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Solar-Geophysical Data Number 493
September 1985. Part 1 (Prompt Reports)
Data for August 1985, July 1985 and Late Data

(U.S.) National Geophysical Data Center
Boulder, CO

Prepared for

National Aeronautics and Space Administration
Washington, DC

Sep 85

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SEPTEMBER 1985 NUMBER 493 -- Part I

Solar-Geophysical Data prompt reports

Data for August 1985, July 1985, & Late Data

Explanation of Data Reports Issued as Number 489 (Supplement) May 1985

LATE DATA
CALCIUM PLAGE DAILY MAPS JUN-JUL 1984 Pages 78-83

noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE / NATIONAL GEOPHYSICAL DATA CENTER / BOULDER, COLORADO

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S O L A R - G E O P H Y S I C A L D A T A

NUMBER 493

(Issued in Two Parts)

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C O N T E N T S

PART I (PROMPT REPORTS)

PART II (COMPREHENSIVE REPORTS)

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DETAILED INDEX OF OBSERVATIONS PUBLISHED IN "SOLAR-GEOPHYSICAL DATA"

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ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SUMMARY OF THE GEOALERT MESSAGES — AUGUST 1985

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
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
214	02	01	043	078	014	N06E02	0	0	0		02	N06E02	Q	SOLQUIET
						S15E16	0	0	0			S15E16	Q	MAGNIL
215	03	02	031	078	011	N07W14	0	0	0		03	N07W14	Q	SOLQUIET
						S14E04	0	0	0			S14E04	Q	MAGQUIET
216	04	03	030	077	007	N06W29	0	0	0		04	N06W29	Q	SOLQUIET
						S14W08	0	0	0			S14W08	Q	MAGQUIET
217	05	04	033	077	010	N06W32	0	0	0		05	N06W32	Q	SOLQUIET
						S15W22	0	0	0			S15W22	Q	MAGQUIET
218	06	05	026	076	005	N06W47	0	0	0		06	N06W47	Q	SOLQUIET
						S15W35	0	0	0			S15W35	Q	MAGQUIET
219	07	06	027	076	005	S13W49	2	0	0		07	S13W49	Q	SOLQUIET
						N03W09	0	0	0			N03W09	Q	MAGQUIET
220	08	07	026	077	005	N02W73	0	0	0		08	N02W73	Q	SOLQUIET
						S15W62	4	0	0			S15W62	Q	MAGQUIET
221	09	08	034	076	007	S15W76	1	0	0		09	S15W76	Q	SOLQUIET
						S01E55	0	0	0			S01E55	Q	MAGQUIET
						N11E65	0	0	0			N11E65	Q	
222	10	09	026	073	005	S15W90	0	0	0		10	S15W90	Q	SOLQUIET
						S01E41	0	0	0			S01E41	Q	MAGQUIET
223	11	10	014	071	014	S01E27	0	0	0		11	S01E27	Q	SOLQUIET
														MAGQUIET
224	12	11	022	067	007	S02E14	0	0	0		12	S02E14	Q	SOLQUIET
						N03E21	1	0	0			N03E21	Q	MAGQUIET
225	13	12	000	068	018	SPOTNIL				PRESTO MAGSTORM 12/1451 UT	13	SPOTNIL		SOLQUIET
										PRESTO STRONG MAGSTORM IN				MAGALERT
										PROGRESS 13/1200 UT				MINOR 13
226	14	13	000	067	035	SPOTNIL					14	SPOTNIL		SOLQUIET
														MAGNIL
227	15	14	000	068	020	SPOTNIL					15	SPOTNIL		SOLQUIET
														MAGQUIET
228	16	15	000	067	015	SPOTNIL					16	SPOTNIL		SOLQUIET
														MAGQUIET
229	17	16	000	067	010	SPOTNIL					17	SPOTNIL		SOLQUIET
														MAGQUIET
230	18	17	012	066	011	S11W07	0	0	0		18	S11W07	Q	SOLQUIET
														MAGQUIET
231	19	18	012	067	010	S11W20	0	0	0		19	S11W20	Q	SOLQUIET
														MAGQUIET
232	20	19	014	068	015	S18W45	0	0	0		20	S18W45	Q	SOLQUIET
														MAGQUIET
233	21	20	013	069	012	S17W59	0	0	0		21	S17W59	Q	SOLQUIET
														MAGQUIET

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SUMMARY OF THE GEOALERT MESSAGES AUGUST 1985

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
234	22	21	000	069	011	SPOTNIL					22	SPOTNIL		SOLQUIET MAGQUIET
235	23	22	000	071	019	SPOTNIL					23	SPOTNIL		SOLQUIET MAGQUIET
236	24	23	000	071	018	SPOTNIL					24	SPOTNIL		SOLQUIET MAGQUIET
237	25	24	000	071	013	SPOTNIL					25	SPOTNIL		SOLQUIET MAGQUIET
238	26	25	000	071	019	SPOTNIL					26	SPOTNIL		SOLQUIET MAGQUIET
239	27	26	000	071	013	SPOTNIL					27	SPOTNIL		SOLQUIET MAGALERT MINOR 27/XX
240	28	27	011	072	018	N05E47	0	0	0		28	N05E47	Q	SOLQUIET MAGALERT MINOR 28/XX RECURRENCE
241	29	28	000	072	013	SPOTNIL					29	SPOTNIL		SOLQUIET MAGNIL
242	30	29	000	072	017	SPOTNIL					30	SPOTNIL		SOLQUIET MAGQUIET
243	31	30	011	073	010	N07W13	0	0	0		31	N07W13	Q	SOLQUIET MAGQUIET
244	01	31	024	073	032	N07W27 N06W10	0 0	0 0	0 0	PRESTO MAGSTORM 31/03XX UT	01	N07W27 N06W10	Q Q	SOLQUIET MAGQUIET

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 NUMBER OF FLARES, M= NUMBER OF M FLARES, X=NUMBER OF X FLARES, DA=DATE OF FORECAST, DE=DESCRIPTION, Q=QUIET, E=ERUPTIVE, P=PROTON

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS)

AUGUST 1985
PRESTO KAKIOKA 13/0030 UT MAGSTORM 12/1451 UT
PRESTO BOULDER 13/1511 UT STRONG MAGSTORM IN PROGRESS 13/1200 UT
PRESTO KAKIOKA 01/0130 UT MAGSTORM 31/03/XX UT

INTERNATIONAL (R_I) RELATIVE SUNSPOT NUMBERS

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

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	Sep 84	Oct	Nov	Dec	Jan 85	Feb	Mar	Apr	May	Jun	Jul	Aug
01	94.1	72.0	69.5	77.0	68.4	72.2	69.3	72.2	80.6*	69.5	76.9	80.5
02	93.2	74.8	70.1	76.8	67.8	73.8	69.1	72.6	76.3	72.4	79.1*	80.4
03	94.5	75.2	72.0	77.9	67.7	73.6	69.0	72.5A	72.6	74.6	81.3	79.2
04	91.9	75.2	72.2	77.3	67.8	70.9	68.6	71.9	70.8	77.5	80.4	79.3
05	89.8	74.0	71.7	75.4	67.0	71.2	67.5	71.2	71.4	84.3	83.3	78.5
06	85.9	73.2	71.0	73.0	67.9	70.6	68.1	70.5	75.0	87.4	87.5	77.9
07	85.2	73.5	70.1	72.8	68.1	70.3	68.0	70.3	79.1	88.4	97.7	79.5
08	83.4	74.6	70.5	74.1	67.4	72.5	68.7	69.9	83.7	88.9	96.7*	78.5
09	80.6	73.5	72.7	74.5	68.1	73.2	68.7	69.4	89.6	89.8	100.9*	74.9
10	79.1	74.1	75.8	75.7	67.4	73.6	68.0	69.7	91.7	91.7	104.6*	72.8
11	77.8	74.3	73.1	78.9	67.7	73.2	69.6	69.0	89.9	91.2	97.3	68.4
12	76.5	73.9	72.8	77.8	68.4	72.3	69.3	69.6	92.1	89.8	92.9	69.7
13	75.0	74.7	71.6	76.2	72.6	70.8	69.5	69.8	91.9	89.2	85.5	68.9
14	74.5	73.2	72.0	75.8A	72.3	70.6	69.5	70.6	90.7*	85.3	76.4	69.3
15	73.3	76.4	72.9	74.9	72.4	70.2	69.6	70.0	92.0*	83.8	73.0	69.0
16	73.4	76.6	70.7	74.2	74.7	69.8	70.1	69.4	95.5	80.9	71.9	68.2
17	74.6	76.2	71.0	72.6	75.8	70.9	72.1	70.2	92.3	77.3	71.9	67.9
18	73.8	76.5	71.7	70.2	74.1	73.4*	74.6	71.7	92.7	73.8	71.8	68.6
19	74.6	74.2	72.3	71.0	75.4	76.1	74.2	71.7	89.6	72.2	71.7	69.1
20	74.1	73.5	74.8	69.9	81.7*	75.0	74.2	72.3	86.7	71.9	71.7	70.6
21	75.1	73.2	78.3	69.7	84.9*	74.2	76.1*	77.9	84.4*	71.5	71.2	70.4
22	75.9	74.5	78.2	70.7	85.3	73.3	75.9	89.8	82.7*	71.6	71.0	72.7
23	76.1	72.7	79.3	71.3	82.5	71.7	77.3	93.3*	80.0	71.8	71.1	72.9
24	76.2	70.8	81.1	71.8	78.2	70.5	79.6	89.0*	78.3	70.8	71.0	72.1
25	74.6	70.2	83.1	72.2	73.9	70.1	78.5	95.2	77.2	71.0	75.6	72.5
26	74.3	69.4	82.5	72.3	71.0	69.7	79.7†	88.3*	75.5	70.0	77.4	72.3
27	73.5	68.6	82.5*	72.0	69.5	68.9	77.4†	80.6	74.6	70.2	79.2	73.1
28	73.1	69.3	81.1	72.2	69.6	69.7	77.7†	78.1	72.7	71.0	81.2	73.1
29	71.7	68.2	77.1	72.1	68.7		76.7†	83.2	72.5	72.3	83.5	73.1
30	72.4	68.8	76.4	71.4	68.3		75.8†	80.8	71.4	74.8	83.8	73.9
31		69.8		70.0	69.9A		76.4†		69.6		82.4	74.1
Mean	78.9	73.1	74.6	73.5	72.1	71.9	72.5	75.7	82.0	78.5	81.3	73.3

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

AUGUST 1985

Day	Julian Day	Bartels Cycle Day	Sunspot Numbers Int	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	213	6	35	32	78.2	552	270	114	80.5	77	69	60	24	11
02	214	7	25	27	78.1	556	269	110	80.4	79	67	58	23	20
03	215	8	27	23	76.9	555	266	109	79.2	75	68	53	23	10
04	216	9	27	21	77.1	550	240	108	79.3	74	70	53	22	11
05	217	10	20	14	76.3	553	248	109	78.5	75	67	63	22	11
06	218	11	14	13	75.7	555	261	108	77.9	74	65	59	23	11
07	219	12	12	14	77.3	549	263	111	79.5	75	66	--	22	11
08	220	13	12	19	76.4	537	261	110	78.5	75	61	49	22	10
09	221	14	17	13	72.9	544	259	107	74.9	71	60	46	20	10
10	222	15	12	10	70.9	548	265	107	72.8	69	59	50	14	8
11	223	16	12	9	66.6	539	252	103	68.4	67	55	45	24	10
12	224	17	12	8	67.9	553	261	102	69.7	65	56	48	20	10
13	225	18	0	0	67.2	548	266	105	68.9	65	55	46	21	10
14	226	19	0	0	67.5	527	253	104	69.3	64	54	45	20	10
15	227	20	0	0	67.3	534	260	103	69.0	64	54	45	20	8
16	228	21	0	0	66.5	530	273	103	68.2	64	55	46	20	9
17	229	22	12	0	66.2	545	269	103	67.9	65	53	51	20	9
18	230	23	11	10	66.9	551	277	101	68.6	66	56	42	19	12
19	231	24	11	10	67.5	497	261	101	69.1	65	54	42	20	11
20	232	25	10	14	68.9	544	277	103	70.6	67	58	46	19	9
21	233	26	9	8	68.8	544	273	103	70.4	66	55	48	20	9
22	234	27	0	0	71.1	542	274	106	72.7	70	58	49	21	9
23	235	1	0	2	71.3	544	284	106	72.9	68	57	49	20	9
24	236	2	0	13	70.5	---	---	---	72.1	--	--	--	--	--
25	237	3	0	11	70.9	492	263	103	72.5	67	59	47	19	11
26	238	4	8	8	70.8	523	279	105	72.3	69	59	50	20	10
27	239	5	8	8	71.6	537	277	105	73.1	70	59	51	21	7
28	240	6	10	10	71.7	543	277	105	73.1	69	59	55	22	11
29	241	7	0	16	71.7	---	---	---	73.1	--	--	--	--	--
30	242	8	8	8	72.5	517	281	---	73.9	72	62	55	23	12
31	243	9	9	11	72.7	512	275	---	74.1	72	61	49	23	12
Mean			10	11	71.5	539	267	105	73.3	70	60	50	20	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

AUGUST 1985

Date	RELATIVE SUNSPOT NUMBERS: International (Ri) Monthly Mean	International (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
Oct 81	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	102
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	22	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	20*	16.3	18*	15.7	20	71.9	76
Mar	17.2	19(2)*	11.8*	17	16.3	19	72.5	--
Apr	16.2	18(3)*	17.1*	16	19.8	18	75.7	--
May	27.5	17(5)*	24.0*	16	26.6	18	82.0	--
Jun	24.2	17(5)*	22.2*	15	22.8	17	78.5	--
Jul	30.8†	16(6)*	30.8*	15	25.8	17	81.3	--
Aug	10.4†	16(5)*	10.7*	14	17.2	16	73.3	--
Sep	----	15(6)*	----	13	----	15	----	--
Oct	----	14(7)*	----	12	----	14	----	--
Nov	----	12(8)*	----	11	----	13	----	--
Dec	----	12(9)*	----	10	----	12	----	--
Jan 86	----	11(9)*	----	10	----	12	----	--
Feb	----	11(10)*	----	10	----	11	----	--

*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.

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS FOR CYCLE 21

AUGUST 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	55	50	48	47	44	40	34	29	25	22
1985	21	20	19	18	17	17	16	16	15	14	12	12
			(2)	(3)	(5)	(5)	(6)	(6)	(6)	(7)	(8)	(9)
1986	11	11	10	10	9	9	8	7	7	7	8	8
	(9)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(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 June 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 February 1986 prediction tabulated above. There exists a 90% chance that in February 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.

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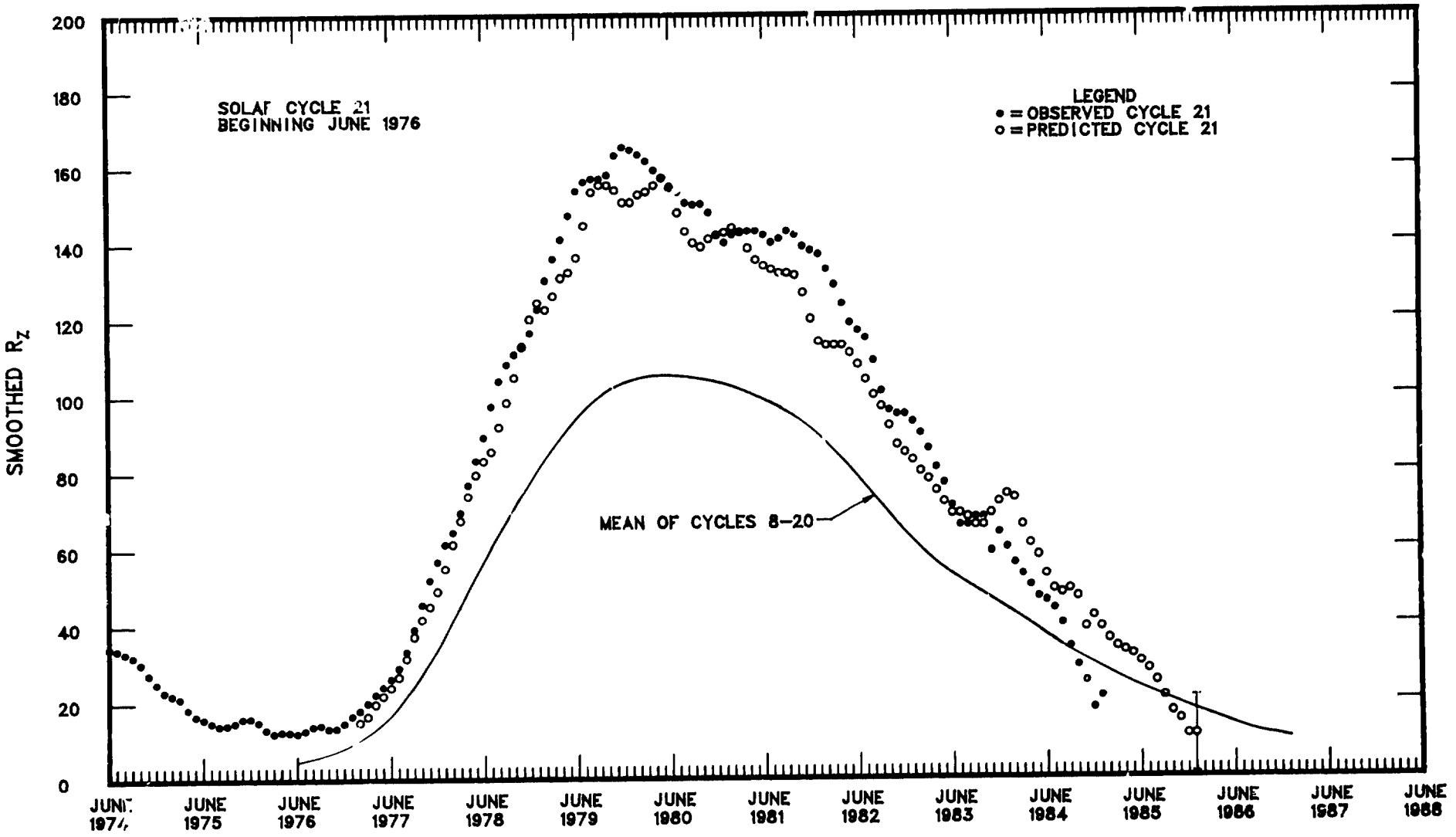
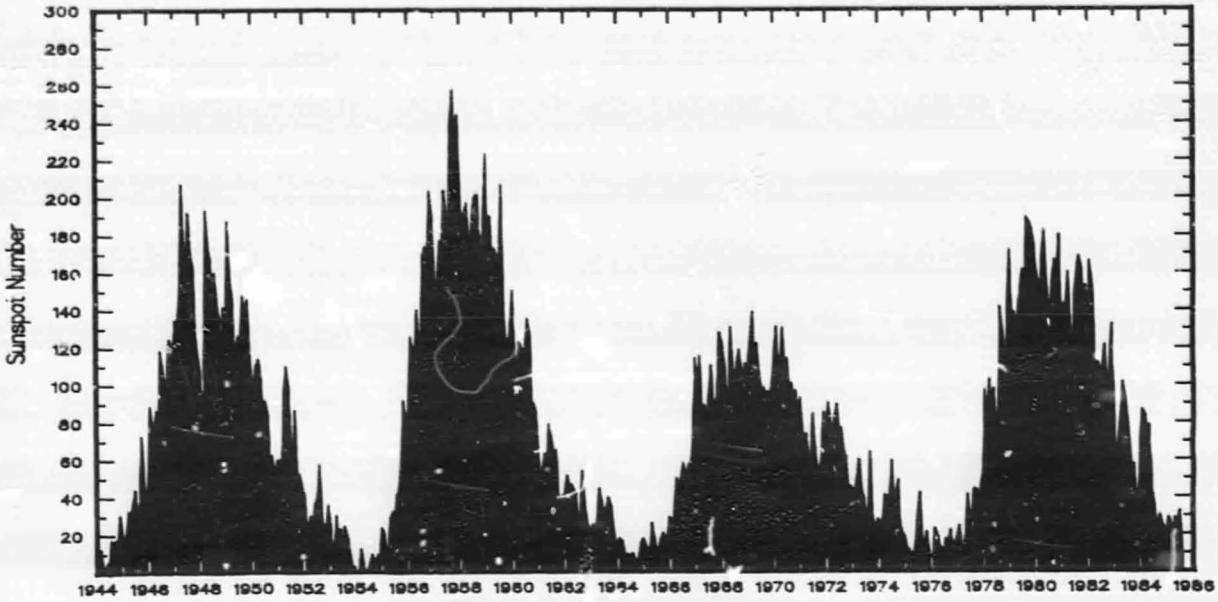
Jul 85

OBSERVED AND ONE-YEAR-AHEAD PREDICTED SMOOTHED SUNSPOT NUMBERS



MONTHLY MEAN SUNSPOT NUMBERS
January 1944 – August 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	66.8	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	0.3	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	58.7	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	111.3	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	37.7	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	6.1	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	157.5	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	16.2	27.5	24.2	30.8*	10.4*				

*Provisional

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

AUGUST 1985

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs Sec	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
RAMY	06	1504	1505	1511	S16	W45	4682	08	03.2	7	SF		3	C		23		F
PALE	06	2110E	2110U	2114D	S14	W47	4682	08	03.3	4D	SF		2	C		20		FH
LEAR	07	0310	0311	0317	S12	W53	4682	08	03.1	7	SF		3	C		43		
HOLL	07	1305	1306	1308	S11	W60	4682	08	03.0	3	SF		3	C		15		
RAMY	07	1305	1307	1316	S14	W58	4682	08	03.2	11	SF		3	C		34		
RAMY	07	1453	1456	1505	S16	W58	4682	08	03.2	12	SF		3	C		20		
HOLL	07	1818	1823	1857	S14	W61	4682	08	03.1	39	SF		3	C		60		F
LEAR	08	0744	0747	0800	S11	W69	4682	08	03.1	16	SN		3	C		56		F
WEND	11	'600	1602	1618	N11	E29		08	13.8	18	SF			C	1602	68	.8	
HOLL	13	1954	1955	2007	N08	W02	4688	08	13.7	13	SF		3	C		26		F

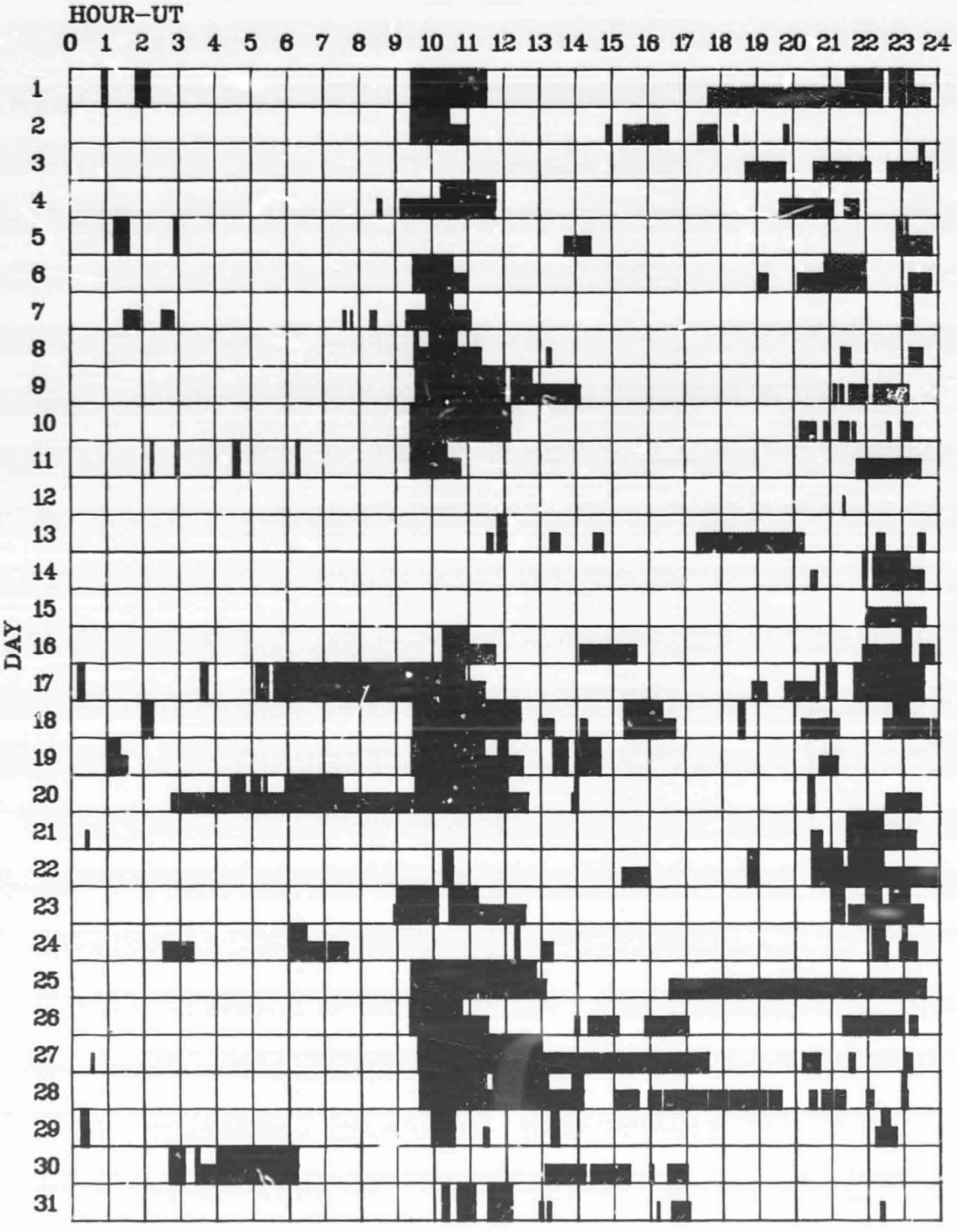
"Remarks":

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

AUGUST 1985



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

Holloman	Learmonth	Mitaka	Peking	Ramey
Istanbul	Manila	Palehua	Purple Mt.	Wendelstein

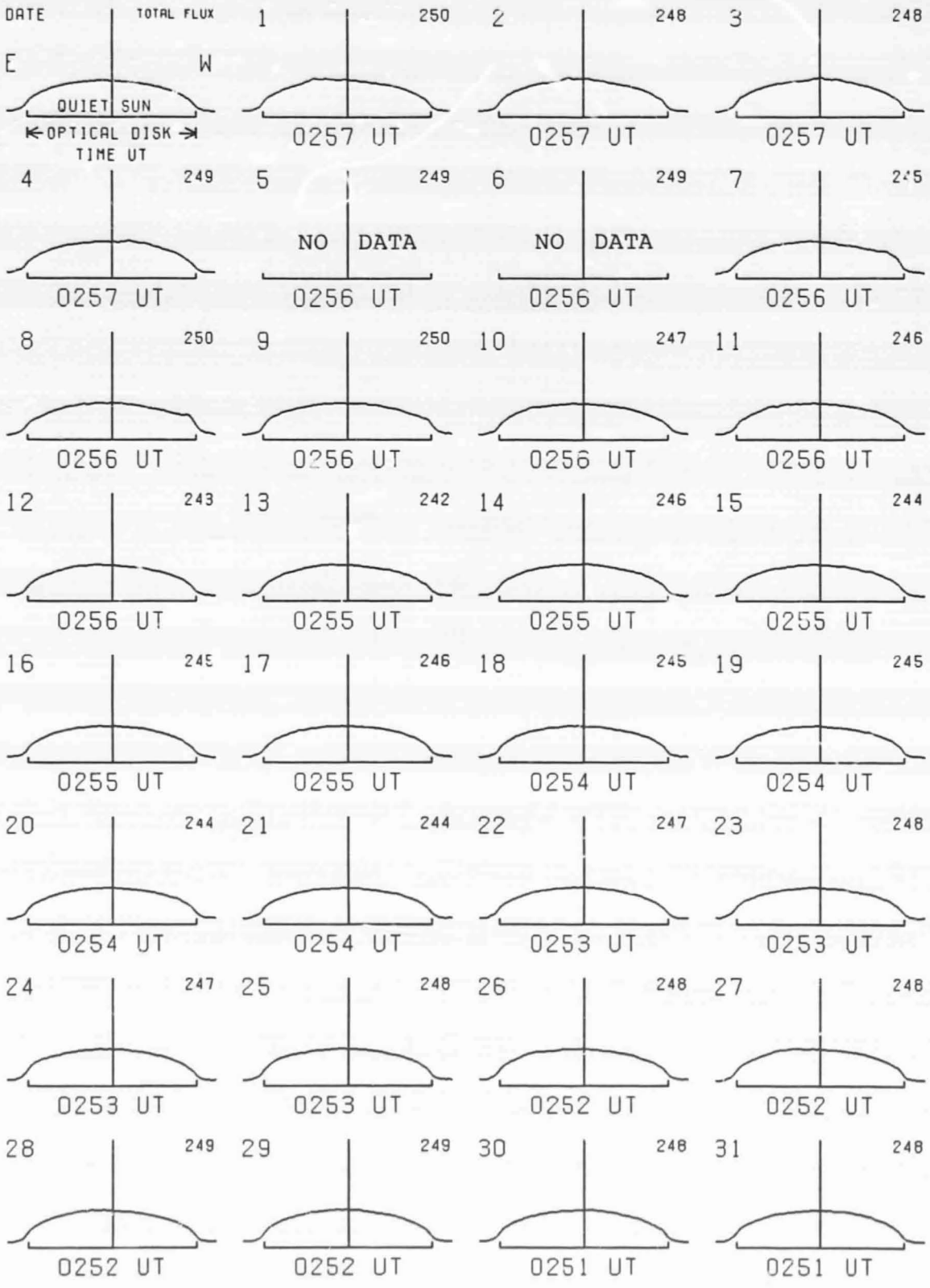
14
Aug 85

EAST-WEST SOLAR SCANS

AUGUST 1985

TOYOKAWA, JAPAN

3 CM
FAN BEAM WITH 1.1 MINUTES OF ARC

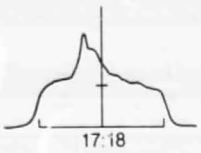
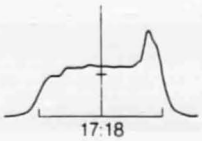
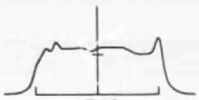
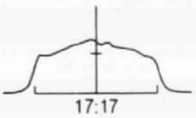
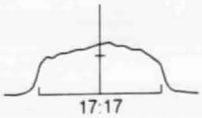
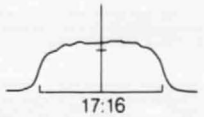
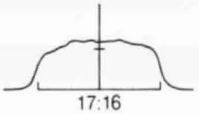
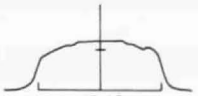
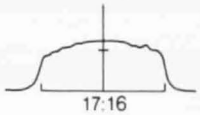
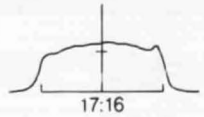
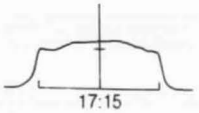
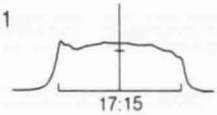
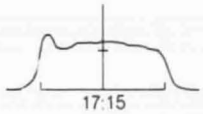
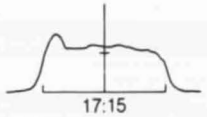
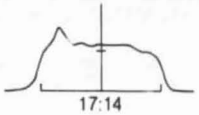
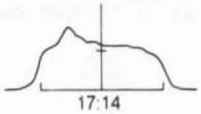
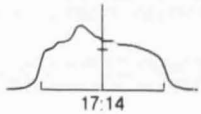
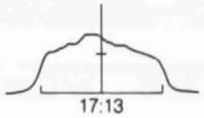
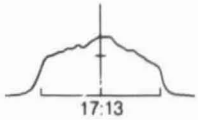
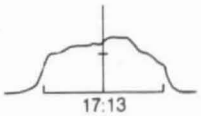
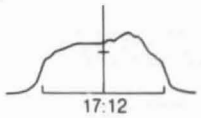


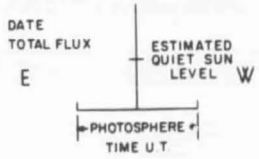
EAST-WEST SOLAR SCANS

AUGUST 1985

ALGONQUIN RADIO OBSERVATORY
CANADA

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

01 78.2  17:18	**02** 78.1 NO DATA	**03** 76.9  17:18	**04** 77.1  17:18
05 76.3  17:18	**06** 75.7  17:18	**07** 77.3  17:18	**08** 76.4  17:18
09 72.9  17:18	**10** 70.9  17:17	**11** 66.6  17:17	**12** 67.9  17:17
13 67.2  17:17	**14** 67.5  17:17	**15** 67.3  17:17	**16** 66.5  17:16
17 66.2  17:16	**18** 66.9  17:16	**19** 67.5  17:16	**20** 68.9  17:16
21 68.8  17:15	**22** 71.1  17:15	**23** 71.3  17:15	**24** 70.5  17:15
25 70.9  17:14	**26** 70.8  17:14	**27** 71.6  17:14	**28** 71.7  17:13
29 71.7  17:13	**30** 72.5  17:13	**31** 72.7  17:12	



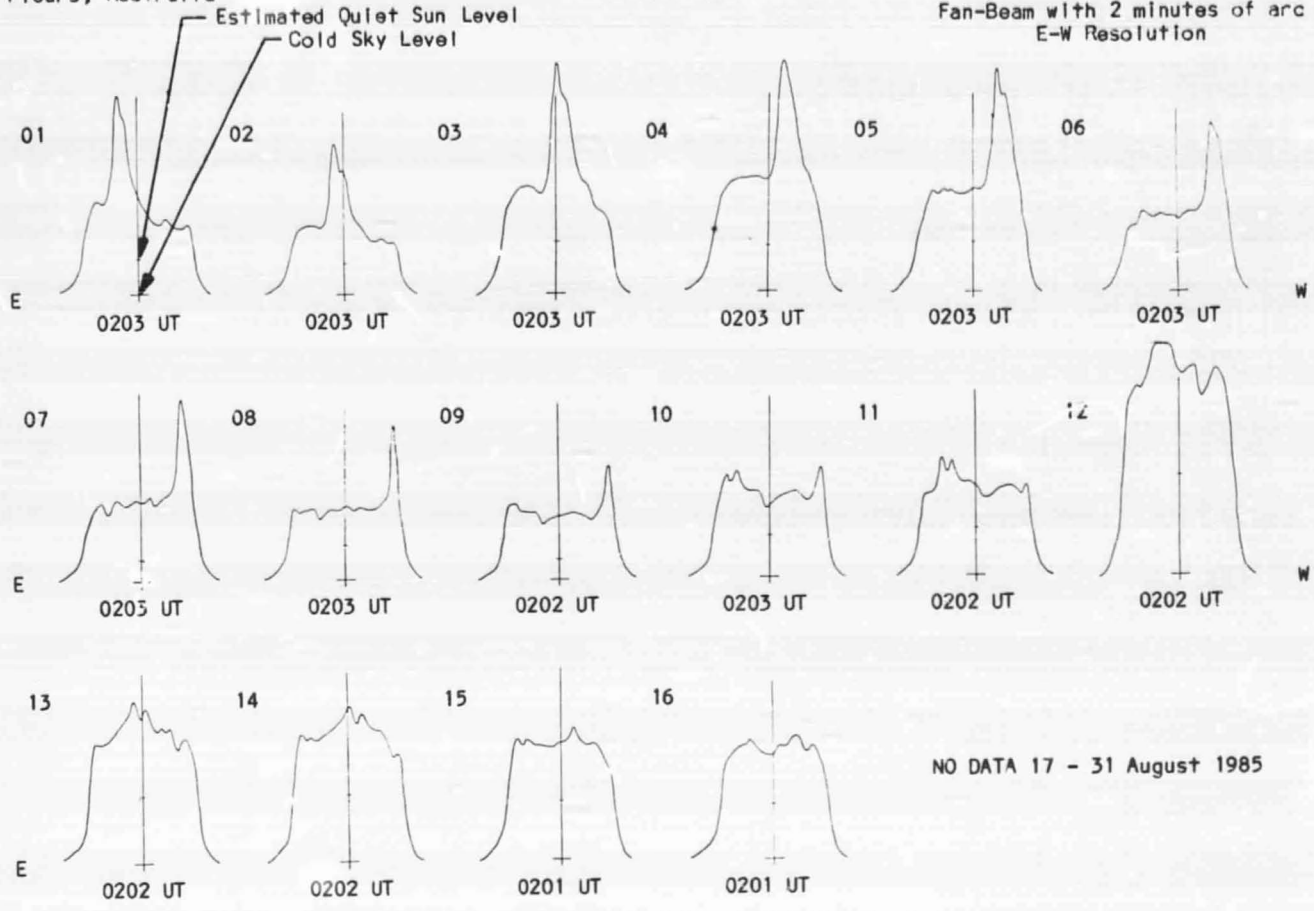
16
Aug 85

EAST-WEST SOLAR SCANS

Fleurs, Australia

AUGUST 1985

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



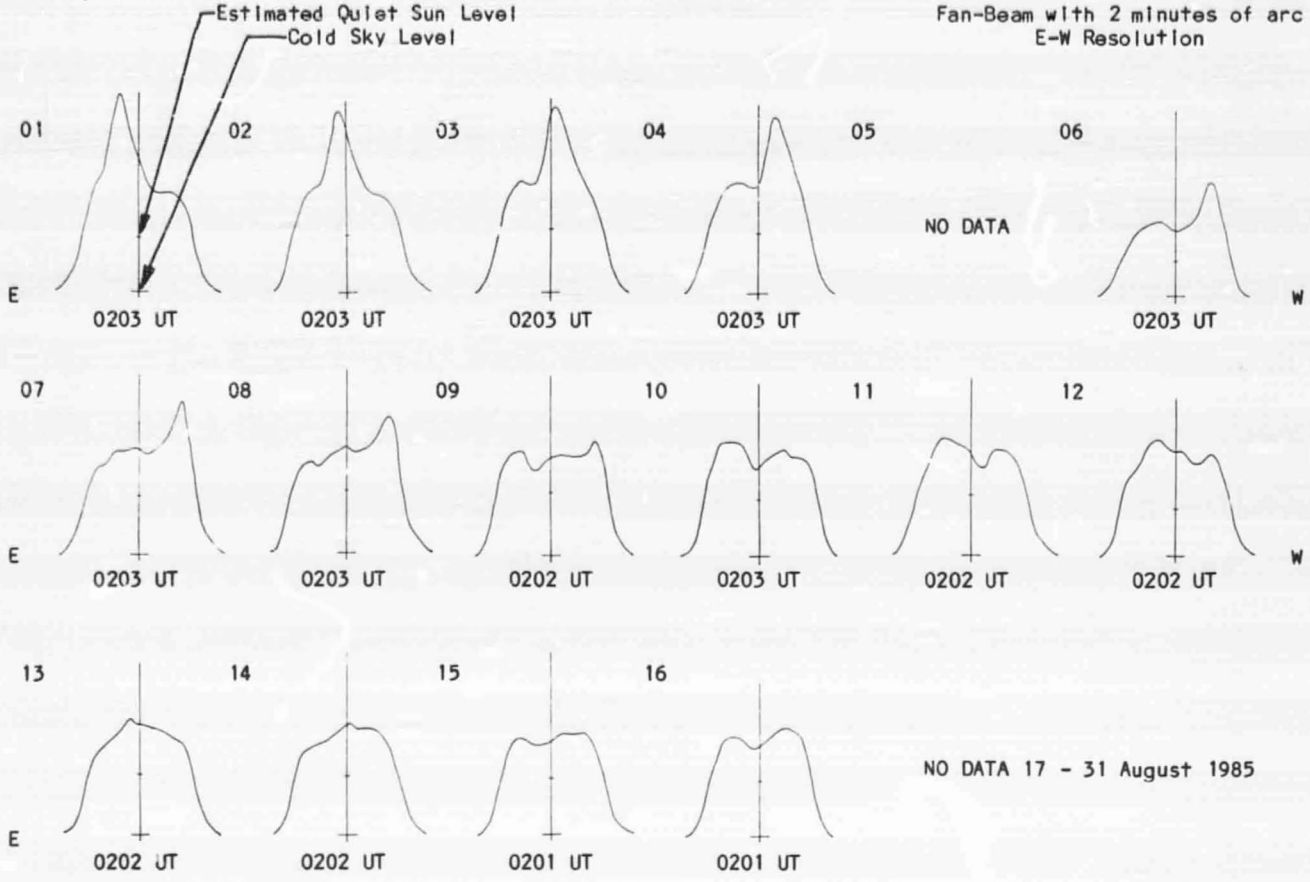
NO DATA 17 - 31 August 1985

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

Fleurs, Australia

AUGUST 1985

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



NO DATA 17 - 31 August 1985

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

AUGUST 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	245	LEAR	43	NS	0724.0	0806.0	142.0D	26.0			QL=6 ST=2 TYP=1
	245	SGMR	44	NS	0959.0E	1803.0	553.0D	54.0			QL=6 ST=3 TYP=1
06	2800	OTTA	22	GRF	1824.0	1826.0	15.0	1.2	0.6		
	2800	OTTA	21	GRF	2100.0	2116.0	30.0	1.4	0.7		
	2800	OTTA	1	S	2108.0	2108.7	2.0	3.2	1.1		
07	2800	OTTA	20	GRF	1450.0	1500.0	30.0	1.0	0.5		
	2800	OTTA	240	R	1821.0	1822.5	1.5	0.8	0.4		
08	4995	ATHN	4	S/F	0742.0	0744.0	5.0	30.0			QL=6 ST=2 TYP=3
	1415	ATHN	4	S/F	0742.0	0744.0	5.0	5.0			QL=6 ST=2 TYP=3
	2695	ATHN	4	S/F	0742.0	0745.0	6.0	30.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0744.3	0746.1	2.3	21.0			QL=6 ST=2 TYP=3
	4995	LEAR	8	S	0744.6	0744.8	.7	17.0			QL=6 ST=2 TYP=3
	2800	OTTA	20	GRF	1145.0	1325.0	255.0	2.2	1.1		
09	245	LEAR	47	GB	0131.5	0131.6	.5	72.0			QL=1 ST=2 TYP=5

Reports are received routinely from the following observatories:

ATHN = Athens
BERN = Berne
BORD = Bordeaux
CRIM = Crimea
DWIN = Dwingeloo
GORK = Gorky
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
IZMI = IZMIRAN
KISV = Kislovodsk
KRAK = Krakow
LEAR = Learmonth
MANI = Manila
NAGO = Nagoya
NOBE = Nobeyama
ONDR = Ondrejov
OTTA = Ottawa
PALE = Palehua
PEKG = Peking
PENT = Penticton
POTS = Potsdam
SAOP = Sao Paulo
SGMR = Sagamore Hill
TORN = Torun
TYKW = Toyokawa
TRST = Trieste
UPIC = Upice
VORO = Voroshilov

Explanation of Type Code:

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

1A Simple 1A
3A Simple 2A
21A Simple 3A GRF
2A Simple 1AF
4A Simple 2AF
240 Rise only
240F Rise only F
24P Post Rise
24PF Post Rise F
16A Fall A
260 Fall Only
26F Fall F
27F Rise and Fall F
27AF Rise and Fall AF
31A Post Burst Decrease A
32A Absorption A
46F Complex F

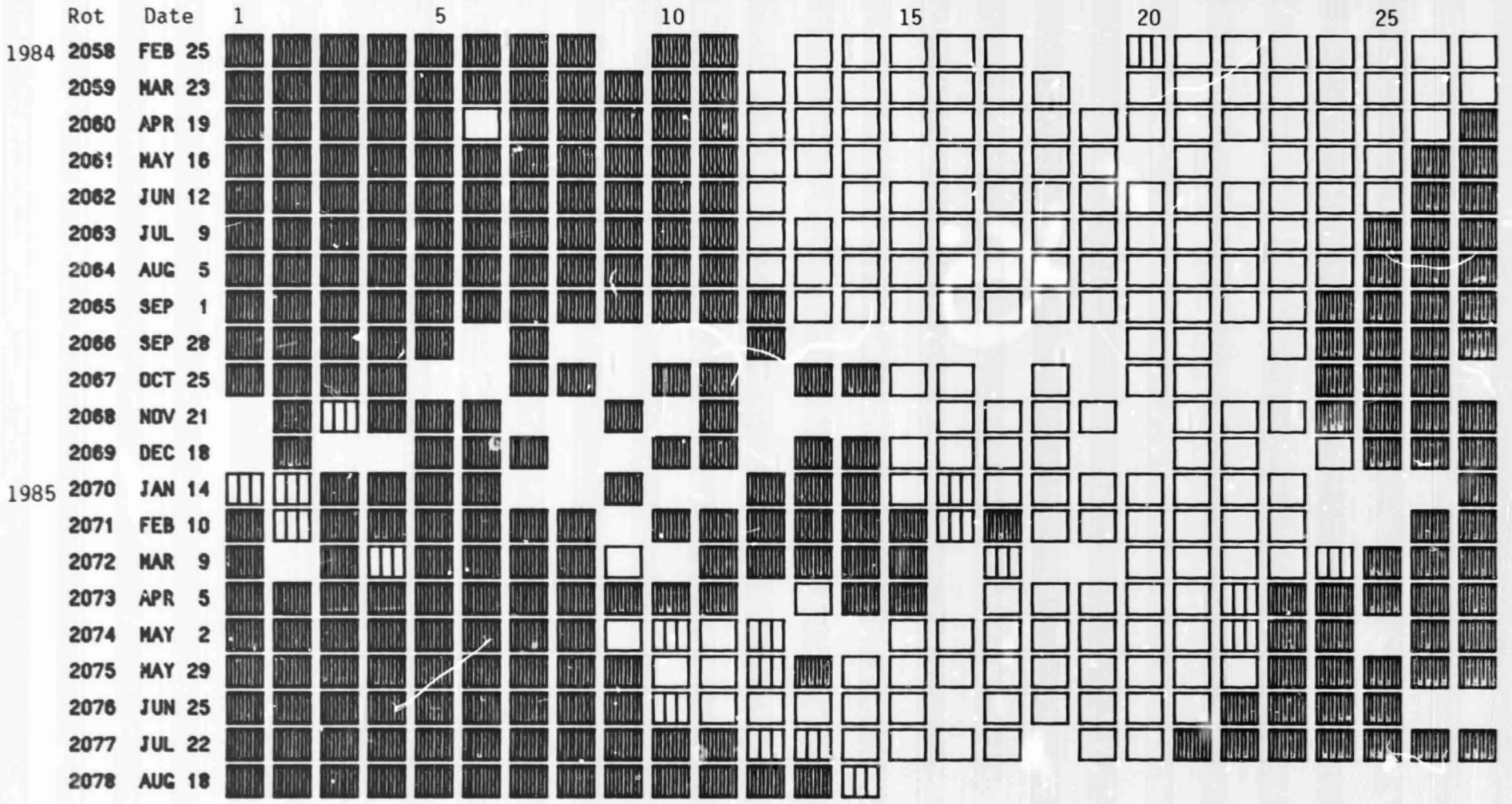
Remarks:
QL = Quality (1=poor to 6=excellent)
ST = Status (1=real time; 2=final; 3=correction; 4=deletion)
TYP= Type (1=noise storm;2=rise in base level;3=minor;4=group;5=major;6=major plus;7=Castelli U-type burst)

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

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

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.

