U.S. DEPARTMENT OF COMMERCE
Malcolm Baldrige, Secretary

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
Anthony J. Calio, Administrator

NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE
Thomas N. Pyke, Jr., Assistant Administrator

Solar - Geophysical Data

Part I (Prompt Reports)

NO. 508 DECEMBER 1986

DATA FOR
NOVEMBER 1986
OCTOBER 1986

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

International Standard Serial Number: 0038-0911
Library of Congress Catalog Number: 79-640375 //r81

For sale through the National Geophysical Data Center, NOAA/NESDIS, E/GC2, 325 Broadway, Boulder, Colorado 80303. 1987 Subscription Price for the U.S.: $70.00 annually for both Part I (Prompt Reports) and Part II (Comprehensive Reports) or $35.00 annually for either part. Annual supplement containing explanation is included. Foreign subscriptions: For 1987 issues -- $106.00 for both parts or $53.00 for either part. We require prepayment for all orders. Please include with your request a check or money order payable in U.S. currency to the Department of Commerce, NOAA/NGDC. Any bank charges should be paid by the subscriber. Payment may be made through an American Express, Mastercard or VISA credit cards. Please include the correct name of credit card holder, card number and expiration date. Prices are subject to change. NGDC phone number: (303)497-6135 (FTS 320-6135).

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

BACK ISSUES OF "SOLAR-GEOPHYSICAL DATA"

Reel#	Coverage	Medium	Reel#	Coverage	Medium	Reel#	Coverage	Medium
1	Jan 56 - Dec 56	Microfilm	9	Jan 64 - Dec 64	Microfilm	17	Jul 69 - Dec 69	Microfilm
2	Jan 57 - Dec 57	Microfilm	10	Jan 65 - Dec 65	Microfilm	18	Jan 70 - Jun 70	Microfilm
3	Jan 58 - Dec 58	Microfilm	11	Jan 66 - Sep 66	Microfilm	19	Jul 70 - Dec 70	Microfilm
4	Jan 59 - Dec 59	Microfilm	12	Oct 66 - Dec 66	Microfilm	20	Jan 71 - Jun 71	Microfilm
5	Jan 60 - Dec 60	Microfilm	13	Jan 67 - Dec 67	Microfilm	21	Jul 71 - Dec 71	Microfilm
6	Jan 61 - Dec 61	Microfilm	14	Jan 68 - Jun 68	Microfilm	22	Jan 72 - Jun 72	Microfilm
7	Jan 62 - Dec 62	Microfilm	15	Jul 68 - Dec 68	Microfilm	23	Jul 72 - Dec 72	Microfilm
8	Jan 63 - Dec 63	Microfilm	16	Jan 69 - Jun 69	Microfilm		1973 - 1985	Microfiche

Microfilm are available at $30.00 per reel; microfiche at $48.00 per year; $1,100.00 for the above set. Back issues in booklet form are available, as long as the stocks exist, at $4.00 for either Part plus a $3.00 handling charge per order. Any entire year of back issues in booklet form is available at the current annual subscription rate, as long as the stocks exist. Please add a ten dollar ($10.00) handling fee for non-U.S.A. orders. Prices are subject to change.

To standardize referencing these reports in the open literature, the following format is recommended: **Solar-Geophysical Data**, 505 Part I (or Part II), pages, September 1986, U.S. Department of Commerce (Boulder, Colorado, USA 80303).

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

NUMBER 508

(Issued in Two Parts)

Editor: Helen E. Coffey

Chief: Joe H. Allen
Solar-Terrestrial Physics Division

Staff: John A. McKinnon
Daniel C. Wilkinson
Viola W. Miller
Carol Weathers
Charles T. Shanks

C O N T E N T S

Published with partial support from ONR (N00014-86-F-0049).

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

CODE	KIND OF OBSERVATION	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
A.	SOLAR AND INTERPLANETARY EVENTS								
A.1	Sunspot Drawings	502A 27	503A 25	504A 27	505A 25	506A 25	507A 36	508A 29	
A.2aa	Internat. Provisional Sunspot Numbers	501A 7	502A 7	503A 7	504A 7	505A 7	506A 7	507A 9	508A 7
A.2c	American Sunspot Numbers	501A 7	502A 7	503A 7	504A 7	505A 7	506A 7	507A 9	508A 7
A.3a	Mt. Wilson Magnetograms	502A 27	503A 25	504A 27	505A 25	506A 25	507A 36	508A 29	
A.3b	Mt. Wilson Sunspot Magnetic Class	502A 57	503A 56	504A 57	505A 56	506A 56	507A 66	508A 60	
A.3c	Kitt Peak Magnetograms		503A 25	504A 27	505A 25	506A 25	508A 89	508A 29	
A.3d	Mean Solar Magnetic Field (Stanford)	501A 22	502A 21	503A 19	504A 21	505A 20	506A 20	507A 24	508A 21
A.3e	Stanford Magnetograms	502A 27	503A 25	504A 27	505A 25	506A 25	507A 36	508A 29	
A.4	H-alpha Filtergrams	502A 27	503A 25	504A 27	505A 25	506A 25	507A 36	508A 29	
A.5	Calcium Plage Photographs/Drawings	507A115	507A119	508A108	508A113				
A.5a	Calcium Plage and Sunspot Regions	507A112	508A102	508A105					
A.5b	Daily Calcium Plage Indices	507A113	508A103	508A106					
A.6	H-alpha Synoptic Charts	502A 24	503A 22	504A 24	506A 75	506A 22	508A 88	508A 24	
A.6b	Active Region Carte Synoptique (Paris)	506B 4	507B 4	508B 4					
A.6c	Stanford Solar Mag Field Synoptic Maps	502A 25	503A 23	504A 25	505A 23	506A 23	507A 30	508A 25	
A.6d	Kitt Peak " Mag Field Synoptic Maps	502A 26	503A 24	504A 26	505A 24	506A 24	507A 32	508A 28	
A.6e	Mass Ejections from the Sun	506B 23	507B 23	508B 18					
A.6f	Active Prominences and Filaments	506B 24	507B 24	508B 19					
A.6g	Sac Peak Coronal Line Synoptic Maps	507A 94	507A 96	507A 98	507A100	507A102	507A 34	508A 26	
A.7g	Kitt Peak Helium Synoptic Maps	May 85 in 491A 27							
A.7h	Coronal Line Emission (Sac Peak)	502A 27	503A 25	504A 27	505A 25	506A 25	507A 36	508A 29	
A.8aa	2800 MHz - Solar Flux (Ottawa)	501A 7	502A 7	503A 7	504A 7	505A 7	506A 7	507A 9	508A 7
A.8ac	2800 MHz - Adj. Solar Flux (Ottawa)	501A 7	502A 7	503A 7	504A 7	505A 7	506A 7	507A 9	508A 7
A.8g	Adjusted Daily Solar Fluxes (Sagamore)	501A 7	502A 7	503A 7	504A 7	505A 7	506A 7	507A 9	508A 7
A.10a	Interferometric Chart (164 MHz) Nancay	---	502A 19	505A 76	505A 77	506A 74	508A 93	508A 94	508A 19
A.10c	East-West Scans - 21 cm - Fleurs	501A 16	502A 16	503A 15	504A 16	505A 16	506A 16	507A 21	508A 17
A.10d	East-West Scans - 43 cm - Fleurs	501A 17	502A 17	503A 16	504A 17	505A 17	506A 16	507A 22	508A 18
A.10e	East-West Scans - 10 cm - Ottawa	501A 15	502A 15	503A 14	504A 15	505A 15	506A 15	507A 20	508A 16
A.10f	East-West Scans - 3 cm - Toyokawa	501A 14	502A 14	503A 13	504A 14	505A 14	506A 14	507A 19	508A 15
A.11g	Solar X-ray GOES (graphs/event table)	506B 16	507B 15	508B 11					
A.12e	Solar Particles (IMP H & J)	Apr-Dec 83 in 491B 80; Jan 84-Apr 85 in 505B 34							
A.13d	Solar Wind from IP Scintillations	Dec 84 in 486A 92							
A.13e	Solar Plasma (IMP H & J)	Jul 84-Mar 85 in 494B158; Apr 85-Feb 86 in 503B 30							
A.13f	Solar Wind (Pioneer 12)	Aug 83-Jan 84 in 487A 82							
A.16a	SMM Solar Irradiance	Dec 84 in 490B 18							
A.16b	NIMBUS Solar Irradiance	Nov 78-Oct 84 in 499B 26							
A.17	Interplanetary Mag Field (Pioneer 12)	Dec 84 in 488A 80							
A.17c	Inferred Interplanetary Mag Field								
B.	IONOSPHERIC RADIO PROPAGATION								
B.52	Field Strength Graphs-North Atlantic	502A 72	503A 72	504A 68	505A 72	506A 70	507A 78	508A 84	
B.53	Quality Indices on Paths to Germany	502A 74	503A 71	504A 70	505A 74	506A 72	507A 77	508A 83	
C.	SOLAR FLARE-ASSOCIATED EVENTS								
C.1a	H-alpha Flares	501A 12	502A 12	503A --	504A 12	505A 12	506A 12	507A 14	508A 12
C.1ba	H-alpha Flare Groups	506B 6	507B 6	508B 6					
C.1d	Flare Patrol Observations	501A 13	502A 13	503A 12	504A 13	505A 13	506A 13	507A 18	508A 14
C.1d	Flare Patrol Observations	506B 8	507B 10	508B 8					
C.3	Radio Bursts Fixed Freq.	506B 10	507B 12	508B 10					
C.3	Radio Bursts Fixed Freq. Selected	501A 18	502A 18	503A --	504A 18	505A 18	506A 18	507A 23	508A 20
C.4d	Radio Bursts Spectral (Culgoora)				505A 62	506A 61	507A 68	508A 69	
C.4e	Radio Bursts Spectral (Weissenau)	502A 63	503A 61	504A 58	505A 62	506A 61	508A 95		
C.4f	Radio Bursts Spectral (Sagamore Hill)	502A 63	503A 61	504A 58	505A 62	506A 61	507A 68	508A 69	
C.4i	Radio Bursts Spectral (Bleien)	---	503A 61	507A 82	507A 83	507A 84			
C.4k	Radio Bursts Spectral (Learmonth)	502A 63	503A 61	504A 58	505A 62	506A 61	507A 68	508A 69	
C.4l	Radio Bursts Spectral (Palehua)	502A 63	503A 61	504A 58	505A 62	506A 61	507A 68	508A 69	
C.6	Sudden Ionospheric Disturbances	502A 61	503A 59	504A --	505A 60	506A 60	507A 67	508A 67	
D.	GEOMAGNETIC & MAGNETOSPHERIC EVENTS								
D.1a	Geomagnetic Indices	502A 68	503A 67	504A 64	505A 68	506A 66	507A 73	508A 79	
D.1ba	27-day Chart of Kp Indices	502A 70	503A 69	504A 66	505A 70	506A 68	507A 75	508A 81	
D.1c	27-day Chart of C_9								
D.1d	Principal Magnetic Storms	502A 71	503A 70	504A 67	505A 71	506A 69	507A 76	508A 82	
D.1f	Sudden Commencements/Flare Effects	503A 83	504A 84	505A 83	507A108	507A108	508A101		
D.1g	Equatorial Indices Dst	507A105	508A 98	507A106	507A1107	508A 99	508A100		
F.	COSMIC RAYS								
F.1a	Cosmic Ray Neutron Cts (Deep River)	502A 65	503A 63	504A 59	505A 67	506A 65	507A 69	508A 78	
F.1b	Cosmic Ray Neutron Cts (Climax)	504A 79	504A 80	504A 59	506A 77	506A 65			
F.1e	Cosmic Ray Neutron Cts (Alert)	502A 65	503A 63	504A 59	505A 67	506A 65	507A 69	508A 78	
F.1h	Cosmic Ray Neutron Cts (Thule)	503A 79	503A 63	504A 59	505A 67	506A 65	507A 69	508A 78	
.1i	Cosmic Ray Neutron Cts (Kiel)	502A 65	503A 63	504A 59	506A 77	506A 65	507A 69		
F.1j	Cosmic Ray Neutron Cts (Tokyo)	505A 78	505A 79	505A 80	506A 77	507A104	507A 69		
F.1l	Cosmic Ray Neutron Cts (Huancayo)	Mar 85 in 491A 85							
F.1m	Cosmic Ray Neutron Cts (Predigtstuhl)	Feb 86 in 500A 67							
H.	MISCELLANEOUS								
H.60	IUWDS Alert Periods	501A 4	502A 4	503A 4	504A 4	505A 4	506A 4	507A 5	508A 4

The entry "502A 27" under Apr 1986, for example, means that the sunspot drawings for Apr 1986 appear in SOLAR-GEOPHYSICAL DATA No. 502, Part I, and that they begin on page 27. "A" denotes Part I and "B", Part II. Blanks indicate data not yet received and dashes mark unavailable data.

CONTENTS

Prompt Reports DATA FOR NOVEMBER 1986 Number 508 Part I

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages NOVEMBER 1986

Julian Day	Date of Issue	Date of Observation	Wolf No.	10-cm Solar Flux	A-index	Location °Lat °Long	Flares Total	Flares M	Flares X	Date of Forecast	Location °Lat °Long	Region Forecast[1]	Geoalerts
305	01	31	042	091	007	S27 W73	0	0	0	01	S27 W73	Q	Solquiet, Magquiet.
						N00 E18	0	0	0		N00 E18	Q	
						N01 E31	0	0	0		N01 E31	Q	
306	02	01	057	091	010	S26 W86	0	0	0	02	S26 W86	Q	Solquiet, Magquiet.
						S21 W28	0	0	0		S21 W28	Q	
						N00 E04	2	0	0		N00 E04	Q	
						N01 E17	0	0	0		N01 E17	Q	
307	03	02	036	086	005	N00 W09	0	0	0	03	N00 W09	Q	Solquiet, Magquiet.
						N02 E04	0	0	0		N02 E04	Q	
308	04	03	046	082	009	S23 W50	0	0	0	04	S23 W50	Q	Solquiet, Magalert 04/05.
						S00 W24	0	0	0		S00 W24	Q	
						N01 W10	0	0	0		N01 W10	Q	
309	05	04	050	084	048	S23 W62	0	0	0	05	S23 W62	Q	Solquiet, Magalert 04/05.
						S01 W37	0	0	0		S01 W37	Q	
						N01 W23	0	0	0		N01 W23	Q	
		[2]Presto: Kakioka Magstorm begins 03/2354 UT.											
310	06	05	037	083	025	S01 W50	0	0	0	06	S01 W50	Q	Soqluiet, Magnil.
						N02 W36	5	0	0		N02 W36	E	
311	07	06	032	082	010	S01 W65	1	0	0	07	S01 W65	Q	Solquiet, Magquiet.
						N02 W48	11	0	0		N02 W48	E	
312	08	07	027	078	008	S02 W79	1	0	0	08	S02 W79	Q	Solquiet, Magquiet.
						N02 W63	1	0	0		N02 W63	Q	
313	09	08	025	075	006	S01 W95	0	0	0	09	S01 W95	Q	Solquiet, Magalert 09/11 Recurrence.
						N01 W78	1	0	0		N01 W78	Q	
314	10	09	011	073	005	N01 W90	0	0	0	10	N01 W90	Q	Solquiet, Magalert 10/11 Recurrence.
315	11	10	011	072	005	S31 W50	0	0	0	11	S31 W50	Q	Solquiet, Magalert 11/11 Recurrence.
316	12	11	000	071	015	Spotnil				12	Spotnil		Solquiet, Magnil.
317	13	12	000	073	008	Spotnil				13	Spotnil		Solquiet, Magquiet.
318	14	13	000	080	007	Spotnil				14	Spotnil		Solquiet, Magquiet.
319	15	14	012	076	006	N24 E74	0	0	0	15	N24 E74	E	Solquiet, Magquiet.
320	16	15	012	077	012	N23 E61	1	0	0	16	N23 E61	E	Solquiet, Magquiet.
321	17	16	012	077	011	N23 E49	0	0	0	17	N23 E49	E	Solquiet, Magquiet.
322	18	17	012	076	009	N24 E35	1	0	0	18	N24 E35	Q	Solquiet, Magquiet.
323	19	18	012	075	005	N23 E25	0	0	0	19	N23 E25	Q	Solquiet, Magquiet.

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages NOVEMBER 1986

Julian Day	Date of Issue	Date of Observation	Wolf No.	10-cm Solar Flux	A-index	Location °Lat °Long	Flares Total	Flares M	Flares X	Date of Forecast	Location °Lat °Long	Region Forecast[1]	Geoalerts
324	20	19	012	074	002	N24 E09	1	0	0	20	N24 E09	Q	Solquiet, Magquiet.
325	21	20	023	074	003	N24 W04	1	0	0	21	N24 W04	Q	Solquiet, Magquiet.
						N26 W22	0	0	0		N26 W22	Q	
326	22	21	023	076	004	N24 W17	0	0	0	22	N24 W17	Q	Solquiet, Magquiet.
						N26 W35	0	0	0		N26 W35	Q	
327	23	22	012	076	002	N25 W49	0	0	0	23	N25 W49	Q	Solquiet, Magquiet.
328	24	23	026	078	004	N28 W60	1	0	0	24	N28 W60	Q	Solquiet, Magalert Minor 24/25 Recurrence.
						S27 W72	3	0	0		S27 W72	Q	
329	25	24	012	079	025	S28 W85	4	0	0	25	S28 W85	Q	Solquiet, Magalert Minor 25 Recurrence.
		Presto:	Kakioka		Magstorm	begins 24/03// UT.							
330	26	25	011	078	029	S28 W98	0	0	0	26	S28 W98	Q	Solquiet, Magalert 26 Eruptive Filament/ Recurrence.
331	27	26	000	076	018	Spotnil				27	Spotnil		Solquiet, Magnil.
332	28	27	000	076	010	Spotnil				28	Spotnil		Solquiet, Magquiet.
333	29	28	000	075	004	Spotnil				29	Spotnil		Solquiet, Magquiet.
334	30	29	000	074	010	Spotnil				30	Spotnil		Solquiet, Magquiet.
335	01	30	000	073	010	Spotnil				01	Spotnil		Solquiet, Magquiet.

[1]Q = quiet, E = eruptive, A = active, P = proton.
[2]Presto message is a rapid report of a major event.

INTERNATIONAL (R_I) RELATIVE SUNSPOT NUMBERS

	1985	1986 Final									Prov	
Day	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
01	0	0	18	16	9	15	7	0	12	9	11	46
02	16	0	33	33	10	26	0	0	11	9	14	35
03	13	0	52	34	10	15	0	11	11	8	23	36
04	0	0	55	32	0	12	0	14	11	8	24	37
05	18	0	53	33	0	10	0	18	11	0	24	33
06	26	0	47	33	0	0	0	29	10	11	25	29
07	15	0	52	38	0	0	0	29	8	13	27	24
08	12	0	54	29	9	0	9	29	9	12	20	15
09	16	0	47	22	0	0	0	17	8	10	32	8
10	15	0	35	20	9	0	8	36	0	8	31	9
11	18	0	37	18	13	0	0	39	0	8	23	9
12	19	0	25	13	14	0	0	36	0	0	28	0
13	18	13	22	8	13	0	0	25	0	0	22	0
14	30	16	16	0	26	0	0	16	0	0	0	11
15	47	13	11	10	25	10	0	28	0	0	0	11
16	66	10	0	0	21	12	0	26	9	0	15	11
17	63	0	0	0	13	13	0	28	8	0	16	12
18	52	0	0	0	15	22	0	14	0	0	22	11
19	40	0	0	0	13	27	0	13	0	0	31	12
20	24	0	10	12	16	27	0	18	11	0	39	12
21	17	0	10	13	22	30	0	21	12	0	47	11
22	11	0	10	10	20	27	0	22	12	0	54	10
23	0	0	10	15	42	24	0	14	14	0	67	18
24	0	0	8	14	58	24	0	0	9	0	76	11
25	0	0	11	10	43	22	8	0	9	0	72	9
26	0	7	9	10	43	28	0	0	9	0	60	0
27	0	0	15	11	33	19	0	12	9	0	65	14
28	0	0	10	13	23	18	0	13	9	0	61	0
29	0	0		11	28	19	0	17	9	8	63	8
30	0	10		11	27	13	0	19	9	9	62	0
31	0	10		0		12		17	9		53	
Mean	17	2	23	15	18	14	1	18	7	4	36	15

The yearly mean sunspot number equaled 17.9 in 1985.

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

ALGONQUIN RADIO OBSERVATORY, OTTAWA

Day	Dec 85	Jan 86	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
01	67.8	67.0	81.8	84.1	71.8	72.5	71.1	68.9	72.8	69.8	71.2	87.6*
02	68.4	67.6	86.4*	89.2	70.6	74.3	69.8	68.7	72.3	69.2	71.6	84.1
03	68.5	68.4	96.0	91.1*	70.9	73.8	69.9	68.9	72.9	69.3	72.1	80.8
04	68.3	69.5	97.8*	91.4	71.7	71.6	69.3	69.3	71.6	69.4	70.7	82.3
05	69.7	70.7	99.8	90.5	71.9	70.8	69.3	71.1	71.7	69.6	71.1	81.5
06	71.1	72.2	99.0	89.7*	71.9	69.8	69.8	73.9	72.1	69.5	72.4	80.6
07	71.9	71.6	96.7	87.6	71.9	69.9	70.0	72.1	71.9	69.9	74.3	76.9
08	73.0	71.2	94.3*	85.1	71.8	69.5	70.2	71.6	71.3	69.4	74.8	73.5
09	75.2	72.7	92.5	84.3	72.0	69.8	71.1	72.5	71.3	69.4	74.6	71.9
10	75.6	72.2	93.4*	81.6	72.5	70.9	70.3	75.0	70.5	69.3	73.3	70.4
11	76.6	71.9	95.1	79.3	72.4	71.4	70.1	74.7	68.6	68.8	73.2	69.9
12	77.3	71.2	88.4	76.9	73.1	70.9	70.5	73.5	68.4	68.8	75.3	71.4
13	75.6	74.3	86.4	74.3	74.2	71.7	70.4	74.2	67.9	69.0	75.1	76.0*
14	76.4	76.4	86.2*	71.9	76.0	71.6	72.1	74.6	68.2	70.0	75.0	74.1
15	80.2	75.1	79.6	69.7	76.0	72.7	71.3	74.0	69.5	71.5	71.8	75.1
16	83.7	75.5*	71.2	68.9	75.8	74.3	70.7	74.4	69.4	70.5	79.1	75.0
17	80.2	74.4	68.3	68.9	75.3	75.3	69.8	74.9	68.9	69.2	82.6	73.8
18	78.4	73.1	68.7	68.9	74.4	78.7	69.9	74.6	69.1	68.8	86.3	73.0
19	77.5	70.2	68.1	68.8	74.9	78.7	69.6	73.3	69.3	68.7	88.6	72.5
20	75.4*	69.2	68.1	68.4	75.0	79.6	69.6	73.2	70.7	68.6	92.2	72.5
21	75.1	67.9	66.0	68.5	74.2	79.2	69.2	72.5	70.5	68.8	91.5	74.1
22	73.5	67.3	67.7	69.1	75.1	79.2	69.7	73.2	70.1	68.3	94.4	74.5
23	71.2	67.0	67.7	69.8	82.1	78.8	69.6	71.6	69.6	68.7	97.9	75.8
24	69.9	66.9	68.6	69.5	87.4	79.5	68.4	71.2	69.1	68.8	97.3	77.0
25	67.3	68.0	70.1	69.6	85.7	81.1	68.5	70.9	69.3	69.4	94.4	75.5
26	66.3	67.7	72.0	70.8	84.2*	77.1	68.2	71.1	69.9	68.5	94.2	74.3
27	66.2	67.2	75.2	70.2	83.4	74.7	68.6	71.6	69.1	68.9	94.3	73.6
28	66.2	70.0	77.0	70.4	80.1	74.3	68.3	72.5	68.8	70.3	93.6	73.1
29	66.0	71.2		71.5	77.0	74.3	68.3	74.0	68.8	71.5	91.4	72.4
30	66.3	73.7		71.5	74.7	72.5	68.3	73.6	69.3	71.6	89.8	70.9
31	66.6	76.6		71.5		73.2		72.6	69.6		89.2	
Mean	72.4	70.9	81.5	76.2	75.6	74.2	69.7	72.5	70.1	69.4	82.4	75.5

A = Interpolated value; --- = no observation.
*Adjusted for burst in progress at time of measurement; †corrected for antenna drift.
The yearly mean 2800 MHz flux adjusted to 1 astronomical unit equaled 74.7 in 1985.

