PB86-181336

Solar-Geophysical Data Number 498 February 1986. Part 1 (Prompt Reports) Data for January 1986, December 1985 and Late Data

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

Prepared for

National Aeronautics and Space Administration
Washington, DC

Feb 86

U.S. Department of Commerce
National Technical Information Service
NTIS

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by H. E. Coffey.

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Contents: Detailed index for 1985-86; Data for January 1986--(IUWDS alert periods (Advance and worldwide), Solar activity indices, Solar flares, Solar radio emission, Vostok inferred interplanetary magnetic field polarity, Stanford mean solar magnetic field); Data for December 1985--(Solar active regions, Sudden ionospheric disturbances, Solar radio spectral observations, Cosmic ray measurements by neutron monitor, Geomagnetic indices, Radio propagation indices); Late data--(Solar radio emission Nancay interferometric chart December 1985, Solar radio spectral observations Culgoora May 1985, Geomagnetic indices sudden commencements November 1985, Calcium plage data).

KEYWORDS: *Solar activity.

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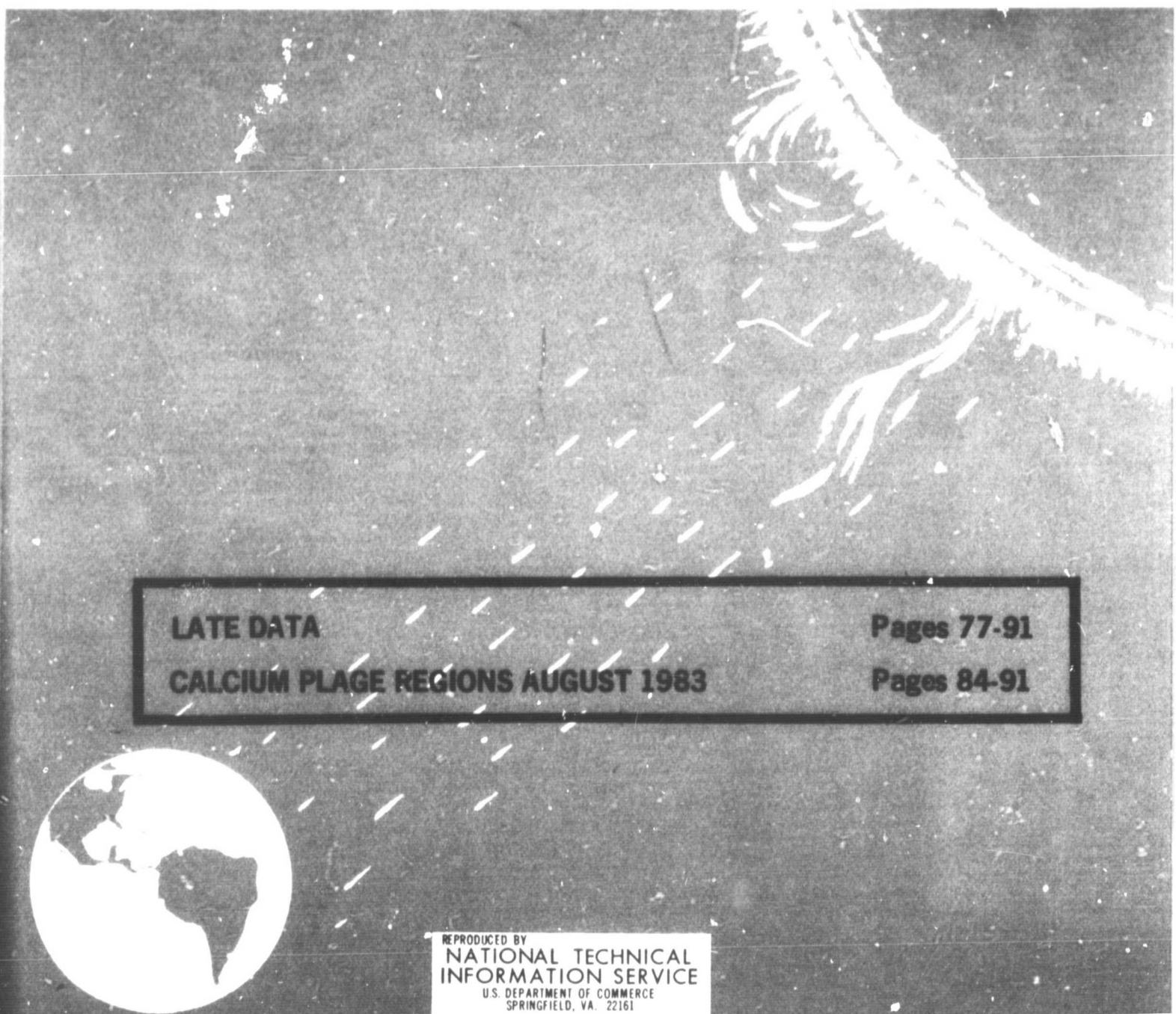
PB86-181336

FEBRUARY 1986 NUMBER 498 -- Part I

Solar-Geophysical Data prompt reports

Data for January 1986, December 1985, and Late Data

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



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Solar - Geophysical Data

Part I (Prompt Reports)

NO. 498 FEBRUARY 1986

DATA FOR
JANUARY 1986
DECEMBER 1985

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

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For obtaining bulletins on a data exchange basis, send request to: World Data Center A for Solar-Terrestrial Physics, NOAA/NESDIS/NGDC, E/GC2, 325 Broadway, Boulder, Colorado 80303 U.S.A.

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6	Jan 61 - Dec 61	Microfilm	14	Jan 68 - Jun 68	Microfilm	22	Jan 72 - Jun 72	Microfilm
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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 498

(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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C O N T E N T S

Prompt Reports DATA FOR JANUARY 1986 Number 498 Part I

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SUMMARY OF THE GEOALERT MESSAGES JANUARY 1986

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
001	01	31	000	069	019	SPOTNIL					01	SPOTNIL		SOLQUIET MAGQUIET
002	02	01	000	069	016	SPOTNIL					02	SPOTNIL		SOLQUIET MAGQUIET
003	03	02	000	070	014	SPOTNIL					03	SPOTNIL		SOLQUIET MAGQUIET
004	04	03	000	071	010	SPOTNIL					04	SPOTNIL		SOLQUIET MAGQUIET
005	05	04	000	072	005	SPOTNIL					05	SPOTNIL		SOLQUIET MAGQUIET
006	06	05	000	073	005	SPOTNIL					06	SPOTNIL		SOLQUIET MAGQUIET
007	07	06	000	075	005	SPOTNIL				PRESTO 07/0340 UT MAGSTORM BEGINS 06/0617XX UT	07	SPOTNIL		SOLQUIET MAGALERT 07/07 RECURRENCE
008	08	007	000	074	028	SPOTNIL					08	SPOTNIL		SOLQUIET MAGNIL
009	09	008	000	074	010	SPOTNIL					09	SPOTNIL		SOLQUIET MAGQUIET
010	10	009	000	075	010	SPOTNIL					10	SPOTNIL		SOLQUIET MAGQUIET
011	11	010	000	075	012	SPOTNIL					11	SPOTNIL		SOLQUIET MAGQUIET
012	12	011	000	074	004	SPOTNIL					12	SPOTNIL		SOLQUIET MAGQUIET
013	13	012	000	074	010	SPOTNIL					13	SPOTNIL		SOLQUIET MAGQUIET
014	14	013	018	077	012	S12W52	5	0	0		14	S12W52	Q	SOLQUIET MAGQUIET
015	15	014	021	079	010	S13W67	5	0	0		15	S13W67	E	SOLQUIET MAGQUIET
016	16	015	018	078	010	S11W80	10	1	0		16	S11W80	Q	SOLQUIET MAGQUIET
017	17	016	017	083	008	S12W90	3	2	0	PRESTO TENFLARE 210 FLUX UNITS 16/1843 UT DURATION 47 MINUTES	17	S12W90	A	SOLQUIET MAGQUIET
018	18	017	000	077	007	SPOTNIL					18	SPOTNIL		SOLQUIET MAGQUIET
019	19	018	000	076	008	SPOTNIL					19	SPOTNIL		SOLQUIET MAGQUIET
020	20	019	000	073	003	SPOTNIL					20	SPOTNIL		SOLQUIET MAGQUIET
021	21	020	000	072	011	SPOTNIL					21	SPOTNIL		SOLQUIET MAGQUIET
022	22	021	000	070	015	SPOTNIL					22	SPOTNIL		SOLQUIET MAGQUIET

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SUMMARY OF THE GEOALERT MESSAGES JANUARY 1986

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
023	23	022	000	070	013	SPOTNIL					23	SPOTNIL		SOLQUIET MAGQUIET
024	24	023	000	069	017	SPOTNIL					24	SPOTNIL		SOLQUIET MAGALERT MINOR RECURRENCE 24/XX
025	25	024	000	069	015	SPOTNIL					25	SPOTNIL		SOLQUIET MAGALERT MINOR RECURRENCE 25/XX
026	26	025	000	070	022	SPOTNIL					26	SPOTNIL		SOLQUIET MAGALERT MINOR RECURRENCE 26/XX
027	27	026	000	070	010	SPOTNIL					27	SPOTNIL		SOLQUIET MAGNIL
028	28	027	000	069	025	SPOTNIL					28	SPOTNIL		SOLQUIET MAGALERT MINOR 28
029	29	028	000	072	025	SPOTNIL					29	SPOTNIL		SOLQUIET MAGALERT MINOR 29/XX
030	30	029	000	073	015	SPOTNIL					30	SPOTNIL		SOLQUIET MAGNIL
031	31	030	011	076	015	S08E78	0	0	0		31	S08E78	Q	SOLQUIET MAGQUIET
001	01	31	014	079	011	S07E65	3	0	0		01	S07E65	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, A=ACTIVE, P=PROTON.

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS) JANUARY 1986

PRESTO KAKIOKA 07/0000 UT MAGSTORM BEGINS 06/17XX UT.
PRESTO BOULDER 07/0340 UT MAGSTORM BEGINS 06/17XX UT.
PRESTO SYDNEY 07/0630 UT SLOW SSC 06/1328 MAGSTORM STILL IN PROGRESS.
PRESTO BOULDER 17/0311 UT TENFLARE 210 FLUX UNITS 16/1843 UT DURATION 47 MINUTES.

STRATWARM MESSAGES FOR JANUARY 1986

STRATWARM ALERT /MONDAY/ STRONG WARMING AT 10HPA OVER EAST SIBERIAN SEA, MOVING POLEWARDS PERPENDICULAR TO JET STREAM.
STRATWARM ALERT /TUESDAY/ OVER THE EAST SIBERIAN SEA STRONG WARMING INTENSIFIES IN THE MIDDLE AND UPPER STRATOSPHERE.
STRATWARM ALERT /WEDNESDAY/ IN THE MIDDLE STRATOSPHERE STRONG WARMING OVER EAST SIBERIA CONTINUES. IN THE UPPER STRATOSPHERE VERY INTENSE WARMING EXISTS OVER THE POLAR REGION, AT 1-MB LEVEL ZONAL WIND REVERSED BETWEEN THE POLE AND 60N.
STRATWARM ALERT /THURSDAY/ WARM REGION REACHING FROM EASTERN SIBERIA IN THE MIDDLE STRATOSPHERE TO THE POLAR AREA IN THE UPPER STRATOSPHERE PERSIST BUT SLOWLY WEAKENS.
STRATWARM ALERT /FRIDAY/ WARMING EVENT IN THE UPPER STRATOSPHERE TERMINATED. SLOW RETURN TO COLD POLAR CONDITIONS WITH WARM REGION LEFT IN THE MIDDLE STRATOPHERE OVER THE SIBERIAN SEA.

INTERNATIONAL (R_I) RELATIVE SUNSPOT NUMBERS

Day	1985 Final Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Prov Nov	Dec	1986 Jan
01	18	13	25	19	10	21	35	7	0	0	0	0
02	22	13	21	15	0	27	25	0	0	0	16	0
03	25	9	23	14	11	30	27	0	0	0	19	0
04	22	0	17	18	26	32	27	0	0	0	0	0
05	20	0	23	16	35	38	20	0	0	17	18	0
06	16	0	19	14	37	43	14	0	0	19	26	0
07	7	0	11	32	38	71	12	0	0	20	15	0
08	16	14	9	41	42	67	12	0	0	18	12	0
09	24	15	9	56	42	82	17	0	0	25	16	0
10	19	13	0	49	58	82	12	0	0	15	14	0
11	13	16	0	49	66	61	12	7	0	17	18	0
12	10	18	0	33	54	45	12	0	0	19	18	0
13	11	14	0	32	45	25	0	9	11	30	17	13
14	13	10	10	32	36	9	0	9	13	44	30	14
15	11	0	0	32	37	8	0	9	15	48	47	12
16	10	11	0	31	27	9	14	9	25	39	66	8
17	12	20	0	38	23	11	12	8	19	43	63	0
18	10	35	10	41	18	11	11	10	20	38	48	0
19	19	27	9	40	10	11	12	10	31	30	40	0
20	27	19	11	37	9	11	10	9	46	28	24	0
21	27	9	17	36	9	10	9	8	50	25	16	0
22	25	15	31	34	9	10	0	7	72	12	11	0
23	16	22	28	32	12	18	0	0	67	10	0	0
24	11	36	30	25	13	12	0	0	63	0	0	0
25	11	30	37	19	12	10	0	0	55	0	0	0
26	11	33	37	13	10	13	8	0	38	0	0	7
27	10	27	31	12	9	12	8	0	25	0	0	0
28	9	36	27	12	8	36	10	0	14	0	0	0
29		25	26	10	9	51	9	7	11	0	0	0
30		29	26	8	11	46	8	7	0	0	0	8
31		23		8		40	9		0		0	8
Mean	16	17	16	28	24	31	11	4	18	17	17	2

The yearly mean sunspot number equaled 18.0 in 1985.

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

ALGONQUIN RADIO OBSERVATORY, OTTAWA

Day	Feb 85	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 86
01	72.2	69.3	72.2	80.8*	69.5	76.9	80.5	73.0	68.3	69.0	67.8	67.0
02	73.8	69.1	72.6	76.5	72.4	79.1*	80.4	72.8	67.5	68.8	68.4	67.6
03	73.6	69.0	72.5A	72.6	74.6	81.3	79.2	73.1	68.7	68.0	68.5	68.4
04	70.9	68.6	71.9	70.8	77.5	80.4	79.3	73.5	68.3	67.6	68.3	69.5
05	71.2	67.5	71.2	71.4	84.3	83.3	78.5	72.2	67.0	68.5	69.7	70.7
06	70.6	68.1	70.5	75.0	87.4	87.5	77.9	72.5	66.0	70.0	71.1	72.2
07	70.3	68.0	70.3	79.1	88.4	97.7	79.5	70.8	65.9	71.8	71.9	71.6
08	72.5	68.7	69.9	83.7	88.9	96.7*	78.5	70.3	65.8	73.7	73.0	71.2
09	73.2	68.7	69.4	89.6	89.8	100.9*	74.9	70.6	66.0	72.9	75.2	72.7
10	73.6	68.0	69.7	91.7	91.7	104.6*	72.8	70.3	66.7	72.5	75.6	72.2
11	73.2	69.6	69.0	89.9	91.2	97.3	68.4	69.2	67.7	74.7	76.6	71.9
12	72.3	69.3	69.6	92.1	89.8	92.9	69.7	68.5	66.9	74.7	77.3	71.2
13	70.8	69.5	69.8	91.9	89.2	85.5	68.9	70.7	66.7	74.3	75.6	74.3
14	70.6	69.5	70.6	90.7*	85.3	76.4	69.3	70.4	69.8	76.9	76.4	76.4
15	70.2	69.6	70.0	92.0*	83.8	73.0	69.0	71.1	71.7	82.2*	80.2	75.1
16	69.8	70.1	69.4	95.5	80.9	71.9	68.2	70.3	73.2	78.8	83.7	75.5*
17	70.9	72.1	70.2	92.3	77.3	71.9	67.9	70.0	75.5	77.4	80.2	74.4
18	73.4*	74.6	71.7	92.7	73.8	71.8	68.6	70.4	75.5	77.3	78.4	73.1
19	76.1	74.2	71.7	89.6	72.2	71.7	69.1	70.7	77.7	75.6	77.5	70.2
20	75.0	74.2	72.3	86.7	71.9	71.7	70.6	69.8	79.4	75.7	75.4*	69.2
21	74.2	76.1*	77.9	84.4*	71.5	71.2	70.4	69.6	84.7	73.7	75.1	67.9
22	73.3	75.9	89.8	82.7*	71.6	71.0	72.7	69.8	94.3	73.1	73.5	67.3
23	71.7	77.3	93.3*	80.0	71.8	71.1	72.9	69.2	93.2*	72.8	71.2	67.0
24	70.5	79.6	89.0*	78.3	70.8	71.0	72.1	69.0	92.5	71.9	69.9	66.9
25	70.1	78.5	95.2	77.2	71.0	75.6	72.5	68.7	88.5*	70.3	67.3	68.0
26	69.7	79.7†	88.3*	75.5	70.0	77.4	72.3	68.4	83.0	69.5	66.3	67.7
27	68.9	77.4†	80.6	74.6	70.2	79.2	73.1	67.7	78.5*	69.8	66.2	67.2
28	69.7	77.7†	78.1	72.7	71.0	81.2	73.1	67.8	76.7	69.0	66.2	70.0
29		76.7†	83.2	72.5	72.3	83.5	73.1	68.3	73.6	69.1	66.0	71.2
30		75.8†	80.8	71.4	74.8	83.8	73.9	68.3	70.5	68.8	66.3	73.7
31		76.4†		69.6		82.4	74.1		69.5		66.6	76.6
Mean	71.9	72.5	75.7	82.0	78.5	81.3	73.3	70.2	74.2	72.6	72.4	70.9

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 74.7 in 1985.

DAILY SOLAR INDICES

January 1986

Day	Julian Day	Bartels Cycle Day	Sunspot Numbers Int	Amer	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	1	24	0	0	69.3	542	290	101	67.0	63	52	49	18	9
02	2	25	0	0	69.9	543	292	89	67.6	63	51	48	20	8
03	3	26	0	0	70.7	501	286	91	68.4	66	54	43	19	9
04	4	27	0	0	71.9	551	301	87	69.5	66	55	52	21	10
05	5	1	0	0	73.1	505	285	87	70.7	64	50	47	21	10
06	6	2	0	0	74.7	544	308	90	72.2	67	68	56	22	11
07	7	3	0	0	74.0	542	301	85	71.6	61	57	54	23	12
08	8	4	0	0	73.6	549	298	87	71.2	66	57	54	21	10
09	9	5	0	0	75.2	533	297	86	72.7	71	57	54	22	17
10	10	6	0	0	74.7	---	---	---	72.2	--	--	--	--	--
11	11	7	0	0	74.4	543	304	90	71.9	69	56	70	45	12
12	12	8	0	0	73.6	538	286	95	71.2	67	56	52	22	10
13	13	9	13	15	76.8	537	294	97	74.3	70	57	57	22	12
14	14	10	14	16	79.0	555	316	103	76.4	71	60	50	24	13
15	15	11	12	11	77.7	551	317	100	75.1	69	57	56	23	10
16	16	12	8	7	78.0*	552	307	102	75.5*	72	59	56	22	13
17	17	13	0	0	76.9	---	---	---	74.4	--	--	--	--	--
18	18	14	0	0	75.5	---	---	---	73.1	--	--	--	--	--
19	19	15	0	0	72.5	490	272	102	70.2	67	55	41	20	11
20	20	16	0	0	71.5	435	268	92	69.2	65	53	49	21	6
21	21	17	0	0	70.1	543	261	83	67.9	64	52	43	23	8
22	22	18	0	0	69.5	541	288	103	67.3	64	52	45	23	--
23	23	19	0	0	69.1	554	300	90	67.0	64	52	50	20	10
24	24	20	0	0	69.0	547	301	89	66.9	60	53	43	19	6
25	25	21	0	0	70.2	528	303	89	68.0	62	53	48	21	10
26	26	22	7	0	69.9	426	263	99	67.7	64	52	45	21	10
27	27	23	0	0	69.3	---	---	---	67.2	--	--	--	--	--
28	28	24	0	0	72.2	554	301	70	70.0	66	46	50	21	--
29	29	25	0	0	73.4	549	304	95	71.2	68	57	50	21	12
30	30	26	8	10	76.0	550	308	108	73.7	68	55	50	21	10
31	31	27	8	12	78.9	558	304	101	76.6	74	57	47	24	3
Mean			2	2	73.2	531	295	93	70.9	66	55	50	22	10

*Adjusted for burst in progress at time of measurement.

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

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

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

OBSERVED AND PREDICTED SOLAR ACTIVITY INDICES

JANUARY 1986

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	(Sa) Smoothed
Mar 82	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.?	177
Jun	110.4	117	113.5	118	129.6	127	177.4	175
Jul	106.1	115	113.3	117	116.0	125	164.8	174
Aug	107.6	109	110.5	111	123.9	120	172.1	168
Sep	118.8	101	117.8	103	118.5	112	167.1	161
Oct	94.7	96	90.1	97	111.8	106	160.9	155
Nov	98.1	95	93.2	95	114.8	103	163.7	153
Dec	127.0	95	145.0	95	146.7	101	193.2	151
Jan 83	84.3	93	82.8	93	86.7	98	137.7	148
Feb	51.0	90	53.4	90	67.2	94	119.6	145
Mar	66.5	86	60.5	85	64.7	90	117.3	141
Apr	80.7	82	74.5	81	67.5	85	119.9	136
May	99.2	77	97.7	77	86.1	80	137.1	131
Jun	91.1	70	93.1	69	92.4	72	143.0	124
Jul	82.2	66	82.2	63	77.4	66	129.1	118
Aug	71.8	66	69.2	63	75.7	66	127.5	118
Sep	50.3	68	47.4	66	57.0	67	110.2	119
Oct	55.8	68	52.3	66	58.6	67	111.7	120
Nov	33.3	59	30.2	65	35.6	67	90.4	120
Dec	33.4	64	32.3	62	35.7	65	90.5	118
Jan 84	57.0	60	54.4	58	59.4	61	112.4	115
Feb	85.4	56	81.5	54	86.2	58	137.2	101
Mar	83.5	53	83.0	51	68.5	55	120.8	108
Apr	69.7	50	66.5	48	78.1	52	129.7	105
May	76.4	48	72.1	45	79.6	49	131.1	103
Jun	46.1	46	45.2	44	49.8	48	103.5	102
Jul	37.4	44	36.2	42	37.6	39	92.2	99
Aug	25.5	40	24.5	38	30.7	41	85.8	95
Sep	15.7	34	13.6	32*	23.2	35	78.9	90
Oct	12.0	29	9.8	27*	16.9	31	73.1	86
Nov	22.8	25	19.4	23*	18.6	26	74.6	72
Dec	18.7	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	11.8*	16*	16.3	19	72.5	75
Apr	16.2	18*	17.1*	17*	19.8	19	75.7	75
May	27.5	18*	24.0*	17*	26.6	19	82.0	75
Jun	24.2	18*	22.2*	16*	22.8	19	78.5	75
Jul	30.7	17*	30.8*	16*	25.8	19	81.3	75
Aug	11.1	17(1)*	10.7*	15	17.2	18	73.3	--
Sep	3.9	16(3)*	3.4*	14	13.8	17	70.2	--
Oct	18.5†	15(5)*	16.5*	13	18.1	16	74.2	--
Nov	16.6†	13(5)*	16.4*	12	16.4	15	72.6	--
Dec	17.2†	13(6)*	10.1*	11	16.2	14	72.4	--
Jan 86	2.3†	12(6)*	2.3*	11	14.6	14	70.9	--
Feb	----	12(7)*	----	11	----	14	----	--
Mar	----	11(8)*	----	10	----	13	----	--
Apr	----	11(9)*	----	9	----	12	----	--
May	----	10(9)*	----	9	----	11	----	--
Jun	----	9(9)*	----	8	----	11	----	--
Jul	----	9(9)*	----	8	----	10	-----	--

*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

JANAURY 1986

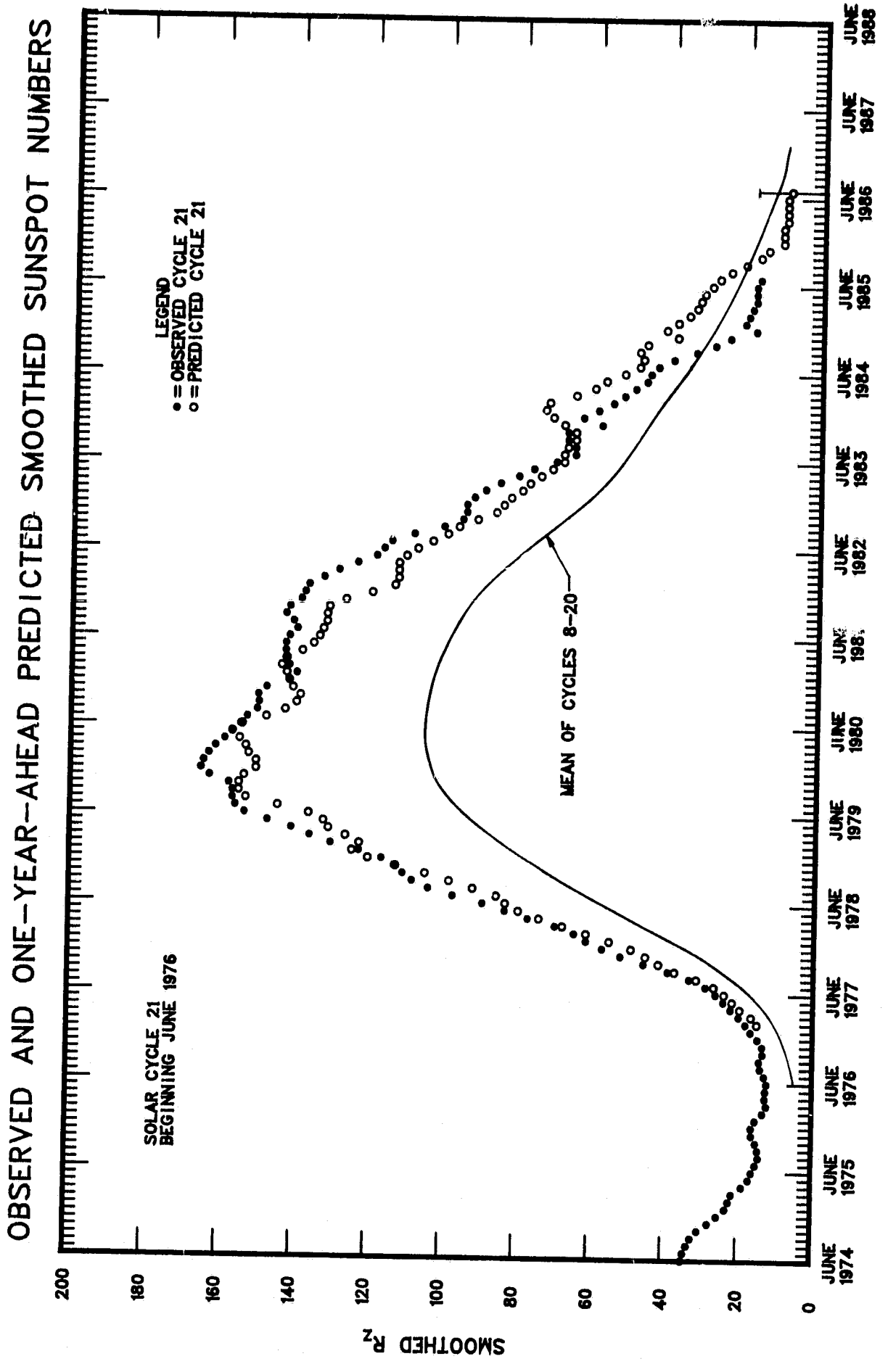
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1976	15	13	12	13	13	12*	13	14	14	13	14	15
1977	17	18	20	22	24	26	29	33	39	46	52	57
1978	61	65	70	77	83	89	97	104	108	111	113	118
1979	124	131	137	141	147	153	155	155	156	158	162	165*
1980	164	163	161	159	156	155	153	150	150	150	148	143
1981	140	142	143	143	143	142	140	141	143	142	139	138
1982	137	133	129	124	120	117	115	109	101	96	95	95
1983	93	90	86	82	71	71	66	66	68	68	67	64
1984	60	56	53	50	48	47	44	40	34	29	25	22
1985	21	20	19	18	18	18	17	17 (1)	16 (3)	15 (5)	13 (5)	13 (6)
1986	12 (6)	12 (7)	11 (8)	11 (9)	10 (9)	9 (9)	9 (9)	8 (9)	8 (9)	8 (8)	8 (8)	8 (8)

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

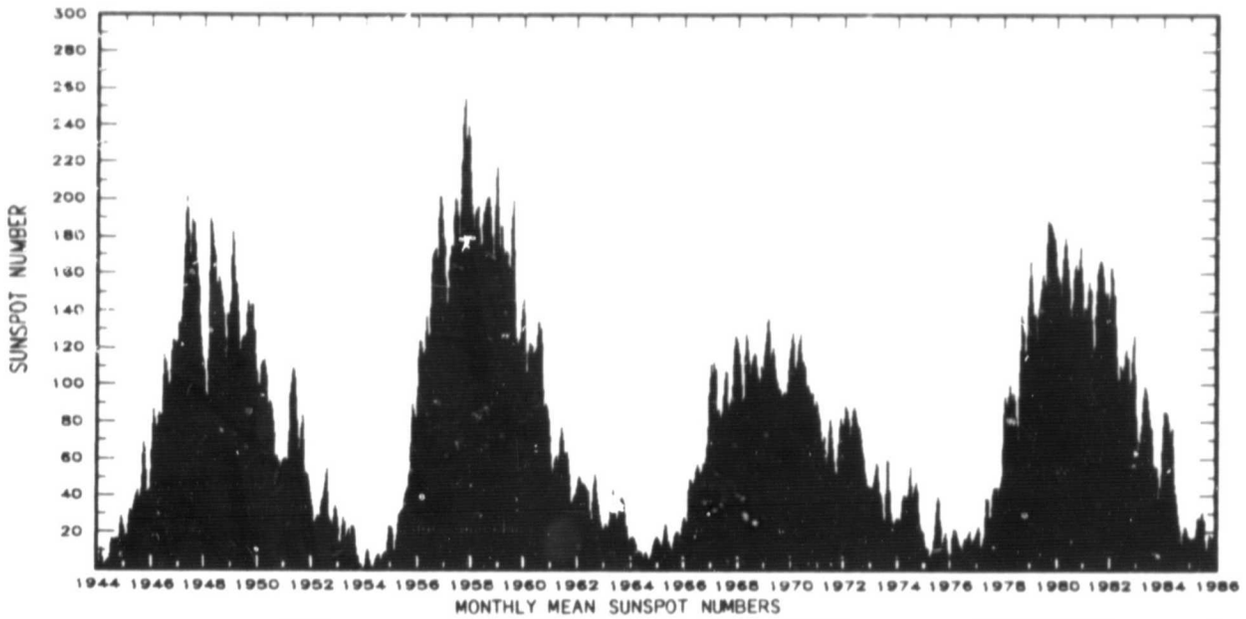
For the current solar cycle, this table gives observed smoothed sunspot numbers up to the one calculated from the most recently measured monthly mean. These smoothed observed values are based on final monthly mean Zurich numbers through 1980, on final international numbers through September 1985, and 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 July 1986 prediction tabulated above. There exists a 90% chance that in July 1986 the actual smoothed sunspot number will fall somewhere between 0 and 18.

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


OBSERVED AND ONE-YEAR-AHEAD PREDICTED SMOOTHED SUNSPOT NUMBERS
LEGEND
• = OBSERVED CYCLE 21
○ = PREDICTED CYCLE 21
SOLAR CYCLE 21
BEGINNING JUNE 1976
MEAN OF CYCLES 8-20
SMOOTHED R_Z
200
180
160
140
120
100
80
60
40
20
0
JUNE 1974
JUNE 1975
JUNE 1976
JUNE 1977
JUNE 1978
JUNE 1979
JUNE 1980
JUNE 198
JUNE 1982
JUNE 1983
JUNE 1984
JUNE 1985
JUNE 1986
JUNE 1987
JUNE 1988

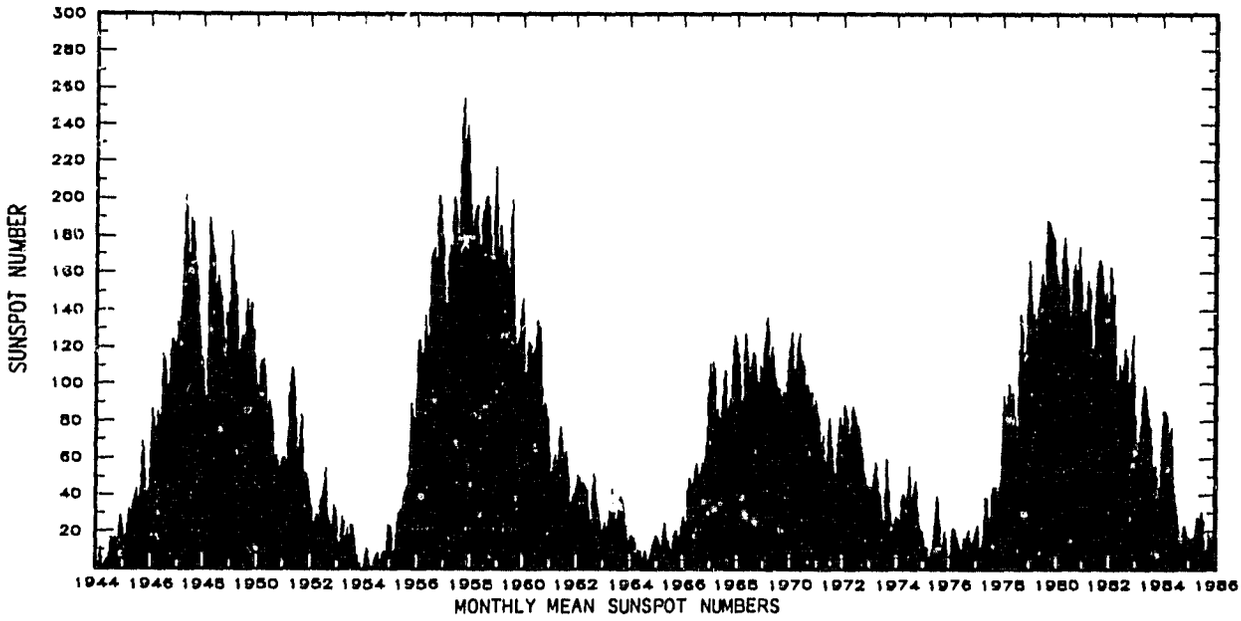
MONTHLY MEAN SUNSPOT NUMBERS
JANUARY 1944 – JANUARY 1986



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1944	3.7	0.5	11.0	0.3	2.5	5.0	5.0	16.7	14.3	16.9	10.8	28.4
1945	18.5	12.7	21.5	32.0	30.6	36.2	42.6	25.9	34.9	68.8	46.0	27.4
1946	47.6	86.2	76.6	75.7	84.9	73.5	116.2	107.2	94.4	102.3	123.8	121.7
1947	115.7	133.4	129.8	149.8	201.3	163.9	157.9	188.8	169.4	163.6	128.0	116.5
1948	108.5	86.1	94.8	189.7	171.0	167.8	142.2	157.9	143.3	136.3	95.8	138.0
1949	119.1	182.3	157.5	147.0	106.2	121.7	125.8	123.8	145.3	131.6	143.5	117.6
1950	101.6	94.8	109.7	113.4	106.2	83.6	91.0	85.2	51.3	61.4	54.8	54.1
1951	59.9	59.9	55.9	92.9	108.5	100.6	61.5	61.0	83.1	51.6	52.4	45.8
1952	40.7	22.7	22.0	29.1	23.4	36.4	39.3	54.9	28.2	23.8	22.1	34.3
1953	26.5	3.9	10.0	27.8	12.5	21.8	8.6	23.5	19.3	8.2	1.6	2.5
1954	0.2	0.5	10.9	1.8	0.8	0.2	4.8	8.4	1.5	7.0	9.2	7.6
1955	23.1	20.8	4.9	11.3	28.9	31.7	26.7	40.7	42.7	58.5	89.2	76.9
1956	73.6	124.0	118.4	110.7	136.6	116.6	129.1	169.6	173.2	155.3	201.3	192.1
1957	165.0	130.2	157.4	175.2	164.6	200.7	187.2	158.0	235.8	253.8	210.9	239.4
1958	202.5	164.9	190.7	196.0	175.3	171.5	191.4	200.2	201.3	181.5	152.3	187.6
1959	217.4	143.1	185.7	163.3	172.0	168.7	149.6	199.6	145.2	111.4	124.0	125.0
1960	146.3	106.0	102.2	122.0	119.6	110.2	121.7	134.1	127.2	82.8	89.6	85.6
1961	57.9	46.1	53.0	61.4	51.0	77.4	70.2	55.8	63.6	37.7	32.6	39.9
1962	38.7	50.3	45.6	46.4	43.7	42.0	21.8	21.8	51.3	39.5	26.9	23.2
1963	19.8	24.4	17.1	29.3	43.0	35.9	19.6	33.2	38.8	35.3	23.4	14.9
1964	15.3	17.7	16.5	8.6	9.5	9.1	3.1	9.3	4.7	6.1	7.4	15.1
1965	17.5	14.2	11.7	6.8	24.1	15.9	11.9	8.9	16.8	20.1	15.8	17.0
1966	28.2	24.4	25.3	48.7	45.3	47.7	56.7	51.2	50.2	57.2	57.2	70.4
1967	110.9	93.6	111.8	69.5	86.5	67.3	91.5	107.2	76.8	88.2	94.3	126.4
1968	121.8	111.9	92.2	81.2	127.2	110.3	96.1	109.3	117.2	107.7	86.0	109.8
1969	104.4	120.5	135.8	106.8	120.0	106.0	96.8	98.0	91.3	95.7	93.5	97.9
1970	111.5	127.8	102.9	109.5	127.5	106.8	112.5	93.0	99.5	86.6	95.2	83.5
1971	91.3	79.0	60.7	71.8	57.5	49.8	81.0	61.4	50.2	51.7	63.2	82.2
1972	61.5	88.4	80.1	63.2	80.5	88.0	76.5	76.8	64.0	61.3	41.6	45.3
1973	43.4	42.9	46.0	57.7	42.4	39.5	23.1	25.6	59.3	30.7	23.9	23.3
1974	27.6	26.0	21.3	40.3	39.5	36.0	55.8	33.6	40.2	47.1	25.0	20.5
1975	18.9	11.5	11.5	5.1	9.0	11.4	28.2	39.7	13.9	9.1	19.4	7.8
1976	8.1	4.3	21.9	18.8	12.4	12.2	1.9	16.4	13.5	20.6	5.2	15.3
1977	16.4	23.1	8.7	12.9	18.6	38.5	21.4	30.1	44.0	43.8	29.1	43.2
1978	51.9	93.6	76.5	99.7	82.7	95.1	70.4	58.1	138.2	125.1	97.9	122.7
1979	166.6	137.5	138.0	101.5	134.4	149.5	159.4	142.2	188.4	186.2	183.3	176.3
1980	159.6	155.0	126.2	164.1	179.9	157.3	136.3	135.4	155.0	164.7	147.9	174.4
1981	114.0	141.3	135.5	156.4	127.5	90.9	143.8	136.7	167.3	162.4	137.5	150.1
1982	111.2	163.6	153.8	122.0	82.2	110.4	106.1	107.6	118.8	94.7	98.1	127.0
1983	84.3	51.0	66.5	80.7	99.2	91.1	82.2	71.8	50.3	55.8	33.3	33.4
1984	57.0	85.4	83.5	69.7	76.4	46.1	37.4	25.5	15.7	12.0	22.8	18.7
1985	16.5	15.9	17.2	16.2	27.5	24.2	30.7	11.1	3.9	18.5*	16.6*	17.2*
1986	2.3*											

*Provisional

MONTHLY MEAN SUNSPOT NUMBERS
JANUARY 1944 – JANUARY 1986



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1944	3.7	0.5	11.0	0.3	2.5	5.0	5.0	16.7	14.3	16.9	10.8	28.4
1945	18.5	12.7	21.5	32.0	30.6	36.2	42.6	25.9	34.9	68.8	46.0	27.4
1946	47.6	86.2	76.6	75.7	84.9	73.5	116.2	107.2	94.4	102.3	123.8	121.7
1947	115.7	133.4	129.8	149.8	201.3	163.9	157.9	188.8	169.4	163.6	128.0	116.5
1948	108.5	86.1	94.8	189.7	171.0	167.8	142.2	157.9	143.3	136.3	95.8	138.0
1949	119.1	182.3	157.5	147.0	106.2	121.7	125.8	123.8	145.3	131.6	143.5	117.6
1950	101.6	94.8	109.7	113.4	106.2	83.6	91.0	85.2	51.3	61.4	54.8	54.1
1951	59.9	59.9	55.9	92.9	108.5	100.6	61.5	61.0	83.1	51.6	52.4	45.8
1952	40.7	22.7	22.0	29.1	23.4	36.4	39.3	54.9	28.2	23.8	22.1	34.3
1953	26.5	3.9	10.0	27.8	12.5	21.8	8.6	23.5	19.3	8.2	1.6	2.5
1954	0.2	0.5	10.9	1.8	0.8	0.2	4.8	8.4	1.5	7.0	9.2	7.6
1955	23.1	20.8	4.9	11.3	28.9	31.7	26.7	40.7	42.7	58.5	89.2	76.9
1956	73.6	124.0	118.4	110.7	136.6	116.6	129.1	169.6	173.2	155.3	201.3	192.1
1957	165.0	130.2	157.4	175.2	164.6	200.7	187.2	158.0	235.8	253.8	210.9	239.4
1958	202.5	164.9	190.7	196.0	175.3	171.5	191.4	200.2	201.?	181.5	152.3	187.6
1959	217.4	143.1	185.7	163.3	172.0	168.7	149.6	199.6	145.2	111.4	124.0	125.0
1960	146.3	106.0	102.2	122.0	119.6	110.2	121.7	134.1	127.2	82.8	89.6	85.6
1961	57.9	46.1	53.0	61.4	51.0	77.4	70.2	55.8	63.6	37.7	32.6	39.9
1962	38.7	50.3	45.6	46.4	43.7	42.0	21.8	21.8	51.3	39.5	26.9	23.2
1963	19.8	24.4	17.1	29.3	43.0	35.9	19.6	33.2	38.8	35.3	23.4	14.9
1964	15.3	17.7	16.5	8.6	9.5	9.1	3.1	9.3	4.7	6.1	7.4	15.1
1965	17.5	14.2	11.7	6.8	24.1	15.9	11.9	8.9	16.8	20.1	15.8	17.0
1966	28.2	24.4	25.3	48.7	45.3	47.7	56.7	51.2	50.2	57.2	57.2	70.4
1967	110.9	93.6	111.8	69.5	86.5	67.3	91.5	107.2	76.8	88.2	94.3	126.4
1968	121.8	111.9	92.2	81.2	127.2	110.3	96.1	109.3	117.2	107.7	86.0	109.8
1969	104.4	120.5	135.8	106.8	120.0	106.0	96.8	98.0	91.3	95.7	93.5	97.9
1970	111.5	127.8	102.9	109.5	127.5	106.8	112.5	93.0	99.5	86.6	95.2	83.5
1971	91.3	79.0	60.7	71.8	57.5	49.8	81.0	61.4	50.2	51.7	63.2	82.2
1972	61.5	88.4	80.1	63.2	80.5	88.0	76.5	76.8	64.0	61.3	41.6	45.3
1973	43.4	42.9	46.0	57.7	42.4	39.5	23.1	25.6	59.3	30.7	23.9	23.3
1974	27.6	26.0	21.3	40.3	39.5	36.0	55.8	33.6	40.2	47.1	25.0	20.5
1975	18.9	11.5	11.5	5.1	9.0	11.4	28.2	39.7	13.9	9.1	19.4	7.8
1976	8.1	4.3	21.9	18.8	12.4	12.2	1.9	16.4	13.5	20.6	5.2	15.3
1977	16.4	23.1	8.7	12.9	18.6	38.5	21.4	30.1	44.0	43.8	29.1	43.2
1978	51.9	93.6	76.5	99.7	82.7	95.1	70.4	58.1	138.2	125.1	97.9	122.7
1979	166.6	137.5	138.0	101.5	134.4	149.5	159.4	142.2	188.4	186.2	183.3	176.3
1980	159.6	155.0	126.2	164.1	179.9	157.3	136.3	135.4	155.0	164.7	147.9	174.4
1981	114.0	141.3	135.5	156.4	127.5	90.9	143.8	..8.7	167.3	162.4	137.5	150.1
1982	111.2	163.6	153.8	122.0	82.2	110.4	106.1	107.6	118.8	94.7	98.1	127.0
1983	84.3	51.0	66.5	80.7	99.2	91.1	82.2	71.8	50.3	55.8	33.3	33.4
1984	57.0	85.4	83.5	69.7	76.4	46.1	37.4	25.5	15.7	12.0	22.8	18.7
1985	16.5	15.9	17.2	16.2	27.5	24.2	30.7	11.1	3.9	18.5*	16.6*	17.2*
1986	2.3*											

*Provisional

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

JANUARY 1986

	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
	ATHN	13	1029E	1032	1036	S13	W42		01	10.3	7D	SF		3	V	1032	32	.5	
	RAMY	13	1129E	1243U	1326	S13	W44		01	10.1	117D	SN		3	C		108		
	HOLL	13	2019	2021	2030	S10	W49	4710	01	10.2	11	SF		3	C		23		FH
	HOLL	13	2113	2114	2135	S10	W50	4710	01	10.1	22	SF		3	C		36		H
	HOLL	13	2203	2233	2313	S09	W51	4710	01	10.1	70	SF		3	C		35		F
	LEAR	14	0307	0315	0316	S08	W53	4710	01	10.1	9	SF		3	C		18		
	LEAR	14	0609	0611	0622	S08	W56	4710	01	10.0	13	SF		3	C		23		
[	LEAR	14	0623	0633	0636	S08	W56	4710	01	10.1	13	SF		3	C		27		
[	PEKG	14	0629E	0629	0630	S11	W57		01	10.0	1D	1B			C	0629	147	2.7	E
	RAMY	14	1507	1508	1545	S14	W60	4710	01	10.1	38	SN	C 3.1	3	C		134		
[	LEAR	14	2313	2315	2323	S08	W65	4710	01	10.1	10	SF		3	C		39		
[	PALE	14	2315	2316	2318	S11	W67	4710	01	09.9	3	SF		3	C		33		E
	LEAR	15	0129	0142	0147	S08	W67	4710	01	10.0	18	SF		3	C		16		F
	PEKG	15	0215	0216	0217	S10	W68		01	10.0	2	SN			C	0216	63	1.6	E
	LEAR	15	0359	0402	0418	S09	W67	4710	01	10.1	19	SF		3	C		35		F
[	LEAR	15	0654	0710	0840	S09	W67	4710	01	10.2	106	1N	M 1.1	3	C		122		F
[	ATHN	15	0659E	0700U	0754D	S08	W68		01	10.2	55D	1N		1	V	0700	143	4.0	
	RAMY	15	1317	1318	1331	S11	W70	4710	01	10.3	14	SF		3	C		16		
	RAMY	15	1342	1344	1347	S11	W71	4710	01	10.2	5	SF	C 2.0	3	C		13		
	RAMY	15	1358	1400	1419	S11	W71	4710	01	10.2	21	SF		3	C		29		
	RAMY	15	1519	1520	1522	S11	W71	4710	01	10.3	3	SF		3	C		23		
	HOLL	15	1645	1645	1655	S13	W73	4710	01	10.2	10	SF		3	C		10		
	GOES	15	2057	2121	2131						34		C 6.0						
	HOLL	15	2148	2149	2159	S12	W72	4710	01	10.5	11	SF	C 4.6	3	C		14		F
	HOLL	15	2235	2236	2237	S12	W72	4710	01	10.5	2	SF		3	C		14		
	PEKG	16	0237	0244	0248	S09	W89		01	09.4	11	SF			C	0244	21		D
	GOES	16	1200	1210	1218						18		C 4.3						
	GOES	16	1359	1409	1423						24		C 1.0						
[	RAMY	16	1609	1611	1619	S11	W85	4710	01	10.3	10	SF	M 6.6	3	C		21		F
[	HOLL	16	1616	1617	1623	S09	W86	4710	01	10.2	7	SF	M 6.6	4	C		18		F
	HOLL	16	1848	1851	1858	S09	W84	4710	01	10.5	10	SF	M 1.3	4	C		34		F
	HOLL	16	2244	2245	2249	S09	W91	4710	01	10.1	5	SF		3	C		11		
	GOES	16	2253	2258	2300			4710			7		C 1.0						
	GOES	16	2306	2324	2333						27		C 1.9						
	GOES	17	0030	0037	0047			4710			17		C 2.0						
	GOES	17	0114	0139	0151			4710			37		C 3.6						
	GOES	17	0246	0255	0300			4710			14		C 1.3						
	GOES	17	0350	0401	0420			4710			30		C 1.7						
	GEOR	21	1010	1018	1045	N27	E75		01	27.3	35	1N							DG
	PALE	26	1803	1804	1809	S30	E16		01	28.0	6	SF		3	C		23		HS
	RAMY	31	1301	1302	1308	S08	E70	4711	02	05.8	7	SN		3	C		66		
	HOLL	31	1956E	1956U	2031	S08	E67	4711	02	05.8	35D	SF		3	C		51		F
	PALE	31	2321E	2321U	2342	S09	E62	4711	02	05.6	21D	SF		3	C		14		F

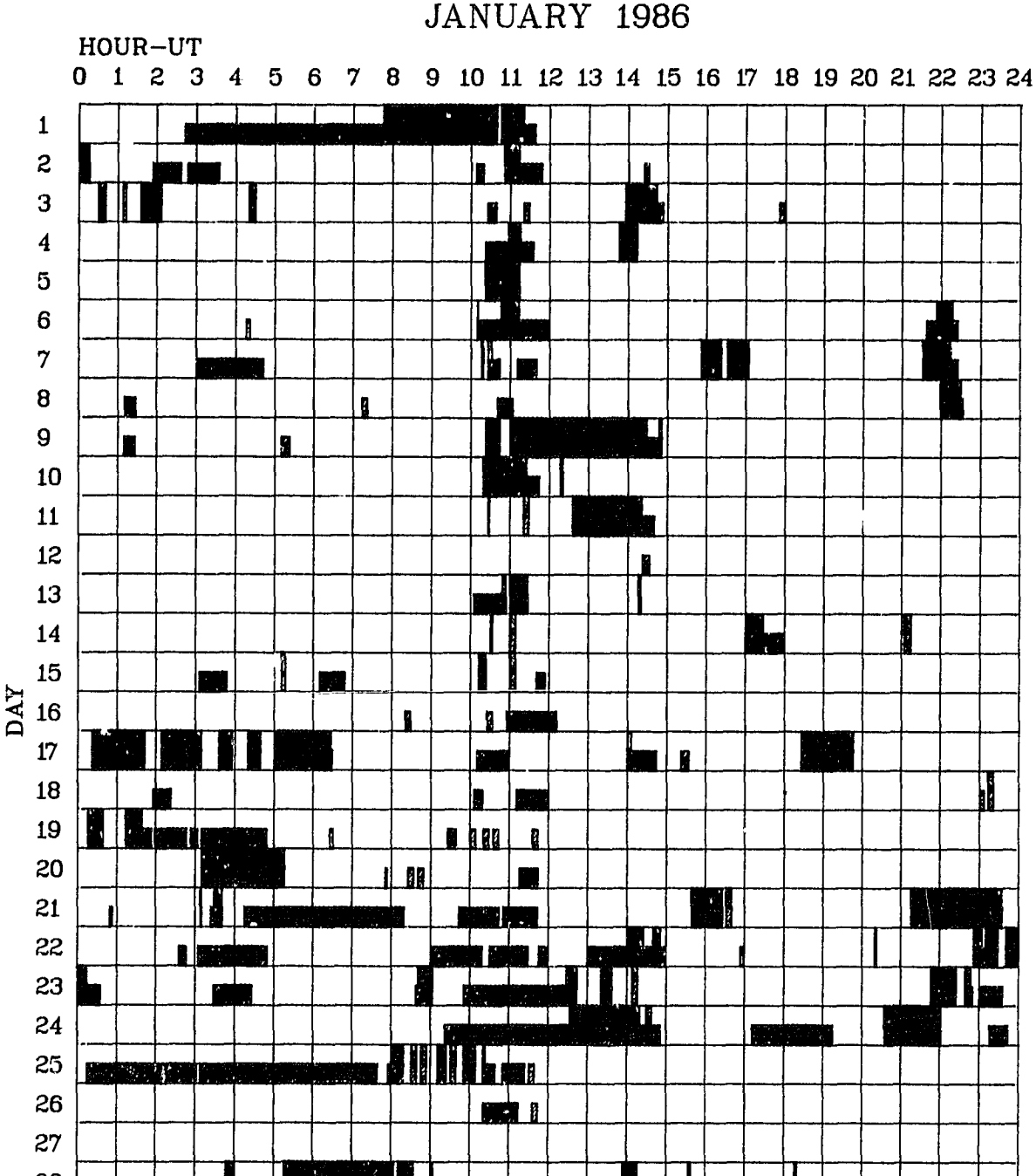
"Remarks":

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

JANUARY 1986



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.