CONTENTS

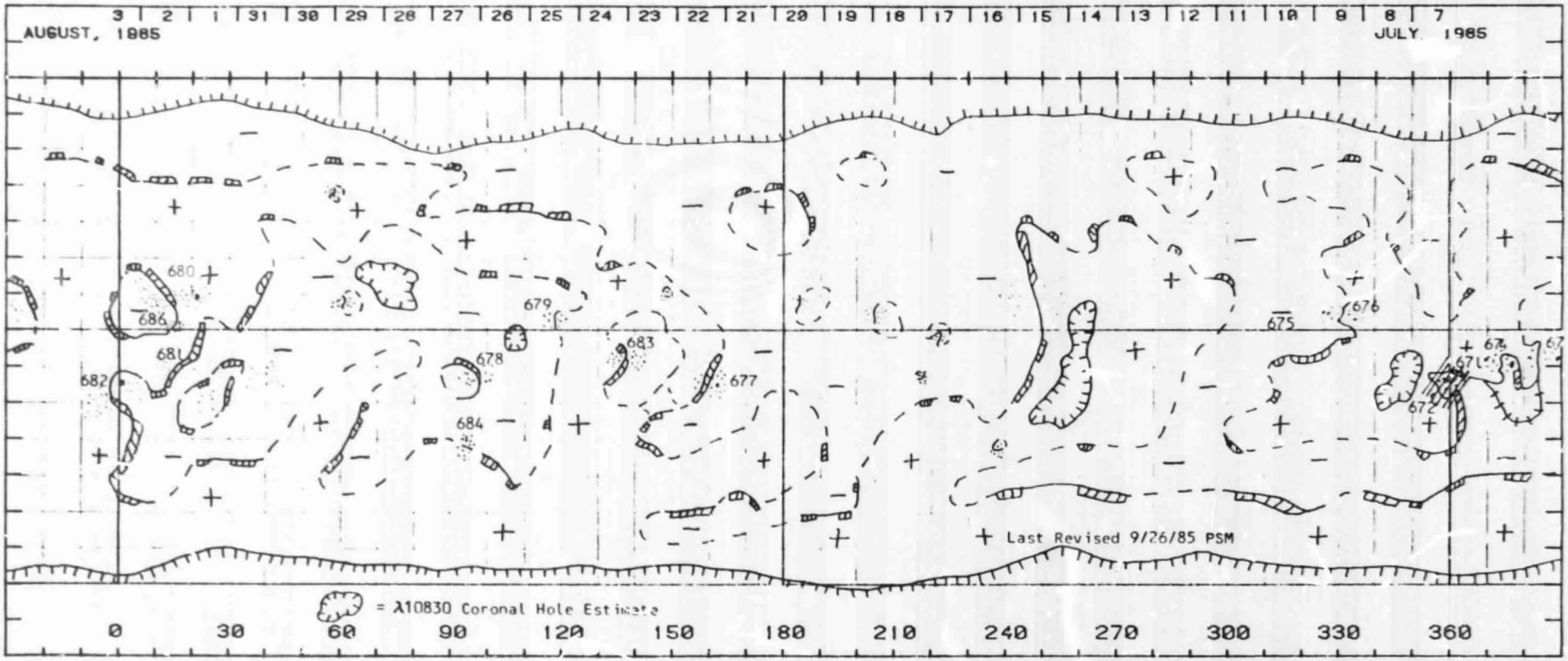
Prompt Reports DATA FOR JULY 1985 Number 493 Part I

22
Jul 85

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

CARRINGTON ROTATION NUMBER 1764
(July 7 to August 3, 1985)

Dates of Observations Below Days of Year: 201 196 191



Heliographic Longitude

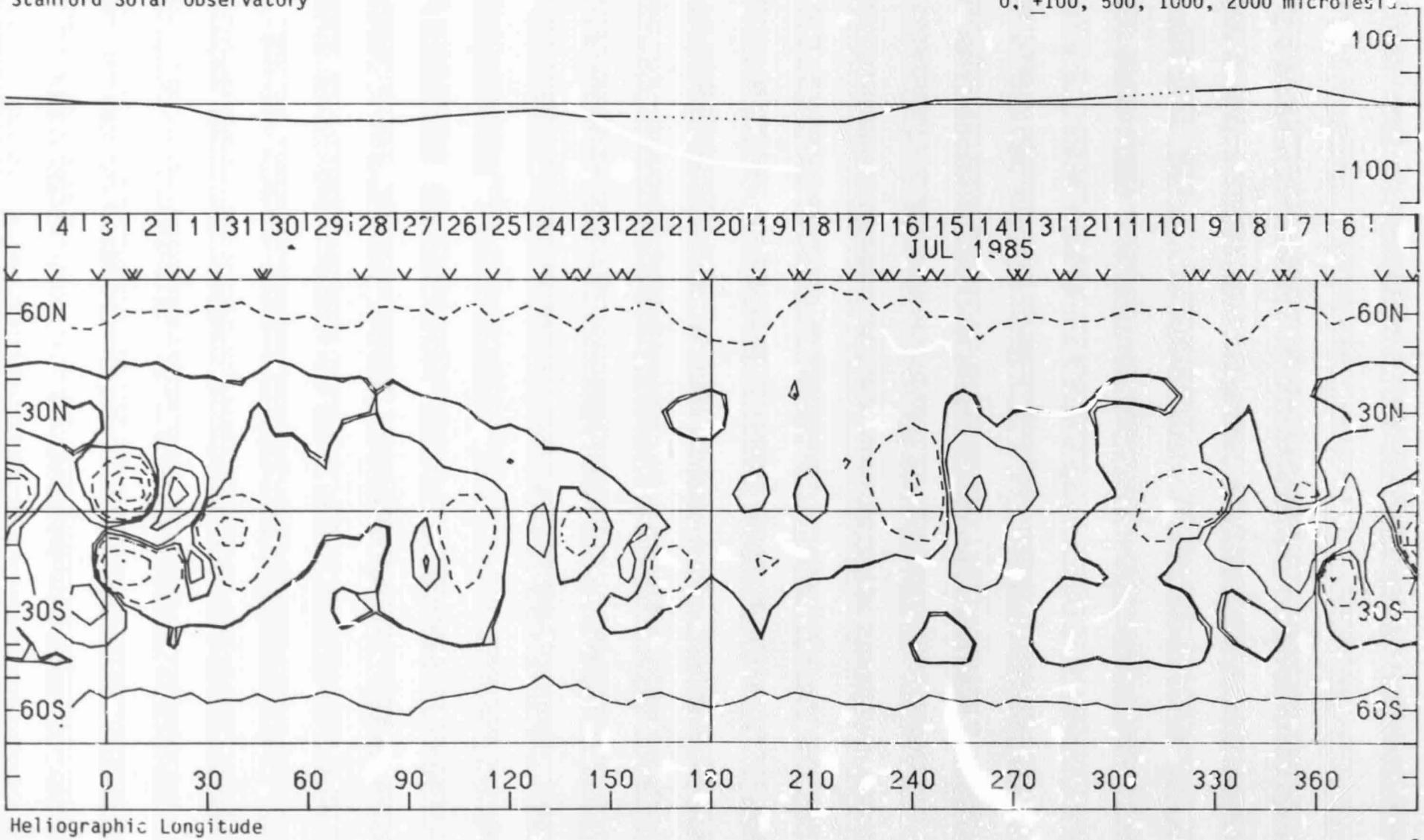
SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1764

(July 7 to August 3, 1985)

Stanford Solar Observatory

0, ±100, 500, 1000, 2000 microTesl



Heliographic Longitude

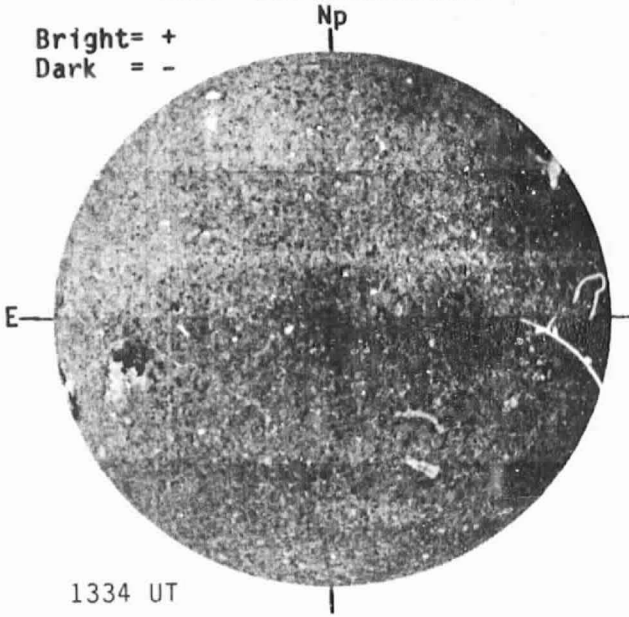
23 Jul 85

J U L Y 01, 1 9 8 5 (P=- 2.64, B_o= 2.81, L_o= 82.39)

24 Jul 85

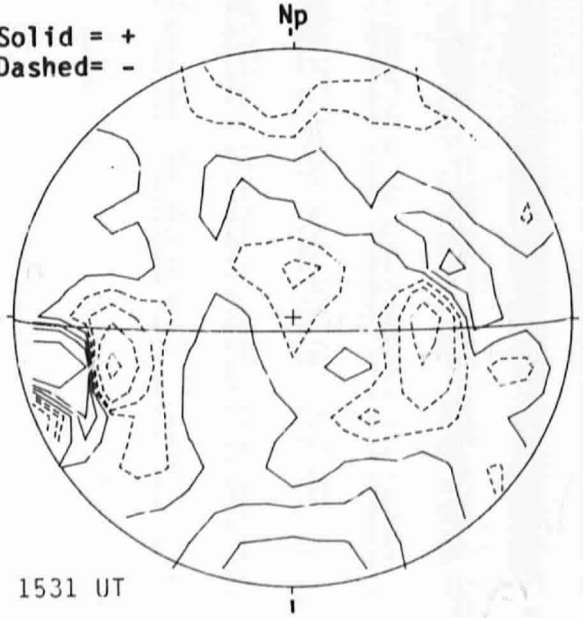
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

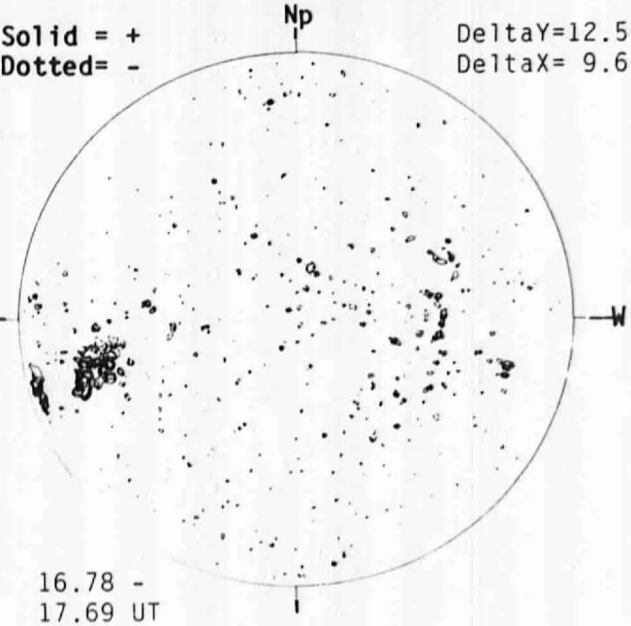
Solid = +
Dashed= -



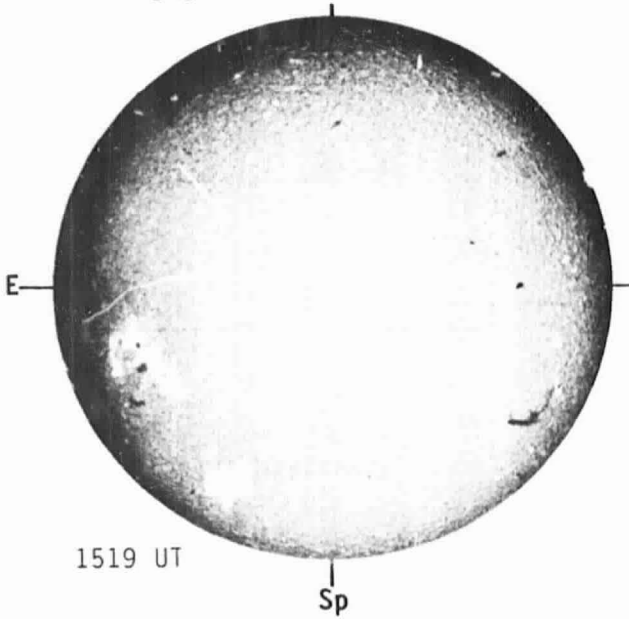
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

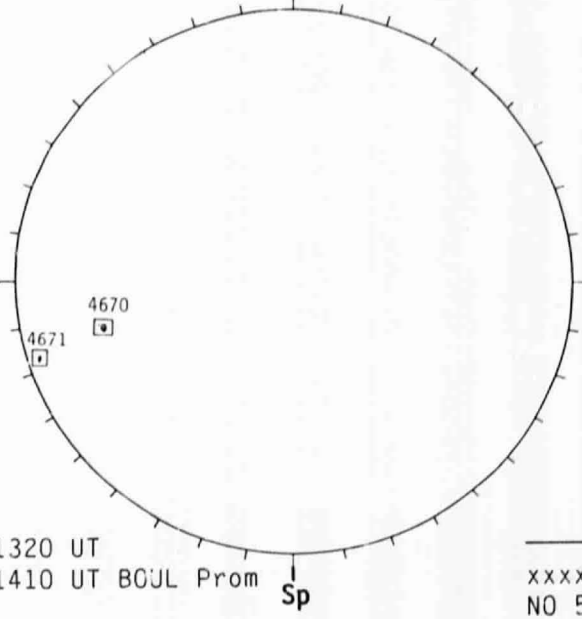
DeltaY=12.5
DeltaX= 9.6



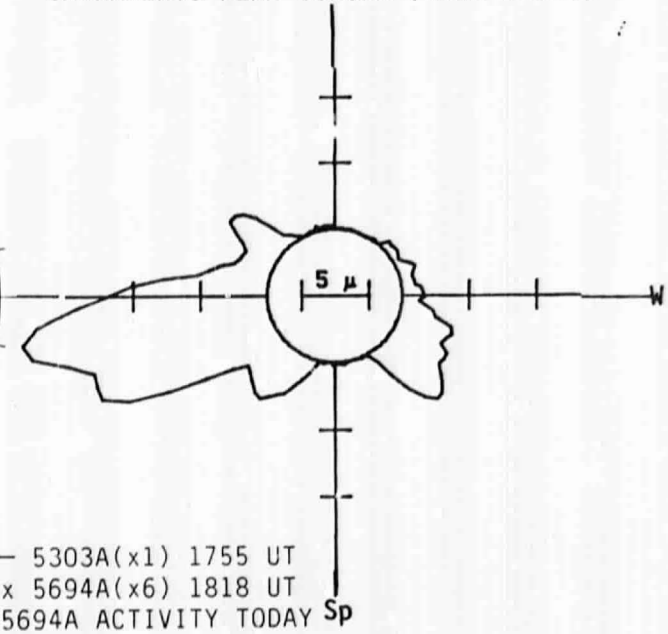
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

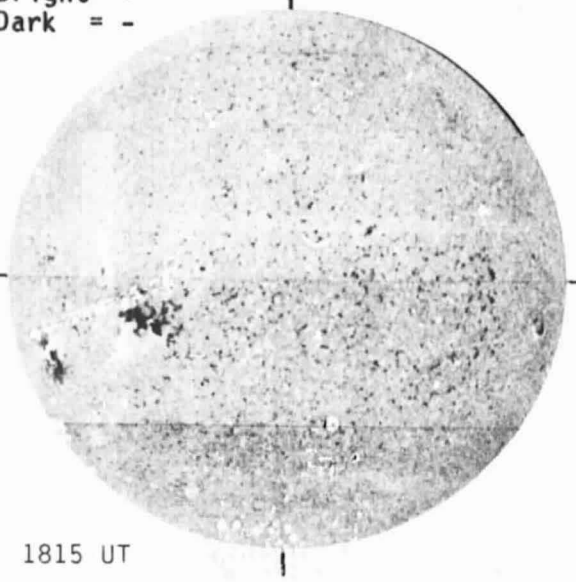


—— 5303A(x1) 1755 UT
xxxx 5694A(x6) 1818 UT
NO 5694A ACTIVITY TODAY

J U L Y 02, 1 9 8 5 (P=- 2.19, B_o= 2.92, L_o= 69.15)

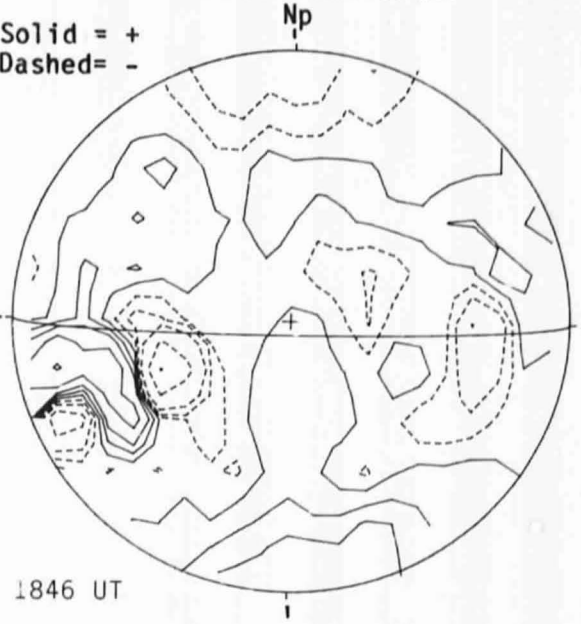
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

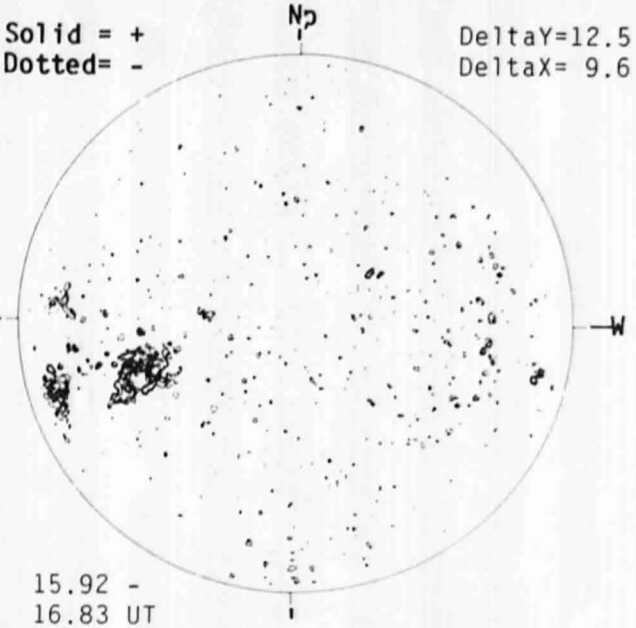
Solid = +
Dashed= -



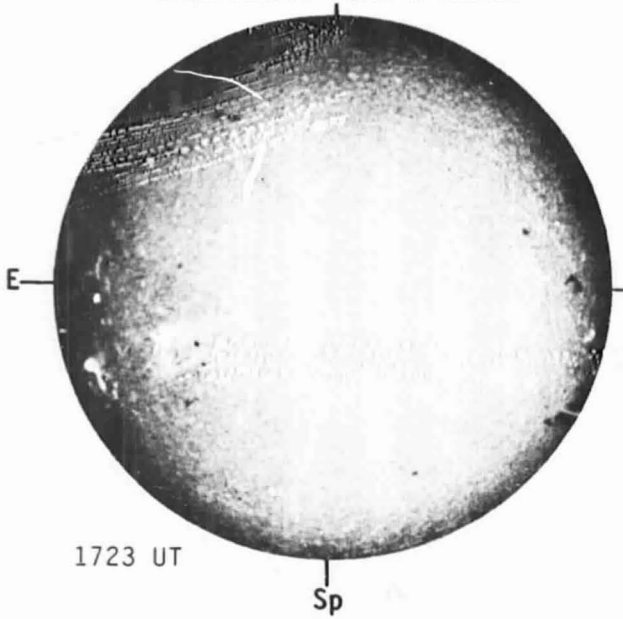
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

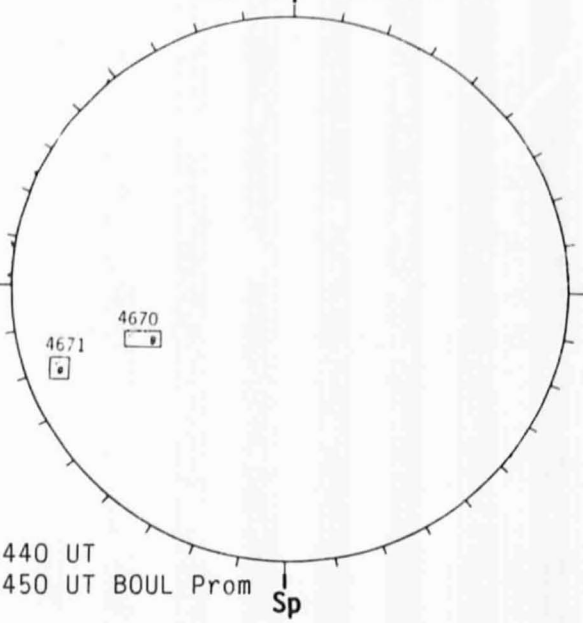
DeltaY=12.5
DeltaX= 9.6



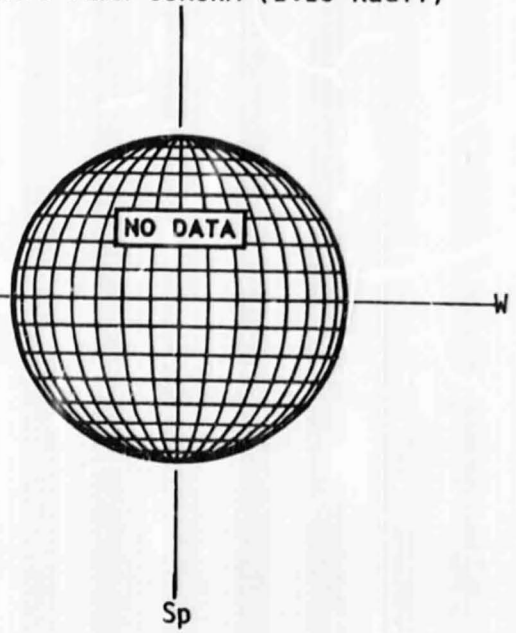
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



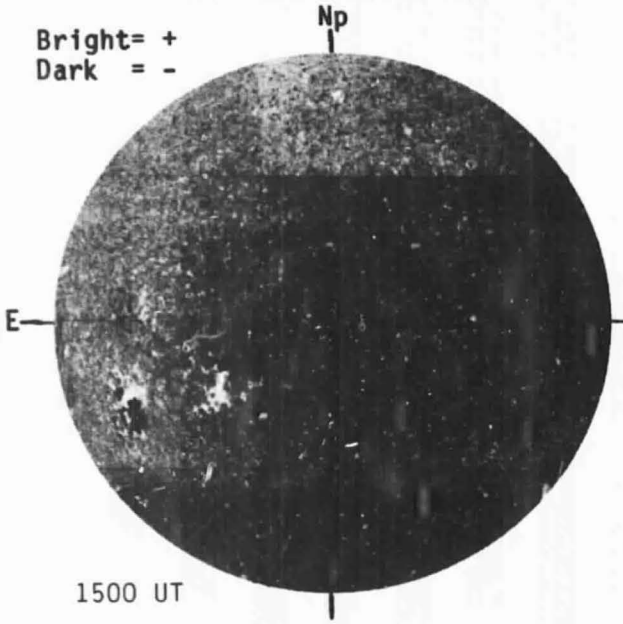
25 Jul 85

J U L Y 03, 1 9 8 5 (P=- 1.74, B_0= 3.03, L_0= 55.91)

26 Jul 85

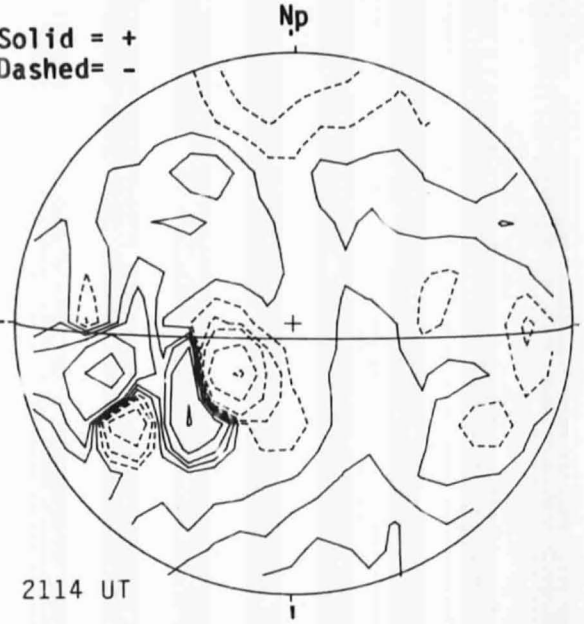
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

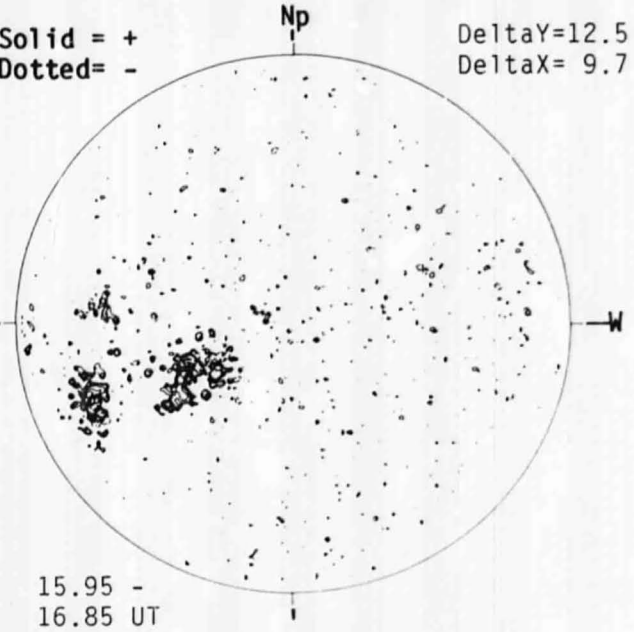
Solid = +
Dashed= -



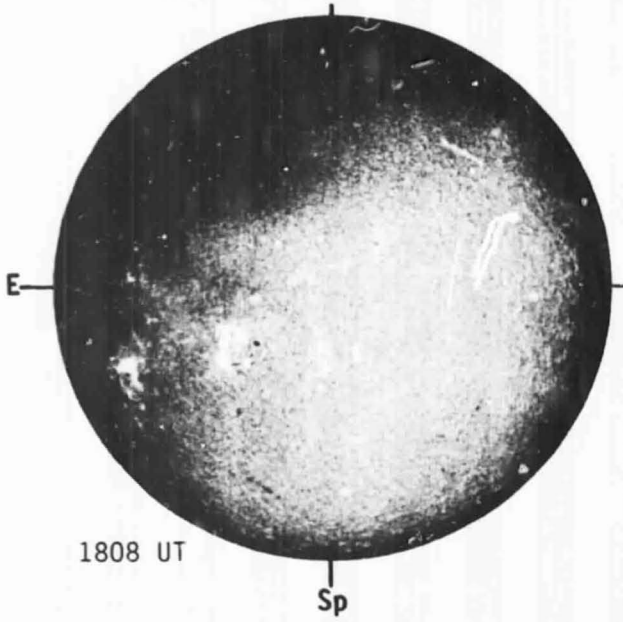
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

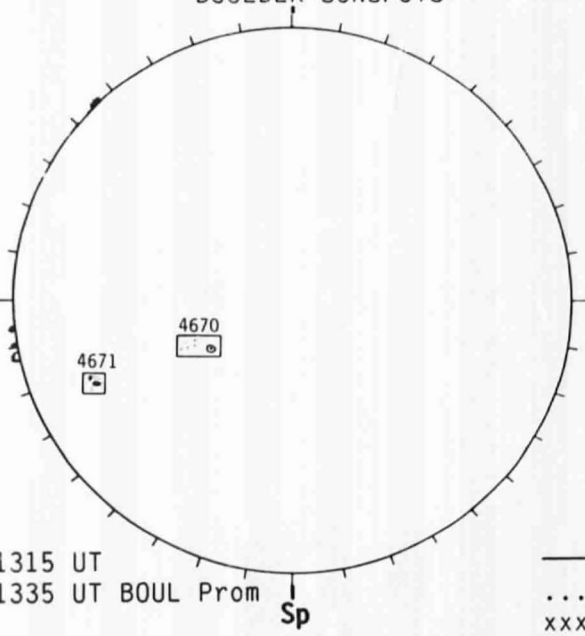
DeltaY=12.5
DeltaX= 9.7



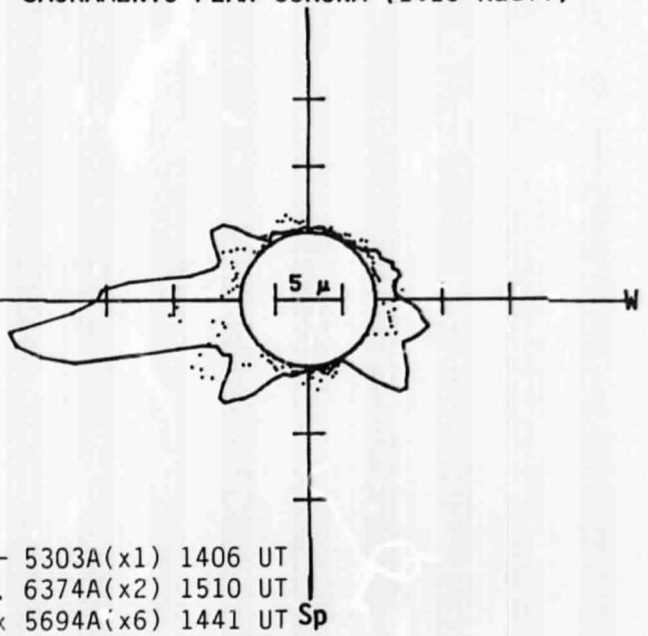
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



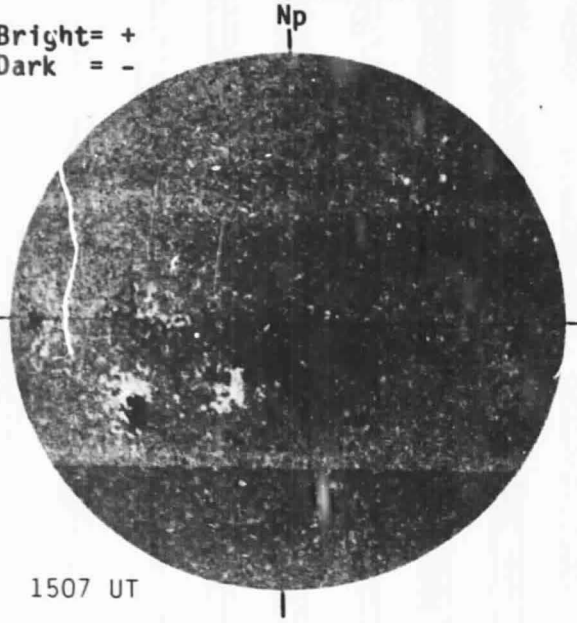
—— 5303A(x1) 1406 UT
.... 6374A(x2) 1510 UT
xxxx 5694A(x6) 1441 UT

NO 5694A ACTIVITY TODAY

J U L Y 04, 1 9 8 5 (P=- 1.28, B_o= 3.13, L_o= 42.68)

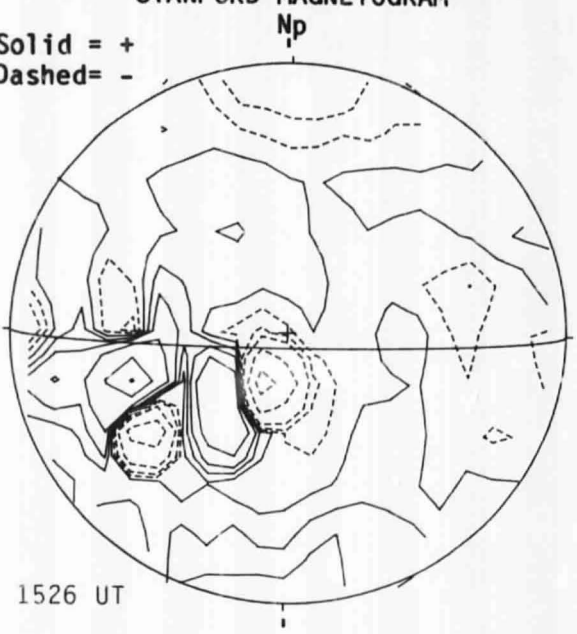
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



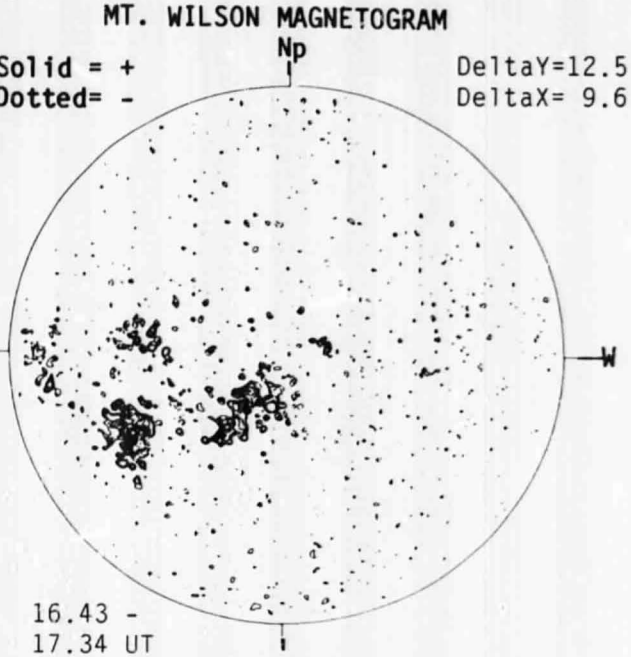
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

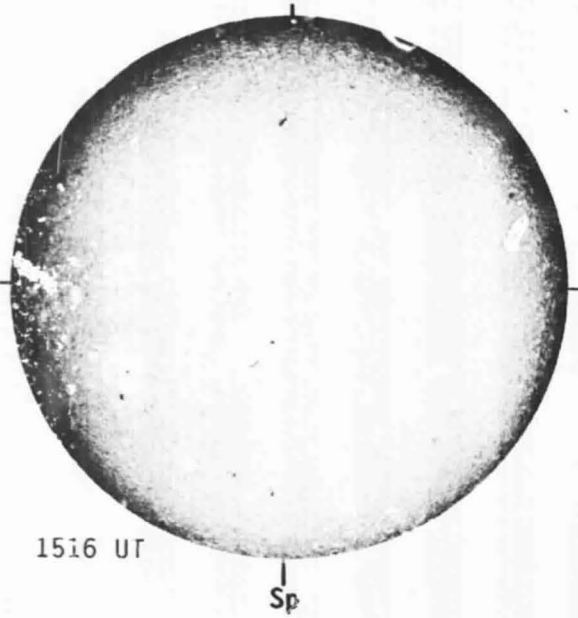


MT. WILSON MAGNETOGRAM

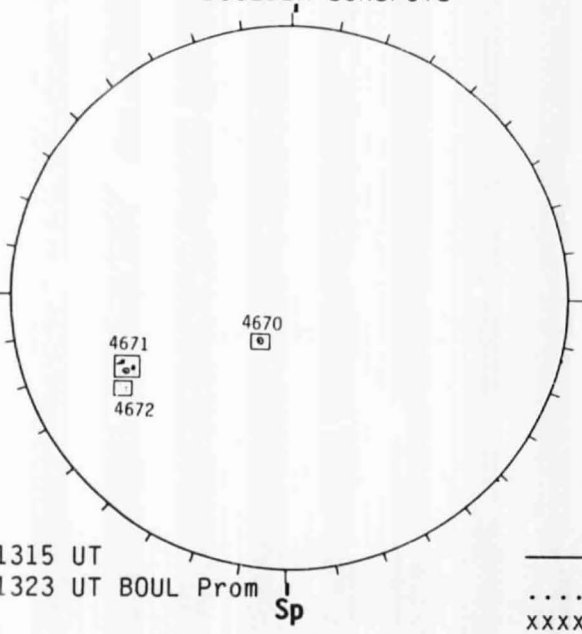
Solid = +
Dotted= -
DeltaY=12.5
DeltaX= 9.6



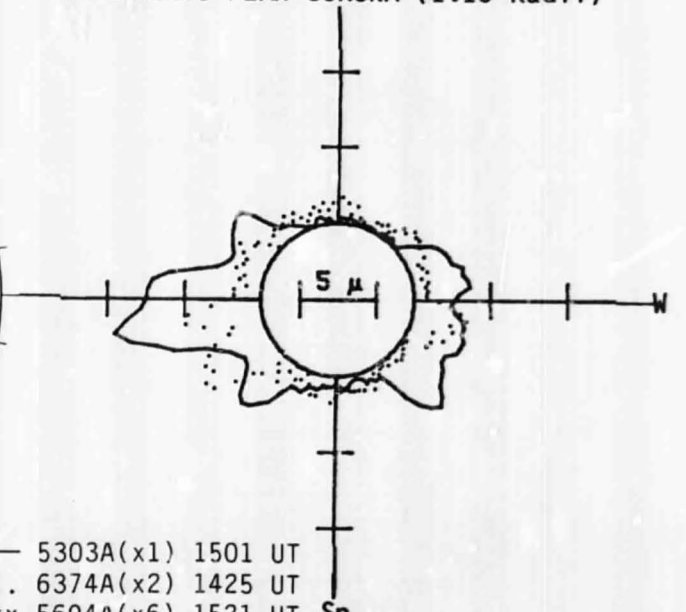
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



—— 5303A(x1) 1501 UT
.... 6374A(x2) 1425 UT
xxxx 5694A(x6) 1521 UT
NO 5694A ACTIVITY TODAY

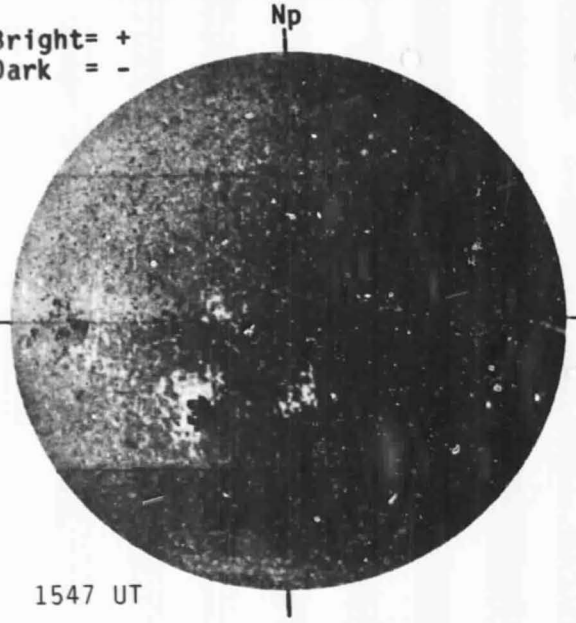
27 Jul 85

J U L Y 05, 1 9 8 5 (P=- 0.83, B_0= 3.24, L_0= 29.44)

28 Jul 85

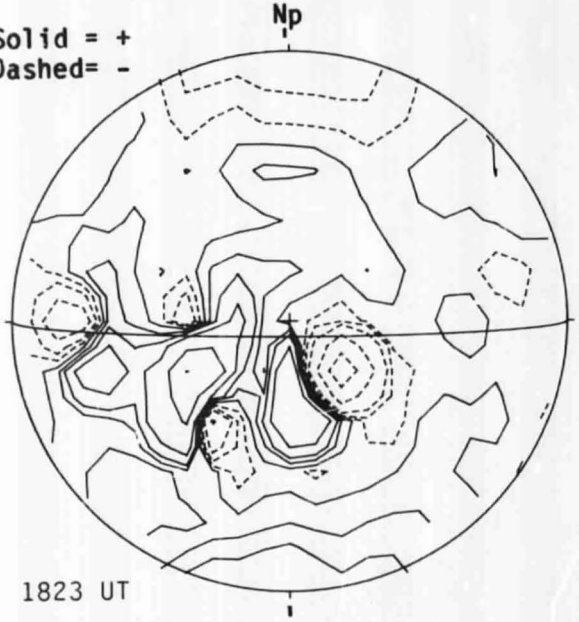
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



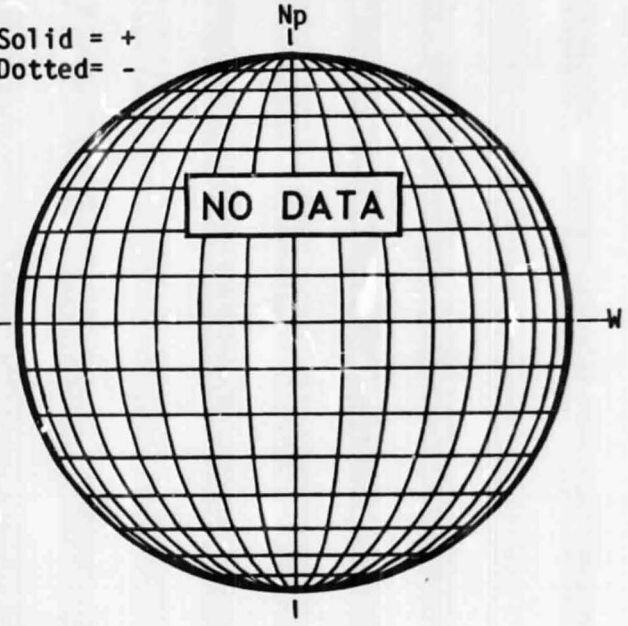
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

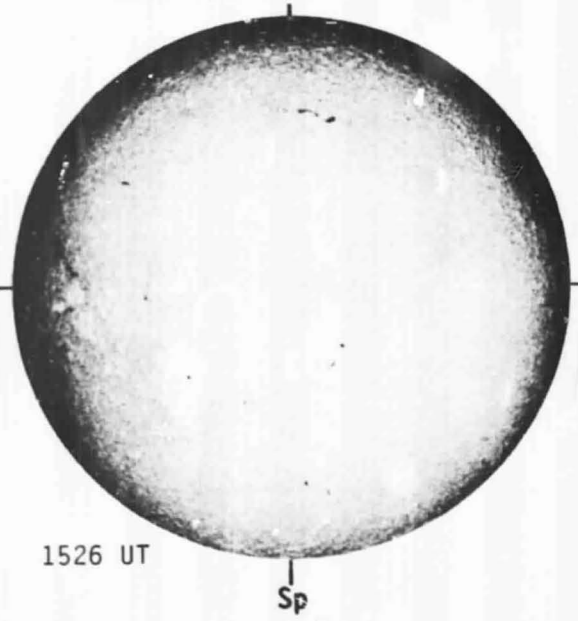


MT. WILSON MAGNETOGRAM

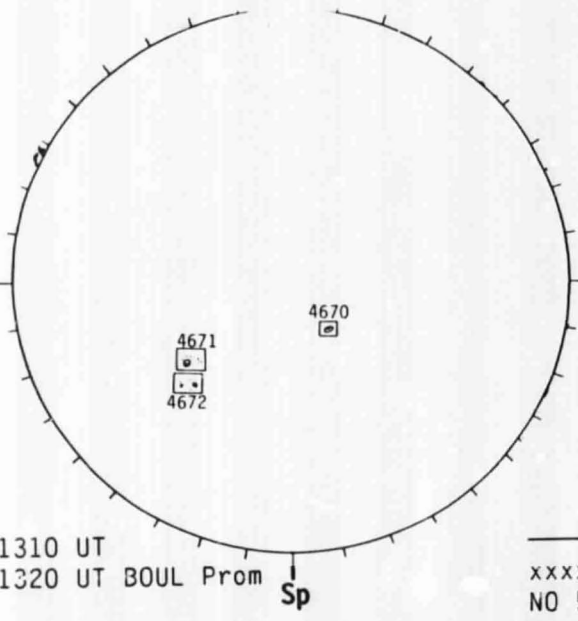
Solid = +
Dotted= -



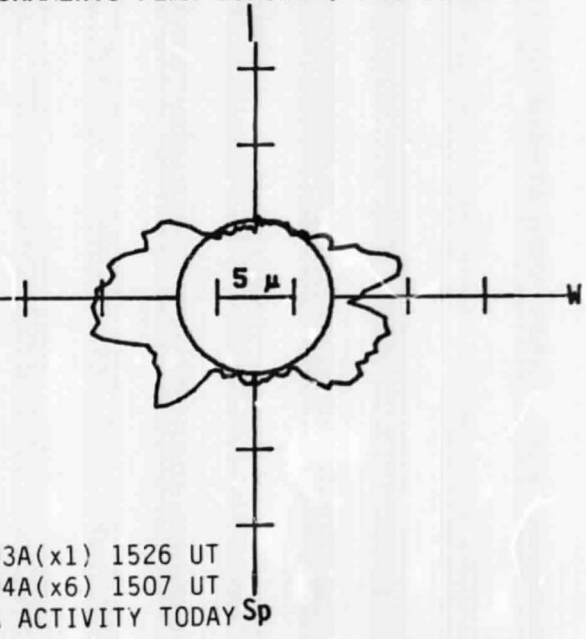
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

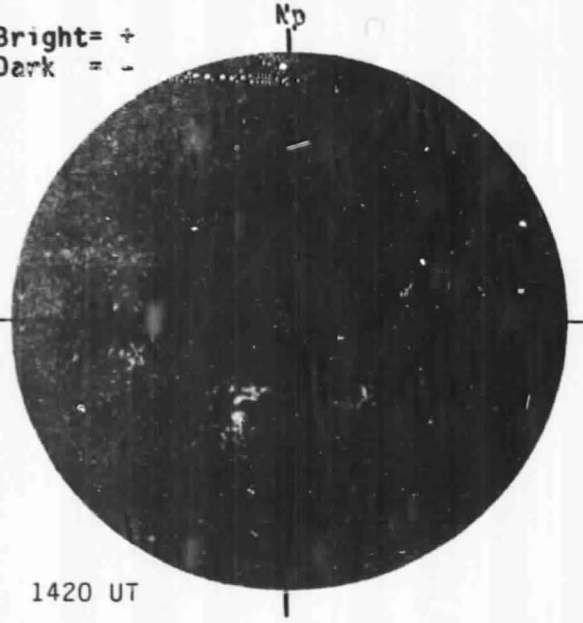


—— 5303A(x1) 1526 UT
xxxx 5694A(x6) 1507 UT
NO 5694A ACTIVITY TODAY

JULY 06, 1985 (P=- 0.38, B_o= 3.35, L_o= 16.21)

