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Part I (Prompt Reports)

NO. 479 JULY 1984

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JUNE 1984
MAY 1984

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

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

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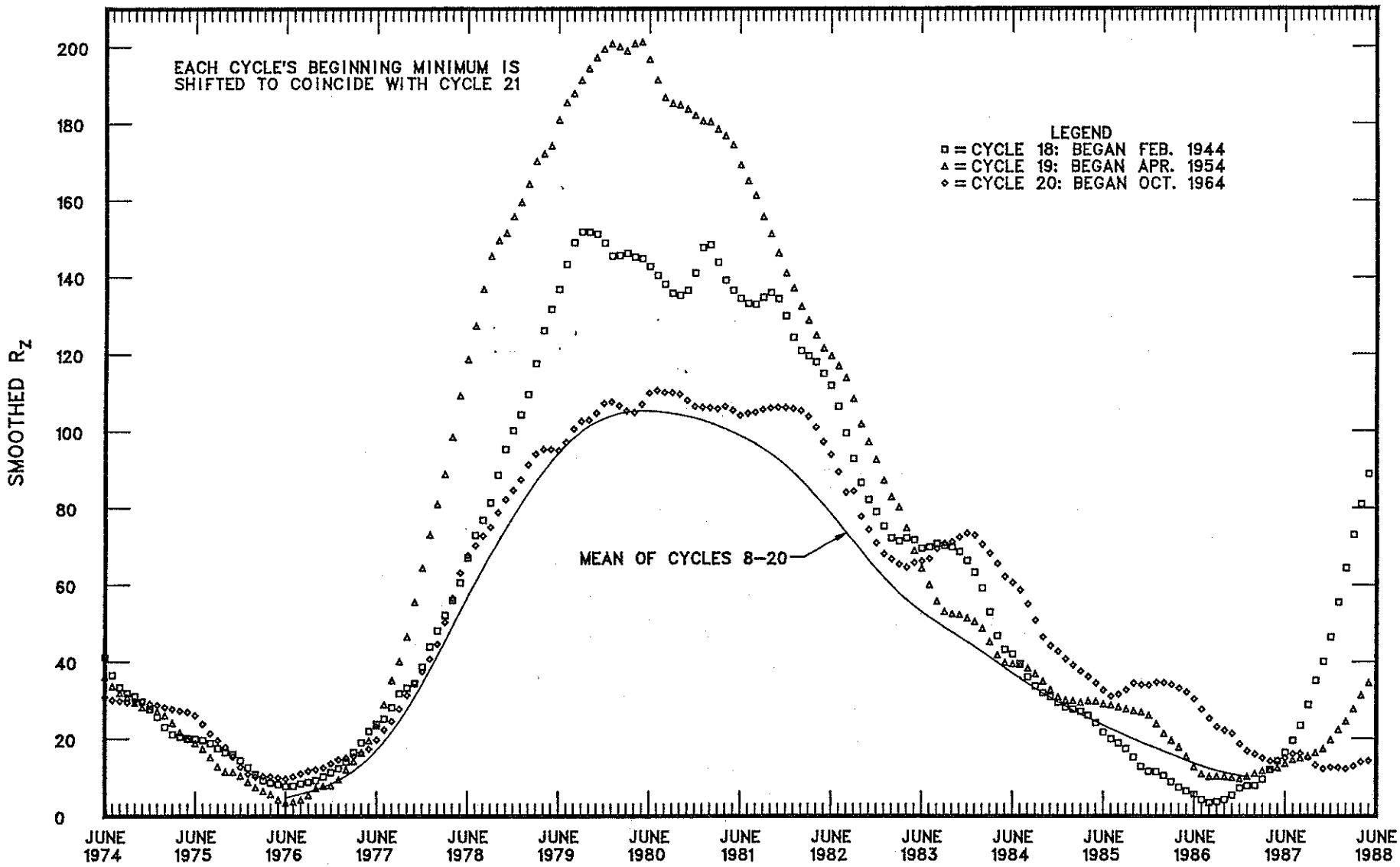


ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SUMMARY OF THE GEOALERT MESSAGES JUNE 1984

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
153	01	31	099	113	010	S06W85	2	0	0	PRESTO PROTON EVENT BEGAN	01	S06W85	Q	SOLQUIET
						S08W32	0	0	0	31/1350 UT WITH MAX AT		S08W32	Q	MAGQUIET
						S12W09	0	0	0	31/1415 UT WITH 15 PARTICLES/		S12W09	Q	
						S12E08	4	0	0	CM2/SEC/STER >10 MEV		S12E08	E	
						S23E40	0	0	0			S23E40	Q	
154	02	01	077	113	010	S10W45	0	0	0		02	S10W45	Q	SOLQUIET
						S12W22	0	0	0			S12W22	Q	MAGQUIET
						S13W05	11	0	0			S13W05	E	
						S22E30	0	0	0			S22E30	Q	
155	03	02	055	108	010	S12W35	0	0	0		03	S12W35	Q	SOLQUIET
						S12W19	3	0	0			S12W19	E	MAGQUIET
						N07E77	0	0	0			N07E77	Q	
156	04	03	049	107	025	S12W48	0	0	0		04	S12W48	Q	SOLQUIET
						S11W33	3	0	0			S11W33	E	MAGQUIET
						N05E63	1	0	0			N05E63	Q	
157	05	04	049	104	017	S12W62	0	0	0		05	S12W62	Q	SOLQUIET
						S12W46	1	0	0			S12W46	Q	MAGQUIET
						N06E51	0	0	0			N06E51	Q	
158	06	05	027	102	017	S13W60	2	0	0		06	S13W60	Q	SOLQUIET
						S06E35	0	0	0			S06E35	Q	MAGQUIET
159	07	06	029	096	016	S12W78	0	0	0		07	S12W78	Q	SOLQUIET
						N05E22	0	0	0			N05E22	Q	MAGALERT
														MINOR 07/XX
160	08	07	028	095	013	S13W90	1	0	0		08	S13W90	Q	SOLQUIET
						N05E10	0	0	0			N05E10	Q	MAGNIL
161	09	08	041	092	011	N00W16	0	0	0		09	N00W16	Q	SOLQUIET
						N06W04	1	0	0			N06W04	Q	MAGQUIET
						S12E63	1	0	0			S12E63	Q	
162	10	09	042	091	010	N00W33	0	0	0		10	N00W33	Q	SOLQUIET
						N05W16	0	0	0			N05W16	Q	MAGQUIET
						S12E49	0	0	0			S12E49	Q	
163	11	10	045	090	017	N05W30	0	0	0		11	N05W30	Q	SOLQUIET
						S12E35	2	0	0			S12E35	Q	MAGQUIET
						S07E72	0	0	0			S07E72	Q	
164	12	11	059	090	012	N04W44	0	0	0		12	N04W44	Q	SOLQUIET
						S10E22	3	0	0			S10E22	Q	MAGQUIET
						S07E61	0	0	0			S07E61	Q	
						N02E64	3	0	0			N02E64	Q	
165	13	12	058	090	009	S11E09	0	0	0		13	S11E09	Q	SOLQUIET
						S07E45	1	0	0			S07E45	Q	MAGQUIET
						N03E49	0	0	0			N03E49	Q	
166	14	13	057	096	006	S11W04	0	0	0		14	S11W04	Q	SOLQUIET
						S08E32	0	0	0			S08E32	Q	MAGQUIET
						S07E62	0	0	0			S07E62	Q	
167	15	14	086	109	008	S12W19	4	0	0		15	S12W19	Q	SOLQUIET
						S08E19	0	0	0			S08E19	Q	MAGQUIET
						S07E49	6	0	0			S07E49	Q	
						S06E80	0	0	0			S06E80	Q	
168	16	15	126	114	024	S12W32	1	0	0		16	S12W32	Q	SOLQUIET
						S08E04	0	0	0			S08E04	Q	MAGALERT
						N08E09	0	0	0			N08E09	Q	MINOR 16/XX
						S07E36	7	0	0			S07E36	E	RECURRENCE

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SUMMARY OF THE GEOALERT MESSAGES JUNE 1984

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
						S03E63	0	0	0			S03E63	Q	
						S05E65	0	0	0			S05E65	Q	
169	17	16	118	107	035	S12W47	1	0	0		17	S12W47	Q	SOLQUIET
						S08W11	0	0	0			S08W11	Q	MAGALERT
						N08W04	0	0	0			N08W04	Q	MINOR 17/18
						S07E21	0	0	0			S07E21	E	RECURRENCE
						N02E48	0	0	0			N02E48	Q	
						S05E52	0	0	0			S05E52	Q	
						N16E60	0	0	0			N16E60	Q	
170	18	17	117	109	012	S12W59	2	0	0		18	S12W59	Q	SOLQUIET
						S09W19	0	0	0			S09W19	Q	MAGNIL
						N08W17	0	0	0			N08W17	Q	
						N19W15	0	0	0			N19W15	Q	
						S07E08	4	0	0			S07E08	E	
						N02E36	0	0	0			N02E36	Q	
						S06E39	0	0	0			S06E39	Q	
						N16E46	0	0	0			N16E46	Q	
171	19	18	093	105	026	S11W76	0	0	0		19	S11W76	Q	SOLQUIET
						N09W31	0	0	0			N09W31	Q	MAGQUIET
						S07W06	0	0	0			S07W06	E	
						N03E22	0	0	0			N03E22	Q	
						S06E25	0	0	0			S06E25	Q	
						N16E31	0	0	0			N16E31	Q	
172	20	19	084	104	022	S11W87	1	0	0		20	S11W87	Q	SOLQUIET
						S06W18	3	0	0			S06W18	Q	MAGQUIET
						N03E11	0	0	0			N03E11	Q	
						S04E12	0	0	0			S04E12	Q	
						N16E21	0	0	0			N16E21	Q	
173	21	20	115	103	018	S07W31	2	0	0		21	S07W31	Q	SOLQUIET
						S07W22	1	0	0			S07W22	Q	MAGQUIET
						N03W08	0	0	0			N03W08	Q	
						S04E00	0	0	0			S04E00	Q	
						N17E09	0	0	0			N17E09	Q	
						S14E41	2	0	0			S14E41	Q	
174	22	21	076	098	007	S05W45	4	0	0		22	S05W45	Q	SOLQUIET
						S05W38	3	0	0			S05W38	Q	MAGQUIET
						S04W14	0	0	0			S04W14	Q	
						N16W05	0	0	0			N16W05	Q	
						S16E23	0	0	0			S16E23	Q	
175	23	22	089	101	008	S06W59	0	0	0		23	S06W59	Q	SOLQUIET
						S06W54	1	0	0			S06W54	Q	MAGQUIET
						S05W28	0	0	0			S05W28	Q	
						N18W19	0	0	0			N18W19	Q	
						S15E10	6	0	0			S15E10	E	
						S13E73	0	0	0			S13E73	Q	
176	24	23	065	102	010	S06W74	4	0	0		24	S06W74	Q	SOLQUIET
						S05W41	0	0	0			S05W41	Q	MAGQUIET
						S16W02	11	0	0			S16W02	E	
						S14E60	0	0	0			S14E60	Q	
177	25	24	075	100	076	S05W89	0	0	0		25	S05W89	Q	SOLQUIET
						S04W54	0	0	0			S04W54	Q	MAGQUIET
						S15W17	2	0	0			S15W17	E	
						S14E28	0	0	0			S14E28	Q	
						S15E45	0	0	0			S15E45	Q	
178	26	25	062	101	012	S05W67	0	0	0		26	S05W67	Q	SOLQUIET
						S14W30	6	0	0			S14W30	E	MAGQUIET
						S13E15	0	0	0			S13E15	Q	

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SUMMARY OF THE GEOALERT MESSAGES JUNE 1984

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
						S14E32	0	0	0			S14E32	Q	
179	27	26	066	097	012	S05W82	0	0	0		27	S05W82	Q	SOLQUIET
						S15W43	1	0	0			S15W43	Q	MAGQUIET
						S14E20	0	0	0			S14E20	Q	
						N05E67	0	0	0			N05E67	Q	
180	28	27	056	098	013	S15W57	0	0	0		28	S15W57	Q	SOLQUIET
						S13W39	0	0	0			S13W39	Q	MAGQUIET
						S13E08	0	0	0			S13E08	Q	
						N05E54	0	0	0			N05E54	Q	
181	29	28	057	096	014	S14W70	1	0	0		29	S14W70	Q	SOLQUIET
						S12W05	0	0	0			S12W05	Q	MAGQUIET
						N05E41	0	0	0			N05E41	Q	
						N13E76	2	0	0			N13E76	Q	
182	30	29	066	097	014	S15W81	0	0	0		30	S15W81	Q	SOLQUIET
						N04W74	0	0	0			N04W74	Q	MAGQUIET
						S13W19	0	0	0			S13W19	Q	
						N05E28	0	0	0			N05E28	Q	
						N13E64	2	0	0			N13E64	Q	
183	01	30	060	098	012	N03W87	0	0	0		01	N03W87	Q	SOLQUIET
						S13W33	0	0	0			S13W33	Q	MAGQUIET
						N05E14	0	0	0			N05E14	Q	
						N13E52	0	0	0			N13E52	Q	

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) THE MONTH OF JUNE 1984.

NO PRESTO MESSAGES SENT THIS MONTH

INTERNATIONAL* (R_I) RELATIVE SUNSPOT NUMBERS

Day	1983 Final Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	1984 Prov Apr	May	Jun
01	62	131	46	29	17	26	10	110	74	103	97	48
02	59	128	56	51	22	23	16	82	78	94	89	44
03	61	105	59	63	37	15	17	67	66	85	68	45
04	87	103	69	74	51	14	18	61	54	81	49	34
05	80	79	84	65	66	17	21	66	65	61	38	28
06	79	49	78	75	74	39	29	76	49	70	24	23
07	79	60	72	87	84	41	37	79	51	50	35	34
08	82	70	68	99	90	48	38	94	64	36	54	31
09	69	69	74	106	70	71	50	115	60	25	72	26
10	59	63	70	121	68	82	44	123	46	12	85	31
11	68	88	65	136	56	76	48	118	65	21	94	37
12	86	103	41	122	43	66	51	108	72	26	100	39
13	85	104	36	100	36	66	48	82	79	24	118	41
14	88	97	36	80	29	52	46	77	88	32	97	50
15	92	93	42	72	28	50	44	80	112	59	85	80
16	93	80	33	61	38	35	46	53	117	60	97	83
17	96	72	35	60	31	46	51	51	105	56	83	73
18	98	71	45	63	36	36	49	50	95	73	70	62
19	96	54	40	46	26	31	51	54	90	82	78	55
20	101	40	32	26	12	25	69	54	103	69	70	53
21	109	52	36	18	18	21	76	76	98	68	65	46
22	114	50	38	22	0	15	64	100	87	55	77	48
23	95	51	42	22	0	20	70	121	89	56	83	54
24	105	35	46	20	0	22	70	117	80	80	86	58
25	85	52	42	18	0	21	99	117	97	99	70	41
26	58	53	50	20	7	23	105	101	97	124	87	49
27	49	51	51	12	10	12	99	78	96	121	86	40
28	40	55	48	15	12	10	106	78	98	114	63	41
29	73	63	43	16	19	11	110	88	94	114	74	50
30	89	59	33	15	21	13	102		107	107	70	42
31	110	45		16		9	82		113		63	
Mean	82	72	50	56	33	33	57	85	84	69	75	46

*International sunspot numbers have replaced the Zurich values since January 1981.
The yearly mean sunspot number equaled 66.6 in 1983.

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

ALGONQUIN RADIO OBSERVATORY, OTTAWA

Day	Jul 83	Aug	Sep	Oct	Nov	Dec	Jan 84	Feb	Mar	Apr	May	Jun
01	124.1*	151.1	110.5*	117.5	98.3	90.5	84.3	154.6	143.6	135.7	153.7	116.1
02	125.4	145.4*	110.9	120.4	97.6	88.9	87.4	142.0*	138.2	134.6*	139.3*	111.3
03	131.5	139.4*	106.4	123.1	96.9	88.5	89.5	131.4	122.5	128.8*	123.1	109.6
04	137.2	136.5	110.5	125.1	103.1	91.9	91.0	126.0	114.4*	129.5	113.5*	106.8
05	132.1	136.5	117.6	126.6*	105.1	92.0	88.2	114.2	109.3	118.7	114.9	104.6
06	132.4	142.0	120.7	132.7	---	97.1*	85.6	111.8	109.5	112.1*	108.1	98.9
07	132.7	141.9	118.6	133.9	108.5	98.6	86.5	113.6	105.0	107.8	118.3	97.3
08	127.9	141.0	118.4	131.1*	103.5	98.3	92.3	127.2	103.8	100.7	121.9	94.6
09	123.1	142.9	115.3	130.4	99.2	108.2	94.4	139.9	102.4	94.9	138.3	93.6
10	123.1	151.6	109.7	133.6*	100.8	108.0	95.2	136.7*	98.8	93.9	150.9	92.3
11	125.7	151.3	110.5	138.3	96.7	101.7*	96.8	141.1*	98.6	97.3	147.9	93.2
12	124.7	156.7*	104.9*	133.7	89.6	101.1	101.1	135.8*	102.3*	107.2	148.2*	93.0
13	123.5	147.3	104.4	133.5*	91.9	100.8	102.1	128.4	114.7	113.7	151.4	98.6
14	124.4	141.6*	105.2	131.5*	91.0	96.5	99.2	120.3*	121.1	118.8	146.9	110.2
15	124.6	135.8*	106.3*	127.0	90.9	92.2	97.8	113.4	134.4	119.7	139.6	116.5*
16	121.3	132.1	106.3*	117.2A	90.6	93.5*	96.6*	114.5*	124.0	117.2	137.3	110.3
17	120.0	126.8	105.1	110.9*	85.6	92.0	95.2	116.5	129.1	122.9*	130.1	109.5*
18	116.4*	122.2	102.5	103.6	84.4	90.1	95.0	122.2*	125.8*	119.9	131.9	108.9
19	119.5	117.7	101.2	105.2	82.3	86.2	93.4	128.4*	126.5	112.5*	137.6	107.8
20	125.1	118.7	100.4	99.1	80.3	83.6	102.2	134.6	126.3	124.1*	138.0	106.6
21	128.1*	114.2	103.0	89.3	79.3	82.3	103.3	143.8	122.4	127.7	145.3*	103.4*
22	138.9	110.8	106.0	87.2	80.1	82.9	110.5	158.0	122.7	130.8	130.1	104.6
23	132.9*	110.8	112.6	87.8	78.2	83.0	113.3	166.1	115.1	136.6*	130.0	105.3
24	136.3*	108.7	111.8	88.6	78.8	83.1	126.4*	172.9*	113.0	142.9	126.9	103.6
25	136.7*	104.2	110.5*	89.2	79.2	82.4*	146.8	169.4*	111.6	152.4	125.7*	104.6
26	128.9*	105.8	114.6*	89.1	80.4	82.9	164.8*	164.2	120.2	174.0	121.0	100.1
27	123.1	103.7	119.8	88.9	84.4	83.5	172.3	154.3	129.1*	183.7*	120.3	101.5
28	127.1	102.8	114.8	90.4	86.6	80.7	168.9	148.8	135.9	182.6*	118.5	99.5
29	138.5*	105.7	114.5	90.7	89.4	81.1	174.6	148.1	138.1*	178.2*	121.0	100.3
30	144.3	104.0	113.0	92.6	90.0	81.3	161.5		143.8	170.8	119.7A	101.1
31	153.1*	104.2		95.5*		83.8	169.3		143.7		115.9	
Mean	129.1	127.5	110.2	111.7	90.4	90.5	112.4	137.2	120.8	129.7	131.1	103.5

A = interpolated value; --- = no observation.
*Adjusted for burst in progress at time of measurement.
The yearly mean 2800 MHz flux adjusted to 1 astronomical unit equaled 119.8 in 1983.

DAILY SOLAR INDICES

JUNE 1984

Day	Julian Day	Bartels Cycle Day	Sunspot Numbers Int	Sunspot Numbers Amer	Obs Flux Ottawa (2800)	Solar Flux Adjusted to 1 Astronomical Unit SGMR (15400)	SGMR (8800)	SGMR (4995)	Ottawa (2800)	SGMR (2695)	SGMR (1415)	SGMR (606)	SGMR (410)	SGMR (245)
01	153	12	48	44	112.8	490	215	108	116.1	104	94	77	38	25
02	154	13	44	48	108.2	458	223	117	111.3	107	92	67	31	14
03	155	14	45	45	106.5	598	297	134	109.6	107	97	70	29	14
04	156	15	34	36	103.8	595	291	130	106.8	107	95	73	29	13
05	157	16	28	30	101.6	599	274	130	104.6	97	96	65	29	11
06	158	17	23	24	96.0	575	292	127	98.9	98	91	75	30	14
07	159	18	34	25	94.5	569	256	121	97.3	95	90	75	28	14
08	160	19	31	20	91.8	577	264	118	94.6	92	84	70	29	14
09	161	20	26	25	90.8	568	269	118	93.6	90	84	67	27	12
10	162	21	31	28	89.5	571	262	116	92.3	92	85	67	27	14
11	163	22	37	43	90.4	574	263	119	93.2	91	86	68	27	14
12	164	23	39	39	90.2	552	277	120	93.0	95	85	72	30	14
13	165	24	41	44	95.5	580	271	122	98.6	103	87	71	30	14
14	166	25	50	61	106.8	573	284	135	110.2	120	95	77	30	15
15	167	26	80	87	112.9*	606	294	141	116.5*	126	99	--	--	--
16	168	27	83	83	106.9	---	---	---	110.3	---	--	--	--	--
17	169	1	73	72	106.1*	593	279	134	109.5*	117	99	79	32	25
18	170	2	62	51	105.4	563	288	131	108.9	115	98	74	32	49
19	171	3	55	43	104.4	590	278	132	107.8	119	94	69	29	18
20	172	4	53	46	103.2	590	269	130	106.6	113	90	68	29	13
21	173	5	46	42	100.1*	591	282	126	103.4*	107	90	75	31	12
22	174	6	48	53	101.3	581	288	128	104.6	107	89	73	27	26
23	175	7	54	55	101.9	591	283	131	105.3	112	90	66	27	14
24	176	8	58	57	100.3	586	280	129	103.6	109	89	66	28	17
25	177	9	41	48	101.3	568	284	105	104.6	108	87	63	30	15
26	178	10	49	51	96.8	583	278	126	100.1	104	87	73	31	13
27	179	11	40	41	98.2	586	281	127	101.5	108	88	67	28	13
28	180	12	41	44	96.2	579	281	126	99.5	103	83	62	27	13
29	181	13	50	50	97.0	578	286	128	100.3	106	85	71	29	13
30	182	14	42	37	97.8	579	282	128	101.1	106	85	71	27	12
Mean			46	46	100.3	574	275	125	103.5	105	90	70	29	16

*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

JUNE 1984

Date	RELATIVE SUNSPOT NUMBERS: Zurich or Internat (Ri) Monthly Mean	Zurich or Internat (Ri) Smoothed	American (Ra) Monthly Mean	American (Ra) Smoothed	Derived (Rs) Monthly Mean	Derived (Rs) Smoothed	2800 MHz RADIO FLUX Adjusted to 1 AU (Sa) Monthly Mean	Sa Smoothed
Jul 80	136.3	153	136.0	144	144.1	151	190.8	197
Aug	135.4	150	133.0	144	121.9	150	170.3	196
Sep	155.0	150	150.0	146	138.8	152	185.9	198
Oct	164.7	150	160.8	149	157.1	154	202.9	200
Nov	147.9	148	149.9	149	168.5	153	213.4	199
Dec	174.4	143	167.5	145	174.3	150	218.8	196
Jan 81	114.0	140	115.4	144	120.5	149	169.0	195
Feb	141.3	142	143.7	146	153.5	152	199.5	198
Mar	135.5	143	149.2	149	157.5	156	203.2	202
Apr	156.4	143	169.2	149	180.7	158	224.7	204
May	127.5	143	141.3	149	152.8	159	198.9	204
Jun	90.9	142	99.0	147	112.9	158	161.9	203
Jul	143.8	140	154.3	146	152.1	157	198.2	203
Aug	158.7	141	170.4	147	182.1	158	226.0	203
Sep	167.3	143	174.5	148	177.7	158	221.9	204
Oct	162.4	142	157.0	146	178.6	156	222.8	202
Nov	137.5	139	138.8	142	157.6	151	203.3	197
Dec	150.1	138	145.0	140	155.5	149	201.4	195
Jan 82	111.1	137	110.4	139	124.2	148	173.4	195
Feb	163.6	133	161.0	134	163.6	144	208.9	191
Mar	153.8	129	155.5	130	163.0	139	208.3	186
Apr	122.0	124	121.9	124	113.9	134	162.9	182
May	82.2	120	82.6	120	97.7	129	147.9	177
Jun	110.4	117	113.5	118	129.6	127	177.4	175
Jul	106.1	115	113.3	117	116.0	125	164.8	174
Aug	107.6	109	110.5	111	123.9	120	172.1	168
Sep	118.8	101	117.8	103	118.5	112	167.1	161
Oct	94.7	96	90.1	97	111.8	106	160.9	155
Nov	98.1	95	93.2	95	114.8	103	163.7	153
Dec	127.0	95	145.0	95	146.7	101	193.2	151
Jan 83	84.3	93	82.8	93	86.7	98	137.7	148
Feb	51.0	90	53.4	90	67.2	94	119.6	145
Mar	66.5	86	60.5	85	64.7	90	117.3	141
Apr	80.7	82	74.5	81	67.5	85	119.9	136
May	99.2	71	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	64	35.7	65	90.5	118
Jan 84	57.0	63(2)*	54.4	63	59.4	64	112.4	---
Feb	85.4	61(5)*	81.5	61	86.2	62	137.2	---
Mar	83.5	58(7)*	83.0	58	68.5	59	120.8	---
Apr	68.6†	55(11)*	66.5	56	78.1	56	129.7	---
May	75.1†	54(13)*	72.1	54	79.6	55	131.1	---
Jun	46.2†	53(14)*	---	53	49.8	54	103.5	---
Jul	---	52(15)*	---	52	---	53	---	---
Aug	---	50(17)*	---	50	---	51	---	---
Sep	---	48(17)*	---	48	---	49	---	---
Oct	---	45(18)*	---	45	---	46	---	---
Nov	---	44(18)*	---	44	---	44	---	---
Dec	---	42(18)*	---	42	---	43	---	---

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

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

†International numbers replaced the Zurich values in January 1981.

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS FOR CYCLE 21

JUNE 1984

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1976	15	13	12	13	13	12*	13	14	14	13	14	15
1977	17	18	20	22	24	26	29	33	39	46	52	57
1978	61	65	70	77	83	89	97	104	108	111	113	118
1979	124	131	137	141	147	153	155	155	156	158	162	165*
1980	164	163	161	159	156	155	153	150	150	150	148	143
1981	140	142	143	143	143	142	140	141	143	142	139	138
1982	137	133	129	124	119	117	115	109	101	96	95	95
1983	93	90	86	82	71	71	66	66	68	68	59	64
1984	63	61	58	55	54	53	52	50	48	45	44	42
	(2)	(5)	(7)	(11)	(13)	(14)	(15)	(17)	(17)	(18)	(18)	(18)
1985	40	39	38	37	36	34	32	31	30	30	29	28
	(18)	(17)	(17)	(17)	(18)	(18)	(17)	(16)	(16)	(16)	(17)	(17)
1986	28	27	26	25	23	22	20	18	17	17	16	15
	(17)	(17)	(17)	(16)	(16)	(16)	(16)	(15)	(14)	(13)	(13)	(11)

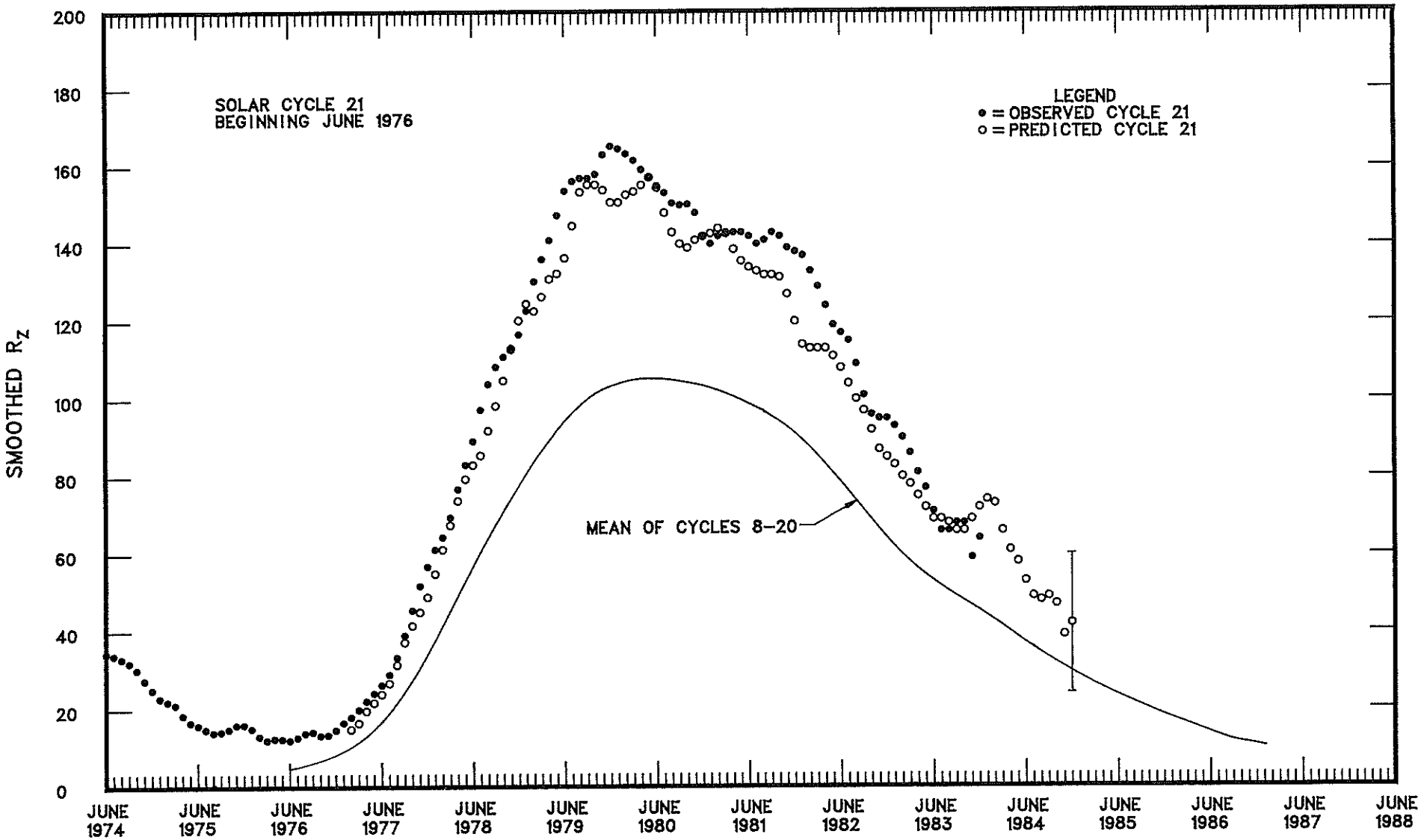
An asterisk marks the minimum and the maximum of Sunspot Cycle 21.

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

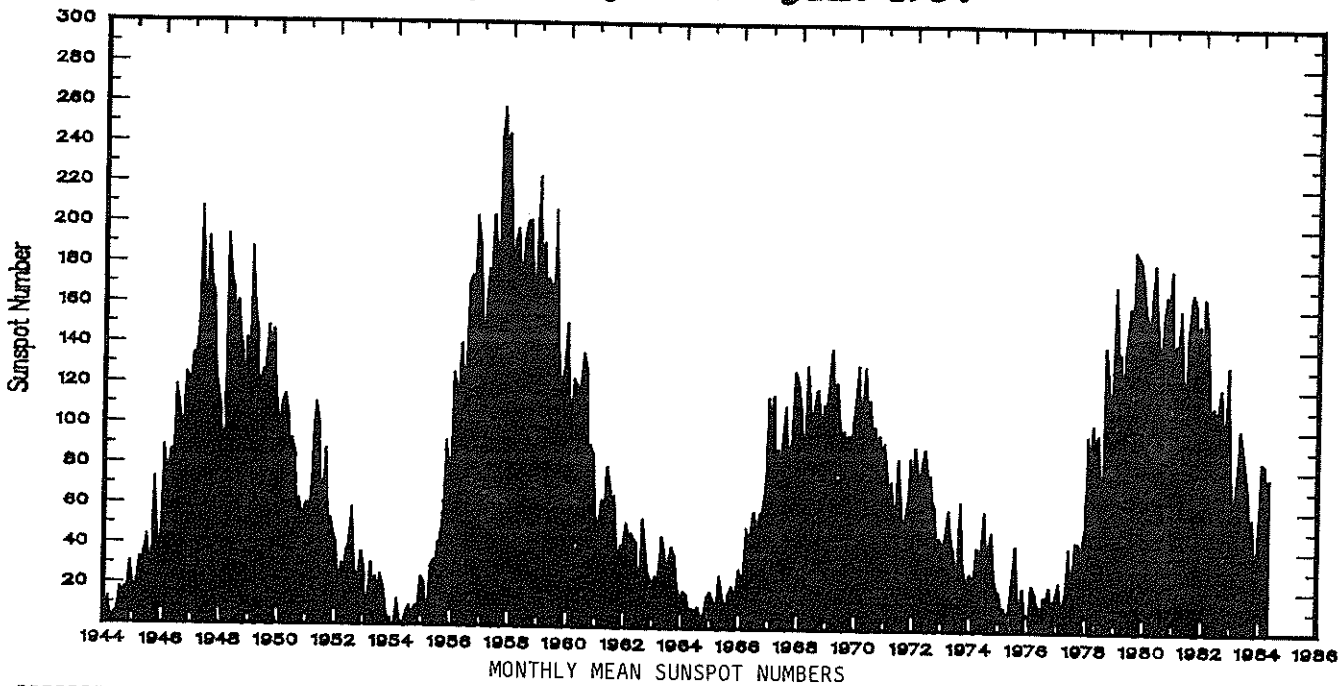
The entries with numbers in parentheses below them denote predictions by the McNish-Lincoln method. (See page 10 in the February 1984 edition of the "Solar-Geophysical Data" supplement.) Adding the number in parentheses to the predicted value generates the upper limit of the 90% confidence interval; subtracting the number in parentheses from the predicted value generates the lower limit. Consider, for example, the December 1984 prediction tabulated above. There exists a 90% chance that in December 1984 the actual smoothed sunspot number will fall somewhere between 24 and 60.

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

OBSERVED AND ONE-YEAR-AHEAD PREDICTED SMOOTHED SUNSPOT NUMBERS



MONTHLY MEAN SUNSPOT NUMBERS
January 1944 – June 1984



MONTHLY MEAN SUNSPOT NUMBERS

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1944	3.7	0.5	11.0	0.3	2.5	5.0	5.0	16.7	14.3	16.9	10.8	28.4
1945	18.5	12.7	21.5	32.0	30.6	36.2	42.6	25.9	34.9	68.8	46.0	27.4
1946	47.6	86.2	76.6	75.7	84.9	73.5	116.2	107.2	94.4	102.3	123.8	121.7
1947	115.7	133.4	129.8	149.8	201.3	163.9	157.9	188.8	169.4	163.6	128.0	116.5
1948	108.5	86.1	94.8	189.7	174.0	167.8	142.2	157.9	143.3	136.3	95.8	138.0
1949	119.1	182.3	157.5	147.0	106.2	121.7	125.8	123.8	145.3	131.6	143.5	117.6
1950	101.6	94.8	109.7	113.4	106.2	83.6	91.0	85.2	51.3	61.4	54.8	54.1
1951	59.9	59.9	55.9	92.9	108.5	100.6	61.5	61.0	83.1	51.6	52.4	45.8
1952	40.7	22.7	22.0	29.1	23.4	36.4	39.3	54.9	28.2	23.8	22.1	34.3
1953	26.5	3.9	10.0	27.8	12.5	21.8	8.6	23.5	19.3	8.2	1.6	2.5
1954	0.2	0.5	10.9	1.8	0.8	0.2	4.8	8.4	1.5	7.0	9.2	7.6
1955	23.1	20.8	4.9	11.3	28.9	31.7	26.7	40.7	42.7	58.5	89.2	76.9
1956	73.6	124.0	118.4	110.7	136.6	116.6	129.1	169.6	173.2	155.3	201.3	192.1
1957	165.0	130.2	157.4	175.2	164.6	200.7	187.2	158.0	235.8	253.8	210.9	239.4
1958	202.5	164.9	190.7	196.0	175.3	171.5	191.4	200.2	201.2	181.5	152.3	187.6
1959	217.4	143.1	185.7	163.3	172.0	168.7	149.6	199.6	145.2	111.4	124.0	125.0
1960	146.3	106.0	102.2	122.0	119.6	110.2	121.7	134.1	127.2	82.8	89.6	85.6
1961	57.9	46.1	53.0	61.4	51.0	77.4	70.2	55.9	63.6	37.7	32.6	40.0
1962	38.7	50.3	45.6	46.4	43.7	42.0	21.8	21.8	51.3	39.5	26.9	23.2
1963	19.8	24.4	17.1	29.3	43.0	35.9	19.6	33.2	38.8	35.3	23.4	14.9
1964	15.3	17.7	16.5	8.6	9.5	9.1	3.1	9.3	4.7	6.1	7.4	15.1
1965	17.5	14.2	11.7	6.8	24.1	15.9	11.9	8.9	16.8	20.1	15.8	17.0
1966	28.2	24.4	25.3	48.7	45.3	47.7	56.7	51.2	50.2	57.2	57.2	70.4
1967	110.9	93.6	111.8	69.5	86.5	67.3	91.5	107.2	76.8	88.2	94.3	126.4
1968	121.8	111.9	92.2	81.2	127.2	110.3	96.1	109.3	117.2	107.7	86.0	109.8
1969	104.4	120.5	135.8	106.8	120.0	106.0	96.8	98.0	91.3	95.7	93.5	97.9
1970	111.5	127.8	102.9	109.5	127.5	106.8	112.5	93.0	99.5	86.6	95.2	83.5
1971	91.3	79.0	60.7	71.8	57.5	49.8	81.0	61.4	50.2	51.7	63.2	82.2
1972	61.5	88.4	80.1	63.2	80.5	88.0	76.5	76.8	64.0	61.3	41.6	45.3
1973	43.4	42.9	46.0	57.7	42.4	39.5	23.1	25.6	59.3	30.7	23.9	23.3
1974	27.6	26.0	21.3	40.3	39.5	36.0	55.8	33.6	40.2	47.1	25.0	20.5
1975	18.9	11.5	11.5	5.1	9.0	11.4	28.2	39.7	13.9	9.1	19.4	7.8
1976	8.1	4.3	21.9	18.8	12.4	12.2	1.9	16.4	13.5	20.6	5.2	15.3
1977	16.4	23.1	8.7	12.9	18.6	38.5	21.4	30.1	44.0	43.8	29.1	43.2
1978	51.9	93.6	76.5	99.7	82.7	95.1	70.4	58.1	138.2	125.1	97.9	122.7
1979	166.6	137.5	138.0	101.5	134.4	149.5	159.4	142.2	188.4	186.2	183.3	176.3
1980	159.6	155.0	126.2	164.1	179.9	157.3	136.3	135.4	155.0	164.7	147.9	174.4
1981	114.0	141.3	135.5	156.4	127.5	90.9	143.8	158.7	167.3	162.4	137.5	150.1
1982	111.2	163.6	153.8	122.0	82.2	110.4	106.1	107.6	118.8	94.7	98.1	127.0
1983	84.3	51.0	66.5	80.7	99.2	91.1	82.2	71.8	50.3	55.8	33.3	33.4
1984	57.0	85.4	83.5	68.6*	75.1*	46.2*						

*Provisional

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
PEKG	01	0358	0402	0417	S10	E00		06	1.2	19	SN			C	0402	42	.4	D
LEAR	01	0402	0402	0405	S11	W00	4500	06	1.2	3	SF		3	C		21		
LEAR	01	0645	0647	0713	N22	E12	4504	06	2.2	28	SF		3	C		41		F
RAMY	01	1039E		1203	N21	E08	4504	06	2.1	84D	1N	C 3.6	3	C		272		F
RAMY	01	1206	1206	1212	S12	W03	4500	06	1.3	6	SF		3	C		40		F
HOLL	01	1358	1358	1402	S11	W05	4500	06	1.2	4	SF		3	C		24		
HOLL	01	1419	1420	1439	S10	E00	4500	06	1.6	20	SF		3	C		38		
HOLL	01	1626	1626	1640	S15	W05	4500	06	1.3	14	SF		3	C		27		
PALE	01	1753	1753	1800	S09	W06	4500	06	1.3	7	SF		3	C		42		F
HOLL	01	1827	1834	1842	S09	W08	4500	06	1.2	15	SF		3	C		109		FH
PALE	01	1833	1834	1840	S09	W07	4500	06	1.2	7	SF		3	C		58		FH
PALE	01	2108	2108	2115	S12	E01	4500	06	2.0	7	SF		3	C		35		F
PALE	01	2303	2306	2316	S10	W09	4500	06	1.3	13	SF	C 4.9	3	C		62		F
HOLL	01	2311E	2311U	2317D	S08	W10	4500	06	1.2	6D	SF	C 4.9	3	C		62		
LEAR	02	0324	0324	0328	S11	W10	4500	06	1.4	4	SF		3	C		45		
PALE	02	0325	0325	0329	S12	W08	4500	06	1.5	4	SF		3	C		41		
GOES	02	1248	1303	1313						25		C 2.4						
HOLL	02	1743	1743	1749	S15	W18	4500	06	1.4	6	SF		3	C		31		
YUNN	03	0142E	0153	0204D	S10	W25		06	1.2	22D	SB	C 2.6		P		154	1.8	
LEAR	03	0146	0149	0234	S09	W25	4500	06	1.2	48	1N	C 2.6	3	C		299		F
PALE	03	0146	0149	0244	S10	W24	4500	06	1.3	58	1N	C 2.6	3	C		307		
MANI	03	0153E	0153U	0230D	S12	W23		06	1.3	37D	1B	C 2.6		V		250	2.5	F
PURP	03	0158E	0158U	0238	S12	W26		06	1.1	40D	SN	C 2.6		C	0158	151	1.8	
PEKG	03	0200E	0200	0215D	S10	W26		06	1.1	15D	1B	C 2.6		P	0200	441	5.1	E
LEAR	03	0822	0842	0849D	S18	W29	4500	06	1.1	27D	SF		3	C		104		F
YUNN	03	0825	0838	0900	S15	W27		06	1.3	35	SN			C		169	2.0	E
GOES	03	0829	0853	0856			4500			27		C 1.3						
RAMY	03	1348	1349	1356	N06	E62	4508	06	8.2	8	SF		3	C		43		
RAMY	03	1453	1523	1557	N21	W21	4504	06	2.0	64	SF		3	C		87		
PALE	03	1936	1937	1939	S13	W26	4500	06	1.9	3	SF		3	C		40		
YUNN	04	0647	0651	0707	S15	W38		06	1.4	20	SN			C		15	.2	
LEAR	04	0648	0650	0720	S15	W39	4500	06	1.3	32	SF		3	C		46		F
HOLL	05	0037	0038	0048	S10	W45	4500	06	1.6	11	SF		3	C		21		
PURP	05	0159	0209	0250	S15	W58		05	31.7	51	SB	C 3.4		C	0219	79	1.6	
YUNN	05	0207	0219U	0246	S13	W60		05	31.6	39	1N	C 3.4		P	0219	215	4.6	G
PALE	05	0227E	0228U	0255D	S14	W59	4500	05	31.6	28D	SF		3	C		91		UF
HOLL	07	1439E	1452	1514	S09	W64	4500	06	2.8	35D	SN	C 4.0	3	C		89		
CATA	08	0730	0740	0900	S22	W50		06	4.5	90	1		2	C	0740	253	4.4	
YUNN	08	0731E	0737	0742D	S22	W51		06	4.4	11D	1F			P		189	3.3	G
HOLL	08	1320	1320	1328	S15	E72		06	14.0	8	SF		3	C		13		
HOLL	08	2310	2311	2340	N04	W04	4508	06	8.7	30	1B	C 4.5	3	C		432		FE
CATA	09	0725E	0800	0815D	N11	W90		06	2.5	50D	1		2	P	0800	112		
PALE	10	2104	2104	2106D	S13	E34	4509	06	13.4	2D	SN		3	C		21		
HOLL	10	2105	2105	2109	S12	E40	4509	06	13.9	4	SN		3	C		32		H
HOLL	10	2153	2154	2206	S13	E39	4509	06	13.9	13	SN		3	C		51		
LEAR	11	0517	0519	0528	S12	E35	4509	06	13.9	11	SF		3	C		36		
LEAR	11	0544	0544	0559	S12	E35	4509	06	13.9	15	SF		3	C		23		
HOLL	11	1401	1402	1418	S11	E27	4509	06	13.6	17	SN		3	C		33		F
RAMY	11	1402	1404	1414	S12	E29	4509	06	13.8	12	SF		3	C		34		
HOLL	11	1843	1845	1856	N00	E68	4512	06	16.9	13	SF		3	C		21		
RAMY	11	1910	1918	1925	N02	E65	4512	06	16.7	15	SF		3	C		22		
HOLL	11	1911	1913	1923	N00	E67	4512	06	16.8	12	SF		3	C		15		
HOLL	11	2003	2015	2021	N00	E67	4512	06	16.8	18	SF		3	C		14		
CATA	12	0615	0625	0625D	N03	E90		06	19.0	10D	S		2	P	0625	28		
RAMY	12	1818	1821	1840	S07	E50	4511	06	16.5	22	SN		3	C		53		
PALE	14	0235	0237	0246	S05	E60	4513	06	18.6	11	SF		3	C		33		
BUCA	14	0710		0730	S11	W14		06	13.2	20	SF			C	0714	54	.6	
WEND	14	0830E		0842	S08	E24		06	16.2	12D	SN			C	0830	28	.3	E
WEND	14	0835	0837	0843	S08	E56		06	18.6	8	SF			C	0837	21	.4	H
GOES	14	0902	0908	0918						16		C 1.3						

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Corr (Sq Deg)	Remarks
RAMY	14	1123	1123	1141	S12	W11	4509	06	13.6	18	SF		3	C		26		
RAMY	14	1127	1137	1148	S06	E54	4513	06	18.5	21	SN		3	C		18		
RAMY	14	1158	1204	1259	S06	E53	4513	06	18.5	61	SF		4	C		27		K
RAMY	14	1158	1244	1259	S06	E53	4513	06	18.5	61	SN		4	C		23		K
RAMY	14	1313	1325	1333	S06	E53	4513	06	18.5	20	SF		4	C		17		
RAMY	14	1454	1456	1518	S12	W13	4509	06	13.6	24	SB	C 1.9	4	C		77		
RAMY	14	1556	1559	1617	S06	E52	4513	06	18.6	21	SF		4	C		102		
RAMY	14	1559	1605	1733	S12	W14	4509	06	13.6	94	SN		3	C		22		K
RAMY	14	1559	1627	1733	S12	W14	4509	06	13.6	94	SN		3	C		61		K
GOES	14	1619	1623	1629						10		C 1.9						
GOES	14	1657	1730	1748						51		C 2.9						
RAMY	14	1757	1804	1813	S12	W15	4509	06	13.6	16	SF		3	C		35		
GOES	14	1818	1829	1838						20		C 2.3						
GOES	14	2011	2015	2020						9		C 5.1						
GOES	14	2121	2147	2157			4513			36		C 5.2						
RAMY	14	2125	2130	2139D	S06	E50	4513	06	18.6	14D	SN		3	C		53		
PALE	15	0151E	0206U	0228	S05	E48	4513	06	18.7	37D	SN		3	C		75		
PALE	15	0204E	0216U	0232	S12	W21	4509	06	13.5	28D	SF		3	C		96		
LEAR	15	0207E	0209	0225	S06	E48	4513	06	18.7	18D	SN		3	C		52		
LEAR	15	0208	0215	0226	S12	W21	4509	06	13.5	18	SF		3	C		79		F
PALE	15	0237	0246	0304	S06	E45	4513	06	18.5	27	SF		3	C		32		F
YUNN	15	0340E	0343U	0349D	S06	E47		06	18.7	9D	SN			P	0343	94	1.4	B
GOES	15	0413	0418	0428						15		C 2.1						
LEAR	15	0818	0820	0824	S08	E44	4513	06	18.6	6	SF		3	C		18		F
LEAR	15	0850	0855	0903	S06	E43	4513	06	18.6	13	SN		3	C		22		FE
CATA	15	1025	1040	1100D	S03	W41		06	12.4	35D	S		1	P	1040	112	1.5	
CATA	15	1025	1040	1100D	S07	W42		06	12.3	35D	S		1	P	1040	140	2.0	
RAMY	15	1244	1246	1305	S08	E42	4513	06	18.7	21	SN	C 1.4	3	C		52		
RAMY	15	1432	1434	1501	S07	E42	4513	06	18.8	29	SN	C 1.0	3	C		43		
GOES	15	2034	2039	2044						10		C 2.0						
GOES	16	0323	0327	0332						9		C 5.1						
PEKG	16	0325E	0330	0350	S04	E32		06	18.5	25D	1N			C	0330	378	4.6	E
PEKG	16	0410E	0415	0425	S09	E35		06	18.8	15D	SF			C	0415	105	1.3	E
HOLL	16	2155	2157	2207	S10	W46	4509	06	13.5	12	SF		3	C		20		
PEKG	17	0355E	0355	0400	S09	E13		06	18.1	5D	SN			P	0355	109	1.2	E
LEAR	17	0356	0356	0359	S09	E14	4513	06	18.2	3	SF		3	C		45		F
LEAR	17	0456	0502	0542	S09	E21	4513	06	18.8	46	SF		3	C		40		
RAMY	17	1506	1508	1516	S12	W56	4509	06	13.4	10	SF		3	C		24		
HOLL	17	1539	1541	1616	S12	W52	4509	06	13.7	37	SF		3	C		23		
HOLL	17	1652	1653	1714	S05	E12	4513	06	18.6	22	SF		3	C		36		
PALE	17	1748	1748	1758	S09	E14	4513	06	18.8	10	SF		3	C		49		
LEAR	19	0202	0205	0213	S12	W78	4509	06	13.2	11	SF		3	C		13		
RAMY	19	1228	1232	1308	S09	W10	4513	06	18.8	40	SF		3	C		[illegible]		F
RAMY	19	1407	1407	1412D	S09	W11	4513	06	18.8	5D	SF		3	C		26		F
HOLL	19	1908	1915	1919	S08	W13	4513	06	18.8	11	SF		2	C		21		
HOLL	20	1719	1725U	1734	S16	E45		06	24.1	15	SF		3	C		20		
HOLL	20	1839	1846	1900	S07	W19	4519	06	19.4	21	SN		3	C		[illegible]		
HOLL	20	2003	2003	2010	S06	W27	4513	06	18.8	7	SN		3	C		22		
HOLL	20	2033	2033	2042	S16	E43		06	24.1	9	SB		3	C		47		
HOLL	20	2242	2245	2315	S06	W28	4513	06	18.9	33	SB		3	C		50		K
HOLL	20	2242	2249	2315	S06	W28	4513	06	18.9	33	SB		3	C		101		UFK
LEAR	21	0710	0710	0720	S07	W35	4513	06	18.7	10	SF		3	C		24		F
RAMY	21	1244	1244	1252	S07	W38	4513	06	18.7	8	SN		3	C		22		
RAMY	21	1256	1257	1304	S08	W29	4519	06	19.4	8	SF		3	C		39		
RAMY	21	1344	1348	1445	S07	W35	4513	06	19.0	61	SN	C 2.7	3	C		69		
HOLL	21	1344	1345	1443	S07	W35	4513	06	19.0	59	SN	C 2.7	3	C		39		
HOLL	21	1344	1351	1505	S05	W32	4519	06	19.2	81	1N		3	C		207		F
HOLL	21	1911	1912	1918	S06	W35	4519	06	19.2	7	SN		3	C		41		
HOLL	21	2150E	2152U	2159	S05	W43	4513	06	18.7	9D	SN		3	C		38		
YUNN	22	0303E	0308	0311D	S16	E24		06	23.9	8D	SN			P		157	1.9	
LEAR	22	0339	0340	0346	S09	W38	4519	06	19.3	7	SN		3	C		34		F
YUNN	22	0343E	0343U	0347	S08	W40		06	19.2	4D	SN			P	0343	79	1.1	
RAMY	22	1126	1131	1152	S15	E18	4520	06	23.8	26	SF		3	C		35		F
RAMY	22	1158	1204	1255	S15	E17	4520	06	23.8	57	SF		3	C		30		

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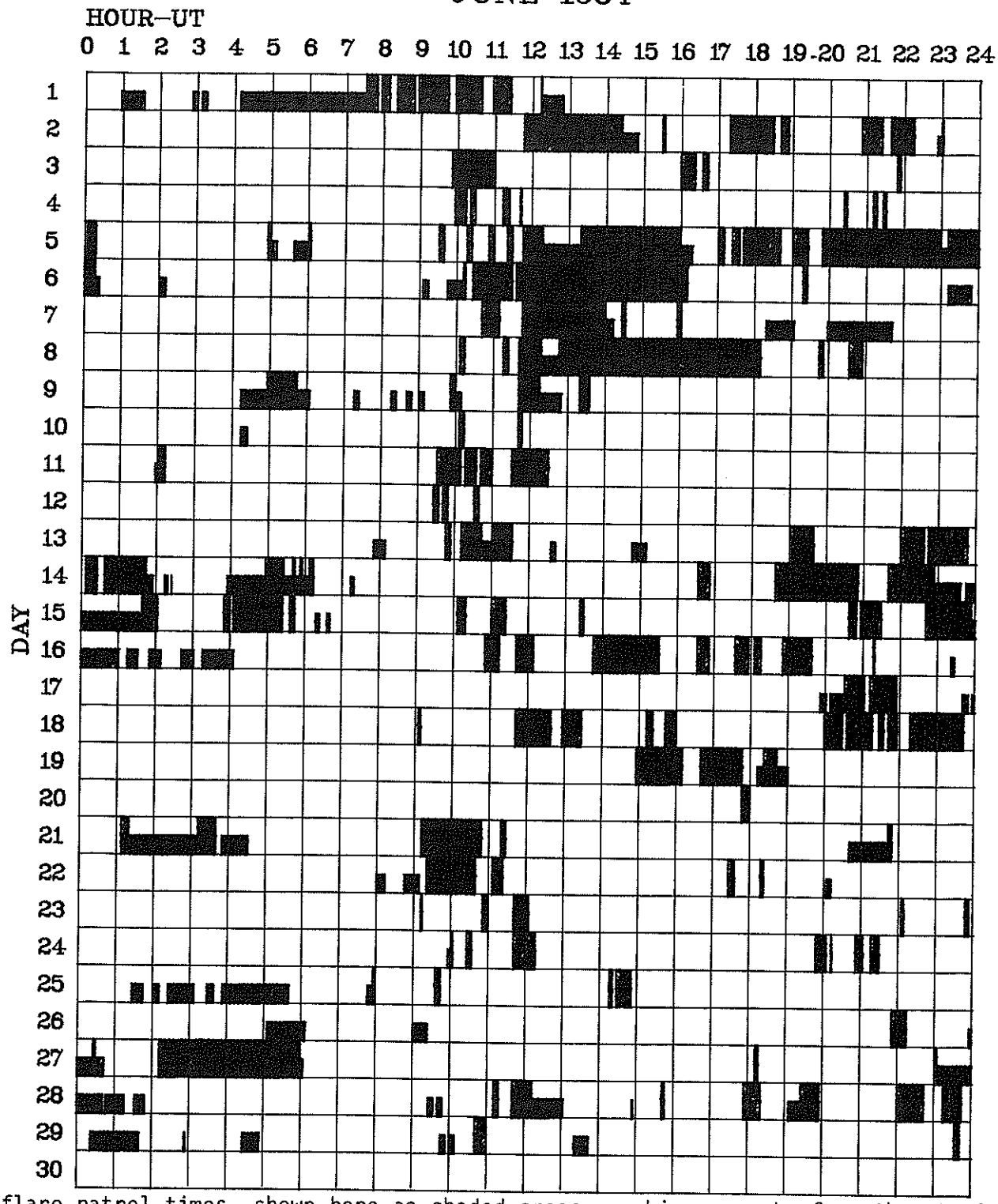
Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
RAMY	22	1357	1419	1518	S15	E15	4520	06	23.7	81	SN		3	C		67		K
RAMY	22	1357	1501	1518	S15	E15	4520	06	23.7	81	SN		3	C		73		FK
HOLL	22	2034	2043	2109	S15	E12	4520	06	23.8	35	SN		3	C		41		
PALE	22	2041	2045	2107	S16	E12	4520	06	23.8	26	SF		3	C		46		
HOLL	22	2111	2113	2125	S15	E11	4520	06	23.7	14	SF		3	C		39		
HOLL	22	2145	2148	2156	S16	E13	4520	06	23.9	11	SF		3	C		21		
LEAR	23	0049	0050	0054	S15	E11	4520	06	23.9	5	SF		3	C		30		
PALE	23	0120	0130	0145	S16	E10	4520	06	23.8	25	SF		3	C		41		
LEAR	23	0128	0132	0154	S15	E11	4520	06	23.9	26	SN		3	C		72		F
LEAR	23	0311	0313	0320	S15	E10	4520	06	23.9	9	SF		3	C		47		F
LEAR	23	0349	0356	0417	S06	W60	4513	06	18.7	28	SF		3	C		82		F
LEAR	23	0418	0422	0427	S15	E10	4520	06	23.9	9	SF		3	C		41		F
LEAR	23	0435	0437	0446	S15	E10	4520	06	23.9	11	SF		3	C		30		
YUNN	23	0445	0447	0452D	S15	E09		06	23.9	7D	1B			P		204	2.2	
LEAR	23	0507	0507	0514	S15	E09	4520	06	23.9	7	SN		3	C		59		
LEAR	23	0528	0532	0550	S15	E08	4520	06	23.8	22	SN	C 1.2	3	C		104		F
LEAR	23	0552	0602	0606	S16	E08	4520	06	23.9	14	SF		3	C		23		
LEAR	23	0629	0630	0646	S15	E08	4520	06	23.9	17	SN	C 1.9	3	C		35		F
CATA	23	0630	0635	0635D	S16	E07		06	23.8	5D	S	C 1.9	2	P	0635	140	1.5	T
YUNN	23	0643E	0643U	0650D	S15	E07		06	23.8	7D	SB	C 1.9		P	0643	157	1.7	
YUNN	23	0729	0736	0758	S05	W64		06	18.5	29	1B			C		110	2.6	
PEKG	23	0730E	0730U	0740D	S15	E07		06	23.8	10D	SF			P	0730	189	2.0	E
PEKG	23	0733	0735	0740	S06	W62		06	18.7	7	SN			P	0735	71	1.6	E
LEAR	23	0733	0735	0810	S06	W62	4513	06	18.7	37	SN		3	C		49		
CATA	23	0740	0750	0805	S04	W63		06	18.6	25	S		1	C	0750	68	1.5	
GOES	23	1201	1208	1215						14		C 1.0						
PALE	23	1747	1747	1822	S16	W01	4520	06	23.7	35	SF		3	C		44		
RAMY	23	1916	1916	1921	S12	W69	4513	06	18.6	5	SN		3	C		33		F
RAMY	23	1925	1935	1940	S10	W71	4513	06	18.5	15	SF		3	C		40		F
RAMY	23	2031	2032	2049	S15	W02	4520	06	23.7	18	SF		3	C		36		F
LEAR	24	0836	0838	0846	S15	W08	4520	06	23.8	10	SF		3	C		28		F
HOLL	24	2142	2147	2149	S13	W18	4520	06	23.5	7	SF		3	C		23		
RAMY	25	1054	1058	1130	S16	W22	4520	06	23.8	36	SF		3	C		22		
HOLL	25	1934	1935	1937	S13	W29	4520	06	23.6	3	SF		3	C		21		
HOLL	25	2056	2056	2120	S17	W30	4520	06	23.6	24	SB		3	C		5		F
PALE	25	2058	2059	2100	S14	W29	4520	06	23.7	2	SN		3	C		114		F
PALE	25	2115	2131	2135	S13	W32	4520	06	23.5	20	SF		3	C		24		F
HOLL	25	2125	2127	2136	S14	W32	4520	06	23.5	11	SN		3	C		30		
PALE	26	0029	0030	0034	N11	E48		06	29.6	5	SF		3	C		35		
HOLL	26	0029	0030	0038	N11	E46		06	29.5	9	SN		3	C		34		
LEAR	26	0102	0103	0112	S15	W32	4520	06	23.6	10	SF		3	C		26		F
GOES	27	1804	1813	1816						12		C 4.7						
GOES	27	2220	2224	2230						10		C 2.2						
LEAR	28	0351	0353	0406	N15	E90		07	5.0	15	SF		3	C		14		
HOLL	28	1617	1620	1635	N12	E81		07	4.8	18	SF	C 1.3	3	C		71		
RAMY	28	1618	1621	1634D	N15	E77		07	4.5	16D	SF	C 1.3	3	C		52		F
HOLL	28	2025	2032	2032	S12	W66	4520	06	23.9	7	SF		3	C		14		
HOLL	29	2039	2048	2052	N11	E86	4525	07	6.3	13	SF		3	C		11		
HOLL	29	2119	2153	2156	N11	E87	4525	07	6.4	37	SF		3	C		39		
GOES	30	0002	0008	0018						16		C 2.1						
YUNN	30	0335E	0337	0343D	N03	E74		07	5.7	8D	1F			P		62		EG
LEAR	30	0503	0506	0511	N14	E65	4525	07	5.1	8	SF		3	C		14		
RAMY	30	1104	1104	1122	N14	E61	4525	07	5.1	18	SN		3	C		20		F
RAMY	30	1221	1226	1232	N14	E60	4525	07	5.0	11	SF		3	C		21		
RAMY	30	1237	1238	1247	N14	E60	4525	07	5.1	10	SF		3	C		14		F
HOLL	30	1303	1314	1442	N14	E63	4525	07	5.3	99	SN	C 1.3	3	C		83		F
RAMY	30	1311	1314	1405	N15	E62	4525	07	5.2	54	SN	C 1.3	3	C		58		FH
RAMY	30	1407	1412	1429	N15	E61	4525	07	5.2	22	SF		3	C		45		
HOLL	30	1509	1514	1531	N12	E55	4525	07	4.8	22	SF		3	C		23		
RAMY	30	1516	1516	1524D	N15	E61	4525	07	5.3	8D	SF		3	C		16		
RAMY	30	1752	1754	1802	N14	E56	4525	07	5.0	10	SF		3	C		20		
HOLL	30	1848	1849	1853	N13	E56	4525	07	5.0	5	SF		3	C		18		
PALE	30	2323	2324	2339	N12	E57	4525	07	5.3	16	SN		3	C		57		F
HOLL	30	2324	2325	2336	N11	E57	4525	07	5.3	12	SN		3	C		33		F

INTERVALS OF NO FLARE PATROL OBSERVATION
FOR PRECEDING SOLAR FLARE TABLE
JUNE 1984



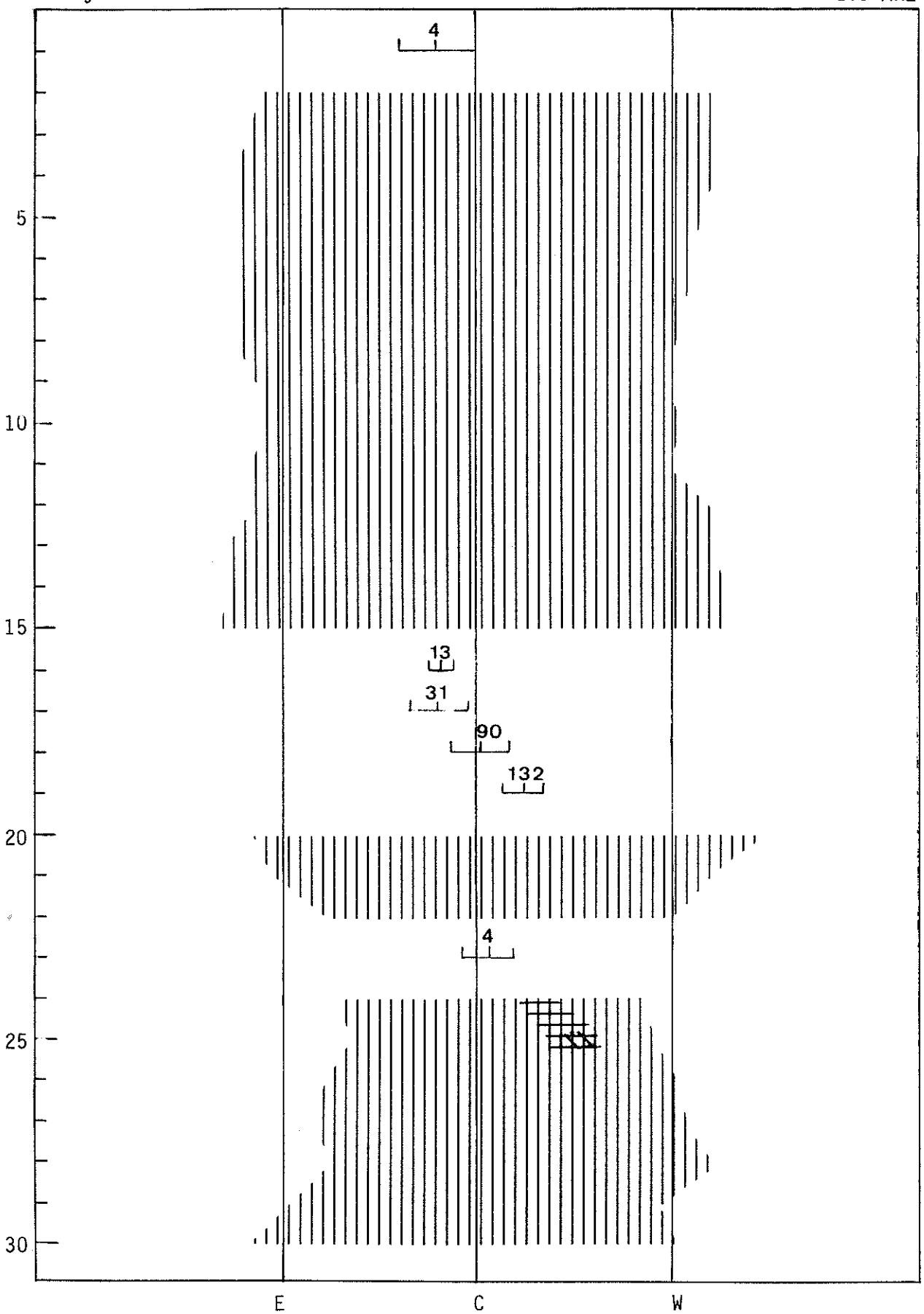
No flare patrol times, shown here as shaded areas, combine reports from the stations listed below. Shaded bottom halves of panels mark times of no cinematographic patrol; shaded top halves mark times of neither visual nor cinematographic patrol.