Athens	Culgoora	Istanbul	Palehua	Ramey
Bucharest	Holloman	Learmonth	Peking	Wendelstein

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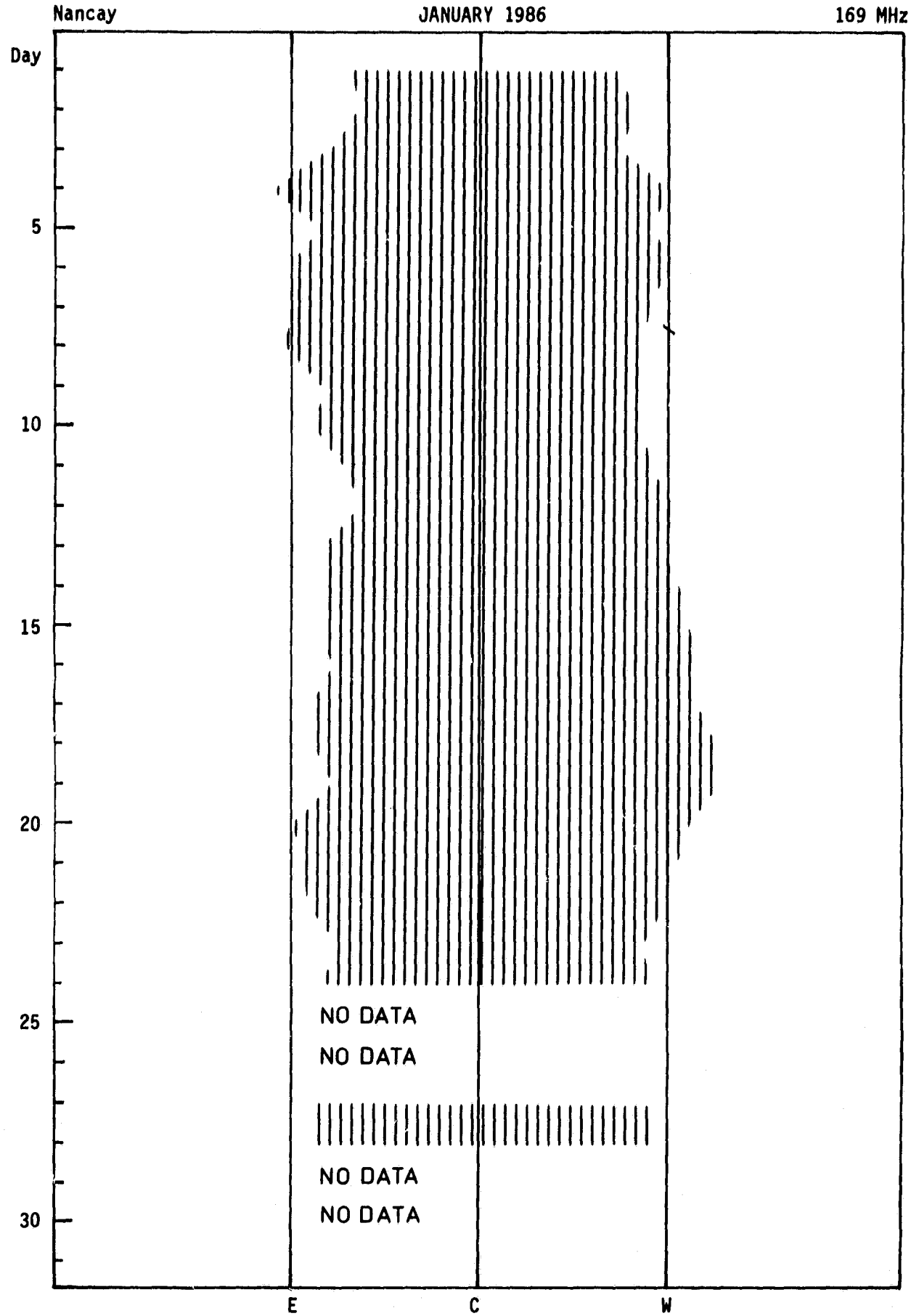
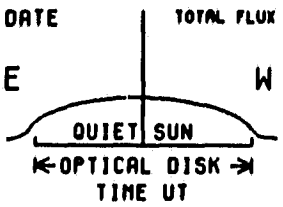
SOLAR INTERFEROMETRIC OBSERVATIONS



EAST-WEST SOLAR SCANS
JANUARY 1986

TOYOKAWA, JAPAN

3 CM
FAN BEAM WITH 1.1 MINUTES OF ARC



1	262	2	260	3	262		
0254 UT		0254 UT		0255 UT			
4	263	5	263	6	263	7	264
0255 UT		0256 UT		0256 UT		0257 UT	
8	264	9	262	10	262	11	262
0257 UT		0257 UT		0258 UT		0258 UT	
12	262	13	261	14	264	15	265
0259 UT		0259 UT		0259 UT		0300 UT	
16	266	17	269	18	265	19	264
0300 UT		0300 UT		0301 UT		0301 UT	
20	262	21	260	22	259	23	258
0301 UT		0302 UT		0302 UT		0302 UT	
24	258	25	259	26	258	27	258
0303 UT		0303 UT		0303 UT		0303 UT	
28	259	29	261	30	263	31	265
0303 UT		0304 UT		0304 UT		0304 UT	

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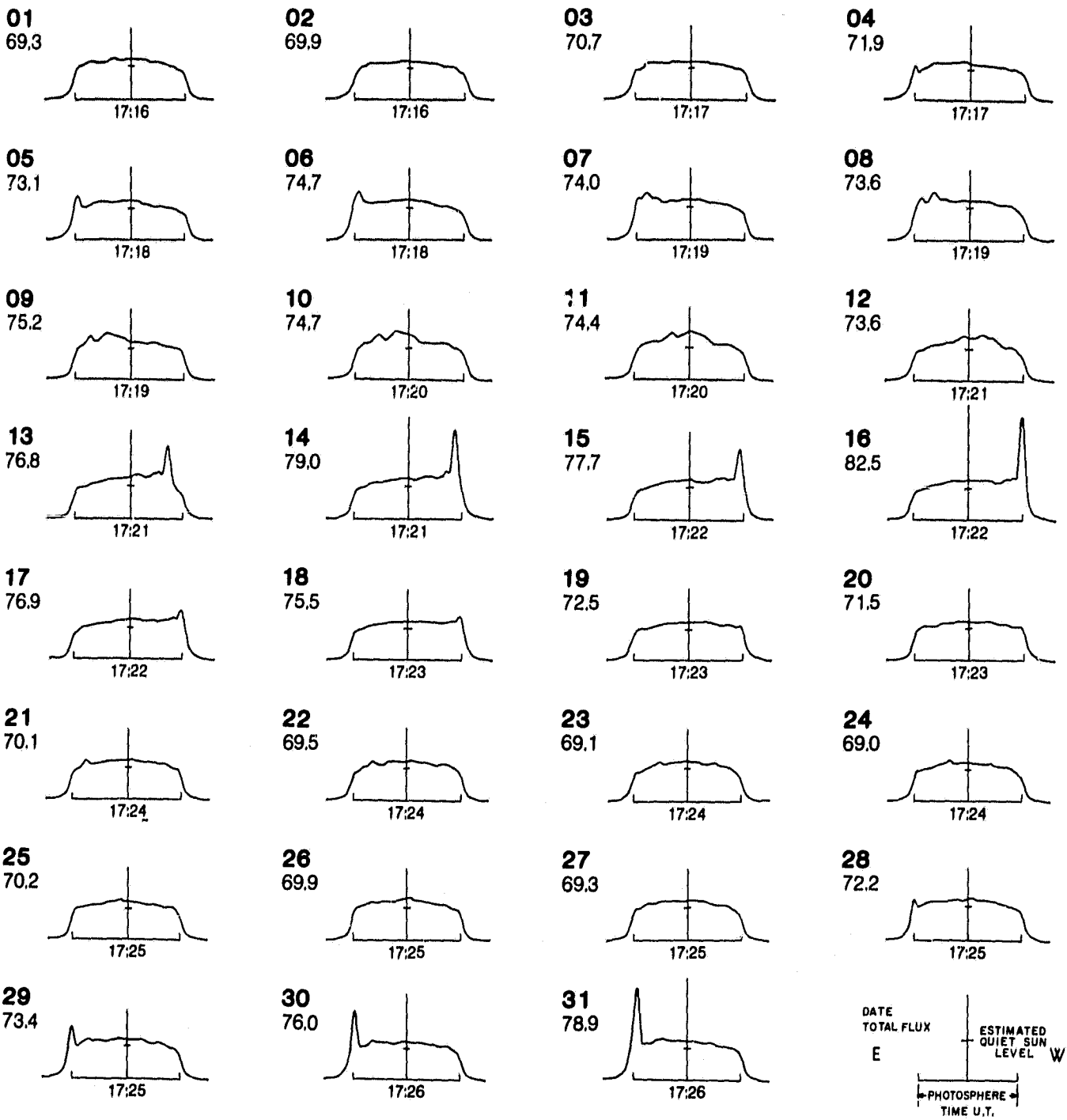
EAST-WEST SOLAR SCANS

JANUARY 1986

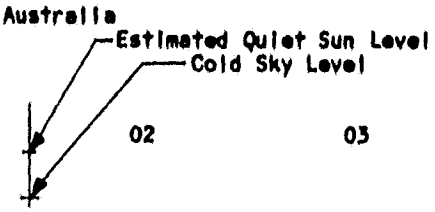
ALGONQUIN RADIO OBSERVATORY
CANADA

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



EAST-WEST SOLAR SCANS

Fleurs, Australia — JANUARY 1986 — 21 cm
Fan-Beam with 2 minutes of arc E-W Resolution



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E W

07 NO DATA | 08 NO DATA | 09 NO DATA | 10 NO DATA | 11 NO DATA | 12 NO DATA

E W

UT

13 0205 UT | 14 0105 UT | 15 NO DATA | 16 NO DATA | 17 0207 UT | 18 0207 UT

E W

19 0207 UT | 20 0218 UT | 21 0208 UT | 22 0208 UT | 23 0209 UT | 24 0209 UT

W

25 0209 UT | 26 0209 UT | 27 0210 UT | 28 0210 UT | 29 NO DATA | 30 NO DATA

E W

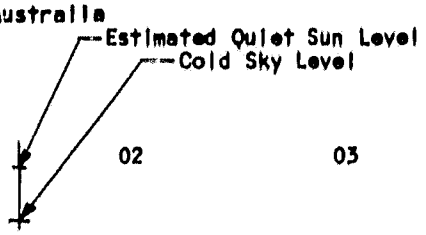
31 NO DATA

E W

18
Jan 86

EAST-WEST SOLAR SCANS

Fleurs, Australia — JANUARY 1986 — 43 cm
Fan-Beam with 2 minutes of arc E-W Resolution



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NO DATA	NO DATA	NO DATA	NC DATA	NO DATA	NO DATA
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0205 UT	0104 UT	NO DATA	NO DATA	0207 UT	0207 UT
19	20	21	22	23	24
0207 UT	0208 UT	0217 UT	0208 UT	0209 UT	0209 UT
25	26	27	28	29	30
0209 UT	0209 UT	0210 UT	0210 UT	NO DATA	NO DATA
31					
NO DATA					

E ... W

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

JANUARY 1986

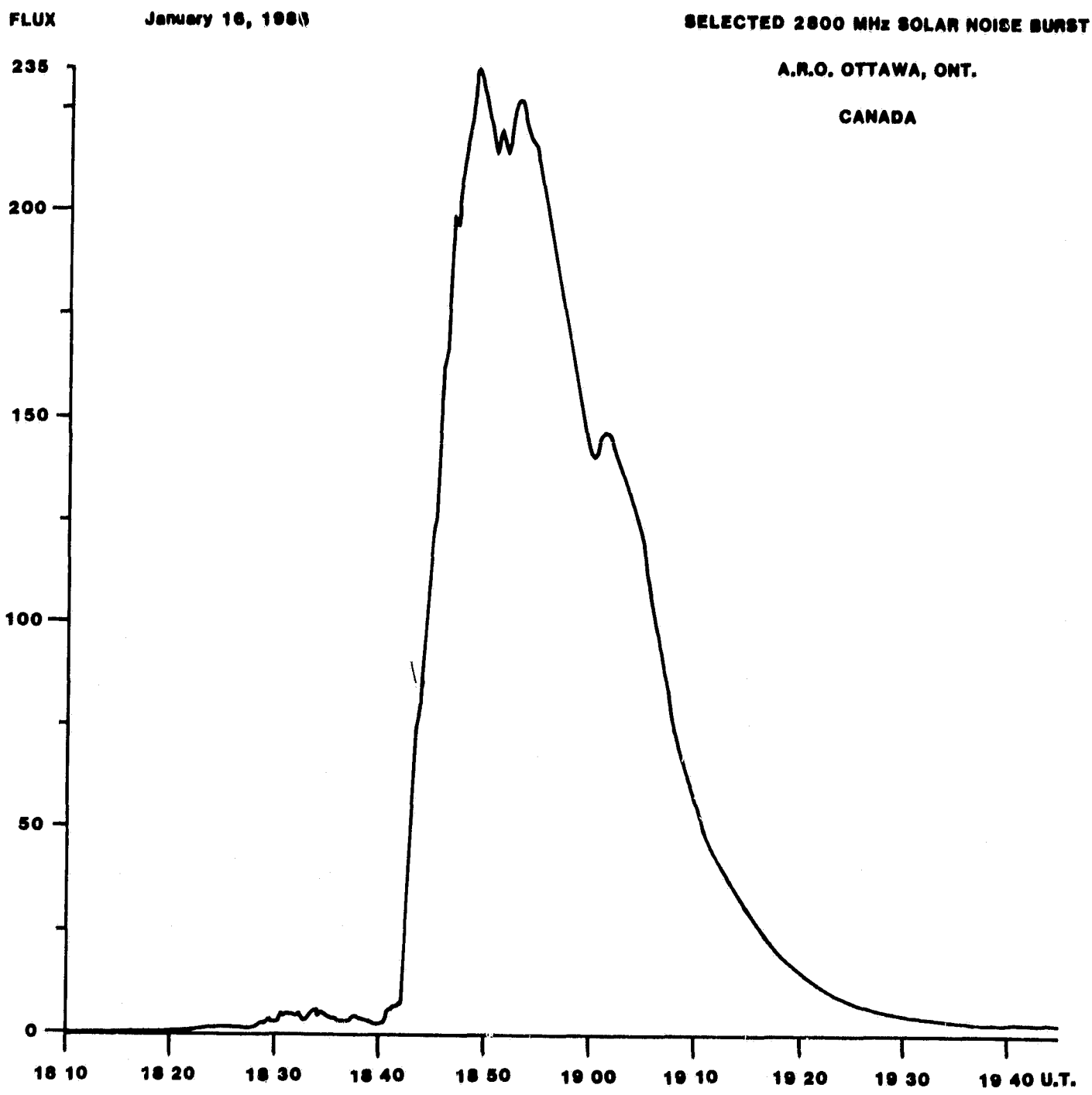
Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remarks
07	245	LEAR	47 GB	0740.8	0740.8	.3	77.0			QL=6 ST=2 TYP=5
14	2800	OTTA	240AR	1405.0	1545.0	100.0	3.0	1.5		
	2800	OTTA	45 C	1455.0	1502.4	14.0	15.0	6.0		
	2800	OTTA	29 PBI	1509.0	1509.0	36.0	4.6	2.2		
15	410	LEAR	47 GB	0655.5	0655.6	.3	58.0			QL=6 ST=2 TYP=5
	245	LEAR	4 S/F	0656.3	0659.3	4.7	42.0			QL=6 ST=2 TYP=3
	8800	LEAR	47 GB	0658.6	0659.3	19.2	71.0			QL=6 ST=2 TYP=5
	1415	LEAR	47 GB	0658.6	0659.8	12.0	51.0			QL=6 ST=2 TYP=5
	2695	LEAR	47 GB	0658.6	0705.3	12.2	61.0			QL=6 ST=2 TYP=5
	4995	LEAR	47 GB	0658.6	0705.5	11.2	53.0			QL=6 ST=2 TYP=5
	15400	LEAR	8 S	0659.5	0659.8	.3	31.0			QL=5 ST=2 TYP=3
	2695	PENT	240AR	2100.0	2200.0	60.0	5.2	2.6		
	2800	OTTA	2 S/F	2102.0	2108.0	8.0	3.0	1.4		
	2695	PENT	1 S	2116.0	2119.3	5.0	9.4	4.5		
	2695	PENT	1 S	2145.0	2150.0	9.0	2.6	1.4		
16	2800	OTTA	21 GRF	1530.0	1710.0	140.0	4.4	2.0		
	2800	OTTA	46F C	1607.5	1613.0	17.0	34.4	8.8		
	8800	SGMR	47 GB	1610.3	1612.8	6.8	169.0			QL=6 ST=3 TYP=5
	15400	SGMR	47 GB	1611.1	1612.8	5.9	76.0			QL=6 ST=3 TYP=5
	8800	SGMR	47 GB	1611.8	1612.8	3.8	169.0			QL=6 ST=2 TYP=5
	15400	SGMR	47 GB	1612.6	1612.8	2.7	87.0			QL=6 ST=2 TYP=5
	2800	OTTA	1 S	1628.0	1629.5	5.0	1.2	0.6		
	2800	OTTA	20 GRF	1637.7	1640.0	14.0	12.2	4.6		
	2800	OTTA	20 GRF	1652.0	1657.0	18.0	3.4	1.7		
	2800	OTTA	28 PRE	1810.0	1834.0	30.0	6.4	2.6		
	2695	SGMR	47 GB	1839.6	1849.1	48.4	210.0			QL=1 ST=3 TYP=5
	2800	OTTA	3 S	1840.0	1849.0	46.0	235.0	103.0		
	4995	SGMR	47 GB	1840.6	1849.1	2533.4	239.0			QL=1 ST=3 TYP=5
	1415	SGMR	47 GB	1841.8	1848.6	40.8	130.0			QL=1 ST=3 TYP=5
	2695	SGMR	47 GB	1843.0	1849.1		210.0			QL=1 ST=1 TYP=5
	4995	SGMR	47 GB	1843.1	1849.1		239.0			QL=1 ST=1 TYP=5
	1415	SGMR	47 GB	1845.1	1848.6		130.0			QL=1 ST=1 TYP=5
	15400	PALE	47 GB	1848.3	1852.8	12.8	139.0			QL=6 ST=2 TYP=5
	610	SGMR	47 GB	1859.1	1917.1	31.4	150.0			QL=1 ST=3 TYP=5
	610	PALE	47 GB	1908.6	1909.6	2.2	83.0			QL=6 ST=2 TYP=5
	610	PALE	47 GB	1915.8	1917.1	4.0	130.0			QL=6 ST=2 TYP=5
	2800	OTTA	29 PBI	1926.0	1926.0	150.0	8.0	2.0		
23	410	LEAR	4 S/F	0434.5	0436.0	2.8	42.0			QL=6 ST=2 TYP=3
	245	LEAR	47 GB	0434.8	0436.1	2.5	66.0			QL=6 ST=2 TYP=5
31	8800	ATHN	8 S	1301.0	1302.0	2.0	9.0			QL=6 ST=2 TYP=3
	1415	ATHN	8 S	1302.0	1302.0	1.0	3.0			QL=6 ST=2 TYP=3
	2695	ATHN	8 S	1302.0	1302.0	1.0	2.0			QL=6 ST=2 TYP=3
	4995	ATHN	8 S	1302.0	1302.0	1.0	2.0			QL=5 ST=2 TYP=3

Explanation of Type Code:

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

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

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)


FLUX
January 16, 1986
SELECTED 2800 MHz SOLAR NOISE BURST
A.R.O. OTTAWA, ONT.
CANADA
235
200
150
100
50
0
18 10
18 20
18 30
18 40
18 50
19 00
19 10
19 20
19 30
19 40 U.T.

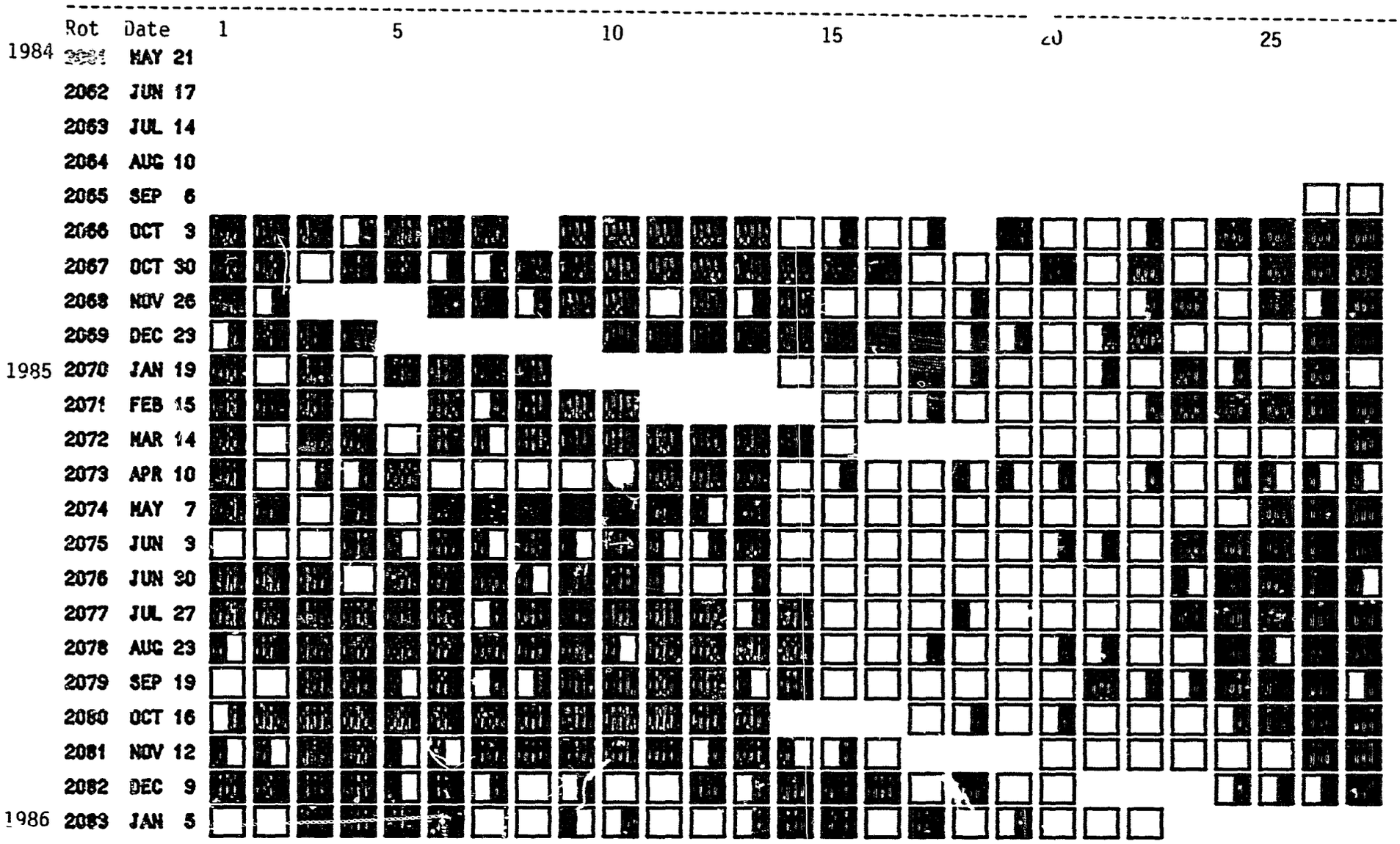
VOSTOK INFERRED INTERPLANETARY MAGNETIC FIELD
PRELIMINARY DATA

February 1985 - January 1986

Day	85 Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 86
1	A	A	A	AT	T	T	T	TA	TA	A	A	AT
2	A	A	A	A	T	T	AT	T	T	AT	A	AT
3	A	AT	A	AT	A	A	T	T	A	A	A	AT
4	T	A	A	TA	A	T	T	T	A	AT	A	T
5	AT	A	A	TA	A	T	T	T	A	A	A	A
6	A	A	A	TA	T	T	T	A	A	A	A	A
7	A	A	A	T	TA	TA	T	A	A	A	T	T
8	AT	AT	A	T	T	T	AT	AT	A	AT	T	T
9	A	T	T	A	TA	T	T	A	T	T	T	T
10	T	T	T	T	T	TA	A	A	AT	T	T	T
11	AT	T	A	A	TA	A	A	AT	AT	T	T	A
12	A	T	AT	T	T	AT	A	AT	T	TA	T	A
13	T	T	AT	T	TA	A	TA	A	T	TA	TA	TA
14	A	T	T	T	AT	A	A	A	T	T	T	AT
15	T	A	A	T	T	A	A	T	AT	T	AT	A
16	T	T	A	T	A	A	A	TA	AT	TA	A	A
17	T	T	A	T	A	A	A	T	T	TA	AT	AT
18	A	A	A	TA	A	A	T	T	T	T	A	T
19	-	T	T	T	A	A	T	A	T	T	A	T
20	T	TA	T	A	A	A	T	A	T	T	T	A
21	AT	T	T	A	A	A	T	T	T	T	AT	T
22	T	T	T	A	AT	TA	T	T	T	T	T	A
23	T	T	A	A	AT	T	TA	TA	T	AT	T	AT
24	T	T	AT	A	A	T	T	T	T	T	T	A
25	-	T	A	A	T	T	T	AT	T	TA	A	A
26	-	T	A	A	T	TA	T	AT	T	AT	T	A
27	-	T	TA	A	T	T	T	T	T	A	A	-
28	-	A	TA	A	T	T	T	T	-	-	A	-
29		-	AT	A	T	T	T	T	-	-	-	-
30		-	A	A	T	T	T	T	-	-	-	-
31		-		T		T	T		-		-	-

VOSTOK INFERRED INTERPLANETARY MAGNETIC FIELD

22 Jan 86

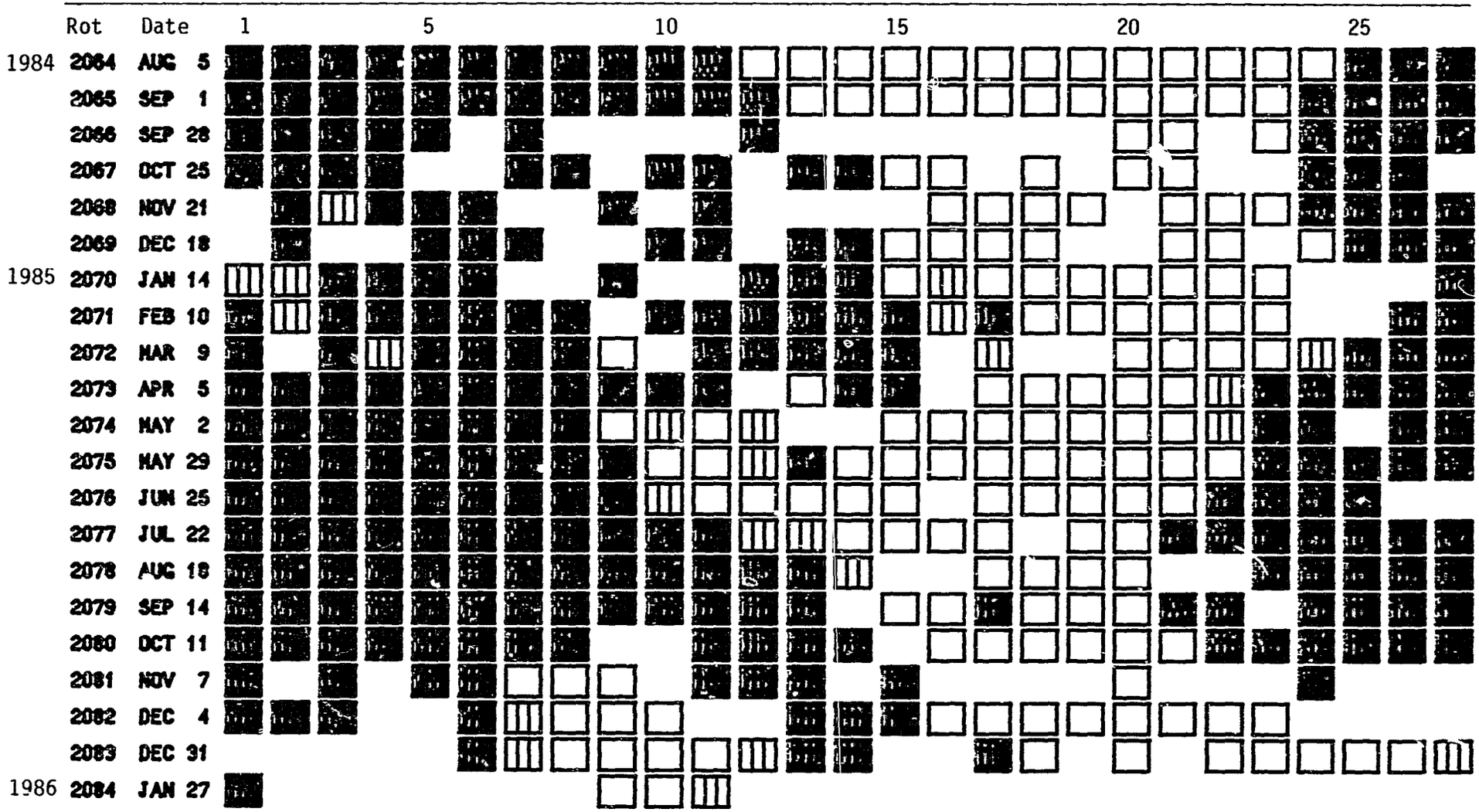


Inferred Interplanetary Magnetic Field Polarity:

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

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

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.

23 Jan 86

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

Day	Feb 85	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
1	38	31	2	-5	-10	-16	-5	.	13	-7	.	.
2	35	27	-10	-8	-7	-14	1	.	15	-10	.	.
3	32	16	-14	-9	-11	-5	2	7	6	-8	.	.
4	30	13	-13	-5	-12	2	8	3	-6	-15	-16	.
5	15	.	-17	-5	-11	5	11	5	-13	-16	-20	-3
6	.	.	-20	-5	-3	17	6	3	.	-25	-25	1
7	.	-8	-7	-8	4	31	10	.	-20	-26	.	14
8	.	-17	-13	-8	6	24	.	.	-23	.	.	3
9	-4	-13	-6	-5	-1	22	8	-26	-26	-17	-14	11
10	-5	.	-13	4	-4	.	8	-24	-27	.	1	12
11	-1	-4	-29	2	3	12	-9	-24	-21	-6	13	0
12	-2	-1	-19	8	12	7	-16	-22	-23	-5	8	-19
13	-8	-3	-21	1	22	5	-24	-25	-16	5	3	-14
14	-9	-15	-13	.	21	8	-28	-24	-26	11	.	.
15	-23	-12	-12	.	19	6	-22	-21	-20	6	.	.
16	-17	-6	.	11	17	-10	-23	-21	-27	.	-18	-12
17	-13	10	3	22	13	-27	-22	-25	-21	-3	-20	21
18	.	.	-7	33	15	-27	-20	-29	-25	-2	-21	.
19	-12	-7	-10	48	7	-24	-20	-28	.	-11	3	24
20	-17	-6	.	39	-10	.	-17	-22	.	.	11	.
21	-15	-12	5	27	-21	.	-19	-21	-17	-5	15	16
22	-12	-12	6	25	-16	-19	-22	-23	-17	.	22	11
23	-7	-5	18	0	-13	-19	-18	-16	-12	.	28	12
24	-6	.	23	-9	-13	-10	-22	-10	-8	.	15	15
25	2	1	18	-21	-16	-14	-28	-6	.	.	21	10
26	-6	.	1	.	-12	-19	-25	-5	4	15	8	2
27	13	.	-12	-18	-12	-27	-15	.	19	.	.	-3
28	20	37	-27	-8	-9	-26	-9	11	17	.	.	.
29		24	-32	-8	-13	-27	-4	12	14	.	.	.
30		16	-47	-9	-9	-25	-2	-6	16	-8	.	.
31		12		-5		-22	1		5		.	.

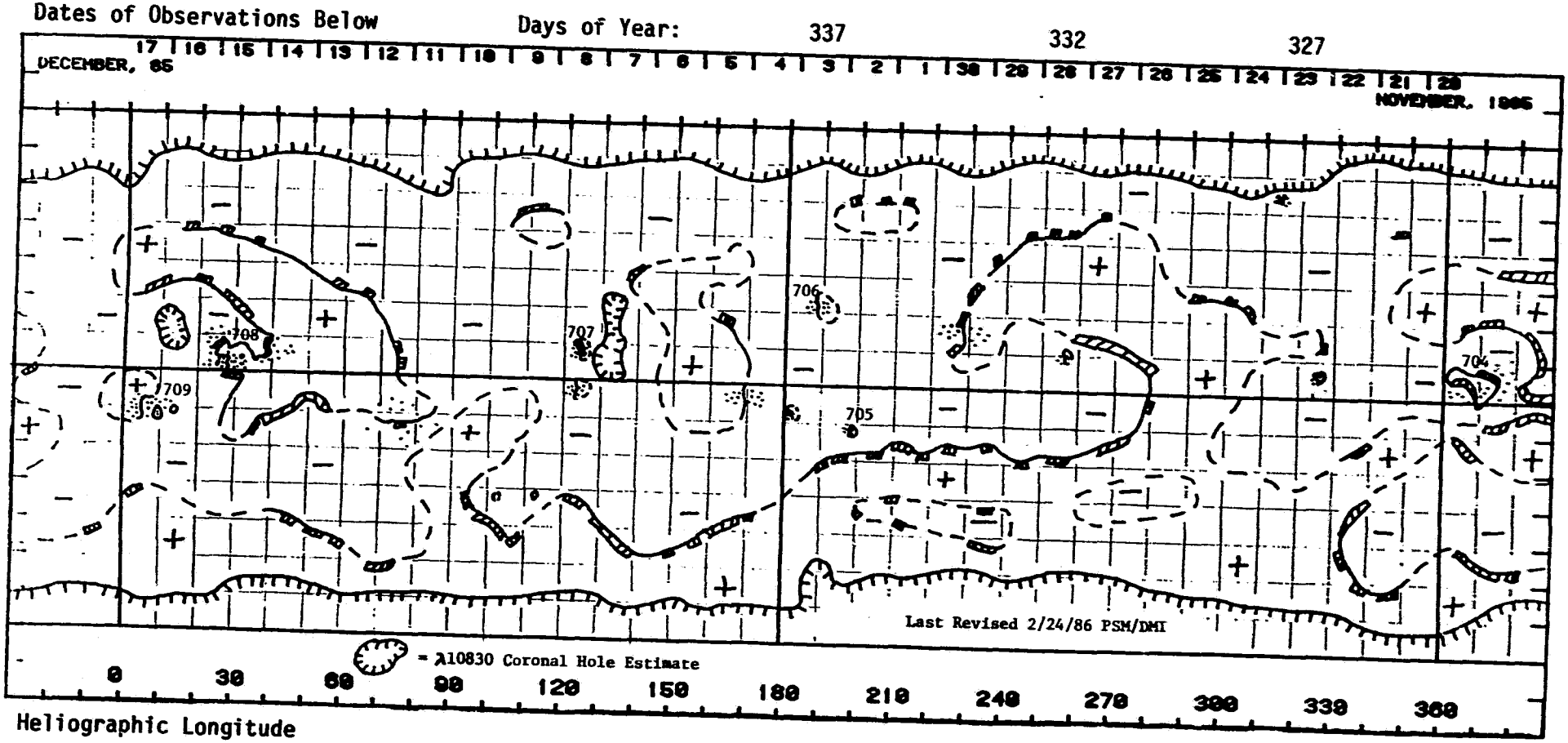
Dot symbol indicates no data available for the day.

CONTENTS

Prompt Reports DATA FOR DECEMBER 1985 Number 498 Part I

PRELIMINARY H-ALPHA SOLAR SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1769
(November 20 to December 17, 1985)

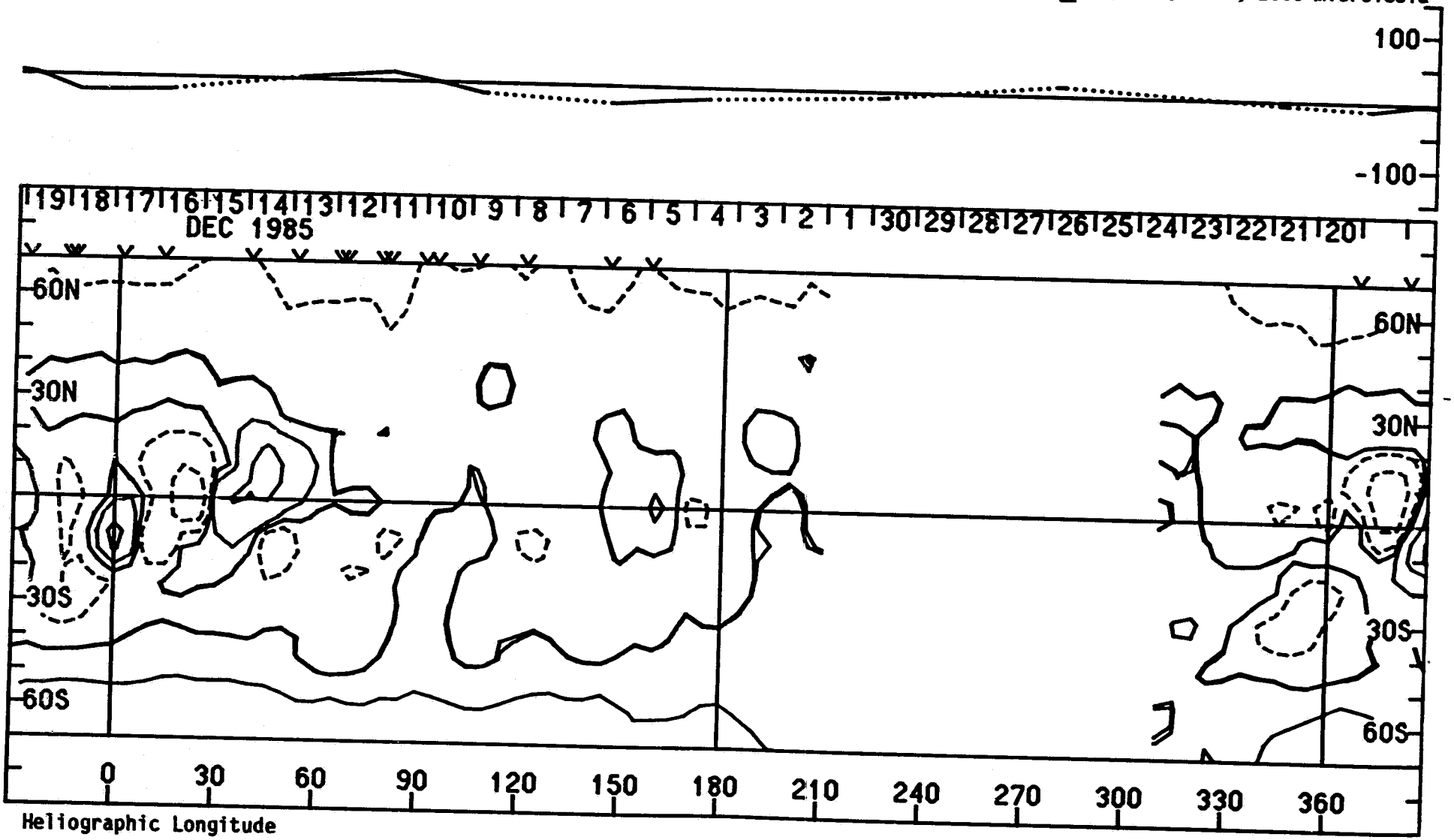


SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1769
(November 20 to December 17, 1985)

Stanford Solar Observatory

0, ±100, 500, 1000, 2000 microTesla



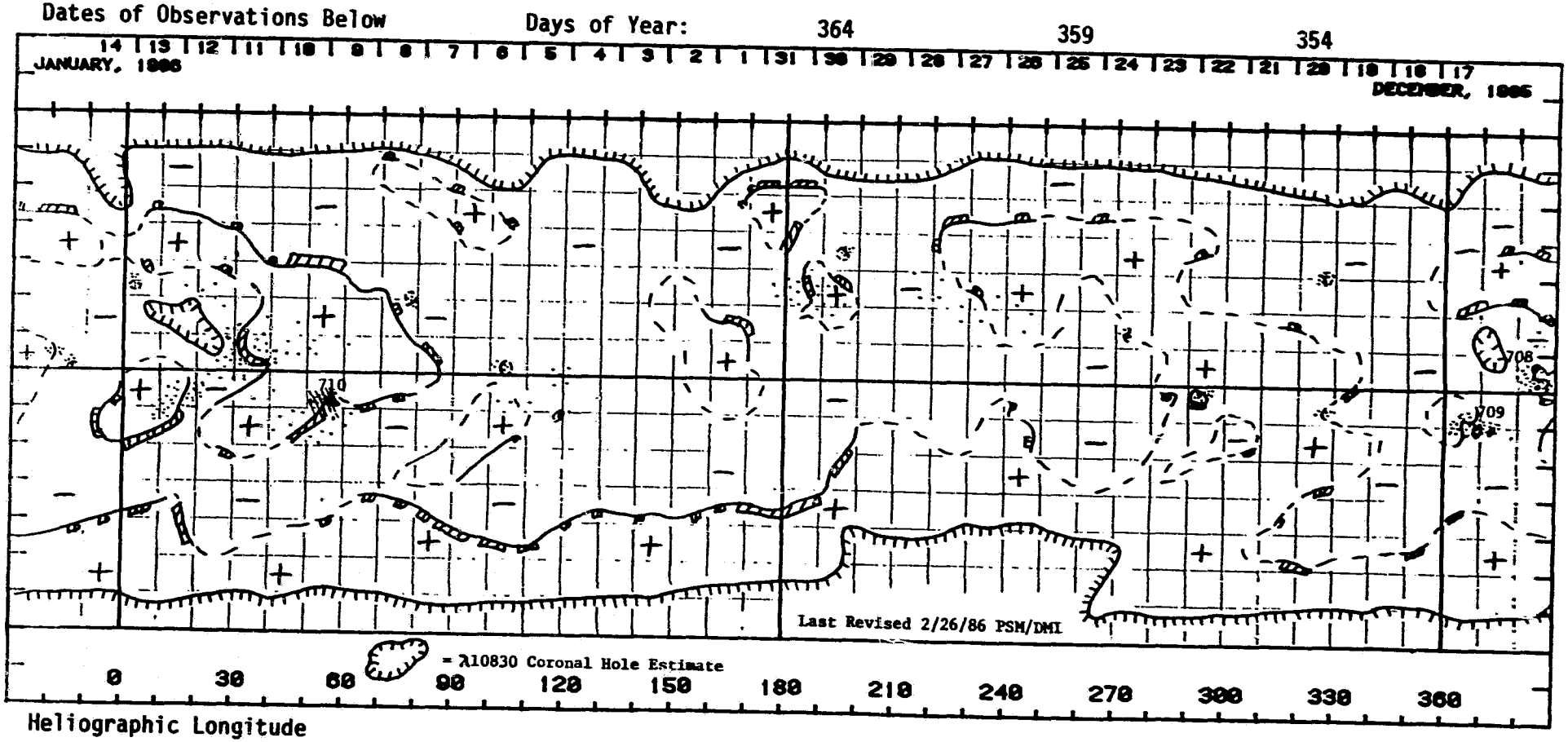
27 Dec 85

28 Dec 85

PRELIMINARY H-ALPHA SOLAR SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1770

(December 17, 1985, to January 14, 1986)



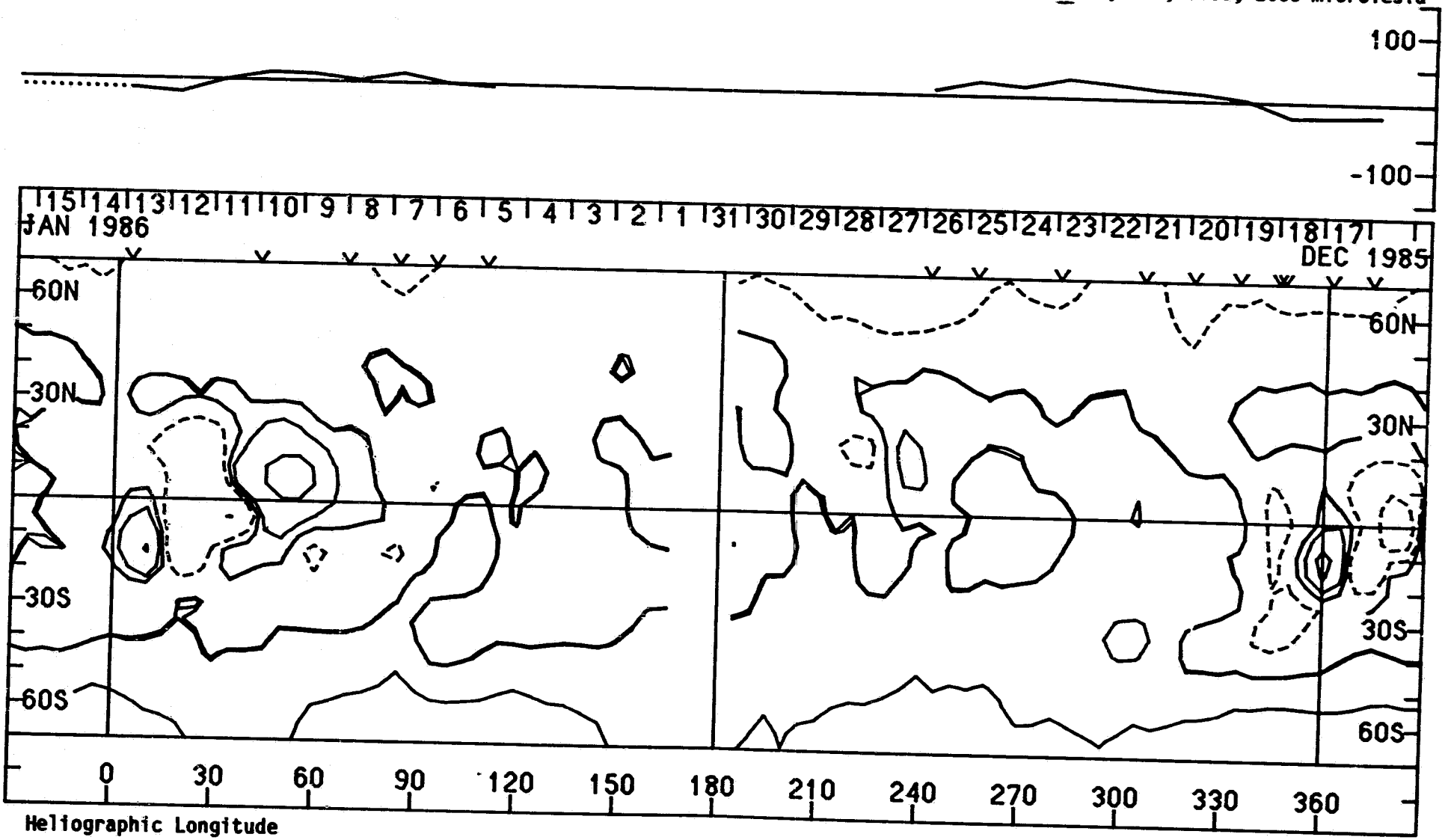
SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1770

(December 17, 1985, to January 14, 1986)

Stanford Solar Observatory

0, ±100, 500, 1000, 2000 microTesla

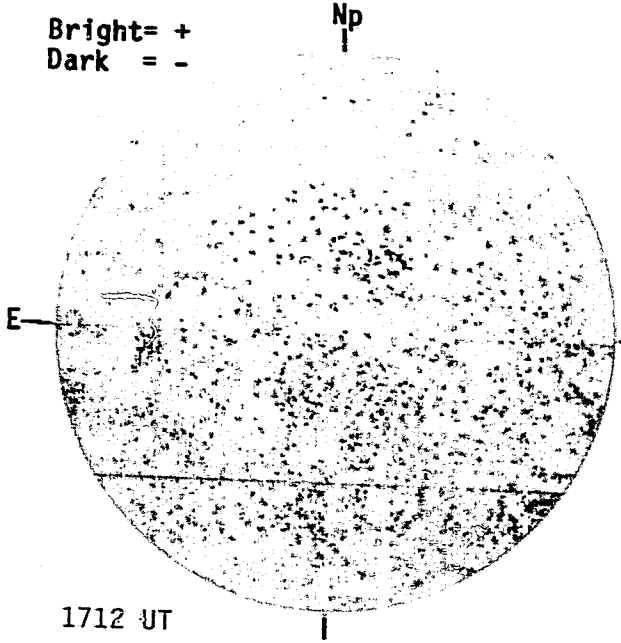


29 Dec 85

D E C E M B E R 01, 1 9 8 5 (P= 16.03, B_o= 0.89, L_o= 222.01)

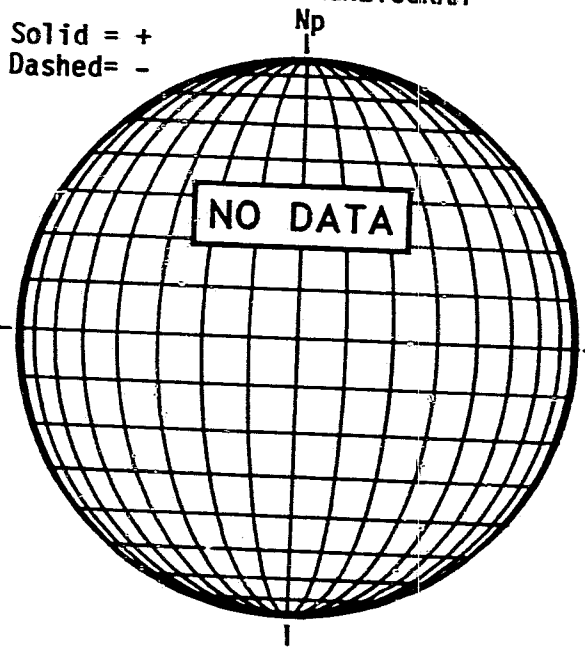
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



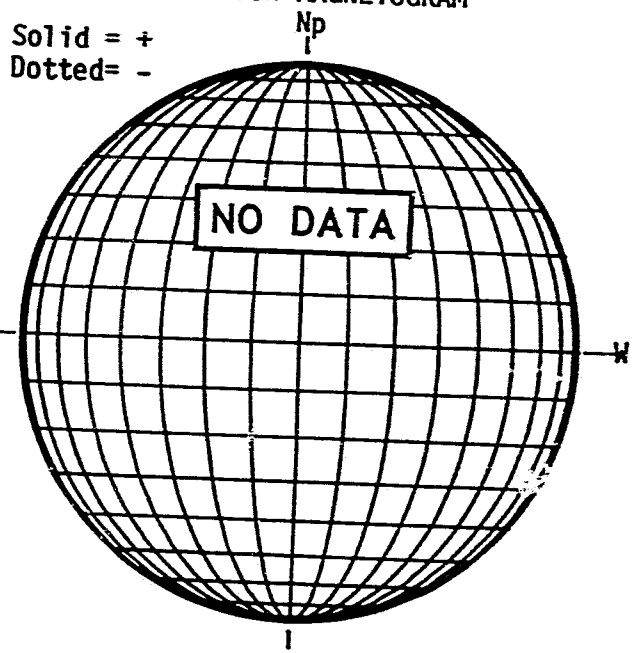
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

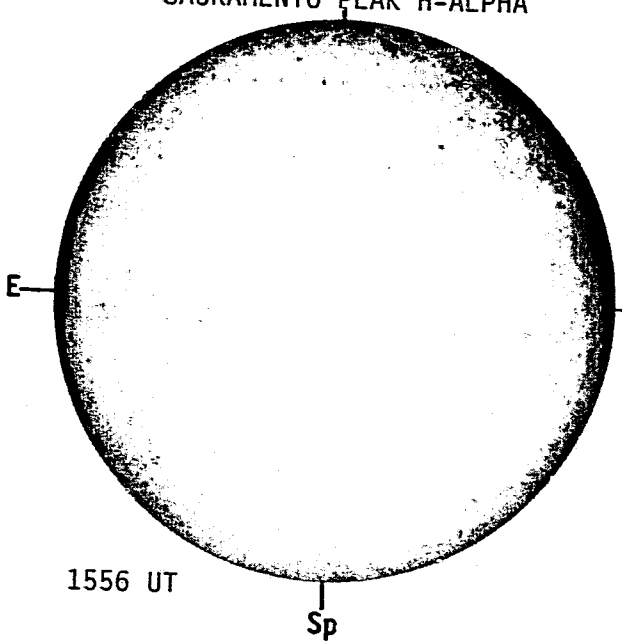


MT. WILSON MAGNETOGRAM

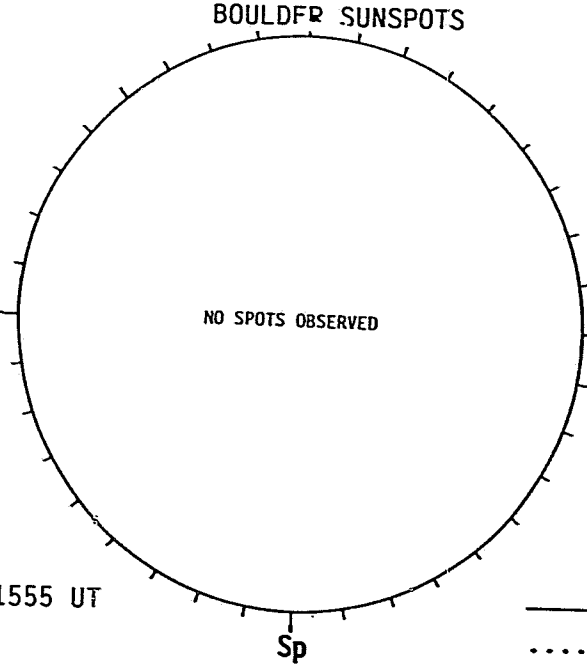
Solid = +
Dotted= -



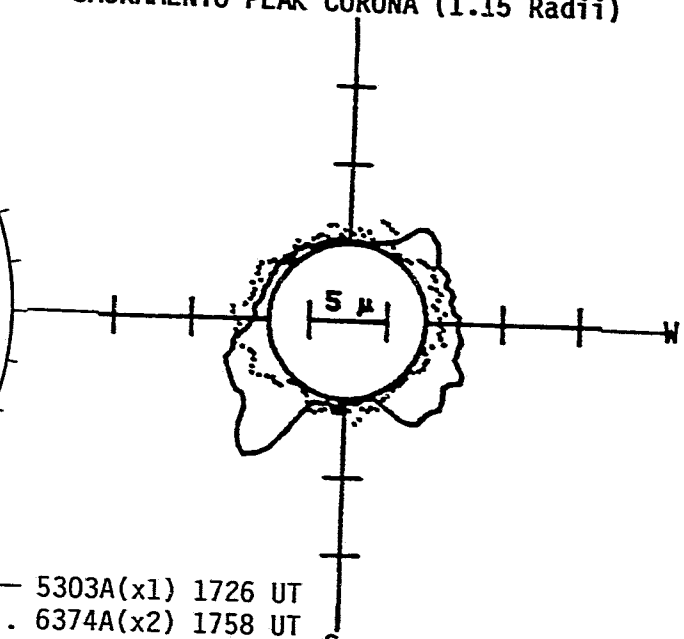
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

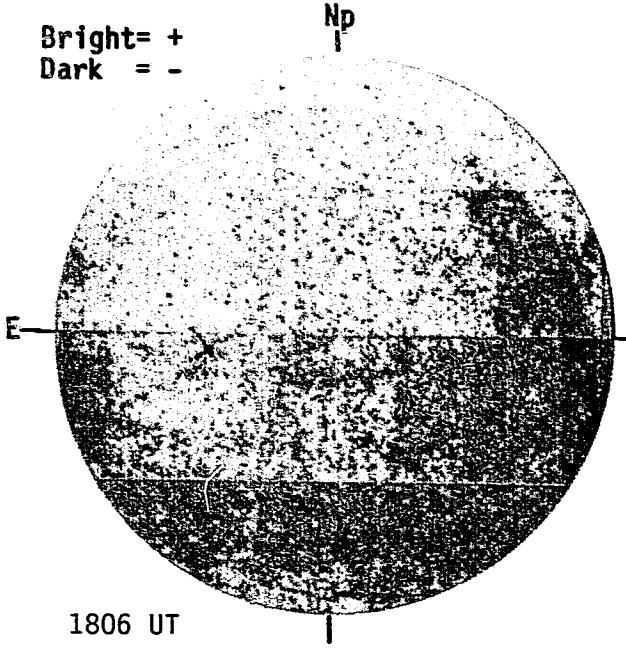


—— 5303A(x1) 1726 UT
.... 6374A(x2) 1758 UT
xxxx 5694A(x6) 1744 UT
NO 5894A ACTIVITY TODAY

D E C E M B E R 02, 1 9 8 5 (P= 15.64, B_0= 0.76, L_0= 208.83)

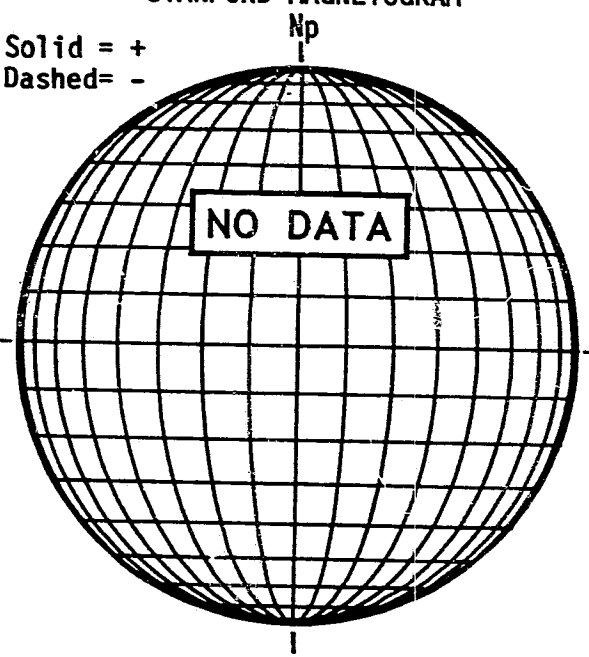
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



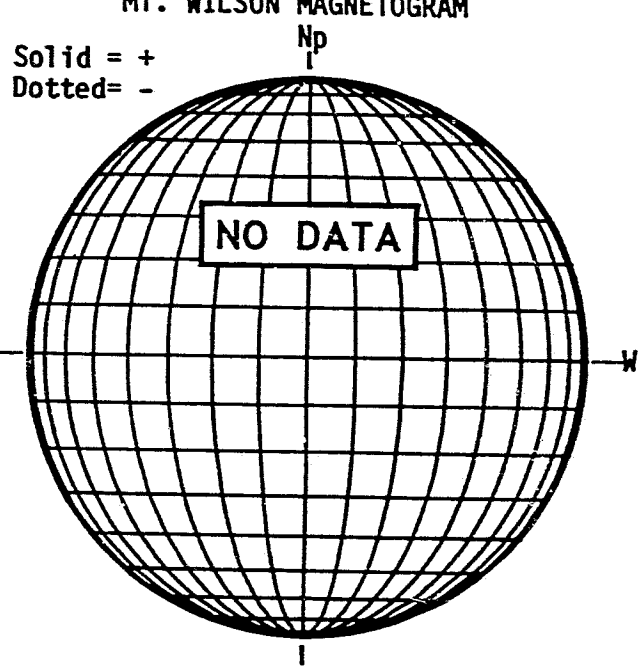
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

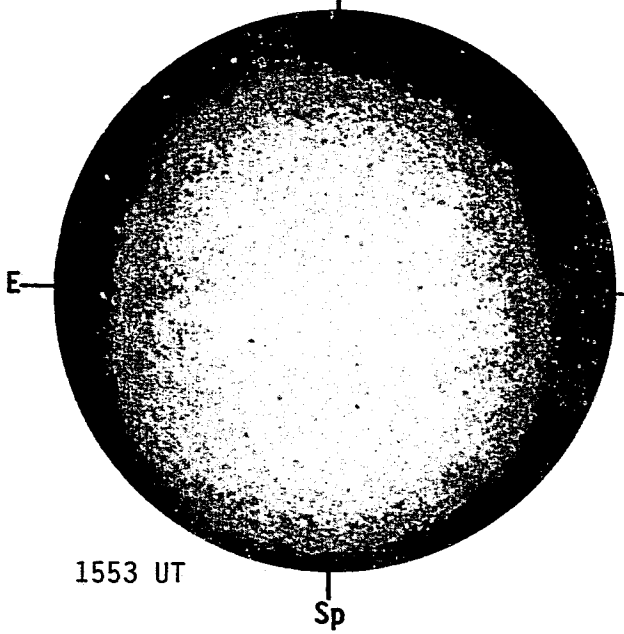


MT. WILSON MAGNETOGRAM

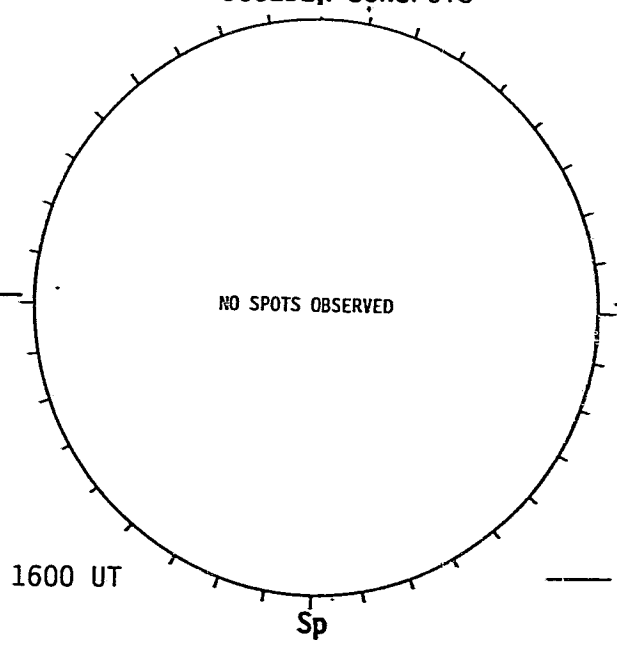
Solid = +
Dotted= -



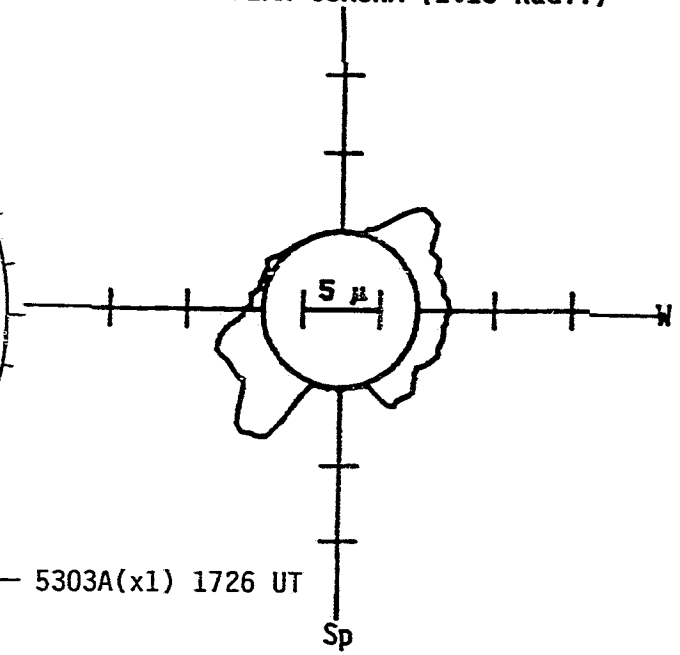
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