KITT PEAK MAGNETOGRAM

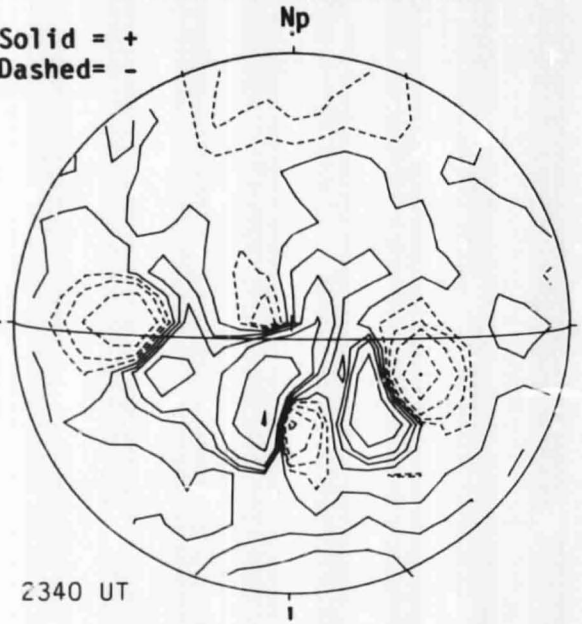
Bright= +
Dark = -



1420 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

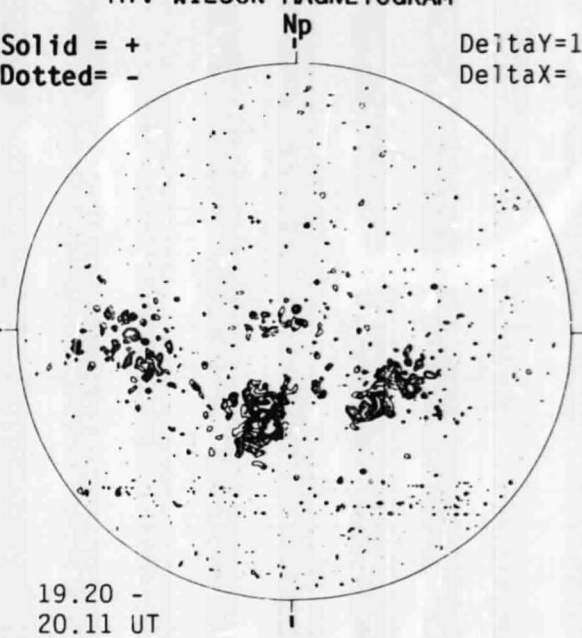


2340 UT

MT. WILSON MAGNETOGRAM

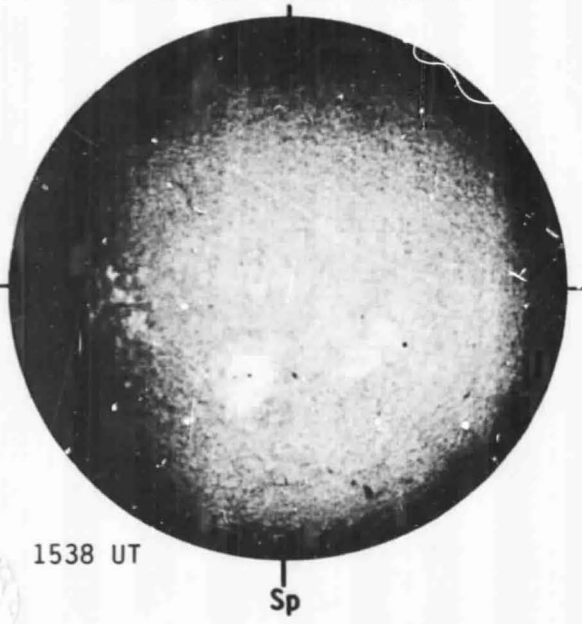
Solid = +
Dotted= -

DeltaY=12.5
DeltaX= 9.6



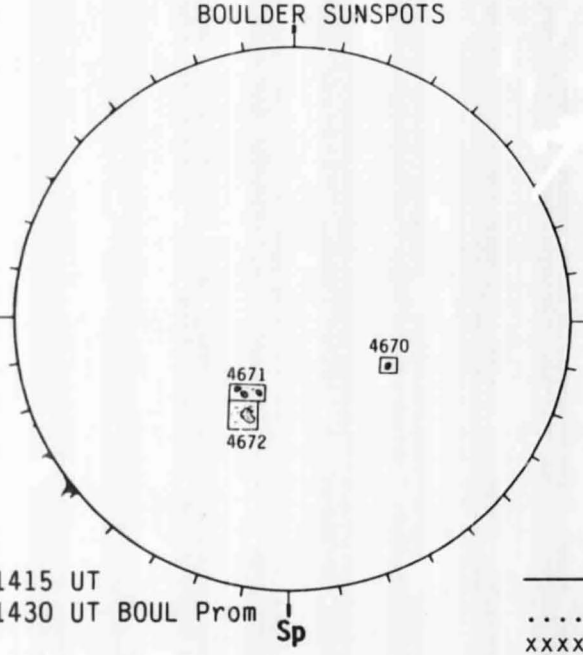
19.20 -
20.11 UT

SACRAMENTO PEAK H-ALPHA



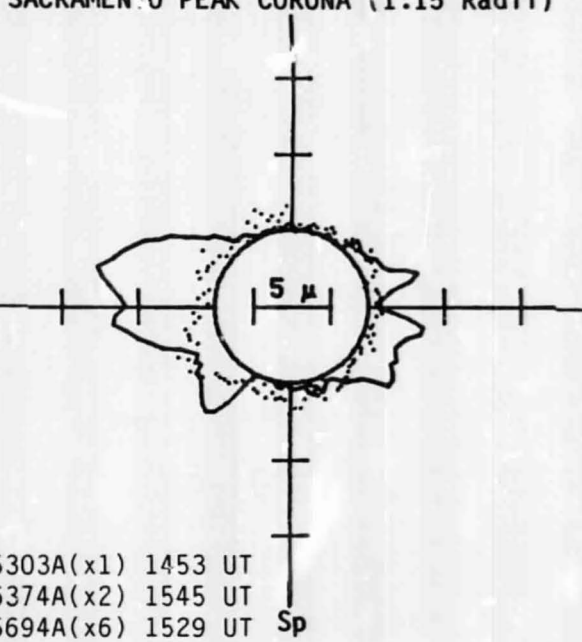
1538 UT

BOULDER SUNSPOTS



1415 UT
1430 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



—— 5303A(x1) 1453 UT
.... 6374A(x2) 1545 UT
xxxx 5694A(x6) 1529 UT
NO 5694A ACTIVITY TODAY

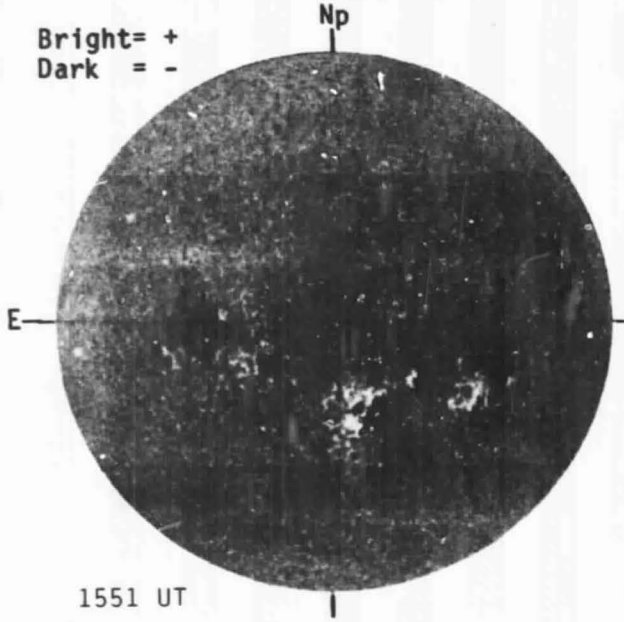
29 Jul 85

J U L Y 07, 1 9 8 5 (P= 0.07, B_0= 3.45, L_0= 2.97)

Jul 85 30

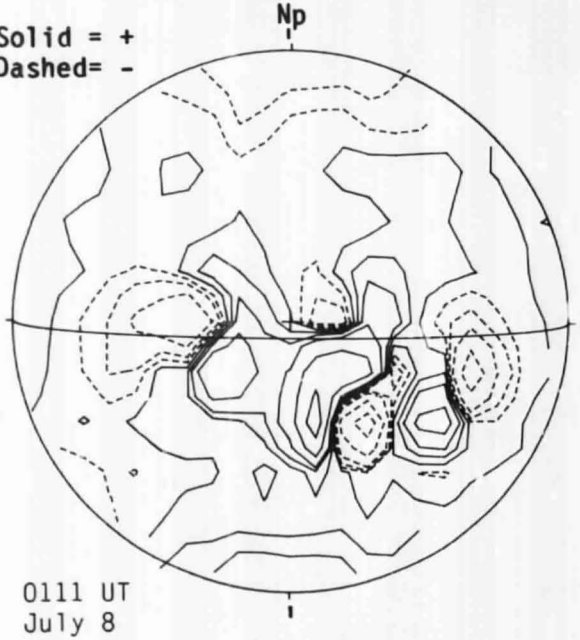
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

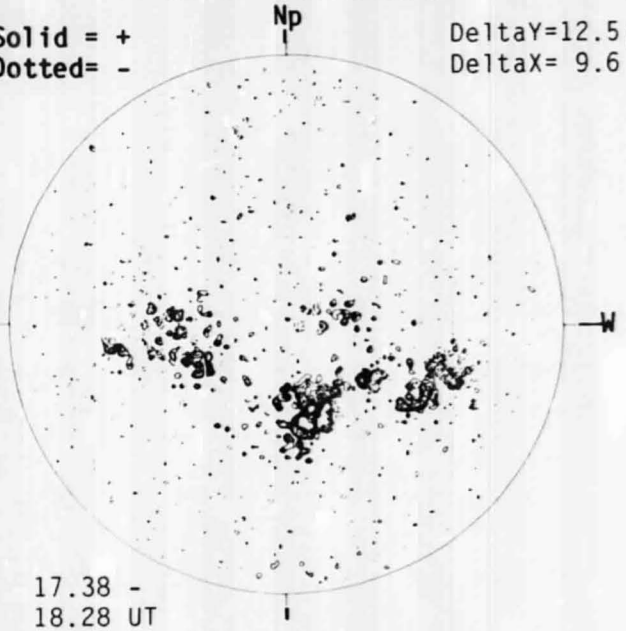
Solid = +
Dashed= -



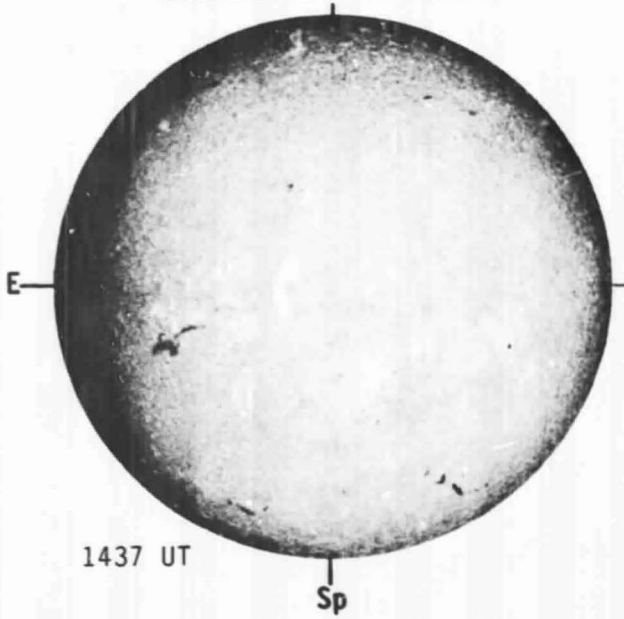
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

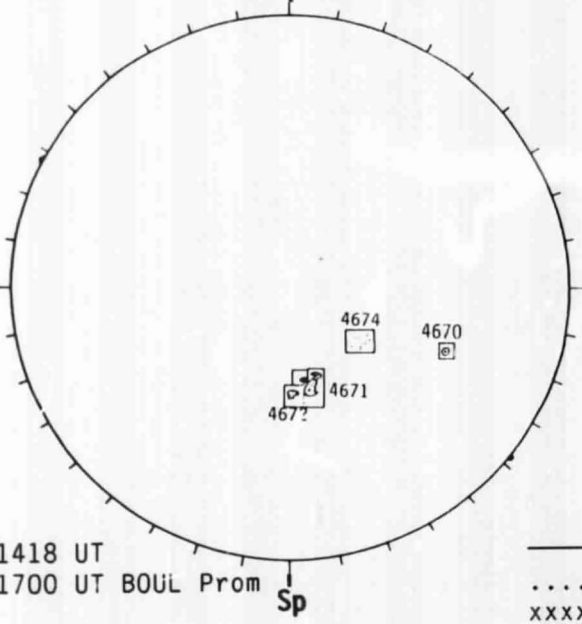
DeltaY=12.5
DeltaX= 9.6



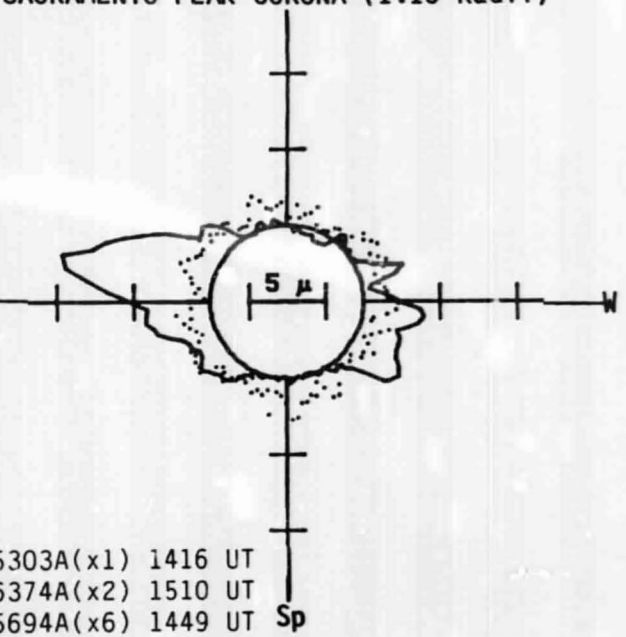
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



—— 5303A(x1) 1416 UT
.... 6374A(x2) 1510 UT
xxxx 5694A(x6) 1449 UT
NO 5694A ACTIVITY TODAY

J U L Y 08, 1 9 8 5 (P= 0.52, B_0= 3.55, L_0= 349.74)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -

E

1612 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -

1811 UT

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

DeltaY=12.5
DeltaX= 9.6

W

17.42 -
18.33 UT

SACRAMENTO PEAK H-ALPHA

E

1542 UT

Sp

BOULDER SUNSPOTS

4674
4670
4671

1500 UT
1520 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (1.15 Radii)

E

5 μ

W

Sp

—— 5303A(x1) 1338 UT
.... 6374A(x2) 1435 UT
xxxx 5694A(x6) 1413 UT
NO 5694A ACTIVITY TODAY

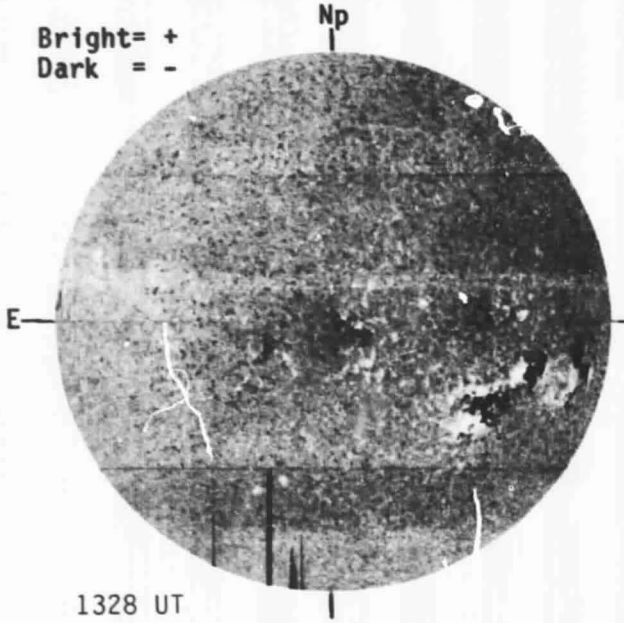
31
Jul 85

J U L Y 09, 1 9 8 5 (P= 0.98, B_0= 3.66, L_0= 336.50)

32 Jul 85

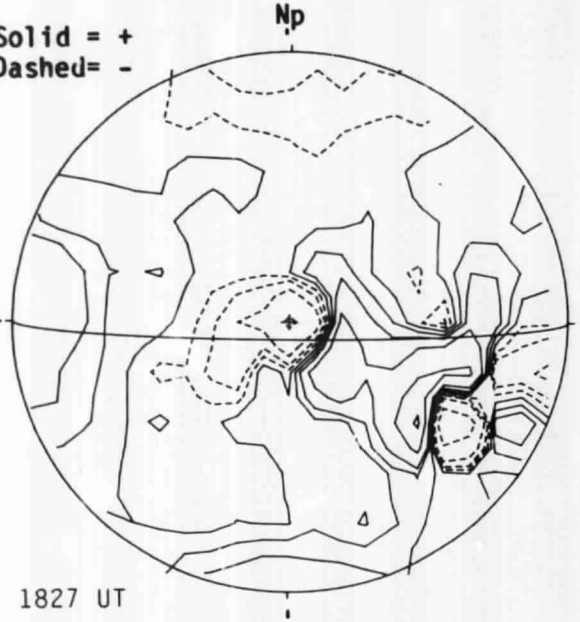
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

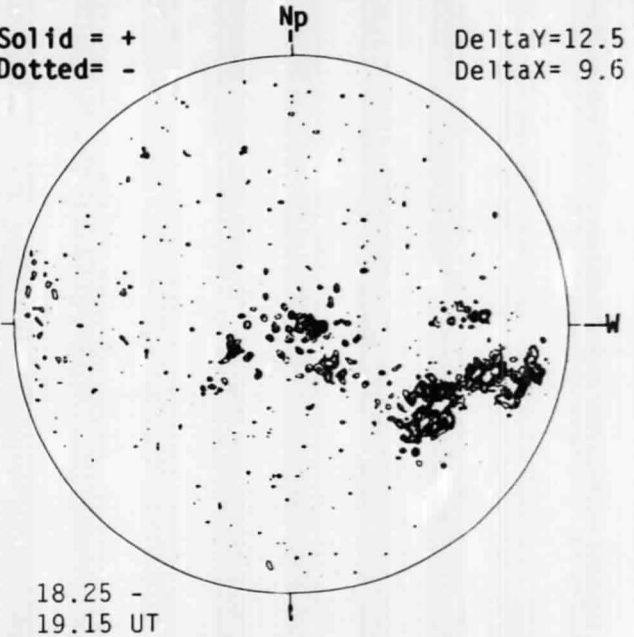
Solid = +
Dashed= -



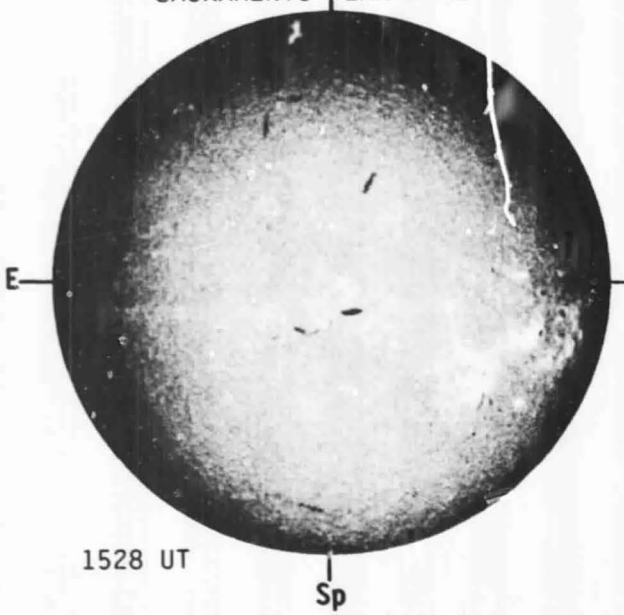
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

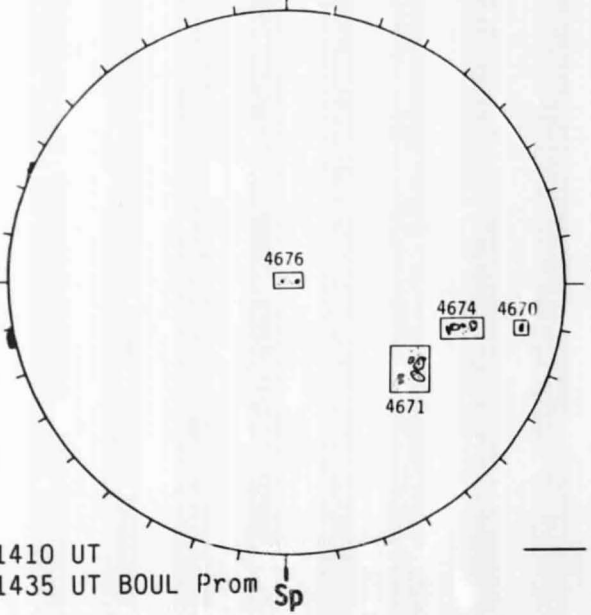
DeltaY=12.5
DeltaX= 9.6



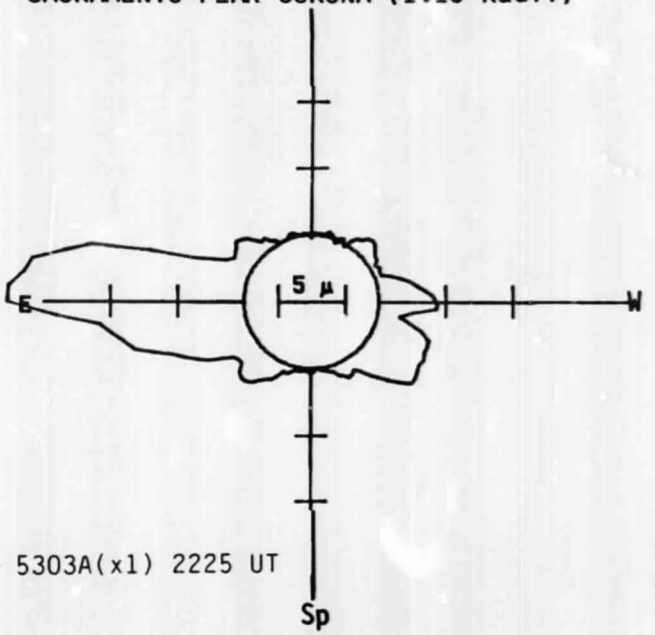
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

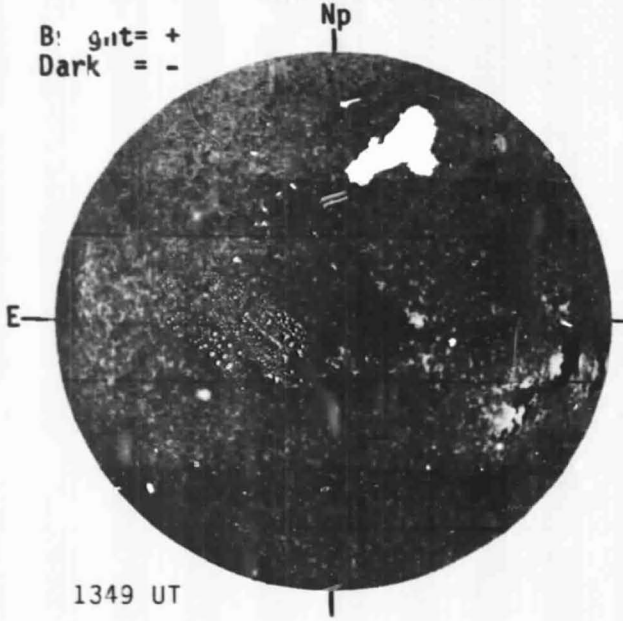


5303A(x1) 2225 UT

J U L Y 10, 1 9 8 5 (P= 1.43, B_0= 3.76, L_0= 323.27)

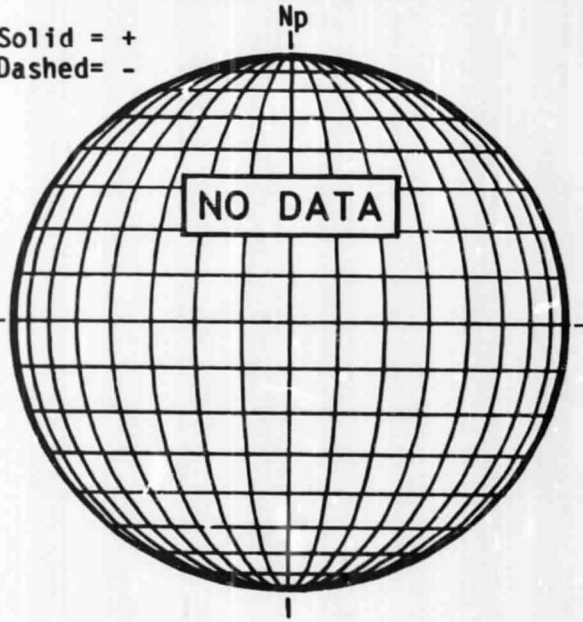
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



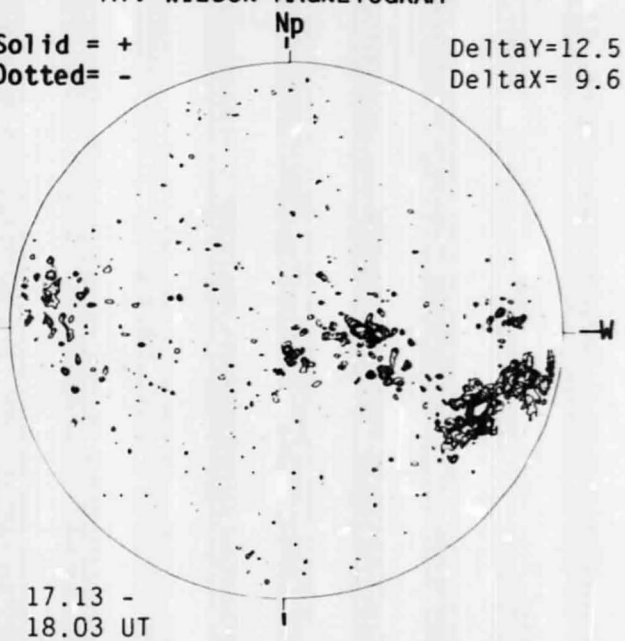
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

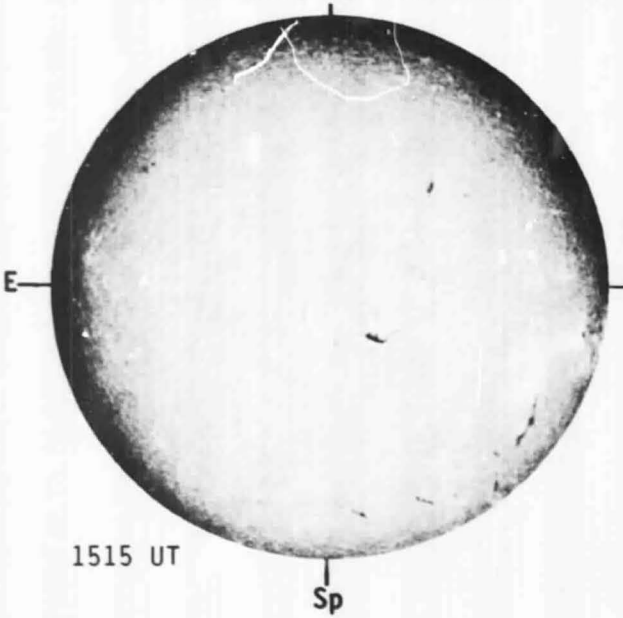


MT. WILSON MAGNETOGRAM

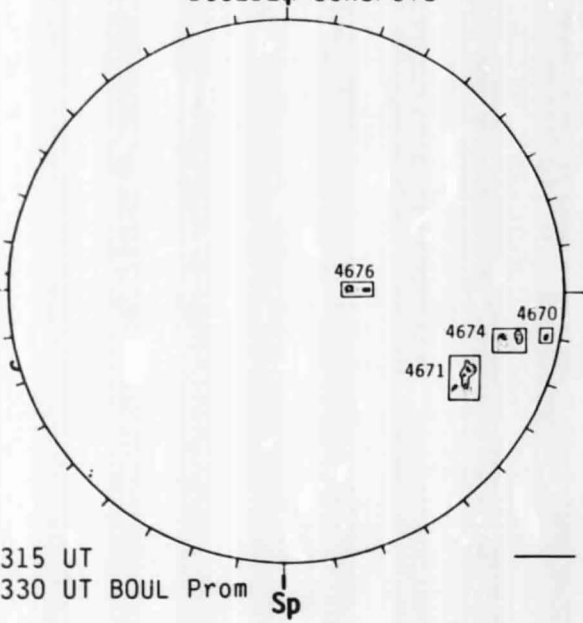
Solid = +
Dotted= -
DeltaY=12.5
DeltaX= 9.6



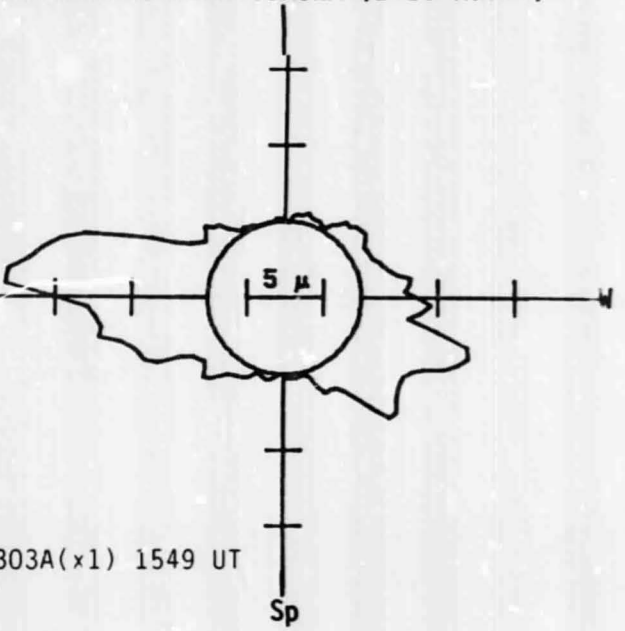
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

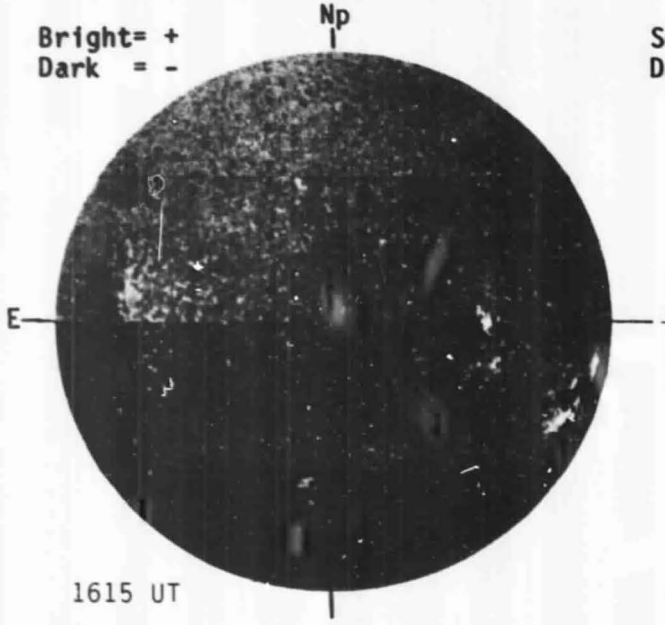


J U L Y 11, 1 9 8 5 (P= 1.87, B_o = 3.86, L_o = 310.03)

34 Jul 85

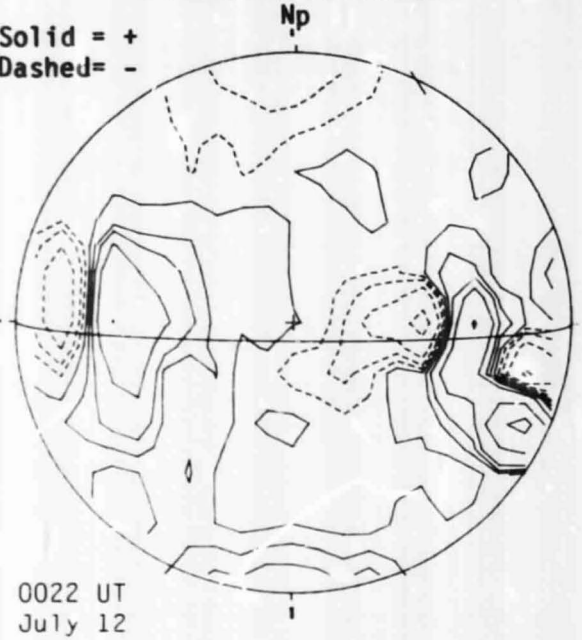
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

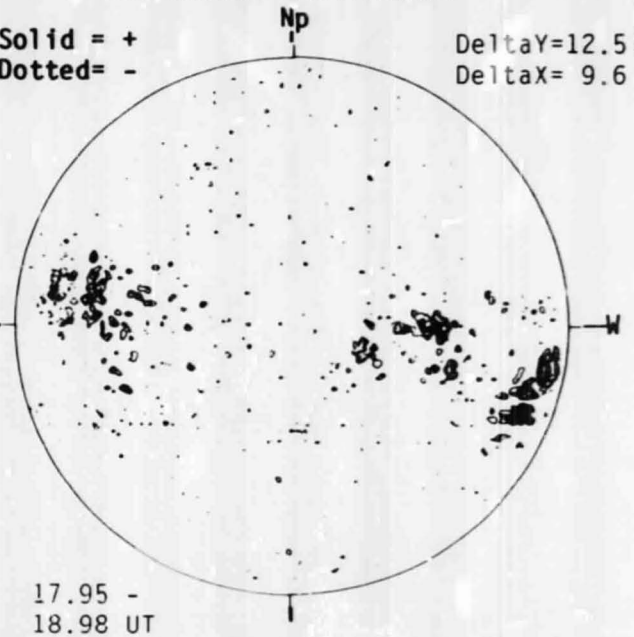
Solid = +
Dashed= -



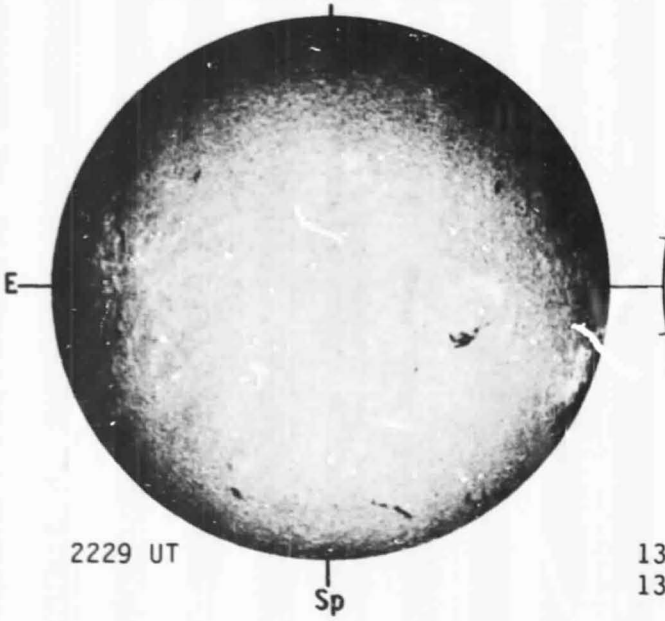
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

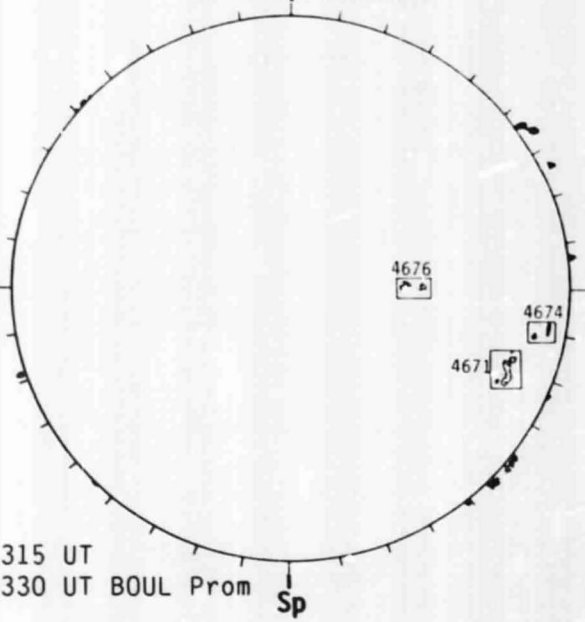
DeltaY=12.5
DeltaX= 9.6



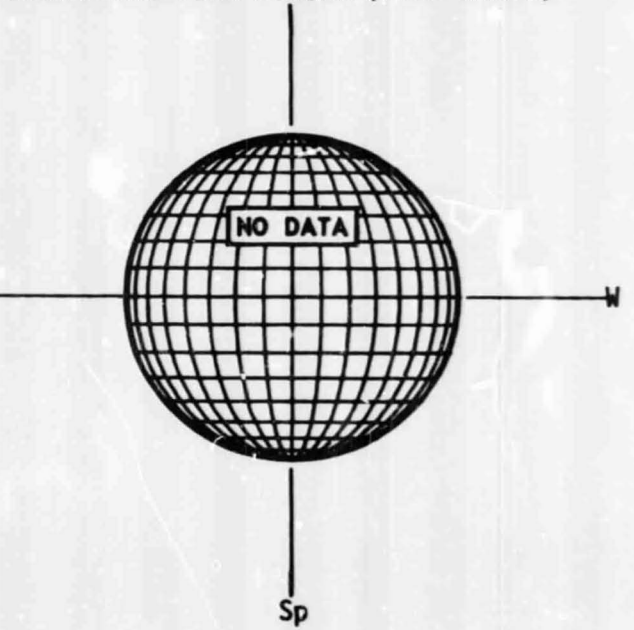
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS

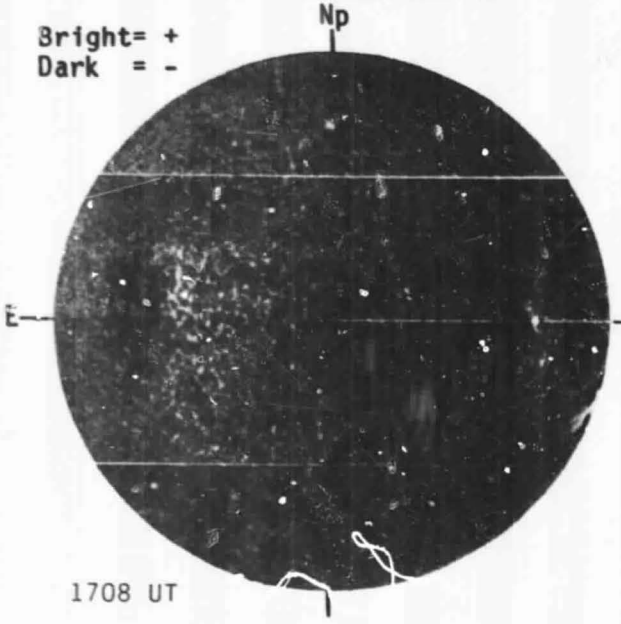


SACRAMENTO PEAK CORONA (1.15 Radii)

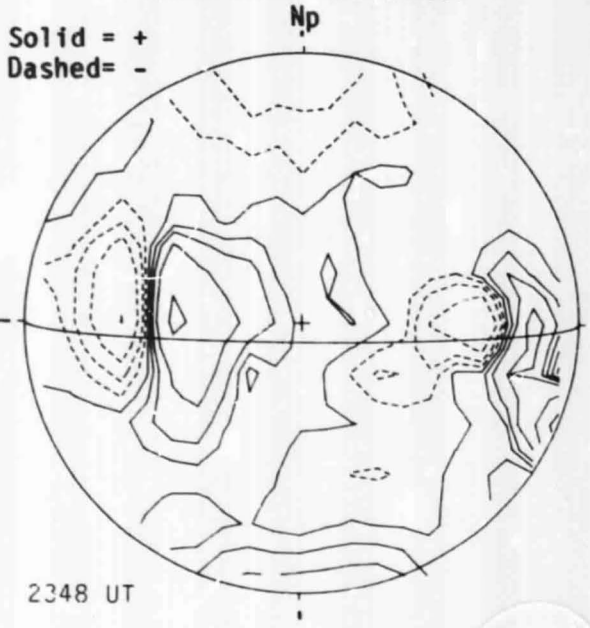


J U L Y 12, 1 9 8 5 (P= 2.32, B_0 = 3.96, L_0 = 296.80)

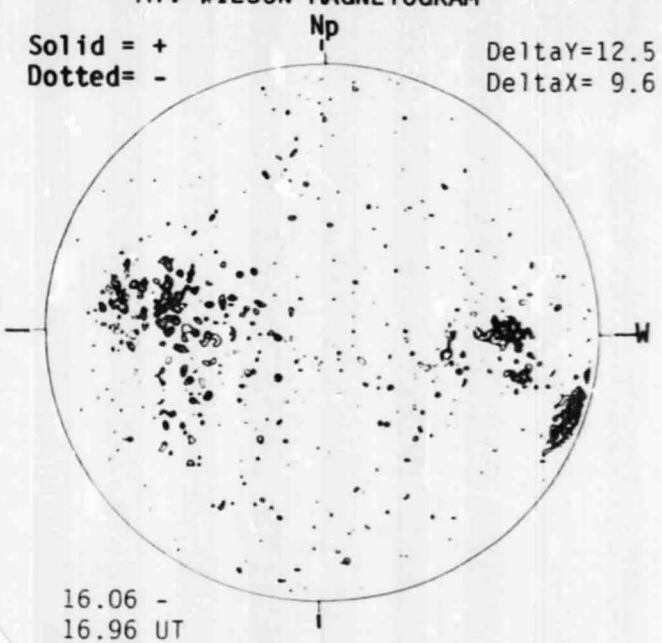
KITT PEAK MAGNETOGRAM



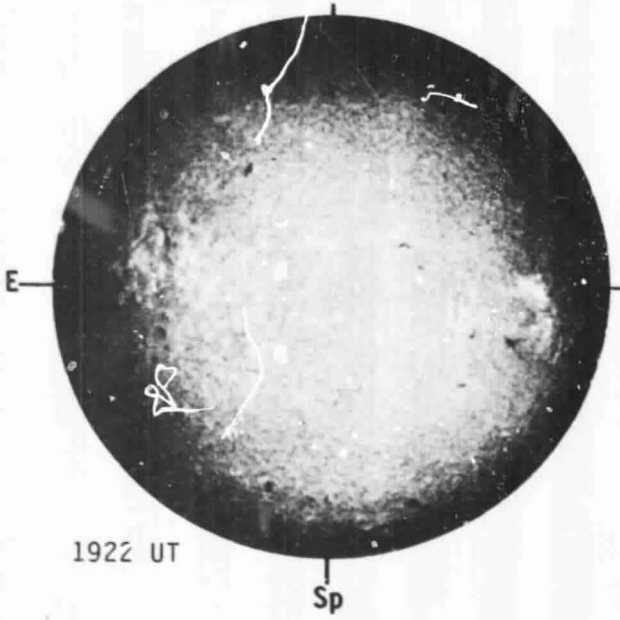
STANFORD MAGNETOGRAM



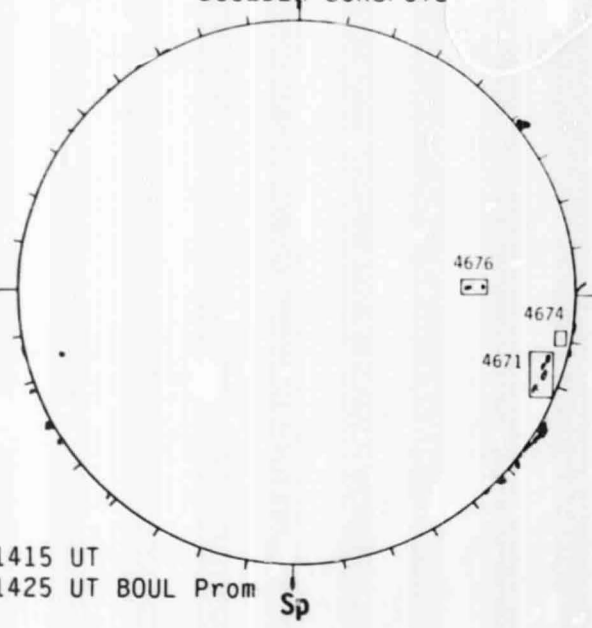
MT. WILSON MAGNETOGRAM



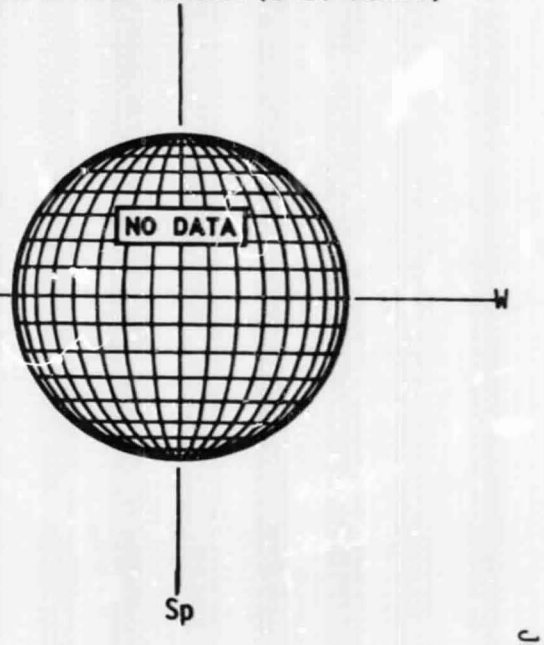
SACRAMENTO PEAK H-ALPHA



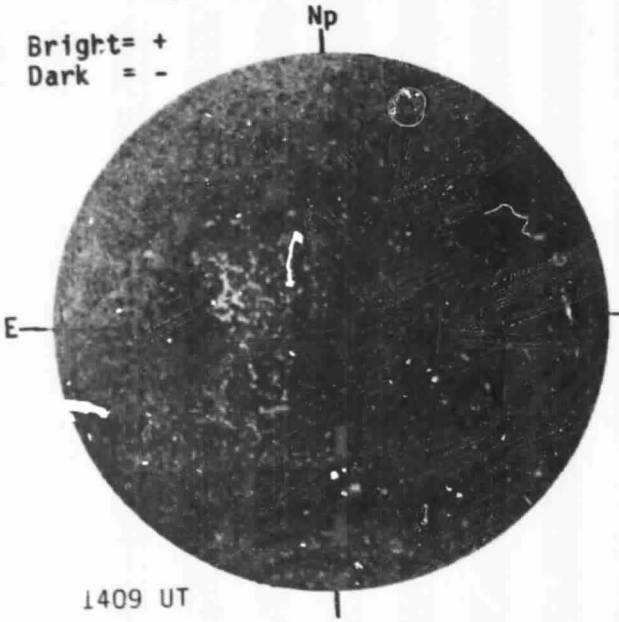
BOULDER SUNSPOTS



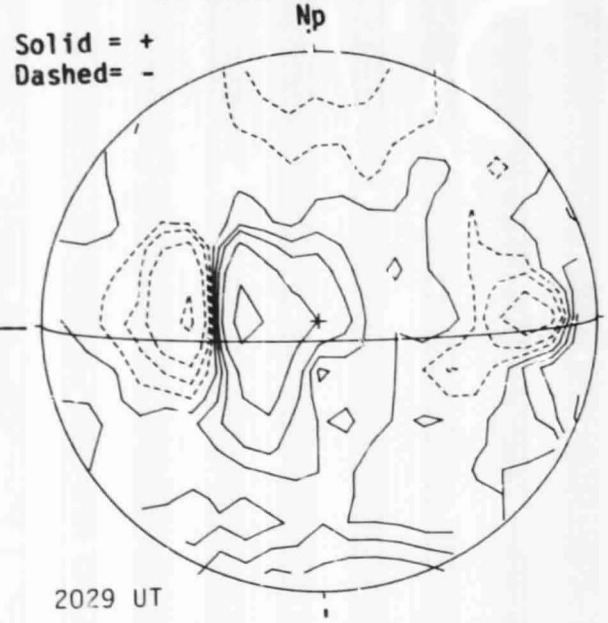
SACRAMENTO PEAK CORONA (1.15 Radii)



