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Solar - Geophysical Data

Part I (Prompt Reports)

NO. 472 DECEMBER 1983

DATA FOR
NOVEMBER 1983
OCTOBER 1983

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

For sale through the National Geophysical Data Center, NOAA/NESDIS, E/GC2, 325 Broadway, Boulder, Colorado 80303. Subscription Price: $64.00 annually for both Part I (Prompt Reports) and Part II (Comprehensive Reports) or $32.00 annually for either part. Annual supplement containing explanation is included. For foreign mailing add $42.00 for both parts or $21.00 for either part. Make checks and money orders payable to: Department of Commerce, NOAA/NGDC.

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6	Jan 61 - Dec 61	Microfilm	14	Jan 68 - Jun 68	Microfilm	22	Jan 72 - Jun 72	Microfilm
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S O L A R - G E O P H Y S I C A L D A T A

NUMBER 472

(Issued in Two Parts)

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C O N T E N T S

PART I (PROMPT REPORTS)

PART II (COMPREHENSIVE REPORTS)

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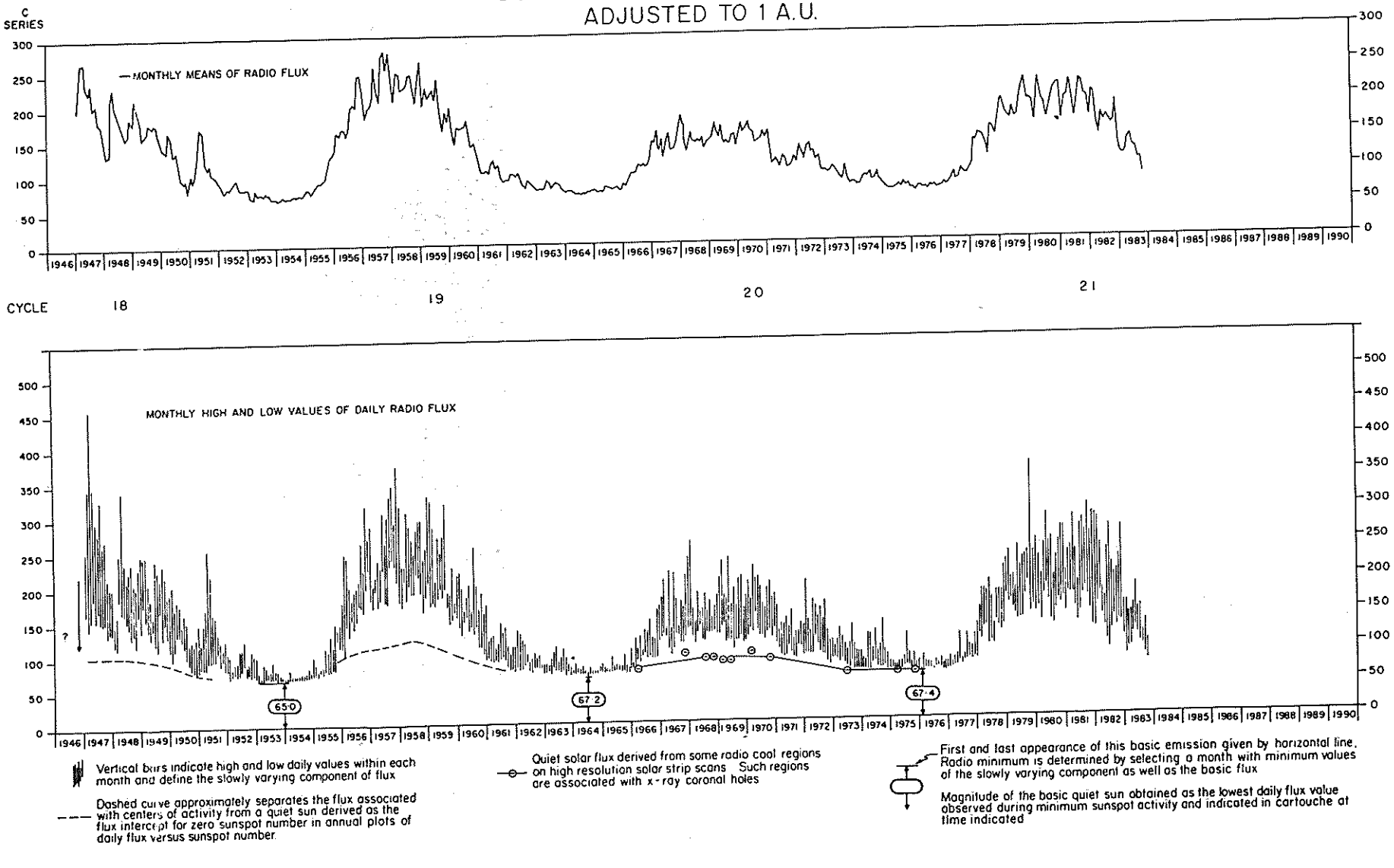
*Solar radio noise bursts observed at Athens, Learmonth, Manila, Palehua and Sagamore Hill during Aug 1979 through Oct 1980 appear in SOLAR-GEOPHYSICAL DATA, No. 461, Part II, pages 103-235.

C O N T E N T S

Prompt Reports DATA FOR **NOVEMBER 1983** Number 472 Part I

SOLAR RADIO FLUX, 10·7 CM
ADJUSTED TO 1 A.U.



ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SUMMARY OF THE GEOALERT MESSAGES NOVEMBER 1983

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
305	01	31	017	094	015	S19W35	0	0	0		01	S19W35	Q	SOLQUIET
														MAGQUIET
306	02	01	039	102	024	S19W47	0	0	0	PRESTO TENFLARE 110 FLUX UNITS	02	S19W47	Q	SOLQUIET
						S18E21	0	0	0	01/1121Z DURATION 23 MINUTES		S18E21	Q	MAGQUIET
						N16E84	0	0	0			N16E84	Q	
307	03	02	051	099	022	S20W61	0	0	0		03	S20W61	Q	SOLQUIET
						S18E04	0	0	0			S18E04	Q	MAGQUIET
						N16E70	0	0	0			N16E70	Q	
						S15E80	0	0	0			S15E80	E	
308	04	03	062	099	015	S18W79	0	0	0		04	S18W79	Q	SOLQUIET
						S16W09	0	0	0			S16W09	Q	MAGQUIET
						S19E56	0	0	0			S19E56	Q	
						N16E57	0	0	0			N16E57	Q	
						S16E65	3	0	0			S16E65	E	
309	05	04	066	105	006	S18E40	1	0	0		05	S18E40	Q	SOLQUIET
						N17E43	1	0	0			N17E43	Q	MAGQUIET
						S16E50	0	0	0			S16E50	Q	
						S09E66	1	0	0			S09E66	Q	
310	06	05	092	107	005	S10E10	0	0	0		06	S10E10	Q	SOLQUIET
						S18E27	0	0	0			S18E27	Q	MAGQUIET
						N17E30	0	0	0			N17E30	Q	
						S15E36	0	0	0			S15E36	E	
						S10E54	3	0	0			S10E54	Q	
311	07	06	092	106	004	N08W30	0	0	0		07	N08W30	Q	SOLQUIET
						S10W06	0	0	0			S10W06	Q	MAGQUIET
						S18E15	0	0	0			S18E15	Q	
						N17E17	0	0	0			N17E17	Q	
						S15E35	0	0	0			S15E35	Q	
						S10E42	0	0	0			S10E42	Q	
312	08	07	122	111	012	S19W65	0	0	0		08	S19W65	Q	SOLQUIET
						S10W18	0	0	0			S10W18	Q	MAGALERT
						S18E01	0	0	0			S18E01	Q	MINOR 08/10
						N17E03	0	0	0			N17E03	Q	
						S15E10	0	0	0			S15E10	Q	
						N26E21	0	0	0			N26E21	Q	
						S10E27	6	0	0			S10E27	Q	
313	09	08	107	106	025	S11W31	0	0	0	PRESTO TENFLARE 120 FLUX UNITS	09	S11W31	Q	SOLQUIET
						N17W12	0	0	0	08/1730Z DURATION 23 MINUTES		N17W12	Q	MAGALERT
						S18W12	1	0	0			S18W12	Q	MINOR 09/10
						S15W02	7	1	0			S15W02	Q	
						S10E15	4	0	0			S10E15	Q	
						S19E52	0	0	0			S19E52	Q	
314	10	09	075	101	037	S18W26	0	0	0		10	S18W26	Q	SOLQUIET
						N17W24	0	0	0			N17W24	Q	MAGALERT
						S15W15	0	0	0			S15W15	Q	MINOR 10/11
						S10E04	1	0	0			S10E04	E	
						S19E38	0	0	0			S19E38	Q	
315	11	10	103	103	021	S12W57	1	0	0		11	S12W57	Q	SOLQUIET
						S18W39	0	0	0			S18W39	Q	MAGALERT
						N17W36	0	0	0			N17W36	Q	MINOR 11/12
						S16W24	0	0	0			S16W24	Q	
						S11W11	0	0	0			S11W11	Q	
						S19E26	0	0	0			S19E26	Q	
316	12	11	067	099	027	S13W72	0	0	0		12	S13W72	Q	SOLQUIET
						S18W53	0	0	0			S18W53	Q	MAGALERT

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SUMMARY OF THE GEOALERT MESSAGES NOVEMBER 1983

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
						N17W51	0	0	0			N17W51	Q	MINOR 12/13
						S11W26	0	0	0			S11W26	Q	
						S19E13	0	0	0			S19E13	Q	
317	13	12	080	092	028	S13W83	0	0	0		13	S13W83	Q	SOLQUIET
						S18W66	0	0	0			S18W66	Q	MAGALERT
						N09W64	0	0	0			N09W64	Q	MINOR 13/14
						S17W55	0	0	0			S17W55	Q	RECURRENCE
						S12W41	1	0	0			S12W41	Q	
						S19W00	1	0	0			S19W00	Q	
318	14	13	062	094	028	N16W78	0	0	0		14	N16W78	Q	SOLQUIET
						S17W77	0	0	0			S17W77	Q	MAGNIL
						S12W53	0	0	0			S12W53	Q	
						S13E09	0	0	0			S13E09	E	
						S14E44	0	0	0			S14E44	Q	
319	15	14	085	093	021	S12W72	0	0	0		15	S12W72	Q	SOLQUIET
						S19W26	0	0	0			S19W26	Q	MAGALERT
						S13W06	2	0	0			S13W06	Q	MINOR 16/XX
						S06W02	0	0	0			S06W02	Q	RECURRENCE
						S08E20	0	0	0			S08E20	Q	
						S14E34	2	0	0			S14E34	Q	
320	16	15	063	093	017	S13W19	1	0	0		16	S13W19	Q	SOLQUIET
						S11E15	0	0	0			S11E15	Q	MAGALERT
						S15E20	0	0	0			S15E20	Q	MINOR 16/XX
						N22E29	0	0	0			N22E29	Q	RECURRENCE
321	17	16	060	093	022	S13W31	0	0	0		17	S13W31	Q	SOLQUIET
						S15E07	1	0	0			S15E07	Q	MAGALERT
						N22E16	0	0	0			N22E16	Q	MINOR 17/XX
														RECURRENCE
322	18	17	037	088	029	S13W45	0	0	0		18	S13W45	Q	SOLQUIET
						S16W10	0	0	0			S16W10	Q	MAGALERT
														MINOR 18/19
														RECURRENCE
323	19	18	040	086	023	S13W58	3	0	0		19	S13W58	Q	SOLQUIET
						S15W21	1	0	0			S15W21	Q	MAGALERT
														MINOR 19/20
														RECURRENCE
324	20	19	033	084	015	S13W72	0	0	0		20	S13W72	Q	SOLQUIET
						S15W55	0	0	0			S15W55	Q	MAGALERT
														MINOR 20
														RECURRENCE
325	21	20	000	082	018	NO SPOTS VISIBLE					21	XXXXXX		SOLQUIET
														MAGNIL
326	22	21	000	081	008	NO SPOTS VISIBLE					22	XXXXXX		SOLQUIET
														MAGQUIET
327	23	22	000	082	007	NO SPOTS VISIBLE					23	XXXXXX		SOLQUIET
														MAGQUIET
328	24	23	000	080	003	NO SPOTS VISIBLE					24	XXXXXX		SOLQUIET
														MAGQUIET
329	25	24	000	081	010	NO SPOTS VISIBLE					25	XXXXXX		SOLQUIET
														MAGQUIET
330	26	25	000	081	016	NO SPOTS VISIBLE					26	XXXXXX		SOLQUIET
														MAGQUIET

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SUMMARY OF THE GEOALERT MESSAGES NOVEMBER 1983

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
331	27	26	000	083	017	NO SPOTS VISIBLE					27	XXXXXX		SOLQUIET MAGQUIET
332	28	27	012	087	008	N17E74	2	0	0		28	N17E74	Q	SOLQUIET MAGALERT MINOR 28/30
333	29	28	030	089	013	N17E59 N11E77	1 0	0 0	0 0		29	N17E59 N11E77	Q Q	SOLQUIET MAGALERT MINOR 29/30
334	30	29	033	092	018	N18E46 N10E64	2 0	0 0	0 0		30	N18E46 N10E64	Q Q	SOLQUIET MAGALERT MINOR 30
335	01	30	035	093	020	N18E32 N11E51	0 1	0 0	0 0		01	N18E32 N11E51	Q Q	SOLQUIET MAGNIL

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

NOVEMBER 1983

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS)

01 NOVEMBER 1983 MEUDON 01/1336Z THREECM FLARE 01/1120Z 350 FLUX UNITS DURATION 25 MINUTES AT BERNE
02 NOVEMBER 1983 BOULDER 02/0210Z TENFLARE 110 FLUX UNITS 01/1121Z DURATION 23 MINUTES
08 NOVEMBER 1983 BOULDER 08/1753Z TENFLARE 120 FLUX UNITS 08/1730Z DURATION 12 MINUTES
09 NOVEMBER 1983 MEUDON 09/1300Z TENFLARE 120 FLUX UNITS 08/1730Z DURATION 12 MINUTES

INTERNATIONAL* (R_I) RELATIVE SUNSPOT NUMBERS

Day	1982 Dec	1983 Final Jan	Feb	Mar	Apr	May	Jun	1983 Prov Jul	Aug	Sep	Oct	Nov
01	88	60	103	109	53	114	61	62	131	46	32	17
02	125	65	85	93	70	104	72	59	128	56	51	25
03	132	55	88	86	61	94	73	61	105	59	63	37
04	137	63	94	93	53	85	68	87	103	69	74	51
05	137	82	82	113	36	95	77	80	79	81	65	66
06	174	103	71	88	49	88	85	79	47	78	75	68
07	175	109	72	77	64	92	104	74	60	72	87	84
08	184	126	63	68	59	98	100	82	70	72	99	90
09	152	100	39	74	59	110	100	69	69	74	106	70
10	166	83	26	55	64	114	86	59	63	77	108	68
11	171	90	21	49	69	101	73	68	88	65	130	56
12	194	77	18	32	65	114	66	86	103	41	122	47
13	172	89	11	12	64	132	72	85	101	36	100	40
14	160	92	10	24	64	125	88	88	97	36	75	29
15	166	77	24	44	53	130	92	92	93	42	72	28
16	140	89	17	63	54	99	84	93	80	38	61	38
17	118	102	22	74	63	93	79	96	72	35	60	31
18	102	86	32	88	75	99	78	98	71	45	63	36
19	79	93	33	82	110	88	103	96	54	40	46	26
20	63	81	32	82	90	105	117	101.	40	32	26	13
21	87	74	39	87	87	110	117	109	52	38	18	13
22	88	73	33	70	83	104	136	114	50	38	22	0
23	96	59	40	66	91	102	143	95	51	42	22	0
24	100	58	50	60	92	111	122	105	44	46	20	0
25	122	75	67	48	123	98	122	85	52	45	18	0
26	116	77	70	70	118	100	110	58	56	50	22	0
27	126	75	88	72	126	85	92	49	51	46	12	8
28	120	89	98	48	146	68	83	40	55	48	11	12
29	98	99		44	142	88	68	77	63	48	16	19
30	79	101		54	137	68	63	89	59	33	15	24
31	69	110		37		60		110	42		19	
Mean	127	84	51	66	81	99	91	82	72	51	55	33

*International sunspot numbers have replaced the Zurich values since January 1981.
The yearly mean sunspot number equaled 115.9 in 1982.

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

ALGONQUIN RADIO OBSERVATORY, OTTAWA

Day	Dec 82	Jan 83	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
01	167.8	131.4	162.6	145.4	100.7	142.0	131.3	124.1*	151.1	110.5*	117.5	98.3
02	166.3	131.4	156.5*	138.7	101.2	145.4	139.0*	125.4	145.4*	110.9	120.4	97.6
03	181.6	136.2	145.5	141.0	101.4*	139.4	139.3	131.5	139.4*	106.4	123.1	96.9
04	194.5	138.2	156.8	143.7	100.8	132.9	149.2	137.2	136.5	110.5	125.1	103.1
05	195.9*	154.6	154.3*	146.6	98.7	130.8	167.9*	132.1	136.5	117.6	126.6*	105.1
06	210.4	161.6*	152.3	139.3	99.5	125.8*	191.4	132.4	142.0	120.7	132.7	---
07	244.3	163.3	142.2	132.3	102.2	117.4	179.5	132.7	141.9	118.6	133.9	108.5
08	241.7*	155.9*	133.3	128.1	104.1*	127.0	173.7	127.9	141.0	118.4	131.1*	103.5
09	258.6	150.0	121.9	122.0	106.1	132.2*	159.5*	123.1	142.9	115.3	130.4	99.2
10	273.5*	144.2	113.4	115.1	103.3	143.5*	150.5*	123.1	151.6	109.7	133.6*	100.8
11	259.3*	139.3	106.9	103.0	104.4	159.3*	139.2	125.7	151.3	110.5	138.3	96.7
12	251.1	135.7	99.8	99.5*	107.7	160.4*	134.5	124.7	156.7*	104.9*	133.7	89.6
13	239.0	135.1	95.5	95.8	109.1	154.4	128.3	123.5	147.3	104.4	133.5*	91.9
14	235.6	137.2	91.7	95.9	111.7	153.5*	126.4*	124.4	141.6*	105.2	131.5*	91.0
15	221.9	141.0	88.5	100.6*	103.6	145.7	128.7	124.6	135.8*	106.3*	127.0	90.9
16	213.2*	140.2	89.7	107.8	105.1	134.0*	128.8*	121.3	132.1	106.3*	117.2A	90.6
17	200.5*	138.0	91.9	114.5	113.5	131.7*	130.7	120.0	126.8	105.1	110.9*	85.6
18	186.5	134.8	97.2	117.7	120.7	137.6	130.5	116.4*	122.2	102.5	103.6	84.4
19	176.8*	127.4	94.6	118.3	125.0	146.8	133.8	119.5	117.7	101.2	105.2	82.3
20	159.2	120.5	97.3	120.7	127.4	151.8*	136.9	125.1	118.7	100.4	99.1	80.3
21	149.4	116.1	101.6	118.8*	133.3	149.8	144.0	128.1*	114.2	103.0	89.3	79.3
22	150.1*	113.5	106.2	117.2	139.7	152.0	148.9	138.9	110.8	106.0	87.2	80.1
23	157.0*	115.4	112.0	116.2	140.4	143.7	149.8	132.9*	110.8	112.6	87.8	78.2
24	166.8	114.1	114.3	117.1	142.7	140.5	141.7*	136.3*	108.7	111.8	88.6	78.8
25	170.6	122.7	120.3	114.2*	145.6	138.8	141.4	136.7*	104.2	110.5*	89.2	79.2
26	168.7	132.6	126.2	114.7*	146.8	132.3	144.1A	128.9*	105.8	114.6*	89.1	80.4
27	166.2	133.6	138.3	109.6	149.6	130.5	137.1	123.1	103.7	119.8	88.9	84.4
28	157.0	140.6	137.6	104.9	156.4*	133.1	129.4*	127.1	102.8	114.8	90.4	86.6
29	147.3	148.9		98.9	148.4	139.0	128.9	138.5*	105.7	114.5	90.7	89.4
30	142.5	154.8		100.7	147.2	135.4*	126.8	144.3	104.0	113.0	92.6	90.0
31	134.4	161.9		98.7		138.0*		153.1*	104.2		95.5*	
Mean	193.2	137.7	119.6	117.3	119.9	140.2	143.0	129.1	127.5	110.2	111.7	90.4

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 175.1 in 1982.

DAILY SOLAR INDICES

NOVEMBER 1983

Day	Julian Day	Bartels Cycle Day	Sunspot Numbers R_I	Sunspot Numbers R_{A*}	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	306	15	17	15	99.8	581	262	130	98.3	88	87	76	31	16
02	307	16	25	25	99.2	577	261	130	97.6	90	85	77	32	15
03	308	17	37	39	98.5	565	263	133	96.9	90	86	82	32	17
04	309	18	51	51	104.9	558	266	136	103.1	95	89	72	32	18
05	310	19	66	60	106.9	508	238	127	105.1	95	88	82	32	17
06	311	20	68	76	---	555	266	133	---	94	94	78	31	15
07	312	21	84	87	110.5	588	264	138	108.5	102	99	83	33	19
08	313	22	90	82	105.5	585	258	132	103.5	99	97	82	32	18
09	314	23	70	64	101.1	570	252	127	99.2	84	92	76	30	15
10	315	24	68	65	102.9	580	261	132	100.8	86	92	77	31	14
11	316	25	56	46	98.7	555	264	129	96.7	89	86	72	31	17
12	317	26	47	33	91.5	577	263	126	89.6	83	84	75	29	15
13	318	27	40	26	93.9	577	265	123	91.9	84	80	71	29	14
14	319	1	29	30	93.0	568	268	125	91.0	81	83	73	29	14
15	320	2	28	30	92.9	576	263	125	90.9	85	76	71	28	15
16	321	3	38	33	92.6	550	245	120	90.6	66	76	70	30	15
17	322	4	31	30	87.6	564	258	120	85.6	90	73	71	29	15
18	323	5	36	32	86.4	578	258	120	84.4	75	72	69	28	16
19	324	6	26	25	84.3	572	253	116	82.3	85	71	67	27	15
20	325	7	13	1	82.3	---	---	---	80.3	--	--	--	--	--
21	326	8	13	0	81.3	558	252	116	79.3	83	69	67	28	13
22	327	9	0	0	82.2	---	---	---	80.1	--	--	--	--	--
23	328	10	0	0	80.2	600	258	116	78.2	89	77	73	30	18
24	329	11	0	0	80.9	524	251	114	78.8	82	68	66	29	15
25	330	12	0	0	81.3	433	221	108	79.2	75	66	65	29	15
26	331	13	0	0	82.5	565	255	116	80.4	78	68	58	26	14
27	332	14	8	4	86.7	564	255	116	84.4	80	71	69	29	16
28	333	15	12	14	89.0	534	257	121	86.6	83	76	68	30	15
29	334	16	19	18	91.9	562	254	122	89.4	85	77	64	33	16
30	335	17	24	16	92.6	575	260	123	90.0	91	78	79	32	16
Mean			33	30	92.5	561	257	124	90.4	86	81	73	30	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

NOVEMBER 1983

Date	RELATIVE SUNSPOT NUMBERS: Zurich or Internat (R$_I$) Monthly Mean	Zurich or Internat (R$_I$) Smoothed	American (R$_A$) Monthly Mean	American (R$_A$) Smoothed	Derived (R$_S$) Monthly Mean	Derived (R$_S$) Smoothed	2800 MHz RADIO FLUX Adjusted to 1 AU (S$_a$) Monthly Mean	2800 MHz RADIO FLUX Adjusted to 1 AU (S$_a$) Smoothed
Dec 79	176.3	164	157.6	152	151.0	152	197.2	199
Jan 80	159.6	164	145.3	153	153.6	154	199.6	200
Feb	155.0	163	133.9	154	148.7	155	195.1	200
Mar	126.2	161	107.9	153	117.8	153	166.5	200
Apr	164.1	159	138.5	151	164.0	152	209.3	198
May	179.7	156	172.3	149	185.4	151	229.1	197
Jun	157.3	155	153.6	149	153.2	151	199.3	198
Jul	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	77*	97.7	**79**	86.1	80	137.1	131
Jun	91.1	**75(4)***	93.1	**76**	92.4	**78**	143.0	---
Jul	82.1†	**74(6)***	82.2	**75**	77.4	**77**	129.1	---
Aug	71.9†	**74(9)***	69.2	**74**	75.7	**77**	127.5	---
Sep	50.9†	**73(11)***	47.4	**73**	57.0	**76**	110.2	---
Oct	55.2†	**73(13)***	52.3	**74**	58.6	**76**	111.7	---
Nov	33.2†	**72(14)***	---	**74**	35.6	**76**	90.4	---
Dec	---	**71(15)***	---	**72**	---	**75**	---	---
Jan 84	---	**70(16)***	---	**71**	---	**74**	---	---
Feb	---	**68(16)***	---	**69**	---	**71**	---	---
Mar	---	**64(18)***	---	**64**	---	**66**	---	---
Apr	---	**60(20)***	---	**60**	---	**62**	---	---
May	---	**58(22)***	---	**59**	---	**60**	---	---

*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.

Boldface 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

NOVEMBER 1983

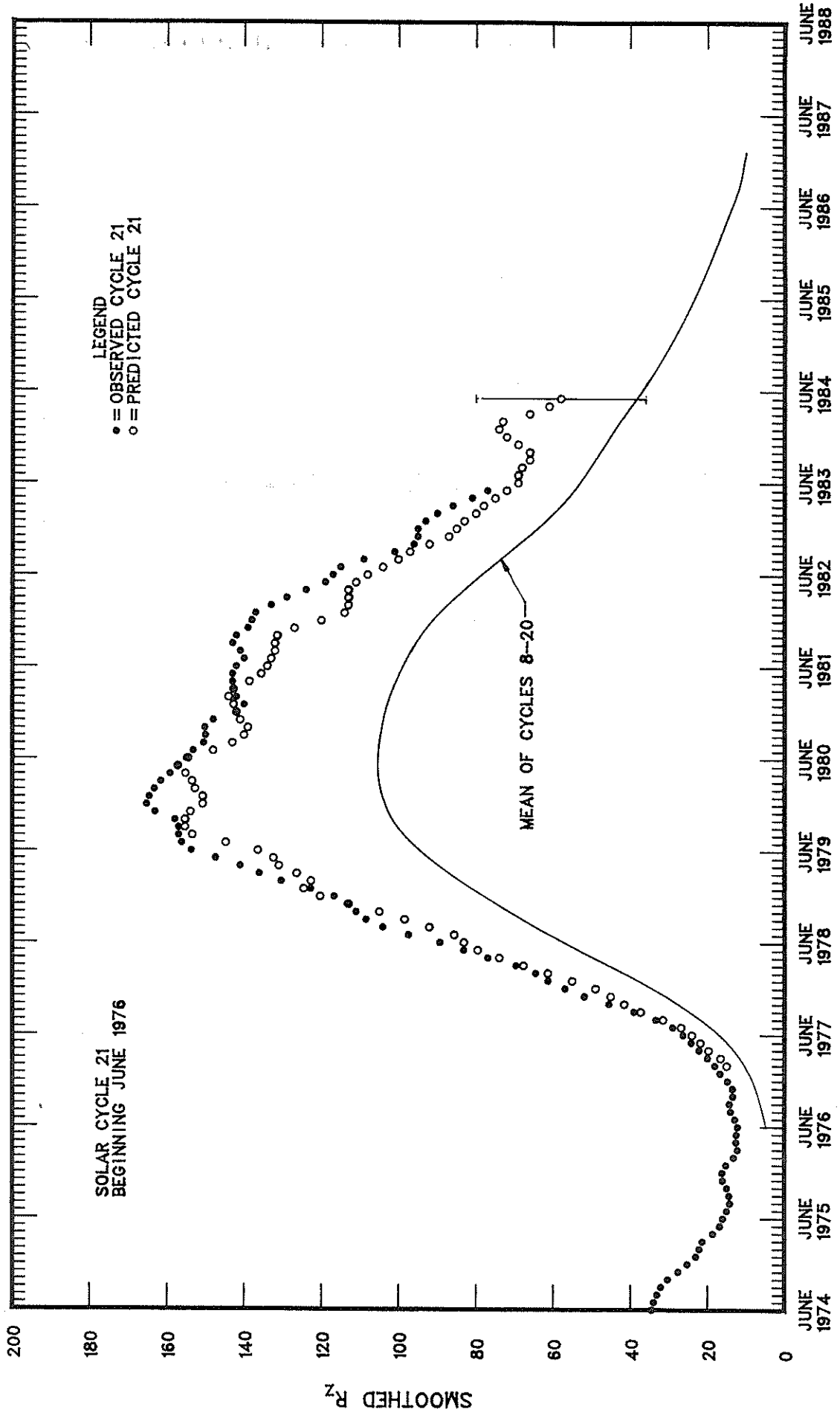
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1976	15	13	12	13	13	12	13	14	14	13	14	15
1977	17	18	20	22	24	26	29	33	39	46	52	57
1978	61	65	70	77	83	89	97	104	108	111	113	118
1979	124	131	137	141	147	153	155	155	156	158	162	165*
1980	164	163	161	159	156	155	153	150	150	150	148	143
1981	140	142	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	77	75 (4)	74 (6)	74 (9)	73 (11)	73 (13)	72 (14)	71 (15)
1984	70 (16)	68 (16)	64 (18)	60 (20)	58 (22)	57 (23)	56 (24)	54 (24)	52 (24)	49 (24)	47 (24)	44 (24)
1985	43 (24)	41 (23)	41 (23)	40 (23)	38 (23)	36 (22)	34 (21)	33 (21)	32 (20)	32 (21)	31 (21)	31 (22)
1986	30 (22)	29 (22)	28 (22)	26 (21)	24 (21)	22 (20)	20 (20)	18 (19)	18 (17)	17 (16)	17 (15)	16 (13)

For the current solar cycle, this table gives observed smoothed sunspot numbers up to the one calculated from the most recently measured monthly mean. These smoothed observed values are based on final monthly mean Zurich numbers through 1980, on final international numbers through June 1983, and on provisional international numbers thereafter. Some table entries after the June 1976 value will change slightly, when we incorporate final data for 1983.

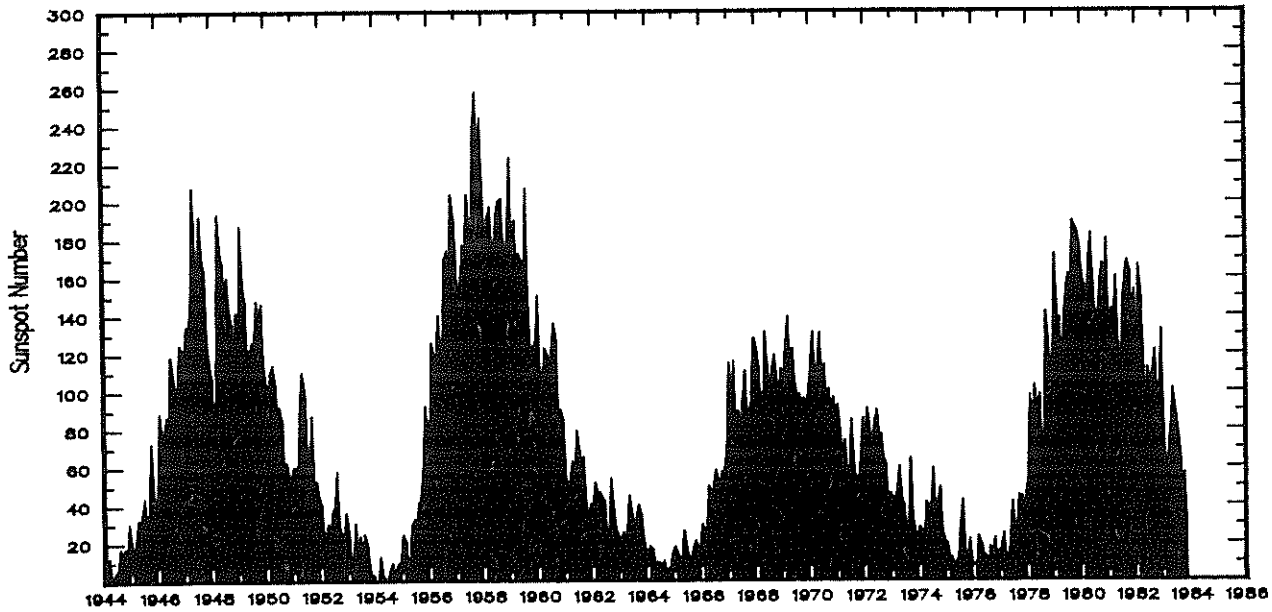
The entries with numbers in parentheses below them denote predictions by the McNish-Lincoln method. (See page 9 in the February 1983 edition of the "Solar-Geophysical Data" supplement.) By adding to and subtracting from each prediction the number in parentheses, one generates the 90% confidence interval. Consider, for example, the May 1984 prediction tabulated above. There exists a 90% chance that in May 1984 the actual smoothed sunspot number will fall somewhere between 36 and 80.

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.

*MAXIMUM OF SUNSPOT CYCLE 21. The maximum smoothed sunspot number occurred in December 1979.


OBSERVED AND ONE-YEAR-AHEAD PREDICTED SMOOTHED SUNSPOT NUMBERS
LEGEND
• = OBSERVED CYCLE 21
○ = PREDICTED CYCLE 21
SOLAR CYCLE 21
BEGINNING JUNE 1976
MEAN OF CYCLES 8-20
SMOOTHED R_Z
200
180
160
140
120
100
80
60
40
20
0
JUNE 1974
JUNE 1975
JUNE 1976
JUNE 1977
JUNE 1978
JUNE 1979
JUNE 1980
JUNE 1981
JUNE 1982
JUNE 1983
JUNE 1984
JUNE 1985
JUNE 1986
JUNE 1987
JUNE 1988

MONTHLY MEAN SUNSPOT NUMBERS
January 1944 – November 1983



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	82.1*	71.9*	50.9*	55.2*	33.2*	

*Provisional

H - ALPHA SOLAR FLARES

NOVEMBER 1983

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
GOES	01	1100	1133	1217						77		M 3.1						
GOES	02	0436	0442	0449						13		B 7.8						
GOES	02	0750	0803	0807						17		B 7.2						
GOES	02	1238	1244	1250						12		C 1.1						
GOES	02	1339	1342	1344						5		B 4.1						
GOES	02	1949	1952	1957						8		B 3.7						
LEAR	03	0221	0229	0236	S18	E76	4353	11	8.9	15	SF	C 1.8	3	C		16		
GOES	03	0312	0318	0322						10		B 6.1						
GOES	03	0829	0832	0834						5		B 3.9						
GOES	03	0916	0919	0926						10		B 4.2						
GOES	03	0945	0948	0950						5		C 1.4						
GOES	03	1055	1058	1100						5		C 5.4						
GOES	03	1613	1617	1620						7		B 3.7						
GOES	03	1625	1629	1632						7		B 5.5						
GOES	03	1702	1705	1707						5		B 3.6						
HOLL	03	1855	1857	1900	S13	E63	4353	11	8.5	5	SF		3	C		11		
HOLL	03	2007	2008	2016	S15	E66	4353	11	8.8	9	SF		3	C		14		
LEAR	03	2236	2237	2254	N21	E71		11	9.4	18	SF		3	C		13		
LEAR	04	0039	0039	0046	N25	E76		11	9.9	7	SF	B 4.0	3	C		15		
GOES	04	0152	0155	0157						5		B 4.3						
PEKG	04	0215	0220	0225	N25	E73		11	9.7	10	SN			C	0220	55		E
LEAR	04	0220E	0222	0224	N23	E79		11	10.2	4D	SF		3	C		55		
PEKG	04	0255	0305	0315	N15	E54		11	8.2	20	SN			C	0305	101	1.8	E
LEAR	04	0304	0304	0312	N15	E54	4352	11	8.2	8	SF		3	G		33		
GOES	04	0319	0326	0328						9		B 4.2						
GOES	04	0359	0402	0405						6		B 6.4						
GOES	04	0534	0537	0541						7		B 7.0						
LEAR	04	0551	0552	0556	S18	E51	4354	11	8.1	5	SF	B 5.6	3	C		17		
GOES	04	1819	1828	1835						16		B 7.7						
GOES	04	1957	2004	2010						13		C 2.9						
GOES	04	2050	2054	2058						8		B 7.0						
LEAR	05	0239	0239	0242	S10	E69	4355	11	10.3	3	SF	B 3.0	3	C		16		
LEAR	05	0412	0413	0432	S11	E66	4355	11	10.1	20	1B	C 3.8	3	C		148		F
PEKG	05	0414	0415	0424	S09	E66		11	10.1	10	1N	C 3.8		C	0415	176		F
GOES	05	0523	0531	0642						79		B 5.9						
GOES	05	0621	0625	0628						7		B 3.0						
GOES	05	0736	0740	0746						10		B 4.4						
GOES	05	0905	0910	0914						9		B 3.1						
GOES	05	1139	1143	1145						6		B 3.1						
RAMY	05	1259	1303	1307	S09	E62	4355	11	10.2	8	SF		3	C		25		
GOES	05	1305	1310	1319						14		B 3.9						
GOES	05	1421	1426	1434						13		B 3.5						
GOES	05	1606	1612	1616						10		B 7.9						
GOES	05	1810	1814	1823						13		B 3.8						
GOES	05	1846	1855	1912						26		B 6.0						
GOES	06	1748	1754	1800						12		B 4.2						
GOES	06	2158	2202	2205						7		B 3.9						
LEAR	07	0534	0534	0549	S11	E43	4355	11	10.5	15	SF		3	C		23		F
GOES	07	1038	1047	1051						13		C 1.4						
RAMY	07	1737	1737	1828	S10	E36	4355	11	10.4	51	SB	C 1.8	3	C		87		FE
HOLL	07	1737	1737	1738D	S09	E31	4355	11	10.1	1D	SB		3	C		68		
HOLL	07	1737	1737	1740D	S10	E35	4355	11	10.4	3D	SB	C 1.8	3	C		68		
HOLL	07	1831	1842	1937	S10	E34	4355	11	10.3	66	SB	C 1.8	3	C		64		
RAMY	07	1833	1842	1938	S10	E35	4355	11	10.4	65	SB	C 1.8	3	C		63		FE
HOLL	07	1957	2002	2044	S11	E34	4355	11	10.4	47	SB	C 5.9	3	C		85		FEK
HOLL	07	1957	2020	2044	S11	E34	4355	11	10.4	47	SN		3	C		93		K
HOLL	07	2047	2048	2052	S11	E34	4355	11	10.4	5	SN		3	C		26		
HOLL	07	2113	2115	2125	S11	E33	4355	11	10.4	12	SF		3	C		20		
HOLL	07	2131	2141	2347D	S11	E32	4355	11	10.3	136D	SB		3	C		71		K
HOLL	07	2131	2200	2347D	S11	E32	4355	11	10.3	136D	SB	C 6.6	3	C		150		ZUK
LEAR	07	2236E	2310	0007	S11	E33	4355	11	10.4	91D	SF		3	C		165		FH
GOES	07	2300	2304	2331			4355			31		C 1.3						
LEAR	08	0022	0024	0041	S17	E13	4353	11	9.0	19	SF		3	C		28		
LEAR	08	0046	0048	0114	S12	E33	4355	11	10.5	28	SN	C 2.0	3	C		93		

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

NOVEMBER 1983

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
LEAR	08	0126	0134	0142	S11	E31	4355	11	10.4	16	SF		3	C		23		
LEAR	08	0143	0155	0238	S16	E11	4353	11	8.9	55	1N	C 3.2	3	C		283		F
LEAR	08	0217	0220	0228	S10	E30	4355	11	10.3	11	SF	C 1.9	3	C		49		F
LEAR	08	0347	0404	0435	S11	E29	4355	11	10.3	48	SN		3	C		59		K
LEAR	08	0347	0428	0435	S11	E29	4355	11	10.3	48	SN	C 1.7	3	C		69		FEK
LEAR	08	0514	0518	0610	S15	E09	4353	11	8.9	56	1N	C 1.7	3	C		264		
LEAR	08	0638	0639	0643	S16	W05	4354	11	7.9	5	SF		3	C		33		F
LEAR	08	0818	0819	0837	S17	E09	4353	11	9.0	19	SF	B 6.6	3	C		46		F
BUCA	08	0819	0820	0833	S16	E06		11	8.8	14	SN	B 6.6		C	0820	86	.9	E
RAMY	08	1155E	1157	1213	S15	E05	4353	11	8.9	18D	SN	B 4.7	3	C		102		F
GOES	08	1501	1506	1510						9		B 9.7						
HOLL	08	1546	1549	1558	S14	E02	4353	11	8.8	12	SF		3	C		20		F
GOES	08	1646	1652	1657						11		B 8.2						
RAMY	08	1718	1735	2033	S14	E01	4353	11	8.8	195	1B	M 1.3	3	C		339		UEK
RAMY	08	1718	1746	2033	S14	E01	4353	11	8.8	195	2B		3	C		548		K
HOLL	08	1722	1722	2026	S14	E01	4353	11	8.8	184	SN		3	C		48		K
HOLL	08	1722	1738	2026	S14	E01	4353	11	8.8	184	1B		3	C		398		UK
GOES	08	2159	2205	2215						16		B 8.0						
GOES	08	2308	2313	2318						10		C 3.5						
GOES	09	0954	0958	1001						7		B 3.9						
GOES	09	1135	1138	1140						5		B 3.1						
GOES	09	1156	1159	1201						5		B 3.1						
GOES	09	1530	1533	1535						5		B 2.7						
HOLL	09	1609	1609	1613	S11	E11	4355	11	10.5	4	SN	B 6.2	3	C		44		
GOES	10	0538	0542	0545						7		B 4.8						
HOLL	10	1747	1807	1828	S11	W54	4357	11	6.7	41	SF		3	C		29		
GOES	11	0945	0957	1002						17		B 5.3						
HOLL	11	1956	2005	2015	S15	W39	4353	11	8.9	19	SF		3	C		37		F
LEAR	12	0218	0218	0241	S21	E14	4359	11	13.2	23	SF	B 2.8	3	C		33		
PEKG	12	0219	0224	0240	S20	E14		11	13.2	21	SN			C	0224	113	1.3	E
LEAR	12	0545	0545	0549	S08	W31	4355	11	9.9	4	SF	B 2.6	3	C		31		
GOES	13	0354	0357	0400						6		B 1.9						
GOES	13	1216	1225	1238						22		B 3.9						
GOES	13	2338	2342	2345						7		B 1.8						
PEKG	14	0141	0142	0145	S15	E45		11	17.5	4	SF			C	0142	59	.9	E
GOES	14	0645	0659	0715						30		B 9.2						
RAMY	14	1434	1434	1439	S13	W02	4360	11	14.5	5	SN	B 2.1	3	C		32		
GOES	14	1526	1529	1535						9		B 1.8						
RAMY	14	1720	1722	1739	S14	W02	4360	11	14.6	19	SN	B 5.6	3	C		64		HK
RAMY	14	1720	1729	1739	S14	W02	4360	11	14.6	19	SN		3	C		74		K
RAMY	14	1747	1748	1757	S14	E36	4361	11	17.5	10	SF		3	C		26		
PALE	14	2035	2046	2050	S14	E35	4361	11	17.5	15	SF		3	C		26		
GOES	15	0044	0047	0049						5		B 1.8						
GOES	15	0126	0130	0133						7		B 2.7						
GOES	15	1711	1716	1723						12		B 2.4						
HOLL	15	2041	2043	2100	S12	W17	4360	11	14.6	19	SN	B 2.8	3	C		20		F
GOES	15	2153	2156	2201						8		B 1.9						
ISTA	16	0740		0830	S13	W09		11	15.6	50	1N							U
GOES	16	0856	0900	0905						9		B 1.9						
GOES	16	1234	1240	1252						18		B 1.9						
HOLL	16	1901	1904	1950	S14	E08	4361	11	17.4	49	SN	B 3.7	3	C		32		FH
PALE	16	1905	1921U	1938	S14	E08	4361	11	17.4	33	SF		3	C		172		
GOES	16	2234	2338	2340						66		B 1.9						
GOES	17	0311	0314	0319						8		B 1.7						
PALE	17	2314	0106	0130	S14	W47	4360	11	14.4	136	SF		3	C		76		F
LEAR	18	0041	0042	0049	S13	W48	4360	11	14.4	8	SF	B 2.8	3	C		63		F
LEAR	18	0059	0106	0120	S14	W48	4360	11	14.4	21	SF	B 5.0	3	C		51		F
GOES	18	0158	0204	0210						12		B 6.4						
GOES	18	0201	0204	0211						10		B 6.2						
GOES	18	0432	0438	0444						12		B 2.1						
GOES	18	0515	0518	0520						5		B 1.3						

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

NOVEMBER 1983

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	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
LEAR	18	0919	0919	0932	S12	W52	4360	11	14.5	13	SN	B 1.6	3	C		39		
RAMY	18	1515	1515	1524	S14	W15	4361	11	17.5	9	SF		3	C		21		
GOES	19	2100	2104	2114						14		B 1.5						
GOES	20	1210	1357	1409						119		B 1.6						
GOES	20	1352	1356	1403						11		B 1.5						
GOES	20	1520	1525	1530						10		B 1.4						
GOES	20	1858	1918	1940						42		B 2.5						
HOLL	20	1904	1904	1922	S11	W74	4360	11	15.2	18	SF		3	C		14		F
HOLL	21	1533	1533	1538	S13	W54	4361	11	17.6	5	SF	B 2.4	3	C		42		F
GOES	21	2124	2143	2149						25		B 4.6						
GOES	24	1833	1838	1845						12		B 1.1						
HOLL	27	1509E	1512U	1522	N17	E79		12	3.6	13D	SF		3	C		11		
RAMY	27	1728	1730	1736	N21	E78		12	3.7	8	SF		3	C		17		
RAMY	27	1743	1751	1757	N19	E76		12	3.5	14	SF		3	C		22		
HOLL	27	2254	2254	2259	N17	E72	4366	12	3.4	5	SF	B 1.9	3	C		14		
HOLL	27	2321	2321	2330	N17	E69	4366	12	3.2	9	SF		3	C		18		
LEAR	27	2322	2322	2325	N18	E72	4366	12	3.5	3	SF		2	C		12		
LEAR	28	0022	0022	0027	N18	E71	4366	12	3.4	5	SF		3	C		19		
GOES	28	0607	0610	0612						5		B 2.5						
GOES	28	0949	0953	0955						6		B 4.8						
GOES	28	1058	1101	1103						5		B 3.5						
GOES	28	1357	1401	1404						7		B 2.2						
GOES	28	2355	2358	0001						6		B 7.3						
GOES	29	1029	1034	1042						13		B 3.3						
RAMY	29	1141	1141	1155	N19	E54	4366	12	3.6	14	SF	B 2.5	3	C		46		F
HOLL	29	1742	1749	1803	N20	E51	4366	12	3.6	21	SF	B 4.8	3	C		28		F
GOES	29	2309	2314	2318						9		B 2.5						
RAMY	30	1450	1450	1504	N13	E56	4367	12	4.8	14	SF	B 2.3	3	C		16		

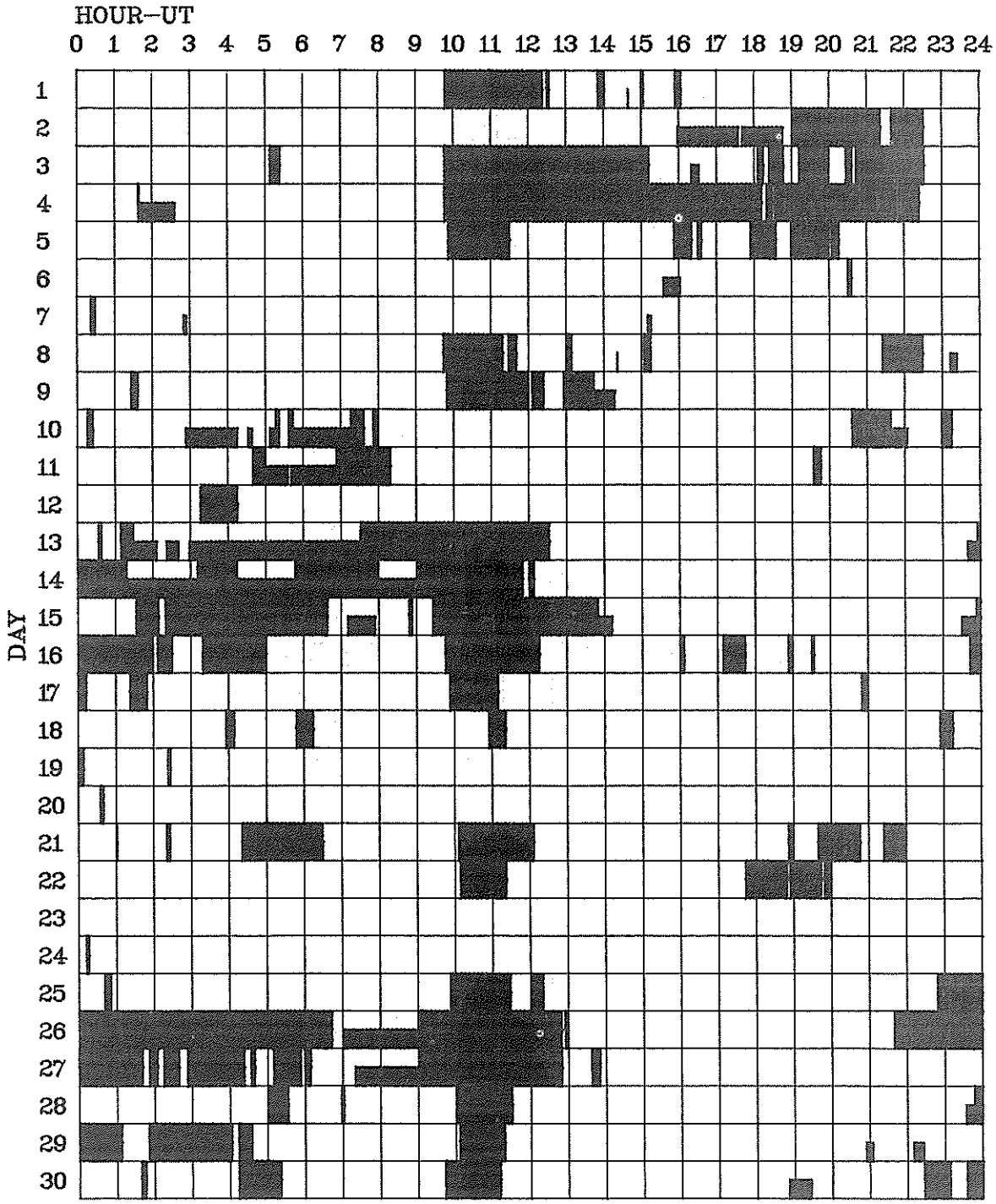
"Remarks":

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

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

NOVEMBER 1983



Observatories included in total patrol:

Bucharest	Holloman	Istanbul	Palehua	Ramey
		Learmonth	Peking	Wendelstein

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

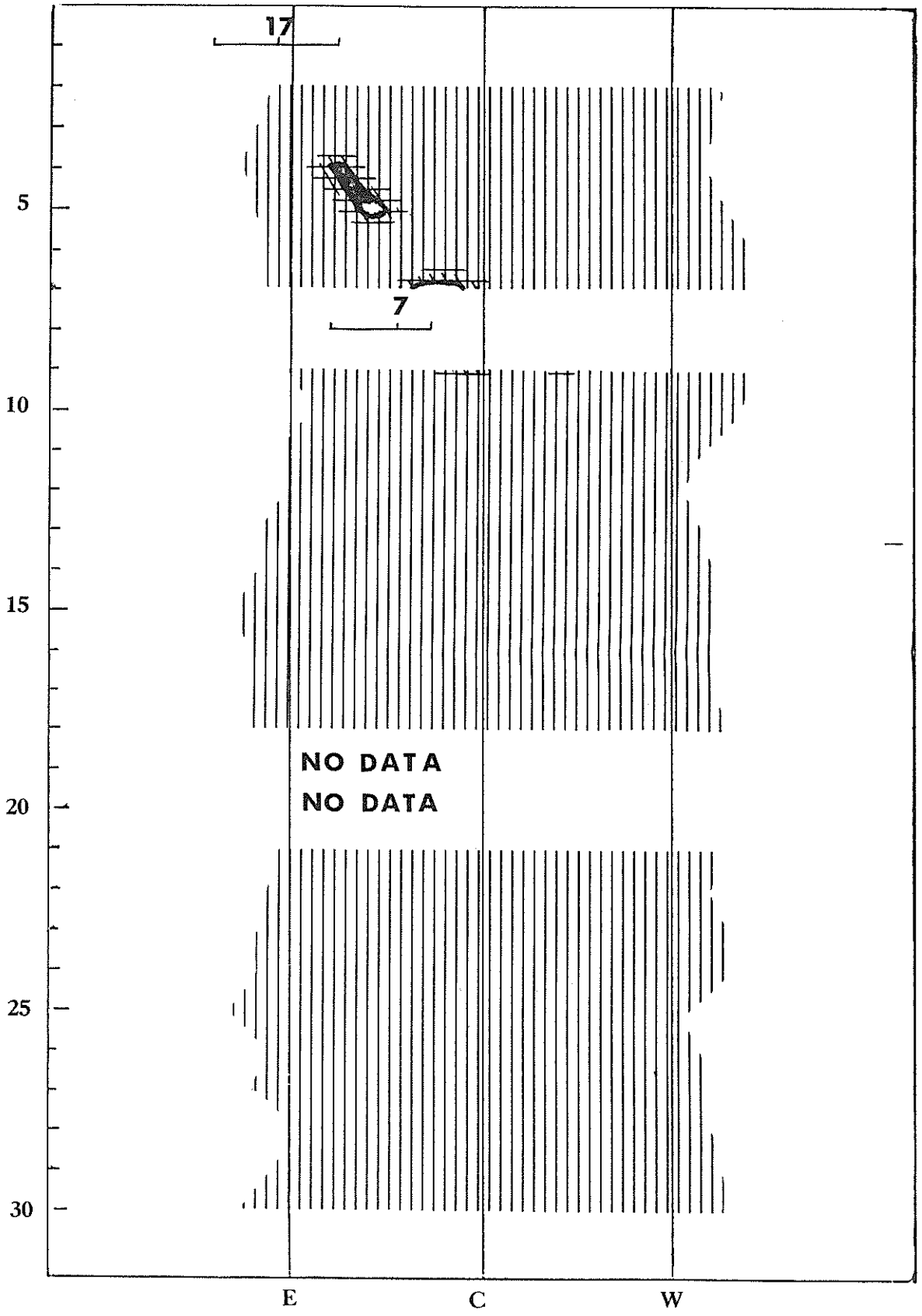
18
Nov 83

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

NOVEMBER 1983

Nançay

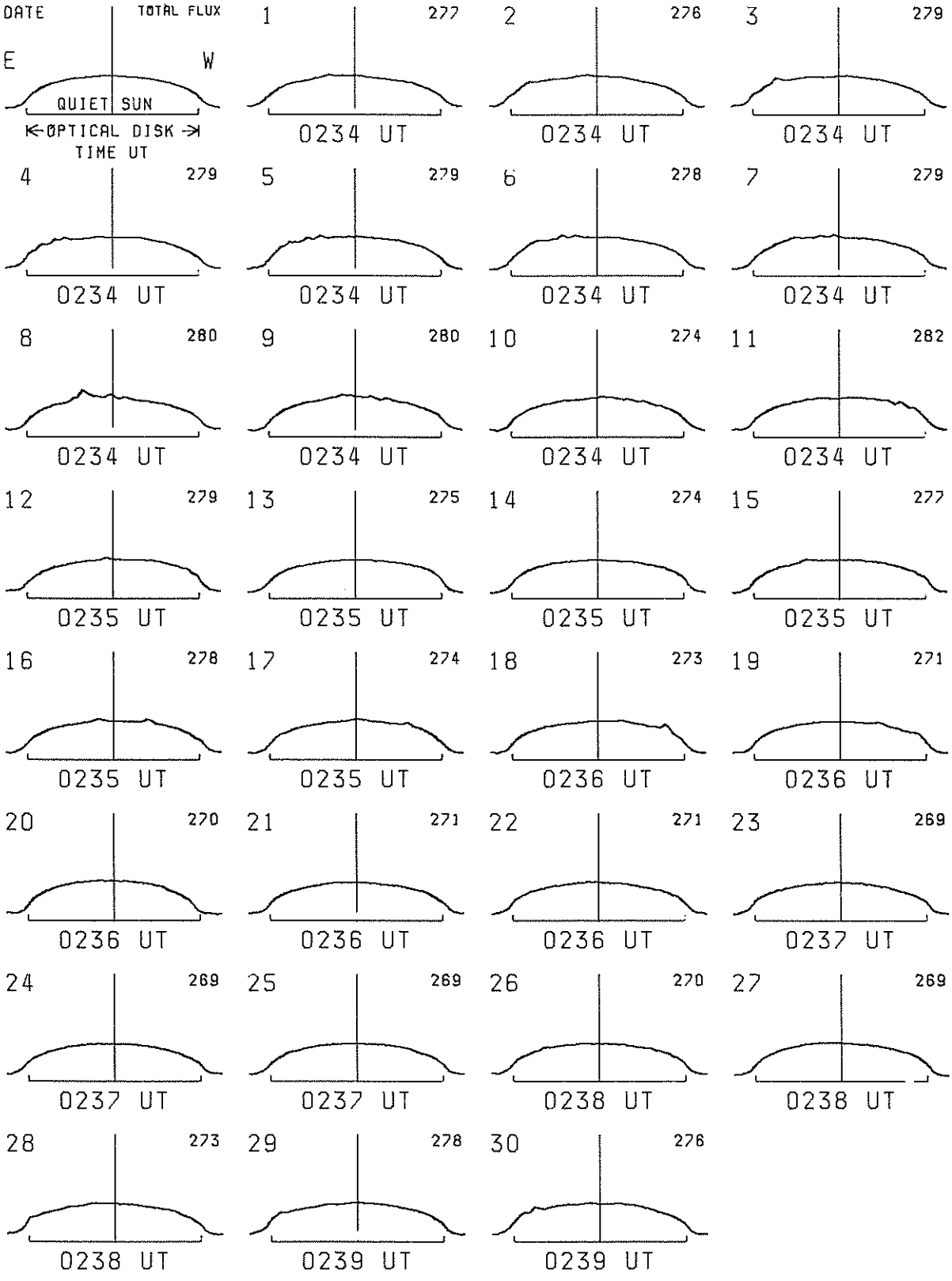
169 MHz



EAST-WEST SOLAR SCANS
NOVEMBER 1983

TOYOKAWA, JAPAN

3 CM
FAN BEAM WITH 1.1 MINUTES OF ARC



20
Nov 83

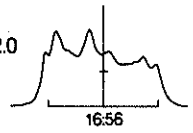
EAST-WEST SOLAR SCANS

NOVEMBER 1983

ALGONQUIN RADIO OBSERVATORY
CANADA

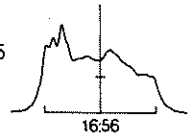
10·7 cm
Fan Beam with 1·5 minutes of arc
E-W Resolution

01 102.0



02 99.2

03 98.5



04 104.9

NO DATA

05 106.9

NO DATA

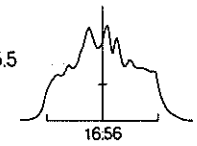
06 ----

NO DATA

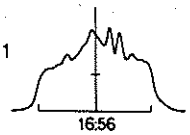
07 110.5

NO DATA

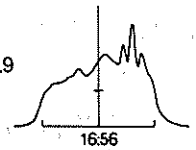
08 105.5



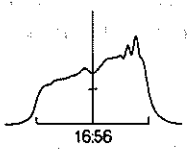
09 101.1



10 102.9



11 98.7



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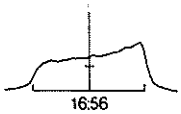

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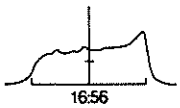

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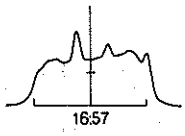
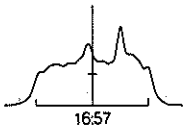
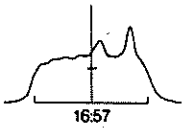
15 93.0



16 92.6



17 87.6



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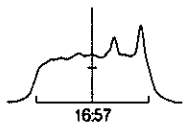
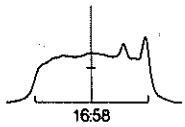
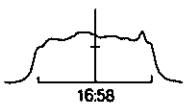