DAILY SOLAR INDICES

November 1986

Day	Julian Day	Bartels Cycle Day	Sunspot Numbers Int	Sunspot Numbers Amer	Obs Flux Ottawa (2800)	SGMR (15400)	SGMR (8800)	SGMR (4995)	Ottawa (2800)	SGMR (2695)	SGMR (1415)	SGMR (610)	SGMR (410)	SGMR (245)
						----- Solar Flux Adjusted to 1 Astronomical Unit -----								
01	305	4	46		88.9*	490	248	129	87.6*	89	67	41	22	11
02	306	5	35		85.5	455	239	125	84.1	80	63	36	22	15
03	307	6	36		82.1	487	242	116	80.8	78	62	22	17	8
04	308	7	37		83.7	482	238	120	82.3	79	61	37	20	9
05	309	8	33		82.9	487	248	117	81.5	75	60	34	19	3
06	310	9	29		82.1	443	225	108	80.6	72	57	29	18	15
07	311	10	24		78.3	483	234	118	76.9	73	55	27	18	3
08	312	11	15		74.9	449	227	112	73.5	71	51	33	19	9
09	313	12	8		73.3	467	228	109	71.9	68	49	32	19	8
10	314	13	9		71.8	485	233	107	70.4	67	50	33	20	7
11	315	14	9		71.3	477	238	108	69.9	65	50	32	20	9
12	316	15	0		72.9	484	231	108	71.4	68	51	30	20	9
13	317	16	0		77.6*	491	239	114	76.0*	73	55	35	19	8
14	318	17	11		75.7	490	238	110	74.1	70	52	35	19	9
15	319	18	11		76.8	486	232	112	75.1	72	54	35	19	9
16	320	19	11		76.7	478	229	111	75.0	72	54	34	19	12
17	321	20	12		75.5	481	239	110	73.8	68	54	35	20	13
18	322	21	11		74.7	481	230	109	73.0	69	55	34	18	9
19	323	22	12		74.3	473	239	108	72.5	74	51	43	22	9
20	324	23	12		74.3	477	244	109	72.5	66	55	40	19	9
21	325	24	11		75.9	444	222	107	74.1	70	55	40	19	11
22	326	25	10		76.4	490	233	112	74.5	72	55	43	20	12
23	327	26	18		77.7	482	237	113	75.8	73	56	42	20	9
24	328	27	11		79.1	474	235	115	77.0	73	57	44	20	12
25	329	1	9		77.5	482	232	110	75.5	71	56	44	20	14
26	330	2	0		76.3	328	207	104	74.3	69	55	39	19	12
27	331	3	14		75.6	479	232	109	73.6	70	54	44	19	11
28	332	4	0		75.1	483	236	110	73.1	68	54	43	20	10
29	333	5	8		74.4	474	227	108	72.4	68	53	43	17	10
30	334	6	0		72.9	487	236	109	70.9	68	52	43	18	12
Mean			15		77.1	472	233	111	75.5	71	55	36	19	9

*Adjusted for burst in progress at time of measurement.

The American sunspot numbers were unavailable at time of publication. All sunspot numbers shown above are preliminary values.

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

OBSERVED AND PREDICTED SOLAR ACTIVITY INDICES

NOVEMBER 1986

Date	RELATIVE SUNSPOT NUMBERS International (Ri) Monthly Mean	International (Ri) Smoothed	American (Ra) Monthly Mean	American (Ra) Smoothed	Derived (Rs) Monthly Mean	Derived (Rs) Smoothed	2800 MHz RADIO FLUX Adjusted to 1 AU (Sa) Monthly Mean	(Sa) Smoothed
Feb 83	51.0	90	53.4	90	67.2	94	119.6	145
Mar	66.5	86	60.5	85	64.7	90	117.3	141
Apr	80.7	82	74.5	81	67.5	85	119.9	136
May	99.2	77	97.7	77	86.1	80	137.1	131
Jun	91.1	70	93.1	69	92.4	72	143.0	124
Jul	82.2	66	82.2	63	77.4	66	129.1	118
Aug	71.8	66	69.2	63	75.7	66	127.5	118
Sep	50.3	68	47.4	66	57.0	67	110.2	119
Oct	55.8	68	52.3	66	58.6	67	111.7	120
Nov	33.3	59	30.2	65	35.6	67	90.4	120
Dec	33.4	64	32.3	62	35.7	65	90.5	118
Jan 84	57.0	60	54.4	58	59.4	61	112.4	115
Feb	85.4	56	81.5	54	86.2	58	137.2	101
Mar	83.5	53	83.0	51	68.5	55	120.8	108
Apr	69.7	50	66.5	48	78.1	52	129.7	105
May	76.4	48	72.1	45	79.6	49	131.1	103
Jun	46.1	46	45.2	44	49.8	48	103.5	102
Jul	37.4	44	36.2	42	37.6	39	92.2	99
Aug	25.5	40	24.5	38	30.7	41	85.8	95
Sep	15.7	34	13.6	32*	23.2	35	78.9	90
Oct	12.0	29	9.8	27*	16.9	31	73.1	86
Nov	22.8	25	19.4	23*	18.6	26	74.6	72
Dec	18.7	22	17.0	20*	17.4	23	73.5	79
Jan 85	16.5	20	14.5	19*	15.9	21	72.1	77
Feb	15.9	20	16.3	18*	15.7	20	71.9	76
Mar	17.2	19	11.8*	16*	16.3	19	72.5	75
Apr	16.2	18	17.1*	17*	19.8	19	75.7	75
May	27.5	18	24.0*	17*	26.6	19	82.0	75
Jun	24.2	18	22.2*	16*	22.8	19	78.5	75
Jul	30.7	17	30.8*	16*	25.8	19	81.3	75
Aug	11.1	17	10.7*	15*	17.2	19	73.3	75
Sep	3.9	17	3.4*	16*	13.8	20	70.2	76
Oct	18.6	17*	16.5*	16*	18.1	20	74.2	76
Nov	16.2	17*	16.4*	15*	16.4	19	72.6	75
Dec	17.3	15*	10.1*	14*	16.2	19	72.4	75
Jan 86	2.5	14*	2.3*	12*	14.6	18	70.9	74
Feb	23.2	13*	23.8*	11*	26.0	17	81.5	74
Mar	15.1	13*	12.5*	11*	20.3	17	76.2	73
Apr	18.5	14*	13.8*	11	19.6	18	75.6	74
May	13.7	14*	11.6*	12	18.1	18	74.2	74
Jun	1.1	15(1)*	0.8*	13	13.3	19	69.7	--
Jul	18.1	15(3)*	17.7*	13	16.3	18	72.5	--
Aug	7.4	15(3)*	7.6*	13	13.7	17	70.1	--
Sep	3.8	16(4)*	3.5*	14	13.0	18	69.4	--
Oct	35.7†	17(5)*	----	15	27.0	20	82.4	--
Nov	14.7†	17(6)*	----	16	19.5	20	75.5	--
Dec	----	19(8)*	----	17	----	22	----	--
Jan 87	----	20(9)*	----	18	----	23	----	--
Feb	----	21(11)*	----	19	----	24	----	--
Mar	----	23(12)*	----	21	----	25	----	--
Apr	----	25(15)*	----	23	----	27	----	--
May	----	28(18)*	----	26	----	31	----	--

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

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

SMOOTHED (OBSERVED AND PREDICTED) SUNSPOT NUMBERS: CYCLES 21 AND 22

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1980	164	163	161	159	156	155	153	150	150	150	148	143
1981	140	142	143	143	143	142	140	141	143	142	139	138
1982	137	133	129	124	120	117	115	109	101	96	95	95
1983	93	90	86	82	71	71	66	66	68	68	67	64
1984	60	56	53	50	48	47	44	40	34	29	25	22
1985	21	20	19	18	18	18	17	17	17	17	17	15
1986	14	13	13*	14	14	15	15	15	16	17	17	19
						(1)	(3)	(3)	(4)	(5)	(6)	(8)
1987	20	21	23	25	28	33	37	40	43	45	48	51
	(9)	(11)	(12)	(15)	(18)	(21)	(24)	(27)	(29)	(32)	(35)	(37)
1988	56	61	65	69	73	75	77	81	85	90	96	102
	(41)	(45)	(48)	(51)	(54)	(57)	(57)	(57)	(59)	(62)	(65)	(68)
1989	105	108	111	113	115	115	115	117	117	115	114	114
	(69)	(70)	(75)	(77)	(78)	(79)	(79)	(80)	(78)	(74)	(68)	(61)

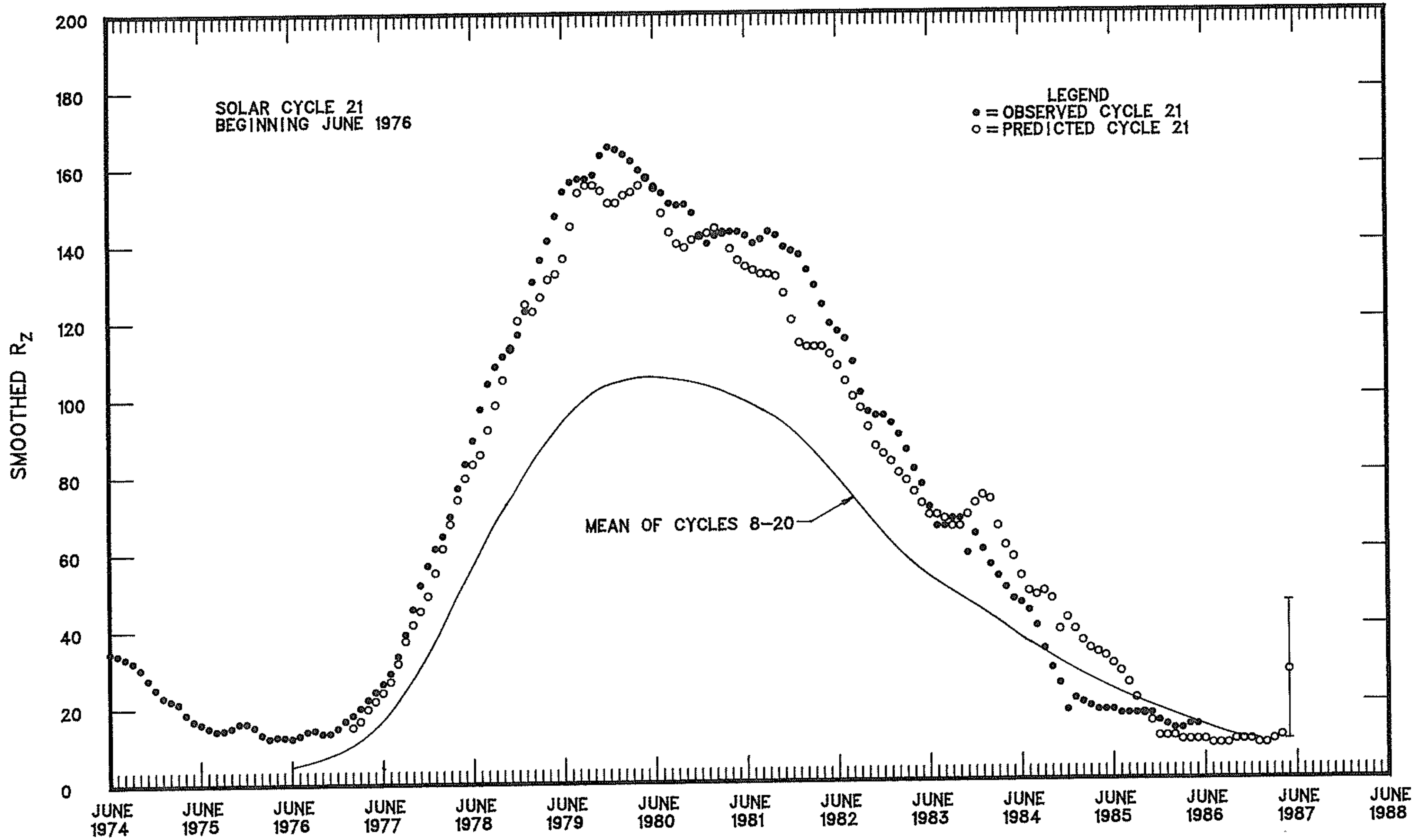
*March 1986 may be the onset of Sunspot Cycle 22.

For the end of Solar Cycle 21, and perhaps the beginning of Cycle 22, the 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, unsmoothed monthly means through September 1986 and on provisional ones thereafter.

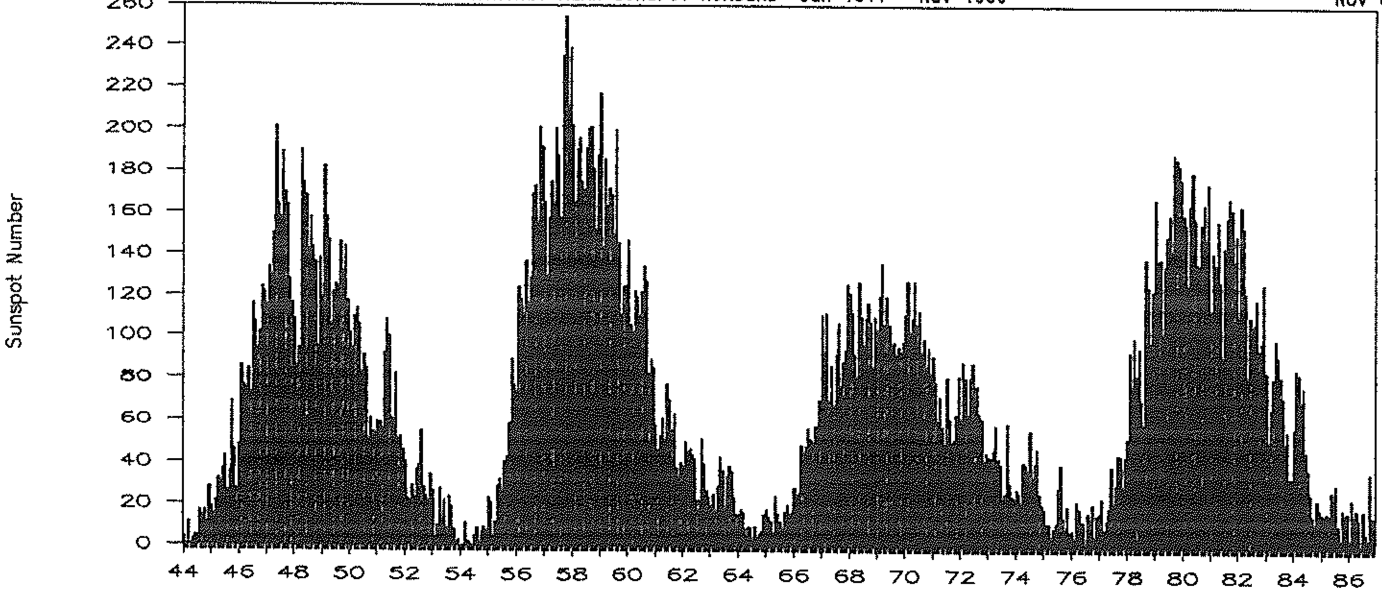
Table entries, with numbers in parentheses below them, denote predictions by the McNish-Lincoln method. (See page 9 in the March 1986 supplement to Solar-Geophysical Data.) Adding the number in parentheses to the predicted value generates the upper limit of the 90% confidence interval; subtracting the number from the predicted value generates the lower limit. Consider, for example, the May 1987 prediction. There exists a 90% chance that in May 1987 the actual smoothed sunspot number will fall somewhere between 10 and 46.

THE MCNISH-LINCOLN PREDICTION METHOD GENERATES USEFUL ESTIMATES OF SMOOTHED, MONTHLY MEAN SUNSPOT NUMBERS FOR NO MORE THAN 12 MONTHS AHEAD. Beyond a year the predictions regress rapidly toward the mean of all 14 cycles used in the computation. Moreover, 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. The new-cycle predictions tabulated above are based on the assumption that the March 1986 value of 13.0 is the minimum. If a smoothed number lower than 13.0 occurs, the predictions will change.

OBSERVED AND ONE-YEAR-AHEAD PREDICTED SMOOTHED SUNSPOT NUMBERS



MONTHLY MEAN SUNSPOT NUMBERS Jan 1944 - Nov 1986



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
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	9.6 m
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	33.2
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	92.6
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	151.6 M
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	136.3
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	134.7
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	83.9
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	69.4
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	31.5
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	13.9
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	4.4 m
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	38
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	141.7
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	190.2 M
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	184.8
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	159
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	112.3
1961	57.9	46.1	53.0	61.4	51.0	77.4	70.2	55.8	63.6	37.7	32.6	39.9	53.9
1962	38.7	50.3	45.6	46.4	43.7	42.0	21.8	21.8	51.3	39.5	26.9	23.2	37.6
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	27.9
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	10.2 m
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	15.1
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	47
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	93.8
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	105.9 M
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	105.5
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	104.5
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	66.6
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	68.9
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	38
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	34.5
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	15.5
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	12.6 m
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	27.5
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	92.5
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	155.4 M
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	154.6
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	140.4
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	115.9
1983	84.3	51.0	66.5	80.7	99.2	91.1	82.2	71.8	50.3	55.8	33.3	33.4	66.6
1984	57.0	85.4	83.5	69.7	76.4	46.1	37.4	25.5	15.7	12.0	22.8	18.7	45.9
1985	16.5	15.9	17.2	16.2	27.5	24.2	30.7	11.1	3.9	18.6	16.2	17.3	17.9
1986	2.5	23.2	15.1	18.5	13.7	1.1	18.1	7.4	3.8	35.7*	14.7*		14.0*

*Preliminary

For the yearly means, each "M" marks a sunspot cycle maximum and each "m" a minimum.

H - ALPHA SOLAR FLARES

NOVEMBER 1986

Grp #	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
0001		01	05422	0545*	0628	N01	E22	4754	11	2.9	46	SN					95	1.9	
	PURP	01	0542	0626	0656	N00	E24	4754	11	3.0	74	SN			C	0626	164	1.9	
	LEAR	01	0544	0545	0559	N02	E21	4754	11	2.8	15	SF		3	C		26		
0002	SVTO	01	0732E	0736	0748	N02	E18	4755	11	2.6	16D	SN		2	C		61		FH
0003	LEAR	01	0758	0905	0929D	N00	E12	4754	11	2.2	91D	1F	C 3.1	3	C		224		F
0004	SVTO	01	0956E	0959	1005	N00	E11	4754	11	2.2	9D	SF		3	C		24		
0005		02	0733	07351	0748	N02	E16	4755	11	3.5	15	SN	C 1.1				64		FH
	SVTO	02	0732E	0736	0748	N02	E18	4755	11	3.6	16D	SN	C 1.1	2	C		61		FH
	LEAR	02	0733	0735	0748	N03	E15	4755	11	3.4	15	SN	C 1.1	3	C		66		FH
0006	SVTO	02	1039	1040	1051	S03	E05	4754	11	2.8	12	SF		3	C		69		F
0007	RAMY	02	1723	1723	1728	N02	E05	4755	11	3.1	5	SF		3	C		27		
0008		02	1728	1728	1737	N04	W04	4754	11	2.4	9	SN					42		
	PALE	02	1725E	1728U	1734	N03	W04	4754	11	2.4	9D	SF		2	C		25		
	RAMY	02	1728	1728	1740	N04	W05	4754	11	2.3	12	SN		3	C		58		
0009	RAMY	02	2056	2057	2104	S01	E06	4755	11	3.3	8	SF		3	C		42		
0010	LEAR	04	0410	0412	0422	N02	W10	4755	11	3.4	12	SF		3	C		29		
0011	LEAR	04	0702	0703	0709	N03	W11	4755	11	3.5	7	SF		3	C		24		F
0012		04	1446	14417	1451	N03	W17	4755	11	3.3	5	SF					36		FH
	RAMY	04	1441E	1441	1446	N03	W17	4755	11	3.3	5D	SF		3	C		43		F
	RAMY	04	1446	1448	1456	N03	W17	4755	11	3.3	10	SF		3	C		29		FH
0013	RAMY	05	1215	1215	1220	N03	W27	4755	11	3.5	5	SF		3	C		22		
0014	HOLL	05	1601	1602	1606	N01	W29	4755	11	3.5	5	SF		3	C		23		F
0015		05	21287	21362	2204	N01	W34	4755	11	3.3	36	SN					101		F
	HOLL	05	2128	2136	2219	N01	W32	4755	11	3.5	51	SN		4	C		133		F
	PALE	05	2135	2138	2149	N01	W35	4755	11	3.3	14	SF		2	C		69		F
0016		05	2245	22471	2300	N02	W34	4755	11	3.4	15	SF					46		
	LEAR	05	2245	2247	2258	N01	W33	4755	11	3.5	13	SF		3	C		33		
	HOLL	05	2245	2248	2303	N02	W35	4755	11	3.3	18	SF		4	C		59		
0017		05	23501	2355	2404	N02	W34	4755	11	3.4	14	SF					39		FH
	LEAR	05	2350	2355	2404	N02	W33	4755	11	3.5	14	SF		3	C		33		
	PALE	05	2351	2355		N03	W35	4755	11	3.4		SF		2	C		45		FH
0018	LEAR	06	0221	0237	0246	N02	W34	4755	11	3.5	25	SF		3	C		27		
0019	LEAR	06	0532	0538	0551	N01	W36	4755	11	3.5	19	SF	C 1.0	3	C		136		F
0020	LEAR	06	0818	0820	0841	N02	W37	4755	11	3.6	23	SF		3	C		75		F
0021	HOLL	06	1423	1424	1440	N04	W36	4755	11	3.9	17	SF		3	C		41		
0022	HOLL	06	1456E	1457U	1507	N01	W40	4755	11	3.6	11D	SF		3	C		33		
0023	HOLL	06	1600	1605	1643	N03	W43	4755	11	3.4	43	SF		3	C		61		
0024		06	1704*	17294	1746	N02	W46	4755	11	3.3	42	SN					64		FH
	HOLL	06	1704	1733	1756	N02	W47	4755	11	3.2	52	SN		3	C		110		FH
	PALE	06	1726	1729	1735	N03	W45	4755	11	3.4	9	SF		3	C		18		
0025		06	1813	18151	1820	S00	W56	4754	11	2.6	7	SF					40		F
	HOLL	06	1813	1815	1821	N00	W55	4754	11	2.6	8	SF		3	C		57		
	PALE	06	1813	1816	1819	S01	W57	4754	11	2.5	6	SF		3	C		24		F
0026	HOLL	06	1933	1939	1944	N02	W48	4755	11	3.2	11	SF		3	C		22		