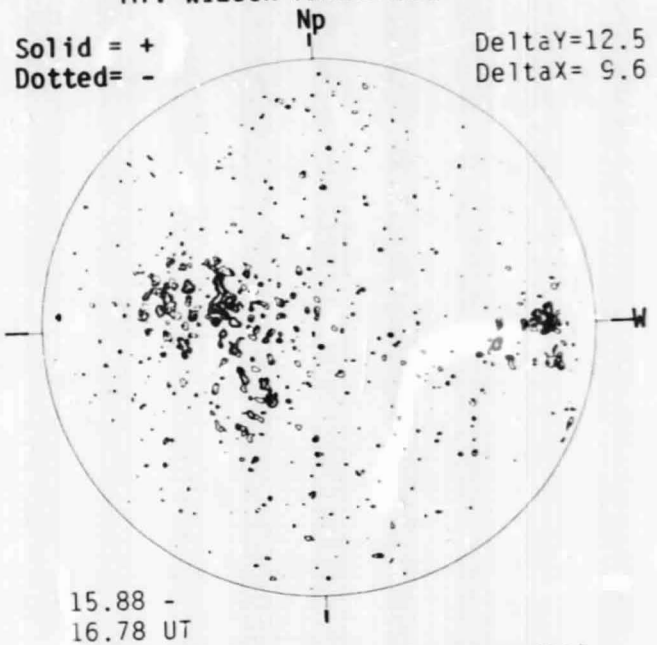
KITT PEAK MAGNETOGRAM



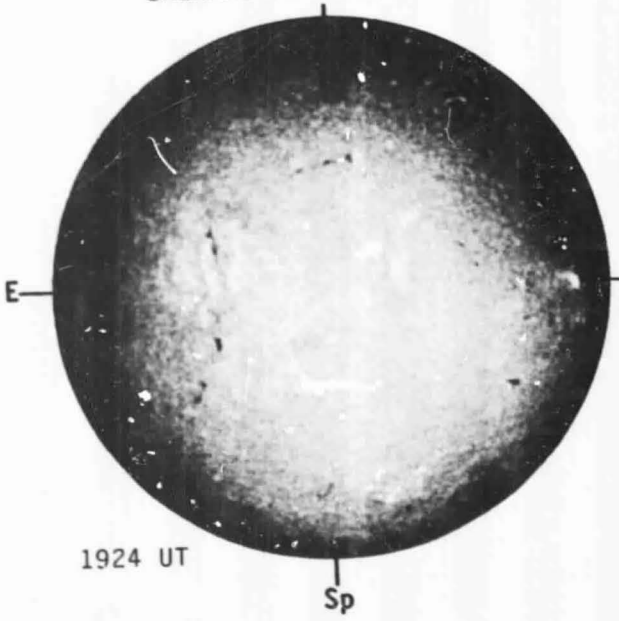
STANFORD MAGNETOGRAM



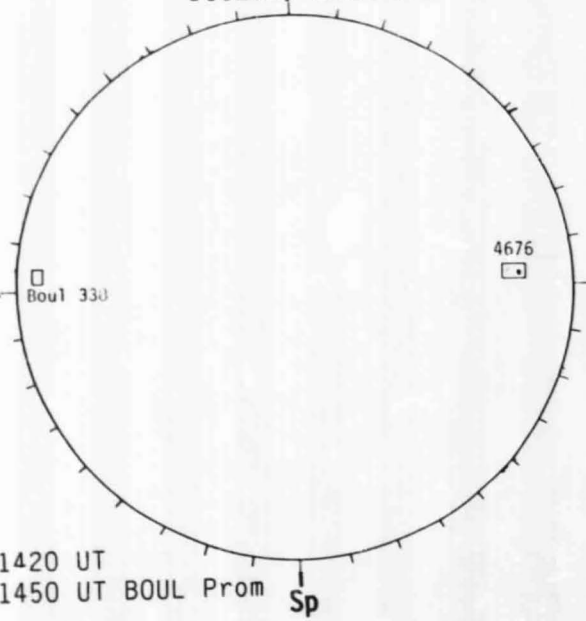
MT. WILSON MAGNETOGRAM



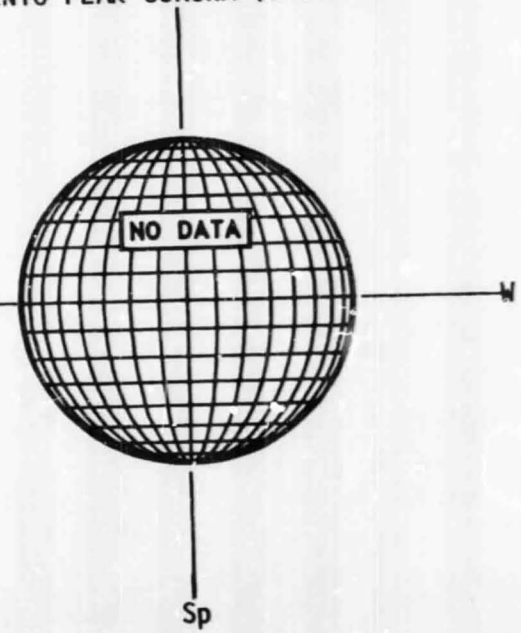
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



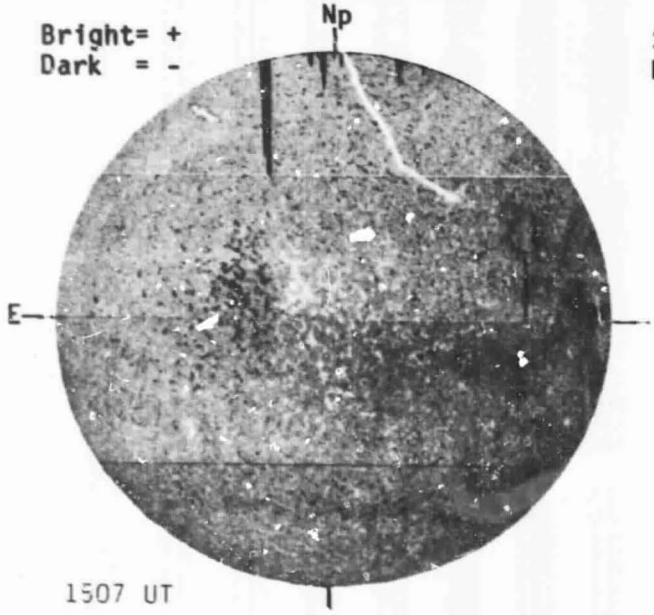
SACRAMENTO PEAK CORONA (1.15 Radii)



J U L Y 14, 1 9 8 5 (P= 3.21, B_o = 4.15, L_o = 270.33)

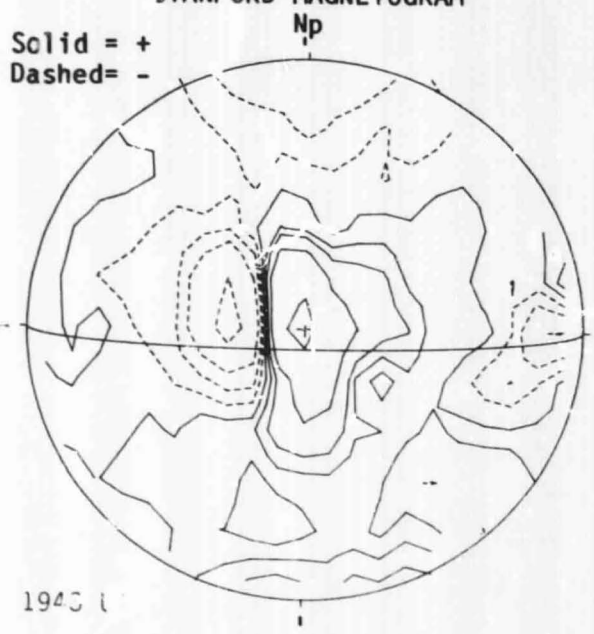
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

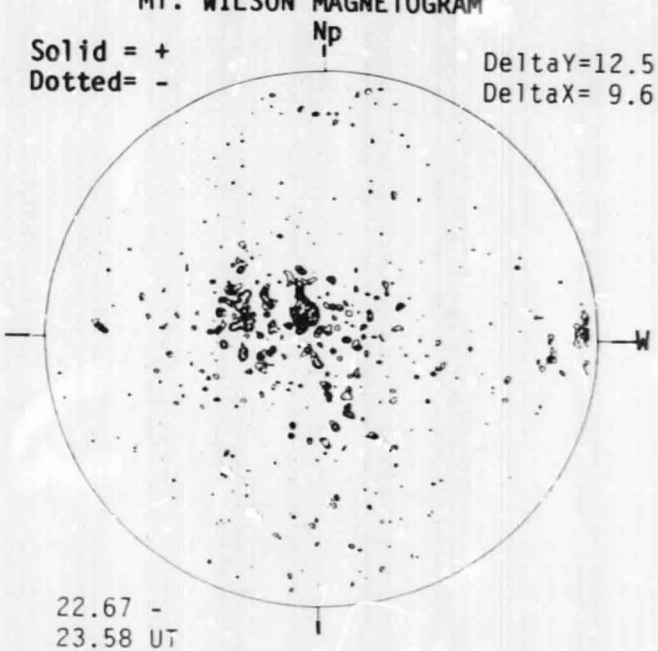
Solid = +
Dashed= -



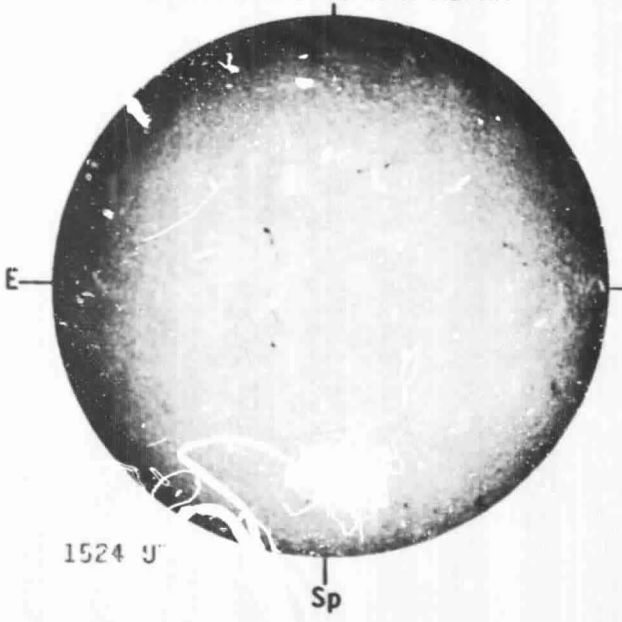
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

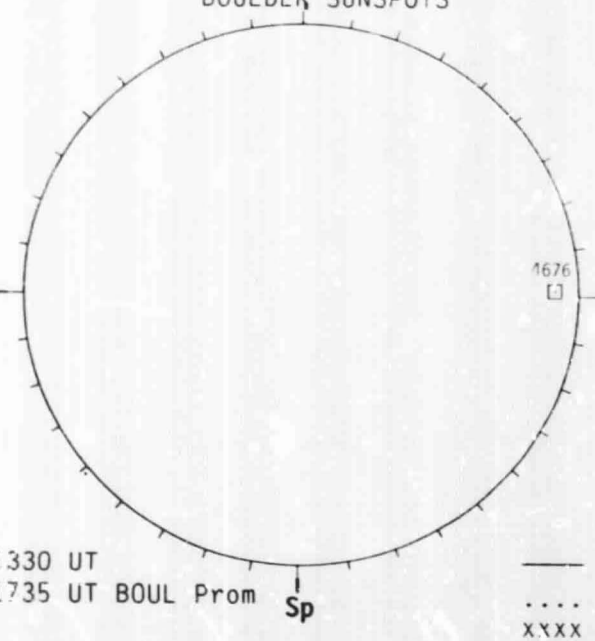
DeltaY=12.5
DeltaX= 9.6



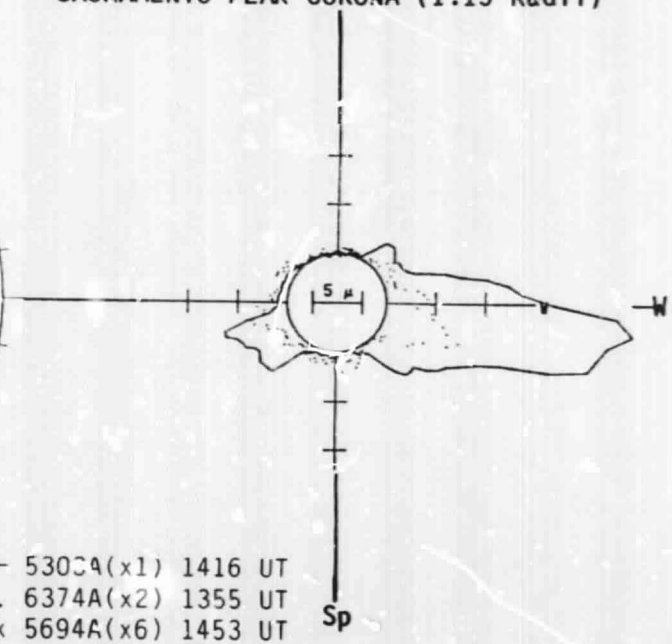
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



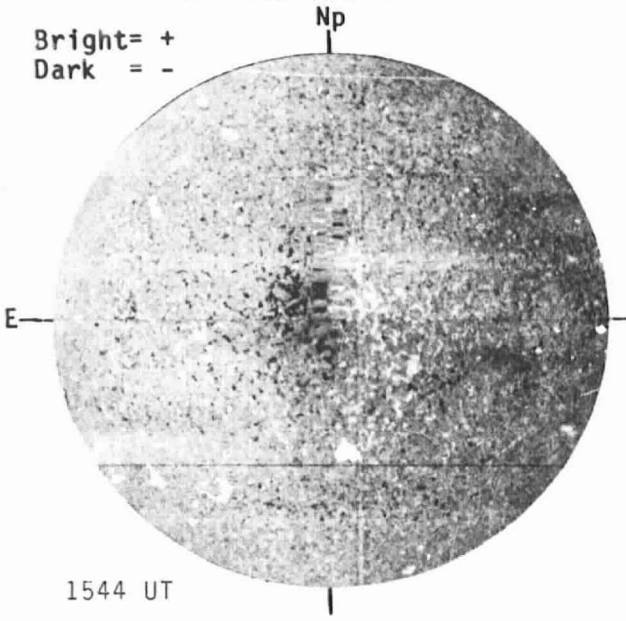
—— 5303A(x1) 1416 UT
.... 6374A(x2) 1355 UT
xxxx 5694A(x6) 1453 UT
NO 5694A ACTIVITY TODAY

37
Jul 85

J U L Y 15, 1 9 8 5 (P= 3.66, B_o= 4.25, L_o= 257 10)

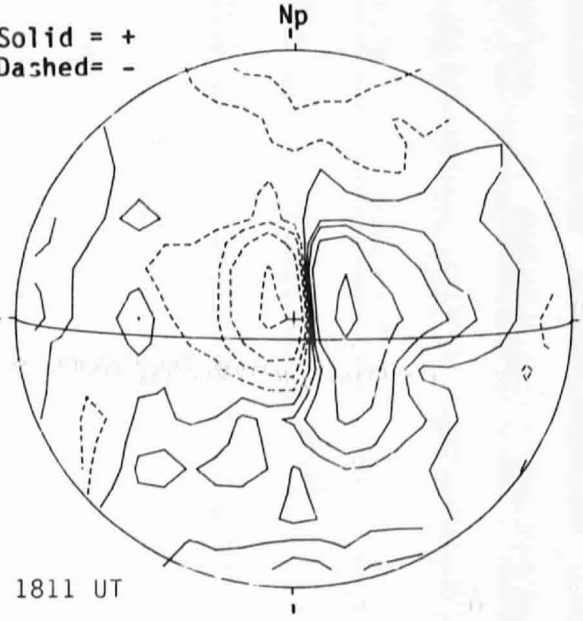
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



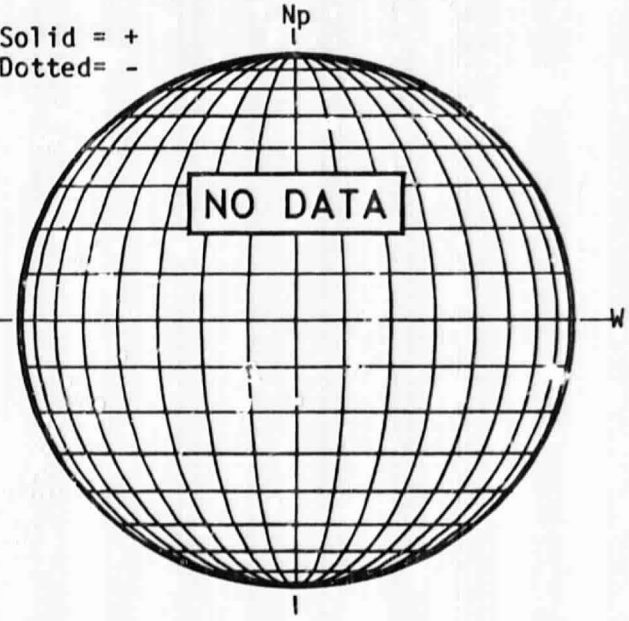
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

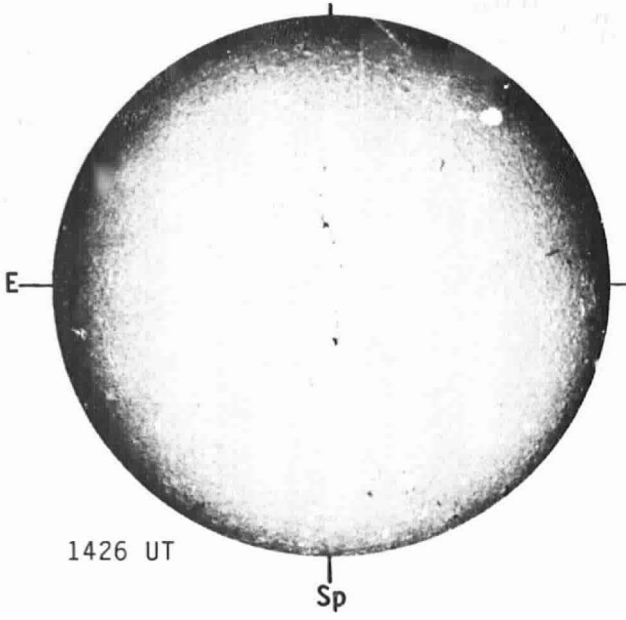


MT. WILSON MAGNETOGRAM

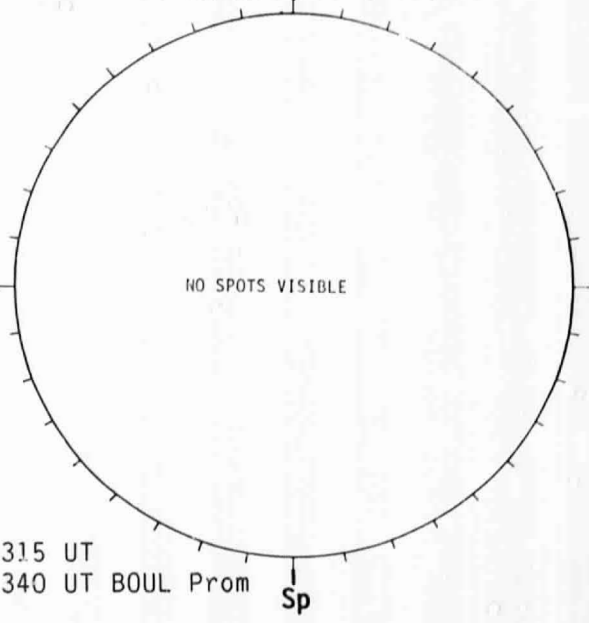
Solid = +
Dotted= -



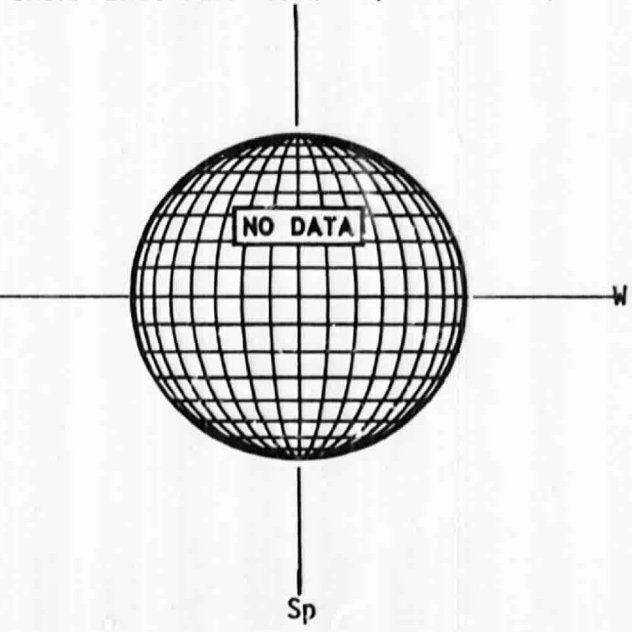
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



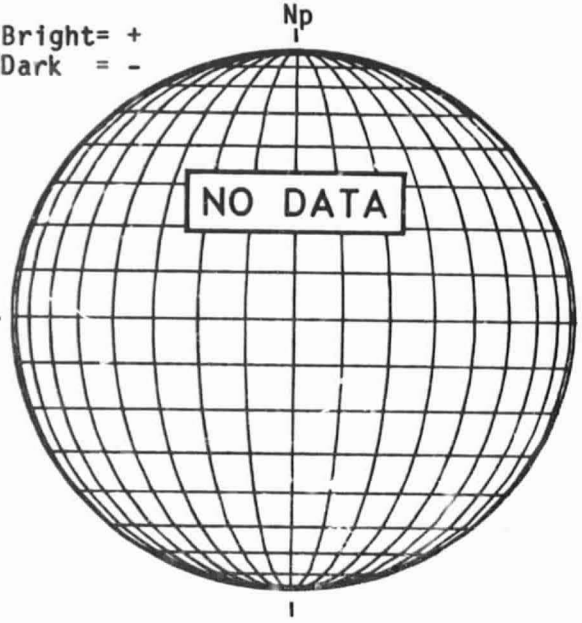
SACRAMENTO PEAK CORONA (1.15 Radii)



J U L Y 16, 1 9 8 5 (P= 4.10, B_o = 4.34, L_o = 243.87)

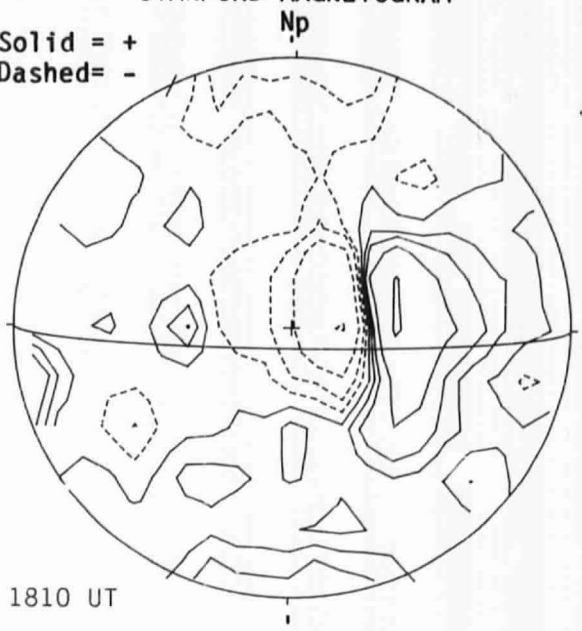
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

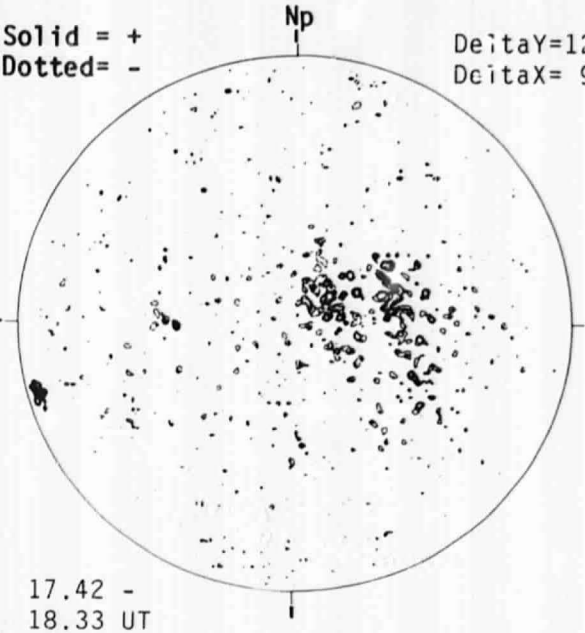
Solid = +
Dashed= -



1810 UT

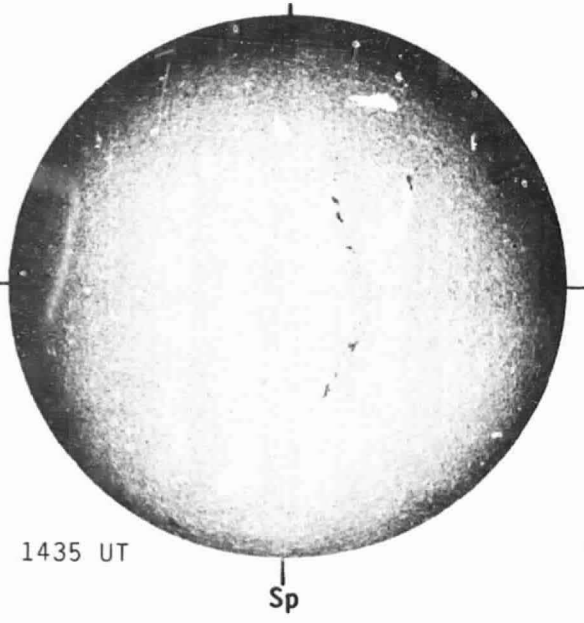
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -



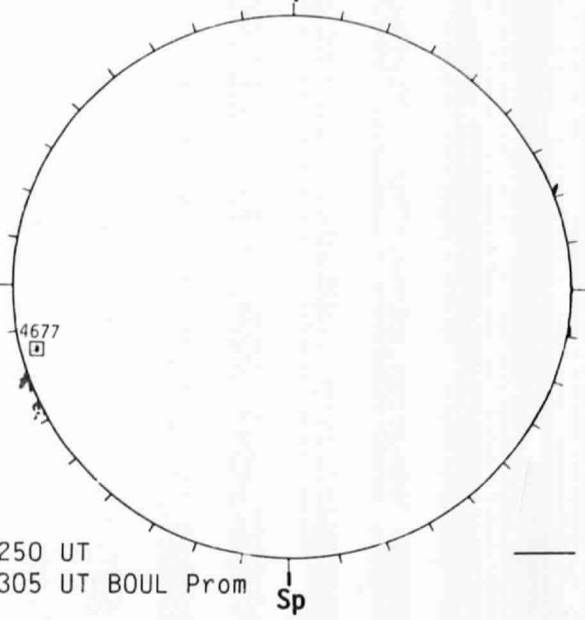
17.42 -
18.33 UT

SACRAMENTO PEAK H-ALPHA



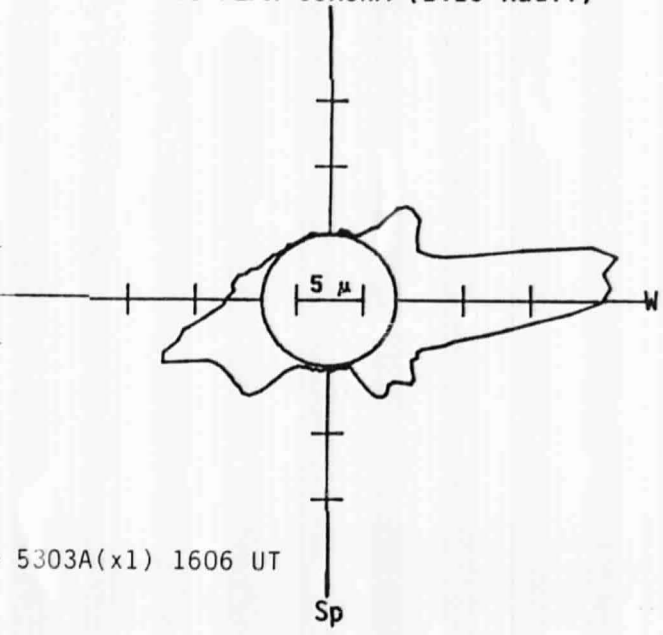
1435 UT

BOULDER SUNSPOTS



1250 UT
1305 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

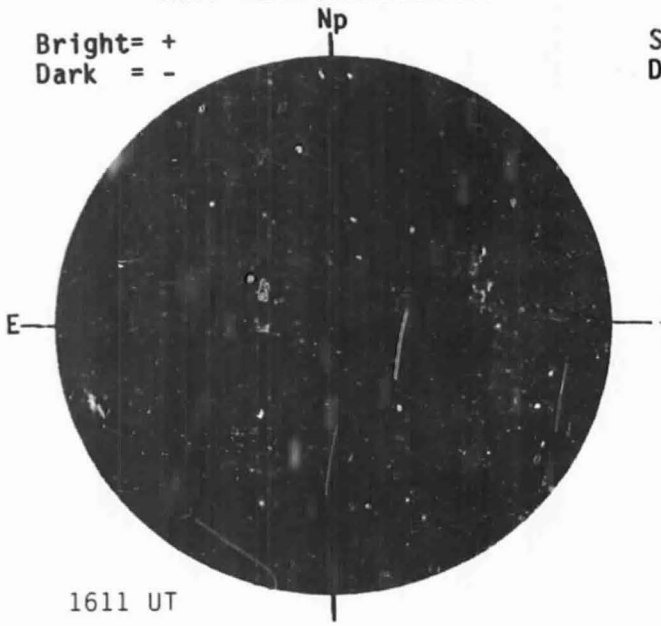


—— 5303A(x1) 1606 UT

J U L Y 17, 1 9 8 5 (P= 4.54, B_o = 4.44, L_o = 230.64)

KITT PEAK MAGNETOGRAM

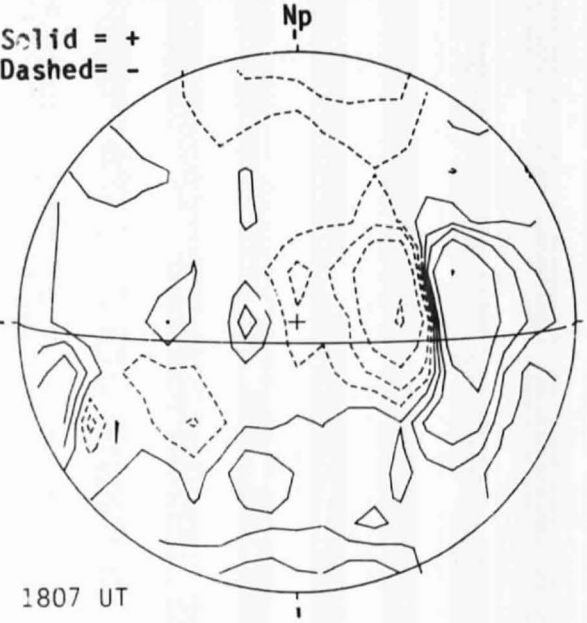
Bright= +
Dark = -



1611 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

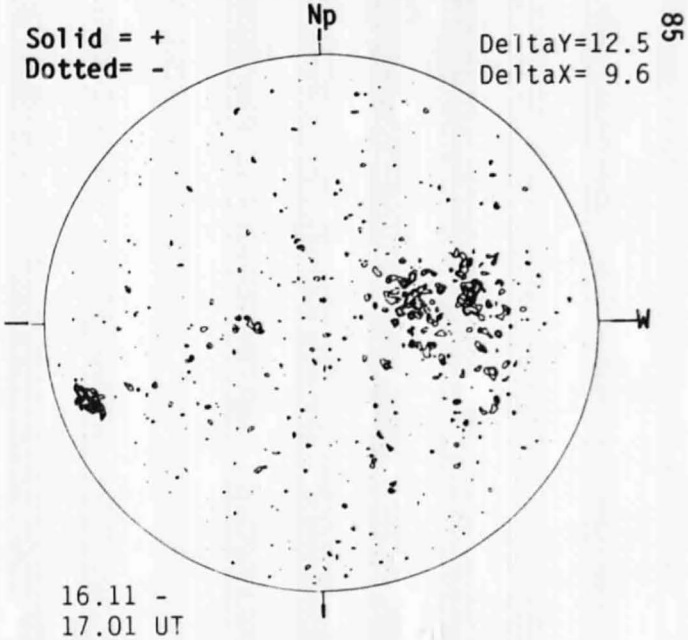


1807 UT

MT. WILSON MAGNETOGRAM

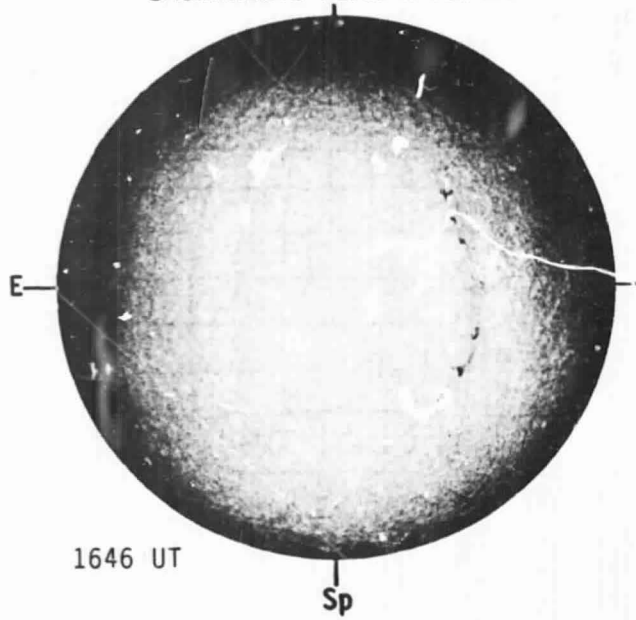
Solid = +
Dotted= -

DeltaY=12.5
DeltaX= 9.6



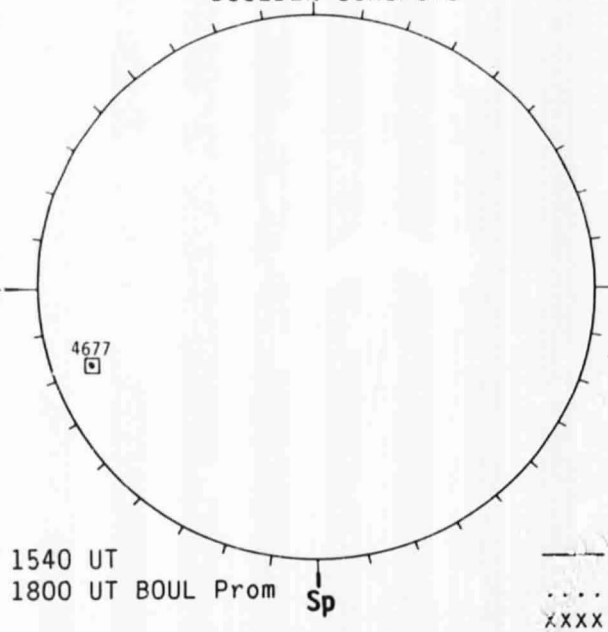
16.11 -
17.01 UT

SACRAMENTO PEAK H-ALPHA



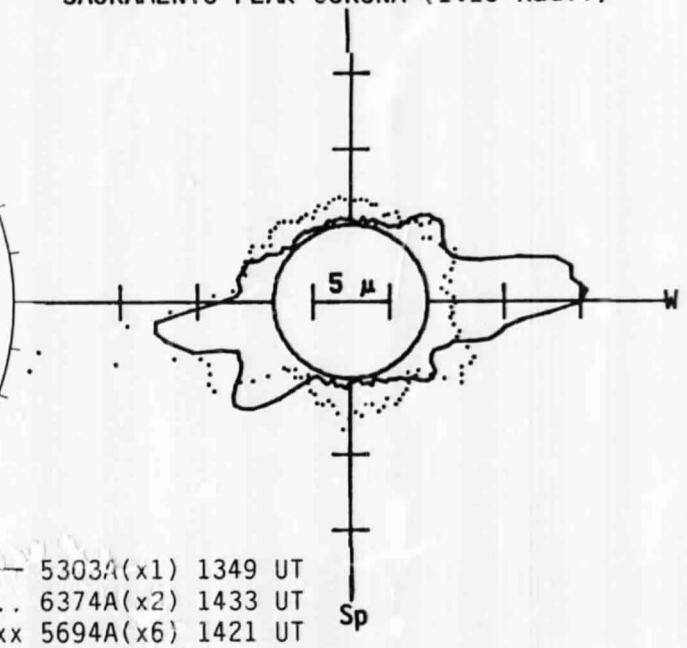
1646 UT

BOULDER SUNSPOTS



1540 UT
1800 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

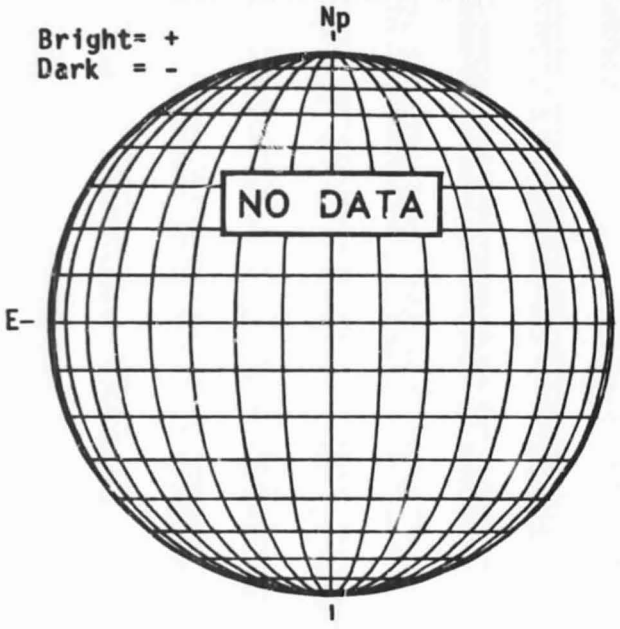


—— 5303A(x1) 1349 UT
.... 6374A(x2) 1433 UT
xxxx 5694A(x6) 1421 UT
NO 5694A ACTIVITY TODAY

J U L Y 18, 1 9 8 5 (P= 4.98, B_o= 4.53, L_o= 217.40)

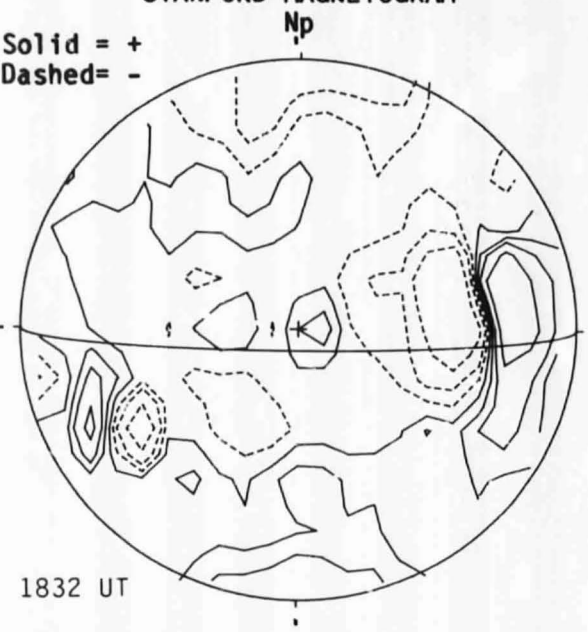
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



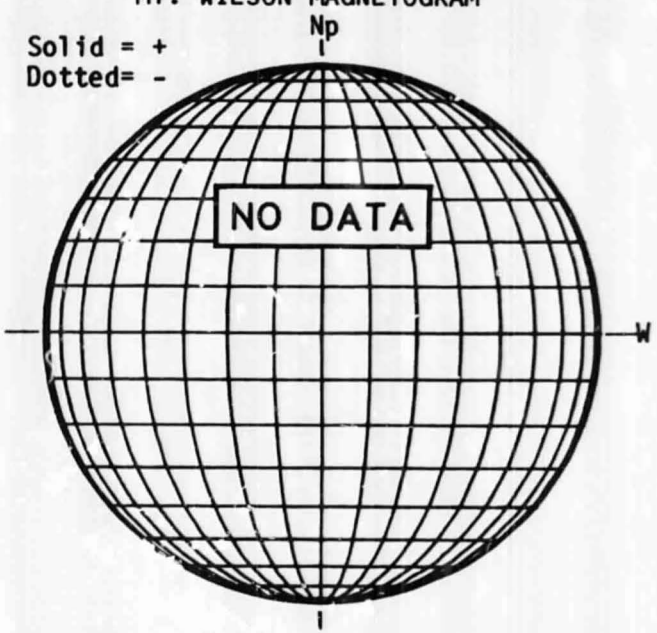
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

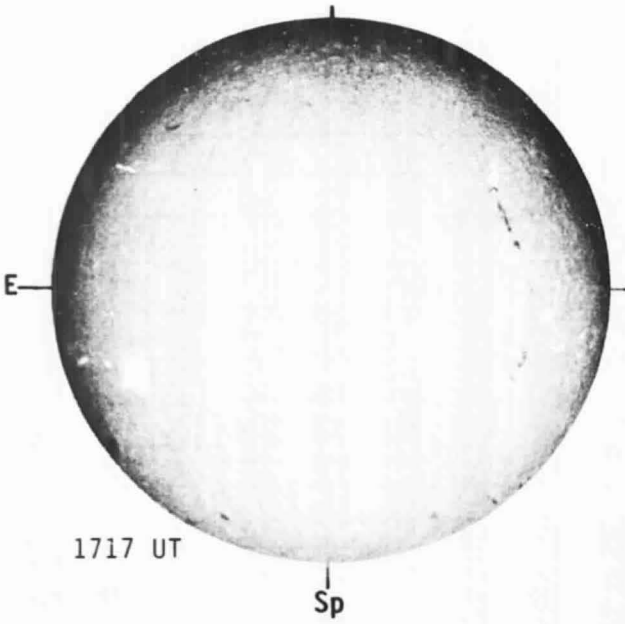


MT. WILSON MAGNETOGRAM

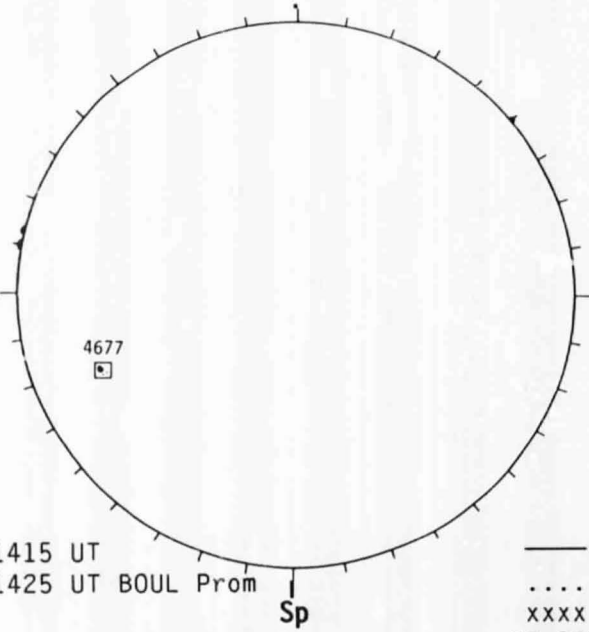
Solid = +
Dotted= -



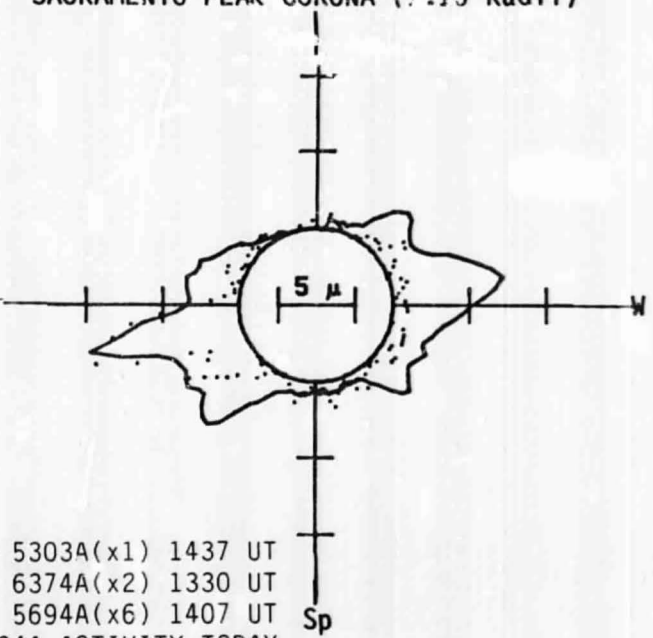
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



—— 5303A(x1) 1437 UT
.... 6374A(x2) 1330 UT
xxxx 5694A(x6) 1407 UT
NO 5694A ACTIVITY TODAY

41
Jul 8

JULY 19, 1985 (P= 5.41, B_o = 4.62, L_o = 204.17)

42 Jul 85

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -

NO DATA

E

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -

1853 UT

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

DeltaY=12.5
DeltaX= 9.6

W

22.58 -
23.49 UT

SACRAMENTO PEAK H-ALPHA

E

1544 UT

Sp

HOLLOMAN SUNSPOTS

4677

1506 UT

Sp

SACRAMENTO PEAK CORONA (1.15 Radii)

5 μ

W

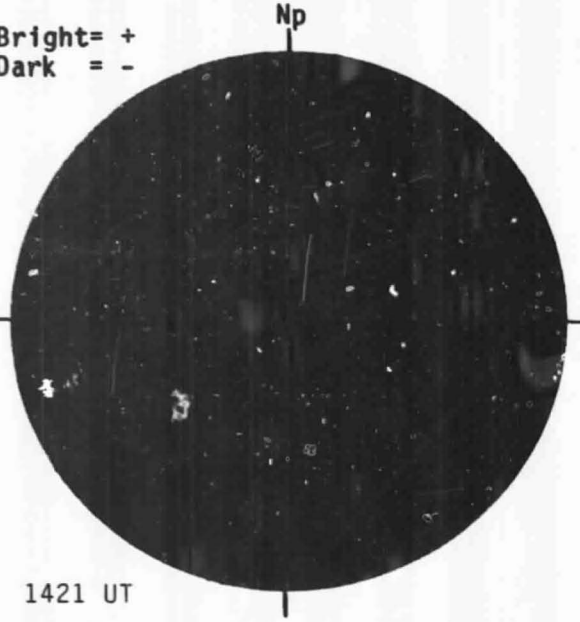
Sp

—— 5303A(x1) 1406 UT
xxxx 5694A(x6) 1424 UT
NO 5694A ACTIVITY TODAY

J U L Y 20, 1 9 8 5 (P= 5.85, B_0= 4.71, L_0= 190.94)