19 34.3



20 82.3

21 81.3

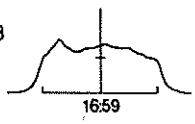


22 82.2

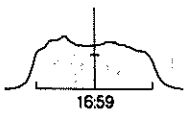
23 80.2

24 80.9

25 81.3



26 82.5

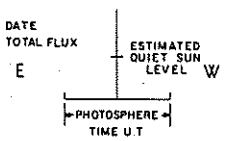


27 86.7

28 89.0

29 91.9

30 92.6

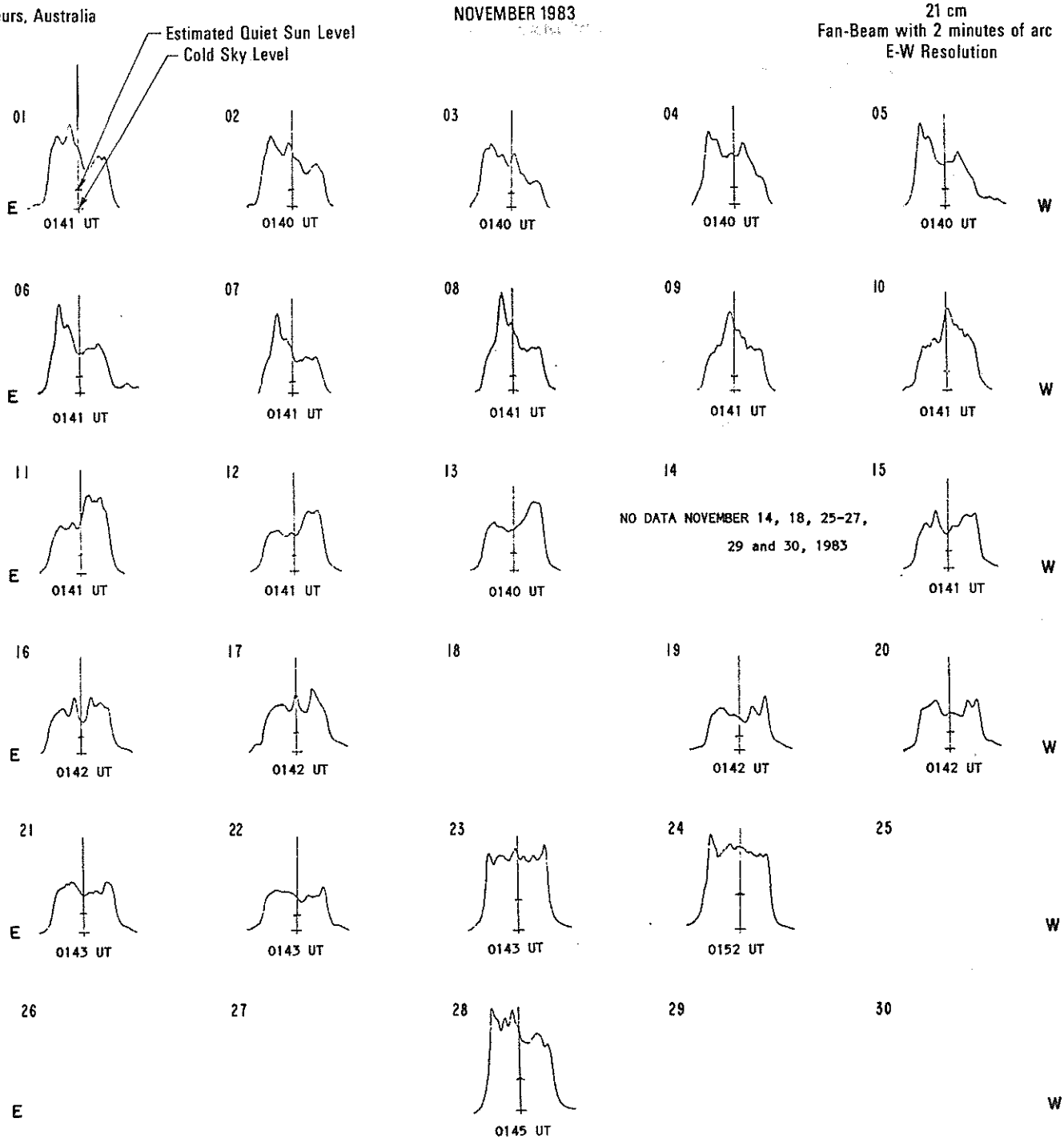


EAST-WEST SOLAR SCANS

Fleurs, Australia

NOVEMBER 1983

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

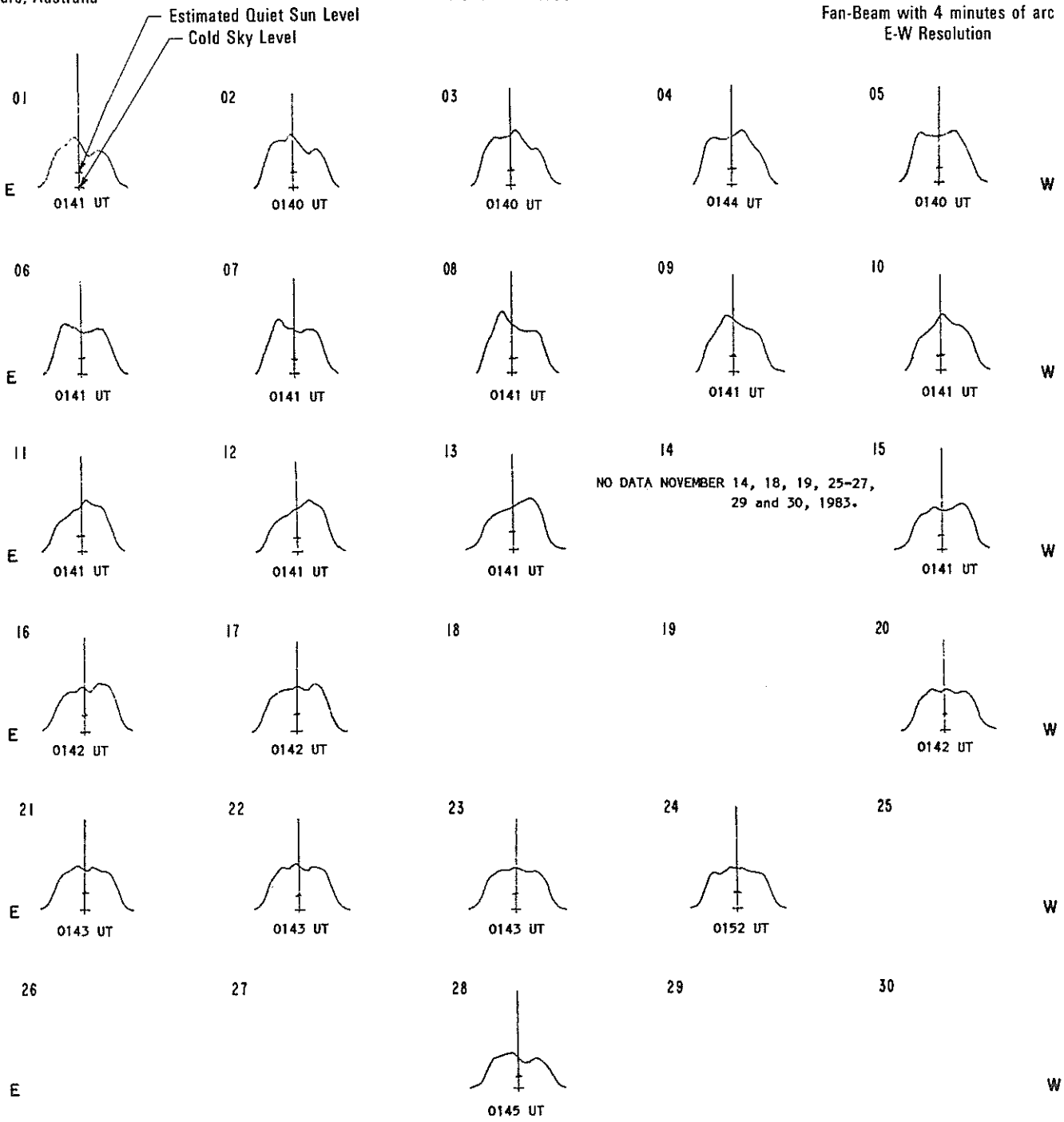


EAST-WEST SOLAR SCANS

Fleurs, Australia

NOVEMBER 1983

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

NOVEMBER 1983

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	ATHN	47	GB	1121.1	1130.5	22.7	110.0			QL=5 ST=2 TYP=5
	8800	ATHN	47	GB	1122.0	1128.1	18.0	210.0			QL=5 ST=2 TYP=5
04	2695	LEAR	4	S/F	0037.3	0039.0	2.8	3.0			QL=6 ST=2 TYP=3
	2800	OTTA	240	R	1555.0	1600.0	5.0	2.2	1.5		
	2800	OTTA	20	GRF	2000.0	2020.0	60.0	2.0	1.4		
05	2695	LEAR	8	S	0411.3	0412.1	1.8	15.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0411.6	0412.0	1.4	11.0			QL=6 ST=2 TYP=3
	2800	OTTA	45	C	1609.5	1610.2	2.0	28.0	9.2		
	2800	OTTA	8	S	1612.5	1612.6	.5	2.4	1.2		
07	2800	OTTA	1	S	1859.0	1900.1	5.0	3.2	1.4		
	2800	OTTA	21	GRF	1953.0	1958.0	25.0	3.6	1.8		
	2695	SGMR	4	S/F	1958.6	2003.1	6.2	17.0			QL=6 ST=2 TYP=3
	2800	OTTA	46F	C	1958.8	2003.0	7.0	8.0	2.6		
	2695	PENT	22	GRF	2050.0	2157.0	100.0	5.8	1.8		
	8800	PALE	49	GB	2338.5	2339.3	2.3	3100.0			QL=1 ST=2 TYP=6
08	2695	LEAR	8	S	0151.8	0152.6	1.5	18.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0515.6	0517.5	4.4	13.0			QL=6 ST=2 TYP=3
	2800	OTTA	46F	C	1727.0	1731.8	26.0	115.0	54.4		
	2695	SGMR	47	GB	1730.1	1732.0	11.7	119.0			QL=6 ST=2 TYP=5
	2695	PALE	47	GB	1730.3	1732.1	15.3	119.0			QL=6 ST=2 TYP=5
	8800	SGMR	47	GB	1730.5	1732.8	11.3	69.0			QL=6 ST=2 TYP=5
	8800	PALE	47	GB	1730.6	1732.3	15.0	66.0			QL=6 ST=2 TYP=5
	2695	SGMR	47	GB	1741.8	1741.8	11.0	65.0			QL=6 ST=2 TYP=5
	8800	SGMR	20	GRF	1741.8	1742.0	11.0	52.0			QL=6 ST=2 TYP=2
	2695	SGMR	20	GRF	1752.8	1753.0	.3	17.0			QL=6 ST=2 TYP=2
	8800	SGMR	20	GRF	1752.8	1753.3	23.2	25.0			QL=6 ST=2 TYP=2
	2800	OTTA	29	PBI	1753.0	1753.0	185.0	12.2	3.0		
	8800	PALE	8	S	1757.6	1757.8	.4	13.0			QL=6 ST=2 TYP=3
09	2800	OTTA	8	S	1608.5	1608.8	.5	6.8	2.2		
	2695	SGMR	8	S	1609.6	1609.6	.2	11.0			QL=6 ST=2 TYP=3
11	2695	LEAR	20	GRF	2243.1	2259.8	22.2	7.0			QL=3 ST=2 TYP=2
	8800	LEAR	20	GRF	2243.3	2252.3	19.7	9.0			QL=3 ST=2 TYP=2
14	2800	OTTA	2	S/F	1720.5	1721.0	2.0	2.0	.8		
15	2800	OTTA	240	R	1515.0	1530.0	15.0	2.0	1.0		
20	2800	OTTA	32	ABS	1850.0	1900.0	30.0	-1.0	-.5		
28	2800	OTTA	240	R	1420.0	1640.0	140.0	4.6	3.0		
30	2800	OTTA	46F	C	1612.3	1613.5	1.7	13.2	4.4		

Reports are received routinely from the following observatories:

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

Explanation of Type Code:

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

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

Remarks:

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

INFERRED IP MAGNETIC FIELD

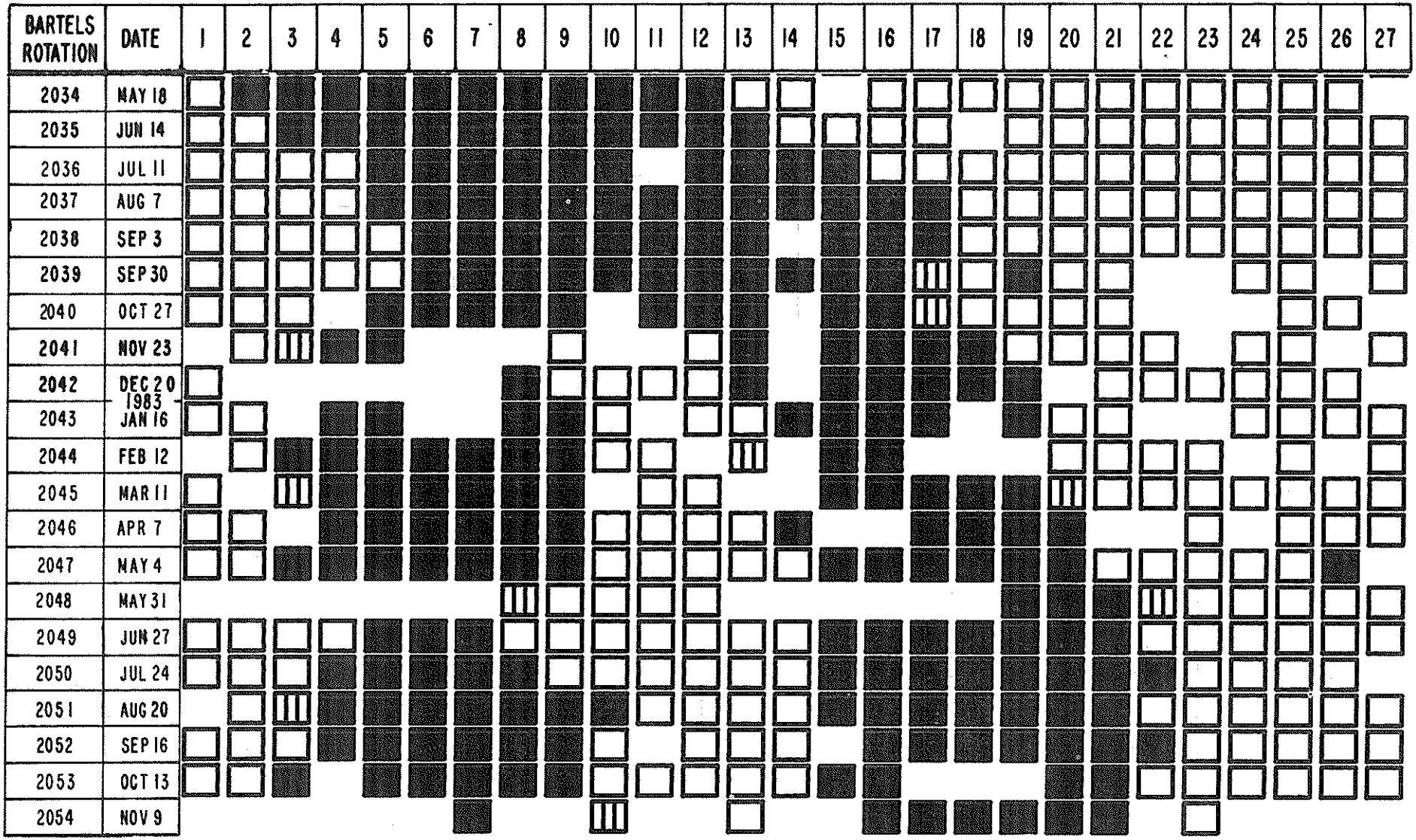
BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
2033	APR 26	– –	AT –	–	–	–	– –	–	TA –	TA –	–	–	–	–	– –	–	–	–	–	–	–	–	–	–	–	AT –	AT –	–
2034	MAY 23	–	–	–	AT –	– –	TA –	–	–	–	–	– –	AT –	–	– –	–	–	–	–	–	– –	– –	– –	– –	– –	– –	–	TA –
2035	JUN 19	–	–	–	–	–	–	–	–	–	– –	–	–	TA –	–	– –	–	– –	–	–	–	– –	–	TA –	–	–	–	–
2036	JUL 16	–	– –	–	– –	– –	TA –	–	–	–	–	AT –	–	– –	–	AT –	– –	– –	– –	– –	–	– –	– –	* –	–	–	– –	* –
2037	AUG 12	–	–	–	– –	–	–	– –	–	TA –	–	– –	TA –	TA –	TA –	–	– –	–	TA –	–	TA –	–	–	–	–	–	–	–
2038	SEP 8	TA –	AT –	–	–	–	–	–	–	–	–	–	–	–	TA –	–	AT –	–	–	–	–	–	TA –	–	–	–	–	–
2039	OCT 5	–	AT –	–	AT –	–	–	–	–	–	AT –	TA –	–	–	–	–	AT –	–	–	–	–	–	–	–	TA –	–	–	–
2040	NOV 1	AT –	–	–	–	AT –	–	–	–	–	AT –	–	–	–	–	AT –	–	–	TA –	–	–	–	– –	–	TA –	AT –	–	–
2041	NOV 28	TA –	–	– –	– –	–	AT –	–	–	–	–	–	–	TA –	TA –	–	–	–	–	–	–	–	AT –	AT –	–	–	–	–
2042	DEC 25	–	–	AT –	AT –	–	–	–	TA –	–	–	–	–	–	–	–	–	–	TA –	TA –	–	–	–	AT –	–	–	–	–
2043	1983 JAN 21	– –	–	–	–	–	–	–	–	–	TA –	–	–	–	–	TA –	AT –	–	–	–	–	–	–	–	– –	–	–	–
2044	FEB 17	–	–	–	–	–	–	–	–	–	–	TA –	–	–	TA –	–	TA –	TA –	–	AT –	TA –	TA –	–	TA –	–	–	–	–
2045	MAR 16	– –	– –	AT –	AT –	AT –	–	–	–	–	–	AT –	– –	–	–	–	AT –	–	TA –	–	–	–	–	–	–	–	–	– –
2046	APR 12	–	–	TA –	– –	–	–	–	– –	–	–	–	–	TA –	–	–	–	AT –	TA –	AT –	–	–	–	–	AT –	AT –	AT –	–
2047	MAY 9	–	–	AT –	–	–	AT –	–	–	–	AT –	AT –	– –	–	–	–	–	— –	AT –	–	–	– –	– –	– –	AT –	–	–	AT –
2048	JUN 5	– –	– –	AT –	–	AT –	–	AT –	AT –	–	AT –	AT –	– –	–	AT –	AT –	AT –	–	–	AT –	–	– –	– –	AT –	– –	– –	– –	– –
2049	JUL 2	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	–	–	AT –	– –	–	AT –	–	– –	AT –	–	AT –	–	–	–	– –	– –
2050	JUL 29	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	–	–	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	– –	AT –	AT –	–	–
2051	AUG 25	– –	– –	– –	AT –	– –	– –	–	–	–	–	–	–	–	–	AT –	–	–	–	–	AT –	–	AT –	–	–	–	–	AT –
2052	SEP 21	–	AT –	–	AT –	–	–	–	–	– –	– –	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2053	OCT 18	–	–	–	–	–	–	–	–	–	– –	– –	– –	– –	– –	–	–	–	TA –	–	–	–	–	–	–	–	–	–
2054	NOV 14	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	– –	– –										

☐ = definitely towards the sun ☐ = definitely away from the sun

T = towards the sun A = away from the sun * = effect doubtful or not discernible - = missing data

The table shows daily inferences of the polarity of the interplanetary magnetic field. The first half of the day is based principally on magnetograms produced by the magnetometer at the Vostok Antarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service now operated at Thule by the Danish Meteorological Institute is used for the second half of the day. The Thule magnetometer ceased operating in August 1981.

STANFORD MEAN SOLAR MAGNETIC FIELD



POLARITY OF THE MEAN SOLAR MAGNETIC FIELD: □ = FIELD >2μT, ▥ = -2μT ≤FIELD ≤2μT, ■ = FIELD <-2μT

No box visible indicates no data available for that day.

NOTE: Data are taken daily at 2000 UT. Dates given are not Bartels Rotation dates. These earlier dates correspond to the occurrence of phenomena on the Sun that affect the Earth during the given Bartels Rotation.

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

1982 1983

day	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.
01	42	-9	-81	.	25	69	.	-23	9	41	-51	-63
02	.	.	.	.	38	65	.	-50	16	35	-104	-27
03	.	-89	-8	11	52	52	.	-28	3	-3	-117	32
04	10	-81	15	33	61	35	.	15	13	-59	-100	75
05	-42	-73	45	38	63	12	.	44	20	-99	-68	70
06	.	-22	.	51	50	-3	.	51	22	-109	-37	57
07	-90	-2	.	.	29	-15	0	39	-12	-109	-9	35
08	-64	.	54	65	21	-43	12	17	-49	-89	38	23
09	-29	53	84	.	.	-51	30	33	-81	-42	55	.
10	-20	46	93	48	-15	-45	45	27	-91	10	46	.
11	26	37	69	30	-44	-27	28	-4	-83	33	25	.
12	29	53	.	.	-48	-3	.	-60	-73	52	19	.
13	43	84	16	2	-43	10	.	-108	-60	60	10	.
14	28	84	-19	-25	-29	27	.	-120	-10	58	4	.
15	.	.	-22	-44	-11	31	.	-107	19	42	-7	-53
16	8	39	-104	-62	9	10	.	-89	56	29	.	.
17	57	10	-102	-27	16	5	.	-20	14	20	-47	.
18	.	.	-67	-19	13	-9	-91	7	78	5	-68	0
19	64	-87	-37	-5	15	-69	-56	27	.	-18	-62	.
20	32	-119	-7	.	-11	-87	-28	41	.	-37	-54	.
21	.	.	24	19	.	-96	-1	97	8	-63	-20	66
22	.	.	27	15	.	-47	23	96	1	-66	10	.
23	.	-25	.	.	-66	-11	53	82	-17	-54	25	.
24	.	-3	-1	.	-59	6	72	25	-34	-17	57	-52
25	.	31	.	-23	-34	36	101	9	-76	12	72	-78
26	.	.	-49	-34	-15	64	67	11	-78	.	48	-94
27	-31	31	-66	-42	.	101	23	-4	-36	52	-9	-82
28	6	3	.	-17	.	117	27	-35	-28	71	-58	-59
29	42	-14		-20	36	-12	33	-37	-12	54	.	-20
30	59	-51		1	.	.	26	-39	7	.	.	.
31	35	-91		18		.		-21	28		.	

DOT SYMBOL INDICATES NO DATA AVAILABLE FOR THE DAY.

BOULDER GEOMAGNETIC SUBSTORM LOG

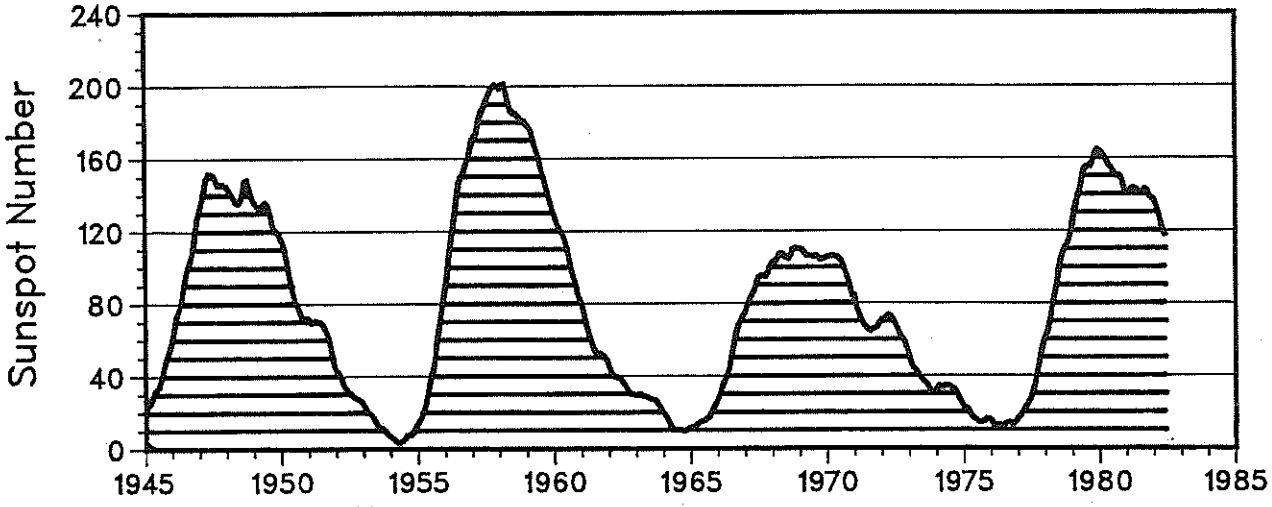
November 1983

DATE	ONSET TIME	DIR	COMMENTS
11/01			Field intermittently unsettled.
	0210	East	
	0825	West	Initial onset at Ft. Simpson, several injections.
	1105	West	Moderate substorm.
11/02			Field intermittently active.
	0310	East	Moderate substorm at NAQ*.
	0830	West	
	0930	West	
	1100	West	Moderate substorm at College.
11/03			Field intermittently unsettled.
	1540	West	Moderate substorm at College with recovery near 1800 UT.
11/04			Field slightly unsettled.
11/05			Quiet day.
11/06			Quiet day.
11/07			Field unsettled after 1130 UT.
	1330	West	
11/08			Field intermittently active.
	0050	East	Boulder in partial ring current sector.
	1005	West	Strong substorm Southern Alaska.
	1110	West	Moderate substorm.
	1305	West	Strong substorm Anchorage to Talkeetna.
11/09			Field strongly active.
	0150		Localized substorm at NAQ.
	0420	East	
	0830	West	Several injections with recovery near 1100 UT.
	1150	West	Moderate substorm, numerous injections with recovery near 1700 UT.
	1905	West	
11/10			Field at weak storm level 0600-2100 UT.
11/11			Field intermittently unsettled.
	0040	East	
	1105	West	Moderate substorm.
	1800		Positive impulse H-component all mid/low latitude stations.
	2005		
11/12			Field at weak storm level 0330-1600 UT.
11/13			Field at weak storm level 0630-1700 UT.
11/14	0500	East	Weak substorm.
	0540	East	Weak substorm.
	0815	West	
			Field at storm level 1100-1900 UT.
11/15			Field active after 1100 UT.
	1120	West	Several injections.
	1355	West	
11/16			Field slightly active.
	0030	East	
	1350	West	
	1525	West	
	1620	West	
	1725	West	
11/17			Field active all day.
	0425	Center	
	0910	West	Strong substorm.
	1040	West	
	1525	West	
11/18			Field intermittently active.
	0235	East	
	0450	East	
	1010	West	
	1405	West	
	1620	West	
	1710	West	Initial substorm onset at Anchorage.
11/19			Field intermittently unsettled.
	1115		Localized substorm at College.
	1410		Auroral oval substorm only.
11/20			Field intermittently active.
	0850	West	
	0945	West	
	1055	West	Initial substorm onset at College. Strong substorm at College with several injections.
	1515	West	
11/21			Field slightly unsettled.
11/22			Field slightly unsettled.
11/23			Quiet day.
11/24			Field intermittently unsettled.
	0255	East	
	0740	West	
	0830	West	
	1325		Weak substorm.
	1450		Weak substorm.
	1835		Localized substorm vicinity Inuvik.
11/25			Field intermittently unsettled.
	0450	East	
	0930	West	Initial substorm onset at College, numerous minor injections with recovery near 1500 UT.
11/26			Field unsettled all day.
	0210	East	
	0555	Center	Several injections.
	1145	West	Weak substorm.
	1300	West	Weak substorm.
	1645	West	Weak substorm.
11/27			Field unsettled 0600-1600 UT.
	0900	West	Weak substorm.
	1000	West	Initial substorm onset at College, various onsets subsequently at other stations.
	1245	West	
	1450	West	Weak substorm.
11/28			Field unsettled after 1300 UT.
	0905	West	Weak substorm.
	1410	West	
	1530	West	Weak substorm.
11/30			Field unsettled all day.
	0750	West	
	1135	West	Initial substorm onset at College, several minor injections with recovery near 1500 UT.
	1720	West	Several minor injections with recovery near 2000 UT.

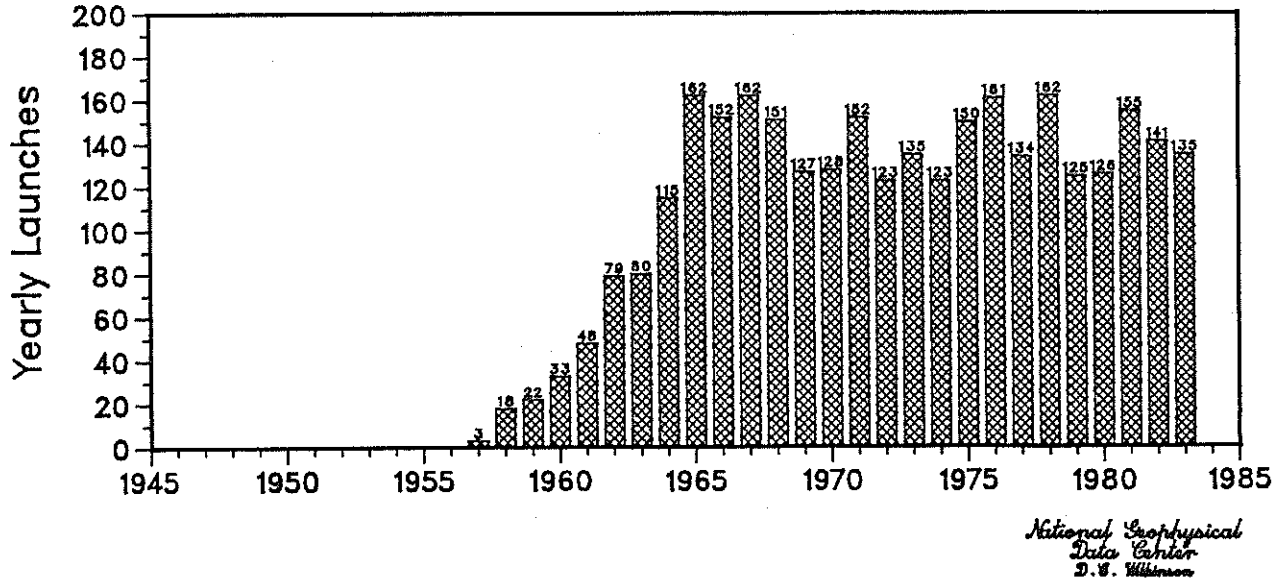
* Note: Narsarssuaq became operational on 19 April 1983. For convenience, it will be identified by the call letters NAQ.

SOLAR ACTIVITY AND SPACE LAUNCHES

SMOOTHED MONTHLY SUNSPOT NUMBERS



SPACE LAUNCHES WORLDWIDE



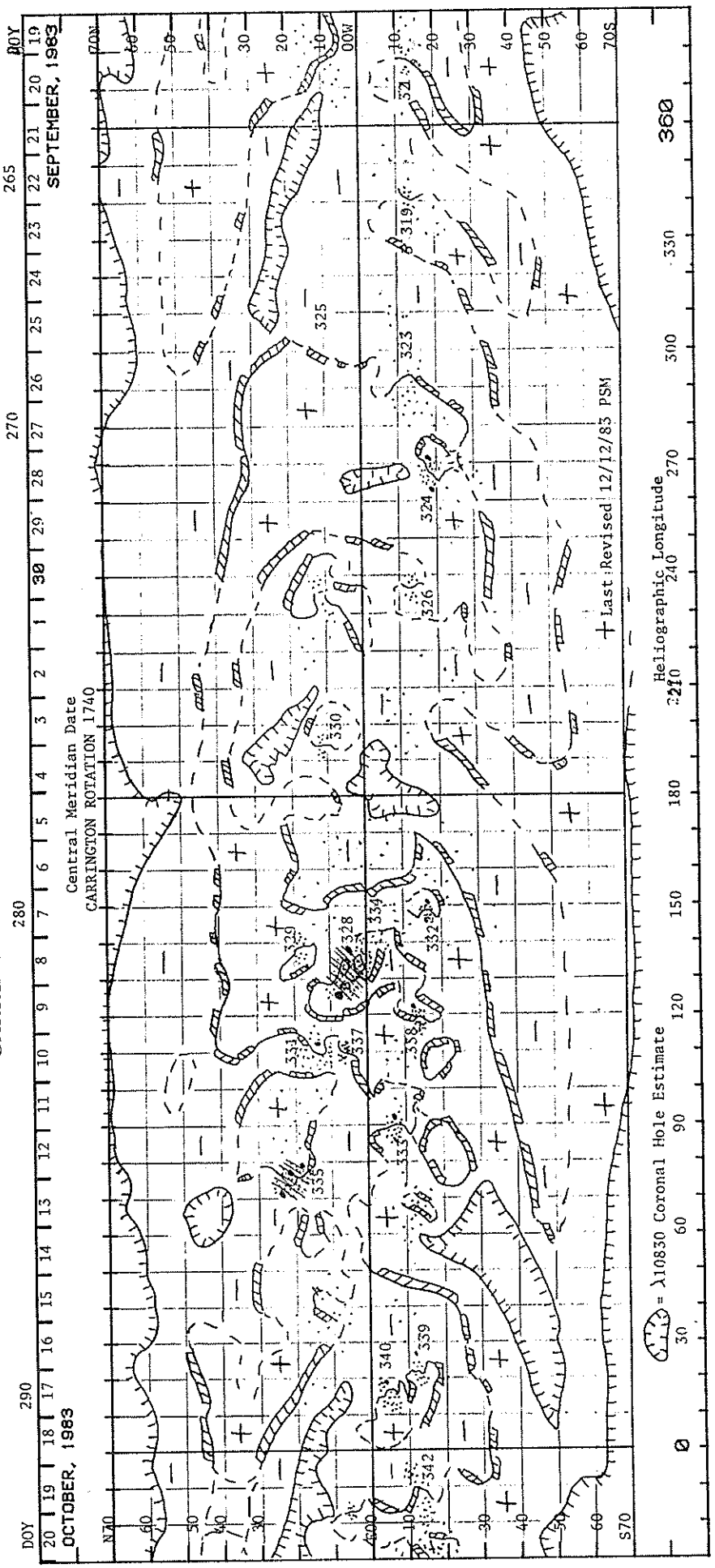
National Geophysical Data Center
D.S. Wilkinson

C O N T E N T S

Prompt Reports DATA FOR **OCTOBER 1983** Number 472 Part I

Hα SYNOPTIC CHART

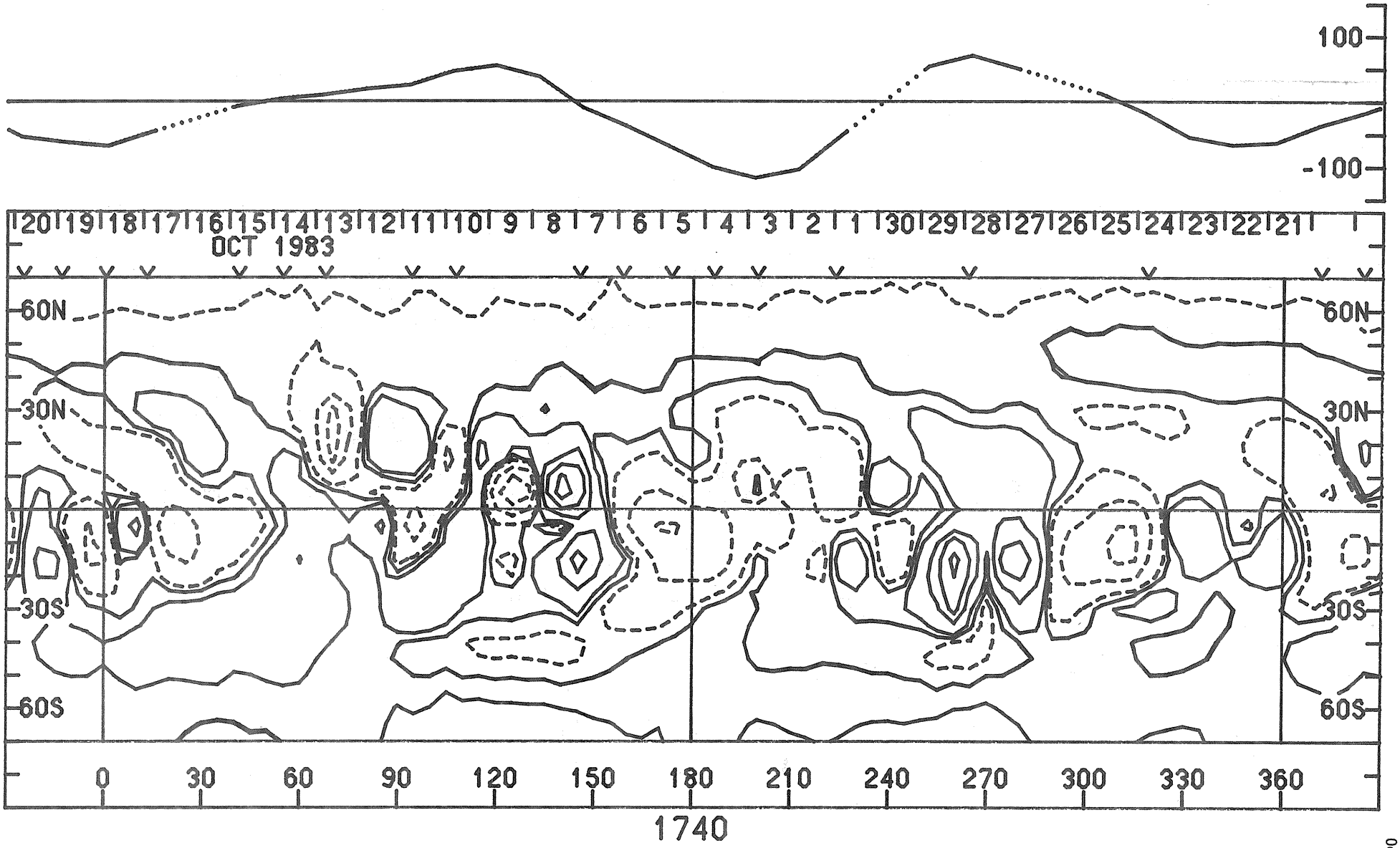
CARRINGTON ROTATION 1740 (PRELIMINARY)



SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION 1740

Stanford Solar Observatory

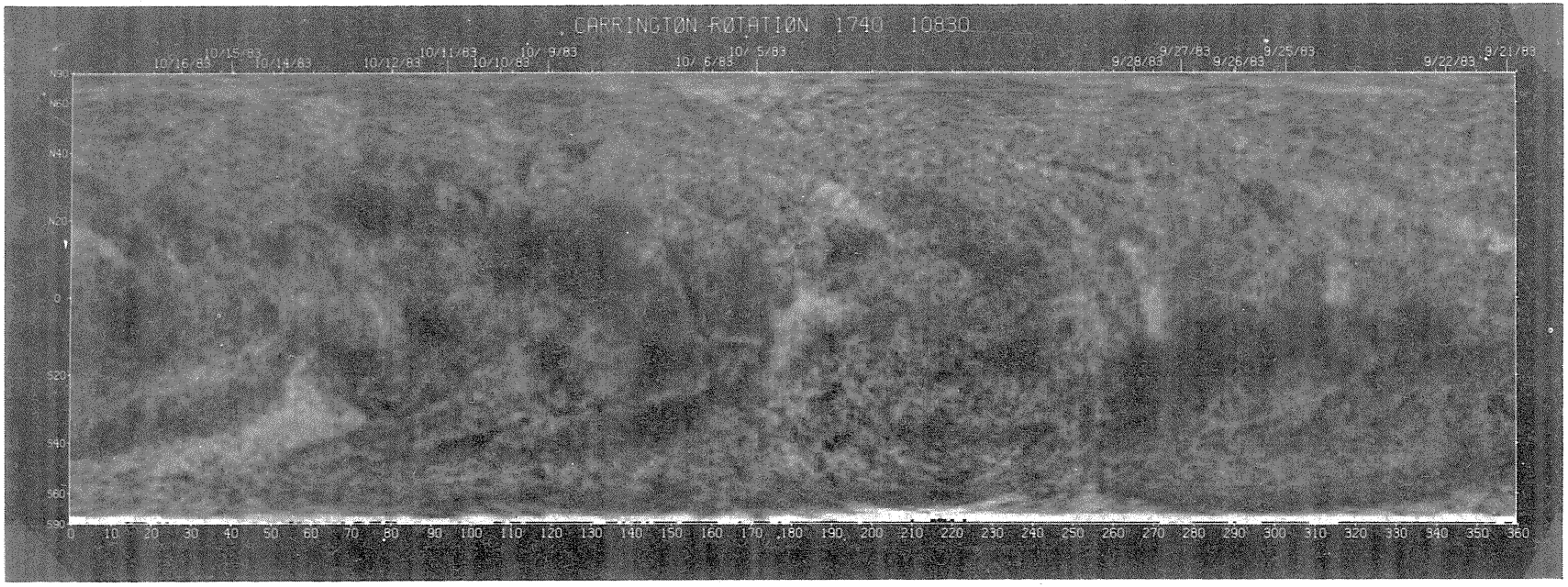
0, ±100, 200, 500... μT



KPNO SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION 1740 FLUX
CARRINGTON ROTATION 1740 POLARITY

HELIUM 10830Å SYNOPTIC MAPS
CARRINGTON ROTATION 1740

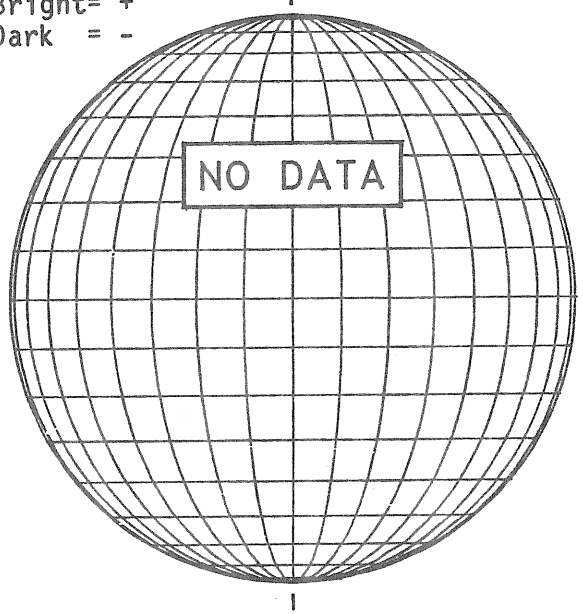
KITT PEAK NATIONAL OBSERVATORY



O C T O B E R 01, 1 9 8 3 (P= 25.97, B_o= 6.73, L_o= 234.56)

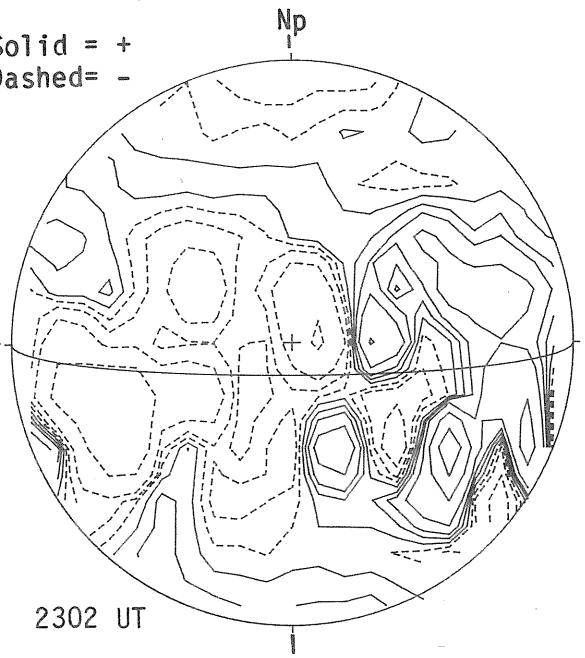
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



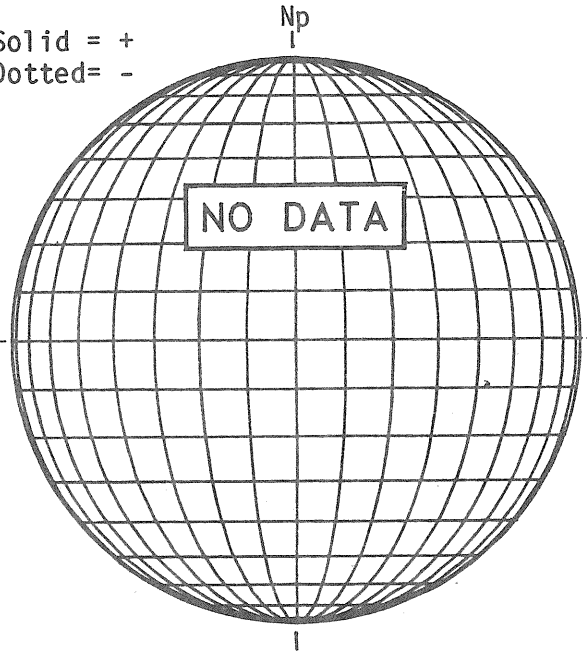
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

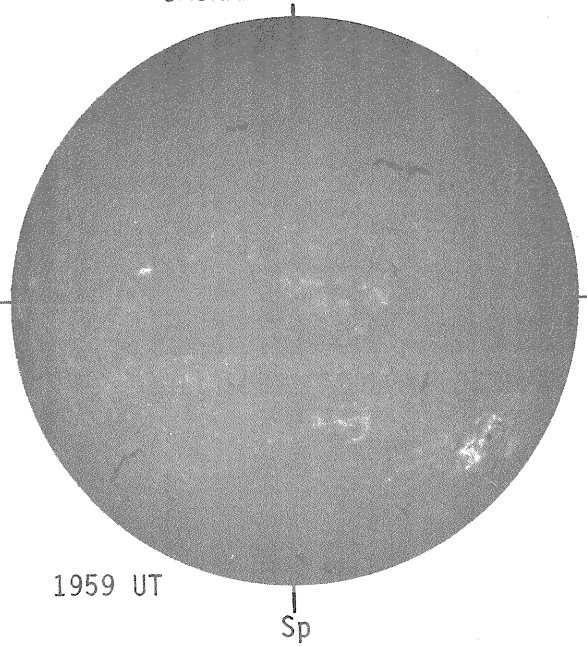


MT. WILSON MAGNETOGRAM

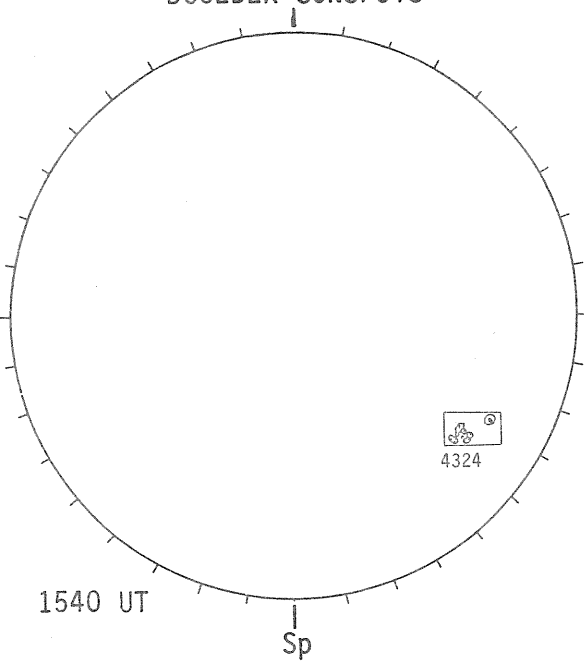
Solid = +
Dotted= -



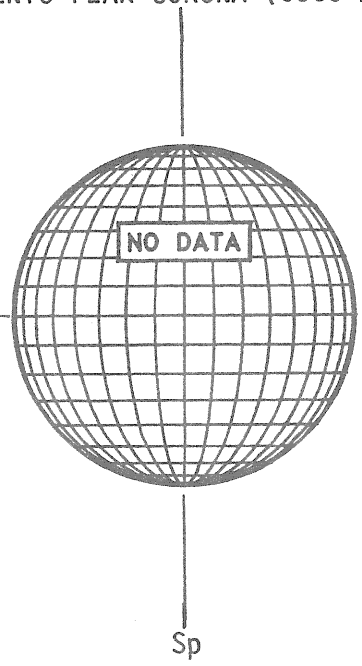
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS

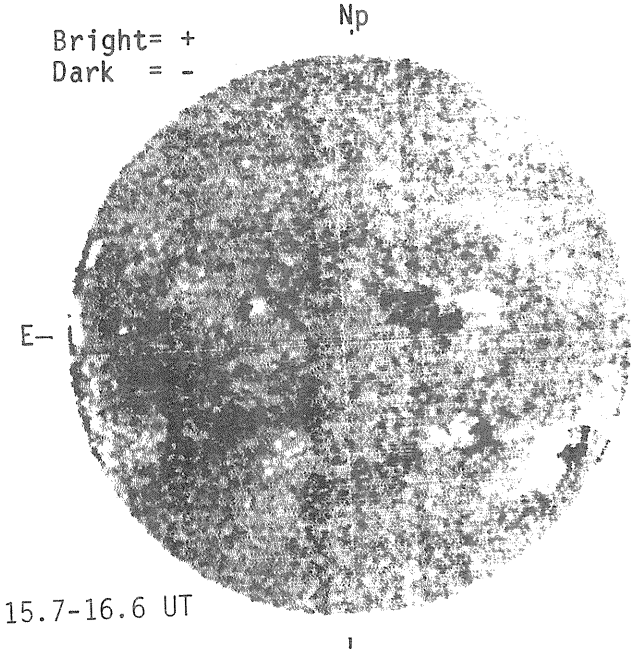


SACRAMENTO PEAK CORONA (5303 Angstrom)

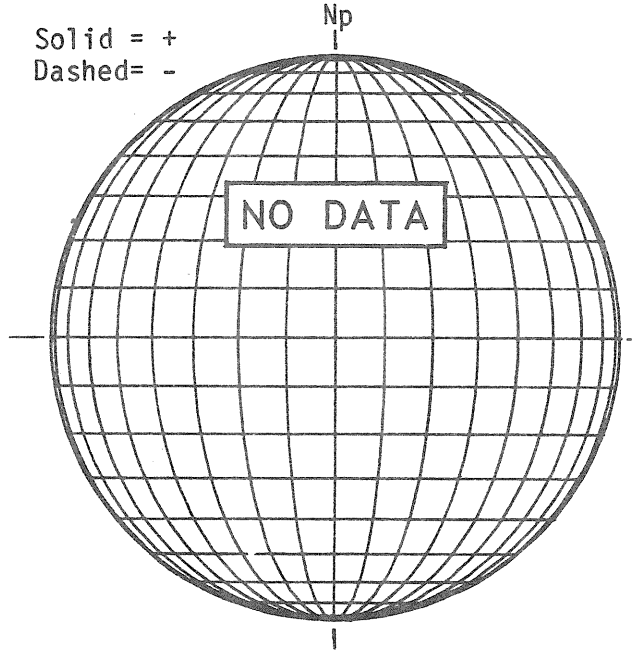


O C T O B E R 02, 1 9 8 3 (P= 26.04, B_o= 6.69, L_o= 221.37)

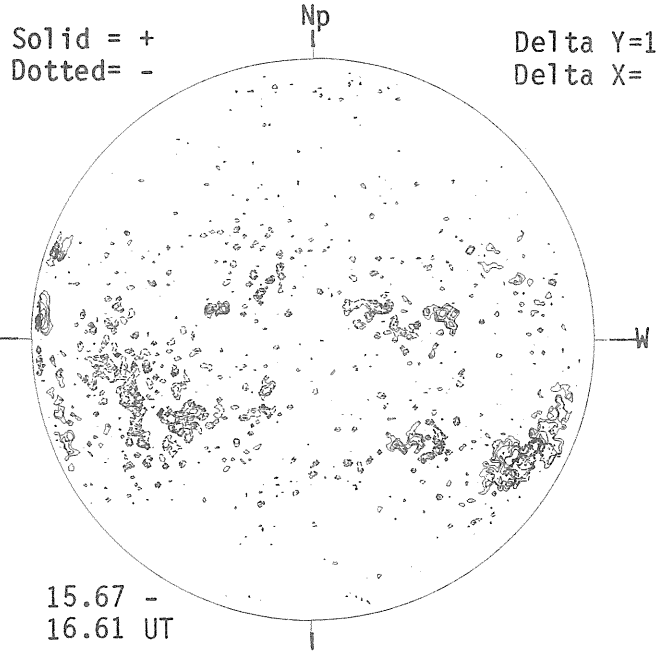
MT. WILSON MAGNETOGRAM



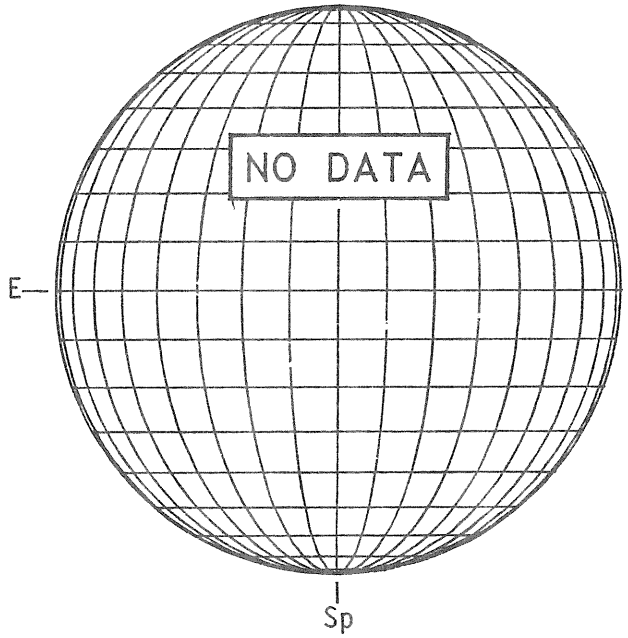
STANFORD MAGNETOGRAM



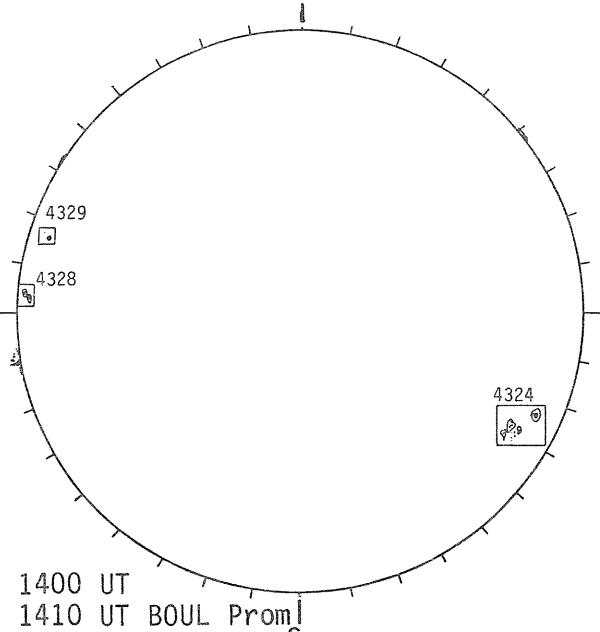
MT. WILSON MAGNETOGRAM



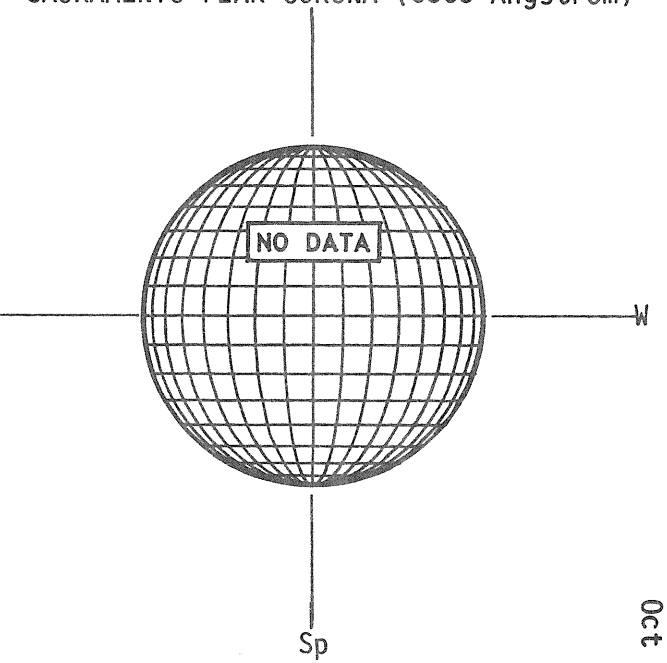
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



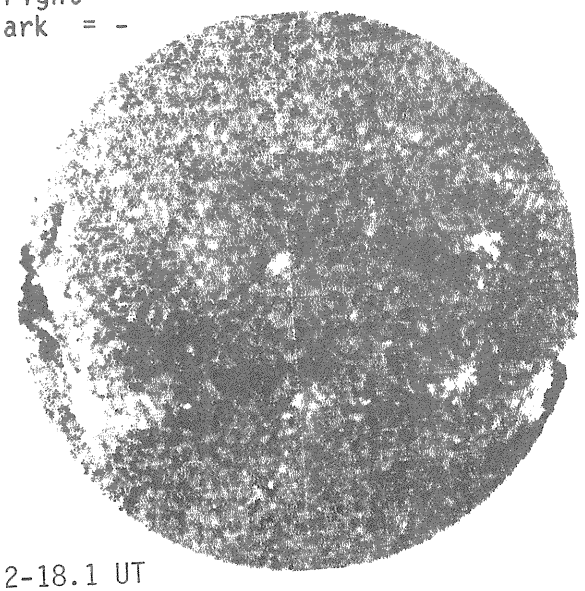
35
Oct 83

O C T O B E R 03, 1 9 8 3 (P= 26.10, B_o= 6.64, L_o= 208.17)

MT. WILSON MAGNETOGRAM

Np

Bright= +
Dark = -



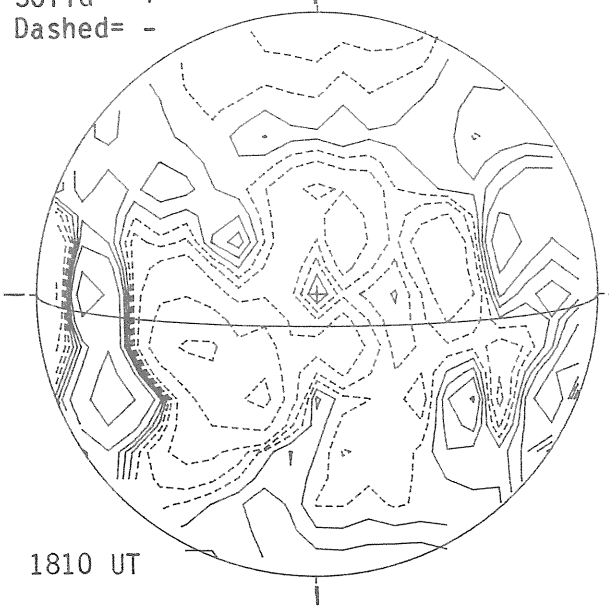
E

17.2-18.1 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -



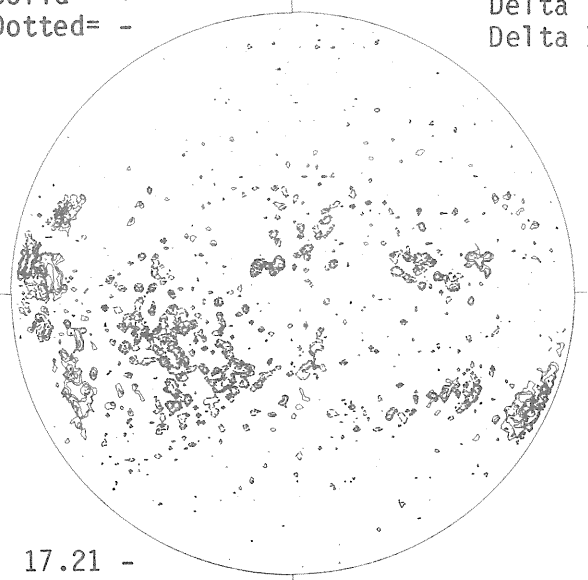
1810 UT

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

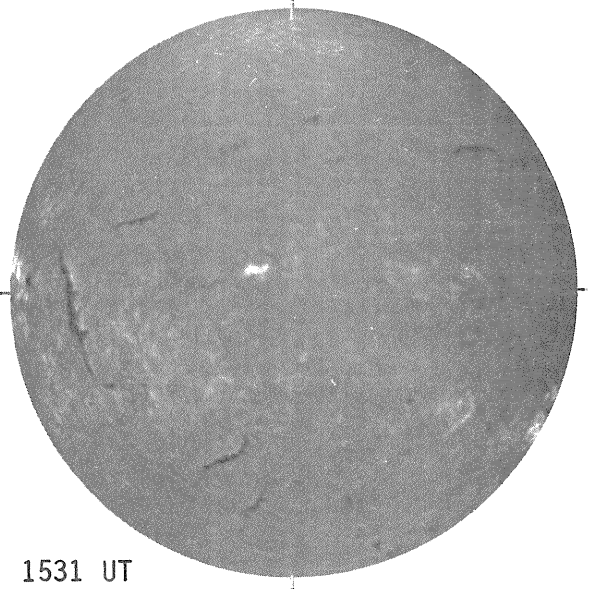
Delta Y=12.7
Delta X= 9.6



W

17.21 -
18.14 UT

BOULDER H-ALPHA

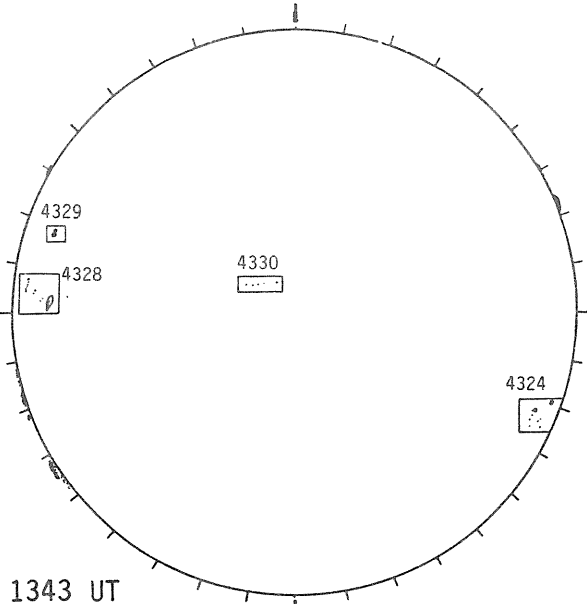


E

1531 UT

Sp

BOULDER SUNSPOTS



1343 UT
1531 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)

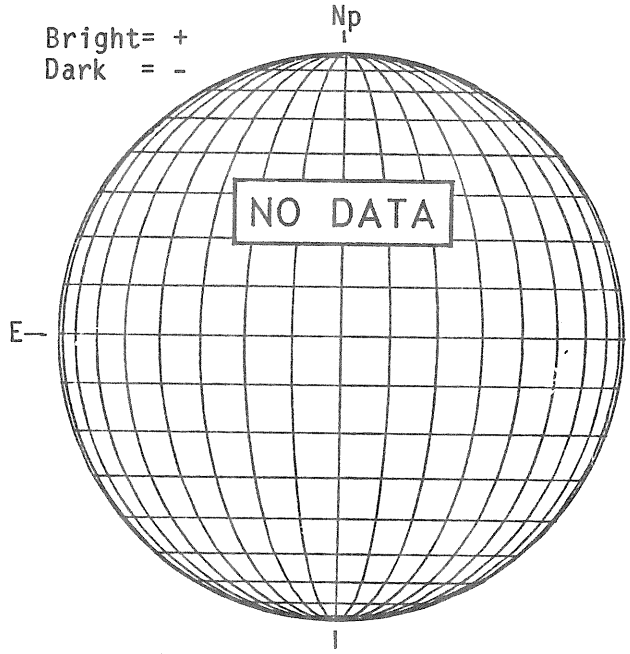
W

Sp

O C T O B E R 04, 1 9 8 3 (P= 26.15, B_o= 6.59, L_o= 194.98)

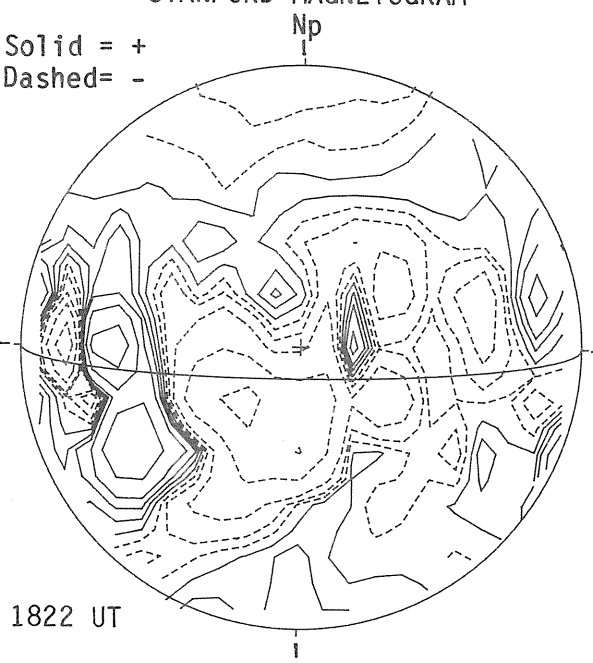
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



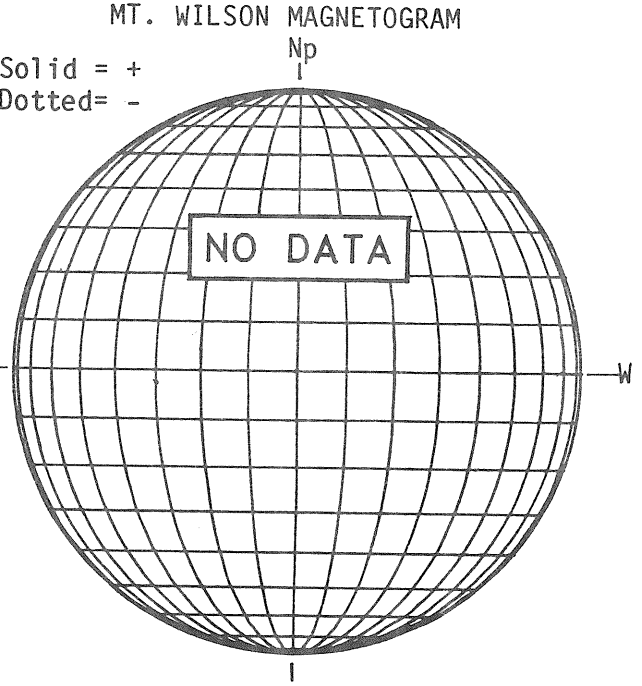
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