Bucharest	Holloman	Kodaikanal	Palehua	Ramey
Catania	Istanbul	Learmonth	Peking	Wendelstein
		Manila	Purple Mt.	Yunnan

18
Jun 84

SOLAR INTERFEROMETRIC OBSERVATIONS

Nancay JUNE 1984 169 MHz

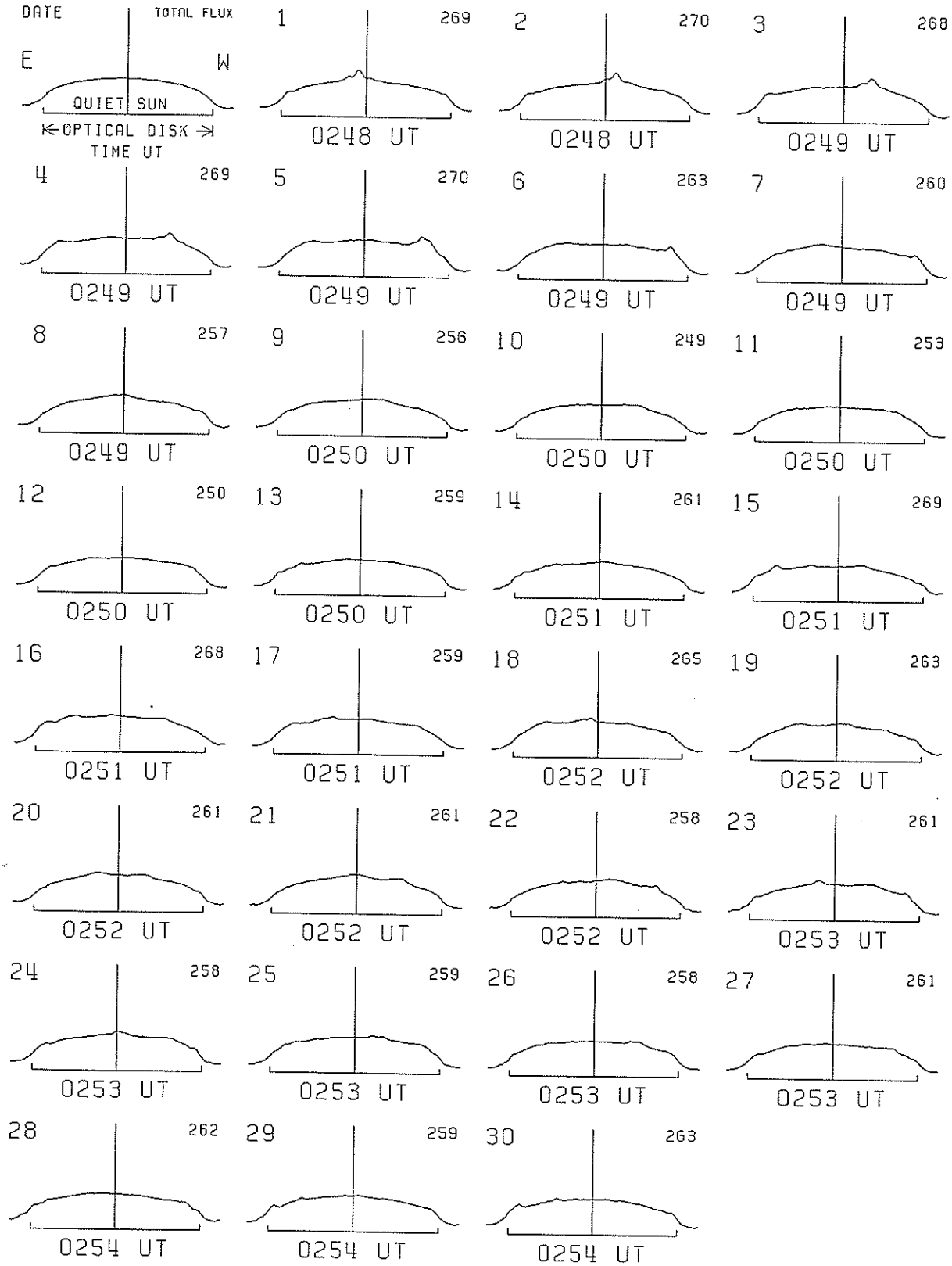


EAST-WEST SOLAR SCANS

JUNE 1984

TOYOKAWA, JAPAN

3 CM
FAN BEAM WITH 1.1 MINUTES OF ARC



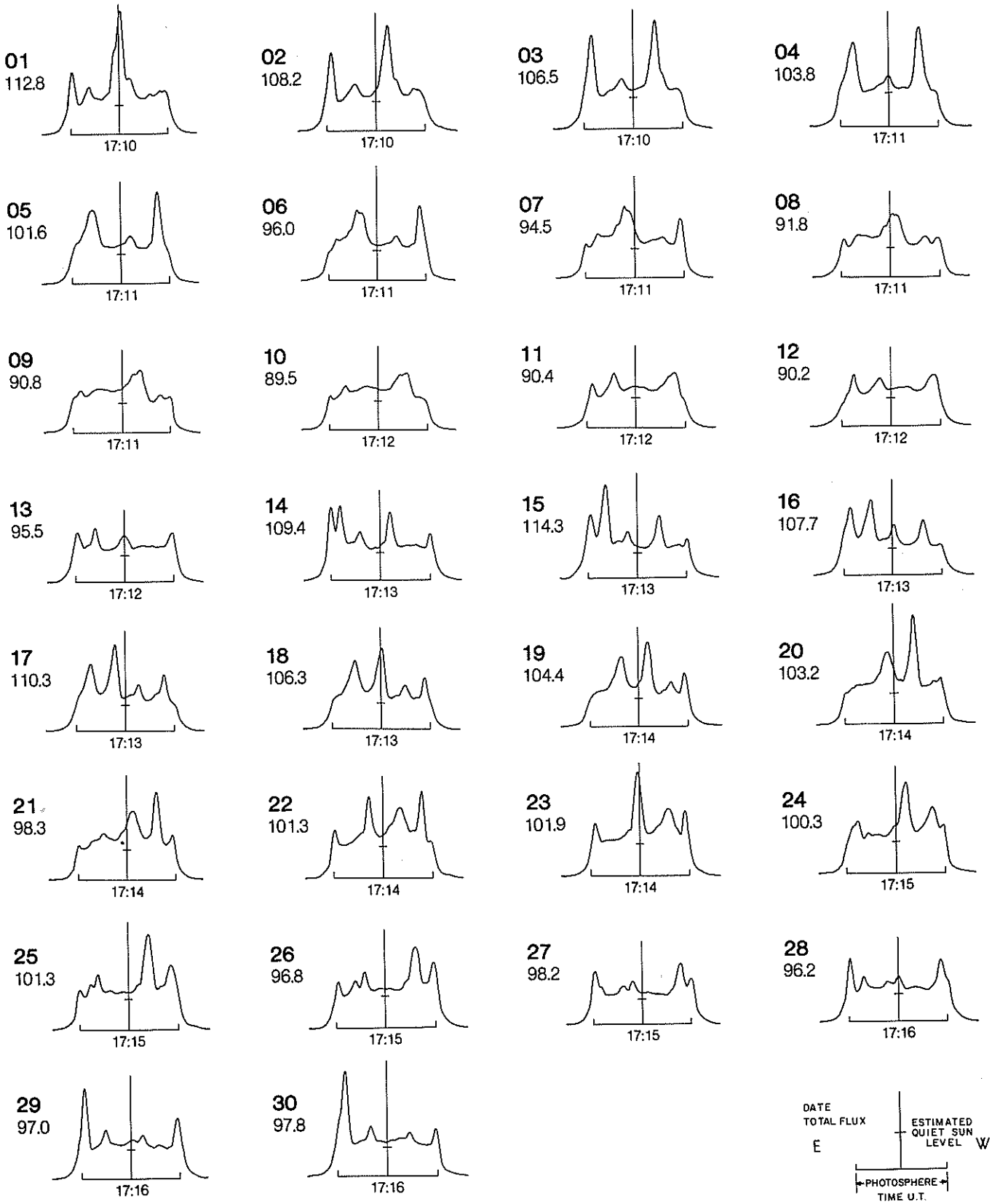
20
Jun 84

EAST-WEST SOLAR SCANS

JUNE 1984

ALGONQUIN RADIO OBSERVATORY
CANADA

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

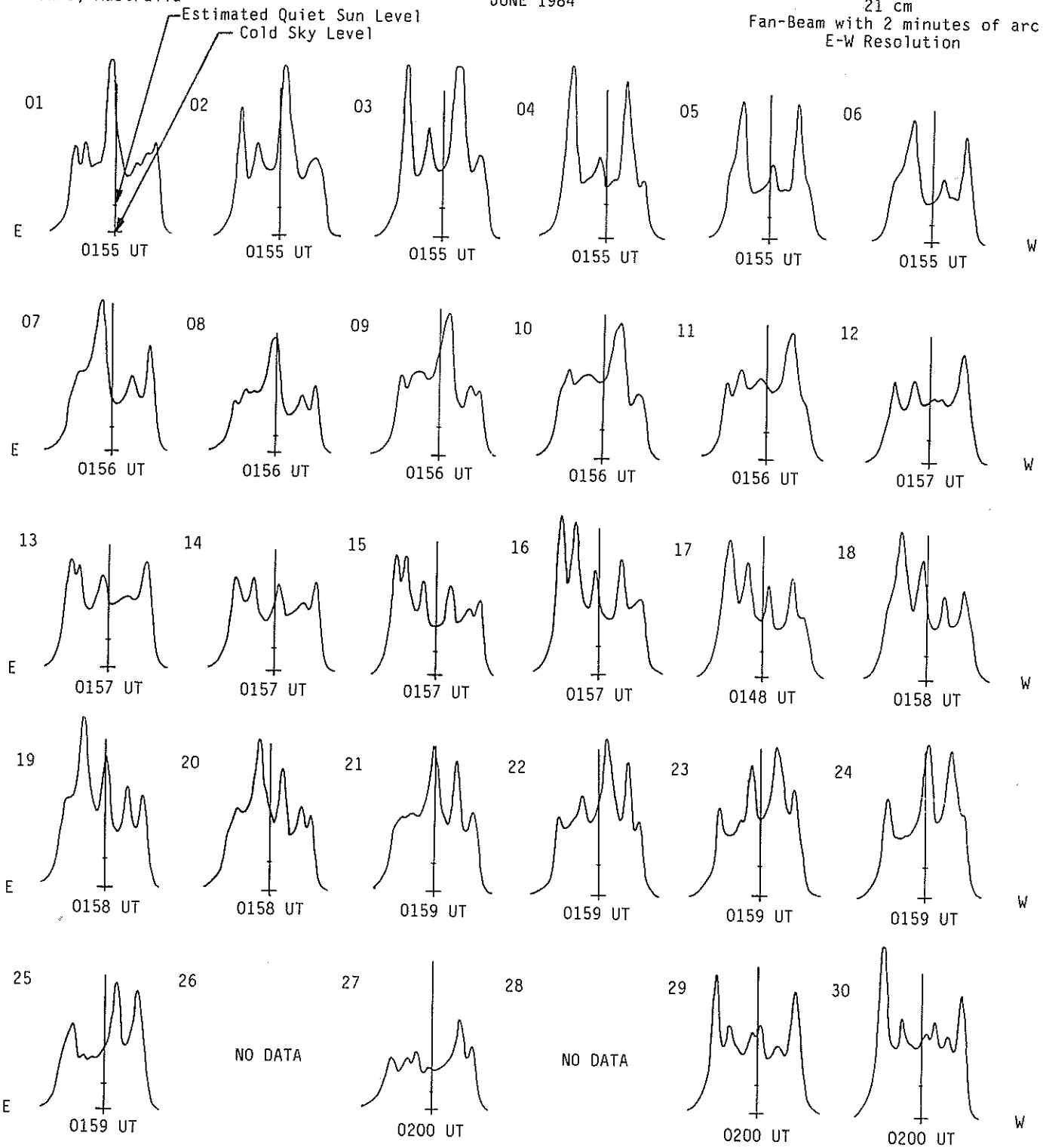


E A S T - W E S T S O L A R S C A N S

Fleurs, Australia

JUNE 1984

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



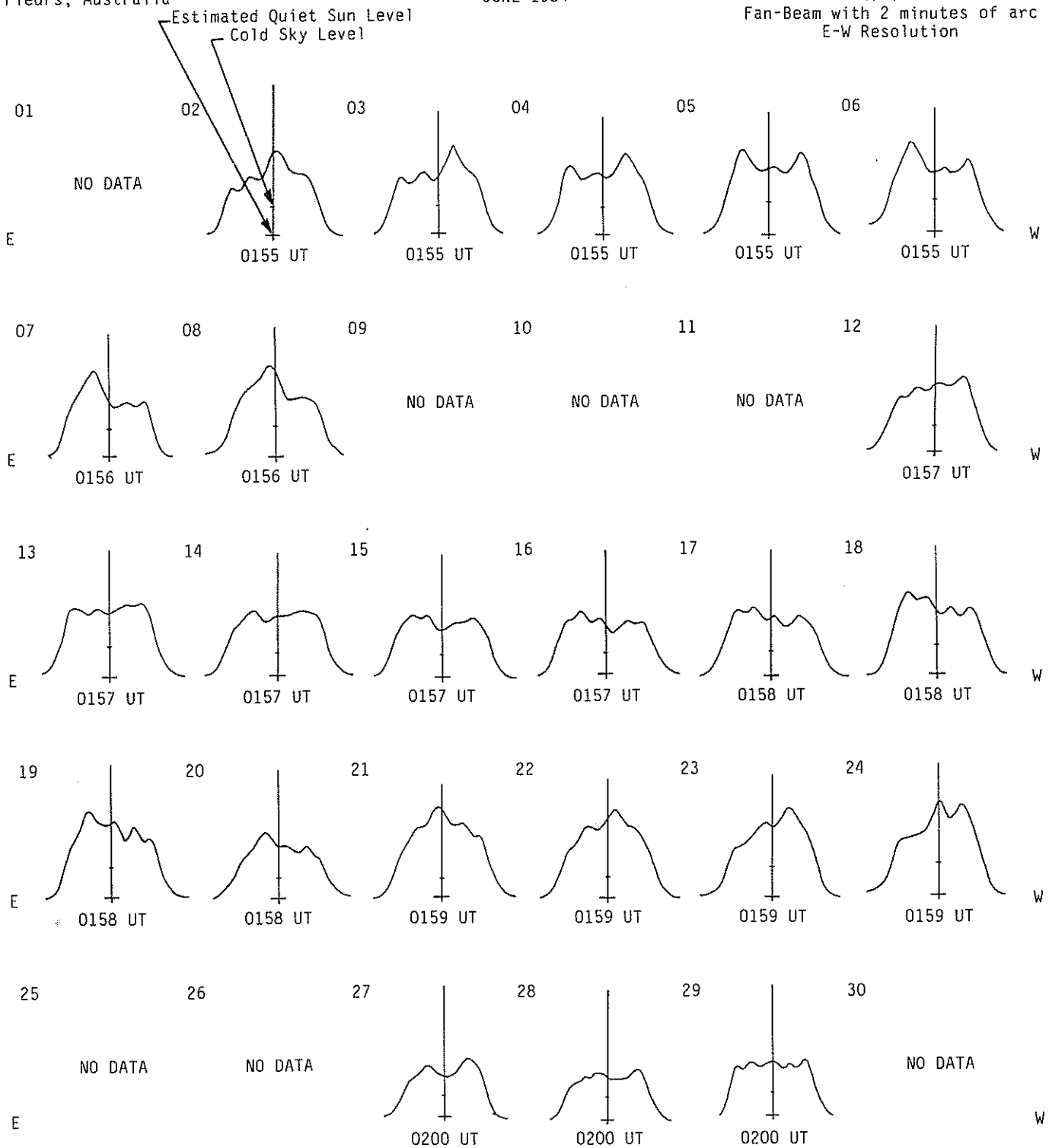
22
Jun 84

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

Fleurs, Australia

JUNE 1984

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



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

JUNE 1984

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
01	2695	LEAR	8	S	0527.8	0528.0	.5	26.0			
	2800	OTTA	20	GRF	1040.0	1055.0	70.0D	5.0			QL=6 ST=2 TYP=3
	2695	ATHN	8	S	1205.1	1205.8	1.9	33.0			
	2800	OTTA	4	S/F	1205.2	1206.0	3.0	36.0	9.0		QL=6 ST=2 TYP=3
	8800	SGMR	8	S	1205.3	1205.8	.8	13.0			
	2695	SGMR	8	S	1205.8	1205.8	.3	18.0			QL=6 ST=2 TYP=3
	2800	OTTA	4	S/F	1752.0	1752.8	1.3	110.0	12.0		QL=6 ST=2 TYP=3
	2695	SGMR	47	GB	1752.1	1752.8	1.2	91.0			
	2695	PALE	47	GB	1752.6	1752.8	.5	94.0			QL=5 ST=2 TYP=5
	2800	OTTA	29	PBI	1753.3	1753.3	12.0	1.6	0.8		QL=6 ST=2 TYP=5
	2695	PENT	20	GRF	2300.0	2306.0	60.0	2.4	1.2		
02	2695	LEAR	8	S	0323.1	0323.3	.5	5.0			
	2800	OTTA	21	GRF	1200.0	1303.0	240.0	7.0	2.4		QL=6 ST=2 TYP=3
	2800	OTTA	4	S/F	1251.0	1253.2	5.0	11.0	2.8		
	2695	SGMR	4	S/F	1251.1	1253.3	3.7	11.0			
	2695	ATHN	4	S/F	1252.0	1253.3	3.0	7.0			QL=6 ST=2 TYP=3
	8800	ATHN	47	GB	1307.0	1307.8	4.1	130.0			QL=6 ST=2 TYP=3
											QL=6 ST=2 TYP=5
03	2695	PENT	3	S	0144.0	0148.3	5.0D	26.0			
	2695	LEAR	4	S/F	0146.3	0148.3	6.3	37.0			QL=6 ST=2 TYP=3
	2695	PALE	4	S/F	0146.8	0148.3	3.0	31.0			QL=6 ST=2 TYP=3
	2695	PALE	8	S	0151.6	0151.6	.2	31.0			QL=6 ST=2 TYP=3
	2800	OTTA	20	GRF	1805.0	1835.0	85.0	2.4	1.2		
05	2800	OTTA	20	GRF	1930.0	2015.0	130.0	2.2	1.1		
06	8800	SGMR	8	S	1757.3	1757.5	.5	38.0			QL=6 ST=2 TYP=3
07	2800	OTTA	21	GRF	1445.0	1505.0	60.0	2.6	1.3		
	2800	OTTA	2	S/F	1447.0	1449.0	4.0	2.0	0.8		
	2800	OTTA	20	GRF	1835.0	1940.0	130.0	2.0	1.0		
08	8800	PALE	8	S	0023.5	0023.6	.3	16.0			QL=6 ST=2 TYP=3
	8800	PALE	8	S	2039.1	2039.3	.7	36.0			QL=6 ST=2 TYP=3
	2695	PENT	3	S	2309.5	2310.3	1.5	37.0	14.0		
	2695	PALE	8	S	2309.6	2310.1	1.0	44.0			QL=6 ST=2 TYP=3
	2695	SGMR	8	S	2309.8	2310.3	.8	35.0			QL=6 ST=2 TYP=3
	8800	PALE	8	S	2310.0	2310.3	.8	41.0			QL=6 ST=2 TYP=3
	8800	SGMR	8	S	2310.1	2310.3	.5	29.0			QL=6 ST=2 TYP=3
	2695	PENT	30	PBI	2311.0	2311.0	150.0	3.6	1.4		
	2695	PENT	1	S	2312.5	2313.0	1.2	1.6	0.8		
12	2800	OTTA	20	GRF	1920.0	2255.0	390.0D	11.2			
13	8800	PALE	47	GB	2056.8	2057.0	.5	80.0			QL=6 ST=2 TYP=5
14	2800	OTTA	240	AR	1450.0	1630.0	100.0	5.8	2.9		
	2800	OTTA	3	S	1452.0	1452.2	1.5	18.6	5.0		
	2800	OTTA	29	PBI	1453.5	1453.5	7.0	1.4	0.9		
	2800	OTTA	240	R	1700.0	1710.0	10.0	2.4	1.2		
	2800	OTTA	20	GRF	1725.0	1755.0	55.0	2.2	1.1		
	2800	OTTA	20	GRF	1840.0	1920.0	80.0	1.8	1.0		
	2800	OTTA	22	GRF	2005.0	2015.0	20.0	2.2	1.1		
	2800	OTTA	21	GRF	2110.0	2155.0	230.0	7.6	3.8		
	2800	OTTA	1	S	2144.0	2145.0	2.0	5.6	2.0		
15	2800	OTTA	20	GRF	1240.0	1255.0	50.0	1.8	0.9		
	2800	OTTA	20	GRF	1430.0	1435.0	25.0	2.0	1.0		
	2800	OTTA	20	GRF	1650.0	1700.0	30.0	1.4	0.7		
	2800	OTTA	20	GRF	2035.0	2040.0	30.0	1.8	1.2		
16	2695	PENT	20	GRF	0000.0	0015.0	60.0	2.0	1.3		
	2800	OTTA	260	FAL	1210.0	1250.0	40.0	-2.8	-1.4		
17	8800	LEAR	8	S	0816.0	0816.3	1.5	3.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0816.0	0816.6	1.0	6.0			QL=6 ST=2 TYP=3
	2695	ATHN	8	S	0816.1	0816.3	.9	8.0			QL=6 ST=2 TYP=3
	2800	OTTA	22	GRF	1530.0	1730.0	250.0	2.8	1.4		
18	2800	OTTA	20	GRF	1130.0	1205.0	250.0	2.8	1.8		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

JUNE 1984

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
18	2800	OTTA	240 R	1705.0	1730.0	25.0	1.8	0.9		
	2800	OTTA	21 GRF	1830.0	1855.0	85.0	2.2	1.1		
	2800	OTTA	1 S	1851.0	1851.1	1.0	1.0	0.5		
19	2695	PENT	1 S	0111.0	0112.2	4.0	2.6	0.9		
	8800	SGMR	8 S	2117.8	2118.1	.8	13.0			QL=6 ST=2 TYP=3
	2695	SGMR	8 S	2117.8	2118.1	.5	4.0			QL=6 ST=3 TYP=3
20	2800	OTTA	32 ABS	1848.0	1900.0	65.0	-4.4	-2.3		
	2800	OTTA	20 GRF	1955.0	2100.0	210.0	2.2	1.1		
21	2800	OTTA	20 GRF	1315.0	1405.0	195.0	9.6	4.0		
	2800	OTTA	32 ABS	1635.0	1700.0	65.0	-1.8	-0.9		
	2800	OTTA	20 GRF	1910.0	2035.0	175.0	2.2			
23	2800	OTTA	21 GRF	1910.0	1935.0	50.0	2.0	1.0		
	2800	OTTA	1 S	1915.5	1916.2	1.0	1.2	0.6		
	2800	OTTA	2 S/F	1921.0	1922.2	4.0	2.2	0.8		
24	2695	PENT	240 R	0010.0	0050.0	40.0	1.8	0.9		
	2695	LEAR	8 S	0625.1	0625.3	.7	15.0			QL=5 ST=2 TYP=3
	2695	PENT	20 GRF	2300.0	2320.0	60.0	2.2	1.1		
25	2800	OTTA	21 GRF	2054.0	2100.0	40.0	3.0	1.4		
	2800	OTTA	1 S	2055.0	2056.0	2.0	8.6	4.2		
	2695	SGMR	8 S	2055.1	2056.1	1.9	19.0			QL=6 ST=2 TYP=3
	8800	SGMR	8 S	2055.8	2056.1	.8	8.0			QL=6 ST=3 TYP=3
27	2800	OTTA	2 S/F	1807.0	1808.3	4.0	4.6	1.1		
	2800	OTTA	1 S	2220.0	2220.0	2.0	2.2	0.6		
28	2800	OTTA	46F C	1616.0	1617.3	5.0	7.2	2.0		
	2800	OTTA	1 S	1831.8	1832.0	1.2	1.0	0.5		
30	2800	OTTA	2 S/F	1108.0	1108.3	1.5	9.8	2.4		
	2800	OTTA	20 GRF	1300.0	1313.0	180.0	3.8	1.8		
	2800	OTTA	1 S	1835.5	1836.2	2.5	1.2	0.5		

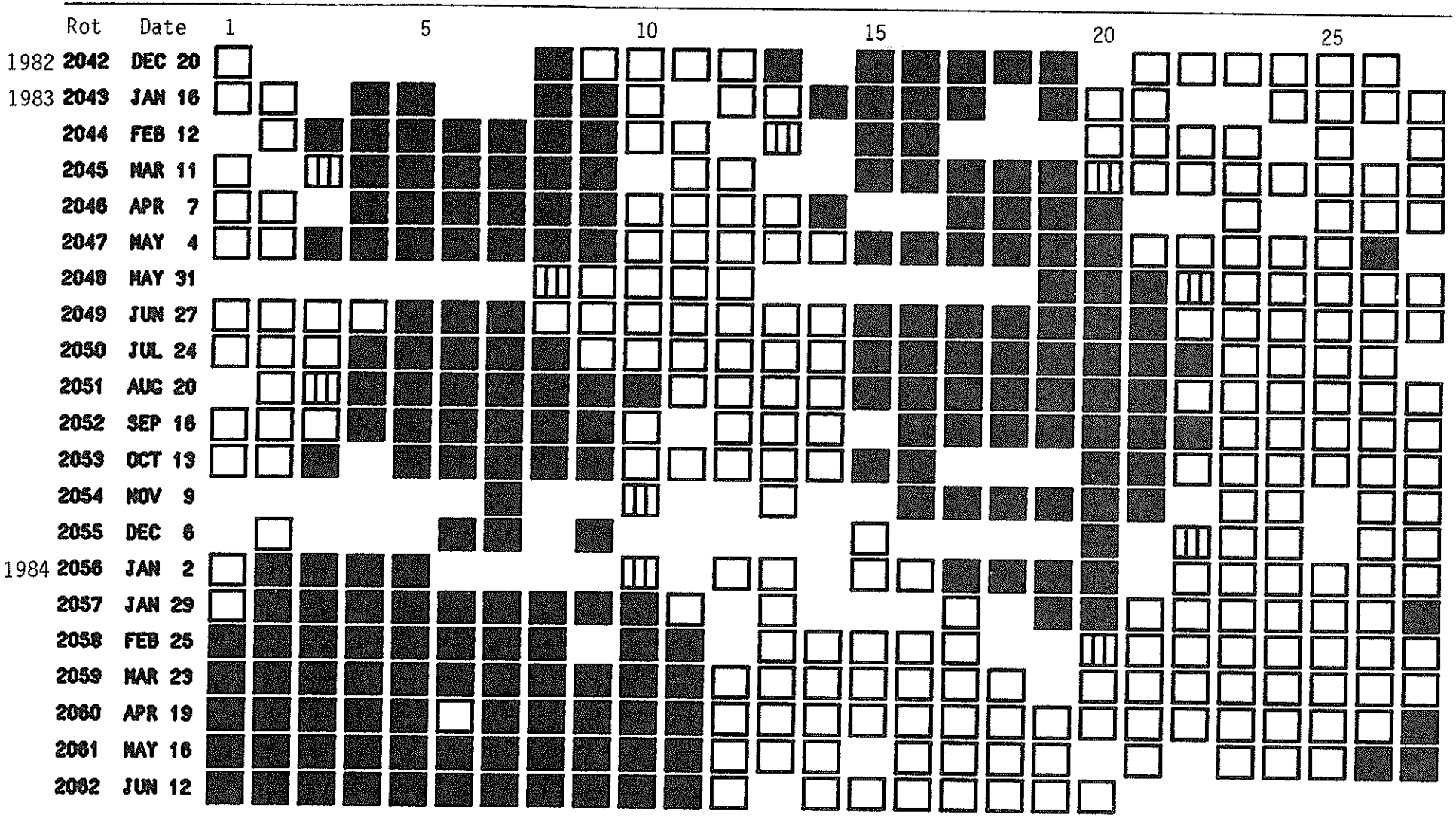
Observatories:
BERN = Berne MANI = Manila OTTA = Ottawa ARO PENT = Penticton SGMR = Sagamore Hill
LEAR = Learmonth ATHN = Athens PALE = Palehua

Explanation of Type Code:

1 Simple 1	7 Minor +	24 Rise	30 Post Burst Increase A	43 Onset on Noise Storm
2 Simple 1F	8 Spike	25 Rise A	31 Post Burst Decrease	44 Noise Storm in Progress
3 Simple 2	20 Simple 3	26 Fall	32 Absorption	45 Complex
4 Simple 2F	21 Simple 3A	27 Rise and Fall	40 Fluctuation	46 Complex F
5 Simple	22 Simple 3F	28 Precursor	41 Group of Bursts	47 Great Burstise Storm
6 Minor	23 Simple 3AF	29 Post Burst Increase	42 Series of Bursts	48 Major
				49 Major +

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

STANFORD MEAN SOLAR MAGNETIC FIELD



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.

25 Jun 84

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

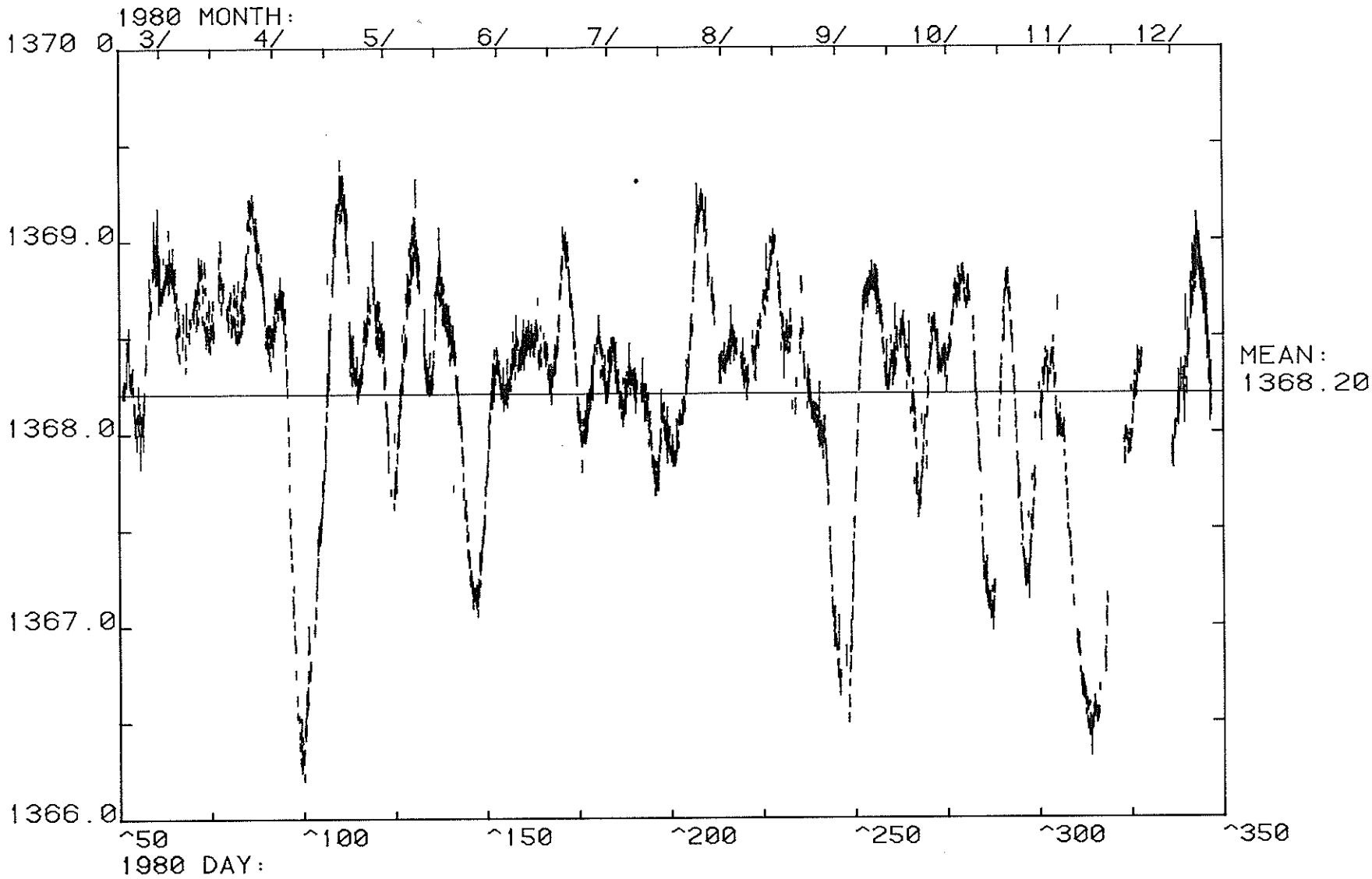
Day	Jul 83	Aug	Sep	Oct	Nov	Dec	Jan 84	Feb	Mar	Apr	May	Jun
1	-23	9	41	-51	-63	54	41	-41	-79	-34	56	24
2	-50	16	35	-104	-27	79	11	-63	-66	-23	53	27
3	-28	3	-3	-117	32	•	-2	-62	-55	9	40	42
4	15	13	-59	-100	75	56	-16	-43	•	29	36	•
5	44	20	-99	-68	70	24	-29	-19	-31	34	24	66
6	51	22	-109	-37	57	•	-50	-8	-2	31	15	•
7	39	-12	-109	-9	35	3	•	-4	•	38	15	65
8	17	-49	-89	38	23	•	•	16	62	41	30	53
9	33	-81	-42	55	•	•	•	•	58	25	7	24
10	27	-91	10	46	•	•	•	61	45	•	19	-18
11	-4	-83	33	25	•	-59	-1	•	47	17	47	-37
12	-60	-73	52	19	•	-50	•	•	35	31	42	-47
13	108	-60	60	10	•	•	47	•	•	46	32	-57
14	120	-10	58	4	•	-9	56	15	•	56	20	-63
15	107	-19	42	-7	-53	•	•	•	-1	56	-5	-61
16	-89	56	29	•	•	•	37	-14	19	52	-39	-75
17	-20	14	20	-47	•	•	20	-23	55	28	-62	-73
18	7	78	5	-68	0	•	-3	3	76	21	-57	-89
19	27	•	-18	-62	•	•	-14	29	82	-40	-58	-59
20	41	•	-37	-54	•	29	-28	39	87	-53	-62	-66
21	97	8	-63	-20	66	•	-34	31	57	-52	-59	-52
22	96	1	-66	10	•	•	•	36	4	-18	-66	-31
23	82	-17	-54	25	•	•	24	19	-33	-14	-68	11
24	25	-34	-17	57	-52	•	43	-33	-47	9	-79	•
25	9	-76	12	72	-78	-6	33	-59	-59	-17	-76	37
26	11	-78	•	48	-94	•	25	-74	-57	-34	-42	33
27	-4	-36	52	-9	-82	1	23	-72	-51	-49	13	16
28	-35	-28	71	-58	-59	40	21	-74	-49	-40	57	26
29	-37	-12	54	•	-20	60	10	-78	-20	-15	66	15
30	-39	7	•	•	•	•	-13		-35	28	•	32
31	-21	28		•		47	-22		-21		38	

Dot symbol indicates no data available for the day.

BOULDER GEOMAGNETIC SUBSTORM LOG

JUNE 1984

DATE	ONSET	DIR	COMMENTS
06/01			Field intermittently unsettled with no distinctive substorm activity.
06/02			Field intermittently unsettled.
	0515	West	Weak substorm.
	0545		Localized substorm Lynn Lake to Ft. Smith.
06/03			Field unsettled after 0600 UT.
	0720	East	
	1300	West	Strong substorm, several minor injections with recovery near 1630 UT.
06/04			Field intermittently active.
	0735		Initial onset at Lynn Lake, numerous injections with recovery near 1115 UT.
	1145	West	
06/05			Field intermittently unsettled.
	0455	East	
	0510		Localized substorm College to Anchorage.
	0740	Center	
	1200	West	
	1305		Weak substorm.
06/06			Field intermittently unsettled.
	0610	Center	
	1155	West	Initial onset at College, several minor injections with recovery near 1515 UT.
06/07			Field intermittently unsettled.
	0825	West	Several injections with recovery near 1100 UT.
	1220	West	
06/08			Field slightly unsettled.
06/09			Field intermittently unsettled.
	0705	East	Moderate substorm.
	1145	West	
06/10			Field unsettled all day.
	0515	East	
	0915		Localized substorm College to Ft. Yukon.
06/11			Field intermittently unsettled.
	1140		Weak localized substorm at Lynn Lake.
	1200	West	Weak substorm.
	1245	West	Weak substorm.
	1600	West	Weak substorm.
06/12			Field intermittently unsettled.
	1215		Localized substorm College to Ft. Yukon.
06/13			Field slightly unsettled.
	0605		Weak substorm.
06/14			Field slightly unsettled.
	0900		Localized substorm Lynn Lake to Ft. Smith.
06/15			Field active after 1000 UT.
	0435	East	Weak substorm.
	1440	West	Moderate substorm, initial onset at College.
06/16			Mag storm conditions 0000-1500 UT. Field unsettled balance of day.
06/17			Field intermittently unsettled.
	0755	West	Moderate substorm, several injections with recovery near 1030 UT.
06/18			Field active 0800-1900 UT with variable temporal/spatial responses in network.
06/19			Field active 0430-1700 UT.
	0505	Center	
	0730	West	
	0945	West	Moderate substorm.
	1300	West	Several injections with recovery near 1630 UT.
06/20			Field unsettled through 1800 UT.
	0435	Center	
	0905	West	Moderate substorm.
06/21			Field slightly unsettled.
06/22			Field intermittently unsettled.
	1325		Weak substorm, oval stations only.
06/23			Field intermittently unsettled.
	0130	East	Weak substorm.
	0215	East	Weak substorm.
	0335	East	Weak substorm.
	0405	East	Weak substorm
	1015	West	Weak substorm.
06/25			Field unsettled all day.
	0835	East	
	1220		Weak substorm.
	1335		Weak substorm.
	1940		Polar cap substorm.
06/26			Field intermittently unsettled.
	0650		Weak substorm, localized vicinity Lynn Lake.
	0935	West	Weak substorm.
06/27			Field unsettled through 1400 UT.
	0200	East	
	0525	East	
	0905		Weak substorm, localized substorm Ft. Simpson to Ft. Smith.
	1105		Localized substorm vicinity College.
	1205		Localized substorm vicinity College.
06/28			Field intermittently active.
	0800		Weak substorm vicinity Lynn Lake.
	0910		Weak substorm vicinity College.
	1630	West	Moderate substorm, all Alaskan stations.
06/29			Field unsettled all day.
	0100	East	
	1025	West	
06/30			Field unsettled through 1800 UT.
	0950	West	Initial onset at College.
	1425	West	



SMM/ACRIM RESULTS * ORBIT MEAN VALUES AND THEIR UNCERTAINTIES

Total solar radiation data from the SMM satellite for the period March-December 1980.

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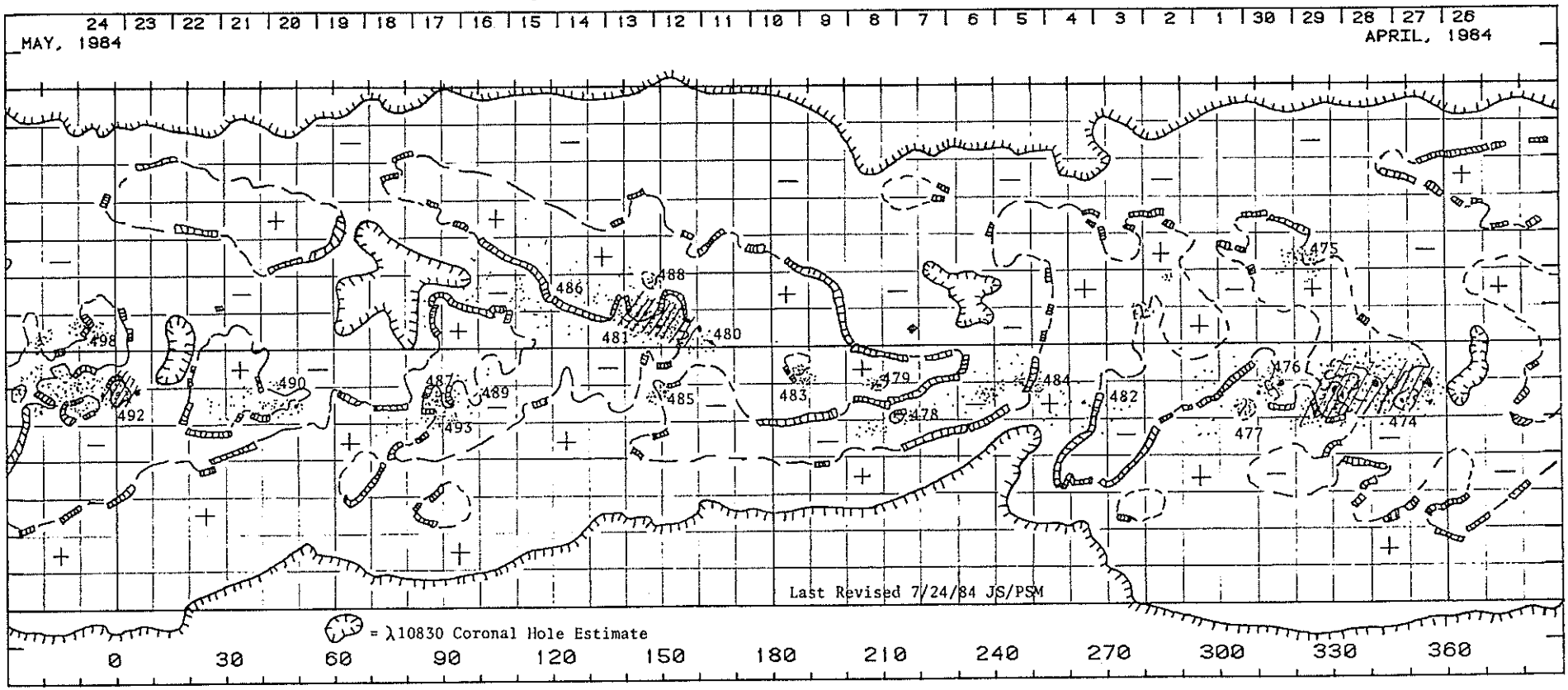
PRELIMINARY H-ALPHA SOLAR SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1748
(April 26 to May 24, 1984)

Dates of Observations Below Days of Year: 130 125 120



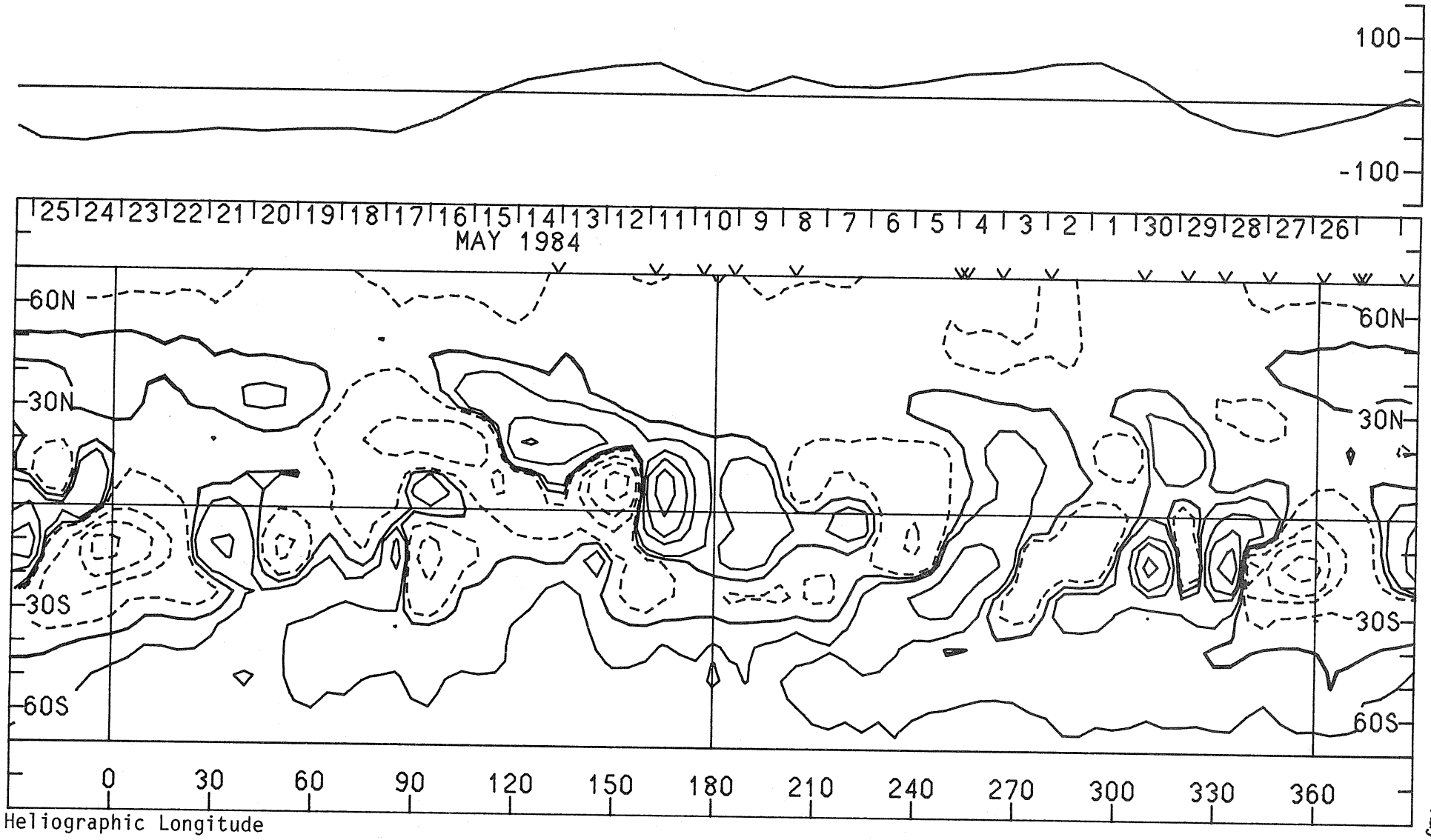
Heliographic Longitude

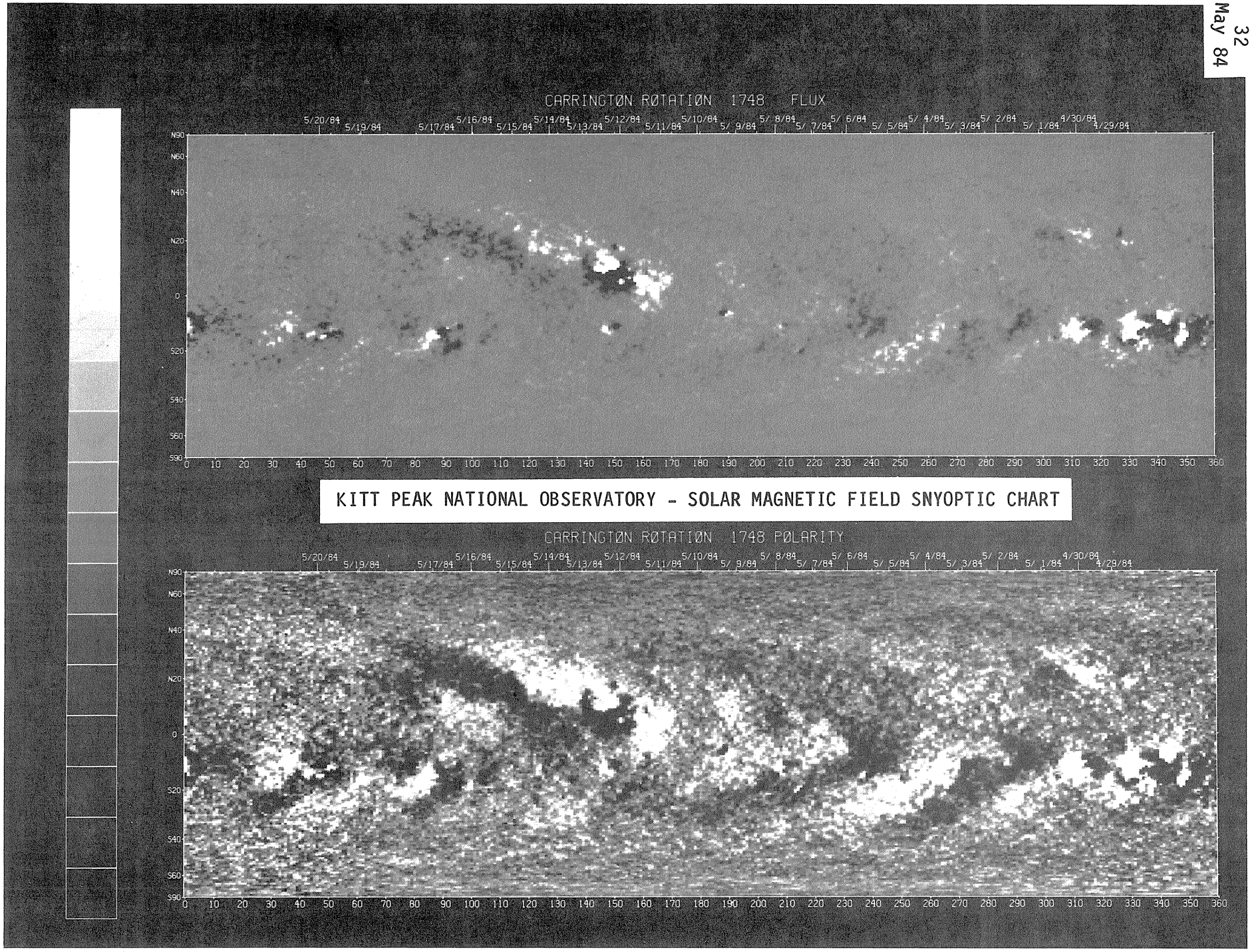
SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1748
(April 26 to May 24, 1984)

Stanford Solar Observatory

0, ±100, 500, 1000, 2000 microTesla



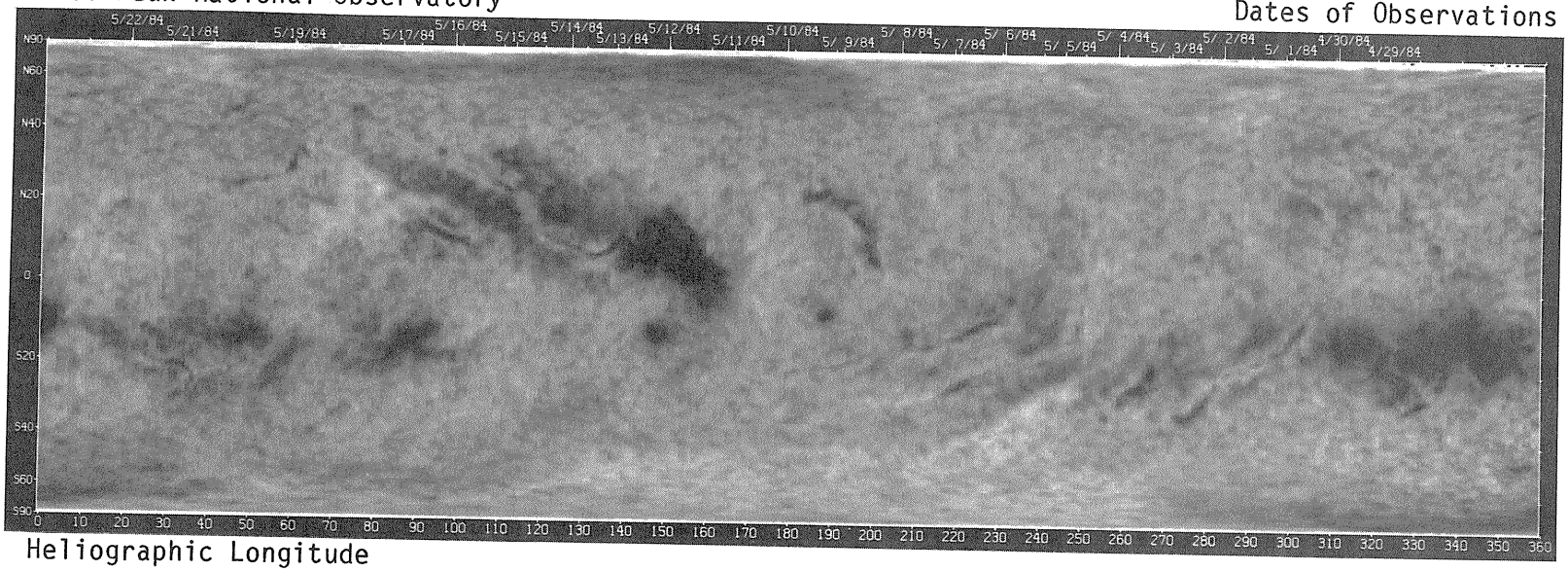

CARRINGTØN RØTATIØN 1748 FLUX
5/20/84 5/19/84 5/17/84 5/16/84 5/15/84 5/14/84 5/13/84 5/12/84 5/11/84 5/10/84 5/ 9/84 5/ 8/84 5/ 7/84 5/ 6/84 5/ 5/84 5/ 4/84 5/ 3/84 5/ 2/84 5/ 1/84 4/30/84 4/29/84
N90 N60 N40 N20 0 S20 S40 S60 S90
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360
KITT PEAK NATIONAL OBSERVATORY - SOLAR MAGNETIC FIELD SNYOPTIC CHART
CARRINGTØN RØTATIØN 1748 PØLARITY
5/20/84 5/19/84 5/17/84 5/16/84 5/15/84 5/14/84 5/13/84 5/12/84 5/11/84 5/10/84 5/ 9/84 5/ 8/84 5/ 7/84 5/ 6/84 5/ 5/84 5/ 4/84 5/ 3/84 5/ 2/84 5/ 1/84 4/30/84 4/29/84
N90 N60 N40 N20 0 S20 S40 S60 S90
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360

HELIUM 10830 ANGSTROM SYNOPTIC MAP OF THE SOLAR CORONA

CARRINGTON ROTATION NUMBER 1748
(April 26 to May 24, 1984)

Kitt Peak National Observatory

Dates of Observations



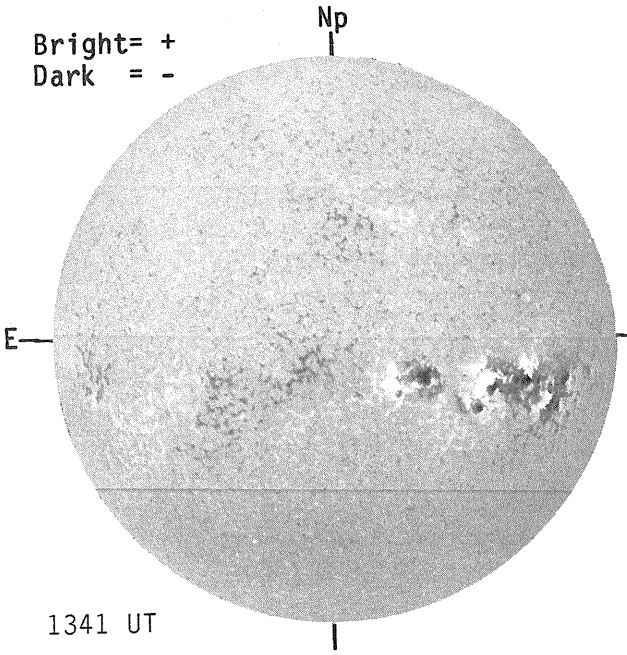
Heliographic Longitude

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

M A Y 01, 1 9 8 4 (P=-24.13, B_0=-4.12, L_0= 306.91)

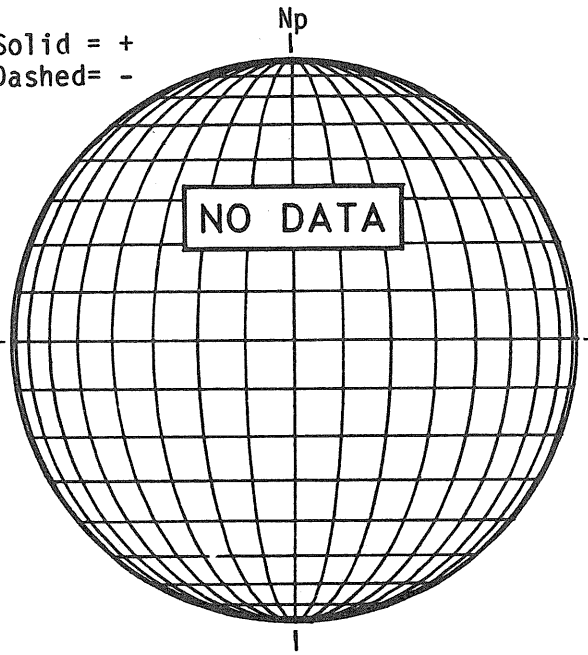
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



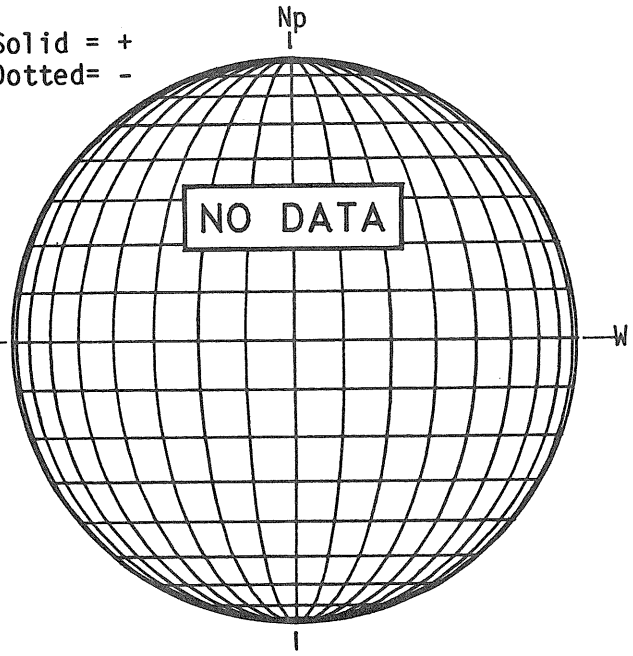
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

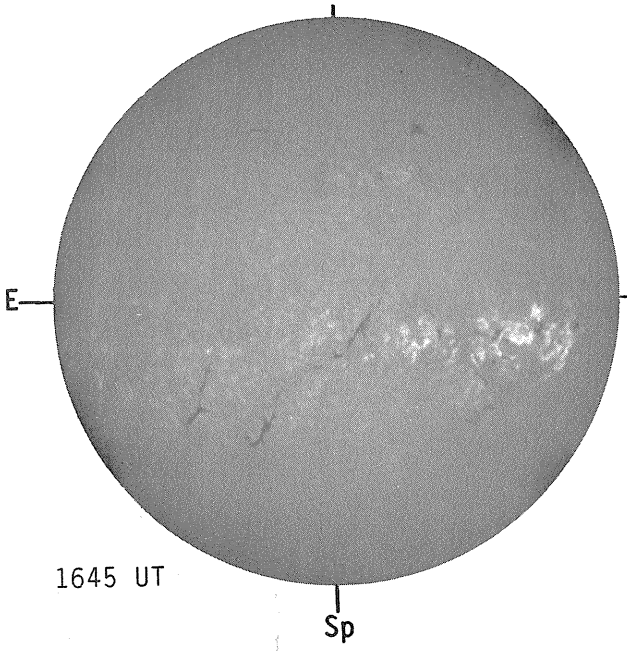


MT. WILSON MAGNETOGRAM

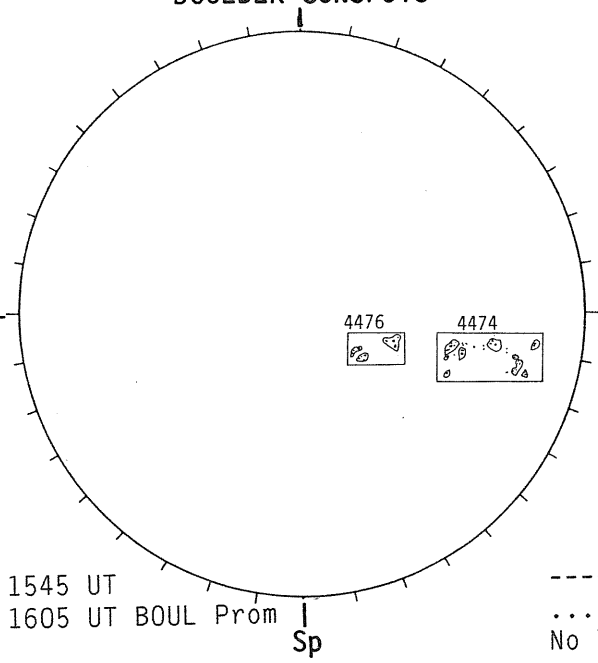
Solid = +
Dotted= -



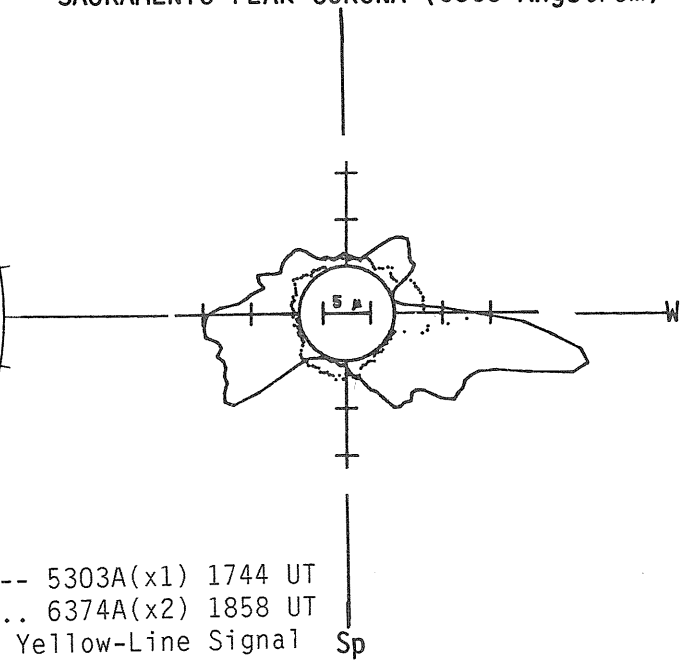
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS

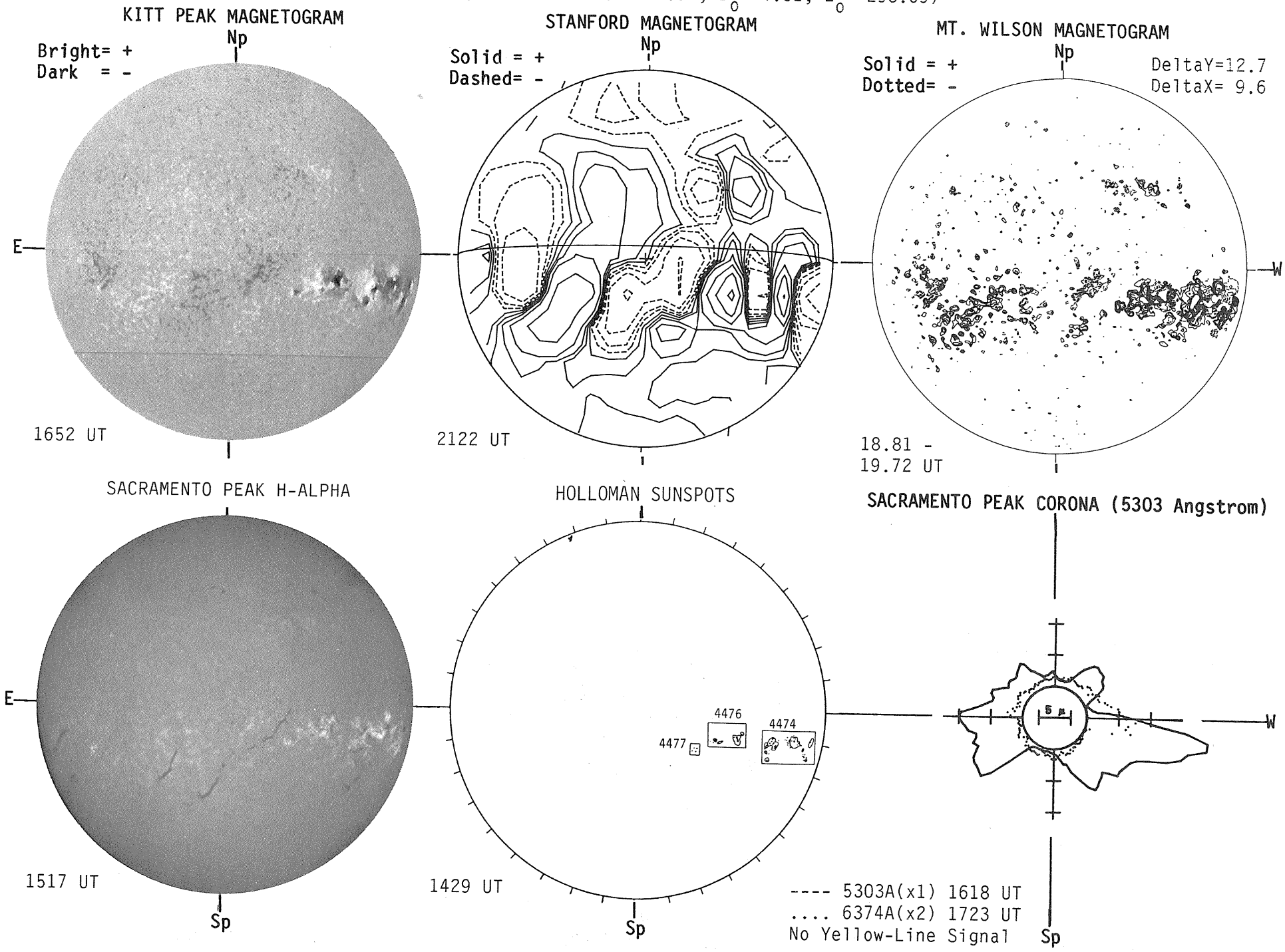


SACRAMENTO PEAK CORONA (5303 Angstrom)



---- 5303A(x1) 1744 UT
.... 6374A(x2) 1858 UT
No Yellow-Line Signal

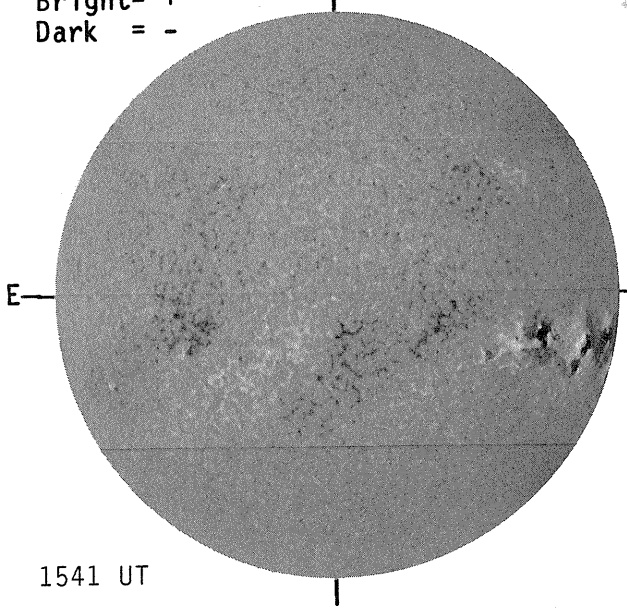
M A Y 02, 1 9 8 4 (P=-23.94, B_0=-4.01, L_0= 293.69)



M A Y 03, 1 9 8 4 (P=-23.75, B_0=-3.91, L_0= 280.47)

KITT PEAK MAGNETOGRAM

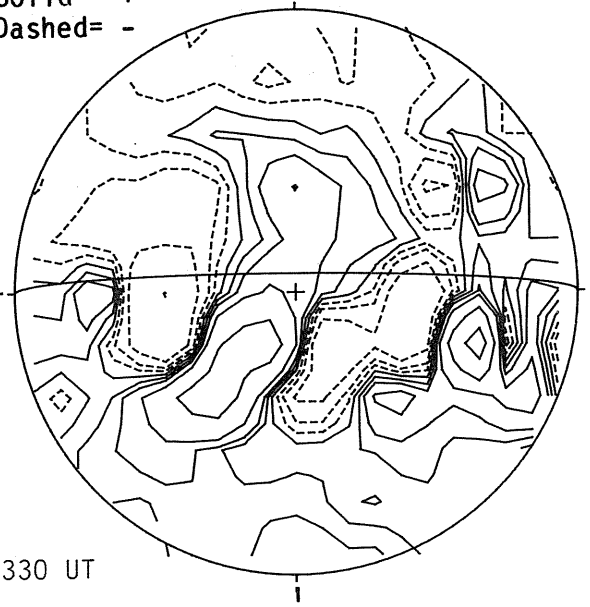
Bright= +
Dark = -



1541 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

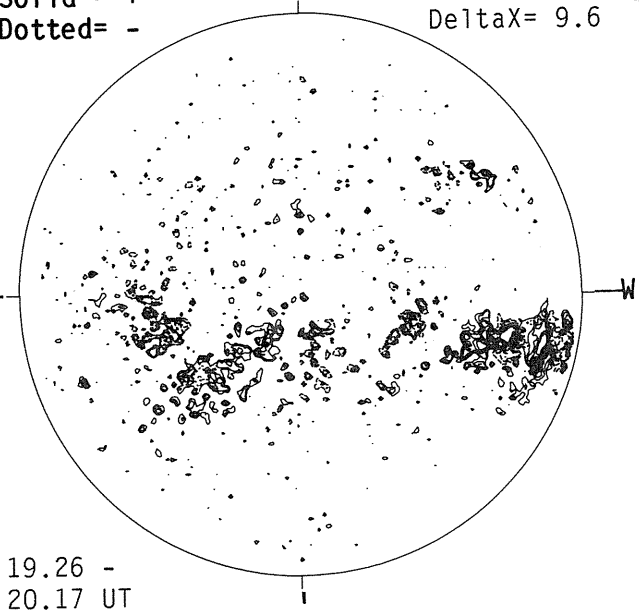


2330 UT

MT. WILSON MAGNETOGRAM

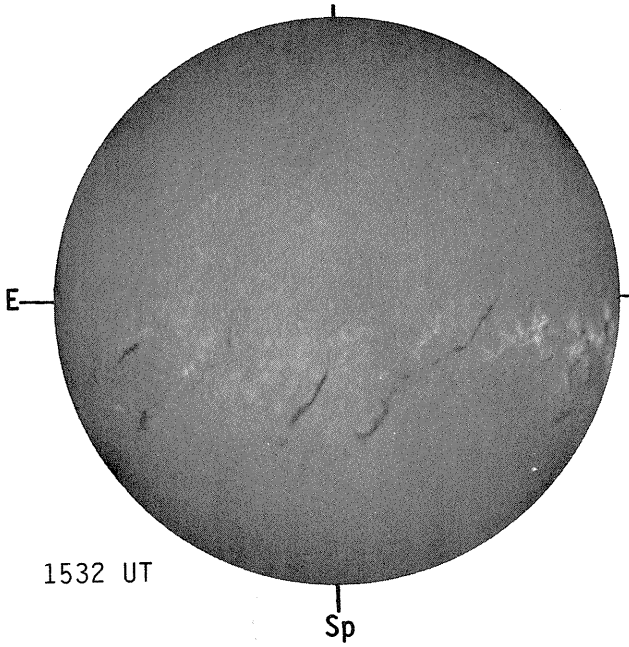
Solid = +
Dotted= -

DeltaY=12.7
DeltaX= 9.6



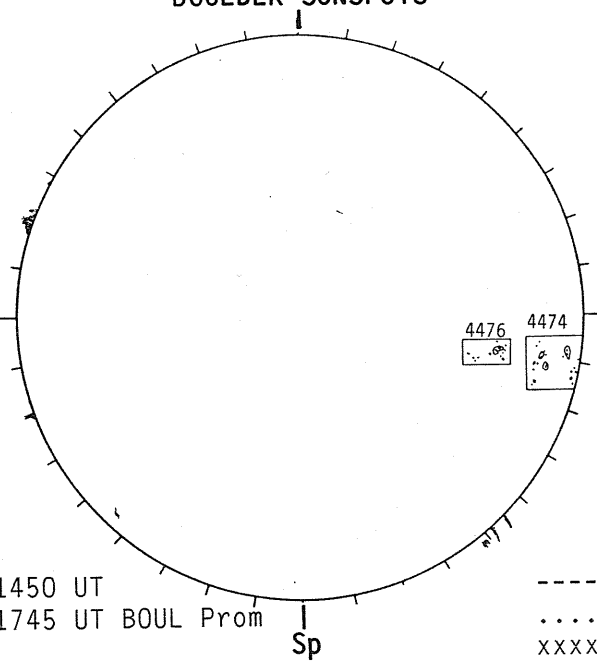
19.26 -
20.17 UT

SACRAMENTO PEAK H-ALPHA



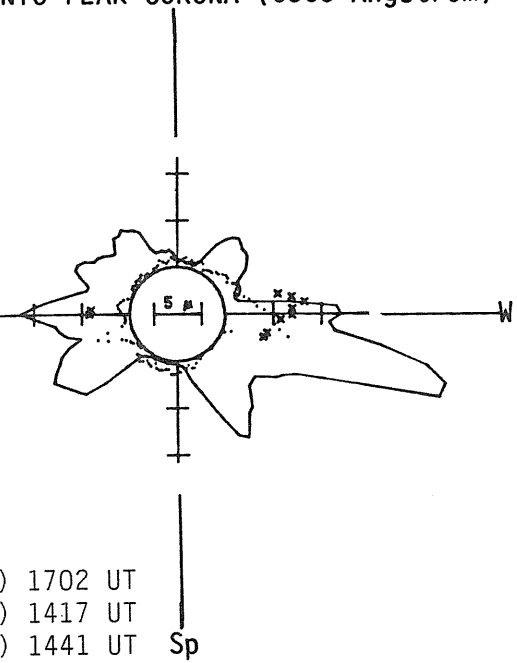
1532 UT

BOULDER SUNSPOTS



1450 UT
1745 UT BOUL Prom

SACRAMENTO PEAK CORONA (5303 Angstrom)

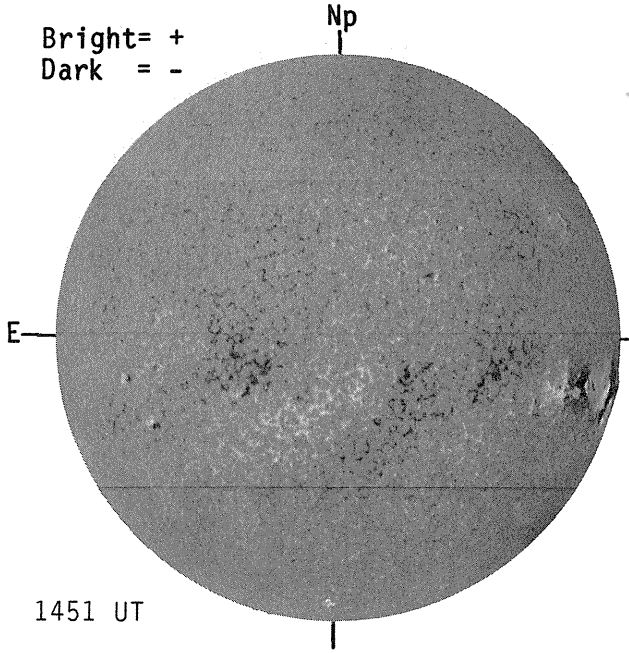


---- 5303A(x1) 1702 UT
.... 6374A(x2) 1417 UT
xxxx 5694A(x6) 1441 UT

M A Y 04, 1 9 8 4 (P=-23.56, B_0=-3.81, L_0= 267.26)

KITT PEAK MAGNETOGRAM

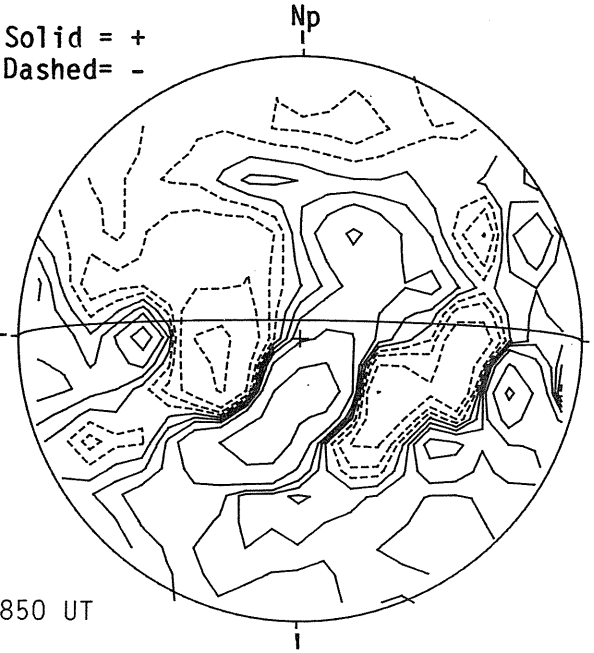
Bright= +
Dark = -



1451 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

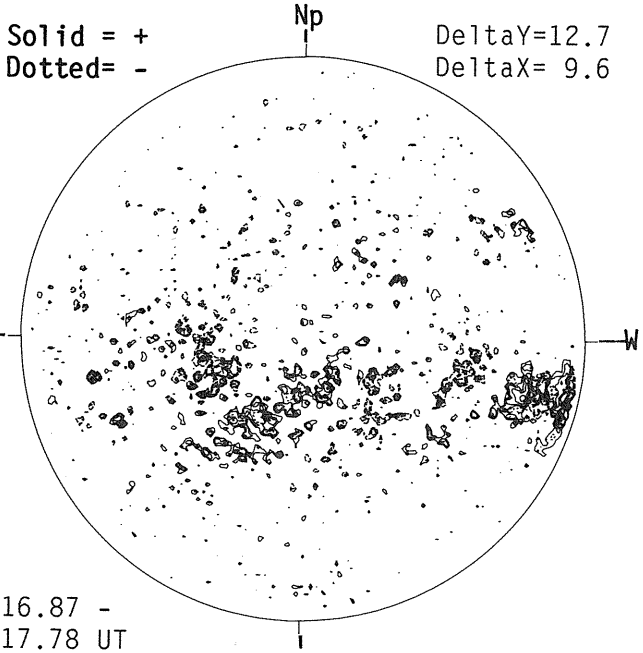


1850 UT

MT. WILSON MAGNETOGRAM

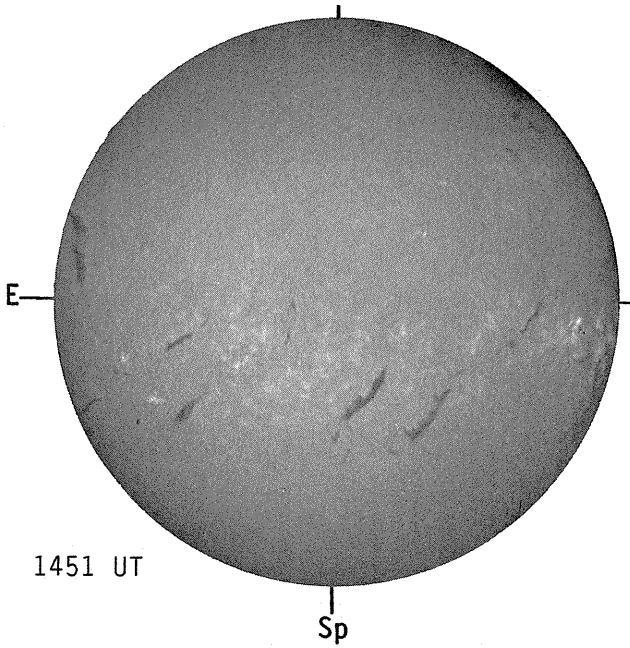
Solid = +
Dotted= -

DeltaY=12.7
DeltaX= 9.6



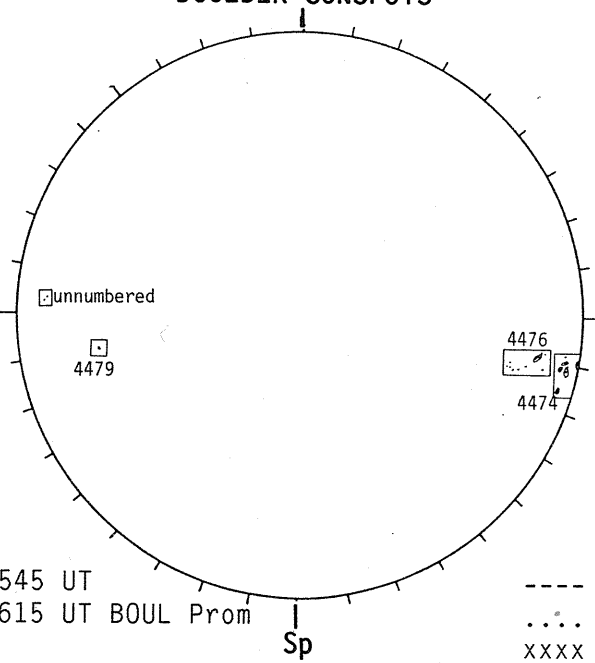
16.87 -
17.78 UT

SACRAMENTO PEAK H-ALPHA



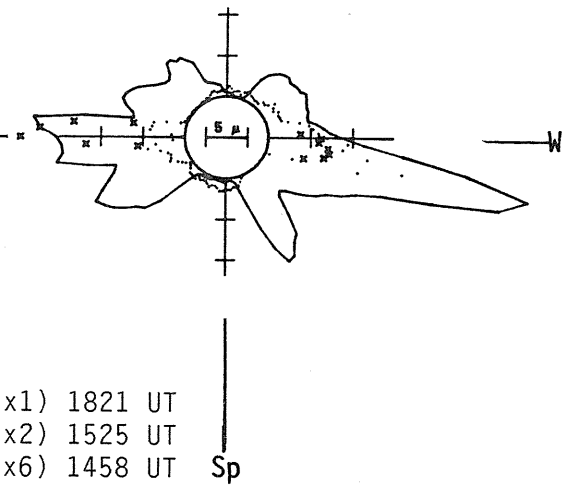
1451 UT

BOULDER SUNSPOTS



1545 UT
1615 UT BOUL Prom

SACRAMENTO PEAK CORONA (5303 Angstrom)

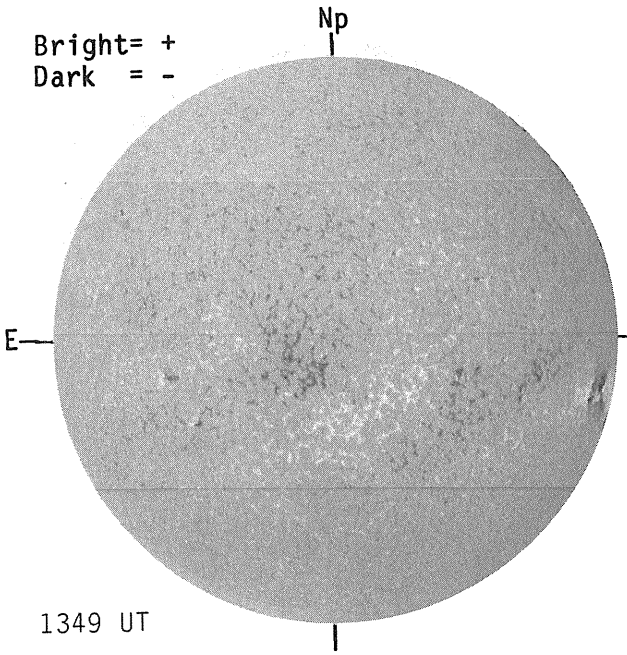


---- 5303A(x1) 1821 UT
.... 6374A(x2) 1525 UT
xxxx 5694A(x6) 1458 UT

M A Y 05, 1 9 8 4 (P=-23.35, B_0=-3.70, L_0= 254.04)

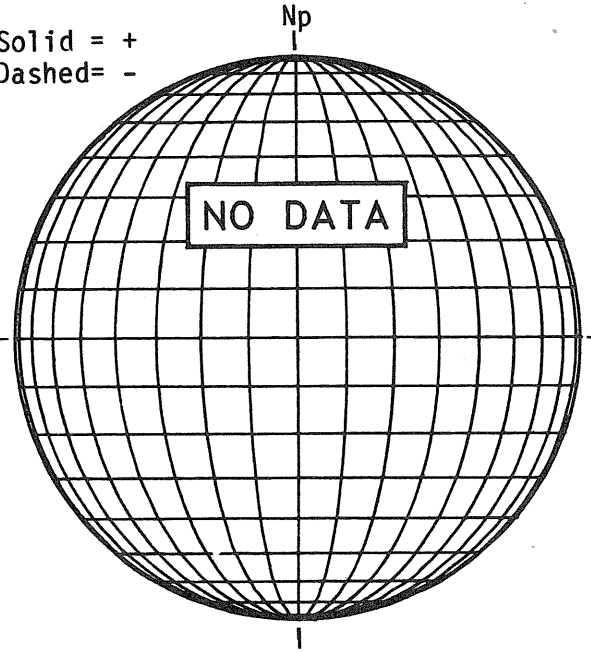
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



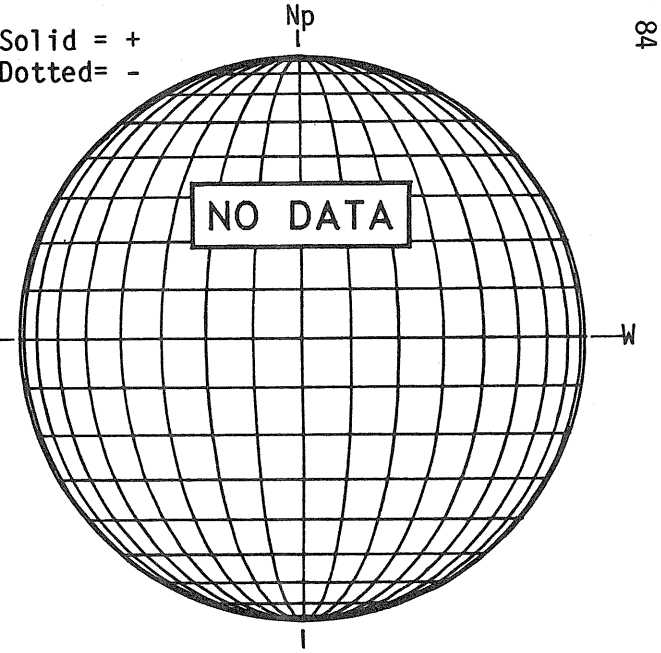
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

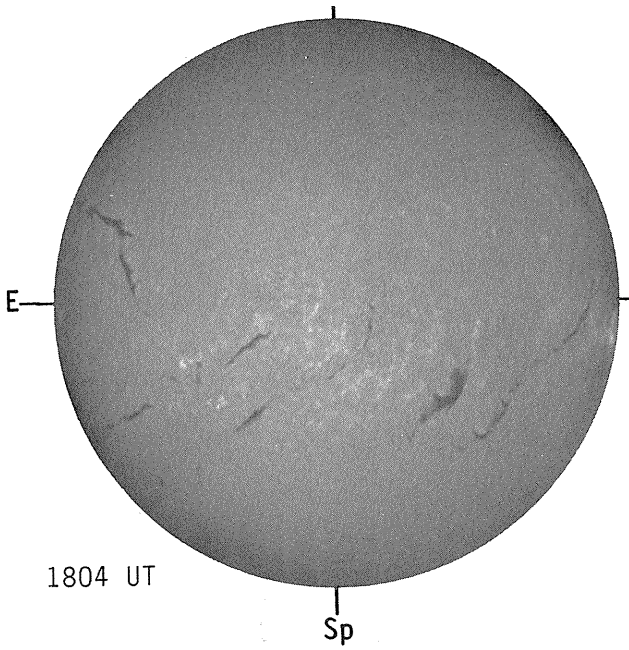


MT. WILSON MAGNETOGRAM

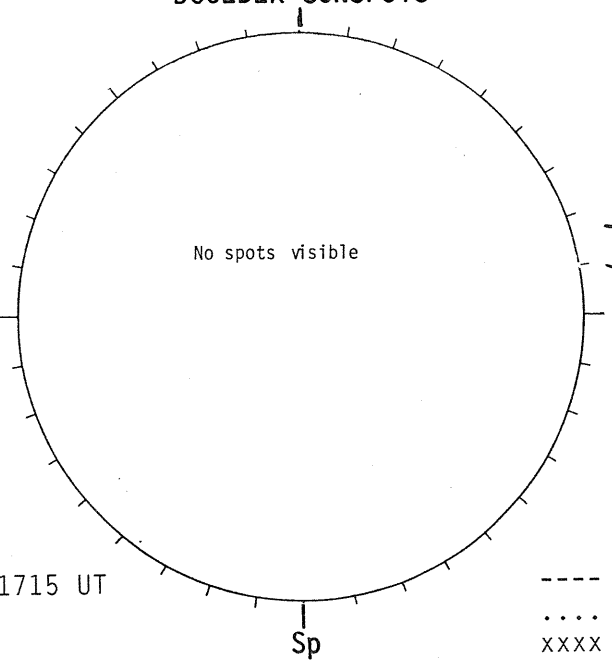
Solid = +
Dotted= -



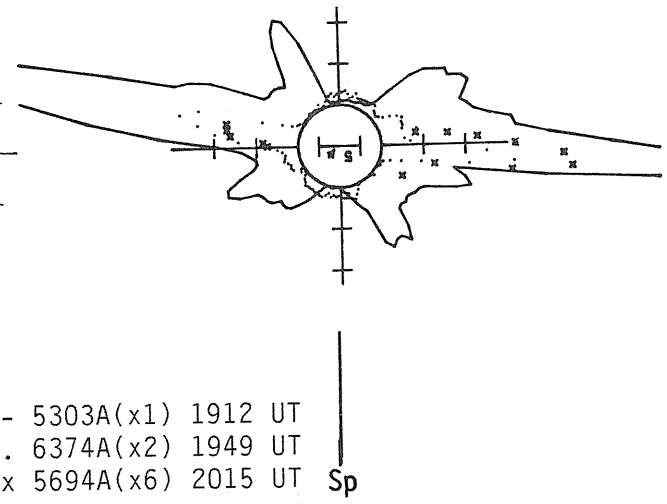
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