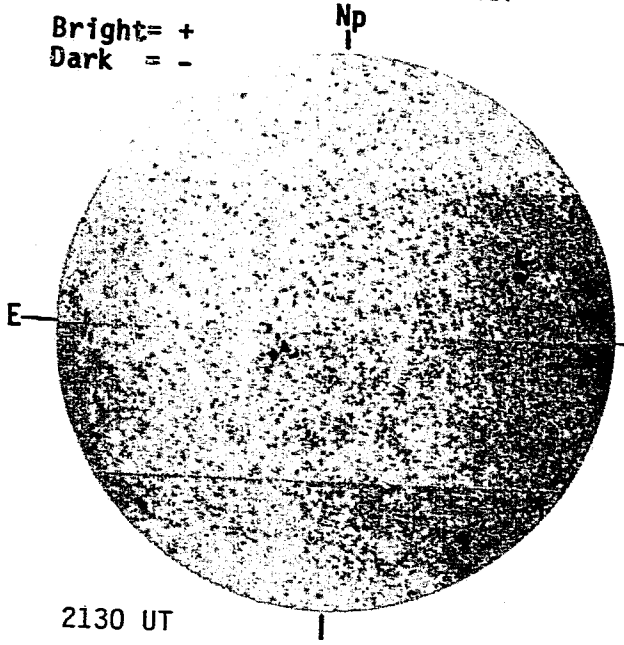
SACRAMENTO PEAK CORONA (1.15 Radii)



DECEMBER 03, 1985 (P= 15.25, B_o= 0.64, L_o= 195.65)

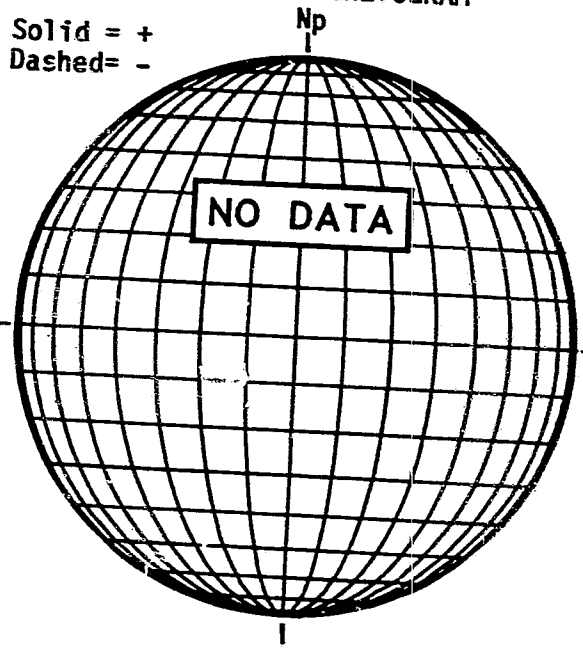
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

Solid = +
Dashed= -

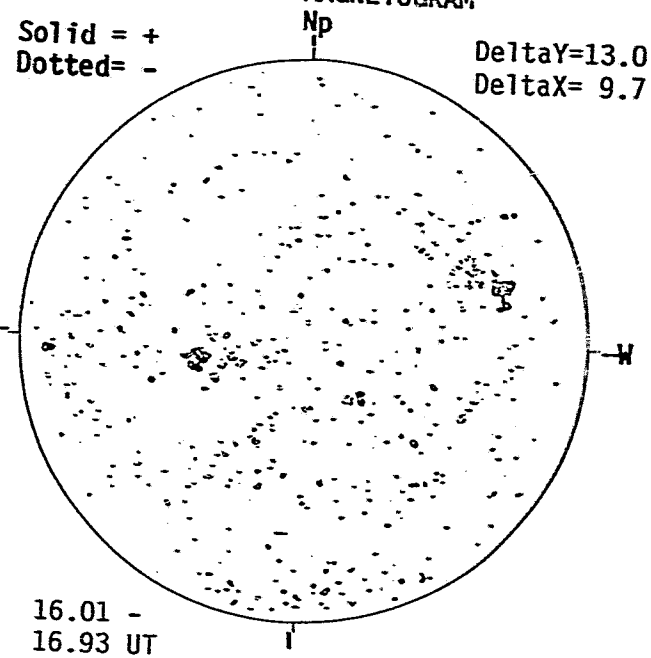


MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

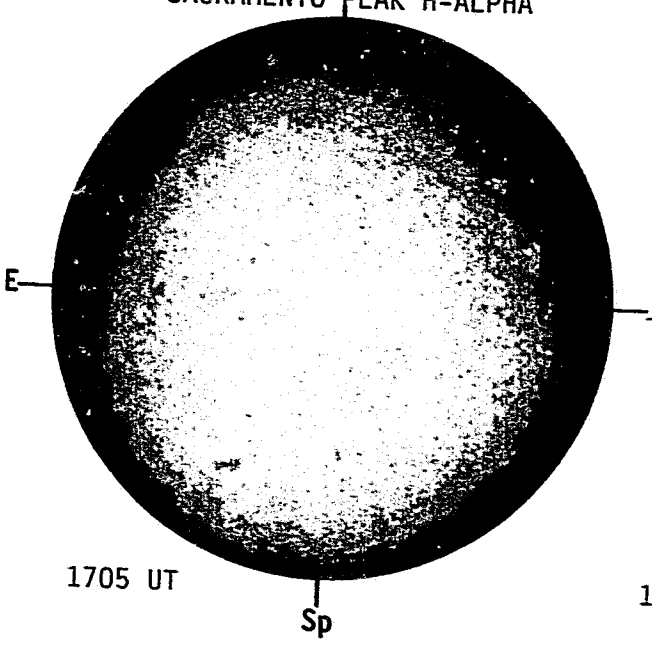
DeltaY=13.0
DeltaX= 9.7

Dec 85 32

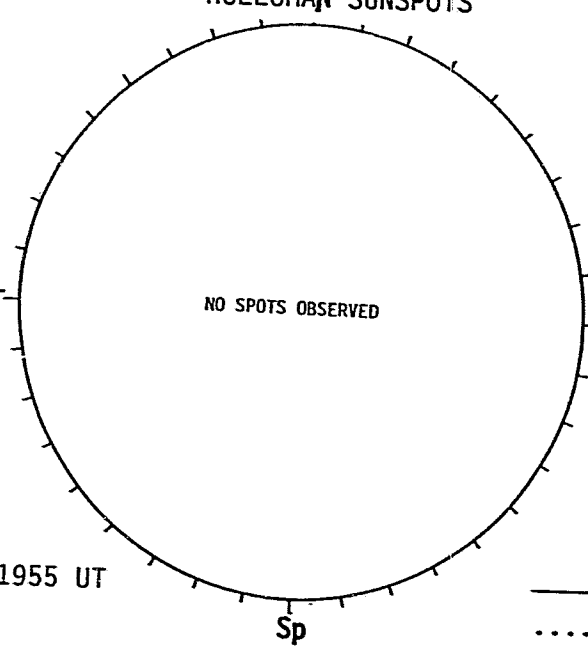


16.01 -
16.93 UT

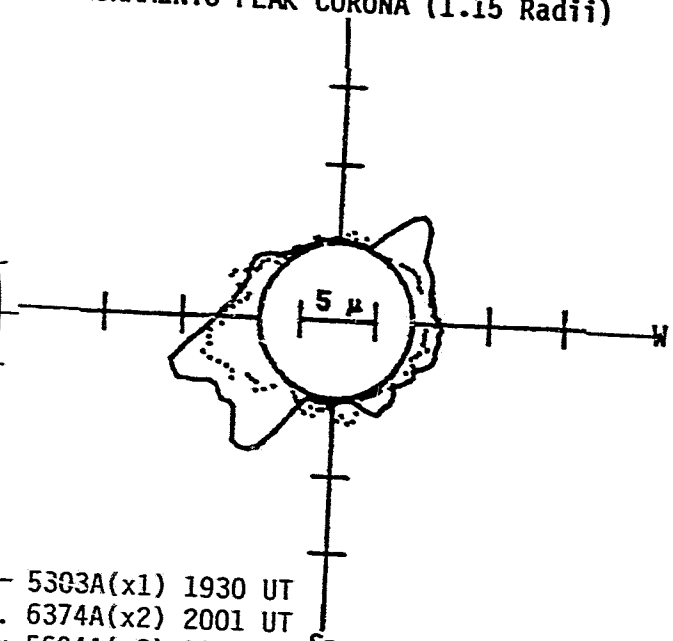
SACRAMENTO PEAK H-ALPHA



HOLLOMAN SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

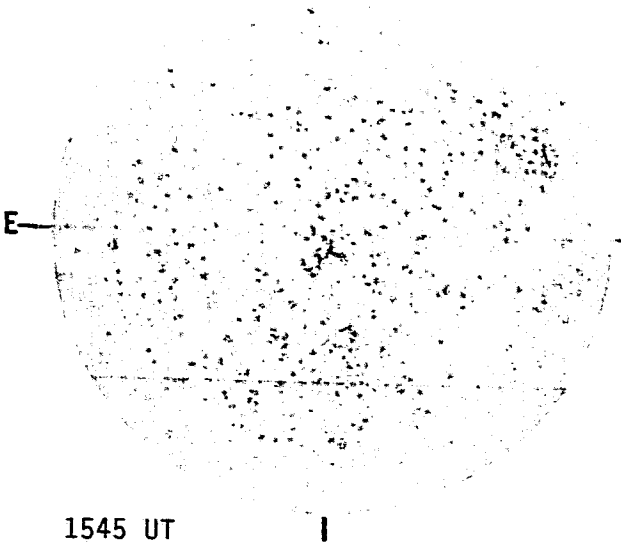


—— 5303A(x1) 1930 UT
.... 6374A(x2) 2001 UT
xxxx 5694A(x6) 1949 UT
NO 5894A ACTIVITY TODAY

DECEMBER 04, 1985 (P= 14.85, B_o= 0.51, L_o= 182.47)

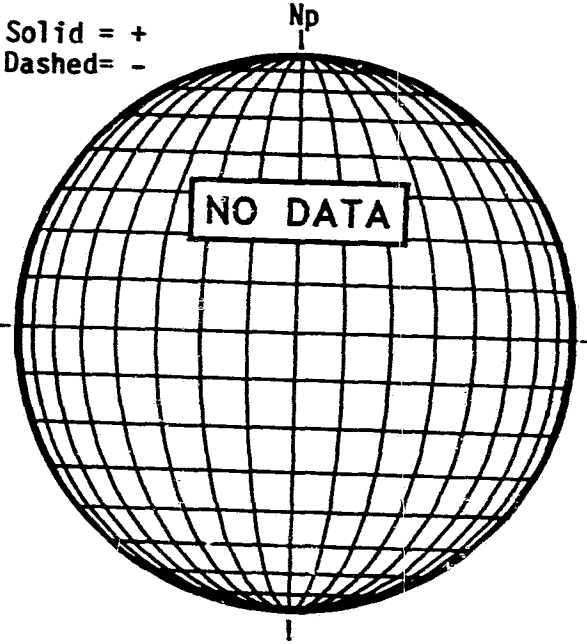
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

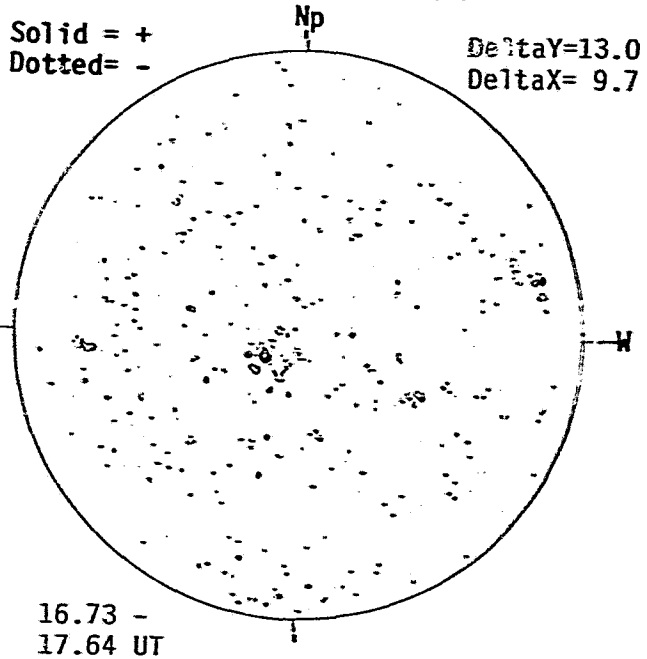
Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

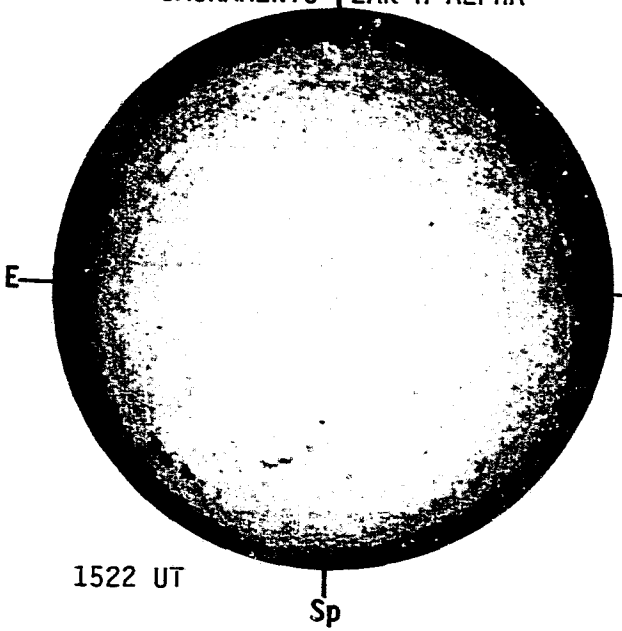
Solid = +
Dotted= -

DeltaY=13.0
DeltaX= 9.7

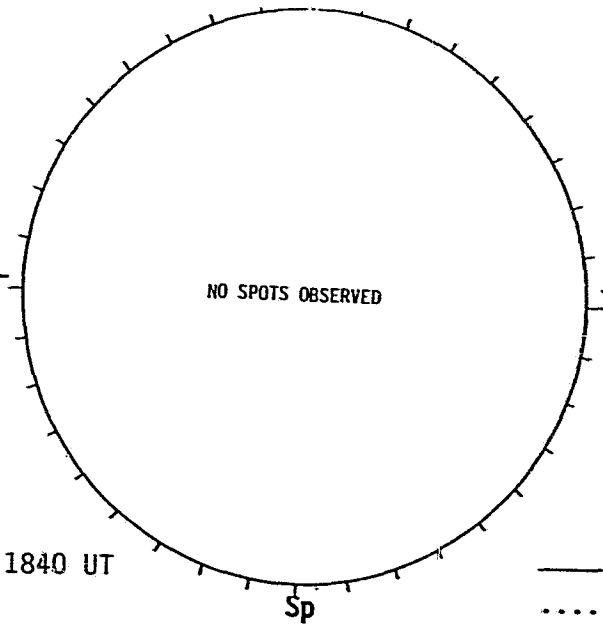


16.73 -
17.64 UT

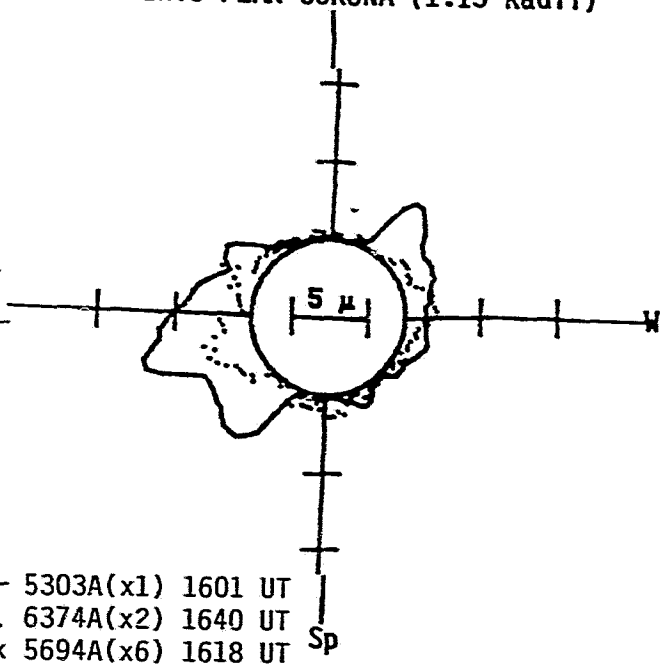
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

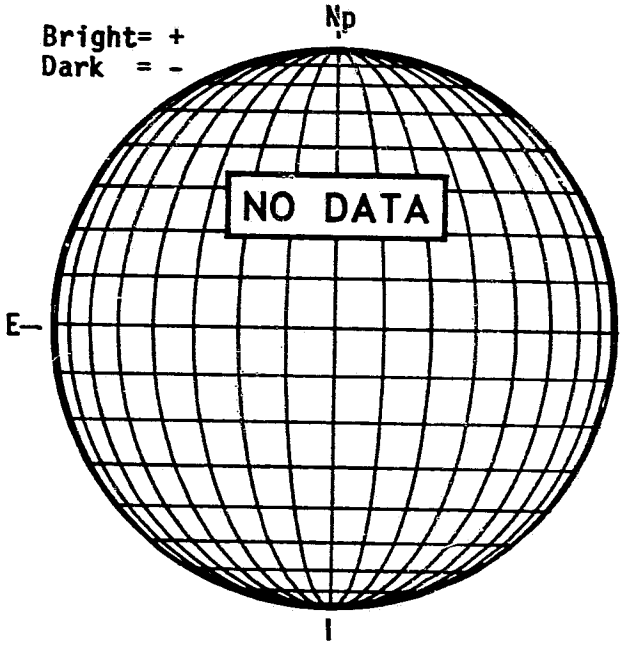


—— 5303A(x1) 1601 UT
.... 6374A(x2) 1640 UT
xxxx 5694A(x6) 1618 UT
NO 5894A ACTIVITY TODAY

DECEMBER 05, 1985 (P= 14.45, B_o= 0.39, L_o= 169.29)

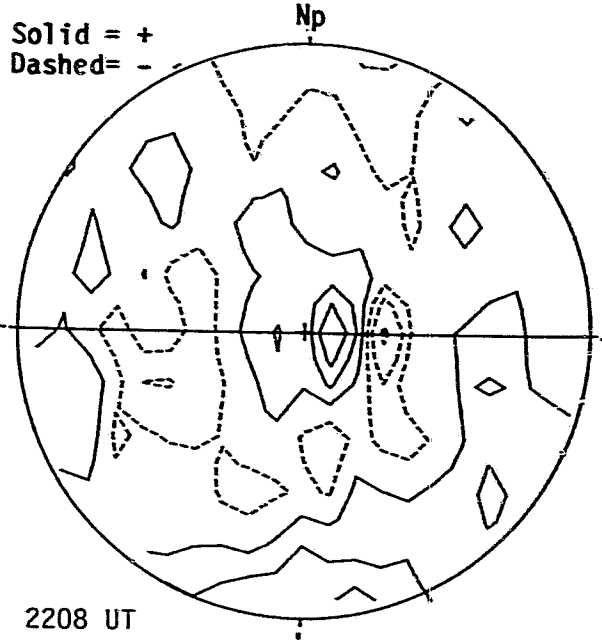
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

Solid = +
Dashed= -

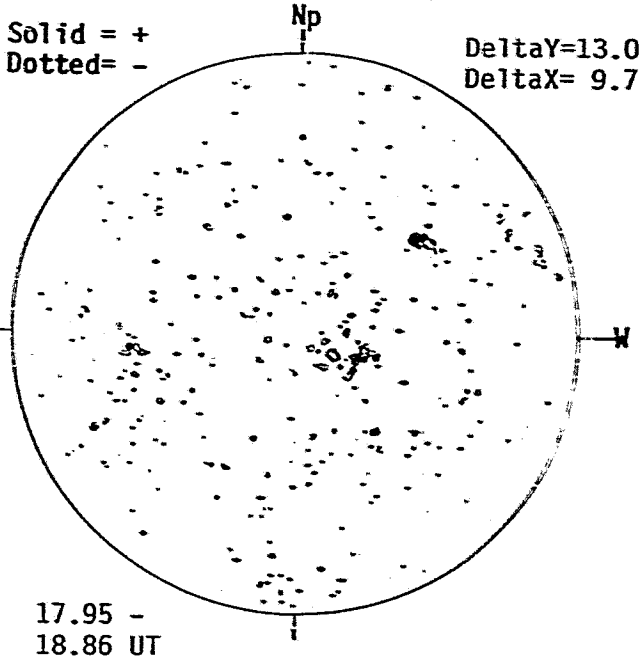


2208 UT

MT. WILSON MAGNETOGRAM

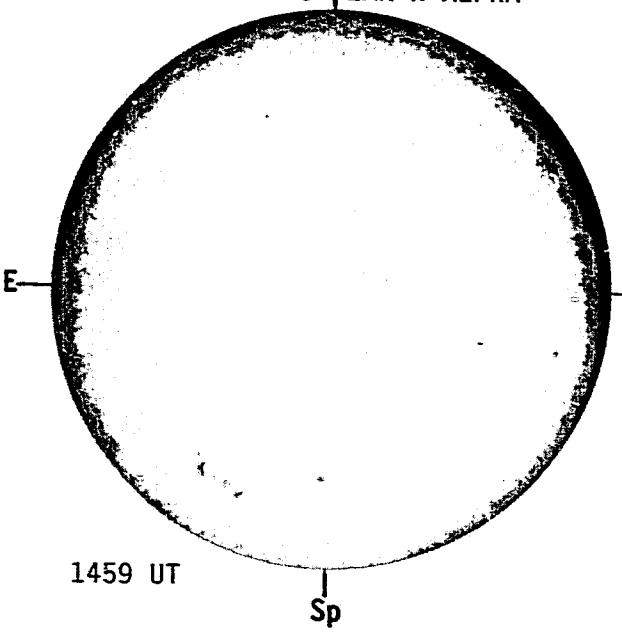
Solid = +
Dotted= -

DeltaY=13.0
DeltaX= 9.7



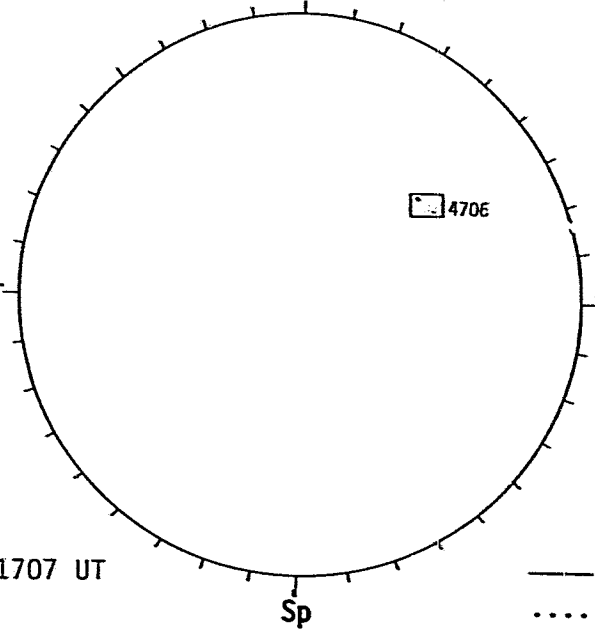
17.95 -
18.86 UT

SACRAMENTO PEAK H-ALPHA



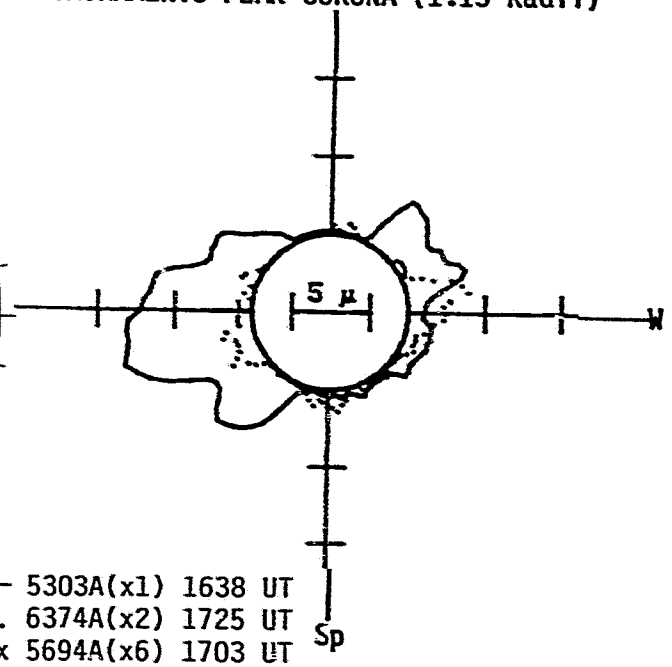
1459 UT

HOLLOMAN SUNSPOTS



1707 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

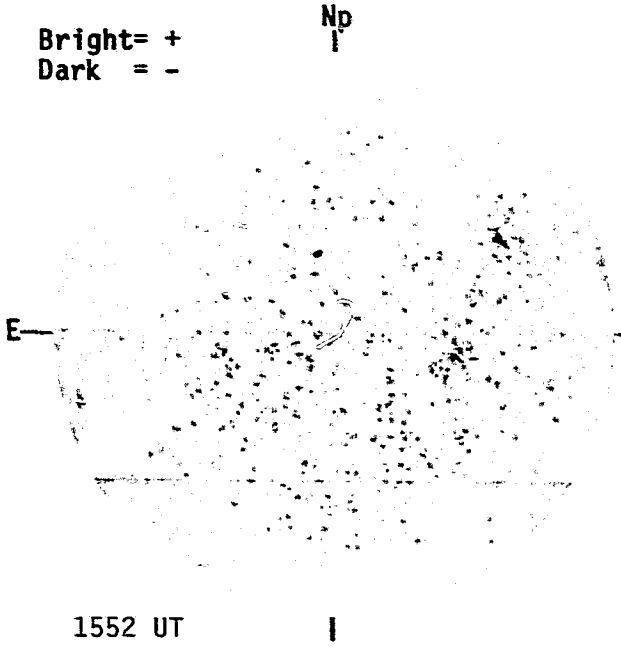


—— 5303A(x1) 1638 UT
.... 6374A(x2) 1725 UT
xxxx 5694A(x6) 1703 UT
NO 5894A ACTIVITY TODAY

D E C E M B E R 06, 1 9 8 5 (P= 14.04, B_o= 0.26, L_o= 156.12)

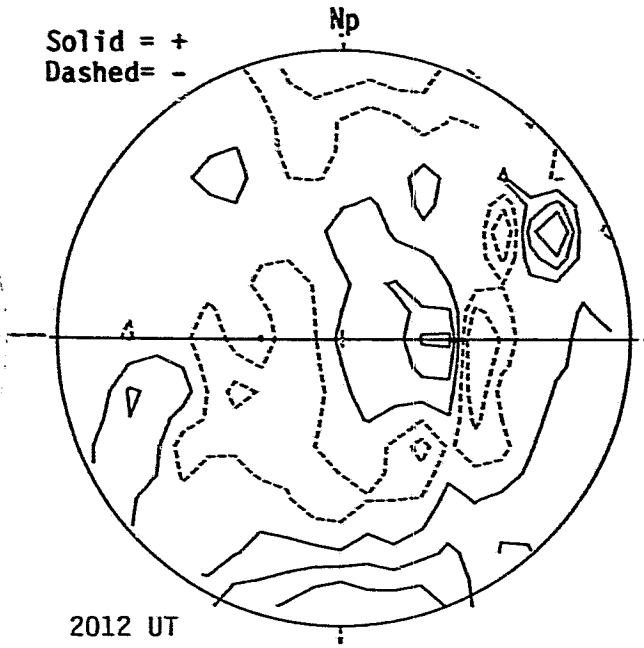
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



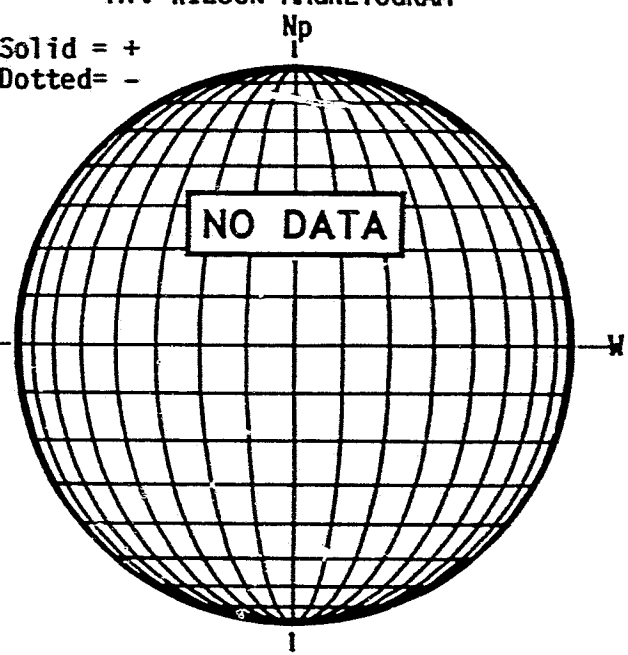
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

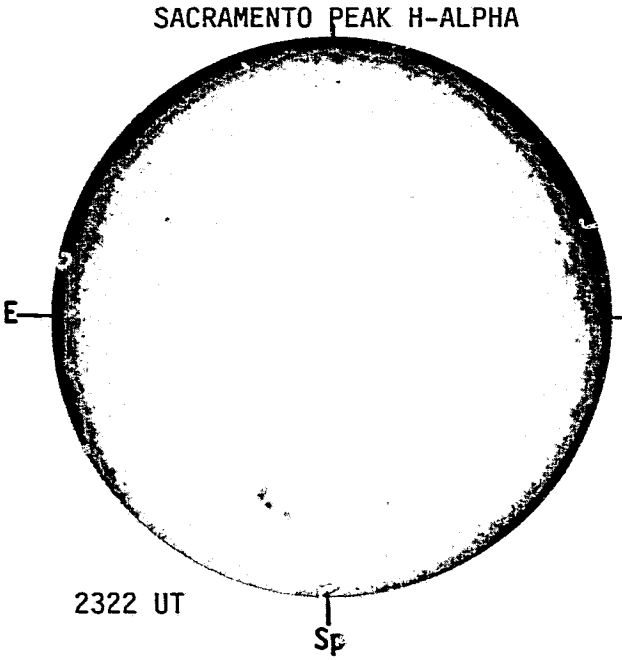


MT. WILSON MAGNETOGRAM

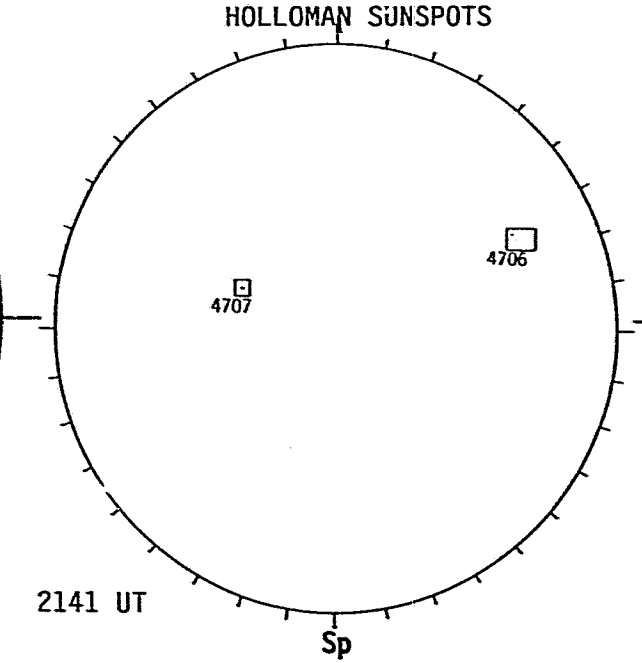
Solid = +
Dotted= -



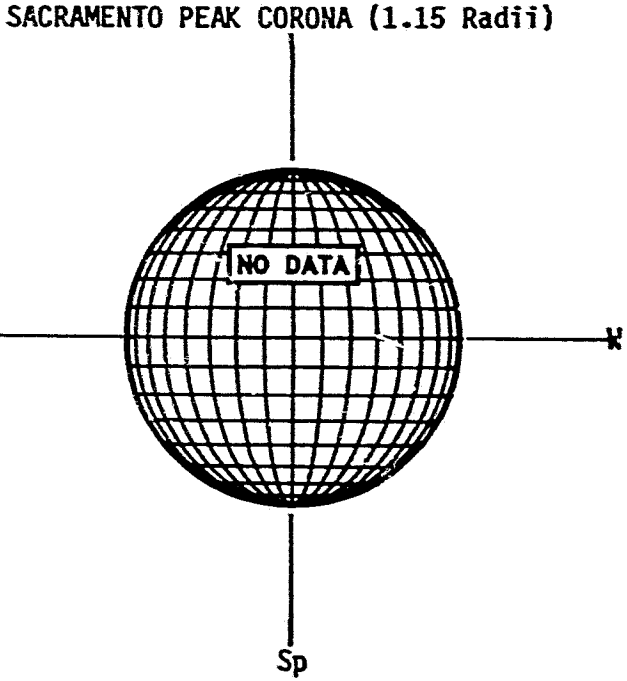
SACRAMENTO PEAK H-ALPHA



HOLLOMAN SUNSPOTS



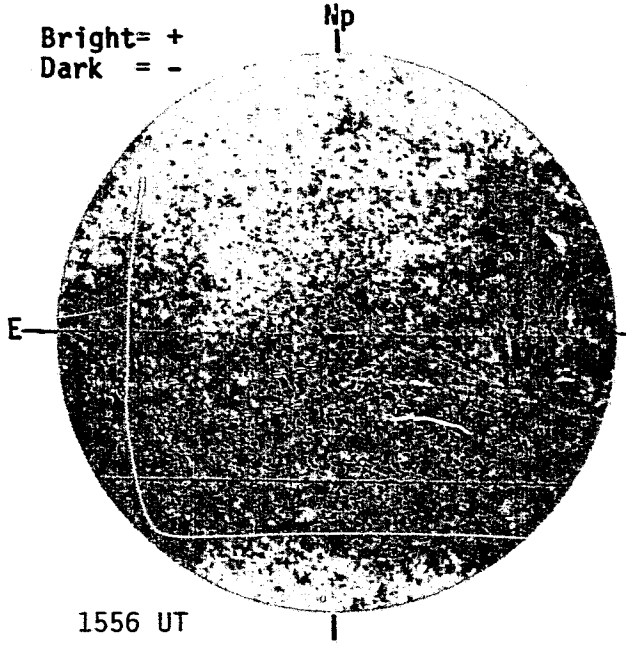
SACRAMENTO PEAK CORONA (1.15 Radii)



D E C E M B E R 07, 1 9 8 5 (P= 13.62, B_0= 0.13, L_0= 142.94)

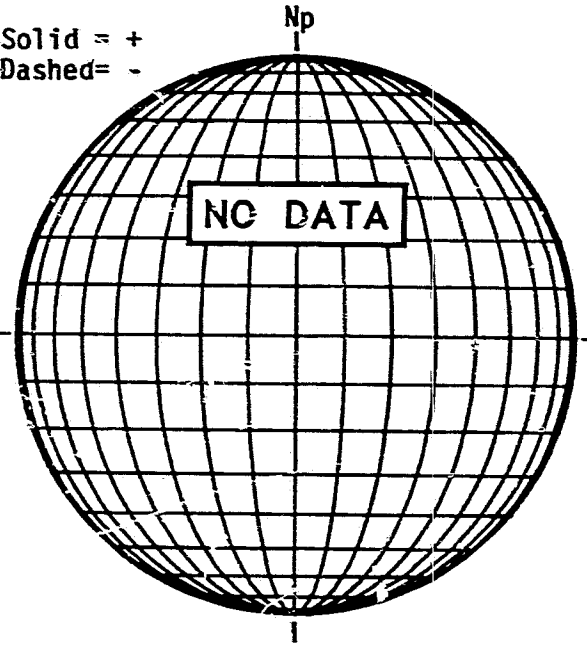
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

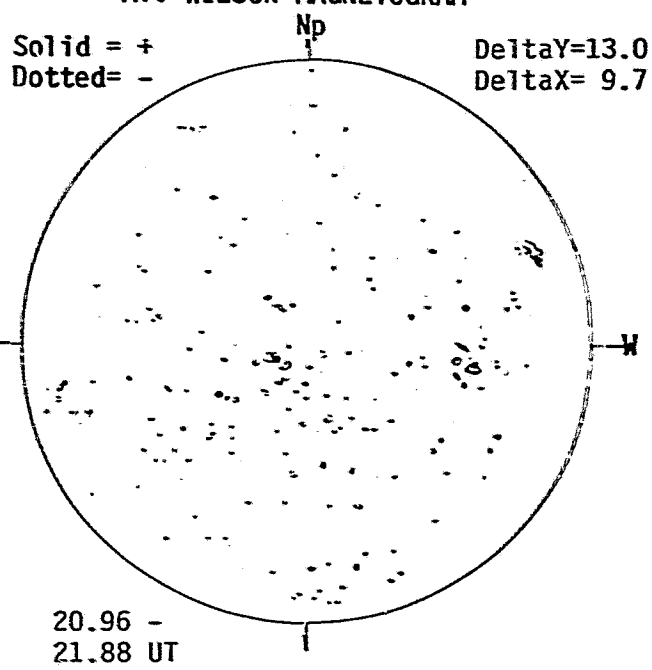
Solid = +
Dashed= -



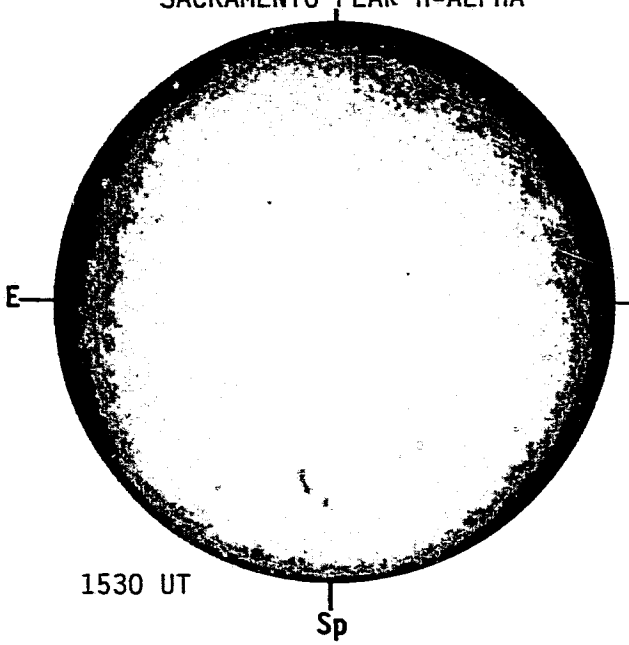
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

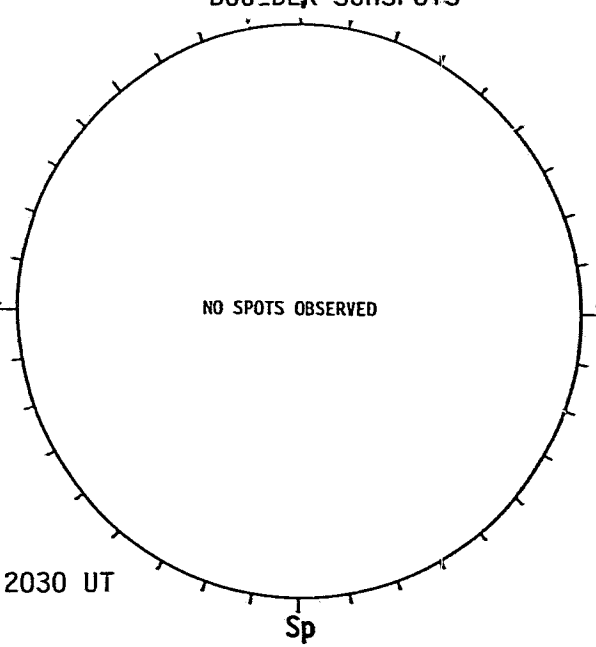
DeltaY=13.0
DeltaX= 9.7



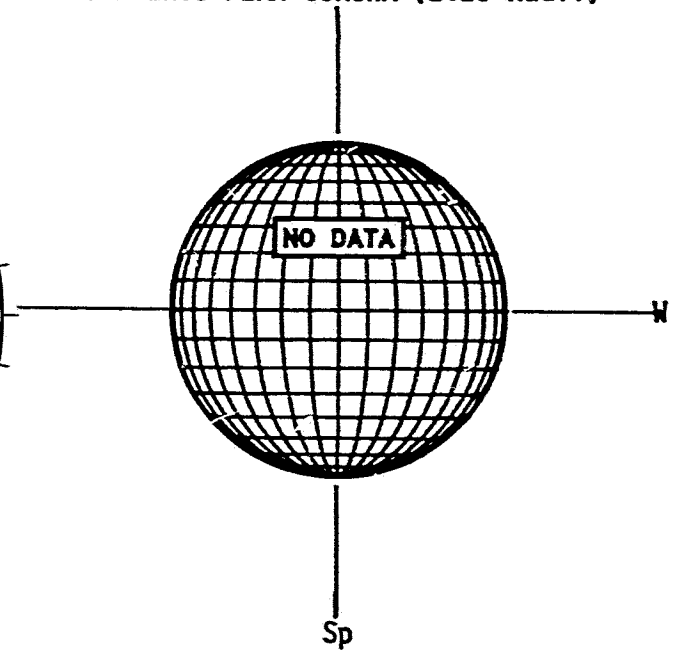
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



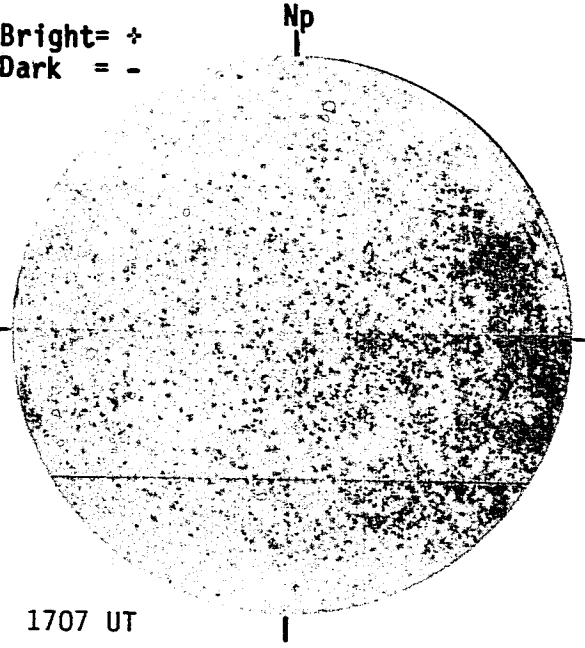
SACRAMENTO PEAK CORONA (1.15 Radii)



D E C E M B E R 08, 1 9 8 5 (P= 13.20, B_0= 0.01, L_0= 129.76)

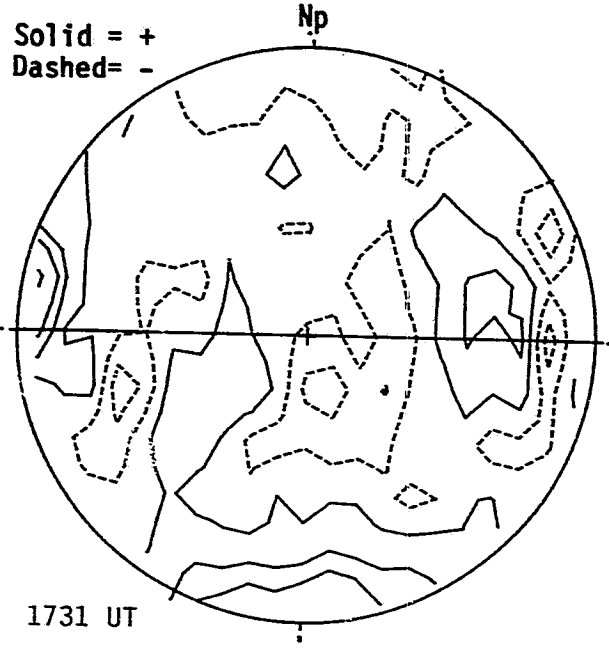
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

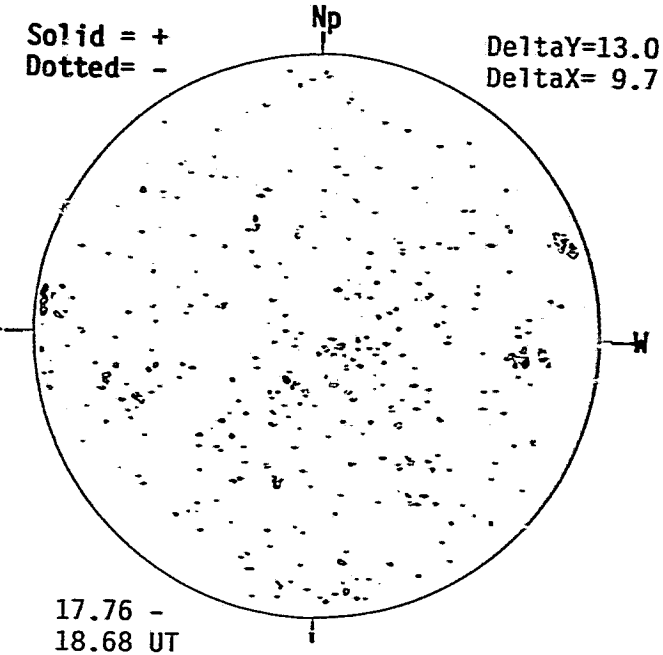
Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

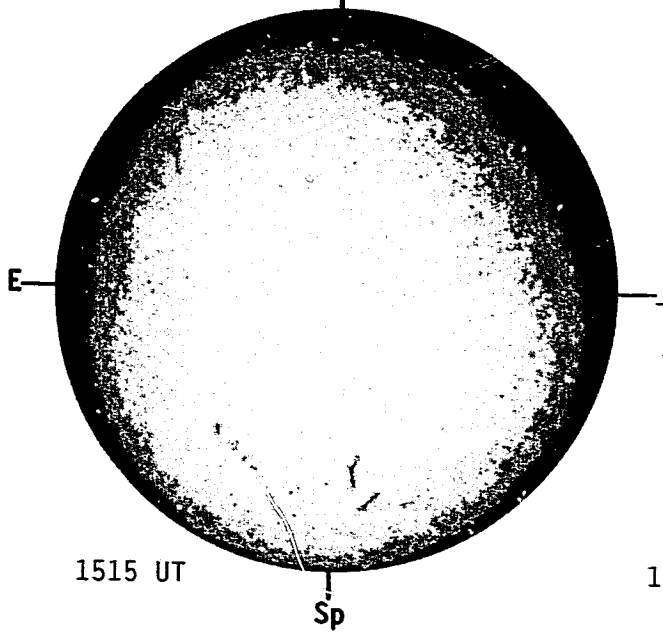
Solid = +
Dotted= -

DeltaY=13.0
DeltaX= 9.7

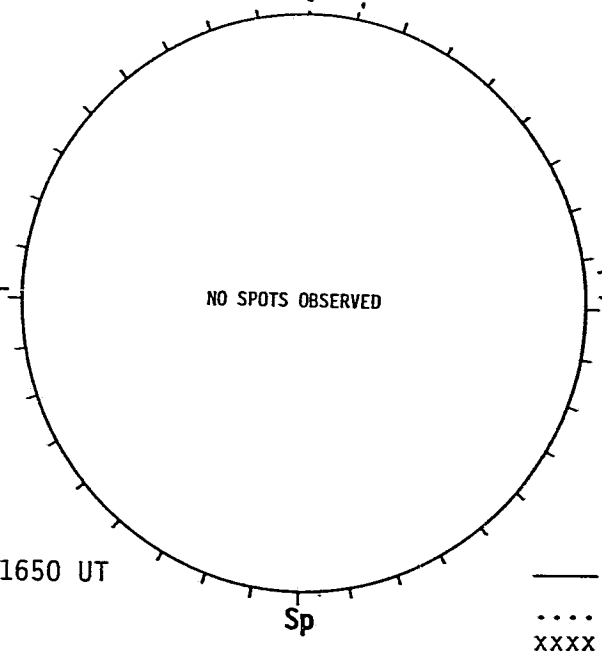


17.76 -
18.68 UT

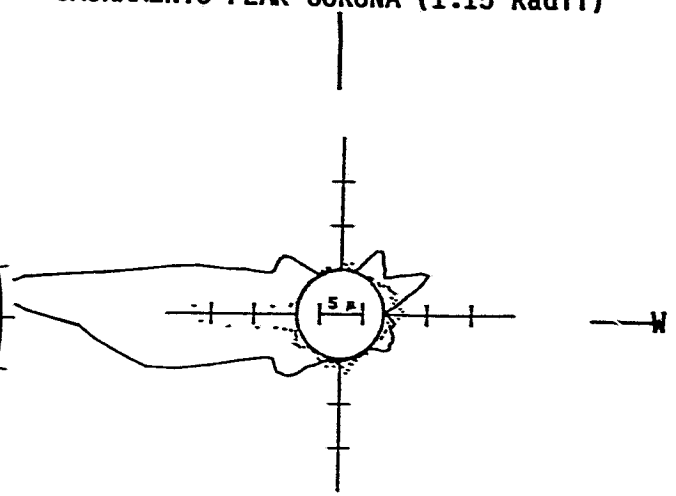
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



—— 5303A(x1) 1554 UT
.... 6374A(x2) 1644 UT
xxxx 5694A(x6) 1624 UT
NO 5894A ACTIVITY TODAY

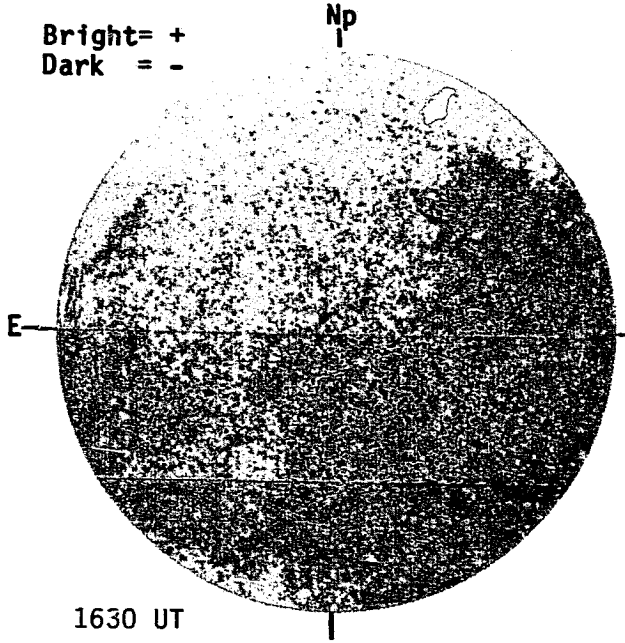
Sp

37
Dec 85

D E C E M B E R 09, 1 9 8 5 (P= 12.78, B_0=-0.12, L_0= 116.59)

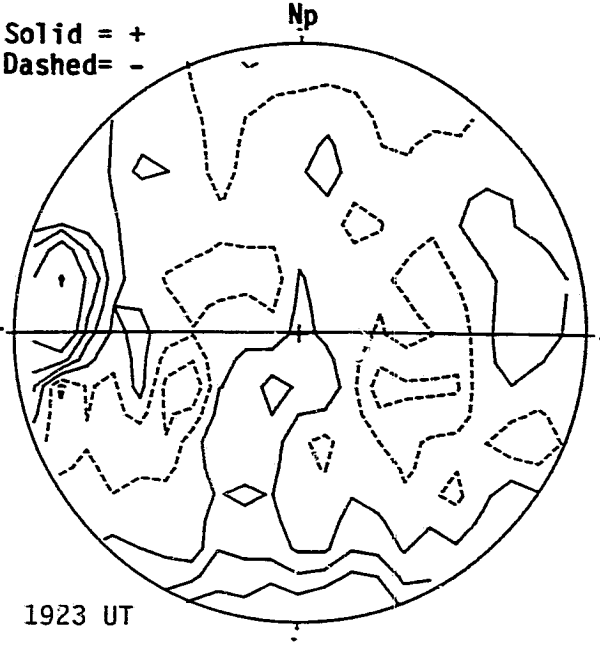
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

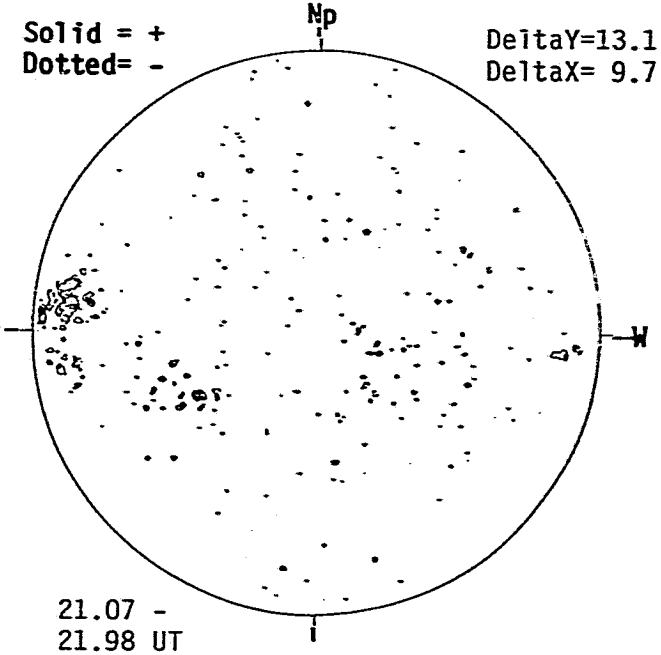
Solid = +
Dashed= -



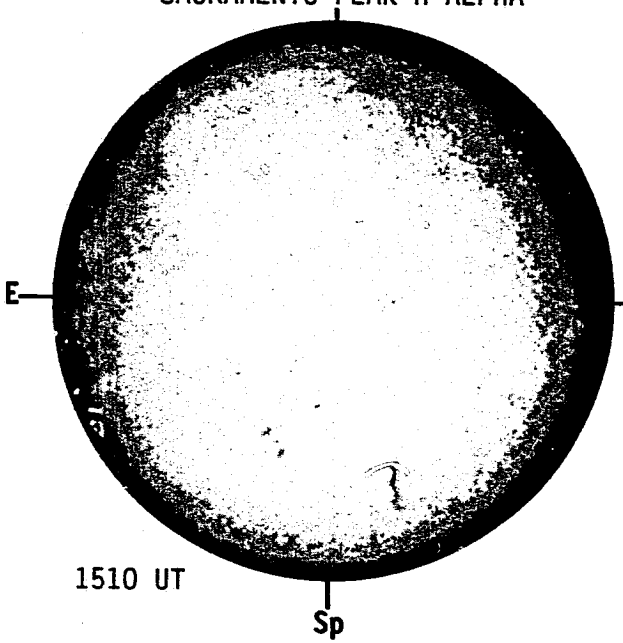
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

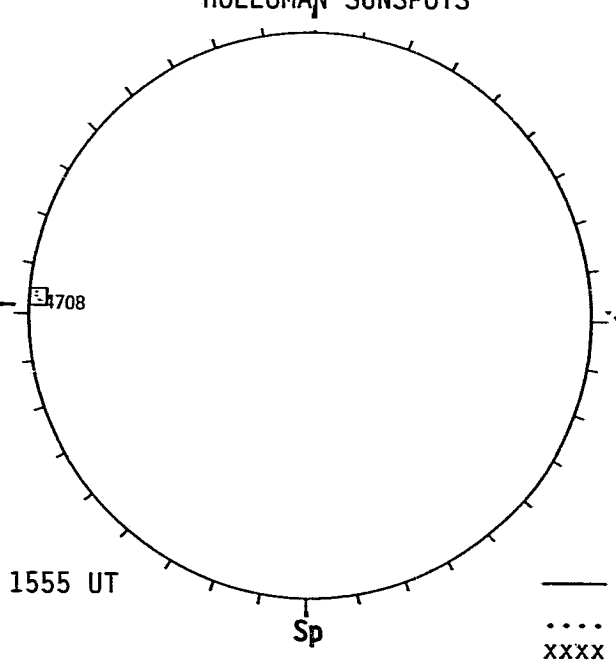
DeltaY=13.1
DeltaX= 9.7



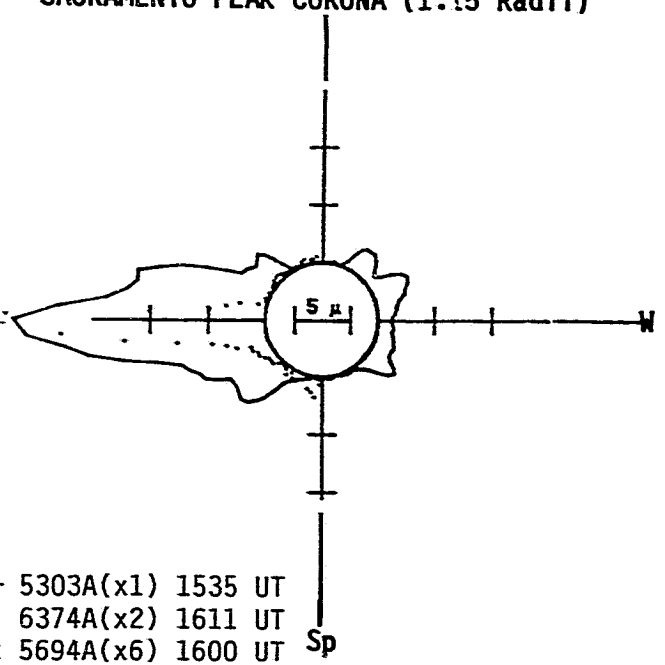
SACRAMENTO PEAK H-ALPHA



HOLLOMAN SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

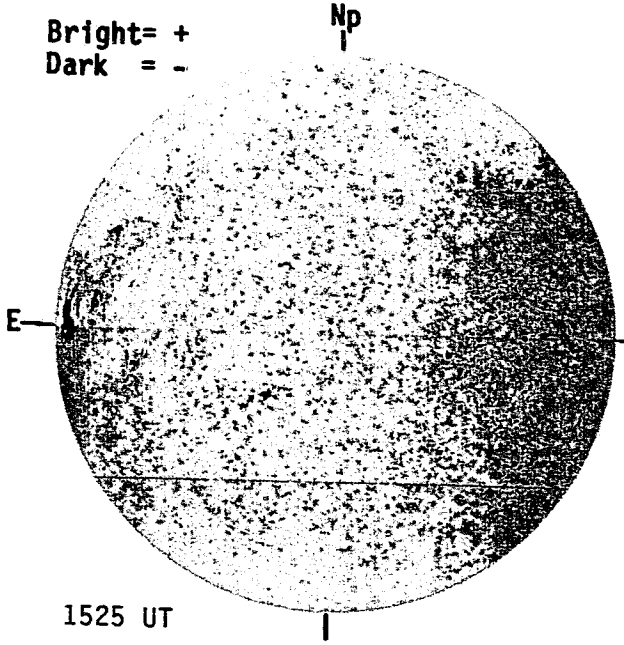


—— 5303A(x1) 1535 UT
.... 6374A(x2) 1611 UT
xxxx 5694A(x6) 1600 UT
NO 5894A ACTIVITY TODAY