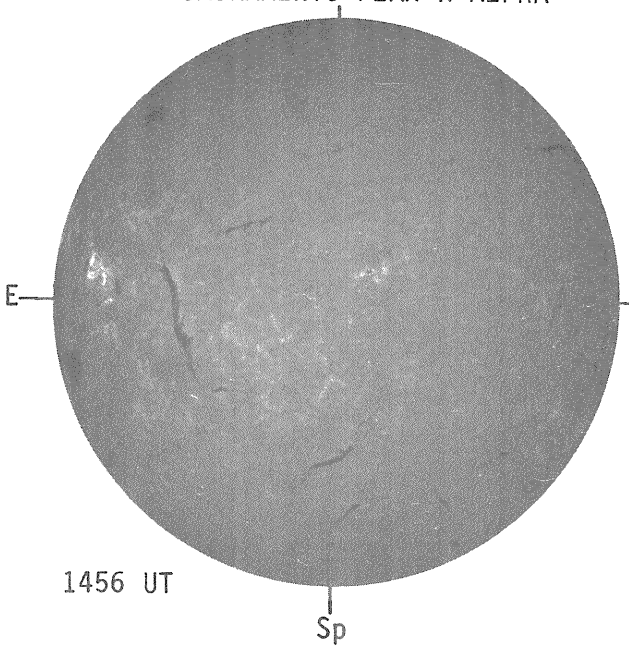


MT. WILSON MAGNETOGRAM

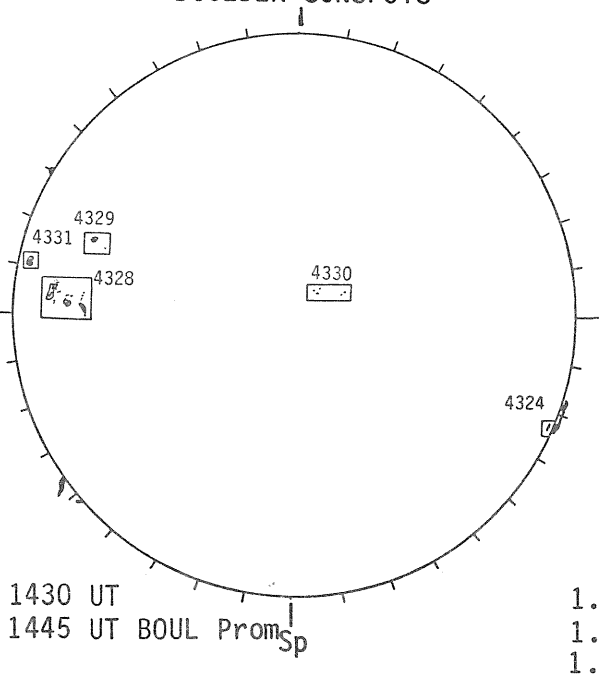
Solid = +
Dotted= -



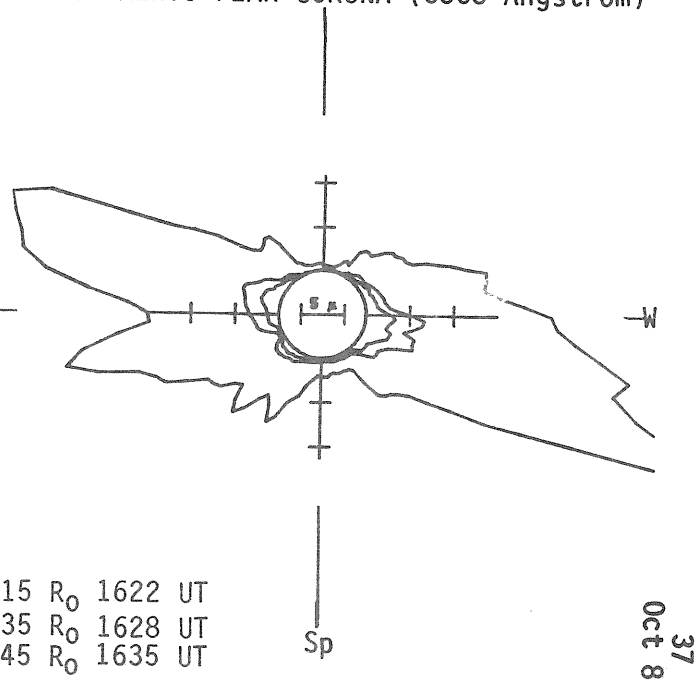
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

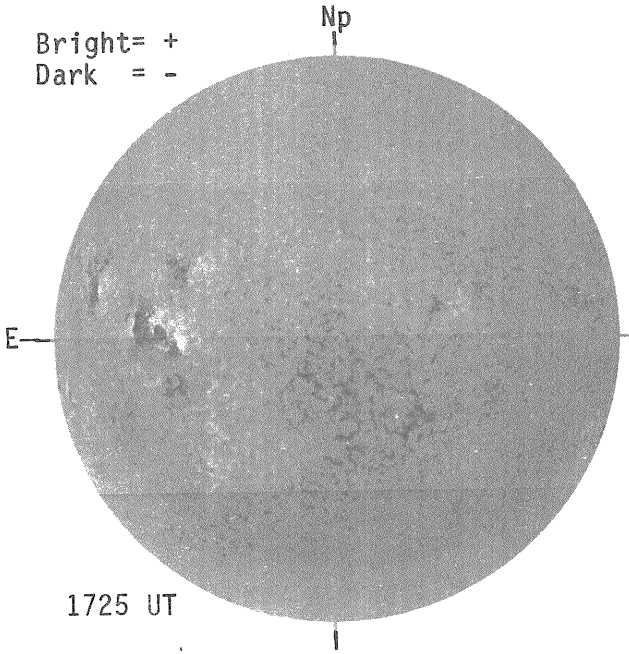


37
Oct 83

O C T O B E R 05, 1 9 8 3 (P= 26.20, B_o= 6.53, L_o= 181.78)

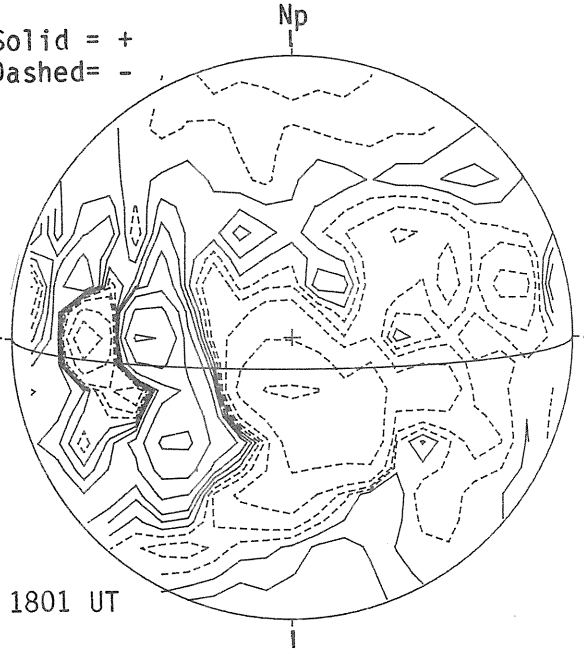
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

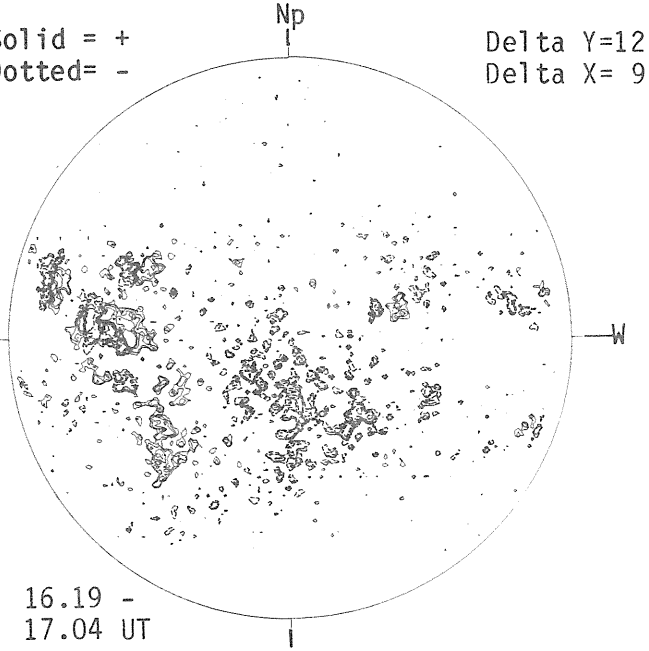
Solid = +
Dashed= -



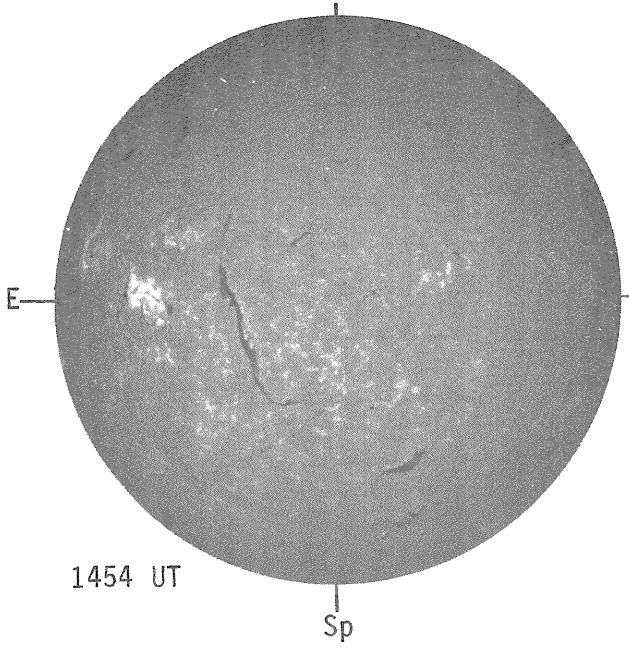
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

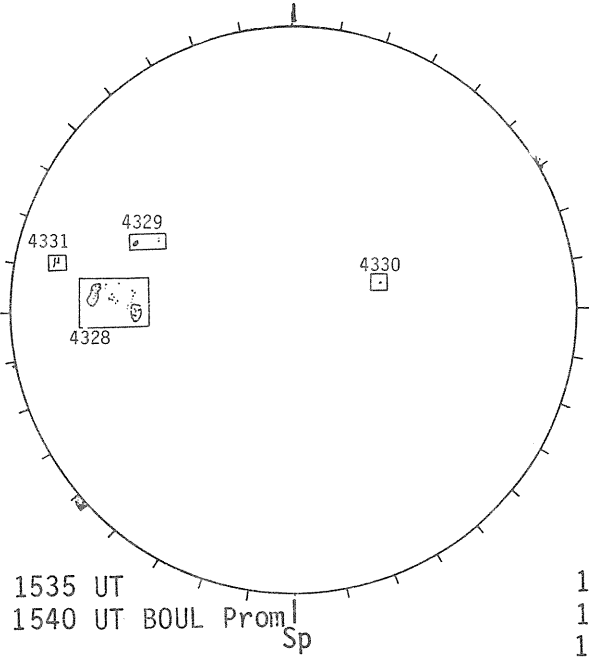
Delta Y=12.6
Delta X= 9.6



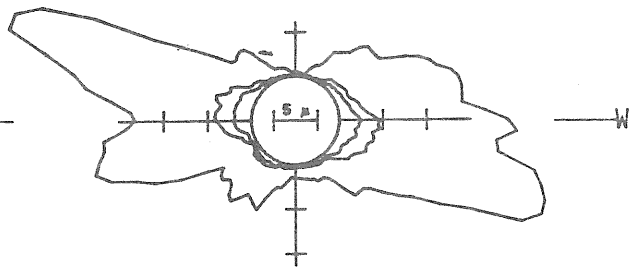
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



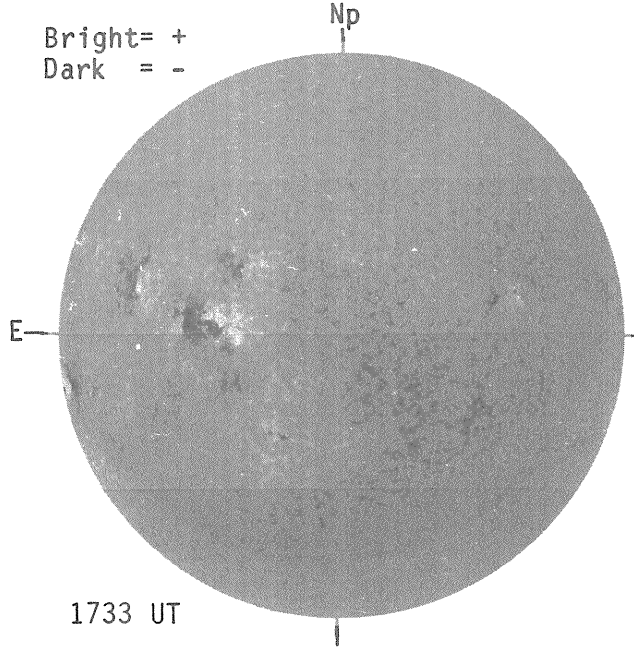
1.15 R_o 1519 UT
1.35 R_o 1526 UT
1.45 R_o 1534 UT

Sp

O C T O B E R 06, 1 9 8 3 (P= 26.24, B_0= 6.48, L_0= 168.59)

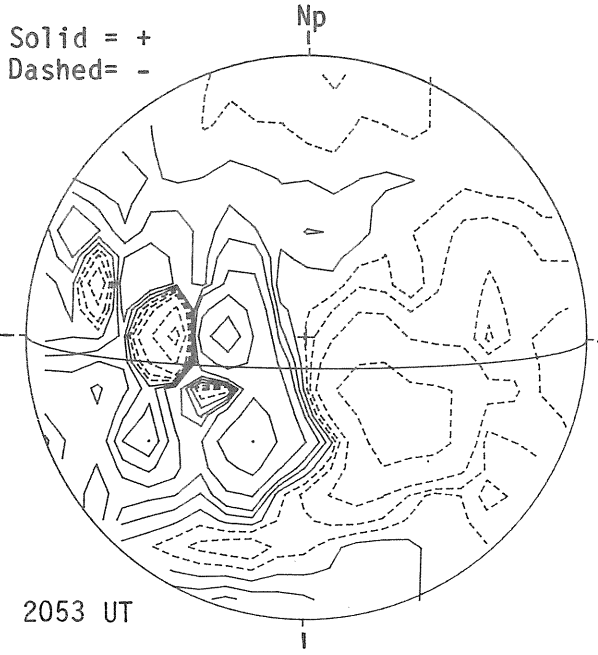
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



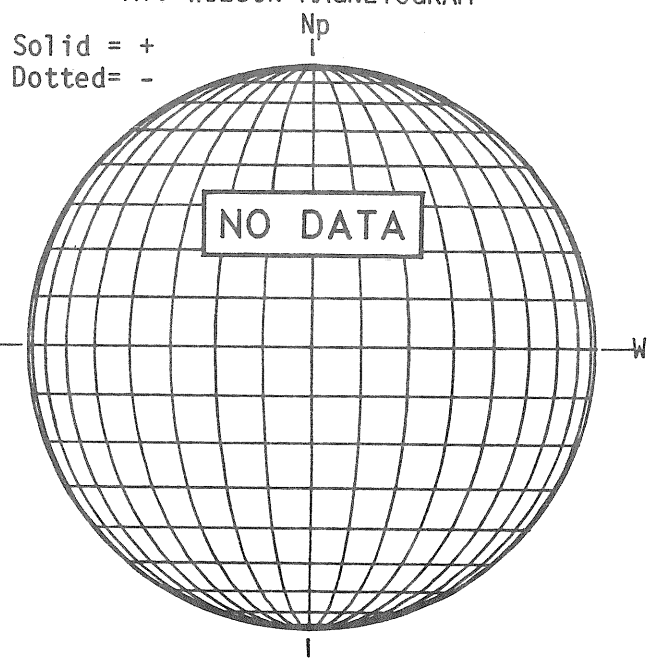
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

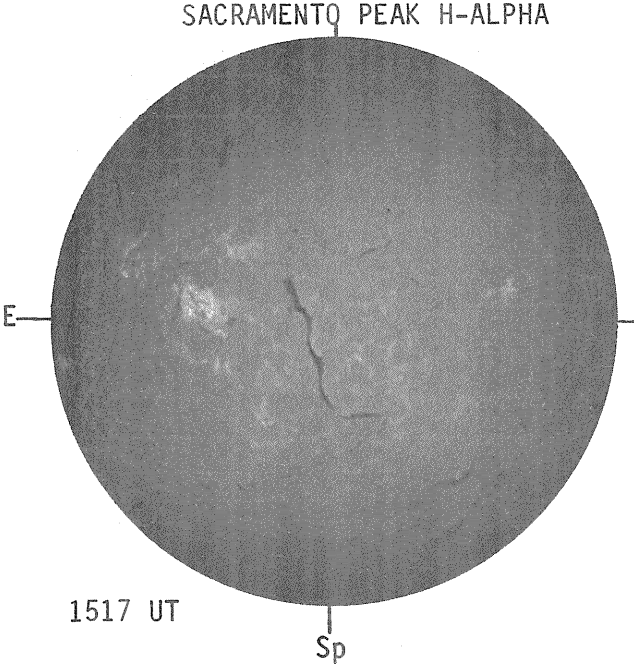


MT. WILSON MAGNETOGRAM

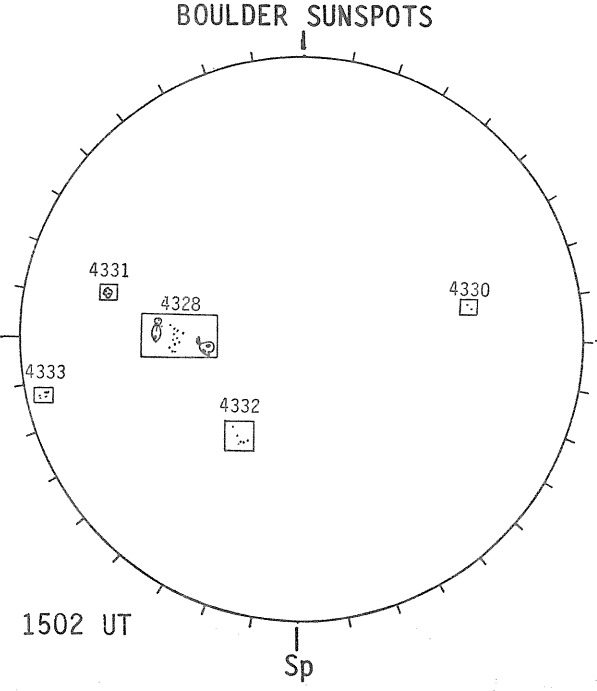
Solid = +
Dotted= -



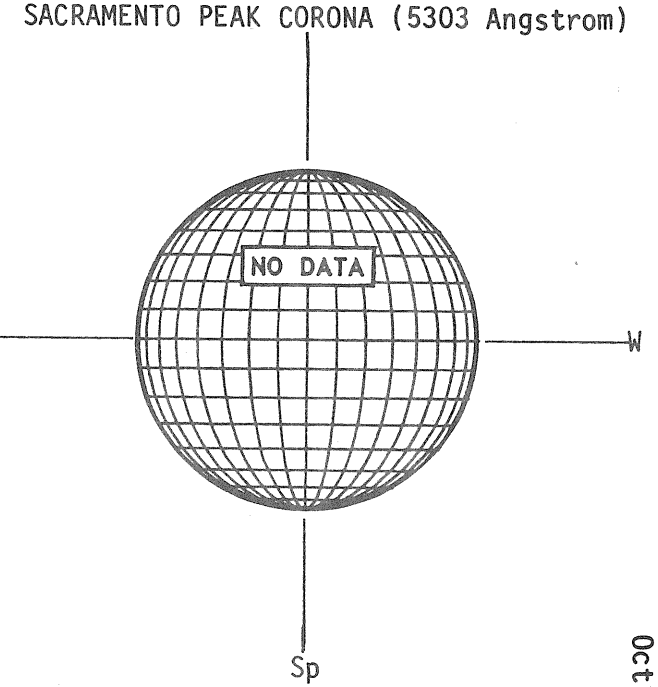
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



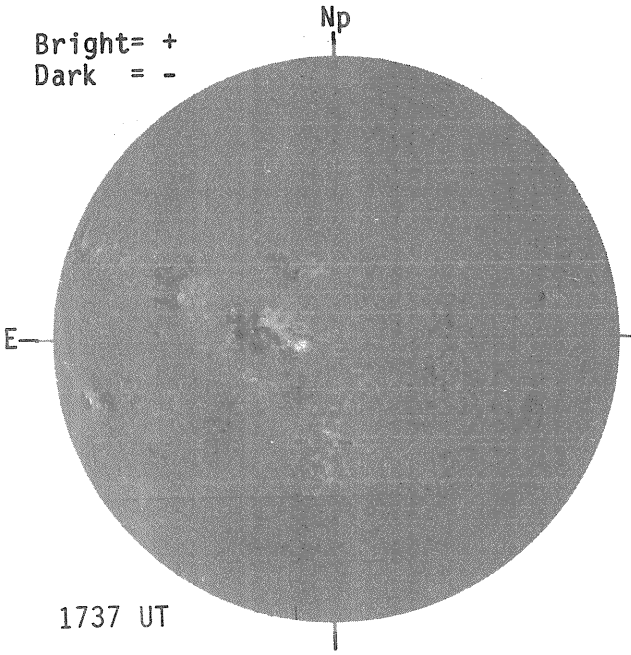
SACRAMENTO PEAK CORONA (5303 Angstrom)



O C T O B E R 07, 1 9 8 3 (P= 26.27, B_o= 6.42, L_o= 155.40)

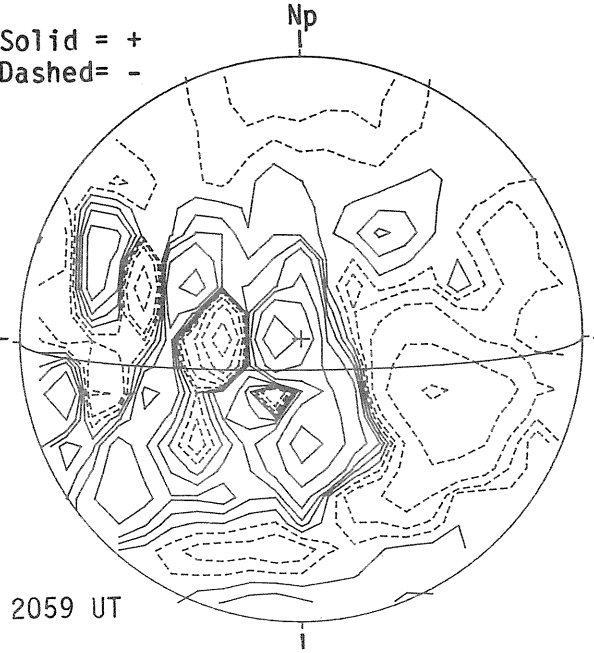
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



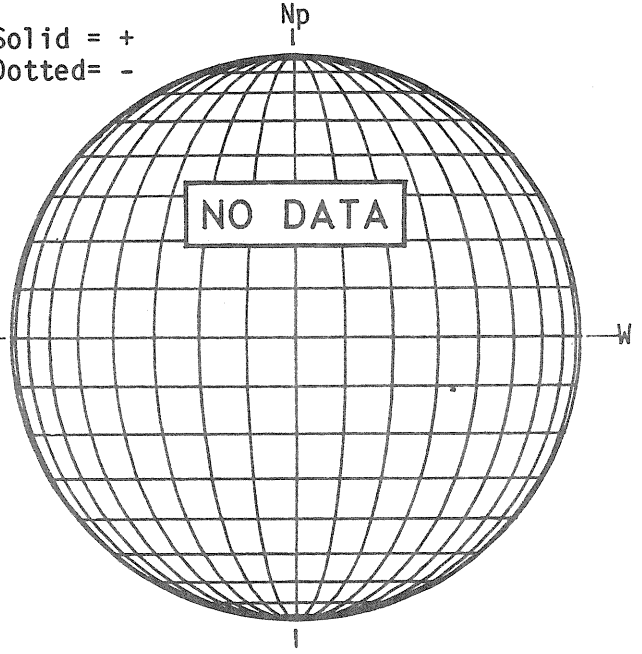
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

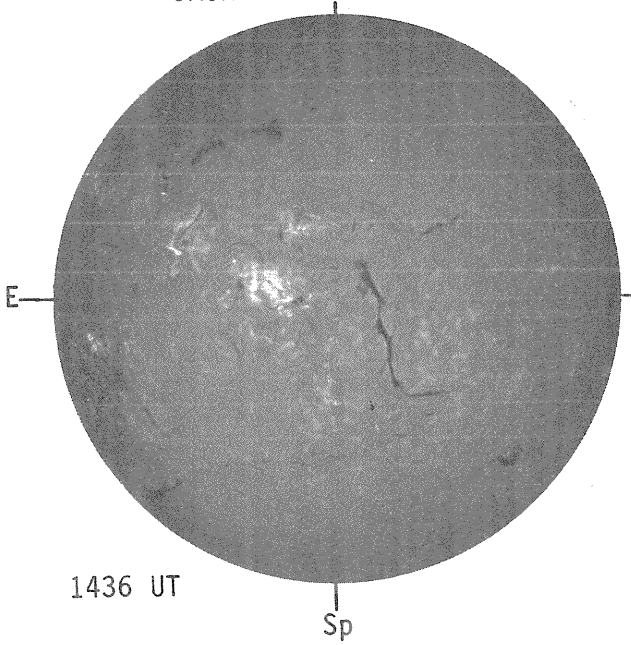


MT. WILSON MAGNETOGRAM

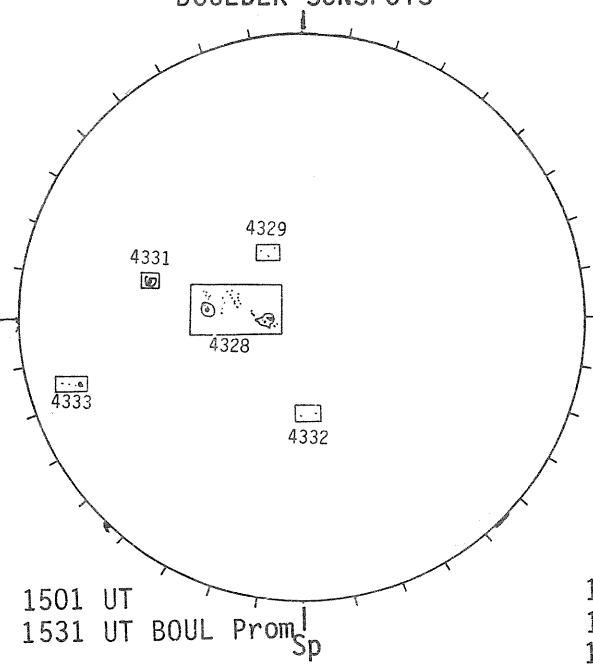
Solid = +
Dotted= -



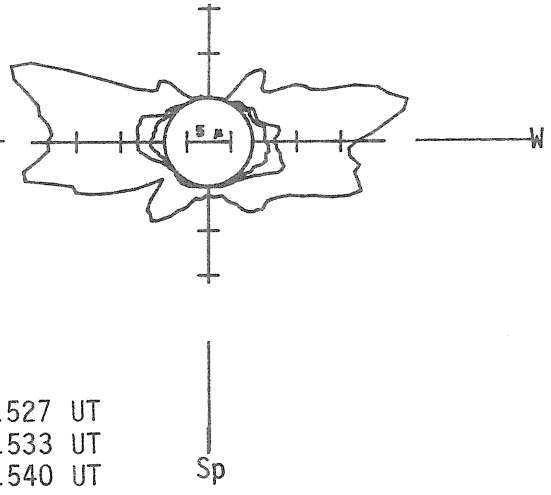
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

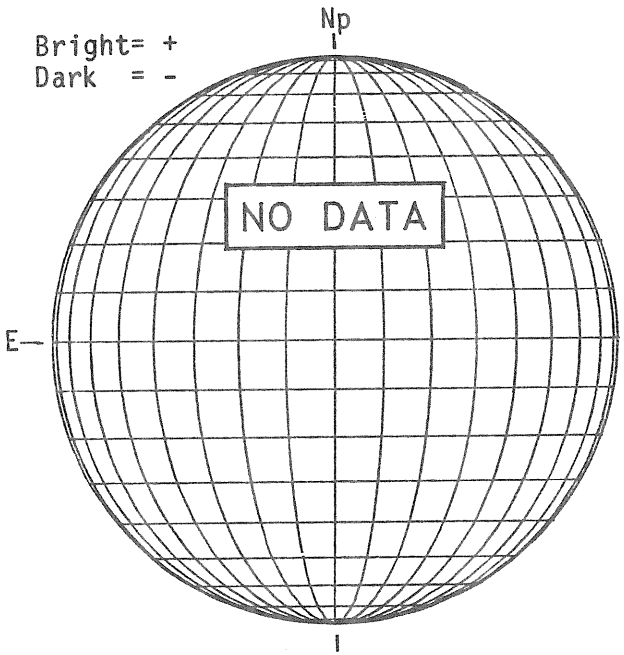


1.15 R_o 1527 UT
1.35 R_o 1533 UT
1.45 R_o 1540 UT

O C T O B E R 08, 1 9 8 3 (P= 26.29, B_0= 6.36, L_0= 142.20)

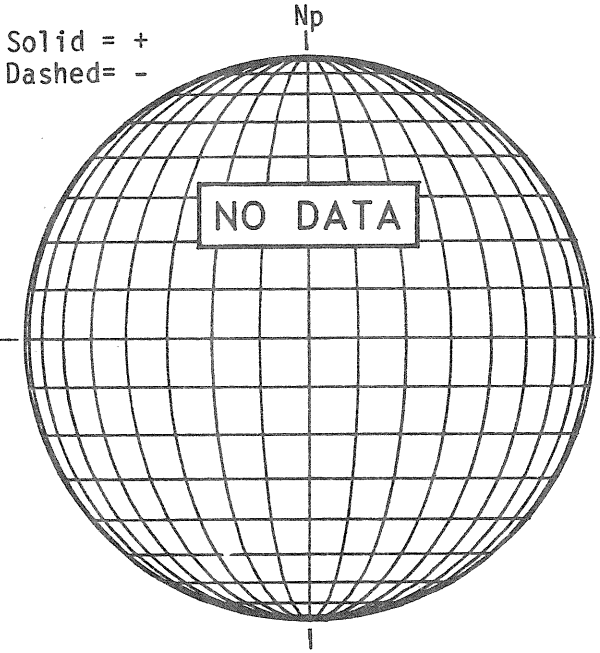
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



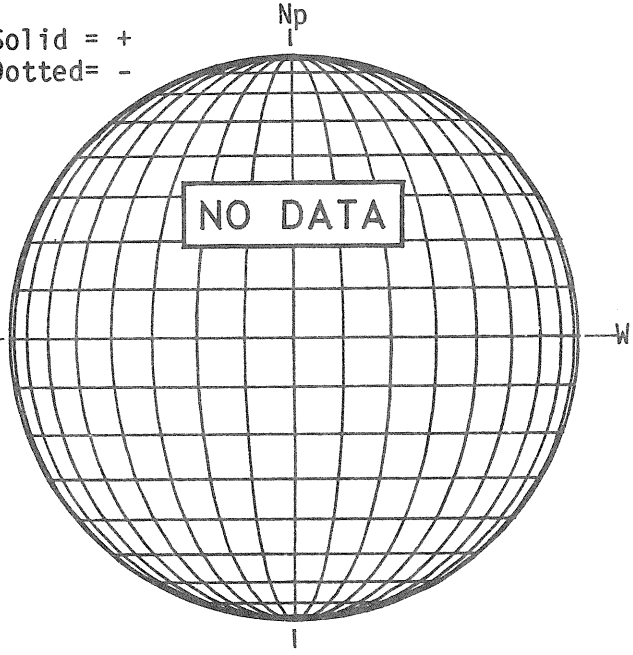
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

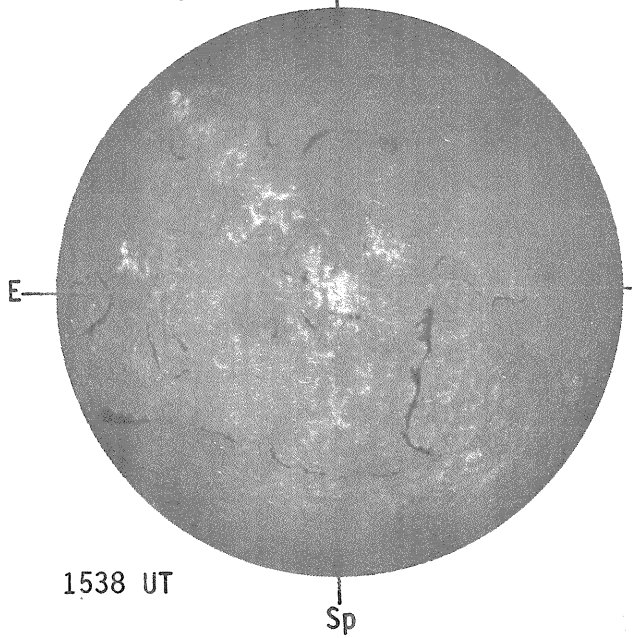


MT. WILSON MAGNETOGRAM

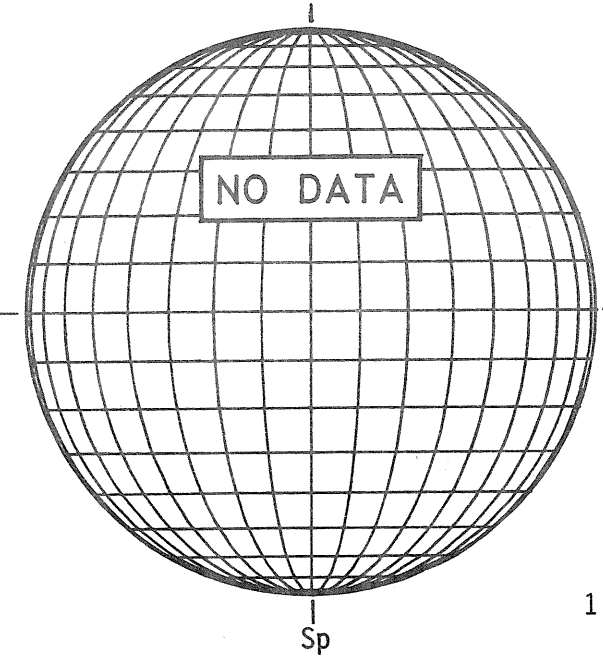
Solid = +
Dotted= -



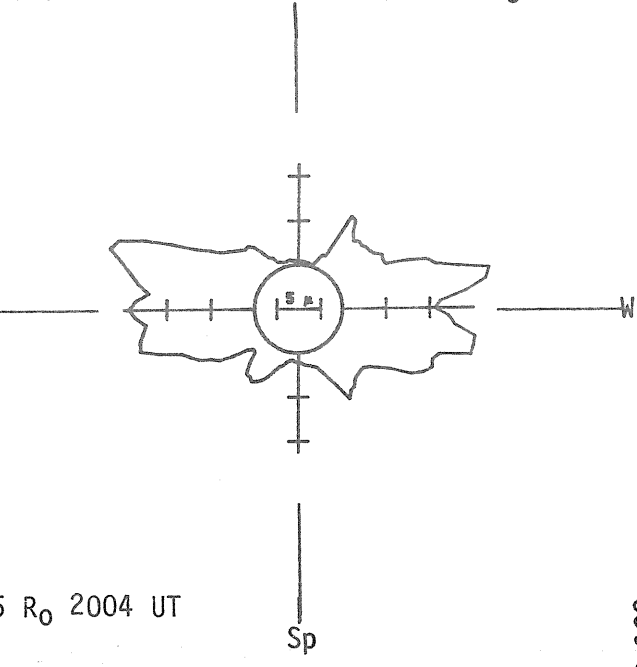
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



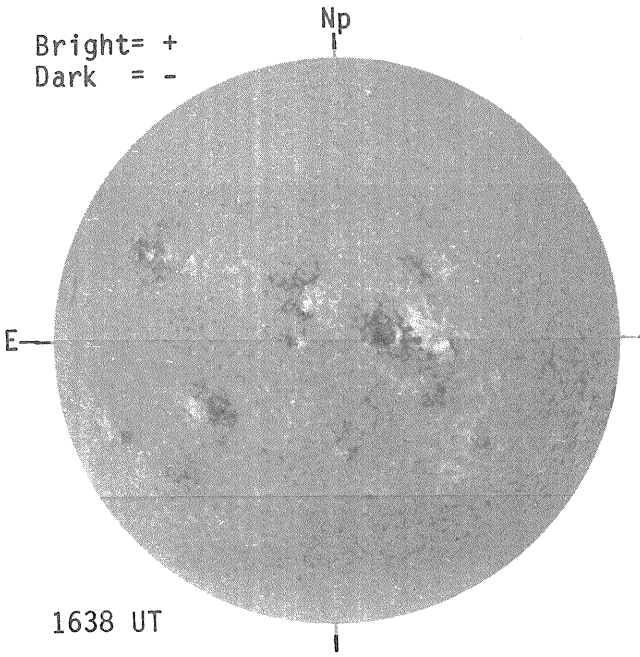
SACRAMENTO PEAK CORONA (5303 Angstrom)



O C T O B E R 09, 1 9 8 3 (P= 26.31, B_o= 6.30, L_o= 129.01)

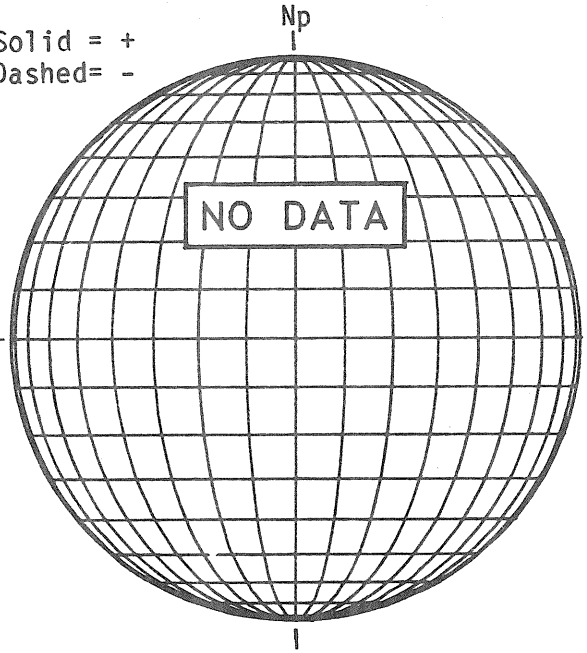
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



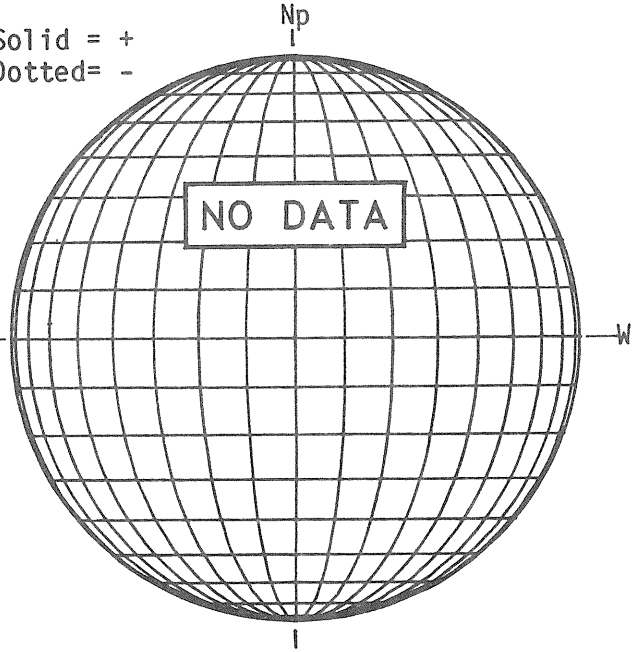
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

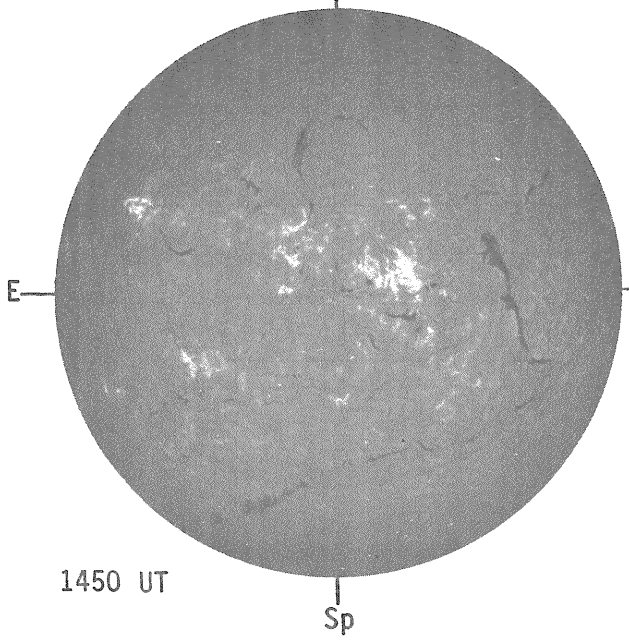


MT. WILSON MAGNETOGRAM

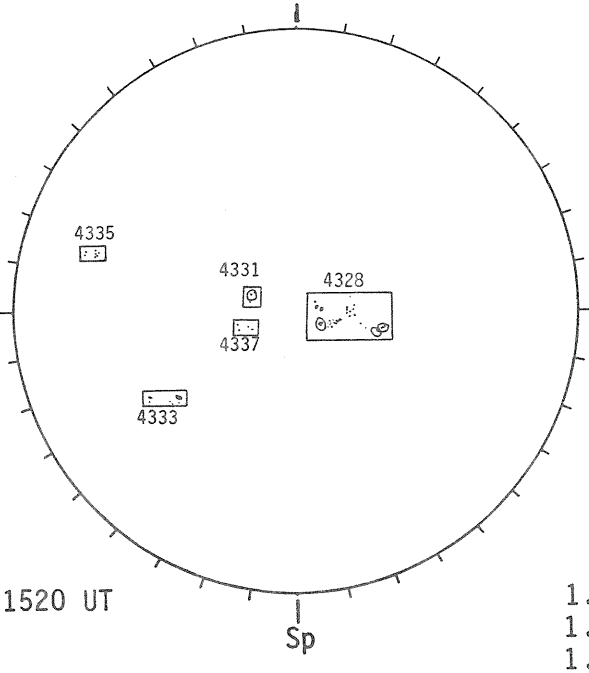
Solid = +
Dotted= -



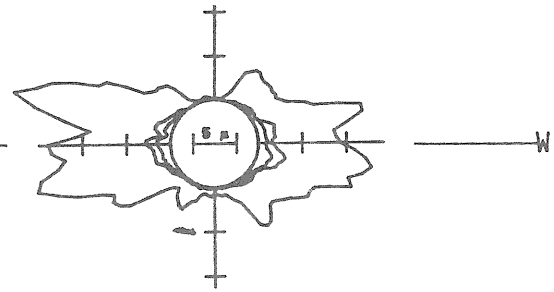
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



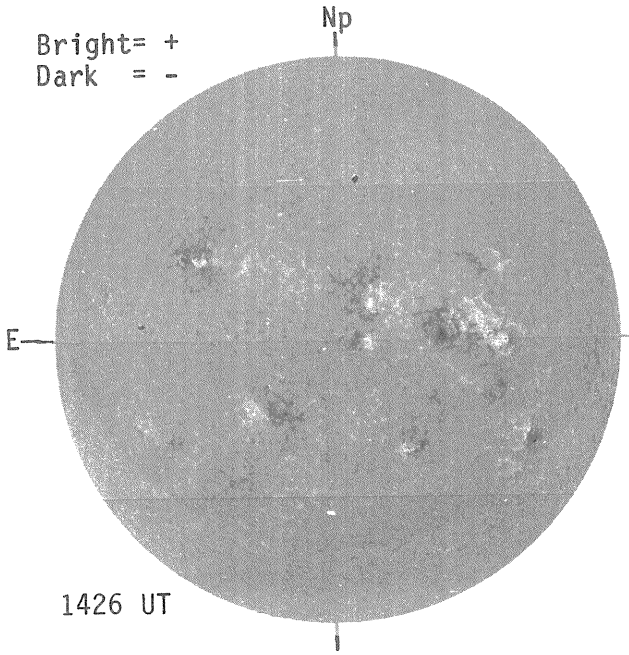
1.15 R_o 1546 UT
1.35 R_o 1552 UT
1.45 R_o 1615 UT

Sp

O C T O B E R 10, 1 9 8 3 (P= 26.32, B_o= 6.24, L_o= 115.82)

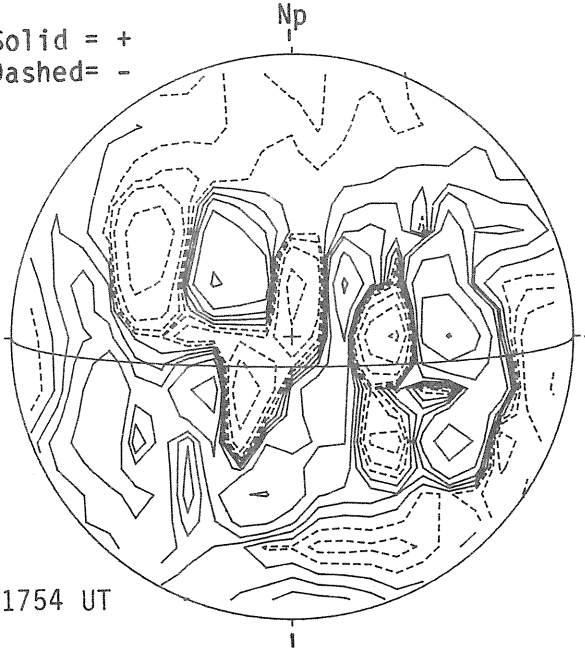
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

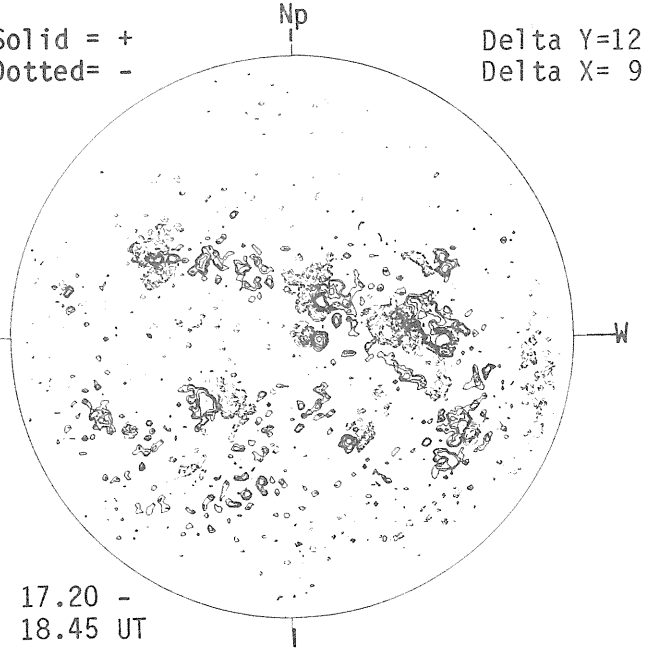
Solid = +
Dashed= -



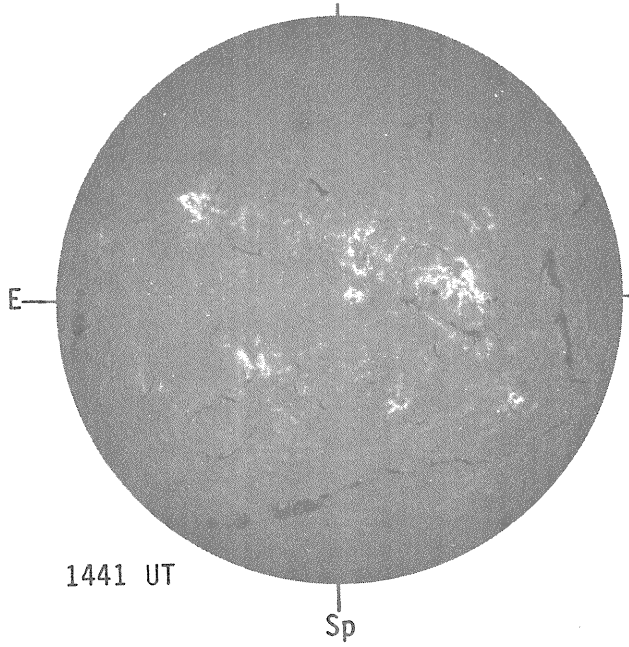
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

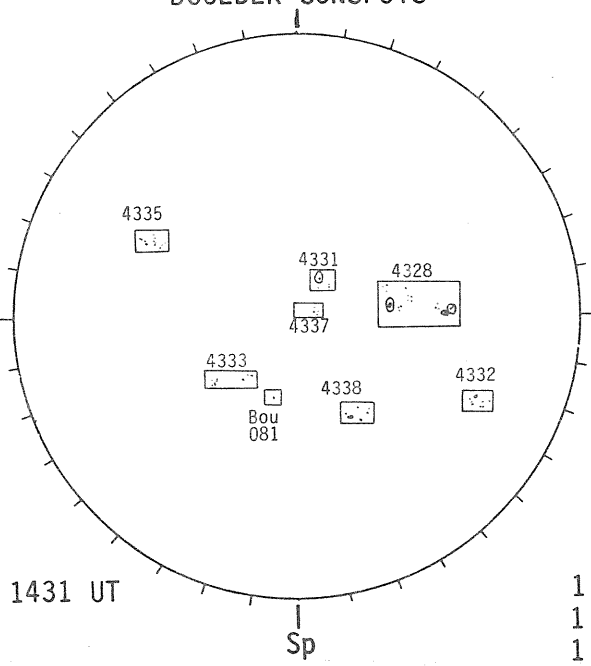
Delta Y=12.7
Delta X= 9.6



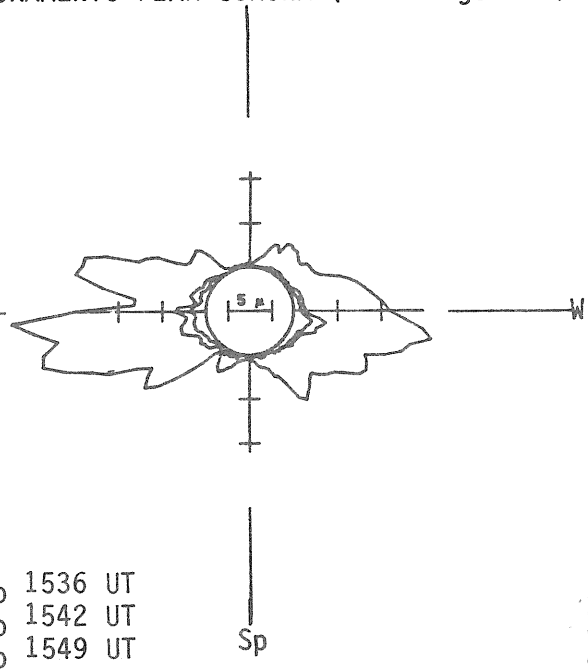
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



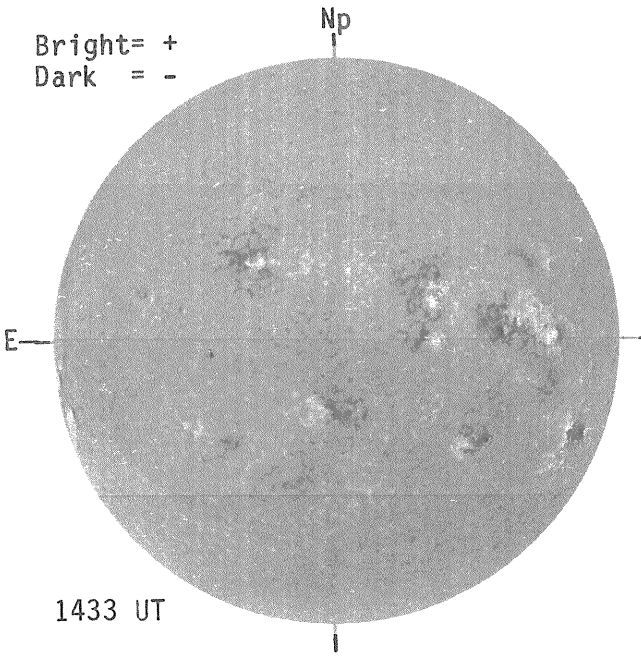
SACRAMENTO PEAK CORONA (5303 Angstrom)



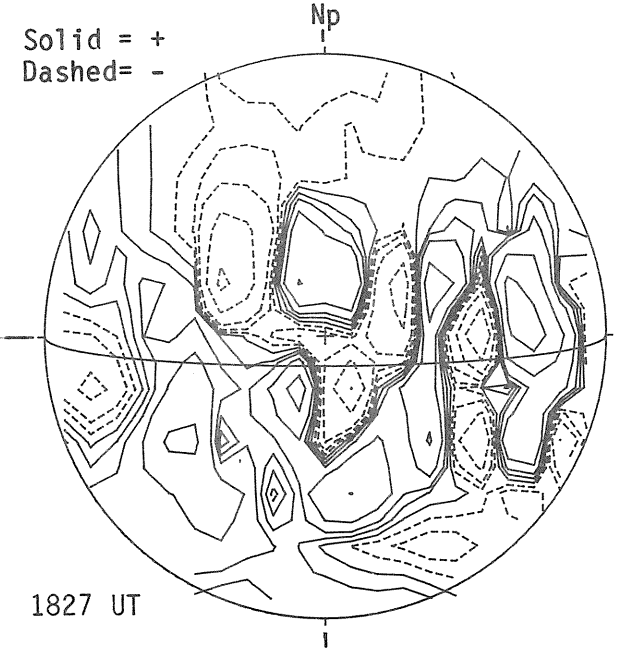
1.15 R_o 1536 UT
1.35 R_o 1542 UT
1.45 R_o 1549 UT

O C T O B E R 11, 1 9 8 3 (P= 26.32, B_0= 6.17, L_0= 102.63)

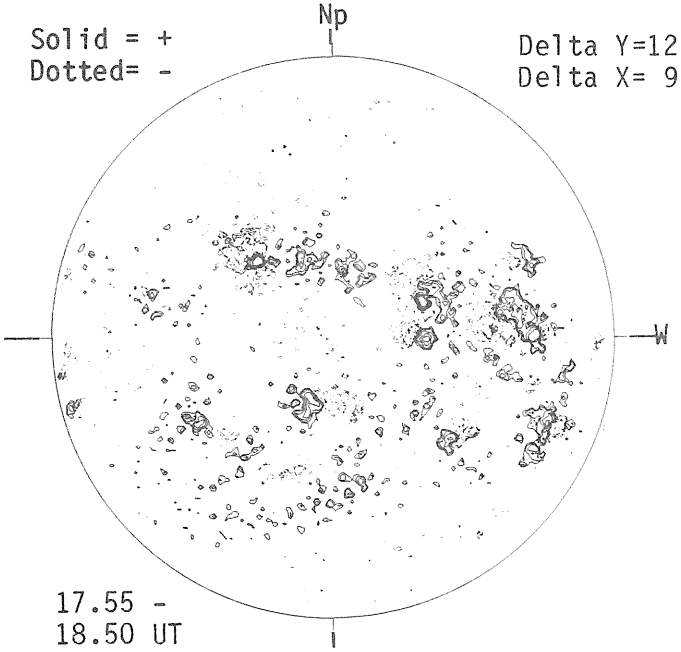
KITT PEAK MAGNETOGRAM



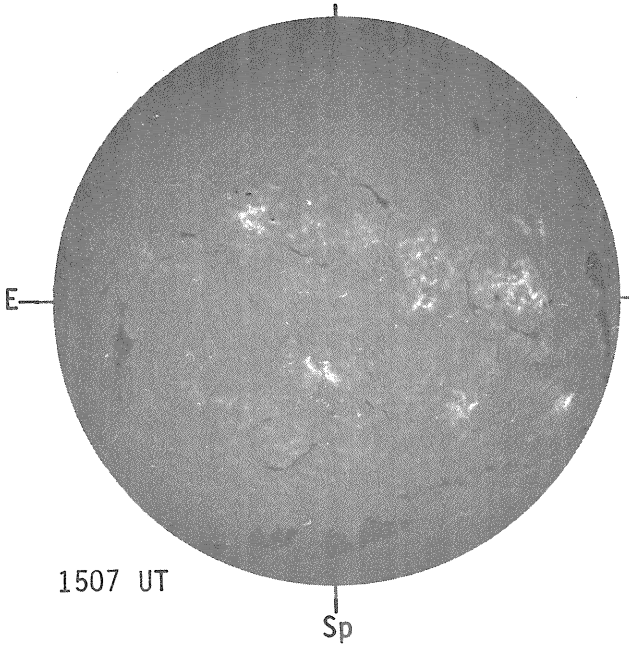
STANFORD MAGNETOGRAM



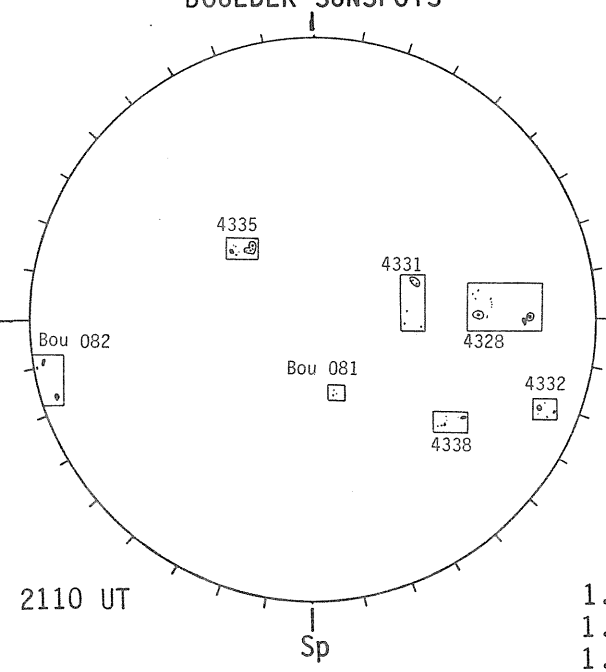
MT. WILSON MAGNETOGRAM



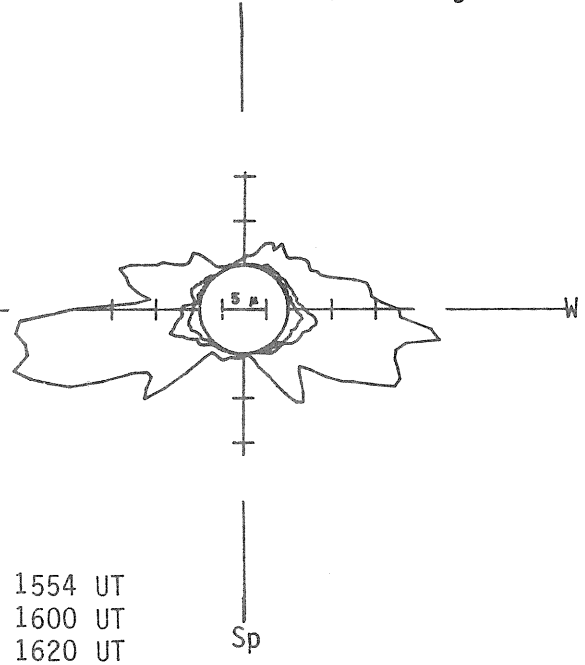
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

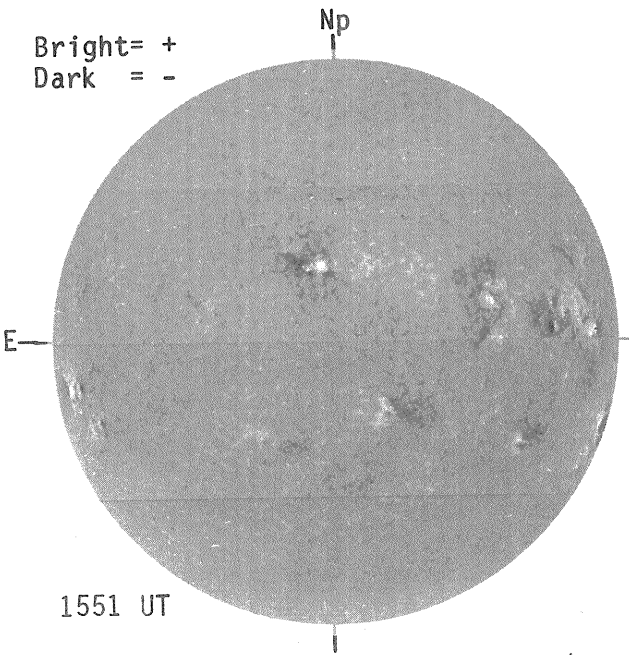


1.15 R_o 1554 UT
1.35 R_o 1600 UT
1.45 R_o 1620 UT

O C T O B E R 12, 1 9 8 3 (P= 26.32, B_o= 6.11, L_o= 89.43)

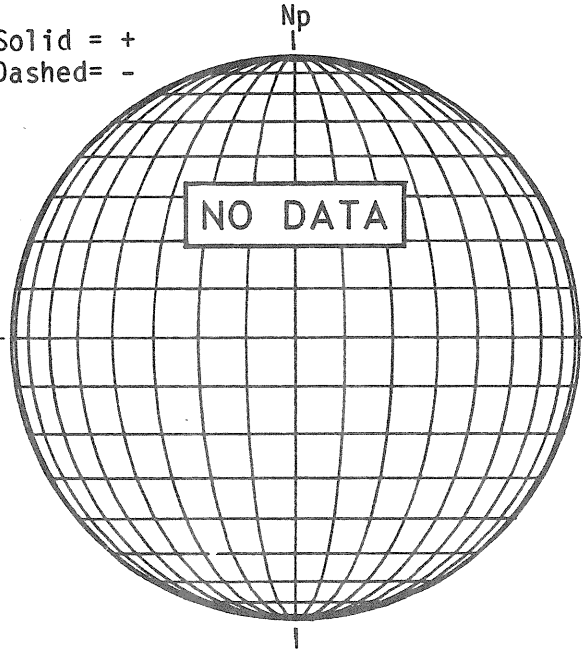
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