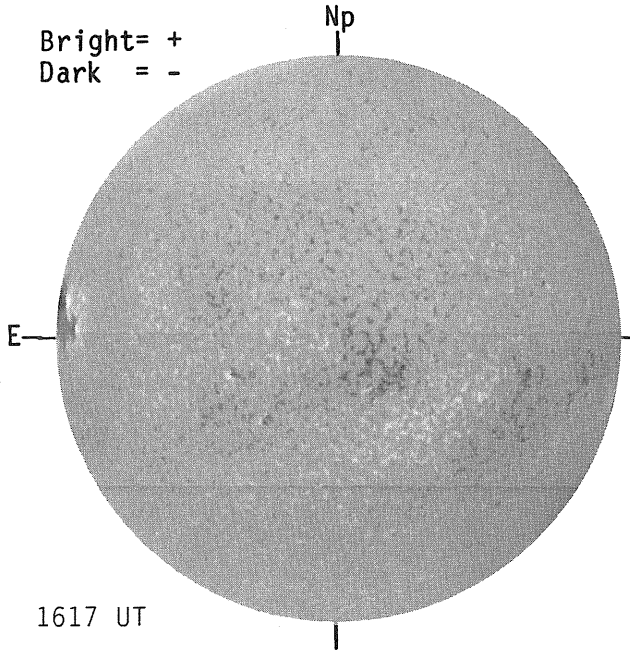


---- 5303A(x1) 1912 UT
.... 6374A(x2) 1949 UT
xxxx 5694A(x6) 2015 UT

M A Y 06, 1 9 8 4 (P=-23.14, B_0=-3.60, L_0= 240.82)

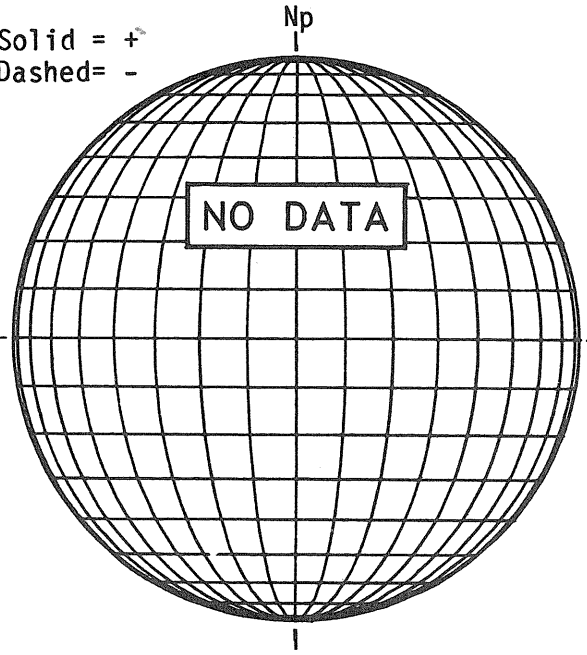
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

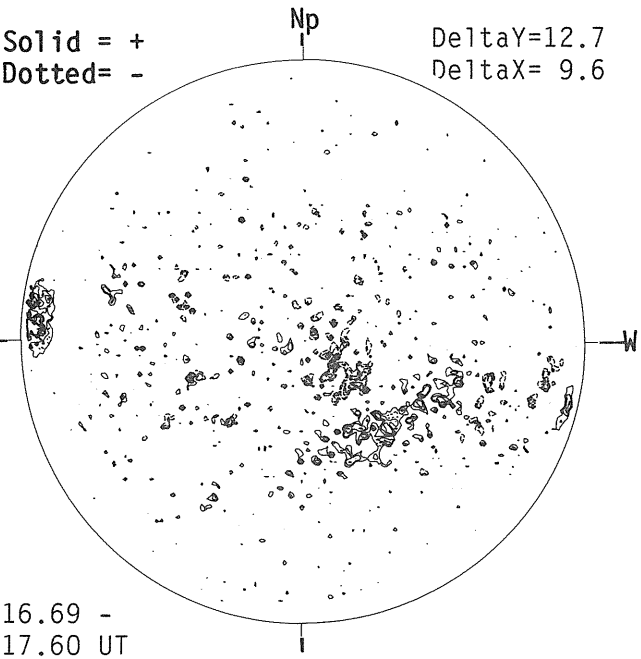
Solid = +
Dashed= -



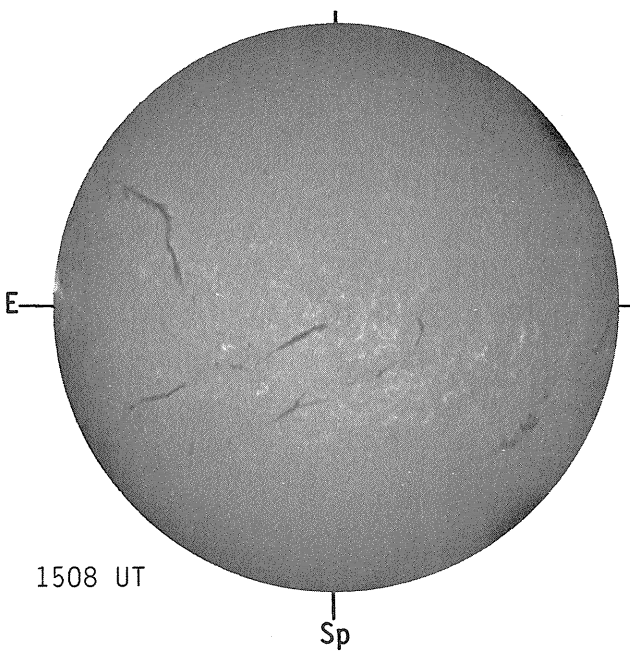
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

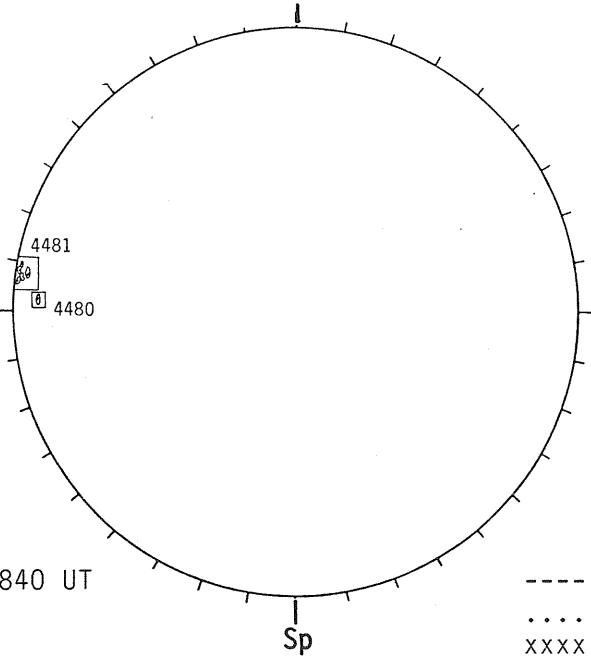
DeltaY=12.7
DeltaX= 9.6



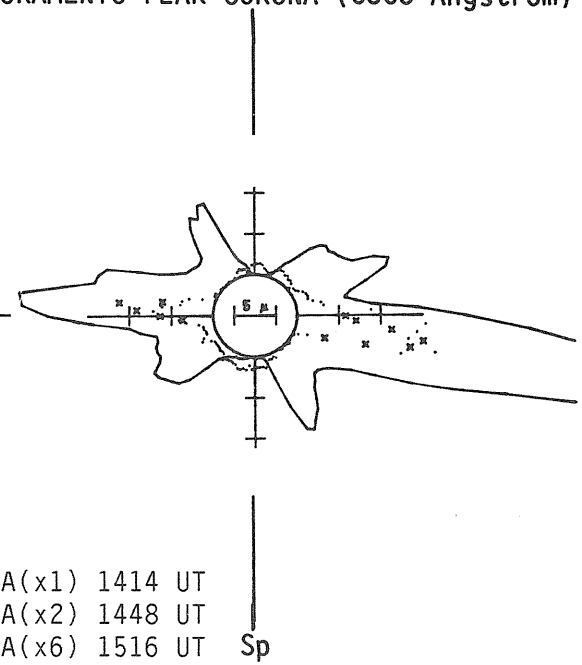
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

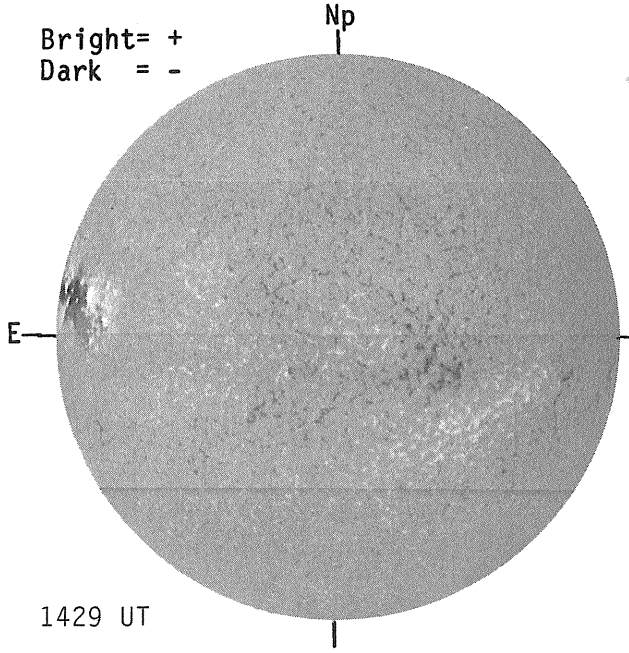


---- 5303A(x1) 1414 UT
.... 6374A(x2) 1448 UT
xxxx 5694A(x6) 1516 UT

M A Y 07, 1 9 8 4 (P=-22.92, B_0=-3.49, L_0= 227.60)

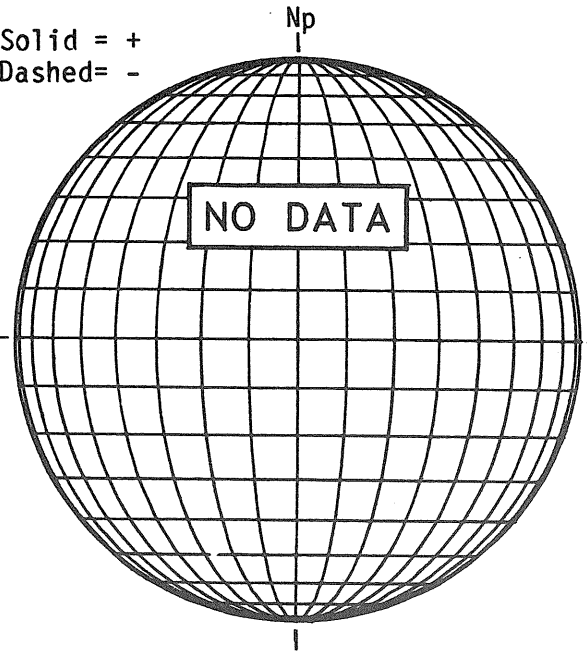
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

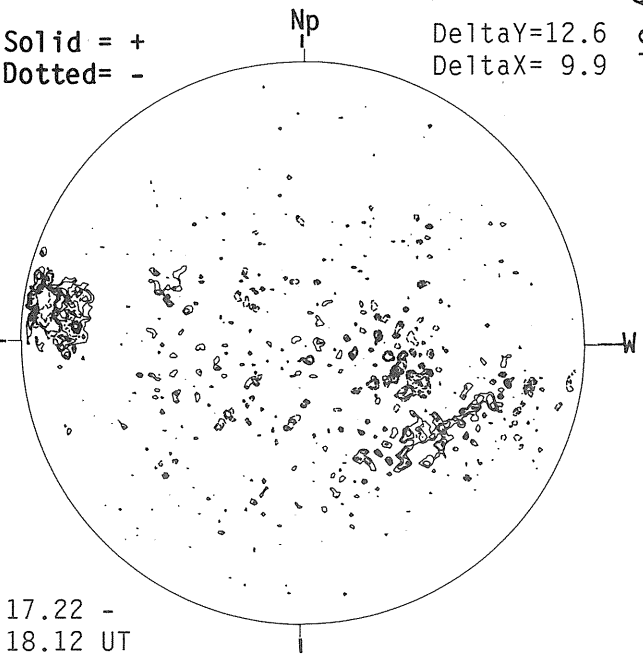
Solid = +
Dashed= -



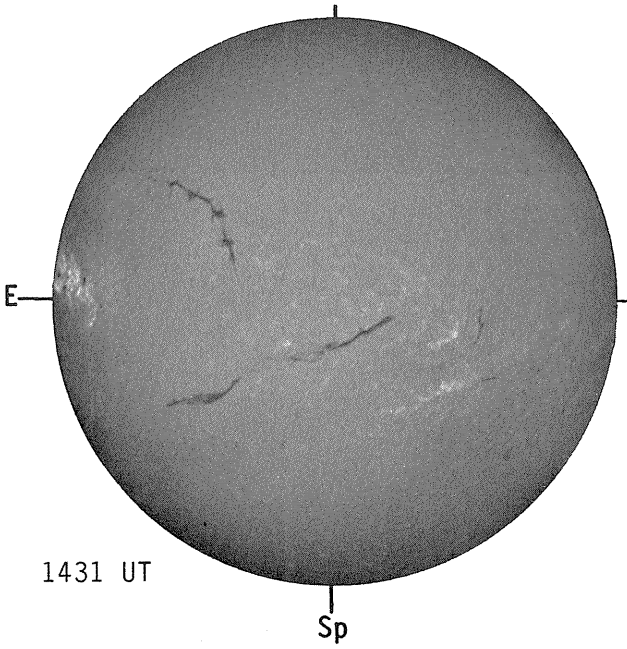
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

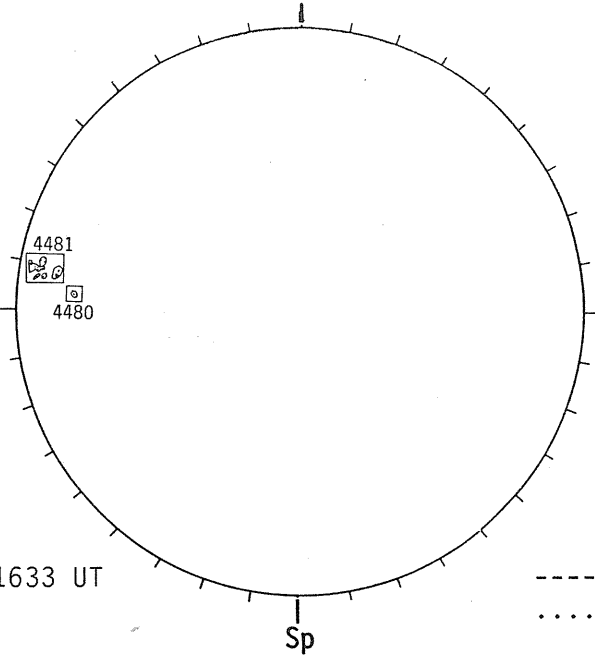
DeltaY=12.6
DeltaX= 9.9



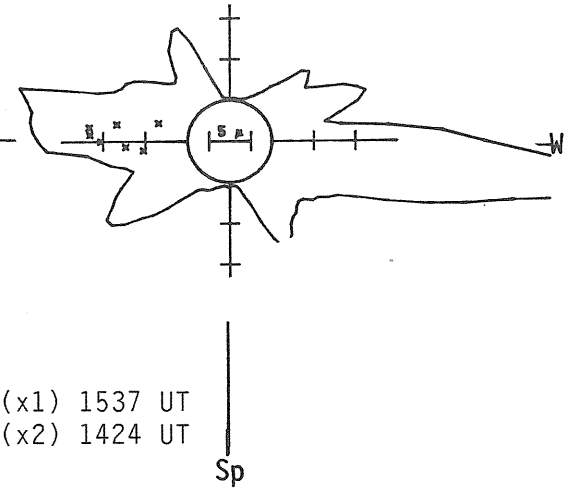
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

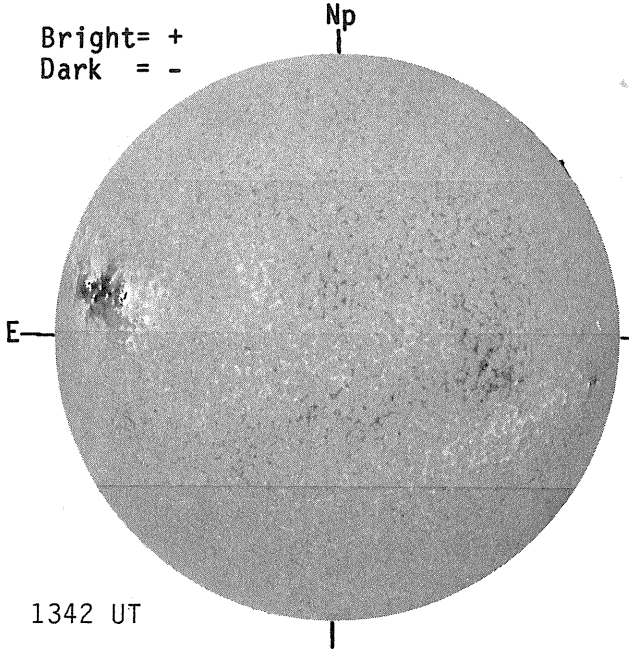


---- 5303A(x1) 1537 UT
.... 6374A(x2) 1424 UT

M A Y 08, 1 9 8 4 (P=-22.70, B_0=-3.39, L_0= 214.38)

KITT PEAK MAGNETOGRAM

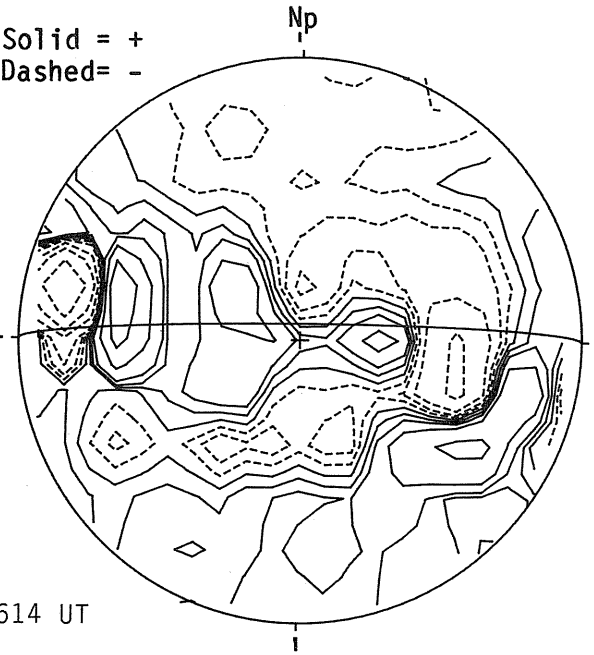
Bright= +
Dark = -



1342 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

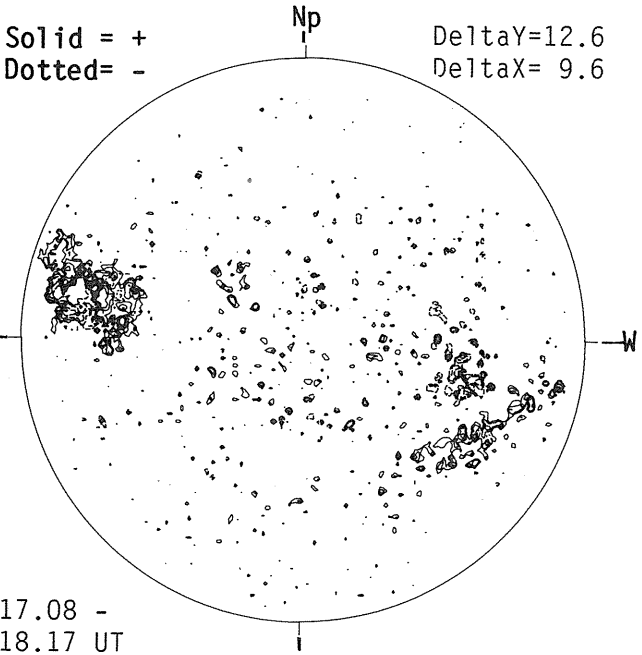


1614 UT

MT. WILSON MAGNETOGRAM

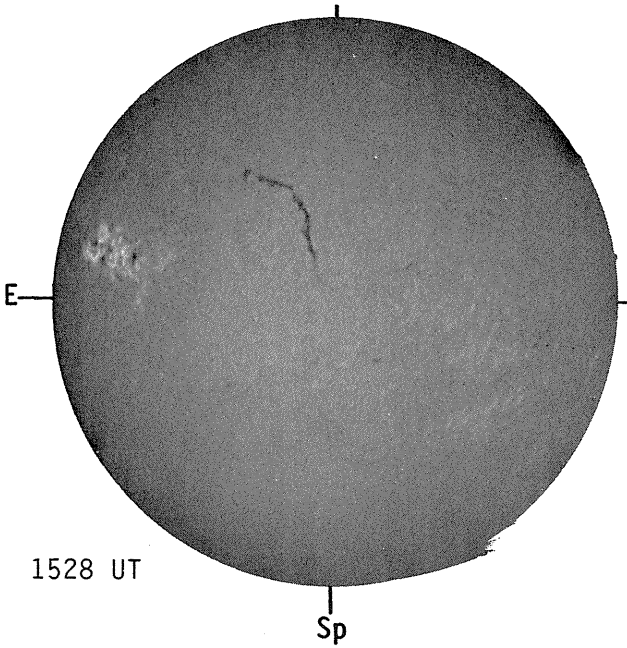
Solid = +
Dotted= -

DeltaY=12.6
DeltaX= 9.6



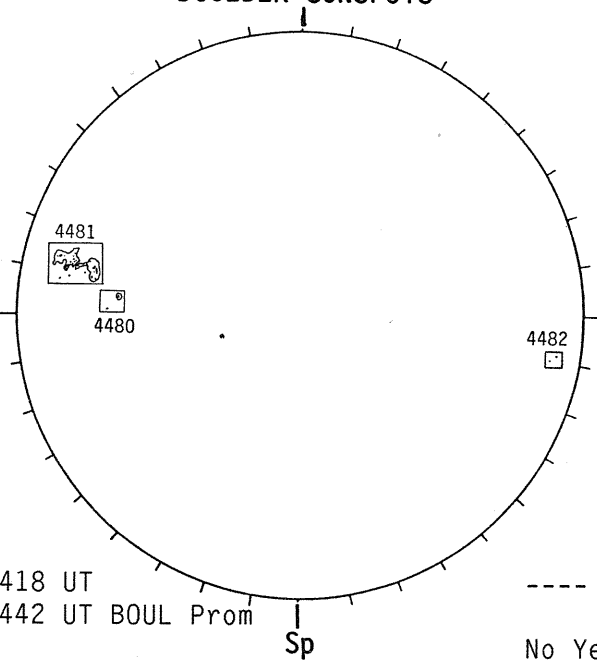
17.08 -
18.17 UT

SACRAMENTO PEAK H-ALPHA



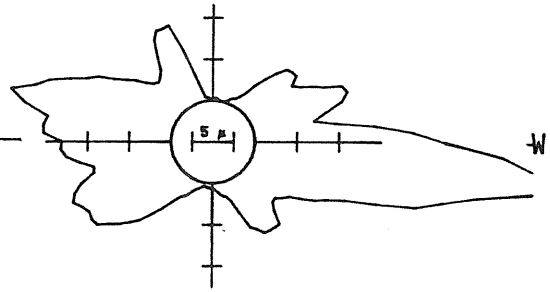
1528 UT

BOULDER SUNSPOTS



1418 UT
1442 UT BOUL Prom

SACRAMENTO PEAK CORONA (5303 Angstrom)



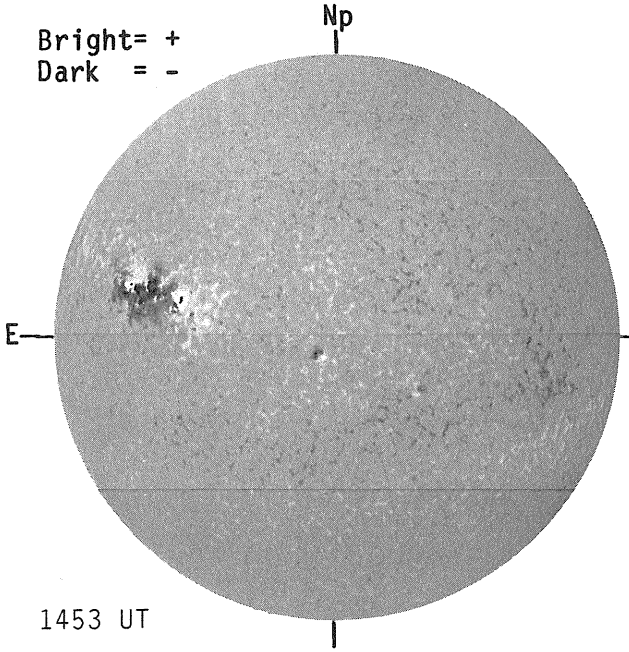
---- 5303A(x1) 1716 UT

No Yellow-Line Signal

M A Y 09, 1 9 8 4 (P=-22.47, B_0=-3.28, L_0= 201.15)

KITT PEAK MAGNETOGRAM

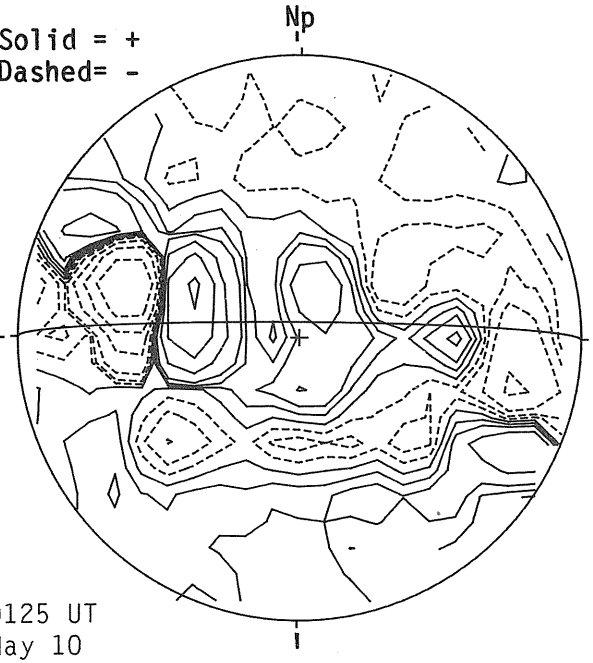
Bright= +
Dark = -



1453 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

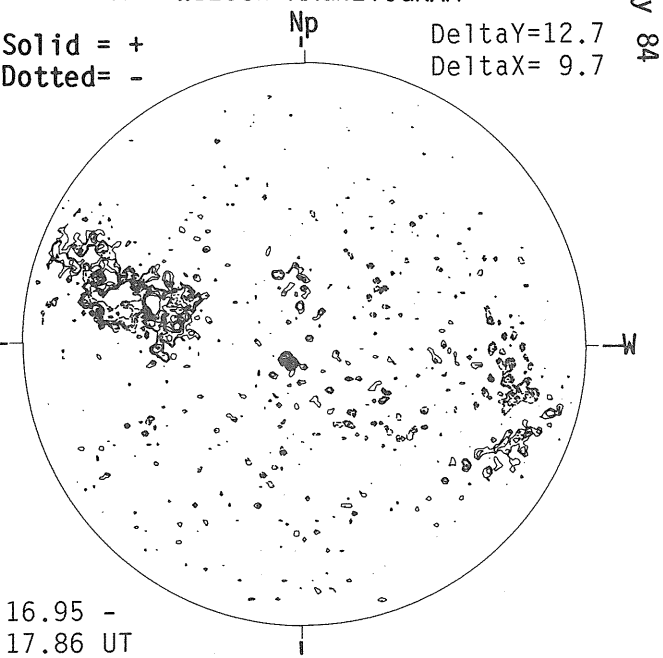


0125 UT
May 10

MT. WILSON MAGNETOGRAM

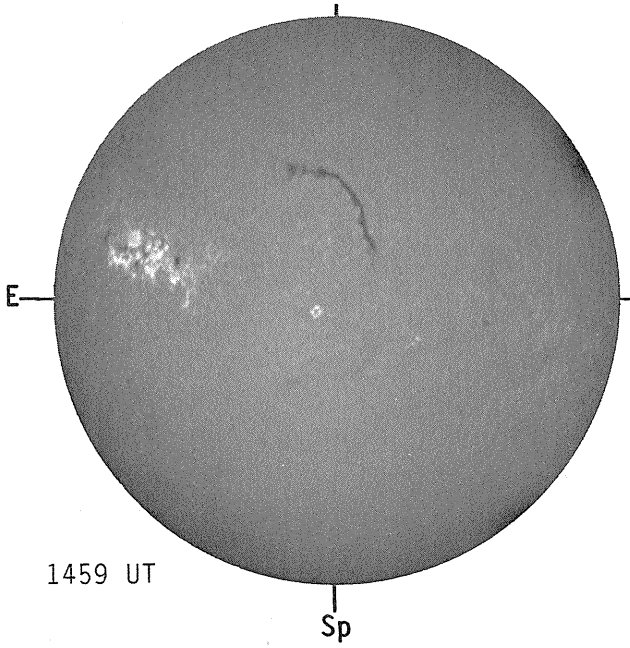
Solid = +
Dotted= -

DeltaY=12.7
DeltaX= 9.7



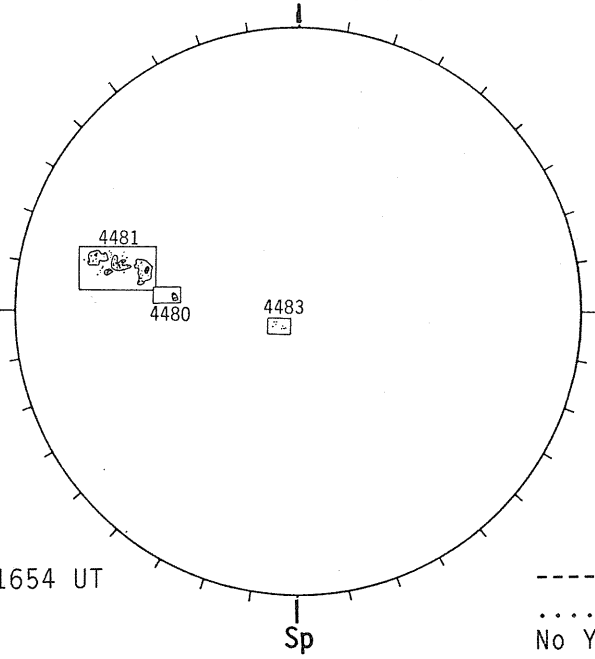
16.95 -
17.86 UT

SACRAMENTO PEAK H-ALPHA



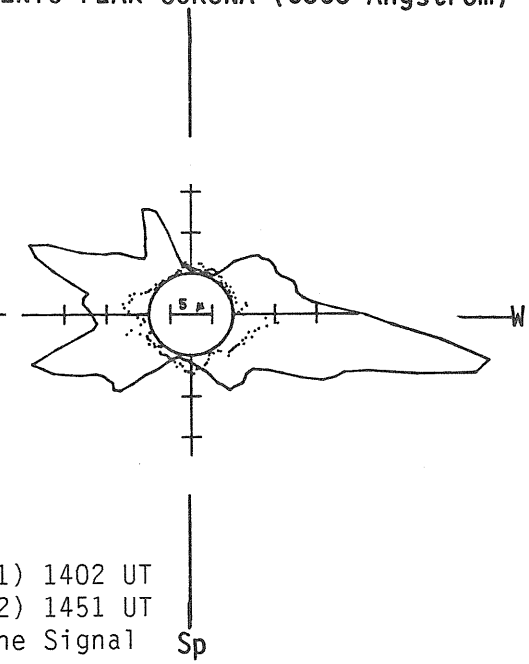
1459 UT

BOULDER SUNSPOTS



1654 UT

SACRAMENTO PEAK CORONA (5303 Angstrom)

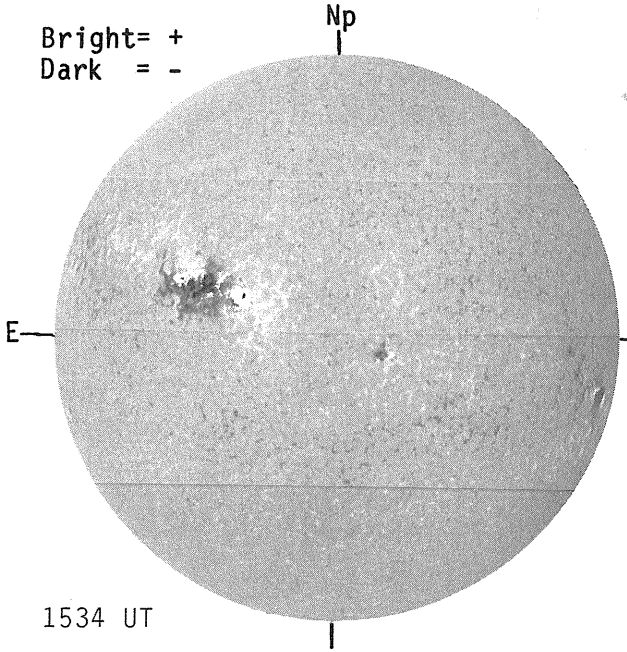


---- 5303A(x1) 1402 UT
.... 6374A(x2) 1451 UT
No Yellow-Line Signal

M A Y 10, 1 9 8 4 (P=-22.23, B_0=-3.17, L_0= 187.93)

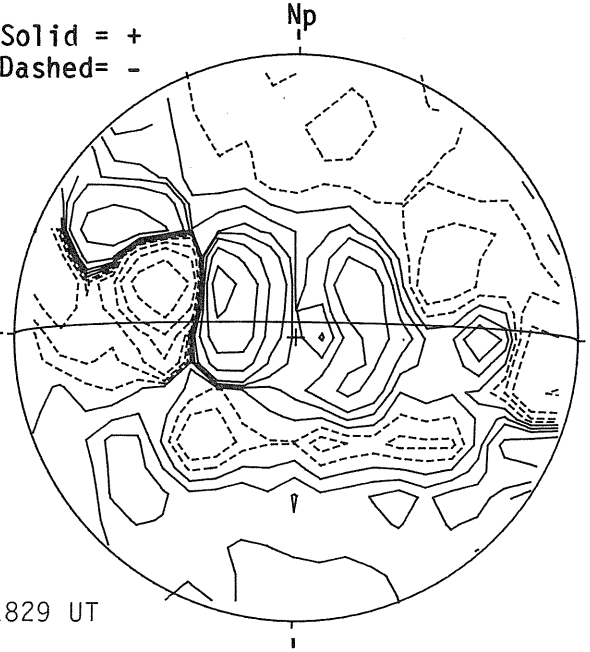
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

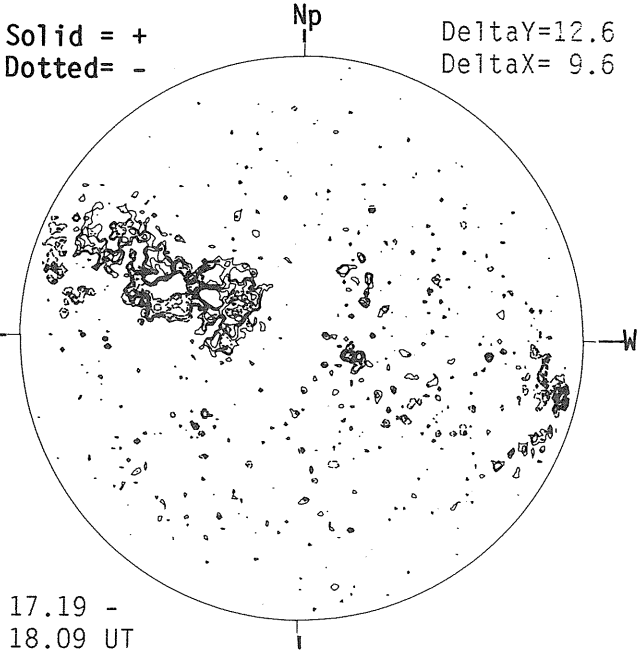
Solid = +
Dashed= -



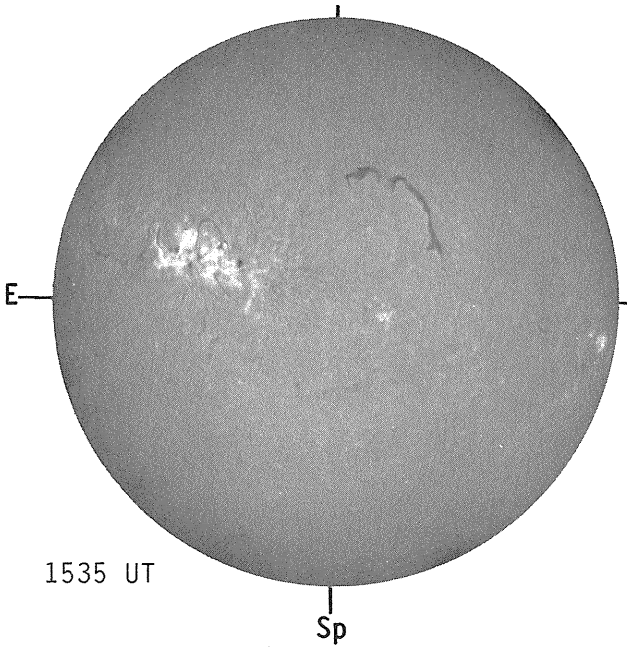
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

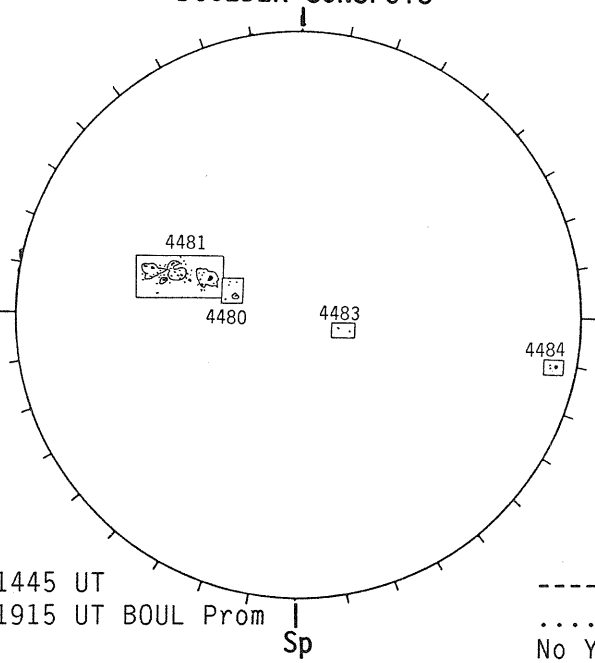
DeltaY=12.6
DeltaX= 9.6



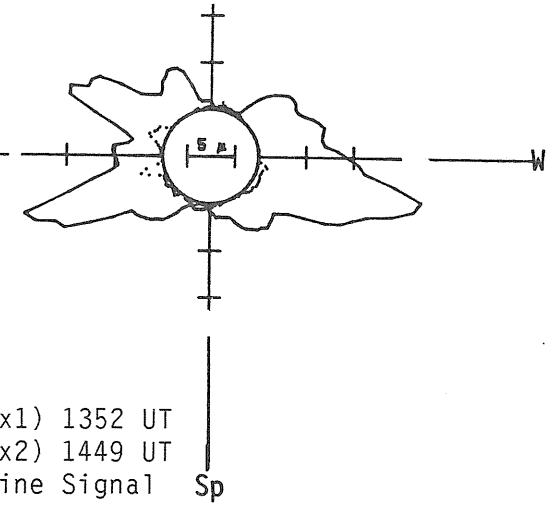
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

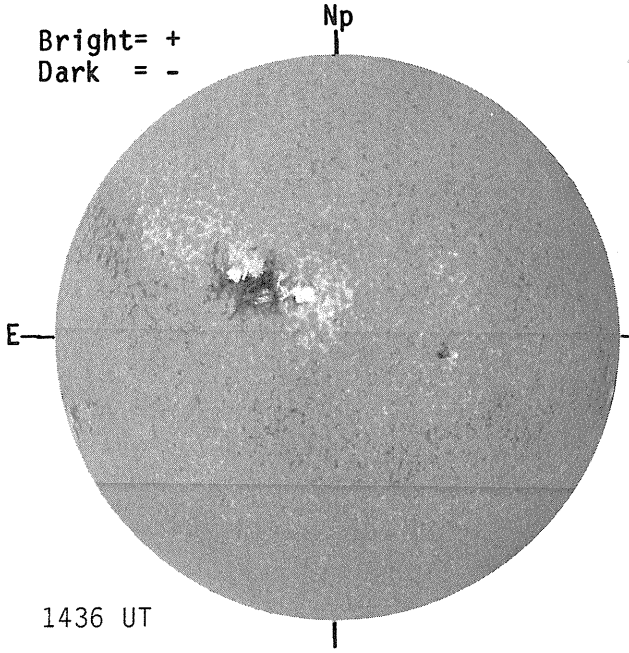


---- 5303A(x1) 1352 UT
.... 6374A(x2) 1449 UT
No Yellow-Line Signal

M A Y 11, 1 9 8 4 (P=-21.98, B_0=-3.06, L_0= 174.71)

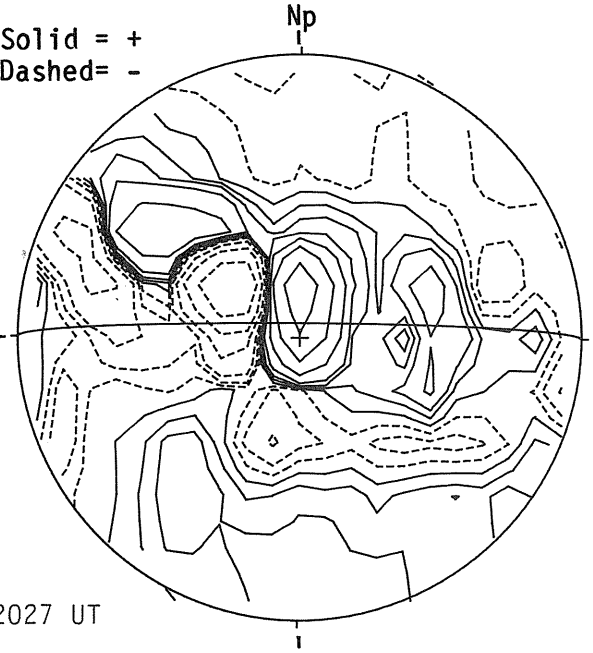
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

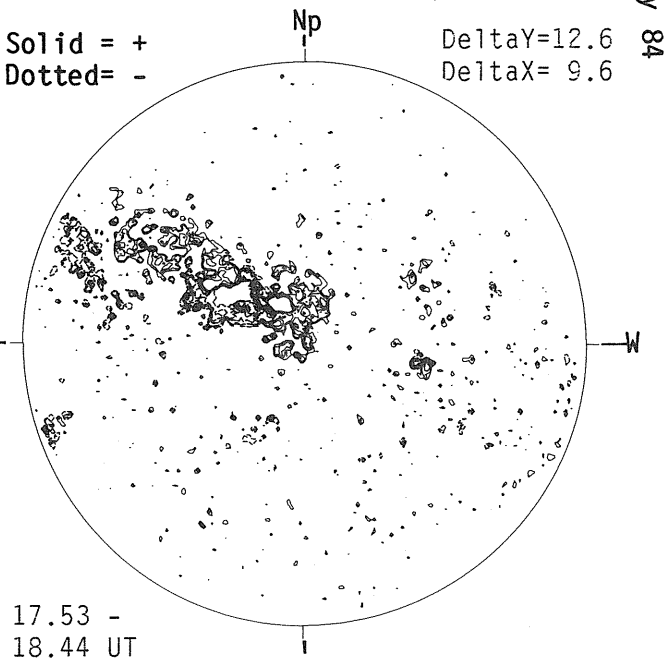
Solid = +
Dashed= -



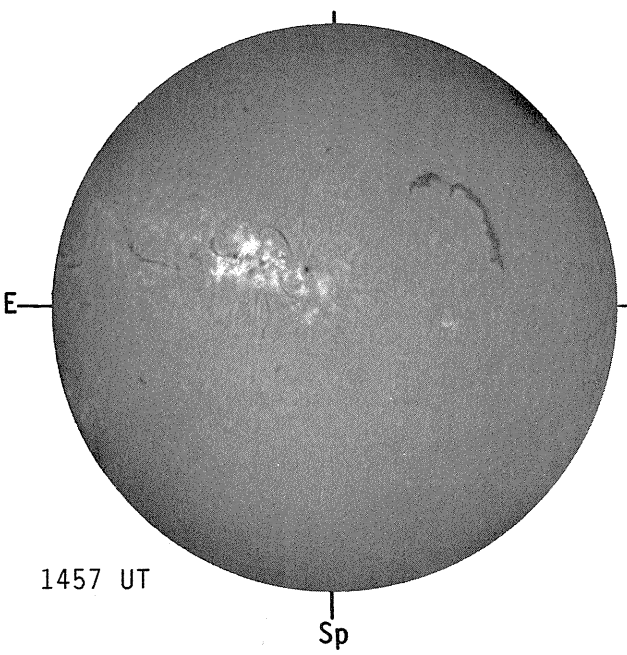
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

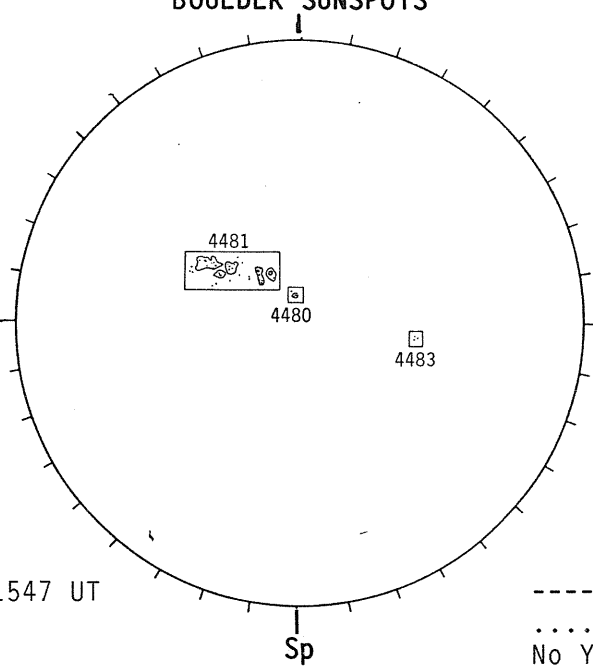
DeltaY=12.6
DeltaX= 9.6



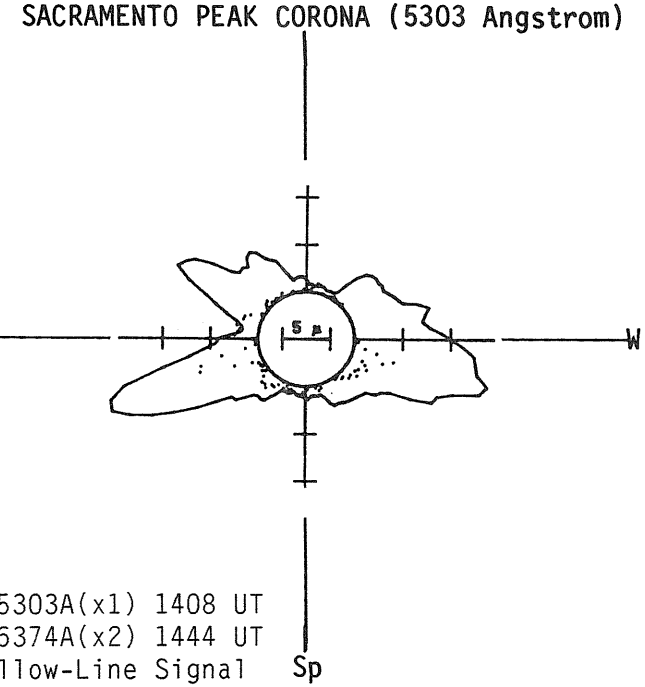
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

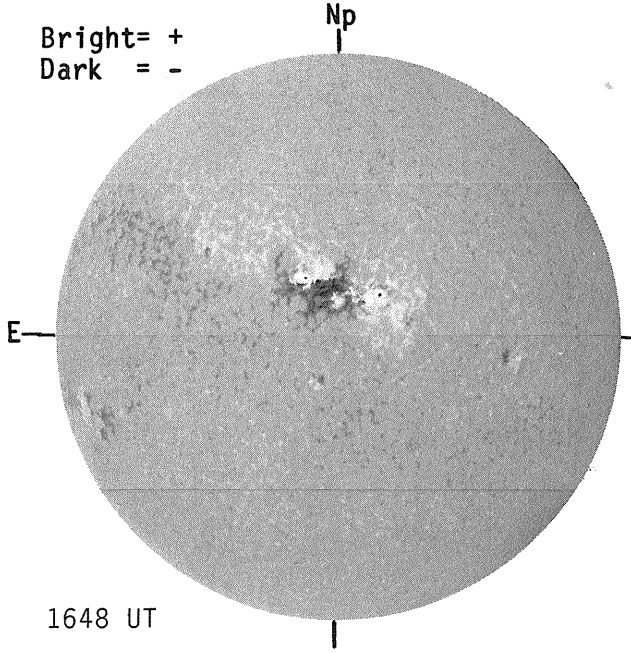


---- 5303A(x1) 1408 UT
.... 6374A(x2) 1444 UT
No Yellow-Line Signal

M A Y 12, 1 9 8 4 (P=-21.73, B_0=-2.95, L_0= 161.48)

KITT PEAK MAGNETOGRAM

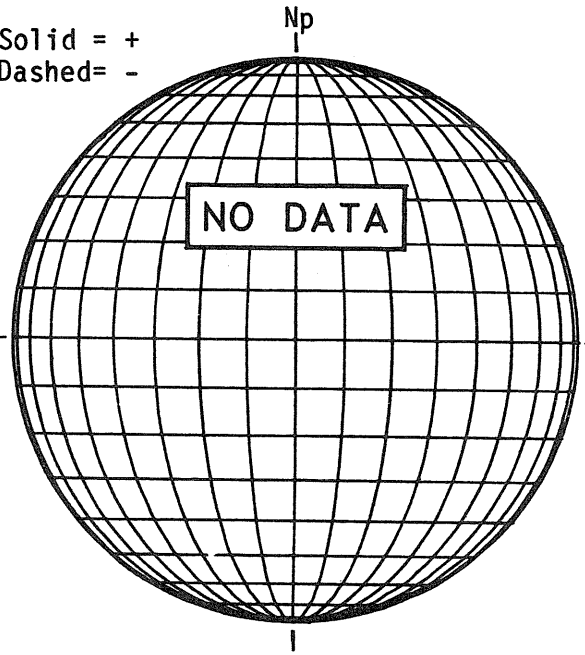
Bright= +
Dark = -



1648 UT

STANFORD MAGNETOGRAM

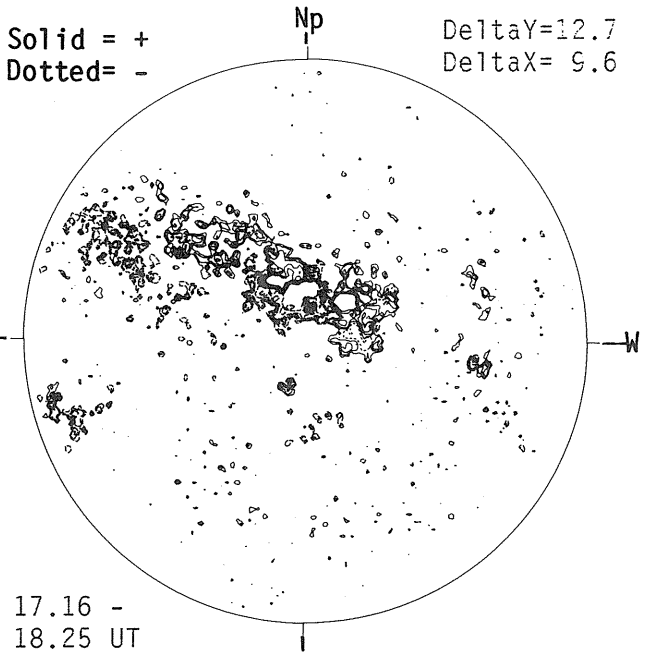
Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

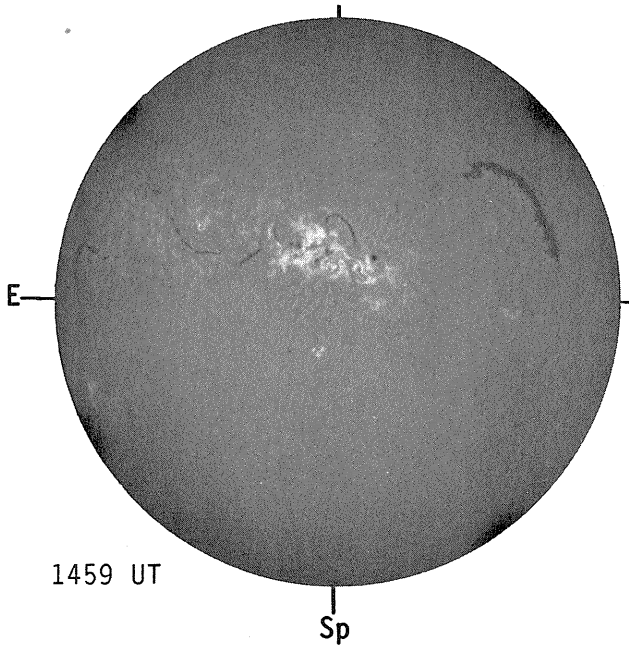
Solid = +
Dotted= -

DeltaY=12.7
DeltaX= 9.6



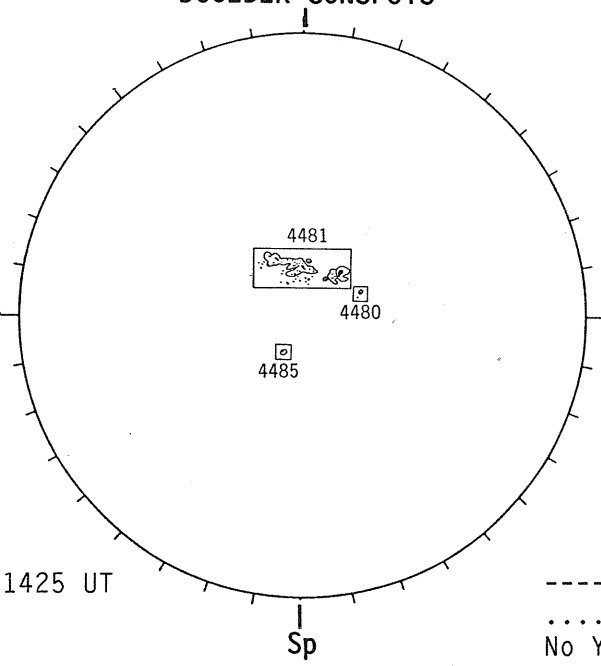
17.16 -
18.25 UT

SACRAMENTO PEAK H-ALPHA



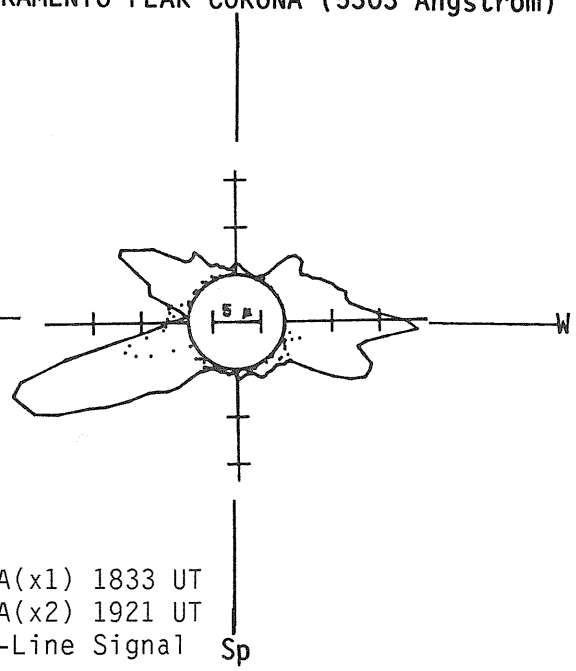
1459 UT

BOULDER SUNSPOTS



1425 UT

SACRAMENTO PEAK CORONA (5303 Angstrom)

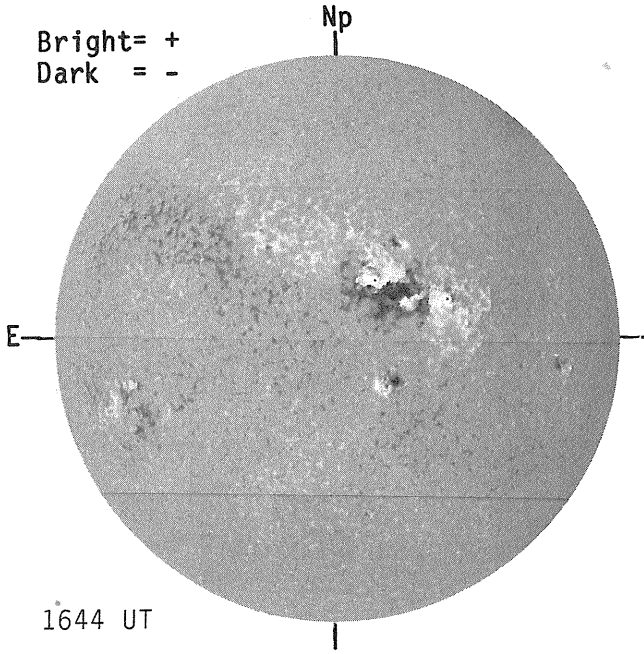


---- 5303A(x1) 1833 UT
.... 6374A(x2) 1921 UT
No Yellow-Line Signal

M A Y 13, 1 9 8 4 (P=-21.47, B_0=-2.84, L_0= 148.26)

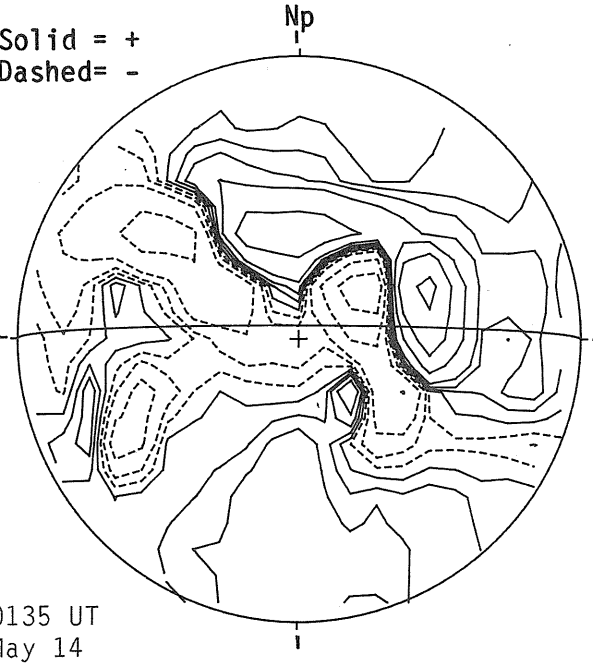
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

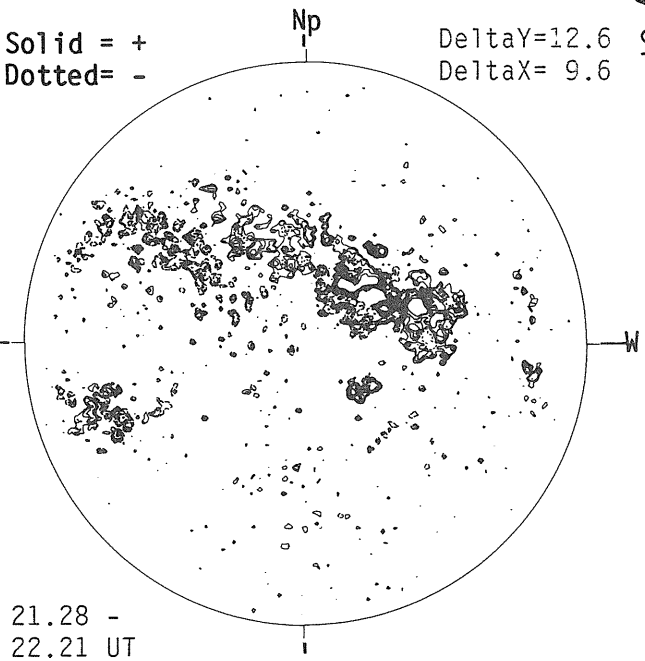
Solid = +
Dashed= -



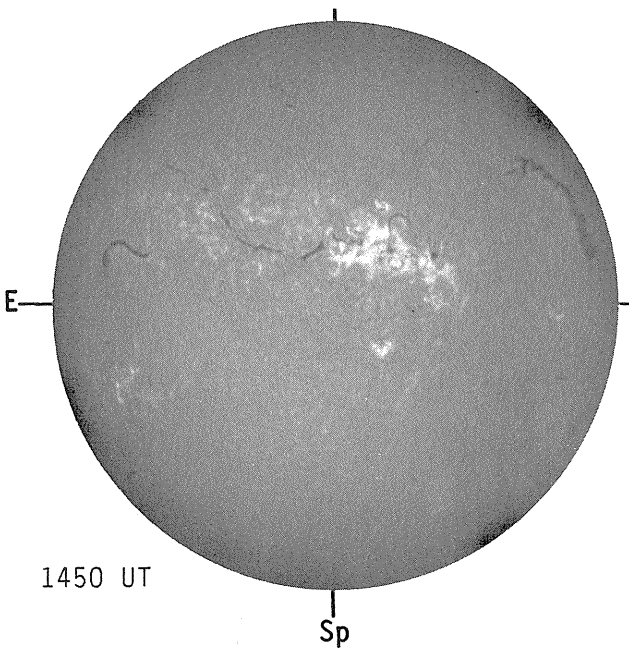
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

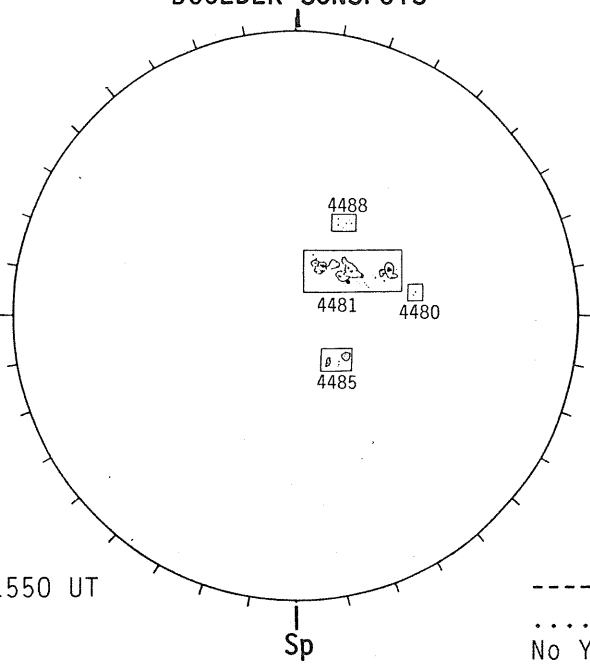
DeltaY=12.6
DeltaX= 9.6



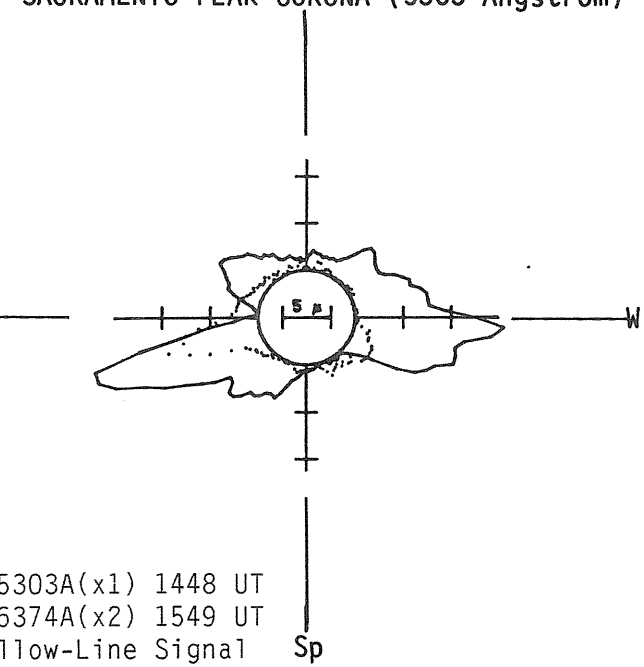
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

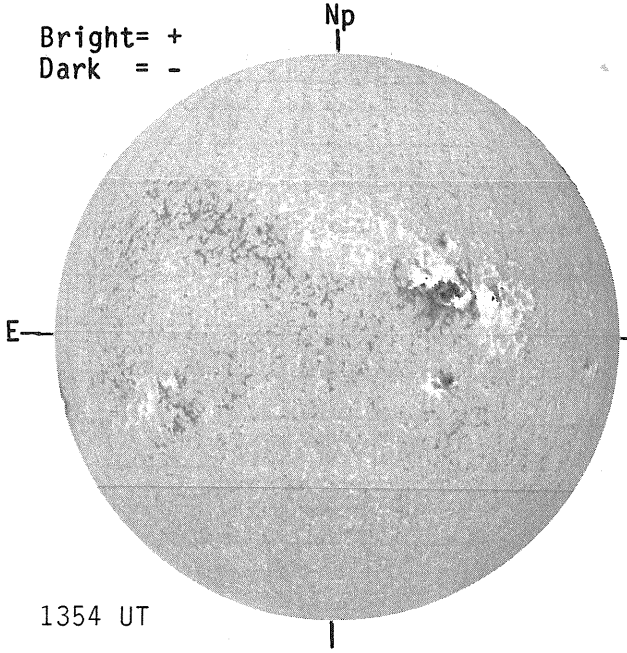


---- 5303A(x1) 1448 UT
.... 6374A(x2) 1549 UT
No Yellow-Line Signal

M A Y 14, 1 9 8 4 (P=-21.21, B_0=-2.72, L_0= 135.03)

KITT PEAK MAGNETOGRAM

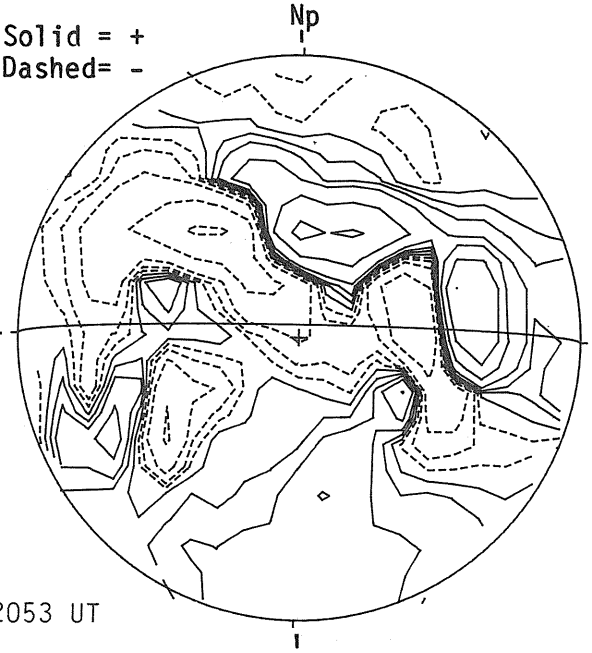
Bright= +
Dark = -



1354 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

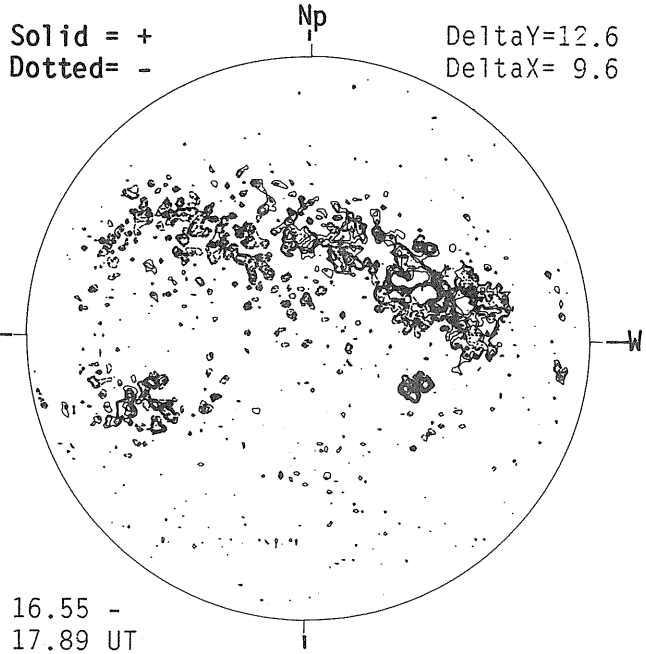


2053 UT

MT. WILSON MAGNETOGRAM

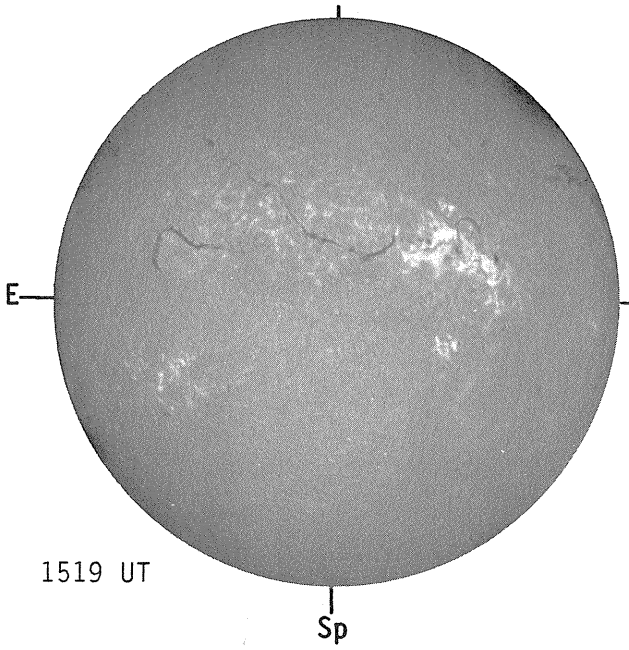
Solid = +
Dotted= -

DeltaY=12.6
DeltaX= 9.6



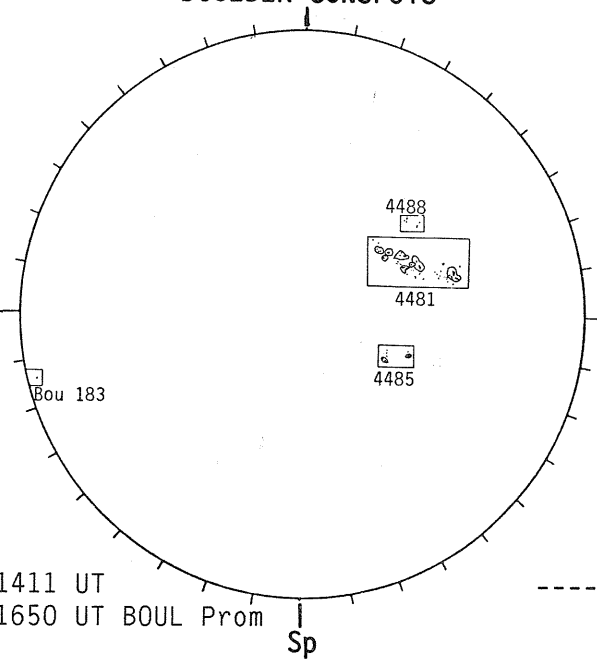
16.55 -
17.89 UT

SACRAMENTO PEAK H-ALPHA



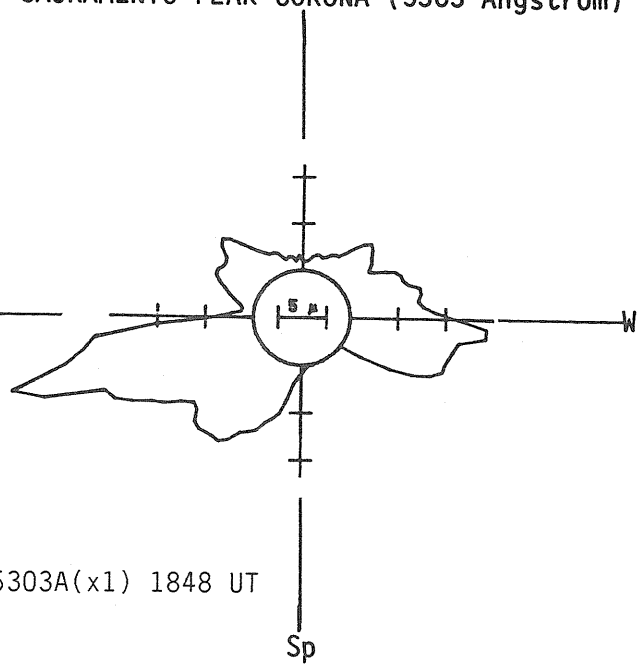
1519 UT

BOULDER SUNSPOTS



1411 UT
1650 UT BOUL Prom

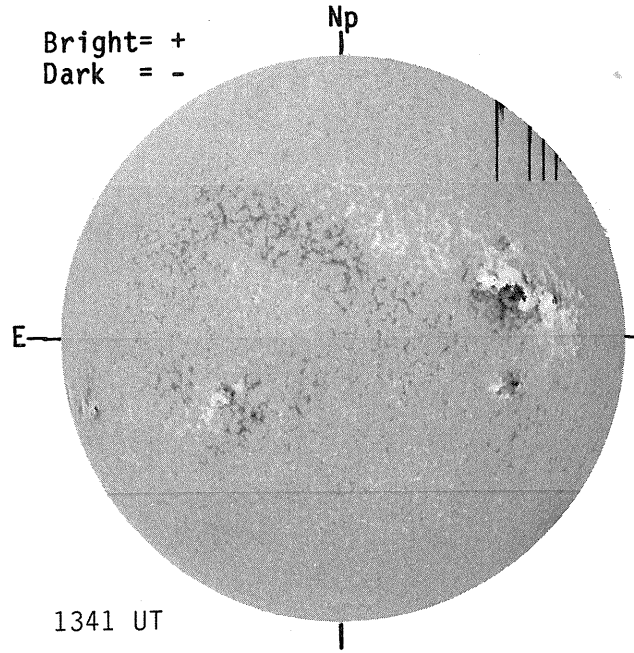
SACRAMENTO PEAK CORONA (5303 Angstrom)



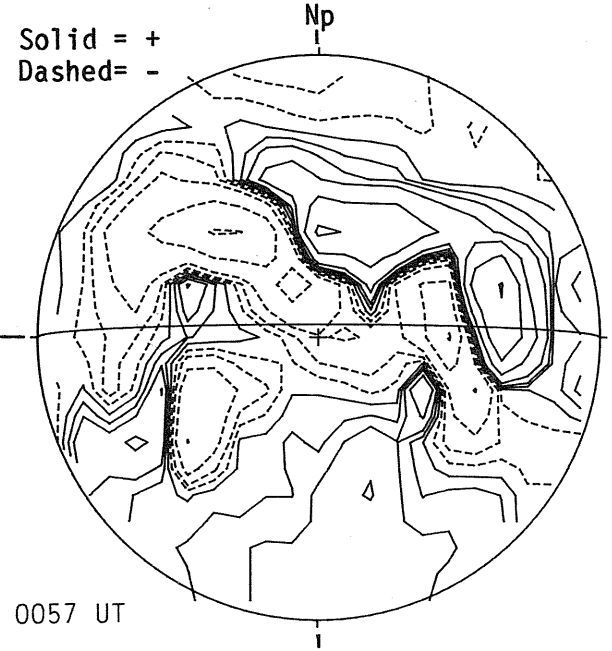
---- 5303A(x1) 1848 UT

M A Y 15, 1 9 8 4 (P=-20.93, B_0=-2.61, L_0= 121.81)

