635	S17	E60	4682	08	03.2	36	1N	C 2.1	3	C		172		F
HOLL	29	1625E	1626U	1639	S18	E60	4682	08	03.2	14D	SN		3	C		38		F
PALE	29	2130	2131	2136	N09	E45	4680	08	02.3	6	SF		3	C		39		
RAMY	29	2130	2134	2144	N06	E40	4680	08	01.9	14	SF		3	C		44		
MITK	30	0536	0541	0556	S19	E52		08	03.2	20	SN			C	0541			E
LEAR	30	0546E		D	S18	E51	4682	08	03.1	D	SF		1	C		51		F
ISTA	30	0810E		0818	N07	E34		08	01.9	8D	SN							D
RAMY	30	1111	1116	1126	S19	E49	4682	08	03.2	15	1F		3	C		173		
RAMY	30	1310	1311	1330	N05	E38	4680	08	02.4	20	SF		3	C		23		F
PEKG	31	0337	0339	0346	N05	E23		08	01.9	9	SN			C	0339	42	.5	D
MITK	31	0338E		0352	N05	E23		08	01.9	14D	SN			P	0338			D
MITK	31	0536	0538	0555	N06	E22		08	01.9	19	SN			C	0538			E
BUCA	31	0720	0724	0733	N06	E21		08	01.9	13	SN			C	0724	107	1.2	
RAMY	31	1104	1109	1121	N05	E19	4680	08	01.9	17	SF		3	C		20		F
RAMY	31	1137	1141	1147	N05	E19	4680	08	01.9	10	SF		3	C		22		F
RAMY	31	1201	1202	1208	N10	E24	4680	08	02.3	7	SF		3	C		23		F

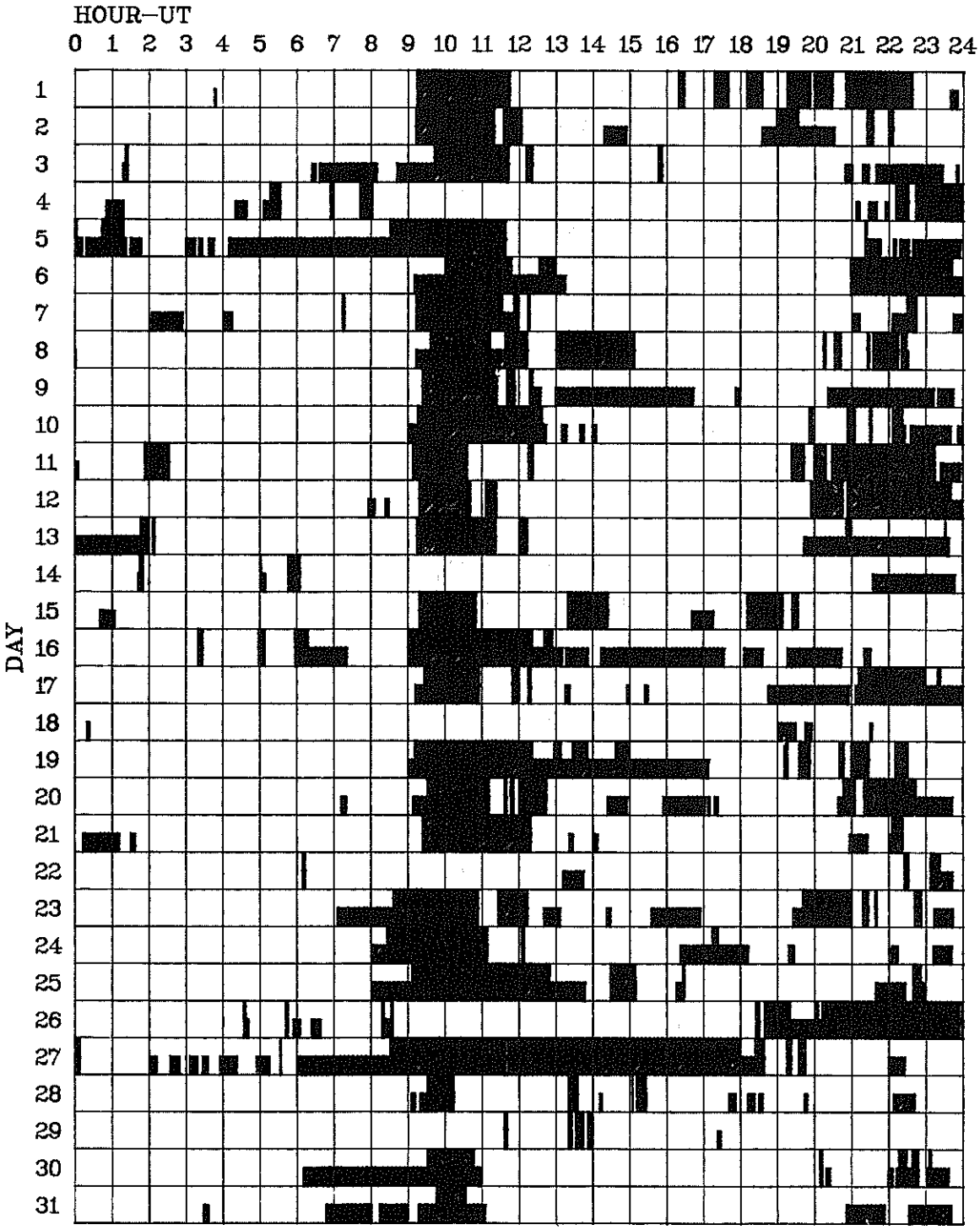
"Remarks":

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

JULY 1985

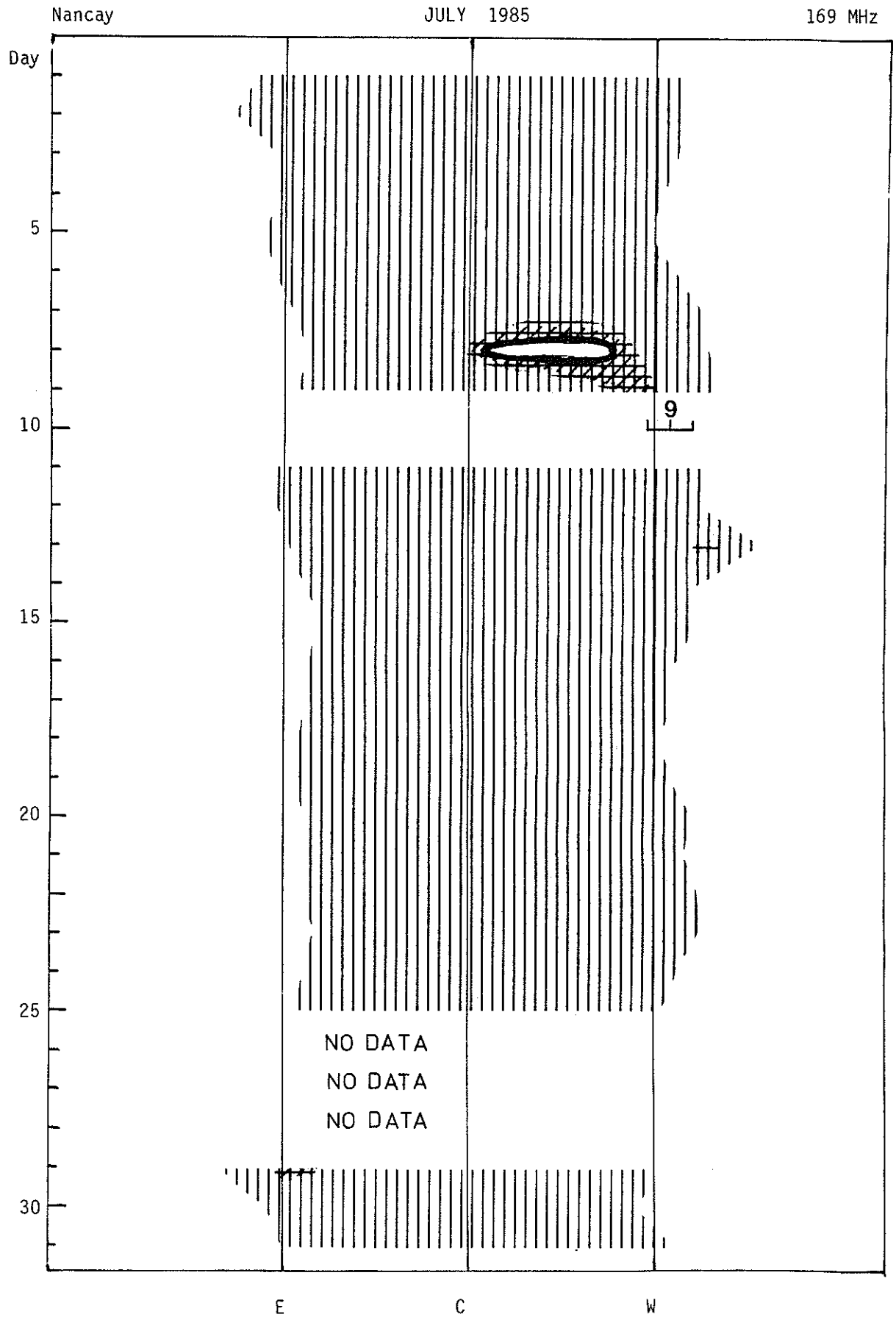


Times of no flare patrol, shown here as shaded areas, combine reports from the observatories listed below. Portions of a panel completely shaded mark dates and times of no patrol of any kind, that is, of neither visual nor cinematographic; portions of a panel with only the bottom half shaded mark times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

Bucharest	Istanbul	Manila	Palehua	Ramey
Holloman	Learmonth	Mitaka	Peking	Wendelstein

18
Jul 85

SOLAR INTERFEROMETRIC OBSERVATIONS

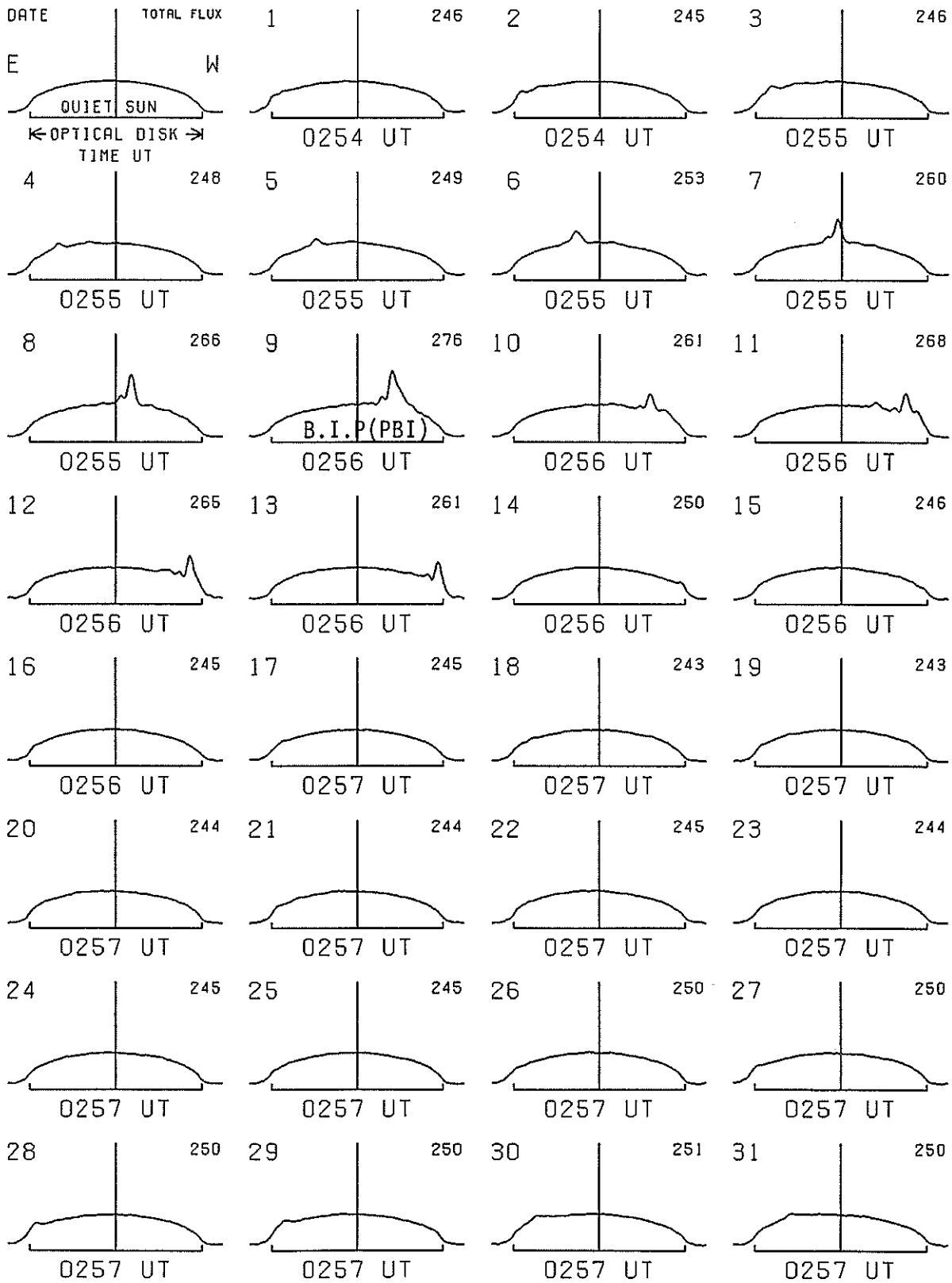


EAST-WEST SOLAR SCANS

JULY 1985

TOYOKAWA, JAPAN

3 CM
FAN BEAM WITH 1.1 MINUTES OF ARC

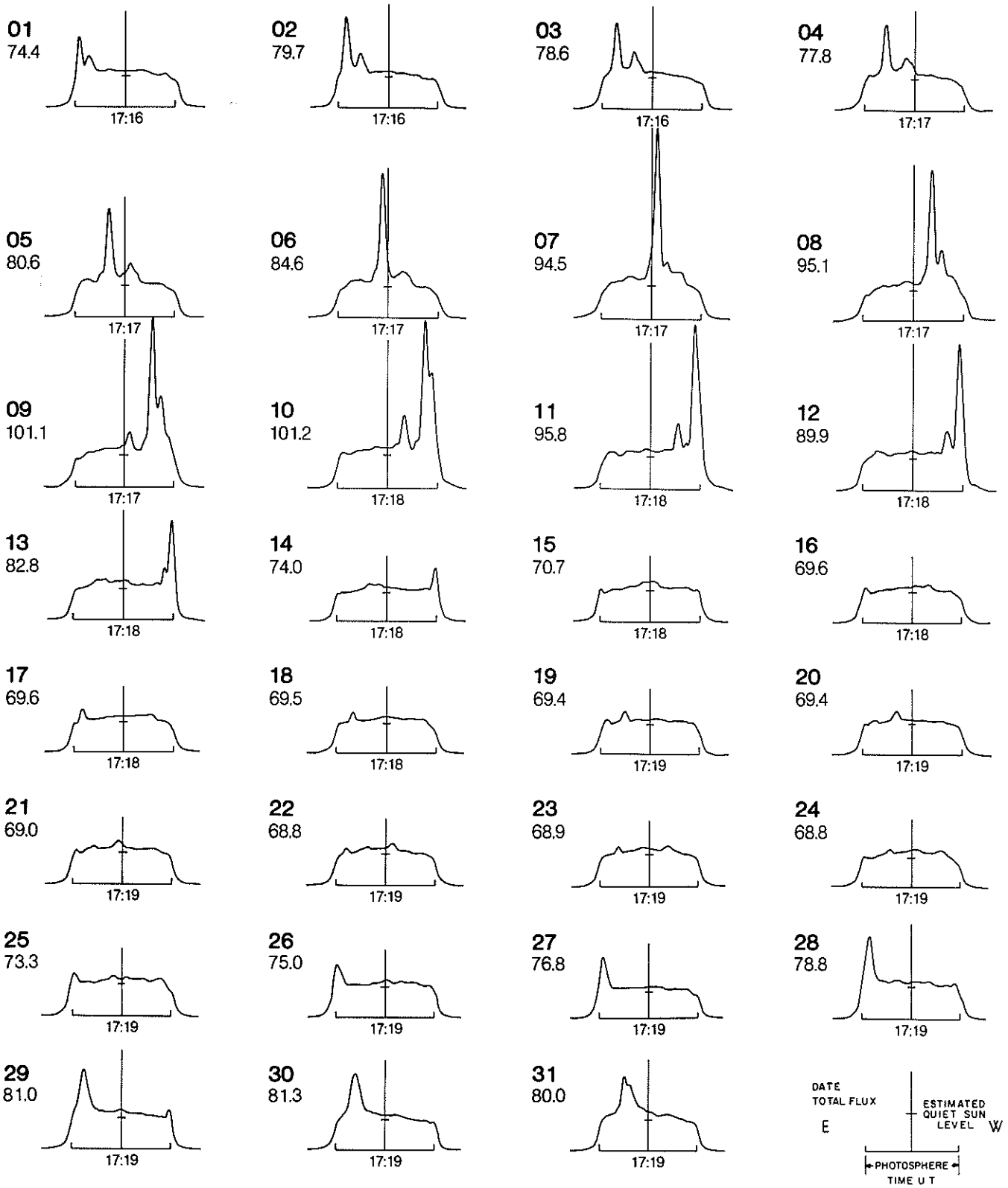


EAST-WEST SOLAR SCANS

JULY 1985

ALGONQUIN RADIO OBSERVATORY
CANADA

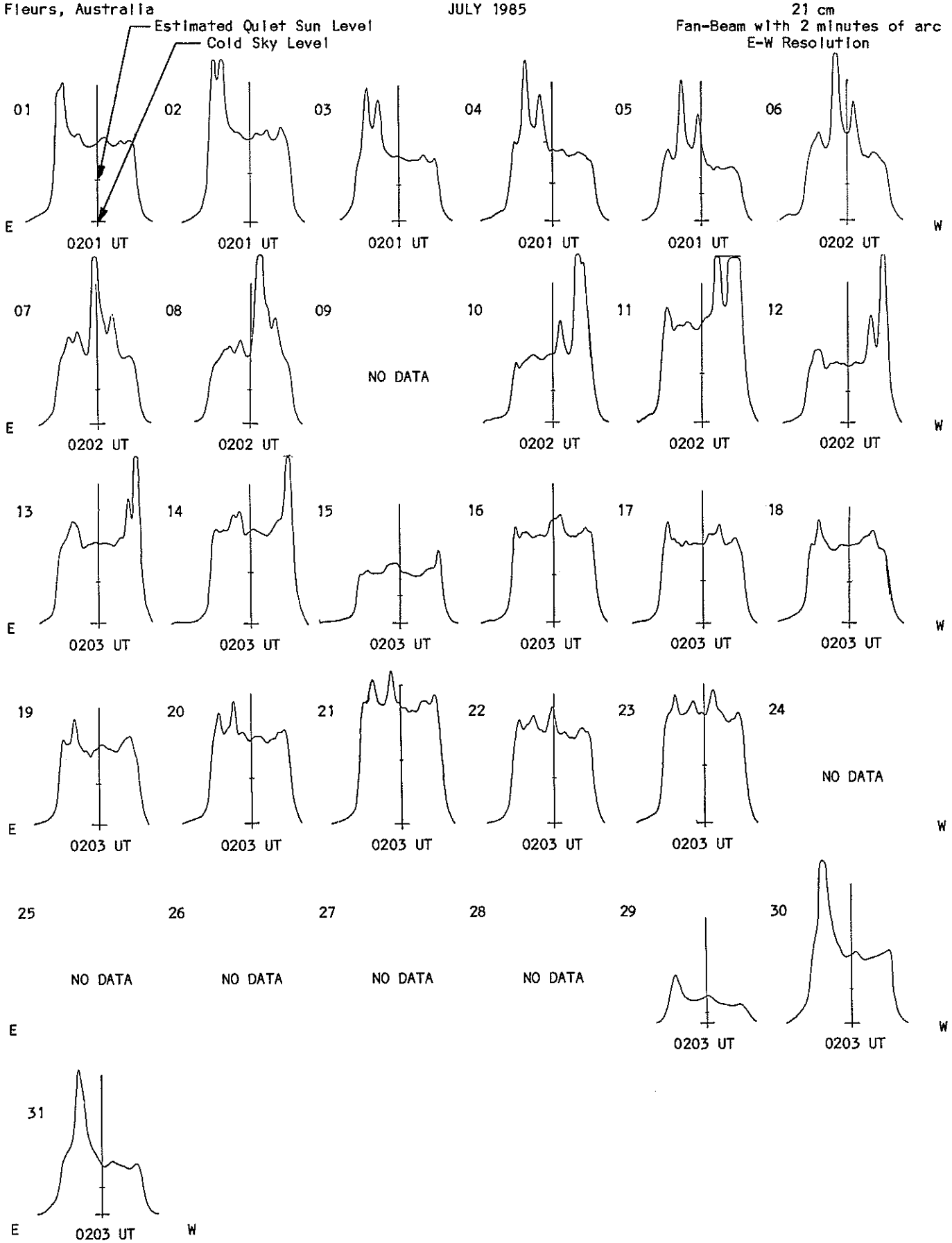
10·7 cm
Fan Beam with 1·5 minutes of arc
E-W Resolution



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

Fleurs, Australia — JULY 1985 — 21 cm

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



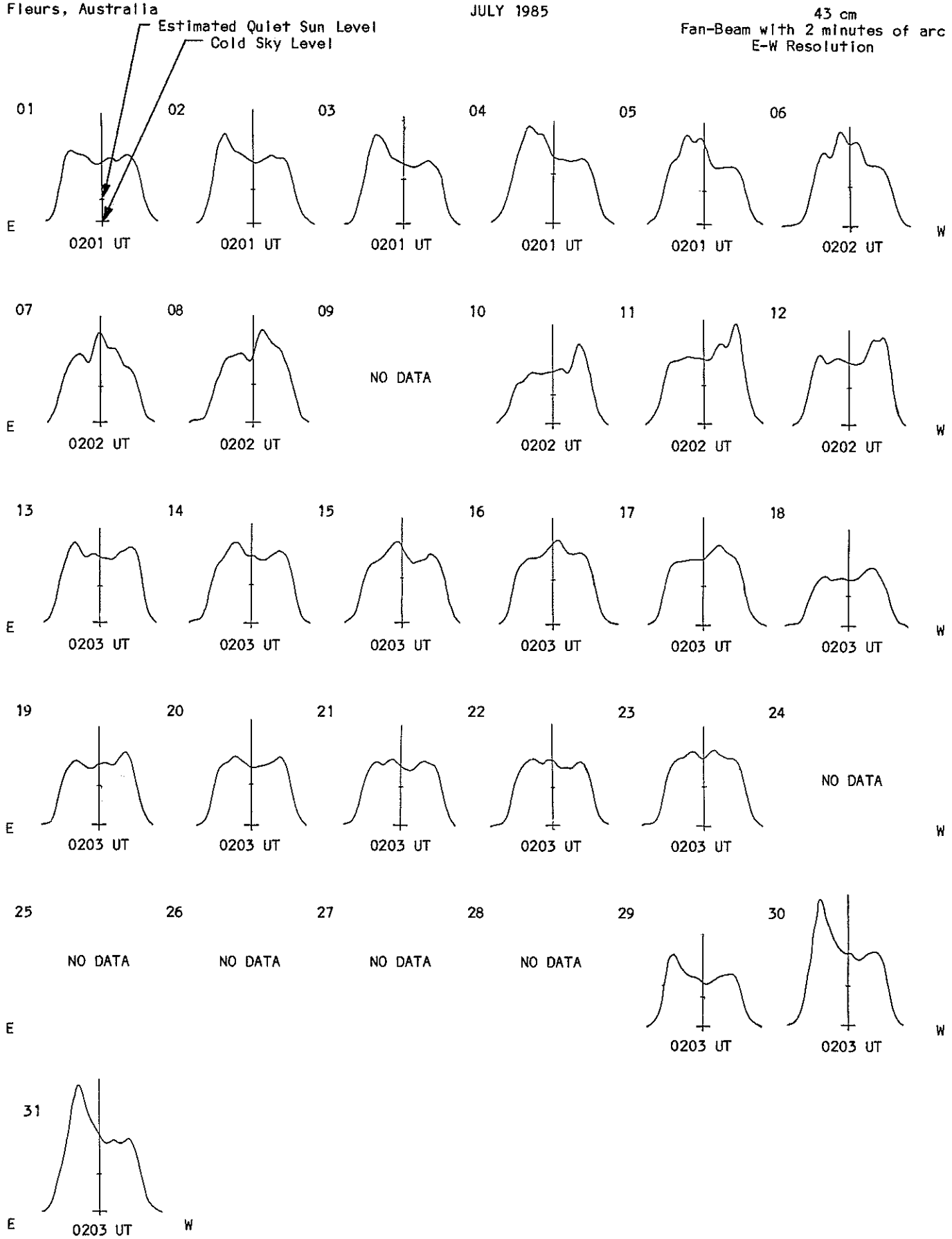
22
Jul 85

EAST-WEST SOLAR SCANS

Fleurs, Australia

JULY 1985

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



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

JULY 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
02	2800	OTTA	21	GRF	1105.0	1140.0	175.0	4.8	2.4		
	2800	OTTA	20	GRF	1107.0	1110.0	20.0	6.4	3.2		
	2800	OTTA	21	GRF	1605.0	1710.0	145.0	3.2	1.5		
	2800	OTTA	1	S	1658.0	1702.0	10.0	3.2	1.6		
	2800	OTTA	23	GRF	2045.0	2150.0	170.0	7.2			
	2800	OTTA	4	S/F	2114.0	2122.5	29.0	185.0	58.0		
	8800	SGMR	49	GB	2116.1	2120.0	12.0	1399.0			QL=6 ST=2 TYP=6
	8800	PALE	49	GB	2116.1	2121.6	11.7	1500.0			QL=6 ST=2 TYP=6
	2695	SGMR	47	GB	2117.3	2120.0	11.5	210.0			QL=6 ST=2 TYP=5
	2695	PALE	47	GB	2117.6	2120.6	10.2	189.0			QL=6 ST=2 TYP=5
03	2800	OTTA	20	GRF	1830.0	1855.0	60.0	1.2	0.6		
04	2800	OTTA	20	GRF	1200.0	1220.0	180.0	4.6	2.2		
	2800	OTTA	20	GRF	1830.0	1855.0	70.0	2.4	1.3		
05	2800	OTTA	22	GRF	1345.0	1400.0	25.0	1.2			
	2695	PENT	1	S	2253.0	2257.0	10.0	2.2	1.2		
06	2800	OTTA	20	GRF	1710.0	1718.0	20.0	2.2	0.8		
	2800	OTTA	20	GRF	2235.0	2305.0	60.0	1.6	0.8		
07	2800	OTTA	21	GRF	1510.0	1520.0	35.0	1.8	0.9		
	2800	OTTA	8	S	1540.0	1540.3	.5	20.0	6.6		
	2800	OTTA	8	S	1632.2	1632.6	.5	3.8			
	2800	OTTA	22	GRF	1710.0	1747.0	75.0	3.0	1.5		
	2800	OTTA	1	S	1840.0	1842.0	10.0	1.0	0.6		
	2800	OTTA	20	GRF	1855.0	1904.0	20.0	2.0	1.0		
	2800	OTTA	1	S	1930.0	1934.0	7.0	1.6	0.9		
	2800	OTTA	21	GRF	2040.0	2120.0	70.0	2.2	1.1		
	2800	OTTA	8	S	2123.2	2123.4	.3	2.8			
08	2800	OTTA	20	GRF	1330.0	1535.0	280.0	5.0	2.5		
	2800	OTTA	240	R	1930.0	1955.0	25.0	2.6	1.3		
	2800	OTTA	20	GRF	2025.0	2115.0	115.0	2.2	1.1		
09	2695	PENT			0122.0	0155.0	35.0D	160.0			
	2695	LEAR	8	S	0139.8	0157.8		350.0			QL=6 ST=1 TYP=3
	8800	LEAR	47	GB	0141.5	0156.8		219.0			QL=6 ST=1 TYP=5
	8800	PALE	47	GB	0151.3	0155.0	21.8	250.0			QL=6 ST=2 TYP=5
	2695	PALE	47	GB	0151.5	0154.6	16.6	360.0			QL=6 ST=2 TYP=5
	2800	OTTA	21	GRF	1540.0	1700.0	210.0	3.4	1.7		
	2800	OTTA	8	S	1543.0	1543.0	.1	4.0			
	2695	SGMR	47	GB	1733.0	1733.5	2.8	66.0			QL=6 ST=2 TYP=5
	2800	OTTA	20	GRF	2150.0	2215.0	110.0	1.6	0.8		
10	2695	PENT	8	S	0030.9	0031.0	.5	3.0	1.2		
	8800	ATHN	4	S/F	0859.0	0900.0	3.0	11.0			QL=6 ST=2 TYP=3
	2800	OTTA	32	ABS	1545.0	1630.0	95.0	-4.0	-1.8		
	2800	OTTA	240	R	2225.0	2240.0	15.0	2.0	1.2		
11	2800	OTTA	21	GRF	1335.0	1340.0	55.0	5.4	1.8		
	2800	OTTA	4	S/F	1345.0	1347.0	4.0	18.0	10.0		
	2800	OTTA	29	PBI	1349.0	1349.0	15.0	4.6	1.3		
	2800	OTTA	1	S	1712.0	1713.3	2.5	1.0	0.5		
	2800	OTTA	240	R	2105.0	2135.0	30.0	2.2	1.1		
12	2695	PENT	8	S	0119.5	0119.6	.3	2.8			
	8800	LEAR	8	S	0438.5	0439.0	1.0	31.0			QL=6 ST=2 TYP=3
	2800	OTTA	20	GRF	1134.0	1136.0	20.0	1.4	0.7		
	2800	OTTA	20	GRF	1520.0	1530.0	40.0	2.0	1.0		
	2800	OTTA	32	ABS	1900.0	1925.0	50.0	-2.0	-1.0		
13	8800	LEAR	8	S	0242.3	0242.6	.5	17.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0601.3	0601.6	.8	25.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0657.1	0658.1	2.5	36.0			QL=6 ST=2 TYP=3
	8800	SGMR	47	GB	1319.1	1319.3	1.0	66.0			QL=6 ST=2 TYP=5
	2800	OTTA	32	ABS	1415.0	1455.0	60.0	-2.0	-1.0		
	2800	OTTA	20	GRF	1855.0	1905.0	25.0	1.6	0.8		
	2695	PENT	21	GRF	2355.0	0005.0	55.0	1.6	0.8		
	2695	PENT	1	S	2356.0	2357.5	2.5	1.0	0.5		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

JULY 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
19	2695	PENT	20	GRF	2355.0	2359.0	20.0	4.0	1.8		
28	2695	PENT	8	S	2312.9	2313.0	.3	6.4			
29	2800	OTTA	21	GRF	1558.0	1606.0	25.0	3.0	1.0		
	2800	OTTA	40	F	1603.0	1604.0	4.0	4.8			
	2800	OTTA	1	S	1615.0	1617.5	5.0	2.0	0.9		
31	8800	LEAR	8	S	0536.3	0536.8	1.7	11.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0536.3	0536.8	1.7	7.0			QL=6 ST=2 TYP=3

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

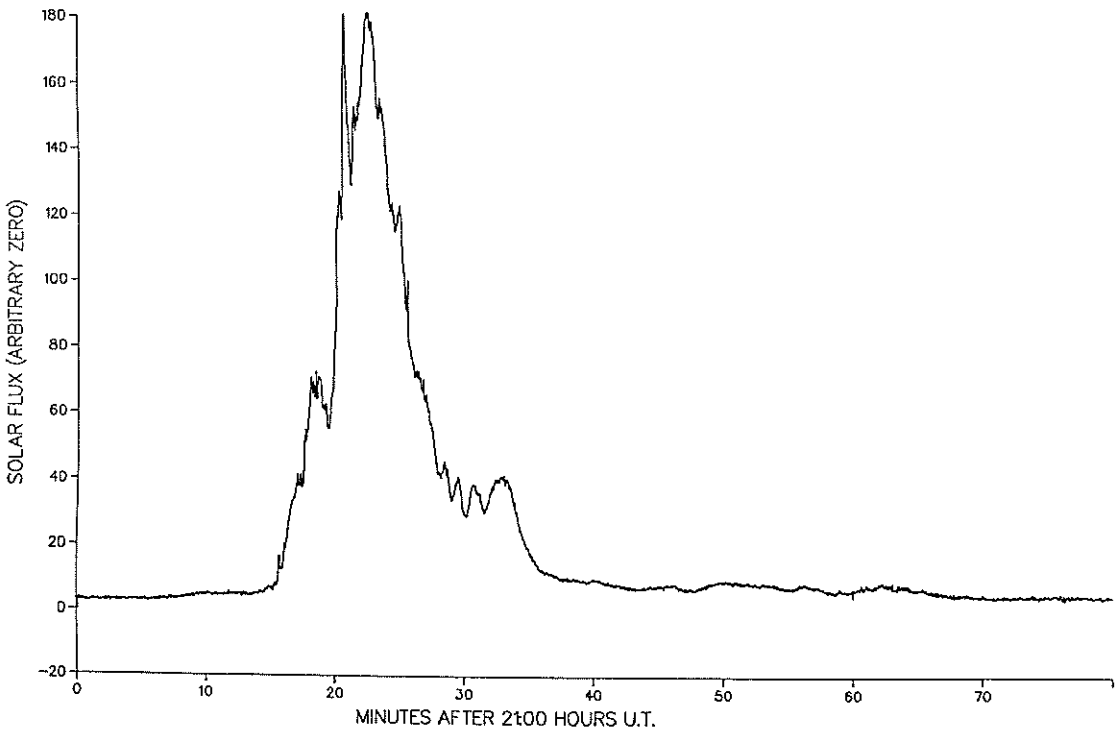
Explanation of Type Code:

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)

JULY 02, 1985

SELECTED 2800 MHz SOLAR NOISE BURST
A.R.O. OTTAWA, ONT.
CANADA

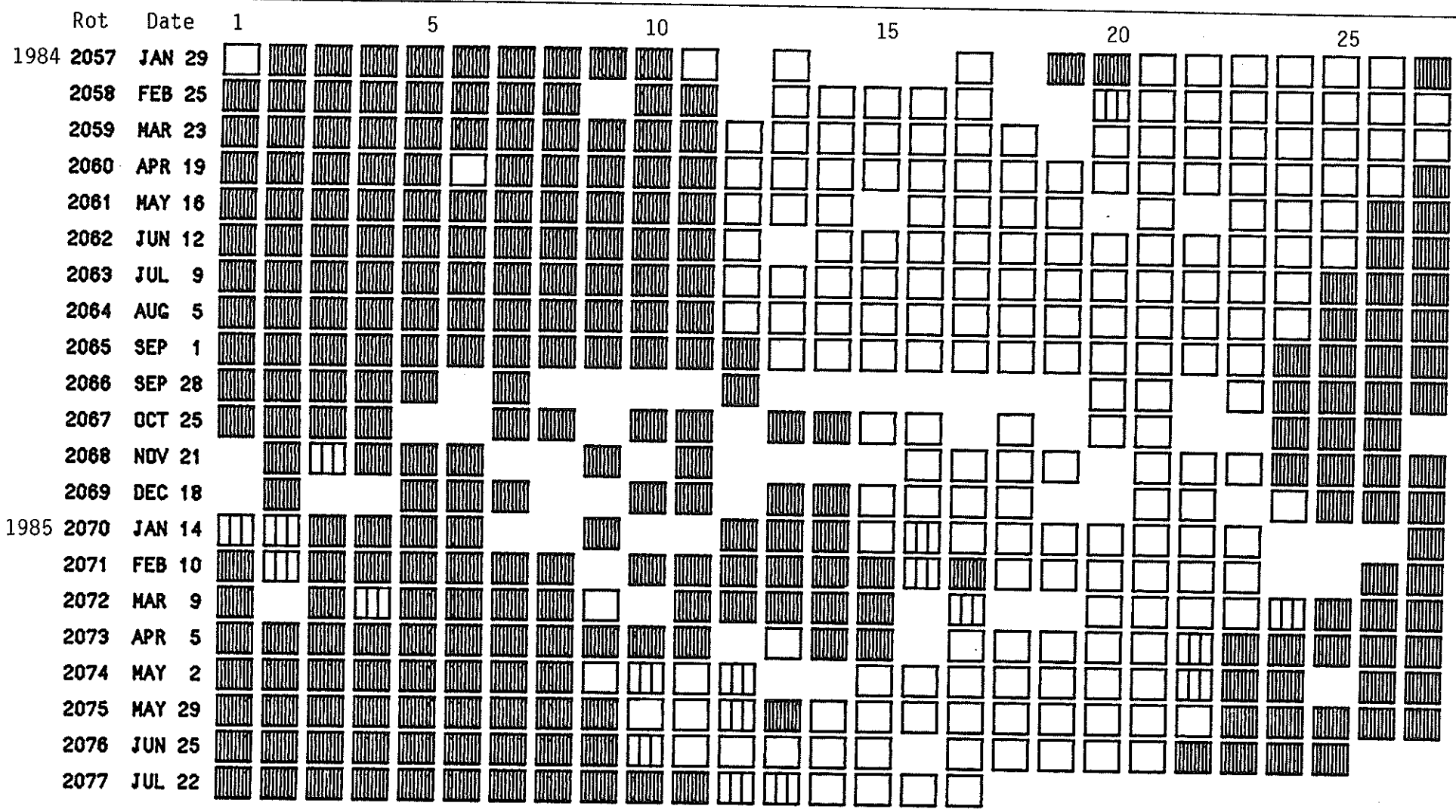


STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

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

Dot symbol indicates no data available for the day.

STANFORD MEAN SOLAR MAGNETIC FIELD



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

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

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

C O N T E N T S

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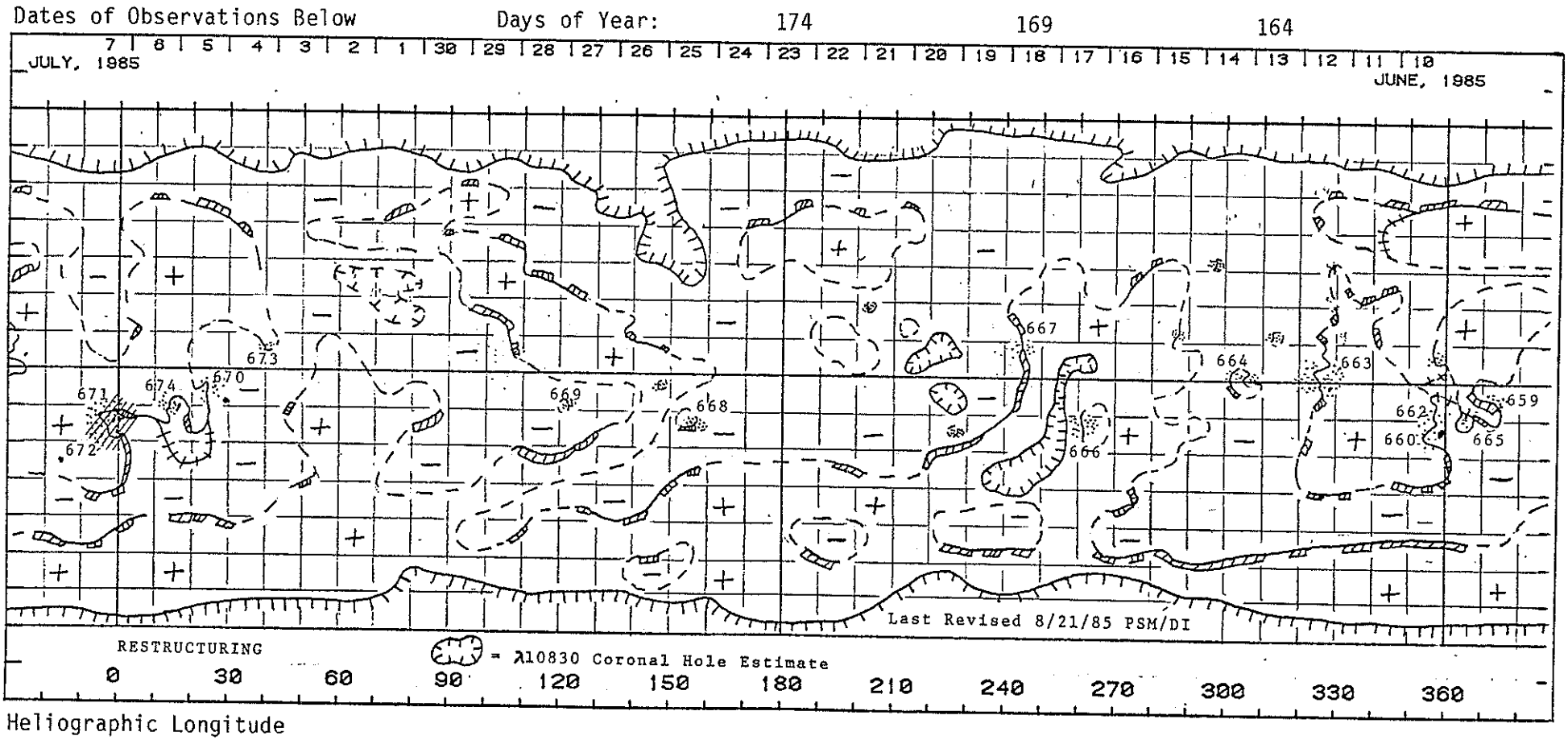
PRELIMINARY H-ALPHA SOLAR SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1763
(June 10 to July 7, 1985)

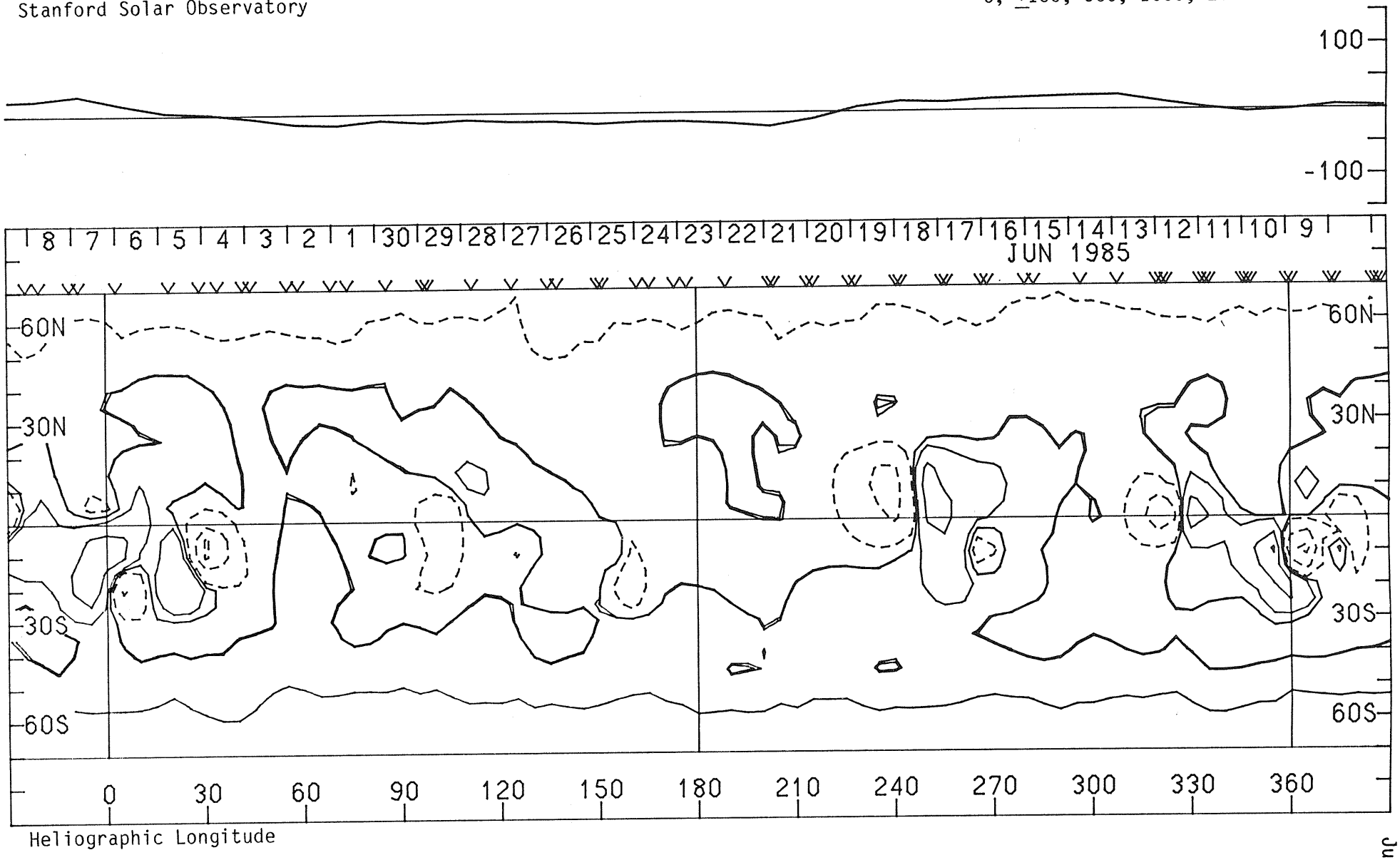


SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1763
(June 10 to July 7, 1985)

Stanford Solar Observatory

0, ±100, 500, 1000, 2000 microTesla

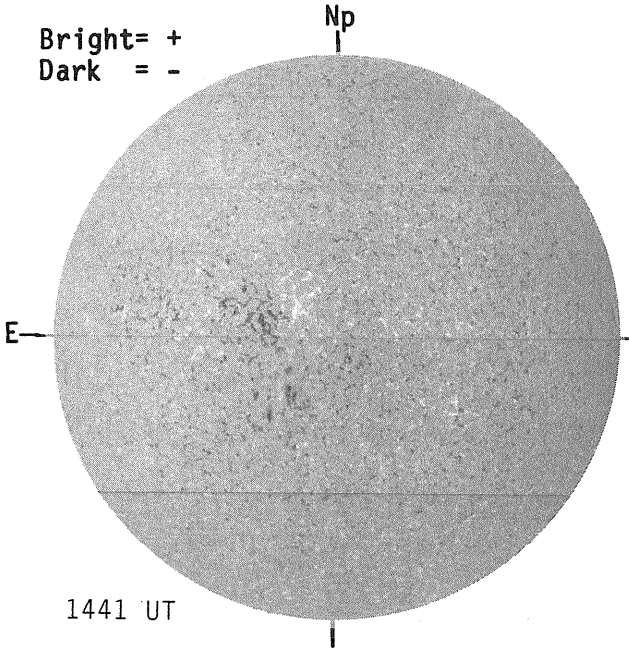


29
Jun 85

J U N E 01, 1 9 8 5 (P=-15.37, B_0=-0.68, L_0= 119.47)

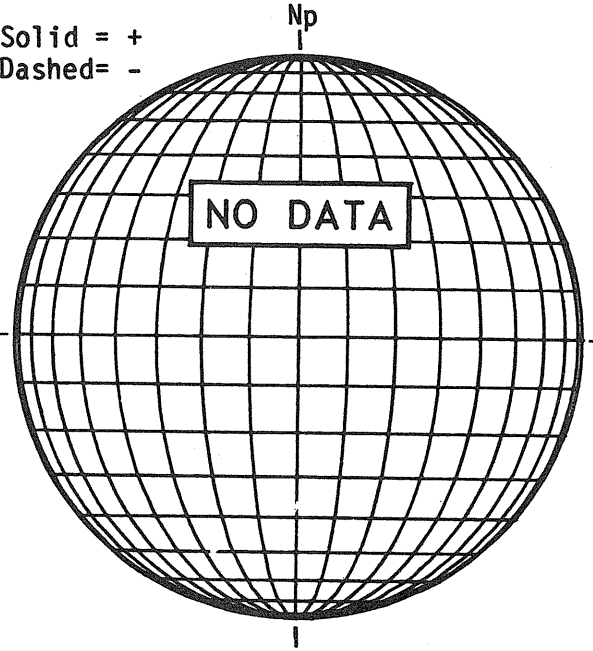
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

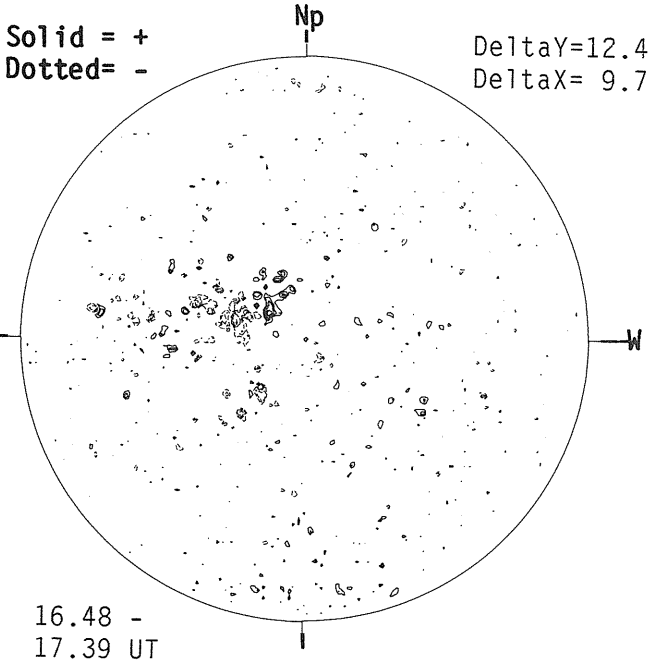
Solid = +
Dashed= -



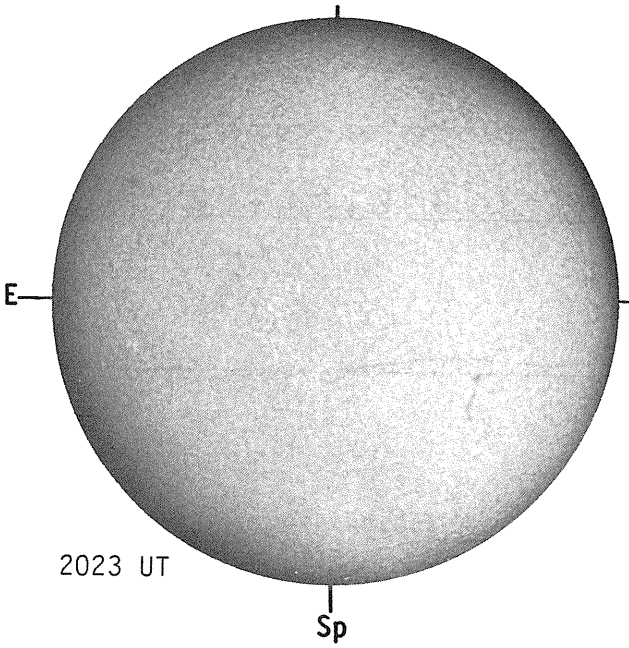
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

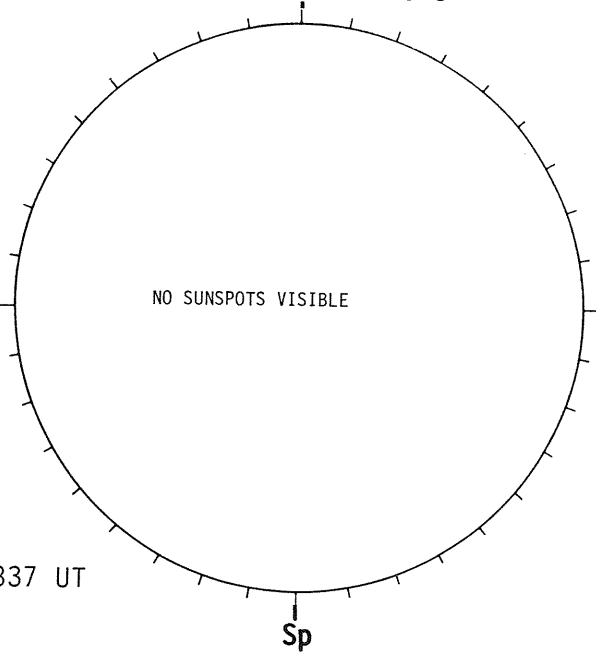
DeltaY=12.4
DeltaX= 9.7



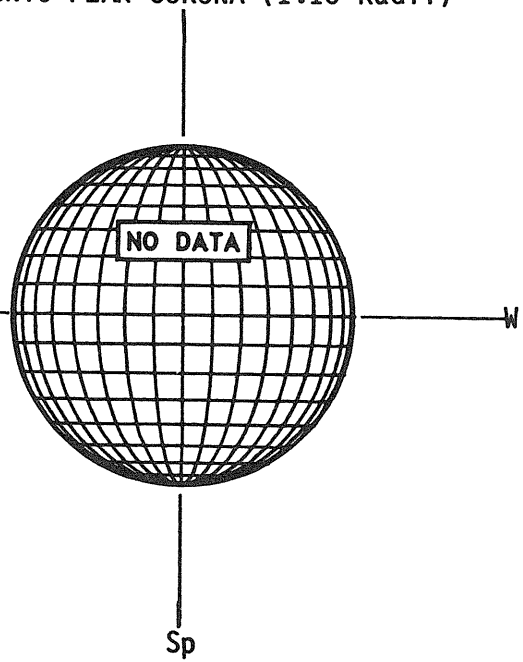
SACRAMENTO PEAK H-ALPHA



HOLLOMAN SUNSPOTS



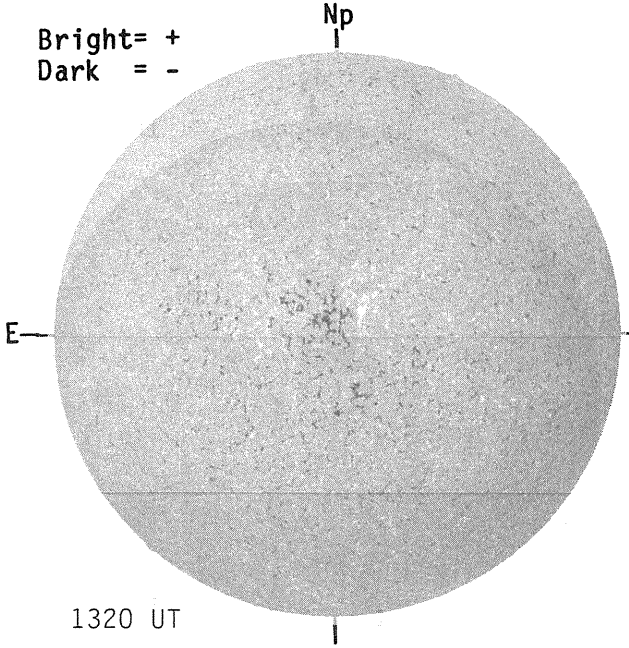
SACRAMENTO PEAK CORONA (1.15 Radii)



J U N E 02, 1 9 8 5 (P=-14.99, B_o=-0.56, L_o= 106.23)

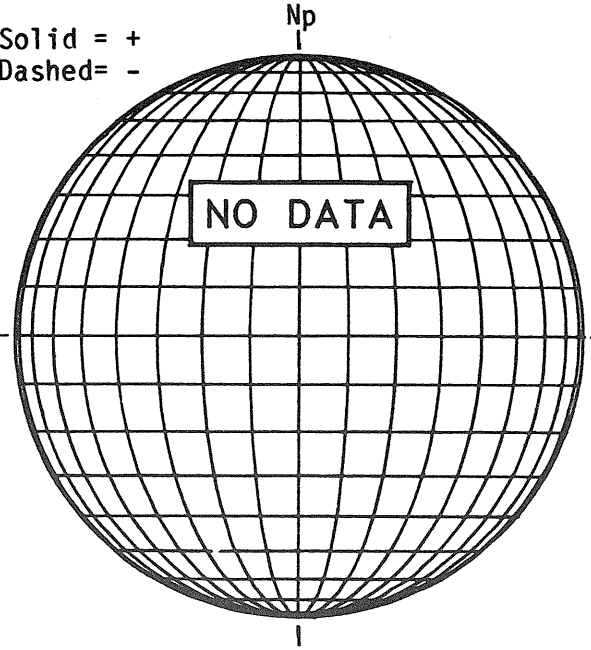
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



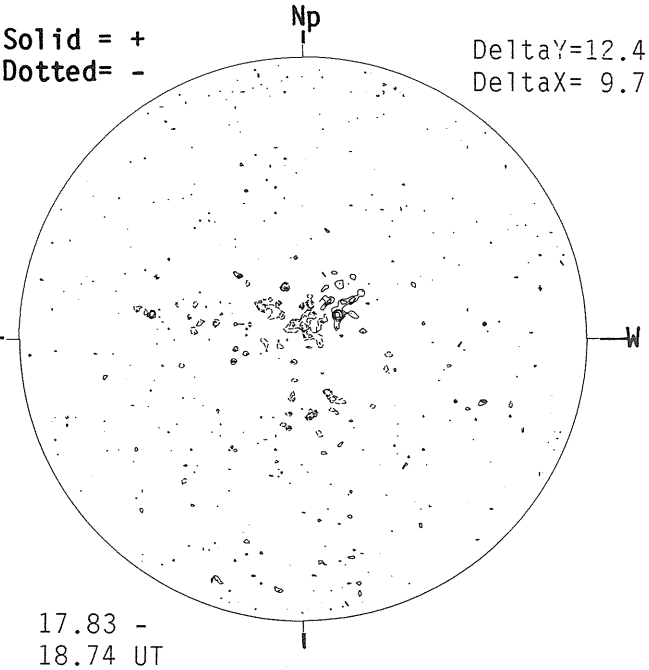
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