KITT PEAK MAGNETOGRAM

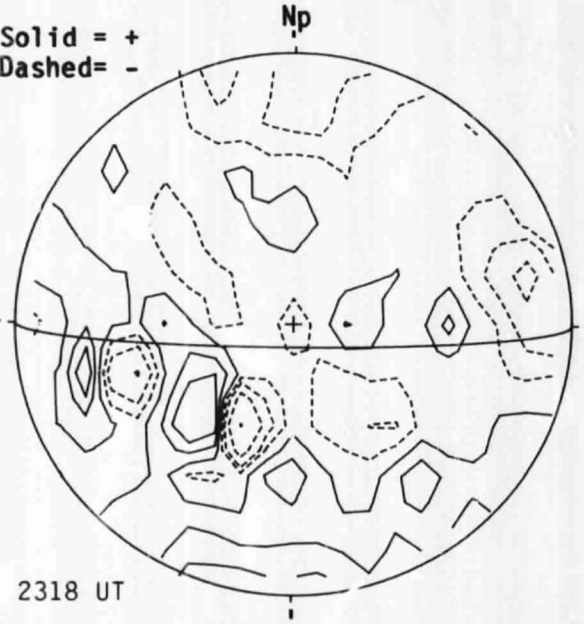
Bright= +
Dark = -



1421 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

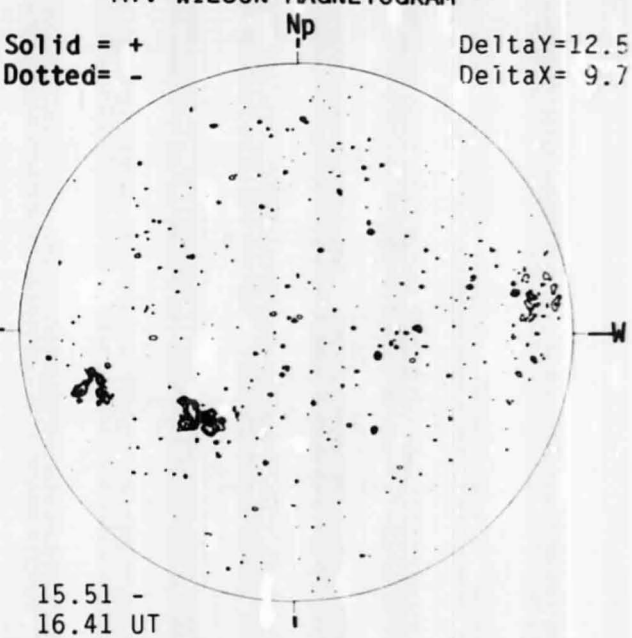


2318 UT

MT. WILSON MAGNETOGRAM

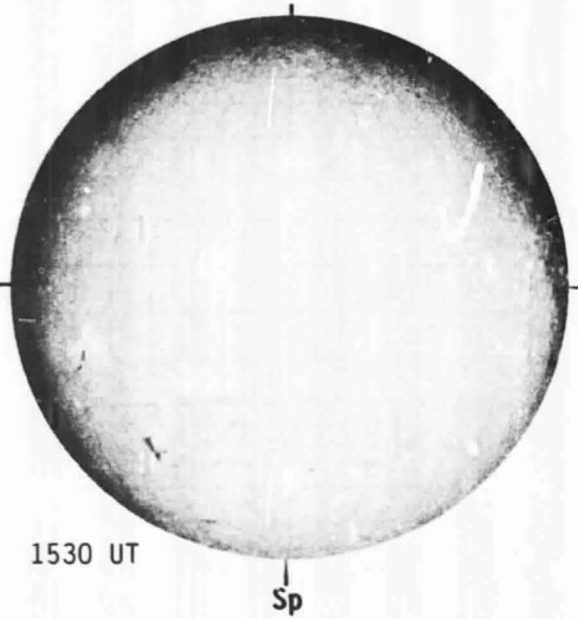
Solid = +
Dotted= -

DeltaY=12.5
DeltaX= 9.7



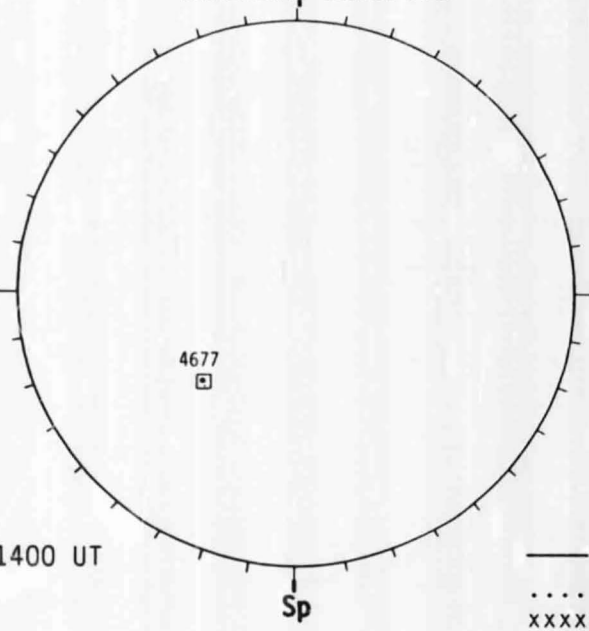
15.51 -
16.41 UT

SACRAMENTO PEAK H-ALPHA



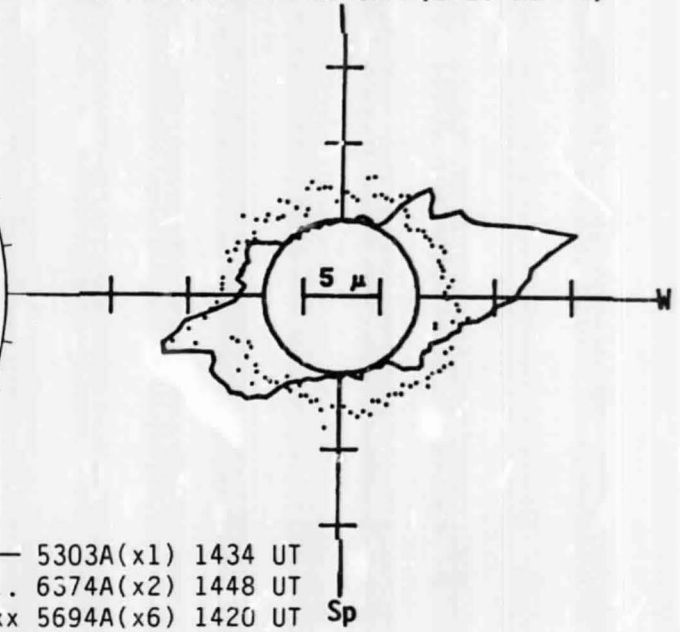
1530 UT

HOLLOMAN SUNSPOTS



1400 UT

SACRAMENTC PEAK CORONA (1.15 Radii)

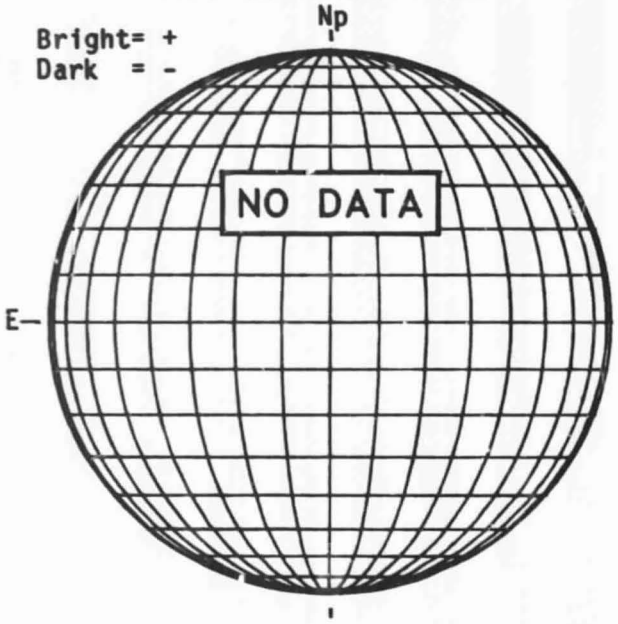


—— 5303A(x1) 1434 UT
.... 6374A(x2) 1448 UT
xxxx 5694A(x6) 1420 UT
NO 5694A ACTIVITY TODAY

J U L Y 21, 1 9 8 5 (P= 6.28, B_0= 4.80, L_0= 177.71)

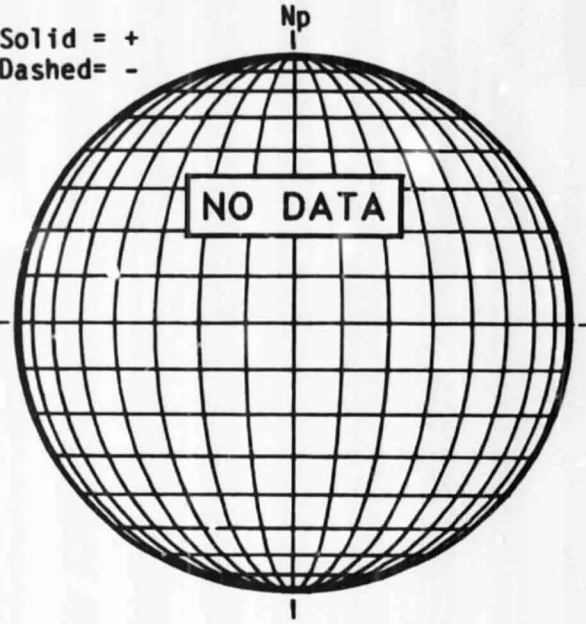
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

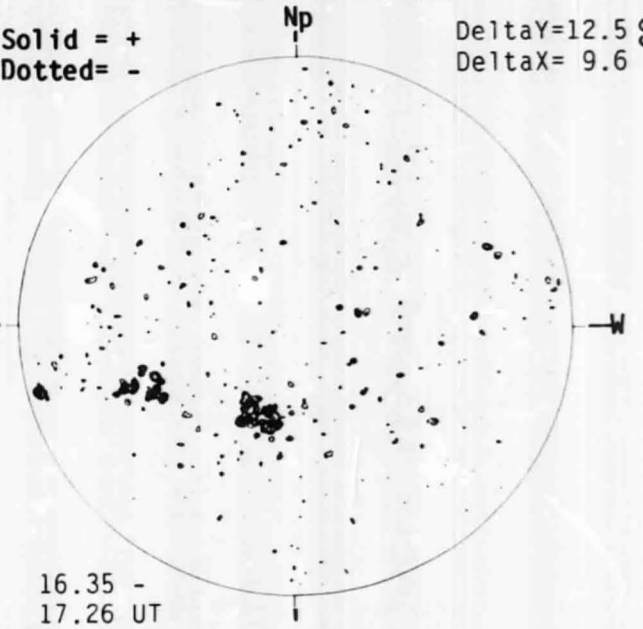
Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

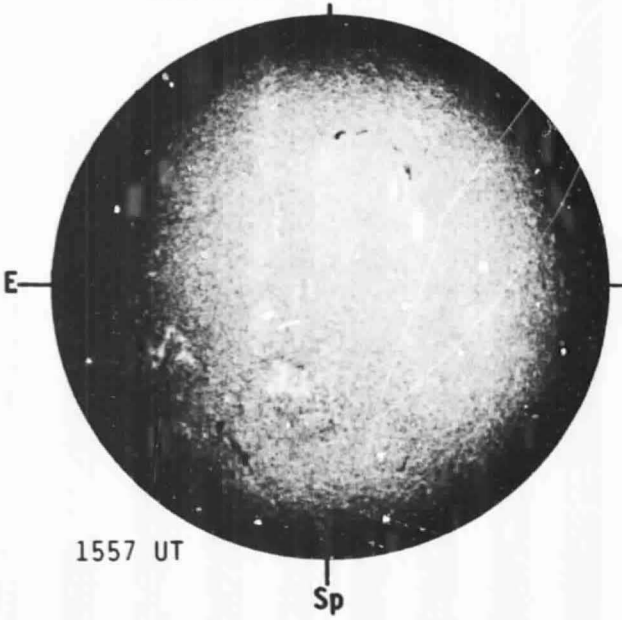
Solid = +
Dotted= -

DeltaY=12.5
DeltaX= 9.6



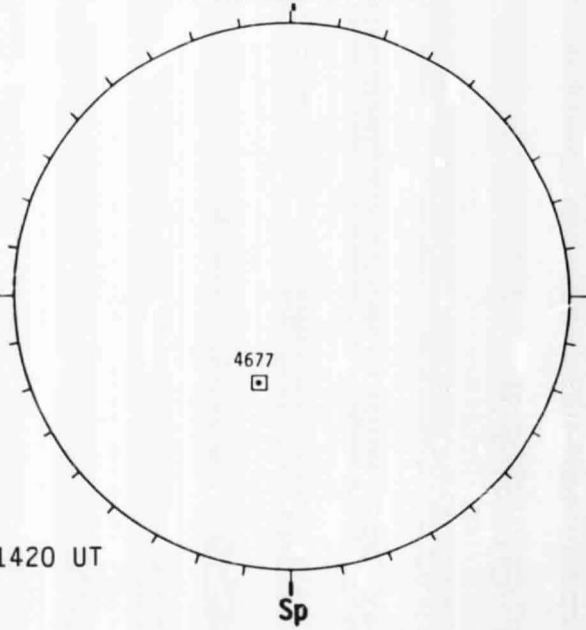
16.35 -
17.26 UT

SACRAMENTO PEAK H-ALPHA



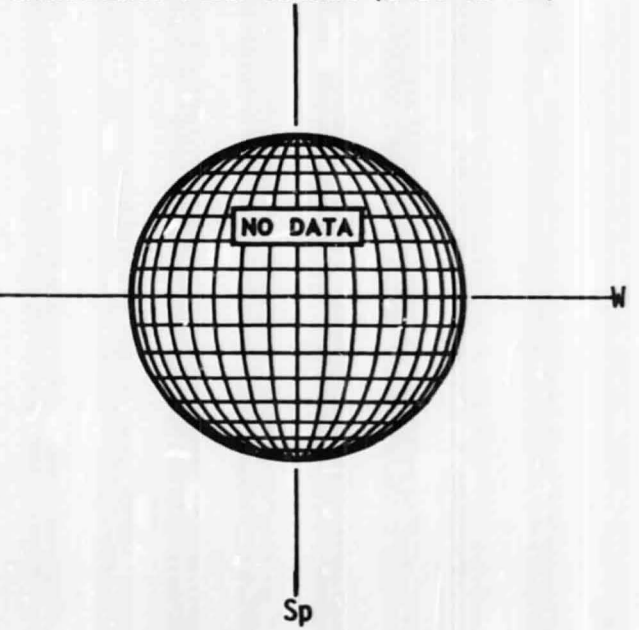
1557 UT

HOLLOMAN SUNSPOTS



1420 UT

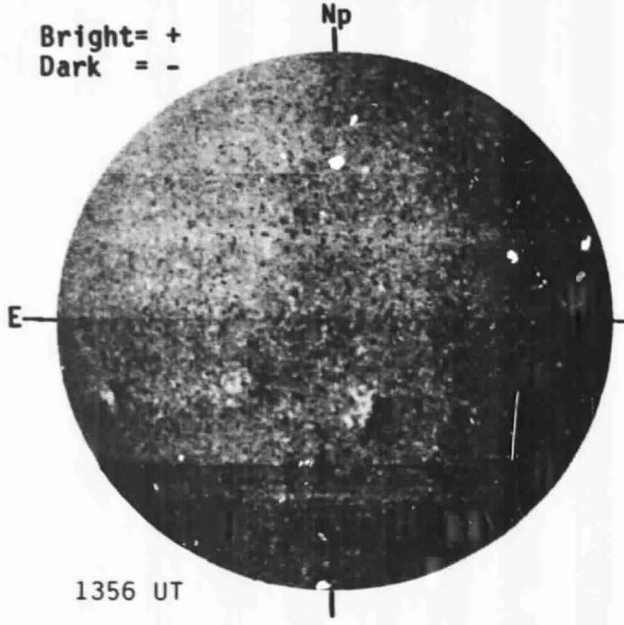
SACRAMENTO PEAK CORONA (1.15 Radii)



JULY 22, 1985 (P= 6.71, B_o= 4.89, L_o= 164.48)

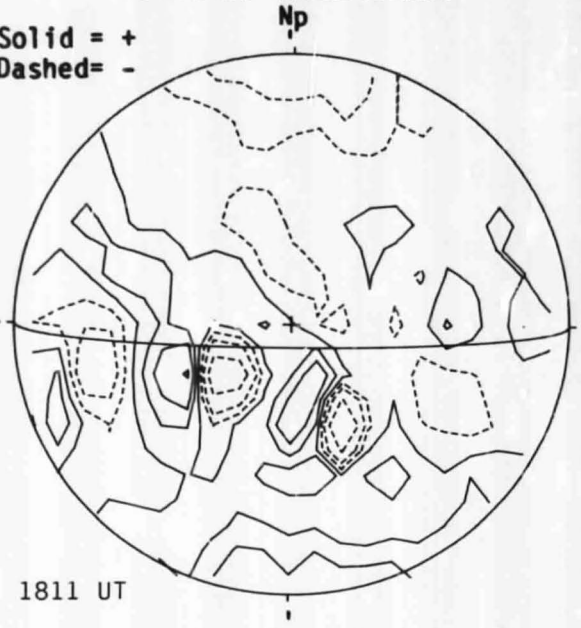
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



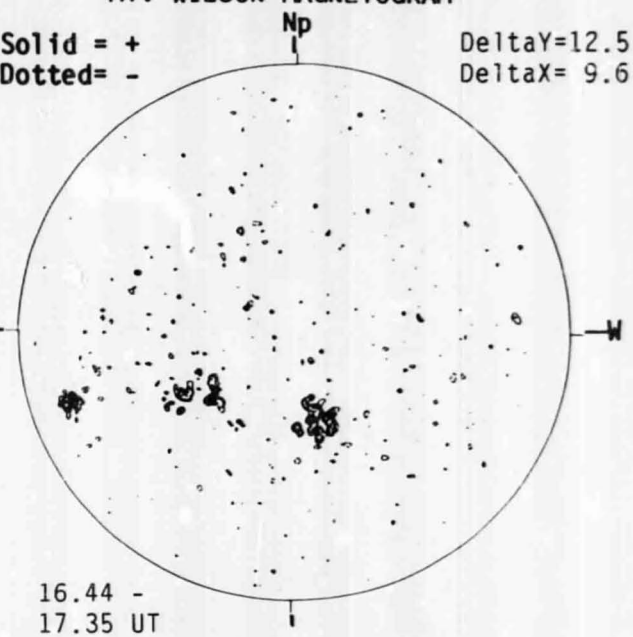
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

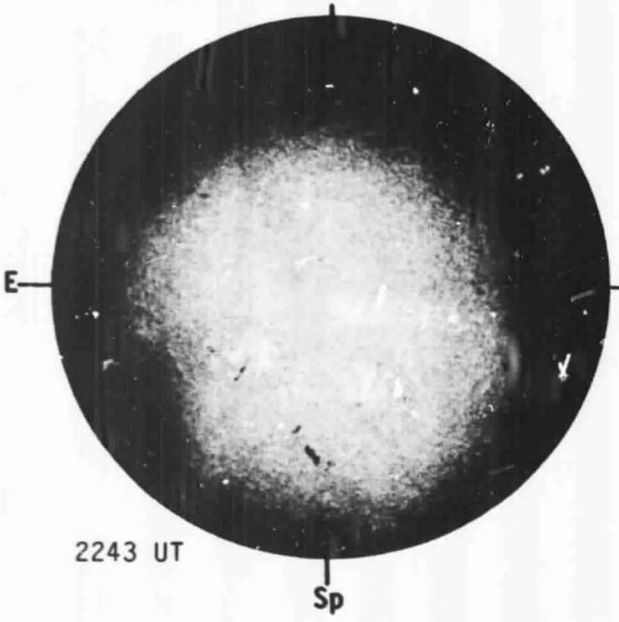


MT. WILSON MAGNETOGRAM

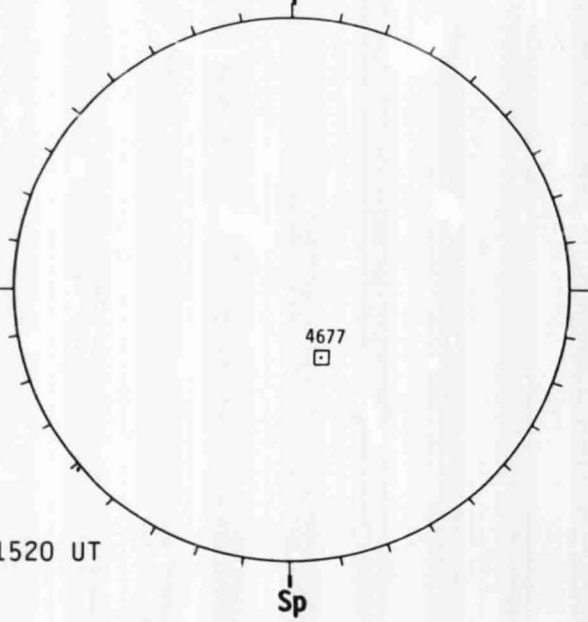
Solid = +
Dotted= -
DeltaY=12.5
DeltaX= 9.6



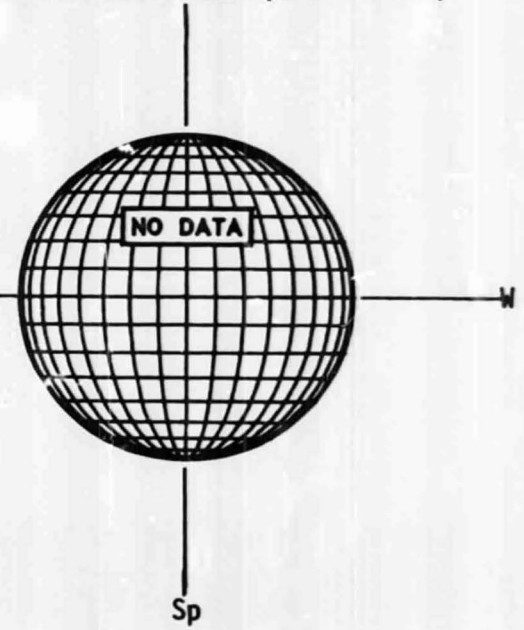
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



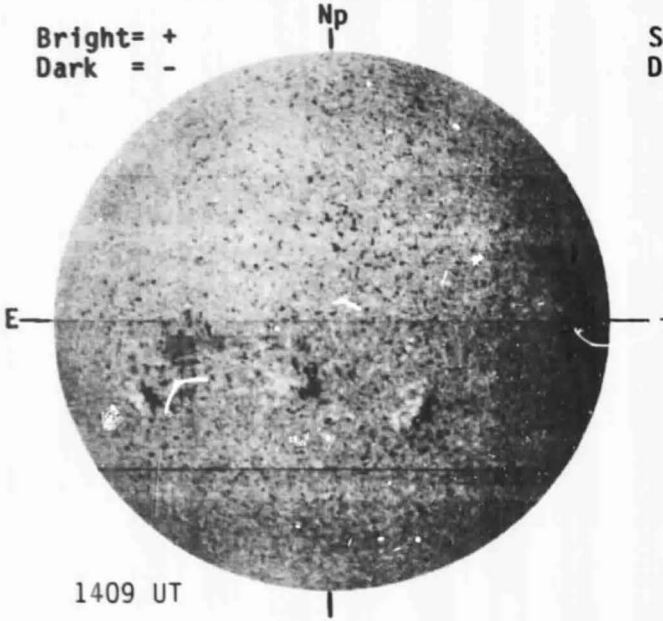
45
Jul 8

J U L Y 23, 1 9 8 5 (P= 7.13, B_o = 4.98, L_o = 151.25)

Jul 85 46

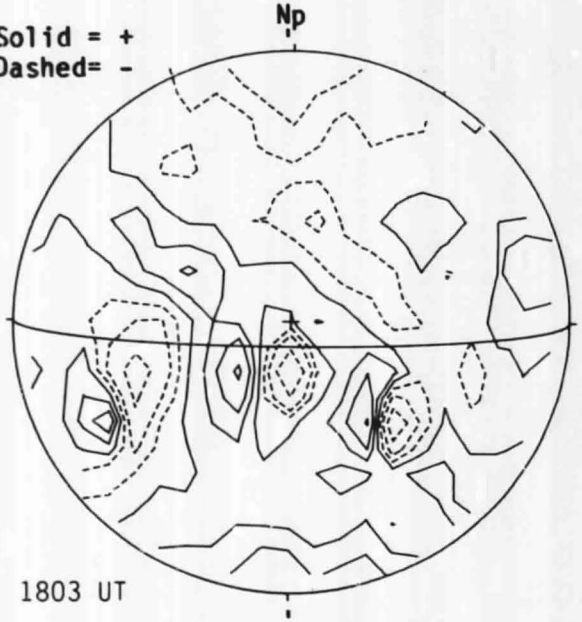
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

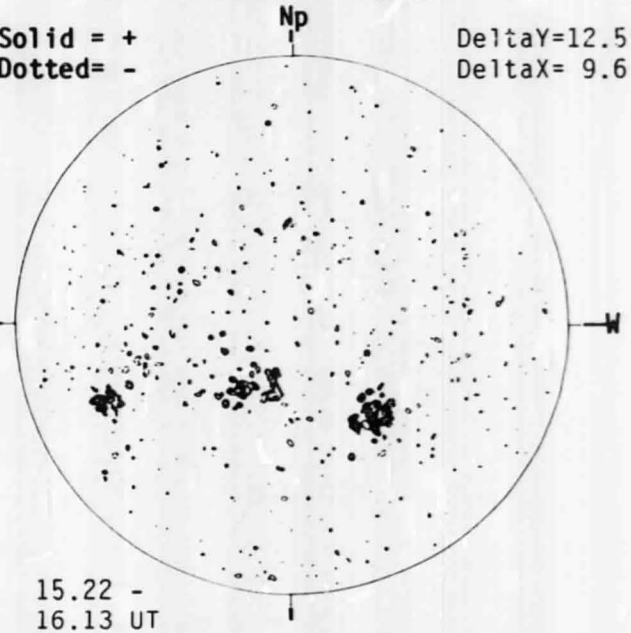
Solid = +
Dashed= -



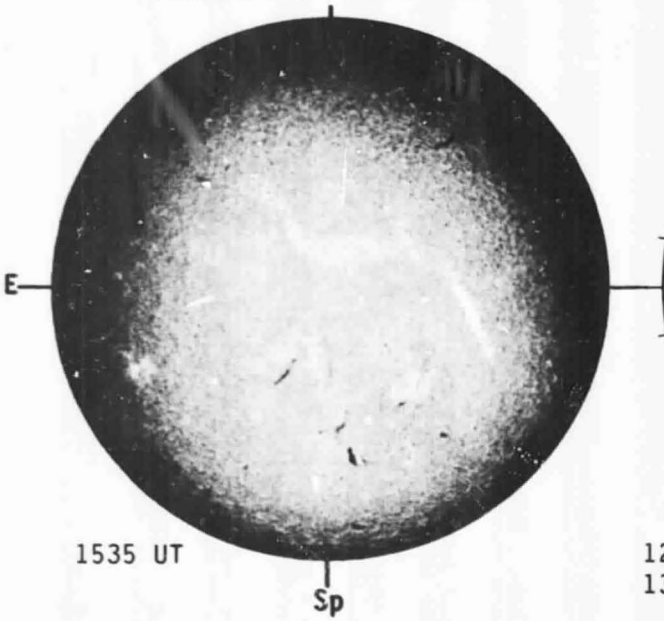
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

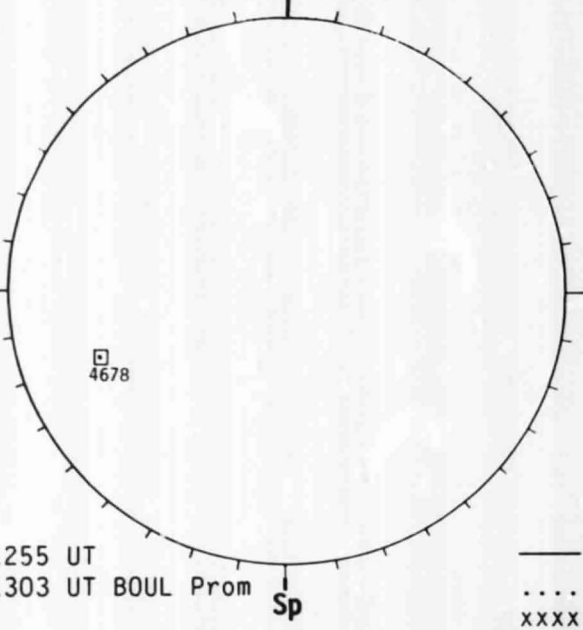
DeltaY=12.5
DeltaX= 9.6



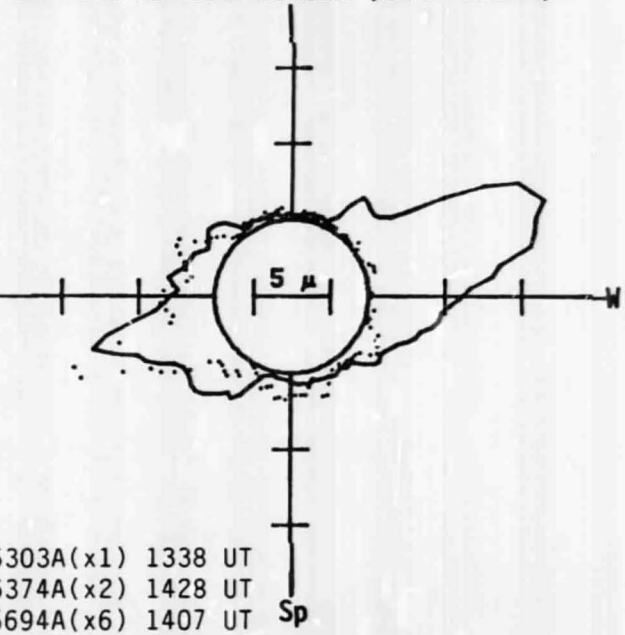
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

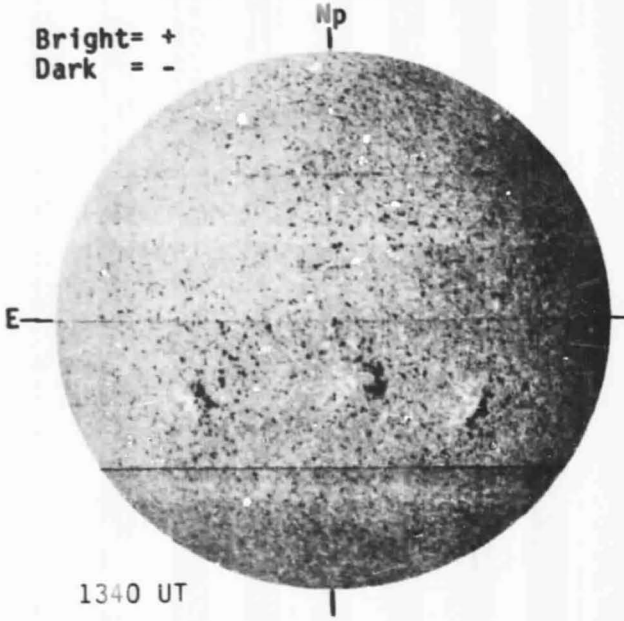


—— 5303A(x1) 1338 UT
.... 6374A(x2) 1428 UT
xxxx 5694A(x6) 1407 UT
NO 5694A ACTIVITY TODAY

J U L Y 24, 1 9 8 5 (P= 7.56, B_o= 5.06, L_o= 138.02)

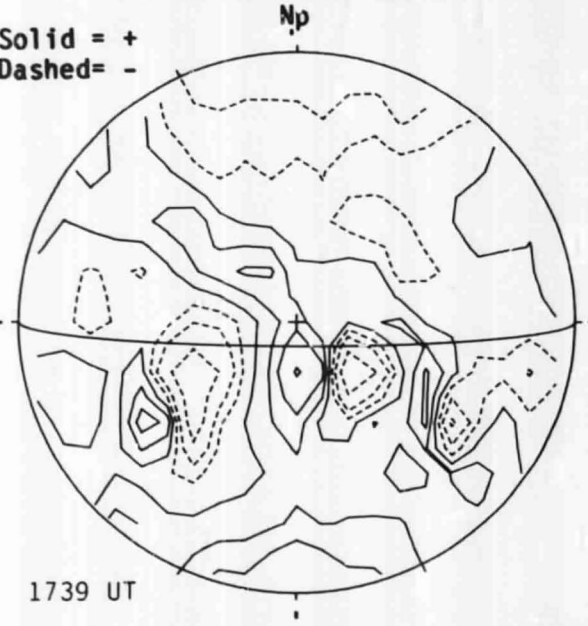
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

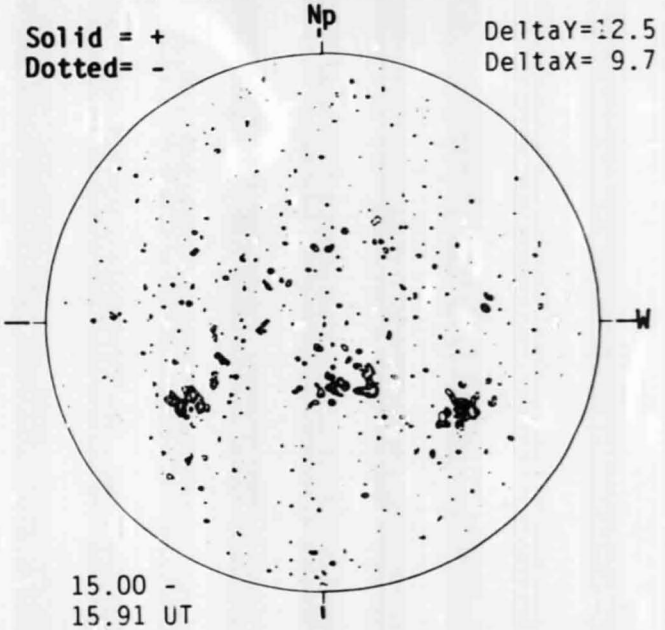
Solid = +
Dashed= -



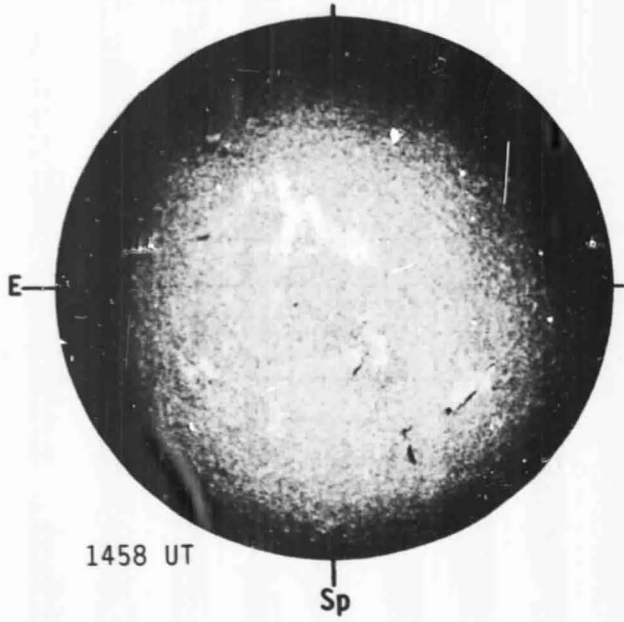
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

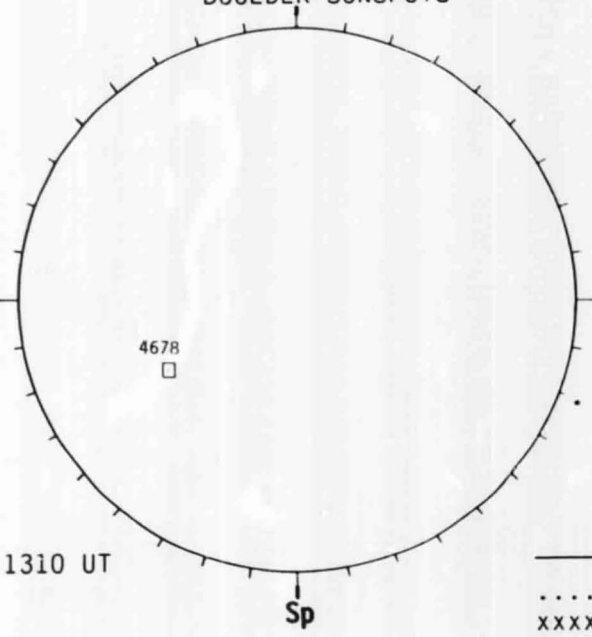
DeltaY=12.5
DeltaX= 9.7



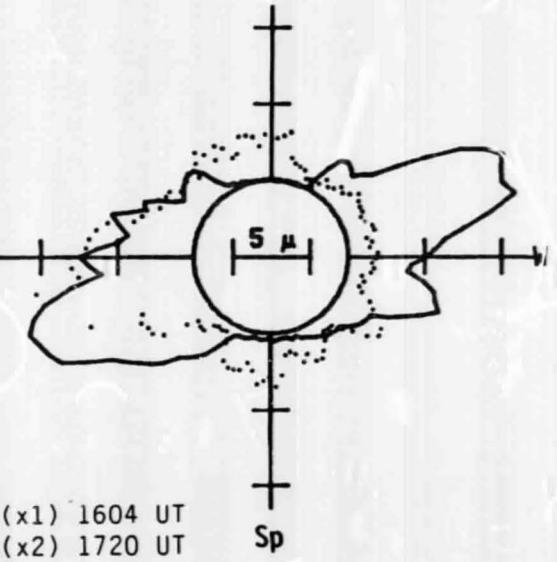
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



—— 5303A(x1) 1604 UT
.... 6374A(x2) 1720 UT
xxxx 5694A(x6) 1652 UT
NO 5694A ACTIVITY TODAY

JULY 25, 1985 (P= 7.98, B_o= 5.14, L_o= 124.79)

Jul 85 48

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -

NO DATA

E

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -

1926 UT

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

DeltaY=12.5
DeltaX= 9.6

W

15.19 -
16.10 UT

SACRAMENTO PEAK H-ALPHA

E

1549 UT

Sp

BOULDER SUNSPOTS

4678

1300 UT
1430 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (1.15 Radii)

NO DATA

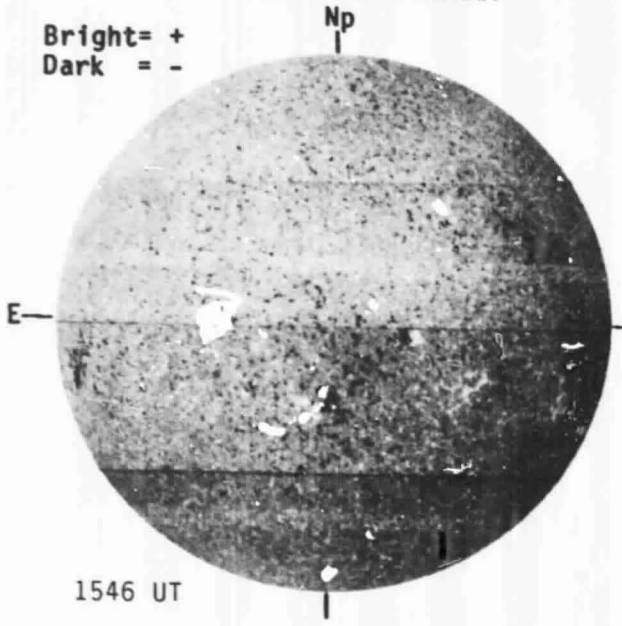
W

Sp

JULY 26, 1985 (P= 8.40, B_o = 5.23, L_o = 111.56)

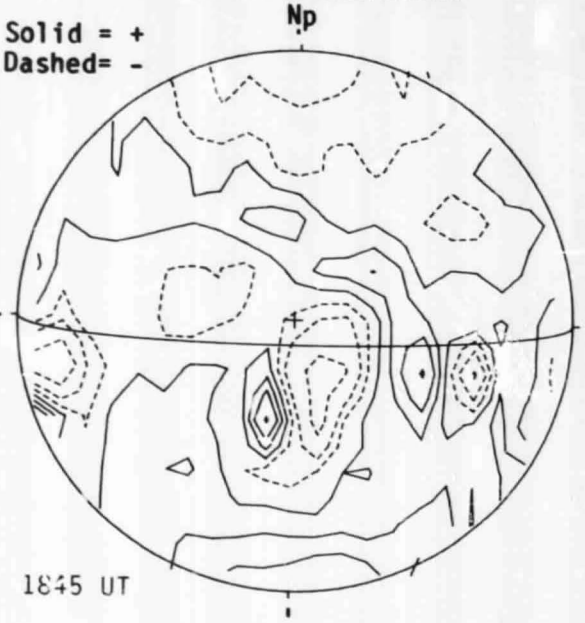
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

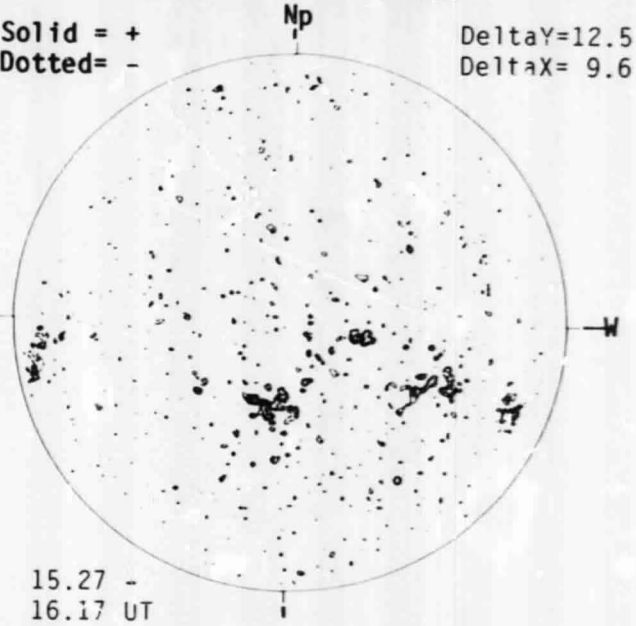
Solid = +
Dashed= -



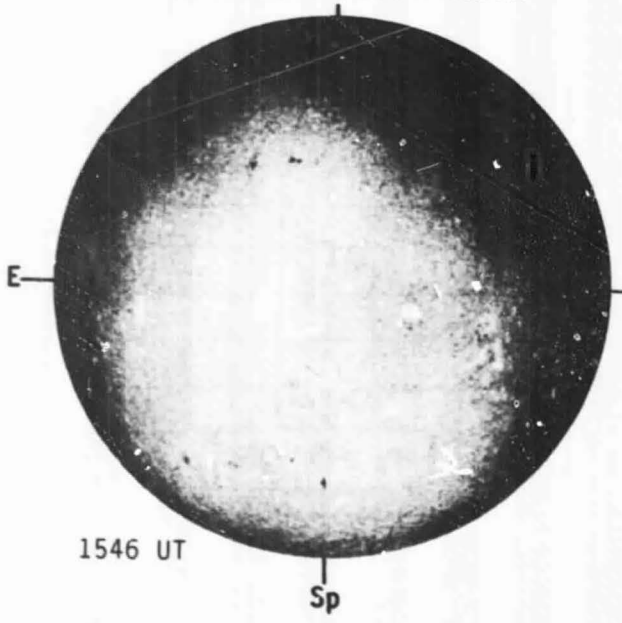
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

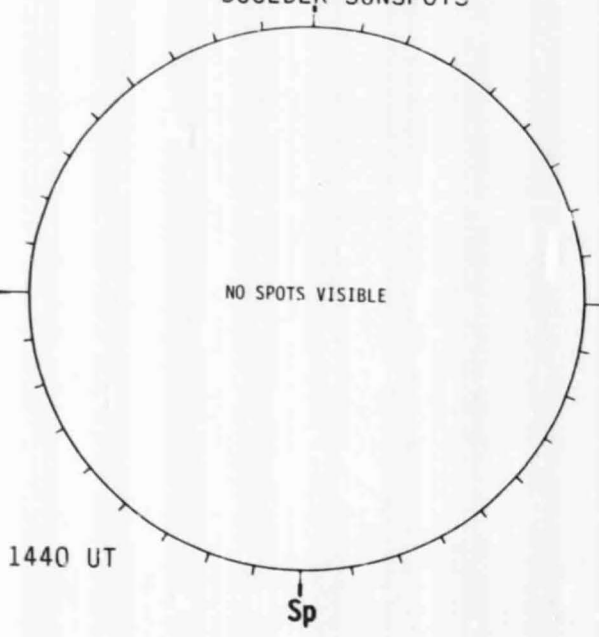
DeltaY=12.5
DeltaX= 9.6



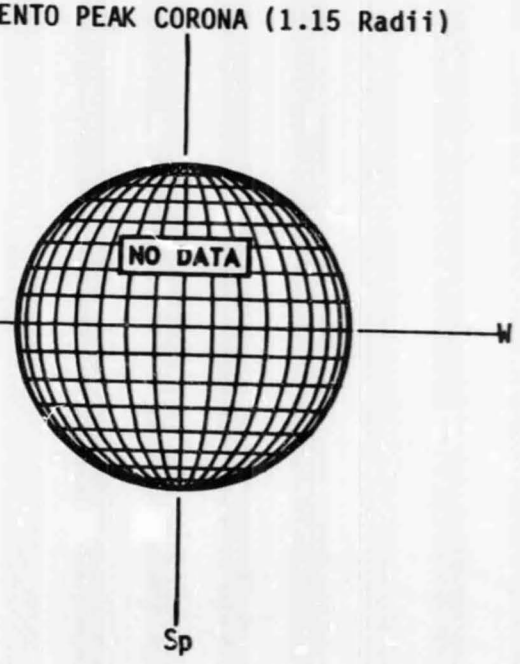
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

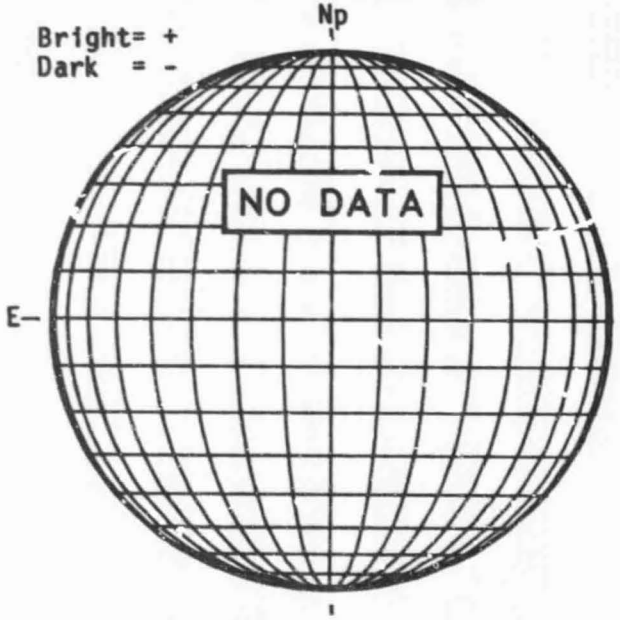


J U L Y 27, 1 9 8 5 (P= 8.81, B_o= 5.31, L_o= 98.34)