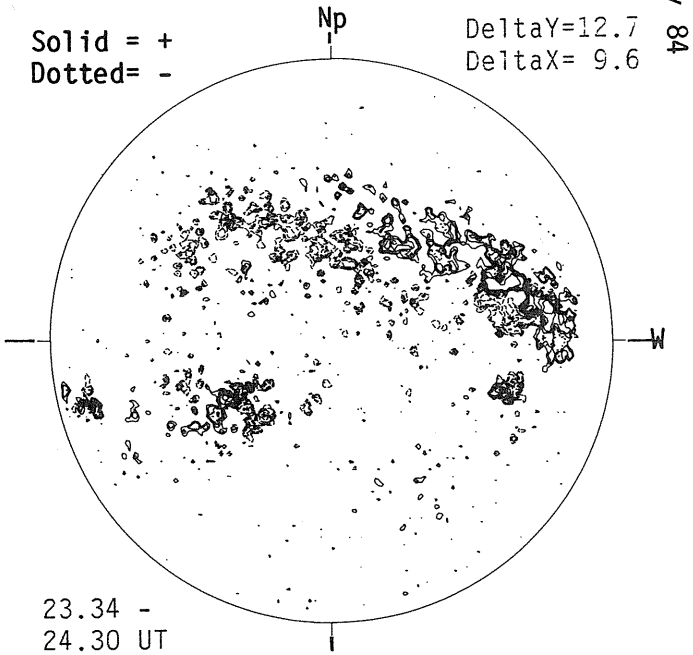
KITT PEAK MAGNETOGRAM



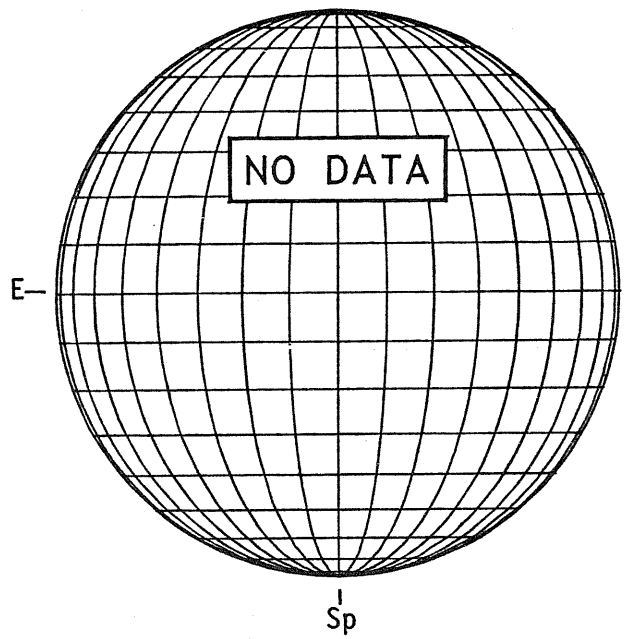
STANFORD MAGNETOGRAM



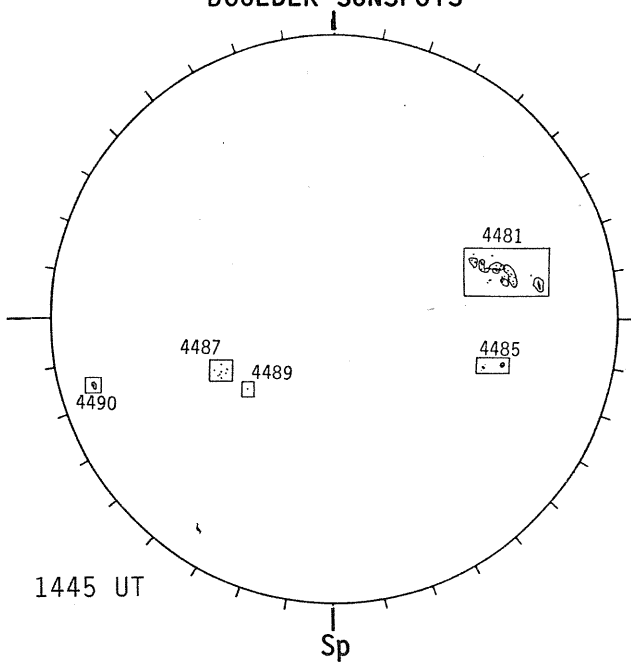
MT. WILSON MAGNETOGRAM



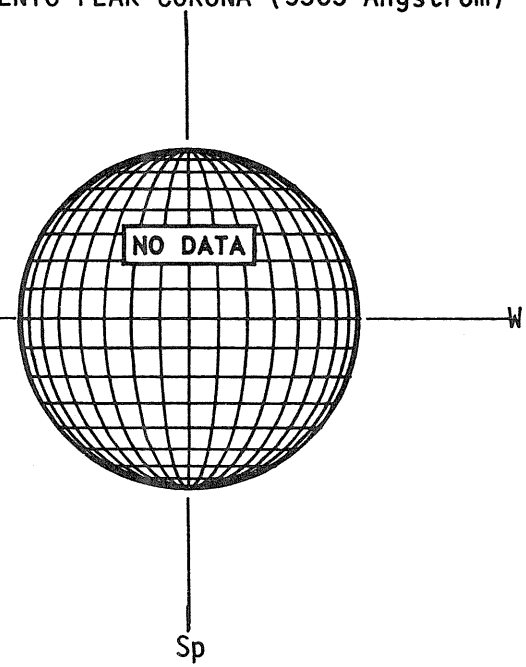
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



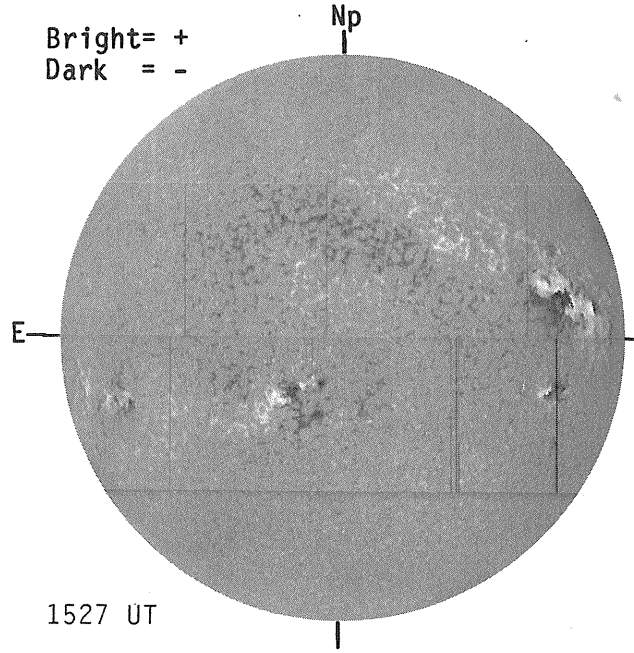
SACRAMENTO PEAK CORONA (5303 Angstrom)



M A Y 16, 1 9 8 4 (P=-20.66, B_0=-2.50, L_0= 108.58)

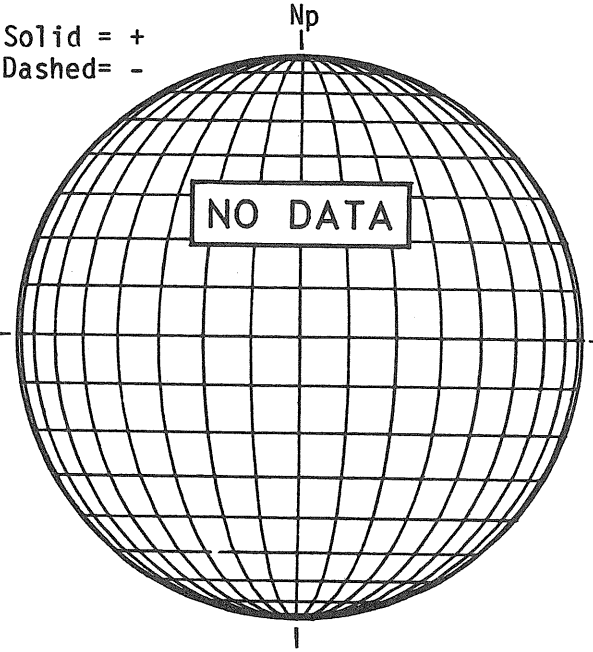
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

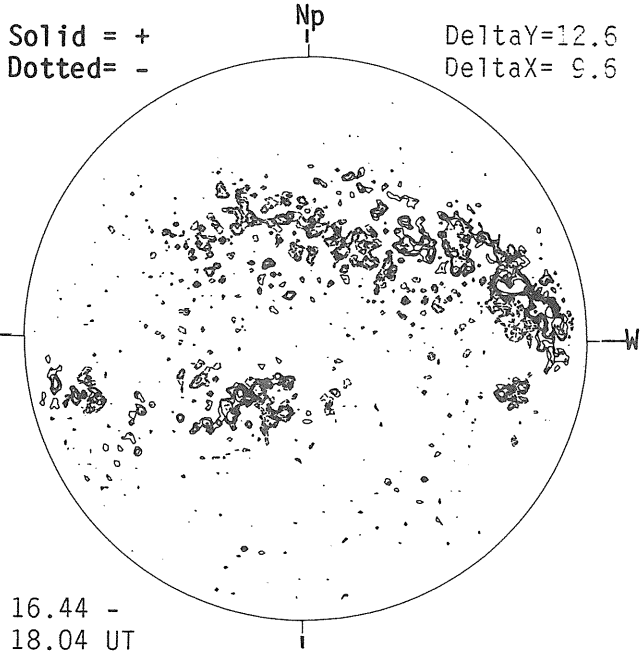
Solid = +
Dashed= -



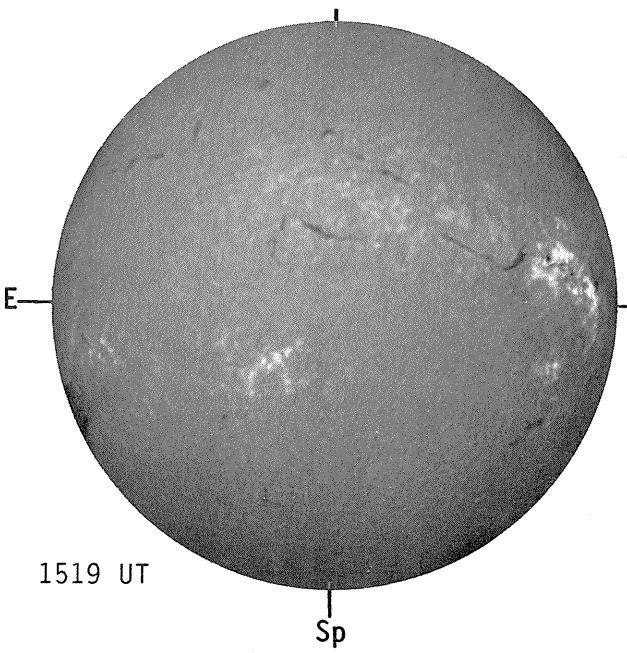
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

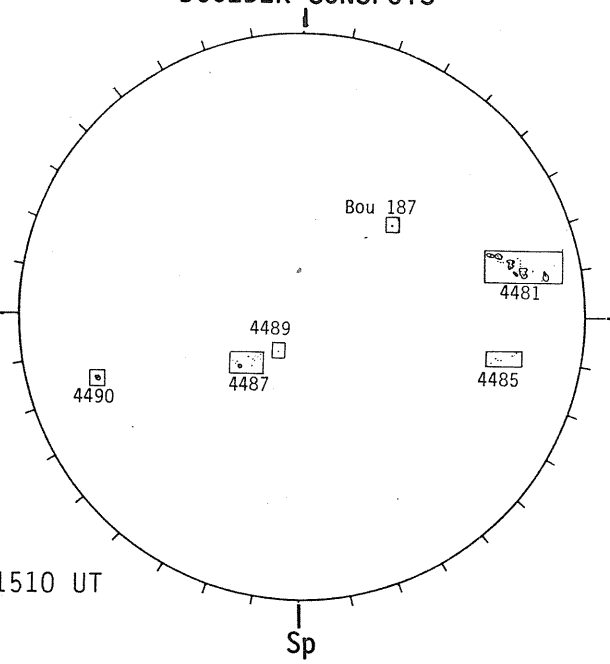
DeltaY=12.6
DeltaX= 9.6



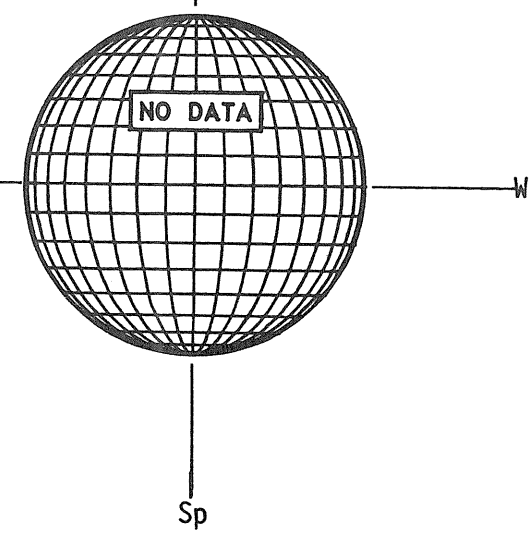
BOULDER H-ALPHA



BOULDER SUNSPOTS



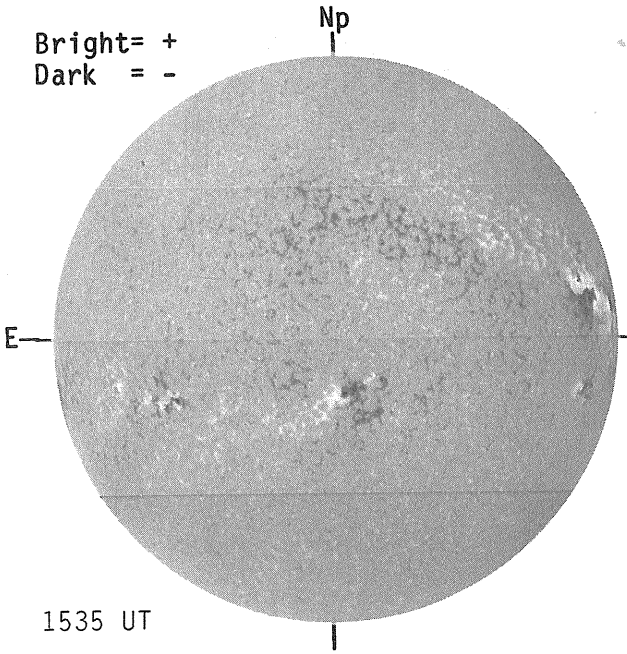
SACRAMENTO PEAK CORONA (5303 Angstrom)



M A Y 17, 1 9 8 4 (P=-20.37, B_0=-2.38, L_0= 95.35)

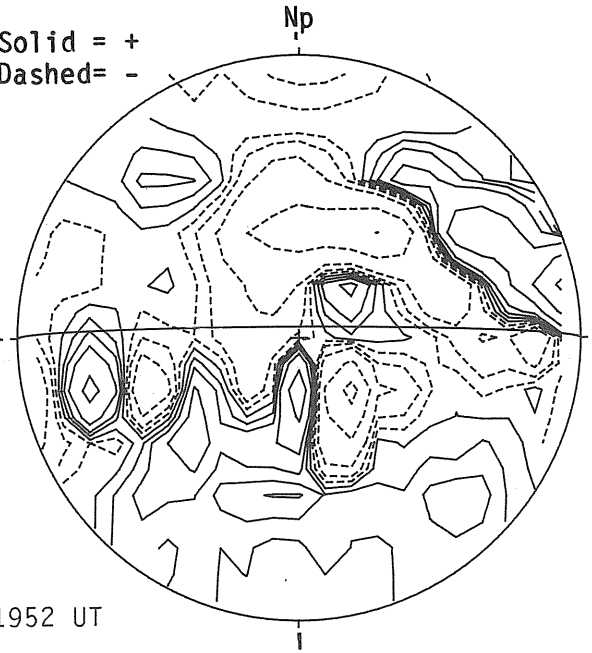
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



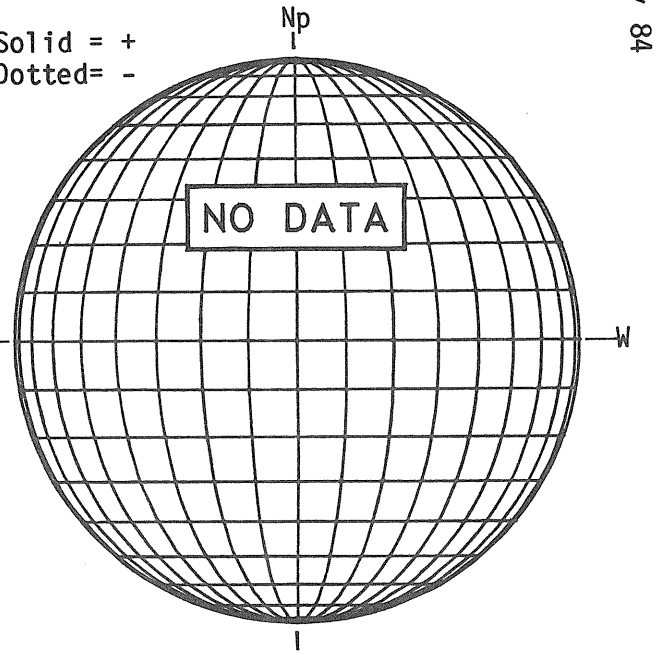
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

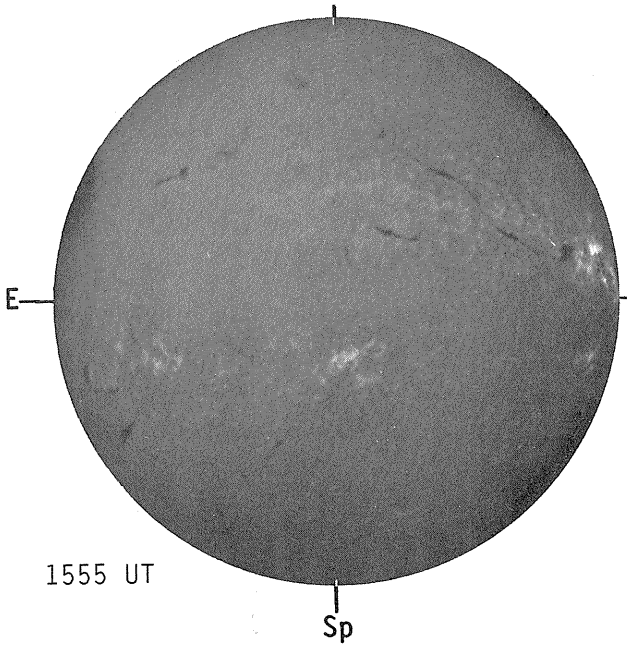


MT. WILSON MAGNETOGRAM

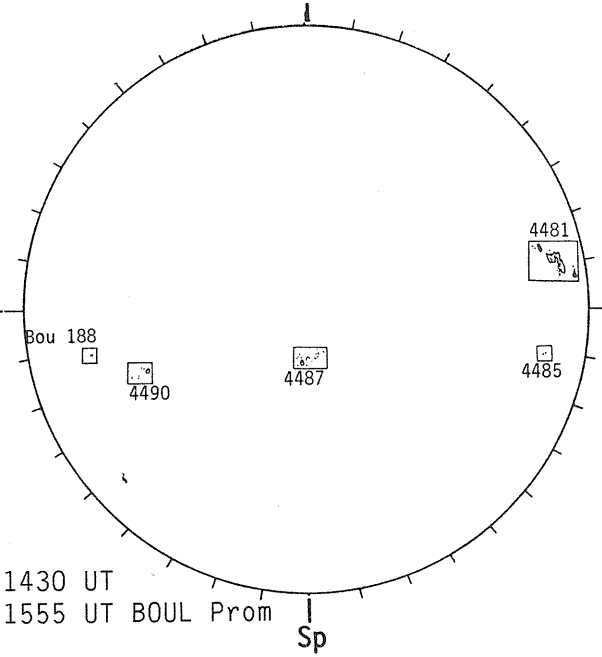
Solid = +
Dotted= -



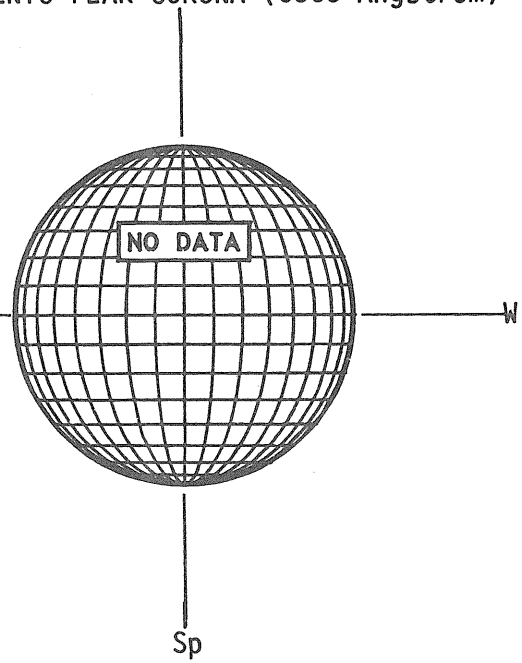
BOULDER H-ALPHA



BOULDER SUNSPOTS



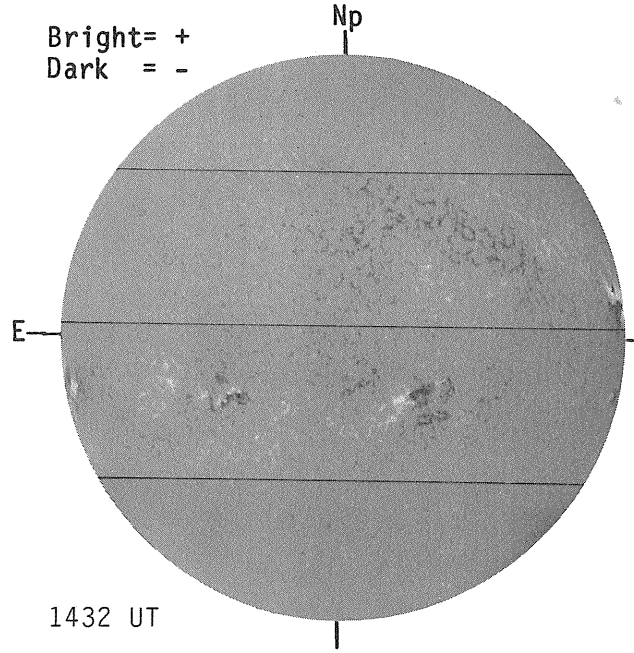
SACRAMENTO PEAK CORONA (5303 Angstrom)



M A Y 18, 1 9 8 4 (P=-20.08, B_0=-2.27, L_0= 82.13)

KITT PEAK MAGNETOGRAM

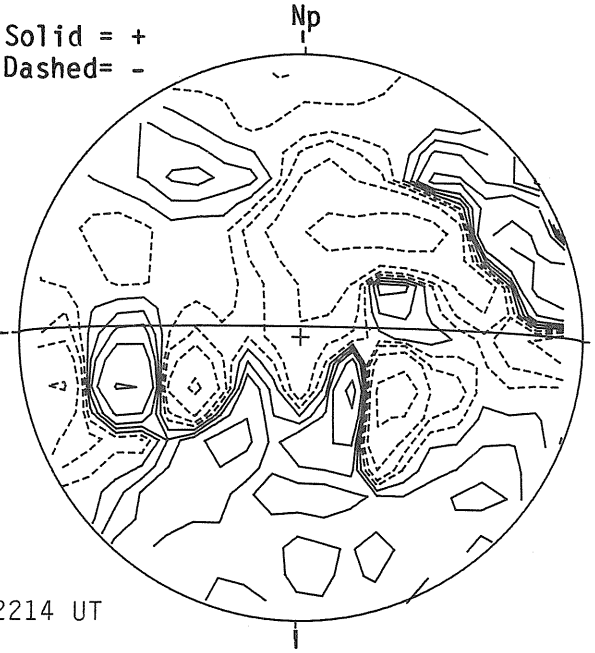
Bright= +
Dark = -



1432 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

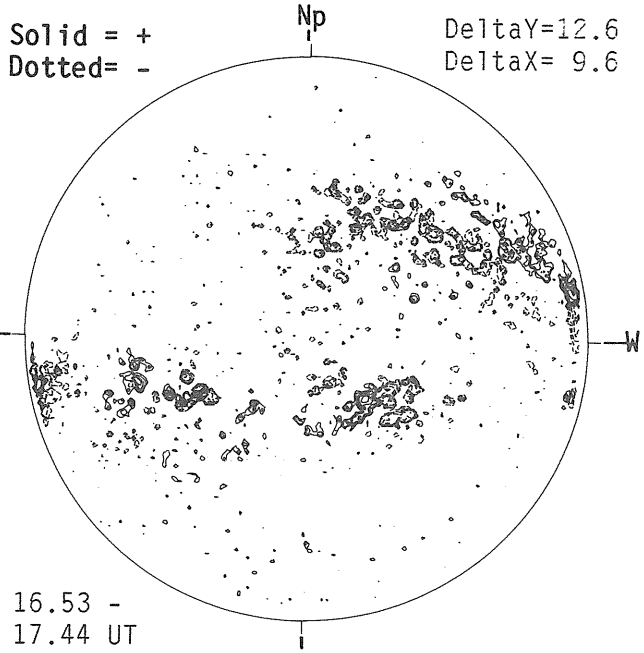


2214 UT

MT. WILSON MAGNETOGRAM

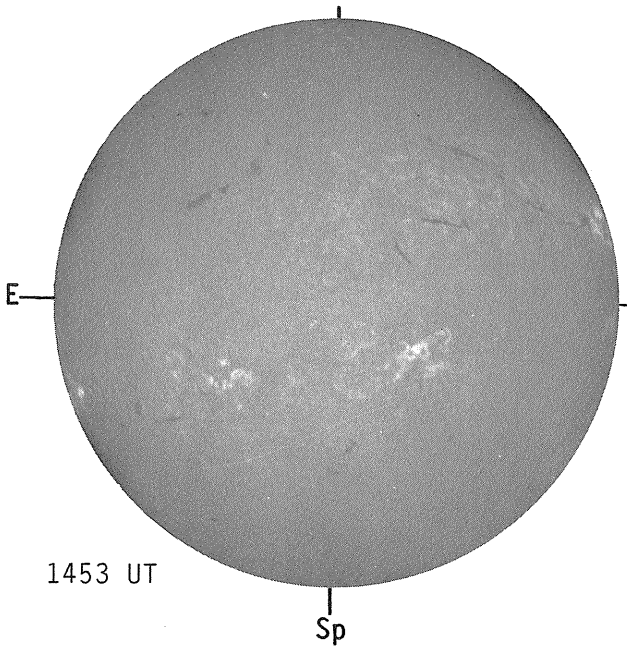
Solid = +
Dotted= -

DeltaY=12.6
DeltaX= 9.6



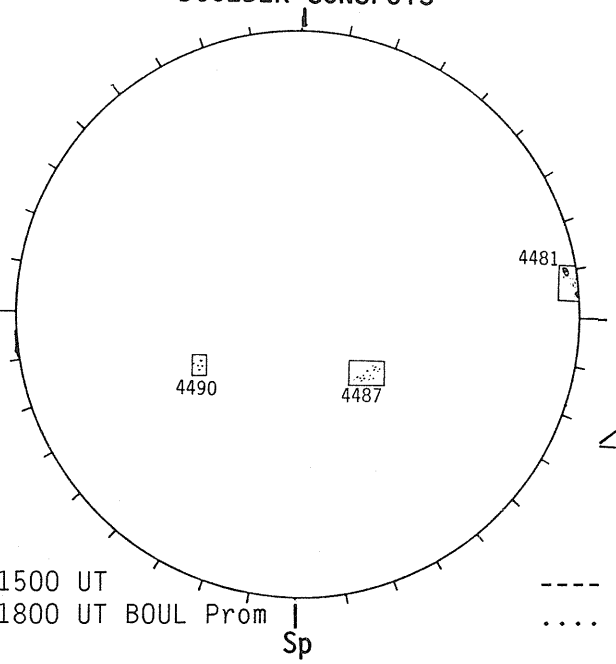
16.53 -
17.44 UT

SACRAMENTO PEAK H-ALPHA



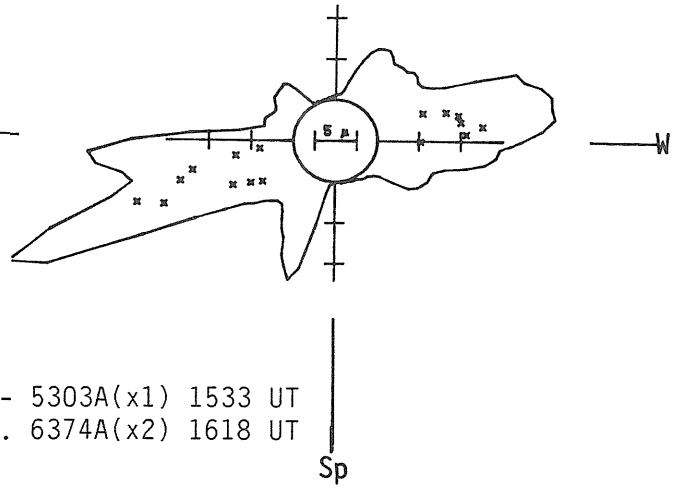
1453 UT

BOULDER SUNSPOTS



1500 UT
1800 UT BOUL Prom

SACRAMENTO PEAK CORONA (5303 Angstrom)

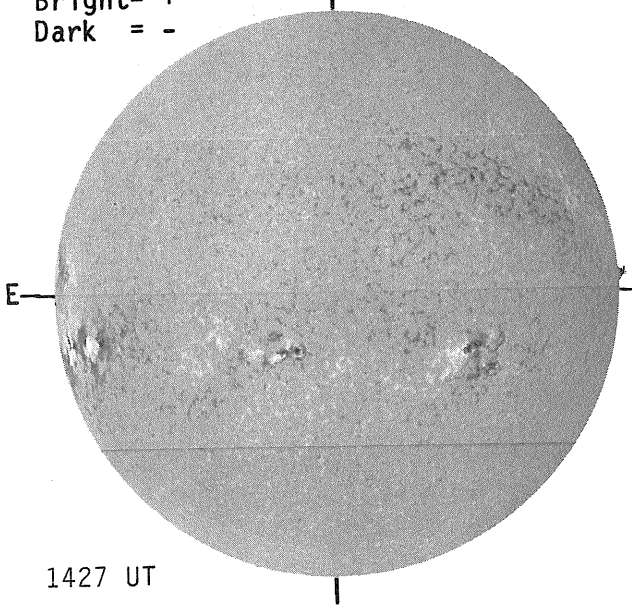


---- 5303A(x1) 1533 UT
.... 6374A(x2) 1618 UT

M A Y 19, 1 9 8 4 (P=-19.78, B_0=-2.15, L_0= 68.90)

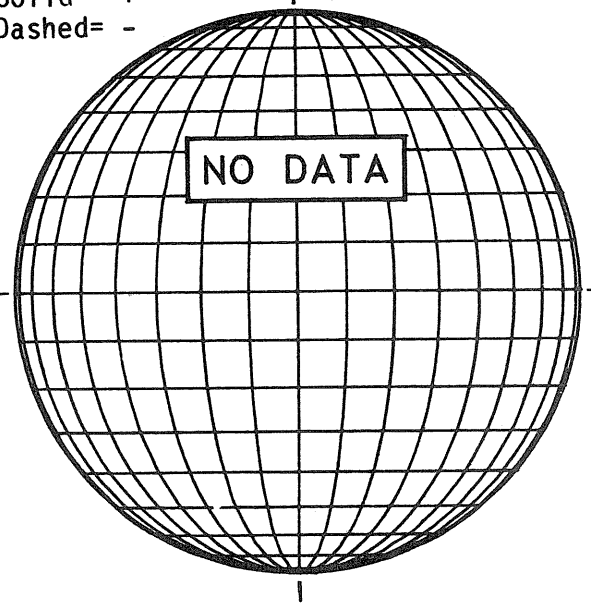
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

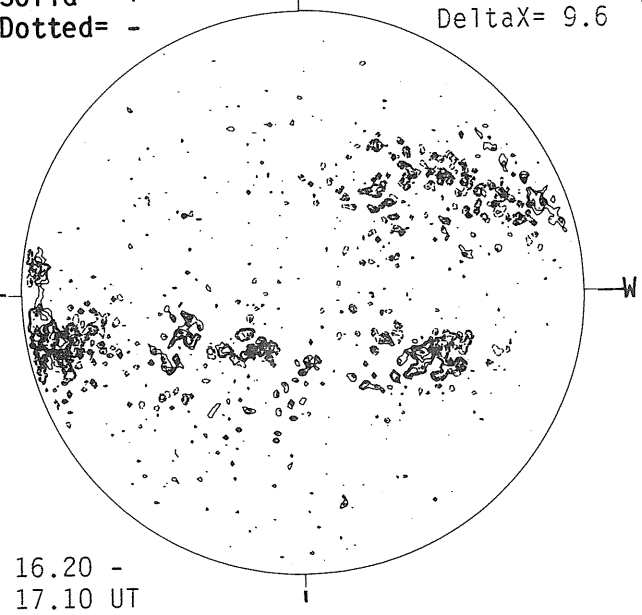
Solid = +
Dashed= -



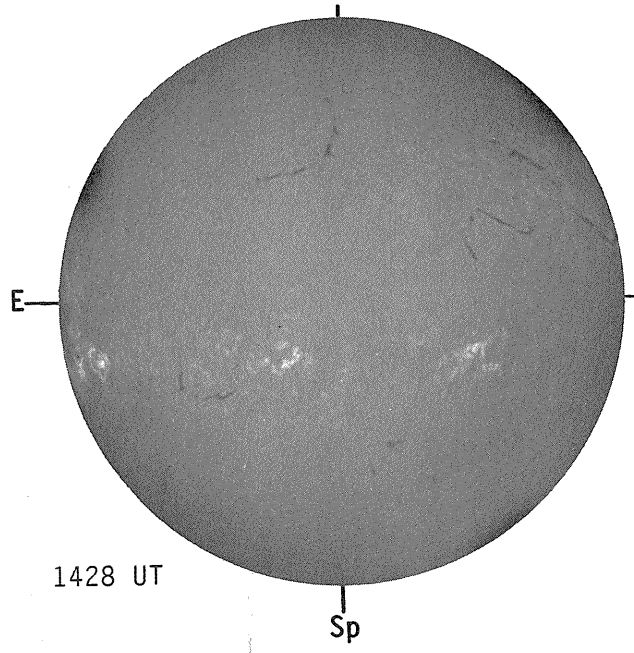
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

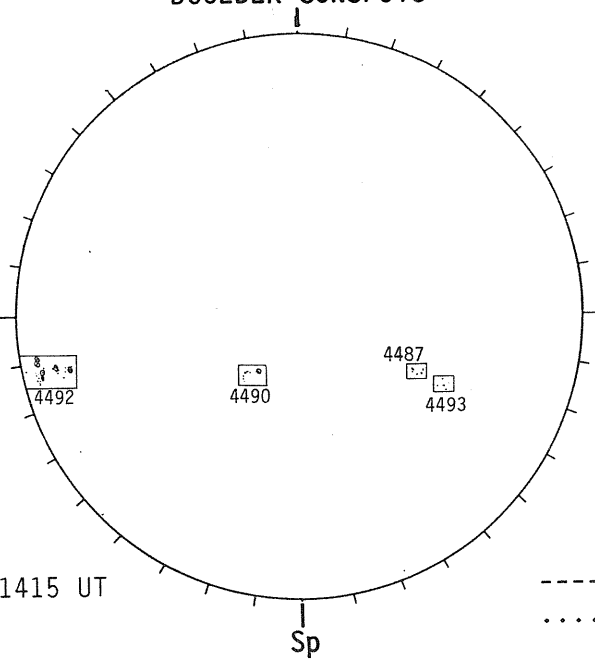
DeltaY=12.7
DeltaX= 9.6



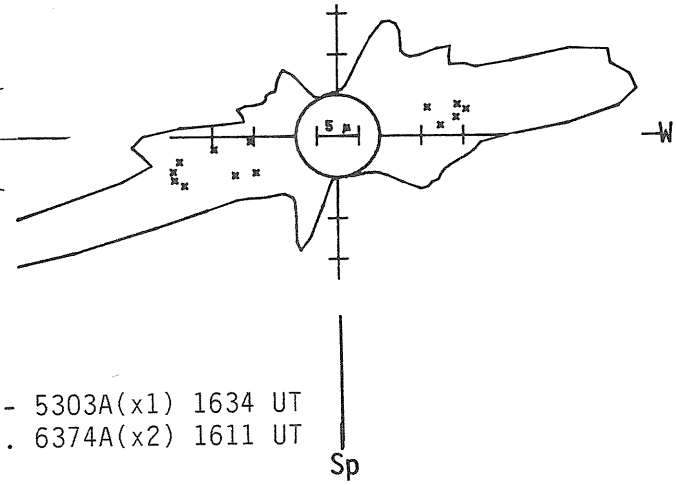
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

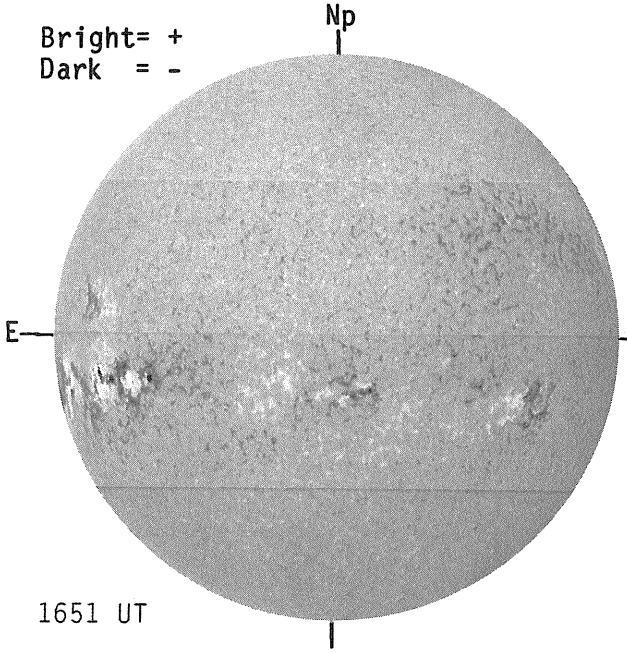


---- 5303A(x1) 1634 UT
.... 6374A(x2) 1611 UT

M A Y 20, 1 9 8 4 (P=-19.48, B_0=-2.04, L_0= 55.67)

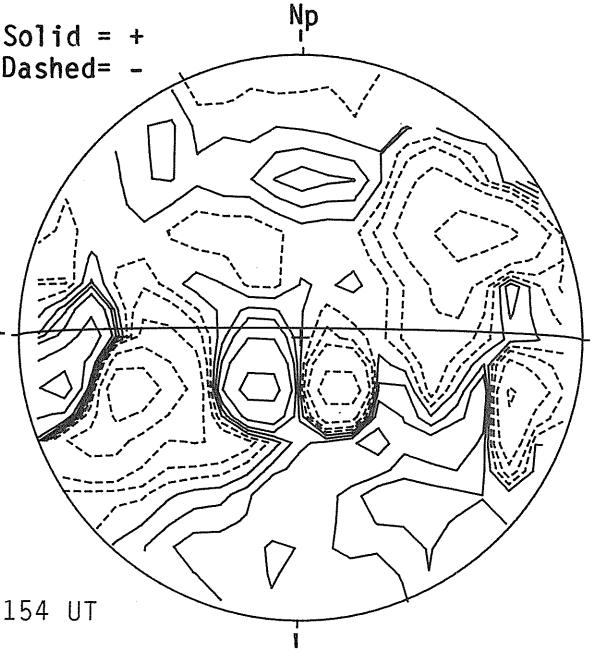
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

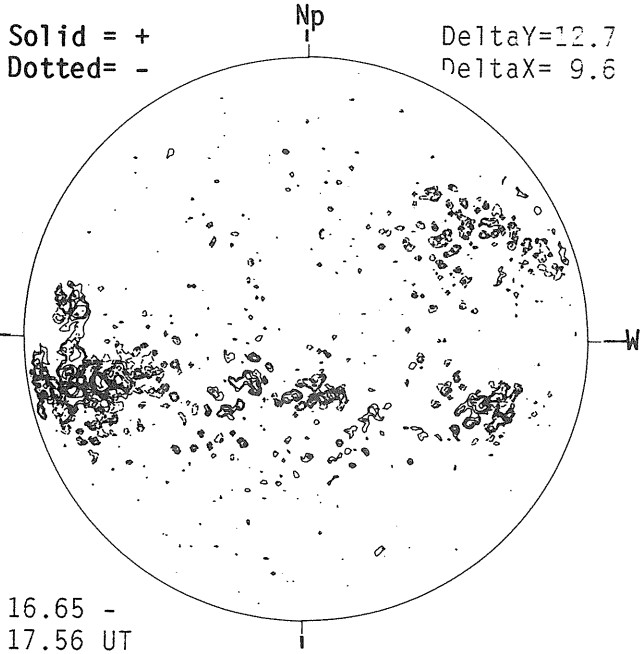
Solid = +
Dashed= -



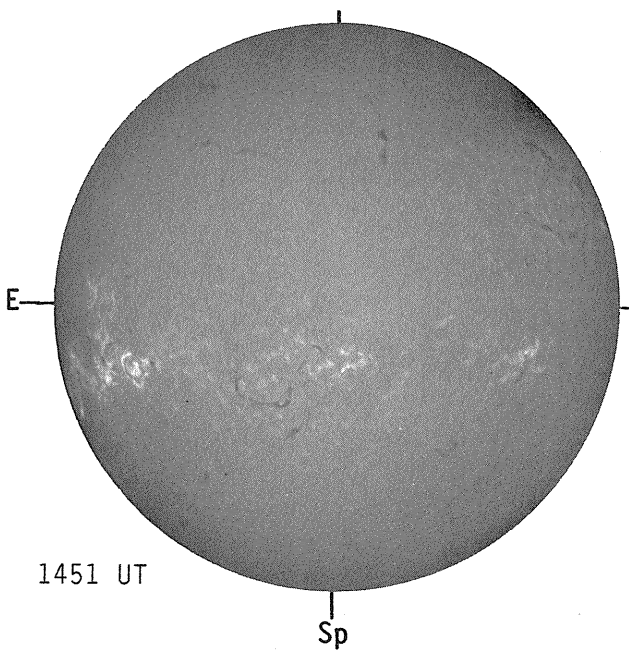
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

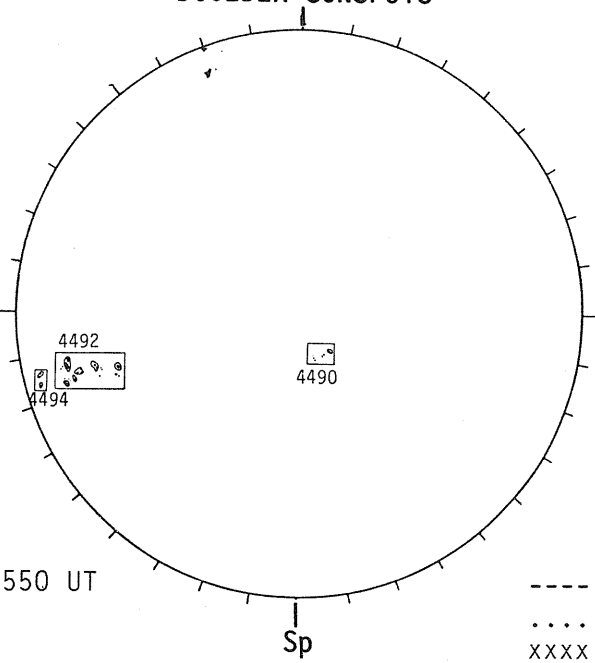
DeltaY=12.7
DeltaX= 9.6



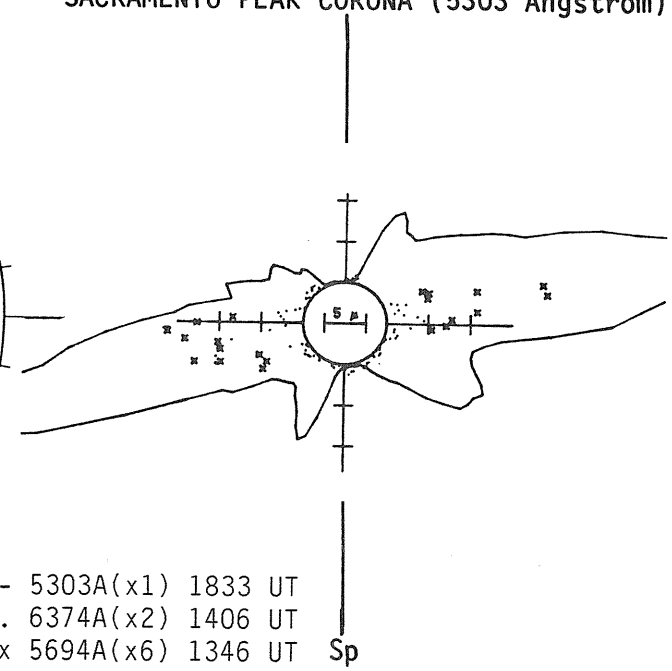
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

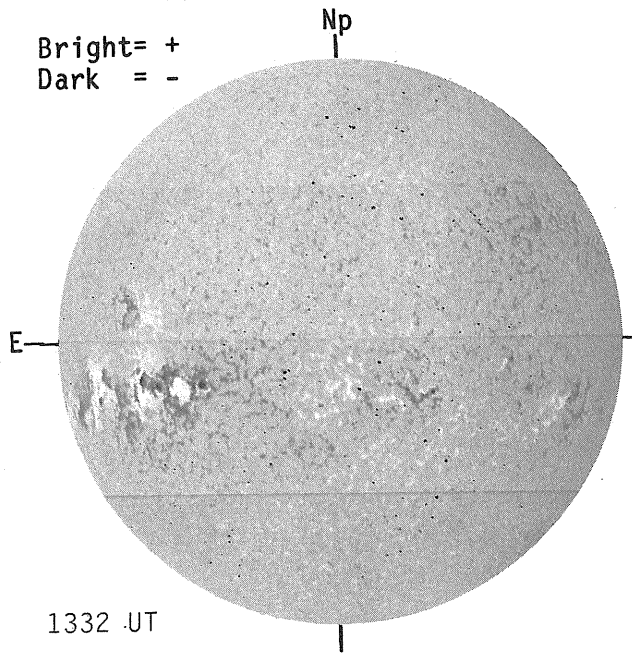


---- 5303A(x1) 1833 UT
.... 6374A(x2) 1406 UT
xxxx 5694A(x6) 1346 UT

M A Y 21, 1 9 8 4 (P=-19.17, B_0=-1.92, L_0= 42.44)

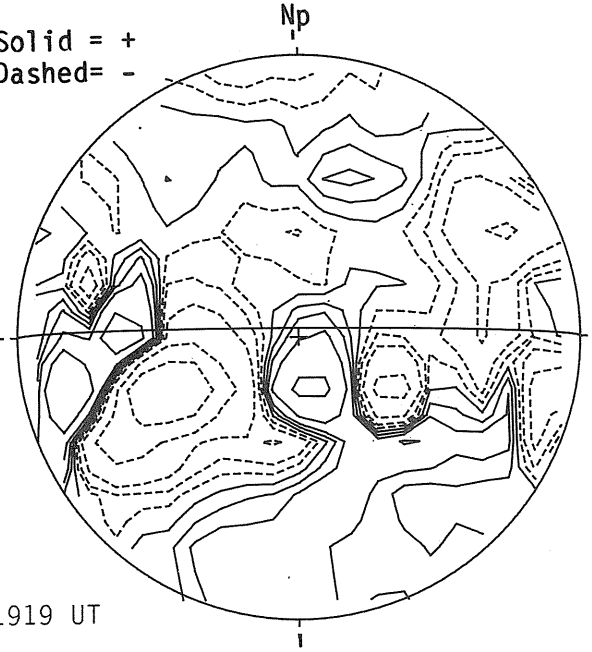
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

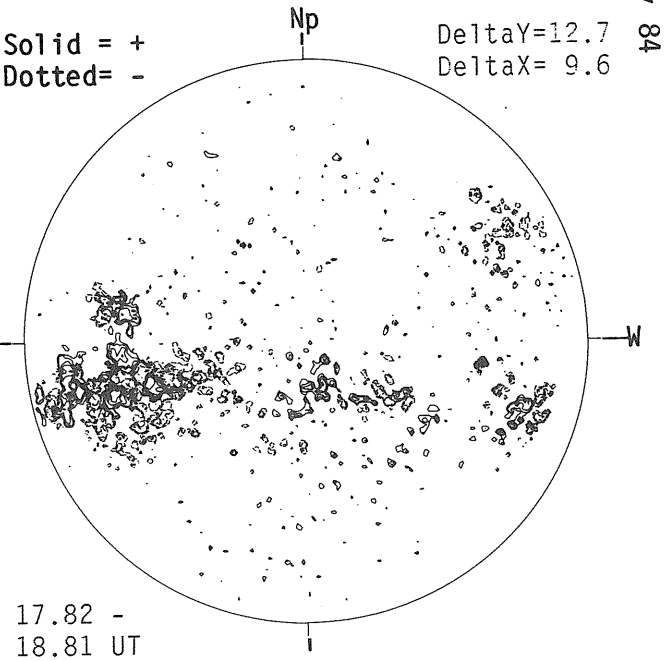
Solid = +
Dashed= -



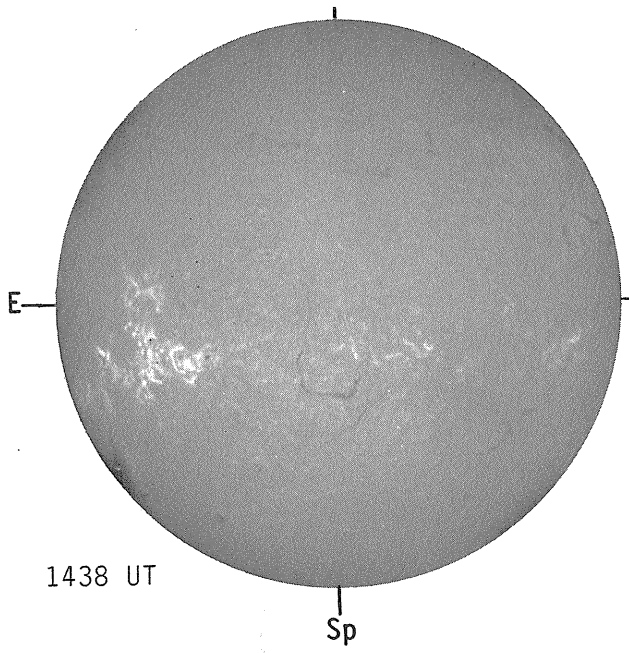
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

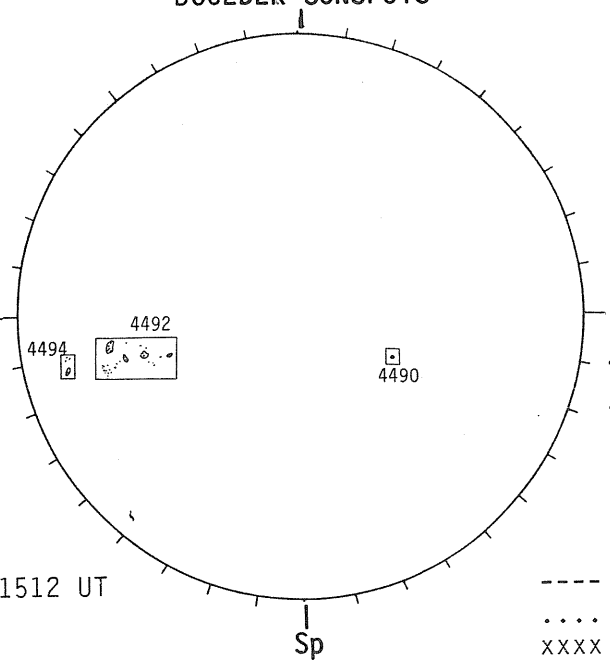
DeltaY=12.7
DeltaX= 9.6



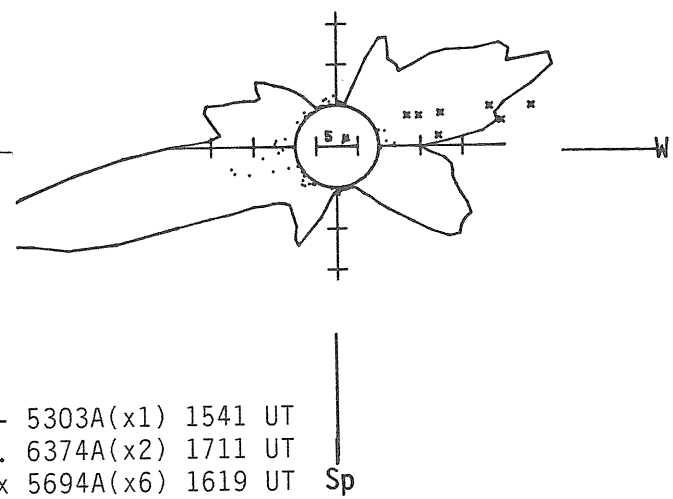
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

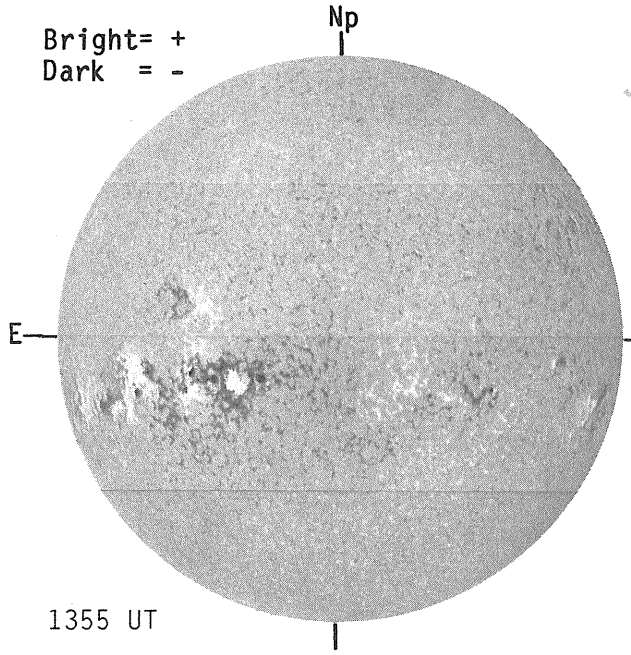


---- 5303A(x1) 1541 UT
.... 6374A(x2) 1711 UT
xxxx 5694A(x6) 1619 UT

M A Y 22, 1 9 8 4 (P=-18.85, B_0=-1.80, L_0= 29.21)

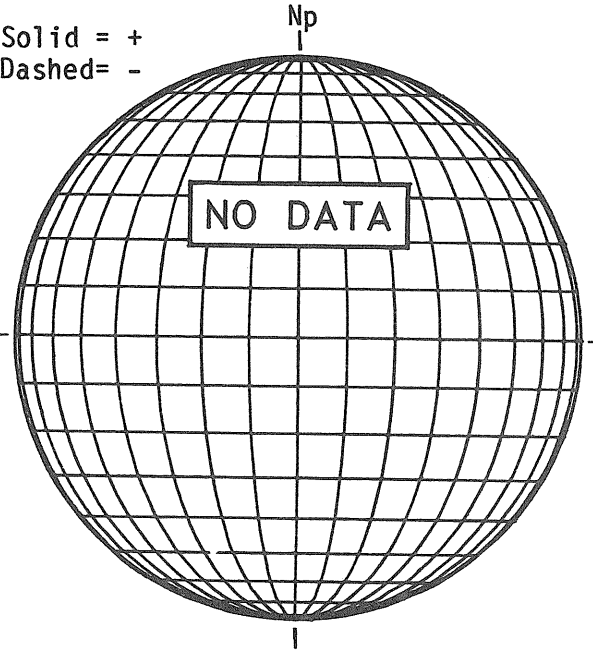
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

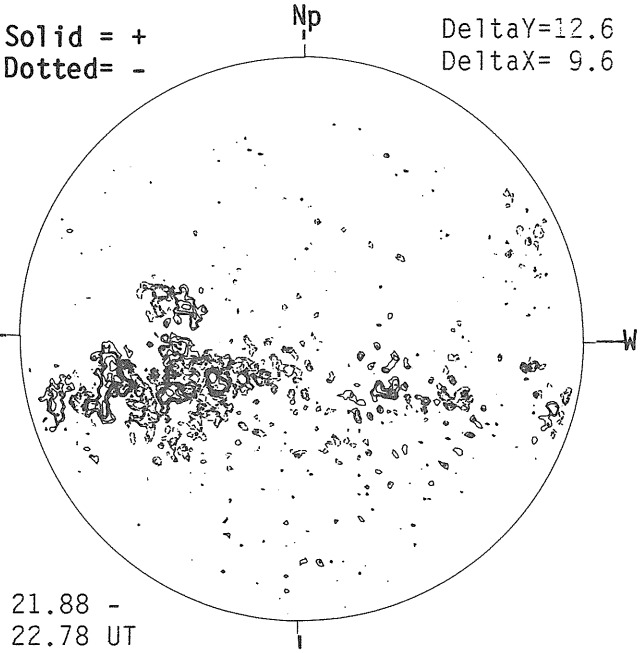
Solid = +
Dashed= -



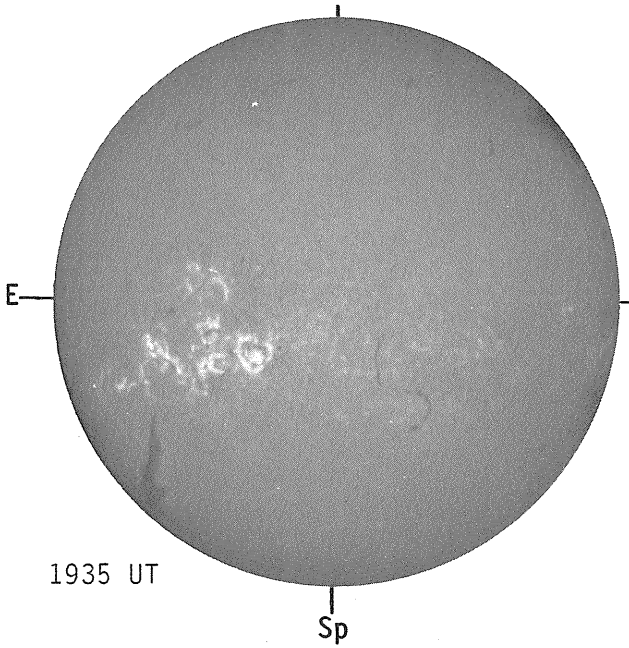
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

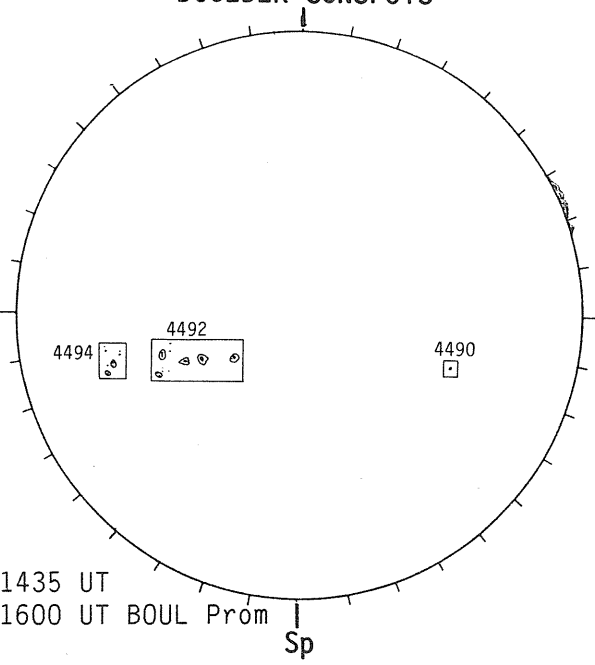
DeltaY=12.6
DeltaX= 9.6



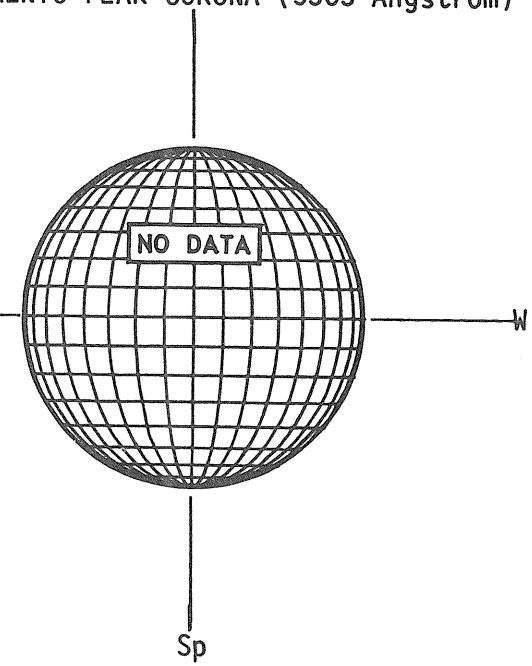
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



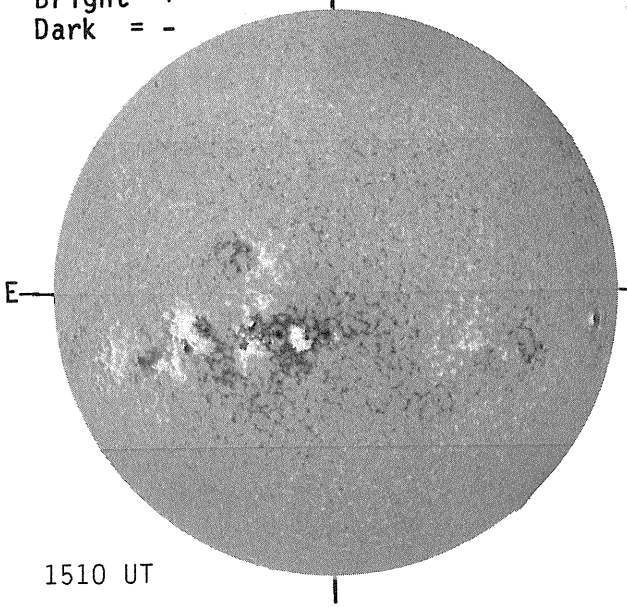
SACRAMENTO PEAK CORONA (5303 Angstrom)



M A Y 23, 1 9 8 4 (P=-18.53, B_0=-1.69, L_0= 15.98)

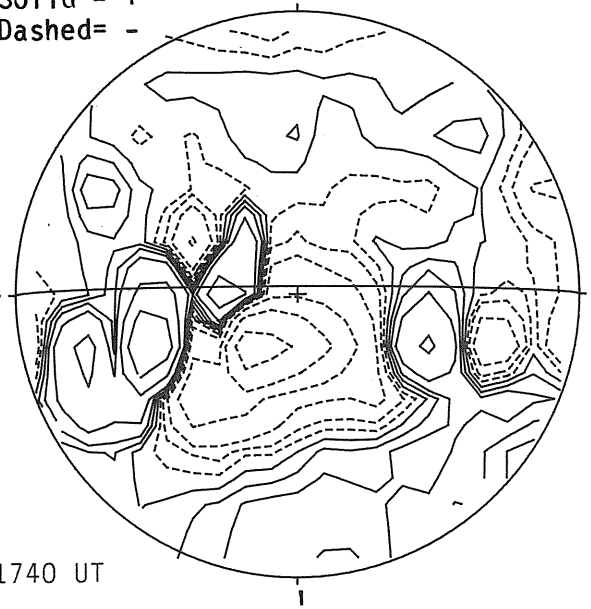
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

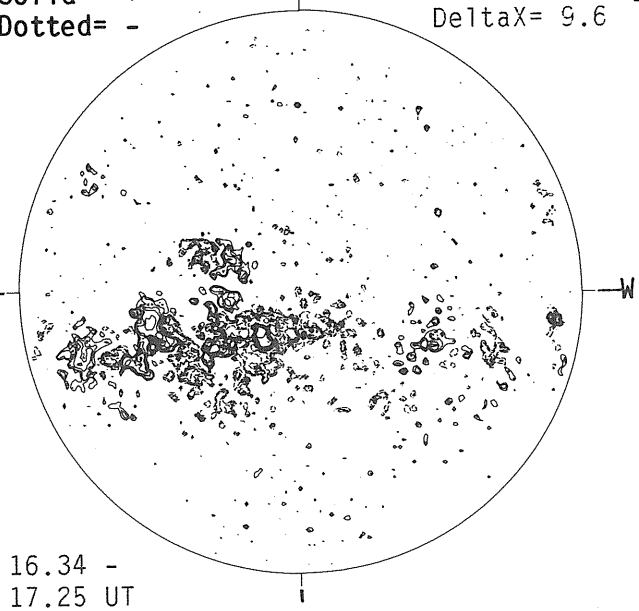
Solid = +
Dashed= -



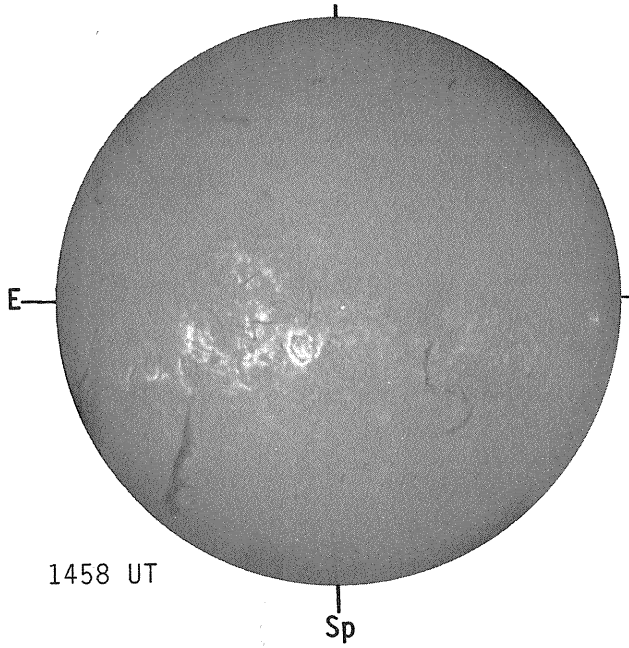
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

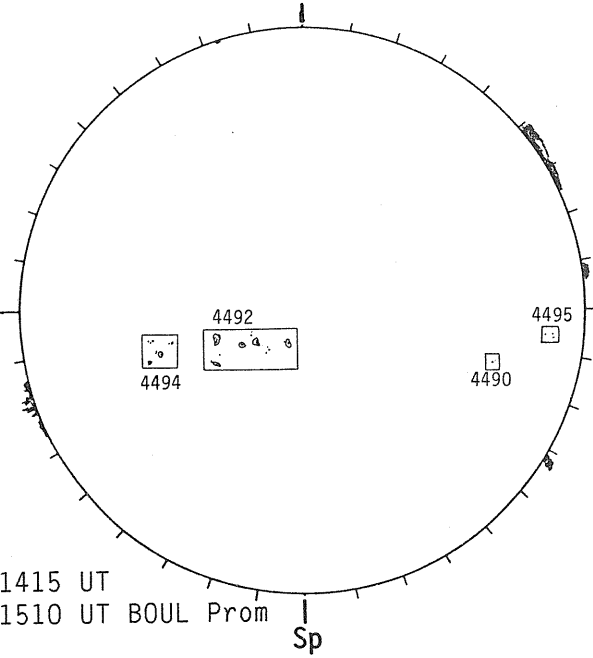
DeltaY=12.7
DeltaX= 9.6



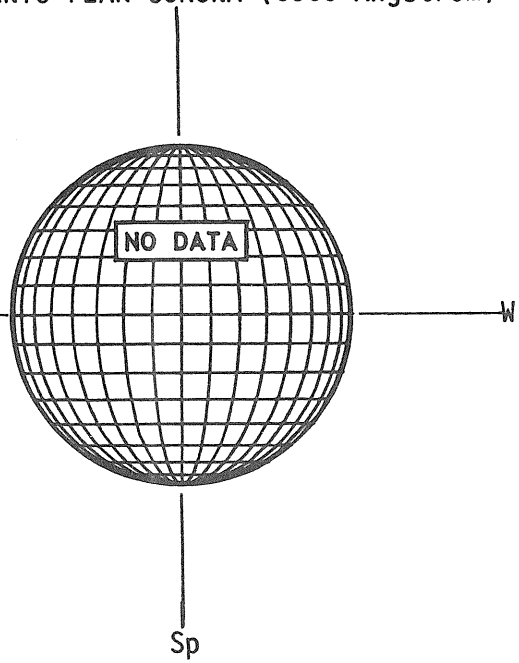
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



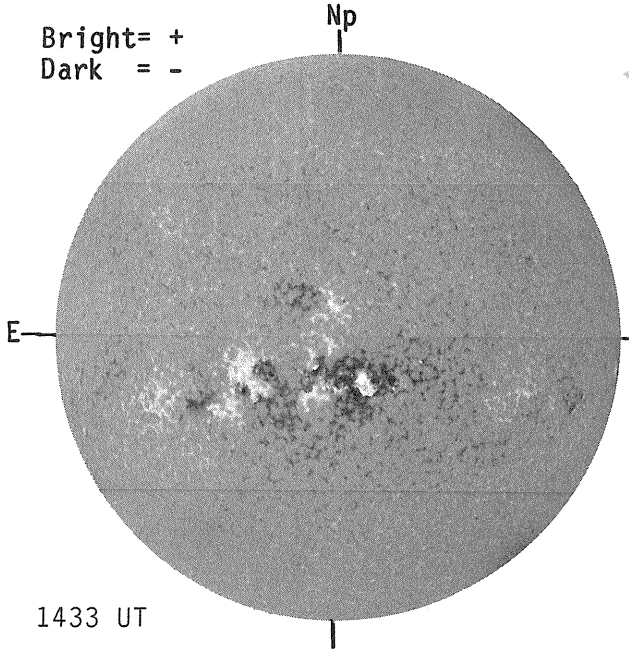
SACRAMENTO PEAK CORONA (5303 Angstrom)



M A Y 24, 1 9 8 4 (P=-18.20, B_0=-1.57, L_0= 2.75)

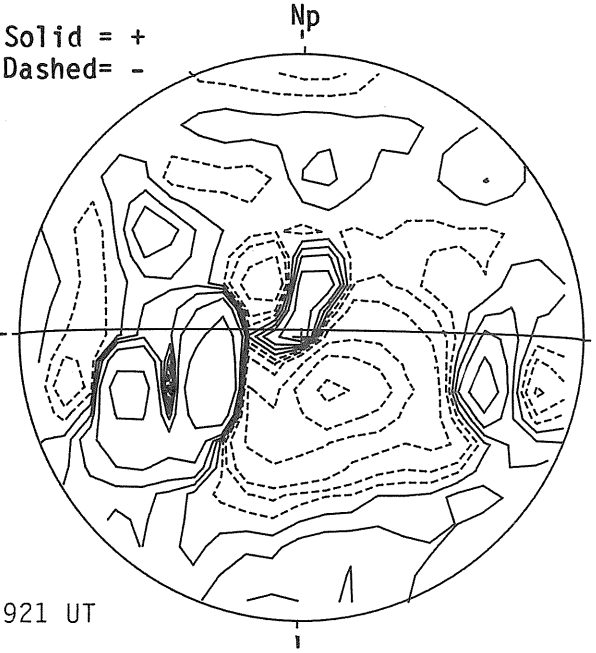
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



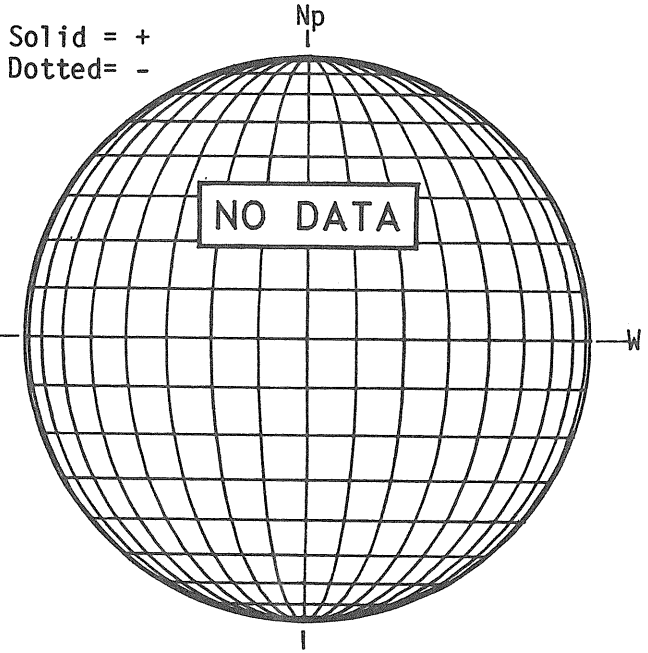
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

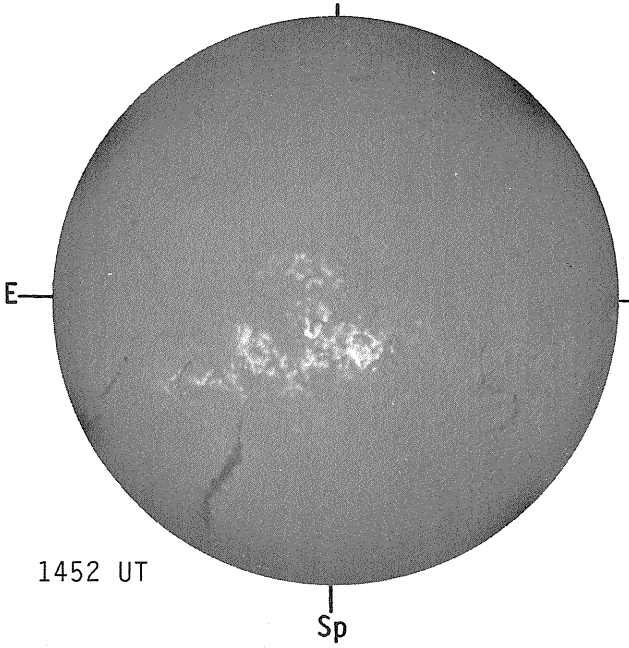


MT. WILSON MAGNETOGRAM

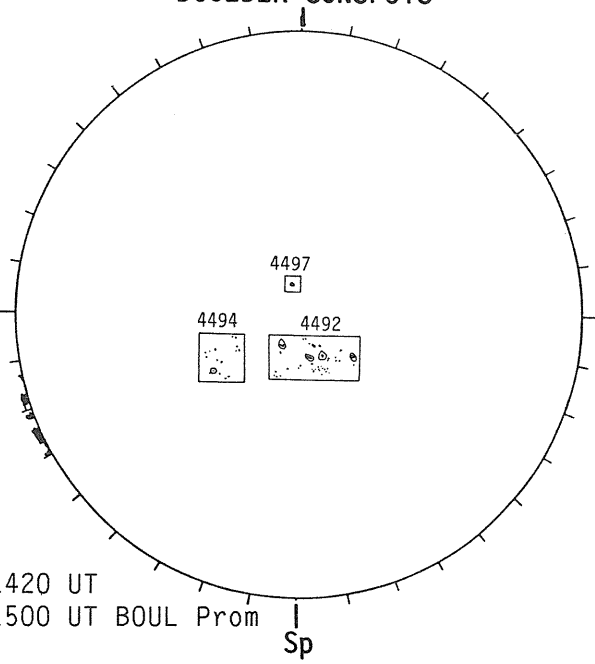
Solid = +
Dotted= -



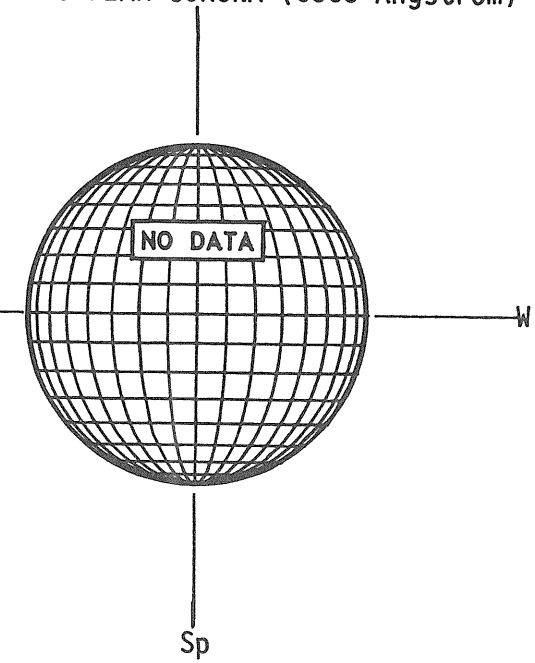
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS

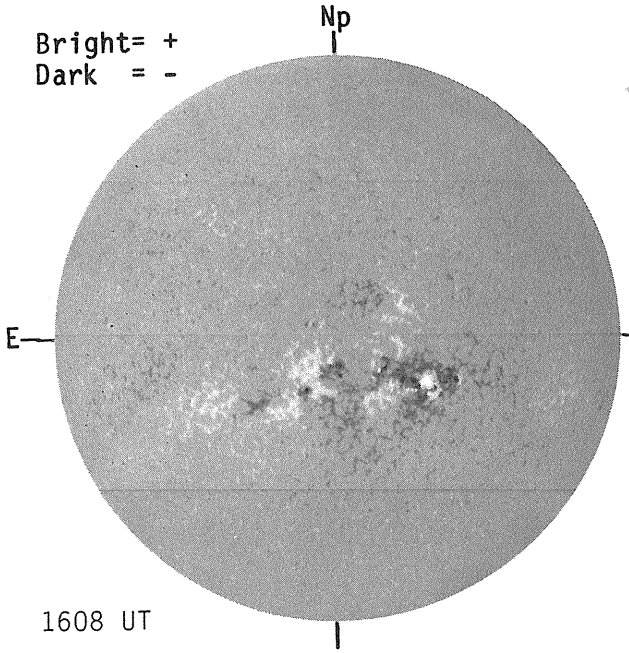


SACRAMENTO PEAK CORONA (5303 Angstrom)

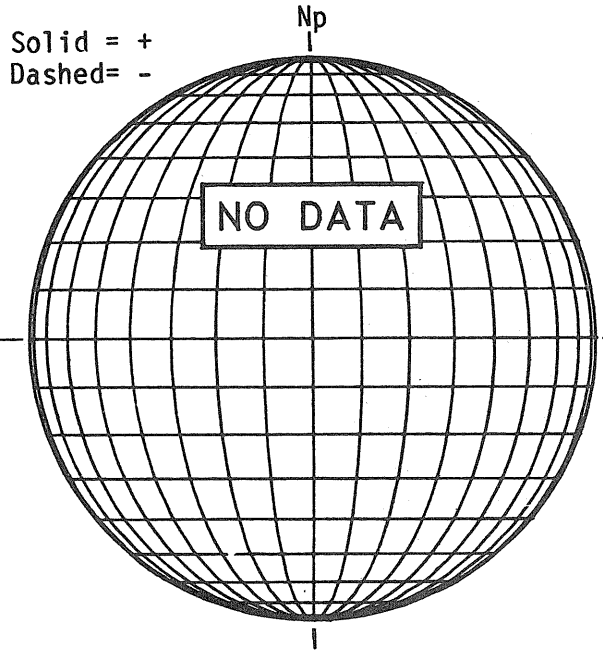


M A Y 25, 1 9 8 4 (P=-17.86, B_0=-1.45, L_0= 349.52)