DECEMBER 10, 1985 (P= 12.35, B_o=-0.24, L_o= 103.41)

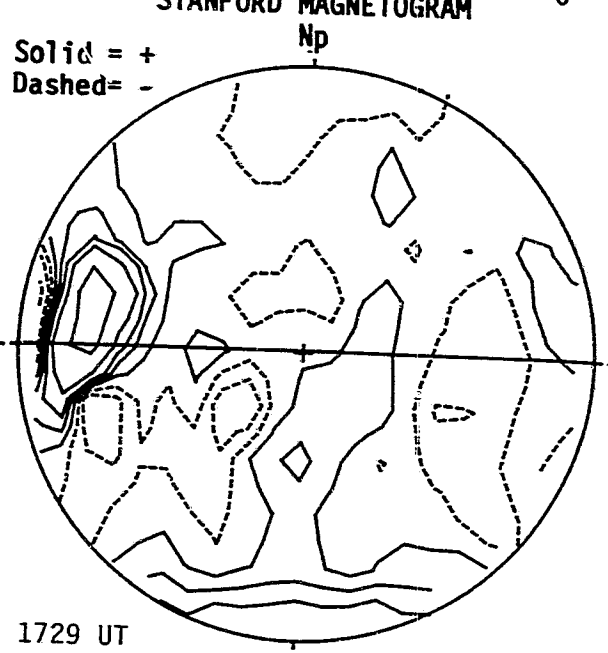
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



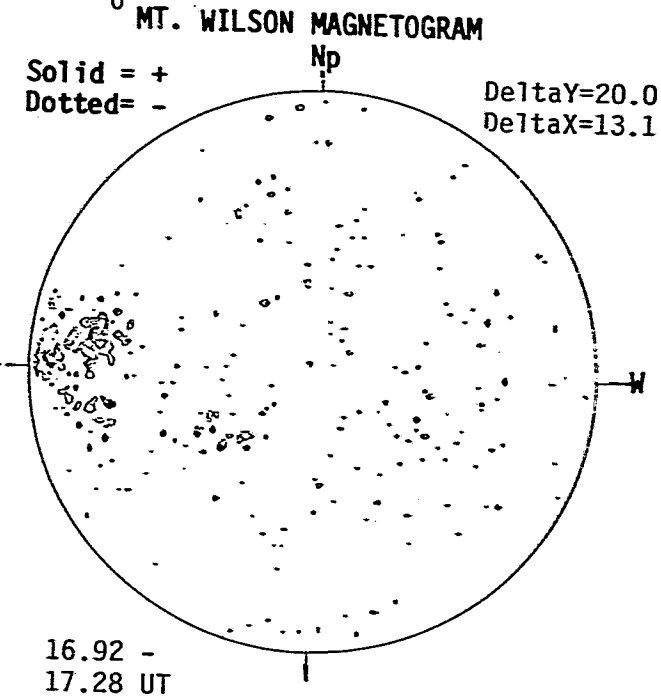
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

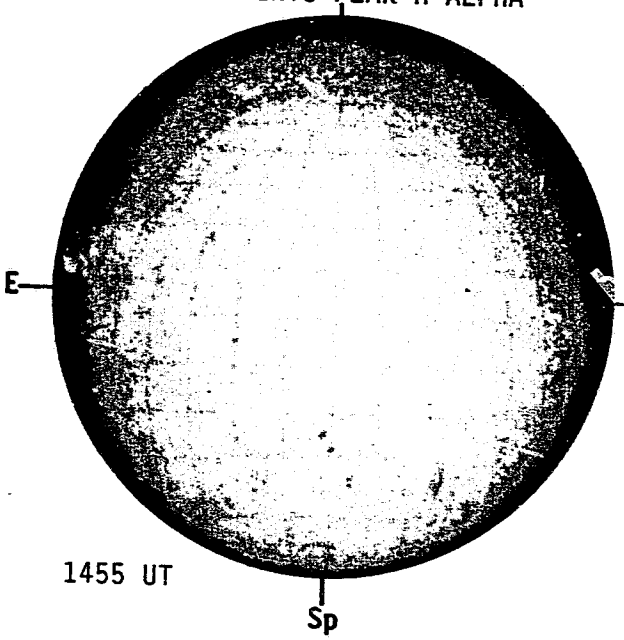


MT. WILSON MAGNETOGRAM

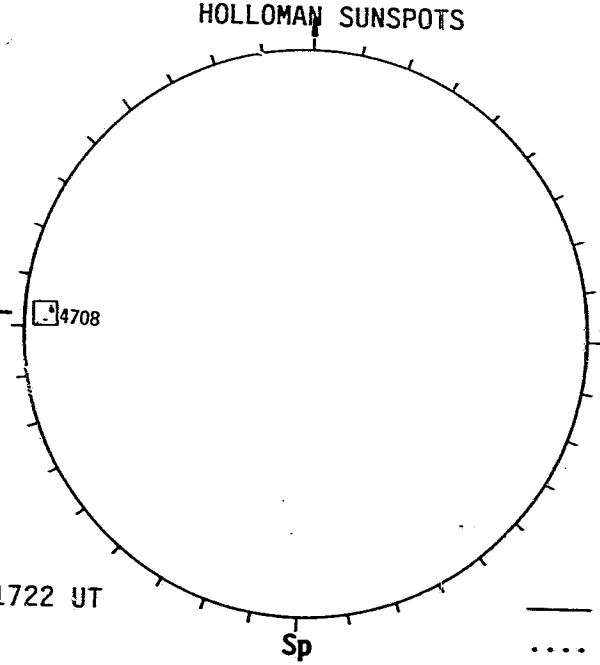
Solid = +
Dotted= -
DeltaY=20.0
DeltaX=13.1



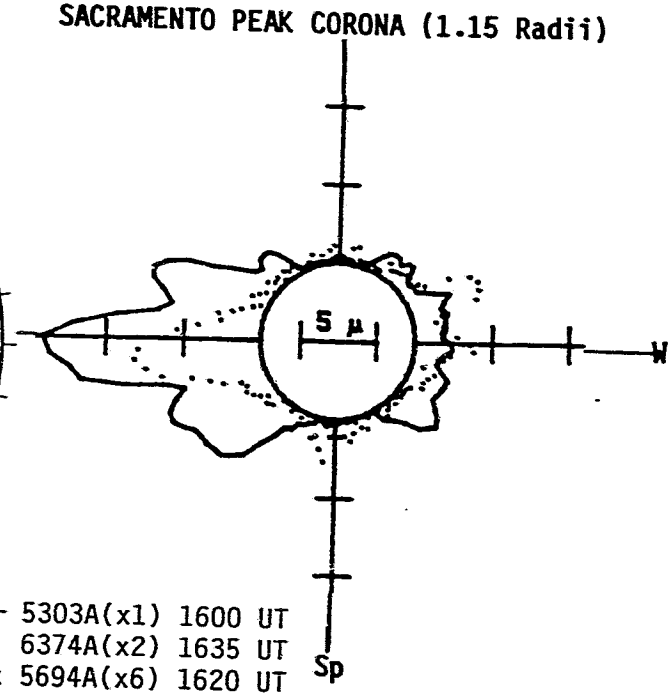
SACRAMENTO PEAK H-ALPHA



HOLLOMAN SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

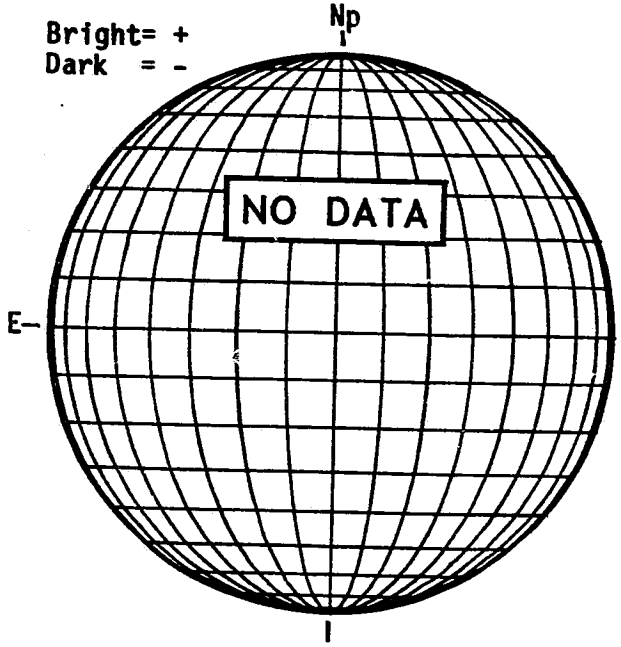


—— 5303A(x1) 1600 UT
.... 6374A(x2) 1635 UT
xxxx 5694A(x6) 1620 UT
NO 5894A ACTIVITY TODAY

DECEMBER 11, 1985 (P= 11.91, B_o=-0.37, L_o= 90.24)

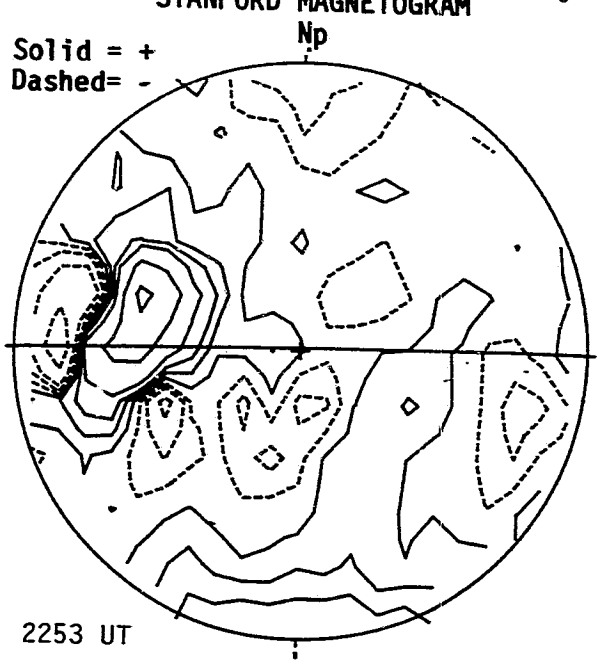
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

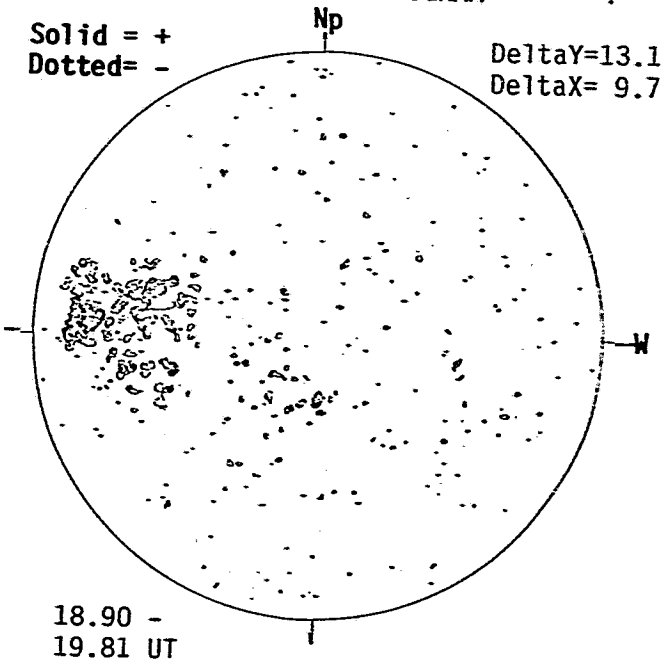
Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

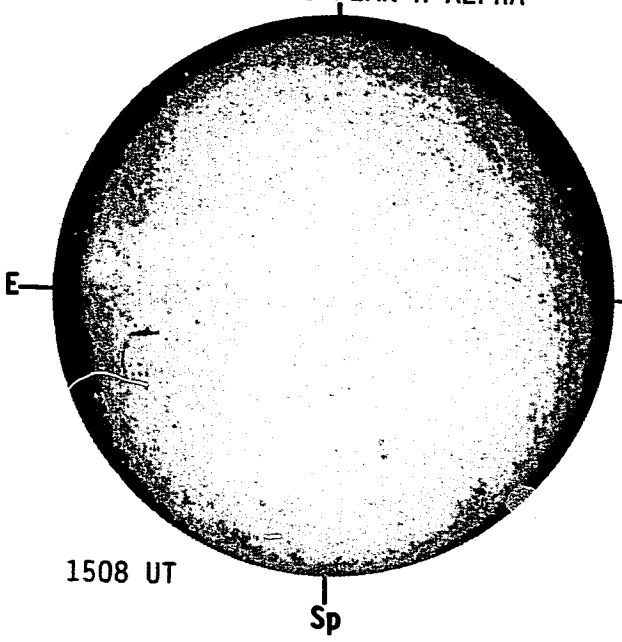
Solid = +
Dotted= -

DeltaY=13.1
DeltaX= 9.7

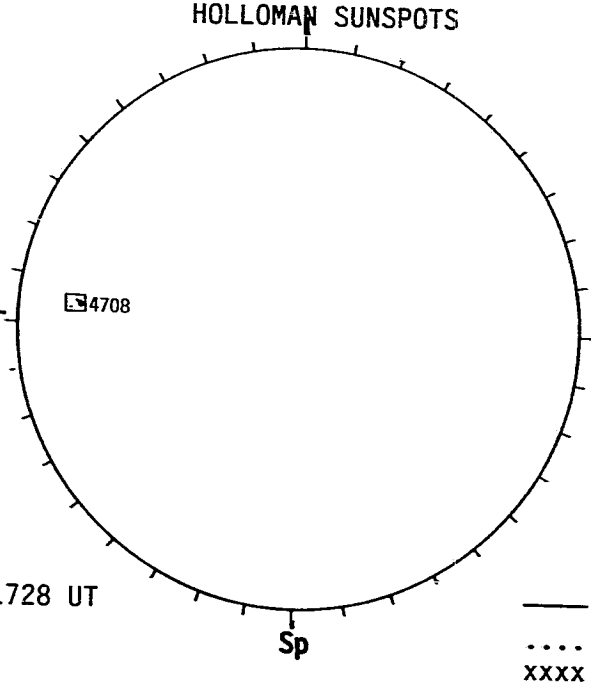


18.90 -
19.81 UT

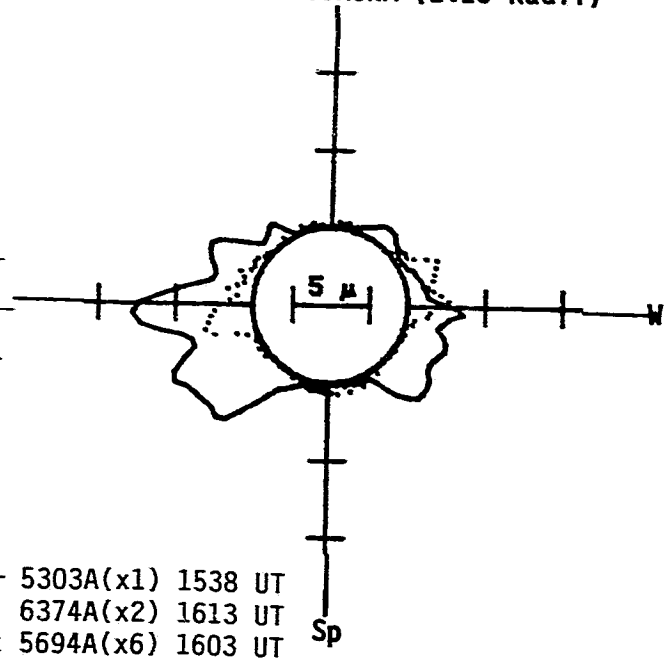
SACRAMENTO PEAK H-ALPHA



HOLLOMAN SUNSPOTS



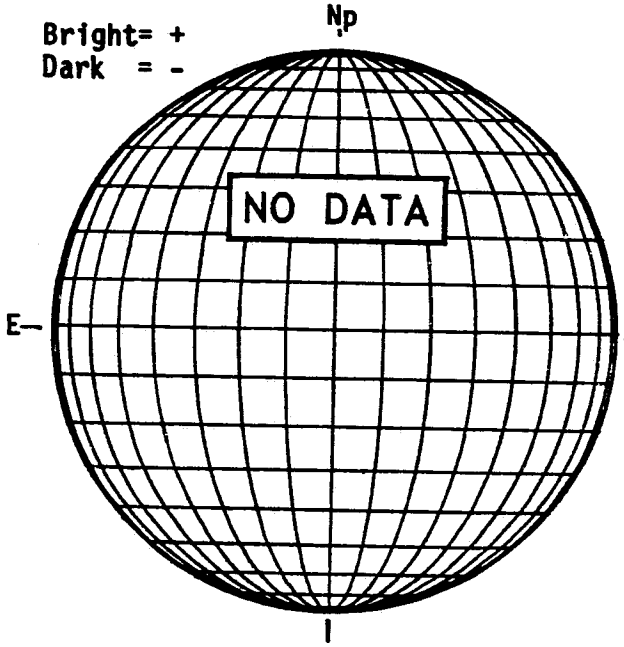
SACRAMENTO PEAK CORONA (1.15 Radii)



—— 5303A(x1) 1538 UT
.... 6374A(x2) 1613 UT
xxxx 5694A(x6) 1603 UT
NO 5894A ACTIVITY TODAY

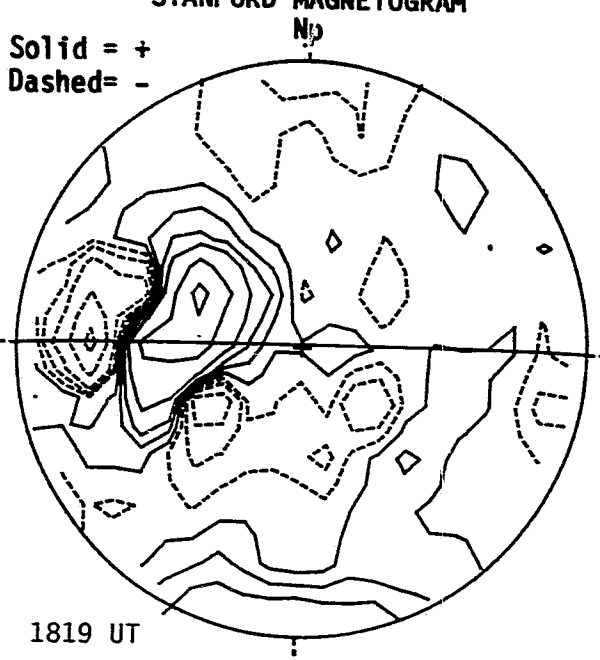
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

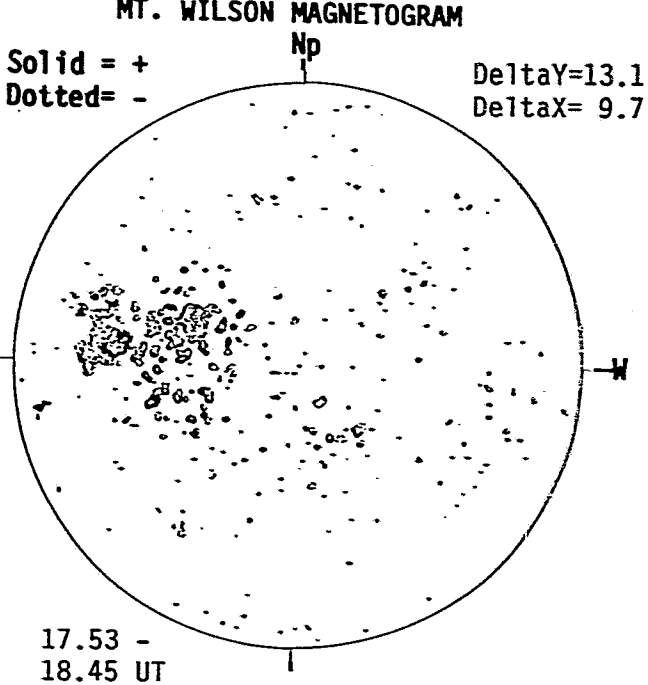
Solid = +
Dashed= -



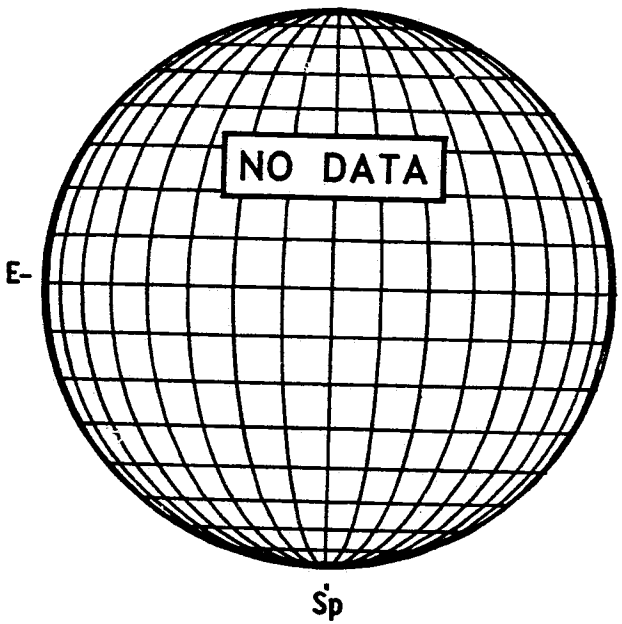
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

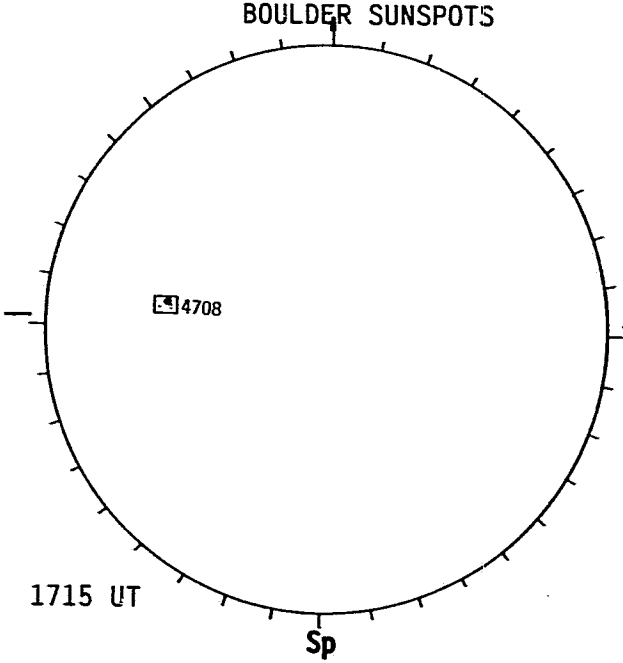
DeltaY=13.1
DeltaX= 9.7



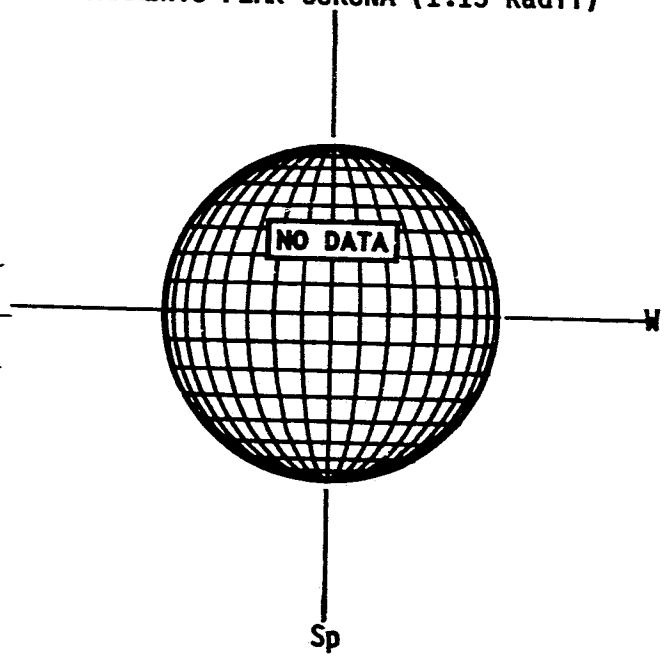
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

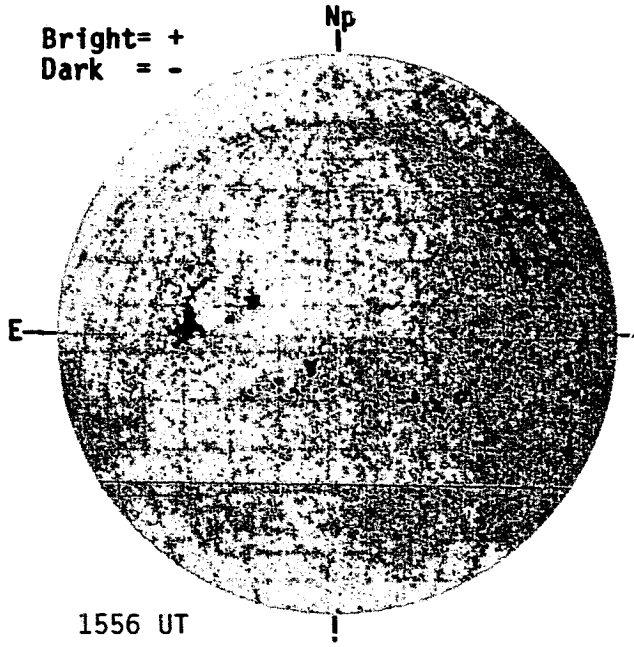


D E C E M B E R 13, 1 9 8 5 (P= 11.03, B_o=-0.62, L_o= 63.88)

Dec 85 42

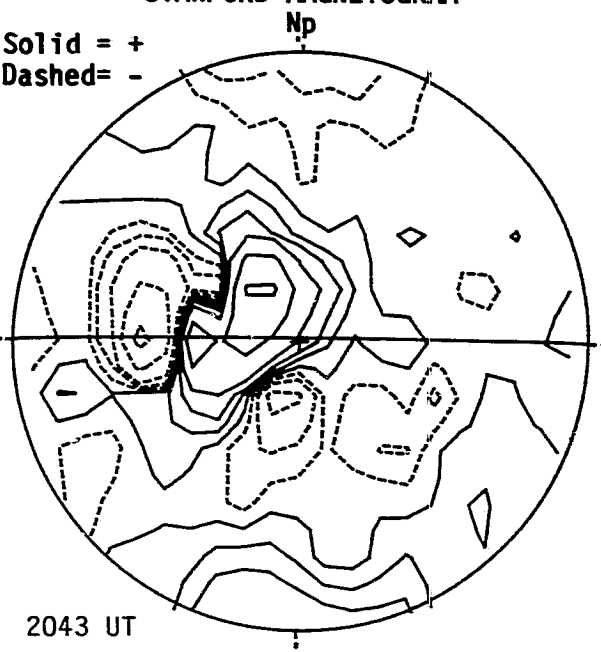
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



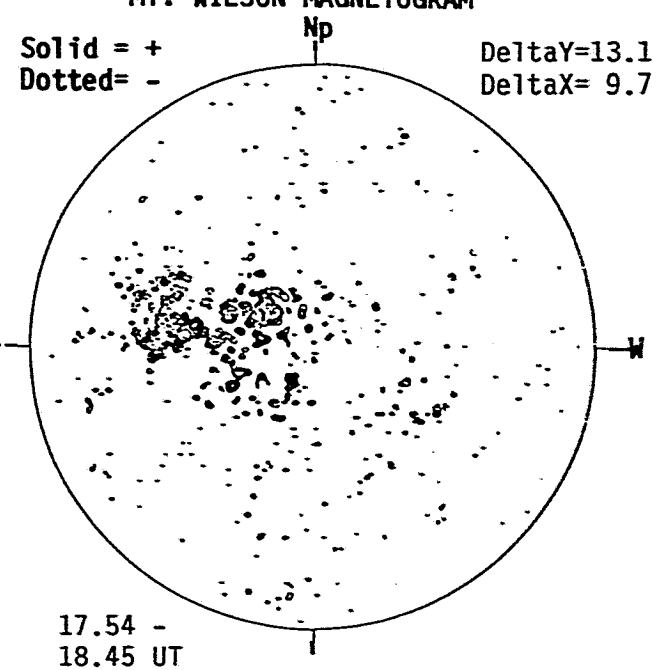
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

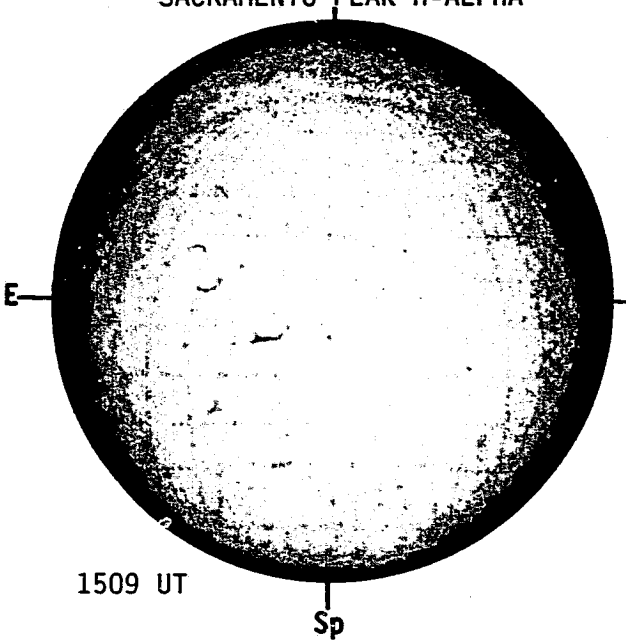


MT. WILSON MAGNETOGRAM

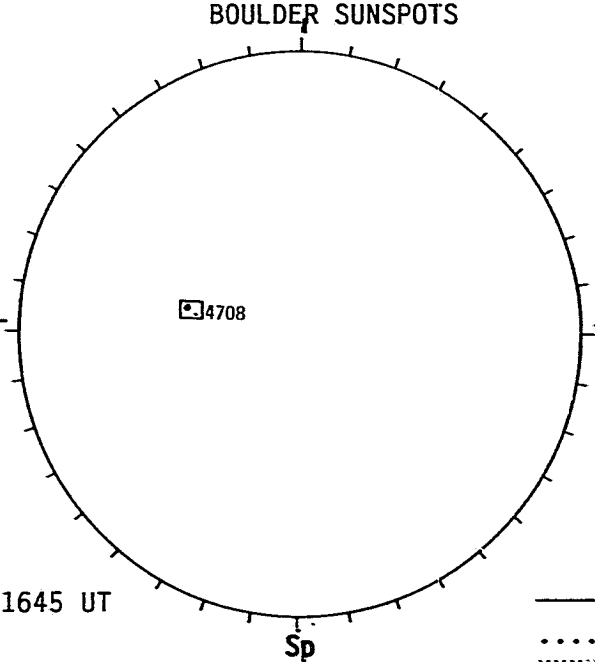
Solid = +
Dotted= -
DeltaY=13.1
DeltaX= 9.7



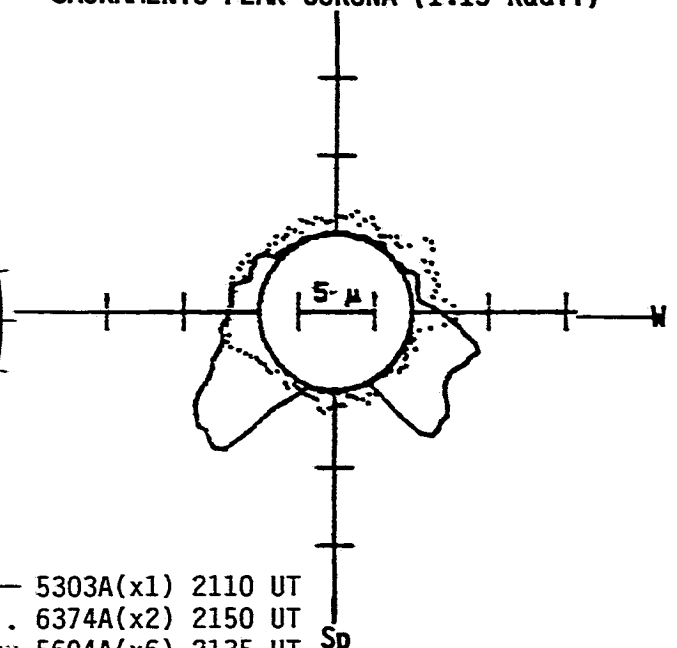
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

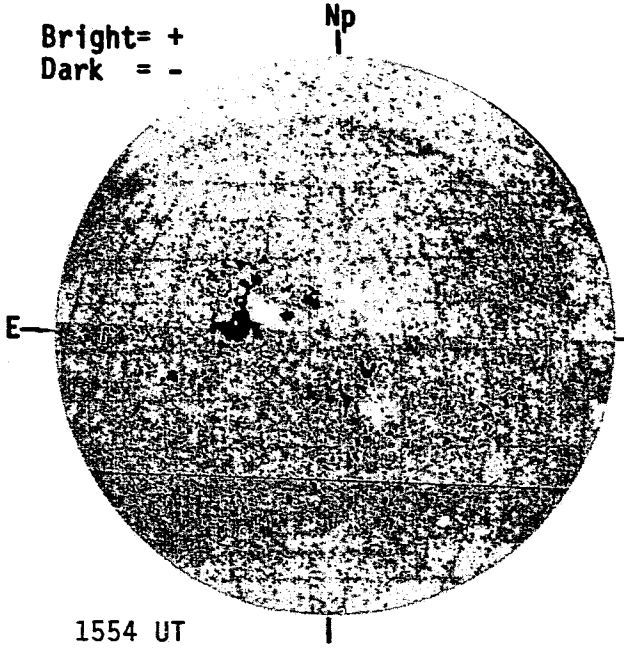


—— 5303A(x1) 2110 UT
.... 6374A(x2) 2150 UT
xxxx 5694A(x6) 2135 UT
NO 5894A ACTIVITY TODAY

D E C E M B E R 14, 1 9 8 5 (P= 10.59, B_0=-0.75, L_0= 50.71)

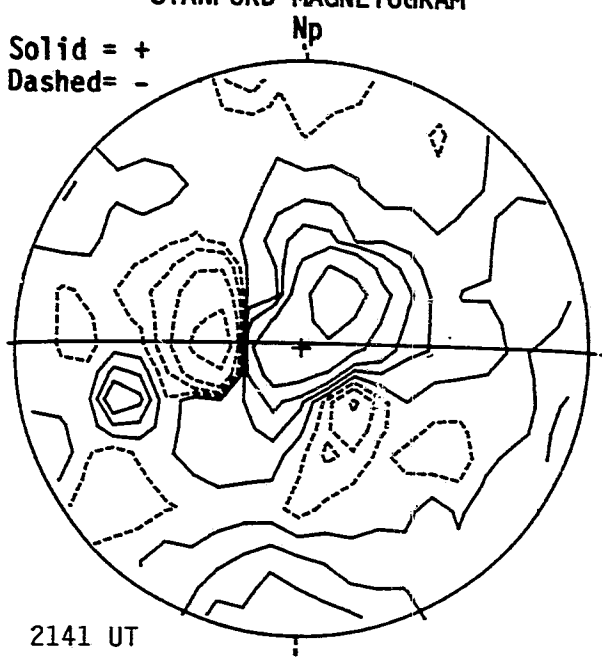
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

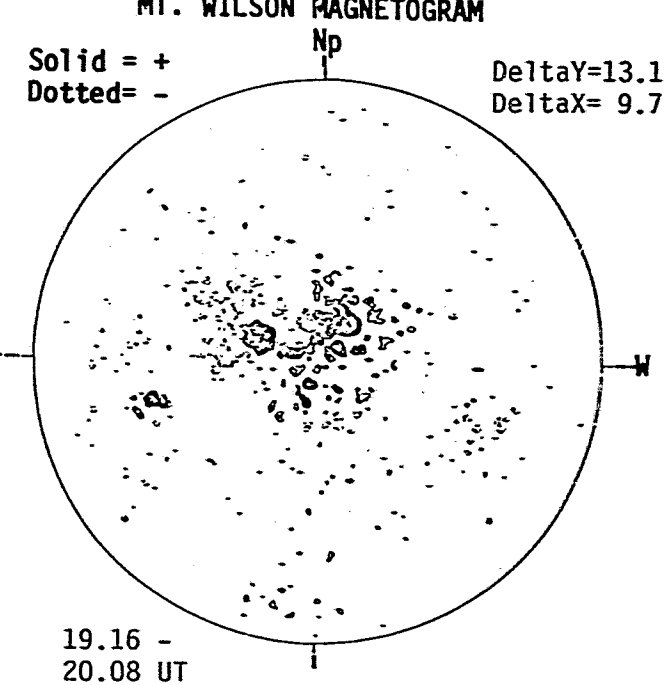
Solid = +
Dashed= -



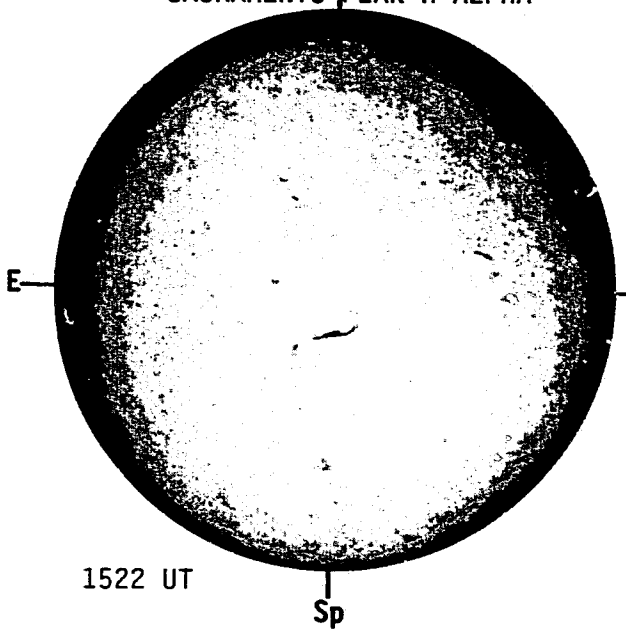
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

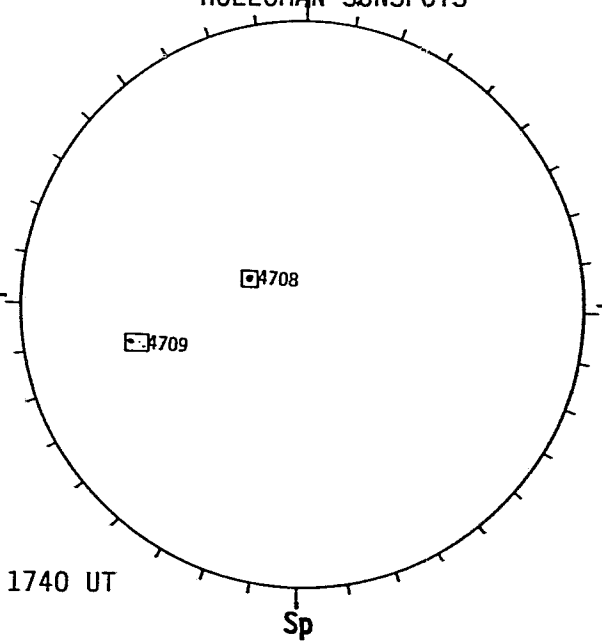
DeltaY=13.1
DeltaX= 9.7



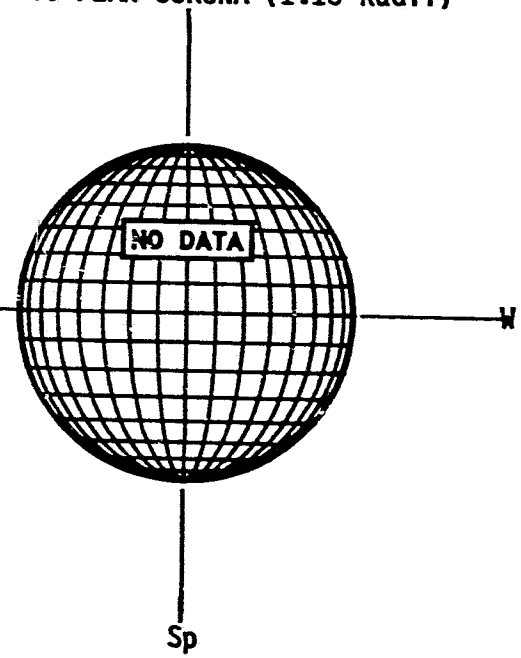
SACRAMENTO PEAK H-ALPHA



HOLLOMAN SUNSPOTS



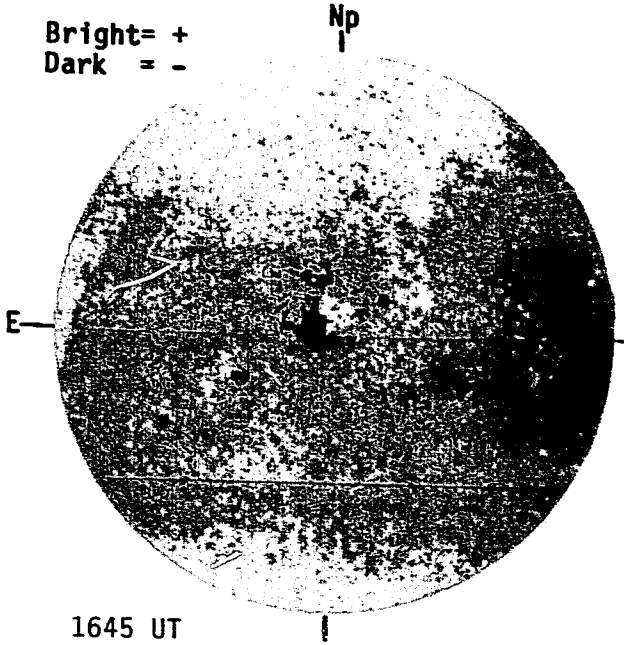
SACRAMENTO PEAK CORONA (1.15 Radii)



D E C E M B E R 15, 1 9 8 5 (P= 10.14, B_0=-0.88, L_0= 37.54)

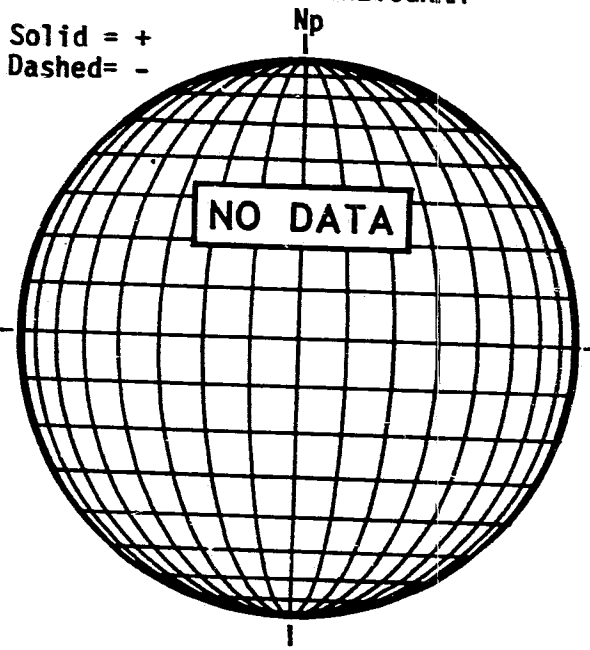
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



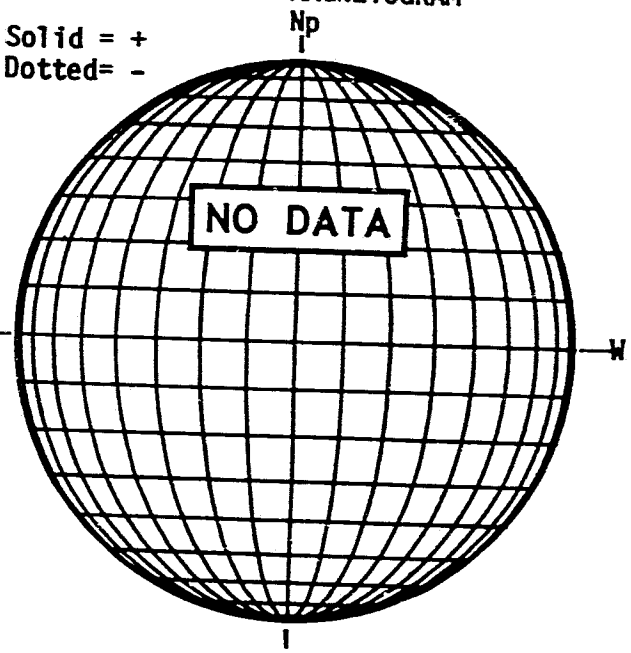
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

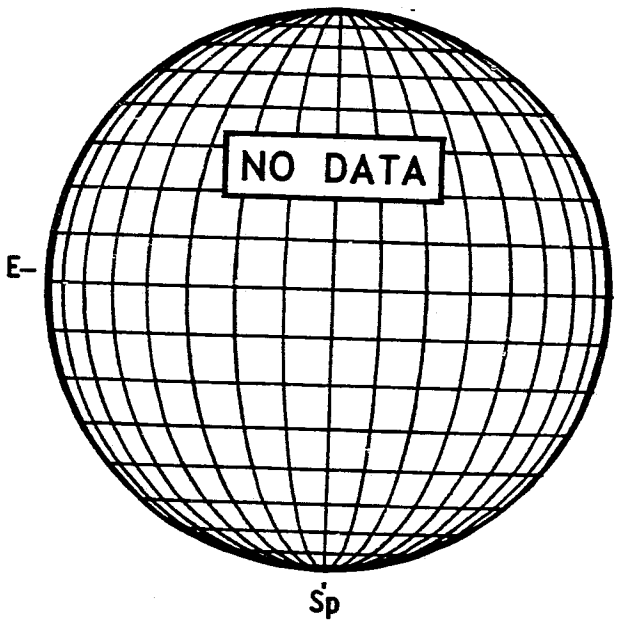


MT. WILSON MAGNETOGRAM

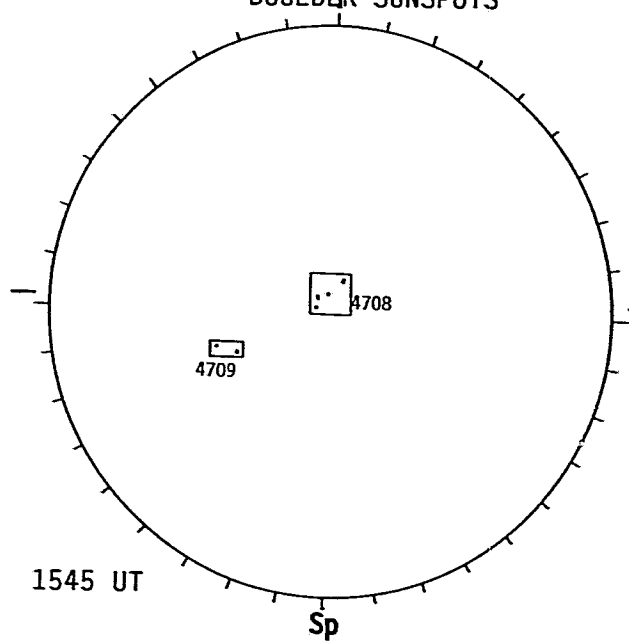
Solid = +
Dotted= -



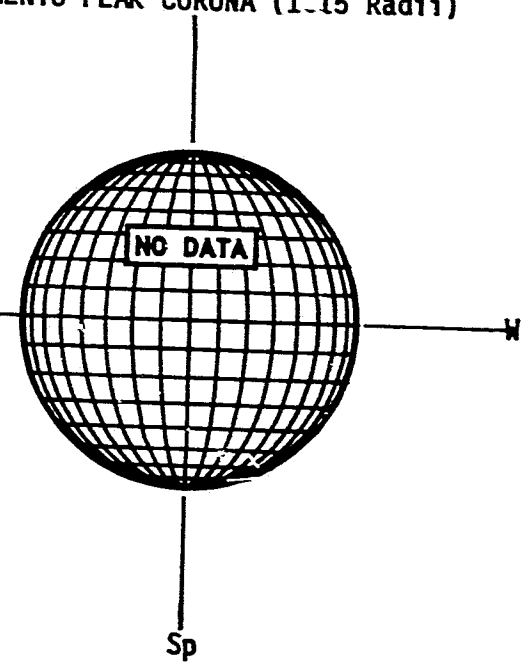
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



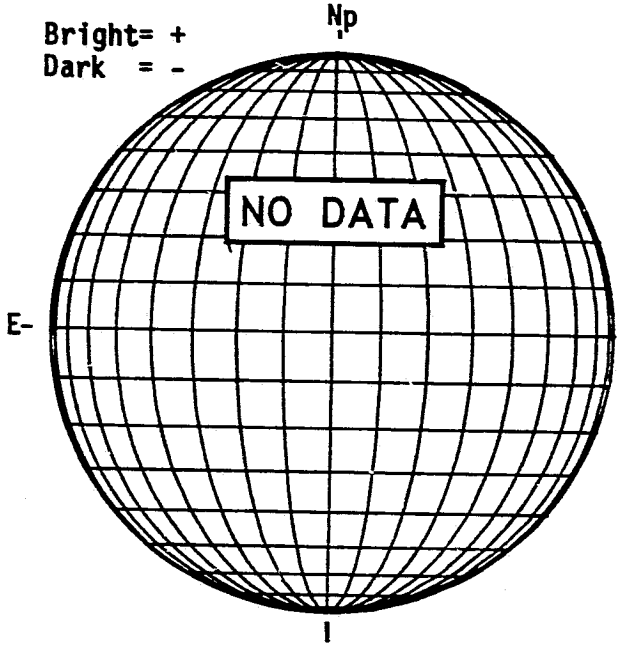
SACRAMENTO PEAK CORONA (1.15 Radii)



DECEMBER 16, 1985 (P= 9.68, B_o=-1.00, L_o= 24.36)

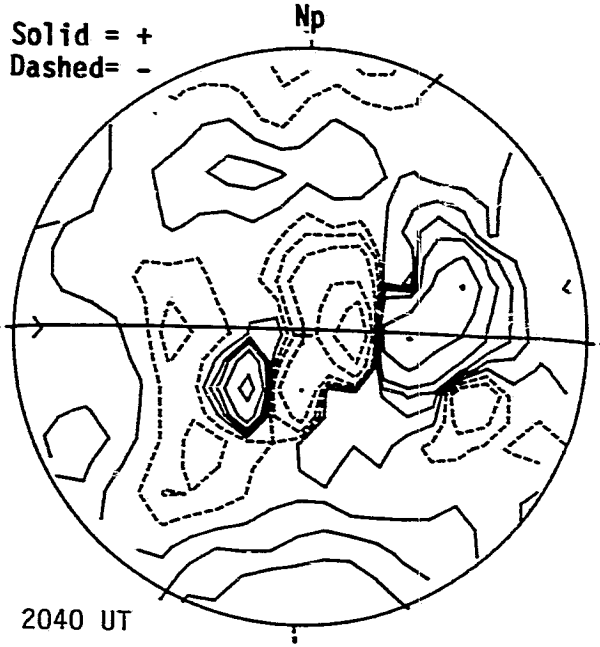
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

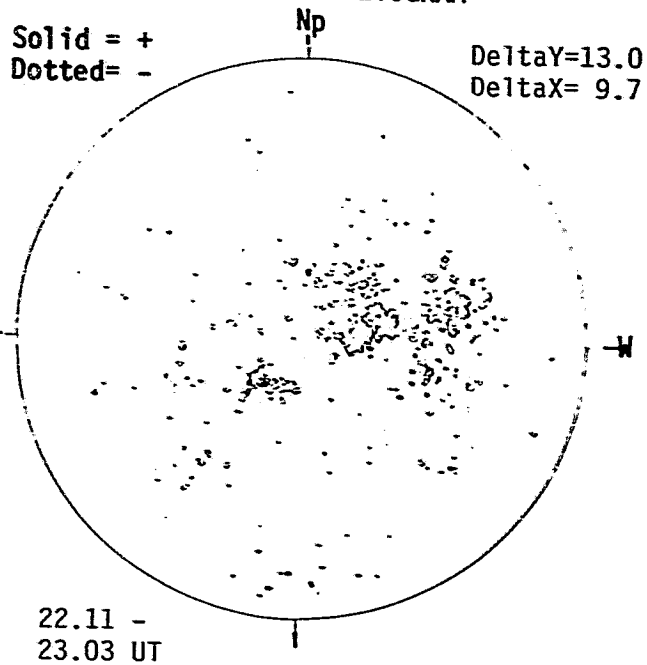
Solid = +
Dashed= -



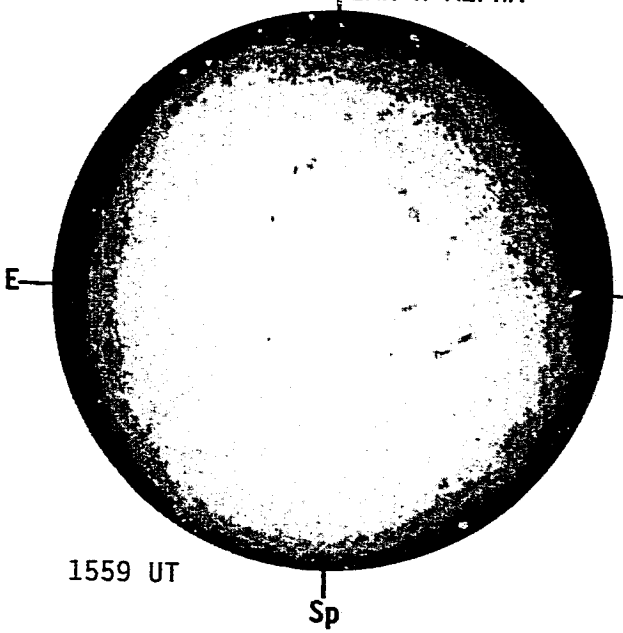
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

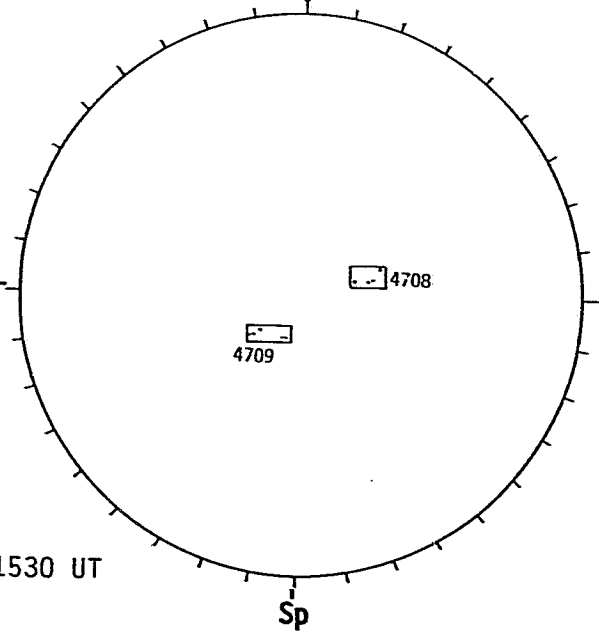
DeltaY=13.0
DeltaX= 9.7



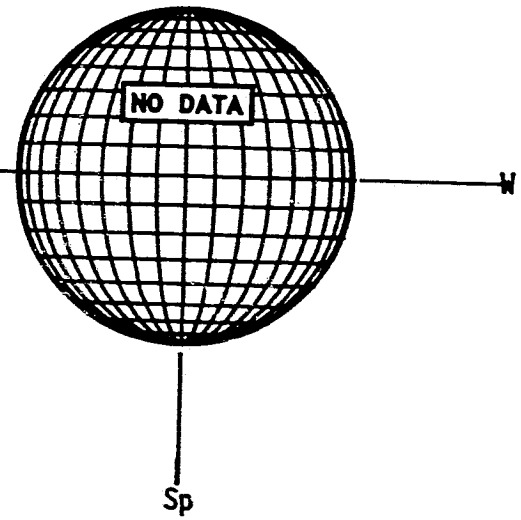
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



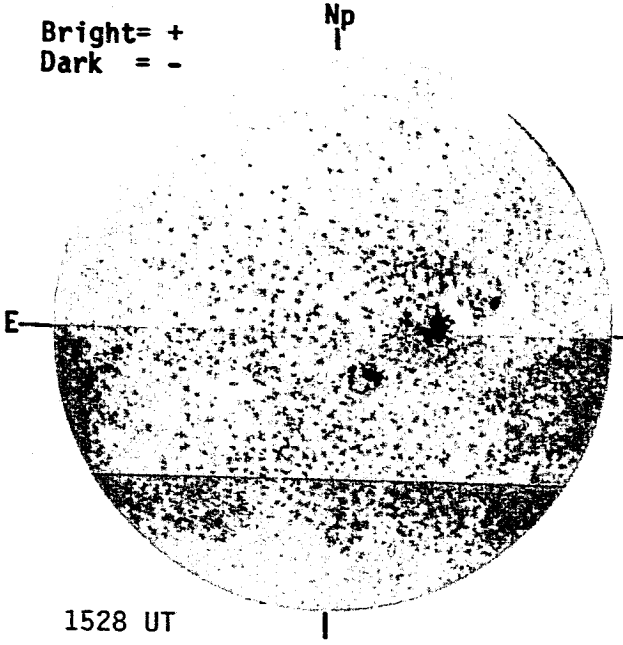
SACRAMENTO PEAK CORONA (1.15 Radii)



D E C E M B E R 17, 1 9 8 5 (P= 9.22, B_0=-1.13, L_0= 11.19)