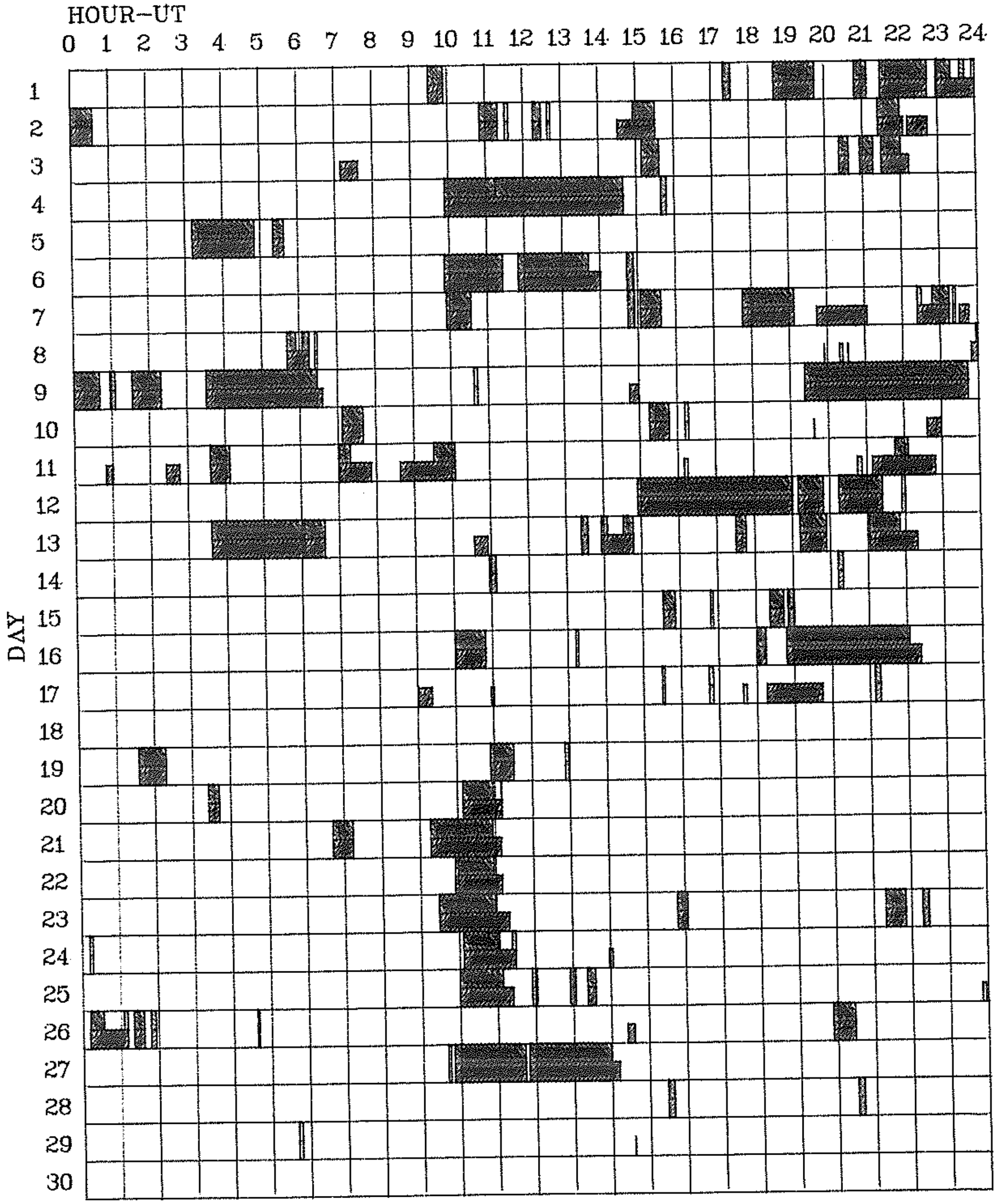
NOVEMBER 1986

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Corr (Sq Deg)	Remarks
0027		06	22001	22032	2217	N02	W46	4755	11	3.5	17	SN					59		F
	HOLL	06	2200	2203	2220	N01	W45	4755	11	3.5	20	SN		3	C		76		
	PALE	06	2201	2205	2214	N02	W47	4755	11	3.4	13	SF		3	C		42		F
0028		07	0200	0202	0210	N00	W60	4754	11	2.6	10	SF					84		DFH
	MITK	07	0200	0202	0207	N01	W59	4754	11	2.7	7	SF			C	0202			D
	LEAR	07	0200	0202	0213	N01	W58	4754	11	2.7	13	SF		3	C		100		FH
	PALE	07	0202E	0202U	0211	S01	W63	4754	11	2.4	9D	SF		3	C		69		H
0029	LEAR	07	0624	0625	0632	N03	W49	4755	11	3.6	8	SF		3	C		19		
0030		08	0628	06331	0638	N03	W62	4755	11	3.6	10	SF					18		
	LEAR	08	0628	0634	0639	N03	W63	4755	11	3.6	11	SF		3	C		17		
	SVTO	08	0630E	0633	0637	N03	W62	4755	11	3.6	7D	SF		3	C		20		
0031	RAMY	13	1724E	1725U	1729D	N31	E89	4757	11	20.7	5D	SF		3	C				F
0032	RAMY	15	1139	1147	1202	N23	E65	4757	11	20.5	23	SN		3	C		17		F
0033	SVTO	17	0812	0812	0819	N26	E49	4757	11	21.1	7	SF		3	C		32		
0034	PALE	19	0226	0226	0227	N24	E20	4757	11	20.6	1	SF		3	C		24		
0035	SVTO	20	0854	0915	1015	N24	E00	4757	11	20.4	81	1N	C 1.6	3	C		402		FU
0036	LEAR	20	0858	0916	0944	N25	E09	4757	11	21.1	46	SF	C 1.6	3	C		155		FU
0037	LEAR	23	0146	0146	0159	N27	W47	4758	11	19.4	13	SF		3	C		17		
0038	HOLL	23	1852	1858	1910	S28	W66	4759	11	18.6	18	SF		3	C		20		
0039		23	1946	1955	1956	S28	W66	4759	11	18.7	10	SF					20		
	HOLL	23	1946	1955	1956	S28	W65	4759	11	18.7	10	SF		4	C		22		
	RAMY	23	1956E		1957D	S28	W66	4759	11	18.7	1D	SF		3	C		19		
0040	HOLL	23	2038	2038	2107	S28	W69	4759	11	18.5	29	SF		4	C		46		
0041	RAMY	24	1222	1226	1236	S30	W75	4759	11	18.6	14	SF		3	C		11		
0042	RAMY	24	1411E	1413	1417	S29	W76	4759	11	18.6	6D	SF		3	C		11		
0043	SVTO	28	1154	1200	1211	S03	E22		11	30.1	17	SF		3	C		94		FH

"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 1986



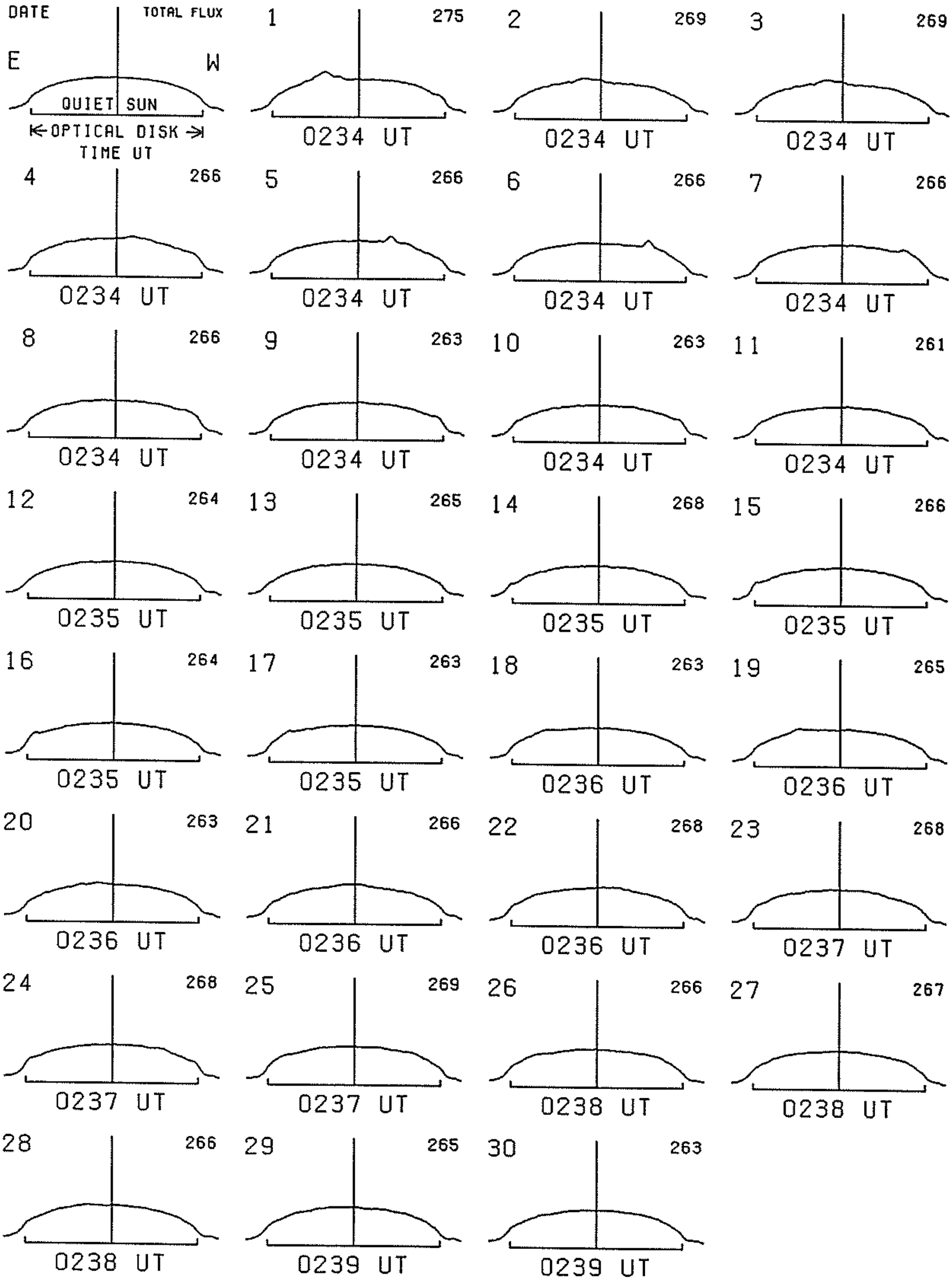
Times of no flare patrol, shown here as shaded areas, combine reports from the observatories listed below. Portions of a panel completely shaded mark dates and times of no patrol of any kind, that is, of neither visual nor cinematographic; portions of a panel with only the bottom half shaded mark times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

Bucharest	Istanbul	Mitaka	Purple Mt.	San Vito
Holloman	Learmonth	Palehua	Ramey	Urumqi
				Wendelstein