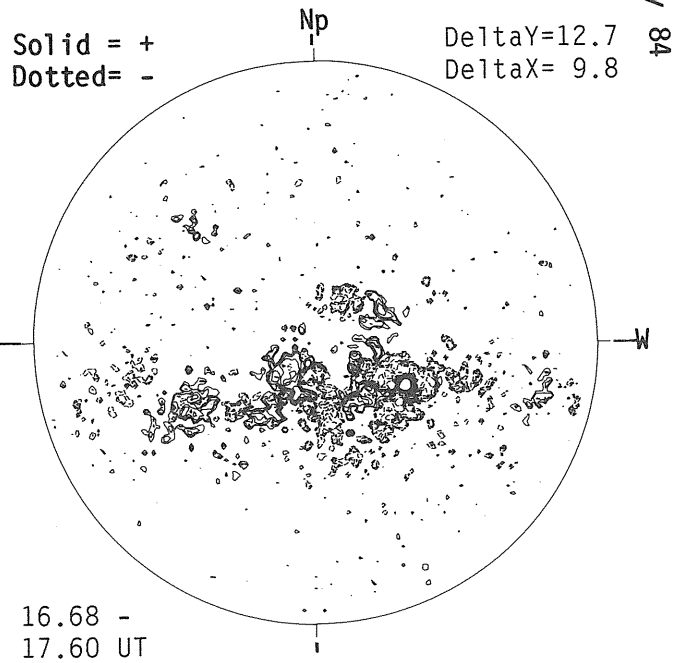
KITT PEAK MAGNETOGRAM



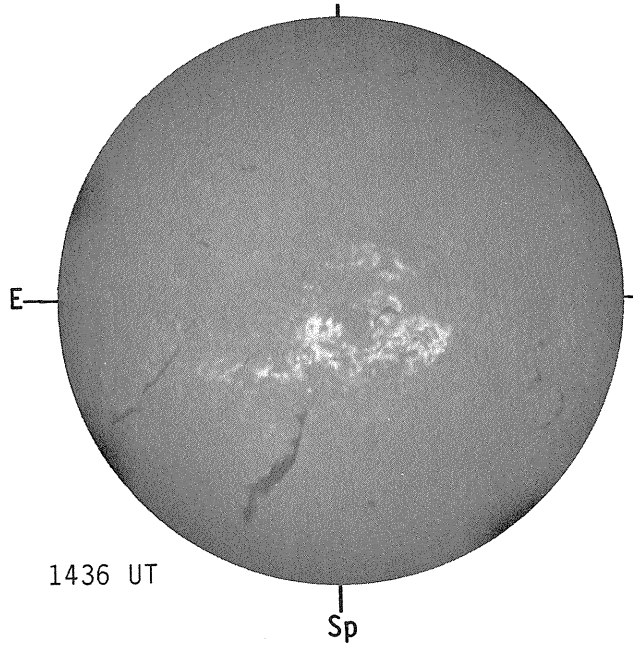
STANFORD MAGNETOGRAM



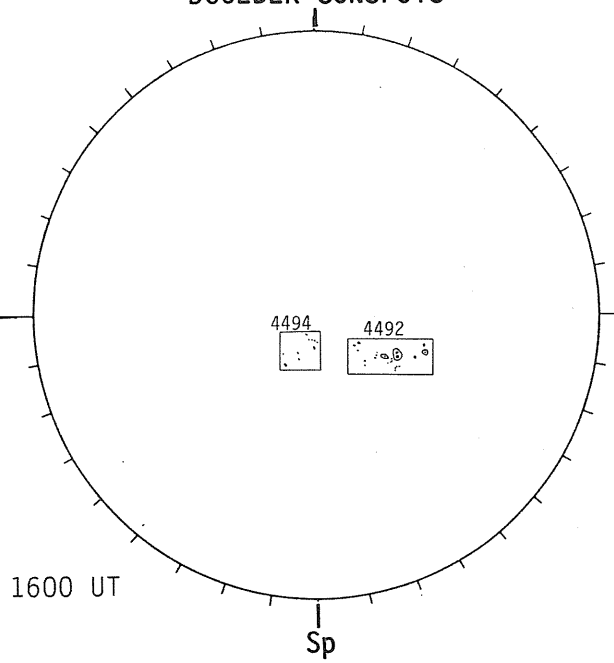
MT. WILSON MAGNETOGRAM



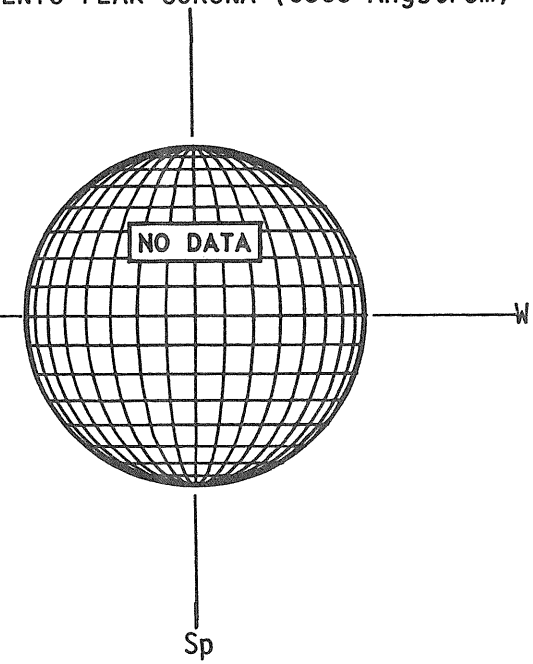
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



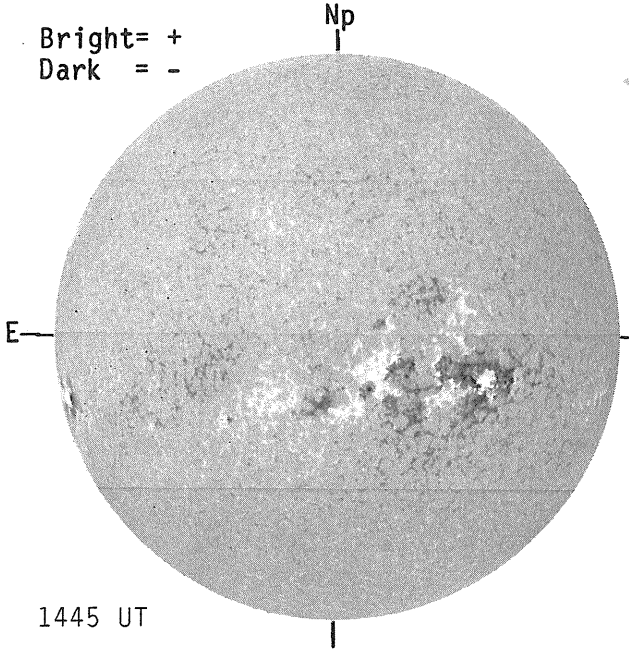
SACRAMENTO PEAK CORONA (5303 Angstrom)



M A Y 26, 1 9 8 4 (P=-17.52, B_0=-1.33, L_0= 336.29)

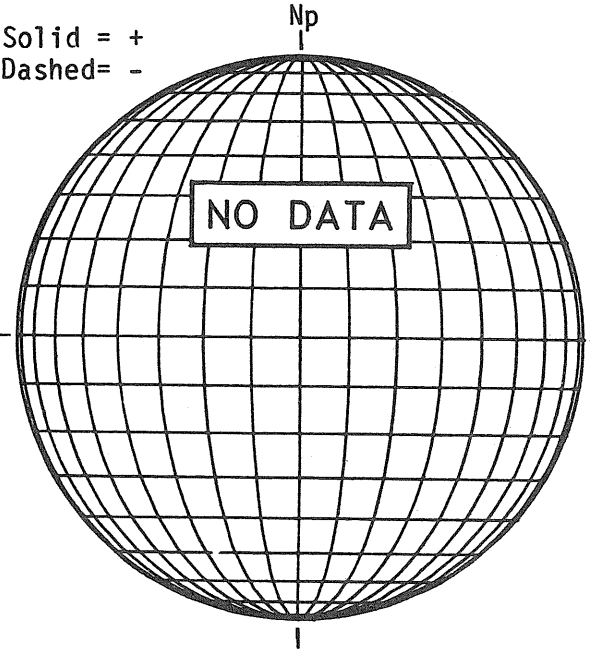
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

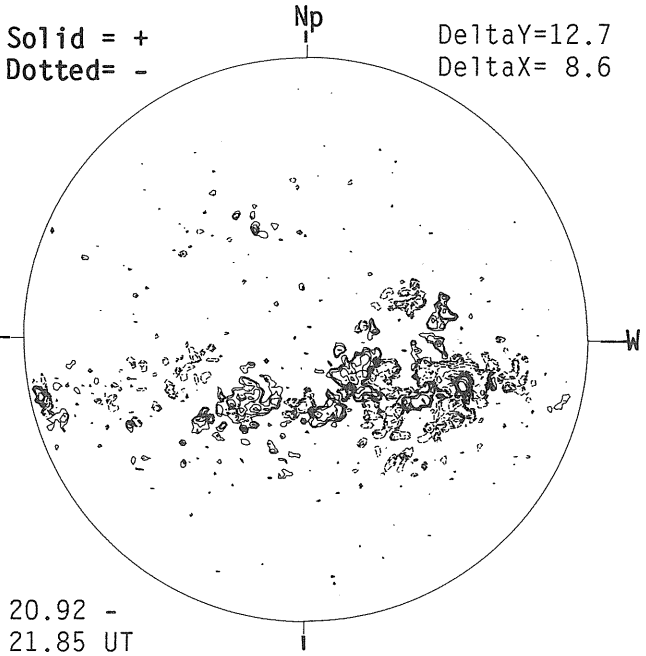
Solid = +
Dashed= -



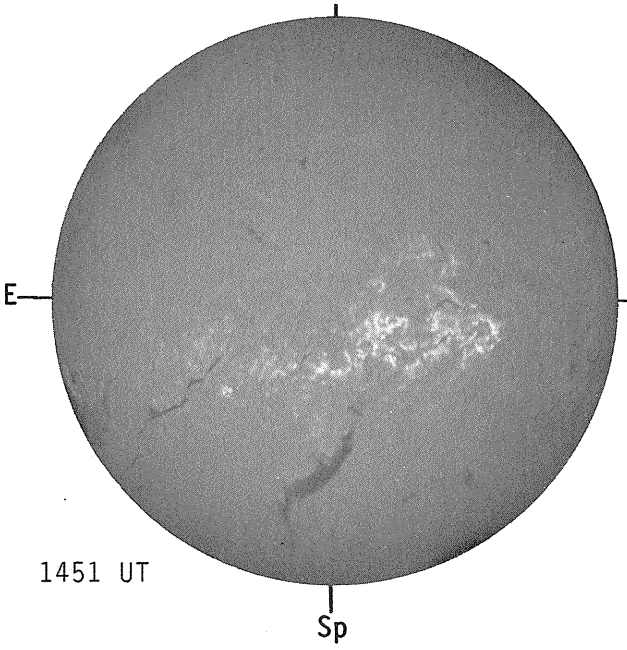
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

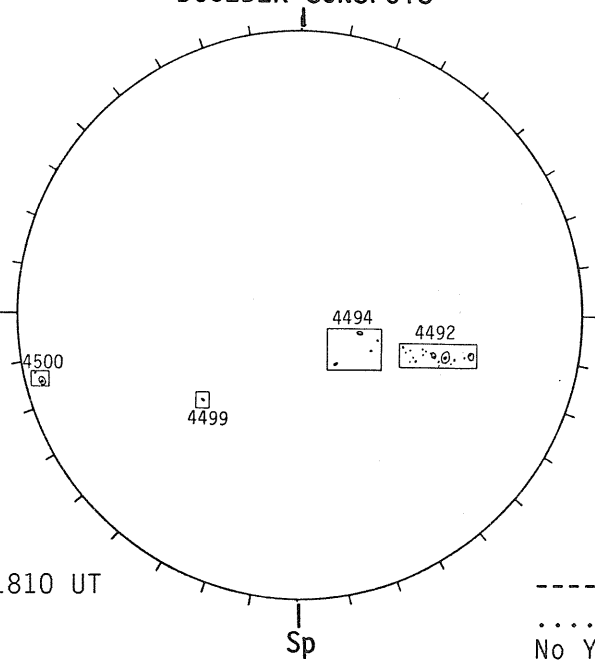
DeltaY=12.7
DeltaX= 8.6



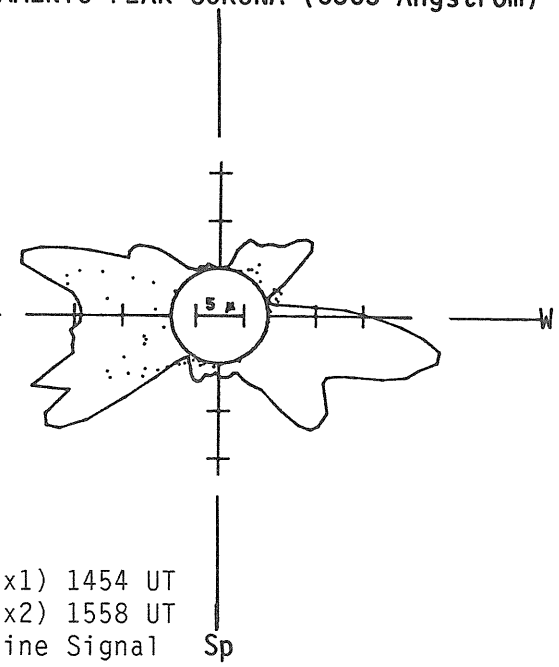
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

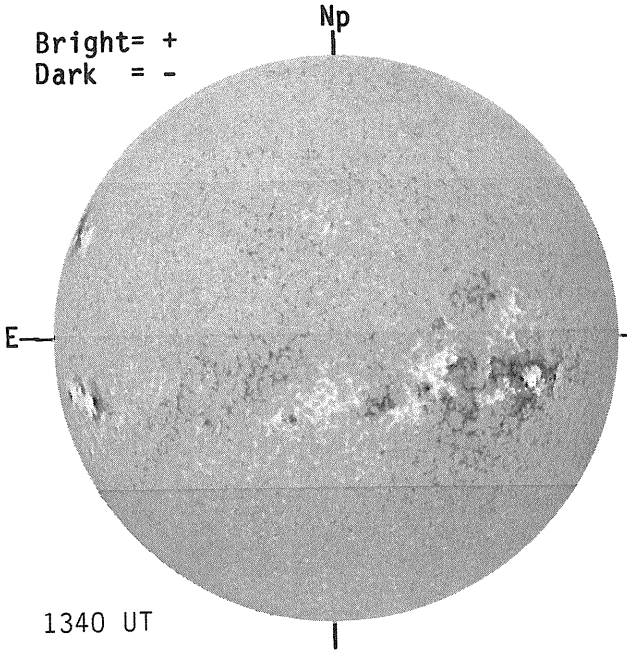


---- 5303A(x1) 1454 UT
.... 6374A(x2) 1558 UT
No Yellow-Line Signal

M A Y 27, 1 9 8 4 (P=-17.18, B_0=-1.21, L_0= 323.06)

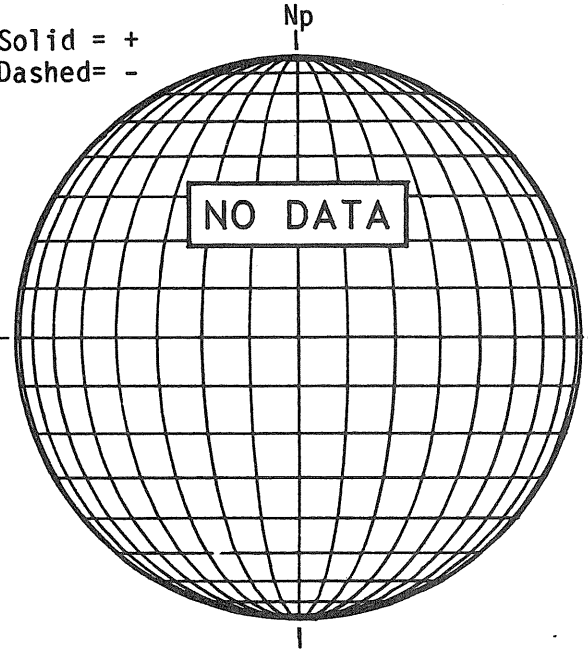
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

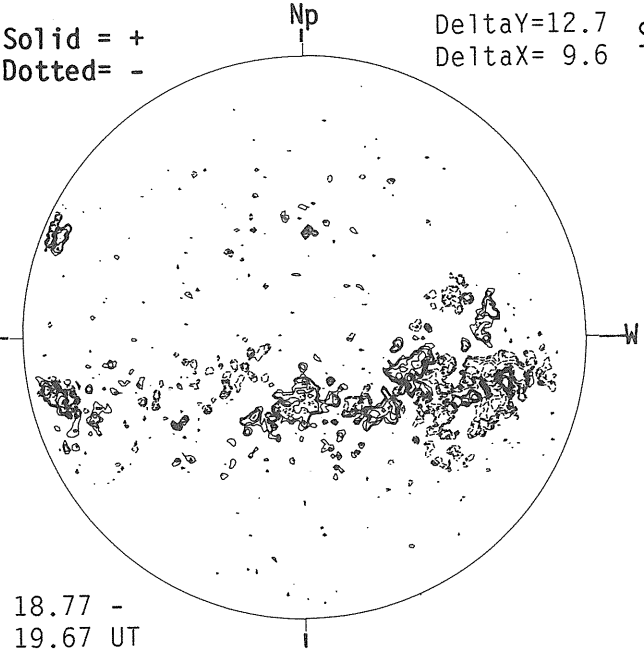
Solid = +
Dashed= -



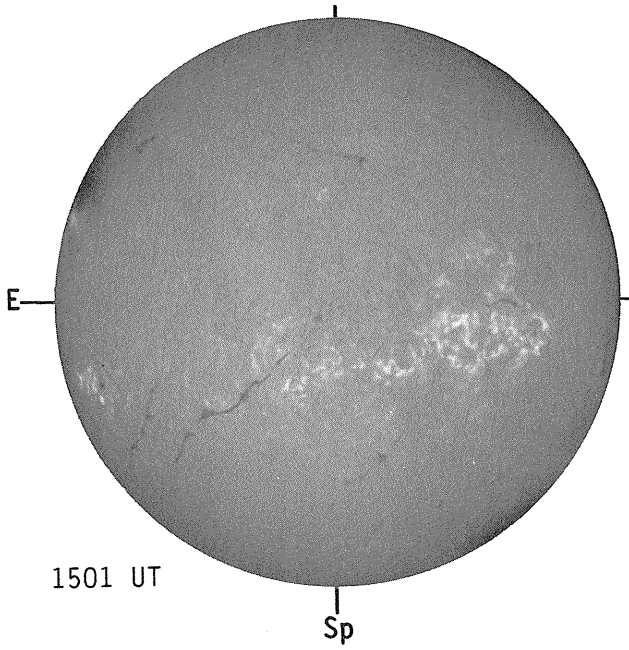
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

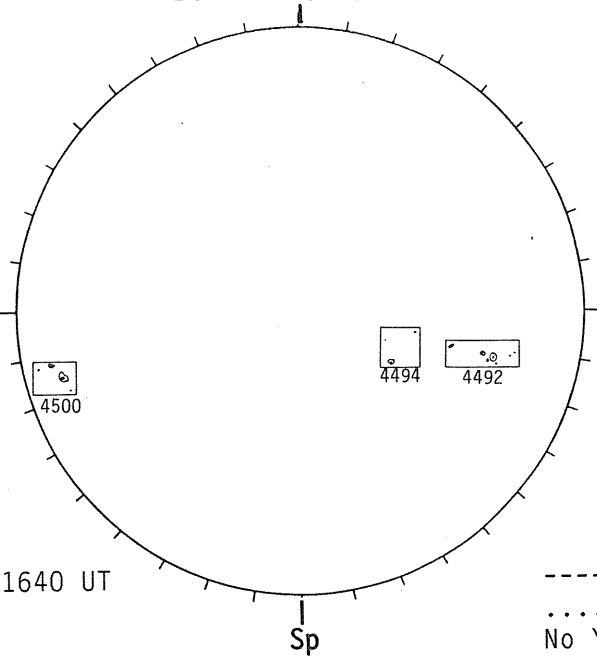
DeltaY=12.7
DeltaX= 9.6



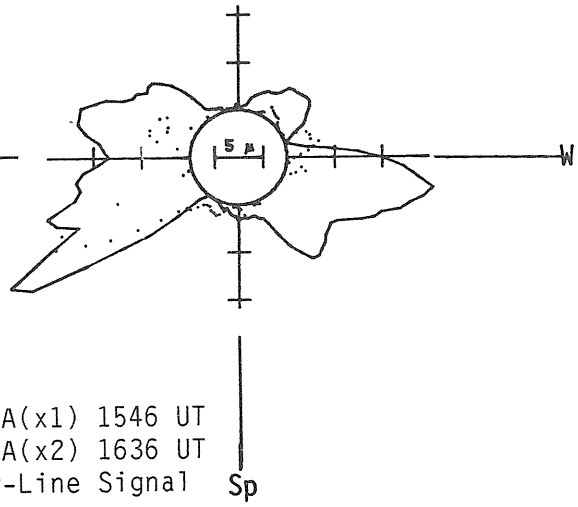
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

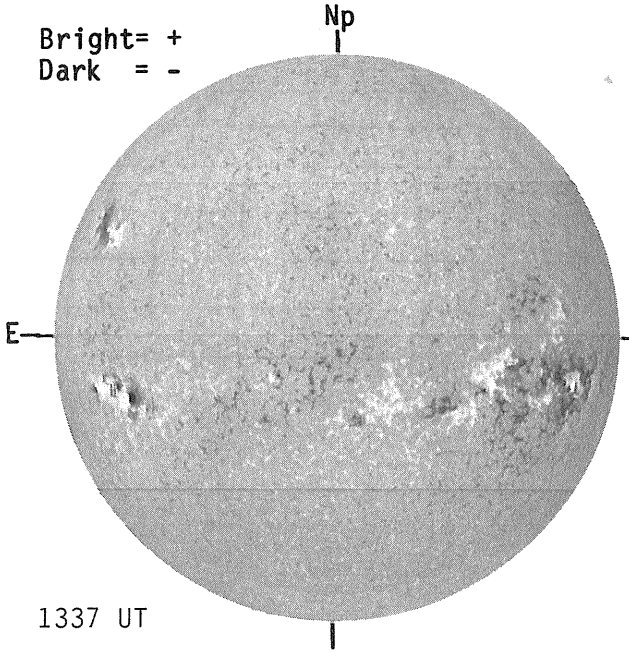


---- 5303A(x1) 1546 UT
.... 6374A(x2) 1636 UT
No Yellow-Line Signal

M A Y 28, 1 9 8 4 (P=-16.83, B_0=-1.09, L_0= 309.83)

KITT PEAK MAGNETOGRAM

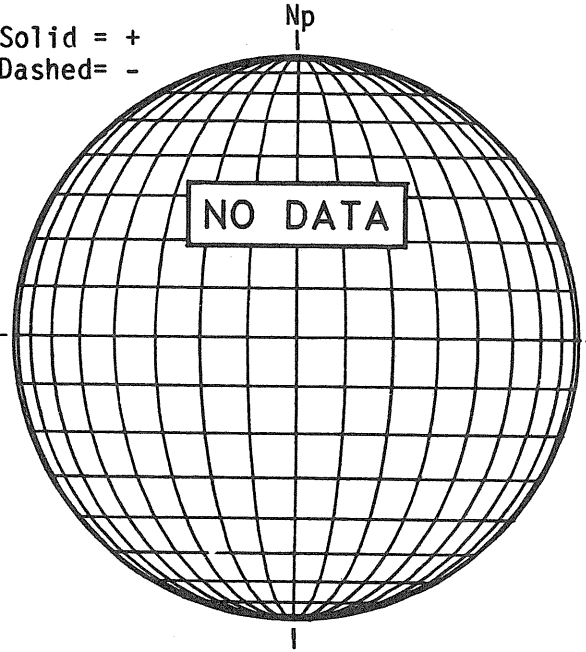
Bright= +
Dark = -



1337 UT

STANFORD MAGNETOGRAM

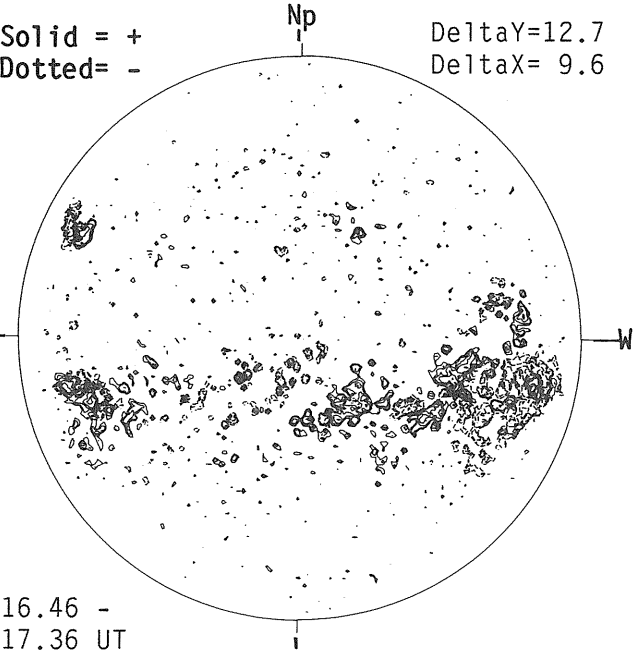
Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

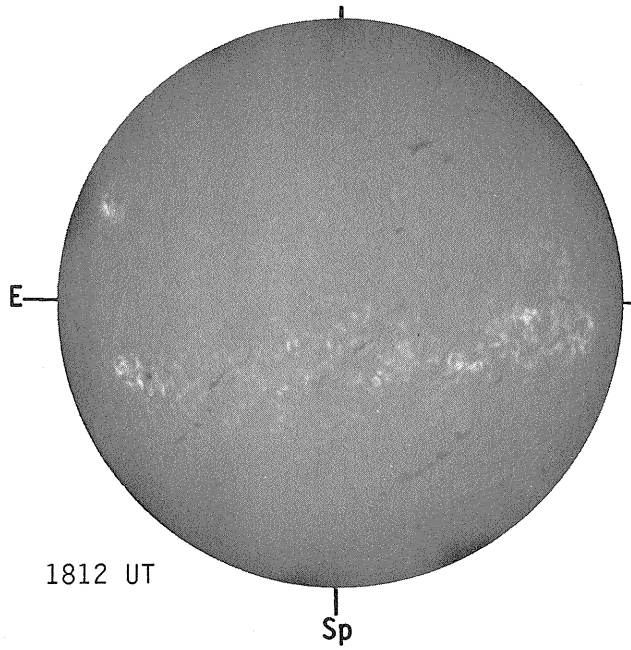
Solid = +
Dotted= -

DeltaY=12.7
DeltaX= 9.6



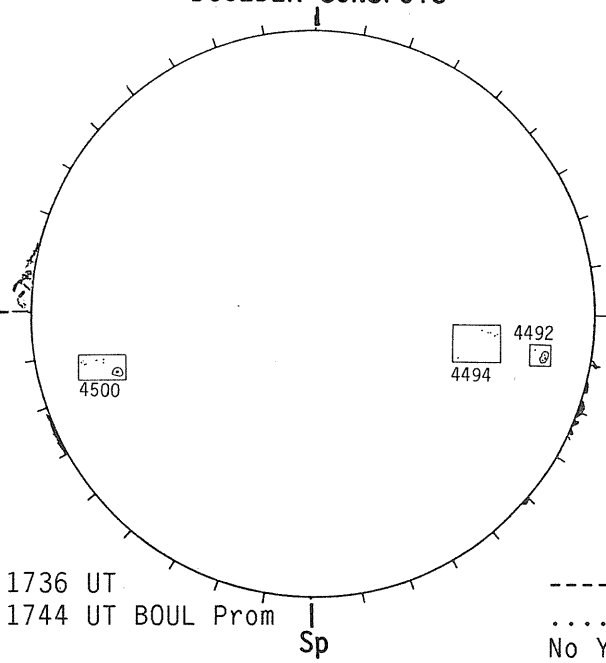
16.46 -
17.36 UT

SACRAMENTO PEAK H-ALPHA



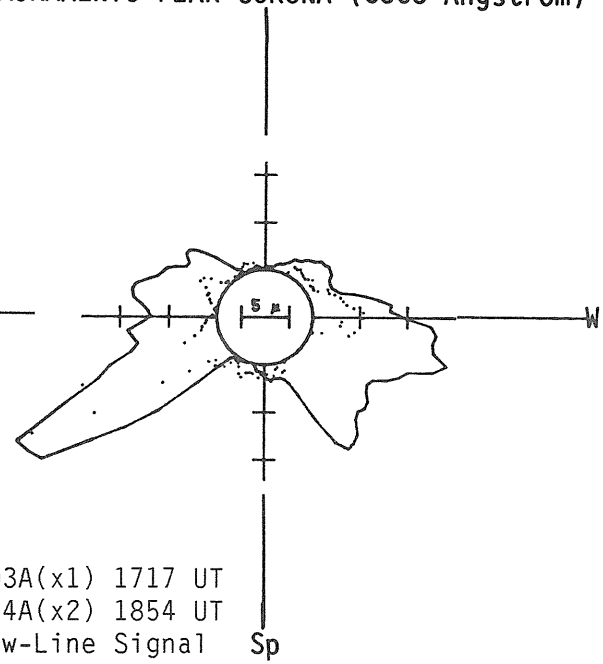
1812 UT

BOULDER SUNSPOTS



1736 UT
1744 UT BOUL Prom

SACRAMENTO PEAK CORONA (5303 Angstrom)

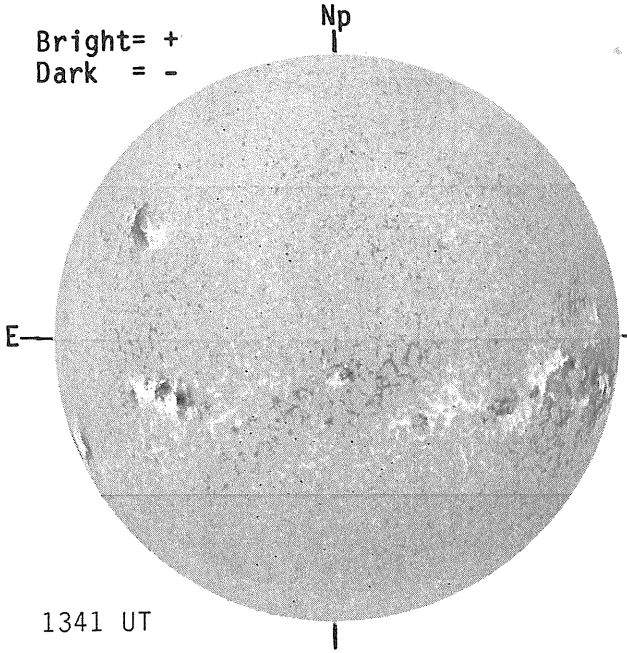


---- 5303A(x1) 1717 UT
.... 6374A(x2) 1854 UT
No Yellow-Line Signal

M A Y 29, 1 9 8 4 (P=-16.47, B_o=-0.97, L_o= 296.59)

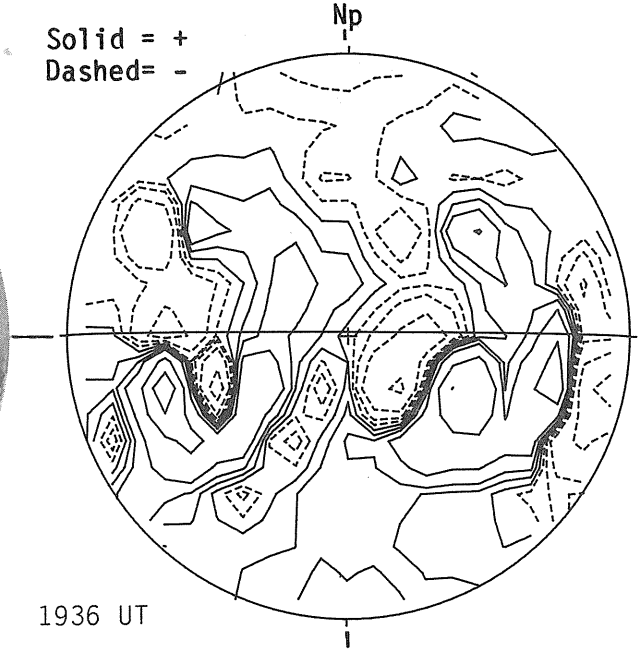
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



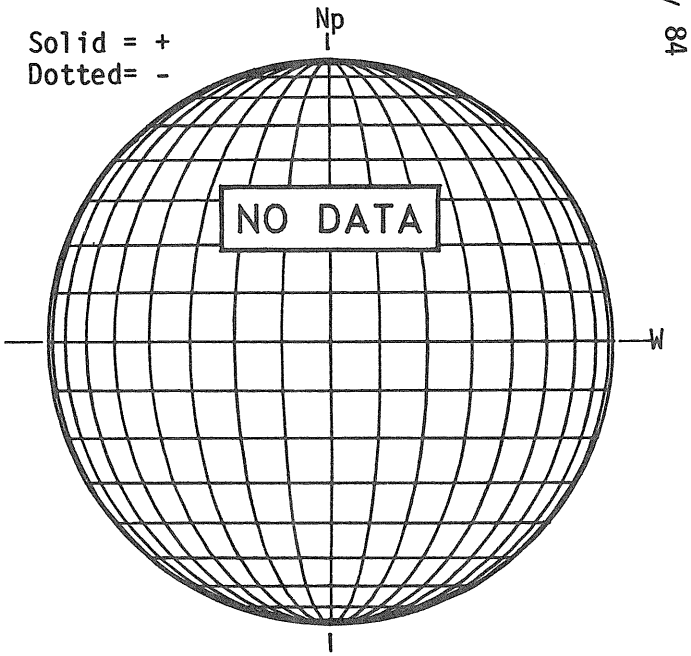
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

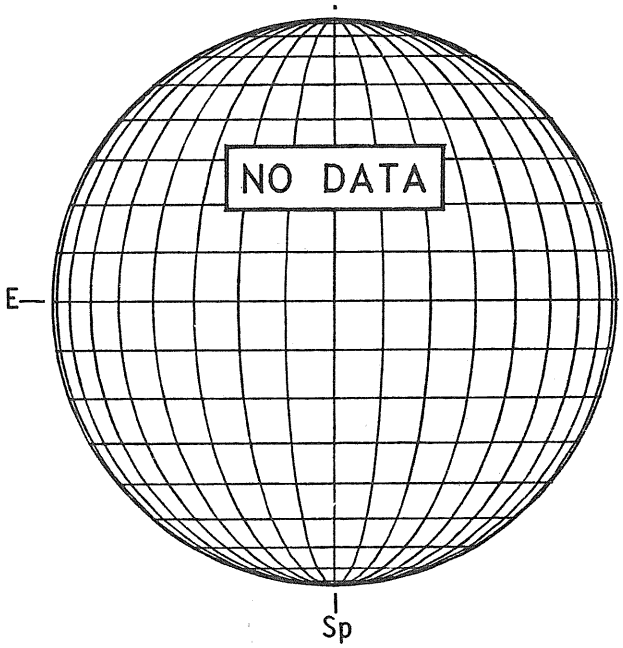


MT. WILSON MAGNETOGRAM

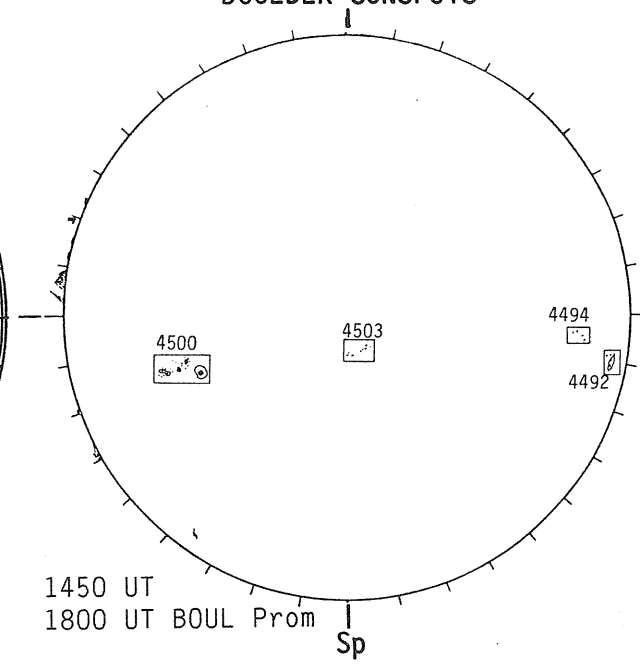
Solid = +
Dotted= -



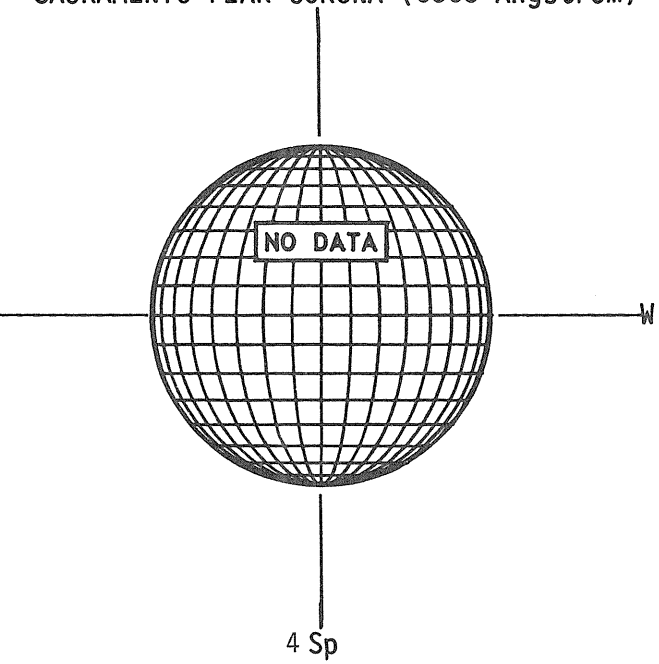
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



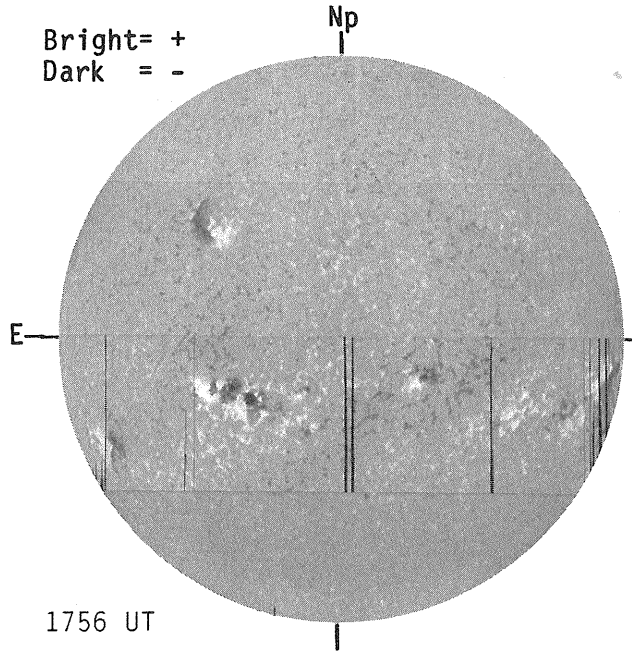
SACRAMENTO PEAK CORONA (5303 Angstrom)



M A Y 30, 1 9 8 4 (P=-16.11, B_0=-0.85, L_0= 283.36)

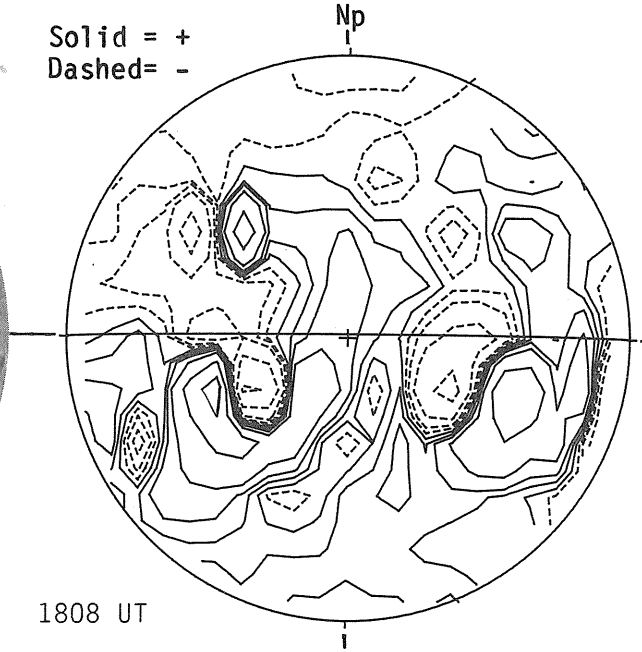
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

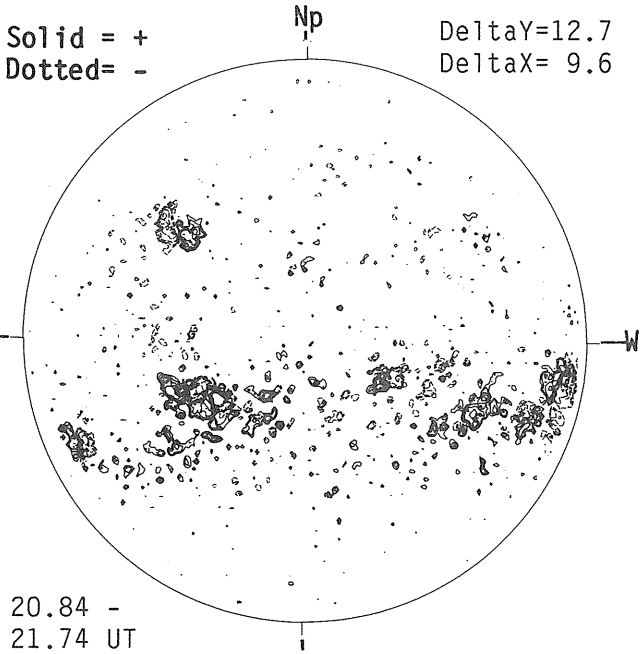
Solid = +
Dashed= -



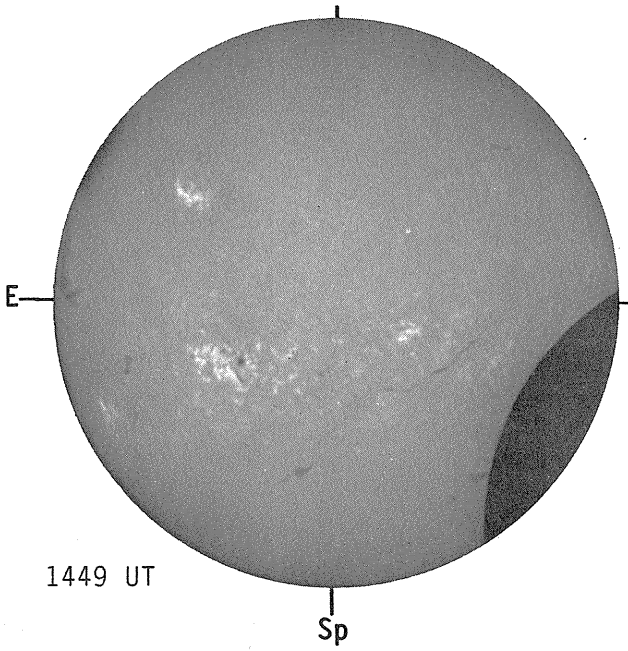
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

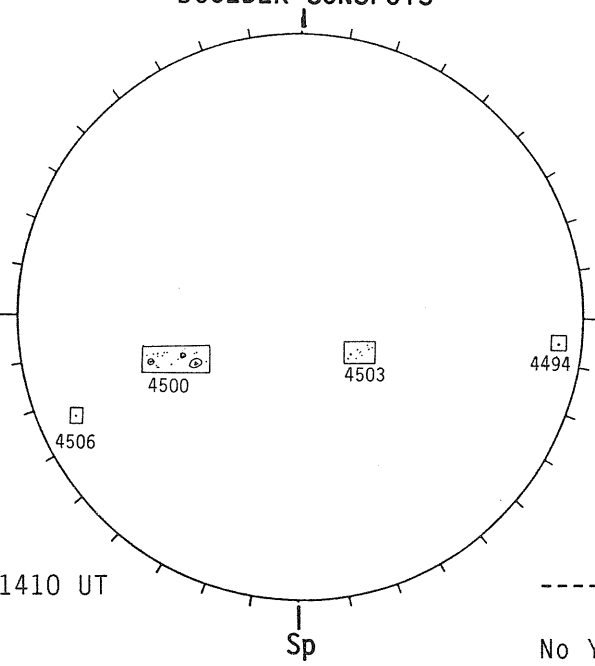
DeltaY=12.7
DeltaX= 9.6



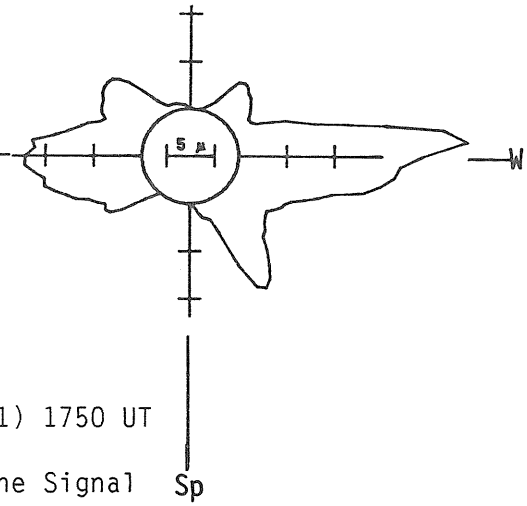
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



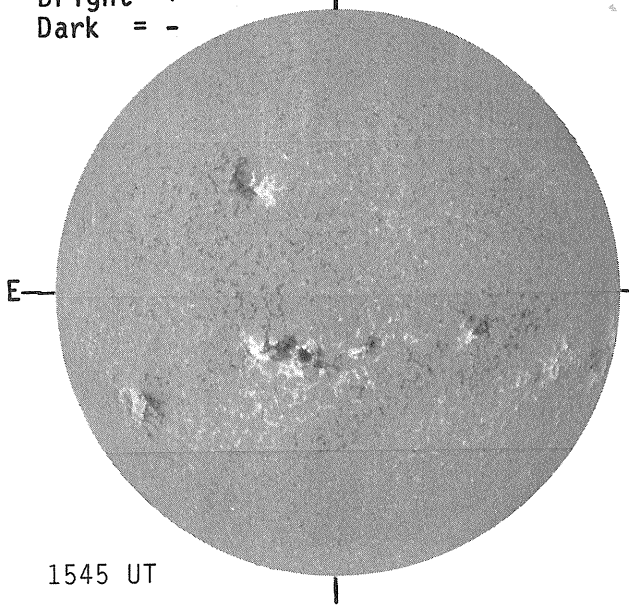
---- 5303A(x1) 1750 UT

No Yellow-Line Signal

M A Y 31, 1 9 8 4 (P=-15.74, B_0=-0.73, L_0= 270.13)

KITT PEAK MAGNETOGRAM

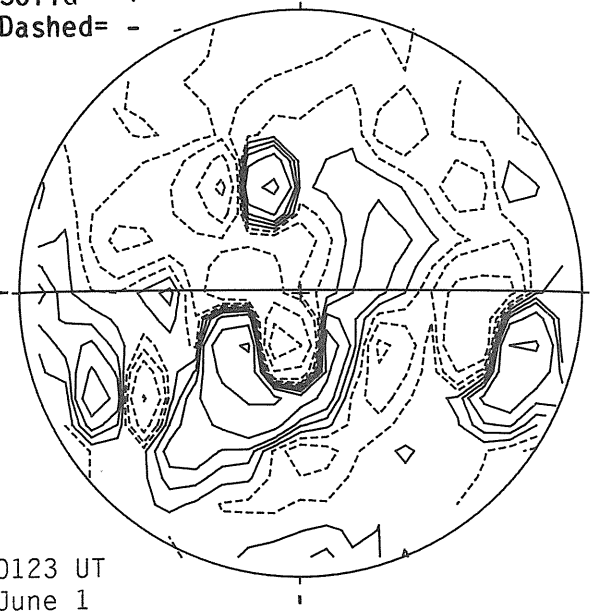
Bright= +
Dark = -



1545 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

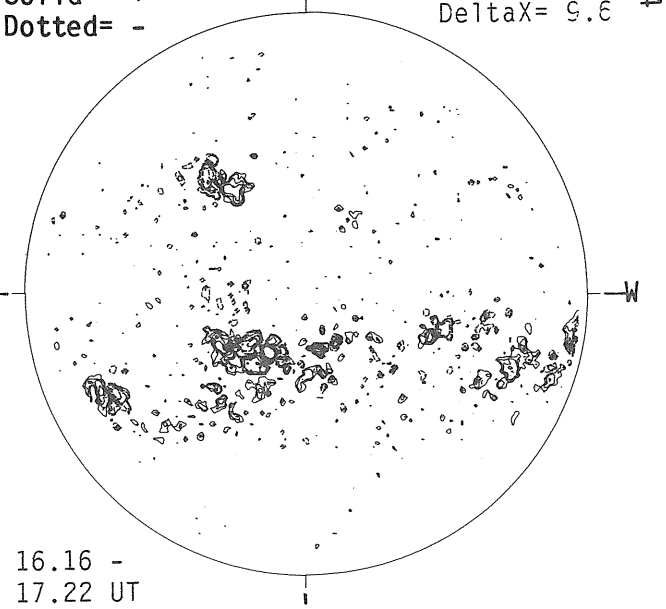


0123 UT
June 1

MT. WILSON MAGNETOGRAM

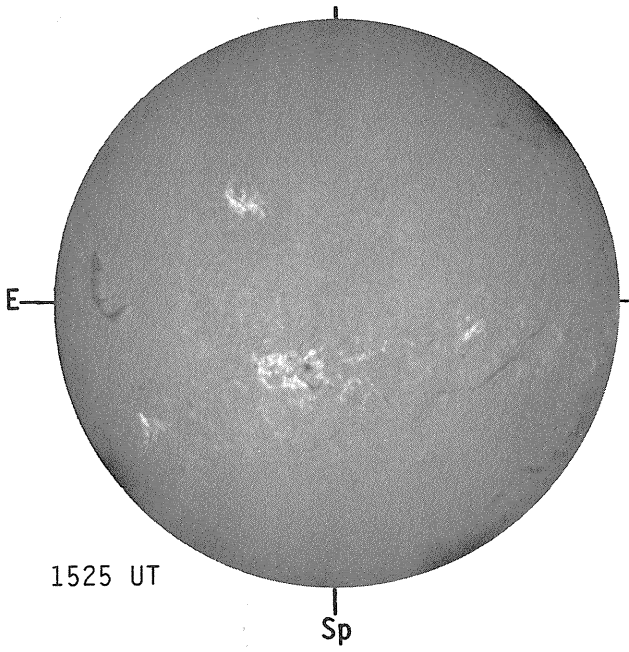
Solid = +
Dotted= -

DeltaY=12.7
DeltaX= 9.6



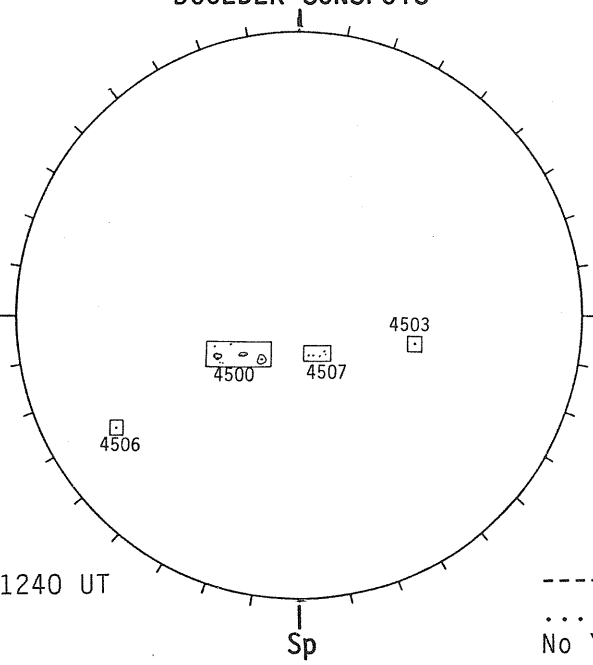
16.16 -
17.22 UT

SACRAMENTO PEAK H-ALPHA



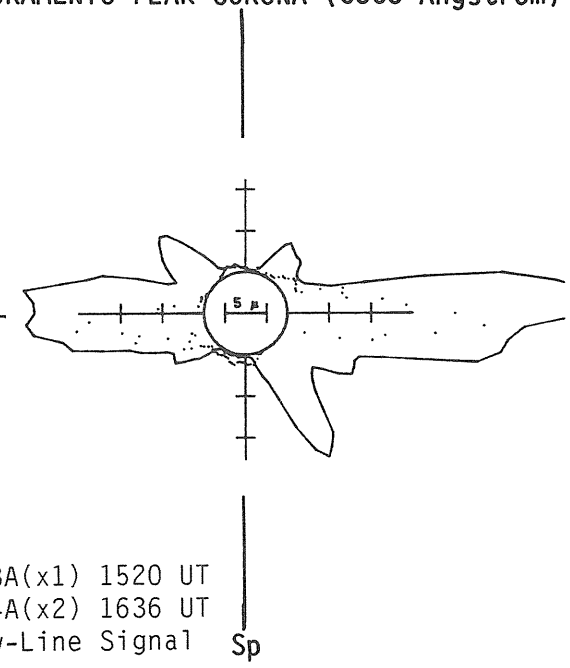
1525 UT

BOULDER SUNSPOTS



1240 UT

SACRAMENTO PEAK CORONA (5303 Angstrom)



---- 5303A(x1) 1520 UT
.... 6374A(x2) 1636 UT
No Yellow-Line Signal

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

MAY 1984

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4477		HOLL	05	01	1530	S15	W06	05	1.2		A	AXX		1		2
4477		PALE	05	01	1835	S15	W08	05	1.2		A	HSX	10	1	1	3
4477		LEAR	05	02	0215	S15	W12	05	1.2		A	AXX	10	1	1	2
4477		RAMY	05	02	1249	S15	W18	05	1.2		B	BXO	20	3	3	3
4477		HOLL	05	02	1429	S15	W18	05	1.2		B	BXO	10	4	3	2
4477		PALE	05	02	1900	S15	W22	05	1.1		B	BXO	10	2	3	3
4477		LEAR	05	03	0025	S15	W22	05	1.4		B	BXO	20	2	3	2
4477		HOLL	05	03	1414	S16	W33	05	1.1		A	AXX		1		3
	24035	MWIL	05	02	1515	S08	W18	05	1.3	2	(AP)					
	24034	MWIL	04	28	1445	E14	E56	05	2.8	3	(AP)					
4482	24037	MWIL	05	05	1500	S11	W27	05	3.6	3	(AP)					
4482		PALE	05	05	1715	S10	W29	05	3.5		A	AXX		1		3
4482		HOLL	05	05	1815	S11	W29	05	3.6		A	AXX		1		2
4482		LEAR	05	06	0125	S11	W34	05	3.5		A	AXX	10	1	1	3
4482		RAMY	05	08	1117	S11	W63	05	3.7		B	CAO	50	3	3	4
4482		BOUL	05	08	1418	S09	W65	05	3.7		B	BXO	10	2	3	4
4482		HOLL	05	08	1520	S10	W67	05	3.6		B	BXO	10	2	3	3
4482	24041	MWIL	05	08	1530	S11	W67	05	3.6	4	(B)					
4482		MANI	05	08	2347	S10	W72	05	3.6			BXO	30	2	2	3
4484		RAMY	05	10	1305	S12	W70	05	5.3		B	CAO	130	7	5	3
4484		HOLL	05	10	1427	S12	W69	05	5.4		B	CSO	70	9	5	3
4484		BOUL	05	10	1445	S12	W68	05	5.5		B	CRO	20	3	7	3
4484	24043	MWIL	05	10	1530	S12	W71	05	5.3	4	(B)					
4484		PALE	05	10	1745	S11	W71	05	5.4		B	CSO	40	2	6	3
4484		LEAR	05	11	0329	S13	W76	05	5.4		B	CSO	40	3	7	2
4484		ATHN	05	11	0700	S13	W79	05	5.3		B	CSO	40	2	4	1
4484		RAMY	05	11	1250	S11	W83	05	5.3		B	CRO	30	3	6	4
4484		HOLL	05	11	1426	S12	W89	05	4.9		A	HSX	10	1	1	3
4484	24043	MWIL	05	11	1530	S12	W87	05	5.1	2	B					
4484		PALE	05	11	1810	S11	W84	05	5.4		A	HSX	20	1	1	3
0001		LEAR	05	04	0003	S20	E53	05	8.1		A	AXX	10	3	2	2
0001		HOLL	05	04	1415	S20	E45	05	8.0		B	BXO	10	2	3	3
0001	24038	MWIL	05	05	1500	S20	E30	05	7.9	3	(AP)					
4478		RAMY	05	04	1245	S21	E45	05	8.0		B	BXO	20	2	2	3
4478		PALE	05	04	1659	S21	E42	05	7.9		A	AXX		1		3
4478		RAMY	05	05	1235	S21	E31	05	7.9		A	AXX	10	1	1	3
4479		RAMY	05	04	1245	S12	E50	05	8.3		A	AXX	20	1	1	3
4479		HOLL	05	04	1415	S11	E50	05	8.4		B	BXO	10	3	3	3
4479		BOUL	05	04	1545	S10	E46	05	8.1		A	AXX	10	1		3
4479	24036	MWIL	05	04	1615	S11	E48	05	8.3	3	(B)					
4479		PALE	05	04	1659	S10	E47	05	8.2		B	BXO	10	3	3	3
4479		LEAR	05	05	0044	S11	E42	05	8.2		A	AXX	10	1	1	2
4483		LEAR	05	09	0335	S07	E09	05	9.8		A	AXX	10	1	1	1
4483		ATHN	05	09	0720	S06	E08	05	9.9			BXO	10	2	1	1
4483		RAMY	05	09	1300	S06	E05	05	9.9		B	DAO	40	5	3	3
4483		HOLL	05	09	1414	S06	E05	05	10.0		B	DAO	20	6	4	4
4483	24042	MWIL	05	09	1600	S06	E03	05	9.9	4	(B)					
4483		BOUL	05	09	1654	S07	E04	05	10.0		B	BXO	10	8	3	3
4483		MANI	05	09	2259	S07	E00	05	10.0			CRO	20	6	3	3
4483		LEAR	05	10	0015	S06	W02	05	9.9		B	CSO	30	3	3	1
4483		ATHN	05	10	0650	S07	W06	05	9.8		B	BXO	30	2	3	2
4483		RAMY	05	10	1305	S06	W09	05	9.9		B	CAO	20	5	3	3
4483		HOLL	05	10	1427	S06	W09	05	9.9		B	DAO	20	6	4	3
4483		BOUL	05	10	1445	S07	W09	05	9.9		B	BXO	10	3	3	3
4483	24042	MWIL	05	10	1530	S06	W10	05	9.9	5	(B)					
4483		PALE	05	10	1745	S06	W12	05	9.8		B	CRO	20	3	3	3
4483		LEAR	05	11	0329	S07	W17	05	9.9		B	CRO	20	3	3	2
4483		ATHN	05	11	0700	S07	W19	05	9.9		B	CRO	30	2	2	1
4483		RAMY	05	11	1250	S06	W24	05	9.7		A	HRX	20	1	1	4
4483		HOLL	05	11	1426	S06	W24	05	9.8		A	HRX	20	1	1	3
4483	24042	MWIL	05	11	1530	S06	W25	05	9.8	4	(B)					
4483		BOUL	05	11	1547	S06	W24	05	9.9		B	BXO	20	3	2	2

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Mo	Day	Time (UT)	Lat CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4483		PALE	05	11	1810	S06 W26	05	9.8		A	HSX	20	2	1	3
4483		LEAR	05	12	0039	S07 W31	05	9.7		A	HRX	10	1	1	3
4483		ATHN	05	12	0630	S06 W33	05	9.8		A	AXX	10	1	1	1
4483		RAMY	05	12	1330	S06 W39	05	9.6		A	HRX	10	1	1	4
4483		HOLL	05	12	1412	S06 W38	05	9.7		A	AXX		1		4
4483	24042	MWIL	05	12	1645	S07 W40	05	9.7	4	(AF)					
4483		PALE	05	12	1756	S06 W40	05	9.8		A	HRX	10	1	1	3
4483		MANI	05	12	2337	S07 W43	05	9.8			HRX	10	1	1	3
4483		ATHN	05	13	0630	S07 W45	05	9.9			AXX	10	1	1	3
4483		RAMY	05	13	1223	S06 W52	05	9.6		A	HRX	10	1	1	3
4483		HOLL	05	13	1529	S07 W53	05	9.7		A	AXX	10	1	1	3
4483	24042	MWIL	05	13	1600	S07 W54	05	9.6	4	(AF)					
4483		PALE	05	13	1730	S07 W55	05	9.6		A	AXX	10	1	1	3
4483		RAMY	05	14	1248	S07 W65	05	9.7		A	AXX	10	1	1	3
		LEAR	05	12	0039	N08 W08	05	11.4		A	AXX	10	1	1	3
4480		RAMY	05	05	1235	N01 E82	05	11.6		A	HAX	60	1	3	3
4480	24039	MWIL	05	05	1500	N02 E85	05	12.0	4	(AP)					
4480		PALE	05	05	1715	N01 E80	05	11.7		A	HSX	80	1	2	3
4480		HOLL	05	05	1815	N02 E79	05	11.7		A	HSX	60	1	2	2
4480		LEAR	05	06	0125	N04 E77	05	11.8		B	EKO	100	2	11	3
4480		ATHN	05	06	0630	N04 E78	05	12.1			FKO	270	3	16	1
4480		RAMY	05	06	1216	N01 E69	05	11.7		A	HAX	120	1	2	3
4480		HOLL	05	06	1315	N01 E69	05	11.7		A	HSX	70	1	2	3
4480	24039	MWIL	05	06	1745	N02 E67	05	11.7	4	(AP)					
4480		PALE	05	06	1750	N01 E67	05	11.7		A	HSX	100	1	2	3
4480		BOUL	05	06	1840	N01 E65	05	11.6		A	HSX	100	1	2	3
4480		LEAR	05	07	0235	N02 E61	05	11.7		A	HSX	60	1	2	2
4480		ATHN	05	07	0605	N01 E56	05	11.4		A	HSX	70	1	2	2
4480		RAMY	05	07	1117	N01 E57	05	11.7		A	HAX	100	1	2	3
4480		HOLL	05	07	1511	N02 E54	05	11.7		A	HSX	130	1	2	4
4480	24039	MWIL	05	07	1530	N01 E55	05	11.8	5	(AP)					
4480		BOUL	05	07	1633	N02 E53	05	11.6		A	HSX	90	1	2	2
4480		PALE	05	07	1751	N01 E53	05	11.7		A	HSX	60	1	2	3
4480		MANI	05	08	0136	N01 E49	05	11.7			HSX	70	2	2	3
4480		ATHN	05	08	0630	N01 E44	05	11.6			HSX	70	1	2	2
4480		RAMY	05	08	1117	N02 E43	05	11.7		B	CAO	100	3	3	4
4480		BOUL	05	08	1418	N02 E40	05	11.6		B	CSO	30	2	4	4
4480		HOLL	05	08	1520	N02 E41	05	11.7		A	HSX	170	2	2	3
4480	24039	MWIL	05	08	1530	N01 E40	05	11.6	5	(AP)					
4480		MANI	05	08	2347	N01 E36	05	11.7			HSX	70	2	2	3
4480		LEAR	05	09	0335	S01 E35	05	11.8			CSO	40	2	2	1
4480		ATHN	05	09	0720	N02 E31	05	11.6			HRX	30	1	2	1
4480		RAMY	05	09	1300	N02 E30	05	11.8		B	CAO	80	5	4	3
4480		HOLL	05	09	1414	N01 E28	05	11.7		A	HSX	50	1	2	4
4480	24039	MWIL	05	09	1600	N01 E27	05	11.7	5	(AP)					
4480		BOUL	05	09	1654	N01 E26	05	11.6		B	CSO	40	4	4	3
4480		MANI	05	09	2259	N01 E24	05	11.8			HSX	70	1	2	3
4480		LEAR	05	10	0015	N02 E22	05	11.7		A	HSX	60	1	2	1
4480		ATHN	05	10	0650	N00 E18	05	11.6		A	HRX	20	1	1	2
4480		RAMY	05	10	1305	N03 E15	05	11.7		B	CAO	20	9	4	3
4480		HOLL	05	10	1427	N03 E14	05	11.6		B	CSO	30	8	5	3
4480		BOUL	05	10	1445	N01 E13	05	11.6		B	CSO	40	5	4	3
4480	24039	MWIL	05	10	1530	N01 E14	05	11.7	5	(AP)					
4480		PALE	05	10	1745	N02 E12	05	11.6		B	CSO	40	6	4	3
4480		LEAR	05	11	0329	N02 E08	05	11.7		B	CSO	20	3	3	2
4480		ATHN	05	11	0700	S01 E06	05	11.7		B	CSO	40	3	4	1
4480		RAMY	05	11	1250	N02 E04	05	11.8		B	CRO	30	7	3	4
4480		HOLL	05	11	1426	N02 E02	05	11.8		B	CSO	30	5	4	3
4480	24039	MWIL	05	11	1530	N01 E01	05	11.7	4	(AP)					
4480		BOUL	05	11	1547	N01 E03	05	11.9		B	CSO	20	3	2	2
4480		PALE	05	11	1810	N01 W00	05	11.8		B	CSO	50	10	4	3
4480		LEAR	05	12	0039	N01 W04	05	11.7		B	CSO	30	4	2	3
4480		ATHN	05	12	0630	N03 W06	05	11.8		B	CSO	30	5	2	1
4480		RAMY	05	12	1330	N03 W11	05	11.7		B	CAO	20	5	3	4
4480		HOLL	05	12	1412	N02 W11	05	11.8		B	CSO	20	5	3	4
4480		BOUL	05	12	1425	N02 W11	05	11.8		B	CSO	20	2	2	2
4480	24039	MWIL	05	12	1645	N02 W13	05	11.7	4	(AP)					
4480		PALE	05	12	1756	N01 W13	05	11.8		B	CRO	30	8	3	3
4480		MANI	05	12	2337	N01 W16	05	11.8			CRO	40	6	3	3

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Mo Day	Time (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4480		ATHN	05 13	0630	N01 W19	05 11.9			AXX	20	1	1	3
4480		RAMY	05 13	1223	N03 W23	05 11.8		B	CAO	30	8	3	3
4480		HOLL	05 13	1529	N02 W26	05 11.7		B	BXO	10	2	3	3
4480		BOUL	05 13	1550	N03 W25	05 11.8		B	BXO	10	2	1	3
4480	24039	MWIL	05 13	1600	N01 W26	05 11.7	4	(AP)					
4480		PALE	05 13	1730	N02 W27	05 11.7		B	BXO	20	4	3	3
4480		ATHN	05 14	0700	N02 W33	05 11.8		A	AXO	10	1	1	2
4481		RAMY	05 06	1216	N06 E81	05 12.6		B	EKO	380	11	14	3
4481		HOLL	05 06	1315	N08 E80	05 12.6		B	EKO	840	6	15	3
4481	24040	MWIL	05 06	1745	N07 E78	05 12.6	4	(B)					
4481		PALE	05 06	1750	N06 E80	05 12.7		B	FKO	700	12	16	3
4481		BOUL	05 06	1840	N07 E75	05 12.4		B	EKO	680	9	10	3
4481		LEAR	05 07	0235	N07 E72	05 12.5		B	FKO	440	11	20	2
4481		ATHN	05 07	0605	N07 E71	05 12.6		B	FKO	860	21	20	2
4481		RAMY	05 07	1117	N07 E70	05 12.7		BG	FKI	1420	27	16	3
4481		HOLL	05 07	1511	N08 E68	05 12.7		B	FKI	1250	22	17	4
4481	24040	MWIL	05 07	1530	N07 E69	05 12.8	5	(D)					
4481		BOUL	05 07	1633	N07 E67	05 12.7		BG	FKI	750	21	17	2
4481		PALE	05 07	1751	N08 E66	05 12.7		BGD	FKI	1500	32	16	3
4481		MANI	05 08	0136	N07 E62	05 12.7			FKI	1260	39	19	3
4481		ATHN	05 08	0630	N07 E59	05 12.7			FKO	1200	14	18	2
4481		RAMY	05 08	1117	N07 E55	05 12.6		BGD	FKI	1640	63	17	4
4481		BOUL	05 08	1418	N08 E53	05 12.6		BGD	FKI	2220	33	16	4
4481		HOLL	05 08	1520	N08 E55	05 12.8		B	FKC	2150	40	18	3
4481	24040	MWIL	05 08	1530	N08 E54	05 12.7	5	(D)					
4481		MANI	05 08	2347	N07 E50	05 12.7			FKC	1520	47	19	3
4481		LEAR	05 09	0335	N05 E45	05 12.5			FKI	1370	41	18	1
4481		ATHN	05 09	0720	N07 E45	05 12.7			FKI	1300	30	18	1
4481		RAMY	05 09	1300	N07 E42	05 12.7		BGD	FKI	1720	59	18	3
4481		HOLL	05 09	1414	N07 E42	05 12.7		BG	FKC	1940	68	18	4
4481	24040	MWIL	05 09	1600	N08 E40	05 12.7	6	(D)					
4481		BOUL	05 09	1654	N08 E40	05 12.7		BGD	FKI	1750	60	17	3
4481		MANI	05 09	2259	N08 E36	05 12.7			FKI	1540	55	20	3
4481		LEAR	05 10	0015	N08 E35	05 12.6		BGD	FKI	1690	33	20	1
4481		ATHN	05 10	0650	N07 E30	05 12.5			FKI	1520	28	17	2
4481		RAMY	05 10	1305	N07 E28	05 12.6		BGD	FKI	1870	63	19	3
4481		HOLL	05 10	1427	N08 E28	05 12.7		BGD	FKC	2150	71	20	3
4481		BOUL	05 10	1445	N07 E25	05 12.5		BGD	FKI	1700	53	18	3
4481	24040	MWIL	05 10	1530	N07 E27	05 12.7	6	(D)					
4481		PALE	05 10	1745	N07 E25	05 12.6		BGD	FKI	1630	55	18	3
4481		LEAR	05 11	0329	N08 E21	05 12.7		BGD	FKI	1330	58	21	2
4481		ATHN	05 11	0700	N06 E18	05 12.6		BGD	FKI	1570	50	19	1
4481		RAMY	05 11	1250	N08 E14	05 12.6		BGD	FKC	1640	93	20	4
4481		HOLL	05 11	1426	N08 E13	05 12.6		BGD	FKI	2030	65	19	3
4481	24040	MWIL	05 11	1530	N07 E15	05 12.8	6	(D)					
4481		BOUL	05 11	1547	N08 E14	05 12.7		BGD	FKI	1320	47	18	2
4481		PALE	05 11	1810	N06 E13	05 12.7		BGD	FKI	1830	95	20	3
4481		LEAR	05 12	0039	N08 E09	05 12.7		GD	FKI	1470	55	21	3
4481		ATHN	05 12	0630	N08 E06	05 12.7		GD	FKI	1220	57	19	1
4481		RAMY	05 12	1330	N08 E01	05 12.6		BGD	FKI	1660	84	19	4
4481		HOLL	05 12	1412	N08 E01	05 12.7		BGD	FKI	1870	63	18	4
4481		BOUL	05 12	1425	N08 E03	05 12.8		BGD	FKI	1900	51	19	2
4481	24040	MWIL	05 12	1645	N07 W00	05 12.7	6	(D)					
4481		PALE	05 12	1756	N07 W01	05 12.7		BGD	FKI	1740	64	19	3
4481		MANI	05 12	2337	N08 W03	05 12.8			FKI	1490	78	20	3
4481		ATHN	05 13	0630	N07 W06	05 12.8			FKI	1470	44	19	3
4481		RAMY	05 13	1223	N08 W11	05 12.7		BGD	FKI	1620	99	20	3
4481		HOLL	05 13	1529	N07 W12	05 12.7		BGD	FKI	1390	68	20	3
4481		BOUL	05 13	1550	N08 W11	05 12.8		BGD	FKI	1590	52	19	3
4481	24040	MWIL	05 13	1600	N07 W13	05 12.7	6	(D)					
4481		PALE	05 13	1730	N07 W14	05 12.7		BGD	FKI	1450	69	21	3
4481		ATHN	05 14	0700	N07 W19	05 12.9		BGD	FKI	1470	37	18	2
4481		RAMY	05 14	1248	N07 W25	05 12.7		BG	FKI	1530	99	20	3
4481		BOUL	05 14	1411	N08 W25	05 12.7		BGD	FKI	1140	57	19	3
4481	24040	MWIL	05 14	1530	N06 W26	05 12.7	6	(D)					
4481		HOLL	05 14	1629	N06 W26	05 12.7		BGD	FKI	1560	55	18	3
4481		PALE	05 14	1755	N07 W29	05 12.6		BGD	FKI	1400	48	19	3
4481		ATHN	05 15	0700	N09 W32	05 12.9			FKI	1360	16	17	2
4481		RAMY	05 15	1238	N07 W37	05 12.8		BGD	FKO	1150	75	21	3
4481		BOUL	05 15	1445	N07 W39	05 12.7		BGD	FKI	1300	49	19	4

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4481	24040	MWIL	05	15	1500	N06	W38	05	12.8	5	(D)					
4481		PALE	05	15	1745	N08	W41	05	12.7		BGD	FKI	1010	27	18	3
4481		HOLL	05	15	1929	N07	W40	05	12.8		BGD	FKI	1180	41	16	2
4481		MANI	05	15	2332	N07	W43	05	12.8			FKI	1080	47	16	3
4481		ATHN	05	16	0700	N08	W46	05	12.8			FKI	1050	33	21	2
4481		RAMY	05	16	1240	N08	W51	05	12.7		BGD	FKO	810	53	18	3
4481	24040	MWIL	05	16	1500	N07	W50	05	12.9	5	(D)					
4481		BOUL	05	16	1510	N10	W52	05	12.7		BGD	FKI	600	48	21	3
4481		PALE	05	16	1830	N08	W55	05	12.6		BGD	FKI	580	39	20	3
4481		LEAR	05	17	0155	N09	W57	05	12.8		BGD	FKI	410	12	18	1
4481		ATHN	05	17	0750	N10	W59	05	12.9			FKO	730	15	20	1
4481		RAMY	05	17	1240	N08	W66	05	12.6		BGD	FKO	1000	36	18	4
4481	24040	MWIL	05	17	1400	N07	W65	05	12.7	6	(D)					
4481		BOUL	05	17	1430	N08	W64	05	12.8		BGD	FKI	570	30	18	2
4481		HOLL	05	17	1657	N08	W65	05	12.8		BG	FKI	960	27	20	3
4481		PALE	05	17	1915	N08	W67	05	12.8		BGD	FKI	620	31	20	3
4481		LEAR	05	18	0059	N05	W80	05	12.1		BG	FHI	1400	12	17	2
4481		ATHN	05	18	0640	N07	W80	05	12.3			FKI	900	7	16	2
4481		HOLL	05	18	1424	N08	W76	05	12.9		B	EKO	270	20	18	3
4481		RAMY	05	18	1425	N08	W75	05	13.0		BGD	EKO	660	16	11	3
4481		BOUL	05	18	1500	N08	W78	05	12.8		BGD	EKI	540	19	15	3
4481	24040	MWIL	05	18	1515	N07	W78	05	12.8	5	(D)					
4481		PALE	05	18	1740	N08	W79	05	12.8		BG	FKO	400	12	17	3
4481		ATHN	05	19	0645	N08	W86	05	12.8			DKO	300	2	8	2
4481		RAMY	05	19	1242	N10	W89	05	12.8		B	CAO	60	3	4	4
4481	24040	MWIL	05	19	1445	N09	W86	05	13.2	3	AP					
4481		HOLL	05	19	1445	N09	W88	05	13.0		A	HAX	160	2	2	4
4488		ATHN	05	13	0630	N16	W05	05	12.9			BXO	20	2	2	3
4488		RAMY	05	13	1223	N17	W10	05	12.8		B	DRO	30	7	4	3
4488		HOLL	05	13	1529	N17	W12	05	12.7		B	BXO	20	5	3	3
4488		BOUL	05	13	1550	N17	W10	05	12.9		B	BXO	30	7	2	3
4488	24048	MWIL	05	13	1600	N16	W12	05	12.8	4	(B)					
4488		PALE	05	13	1730	N17	W13	05	12.7		B	BXO	20	5	4	3
4488		ATHN	05	14	0700	N16	W20	05	12.8		B	BXO	20	2	4	2
4488		RAMY	05	14	1248	N17	W25	05	12.6		B	DAO	30	8	4	3
4488		BOUL	05	14	1411	N16	W23	05	12.8		B	BXO	20	5	4	3
4488	24048	MWIL	05	14	1530	N16	W25	05	12.7	3	(B)					
4488		HOLL	05	14	1629	N17	W25	05	12.8		B	CRO	20	8	4	3
4488		PALE	05	14	1755	N16	W27	05	12.7		B	BXO	20	4	5	3
4485		RAMY	05	12	1330	S11	E06	05	13.0		A	AXX	10	1	1	4
4485		HOLL	05	12	1412	S12	E06	05	13.0		A	AXX		1		4
4485		BOUL	05	12	1425	S10	E04	05	12.9		A	HSX	60	1	2	2
4485	24044	MWIL	05	12	1645	S12	E04	05	13.0	3	(B)					
4485		PALE	05	12	1756	S12	E04	05	13.0		B	BXO	10	4	4	3
4485		MANI	05	12	2337	S12	E01	05	13.1			BXO	20	8	3	3
4485		ATHN	05	13	0630	S12	W03	05	13.0			CSO	120	9	4	3
4485		RAMY	05	13	1223	S12	W07	05	13.0		B	DAO	80	14	5	3
4485		HOLL	05	13	1529	S12	W08	05	13.0		B	CAO	80	14	5	3
4485		BOUL	05	13	1550	S13	W09	05	13.0		B	DAO	130	12	5	3
4485	24044	MWIL	05	13	1600	S12	W10	05	12.9	4	(B)					
4485		PALE	05	13	1730	S12	W10	05	13.0		B	CAO	90	15	6	3
4485		ATHN	05	14	0700	S12	W17	05	13.0		B	CAO	110	6	6	2
4485		RAMY	05	14	1248	S12	W22	05	12.9		B	DAO	100	15	6	3
4485		BOUL	05	14	1411	S12	W20	05	13.1		B	DSO	80	10	7	3
4485	24044	MWIL	05	14	1530	S13	W22	05	13.0	4	(B)					
4485		HOLL	05	14	1629	S12	W22	05	13.0		B	DAO	110	7	6	3
4485		PALE	05	14	1755	S12	W24	05	12.9		B	DSO	80	7	8	3
4485		ATHN	05	15	0700	S10	W30	05	13.0		B	DSO	80	2	5	2
4485		RAMY	05	15	1238	S13	W34	05	13.0		B	DAO	70	4	6	3
4485		BOUL	05	15	1445	S12	W35	05	13.0		B	CSO	50	6	6	4
4485	24044	MWIL	05	15	1500	S13	W35	05	13.0	4	(B)					
4485		PALE	05	15	1745	S12	W38	05	12.9		B	DSO	60	4	5	3
4485		HOLL	05	15	1929	S12	W38	05	12.9		B	DAO	100	8	6	2
4485		MANI	05	15	2332	S12	W41	05	12.9			DSO	80	6	6	3
4485		ATHN	05	16	0700	S11	W43	05	13.1		B	DSO	80	5	6	2
4485		RAMY	05	16	1240	S13	W47	05	13.0		B	CAO	30	8	7	3
4485	24044	MWIL	05	16	1500	S12	W48	05	13.0	4	(B)					
4485		BOUL	05	16	1510	S09	W47	05	13.1		B	BXO	40	7	7	3
4485		PALE	05	16	1830	S11	W50	05	13.0		B	CSO	30	6	7	3