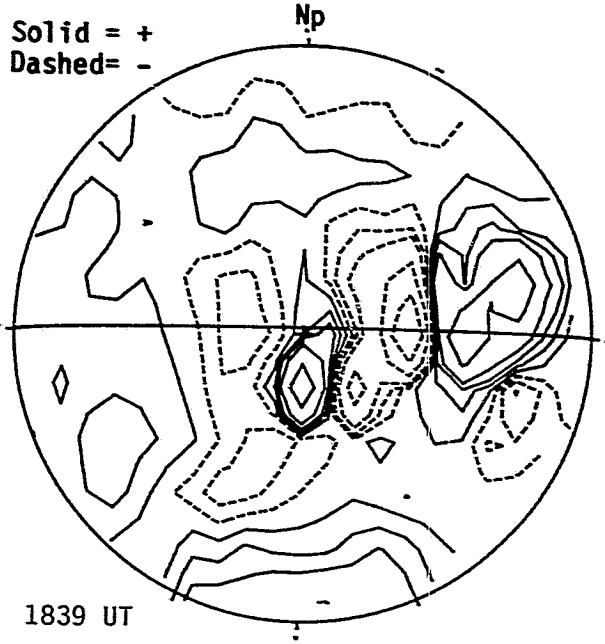
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



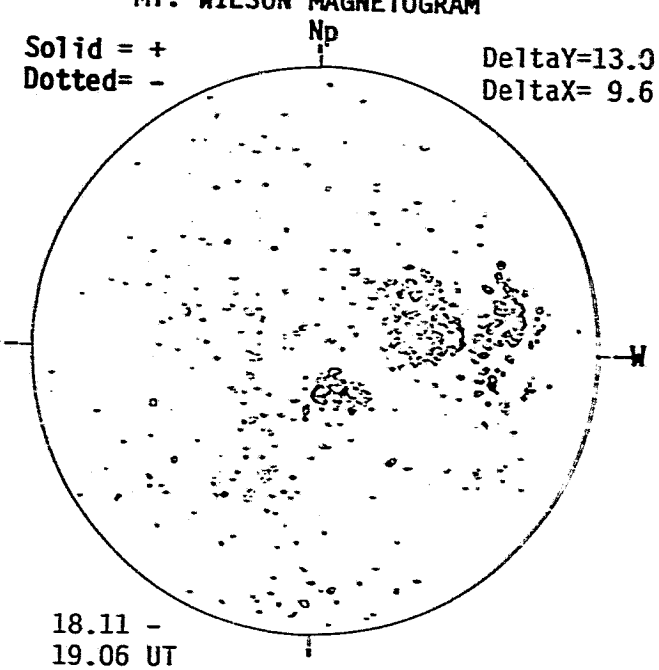
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

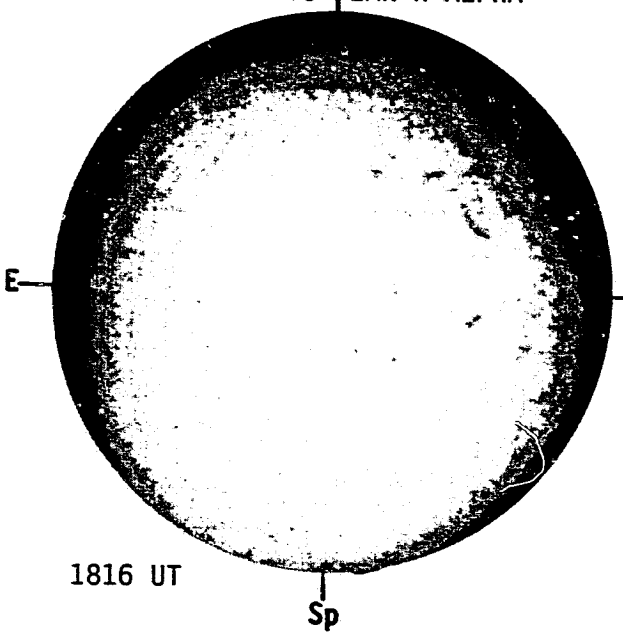


MT. WILSON MAGNETOGRAM

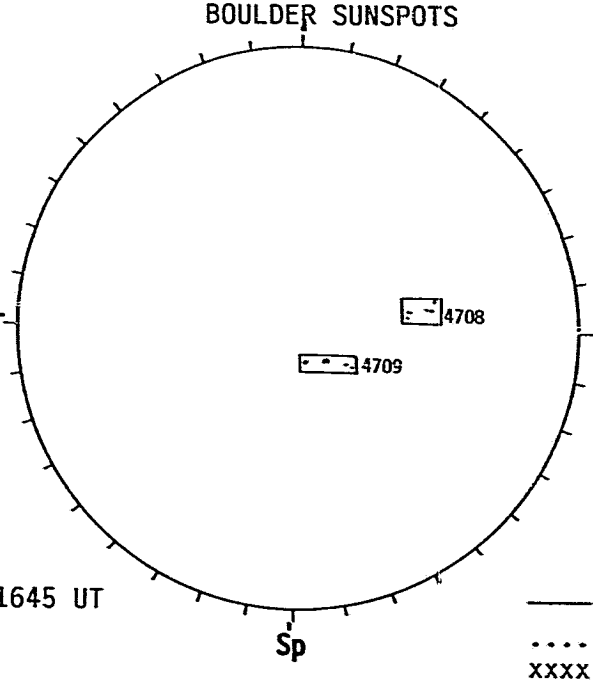
Solid = +
Dotted= -



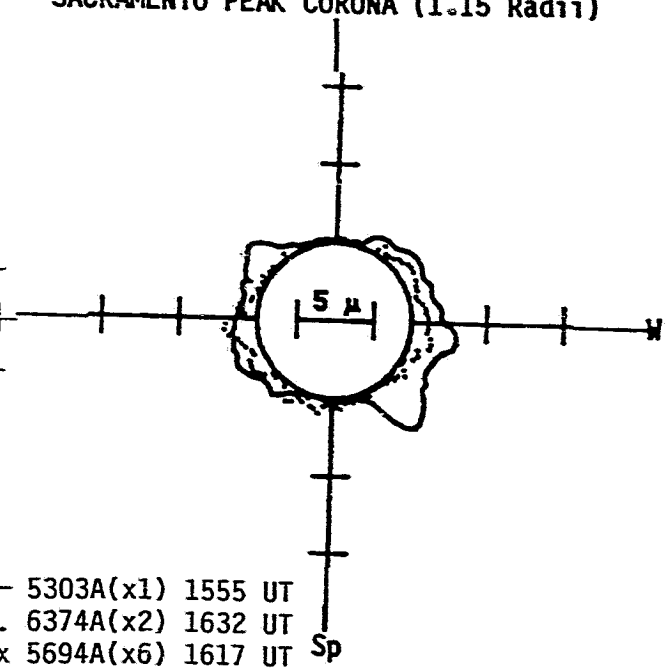
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

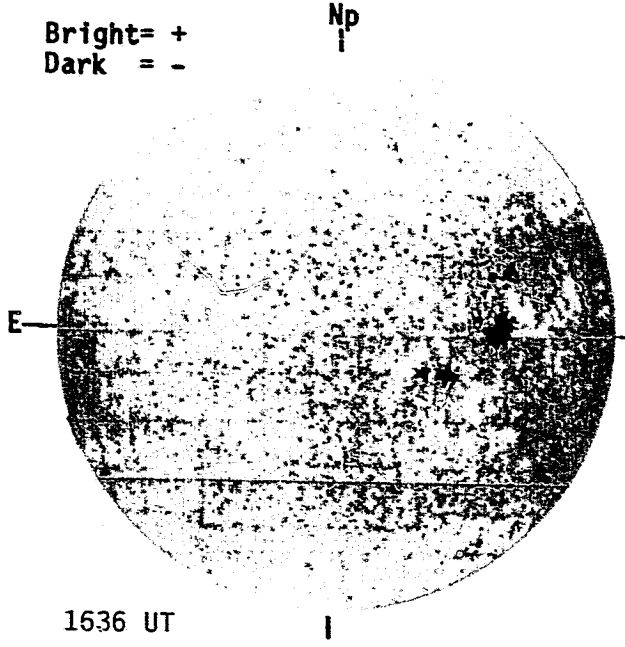


—— 5303A(x1) 1555 UT
.... 6374A(x2) 1632 UT
xxxx 5694A(x6) 1617 UT
NO 5894A ACTIVITY TODAY

D E C E M B E R 18, 1 9 8 5 (P= 8.76, B_o=-1.25, L_o= 358.01)

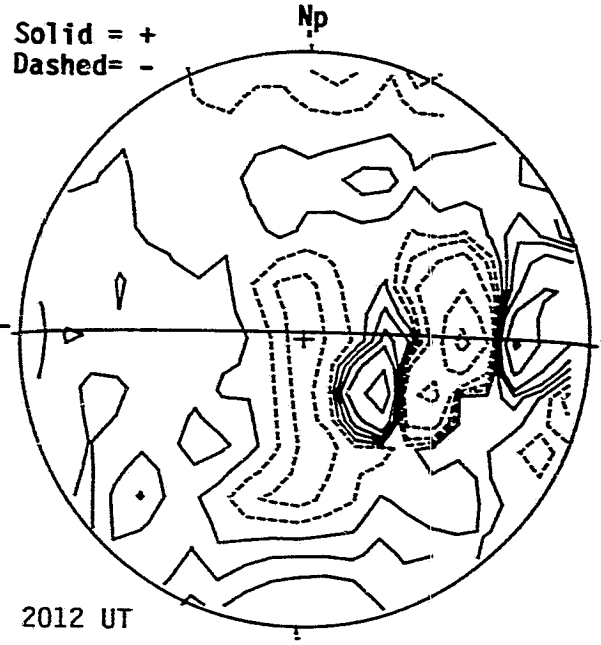
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

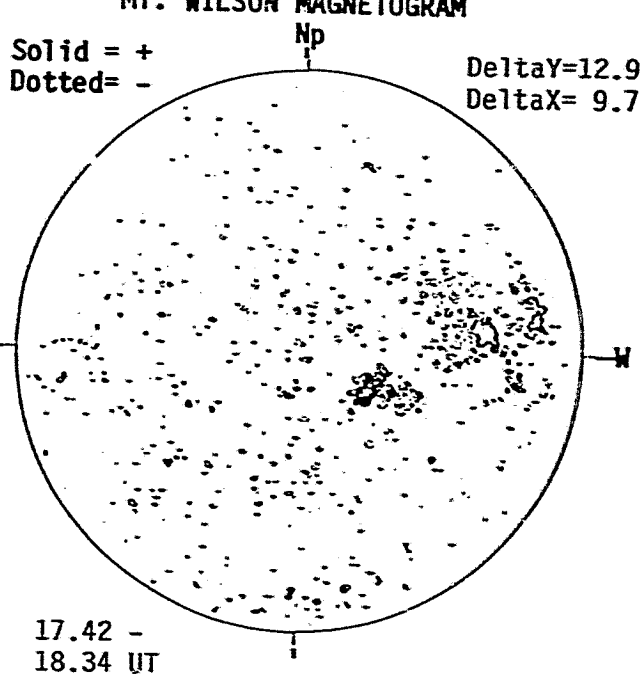
Solid = +
Dashed= -



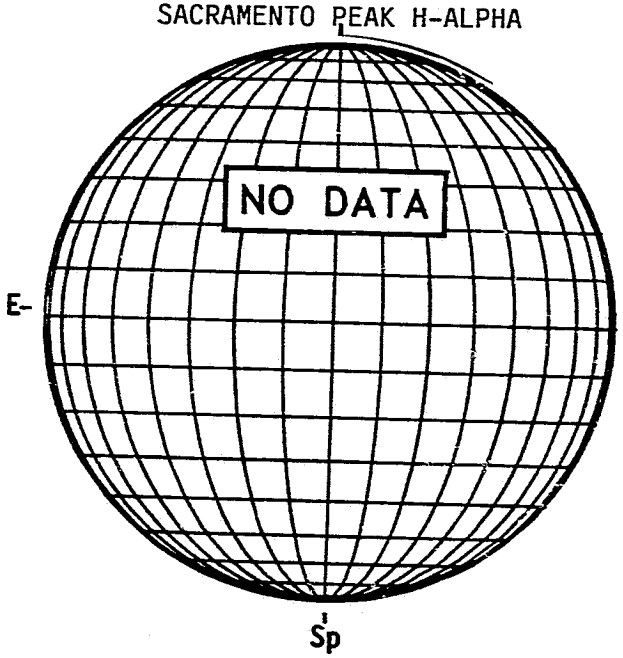
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

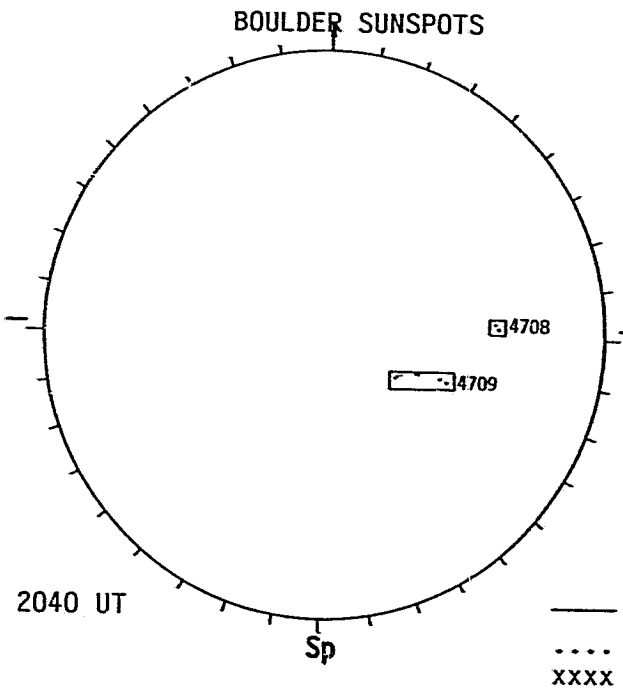
DeltaY=12.9
DeltaX= 9.7



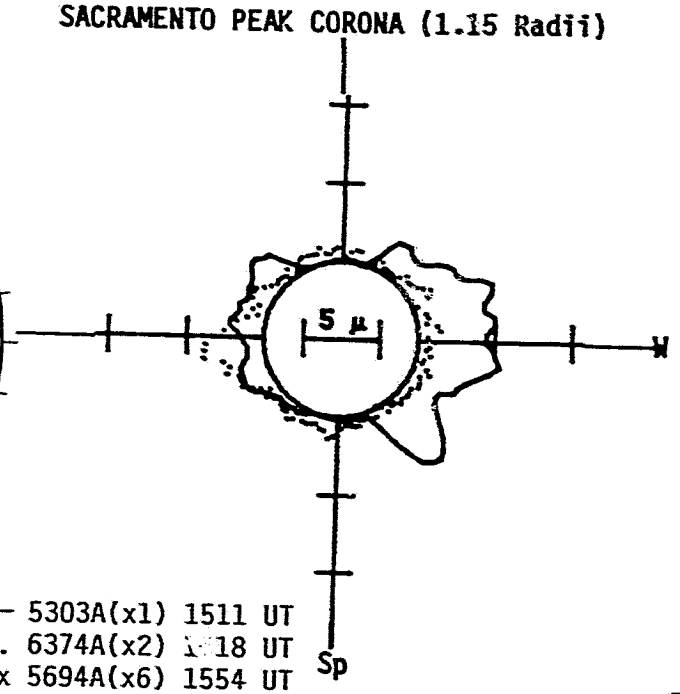
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

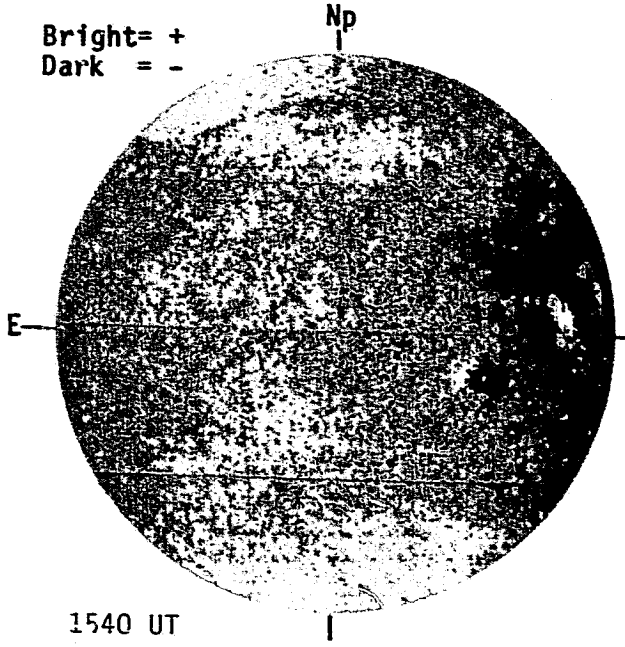


—— 5303A(x1) 1511 UT
.... 6374A(x2) 1518 UT
xxxx 5694A(x6) 1554 UT
NO 5894A ACTIVITY TODAY

D E C E M B E R 19, 1 9 8 5 (P= 8.30, B_o=-1.38, L_o= 344.84)

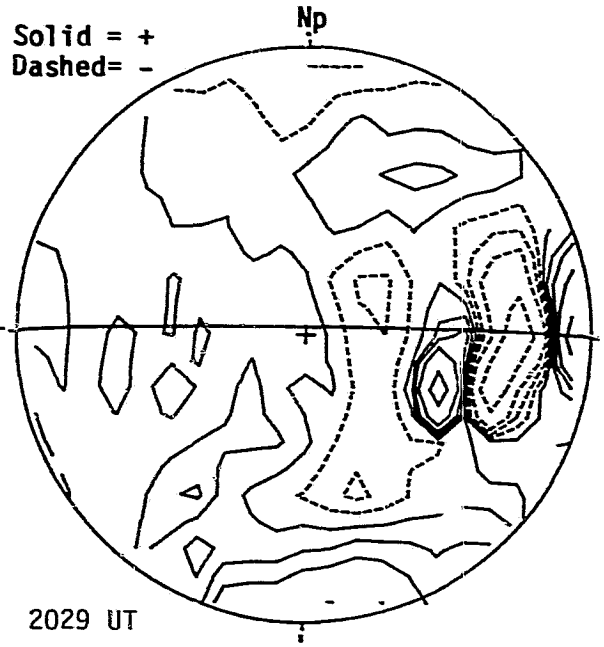
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



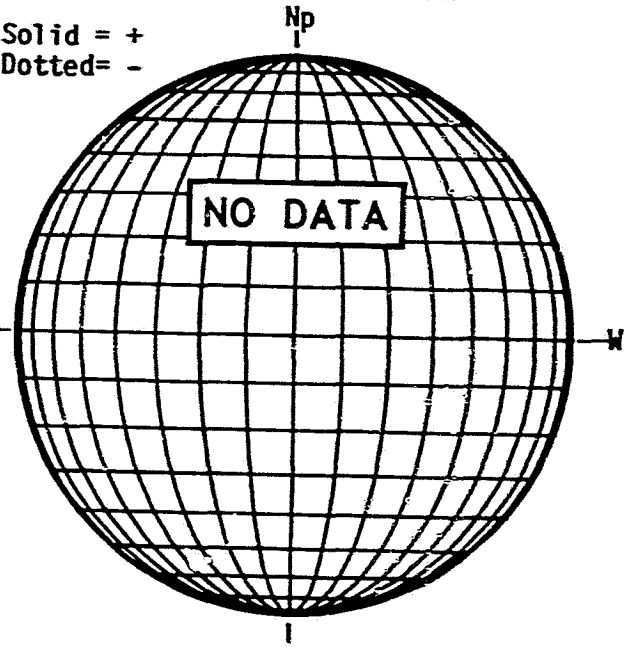
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

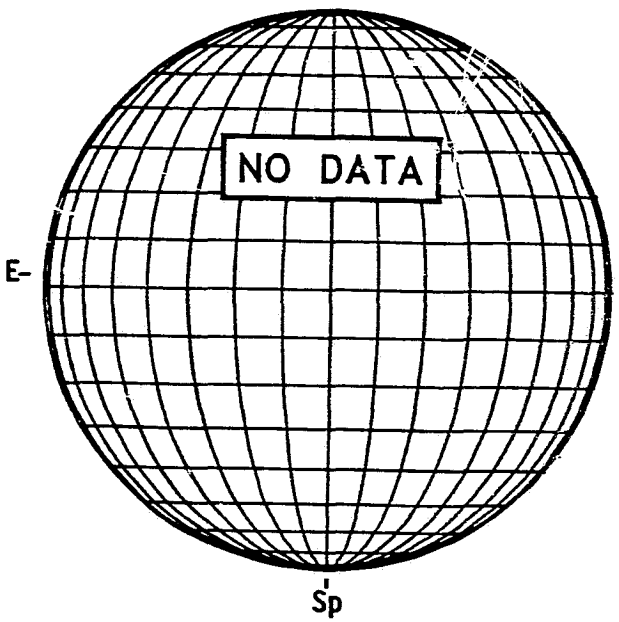


MT. WILSON MAGNETOGRAM

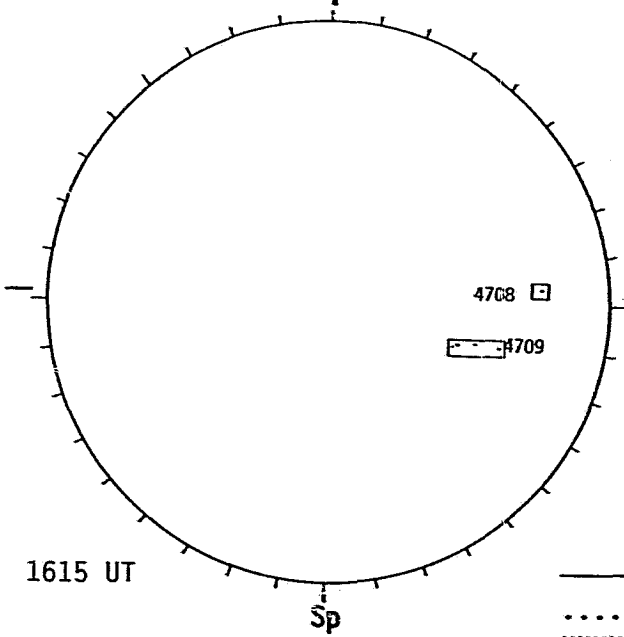
Solid = +
Dotted= -



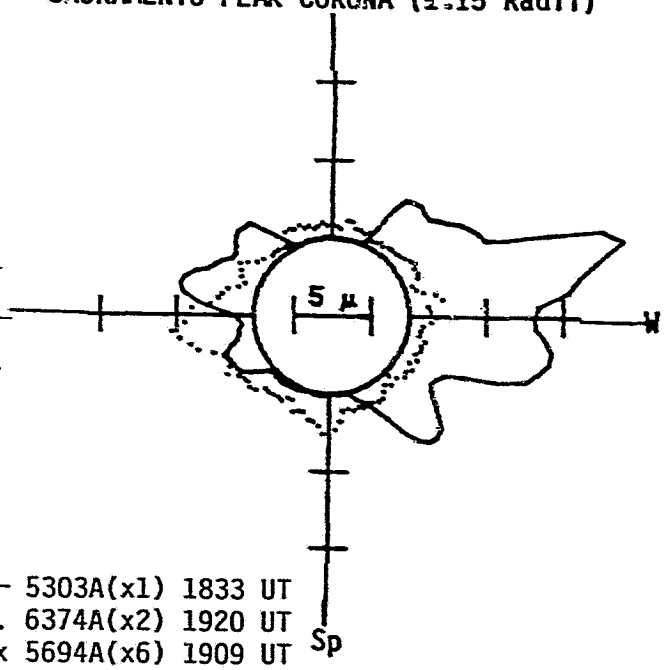
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

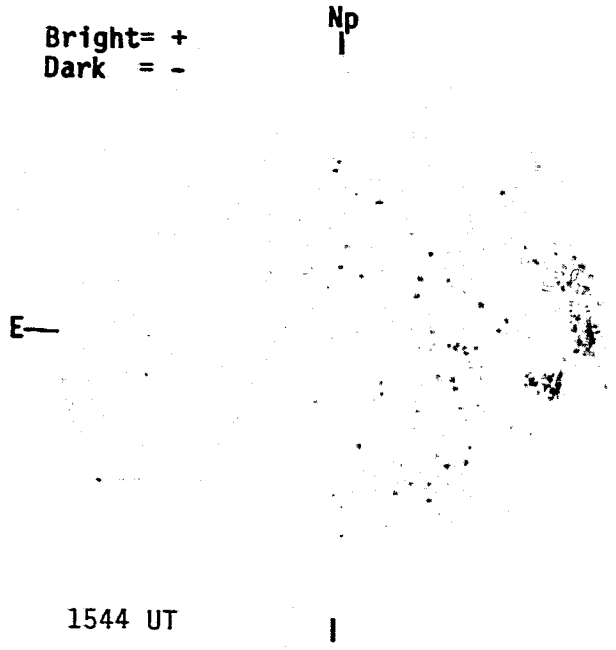


—— 5303A(x1) 1833 UT
.... 6374A(x2) 1920 UT
xxxx 5694A(x6) 1909 UT
NO 5894A ACTIVITY TODAY

D E C E M B E R 20, 1 9 8 5 (P= 7.83, B_o=-1.50, L_o = 331.67)

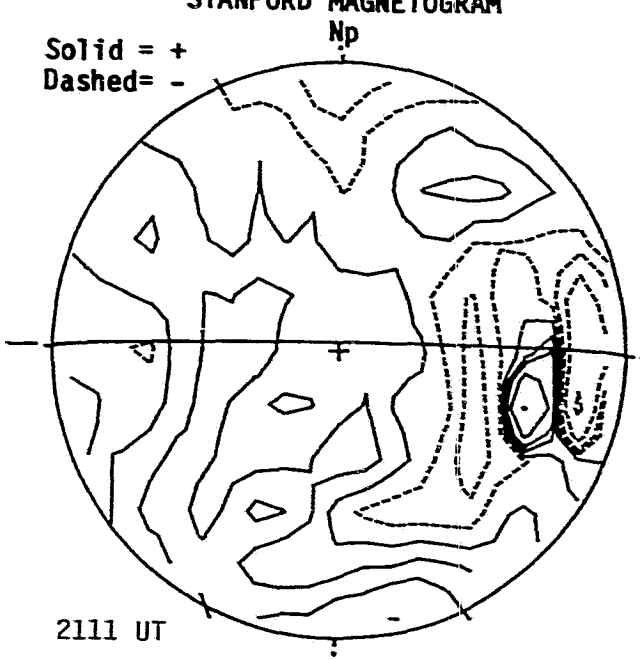
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

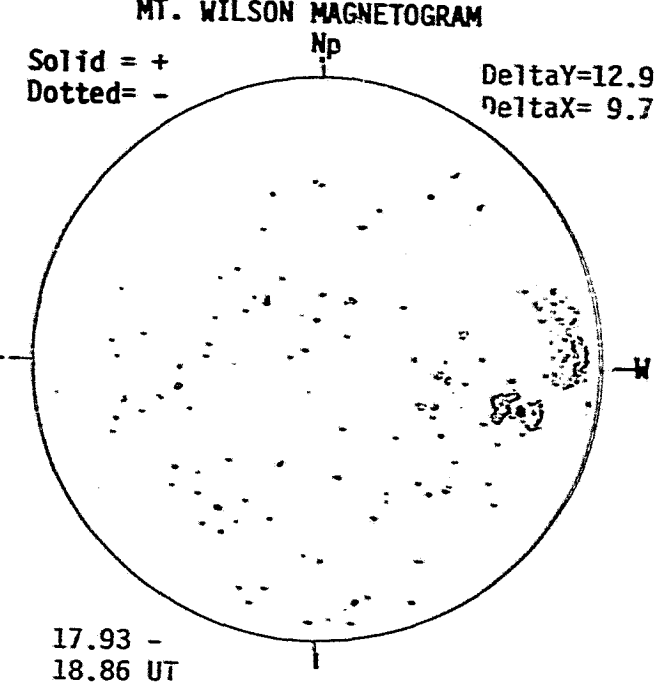
Solid = +
Dashed= -



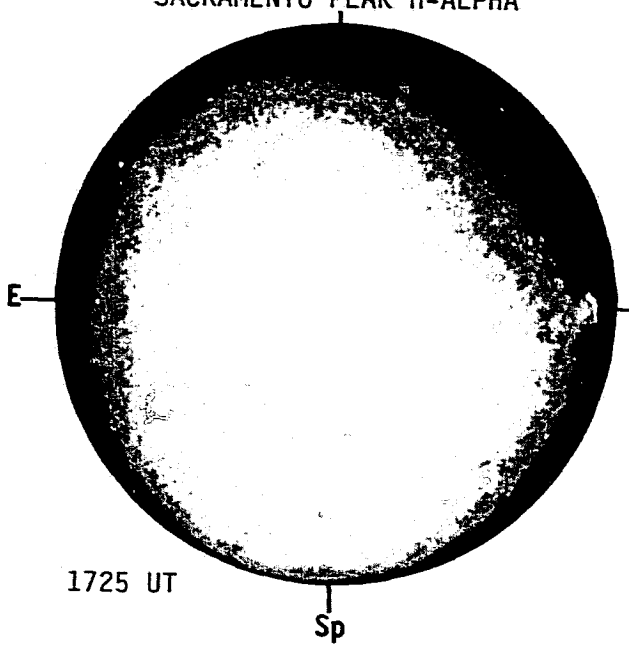
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

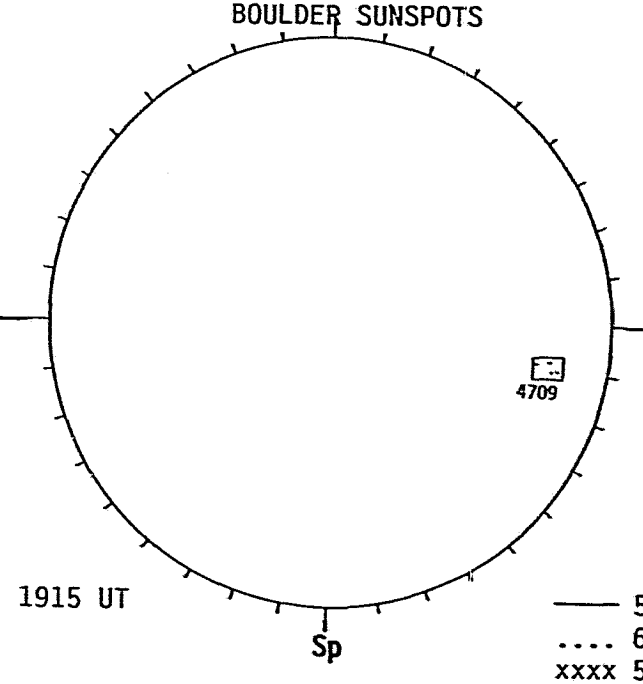
DeltaY=12.9
DeltaX= 9.7



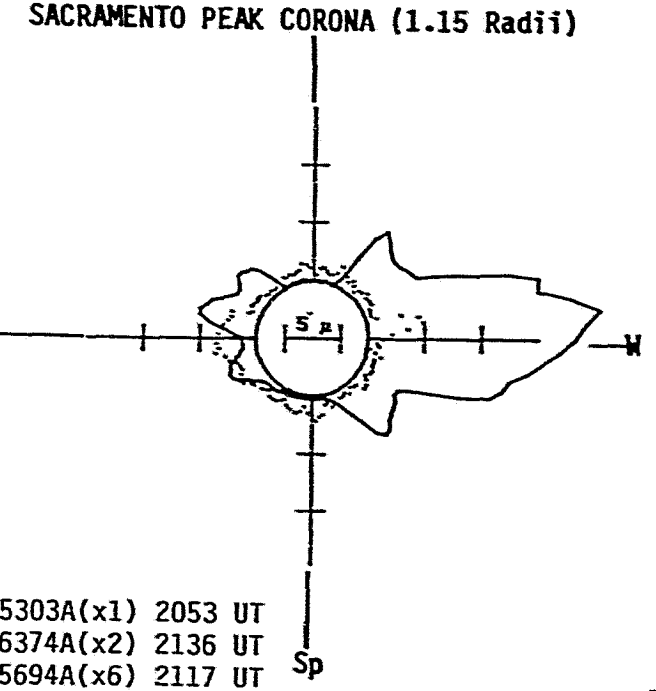
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



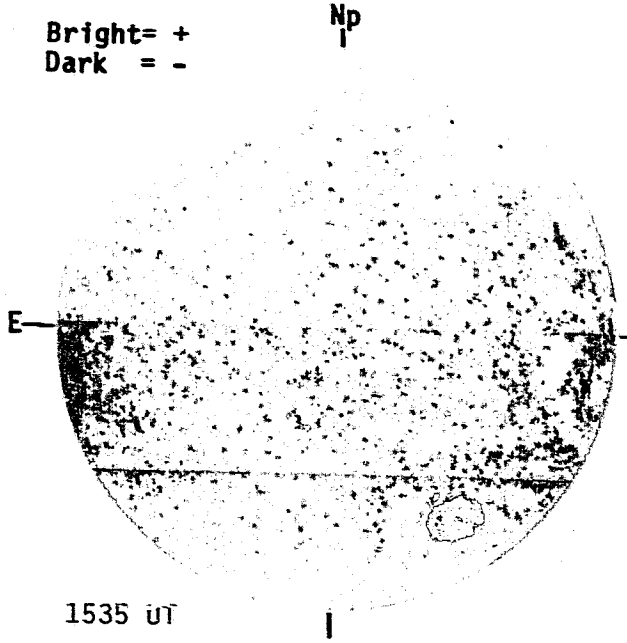
—— 5303A(x1) 2053 UT
.... 6374A(x2) 2136 UT
xxxx 5694A(x6) 2117 UT
NO 5894A ACTIVITY TODAY

D E C E M B E R 21, 1 9 8 5 (P= 7.37, B_0=-1.62, L_0= 318.49)

Dec 85 50

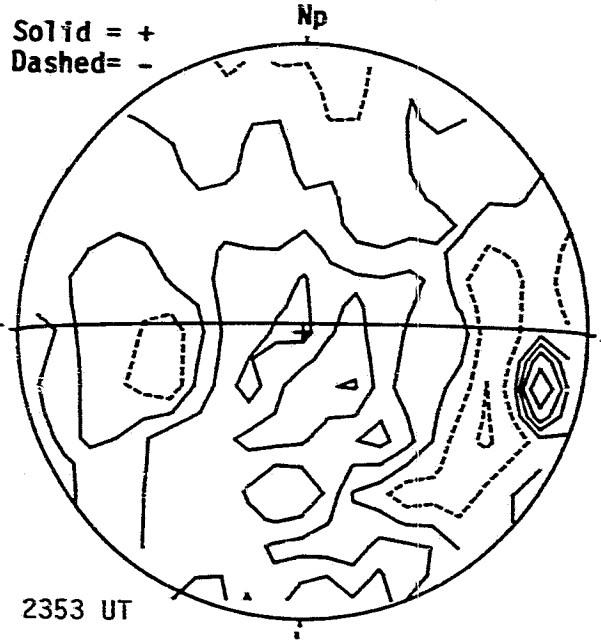
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



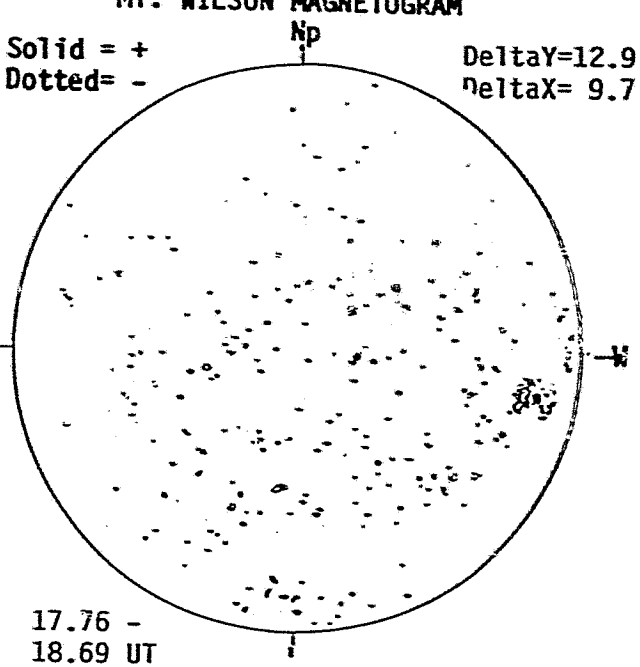
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

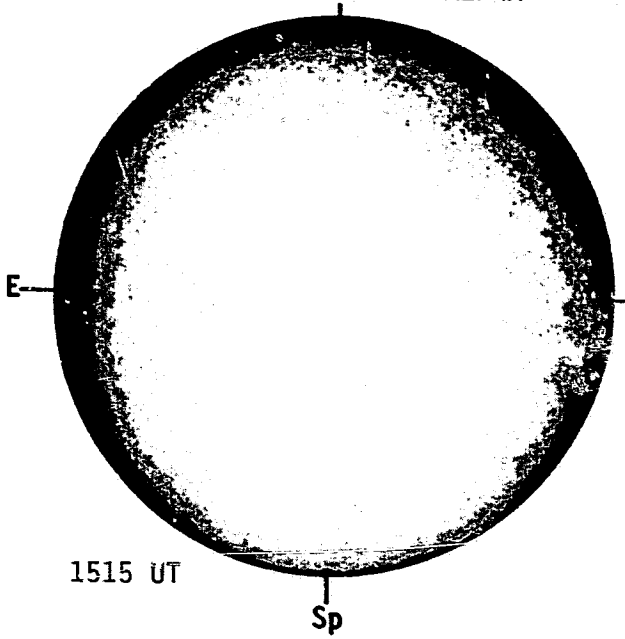


MT. WILSON MAGNETOGRAM

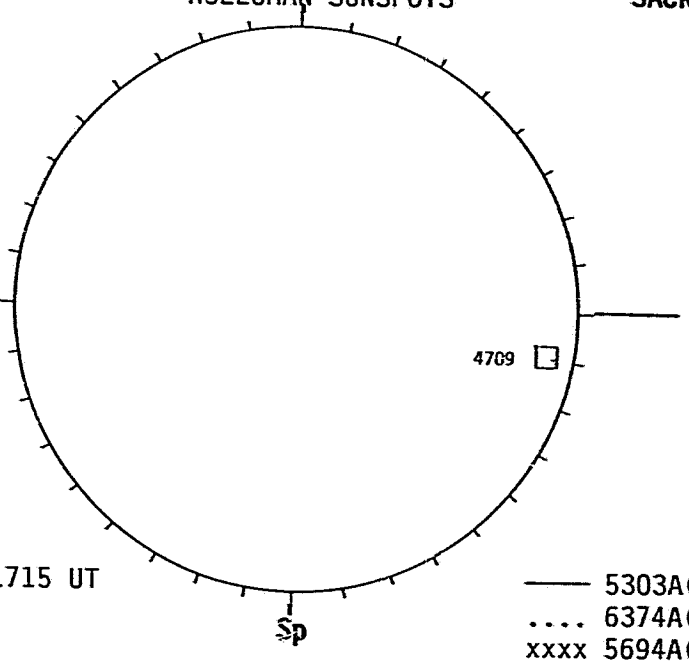
Solid = +
Dotted= -
DeltaY=12.9
DeltaX= 9.7



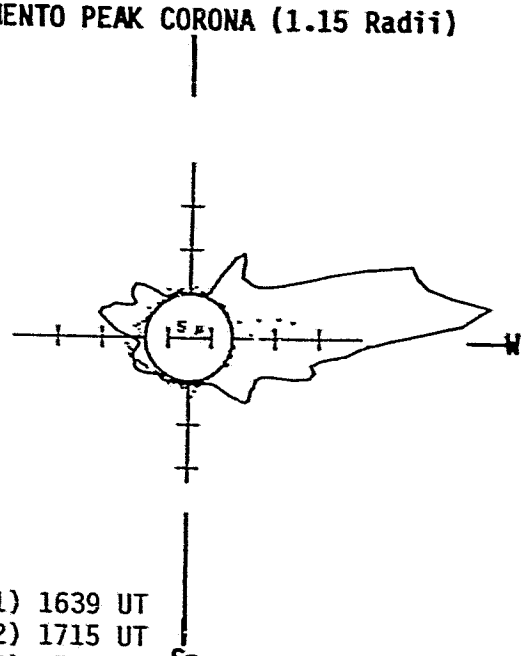
SACRAMENTO PEAK H-ALPHA



HOLLOMAN SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

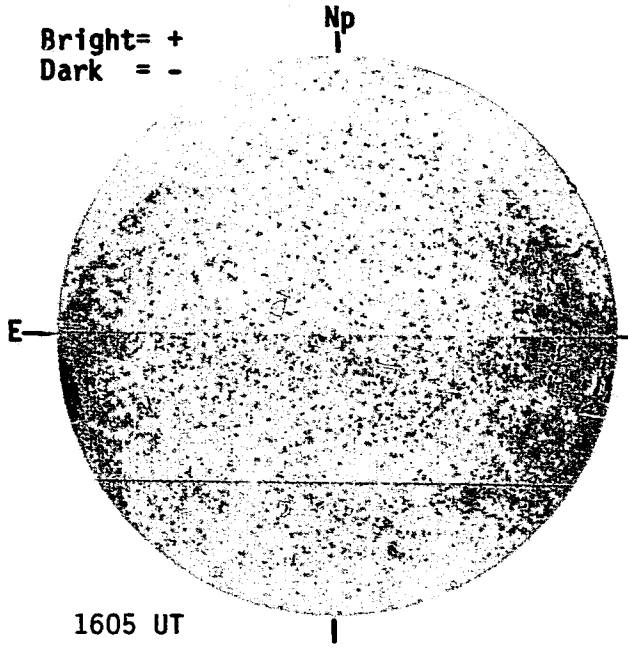


—— 5303A(x1) 1639 UT
.... 6374A(x2) 1715 UT
xxxx 5694A(x6) 1701 UT
NO 5894A ACTIVITY TODAY

D E C E M B E R 22, 1 9 8 5 (P= [illegible], B_0=-1.75, L_0= 305.32)

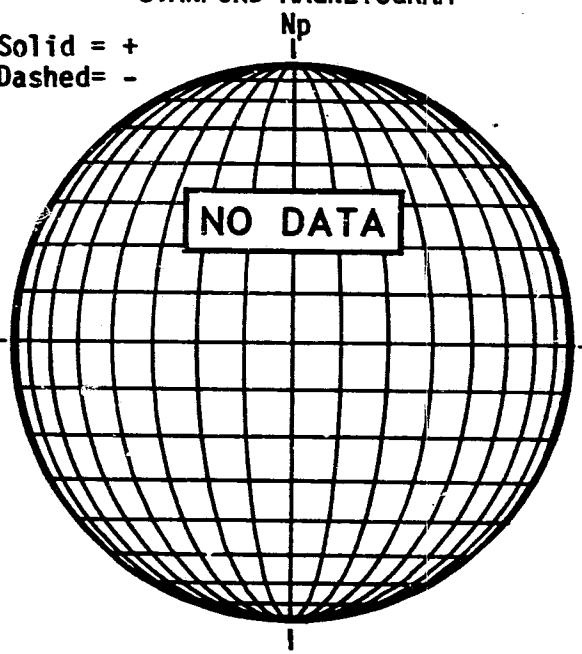
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



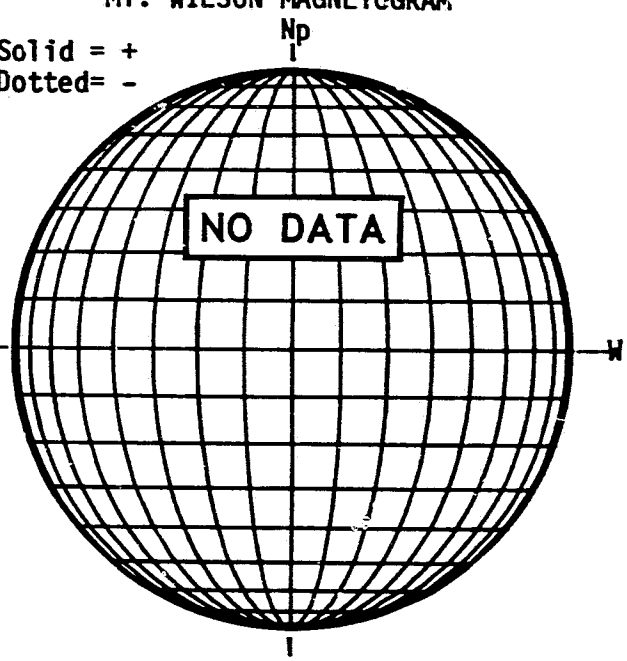
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

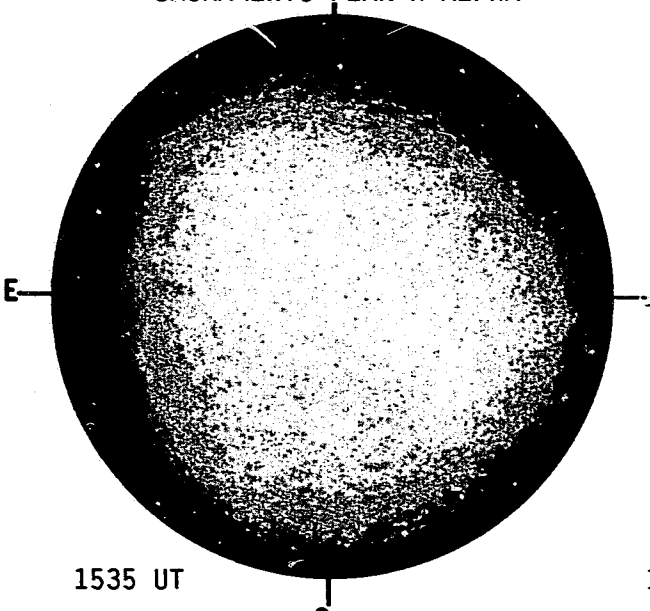


MT. WILSON MAGNETOGRAM

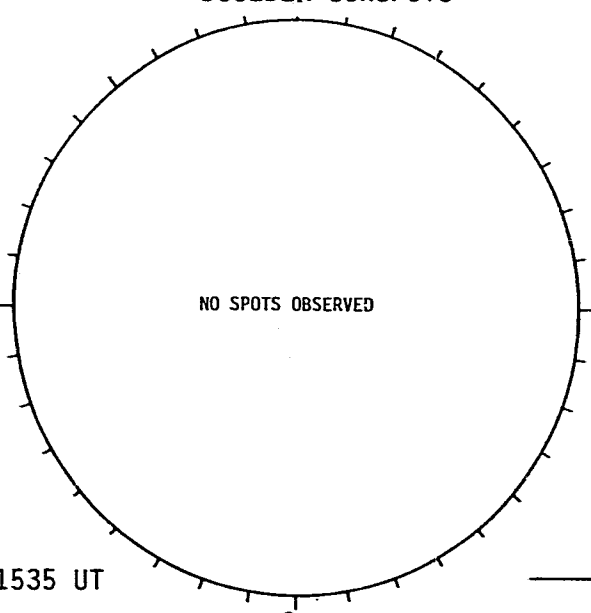
Solid = +
Dotted= -



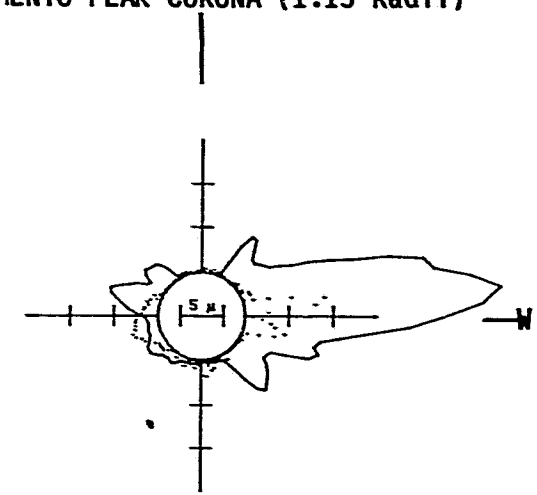
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

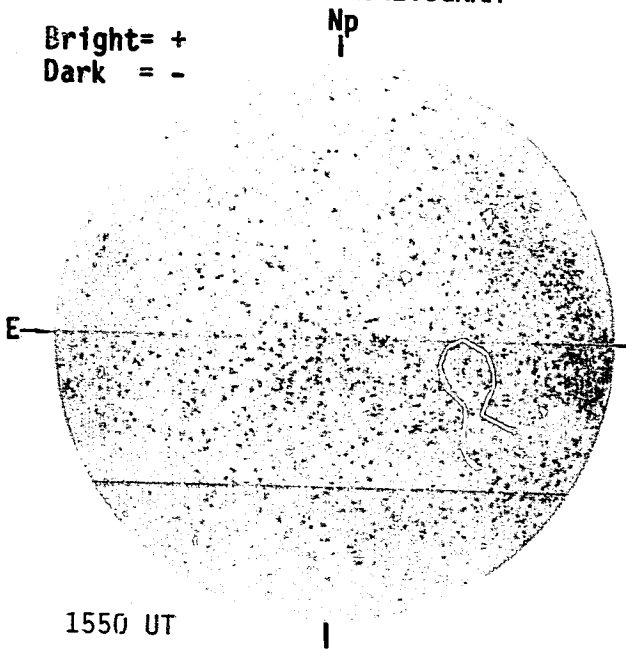


—— 5303A(x1) 1939 UT
.... 6374A(x2) 2012 UT
xxxx 5694A(x6) 1959 UT
NO 5894A ACTIVITY TODAY

D E C E M B E R 23, 1 9 8 5 (P= 6.42, B_0=-1.87, L_0= 292.15)

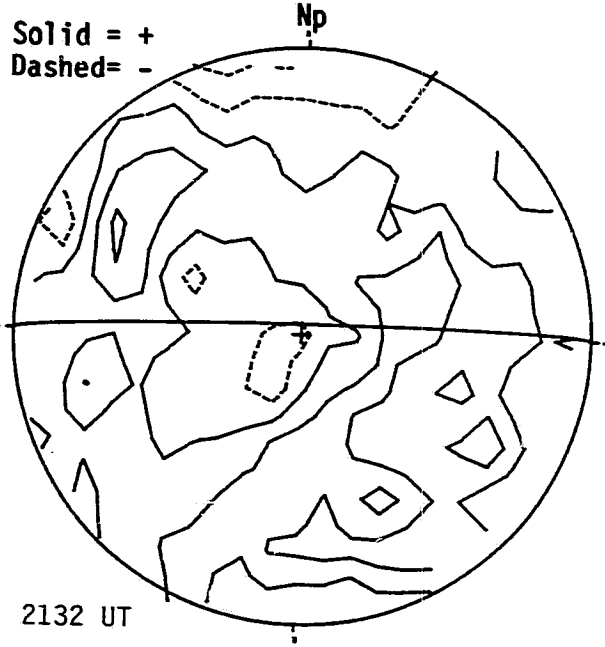
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



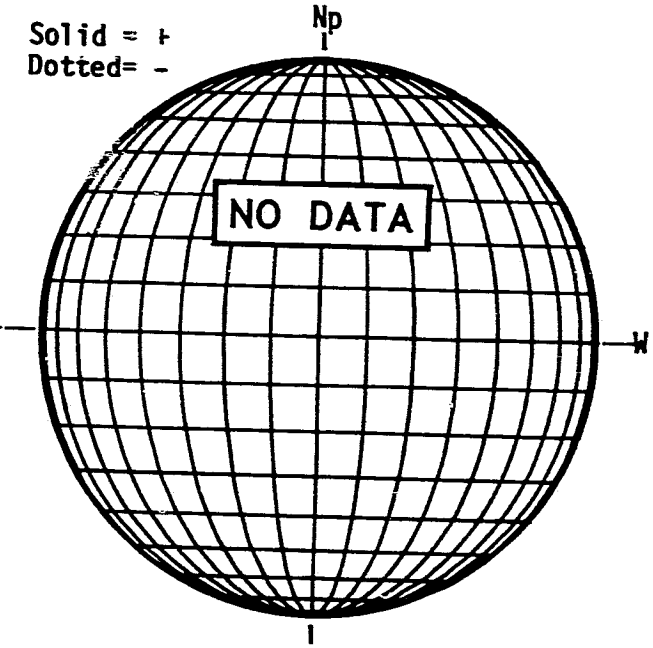
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

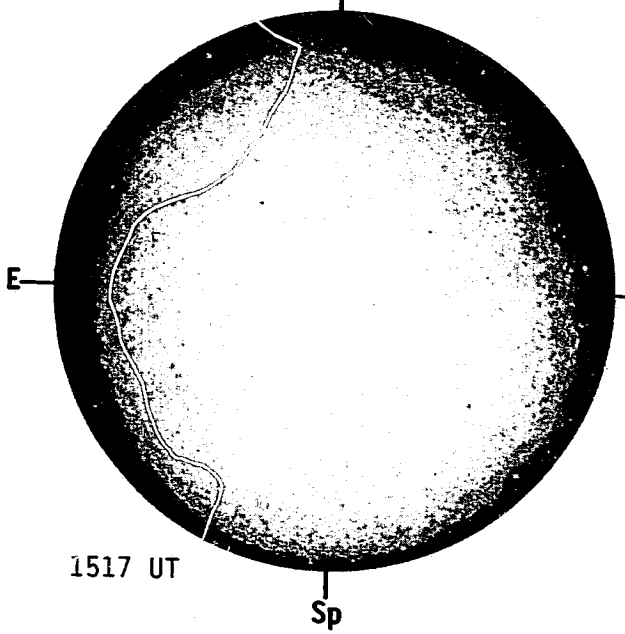


MT. WILSON MAGNETOGRAM

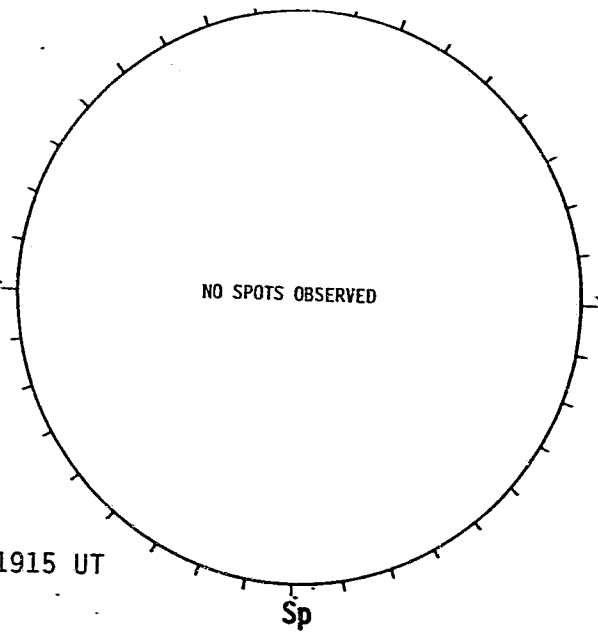
Solid = +
Dotted= -



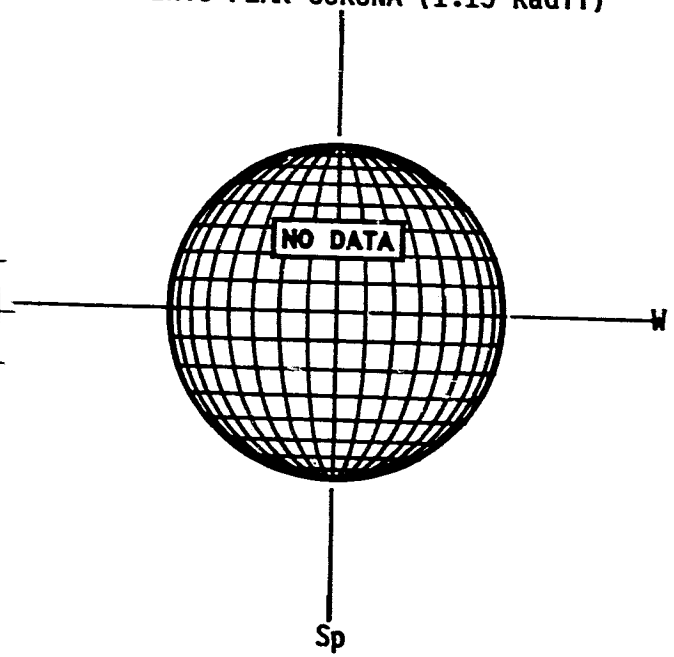
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



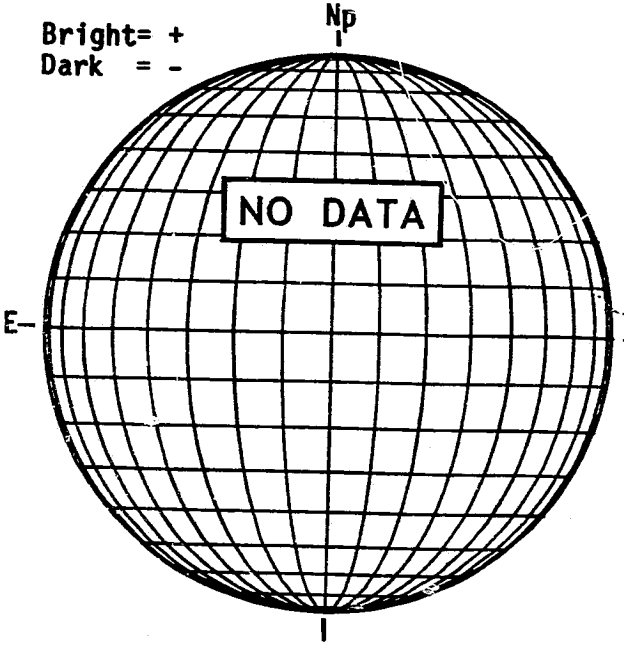
SACRAMENTO PEAK CORONA (1.15 Radii)



D E C E M B E R 24, 1 9 8 5 (P= 5.94, B_0=-1.99, L_0= 278.97)

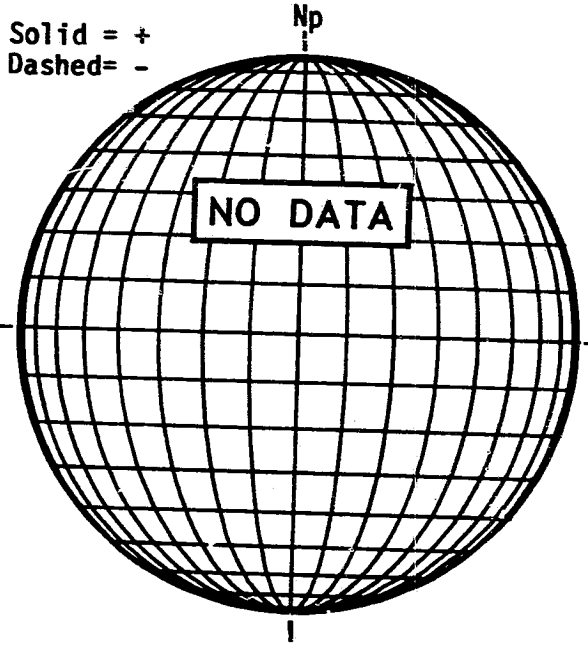
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