EAST-WEST SOLAR SCANS
NOVEMBER 1986

TOYOKAWA, JAPAN

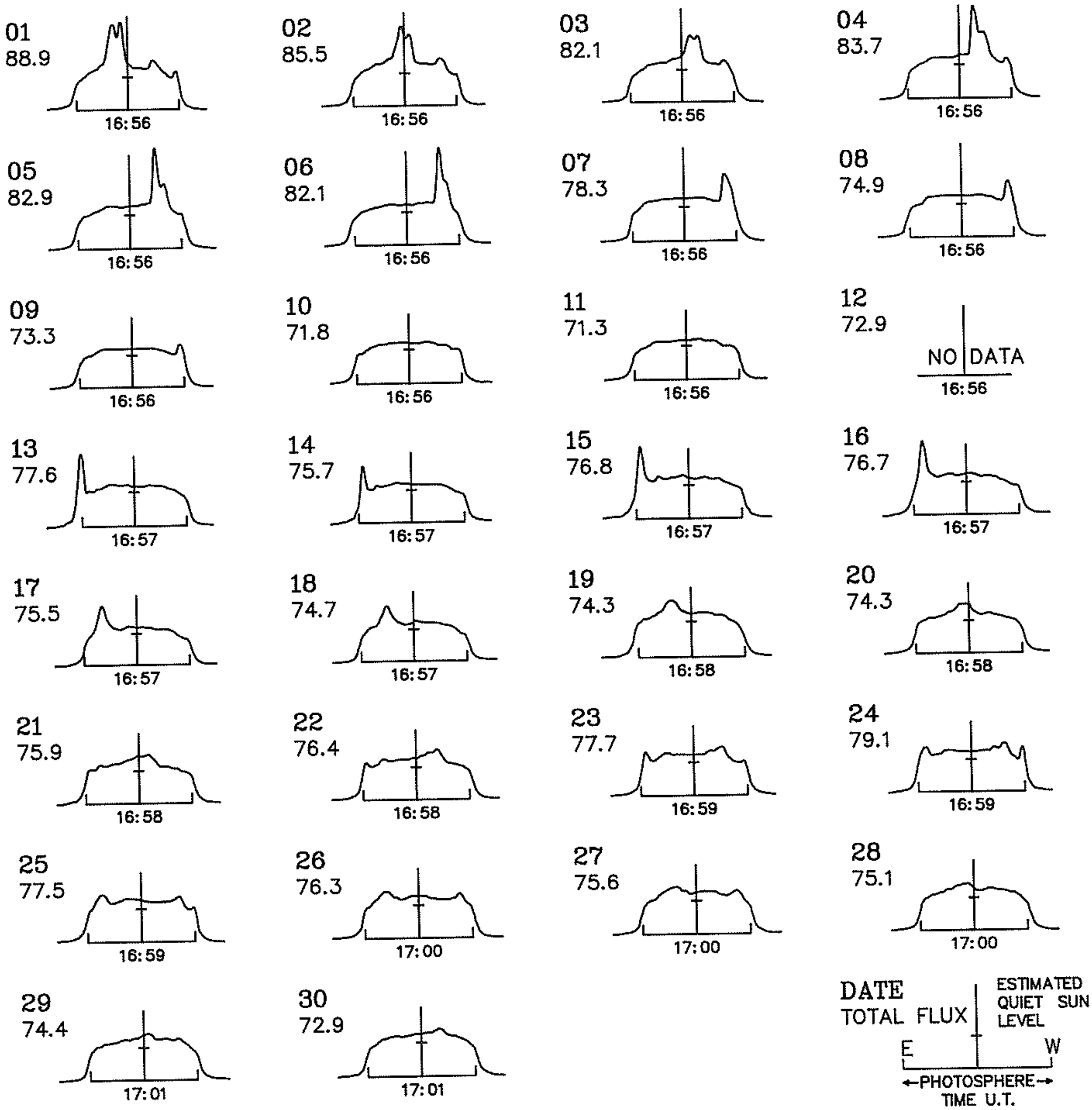
3 CM
FAN BEAM WITH 1.1 MINUTES OF ARC



EAST – WEST SOLAR SCANS
NOVEMBER 1986

ALGONQUIN RADIO OBSERVATORY
CANADA

10.7 cm
Fan Beam with 1.5 minutes of arc
E – W Resolution

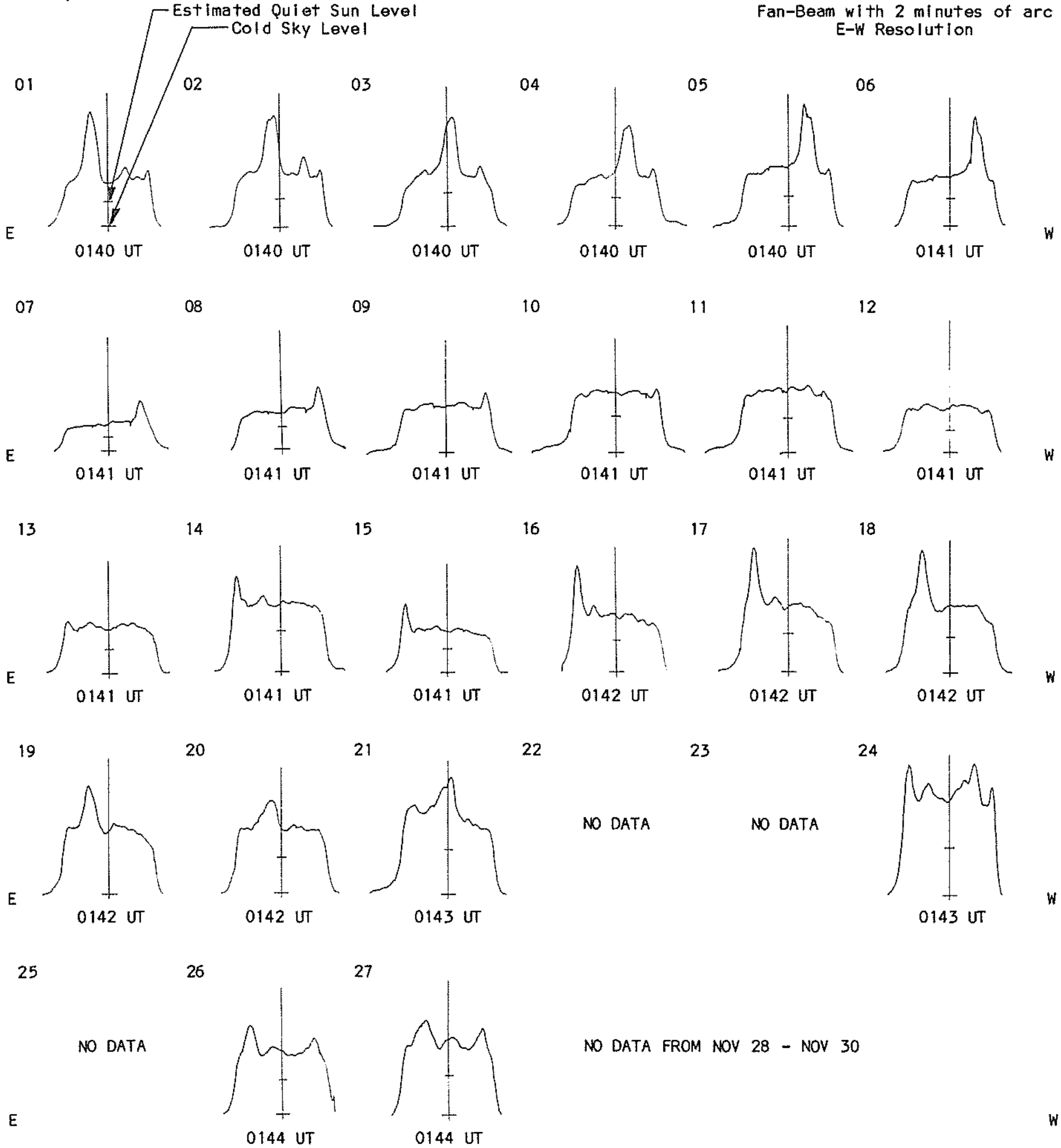


E A S T - W E S T   S O L A R   S C A N S

Fleurs, Australia

NOVEMBER 1986

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

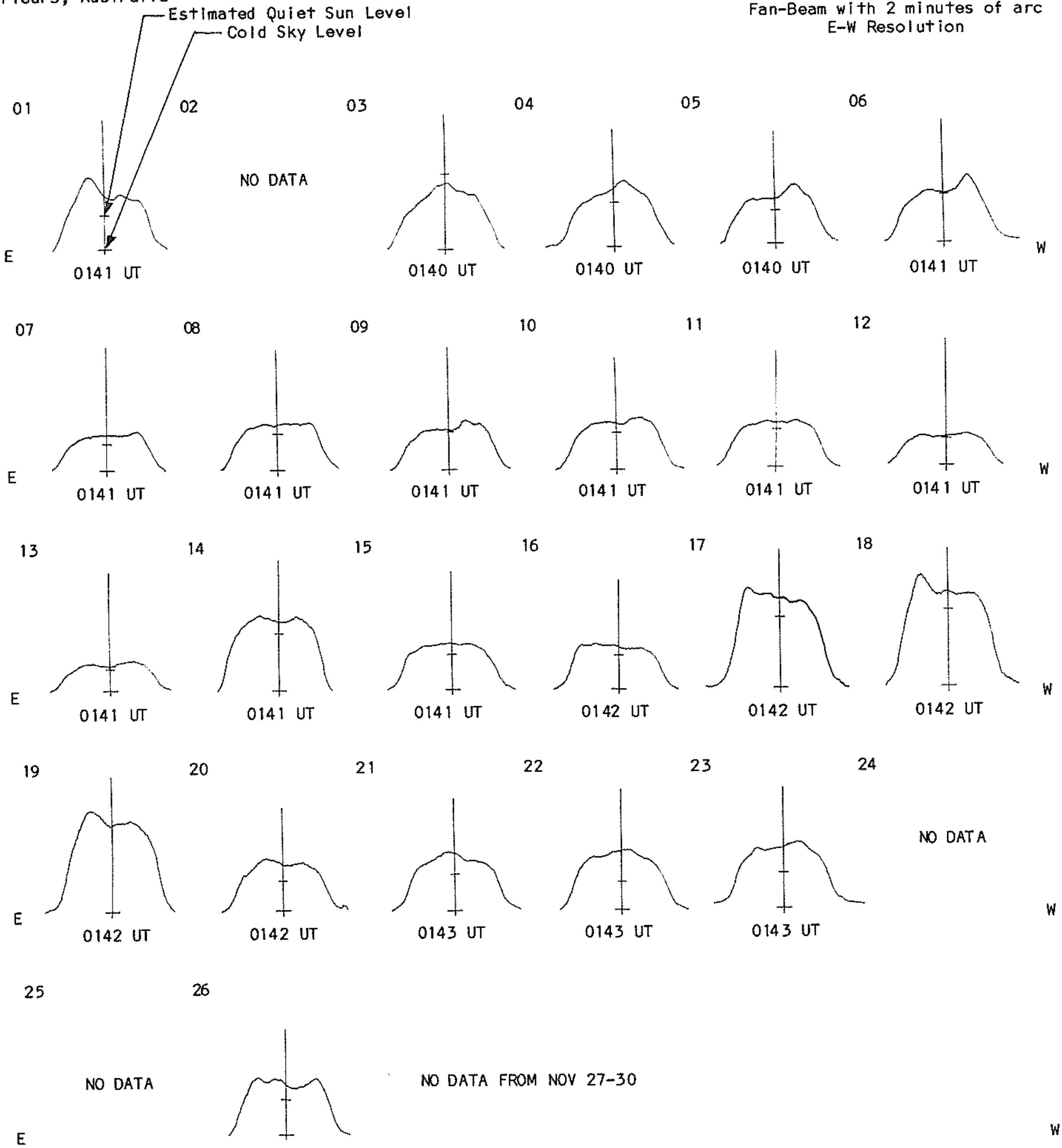


EAST-WEST SOLAR SCANS

Fleurs, Australia

NOVEMBER 1986

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

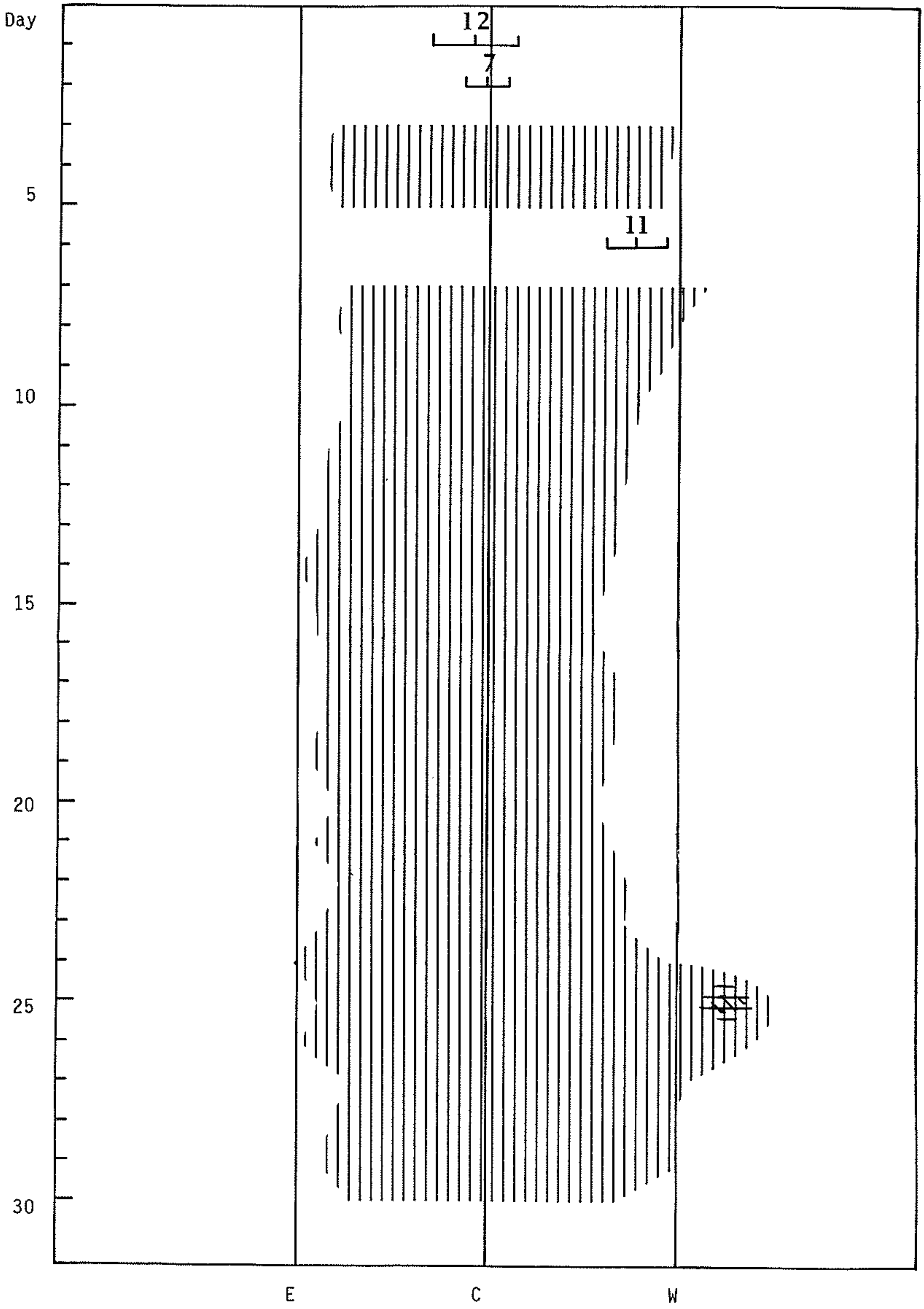


SOLAR INTERFEROMETRIC OBSERVATIONS

Nancay

NOVEMBER 1986

164 MHz



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

NOVEMBER 1986

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean	Int	Remarks
01	2800	OTTA	20	GRF	1250.0E		400.0D	5.9			
02	2800	OTTA	20	GRF	1250.0E	1419.0	136.0D	1.7			
	2800	OTTA	3	S	1727.2	1727.7	1.0	17.6	3.5		
04	2800	OTTA	20	GRF	1250.0	1400.0	250.0D	3.4	2.1		
	2800	OTTA	22	GRF	1718.0	1833.0	152.0	3.8	1.9		
06	2800	OTTA	22	GRF	1720.0	1820.0	125.0	2.1	.8		
	2800	OTTA	1	S	2159.0	2201.8	55.0	4.3	1.7		
13	2800	OTTA	21	GRF	1416.0	1725.0	500.0	4.9	2.5		
	2800	OTTA	20	GRF	1815.0	1843.0	88.0	2.2	1.1		
21	2800	OTTA	1	S	1515.0	1515.2	1.0	6.1	3.7		

Observatories

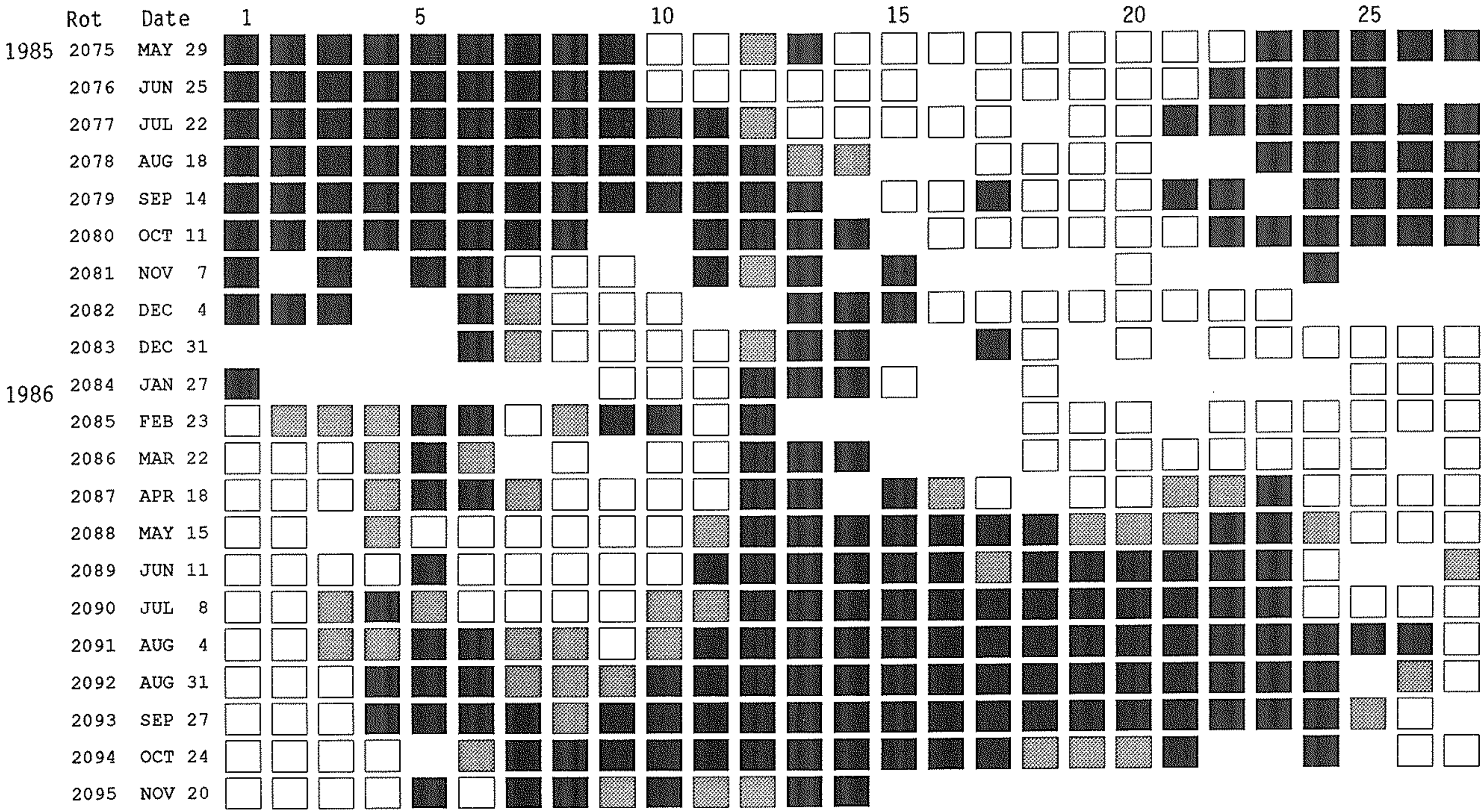
ATHN = Athens
BERN = Berne
LEAR = Learmonth
MANI = Manila
OTTA = Ottawa
PALE = Palehua
PENT = Penticton
SGMR = Sagamore Hill
SVTO = San Vito

Explanation of Type Code:

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

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

STANFORD MEAN SOLAR MAGNETIC FIELD



Mean Solar Magnetic Field Polarity: [white box] = field > 2 microT; [grey box] = -2 microT ≤ field ≤ 2 microT

[black box] = field <-2 microT; No box = no data available

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

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

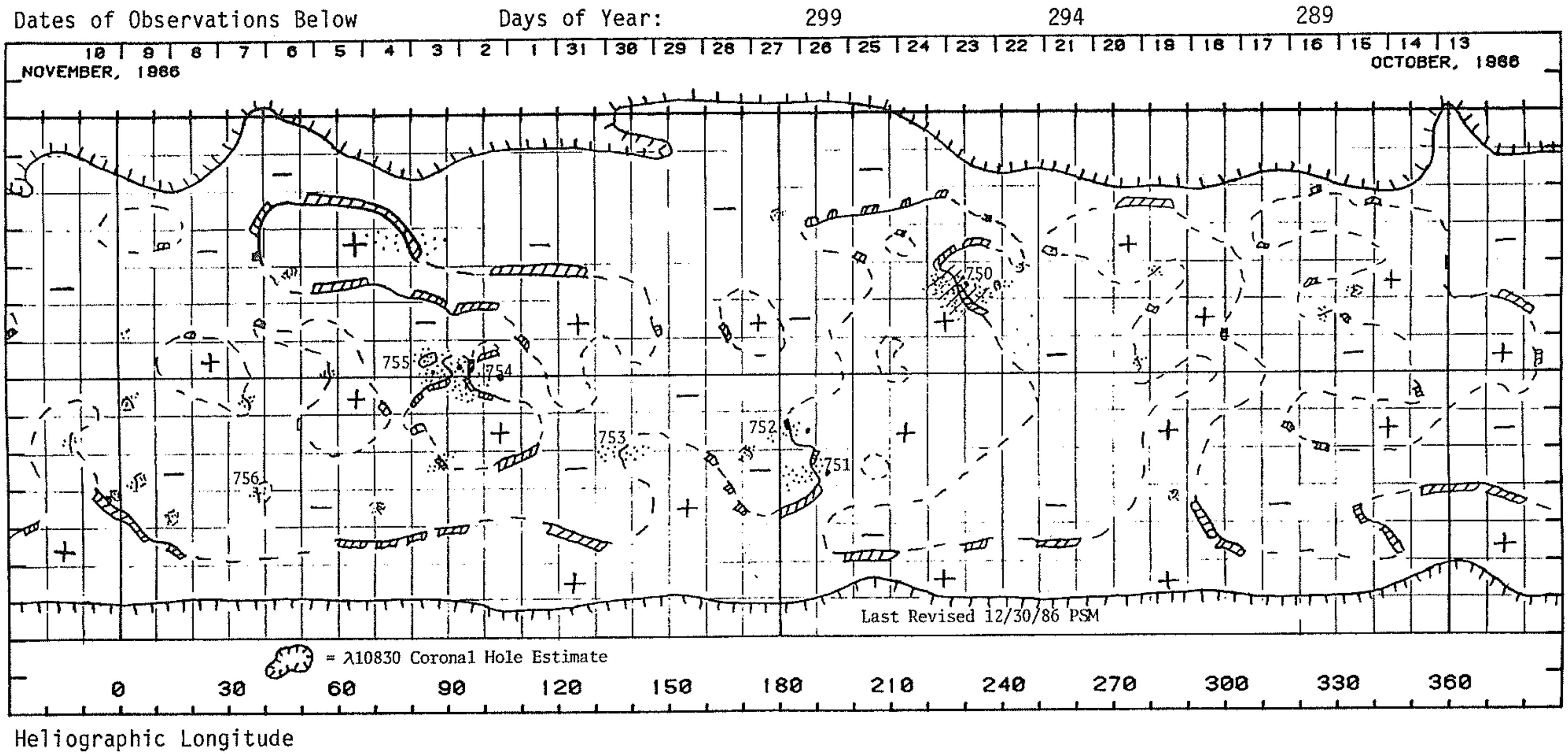
Day	1985 Dec	1986 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
1	•	•	•	3	10	•	-6	-6	3	4	-7	-11
2	•	•	•	0	-3	-7	-2	-5	7	5	-7	-11
3	•	•	•	-7	-14	0	1	-7	4	-6	-6	-12
4	-16	•	5	-7	-16	2	-1	2	10	-6	1	-5
5	-20	-3	15	3	•	•	-4	•	10	-3	-7	-10
6	-25	1	2	-11	•	2	-4	•	0	0	-6	-7
7	•	14	-8	•	•	2	0	-1	-2	-2	-12	-7
8	•	3	-27	•	6	0	6	10	-5	-1	-15	-5
9	-14	11	-14	•	5	1	4	4	-4	-9	-11	-4
10	1	12	4	•	5	-5	11	1	-2	-14	-15	-2
11	13	0	•	•	3	2	5	-5	1	-16	-18	-2
12	8	-19	•	5	5	8	11	0	3	-17	-10	-2
13	3	-14	9	11	3	13	4	3	-1	-18	-8	-5
14	•	•	•	8	8	13	3	5	-12	-19	-9	•
15	•	•	•	•	7	8	-3	5	-17	-15	-10	•
16	-18	-12	•	14	•	10	6	2	-21	-10	-10	-21
17	-20	21	•	11	8	•	6	-2	-23	-11	-15	•
18	-21	•	•	12	5	-2	6	-2	-21	-11	-21	6
19	3	24	•	12	6	3	6	-7	-18	-13	-10	13
20	11	•	9	12	2	9	6	-23	-13	-14	-7	19
21	15	16	18	10	-1	7	-4	-21	-14	-15	1	34
22	22	11	10	8	-5	6	-19	-26	-13	-13	7	29
23	28	12	9	5	-4	9	-23	-16	-15	-9	•	15
24	15	15	1	2	1	10	-16	-12	-8	•	33	-3
25	21	10	1	-1	7	0	-11	-8	-16	1	14	3
26	8	2	0	-3	13	-22	-8	-7	-9	4	11	-9
27	•	-3	-4	0	13	-31	-2	-4	-9	6	6	-8
28	•	•	-4	•	10	-25	-4	-5	-8	9	•	0
29	•	•		14	-3	-14	-3	-3	-3	3	-1	-12
30	•	•		•	-14	-8	-3	-22	5	-3	-6	-2
31	•	•		15		-4		2	12		-9	

Dot symbol indicates no data available for the day.

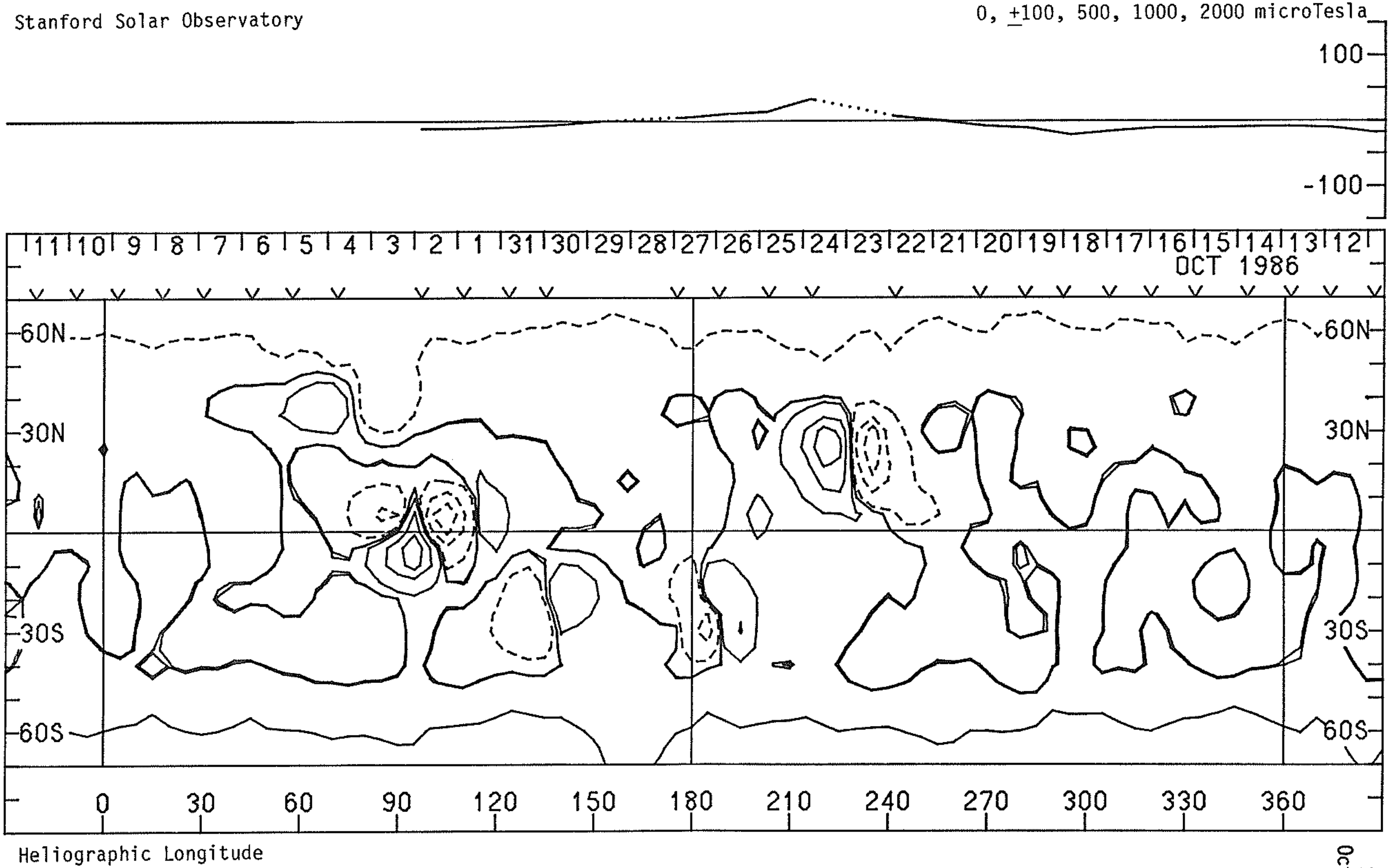
C O N T E N T S

Prompt Reports   DATA FOR OCTOBER 1986   Number 508   Part I

PRELIMINARY H-ALPHA SOLAR SYNOPTIC CHART
CARRINGTON ROTATION NUMBER 1781
(October 13 to November 10, 1986)



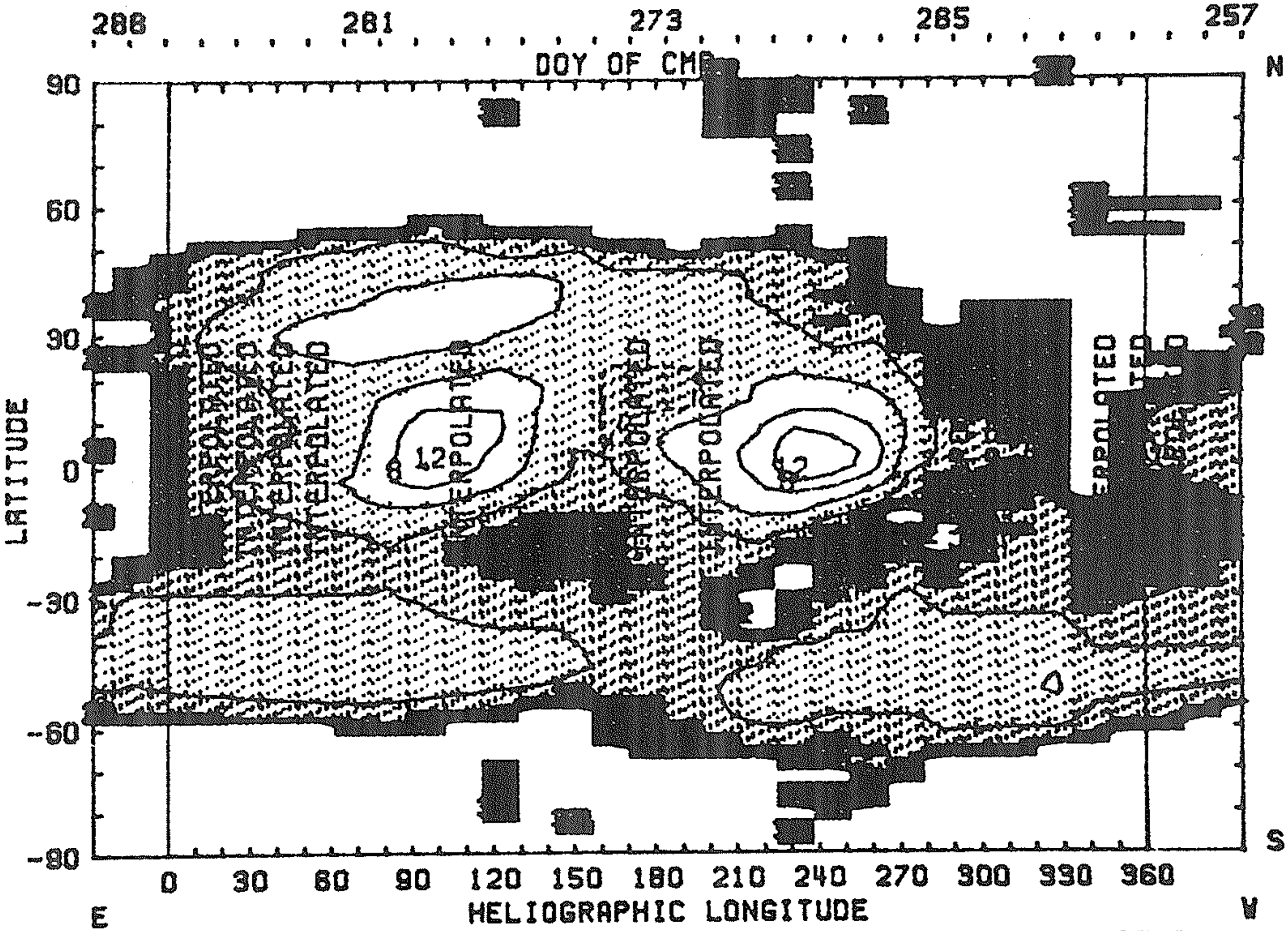
SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION NUMBER 1781
(October 13 to November 10, 1986)