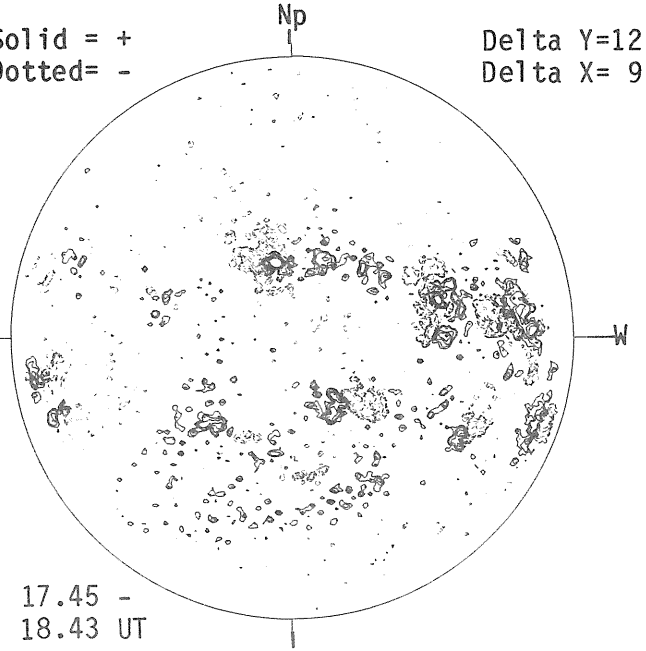
Solid = +
Dashed= -



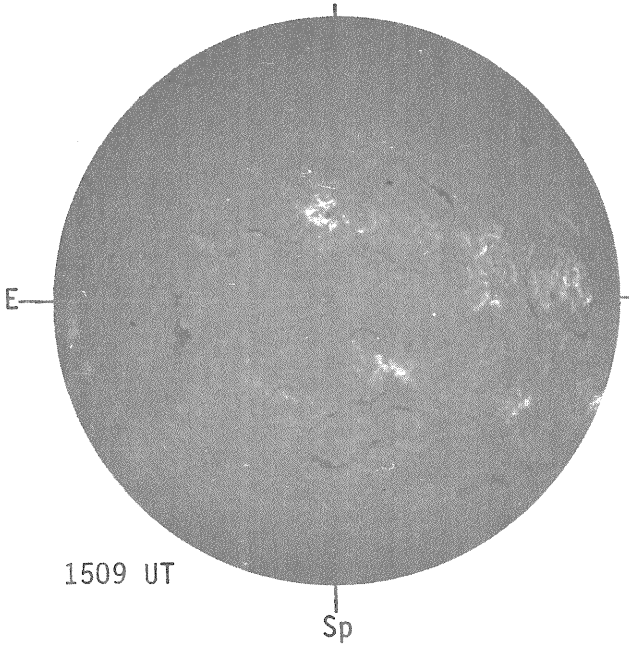
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

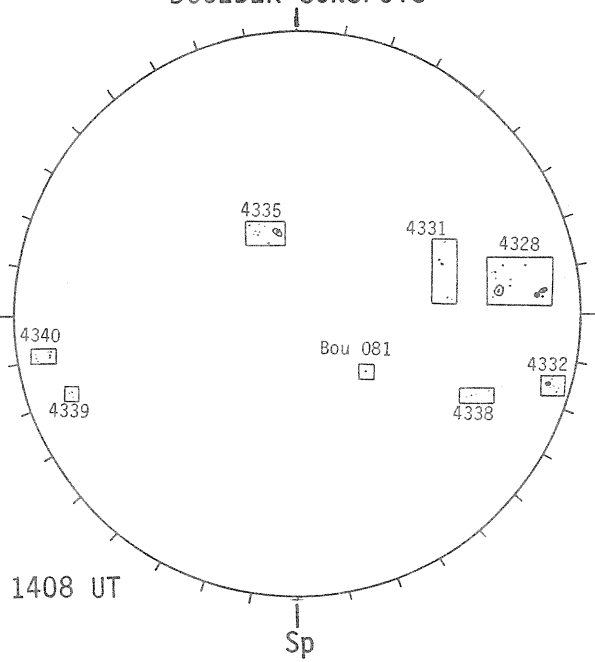
Delta Y=12.6
Delta X= 9.6



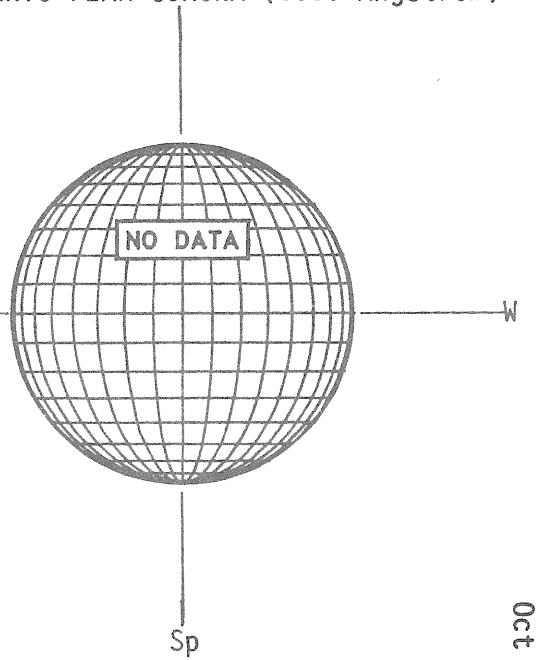
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



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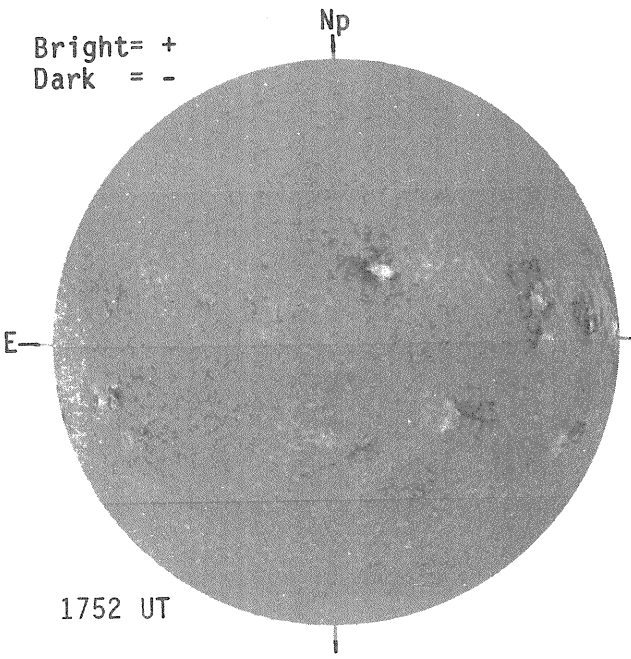
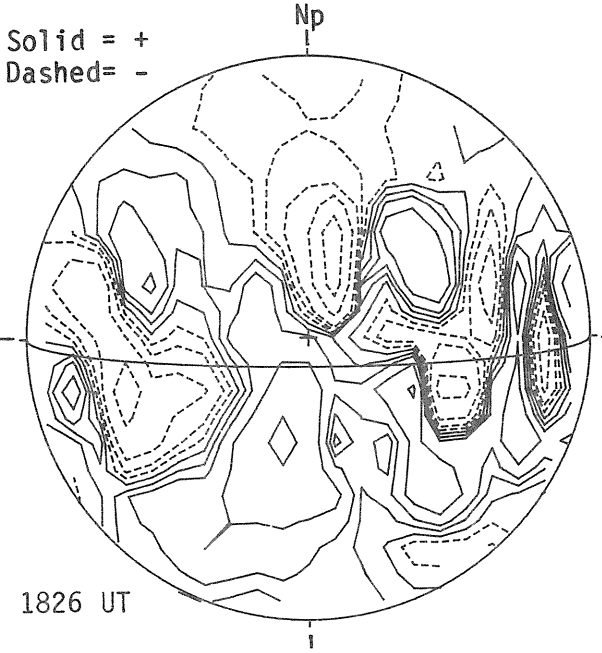
O C T O B E R 13, 1 9 8 3 (P= 26.30, B_o= 6.04, L_o= 76.24)

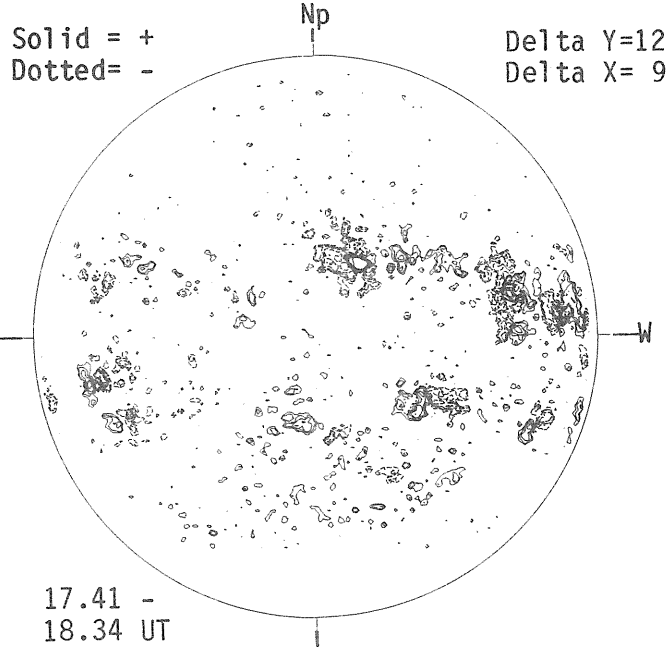
KITT PEAK MAGNETOGRAM



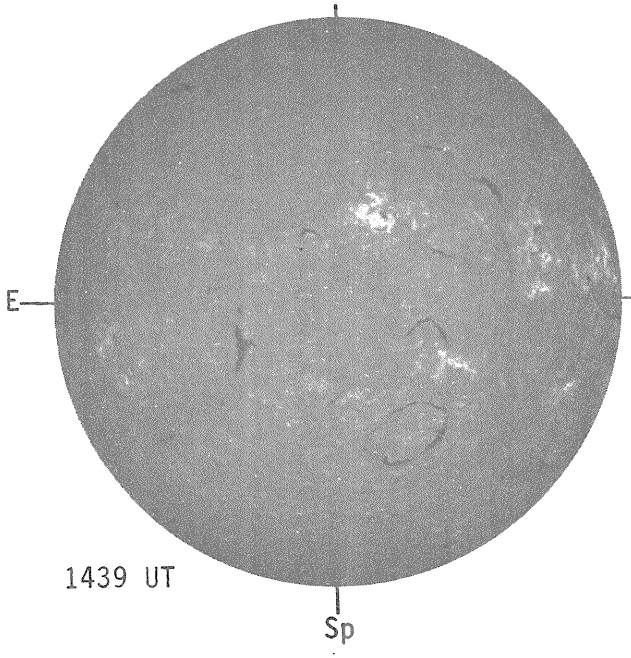
STANFORD MAGNETOGRAM



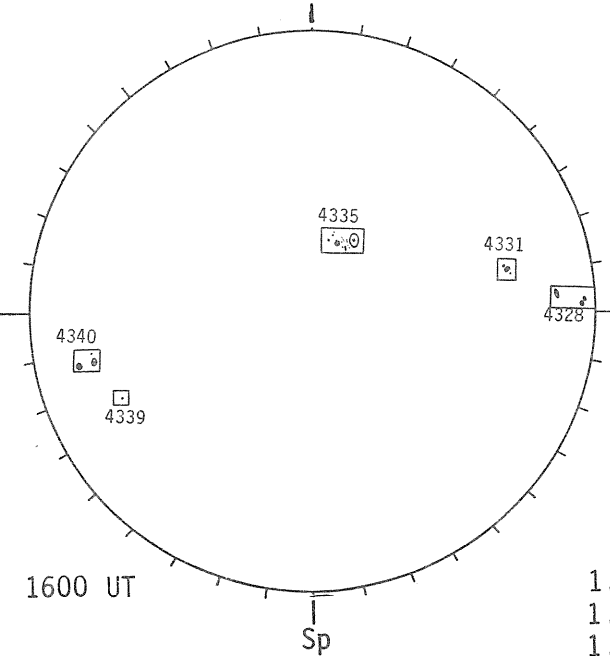
MT. WILSON MAGNETOGRAM



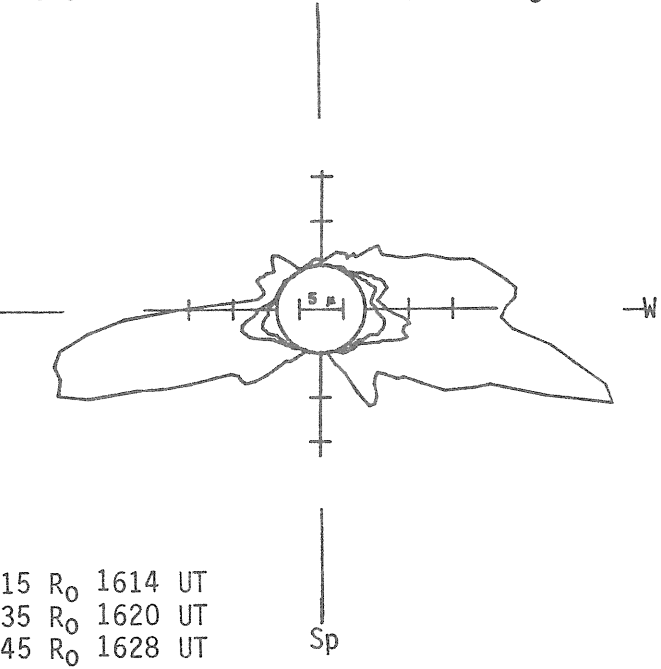
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS

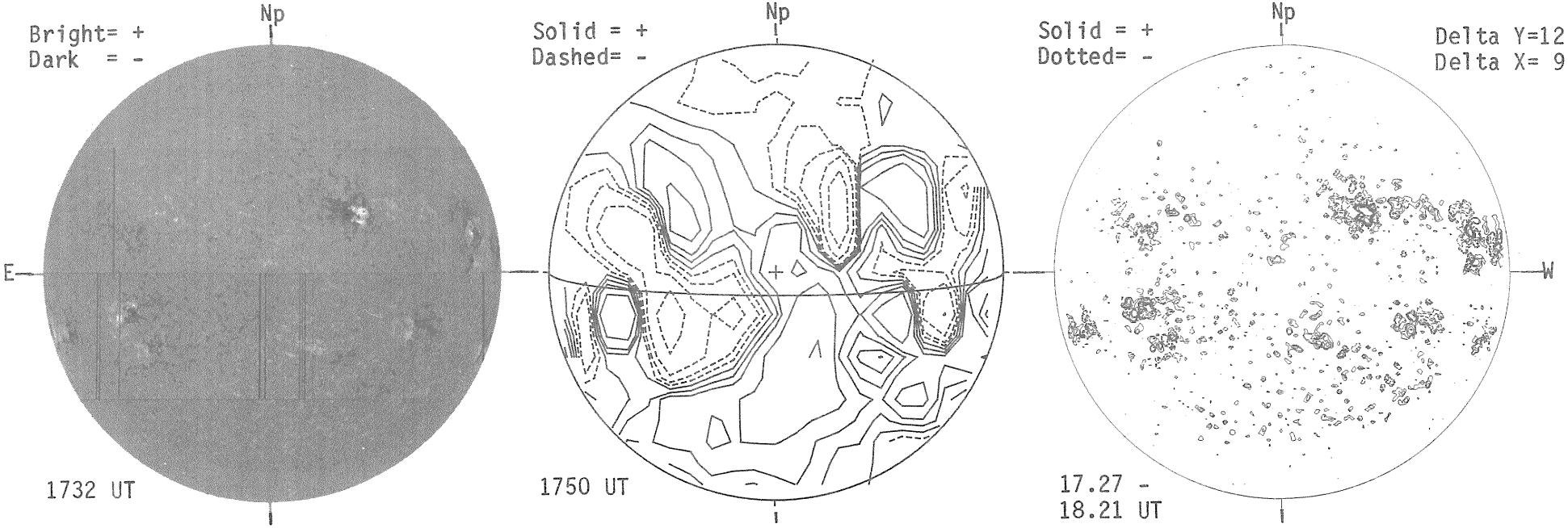


SACRAMENTO PEAK CORONA (5303 Angstrom)



O C T O B E R 14, 1 9 8 3 (P= 26.29, B_0= 5.97, L_0= 63.05)

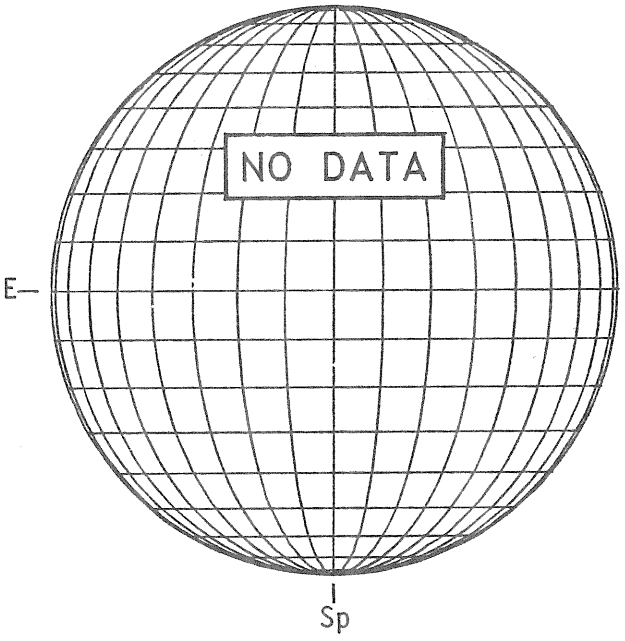
KITT PEAK MAGNETOGRAM



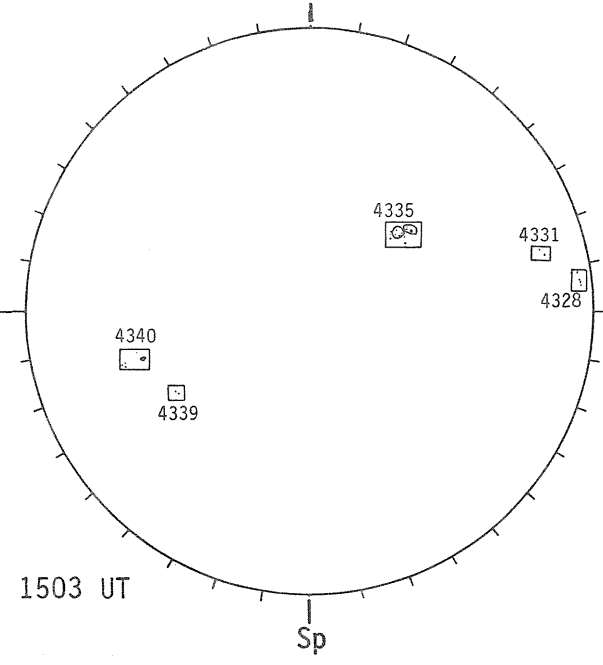
STANFORD MAGNETOGRAM

MT. WILSON MAGNETOGRAM

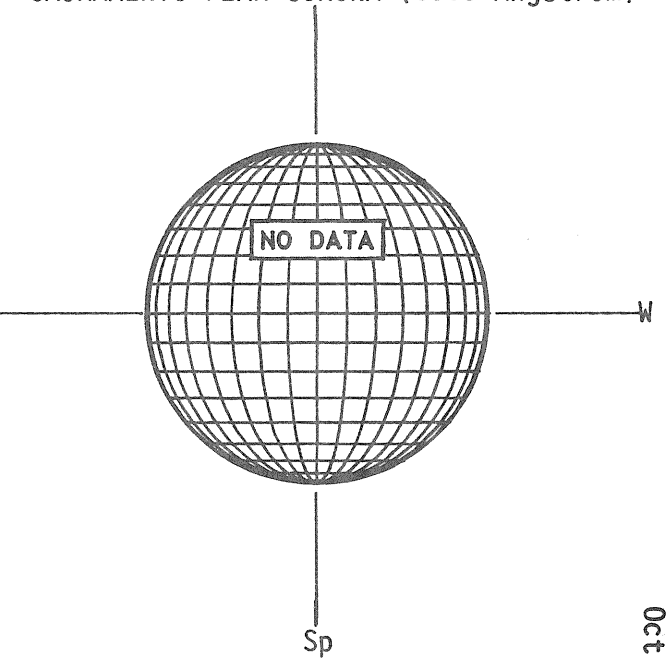
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



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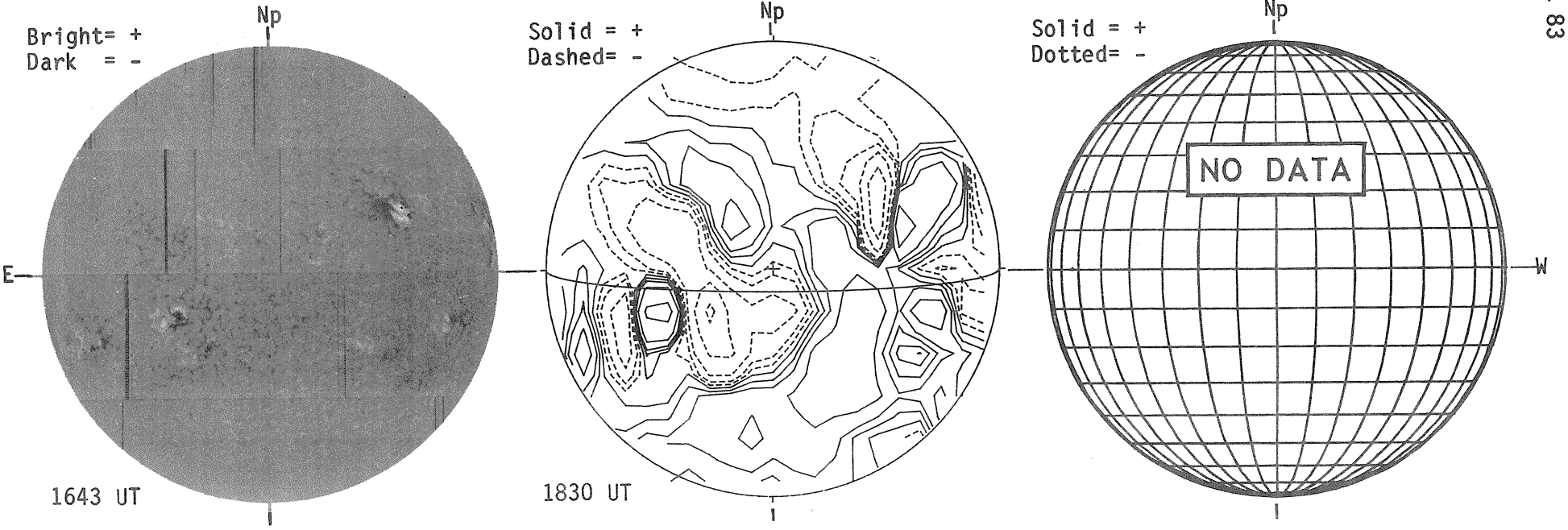
O C T O B E R 15, 1 9 8 3 (P= 26.26, B_o= 5.89, L_o= 49.86)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



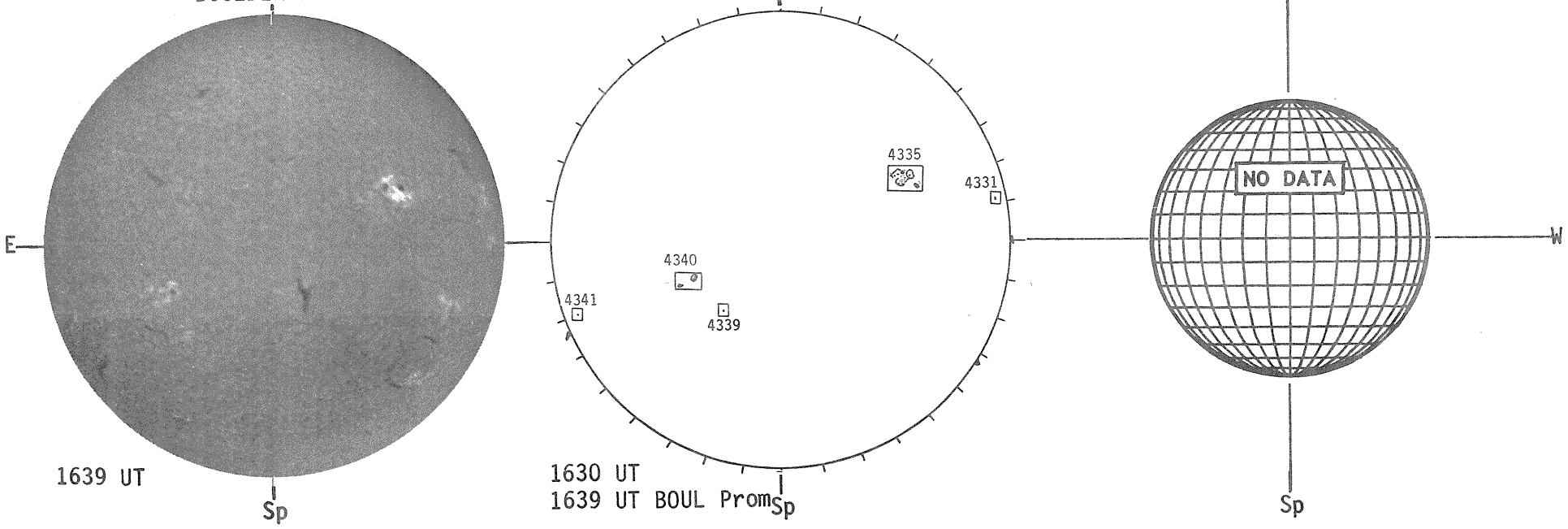
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

BOULDER H-ALPHA



BOULDER SUNSPOTS

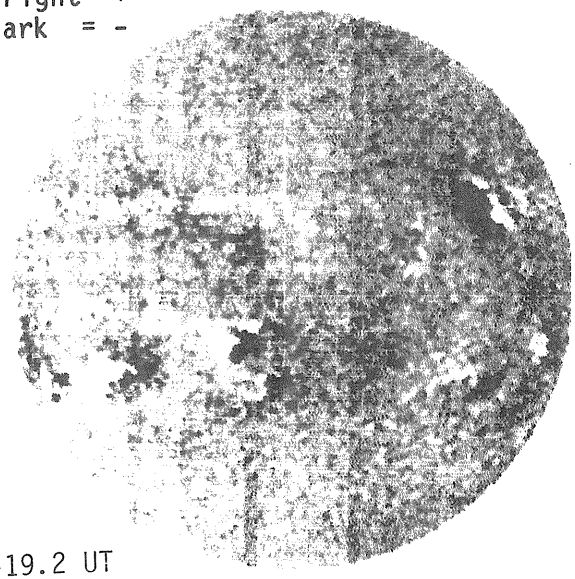
SACRAMENTO PEAK CORONA (5303 Angstrom)

O C T O B E R 16, 1 9 8 3 (P= 26.22, B_0= 5.82, L_0= 36.67)

MT. WILSON MAGNETOGRAM

Np

Bright= +
Dark = -



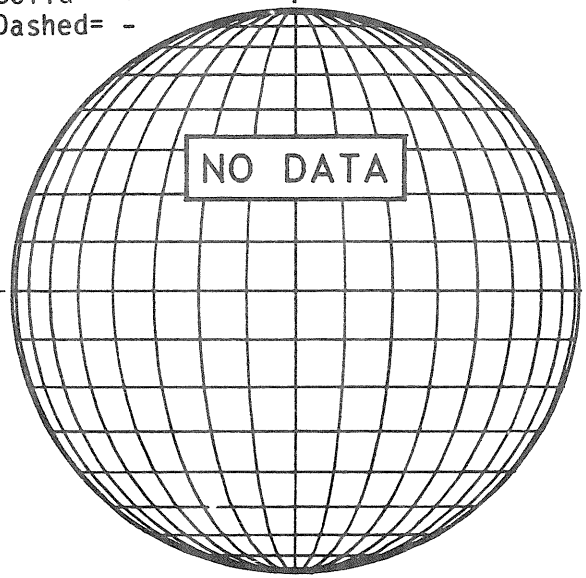
E

18.2-19.2 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -

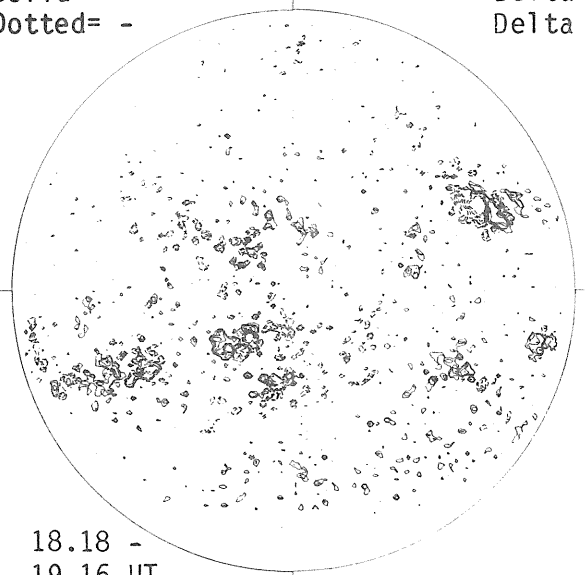


MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

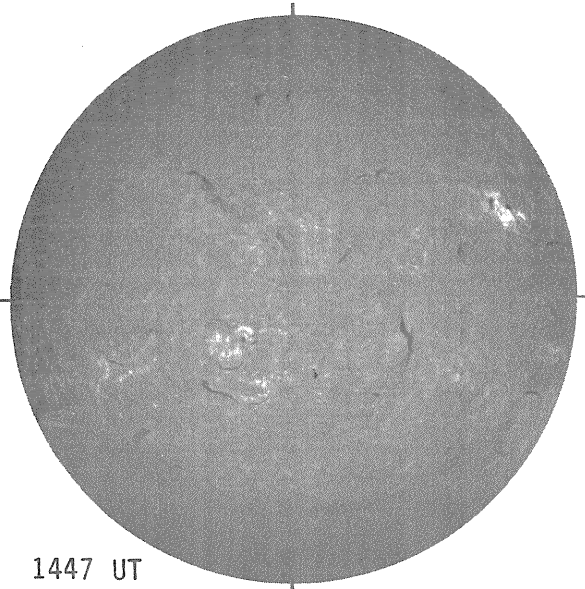
Delta Y=12.6
Delta X= 9.6



W

18.18 -
19.16 UT

SACRAMENTO PEAK H-ALPHA

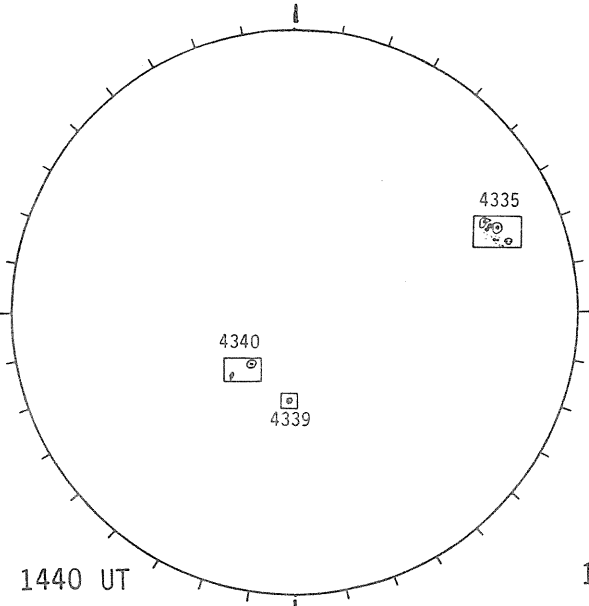


E

1447 UT

Sp

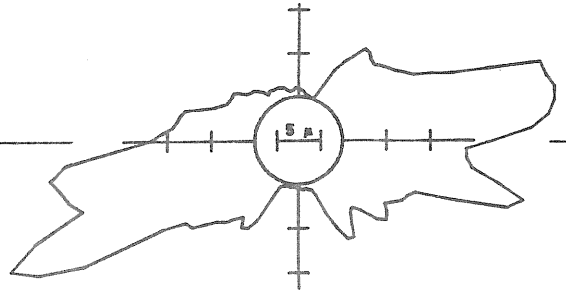
BOULDER SUNSPOTS



1440 UT

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



W

1.15 R_O 1750 UT

Sp

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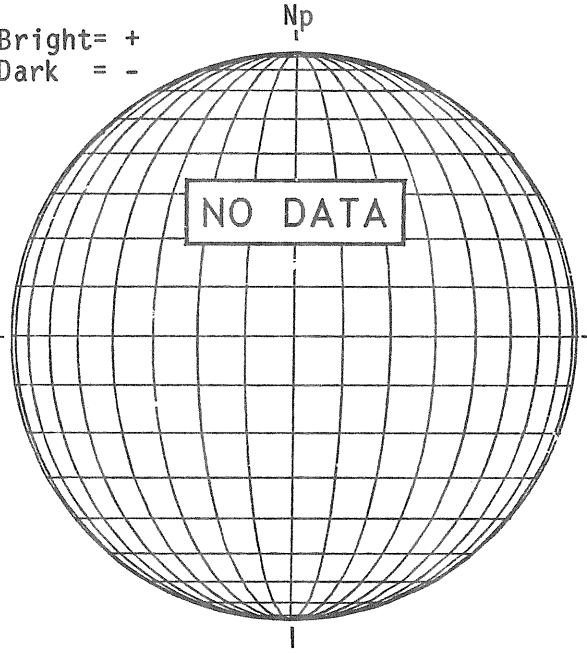
O C T O B E R 17, 1 9 8 3 (P= 26.18, B_0= 5.74, L_0= 23.48)

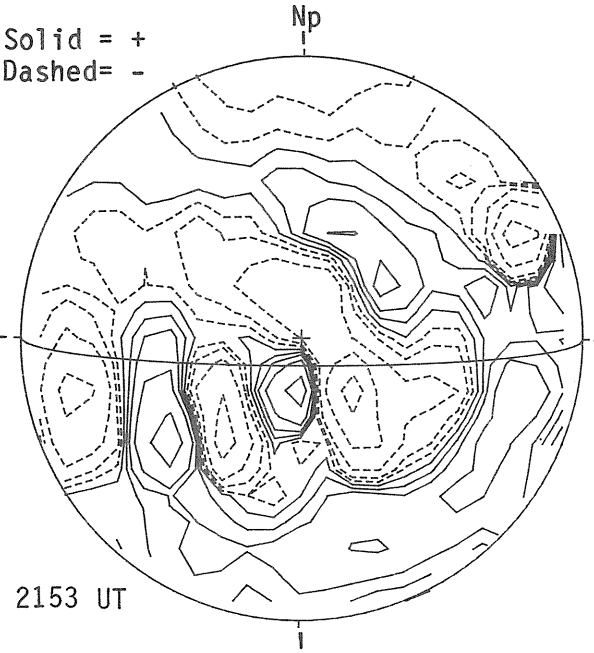
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



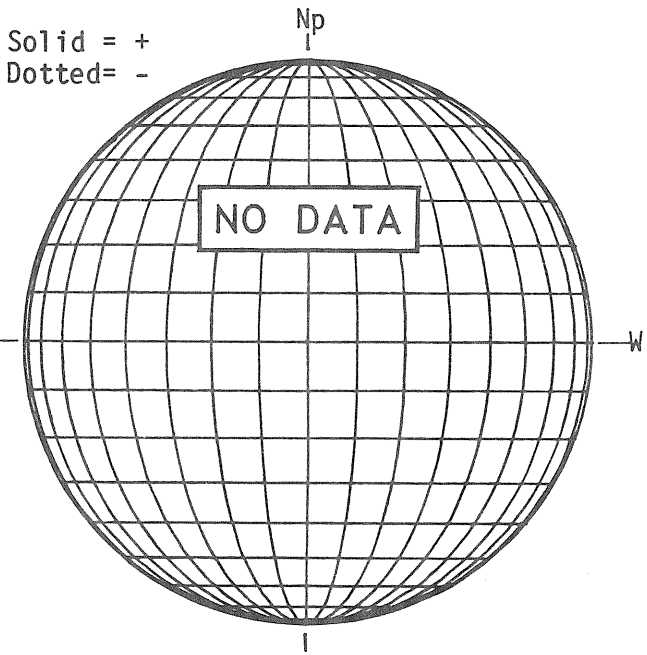
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

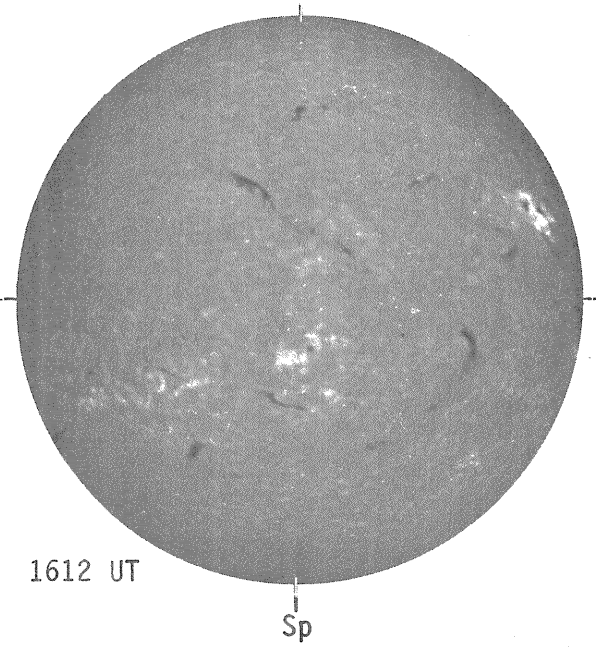


MT. WILSON MAGNETOGRAM

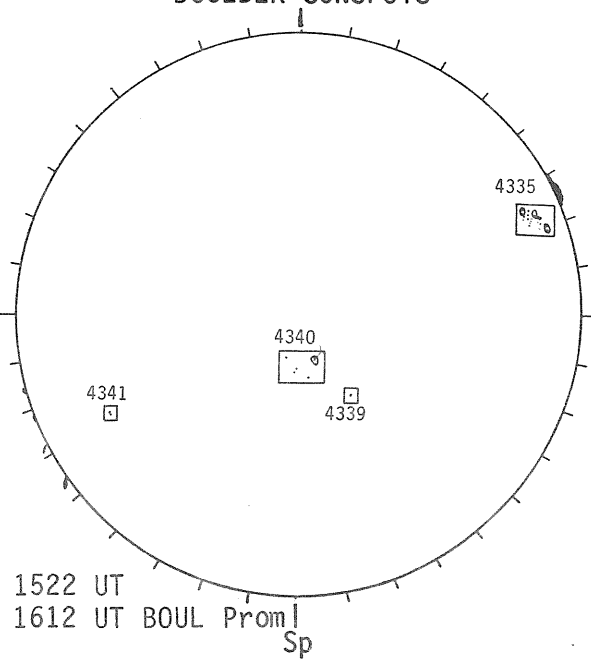
Solid = +
Dotted= -



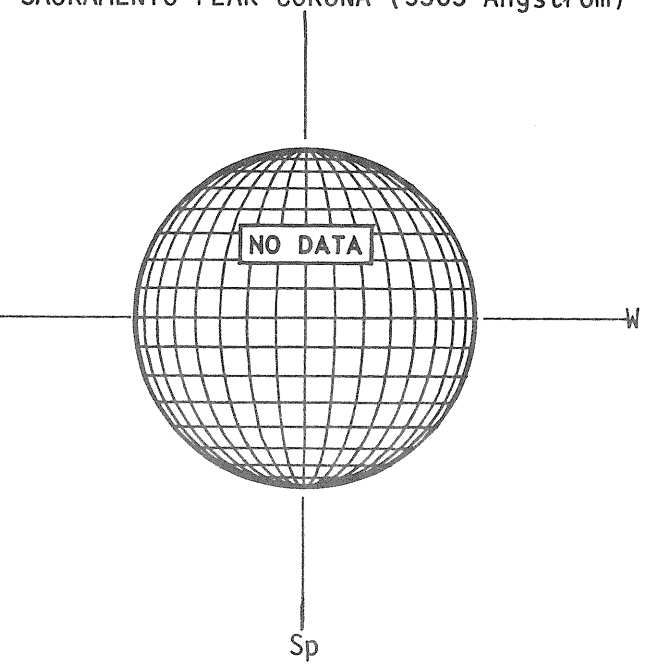
BOULDER H-ALPHA



BOULDER SUNSPOTS



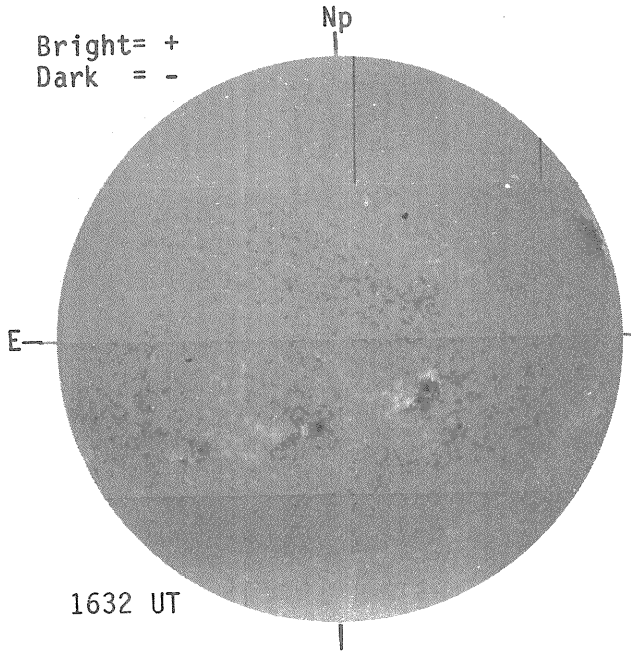
SACRAMENTO PEAK CORONA (5303 Angstrom)



O C T O B E R 18, 1 9 8 3 (P= 26.13, B_o= 5.67, L_o= 10.29)

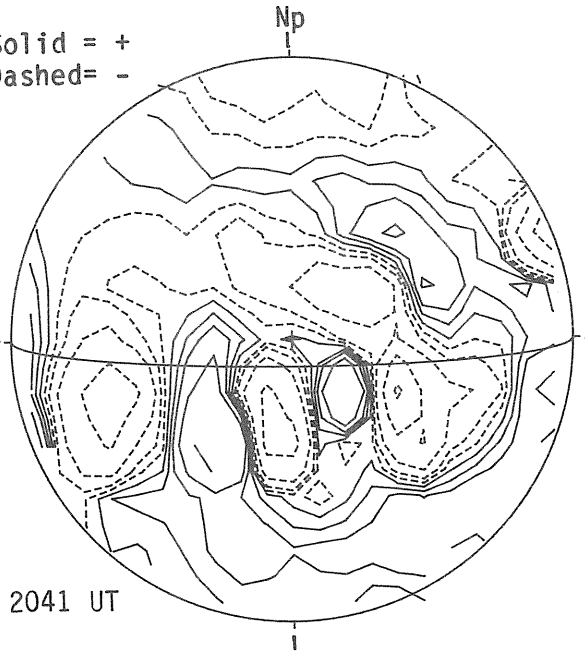
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

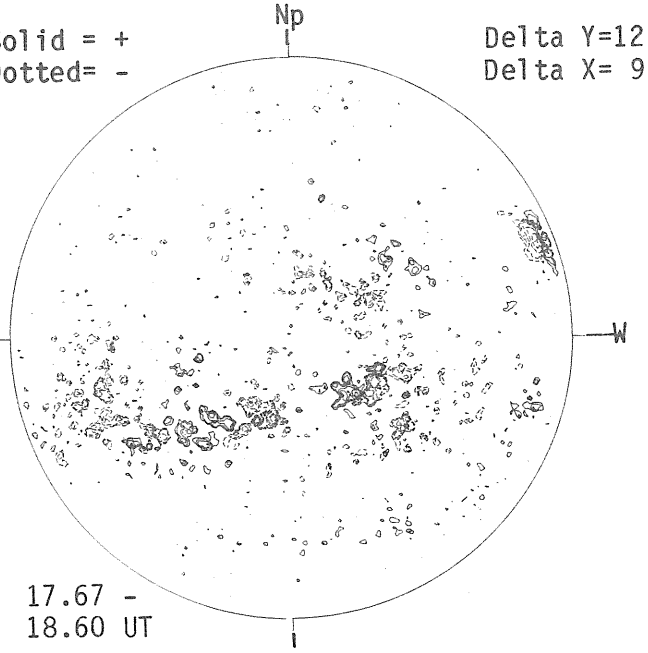
Solid = +
Dashed= -



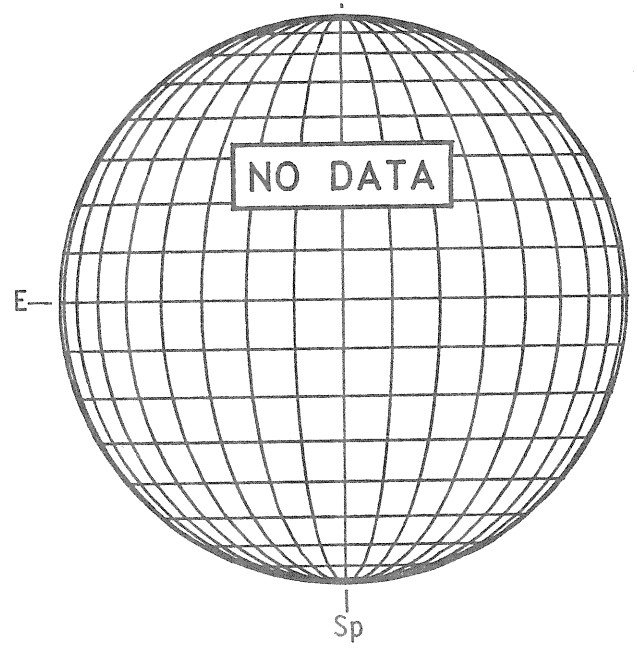
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

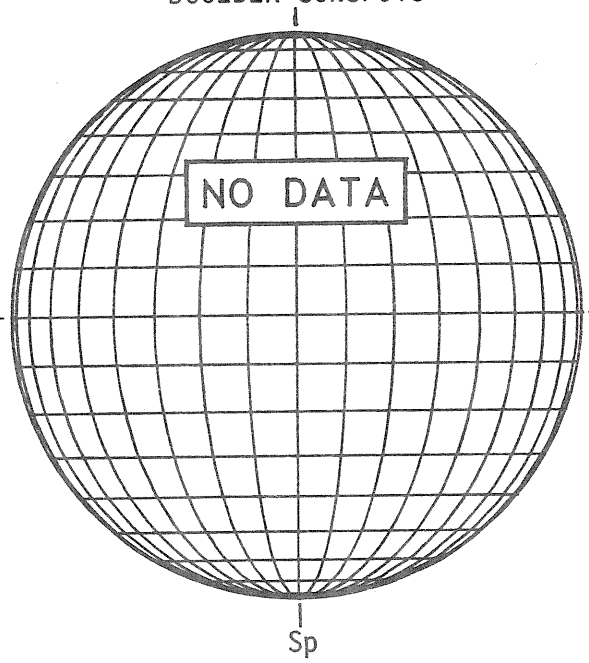
Delta Y=12.6
Delta X= 9.6



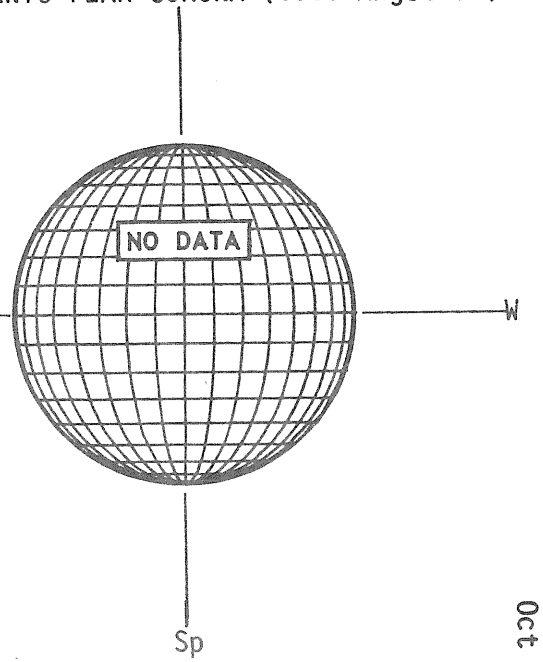
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS

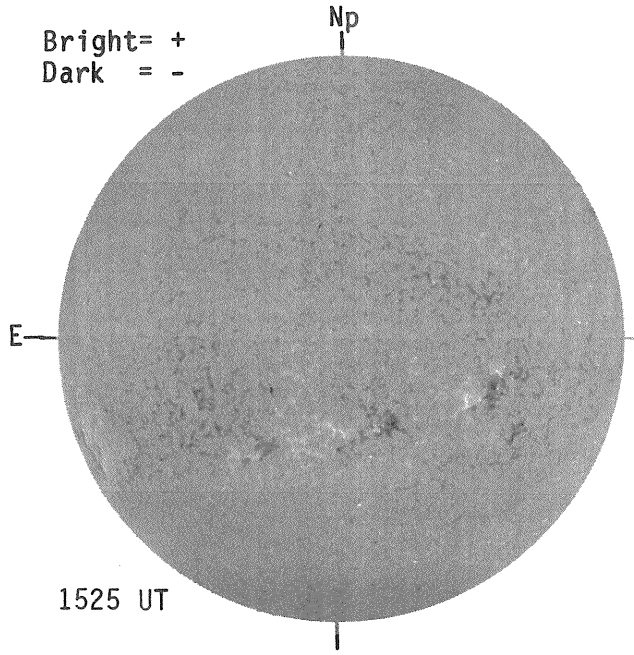


SACRAMENTO PEAK CORONA (5303 Angstrom)

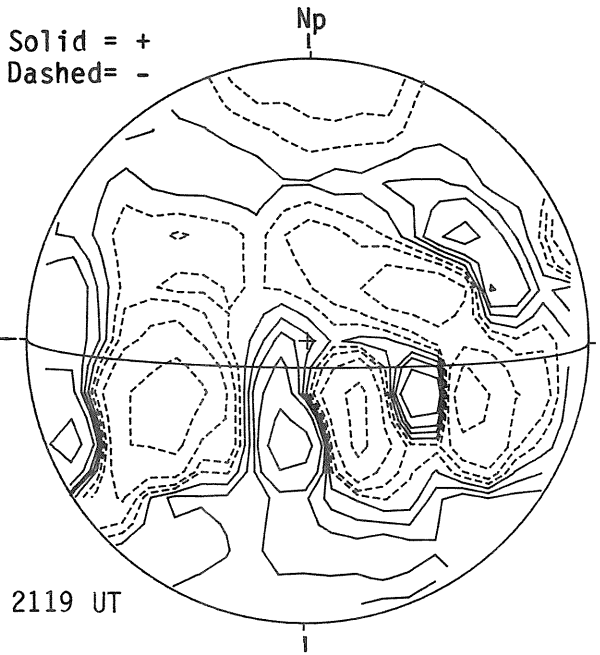


O C T O B E R 19, 1 9 8 3 (P= 26.08, B_0= 5.59, L_0= 357.10)

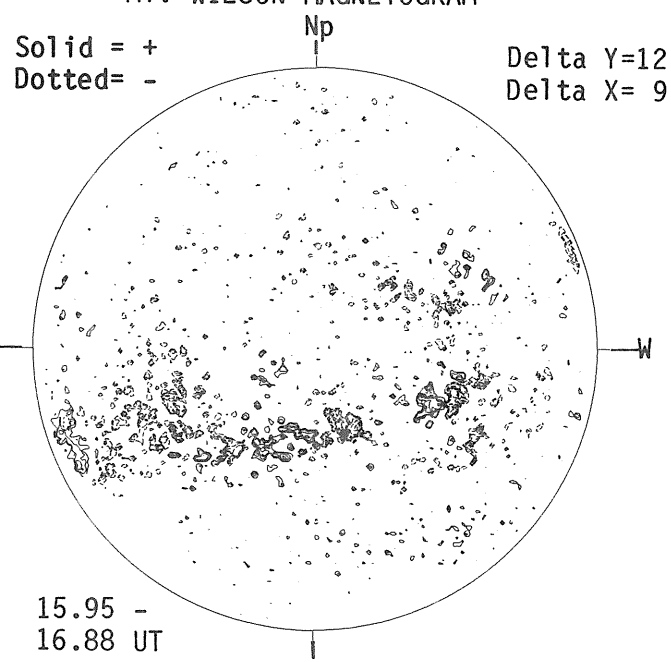
KITT PEAK MAGNETOGRAM



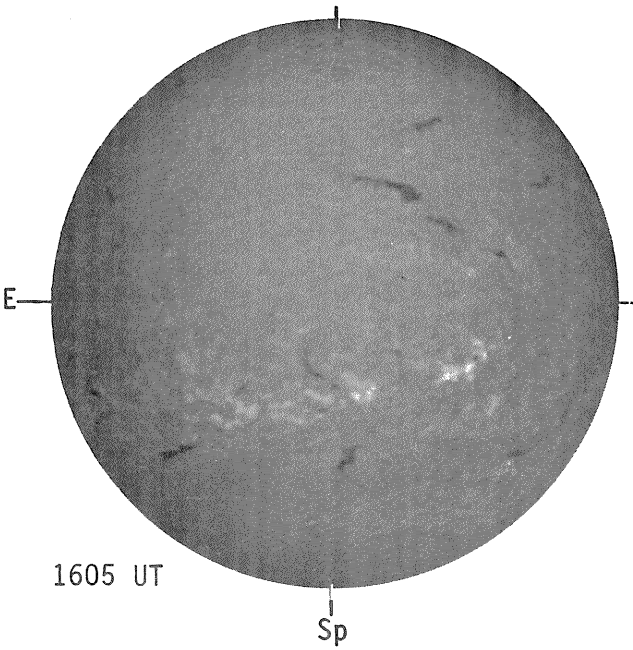
STANFORD MAGNETOGRAM



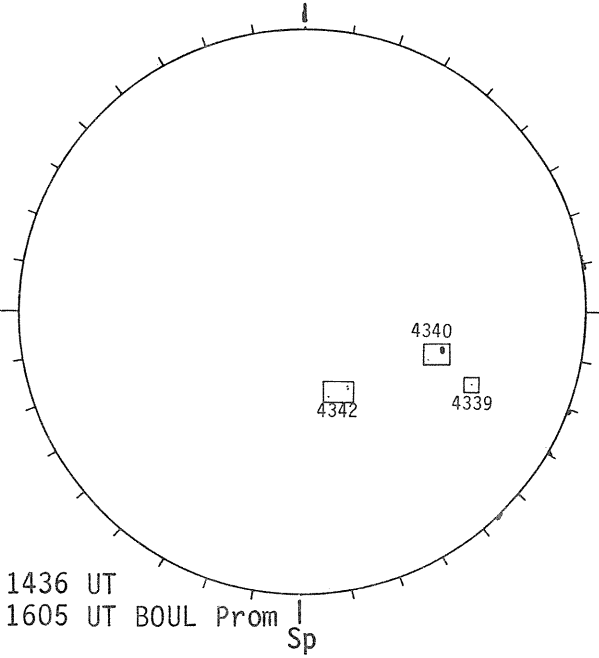
MT. WILSON MAGNETOGRAM



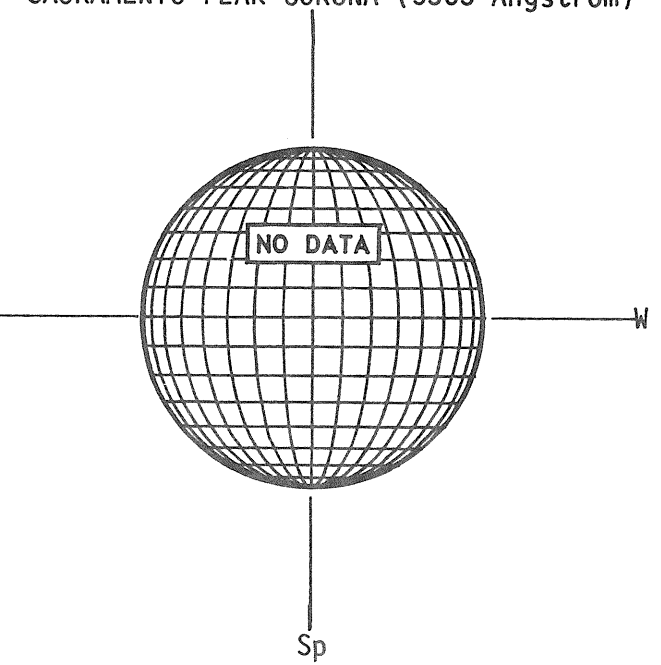
BOULDER H-ALPHA



BOULDER SUNSPOTS

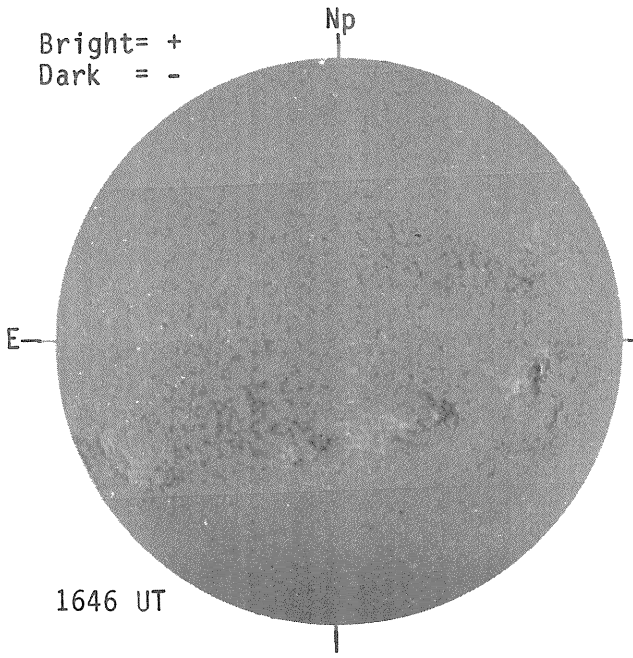


SACRAMENTO PEAK CORONA (5303 Angstrom)

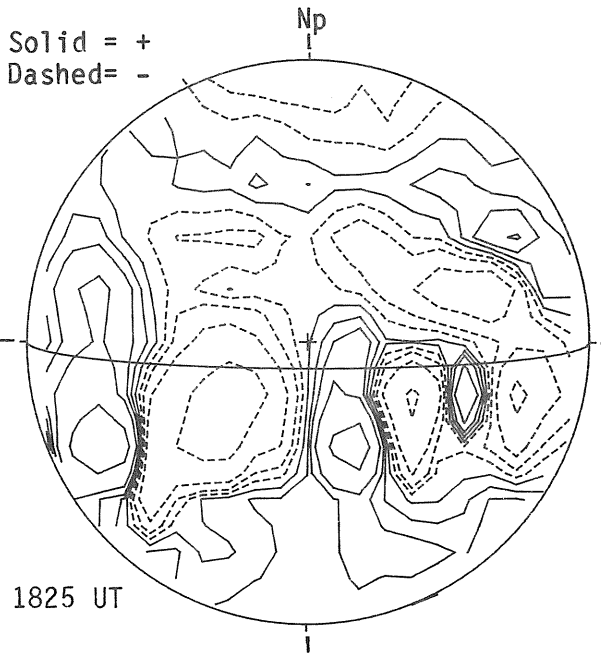


O C T O B E R 20, 1 9 8 3 (P= 26.01, B_0= 5.51, L_0= 343.91)

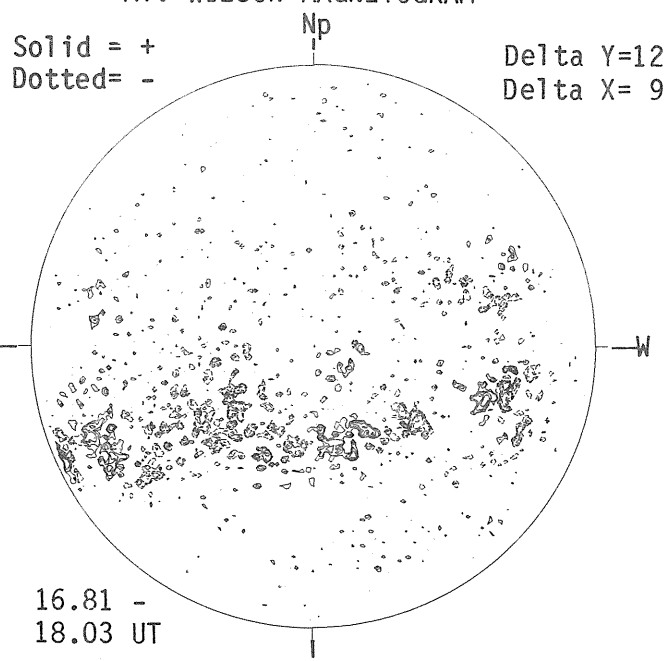
KITT PEAK MAGNETOGRAM



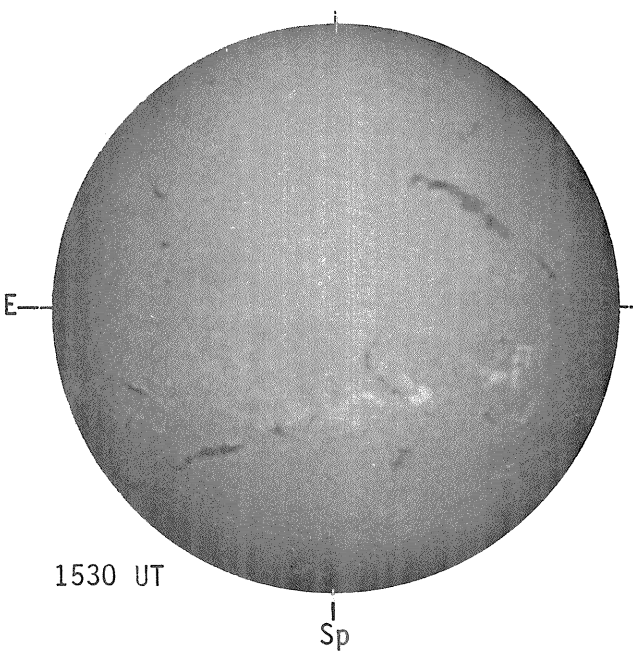
STANFORD MAGNETOGRAM



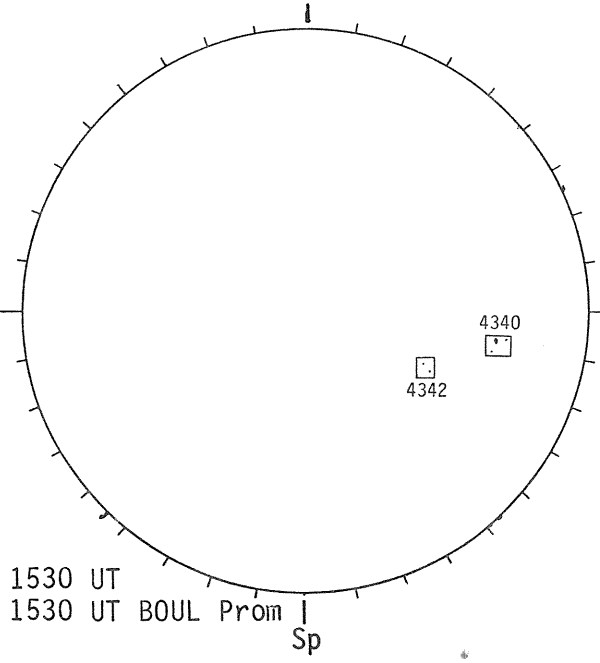
MT. WILSON MAGNETOGRAM



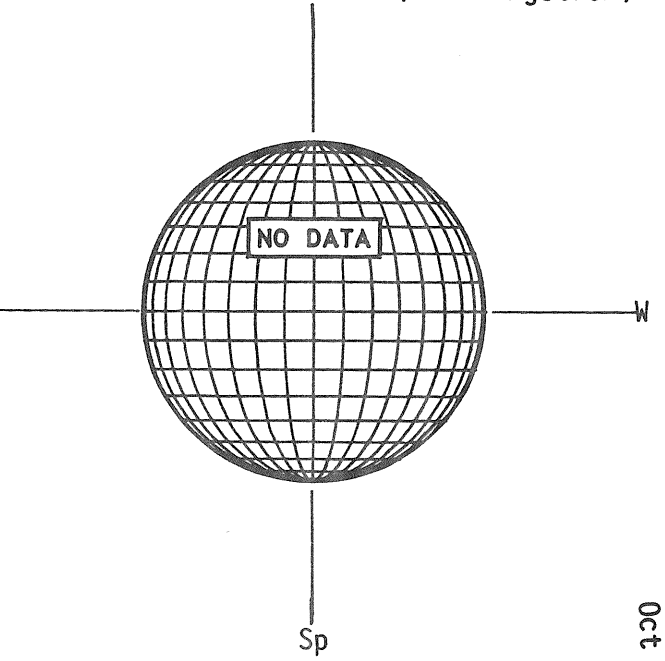
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