R E G I O N S O F S U N S P O T A C T I V I T Y
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

MAY 1984

NOAA/ USAF Region	Mt Wilson Region	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
4485		LEAR	05	17	0155	S12	W52	05	13.2		B	CRO	30	6	8	1
4485		ATHN	05	17	0750	S10	W55	05	13.2		A	AXX	10	1	1	1
4485		RAMY	05	17	1240	S12	W60	05	13.0		B	CAO	40	4	5	4
4485	24044	MWIL	05	17	1400	S12	W62	05	12.9	4	(B)					
4485		BOUL	05	17	1430	S11	W59	05	13.2		A	AXX	20	2	1	2
4485		HOLL	05	17	1657	S13	W62	05	13.0		A	AXX		1		3
4485		PALE	05	17	1915	S11	W62	05	13.1		A	AXX		1		3
4485		RAMY	05	18	1425	S11	W73	05	13.1		A	AXX	10	1	1	3
4485		PALE	05	18	1740	S12	W74	05	13.2		A	AXX		1		3
0002	24045	MWIL	05	12	1645	N15	E07	05	13.2	2	(AF)					
0002	24045	MWIL	05	13	1600	N15	W05	05	13.3	3	(AP)					
	24052	MWIL	05	16	1500	N07	W32	05	14.2	2	(AF)					
4486		RAMY	05	12	1330	N15	E28	05	14.7		A	AXX	10	1	1	4
4486		HOLL	05	12	1412	N15	E28	05	14.7		B	BXO	10	3	3	4
4486	24046	MWIL	05	12	1645	N15	E27	05	14.7	3	(B)					
4486		PALE	05	12	1756	N15	E27	05	14.8		B	BXO	10	3	3	3
4486		RAMY	05	16	1240	N16	W18	05	15.2		A	AXX	10	1	1	3
4486	24053	MWIL	05	16	1500	N16	W20	05	15.1	4	(AP)					
4486		BOUL	05	16	1510	N17	W19	05	15.2		A	AXX	10	1	1	3
4486	24053	MWIL	05	17	1400	N17	W33	05	15.1	3	(AP)					
0003		RAMY	05	16	1240	N12	W06	05	16.1		A	AXX	10	1	1	3
0003	24054	MWIL	05	16	1500	N12	W07	05	16.1	4	(AF)					
4489	24049	MWIL	05	13	1600	S17	E45	05	17.1	3	(AP)					
4489		RAMY	05	15	1238	S17	E21	05	17.1		A	AXX	10	4	2	3
4489		BOUL	05	15	1445	S17	E18	05	17.0		A	AXX	10	1	1	4
4489	24049	MWIL	05	15	1500	S18	E19	05	17.1	3	(AP)					
4489		PALE	05	15	1745	S17	E17	05	17.0		A	AXX	10	1	1	3
4489		ATHN	05	16	0700	S11	E07	05	16.8		A	AXX	10	1	1	2
4489	24055	MWIL	05	16	1500	S12	E05	05	17.0	4	(AP)					
4489		LEAR	05	17	0155	S12	W02	05	16.9		A	AXX	10	1	1	1
4489		ATHN	05	17	0750	S10	W06	05	16.9		A	AXX	10	1	1	1
4489	24049	MWIL	05	17	1400	S18	W05	05	17.2	2	(AP)					
4489		HOLL	05	17	1657	S18	W09	05	17.0		B	BXO	10	3	5	3
4493		BOUL	05	19	1414	S16	W33	05	17.1		B	BXO	20	5	4	3
4493		HOLL	05	19	1445	S16	W35	05	17.0		B	BXO	10	5	4	4
4493	24049	MWIL	05	19	1445	S17	W33	05	17.1	4	(AP)					
4493		PALE	05	19	1937	S16	W36	05	17.1		B	BXO	20	4	4	3
4493		LEAR	05	20	0230	S16	W41	05	17.0		B	BXO	20	2	3	3
4493		RAMY	05	20	1248	S16	W45	05	17.1		B	BXO	30	3	4	4
4493	24049	MWIL	05	20	1515	S17	W48	05	17.0	3	(B)					
4487		LEAR	05	12	0039	S13	E74	05	17.6		A	AXX	10	1	1	3
4487		RAMY	05	12	1330	S13	E66	05	17.5		A	AXX	10	1	1	4
4487		HOLL	05	12	1412	S13	E69	05	17.8		B	BXO	10	3	3	4
4487	24047	MWIL	05	12	1645	S13	E65	05	17.6	3	(AP)					
4487		PALE	05	12	1756	S14	E65	05	17.7		A	AXX		1		3
4487		MANI	05	12	2337	S12	E62	05	17.7			AXX		1		3
4487		HOLL	05	13	1529	S17	E46	05	17.1		A	AXX	10	1		3
4487	24047	MWIL	05	13	1600	S14	E50	05	17.4	2	(AP)					
4487		PALE	05	13	1730	S17	E45	05	17.1		A	AXX		1		3
4487		RAMY	05	15	1238	S13	E27	05	17.6		B	DAO	70	10	4	3
4487		BOUL	05	15	1445	S14	E24	05	17.4		B	BXX	30	9	4	4
4487	24047	MWIL	05	15	1500	S13	E25	05	17.5	4	(B)					
4487		PALE	05	15	1745	S13	E23	05	17.5		B	DAO	50	8	4	3
4487		HOLL	05	15	1929	S15	E21	05	17.4		B	DAO	140	13	10	2
4487		MANI	05	15	2332	S13	E20	05	17.5			DAO	90	17	10	3
4487		ATHN	05	16	0700	S14	E15	05	17.4		B	DAO	100	7	4	2
4487		RAMY	05	16	1240	S13	E12	05	17.4		B	EAO	60	22	11	3
4487	24047	MWIL	05	16	1500	S14	E13	05	17.6	4	(B)					
4487		BOUL	05	16	1510	S11	E10	05	17.4		B	CSI	50	15	9	3
4487		PALE	05	16	1830	S12	E07	05	17.3		B	ESO	80	13	11	3
4487		LEAR	05	17	0155	S13	E04	05	17.4		B	CAO	80	15	7	1
4487		ATHN	05	17	0750	S12	E03	05	17.6		B	DAO	40	8	4	1
4487		RAMY	05	17	1240	S13	E00	05	17.5		B	DAO	140	19	6	4
4487	24047	MWIL	05	17	1400	S14	W00	05	17.6	4	(B)					

R E G I O N S O F S U N S P O T A C T I V I T Y
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

MAY 1984

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4487		BOUL	05	17	1430	S13	W03	05	17.4		B	CSI	90	21	6	2
4487		HOLL	05	17	1657	S15	W03	05	17.5		B	CSO	30	19	6	3
4487		PALE	05	17	1915	S12	W05	05	17.4		B	DSO	70	13	8	3
4487		LEAR	05	18	0059	S14	W08	05	17.4		B	CSO	950	7	6	2
4487		ATHN	05	18	0640	S14	W10	05	17.5			CSO	80	4	3	2
4487		HOLL	05	18	1424	S14	W14	05	17.5		B	CSO	110	13	7	3
4487		RAMY	05	18	1425	S13	W14	05	17.5		B	DAO	60	13	6	3
4487		BOUL	05	18	1500	S14	W15	05	17.5		B	CRI	110	15	5	3
4487	24047	MWIL	05	18	1515	S15	W15	05	17.5	4	(B)					
4487		PALE	05	18	1740	S13	W15	05	17.6		B	CRO	40	6	7	3
4487		RAMY	05	19	1242	S13	W25	05	17.6		B	CRO	30	8	4	4
4487		BOUL	05	19	1414	S13	W25	05	17.7		B	BXO	30	5	3	3
4487		HOLL	05	19	1445	S13	W27	05	17.6		B	BXO	40	13	5	4
4487	24047	MWIL	05	19	1445	S14	W26	05	17.6	3	(B)					
4487		PALE	05	19	1937	S13	W30	05	17.6		B	BXO	20	5	5	3
4487		LEAR	05	20	0230	S12	W33	05	17.6		A	AXX	10	1	1	3
4487		RAMY	05	20	1248	S13	W38	05	17.7		A	AXX	10	1	1	4
4487	24047	MWIL	05	20	1515	S14	W40	05	17.6	2	(AP)					
	24050	MWIL	05	13	1600	S17	E55	05	17.8	3	(AF)					
	24060	MWIL	05	22	1445	S15	W50	05	18.8	4	(AF)					
4495		LEAR	05	20	0230	S05	W16	05	18.9		A	AXX	10	1	1	3
4495		RAMY	05	20	1248	S05	W22	05	18.9		A	AXX	10	1	1	4
4495		HOLL	05	21	1455	S06	W38	05	18.8		A	AXX		1		3
4495	24059	MWIL	05	21	1500	S06	W37	05	18.9	2	(AP)					
4495		PALE	05	21	1810	S07	W40	05	18.8		B	BXO	20	5	4	3
4495		LEAR	05	22	0230	S07	W44	05	18.8		B	BXO	20	3	3	1
4495		RAMY	05	22	1405	S06	W52	05	18.7		B	BXO	20	2	3	2
4495		LEAR	05	23	0200	S06	W57	05	18.8		B	BXO	10	2	3	2
4495		MANI	05	23	0319	S06	W59	05	18.7			BXO	30	3	3	3
4495		BOUL	05	23	1415	S06	W62	05	19.0		B	BXO	40	3	4	2
4495	24059	MWIL	05	23	1445	S08	W68	05	18.5	4	(B)					
4495		HOLL	05	23	1610	S06	W65	05	18.8		B	BXO	20	3	4	2
4495		PALE	05	23	1822	S06	W67	05	18.8		B	BXO	10	2	4	3
4495		RAMY	05	23	1928	S06	W67	05	18.8		B	BXO	50	4	4	3
4495	24059	MWIL	05	24	1430	S07	W79	05	18.7	2	AP					
4490		RAMY	05	14	1248	S14	E78	05	20.4		A	HSX	40	1	2	3
4490		BOUL	05	14	1411	S14	E75	05	20.3		A	AXX	30	1	1	3
4490	24051	MWIL	05	14	1530	S15	378	05	20.6	2	(AP)					
4490		HOLL	05	14	1629	S13	E79	05	20.6		A	AXX		1	1	3
4490		PALE	05	14	1755	S14	E77	05	20.6		A	HSX	50	1	1	3
4490		RAMY	05	15	1238	S15	E65	05	20.4		A	HAX	100	1	1	3
4490		BOUL	05	15	1445	S15	E61	05	20.2		A	HSX	50	1	1	4
4490	24051	MWIL	05	15	1500	S14	E64	05	20.5	4	(AP)					
4490		PALE	05	15	1745	S14	E63	05	20.5		A	HSX	40	1	2	3
4490		HOLL	05	15	1929	S14	E62	05	20.5		A	HSX	40	1	1	2
4490		MANI	05	15	2332	S14	E60	05	20.5			HSX	50	1	1	3
4490		ATHN	05	16	0700	S15	E55	05	20.5		A	HSX	30	1	2	2
4490		RAMY	05	16	1240	S14	E52	05	20.5		A	HAX	30	1	1	3
4490	24051	MWIL	05	16	1500	S15	E50	05	20.4	5	(AP)					
4490		BOUL	05	16	1510	S15	E47	05	20.2		A	HSX	30	2	2	3
4490		PALE	05	16	1830	S14	E48	05	20.4		A	HSX	20	1	1	3
4490		LEAR	05	17	0155	S14	E44	05	20.4		A	HSX	40	1	2	1
4490		ATHN	05	17	0750	S12	E36	05	20.0		A	HSX	20	1	2	1
4490		RAMY	05	17	1240	S14	E39	05	20.5		B	DAO	80	10	6	4
4490	24051	MWIL	05	17	1400	S13	E38	05	20.5	5	(B)					
4490		BOUL	05	17	1430	S14	E38	05	20.5		B	CSO	40	6	5	2
4490		HOLL	05	17	1657	S15	E36	05	20.4		B	CSO	40	14	6	3
4490		PALE	05	17	1915	S14	E35	05	20.4		B	CSO	40	7	5	3
4490		LEAR	05	18	0059	S13	E32	05	20.5		B	CSO	350	6	4	2
4490		ATHN	05	18	0640	S14	E26	05	20.2			CSO	60	4	4	2
4490		HOLL	05	18	1424	S14	E23	05	20.3		B	CSO	60	12	5	3
4490		RAMY	05	18	1425	S14	E24	05	20.4		B	CRO	40	12	5	3
4490		BOUL	05	18	1500	S12	E21	05	20.2		B	CSO	50	6	2	3
4490	24051	MWIL	05	18	1515	S13	E23	05	20.4	5	(BP)					
4490		PALE	05	18	1740	S12	E21	05	20.3		B	CSO	40	5	4	3
4490		ATHN	05	19	0645	S14	E14	05	20.3		B	CSO	30	2	4	2
4490		RAMY	05	19	1242	S14	E12	05	20.4		B	DAO	70	13	7	4

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

MAY 1984

NOAA/ USAF Region	Mt Wilson Region	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
4490		BOUL	05	19	1414	S14	E10	05	20.3		B	CSO	40	6	4	3
4490	24051	MWIL	05	19	1445	S13	E08	05	20.2	5	(BP)					
4490		HOLL	05	19	1445	S13	E09	05	20.3		B	DSO	100	12	5	4
4490		PALE	05	19	1937	S13	E08	05	20.4		B	DSO	40	7	6	3
4490		LEAR	05	20	0230	S13	E03	05	20.3		B	CSO	100	5	2	3
4490		ATHN	05	20	0915	S15	W01	05	20.3		A	HSX	50	1	2	2
4490		RAMY	05	20	1248	S15	W03	05	20.3		B	CSO	50	8	6	4
4490	24051	MWIL	05	20	1515	S13	W06	05	20.2	5	(BP)					
4490		BOUL	05	20	1550	S10	W05	05	20.3		B	CSO	90	7	7	3
4490		HOLL	05	20	1718	S14	W06	05	20.3		B	CAO	40	9	5	4
4490		PALE	05	20	1844	S13	W06	05	20.3		B	CRO	30	7	4	3
4490		MANI	05	21	0515	S13	W13	05	20.2			CSO	30	5	3	2
4490		ATHN	05	21	0700	S13	W14	05	20.2			HAX	20	1	2	1
4490		RAMY	05	21	1250	S13	W18	05	20.2		B	CAO	20	3	3	3
4490		HOLL	05	21	1455	S13	W18	05	20.3		B	CRO	40	3	4	3
4490	24051	MWIL	05	21	1500	S12	W19	05	20.2	4	(AP)					
4490		BOUL	05	21	1512	S11	W19	05	20.2		B	CRO	10	1	1	2
4490		PALE	05	21	1810	S13	W21	05	20.2		B	BXO	20	3	3	3
4490		LEAR	05	22	0230	S12	W28	05	20.0		B	CSO	40	3	3	1
4490		ATHN	05	22	0630	S11	W27	05	20.2		A	HSX	20	1	2	2
4490		RAMY	05	22	1405	S12	W33	05	20.1		A	HAX	30	1	1	2
4490		BOUL	05	22	1435	S12	W33	05	20.1		A	AXX	10	1	1	2
4490	24051	MWIL	05	22	1445	S13	W33	05	20.1	4	(AP)					
4490		HOLL	05	22	1845	S12	W36	05	20.1		A	HSX	40	1	2	3
4490		PALE	05	22	2140	S12	W38	05	20.0		A	HSX	30	1	2	2
4490		LEAR	05	23	0200	S13	W38	05	20.2		A	HSX	10	1	1	2
4490		MANI	05	23	0319	S11	W40	05	20.1			HRX	10	1	1	3
4490		ATHN	05	23	0630	S13	W40	05	20.3			AXX	30	1	1	2
4490		BOUL	05	23	1415	S12	W43	05	20.4		A	AXX	10	1	1	2
4490	24051	MWIL	05	23	1445	S14	W46	05	20.1	4	(AP)					
4490		HOLL	05	23	1610	S13	W47	05	20.1		A	AXX	10	1	1	2
4490		PALE	05	23	1822	S13	W48	05	20.1		A	AXX		1		3
4490		RAMY	05	23	1928	S12	W49	05	20.1		A	HAX	10	1	1	3
4490		ATHN	05	24	0650	S13	W53	05	20.3		A	AXX	20	1	1	2
4490		RAMY	05	24	1245	S12	W59	05	20.1		A	HRX	20	1	1	4
4490	24051	MWIL	05	24	1430	S13	W60	05	20.1	3	(AP)					
4490		HOLL	05	24	1515	S12	W60	05	20.1		A	AXX		1		3
0004	24056	MWIL	05	17	1400	S10	E52	05	21.5	3	(AP)					
0004		BOUL	05	17	1430	S11	E51	05	21.4		A	AXX	20	1	1	2
0004		HOLL	05	17	1657	S12	E52	05	21.6		A	AXX		1		3
0004		LEAR	05	20	0230	S12	E18	05	21.5		B	BXI	10	4	2	3
4492	24057	MWIL	05	17	1400	S09	E80	05	23.6	2	AP					
4492		PALE	05	17	1915	S11	E80	05	23.8		A	AXX		1		3
4492		LEAR	05	18	0059	S09	E86	05	24.5		A	HSX	100	1	2	2
4492		HOLL	05	18	1424	S10	E78	05	24.5		B	EAO	40	10	21	3
4492		RAMY	05	18	1425	S10	E74	05	24.2		B	EAO	130	7	12	3
4492	24057	MWIL	05	18	1515	S09	E75	05	24.3	4	(B)					
4492		PALE	05	18	1740	S09	E77	05	24.5		B	FAO	200	8	18	3
4492		ATHN	05	19	0645	S11	E69	05	24.5			EAO	240	9	14	2
4492		RAMY	05	19	1242	S11	E66	05	24.5		BGD	FHO	640	27	18	4
4492		BOUL	05	19	1414	S12	E65	05	24.5		B	EAI	600	28	15	3
4492	24057	MWIL	05	19	1445	S09	E67	05	24.6	5	(BY)					
4492		HOLL	05	19	1445	S11	E67	05	24.7		BGD	FKI	850	40	24	4
4492		PALE	05	19	1937	S10	E65	05	24.7		BGD	FKI	520	20	19	3
4492		LEAR	05	20	0230	S11	E57	05	24.4		GD	FHI	490	28	20	3
4492		ATHN	05	20	0915	S13	E56	05	24.6			FKO	550	15	20	2
4492		RAMY	05	20	1248	S11	E53	05	24.5		BGD	FKO	940	44	19	4
4492	24057	MWIL	05	20	1515	S09	E54	05	24.7	6	(D)					
4492		BOUL	05	20	1550	S13	E53	05	24.7		B	FAI	780	39	20	3
4492		HOLL	05	20	1718	S10	E49	05	24.4		BGD	FKO	530	28	18	4
4492		PALE	05	20	1844	S10	E49	05	24.5		BGD	FKI	660	26	19	3
4492		MANI	05	21	0515	S10	E44	05	24.5			FKI	370	23	18	2
4492		ATHN	05	21	0700	S12	E42	05	24.5			FHO	580	18	19	1
4492		RAMY	05	21	1250	S10	E39	05	24.5		BGD	FAO	760	49	22	3
4492		HOLL	05	21	1455	S11	E39	05	24.6		BGD	FKI	920	42	19	3
4492	24057	MWIL	05	21	1500	S09	E40	05	24.6	6	(D)					
4492		BOUL	05	21	1512	S10	E42	05	24.8		B	FKI	400	33	18	2
4492		PALE	05	21	1810	S10	E37	05	24.5		BGD	FKI	750	44	19	3
4492		LEAR	05	22	0230	S10	E32	05	24.5		BGD	FHI	570	28	19	1

R E G I O N S O F S U N S P O T A C T I V I T Y
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4492		ATHN	05 22	0630	S10 E30	05 24.5			FHO	480	22	19	2
4492		RAMY	05 22	1405	S10 E24	05 24.4		BGD	FAO	490	27	17	2
4492		BOUL	05 22	1435	S11 E22	05 24.3		GD	FKI	570	16	18	2
4492	24057	MWIL	05 22	1445	S10 E25	05 24.5	6	(D)					
4492		HOLL	05 22	1845	S11 E22	05 24.4		BGD	FSI	750	29	19	3
4492		PALE	05 22	2140	S11 E20	05 24.4		BD	FAI	700	17	18	2
4492		LEAR	05 23	0200	S11 E19	05 24.5		BGD	FAI	370	40	25	2
4492		MANI	05 23	0319	S10 E18	05 24.5			FKI	440	44	18	3
4492		ATHN	05 23	0630	S11 E14	05 24.3			FHI	580	26	19	2
4492		BOUL	05 23	1415	S12 E12	05 24.5		BG	FKI	390	18	16	2
4492	24057	MWIL	05 23	1445	S10 E09	05 24.3	6	(D)					
4492		HOLL	05 23	1610	S12 E10	05 24.4		BGD	FSI	630	43	18	2
4492		PALE	05 23	1822	S11 E09	05 24.4		BGD	FSI	490	29	18	3
4492		RAMY	05 23	1928	S10 E08	05 24.4		BGD	FKO	590	69	19	3
4492		ATHN	05 24	0650	S11 E01	05 24.4			FHI	450	19	17	2
4492		RAMY	05 24	1245	S10 W01	05 24.5		BGD	FAO	510	57	19	4
4492		BOUL	05 24	1420	S09 W07	05 24.1		BG	FHO	480	39	20	3
4492	24057	MWIL	05 24	1430	S10 W03	05 24.4	6	(D)					
4492		HOLL	05 24	1515	S10 W04	05 24.3		BGD	FAO	420	61	18	3
4492		MANI	05 25	0323	S10 W11	05 24.3			FKI	450	37	18	2
4492		ATHN	05 25	0744	S09 W13	05 24.3			FAO	390	18	16	2
4492		RAMY	05 25	1214	S10 W14	05 24.5		BG	FAO	660	81	18	4
4492		HOLL	05 25	1435	S10 W15	05 24.5		BGD	FAI	580	55	18	4
4492	24057	MWIL	05 25	1500	S10 W16	05 24.4	6	(D)					
4492		BOUL	05 25	1600	S10 W15	05 24.5		BG	FSO	410	20	17	2
4492		PALE	05 25	1700	S10 W17	05 24.4		BGD	FAI	400	49	18	3
4492		MANI	05 25	2350	S10 W20	05 24.5			FKI	490	53	18	3
4492		LEAR	05 26	0050	S10 W19	05 24.6		BGD	FKI	500	49	18	2
4492		ATHN	05 26	0630	S10 W24	05 24.5			FKI	410	22	17	2
4492		RAMY	05 26	1230	S10 W29	05 24.3		BGD	FKO	430	39	19	4
4492		HOLL	05 26	1418	S10 W29	05 24.4		BGD	FKI	370	37	19	3
4492	24057	MWIL	05 26	1445	S11 W30	05 24.4	6	(BY)					
4492		PALE	05 26	1740	S10 W30	05 24.5		BGD	FKI	330	35	18	3
4492		BOUL	05 26	1810	S10 W30	05 24.5		BG	FSO	390	16	17	2
4492		MANI	05 26	2325	S10 W33	05 24.5			FKI	400	39	18	3
4492		ATHN	05 27	0615	S08 W26	05 25.3		BG	FKI	280	14	18	2
4492		RAMY	05 27	1230	S10 W40	05 24.5		BG	FAO	330	20	19	3
4492		HOLL	05 27	1421	S10 W43	05 24.4		BG	FHO	230	21	19	4
4492	24057	MWIL	05 27	1615	S11 W45	05 24.3	5	(BY)					
4492		BOUL	05 27	1640	S10 W43	05 24.5		BG	DKI	220	7	10	2
4492		PALE	05 27	1722	S10 W44	05 24.4		BG	FKO	210	20	18	3
4492		LEAR	05 28	0245	S10 W50	05 24.4		BG	FHO	160	8	18	1
4492		ATHN	05 28	0635	S09 W50	05 24.5			FHO	200	9	18	1
4492		RAMY	05 28	1503	S09 W55	05 24.5		BG	FAO	190	9	18	3
4492	24057	MWIL	05 28	1530	S11 W57	05 24.4	5	(BY)					
4492		HOLL	05 28	1547	S09 W56	05 24.5		BG	CHO	190	7	18	3
4492		BOUL	05 28	1736	S08 W55	05 24.6		B	CAO	140	6	5	2
4492		PALE	05 28	1829	S09 W57	05 24.5		BG	FAO	150	7	18	3
4492		MANI	05 29	0004	S11 W60	05 24.5			DSO	140	7	8	3
4492		LEAR	05 29	0105	S11 W62	05 24.4		B	DAO	80	4	6	3
4492		ATHN	05 29	0615	S10 W62	05 24.6		B	DAO	120	4	6	3
4492		RAMY	05 29	1330	S12 W69	05 24.4		B	CAO	180	5	4	4
4492	24057	MWIL	05 29	1445	S11 W72	05 24.2	4	(BY)					
4492		BOUL	05 29	1450	S09 W70	05 24.4		B	CAO	190	4	4	4
4492		HOLL	05 29	1556	S12 W72	05 24.2		A	HHX	110	1	3	3
4492		PALE	05 29	1840	S11 W73	05 24.3		A	HSX	90	1	2	3
4492		LEAR	05 30	0135	S12 W76	05 24.3		B	CAX	30	1	3	3
4492		ATHN	05 30	0630	S09 W81	05 24.2			AXX	70	1		2
4497		RAMY	05 24	1245	N06 E04	05 24.8		A	AXX	10	1	1	4
4497		BOUL	05 24	1420	N04 E02	05 24.7		A	AXX	10	1	1	3
4497	24061	MWIL	05 24	1430	N05 E03	05 24.8	4	(AP)					
		LEAR	05 29	0105	N06 W46	05 25.6		B	BXO	10	3	4	3
		HOLL	05 23	1610	S18 E27	05 25.7		A	AXX	10	1	1	2
4494		RAMY	05 19	1242	S10 E85	05 25.9		A	HAX	40	1	2	4
4494	24058	MWIL	05 19	1445	S10 E85	05 26.0	5	(AF)					
4494		HOLL	05 19	1445	S12 E88	05 26.2		B	CHO	60	4	5	4
4494		PALE	05 19	1937	S11 E85	05 26.2		A	HSX	170	2	2	3

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4494		LEAR	05	20	0230	S12	E75	05	25.8		B	DHO	100	2	6	3
4494		ATHN	05	20	0915	S14	E78	05	26.3		B	CRO	40	2	3	2
4494		RAMY	05	20	1248	S12	E73	05	26.0		B	DAO	160	4	3	4
4494	24058	MWIL	05	20	1515	S10	E71	05	26.0	5	(B)					
4494		BOUL	05	20	1550	S14	E70	05	25.9		B	DSO	120	10	5	3
4494		HOLL	05	20	1718	S11	E69	05	25.9		B	DAI	270	8	4	4
4494		PALE	05	20	1844	S11	E70	05	26.0		B	DAO	160	5	3	3
4494		MANI	05	21	0515	S11	E66	05	26.2			DSO	210	4	5	2
4494		ATHN	05	21	0700	S14	E65	05	26.2			DKO	240	5	5	1
4494		RAMY	05	21	1250	S09	E59	05	26.0		B	DAO	190	9	6	3
4494		HOLL	05	21	1455	S09	E60	05	26.1		B	DAI	160	8	5	3
4494	24058	MWIL	05	21	1500	S10	E59	05	26.1	5	(BY)					
4494		BOUL	05	21	1512	S11	E57	05	25.9		B	CSO	50	4	3	2
4494		PALE	05	21	1810	S09	E58	05	26.1		B	DAI	150	11	7	3
4494		LEAR	05	22	0230	S09	E53	05	26.1		B	DAI	130	11	5	1
4494		ATHN	05	22	0630	S11	E47	05	25.8			DKO	130	8	5	2
4494		RAMY	05	22	1405	S10	E45	05	26.0		B	DAO	140	10	6	2
4494		BOUL	05	22	1435	S11	E43	05	25.8		B	DSO	110	9	5	2
4494	24058	MWIL	05	22	1445	S10	E45	05	26.0	5	(BY)					
4494		HOLL	05	22	1845	S09	E44	05	26.1		B	DSI	280	24	8	3
4494		PALE	05	22	2140	S10	E41	05	26.0		B	DSO	180	10	8	2
4494		LEAR	05	23	0200	S10	E39	05	26.0		B	DSI	100	21	8	2
4494		MANI	05	23	0319	S11	E38	05	26.0			DAO	130	29	6	3
4494		ATHN	05	23	0630	S12	E35	05	25.9			DSO	170	10	6	2
4494		BOUL	05	23	1415	S10	E31	05	25.9		B	DSO	70	10	6	2
4494	24058	MWIL	05	23	1445	S09	E32	05	26.0	5	(BY)					
4494		HOLL	05	23	1610	S10	E32	05	26.1		B	DSO	240	23	8	2
4494		PALE	05	23	1822	S09	E30	05	26.0		B	DSO	150	14	7	3
4494		RAMY	05	23	1928	S08	E29	05	26.0		B	DAO	170	22	8	3
4494		ATHN	05	24	0650	S12	E20	05	25.8		B	DSO	100	6	7	2
4494		RAMY	05	24	1245	S10	E19	05	26.0		B	DAO	130	18	8	4
4494		BOUL	05	24	1420	S09	E17	05	25.9		B	DSO	110	16	8	3
4494	24058	MWIL	05	24	1430	S10	E18	05	26.0	5	(BY)					
4494		HOLL	05	24	1515	S09	E17	05	25.9		B	CSO	90	25	7	3
4494		MANI	05	25	0323	S10	E10	05	25.9			DAO	80	15	8	2
4494		ATHN	05	25	0744	S10	E06	05	25.8		B	DSO	80	5	7	2
4494		RAMY	05	25	1214	S08	E06	05	26.0		B	DAO	160	28	9	4
4494		HOLL	05	25	1435	S09	E06	05	26.1		B	DSO	70	15	10	4
4494	24058	MWIL	05	25	1500	S11	E05	05	26.0	6	(Y)					
4494		BOUL	05	25	1600	S08	E05	05	26.0		B	DSO	110	9	8	2
4494		PALE	05	25	1700	S08	E03	05	25.9		B	DSO	90	21	9	3
4494		MANI	05	25	2350	S09	E00	05	26.0			DSO	60	22	10	3
4494		LEAR	05	26	0050	S10	W01	05	26.0		B	DSO	100	15	13	2
4494		ATHN	05	26	0630	S09	W07	05	25.7			DAO	100	9	8	2
4494		RAMY	05	26	1230	S08	W08	05	25.9		B	EAO	80	21	12	4
4494		HOLL	05	26	1418	S10	W08	05	26.0		B	ESO	60	22	12	3
4494	24058	MWIL	05	26	1445	S08	W10	05	25.9	5	(BY)					
4494		PALE	05	26	1740	S08	W11	05	25.9		B	ESO	70	13	11	3
4494		BOUL	05	26	1810	S08	W12	05	25.9		B	DSO	80	4	10	2
4494		MANI	05	26	2325	S09	W15	05	25.8			DAO	80	16	10	3
4494		ATHN	05	27	0615	S05	W15	05	26.1		B	ESO	60	7	12	2
4494		RAMY	05	27	1230	S08	W23	05	25.8		B	EAO	60	17	11	3
4494		HOLL	05	27	1421	S07	W23	05	25.9		B	ESO	30	19	11	4
4494	24058	MWIL	05	27	1615	S10	W22	05	26.0	4	(BY)					
4494		BOUL	05	27	1640	S09	W26	05	25.7		B	CSO	40	3	12	2
4494		PALE	05	27	1722	S08	W26	05	25.8		B	ESO	40	9	12	3
4494		LEAR	05	28	0245	S12	W26	05	26.2		B	CSO	120	6	5	1
4494		ATHN	05	28	0635	S08	W31	05	26.0			DSO	50	4	7	1
4494		RAMY	05	28	1503	S07	W37	05	25.9		B	EAO	50	7	11	3
4494	24058	MWIL	05	28	1530	S10	W37	05	25.9	4	(BY)					
4494		HOLL	05	28	1547	S07	W36	05	26.0		B	BXO	30	5	10	3
4494		BOUL	05	28	1736	S06	W36	05	26.0		B	BXO	40	6	9	2
4494		PALE	05	28	1829	S08	W39	05	25.8		B	BXO	30	7	11	3
4494		MANI	05	29	0004	S07	W38	05	26.2			CRO	40	7	6	3
4494		LEAR	05	29	0105	S11	W38	05	26.2		B	CRO	20	3	3	3
4494		ATHN	05	29	0615	S08	W45	05	25.9		B	CRO	50	4	4	3
4494		RAMY	05	29	1330	S08	W49	05	25.9		B	CAO	40	5	11	4
4494	24058	MWIL	05	29	1445	S06	W54	05	25.6	4	(B)					
4494		BOUL	05	29	1450	S04	W55	05	25.5		B	BXO	10	4	5	4
4494		HOLL	05	29	1556	S12	W56	05	25.4		B	BXO	20	6	4	3
4494		PALE	05	29	1840	S06	W57	05	25.5		B	CSO	40	5	6	3

R E G I O N S O F S U N S P O T A C T I V I T Y
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

MAY 1984

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4494		LEAR	05	30	0135	S07	W62	05	25.4		A	AXO	10	2	2	3
4494		BOUL	05	30	1410	S05	W66	05	25.7		A	AXX	10	1	1	3
4494		HOLL	05	30	1730	S08	W68	05	25.6		B	BXO	20	2	3	3
4494		PALE	05	30	1800	S06	W69	05	25.6		B	BXO	30	4	6	3
4494	24058	MWIL	05	30	2300	S07	W70	05	25.7	3	(B)					
4494		MANI	05	31	0115	S06	W74	05	25.5			CSO	110	3	6	3
4494		LEAR	05	31	0127	S07	W69	05	25.9		B	CAO	50	5	5	3
4494		ATHN	05	31	0630	S06	W78	05	25.4			CAO	50	2	5	1
4494		RAMY	05	31	1258	S05	W78	05	25.7		B	BXO	20	2	4	3
4494	24058	MWIL	05	31	1445	S06	W80	05	25.6	3	(B)					
4494		HOLL	05	31	1457	S06	W80	05	25.6		B	CSO	10	2	5	3
4498	24062	MWIL	05	25	1500	N02	E05	05	26.0	2	(AP)					
4498		RAMY	05	26	1230	N02	W08	05	25.9		B	BXO	10	2	3	4
4498		HOLL	05	26	1418	N02	W09	05	25.9		B	BXO	10	2	3	3
4498	24062	MWIL	05	26	1445	N02	W09	05	25.9	3	(B)					
4498		PALE	05	26	1740	N02	W11	05	25.9		A	AXX		1		3
4498		MANI	05	26	2325	S01	W15	05	25.9			AXX		1		3
0005		MANI	05	29	0004	S12	W39	05	26.1			BXO	10	4	3	3
0005		ATHN	05	29	0615	S11	W40	05	26.3		B	BXO	10	2	2	3
0005	24070	MWIL	05	29	1445	S11	W46	05	26.2	3	(B)					
		LEAR	05	26	0050	S03	E02	05	26.2		B	BXO	10	3	3	2
4496		HOLL	05	25	1435	S13	E17	05	26.9		B	BXO	10	2	3	4
4496	24063	MWIL	05	25	1500	S15	E17	05	26.9	3	(AP)					
4496		MANI	05	26	2325	S15	W05	05	26.6			BXO	10	3	3	3
4496		RAMY	05	27	1230	S17	W12	05	26.6		A	HAX	20	1	1	3
4496		HOLL	05	27	1421	S16	W14	05	26.5		A	AXX		1		4
4496	24063	MWIL	05	27	1615	S16	W13	05	26.7	2	(AF)					
4496		PALE	05	27	1722	S16	W14	05	26.7		A	AXX		1		3
0006		HOLL	05	27	1421	S16	E02	05	27.7		A	AXX		1		4
0006		PALE	05	27	1722	S16	W01	05	27.6		A	AXX		1		3
4499		RAMY	05	26	1230	S18	E27	05	28.6		B	BXO	10	2	3	4
4499		HOLL	05	26	1418	S17	E26	05	28.6		B	BXO	10	4	3	3
4499	24065	MWIL	05	26	1445	S18	E24	05	28.4	4	(B)					
4499		PALE	05	26	1740	S18	E24	05	28.6		B	BXO	20	6	5	3
4499		BOUL	05	26	1810	S17	E21	05	28.4		A	AXX	20	1	1	2
4499		MANI	05	26	2325	S18	E20	05	28.5			CRO	10	3	3	3
4499		ATHN	05	27	0615	S15	E16	05	28.5		B	BXO	30	3	4	2
4499		RAMY	05	27	1230	S17	E08	05	28.1		B	CAO	40	9	12	3
4499		HOLL	05	27	1421	S17	E09	05	28.3		A	AXX	10	2	1	4
4499	24065	MWIL	05	27	1615	S16	E05	05	28.1	4	(B)					
4499		PALE	05	27	1722	S17	E07	05	28.3		A	AXX	10	2	1	3
4499		LEAR	05	28	0245	S17	E03	05	28.3		B	BXO	70	3	2	1
4499	24065	MWIL	05	28	1530	S17	W07	05	28.1	3	(B)					
4503		RAMY	05	28	1503	S08	E12	05	29.5		B	CAO	20	3	3	3
4503	24068	MWIL	05	28	1530	S09	E12	05	29.5	4	(B)					
4503		HOLL	05	28	1547	S09	E11	05	29.5		B	BXO	10	3	3	3
4503		PALE	05	28	1829	S09	E10	05	29.5		B	BXO	10	3	3	3
4503		MANI	05	29	0004	S09	E08	05	29.6			BXO	10	4	3	3
4503		LEAR	05	29	0105	S08	E07	05	29.6		B	BXO	10	4	4	3
4503		ATHN	05	29	0615	S09	E03	05	29.5		B	BXO	20	2	4	3
4503		RAMY	05	29	1330	S09	W00	05	29.6		B	DAO	20	10	4	4
4503	24068	MWIL	05	29	1445	S09	W02	05	29.5	5	(B)					
4503		BOUL	05	29	1450	S08	W03	05	29.4		B	BXO	20	8	5	4
4503		HOLL	05	29	1556	S09	W02	05	29.5		B	BXO	30	10	4	3
4503		PALE	05	29	1840	S09	W03	05	29.6		B	DSO	30	9	5	3
4503		LEAR	05	30	0135	S09	W08	05	29.5		B	BXO	20	8	5	3
4503		ATHN	05	30	0630	S09	E10	05	31.0		B	BRO	30	2	4	2
4503		BOUL	05	30	1410	S08	W13	05	29.6		B	BXO	20	12	5	3
4503		HOLL	05	30	1730	S09	W16	05	29.5		B	BXO	30	7	6	3
4503		PALE	05	30	1800	S08	W17	05	29.5		B	BXO	30	10	7	3
4503	24068	MWIL	05	30	2300	S09	W18	05	29.6	4	(B)					
4503		MANI	05	31	0115	S09	W20	05	29.6			CSO	30	9	7	3
4503		LEAR	05	31	0127	S08	W18	05	29.7		B	BXO	20	11	5	3
4503		ATHN	05	31	0630	S10	W23	05	29.5			CAO	30	3	4	1

R E G I O N S O F S U N S P O T A C T I V I T Y
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

MAY 1984

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4503		BOUL	05	31	1240	S07	W24	05	29.7		A	AXX	10	1	1	2
4503		RAMY	05	31	1258	S08	W26	05	29.6		B	CRO	20	5	4	3
4503	24068	MWIL	05	31	1445	S10	W27	05	29.6	3	(B)					
4503		HOLL	05	31	1457	S08	W27	05	29.6		B	BXO		2	5	3
4503		LEAR	06	01	0050	S11	W31	05	29.7		A	AXX	10	1	1	3
4503		MANI	06	01	0157	S09	W33	05	29.6			BXO	10	3	5	3
0007	24064	MWIL	05	25	1500	S18	E55	05	29.8	2	X					
0007		HOLL	05	27	1421	S18	E28	05	29.7		A	AXX		1		4
0007	24067	MWIL	05	27	1615	S17	E28	05	29.8	2	(AP)					
0007		RAMY	05	29	1330	S18	E23	05	31.3		A	AXX	10	2	2	4
0007	24071	MWIL	05	29	1445	S19	E23	05	31.4	3	(AP)					
0007		HOLL	05	29	1556	S20	E22	05	31.3		A	AXX		1	1	3
4507		HOLL	05	30	1730	S12	E08	05	31.3		B	BXO	20	3	3	3
4507		PALE	05	30	1800	S11	E08	05	31.4		B	BXO	10	4	3	3
4507	24073	MWIL	05	30	2300	S12	E06	05	31.4	5	(B)					
4507		MANI	05	31	0115	S11	E04	05	31.4			DRO	20	4	4	3
4507		LEAR	05	31	0127	S12	E03	05	31.3		B	BXO	30	5	4	3
4507		BOUL	05	31	1240	S09	W04	05	31.2		B	BXI	80	8	5	2
4507		RAMY	05	31	1258	S12	W03	05	31.3		B	DAO	40	10	5	3
4507	24073	MWIL	05	31	1445	S12	W03	05	31.4	5	(B)					
4507		HOLL	05	31	1457	S12	W04	05	31.3		B	CRO	30	9	6	3
4507		LEAR	06	01	0050	S12	W09	05	31.4		B	CAO	40	8	5	3
4507		MANI	06	01	0157	S11	W09	05	31.4			DSO	40	8	6	3
4507		BOUL	06	01	1340	S12	W16	05	31.4		B	BXI	40	12	5	3
4507	24073	MWIL	06	01	1445	S12	W16	05	31.4	4	(B)					
4507		HOLL	06	01	1520	S12	W17	05	31.4		B	BXI	130	15	6	4
4507		PALE	06	01	1819	S12	W19	05	31.3		B	DSO	80	13	6	3
4507		MANI	06	01	2231	S11	W22	05	31.3			DSO	60	12	6	3
4507		LEAR	06	02	0114	S11	W22	05	31.4		B	DAO	40	13	6	2
4507		ATHN	06	02	0640	S12	W25	05	31.4			DAO	70	5	13	3
4507		HOLL	06	02	1550	S13	W31	05	31.3		B	BXO	130	13	5	3
4507	24073	MWIL	06	02	1615	S12	W30	05	31.4	4	(B)					
4507		MANI	06	02	2251	S12	W35	05	31.3			CRO	40	12	7	3
4507		ATHN	06	03	0615	S10	W38	05	31.4		B	DAO	30	7	6	3
4507		RAMY	06	03	1325	S12	W42	05	31.4		B	BXO	30	6	5	3
4507	24073	MWIL	06	03	1545	S14	W43	05	31.4	4	(B)					
4507		PALE	06	03	1730	S12	W45	05	31.3		B	BXO	10	2	5	3
4507		LEAR	06	04	0025	S13	W47	05	31.5		B	BXO	10	3	4	3
4507		RAMY	06	04	1205	S12	W55	05	31.4		B	BXO	30	3	3	3
4507		HOLL	06	04	1508	S11	W59	05	31.2		A	AXX		1		3
4507	24073	MWIL	06	04	1545	S12	W56	05	31.4	3	(B)					

SUDDEN IONOSPHERIC DISTURBANCES

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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	NOAA/SESC Region
01	0022	0138	0346	2+	1			1			0021	4474
01	0106	0138	0246	1-	3			1	1		0113	No data
01	0128	0138	0220	1-	3	2			1		0138E	No data
01	0508	0511	0540	1-	5	1	1	1	1	2	NF	
01	0606	0615	0656	1-	3			1	1	2	0611	4474
01	1605	1608	1650	1	3		2				NF	
01	2318	2329	2344	1-	1			1			2318	4474
02	0344	0349	0412	1-	1			1			0345	4474
02	1157	1215	1302	2+	1					1	1154	No data
02	1408	1429	1453	1-	1			1		1	1417	4474
02	1455	1506	1535	1-	1				1		1453	4474
02	1606	1619	1710	2	5	2	3	1	1	12	1604	4474
02	1836	1845	1858	1-	1			1			1829	4474
02	1902	1930	2210D	2+	5	1		2		9	1914	4474
02	2218	2242	2330	1-	1			1			2218	4474
03	0314	0325	0424	2	3	1		1	1	1	0314	4474
03	1000	1010	1035	1	3		2				NF	
03	1336	1358	1412	1	1		1				1332	4474
03	2336	2352	0054	1-	3	1		1		1	2335	4474
04	0605	0613	0712	1-	3			1	2	2	0605	No data
04	1251	1301	1315	1-	3			1		2	1248	X-ray
04	1350	1400	1420	1-	1			1		1	1344	X-ray
04	1610	1625	1710	2	5	3	3	1	1	12	1604	X-ray
04	1828	1831	1905	2	3					2	NF	
04	2036	2047	2123	1-	3			1		3	NF	
04	2333	2350	0043	1	3	1		1		2	2333	4476
05	0105	0110	0152	1-	3	1		1		1	0104	X-ray
05	0207	0221	0320	1-	1			1			NF	
05	0240E	0249	0330	1-	3			1		1	0249	No data
05	0357	0415	0512	1-	3			1		1	0358	X-ray
05	0636	0645	0742	2+	5	2		1	2	5	0634	X-ray
05	0743	0753	0838	1-	1			1			0735	4474
05	0839	0910	1025	1+	3			1	1	2	0841	X-ray
05	0904	0907	0939	1	3					2	NF	
05	1118	1215	1355	2	5	2	1	2	1	7	1116	X-ray
05	1137	1222	1413	1-	5		1	1		9	1116	X-ray
05	1445	1458	1520	1-	5			1	1	9	NF	
05	1616	1621	1640	1	5	2	1	1	1	12	1615	X-ray
05	1810	1827	2028	2+	5	3		2	1	11	1808	X-ray
06	0108	0120	0131	1-	1			1			NF	
06	0132	0150	0242	1	3	1		1		1	0130	X-ray
06	0222	0223	0232	1-	1					1	0217	X-ray
06	0321	0325	0356	1-	1			1			NF	
06	0411	0419	0450	1-	3			1	1	1	0413	4480
06	0504	0508	0524	1-	3			1		1	0458	X-ray
06	0629	0633	0709	1-	1			1			0629	X-ray
06	0722	0728	0750	1-	3			1	1	1	NF	
06	0753	0758	0822	1-	3		1	1	1		NF	
06	0822	0827	0949	1	3	2		1	1	3	NF	
06	1022	1030	1055	2	1					1	1033	X-ray
06	1220	1240	1252	1-	3			1	1	1	1215	X-ray
06	1346	1359	1430	1+	3					2	1347	X-ray
06	1519	1528	1600	1	5			1	1	10	1517	X-ray
06	1625	1630	1645	1-	3			1		5	1625	4481
06	1905	1911	1945	1-	3			1		6	1905	4481
06	2228	2234	2316	1-	1			1			2216	X-ray
06	2317	2323	2352	1-	1			1			2316	X-ray
07	0055	0102	0116	1-	1			1			0055	X-ray
07	0421	0436	0521	1-	3			1	1		0432E	No data

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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	NOAA/SESC Region
07	0521	0528	0542	1-	1			1			0519	X-ray
07	0652	0704	0720	1-	3			1	2		0650	No data
07	0738	0747	0811	1-	1			1			0736	X-ray
07	0910	0916	0956	1-	3			1		1	0906	X-ray
07	1318	1322	1400	1	3		1			1	1325	4481
07	2112	2149	2218	1-	1			1			2115	4481
08	0117	0120	0146	1-	3			1	1	1	0117	4481
08	0151	0158	0323	2	3	1	1	1	1	2	0154	4481
08	1032	1036	1100	1-	3			1	1	1	1031	X-ray
08	1131	1136	1200	1-	3	1		1	1	4	1128	X-ray
08	2103	2108	2212	1-	3			1		5	2056	4481
09	0046	0053	0128	1-	1			1			0044	X-ray
09	0636	0648	0722	1-	1			1			0640	X-ray
09	0819	0823	0906	1-	1			1			0816	X-ray
09	1540	1600	1645	1-	5	3	4	1	1	12	1536	4481
10	0111	0123	0149	1-	3			1		1	0115E	No data
10	0320	0326	0358	1-	3			1		1	0320	4481
10	0358	0401	0430	1-	1			1			0358	4481
10	0527	0537	0548	1-	3			1		1	0530	4481
10	0848	0856	0930	1-	3			1	1	1	0844	No data
10	0941	0946	0950	1-	1			1			0942	X-ray
10	1020	1026	1046	1-	3	1		1		2	1017	X-ray
10	1330	1340	1422	1	3		3			1	1337	X-ray
10	1550	1602	1630	1-	5	1	2	1	1	9	1547	No data
10	1658	1702	1715	1-	3				1	3	1656	X-ray
10	1721	1728	1840	1+	5	3	3	1	1	8	1721	4481
10	1751	1752	1810	1	3					4	1735	4480
10	2215	2230	2302	1-	1			1			2216	4481
11	0728	0737	0934	3	5	4	2	1	1	3	0729	No data
11	0937	0941	0949	2	1	1					0934E	No data
11	1047	1050	1115	1-	5	3	5	1	1	2	1047	4481
11	1459	1500	1506	1-	3					3	1458	X-ray
11	1525	1528	1600	1-	3	1		1	1	7	1522	X-ray
11	1633	1635	1650	1	3		3				*	
11	1950	1956	2014	1-	3			2		6	1947	X-ray
11	2034	2046	2134	1+	5	1		1		7	2027	4481
12	0016	0018	0046	1-	1			1			0016	4481
12	0110	0120	0147	1-	3			1	1		0103	4481
12	0532	0540	0738	2+	5	2	2	1	2	4	0532	4481
12	1004	1014	1104	1+	5	3	3	1	2	3	1007	No data
12	1256	1302	1330	1-	3			1	1	5	1257	4481
12	1421	1423	1455	1-	3					4	1422	4481
12	2303	2316	0020	1-	3	1		1	1	3	2314	4481
12	2332	0012	0013	1	1	1					2340	4481
13	0039	0054	0123	1-	1			1			0039	4481
13	0355	0410	0502	1-	1			1			*	
13	0657	0702	0745	1-	1			1			NF	
13	0754	0801	0833	1-	3			1	1		0751	X-ray
13	1038	1045	1141	1	3		3				NF	
13	1427	1428	1438	1-	1					1	1426E	4481
13	1751	1752	1820	1+	1					1	1756	4481
14	0554	0604	0612	2	1	1					0552	X-ray
14	1130	1140	1224	2+	1				1		NF	
14	1303	1310	1336	2	3		2				NF	
14	1800	1820	1902	2+	3					3	1800	4481
14	1815	1817	1830	1-	1					1	1800	4481
14	2053	2103	2135	1-	1			1			2054	4481

SUDDEN IONOSPHERIC DISTURBANCES

MAY 1984

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	NOAA/SESC Region
14	2215	2225	2312	1-	3			1		4	2217E	4481
14	2313	2322	0004	1-	3			1	1	1	2312	4481
15	0003	0009	0023	1-	1			1			0003	X-ray
15	0101	0109	0145	1-	3			1	1		0102	4481
15	0222	0229	0326	1-	3			1	1		0220	4481
15	0452	0507	0611	1-	3	1		1		1	0451	No data
15	0529	0532	0600	1+	1					1	0523	X-ray
15	1703	1709	1753	1-	5	1	4	1	1	7	1700	4481
16	0034	0054	0130	1-	3			1		1	0032	X-ray
16	0108	0116	0144	1-	3			1		1	0109E	No data
16	0514	0536	0600	1-	1			1			0511	X-ray
16	0532	0534	0543	1-	1					1	0529E	No data
17	1352	1358	1410	1-	3	1			1	3	NF	
17	1528	1530	1545	1-	3					5	1526	X-ray
17	1818	1822	1837D	1-	3					2	1816	X-ray
17	1837	1840	1900	1	3					2	1835	X-ray
17	2118	2123	2153	1-	1			1			2115	X-ray
18	0009	0018	0042	1-	3			1	1	1	NF	
18	0200	0216	0224D	2	3	1		1	1	1	NF	
18	0226E	0232	0420	2+	3	1		1	1	1	0224	X-ray
18	0444	0454	0511	1-	3			1	1	1	0444	No data
18	0534	0538	0606	1-	3			1	1		0534	No data
18	0608	0614	0648	1-	3			1	1		0606	X-ray
18	0706	0710	0715	1-	3			1	2		0704	X-ray
18	0806	0852	0933	1-	3			1	2	1	0750	X-ray
18	0835	0855	0906D	1-	3				1	1	0835	No data
18	0934E	0942	1046	1	3			1	1	2	0932	X-ray
18	1039	1041	1100	1	1					1	1040E	No data
18	1159	1204	1230	1-	5		1	1	1	4	1158	X-ray
18	1234	1238	1250	1-	3			1	1	3	NF	
18	1304	1316	1341	1-	5	3	4	2	1	10	1300	X-ray
18	1406	1420	1555	1-	5	3	4	1	1	9	1402	X-ray
18	1447	1450	1530	1+	3					8	NF	
18	1640	1650	1740	2	1					1	1647E	4481
18	1820	1823	1840	1	1					1	1821	4492
18	1859	1901	1915	1-	3			1		5	1856	X-ray
18	1923	1930	2015	1-	3			1		5	1919	X-ray
18	2142	2211	2234	1-	1			1			2136	4492
18	2344	0004	0042	1-	1			1			2340	X-ray
19	0042	0049	0057	1-	1			1			0041	4481
19	0306	0333	0507	1-	3			1	1	1	0304	X-ray
19	0648	0655	0718	1-	1			1			0648	X-ray
19	0734	0753	0906	2	3			1	2	3	0734	No data
19	0749	0754	0810	1	3	3				2	0748	No data
19	1034	1040	1112	1-	3	1		1	1	2	1031	X-ray
19	1105	1107	1130D	1	1					1	1112E	No data
19	1130	1132	1202D	1+	1					1	1126	X-ray
19	1204	1213	1303	1-	3			1	1	3	1202	X-ray
19	1732	1740	1840	1-	3			1		5	1731	No data
19	1813	1814	1845	1	3					4	1806	X-ray
19	1952	1957	2016	1	3					2	NF	
19	2035	2045	2118	2	3					5	2030	4492
19	2151	2155	2342	3+	3	3		1	1	5	2151	4492
19	2342	2348	0042	1+	3	2		2	1	2	NF	
20	0015	0017	0129D	1-	1					1	0017E	4494
20	0043	0046	0056	1-	3			1		1	NF	
20	0112	0132	0248	2	3			1	1		0126	4492
20	0126	0132	0250	2+	3	3		2		2	0126	4492

SUDDEN IONOSPHERIC DISTURBANCES

MAY 1984

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	NOAA/SESC Region
20	0250	0305	0403	3+	3	1	1	2	1	1	0251E	4492
20	0404	0411	0501	2+	3	1	1	2		2	0403	No data
20	0502	0545	0616D	3+	3			1		1	0529	X-ray
20	0533	0546	0617	1+	5	4	1	1	2	5	0529	X-ray
20	0616E	0622	0728	2	3			1		4	0615	No data
20	0816	0820	0832	1-	3			1	1	3	0820	X-ray
20	0855	0908	1014	2	3	2		1	2	3	0854	X-ray
20	1014	1024	1114	1+	3	2		1	1	2	1011	X-ray
20	1115	1121	1140	1-	3	1	1	1	1	2	1114	X-ray
20	1150	1200	1210	1-	3		2	1	1	1	*	
20	1236	1248U	1316	1	3		2				1233	4492
20	1336	1347	1445	1-	5	2	4	2	1	11	1332	X-ray
20	1513	1519	1550	1-	5	3	4	2	1	8	1514	4492
20	1639	1646	1726	1-	3		2	1		4	1637	X-ray
20	1802	1804	1811	1-	3					4	1746	4492
20	1908	1909	1920	1-	3					4	NF	
20	1930	1934	2015	1-	3			2		6	1929	4492
20	2020	2024	2042	1-	1			1			2019	4492
20	2147	2157	2220	1-	3			1		5	2150	4492
20	2221	2238	0016	3+	5	3		1		5	2218	4492
21	0219	0228	0244D	2+	3	1		1			0218	X-ray
21	0244E	0319	1014	3+	3	1				1	0237	No data
21	1143	1145	1200	1-	1					1	1146E	No data
21	1329	1340		1-	3			1		6	1328	No data
21	1403	1406	1440	1	5	2	1	2	1	8	1401	4492
21	1543	1544	1556	1-	3					5	1540	X-ray
21	1616	1621	1653	2	3					7	1610	4492
21	1713	1722	1744	1-	3			1		7	1646	4492
21	1747	1749	1800	1-	3			1		9	1747	4490
21	1800	1812	1914	1-	5			2		8	1757	X-ray
21	2018	2026	2210	3+	5	3		2		6	NF	
22	0250	0259	0406	1+	3	1		1	1	3	0251	4492
22	0438	0446	0549	1-	3			1	1	2	0440	4492
22	0613	0640	0815	2+	3		1	1	1	1	0615	No data
22	0630	0642	0812	1	5	2	2	1	2	2	0630	No data
22	0926	0933	0955	1-	3			1	1	2	0928	No data
22	1111	1115	1130	1-	3				1	1	1110	X-ray
22	1450	1504	1620	3	5	4	4		1	6	1501E	4492
23	0257	0300	0312	1-	3			1	1	1	0258E	No data
23	0507	0515	0700	2+	5	3	1	1	2	3	0503	No data
23	1215	1221	1240	1-	3	1			1	2	1217E	No data
23	2346	2357	0115	1-	3	1		1	1	1	2348	4494
24	0153	0200	0230	1-	1			1			0153	X-ray
24	0531	0534	0610	1-	1			1			NF	
24	0658	0706	0808	1	3	1	3	1	2	3	0657	X-ray
24	0846	0850	0926	1-	1			1			0842	No data
24	0952	1002	1052	1+	5	3	5	1	1	3	0956E	No data
24	1247	1249	1258	1-	1					1	1248	4492
24	1448	1450	1503	1-	3					4	1448	4492
25	0420	0429	0504	1-	3			1	1	1	0422	4492
25	0623	0631	0745	1-	1				1		0629	No data
25	0838	0850	1108	2+	5	3	4	1	2	4	0835	No data
25	1458	1510	1550	1-	3			1	1	7	1453	4492
25	1958	2000	2028	1	3					3	1958	4494
25	2130	2139	2227	1-	3			1		5	2133E	4492
26	0144	0153	0216	1-	1			1			0147E	4492
26	0242	0245	0257U	1-	1				1		0243	4492
26	0605	0609	0720	1	3	3	1	1	2	4	0606E	4492

SUDDEN IONOSPHERIC DISTURBANCES

MAY 1984

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	NOAA/SESC Region
26	1228	1230	1300	1-	3			1		1	1226	4492
26	1317	1332	1443	1-	2	1		1	1	6	1315	4492
26	1700	1705	1730	1	1		1				1707	4500
28	1608	1615	1630	1	3		2				NF	
28	1703	1712	1723	1	3		2				1714	4494
28	2232	2240	2254	1-	1			1			NF	
29	0020	0023	0108	1-	3			1	1		0016	X-ray
29	0802	0817	0829	1	3			2			*	
29	1256	1303	1336	1-	1			1			NF	
30	1300	1335	1410	1	3		3				NF	
31	1137	1153	1234	1-	5	3	6	1	1	7	1129	X-ray

SIDs by NOAA/SESC REGION
May 1984

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																															
4474	3	7	3		1																										
4476				1																											
4480						1				1																					
4481						2	2	3	1	5	9	7	3	5	3			1	1												
4490																					1										
4492																		2	2	10	3	3		2	3	5					
4494																				1			1		1			1			
4500																										1					
X-Ray				3	8	10	4	2	3	4	3		1	1	2	2	4	11	6	8	3	1		2					1	1	1
No Flare	2		1	2	3	5							2	2			1	4	2	2	1			1				2	1	1	
No Flare Patrol											1		1							1									1		
No Data	2	1		1	1		2			3	3	1			1	2		4	4	2	3	3	3	2	2						
Event Totals	7	8	4	7	13	18	8	5	4	13	16	8	7	8	6	4	5	22	15	24	11	7	4	7	6	6		3	3	2	1

OBSERVATORIES REPORTING FOR MAY 1984

Cleveland, Ohio, USA (A28)	SES	Lintong, China (LT)	SPA
Darmstadt, GFR (DA)	SWF	Louisville, Kentucky, USA (A26)	SES
Durban, South Africa (A58)	SES	Maui, Hawaii, USA (MI)	SWF
Edenvale, South Africa (A52)	SES	Olomouc-Losov, Czechoslovakia (OL)	SEA
Farsta, Sweden (FA)	SES	Panska Ves, Czechoslovakia (PU)	SEA, SWF, SES
Glenorchy, Tasmania, Australia (GN)	SES	Paterson, New Jersey, USA (A46)	SES
Hiraiso, Japan (HI)	SWF	San Antonio, Texas, USA (SA)	SES
Hobart, Tasmania, Australia (TA)	SEA	Sao Paulo, Brasil (UM)	SPA, SES
Houston, Texas, USA (A50)	SES	St. Cloud, Minnesota, USA (SC)	SES
Inubo, Japan (IN)	SPA	Tournai, Belgium (TB)	SES
Juliusruh, GDR (JU)	SWF	Tucson, Arizona, USA (A9)	SES
Kuhlungsborn, GDR (KU)	SPA, SEA	Upice, Czechoslovakia (UI)	SEA
Lianherne, Australia (LL)	SPA	Valley Cottage, New York, USA (A01)	SES
Latrobe, Pennsylvania, USA (A19)	SES	Vsetin, Czechoslovakia (VS)	SEA

* No Flare Patrol
NF No Flare Reported
Observations are not necessarily continuous for each station

SOLAR RADIO EMISSION SPECTRAL OBSERVATIONS

MAY 1984

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	0910	1409	WEIS				0913.0	1358.0	2				
			SGMR				1150.0	2321.0	1				IS
	1507	1535	WEIS										CONT
			PALE				2045.3	2055.3	2				
			LEAR				2300.0	0941.0	1				GG
													CONT
02	0615	1757	WEIS				0627.7	0628.2	3				
			WEIS				0922.8	0922.9	1				III GG
			WEIS				1047.2	1047.3	1				III B
			WEIS				1059.3	1059.5	2				III B
			WEIS				1109.2	1109.3	1				III G
			WEIS				1110.3	1110.4	1				III B
			WEIS				1252.3	1252.7	2				III B
			WEIS				1254.3	1254.9	2				III G
			WEIS				1301.3	1301.4	2				III G
			WEIS				1306.8	1306.9	1				III B,U
			WEIS				1310.5	1311.6	2				III B
			SGMR				1310.8	1311.6	1				III G
			WEIS				1358.4	1358.7	1				V
			WEIS				1410.2	1412.1	3				III G
			SGMR				1411.6	1411.8	1				III GG
			WEIS				1419.1	1419.7	2				III
			WEIS				1427.8	1429.4	3				III G
			SGMR				1428.6	1433.8	1				III G
			WEIS				1431.8	1433.0	3				V
			SGMR				1501.6	1501.8	1				III G
			WEIS				1501.7	1501.9	1				III
			WEIS				1558.7	1558.8	1				III G
			WEIS				1601.4	1601.6	1				III B
			SGMR				1830.6	1831.0	1				III B
			SGMR				2015.0	0000.0	1				V
			PALE				2033.0	0100.0	1				CONT
													CONT
03	0441	1231	WEIS				0636.3	0636.8	1				
			WEIS				0727.1	0727.7	2				III B
			WEIS				1034.1	1034.2	1				DCIM
	1238	1758	WEIS				1352.9	1353.2	2				III G
			WEIS				1354.7	1355.0	2				III B
													III G
04	0438	1759	WEIS				0728.2	0728.3	3				
			SGMR				1238.3	1238.6	1				III B
			WEIS				1238.7	1238.9	3				V
			WEIS				1535.8	1535.9	1				III B
			WEIS				1555.7	1556.0	2				III B
			WEIS	1607.7	1509.3	2							III G
			SGMR				1612.6	1614.5	1				DCIM
			WEIS				1612.7	1615.2	2				V
			WEIS				1619.5	1619.8	1				III G
			SGMR				1635.8	1636.1	1				III B
			WEIS				1635.9	1636.5	2				V
			SGMR				1657.6	1702.3	1				III B,U
			WEIS				1657.7	1659.4	1				V
			WEIS				1701.5	1702.2	3				III G
			SGMR				2006.0	2008.0	1				III G
													V
05	0438	0624	WEIS										
			LEAR				0803.8	0805.1	1				III
	0654	1801	WEIS				0805.2	0805.3	1				III B
			WEIS				1149.2	1154.5	2			II	
			WEIS				1210.6	1210.7	1				III B
			WEIS				1221.3	1224.9	2				III G
			SGMR				1221.6	1238.1	1				GG
			SGMR				1812.8	1817.1	1				V
			PALE				1813.3	1853.8	2			IV	
			PALE				1821.5	1831.5	2			II	
			SGMR				1822.6	1836.0	1			II	
			SGMR				1858.0	1945.0	1				CONT
			SGMR				2114.0	2114.3	1				V
			PALE				2114.1	2114.8	1				V
06			LEAR				0508.0	0513.3	1				III

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 1984

Observation Day	Start (UT)	End (UT)	Sta	Decimetric Band Start (UT)	End (UT)	Int (1-3)	Metric Band Start (UT)	End (UT)	Int (1-3)	Dekametric Band Start (UT)	End (UT)	Int (1-3)	Spectral Type
06	0435	1411	WEIS				0508.3	0508.7	1				IIIG
			WEIS				0513.2	0513.4	2				IIIG
			WEIS				0731.1	0731.2	1				IIIB
			LEAR				0733.3	0734.8	1				V
			WEIS				0733.4	0734.3	2				IIIGG,U
			LEAR				0801.6	0801.8	1				III
			WEIS				0801.7	0801.9	2				IIIB
			WEIS				0835.6	0838.6	1				IIIG
			WEIS				1031.3	1032.6	2				IIIG
			SGMR				1430.6	1431.3	1				V
	1421	1436	WEIS				1430.7	1432.0	2				IIIG
07			LEAR				0227.8	0228.3	1				III
	0533	1804	WEIS				1237.4	1238.3	1				IIIG
			WEIS				1242.7	1243.0	1				IIIB
			WEIS				1257.7	1257.9	1				IIIB
08	0431	1211	WEIS				1143.2	1143.5	1				IIIB
	1242	1805	WEIS				1356.2	1356.4	1				IIIB
			WEIS				1427.8	1427.9	1				IIIB
			SGMR				1808.3	1808.8	1				V
			SGMR				1851.6	1851.8	1				III
09			LEAR				0502.0	0937.0	1				CONT
			LEAR				0549.5	0550.1	1				III
	0431	1806	WEIS				0927.9	0928.5	1				IIIG
			WEIS				0939.2	0939.3	1				IIIB
			WEIS				1019.7	1023.5	2				IIIGG
			WEIS				1128.7	1128.9	3				IIIB
			WEIS				1149.7	1149.3	1				IIIB
			WEIS				1541.2	1542.7	3				IIIG,RS
			WEIS				1543.2	1607.0	3				II HARM
			SGMR				1553.0	1605.0	1				II
			WEIS				1700.4	1700.6	1				IIIB
			WEIS				1702.6	1707.4	1				IIIG
			WEIS				1733.4	1733.7	1				IIIB
			SGMR				1822.1	1823.1	1				V
			SGMR				2211.3	2219.0	3				V
			LEAR				2330.0	0936.0	1				CONT
10	0430	0604	WEIS				0443.7	0443.8	1				IIIB
	0714	1806	WEIS				1437.9	1438.0	2				IIIB
11			LEAR				0156.0	0156.3	1				III
	0509	1350	WEIS				0714.3	0714.4	1				IIIB
			LEAR				0807.1	0807.3	1				III
			WEIS				0807.1	0807.4	2				IIIG
			WEIS				1300.8	1301.0	1				IIIB
	1413	1808	WEIS										
			PALE				1801.8	1802.3	1				III
			SGMR				1801.8	1802.0	1				III
			PALE				1915.3	1915.8	1				III
			SGMR				1915.6	1915.8	1				III
			PALE				2201.3	2210.5	1				III
12			LEAR				0136.8	0138.6	1				III
			LEAR				0307.5	0314.5	1				III
			PALE				0307.8	0307.8	1				III
			LEAR				0649.8	0652.3	1				III
	0552	1848	WEIS				0809.6	0810.7	1				IIIG
			WEIS				0852.9	0900.8	3				IIIGG
			LEAR				0853.3	0856.1	2				V
			WEIS				0929.3	0939.4	1				IIIB
			PALE				1954.6	1955.8	1				V
			SGMR				1954.6	1955.0	1				V
13			LEAR				0213.0	0213.1	1				III
			LEAR				0450.0	0935.0	1				CONT
	0426	0844	WEIS				0756.0	1809.0	3				IS,DC
			SGMR				1222.3	2340.0	1				CONT
	1102	1810	WEIS				1303.0	1639.0	2				IIIN

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 1984

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
13			WEIS				1445.4	1446.3	3				III G
			PALE				1650.0	0410.0	1				CONT
			WEIS				1657.5	1657.7	2				III G
			WEIS				1701.2	1701.4	1				III B
			WEIS				1755.8	1755.9	1				III B
			LEAR				2306.0	0934.0	1				CONT
14			LEAR				0054.5	0054.8	2				III
			PALE				0054.6	0054.8	2				III
			LEAR				0058.0	0100.0	2				V
			PALE				0058.3	0059.0	2				V
			LEAR				0415.8	0417.3	3				V
	0518	1037	WEIS				0518.0	1804.0	3				DC,I,S
			WEIS				0757.3	0759.2	1				III G
			WEIS				0818.3	0824.2	3				III G
			SGMR				1239.0	1930.0	1				CONT
	1050	1553	WEIS				1304.0	1553.0					III N
			WEIS				1423.0	1423.7	2				III G
			WEIS				1428.2	1428.4	2				III G
			LEAR				2240.0	0934.0	1				CONT
15	0640	0838	WEIS				0732.9	0733.2	1				III B
			WEIS				0734.7	0734.9	1				DC IM
			WEIS				0734.8	0734.9	2				III B
			WEIS				0736.4	0736.8	2				DC IM,RS
	0847	1813	WEIS				1156.7	1158.3	1				III G
			WEIS				1203.4	1205.1	2				III G
			SGMR				1203.6	1204.3	1				V
			WEIS	1243.3	1243.5	2							DC IM
			WEIS				1507.8	1508.7	1				III G
			WEIS				1523.2	1524.1	2				III G
16	0423	0457	WEIS										
	0517	0628	WEIS										
	0643	1558	WEIS				1115.0	1542.0	2				IS
			WEIS				1330.5	1331.2	3				III G
			SGMR				1330.6	1336.1	1				V
			WEIS				1335.2	1336.1	3				III G
			WEIS				1550.7	1550.9	2				III B,U
17	0523	1815	WEIS				1145.2	1145.7	1				III G
18			LEAR				0116.1	0118.6	1				V
			LEAR				0356.8	0358.1	1				III
	0511	1243	WEIS										
	1305	1815	WEIS										
19	0420	1817	WEIS				0613.4	0613.8	1				III B
			LEAR				0613.5	0613.8	1				III
			WEIS	1110.8	1111.3	2							DC IM
			WEIS				1506.6	1506.8	3				III G
			WEIS				1508.3	1508.7	3				III G
			PALE				2153.3	2153.6	1				III
20			LEAR				0146.1	0146.6	1				III
			PALE				0146.6	0146.8	2				III
			LEAR				0218.1	0219.6	1				III
			PALE				0219.1	0219.5	2				III
	0418	0539	WEIS										
			LEAR				0619.0	0620.8	1				V
	1025	1818	WEIS				1207.3	1207.9	3				III GG
			WEIS				1405.0	1405.2	1				III B
			WEIS				1527.3	1527.5	1				III B
			WEIS				1724.5	1724.7	3				III G
			SGMR				2140.0	2145.6	1				V
			PALE				2239.5	2246.1	2			IV	
			PALE				2246.1	0430.0	1				CONT
21			LEAR				0219.5	0222.1	1				V
			LEAR				0255.5	0327.0	1			IV	
	0418	1716	WEIS				0541.5	0541.7	2				III B

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 1984

Observation Day	Start (UT)	End (UT)	Sta	Decimetric Band Start (UT)	End (UT)	Int (1-3)	Metric Band Start (UT)	End (UT)	Int (1-3)	Dekametric Band Start (UT)	End (UT)	Int (1-3)	Spectral Type
21			LEAR				0542.5	0542.6	1				III
			WEIS				0624.4	0624.8	1				IIIG
			WEIS				0748.2	0748.7	1				IIIG
			WEIS				0835.6	0835.7	1				IIIB
			WEIS				1031.8	1031.9	1				IIIB
			SGMR				1145.6	1148.1	1				V
			WEIS				1145.6	1149.6	3				IIIGG
			WEIS				1209.6	1209.8	3				IIIB
			SGMR				1230.8	1231.1	1				III
			SGMR				1239.8	1240.1	1				III
			WEIS				1239.8	1241.4	1				IIIG
			WEIS				1247.3	1248.2	2				IIIG
			WEIS				1320.2	1320.5	2				IIIG
			SGMR				1320.3	1320.5	1				III
			WEIS				1323.5	1329.3	2				IIIGG
			SGMR				1323.6	1324.1	1				V
			SGMR				1338.8	1339.1	1				V
			WEIS				1338.8	1340.6	3				IIIG
			WEIS				1350.1	1350.2	1				IIIB
			WEIS				1352.4	1352.5	1				IIIB
			SGMR				1354.6	1358.1	1				V
			WEIS				1354.7	1358.3	3				IIIGG
			WEIS				1432.5	1433.3	3				IIIG,U
			SGMR				1432.6	1433.3	2				V
			WEIS				1437.1	1442.3	2				IIIGG
			WEIS				1447.8	1448.0	1				IIIB
			WEIS				1450.1	1457.3	3				IIIGG
			WEIS				1509.3	1513.4	1				IIIG
			WEIS				1521.2	1522.3	1				IIIB
			WEIS				1605.7	1606.1	1				IIIG
			WEIS				1612.8	1614.3	2				IIIG
			WEIS				1615.9	1616.2	2				IIIG
			WEIS				1619.3	1621.7	2				IIIG
			SGMR				1621.3	1621.6	1				V
			WEIS				1645.1	1646.4	1				IIIG
	1723	1820	WEIS				1734.4	1734.7	2				IIIG
			WEIS				1745.4	1747.8	2				IIIGG,RS
			SGMR				1746.6	1746.8	1				III
			WEIS				1758.8	1759.0	1				IIIG
			WEIS				1802.7	1802.9	2				IIIG
			WEIS				1805.3	1806.3	3				IIIG,U
			PALE				1808.8	1809.8	3				V
			WEIS				1809.7	1810.7	3				IIIG
			SGMR				1810.0	1810.5	2				V
			PALE				1923.1	1924.5	1				III
			SGMR				1923.3	1924.3	1				V
			PALE				1947.6	1947.8	2				III
			PALE				2028.6	2038.6	2				GG
			SGMR				2031.0	2037.3	1				II
			SGMR				2116.3	2117.3	2				V
			PALE	2116.5	2120.0	2							III
			LEAR				2252.8	2253.1	1				III
			PALE				2252.8	2253.5	3				V
			SGMR				2252.8	2253.3	1				V
			LEAR				2309.0	0301.0	1				CONT
			PALE				2325.6	2325.8	1				III
22			PALE				0230.0	0230.3	1				III
			LEAR				0426.0	0450.5	1				GG
	0511	0612	WEIS										
			LEAR				0618.1	0624.8	2				III
	0651	1821	WEIS				0926.2	0926.3	1				IIIB
			WEIS				0928.3	0928.5	3				IIIG
			WEIS				1004.3	1004.4	1				IIIB
			WEIS				1303.3	1303.4	1				IIIB
			WEIS				1450.3	1504.7	3				IIIGG/V
			WEIS				1505.8	1536.3	3				IIIGG,DP
			WEIS				1508.4	1508.5	2				RS
			WEIS				1534.5	1535.5	2				F
			WEIS				1542.8	1552.8	2				IIIG
			WEIS				1625.7	1628.1	2				IIIG