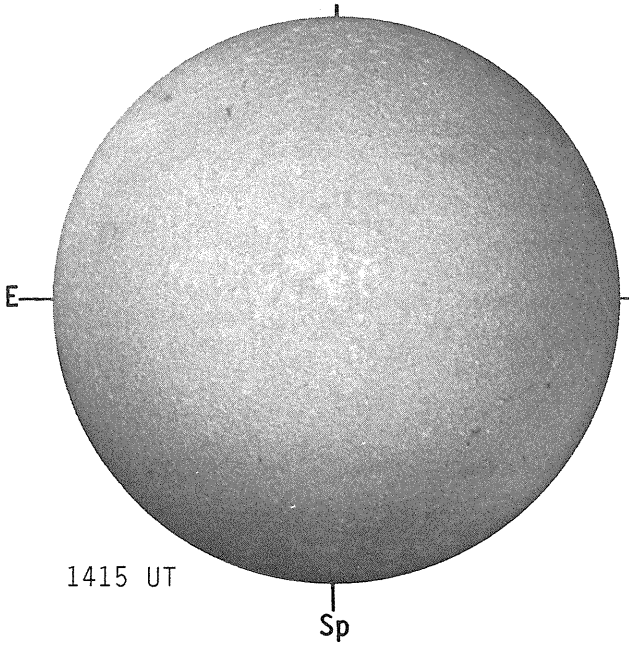


MT. WILSON MAGNETOGRAM

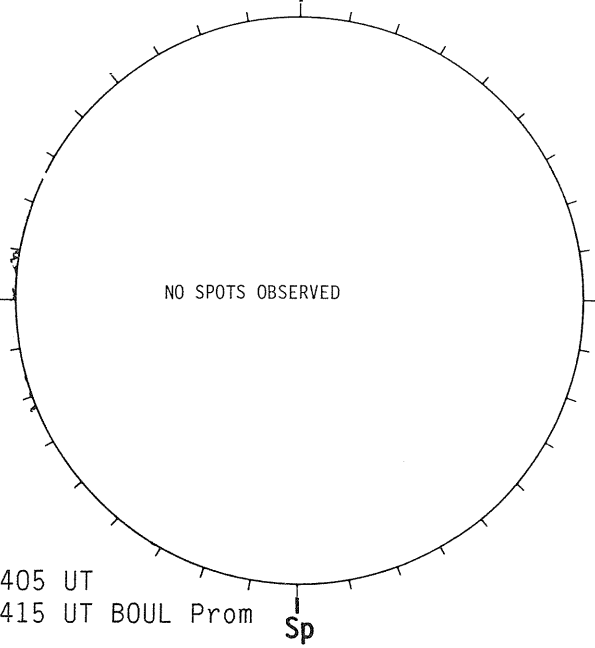
Solid = +
Dotted= -



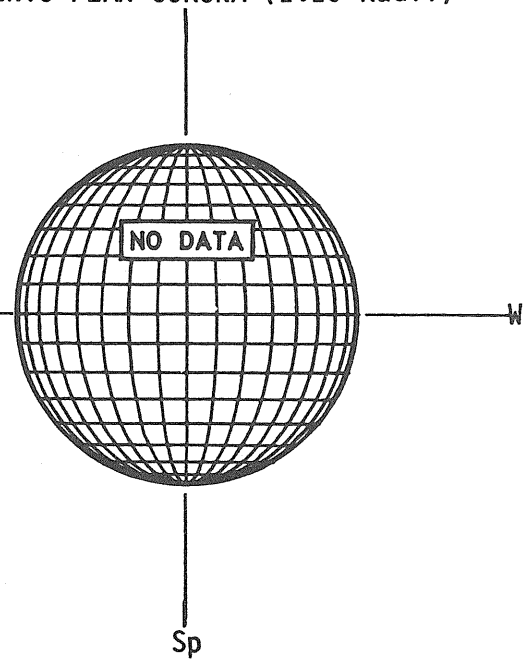
BOULDER H-ALPHA



BOULDER SUNSPOTS



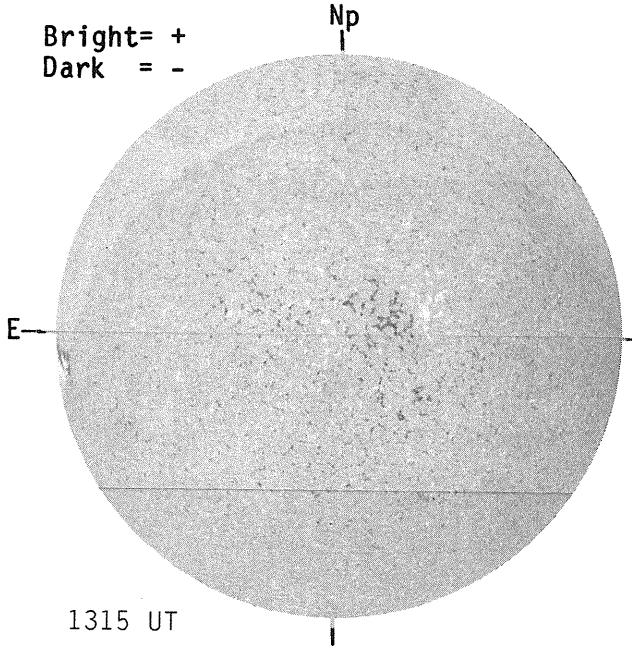
SACRAMENTO PEAK CORONA (1.15 Radii)



J U N E 03, 1 9 8 5 (P=-14.61, B_0=-0.44, L_0= 93.00)

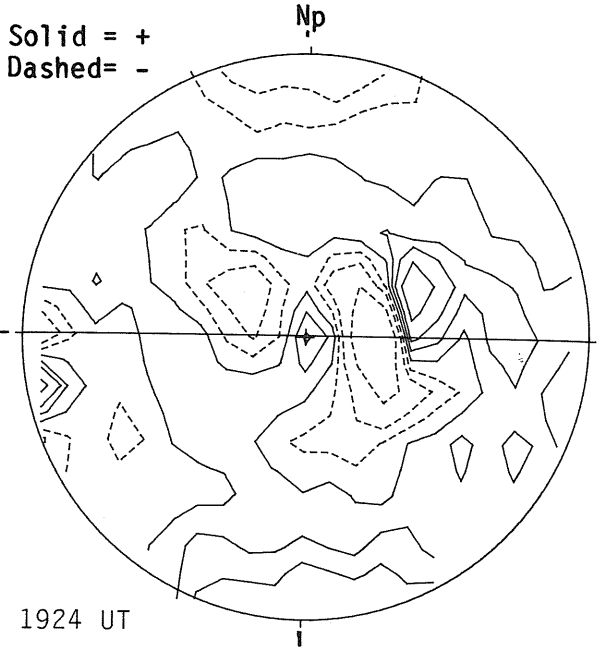
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



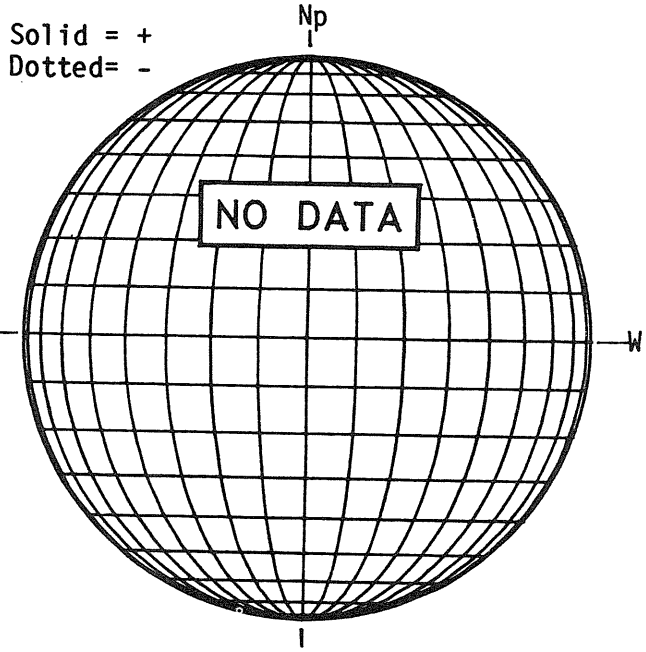
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

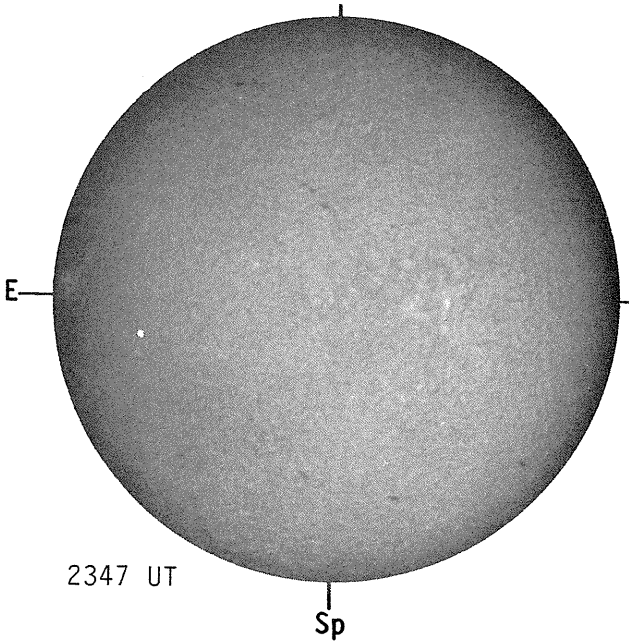


MT. WILSON MAGNETOGRAM

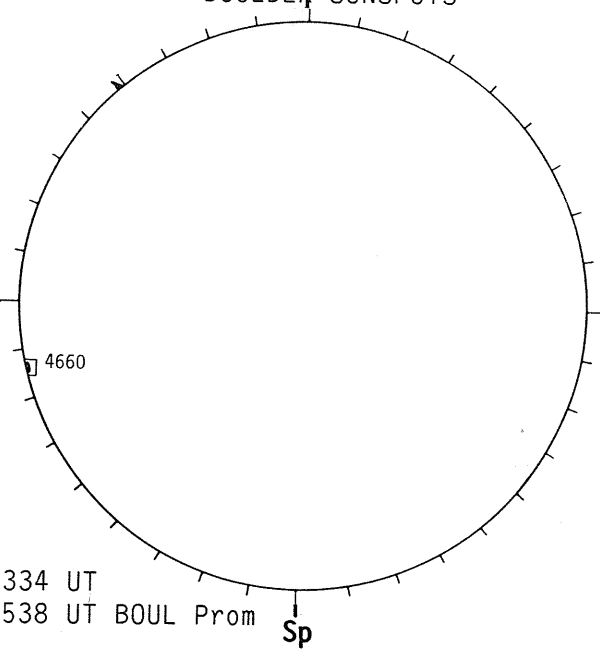
Solid = +
Dotted= -



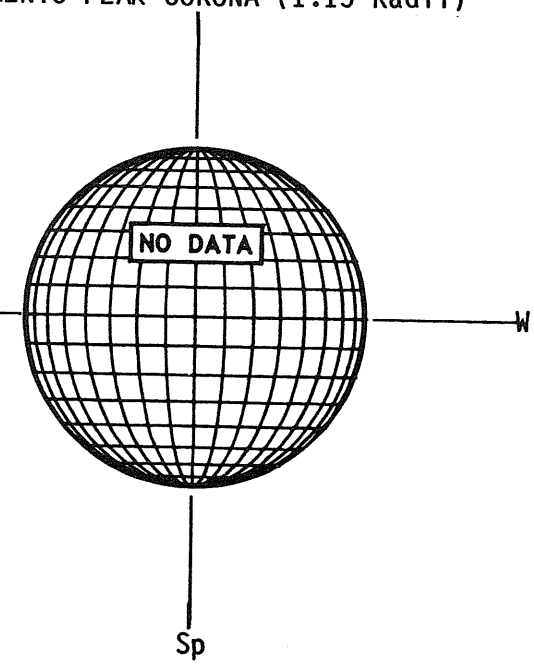
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



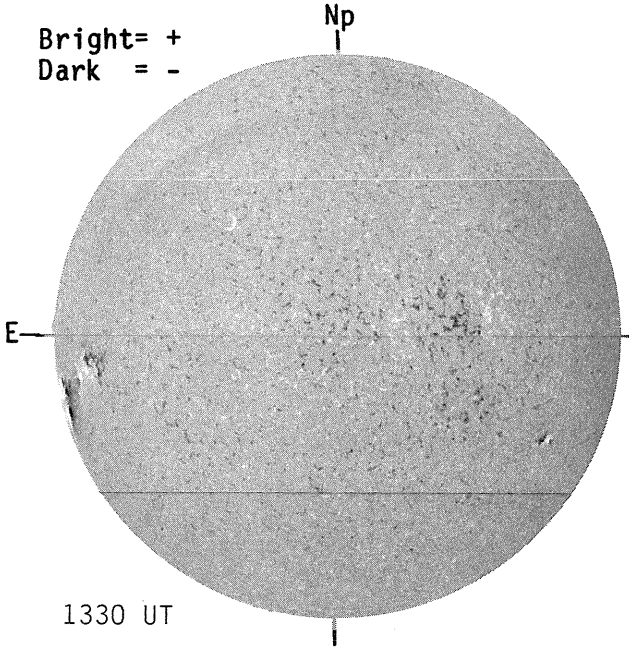
SACRAMENTO PEAK CORONA (1.15 Radii)



J U N E 04, 1 9 8 5 (P=-14.23, B_0=-0.32, L_0= 79.76)

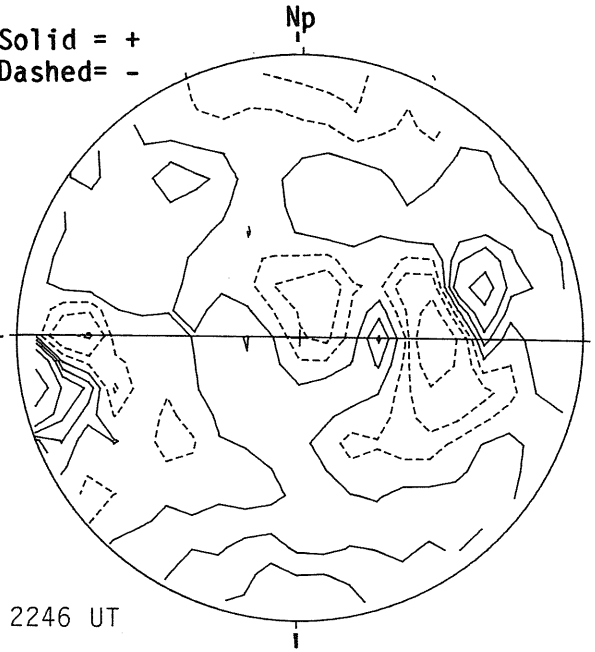
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

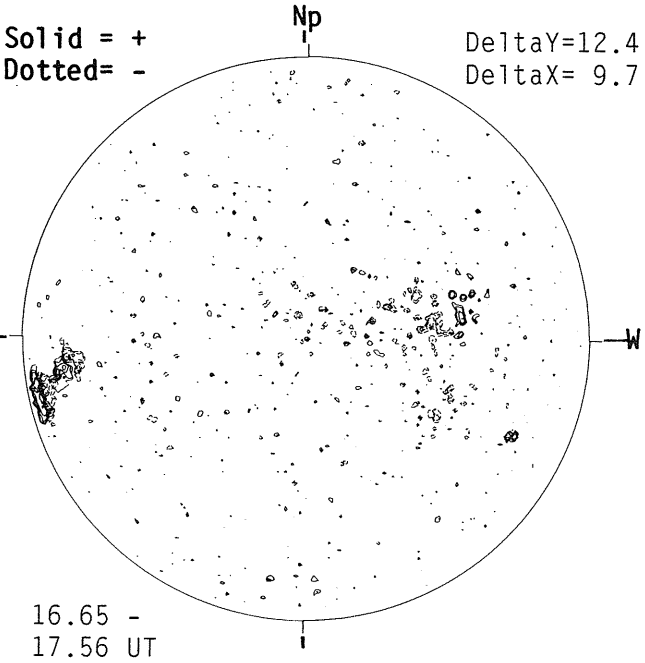
Solid = +
Dashed= -



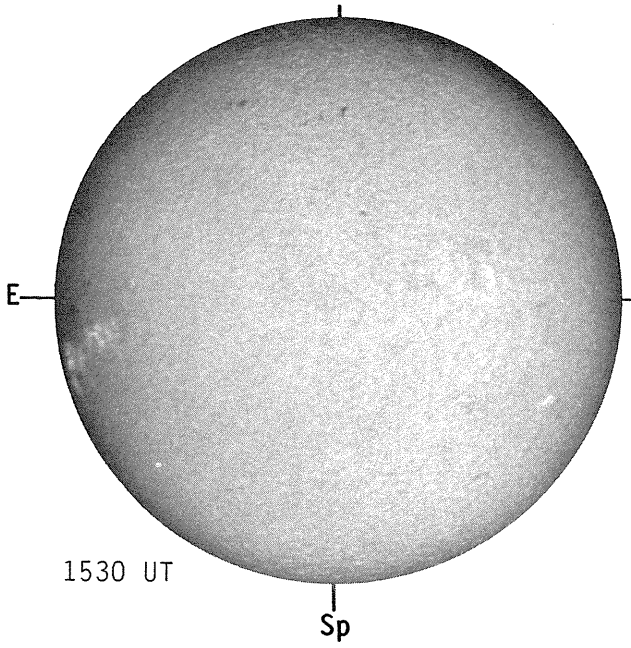
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

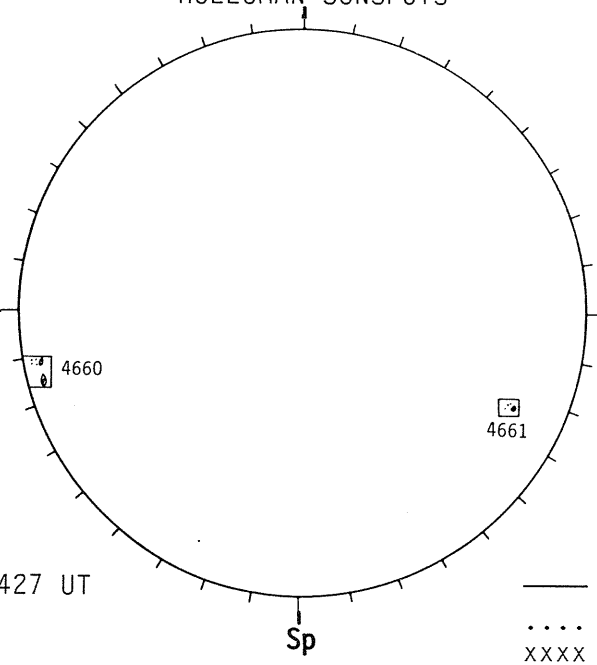
DeltaY=12.4
DeltaX= 9.7



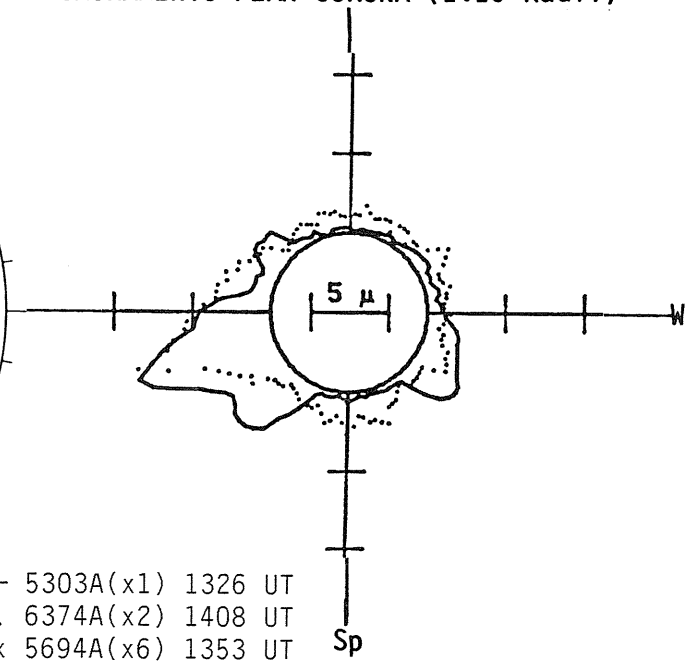
SACRAMENTO PEAK H-ALPHA



HOLLOMAN SUNSPOTS



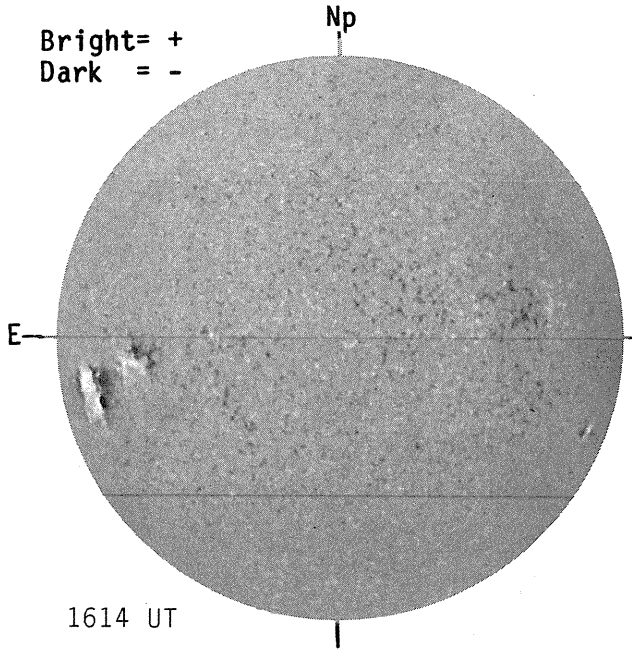
SACRAMENTO PEAK CORONA (1.15 Radii)



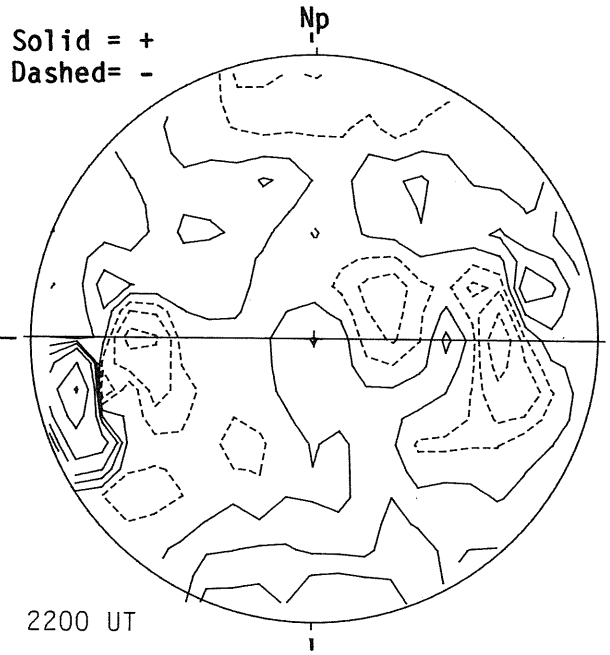
—— 5303A(x1) 1326 UT
.... 6374A(x2) 1408 UT
xxxx 5694A(x6) 1353 UT
No 5694A Activity Today

J U N E 05, 1 9 8 5 (P=-13.84, B_o=-0.20, L_o= 66.53)

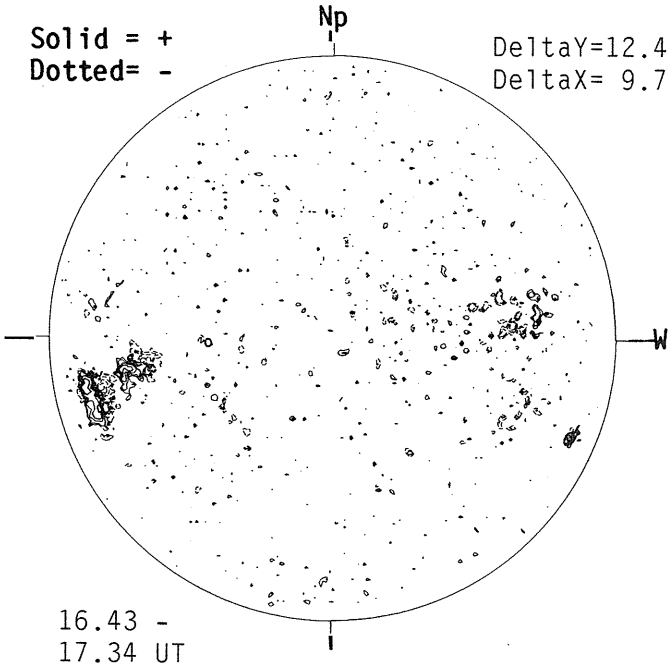
KITT PEAK MAGNETOGRAM



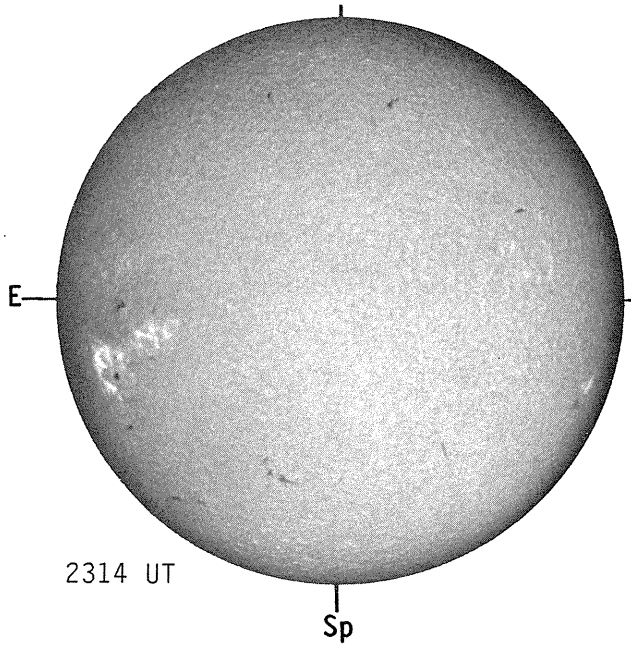
STANFORD MAGNETOGRAM



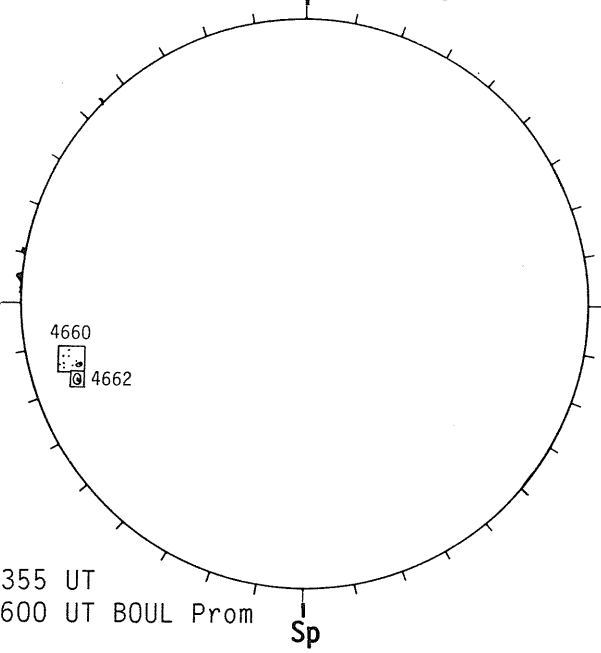
MT. WILSON MAGNETOGRAM



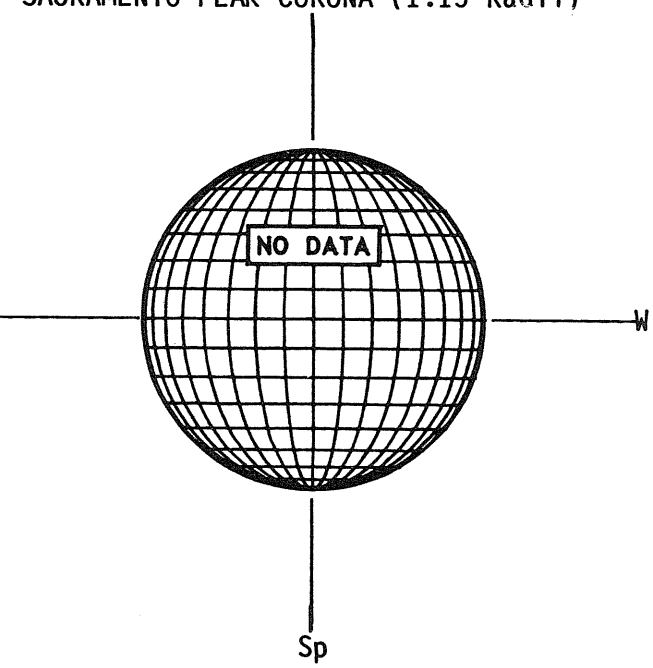
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



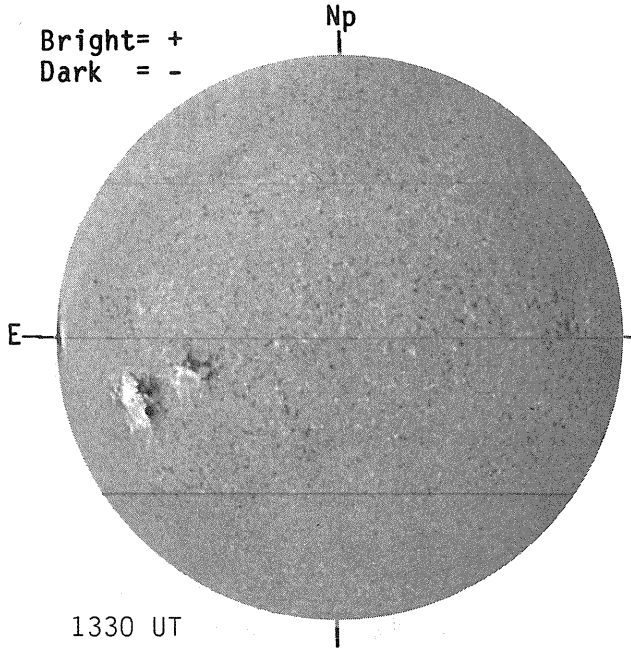
SACRAMENTO PEAK CORONA (1.15 Radii)



J U N E 06, 1 9 8 5 (P=-13.45, B_0=-0.08, L_0= 53.29)

KITT PEAK MAGNETOGRAM

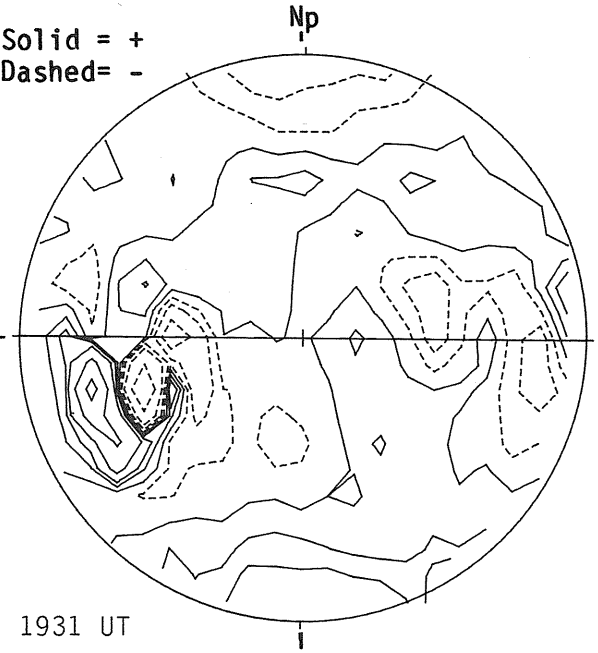
Bright= +
Dark = -



1330 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

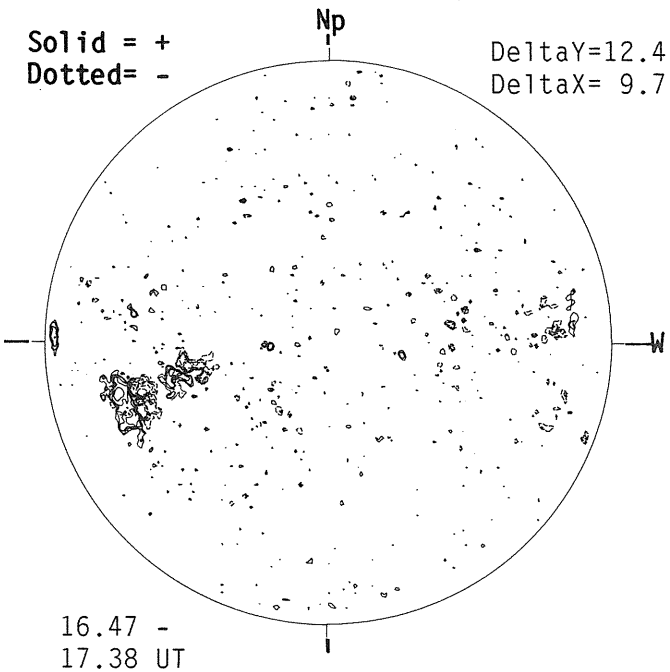


1931 UT

MT. WILSON MAGNETOGRAM

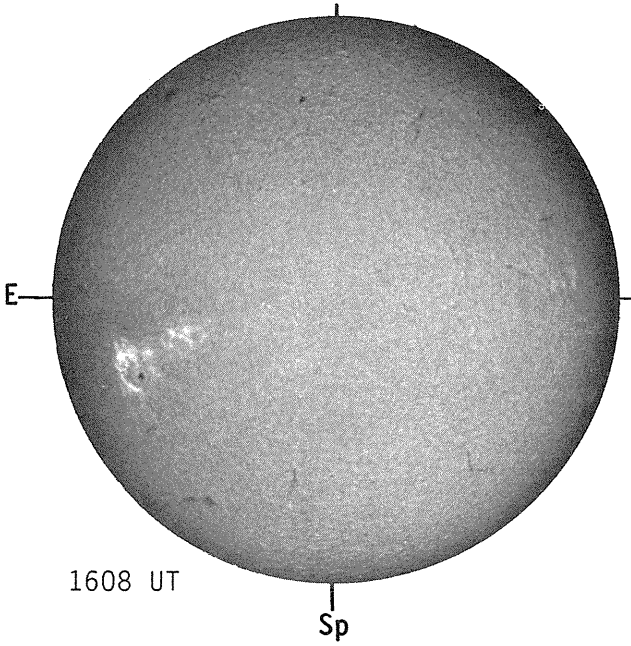
Solid = +
Dotted= -

DeltaY=12.4
DeltaX= 9.7



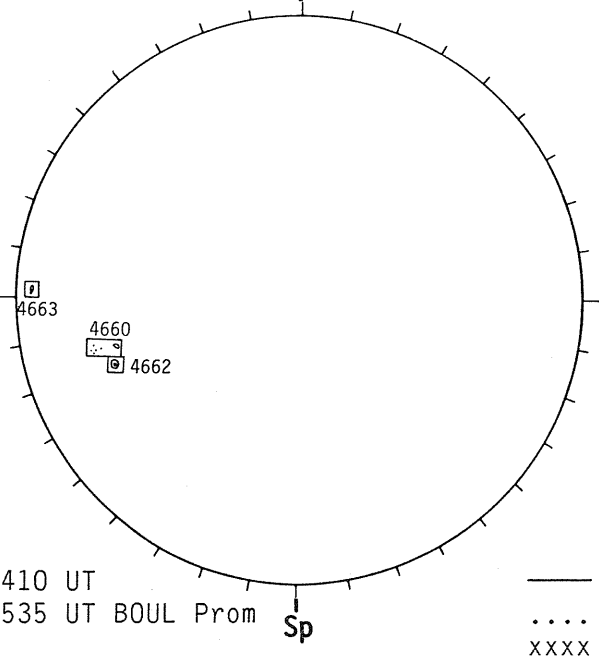
16.47 -
17.38 UT

SACRAMENTO PEAK H-ALPHA



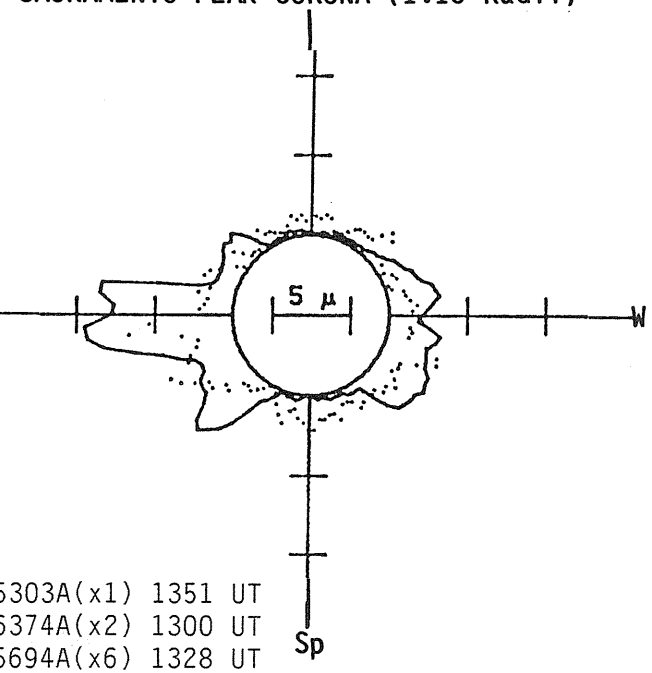
1608 UT

BOULDER SUNSPOTS



1410 UT
1535 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

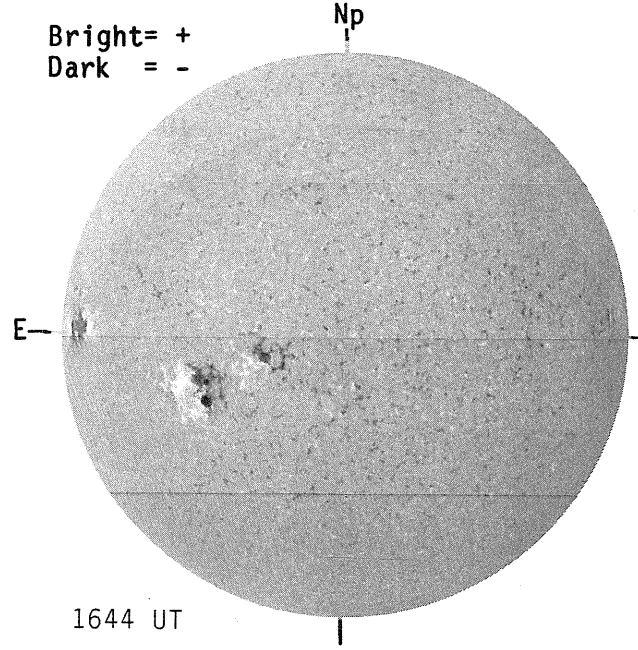


—— 5303A(x1) 1351 UT
.... 6374A(x2) 1300 UT
xxxx 5694A(x6) 1328 UT
No 5694A Activity Today

J U N E 07, 1 9 8 5 (P=-13.05, B_0= 0.04, L_0= 40.06)

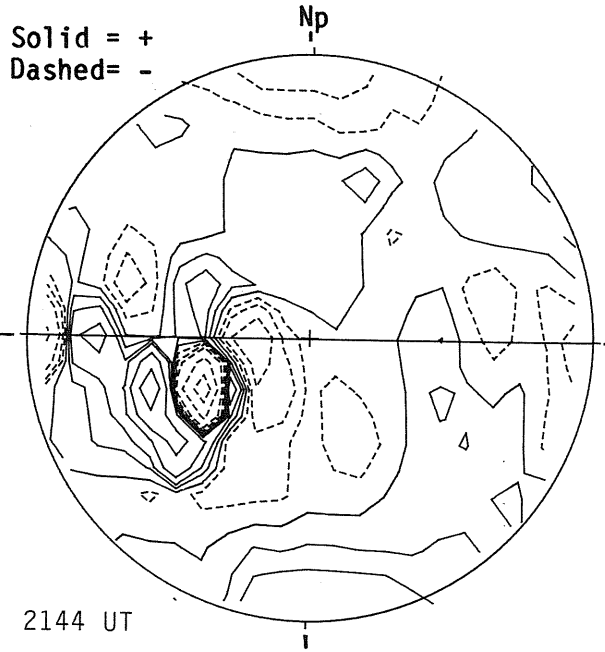
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

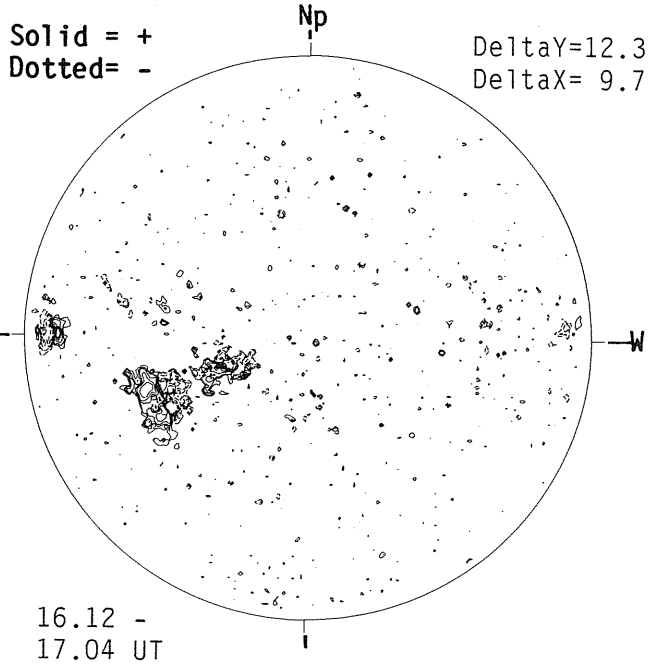
Solid = +
Dashed= -



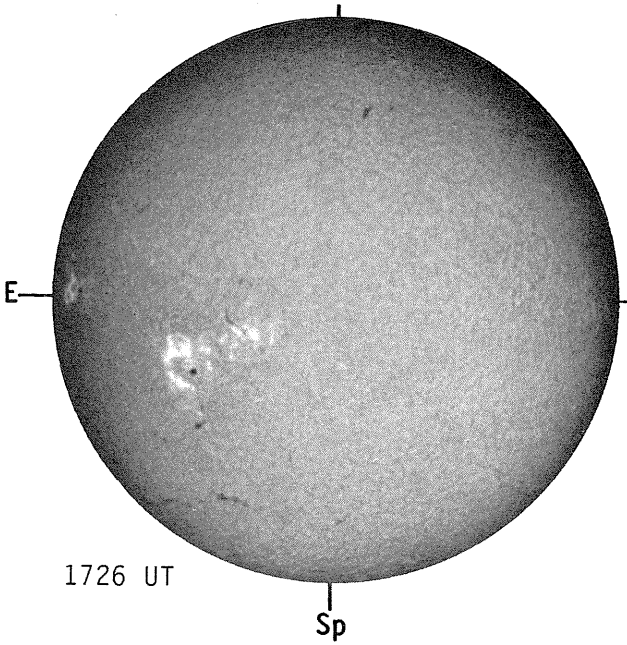
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

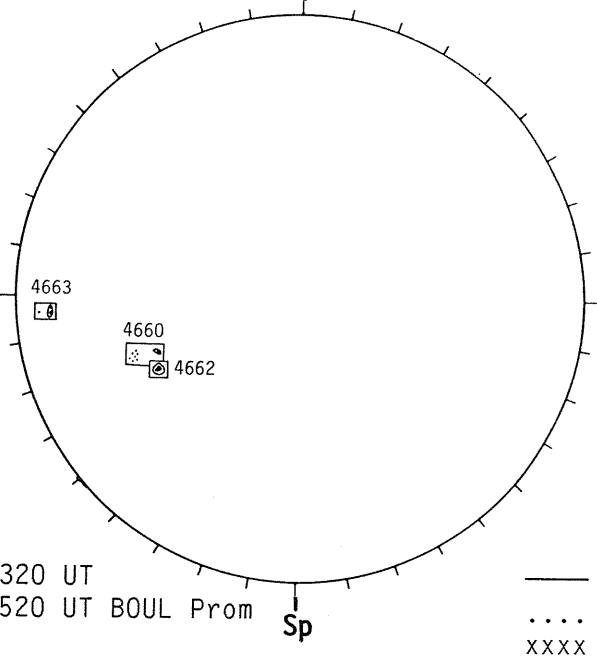
DeltaY=12.3
DeltaX= 9.7



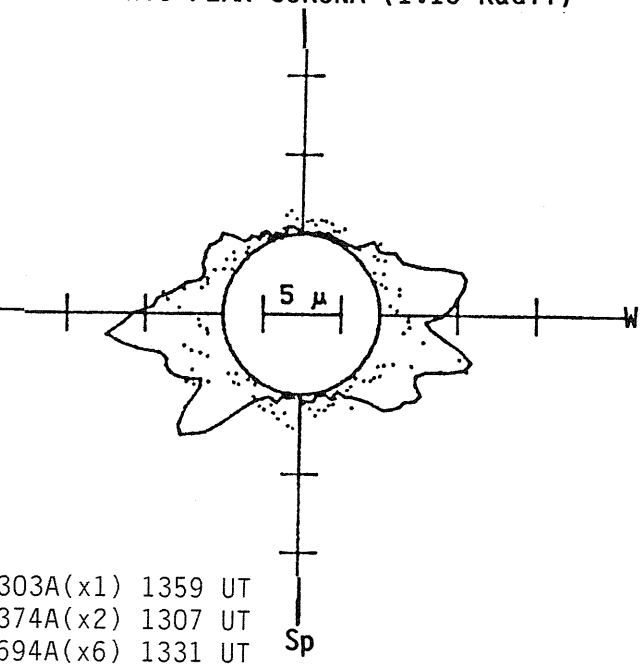
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

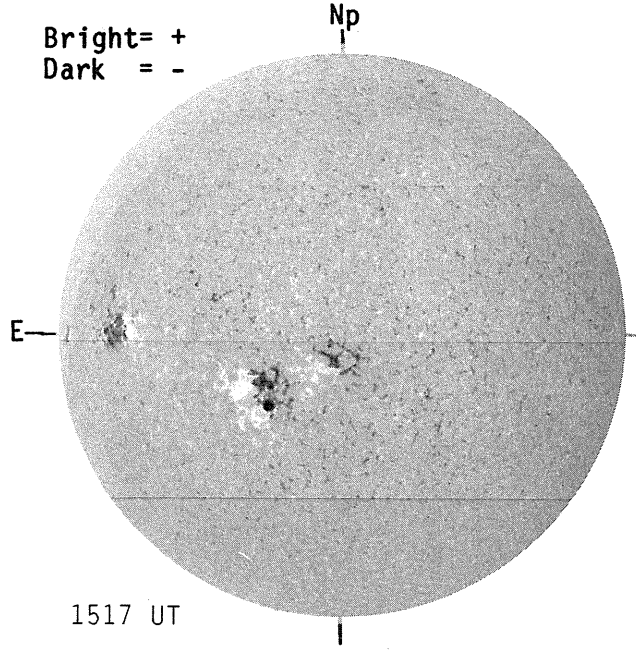


—— 5303A(x1) 1359 UT
.... 6374A(x2) 1307 UT
xxxx 5694A(x6) 1331 UT
No 5694A Activity Today

J U N E 08, 1 9 8 5 (P=-12.65, B_0= 0.16, L_0= 26.82)

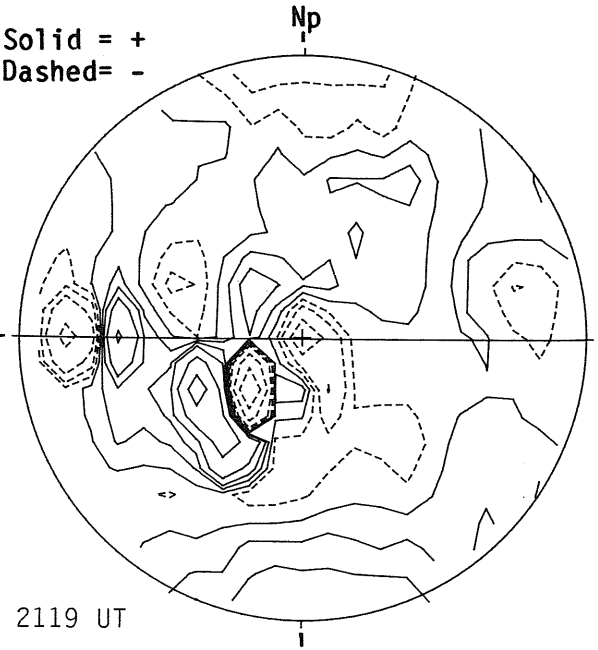
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



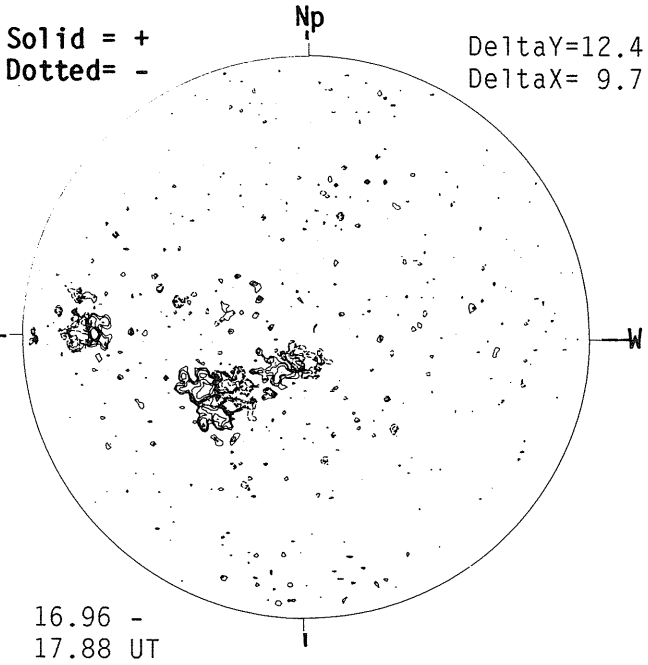
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

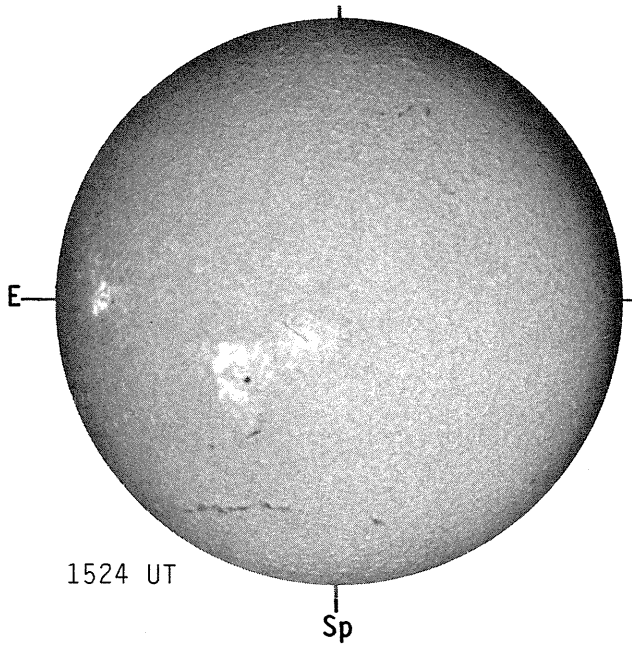


MT. WILSON MAGNETOGRAM

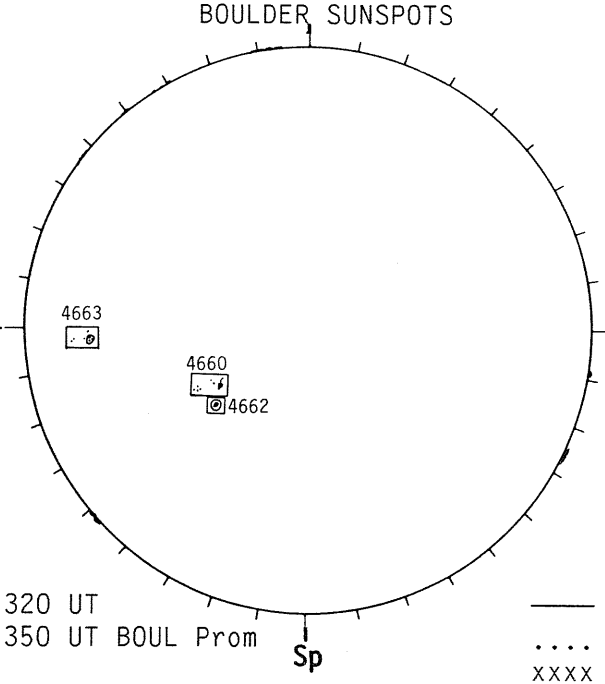
Solid = +
Dotted= -



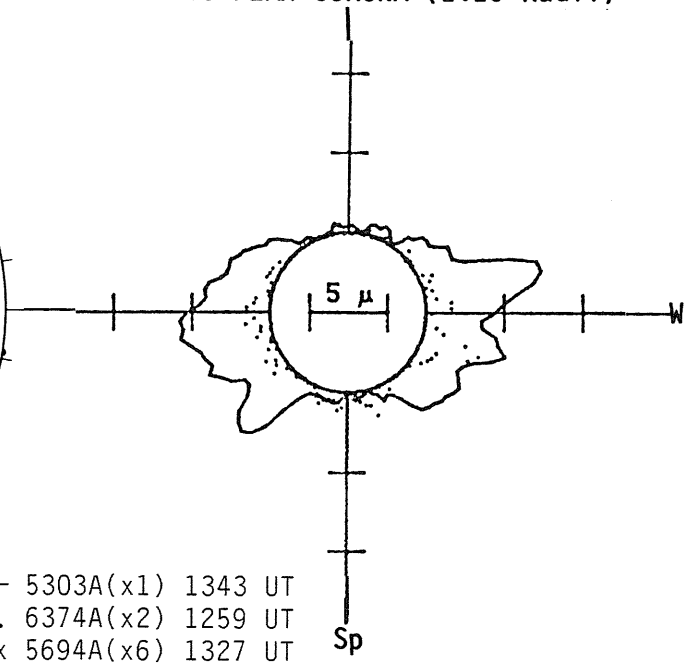
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

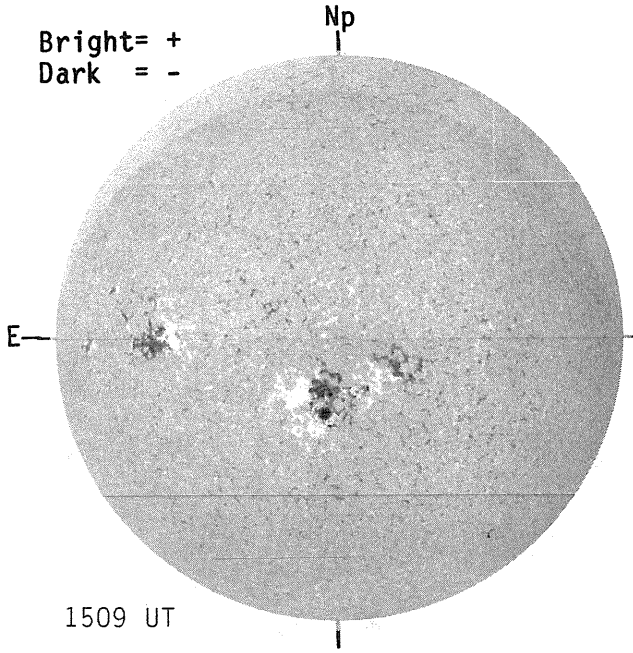


—— 5303A(x1) 1343 UT
.... 6374A(x2) 1259 UT
xxxx 5694A(x6) 1327 UT
No 5694A Activity Today

J U N E 09, 1 9 8 5 (P=-12.24, B_0= 0.28, L_0= 13.59)

KITT PEAK MAGNETOGRAM

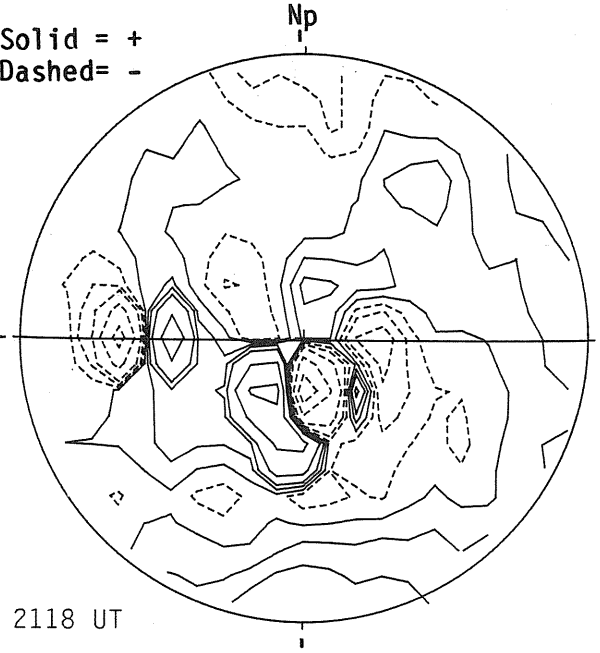
Bright= +
Dark = -



1509 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

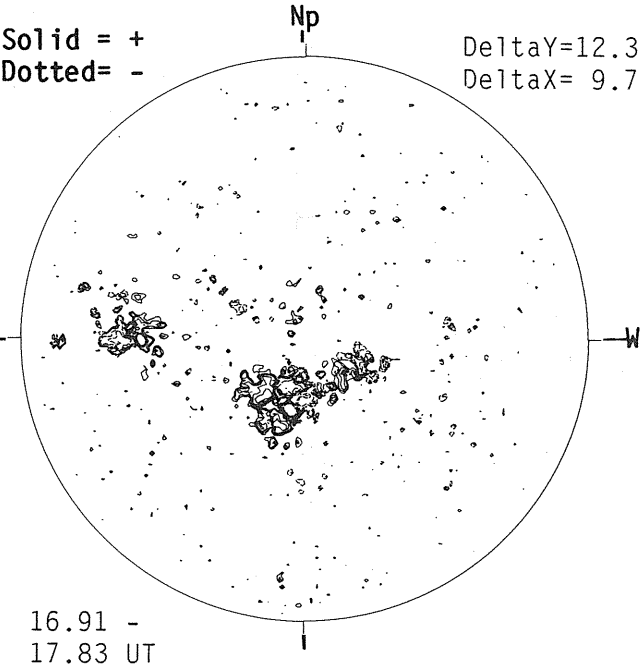


2118 UT

MT. WILSON MAGNETOGRAM

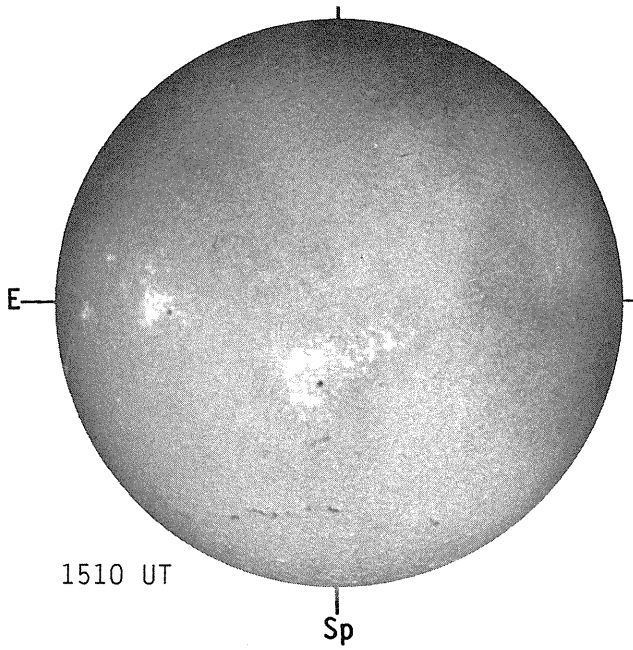
Solid = +
Dotted= -

DeltaY=12.3
DeltaX= 9.7



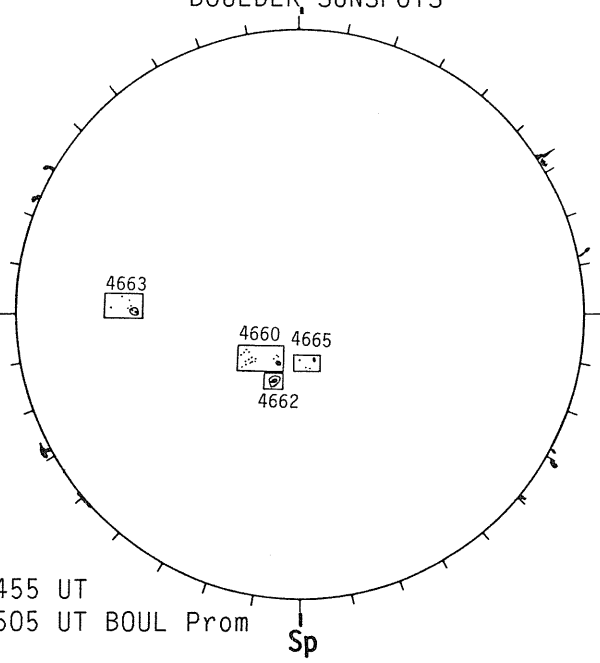
16.91 -
17.83 UT

SACRAMENTO PEAK H-ALPHA



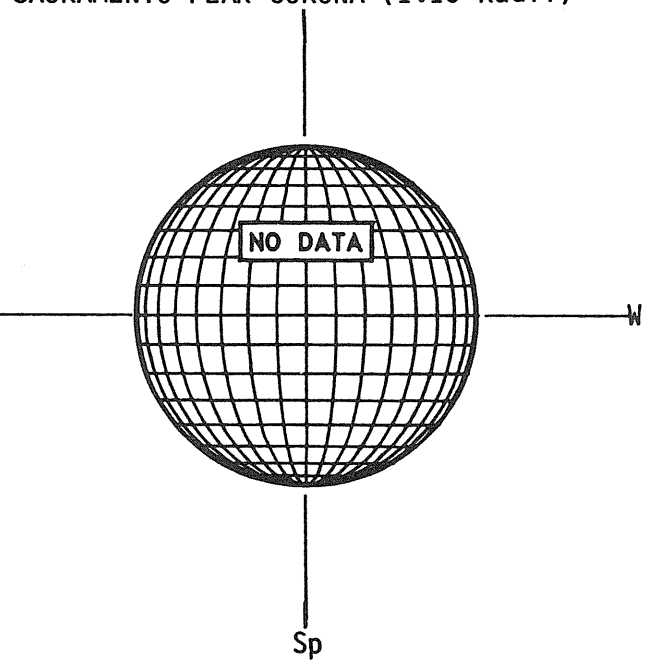
1510 UT

BOULDER SUNSPOTS



1455 UT
1505 UT BOUL Prom

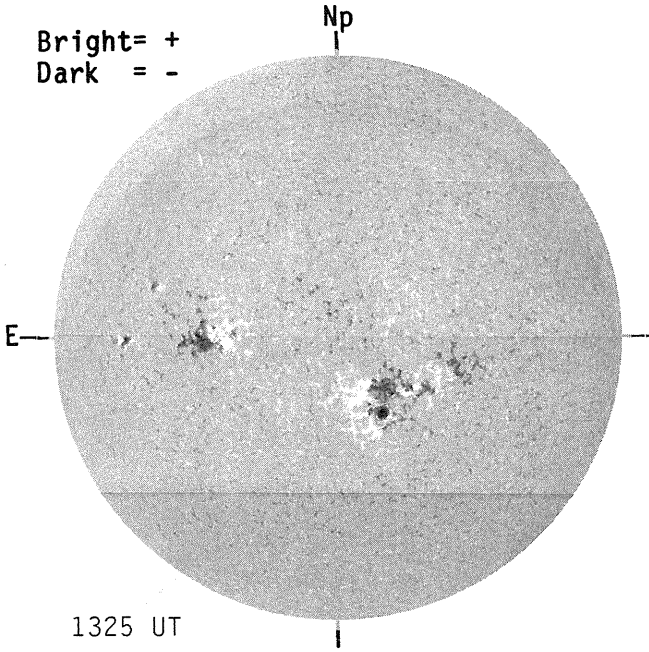
SACRAMENTO PEAK CORONA (1.15 Radii)