25
Oct 86

CORONAL GREEN LINE SYNOPTIC MAP
CARRINGTON ROTATION NUMBER 1780
(16 September to 13 October 1986)

Sacramento Peak East Limb September 1986

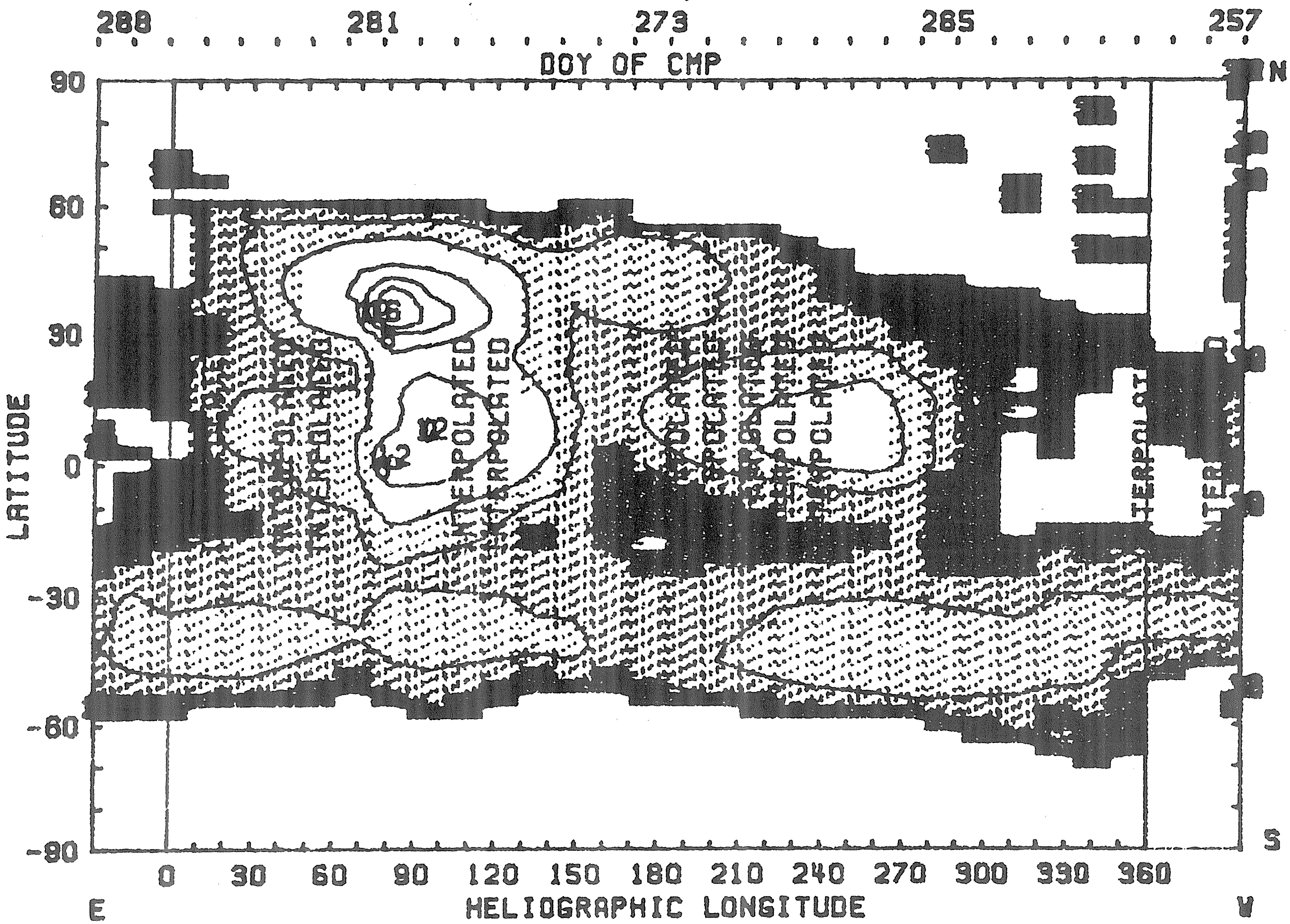


1986 E LIMB CONTOURS: .5,1,2,4,8,12,16,24,32 MILLIONTHS OF I⊙
CORONAL HOLES ARE SHOWN AS WHITE SURROUNDED BY BLACK

CORONAL GREEN LINE SYNOPTIC MAP

CARRINGTON ROTATION NUMBER 1780
(16 September to 13 October 1986)

Sacramento Peak West Limb September 1986



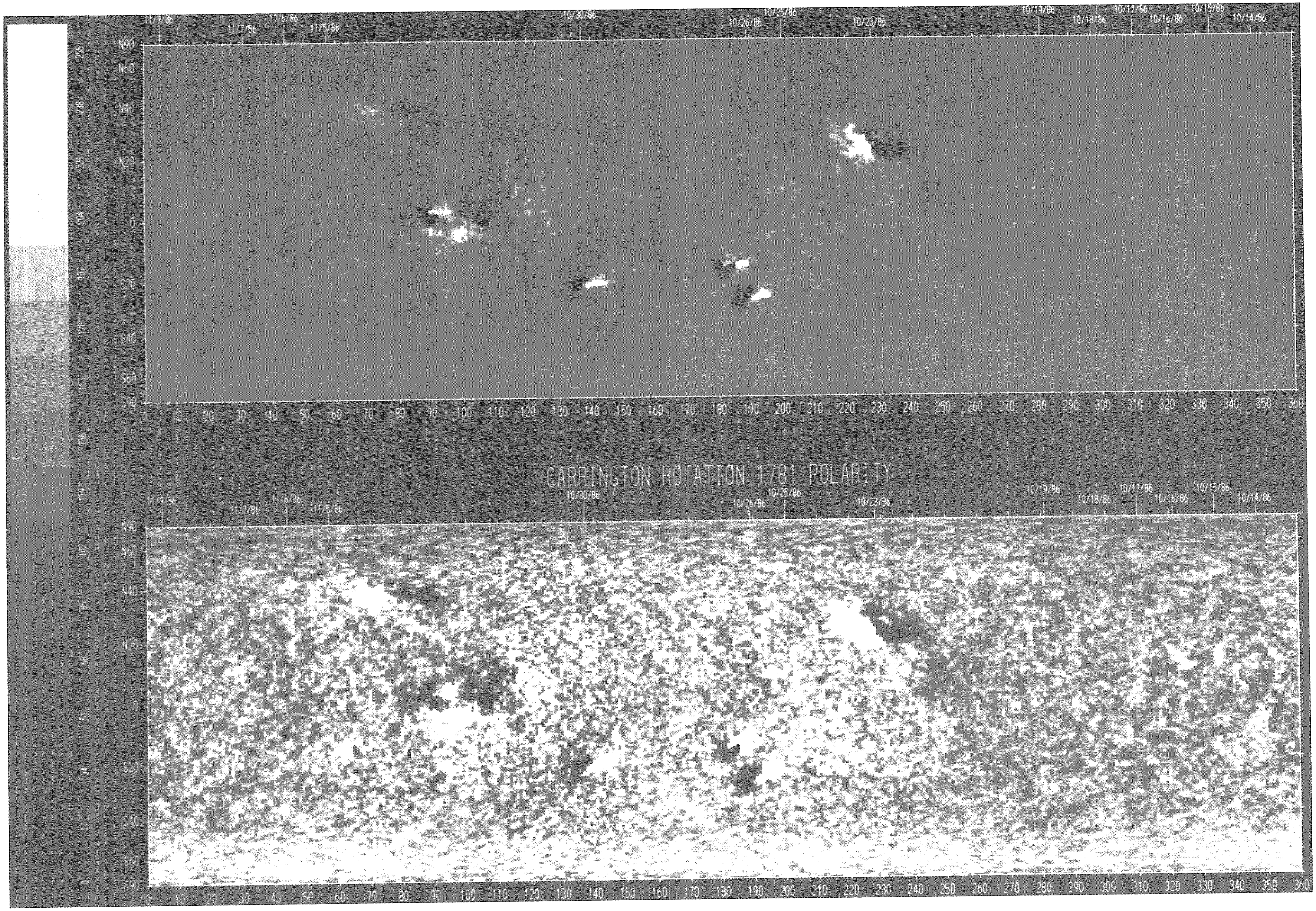
1986 W LIMB CONTOURS: .5,1,2,4,8,12,16,24,32 MILLIONTHS OF $I_{\odot}$
CORONAL HOLES ARE SHOWN AS WHITE SURROUNDED BY BLACK

SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1781
(October 13 to November 10, 1986)

Kitt Peak National Observatory

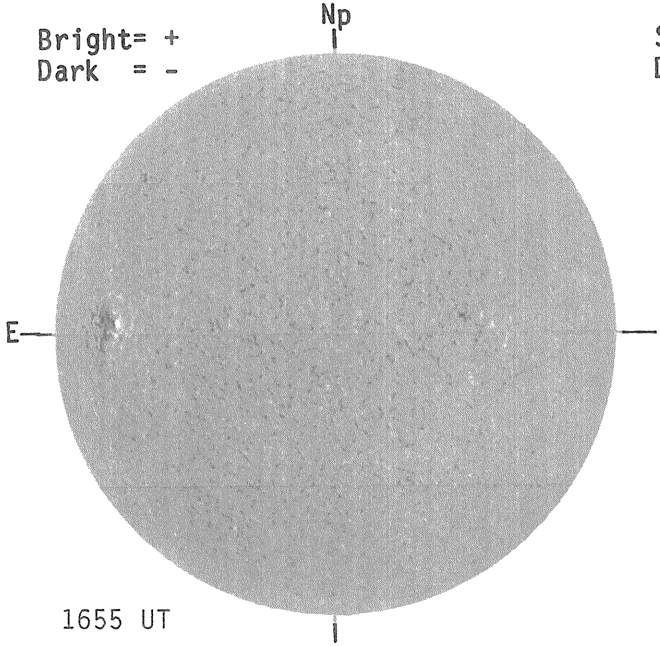
Dates of Observations



O C T O B E R 01, 1 9 8 6 (P= 25.91, B_0= 6.64, L_0= 168.82)

KITT PEAK MAGNETOGRAM

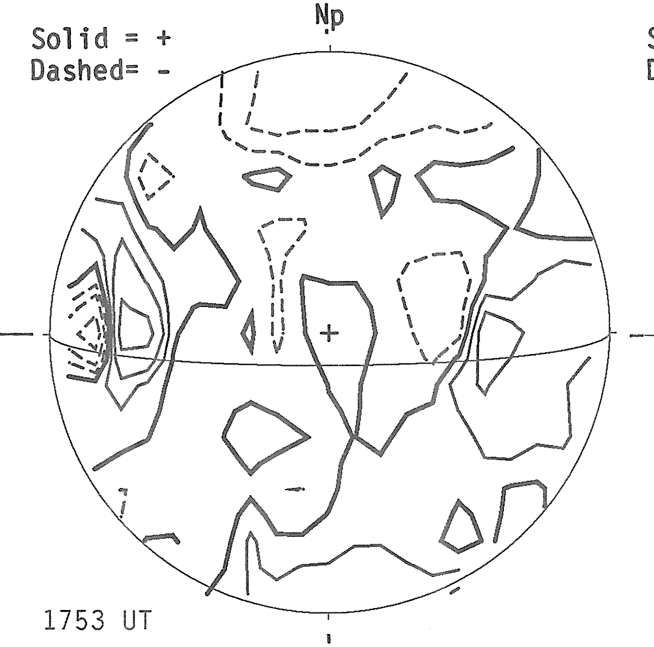
Bright= +
Dark = -



1655 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

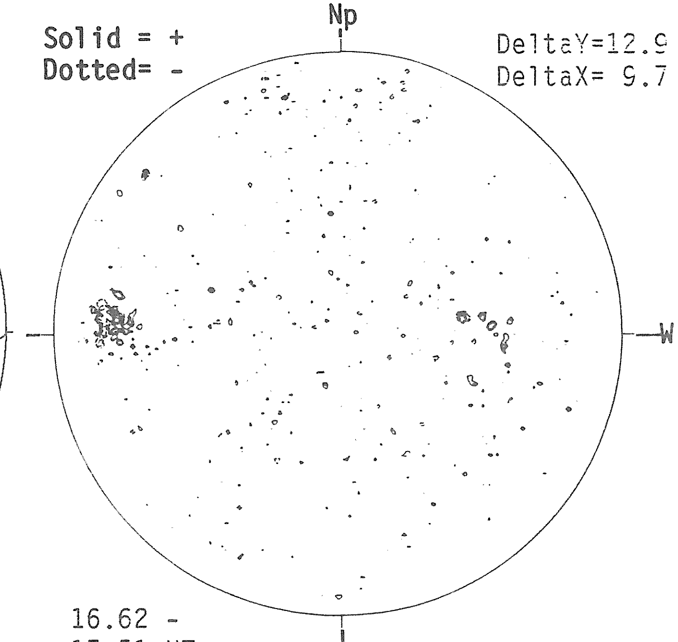


1753 UT

MT. WILSON MAGNETOGRAM

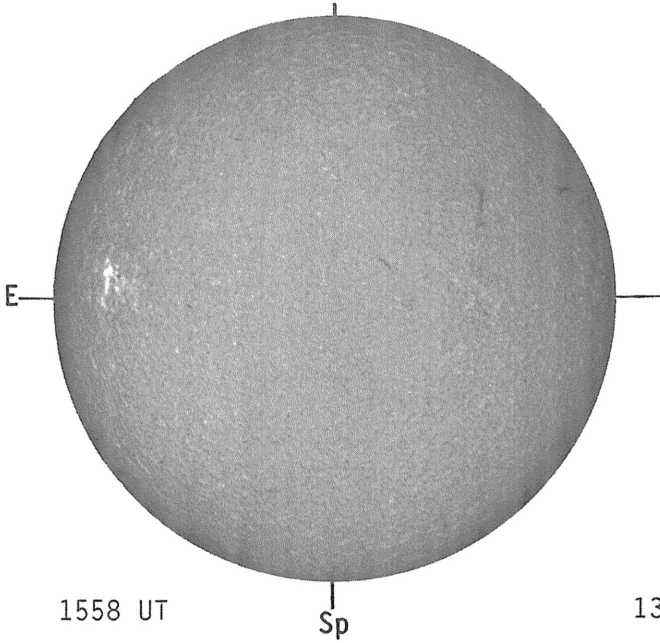
Solid = +
Dotted= -

DeltaY=12.9
DeltaX= 9.7



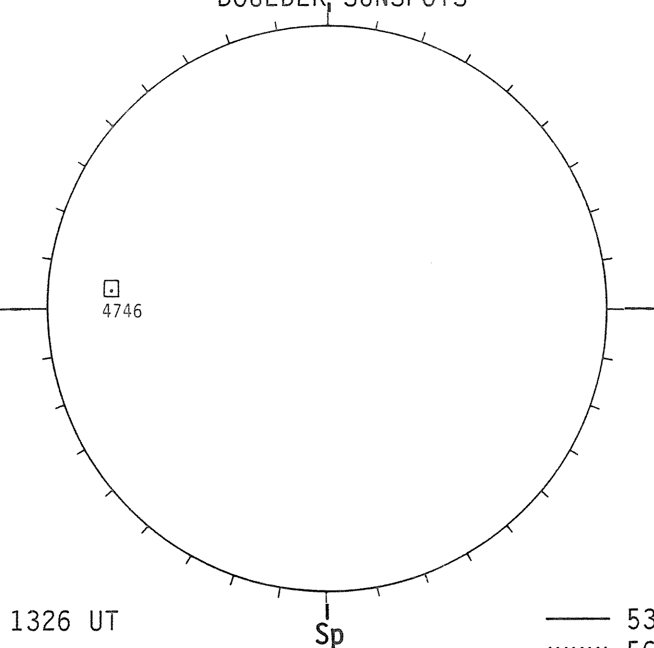
16.62 -
17.51 UT

SACRAMENTO PEAK H-ALPHA



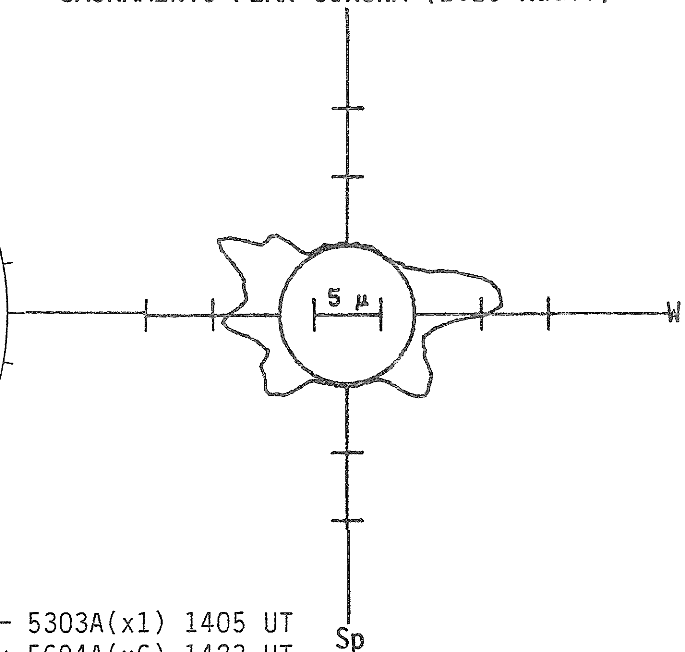
1558 UT

BOULDER SUNSPOTS



1326 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

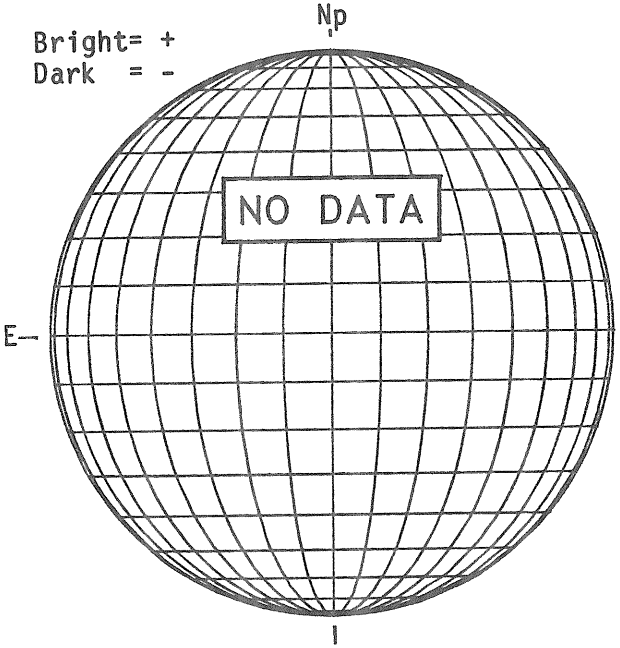


—— 5303A(x1) 1405 UT
xxxx 5694A(x6) 1423 UT
NO 5694A ACTIVITY TODAY

O C T O B E R 02, 1 9 8 6 (P= 25.97, B_0= 6.59, L_0= 155.63)

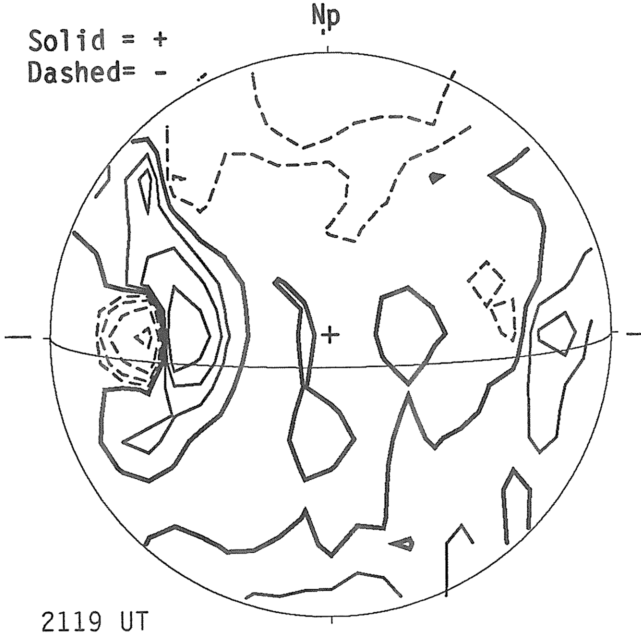
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