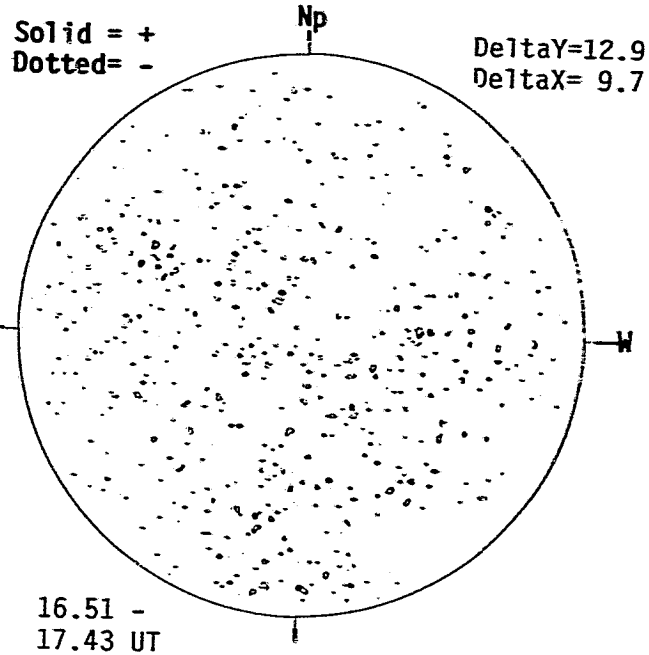
STANFORD MAGNETOGRAM

Solid = +
Dashed= -



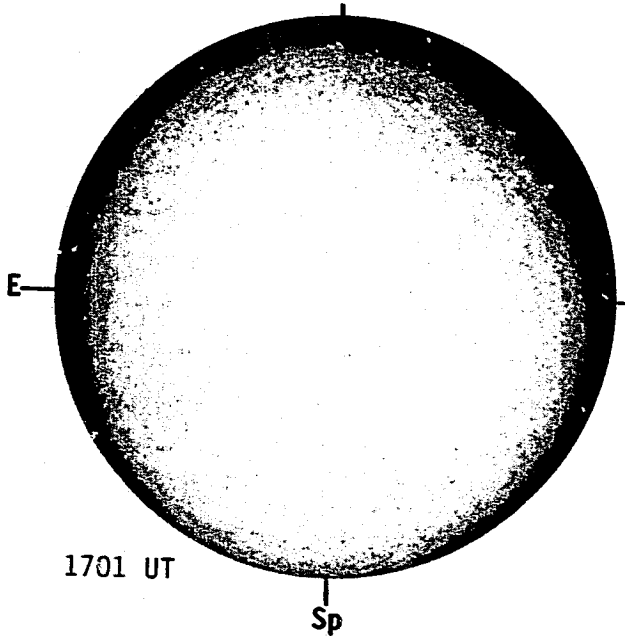
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -



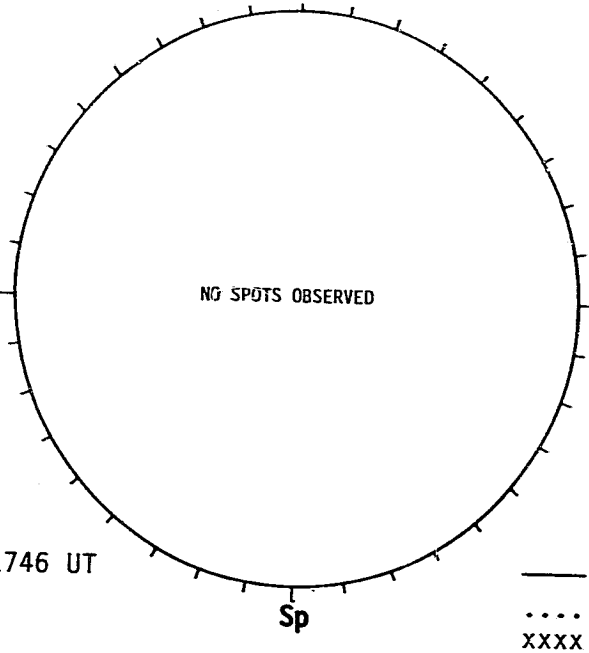
16.51 -
17.43 UT

SACRAMENTO PEAK H-ALPHA



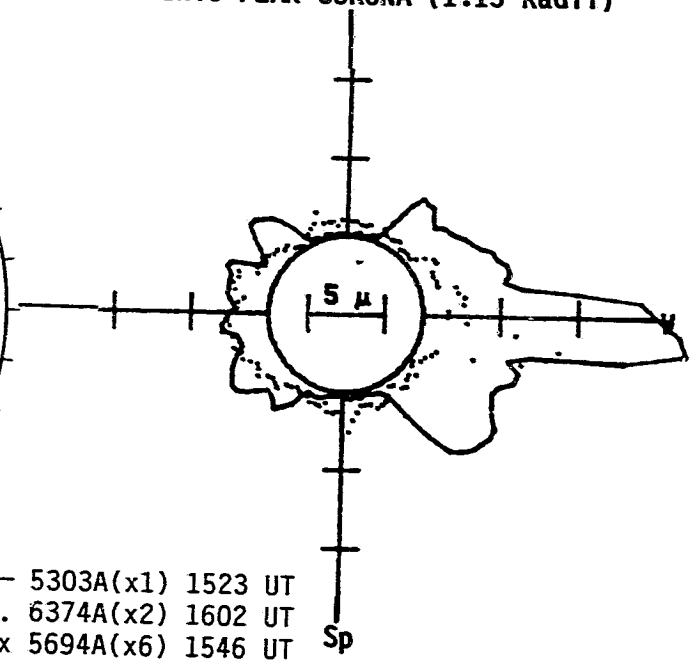
1701 UT

HOLLOMAN SUNSPOTS



1746 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

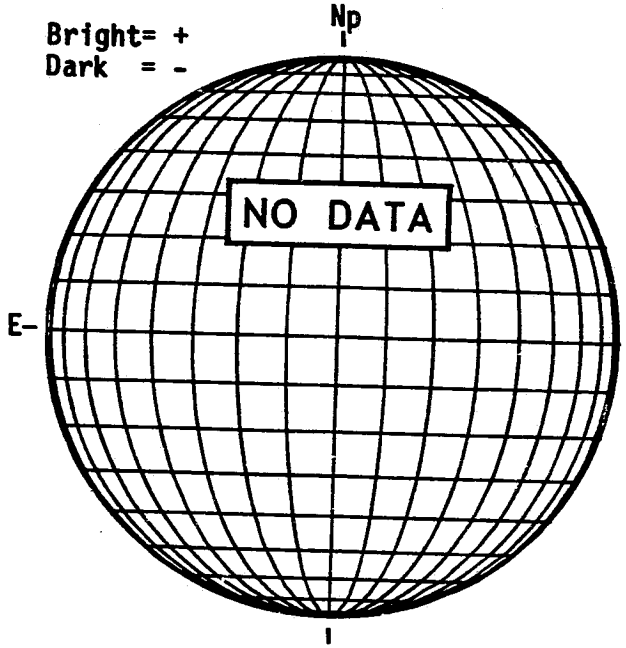


—— 5303A(x1) 1523 UT
.... 6374A(x2) 1602 UT
xxxx 5694A(x6) 1546 UT
NO 5894A ACTIVITY TODAY

D E C E M B E R 25, 1 9 8 5 (P= 5.47, B_0=-2.11, L_0= 265.80)

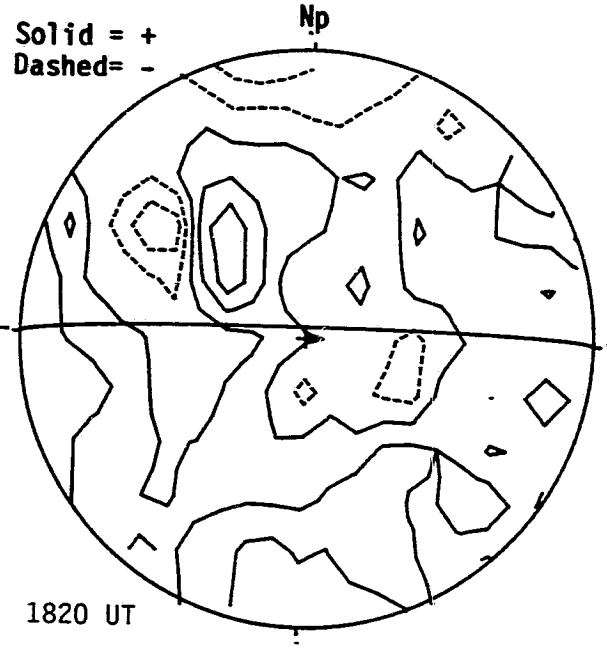
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

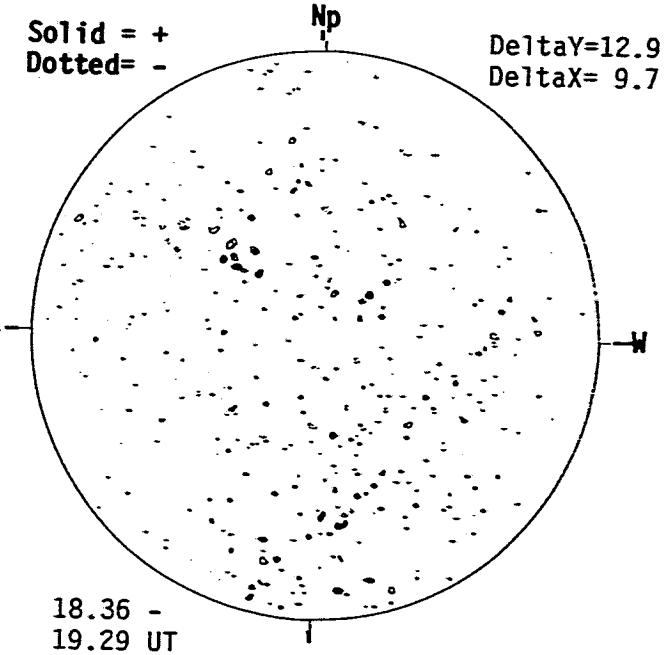
Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

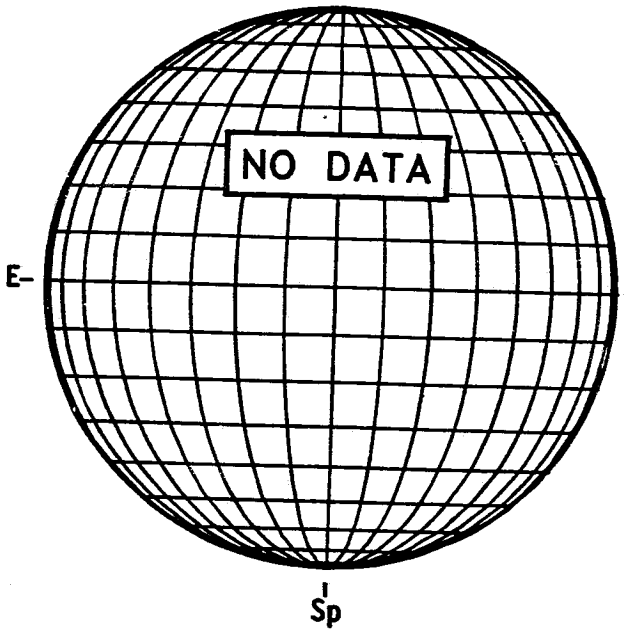
Solid = +
Dotted= -

DeltaY=12.9
DeltaX= 9.7

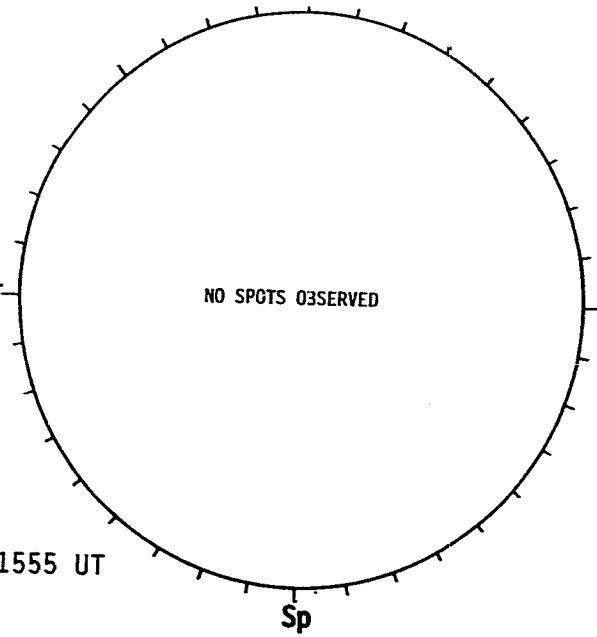


18.36 -
19.29 UT

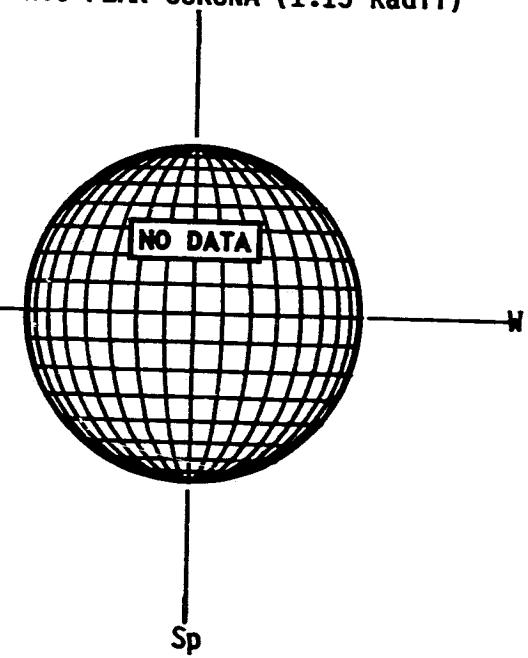
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS

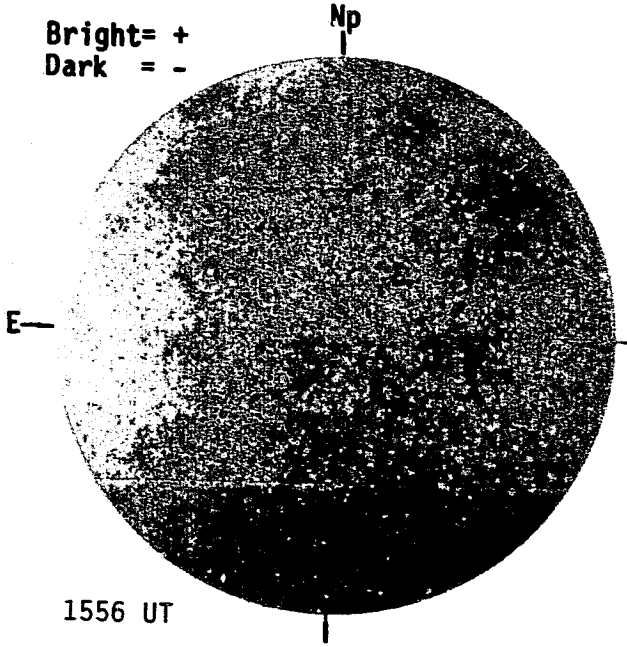


SACRAMENTO PEAK CORONA (1.15 Radii)



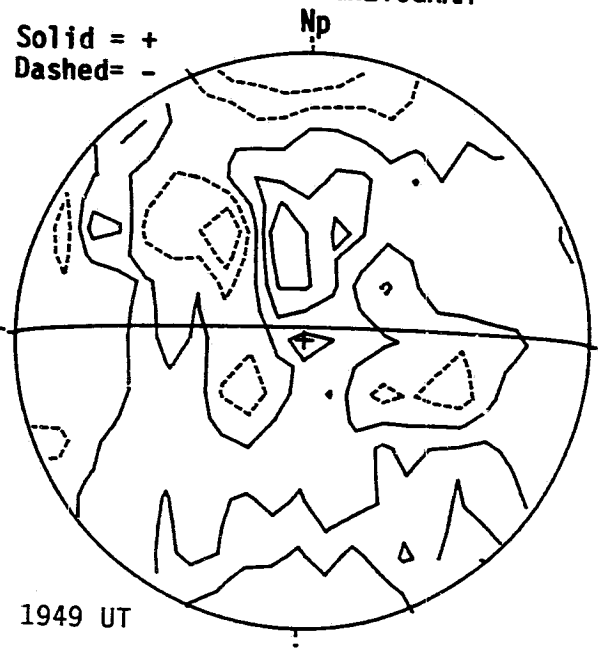
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

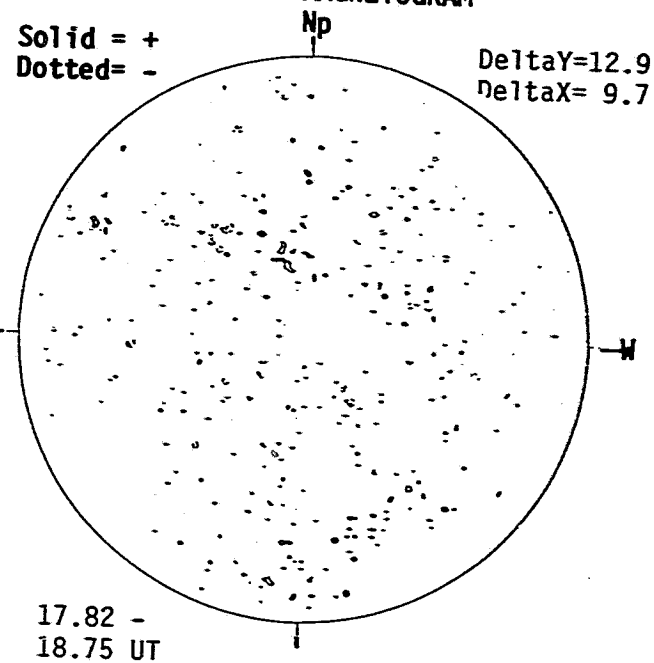
Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

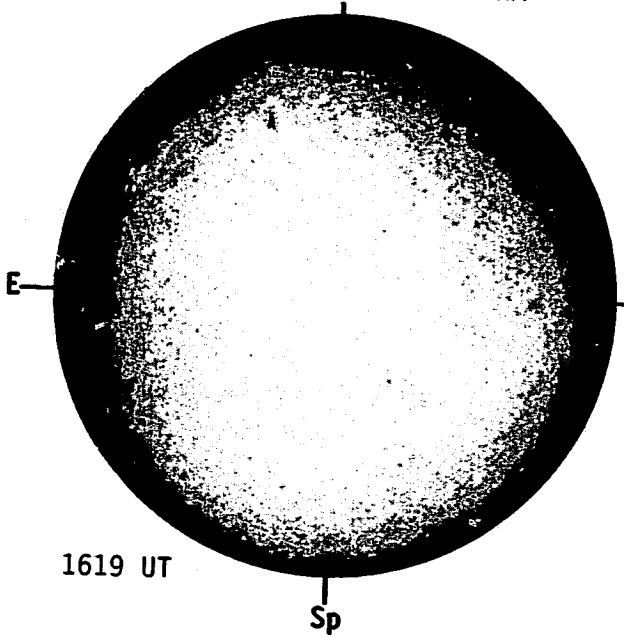
Solid = +
Dotted= -

DeltaY=12.9
DeltaX= 9.7

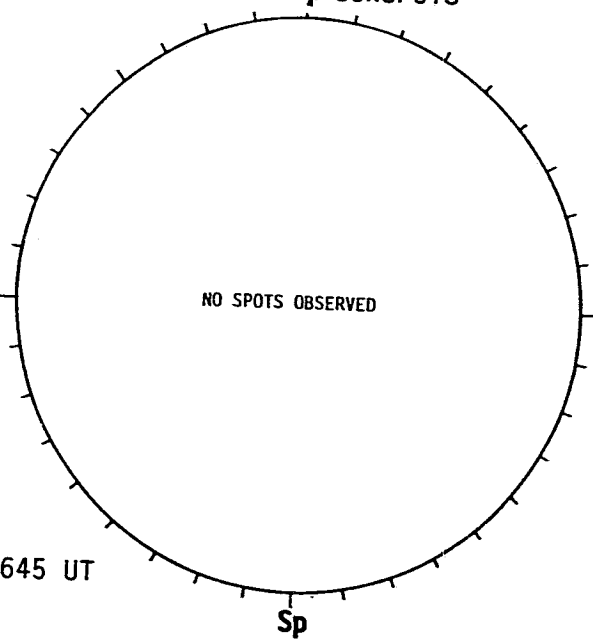


17.82 -
18.75 UT

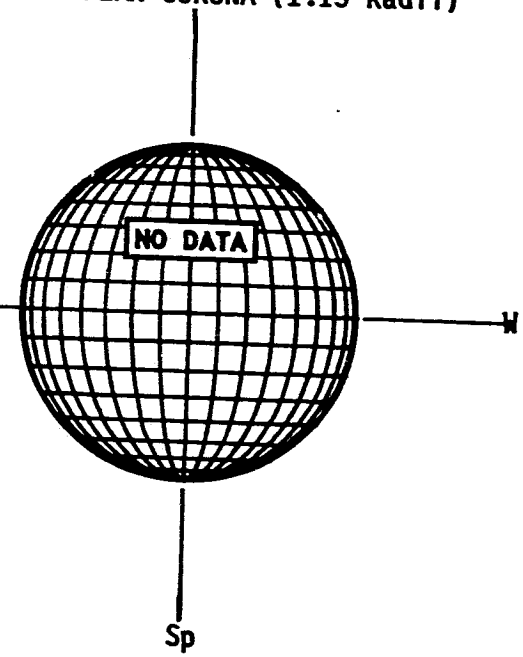
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

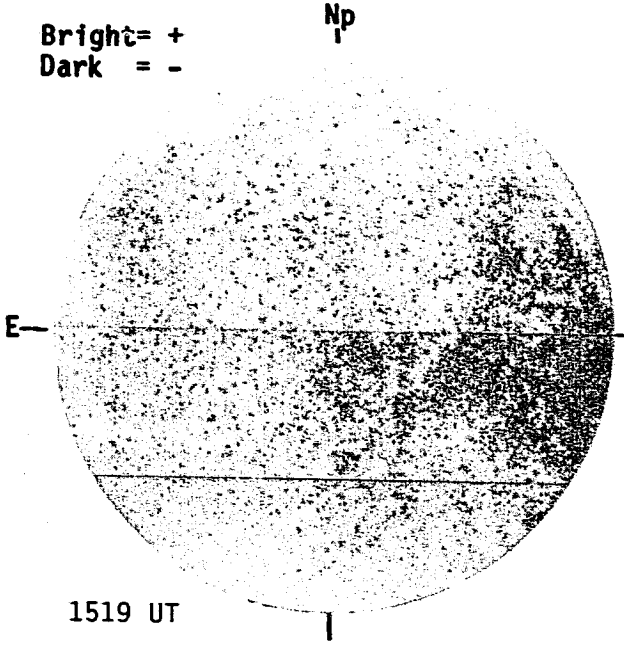


D E C E M B E R 27, 1 9 8 5 (P= 4.51, B_o=-2.35, L_o= 239.46)

Dec 85 56

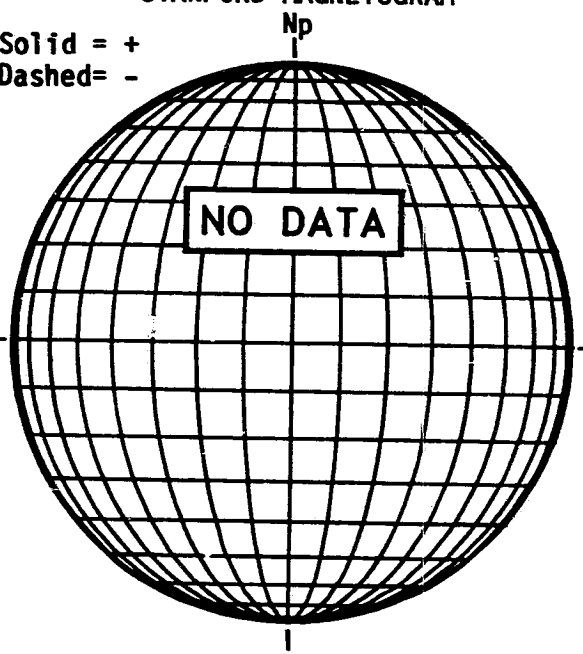
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



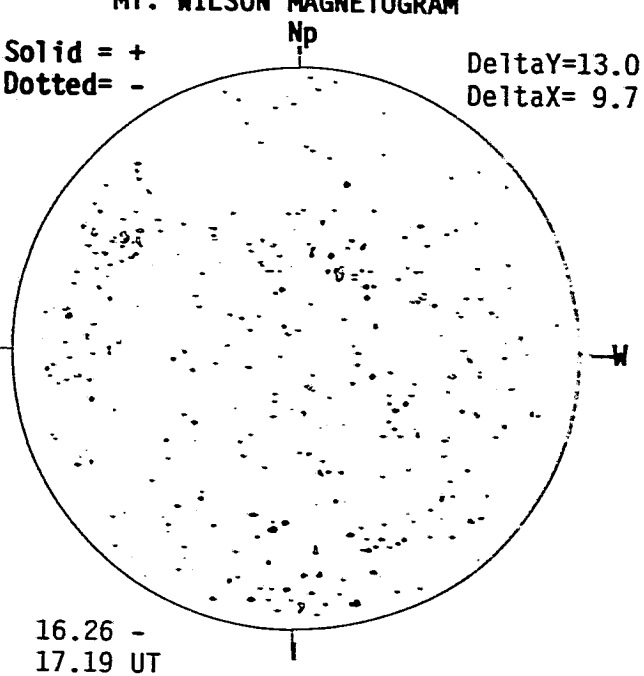
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

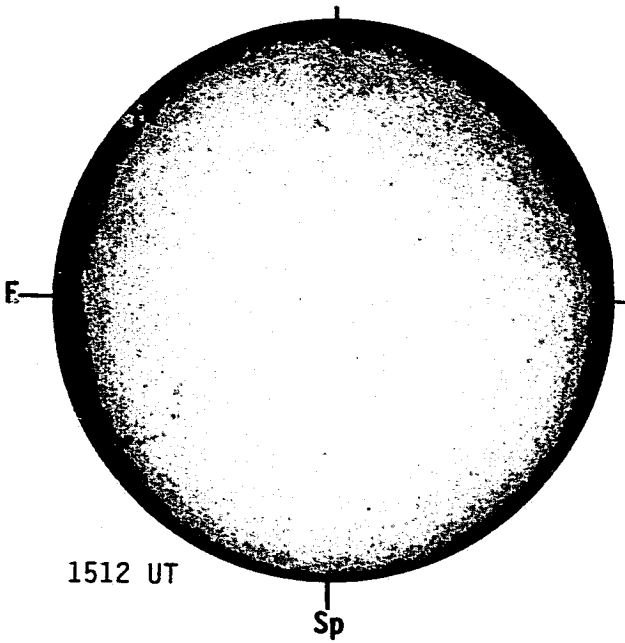


MT. WILSON MAGNETOGRAM

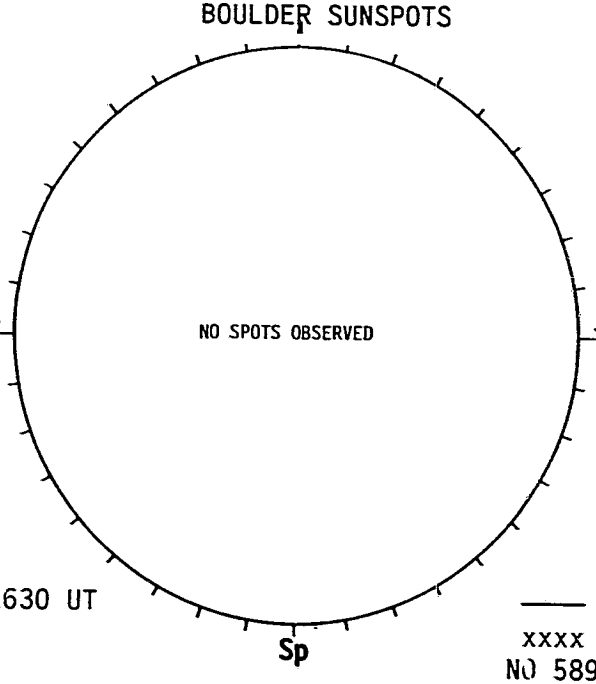
Solid = +
Dotted= -
DeltaY=13.0
DeltaX= 9.7



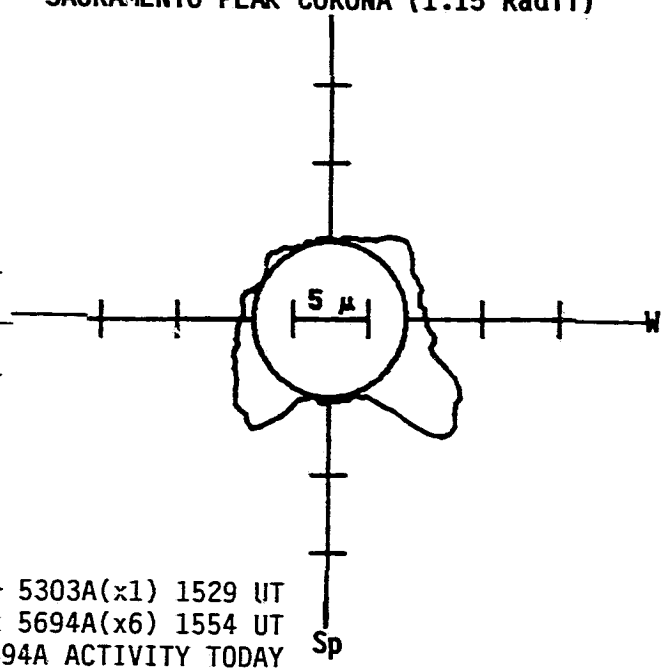
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

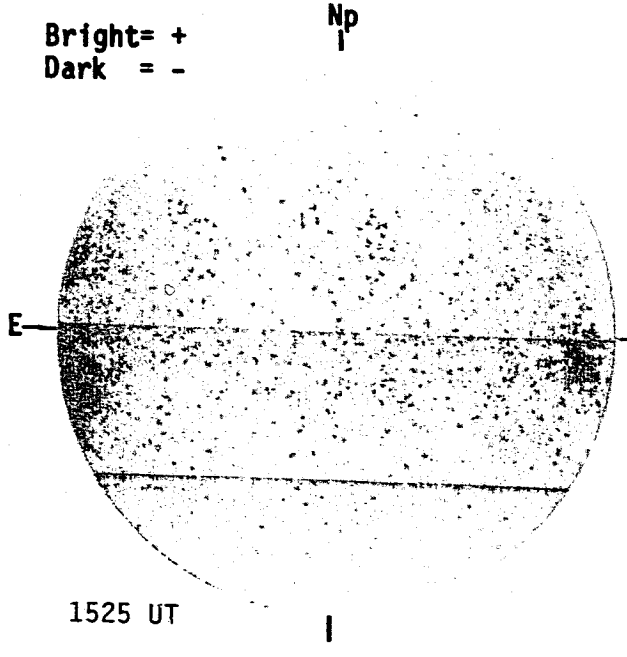


—— 5303A(x1) 1529 UT
xxxx 5694A(x6) 1554 UT
NO 5894A ACTIVITY TODAY

DECEMBER 28, 1985 (P= 4.03, B_o=-2.47, L_o= 226.28)

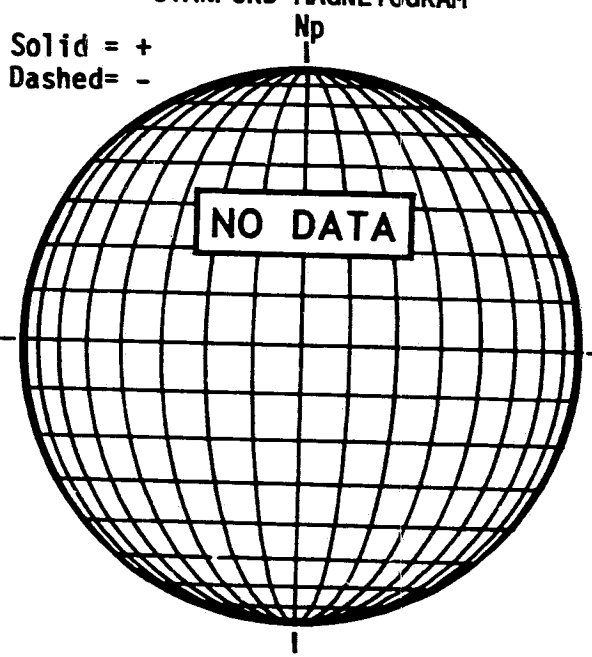
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

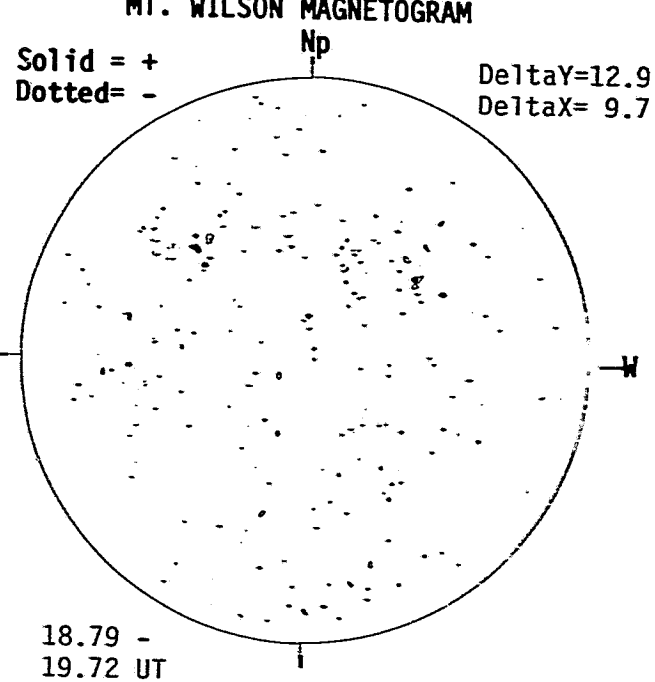
Solid = +
Dashed= -



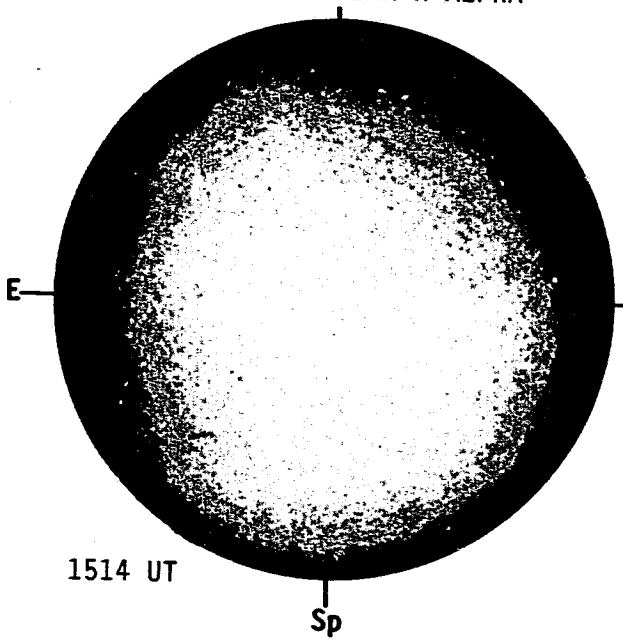
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

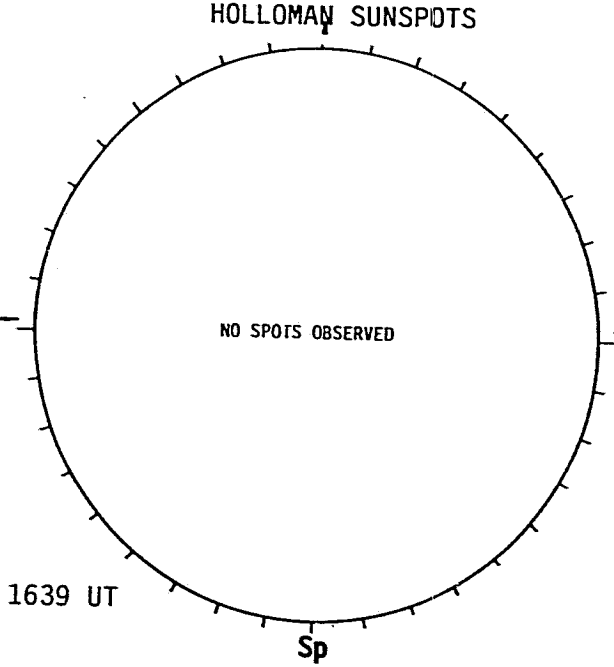
DeltaY=12.9
DeltaX= 9.7



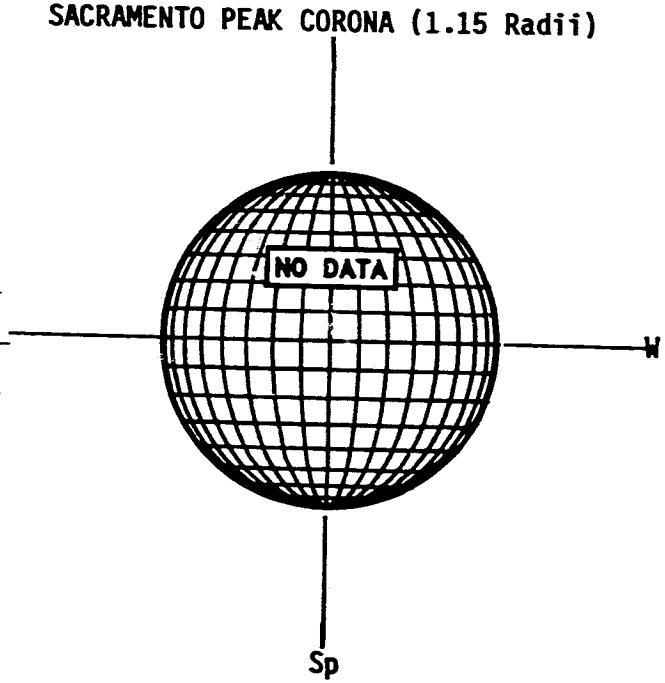
SACRAMENTO PEAK H-ALPHA



HOLLOMAN SUNSPOTS



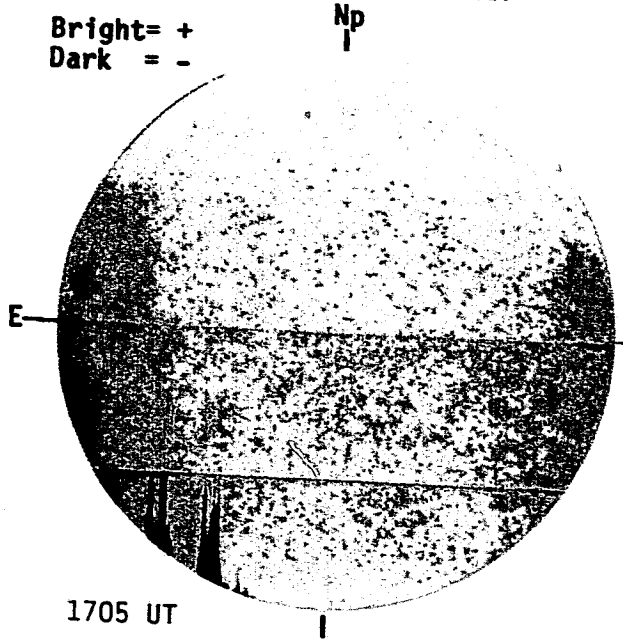
SACRAMENTO PEAK CORONA (1.15 Radii)



D E C E M B E R 29, 1 9 8 5 (P= 3.54, B_o=-2.59, L_o= 213.11)

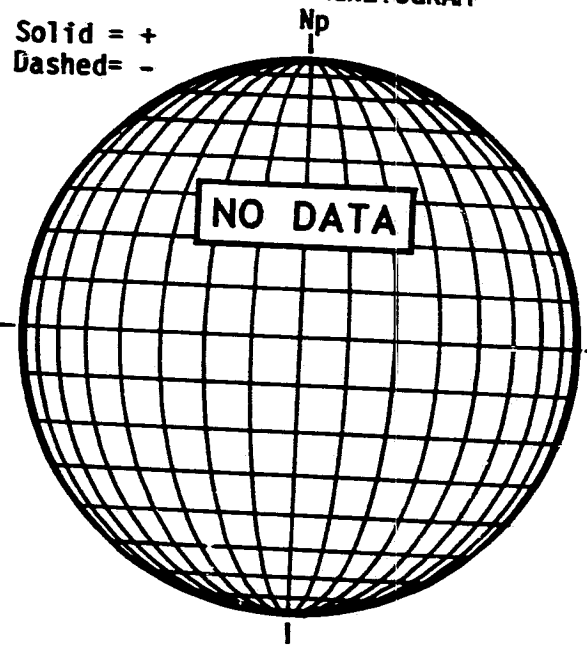
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



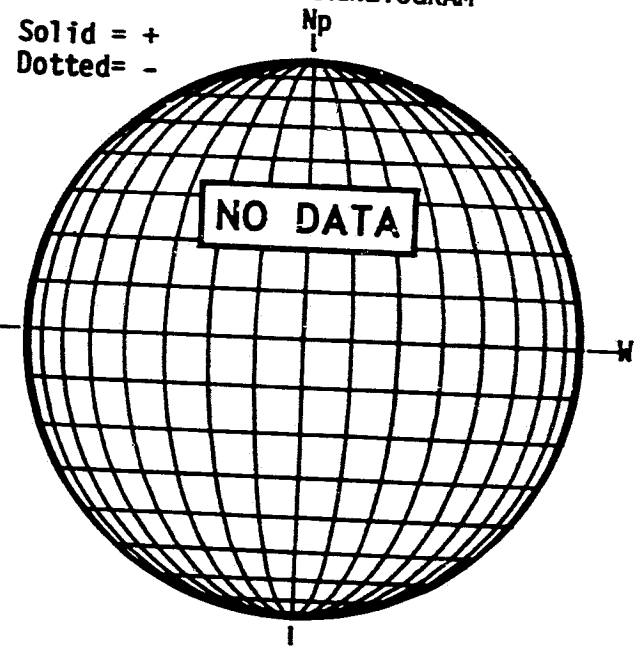
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

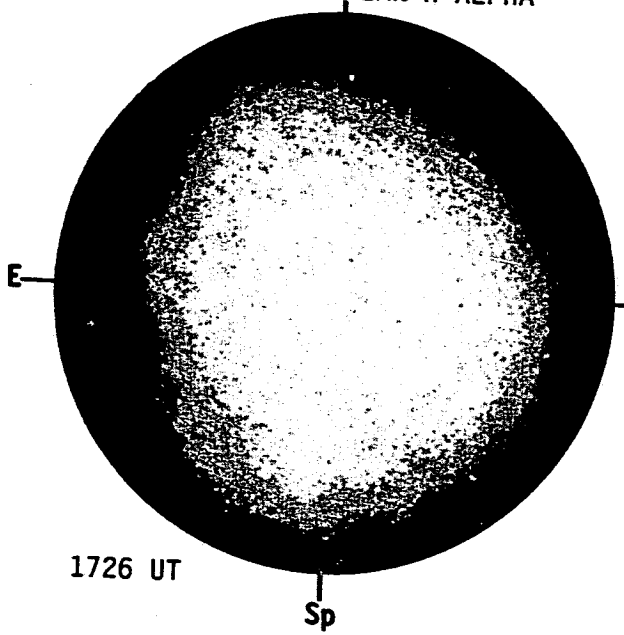


MT. WILSON MAGNETOGRAM

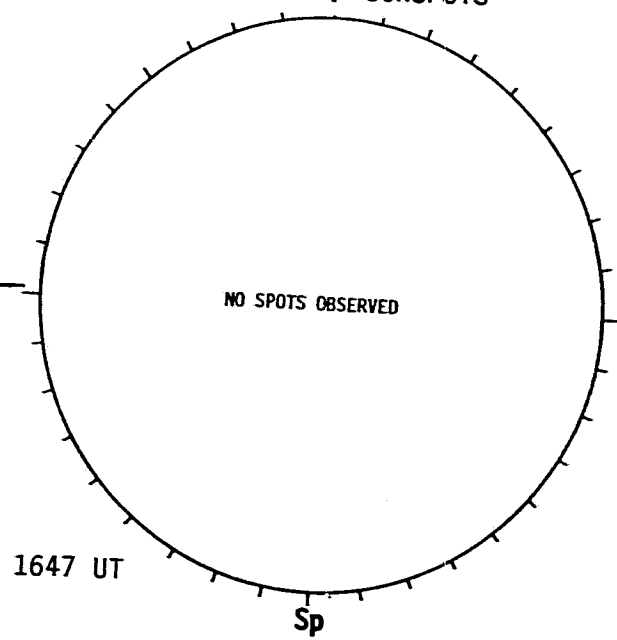
Solid = +
Dotted= -



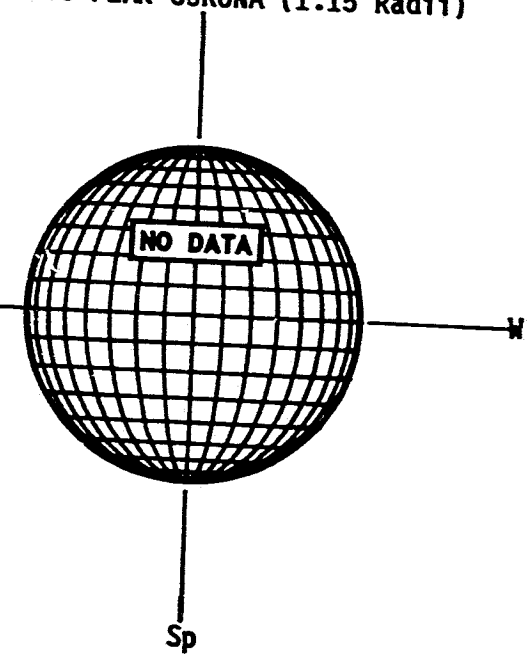
SACRAMENTO PEAK H-ALPHA



HOLLOMAN SUNSPOTS



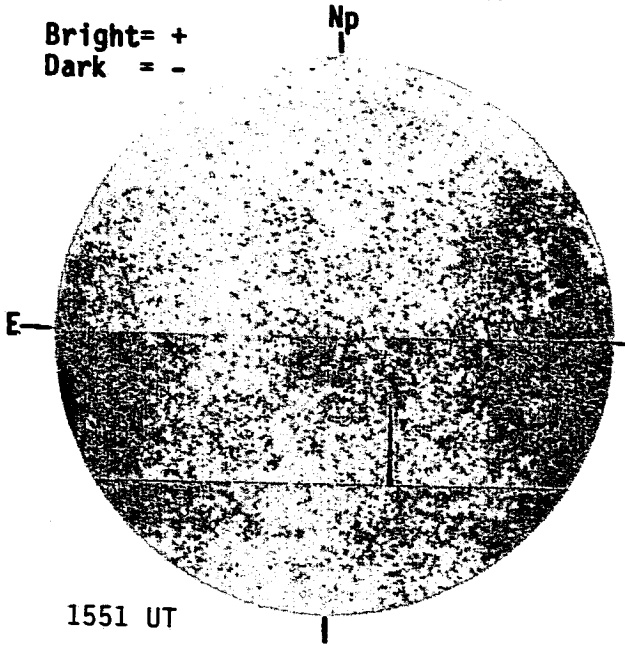
SACRAMENTO PEAK CORONA (1.15 Radii)



D E C E M B E R 30, 1 9 8 5 (P= 3.06, B_0=-2.71, L_0= 199.94)

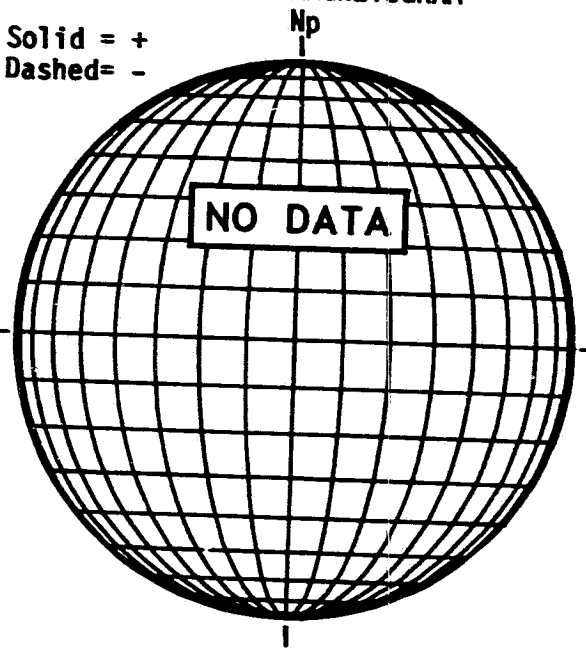
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

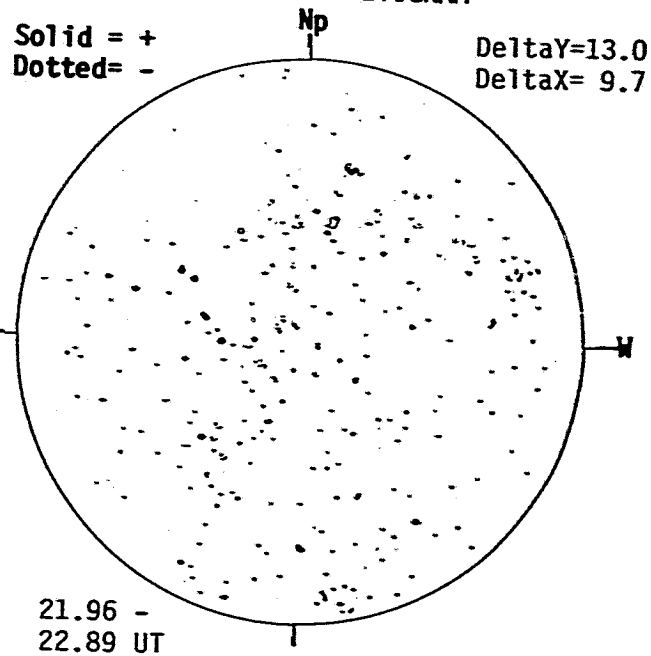
Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

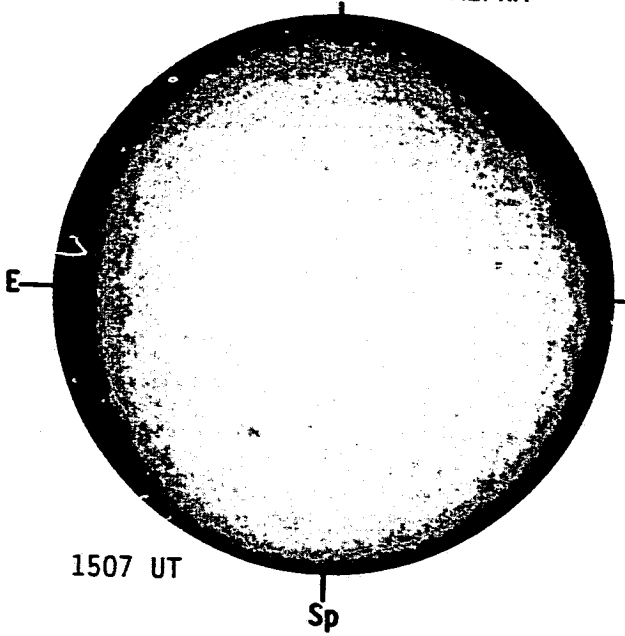
Solid = +
Dotted= -

DeltaY=13.0
DeltaX= 9.7

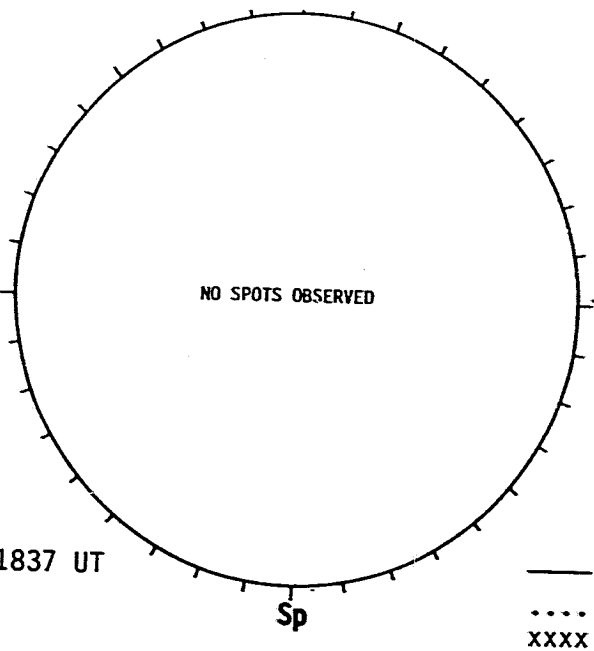


21.96 -
22.89 UT

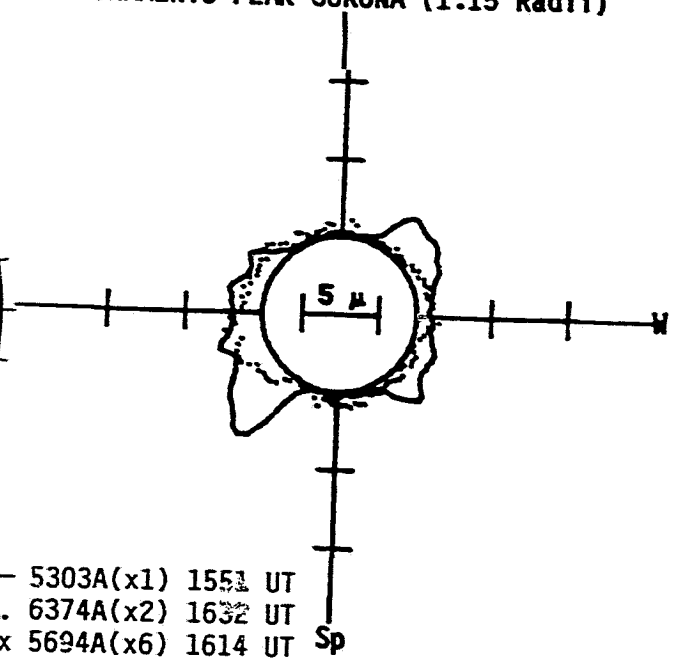
SACRAMENTO PEAK H-ALPHA



HOLLOMAN SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

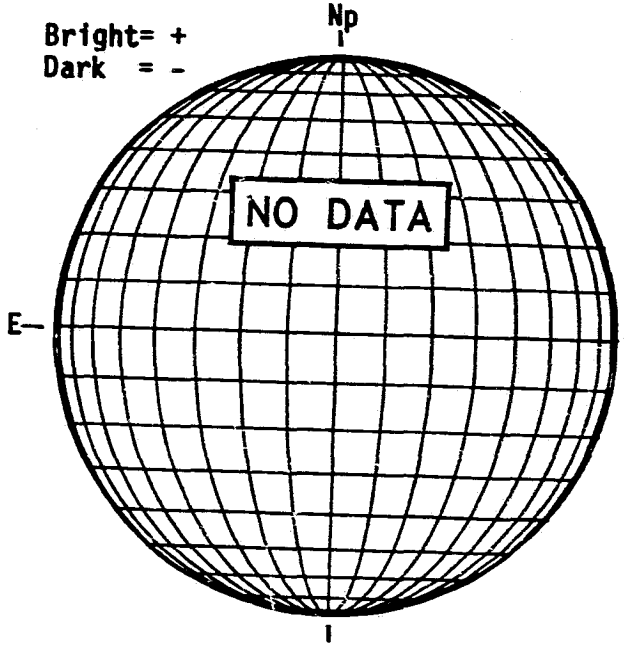


—— 5303A(x1) 1551 UT
.... 6374A(x2) 1632 UT
xxxx 5694A(x6) 1614 UT
NO 5894A ACTIVITY TODAY

D E C E M B E R 31, 1 9 8 5 (P= 2.58, B_0=-2.83, L_0= 186.77)

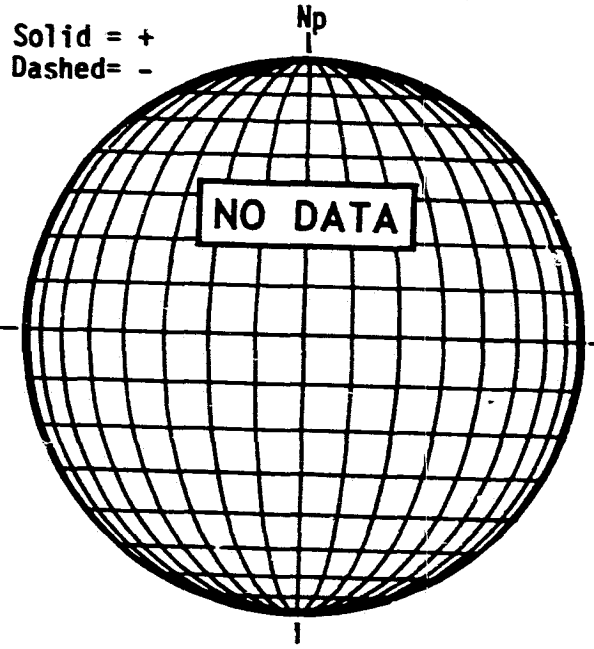
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



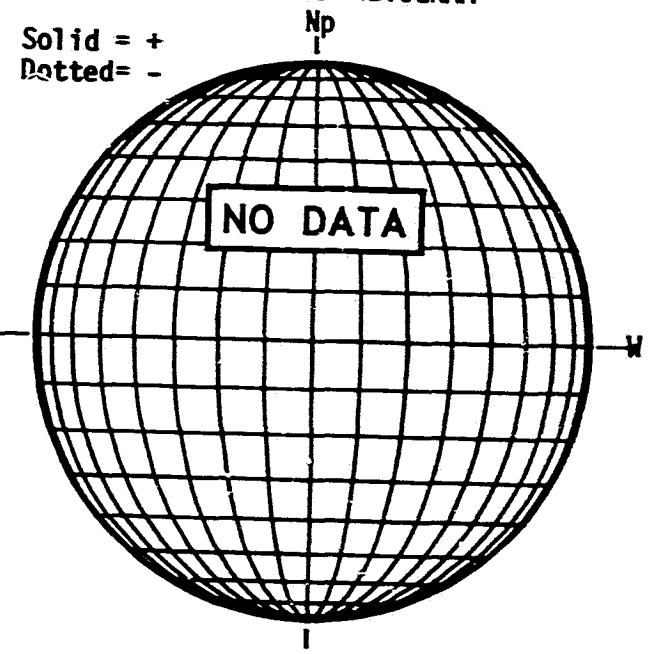
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