J U N E 10, 1 9 8 5 (P=-11.84, B_0= 0.39, L_0= 0.35)

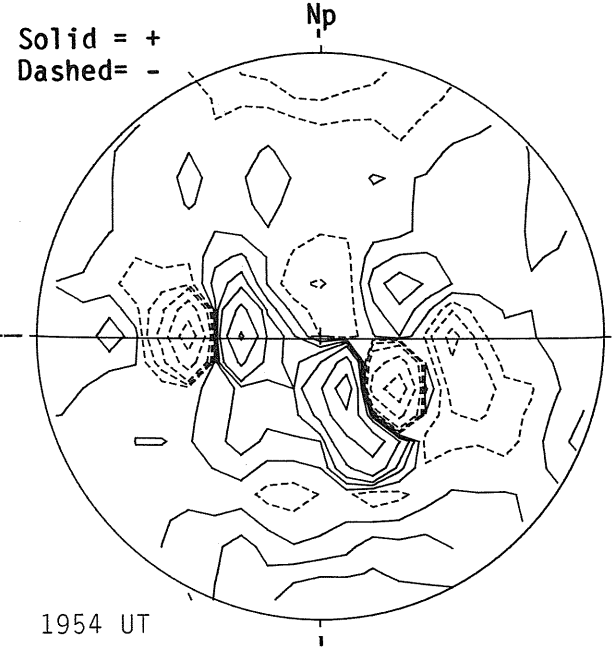
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

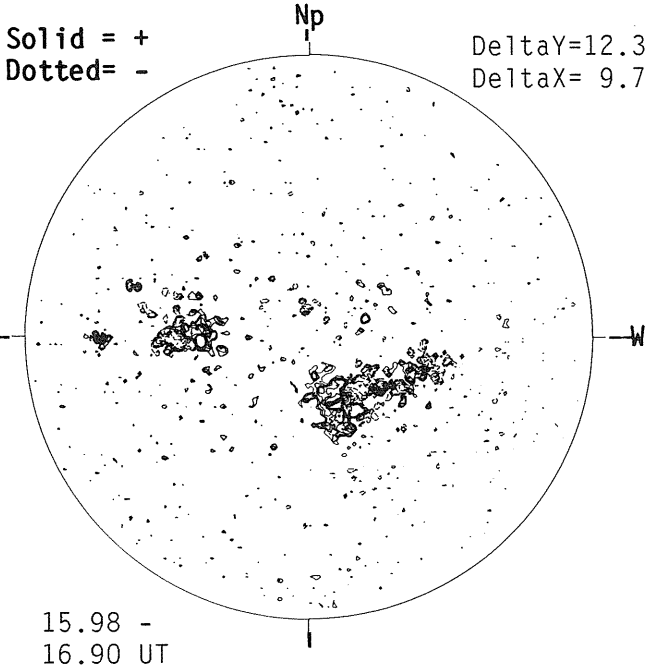
Solid = +
Dashed= -



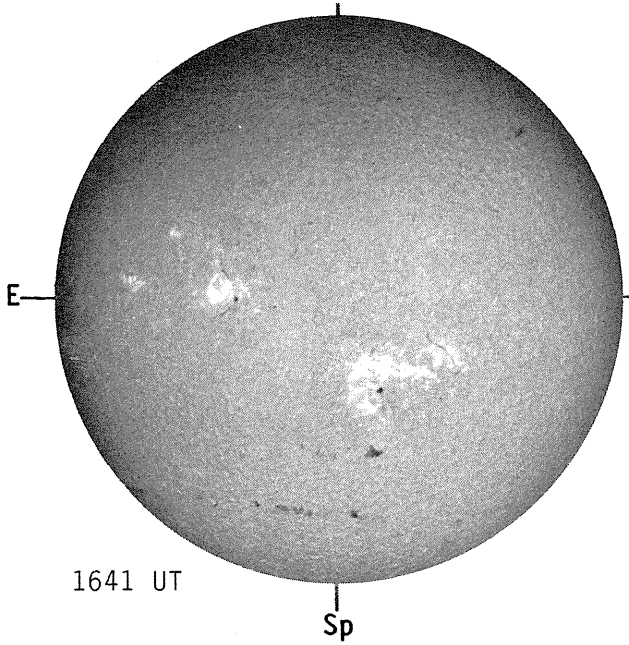
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

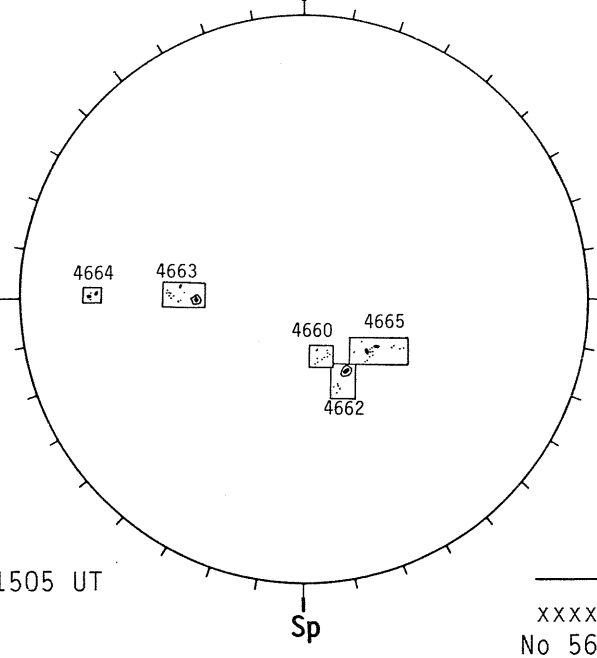
DeltaY=12.3
DeltaX= 9.7



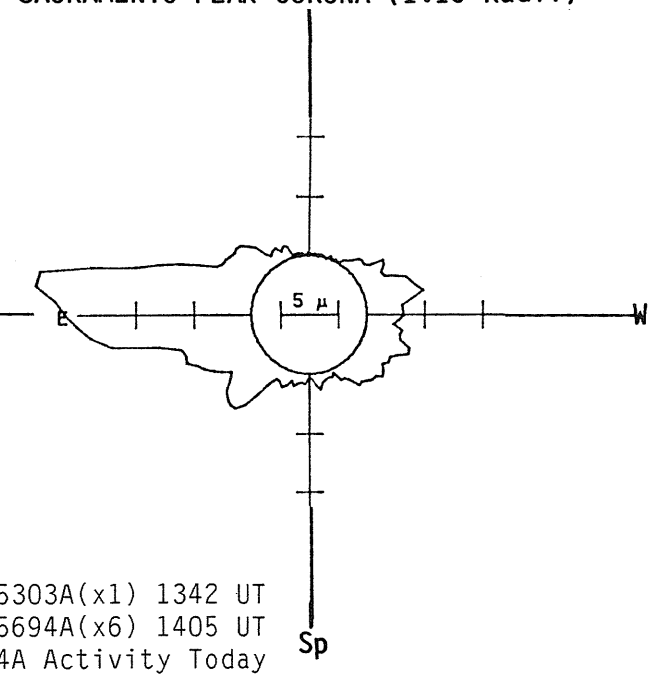
SACRAMENTO PEAK H-ALPHA



HOLLOMAN SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

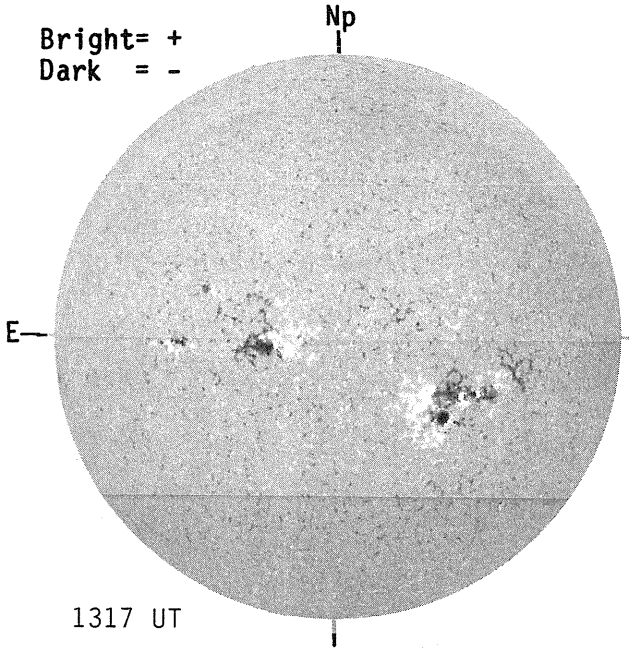


—— 5303A(x1) 1342 UT
xxxx 5694A(x6) 1405 UT
No 5694A Activity Today

J U N E 11, 1 9 8 5 (P=-11.42, B_0= 0.51, L_0= 347.12)

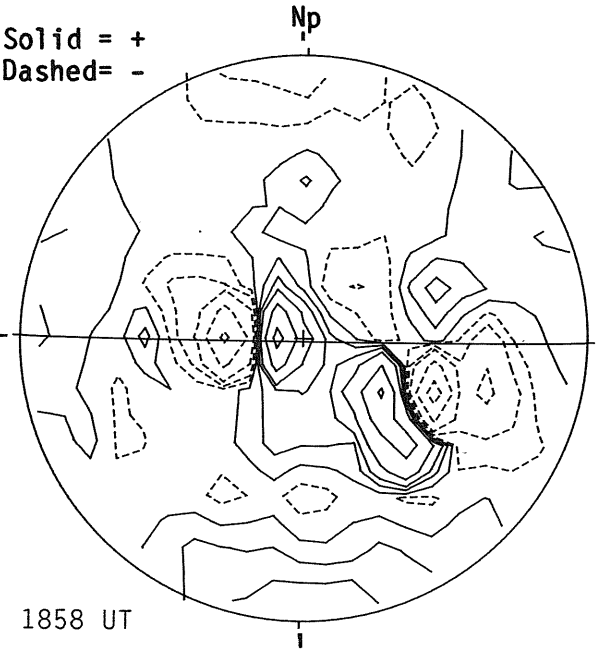
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

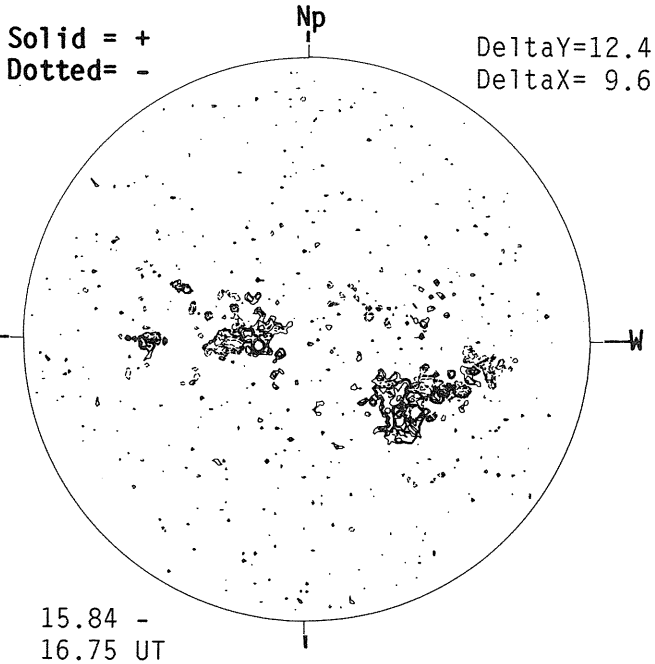
Solid = +
Dashed= -



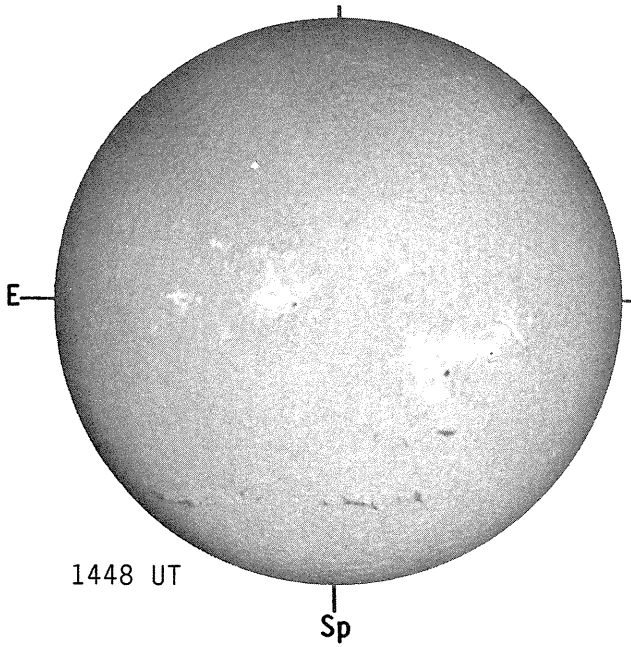
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

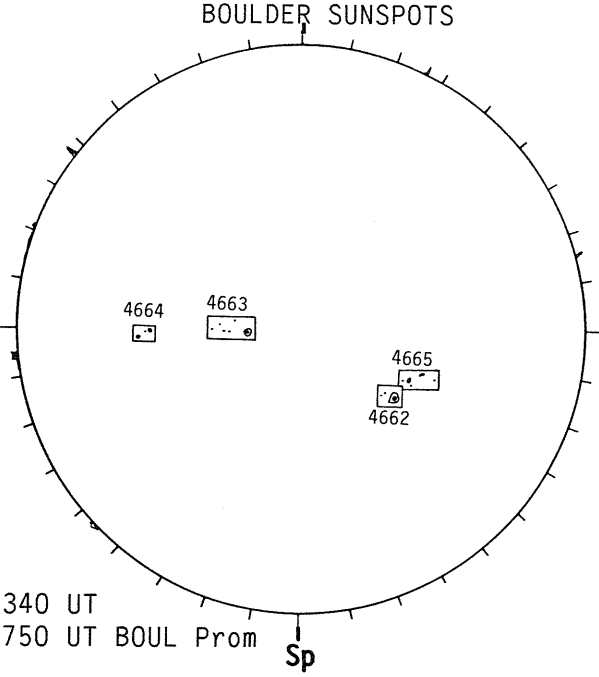
DeltaY=12.4
DeltaX= 9.6



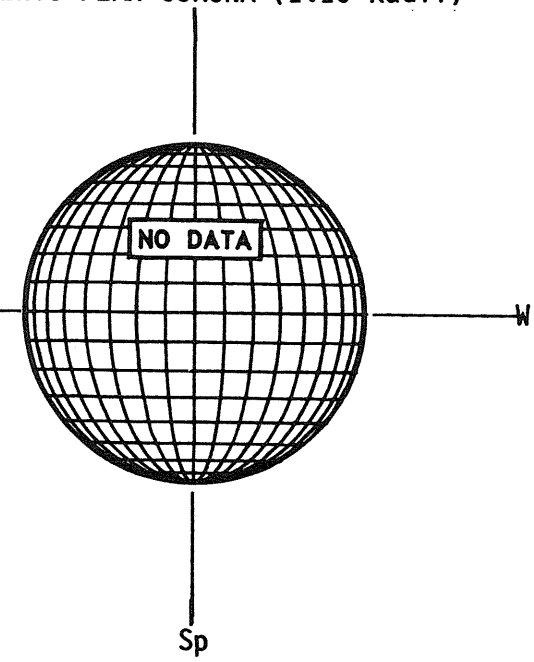
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



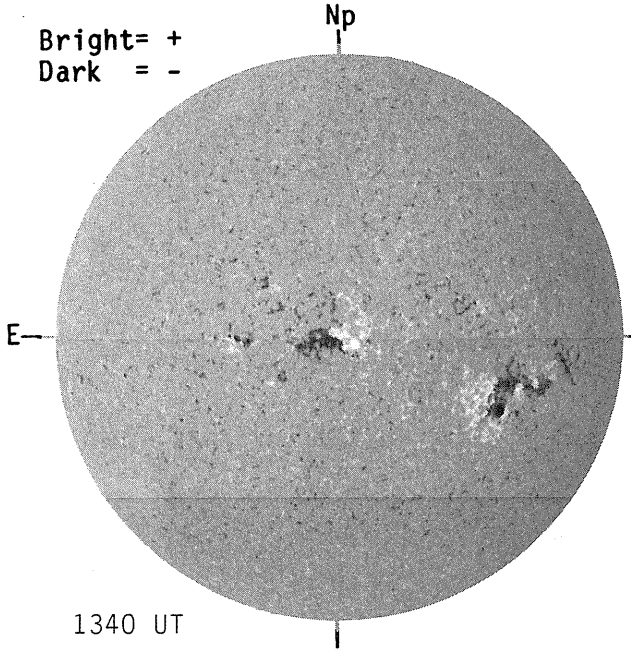
SACRAMENTO PEAK CORONA (1.15 Radii)



J U N E 12, 1 9 8 5 (P=-11.01, B_0= 0.63, L_0= 333.88)

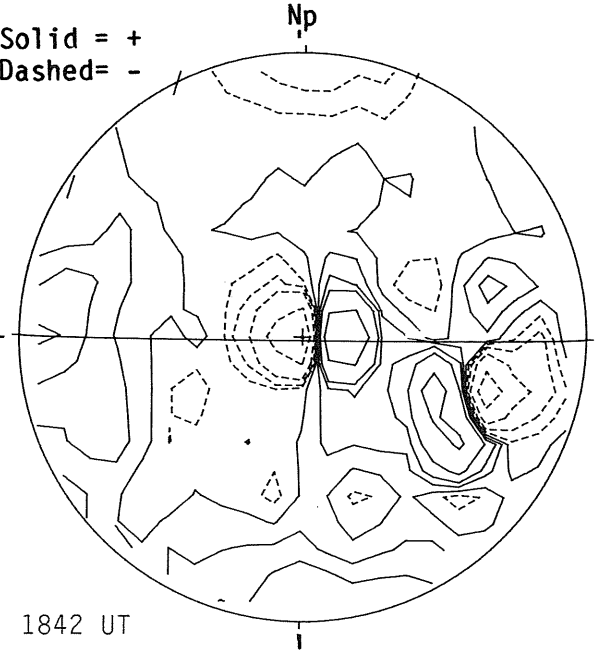
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



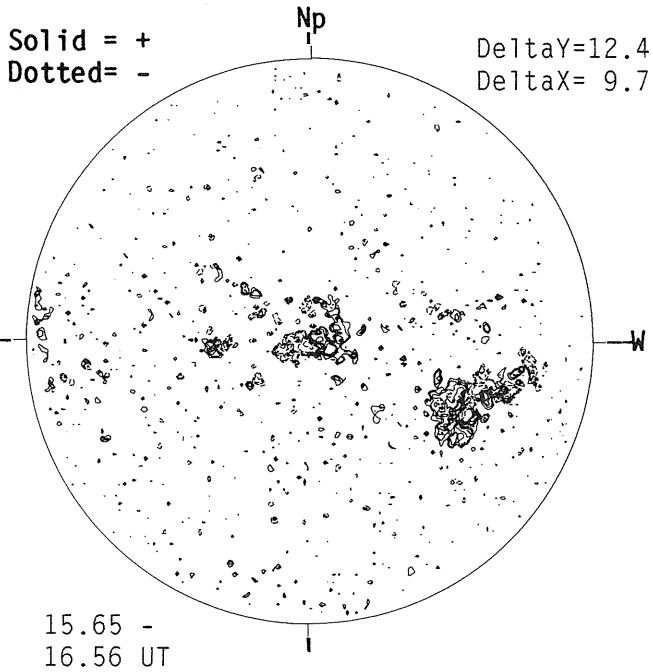
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

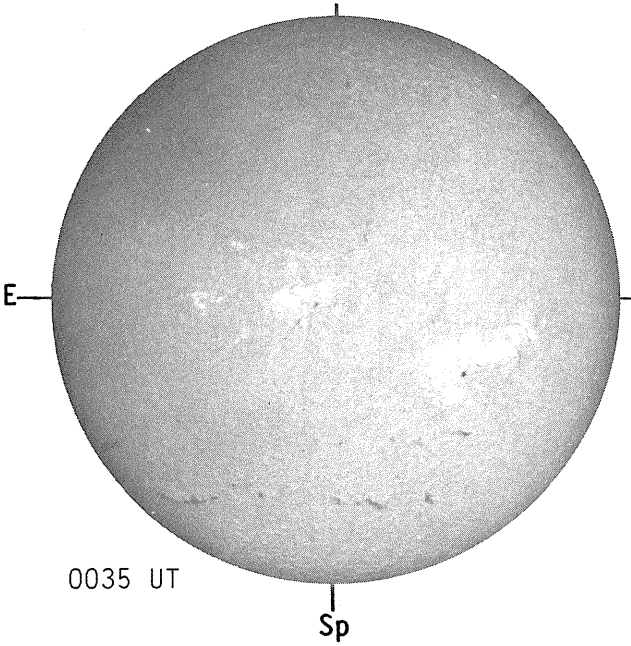


MT. WILSON MAGNETOGRAM

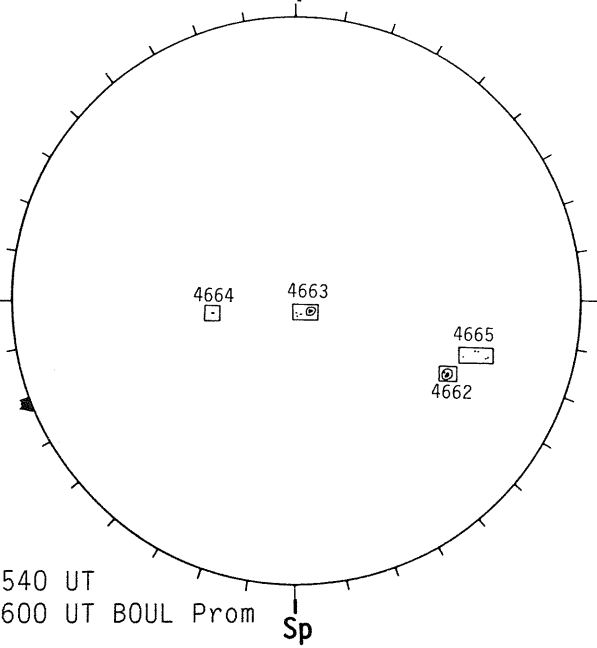
Solid = +
Dotted= -



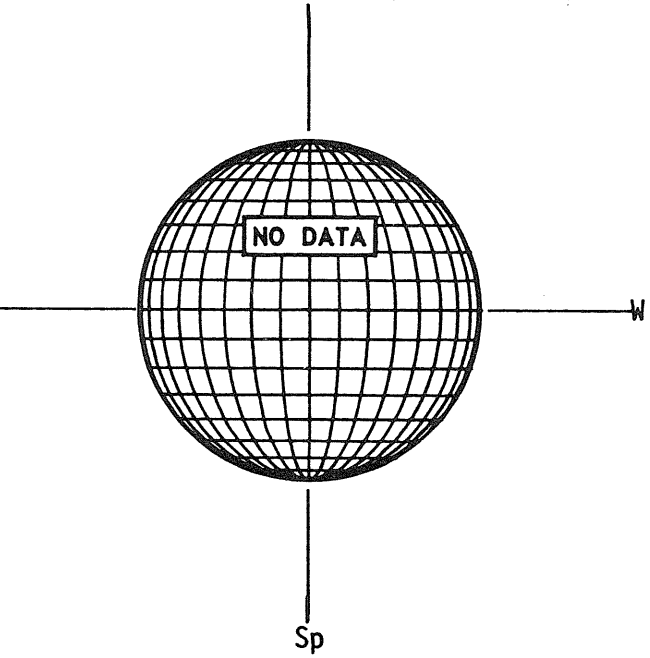
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



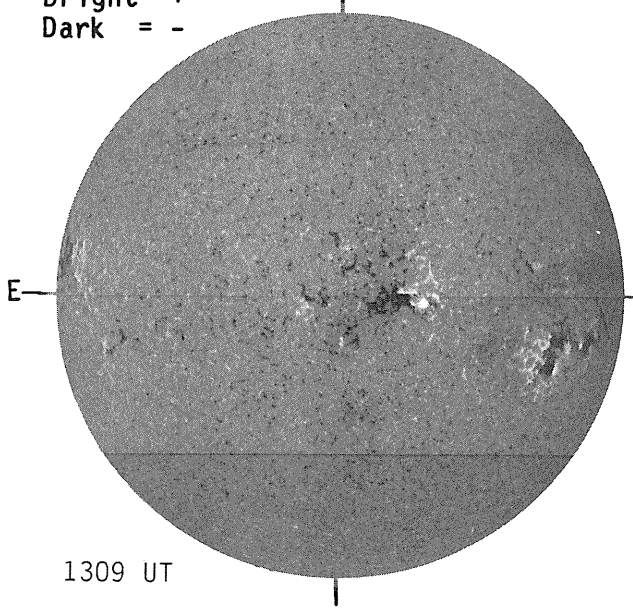
SACRAMENTO PEAK CORONA (1.15 Radii)



J U N E 13, 1 9 8 5 (P=-10.59, B_0= 0.75, L_0= 320.64)

KITT PEAK MAGNETOGRAM

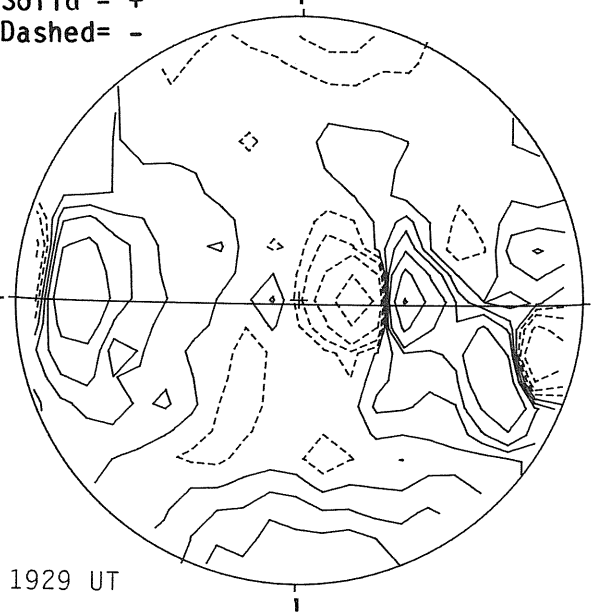
Bright= +
Dark = -



1309 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

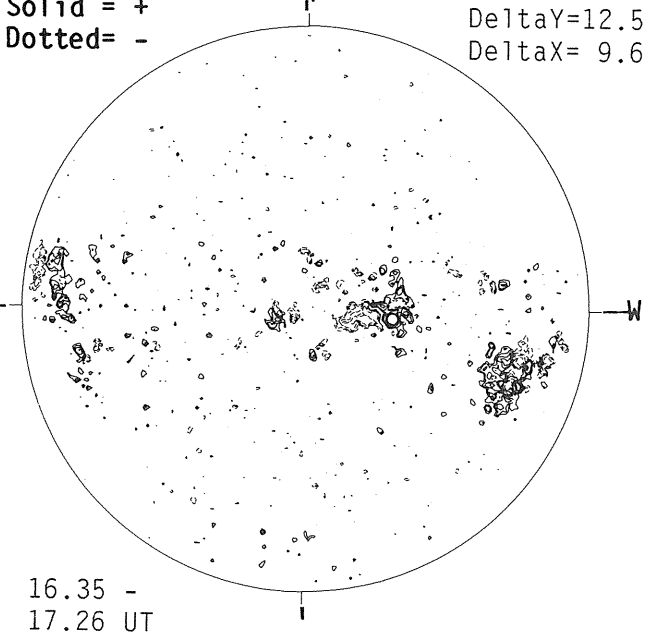


1929 UT

MT. WILSON MAGNETOGRAM

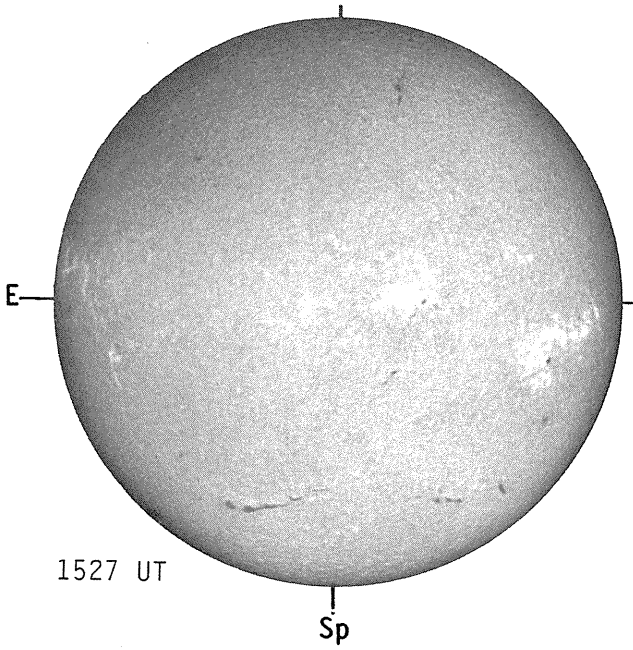
Solid = +
Dotted= -

DeltaY=12.5
DeltaX= 9.6



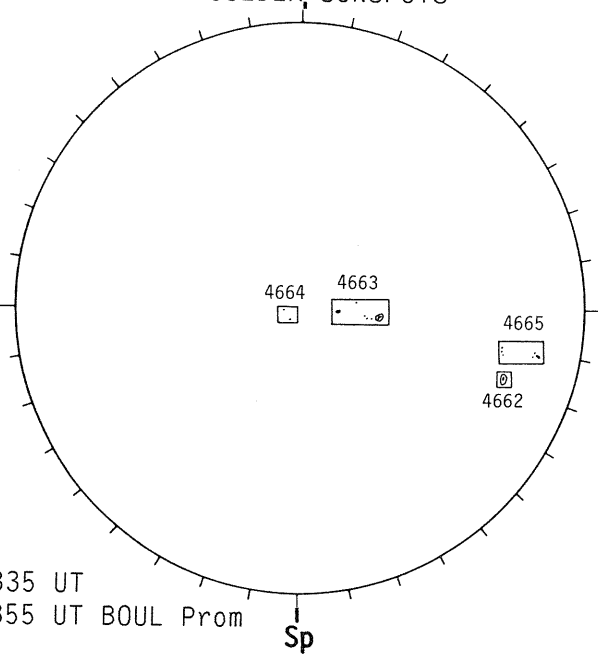
16.35 -
17.26 UT

SACRAMENTO PEAK H-ALPHA



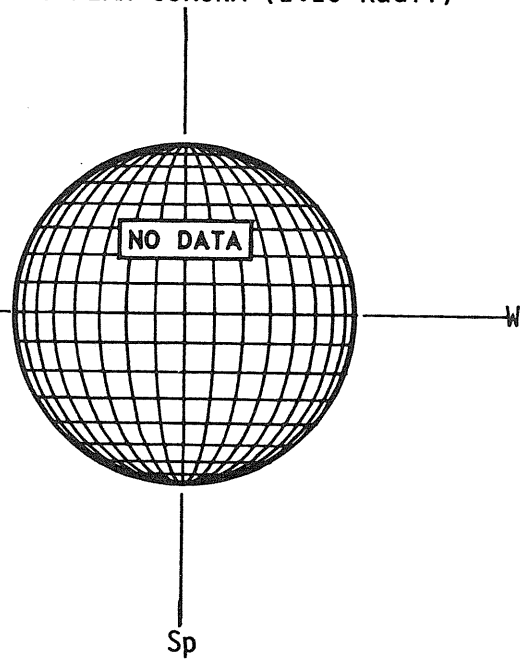
1527 UT

BOULDER SUNSPOTS



1335 UT
1355 UT BOUL Prom

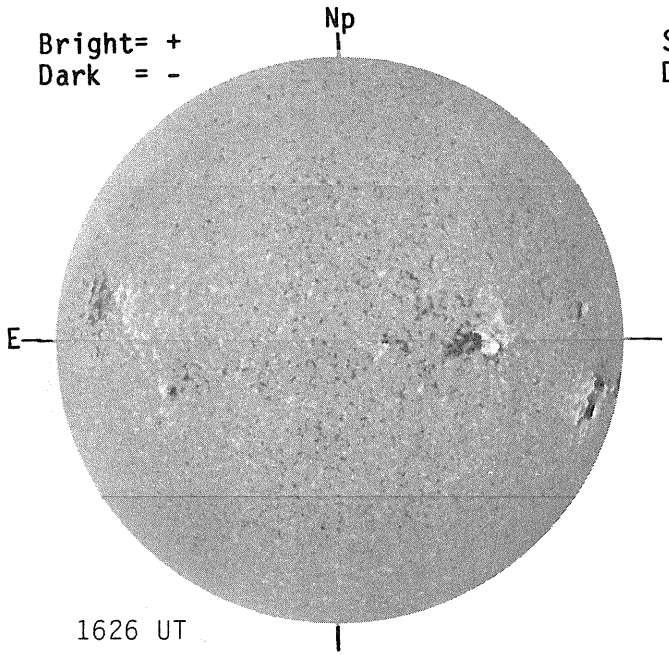
SACRAMENTO PEAK CORONA (1.15 Radii)



J U N E 14, 1 9 8 5 (P=-10.16, B_0= 0.87, L_0= 307.41)

KITT PEAK MAGNETOGRAM

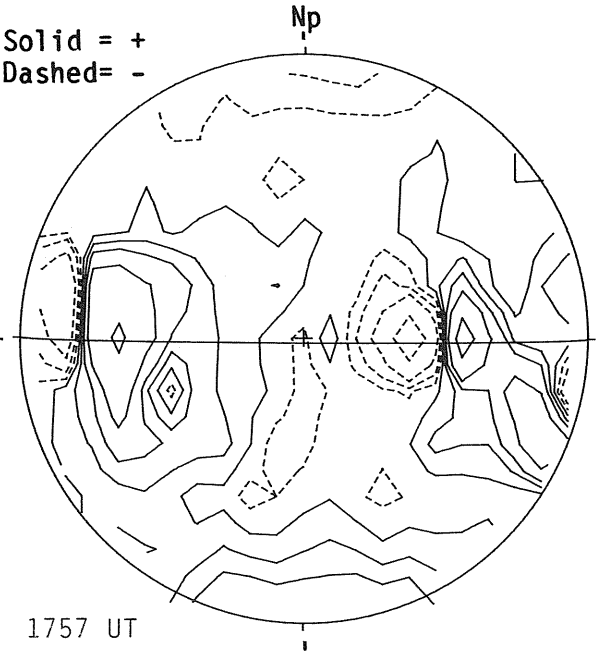
Bright= +
Dark = -



1626 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

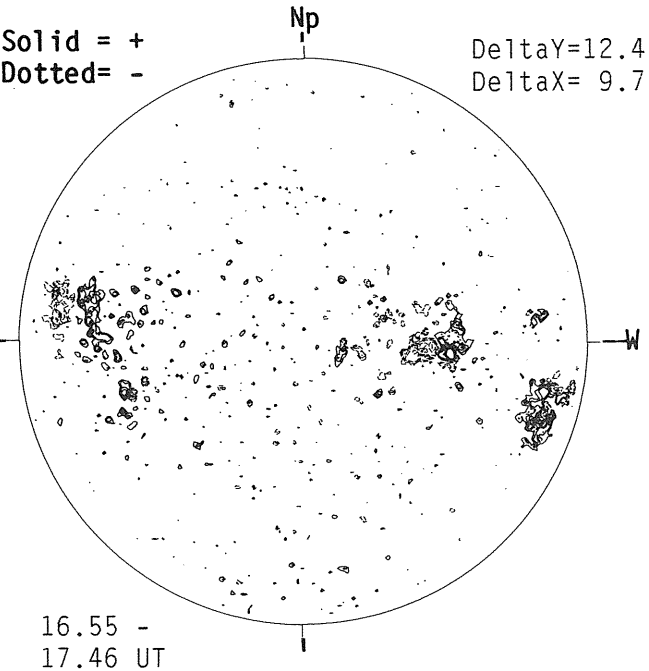


1757 UT

MT. WILSON MAGNETOGRAM

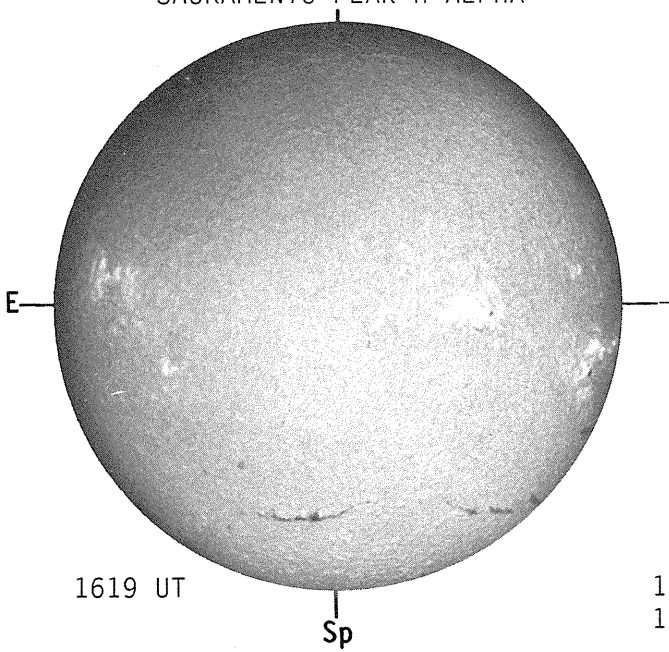
Solid = +
Dotted= -

DeltaY=12.4
DeltaX= 9.7



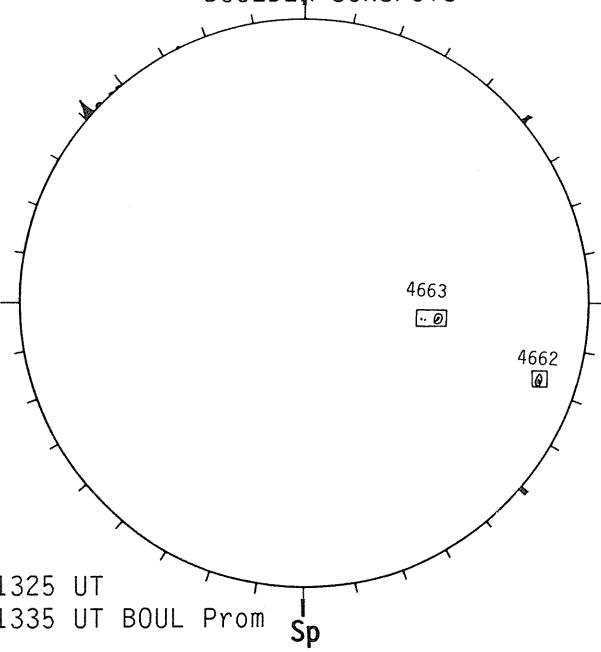
16.55 -
17.46 UT

SACRAMENTO PEAK H-ALPHA



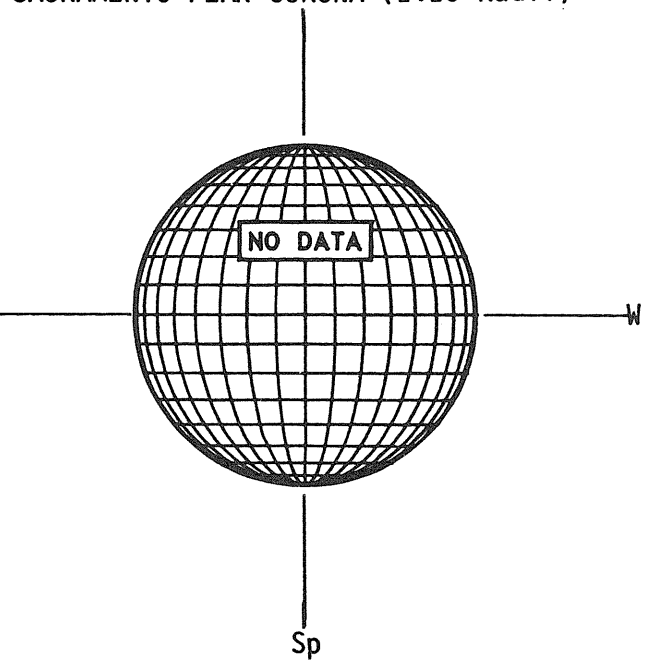
1619 UT

BOULDER SUNSPOTS



1325 UT
1335 UT BOUL Prom

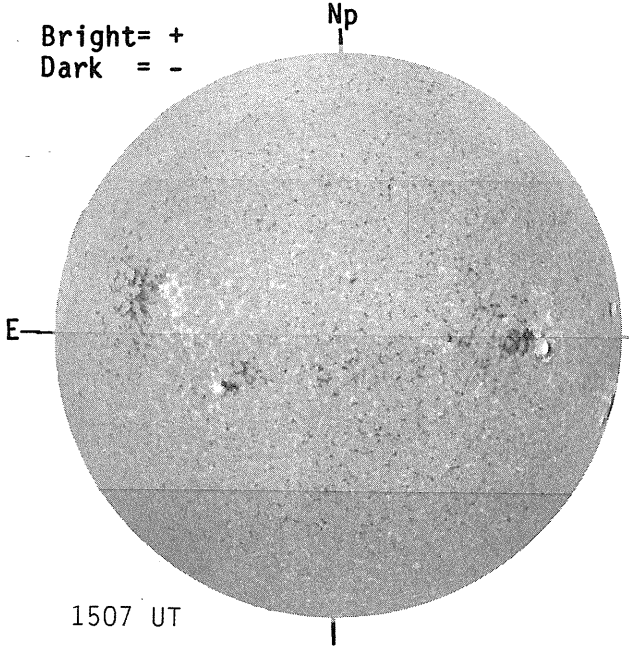
SACRAMENTO PEAK CORONA (1.15 Radii)



J U N E 15, 1 9 8 5 (P=- 9.74, B_0= 0.99, L_0= 294.17)

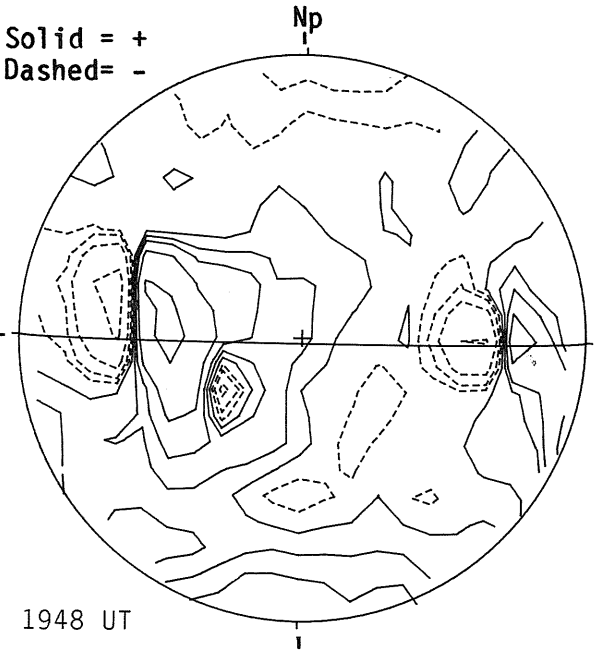
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



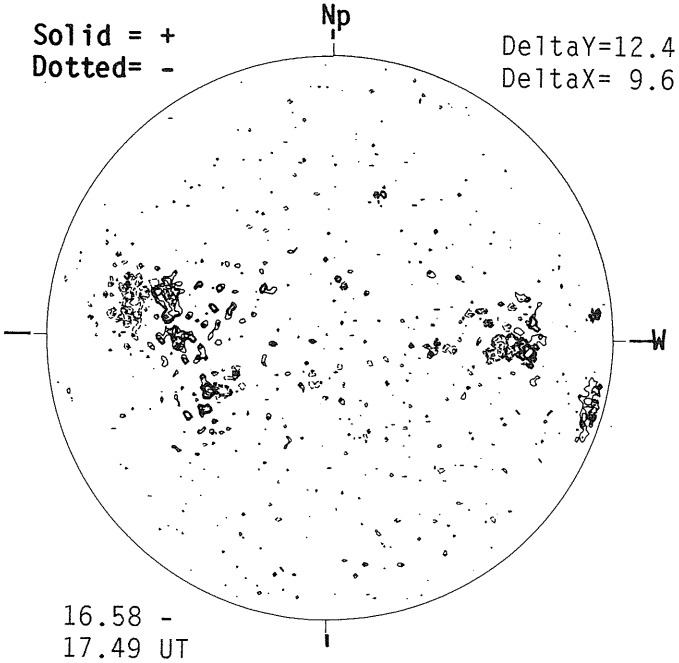
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

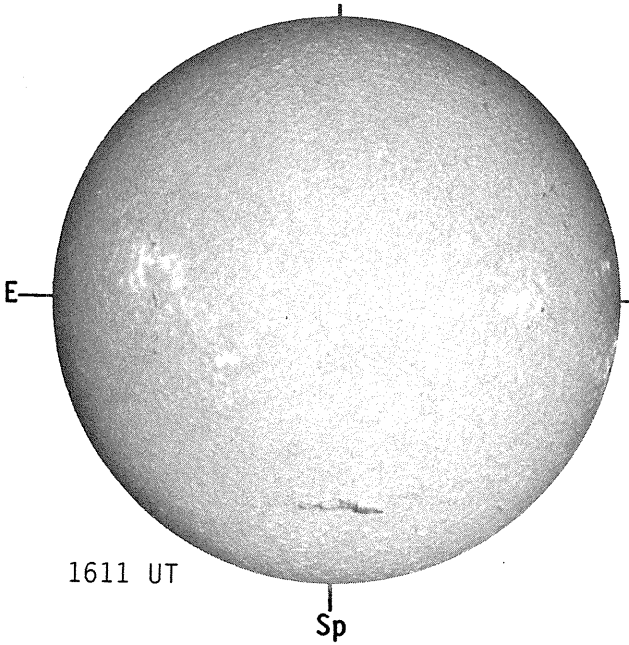


MT. WILSON MAGNETOGRAM

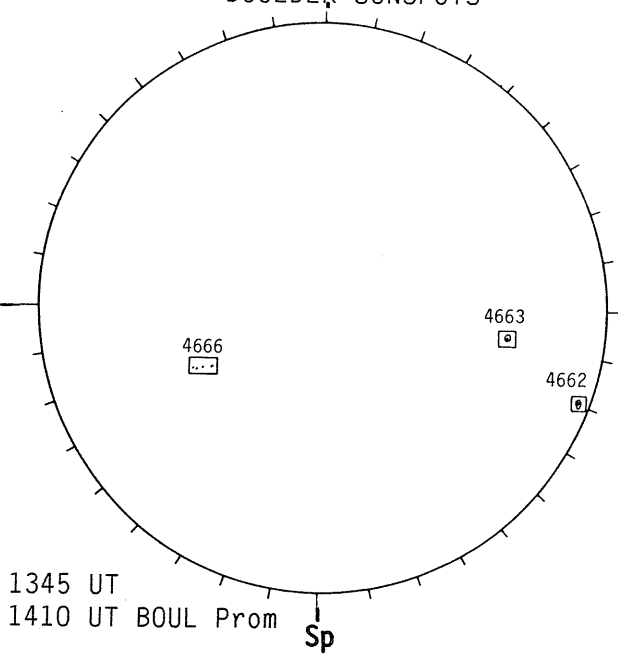
Solid = +
Dotted= -



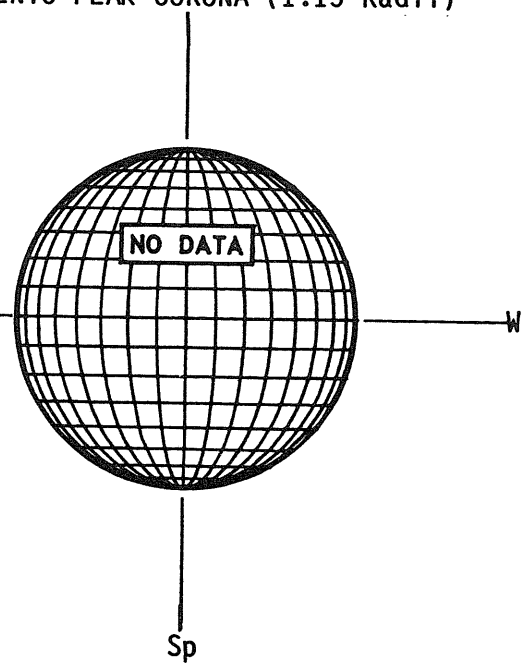
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



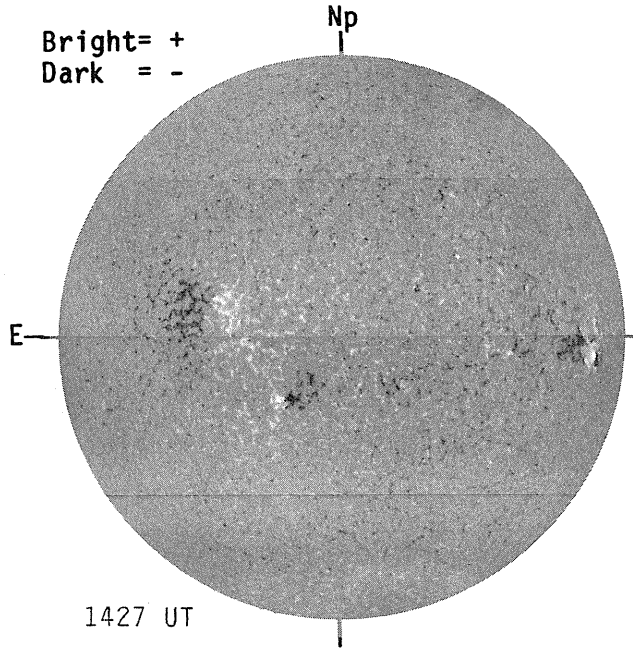
SACRAMENTO PEAK CORONA (1.15 Radii)



J U N E 16, 1 9 8 5 (P=- 9.31, B_0= 1.10, L_0= 280.93)

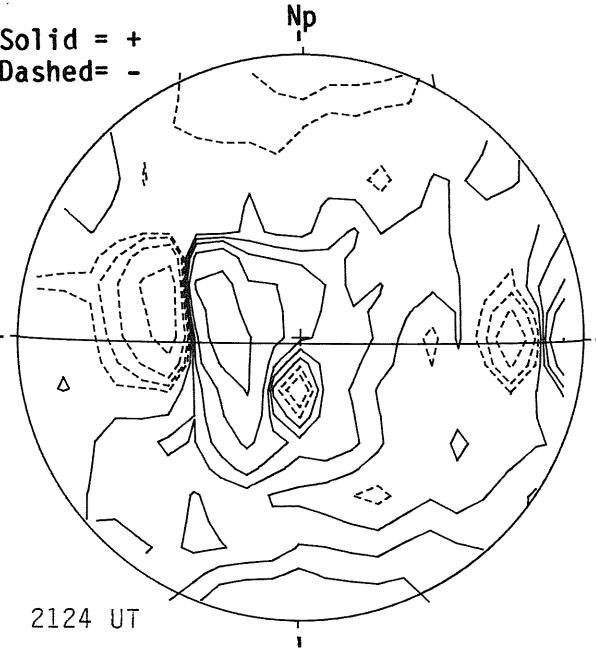
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



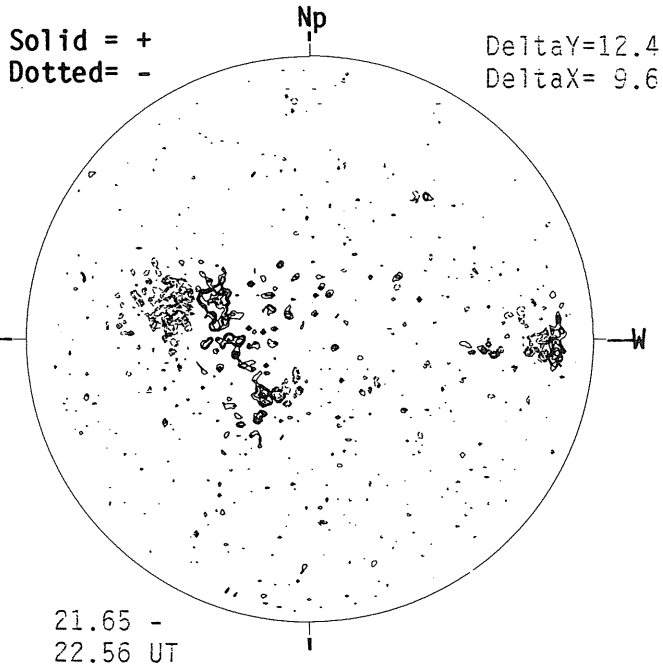
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

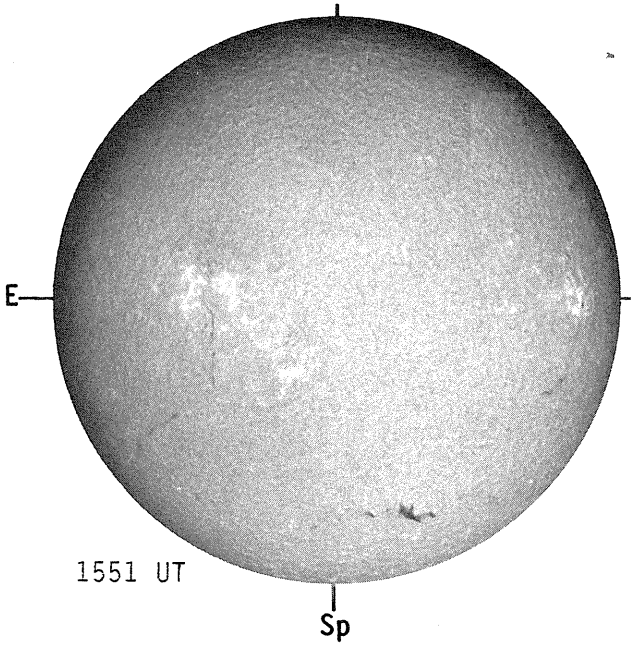


MT. WILSON MAGNETOGRAM

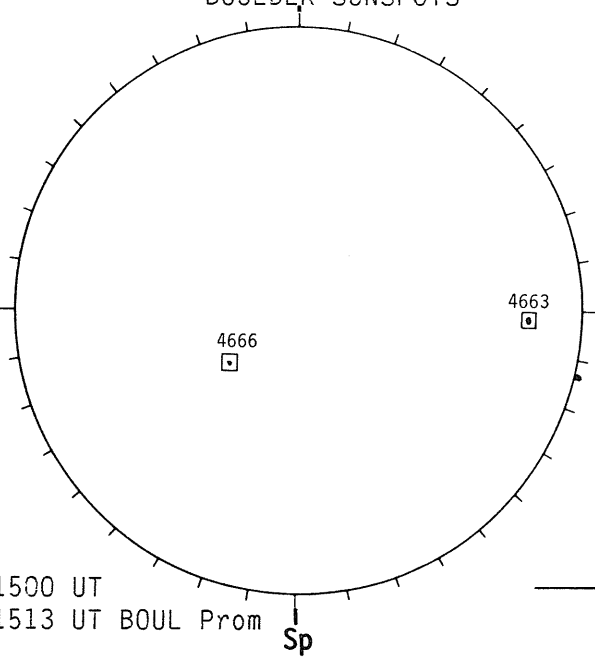
Solid = +
Dotted= -



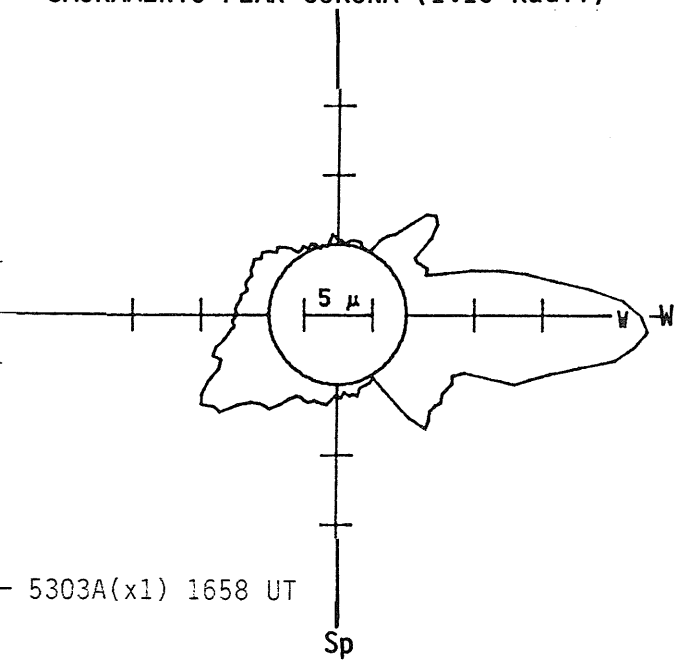
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