50 Jul 85

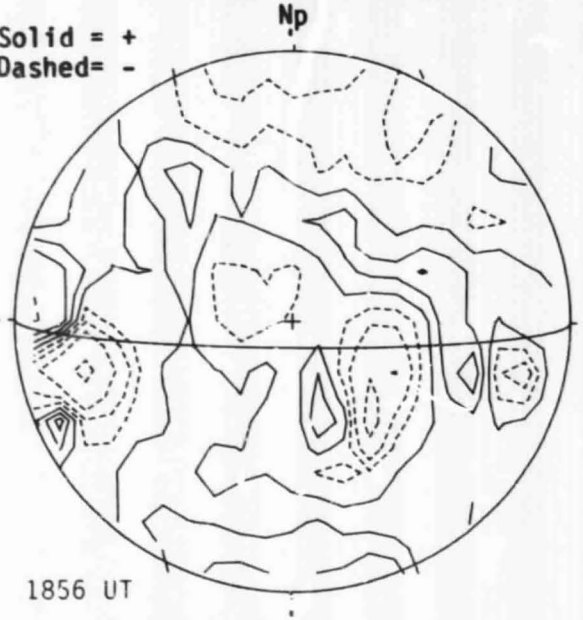
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

Solid = +
Dashed= -

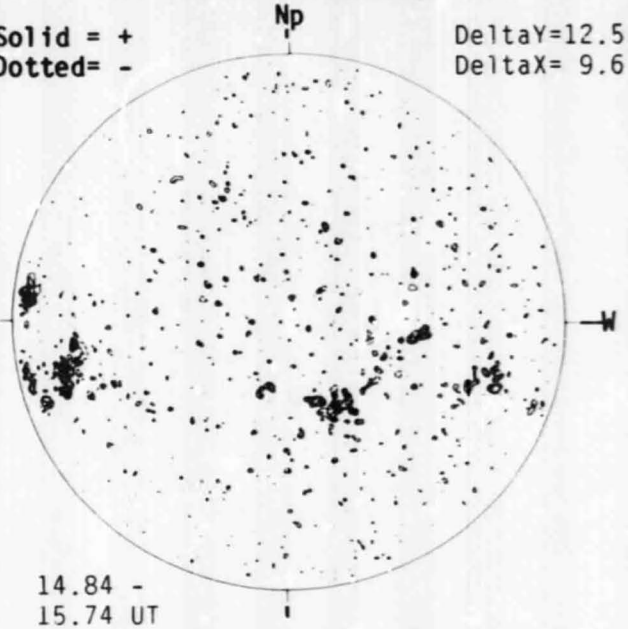


1856 UT

MT. WILSON MAGNETOGRAM

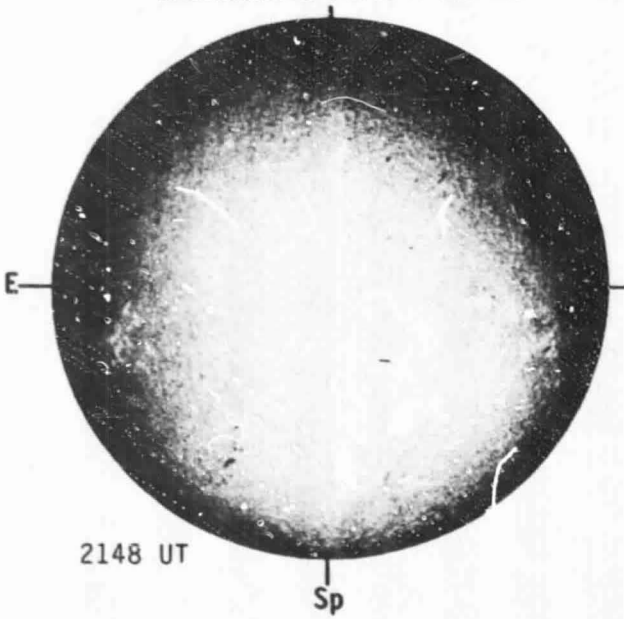
Solid = +
Dotted= -

DeltaY=12.5
DeltaX= 9.6



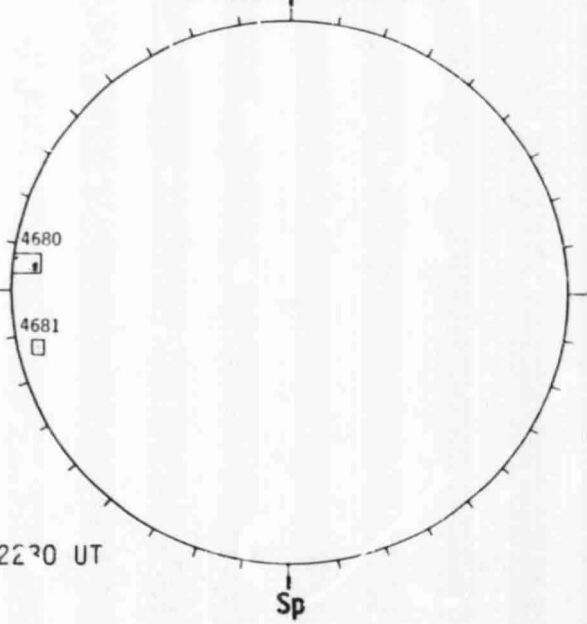
14.84 -
15.74 UT

SACRAMENTO PEAK H-ALPHA



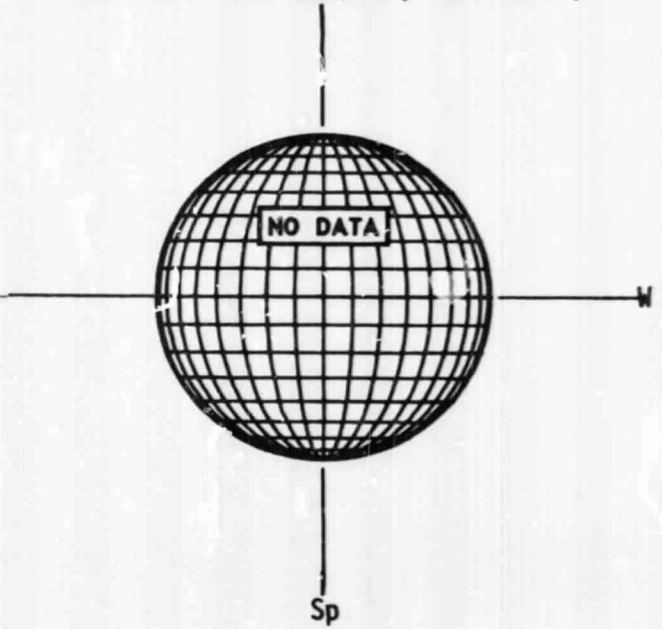
2148 UT

HOLLOMAN SUNSPOTS



2230 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



JULY 28, 1985 (P= 9.22, B_o= 5.39, L_o= 85.11)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -

NO DATA

E-

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -

1850 UT

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

DeltaY=12.5
DeltaX= 9.6

W

16.71 -
17.61 UT

SACRAMENTO PEAK H-ALPHA

E

1508 UT

Sp

BOULDER SUNSPOTS

4680

4682 4681

1415 UT

Sp

SACRAMENTO PEAK CORONA (1.15 Radii)

E

W

5303A(x1) 2219 UT

Sp

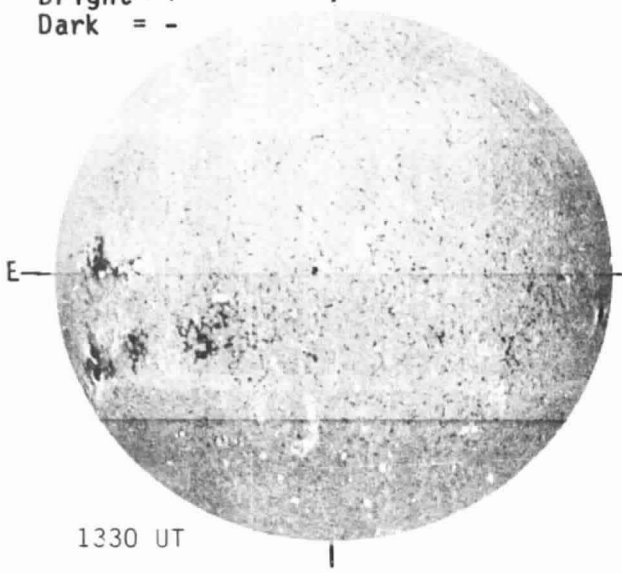
51
Jul 85

J U L Y 29, 1 9 8 5 (P= 9.63, B_o= 5.46, L_o= 71.88)

52 Jul 85

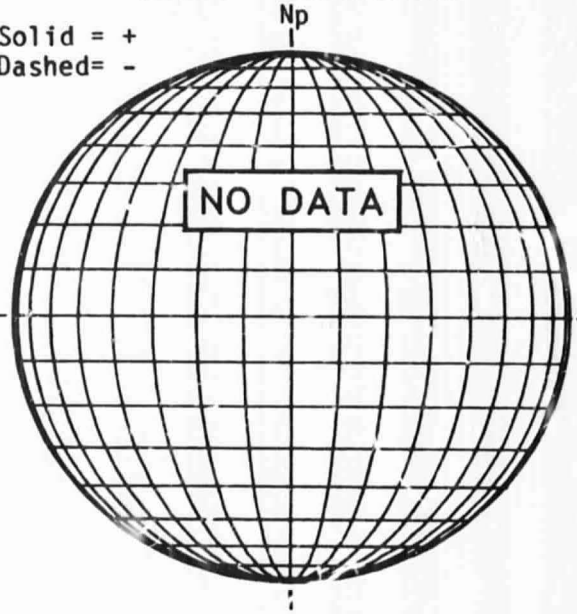
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

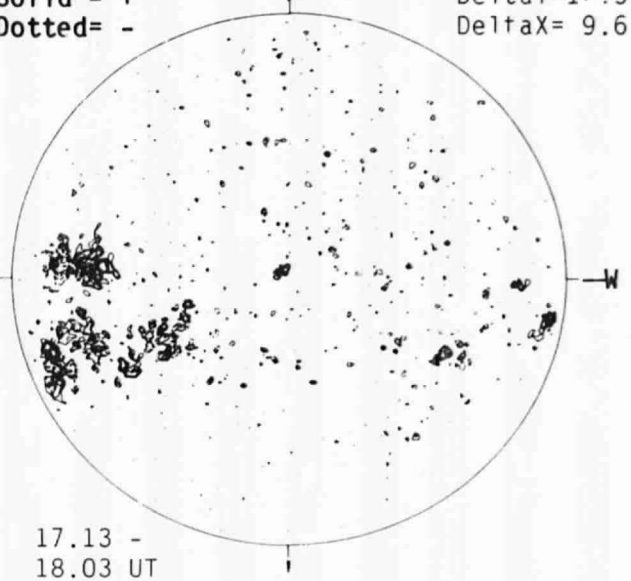
Solid = +
Dashed= -



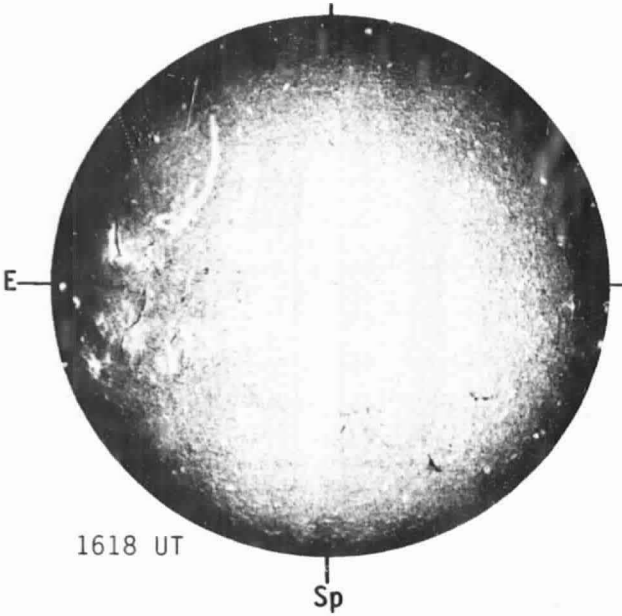
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

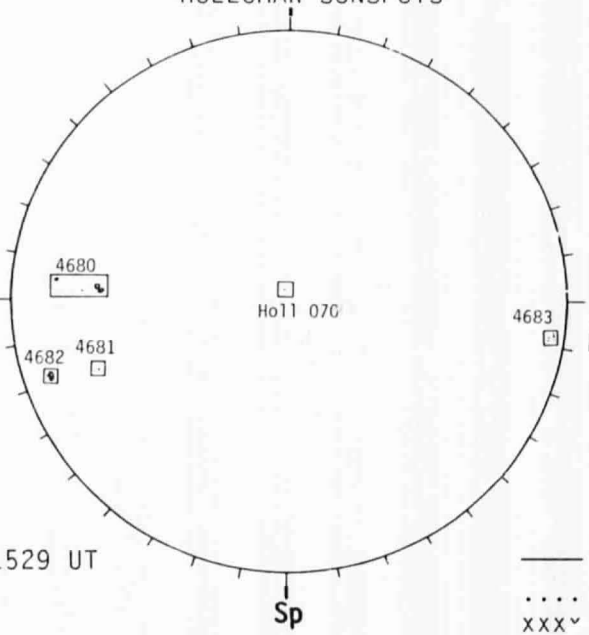
DeltaY=12.5
DeltaX= 9.6



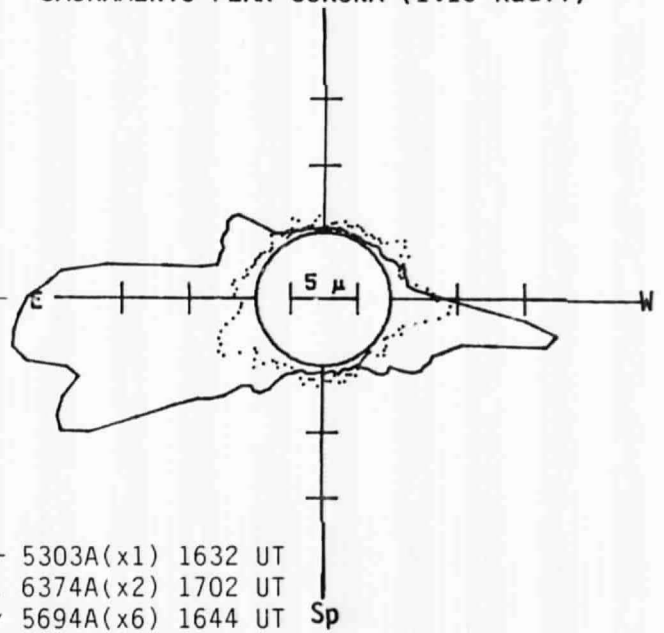
SACRAMENTO PEAK H-ALPHA



HOLLOMAN SUNSPOTS



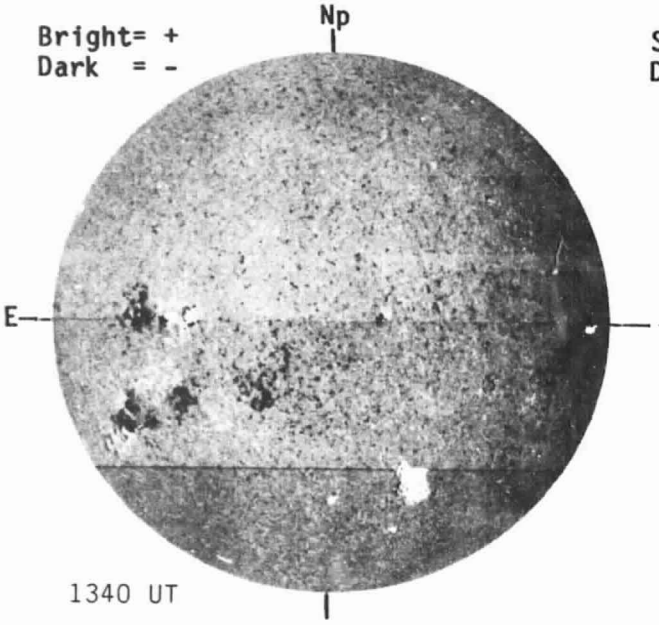
SACRAMENTO PEAK CORONA (1.15 Radii)



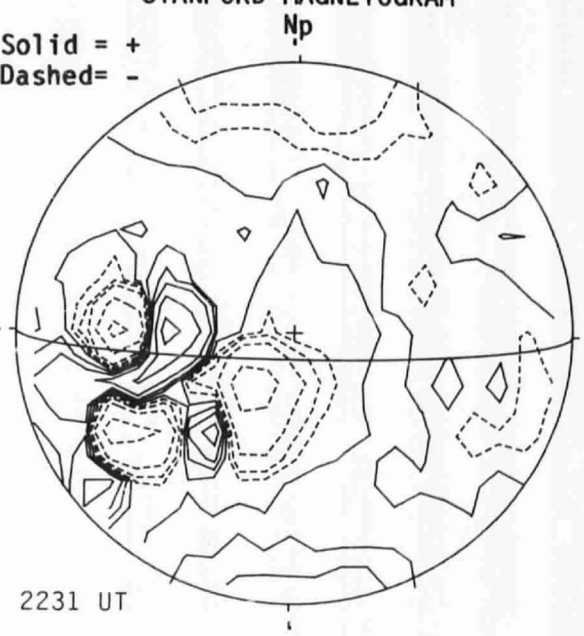
—— 5303A(x1) 1632 UT
.... 6374A(x2) 1702 UT
xxx 5694A(x6) 1644 UT
NO 5694A ACTIVITY TODAY

J U L Y 30, 1 9 8 5 (P= 10.03, B_o= 5.54, L_o= 58.65)

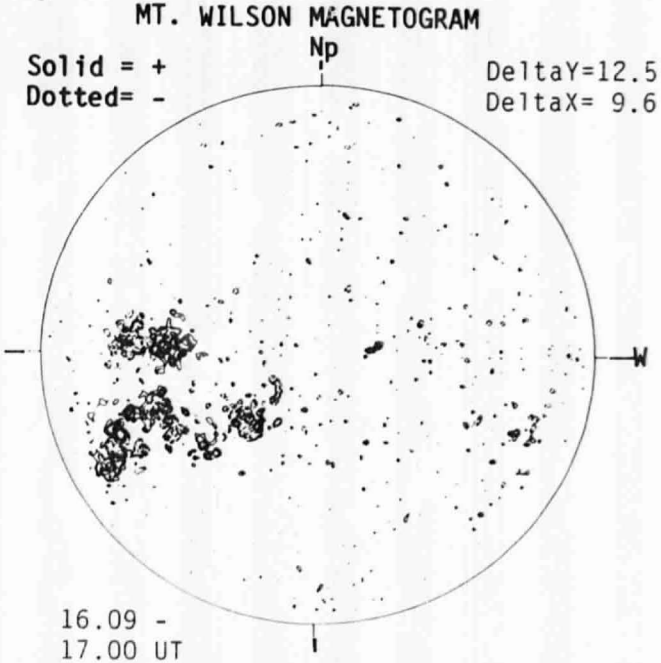
KITT PEAK MAGNETOGRAM



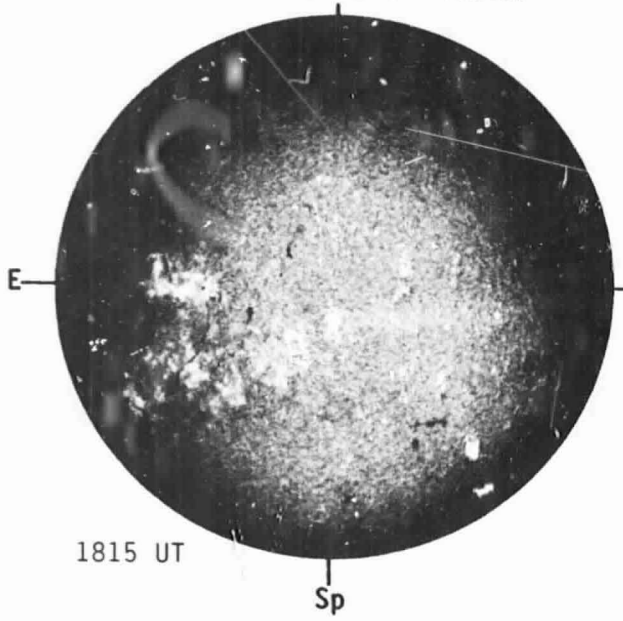
STANFORD MAGNETOGRAM



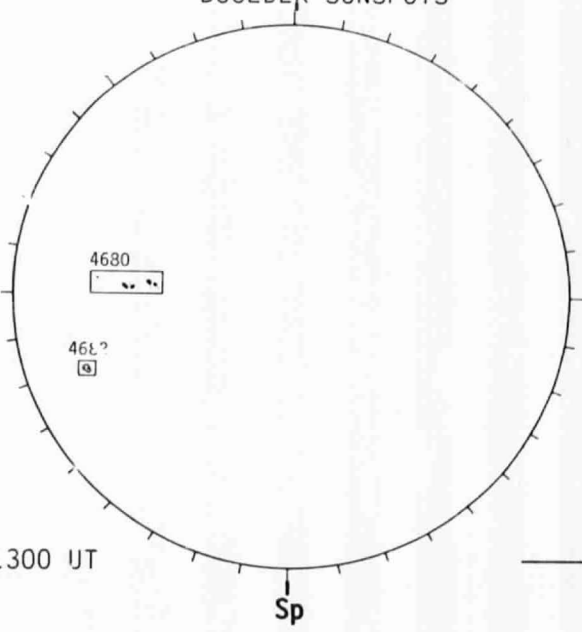
MT. WILSON MAGNETOGRAM



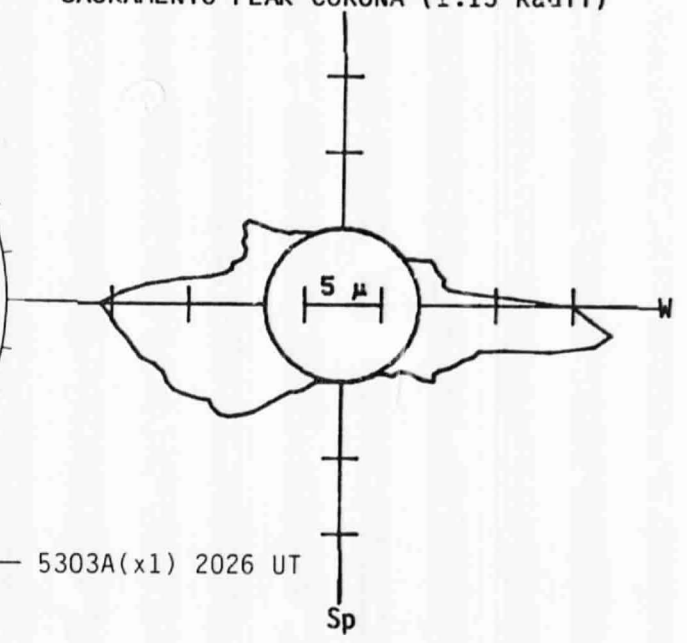
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

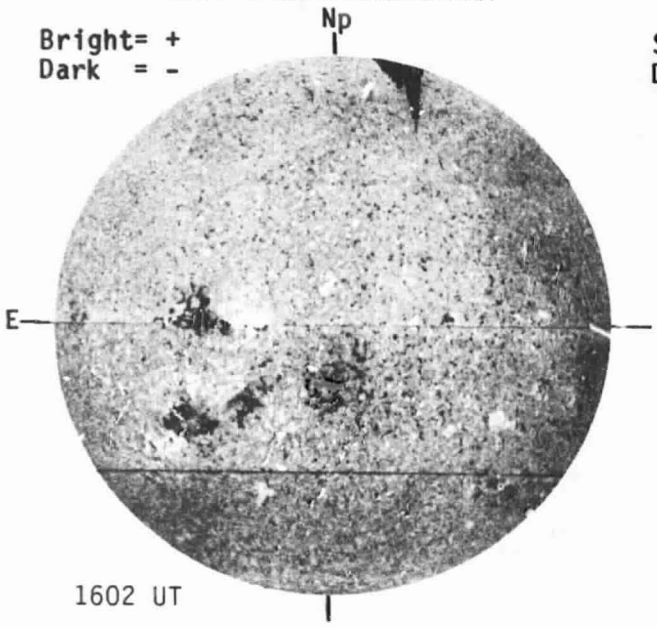


J U L Y 31, 1 9 8 5 (P= 10.44, B_0= 5.61, L_0= 45.43)

54
Jul 85

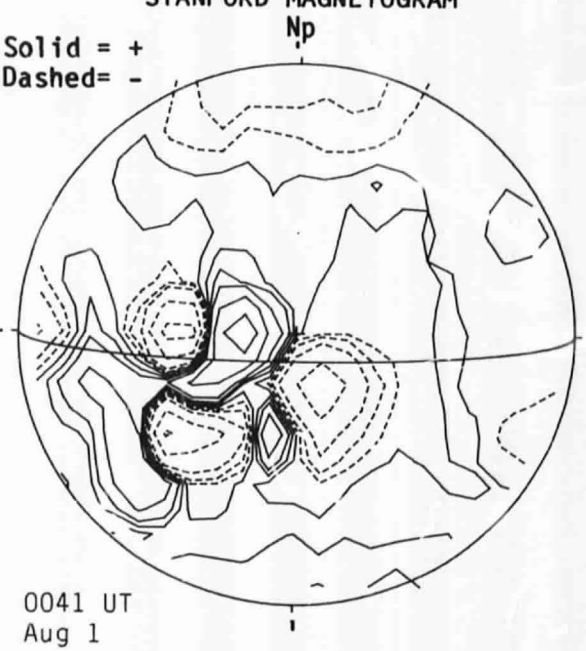
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

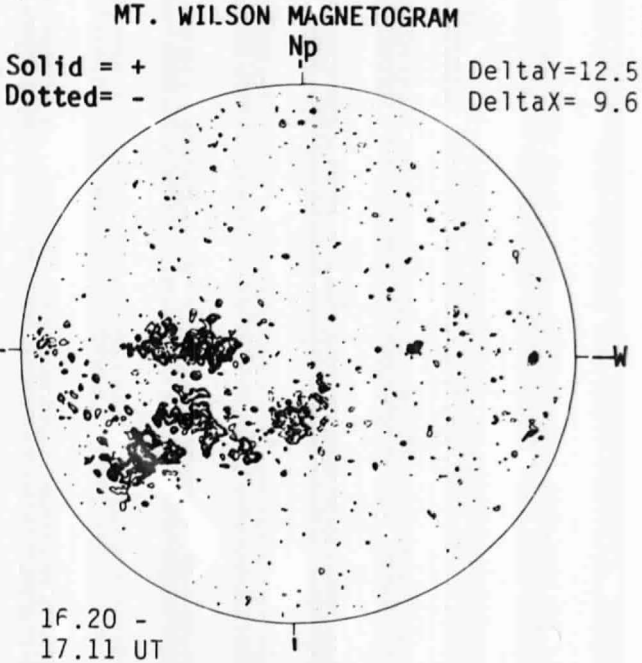
Solid = +
Dashed= -



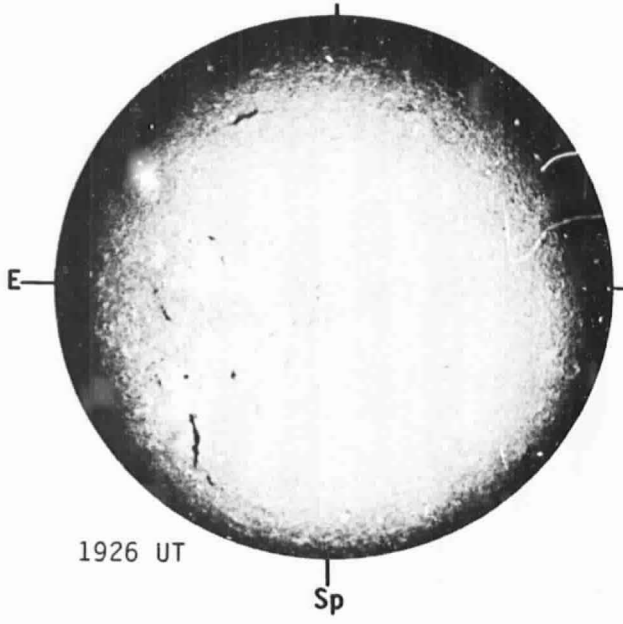
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

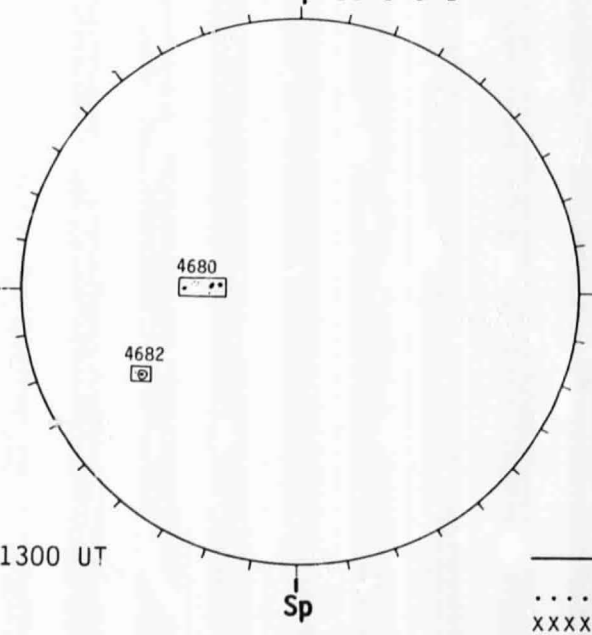
DeltaY=12.5
DeltaX= 9.6



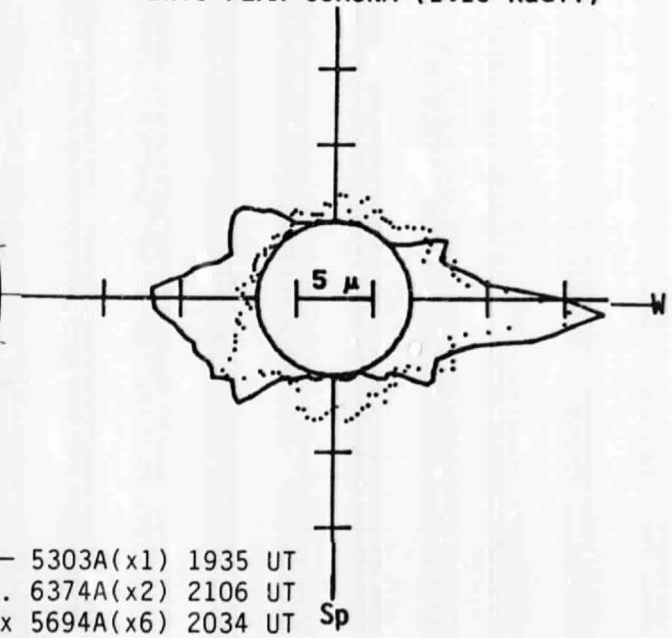
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



—— 5303A(x1) 1935 UT
.... 6374A(x2) 2106 UT
xxxx 5694A(x6) 2034 UT
NO 5694A ACTIVITY TODAY

SUNSPOT GROUPS
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

JULY 1985

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat	CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4670A		RAMY	07 04 1405	N06	W07	07 4.1		A	AXX		1		3
4670A	24247	MWIL	07 04 1515	N05	W08	07 4.0	3	(B)					
4670A		HOLL	07 04 1532	N06	W08	07 4.0		A	AXX	10	3	3	4
4670		BOUL	06 28 1410	S05	E82	07 4.7		A	HSX	60	1	2	3
4670		RAMY	06 28 1 0	S09	E88	07 5.2		A	HAX	60	1	2	3
4670	24245	MWIL	06 28 1430	S07	E86	07 5.0	3	(AP)					
4670		HOLL	06 28 1621	S08	E84	07 5.0		A	HSX	60	1	2	4
4670		PALE	06 28 1750	S08	E85	07 5.1		A	HSX	100	1	2	3
4670		LEAR	06 29 0034	S08	E79	07 4.9		A	HHX	40	1	3	4
4670		ATHN	06 29 0605	S08	E76	07 5.0			HAX	90	1	2	2
4670		RAMY	06 29 1435	S09	E70	07 4.9		A	HAX	110	1	3	3
4670	24245	MWIL	06 29 1445	S08	E70	07 4.9	4	(AP)					
4670		HOLL	06 29 1606	S08	E70	07 4.9		A	HSX	80	1	2	4
4670		PALE	06 29 1857	S09	E69	07 5.0		A	HHX	140	1	3	1
4670		MANI	06 29 2312	S09	E66	07 4.9			HSX	140	1	3	3
4670		ATHN	06 30 0645	S05	E67	07 5.3			CHO	280	3	9	3
4670		HOLL	06 30 1415	S07	E62	07 5.2		B	CAO	150	2	9	3
4670	24245	MWIL	06 30 1500	S08	E59	07 5.0	5	(AP)					
4670		PALE	06 30 1935	S08	E58	07 5.2		B	CHO	140	2	9	2
4670		LEAR	07 01 0148	S07	E55	07 5.2		B	CSO	70	3	7	3
4670		ATHN	07 01 0615	S07	E50	07 5.0			CSO	130	5	8	3
4670		RAMY	07 01 1248	S07	E48	07 5.1		B	CSO	120	3	8	3
4670		BOUL	07 01 1320	S08	E43	07 4.8		B	CSO	50	2	2	3
4670		HOLL	07 01 1415	S07	E48	07 5.2		B	CSO	140	4	7	3
4670	24245	MWIL	07 01 1500	S08	E45	07 5.0	5	(BP)					
4670		PALE	07 01 2035	S06	E43	07 5.1		B	CAO	130	3	8	2
4670		LEAR	07 02 0150	S08	E42	07 5.2		B	CSO	70	5	8	3
4670		ATHN	07 02 0610	S05	E38	07 5.1			DSO	100	6	6	3
4670		RAMY	07 02 1313	S07	E36	07 5.2		B	DAO	170	7	7	4
4670		BOUL	07 02 1440	S08	E32	07 5.0		B	CSO	70	2	6	3
4670	24245	MWIL	07 02 1500	S08	E34	07 5.2	5	(BF)					
4670		HOLL	07 02 1515	S07	E34	07 5.2		B	DHO	180	8	8	3
4670		PALE	07 02 1803	S08	E33	07 5.2		B	CHO	120	6	9	2
4670		LEAR	07 03 0038	S09	E29	07 5.2		B	CSO	120	9	8	2
4670		ATHN	07 03 0615	S07	E24	07 5.1			CAO	100	6	7	1
4670		BOUL	07 03 1315	S06	E20	07 5.0		B	CSO	90	6	7	3
4670		RAMY	07 03 1415	S08	E20	07 5.1		B	CSO	130	7	9	3
4670	24245	MWIL	07 03 1500	S08	E18	07 5.0	5	(BP)					
4670		PALE	07 03 1814	S08	E18	07 5.1		B	CSO	100	4	8	3
4670		HOLL	07 03 1942	S07	E19	07 5.2		B	CHO	170	12	8	4
4670		LEAR	07 04 0115	S07	E15	07 5.2		B	CSO	110	4	8	2
4670		ATHN	07 04 0715	S09	E08	07 4.9			HSX	80	3	2	3
4670		BOUL	07 04 1315	S06	E06	07 5.0		A	HSX	60	1	2	3
4670		RAMY	07 04 1405	S08	E06	07 5.0		B	CSO	150	3	6	3
4670	24245	MWIL	07 04 1515	S09	E03	07 4.9	6	(AP)					
4670		HOLL	07 04 1532	S07	E06	07 5.1		B	CHO	120	9	6	4
4670		PALE	07 04 1919	S09	E01	07 4.9		A	HHX	110	1	3	4
4670		LEAR	07 05 0038	S07	E03	07 5.3		B	CHO	110	6	8	3
4670		ATHN	07 05 0600	S08	W04	07 5.0			HSX	60	1	2	2
4670		BOUL	07 05 1310	S07	W08	07 4.9		A	HSX	80	1	2	4
4670		RAMY	07 05 1325	S08	W09	07 4.9		A	HAX	140	1	2	3
4670	24245	MWIL	07 05 1530	S09	W10	07 4.9	5	(BP)					
4670		HOLL	07 05 1655	S10	W07	07 5.2		B	CSO	120	2	9	4
4670		PALE	07 05 1807	S09	W09	07 5.1		B	CHO	120	4	9	3
4670		ATHN	07 06 0715	S08	W18	07 5.0			HSO	70	2	3	3
4670		BOUL	07 06 1415	S07	W19	07 5.2		A	HSX	40	1	2	2
4670		HOLL	07 06 1530	S11	W23	07 4.9		A	HSX	80	1	2	3
4670		RAMY	07 06 1540	S09	W23	07 4.9		A	HSX	90	1	2	3
4670	24245	MWIL	07 06 1730	S09	W24	07 4.9	5	(AP)					
4670		PALE	07 06 2000	S08	W27	07 4.8		A	HHX	90	1	3	3
4670		LEAR	07 07 0035	S09	W28	07 4.9		A	HSX	40	1	2	2
4670		RAMY	07 07 1401	S08	W37	07 4.8		A	HSX	100	1	2	3
4670		BOUL	07 07 1418	S10	W33	07 5.1		A	HSX	70	1	2	3
4670		HOLL	07 07 1510	S11	W36	07 4.9		A	HSX	90	1	2	3
4670	24245	MWIL	07 07 1530	S09	W36	07 4.9	5	(AP)					
4670		LEAR	07 08 0030	S09	W43	07 4.8		A	HSX	50	1	2	3
4670		ATHN	07 08 0615	S08	W44	07 5.0			HSX	70	1	2	2
4670	24245	MWIL	07 08 1530	S09	W50	07 4.9	5	(AP)					
4670		HOLL	07 08 1540	S10	W51	07 4.8		A	HSX	60	1	2	4
4670		RAMY	07 08 1545	S07	W51	07 4.8		A	HAX	70	1	1	3

SUNSPOT GROUPS
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

JULY 1985

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4670		PALE	07	08	1735	S09	W53	07	4.8		A	HSX	70	1	2	4
4670		LEAR	07	09	0220	S09	W57	07	4.8		A	HSX	40	1	2	2
4670		ATHN	07	09	0545	S09	W58	07	4.9			HSX	40	1	2	3
4670		BOUL	07	09	1410	S08	W58	07	5.2		A	HSX	30	1	2	3
4670		HOLL	07	09	1550	S08	W65	07	4.8		A	HSX	50	1	2	3
4670	24245	MWIL	07	09	1700	S09	W65	07	4.8	5	(AP)					
4670		RAMY	07	09	1730	S08	W64	07	4.9		A	HAX	50	2	2	3
4670		PALE	07	09	1939	S06	W66	07	4.9		A	HSX	60	1	2	3
4670		MANI	07	09	2330	S09	W68	07	4.9			HSX	60	1	2	3
4670		LEAR	07	10	0029	S09	W68	07	4.9		A	HSX	30	1	2	2
4670		ATHN	07	10	0640	S08	W70	07	5.0			HSX	30	1	2	3
4670		BOUL	07	10	1315	S08	W72	07	5.2		A	HSX	30	1	2	2
4670	24245	MWIL	07	10	1530	S09	W78	07	4.8	3	(AP)					
4670		HOLL	07	10	1558	S09	W78	07	4.8		A	HSX	60	1	2	3
4670		RAMY	07	10	1705	S09	W79	07	4.8		A	HAX	50	1	1	3
4670		PALE	07	10	1809	S10	W80	07	4.7		A	HSX	70	1	2	3
4670		LEAR	07	11	0025	S10	W85	07	4.6		A	HSX	10	1	3	3
4670B		HOLL	07	03	1942	N02	E14	07	4.9		A	AXX	10	3	2	4
4674		ATHN	07	06	0715	S09	W02	07	6.2			AXX	10	1	1	3
4674		LEAR	07	07	0035	S08	W08	07	6.4		B	DAO	50	5	4	2
4674		RAMY	07	07	1401	S07	W16	07	6.4		B	DAO	20	8	5	3
4674		BOUL	07	07	1418	S07	W15	07	6.5		B	BXI	20	10	5	3
4674		HOLL	07	07	1510	S08	W15	07	6.5		B	DRO	70	11	5	3
4674	24249	MWIL	07	07	1530	S08	W17	07	6.4	4	(B)					
4674		LEAR	07	08	0030	S08	W23	07	6.3		B	BXO	40	12	6	3
4674		ATHN	07	08	0615	S07	W24	07	6.5			BXO	50	13	7	2
4674	24249	MWIL	07	08	1530	S08	W30	07	6.4	4	(B)					
4674		HOLL	07	08	1540	S08	W30	07	6.4		B	DRI	120	22	6	4
4674		RAMY	07	08	1545	S07	W31	07	6.3		B	DAO	90	14	6	3
4674		PALE	07	08	1735	S08	W32	07	6.3		B	DAI	150	18	7	4
4674		LEAR	07	09	0220	S08	W36	07	6.4		B	DAO	120	20	7	2
4674		ATHN	07	09	0545	S08	W38	07	6.4			DAO	130	16	7	3
4674		BOUL	07	09	1410	S06	W39	07	6.7		B	DKI	280	16	7	3
4674		HOLL	07	09	1550	S06	W45	07	6.3		B	DKO	270	14	8	3
4674	24249	MWIL	07	09	1700	S08	W45	07	6.3	5	(B)					
4674		RAMY	07	09	1730	S06	W46	07	6.3		B	DAO	180	18	8	3
4674		PALE	07	09	1939	S06	W46	07	6.4		B	DKO	230	14	8	3
4674		MANI	07	09	2330	S09	W48	07	6.4			DAO	170	23	8	3
4674		LEAR	07	10	0029	S08	W48	07	6.4		BG	DAO	170	25	8	2
4674		ATHN	07	10	0640	S06	W51	07	6.5			DAO	160	15	9	3
4674		BOUL	07	10	1315	S07	W53	07	6.6		B	DKC	350	19	8	2
4674	24249	MWIL	07	10	1530	S08	W58	07	6.3	5	(B)					
4674		HOLL	07	10	1558	S07	W58	07	6.3		B	DKO	410	13	8	3
4674		RAMY	07	10	1705	S07	W58	07	6.4		B	DKO	380	23	8	3
4674		PALE	07	10	1809	S08	W60	07	6.3		B	DKO	230	20	7	3
4674		LEAR	07	11	0025	S08	W65	07	6.1		BG	DAO	110	14	10	3
4674		ATHN	07	11	0600	S07	W64	07	6.5			DAO	320	9	10	1
4674		BOUL	07	11	1315	S07	W65	07	6.7		B	DSO	230	6	7	2
4674	24249	MWIL	07	11	1500	S08	W70	07	6.4	5	(B)					
4674		RAMY	07	11	1530	S08	W72	07	6.2		BG	DKO	100	6	9	3
4674		HOLL	07	11	1704	S08	W74	07	6.2		B	DKO	230	10	9	4
4674		MANI	07	12	0049	S08	W77	07	6.3			DSO	360	6	7	3
4674		LEAR	07	12	0104	S05	W76	07	6.4		B	DSO	30	2	8	3
4674		ATHN	07	12	0620	S08	W80	07	6.3			CSO	50	2	9	1
4674		BOUL	07	12	1415	S08	W75	07	7.0		B	BXO	30	3	3	1
4674	24249	MWIL	07	12	1445	S08	W80	07	6.6	3	(AP)					
4674		RAMY	07	12	1506	S08	W79	07	6.7		A	HAX	40	1	2	3
4674		HOLL	07	12	1510	S08	W79	07	6.7		A	AXX	20	1	1	3
4674A		LEAR	07	09	0220	N05	W35	07	6.5		B	BXO	10	2	3	2
4674A		ATHN	07	09	0545	N05	W37	07	6.5			AXX	10	1	1	3
4672		ATHN	07	04	0715	S19	E40	07	7.4		B	BXO	20	2	2	3
4672		BOUL	07	04	1315	S17	E38	07	7.4		B	BXO	10	4	2	3
4672		RAMY	07	04	1405	S18	E38	07	7.5		B	BXO	10	2	3	3
4672	24248	MWIL	07	04	1515	S19	E37	07	7.5	4	(B)					
4672		HOLL	07	04	1532	S19	E37	07	7.5		A	AXX	20	6	3	4
4672		PALE	07	04	1919	S19	E33	07	7.3		A	AXX	20	8	5	4
4672		LEAR	07	05	0038	S17	E33	07	7.5		B	CRI	30	15	4	3