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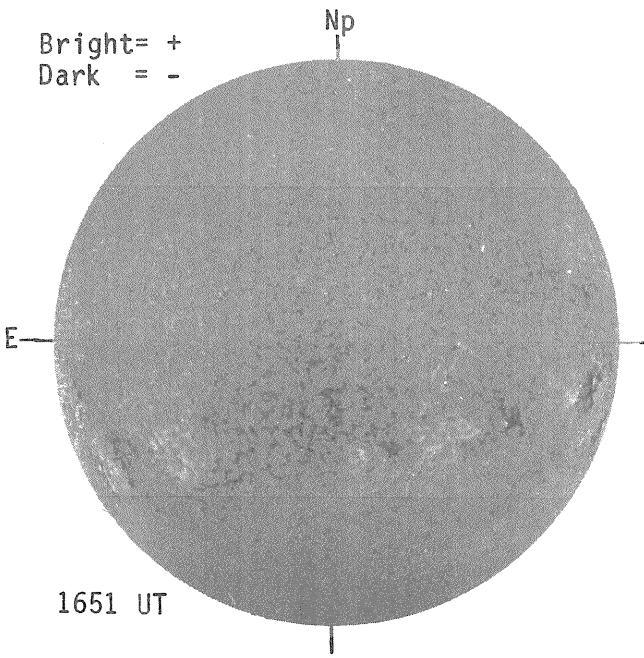
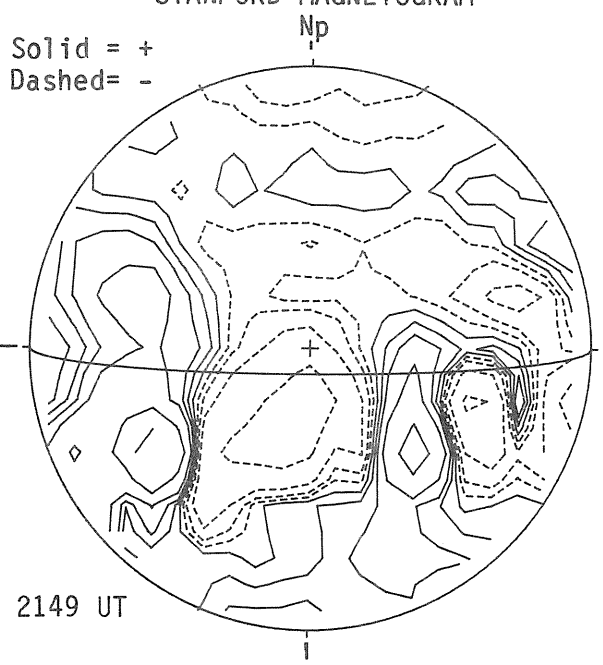
O C T O B E R 21, 1 9 8 3 (P= 25.94, B_o= 5.42, L_o= 330.72)

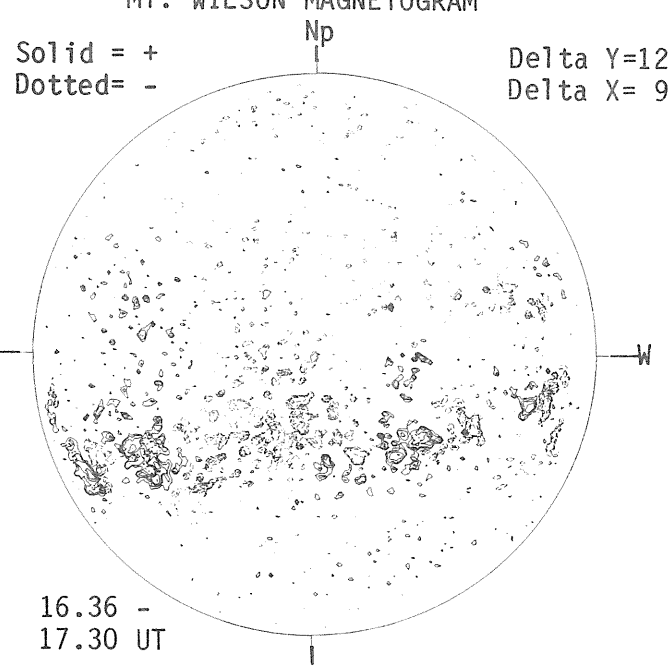
KITT PEAK MAGNETOGRAM



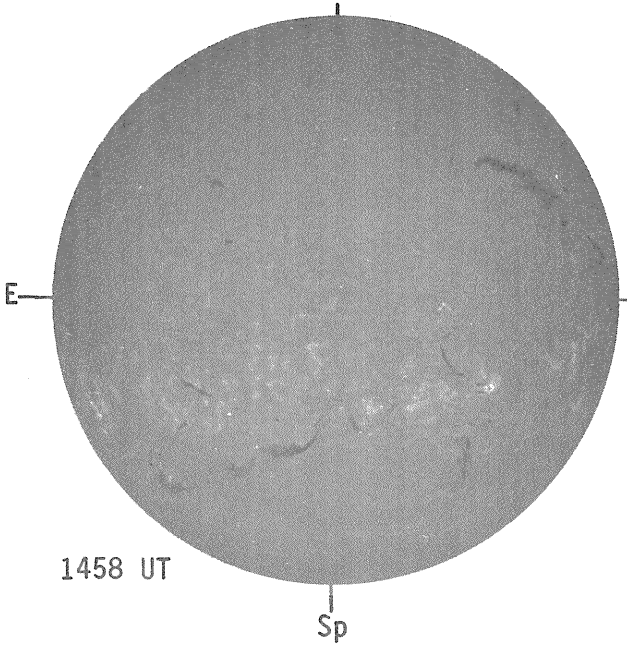
STANFORD MAGNETOGRAM



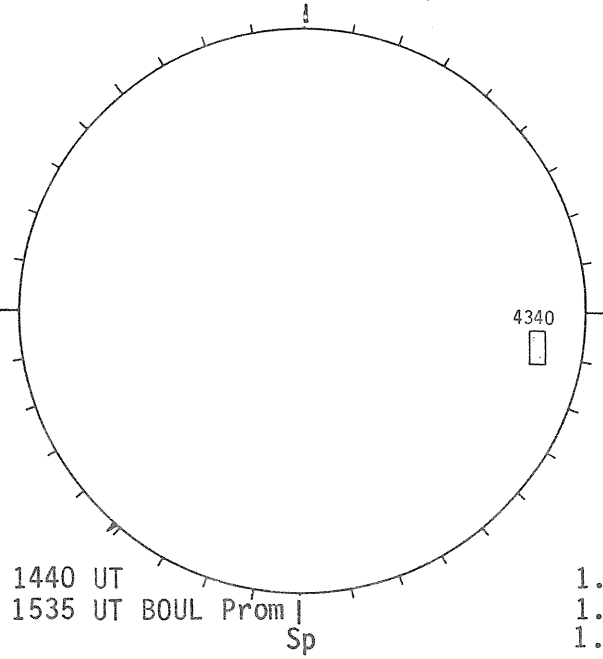
MT. WILSON MAGNETOGRAM



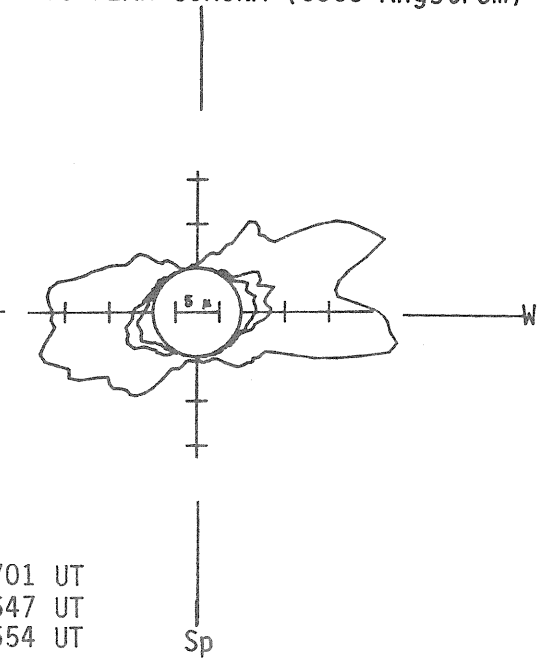
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



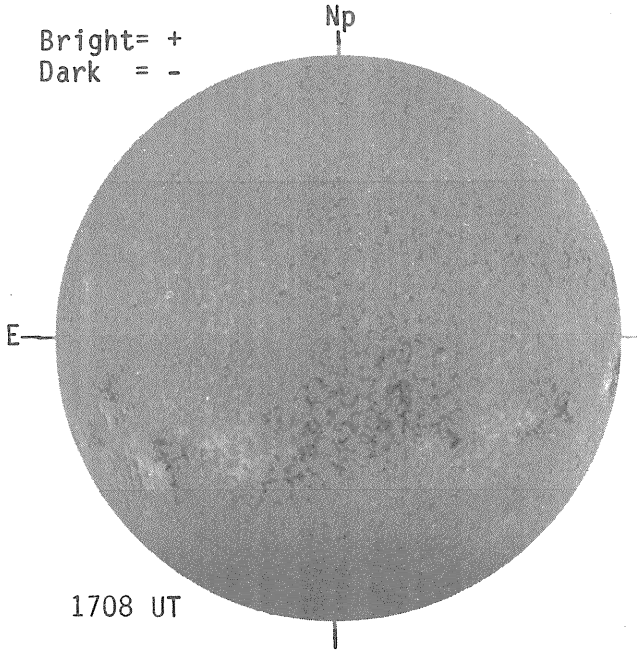
SACRAMENTO PEAK CORONA (5303 Angstrom)



O C T O B E R 22, 1 9 8 3 (P= 25.86, B_0= 5.34, L_0= 317.53)

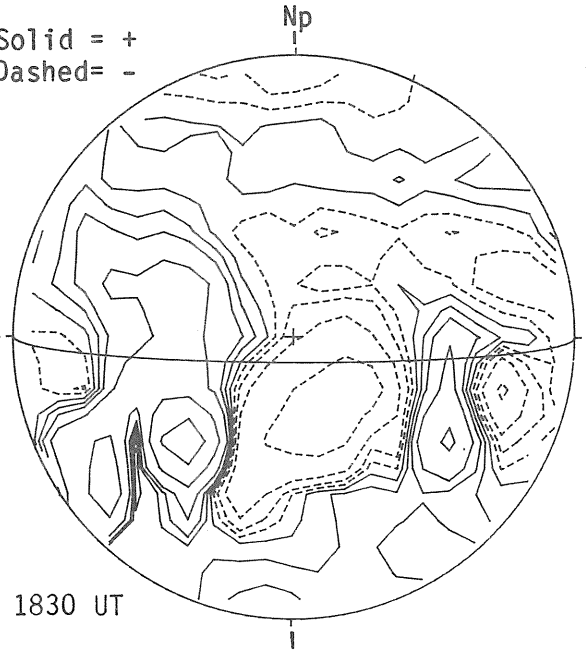
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

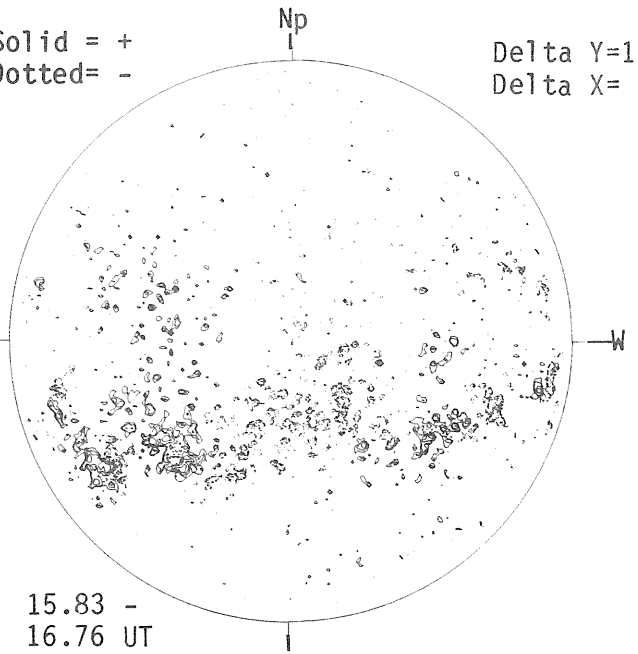
Solid = +
Dashed= -



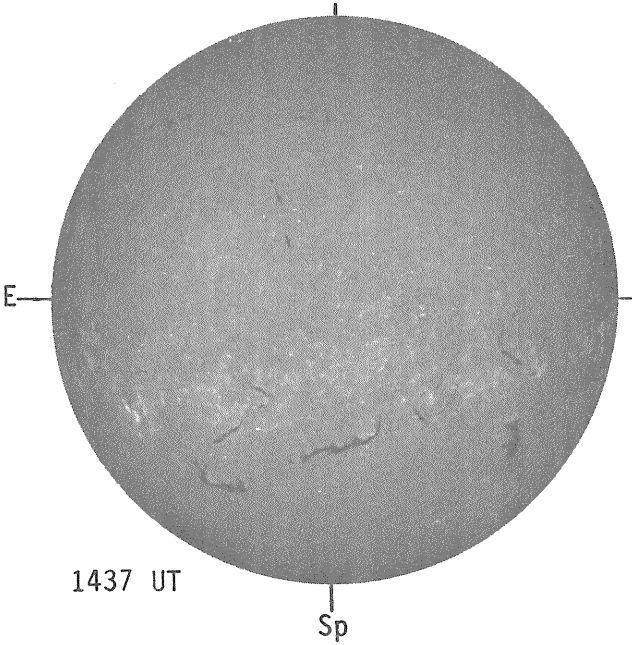
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

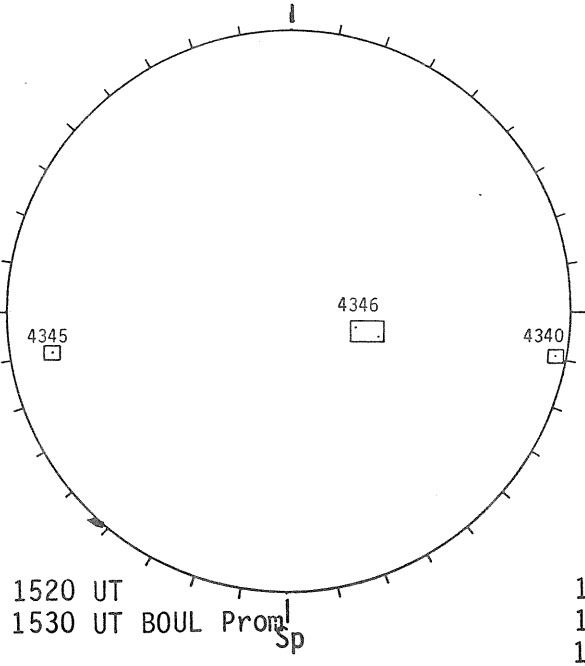
Delta Y=12.6
Delta X= 9.6



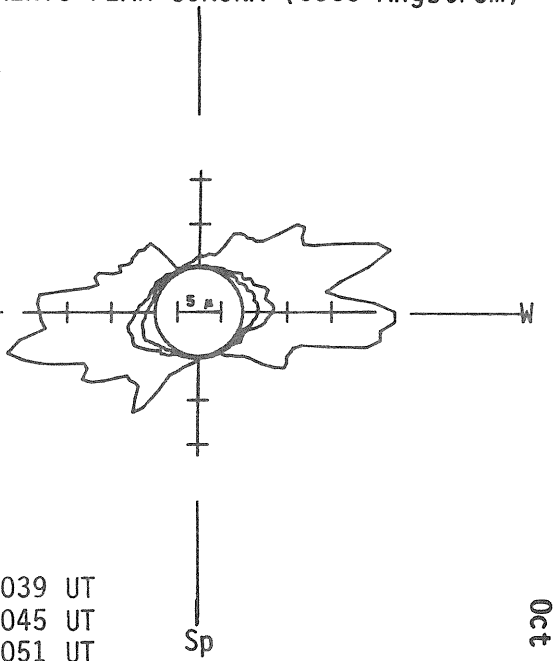
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



1.15 R_o 2039 UT
1.35 R_o 2045 UT
1.45 R_o 2051 UT

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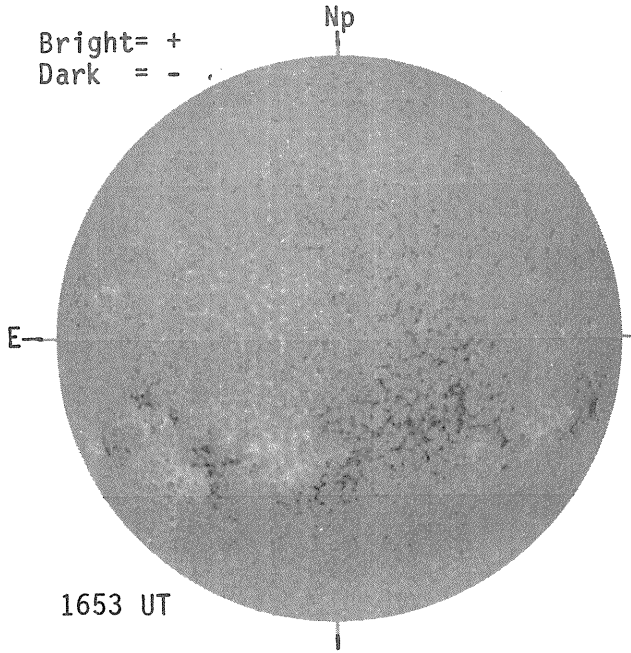
O C T O B E R 23, 1 9 8 3 (P= 25.77, B_0= 5.25, L_0= 304.34)

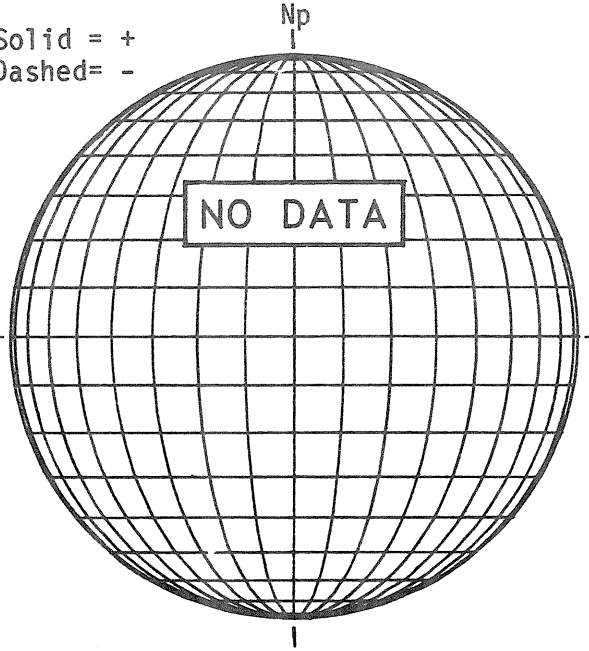
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

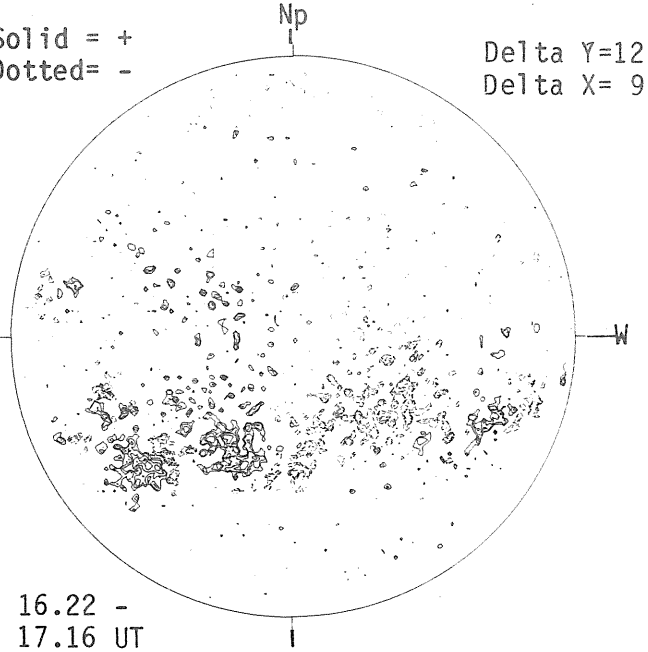
Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

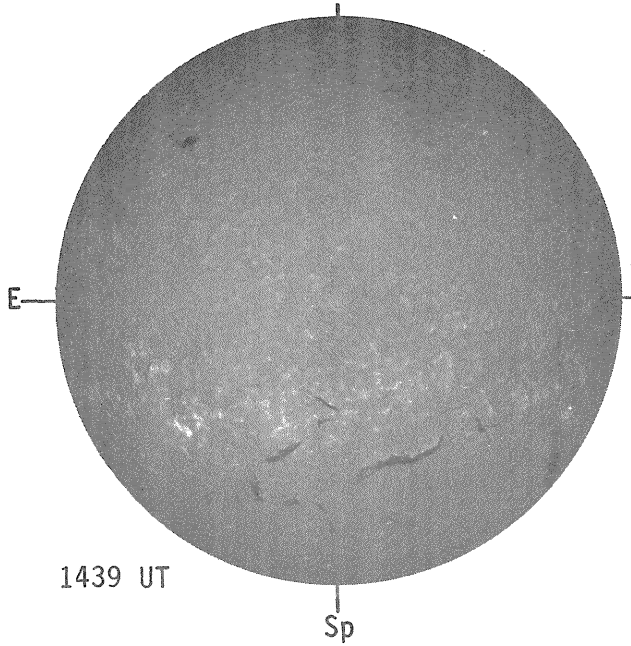
Solid = +
Dotted= -

Delta Y=12.7
Delta X= 9.6

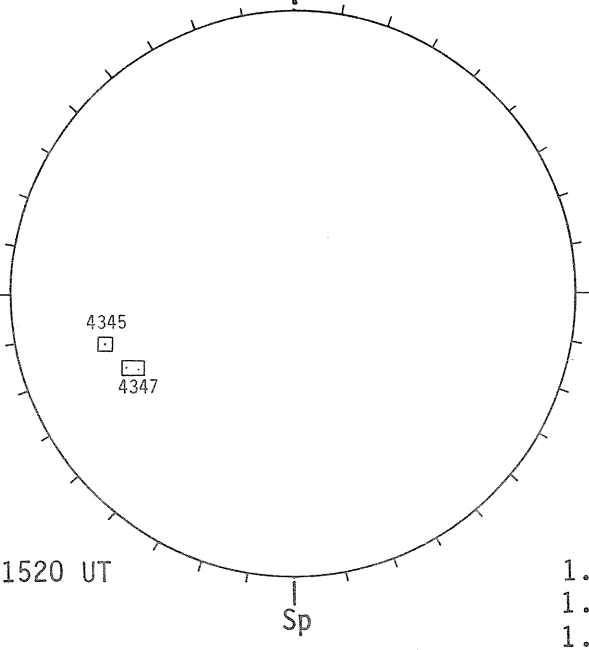


16.22 -
17.16 UT

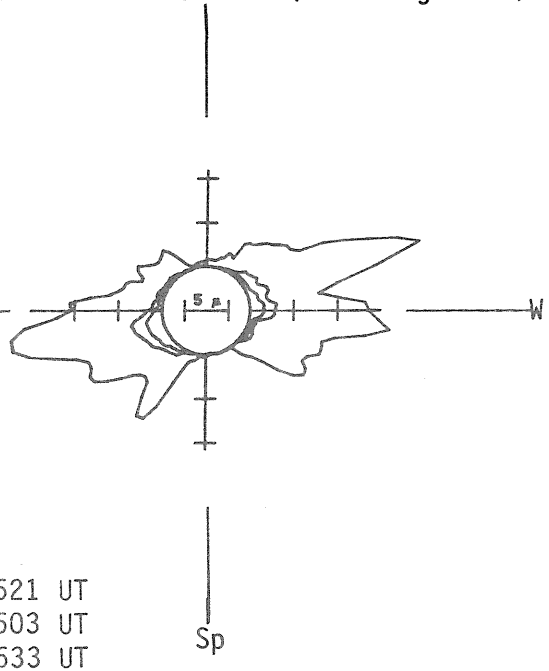
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

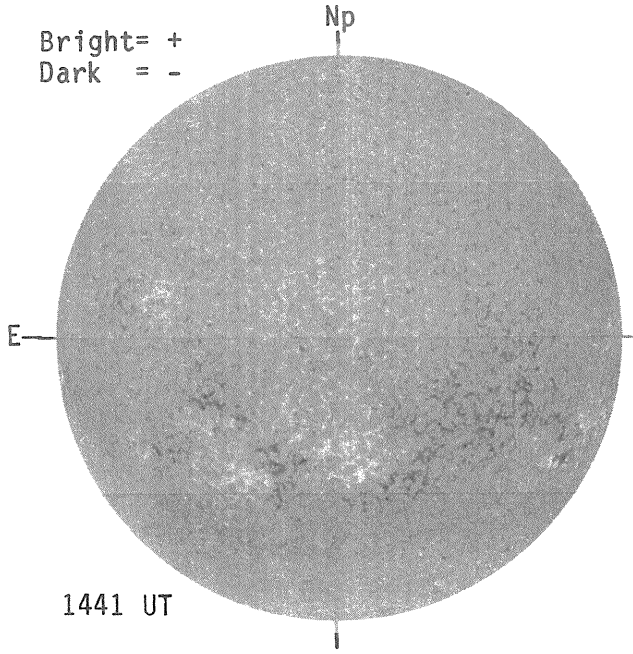


1.15 R_O 1621 UT
1.35 R_O 1603 UT
1.45 R_O 1633 UT

O C T O B E R 24, 1 9 8 3 (P= 25.67, B_o= 5.17, L_o= 291.15)

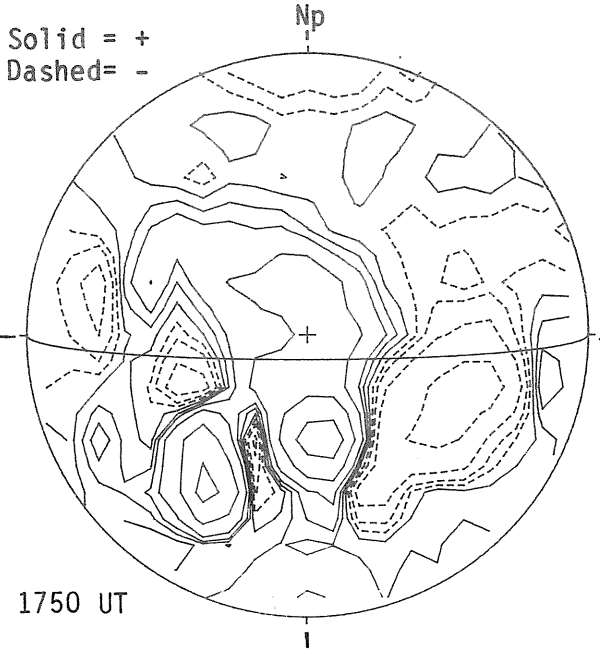
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

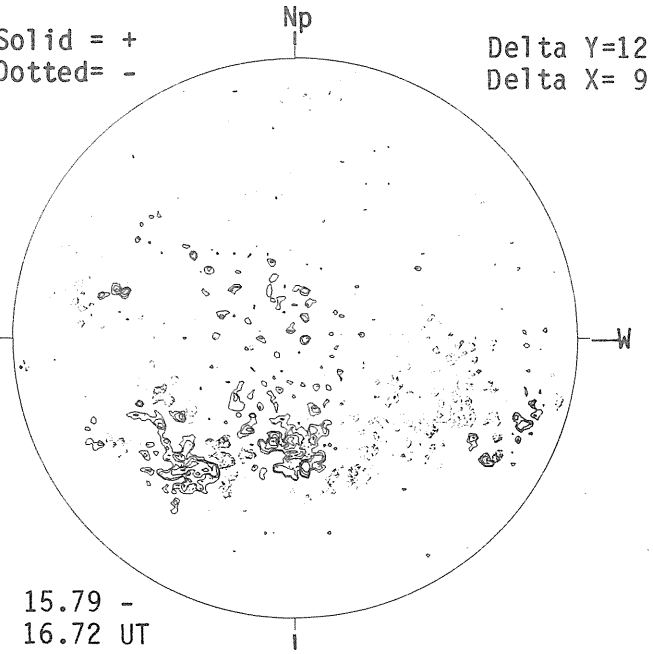
Solid = +
Dashed= -



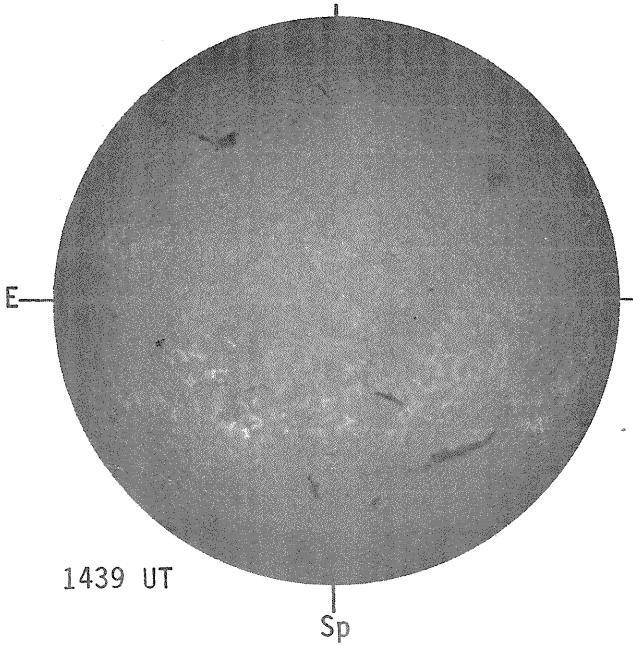
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

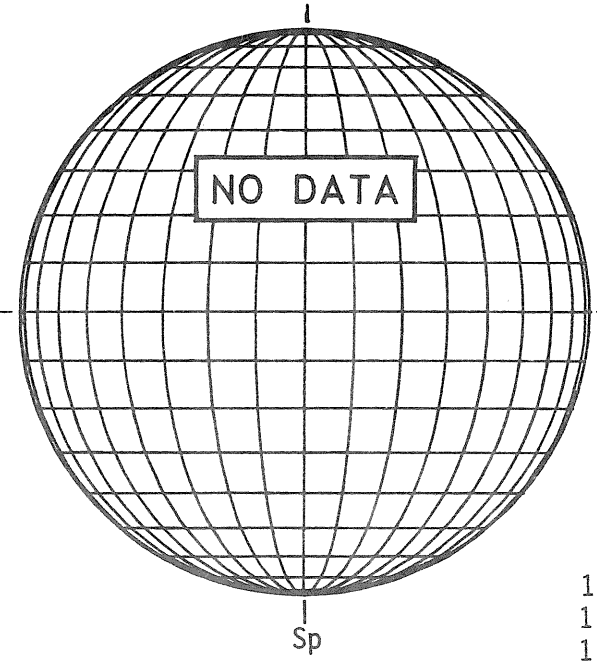
Delta Y=12.7
Delta X= 9.6



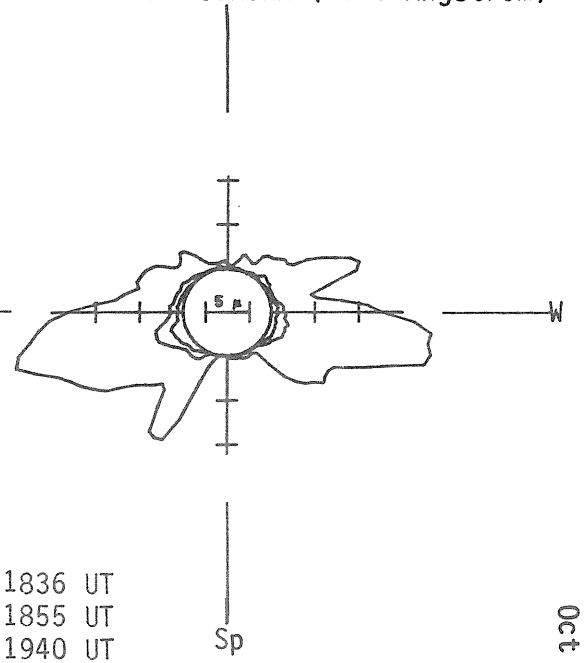
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



1.15 R_o 1836 UT
1.35 R_o 1855 UT
1.45 R_o 1940 UT

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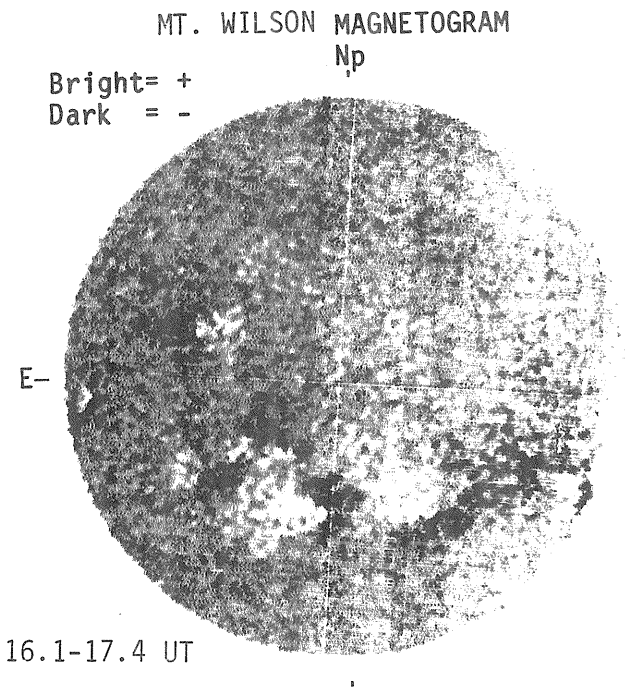
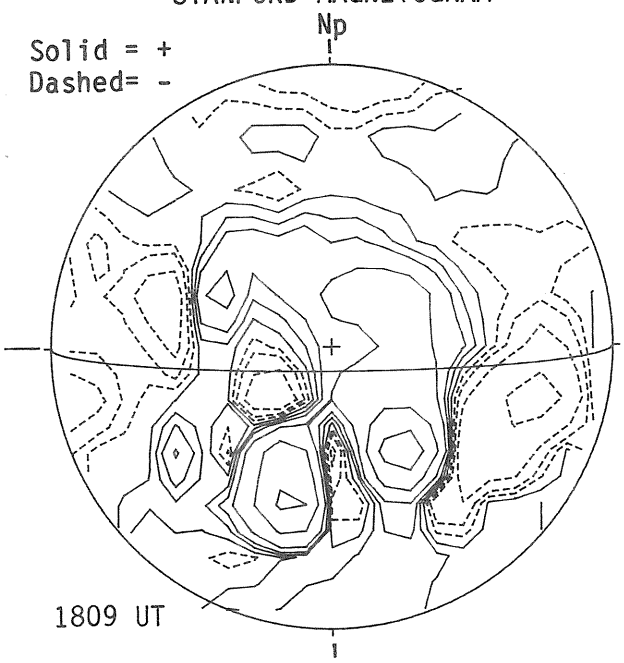
O C T O B E R 25, 1 9 8 3 (P= 25.57, B_o= 5.08, L_o= 277.96)

MT. WILSON MAGNETOGRAM



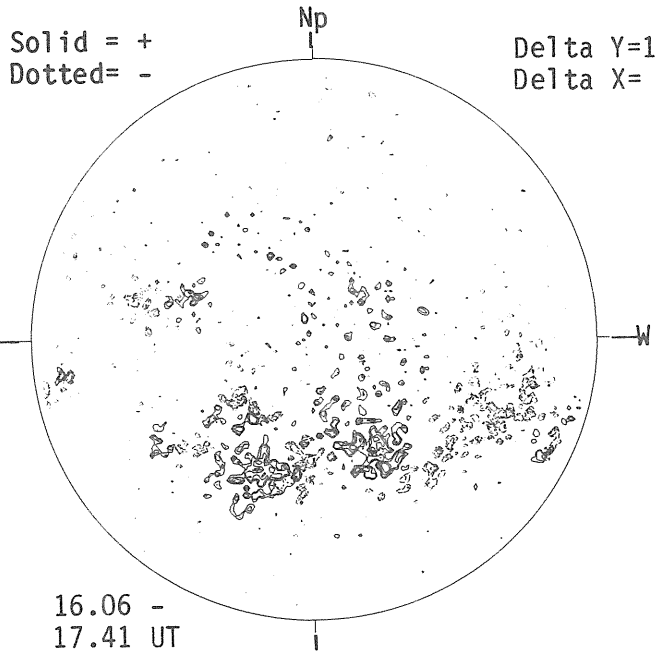
16.1-17.4 UT

STANFORD MAGNETOGRAM



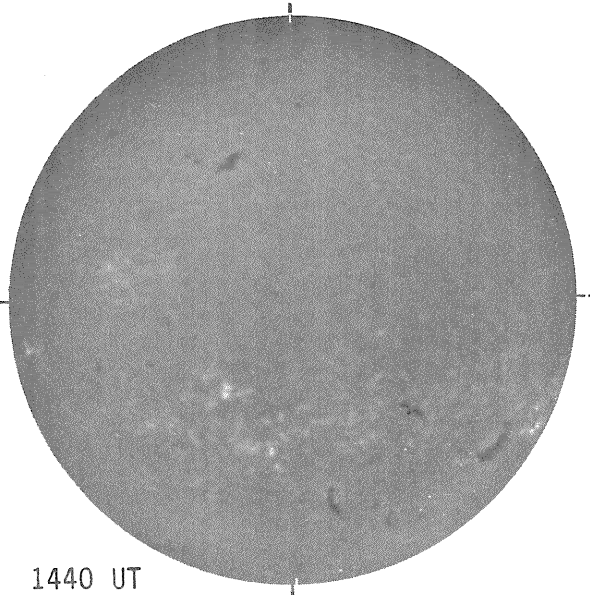
1809 UT

MT. WILSON MAGNETOGRAM



16.06 -
17.41 UT

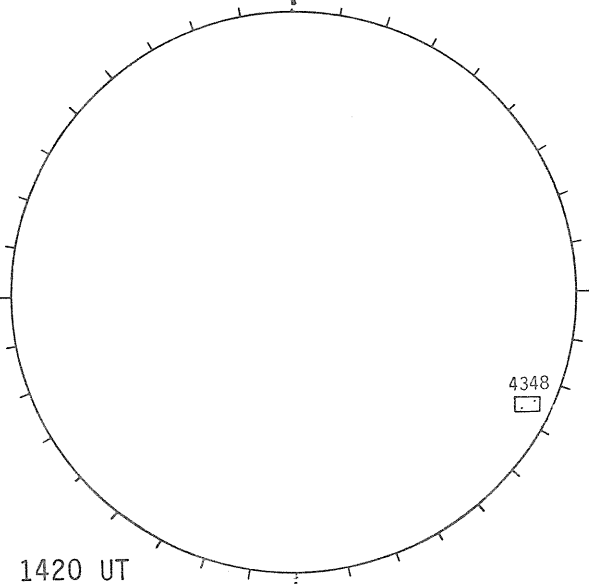
BOULDER H-ALPHA



1440 UT

Sp

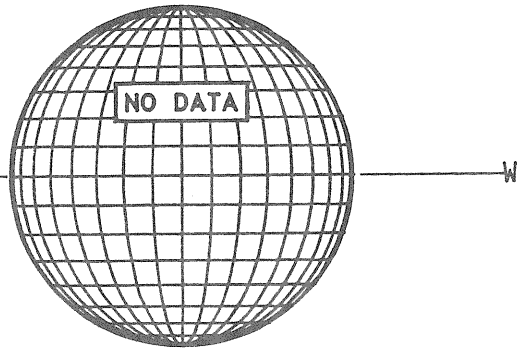
BOULDER SUNSPOTS



1420 UT
1440 UT BOUL Prom

Sp

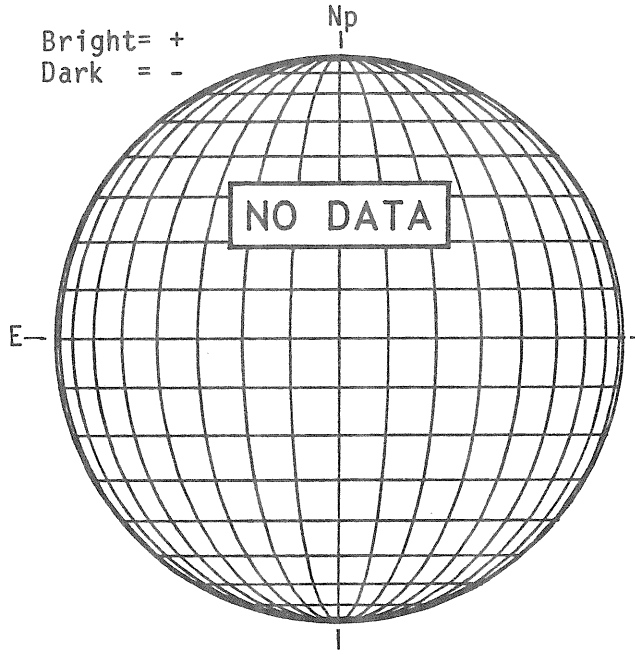
SACRAMENTO PEAK CORONA (5303 Angstrom)



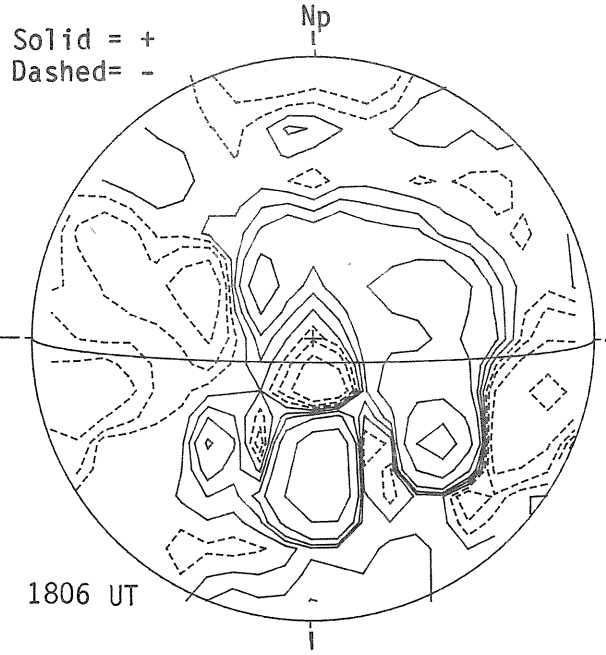
Sp

O C T O B E R 26, 1 9 8 3 (P= 25.46, B_0= 4.99, L_0= 264.77)

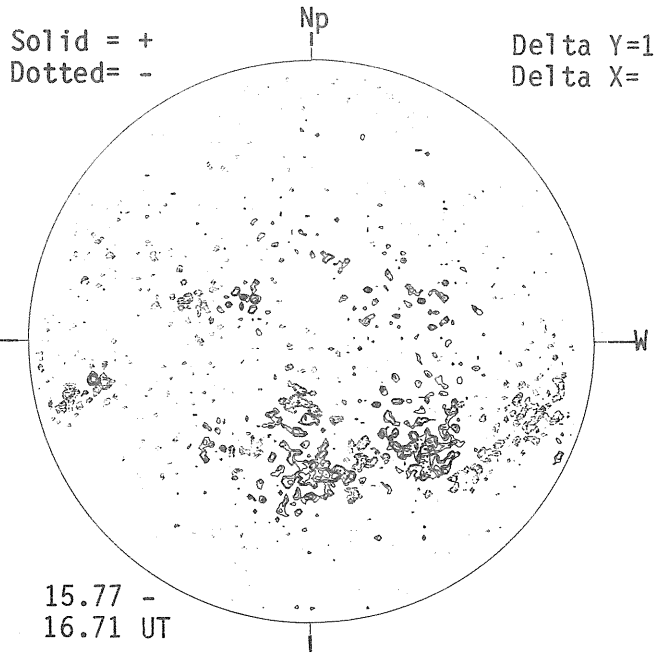
KITT PEAK MAGNETOGRAM



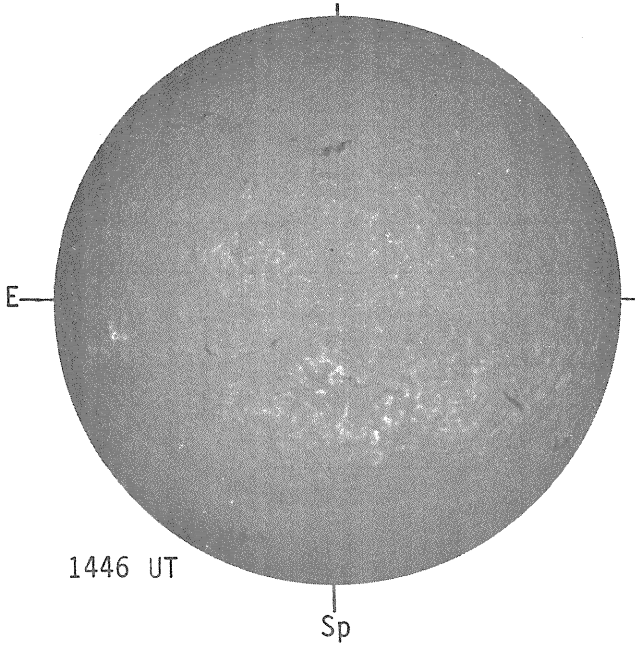
STANFORD MAGNETOGRAM



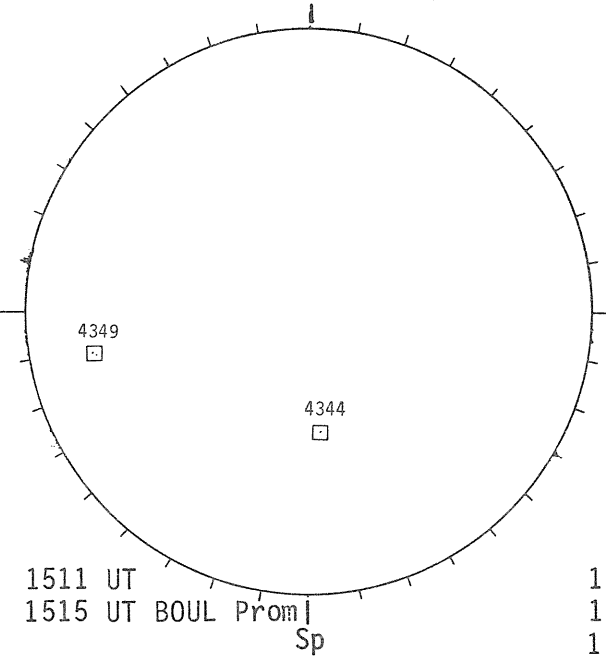
MT. WILSON MAGNETOGRAM



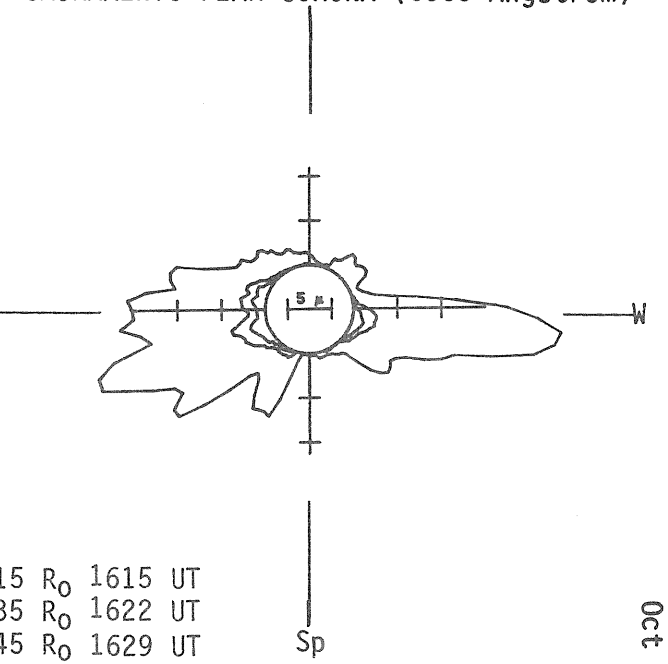
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



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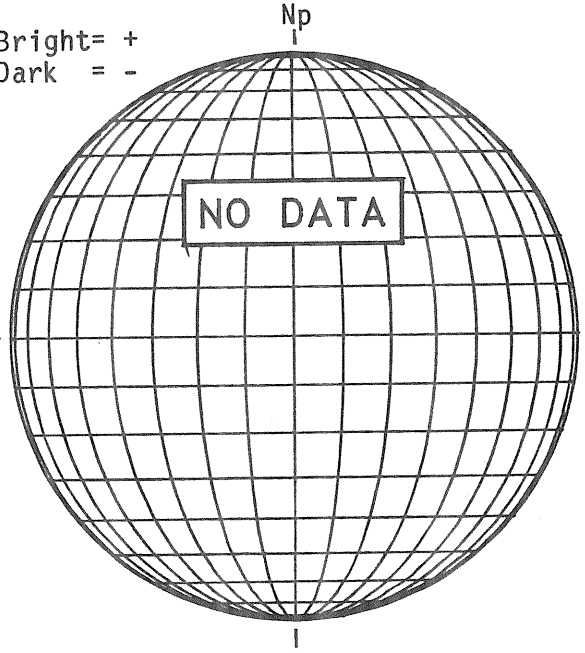
O C T O B E R 27, 1 9 8 3 (P= 25.34, B_0= 4.89, L_0= 251.58)

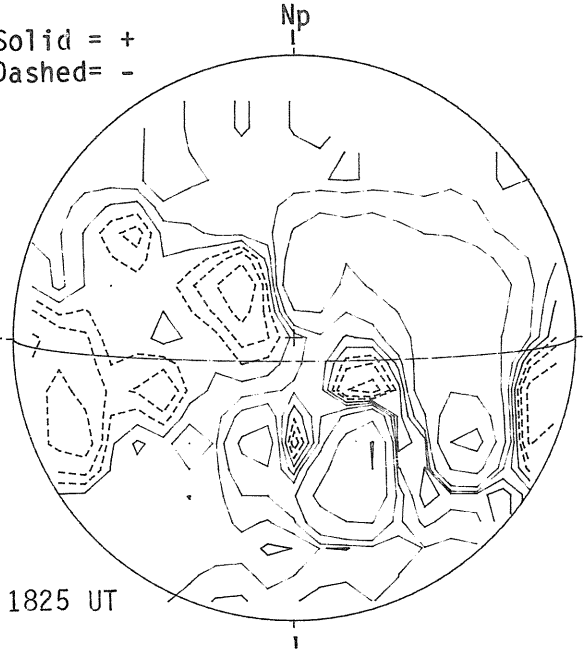
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

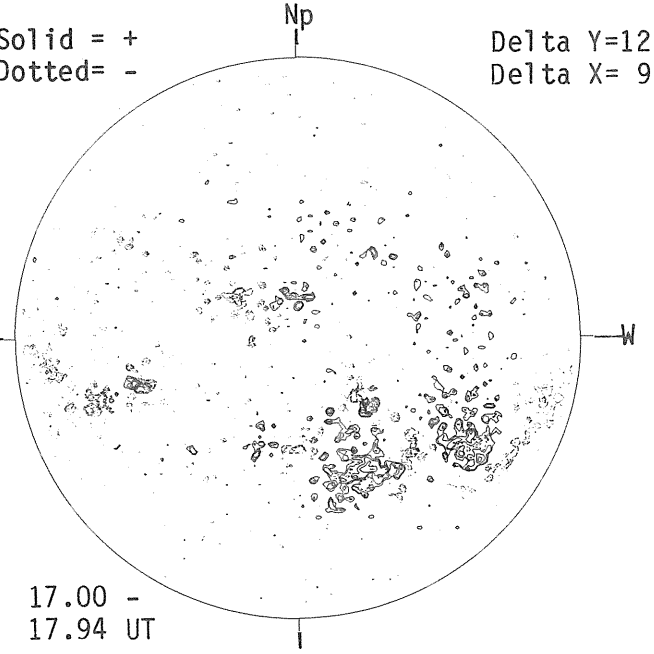
Solid = +
Dashed= -



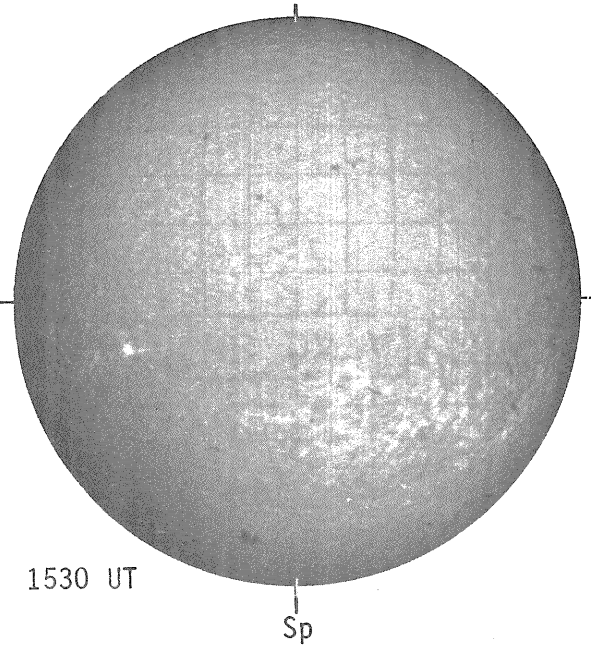
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

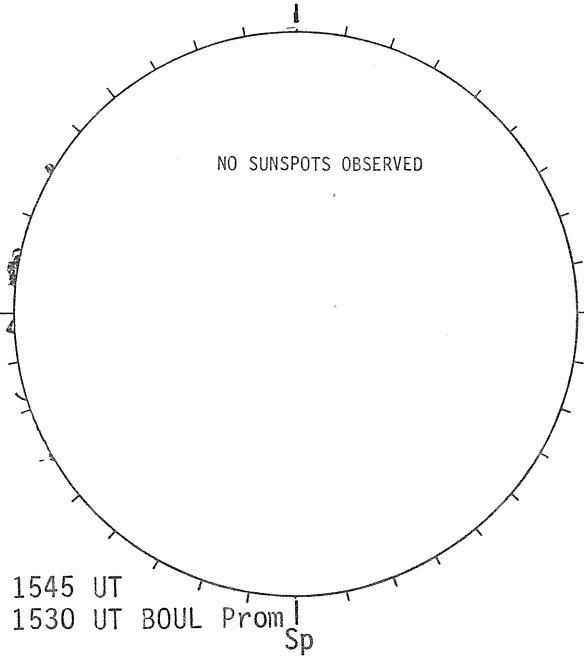
Delta Y=12.6
Delta X= 9.6



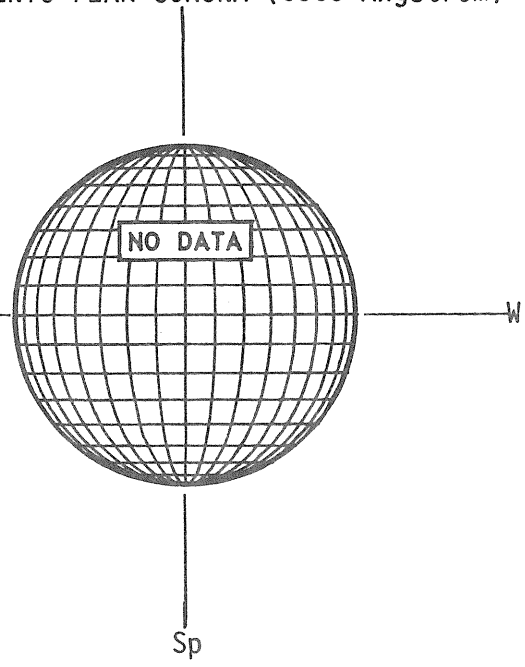
BOULDER H-ALPHA



BOULDER SUNSPOTS



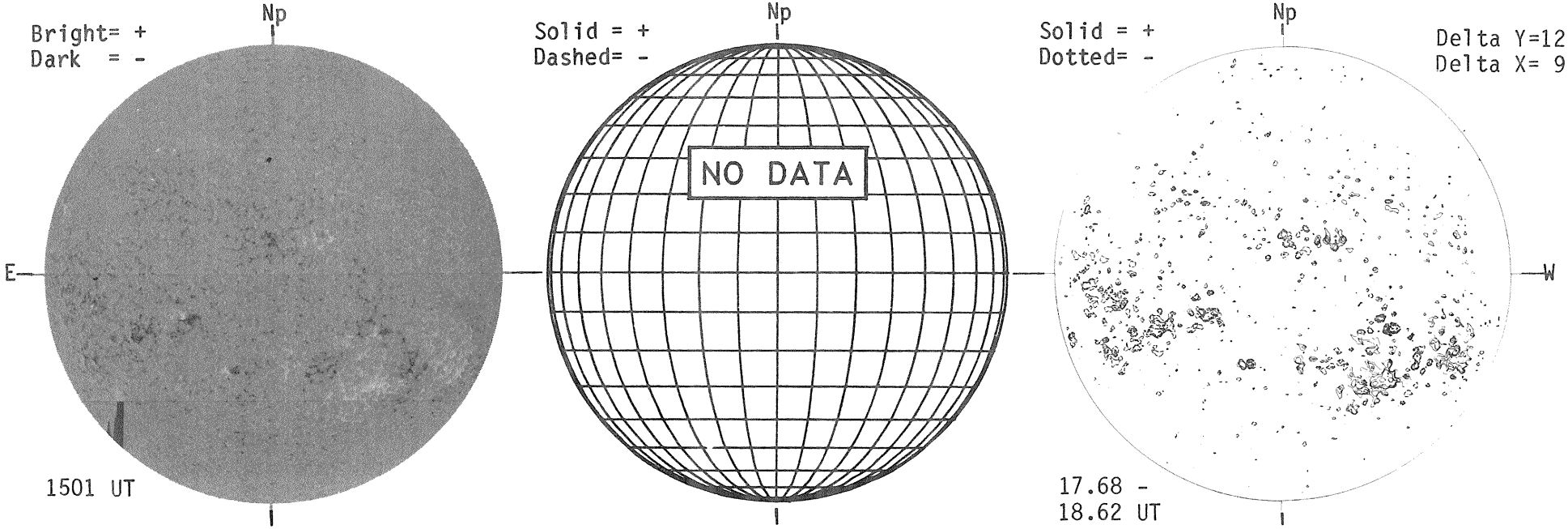
SACRAMENTO PEAK CORONA (5303 Angstrom)



O C T O B E R 28, 1 9 8 3 (P= 25.21, B_0= 4.80, L_0= 238.40)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



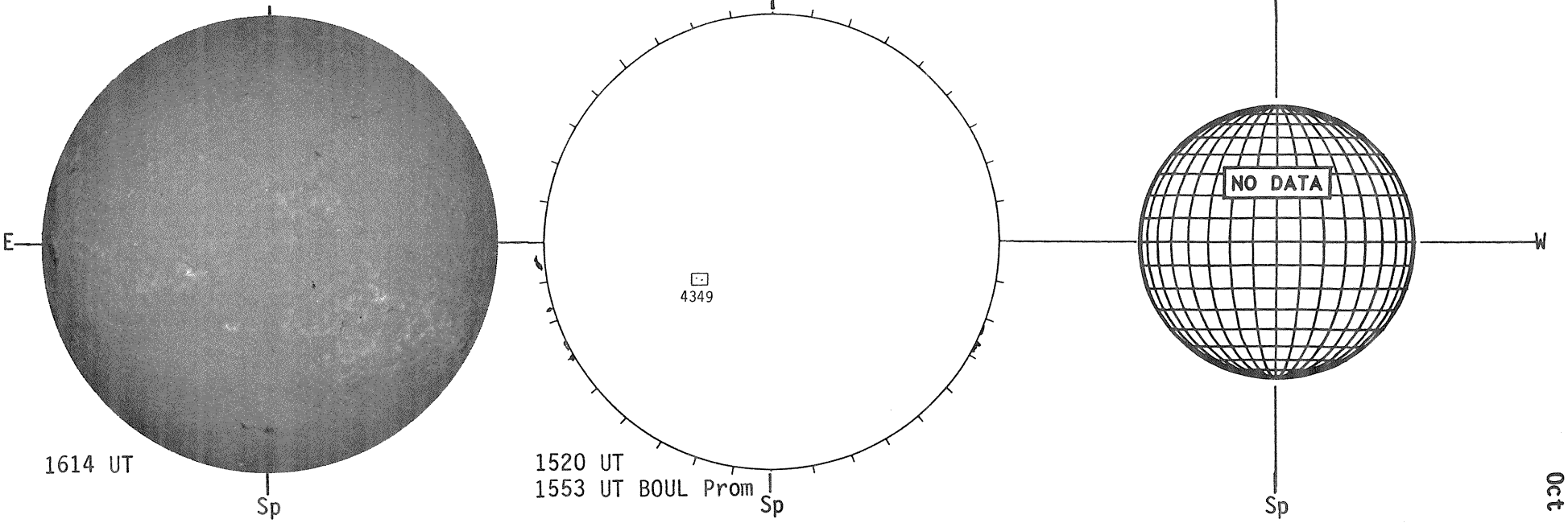
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -
Delta Y=12.6
Delta X= 9.6

SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS

SACRAMENTO PEAK CORONA (5303 Angstrom)

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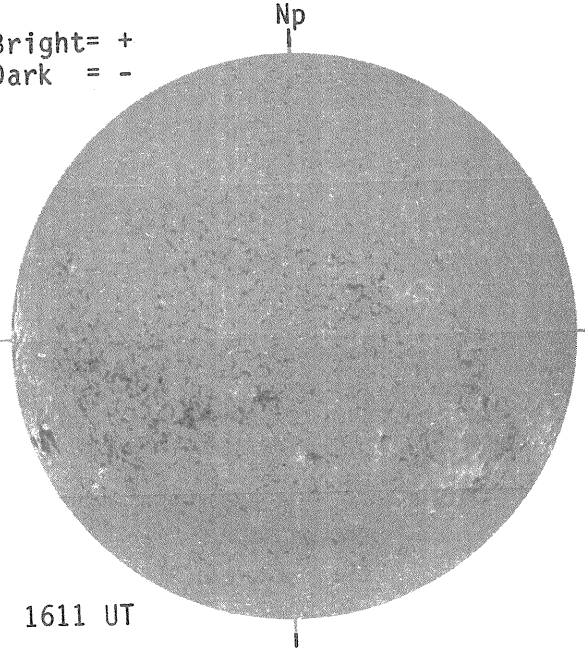
O C T O B E R 29, 1 9 8 3 (P= 25.08, B_o= 4.71, L_o= 225.21)