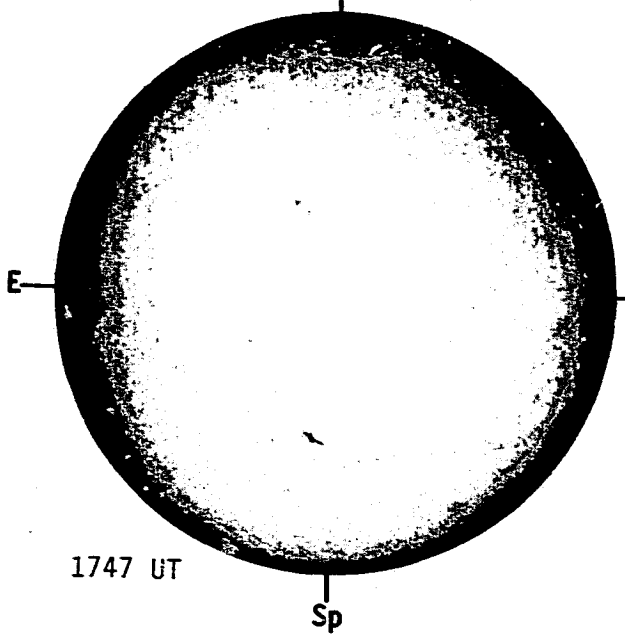


MT. WILSON MAGNETOGRAM

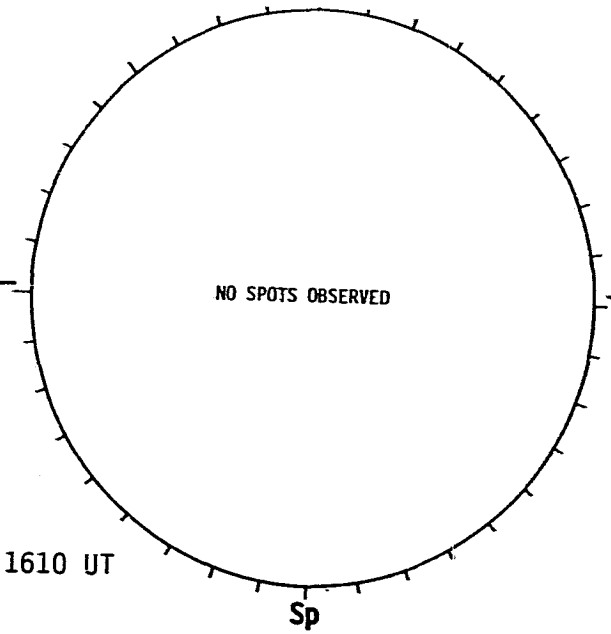
Solid = +
Dotted= -



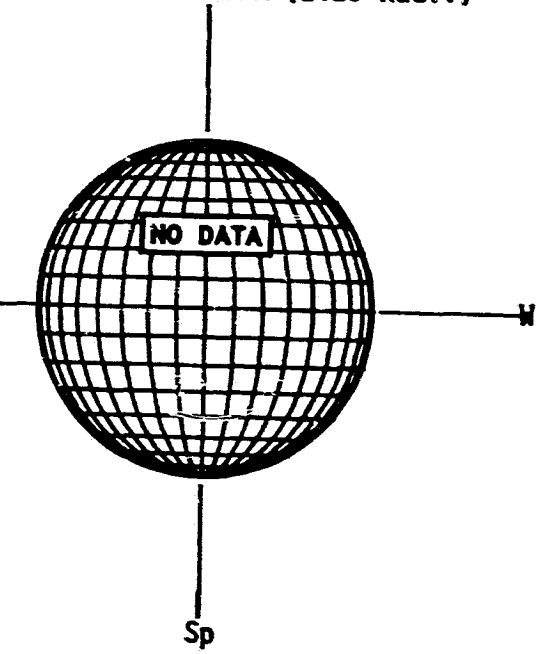
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



SUNSPOT GROUPS
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

DECEMBER 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
4705		RAMY	12	02	1337	S12	E03	12	2.8		A	AXX		1		4
4705		HOLL	12	02	1739	S11	E01	12	2.8		B	BXO	10	2	2	3
4705		PALE	12	02	2029	S12	W01	12	2.8		A	AXX	10	2	2	1
4705		LEAR	12	03	0006	S11	W03	12	2.8		B	BXO	10	2	3	3
4706		ATHN	12	05	0740	N21	W21	12	3.7		A	AXX	10	1		4
4706		LEAR	12	05	0817	N21	W22	12	3.7		A	AXX	10	1	1	3
4706		ATHN	12	05	1045	N21	W23	12	3.7		B	BXO	20	2	3	4
4706	24283	MWIL	12	05	1630	N2J	W27	12	3.6	5	(BP)					
4706		HOLL	12	05	1707	N21	W27	12	3.6		B	CRO	50	7	4	3
4706		PALE	12	05	1955	N19	W30	12	3.5		B	CRO	40	8	5	2
4706		LEAR	12	06	0007	N20	W30	12	3.7		B	BXO	20	4	5	3
4706		ATHN	12	06	0700	N21	W33	12	3.8			CRO	40	6	5	2
4706		RAMY	12	06	1314	N18	W39	12	3.6		B	DRO	50	9	6	3
4706	24283	MWIL	12	06	1615	N20	W40	12	3.6	4	(BP)					
4706		HOLL	12	06	2141	N19	W44	12	3.5		B	CRO	50	7	6	3
4706		LEAR	12	07	0008	N20	W46	12	3.5		B	CRO	70	7	6	4
4706		ATHN	12	07	0705	N21	W48	12	3.6			CSO	60	2	6	3
4706		RAMY	12	07	1248	N19	W53	12	3.5		B	BXO	10	2	5	4
4706	24283	MWIL	12	07	1730	N20	W55	12	3.5	4	(B)					
4706		HOLL	12	07	1750	N19	W55	12	3.5		B	BXO		2	5	3
4706		LEAR	12	08	0059	N20	W63	12	3.2		A	AXX	10	1	1	2
4706A	24282	MWIL	12	04	1600	S04	E07	12	5.2	2	(AF)					
4707		ATHN	12	06	0700	N08	E28	12	8.4			BXO	10	2	3	2
4707		RAMY	12	06	1314	N08	E25	12	8.4		A	AXX		1		3
4707	24284	MWIL	12	06	1615	N08	E23	12	8.4	3	(BF)					
4707		HOLL	12	06	2141	N08	E20	12	8.4		A	AXX		1		3
4707		LEAR	12	07	0008	N08	E18	12	8.4		A	AXX	10	1	1	4
4708		LEAR	12	09	0710	N03	E85	12	15.7		B	BXO	30	2	1	3
4708		HOLL	12	09	1555	N04	E80	12	15.6		B	CRO	10	2	2	3
4708	24285	MWIL	12	09	1600	N05	E85	12	16.0	2	(AP)					
4708		RAMY	12	09	1701	N05	E80	12	15.7		A	AXX	20	4	2	3
4708		PALE	12	09	2005	N05	E78	12	15.7		B	BXO	10	4	3	3
4708		LEAR	12	10	0015	N03	E76	12	15.7		B	BXO	40	3	6	2
4708		RAMY	12	10	1426	N04	E69	12	15.8		B	CRO	20	4	3	3
4708	24285	MWIL	12	10	1615	N03	E66	12	15.6	3	(B)					
4708		HOLL	12	10	1722	N03	E67	12	15.7		B	CRO	30	4	7	2
4708		PALE	12	10	1813	N05	E63	12	15.5		B	CRO	20	3	3	2
4708		LEAR	12	11	0015	N04	E62	12	15.6		B	CRO	50	4	5	2
4708		ATHN	12	11	0650	N02	E59	12	15.7		B	CSO	70	4	2	2
4708		BOUL	12	11	1545	N03	E48	12	15.2		A	AXX		1	1	2
4708		RAMY	12	11	1647	N04	E55	12	15.8		B	CAO	60	8	9	4
4708		HOLL	12	11	1728	N03	E53	12	15.7		B	CAO	40	3	4	2
4708	24285	MWIL	12	11	1800	N03	E50	12	15.5	4	(AP)					
4708		PALE	12	11	1937	N04	E51	12	15.6		B	DSO	50	5	2	3
4708		LEAR	12	12	0003	N04	E49	12	15.7		B	CAO	50	4	5	2
4708		RAMY	12	12	1345	N04	E42	12	15.7		B	CAO	90	16	9	3
4708	24285	MWIL	12	12	1630	N03	E37	12	15.5	4	(B)					
4708		PALE	12	12	1801	N05	E37	12	15.5		B	CAO	70	13	4	3
4708		LEAR	12	13	0010	N04	E34	12	15.5		B	CAO	50	7	3	2
4708		ATHN	12	13	1025	N03	E34	12	16.0			CAO	60	3	3	1
4708		RAMY	12	13	1340	N03	E30	12	15.8		B	CRO	50	8	10	3
4708		HOLL	12	13	1552	N04	E26	12	15.6		B	CRO	30	4	3	2
4708	24285	MWIL	12	13	1615	N03	E24	12	15.5	4	(BF)					
4708		BOUL	12	13	1645	N03	E22	12	15.3		B	CSO	50	2	4	2
4708		LEAR	12	14	0157	N05	E21	12	15.7		B	CAO	80	10	6	3
4708		RAMY	12	14	1417	N03	E12	12	15.5		B	CAO	30	5	9	3
4708	24285	MWIL	12	14	1700	N04	E11	12	15.5	4	(AP)					
4708		HOLL	12	14	1740	N05	E12	12	15.6		B	DRO	20	4	2	3
4708		PALE	12	14	1810	N04	E13	12	15.7		B	CRO	40	8	6	3
4708		LEAR	12	15	0120	N05	E09	12	15.7		B	CRO	40	8	11	3
4708		BOUL	12	15	1545	N05	E01	12	15.7		B	BXO	30	4	6	2
4708		RAMY	12	15	1600	N02	E01	12	15.7		B	DRO	70	28	10	4
4708	24285	MWIL	12	15	1700	N03	E01	12	15.8	4	(B)					
4708		HOLL	12	15	1735	N03	W00	12	15.7		B	DRI	150	27	7	3
4708		PALE	12	15	1928	N04	W01	12	15.7		B	DAO	40	18	9	2
4708		LEAR	12	16	0014	N03	W03	12	15.8		B	DRO	50	31	9	3
4708		ATHN	12	16	0715	N03	W07	12	15.8			DRI	80	10	7	3

SUNSPOT GROUPS
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

DECEMBER 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
4708		BOUL	12	16	1530	N03	W14	12	15.6		B	DRO	60	4	6	1
4708		RAMY	12	16	1600	N02	W13	12	15.7		B	DRI	100	29	9	3
4708	24285	MWIL	12	16	1730	N03	W15	12	15.6	5	(B)					
4708		HOLL	12	16	1742	N03	W13	12	15.8		B	DRI	100	26	8	3
4708		PALE	12	16	2014	N03	W14	12	15.8		B	DSO	90	26	7	2
4708		LEAR	12	17	0025	N03	W17	12	15.7		B	DSI	70	27	7	1
4708		ATHN	12	17	0730	N04	W22	12	15.7			DSI	90	11	8	3
4708		RAMY	12	17	1350	N02	W23	12	15.9		B	DAO	90	19	9	3
4708		HOLL	12	17	1557	N03	W25	12	15.8		B	DSI	90	14	8	3
4708	24285	MWIL	12	17	1615	N03	W26	12	15.7	5	(B)					
4708		BOUL	12	17	1645	N03	W26	12	15.8		B	DRO	60	5	7	2
4708		PALE	12	17	1952	N03	W28	12	15.7		B	DRO	40	14	7	2
4708		LEAR	12	18	0015	N03	W30	12	15.8		B	DAO	60	11	6	2
4708		ATHN	12	18	0645	N04	W32	12	15.9			DSI	80	6	9	1
4708		RAMY	12	18	1410	N03	W38	12	15.8		B	DAO	60	11	8	3
4708	24285	MWIL	12	18	1600	N02	W38	12	15.8	4	(B)					
4708		HOLL	12	18	1655	N03	W38	12	15.9		B	DAO	60	5	7	3
4708		PALE	12	18	1823	N03	W41	12	15.7		B	DRO	30	7	7	2
4708		BOUL	12	18	2040	N03	W38	12	16.0		B	DRO	20	2	3	1
4708		LEAR	12	19	0009	N02	W44	12	15.7		B	CAO	30	6	6	3
4708		RAMY	12	19	1235	N01	W58	12	15.2		B	BXO	20	3	2	3
4708	24285	MWIL	12	19	1545	N00	W48	12	16.1	4	(AF)					
4708		BOUL	12	19	1615	N02	W49	12	16.0		A	AXX	10	1	1	1
4708		HOLL	12	19	1755	N01	W54	12	15.7		B	CRO	40	3	5	3
4708		PALE	12	19	2056	N01	W53	12	15.9		A	AXX	10	1	1	3
4708		HOLL	12	20	1732	N04	W71	12	15.4		A	AXX		1		2
4709		LEAR	12	14	0157	S11	E45	12	17.5		B	CRO	30	2	2	3
4709		RAMY	12	14	1417	S09	E38	12	17.4		B	CRO	30	4	3	3
4709	24286	MWIL	12	14	1700	S09	E37	12	17.5	4	(B)					
4709		HOLL	12	14	1740	S09	E37	12	17.5		B	CRO	40	6	4	3
4709		PALE	12	14	1810	S09	E36	12	17.5		B	CRO	20	7	4	3
4709		LEAR	12	15	0120	S09	E32	12	17.5		B	DRO	30	5	5	3
4709		BOUL	12	15	1545	S08	E22	12	17.3		B	BXO	10	2	4	2
4709		RAMY	12	15	1600	S09	[illegible]				B	DRO	40	10	5	4
4709	24286	MWIL	12	15	1700	S0[illegible]	2[illegible]				(B)					
4709		HOLL	12	15	1735	S0[illegible]	2[illegible]				B	DRO	90	12	6	3
4709		PALE	12	15	1928	S0[illegible]	2[illegible]				B	DAO	30	8	6	2
4709		LEAR	12	16	0014	S0[illegible]	19	12	17.		B	DRO	30	13	6	3
4709		ATHN	12	16	0715	S0[illegible]	E13	12	17.3			DRI	60	8	6	3
4709		BOUL	12	16	1530	S0[illegible]	E05	12	17.0		B	DRO	50	5	7	1
4709		RAMY	12	16	1600	S0[illegible]	[illegible]10	12	17.4		B	DRI	70	17	9	3
4709	24286	MWIL	12	16	1730	S0[illegible]	06	[illegible]	17.2	5	(B)					
4709		HOLL	12	16	1742	S0[illegible]	08	[illegible]	17.3		B	DRO	120	17	8	3
4709		PALE	12	16	2014	S08	[illegible]7		17.4		B	DSO	80	13	8	2
4709		LEAR	12	17	0025	S09	[illegible]5	[illegible]	17.4		B	DSI	100	17	9	1
4709		ATHN	12	17	0730	S06	W03	12	17.1			DSI	110	12	10	3
4709		RAMY	12	17	1350	S09	W03	12	17.4		B	DAI	80	16	10	3
4709		HOLL	12	17	1557	S08	W05	12	17.3		B	ESO	120	19	11	3
4709	24286	MWIL	12	17	1615	S09	W05	12	17.3	5	(BF)					
4709		BOUL	12	17	1645	S08	W06	12	17.2		B	DRO	50	5	10	2
4709		PALE	12	17	1952	S09	W07	12	17.3		B	EAI	80	19	11	2
4709		LEAR	12	18	0015	S09	W10	12	17.3		B	EAO	70	19	12	2
4709		ATHN	12	18	0645	S09	W13	12	17.3			ESI	80	7	11	1
4709		RAMY	12	18	1410	S09	W18	12	17.2		B	EAO	80	15	12	3
4709	24286	MWIL	12	18	1600	S09	W18	12	17.3	5	(BF)					
4709		HOLL	12	18	1655	S08	W18	12	17.4		B	EAI	100	11	12	3
4709		PALE	12	18	1823	S10	W20	12	17.3		B	EAI	50	13	12	2
4709		BOUL	12	18	2040	S08	W20	12	17.4		B	ERI	50	7	11	1
4709		LEAR	12	19	0009	S09	W24	12	17.2		B	EAO	60	15	13	3
4709		RAMY	12	19	1235	S10	W28	12	17.4		B	CAO	40	9	12	3
4709	24286	MWIL	12	19	1545	S10	W30	12	17.4	4	(BF)					
4709		BOUL	12	19	1615	S10	W32	12	17.3		B	CSO	60	4	11	1
4709		HOLL	12	19	1755	S11	W34	12	17.2		B	ERO	70	11	14	3
4709		PALE	12	19	2056	S10	W39	12	16.9		B	DSO	60	7	8	3
4709		LEAR	12	20	0320	S09	W40	12	17.1		B	CSO	30	6	11	2
4709		RAMY	12	20	1350	S11	W60	12	16.1		B	BXO	10	6	8	3
4709	24286	MWIL	12	20	1545	S10	W46	12	17.2	5	(B)					
4709		HOLL	12	20	1732	S10	W50	12	17.0		B	CRO	40	7	6	2
4709		BOUL	12	20	1915	S10	W52	12	16.9		B	CSO	30	4	5	1
4709		PALE	12	20	2130	S11	W52	12	17.0		B	CSO	50	4	8	2

SUNSPOT GROUPS
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

DECEMBER 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
4709		LEAR	12 21 0002	S09 W51	12 17.2		B	CSO	40	6	10	3
4709		RAMY	12 21 1350	S11 W60	12 17.1		B	BXO	10	6	8	3
4709	24286	MWIL	12 21 1445	S10 W60	12 17.1	5	(B)					
4709		HOLL	12 21 1715	S09 W64	12 16.9		B	BXO	40	3	7	3
4709		PALE	12 21 1924	S11 W65	12 16.9		B	BXO	20	3	8	4

SUDDEN IONOSPHERIC DISTURBANCES

DECEMBER 1985

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide-spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Known Flare	X-ray Class	NOAA/SESC Region
07	1000	1058	1200	1-	3			1		1	No Flare		
10	1202	1205U	1224	1	1		1				No Flare		
10	1232	1236U	1254	1	3		2				No Flare		
10	1300	1310	1340	1	1		1				No Flare		
11	0733	0754	0854	1	1				1		No Flare		
11	1000	1016	1027	1	3		4				No Flare		
11	1106	1120	1142	1	3		3				No Flare		
12	0532	0553	0600	1-	1					1	No Flare		
12	0606	0608	0615	1-	1					1	0551 UT	C7.3	
12	1255	1305	1405	1-	1			1		1	No Flare		
14	1300	1320	1329	1-	1		1				1246 UT	C1.9	4708
15	0610	0617	0658	1-	1			1			0606 UT	C1.1	4708
15	2218	2221	2248	1-	1			1			2216 UT	C2.4	4709
16	0327	0335	0348	1-	1			1			0327 UT	C1.9	4709
16	0352	0355	0410	1-	1			1			0352 UT		4709
16	0527	0931	0611	1-	1			1			0526 UT	C2.2	4709

* No flare patrol

SIDs by NOAA/SESC REGION

DECEMBER 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																															
4708														1	1																
4709															1	3															
X-Ray												1		1	2	2															
No Flare							1			3	3	2																			
No Flare Patrol																															
No Data																															
Event Totals							1			3	3	3		1	2	3															

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

DECEMBER 1985

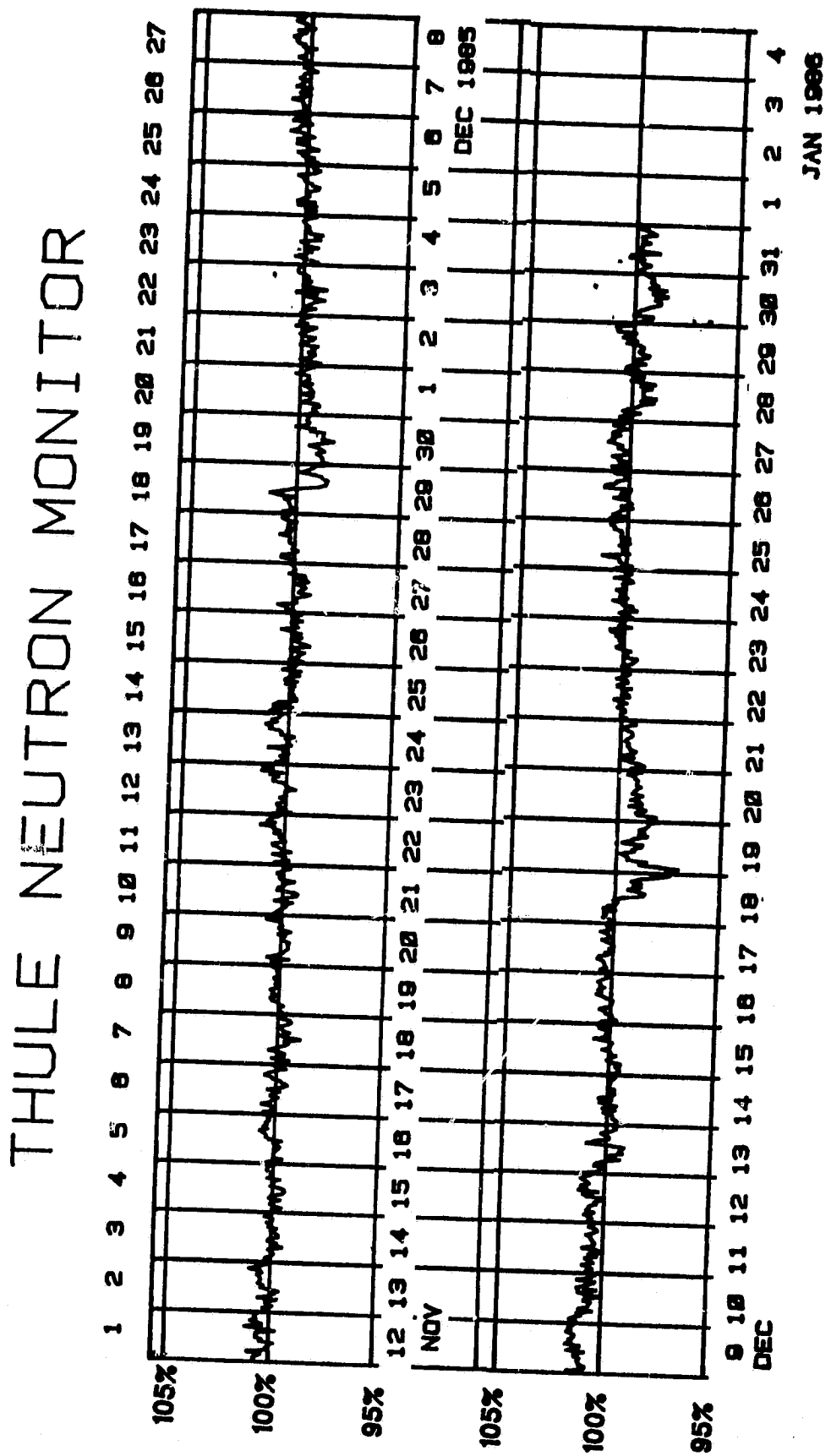
Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
01	0736	1002	WEIS										
	1112	1505	WEIS										
02	0737	1504	WEIS										
03	0740	1025	WEIS										
	1135	1504	WEIS										
04	0740	1009	WEIS										
	1015	1038	WEIS										
	1038	1123	WEIS										
	1220	1504	WEIS										
05	0741	1503	WEIS										
06	0744	1448	WEIS										
07	0744	0830	WEIS										
	0903	1503	WEIS										
08	0745	1241	WEIS										
	1247	1503	WEIS										
09	0748	1439	WEIS										
	1444	1503	WEIS										
10	0747	1502	WEIS										
11	0748	1459	WEIS										
12	0750	1309	WEIS										
	1325	1502	WEIS										
13	0750	1502	WEIS										
14			LEAR				0601.1	0654.1	1				CONT
	0751	1502	WEIS				1251.3	1257.9	2			II	HARMONIC
			WEIS				1252.7	1253.6	2				DCIM
15	0754	1003	WEIS										
	1007	1503	WEIS										
16			LEAR				0351.0	0351.3	1				III
	0753	1503	WEIS				1301.5	1301.6	2				IIIB
			WEIS				1414.4	1415.4	2				IIIGG
17	0755	1502	WEIS										
18	0756	0913	WEIS										
	0919	1504	WEIS										
19			LEAR				0000.0	0000.0	1				III
	0755	1504	WEIS										
			LEAR				2148.8	2151.1	1				III
			LEAR				2210.6	2213.0	1				III
20			LEAR				0130.8	0134.3	1				III
	0744	1503	WEIS										
21	0942	1505	WEIS										
22	0756	1505	WEIS										
23	0757	1505	WEIS										
24	0800	0832	WEIS										
	0845	1507	WEIS										
25	0757	1507	WEIS										
26	0757	1508	WEIS										
27	0801	1509	WEIS										
28	0758	1510	WEIS										
29	0758	0948	WEIS										
	1150	1510	WEIS										
30	0800	1511	WEIS										
31	0758	1512	WEIS										

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: LEAR = Learmonth WEIS = Weissenau


THULE NEUTRON MONITOR
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
12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 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 1 2 3 4
NOV
DEC 1985
DEC
JAN 1986
105%
100%
95%
105%
100%
95%

COSMIC RAY INDICES
(Neutron Monitor)

DECEMBER 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	PRESTSTSTUHL Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4457	7241	6897	6186.9		1200		
2	4464	7263	6967	6213.8		1213		
3	4467	7258	6961	6215.3		1226		
4	4468	7268	6957	6225.1		1234		
5	4470	7297	6956	6256.2		1240		
6	4485	7324	6986	6282.7		1248		
7	4488	7331	6975	6273.2		1245		
8	4494	7339	6975	6265.1		1244		
9	4506	7347	6993	6283.4		1247		
10	4486	7317	6954	6260.6		1239		
11	4476	7296	6904	6227.9		1229		
12	4485	7315	6956	6226.2		1224		
13	4448	7243	6907	6199.3		1219		
14	4446	7246	6932	6193.6		1222		
15	4452	7259	6941	6196.1		1220		
16	4465	7267	6951	6203.9		1215		
17	4466	7274	6951	6206.0		1221		
18	4426	7204	6901	6180.1		1212		
19	4399	7176	6854	6153.2		1194		
20	4410	7172	6866	6165.1		1196		
21	4431	7207	6905	6164.0		1180		
22	4449	7234	6920	6192.3		1186		
23	4454	7235	6924	6199.4		1201		
24	4454	7240	6917	6228.9		1209		
25	4467	7253	6953	6238.3		1209		
26	4468	7275	6973	6259.3		1211		
27	4474	7293	6967	6260.9		1209		
28	4438	7215	6917	6227.4		1201		
29	4452	7241	6932	6237.0		1193		
30	4417	7188	6902	6189.7		1178		
31	4437	7217	6895	6209.6		1179		
Mean	4458	7259	6935	6220.0		1214		

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

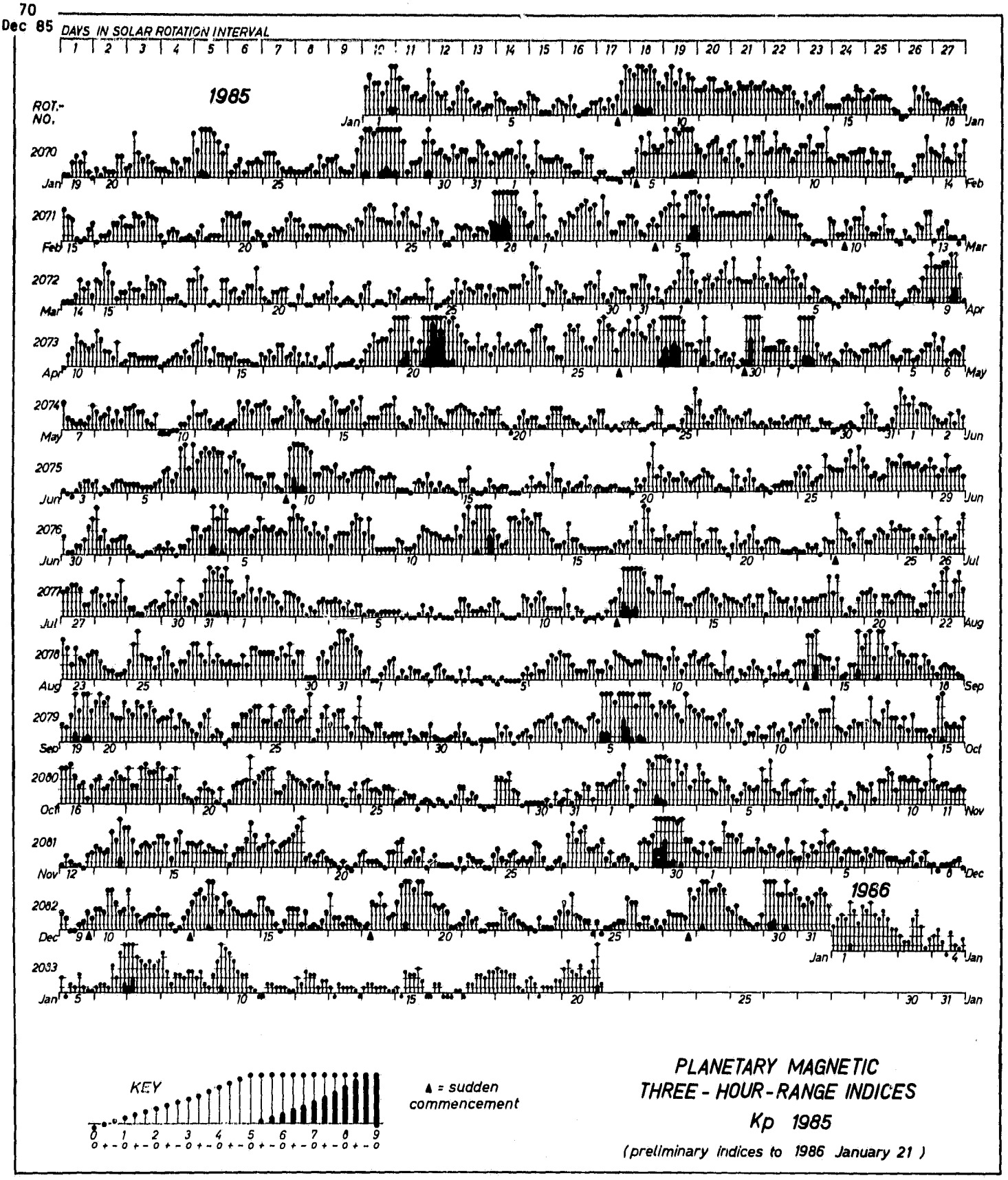
December 1985

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		2	3	2-	3	2+	2+	5-	4-	23-	15	0.9	2-	2	1+	3-	3-	2	4-	3	21	31	16	12	36	
2		4-	3+	4-	2	2+	2+	3+	2+	23	14	0.8	3-	2+	3-	1+	2+	2+	3	2+	20	32	16	24	25	
3		2	3-	2+	2-	2	3+	2	1+	17+	9	0.5	1+	2	2	1+	2	3-	2	1	14	15	13	15	13	
4		1+	3	2-	3-	2	3	4	3-	20+	12	0.7	1	2	2-	3-	2	3-	3+	2+	19	23	17	15	26	
5		3	2+	1+	2	2+	2	2	1+	16+	8	0.4	2+	1+	1	2+	2+	2	2-	1+	14	15	15	18	13	
6	Q10A	2+	2-	2+	2	2	1+	1+	1+	14+	7	0.3	2-	1+	2-	2-	2+	1+	1+	2-	12	12	13	15	10	CC
7	Q3	1	1	1+	2	1-	1+	2	1-	10	5	0.2	1+	1+	2	2	1	2-	2	1-	11	12	12	14	11	CC
8	Q1	1-	0	1-	1-	1-	1	1+	0+	5+	3	0.1	1-	0	1+	1	1	1+	1+	0+	6	5	8	7	7	CC
9	Q5	2+	2-	0+	0+	1	1+	2+	2-	11	5	0.2	2	2-	0+	0+	1-	1+	2+	2	10	9	8	7	10	C
10		3-	3-	2+	4+	4+	3+	2+	3-	25-	17	0.9	2+	3-	3	4	4	3	2+	2+	32	29	28	30	28	
11		4+	3-	2	1+	2-	2	2	3-	19-	11	0.6	3+	2	2	1+	2	2	2-	2	17	21	12	20	14	
12		2	2	1	0+	1-	2-	2+	3+	13+	7	0.4	1+	1+	0+	0+	1	2-	2+	3+	12	16	9	7	19	K
13	D4	4	4+	4-	5+	5	4-	2+	4	32+	30	1.3	3+	3+	3	5	5-	4-	3-	4-	47	52	42	55	39	
14		3+	3-	2+	2	2	2+	2	4-	20+	11	0.7	3-	2+	2	1+	2	3-	2+	3+	20	25	17	18	25	
15		4-	3-	2+	1	0+	1+	3-	3-	17-	10	0.5	3-	2-	2-	1	1-	1+	2+	3-	14	19	15	14	20	
16	Q6	3-	1	2+	1-	1	1-	1+	2+	12	6	0.3	2+	1	2-	0	1+	1-	1	2	9	14	11	14	12	K
17		4	2-	2-	1	2-	2-	1+	1	14	8	0.4	3+	2-	2-	1+	2-	2-	1+	1-	13	17	12	17	12	
18		1-	1	3+	3	4	3	2-	2	19-	12	0.7	1-	1-	3+	3-	4	3	2+	2	23	23	25	20	29	
19	D2	3+	5-	6-	5	4+	5	5	4	37	41	1.5	3-	4-	5-	5	4	4+	4+	4-	61	62	59	58	63	
20		4	3	3-	3	2+	1-	1-	1	17+	11	0.6	4-	3-	2+	3	2+	1	1-	0+	18	15	17	25	7	
21	Q4	2-	2+	1+	2-	0+	0+	1	1	10-	5	0.2	1+	1+	1+	1+	0+	1-	1-	1+	7	8	5	10	4	CC
22	Q8	1	3-	2+	2-	2	1+	1	1-	13-	6	0.3	1+	2+	2	2-	2-	1+	1	1	11	12	14	17	10	KC
23	Q2	1-	0+	2-	1-	1-	1-	2-	2+	9-	4	0.2	1-	0+	2	1+	1	1-	2-	2-	8	10	10	10	11	CK
24		3+	2+	4	2	2-	1+	1+	0	16	10	0.5	3	2	3+	2	2-	1+	1+	0+	16	14	19	23	10	K
25	Q7K	1+	0	1-	1-	1	1+	1+	4-	10	6	0.3	1+	0+	1+	1+	1+	2-	1+	3	11	13	10	7	16	KK
26		3+	3+	1	2-	2-	1-	1+	1-	14-	8	0.4	3-	3-	1	2-	2-	1	2-	1	12	15	11	17	9	K
27		1+	2+	2	2	2	2-	4+	4-	19+	12	0.7	2-	2-	2	2	2	2-	4	3	21	21	21	17	26	
28	D3	4+	5+	5	4+	4+	5-	4+	3-	35	35	1.4	4-	5-	4	4	4	4	4-	2+	49	62	39	48	54	
29	Q9A	2+	3	2-	1+	1	1-	1	2	13	7	0.3	2-	2+	1+	1+	1	1-	1+	2	10	9	9	11	7	C
30	D1	5	6-	6	4	4	5+	4	4+	38+	46	1.5	5-	4+	5-	4-	4-	5-	3+	4-	60	71	46	59	59	
31	D5	4-	3	4-	3+	4	4+	4	3	29	22	1.1	3-	2+	3	3-	4	4-	3+	3-	32	48	30	27	52	
Mean											13	0.61									20.3	23.7	18.7	21.4		

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	1+	2+	2-	3	3	2	4	3	25	2-	1+	1+	2+	2	2	3+	3	18	67.8	0	0	11	A	-
2	3+	3-	3	2-	3-	2+	3+	2	24	2	2-	3-	1+	2	2-	3-	2+	16	68.4	16	0	12	A	-
3	1+	2	2+	2-	2+	3	2-	1	16	1+	2-	2	1+	1	2	2	1+	12	68.5	19	0	12	A	-
4	1	2+	2-	3-	2	3	4-	2+	20	1	2-	2	3-	2	2+	3	2	17	68.3	0	0	12	A	-
5	3-	2-	1+	2+	3-	2+	2+	1	16	2	1+	1	2	2	2-	1+	2-	12	69.7	18	13	13	A	-
6	2-	1+	2	2	3-	1+	2-	2-	13	2-	1	2-	2-	2-	1	1+	2-	11	71.1	26	11	15	A	-
7	1	1+	2	2	1	2-	2+	1-	11	1+	2-	2	2+	1-	1+	2-	0+	10	71.9	15	8	16	T	-
8	1-	0	1	0+	1	2-	1+	1-	6	1-	0	1+	1+	1	1+	1+	0+	6	73.0	12	8	17	T	-
9	2-	2-	0+	0	1	1+	2+	1+	9	2+	2	0+	1-	0+	1	2+	2+	11	75.2	16	10	19	T	-
10	2	2+	3-	4	4+	3	2	2+	30	2+	3	3+	4	4	3	3-	3-	34	75.6	14	11	20	T	-
11	3+	2+	2-	1+	2+	2+	2-	2+	18	4-	2-	2+	1+	2-	2-	1+	2-	16	76.6	18	12	21	T	-
12	1+	2-	1-	1-	1	2	2	3	12	1	1-	0	0+	1	1+	2+	4-	12	77.3	18	14	21	T	-
13	3+	3+	3	5+	5	4-	3-	4-	52	3+	3+	3-	5-	4+	4-	3-	4-	43	75.6	17	11	20	TA	-
14	3	2	2	2-	2	3-	2	3+	20	3-	2+	2	1+	2	2+	2+	4-	20	76.4	30	22	21	T	-
15	3	2	2	1	1-	2-	2+	3-	15	3-	1+	2-	1-	1-	1+	2+	3-	13	80.2	47	44	25	AT	-
16	2	1-	2-	0+	1+	1	1+	2	9	2+	1+	1+	0	1+	1-	1-	2-	9	83.7	66	42	28	A	-
17	3+	2-	2	1+	2-	2-	1+	1	14	3+	2	2-	2-	1+	2-	1+	1-	14	80.2	63	38	25	AT	-
18	0+	1-	3+	3-	4	3	2	2	23	1-	0+	4-	3-	4-	3	2+	2-	23	78.4	48	29	23	A	-
19	3-	4-	5-	5	4+	5-	5-	3+	61	3-	4-	5-	5	4	4	4+	4+	60	77.5	40	14	22	A	-
20	4-	3-	3-	3	2+	1	1	0+	19	3+	3-	2+	3-	2	1-	0+	0+	17	75.4*	24	11	19	T	-
21	1	2-	1+	2-	0+	1-	1	1	7	1+	1+	1+	1+	0	1-	0+	1+	7	75.1	16	15	19	AT	-
22	1+	2	2-	1+	2-	1+	1+	1	10	1+	2+	2+	2-	2	1+	1	1+	13	73.5	11	0	17	T	-
23	0+	0	2-	1	1-	1	2	2	8	1-	1-	3-	1+	1+	0+	1	1+	9	71.2	0	0	15	T	-
24	3	2	3+	2	2-	1+	1+	0+	16	3	2	3	2	2	1+	1+	1-	16	69.9	0	0	13	T	-
25	1	0+	1	1+	1+	2-	2-	3	11	1+	0+	1+	1+	1+	1+	1+	3-	11	67.3	0	0	11	A	-
26	3	2+	1	2-	2-	1	2-	1-	13	3-	3-	1	2-	2-	1-	1+	1+	13	66.3	0	0	10	T	-
27	1+	2-	2-	2+	2+	2-	4-	3	20	2	2	2	2	1+	1+	4	3+	21	66.2	0	0	9	A	-
28	4-	5-	5-	4	4	4+	4	2	56	3+	4+	3	4-	4-	4-	3+	2+	41	66.2	0	0	9	A	-
29	1+	2+	2-	1+	1+	1	1	2	11	2-	2	1	1+	1-	1-	2-	2	10	66.0	0	0	9	-	-
30	5-	4+	5	4-	4	5	3+	4-	67	4+	4+	4+	4-	3	4+	3+	4	54	66.3	0	0	10	-	-
31	3+	3-	3	3	4+	4	4	2+	40	2+	2	3-	2+	4-	3+	3-	3-	25	66.6	0	0	10	-	-
Mean									21.7									19.2	72.4	17.2	10.1	16.2		

DAILY AVERAGE INDICES Ap

Day	1985 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	33	15	16	23	10	18	14	18	6	3	15	15
2	17	11	22	16	38	6	3	11	4	5	32	14
3	13	8	14	20	6	4	6	6	4	11	28	9
4	7	3	10	17	10	5	33	6	2	12	16	12
5	6	21	42	7	7	5	16	4	3	66	10	8
6	5	46	24	5	10	25	21	3	9	41	13	7
7	5	20	22	7	8	30	19	4	9	27	7	5
8	19	24	27	15	8	16	16	6	10	16	6	3
9	46	19	4	38	8	22	8	5	12	6	14	5
10	29	24	10	11	4	30	8	7	12	6	19	17
11	20	13	6	11	5	11	10	5	9	16	10	11
12	19	11	7	5	12	10	48	27	5	12	4	7
13	14	11	4	6	11	4	20	41	5	20	24	30
14	9	16	7	10	8	4	16	11	29	8	17	11
15	9	9	14	4	15	5	7	12	18	18	16	10
16	8	7	11	8	11	3	5	9	33	17	10	6
17	9	12	8	5	8	7	20	9	13	15	14	8
18	6	4	11	4	9	4	13	12	5	22	15	12
19	7	7	9	21	9	3	8	12	35	14	14	41
20	6	10	5	53	5	13	8	12	29	6	3	11
21	12	8	5	103	8	7	5	10	23	16	5	5
22	11	7	4	11	5	6	4	28	13	17	8	6
23	36	7	5	12	4	7	13	17	9	13	4	4
24	7	18	6	17	5	5	12	7	17	8	4	10
25	9	12	5	21	8	12	12	18	18	9	6	6
26	6	5	8	30	9	21	16	14	19	4	6	8
27	11	19	10	33	5	13	15	15	17	4	20	12
28	58	60	14	61	5	18	13	13	[illegible]	4	8	35
29	24		6	17	4	13	5	17	4	11	37	7
30	17		7	42	3	10	11	10	5	3	52	46
31	15		10		7		36	32		6		22
Mean	16	15	11	21	9	11	14	13	13	14	15	13



PLANETARY MAGNETIC THREE-HOUR-RANGE INDICES

Kp 1985

(preliminary indices to 1986 January 21)

R9	Rot-No.	1st day	C9	
645 876 ▮▮	19	J8	2, , , , , ,34 34, ,4655, 234 366776	766654
▮8 877 788	82	F4	766654 677775 ,66665 76677, 378	434 . .3
▮87 888 888		M3	434 . .3 543 233 , ,4 533 56, 353 2,3	455 775
887 887 668	2032	M30	455 775 55, 33774 3 , 23 53, 565 ,47	265 665
754 555 467	33	A26	,65 665 675 4, , ,2, 2, , ,52 353 22,	. . ,677
776 677 888	34	M23	. . ,677 666 552 , ,4 424 767 7663, ,	652 555
875 333 488	35	J19	652 555 446656 53, . ,4 543 ,67 ▮6	765 663
▮5 225 688	36	J16	765 663 437 566 555 637 645 68, 566	53, , ,4
766 567 788	37	A12	53, , ,4 423 464 555 336 642 356 687	373 444
667 777 888	38	S8	373 444 433 366 678 653 774 2366,3	2565 ,4
556 546 876	39	O5	2565 ,4 4466,4 554 432 , ,4 643 666	665 223
666 777 775	2040	N1	665 223 , 32 354 533 2,3 3,667 764	663 . .2
578 ▮8 756	41	N28	663 . . ,2 33, 665 754 ,23 477 676765	425 554
765 576 666	19	D25	425 554 232 32, . . ,2 573 522 566644	322 543
556 765 322	83	J21	322 543 324 533 ,27 877 555 566 666	443 765
234 666 542		F17	443 765 44, , 22 576663 2,2 ,67 664	335 663
565 544 445	2045	M16	335 663 223 73 , 666654 444 666 552	367 765
546 678 764	46	A12	367 765 323 344 766 436654 366 423	,27765
777 677 655	47	M9	,27765 527 3,3 676 732 3, , 233 2, ,	,3, 356
665 667 765	48	J5	,3, 356 347 342 465 455 4, , 3233, ,	222 ,44
555 566 764	49	J2	222 ,44 33, ,45 , ,5652 2,2 563 ,23	452 ,64
675 566 544	2050	J29	452 ,64 , , ,573 , ,6623 . . , 236465	66, 245
444 555 333	51	A25	66, 24564, , , , ,54 433 32, 566 375	33 . 266
344 356 775	52	S21	33 . 266 432 ,35 572 534 ,2, ,65537	72, 455
322 ,23 553	53	O18	72, 455 5, , ,2652565, . .3 676675	656665
33, . ,2233	54	N14	656665 62, ,34 524 554 2, , 4663 ,5	655 64,
543 22, , ,2	2055	D11	655 64, , ,2 , ,3 343 443 266655 664	, . , 43,
344 455 776	19	J7	, . , 43, 2, , ,2, 523 3, , 242 556 545	574 222
567 654 676	84	F3	574 222 255 367 5, 24 ,4 424 2246,3	666 2 ,6
544 567 666		M1	666 2 ,6663 423 5,2 455 3,2 553 645	776 667
675 422 455	2059	M28	776 667 777 3676 24 445 2,2 235 3, ,	,68645
777 436 765	2060	A24	,68645 254 336 3, , 562 3232 ,6356	766644
565 532 235	61	M21	766644 222 42, 366 533 354 3, , ,57	366 4, ,
544 334 554	62	J17	366 4, , 353 235 334 333 332 324 337	666754
222 3, , 223	63	J14	666754 322 232 ,45 324 764 42, ,44	234 255
322 ,23 334	64	A10	234 255 43, 42, , 255 26654 333 377	3,3 364
2, , , , , , , ,	65	S6	3,3 364 434 22, ,65 358 777 643 3,3	5, 2575
, ,2 ,22 , , ,	66	O3	5, 2575 566644 45 , 777 776 654 222	, ,6 355
, , , 22, ,34	67	O30	, ,6 355 345 535 522 478 655 554 323	2, , 364
322 222 22,	68	N26	2, , 364 656555 2, 2546 26664 2 ,42	4, , 646
22, . . , ,22	2069	D23	4, , 646 656644 2, , ,57 655 422 22,	, ,3 36,
43, ,22 ,2,	19	J19	, ,3 36, 2,3 764 443 2,5 756564 334	2,3 ,23
,22 , , , , ,2	85	F15	2,3 ,23 222 53, 574 542 7656 ,2 ,2,	,43 232
,2, 232 22,		M14	,43 232 , , , , , , 224 ,22 5454, , 246	33, ,2,
. , , ,23 222	2073	A10	33, ,2, 2, , 578 334 566747 26, 223	222 , ,3
333 333 , , ,	74	M7	222 , ,3 324 322 2,2 , , , 22, , . . ,5,	. , , 664
234 32, , , ,	75	J3	. , , 664 563 2, . , . 2 . ,4 , , , ,35 354	24 . ,64
2355 2, , , ,	76	J30	24 . ,64 554 223 754 2,5 322 , ,3 334	43, 365
332 2, , . , ,	77	J27	43, 365 3, , ... , ,2 ,67 332 233 336	425 444
. , , , . , , , ,	78	A23	425 444 436, ... ,2 233 32, ,65 63,	665 324
, , . , , . . . ,	79	S19	665 3,4 554 , , , . ,3 377 64, ,43 525	445 4,4
235 3, , ,22	2080	O16	445 4,4 432 2 . . .3 , ,46643 4, , 452	,64 434
333 2 . . , ,2	81	N12	,64 434 44 . ,2 . , , , 526744 232 , , .	,43 263
224 3, . .	82	O9	,43 263 2,2 373 , , , 2,2 36, 75 663, pre-	
	19	J5	,56 353 ,2 . . , , . 22,4	
	86	F1	liminary	
		F28		

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

DAILY GEOMAGNETIC CHARACTER FIGURES C9 AND 3-DAY MEAN SUNSPOT NUMBERS R9
(after Bartels)

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

PRINCIPAL MAGNETIC STORMS

DECEMBER 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)
HON	21.1N	09	2030	SC	--	11	4	10(1,3,4,5)	3	3	49	16	11	02
HYB	07.6N	09	1700	..	..	..	..	10(5)	6	3	159	14	11	03
GUA	04.0N	09	2029	..	..	..	..	10(5)	5	--	120	20	10	18
BJI	28.5N	10	02--	..	..	..	..	10(5)	5	4	121	20	10	22
JAI	17.3N	10	0300	..	..	..	..			4	137	12	11	02
UJJ	13.5N	10	0300	..	..	..	..			4	146	19	11	02
ABG	09.5N	10	0300	..	..	..	..	10(5)	5	4	142	14	11	02
ANN	01.5N	10	0300	..	..	..	..			5	198	59	11	02
TRV	01.1S	10	0300	..	..	..	..			2	163	123	11	02
KGL	56.5S	10	0336	SC	3	- 24	- 12	10(5)	5	31	128	210	11	04
WIT	54.2N	12	2118	SC	- 1	26	..	13(1,4,5,8)	5	21	143	38	13	24
FRD	49.6N	12	2119	SC	1	20	- 3	13(4,5)	5	18	85	35	14	--
IRK	41.0N	12	2100	..	..	..	..	13(4)	6	14	137	41	14	06
BJI	28.5N	12	2119	SC	0.2	16	1	13(4)	7	6	157	20	14	02
HON	21.1N	12	2118	SC	--	19	4	12(4,5,6)	4	6	86	20	13	22
JAI	17.3N	12	2100	..	..	..	..			5	150	17	13	24
UJJ	13.5N	12	2100	..	..	..	..			4	100	25	13	24
ABG	09.5N	12	2100	..	..	..	..	13(4)	6	5	162	22	13	24
HYB	07.6N	12	2119	SC	- 0.2	18	- 1	13(4,5)	6	4	175	17	14	01
GUA	04.0N	12	2117	SC	..	5	- 1	13(4)	6	--	180	20	14	00
ANN	01.5N	12	2100	..	..	..	..			3	160	40	13	24
TRV	01.1S	12	2100	..	..	..	..			4	202	102	13	24
PMG	18.6S	12	2117	SC*	- 1.4	19	16	13(4)	6	6	150	60	14	00
GNA	43.2S	12	21--	..	..	..	..	13(4,5,6)	6	18	140	130	14	03
CNB	43.9S	12	21--	..	..	..	..	13(4)	5	18	107	31	13	24
KGL	56.5S	12	2114	SC	6	28	- 4	13(5)	6	43	300	225	14	05
WIT	54.2N	18	0647	SC	1	20	..	19(6)	6	33	137	43	20	04
FRD	49.6N	18	0647	SC	- 2	15	- 1	19(4,6,7) 20(1)	5	18	105	67	20	--
IRK	41.0N	18	0645	SC	2.5	27	3	19(4)	6	23	145	48	20	15
BJI	28.5N	18	0646	SC	1.6	29	2	19(4)	6	10	160	22	20	15
HON	21.1N	18	0648	SC	--	16	5	18(3,5) 19(4)	4	5	107	24	20	03
UJJ	13.5N	18	0645	SC	- 0.3	34	- 7			3	132	11	20	05
ABG	09.5N	18	0645	SC	- 0.6	28	- 5	18(5) 19(3,5,6)	5	5	162	32	20	05
HYB	07.6N	18	0648	SC	- 0.3	32	- 2	18(3,5)	5	3	92	18	18	21
GUA	04.0N	18	0647	..	..	..	..	18(3)	5	--	60	20	18	21
TRV	01.1S	18	0645	SC	0.1	46	46			4	225	105	20	05
PMG	18.6S	18	0645	SC	0.9	31	31	19(4)	6	8	150	80	20	13
GNA	43.2S	18	0647	SC	4.0	33	25	19(4)	6	19	120	160	20	05
CNB	43.9S	18	0646	SC	1.0	51	7	19(3,4)	5	16	139	59	20	12
HYB	07.6N	19	0000	..	..	..	..	19(4)	6	4	137	11	20	13
GUA	04.0N	19	0554	..	..	..	..	19(5)	6	--	150	20	20	06
KGL	56.5S	19	0045	SC	4	12	- 5	19(4)	7	37	400	180	20	14
WIT	54.2N	27	1900	..	..	..	..	27(7) 28(2,6,7)	5	24	156	43	28	22
IRK	41.0N	27	1900	..	..	..	..	28(6)	6	16	101	26	28	22
BJI	28.5N	27	18--	..	..	..	..	28(3)	6	7	97	15	28	23
HYB	07.6N	27	0600	..	..	..	..	28(3)	5	5	100	17	28	22
HER	33.7S	27	18--	..	..	..	..	28(2)	5	20	88	63	29	22
KGL	56.5S	27	1834	SC	- 2	4	- 4	28(5)	5	23	190	120	28	23
FRD	49.6N	28	19--	..	..	..	..	28(1,2,3,4) 30(1,2,3)	5	32	170	41	01	--
WIT	54.2N	29	2300	..	..	..	..	30(6)	6	30	156	70	31	20
BJI	28.5N	29	22--	..	..	..	..	30(1)	6	12	90	15	31	20
HYB	07.6N	29	1900	..	..	..	..	30(1,3,6) 31(6)	5	4	101	14	31	19
GUA	04.0N	29	2316	..	..	..	..	30(1)	5	--	120	20	30	20
HER	33.7S	29	23--	..	..	..	..	30(6)	5	27	120	106	31	03
KGL	56.5S	29	2248	SC	1	- 4	0	30(6)	6	23	260	200	31	20
COL	64.6N	30	02--	..	..	..	..	30(3,6) 02(5)	7	215	1580	990	02	21
IRK	41.0N	30	0100	..	..	..	..	30(6)	6	24	113	25	31	23
GNA	43.2S	30	00--	..	..	..	..		5	20	100	90	30	23

RADIO PROPAGATION QUALITY INDICES

DECEMBER 1985

Day	Bracknell	Teheran	New York	Tokyo	Johannesburg	Canberra
1	4.3	0.1	1.8	0.7	2.5	2.7
2	3.6	0.1	1.8	1.9	5.1	3.4
3	4.3	0.1	3.2	2.3	5.5	3.8
4	4.3	0.1	4.0	2.3	6.5	1.9
5	4.3	2.4	3.5	2.4	7.1	4.9
6	4.7	3.3	3.2	1.9	7.2	5.0
7	4.4	0.1	4.1	3.7	6.2	5.8
8	4.5	2.8	4.4	5.2	6.0	5.6
9	5.5	2.2	5.5	4.0	4.4	5.8
10	5.9	3.0	6.0	3.7	6.5	5.8
11	5.9	1.8	4.9	5.4	6.7	6.2
12	5.0	0.1	5.7	4.5	4.6	5.7
13	7.0	0.1	4.7	7.4	6.2	6.5
14	6.6	0.1	4.4	8.4	6.0	5.8
15	5.2	1.9	3.5	7.1	5.0	6.2
16	5.0	0.7	3.6	7.0	2.7	5.4
17	6.0	4.0	4.0	6.6	5.7	6.7
18	7.3	2.8	5.4	6.9	7.4	6.1
19	5.5	5.1	3.4	5.7	5.1	5.4
20	4.9	5.0	3.3	4.8	3.7	6.5
21	7.0	3.7	6.1	6.2	4.4	5.2
22	5.0	6.8	5.5	4.6	5.2	3.1
23	5.0	4.9	4.7	3.8	5.9	4.9
24	5.0	6.8	4.1	6.7	5.7	4.7
25	4.9	9.5	5.4	5.6	5.5	4.7
26	5.1	7.1	5.8	5.6	6.8	6.3
27	5.4	4.2	5.9	5.6	4.5	5.7
28	5.1	4.0	4.8	5.8	4.7	5.4
29	5.0	5.2	5.1	5.8	5.8	4.9
30	5.0	4.2	4.6	4.5	5.5	4.7
31	4.3	4.2	4.3	4.7	4.3	2.7
Mean	5.2	3.1	4.4	4.9	5.4	5.1

CALCULATION OF QUALITY INDICES (Q)

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

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

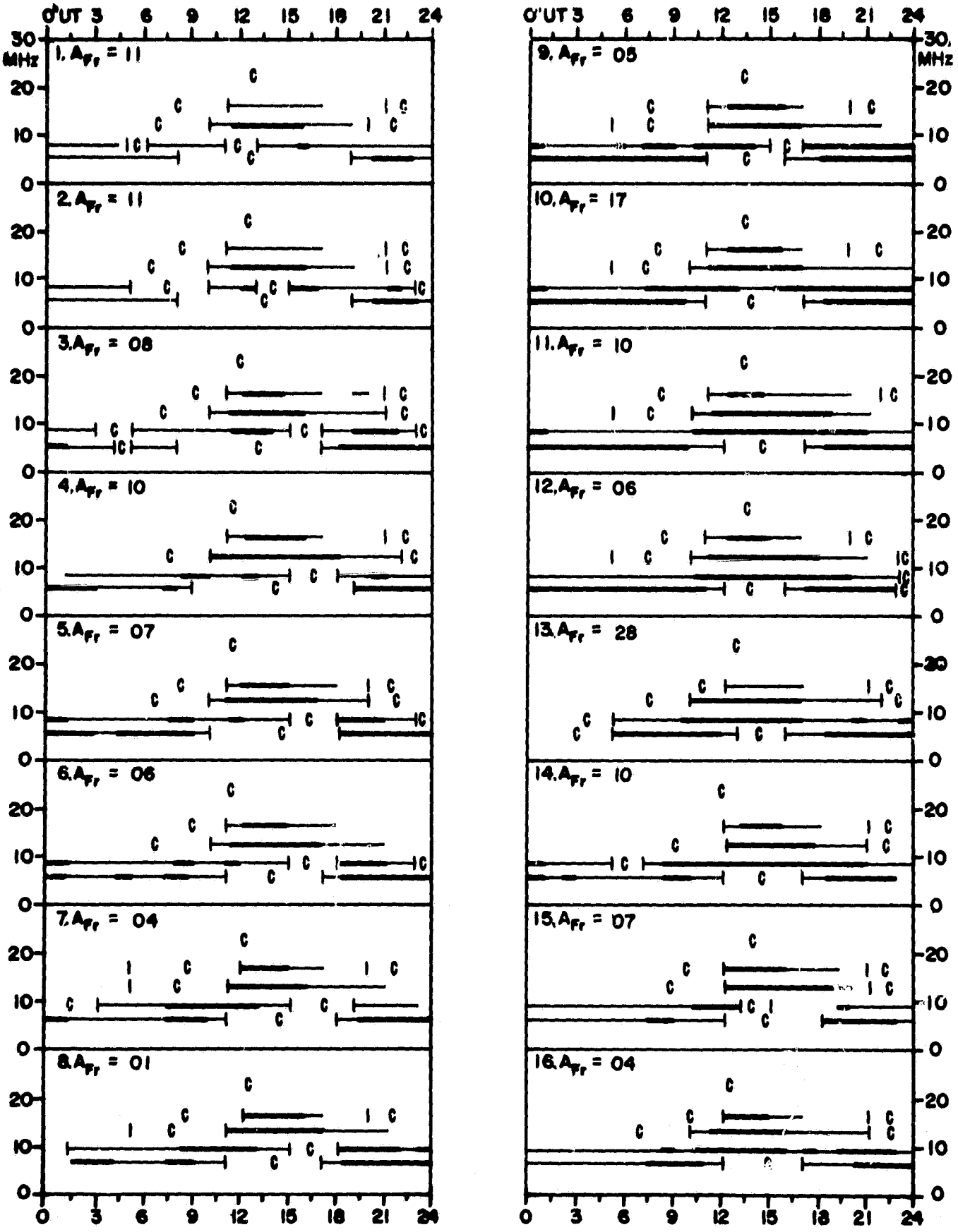
The quality indices vary from 0.0 to 9.9 where 6.0 is normal. Conditions are "normal" (index = 6.0), if they correspond to the average of the preceeding 27 days.