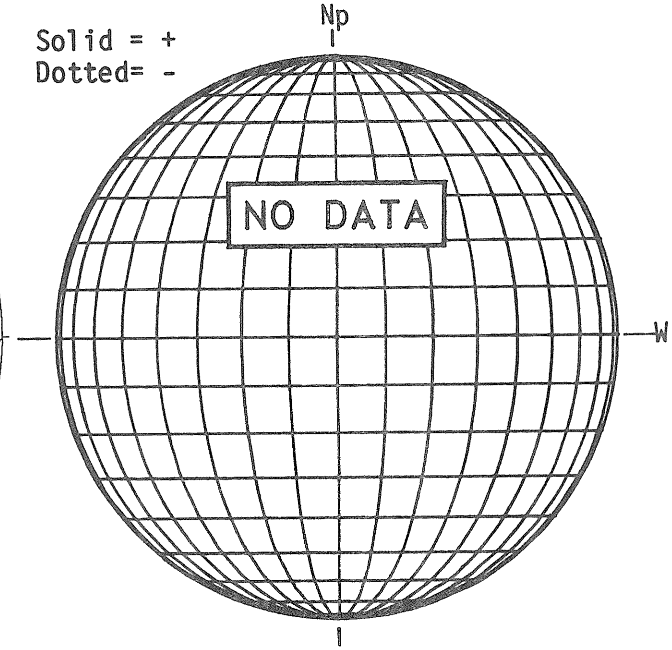
Solid = +
Dashed= -



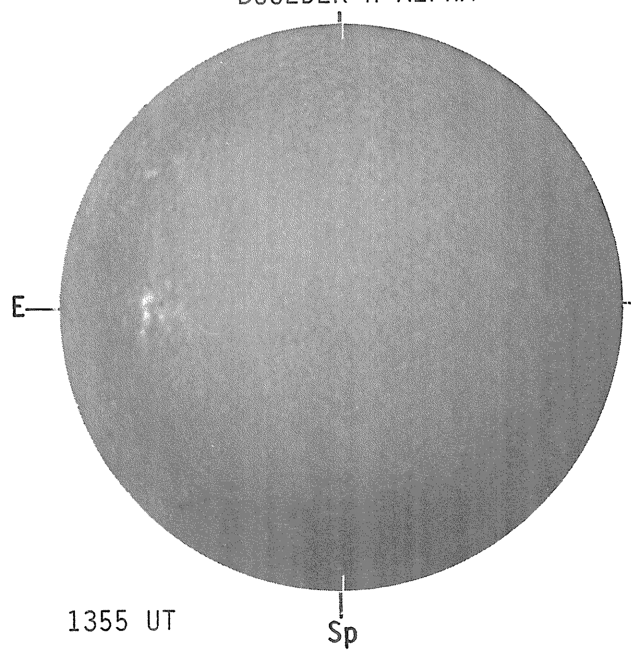
2119 UT

MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

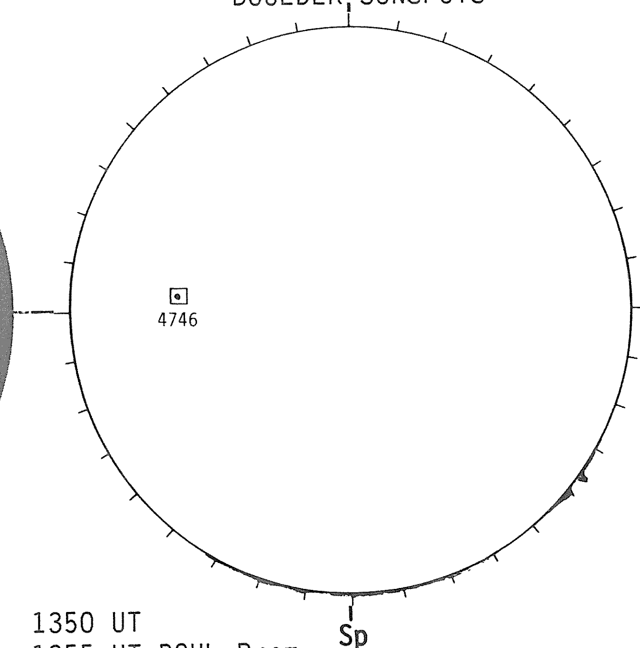


BOULDER H-ALPHA



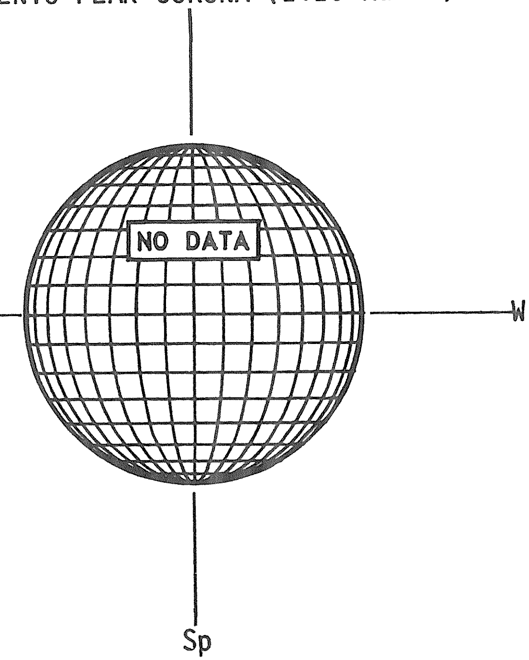
1355 UT

BOULDER SUNSPOTS



1350 UT
1355 UT BOUL Prom

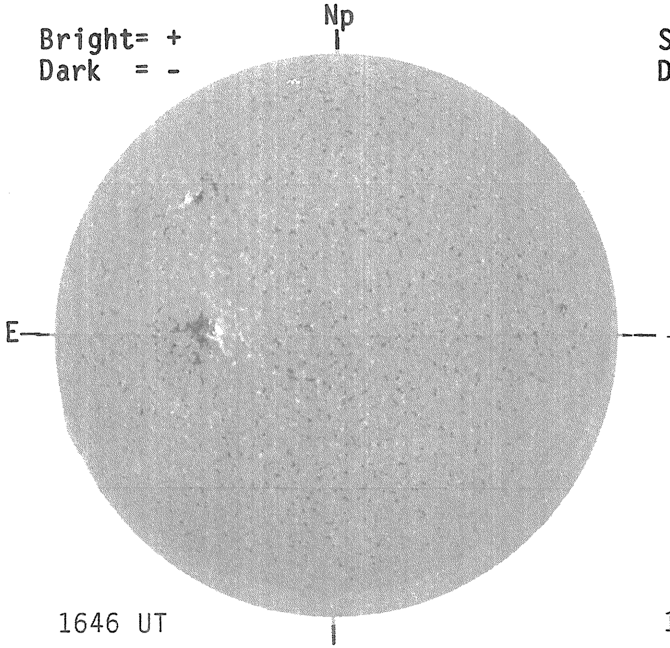
SACRAMENTO PEAK CORONA (1.15 Radii)



O C T O B E R 03, 1 9 8 6 (P= 26.03, B_0= 6.55, L_0= 142.43)

KITT PEAK MAGNETOGRAM

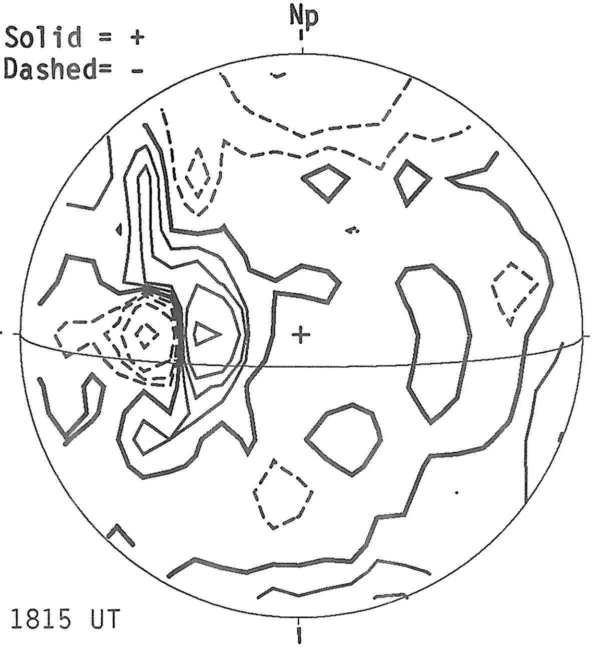
Bright= +
Dark = -



1646 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

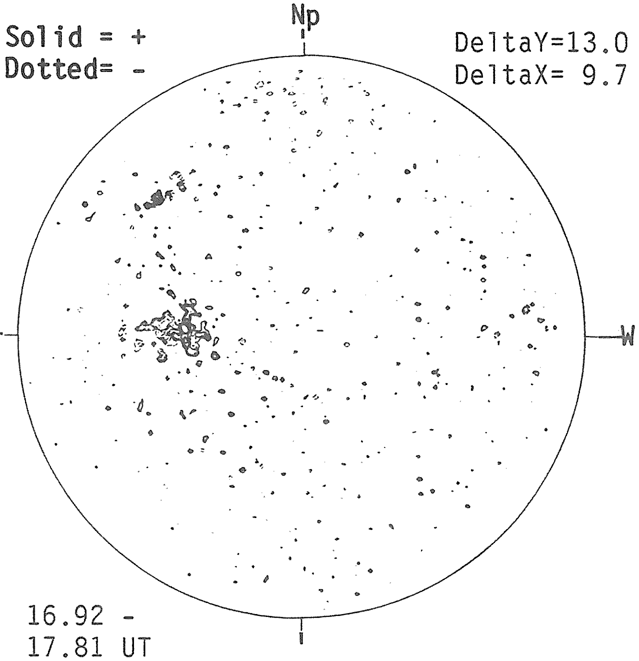


1815 UT

MT. WILSON MAGNETOGRAM

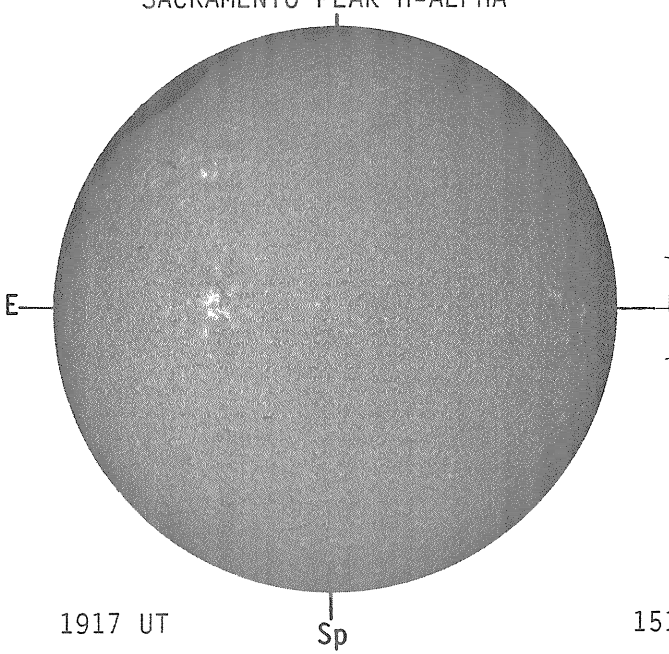
Solid = +
Dotted= -

DeltaY=13.0
DeltaX= 9.7



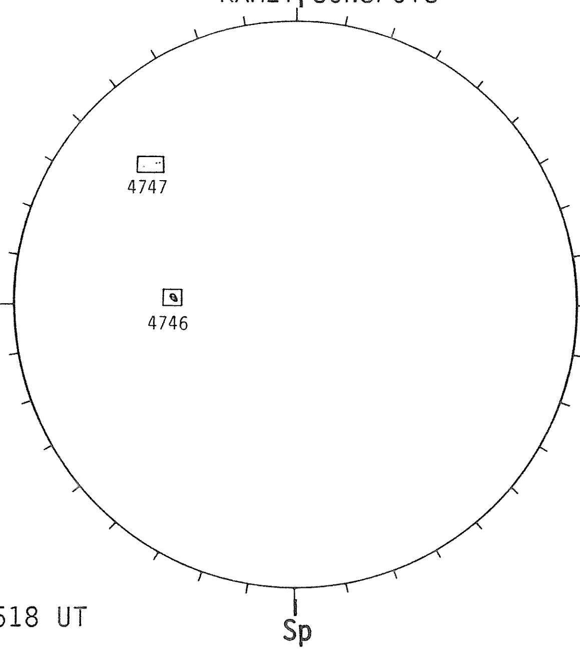
16.92 -
17.81 UT

SACRAMENTO PEAK H-ALPHA



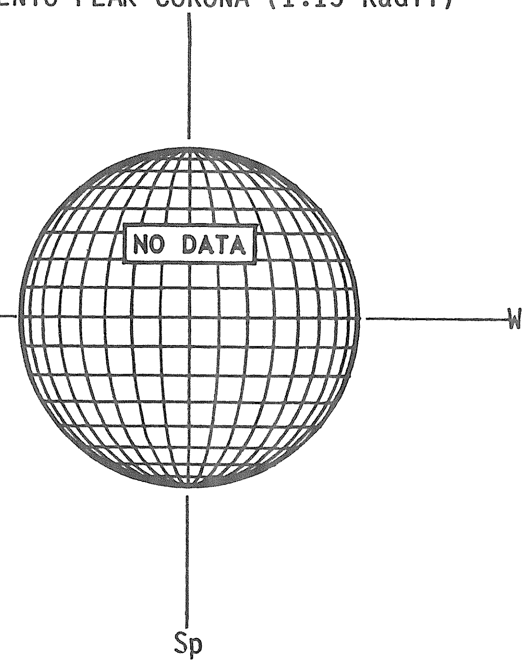
1917 UT

RAMEY SUNSPOTS



1518 UT

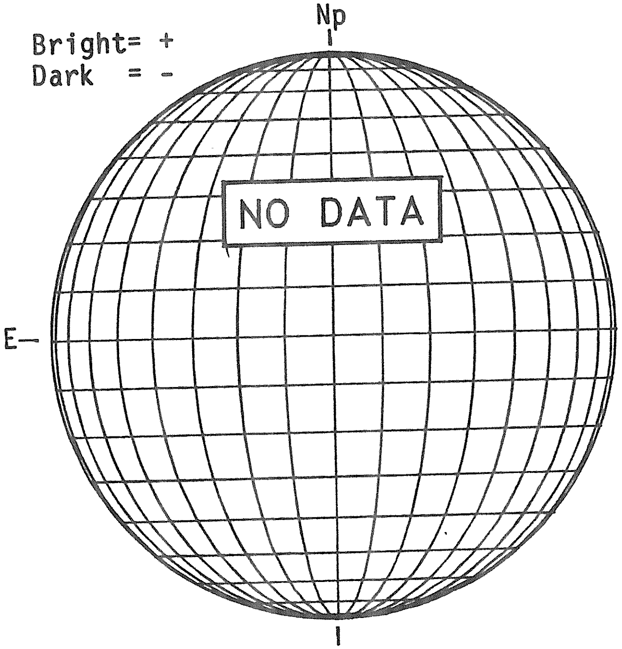
SACRAMENTO PEAK CORONA (1.15 Radii)



O C T O B E R 04, 1 9 8 6 (P= 26.08, B_0= 6.50, L_0= 129.24)

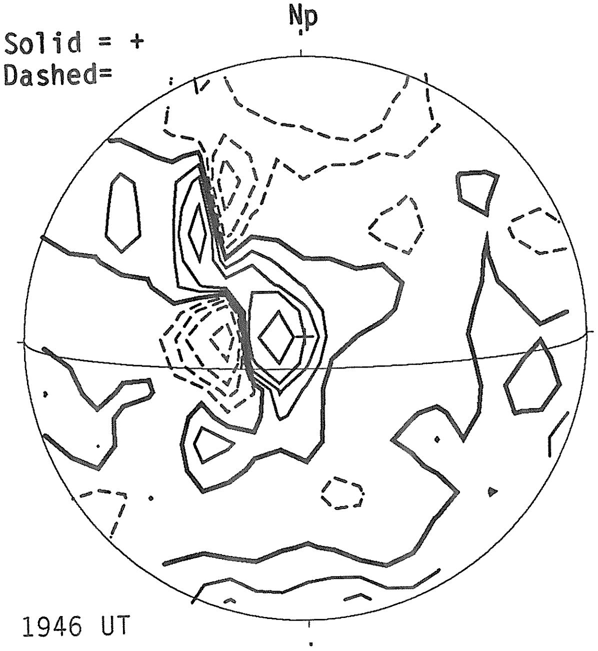
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

Solid = +
Dashed=

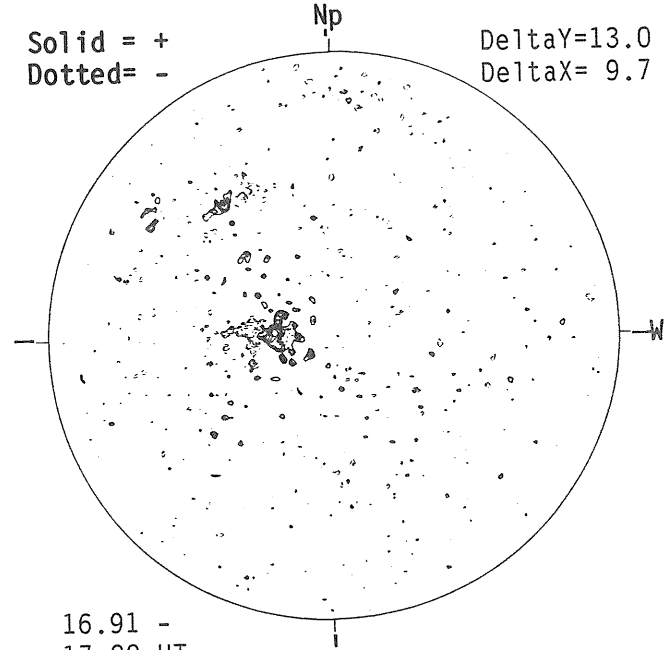


1946 UT

MT. WILSON MAGNETOGRAM

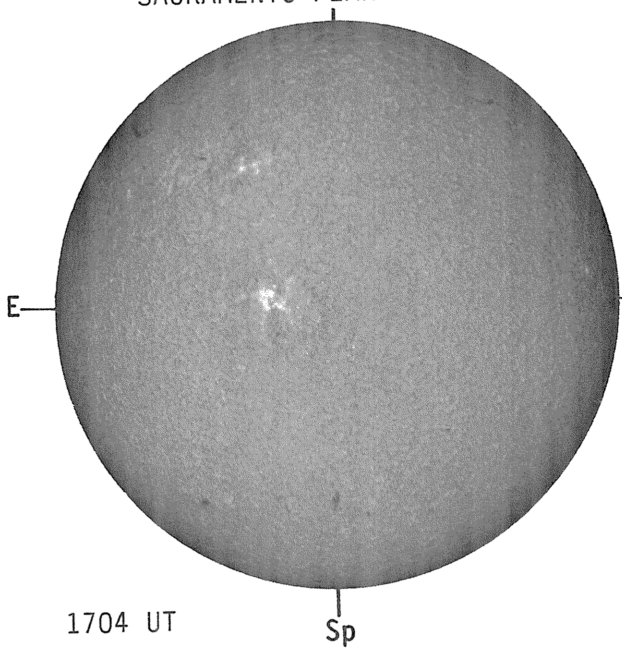
Solid = +
Dotted= -

DeltaY=13.0
DeltaX= 9.7



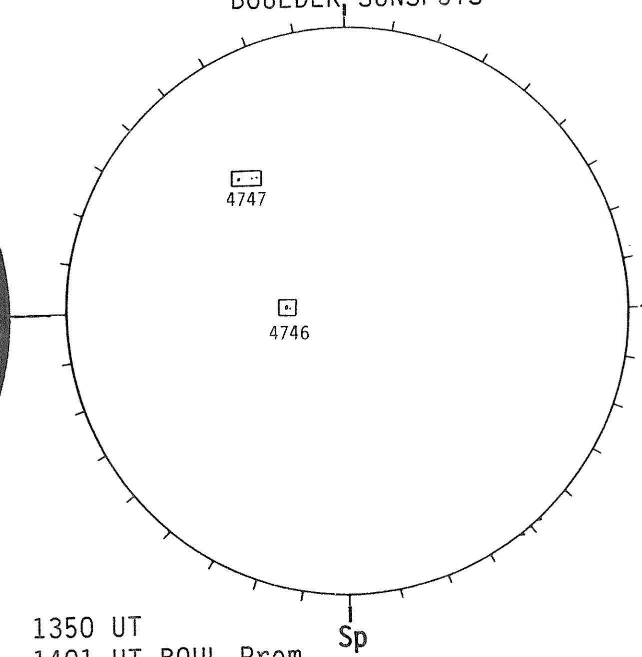
16.91 -
17.80 UT

SACRAMENTO PEAK H-ALPHA



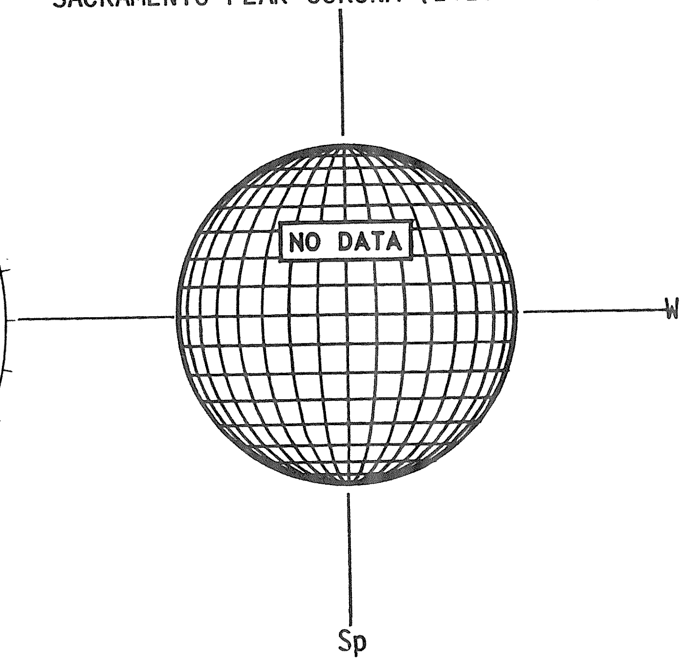
1704 UT

BOULDER SUNSPOTS



1350 UT
1401 UT BOUL Prom

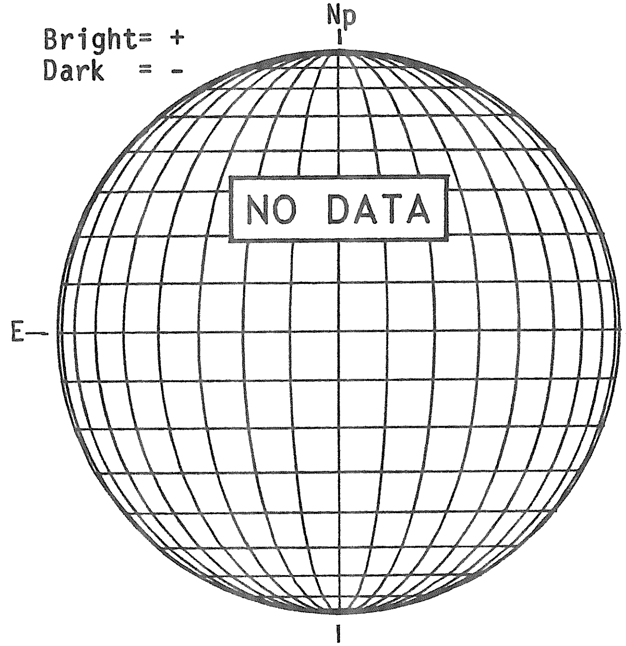
SACRAMENTO PEAK CORONA (1.15 Radii)



OCTOBER 05, 1986 (P= 26.12, B_0= 6.44, L_0= 116.04)

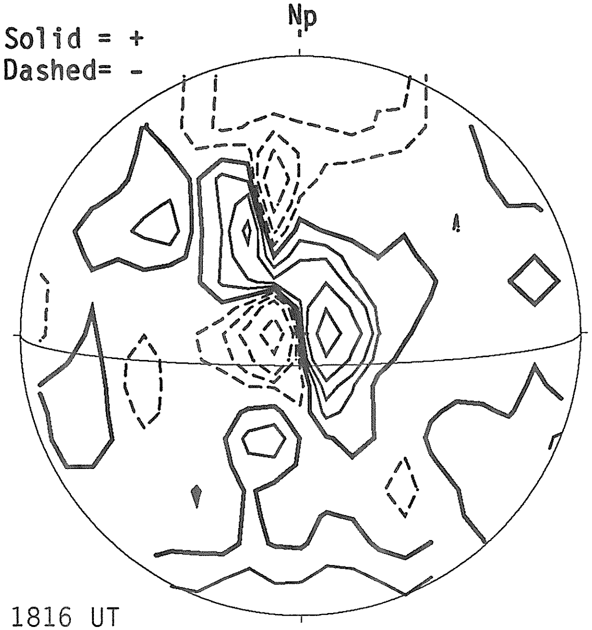
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