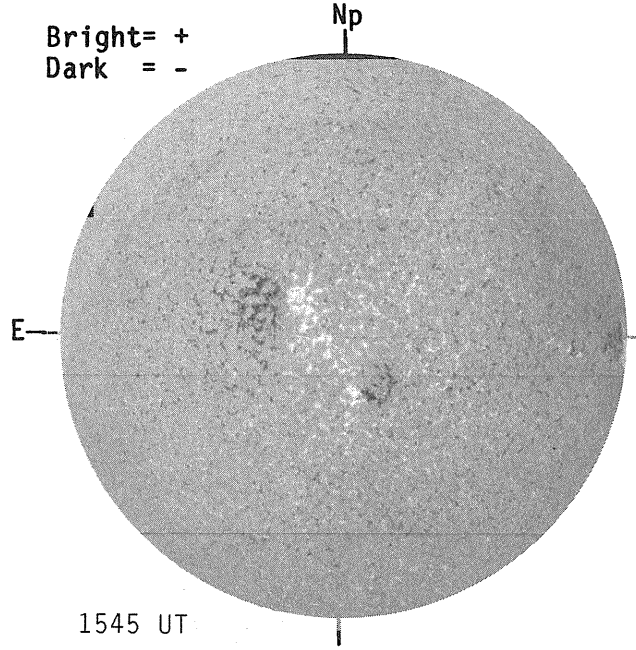
SACRAMENTO PEAK CORONA (1.15 Radii)



J U N E 17, 1 9 8 5 (P=- 8.88, B_o= 1.22, L_o= 267.70)

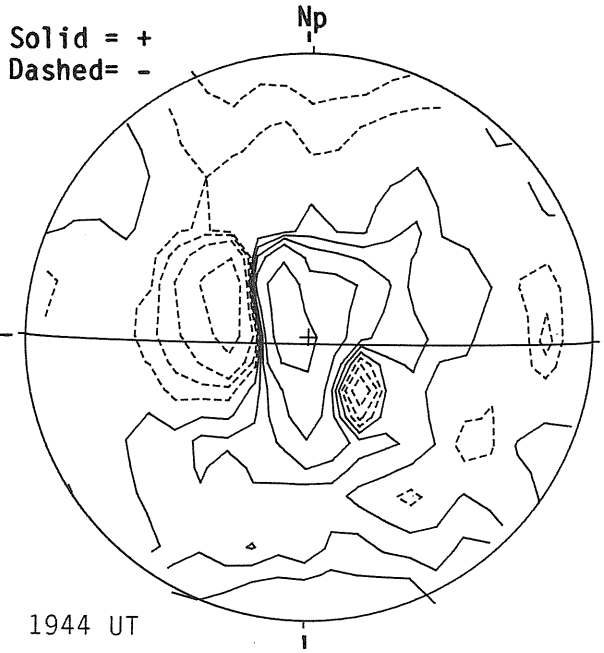
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



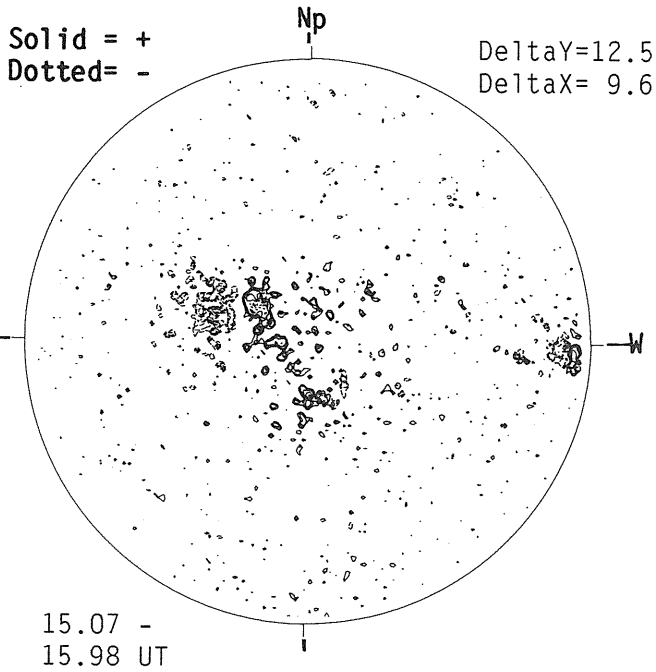
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

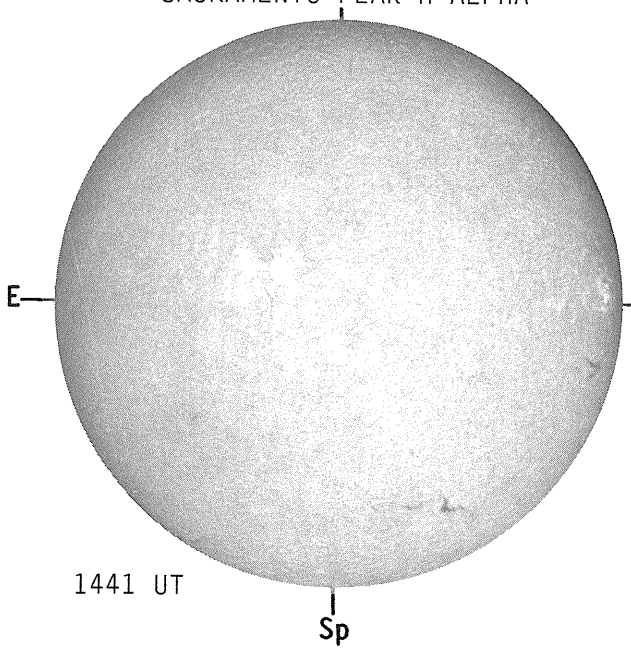


MT. WILSON MAGNETOGRAM

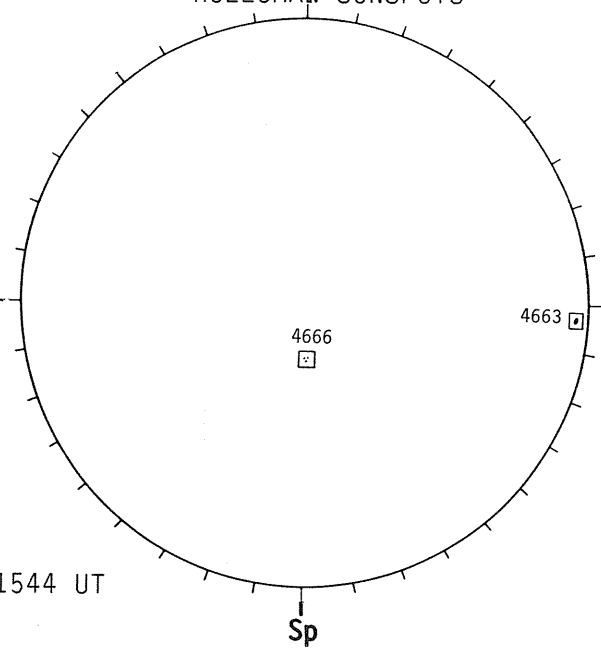
Solid = +
Dotted= -



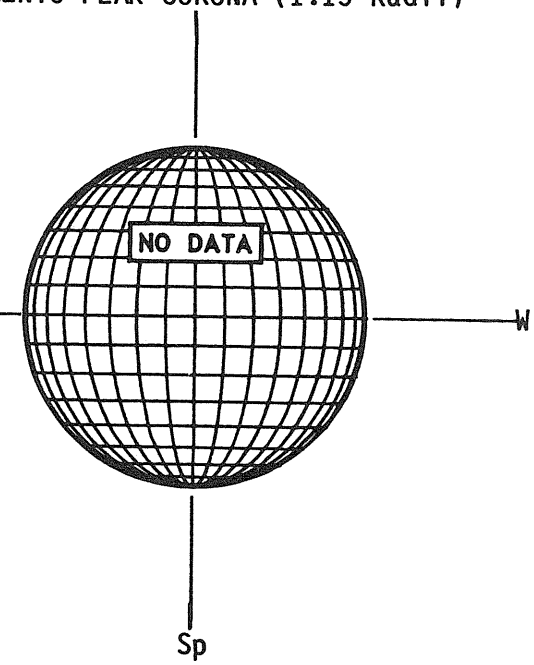
SACRAMENTO PEAK H-ALPHA



HOLLOMAN SUNSPOTS



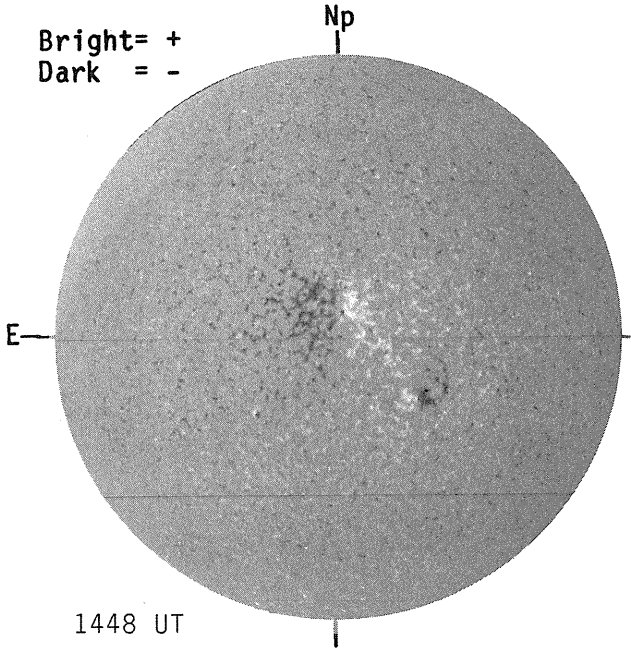
SACRAMENTO PEAK CORONA (1.15 Radii)



J U N E 18, 1 9 8 5 (P=- 8.44, B_0= 1.34, L_0= 254.46)

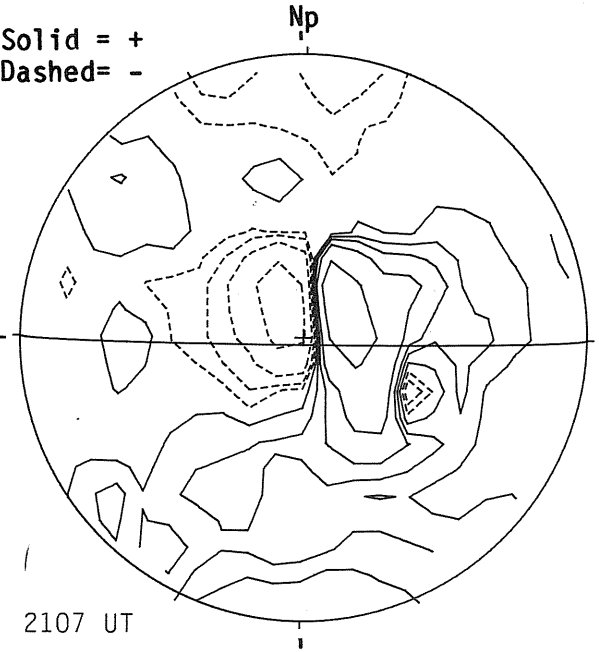
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

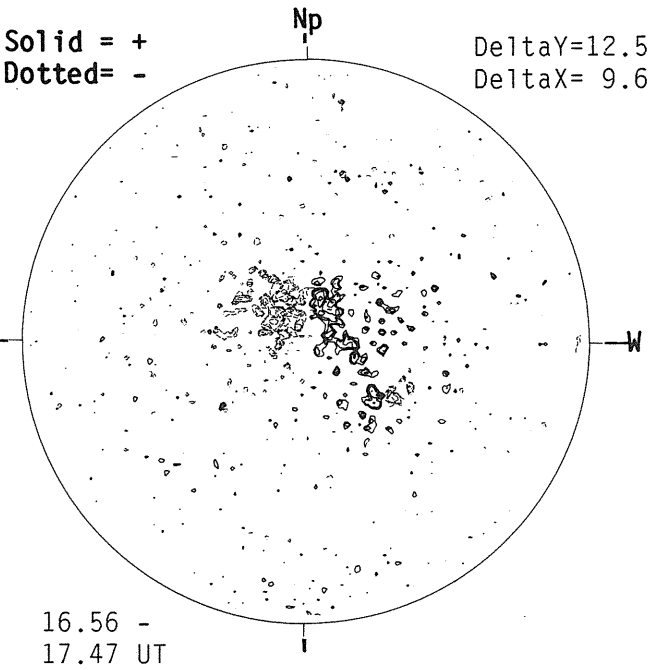
Solid = +
Dashed= -



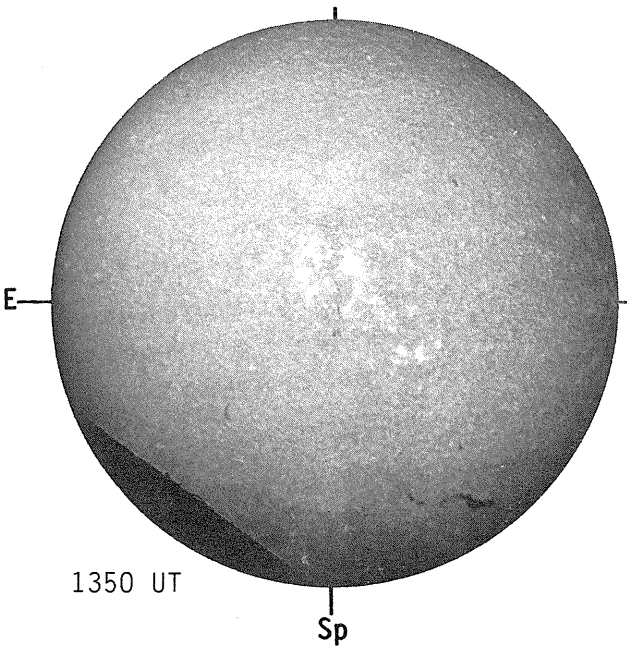
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

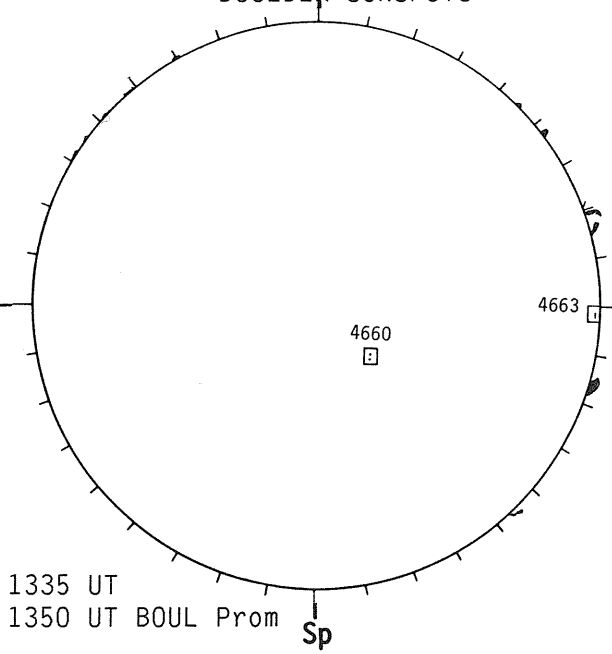
DeltaY=12.5
DeltaX= 9.6



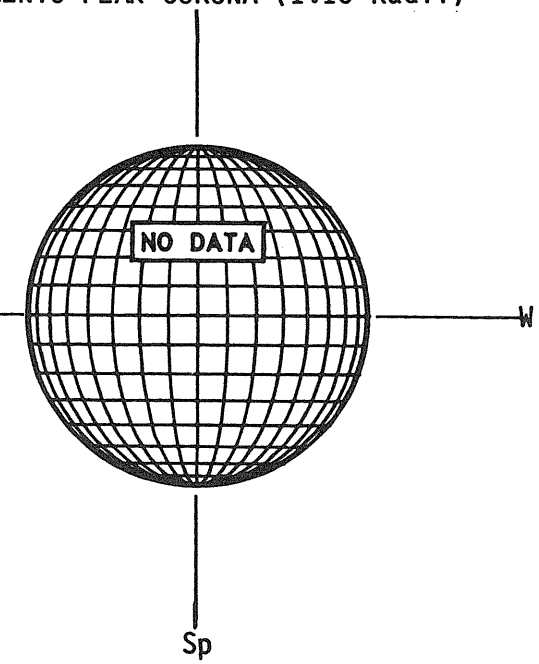
BOULDER H-ALPHA



BOULDER SUNSPOTS



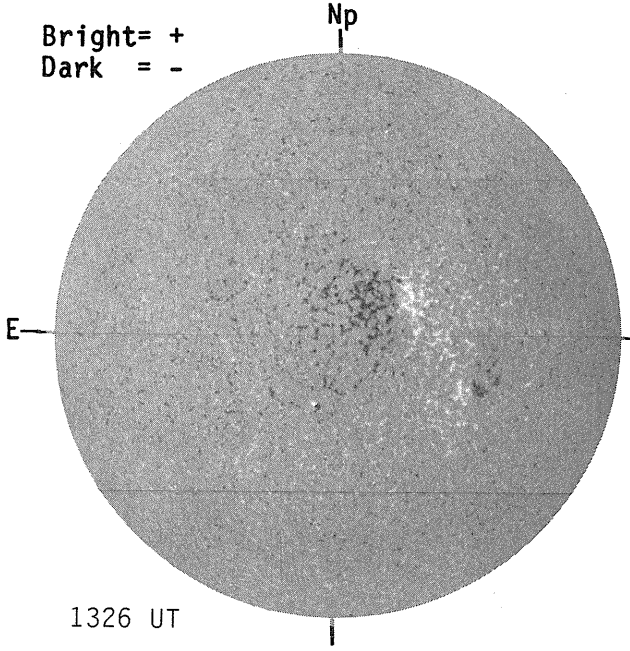
SACRAMENTO PEAK CORONA (1.15 Radii)



J U N E 19, 1 9 8 5 (P=- 8.01, B_0= 1.45, L_0= 241.23)

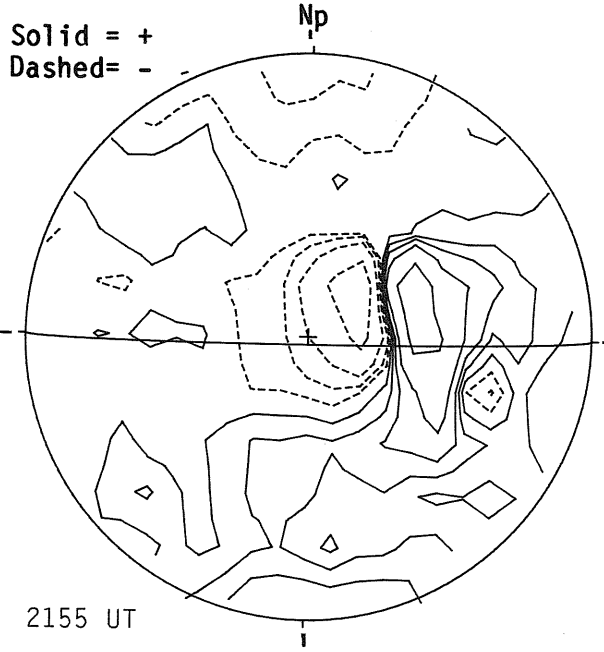
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

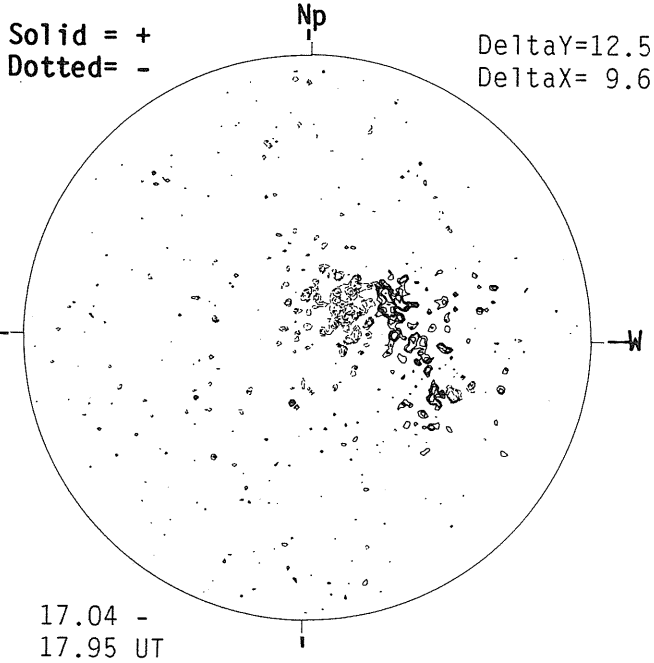
Solid = +
Dashed= -



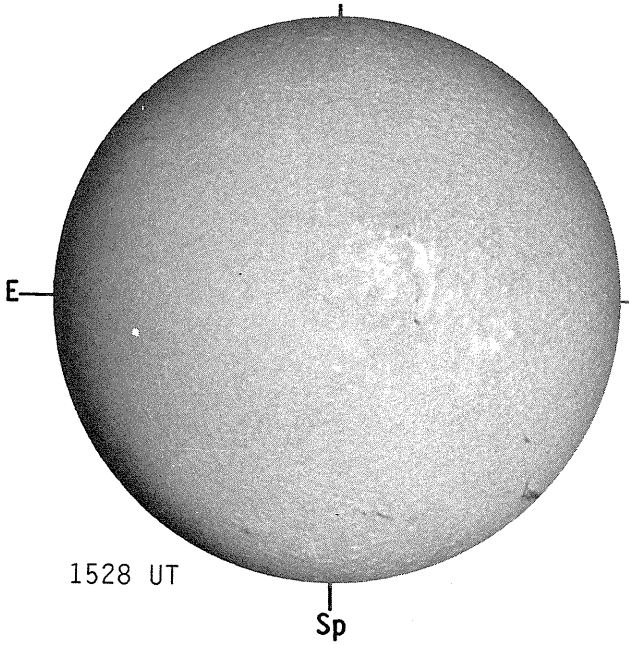
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

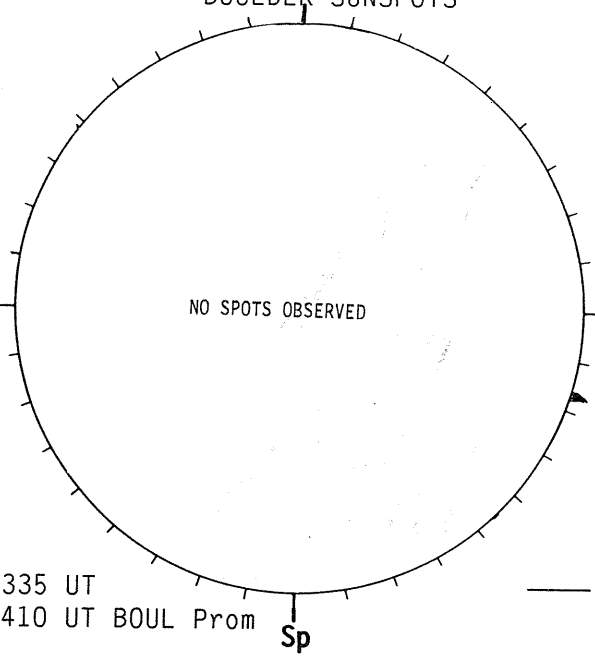
DeltaY=12.5
DeltaX= 9.6



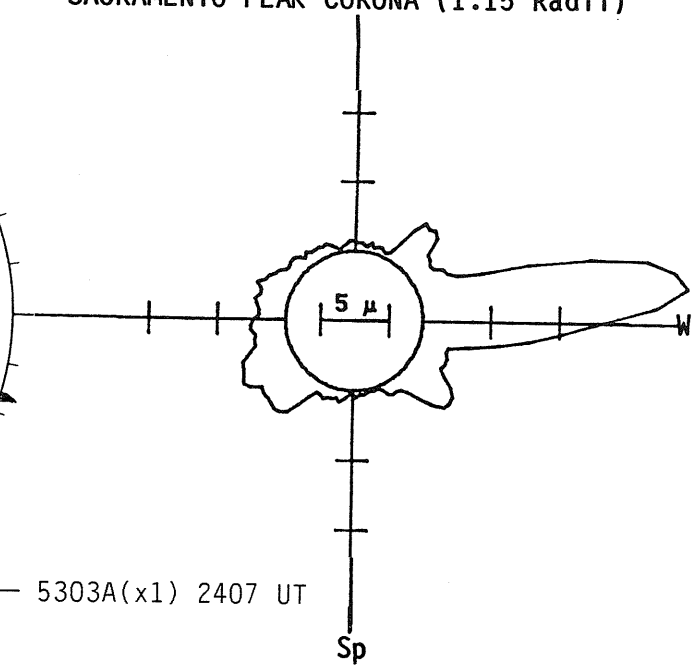
SACRAMENTO PEAK H-ALPHA



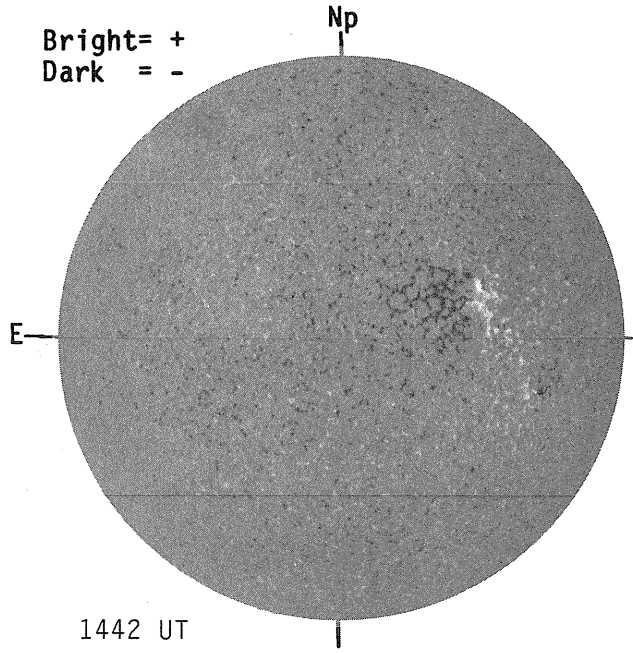
BOULDER SUNSPOTS

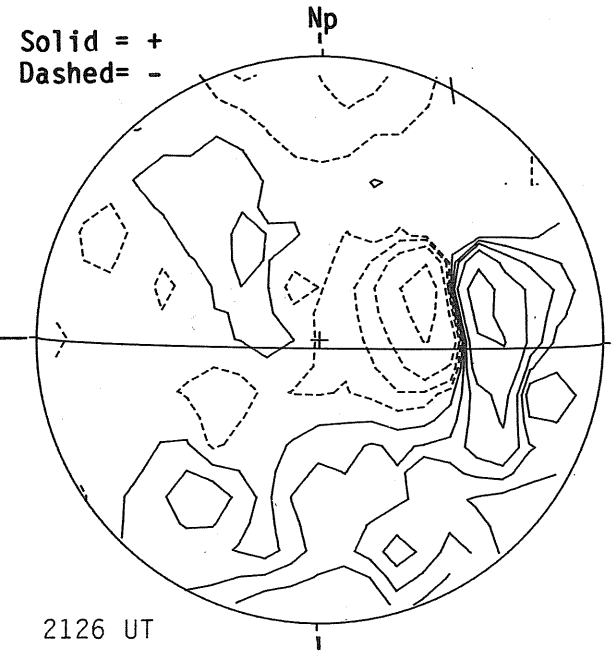


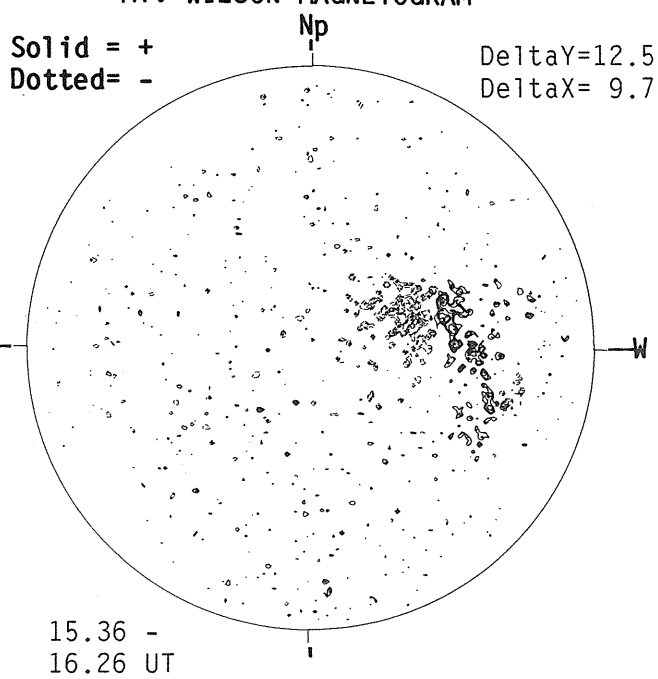
SACRAMENTO PEAK CORONA (1.15 Radii)

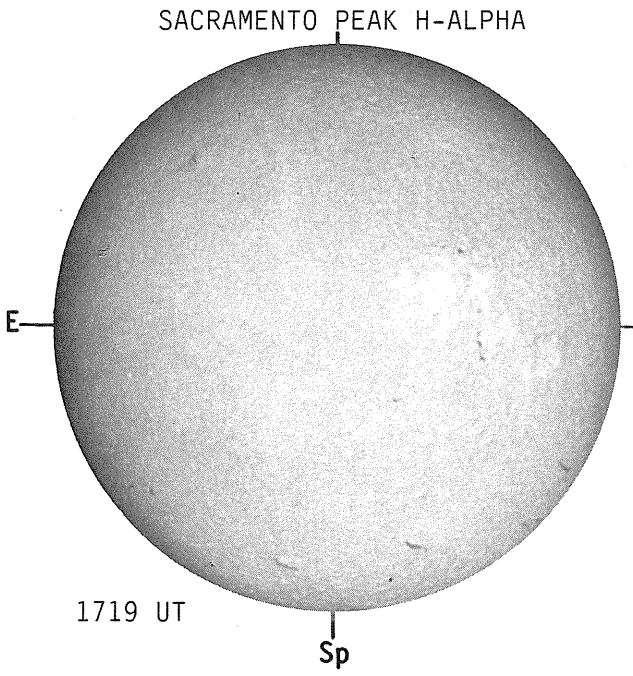


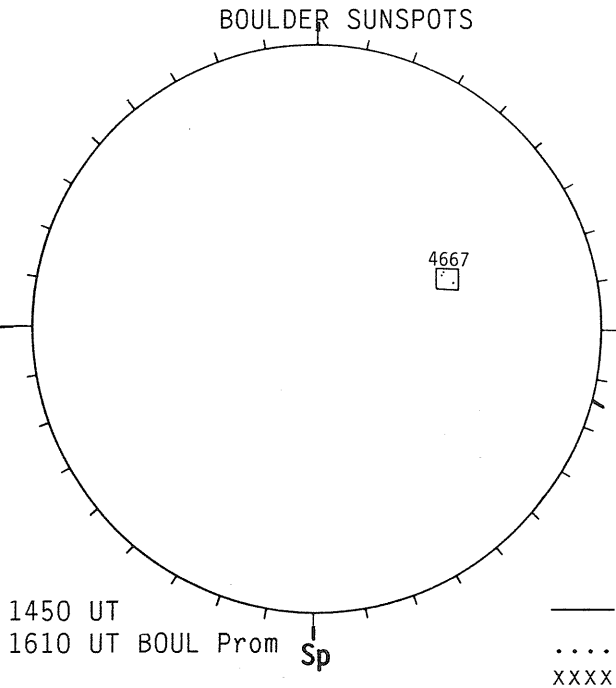
J U N E 20, 1 9 8 5 (P=- 7.57, B_o= 1.57, L_o= 227.99)

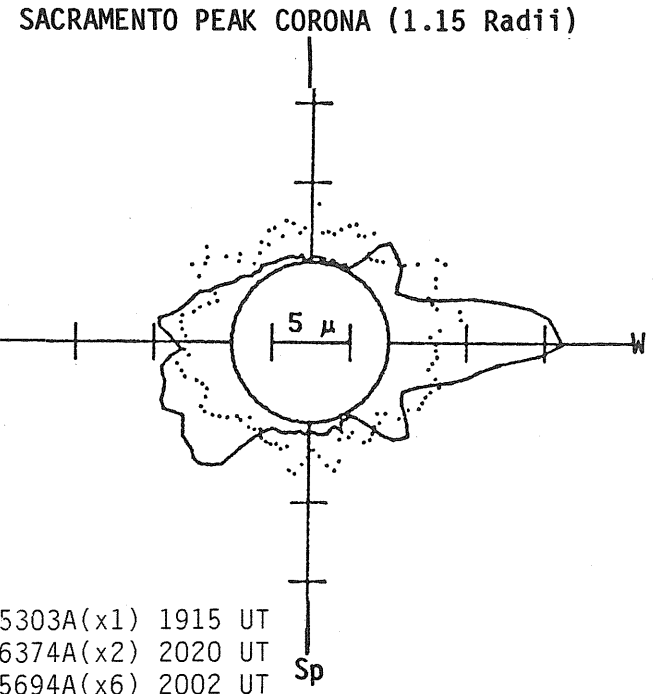








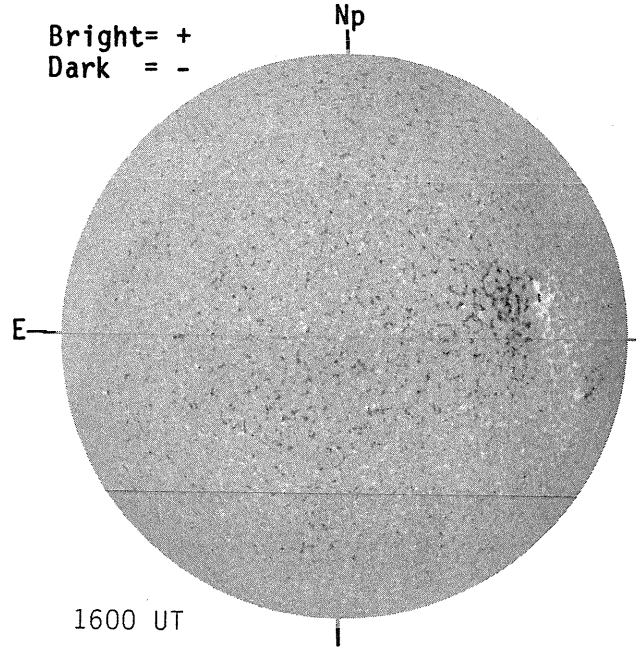




J U N E 21, 1 9 8 5 (P=- 7.13, B_0= 1.69, L_0= 214.75)

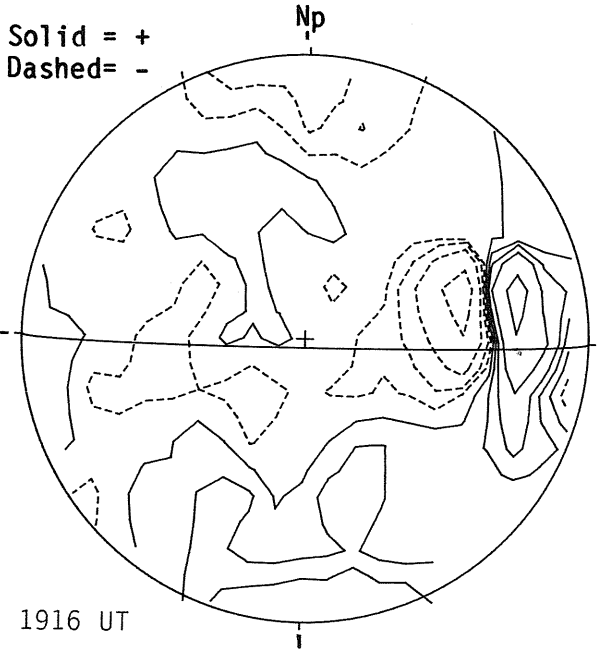
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



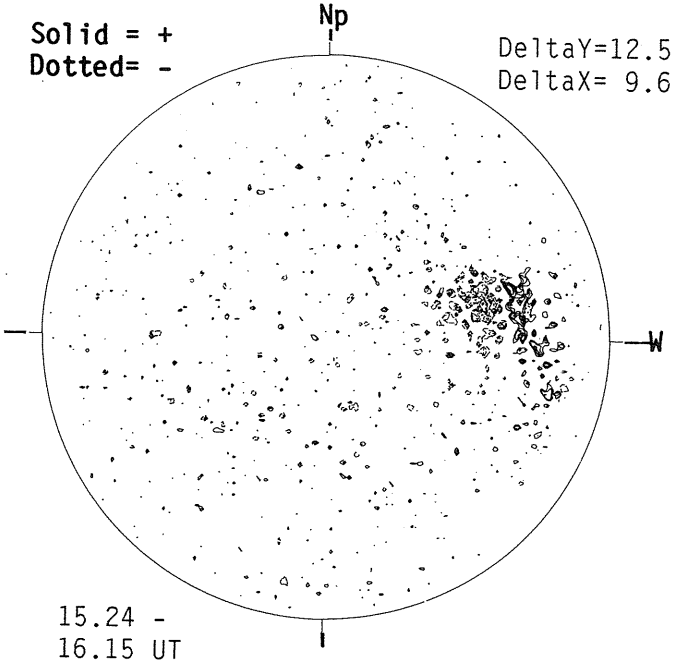
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

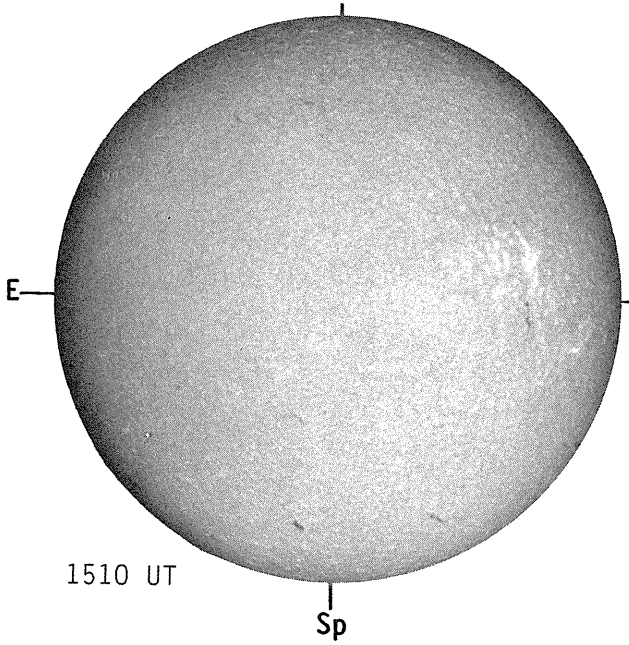


MT. WILSON MAGNETOGRAM

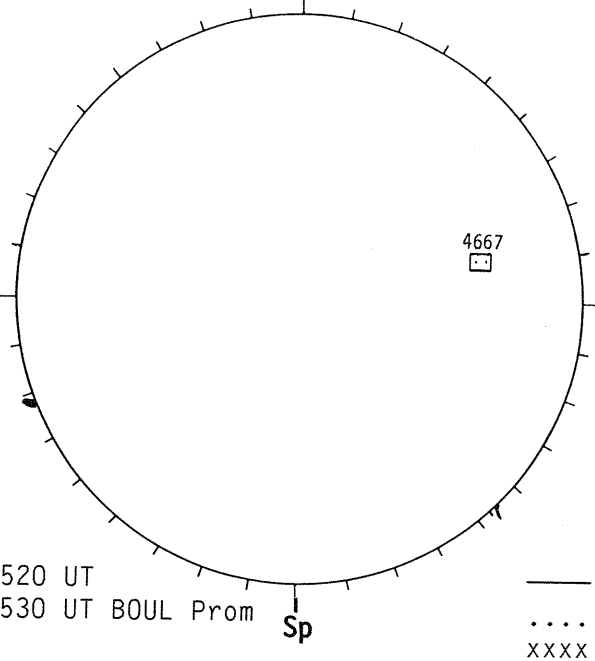
Solid = +
Dotted= -



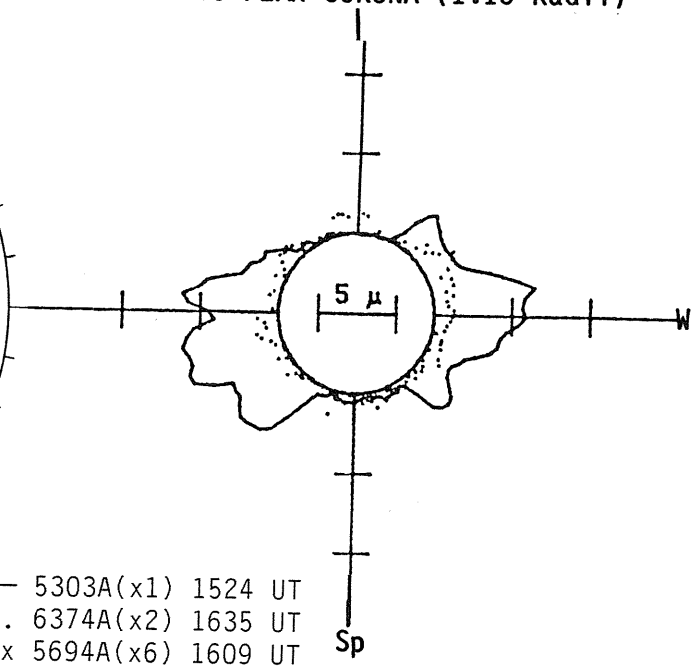
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

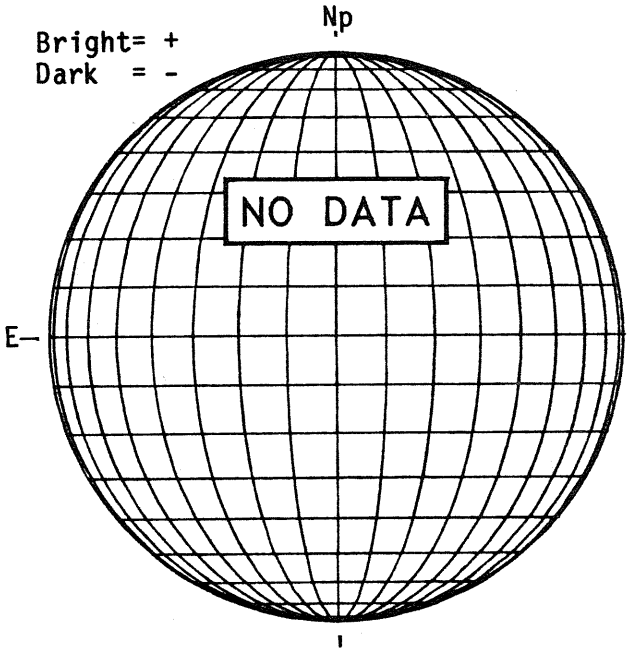


—— 5303A(x1) 1524 UT
.... 6374A(x2) 1635 UT
xxxx 5694A(x6) 1609 UT
No 5694A Activity Today

J U N E 22, 1 9 8 5 (P=- 6.69, B_0= 1.80, L_0= 201.52)

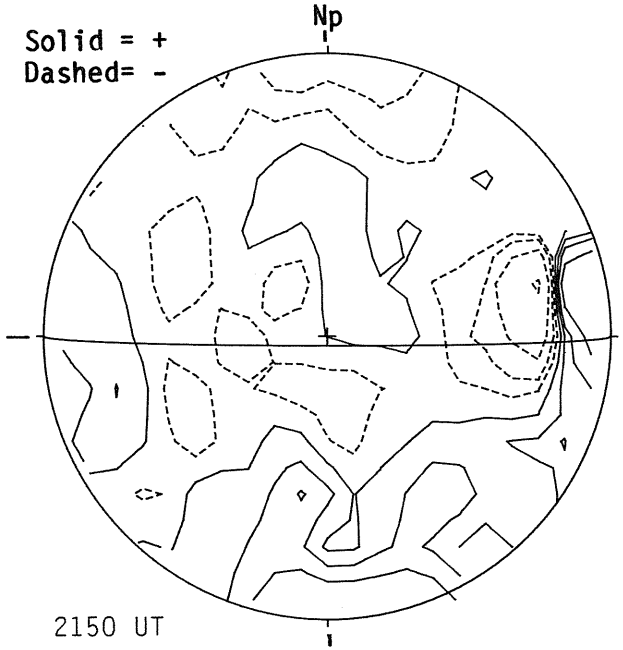
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



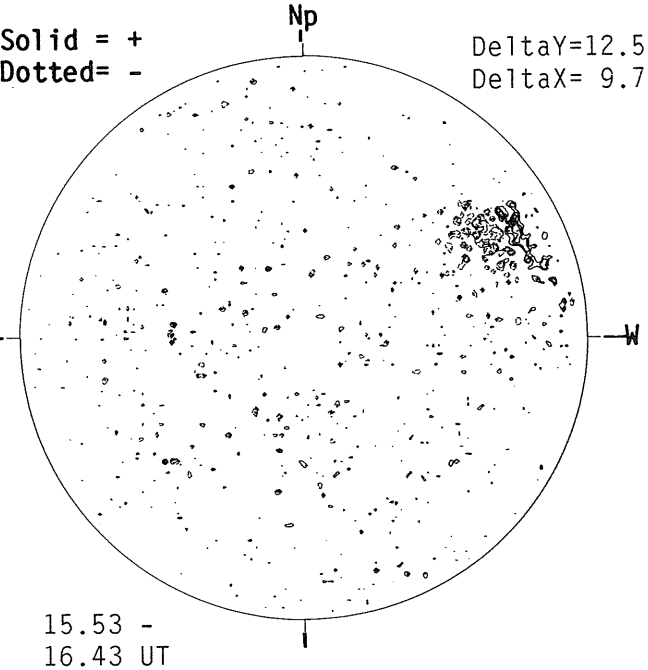
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

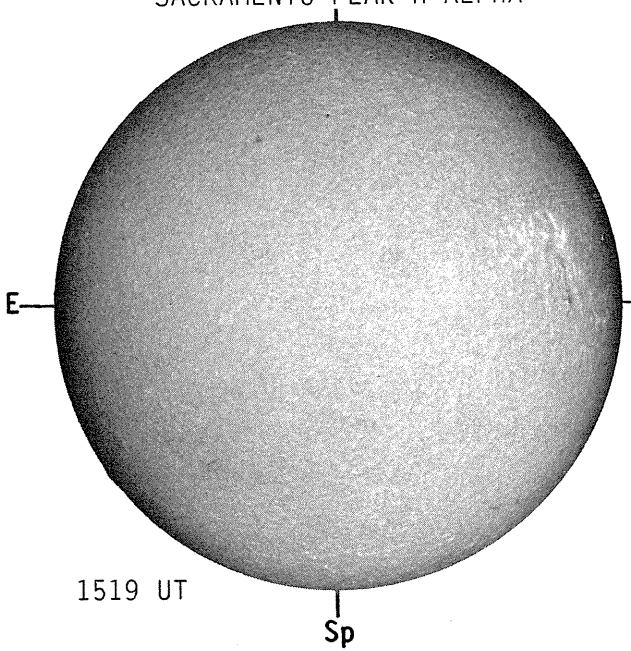


MT. WILSON MAGNETOGRAM

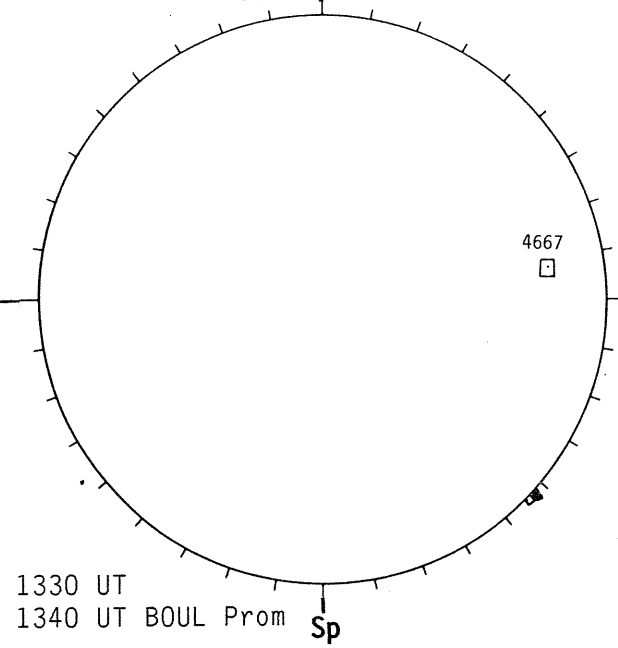
Solid = +
Dotted= -



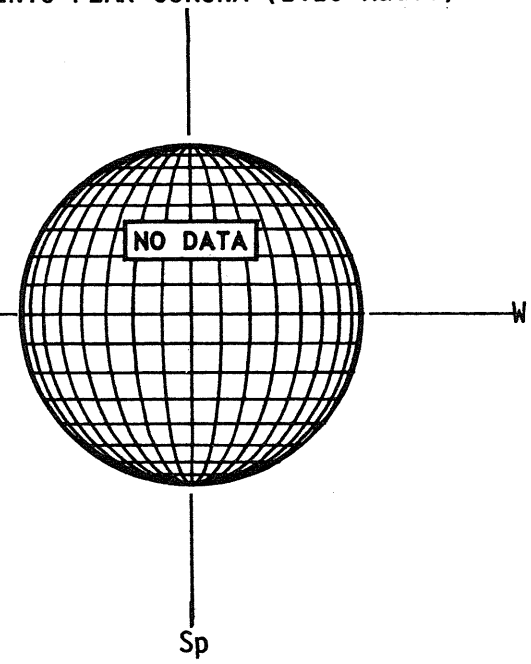
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



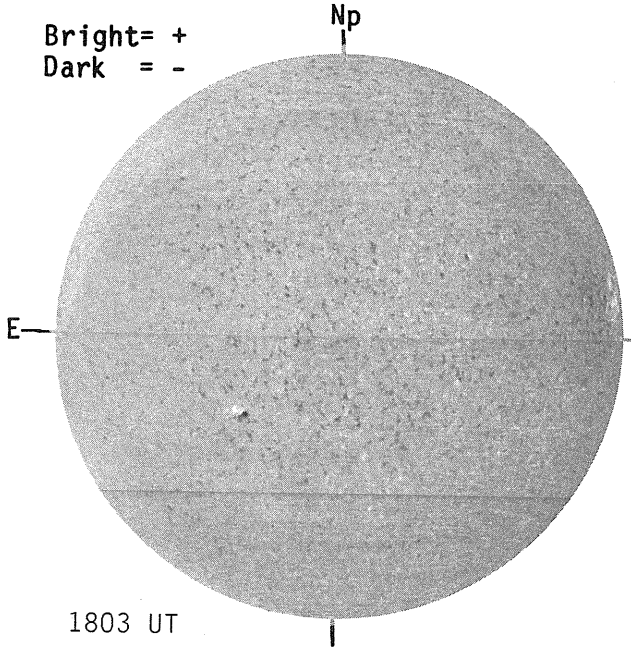
SACRAMENTO PEAK CORONA (1.15 Radii)



J U N E 23, 1 9 8 5 (P=- 6.24, B_0= 1.92, L_0= 188.28)

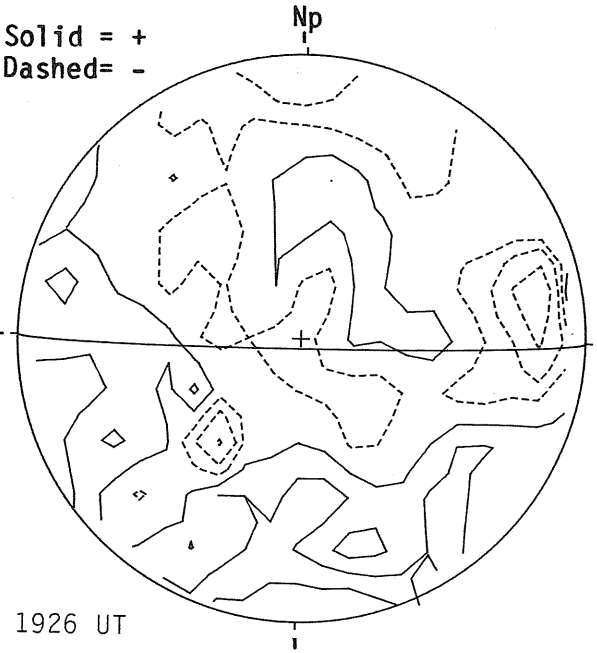
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

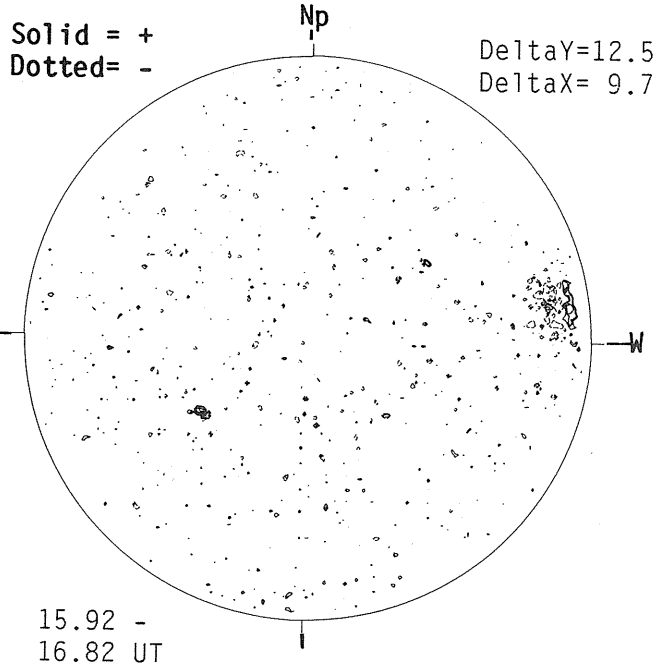
Solid = +
Dashed= -



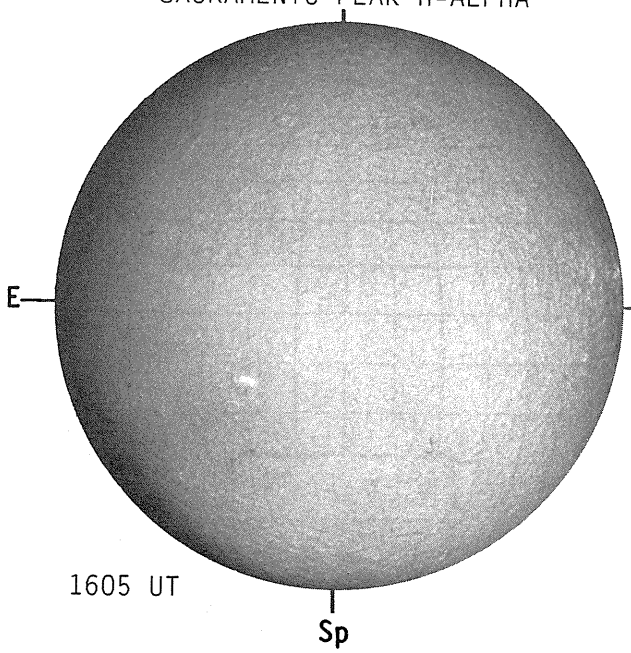
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

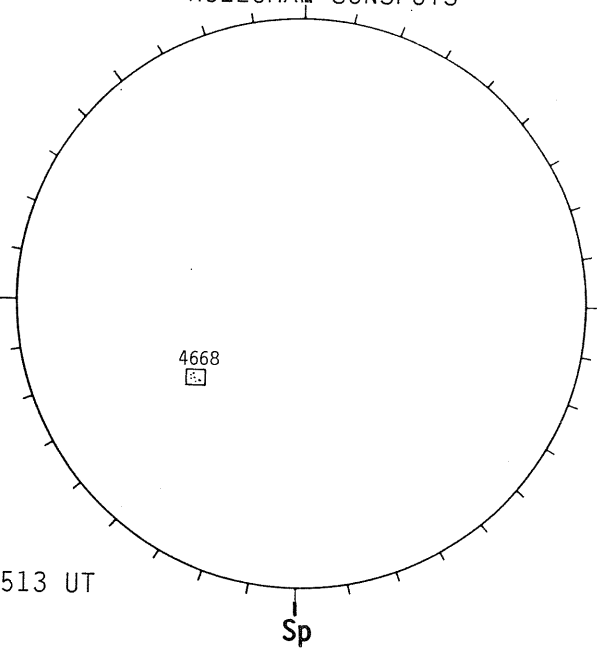
DeltaY=12.5
DeltaX= 9.7



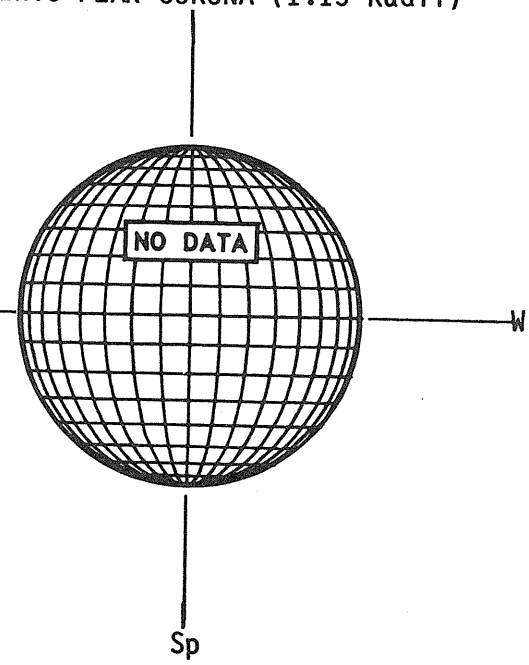
SACRAMENTO PEAK H-ALPHA



HOLLOMAN SUNSPOTS



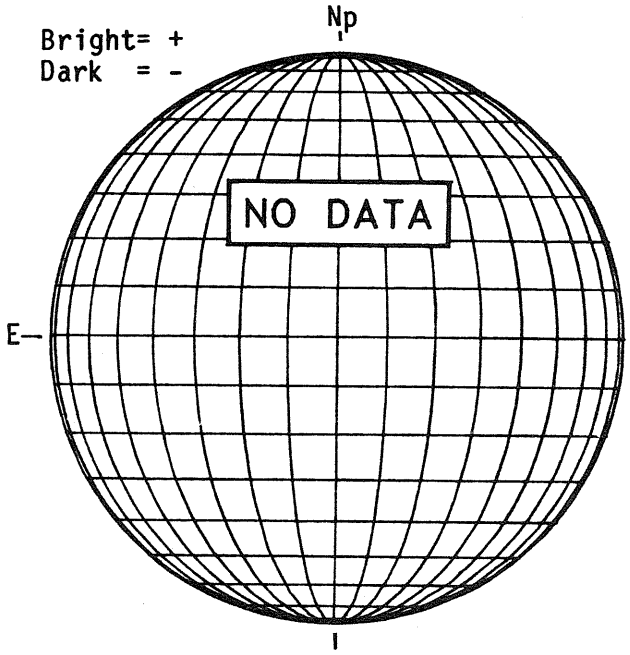
SACRAMENTO PEAK CORONA (1.15 Radii)



J U N E 24, 1 9 8 5 (P=- 5.80, B_0= 2.03, L_0= 175.04)

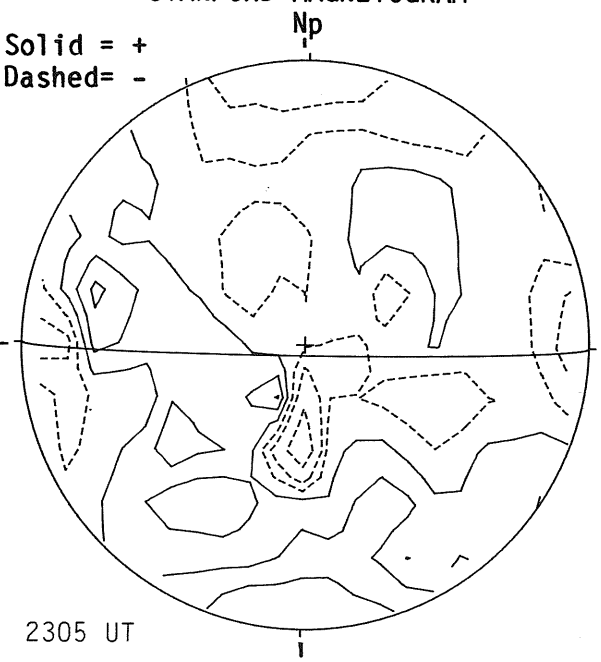
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