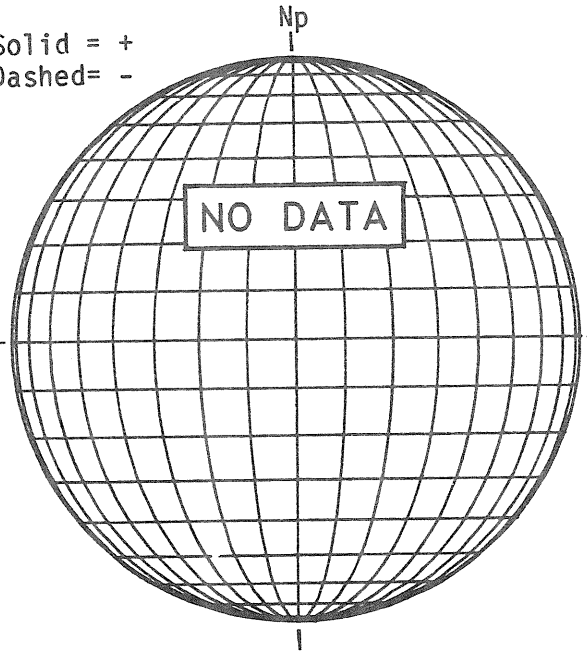
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



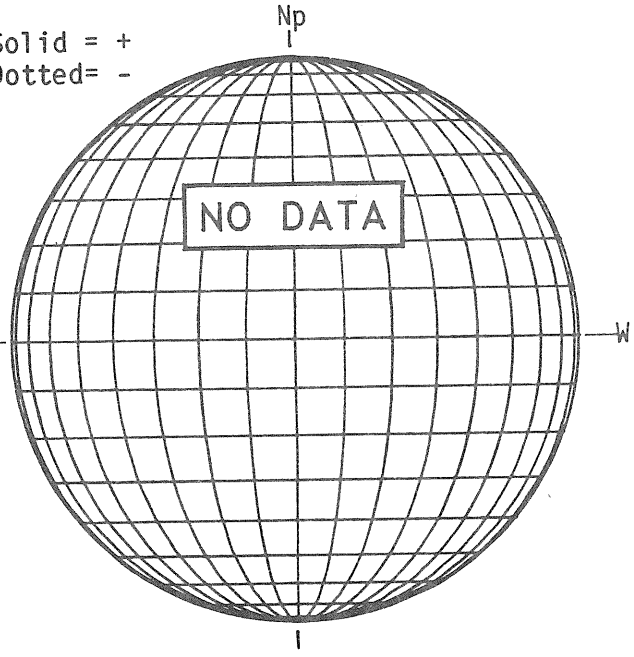
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

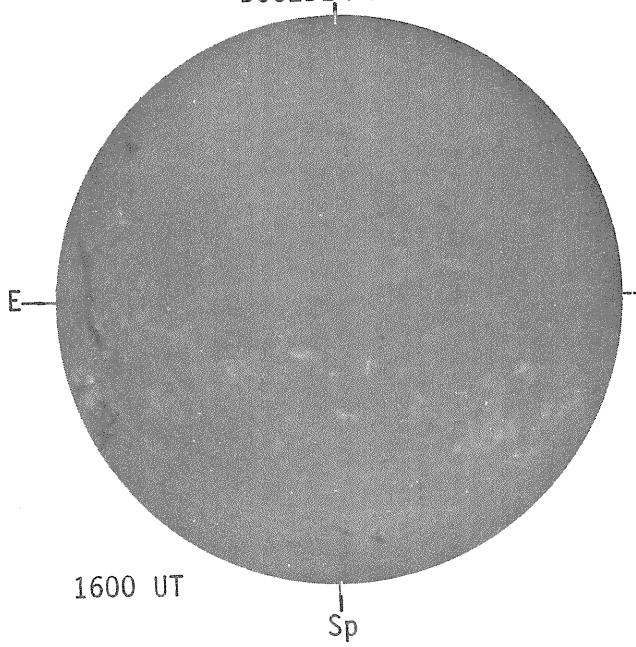


MT. WILSON MAGNETOGRAM

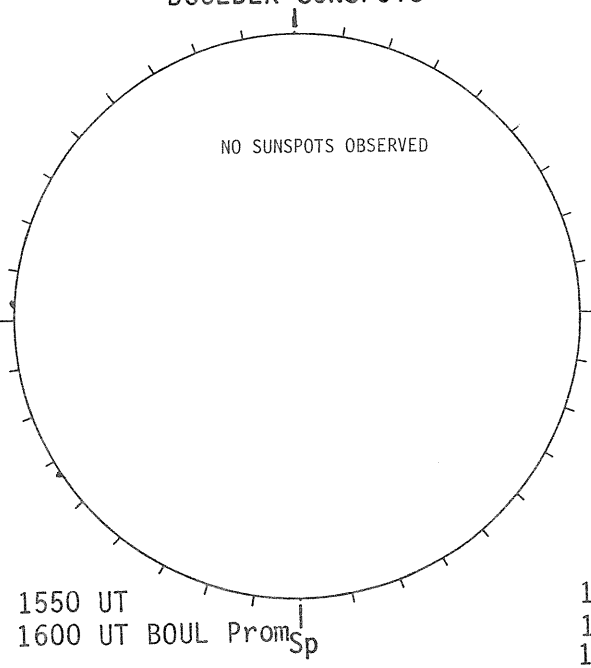
Solid = +
Dotted= -



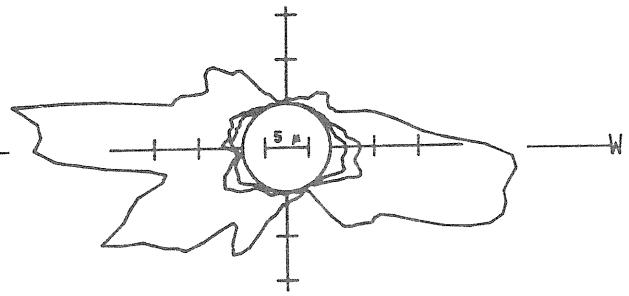
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



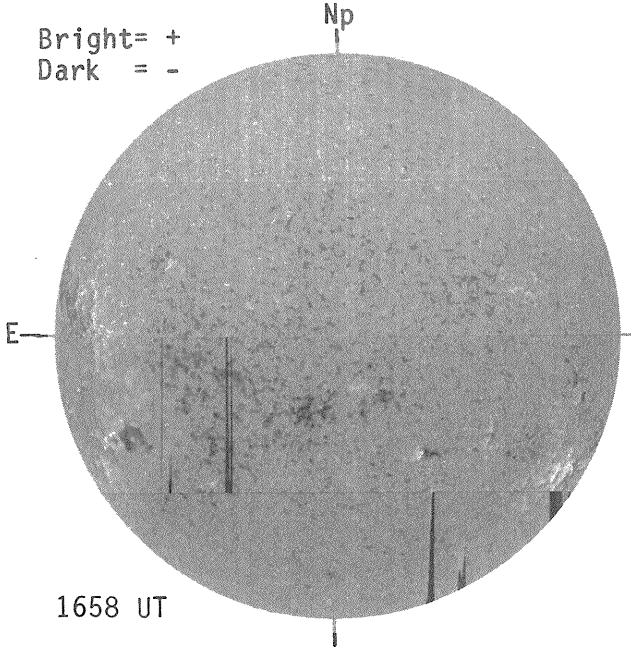
1.15 R_o 1441 UT
1.35 R_o 1429 UT
1.45 R_o 1434 UT

Sp

O C T O B E R 30, 1 9 8 3 (P= 24.94, B_0= 4.61, L_0= 212.02)

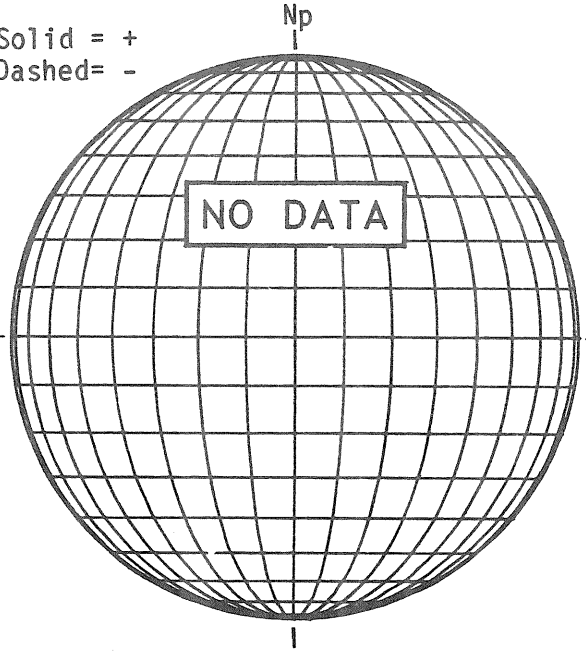
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



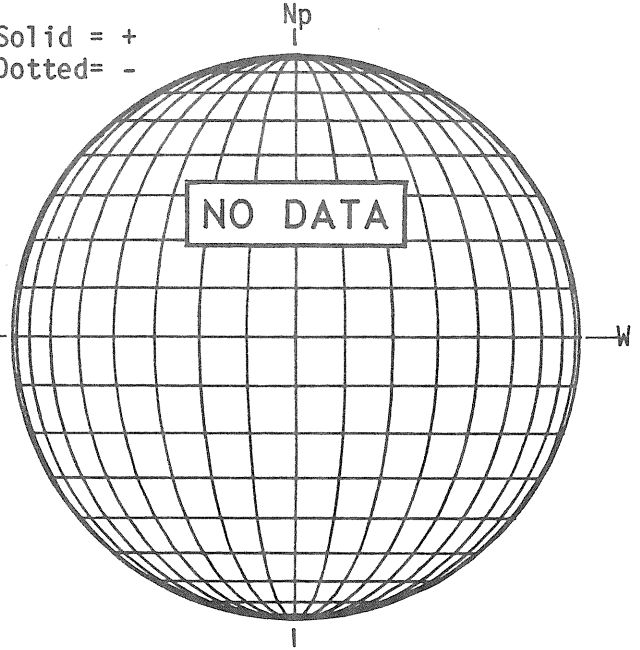
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

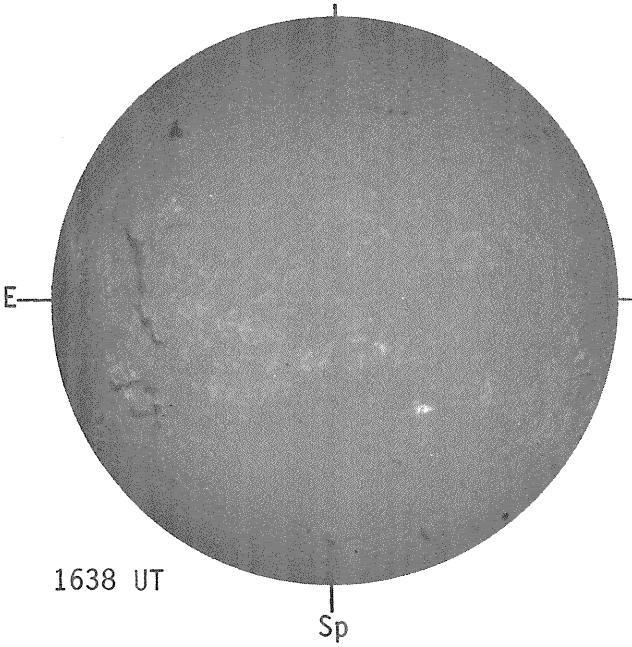


MT. WILSON MAGNETOGRAM

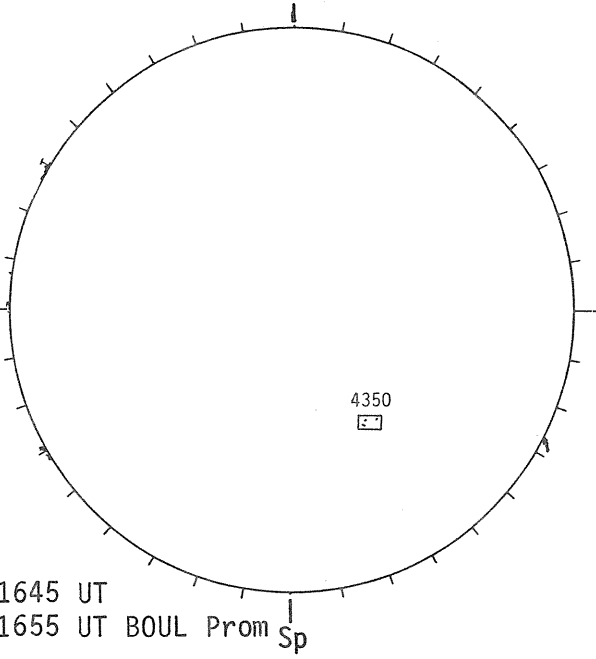
Solid = +
Dotted= -



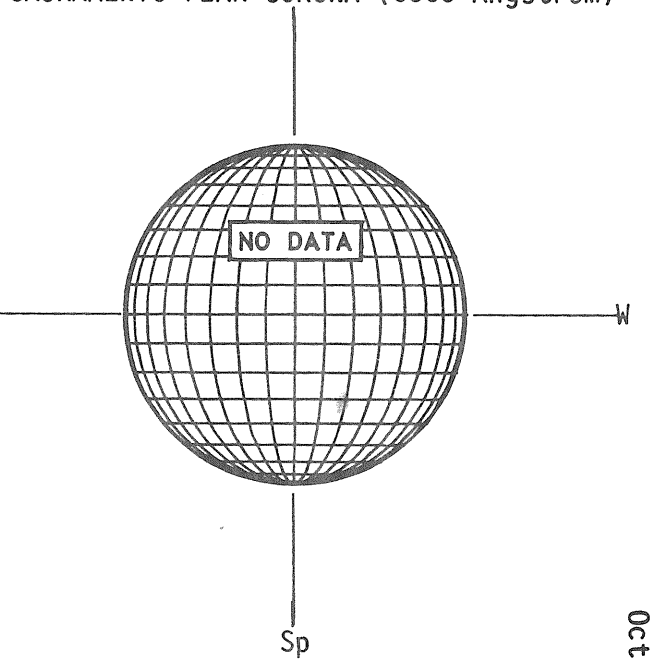
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



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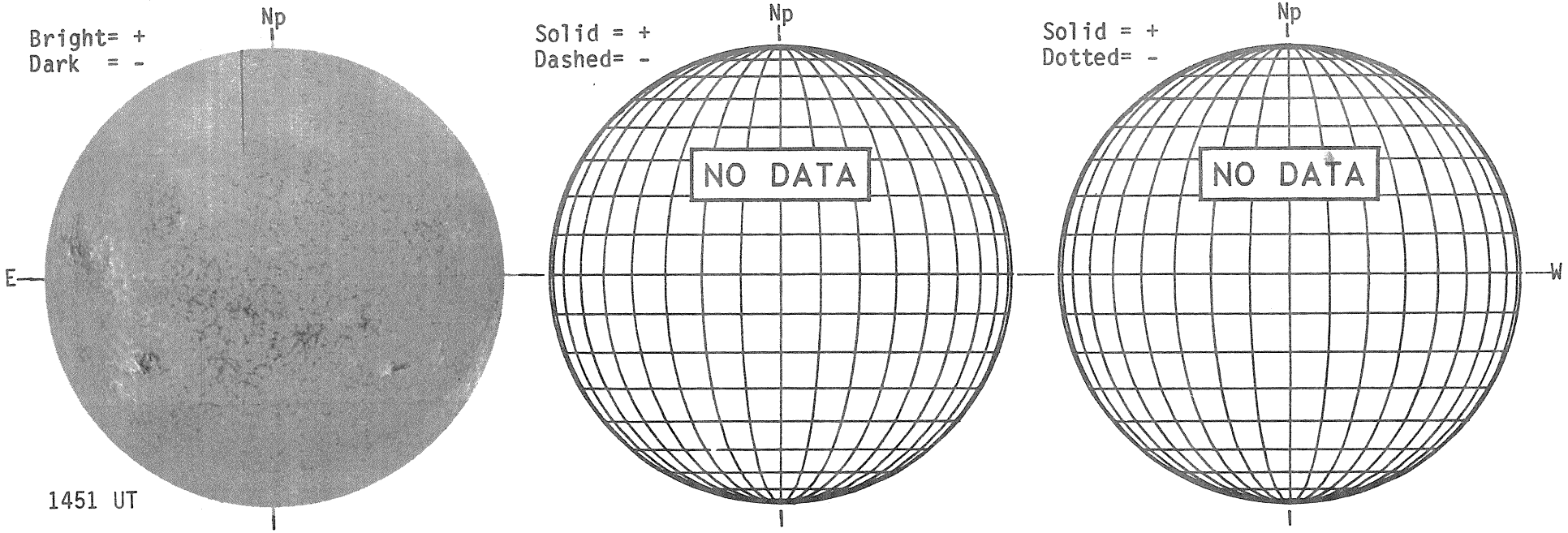
O C T O B E R 31, 1 9 8 3 (P= 24.79, B_0= 4.51, L_0= 198.84)

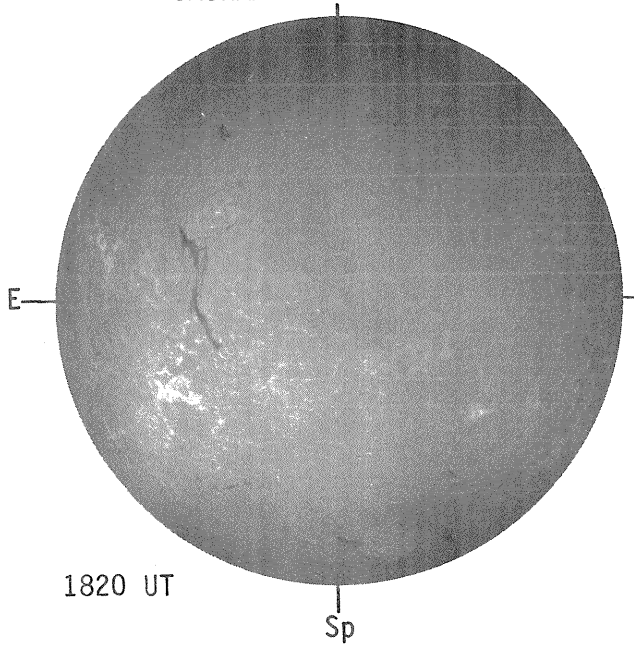
KITT PEAK MAGNETOGRAM



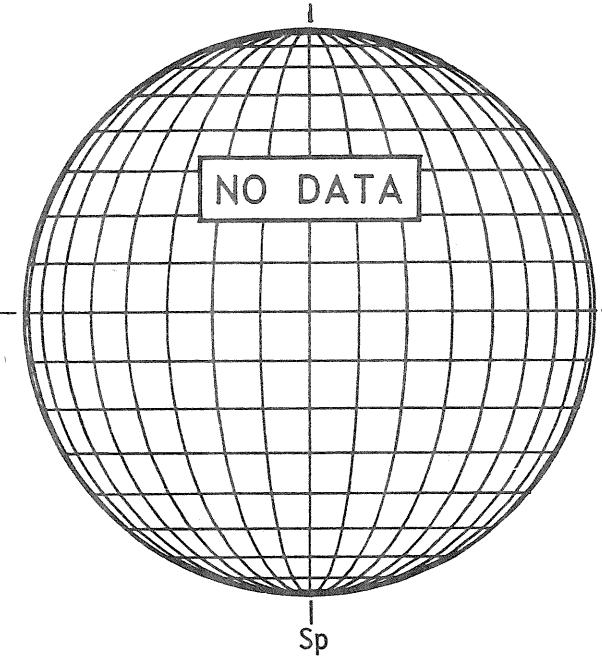
STANFORD MAGNETOGRAM

MT. WILSON MAGNETOGRAM

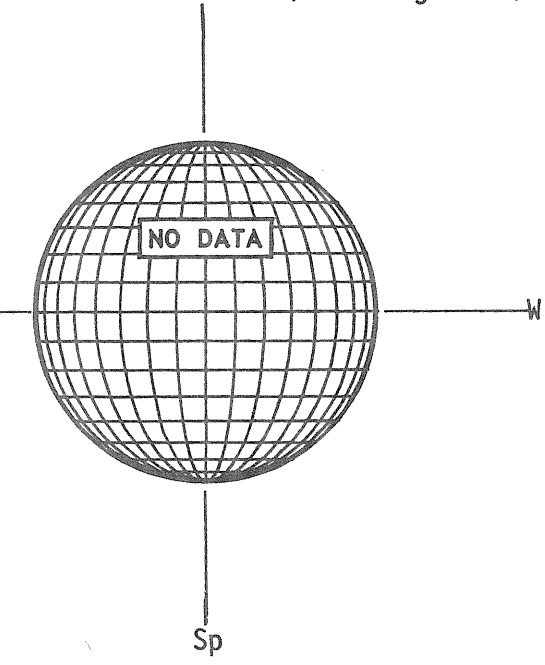
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



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

OCTOBER 1983

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
		LEAR	10	02	0025	N11 E08	10	2.6		A	AXX		1	1	5
4330		HOLL	10	01	2008	N13 E32	10	4.3		A	AXX	10	2	2	3
4330		PALE	10	01	2150	N13 E30	10	4.2		A	AXX	10	2	1	3
4330		LEAR	10	02	0025	N12 E28	10	4.1		B	BXO	10	4	3	5
4330		RAMY	10	02	1300	N13 E22	10	4.2		B	BXO	10	8	5	3
4330	23850	MWIL	10	02	1445	N13 E21	10	4.2	3	(B)					
4330		PALE	10	02	2030	N12 E17	10	4.1		B	BXO	20	4	5	3
4330		LEAR	10	03	0014	N13 E14	10	4.1		B	BXO	30	6	6	3
4330		MANI	10	03	0150	N13 E14	10	4.1			BXO	20	7	6	3
4330		ATHN	10	03	0800	N12 E09	10	4.0		B	CSO	20	2	3	1
4330		RAMY	10	03	1255	N13 E08	10	4.1		B	DAO	40	9	6	3
4330		BOUL	10	03	1343	N12 E07	10	4.1		B	BXO	20	5	6	2
4330	23850	MWIL	10	03	1450	N13 E07	10	4.2	3	(BF)					
4330		PALE	10	03	1800	N12 E05	10	4.1		B	DRO	30	6	7	3
4330		HOLL	10	03	2215	N13 E02	10	4.1		B	DSO	40	7	8	3
4330		LEAR	10	04	0020	N13 E02	10	4.2		B	BXO	40	9	7	3
4330		ATHN	10	04	0700	N13 W04	10	4.0		B	CSO	50	4	6	3
4330		RAMY	10	04	1349	N13 W06	10	4.1		B	DAO	30	7	8	4
4330		BOUL	10	04	1430	N12 W06	10	4.2		B	BXO	20	5	7	2
4330	23850	MWIL	10	04	1515	N13 W07	10	4.1	2	(B)					
4330		PALE	10	04	1810	N12 W09	10	4.1		B	BXO	30	5	8	2
4330		MANI	10	04	2329	N13 W12	10	4.1			BXO	10	4	6	3
4330		LEAR	10	04	2333	N12 W11	10	4.2		B	CRO	10	5	6	3
4330		LEAR	10	05	0001	N12 W11	10	4.2		B	CRO	10	6	6	3
4330		RAMY	10	05	1326	N16 W18	10	4.2		B	BXO	20	4	5	4
4330		HOLL	10	05	1445	N12 W17	10	4.3		A	AXX	10	1	1	3
4330	23850	MWIL	10	05	1500	N11 W17	10	4.3	2	(AP)					
4330		BOUL	10	05	1535	N12 W18	10	4.3		A	AXX	10	1		3
4330		BOUL	10	06	1502	N13 W36	10	3.9		A	AXX	10	2	2	3
4330	23850	MWIL	10	06	1530	N12 W37	10	3.9	2	AP					
4330		HOLL	10	06	1546	N12 W37	10	3.9		A	AXX		1	1	3
4330		PALE	10	06	1750	N12 W39	10	3.8		A	AXX	10	2	2	3
4336		RAMY	10	08	1250	S09 W44	10	5.2		B	BXO	10	3	3	4
4336		HOLL	10	08	1504	S09 W46	10	5.2		A	AXX	10	1		4
4336		LEAR	10	09	0145	S10 W49	10	5.4		A	AXX	10	1	1	3
0001	23855	MWIL	10	06	1530	S04 W06	10	6.2	2	X					
0001		RAMY	10	06	1615	S01 W06	10	6.2		A	AXX	10	1	1	4
4332		RAMY	10	05	1326	S14 E29	10	7.8		B	CAO	20	5	3	4
4332		HOLL	10	05	1445	S14 E27	10	7.7		B	BXO	10	3	3	3
4332	23854	MWIL	10	05	1500	S13 E26	10	7.6	2	(AP)					
4332		LEAR	10	05	2319	S16 E23	10	7.7		A	AXX		1	1	4
4332		LEAR	10	06	0001	S16 E23	10	7.7		A	AXX		1	1	4
4332		ATHN	10	06	0615	S12 E21	10	7.8		B	BXO	30	6	3	3
4332		RAMY	10	06	1217	S13 E16	10	7.7		B	DAO	70	9	4	4
4332		BOUL	10	06	1502	S13 E12	10	7.5		B	DAO	50	6	3	3
4332	23854	MWIL	10	06	1530	S14 E15	10	7.8	4	B					
4332		HOLL	10	06	1546	S14 E14	10	7.7		B	BXO	20	6	5	3
4332		PALE	10	06	1750	S13 E13	10	7.7		B	BXO	30	5	4	3
4332		LEAR	10	07	0006	S14 E10	10	7.8		B	BXO	20	10	4	3
4332		ATHN	10	07	0600	S15 E05	10	7.6		B	BXO	20	3	3	3
4332		RAMY	10	07	1210	S16 E02	10	7.7		B	DAO	40	2	3	3
4332		BOUL	10	07	1501	S12 W01	10	7.6		B	BXO	10	2	3	3
4332		HOLL	10	07	1530	S15 W00	10	7.6		B	BXO	10	2	3	3
4332		PALE	10	07	1810	S15 W02	10	7.6		B	BXO	10	2	4	3
4332		LEAR	10	08	0045	S15 W05	10	7.7		B	BXO	20	4	5	2
4332		RAMY	10	08	1250	S14 W13	10	7.6		B	CRO	20	12	7	4
4332	23854	MWIL	10	08	1445	S15 W11	10	7.8	2	B					
4332		HOLL	10	08	1504	S14 W13	10	7.6		B	BXO	30	7	6	4
4332		PALE	10	08	1833	S14 W15	10	7.6		B	BXO	20	4	4	2
4332		LEAR	10	09	0145	S13 W17	10	7.8		B	BXO	10	2	3	3
4332		HOLL	10	09	1448	S15 W28	10	7.5		A	AXX		1	1	4
4332		LEAR	10	10	0000	S14 W32	10	7.6		B	BXO	10	3	3	2
4332		ATHN	10	10	0610	S15 W38	10	7.4		B	CSO	60	2	4	3
4332		RAMY	10	10	1313	S15 W40	10	7.5		B	DAO	80	6	3	1
4332		BOUL	10	10	1431	S13 W40	10	7.6		B	CRO	50	8	3	2
4332	23860	MWIL	10	10	1515	S15 W40	10	7.6	3	(B)					
4332		HOLL	10	10	1550	S15 W40	10	7.6		B	DSO	110	10	5	3

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

OCTOBER 1983

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
4332		PALE	10	10	1845	S15	W42	10	7.6		B	BXO	40	8	5	3
4332		LEAR	10	11	0205	S16	W47	10	7.5		B	DAO	120	6	4	3
4332		ATHN	10	11	0600	S15	W55	10	7.1		B	DAO	160	5	7	3
4332		RAMY	10	11	1220	S15	W53	10	7.5		B	DAO	90	6	7	4
4332		HOLL	10	11	1540	S15	W54	10	7.6		B	DSO	150	14	5	2
4332	23860	MWIL	10	11	1600	S15	W54	10	7.6	4	(B)					
4332		PALE	10	11	1800	S16	W57	10	7.4		B	DSO	120	12	8	4
4332		LEAR	10	12	0018	S14	W60	10	7.5		B	DSO	160	12	9	4
4332		ATHN	10	12	0630	S12	W61	10	7.7		B	DAO	110	6	8	3
4332		RAMY	10	12	1210	S15	W68	10	7.4		B	DAO	230	11	9	4
4332		BOUL	10	12	1408	S14	W68	10	7.4		B	CSO	80	9	8	3
4332	23860	MWIL	10	12	1530	S15	W67	10	7.6	3	(B)					
4332		HOLL	10	12	1539	S14	W67	10	7.6		B	DAO	70	6	8	2
4332		PALE	10	12	1800	S15	W69	10	7.5		B	DAO	90	7	10	3
4332		LEAR	10	13	0030	S16	W70	10	7.7		B	CSO	210	12	9	3
4332		RAMY	10	13	1205	S15	W80	10	7.4		B	CAO	60	4	6	4
4332		HOLL	10	13	1412	S15	W79	10	7.6		B	BXO		3	3	2
4332	23860	MWIL	10	13	1530	S15	W80	10	7.6	2	AP					
4329		HOLL	10	01	2008	N20	E87	10	8.5		B	CSO	60	4	8	3
4329		PALE	10	01	2150	N19	E83	10	8.2		B	CHO	80	2	6	3
4329		LEAR	10	02	0025	N18	E79	10	8.0		B	DSO	80	2	5	5
4329		ATHN	10	02	0615	N20	E79	10	8.3		B	BXO	60	2	5	2
4329		RAMY	10	02	1300	N20	E76	10	8.4		B	DAO	150	5	6	3
4329		BOUL	10	02	1400	N18	E70	10	7.9		B	CSO	50	2	3	2
4329	23851	MWIL	10	02	1445	N21	E75	10	8.4	4	(B)					
4329		PALE	10	02	2030	N19	E72	10	8.3		B	CSO	30	2	5	3
4329		LEAR	10	03	0014	N22	E69	10	8.3		B	CHO	90	2	2	3
4329		MANI	10	03	0150	N21	E70	10	8.4			CSO	100	2	4	3
4329		ATHN	10	03	0800	N19	E65	10	8.3		B	CSO	110	2	4	1
4329		RAMY	10	03	1255	N19	E63	10	8.3		B	DAO	110	8	5	3
4329		BOUL	10	03	1343	N19	E63	10	8.4		A	AXX	40	3	3	2
4329	23851	MWIL	10	03	1450	N20	E62	10	8.4	4	(B)					
4329		PALE	10	03	1800	N20	E60	10	8.3		B	CSO	50	4	5	3
4329		HOLL	10	03	2215	N19	E56	10	8.2		B	CAO	40	3	6	3
4329		LEAR	10	04	0020	N19	E56	10	8.3		B	CAO	40	6	5	3
4329		ATHN	10	04	0700	N19	E52	10	8.3		B	CSO	70	3	4	3
4329		RAMY	10	04	1349	N19	E51	10	8.5		B	CAO	50	5	6	4
4329		BOUL	10	04	1430	N20	E50	10	8.4		B	CRO	50	5	7	2
4329	23851	MWIL	10	04	1515	N20	E48	10	8.3	3	(BF)					
4329		PALE	10	04	1810	N20	E47	10	8.4		B	CSO	40	3	6	2
4329		MANI	10	04	2329	N20	E46	10	8.5			HSX	60	2	2	3
4329		LEAR	10	04	2333	N20	E45	10	8.4		A	HSX	50	2	2	3
4329		LEAR	10	05	0001	N20	E45	10	8.4		A	HSX	50	2	2	3
4329		ATHN	10	05	0730	N19	E39	10	8.3		B	CSO	40	2	5	2
4329		RAMY	10	05	1326	N19	E38	10	8.5		B	CAO	50	6	4	4
4329		HOLL	10	05	1445	N21	E37	10	8.5		B	CAI	50	3	2	3
4329	23851	MWIL	10	05	1500	N20	E36	10	8.4	2	AF					
4329		BOUL	10	05	1535	N21	E34	10	8.3		B	CRO	60	4	8	3
4329		LEAR	10	06	0001	N19	E32	10	8.4		A	HSX	40	2	1	4
4329		ATHN	10	06	0615	N20	E31	10	8.6		B	CSO	30	4	3	3
4329		RAMY	10	06	1217	N20	E25	10	8.4		B	DAO	40	3	2	4
4329	23851	MWIL	10	06	1530	N19	E23	10	8.4	4	AF					
4329		HOLL	10	06	1546	N19	E23	10	8.4		A	AXX	10	3	2	3
4329		PALE	10	06	1750	N21	E21	10	8.4		A	AXX	10	3	2	3
4329		LEAR	10	07	0006	N21	E17	10	8.3		A	AXX	10	3	2	3
4329		ATHN	10	07	0600	N19	E15	10	8.4		A	AXO	10	2	1	3
4329		RAMY	10	07	1210	N18	E11	10	8.3		A	AXX	10	2	1	3
4329		BOUL	10	07	1501	N20	E08	10	8.2		B	BXO	10	3	3	3
4329		HOLL	10	07	1530	N19	E09	10	8.3		A	AXX	10	2	2	3
4329		PALE	10	07	1810	N19	E08	10	8.4		A	AXX	10	2	1	3
4329		LEAR	10	08	0045	N18	E02	10	8.2		A	AXX	10	1	1	2
4334		HOLL	10	07	1530	S04	E09	10	8.3		A	AXX	10	2	1	3
4334		PALE	10	07	1810	S04	E07	10	8.3		A	AXX	10	2	1	3
4334		LEAR	10	08	0045	S04	E04	10	8.3		B	BXO	10	2	3	2
4334		RAMY	10	08	1250	S04	W04	10	8.2		A	AXX	10	3	1	4
4334		HOLL	10	08	1504	S04	W05	10	8.3		A	AXX	10	2	1	4
4334		LEAR	10	09	0145	S04	W11	10	8.3		A	AXX	10	1	1	3
4328		HOLL	10	01	2008	N06	E85	10	8.2		A	HHX	360	1	4	3

REGIONS OF SUNSPOT ACTIVITY
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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
4328		PALE	10	01	2150	N05 E86	10	8.3		A	HSX	10	1	2	3
4328		LEAR	10	02	0025	N05 E82	10	8.2		B	DKO	80	3	10	5
4328		ATHN	10	02	0615	N07 E80	10	8.3		A	HSX	240	1	2	2
4328		RAMY	10	02	1300	N06 E77	10	8.3		B	DKO	410	9	7	3
4328	23852	MWIL	10	02	1445	N08 E80	10	8.6	4	(B)					
4328		PALE	10	02	2030	N07 E79	10	8.8		B	FKO	500	7	17	3
4328		LEAR	10	03	0014	N10 E75	10	8.6		B	EHO	840	11	12	3
4328		MANI	10	03	0150	N07 E74	10	8.6			EHO	1970	8	17	3
4328		ATHN	10	03	0800	N06 E66	10	8.3		B	EHO	590	4	11	1
4328		RAMY	10	03	1255	N08 E69	10	8.7		B	FKO	1000	26	16	3
4328		BOUL	10	03	1343	N07 E68	10	8.7		B	EHI	380	15	15	2
4328	23852	MWIL	10	03	1450	N07 E68	10	8.7	5	(BY)					
4328		PALE	10	03	1800	N07 E67	10	8.8		B	FKO	700	23	16	3
4328		HOLL	10	03	2215	N06 E65	10	8.8		BG	EKI	970	19	14	3
4328		LEAR	10	04	0020	N06 E62	10	8.7		BG	EHI	920	24	14	3
4328		ATHN	10	04	0700	N07 E57	10	8.6		B	EKO	890	10	15	3
4328		RAMY	10	04	1349	N07 E57	10	8.8		BG	FKO	1040	26	16	4
4328		BOUL	10	04	1430	N07 E55	10	8.7		B	EAI	910	38	15	2
4328	23852	MWIL	10	04	1515	N07 E55	10	8.8	5	(B)					
4328		PALE	10	04	1810	N07 E53	10	8.7		B	FKO	940	28	14	2
4328		MANI	10	04	2329	N07 E49	10	8.6			FKO	920	28	16	3
4328		LEAR	10	04	2333	N07 E48	10	8.6		BG	FKO	830	35	16	3
4328		LEAR	10	05	0001	N07 E48	10	8.6		BG	FKO	830	35	16	3
4328		ATHN	10	05	0730	N07 E46	10	8.8		B	EKO	910	14	14	2
4328		ATHN	10	05	0730	N07 E56	10	9.5		B	EKO	910	14	14	2
4328		RAMY	10	05	1326	N08 E42	10	8.7		BG	FKO	860	31	16	4
4328		HOLL	10	05	1445	N08 E42	10	8.8		BG	EKI	850	30	14	3
4328	23852	MWIL	10	05	1500	N07 E40	10	8.6	5	(B)					
4328		BOUL	10	05	1535	N08 E40	10	8.6		B	EAI	810	39	14	3
4328		LEAR	10	05	2319	N05 E35	10	8.6		BG	FKO	720	52	16	4
4328		LEAR	10	05	2333	N07 E48	10	9.6		BG	FKO	830	35	16	3
4328		LEAR	10	06	0001	N05 E35	10	8.6		BG	FKO	720	52	16	4
4328		ATHN	10	06	0615	N08 E33	10	8.7		BG	EKO	650	28	14	3
4328		RAMY	10	06	1217	N07 E29	10	8.7		BG	EKO	680	37	15	4
4328		BOUL	10	06	1502	N08 E25	10	8.5		BG	EKO	750	32	14	3
4328	23852	MWIL	10	06	1530	N07 E27	10	8.7	5	B					
4328		HOLL	10	06	1546	N07 E27	10	8.7		BG	EKI	660	31	15	3
4328		PALE	10	06	1750	N08 E26	10	8.7		BG	EKO	710	25	14	3
4328		LEAR	10	07	0006	N08 E22	10	8.7		BG	EHO	730	37	14	3
4328		ATHN	10	07	0600	N07 E18	10	8.6		BG	FKO	690	25	16	3
4328		RAMY	10	07	1210	N06 E16	10	8.7		B	EKO	700	30	15	3
4328		BOUL	10	07	1501	N09 E13	10	8.6		B	EKO	660	35	15	3
4328		HOLL	10	07	1530	N07 E14	10	8.7		BG	FKI	760	38	16	3
4328		PALE	10	07	1810	N07 E12	10	8.7		BG	FKI	650	48	16	3
4328		LEAR	10	08	0045	N07 E09	10	8.7		BG	FKO	780	50	16	2
4328		ATHN	10	08	0700	N08 E06	10	8.7		BG	FKI	580	33	17	2
4328		RAMY	10	08	1250	N08 E03	10	8.8		BG	FKI	810	85	17	4
4328	23852	MWIL	10	08	1445	N07 E01	10	8.7	5	(B)					
4328		HOLL	10	08	1504	N08 E01	10	8.7		BG	FHI	770	63	17	4
4328		PALE	10	08	1833	N08 W01	10	8.7		BG	FKI	710	45	16	2
4328		LEAR	10	09	0145	N07 W05	10	8.7		BG	FKO	670	55	18	3
4328		ATHN	10	09	1100	N08 W11	10	8.6		BG	FKI	620	30	17	2
4328		HOLL	10	09	1448	N07 W12	10	8.7		BG	FHI	670	49	17	4
4328	23852	MWIL	10	09	1500	N07 W12	10	8.7	5	(BY)					
4328		BOUL	10	09	1520	N05 W12	10	8.7		BG	EKO	600	28	14	2
4328		RAMY	10	09	1644	N07 W13	10	8.7		BG	FKO	440	37	16	2
4328		PALE	10	09	1800	N08 W14	10	8.7		BG	FKI	560	51	16	3
4328		LEAR	10	10	0000	N07 W17	10	8.7		BG	FKO	500	38	16	2
4328		ATHN	10	10	0610	N07 W20	10	8.8		BG	FKI	620	33	18	3
4328		RAMY	10	10	1313	N07 W24	10	8.8		B	FKO	490	14	16	1
4328		BOUL	10	10	1431	N08 W25	10	8.7		BG	FKO	370	20	16	2
4328	23852	MWIL	10	10	1515	N06 W26	10	8.7	4	(BY)					
4328		HOLL	10	10	1550	N07 W26	10	8.7		BGD	EHO	630	24	15	3
4328		PALE	10	10	1845	N08 W28	10	8.7		BGD	FKO	500	33	16	3
4328		LEAR	10	11	0205	N07 W33	10	8.6		B	EHO	380	17	15	3
4328		ATHN	10	11	0600	N09 W32	10	8.8		BG	FHO	430	12	17	3
4328		RAMY	10	11	1220	N07 W37	10	8.7		B	FAO	220	12	16	4
4328		HOLL	10	11	1540	N07 W40	10	8.7		B	FHO	570	23	16	2
4328	23852	MWIL	10	11	1600	N06 W39	10	8.7	5	(B)					
4328		PALE	10	11	1800	N08 W41	10	8.7		B	FHO	300	20	16	4
4328		LEAR	10	12	0018	N07 W45	10	8.6		B	ESO	290	13	15	4

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4328		ATHN	10	12	0630	N08	W47	10	8.7		B	FHO	330	12	16	3
4328		RAMY	10	12	1210	N07	W51	10	8.7		B	FAO	340	19	17	4
4328		BOUL	10	12	1408	N10	W54	10	8.5		B	EKO	320	13	18	3
4328	23852	MWIL	10	12	1530	N06	W52	10	8.8	4	(B)					
4328		HOLL	10	12	1539	N07	W53	10	8.7		B	FHO	330	11	17	2
4328		PALE	10	12	1800	N08	W54	10	8.7		B	FKO	300	10	16	3
4328		LEAR	10	13	0030	N05	W58	10	8.7		B	EHO	440	7	13	3
4328		ATHN	10	13	0630	N08	W61	10	8.7		B	FHO	300	4	16	2
4328		RAMY	10	13	1205	N06	W64	10	8.7		B	EAO	380	7	14	4
4328		HOLL	10	13	1412	N06	W65	10	8.7		B	FSO	350	6	16	2
4328	23852	MWIL	10	13	1530	N06	W66	10	8.7	4	(B)					
4328		BOUL	10	13	1600	N06	W67	10	8.7		B	FSO	220	3	16	2
4328		PALE	10	13	1905	N07	W71	10	8.5		B	FSO	210	5	17	3
4328		LEAR	10	14	0035	N04	W70	10	8.8		B	FKO	420	7	16	3
4328		ATHN	10	14	0622	N07	W74	10	8.7		B	DAO	210	3	8	3
4328		RAMY	10	14	1300	N06	W79	10	8.6		B	FAO	220	5	16	3
4328		HOLL	10	14	1456	N08	W72	10	9.2		B	CSO	120	2	3	2
4328		BOUL	10	14	1503	N07	W74	10	9.1		B	BXO	50	4	4	2
4328	23852	MWIL	10	14	1530	N06	W77	10	8.9	4	B					
4328		PALE	10	14	1835	N08	W85	10	8.4		B	CSO	130	3	3	3
4328		LEAR	10	15	0134	N08	W79	10	9.1		B	CAO	80	3	4	2
4328		ATHN	10	15	0600	N05	W82	10	9.1		A	HKX	150	1	3	3
4328		HOLL	10	15	1457	N08	W86	10	9.2		A	HSX	100	1	2	4
4328	23852	MWIL	10	15	1500	N06	W87	10	9.1	2	AF					
4338		LEAR	10	09	0145	S16	E08	10	9.7		B	BXO	10	3	3	3
4338		HOLL	10	09	1448	S16	E02	10	9.8		A	AXX	10	2	2	4
4338	23859	MWIL	10	09	1500	S16	E02	10	9.8	2	(B)					
4338		PALE	10	09	1800	S15	W01	10	9.7		B	BXO	20	3	3	3
4338		LEAR	10	10	0000	S15	W04	10	9.7		B	BXO	10	5	3	2
4338		ATHN	10	10	0610	S15	W07	10	9.7		B	DSO	50	7	5	3
4338		RAMY	10	10	1313	S16	W12	10	9.6		B	DAO	80	7	6	1
4338		BOUL	10	10	1431	S13	W12	10	9.7		B	BXO	30	8	5	2
4338	23859	MWIL	10	10	1515	S16	W14	10	9.6	3	(B)					
4338		HOLL	10	10	1550	S17	W13	10	9.7		B	CRO	40	4	5	3
4338		PALE	10	10	1845	S16	W16	10	9.6		B	DRO	50	9	6	3
4338		LEAR	10	11	0205	S15	W20	10	9.6		B	DAO	160	13	6	3
4338		ATHN	10	11	0600	S14	W22	10	9.6		B	DKO	210	9	7	3
4338		RAMY	10	11	1220	S15	W26	10	9.5		B	DAO	90	8	7	4
4338		HOLL	10	11	1540	S16	W27	10	9.6		B	BXO	90	11	6	2
4338	23859	MWIL	10	11	1600	S16	W27	10	9.6	4	(B)					
4338		PALE	10	11	1800	S16	W29	10	9.6		B	CSO	60	11	6	4
4338		LEAR	10	12	0018	S15	W33	10	9.5		B	CSO	80	17	7	4
4338		ATHN	10	12	0630	S13	W35	10	9.6		B	CAO	70	6	8	3
4338		RAMY	10	12	1210	S15	W39	10	9.6		B	CAO	60	11	6	4
4338		BOUL	10	12	1408	S13	W41	10	9.5		B	BXO	20	5	6	3
4338	23859	MWIL	10	12	1530	S16	W39	10	9.7	2	(B)					
4338		HOLL	10	12	1539	S15	W42	10	9.5		A	CAO	30	7	7	2
4338		PALE	10	12	1800	S15	W43	10	9.5		B	CRO	50	4	8	3
4338		RAMY	10	13	1205	S15	W49	10	9.8		A	AXX	10	1	1	4
4338	23859	MWIL	10	13	1530	S16	W50	10	9.9	2	(AF)					
4331		PALE	10	03	1800	N13	E85	10	10.2		A	HSX	140	1	2	3
4331		HOLL	10	03	2215	N13	E81	10	10.0		A	HSX	140	1	2	3
4331		LEAR	10	04	0020	N13	E79	10	10.0		A	HSX	210	2	2	3
4331		ATHN	10	04	0700	N13	E77	10	10.1		A	HKO	150	2	3	3
4331		RAMY	10	04	1349	N13	E77	10	10.4		B	DAO	160	2	3	4
4331		BOUL	10	04	1430	N13	E78	10	10.5		A	HAX	180	4	4	2
4331	23853	MWIL	10	04	1515	N15	E74	10	10.2	3	(AP)					
4331		PALE	10	04	1810	N13	E72	10	10.2		A	HSX	120	2	2	2
4331		MANI	10	04	2329	N13	E70	10	10.3			HSX	140	2	3	3
4331		LEAR	10	04	2333	N13	E69	10	10.2		A	HSX	300	2	3	3
4331		LEAR	10	05	0001	N13	E69	10	10.2		A	HSX	300	2	3	3
4331		ATHN	10	05	0730	N12	E65	10	10.2		B	HKO	130	2	3	2
4331		RAMY	10	05	1326	N14	E63	10	10.3		A	HKX	190	2	3	4
4331		HOLL	10	05	1445	N15	E61	10	10.2		A	HKX	220	22	3	3
4331	23853	MWIL	10	05	1500	N14	E59	10	10.1	4	(AP)					
4331		BOUL	10	05	1535	N14	E59	10	10.1		A	HAX	130	9	3	3
4331		LEAR	10	06	0001	N13	E55	10	10.2		B	DSO	250	4	2	4
4331		ATHN	10	06	0615	N12	E54	10	10.3		A	CAO	120	5	3	3
4331		ATHN	10	06	0615	N12	E54	10	10.3		B	CAO	120	5	3	3

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4331		RAMY	10	06	1217	N14 E49	10	10.2		A	HKX	180	3	3	4
4331		BOUL	10	06	1502	N14 E45	10	10.0		B	DSC	140	2	2	3
4331	23853	MWIL	10	06	1530	N14 E46	10	10.1	5	AP					
4331		HOLL	10	06	1546	N13 E47	10	10.2		A	HHX	140	3	3	3
4331		PALE	10	06	1750	N15 E46	10	10.2		A	HSX	140	2	2	3
4331		LEAR	10	07	0006	N16 E42	10	10.2		A	HHX	160	2	3	3
4331		ATHN	10	07	0600	N12 E38	10	10.1		B	CAO	130	2	2	3
4331		RAMY	10	07	1210	N13 E35	10	10.1		B	CAO	120	4	3	3
4331		BOUL	10	07	1501	N13 E32	10	10.0		A	HAX	70	2	2	3
4331		HOLL	10	07	1530	N14 E33	10	10.1		B	CSI	160	7	5	3
4331		PALE	10	07	1810	N13 E31	10	10.1		B	CAO	90	5	4	3
4331		LEAR	10	08	0045	N13 E29	10	10.2		B	CAO	140	4	4	2
4331		ATHN	10	08	0700	N11 E27	10	10.3		B	CAO	70	4	3	2
4331		RAMY	10	08	1250	N13 E23	10	10.3		B	DAO	140	7	3	4
4331	23853	MWIL	10	08	1445	N14 E21	10	10.2	3	(AP)					
4331		HOLL	10	08	1504	N14 E22	10	10.3		B	CAO	120	4	3	4
4331		PALE	10	08	1833	N14 E21	10	10.4		B	CAO	90	4	4	2
4331		LEAR	10	09	0145	N13 E15	10	10.2		B	CAO	140	7	4	3
4331		ATHN	10	09	1100	N13 E11	10	10.3		B	CAO	100	5	3	2
4331		HOLL	10	09	1448	N13 E08	10	10.2		B	CSO	110	4	4	4
4331	23853	MWIL	10	09	1500	N14 E08	10	10.2	4	(BP)					
4331		BOUL	10	09	1520	N09 E09	10	10.3		B	CSC	160	4	2	2
4331		RAMY	10	09	1644	N13 E07	10	10.2		B	DAO	90	4	3	2
4331		PALE	10	09	1800	N13 E07	10	10.3		B	CSO	100	4	3	3
4331		LEAR	10	10	0000	N14 E03	10	10.2		B	CAO	110	5	5	2
4331		ATHN	10	10	0610	N12 E01	10	10.3		B	CAO	100	3	3	3
4331		RAMY	10	10	1313	N13 W05	10	10.2		B	CAO	90	5	3	1
4331		BOUL	10	10	1431	N13 W04	10	10.3		B	CSO	90	4	6	2
4331	23853	MWIL	10	10	1515	N13 W06	10	10.2	4	(BP)					
4331		HOLL	10	10	1550	N13 W06	10	10.2		A	HSX	130	3	2	3
4331		PALE	10	10	1845	N13 W08	10	10.2		A	HSX	100	2	2	3
4331		LEAR	10	11	0205	N14 W11	10	10.3		A	HSX	60	2	2	3
4331		ATHN	10	11	0600	N13 W12	10	10.3		B	DAO	70	2	2	3
4331		RAMY	10	11	1220	N14 W17	10	10.2		B	CAO	60	4	4	4
4331		HOLL	10	11	1540	N14 W18	10	10.3		B	CSO	120	5	3	2
4331	23853	MWIL	10	11	1600	N13 W18	10	10.3	4	(AP)					
4331		PALE	10	11	1800	N13 W20	10	10.2		B	CAO	70	3	3	4
4331		LEAR	10	12	0018	N13 W23	10	10.3		B	DSO	50	2	2	4
4331		ATHN	10	12	0630	N13 W26	10	10.3		B	CAO	70	3	3	3
4331		RAMY	10	12	1210	N13 W30	10	10.2		B	CAO	70	3	3	4
4331		BOUL	10	12	1408	N12 W33	10	10.1		B	CSO	60	5	6	3
4331	23853	MWIL	10	12	1530	N13 W32	10	10.2	4	(AP)					
4331		HOLL	10	12	1539	N14 W32	10	10.2		A	HAX	60	2	2	2
4331		PALE	10	12	1800	N13 W33	10	10.3		A	HAX	50	2	2	3
4331		LEAR	10	13	0030	N12 W37	10	10.2		A	HSX	50	2	2	3
4331		ATHN	10	13	0630	N14 W40	10	10.2		B	CAO	80	2	4	2
4331		RAMY	10	13	1205	N13 W44	10	10.2		B	DAO	60	7	5	4
4331		HOLL	10	13	1412	N13 W45	10	10.2		B	CSO	60	5	4	2
4331	23853	MWIL	10	13	1530	N13 W45	10	10.3	4	(AP)					
4331		BOUL	10	13	1600	N13 W43	10	10.4		B	CSO	40	4	3	2
4331		PALE	10	13	1905	N13 W49	10	10.1		B	CSO	50	4	3	3
4331		LEAR	10	14	0035	N11 W50	10	10.3		B	CSO	40	3	3	3
4331		ATHN	10	14	0622	N14 W53	10	10.3		B	CRO	40	2	2	3
4331		RAMY	10	14	1300	N14 W58	10	10.2		B	CAO	60	3	3	3
4331		HOLL	10	14	1456	N13 W58	10	10.2		B	CSO	50	4	4	2
4331		BOUL	10	14	1503	N15 W58	10	10.2		A	AXX	30	2	3	2
4331	23853	MWIL	10	14	1530	N13 W58	10	10.3	4	(AP)					
4331		PALE	10	14	1835	N13 W61	10	10.2		B	CSO	30	2	3	3
4331		LEAR	10	15	0134	N13 W64	10	10.2		A	HSX	20	1	1	2
4331		ATHN	10	15	0600	N13 W68	10	10.1		A	HKX	90	1	4	3
4331		HOLL	10	15	1457	N13 W71	10	10.3		A	HRX	20	1	1	4
4331	23853	MWIL	10	15	1500	N13 W70	10	10.3	4	(AP)					
4331		BOUL	10	15	1630	N14 W72	10	10.2		A	AXX	20	1	1	3
4331		PALE	10	15	1950	N14 W74	10	10.2		A	HSX	20	1	1	3
4331		LEAR	10	16	0120	N14 W75	10	10.4		A	HRX	10	1	1	2
4331		RAMY	10	16	1223	N14 W87	10	9.9		A	HAX	20	1	2	2
4331	23853	MWIL	10	16	1715	N13 W86	10	10.2	2	AP					
4337		RAMY	10	08	1250	N07 E24	10	10.3		A	AXX	10	1	1	4
4337	23857	MWIL	10	08	1445	N07 E23	10	10.3	3	AF					
4337		HOLL	10	08	1504	N07 E22	10	10.3		A	AXX		1		4

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4337		PALE	10 08 1833	N07 E22	10 10.4		B	BXO	10	2	3	2
4337		LEAR	10 09 0145	N06 E17	10 10.3		B	BXO	10	4	3	3
4337		ATHN	10 09 1100	N09 E13	10 10.4		A	BXO	20	2	2	2
4337		HOLL	10 09 1448	N06 E11	10 10.4		B	BXO	40	9	3	4
4337	23857	MWIL	10 09 1500	N06 E10	10 10.4	3	(B)					
4337		BOUL	10 09 1520	N05 E10	10 10.4		B	BXO	20	4	4	2
4337		RAMY	10 09 1644	N06 E09	10 10.4		B	DAO	50	8	4	2
4337		PALE	10 09 1800	N06 E08	10 10.3		B	CSO	50	8	4	3
4337		LEAR	10 10 0000	N06 E05	10 10.4		B	CRO	20	7	4	2
4337		ATHN	10 10 0610	N05 E02	10 10.4		B	BXO	30	4	3	3
4337		RAMY	10 10 1313	N06 W02	10 10.4		B	DAO	60	11	5	1
4337		BOUL	10 10 1431	N07 E03	10 10.8		B	BXO	30	9	4	2
4337	23857	MWIL	10 10 1515	N06 W04	10 10.3	3	(B)					
4337		HOLL	10 10 1550	N06 W03	10 10.4		B	BXO	40	11	4	3
4337		PALE	10 10 1845	N07 W06	10 10.3		B	DRO	40	9	5	3
4337		LEAR	10 11 0205	N06 W09	10 10.4		B	CRO	40	10	4	3
4337		ATHN	10 11 0600	N05 W11	10 10.4		B	DAO	110	5	5	3
4337		RAMY	10 11 1220	N06 W15	10 10.4		B	DAO	60	10	5	4
4337		HOLL	10 11 1540	N06 W17	10 10.4		B	BXO	30	10	5	2
4337	23857	MWIL	10 11 1600	N06 W17	10 10.4	4	(B)					
4337		PALE	10 11 1800	N07 W18	10 10.4		B	CSO	50	10	5	4
4337		LEAR	10 12 0018	N05 W23	10 10.3		B	DSO	70	7	5	4
4337		ATHN	10 12 0630	N08 W24	10 10.5		B	DSO	50	3	4	3
4337		RAMY	10 12 1210	N06 W29	10 10.3		B	CAO	20	6	4	4
4337	23857	MWIL	10 12 1530	N06 W34	10 10.1	4	(AP)					
4337		HOLL	10 12 1539	N06 W34	10 10.1		B	CAO	10	4	3	2
4337		PALE	10 12 1800	N07 W35	10 10.1		B	BXO	20	4	3	3
4337		LEAR	10 13 0030	N04 W38	10 10.2		A	AXX	10	2	1	3
4337		ATHN	10 13 0630	N07 W40	10 10.3		B	BXO	20	3	3	2
4337		RAMY	10 13 1205	N06 W45	10 10.1		B	CAO	30	4	3	4
4337		HOLL	10 13 1412	N06 W46	10 10.1		A	AXX	10	2	2	2
4337	23857	MWIL	10 13 1530	N06 W47	10 10.1	3	(AP)					
4337		PALE	10 13 1905	N07 W49	10 10.1		A	AXX	10	2	1	3
4337		HOLL	10 14 1456	N06 W59	10 10.2		A	AXX		1		2
		BOUL	10 10 1431	S11 E05	10 11.0		A	AXX		1		2
		LEAR	10 07 0006	S02 E58	10 11.3		A	AXX	20	2	2	3
4333		RAMY	10 06 1217	S08 E73	10 12.0		B	DAO	110	4	5	4
4333		BOUL	10 06 1502	S10 E67	10 11.7		B	DSO	90	4	5	3
4333	23856	MWIL	10 06 1530	S07 E69	10 11.8	4	B					
4333		HOLL	10 06 1546	S09 E70	10 11.9		B	BXO	140	4	6	3
4333		PALE	10 06 1750	S08 E68	10 11.8		B	DSO	110	3	6	3
4333		LEAR	10 07 0006	S06 E65	10 11.9		B	DSO	180	10	7	3
4333		ATHN	10 07 0600	S10 E60	10 11.8		B	DSO	100	3	5	3
4333		RAMY	10 07 1210	S07 E56	10 11.7		B	DAO	110	12	13	3
4333		RAMY	10 07 1210	S07 E58	10 11.9		B	DAO	110	12	8	3
4333		BOUL	10 07 1501	S09 E55	10 11.8		B	DSO	110	5	8	3
4333		HOLL	10 07 1530	S08 E55	10 11.8		B	DSI	240	7	10	3
4333		PALE	10 07 1810	S09 E54	10 11.8		B	DSO	100	5	8	3
4333		LEAR	10 08 0045	S08 E50	10 11.8		B	DSO	130	7	8	2
4333		ATHN	10 08 0700	S11 E45	10 11.7		B	DSO	100	5	8	2
4333		RAMY	10 08 1250	S08 E45	10 11.9		B	DAO	150	17	9	4
4333	23856	MWIL	10 08 1445	S08 E43	10 11.8	5	B					
4333		HOLL	10 08 1504	S07 E43	10 11.8		B	DSO	130	12	8	4
4333		PALE	10 08 1833	S09 E41	10 11.9		B	DSO	90	10	8	2
4333		LEAR	10 09 0145	S08 E36	10 11.8		B	DSO	80	10	7	3
4333		ATHN	10 09 1100	S09 E32	10 11.9		B	DSO	60	4	7	2
4333		HOLL	10 09 1448	S08 E29	10 11.8		B	CRO	60	9	8	4
4333	23856	MWIL	10 09 1500	S08 E29	10 11.8	3	(B)					
4333		BOUL	10 09 1520	S11 E27	10 11.7		B	CAO	50	7	8	2
4333		RAMY	10 09 1644	S08 E28	10 11.8		B	DAO	290	7	7	2
4333		PALE	10 09 1800	S09 E27	10 11.8		B	DSO	60	7	8	3
4333		LEAR	10 10 0000	S09 E24	10 11.8		B	DSO	30	8	7	2
4333		ATHN	10 10 0610	S09 E21	10 11.8		B	DRO	40	6	8	3
4333		RAMY	10 10 1313	S09 E17	10 11.8		B	DAO	40	5	9	1
4333		BOUL	10 10 1431	S08 E14	10 11.7		B	BXO	30	9	9	2
4333	23856	MWIL	10 10 1515	S09 E15	10 11.8	3	(B)					
4333		HOLL	10 10 1550	S08 E16	10 11.9		B	BXO	30	6	8	3
4333		PALE	10 10 1845	S09 E14	10 11.8		B	BXO	30	11	9	3