Solid = +
Dashed= -

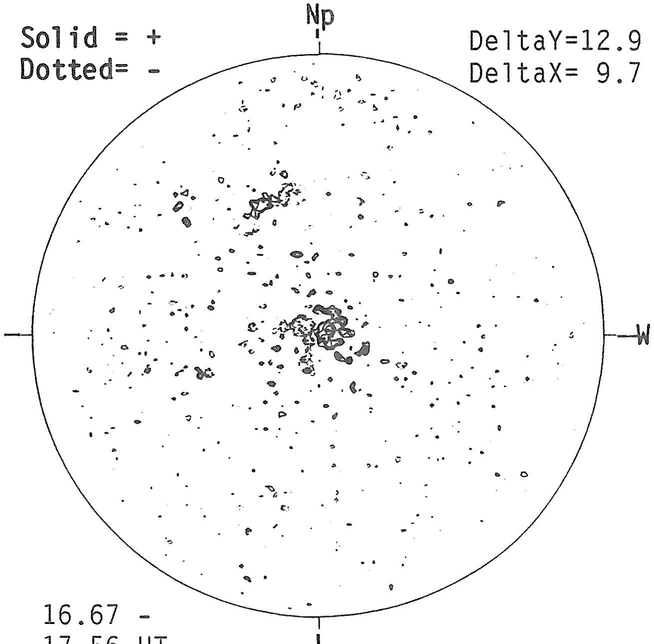


1816 UT

MT. WILSON MAGNETOGRAM

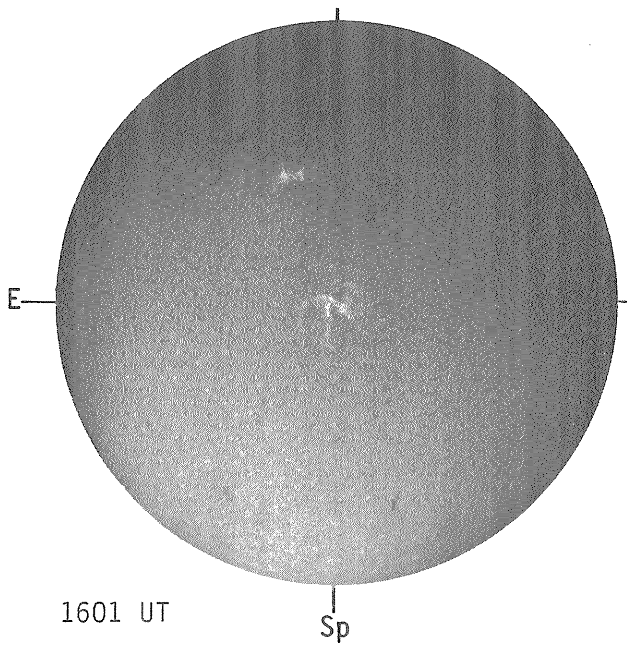
Solid = +
Dotted= -

DeltaY=12.9
DeltaX= 9.7



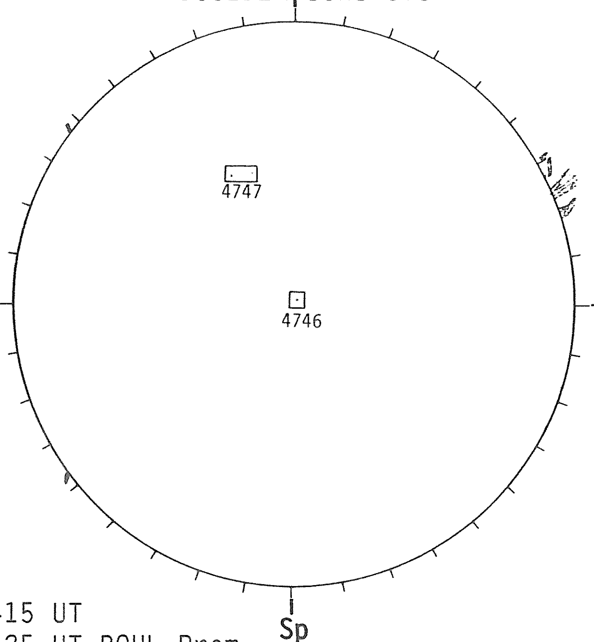
16.67 -
17.56 UT

SACRAMENTO PEAK H-ALPHA



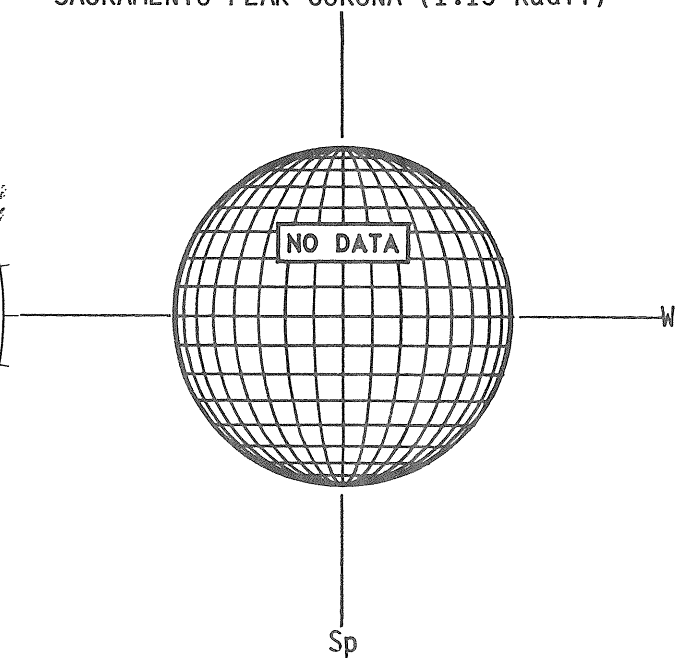
1601 UT

BOULDER SUNSPOTS



1415 UT
1425 UT BOUL Prom

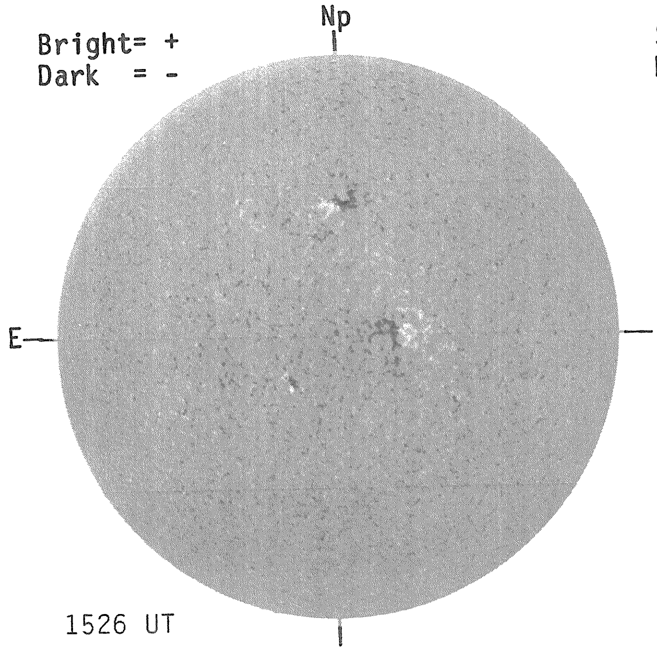
SACRAMENTO PEAK CORONA (1.15 Radii)



O C T O B E R 06, 1 9 8 6 ($P= 26.16$, $B_0= 6.39$, $L_0= 102.85$)

KITT PEAK MAGNETOGRAM

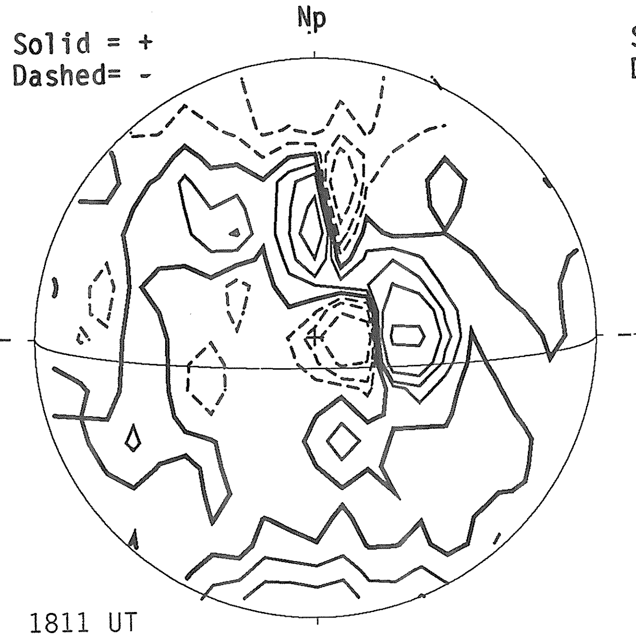
Bright= +
Dark = -



1526 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

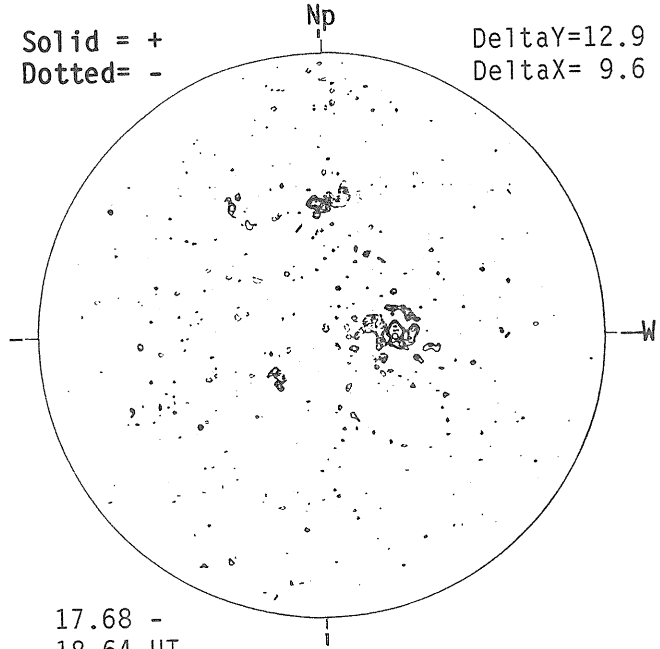


1811 UT

MT. WILSON MAGNETOGRAM

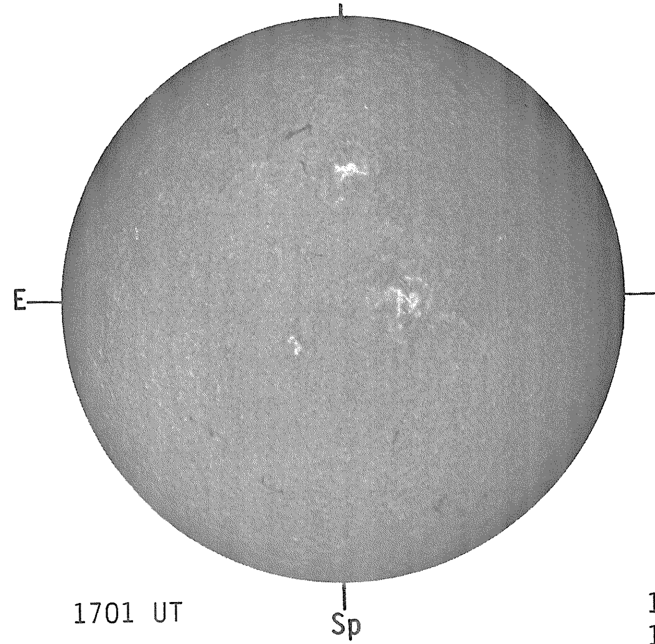
Solid = +
Dotted= -

DeltaY=12.9
DeltaX= 9.6



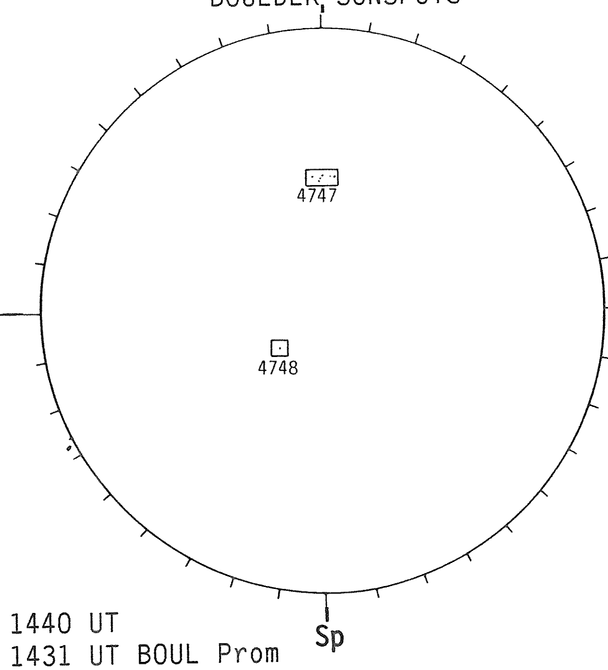
17.68 -
18.64 UT

SACRAMENTO PEAK H-ALPHA



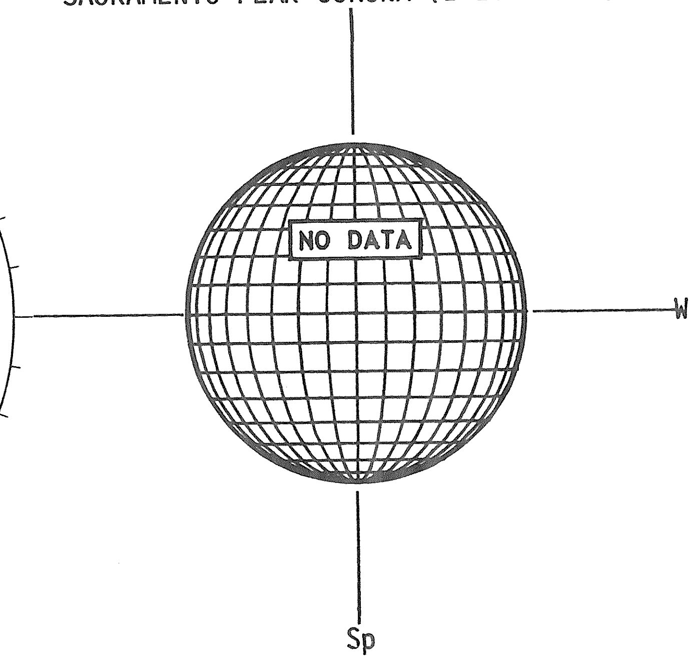
1701 UT

BOULDER SUNSPOTS



1440 UT
1431 UT BOUL Prom

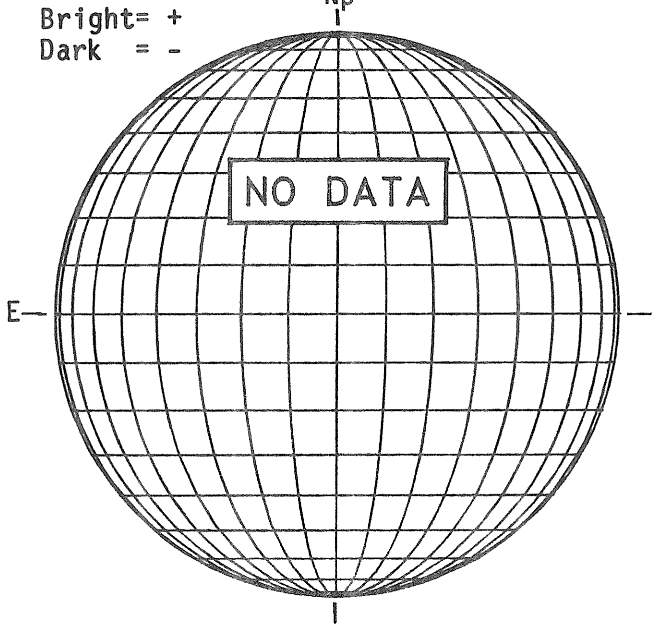
SACRAMENTO PEAK CORONA (1.15 Radii)



O C T O B E R 07, 1 9 8 6 (P= 26.18, B_0= 6.33, L_0= 89.66)

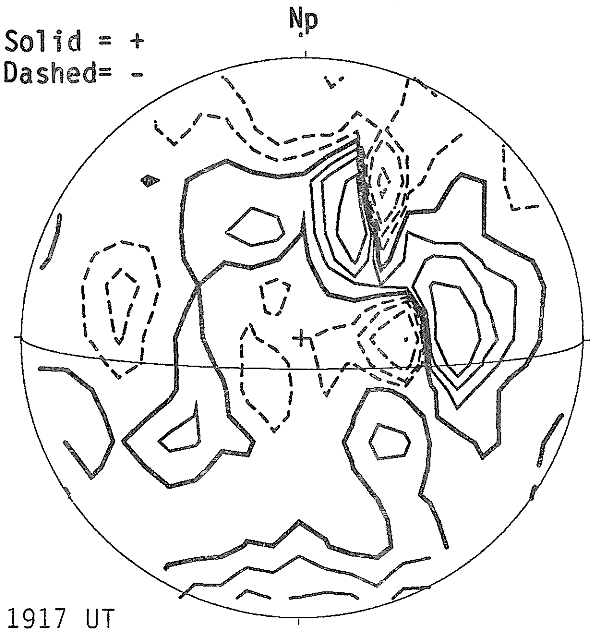
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

Solid = +
Dashed= -

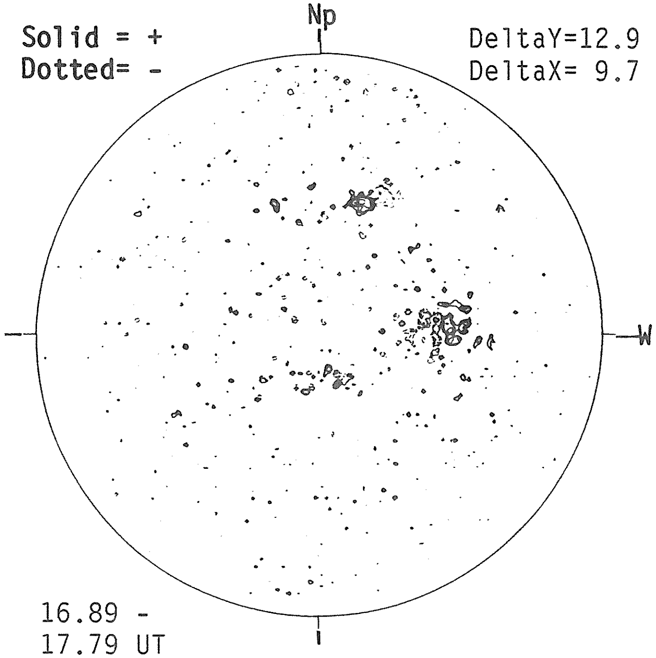


1917 UT

MT. WILSON MAGNETOGRAM

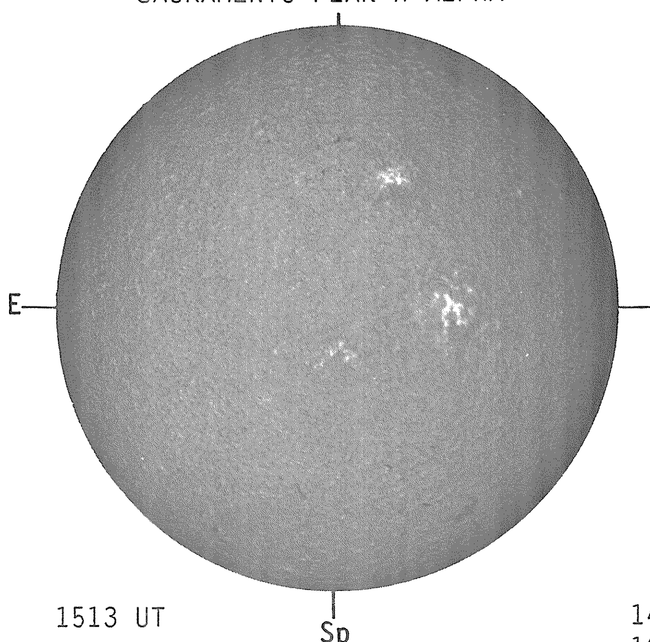
Solid = +
Dotted= -

DeltaY=12.9
DeltaX= 9.7



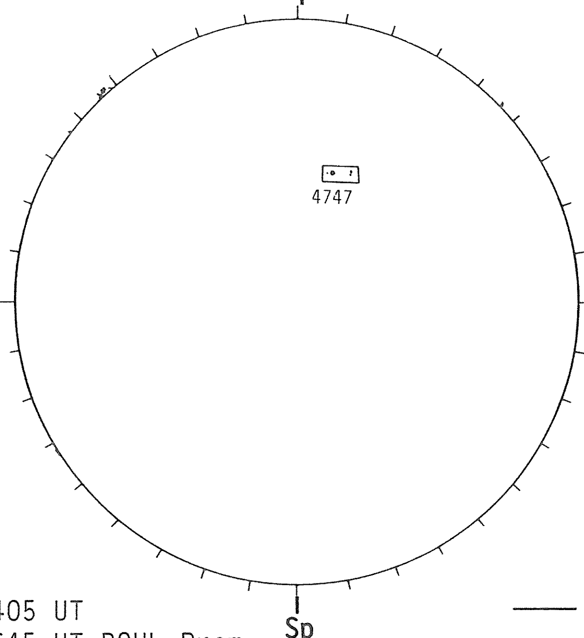
16.89 -
17.79 UT

SACRAMENTO PEAK H-ALPHA



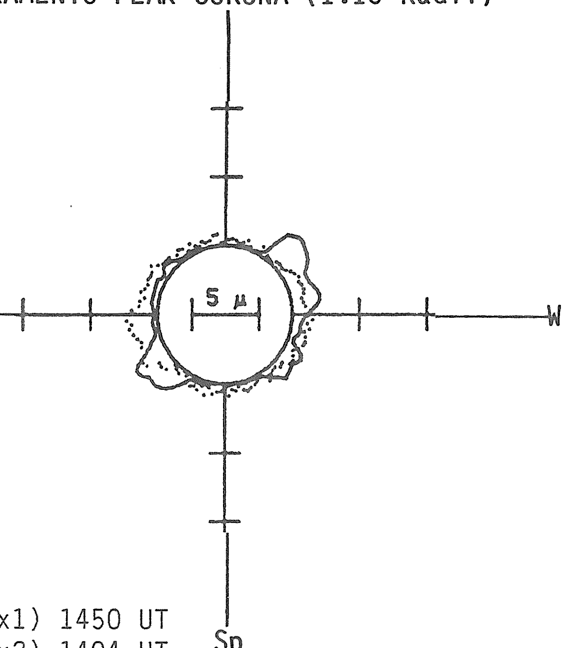
1513 UT

BOULDER SUNSPOTS



1405 UT
1645 UT BOUL Prom

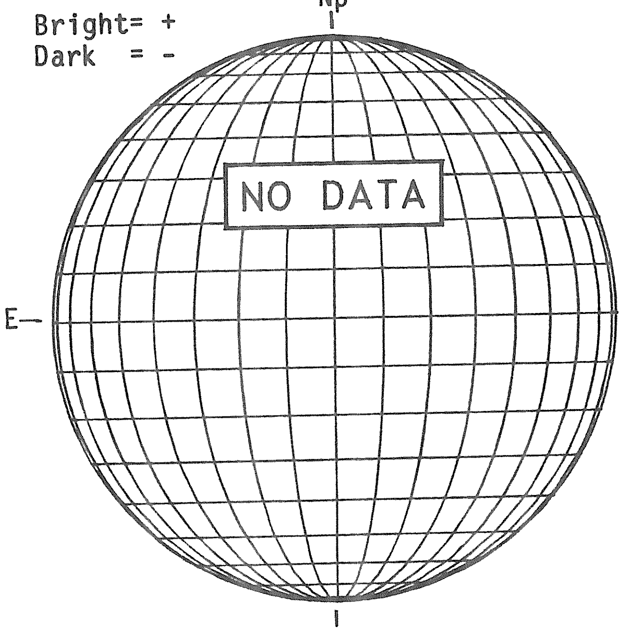
SACRAMENTO PEAK CORONA (1.15 Radii)