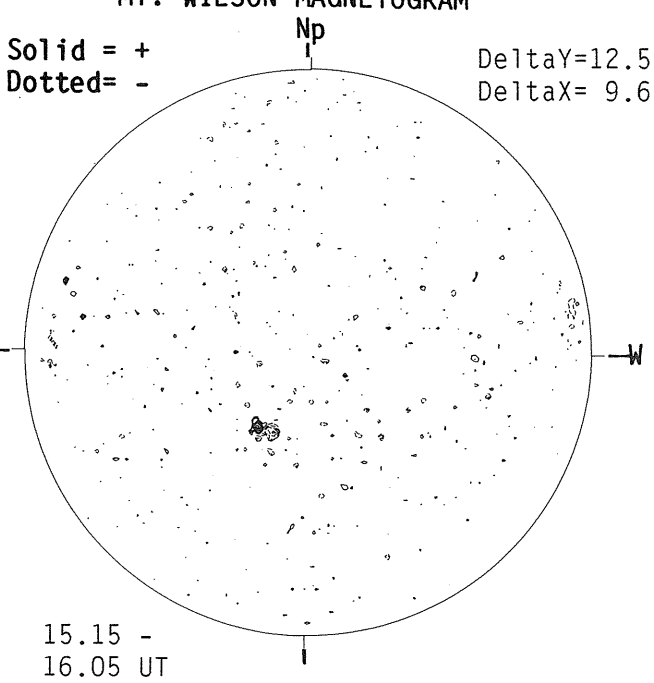
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

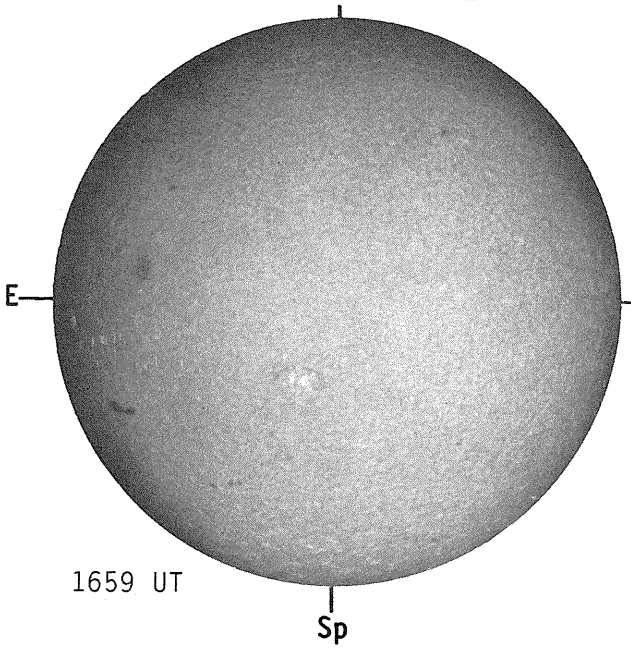


MT. WILSON MAGNETOGRAM

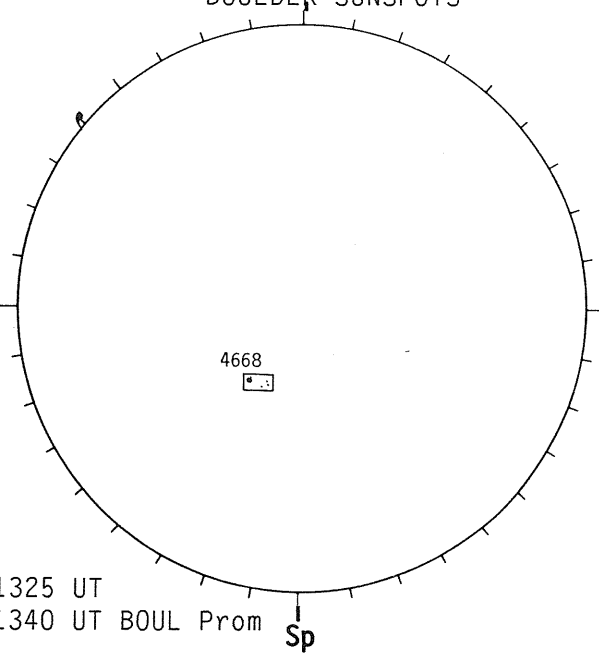
Solid = +
Dotted= -



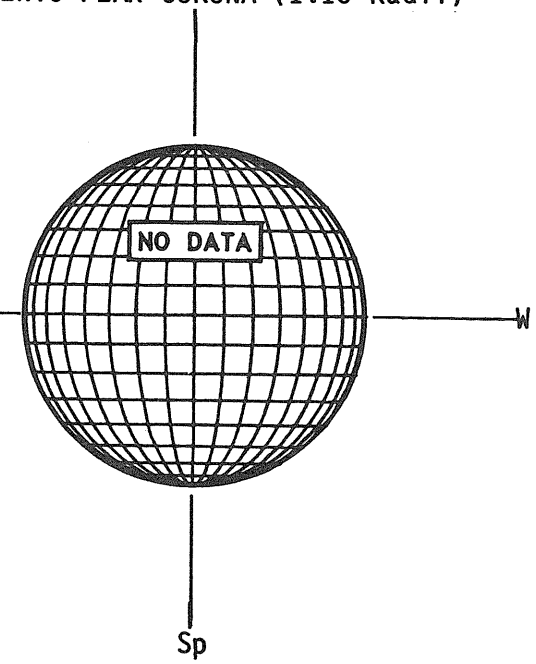
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



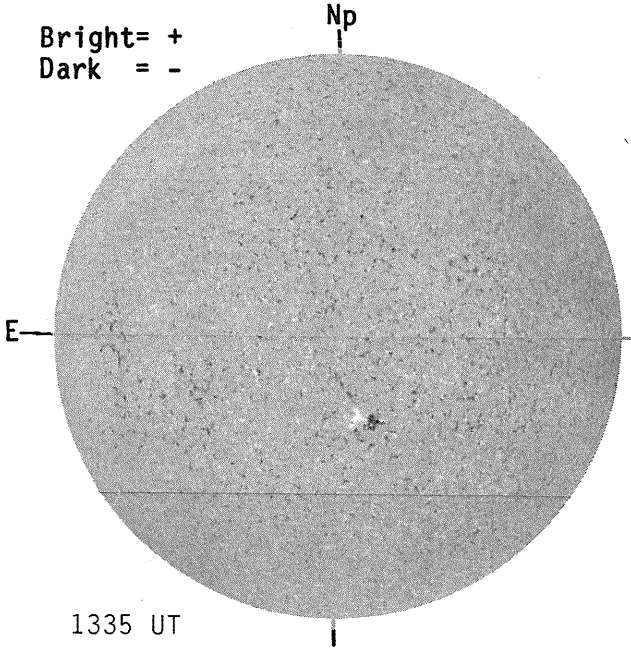
SACRAMENTO PEAK CORONA (1.15 Radii)



J U N E 25, 1 9 8 5 (P=- 5.35, B_0= 2.14, L_0= 161.81)

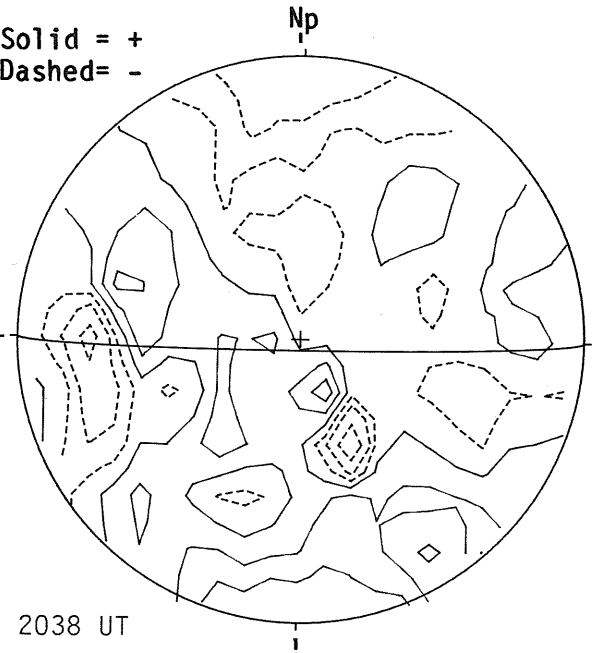
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

Solid = +
Dashed= -

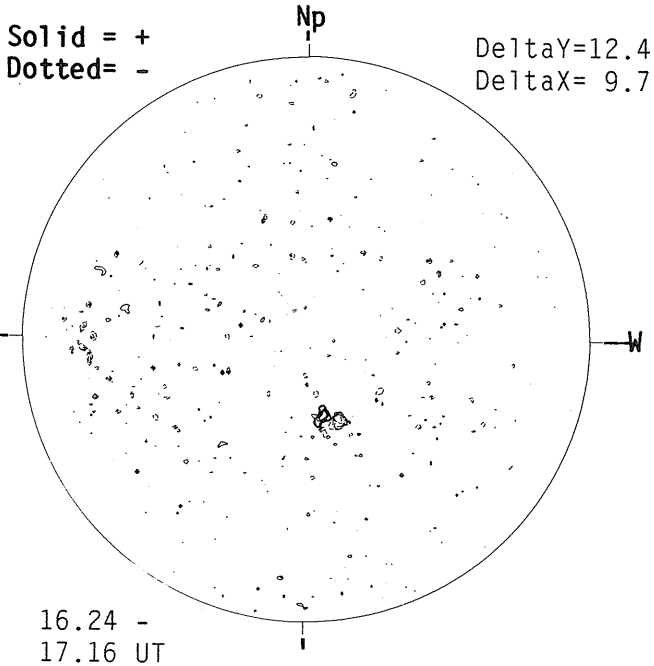


2038 UT

MT. WILSON MAGNETOGRAM

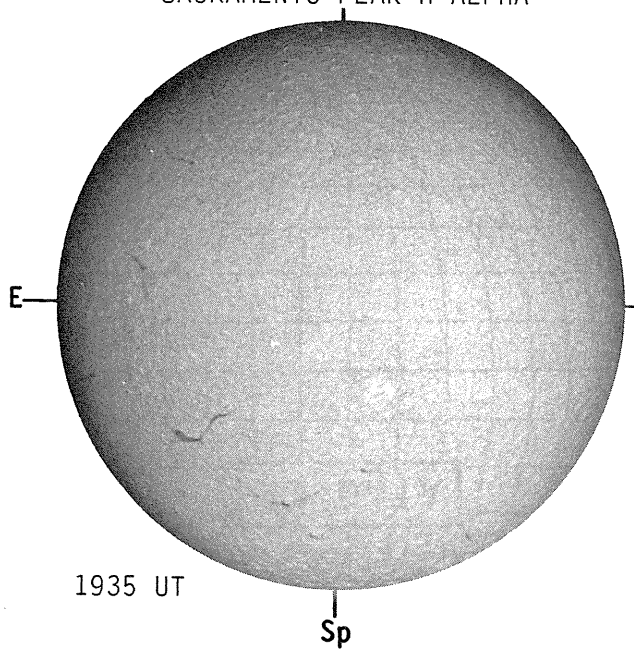
Solid = +
Dotted= -

DeltaY=12.4
DeltaX= 9.7

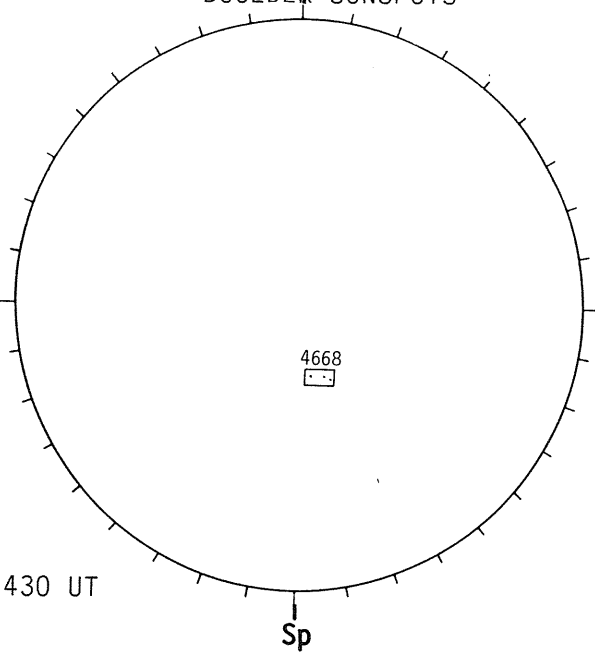


16.24 -
17.16 UT

SACRAMENTO PEAK H-ALPHA

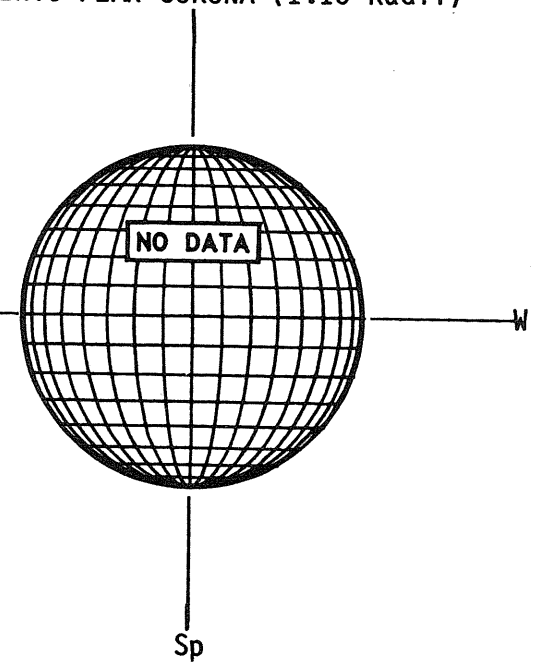


BOULDER SUNSPOTS



1430 UT

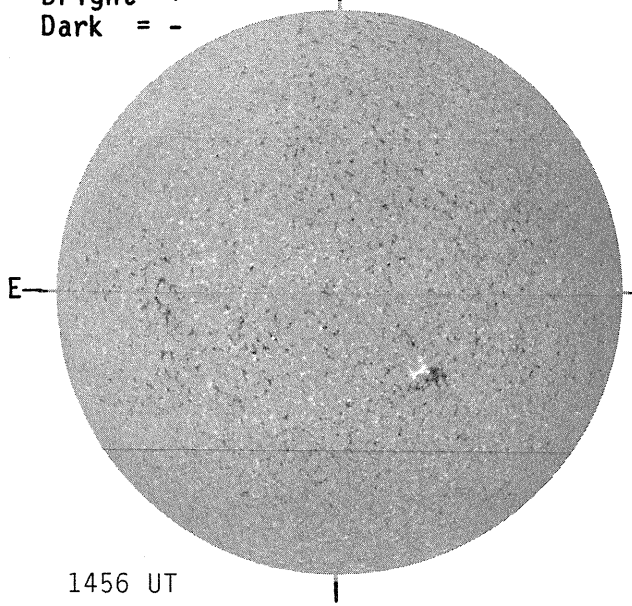
SACRAMENTO PEAK CORONA (1.15 Radii)



J U N E 26, 1 9 8 5 (P=- 4.90, B_0= 2.26, L_0= 148.57)

KITT PEAK MAGNETOGRAM

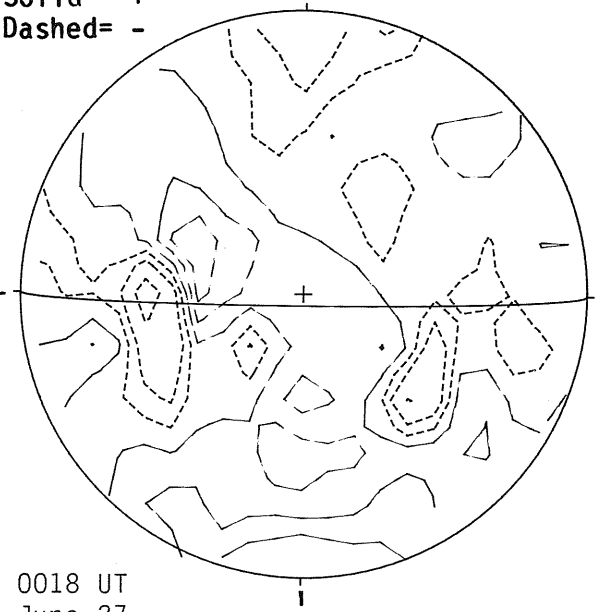
Bright= +
Dark = -



1456 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

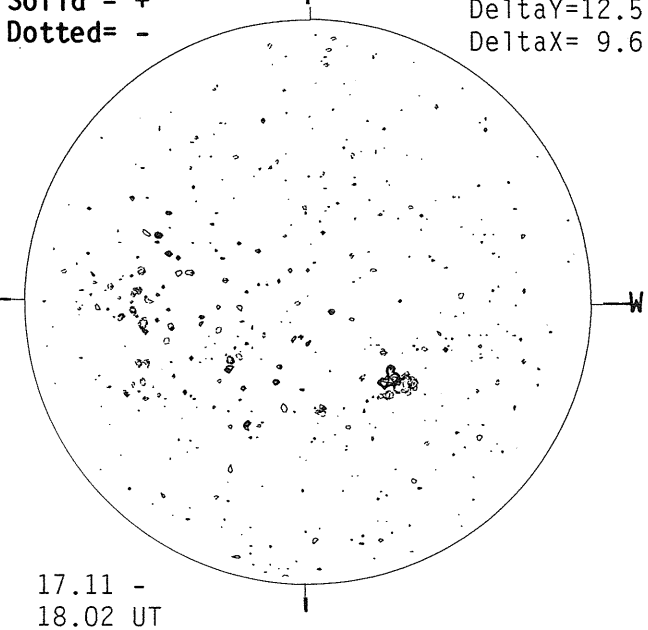


0018 UT
June 27

MT. WILSON MAGNETOGRAM

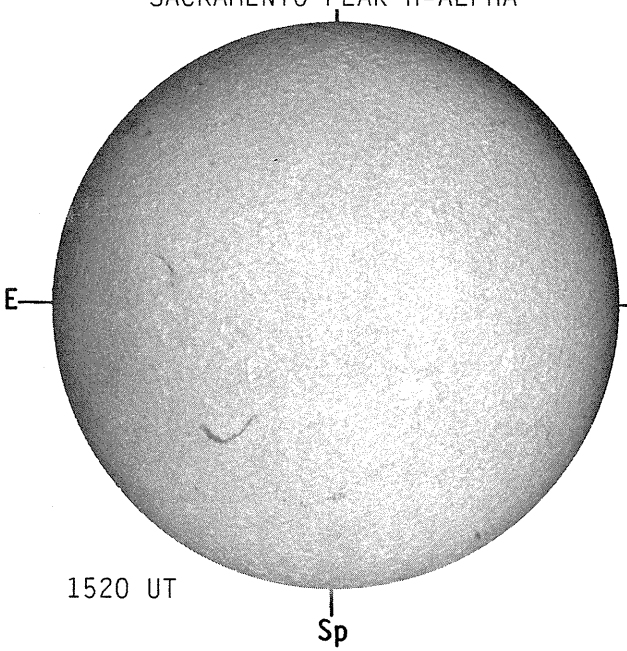
Solid = +
Dotted= -

DeltaY=12.5
DeltaX= 9.6



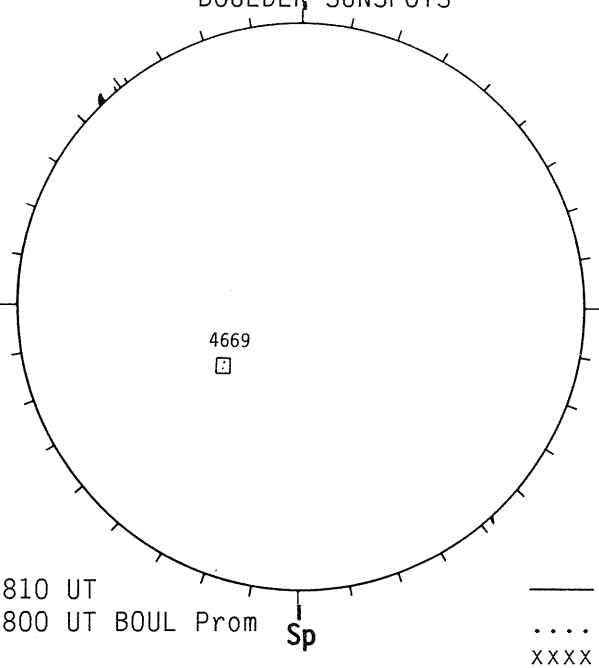
17.11 -
18.02 UT

SACRAMENTO PEAK H-ALPHA



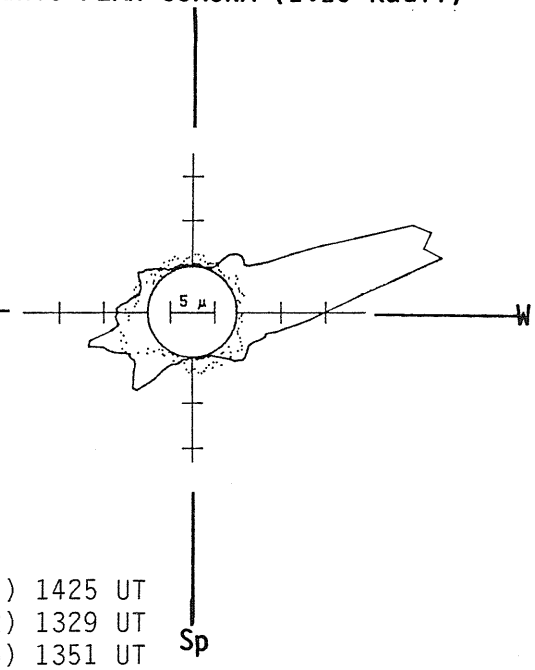
1520 UT

BOULDER SUNSPOTS



1810 UT
1800 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

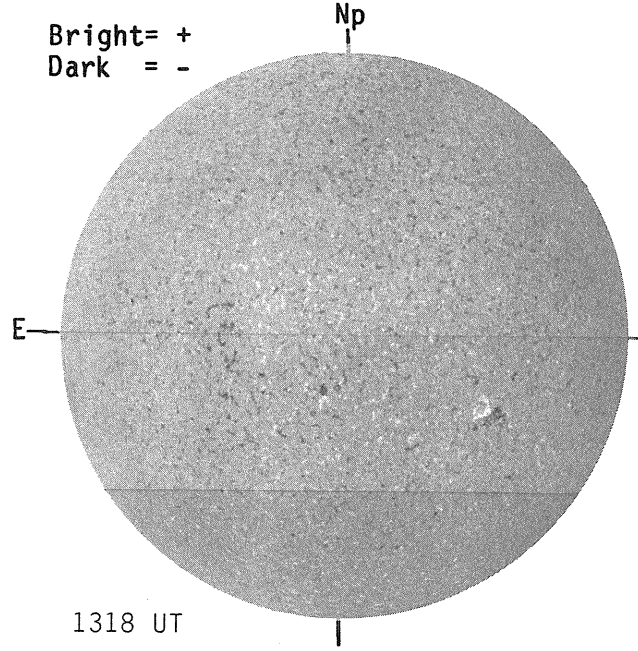


—— 5303A(x1) 1425 UT
.... 6374A(x2) 1329 UT
xxxx 5694A(x6) 1351 UT
No 5694A Activity Today

J U N E 27, 1 9 8 5 (P=- 4.45, B_0= 2.37, L_0= 135.33)

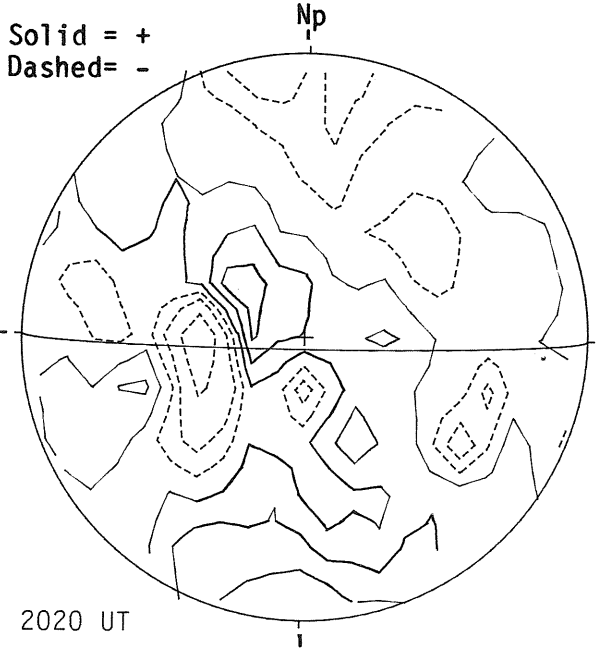
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



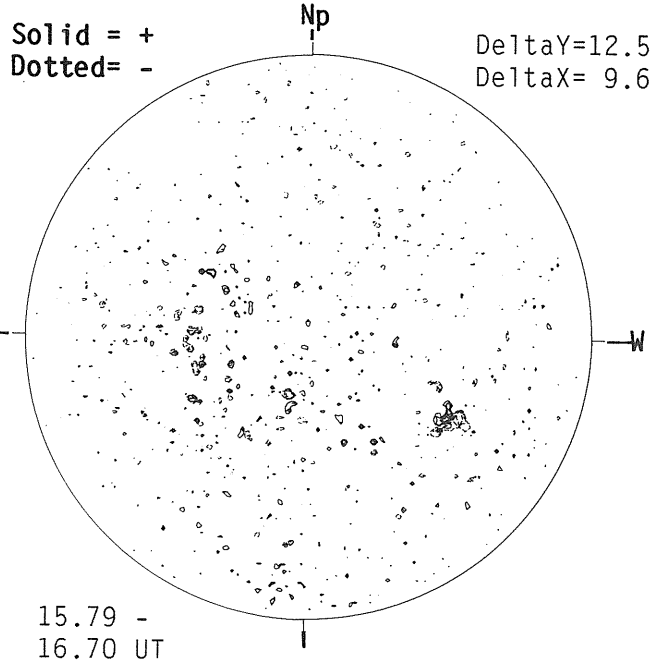
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

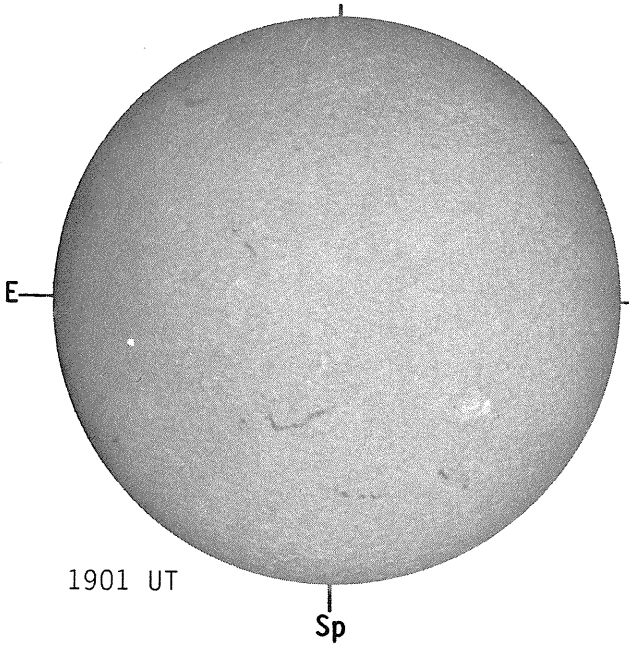


MT. WILSON MAGNETOGRAM

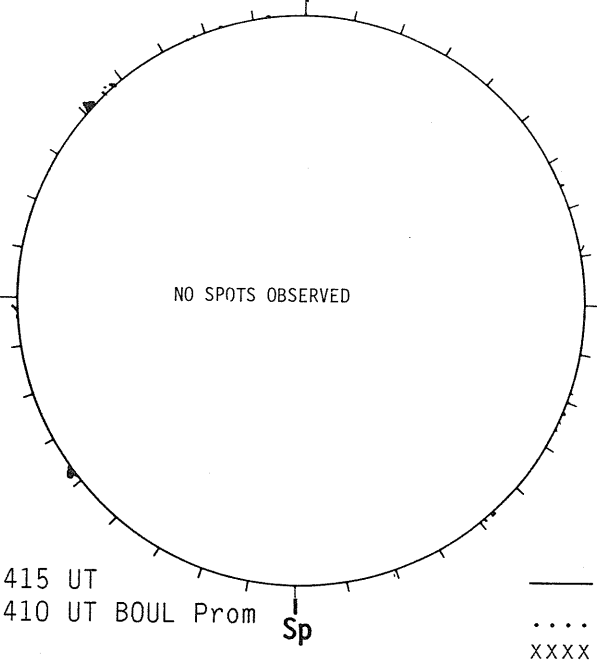
Solid = +
Dotted= -



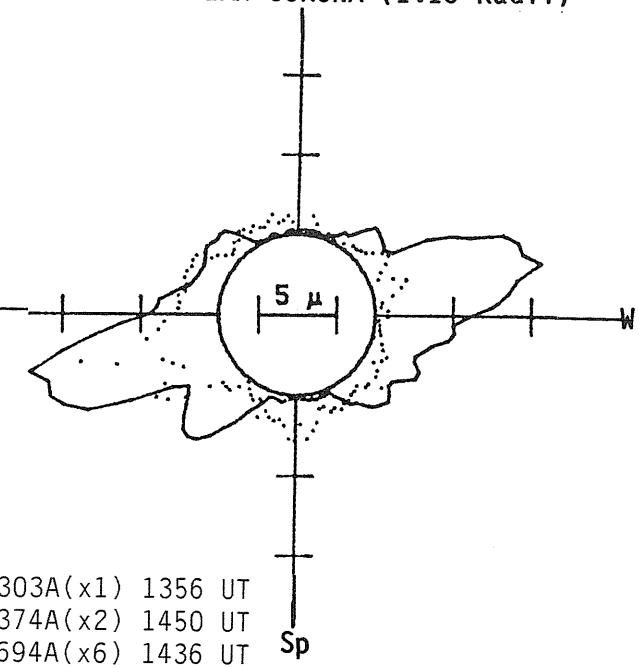
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS

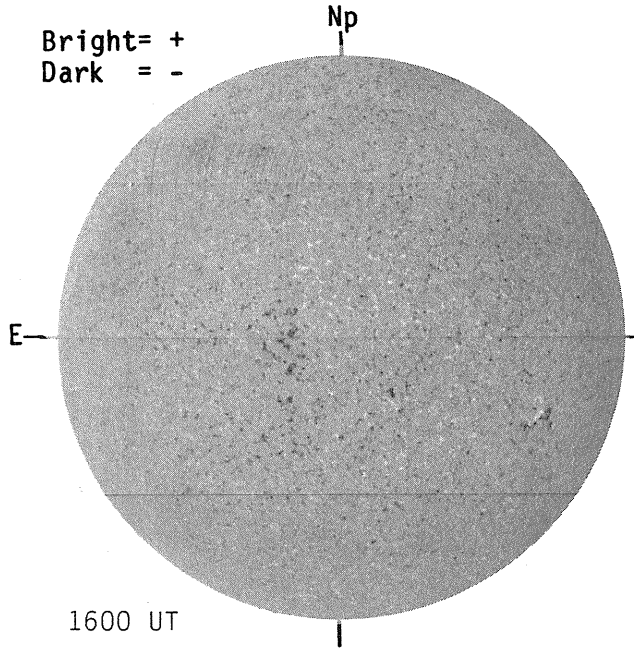


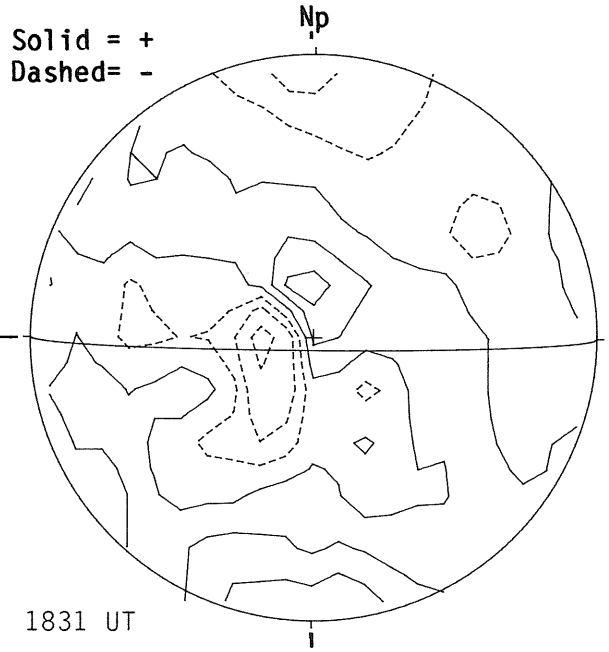
SACRAMENTO PEAK CORONA (1.15 Radii)

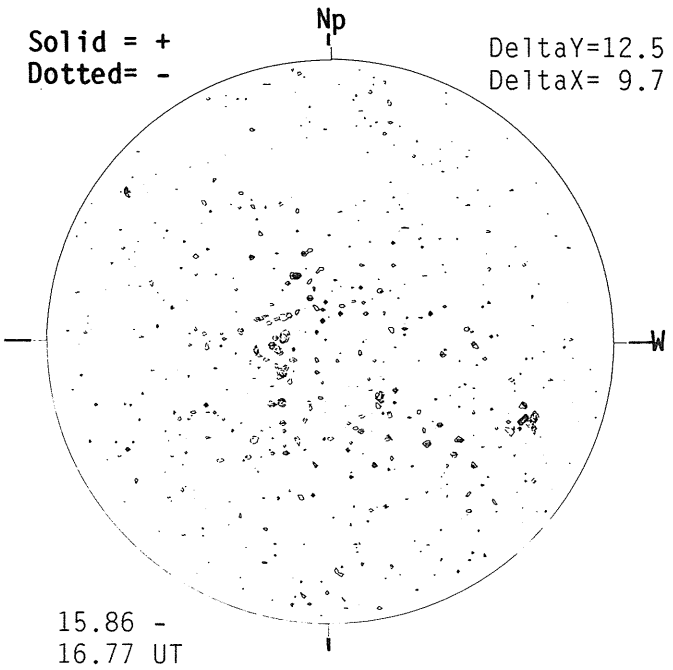


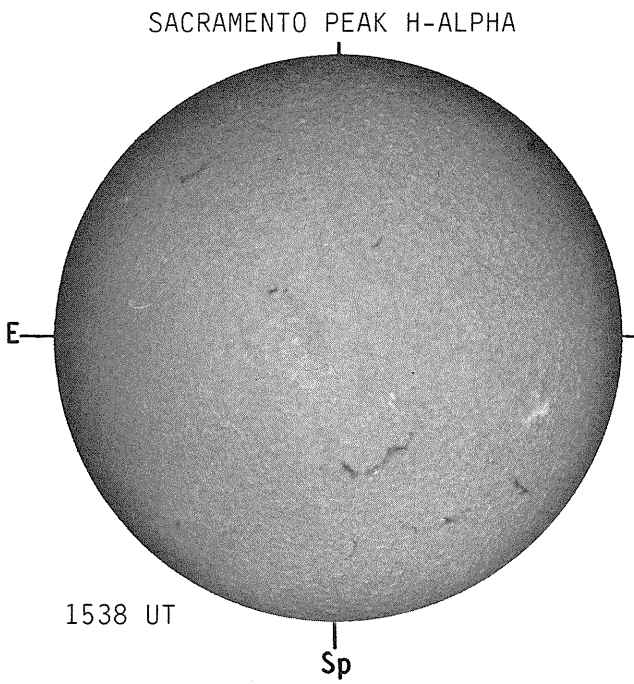
—— 5303A(x1) 1356 UT
.... 6374A(x2) 1450 UT
xxxx 5694A(x6) 1436 UT
No 5694A Activity Today

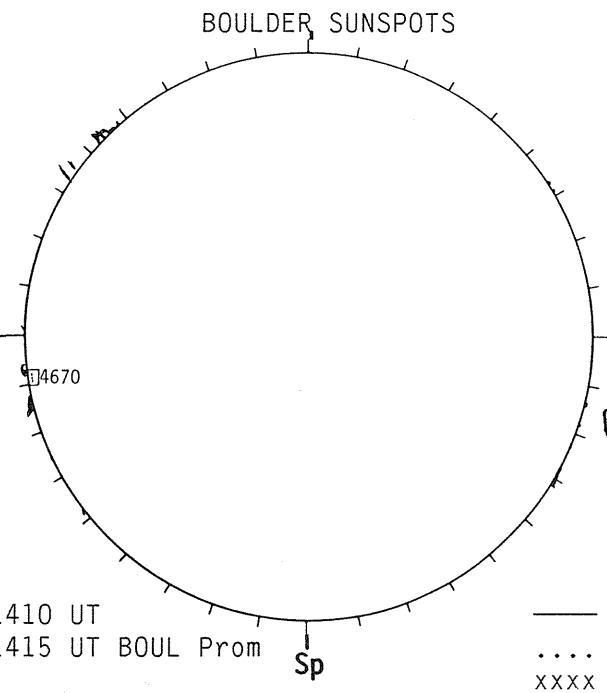
J U N E 28, 1 9 8 5 (P=- 4.00, B_0= 2.48, L_0= 122.10)

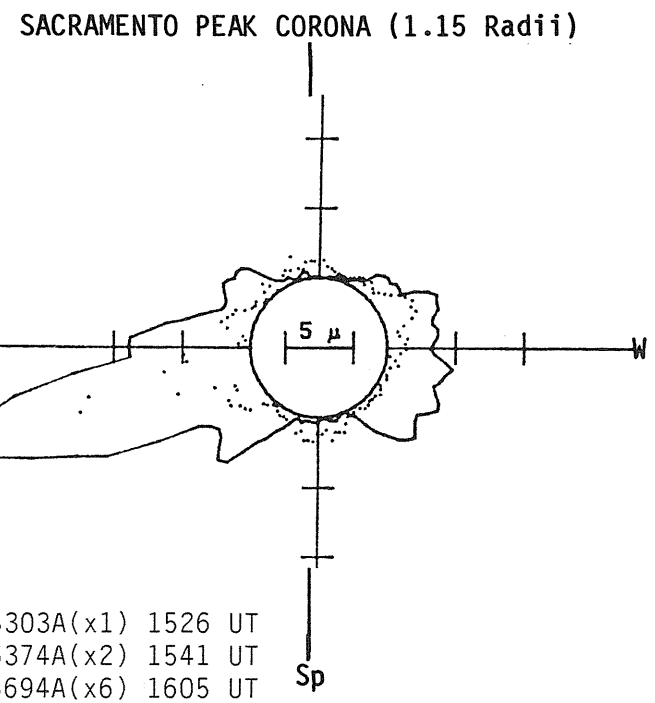










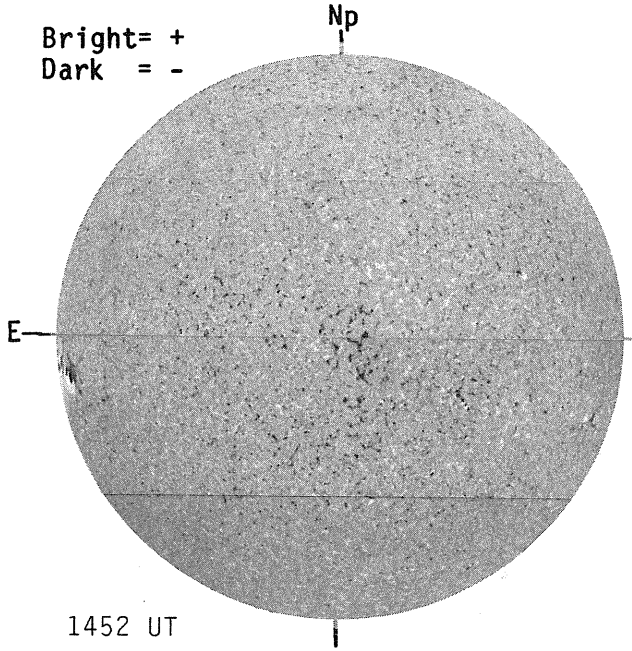


—— 5303A(x1) 1526 UT
.... 6374A(x2) 1541 UT
xxxx 5694A(x6) 1605 UT
No 5694A Activity Today

J U N E 29, 1 9 8 5 (P=- 3.55, B_0= 2.59, L_0= 108.86)

KITT PEAK MAGNETOGRAM

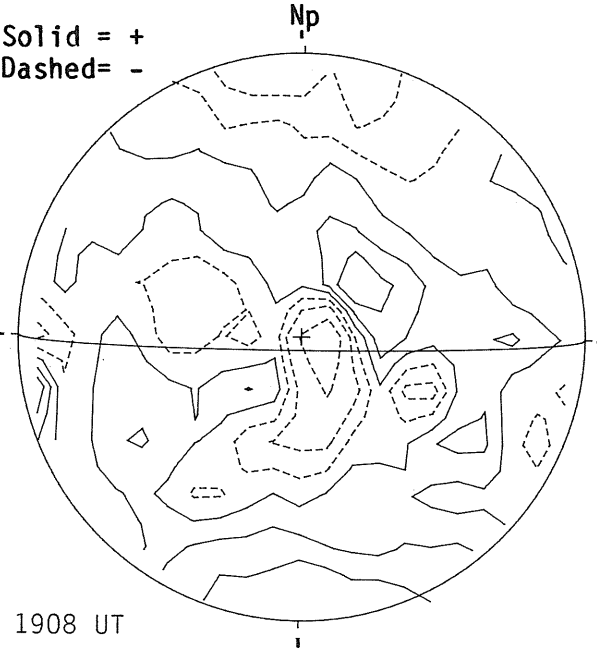
Bright= +
Dark = -



1452 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

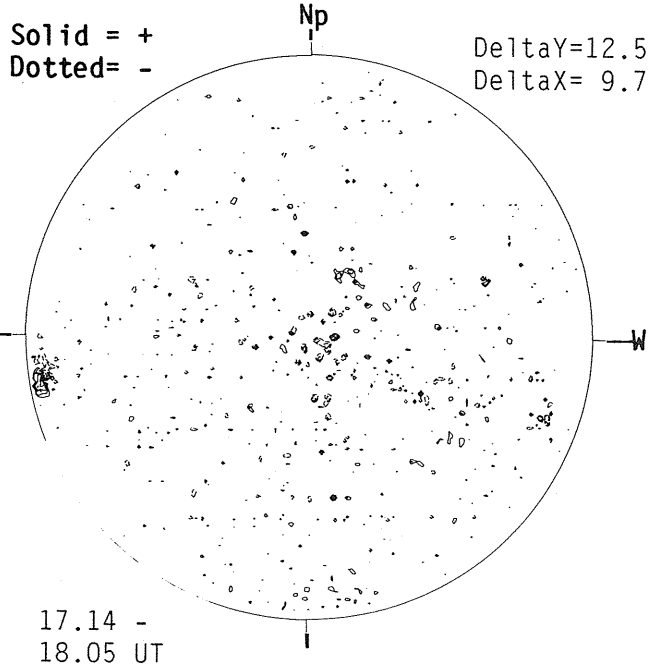


1908 UT

MT. WILSON MAGNETOGRAM

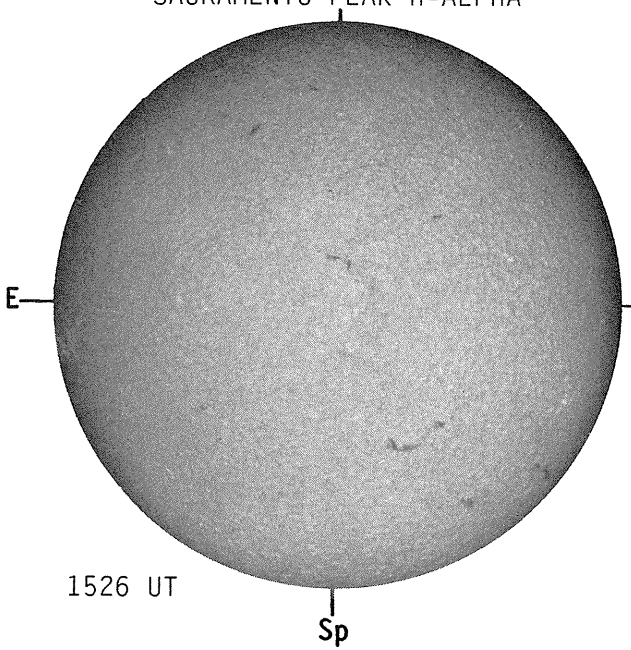
Solid = +
Dotted= -

DeltaY=12.5
DeltaX= 9.7



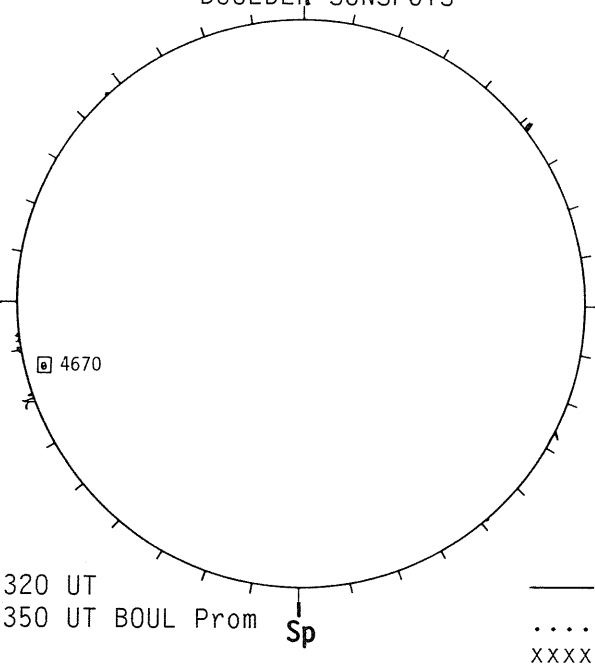
17.14 -
18.05 UT

SACRAMENTO PEAK H-ALPHA



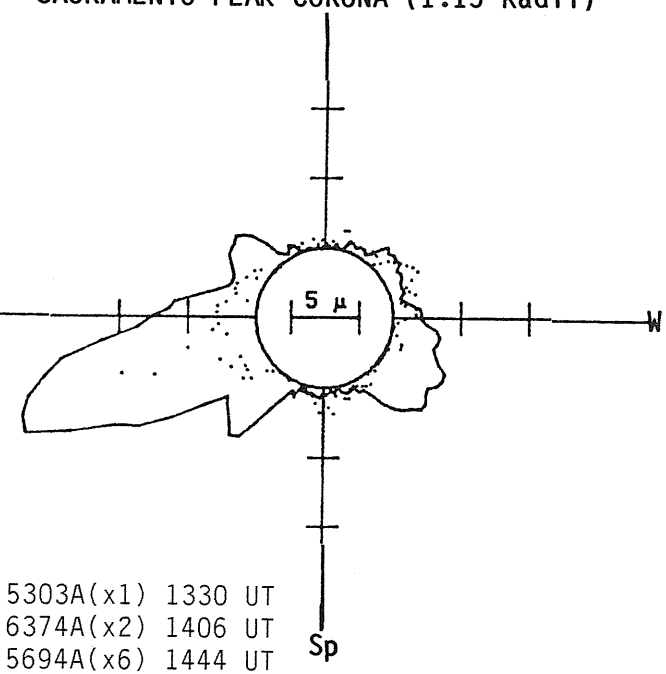
1526 UT

BOULDER SUNSPOTS



1320 UT
1350 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

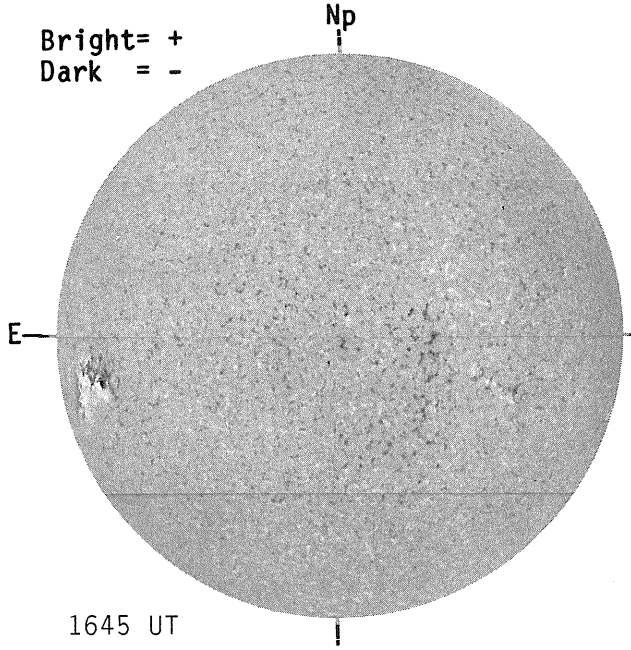


—— 5303A(x1) 1330 UT
.... 6374A(x2) 1406 UT
xxxx 5694A(x6) 1444 UT
No 5694A Activity Today

J U N E 30, 1 9 8 5 (P=- 3.10, B_0= 2.70, L_0= 95.62)

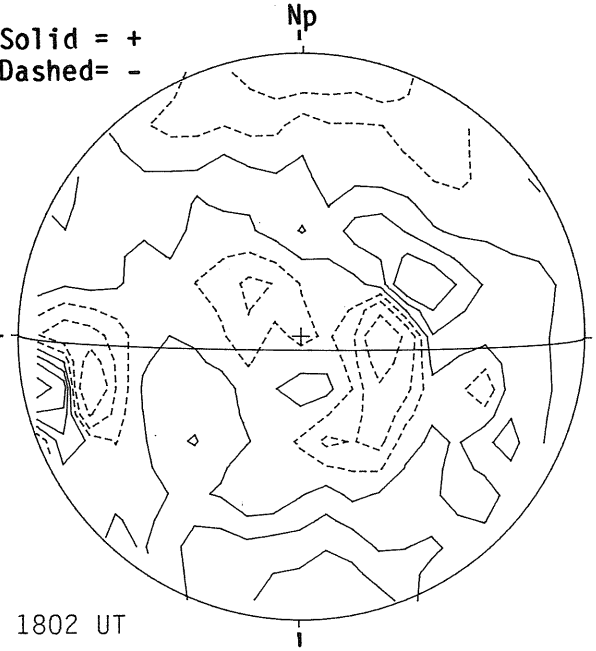
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

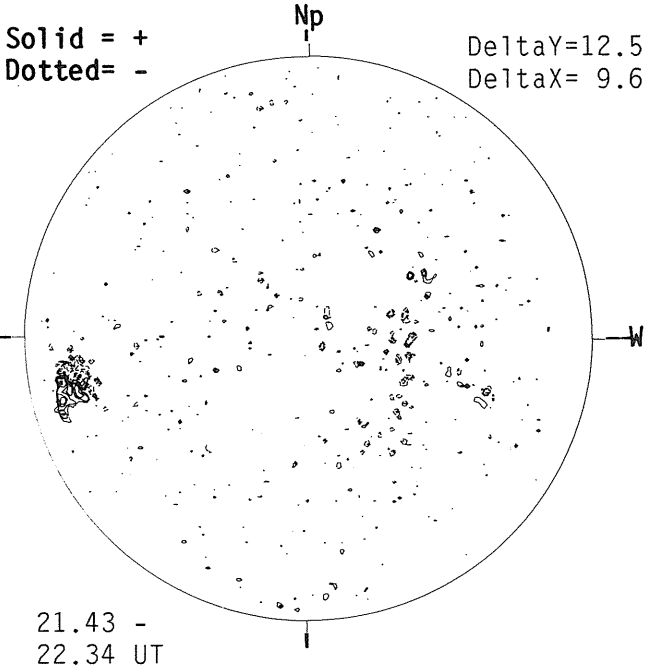
Solid = +
Dashed= -



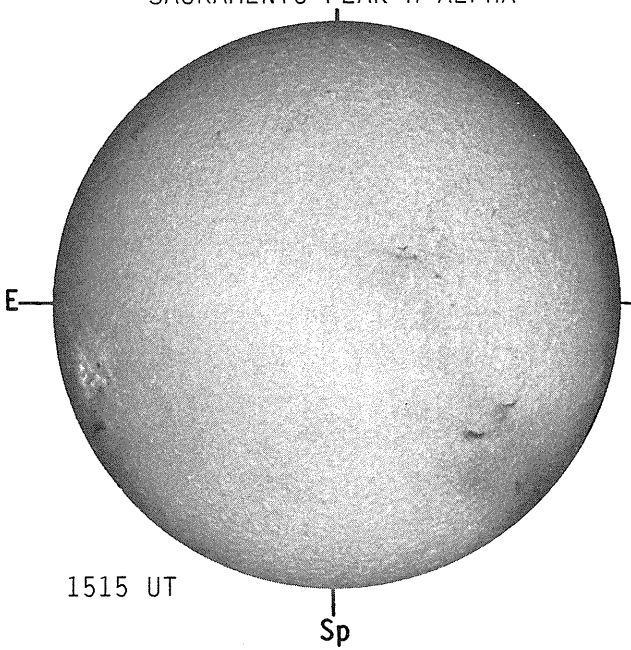
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

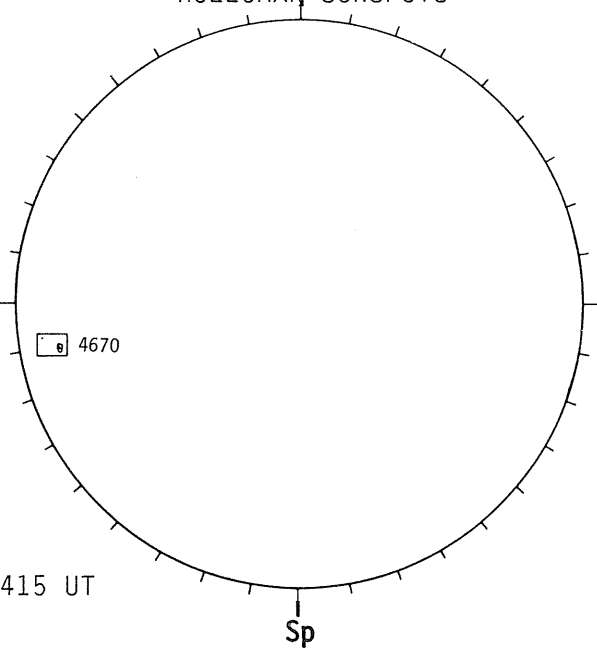
DeltaY=12.5
DeltaX= 9.6



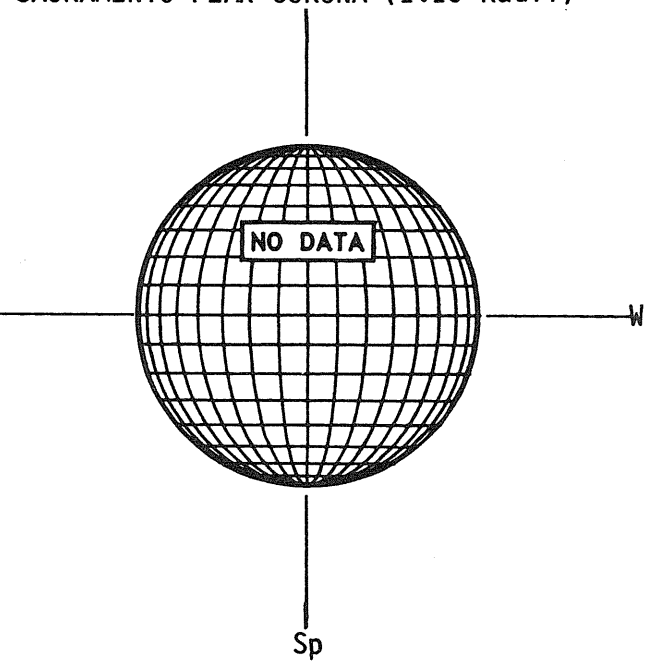
SACRAMENTO PEAK H-ALPHA



HOLLOMAN SUNSPOTS



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)

JUNE 1985

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4659A		LEAR	06	01	0715	N05	E13	06	2.3		A	AXX	10	1	1	3
4659A		ATHN	06	01	0730	N05	E11	06	2.1		A	AXX	10	1		3
4659B		PALE	06	06	1905	S17	E14	06	7.9		A	AXX		1		3
4659		LEAR	06	03	0150	S03	E76	06	8.8		B	BXO	10	2	3	3
4659		PALE	06	03	1915	S04	E69	06	9.0		A	AXX		1		4
4659		LEAR	06	04	0010	S03	E65	06	8.9		B	BXO	10	3	4	3
4659		HOLL	06	06	1448	S04	E32	06	9.0		A	AXX		1		4
4659	24236	MWIL	06	06	1500	S04	E31	06	8.9	3	(AP)					
4659	24236	MWIL	06	08	1500	S05	E04	06	8.9	2	(AP)					
4659		PALE	06	08	1928	S08	W02	06	8.7		B	BXO	10	2	6	4
4659		BOUL	06	09	1455	S09	W02	06	9.5		B	CSO	20	4	3	4
4659		HOLL	06	09	1545	S09	W03	06	9.4		B	CRO	30	7	4	3
4659		PALE	06	09	1755	S10	W05	06	9.4		B	CRO	20	4	4	3
4659		LEAR	06	10	0003	S10	W09	06	9.3		B	BXO	20	6	4	3
4659		LEAR	06	10	0204	S10	W09	06	9.4		B	BXO	20	6	4	4
4659		ATHN	06	10	0700	S09	W10	06	9.5		B	BXO	30	5	6	1
4659		RAMY	06	10	1320	S10	W14	06	9.5		BG	CRO	30	7	8	3
4665	24238	MWIL	06	09	1500	S09	W03	06	9.4	4	(B)					
4665	24238	MWIL	06	10	1500	S09	W15	06	9.5	4	(BG)					
4665		HOLL	06	10	1505	S09	W16	06	9.4		BG	ERI	90	21	11	4
4665		HOLL	06	10	1505	S09	W16	06	9.4		BG	ERI	90	21	11	4
4665		PALE	06	10	1855	S10	W16	06	9.6		B	CRO	40	14	9	3
4665		LEAR	06	11	0017	S09	W19	06	9.6		BG	DRO	60	10	9	2
4665		ATHN	06	11	0500	S08	W22	06	9.6			CRO	80	12	7	3
4665		RAMY	06	11	1245	S09	W26	06	9.6		B	DAO	60	10	9	3
4665	24238	MWIL	06	11	1430	S09	W27	06	9.6	5	(D)					
4665		HOLL	06	11	1525	S09	W27	06	9.6		BG	DRO	80	14	9	3
4665		PALE	06	11	1848	S10	W28	06	9.7		B	CAO	110	11	11	3
4665		LEAR	06	12	0309	S09	W36	06	9.4		BG	DRO	70	16	9	3
4665		ATHN	06	12	0517	S08	W33	06	9.7			CXO	100	12	13	3
4665	24238	MWIL	06	12	1415	S10	W42	06	9.4	4	(BG)					
4665		BOUL	06	12	1540	S10	W40	06	9.6		B	BXO	30	5	6	3
4665		HOLL	06	12	2125	S09	W45	06	9.5		B	CRO	30	7	8	2
4665		LEAR	06	13	0505	S10	W51	06	9.4		B	CRO	40	7	8	3
4665		BOUL	06	13	1335	S08	W49	06	9.9		B	BXO	30	5	7	3
4665	24238	MWIL	06	13	1500	S10	W59	06	9.2	4	(B)					
4665		HOLL	06	13	1519	S10	W59	06	9.2		B	CRO	10	4	4	3
4665		RAMY	06	13	1601	S10	W59	06	9.2		B	CRO	10	4	5	3
4665		PALE	06	13	1945	S09	W61	06	9.2		B	CRO	30	4	5	2
4665		LEAR	06	14	0151	S11	W64	06	9.3		B	BXO	10	3	5	3
4665		ATHN	06	14	0715	S08	W69	06	9.1			AXO	20	2	1	3
4665		RAMY	06	14	1315	S10	W70	06	9.3		A	AXX		1		3
4665	24238	MWIL	06	14	1530	S10	W74	06	9.1	2	(AP)					
4660		RAMY	06	03	1259	S14	E85	06	10.0		A	HSX	20	1	2	3
4660		BOUL	06	03	1334	S13	E78	06	9.5		A	HSX	60	1	2	3
4660	24233	MWIL	06	03	1430	S11	E85	06	10.0	2	AP					
4660		HOLL	06	03	1552	S14	E81	06	9.8		A	HSX	100	1	2	2
4660		PALE	06	03	1915	S14	E79	06	9.8		B	CHO	150	3	5	4
4660		LEAR	06	04	0010	S11	E77	06	9.8		B	DSO	60	3	6	3
4660		ATHN	06	04	0615	S14	E75	06	9.9			DHO	40	2	5	2
4660		RAMY	06	04	1221	S13	E72	06	9.9		B	CSO	200	4	8	3
4660		HOLL	06	04	1427	S12	E73	06	10.1		B	CHO	180	6	6	3
4660	24233	MWIL	06	04	1430	S11	E71	06	9.9	4	(B)					
4660		PALE	06	04	1805	S12	E70	06	10.0		B	DHO	230	14	9	4
4660		ATHN	06	05	0650	S14	E71	06	10.7			DHO	190	6	10	2
4660		RAMY	06	05	1235	S11	E60	06	10.0		B	DSO	290	14	10	4
4660		BOUL	06	05	1355	S12	E55	06	9.7		B	CSI	80	9	8	2
4660	24233	MWIL	06	05	1445	S10	E59	06	10.0	5	(B)					
4660		PALE	06	05	1745	S09	E58	06	10.1		B	CAO	130	12	8	3
4660		PALE	06	05	1745	S09	E58	06	10.1		B	DAO	130	12	8	3
4660		MANI	06	06	0135	S12	E53	06	10.1			DHO	170	13	10	2
4660		LEAR	06	06	0540	S12	E51	06	10.1		B	DHO	140	16	9	3
4660		ATHN	06	06	0900	S09	E51	06	10.2			CAO	140	7	8	3
4660		RAMY	06	06	1220	S10	E47	06	10.0		B	DAO	100	12	8	3
4660		BOUL	06	06	1410	S10	E45	06	10.0		B	CAO	40	6	6	2
4660		HOLL	06	06	1448	S08	E46	06	10.1		B	CAO	80	17	8	4
4660	24233	MWIL	06	06	1500	S11	E46	06	10.1	4	(B)					