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4333		LEAR	10	11	0205	S08	E10	10	11.8		B	CSO	50	8	9	3
4333		ATHN	10	11	0600	S09	E03	10	11.5		B	DSO	50	2	1	3
4333		RAMY	10	11	1220	S08	E01	10	11.6		B	CAO	30	5	2	4
4333		HOLL	10	11	1540	S08	W02	10	11.5		B	BXO	10	4	2	2
4333	23856	MWIL	10	11	1600	S09	E01	10	11.7	3	(AP)					
4333		PALE	10	11	1800	S09	W02	10	11.6		B	BXO	20	5	3	4
4333		LEAR	10	12	0018	S09	W06	10	11.6		B	CRO	30	4	3	4
4333		ATHN	10	12	0630	S08	W08	10	11.7		B	CSO	30	2	3	3
4333		RAMY	10	12	1210	S08	W11	10	11.7		B	BXO	20	6	5	4
4333		BOUL	10	12	1408	S06	W14	10	11.5		A	AXX		1		3
4333	23856	MWIL	10	12	1530	S08	W14	10	11.6	3	(AP)					
4333		HOLL	10	12	1539	S07	W15	10	11.5		A	AXX		2	1	2
4333		PALE	10	12	1800	S08	W17	10	11.5		A	AXX	10	1	1	3
4333		RAMY	10	13	1205	S08	W23	10	11.8		B	BXO	10	3	7	4
4333		HOLL	10	13	1412	S07	W27	10	11.6		A	AXX		1		2
		LEAR	10	12	0018	S14	E05	10	12.4		A	AXX		1	1	4
		LEAR	10	09	0145	N18	E50	10	12.9		A	AXX	10	1	1	3
4335		PALE	10	07	1810	N22	E73	10	13.4		A	AX	20	2	2	3
4335		LEAR	10	08	0045	N23	E70	10	13.4		A	AXX	10	1	1	2
4335		RAMY	10	08	1250	N23	E65	10	13.5		B	CAO	40	4	5	4
4335	23858	MWIL	10	08	1445	N25	E62	10	13.4	2	B					
4335		HOLL	10	08	1504	N22	E60	10	13.2		B	BXO	20	6	9	4
4335		PALE	10	08	1833	N22	E61	10	13.5		B	BXO	40	4	5	2
4335		LEAR	10	09	0145	N23	E57	10	13.5		B	CSO	70	7	6	3
4335		ATHN	10	09	1100	N23	E51	10	13.4		B	CAO	30	4	4	2
4335		HOLL	10	09	1448	N23	E49	10	13.4		B	DSO	110	13	10	4
4335	23858	MWIL	10	09	1500	N22	E47	10	13.2	4	(BP)					
4335		BOUL	10	09	1520	N17	E48	10	13.3		B	CRO	50	8	5	2
4335		RAMY	10	09	1644	N22	E47	10	13.3		B	DAO	110	13	5	2
4335		PALE	10	09	1800	N22	E47	10	13.4		B	DSO	90	12	6	3
4335		LEAR	10	10	0000	N22	E43	10	13.3		B	DSO	110	13	6	2
4335		ATHN	10	10	0610	N21	E39	10	13.2		B	DSO	90	8	6	3
4335		RAMY	10	10	1313	N21	E35	10	13.2		B	DAO	90	5	7	1
4335		BOUL	10	10	1431	N22	E33	10	13.1		B	BXO	60	13	7	2
4335	23858	MWIL	10	10	1515	N21	E33	10	13.2	4	(BP)					
4335		HOLL	10	10	1550	N21	E33	10	13.2		B	DAC	170	8	7	3
4335		PALE	10	10	1845	N21	E32	10	13.2		B	DAO	120	12	7	3
4335		LEAR	10	11	0205	N21	E27	10	13.2		B	DSO	100	5	6	3
4335		ATHN	10	11	0600	N20	E25	10	13.2		B	DAO	150	6	5	3
4335		RAMY	10	11	1220	N21	E22	10	13.2		B	DSO	90	13	6	4
4335		HOLL	10	11	1540	N21	E19	10	13.1		B	DSO	100	11	6	2
4335	23858	MWIL	10	11	1600	N21	E19	10	13.1	4	(B)					
4335		PALE	10	11	1800	N21	E19	10	13.2		B	DAO	100	8	7	4
4335		LEAR	10	12	0018	N22	E14	10	13.1		B	DAO	180	19	6	4
4335		ATHN	10	12	0630	N21	E18	10	13.7		B	DAO	130	12	6	3
4335		RAMY	10	12	1210	N22	E10	10	13.3		B	DKO	230	23	8	4
4335		BOUL	10	12	1408	N23	E17	10	13.9		B	DSO	110	9	7	3
4335	23858	MWIL	10	12	1530	N21	E06	10	13.1	5	(B)					
4335		HOLL	10	12	1539	N22	E07	10	13.2		B	DHI	250	21	6	2
4335		PALE	10	12	1800	N22	E06	10	13.2		B	DSO	210	16	8	3
4335		LEAR	10	13	0030	N22	E02	10	13.2		B	DHO	190	18	7	3
4335		ATHN	10	13	0630	N21	W02	10	13.1		B	DHO	240	7	8	2
4335		RAMY	10	13	1205	N22	W05	10	13.1		B	DKO	290	28	7	4
4335		HOLL	10	13	1412	N22	W06	10	13.1		B	DKI	280	15	7	2
4335	23858	MWIL	10	13	1530	N21	W08	10	13.0	5	(B)					
4335		BOUL	10	13	1600	N20	W08	10	13.1		B	DHI	310	18	6	2
4335		PALE	10	13	1905	N21	W10	10	13.0		B	DHI	290	17	5	3
4335		LEAR	10	14	0035	N20	W13	10	13.0		BG	DHO	300	23	8	3
4335		ATHN	10	14	0622	N21	W17	10	13.0		B	DHO	290	12	8	3
4335		RAMY	10	14	1300	N22	W20	10	13.0		B	DKO	430	27	8	3
4335		HOLL	10	14	1456	N21	W21	10	13.0		BG	DHI	470	25	8	2
4335		BOUL	10	14	1503	N21	W21	10	13.0		B	DHI	330	16	6	2
4335	23858	MWIL	10	14	1530	N21	W22	10	13.0	5	(B)					
4335		PALE	10	14	1835	N21	W23	10	13.0		BG	DKI	510	24	9	3
4335		LEAR	10	15	0134	N21	W27	10	13.0		BG	DKI	550	20	7	2
4335		ATHN	10	15	0600	N18	W30	10	13.0		BG	DKO	680	10	9	3
4335		HOLL	10	15	1457	N21	W33	10	13.1		BG	DKC	830	21	8	4
4335	23858	MWIL	10	15	1500	N21	W35	10	12.9	5	(B)					

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4335		BOUL	10	15	1630	N23	W35	10	13.0		A	DHI	760	35	9	3
4335		PALE	10	15	1950	N22	W36	10	13.1		BG	DKI	850	30	9	3
4335		LEAR	10	16	0120	N21	W40	10	13.0		BGD	DKC	780	25	8	2
4335		ATHN	10	16	0900	N20	W45	10	12.9		BG	EKO	670	8	12	2
4335		RAMY	10	16	1223	N22	W48	10	12.8		BG	DKI	660	31	10	2
4335		BOUL	10	16	1440	N21	W49	10	12.9		B	DHI	720	23	7	2
4335		HOLL	10	16	1445	N22	W47	10	13.0		BGD	DKI	850	30	9	4
4335	23858	MWIL	10	16	1715	N21	W48	10	13.0	5	(D)					
4335		PALE	10	16	1808	N22	W49	10	13.0		BGD	DKI	890	18	9	3
4335		LEAR	10	17	0043	N22	W54	10	12.9		BGD	DKI	980	23	8	3
4335		ATHN	10	17	0630	N23	W56	10	13.0		BGD	DKI	870	35	10	3
4335		RAMY	10	17	1216	N21	W61	10	12.8		B	EKI	700	28	11	4
4335		BOUL	10	17	1522	N23	W65	10	12.6		B	DHI	370	26	11	2
4335		HOLL	10	17	1610	N21	W61	10	13.0		B	DKI	640	17	8	2
4335		PALE	10	17	1804	N22	W64	10	12.8		B	DKI	590	24	10	3
4335		LEAR	10	18	0007	N21	W65	10	13.0		BG	EKI	840	11	10	2
4335		ATHN	10	18	0815	N23	W70	10	12.9		B	DHO	640	6	10	2
4335		RAMY	10	18	1220	N20	W76	10	12.7		B	EKO	690	20	15	4
4335	23858	MWIL	10	18	1530	N19	W72	10	13.2	4	(B)					
4335		PALE	10	18	1805	N22	W76	10	12.9		B	DKI	440	7	10	3
4335		LEAR	10	19	0017	N21	W81	10	12.8		B	EKI	530	9	11	3
4335		ATHN	10	19	0900	N23	W81	10	13.1		B	DKO	810	2	8	2
4335		RAMY	10	19	1205	N22	W83	10	13.1		B	EKO	240	6	12	2
4335	23858	MWIL	10	19	1515	N21	W83	10	13.3	3	AF					
		RAMY	10	13	1205	S13	E05	10	13.9		A	AXX	10	2	2	4
4339		LEAR	10	11	0205	S12	E78	10	17.0		A	HSX	210	1	1	3
4339		ATHN	10	11	0600	S13	E78	10	17.1		A	HKX	80	1	3	3
4339		RAMY	10	11	1220	S13	E72	10	16.9		A	HSX	60	1	2	4
4339		HOLL	10	11	1540	S12	E69	10	16.9		A	HSX	90	4	2	2
4339	23861	MWIL	10	11	1600	S11	E70	10	16.9	3	(AP)					
4339		PALE	10	11	1800	S12	E70	10	17.0		A	HSX	60	2	1	4
4339		LEAR	10	12	0018	S12	E66	10	17.0		A	HSX	80	1	1	4
4339		ATHN	10	12	0630	S13	E62	10	16.9		A	HSX	50	2	2	3
4339		RAMY	10	12	1210	S12	E59	10	17.0		A	HAX	50	1	1	4
4339		BOUL	10	12	1408	S13	E56	10	16.8		A	HRX	20	3	1	3
4339	23861	MWIL	10	12	1530	S11	E56	10	16.9	4	(AP)					
4339		HOLL	10	12	1539	S12	E56	10	16.9		A	HAX	60	2	2	2
4339		PALE	10	12	1800	S12	E55	10	16.9		A	HSX	50	1	1	3
4339		LEAR	10	13	0030	S08	E52	10	16.9		A	HAX	70	1	2	3
4339		ATHN	10	13	0630	S12	E49	10	17.0		A	HRX	30	1	1	2
4339		RAMY	10	13	1205	S13	E48	10	17.1		B	CAO	70	4	6	4
4339		HOLL	10	13	1412	S12	E43	10	16.8		A	HSX	50	1	2	2
4339	23861	MWIL	10	13	1530	S11	E43	10	16.9	4	(AP)					
4339		BOUL	10	13	1600	S13	E43	10	16.9		A	HSX	30	1	1	2
4339		PALE	10	13	1905	S12	E41	10	16.9		A	HSX	30	1	2	3
4339		LEAR	10	14	0035	S10	E39	10	17.0		A	HSX	30	1	2	3
4339		ATHN	10	14	0622	S12	E33	10	16.8		A	HSX	30	1	1	3
4339		RAMY	10	14	1300	S12	E31	10	16.9		A	HRX	30	1	1	3
4339		HOLL	10	14	1456	S12	E30	10	16.9		A	HSX	40	1	2	2
4339		BOUL	10	14	1503	S12	E29	10	16.8		A	AXX	20	2	2	2
4339	23861	MWIL	10	14	1530	S11	E31	10	17.0	4	(AP)					
4339		PALE	10	14	1835	S12	E28	10	16.9		A	HSX	20	1	1	3
4339		LEAR	10	15	0134	S12	E24	10	16.9		A	HSX	20	1	1	2
4339		ATHN	10	15	0600	S12	E21	10	16.8		A	HAX	40	1	2	3
4339		HOLL	10	15	1457	S12	E17	10	16.9		A	HSX	20	1	1	4
4339	23861	MWIL	10	15	1500	S12	E17	10	16.9	4	(AP)					
4339		BOUL	10	15	1630	S12	E15	10	16.8		A	AXX	10	1	1	3
4339		PALE	10	15	1950	S12	E14	10	16.9		A	HSX	20	1	1	3
4339		LEAR	10	16	0120	S13	E11	10	16.9		A	HSX	20	1	2	2
4339		ATHN	10	16	0900	S12	E07	10	16.9		A	HSX	40	1	2	2
4339		RAMY	10	16	1223	S13	E06	10	17.0		B	CAO	20	5	5	2
4339		BOUL	10	16	1440	S12	E02	10	16.8		B	HAX	20	2	1	2
4339		HOLL	10	16	1445	S12	E07	10	17.1		B	CSO	30	5	6	4
4339	23861	MWIL	10	16	1715	S12	E03	10	16.9	4	(BP)					
4339		PALE	10	16	1808	S12	E04	10	17.1		B	CSO	30	2	5	3
4339		LEAR	10	17	0043	S12	W03	10	16.8		A	HSX	20	1	2	3
4339		ATHN	10	17	0630	S10	W04	10	17.0		A	HSX	20	1	1	3
4339		RAMY	10	17	1216	S12	W08	10	16.9		B	CAO	30	5	4	4
4339		BOUL	10	17	1522	S11	W12	10	16.7		A	AXX	10	1	1	2

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

OCTOBER 1983

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 Hem)	Spot Count	Long. Extent (Deg)	Qual
4339		HOLL	10	17	1610	S11	W11	10	16.8		A	AXX	20	1	1	2
4339		PALE	10	17	1804	S12	W12	10	16.8		A	HRX	20	1	1	3
4339		LEAR	10	18	0007	S12	W16	10	16.8		A	AXX	10	1	2	2
4339		ATHN	10	18	0815	S11	W17	10	17.1		A	HSX	20	1	5	2
4339		RAMY	10	18	1220	S13	W22	10	16.9		B	CAO	20	3	3	4
4339	23861	MWIL	10	18	1530	S13	W22	10	17.0	4	(BP)					
4339		PALE	10	18	1805	S12	W25	10	16.9		A	HRX	10	1	1	3
4339		LEAR	10	19	0017	S11	W28	10	16.9		A	HRX	10	1	1	3
4339		ATHN	10	19	0900	S12	W30	10	17.1		A	AXX	10	1	1	2
4339		RAMY	10	19	1205	S12	W36	10	16.8		A	HAX	30	1	1	2
4339		BOUL	10	19	1436	S10	W38	10	16.8		A	AXX		1		2
4339	23861	MWIL	10	19	1515	S13	W37	10	16.8	4	(AP)					
4339		PALE	10	19	2103	S11	W41	10	16.8		A	AXX		1		2
4339		LEAR	10	20	0021	S11	W43	10	16.8		A	AXX		1		3
4339		RAMY	10	20	1250	S12	W49	10	16.8		A	HRX	20	1	1	2
4339	23861	MWIL	10	20	1515	S12	W50	10	16.9	3	(AP)					
4339		LEAR	10	20	2315	S13	W54	10	16.9		A	AXX	10	1	1	4
4339		LEAR	10	21	0001	S13	W54	10	16.9		A	AXX	10	1	1	4
4340		RAMY	10	11	1220	S07	E81	10	17.6		B	DAO	90	2	12	4
4340		HOLL	10	11	1540	S06	E79	10	17.6		B	DSO	20	2	7	2
4340	23862	MWIL	10	11	1600	S05	E78	10	17.5	2	B					
4340		PALE	10	11	1800	S08	E80	10	17.7		B	DSO	120	2	10	4
4340		LEAR	10	12	0018	S08	E75	10	17.6		B	DSO	400	2	9	4
4340		ATHN	10	12	0630	S08	E73	10	17.7		B	DSO	100	2	10	3
4340		RAMY	10	12	1210	S06	E69	10	17.7		B	DAO	190	4	7	4
4340		BOUL	10	12	1408	S08	E66	10	17.5		B	BXO	40	7	7	3
4340	23862	MWIL	10	12	1530	S05	E65	10	17.5	4	(B)					
4340		HOLL	10	12	1539	S05	E65	10	17.5		B	DSO	170	4	7	2
4340		PALE	10	12	1800	S07	E64	10	17.5		B	DSO	150	4	7	3
4340		LEAR	10	13	0030	S03	E63	10	17.7		B	DHO	180	4	4	3
4340		ATHN	10	13	0630	S07	E58	10	17.6		B	DSO	160	3	9	2
4340		RAMY	10	13	1205	S06	E55	10	17.6		B	DAO	190	8	7	4
4340		HOLL	10	13	1412	S05	E53	10	17.6		B	DSO	180	3	6	2
4340	23862	MWIL	10	13	1530	S05	E52	10	17.5	4	(B)					
4340		BOUL	10	13	1600	S08	E53	10	17.6		B	DSO	130	3	7	2
4340		PALE	10	13	1905	S07	E50	10	17.5		B	DSO	160	3	6	3
4340		LEAR	10	14	0035	S04	E48	10	17.6		B	DAO	190	4	6	3
4340		ATHN	10	14	0622	S06	E44	10	17.6		B	DSO	150	4	7	3
4340		RAMY	10	14	1300	S06	E41	10	17.6		B	DAO	210	10	8	3
4340		HOLL	10	14	1456	S05	E38	10	17.5		B	DSO	170	6	6	2
4340		BOUL	10	14	1503	S06	E38	10	17.5		B	DSO	60	5	6	2
4340	23862	MWIL	10	14	1530	S06	E39	10	17.6	4	(B)					
4340		PALE	10	14	1835	S06	E37	10	17.5		B	DSO	120	6	6	3
4340		LEAR	10	15	0134	S06	E34	10	17.6		B	DSO	130	5	6	2
4340		ATHN	10	15	0600	S08	E30	10	17.5		A	DAO	90	2	5	3
4340		HOLL	10	15	1457	S05	E26	10	17.6		B	DSO	170	8	6	4
4340	23862	MWIL	10	15	1500	S05	E26	10	17.6	4	(B)					
4340		BOUL	10	15	1630	S05	E24	10	17.5		B	DSO	80	5	5	3
4340		PALE	10	15	1950	S05	E23	10	17.5		B	DSO	140	4	5	3
4340		LEAR	10	16	0120	S06	E20	10	17.6		B	DSO	110	4	6	2
4340		ATHN	10	16	0900	S04	E17	10	17.6		B	DAO	70	2	6	2
4340		RAMY	10	16	1223	S06	E14	10	17.6		B	DAO	140	8	6	2
4340		BOUL	10	16	1440	S06	E12	10	17.5		B	DSO	130	4	5	2
4340		HOLL	10	16	1445	S05	E15	10	17.7		B	DSO	130	5	8	4
4340	23862	MWIL	10	16	1715	S05	E12	10	17.6	5	(B)					
4340		PALE	10	16	1808	S05	E11	10	17.6		B	DSO	120	5	5	3
4340		LEAR	10	17	0043	S06	E07	10	17.6		B	DSO	70	3	6	3
4340		ATHN	10	17	0630	S04	E05	10	17.6		B	DSO	120	4	6	3
4340		RAMY	10	17	1216	S06	W00	10	17.5		B	DAO	110	10	5	4
4340		BOUL	10	17	1522	S05	W03	10	17.4		B	CSO	80	5	4	2
4340		HOLL	10	17	1610	S05	W02	10	17.5		B	CSO	100	4	5	2
4340		PALE	10	17	1804	S05	W03	10	17.5		B	DSO	110	12	5	3
4340		LEAR	10	18	0007	S05	W06	10	17.6		B	DSO	110	5	5	2
4340		ATHN	10	18	0815	S03	W09	10	17.7		B	CSO	70	5	2	2
4340		RAMY	10	18	1220	S05	W14	10	17.5		B	CAO	120	15	7	4
4340	23862	MWIL	10	18	1530	S05	W14	10	17.6	5	(BY)					
4340		PALE	10	18	1805	S04	W17	10	17.5		B	DAO	80	5	7	3
4340		LEAR	10	19	0017	S03	W20	10	17.5		B	DSO	100	6	6	3
4340		ATHN	10	19	0900	S04	W22	10	17.7		B	CSO	60	2	5	2
4340		RAMY	10	19	1205	S06	W26	10	17.6		B	DAO	90	5	5	2

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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
4340		BOUL	10	19	1436	S04	W28	10	17.5		B	CRO	50	2	4	2
4340	23862	MWIL	10	19	1515	S05	W28	10	17.5	4	(BP)					
4340		PALE	10	19	2103	S04	W31	10	17.6		B	CSO	60	2	5	2
4340		LEAR	10	20	0021	S03	W34	10	17.5		B	CSO	90	2	5	3
4340		RAMY	10	20	1250	S04	W42	10	17.4		B	CAO	80	6	4	2
4340	23862	MWIL	10	20	1515	S05	W42	10	17.5	5	(AP)					
4340		BOUL	10	20	1530	S06	W42	10	17.5		B	CSO	40	3	4	2
4340		LEAR	10	20	2315	S04	W47	10	17.5		B	CSO	30	2	2	4
4340		LEAR	10	21	0001	S04	W47	10	17.5		B	CSO	30	2	2	4
4340		ATHN	10	21	0615	S06	W51	10	17.4		A	HSX	60	1	1	1
4340		HOLL	10	21	1508	S04	W56	10	17.4		A	AXX	20	2	1	4
4340	23862	MWIL	10	21	1515	S05	W56	10	17.4	4	(AP)					
4340		RAMY	10	21	1540	S04	W58	10	17.3		A	HRX	20	1	1	2
4340		PALE	10	21	1820	S03	W57	10	17.5		A	HSX	20	2	1	3
4340		LEAR	10	21	2325	S04	W62	10	17.3		A	HRX	20	1	1	3
4340		ATHN	10	22	0615	S04	W69	10	17.1		A	HRX	20	1	1	2
4340		RAMY	10	22	1235	S03	W69	10	17.4		A	HRX	30	1	1	3
4340	23862	MWIL	10	22	1515	S05	W69	10	17.5	3	(AP)					
4340		BOUL	10	22	1520	S07	W73	10	17.2		A	AXX	30	1	1	3
4340		HOLL	10	22	1543	S04	W69	10	17.5		A	AXX		1		4
4340		PALE	10	22	1850	S03	W72	10	17.4		A	AXX		1		3
		RAMY	10	17	1216	N02	E20	10	19.0		B	BXO	30	3	3	4
4342		LEAR	10	16	0120	S12	E43	10	19.3		B	BXO	10	2	3	2
4342		RAMY	10	16	1223	S12	E36	10	19.2		A	AXX	10	1	1	2
4342		HOLL	10	16	1445	S11	E35	10	19.2		A	AXX		1		4
4342	23864	MWIL	10	16	1715	S10	E33	10	19.2	2	(AP)					
4342		ATHN	10	17	0630	S12	E27	10	19.3		B	BXO	20	3	3	3
4342		LEAR	10	18	0007	S11	E17	10	19.3		B	BXO	10	2	3	2
4342		ATHN	10	18	0815	S10	E13	10	19.3		B	BRO	40	4	3	2
4342		RAMY	10	18	1220	S12	E09	10	19.2		B	CAO	20	8	4	4
4342	23864	MWIL	10	18	1530	S11	E08	10	19.2	4	(B)					
4342		PALE	10	18	1805	S11	E05	10	19.1		B	CSO	30	5	6	3
4342		LEAR	10	19	0017	S10	E00	10	19.0		A	HSX	20	1	1	3
4342		ATHN	10	19	0900	S11	W02	10	19.2		A	AXX	20	1	1	2
4342		RAMY	10	19	1205	S12	W05	10	19.1		B	CAO	20	4	5	2
4342		BOUL	10	19	1436	S11	W08	10	19.0		B	BXO	10	3	5	2
4342	23864	MWIL	10	19	1515	S11	W06	10	19.2	4	(BY)					
4342		PALE	10	19	2103	S11	W12	10	19.0		A	AXX	10	1		2
4342		LEAR	10	20	0021	S10	W14	10	19.0		A	AXX		2	1	3
4342		BOUL	10	20	1530	S11	W24	10	18.8		A	AXX	10	2	1	2
4342		LEAR	10	20	2315	S12	W23	10	19.2		B	BXO	10	2	3	4
4342		LEAR	10	21	0001	S12	W23	10	19.3		B	BXO	10	2	3	4
4342		BOUL	10	21	1440	S06	W36	10	18.9		A	AXX	10	3	3	2
	23865	MWIL	10	18	1530	S10	E18	10	20.0	3	(AF)					
0002	23866	MWIL	10	20	1515	N05	W08	10	20.0	3	(B)					
0002		LEAR	10	21	0001	N04	W12	10	20.1		A	AXX	10	1	1	4
4348	23871	MWIL	10	24	1515	S21	W56	10	20.3	2	(AP)					
4348		PALE	10	24	1818	S21	W55	10	20.5		B	CRO	20	1	1	3
4348		LEAR	10	25	0006	S21	W58	10	20.6		A	AXX		1	1	4
4348		RAMY	10	25	1135	S22	W61	10	20.8		B	CAO	50	3	5	4
4348		BOUL	10	25	1420	S22	W63	10	20.8		B	BXO	10	2	4	2
4348	23871	MWIL	10	25	1530	S21	W65	10	20.7	2	(AP)					
4348		PALE	10	25	1800	S21	W68	10	20.5		B	BXO	20	2	4	3
4341	23863	MWIL	10	15	1500	S16	E71	10	21.0	3	(AP)					
4341		BOUL	10	15	1630	S17	E68	10	20.9		A	AXX	20	1	1	3
4341		PALE	10	15	1950	S16	E70	10	21.1		A	AXX		1		3
4341		LEAR	10	16	0120	S16	E66	10	21.1		A	AXX	10	1	1	2
4341		RAMY	10	16	1223	S17	E60	10	21.1		A	HAX	50	1	1	2
4341		HOLL	10	16	1445	S16	E58	10	21.0		A	AXX	10	2	1	4
4341	23863	MWIL	10	16	1715	S16	E57	10	21.0	4	(AP)					
4341		PALE	10	16	1808	S16	E56	10	21.0		A	AXX		1		3
4341		LEAR	10	17	0043	S16	E52	10	21.0		A	AXX		1	1	3
4341		ATHN	10	17	0630	S16	E49	10	21.0		A	AXX	10	1	1	3
4341		RAMY	10	17	1216	S17	E47	10	21.1		A	AXX	30	3	2	4
4341		BOUL	10	17	1522	S17	E44	10	21.0		A	AXX	10	2	1	2

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(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

OCTOBER 1983

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
4341		HOLL	10	17	1610	S16	E45	10	21.1		A	AXX	10	2	2	2
4341		PALE	10	17	1804	S16	E43	10	21.0		A	AXX	10	2	1	3
4341		LEAR	10	18	0007	S17	E39	10	21.0		A	AXX	10	2	2	2
4341		ATHN	10	18	0815	S14	E37	10	21.1		A	AXX	10	1	1	2
4341		RAMY	10	18	1220	S16	E33	10	21.0		A	AXX	10	2	1	4
4341	23863	MWIL	10	18	1530	S15	E31	10	21.0	2	(AP)					
4341		LEAR	10	19	0017	S15	E26	10	21.0		A	AXX		2	1	3
4341		LEAR	10	24	0004	S22	W42	10	20.8		A	AXX	20	3	3	3
4341		RAMY	10	24	1215	S22	W48	10	20.8		B	CAO	40	4	4	3
4341		HOLL	10	24	1445	S21	W49	10	20.9		B	BXO	10	3	5	4
4341		HOLL	10	25	1600	S22	W63	10	20.8		B	BXO	10	2	6	3
4346	23868	MWIL	10	22	1515	N05	W18	10	21.3	2	(AP)					
4346		BOUL	10	22	1520	N02	W15	10	21.5		B	BXO	10	3	5	3
4346		HOLL	10	22	1543	N02	W18	10	21.3		A	AXX		1		4
4346		PALE	10	22	1850	N01	W21	10	21.2		A	AXX		1		3
		RAMY	10	18	1220	N03	E43	10	21.7		A	AXX	10	1	1	4
		LEAR	10	21	2325	N16	E23	10	23.7		A	AXX	10	1	1	3
0003		PALE	10	25	1800	S08	W21	10	24.2		A	AXX		1		3
0003		RAMY	10	26	1325	S08	W33	10	24.1		A	AXX	10	1	1	4
		RAMY	10	25	1135	S17	W08	10	24.9		A	AXX	10	3	1	4
4344	23869	MWIL	10	22	1515	S21	E50	10	26.5	3	(AF)					
4344	23869	MWIL	10	23	1515	S18	E39	10	26.6	3	(AF)					
4344		RAMY	10	25	1135	S25	E08	10	26.1		B	CAO	20	4	3	4
4344		RAMY	10	26	1325	S22	W00	10	26.6		A	AXX	10	3	1	4
4344		BOUL	10	26	1511	S21	W03	10	26.4		A	AXX	10	1		3
4347		HOLL	10	23	1517	S12	E38	10	26.5		B	BXO	10	2	3	3
4347		BOUL	10	23	1520	S11	E37	10	26.4		B	BXO	20	2	3	3
4347		PALE	10	23	1752	S13	E36	10	26.5		B	BXO	10	2	3	3
4347		LEAR	10	24	0004	S12	E33	10	26.5		A	AXX		1	1	3
4347		LEAR	10	25	0006	S11	E21	10	26.6		B	BXO	10	3	3	4
4347		RAMY	10	25	1135	S13	E15	10	26.6		A	AXX	10	1	1	4
4347		HOLL	10	25	1600	S11	E13	10	26.6		B	BXO	30	6	3	3
4347		PALE	10	25	1800	S12	E12	10	26.7		B	BXO	20	2	2	3
4347	23873	MWIL	10	27	1515	S09	W13	10	26.7	3	(BP)					
		HOLL	10	25	1600	S03	E15	10	26.8		A	AXX		1		3
4345		LEAR	10	21	0001	S08	E79	10	26.9		A	AXX	10	1	1	4
4345		HOLL	10	21	1508	S06	E68	10	26.7		A	AXX		1	1	4
4345	23867	MWIL	10	21	1515	S06	E69	10	26.8	2	(AP)					
4345		RAMY	10	21	1540	S08	E69	10	26.8		A	AXX	10	1	1	2
4345		PALE	10	21	1820	S08	E68	10	26.9		A	AXX	10	1	1	3
4345		LEAR	10	21	2325	S07	E66	10	26.9		A	AXX	10	1	1	3
4345		ATHN	10	22	0615	S06	E62	10	26.9		A	AXX	10	1	1	2
4345		RAMY	10	22	1235	S08	E58	10	26.9		A	HRX	20	1	1	3
4345	23867	MWIL	10	22	1515	S07	E56	10	26.8	4	(AP)					
4345		BOUL	10	22	1520	S05	E57	10	26.9		A	AXX	20	1	1	3
4345		HOLL	10	22	1543	S07	E57	10	26.9		A	AXX		1		4
4345		PALE	10	22	1850	S08	E55	10	26.9		A	AXX	10	1	1	3
4345		LEAR	10	23	0005	S07	E52	10	26.9		A	AXX		1	1	3
4345	23870	MWIL	10	23	1515	S04	E44	10	26.9	4	(AP)					
4345	23867	MWIL	10	23	1515	S08	E38	10	26.5	3	(B)					
4345		HOLL	10	23	1517	S07	E43	10	26.9		A	AXX		1		3
4345		BOUL	10	23	1520	S06	E43	10	26.9		A	AXX	10	1	1	3
4345		PALE	10	23	1752	S08	E42	10	26.9		A	AXX	10	1	1	3
4345		LEAR	10	24	0004	S07	E38	10	26.8		A	AXX	10	2	2	3
4345		RAMY	10	24	1215	S07	E32	10	26.9		A	HSX	20	1	1	3
4345		HOLL	10	24	1445	S07	E30	10	26.9		A	AXX	20	1		4
4345	23870	MWIL	10	24	1515	S06	E29	10	26.8	2	(AP)					
4345		PALE	10	24	1818	S07	E27	10	26.8		A	AXX	10	1	1	3
4345		LEAR	10	25	0006	S07	E22	10	26.7		A	AXX		1	1	4
4345		RAMY	10	25	1135	S07	E18	10	26.8		A	HAX	20	1	1	4
4345		HOLL	10	25	1600	S06	E16	10	26.9		A	AXX		1		3
4345		PALE	10	25	1800	S07	E14	10	26.8		A	AXX		1		3

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

OCTOBER 1983

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 Hem)	Spot Count	Long. Extent (Deg)	Qual
4345		RAMY	10	26	1325	S08	E04	10	26.9		A	AXX	10	2	1	4
4345		RAMY	10	27	1445	S08	W14	10	26.6		B	CRO	20	6	3	4
4345		PALE	10	27	1830	S08	W16	10	26.6		B	BXO	20	3	3	2
4345		LEAR	10	27	2342	S09	W21	10	26.4		B	BXO	10	2	3	3
		LEAR	10	29	0032	S15	W10	10	28.3		B	BXO	10	2	3	3
4350		LEAR	10	27	2342	S19	E20	10	29.5		B	BXO	20	6	4	3
4350		HOLL	10	28	1458	S18	E12	10	29.5		B	BXO	10	4	3	2
4350	23874	MWIL	10	28	1600	S19	E11	10	29.5	3	(B)					
4350		RAMY	10	29	1230	S17	E04	10	29.8		A	AXX		1		3
4350		LEAR	10	30	0010	S19	W08	10	29.4		A	AXX	10	2	2	3
4350	23874	MWIL	10	30	1530	S19	W16	10	29.4	4	(B)					
4350		BOUL	10	30	1645	S18	W15	10	29.6		B	BXO	10	3	5	2
4350		HOLL	10	30	1735	S20	W15	10	29.6		B	BXO	30	8	4	2
4350		RAMY	10	30	1817	S19	W19	10	29.3		B	CRO	20	12	5	3
4350		PALE	10	30	1830	S19	W18	10	29.4		B	BXO	20	5	5	2
4350		LEAR	10	31	0001	S18	W21	10	29.4		B	CRO	20	8	5	3
4350		RAMY	10	31	1315	S20	W29	10	29.3		B	DAO	50	7	5	2
4350		PALE	10	31	1830	S20	W32	10	29.3		B	CRO	30	6	6	3
4350		HOLL	10	31	1915	S23	W29	10	29.6		B	BXO	40	6	6	3
4350		LEAR	11	01	0003	S19	W35	10	29.3		B	CRO	20	8	7	3
4350		RAMY	11	01	1329	S19	W43	10	29.3		B	DAO	50	5	6	3
4350		BOUL	11	01	1510	S19	W41	10	29.5		B	BXO	10	3	2	3
4350		HOLL	11	01	1607	S20	W41	10	29.5		A	AXX	20	3	2	4
4350		LEAR	11	02	0033	S20	W46	10	29.5		B	BXO	10	2	3	3
4350		RAMY	11	02	1315	S20	W56	10	29.3		B	CRO	20	3	4	3
4350		BOUL	11	02	1344	S19	W56	10	29.3		A	AXX	10	1		3
4350		LEAR	11	03	0100	S18	W66	10	29.0		A	AXX	10	1	1	2
4349		RAMY	10	25	1135	S06	E63	10	30.2		A	AXX	20	3	2	4
4349		HOLL	10	25	1600	S05	E60	10	30.2		A	AXX		1		3
4349		PALE	10	25	1800	S06	E59	10	30.2		A	AXX		1		3
4349		RAMY	10	26	1325	S05	E51	10	30.4		B	DAO	40	2	3	4
4349		BOUL	10	26	1511	S06	E49	10	30.3		A	AXX	10	2	2	3
4349	23872	MWIL	10	26	1515	S05	E49	10	30.3	4	(B)					
4349		HOLL	10	26	1526	S05	E49	10	30.3		B	BXO	10	2	3	3
4349		PALE	10	26	1815	S05	E48	10	30.4		B	BXO	10	2	3	3
4349		LEAR	10	26	2258	S05	E45	10	30.3		B	BXO	10	2	3	2
4349		RAMY	10	27	1445	S05	E35	10	30.2		B	CAO	30	3	3	4
4349	23872	MWIL	10	27	1515	S05	E34	10	30.2	4	(BP)					
4349		PALE	10	27	1830	S06	E32	10	30.2		B	CSO	20	2	2	2
4349		LEAR	10	27	2342	S05	E29	10	30.2		B	BXO	10	2	3	3
4349		RAMY	10	28	1235	S07	E21	10	30.1		A	HRX	10	1	1	3
4349		HOLL	10	28	1458	S05	E20	10	30.1		A	AXX	10	1		2
4349		BOUL	10	28	1520	S05	E19	10	30.1		B	BXO	10	2	3	3
4349	23872	MWIL	10	28	1600	S05	E19	10	30.1	3	(AP)					
4349		PALE	10	28	1814	S05	E17	10	30.0		A	AXX	10	1	1	3

SUDDEN IONOSPHERIC DISTURBANCES

October 1983

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	0658	0711	0758	1-	1			1			0658	X-ray
01	1206	1225	1244	1	3	2					1157	4324
01	1449	1503	1516	1	3		2				NF	
02	0201	0206	0226	1-	1			1			0200	X-ray
02	0520	0550	0620D	1-	1			1			0517	X-ray
02	0620	0640	0800	2	3			1	1	1	0614	4323
02	0637	0642	0655	1-	1	1					0645E	4323
02	0731	0759	0928	2	3		2				NF	
02	1046	1050	1134	1-	3		2				NF	
03	0855	0908	0950	1	3	1	2		1	1	0853	X-ray
03	1113	1117	1128	1	1		1				NF	
03	2336	2344	2354	1-	1			1			*	
04	0751	0807	0841	2	3		2				NF	
04	1246	1250	1323	1	3		2				NF	
04	1325	1330	1340	1	3		2				NF	
04	1343	1406	1420	1	3		2				NF	
05	0156	0206	0247	1-	3		1	1		1	0151	X-ray
05	1105	1112	1140	1-	3	1		1		1	1110E	4331
05	1500	1508	1555	2	5	3	4	1	1	9	1458	4328
05	1744	1755	1843	1+	3			1		7	1742	4328
06	1526	1530	1546	1	1		1				NF	
07	0150	0159	0226	1-	1			1			0150	4332
07	0334	0341	0415	1-	1			1			0334	4328
07	1437	1448	1533	1	3		1			1	1430	4328
08	0737	0744	0805	1-	3		1	1			0735	No data
08	0804	0815	0829	1	1		1				NF	
08	0921	0924	0948	1	3		2				NF	
09	0207	0213	0300	1-	3	1		1	1	2	0204	4335
09	0302	0308	0350	1-	3			1	1	1	0301	4328
09	0540	0548	0634	1-	3			1	1		0531	4328
09	1013	1017	1028	1	1		1				*	
09	1033	1039	1110	1	1		1				NF	
09	1142	1145	1225	1	5	1	2	1	1	4	1141	No data
10	0811	0821	0941	1+	5	3	2	1	1	2	0810	No data
10	1625	1630	1655	1+	3					3	1622	4328
11	0224	0234	0254U	1-	1				1		0228	4328
11	2156	2218	2315	1-	1			1			2155	4335
11	2326	2335	0058	1+	3	1	1	1		2	2318	4336
12	0549	0558	0650	1-	3	1		1	1		0549E	4335
12	1712	1720	1750	1-	3			1		6	1708	4328
13	0626	0634	0824	2	3			1	1	2	0627	No data
13	1327	1343	1400	1-	1			1			1327E	4335
13	1630	1641	1710	1-	3			1		2	1628	4335
13	2326	2336	0050	1	3	1	1	1		1	2324	4335
14	0108	0116	0152	1-	3			1		1	0105	4328
14	0327	0330	0354	1-	3			1		1	0327	4328
14	0858	0915	1044	2	5	2	1	1	1	3	0858E	No data
14	1549	1610	1718	1-	3			1		6	1548	4331
14	1728	1733	1800	1-	1			1			NF	
14	2120	2130	2145	1-	1			1			2117	X-ray
14	2223	2224	2253	1-	1			1			2223	4331
14	2338	2344	0003	1-	1			1			2336	4335

SUDDEN IONOSPHERIC DISTURBANCES

October 1983

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
15	0100	0114	0157	1-	3			1	1		0059	4328
15	0312	0322	0408	1-	3			1	1	1	0314	X-ray
15	0426	0435	0558	1+	3	1		1	1	2	0425	4328
15	0624	0658	0749	1-	3			1	1	1	0610	4335
15	0650	0652	0715	1-	3				1	1	0649	4328
15	0838	0856	0954	1-	3			1	1	1	0838	4335
15	0932	0945U	1019	1	1		1				NF	
15	1220	1302	1400	1+	3			1	1	1	1218	X-ray
15	1250	1301	1316	1-	3		1	1		4	NF	
15	1443	1451	1530	1-	3			1		1	1440	4335
15	1641	1646	1709	2	1		1				NF	
15	2346	2354	0010	1-	1			1			2345	4335
16	0127	0146	0246	1-	3	1		1	1	1	0123	X-ray
16	0304	0314	0337	1-	3			1	1		0305	4335
16	0424	0429	0441	1-	1				1		0422	4335
16	0847	0852	0920	1	3	1		1	1	1	0845	4340
16	0940	0947	0955	1-	1				1		NF	
16	1057	1105	1115	1-	1				1		1055	No data
16	1419	1427	1505	1-	3			1	1	4	1418	4335
16	1701	1709	1750	1-	3			1		5	1700	4335
16	2005	2014	2127	2	5	1		2	1	7	2004	X-ray
16	2259	2306	2342	1-	1			1			2300	4335
17	0016	0028	0042	1-	3	1		1		1	NF	
17	0133	0152	0220	1-	3			1	1		0128	4335
17	0201	0205	0218	1-	1				1		0159	X-ray
17	0220	0230	0312	1-	3	1		1	1		0217	X-ray
17	0520	0525	0550	1-	3			1	1		0519	4335
17	0556	0600	0640	1-	3			1	1		0553	4335
17	0912	0925		1-	1			1		1	0911	X-ray
17	0940	0948	1024	1-	5	2	3	1	1	3	0943	X-ray
17	1118	1130	1205	1-	3			1	1	2	1117	X-ray
17	1212	1220	1240	1+	5	2	1	1	1	4	1200	No data
17	1543	1549	1625	1-	3			1		4	1539	X-ray
17	2229	2239	2254	1-	1			1			2228	X-ray
17	2340	2344	0000	1-	1			1			2328	X-ray
18	0145	0151	0242	1-	3	1		1	1	1	0144	4335
18	0300	0306	0331	1-	3			1	1		NF	
18	0351	0400	0435	1-	3			1	1		0350	4335
18	1000	1010	1028	1-	1			1			1001	X-ray
18	2056	2100	2124	1-	1			1			2054	X-ray
19	0210	0214	0247	1-	1			1			0200	X-ray
19	0631	0636	0710	1-	3			1	1		0628	4335
19	0928	0937	1041	1	1		1				NF	
19	1130	1146	1247	1-	3		2	1	1	1	1129	X-ray
19	1427	1447	1612	1	3		2	1	1	4	1427	4335
19	1551	1559	1625	1-	1			1		1	*	
19	1754	1805	1852	1	3			1		7	1754E	4335
19	2003	2016	2124	2	5	3		2		7	1957	X-ray
19	2350	2355	0045	1-	3	1		1		1	2348	X-ray
20	0126	0137	0225	1-	3			1	1		NF	
20	0318	0332	0403	1-	3			1	1		0316	X-ray
20	0426	0434	0456	1-	1			1			0423	X-ray
20	0458	0508	0526	1-	1			1			0457	X-ray
20	0543	0649	0550	1-	3			1	1		0539	X-ray
21	2250	2253	2250	1-	1	1					NF	
24	1850	1905	1945	2	3					4	NF	
25	0612	0634	0717	1	1		1				NF	

SUDDEN IONOSPHERIC DISTURBANCES

October 1983

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
25	1615	1624	1705	1-	1			1		1	NF	
25	1808	1812	1820	1-	1	1					NF	
31	1615	1617	1700	1	3	1				3	1614	4351
31	2120	2149	2250	1-	3	1		1			NF	

SIDs by NOAA/SESC REGION

October 1983

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																															
4323		2																													
4324	1																														
4328					2		2		2	1	1	1		2	3																
4331					1									2																	
4332							1																								
4335									1		1	1	3	1	4	5	3	2	3												
4336											1																				
4340																1															
4351																															1
X-Ray	1	2	1		1									1	2	2	8	2	4	4											
No Flare	1	2	1	4		1		2	1					1	3	1	1		1	1	1			1	3						1
No Flare Patrol			1						1										1												
No Data								1	1	1			1	1		1	1														
Event Totals	3	6	3	4	4	1	3	3	6	2	3	2	4	8	12	10	13	4	9	5	1			1	3						2

OBSERVATORIES REPORTING FOR OCTOBER 1983

Ayrshire, Scotland (AY)	SES	Maui, Hawaii, USA (MI)	SWF
Darmstadt, GFR (DA)	SWF	Panska Ves, Czechoslovakia (PU)	SEA, SWF
Farsta, Sweden (FA)	SES	Roswell, New Mexico, USA (RW)	SES
Glenorchy, Tasmania, Australia (GN)	SES	San Antonio, Texas, USA (SA)	SES
Hiraiso, Japan (HI)	SWF	Sao Paulo (UM)	SPA, SES
Hobart, Tasmania, Australia (TA)	SEA	St. Cloud, Minnesota, USA (SC)	SES
Huancayo, Peru (HU)	SWF	Tavares, Florida, USA (A49)	SES
Inubo, Japan (IN)	SPA	Tournal, Belgium (TB)	SES
Juliusruh, GDR (JU)	SWF	Trenton, New Jersey, USA (NJ)	SES
Kuhlungsborn, GDR (KU)	SPA, SEA	Upice, Czechoslovakia (UI)	SEA
Lake Hiawatha, New Jersey, USA (A32)	SES	Valley Cottage, New York, USA (A1)	SES
Lintong, China (LT)	SPA	Vsetin, Czechoslovakia (VS)	SEA

*Observations are not necessarily continuous for each reporting station.

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01	0000	0755	CULG				0000.0	0751.0	2				IS,C,DC
			CULG	0003.0	0051.0	1							IN
			CULG				0523.5	0701.5	1				IIIN
	0557	1827	WEIS				0813.4	0814.7	1				IIIG
			WEIS				0818.3	0818.5	1				IIIB
			WEIS				0834.7	0834.8	1				IIIB
			WEIS				0923.4	0923.6	1				IIIB
			WEIS				0947.6	0947.7	1				IIIB
			WEIS				0949.2	0949.4	1				IIIB
02			LEAR				0007.0	0007.1	1				III
			LEAR				0105.8	0106.3	1				III
	0000	0721	CULG				0259.5	0301.5	1				IIIG
			CULG				0306.0	0600.0	1				IN
			LEAR				0448.0	1006.0	1				CONT
			CULG				0600.0	0721.0	1				IS,C
	0558	1030	WEIS				0602.0	1346.0	1				IIIN
	1049	1624	WEIS				0620.0	1025.0	2				IN
	2021	2400	CULG										
			LEAR				2257.8	2258.1	1				III
03			LEAR				0505.8	0506.6	1				III
	0000	0721	CULG				0506.0		2				IIIB
			LEAR				0753.5	0753.6	1				III
	0600	1624	WEIS				0753.6	0753.3	2				IIIB
			LEAR				0815.3	0815.5	1				III
			WEIS				0823.2	0824.2	3				IIIG
			LEAR				0823.3	0824.6	2				III
			LEAR				0837.8	0838.8	2				III
			WEIS				0837.9	0838.8	3				IIIG
			WEIS				0959.9	1001.1	2				IIIG
			WEIS				1340.9	1440.9	2				IIIG
			WEIS				1525.9	1526.6	3				IIIG
			SGMR				1806.3	1806.6	1				V
	2021	2400	CULG	2206.5	2257.5	1							IS
			LEAR				2257.8	2258.1	1				III
04			LEAR				0346.3	0346.8	1				III
	0000	0720	CULG				0346.5		3				IIIG
			CULG				0420.5		2				IIIB
			LEAR				0420.8	0421.0	1				III
			CULG	0535.0	0642.0	1							IS
	0700	1019	WEIS										
	1024	1622	WEIS										
	2021	2400	CULG	2021.0	2400.0	1							IN
			CULG				2333.5	2347.6	1				IN
05	0000	0720	CULG				0005.5	0007.5	3				IIIG
			LEAR				0005.6	0009.1	2				III
			PALE				0005.6	0006.8	2				III
			LEAR				0011.8	0012.8	1				III
			CULG				0208.5		1				IIIB
			CULG				0247.0	0253.0	3	0251.5	0253.2	2	IIIG,N
			LEAR				0247.1	0253.0	2				III
			PALE				0247.1	0249.0	1				III
			PALE				0251.3	0252.8	2				V
			CULG				0311.0	0543.5	1				IIIN
			LEAR				0312.8	0313.1	1				III
			LEAR				0327.8	0328.1	1				III
			CULG				0328.0		2				IIIB
			CULG	0417.5	0534.0	1							IS
			LEAR				0543.6	0543.8	1				III
			CULG	0712.5	0713.0	2	0712.5	0714.0	3	0712.5	0714.0	2	IIIG,V
			LEAR				0712.6	0714.5	3				III
			WEIS				0748.0	1418.0	2				IN,DC
	0743	1622	WEIS				1040.6	1041.7	3				DCIM
			WEIS				1041.3	1042.4	2				IIIG
			WEIS				1109.3	1111.4	3				IIIG
			WEIS				1256.6	1257.1	3				IIIG
			WEIS				1356.8	1457.1	3				IIIG
			SGMR				1400.8	1401.5	1				V

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05			WEIS				1401.8	1402.1	1				III B
			WEIS				1406.2	1406.4	2				III B
			SGMR				1738.3	1739.0	1				V
			SGMR				1818.0	1832.6	1				GG
			PALE				1825.6	1839.6	2				GG
			SGMR				1826.0	1826.5	2				V
	2020	2400	CULG	2130.0	2340.0	1							IS
			CULG				2143.0	2202.0	3				III G,N
			CULG				2147.5	2400.0	1				IN
			CULG				2250.5	2329.0	1				III N
			LEAR				2300.6	2302.0	1				III
			PALE				2300.6	2300.8	1				III
			CULG				2301.0		2				III B
			LEAR				2315.5	2315.6	1				III
			LEAR				2328.8	2329.3	1				III
06	0000	0720	CULG				0000.0	0029.5	1				IS
			LEAR				0009.0	0009.3	1				III
			CULG				0116.0	0510.5	1				III N
			LEAR				0250.6	0251.1	1				III
			CULG				0303.5	0304.5	2				III G,U
			LEAR				0754.3	0754.6	1				III
	0601	1149	WEIS				1142.2	1142.4	2				III G
	1153	1620	WEIS				1333.3	1333.7	3				III G
	2020	2400	CULG	2056.0	2056.5	1							DCIM
			CULG	2056.5	2225.5	1							IN
			CULG				2204.5	2205.5	1				III G,U
07	0000	0720	CULG				0133.5		1				III B
			CULG				0344.5		2				III G
			CULG				0546.5	0547.5	3				III G
			LEAR				0546.6	0549.6	1				III
			CULG				0548.0	0645.5	2				III G,N
			LEAR				0616.6	0621.6	1				III
	0603	1618	WEIS				0616.8	0617.2	3				III G
			WEIS				0621.2	0621.4	3				III G
			WEIS				0645.3	0645.6	2				III G
			WEIS				0721.4	0723.1	3				III G
			WEIS				0721.7	0726.9	3				I
			LEAR				0721.8	0727.1	1				III
			WEIS				0726.7	0727.8	2				III G
			LEAR				0738.3	0738.6	1				III
			WEIS				0738.3	0738.7	3				III G
			WEIS				0948.6	0951.4	3				III G
			LEAR				0949.1	0949.5	1				III
			WEIS				0949.2	0950.7	2				DCIM
			WEIS				1027.7	1028.3	3				III G
			WEIS				1105.3	1105.6	3				III G
			WEIS				1141.8	1142.0	2				III G
			WEIS				1148.8	1149.4	2				III G
			SGMR				1209.3	1213.3	1				V
			WEIS				1209.3	1210.4	3				III G
			WEIS				1212.7	1213.9	3				III G
			WEIS				1215.9	1217.8	3				III GG
			WEIS				1224.6	1224.7	1				III B
			WEIS				1250.2	1250.7	3				III G
			WEIS				1252.0	1252.2	3				III G
			WEIS				1255.0	1255.4	2				III G
			WEIS				1257.4	1257.6	1				III B
			WEIS				1259.1	1259.6	2				III G
			WEIS				1302.8	1303.0	3				III G
			WEIS				1342.3	1343.6	2				III G
			WEIS				1351.7	1352.1	3				III G
			SGMR				1351.8	1352.0	1				III
			WEIS				1405.3	1406.6	3				III G
			WEIS				1416.7	1417.3	2				III G
			WEIS				1435.3	1436.9	3				III GG
			SGMR				1442.6	1446.6	1				V
			WEIS				1442.6	1443.7	3				III G
			WEIS				1445.7	1446.7	3				III GG
			WEIS				1518.6	1518.7	1				III B

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07			WEIS				1555.3	1556.9	3				III G,U
			WEIS				1555.3	1557.3	2				DCIM
			WEIS				1558.4	1559.2	3				III G,U
			WEIS				1600.7	1600.9	3				III B,U
			WEIS				1602.2	1603.3	2				III G
			PALE				1718.8	1720.8	2				III
			SGMR				1918.1	1921.0	1				V
			PALE				1928.8	1928.8	1				III
			PALE				1959.6	1959.8	1				III
			SGMR				1959.8	1959.8	1				III
			CULG				2022.5	2358.0	2				III N
	2020	2400	CULG	2025.0	2215.0	1	2020.0	2313.0	1				IS,C
			CULG				2035.5	2356.0	1				III N
			CULG				2054.0	2055.0	3	2054.0	2055.0	1	III G
			PALE				2054.1	2055.0	2				III
			SGMR				2054.1	2054.3	1				III
			SGMR				2054.6	2054.8	1				III
			PALE				2102.8	2102.8	2				III
			CULG				2103.0		3				III B
			LEAR				2303.1	2305.3	2				III
			PALE				2303.3	2305.0	3				V
			CULG	2304.0	2304.5	2	2303.0	2305.0	3	2304.0	2305.5	2	III G,V,U
			LEAR				2313.3	2316.8	1				III
			LEAR				2329.6	2331.0	1				III
			LEAR				2355.1	2359.1	1				III
08	0000	0719	CULG	0008.0		1	0008.0		2				III B
			LEAR				0008.0	0008.3	2				III
			CULG				0011.5	0632.0	1				III N
			LEAR				0017.1	0048.1	1				G
			CULG	0017.5	0018.5	1	0016.0	0025.5	2				III S
			LEAR				0023.8	0025.8	2				V
			CULG	0025.0	0035.0	1							IS
			CULG				0037.0	0037.5	2				III B,U
			LEAR				0136.3	0140.6	2				III
			CULG				0139.0	0140.0	3	0139.0	0140.0	1	III G,U
			PALE				0139.1	0139.8	2				V
			LEAR				0145.1	0148.1	3				V
			PALE				0145.1	0147.3	3				V
			CULG	0145.5	0146.0	1	0145.0	0148.0	3	0146.0	0148.0	3	III G,V
			LEAR				0206.3	0206.6	1				III
			LEAR				0300.1	0300.3	1				III
			LEAR				0316.8	0316.8	1				III
			CULG				0407.5	0542.0	1				IS,C
			LEAR				0445.0	0448.0	3				III
			CULG	0445.5	0446.0	2	0445.0	0448.0	3	0446.0	0448.0	3	III G,V
			LEAR				0510.6	0511.0	1				III
			CULG				0511.0		3				III B
			CULG	0544.5	0545.0	1	0544.5	0545.5	1				III G
	0603	1127	WEIS				0627.4	0627.8	3				DCIM
			CULG	0627.5	0628.0	3	0627.5	0628.0	3				III G
			WEIS				0631.8	0631.9	1				III B
			WEIS				0635.4	0636.2	3				III G
			LEAR				0635.8	0644.1	1				III
			CULG	0636.0		2	0636.0		2				III B,U
			CULG	0643.0	0652.0	1							IS
			WEIS				0648.0	0652.0	1				I
			WEIS				0708.7	0708.9	2				III G
			CULG				0709.0		2				III B
			WEIS				0733.3	0739.3	3				III GG
			WEIS				0803.9	0807.3	3				III GG
			LEAR				0804.6	0807.0	1				III
			WEIS				0841.4	0841.7	2				III G,RS
			LEAR				0857.8	0900.0	2				III
			WEIS				0858.7	0859.9	3				III GG
			LEAR				0906.1	0906.3	1				III
			WEIS				0906.2	0906.4	2				III G
			WEIS				0912.2	0913.3	1				III G
			LEAR				0928.8	0929.1	1				III
			WEIS				0928.8	0929.1	3				III G
			WEIS				1010.3	1011.7	3				III G

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08			WEIS				1032.6	1032.8	2				III G
			WEIS				1039.3	1039.4	2				III B
			WEIS				1053.7	1053.8	3				III G
	1152	1616	WEIS				1213.6	1213.8	2				III B
			WEIS				1219.4	1219.6	1				III B
			WEIS				1240.6	1240.8	1				III B
			WEIS				1450.2	1450.3	2				III B
			WEIS				1454.0	1454.6	1				III G
			WEIS				1506.5	1506.6	1				III B
			SGMR				1649.5	1653.1	1				V
			PALE				1649.6	1659.3	2				III
			SGMR				1657.1	1659.8	2				V
			PALE				1704.5	1705.8	3				V
			SGMR				1704.5	1705.8	3				V
			SGMR				1713.8	1714.6	1				V
			PALE				1714.0	1714.1	2				III
			PALE				2002.1	2002.3	2				III
			SGMR				2002.1	2002.3	1				III
	2020	2400	CULG				2020.0	2400.0	1				IS,C,DC
			CULG				2037.0	2222.0	1				III N
			SGMR				2048.6	2049.1	1				V
			CULG	2049.5	2050.0	1	2048.5	2050.0	2	2048.5	2049.0	2	III G
			CULG				2054.0	2219.0	2				III N
			CULG	2203.5	2228.0	1							IS
			CULG				2211.0	2212.0	3				III G
			CULG	2356.5	2358.0	2	2356.5	2359.5	3	2356.5	2359.5	3	III GG,U,V
			LEAR				2356.6	0002.6	3				V
			PALE				2356.6	2359.1	3				V
09	0000	0719	CULG				0000.0	0719.5D	1				IS,C,DC
			LEAR				0030.6	0030.8	1				III
			LEAR				0035.3	0036.8	2				III
			CULG				0036.5	0037.5	3	0036.5	0037.0	2	III G
			PALE				0036.5	0036.8	2				III
			LEAR				0113.3	0118.3	1				III
			CULG				0114.0	0704.5	1				III N
			CULG				0142.5	0145.0	1				III G
			CULG				0206.5	0208.0	2				III G,V
			PALE				0207.3	0208.0	1				III
			CULG				0212.5	0215.0	3	0212.5	0215.0	3	III GG,U
			PALE				0212.6	0216.1	2				III
			CULG				0215.5	0226.0	2				II H
			LEAR				0222.6	0237.3	1				II
			LEAR				0248.3	0252.6	1				III
			LEAR				0405.6	0406.1	1				III
			CULG				0406.0	0622.0	2				III N
			LEAR				0423.8	0425.3	1				III
			LEAR				0458.8	0505.6	1				III
			LEAR				0521.3	0522.6	3				III
			CULG	0521.5	0548.0	2	0521.5	0548.0	3				III G,N
			CULG	0522.0	0547.0	2							III S
			LEAR				0528.6	0533.1	2				V
			LEAR				0538.1	0548.1	2				III
			CULG	0548.5	0549.5	2							IS
			LEAR				0556.0	0605.1	1				III
	0606	1614	WEIS				0620.0	0655.0	1				I
			LEAR				0621.0	0622.1	1				III
			WEIS				0621.1	0622.3	3				III G
			LEAR				0627.0	0828.0	1				CONT
			LEAR				0730.0	0747.0	2				G
			WEIS				0731.1	0731.2	1				III B
			WEIS	0733.9	0740.4	3							III GG
			WEIS				0746.7	0746.9	2				III G
			WEIS				0822.2	0822.4	2				DCIM
			WEIS				0822.3	0826.0	3				III GG
			LEAR				0836.6	0838.8	2				III
			WEIS				0836.6	0836.9	3				III G
			WEIS				0838.7	0838.9	3				III G
			WEIS				0845.6	0845.7	1				III B
			LEAR				0848.1	0848.3	1				III
			WEIS				0848.3	0848.5	2				III B

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09			WEIS				0850.6	0850.9	2				III B
			LEAR				0853.0	0859.3	3				III
			WEIS				0853.2	0859.4	3				III GG
			WEIS				0938.5	0942.1	1				III G
			WEIS				0953.2	0958.8	3				III GG
			WEIS				0958.2	0958.9	3				III G
			WEIS				1000.9	1001.6	2				III G
			WEIS				1010.0	1114.0	2				I
			WEIS				1024.0	1024.4	2				III G
			WEIS				1026.4	1027.6	1				III G
			WEIS				1029.0	1034.3	3				III GG
			WEIS				1036.1	1039.9	3				III GG
			WEIS				1107.6	1107.8	2				III G
			WEIS				1122.6	1125.3	2				III G
			WEIS				1128.3	1128.9	3				III G
			WEIS				1130.8	1131.0	2				III B
			WEIS				1138.6	1145.7	3				III GG/V
			SGMR				1140.8	1143.6	2				V
			WEIS				1150.4	1152.2	3				III G
			SGMR				1151.8	1152.0	1				III
			WEIS				1224.6	1224.8	2				III G
			WEIS				1229.7	1229.9	2				III B
			WEIS				1254.9	1255.0	2				III B
			WEIS				1310.3	1310.4	2				III B
			WEIS				1336.6	1336.7	1				III B
			WEIS				1344.0	1344.1	1				III B
			WEIS				1408.7	1408.9	1				III B
			WEIS				1438.2	1438.3	1				III B
			WEIS				1441.2	1441.3	1				III B
			WEIS				1444.3	1446.1	2				III G
			WEIS				1453.3	1453.7	2				III B
			WEIS				1459.2	1459.4	2				III B
			WEIS				1504.8	1504.9	2				III B
			WEIS				1523.6	1524.3	2				III G
	2020	2400	CULG	2020.0E	2249.5D	1							IS
			CULG				2037.5		2				III B
			LEAR				2343.0	0300.0	1				CONT
			LEAR				2345.6	2351.3	1				III
			LEAR				2356.6	0002.6	3				V
10			LEAR				0043.8	0044.6	1				III
	0100	0719	CULG	0108.0	0703.5	1							IN
			CULG				0138.5	0300.0	1				IN
			CULG				0300.0	0510.0	1				IS,DC
			CULG				0510.0	0717.0	1				IN
			LEAR				0541.0	0815.0	1				CONT
			WEIS				0649.8	0650.0	1				III B
			CULG				0659.0	0700.0	2				III G
	0608	1147	WEIS				0659.1	0659.7	2				III G
			CULG				0703.0	0709.0					III S,W
			WEIS				0751.8	0751.9	1				III B
			WEIS				1012.6	1012.8	1				III B
	1151	1612	WEIS				1346.9	1347.0	1				III B
			WEIS				1412.0	1412.1	1				III B
	2020	2400	CULG				2030.5	2040.5	3				III N
			CULG	2045.0	2110.0	1							IS
			CULG	2135.0	2137.0	2	2136.5	2137.0	2				III G
			CULG				2139.5	2140.0	1				III G
			CULG				2214.0		1				III B
			LEAR				2236.8	2340.6	1				III
			CULG	2240.5	2243.5	1							III G
			CULG				2337.5	2340.5	1				III N
			LEAR				2359.3	0239.0	1				CONT
11	0000	0719	CULG				0039.0	0040.0	2				III G
			PALE				0041.1	0041.3	1				III
			LEAR				0041.8	0043.0	2				III
			CULG	0042.0	0042.5	2	0042.0	0042.5	2	0042.0	0042.5	1	III G
			CULG				0222.0	0226.5	1				III N
			CULG				0315.0	0316.5	2	0315.5	0317.0	1	III GG
			LEAR				0315.0	0318.1	1				V

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11			LEAR				0413.5	0416.1	2				V
			CULG	0414.0		1	0414.0	0416.0	3	0414.5	0416.0	2	III G,U,V
	0609	1410	WEIS				1145.4	1155.6	3				III B
			WEIS				1404.3	1404.7	3				III G
			SGMR				1439.1	1439.5	1				V
	1443	1608	WEIS										
			PALE				1822.3	1822.6	1				III
			SGMR				1822.3	1822.6	1				V
	2019	2400	CULG				2019.0	2400.0	1				IS,DC
			CULG	2022.0	2152.0	1							IN
			PALE				2031.3	2032.6	1				V
			LEAR				2236.8	2340.6	1				III
			CULG	2324.5	2325.0	1	2324.5		1				III G
12	0000	0718	CULG				0000.0	0606.0	1				IS,DC
			LEAR				0036.5	0036.6	1				III
			LEAR				0042.0	0205.0	1				CONT
			LEAR				0201.1	0201.8	1				V
			CULG				0201.5		1	0201.5		1	III B,U
			LEAR				0240.1	0245.1	1				III
			CULG				0240.5		1	0240.5		1	III B
			LEAR				0332.5	0339.6	1				III
			CULG				0606.0	0633.0	1				IN
			LEAR				0703.8	0704.1	1				III
			CULG	0704.0		1	0704.0	0704.5	3				III G,U
	0713	1139	WEIS				0756.6	0757.3	3				III G
			LEAR				0756.8	0757.1	2				III
	1144	1436	WEIS				1232.7	1232.9	1				III B
	2019	2400	CULG										
13	0000	0718	CULG										
	0614	1604	WEIS				1320.1	1320.3	1				III G
	2019	2400	CULG				2335.0	2335.5	1	2335.0	2335.5	1	III B,V
			LEAR				2335.0	2335.8	1				III
			CULG				2350.5		1				III G
			LEAR				2350.5	2351.0	1				III
14			LEAR				0031.3	0032.0	1				III
			LEAR				0240.8	0242.6	1				III
	0000	0718	CULG				0300.5	0301.0	2				III G
			LEAR				0307.1	0307.3	1				III
			CULG				0415.5	0416.5	3	0415.5	0416.5	1	III GG
			LEAR				0415.5	0416.3	3				
			LEAR				0538.8	0540.5	2				III
			CULG				0539.0	0540.0	2				III G
			LEAR				0551.6	0553.1	1				III
			CULG				0553.0		1				III B
			LEAR				0853.5	0853.8	1				III
	0614	0929	WEIS				0853.6	0853.7	2				III B
			LEAR				0918.0	0919.6	1				III
	1016	1145	WEIS										
	1242	1530	WEIS				1243.1	1243.2	1				III B
			SGMR				1824.6	1824.6	1				III
			SGMR				1847.6	1852.3	1				V
			PALE				1951.3	1953.0	2				III
			SGMR				1951.3	1958.1	1				V
			PALE				1955.6	1958.1	2				V
	2018	2400	CULG	2022.0	2336.5	1							IS
			CULG				2034.0	2400.0	1				IN
			CULG	2106.5	2107.0	2	2104.0	2107.5	2				III S
			CULG				2309.0	2312.0	2				III S
			LEAR				2309.6	2312.1	1				III
			CULG				2317.5	2319.0	3				III G
			PALE				2317.5	2318.1	2				III
			LEAR				2317.6	2324.1	2				V
			CULG				2320.5	2322.0	3				POSS II
			CULG				2320.5	2324.0	2				III S
15	0000	0718	CULG	0000.0	0330.0	1	0000.0	0400.0	1				IS,C,DC
			LEAR				0001.8	0002.5	1				III
			CULG				0002.0	0034.5	1				III N