SUNSPOT GROUPS
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

JULY 1985

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4672		ATHN	07 05 0600	S18 E27	07 7.3			CAO	60	7	4	2
4672		BOUL	07 05 1310	S18 E23	07 7.3		B	DSI	80	13	4	4
4672		RAMY	07 05 1325	S19 E24	07 7.4		B	DAO	90	12	4	3
4672	24248	MWIL	07 05 1530	S19 E22	07 7.3	4	(B)					
4672		HOLL	07 05 1655	S18 E23	07 7.5		B	DRI	80	18	6	4
4672		PALE	07 05 1807	S20 E21	07 7.4		B	DRI	190	18	6	3
4672		ATHN	07 06 0715	S18 E12	07 7.2			CAI	100	15	4	3
4672		BOUL	07 06 1415	S17 E11	07 7.4		B	DKI	240	19	5	2
4672		HOLL	07 06 1530	S17 E11	07 7.5		B	DKI	280	19	5	3
4672		RAMY	07 06 1540	S19 E09	07 7.3		B	DKI	160	23	5	3
4672		PALE	07 06 2000	S19 E05	07 7.2		B	CKO	170	19	7	3
4672		LEAR	07 07 0035	S16 E03	07 7.3		BG	DKI	450	19	6	2
4672		RAMY	07 07 1401	S16 W04	07 7.3		BGD	DKI	590	30	6	3
4672		BOUL	07 07 1418	S17 W03	07 7.4		B	DKI	630	20	7	3
4672		HOLL	07 07 1510	S17 W05	07 7.3		BGD	DKI	610	34	8	3
4672		LEAR	07 08 0030	S17 W10	07 7.3		BGD	DKI	500	30	9	3
4672		ATHN	07 08 0615	S15 W14	07 7.2			DKI	450	23	5	2
4674B	24246	MWIL	06 30 1500	S15 E88	07 7.3	3	AP					
4671		ATHN	07 01 0615	S16 E80	07 7.3			HSX	20	1	2	3
4671		RAMY	07 01 1248	S16 E78	07 7.4		B	CSO	70	2	3	3
4671		BOUL	07 01 1320	S14 E70	07 6.8		B	CRO	30	2	2	3
4671		HOLL	07 01 1415	S14 E77	07 7.4		B	DAO	90	3	5	3
4671	24246	MWIL	07 01 1500	S15 E76	07 7.4	3	(B)					
4671		PALE	07 01 2035	S16 E75	07 7.5		B	CAO	140	3	8	2
4671		LEAR	07 02 0150	S16 E69	07 7.3		B	DAO	40	4	6	3
4671		ATHN	07 02 0610	S13 E65	07 7.2			CAO	100	5	4	3
4671		RAMY	07 02 1313	S14 E63	07 7.3		B	DAO	80	6	6	4
4671		BOUL	07 02 1440	S14 E58	07 7.0		B	DSO	60	3	3	3
4671	24246	MWIL	07 02 1500	S14 E62	07 7.3	5	(B)					
4671		HOLL	07 02 1515	S14 E61	07 7.2		B	DSO	80	7	6	3
4671		PALE	07 02 1803	S15 E63	07 7.5		B	DAO	130	4	5	2
4671		LEAR	07 03 0038	S15 E59	07 7.5		B	DSO	60	7	5	2
4671		ATHN	07 03 0615	S15 E53	07 7.3			DAO	90	4	4	1
4671		BOUL	07 03 1315	S14 E47	07 7.1		B	DSI	140	14	7	3
4671		RAMY	07 03 1415	S15 E50	07 7.4		B	DSO	120	11	7	3
4671	24246	MWIL	07 03 1500	S15 E49	07 7.3	5	(B)					
4671		PALE	07 03 1814	S14 E47	07 7.3		B	DSO	150	12	5	3
4671		HOLL	07 03 1942	S14 E47	07 7.4		B	DSI	160	12	6	4
4671		LEAR	07 04 0115	S13 E43	07 7.3		B	CSO	130	9	5	2
4671		ATHN	07 04 0715	S15 E38	07 7.2			CSO	110	7	5	3
4671		BOUL	07 04 1315	S13 E36	07 7.3		B	DSO	100	5	3	3
4671		RAMY	07 04 1405	S14 E35	07 7.2		B	DAO	80	9	5	3
4671	24246	MWIL	07 04 1515	S15 E35	07 7.3	5	(B)					
4671		HOLL	07 04 1532	S14 E34	07 7.2		B	DSO	140	8	5	4
4671		PALE	07 04 1919	S15 E32	07 7.2		B	DSO	160	9	5	4
4671		LEAR	07 05 0038	S13 E31	07 7.4		B	CHI	100	20	5	3
4671		ATHN	07 05 0600	S12 E25	07 7.1			DSO	120	8	6	2
4671		BOUL	07 05 1310	S14 E22	07 7.2		B	DSI	120	10	5	4
4671		RAMY	07 05 1325	S14 E23	07 7.3		B	DAO	180	10	5	3
4671	24246	MWIL	07 05 1530	S15 E21	07 7.2	5	(B)					
4671		HOLL	07 05 1655	S14 E20	07 7.2		B	DSI	150	13	6	4
4671		PALE	07 05 1807	S15 E18	07 7.1		B	DSI	130	11	7	3
4671		ATHN	07 06 0715	S13 E13	07 7.3			DSI	120	12	6	3
4671		BOUL	07 06 1415	S12 E09	07 7.3		B	DHI	140	9	5	2
4671		HOLL	07 06 1530	S13 E08	07 7.2		B	DSO	90	8	6	3
4671		RAMY	07 06 1540	S14 E09	07 7.3		B	DSI	110	11	5	3
4671	24246	MWIL	07 06 1730	S16 E07	07 7.3	5	(D)					
4671		PALE	07 06 2000	S15 E04	07 7.1		B	DSO	120	11	6	3
4671		LEAR	07 07 0035	S14 E05	07 7.4		BG	DAI	140	11	5	2
4671		RAMY	07 07 1401	S13 W05	07 7.2		B	DAO	120	7	5	3
4671		BOUL	07 07 1418	S16 W02	07 7.4		B	CAO	70	4	2	3
4671		HOLL	07 07 1510	S13 W03	07 7.4		B	DSO	100	9	5	3
4671	24246	MWIL	07 07 1530	S17 W05	07 7.3	5	(D)					
4671		LEAR	07 08 0030	S14 W11	07 7.2		B	DSO	90	10	6	3
4671		ATHN	07 08 0615	S12 W14	07 7.2			DSO	140	4	4	2
4671	24246	MWIL	07 08 1530	S17 W18	07 7.3	5	(D)					
4671		HOLL	07 08 1540	S16 W19	07 7.2		BG	DKC	620	42	8	4
4671		RAMY	07 08 1545	S15 W18	07 7.3		B	DKI	670	28	6	3
4671		PALE	07 08 1735	S17 W20	07 7.2		BGD	DKC	590	48	8	4

SUNSPOT GROUPS
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JULY 1985

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4671		LEAR	07 09 0220	S16 W25	07 7.2		BGD	DKC	450	30	7	2
4671		ATHN	07 09 0545	S15 W25	07 7.3			DKC	580	31	8	3
4671		BOUL	07 09 1410	S13 W27	07 7.6		BGD	DHC	440	30	6	3
4671		HOLL	07 09 1550	S16 W33	07 7.2		BGD	DKI	600	35	7	3
4671	24246	MWIL	07 09 1700	S17 W33	07 7.2	5	(D)					
4671		RAMY	07 09 1730	S15 W33	07 7.2		BGD	DKI	450	27	6	3
4671		PALE	07 09 1939	S14 W35	07 7.2		BGD	DKI	550	25	7	3
4671		MANI	07 09 2330	S16 W37	07 7.2			DKC	430	46	7	3
4671		LEAR	07 10 0029	S15 W36	07 7.3		BGD	DKC	290	37	7	2
4671		ATHN	07 10 0640	S13 W37	07 7.5			DKC	280	27	8	3
4671		BOUL	07 10 1315	S14 W43	07 7.3		BGD	DKC	680	27	8	2
4671	24246	MWIL	07 10 1530	S16 W45	07 7.2	5	(D)					
4671		HOLL	07 10 1558	S15 W46	07 7.2		BGD	DKI	720	29	7	3
4671		RAMY	07 10 1705	S15 W46	07 7.2		BGD	DKI	600	35	8	3
4671		PALE	07 10 1809	S16 W47	07 7.2		BGD	DKC	510	36	8	3
4671		LEAR	07 11 0025	S16 W50	07 7.2		BGD	EKI	320	27	12	3
4671		ATHN	07 11 0600	S15 W54	07 7.2			DKC	490	20	8	1
4671		BOUL	07 11 1315	S15 W54	07 7.5		BGD	DKC	540	21	5	2
4671	24246	MWIL	07 11 1500	S16 W58	07 7.2	5	(D)					
4671		RAMY	07 11 1530	S15 W58	07 7.3		BGD	DKC	800	31	9	3
4671		HOLL	07 11 1704	S17 W63	07 6.9		BGD	DKC	960	24	9	4
4671		MANI	07 12 0049	S17 W67	07 6.9			DKC	670	22	9	3
4671		LEAR	07 12 0104	S14 W65	07 7.1		B	DAI	170	13	6	3
4671		ATHN	07 12 0620	S16 W65	07 7.3			DAI	430	7	7	1
4671		BOUL	07 12 1415	S16 W68	07 7.4		BD	DSI	280	6	4	1
4671	24246	MWIL	07 12 1445	S15 W71	07 7.2	5	(B)					
4671		RAMY	07 12 1506	S15 W70	07 7.3		B	DKC	350	14	8	3
4671		HOLL	07 12 1510	S17 W72	07 7.2		BD	DKI	550	14	7	3
4671		PALE	07 12 2048	S17 W69	07 7.6		BD	DKI	390	9	9	1
4671		ATHN	07 13 0625	S15 W81	07 7.1			CAO	30	3	2	1
4671	24246	MWIL	07 13 1445	S15 W87	07 7.0	3	B					
4671		HOLL	07 13 1538	S15 W88	07 7.0		A	HKX	130	1	4	3
4671A		LEAR	07 01 0148	S15 E87	07 7.7		A	HSX	20	1	2	3
4676		HOLL	07 06 1530	N07 E38	07 9.5		B	BXO	10	2	3	3
4676	24250	MWIL	07 07 1530	N05 E24	07 9.4	4	(AP)					
4676		LEAR	07 09 0220	N04 E04	07 9.4		B	BXO	20	2	3	2
4676		ATHN	07 09 0545	N03 E02	07 9.4			CSO	20	5	3	3
4676		BOUL	07 09 1410	N05 W02	07 9.4		B	CRO	50	8	5	3
4676		HOLL	07 09 1550	N04 W03	07 9.4		B	CRO	80	13	4	3
4676	24250	MWIL	07 09 1700	N04 W05	07 9.3	4	(B)					
4676		RAMY	07 09 1730	N04 W04	07 9.4		B	DAO	60	7	4	3
4676		PALE	07 09 1939	N04 W06	07 9.4		B	DAO	70	8	5	3
4676		LEAR	07 10 0029	N05 W08	07 9.4		B	DSO	60	8	5	2
4676		ATHN	07 10 0640	N06 W10	07 9.5			DAO	90	12	5	3
4676		BOUL	07 10 1315	N04 W14	07 9.5		B	DSI	90	9	4	2
4676	24250	MWIL	07 10 1530	N04 W17	07 9.4	5	(B)					
4676		HOLL	07 10 1558	N04 W17	07 9.4		B	DAO	120	11	6	3
4676		RAMY	07 10 1705	N04 W18	07 9.4		B	DAO	100	10	5	3
4676		PALE	07 10 1809	N04 W18	07 9.4		B	DAO	140	16	6	3
4676		LEAR	07 11 0025	N04 W23	07 9.3		B	DAO	140	15	6	3
4676		ATHN	07 11 0600	N04 W23	07 9.5			DAI	160	8	6	1
4676		BOUL	07 11 1315	N05 W26	07 9.6		B	DAO	100	10	5	2
4676	24250	MWIL	07 11 1500	N04 W30	07 9.4	5	(B)					
4676		RAMY	07 11 1530	N03 W30	07 9.4		B	DAO	130	9	5	3
4676		MANI	07 12 0049	N04 W36	07 9.3			DAO	130	10	9	3
4676		LEAR	07 12 0104	N05 W36	07 9.4		B	BSO	80	12	5	3
4676		ATHN	07 12 0620	N03 W36	07 9.6			DSO	70	4	6	1
4676		BOUL	07 12 1415	N05 W40	07 9.6		B	DSO	50	3	5	1
4676	24250	MWIL	07 12 1445	N04 W43	07 9.4	4	( )					
4676		RAMY	07 12 1506	N03 W42	07 9.5		B	DAO	90	5	6	3
4676		HOLL	07 12 1510	N04 W43	07 9.4		B	DSO	80	5	5	2
4676		PALE	07 12 2048	N03 W48	07 9.3		B	CSO	90	5	5	1
4676		ATHN	07 13 0625	N04 W52	07 9.4			CSO	30	3	5	1
4676		BOUL	07 13 1420	N05 W52	07 9.7		B	CSO	40	3	4	2
4676	24250	MWIL	07 13 1445	N04 W57	07 9.4	4	(B)					
4676		HOLL	07 13 1538	N04 W57	07 9.4		B	CAO	30	3	4	3
4676		PALE	07 13 1750	N02 W56	07 9.6		B	CAO	60	3	4	3
4676		LEAR	07 14 0011	N04 W60	07 9.5		B	CSO	20	2	5	3
4676		ATHN	07 14 0605	N04 W66	07 9.3			AXX	20	1	1	1

SUNSPOT GROUPS
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JULY 1985

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4676		BOUL	07 14 1330	N04 W68	07 9.5		A	AXX	10	1	1	3
4676		RAMY	07 14 1331	N02 W73	07 9.1		A	HSX	20	1	1	4
4676	24250	MWIL	07 14 1515	N03 W71	07 9.3	4	(AP)					
4676		HOLL	07 14 1520	N04 W71	07 9.3		A	HRX	10	1	2	3
4676		PALE	07 14 1720	N02 W70	07 9.5		A	HAX	60	1	2	3
4676		LEAR	07 15 0244	N03 W78	07 9.3		A	AXX	10	1	1	3
4675		RAMY	07 06 1540	N05 E39	07 9.6		B	BXO	10	3	3	3
4675		MANI	07 09 2330	N04 W07	07 9.5			DSO	80	9	6	3
4675A		LEAR	07 07 0035	S02 E49	07 10.7		A	AXX	10	1	1	2
4675A		HOLL	07 07 1510	S02 E39	07 10.5		B	BXO	10	2	3	3
4675A	24251	MWIL	07 07 1530	S02 E41	07 10.7	3	(BF)					
4675B		RAMY	07 07 1401	S02 E41	07 10.6		A	AXX	10	1	1	3
4675C		BOUL	07 13 1420	N04 E67	07 18.6		B	BXO	10	2	2	2
4677		LEAR	07 16 0052	S12 E78	07 21.9		A	HHX	40	1	3	2
4677		ATHN	07 16 0615	S19 E76	07 22.1			HSX	30	1	1	2
4677		BOUL	07 16 1250	S13 E68	07 21.7		B	CSO	70	3	3	2
4677		RAMY	07 16 1405	S14 E71	07 22.0		A	HSX	70	1	2	2
4677		HOLL	07 16 1442	S14 E74	07 22.2		B	CSO	70	2	5	3
4677	24252	MWIL	07 16 1630	S14 E71	07 22.1	4	(AP)					
4677		PALE	07 16 2047	S13 E72	07 22.3		B	CHO	140	2	7	3
4677		MANI	07 16 2310	S14 E70	07 22.3			HSX	160	1	4	2
4677		LEAR	07 17 0001	S15 E69	07 22.2		B	CSO	20	2	6	3
4677		ATHN	07 17 0615	S15 E60	07 21.8			CSO	50	2	2	1
4677		RAMY	07 17 1238	S14 E61	07 22.1		B	CSO	70	2	6	3
4677		HOLL	07 17 1456	S14 E61	07 22.2		B	CSO	80	2	6	3
4677	24252	MWIL	07 17 1500	S14 E59	07 22.1	4	(AP)					
4677		BOUL	07 17 1540	S13 E56	07 21.9		A	HSX	30	1	2	2
4677		PALE	07 17 2005	S14 E56	07 22.1		A	HAX	80	1	2	2
4677		MANI	07 17 2328	S14 E56	07 22.2			HAX	110	1	3	2
4677		ATHN	07 18 0630	S15 E49	07 22.0			CAO	60	2	3	2
4677		LEAR	07 18 0729	S16 E49	07 22.0		A	HAI	40	4	3	3
4677		BOUL	07 18 1415	S12 E46	07 22.1		B	CSO	60	3	2	2
4677		RAMY	07 18 1500	S14 E44	07 22.0		B	CAO	50	3	2	3
4677		HOLL	07 18 1500	S14 E46	07 22.1		B	CAO	60	3	3	3
4677	24252	MWIL	07 18 1900	S14 E43	07 22.0	5	(AP)					
4677		PALE	07 18 1939	S14 E43	07 22.1		B	CSC	60	3	3	2
4677		LEAR	07 19 0106	S14 E41	07 22.1		B	HSO	40	4	2	2
4677		MANI	07 19 0144	S13 E41	07 22.2			CSO	50	3	2	3
4677		ATHN	07 19 0735	S14 E33	07 21.8		B	CSO	60	3	3	3
4677		HOLL	07 19 1506	S14 E33	07 22.1		B	CSO	30	3	3	3
4677		RAMY	07 19 1506	S15 E32	07 22.1		B	DAO	50	2	2	4
4677		PALE	07 19 1812	S14 E31	07 22.1		A	HAX	50	2	3	3
4677	24252	MWIL	07 19 2300	S14 E28	07 22.1	5	(AP)					
4677		MANI	07 19 2324	S14 E27	07 22.0			CSO	40	5	5	3
4677		LEAR	07 20 0020	S15 E27	07 22.1		B	CSO	30	4	4	2
4677		ATHN	07 20 0940	S15 E19	07 21.8		B	CAO	40	3	2	3
4677		RAMY	07 20 1307	S14 E19	07 22.0		A	HSX	20	1	1	2
4677		HOLL	07 20 1400	S14 E19	07 22.0		B	CSO	20	2	1	3
4677	24252	MWIL	07 20 1430	S13 E21	07 22.2	5	(AP)					
4677		PALE	07 20 1735	S14 E18	07 22.1		A	HAX	20	1	1	3
4677		MANI	07 20 2315	S14 E15	07 22.1			CSO	30	2	3	3
4677		LEAR	07 21 0206	S13 E14	07 22.1		B	BXO	10	3	2	2
4677		ATHN	07 21 0510	S13 E12	07 22.1			CSO	20	2	1	2
4677		HOLL	07 21 1420	S13 E06	07 22.0		A	HSX	20	1	1	3
4677		RAMY	07 21 1450	S13 E07	07 22.1		A	HAX	20	1	1	2
4677	24252	MWIL	07 21 1545	S14 E05	07 22.0	5	(AP)					
4677		PALE	07 21 1745	S13 E05	07 22.1		A	HRX	20	1	1	3
4677		LEAR	07 22 0031	S13 E01	07 22.1		A	HRX	20	4	1	3
4677		ATHN	07 22 0645	S12 W04	07 22.0		A	HRX	20	1	1	2
4677		HOLL	07 22 1445	S13 W07	07 22.1		A	AXX	10	3	1	4
4677		RAMY	07 22 1450	S13 W08	07 22.0		A	AXX		2	1	3
4677		BOUL	07 22 1520	S09 W06	07 22.2		A	AXX	10	2	1	2
4677	24252	MWIL	07 22 1545	S14 W07	07 22.1	4	(AP)					
4677		PALE	07 22 1834	S13 W09	07 22.1		A	AXX	10	3	1	3
4677		LEAR	07 23 0041	S13 W12	07 22.1		B	BXO	10	3	2	3
4677	24252	MWIL	07 23 1430	S14 W20	07 22.1	4	(AP)					

SUNSPOT GROUPS
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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
4677		HOLL	07	23	1522	S13	W21	07	22.1		A	AXX		1		3
4677		PALE	07	23	1714	S14	W23	07	22.0		A	AXX	10	1	1	2
4677A		HOLL	07	28	1610	S07	W58	07	24.3		A	AXX		1		4
4677A		HOLL	07	28	1728	S07	W58	07	24.4		A	AXX		1		4
4679		RAMY	07	25	1412	N02	W01	07	25.5		B	CAO	10	5	2	2
4679	24254	MWIL	07	25	1430	N02	W02	07	25.5	4	(BF)					
4679		PALE	07	25	1822	N02	W04	07	25.5		B	BXO	20	6	4	3
4679		HOLL	07	25	1830	N02	W04	07	25.5		B	BXO	10	2	2	2
4679		LEAR	07	26	0105	N02	W08	07	25.4		B	BXO	10	4	3	4
4678		HOLL	07	22	1445	S12	E57	07	26.9		B	AXX		2	2	4
4678		HOLL	07	22	1445	S12	E57	07	26.9		B	BXO		2	2	4
4678		RAMY	07	22	1450	S13	E57	07	26.9		B	BXO		2	1	3
4678	24253	MWIL	07	22	1545	S12	E56	07	26.9	4	(AP)					
4678		PALE	07	22	1834	S14	E55	07	26.9		A	AXX	10	2	1	3
4678		LEAR	07	23	0041	S12	E51	07	26.9		B	BXO	10	2	2	3
4678		ATHN	07	23	0500	S13	E46	07	26.7			AXX	10	1	1	1
4678		BOUL	07	23	1255	S10	E43	07	26.8		A	HSX	10	1	1	1
4678	24253	MWIL	07	23	1430	S12	E42	07	26.8	5	(B)					
4678		HOLL	07	23	1522	S12	E44	07	27.0		B	BXO	10	2	4	3
4678		PALE	07	23	1714	S13	E41	07	26.8		B	BXO	10	2	1	2
4678		ATHN	07	24	0810	S13	E31	07	26.7		A	AXX	10	1		3
4678		RAMY	07	24	1205	S13	E32	07	26.9		B	BXO		2	4	3
4678		BOUL	07	24	1310	S11	E27	07	26.6		A	AXX	10	1	1	2
4678	24253	MWIL	07	24	1430	S12	E29	07	26.8	4	(B)					
4678		HOLL	07	24	1535	S12	E28	07	26.8		A	AXX		1		3
4678		PALE	07	24	1950	S13	E27	07	26.9		A	AXX	10	1		2
4678		MANI	07	25	0048	S13	E24	07	26.8			AXX	10	1	1	3
4678		ATHN	07	25	0520	S12	E19	07	26.7			AXX	10	1	1	2
4678		BOUL	07	25	1300	S10	E14	07	26.6		A	AXX	10	1	1	2
4678	24253	MWIL	07	25	1430	S12	E17	07	26.9	4	(B)					
4678	24253	MWIL	07	26	1445	S10	E07	07	27.1	4	(AP)					
4678A	24259	MWIL	07	28	1500	S30	W18	07	27.2	4	(B)					
4678A		HOLL	07	28	1728	S30	W20	07	27.2		A	AXX		1		4
4678B		RAMY	07	29	1250	N08	E04	07	29.8		B	BXO	10	2	3	3
4678C	24255	MWIL	07	26	1445	S12	E54	07	30.7	3	(AP)					

Stations Reporting

ATHN = Athens
BOUL = Boulder
HOLL = Holloman
LEAR = Learmonth
MANI = Manila
MWIL = Mt. Wilson
PALE = Palehua
RAMY = Ramey

July 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	MOAA/SESC Region
02	0718	0743U	0856	1-	1		1				No Flare		
02	1050	1103	1205	2	1					1	No Flare		
02	1110	1126	1200	1	3	1	1		1	2	1121E UT	C1.8	4671
02	1532	1538	1611	1-	1		1				No Flare		
02	1701	1720	1755	1-	1			1		1	1703E UT		4671
02	2117	2133	0000	2+	5	2		1		7	2056 UT	M4.5	4671
03	1225	1227U	1307	1-	1		1				No Flare		
04	1217	1221	1245	1	3		1			1	1213 UT		4671
05	1347	1350	1420	1-	3		1	1			1352E UT		4672
06	0238	0246	0328	1-	1			1			0238 UT	C1.0	4671
06	2243	2309	2355	1-	1			1			2234 UT	C1.0	
07	0010	0014	0038	1-	1			1			0012 UT	C1.3	4672
07	0521	0533	0634	1-	3			1	1		0527 UT		No data
07	1030	1035	1040	1	3	1	1			2	1027 UT	C1.3	
07	2026	2032	2054	1-	3			1		2	2024 UT	C2.7	
07	2227	2232	2315	1-	1			1			2223 UT	C1.4	
08	0150	0200	0214	1-	3	1			1		No Flare		
08	0404	0410	0434	1-	3		2	1	1		0410 UT		4672
08	0846	0850	0900	1-	3		1	1	1		0850 UT	C1.2	4671
08	0950	0958	1045	1-	5	2	2	1	1	2	0954 UT		
08	1145	1146	1155	1-	3					2	1141 UT	C1.4	
08	1316	1320	1410	1+	3					2	1314 UT	C1.1	
08	1604	1615	1631	1-	3			1		6	1603 UT	C3.3	
09	0135	0206	0345	2+	3	1		1	1		0136 UT		4671
09	1645	1654	1720	1-	3		2	1	1	4	1646E UT	C3.6	4671
10	1022	1025	1100	1	3					2	1020 UT	C1.9	
10	1645	1647	1703	1-	3					4	1644 UT	C2.2	
10	1731	1738U	1823	1-	1		1				1722 UT	C1.1	4674
11	0648	0707	0838	1-			*				0646 UT		4674
11	1346	1353	1440	1-	5	2	3	1	1	8	1345 UT	C5.1	4671
12	0140	0146	0225	1-	1			1			No Flare		
12	0501	0536	0730	2+	3	2		1	2		0502 UT		4671
12	0617	0622	0640	1-	3			1	1	1	0613 UT	C3.7	
13	0559	0608	0648	1-	1			1			0550 UT		4671
13	1315	1317	1320	1-	3	1	1	1	1	4	1317 UT	C2.0	
16	0806	0819	0946	1-	1		1				No Flare		
16	1332	1348	1446	1-	1		1				No Flare		
16	1531	1544U	1607	1-	1		1				No Flare		
18	1233	1244	1420	1-	3		2				No Flare		
22	0340	0350	0400	1-	1				1		No Flare		
25	1544	1607U	1638	1-	1		1				No Flare		
28	1615	1619	1642	1-	3		2				No Flare		
29	1506	1515	1550	1-	1			1		1	No Flare		

* No flare patrol

SUDDEN IONOSPHERIC DISTURBANCES

SIDs by NOAA/SESC REGION

July 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																															
4671		3		1		1		1	2		1	1	1																		
4672					1		1	1																							
4674										1	1																				
X-Ray		2				2	4	4	1	3	1	1	1																		
No Flare		3	1					1				1				3		1				1			1			1	1		
No Flare Patrol																															
No Data							1																								
Event Totals		6	1	1	1	2	5	7	2	3	2	3	2			3		1				1			1			1	1		

OBSERVATORIES REPORTING FOR JULY 1985*

Ayrshire, Scotland (AY)	SES	Maui, Hawaii, USA (MI)	SWF
Darmstadt, GFR (DA)	SWF	Milton-Freewater, Oregon, USA (A55)	SES
Farsta, Sweden (FA)	SES	Missoula, Montana, USA (A31)	SES
Hiraiso, Japan (HI)	SWF	Panska Ves, Czechoslovakia (PU)	SEA, SWF, SES
Houston, Texas, USA (A50)	SES	Paterson, New Jersey, USA (A46)	SES
Hutton Heights, South Africa (A58)	SES	Sao Paulo, Brasil (UM)	SPA, SES
Inubo, Japan (IN)	SPA	St. Cloud, Minnesota, USA (SC)	SES
Juliusruh, GFR (JU)	SWF	Tavares, Florida, USA (A49)	SES
Kuhlungsborn, GDR (KU)	SPA, SEA	Tucson, Arizona, USA (A09)	SES
Lake Hiawatha, New Jersey, USA (A32)	SES	Upice, Czechoslovakia (UI)	SEA
Latrobe, Pennsylvania, USA (A19)	SES	Valley Cottage, New York, USA (A01)	SES
Lintong, China (LT)	SPA	Vsetin, Czechoslovakia (VS)	SEA
Louisville, Kentucky, USA (A26)	SES		

*Observations are not necessarily continuous for each reporting station.

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JULY 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			PALE				0132.3	0132.6	1				III
			LEAR				0310.0	0310.1	1				III
	0413	1350	WEIS										
	0420	0810	BLEN										
	1354	1858	WEIS										
			PALE				2055.8	2056.3	2				V
			SGMR				2055.8	2056.1	1				V
02	1014	1845	BLEN										
			SGMR				1645.3	1646.6	1				V
	0451	1041	WEIS				1645.4	1645.7	2				IIIG
	1238	1857	WEIS				1802.2	1802.3	2				IIIB
			SGMR				1803.3	1803.6	1				V
			SGMR				2045.1	2053.3	2				V
			PALE				2052.8	2053.0	1				III
			PALE				2116.1	2122.8	3			II	
			SGMR				2116.3	2145.0	2			IV	
			PALE				2122.8	2150.5	3			IV	
			SGMR				2145.0	2209.0	1				CONT
03	0415	0709	WEIS										
	0420	1845	BLEN										
	0720	1857	WEIS										
04	0420	1845	BLEN										
	0535	1414	WEIS										
	1511	1857	WEIS										
05	0417	1917	WEIS										
	0420	1845	BLEN	0940.1	0940.3	1							III
06	0415	0536	WEIS										
	0420	1845	BLEN										
	0826	1856	WEIS										
07	0417	1344	WEIS										
	0420	1053	BLEN	1006.2	1053.00	1	1006.2	1053.00	1				S,DC
	1448	1856	WEIS										
			SGMR				2026.8	2028.3	1				V
08	1024	1930	BLEN	1252.5	1252.6	2							IIIB
	0416	1854	WEIS				1742.2	1744.3	1				IIIG
			SGMR				1742.3	1742.8	1				V
09			LEAR				0129.6	0129.8	1				III
			LEAR				0154.1	0154.6	2				III
			PALE				0154.1	0204.0	3			II	
			LEAR				0155.6	0213.0	3			II	
			PALE				0204.0	0430.0	3			IV	
	0410	1830	BLEN	0515.2	0517.4	2	0515.2	0517.4	3				IIIGG,RS
			BLEN				0726.3	0726.6	1				III
	0553	1855	WEIS				0726.4	0726.5	3				IIIB
	0413	0539	WEIS				0815.9	0816.4	1				IIIG
			BLEN	0845.6	0847.9	1	0845.6	0847.9	2				III
			BLEN	1646.7	1651.3	3							IIIGG,RS
			BLEN				1700.2	1704.1	3				III
10	0410	1830	BLEN				0504.0	0620.0	1				I
			LEAR				0534.0	0936.0	1				CONT
			BLEN	0548.7	0607.5	3							DCIM,F,P
	0418	1119	WEIS				0616.0	0656.0	2				IIIN
			BLEN	0859.8	0900.3	2							IIIG,RS
			BLEN	1243.7	1247.8	3	1243.7	1247.8	2				IIIGG
			BLEN	1401.3	1401.5	2							III
			BLEN	1438.3	1439.5	2	1438.3	1469.5	2				IIIGG
	1315	1854	WEIS				1438.3	1438.7	2				IIIG
11	0410	1830	BLEN	0612.9	0613.1	1	0612.9	0613.1	2				III
	0420	1853	WEIS				1105.1	1105.2	1				IIIB
			SGMR				2054.8	2055.0	1				V
12	0410	1830	BLEN										

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JULY 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
12	0419	1852	WEIS										
13	0410	1108	BLEN				0515.7	0516.2	1				III G
	0423	0955	WEIS				0515.7	0516.2	2				III G
14	0829	1840	BLEN										
	0940	1851	WEIS										
15	0410	1840	BLEN										
	0424	1511	WEIS										
	1523	1801	WEIS										
	1805	1851	WEIS										
16	0410	1840	BLEN										
	0423	1850	WEIS										
			SGMR				1732.8	1733.3	1				V
17			LEAR				0333.6	0348.0	2			II	
			LEAR				0336.8	0348.0	2			II	
			PALE				0337.3	0349.5	1				CONT
			LEAR				0348.0	0430.0	1				CONT
	0410	1830	BLEN										
	0426	0632	WEIS										
	0642	1849	WEIS										
18	0420	1830	BLEN										
	0425	1230	WEIS										
	1239	1849	WEIS										
19	0420	1456	BLEN										
	0428	1829	WEIS										
			PALE				2353.3	2357.0	2				III
20	0427	1846	WEIS										
21	0430	1001	WEIS										
	0904	1830	BLEN										
	1004	1816	WEIS										
22	0425	1830	BLEN										
	0429	1524	WEIS										
	1559	1845	WEIS										
23	0432	1844	WEIS										
	0435	1835	BLEN										
24	0431	0738	WEIS										
	0440	1830	BLEN										
	0754	1842	WEIS										
25	0434	1342	WEIS										
	0445	1810	BLEN										
	1424	1842	WEIS										
26	0433	1841	WEIS										
	0445	1108	BLEN										
27	0435	0632	WEIS										
	0700	1839	WEIS										
	0713	1805	BLEN										
28	0436	1254	WEIS										
	0445	1805	BLEN										
	1316	1838	WEIS										
			PALE				1926.3	1932.0	2				III
29	0450	1755	BLEN	0606.3	0609.4	2	0606.3	0609.4	3				III GG
	0436	1837	WEIS				0606.3	0608.0	3				III GG
			LEAR				0606.8	0608.8	3				V
			WEIS				0753.6	0753.7	1				III G
			BLEN	1603.9	1604.4	2							DCIM,P

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JULY 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
29			SGMR				1856.0	1856.5	1				V
			PALE				2151.8	2153.3	1				V
30	0437	0511	WEIS										
	0558	1836	WEIS										
	0455	1755	BLEN				0744.7	0745.0	1				III
			BLEN	0809.6	0811.6	1	0809.6	0811.6	2				IIIGG
			BLEN	1109.8	1114.7	2	1109.8	1114.7	2				IIIG
			PALE				2313.8	2316.0	2				V
31	0450	1755	BLEN	0535.0	0537.5	3	0535.0	0537.5	3				IIIGG,V
	0439	1156	WEIS				0535.8	0537.3	3				IIIGG
			LEAR				0536.3	0538.3	2				V
			BLEN	0637.2	0642.9	2	0637.2	0642.9	2				IIIGG,V
	1158	1836	WEIS				0637.2	0638.9	3				IIIGG
			LEAR				0637.3	0644.5	3				GG
			WEIS				0642.3	0643.4	2				IIIGG
			WEIS				0719.3	0724.2	1				IIIGG
			LEAR				0720.0	0729.8	1				III
			BLEN	0724.2	0724.4	2							III
			WEIS				0728.7	0730.2	1				II HARM
			WEIS				1058.7	1059.6	2				IIIG
			SGMR				1059.1	1059.5	1				V
			BLEN				1248.9	1251.2	1				III

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

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

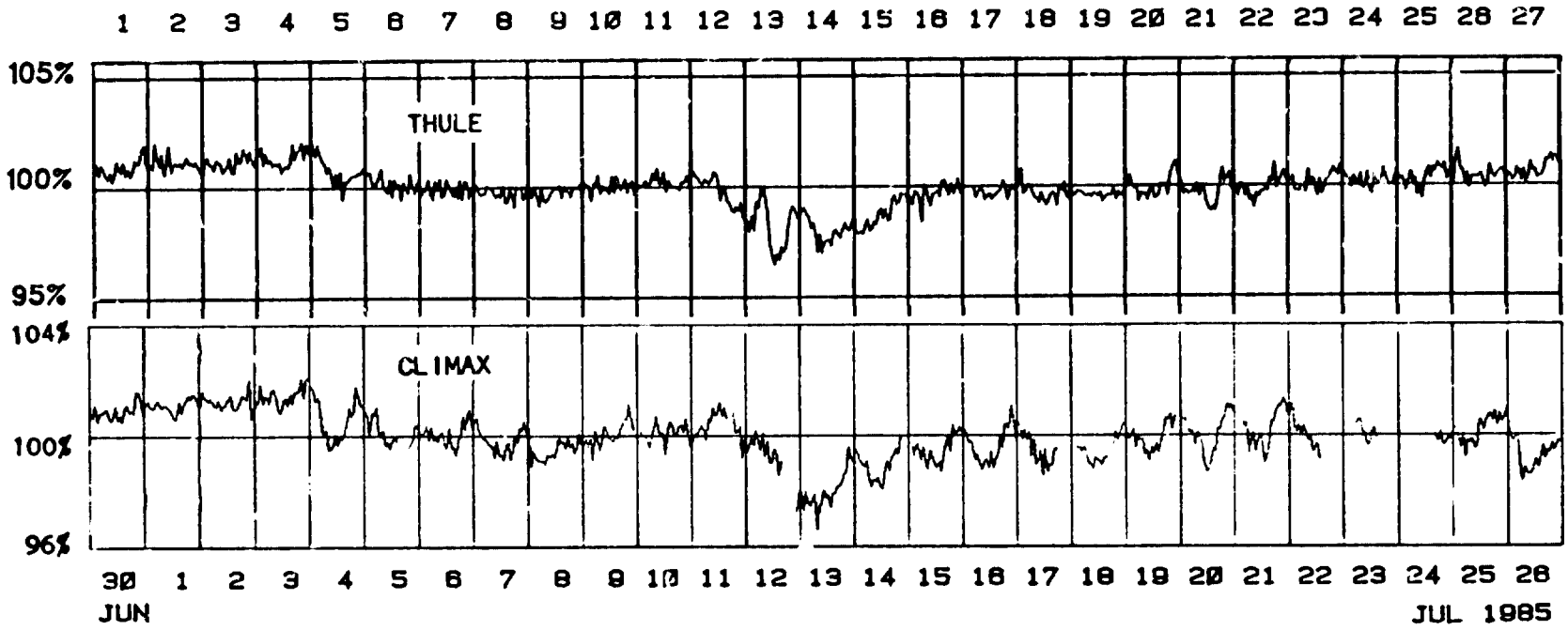
RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity
DCIM = Fast drift

Stations Reporting:

BLEN = Blelen LEAR = Learmonth PALE = Palehua SGMR = Sagamore Hill WEIS = Weissenau

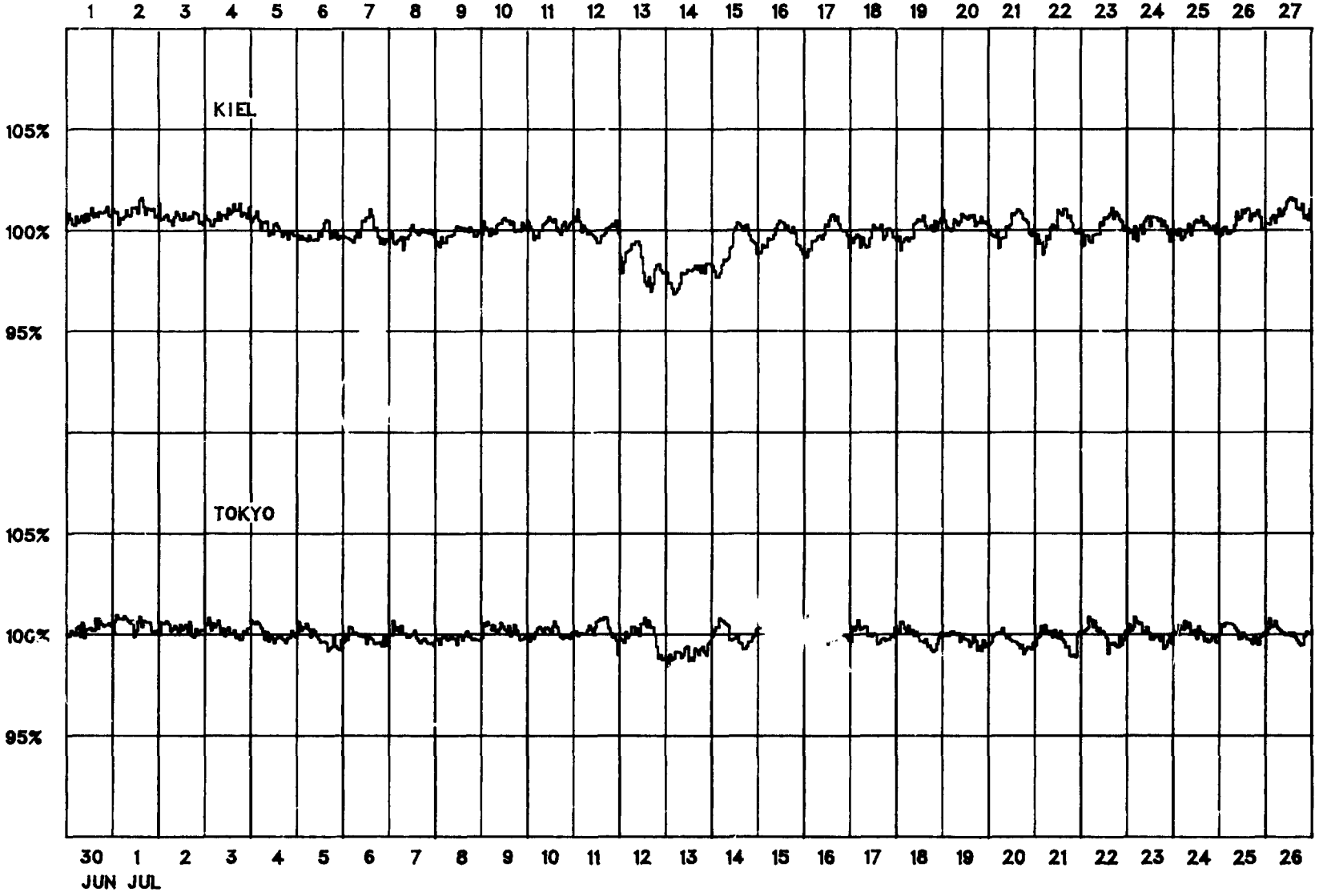
COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2076 (June 1985–July 1985)



COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2076 (June 1985–July 1985)



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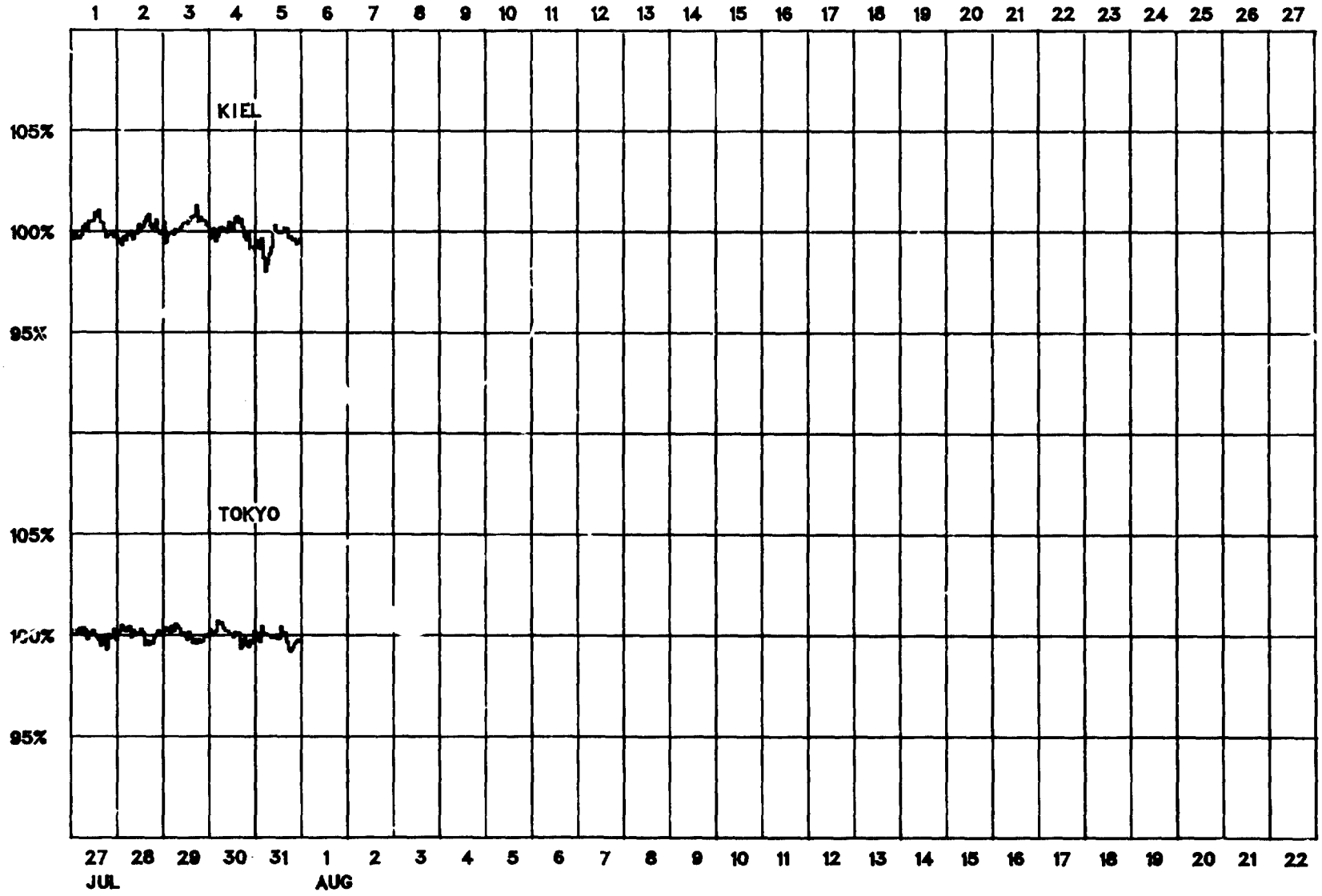
Jul 85

COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2077 (July 1985–August 1985)



COSMIC RAY INDICES
(Neutron Monitor)

July 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	4431			6164.3	4065.6	1224	3647.0	
2	4434			6147.6	4069.8	1227	3639.1	
3	4443			6154.4	4078.3	1229	3636.4	
4	4414			6116.3	4044.8	1222	3629.5	
5	4388			6094.6	4026.8	1219	3623.0	
6	4378			6102.7	4022.5	1218	3621.8	
7	4371			6093.8	4012.7	1212	3625.6	
8	4372			6096.2	3999.6	1210	3621.2	
9	4384			6118.9	4022.7	1216	3635.6	
10	4392			6119.9	4024.7	1217	3631.6	
11	4372			6110.6	4035.2	1216	3636.1	
12	4305			6006.9	3991.4(36)	1201	3625.9	
13	4296			5974.4	3940.1	1196	3594.5	
14	4326			6057.0	3977.3	1207	3627.4	
15	4368			6087.6	4000.5	1214	3638.3	
16	4372			6097.1	4005.5	1216	3632.1	
17	4369			6091.3	4003.5	1214	3628.9	
18	4365			6108.9	4000.0	1213	3624.2	
19	4382			6136.1	4016.8	1217	3619.4	
20	4372			6118.1	4023.5	1214	3615.9	
21	4379			6112.7	4031.0	1213	3619.7	
22	4391			6119.3	4022.8(28)	1212	3627.8	
23	4390			6118.4	4026.1(20)	1217	3629.5	
24	4398			6114.8	4017.1(18)	1219	3630.0	
25	4402			6134.0	4029.4	1221	3630.3	
26	4412			6162.7	3992.9	1223	3630.1	
27	4423			6164.9	3996.2	1226	3630.6	
28	4419			6159.2	3981.0(32)	1225	3632.9	
29	4416			6176.8	---	1225	3632.6	
30	4420			6155.9	---	1220	3632.1	
31	4409			6126.9	---	1217	3625.6	
Mean	4387			6114.9	4016.8	1217	3628.2	

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.