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

JUNE 1985

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4660		PALE	06	06	1905	S11	E45	06	10.2		B	CAO	110	16	8	3
4660		BOUL	06	07	1320	S12	E34	06	10.1		B	CAO	60	8	7	2
4660		RAMY	06	07	1345	S10	E33	06	10.1		B	DSO	80	18	8	3
4660	24233	MWIL	06	07	1500	S11	E31	06	10.0	4	(B)					
4660		HOLL	06	07	1622	S10	E33	06	10.2		B	CAO	40	22	8	3
4660		PALE	06	07	1910	S10	E30	06	10.1		B	CSO	50	13	8	3
4660		LEAR	06	08	0141	S12	E27	06	10.1		B	CSO	170	18	8	3
4660		BOUL	06	08	1320	S11	E21	06	10.1		B	CAO	50	8	7	2
4660		RAMY	06	08	1330	S10	E21	06	10.1		B	CAO	40	8	7	3
4660	24233	MWIL	06	08	1500	S11	E17	06	9.9	4	(B)					
4660		HOLL	06	08	1540	S10	E18	06	10.0		B	CAO	40	14	7	3
4660		PALE	06	08	1928	S10	E18	06	10.2		B	CAO	30	8	9	4
4660		LEAR	06	09	0026	S11	E14	06	10.1		B	CAO	40	11	13	3
4660		LEAR	06	09	0048	S11	E11	06	9.9		B	CHO	240	10	7	3
4660		ATHN	06	09	0940	S09	E03	06	9.6			HRX	20	1	1	1
4660		BOUL	06	09	1455	S09	E07	06	10.1		B	CSO	60	18	8	4
4660	24233	MWIL	06	09	1500	S10	E04	06	9.9	4	(B)					
4660		HOLL	06	09	1545	S09	E03	06	9.9		B	CSO	50	7	3	3
4660		PALE	06	09	1755	S11	E04	06	10.0		B	CSO	40	8	7	3
4660		LEAR	06	10	0204	S10	W02	06	9.9		B	CSO	40	5	4	4
4660		RAMY	06	10	1320	S11	W04	06	10.3		B	BXO	20	4	3	3
4660	24233	MWIL	06	10	1500	S10	W10	06	9.9	4	(B)					
4660		HOLL	06	10	1505	S11	W04	06	10.3		B	BXO	30	11	4	4
4660		PALE	06	10	1855	S13	W07	06	10.3		B	BXO	10	6	4	3
4660		LEAR	06	11	0017	S11	W09	06	10.3		B	BXO	30	7	3	2
4660		ATHN	06	11	0500	S10	W12	06	10.3			BXO	20	3	2	3
4660		RAMY	06	11	1245	S12	W17	06	10.3		B	BXO	10	3	3	3
4660		HOLL	06	11	1525	S11	W18	06	10.3		B	BXO		2	1	3
4660		PALE	06	11	1848	S12	W16	06	10.6		B	BXO	20	5	11	3
4660		ATHN	06	12	0517	S12	W24	06	10.4			BXO	20	2	2	3
4660		HOLL	06	12	2125	S07	W37	06	10.1		A	AXX		1		2
4660		HOLL	06	13	1519	S08	W48	06	10.0		A	AXX		1		3
4660		RAMY	06	13	1601	S08	W48	06	10.1		A	AXX		1		3
4660		PALE	06	13	1945	S07	W51	06	10.0		A	AXX	10	1	1	2
4662	24234	MWIL	06	03	1430	S15	E85	06	10.0	3	(AP)					
4662	24234	MWIL	06	04	1430	S15	E70	06	9.9	5	(AP)					
4662		RAMY	06	05	1235	S13	E58	06	9.9		A	HSX	220	1	2	4
4662		BOUL	06	05	1355	S15	E56	06	9.8		A	HHX	270	1	3	2
4662	24234	MWIL	06	05	1445	S15	E57	06	9.9	5	(AP)					
4662		PALE	06	05	1745	S14	E56	06	10.0		A	HHX	180	1	3	3
4662		ATHN	06	06	0900	S14	E48	06	10.0		A	HHX	220	1	3	3
4662		RAMY	06	06	1220	S14	E44	06	9.8		A	HHX	190	1	3	3
4662		BOUL	06	06	1410	S13	E43	06	9.8		A	HSX	130	1	2	2
4662		HOLL	06	06	1448	S14	E45	06	10.0		B	CHO	250	2	5	4
4662	24234	MWIL	06	06	1500	S14	E44	06	10.0	5	(BP)					
4662		PALE	06	06	1905	S16	E44	06	10.1		B	CHO	160	2	5	3
4662		BOUL	06	07	1320	S14	E31	06	9.9		A	HSX	180	1	2	2
4662		RAMY	06	07	1345	S14	E31	06	9.9		A	HHX	200	1	3	3
4662	24234	MWIL	06	07	1500	S14	E30	06	9.9	5	(AP)					
4662		HOLL	06	07	1622	S14	E29	06	9.9		A	HHX	260	1	3	3
4662		PALE	06	07	1910	S15	E27	06	9.8		A	HHX	160	1	4	3
4662		BOUL	06	08	1320	S16	E19	06	10.0		A	HSX	200	1	2	2
4662		RAMY	06	08	1330	S14	E18	06	9.9		A	HHX	220	1	3	3
4662	24234	MWIL	06	08	1500	S14	E17	06	9.9	6	(AP)					
4662		HOLL	06	08	1540	S13	E17	06	9.9		A	HSX	210	1	2	3
4662		PALE	06	08	1928	S14	E13	06	9.8		A	HHX	120	1	4	4
4662		LEAR	06	09	0026	S14	E11	06	9.8		A	HHX	200	1	4	3
4662		ATHN	06	09	0940	S15	E05	06	9.8			HHX	110	1	3	1
4662		BOUL	06	09	1455	S13	E05	06	10.0		A	HSX	170	1	2	4
4662	24234	MWIL	06	09	1500	S14	E04	06	9.9	6	(BP)					
4662		HOLL	06	09	1545	S15	E04	06	10.0		B	CHO	250	3	3	3
4662		PALE	06	09	1755	S16	E03	06	10.0		A	HHX	150	1	3	3
4662		LEAR	06	10	0204	S15	W01	06	10.0		B	CHO	210	8	3	4
4662		ATHN	06	10	0700	S14	W06	06	9.8		A	HHX	100	3	3	1
4662		RAMY	06	10	1320	S16	W17	06	9.3		B	CSO	180	3	5	3
4662	24234	MWIL	06	10	1500	S14	W09	06	9.9	5	(BP)					
4662		HOLL	06	10	1505	S16	W08	06	10.0		B	CHO	220	6	6	4
4662		PALE	06	10	1855	S16	W10	06	10.0		B	CHO	160	4	4	3
4662		LEAR	06	11	0017	S13	W13	06	10.0		B	CHO	160	4	5	2
4662		ATHN	06	11	0500	S13	W17	06	9.9			HKX	150	1	3	3

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JUNE 1985

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4662		RAMY	06	11	1245	S13	W20	06	10.0		B	CKO	230	3	5	3
4662	24234	MWIL	06	11	1430	S14	W23	06	9.9	5	(BP)					
4662		HOLL	06	11	1525	S16	W20	06	10.1		B	CHO	190	5	5	3
4662		PALE	06	11	1848	S15	W25	06	9.9		A	HHX	160	1	3	3
4662		LEAR	06	12	0309	S14	W26	06	10.2		B	CKO	200	2	9	3
4662		ATHN	06	12	0517	S13	W30	06	10.0			HHX	180	1	3	3
4662	24234	MWIL	06	12	1415	S14	W35	06	9.9	6	(AP)					
4662		BOUL	06	12	1540	S13	W33	06	10.2		A	HSX	180	2	2	3
4662		HOLL	06	12	2125	S14	W38	06	10.0		A	HSX	190	1	2	2
4662		LEAR	06	13	0035	S14	W41	06	9.9		A	HHX	100	1	3	3
4662		LEAR	06	13	0505	S15	W44	06	9.9		A	HHX	150	1	1	3
4662		BOUL	06	13	1335	S13	W47	06	10.0		A	HSX	110	1	2	3
4662	24234	MWIL	06	13	1500	S14	W49	06	9.9	5	(AP)					
4662		HOLL	06	13	1519	S14	W49	06	9.9		A	HSX	190	1	2	3
4662		RAMY	06	13	1601	S14	W48	06	10.0		A	HSX	210	1	2	3
4662		PALE	06	13	1945	S14	W53	06	9.8		A	HAX	130	1	2	2
4662		LEAR	06	14	0151	S16	W55	06	9.9		BG	HHX	100	1	3	3
4662		ATHN	06	14	0715	S14	W55	06	10.1			HHX	60	1	3	3
4662		RAMY	06	14	1315	S14	W59	06	10.1		A	HSX	250	1	2	3
4662		HOLL	06	14	1447	S14	W62	06	9.9		A	HHX	140	1	3	3
4662	24234	MWIL	06	14	1530	S14	W62	06	10.0	5	(AP)					
4662		PALE	06	14	1815	S15	W65	06	9.8		A	HAX	110	1	2	4
4662		LEAR	06	15	0155	S17	W68	06	9.9		A	HKX	60	1	4	2
4662		ATHN	06	15	0815	S15	W69	06	10.1			HKX	130	1	3	2
4662		RAMY	06	15	1255	S15	W73	06	10.0		A	HAX	190	1	2	3
4662		BOUL	06	15	1345	S18	W72	06	10.1		A	HSX	110	1	2	1
4662	24234	MWIL	06	15	1445	S14	W75	06	9.9	4	(BP)					
4662		HOLL	06	15	1550	S14	W75	06	10.0		A	HHX	170	1	3	3
4662		PALE	06	15	2053	S15	W80	06	9.8		A	HHX	110	1	3	3
4662		LEAR	06	16	0153	S13	W79	06	10.1		A	HSX	40	1	2	3
4662A	24240	MWIL	06	13	1500	S08	W47	06	10.1	3	(B)					
4663		LEAR	06	06	0540	N01	E79	06	12.1		A	HAX	40	1	2	3
4663		ATHN	06	06	0900	S01	E82	06	12.5			BXO	30	3	2	3
4663		RAMY	06	06	1220	N02	E79	06	12.4		B	CSO	100	2	10	3
4663		BOUL	06	06	1410	N02	E72	06	12.0		A	HSX	50	1	2	2
4663		HOLL	06	06	1448	N04	E80	06	12.6		B	DSO	180	4	9	4
4663	24237	MWIL	06	06	1500	N01	E78	06	12.5	4	(B)					
4663		PALE	06	06	1905	N01	E78	06	12.6		B	DAO	80	4	7	3
4663		BOUL	06	07	1320	S03	E63	06	12.3		B	CAO	110	2	2	2
4663		RAMY	06	07	1345	N01	E66	06	12.5		B	CSO	90	3	10	3
4663	24237	MWIL	06	07	1500	N01	E64	06	12.4	5	(B)					
4663		HOLL	06	07	1622	N01	E65	06	12.5		B	DAO	210	6	9	3
4663		PALE	06	07	1910	N01	E65	06	12.7		B	CAO	220	5	7	3
4663		LEAR	06	08	0141	N01	E60	06	12.6		B	CSO	70	7	8	3
4663		BOUL	06	08	1320	S02	E53	06	12.5		B	CAO	160	5	8	2
4663		RAMY	06	08	1330	N01	E54	06	12.6		B	CAO	230	6	8	3
4663		RAMY	06	08	1330	N01	E54	06	12.6		B	CAO	430	6	8	3
4663	24237	MWIL	06	08	1500	N01	E50	06	12.4	5	(BP)					
4663		HOLL	06	08	1540	N02	E53	06	12.6		B	CAO	200	13	7	3
4663		PALE	06	08	1928	N01	E51	06	12.6		B	CAO	150	10	8	4
4663		LEAR	06	09	0026	N01	E46	06	12.5		B	CKO	150	8	8	3
4663		LEAR	06	09	0048	N01	E47	06	12.5		B	CKO	130	99	9	3
4663		ATHN	06	09	0940	N01	E41	06	12.5			HSX	80	1	2	1
4663		BOUL	06	09	1455	N02	E37	06	12.4		B	CAO	120	7	7	4
4663		BOUL	06	09	1455	N02	E37	06	12.4		B	CSO	120	7	7	4
4663	24237	MWIL	06	09	1500	N01	E38	06	12.5	5	(BG)					
4663		HOLL	06	09	1545	N02	E38	06	12.5		B	CSO	160	12	6	3
4663		PALE	06	09	1755	N01	E38	06	12.6		B	CAO	140	11	9	3
4663		LEAR	06	10	0003	N01	E32	06	12.4		B	DSO	110	6	6	3
4663		LEAR	06	10	0204	N01	E32	06	12.5		B	DSO	130	12	6	4
4663		ATHN	06	10	0700	N01	E28	06	12.4		B	CHO	110	7	7	1
4663		RAMY	06	10	1320	N01	E26	06	12.5		B	CSO	160	10	8	3
4663	24237	MWIL	06	10	1500	N01	E24	06	12.4	5	(BP)					
4663		HOLL	06	10	1505	N01	E25	06	12.5		B	CSO	190	13	8	4
4663		PALE	06	10	1855	N01	E24	06	12.6		B	CAO	120	8	7	3
4663		LEAR	06	11	0017	N02	E22	06	12.7		B	DHO	140	9	10	2
4663		ATHN	06	11	0500	N02	E18	06	12.6			CSO	100	6	7	3
4663		RAMY	06	11	1245	N01	E14	06	12.6		B	DAO	210	21	8	3
4663	24237	MWIL	06	11	1430	S00	E10	06	12.4	5	(B)					

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4663		HOLL	06	11	1525	N01	E14	06	12.7		B	DAO	190	17	10	3
4663		PALE	06	11	1848	S02	E12	06	12.7		B	CHO	80	9	10	3
4663		LEAR	06	12	0309	S01	E04	06	12.4		B	CKO	160	4	6	3
4663		ATHN	06	12	0517	N01	E02	06	12.4			DSO	100	2	4	3
4663	24237	MWIL	06	12	1415	S01	W03	06	12.4	5	(BP)					
4663		BOUL	06	12	1540	S01	W03	06	12.4		B	CSO	80	4	3	3
4663		HOLL	06	12	2125	S01	W05	06	12.5		B	CSO	110	3	6	2
4663		LEAR	06	13	0035	S01	W06	06	12.6		B	CSO	90	4	8	3
4663		LEAR	06	13	0505	S03	W12	06	12.3		B	CSO	110	4	4	3
4663		BOUL	06	13	1335	N00	W12	06	12.7		B	CSO	70	6	8	3
4663	24237	MWIL	06	13	1500	S01	W17	06	12.4	5	(BG)					
4663		HOLL	06	13	1519	S01	W16	06	12.4		B	CSO	90	5	4	3
4663		RAMY	06	13	1601	S01	W17	06	12.4		B	CSO	100	5	5	3
4663		PALE	06	13	1945	N01	W18	06	12.5		B	CAO	70	8	7	2
4663		LEAR	06	14	0151	S02	W23	06	12.4		B	CSO	110	9	7	3
4663		ATHN	06	14	0715	S01	W24	06	12.5			CSO	130	6	4	3
4663		RAMY	06	14	1315	S01	W28	06	12.5		B	CSO	120	3	5	3
4663		HOLL	06	14	1447	S01	W29	06	12.5		B	CSO	80	3	5	3
4663	24237	MWIL	06	14	1530	S01	W31	06	12.3	5	(BP)					
4663		PALE	06	14	1815	S02	W30	06	12.5		B	CSO	70	4	7	4
4663		LEAR	06	15	0155	S04	W36	06	12.4		A	HAO	80	2	2	2
4663		ATHN	06	15	0815	S02	W37	06	12.6			CSO	70	2	4	2
4663		RAMY	06	15	1255	S02	W44	06	12.3		A	HAX	130	1	2	3
4663		BOUL	06	15	1345	S04	W40	06	12.6		A	HSX	70	1	2	1
4663	24237	MWIL	06	15	1445	S02	W44	06	12.3	5	(BP)					
4663		HOLL	06	15	1550	S02	W45	06	12.3		A	HSX	100	1	2	3
4663		PALE	06	15	2053	S02	W48	06	12.3		A	HHX	120	1	3	3
4663		LEAR	06	16	0153	S01	W49	06	12.4		A	HSX	80	2	2	3
4663		ATHN	06	16	0615	S03	W51	06	12.4			CAO	100	3	3	1
4663		RAMY	06	16	1335	S02	W57	06	12.3		A	HSX	70	1	2	3
4663	24237	MWIL	06	16	1445	S02	W58	06	12.3	5	(AF)					
4663		BOUL	06	16	1500	S01	W55	06	12.5		A	HSX	30	1	2	2
4663		HOLL	06	16	1550	S02	W58	06	12.3		A	HSX	60	1	2	3
4663		PALE	06	16	1735	S03	W60	06	12.2		A	HHX	80	1	3	3
4663		LEAR	06	17	0111	S02	W63	06	12.3		A	HHX	60	1	2	3
4663		ATHN	06	17	0615	S02	W64	06	12.5			AXX	60	1	2	1
4663		RAMY	06	17	1422	S03	W71	06	12.3		A	HSX	60	1	2	3
4663	24237	MWIL	06	17	1445	S02	W71	06	12.3	4	(AF)					
4663		HOLL	06	17	1544	S03	W71	06	12.4		A	HSX	60	1	2	3
4663		ATHN	06	18	0628	S01	W78	06	12.4			AXX	60	1	2	2
4663		RAMY	06	18	1250	S02	W85	06	12.2		A	HAX	40	1	2	4
4663		BOUL	06	18	1335	S01	W80	06	12.6		A	AXX	10	1	1	3
4663	24237	MWIL	06	18	1600	S02	W88	06	12.1	2	AF					
4663A		LEAR	06	10	0204	N11	E45	06	13.5		A	AXX	10	1	1	4
4663A		RAMY	06	10	1320	N06	E32	06	13.0		A	AXX	10	2	2	3
4663A		RAMY	06	11	1245	N09	E25	06	13.4		A	AXX	10	2	2	3
4664		LEAR	06	10	0204	N00	E55	06	14.2		A	AXX	10	1	1	4
4664		ATHN	06	10	0700	N00	E50	06	14.0		B	BXO	20	2	2	1
4664		RAMY	06	10	1320	S00	E48	06	14.1		B	DSO	30	3	3	3
4664	24239	MWIL	06	10	1500	N01	E48	06	14.2	5	(B)					
4664		HOLL	06	10	1505	N00	E47	06	14.1		B	DSO	60	6	4	4
4664		PALE	06	10	1855	N00	E46	06	14.2		B	CRO	30	6	3	3
4664		LEAR	06	11	0017	N01	E42	06	14.1		B	DRO	30	5	4	2
4664		ATHN	06	11	0500	N01	E39	06	14.1			CRO	30	7	3	3
4664		RAMY	06	11	1245	N01	E34	06	14.1		B	DAO	30	5	4	3
4664	24239	MWIL	06	11	1430	S00	E34	06	14.1	4	(B)					
4664		HOLL	06	11	1525	N01	E33	06	14.1		B	DSO	50	8	4	3
4664		PALE	06	11	1848	N01	E31	06	14.1		B	BXO	20	3	4	3
4664		LEAR	06	12	0309	N01	E25	06	14.0		B	DRO	50	4	4	3
4664		ATHN	06	12	0517	N01	E24	06	14.0			BXO	20	2	5	3
4664	24239	MWIL	06	12	1415	S00	E18	06	13.9	4	(AP)					
4664		BOUL	06	12	1540	S02	E16	06	13.8		A	AXX		1	1	3
4664		HOLL	06	12	2125	S01	E14	06	13.9		A	AXX		1		2
4664		LEAR	06	13	0035	N01	E12	06	13.9		A	AXX	10	1	1	3
4664		LEAR	06	13	0505	S03	E10	06	14.0		B	CRO	10	2	4	3
4664		BOUL	06	13	1335	S01	E03	06	13.8		B	BXO		2	2	3
4664	24239	MWIL	06	13	1500	S01	E02	06	13.8	4	(AP)					
4664		HOLL	06	13	1519	S01	E03	06	13.9		A	AXX		1		3
4664		RAMY	06	13	1601	S00	E02	06	13.8		A	AXX		1		3

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4664		PALE	06	13	1945	S01	W01	06	13.7		A	AXX		1		2
4664		LEAR	06	17	0111	S02	W42	06	13.9		B	BXO	10	3	2	3
4664		RAMY	06	17	1422	S01	W49	06	13.9		A	AXX		1		3
4666		LEAR	06	15	0155	S10	E32	06	17.5		A	AXO	10	4	4	2
4666		ATHN	06	15	0815	S10	E28	06	17.4			BXO	50	4	5	2
4666		RAMY	06	15	1255	S10	E25	06	17.4		B	DAO	40	8	5	3
4666		BOUL	06	15	1345	S12	E25	06	17.5		B	BXO	10	4	5	1
4666	24242	MWIL	06	15	1445	S10	E26	06	17.6	4	(B)					
4666		HOLL	06	15	1550	S10	E25	06	17.5		B	BXO	20	8	5	3
4666		PALE	06	15	2053	S10	E23	06	17.6		B	BXO	30	5	4	3
4666		LEAR	06	16	0153	S10	E19	06	17.5		B	BXO	10	6	3	3
4666		ATHN	06	16	0615	S10	E15	06	17.4			CRO	20	4	4	1
4666		RAMY	06	16	1335	S10	E12	06	17.5		B	CRO	50	5	4	3
4666	24242	MWIL	06	16	1445	S10	E13	06	17.6	4	(B)					
4666		BOUL	06	16	1500	S09	E14	06	17.7		A	HRX	10	1	1	2
4666		HOLL	06	16	1550	S10	E12	06	17.6		B	CRO	20	4	4	3
4666		PALE	06	16	1735	S10	E10	06	17.5		B	BXO	30	3	3	3
4666		LEAR	06	17	0111	S10	E07	06	17.6		B	BXO	10	7	4	3
4666		ATHN	06	17	0615	S10	E04	06	17.6			AXX	10	1	1	1
4666		RAMY	06	17	1422	S09	W01	06	17.5		B	BXO	20	4	3	3
4666	24242	MWIL	06	17	1445	S11	W00	06	17.6	4	(AF)					
4666		HOLL	06	17	1544	S10	W01	06	17.6		B	BXO	10	4	2	3
4666		ATHN	06	18	0628	S10	W09	06	17.6			AXX	10	1	1	2
4666		RAMY	06	18	1250	S09	W12	06	17.6		B	CAO	30	3	2	4
4666		BOUL	06	18	1335	S08	W12	06	17.7		B	BXO		2	1	3
4666	24242	MWIL	06	18	1600	S09	W14	06	17.6	3	(AF)					
4666		HOLL	06	18	1640	S10	W14	06	17.6		B	BXO	10	2	2	2
4667	24241	MWIL	06	14	1530	N08	E53	06	18.6	3	(AP)					
4667		RAMY	06	16	1335	N10	E26	06	18.5		B	BXO	20	4	3	3
4667	24241	MWIL	06	16	1445	N10	E26	06	18.6	4	(AP)					
4667		HOLL	06	16	1550	N09	E26	06	18.6		B	BXO	10	4	4	3
4667		LEAR	06	19	0603	N09	W10	06	18.5		A	AXX	10	1	1	2
4667		RAMY	06	19	1345	N10	W14	06	18.5		B	CAO	20	3	4	3
4667		HOLL	06	19	1405	N13	W13	06	18.6		B	BXO		2	2	3
4667	24243	MWIL	06	19	1430	N12	W15	06	18.5	3	(AP)					
4667		PALE	06	19	1720	N13	W15	06	18.6		B	BXO	10	3	3	4
4667		LEAR	06	20	0130	N08	W20	06	18.6		A	AXX	10	2	1	2
4667		ATHN	06	20	0810	N14	W21	06	18.8		B	BXO	10	2	2	2
4667		RAMY	06	20	1355	N12	W28	06	18.5		A	AXX		2	1	3
4667		HOLL	06	20	1425	N12	W27	06	18.6		B	BXO	20	4	2	3
4667	24243	MWIL	06	20	1445	N13	W27	06	18.6	3	(BP)					
4667		BOUL	06	20	1450	N12	W28	06	18.5		B	BXO	10	3	3	2
4667		PALE	06	20	1802	N13	W30	06	18.5		A	AXX	10	2	1	3
4667		ATHN	06	21	0615	N11	W38	06	18.4		A	AXX	10	1		3
4667		RAMY	06	21	1335	N10	W41	06	18.5		B	BXO	10	2	2	3
4667		HOLL	06	21	1425	N08	W43	06	18.4		B	BXO	20	2	3	3
4667	24243	MWIL	06	21	1445	N09	W44	06	18.3	5	(B)					
4667		BOUL	06	21	1520	N09	W40	06	18.6		B	BXO	10	2	3	2
4667		PALE	06	21	1744	N11	W45	06	18.4		B	BXO	10	2	4	3
4667		ATHN	06	22	0615	N10	W51	06	18.4			AXX	10	1		2
4667		BOUL	06	22	1330	N08	W52	06	18.7		A	AXX		1	1	2
4667		HOLL	06	22	1628	N08	W58	06	18.3		A	BXO		2	1	4
4667		PALE	06	22	1851	N11	W60	06	18.3		A	AXX		1		3
4667	24243	MWIL	06	22	1930	N08	W61	06	18.2	3	(AP)					
4667		ATHN	06	23	0700	N10	W68	06	18.2			AXX	10	1	1	2
4668		ATHN	06	23	1120	S14	E25	06	25.4			BXO	20	3	3	3
4668		RAMY	06	23	1202	S13	E24	06	25.3		B	CRO	20	4	3	4
4668	24244	MWIL	06	23	1445	S14	E23	06	25.4	5	(B)					
4668		HOLL	06	23	1513	S14	E23	06	25.4		B	BXO	20	6	3	4
4668		PALE	06	23	1813	S14	E22	06	25.4		B	CRO	30	4	3	4
4668		ATHN	06	24	0715	S14	E13	06	25.3			CSO	30	3	4	3
4668		BOUL	06	24	1325	S13	E08	06	25.2		B	BXO	20	4	5	2
4668	24244	MWIL	06	24	1415	S14	E09	06	25.3	5	(B)					
4668		HOLL	06	24	1440	S13	E09	06	25.3		B	BXO	30	6	5	3
4668		RAMY	06	24	1440	S15	E09	06	25.3		B	DAO	40	5	5	3
4668		PALE	06	24	1731	S14	E07	06	25.3		B	BXO	20	5	5	3
4668		LEAR	06	25	0008	S14	E04	06	25.3		B	CRO	20	3	5	3
4668		ATHN	06	25	0700	S14	W01	06	25.2		B	BXO	20	2	5	3

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

JUNE 1985

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4668		HOLL	06	25	1336	S13	W04	06	25.3		B	BXO	20	5	5	3
4668		HOLL	06	25	1336	S13	W04	06	25.3		B	BXO	20	5	5	3
4668		RAMY	06	25	1415	S14	W05	06	25.2		B	CAO	20	5	5	3
4668		BOUL	06	25	1430	S13	W05	06	25.2		B	BXO	10	3	5	2
4668	24244	MWIL	06	25	1500	S14	W05	06	25.2	4	(B)					
4668		PALE	06	25	1730	S13	W07	06	25.2		B	BXO	20	5	5	3
4668		LEAR	06	26	0004	S14	W09	06	25.3		B	BXO	10	3	3	2
4669		BOUL	06	26	1810	S09	E16	06	28.0		B	BXO	10	2	1	2
4669		PALE	06	26	1905	S08	E17	06	28.1		B	BXO	10	2	1	3
4669		HOLL	06	26	1908	S11	E15	06	27.9		B	BXO	10	3	2	3
4669		LEAR	06	27	0100	S12	E13	06	28.0		B	BXO	10	2	3	3
4669		RAMY	07	01	1248	S08	W45	06	28.2		B	BXO	10	2	2	3

SUDDEN IONOSPHERIC DISTURBANCES

June 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	1532	1540	1626	1-	3		2				No Flare		
02	1540	1600	1630	1-	3		2				*		
05	0737	0742	0827	1-	3			1		1	0729 UT	C1.3	
05	2337	2345	0007	1-	3		1	1		3	2334 UT	C4.7	
06	1515	1523	1612	1-	3			1		2	1516 UT	C1.9	
11	1208	1216	1240	1-	3	1	1		1		No Flare		
15	0049	0050	0057	1-	1					1	*		
16	1735	1746	1833	1-	1			1			1734 UT	C1.1	4663
17	0013	0022	0113	1-	3			1	1		0012 UT	C2.2	4663
17	1018	1022	1040	1-	3		2				No Flare		
17	1209	1220	1320	1-	3			1		3	1205 UT	C2.8	4663
18	1259	1311	1320	1-	3		2				No Flare		
19	0332	0347	0422D	1-	1				1		No Flare		
20	0147	0151	0206	1-	1				1		*		
22	0801	0804	0830	1-	1		1				No Flare		
29	2324	2337	0016	1-	1			1			2315 UT	C2.4	
30	1136	1200	1238	1-	3		2				No Flare		
30	1552	1628U	1750	1-	3		2				No Flare		

* No flare patrol

SIDs by NOAA/SESC REGION

June 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	29	30	31
Region Number 4663																1	2														
X-Ray					2	1										1	2												1		
No Flare	1										1						1	1	1			1								2	
No Flare Patrol		1													1					1											
No Data																															
Event Totals	1	1			2	1					1				1	1	3	1	1	1		1							1	2	

OBSERVATORIES REPORTING FOR JUN 1985*

Ayrshire, Scotland (AY)	SES	Louisville, Kentucky, USA (A26)	SES
Darmstadt, GFR (DA)	SWF	Maui, Hawaii, USA (MI)	SWF
Edenvale, South Africa (A52)	SES	Panska Ves, Czechoslovakia (PU)	SEA, SWF, SES
Farsta, Sweden (FA)	SES	Paterson, New Jersey, USA (A46)	SES
Hiraiso, Japan (HI)	SWF	Sao Paulo, Brasil (UM)	SPA, SES
Houston, Texas, USA (A50)	SES	St. Cloud, Minnesota, USA (SC)	SES
Inubo, Japan (IN)	SPA	Tavares, Florida, USA (A49)	SES
Juliusruh, GDR (JU)	SWF	Tucson, Arizona, USA (A09)	SES
Kuhlungsborn, GDR (KU)	SPA, SEA	Upice, Czechoslovakia (UI)	SEA
Lake Hiawatha, New Jersey, USA (A32)	SES	Valley Cottage, New York, USA (A01)	SES
Latrobe, Pennsylvania, USA (A19)	SES	Vsetin, Czechoslovakia (VS)	SEA
Lintong, China (LT)	SPA		

*Observations are not necessarily continuous for each reporting station.

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 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	0420	0642	WEIS										
	0725	1846	WEIS										
02	0410	0630	WEIS										
			LEAR				0633.8	0633.8	2				III
	1203	1847	WEIS										
			SGMR				1643.8	1644.5	1				V
			SGMR				1657.8	1658.1	1				V
03	0411	1717	WEIS										
04	1335	1830	BLEN										
05	0515	1830	BLEN										
			SGMR				1048.5	1048.8	1				III
	1121	1219	WEIS										
	1237	1312	WEIS										
	1336	1850	WEIS										
06	0409	1629	WEIS										
	0515	1830	BLEN										
	1730	1809	WEIS										
07		1851	WEIS										
	0409	0738	WEIS										
	0520	1835	BLEN										
	0805	1225	WEIS										
	1231	1255	WEIS										
	1341	1333	WEIS										
	1731	1620	WEIS										
08			LEAR				0032.1	0039.0	2				II
			PALE				0032.6	0050.5	1				CONT
			LEAR				0039.0	0058.0	2				IV
	0408	0431	WEIS										
			LEAR				0741.5	0742.0	2				III
	1047	1423	WEIS										
	1451	1852	WEIS										
09	0410	1852	WEIS										
10	0408	0534	WEIS										
	0540	1852	WEIS										
	1742	1840	BLEN										
11	0410	1046	WEIS										
	0430	1840	BLEN										
	1240	1854	WEIS										
12	0408	1824	WEIS										
	0430	1840	BLEN				1023.9	1024.2	1				III
			SGMR				2000.6	2001.3	1				V
13	0406	0502	WEIS										
	0430	1840	BLEN										
	0547	1856	WEIS										
14	0407	0819	WEIS										
	0430	1840	BLEN										
	0828	1514	WEIS										
	1537	1802	WEIS										
	1823	1855	WEIS										
15			LEAR				0159.8	0200.6	1				III
	0409	1421	WEIS										
	0430	1711	BLEN										
	1508	1904	WEIS										
16	0407	1856	WEIS										
17	0409	0546	WEIS										

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 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
17	0851	1857	WEIS										
18	0408	1404	WEIS										
	0926	1845	BLEN										
	1409	1858	WEIS										
19	0409	1022	WEIS										
	0430	1845	BLEN										
	1026	1857	WEIS										
20	0408	0959	WEIS										
	0430	1845	BLEN										
	1010	1605	WEIS										
	1610	1859	WEIS										
21	0407	1909	WEIS										
	0430	1845	BLEN										
22	0407	0604	WEIS										
	0430	1845	BLEN										
	0621	1236	WEIS										
	1315	1823	WEIS										
23	0430	0932	BLEN										
	0515	1045	WEIS										
	1100	2000	WEIS										
24	0453	1250	WEIS										
	1406	1446	WEIS										
	1505	1900	WEIS										
25	0408	0858	WEIS										
26	0410	0447	WEIS										
	0544	1858	WEIS										
	0842	1840	BLEN										
27	0420	1840	BLEN										
	0412	1046	WEIS				0807.4	0808.6	3				III G
	1051	1858	WEIS				1704.2	1708.8	2			II	HARM
			SGMR				1704.8	0000.0	2				I
			PALE				1706.3	1710.3	2				V
			SGMR				1910.3	1914.0	1				V
			PALE				1911.3	1913.3	2				V
			PALE				2129.3	2129.6	1				III
			SGMR				2310.5	2312.0	1				V
			PALE				2310.6	2311.8	1				V
28	0420	1840	BLEN										
	0410	1615	WEIS				0939.8	0940.2	1				III G
			SGMR				1344.5	1350.6	1				V
			SGMR				1608.3	1609.1	1				V
	1709	1858	WEIS										
			PALE				2106.1	2109.0	2				V
			SGMR				2106.1	2109.0	1				V
			SGMR				2138.5	2139.1	1				V
			PALE				2138.6	2138.8	2				V
29	0413	0444	WEIS										
	0420	1840	BLEN										
	0714	1858	WEIS										
30	0411	0633	WEIS										
	0420	1840	BLEN										
	0855	1925	WEIS										

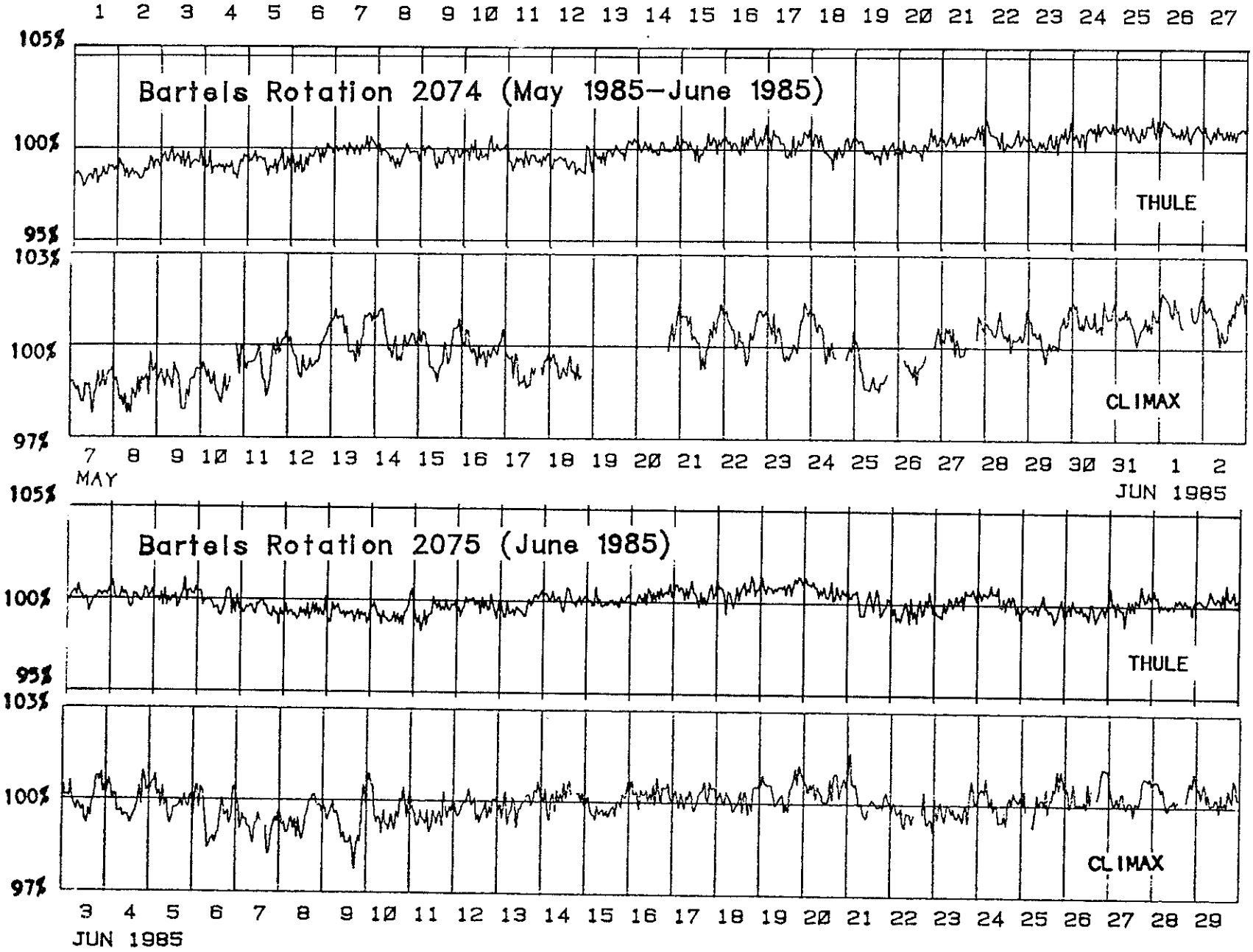
COSMIC RAY INDICES
(Neutron Monitor)

June 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	4410			6134.6	4052.2(38)	1222	3651.5	
2	4404			6137.5	4045.0	1224	3648.5	
3	4410			6147.0	4041.8	1223	3645.2	
4	4409			6160.2	4037.5	1221	3655.5	
5	4410			6158.8	4039.3	1222	3665.4	
6	4394			6139.3	4020.6	1219	3663.2	
7	4378			6128.3	4007.1	1215	3649.5	
8	4374			6121.3	4017.2	1214	3649.2	
9	4370			6134.8	4007.4	1208	3638.6	
10	4372			6120.0	4028.6	1216	3649.7	
11	4377			6154.9	4021.9	1215	3649.0	
12	4393			6146.4	4032.2	1217	3647.7	
13	4390			6132.4	4037.3	1215	3645.1	
14	4409			6132.4	4045.7	1218	3650.7	
15	4404			6138.4	4033.8	1216	3655.7	
16	4417			6076.5	4052.5	1221	3660.5	
17	4426			6137.6	4049.0	1222	3655.5	
18	4429			6046.3	4045.5	1220	3640.8	
19	4443			6171.9	4059.3	1223	3633.8	
20	4434			6349.7	4059.6	1223	3645.6	
21	4406			6235.8	4047.0	1215	3629.2	
22	4389			6385.1	4029.3	1211	3627.8	
23	4409			6387.3	4046.9	1215	3632.3	
24	4415			6266.2	4054.5	1214	3627.0	
25	4392			6096.6	4062.7	1208	3622.4	
26	4391			6056.1	4069.0	1210	3638.0	
27	4408			6170.4	4064.1	1215	3636.1	
28	4409			6229.5	4068.8	1220	3639.1	
29	4420			6128.3	4062.3	1221	3636.5	
30	4423			6056.9	4066.3	1224	3638.7	
Mean	4404			6162.6	4043.3	1218	3644.3	

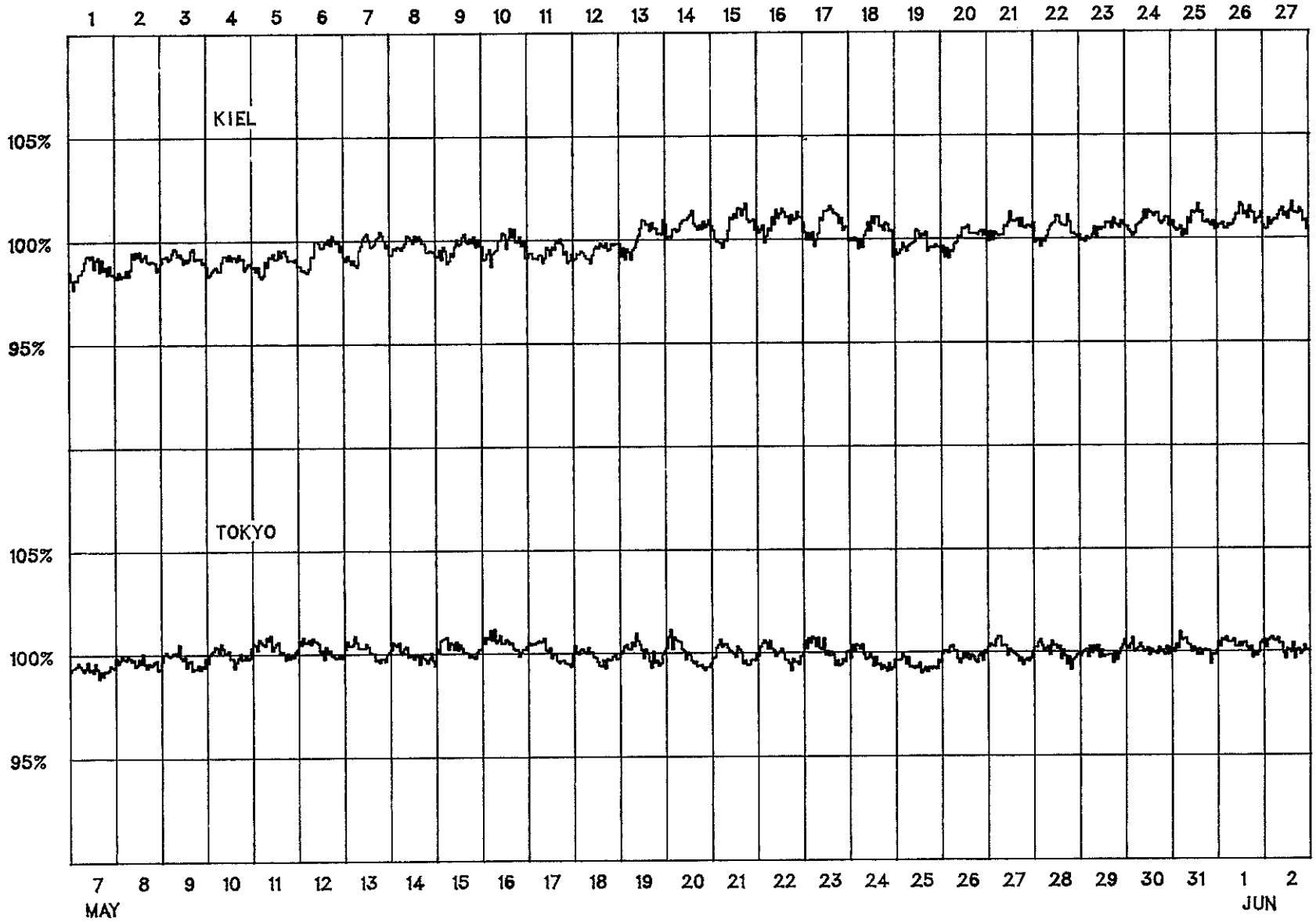
For less than 24-hour coverage, parentheses enclose the number of hours for which data are available.
For Climax and Huancayo, parentheses enclose the number of section hours whenever the sum of both sections falls below 40 hours.

COSMIC RAY INDICES
(Neutron Monitor)



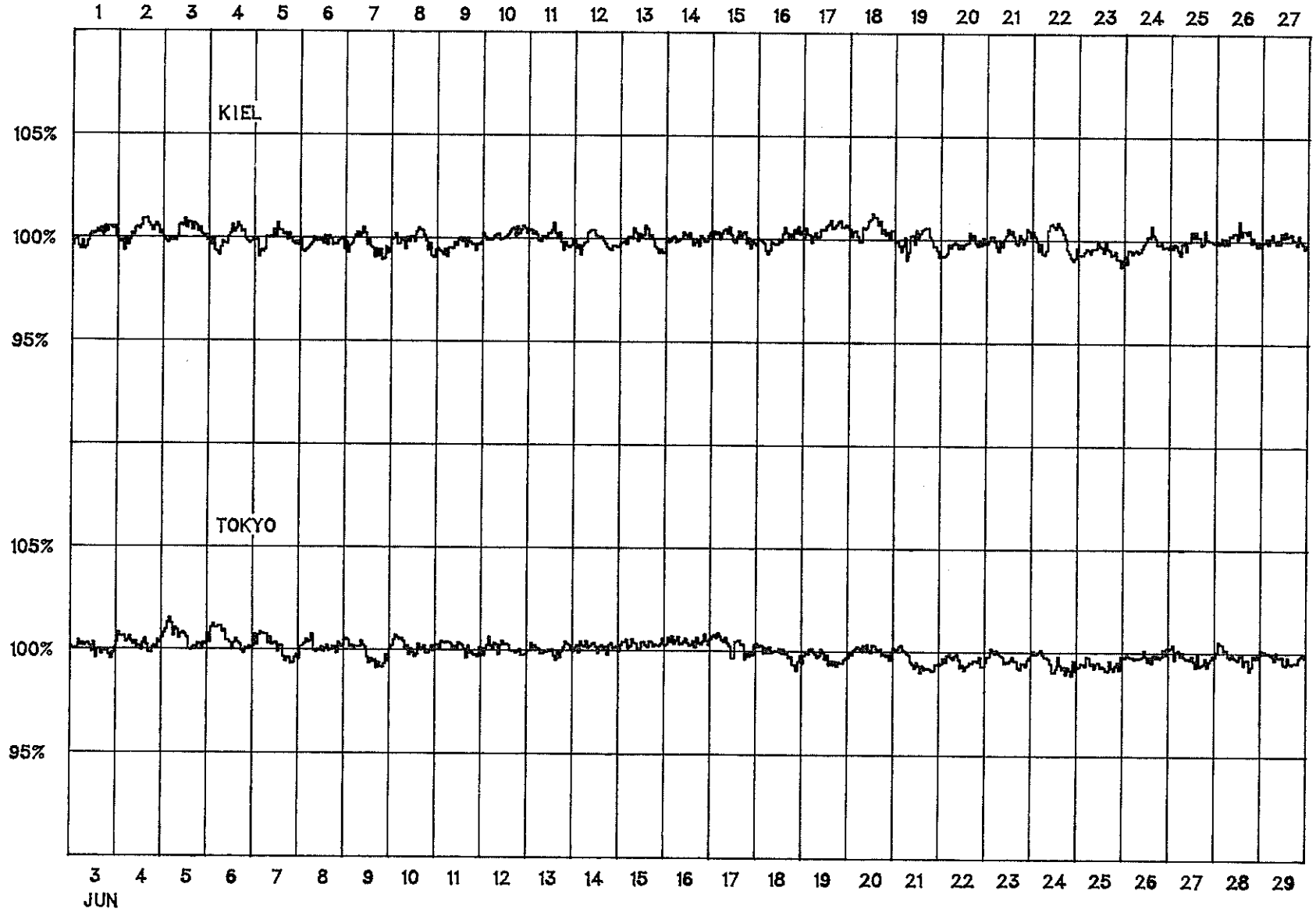
COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2074 (May 1985–June 1985)



COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2075 (June 1985)



GEOMAGNETIC ACTIVITY INDICES

June 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		4+	4-	3	4-	2+	3	3	3-	26-	18	1.0	4-	4-	3+	4-	3+	3+	3	3	38	36	34	41	30	
2		2-	1+	1	1+	2	1	2+	2-	12+	6	0.3	2	1+	1+	1+	2+	2-	2+	2-	12	19	6	10	16	C
3	Q4	1-	0+	0	1-	1+	2-	2-	1+	8-	4	0.1	0+	0+	0+	1-	1	2	2-	2-	6	12	5	4	14	CC
4	Q8	2-	0+	1	1-	1+	2-	2-	1+	10-	5	0.2	2-	0+	1+	1-	1+	2-	1+	1+	8	14	5	7	13	CC
5	Q6	1+	1+	1+	1	1	1	1+	2-	10-	5	0.2	2	2-	2-	1	1	1	1+	2	10	12	6	8	11	CK
6	D3	3-	3	2-	2+	5-	5	3	5+	28-	25	1.2	2+	3	2	2+	3+	5	3-	5-	39	49	28	19	59	
7	D2	4-	4+	5-	4+	5-	4+	4+	3-	33	30	1.3	3+	4+	5-	4	4	4-	4-	3-	49	57	55	61	51	
8		4	4+	4-	3+	2+	2+	2	2	24	16	0.9	4-	4	3+	4-	2	2	2-	2	29	32	28	43	18	
9		1+	2+	2+	1	1-	2+	5-	6+	21	22	1.1	1+	2+	2+	1+	1-	2	4	6-	31	36	23	12	48	
10	D1	5+	6-	5-	4+	2+	2+	3	3	31-	30	1.3	4+	4+	4+	4+	3	2	3-	3-	44	54	45	70	29	
11		3-	3+	2	2+	2-	2+	3-	3-	20-	11	0.6	3-	3	2+	2+	2-	2+	2	3-	19	23	15	20	18	
12		3	3	3-	1+	2	2	2+	2	18+	10	0.5	3	3-	3-	2+	2-	2+	3-	2+	19	25	13	18	20	
13	Q7	1-	1-	1-	0+	1+	2-	1+	2+	9	4	0.2	1-	1-	0+	1-	1+	2	1+	3-	9	14	6	5	15	CK
14	Q3	1+	1-	1+	1-	1	1-	0+	2-	8-	4	0.1	1+	1-	2	1	1	1-	1-	1+	7	10	4	8	6	CC
15	Q10K	2-	3	1-	0+	0+	1-	2-	1	9+	5	0.2	2-	3-	1	0+	0+	1+	2-	1-	9	12	6	8	10	CC
16	Q1	1-	1	1	0+	0+	0+	1-	1	5+	3	0.1	1	1	2-	0+	0	0+	1-	1-	5	6	2	4	4	CC
17		2	1	1+	1	2+	3+	2-	2-	14+	7	0.4	2-	1-	1+	1	3-	3-	2-	2-	12	20	10	8	23	K
18	Q5	1-	1+	1-	1	1+	2	1	1-	9-	4	0.1	1-	1	1	1	1+	2-	1	1-	6	9	4	5	8	CK
19	Q2	1	1-	1-	1	1	1-	1-	1-	6+	3	0.1	1-	0+	1	1	1	1-	0+	1	5	11	3	6	8	CC
20		0+	2-	1	2-	3+	5	2	3	18	13	0.8	1-	2-	1+	2-	3-	4	2	3	19	30	13	10	34	
21		2-	2+	2-	2-	2+	2-	1+	2-	14+	7	0.3	2-	2+	2-	2	2-	1	1+	1+	11	18	6	12	12	C
22		2	3-	2+	2	1-	1	1-	1-	12	6	0.3	2-	3-	3-	2+	1-	1-	0+	1-	11	16	7	16	7	CC
23		3-	2	1-	2-	3-	2-	1-	1	13	7	0.3	3+	3-	2-	2-	2	1+	0+	1	14	17	8	14	11	KC
24	Q9	1-	0+	1	1	1+	1+	1+	2+	9+	5	0.2	1	1-	1-	1	1+	1+	1	2	7	17	4	6	15	CK
25		3	2+	3	1+	2-	2	4	3	20+	12	0.7	3-	3-	3-	2	1+	2-	4-	3-	21	26	14	18	23	
26	D4	3-	3-	3-	4-	4+	3	5-	4-	27+	21	1.1	3	3-	3-	4	4	3	4+	3+	38	34	41	30	46	
27		3	2	2+	2-	2	4-	3+	3+	21+	13	0.7	3	2+	3-	2+	3-	3	3-	3	24	29	18	16	32	
28	D5*	4	3+	3+	3	3+	3-	3	4-	26+	18	1.0	4-	4-	3+	3-	3	3-	3-	4-	35	38	20	30	29	
29		3	2	3-	4	3-	3-	3	2	22	13	0.8	3	2+	3	4-	3-	3-	3	2	26	25	23	26	22	
30		2+	1-	1-	1+	1+	2	3+	4	16-	10	0.5	2-	1-	1	2	1	2	3	4-	17	21	13	12	22	
Mean											11	0.55									19.7	24.2	15.6	20.0	

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	4-	4-	4-	4-	3+	3+	3	3	38	4	3+	3-	4-	3	4-	3+	3	38	69.5	10	0	13	D	-
2	2	2-	1+	2-	3-	2	2+	2+	15	2+	1-	1+	1-	2-	1+	2	1+	10	72.4	0	0	16	A	-
3	1	0+	1-	1+	1+	2	2-	1+	9	0	0+	0	0	0+	2-	1+	2-	5	74.6	11	12	19	T	-
4	2	1-	2	1+	1+	2-	2-	1+	11	2-	0	1-	0	1	2-	1-	1+	6	77.5	26	23	22	A	-
5	2-	1+	2-	1+	1+	1+	2	2+	12	2+	2	1+	1-	0+	1-	1-	2-	9	84.3	35	33	29		-
6	2+	3	2+	3-	4-	5	3	5-	43	2+	3	2-	2-	3-	5	2+	5	37	87.4	37	34	32	U	-
7	3	4	5-	4+	4	4	4	3	52	3+	4+	5-	4-	4	4-	4-	2+	47	88.4	38	37	33	N	-
8	3	4	3	3+	2+	2+	2+	2	28	4	4	4-	4-	2	2-	1	2	31	88.9	42	37	34	A	-
9	1	2+	3-	1+	1	3-	4	5+	33	2-	3-	2	1	0	1	4	6-	31	89.8	42	42	35	V	-
10	4+	4+	4	4	3-	2	3-	3-	42	5-	4+	5-	4+	3	2	2+	3-	46	91.7	58	53	37	A I	-
11	3-	3	2+	2+	2	3-	3-	3	23	3-	3	3-	2	1+	2-	1	2+	17	91.2	66	56	36	L	-
12	3-	3-	3-	2	2-	3-	2+	2+	20	3	3-	3-	2+	1+	2+	3-	2-	20	89.8	54	43	35	A	-
13	1	1	1	1+	2-	2+	2-	3-	11	0+	1-	0	0+	1+	2	1+	2+	8	89.2	45	36	34	B	-
14	1+	1-	2	1+	2-	1	1	2-	9	1	0+	2-	1	0	0	0	1+	5	85.3	36	31	30	L	-
15	2	3-	2-	1	1-	1+	2	1-	12	1+	2+	0	0	0+	1+	2-	1-	7	83.8	37	31	29	E	-
16	1	1	1+	1-	0+	1-	1	1+	6	1+	1+	2-	0	0	0	0	0+	4	80.9	30	27	25	A	-
17	2	1	2	2-	3	3-	2+	2-	16	1+	0	1	0	2	2	1+	2-	8	77.3	21	21	21	T	-
18	1-	1+	1+	1+	2-	2+	1+	1	10	1-	1-	0+	1-	1	1-	0+	0	4	73.8	18	18	18		-
19	1	1-	1+	1+	2-	1	1-	1+	8	0+	0+	0+	0+	0+	0	0+	0+	2	72.2	10	11	16	T	-
20	1-	2	1+	2	3	5-	3-	3+	26	0+	2-	1+	2-	2+	3	1-	2	12	71.9	9	10	16	H I	-
21	2	3-	2	2+	2+	2-	2-	2	16	1+	2	2-	1+	1	1-	0+	1-	8	71.5	9	11	15	S	-
22	2	3-	3+	3-	1+	1+	1	1+	17	1	2+	2	2-	0	0	0	0	7	71.6	9	10	15		-
23	3	2+	1+	2-	3-	2	1	2-	15	4-	3-	2	2-	1+	1-	0	0+	14	71.8	12	12	16	T	-
24	1+	1	1	1+	2-	1+	2-	2+	10	0+	0+	0+	1-	0+	1	1-	1+	4	70.8	13	14	14	I	-
25	3	3-	3	2+	2	2+	4-	3	26	2	3-	3-	2-	1	1-	4-	3-	18	71.0	12	11	15	M E	-
26	3-	3-	3-	4	4-	3	4	3	35	3+	3-	3-	4	4	3	5-	4-	42	70.0	10	10	14		-
27	3-	3-	3-	3-	2+	3+	3-	3	25	3	2	3-	2+	3-	3-	3-	3	23	70.2	8	8	14		-
28	3+	4-	3+	3	3+	3	3	4-	37	4+	4-	3+	3-	3-	2+	3-	4-	34	71.0	8	13	15		-
29	3-	2+	3	4-	3-	2+	3-	2	25	3+	3-	3	4-	3-	3-	3	2	28	72.3	9	10	16		-
30	2	1-	1+	2	1+	2	3	4	20	2-	0+	1-	2	0+	2-	3+	3+	15	74.8	11	13	19		-
Mean									21.7									18.0	78.5	24.2	22.2	22.8		