SCALE FOR QUALITY INDICES

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

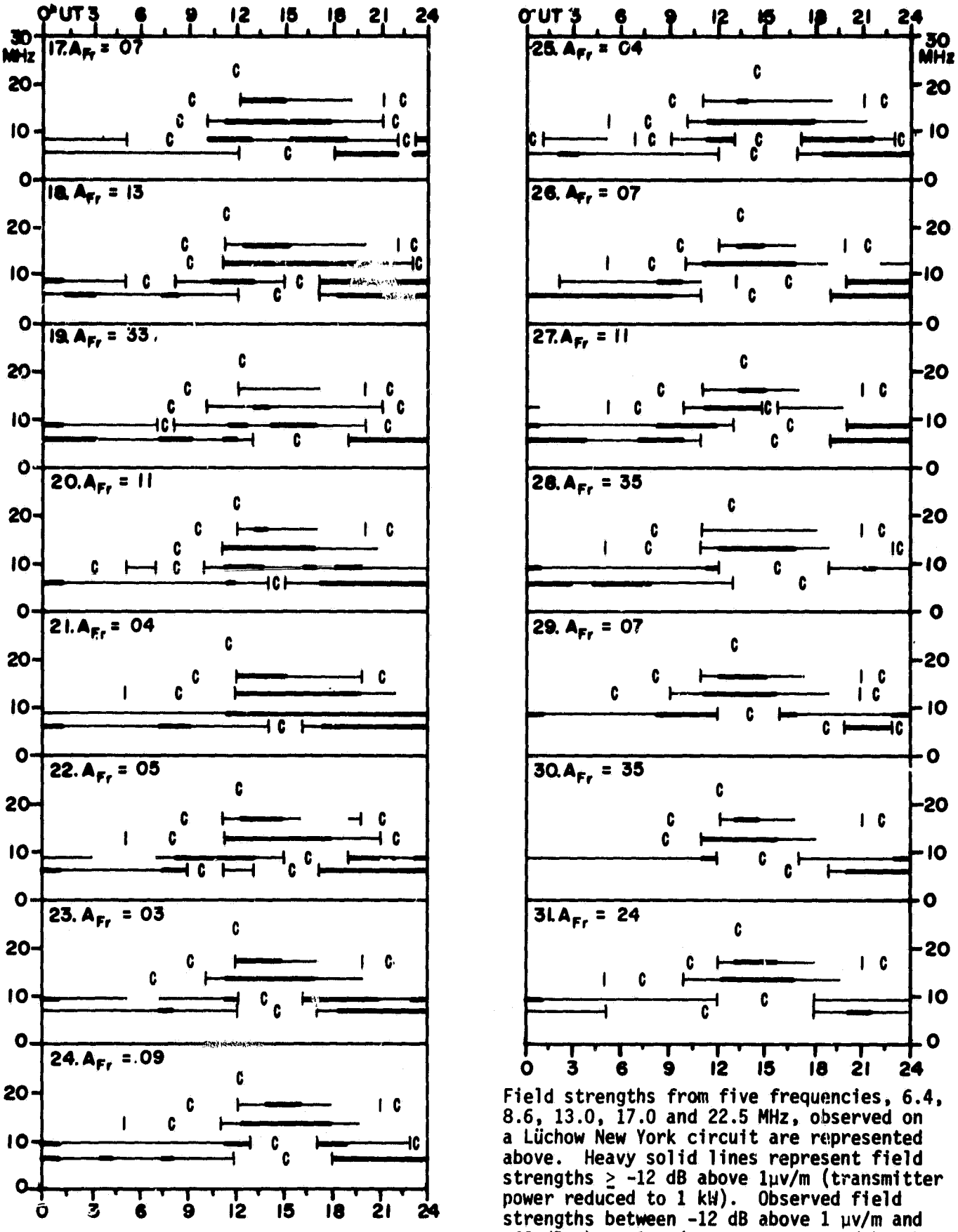
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

DECEMBER 1985



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

DECEMBER 1985



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

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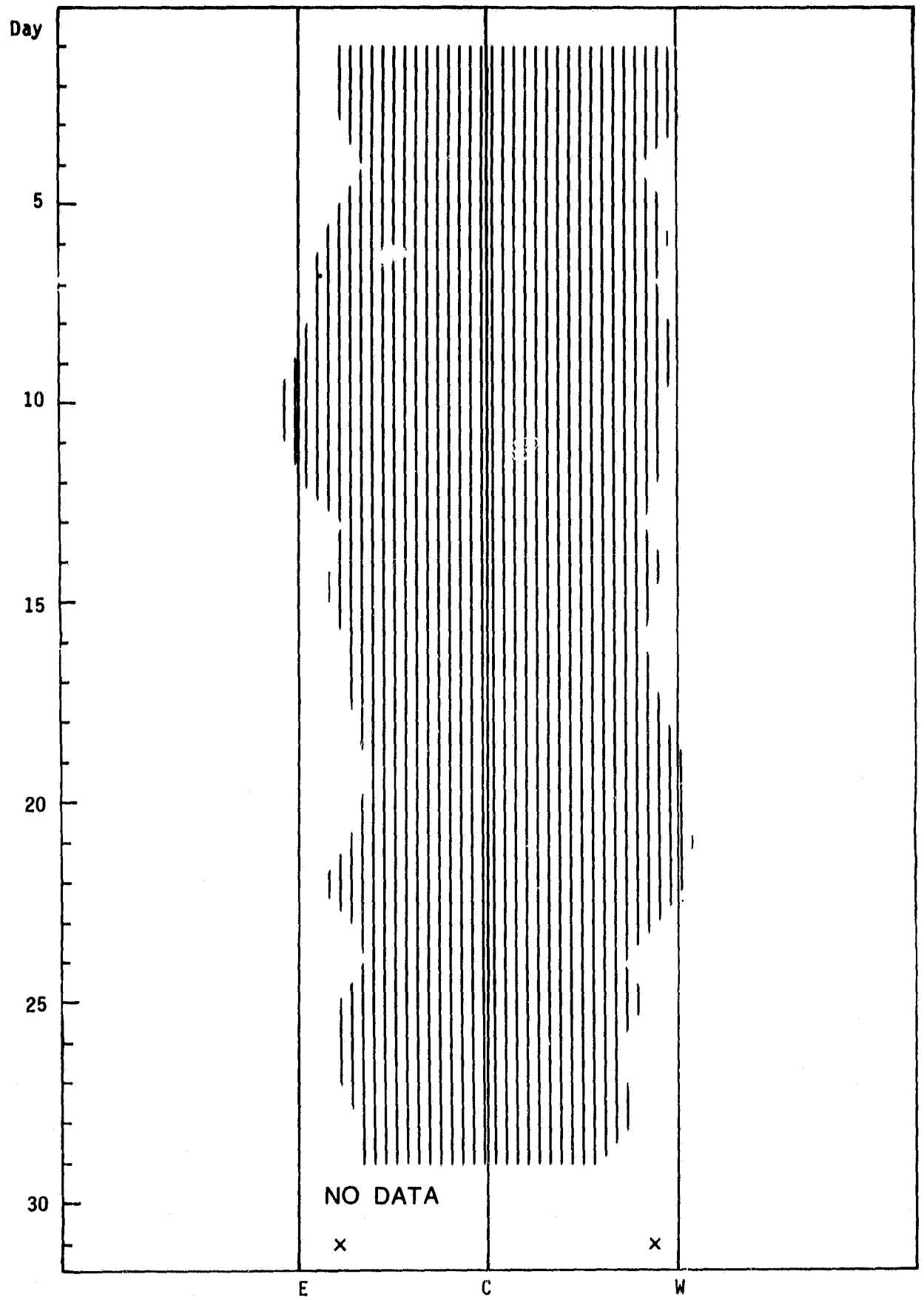
SOLAR INTERFEROMETRIC OBSERVATIONS

Nancay DECEMBER 1985 169 MHz



SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 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	0000	0717	CULG										
	2030	2400	CULG										
02	0000	0729	CULG										
	2029	2400	CULG										
03	0000	0928	CULG										
	2029	2400	CULG										
04	0000	0728	CULG										
	2028	2400	CULG				2213.0		1				IIIB
			CULG				2324.5		1				IIIB
05	0000	0228	CULG				0120.0		2				IIIG
	2029	2400	CULG				2311.5		1				IIIB,U
06	0000	0650	CULG										
	2030	2400	CULG										
07	0000	0728	CULG				0003.0		1				IIIB
			CULG				0424.0	0425.0	2				IIIG,V
			CULG	0559.0	0559.5	1	0559.0	0601.0	3	0559.0	0600.0	1	IIIG,V
	2028	2400	CULG				2112.0	2113.0	2				IIIG
			CULG				2138.0	2354.5	1				IIIN
			CULG				2138.5	2139.5	3	2138.5	2139.5	1	IIIG
			CULG				2326.0		2				IIIG
08	0000	0728	CULG				0139.0	0453.0	1				IIIN
			CULG				0240.0	0451.5	1				IN
			CULG	0245.5		1							IIIG
			CULG				0432.5		2				IIIB
			CULG				0433.5	0434.0	2				IIIG,V
			CULG				0707.0	0707.5	2				IIIG
	2028	2400	CULG				2216.0	2216.5	1				IIIG
			CULG				2217.5		1				IIIB
			CULG				2356.5	2357.5	1				IIIG
09	0000	0728	CULG				0437.5		1				IIIB
			CULG				0534.5	0535.0	1				UNCLF
			CULG				0545.5		1				UNCLF
			CULG				0620.5		1				IIIB
			CULG				0634.0	0712.0	1				IN
	2028	2400	CULG				2045.0	2400.0	1				IS
			CULG				2125.5	2237.0	1				IIIN
			CULG				2148.0	2148.5	2				IIIB
			CULG				2239.0	2239.5	2				IIIB,V
			CULG				2259.0	2300.0	2				IIIG,V
10	0000	0738	CULG				0000.0	0022.0	1				IS
			CULG				0119.5	0229.5	1				IIIN
			CULG				0231.0	0231.5	2	0231.0	0231.5	1	IIIG
			CULG				0234.0	0234.5	2				IIIG
			CULG				0422.5	0448.0	2				IIIN
			CULG				0439.0	0450.5	1				IIIN
			CULG	0446.5	0447.0	1	0446.5	0448.0	2				IIIG,V
			CULG				0501.5	0709.0	1				IS,C
	2028	2400	CULG				2048.5	2304.0	1				IS,C
			CULG	2110.0	2359.0	1							IN
			CULG				2120.5	2121.5	1				IIIN
			CULG				2155.0	2200.0	1				IIIS
			CULG				2159.0	2159.5	2				IIIG
			CULG				2204.0	2210.5	1				IIIN
			CULG				2303.5	2304.0	2				IIIG
			CULG				2304.0	2400.0	1				IS
			CULG				2309.5	2310.5	1				IIIG
			CULG				2318.5		1				IIIB
11	0000	0523	CULG				0000.0	0523.0	1				IS
			CULG	0006.0	0306.5								IS,W
			CULG				0044.0	0446.0	1				IIIN
			CULG				0120.0	0120.5	1				IIIB,V

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 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
11			CULG				0319.5	0320.0	2				IIIG,V
			CULG				0456.0	0458.0	3	0456.5	0457.0	1	IIICG,V
			CULG				0458.5	0500.0	3	0500.0		1	IIIG
			CULG				2203.0	2400.0	1				IIIS
	2203	2400	CULG				2203.0	2400.0	1				IS
			CULG				2228.5	2400.0	1				IIIN
12			CULG				0000.0	0628.5	2	0052.5	0138.0	1	IIIN
	0000	0728	CULG				0000.0	0700.0	1				IIIS
			CULG				0035.0	0404.5	1				IN
			CULG				0414.0	0415.0	3				IIIG,V
			CULG				0607.0	0607.5	3	0607.0	0607.5	1	IIIG
	2027	2400	CULG				2052.5	2400.0	1				IIIS
			CULG				2106.5	2316.5	2				IIIN
			CULG				2136.5	2139.0	3	2137.5	2139.0	1	IIIG
13			CULG				0000.0	0622.0	2	0045.5	0219.0	1	IIIN
	0000	0728	CULG				0000.0	0712.0	1				IIIS
			CULG	0001.0	0646.0	1							IN
			CULG	0441.0	0444.0	1	0437.0	0445.5	2	0441.0	0444.5	1	IIIS
			CULG				0454.0	0625.0	1				IS,C
			CULG				0458.5	0501.0	2				IIIS
			CULG				0625.0	0712.0	2				IS,C
			CULG	0639.0	0639.5	1							DCIM
	2028	2400	CULG				2044.0	2247.0	1				IS,C,DC
			CULG				2052.5	2247.0	1				IIIS
			CULG				2101.0	2348.0	2	2210.5	2348.0	1	IIIN
			CULG	2101.0	2337.0	1							IN
			CULG	2206.0	2206.5	1	2151.5	2336.0	3	2151.5	2336.0	2	IIIG,N
			CULG				2247.0	2400.0	2				IIIS
			CULG				2247.0	2400.0	2				IS
14			CULG				0000.0	0300.0	1				IS,C,DC
			CULG				0000.0	0300.0	2				IIIS
	0000	0728	CULG				0000.0	0300.0	3				IIIN
			CULG				0006.0	0709.5	1	0021.5	0246.5	1	IIIN
			CULG				0007.0	0625.5	2	0057.5	0427.0	2	IIIN
			CULG				0300.0	0720.0	1				IIIS
			CULG				0300.0	0720.0	1				IS
			CULG				2046.0	2400.0	1				IIIS
	2028	2400	CULG	2117.5	2400.0	1	2043.0	2130.0	1				IS
			CULG				2123.5	2238.5	2				IIIN
			CULG				2130.0	2400.0	2				IS
15			CULG	0000.0	0010.5	1	0000.0	0104.5	1				IS
	0000	0728	CULG				0000.0	0312.5	1				IIIS
			CULG				0312.5	0728.0					IIIS,W
			CULG				0312.5	0728.0	1				IIIN
			CULG				0543.0	0544.5	2				IIIG
	2028	2400	CULG				2045.0	2400.0	1				IS
			CULG				2048.5	2400.0	1				IIIS
			CULG				2055.0	2400.0	2				IIIN
			CULG				2126.0	2128.0	3	2126.0	2127.0	2	IIIGG
16	0000	0728	CULG				0000.0	0215.5	1				IS
			CULG				0008.0	0611.0	1				IIIN
			CULG				0340.0	0712.5	1				IS,DC
			CULG				0517.0		2				IIIB,V
			CULG				0606.5		2				IIIB
	2030	2400	CULG	2050.5	2227.0	1	2056.0	2349.5	1				IN
			CULG	2054.5	2055.0	1							IIIG
			CULG				2056.0	2349.5					IIIS,W
			CULG	2104.5	2105.0	1							IIIG
			CULG				2344.0	2344.5	1				IIIG
			CULG				2348.0		1				IIIB
17	0000	0728	CULG				0118.0	0657.0	1				IN
			CULG				0308.0		2				IIIG
			CULG				0309.0	0314.0	1				IIIS
			CULG	0501.5	0504.0	1							IN
			CULG				0512.5	0518.0	1				IIIN

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 1985

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
17			CULG				0627.5		1				IIIB
	2028	2400	CULG				2056.5	2303.0	1				IN
			CULG				2117.5		2				IIIG
			CULG				2126.5		1				IIIB
			CULG				2134.5		1				IIIB,U
			CULG				2212.5	2309.0					IIIS,W
			CULG				2214.5	2352.0	1				IIIS
			CULG				2242.0	2308.5	2				IIIN
18	0000	0738	CULG				0006.0	0037.0					IIIS,W
			CULG				0009.0	0052.0	1				IIIN
			CULG				0350.5	0351.0	1				IIIG
			CULG				0426.5		2				IIIB
			CULG				0428.0	0432.5	1				IIIS
			CULG				0511.0	0512.0	2				IIIG
			CULG				0531.5	0637.5	1				IIIN
			CULG				0622.0	0622.5	2				IIIG
			CULG				0634.0	0634.5	2				IIIG
	2028	2400	CULG				2110.5		1				IIIB
			CULG				2134.5	2135.0	1				IIIB
19	0000	0728	CULG				0025.0	0025.5	2				IIIG
			CULG				0042.5	0043.0	2				IIIG
			CULG				0115.5	0116.0	1				IIIG
			CULG				0502.5	0654.0	1				IIIN
			CULG				0535.0	0535.5	2				IIIB
	2028	2400	CULG	2052.0	2053.0	3							IIIGG
			CULG	2054.5	2055.0	1							IIIG
			CULG				2220.0	2222.0	1				IIIG
20	0000	0728	CULG				0535.5		1				IIIB
	2028	2400	CULG				2134.5		1				IIIB
			CULG				2203.5		1				IIIB
			CULG				2328.0		1				IIIB
21	0000	0712	CULG	0013.0		1	0012.0	0013.0	2				IIIG
			CULG				0135.5		1				IIIB
			CULG	0412.5		2	0411.5	0412.5	3				IIIG
			CULG	0413.0	0428.0	1	0412.5	0425.0	1				IIIS
			CULG				0525.5		1				UNCLF
			CULG				0654.5	0655.0	2				IIIG
	2030	2400	CULG				2052.5	2347.0	1				IIIG,N
			CULG				2209.5	2210.5	3				IIIG
			CULG				2219.5	2221.5	3				IIIG
			CULG				2314.5		2				IIIB
			CULG				2326.5	2327.0	2				IIIG,U
22	0000	0728	CULG				0029.5	0030.0	1				IIIG
			CULG				0118.0	0121.5	2				IIIGG,V
			CULG				0126.0		2				IIIG
			CULG				0404.5		1				IIIB
			CULG				0548.0		2				IIIB
			CULG				0548.5	0551.0	2				IIIGG,V
			CULG				0551.5	0552.0	1				IIIG
			CULG	0609.0		2	0609.0	0609.5	2				IIIG
	2028	2400	CULG	2237.5	2238.0	1	2237.5	2238.5	2				IIIG
			CULG	2242.0	2243.0	1	2242.0	2243.0	1				IIIG
			CULG	2320.0		1	2320.0		1				IIIB
			CULG				2323.0		1				IIIB
			CULG	2331.0	2331.5	1							I
			CULG	2335.0	2335.5	2	2335.0		2				IIIB
23	0000	0728	CULG				0042.0	0042.5	1				IIIB
			CULG				0046.0		1				IIIB
			CULG				0137.0	0138.0	1				IIIG
			CULG				0203.0	0204.0	2				IIIG,V
			CULG				0204.5	0220.5	1				IN
			CULG				0257.5	0258.0	1				IIIB,U
			CULG				0333.0		1				IIIB
			CULG				0336.0	0344.0	2				IIIS
			CULG				0518.5	0519.0	2				IIIB,U

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 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
23			CULG				0548.0		1				III B
			CULG				0550.0		1				III G
	2028	2400	CULG										
24	0000	0729	CULG	0012.5	0013.0	1	0012.5	0013.0	1				III G
	2029	2400	CULG										
25	0000	0729	CULG										
	2029	2400	CULG										
26	0000	0613	CULG										
	2129	2300	CULG										
27	2130	2300	CULG										
28	2125	2400	CULG										
29	0000	0725	CULG										
	2145	2300	CULG										
30	2248	2400	CULG										
31	0000	0735	CULG										

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:

CULG = Culgoora

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

NOVEMBER 1985

Storm Sudden Commencements (ssc)			Solar Flare Effects (sfe)		
Day	Time	Quality: Station Group*	Day	Begin-End	Station(s)
29	0806	A: COI MPO	04	1036-1046	MPO
		B: DOB WNG MMB FRD	06	1202-1209	CLF (ssc: B: DOU)
		C: NGK HAD BDV CLF GCK EBR SPT KAK KNY AMS CZT DUM	21	1209-1218	MPO

Reporting Observatories:

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

*Three-letter codes identify each observatory.

8A
Late
Aug 83

CALCIUM PLAGE REGIONS
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

AUGUST 1983

Calcium Plage Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Intensity	Corrected Area (10-6 Hemi)	NOAA/USAF Sunspot Groups #1	#2	#3
19006	BIGB	08	01	2359	N12	W06	08	1.5	1.0	0200			
19000	BIGB	07	27	2350	S05	E78	08	2.8	2.5	0700	4263		
19000	BIGB	07	28	1500	S09	E70	08	2.9	3.5	4500	4263		
19000	BIGB	07	30	0002	S08	E55	08	3.1	3.5	4500	4263		
19000	BIGB	07	31	1737	S06	E30	08	3.0	3.5	3850	4263		
19000	BIGB	08	01	2359	S07	E11	08	2.8	3.5	5500	4263		
19000	BIGB	08	02	1435	S07	E02	08	2.7	4.0	6000	4263		
19000	BIGB	08	03	1737	S06	W12	08	2.8	3.5	5800	4263		
19000	BIGB	08	04	1814	S06	W26	08	2.8	3.5	6000	4263		
19000	BIGB	08	05	1909	S06	W42	08	2.6	3.5	6000	4263		
19000	BIGB	08	08	1420	S05	W73	08	3.1	2.5	3100	4263		
19003	BIGB	07	30	0002	S04	E70	08	4.2	2.5	1000	4268		
19003	BIGB	07	31	1737	S02	E46	08	4.2	3.0	0800	4268		
19003	BIGB	08	01	2359	S03	E27	08	4.0	3.0	1000	4268		
19003	BIGB	08	02	1435	S04	E18	08	3.9	3.0	1100	4268		
19003	BIGB	08	03	1737	S03	E06	08	4.2	3.0	1000	4268		
19003	BIGB	08	04	1814	S04	W08	08	4.2	3.0	0700	4268		
19003	BIGB	08	05	1909	S03	W25	08	3.9	3.0	0800	4268		
19003	BIGB	08	08	1420	S02	W62	08	4.0	2.0	0300	4268		
19001	BIGB	07	28	1500	S23	E80	08	3.8	1.0	0500	4267		
19001	BIGB	07	30	0002	S23	E70	08	4.4	3.0	2700	4267		
19001	BIGB	07	31	1737	S23	E48	08	4.4	3.0	2600	4267		
19001	BIGB	08	01	2359	S23	E27	08	4.1	2.5	2500	4267		
19001	BIGB	08	02	1435	S24	E17	08	3.9	2.5	2800	4267		
19001	BIGB	08	03	1737	S23	E10	08	4.5	2.5	2100	4267		
19001	BIGB	08	04	1814	S23	W05	08	4.4	2.5	1600	4267		
19001	BIGB	08	05	1909	S23	W22	08	4.1	2.5	2200	4267		
19001	BIGB	08	08	1420	S22	W57	08	4.2	2.0	1300	4267		
19002	BIGB	07	28	1500	S17	E80	08	3.7	2.5	0800	4271		
19002	BIGB	07	30	0002	S15	E70	08	4.3	3.0	3500	4271		
19002	BIGB	07	31	1737	S10	E52	08	4.6	3.0	3200	4271		
19002	BIGB	08	01	2359	S11	E35	08	4.6	3.0	3000	4271		
19002	BIGB	08	02	1435	S13	E25	08	4.5	3.5	3000	4271		
19002	BIGB	08	03	1737	S11	E10	08	4.5	3.0	2500	4271		
19002	BIGB	08	04	1814	S11	W01	08	4.7	3.0	2400	4271		
19002	BIGB	08	05	1909	S12	W15	08	4.7	3.0	2600	4271		
19002	BIGB	08	08	1420	S09	W52	08	4.7	2.0	2200	4271		
19002	BIGB	08	10	1749	S08	W73	08	5.3	1.0	0800	4271		
19011	BIGB	08	03	1737	S17	E41	08	6.8	1.0	0200	4274		
19011	BIGB	08	04	1814	S17	E25	08	6.6	1.5	0200	4274		
19011	BIGB	08	05	1909	S17	E11	08	6.6	1.5	0600	4274		
19011	BIGB	08	08	1420	S16	W28	08	6.5	2.5	0500	4274		
19011	BIGB	08	10	1749	S16	W57	08	6.4	2.5	0600	4274		
19011	BIGB	08	11	1749	S16	W72	08	6.3	2.0	0900	4274		
19007	BIGB	08	01	2359	N03	E77	08	7.8	1.5	0600	4272		
19007	BIGB	08	02	1435	N01	E64	08	7.4	2.5	0700	4272		
19007	BIGB	08	03	1737	N04	E51	08	7.5	2.5	0700	4272		
19007	BIGB	08	04	1814	N03	E36	08	7.4	2.5	0800	4272		
19007	BIGB	08	05	1909	N02	E23	08	7.5	2.5	0800	4272		
19007	BIGB	08	08	1420	N03	W14	08	7.5	1.5	0500	4272		
19007	BIGB	08	10	1749	N04	W44	08	7.4	1.5	0200	4272		
19007	BIGB	08	11	1749	N04	W56	08	7.5	1.5	0300	4272		
19008	BIGB	08	02	1435	N06	E71	08	7.9	1.5	0400			
19008	BIGB	08	03	1737	N07	E59	08	8.1	1.5	0300			
19008	BIGB	08	04	1814	N07	E43	08	8.0	1.0	0300			
19008	BIGB	08	05	1909	N05	E30	08	8.0	2.0	0200			
19008	BIGB	08	08	1420	N07	W09	08	7.9	1.0	0200			
19008	BIGB	08	10	1749	N08	W37	08	8.0	1.0	0100			
19008	BIGB	08	11	1749	N07	W50	08	8.0	1.0	0100			
19009	BIGB	08	03	1737	N11	E66	08	8.7	1.0	0200	4276		
19009	BIGB	08	04	1814	N13	E51	08	8.6	2.0	0300	4276		
19009	BIGB	08	05	1909	N12	E36	08	8.5	2.5	0400	4276		
19009	BIGB	08	08	1420	N11	E01	08	8.7	1.0	0200	4276		

CALCIUM PLAGE REGIONS
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

AUGUST 1983

Calcium Plage Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Intensity	Corrected Area (10-6 Hemi)	NOAA/USAF Sunspot Groups #1	#2	#3
19009	BIGB	08	10	1749	N12	W26	08	8.8	1.0	0200	4276		
19009	BIGB	08	11	1749	N13	W40	08	8.7	1.0	0300	4276		
19012	BIGB	08	03	1737	S17	E71	08	9.1	1.5	0300			
19012	BIGB	08	04	1814	S20	E59	08	9.3	2.0	0500			
19012	BIGB	08	05	1909	S23	E45	08	9.3	2.5	0700			
19012	BIGB	08	08	1420	S19	E06	08	9.0	1.5	0600			
19012	BIGB	08	10	1749	S20	W23	08	9.0	1.5	0500			
19012	BIGB	08	11	1749	S20	W37	08	8.9	1.5	0700			
19012	BIGB	08	12	1445	S20	W47	08	9.0	1.0	0300			
19012	BIGB	08	14	2300	S18	W75	08	9.2	1.0	0100			
19010	BIGB	08	03	1737	N17	E80	08	9.8	1.5	0100			
19010	BIGB	08	04	1814	N17	E64	08	9.6	2.5	0200			
19010	BIGB	08	05	1909	N16	E49	08	9.5	2.5	0500			
19010	BIGB	08	08	1420	N17	E13	08	9.6	1.0	0500			
19010	BIGB	08	10	1749	N17	W16	08	9.5	1.5	0400			
19010	BIGB	08	11	1749	N17	W30	08	9.5	1.5	0300			
19010	BIGB	08	12	1445	N18	W38	08	9.7	1.0	0300			
19010	BIGB	08	14	2300	N18	W73	08	9.4	1.0	0200			
19013	BIGB	08	05	1909	N04	E81	08	11.8	1.5	0300	4277		
19013	BIGB	08	08	1420	N04	E44	08	11.9	2.5	0500	4277		
19013	BIGB	08	10	1749	N04	E15	08	11.9	2.0	0300	4277		
19013	BIGB	08	11	1749	N04	E03	08	12.0	2.0	0400	4277		
19013	BIGB	08	12	1445	N04	W08	08	12.0	1.5	0400	4277		
19013	BIGB	08	14	2300	N06	W42	08	11.8	1.0	0300	4277		
19013	BIGB	08	16	1650	N06	W61	08	12.1	1.0	0200	4277		
19014	BIGB	08	08	1420	S12	E65	08	13.5	4.0	4500	4279		
19014	BIGB	08	10	1749	S11	E36	08	13.4	4.0-	4500	4279		
19014	BIGB	08	11	1749	S11	E23	08	13.5	3.5	4600	4279		
19014	BIGB	08	12	1445	S10	E10	08	13.4	3.5	5500	4279		
19014	BIGB	08	14	2300	S10	W22	08	13.3	3.5	5200	4279		
19014	BIGB	08	16	1650	S10	W44	08	13.4	3.5	4500	4279		
19015	BIGB	08	08	1420	S03	E65	08	13.4	4.0	1500	4280		
19015	BIGB	08	10	1749	S03	E38	08	13.6	3.5	1000	4280		
19015	BIGB	08	11	1749	S02	E24	08	13.5	2.5	1200	4280		
19015	BIGB	08	12	1445	S01	E13	08	13.6	3.0	0700	4280		
19015	BIGB	08	14	2300	N00	W19	08	13.5	3.0	0700	4280		
19015	BIGB	08	16	1650	N03	W43	08	13.5	2.0	0500	4280		
19016	BIGB	08	08	1420	S07	E74	08	14.1	3.5	0900	4278	4278A	
19016	BIGB	08	10	1749	S08	E51	08	14.6	3.5	2000	4278	4278A	
19016	BIGB	08	11	1749	S08	E36	08	14.4	3.0	3000	4278	4278A	
19016	BIGB	08	12	1445	S06	E25	08	14.5	3.5	3300	4278	4278A	
19016	BIGB	08	14	2300	S06	W06	08	14.5	3.5	3800	4278	4278A	
19016	BIGB	08	16	1650	S06	W29	08	14.5	3.0	2500	4278	4278A	
19016	BIGB	08	20	1723	S08	W80	08	14.7	1.5	0700	4278	4278A	
19017	BIGB	08	10	1749	N13	E60	08	15.3	2.5	0600	4278B		
19017	BIGB	08	11	1749	N14	E47	08	15.3	2.5	0900	4278B		
19017	BIGB	08	12	1445	N15	E35	08	15.3	2.5	0700	4278B		
19017	BIGB	08	14	2300	N16	E03	08	15.2	2.5	0600	4278B		
19017	BIGB	08	16	1650	N17	W20	08	15.2	2.0	0600	4278B		
19017	BIGB	08	20	1723	N17	W75	08	15.0	1.5	0600	4278B		
19018	BIGB	08	10	1749	S22	E79	08	16.8	1.0	0700	4283		
19018	BIGB	08	11	1749	S22	E70	08	17.1	3.0	2300	4283		
19018	BIGB	08	12	1445	S18	E57	08	16.9	3.0	2100	4283		
19018	BIGB	08	14	2300	S20	E26	08	16.9	3.0	2500	4283		
19018	BIGB	08	16	1650	S19	E00	08	16.7	2.5	1800	4283		
19018	BIGB	08	20	1723	S21	W49	08	17.0	2.0	1100	4283		
19018	BIGB	08	21	1827	S21	W59	08	17.2	2.5	0800	4283		
19018	BIGB	08	22	1919	S20	W75	08	17.1	2.0	0500	4283		
19019	BIGB	08	10	1749	S06	E82	08	16.9	1.0	1000	4281		
19019	BIGB	08	11	1749	S08	E70	08	17.0	3.0	2000	4281		
19019	BIGB	08	12	1445	S06	E58	08	16.9	2.5	2100	4281		
19019	BIGB	08	14	2300	S07	E28	08	17.0	3.0	2800	4281		

CALCIUM PLAGE REGIONS
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

AUGUST 1983

Calcium Plage Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Intensity	Corrected Area (10-6 Hemi)	NOAA/USAF Sunspot Groups #1	#2	#3
19019	BIGB	08	16	1650	S06	E05	08	17.1	2.5	2100	4281		
19019	BIGB	08	20	1723	S07	W48	08	17.1	2.5	1400	4281		
19019	BIGB	08	21	1827	S06	W64	08	17.0	2.5	1700	4281		
19019	BIGB	08	22	1919	S06	W76	08	17.1	2.5	1300	4281		
19019	BIGB	08	23	1522	S05	W80	08	17.6	1.5	0700	4281		
19020	BIGB	08	11	1749	N04	E74	08	17.3	3.0	1000	4282		
19020	BIGB	08	12	1445	N07	E61	08	17.2	2.5	0800	4282		
19020	BIGB	08	14	2300	N08	E33	08	17.4	2.5	1600	4282		
19020	BIGB	08	16	1650	N09	E09	08	17.4	2.5	1000	4282		
19020	BIGB	08	20	1723	N09	W44	08	17.4	2.5	1200	4282		
19020	BIGB	08	21	1827	N09	W60	08	17.3	2.5	1200	4282		
19020	BIGB	08	22	1919	N08	W75	08	17.2	2.5	0900	4282		
19020	BIGB	08	23	1522	N08	W79	08	17.7	1.5	0700	4282		
19024	BIGB	08	14	2300	S19	E43	08	18.2	2.0	0200	4287		
19024	BIGB	08	16	1650	S18	E21	08	18.3	1.0	0200	4287		
19022	BIGB	08	12	1445	S08	E76	08	18.3	1.0	0400			
19022	BIGB	08	14	2300	S06	E49	08	18.6	2.0	0600			
19022	BIGB	08	16	1650	S06	E25	08	18.6	2.0	0400			
19022	BIGB	08	20	1723	S06	W28	08	18.6	1.5	0500			
19022	BIGB	08	21	1827	S06	W44	08	18.5	1.5	0500			
19022	BIGB	08	22	1919	S06	W58	08	18.5	1.5	0400			
19022	BIGB	08	23	1522	S06	W69	08	18.5	1.5	0400			
19021	BIGB	08	12	1445	N06	E78	08	18.4	2.5	1100			
19021	BIGB	08	14	2300	N10	E50	08	18.7	2.0	0800			
19021	BIGB	08	16	1650	N10	E27	08	18.7	2.0	0700			
19021	BIGB	08	20	1723	N10	W24	08	18.9	1.0	0700			
19021	BIGB	08	21	1827	N10	W40	08	18.8	1.5	0800			
19021	BIGB	08	22	1919	N11	W53	08	18.8	1.5	0700			
19021	BIGB	08	23	1522	N11	W64	08	18.8	1.5	0800			
19021	BIGB	08	24	2349	N11	W79	08	19.0	1.0	0400			
19023	BIGB	08	12	1445	N21	E81	08	18.8	3.0	2000	4284	4286	
19023	BIGB	08	14	2300	N20	E53	08	19.0	3.0	2000	4284	4286	
19023	BIGB	08	16	1650	N20	E31	08	19.1	2.5	1500	4284	4286	
19023	BIGB	08	20	1723	N21	W23	08	19.0	3.0	1800	4284	4286	
19023	BIGB	08	21	1827	N21	W40	08	18.7	2.5	1500	4284	4286	
19023	BIGB	08	22	1919	N21	W52	08	18.8	3.0	1800	4284	4286	
19023	BIGB	08	23	1522	N21	W64	08	18.7	3.0	1900	4284	4286	
19023	BIGB	08	24	2349	N20	W78	08	19.0	2.0	1900	4284	4286	
19023	BIGB	08	25	1440	N22	W80	08	19.5	2.0	1700	4284	4286	
19025	BIGB	08	12	1445	S14	E72	08	18.0	3.0	1500			
19025	BIGB	08	14	2300	S16	E51	08	18.8	2.5	1500			
19025	BIGB	08	16	1650	S16	E31	08	19.0	2.5	1300			
19025	BIGB	08	20	1723	S16	W23	08	19.0	3.0	0900			
19025	BIGB	08	21	1827	S16	W37	08	19.0	3.0	0900			
19025	BIGB	08	22	1919	S16	W50	08	19.0	3.0	1000			
19025	BIGB	08	23	1522	S16	W62	08	18.9	2.5	1000			
19025	BIGB	08	24	2349	S16	W80	08	18.9	1.0	0500			
19026	BIGB	08	20	1723	S04	W18	08	19.4	1.5	0200			
19026	BIGB	08	21	1827	S04	W33	08	19.3	1.0	0200			
19026	BIGB	08	22	1919	S05	W49	08	19.1	1.0	0200			
19026	BIGB	08	23	1522	S05	W60	08	19.1	1.0	0150			
19026	BIGB	08	24	2349	S05	W81	08	18.9	1.0	0075			
19027	BIGB	08	20	1723	N07	W13	08	19.7	1.0	0100	4286B		
19027	BIGB	08	21	1827	N07	W27	08	19.7	1.0	0300	4286B		
19027	BIGB	08	22	1919	N08	W40	08	19.8	1.0	0200	4286B		
19027	BIGB	08	23	1522	N08	W52	08	19.7	1.0	0100	4286B		
19005	BIGB	08	22	1919	S04	W34	08	20.3	1.5	0100			
19005	BIGB	08	23	1522	S04	W47	08	20.1	1.0	0200			
19028	BIGB	08	20	1723	S15	E03	08	20.9	1.0	0100	4290		
19028	BIGB	08	21	1827	S13	W06	08	21.3	2.0	0300	4290		
19028	BIGB	08	22	1919	S13	W19	08	21.4	1.5	0400	4290		

CALCIUM PLAGE REGIONS
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

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Calcium Plage Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Intensity	Corrected Area (10-6 Hemi)	NOAA/USAF Sunspot Groups #1	#2	#3
19028	BIGB	08	23	1522	S13	W32	08	21.2	1.5	0500	4290		
19028	BIGB	08	24	2349	S13	W50	08	21.2	1.0	0300	4290		
19028	BIGB	08	25	1440	S11	W54	08	21.5	1.0	0250	4290		
19028	BIGB	08	26	1425	S11	W69	08	21.4	1.0	0100	4290		
19035	BIGB	08	23	1522	S13	W15	08	22.5	1.5	0200	4290A		
19035	BIGB	08	24	2349	S13	W32	08	22.6	1.0	0125	4290A		
19035	BIGB	08	25	1440	S14	W40	08	22.6	1.0	0200	4290A		
19029	BIGB	08	21	1827	S19	E19	08	23.2	2.5	0300	4291		
19029	BIGB	08	22	1919	S18	E06	08	23.3	2.0	0300	4291		
19029	BIGB	08	23	1522	S18	W05	08	23.2	2.0	0400	4291		
19029	BIGB	08	24	2349	S18	W23	08	23.2	2.0	0400	4291		
19029	BIGB	08	25	1440	S18	W31	08	23.2	2.0	0400	4291		
19029	BIGB	08	26	1425	S18	W44	08	23.2	1.0	0100	4291		
19030	BIGB	08	20	1723	N13	E46	08	24.2	3.5	3000	4288		
19030	BIGB	08	21	1827	N13	E32	08	24.2	3.5	3200	4288		
19030	BIGB	08	22	1919	N13	E19	08	24.2	3.0	2700	4288		
19030	BIGB	08	23	1522	N14	E10	08	24.4	3.0	3000	4288		
19030	BIGB	08	24	2349	N14	W09	08	24.3	2.5	2800	4288		
19030	BIGB	08	25	1440	N14	W17	08	24.3	2.5	2500	4288		
19030	BIGB	08	26	1425	N14	W30	08	24.3	2.5	2000	4288		
19030	BIGB	08	27	2026	N15	W45	08	24.4	2.5	2000	4288		
19030	BIGB	08	28	1622	N14	W60	08	24.1	2.0	1600	4288		
19030	BIGB	08	29	2059	N14	W73	08	24.3	2.5	1200	4288		
19030	BIGB	08	30	1445	N14	W86	08	24.1	2.5	0700	4288		
19031	BIGB	08	20	1723	S13	E52	08	24.6	2.0	1200	4289		
19031	BIGB	08	21	1827	S15	E40	08	24.8	2.0	1200	4289		
19031	BIGB	08	22	1919	S13	E30	08	25.1	1.5	1300	4289		
19031	BIGB	08	23	1522	S14	E20	08	25.1	2.0	1650	4289		
19031	BIGB	08	24	2349	S15	W00	08	25.0	1.5	1650	4289		
19031	BIGB	08	25	1440	S14	W07	08	25.1	2.0	1800	4289		
19031	BIGB	08	26	1425	S14	W23	08	24.9	2.0	1500	4289		
19031	BIGB	08	27	2026	S14	W37	08	25.0	1.5	1200	4289		
19031	BIGB	08	28	1622	S14	W50	08	24.9	1.5	1000	4289		
19031	BIGB	08	29	2059	S14	W63	08	25.1	1.5	1200	4289		
19037	BIGB	08	27	2026	S02	W24	08	26.0	2.0	0300	4298		
19037	BIGB	08	28	1622	S03	W40	08	25.7	2.5	0500	4298		
19037	BIGB	08	29	2059	S03	W54	08	25.8	2.5	0400	4298		
19037	BIGB	08	30	1445	S03	W67	08	25.6	2.0	0600	4298		
19037	BIGB	08	31	1500	S02	W80	08	25.6	2.0	0300	4298		
19032	BIGB	08	20	1723	S13	E79	08	26.7	1.0	0200			
19032	BIGB	08	21	1827	S15	E68	08	26.9	2.5	0700			
19032	BIGB	08	22	1919	S12	E52	08	26.7	3.0	0800			
19032	BIGB	08	23	1522	S13	E42	08	26.8	3.0	0950			
19032	BIGB	08	24	2349	S13	E24	08	26.8	3.0	1000			
19032	BIGB	08	25	1440	S12	E15	08	26.7	3.5	1000			
19032	BIGB	08	26	1425	S13	E01	08	26.7	2.5	1000			
19032	BIGB	08	27	2026	S13	W15	08	26.7	2.5	1100			
19032	BIGB	08	28	1622	S13	W27	08	26.6	3.0	1400			
19032	BIGB	08	29	2059	S13	W40	08	26.8	3.0	1300			
19032	BIGB	08	30	1445	S14	W54	08	26.5	2.5	1000			
19032	BIGB	08	31	1500	S14	W69	08	26.4	2.5	1000			
19032	BIGB	09	01	1505	S13	W79	08	26.8	3.0	0500			
19033	BIGB	08	20	1723	S22	E75	08	26.5	1.0	0200			
19033	BIGB	08	21	1827	S24	E67	08	26.9	1.5	0500			
19033	BIGB	08	22	1919	S21	E55	08	27.0	1.0	0700			
19033	BIGB	08	23	1522	S22	E44	08	27.0	2.0	1000			
19033	BIGB	08	24	2349	S22	E26	08	27.0	2.0	0850			
19033	BIGB	08	25	1440	S22	E16	08	26.8	2.0	0800			
19033	BIGB	08	26	1425	S23	E03	08	26.8	2.0	0800			
19033	BIGB	08	27	2026	S23	W10	08	27.1	2.0	0700			
19033	BIGB	08	28	1622	S23	W24	08	26.8	1.5	0700			
19033	BIGB	08	29	2059	S24	W36	08	27.1	1.5	0600			
19033	BIGB	08	30	1445	S23	W49	08	26.8	1.0	0600			
19033	BIGB	08	31	1500	S22	W63	08	26.8	1.0	0700			

CALCIUM PLAGE REGIONS
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Calcium Plage Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Intensity	Corrected Area (10-6 Hemi)	NOAA/USAF Sunspot Groups #1	#2	#3
19033	BIGB	09	01	1505	S20	W74	08	27.1	1.0	0300			
19046	BIGB	08	30	1445	S09	W45	08	27.2	2.0	0200	4302		
19046	BIGB	08	31	1500	S08	W55	08	27.5	2.0	0300	4302		
19046	BIGB	09	01	1505	S08	W68	08	27.6	1.0	0550	4302		
19046	BIGB	09	02	1515	S03	E80	09	8.6	2.5	0500	4302		
19038	BIGB	08	27	2026	S04	W04	08	27.5	1.0	0100			
19034	BIGB	08	22	1919	S06	E80	08	28.8	1.0	0600	4299		
19034	BIGB	08	23	1522	S09	E71	08	29.0	2.5	2000	4299		
19034	BIGB	08	24	2349	S09	E56	08	29.2	3.0	3000	4299		
19034	BIGB	08	25	1440	S08	E47	08	29.1	3.5	2800	4299		
19034	BIGB	08	26	1425	S10	E35	08	29.2	3.5	2500	4299		
19034	BIGB	08	27	2026	S09	E21	08	29.4	3.0	2500	4299		
19034	BIGB	08	28	1622	S08	E08	08	29.3	2.5	2700	4299		
19034	BIGB	08	29	2059	S08	W05	08	29.5	2.5	2300	4299		
19034	BIGB	08	30	1445	S08	W18	08	29.3	2.5	2500	4299		
19034	BIGB	08	31	1500	S07	W31	08	29.3	2.5	2500	4299		
19034	BIGB	09	01	1505	S08	W55	08	28.6	2.5	2000	4299		
19034	BIGB	09	02	1515	S09	W55	08	29.6	2.0	1500	4299		
19034	BIGB	09	03	1843	S08	W74	08	29.3	2.0	1300	4299		
19041	BIGB	08	28	1622	S05	E21	08	30.2	1.5	0200	4293		
19041	BIGB	08	29	2059	S06	E07	08	30.4	2.0	0400	4293		
19041	BIGB	08	30	1445	S07	W06	08	30.2	2.0	0500	4293		
19041	BIGB	08	31	1500	S07	W18	08	30.3	2.0	0700	4293		
19041	BIGB	09	01	1505	S05	W31	08	30.4	1.5	0600	4293		
19041	BIGB	09	02	1515	S08	W43	08	30.5	1.5	0600	4293		
19041	BIGB	09	03	1843	S06	W60	08	30.4	1.0	0500	4293		
19041	BIGB	09	04	1701	S08	W73	08	30.3	2.0	0600	4293		
19040	BIGB	08	28	1622	S01	E23	08	30.4	1.5	0200			
19040	BIGB	08	29	2059	S01	E09	08	30.5	1.5	0100			
19045	BIGB	08	24	2349	S19	E74	08	30.6	2.0	0700	4296		
19045	BIGB	08	25	1440	S20	E65	08	30.6	3.0	0900	4296		
19045	BIGB	08	26	1425	S20	E50	08	30.4	2.5	1300	4296		
19045	BIGB	08	27	2026	S20	E37	08	30.7	2.5	1000	4296		
19045	BIGB	08	28	1622	S20	E25	08	30.6	2.5	1400	4296		
19045	BIGB	08	29	2059	S20	E12	08	30.8	2.5	1200	4296		
19045	BIGB	08	30	1445	S20	W01	08	30.5	2.5	1200	4296		
19045	BIGB	08	31	1500	S20	W14	08	30.5	2.5	1000	4296		
19045	BIGB	09	01	1505	S16	W25	08	30.8	2.5	1000	4296		
19045	BIGB	09	02	1515	S17	W38	08	30.8	2.0	1000	4296		
19045	BIGB	09	03	1843	S16	W50	08	31.0	2.0	1800	4296		
19045	BIGB	09	04	1701	S16	W65	08	30.9	2.5	1200	4296		
19045	BIGB	09	05	1855	S17	W73	08	31.2	2.0	0700	4296		
19036	BIGB	08	24	2349	S10	E75	08	30.6	2.0	0300	4295		
19036	BIGB	08	25	1440	S10	E70	08	30.9	2.5	1900	4295		
19036	BIGB	08	26	1425	S12	E60	08	31.1	2.5	1700	4295		
19036	BIGB	08	27	2026	S14	E50	08	31.6	2.5	2200	4295		
19036	BIGB	08	28	1622	S13	E35	08	31.3	2.5	2500	4295		
19036	BIGB	08	29	2059	S14	E24	08	31.7	2.5	3000	4295		
19036	BIGB	08	30	1445	S15	E12	08	31.5	2.5	3000	4295		
19036	BIGB	08	31	1500	S15	W02	08	31.5	2.5	2500	4295		
19036	BIGB	09	01	1505	S14	W10	08	31.9	2.0	2000	4295		
19036	BIGB	09	02	1515	S14	W21	09	1.0	2.0	2000	4295		
19036	BIGB	09	03	1843	S13	W40	08	31.8	2.0	1800	4295		
19036	BIGB	09	04	1701	S12	W49	09	1.0	2.5	1500	4295		
19036	BIGB	09	05	1855	S12	W65	08	31.9	1.5	0900	4295		
19036	BIGB	09	06	2142	S14	W71	09	1.5	1.0	0350	4295		
19039	BIGB	08	25	1440	S30	E76	08	31.6	1.5	0700	4300		
19039	BIGB	08	26	1425	S30	E63	08	31.5	1.5	0800	4300		
19039	BIGB	08	27	2026	S29	E50	08	31.8	1.5	0400	4300		
19039	BIGB	08	28	1622	S28	E36	08	31.5	1.5	0200	4300		
19039	BIGB	08	29	2059	S28	E25	08	31.8	1.5	0300	4300		
19039	BIGB	08	30	1445	S30	E12	08	31.5	1.5	0400	4300		
19039	BIGB	08	31	1500	S30	W01	08	31.5	1.5	0500	4300		

CALCIUM PLAGE REGIONS
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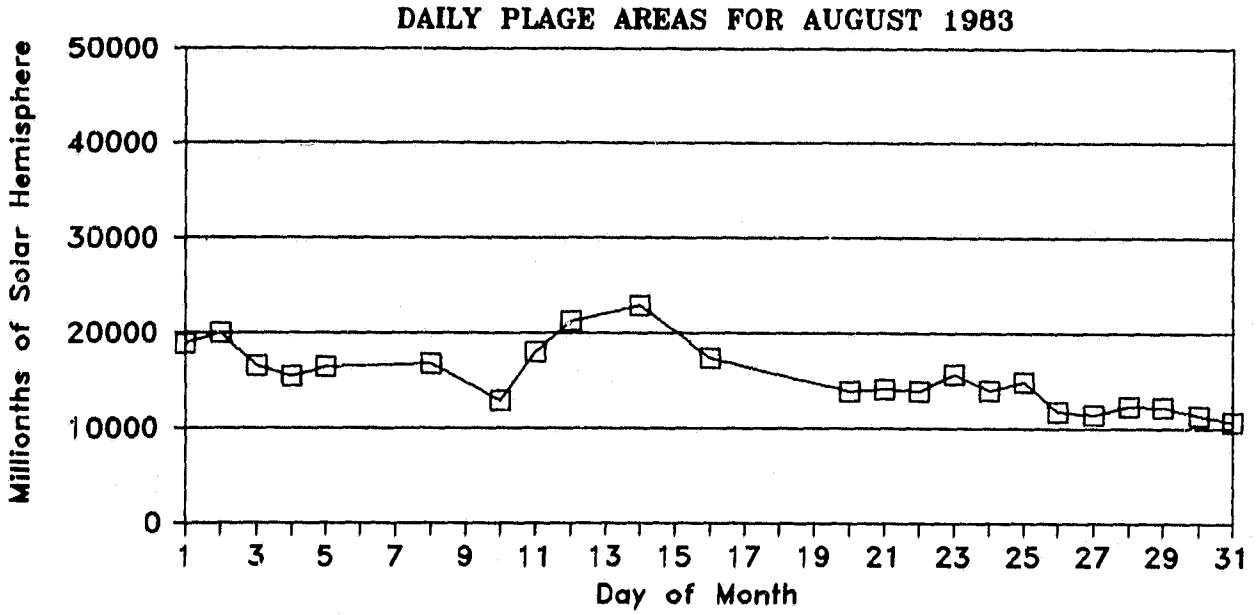
AUGUST 1983

Calcium Plage Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Intensity	Corrected Area (10-6 Hemi)	NOAA/USAF Sunspot Groups #1	#2	#3
19039	BIGB	09	01	1505	S24	W20	08	31.1	2.0	0700	4300		
19039	BIGB	09	02	1515	S25	W33	08	31.1	2.0	0700	4300		
19039	BIGB	09	03	1843	S24	W47	08	31.1	1.5	1000	4300		
19039	BIGB	09	04	1701	S25	W56	08	31.4	2.0	0600	4300		
19039	BIGB	09	05	1855	S23	W63	08	31.9	2.0	0700	4300		
19039	BIGB	09	06	2142	S23	W70	09	1.5	2.0	0600	4300		

DAILY PLAGE SUMMARIES

AUGUST 1983

Day	Sta	Plage Index	Plage Count	Smallest Plage (Millionths	Largest Plage of Solar	Total Area Hemisphere)	Smallest Intensity	Largest Intensity
01	BIGB	41.8	13	100	5500	18900	1.0	3.5
02	BIGB	49.3	11	300	6000	20000	1.0	4.0
03	BIGB	39.6	14	100	5800	16600	1.0	3.5
04	BIGB	36.5	13	200	6000	15500	1.0	3.5
05	BIGB	35.4	13	200	6000	16500	1.0	3.5
06	No Observations This Day							
07	No Observations This Day							
08	BIGB	20.6	14	200	4500	16800	1.0	4.0
09	No Observations This Day							
10	BIGB	25.2	14	100	4500	12900	1.0	4.0
11	BIGB	33.3	14	100	4600	18000	1.0	3.5
12	BIGB	42.6	14	300	5500	21200	1.0	3.5
13	No Observations This Day							
14	BIGB	57.8	15	100	5200	22900	1.0	3.5
15	No Observations This Day							
16	BIGB	38.9	13	200	4500	17300	1.0	3.5
17	No Observations This Day							
18	No Observations This Day							
19	No Observations This Day							
20	BIGB	23.2	16	100	3000	13900	1.0	3.5
21	BIGB	24.2	15	200	3200	14100	1.0	3.5
22	BIGB	19.6	17	100	2700	13900	1.0	3.0
23	BIGB	22.6	17	100	3000	15650	1.0	3.0
24	BIGB	20.2	14	75	3000	14000	1.0	3.0
25	BIGB	24.5	12	200	2800	14950	1.0	3.5
26	BIGB	22.2	10	100	2500	11800	1.0	3.5
27	BIGB	21.6	10	100	2500	11500	1.0	3.0
28	BIGB	23.1	11	200	2700	12400	1.5	3.0
29	BIGB	22.0	12	100	3000	12200	1.0	3.0
30	BIGB	20.0	12	200	3000	11400	1.0	2.5
31	BIGB	18.1	12	100	2500	10700	1.0	3.0



BIG BEAR SOLAR OBSERVATORY
ACTIVE REGION SUMMARY
AUGUST 1983

REGION	IDENTIFICATION	AGE	FIRST SEEN	DURATION
19006	New	1	830801	01 days
000	New	1	830727	13
003	New	1	830729	≥11
001	18949	2	830728	≥12
002	18948 & 18951	3	830728	14
011	New	1	830803	09
007	New	1	830801	08
008	New	1	830802	07
009	New	1	830803	06
012	18956	2	830803	10
010	18958	2	830803	≥10
013	New	1	830805	≥11
014	New (vic. of 18959 and 18960)	1	830808	≥09
015	New	1	830808	≥09
016	New (vic. of 18964 and 18976)	1	830808	10
017	18967	3	830810	10
019	18984	2	830810	14
018	New (vic. of 18994)	1	830810	13
020	18982	2	830811	14
024	New	1	830814	≥04
022	18974	6	830812	12
005	New	1	830822	02
021	18975	5	830812	13
023	New	1	830812	14
025	18977	2	830812	13
026	New	1	830820	05
027	New	1	830820	04
028	New	1	830820	07
035	New	1	830823	03
029	New	1	830821	06
030	New	1	830821	10
031	18989	6	830821	09
037	New	1	830827	04
032	New (vic. of 19004)	1	830821	≥11
033	18990	3	830821	11
038	New	1	830827	01
046	New	1	830830	≥03
034	19000	2	830822	13
040	New	1	830828	02
041	New	1	830828	09
045	New in the lower portion of 19002	1	830824	13
036	19002	4	830824	14
039	19001	3	830825	14

1. No CaK Observations at BBSO on August 2, 6-9, 12-19, 25, 26, 30, 31.

2. No CaK Prints on August 6, 7, 9, 13, 15, 17-19.

3. No KPNO Magnetograms on August 4, 5, 8-12, 16-19, 31.

4. Contiguous Plages: 19000/19001/19002/19003,
19014/19015/19016,
19024/19041/19045/19036/19039.

5. Mt. Wilson CaK Prints were used on August 2, 8, 12, 13, 16, 25, 26, 30, 31.

☆U.S. GOVERNMENT PRINTING OFFICE:1986—676-027/20008