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15		LEAR				0003.0	0358.0	1				CONT
		LEAR				0017.5	0031.8	1				G
		CULG				0024.0	0025.0	2				IIIG
		CULG				0030.5	0032.0	2				IIIG
		LEAR				0054.6	0055.6	1				III
		LEAR				0143.8	0154.0	2				G
		CULG	0152.0	0153.5	1	0144.0	0153.5	2				IIIS
		CULG				0400.0	0644.5	1				IN
		LEAR				0403.8	0404.1	1				III
		LEAR				0418.1	0422.6	1				III
		LEAR				0425.3	0429.3	2				III
		CULG	0425.5	0428.0	2	0425.0	0429.0	2				IIIGG
		LEAR				0436.0	0807.0	1				CONT
0617	0802	WEIS				0620.6	0620.7	1				IIIB
		WEIS				0629.1	0629.2	2				IIIB
		WEIS				0630.2	0630.3	1				IIIB
		CULG				0644.5	0653.5	1				IS
		WEIS				0644.7	0646.3	2				IIIG
		CULG				0646.0		2				IIIB
		WEIS				0649.4	0651.3	1				IIIG
		WEIS				0714.4	0714.6	1				IIIB
		LEAR				0752.8	0753.6	1				III
		WEIS				0753.1	0753.4	4				IIIG
		LEAR				0835.8	0836.3	1				III
0820	1534	WEIS				0836.1	0836.3	1				IIIB
		LEAR				0855.8	0913.0	1				G
		WEIS				0856.1	0858.9	2				IIIG
		WEIS				0904.6	0905.6	3				IIIG
		WEIS				0911.8	0913.2	2				IIIG
		WEIS				0930.6	0939.8	1				IIIG
		WEIS				0930.9	0931.0	2				IIIB
		WEIS				0949.4	0949.7	3				IIIB
		WEIS				0956.6	0957.2	2				IIIG
		WEIS				1004.2	1004.3	1				IIIB
		WEIS				1027.8	1027.9	1				IIIB
		WEIS				1033.6	1033.9	2				IIIG
		WEIS				1111.6	1111.2	2				IIIB
		WEIS				1201.9	1202.6	2				IIIG
		WEIS				1204.6	1204.8	1				IIIG
		WEIS				1219.6	1219.8	2				IIIB
		WEIS				1232.4	1235.3	2				IIIG,U
		WEIS				1254.3	1254.4	1				IIIB
		WEIS				1257.3	1259.4	2				IIIG
		WEIS				1307.8	1307.9	2				IIIB
		WEIS				1313.1	1313.6	2				IIIG
		WEIS				1315.2	1315.3	1				IIIB
		WEIS				1325.8	1325.9	2				IIIG
		WEIS				1331.8	1331.9	1				IIIB
		WEIS				1340.2	1340.3	2				IIIB
		WEIS				1354.9	1355.2	2				IIIG
		WEIS				1406.3	1410.0	1				IIIG
		WEIS				1414.4	1415.2	3				IIIG
		SGMR				1414.5	1415.1	1				V
		SGMR				1428.3	1428.6	1				III
		WEIS				1428.4	1429.1	3				IIIG
		WEIS				1433.9	1434.2	2				IIIG
		WEIS				1442.3	1445.2	3				IIIG
		SGMR				1442.5	1445.3	1				V
		WEIS				1512.6	1513.4	2				IIIG
		SGMR				1517.8	1518.1	1				V
		WEIS				1517.8	1519.3	2				IIIG
		WEIS				1521.4	1521.5	1				IIIB
1534	1617	WEIS				1538.8	1544.1	2				IIIG
		WEIS				1546.8	1546.9	1				IIIB
		WEIS				1548.0	1552.6	1				IIIG
		WEIS				1554.4	1554.8	2				IIIG
		WEIS				1557.4	1558.1	1				IIIG
		WEIS				1600.2	1606.0	3				IIIGG
		SGMR				1735.6	1738.6	1				V
2018	2400	CULG				2018.0	2120.0	1				IS,C,DC
		CULG				2021.0	2126.0	1				IIIN

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15			CULG				2120.0	2400.0	1				IS
			CULG				2126.0	2131.0	1				IIIS
16	0000	0712	CULG				0003.5	0017.0	1				IS
			LEAR				0146.8	0148.8	1				III
			CULG				0147.0	0207.0	1				IIIS
			LEAR				0154.6	0204.8	1				G
			LEAR				0332.6	0332.8	2				III
			CULG				0333.0		2				IIIB
			CULG				0444.0	0705.0	1				IS,DC
			LEAR				0625.6	0628.1	1				III
			CULG				0626.0	0628.0	1				IIIG
			LEAR				0843.0	0856.3	2				G
	0858	1018	WEIS				0943.2	0943.3	1				IIIB
	1135	1558	WEIS										
	2018	2400	CULG	2123.5	2125.0	1							IS
			CULG				2333.0	2334.5	2				IIIG
			LEAR				2333.3	2335.6	2				III
			PALE				2333.8	2334.1	1				III
17			LEAR				0128.1	0128.3	1				III
	0000	0717	CULG				0423.5	0505.0	1				IN
			LEAR				0451.0	0510.0	1				G
			CULG				0454.0	0504.0	2				IIIN
			CULG	0457.0	0509.0	1	0451.0	0510.5	1				IIIS
			CULG	0520.0	0704.0	1							IN
			LEAR				0637.8	0645.0	1				III
			CULG				0638.0	0703.5	1				IIIN
			CULG	0654.0		2							IIIG
			LEAR				0837.6	0838.0	1				III
	0628	1221	WEIS				0837.7	0837.9	3				IIIG
			WEIS				1050.8	1051.3	3				IIIG
			WEIS				1141.9	1142.4	2				IIIG
			WEIS				1210.4	1214.9	3				IIIGG,RS
	1221	1556	WEIS				1221.5	1223.2	1				II
			WEIS				1222.9	1223.0	1				IIIB
			WEIS				1522.3	1522.4	1				IIIB
	2017	2400	CULG				2114.0	2114.5	1				IIIG,V
			CULG	2249.0	2326.5	1							IN
18			LEAR				0250.6	0253.5	2				V
	0000	0717	CULG				0251.0	0253.0	3	0251.5	0253.0	2	IIIG,V
			LEAR				0255.1	0255.3	2				III
			CULG				0255.5		2				IIIB
			LEAR				0342.8	0343.3	1				III
			LEAR				0351.5	0353.3	1				V
			LEAR				0434.3	0435.5	1				III
			CULG	0521.5	0620.0	1							IN
			CULG				0647.0	0647.5	1				IIIG
			LEAR				0647.0	0706.8	1				GG
	0646	1056	WEIS				0651.6	0652.9	1				IIIG
			WEIS				0706.0	0706.7	1				IIIG
			WEIS				0731.2	0742.3	2				IIIG,RS
			LEAR				0738.1	0756.8	1				GG
			WEIS				0738.1	0739.1	2				IIIGG
			WEIS				0756.1	0756.4	2				IIIG
			WEIS				1044.4	1044.7	3				IIIG
	1102	1554	WEIS				1152.8	1153.8	3				IIIG
	2146	2400	CULG										
19			LEAR				0321.5	0322.0	1				V
			LEAR				0336.5	0336.8	1				V
	0000	0712	CULG	0410.5		3							IIIB
			CULG	0457.0	0457.5	2	0457.0	0458.0	2				IIIG
			CULG				0611.0		1				IIIG
			LEAR				0641.6	0649.3	1				III
			LEAR				0807.5	0808.1	1				III
			LEAR				0918.3	0918.5	1				III
	0629	1547	WEIS				0918.3	0918.6	2				IIIG
			WEIS				0929.3	0931.4	2				IIIG
			WEIS				0933.3	0934.8	3				IIIG

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19			LEAR				0933.5	0934.0	1				III
	2016	2400	CULG				2032.0		1				IIIB,U
			LEAR				2337.0	2343.3	1				III
20	0000	0717	CULG	0011.5	0019.0	1	0012.5	0015.0	1				IN
			CULG	0318.5	0319.5	1	0319.0	0319.5	1				IIIG
			LEAR				0319.0	0319.6	1				II
	0625	1034	WEIS										
			SGMR				1743.3	1746.1	1				V
			SGMR				1943.3	1943.6	1				V
	2017	2400	CULG										
			LEAR				2245.8	2246.6	1				III
21	0000	0716	CULG				0029.5		1	0029.5		1	IIIB
			LEAR				0029.6	0029.8	1				III
			LEAR				0032.3	0033.8	2				V
			PALE				0032.3	0032.6	2				III
			CULG				0032.5	0033.0	2	0032.5	0033.0	2	IIIG
			LEAR				0040.3	0041.0	1				III
			CULG				0246.0	0248.0	3	0246.5	0249.5	3	IIIG,V
			LEAR				0246.0	0249.8	2				V
			PALE				0246.5	0247.6	2				III
			LEAR				0425.8	0427.1	1				III
			LEAR				0700.3	0700.8	1				III
	0626	1548	WEIS				0700.3	0700.6	2				U
			LEAR				0752.8	0754.1	2				III
			WEIS				0752.9	0754.9	2				IIIG
			WEIS				0857.8	0858.1	1				IIIG
			WEIS				1004.3	1004.7	1				IIIB
			WEIS				1009.2	1009.7	2				IIIG,RS
			WEIS				1039.8	1040.0	1				IIIG
			WEIS				1141.3	1141.4	1				IIIB
			WEIS				1248.3	1248.4	1				IIIB
			SGMR				1250.1	1250.3	1				III
			WEIS				1250.2	1251.7	3				IIIGG
			SGMR				1920.6	1923.0	1				V
			PALE				1920.8	1921.8	1				III
	2017	2400	CULG										
22	0000	0716	CULG				0211.5	0212.0	1				IIIG
			LEAR				0236.8	0238.8	1				III
			CULG				0237.0		1				IIIB
			CULG				0239.0		2				IIIG
			CULG				0345.5		1				IIIG
			LEAR				0352.8	0353.3	1				III
			LEAR				0409.6	0410.3	1				III
			CULG	0411.5	0412.0	1	0411.5	0412.0	1				IIIG
	0628	1352	WEIS										
	1437	1546	WEIS										
	2017	2400	CULG										
			PALE				2219.8	2221.3	2				III
			PALE				2231.8	2233.8	3				III
23	0000	0716	CULG										
			LEAR				0055.3	0055.8	1				III
			LEAR				0431.6	0433.1	1				III
			LEAR				0629.1	0629.6	1				III
	0630	1506	WEIS										
	2017	2400	CULG										
24	0000	0716	CULG										
			LEAR				0024.6	0025.5	1				III
			LEAR				0232.5	0235.6	1				V
			LEAR				0433.0	0435.1	1				V
	0630	1542	WEIS										
			LEAR				0644.8	0645.3	1				III
			SGMR				1646.6	1647.1	1				III
	2017	2400	CULG										
25	0000	0715	CULG										
	0632	0754	WEIS										

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25	0759	1541	WEIS										
	2018	2400	CULG										
26	0000	0715	CULG										
	0647	1541	WEIS										
	2016	2400	CULG										
27	0000	0716	CULG										
	0634	1003	WEIS										
	1017	1539	WEIS										
	2035	2400	CULG										
28	0000	0716	CULG				0150.0	0151.0	1				III G
	0636	1537	WEIS										
			CULG				0659.5	0702.5	2				III G,U
			LEAR				0659.6	0702.6	2				III
			SGMR				1451.1	1451.5	1				V
			PALE				1733.8	1736.6	1				III
	2023	2400	CULG										
			PALE				2106.1	2121.0	2				GG
			PALE				2133.8	2138.3	1				V
			PALE				2142.3	2143.3	2				III
29	0000	0715	CULG				0248.0		1				III B
			CULG				0312.5		2				III B
	0638	1224	WEIS										
	1300	1535	WEIS										
	2015	2400	CULG				2218.0	2219.0	1				IS
30	0000	0517	CULG										
	1126	1533	WEIS				1143.2	1143.4	1				III B
			WEIS				1148.6	1148.9	1				III G
	2210	2400	CULG										
31	0000	0716	CULG										
			LEAR				0029.8	0030.3	1				III
	0641	1530	WEIS										
			SGMR				1349.0	1349.5	1				V
	2258	2400	CULG										

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

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of burst
C = Underlying continuum (particularly with Type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III
RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity
DCIM = Fast drift

GEOMAGNETIC ACTIVITY INDICES

October 1983

Day		Kp Three-Hourly Indices 1	2	3	4	5	6	7	8	Sum	Ap	Cp	Km Three-Hourly Indices 1	2	3	4	5	6	7	8	Am	N	aa Provisional S	M	
1		2	2-	1	1+	1	4	3-	4-	17+	11	0.6	2-	2-	1+	2-	1+	3+	3-	4-	20	26	21	13	35	
2		3+	5	4	3+	4-	3+	3+	3+	29+	23	1.1	3	4-	4-	3	3	3+	3-	3	33	42	29	33	37	
3		3-	3	4+	4	3+	2+	2	4-	25+	18	1.0	3-	2+	3+	4-	4-	2+	2	3+	30	25	28	27	26	
4	D3	3	3+	4+	5	6	7-	4-	3	35	43	1.5	3	3-	4-	5-	6-	6-	3	3-	64	52	62	41	73	
5	Q0A	2	2-	3-	2	3-	1+	2-	3-	17-	8	0.5	2-	2-	2	2+	2+	1+	2-	3-	15	17	14	14	17	
6		3+	3-	3	3	4-	5	4	3+	28	22	1.1	3	2+	3-	3	3	4	4-	3	33	44	30	23	52	
7		2+	4	2	2+	2-	3-	2-	3-	19+	11	0.6	2+	3+	2+	2+	2-	2+	2	3-	20	20	16	20	17	
8		3	3-	3-	2+	3	5-	3+	2+	24	16	0.9	2+	2	2+	2+	3-	4	3+	2+	25	27	21	16	32	
9	Q4	3-	2-	1	1-	1	1+	1	1+	11-	5	0.2	3-	1+	2-	0+	1+	1+	1	1+	11	12	8	11	9	C
10	Q8A	0+	1	2-	1+	1+	2+	4-	2-	13+	7	0.4	1-	1	2-	2-	1+	2	3+	2-	14	16	15	11	20	
11	Q5	2-	2+	2+	2	2-	1+	0+	0	12-	6	0.2	1+	2-	2	1+	2	2-	1-	0+	10	9	16	19	7	K
12	Q3	0+	1	1-	1+	1-	1	2-	2	9-	4	0.1	1-	1	1	2-	1	1	2-	2+	9	10	13	9	15	C
13	D4	5-	5+	4	4	3+	5-	3	4-	33-	30	1.3	4+	4	4-	4+	4-	4+	3-	3+	49	50	61	63	48	
14		4-	3-	3+	2+	3	3+	5-	5-	28-	22	1.1	3-	2	3-	3-	3	3	4	5-	35	43	30	24	50	
15		4	4-	3	4	3+	2+	4-	3	27	19	1.0	3+	3+	3-	4	4-	3-	4-	3-	36	34	32	34	32	
16		2	4	2+	2-	2	3	3	3	21	13	0.7	2+	4-	2	2	3	3-	3-	3-	24	28	15	16	28	
17	D2	2+	3+	5	5	5+	5+	5+	6+	38	48	1.6	2	3-	5-	5	5	4+	5-	5	66	68	53	38	82	
18	D1	5+	5	5+	6-	5	5	6-	3	40	51	1.6	5-	4	5-	5	4+	5-	5	3-	70	79	74	75	79	
19	Q9A	3	3	3-	2	1-	2	1	1-	15	8	0.4	2+	2	2+	2+	1	2	1+	1	14	16	11	19	9	
20	Q6	0	2+	1+	2	1-	1	2+	2+	12	6	0.3	1	2	1+	2-	1-	1+	3-	2+	12	15	11	11	15	K
21		2-	1	3-	3+	3+	4-	4-	4	23+	16	0.9	1+	1	3-	3	3-	3	3+	3+	26	35	27	23	40	
22		5	4	4-	3-	3+	2	2+	3-	26-	19	1.0	4	3+	2+	3	3	2	2	3-	28	34	21	34	22	
23		2+	2+	2+	3-	4	3+	5	5-	27-	21	1.1	2-	2-	2	3	4-	3+	4	4-	31	40	36	18	58	
24		4+	3	2+	3+	4-	4-	5-	3	28	22	1.1	4	3-	2+	4-	3+	3+	4	2+	36	42	34	34	41	
25	Q7	2+	2	1	1+	2	2-	1	2	13+	6	0.3	2	1+	1	1+	2	2	1	2	12	15	11	10	16	C
26	Q2	0+	1+	2-	1	0+	0+	0+	0+	6-	3	0.1	0+	1	1+	1	1-	1-	0	0+	5	4	6	8	3	CC
27	Q1	0	0+	1-	0+	0+	1-	1+	0	4-	2	0.0	0+	0+	0+	0	1-	1-	2-	0	4	5	7	5	7	CC
28		2+	1-	0	0	0+	2	2+	5	13-	10	0.5	2+	0+	0	0	0	2	3-	4+	16	20	17	7	30	
29	D5	5-	4+	5-	5-	5-	3+	5-	4	35	34	1.3	4-	3+	4	5-	5-	3	4	3+	51	54	50	53	51	
30		4	3+	4-	2+	3+	4	4-	2-	26	19	1.0	3	3-	3	2+	3	4	4-	2-	30	34	24	24	35	
31		3-	2	3-	3-	2+	2+	1-	3-	18	10	0.5	2	1+	2+	3-	3-	2+	1+	2+	17	19	18	21	17	
Mean											17	0.77									27.3	30.3	26.2	28.3		

Day	Kn Three-Hourly Indices 1	2	3	4	5	6	7	8	An	Ks Three-Hourly Indices 1	2	3	4	5	6	7	8	As	S_a	Prov R_I	R_a	R_s	IMF	
1	2-	1+	1+	2-	1+	4-	3-	4-	21	1+	2-	1+	2	1+	3+	3-	4-	20	117.5	32	32	65	T	-
2	3	4	4-	3	3	3	3	3	36	3-	3	3+	3-	3	3+	3-	3	30	120.4	51	56	68	A	-
3	2+	2+	4-	4	4	3-	2	4-	34	3-	3-	3	4-	3	2	2-	3-	25	123.1	63	68	71	A	-
4	3	3-	4+	5	6	6+	3+	3-	76	3-	3-	3+	5-	5	5+	3	3-	52	125.1	74	73	73	A	-
5	2-	1+	2	2	3-	1+	2-	3-	14	2	2	2	2+	2-	1	2-	3-	15	126.6*	65	59	75	T	-
6	3-	2+	3-	3+	3	4+	4-	3+	34	3+	2+	3-	3	3	4-	3+	3	31	132.7	75	74	81	A	-
7	2	3+	2	2	2-	3-	2	2+	19	3-	3+	3-	2+	1+	2+	2	3-	21	133.9	87	86	83	T	-
8	2+	2	3-	2	2+	4	3	2	25	3-	2	2	3-	3-	4	3+	2+	26	131.1*	99	92	80	T	-
9	2	1+	2-	0+	2-	2-	1	1+	9	3	1+	2	0+	1+	1+	1+	1+	12	130.4	106	101	79	T	-
10	1-	1	2-	1+	1+	2+	3+	2	14	1-	1+	2-	2-	1+	2-	3+	2-	13	133.6*	108	111	82	T	-
11	1	2	2+	1+	2-	2-	1	0+	10	2-	2-	2	1+	2	2-	1-	0	10	138.3	130	135	87	T	-
12	0+	1-	1-	1+	1	1+	2-	2+	9	1+	1	1	2-	1+	1	2-	3-	10	133.7	122	115	82	T	-
13	4+	4	4-	4+	4-	4+	3	3+	49	4+	4+	4-	4+	4-	4	2+	4-	49	133.5*	100	92	82	A	-
14	3	2	3-	3	3+	3+	4+	5	41	3-	2+	3	2	3-	3	4-	4	29	131.5*	75	75	80	A	-
15	3+	4-	3-	4+	4-	2+	4-	3-	37	3	3+	3-	4-	4-	3	4-	3-	34	127.0	72	65	75	A	-
16	2-	4	2	2	3+	3-	3	3	27	3-	3	2+	2	2+	3-	3-	2+	22	117.2A	61	59	65	A	-
17	2-	3-	5	5+	5	5-	5	5	73	2+	3-	4	4+	5-	4	4+	5	58	110.9*	60	54	58	A	-
18	5	4	5-	5+	5-	5	5	2+	76	4+	4	5-	4+	4+	4+	5	3	64	103.6	63	58	50	A	-
19	2+	2+	2+	3-	1	2+	1	0+	14	3-	2	2	2	1-	2-	2-	1+	13	105.2	46	38	52	A	-
20	0+	2-	1	2	1	1+	2+	2+	11	1+	2	1+	2-	0+	1+	3-	2+	12	99.1	26	24	45	A	-
21	1+	1-	3	3+	3	4-	3+	4-	29	2-	1+	3-	3	2+	3-	3	3	23	89.3	18	19	34	T	-
22	4-	4-	3-	3	3	2	2	3-	28	4	3	2	3	3-	2	2+	3-	27	87.2	22	25	32	T	-
23	2	2	2+	3-	4-	4-	4+	4	35	2-	1+	2-	3	3+	3	4-	3+	27	87.8	22	16	33	A	-
24	4	3-	2+	4-	3+	4-	4	2+	38	4	3	2+	3+	3	3+	4	3-	35	88.6	20	18	34	T	-
25	2-	2-	1	1+	2	2-	1-	2	11	2+	1	1+	1+	2	2+	1+	2	13	89.2	18	17	34	T	-
26	0	1	1+	1-	1-	1-	0	0	4	1	1+	2-	1+	1-	1-	0	1-	6	89.1	22	13	34	T	-
27	0	0+	0+	0	0+	1	1+	0	3	0+	0+	0+	0	1-	0+	2-	0+	4	88.9	12	12	34	-	-
28	2	0+	0	0	0	2+	2+	4	15	3-	0+	0	0	0	2	3-	4+	17	90.4	11	12	36	-	-
29	4-	3+	4+	5-	5-	3+	4	4-	55	3+	4-	4-	4+	4+	3	4	3+	47	90.7	16	0	36	-	-
30	3+	3-	3+	3-	3	4+	4-	1+	35	3	2+	3-	2	3-	3+	3+	2-	24	92.6	15	7	38	-	-
31	2	1+	3-	3-	3	3-	1	3-	19	2+	1+	2	3-	2+	2-	1+	2-	14	95.5*	19	14	41	-	-
Mean									29.1									25.3	111.7	55.2	52.3	58.6		

DAILY AVERAGE INDICES Ap

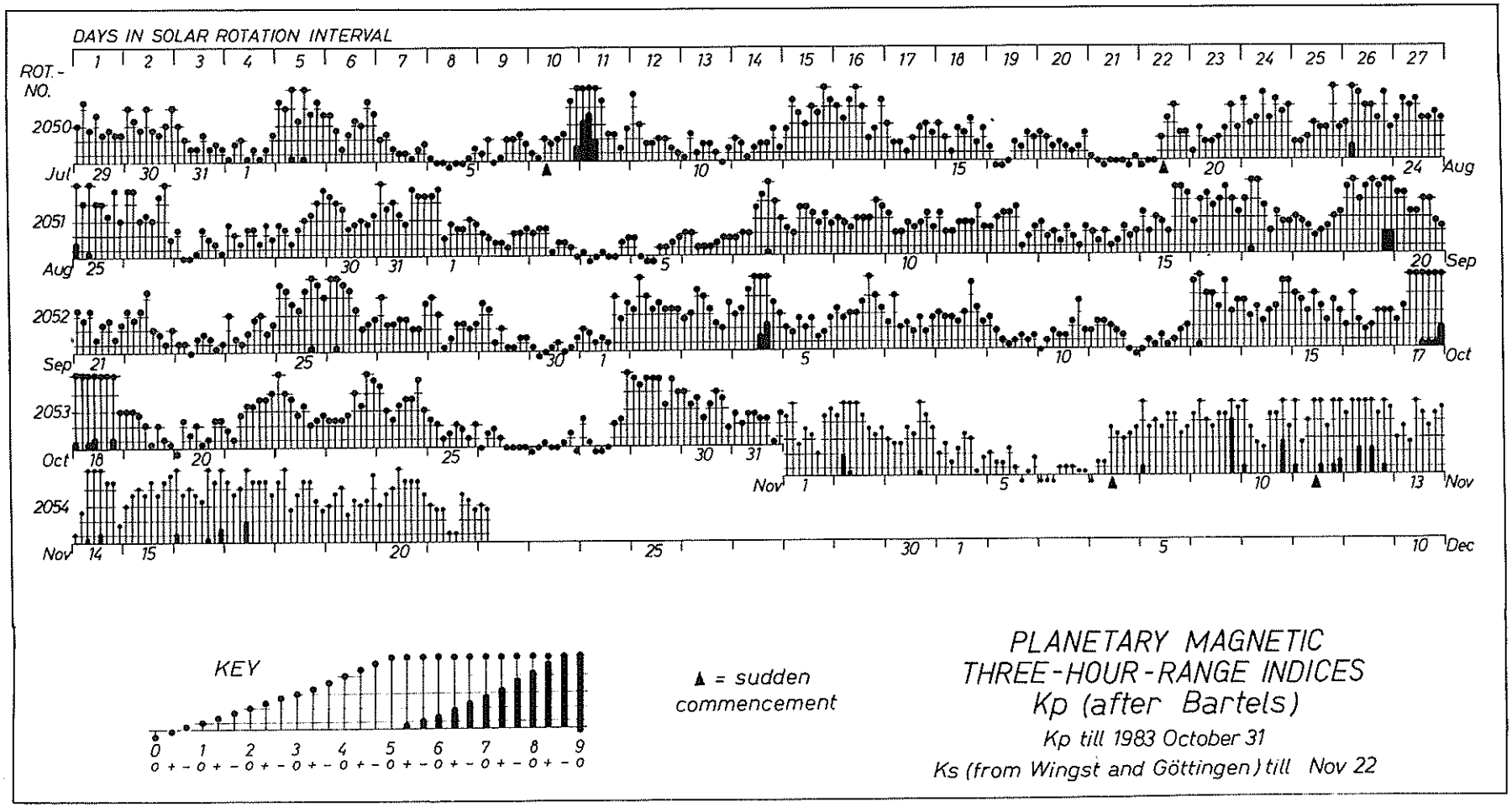
DAY	1982 NOV	DEC	1983 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1	36	2	11	11	21	20	24	13	6	5	17	11
2	32	4	7	5	86	16	14	8	9	33	6	23
3	21	9	11	7	36	15	10	6	8	17	6	18
4	8	13	9	59	26	16	26	3	8	5	3	43
5	9	11	6	143	28	17	24	6	6	2	3	8
6	11	3	3	47	12	35	14	11	14	6	5	22
7	4	29	4	43	7	34	8	6	14	18	22	11
8	12	27	9	18	6	25	11	12	10	62	15	16
9	8	18	20	18	8	19	6	20	12	11	16	5
10	11	46	78	23	7	22	8	37	5	5	12	7
11	20	20	11	24	24	8	50	10	4	6	12	6
12	16	14	18	33	53	11	52	16	16	26	13	4
13	18	6	8	35	24	36	37	70	19	25	7	30
14	12	8	8	28	26	45	23	12	6	9	6	22
15	13	11	22	25	15	59	20	17	5	10	21	19
16	9	13	25	30	11	33	9	8	21	4	26	13
17	6	62	25	16	11	19	64	17	26	6	25	48
18	12	41	32	14	20	11	12	37	20	2	11	51
19	10	34	17	10	28	9	5	20	9	9	54	8
20	6	46	14	41	32	13	10	17	7	11	22	6
21	25	37	12	36	12	12	29	20	6	25	11	16
22	30	42	8	21	9	17	51	20	10	15	13	19
23	36	26	10	17	9	17	38	17	23	32	4	21
24	83	19	22	14	10	61	77	6	40	23	9	22
25	54	14	16	6	50	32	11	5	12	36	33	6
26	26	9	12	5	13	28	10	13	7	26	28	3
27	17	18	10	7	3	14	11	8	10	5	13	2
28	28	21	10	8	37	12	5	12	11	8	10	10
29	32	20	16		40	39	5	13	15	17	8	34
30	13	15	19		27	26	9	7	18	18	3	19
31		7	13		28		11		7	29		10
MEAN	21	21	16	27	23	24	22	16	12	16	14	17

Footnote for GEOMAGNETIC ACTIVITY INDICES TABLE (see preceding page)

The Geophysikalisches Institut, University of Goettingen, prepares the quiet (Q) and disturbed (D) days, the geomagnetic planetary 3-hour-range indices (Kp), the average amplitude (Ap) and the magnetic character figures (Cp). The 10 most quiet days (Q1-Q10) and the five most disturbed days (D1-D5) are ordered from most quiet and from most disturbed, respectively. A and K mark quiet days that are not really quiet; an asterisk marks disturbed days that are not really disturbed. Geomagnetic 3-hour indices Km, Kn, Ks; daily mean values Am, An, As; and indices aa are prepared by M. Menvielle of the Institut de Physique du Globe, Paris, France. For the aa indices, daily north (N) and south (S) values and half-daily antipodal mean (M) values are given; quiet 24- and 48-hour intervals centered on 1200 UT are indicated by C if they are really quiet and by K if they are quiet with some slightly disturbed 3-hour periods.

Provisional sunspot numbers (Ri) are prepared by A. Koeckelenbergh, Observatoire Royal de Belgique, Bruxelles, Belgique. Sunspot numbers (Ra) are prepared by the American Association of Variable Star Observers. Sunspot numbers (Rs) are computed from the daily Sa values by WDC-A for Solar-Terrestrial Physics. The inferred interplanetary magnetic field (IMF) directions are prepared from Vostok observations for the first half-day by the Institute for Terrestrial Magnetism, Ionosphere and Radio Propagation, Moscow, USSR; and for the second half-day they are prepared from Thule observations by the Space Environment Services Center, NOAA, Boulder, Colorado, USA. T = toward sun, A = away from sun, * = effect doubtful or not discernable, - = missing data.

GEOMAGNETIC ACTIVITY INDICES



PRINCIPAL MAGNETIC STORMS

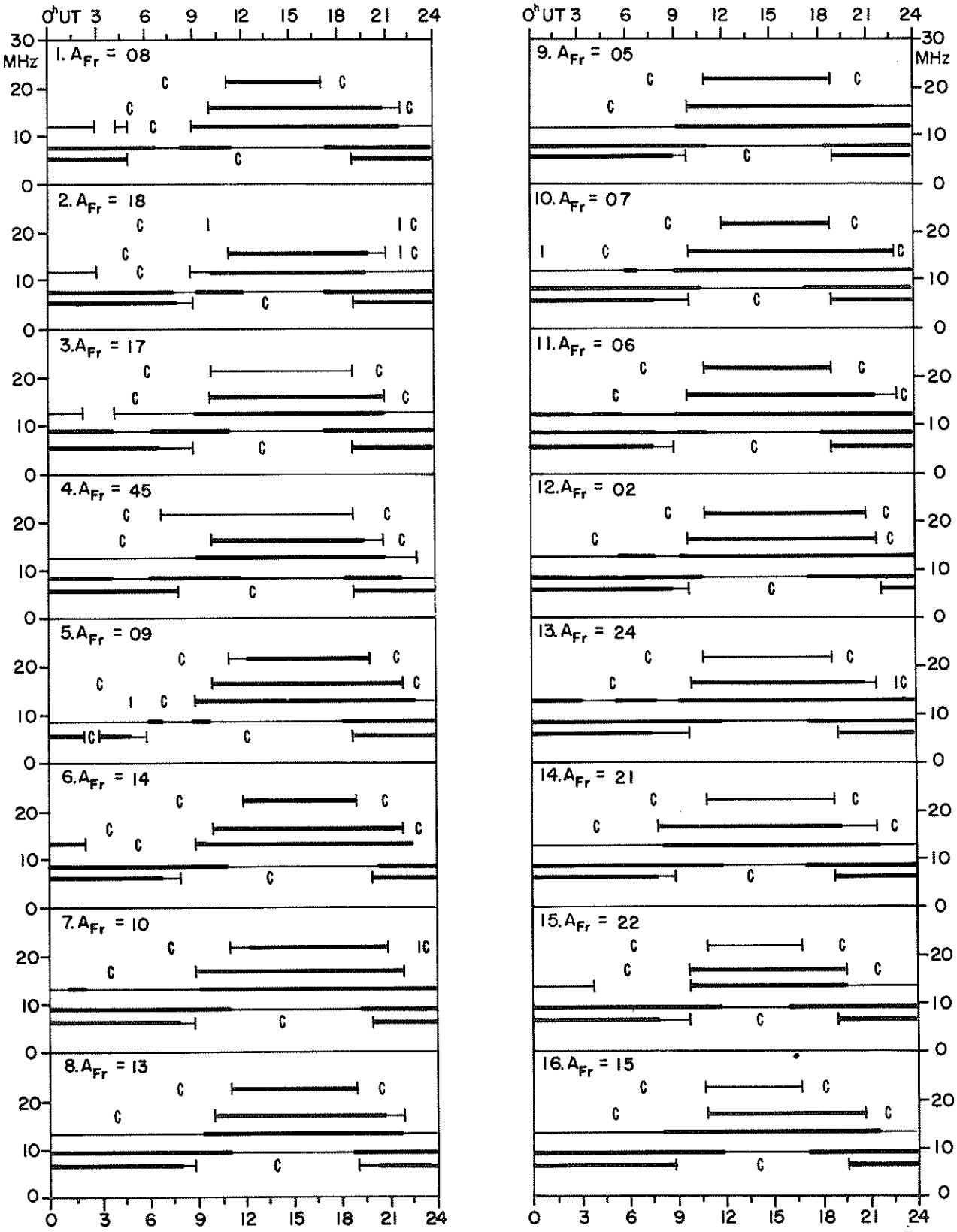
OCTOBER 1983

Sta	Geomag Lat	Commencement Day	Commencement Time (UT)	Type	SC Amplitudes D (Min)	SC Amplitudes H (Gamma)	SC Amplitudes Z (Gamma)	Maximum 3-Hour K Index Day(3-Hour Periods)	K	Ranges D (Min)	Ranges H (Gamma)	Ranges Z (Gamma)	End Day	End Hour (UT)
HYB	07.6N	01	0400	..	..	..	..	02(6)	4	5	105	33	02	22
SIT	60.0N	02	03--	..	..	..	..	04(6)	7	--	--	--	04	20
FRD	49.6N	03	----	..	..	..	..	04(5)	7	24	224	57	--	--
HYB	07.6N	03	0600	..	..	..	..	04(5,6)	6	8	190	36	05	14
KGL	56.5S	03	0600	..	..	..	..	04(5,6)	9	--	--	--	04	23
WIT	54.2N	04	0700	..	..	..	..	04(6)	6	29	175	115	04	22
JAI	17.3N	04	0542	SC	- .2	13	- 2		-	9	146	49	04	24
UJJ	13.5N	04	0542	SC	- .2	18	- 3		-	7	161	45	04	24
ABG	09.5N	04	0542	SC	- .4	15	- 3		-	7	175	50	04	24
GUA	04.0N	04	0542	..	..	..	..	04(6)	5	--	90	20	04	20
TRD	01.1S	04	0542	SC	.1	32	32		-	3	266	117	04	24
PMG	18.6S	04	0542	SC	.7	11	12	04(5,6)	6	6	100	70	04	18
HER	33.7S	04	05--	..	..	..	..	04(6)	6	21	182	138	04	21
HYB	07.6N	05	2000	..	..	..	..	06(6)	5	6	101	50	06	23
KGL	56.5S	06	1241	SC	- 4	- 20	- 8	06(6,7)	5	20	135	95	07	--
COL	64.6N	12	21--	..	..	..	..	13(4,5) 14(4)	6	157	1020	700	15	22
FRD	49.6N	12	23--	..	..	..	..	13(1)14(8)15(2)16(2) 17(3,4,8) 18(2,4,5)	5	23	125	82	19	--
HYB	07.6N	12	2000	..	..	..	..	13(5) 14(8)	5	6	124	46	15	21
GUA	04.0N	12	2339	..	..	..	..	13(1)	6	--	180	40	13	19
JAI	17.3N	13	0439	SC	- .5	18	- 5		-	6	116	54	15	24
UJJ	13.5N	13	0439	SC	- .3	25	- 8		-	6	114	51	15	24
ABG	09.5N	13	0439	SC	- .7	22	- 9		-	5	113	57	15	24
TRD	01.1S	13	0439	SC	- .2	61	60		-	3	210	116	15	24
COL	64.6N	17	03--	..	..	..	..	17(4) 18(3)	7	314	1660	1020	19	01
SIT	60.0N	17	07--	..	..	..	..	17(5)	7	--	--	--	19	09
WIT	54.2N	17	0600	..	..	..	..	17(6,7,8) 18(6,7)	6	44	188	106	18	23
JAI	17.3N	17	0400	..	..	..	..		-	7	155	45	18	24
UJJ	13.5N	17	0400	..	..	..	..		-	6	163	37	18	24
ABG	09.5N	17	0400	..	..	..	..		-	5	177	35	18	24
HYB	07.6N	17	0450	..	..	..	..	17(5) 18(6)	6	5	198	30	18	23
GUA	04.0N	17	0452	..	..	..	..	17(3)	6	--	140	30	18	05
TRD	01.1S	17	0400	..	..	..	..		-	3	263	121	18	24
PMG	18.6S	17	04--	..	..	..	..	18(4)	6	6	160	60	19	03
HER	33.7S	17	04--	..	..	..	..	17(4) 18(1,6,7)	5	29	138	104	18	22
GNA	43.2S	17	05--	..	..	..	..	17(5)	6	27	110	180	18	23
CNB	43.9S	17	05--	..	..	..	..	17(3) 18(1,3,4,5,6)	5	22	152	57	18	21
KGL	56.5S	17	0400	..	..	..	..	18(6,7)	7	--	--	--	19	05
GUA	04.0N	18	0731	..	..	..	..	18(4)	5	--	90	20	18	21
HYB	07.6N	21	0835	..	..	..	..	23(6)	5	3	119	23	24	19
COL	64.6N	28	15--	..	..	..	..	29(3)	7	179	1320	770	30	22
SIT	60.0N	28	16--	..	..	..	..	29(4)	7	--	--	540	30	19
WIT	54.2N	28	2200	..	..	..	..	29(7,8) 30(6,7)	5	30	155	55	30	02
FRD	49.6N	28	2207	SC	1	- 22	3	28(8)	6	22	132	60	03	00
JAI	17.3N	28	1600	..	..	..	..		-	5	115	31	30	24
UJJ	13.5N	28	1600	..	..	..	..		-	4	114	28	30	24
ABG	09.5N	28	1600	..	..	..	..		-	5	99	31	30	24
HYB	07.6N	28	1600	..	..	..	..	28(8) 29(7)	5	4	121	19	30	01
GUA	04.0N	28	1530	..	..	..	..	28(8)	6	--	130	40	29	19
TRD	01.1S	28	1600	..	..	..	..		-	3	166	100	30	24
PMG	18.6S	28	16--	..	..	..	..	28(8) 29(4,5)	5	9	140	50	30	00
HER	33.7S	28	15--	..	..	..	..	28(8)	5	25	104	121	30	02
KGL	56.5S	29	0544	SC	3	20	4	29(7) 30(6)	6	29	270	240	30	23

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

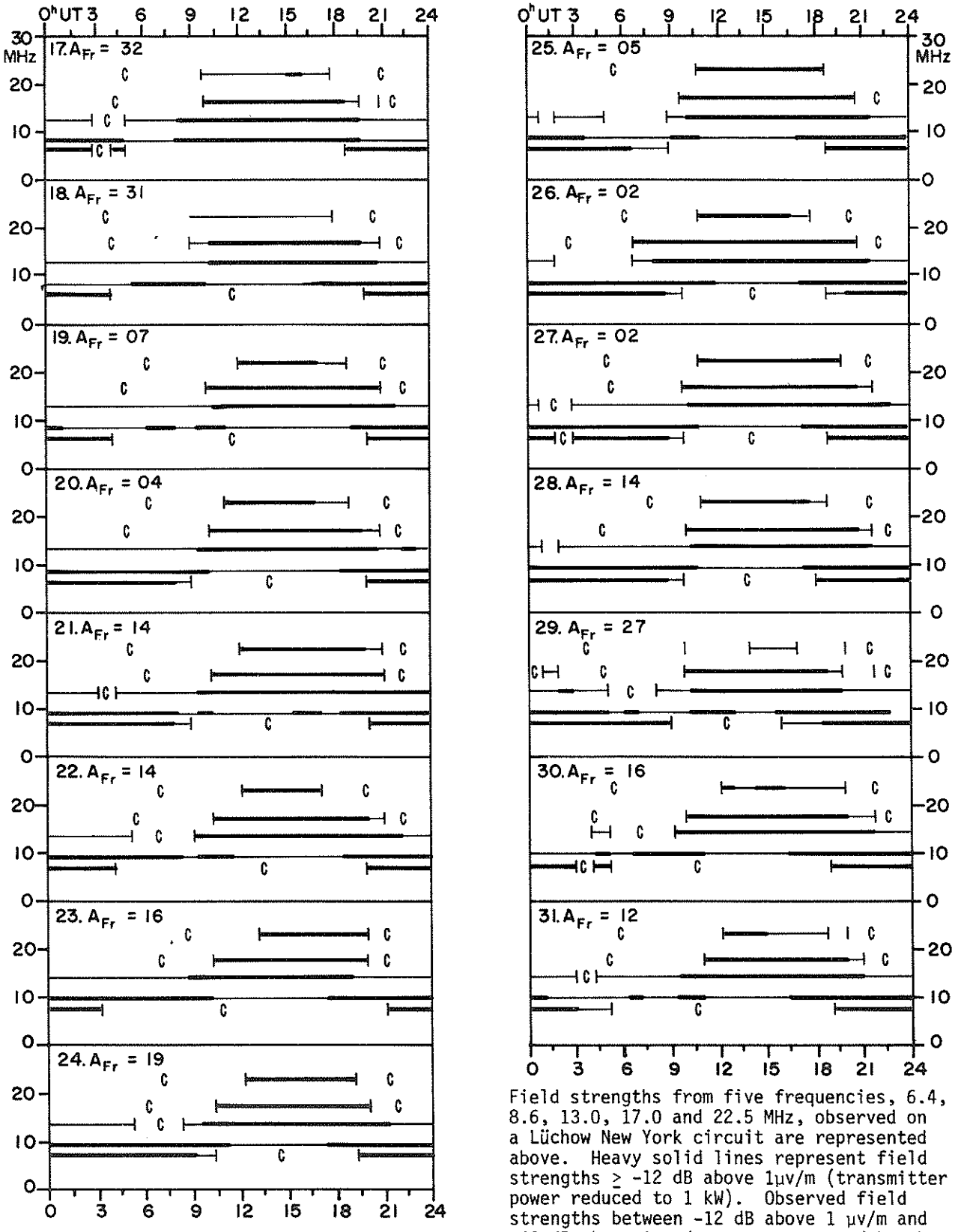
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

OCTOBER 1983



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

OCTOBER 1983



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.

RADIO PROPAGATION QUALITY INDICES

OCTOBER 1983

Day	Tokyo	New York	Teheran	Oslo	Bracknell
1	6.0	6.5	6.8	6.5	6.0
2	4.1	2.6	3.7	3.9	3.7
3	6.3	5.7	4.0	4.9	4.8
4	6.4	5.6	3.1	5.6	4.7
5	6.4	5.1	6.3	6.4	4.9
6	6.9	6.4	5.5	7.3	5.3
7	6.7	5.4	6.9	8.3	4.3
8	6.7	6.5	7.6	7.8	5.0
9	6.7	6.0	7.7	7.8	5.8
10	8.7	5.7	8.6	8.0	6.5
11	8.4	5.1	7.7	7.6	7.2
12	9.0	5.3	9.3	9.0	6.8
13	8.4	7.0	6.1	6.7	6.9
14	5.9	5.5	4.7	6.6	4.9
15	5.2	4.8	5.6	5.7	4.9
16	6.4	7.3	6.0	6.9	5.7
17	5.8	6.2	4.3	4.4	6.3
18	5.7	4.4	2.8	3.6	5.6
19	5.3	4.3	4.9	3.9	3.8
20	5.3	4.6	4.6	4.3	4.2
21	6.9	6.0	5.9	6.0	5.2
22	6.1	5.9	5.6	5.3	3.9
23	6.7	5.3	6.2	4.8	4.8
24	6.3	4.9	4.5	5.3	4.1
25	6.3	5.5	5.6	4.3	4.7
26	6.3	8.2	5.6	6.0	4.8
27	5.9	8.3	6.7	4.3	6.6
28	6.3	5.9	5.7	4.7	4.9
29	3.9	6.3	2.4	4.3	4.4
30	4.9	5.2	4.1	3.3	4.7
31	4.2	4.5	4.8	3.3	4.7
Mean	6.3	5.7	5.6	5.7	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 preceeding 27 days (1 sun rotation).

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

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

SCALE FOR QUALITY INDICES

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

CONTENTS

Prompt Reports LATE DATA Number 472 Part I

HOURLY EQUATORIAL DST VALUES (PROVISIONAL)

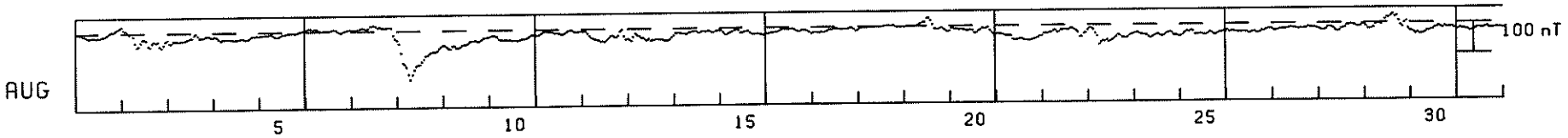
NASA/GODDARD SPACE FLIGHT CENTER

AUGUST 1983

(Time-UT)

(Units-Gammas)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-3	-3	-5	-8	-11	-13	-16	-15	-13	-14	-16	-14	-14	-12	-11	-8	-3	2	5	5	10	13	17	21
2	11	8	3	-4	0	-11	-32	-46	-42	-31	-21	-20	-24	-41	-46	-33	-27	-32	-27	-43	-49	-38	-27	-23
3	-34	-35	-27	-26	-27	-29	-26	-27	-25	-23	-21	-18	-17	-9	-3	-11	-18	-17	-17	-13	-12	-13	-16	-16
4	-13	-17	-22	-28	-23	-23	-22	-23	-23	-24	-25	-24	-23	-22	-20	-22	-24	-23	-21	-13	-13	-13	-12	-13
5	-12	-12	-10	-11	-11	-8	-10	-15	-17	-16	-13	-10	-9	-8	-6	-5	-4	-5	-6	-3	0	0	3	3
6	8	11	10	6	9	8	4	1	0	2	2	3	3	6	7	5	0	-3	-5	0	2	4	6	5
7	6	5	6	7	10	11	9	5	10	17	16	18	14	11	13	10	10	10	11	12	11	-14	-26	-31
8	-42	-72	-105	-110	-116	-142	-160	-142	-127	-115	-112	-110	-101	-93	-83	-80	-74	-70	-69	-69	-66	-60	-53	-48
9	-50	-54	-60	-61	-51	-50	-58	-58	-55	-49	-47	-47	-43	-37	-35	-35	-34	-38	-36	-32	-27	-25	-24	-23
10	-20	-19	-26	-23	-31	-33	-34	-33	-33	-34	-33	-35	-35	-34	-36	-34	-30	-29	-29	-26	-22	-18	-17	-17
11	-20	-18	-13	-10	-7	-8	-10	-10	-11	-13	-12	-13	-16	-17	-14	-10	-6	-5	-4	-9	-11	-9	-8	-8
12	-9	-8	-15	-23	-28	-31	-34	-36	-37	-41	-39	-42	-37	-30	-23	-22	-26	-28	-22	-9	-3	-25	-35	-33
13	-36	-39	-26	-16	-22	-24	-30	-31	-35	-36	-33	-40	-37	-37	-34	-35	-36	-36	-35	-39	-40	-36	-29	-23
14	-15	-15	-15	-17	-18	-19	-19	-14	-13	-11	-11	-12	-16	-14	-11	-11	-13	-10	-11	-14	-14	-11	-9	-9
15	-9	-15	-22	-22	-17	-14	-12	-8	-7	-9	-17	-16	-13	-12	-11	-17	-21	-22	-21	-20	-21	-23	-25	-23
16	-20	-19	-17	-17	-15	-15	-12	-9	-6	-6	-7	-7	-6	-5	-8	-12	-14	-13	-10	-10	-10	-14	-17	-22
17	-17	-17	-18	-19	-16	-18	-16	-13	-10	-10	-8	-6	-6	-8	-9	-9	-8	-9	-7	-5	-5	-9	-14	-12
18	-7	-4	-3	-4	-4	-2	-3	-2	-1	-1	-1	-1	0	2	3	3	2	3	4	-2	-3	-2	-2	-3
19	-2	0	2	1	0	1	3	7	10	14	12	25	25	17	5	-9	-11	-12	-8	-5	-12	-15	-19	-16
20	-9	-9	-11	-11	-14	-11	-13	-14	-16	-16	-13	-16	-24	-23	-16	-14	-9	-10	-10	-8	-16	-23	-29	-30
21	-26	-28	-26	-30	-33	-33	-33	-34	-45	-48	-46	-45	-42	-44	-48	-46	-49	-49	-47	-44	-42	-39	-33	-30
22	-27	-25	-28	-24	-23	-18	-17	-24	-22	-16	-16	-14	-16	-16	-12	-12	-15	-19	-24	-39	-36	-26	-25	-16
23	-11	-11	-16	-26	-37	-64	-57	-53	-54	-49	-57	-53	-49	-43	-38	-32	-30	-42	-41	-44	-40	-35	-31	-30
24	-27	-25	-30	-33	-33	-34	-30	-41	-44	-39	-36	-33	-32	-37	-36	-36	-30	-27	-25	-28	-35	-36	-37	-39
25	-37	-32	-26	-22	-25	-20	-23	-34	-32	-33	-31	-33	-35	-34	-30	-25	-29	-33	-34	-30	-27	-26	-24	-26
26	-20	-26	-24	-23	-26	-26	-27	-27	-25	-25	-27	-31	-29	-26	-25	-29	-30	-27	-22	-24	-19	-17	-16	-16
27	-23	-23	-21	-16	-18	-17	-16	-16	-15	-13	-14	-15	-17	-16	-16	-17	-15	-15	-12	-13	-14	-13	-15	-16
28	-21	-23	-23	-20	-14	-12	-14	-18	-24	-26	-25	-18	-17	-14	-7	-6	-4	-6	-7	-12	-11	-11	-4	-6
29	-12	-19	-20	-19	-15	-6	-3	-4	-7	0	11	17	16	22	27	18	22	0	-9	-14	-1	5	-20	-27
30	-28	-31	-37	-32	-37	-36	-30	-32	-26	-26	-23	-21	-16	-14	-11	-15	-17	-12	-15	-14	-14	-15	-19	-27
31	-21	-18	-21	-20	-23	-24	-28	-27	-26	-21	-17	-17	-19	-18	-16	-13	-19	-20	-19	-17	-16	-17	-17	-19



SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

AUGUST 1983

PRELIMINARY REPORT ON RAPID VARIATIONS

Sudden Commencements (ssc)

07	08	27	A:DOM COI; B: SOD WNG MMB FRD KAK KNY MPO CAA KGL ;C: WIT NGK HAD BDV CLF GCK AQU SPT LNP AMS CZT DUM
19	11	01	B: WNG BDV AQU LNP CAA ; C: WIT NGK VAL HAD CLF GCK SPT AMS CZT KGL DUM

Solar Flare Effects (sfe)

01	12	28	-	12	37	BDV	
02	04	10	-	04	15	LNP	
02	11	12	-	11	39	SPT	
03	04	06	-	04	13	CLF	(ssc:A:COI)
03	07	44	-	07	52	SOD	
04	03	41	-	04	05	MMB	KAK KNY LNP
06	13	23	-	13	34	CLF	SPT
09	13	01	-	13	09	CLF	
11	10	21	-	10	30	NGK	BDV
12	04	12	-	04	43	NGK	
12	05	48	-	06	00	LNP	
12	12	37	-	13	00	BDV	
17	02	32	-	02	34	LNP	
19	03	07	-	03	12	LNP	

Reporting observatories:

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

PLEASE PAY ATTENTION TO
THE REVISION OF AA-INDICES
FOR JULY 1983

P.T.O.

GEOMAGNETIC ACTIVITY INDICES

September 1983

Day		Kp Three-Hourly Indices 1	2	3	4	5	6	7	8	Sum	Ap	Cp	Km Three-Hourly Indices 1	2	3	4	5	6	7	8	Am	N	aa Provisional S	M		
1		4+	5-	2-	3-	2+	2+	3	3-	24-	17	0.9	4	4+	2-	2+	2	2	3-	3-	29	29	22	29	22	
2	Q8	2	2-	1+	1+	1	2	2	2+	14-	6	0.3	2	2	1+	1+	1-	2	2-	2+	12	14	11	10	15	C
3	Q6	2	2+	2+	1-	1+	1+	1	0+	11+	6	0.2	2	2	2+	1-	1	2	1+	0+	11	12	8	11	9	CC
4	Q2	1-	0	0+	1-	0+	0+	1+	2-	5+	3	0.1	0+	0	1-	0+	0+	1-	1+	2-	5	8	5	4	9	CC
5	Q3	2-	0+	0	0	1	1	1+	2-	7	3	0.1	2-	0+	0	0	1-	1-	1+	2-	5	9	4	5	8	CC
6	Q5	2	2	1	1	1	1+	2-	2-	12-	5	0.2	2	2	2-	1	1	1	2-	1+	11	13	7	9	11	CC
7		2-	2	2	4-	4+	5+	4	3	26	22	1.1	1+	2	2+	3	4-	4	3+	3-	30	46	24	19	52	
8		2+	2	4-	4-	3+	3-	3+	3-	24-	15	0.8	2-	2-	3+	4	3	3-	3	3-	28	29	21	23	28	
9	Q9A	3	3-	2+	3	3	3	4	4-	25-	16	0.9	3	3-	2+	2+	2+	3-	3+	3	25	31	23	24	31	
10		3+	2	2	3-	2+	3-	3+	2+	21-	12	0.7	3	2	2	2	2-	3	3	2+	20	24	18	18	25	
11		3+	2	2	3-	3-	3-	4-	2+	21+	12	0.7	3-	2	2-	2+	2+	3-	3	2	20	27	16	19	25	
12		2+	3	3+	3+	4-	1	2-	2+	21-	13	0.7	2+	3	3+	3+	4-	1+	1+	2	25	21	25	25	21	
13	Q9A	3-	2-	2	1+	2+	2-	1	2+	15	7	0.4	3-	2-	2	2-	3	2	1+	3	18	14	16	13	18	
14	Q7	2	1+	2	1	1+	2+	2-	2	14-	6	0.3	1+	1+	2-	1-	1+	3-	1+	2	11	17	12	11	19	
15		3+	2	3	3-	2	5-	5-	4+	27-	21	1.1	3	2	3	3	2+	5-	4+	4-	39	39	39	23	55	
16	D4	3-	4	4+	4-	4	5-	4	3+	31-	26	1.2	3-	3+	4-	4+	4	4+	4-	3	46	31	47	37	41	
17	D5	4	5+	5	4-	2	3+	3-	3-	29-	25	1.2	4-	4	4	4-	2	3+	3-	2+	37	43	33	51	25	
18		3	3-	2+	2-	2	2+	3	3+	20+	11	0.7	3-	2	2	2-	1+	2	3	3	19	27	16	16	28	
19	D1	5-	5	4	5-	5	5-	6+	6+	41-	54	1.6	4	4+	4-	4-	4	4+	5	5+	67	76	50	36	91	
20		4+	4+	3+	3+	4	4	3-	2+	28+	22	1.1	4-	4-	3	3+	4	3+	3-	2	36	40	28	33	36	
21		3+	3-	3+	1+	2+	3-	1+	2+	19+	11	0.6	3-	2	3-	2-	3	3-	2-	3-	21	23	18	18	24	
22		3+	3-	3+	4+	2	2-	1	2	20+	13	0.7	3-	3-	3	3+	2+	1+	1+	2	21	24	21	31	14	
23	Q4	1	1	0+	1+	2-	1+	1-	1	8+	4	0.1	1-	1	0+	2-	2-	1+	1	1+	7	9	8	7	11	CC
24		3	1+	1	2-	3-	3	2-	2+	17-	9	0.5	2+	1	1	2-	3	3-	1+	2+	16	18	20	14	24	
25	D2	5-	4+	4-	3+	4+	5+	5-	4	34+	33	1.3	4	3	3	3	3+	5-	4-	4	46	62	36	36	62	
26	D3	5	5+	5-	4+	3+	2	2+	3-	30-	28	1.2	4	5-	5-	3+	3+	2+	2+	2+	42	40	43	58	25	
27		4	2+	2+	3-	3-	2	2	4-	22-	13	0.8	4-	2	2+	2+	3-	2	2+	3	23	23	17	18	23	
28		4	3	1-	1+	2+	2+	2	2+	18	10	0.6	4	2+	1	1	3-	3-	2-	3-	21	23	17	20	21	
29	Q10A	4-	3+	1	2	1-	1-	1+	1+	14	8	0.5	3-	3	1	2+	1-	1-	1	1+	14	13	10	16	7	CK
30	Q1	1-	0	0+	1-	1	0+	1-	1+	5	3	0.0	1	0	0+	1	1	0+	1-	2-	5	7	5	4	8	CC
Mean											14	0.69									23.7	26.4	20.8	23.7		

Day	Kn Three-Hourly Indices 1	2	3	4	5	6	7	8	An	Ks Three-Hourly Indices 1	2	3	4	5	6	7	8	As	S_a	Prov R_I	R_a	R_S	IMF		
1	4	4	2-	2+	2	2+	3-	3	30	4	4+	2-	2	2	2-	2+	3-	27	110.5*	46	42	57	T	-	
2	2	2-	1+	2-	1-	2+	2	3-	14	2+	2	1-	1-	1-	2-	2-	2-	10	110.9	56	46	58	T	-	
3	2-	2+	3-	1	2-	2	1+	1	13	2+	1+	2	0	0+	2-	1	0	8	106.4	59	56	53	T	-	
4	0+	0	1-	1-	0+	1-	1+	2	5	1-	0	1-	0+	0	0+	1	2-	4	110.5	69	64	57	T	-	
5	2-	0+	0	0	1	1+	2-	2	7	1+	1-	0	0	0+	0	1	1+	4	117.6	81	83	65	T	-	
6	2	2	1	1	1+	1+	2	1+	11	2+	2+	2	1-	1	1-	1+	1+	10	120.7	78	79	68	T	-	
7	1+	2	2+	3+	4	5-	4-	3-	36	1	2	2	3-	4-	3+	3	3-	24	118.6	72	72	66	A	-	
8	2-	1	4-	4+	3+	3-	3+	3	32	2	2	3+	3+	3	2+	2+	2+	23	118.5	72	67	66	AT	-	
9	3-	3-	2+	2+	3-	3	3+	3+	26	4-	3	2	2	2	2	3+	3	24	115.3	74	64	63	T	-	
10	3-	2	2+	2	2	3+	3	2+	21	3+	2	2-	2-	2-	3-	3	2+	20	109.7	77	67	56	T	-	
11	3	2-	2-	2+	3-	3	3	2	21	3-	2	2-	2	2	3-	3	2	19	110.5	65	45	57	T	-	
12	2+	3	4-	3+	4	2-	1+	2	28	2	3	3+	3+	3+	1+	1	2	23	104.9*	41	33	51	A	-	
13	3-	2-	2	2-	3	2+	1+	2+	17	3-	2-	2	1+	3	2-	1+	3+	18	104.4	36	36	51	AT	-	
14	1+	1+	2-	1-	1+	3-	2-	2+	12	2-	1+	2-	1	1+	3-	1+	2-	11	105.3	36	31	52	T	-	
15	3	2	3	3	2+	4+	5-	4	40	3	2	3	3	2	5-	4	4-	37	106.3*	42	35	53	AT	-	
16	3-	3+	4-	4+	5-	5-	4	3	52	3-	3+	4-	4	4-	4	3	3	41	106.3*	38	34	53	A	-	
17	4-	4+	4+	4-	2	4-	3-	3-	40	3+	4	4	4-	2	3	2+	2-	33	105.1	35	34	52	A	-	
18	3-	2+	2+	2-	2-	2+	3	3	20	3-	2	2	2-	1+	2-	3	3-	18	102.5	45	45	49	A	-	
19	4	4	4-	4	4+	5-	5	5+	71	4	4+	3+	4-	4-	4-	5	5+	64	101.2	40	36	47	A	-	
20	4-	4-	3	3+	4+	4-	3	2+	41	4-	3+	3	3	3+	3+	2	2-	30	100.4	32	31	46	AT	-	
21	3	2	3-	1+	3	3	2-	3-	22	3-	2+	3	2	3	3-	1+	3-	20	103.0	38	34	49	A	-	
22	3	3-	3	4-	2	1+	1+	2+	22	3-	3-	3	3+	2+	1	1	2-	20	106.0	38	40	52	AT	-	
23	1-	1	0	2-	2-	1+	1	1	7	0+	1	1	2-	1+	1+	1	1+	8	112.6	42	44	60	T	-	
24	3-	1-	1+	2-	3-	3	2-	2+	16	2	1+	1	2-	3+	3-	1+	2	16	111.8	46	37	59	AT	-	
25	4-	3+	3+	3	3+	5-	4	4-	46	5-	3	3	3	4-	4+	4-	4+	47	110.5*	45	39	57	T	-	
26	4	5-	5-	3+	3+	2+	2+	2+	42	4-	5-	4+	4-	3+	2+	2+	3-	42	114.6*	50	45	62	T	-	
27	3+	2	2+	2+	3-	2	2+	3	23	4-	2	2+	2	3-	2	2	3	23	119.8	46	53	67	T	-	
28	4-	2+	1	1	3-	3-	2-	2+	19	4+	2+	1	1	3	3-	2-	3	23	114.8	48	51	62	T	-	
29	3	3	1+	2+	1-	1+	1+	2-	15	2+	3	1-	2+	1	0+	1	1+	13	114.5	48	45	62	-	-	
30	1-	0	0+	1	1+	0+	1	1+	5	1	0	0	1	1-	0	0	2	4	113.0*	33	33	60	-	-	
Mean									25.1									22.1	110.2	50.9	47.4	57.0			

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

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