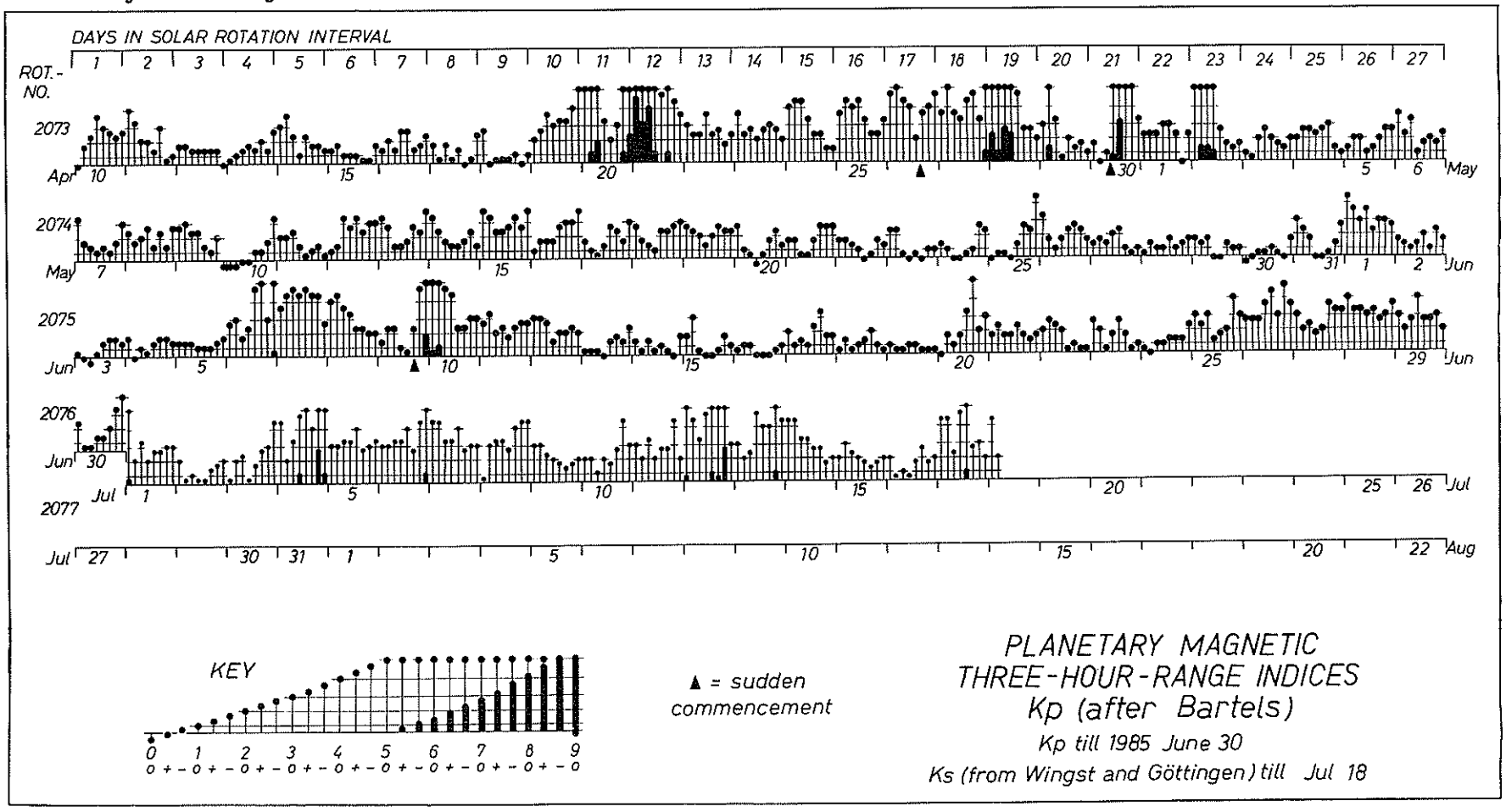
DAILY AVERAGE INDICES Ap

DAY	1984 JUL	AUG	SEP	OCT	NOV	DEC	1985 JAN	FEB	MAR	APR	MAY	JUN
1	14	75	11	7	27	15	33	15	16	23	10	18
2	12	24	12	10	12	27	17	11	22	16	38	6
3	12	14	12	20	18	22	13	8	14	20	6	4
4	12	14	59	6	18	28	7	3	10	17	10	5
5	12	7	63	7	13	20	6	21	42	7	7	5
6	10	4	12	21	14	22	5	46	24	5	10	25
7	7	4	6	43	20	18	5	20	22	7	8	30
8	10	14	11	24	20	8	19	24	27	15	8	16
9	9	17	12	20	12	6	46	19	4	38	8	22
10	14	8	25	29	18	9	29	24	10	11	4	30
11	11	11	17	28	20	19	20	13	6	11	5	11
12	13	15	13	32	8	17	19	11	7	5	12	10
13	62	8	11	17	10	27	14	11	4	6	11	4
14	40	20	14	15	14	8	9	16	7	10	8	4
15	25	22	10	14	52	24	9	9	14	4	15	5
16	25	15	8	19	112	33	8	7	11	8	11	3
17	43	11	6	3	35	28	9	12	8	5	8	7
18	19	6	3	43	22	15	6	4	11	4	9	4
19	14	14	36	75	21	8	7	7	9	21	9	3
20	12	10	21	63	20	6	6	10	5	53	5	13
21	8	3	10	47	22	13	12	8	5	103	8	7
22	9	1	22	46	14	9	11	7	4	11	5	6
23	8	8	112	27	10	16	36	7	5	12	4	7
24	12	23	52	39	10	4	7	18	6	17	5	5
25	8	18	43	22	10	5	9	12	5	21	8	12
26	6	10	42	14	8	26	6	5	8	30	9	21
27	14	36	25	8	7	17	11	19	10	33	5	13
28	18	36	16	8	6	31	58	60	14	61	5	18
29	12	21	12	7	13	26	24		6	17	4	13
30	8	16	11	7	36	21	17		7	42	3	10
31	17	12		6		24	15		10		7	
MEAN	16	16	24	23	21	18	16	15	11	21	9	11

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

University of Gottingen

Kp through June 30, 1985



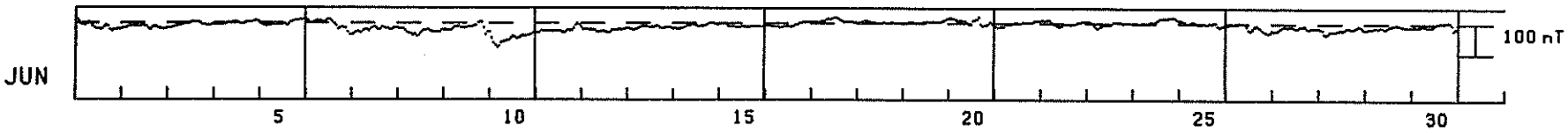
NASA/GODDARD SPACE FLIGHT CENTER

HOURLY EQUATORIAL DST VALUES(PROVISIONAL)

JUNE 1985

UNIT=NT

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 (U.T.)
1	14	6	-3	-5	-7	-1	4	-1	-11	-17	-19	-19	-21	-19	-12	-7	-11	-22	-26	-22	-21	-19	-20	-19
2	-17	-15	-12	-8	-11	-11	-9	-9	-10	-9	-8	-9	-11	-18	-22	-16	-12	-12	-15	-18	-19	-19	-18	-15
3	-16	-14	-12	-11	-9	-7	-6	-3	0	-1	-1	1	5	5	5	4	0	-5	-6	-8	-7	-6	-4	-5
4	-4	-5	-4	-3	-2	-2	1	2	1	2	5	4	1	-2	-2	0	3	4	5	5	7	9	6	2
5	-3	-7	-9	-9	-8	-6	-5	-5	-4	-3	-4	-3	-2	-7	-3	3	6	8	10	9	12	11	13	12
6	10	4	0	4	6	9	7	8	3	5	11	14	11	5	-2	-10	-19	-16	-13	-16	-17	-29	-37	-38
7	-34	-30	-26	-28	-31	-24	-22	-19	-25	-19	-14	-11	-15	-22	-19	-12	-14	-17	-17	-21	-20	-17	-14	-16
8	-17	-18	-18	-24	-30	-32	-34	-40	-35	-43	-40	-32	-26	-23	-22	-20	-25	-27	-28	-28	-27	-27	-22	-21
9	-22	-22	-23	-22	-17	-12	-11	-10	-14	-16	-15	-14	-12	-12	-12	-8	-7	2	5	3	-15	-37	-29	-28
10	-49	-64	-71	-79	-74	-63	-61	-59	-57	-56	-49	-43	-45	-50	-48	-45	-41	-41	-41	-38	-37	-34	-28	-31
11	-30	-28	-23	-25	-24	-24	-25	-25	-26	-25	-25	-24	-25	-28	-30	-25	-22	-24	-23	-15	-6	-1	-6	-13
12	-21	-19	-19	-22	-20	-22	-22	-27	-28	-26	-25	-25	-28	-31	-29	-23	-23	-22	-20	-19	-22	-19	-18	-16
13	-17	-20	-22	-20	-18	-16	-12	-9	-9	-10	-12	-13	-12	-13	-9	-8	-14	-16	-15	-14	-13	-14	-16	-18
14	-16	-18	-18	-17	-15	-13	-9	-7	-7	-4	-5	-8	-10	-10	-9	-8	-6	-3	0	1	1	-1	-3	-2
15	0	0	0	-3	-9	-11	-10	-11	-13	-13	-12	-10	-11	-12	-12	-12	-10	-9	-10	-9	-10	-11	-11	-9
16	-6	-6	-9	-10	-10	-11	-12	-14	-12	-9	-9	-10	-11	-11	-8	-4	-2	2	3	5	4	6	5	6
17	6	5	4	5	7	8	10	13	16	14	16	20	20	17	12	8	5	6	6	7	6	4	3	0
18	2	5	6	9	8	7	5	4	3	1	0	1	0	2	2	0	1	2	2	1	0	1	1	1
19	0	0	2	3	3	2	1	1	0	0	3	4	6	5	4	6	5	5	5	5	8	10	14	17
20	18	17	15	12	8	9	9	8	7	1	-4	-4	10	12	14	22	-2	-8	-6	-5	-2	5	-2	-9
21	-9	-13	-12	-9	-12	-3	-3	-1	-4	0	3	3	1	0	3	4	3	2	2	4	8	8	9	10
22	12	9	10	13	11	4	-1	-4	-9	-11	-8	-2	-1	-2	-3	-3	-2	-1	1	3	5	6	6	7
23	7	5	1	-6	-13	-16	-11	-8	-4	-5	-6	-5	-2	3	4	4	4	3	0	1	1	1	1	0
24	1	1	-1	-1	0	1	0	1	3	5	4	6	11	15	17	18	18	17	20	19	20	19	13	10
25	10	8	5	0	0	3	5	5	0	-3	-1	-1	0	-2	-2	1	-1	2	2	-8	-12	-9	-7	-4
26	-5	-3	-2	-1	-2	-2	2	1	1	-1	-10	-20	-24	-17	-10	-6	-12	-14	-21	-25	-29	-31	-28	-21
27	-25	-23	-21	-17	-13	-9	-9	-12	-10	-8	-12	-14	-15	-12	-9	-8	-7	-15	-18	-15	-14	-16	-14	-13
28	-17	-19	-32	-34	-31	-25	-25	-25	-24	-21	-20	-20	-20	-17	-13	-13	-17	-17	-14	-9	-7	-11	-17	-20
29	-19	-16	-17	-15	-13	-12	-15	-12	-12	-16	-15	-11	-8	-6	-5	-2	-4	-6	-8	-10	-11	-11	-12	-11
30	-9	-9	-12	-10	-8	-6	-8	-11	-11	-11	-8	-3	0	2	4	3	3	5	6	3	-3	-20	-15	-5



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

JUNE 1985

Sta	Geomag Lat	Commencement Day	Commencement Time (UT)	Type	SC Amplitudes D (Min)	SC Amplitudes H (Gamma)	SC Amplitudes Z (Gamma)	Maximum 3-Hour K Index Day(3-Hour Periods)	K	Ranges D (Min)	Ranges H (Gamma)	Ranges Z (Gamma)	End Day	End Hour (UT)
COL	64.6N	06	12--	..	..	..	..	06(6) 07(3,4,5) 08(3,4)	6	150	1330	650	08	18
WIT	54.2N	06	0544	SC*	3	20	0	06(8)	6	30	156	70	07	22
FRD	49.6N	06	----	..	..	..	..	06(6,8) 07(3,4,6) 08(2)	5	20	110	70	08	--
JAI	17.3N	06	0500	..	..	..	..			7	110	33	07	24
SHL	14.7N	06	0500	..	..	..	..			4	96	52	07	24
UJJ	13.5N	06	0500	..	..	..	..			6	104	32	07	24
ABG	09.5N	06	0500	..	..	..	..	06(4,5,8) 07(2,3,4,5,7)	4	7	100	49	07	24
HYB	07.6N	06	0300	..	..	..	..	07(5)	5	6	108	32	08	03
ANN	01.5N	06	0500	..	..	..	..			6	129	41	07	24
HUA	00.6S	06	0250	..	..	..	..	06(5,6)	5	7	211	26	07	21
TRD	01.1S	06	0500	..	..	..	..			5	142	57	07	24
HER	33.7S	06	14--	..	..	..	..	06(8) 07(2)	5	28	67	95	08	05
GNA	43.2S	06	12--	..	..	..	..	06(6)	6	25	100	100	08	13
CNB	43.9S	06	1108	SC	- 0.4	- 7	- 3	07(2,3)	5	15	120	43	08	13
KGL	56.5S	06	1500	..	..	..	..	06(6) 09(8)	6	38	320	212	10	16
HON	21.1N	07	0513	SC	..	11	3	07(3)	5	7	69	27	07	20
COL	64.6N	09	1714	SC*	- 6	-17	-5	10(3)	7	159	1310	960	11	13
WIT	54.2N	09	1715	SC	1	39	0	09(8)	6	36	215	64	10	14
FRD	49.6N	09	1714	SC	1	4	- 1	09(8)	6	24	135	83	11	--
BJI	28.5N	09	1716	SC	0.6	19	2	09(8)	6	12	147	39	10	19
HON	21.1N	09	1715	SC	..	11	3	10(1,3)	5	10	150	38	10	16
JAI	17.3N	09	1713	SC	- 0.3	15	- 3			7	120	26	10	24
SHL	14.7N	09	1713	..	..	14	4			--	--	--	10	24
UJJ	13.5N	09	1713	SC	- 0.2	18	- 3			6	116	23	10	24
ABG	09.5N	09	1713	SC	- 0.2	13	- 1	09(8)	6	6	106	34	10	24
HYB	07.6N	09	1716	SC	- 0.1	14	- 1	09(8)	6	5	113	20	10	20
ANN	01.5N	09	1713	SC	- 0.4	16	9			5	117	55	10	24
HUA	00.6S	09	1717	SC	1	28	3.5	09(8)	5	8	224	30	10	20
TRD	01.1S	09	1713	SC	0.0	12	16			4	98	51	10	24
HER	33.7S	09	17--	..	..	..	..	09(8)	6	46	85	106	10	06
GNA	43.2S	09	1716	SC	0.9	7	6	09(8)	6	28	140	230	10	20
CNB	43.9S	09	1716	SC	0.4	8	1	09(8) 10(3,4)	5	29	150	50	10	16
HYB	07.6N	20	0230	..	..	..	..	20(6)	5	7	95	23	20	23
HUA	00.6S	20	1201	SC	--	--	--	20(6)	6	3	179	22	21	12
HYB	07.6N	25	0000	..	..	..	..	26(5)	5	5	93	15	27	00
KGL	56.5S	26	1600	..	..	..	..	26(7)	5	22	148	88	30	00
HYB	07.6N	27	1620	SC	- 0.1	11	0	27(6)	4	5	54	17	29	22

Stations Reporting:

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

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

JUNE 1985

Storm Sudden Commencements (ssc)			Solar Flare Effects (sfe)		
Day	Time	Quality: Station Group*	Day	Begin-End	Station(s)
06	0544	A: HRB MPO; B: SOD WNG WIT QUE; C: NGK (sl: B: ALM - sfe: CLF)	17	1234-1324	MPO
06	1108	B: WNG; C: VAL BDV CLF GCK SPT			
09	1715	A: NUR WNG HRB COI LNP MPO; B: SOD WIT VAL CLF GCK EBR SPT FRD ALM KNY GNA AMS CZI KGL: C: NGK HAD BDV MMB KAK HTY			

Reporting Observatories:

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

*Three-letter codes identify each observatory.

RADIO PROPAGATION QUALITY INDICES

JUNE 1985

Day	Bracknell	Teheran	New York	Tokyo	Canberra
1	8.0	5.1	4.4	3.5	5.0
2	7.2	5.6	5.1	8.2	5.0
3	6.4	5.5	5.0	7.7	5.4
4	8.0	5.6	5.7	7.6	6.4
5	7.2	6.1	5.7	7.6	4.8
6	8.4	5.7	6.0	7.3	6.2
7	6.2	4.9	4.4	3.9	4.7
8	6.8	5.9	3.3	4.9	4.7
9	3.7	4.6	4.1	4.7	4.1
10	6.1	5.0	2.9	3.4	3.8
11	9.1	6.1	3.7	4.5	4.8
12	7.2	6.7	4.9	5.7	5.1
13	7.1	6.0	5.3	5.8	4.2
14	9.3	6.7	5.7	6.8	5.6
15	9.9	6.6	7.0	6.9	6.6
16	9.9	5.6	5.5	6.5	5.5
17	8.6	7.9	7.5	6.8	5.2
18	9.9	7.1	6.2	7.0	5.2
19	6.0	6.8	5.7	6.2	4.6
20	5.0	5.5	5.4	5.8	4.9
21	8.7	5.8	4.8	5.4	3.8
22	3.2	6.2	4.3	5.4	4.9
23	4.7	5.7	4.9	5.3	4.3
24	5.3	4.8	5.5	5.2	4.7
25	3.8	4.9	4.9	5.0	4.4
26	4.4	4.8	4.5	4.0	3.6
27	6.1	5.5	4.5	4.2	4.2
28	6.5	4.9	3.5	2.9	2.9
29	4.3	4.8	4.6	4.9	4.3
30	2.3	4.9	4.8	4.3	4.1
Mean	6.6	5.7	5.0	5.6	4.8

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).

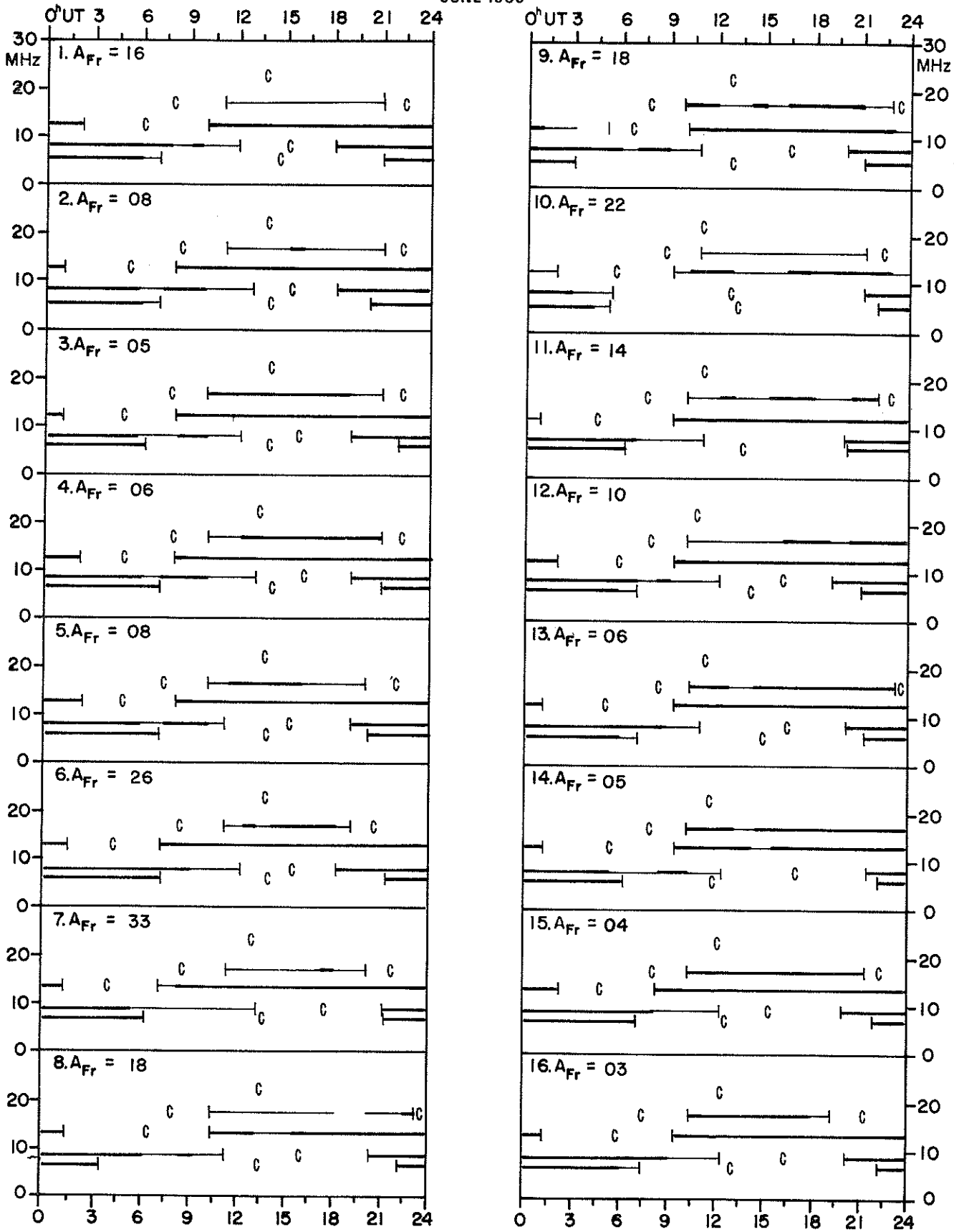
$$Q = 6.0 + 20 \log(FD/FA)/3.0$$

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.

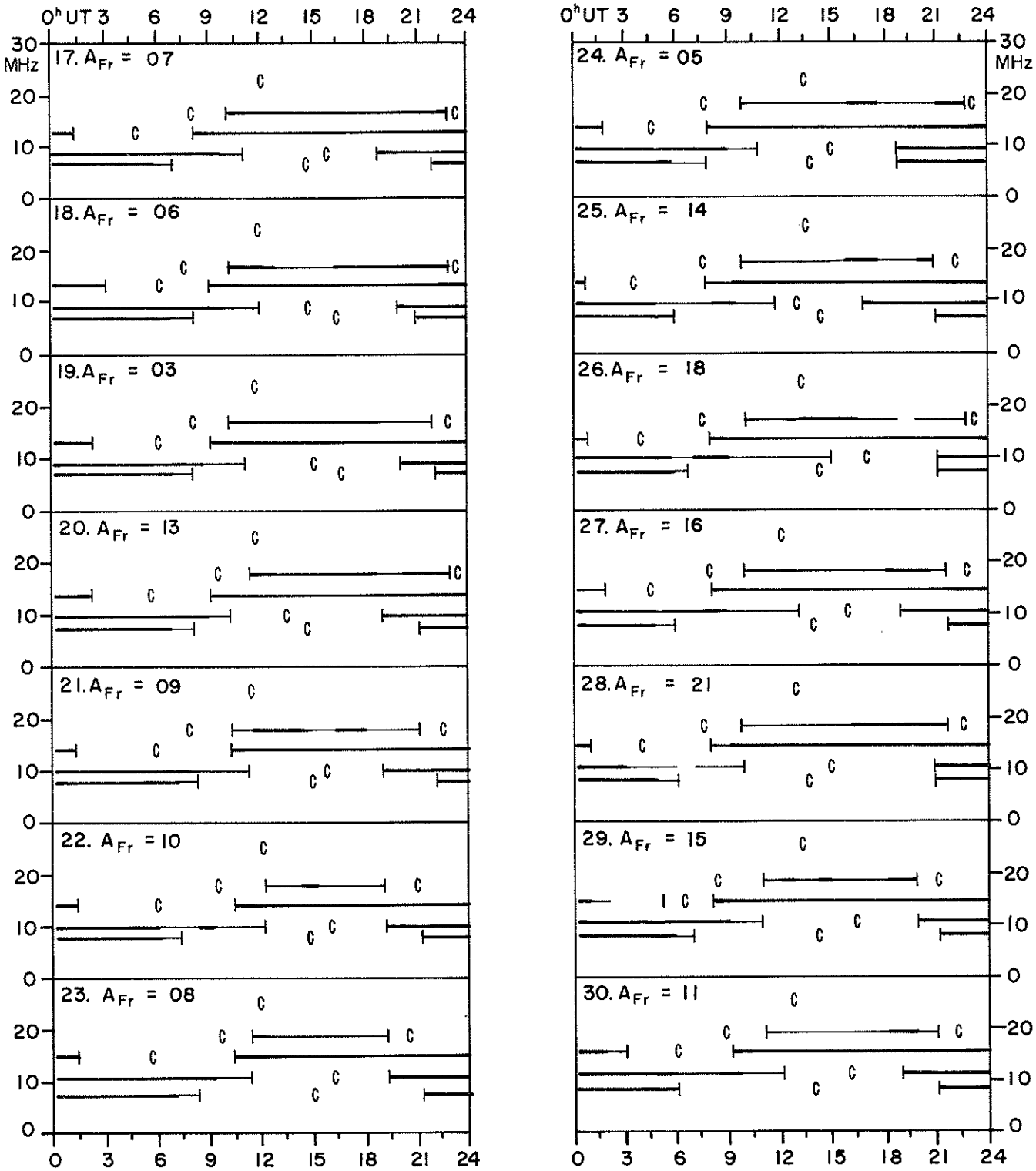
SCALE FOR QUALITY INDICES

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
JUNE 1985



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH
JUNE 1985



Field strengths from five frequencies, 6.4, 8.6, 13.0, 17.0 and 22.5 MHz, observed on a Norddeich-New York circuit are represented above. Heavy solid lines represent field strengths $\geq$ -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.

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COSMIC RAY INDICES
(Neutron Monitor)

December 1984

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	4183	6747.9	6458.3	5811.4	3802.0	1158	3558.9	1720.1(28)
2	4190	6773.2	6464.2	5819.5	3802.7	1162	3567.3	---
3	4195	6767.1	6462.5	5811.5	3801.1	1165	3571.2	---
4	4201	6777.4	6476.6	5826.6	3820.9	1169	3575.6	---
5	4207	6794.9	6494.8	5836.2	3825.6	1169	3570.7	1737.4(14)
6	4212	6810.3	6488.8	5837.5	3818.3	1170	3573.4	1728.3
7	4215	6817.2	6519.1	5844.8	3816.4(36)	1171	3584.7	1731.5
8	4240	6860.4	6493.5	5865.0	3832.0	1174	3585.1	1732.7
9	4260	6886.1	6509.6	5885.0	3842.8	1174	3588.0	1736.3
10	4274	6890.6	6529.2	5873.5	3851.4	1171	3591.7	1739.8
11	4257	6871.6	6530.7	5874.6	3860.2	1166	3582.0	1739.3
12	4233	6835.9	6478.6	5842.5	3844.2	1168	3578.1	1738.0
13	4211	6820.5	6469.3	5860.9	3841.5	1169	3585.7	1734.7
14	4230	6839.7	6475.2	5873.9	3835.0	1170	3587.1	1740.0
15	4224	6811.6	6491.1	5854.5	3830.2	1151	3581.9	1737.4
16	4225	6807.5	6459.7	5868.6	3832.0	1150	3571.1	1732.4
17	4232	6817.2	6466.9	5893.8	3843.7	1144	3575.7	1735.5
18	4253	6851.2	6512.0	5885.8	3849.9	1153	3573.5	1732.9
19	4270	6888.6	6533.6	5887.1	3851.1	1151	3587.7	1736.8
20	4276	6893.6	6529.1	5903.9	3871.4	1150	3599.2	1737.0(26)
21	4280	6893.2	6572.5	5914.3	3868.5	1150	3593.1	1741.6
22	4252	6848.5	6481.7	5882.8	3839.5	1145	3587.5	1741.2
23	4257	6863.4	6550.7	5897.2	3854.9	1146	3594.7	1743.4
24	4269	6891.3	6534.0	5909.7	3864.6	1154	3598.4	1743.7
25	4244	6851.2	6524.7	5905.2	3836.5	1154	3592.6	1737.3
26	4236	6839.9	6558.2	5883.1	3825.3	1149	3579.7	1735.1(26)
27	4197	6783.1	6501.9	5830.2	3793.3	1144	3567.3	1732.0(4)
28	4196	6775.0	6446.8	5842.1	3808.6	1148	3567.6	1730.4
29	4206	6779.4	6399.6	5822.9	3813.9	1146	3573.0	1726.3
30	4240	6810.2	6502.3	5848.3	---	1149	3580.7	1731.8
31	4229	6820.7	6525.5	5889.4	---	1145	3588.1	1737.1(32)
Mean	4232	6829.6	6498.1	5863.9	3833.8	1158	3581.0	1735.6

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

COSMIC RAY INDICES
(Neutron Monitor)

January 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	4244	6837.6	6517.1	5917.5	3861.5	1148	3597.5	1747.9(16)
2	4259	6814.1	6531.8	5929.0	3864.9	1148	3602.7	1743.8
3	4268	6862.6	6556.2	5950.1	3858.4	1148	3598.9	1748.0(2)
4	4282	6892.6	6556.5	5962.7	3866.0	1148	3604.2	1742.4(28)
5	4277	6876.8	6563.7	5957.7	3843.6(36)	1150	3601.2	1742.0
6	4299	6908.9	6593.8	5970.0	3897.7(38)	1149	3607.7	1751.0
7	4301	6887.7	6589.4	5963.2	3880.9	1153	3607.8	1746.5
8	4292	6912.1	6614.2	5965.7	3896.6	1155	3608.1	1754.1
9	4258	6871.2	6597.9	5934.9	3900.4	1156	3603.2	1747.0
10	4256	6872.8	6581.4	5902.5	3884.1	1151	3585.8	1736.1(38)
11	4268	6871.4	6597.1	5912.8	3885.3	1149	3592.7	1737.5
12	4285	6876.7	6599.4	5927.3	3901.9	1148	3589.7	1736.4(24)
13	4281	6884.1	6593.9	5943.3	3893.8(38)	1149	3585.1	1720.5(4)
14	4261	6847.4	6561.9	5898.0	3858.7	1144	3580.2	1730.4
15	4196	6725.5	6539.4	5882.5	3849.4	1138	3571.6	1731.1(28)
16	4223	6764.7	6557.7	5892.0	3873.4	1140	3575.5	1737.0(36)
17	4215	6765.5	6556.0	5908.9	3858.3	1142	3585.7	1738.2(26)
18	4212	6785.7	6542.2	5899.8	3846.6(36)	1139	3584.0	1735.8(34)
19	4232	6815.7	6555.9	5900.9	3861.1	1143	3587.6	1736.8(34)
20	4242	6846.5	6579.8	5915.0	3861.0	1147	3593.2	1737.5
21	4257	6854.3	6585.3	5929.9	3880.2	1149	3605.1	1741.2
22	4248	6826.9	6568.2	5910.5	3870.9	1147	3591.9	1738.6
23	4254	6835.0	6576.2	5924.7	3877.9	1154	3597.5	1740.7
24	4202	6766.9	6567.8	5888.1	3872.2	1144	3592.6	1737.2
25	4170	6698.7	6470.8	5843.1	3786.9	1130	3576.2	1730.6
26	4157	6675.2	6441.1	5813.1	3767.4	1126	3564.5	1728.2
27	4186	6706.3	6490.4	5844.0	3804.0(36)	1136	3572.7	1737.0
28	4200	6745.2	6497.4	5855.2	---	1144	3586.8	1740.4
29	4237	6806.2	6547.1	5887.8	---	1153	3603.4	1745.3
30	4244	6825.4	6567.8	5895.7	---	1143	3610.6	1749.2
31	4253	6836.1	6578.3	5916.6	---	1136	3606.6	1749.4
Mean	4244	6822.4	6557.3	5911.0	3863.4	1145	3592.6	1740.5

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

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	6826.3	6576.0	5911.4	3915.1	1118	3606.5	1747.4(14)
2	4271	6837.4	6591.0	5923.0	3918.1	1126	3608.0	1751.1(18)
3	4281	6878.5	6608.3	5935.0	3922.5	1128	3610.6	1747.1
4	4298	6891.0	6637.5	5956.7	3934.4	1127	3608.7	1750.3
5	4291	6852.8	6633.3	5959.3	3938.5	1126	3601.8	1751.0
6	4256	6791.0	6574.7	5920.1	3898.0	1120	3591.7	1751.3
7	4268	6829.0	6582.6	5911.2	3888.6	1119	3595.7	1740.7
8	4293	6878.3	6618.9	5955.5	3904.9	1130	3596.6	1745.3
9	4307	6913.7	6628.1	5987.0	3932.9	1124	3595.5	1748.2
10	4312	6908.2	6632.1	5994.7	3943.9	1118	3616.5	1752.3
11	4323	6931.0	6640.7	5997.3	3935.8	1130	3614.2	1751.0
12	4333	6944.0	6653.6	6023.7	3938.1	1143	3609.2	1752.1
13	4330	6943.0	6672.2	6032.3	3944.7	1144	3621.4	1751.4
14	4330	6917.8	6683.8	6018.4	3942.8	1133	3621.9	1755.2(38)
15	4329	6942.8	6666.9	6016.0	3932.8	1130	3617.3	1752.9(28)
16	4345	6963.3	6680.7	6018.7	3948.7	1134	3618.9	---
17	4329	6934.1	6673.0	6019.0	3952.1	1139	3624.6	---
18	4333	6947.3	6676.3	6014.5	3939.9	1140	3616.4	---
19	4318	6939.0	6651.7	5999.7	3919.9	1143	3607.4	1737.0(4)
20	4317	6899.1	6643.7	6001.9	3948.1	1142	3607.6	1744.3
21	4327	6909.2	6648.4	6006.5	3955.6	1141	3620.1	1740.8(30)
22	4335	6946.5	6637.8	6009.5	3952.0	1142	3622.0	1742.7(38)
23	4353	6960.0	6645.9	6014.6	3955.5	1138	3628.0	1743.2(20)
24	4333	6926.5	6623.2	5983.0	3936.5	1126	3629.7	---
25	4325	6912.5	6635.1	5964.8	3924.6	1128	3619.7	---
26	4326	6932.2	6650.5	5999.2	3942.8	1151	3621.0	---
27	4349	6940.2	6697.8	6013.7	3969.4	1160	3619.6	---
28	4334	6907.6	6701.3	6030.1	3994.3	1172	3620.3	---
Mean	4315	6907.2	6641.6	5986.3	3937.1	1135	3613.2	1748.4

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

UPDATE: MARCH 1985 THULE DATA PUBLISHED IN SGD 489 PART I, PAGE 67, MAY 1985 ISSUE, WERE PRELIMINARY. UPDATED THULE DATA APPEAR HERE.

COSMIC RAY INDICES
(Neutron Monitor)

March 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	4340	6924.5	6669.3	6036.4	3982.4(10)	1167	3621.1	1753.1(14)
2	4327	6916.9	6667.6	6026.6	3968.0	1168	3617.8	---
3	4316	6931.8	6651.6	6017.6	3964.9	1165	3615.8	1754.3(18)
4	4330	6919.5	6667.8	6008.0	3965.2	1165	3615.5	1753.9(32)
5	4304	6883.0	6623.0	5968.2	3944.9	1165	3605.2	1748.4(28)
6	4311	6901.5	6633.3	5967.0	3940.2	1165	3603.3	1747.7(30)
7	4320	6915.4	6629.0	5984.4	3944.5	1166	3602.7	1745.9(36)
8	4333	6937.4	6619.6	5977.6	3937.3	1166	3597.2	1748.4(30)
9	4343	6968.0	6659.5	5977.3	3919.3	1167	3603.5	1749.4
10	4313	6905.0	6636.4	5961.4	3907.0	1166	3614.2	1748.7
11	4301	6894.7	6618.5	5949.7	3906.5	1166	3599.3	1748.7
12	4315	6925.6	6656.7	5980.7	3934.6	1166	3610.3	1752.5
13	4337	6939.5	6652.7	6001.1	3945.1	1167	3618.0	1752.1
14	4329	6944.8	6659.3	6017.6	3930.7	1167	3607.1	1748.5(32)
15	4338	6969.0	6688.7	6027.5	3952.6(38)	1167	3615.1	1750.8
16	4339	6980.0	6668.4	6035.4	3943.7	1167	3622.6	1752.3
17	4332	6972.1	6676.2	6013.5	3937.7	1166	3607.2	1752.2(34)
18	4336	6972.9	6711.0	6028.6	3949.8	1165	3614.1	1754.1
19	4338	6987.4	6682.5	6029.8	3952.0	1164	3617.2	1752.3
20	4316	6965.5	6684.5	6033.2	3945.1	1163	3617.8	1750.3
21	4282	6963.7	6691.5	6035.1	3945.2	1162	3621.9	1764.8(16)
22	4330	6969.5	6706.6	6037.8	3968.9	1162	3632.2	1755.7
23	4320	6993.7	6686.7	6020.4	3962.0	1162	3632.6	1760.4
24	4317	6996.7	6720.0	6039.1	3963.1	1162	3637.0	1760.1
25	4328	7011.8	6725.3	6042.2	3962.8	1162	3630.8	1758.5
26	4335	7022.9	6712.9	6064.8	3967.4	1163	3630.2	1762.1(34)
27	4322	7009.0	6709.0	6055.9	3980.6	1163	3626.7	1764.1(34)
28	4310	7013.6	6690.4	6024.3	3976.1	1163	3630.0	1760.9(32)
29	4306	7006.7	6700.8	6032.0	3981.9	1163	3627.0	1760.8(32)
30	4328	7033.0	6739.5	6048.7	3998.6	1163	3642.8	1767.2(38)
31	4325	7031.3	6741.3	6040.5	3995.9	1163	3651.8	1764.5(24)
Mean	4323	6961.5	6676.8	6015.6	3953.3	1165	3618.9	1754.4

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

COSMIC RAY INDICES
(Neutron Monitor)

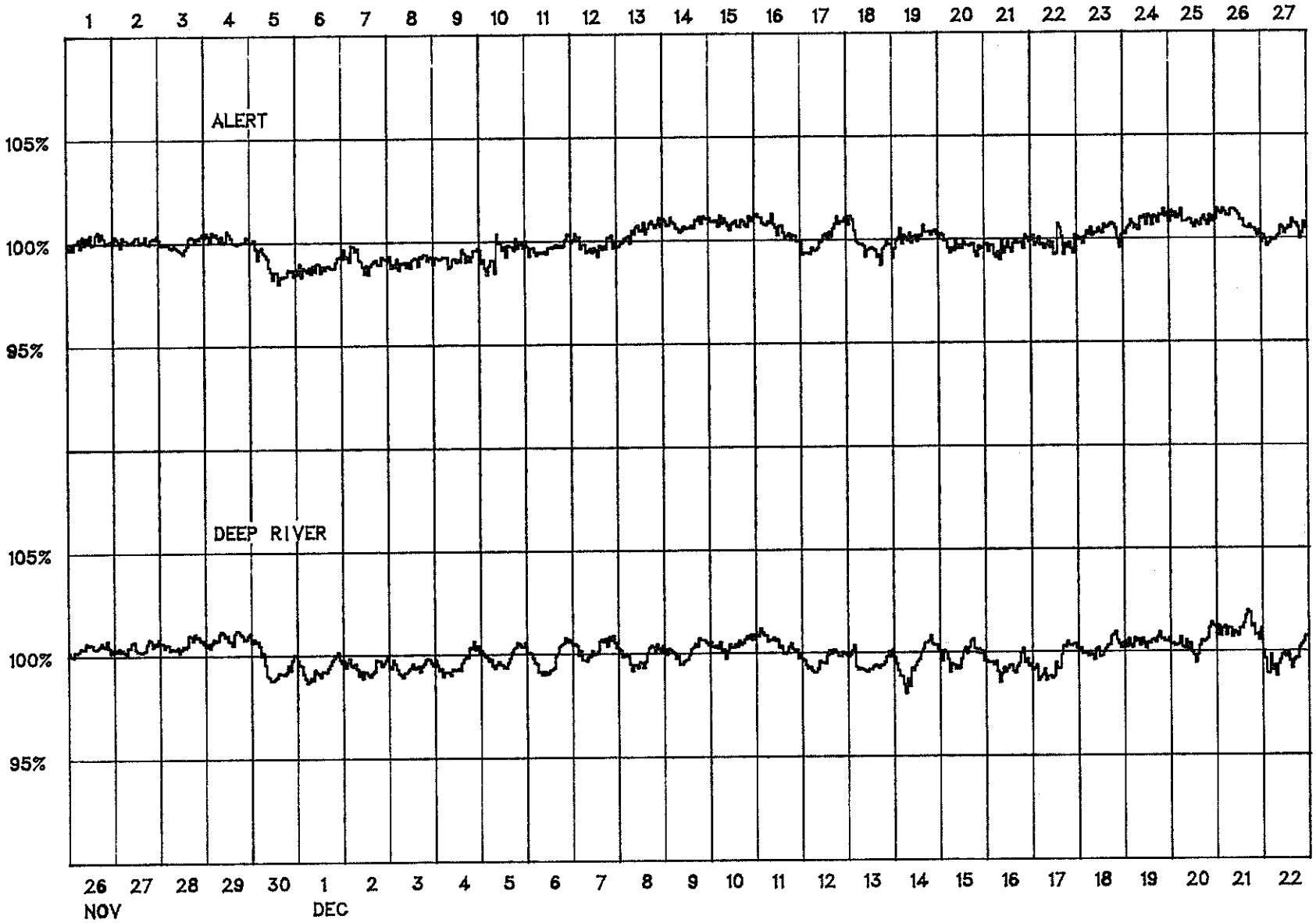
April 1985

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	4378	7017.2	6725.9	6028.2	3937.3(36)	1177	3652.0	
2	4370	7029.2	6738.2	6030.9	3941.0	1179	3652.0	
3	4368	7037.1	6751.9	6020.5	3951.1	1183	3641.8	
4	4368	7020.3	6739.0	6045.2	3960.9	1187	3635.4	
5	4386	7048.2	6737.4	6065.5	3963.7	1191	3641.7	
6	4395	7064.6	6768.9	6077.4	3968.2	1194	3646.1	
7	4402	7073.0	6791.1	6081.5	3980.3	1196	3644.3	
8	4413	7103.1	6810.5	6111.4	3981.3	1198	3648.5	
9	4395	7061.2	6808.2	6086.0	3987.5	1199	3654.2	
10	4383	7052.4	6775.0	6071.0	3973.5	1198	3644.0	
11	4387	7050.2	6763.3	6090.1	3971.2	1198	3643.0	
12	4397	7066.1	6775.1	6095.2	3968.6	1199	3647.2	
13	4406	7088.3	6785.4	6103.7	3974.6	1199	3647.9	
14	4406	7085.7	6764.3	6097.9	3983.0	1199	3651.1	
15	4411	7094.2	6772.9	6069.7	3982.9	1199	3648.2	
16	4413	7104.6	6802.5	6084.1	3998.4	1198	3655.7	
17	4414	7104.4	6811.7	6074.7	3992.5	1197	3662.7	
18	4434	7148.0	6819.7	6087.5	3999.0	1196	3664.7	
19	4419	7139.5	6775.8	6103.3	4005.9	1195	3663.9	
20	4368	7044.0	6730.8	6083.6	3999.5	1196	3656.0	
21	4372	7050.1	6751.0	6082.7	4059.0	1197	3670.7	
22	4378	7072.8	6759.9	6074.0	4013.7	1198	3649.1	
23	4368	7027.7	6775.8	6085.7	3993.8	1199	3651.2	
24	4351	7057.2	6761.3	6084.4	3984.4	1199	3655.8	
25	4355	7076.5	6760.0	6090.6	3979.3	1199	3654.4	
26	4274	6942.6	6585.7	5962.0	3870.0	1199	3610.6	
27	4142	6709.9	6430.4	5829.8	3756.8	1197	3564.0	
28	4141	6738.9	6396.4	5763.2	3717.1	1195	3565.2	
29	4159	6779.0	6428.0	5802.2	3747.5	1193	3575.5	
30	4195	6845.9	6501.1	5852.5	3782.3	1191	3596.1	
Mean	4355	7024.4	6719.9	6037.8	3947.4	1195	3639.8	

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

COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2068 (November 1984–December 1984)



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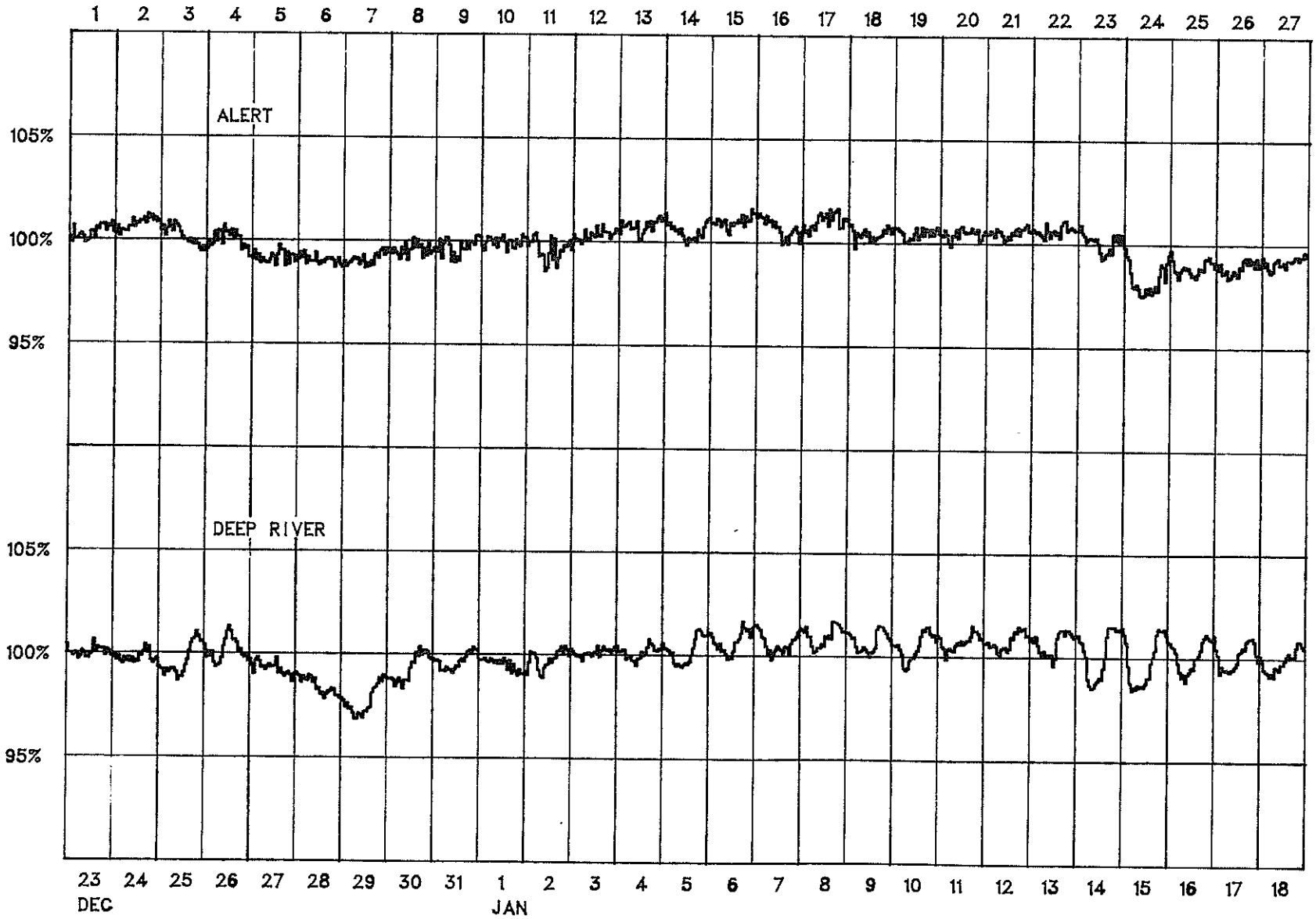
Late
Dec 84

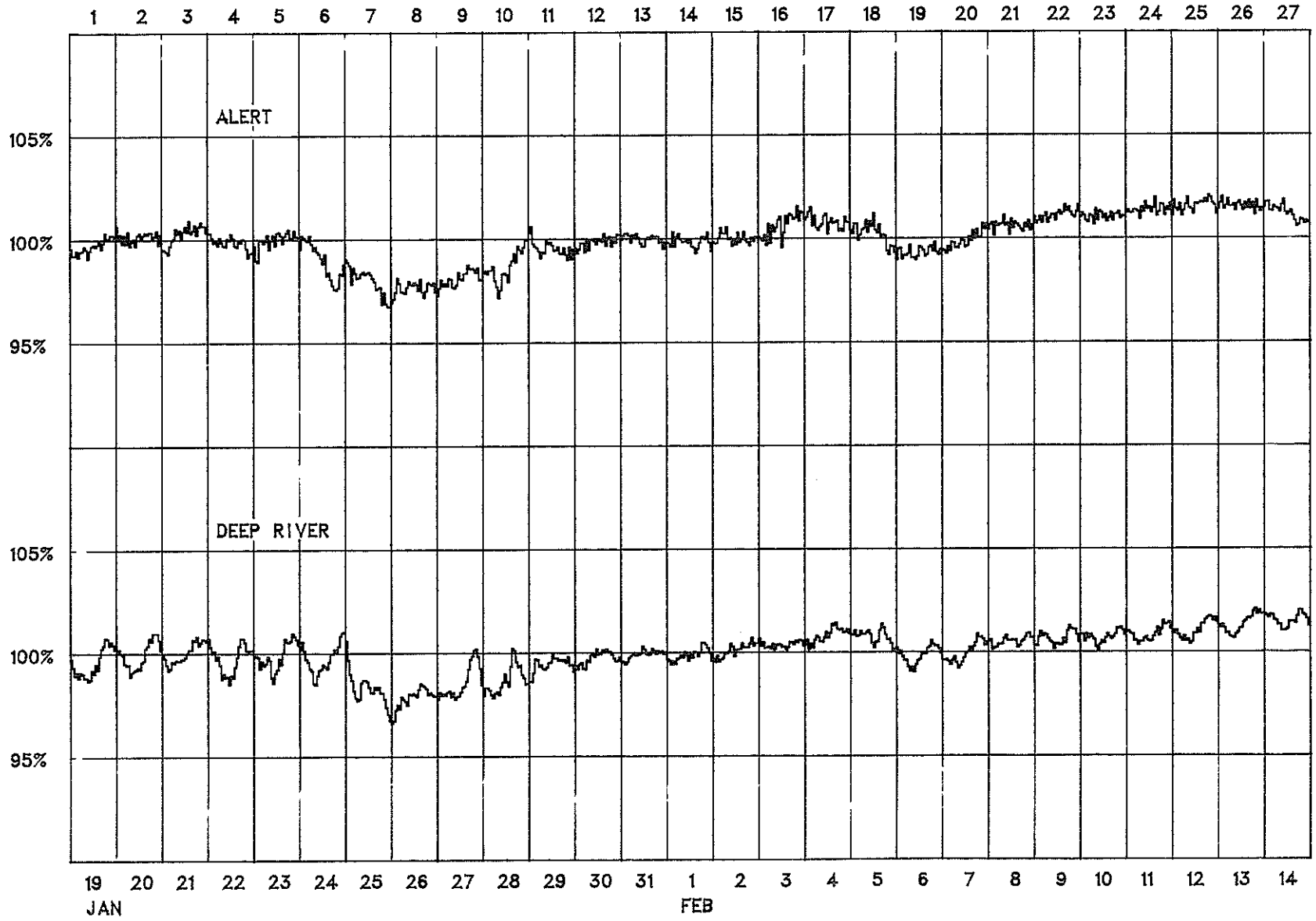
COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2069 (December 1984–January 1985)



COSMIC RAY INDICES
(Neutron Monitor)

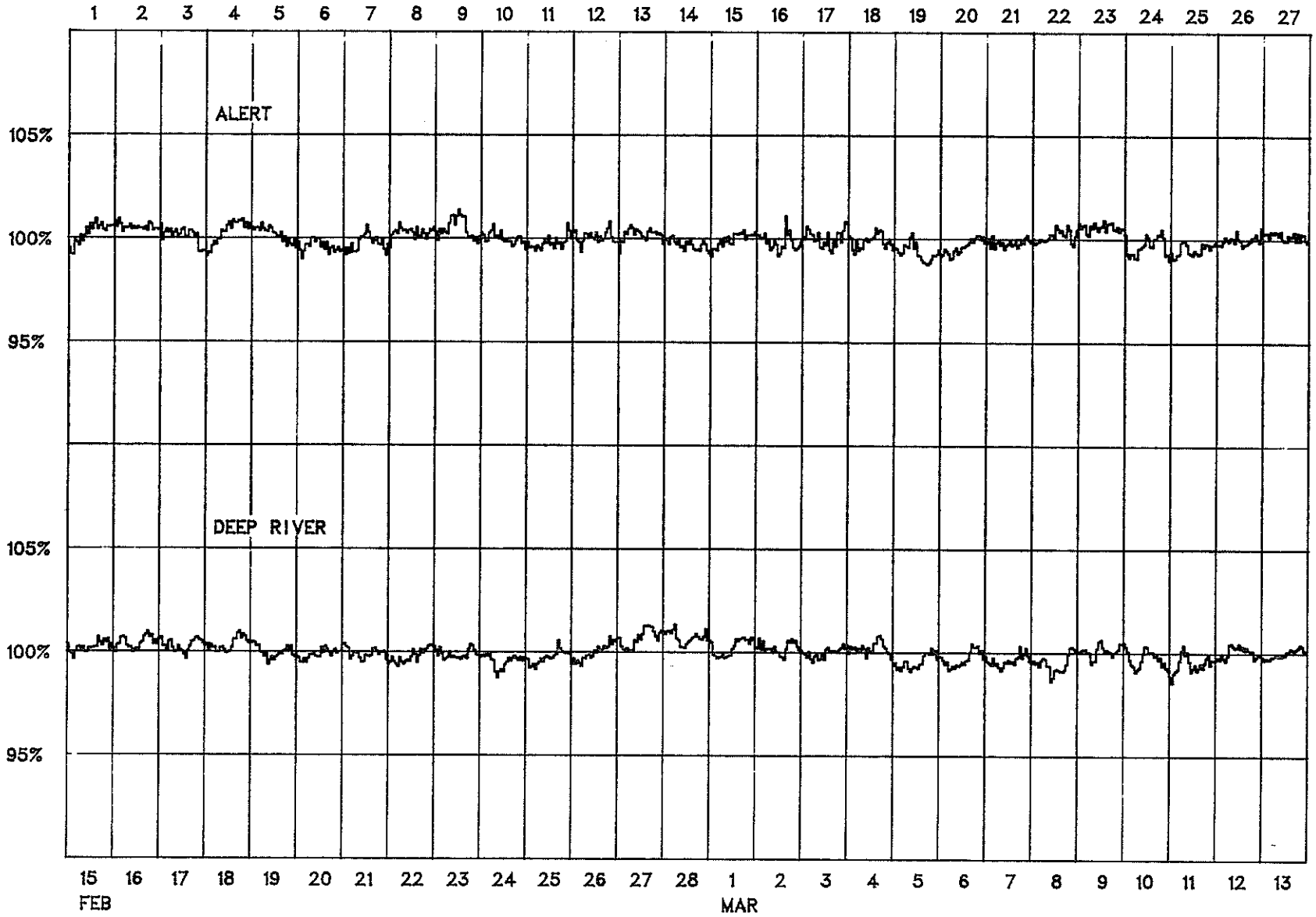
Bartels Rotation 2070 (January 1985–February 1985)



91
Late
Feb 85

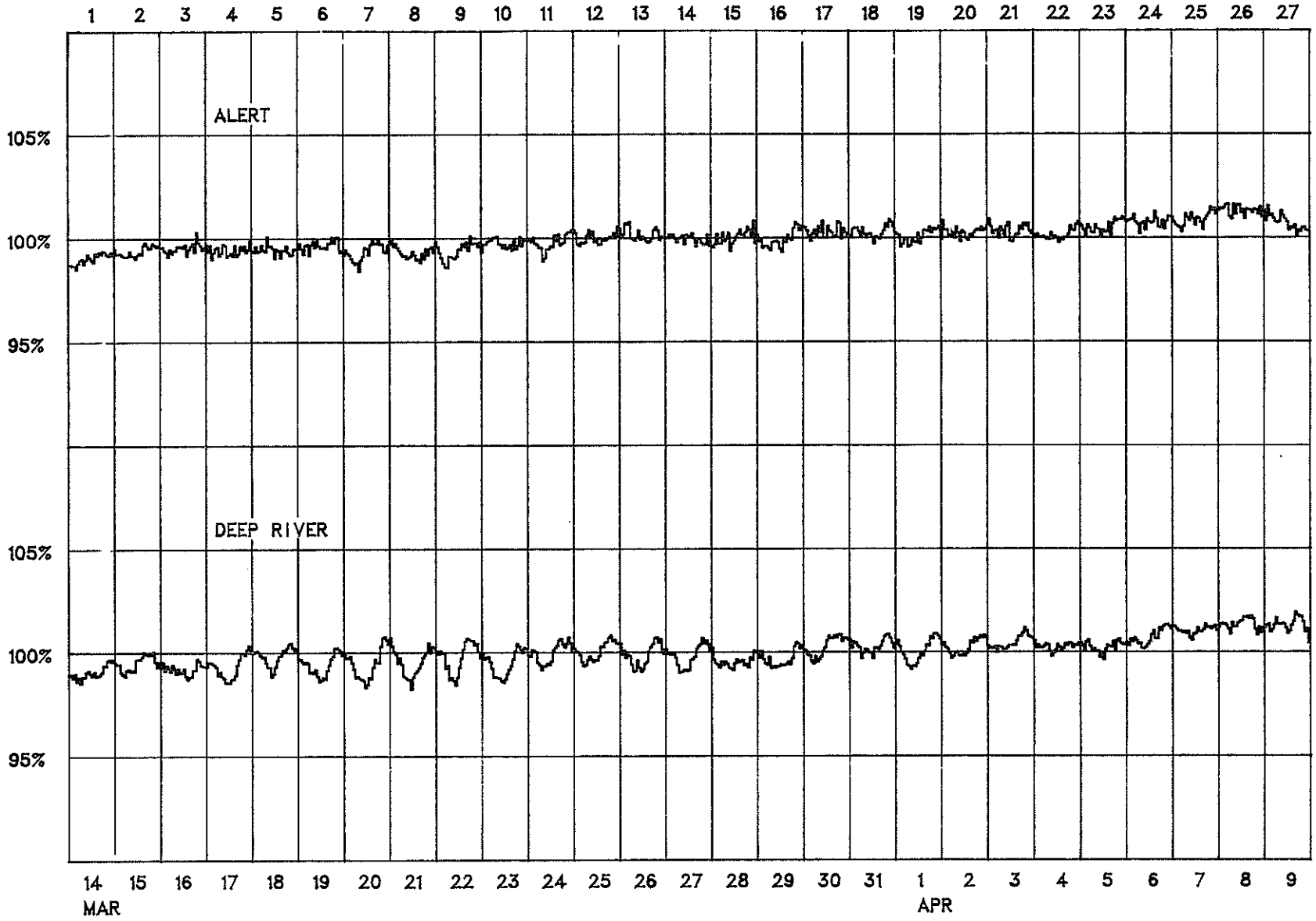
COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2071 (February 1985–March 1985)