SOLAR RADIO EMISSION SPECTRAL OBSERVATIONS

MAY 1984

Observation Day	Start (UT)	End (UT)	Sta	Decimetric Band Start (UT)	End (UT)	Int (1-3)	Metric Band Start (UT)	End (UT)	Int (1-3)	Dekametric Band Start (UT)	End (UT)	Int (1-3)	Spectral Type
22			WEIS				1721.7	1723.6	1				IIIG
			PALE				2326.6	2327.5	2				III
			LEAR				2326.8	2327.5	1				III
23			PALE				0044.1	0047.5	2				III
			LEAR				0045.1	0054.1	2				V
			LEAR				0116.0	0931.0	1				CONT
	0417	1050	WEIS				0510.0	0511.5	2				IIIGG
			WEIS				0603.7	0604.6	2				IIIG
			WEIS				0632.3	0632.4	1				IIIB
			WEIS				0658.0	1734.0	2				IN
			WEIS				0953.4	0953.6	2				III
	1055	1822	WEIS				1253.1	1259.4	2				IIIGG
			WEIS	1634.9	1635.6	3							IIIG,U
			WEIS				1637.1	1639.7	3				IIIGG,U
			SGMR				1637.3	1639.6	2				V
			WEIS				1637.4	1638.4	3				DCIM
			WEIS				1726.1	1726.3	1				IIIB
			PALE				2222.3	2222.6	2				III
			SGMR				2223.3	2223.6	1				V
			LEAR				2329.5	2331.5	1				III
			PALE				2329.5	2332.3	2				V
			PALE				2346.3	2355.6	3				CONT
			LEAR				2346.5	2350.3	2				III
24			PALE				0057.1	0101.1	2				V
			LEAR				0106.0	0931.0	1				CONT
	0518	1818	WEIS				0830.7	0831.5	1				IIIG
			WEIS				0915.5	0915.9	1				IIIG
			WEIS				1013.3	1032.0	2				IIIGG
			WEIS				1436.4	1436.5	1				IIIB
			WEIS				1441.3	1448.1	2				IIIG
			WEIS				1457.4	1457.5	1				IIIB
			WEIS				1521.5	1522.0	2				IIIG
			WEIS				1526.2	1526.5	1				IIIG
			WEIS				1536.7	1536.8	2				IIIG
			WEIS				1601.9	1602.6	3				IIIG
			WEIS				1615.5	1615.9	2				IIIG
			WEIS				1652.3	1653.3	3				IIIG
			PALE				2257.3	2257.8	2				V
			LEAR				2329.5	2331.5	1				III
			LEAR				2346.5	2350.3	2				III
25	0514	1333	WEIS				0827.7	0828.1	3				IIIG
			WEIS				1021.3	1021.9	2				IIIG
			WEIS				1230.2	1230.4	2				IIIB
	1351	1824	WEIS				1436.3	1436.5	1				IIIB
			WEIS				1454.7	1455.0	1				IIIG
			WEIS				1457.4	1501.9	3				IIIGG
			SGMR				1457.5	1457.6	1				V
			WEIS				1510.9	1513.0	1				IIIG
			WEIS				1542.4	1542.5	1				IIIB
			WEIS				1544.2	1544.3	1				IIIB
			WEIS				1608.9	1609.0	1				IIIB
			WEIS				1654.0	1654.2	2				DP
			WEIS				1703.5	1705.0	1				IIIG
			WEIS				1708.4	1708.7	1				IIIG
			WEIS				1731.9	1732.4	3				IIIB
			PALE				2130.1	2132.1	2				V
			PALE				2133.6	2135.3	2				III
26			LEAR				0233.5	0233.6	1				III
			WEIS				0442.0	0515.0	1				I
	0413	1134	WEIS				0443.5	0443.6	1				IIIB
			LEAR				0445.5	0445.6	1				III
			WEIS				0446.6	0447.3	1				IIIG
			WEIS				0457.3	0457.5	1				IIIG
			WEIS				0514.7	0520.0	2				IIIGG
			LEAR				0515.3	0520.1	1				V
			WEIS				0533.4	0543.4	3				IIIGG
			LEAR				0534.1	0600.1	1				GG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

MAY 1984

Observation Day	Start (UT)	End (UT)	Sta	Decimetric Band Start (UT)	End (UT)	Int (1-3)	Metric Band Start (UT)	End (UT)	Int (1-3)	Dekametric Band Start (UT)	End (UT)	Int (1-3)	Spectral Type
26			WEIS				0550.4	0551.3	3				IIIG
			WEIS				0554.0	0554.4	3				IIIB
			WEIS				0605.3	0606.8	2				DCIM
			WEIS				0735.4	0735.6	2				IIIB
			WEIS				0839.3	0840.7	3				IIIG
			WEIS				0935.9	0936.4	3				IIIG
			WEIS				0954.9	0955.0	3				IIIG
			WEIS				1022.4	1022.6	2				IIIB
			WEIS				1109.1	1109.2	1				IIIB
			WEIS				1111.2	1111.3	1				IIIB
	1146	1824	WEIS				1312.1	1327.4	3				IIIGG,RS
			WEIS				1347.9	1359.0	2				IIIGG
			WEIS				1404.4	1407.8	2				IIIG
			WEIS				1427.6	1428.4	1				IIIG
			WEIS				1508.1	1508.7	2				IIIG
			WEIS				1635.8	1637.3	1				IIIG
			WEIS				1757.5	1759.5	3				IIIGG/U
			PALE				1757.6	1759.1	2				III
			PALE				1823.3	1823.8	2				III
			WEIS				1854.1	1856.7	1				IIIG
			PALE				2044.3	2049.6	2				G
			PALE				2337.1	2337.8	3				III
27			LEAR				0637.6	0639.5	1				III
28	0519	1827	WEIS				0954.4	0959.2	1				IIIGG
			SGMR				1921.8	1923.3	1				V
29			LEAR				0013.8	0034.0	1				G
	0412	0507	WEIS				0741.6	0742.0	2				IIIB
	0512	1226	WEIS				1101.2	1101.8	2				IIIG
			SGMR				1742.3	1745.6	1				V
	1259	1828	WEIS				1742.3	1745.6	2				IIIGG
			WEIS				1800.8	1802.2	1				IIIG
30			LEAR				0244.8	0245.3	1				V
	0541	1141	WEIS				0855.0	0855.2	2				IIIB
	1219	1829	WEIS				0857.4	9858.0	2				IIIG,U
31	0409	1751	WEIS				1132.0	1140.2	1				IIIGG
	1856	1830	WEIS				1141.6	1201.5	3				II HARM
			WEIS				1203.2	1208.3	1				II
			WEIS				1622.8	1622.9	1				IIIB
			WEIS				1741.9	1742.4	2				IIIG,U

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

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

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

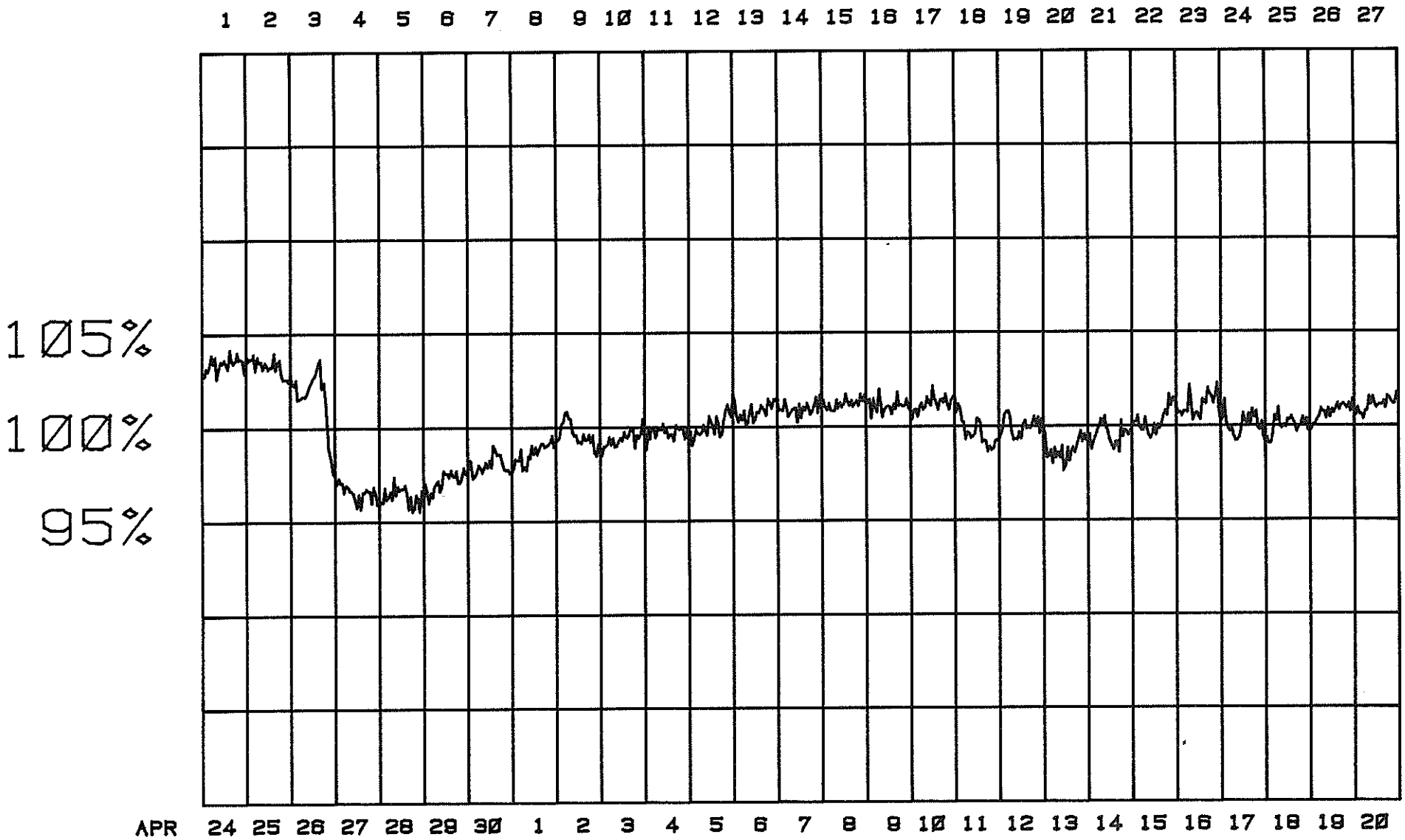
COSMIC RAY INDICES
(Neutron Monitor)

May 1984

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	PREDIGTSTUHL Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	3970	6495.2	6172.5	5589.4		1104	3508.0	
2	4007	6557.9	6238.4	5617.0		1110	3527.1	
3	3998	6546.9	6231.5	5611.1		1107	3520.5	
4	4012	6565.4	6263.0(23)	5637.6		1113	3534.4	
5	4027	6635.4	6299.4	5657.3		1125	3537.9	
6	4057	6638.7	6305.7	5690.0		1130	3546.7	
7	4062	6623.7	6288.9	5692.5		1123	3530.4	
8	4072	6630.8	6260.6	5666.7		1113	3515.2	
9	4068	6626.8	6289.6	5676.9		1116	3521.6	
10	4072	6641.2	6295.4	5685.1		1123	3539.5	
11	4009	6535.8	6170.4	5590.3		1097	3490.5	
12	4023	6552.6	6203.9	5597.9		1100	3490.3	
13	3973	6485.2	6125.7	5579.2		1097	3458.1	
14	4006	6487.2	6215.0	5584.3		1096	3477.0	
15	4036	6553.0	6236.8	5626.7		1104	3488.6	
16	4066	6597.8	6271.5	5661.3		1112	3491.9	
17	4025	6566.7	6204.9	5583.4		1099	3498.0	
18	4023	6540.5	6186.8	5580.0		1099	3494.7	
19	4053	6587.6	6206.4	5636.8		1114	3516.6	
20	4067	6608.9	6238.9	5660.3		1116	3517.9	
21	4063	6579.7	6235.1	5646.0		1122	3509.7	
22	4037	6542.0	6182.1	5609.1		1108	3495.1	
23	4023	6504.2	6171.4	5612.1		1108	3495.9	
24	4023	6480.4	6146.2	5627.3		1113	3497.4	
25	3991	6482.5	6124.6	5567.5		1101	3492.5	
26	3989	6476.0	6153.5	5573.7		1106	3498.2	
27	3993	6498.9	6153.6	5557.4		1099	3492.5	
28	4020	6554.8	6159.5	5581.9		1101	3477.9	
29	4011	6537.9	6164.7	5574.3		1091	3480.9	
30	4026	6557.5	6212.5	5626.1		1106	3510.7	
31	4069	6639.3	6290.6	5675.4		1123	3532.3	
Mean	4028	6559.0	6216.1	5621.8		1109	3506.0	

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

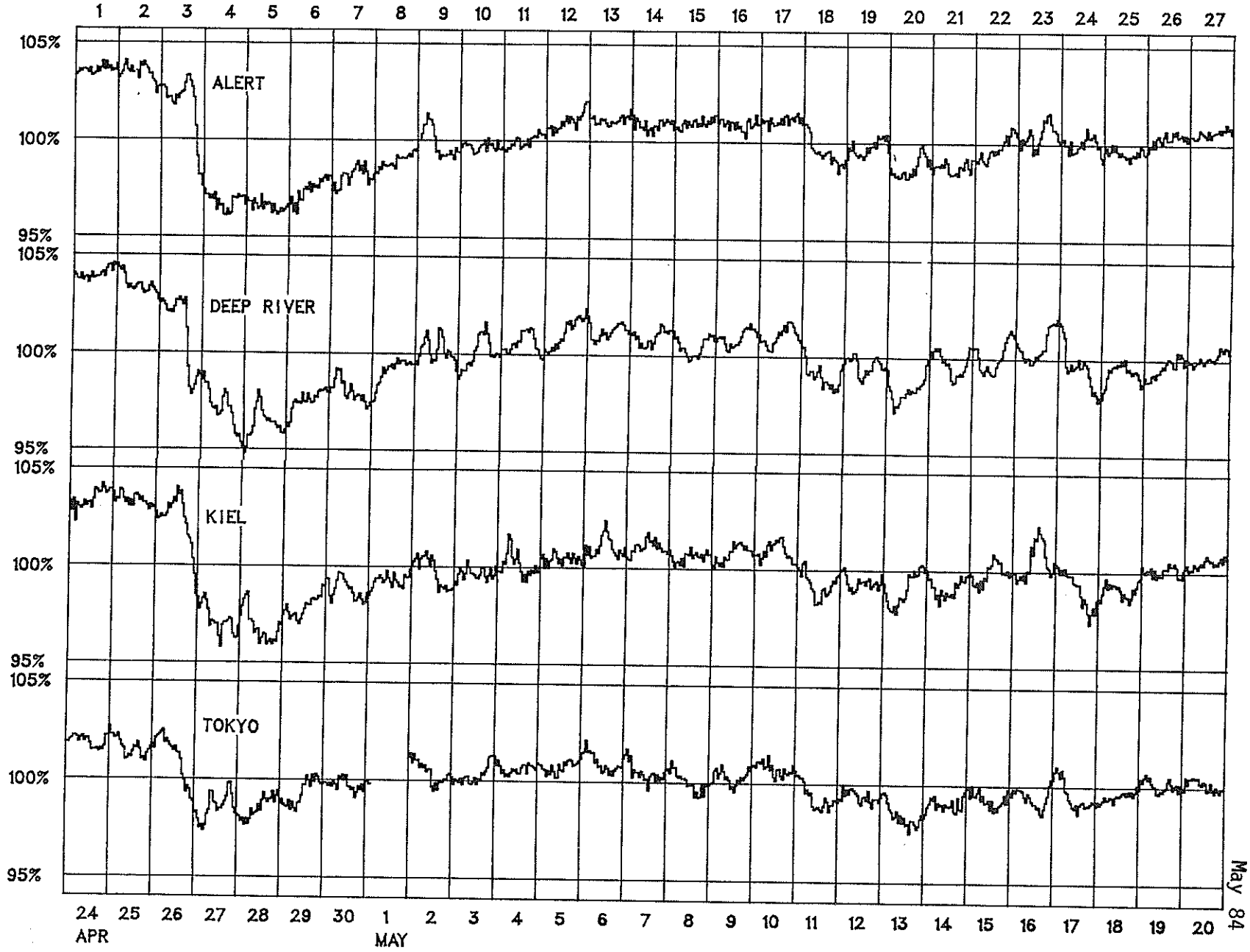
THULE NEUTRON MONITOR



BARTELS ROTATION 2060

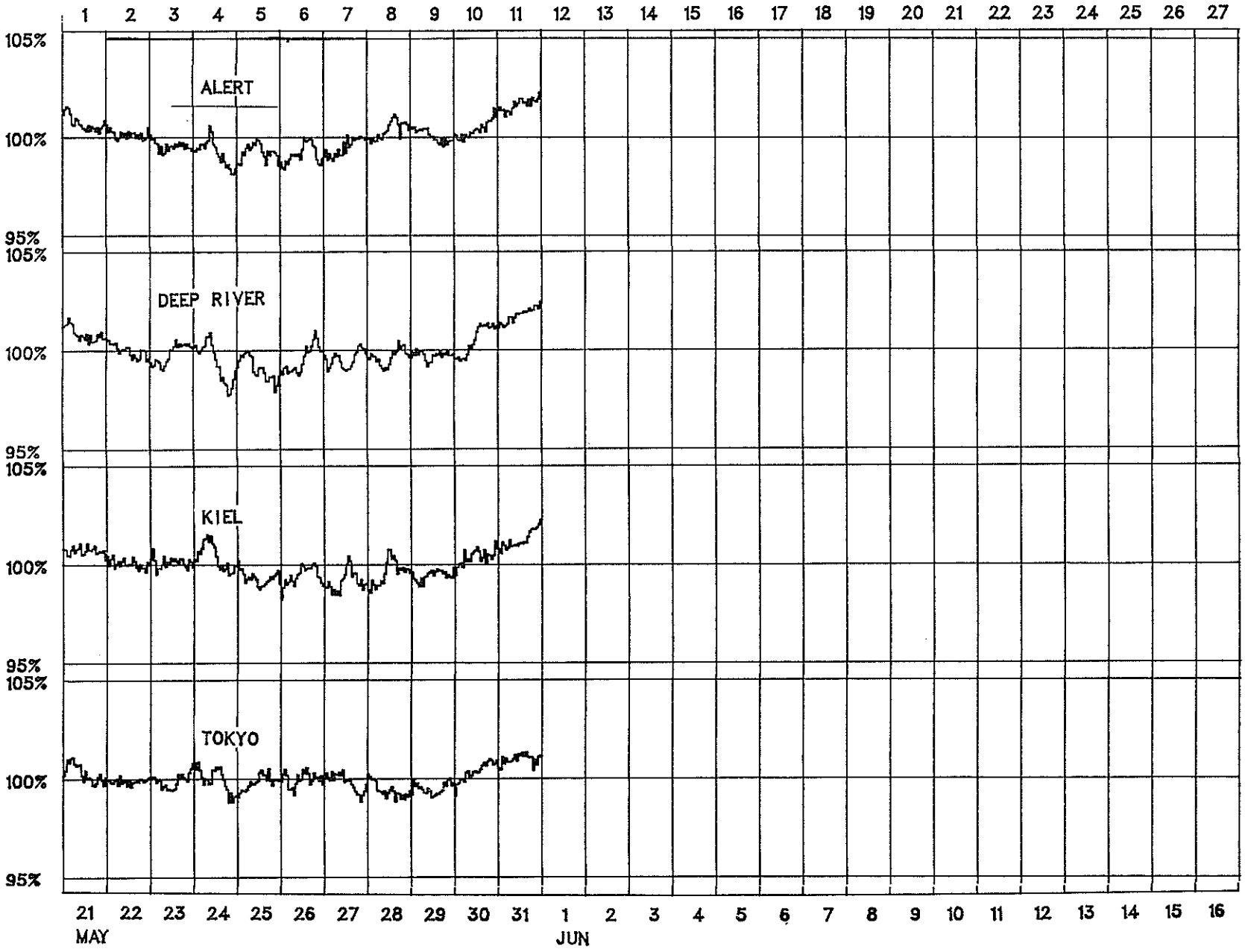
COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2060 (April 1984–May 1984)



COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2061 (May 1984–June 1984)



GEOMAGNETIC ACTIVITY INDICES

May 1984

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		4	3+	3	4-	4+	4	3-	4-	29-	22	1.1	3+	3	3	4	4-	4-	2+	3	37	31	38	32	37	
2		4-	3+	3	4-	3-	2+	1	1	21-	13	0.8	3	3+	3	4-	3	2+	1-	1	25	26	27	33	20	
3		1	1-	3	3	2-	2+	3	4	19-	12	0.7	1	1-	3-	3	2	2+	2+	3+	19	28	13	13	29	
4		3	3	3	3+	2+	2-	2+	3	22-	13	0.7	3-	2+	3	4-	2	1+	2	3-	22	26	25	33	18	
5		3	2+	3	3	4-	4+	6-	5-	30-	27	1.2	3-	2-	3-	3	3+	4-	4+	5-	38	52	32	22	62	
6		4-	3	3+	1	2+	2	2-	0+	17+	10	0.6	3+	3	3+	1+	2-	2-	1+	1-	19	22	12	22	12	
7	Q1	1-	0+	0	3-	2	1-	1-	1-	8-	4	0.1	1-	0	0+	3-	2	0+	0+	1-	6	8	10	8	10	KC
8	Q2	1+	1+	2-	2	1-	1	1	1-	10-	5	0.2	1+	1-	1+	2	1-	1	1	1-	7	10	5	10	5	CC
9		1+	3-	3-	3-	3	4+	3	5	25-	19	1.0	1+	2	2+	2	3-	3	2+	4	23	37	19	14	42	
10		3+	5	4-	3	5-	5+	3-	2-	29+	27	1.2	3+	5-	4-	3	4	4	3-	1+	40	48	35	44	39	
11	Q10A	3-	2	3	1+	3	2+	2	2	18+	10	0.5	2+	2	3+	2-	3-	2	2-	2-	18	23	13	18	18	
12		2	2-	2+	3-	2+	2+	4-	3+	20+	12	0.7	2	1+	2+	3-	2-	2	3	3	19	29	11	16	25	
13	Q8A	4	3	2+	1+	1-	1+	1	1-	14+	9	0.5	4-	3-	2	2-	1-	1-	1-	0+	13	18	10	22	5	
14		0	0+	1-	3	4-	3+	3	4-	18-	12	0.7	0	0	1-	2+	3+	3	3	3	18	22	16	9	29	
15	Q7A	3	2	3+	2+	1+	2	2-	1-	16+	9	0.5	3-	1+	4-	3-	2-	1+	1	1-	16	20	14	22	12	
16	Q3A	1-	2	1+	3-	2	1	1	3-	13+	7	0.3	1-	2-	2-	2+	2-	1-	1	3-	11	14	8	11	12	C
17	D2	3-	4-	4+	6	4+	5	4-	3-	32+	32	1.3	3-	3+	4	6-	4-	4-	3-	2+	47	57	34	50	41	
18		2+	2+	2+	2-	2	3-	2+	5-	20+	12	0.7	2	3-	3-	2	2+	2+	3-	4-	22	29	15	13	32	
19		4+	5	5-	3	2+	2+	3	2+	27	22	1.1	4-	4+	5-	3	2+	2+	2+	2+	35	33	32	43	23	
20	D5	3+	3	4	3+	4+	5	5-	5-	32+	30	1.3	3	3	4-	4	3	4+	4-	4	44	50	35	36	50	
21	D1	6	5-	5+	4	4+	3+	5	5+	38	44	1.5	5+	4+	5-	4	4-	3-	4	5-	62	66	47	53	60	
22	D3	3+	4-	5	4-	5-	5+	3+	4+	33+	32	1.3	3	4-	4+	4-	4-	4+	3	4-	46	47	54	46	55	
23	D4	6-	4	4+	3+	4-	3	5-	4-	32+	30	1.3	5	4	4	4	3	3	4-	3	48	57	34	48	43	
24		3-	2+	4-	4	5+	5+	4+	4-	31+	30	1.3	2+	2+	4-	4+	4	4	3+	3+	41	45	40	34	52	
25		3+	1+	2-	1+	3	3	4-	5-	22	16	0.9	3	1+	2-	2-	3	3-	3	4	25	30	22	13	39	
26		4-	4	4	2+	2	3-	2+	1-	22-	14	0.8	4-	4-	4-	2	2	2-	1+	1-	24	34	17	34	17	
27	Q5A	0+	0+	3-	3-	3-	2	2	1+	14	7	0.4	0	0	3-	3-	3-	2	1	1+	12	20	14	17	18	
28	Q6A	1	1-	1-	2-	1+	1+	3-	4-	13	8	0.4	1+	0+	0+	1+	1+	1+	2	3	10	22	7	8	22	
29	Q9A	2+	3	2-	2-	2+	2+	2+	2+	18	9	0.5	2+	3+	2	2-	3-	2+	2	2	19	19	15	16	19	
30		3	3	4-	4	2+	3+	3	3-	25	17	0.9	3	3	4	4+	2+	3+	3+	3-	37	38	39	38	40	
31	Q4A	2-	2-	1-	2-	1	1-	1-	4	12	7	0.4	2-	2-	0+	2-	1	1-	1-	3	10	19	7	10	16	K
Mean											17	0.80									26.8	31.7	22.5	27.2	

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	3+	3	3	4-	3+	4-	3-	3	33	3	3+	3+	4+	4	4	2+	3	42	153.7	97	97	104	-	-
2	3	3+	3	3+	3-	3-	1+	1+	24	3	3+	3+	4-	4-	2-	0+	0+	27	139.3*	89	87	88	-	-
3	1+	1	3	4-	2	3-	3-	4-	24	1-	0+	3-	3-	2-	2+	2	3	16	123.1	68	73	71	-	-
4	2+	3-	3	4-	2+	2-	2+	3-	24	3	2+	3	4	2-	1+	1+	2+	22	113.5*	49	48	61	-	-
5	3-	2-	3-	3+	3+	4	5-	4+	41	2+	2-	3-	3	3	3+	4	5-	36	114.9	38	30	62	-	-
6	3-	3	3+	1+	2+	2	2	0+	19	4-	3	3	2-	1+	1	1	1-	19	108.1	24	26	55	-	-
7	1-	0	0+	3-	2+	1-	1-	1-	8	0+	0	0	2+	2	0+	0+	0+	6	118.3	35	34	66	-	-
8	2-	1	2-	2	1	1+	2-	1+	10	1	0+	1+	2-	0	0+	0	0	4	121.9	54	54	70	-	-
9	1+	2	3-	2+	3-	3+	3-	4+	27	1	2-	2+	1+	3-	3-	2	4-	19	138.3	72	71	87	-	-
10	3+	5-	3+	3	4+	4	3	2	42	3+	5-	4-	3+	3+	4-	2	1	38	150.9	85	87	101	-	-
11	3-	2	4-	2	3-	3-	2	2	22	2-	2-	3	1+	3-	1+	2-	1+	15	147.9	94	96	98	-	-
12	2	2-	3-	3	2+	3-	4-	3+	25	2	1+	2	3-	1+	2-	2	2+	15	148.2*	100	96	98	-	-
13	4	3-	2+	2-	1	1	1	1	17	3+	3-	2-	2-	0+	0	0	0	11	151.4	118	111	102	-	-
14	0	0+	1	3-	4-	3	3-	3+	21	0	0	0+	2	3	3	3	2+	16	146.9	97	95	97	-	-
15	3-	2-	4-	3-	2-	2-	1+	1	18	3-	1	3+	3-	2-	1	1-	0	15	139.6	85	87	89	-	-
16	1-	2	2	3-	2+	1+	2-	3-	15	1-	2-	1+	2+	1	0	1-	2+	9	137.3	97	97	86	-	-
17	3-	3+	4	6-	4	4+	3+	3-	53	2+	3+	4+	6-	3	3	2-	2-	42	130.1	83	78	79	-	-
18	2+	3-	2+	2+	2+	3-	3-	4-	24	2-	2+	3-	2	2+	2	2+	4-	21	131.9	70	67	80	-	-
19	4-	4+	4+	3+	2+	2+	3-	3-	38	3+	4+	5-	3-	2	2	2	2-	34	137.6	78	67	87	-	-
20	3	3+	4-	3+	3+	4+	4-	4+	45	3	2+	4-	4+	3-	4+	3+	4-	43	138.0	70	63	87	-	-
21	5	4+	5-	4+	4-	3	4+	4	65	6-	4	4+	4-	4-	3-	3+	5	60	145.3*	65	73	95	-	-
22	3	4-	4	4-	4	4+	3	4-	47	3+	3+	5-	4	4-	4	3+	4-	47	130.1	77	78	79	-	-
23	5	4+	4	4	3	3	4	3	51	5-	4-	4	4	3	3	3+	3	46	130.0	83	82	78	-	-
24	2+	2+	4	4	4	4+	4-	3+	44	2+	3-	3+	4+	4	4-	3+	3	40	126.9	86	80	75	-	-
25	3	2-	2	2-	3	3-	4-	4	28	3	1	1+	2-	3	3-	3-	4	24	125.7*	70	73	74	-	-
26	4-	4-	4-	2	2+	2+	2	1	27	4	4	4-	2-	2	1	0+	0+	23	121.0	87	79	69	-	-
27	0+	0+	3	3-	3-	2	1+	1+	14	0	0	3-	3	2+	2-	1-	1+	12	120.3	86	71	68	-	-
28	1+	0+	0+	2	2-	2-	2+	3+	13	1	0	0+	1-	1	1	1+	3	9	118.5	63	58	66	-	-
29	3-	3+	2-	2-	2+	2+	2	2+	20	2+	3+	2+	2	3-	2+	2-	1+	19	121.0	74	63	69	-	-
30	3	3	4-	4	3-	3+	3	3-	33	3+	3	4	5-	2+	3+	4-	3	42	119.7B	70	58	67	-	-
31	2-	2-	1-	2-	1+	1	1	4-	14	2	2-	0	1+	1-	0	0	2+	7	115.9	63	55	63	-	-
Mean									28.6									25.1	131.1	75.1	72.1	79.6		

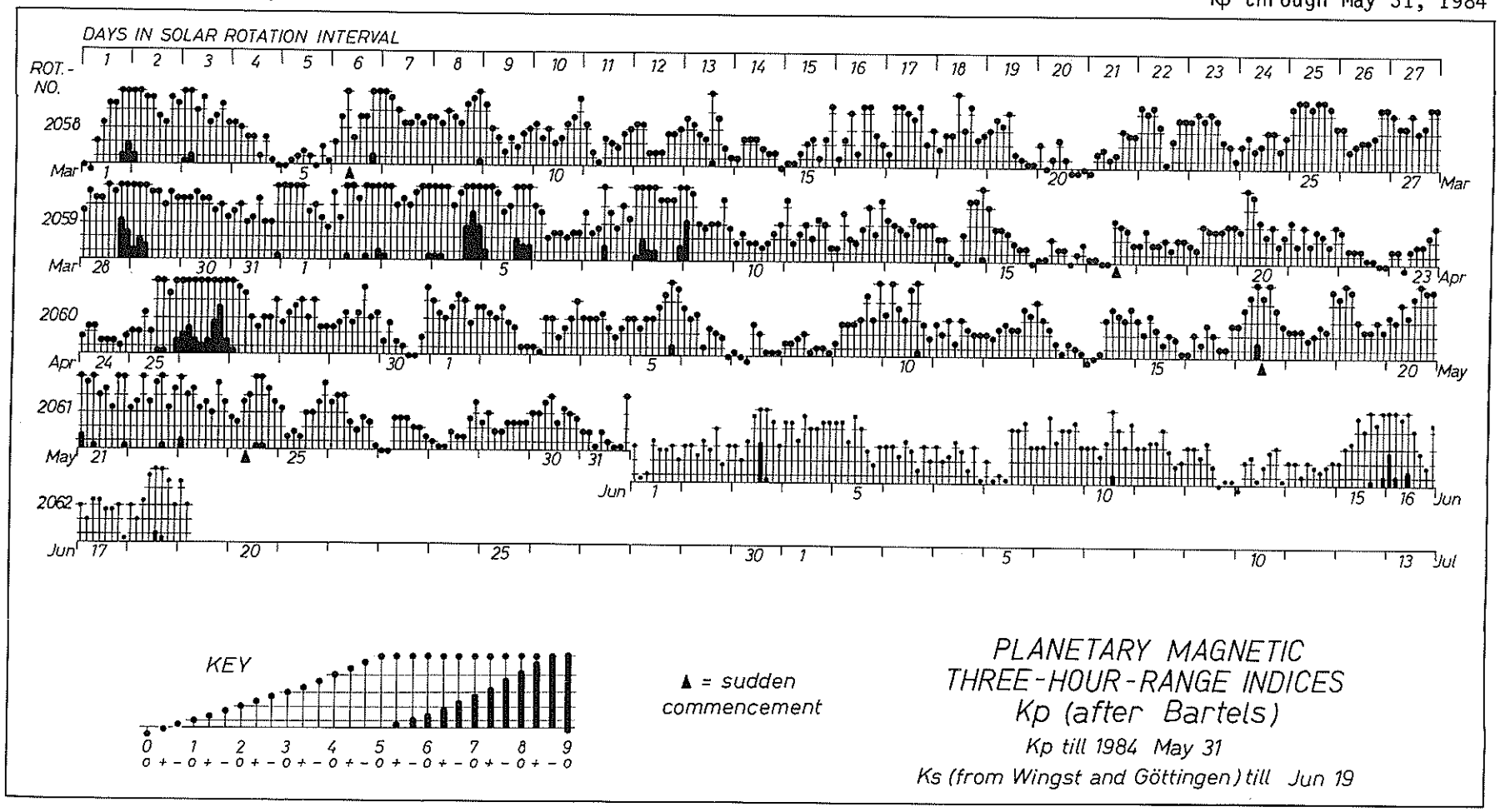
DAILY AVERAGE INDICES Ap

DAY	1983 JUN	JUL	AUG	SEP	OCT	NOV	DEC	1984 JAN	FEB	MAR	APR	MAY
1	13	6	5	17	11	19	13	28	16	32	34	22
2	8	9	33	6	23	35	8	20	20	38	46	13
3	6	8	17	6	18	20	4	20	19	35	42	12
4	3	8	5	3	43	7	4	30	54	9	84	13
5	6	6	2	3	8	3	16	26	14	4	57	27
6	11	14	6	5	22	3	28	14	8	31	12	10
7	6	14	18	22	11	12	27	5	9	26	25	4
8	12	10	62	15	16	27	11	3	7	29	58	5
9	20	12	11	16	5	43	3	4	9	13	37	19
10	37	5	5	12	7	29	22	14	21	17	8	27
11	10	4	6	12	6	40	33	10	21	9	13	10
12	16	16	26	13	4	44	23	5	12	11	15	12
13	70	19	25	7	30	24	24	9	36	19	15	9
14	12	6	9	6	22	28	24	6	43	6	18	12
15	17	5	10	21	19	23	17	6	19	9	10	9
16	8	21	4	26	13	30	6	6	7	16	4	7
17	17	26	6	25	48	38	6	7	9	22	8	32
18	37	20	2	11	51	27	7	6	17	18	7	12
19	20	9	9	54	8	18	9	19	7	12	12	22
20	17	7	11	22	6	26	5	9	13	4	20	30
21	20	6	25	11	16	9	4	12	14	7	11	44
22	20	10	15	13	19	6	12	12	8	21	5	32
23	17	23	32	4	21	2	11	6	15	18	6	30
24	6	40	23	9	22	12	15	5	10	10	6	30
25	5	12	36	33	6	16	11	10	7	34	33	16
26	13	7	26	28	3	22	16	16	16	16	103	14
27	8	10	5	13	2	7	15	8	34	23	26	7
28	12	11	8	10	10	15	13	22	8	60	17	8
29	13	15	17	8	34	23	9	21	10	52	18	9
30	7	18	18	3	19	22	33	32		29	9	17
31		7	29		10		27	23		25		7
MEAN	16	12	16	14	17	21	15	13	17	21	25	17

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

University of Gottingen

Kp through May 31, 1984



PRINCIPAL MAGNETIC STORMS

MAY 1984

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)
HYB	07.6N	30	2100	..	..	..	..	01(5,6) 02(5)	4	7	119	35	02	18
HYB	07.6N	03	0733	SC	- 0.2	7	- 1	05(7)	5	7	132	42	06	07
COL	64.6N	05	07--	..	..	..	..	05(5,6,7)	5	130	890	470	06	12
WIT	54.2N	05	1200	..	..	..	..	05(7)	6	38	136	90	06	01
FRD	49.6N	09	20--	..	..	..	..	09(8) 10(2)	5	22	115	64	13	06
HYB	07.6N	09	0500	..	..	..	..	10(5)	5	5	147	33	13	04
GUA	04.0N	10	0111	..	..	..	..	10(2)	5	--	80	30	10	07
GUA	04.0N	12	1854	..	..	..	..	13(1)	5	10	100	30	13	08
HYB	07.6N	16	0600	..	..	..	..	17(3,4)	5	6	99	36	18	09
FRD	49.6N	17	0000	..	..	..	..	17(4) 21(1) 23(1)	6	36	149	92	26	--
BJI	28.5N	17	03--	..	..	..	..	17(4)	6	11	112	32	17	24
JAI	17.3N	17	0600	..	..	..	..			6	90	43	17	24
ABG	09.5N	17	0600	..	..	..	..	17(3,4)	5	3	90	41	17	24
GUA	04.0N	17	0309	..	..	..	..	17(4)	5	10	130	20	17	22
TRD	01.2S	17	0600	..	..	..	..			3	162	94	17	24
PMG	18.6S	17	06--	..	..	..	..	17(3,4)	5	4	80	60	18	00
KGL	56.5S	17	1256	SC	- 4	- 40	- 15	19(1,2)	5	--	--	--	19	12
COL	64.6N	18	23--	..	..	..	..	19(3)	7	305	1710	990	25	03
HON	21.1N	19	2141	SC	2	25	8	19(2)	4	10	83	27	20	15
GUA	04.0N	19	0307	..	..	..	..	19(2)	5	--	100	10	19	15
PMG	18.6S	19	----	..	..	..	..	19(2,3) 21(1,3)	5	7	130	50	23	00
SIT	60.0N	20	05--	..	..	..	..	21(1)	7	--	--	490	23	15
BJI	28.5N	20	2233	SC	4.2	17	- 3	21(3)	5	14	98	40	22	24
HON	21.1N	20	2233	SC	1	29	19	20(8) 21(1)	5	4	106	24	21	13
HYB	07.6N	20	0000	..	..	..	..	21(3,5,7)	5	7	165	30	23	22
GUA	04.0N	20	2200	..	..	..	..	21(1)	5	10	130	40	21	19
HER	33.7S	20	06--	..	..	..	..	20(6) 21(1,3,8)	5	23	96	100	22	01
HON	21.1N	24	0845	SC	--	25	11	24(3)	4	6	27	21	24	17
JAI	17.3N	24	0845	SC	- 1.2	24	- 7			6	112	19	24	24
ABG	09.5N	24	0845	SC	- 0.7	22	- 10	24(5)	5	4	129	26	24	24
HYB	07.6N	24	0845	SC	- 0.6	24	- 2	24(4)	5	7	131	31	26	18
TRD	01.2S	24	0845	SC	- 0.3	40	45			3	177	79	24	24
KGL	56.5S	24	0845	SC	5	25	10	24(7) 25(1)	5	32	140	210	25	09
HYB	07.6N	28	1800	..	..	..	..	30(7)	4	5	92	35	30	23

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

RADIO PROPAGATION QUALITY INDICES

MAY 1984

Day	Bracknell	Teheran	New York	Tokyo	Canberra
1	5.1	6.3	3.5	3.1	3.0
2	5.4	4.7	4.9	3.1	3.7
3	6.1	6.6	6.5	4.5	3.1
4	4.7	5.5	4.1	3.8	3.7
5	4.4	5.5	1.1	3.5	3.9
6	2.4	4.8	1.5	2.5	3.2
7	5.2	5.9	3.8	5.0	4.7
8	6.5	6.2	5.5	5.7	5.6
9	7.1	5.5	4.7	4.2	5.4
10	4.7	4.2	1.7	2.6	4.6
11	6.4	5.2	5.2	4.2	6.3
12	4.7	5.3	4.0	4.0	4.5
13	6.4	5.9	5.3	4.4	4.7
14	7.5	5.9	8.3	5.2	5.4
15	6.8	6.3	5.4	5.0	5.9
16	8.8	5.7	7.1	6.4	7.0
17	6.3	5.7	4.5	5.6	7.6
18	6.0	5.4	7.8	5.7	7.0
19	5.7	4.4	5.2	5.7	6.6
20	5.6	4.2	5.0	5.8	6.4
21	5.7	2.6	2.0	4.2	5.7
22	6.5	4.7	3.6	4.1	4.7
23	6.8	4.0	3.6	4.2	5.4
24	5.0	5.1	5.6	4.2	5.1
25	6.3	3.8	5.9	4.5	4.7
26	5.9	5.2	4.5	5.8	5.4
27	6.3	5.9	7.2	5.8	6.4
28	8.2	5.2	6.2	5.8	6.3
29	5.4	5.3	6.0	5.3	5.6
30	5.7	5.6	5.5	4.6	4.9
31	6.4	6.0	6.8	4.9	4.6
Mean	5.9	5.2	4.9	4.6	5.2

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 preceding 27 days (1 sun rotation).

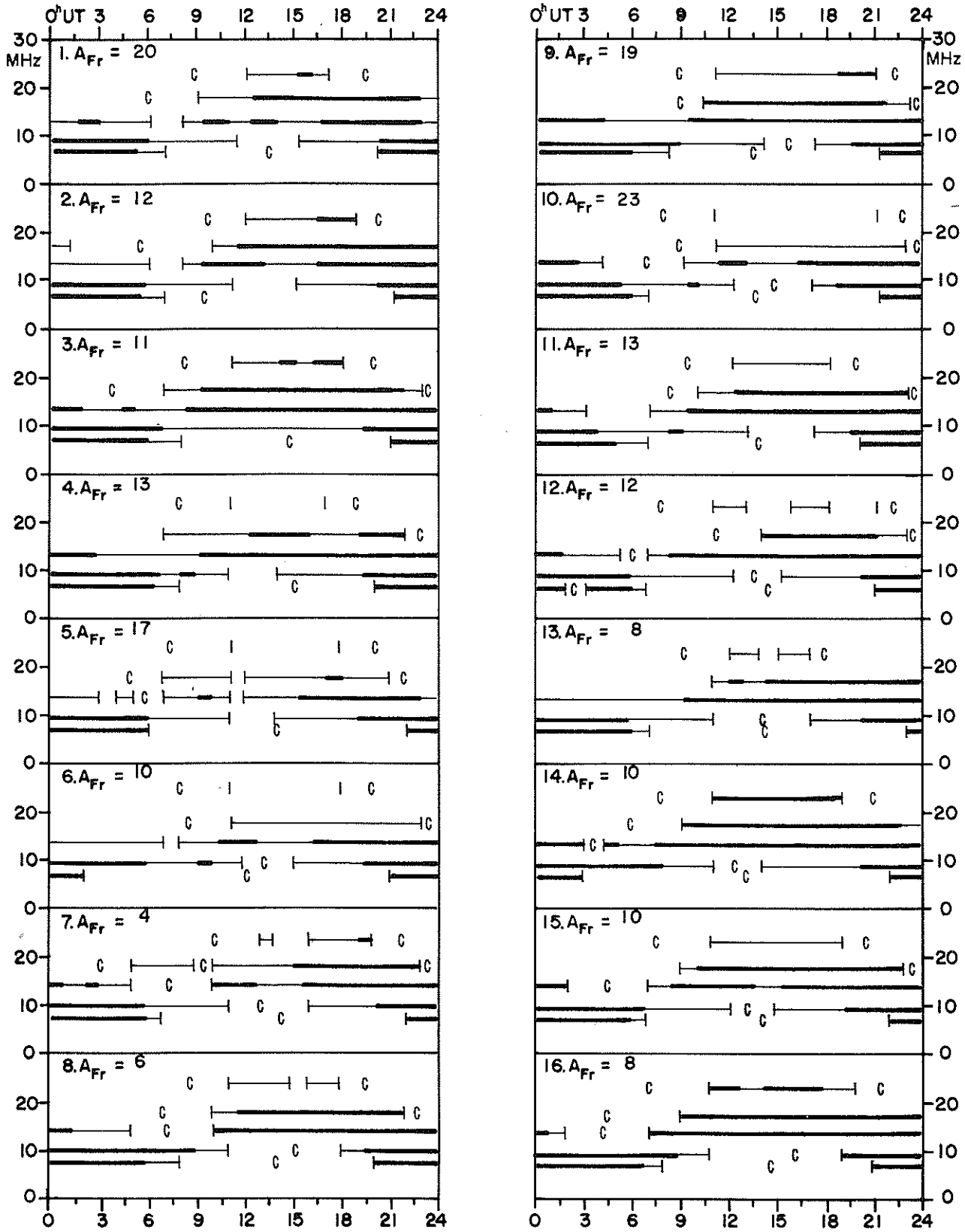
$$Q = 6.0 + 20 \log(FD/FA)/3.0$$

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 preceding 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

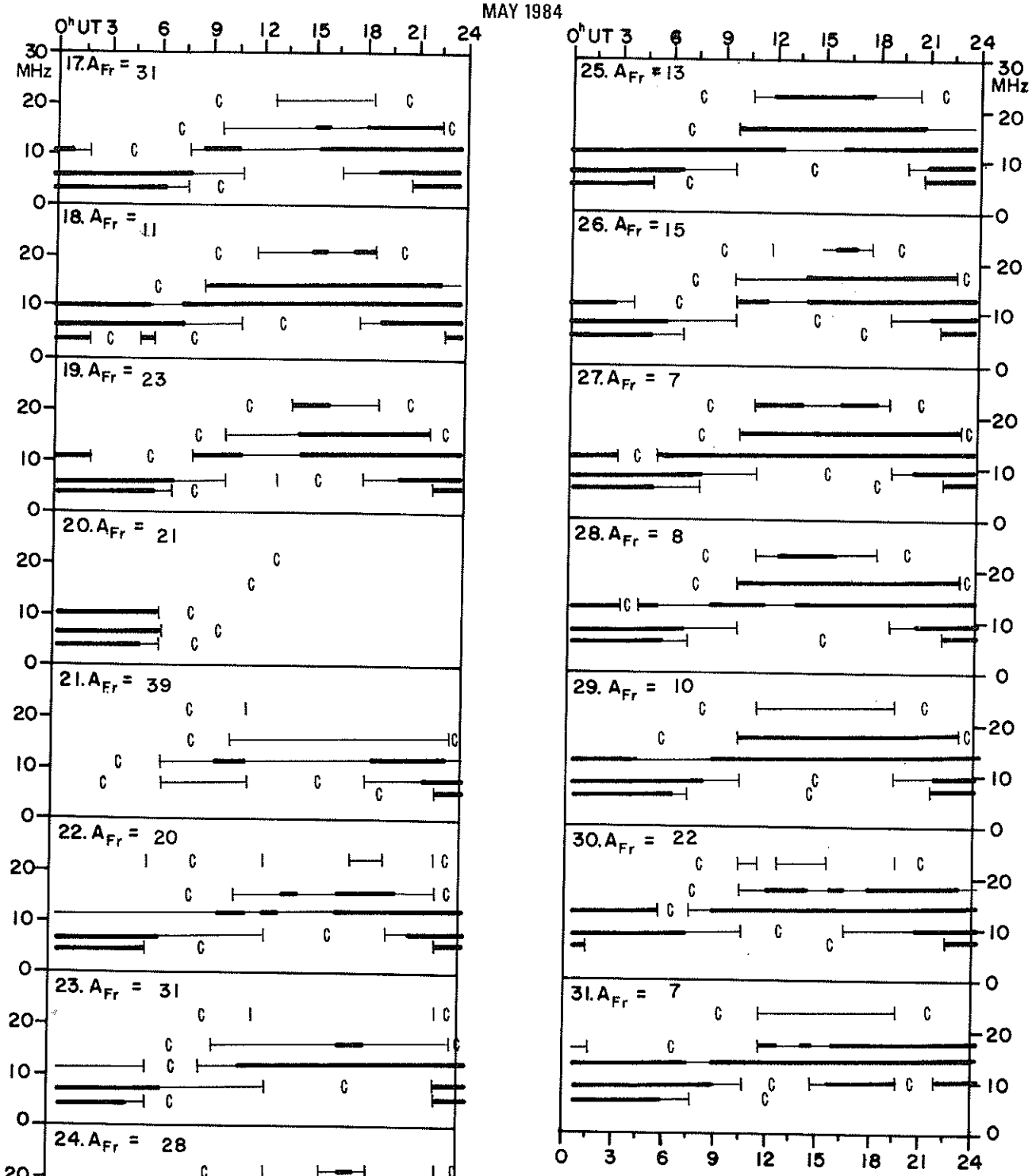
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

MAY 1984



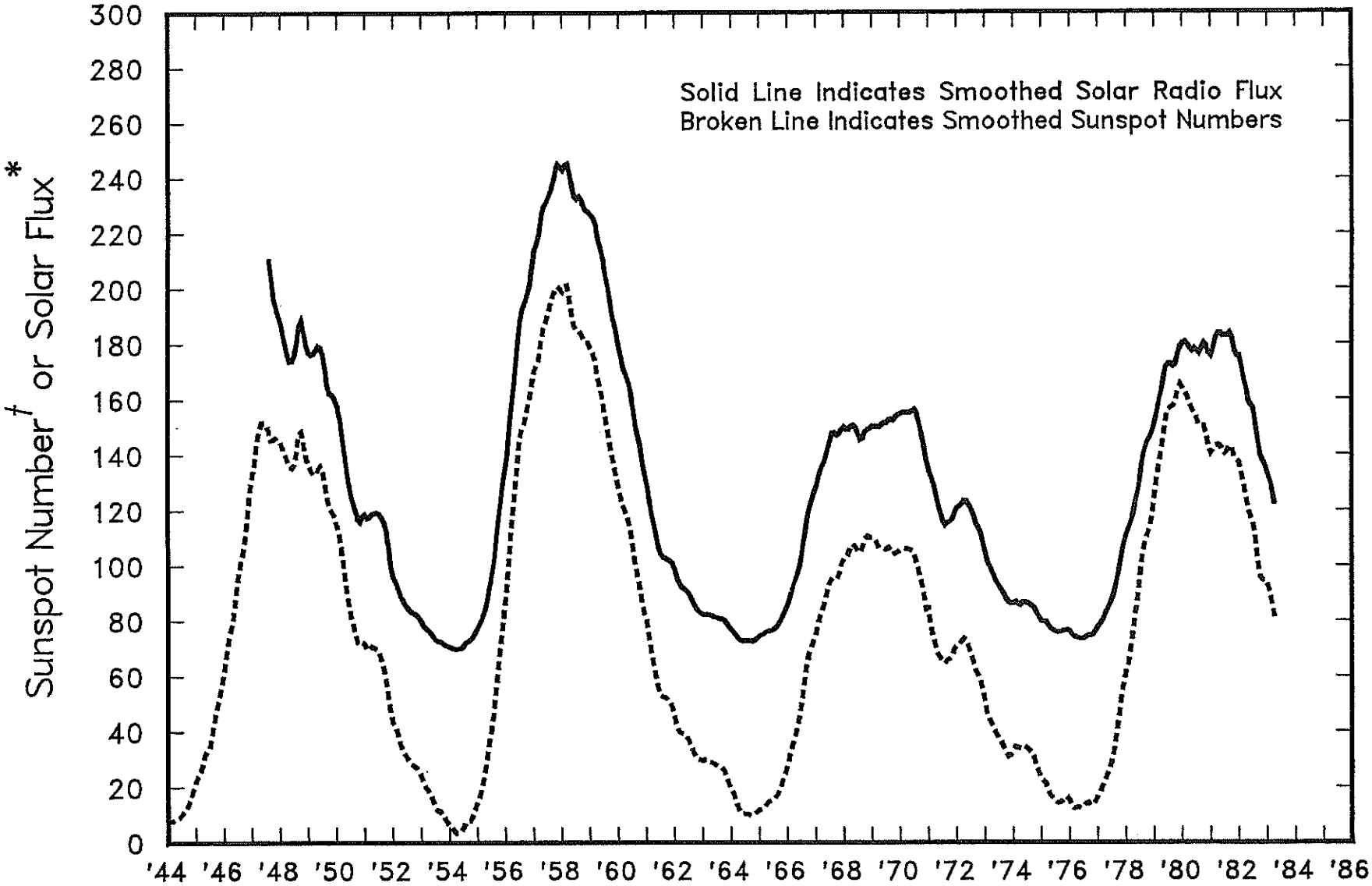
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

MAY 1984



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.

SUNSPOT NUMBERS AND 10.7 cm SOLAR RADIO FLUX
January 1944 – April 1983



* Solar Flux Units (10^{-22} W/m^2 Hz) Adjusted to 1 A.U., Ottawa Series D.
† Reduced Zürich Sunspot Numbers.

National Geophysical Data Center
D.C. Wilkinson

C O N T E N T S

Prompt Reports LATE DATA Number 479 Part I

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

MARCH 1984

Storm Sudden Commencements (ssc)

Day	Time	Quality: Station Group*
06	0820 UT	A: COI B: WNG WIT CLF HRB C: NGK AQU EBR (si: B: MPO)†
28	2232 UT	A: COI KGL B: BNG KZT C: MPO

Solar Flare Effects (sfe)

Day	Begin-End	Station(s)
01	0232-0255 UT	HTY KNY LNP
04	0942-1007 UT	NGK
08	1451-1528 UT	SPT (C)
09	0055-0059 UT	LNP
09	1148-1157 UT	MPO
12	0511-1202 UT	MPO
13	0520-0548 UT	HTY
13	0727-0733 UT	LNP
14	0318-0342 UT	HTY
15	1016-1031 UT	NGK
15	1130-1151 UT	NGK SPT
16	0220-0238 UT	HTY
17	0329-0335 UT	LNP
20	0339-0354 UT	MMB KAK HTY LNP
27	2142-2200 UT	HTY
30	0156-0202 UT	LNP
30	0314-0340 UT	HTY
30	0458-0515 UT	HTY
30	0554-0527 UT	HTY

Underlines indicate confirming geophysical effects.

Reporting Observatories:

SOD DOM NUR WGN WIT NGK HAD CLF HRB GCK MMB AQU EBR
COI SPT FRD KAK HTY KNY LNP MPO GNA CAA AMS CZT KGL DUM

*Three-letter codes identify each observatory. Reporting stations have been grouped by the character of the observed event. The letter A means very remarkable; B means fair, ordinary, but unmistakable; and C means very poor, doubtful.

†The symbol si stands for a sudden magnetic change not classifiable as a storm sudden commencement.

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

APRIL 1984

Storm Sudden Commencements (ssc)			Solar Flare Effects (sfe)		
Day	Time	Quality: Station Group*	Day	Begin-End	Station(s)
17	1442 UT	A: SOD WNG DOU SPT MPO B: WIT NGK HAD CLF GCK AQU EBR DUM C: LNP AMS CZT KGL	07	0254-0257 UT	LNP
			21	0727-0737 UT	WNG
			22	2215-2217 UT	LNP
			24	2359-2402 UT	LNP
			27	0538-0539 UT	LNP
			27	1350-1408 UT	WNG

Underlines indicate confirming geophysical effects.

Reporting Observatories:

SOD COL DOM NUR WNG WIT NGK HAD DOU CLF GCK
AQU EBR SPT FRD LNP MPO GNA AMS CZT KGL DUM

*Three-letter codes identify each observatory. Reporting stations have been grouped by the character of the observed event. The letter A means very remarkable; B means fair, ordinary, but unmistakable; and C means very poor, doubtful.

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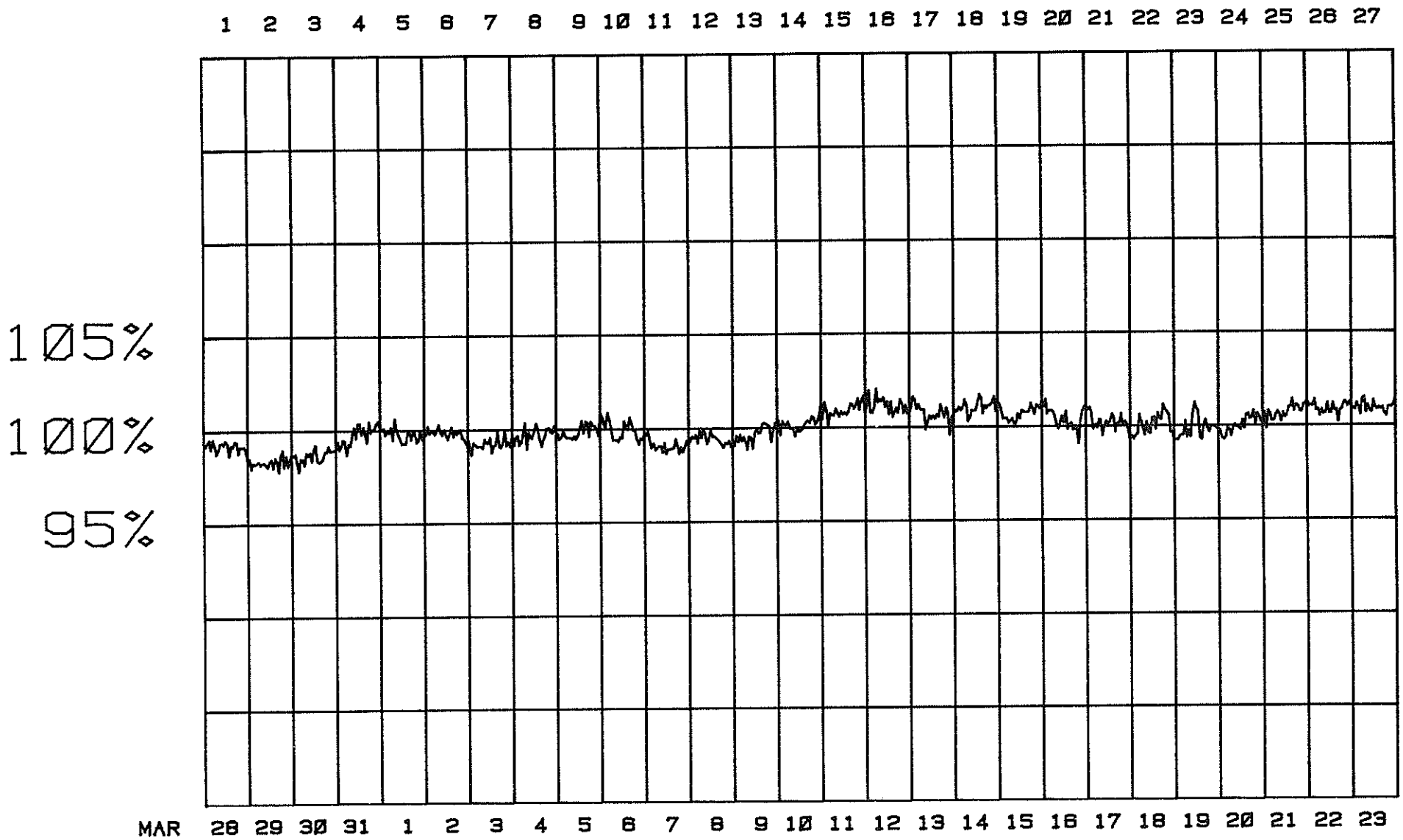
Late
Apr 84

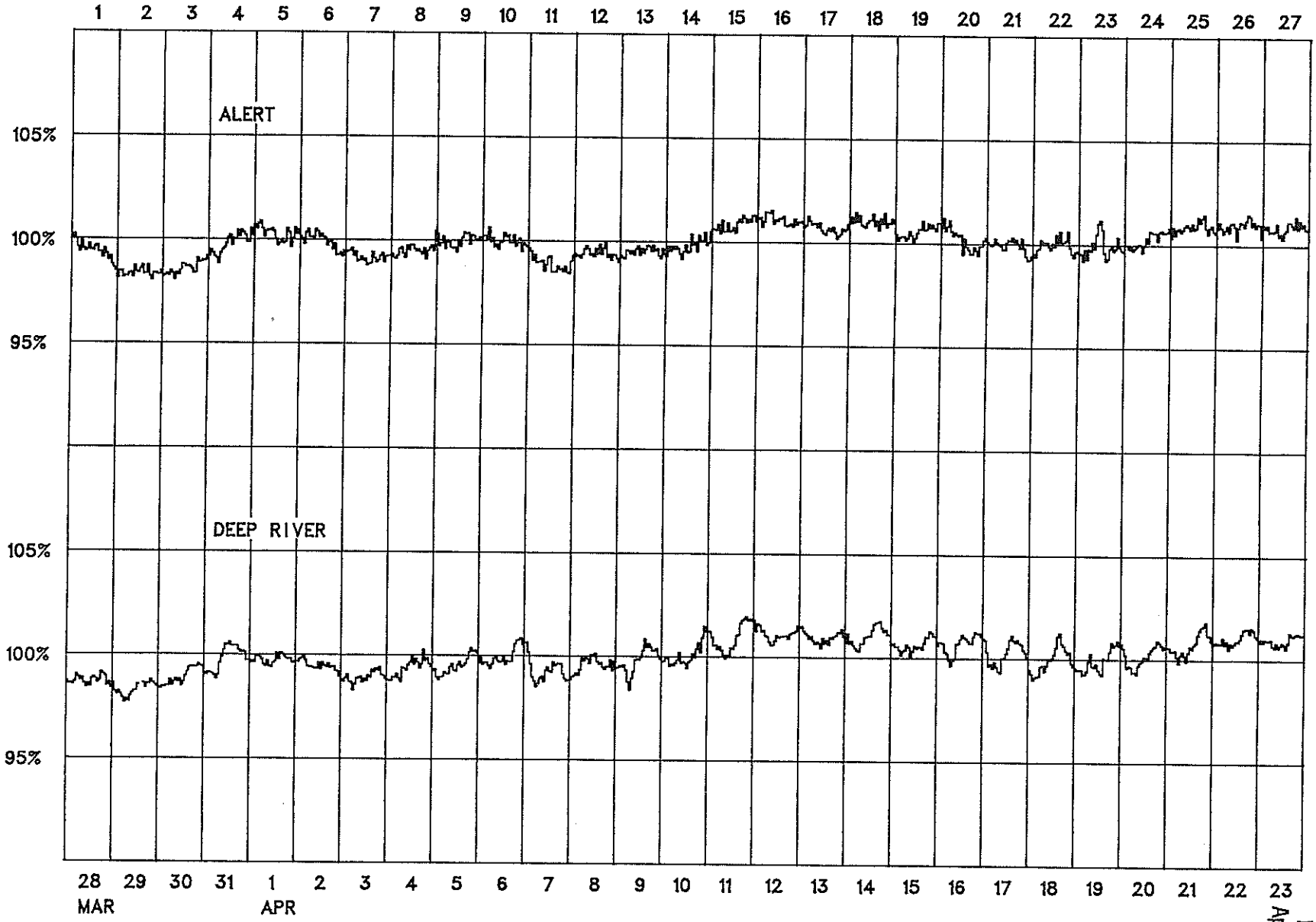
THULE NEUTRON MONITOR



BARTELS ROTATION 2059

COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2059 (March 1984–April 1984)



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Late
Apr 84

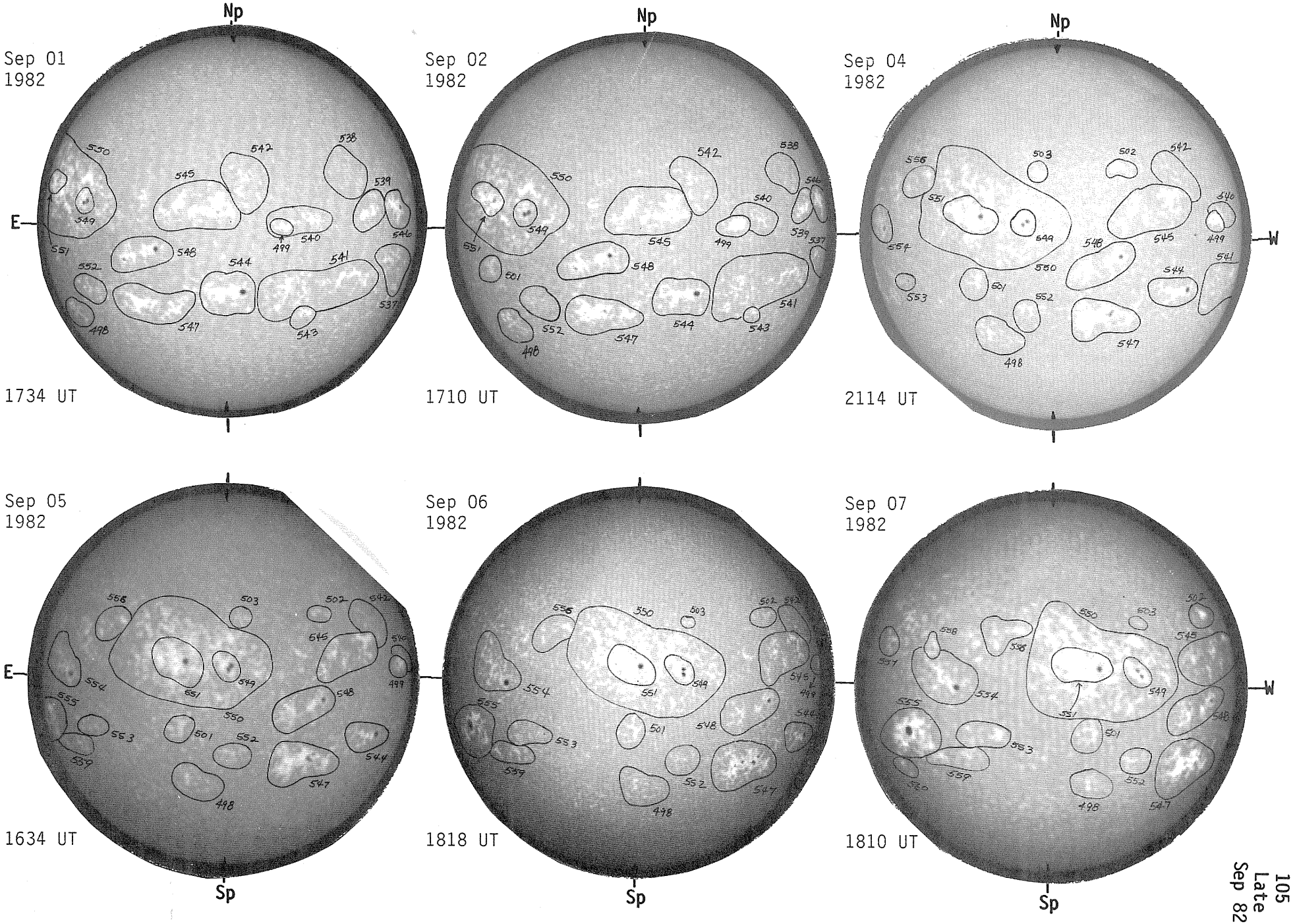
COSMIC RAY INDICES
(Neutron Monitor)

April 1984

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	PREDIGTSTUHL Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4038	6756.4	6378.2	5774.6		1123	3562.6	
2	4040	6732.0	6361.5	5743.8		1114	3560.3	
3	4017	6681.5	6325.8	5691.9		1107	3544.5	
4	4036	6704.4	6354.3	5729.7		1105	3562.7	
5	4043	6735.3	6362.5	5768.5		1118	3570.3	
6	4044	6736.3	6389.7	5796.5		1123	3585.7	
7	4011	6662.4	6351.0	5727.2		1106	3571.5	
8	4024	6698.0	6366.5	5743.8		1110	3577.6	
9	4034	6704.5	6381.7	5760.6		1106	3577.4	
10	4056	6724.3	6397.0	5782.6		1109	3567.3	
11	4086	6794.8	6453.0	5807.6		1124	3579.1	
12	4094	6809.6	6465.9	5817.5		1128	3583.5	
13	4078	6784.3	6457.4	5805.7		1122	3577.0	
14	4091	6807.4	6461.1	5821.2		1127	3578.5	
15	4077	6775.0	6435.3	5787.4		1130	3572.9	
16	4065	6750.8	6438.5	5794.2		1132	3563.1	
17	4055	6731.6	6413.0	5766.5		1119	3551.8	
18	4051	6734.2	6390.5	5742.7		1109	3540.0	
19	4043	6729.4	6387.3	5762.0		1111	3522.9	
20	4050	6753.9	6405.0	5770.3		1123	3536.7	
21	4078	6794.9	6440.3	5795.8		1132	3552.9	
22	4085	6800.6	6460.0	5806.1		1135	3562.7	
23	4087	6794.8	6456.0	5809.6		1146	3567.7	
24	4097	6802.3	6477.5	5822.2		1150	3577.1	
25	4091	6791.2(23)	6444.9	5819.2		1151	3568.1	
26	4022	6679.0	6297.3	5761.1		1141	3551.4	
27	3827	6356.8	6047.8	5472.9		1081	3460.6	
28	3821	6341.7	6001.0	5453.2		1075	3459.9	
29	3855	6396.7	6074.2	5511.5		1086	3487.0	
30	3889	6442.6	6106.8	5563.6		1093	3502.5	
Mean	4030	6700.2	6359.4	5740.3		1118	3552.5	

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

BIG BEAR SOLAR CALCIUM PLAGE REGIONS



105
Late
Sep 82

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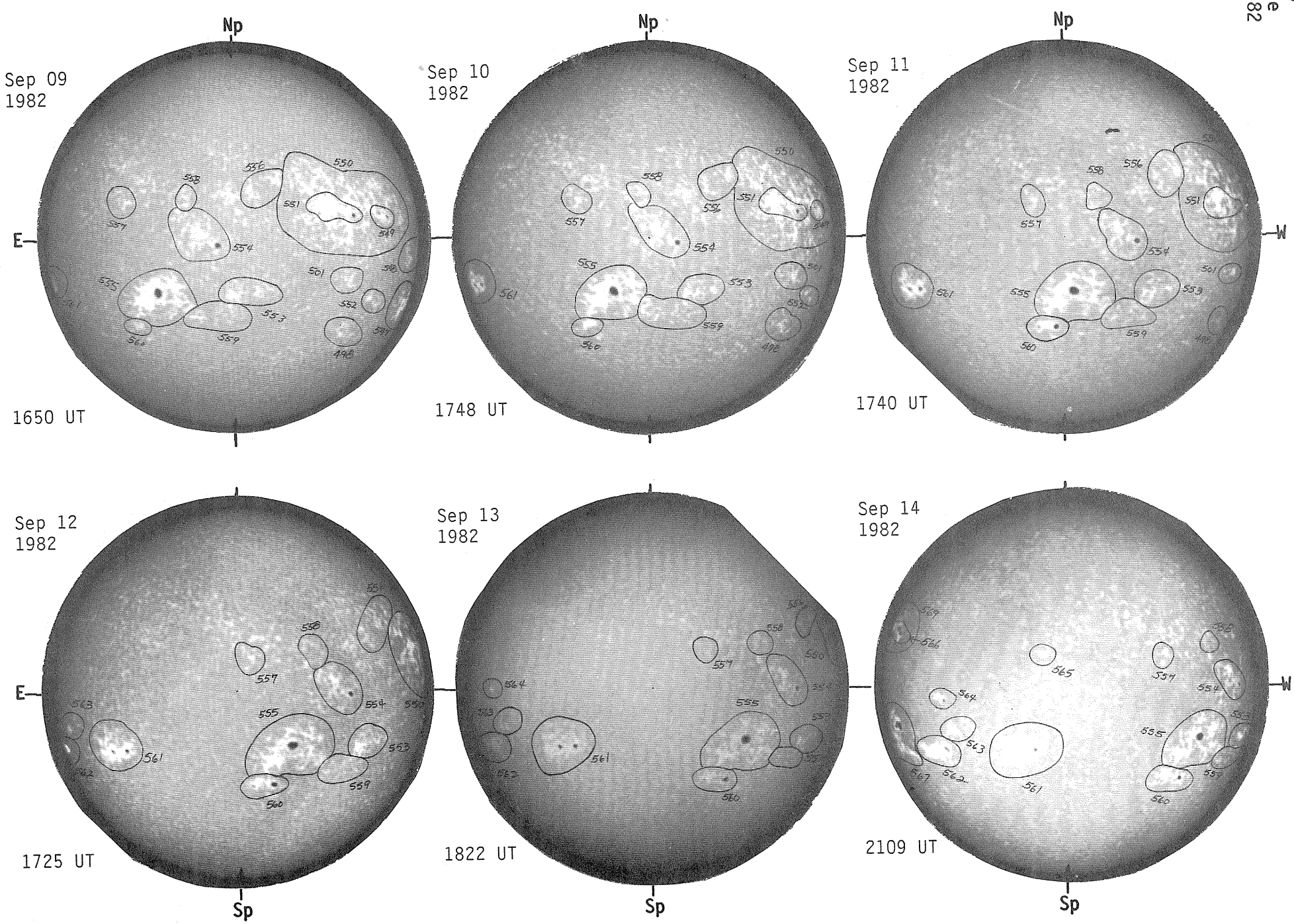

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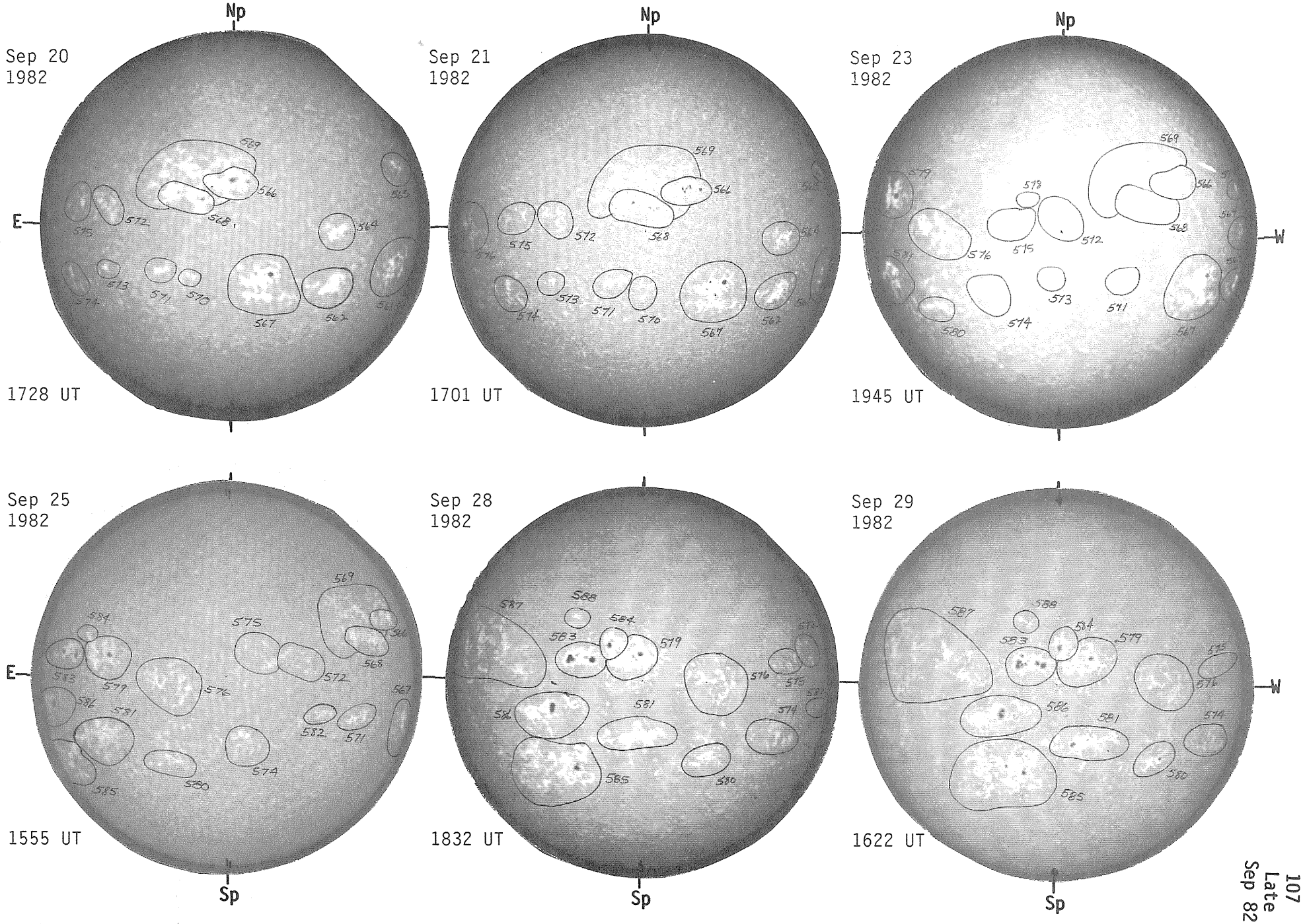

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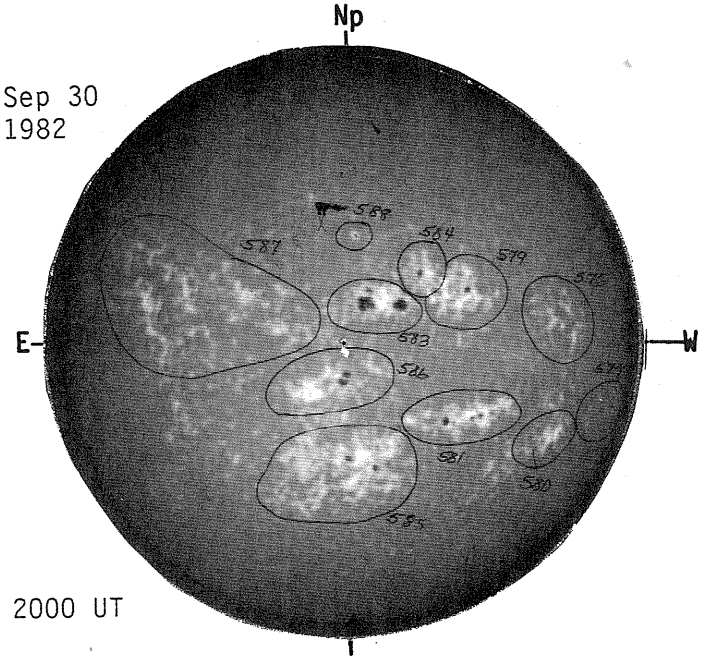
Late
Sep 82