GEOMAGNETIC ACTIVITY INDICES

July 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	aa Provisional Am	N	S	M	
1		5	2+	3	1+	2	2	2+	2+	20+	14	0.8	4+	3-	3	2-	2+	2+	2-	2	24	30	20	35	16	
2	Q1	1+	1-	0+	0+	1-	1-	1	1+	6+	3	0.1	2-	1-	0+	1-	0+	0+	1	1+	5	9	4	5	8	CC
3	Q6K	1	2-	1	0+	1+	1+	2	3+	12	6	0.3	1+	2-	1+	0+	2-	1+	2-	3	11	14	10	8	17	CK
4	D3	3+	2+	3	3+	6	4	5+	5-	32	33	1.3	3+	3	3+	3	5	4-	4+	4	50	52	47	21	79	
5		3	3	3-	3	3+	2+	3	4	24+	16	0.9	3	3	3	3-	3	2+	3-	3	27	30	25	26	29	
6	D4	3+	3	3+	3-	3	3-	4	5	27	21	1.1	3	3	4-	3	3-	3	4-	4	36	36	30	31	36	
7		4+	4	3+	3-	4-	3-	2+	3+	26+	19	1.0	4-	4-	3+	3-	4-	3	2	3	33	38	32	36	34	
8		1+	2+	3-	3-	3-	4-	4+	4	24-	16	0.9	1+	3	3	2+	3-	3-	4-	4	29	35	22	17	40	
9	Q10A	3-	4	2+	1	1	1	1	1	14	8	0.5	3-	4-	3-	1-	1+	1+	2-	1+	17	15	11	16	10	K
10		2	2-	1	1	1+	2+	3+	3	16-	8	0.5	2+	2	1+	1+	1+	2	3-	3-	16	21	8	10	19	
11		3-	3-	2+	2	2+	2	3+	2+	20-	10	0.6	2+	3-	3-	3-	2+	1+	3-	2+	20	27	14	17	24	
12	D1	4+	5	4-	5+	5	5	7-	3	38	48	1.6	3+	4	4	5-	4	4-	5	3	56	62	42	48	57	
13	D5	2+	1+	2-	4	4	4-	5-	4	26-	20	1.0	2+	2	2	4-	4-	4-	4	4-	36	31	32	19	45	
14		4-	4+	4+	3	3-	2	1+	1+	23-	16	0.9	3	4	4-	3	3-	2+	2-	1+	27	28	19	34	14	
15	Q8A	2-	4-	2	2	1+	1	1	1	14-	7	0.4	2-	4-	2	3-	1+	1	1-	1-	14	14	12	18	9	KK
16	Q3	1	1	1	1-	1+	2-	1+	2-	10-	5	0.2	1	1	1	1-	1-	1+	1+	1+	7	15	4	5	14	C
17		3+	4-	2-	5	5-	3	2	2	25+	20	1.0	3-	3	2-	4	4	3	2	2	29	31	28	29	32	
18		3+	2+	2	2+	3-	3-	3-	4-	22-	13	0.7	3	2+	2	2+	3-	3-	3	3+	25	27	19	19	28	
19	Q7A	2	1+	2-	3	2	2-	1	0+	14	8	0.4	2	2-	2-	3	3	2-	1	0+	15	16	13	15	14	
20	Q9A	1+	3-	1+	2-	2+	3+		1	15+	8	0.4	2-	2+	2	1+	2	3+	2-	1	15	22	12	12	22	
21	Q5	2-	2	2	2-	1-	1-	1-	1	10+	5	0.2	2	2	2+	2-	1+	1-	0+	1	10	12	4	10	6	CK
22	Q2	1-	1-	1+	1	1+	0+	2	2-	9	4	0.2	1	1-	2-	2-	1+	1-	3-	2	11	13	6	7	12	CK
23		2-	4+	3	3-	2	1+	3-	3	21-	13	0.7	2-	4+	3	2+	2	2-	2+	3	27	30	20	28	23	
24		2-	2-	2+	3	3-	2+	4-	3	20+	12	0.7	2	2+	2+	3-	3-	2	3	3	21	25	13	17	22	
25		3+	3	3	2+	1	2+	3	2+	20+	12	0.7	3	3+	3	2+	1	3-	3-	3-	24	27	19	26	20	
26		2	4	2+	3-	2	2+	4-	4+	23+	16	0.9	2+	4	3-	3-	2-	2	3+	4	30	32	19	23	29	
27		3	3+	4-	4-	3+	2-	2-	3	23+	15	0.9	3+	3+	4-	3+	4-	2-	2-	3	31	31	21	31	21	
28		3+	3-	2-	3-	2	3-	4	2+	21+	13	0.7	3-	3-	2-	3-	2	2	3+	3-	21	30	15	20	26	
29	Q4	1+	1+	1-	1-	1+	2-	2	1+	10+	5	0.2	1+	1+	1	0+	1+	1+	2+	1+	9	15	6	8	13	C
30		2-	3	2	3-	4	2+	1+	2	19	11	0.6	2	3+	3-	3	4-	2+	1+	2-	23	26	18	19	26	
31	D2	2-	3-	4	5+	5-	5+	4+	5+	33+	36	1.4	1+	3-	4	5-	4+	4+	3+	5	56	52	49	36	65	
Mean											14	0.70									24.4	27.4	19.1	23.4		

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+	3-	3	2	3-	3-	2+	2+	26	4+	3-	3-	1	2-	2	1+	2-	21	76.9	21	22	21	-	-
2	2-	1+	0+	1	1	1	1+	2-	8	1+	0+	0	0	0	0	1-	1-	3	79.1*	27	27	23	-	-
3	1+	2-	1+	1-	2	2	2+	3+	15	1+	1+	1	0	1+	1-	1+	2+	8	81.3	30	29	26	-	-
4	3+	3	3+	3+	5	4	4+	4-	50	3+	3-	3	3-	5	4-	5-	4+	49	80.4	32	36	25	-	-
5	3	3	3	3-	3	3-	3	3+	29	3	3	3-	3-	3-	2+	3-	3-	25	83.3	38	45	28	-	-
6	3	3	4-	3+	3	3	4-	4	38	3	3	3+	3	2	3	4-	4	35	87.5	43	48	32	-	-
7	4-	4-	3+	3-	4-	3	2+	3-	33	3+	4-	4-	3	4-	3	2-	3	33	97.7	71	67	44	-	-
8	2-	3-	3-	3-	3	3	3+	4-	28	1-	3	3	2	3-	2+	4-	4+	29	96.7*	67	78	42	-	-
9	2+	4	3-	1+	2-	1+	1+	1+	18	3	4-	3-	0	1-	2-	2	1+	17	100.9*	85	85	47	-	-
10	2	2	1+	2	2-	3-	3+	3+	20	3-	2-	1	1	1-	1+	2+	2+	12	104.6*	82	75	51	-	-
11	3-	3	3-	3	3-	2-	3	3-	24	2	3-	2+	2	2-	1+	2	2	15	97.3	61	61	43	-	-
12	3+	4	4+	4+	4	4-	5-	4-	56	3+	4	3+	5-	4-	4-	6-	3-	56	92.9	45	41	38	-	-
13	3-	2+	2+	4	4-	4-	4	3+	37	2-	1+	2-	4-	4	4-	4-	4	35	85.5	25	19	30	-	-
14	3	4	4-	3	3	2+	2-	2-	29	3	4	3+	3	2+	2+	1+	1	25	76.4	9	10	21	-	-
15	1+	3+	2-	3-	2-	1+	1	1-	15	2	4-	2	3-	1+	0+	0+	1-	14	73.0	8	8	17	-	-
16	1	1+	1+	1+	1	2	2-	2	10	1-	1-	1	0	0	0+	1	1-	4	71.9	9	10	16	-	-
17	3	3+	2	4	4	3	2	2+	33	2+	3	2-	4-	4-	3	2	2-	26	71.9	11	11	16	-	-
18	3+	3-	3-	3-	3	3-	3	3+	28	3	2+	2-	2	2+	2+	3-	4-	23	71.8	11	11	16	-	-
19	2	2-	2+	3	3	2-	1+	1-	16	2+	2-	1+	3	3-	1+	1-	0	14	71.7	11	12	15	-	-
20	1+	2+	2-	2-	2+	3+	2+	1+	17	2-	2	2	1+	2-	3	1	1-	13	71.7	11	10	15	-	-
21	2	2	2+	2+	2-	1	1	2-	13	2-	2	2	1+	1-	0	0	0+	7	71.2	10	10	15	-	-
22	1+	1	2-	2-	1+	1	3	3-	14	0	1-	2-	1+	1	0+	2-	1+	7	71.0	10	13	15	-	-
23	2	5-	4-	3-	2+	2-	3-	3	29	1	4+	3-	2+	2-	2	2+	3+	25	71.1	18	17	15	-	-
24	2+	2+	3-	3-	3	2+	3	3-	23	1+	2	2	3-	2+	2-	2+	3	18	71.0	12	10	15	-	-
25	3	3	3	3-	1+	3-	3-	3-	24	3	3+	3	2+	1-	2+	3-	3-	23	75.6	10	12	20	-	-
26	2+	4	3-	3	2	2+	3+	4-	30	2+	4	3-	3-	2-	2-	4-	4	30	77.4	13	10	22	-	-
27	3+	3+	4-	3+	4-	2	2	3-	31	3-	3+	4	4-	4-	1+	1+	3	33	79.2	12	15	24	-	-
28	3	3-	2-	3-	2+	2+	3+	3-	23	3-	2+	1+	3-	2-	1+	3+	3-	19	81.2	36	35	26	-	-
29	2-	1+	1	1	2-	2	3-	1+	12	1+	1	1-	0	1	1-	2-	1-	6	83.5	31	45	28	-	-
30	2+	3+	3-	3	4-	2+	2	2+	25	1+	3	3	3	3+	2	0+	1+	20	83.8	46	42	29	-	-
31	1+	3-	4+	5	5-	5-	3+	5-	38	1	2+	4	5-	4	4+	3+	5+	54	82.4	40	41	27	-	-
Mean									26.2									22.5	81.3	30.8	30.8	25.8		

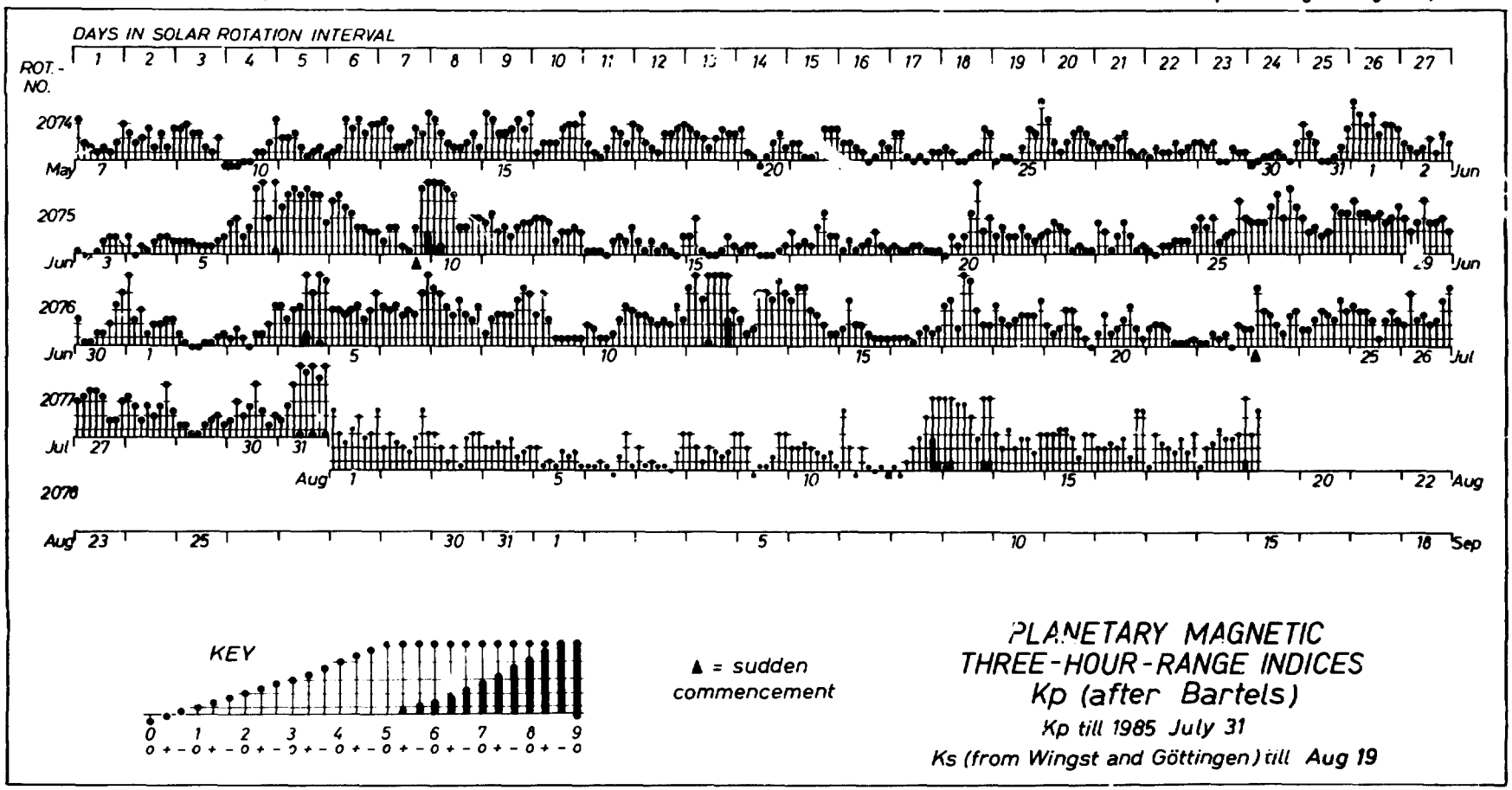
DAILY AVERAGE INDICES Ap

DAY	1984 AUG	SEP	OCT	NOV	DEC	1985 JAN	FEB	MAR	APR	MAY	JUN	JUL
1	75	11	7	27	15	33	15	16	23	10	18	14
2	24	12	10	12	27	17	11	22	16	8	6	3
3	14	12	20	18	22	13	8	14	20	6	4	6
4	14	59	6	18	28	7	3	10	17	10	5	33
5	7	63	7	13	20	6	21	42	7	7	5	16
6	4	12	21	14	22	5	46	24	5	10	25	21
7	4	6	43	20	18	5	20	22	7	8	30	19
8	14	11	24	20	8	19	24	27	15	8	16	16
9	17	12	20	12	6	46	19	4	38	8	22	8
10	8	25	29	18	9	29	24	10	11	4	30	8
11	11	17	28	20	19	20	13	6	11	5	11	10
12	15	13	32	8	17	19	11	7	5	12	10	48
13	8	11	17	10	27	14	11	4	6	11	4	20
14	20	14	15	14	8	9	16	7	10	8	4	16
15	22	10	14	52	24	9	9	14	4	15	5	7
16	15	8	19	112	33	8	7	11	8	11	3	5
17	11	6	3	35	28	9	12	8	5	8	7	20
18	6	3	43	22	15	6	4	11	4	9	4	13
19	14	36	75	21	8	7	7	9	21	9	3	8
20	10	21	63	20	6	6	10	5	53	5	13	8
21	3	10	47	22	13	12	8	5	103	8	7	5
22	1	22	46	14	9	11	7	4	11	5	6	4
23	8	112	27	10	16	36	7	5	12	4	7	13
24	23	52	39	10	4	7	18	6	17	5	5	12
25	18	43	22	10	5	9	12	5	21	8	12	12
26	10	42	14	8	26	6	5	8	30	9	21	16
27	36	25	8	7	17	11	19	10	33	5	13	15
28	36	16	8	6	31	58	60	14	61	5	18	13
29	21	12	7	13	26	24		6	17	4	13	5
30	16	11	7	36	21	17		7	42	3	10	11
31	12		6		24	15		10		7		36
MEAN	16	24	23	21	18	16	15	11	21	9	11	14

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

University of Gottingen

Kp through July 31, 1985



PRINCIPAL MAGNETIC STORMS

JULY 1985

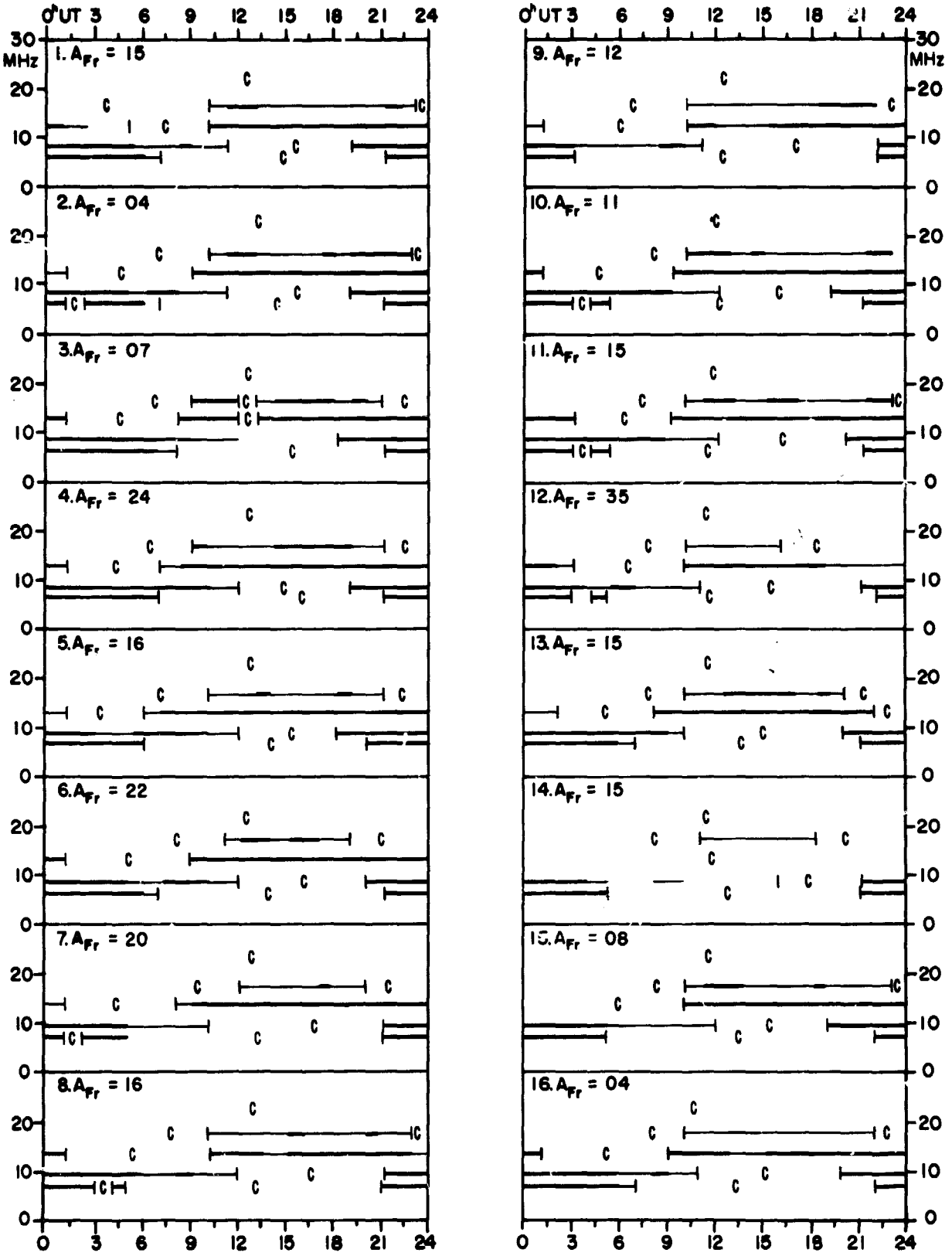
Sta	Geomag Lat	Commencement Time Day	(UT)	Type	SC Amplitudes D (Min)	H (Gamma)	Z (Gamma)	Maximum 3-Hour K Index Day(3-Hour Periods)	K	Ranges D (Min)	H (Gamma)	Z (Gamma)	End Day	Hour (UT)
JAI	17.3N	03	1900	..	..	..	..			8	148	41	05	11
SHL	14.7N	03	1900	..	..	..	..			7	132	17	05	11
UJJ	13.5N	03	1900	..	..	..	..			7	151	36	05	11
ABG	09.5N	03	1900	..	..	..	..	04(5,7)	5	7	154	35	05	11
HYB	07.6N	03	1800	..	..	..	..	04(5)	6	6	168	10	05	04
ANN	01.5N	03	1900	..	..	..	..			5	186	59	05	11
TRV	01.1S	03	1900	..	..	..	..			4	190	115	05	11
COL	64.6N	04	12--	..	..	..	..	04(5)	7	237	1350	970	07	24
WIT	54.2N	04	0401	SC	- 2	8	0	04(5,7)	6	27	195	55	04	24
FRD	49.6N	04	----	..	..	..	..	04(5) 06(8) 09(2)	5	18	110	55	09	--
HER	33.7S	04	06--	..	..	..	..	04(5,7)	5	18	117	73	05	00
CNB	43.9S	04	06--	..	..	..	..	04(5)	6	25	96	62	07	16
KGL	56.5S	04	0401	SC	2	- 10	- 6	04(7)	6	31	248	172	05	03
HYB	07.6N	10	1500	..	..	..	..	12(4,7)	5	4	127	28	12	23
COL	64.6N	11	18--	..	..	..	..	12(4)	7	190	1620	900	12	22
WIT	54.2N	11	18--	..	..	..	..	12(7)	6	28	220	112	12	22
FRD	49.6N	11	1829	SC	1	22	- 1	12(2,4,7)	5	32	130	92	14	--
JAI	17.3N	11	1827	SC	- 0.4	13	- 3			6	119	25	13	22
SHL	14.7N	11	1827	SC	- 0.3	11	2			6	120	26	13	22
UJJ	13.5N	11	1827	SC	- 0.2	15	- 4			5	112	27	13	22
ABG	09.5N	11	1827	SC	- 0.3	13	- 3	12(7)	6	4	123	38	13	22
ANN	01.5N	11	1827	SC	- 0.5	16	8			4	139	88	13	22
TRV	01.1S	11	1827	SC	0.1	11	16			3	149	103	13	22
KGL	56.5S	11	2200	..	..	..	..	12(7)	7	37	320	184	12	23
SIT	60.0N	12	01--	..	..	..	..	12(4)	7	--	--	730	14	12
HER	33.7S	12	15--	..	..	..	..	12(7)	5	15	51	61	12	22
CNB	43.9S	12	03--	..	..	..	..	12(7)	5	16	121	39	14	12
COL	64.6N	13	08--	..	..	..	..	14(3)	7	136	1330	410	14	22
HYB	07.6N	13	0300	..	..	..	..	13(4)	5	4	86	17	14	13
GUA	04.0N	13	0818	..	..	..	..	13(4)	5	--	60	10	13	20
HYB	07.6N	16	1800	..	..	..	..	17(4,5)	5	5	102	17	17	20
HYB	07.6N	22	1949	SC	- 0.2	10	- 1	22(7) 23(2)	4	5	73	21	23	14
GUA	04.0N	23	03--	..	..	..	..	23(2)	5	--	80	10	23	14
KGL	56.5S	23	0349	SC	- 4	- 10	- 4	23(8)	4	--	--	--	24	01
FRD	49.6N	30	----	..	..	..	..	31(4)	6	20	111	92	02	--
JAI	17.3N	30	0900	..	..	..	..			7	117	37	01	02
SHL	14.7N	30	0900	..	..	..	..			6	99	27	01	02
UJJ	13.5N	30	0900	..	..	..	..			5	117	37	01	02
ABG	09.5N	30	0900	..	..	..	..	30(5) 31(6)	5	6	129	45	01	02
ANN	01.5N	30	0900	..	..	..	..			5	179	74	01	02
TRV	01.1S	30	0900	..	..	..	..			4	199	74	01	02
COL	64.6N	31	03--	..	..	..	..	31(4,6)	7	254	1280	1130	01	07
HYB	07.6N	31	0300	..	..	..	..	31(6)	6	5	140	36	01	06
HER	33.7S	31	0900	..	..	..	..	31(6)	5	17	118	97	31	24
CNB	43.9S	31	04--	..	..	..	..	31(4,6)	5	22	95	49	01	06
KGL	56.5S	31	0330	..	..	..	..	31(8)	6	40	232	126	01	--

Stations Reporting:

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

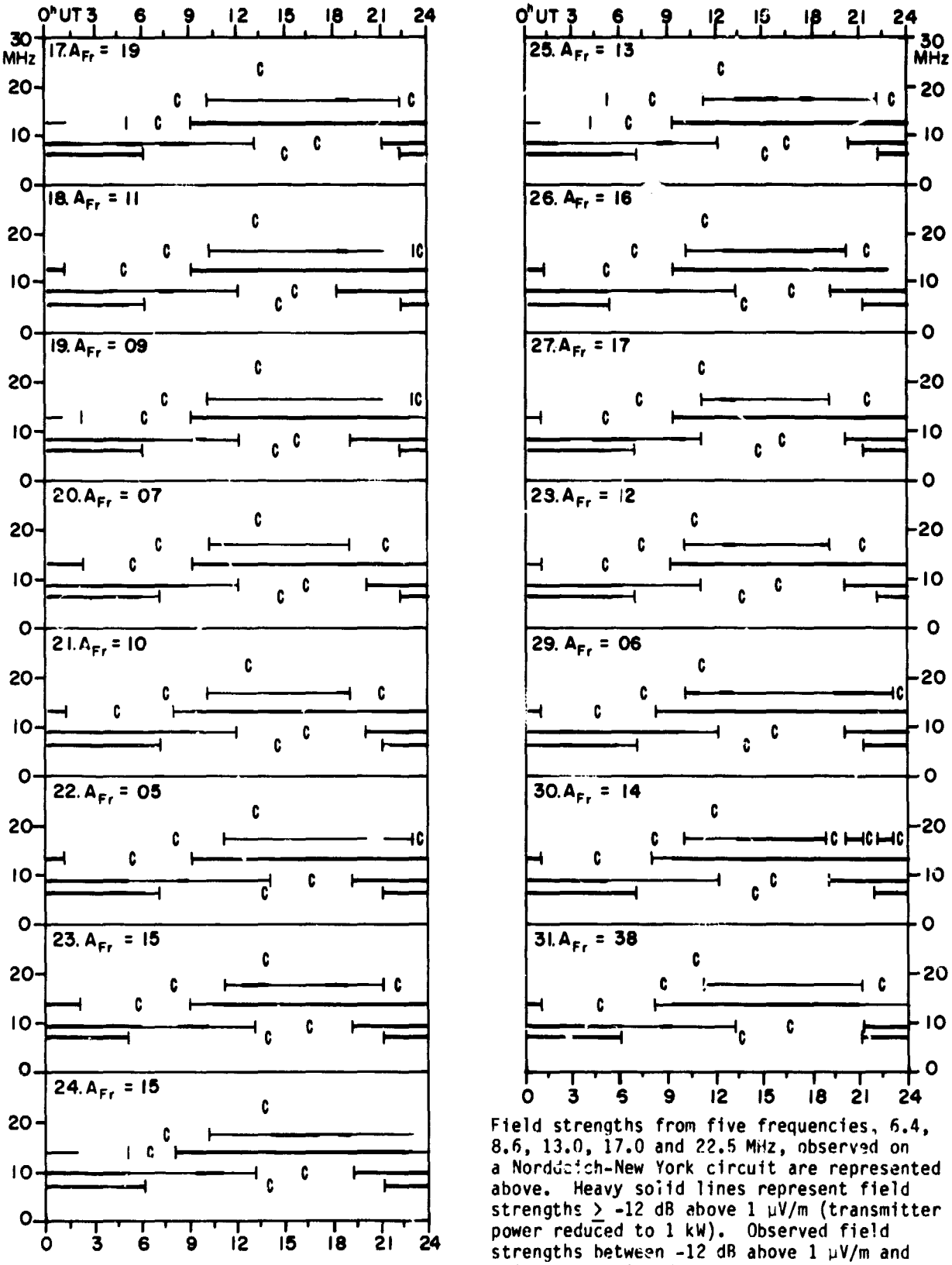
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

July 1985



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

July 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.

RADIO PROPAGATION QUALITY INDICES

JULY 1985

Day	Bracknell	Teheran	New York	Tokyo	Canberra
1	0.0	4.9	3.5	5.3	3.9
2	5.7	5.9	4.9	5.9	4.3
3	2.0	5.3	6.2	5.1	5.0
4	3.2	5.9	6.2	4.0	5.0
5	1.9	4.9	5.3	3.0	5.4
6	6.7	5.6	4.6	3.8	5.5
7	3.5	5.0	4.0	1.5	4.8
8	0.0	3.9	3.6	2.8	4.8
9	1.8	5.6	4.1	3.3	6.5
10	3.8	6.3	5.5	4.9	7.2
11	2.8	5.7	4.6	5.6	6.7
12	0.6	5.7	3.6	3.7	4.8
13	3.8	7.0	5.1	4.0	5.6
14	0.7	5.3	4.3	2.9	5.6
15	0.0	6.5	4.6	5.4	5.0
16	3.0	5.8	3.3	5.5	3.3
17	4.9	5.6	4.4	5.6	4.2
18	2.8	5.6	4.1	3.4	4.7
19	7.3	5.6	4.6	5.0	4.1
20	3.6	6.3	5.6	5.5	4.7
21	7.0	6.2	5.7	3.4	4.5
22	2.7	5.8	4.4	6.2	4.5
23	3.4	6.2	4.8	5.6	5.2
24	4.5	5.9	4.3	6.5	5.9
25	6.5	7.1	4.7	6.2	5.9
26	7.7	6.1	5.1	5.5	6.5
27	0.9	6.0	5.0	5.4	4.9
28	7.4	5.5	5.8	5.7	6.6
29	5.9	6.1	6.7	7.6	5.9
30	8.0	6.7	6.3	8.2	6.8
31	4.6	5.3	4.5	5.1	5.2
Mean	3.8	5.8	4.8	4.9	5.3

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.

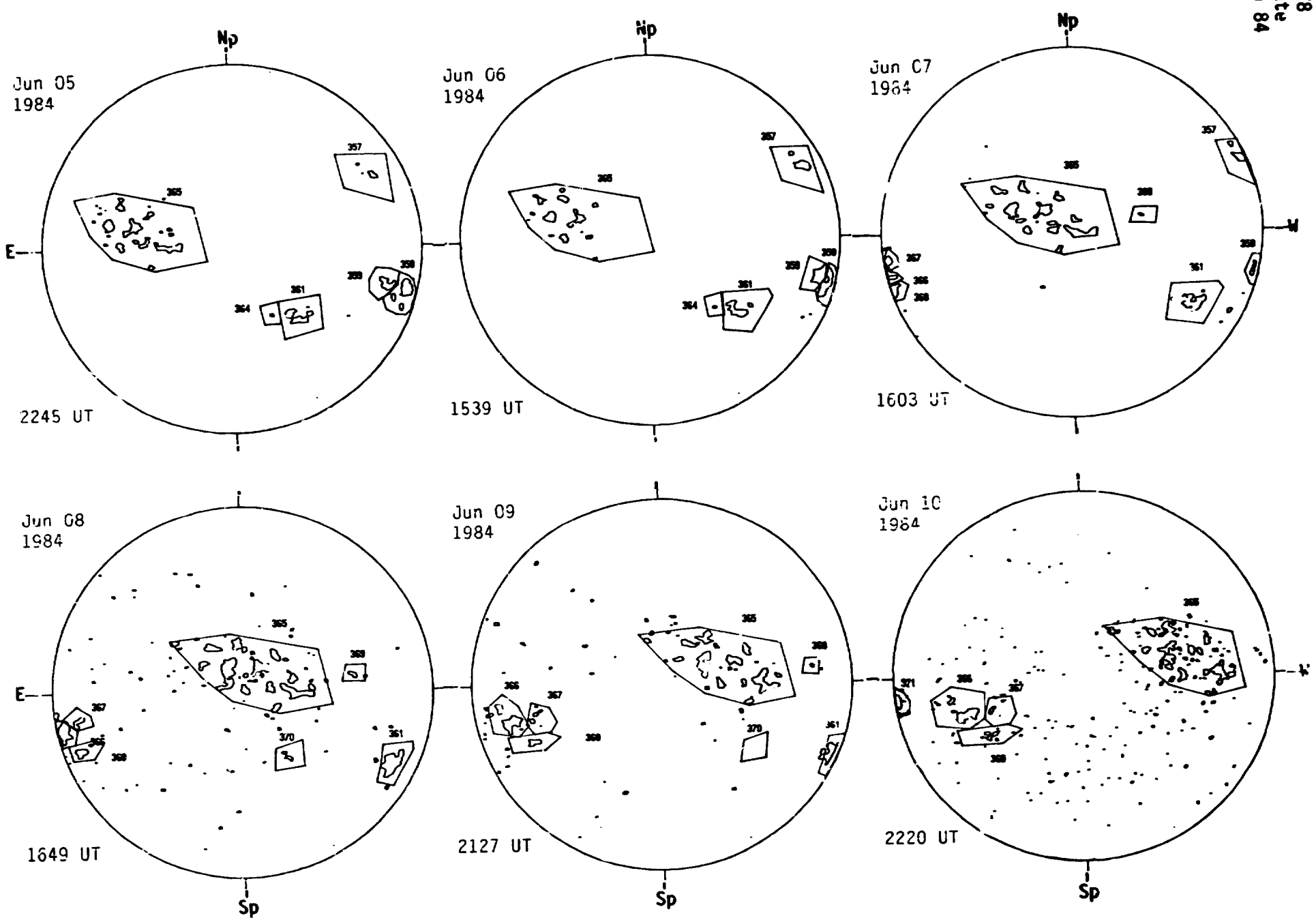
SCALE FOR QUALITY INDICES

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

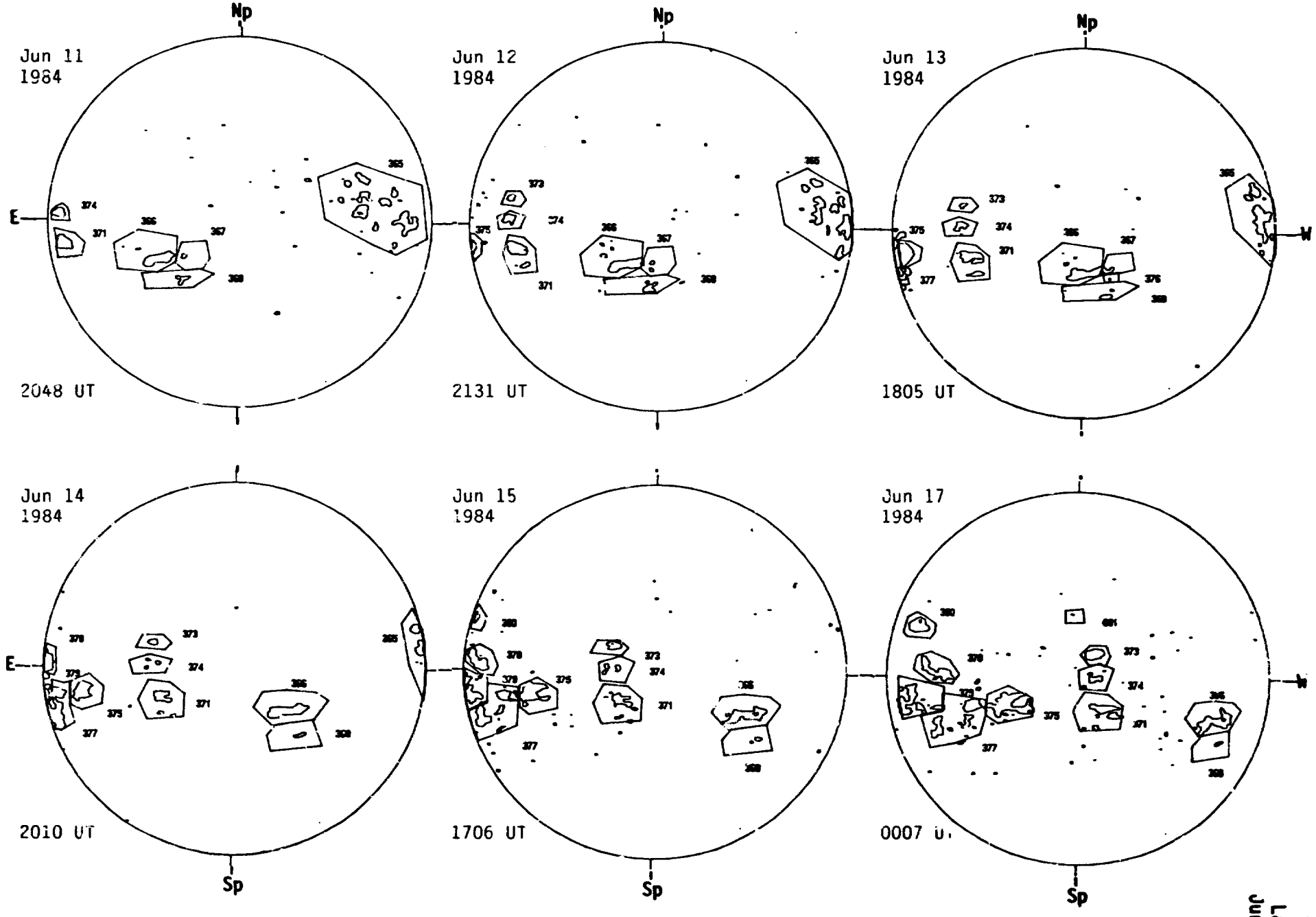
CONTENTS

Prompt Reports LATE DATA Number 493 Part I

BIG BEAR SOLAR CALCIUM PLAGE REGIONS

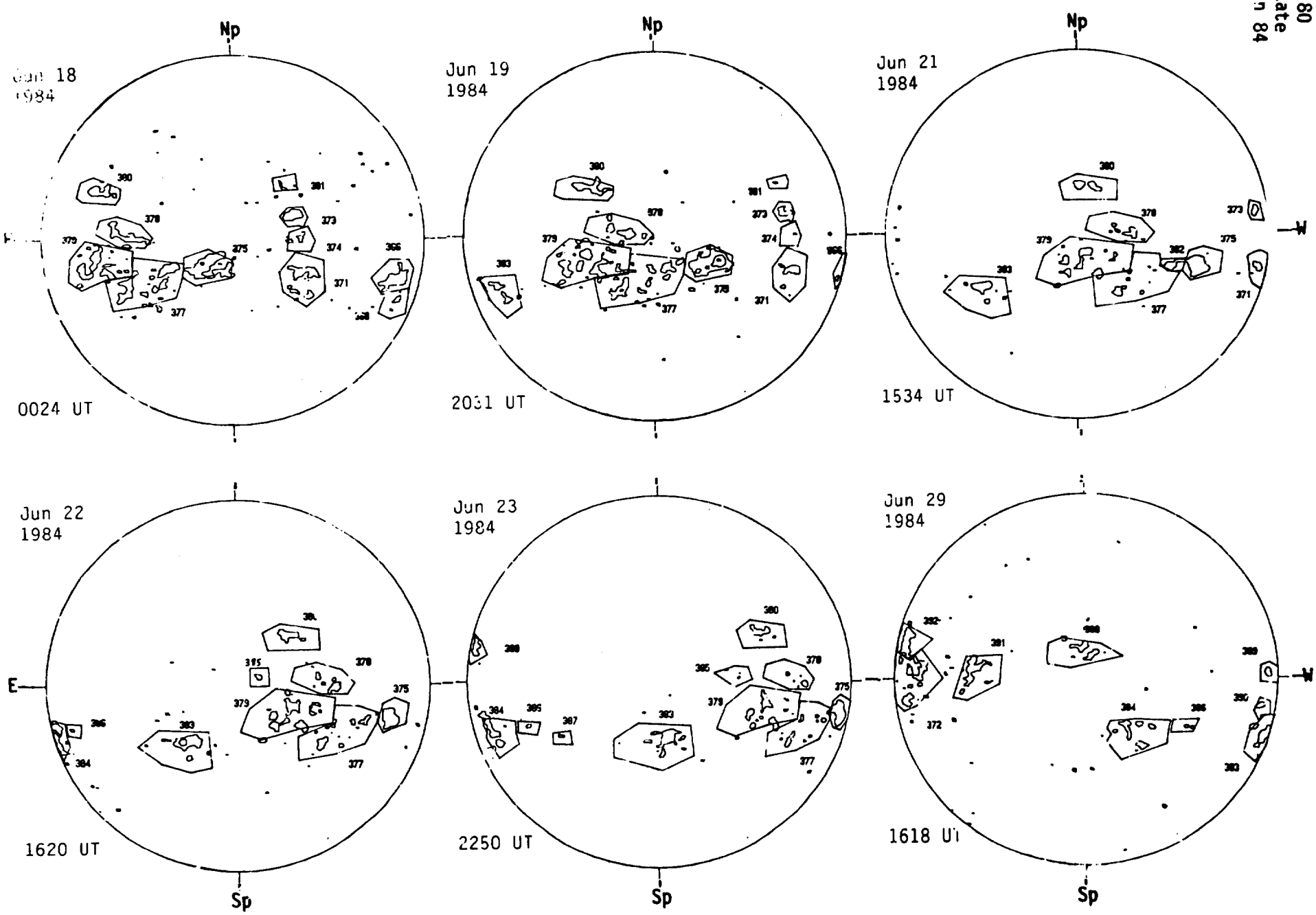


BIG BEAR SOLAR CALCIUM PLAGE REGIONS

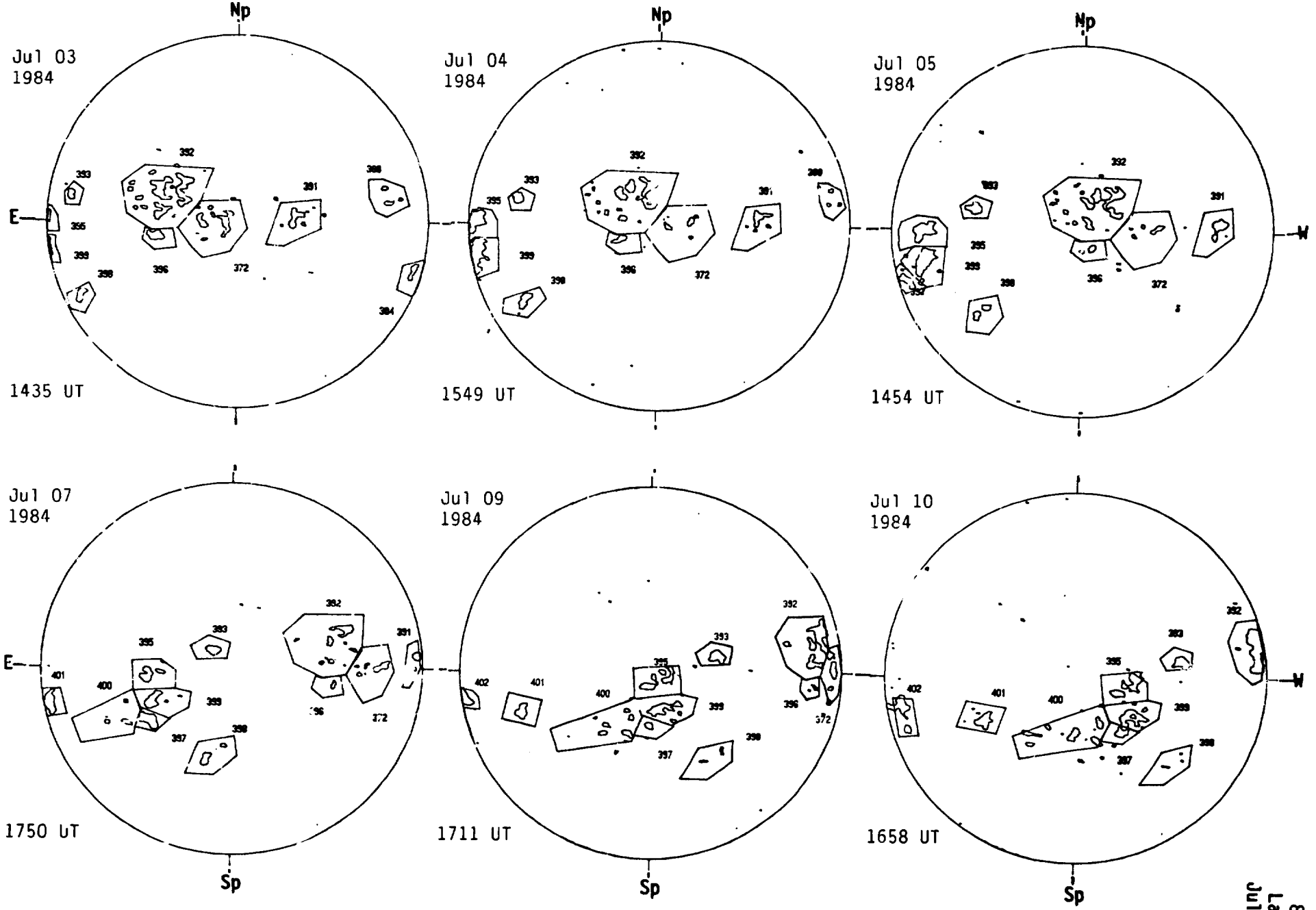


79
Late
Jun 84

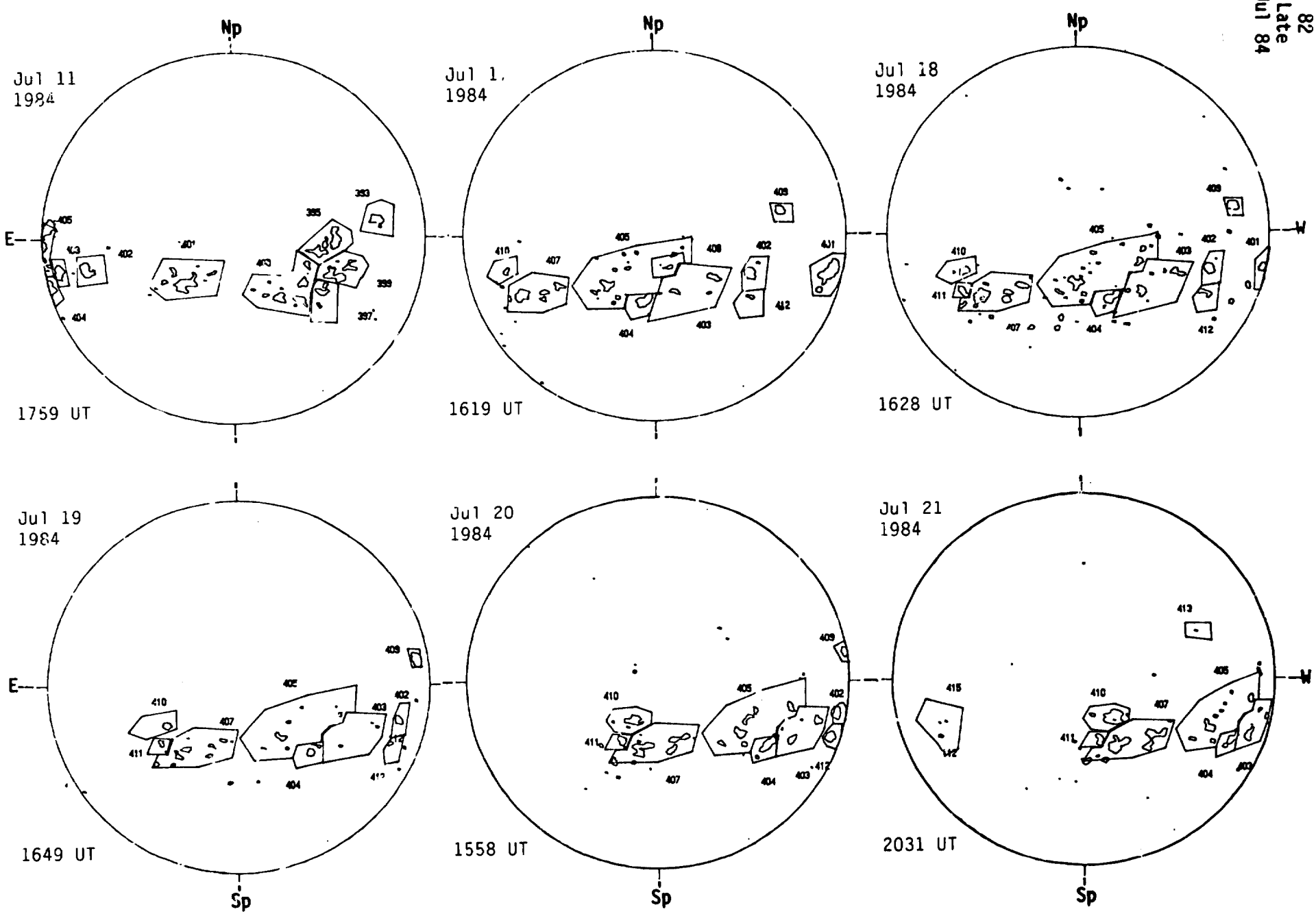
BIG BEAR SOLAR CALCIUM PLAGE REGIONS



BIG BEAR SOLAR CALCIUM PLAGE REGIONS



BIG BEAR SOLAR CALCIUM PLAGE REGIONS



BIG BEAR SOLAR CALCIUM PLAGE REGIONS