COSMIC RAY INDICES
(Neutron Monitor)

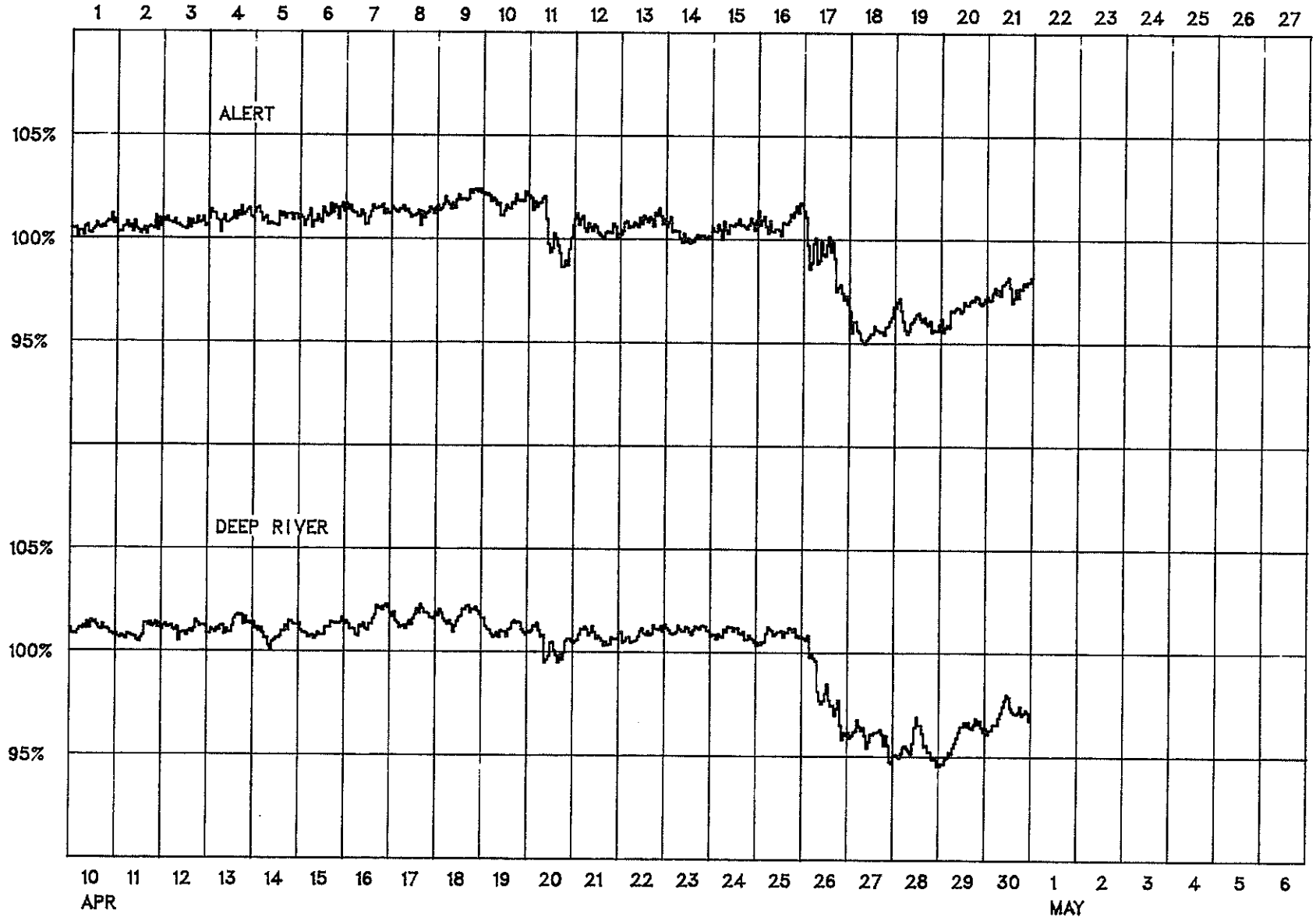
Bartels Rotation 2072 (March 1985–April 1985)



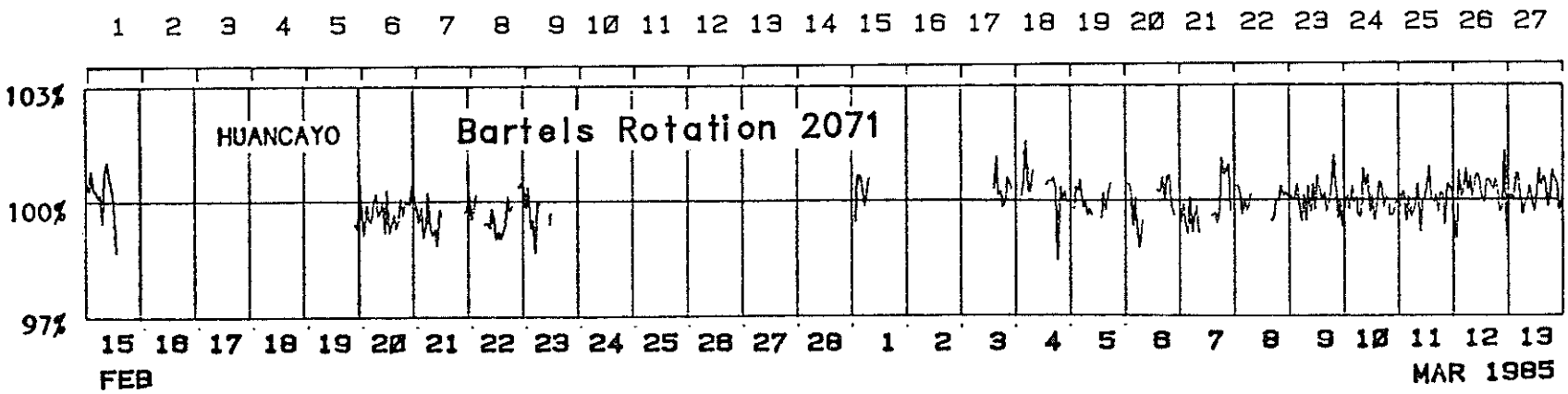
93
Late
Mar 85

COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2073 (April 1985–May 1985)



COSMIC RAY INDICES
(Neutron Monitor)



95
Late
Mar 85

C A L C I U M P L A G E R E G I O N S
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

JANUARY 1983

Calcium Plage Region	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Intensity	Corrected Area (10-6 Hemi)	NOAA/USAF Sunspot Groups #1	#2	#3
18706	BIGB	12	26	1743	S24	E68	01	1.0	1.0	0684	4040		
18706	BIGB	12	27	1843	S25	E54	01	1.0	1.5	0705	4040		
18706	BIGB	12	28	1832	S24	E40	12	31.9	2.0	0628	4040		
18706	BIGB	12	30	1904	S24	E15	12	31.9	2.0	0627	4040		
18706	BIGB	12	31	1950	S24	E03	01	1.0	2.5	0512	4040		
18706	BIGB	01	01	1931	S25	W08	01	1.2	2.5	0547	4040		
18706	BIGB	01	02	1900	S24	W22	01	1.1	2.5	0600	4040		
18706	BIGB	01	03	1908	S23	W34	01	1.2	2.0	0432	4040		
18706	BIGB	01	04	1857	S23	W56	12	31.5	1.5	0492	4040		
18706	BIGB	01	05	2040	S23	W63	01	1.0	1.0	0415	4040		
18706	BIGB	01	06	2302	S24	W73	01	1.3	1.0	0456	4040		
18711	BIGB	01	01	1931	N07	W01	01	1.7	2.0	0322	4044		
18711	BIGB	01	02	1900	N07	W13	01	1.8	2.0	0400	4044		
18711	BIGB	01	03	1908	N07	W28	01	1.7	2.5	0576	4044		
18711	BIGB	01	04	1857	N05	W46	01	1.3	2.0	0278	4044		
18711	BIGB	01	05	2040	N07	W55	01	1.7	1.5	0249	4044		
18711	BIGB	01	06	2302	N07	W68	01	1.9	1.5	0293	4044		
18716	BIGB	01	01	1931	N21	E07	01	2.3	1.0	0128	4045		
18716	BIGB	01	02	1900	N24	W05	01	2.4	1.5	0200	4045		
18716	BIGB	01	03	1908	N22	W17	01	2.5	1.5	0384	4045		
18716	BIGB	01	04	1857	N20	W33	01	2.3	2.0	0114	4045		
18716	BIGB	01	05	2040	N22	W44	01	2.5	1.5	0099	4045		
18716	BIGB	01	06	2302	N22	W57	01	2.6	2.0	0130	4045		
18716	BIGB	01	07	2118	N23	W71	01	2.4	1.0	0179	4045		
18708	BIGB	12	27	1843	N10	E65	01	1.7	1.0	0639	4045A		
18708	BIGB	12	28	1832	N09	E51	01	1.6	1.5	0769	4045A		
18708	BIGB	12	30	1904	N10	E28	01	1.9	1.5	1255	4045A		
18708	BIGB	12	31	1950	N12	E17	01	2.1	1.5	1072	4045A		
18708	BIGB	01	01	1931	N09	E09	01	2.5	1.5	0933	4045A		
18708	BIGB	01	02	1900	N12	W01	01	2.7	1.5	0900	4045A		
18708	BIGB	01	03	1908	N09	W17	01	2.5	1.5	0704	4045A		
18708	BIGB	01	04	1857	N08	W32	01	2.4	1.0	0606	4045A		
18708	BIGB	01	05	2040	N10	W42	01	2.7	1.0	0647	4045A		
18708	BIGB	01	06	2302	N09	W54	01	2.9	1.5	0391	4045A		
18708	BIGB	01	07	2118	N09	W73	01	2.4	1.0	0286	4045A		
18720	BIGB	01	03	1908	S28	W05	01	3.4	1.0	0032			
18709	BIGB	12	28	1832	N05	E70	01	3.0	2.5	2103	4041		
18709	BIGB	12	30	1904	N05	E48	01	3.4	2.5	2366	4041		
18709	BIGB	12	31	1950	N05	E34	01	3.4	2.5	1536	4041		
18709	BIGB	01	01	1931	N04	E20	01	3.3	2.5	1523	4041		
18709	BIGB	01	02	1900	N05	E07	01	3.3	2.5	1500	4041		
18709	BIGB	01	03	1908	N06	W04	01	3.5	2.5	1648	4041		
18709	BIGB	01	04	1857	N04	W17	01	3.5	2.5	1607	4041		
18709	BIGB	01	05	2040	N06	W32	01	3.5	2.5	1560	4041		
18709	BIGB	01	06	2302	N05	W44	01	3.7	2.5	1613	4041		
18709	BIGB	01	07	2118	N05	W61	01	3.3	2.5	1593	4041		
18709	BIGB	01	08	2036	N06	W69	01	3.7	2.0	1607	4041		
18713	BIGB	12	31	1950	S15	E52	01	4.8	1.0	0112	4046		
18713	BIGB	01	01	1931	S16	E39	01	4.8	2.5	0161	4046		
18713	BIGB	01	02	1900	S15	E27	01	4.8	3.0	0800	4046		
18713	BIGB	01	03	1908	S15	E12	01	4.7	3.5	1024	4046		
18713	BIGB	01	04	1857	S14	W03	01	4.6	3.5	0951	4046		
18713	BIGB	01	05	2040	S16	W15	01	4.7	3.5	1562	4046		
18713	BIGB	01	06	2302	S16	W29	01	4.8	3.5	2000	4046		
18713	BIGB	01	07	2118	S15	W40	01	4.8	3.5	2400	4046		
18713	BIGB	01	08	2036	S15	W51	01	5.0	3.0	2300	4046		
18713	BIGB	01	09	2200	S15	W65	01	5.0	3.0	2200	4046		
18713	BIGB	01	10	1833	S16	W77	01	4.9	3.0	1765	4046		
18721	BIGB	01	03	1908	S07	E25	01	5.7	1.0	0048	4046A		
18721	BIGB	01	04	1857	S06	E10	01	5.5	1.0	0049	4046A		
18721	BIGB	01	05	2040	S08	W00	01	5.9	1.0	0083	4046A		
18721	BIGB	01	06	2302	S08	W17	01	5.7	1.0	0065	4046A		
18714	BIGB	12	31	1950	S13	E70	01	6.1	1.0	0608	4047		

C A L C I U M P L A G E R E G I O N S
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

JANUARY 1983

Calcium Plage Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Intensity	Corrected Area (10-6 Hemi)	NOAA/USAF Sunspot Groups #1	#2	#3
18714	BIGB	01	01	1931	S17	E56	01	6.1	1.5	0466	4047		
18714	BIGB	01	02	1900	S15	E44	01	6.1	1.5	0500	4047		
18714	BIGB	01	03	1908	S16	E29	01	6.0	1.5	0288	4047		
18714	BIGB	01	04	1857	S14	E14	01	5.8	1.5	0229	4047		
18714	BIGB	01	05	2040	S16	E02	01	6.0	1.5	0215	4047		
18714	BIGB	01	06	2302	S16	W10	01	6.2	1.5	0244	4047		
18714	BIGB	01	07	2118	S16	W20	01	6.4	1.5	0322	4047		
18714	BIGB	01	08	2036	S16	W34	01	6.3	2.0	0328	4047		
18714	BIGB	01	09	2200	S16	W49	01	6.2	1.5	0400	4047		
18714	BIGB	01	10	1833	S16	W57	01	6.4	1.5	0231	4047		
18714	BIGB	01	11	1802	S16	W74	01	6.1	1.0	0400	4047		
18718	BIGB	01	01	1931	S15	E69	01	7.0	1.5	0933	4055		
18718	BIGB	01	02	1900	S12	E65	01	7.7	2.0	1700	4055		
18718	BIGB	01	03	1908	S14	E46	01	7.3	2.5	1328	4055		
18718	BIGB	01	04	1857	S11	E32	01	7.2	2.5	2164	4055		
18718	BIGB	01	05	2040	S14	E20	01	7.4	2.5	2490	4055		
18718	BIGB	01	06	2302	S14	E07	01	7.5	2.5	2559	4055		
18718	BIGB	01	07	2118	S14	W00	01	7.9	2.5	2685	4055		
18718	BIGB	01	08	2036	S14	W13	01	7.9	2.5	2738	4055		
18718	BIGB	01	09	2200	S15	W28	01	7.8	2.5	2500	4055		
18718	BIGB	01	10	1833	S15	W39	01	7.8	2.5	1551	4055		
18718	BIGB	01	11	1802	S15	W48	01	8.1	2.5	1619	4055		
18718	BIGB	01	12	2126	S14	W67	01	7.8	2.5	1951	4055		
18718	BIGB	01	13	2352	S14	W81	01	7.9	2.5	1462	4055		
18725	BIGB	01	03	1908	S11	E71	01	9.1	3.0	2032	4049	4048	
18725	BIGB	01	04	1857	S10	E54	01	8.8	3.0	1705	4049	4048	
18725	BIGB	01	05	2040	S10	E41	01	8.9	3.0	1676	4049	4048	
18725	BIGB	01	06	2302	S10	E27	01	9.0	3.0	2102	4049	4048	
18725	BIGB	01	07	2118	S09	E19	01	9.3	3.0	2344	4049	4048	
18725	BIGB	01	08	2036	S10	E04	01	9.1	3.0	2361	4049	4048	
18725	BIGB	01	09	2200	S10	W07	01	9.4	3.0	1700	4049	4048	
18725	BIGB	01	10	1833	S12	W21	01	9.2	3.0	1699	4049	4048	
18725	BIGB	01	11	1802	S12	W31	01	9.4	3.0	1500	4049	4048	
18725	BIGB	01	12	2126	S12	W48	01	9.3	2.5	1443	4049	4048	
18725	BIGB	01	13	2352	S13	W68	01	8.9	2.5	1122	4049	4048	
18725	BIGB	01	14	1951	S12	W71	01	9.5	2.0	1014	4049	4048	
18717	BIGB	01	03	1908	S18	E72	01	9.3	1.0	0500	4054		
18717	BIGB	01	04	1857	S17	E56	01	9.0	1.0	0300	4054		
18717	BIGB	01	05	2040	S17	E43	01	9.1	1.0	0300	4054		
18717	BIGB	01	06	2302	S17	E30	01	9.2	1.0	0400	4054		
18717	BIGB	01	07	2118	S16	E17	01	9.2	1.0	0500	4054		
18717	BIGB	01	08	2036	S16	E04	01	9.2	2.0	0400	4054		
18717	BIGB	01	09	2200	S17	W10	01	9.1	3.0	1000	4054		
18717	BIGB	01	10	1833	S16	W21	01	9.2	3.0	0627	4054		
18717	BIGB	01	11	1802	S16	W34	01	9.2	3.0	0417	4054		
18717	BIGB	01	12	2126	S16	W48	01	9.2	2.5	0295	4054		
18717	BIGB	01	13	2352	S16	W70	01	8.7	2.5	0170	4054		
18726	BIGB	01	03	1908	S23	E84	01	10.3	2.0	0720			
18726	BIGB	01	04	1857	S19	E52	01	8.7	2.0	0705			
18726	BIGB	01	05	2040	S23	E44	01	9.2	2.0	0830			
18726	BIGB	01	06	2302	S23	E31	01	9.3	2.0	1092			
18726	BIGB	01	07	2118	S23	E22	01	9.6	2.0	1020			
18726	BIGB	01	08	2036	S23	E08	01	9.5	2.0	0800			
18726	BIGB	01	09	2200	S24	W05	01	9.5	2.0	0700			
18726	BIGB	01	10	1833	S23	W16	01	9.5	1.5	0907			
18726	BIGB	01	11	1802	S24	W28	01	9.6	1.5	0701			
18726	BIGB	01	12	2126	S24	W40	01	9.8	1.5	0557			
18726	BIGB	01	13	2352	S22	W60	01	9.4	2.0	0561			
18726	BIGB	01	14	1951	S25	W65	01	9.8	1.0	0540			
18733	BIGB	01	10	1833	S32	W16	01	9.5	1.0	0099			
18733	BIGB	01	11	1802	S32	W28	01	9.5	1.0	0100			
18733	BIGB	01	12	2126	S32	W41	01	9.6	1.0	0049			
18733	BIGB	01	13	2352	S33	W61	01	9.1	1.0	0051			
18724	BIGB	01	03	1908	N15	E77	01	9.6	2.0	2752	4051		
18724	BIGB	01	04	1857	N12	E67	01	9.8	2.5	3000	4051		

C A L C I U M P L A G E R E G I O N S
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

JANUARY 1983

Calcium Plage Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Intensity	Corrected Area (10-6 Hemi)	NOAA/USAF Sunspot Groups #1	#2	#3
18724	BIGB	01	05	2040	N11	E54	01	9.9	3.0	4830	4051		
18724	BIGB	01	06	2302	N11	E39	01	9.9	3.0	5004	4051		
18724	BIGB	01	07	2118	N11	E29	01	10.1	2.5	4940	4051		
18724	BIGB	01	08	2036	N12	E17	01	10.1	2.5	5000	4051		
18724	BIGB	01	09	2200	N14	E05	01	10.3	2.5	4500	4051		
18724	BIGB	01	10	1833	N14	W07	01	10.2	2.5	4300	4051		
18724	BIGB	01	11	1802	N11	W20	01	10.2	2.5	4500	4051		
18724	BIGB	01	12	2126	N16	W33	01	10.4	2.5	3854	4051		
18724	BIGB	01	13	2352	N15	W49	01	10.3	2.5	3570	4051		
18724	BIGB	01	14	1951	N16	W60	01	10.3	2.0	3126	4051		
18724	BIGB	01	15	1919	N15	W70	01	10.5	1.5	1470	4051		
18727	BIGB	01	05	2040	S09	E67	01	10.9	2.0	0887	4052		
18727	BIGB	01	06	2302	S11	E44	01	10.3	2.0	0880	4052		
18727	BIGB	01	07	2118	S10	E37	01	10.7	1.5	0805	4052		
18727	BIGB	01	08	2036	S08	E20	01	10.3	2.0	0852	4052		
18727	BIGB	01	09	2200	S08	E11	01	10.7	2.5	0800	4052		
18727	BIGB	01	10	1833	S09	W04	01	10.5	2.5	0957	4052		
18727	BIGB	01	11	1802	S09	W16	01	10.5	2.0	1000	4052		
18727	BIGB	01	12	2126	S08	W33	01	10.4	2.0	1049	4052		
18727	BIGB	01	13	2352	S09	W48	01	10.4	2.0	0884	4052		
18727	BIGB	01	14	1951	S09	W58	01	10.5	2.0	0861	4052		
18727	BIGB	01	15	1919	S09	W70	01	10.5	2.0	0845	4052		
18723	BIGB	01	16	1940	N17	W67	01	11.7	1.0	0100	4048A		
18723	BIGB	01	17	2202	N17	W78	01	12.0	2.0	0300	4048A		
18728	BIGB	01	05	2040	S10	E80	01	11.9	2.5	2000	4053		
18728	BIGB	01	06	2302	S08	E63	01	11.7	2.5	1320	4053		
18728	BIGB	01	07	2118	S08	E58	01	12.2	3.0	2400	4053		
18728	BIGB	01	08	2036	S08	E40	01	11.8	3.0	3000	4053		
18728	BIGB	01	09	2200	S10	E27	01	11.9	3.0	2600	4053		
18728	BIGB	01	10	1833	S07	E12	01	11.7	2.5	2524	4053		
18728	BIGB	01	11	1802	S07	W00	01	11.7	2.5	2271	4053		
18728	BIGB	01	12	2126	S08	W14	01	11.8	2.5	2246	4053		
18728	BIGB	01	13	2352	S08	W28	01	11.9	2.0	2380	4053		
18728	BIGB	01	14	1951	S08	W39	01	11.9	2.0	2298	4053		
18728	BIGB	01	15	1919	S08	W51	01	12.0	2.0	2095	4053		
18728	BIGB	01	16	1940	S08	W62	01	12.2	2.5	1584	4053		
18728	BIGB	01	17	2202	S08	W77	01	12.1	2.5	1226	4053		
18729	BIGB	01	07	2118	S14	E73	01	13.4	2.0	0751			
18729	BIGB	01	08	2036	S17	E50	01	12.6	2.5	0738			
18729	BIGB	01	09	2200	S17	E37	01	12.7	2.5	1500			
18729	BIGB	01	10	1833	S16	E26	01	12.7	2.5	0800			
18729	BIGB	01	11	1802	S14	E10	01	12.5	2.0	1118			
18729	BIGB	01	12	2126	S14	W03	01	12.7	2.5	1148			
18729	BIGB	01	13	2352	S14	W17	01	12.7	2.5	1224			
18729	BIGB	01	14	1951	S14	W28	01	12.7	2.0	1335			
18729	BIGB	01	15	1919	S14	W40	01	12.8	2.0	1267			
18729	BIGB	01	16	1940	S15	W52	01	12.9	2.5	1336			
18729	BIGB	01	17	2202	S15	W67	01	12.8	3.0	1075			
18730	BIGB	01	07	2118	N25	E73	01	13.5	1.5	0500			
18730	BIGB	01	08	2036	N20	E55	01	13.1	2.0	0426			
18730	BIGB	01	09	2200	N23	E45	01	13.4	2.0	0700			
18730	BIGB	01	10	1833	N21	E32	01	13.2	2.5	0726			
18730	BIGB	01	11	1802	N22	E20	01	13.3	2.5	0768			
18730	BIGB	01	12	2126	N22	E06	01	13.3	3.0	0738			
18730	BIGB	01	13	2352	N22	W08	01	13.4	2.5	0629			
18730	BIGB	01	14	1951	N22	W17	01	13.5	2.5	0625			
18730	BIGB	01	15	1919	N23	W32	01	13.3	2.0	0608			
18730	BIGB	01	16	1940	N22	W44	01	13.4	2.5	0544			
18730	BIGB	01	17	2202	N22	W61	01	13.2	2.5	0520			
18732	BIGB	01	09	2200	N22	E57	01	14.3	1.0	0100	4059		
18732	BIGB	01	10	1833	N14	E42	01	13.9	1.0	0066	4059		
18732	BIGB	01	11	1802	N15	E28	01	13.9	1.5	0267	4059		
18732	BIGB	01	12	2126	N15	E13	01	13.9	2.0	0541	4059		
18732	BIGB	01	13	2352	N15	W01	01	13.9	2.0	0578	4059		
18732	BIGB	01	14	1951	N16	W14	01	13.8	2.0	0608	4059		

CALCIUM PLAGE REGIONS
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

JANUARY 1983

Calcium Plage Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Intensity	Corrected Area (10-6 Hemi)	NOAA/USAF Sunspot Groups #1	#2	#3
18732	BIGB	01	15	1919	N16	W27	01	13.7	1.5	0591	4059		
18732	BIGB	01	16	1940	N16	W40	01	13.8	2.0	0495	4059		
18732	BIGB	01	17	2202	N16	W54	01	13.8	2.0	0520	4059		
18732	BIGB	01	18	1946	N18	W64	01	13.9	2.0	0429	4059		
18731	BIGB	01	09	2200	S14	E55	01	14.1	1.0	0300			
18731	BIGB	01	10	1833	S17	E41	01	13.9	1.0	0280			
18731	BIGB	01	11	1802	S17	E29	01	13.9	1.0	0167			
18731	BIGB	01	12	2126	S17	E15	01	14.0	1.0	0229			
18731	BIGB	01	13	2352	S17	E01	01	14.1	1.0	0221			
18731	BIGB	01	14	1951	S13	W11	01	14.0	1.0	0338			
18731	BIGB	01	15	1919	S13	W23	01	14.1	1.0	0354			
18731	BIGB	01	16	1940	S13	W36	01	14.1	1.0	0280			
18731	BIGB	01	17	2202	S14	W50	01	14.1	1.0	0336			
18731	BIGB	01	18	1946	S16	W71	01	13.4	1.0	0247			
18734	BIGB	01	10	1833	S18	E80	01	16.9	1.0	0561	4058		
18734	BIGB	01	11	1802	S18	E70	01	17.1	2.5	0700	4058		
18734	BIGB	01	12	2126	S18	E54	01	17.0	2.5	0656	4058		
18734	BIGB	01	13	2352	S18	E41	01	17.1	3.0	0697	4058		
18734	BIGB	01	14	1951	S19	E30	01	17.1	2.5	0692	4058		
18734	BIGB	01	15	1919	S16	E15	01	16.9	2.5	0557	4058		
18734	BIGB	01	16	1940	S16	E02	01	17.0	2.5	0511	4058		
18734	BIGB	01	17	2202	S17	W11	01	17.1	3.0	0755	4058		
18734	BIGB	01	18	1946	S17	W22	01	17.1	3.0	0528	4058		
18734	BIGB	01	19	1916	S18	W30	01	17.5	2.5	0621	4058		
18734	BIGB	01	20	1830	S16	W47	01	17.2	2.5	0634	4058		
18735	BIGB	01	12	2126	N05	E58	01	17.2	1.0	0049	4063		
18735	BIGB	01	13	2352	N04	E43	01	17.2	3.0	0595	4063		
18735	BIGB	01	14	1951	N02	E31	01	17.1	2.5	0709	4063		
18735	BIGB	01	15	1919	N02	E18	01	17.1	2.0	0642	4063		
18735	BIGB	01	16	1940	N02	E04	01	17.1	2.5	0643	4063		
18735	BIGB	01	17	2202	N02	W10	01	17.2	2.5	1058	4063		
18735	BIGB	01	18	1946	N04	W22	01	17.2	2.5	0973	4063		
18735	BIGB	01	19	1916	N04	W34	01	17.3	2.5	0940	4063		
18735	BIGB	01	20	1830	N04	W48	01	17.2	2.5	0935	4063		
18741	BIGB	01	15	1919	S23	E19	01	17.3	1.0	0270	4063A		
18741	BIGB	01	16	1940	S22	E07	01	17.3	1.0	0330	4063A		
18741	BIGB	01	17	2202	S23	W06	01	17.4	1.0	0201	4063A		
18741	BIGB	01	18	1946	S23	W17	01	17.5	1.0	0214	4063A		
18736	BIGB	01	12	2126	N09	E71	01	18.2	2.0	0623	4062		
18736	BIGB	01	13	2352	N09	E60	01	18.5	3.0	0629	4062		
18736	BIGB	01	14	1951	N08	E42	01	18.0	3.0	0861	4062		
18736	BIGB	01	15	1919	N08	E29	01	18.0	2.5	0929	4062		
18736	BIGB	01	16	1940	N09	E14	01	17.9	2.0	0858	4062		
18736	BIGB	01	17	2202	N09	W00	01	17.9	2.0	0907	4062		
18736	BIGB	01	18	1946	N08	W03	01	18.6	2.0	0726	4062		
18736	BIGB	01	19	1916	N09	W20	01	18.3	2.0	0873	4062		
18736	BIGB	01	20	1830	N10	W29	01	18.6	2.5	0885	4062		
18737	BIGB	01	12	2126	N04	E84	01	19.2	1.0	0442	4060		
18737	BIGB	01	13	2352	N03	E67	01	19.0	2.5	0765	4060		
18737	BIGB	01	14	1951	N02	E55	01	18.9	2.5	0371	4060		
18737	BIGB	01	15	1919	N02	E42	01	18.9	2.5	0405	4060		
18737	BIGB	01	16	1940	N02	E27	01	18.8	2.5	0627	4060		
18737	BIGB	01	17	2202	N02	E12	01	18.8	2.5	0772	4060		
18737	BIGB	01	18	1946	N03	E01	01	18.9	2.5	0643	4060		
18737	BIGB	01	19	1916	N02	W11	01	19.0	2.0	0672	4060		
18737	BIGB	01	20	1830	N03	W23	01	19.0	2.5	0651	4060		
18740	BIGB	01	13	2352	S21	E68	01	19.2	2.0	0408			
18740	BIGB	01	14	1951	S21	E58	01	19.3	1.5	0473			
18740	BIGB	01	15	1919	S21	E46	01	19.3	1.0	0507			
18740	BIGB	01	16	1940	S21	E33	01	19.3	1.0	0495			
18740	BIGB	01	17	2202	S22	E20	01	19.4	1.0	0319			
18740	BIGB	01	18	1946	S22	E06	01	19.3	1.5	0297			
18738	BIGB	01	13	2352	N11	E86	01	20.5	3.0	1700	4064		

C A L C I U M P L A G E R E G I O N S
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

JANUARY 1983

Calcium Plage Region	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Intensity	Corrected Area (10-6 Hemi)	NOAA/USAF Sunspot Groups #1	#2	#3
18738	BIGB	01 14 1951	N09 E59	01 19.2	2.5	1774	4064		
18738	BIGB	01 15 1919	N09 E47	01 19.3	2.5	2197	4064		
18738	BIGB	01 16 1940	N08 E32	01 19.2	2.5	2244	4064		
18738	BIGB	01 17 2202	N08 E18	01 19.3	3.0	2167	4064		
18738	BIGB	01 18 1946	N10 E13	01 19.8	3.0	2227	4064		
18738	BIGB	01 19 1916	N09 W02	01 19.6	3.0	2268	4064		
18738	BIGB	01 20 1830	N11 W07	01 20.2	2.5	2321	4064		
18738	BIGB	01 25 1900	N14 W78	01 19.9	1.0	1132	4064		
18739	BIGB	01 13 2352	S12 E79	01 19.9	3.0	0697	4065		
18739	BIGB	01 14 1951	S12 E68	01 19.9	3.0	0642	4065		
18739	BIGB	01 15 1919	S13 E55	01 19.9	3.0	1030	4065		
18739	BIGB	01 16 1940	S13 E41	01 19.9	3.5	1072	4065		
18739	BIGB	01 17 2202	S13 E28	01 20.0	3.5	1629	4065		
18739	BIGB	01 18 1946	S13 E12	01 19.7	3.5	1600	4065		
18739	BIGB	01 19 1916	S13 E01	01 19.9	3.5	1663	4065		
18739	BIGB	01 20 1830	S12 W12	01 19.9	3.0	1703	4065		
18739	BIGB	01 25 1900	S13 W74	01 20.2	2.5	1149	4065		
18742	BIGB	01 15 1919	N14 E72	01 21.2	2.0	0828	4067		
18742	BIGB	01 16 1940	N13 E56	01 21.0	2.5	0577	4067		
18742	BIGB	01 17 2202	N14 E41	01 21.0	3.0	0688	4067		
18742	BIGB	01 18 1946	N14 E34	01 21.4	3.0	0709	4067		
18742	BIGB	01 19 1916	N15 E21	01 21.4	3.0	0722	4067		
18742	BIGB	01 20 1830	N15 E05	01 21.1	2.5	0751	4067		
18742	BIGB	01 25 1900	N15 W58	01 21.4	2.0	0422	4067		
18742	BIGB	01 26 2000	N15 W72	01 21.4	1.0	0400	4067		
18743	BIGB	01 16 1940	S09 E73	01 22.3	1.5	0676	4068		
18743	BIGB	01 17 2202	S13 E62	01 22.6	2.0	1276	4068		
18743	BIGB	01 18 1946	S13 E53	01 22.8	2.5	1171	4068		
18743	BIGB	01 19 1916	S13 E42	01 23.0	2.5	1108	4068		
18743	BIGB	01 20 1830	S13 E29	01 22.9	2.0	1085	4068		
18743	BIGB	01 25 1900	S14 W36	01 23.1	2.5	1233	4068		
18743	BIGB	01 26 2000	S15 W52	01 22.9	2.5	1200	4068		
18744	BIGB	01 17 2202	S15 E75	01 23.6	1.5	0856	4068B		
18744	BIGB	01 18 1946	S15 E69	01 24.0	1.5	0924	4068B		
18744	BIGB	01 19 1916	S15 E59	01 24.3	2.0	0940	4068B		
18744	BIGB	01 20 1830	S15 E46	01 24.2	2.0	0918	4068B		
18744	BIGB	01 25 1900	S17 W21	01 24.2	2.0	0963	4068B		
18744	BIGB	01 26 2000	S17 W35	01 24.2	2.0	0900	4068B		
18744	BIGB	01 28 1715	S17 W63	01 23.9	2.5	1000	4068B		
18744	BIGB	01 29 1920	S17 W77	01 23.9	2.5	1000	4068B		
18746	BIGB	01 19 1916	S12 E74	01 25.4	1.0	0336	4070		
18746	BIGB	01 20 1830	S13 E63	01 25.5	1.0	0317	4070		
18746	BIGB	01 25 1900	S12 E04	01 26.1	1.5	0777	4070		
18746	BIGB	01 26 2000	S14 W08	01 26.2	1.5	1000	4070		
18746	BIGB	01 28 1715	S14 W35	01 26.1	1.5	0800	4070		
18746	BIGB	01 29 1920	S13 W50	01 26.0	1.5	1000	4070		
18745	BIGB	01 26 2000	S12 W04	01 26.5	1.5	0400			
18745	BIGB	01 28 1715	S13 W30	01 26.4	1.5	0500			
18745	BIGB	01 29 1920	S13 W44	01 26.5	1.0	0700			
18747	BIGB	01 25 1900	S12 E17	01 27.1	1.0	0050			
18747	BIGB	01 26 2000	S13 E08	01 27.4	1.0	0300			
18747	BIGB	01 28 1715	S13 W17	01 27.4	1.0	0300			
18747	BIGB	01 29 1920	S13 W32	01 27.4	1.0	0200			
18749	BIGB	01 25 1900	S07 E32	01 28.2	2.5	0676	4072		
18749	BIGB	01 26 2000	S07 E20	01 28.3	2.5	1000	4072		
18749	BIGB	01 28 1715	S08 W07	01 28.2	2.5	1500	4072		
18749	BIGB	01 29 1920	S08 W21	01 28.2	2.5	1600	4072		
18749	BIGB	01 31 2054	S08 W46	01 28.4	3.0	1118	4072		
18749	BIGB	02 01 2028	S08 W58	01 28.6	2.5	1131	4072		
18748	BIGB	01 25 1900	N04 E35	01 28.4	3.5	1216	4073		
18748	BIGB	01 26 2000	N04 E23	01 28.5	3.0	1600	4073		
18748	BIGB	01 28 1715	N04 W03	01 28.5	2.5	1800	4073		

C A L C I U M P L A G E R E G I O N S
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

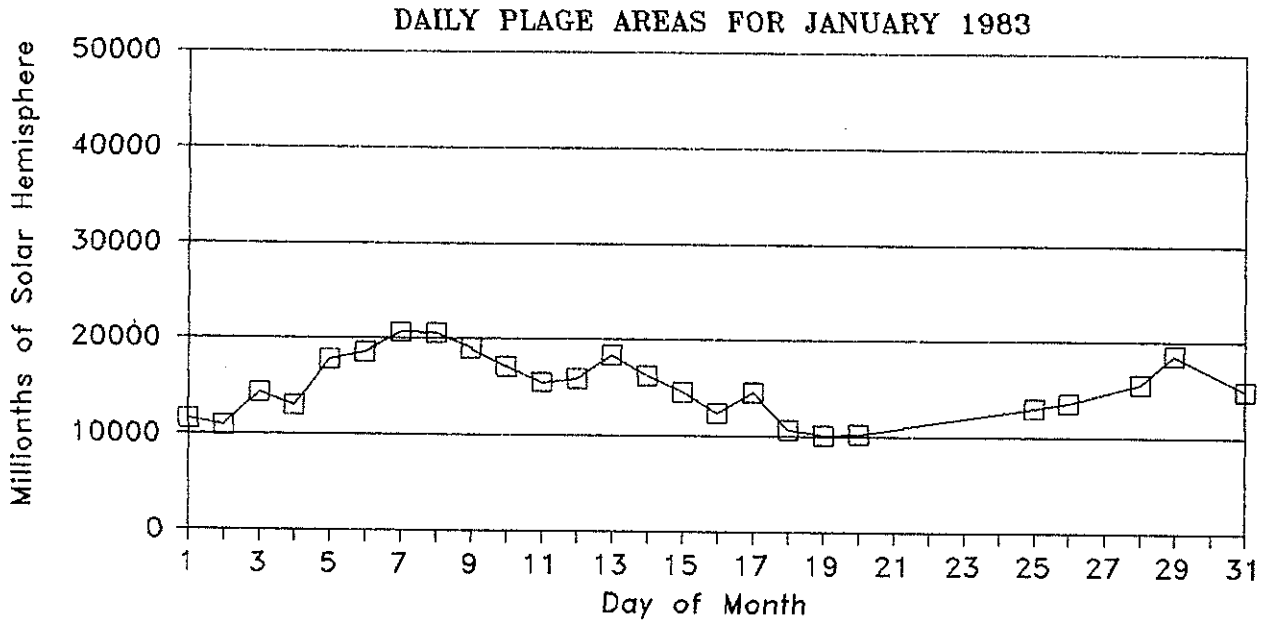
JANUARY 1983

Calcium Plage Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Intensity	Corrected Area (10-6 Hemi)	NOAA/USAF Sunspot Groups #1	#2	#3
18748	BIGB	01	29	1920	N05	W17	01	28.5	2.5	2400	4073		
18748	BIGB	01	31	2054	N04	W42	01	28.7	3.0	1636	4073		
18748	BIGB	02	01	2028	N04	W54	01	28.9	2.5	1640	4073		
18750	BIGB	01	25	1900	N08	E58	01	30.1	2.5	2366	4071		
18750	BIGB	01	26	2000	N08	E50	01	30.6	2.5	2800	4071		
18750	BIGB	01	28	1715	N08	E25	01	30.6	2.5	2700	4071		
18750	BIGB	01	29	1920	N08	E10	01	30.5	2.0	2700	4071		
18750	BIGB	01	31	2054	N08	W22	01	30.2	2.0	2000	4071		
18750	BIGB	02	01	2028	N08	W35	01	30.3	2.0	1623	4071		
18750	BIGB	02	04	1818	N07	W73	01	30.4	1.5	0863	4071		
18751	BIGB	01	25	1900	S15	E73	01	31.3	2.5	3025	4074		
18751	BIGB	01	26	2000	S15	E70	02	1.1	3.0	4000	4074		
18751	BIGB	01	28	1715	S17	E43	02	1.0	4.0	4000	4074		
18751	BIGB	01	29	1920	S17	E30	02	1.1	4.0	4400	4074		
18751	BIGB	01	31	2054	S16	W00	01	31.9	3.5	3355	4074		
18751	BIGB	02	01	2028	S16	W12	01	31.9	3.0	3050	4074		
18751	BIGB	02	04	1818	S17	W46	02	1.3	3.0	2689	4074		

D A I L Y P L A G E S U M M A R I E S

JANUARY 1983

Day	Sta	Plage Index	Plage Count	Smallest Plage (Millionths	Largest Plage of Solar	Total Area Hemisphere)	Smallest Intensity	Largest Intensity
01	BIGB	19.2	12	96	4572	11551	1.0	3.0
02	BIGB	16.1	12	100	2400	10900	1.0	3.0
03	BIGB	18.8	17	32	2752	14388	1.0	3.5
04	BIGB	19.9	15	49	3000	13020	1.0	3.5
05	BIGB	29.7	15	83	4830	17843	1.0	3.5
06	BIGB	37.4	15	65	5004	18549	1.0	3.5
07	BIGB	39.4	14	179	4940	20725	1.0	3.5
08	BIGB	42.8	12	328	5000	20550	2.0	3.0
09	BIGB	40.8	13	100	4500	19000	1.0	3.0
10	BIGB	33.9	15	66	4300	17093	1.0	3.0
11	BIGB	31.0	14	100	4500	15528	1.0	3.0
12	BIGB	27.3	16	49	3854	15870	1.0	3.0
13	BIGB	23.5	19	51	3570	18343	1.0	3.0
14	BIGB	21.6	16	338	3126	16267	1.0	3.0
15	BIGB	19.1	16	270	2197	14595	1.0	3.0
16	BIGB	20.5	16	100	2244	12372	1.0	3.5
17	BIGB	25.9	17	201	2167	14605	1.0	3.5
18	BIGB	23.2	13	214	2227	10688	1.0	3.5
19	BIGB	23.4	10	336	2268	10143	1.0	3.5
20	BIGB	21.4	10	317	2321	10200	1.0	3.0
21	No Observations This Day							
22	No Observations This Day							
23	No Observations This Day							
24	No Observations This Day							
25	BIGB	16.3	11	50	3025	13009	1.0	3.5
26	BIGB	20.2	10	300	4000	13600	1.0	3.0
27	No Observations This Day							
28	BIGB	31.5	10	300	4000	15600	1.0	4.0
29	BIGB	39.1	11	200	4400	18600	1.0	4.0
30	No Observations This Day							
31	BIGB	30.2	10	434	3355	14953	2.0	3.5



BIG BEAR SOLAR OBSERVATORY
ACTIVE REGION SUMMARY

JANUARY 1983

REGION	IDENTIFICATION	AGE	FIRST SEEN	DURATION
18706	18681	2	821226	12 days
708	18678	3	821227	12
716	New	1	830101	07
709	18679	2	821228	12
720	New	1	830103	01
713	New	1	821231	11
714	New (vic. of 18680)	1	821231	12
721	New	1	830103	04
718	18682	3	830101	13
717	New (vic. of 18686)	1	830103	11
725	New (vic. of 18685)	1	830103	12
726	So. portion of 18686	2	830103	12
733	New	1	830110	04
724	18687	2	830103	13
727	18689	2	830105	11
723	New	1	830116	02
728	18690	2	830105	13
729	18693	4	830107	11
730	New	1	830107	11
731	New	1	830109	10
732	New	1	830109	10
734	New	1	730110	>11
735	New	1	830112	>12
741	New	1	830115	04
736	New (vic. of 18695)	1	830112	>09
737	18688	2	830112	>09
738	18698 & 18703	5 & 2	830113	13
740	18697	2	830113	06
739	18702	2	830113	13
742	New	1	830115	>12
743	Leading portion of 18701	3	830116	>11
744	Trailing portion of 18701	3	830117	13
746	18705	3	830119	>04
745	New (vic. of 18705)	1	830125	>04
747	New (vic. of 18705)	1	830125	>04
748	New	1	830125	>08
749	New	1	830125	>08
750	18709	3	830125	>08

1. No CaK Observations at BBSO on Jan. 21-24, 27, 30.

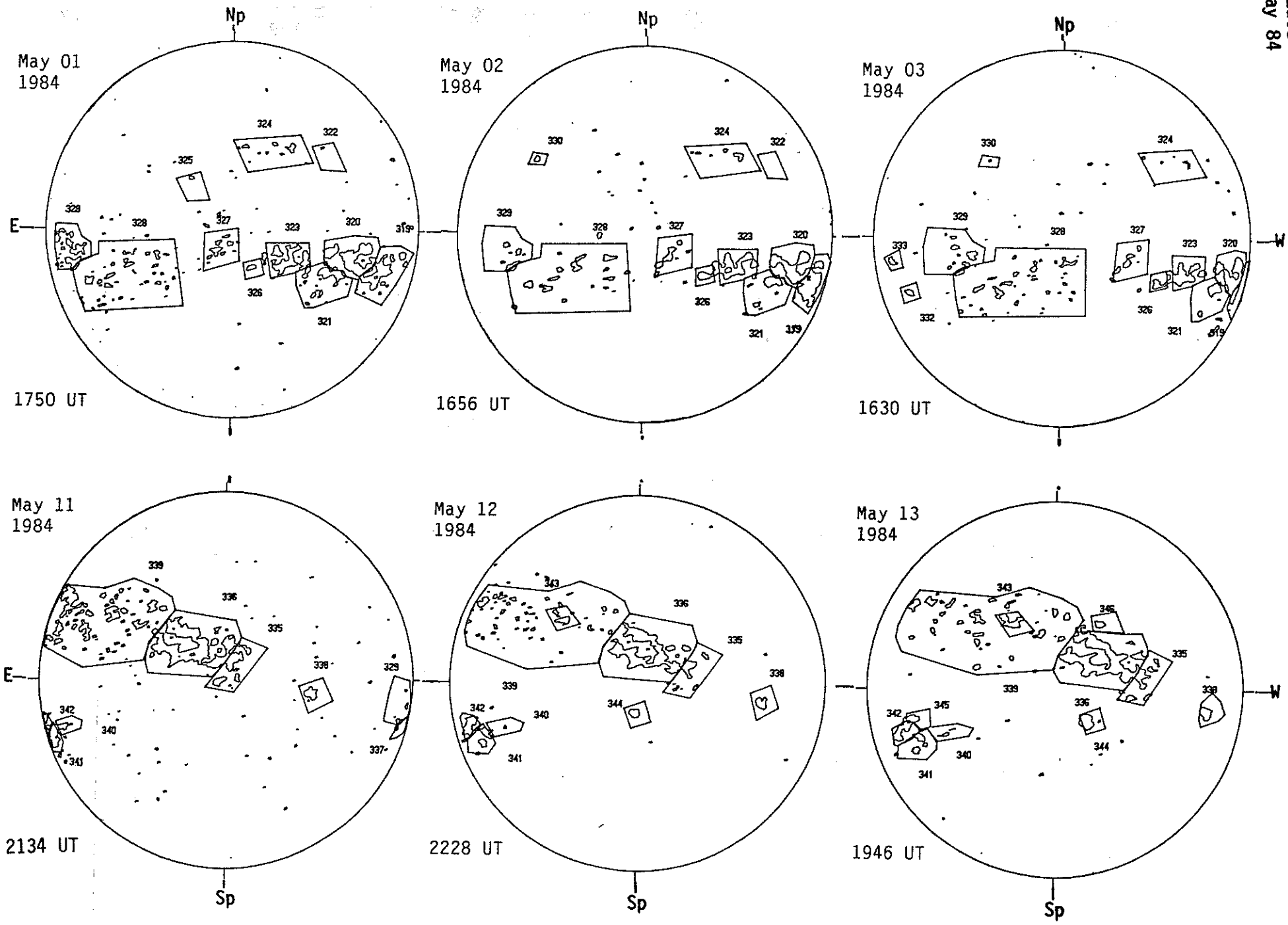
2. No CaK Prints on Jan. 4, 21-24, 27, 30.

3. No KPNO Magnetograms on Jan. 1-20, 24, 27-30.

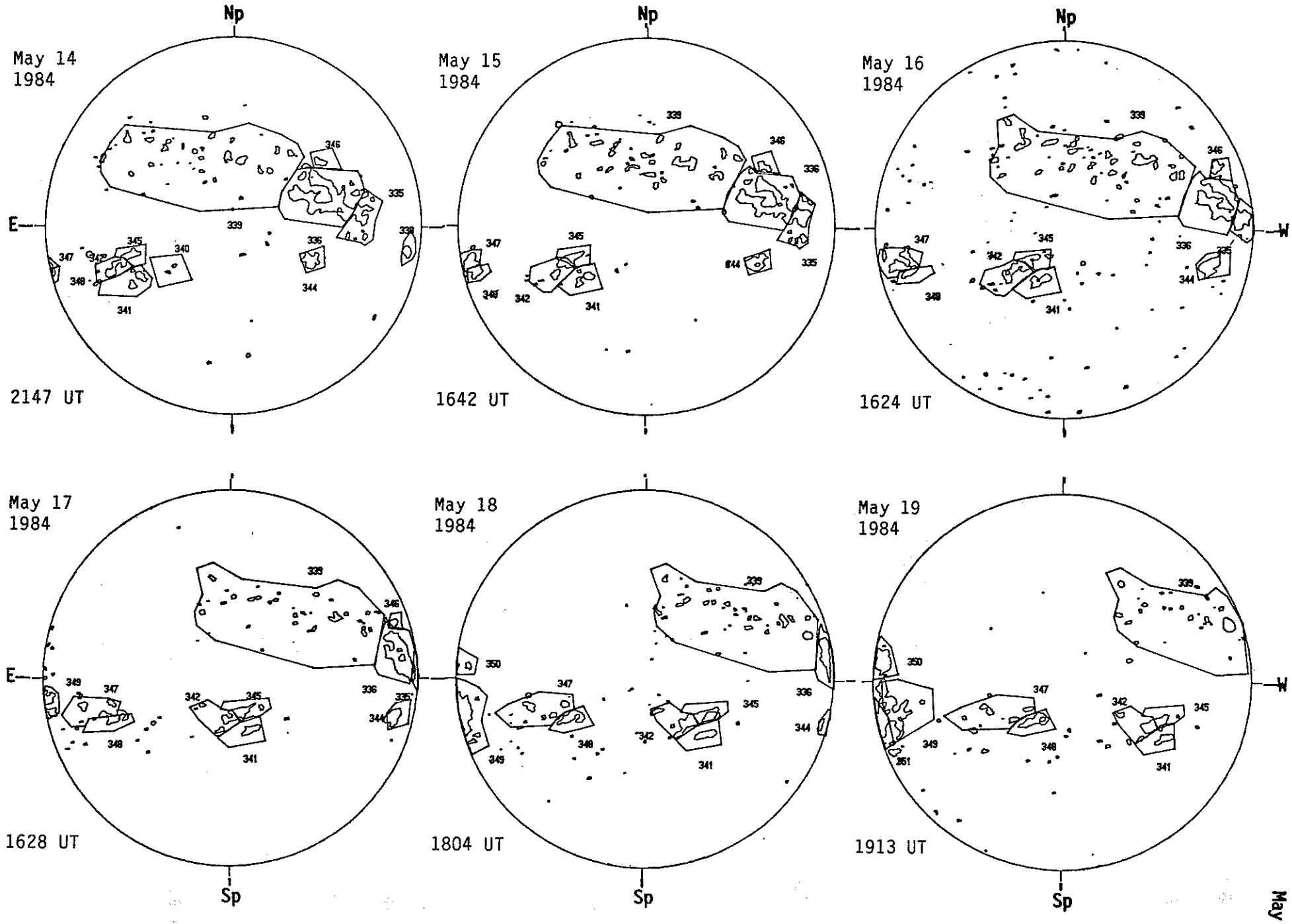
4. Contiguous Plages: 18745/18746

5. Mount Wilson CaK Prints were used on Jan. 13, 17, 28, 29.

BIG BEAR SOLAR CALCIUM PLAGE REGIONS

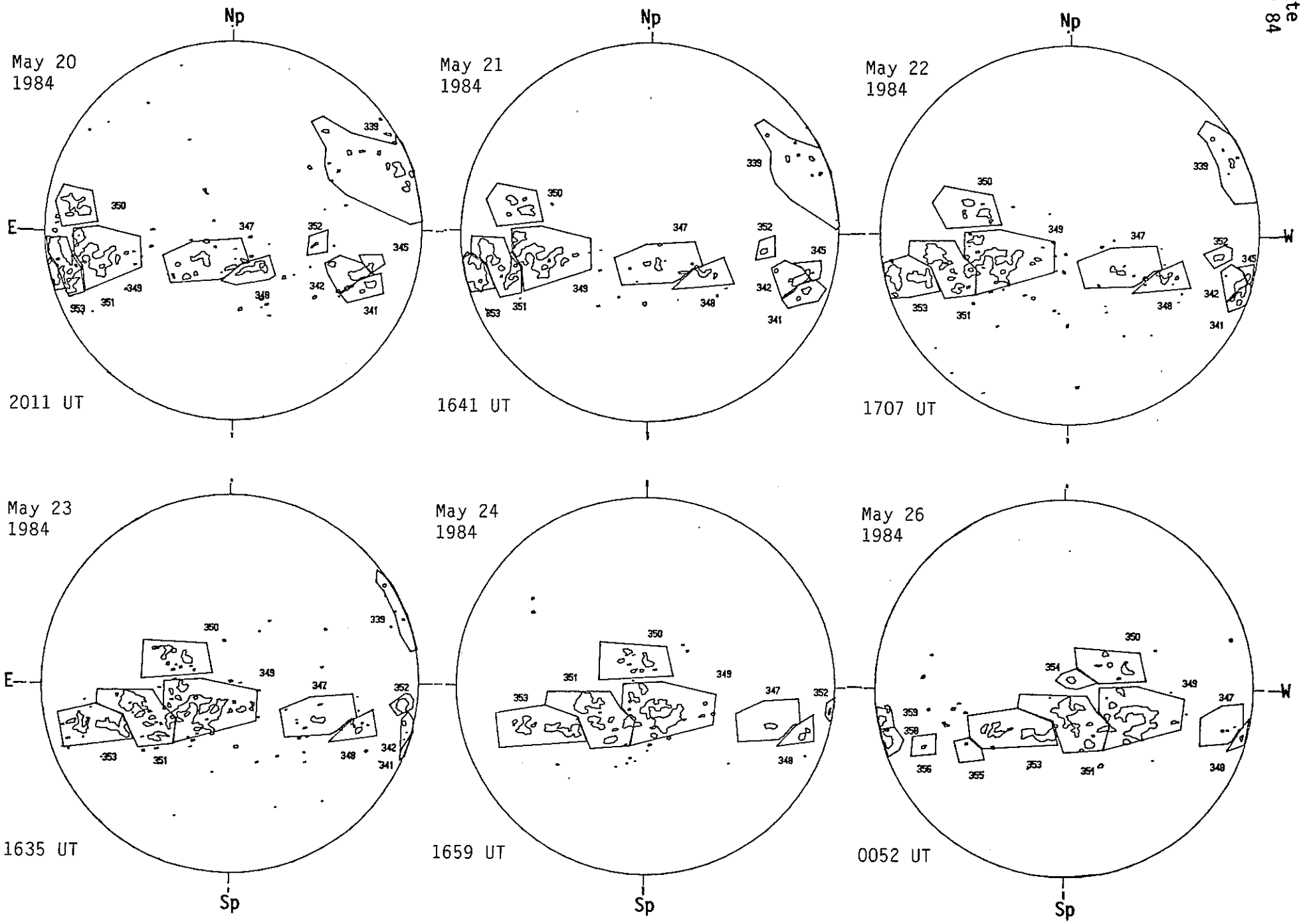


BIG BEAR SOLAR CALCIUM PLAGE REGIONS

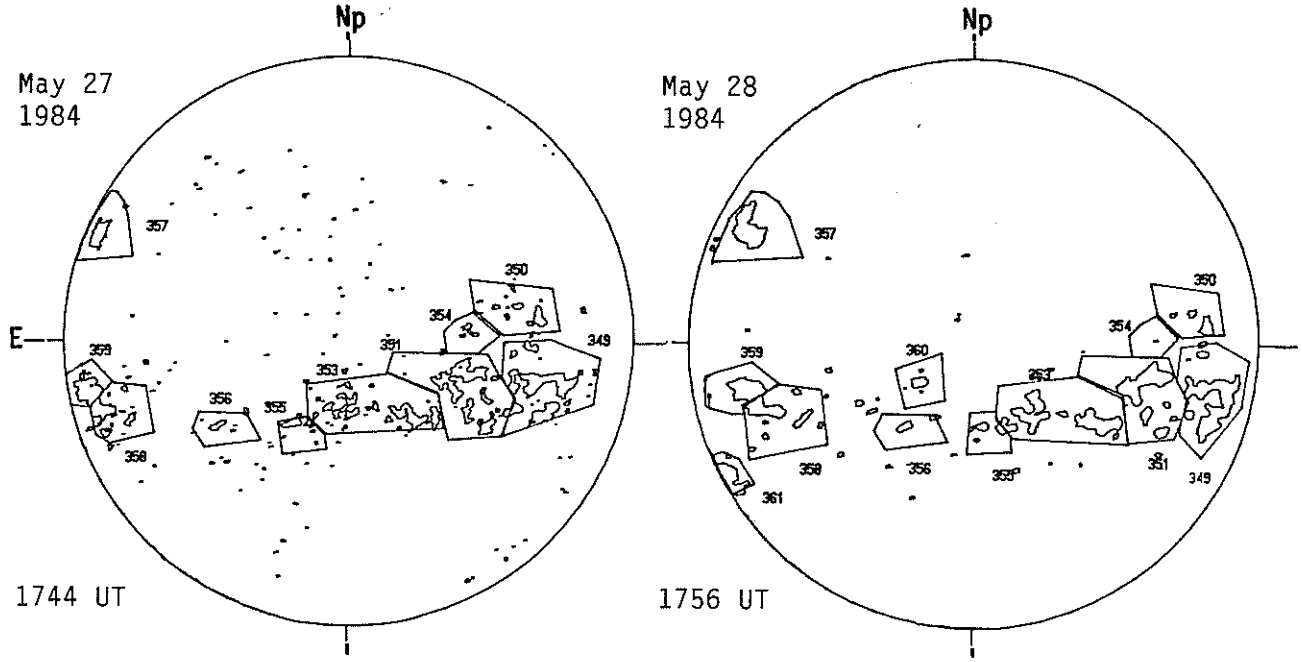


105
Late
May 84

BIG BEAR SOLAR CALCIUM PLAGE REGIONS



BIG BEAR SOLAR CALCIUM PLAGE REGIONS



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WORLD DATA CENTER A
FOR
SOLAR-TERRESTRIAL PHYSICS

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

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