BIG BEAR SOLAR CALCIUM PLAGE REGIONS

Sep 30
1982



2000 UT

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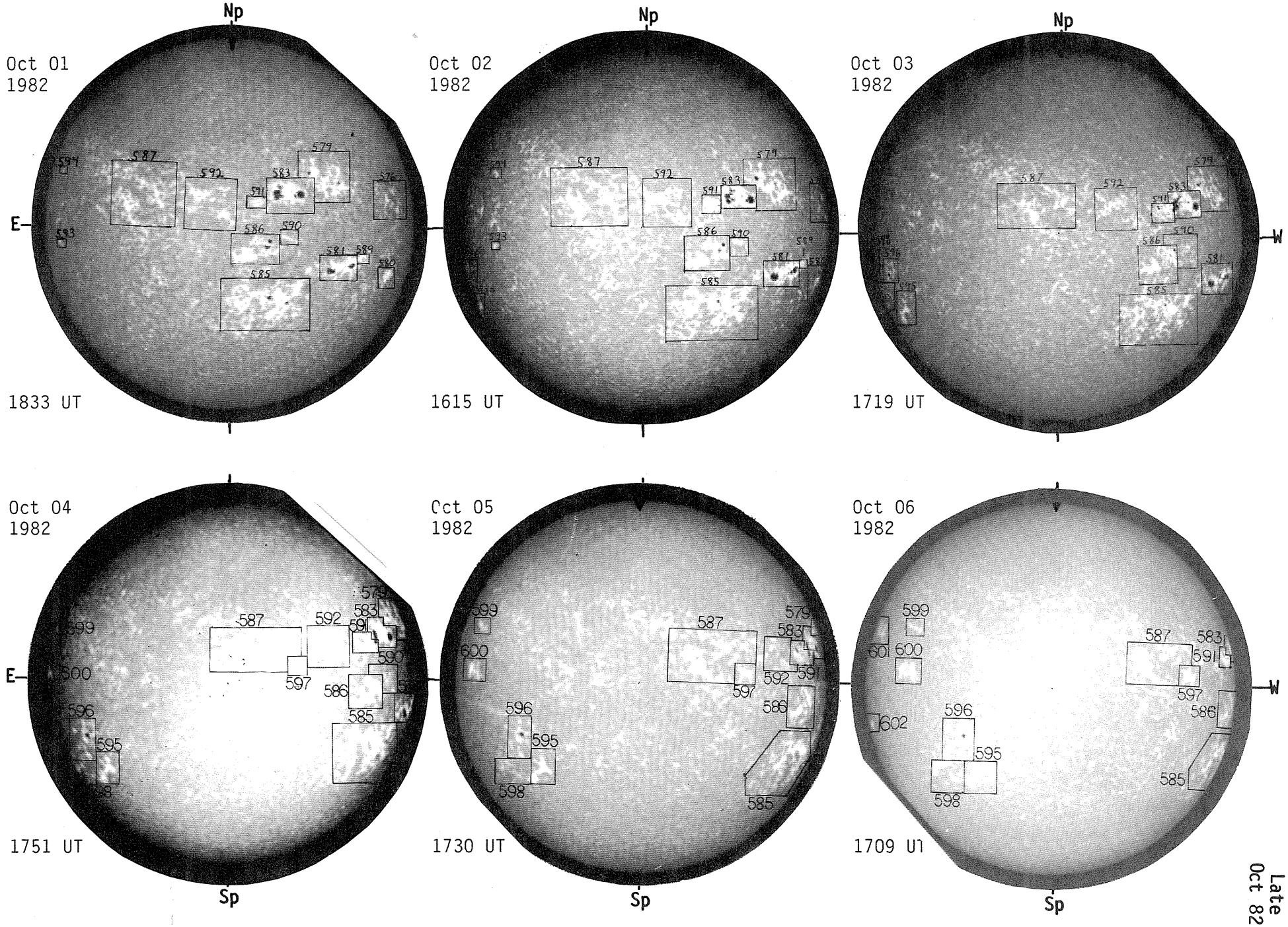

109
Late
Oct 82

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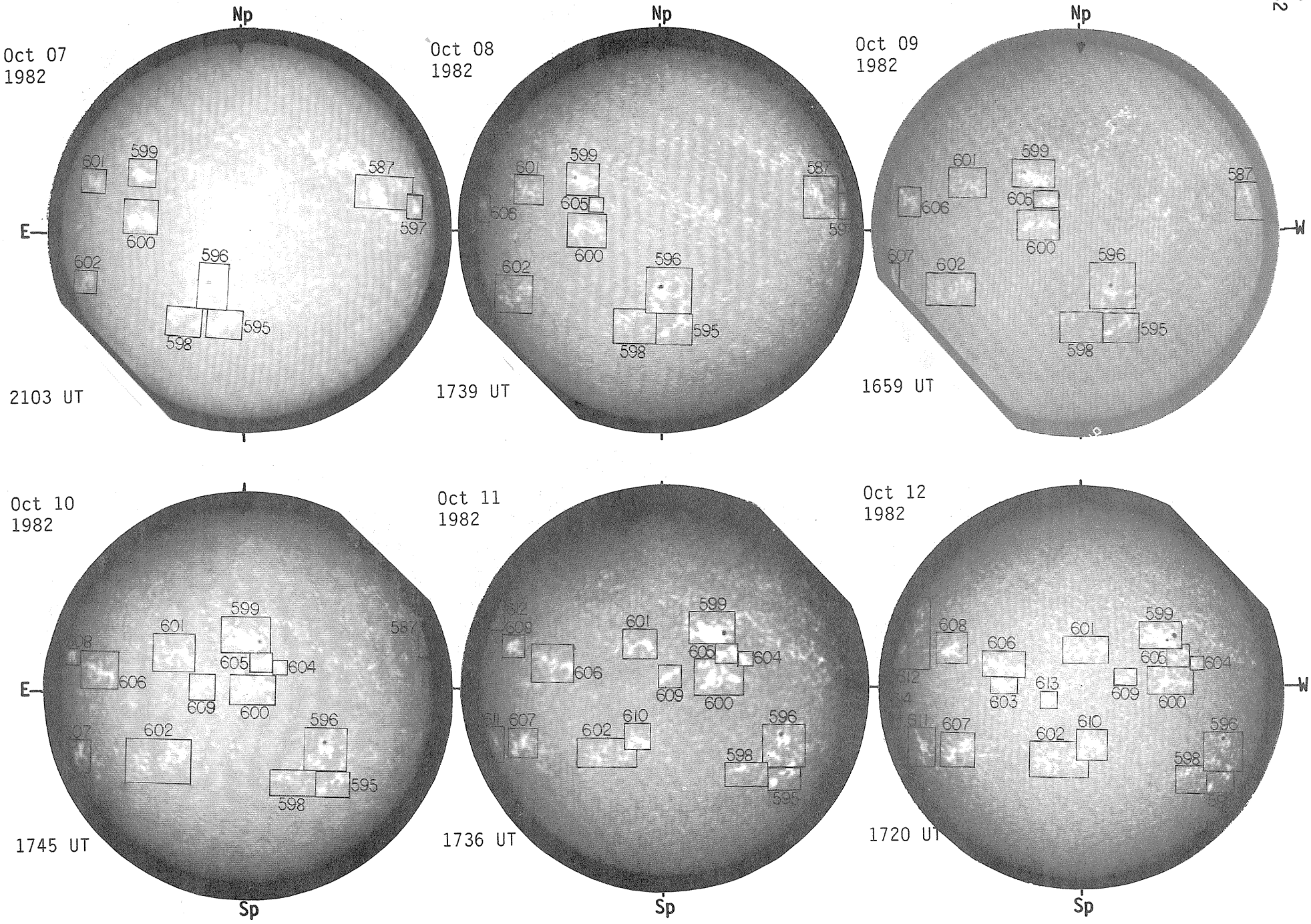

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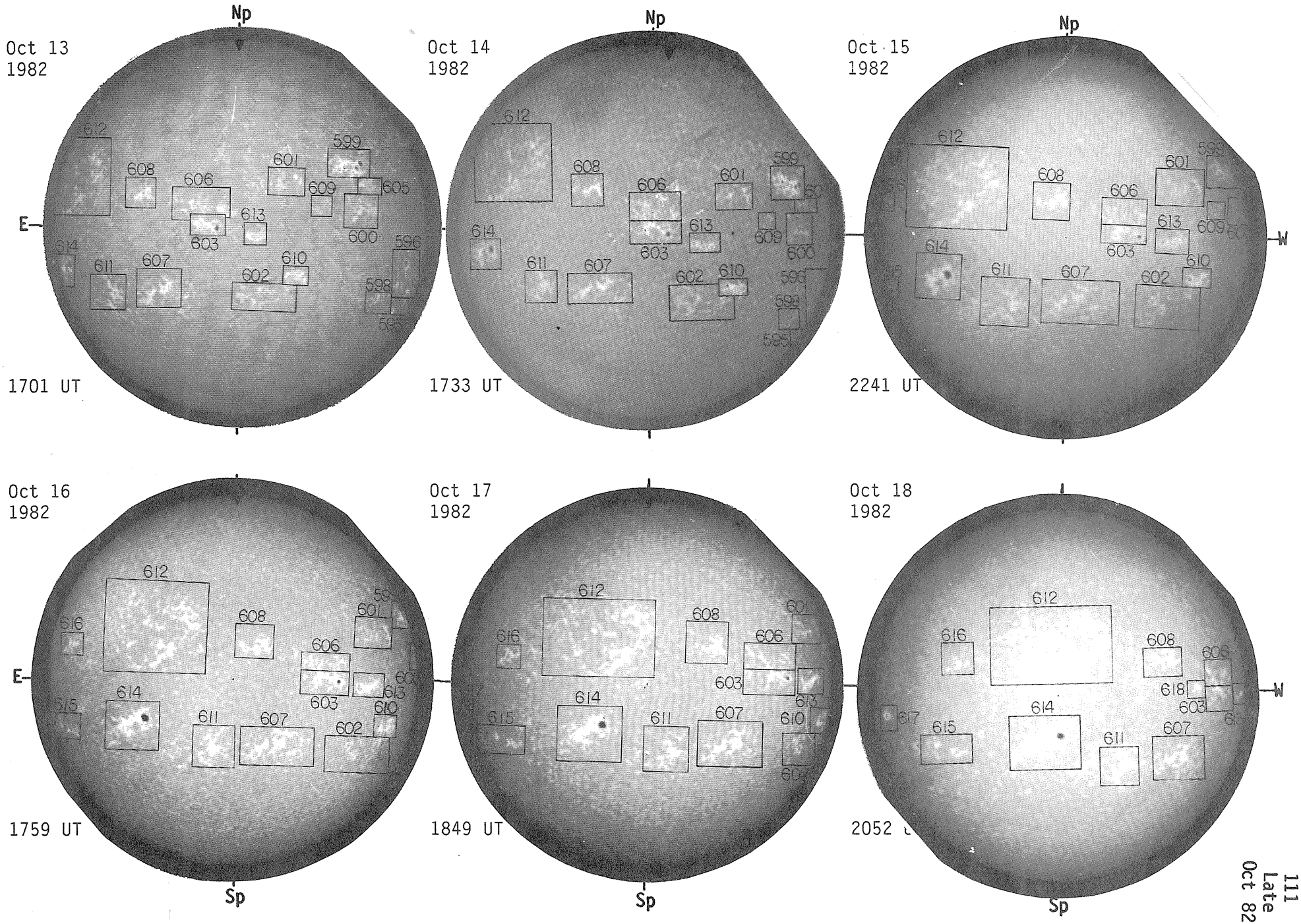

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Oct 82

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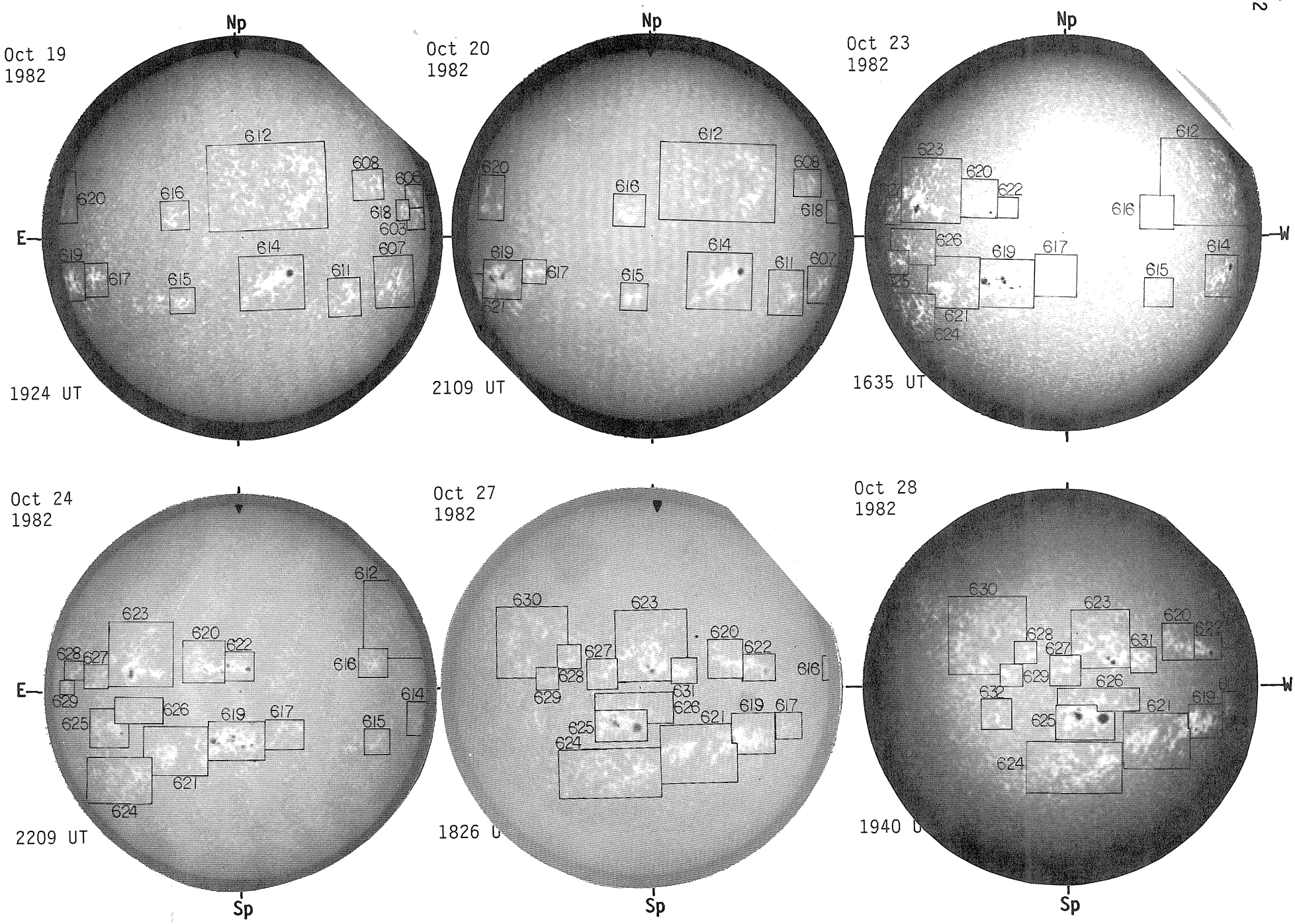

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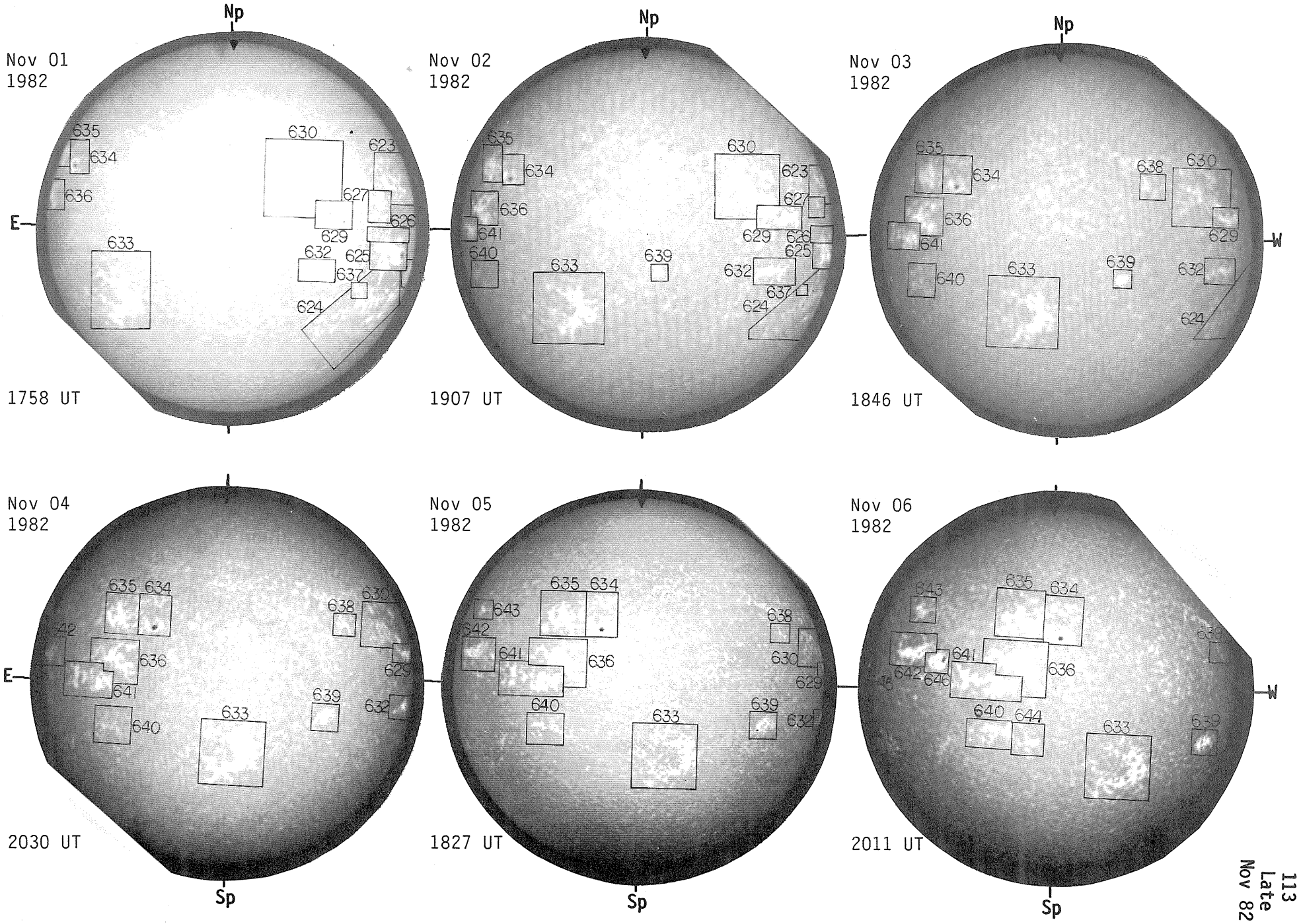

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Late
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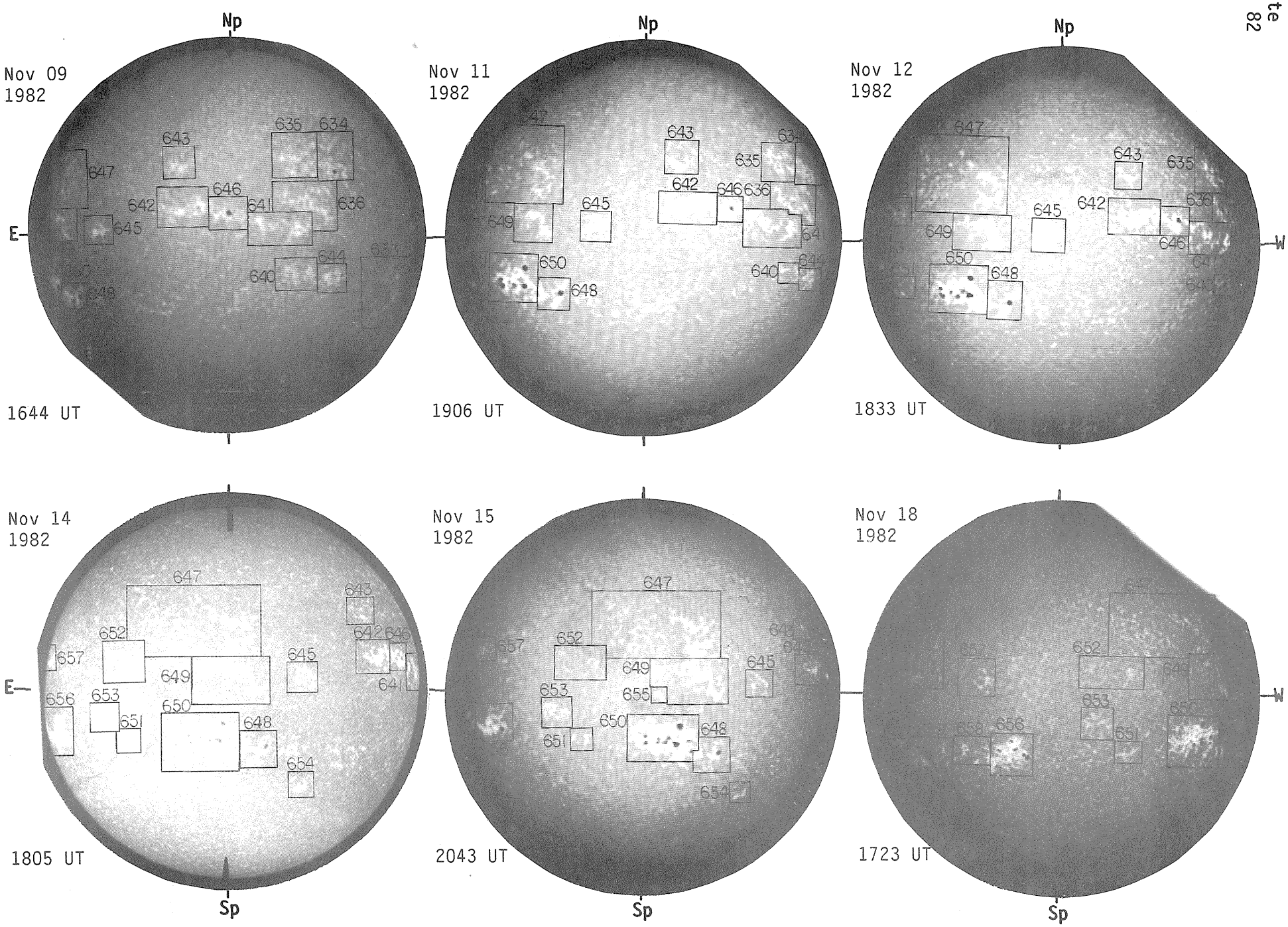

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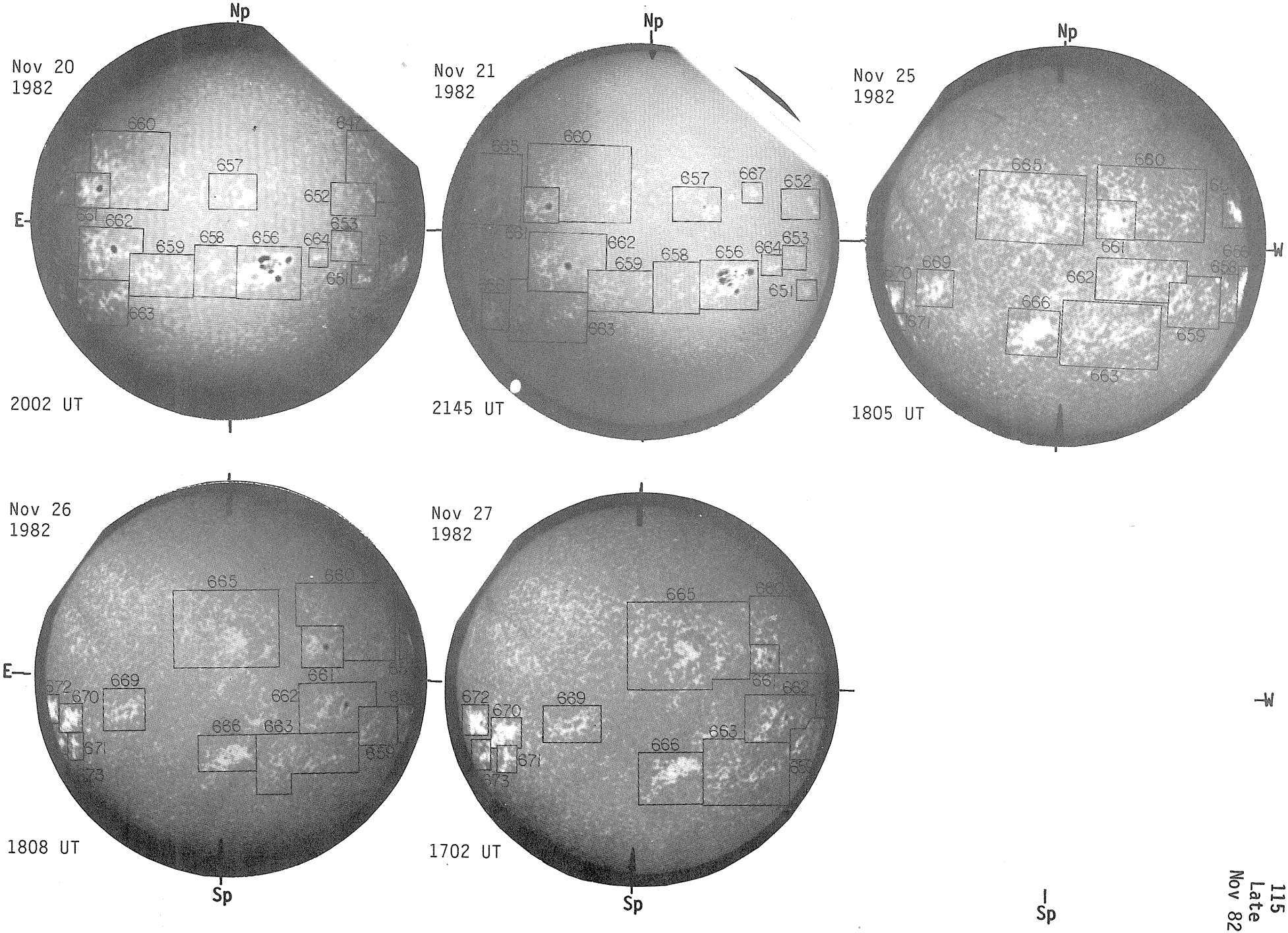

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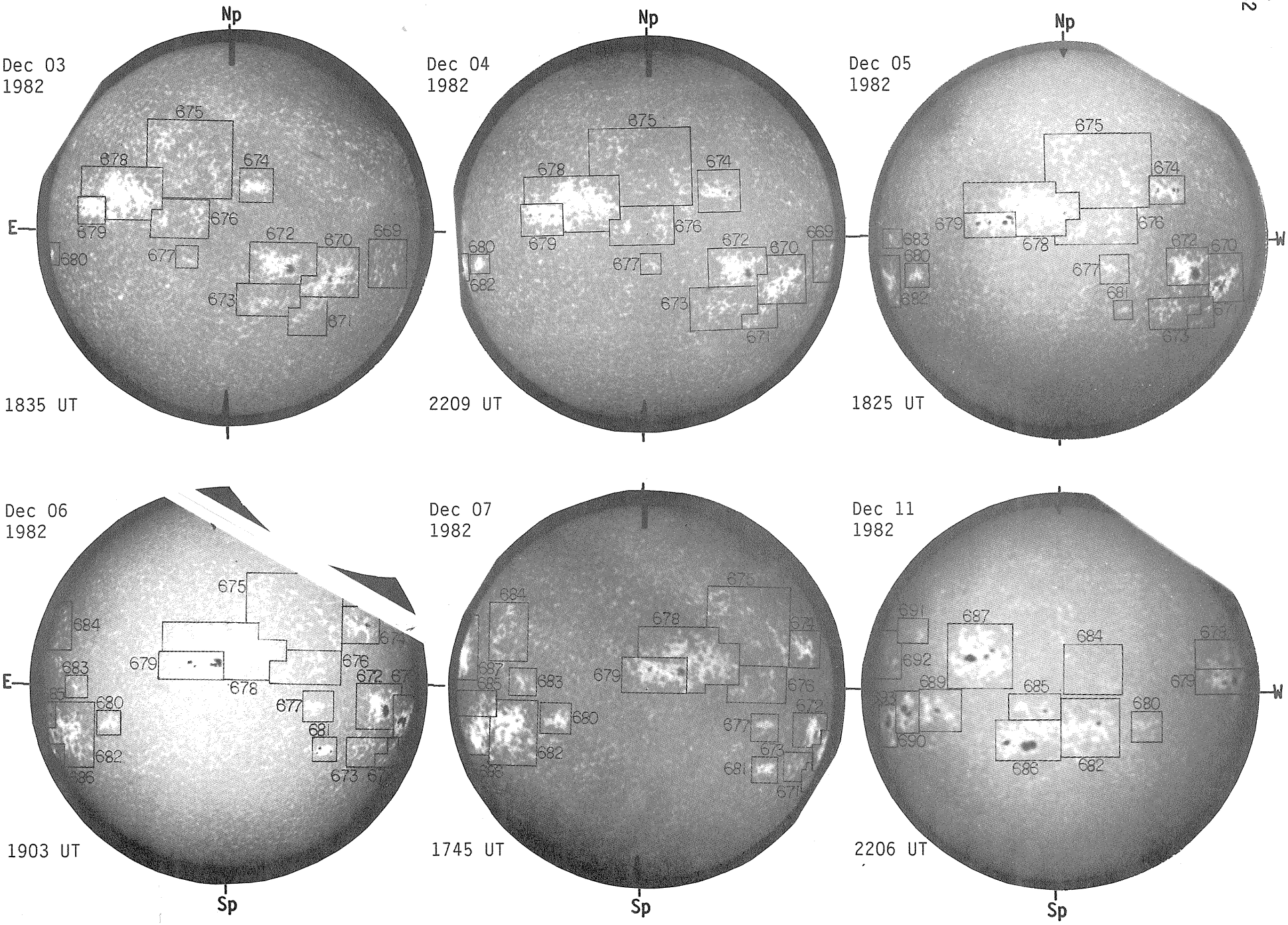

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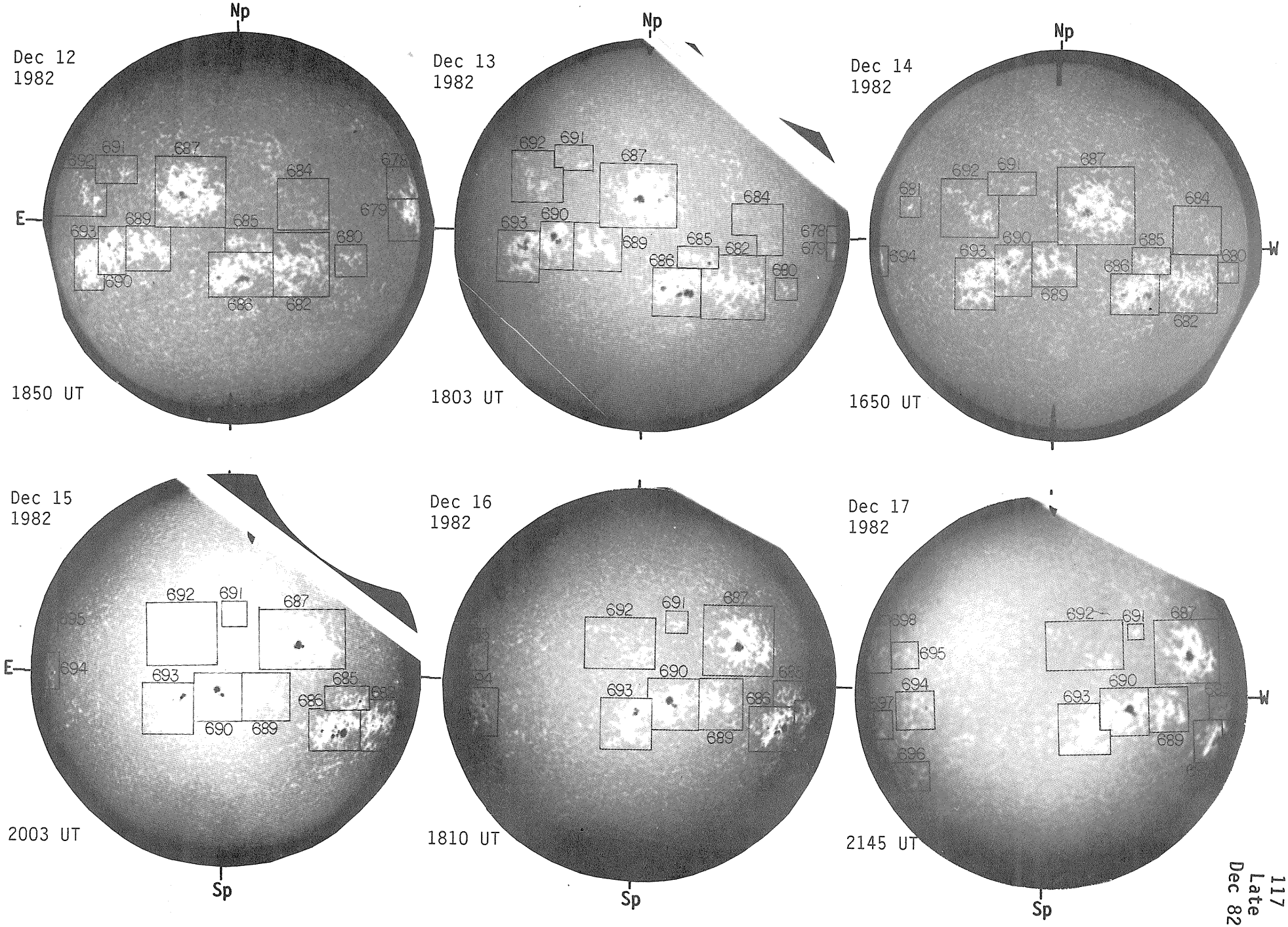

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Late
Dec 82

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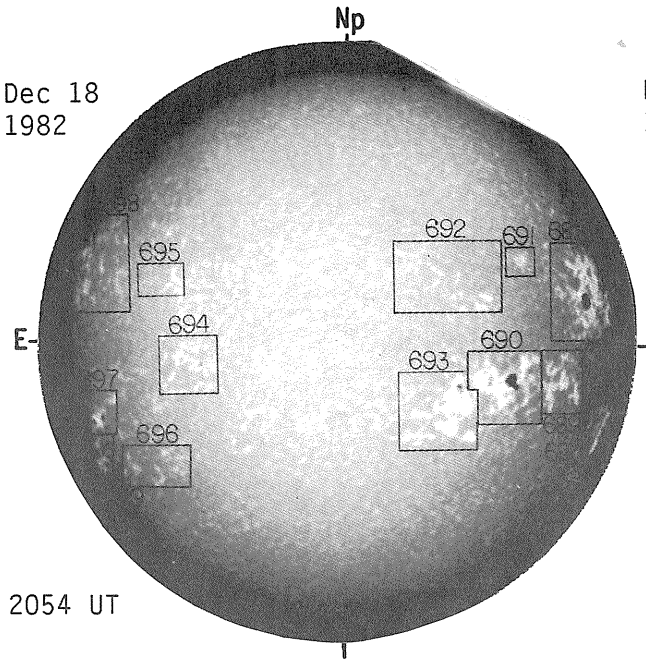

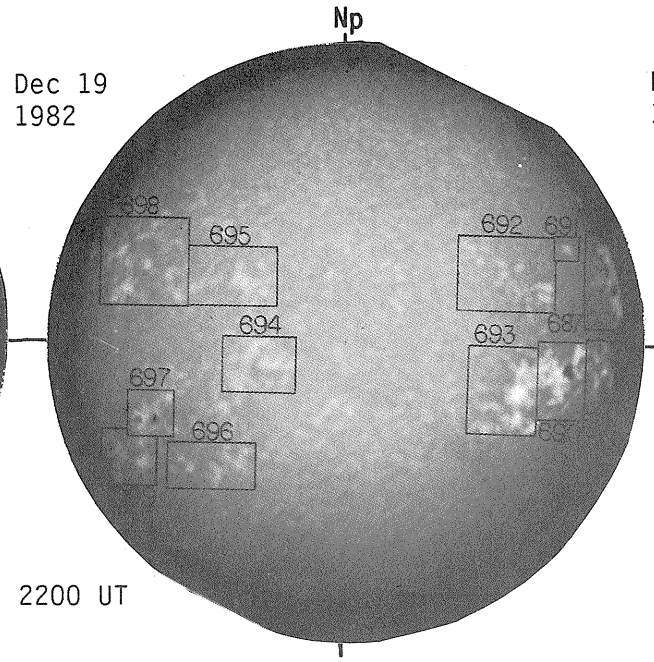

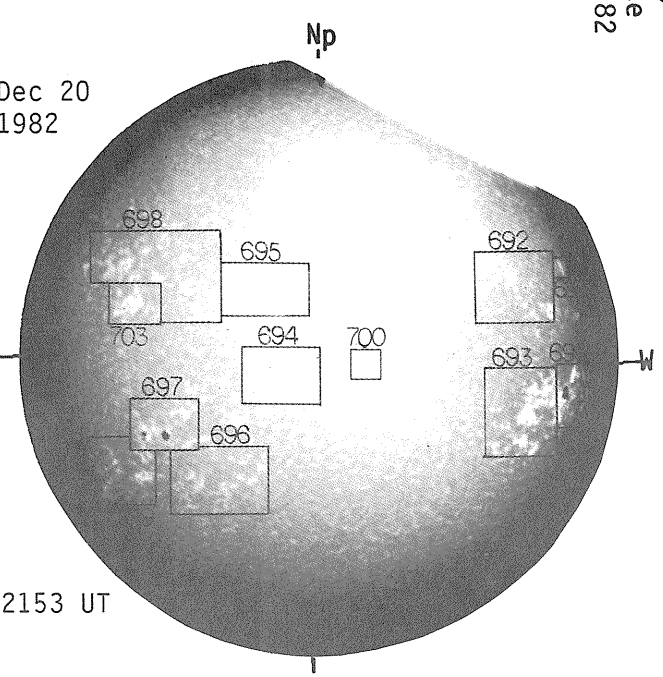

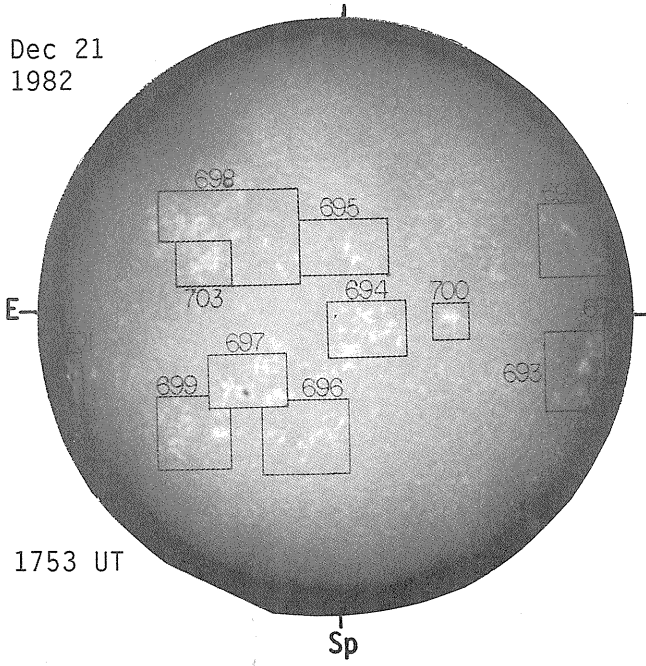

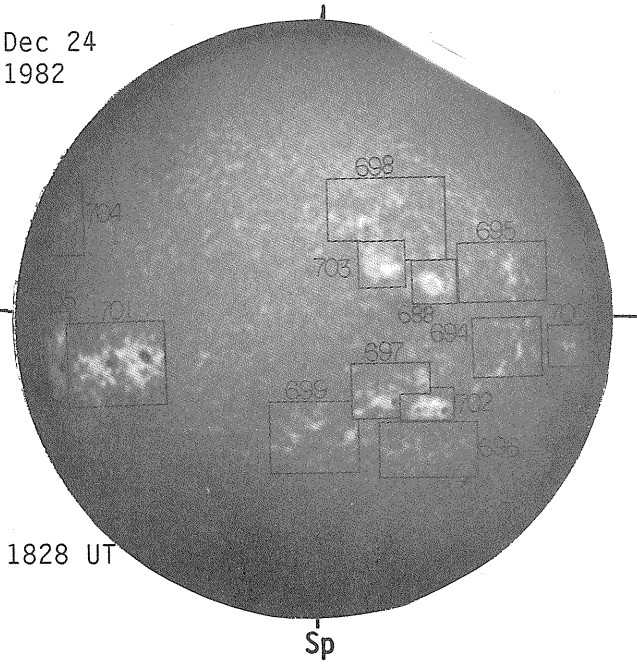

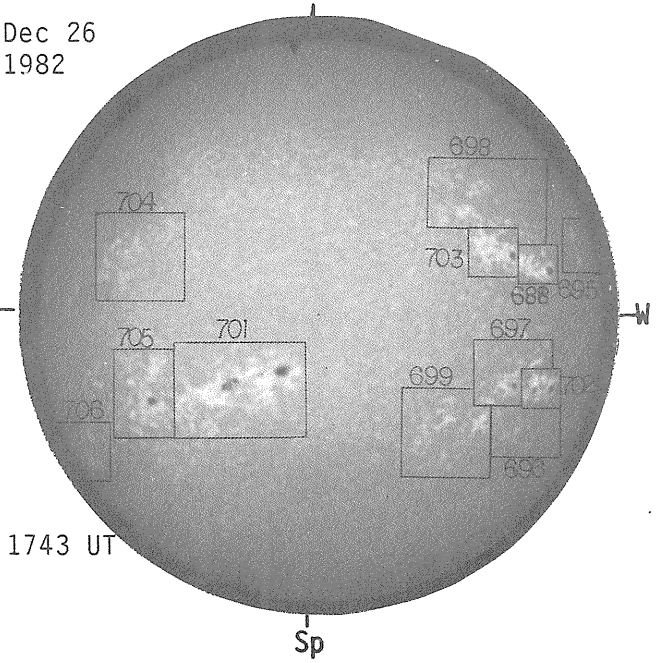

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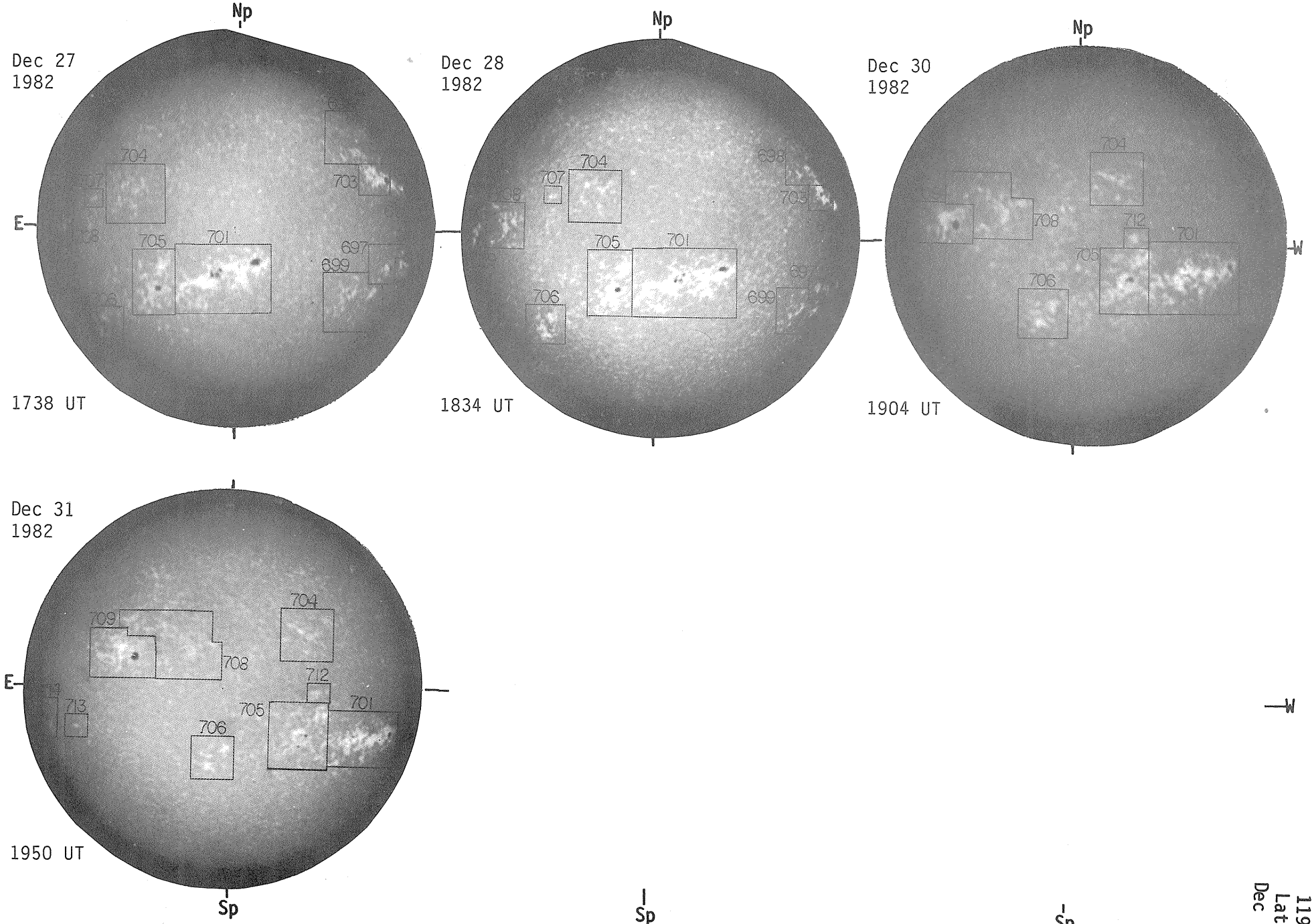

119
Late
Dec 82

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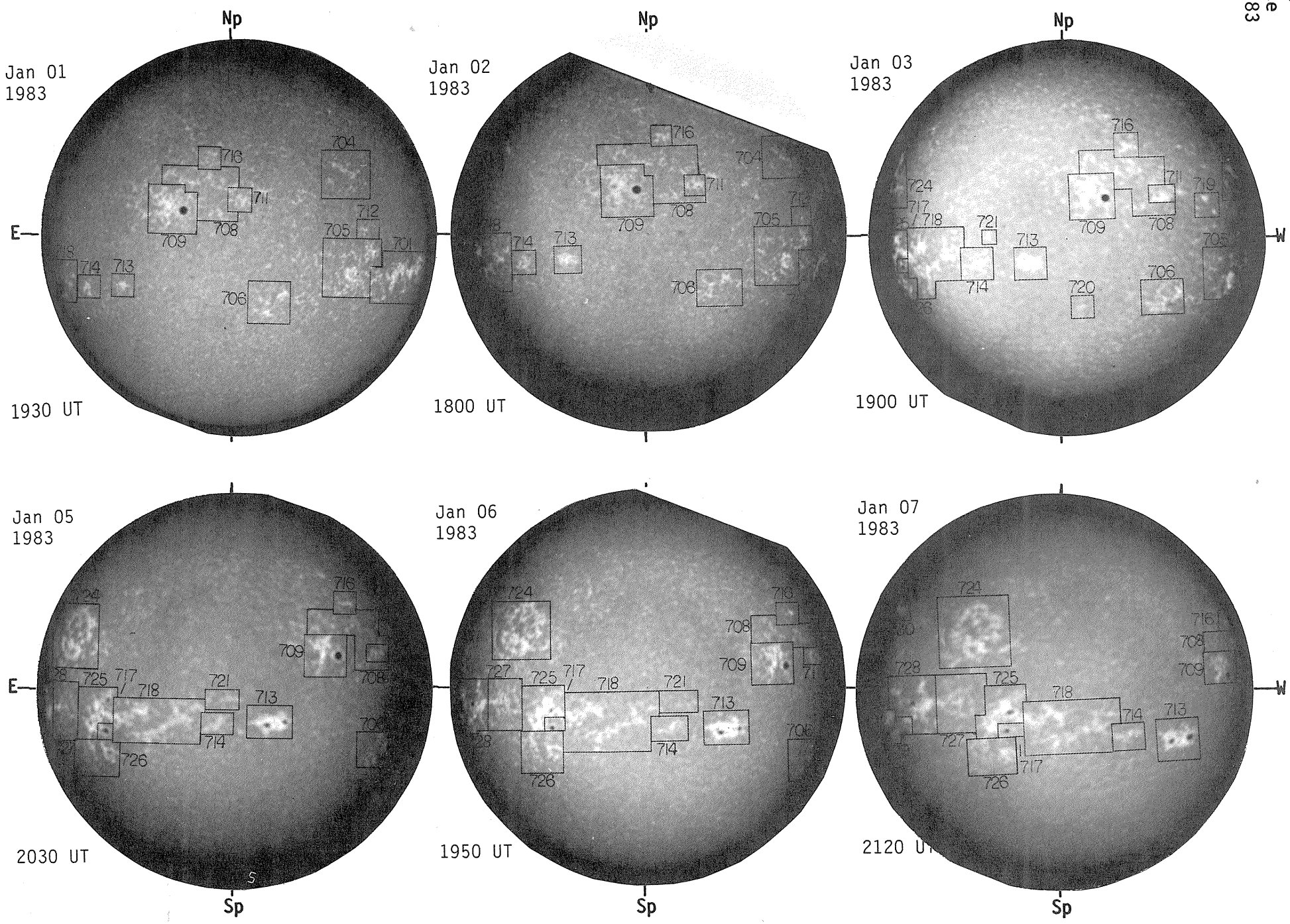

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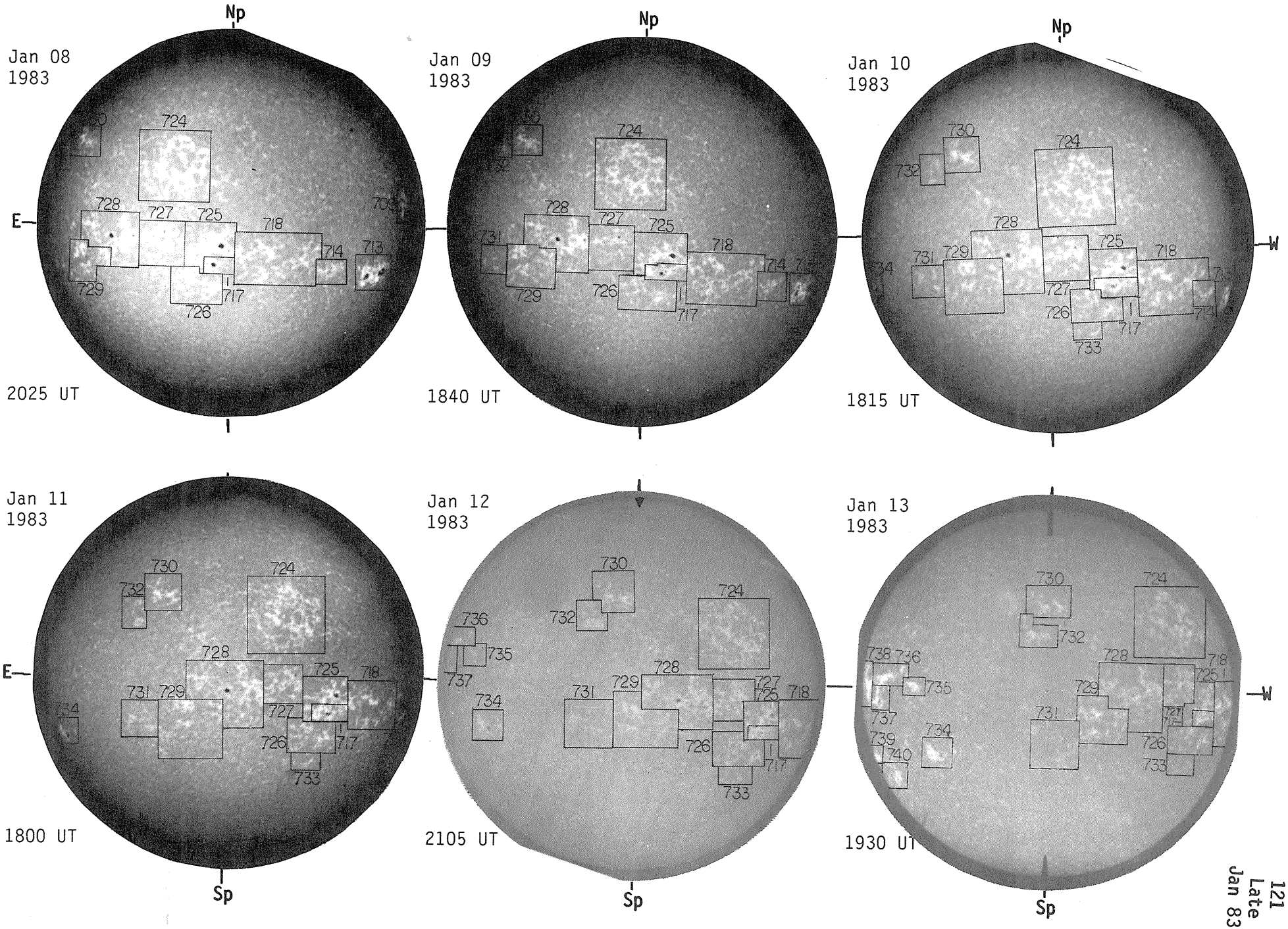

121
Late
Jan 83

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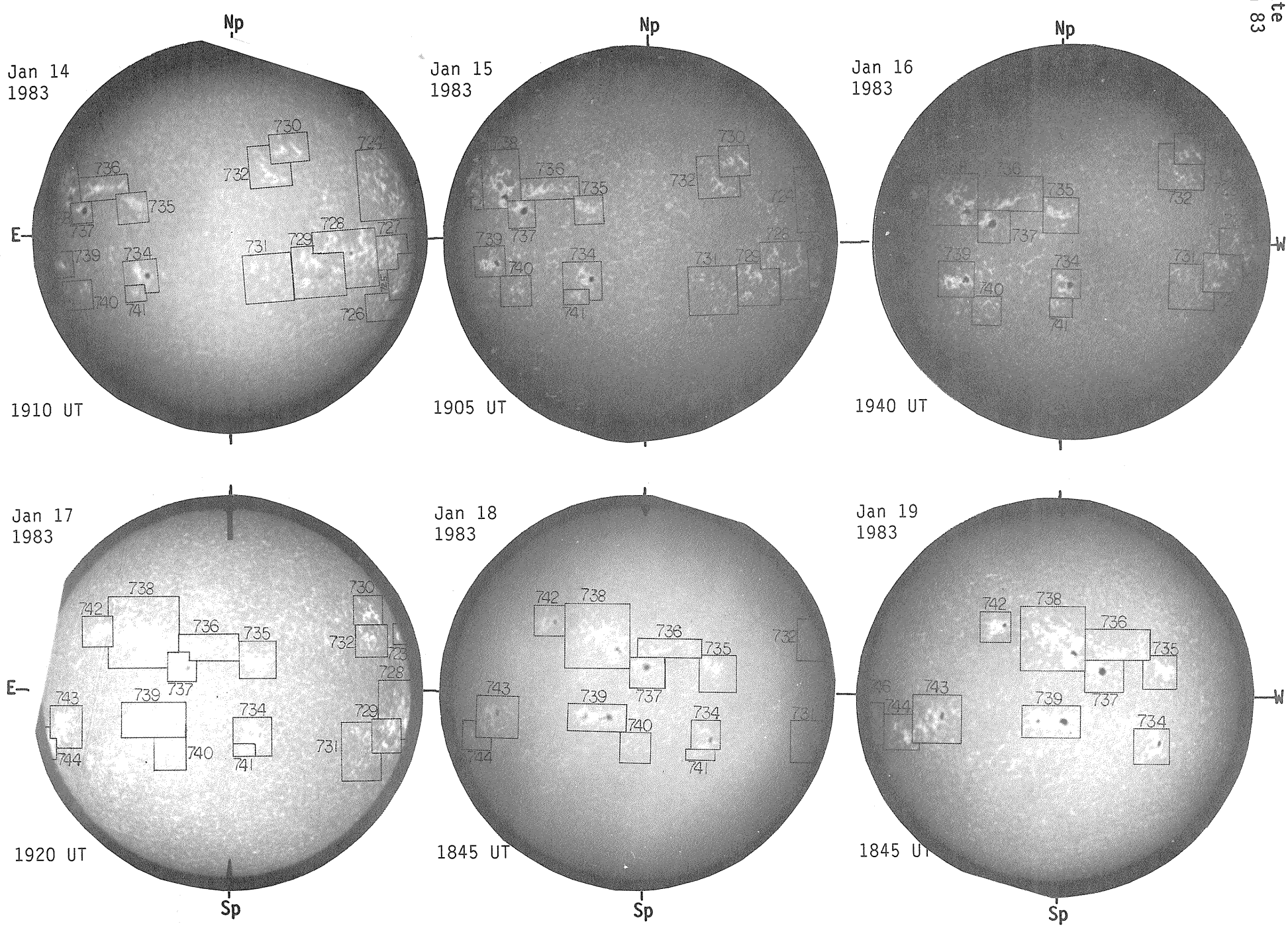

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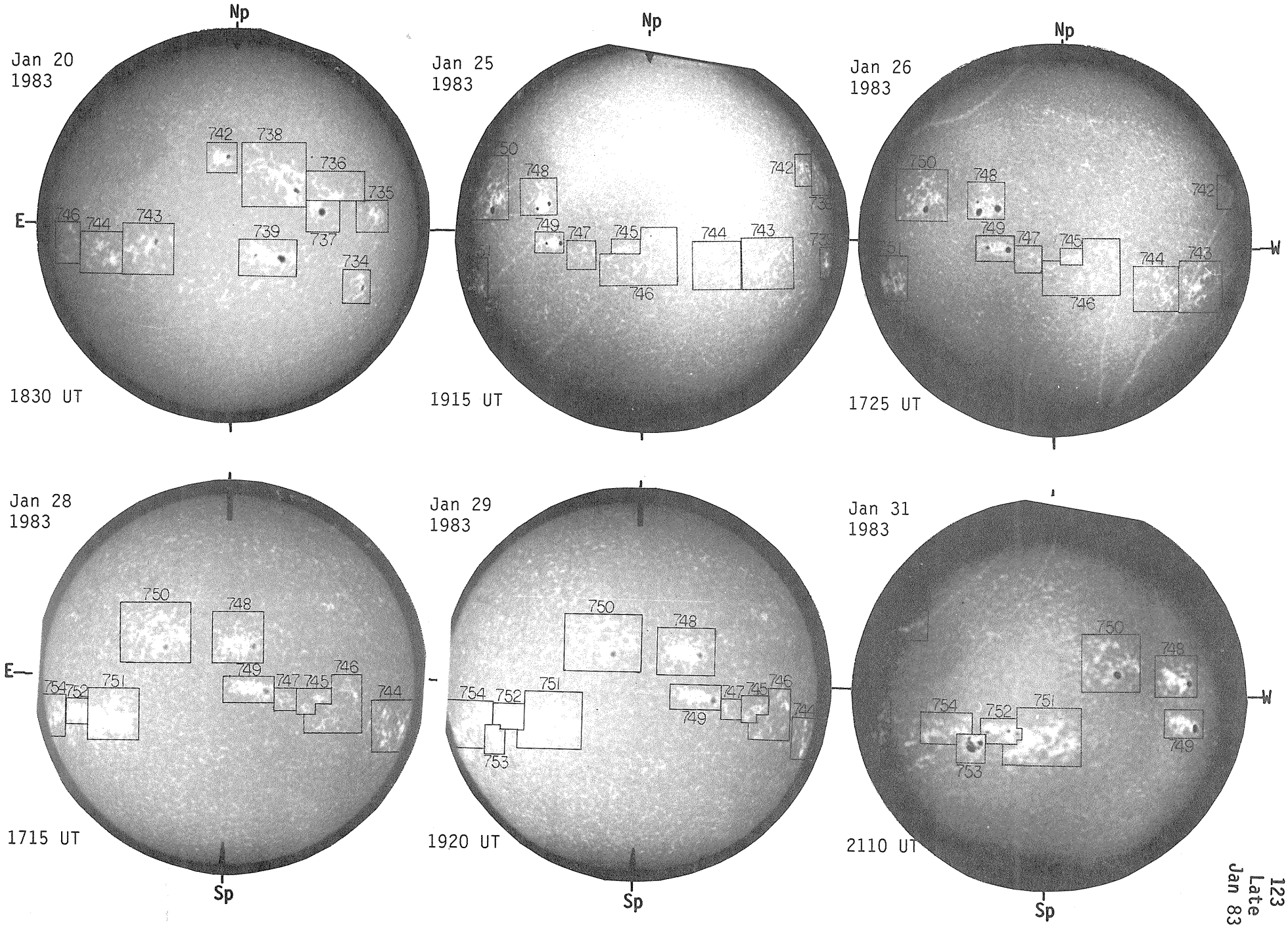

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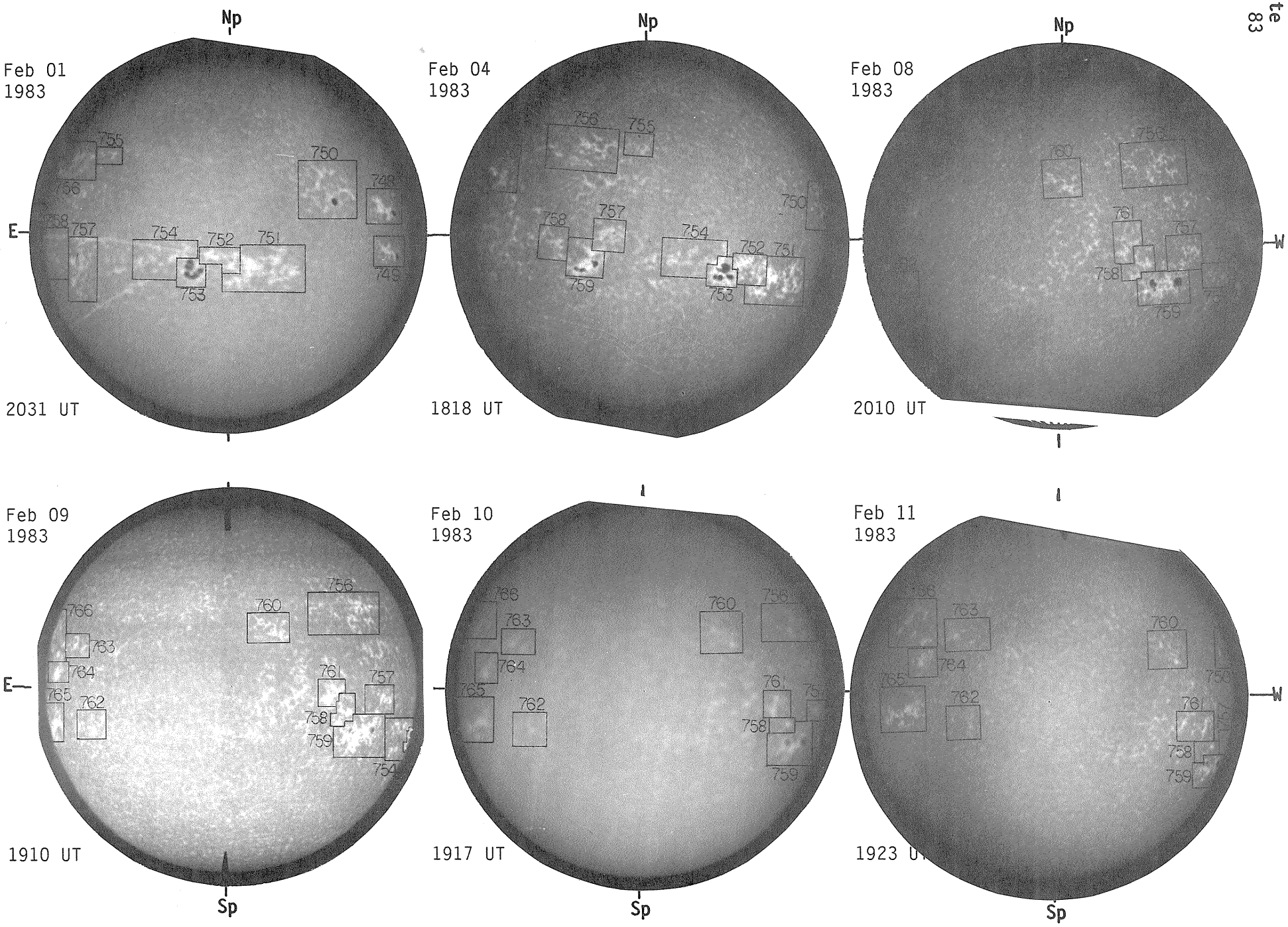

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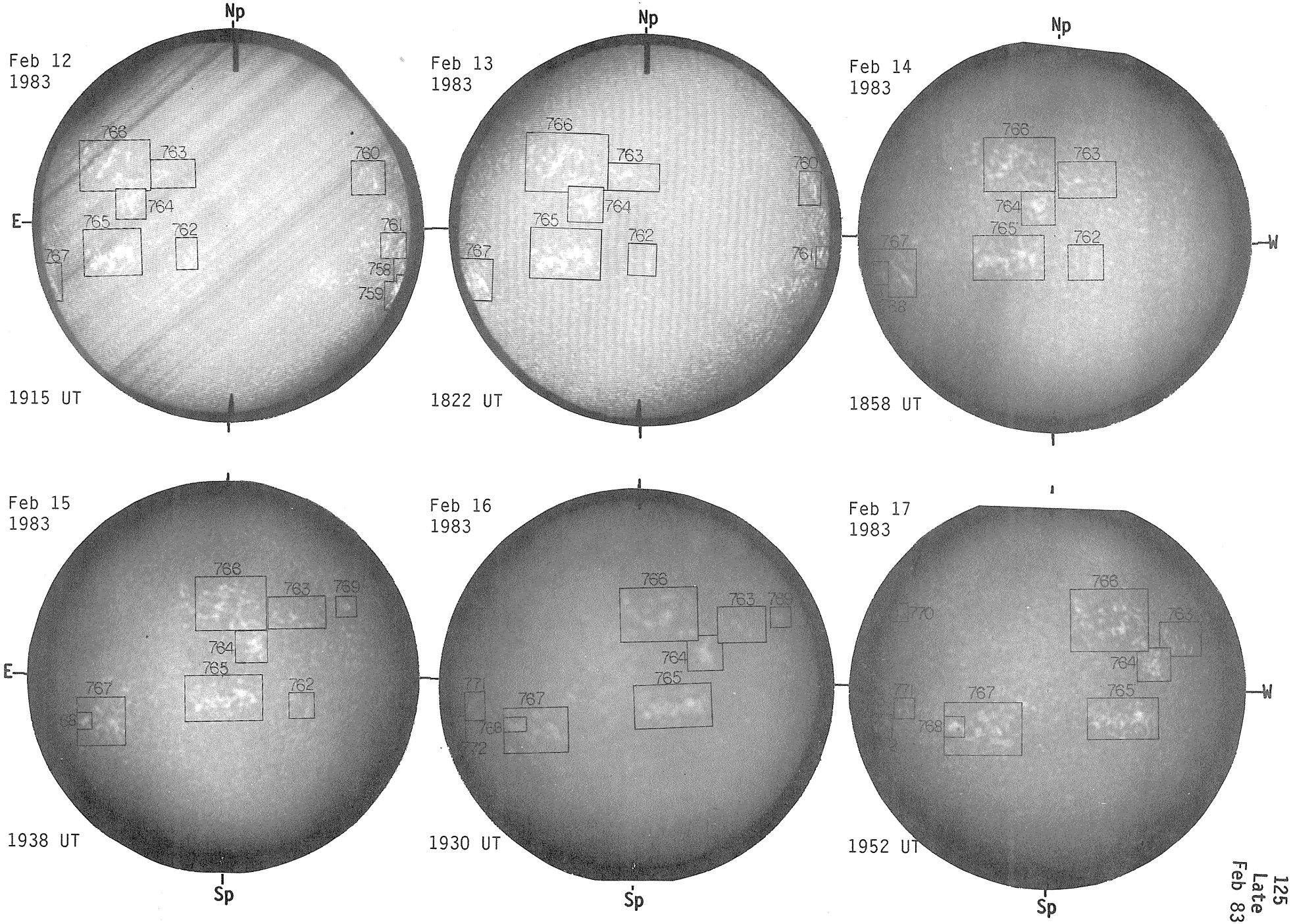

125
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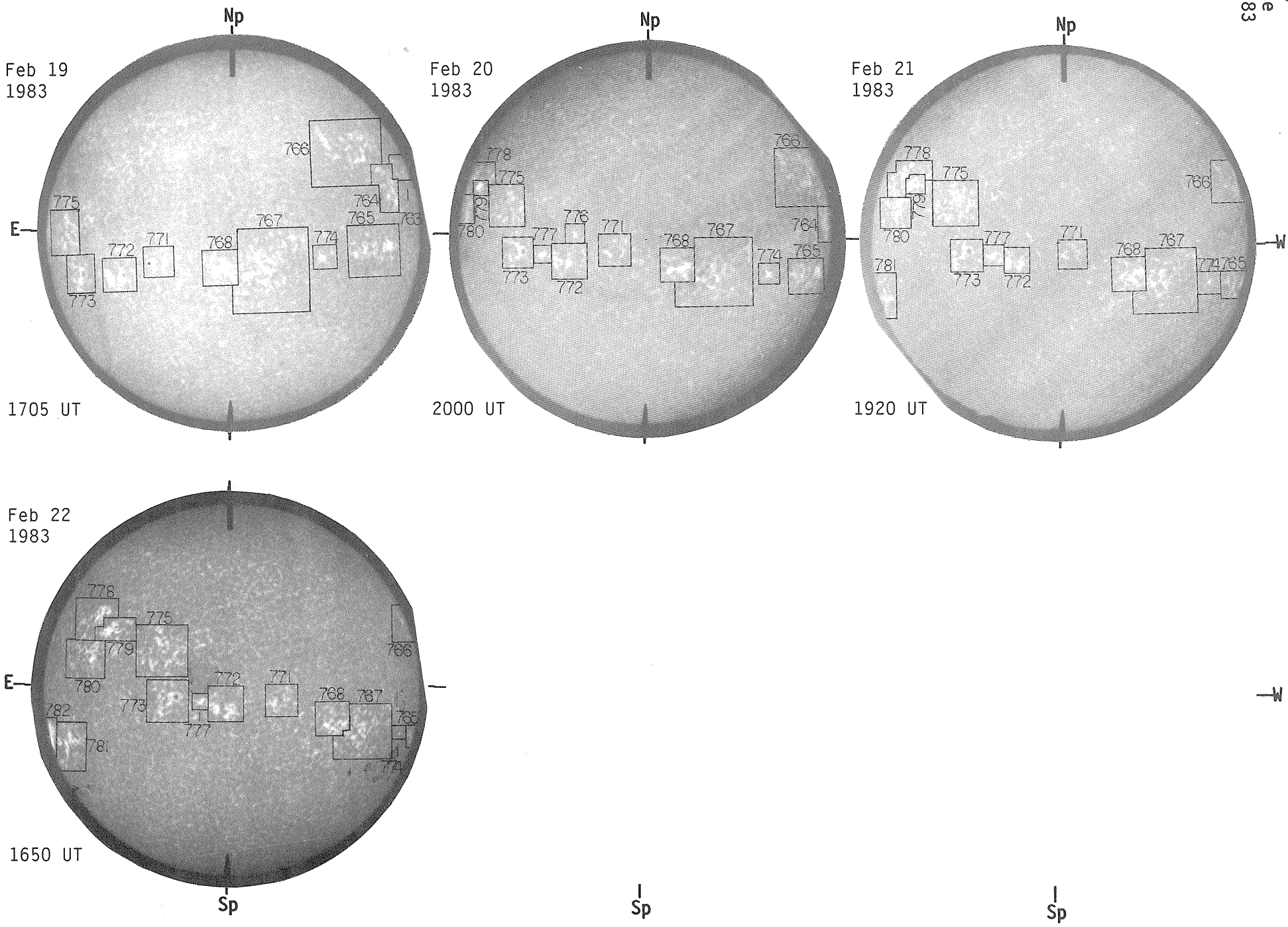

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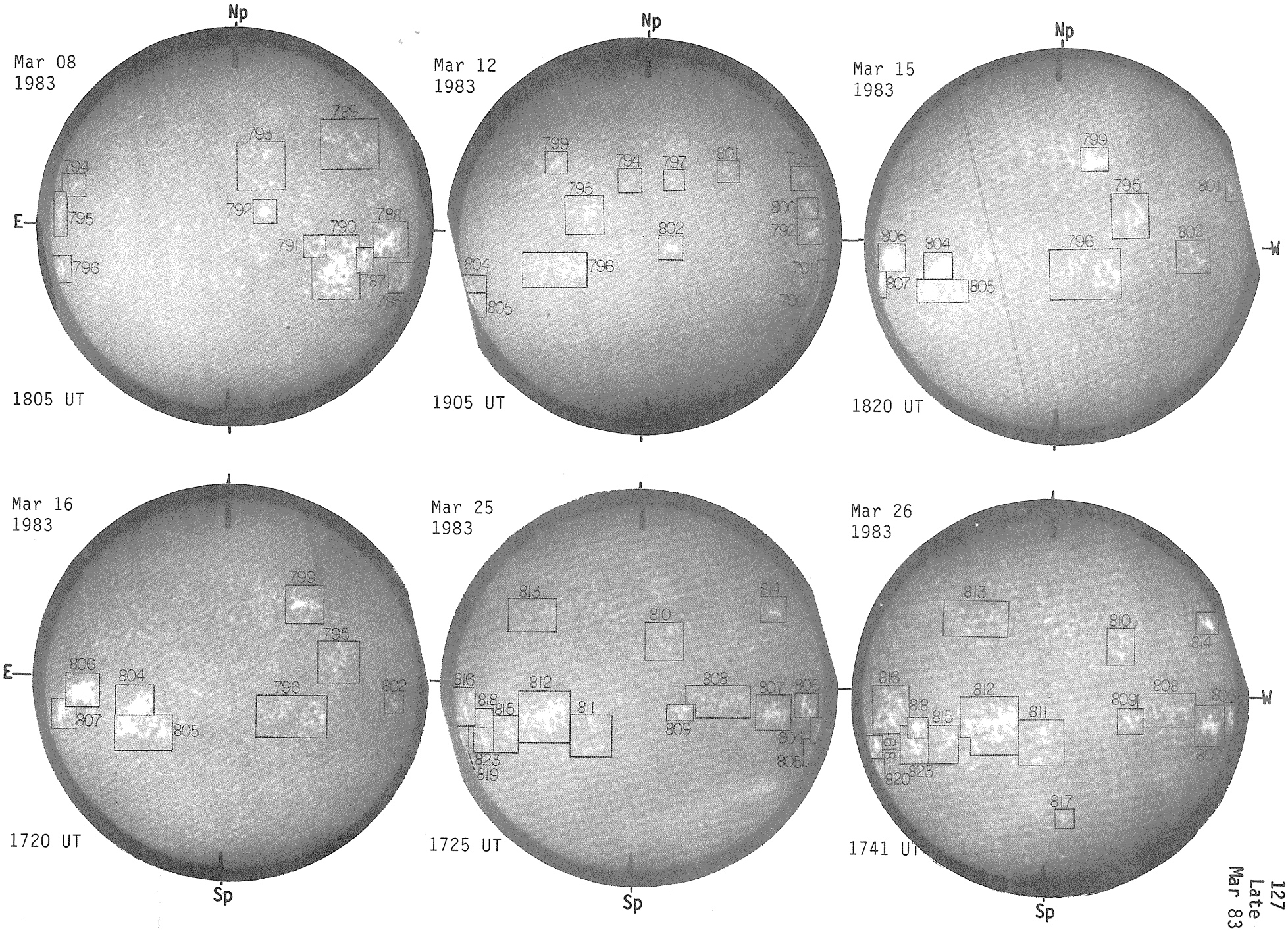

127
Late
Mar 83

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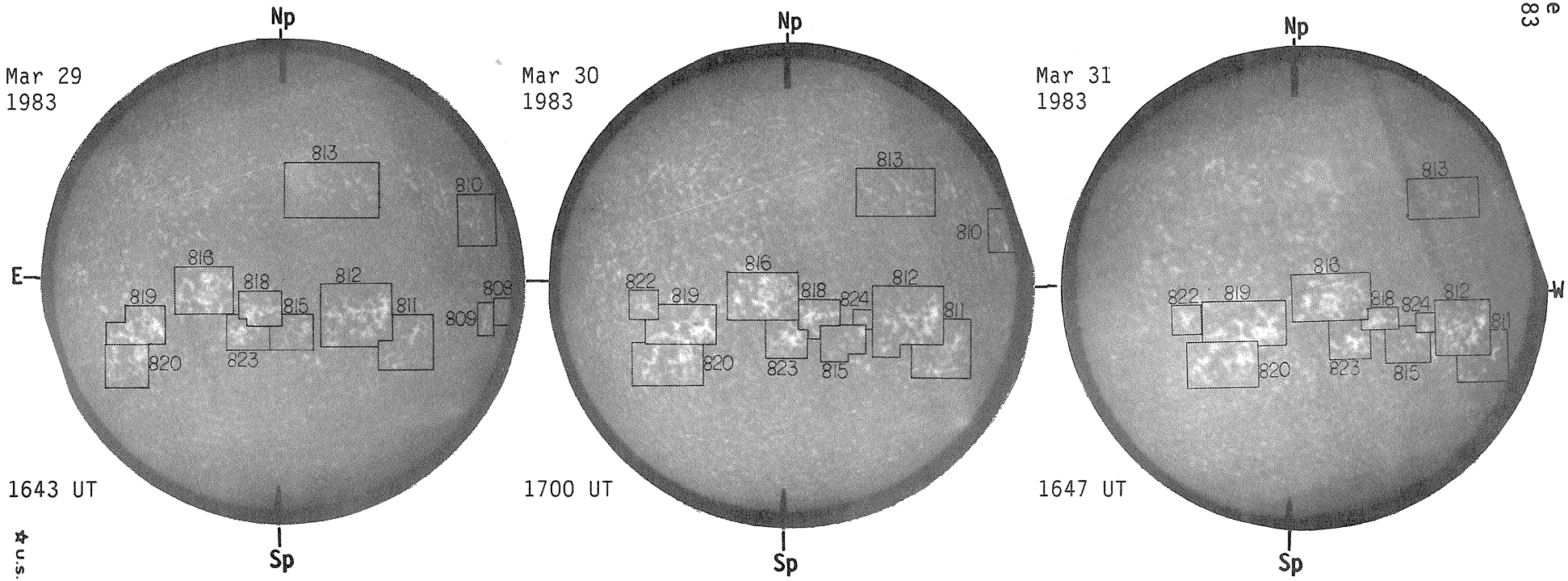

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WORLD DATA CENTER A
FOR
SOLAR-TERRESTRIAL PHYSICS

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

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