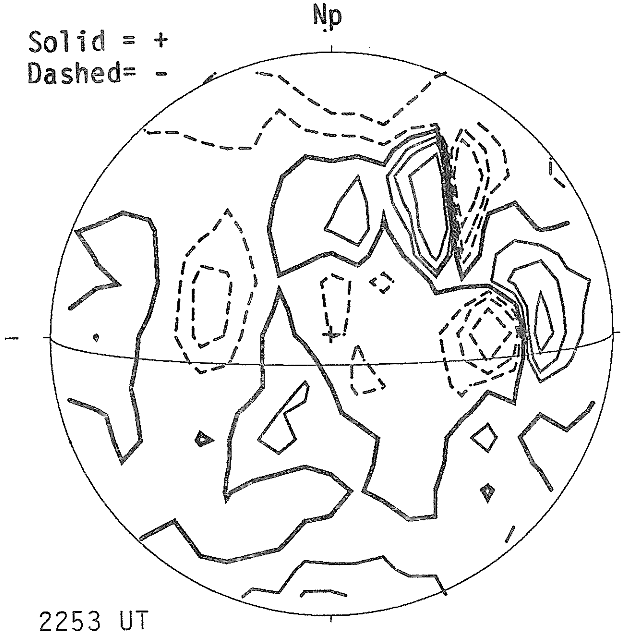
—— 5303A(x1) 1450 UT
.... 6374A(x2) 1404 UT
xxxx 5694A(x6) 1419 UT
NO 5694A ACTIVITY TODAY

OCTOBER 08, 1986 (P= 26.21, B_0= 6.28, L_0= 76.46)

KITT PEAK MAGNETOGRAM

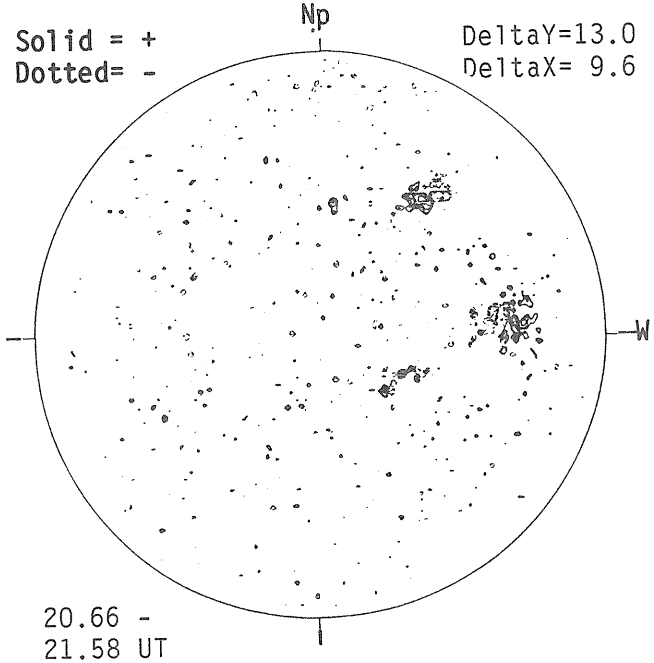


STANFORD MAGNETOGRAM



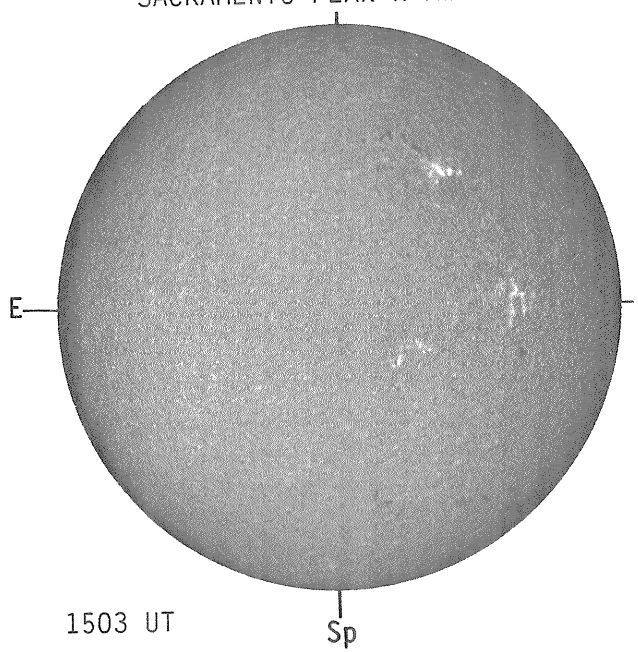
2253 UT

MT. WILSON MAGNETOGRAM



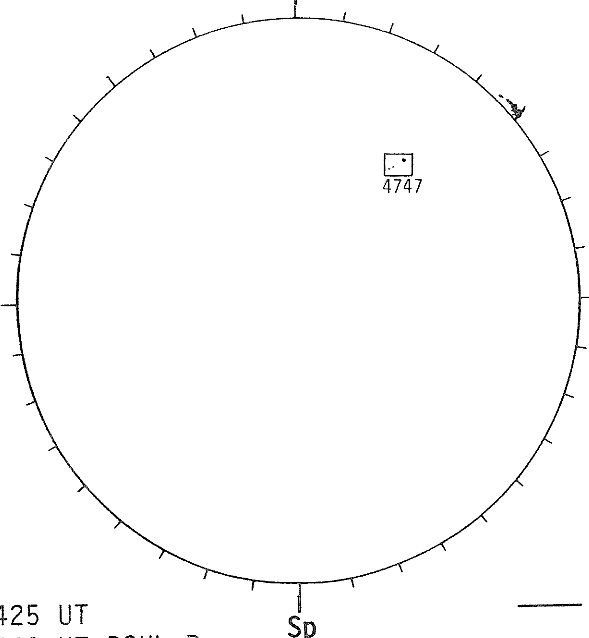
20.66 -
21.58 UT

SACRAMENTO PEAK H-ALPHA



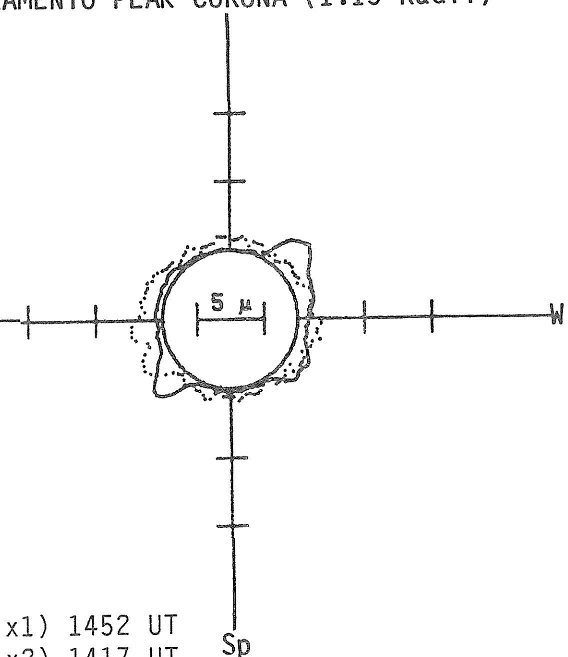
1503 UT

BOULDER SUNSPOTS



1425 UT
1440 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

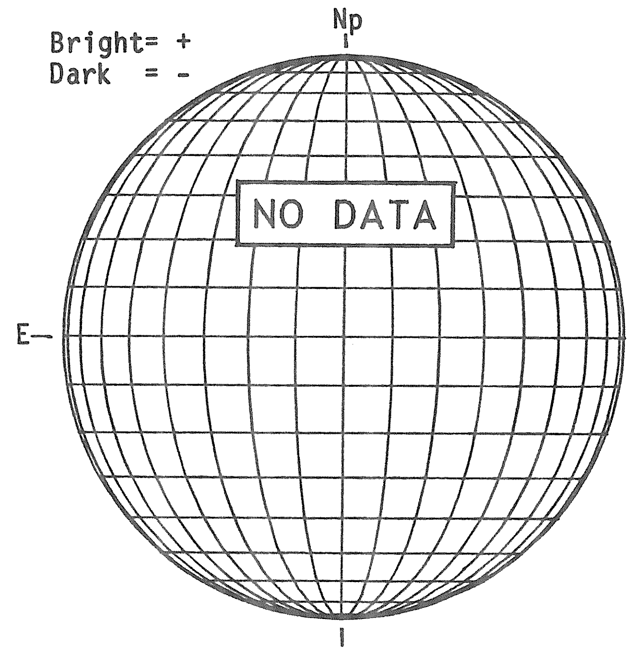


—— 5303A(x1) 1452 UT
.... 6374A(x2) 1417 UT
xxxx 5694A(x6) 1433 UT
NO 5694A ACTIVITY TODAY

O C T O B E R 09, 1 9 8 6 (P= 26.22, B_0= 6.22, L_0= 63.27)

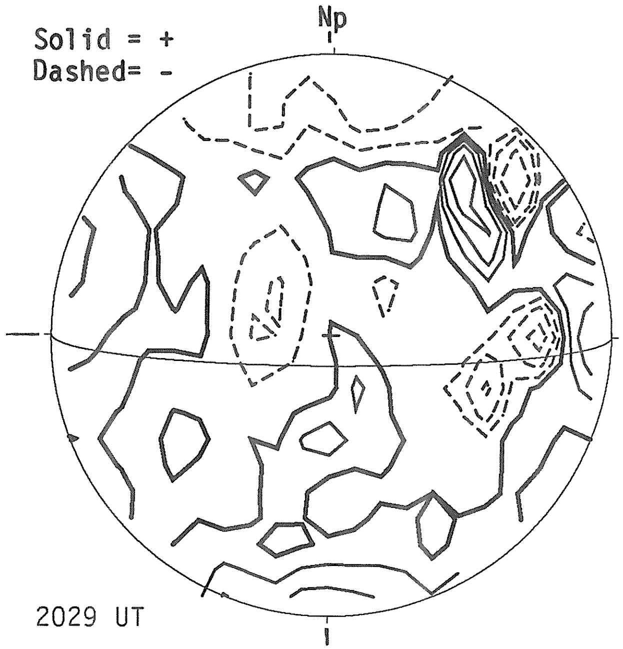
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

Solid = +
Dashed= -

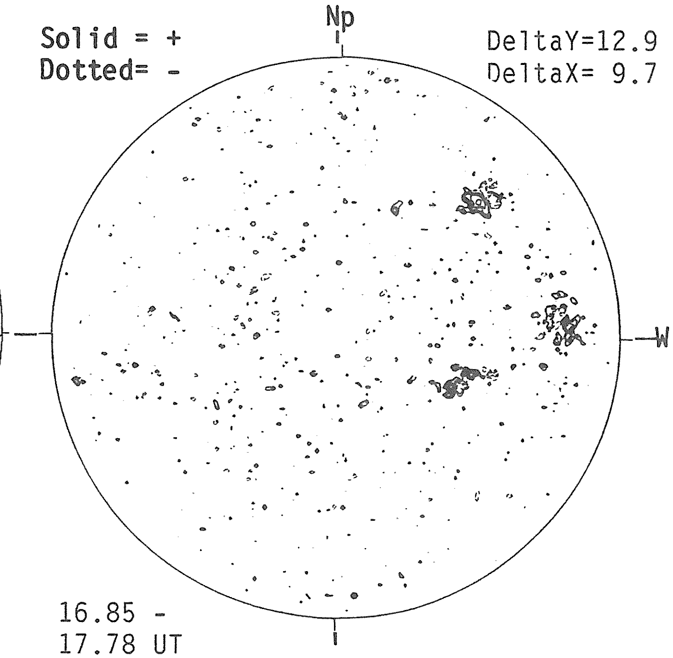


2029 UT

MT. WILSON MAGNETOGRAM

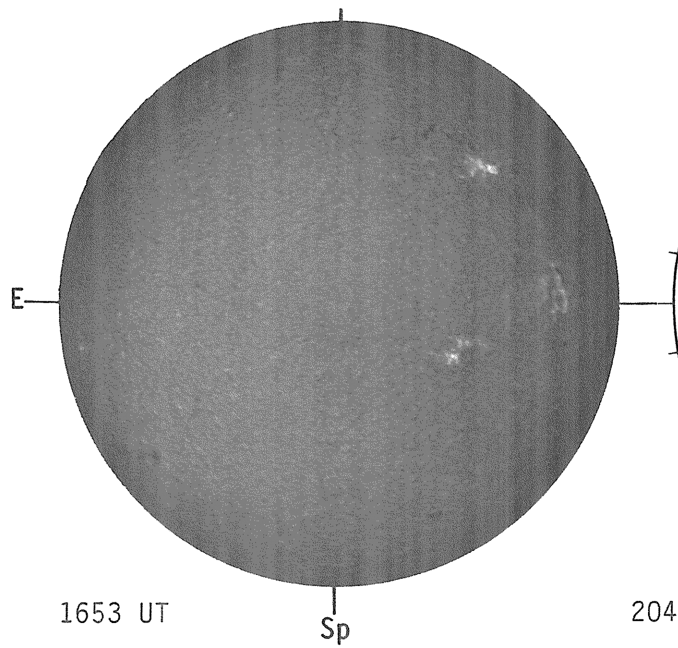
Solid = +
Dotted= -

DeltaY=12.9
DeltaX= 9.7



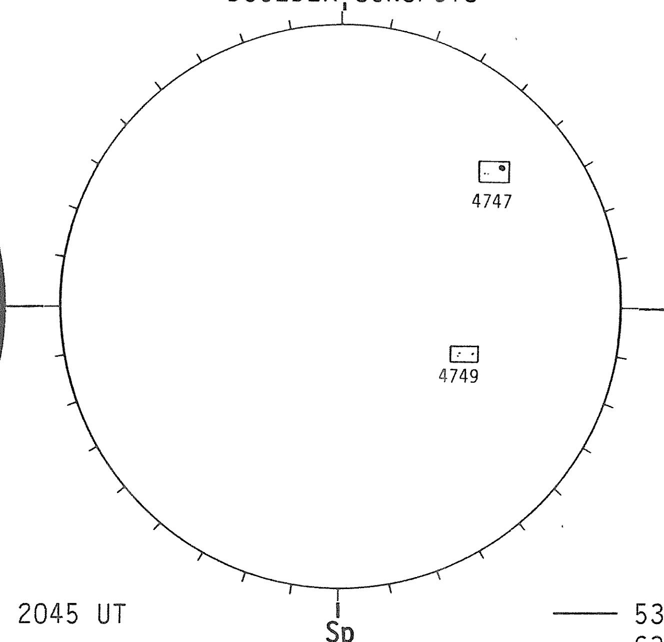
16.85 -
17.78 UT

SACRAMENTO PEAK H-ALPHA



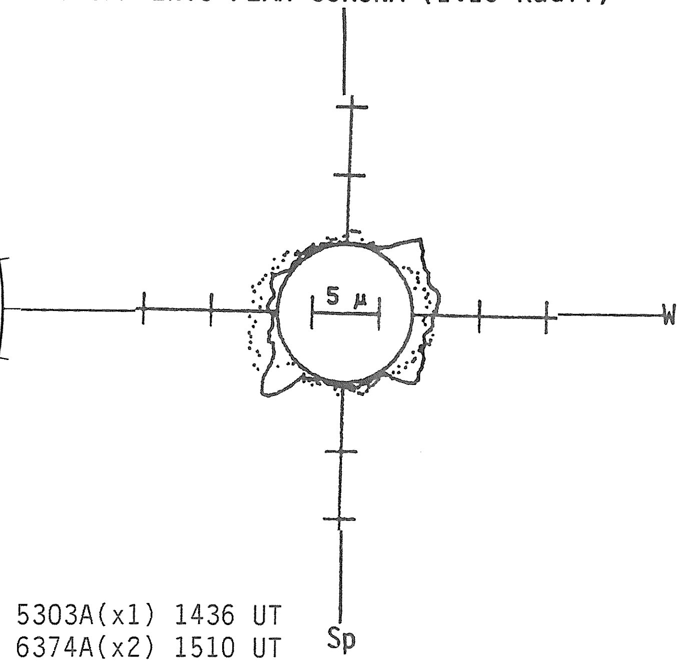
1653 UT

BOULDER SUNSPOTS



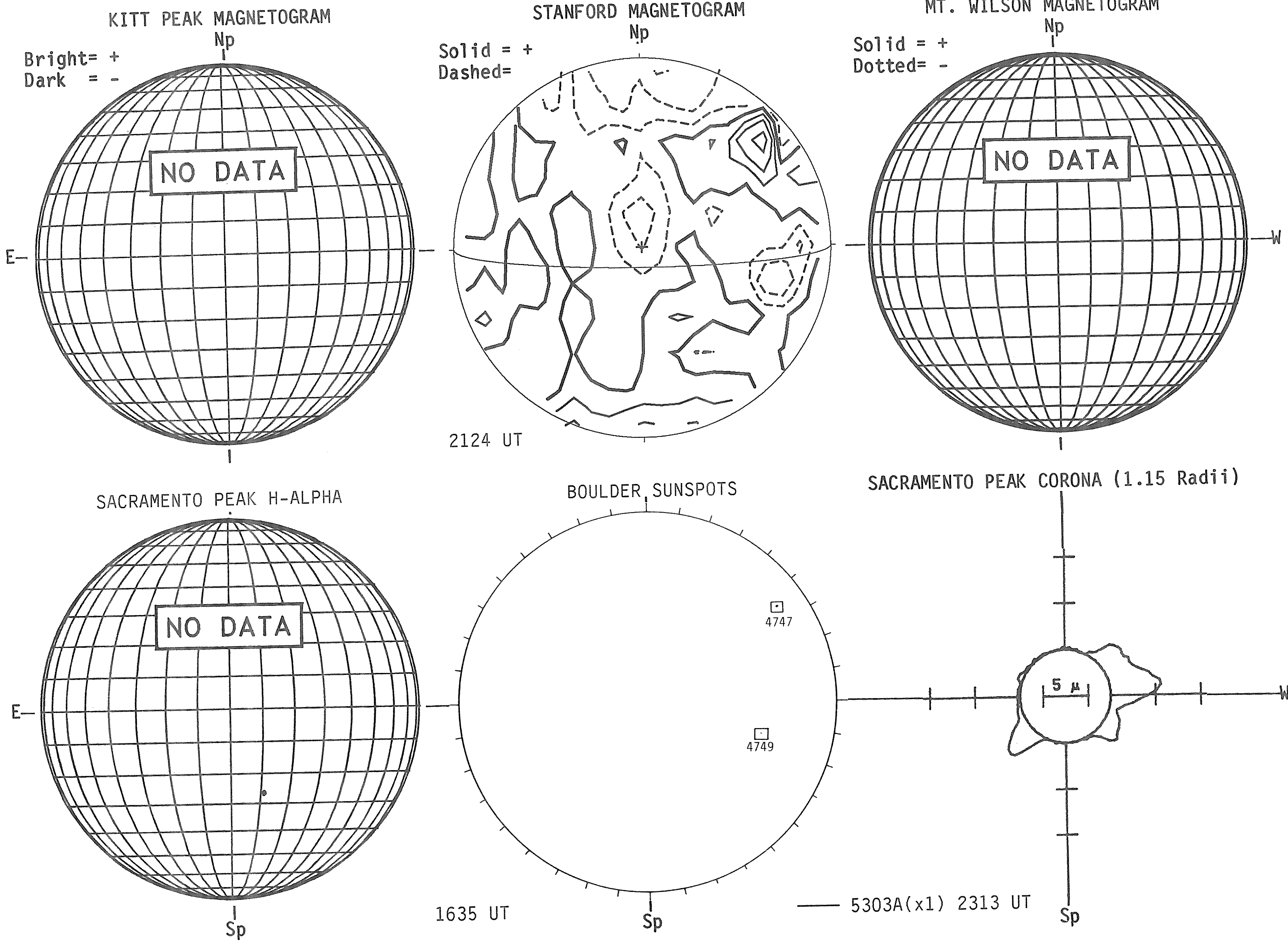
2045 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



—— 5303A(x1) 1436 UT
.... 6374A(x2) 1510 UT
xxxx 5694A(x6) 1455 UT
NO 5694A ACTIVITY TODAY

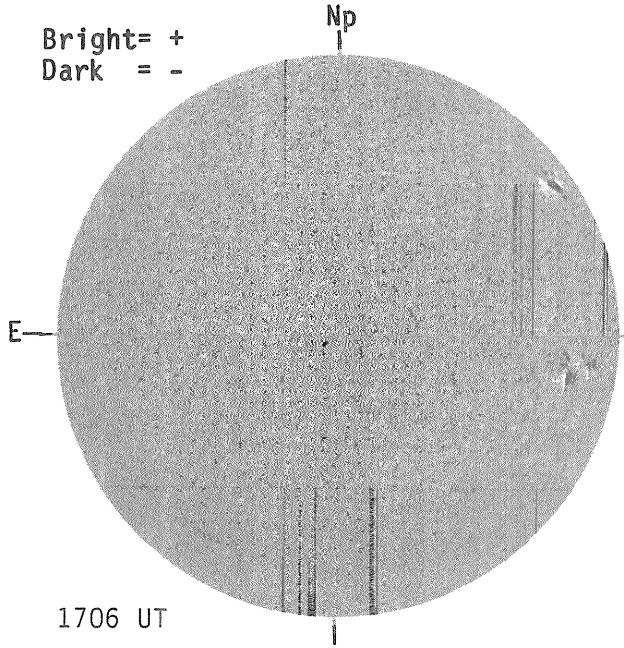
O C T O B E R 10, 1 9 8 6 (P= 26.23, B_0= 6.15, L_0= 50.08)



O C T O B E R 11, 1 9 8 6 (P= 26.23, B_0= 6.09, L_0= 36.89)

KITT PEAK MAGNETOGRAM

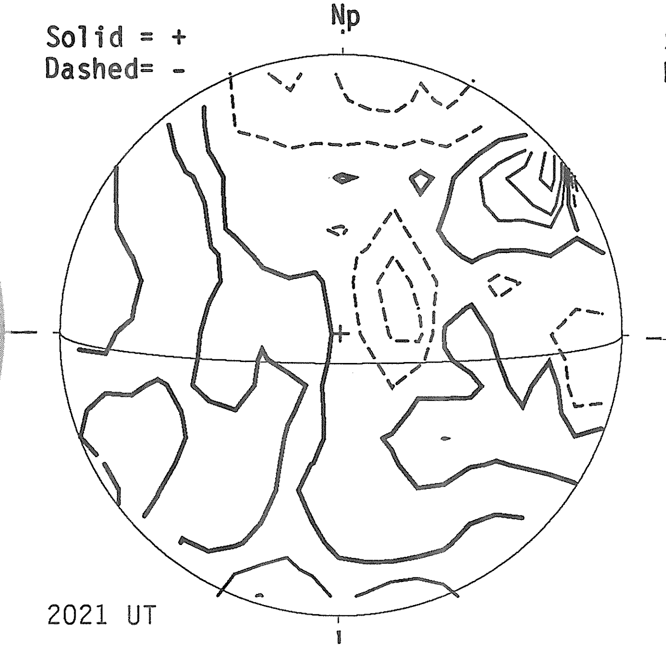
Bright= +
Dark = -



1706 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

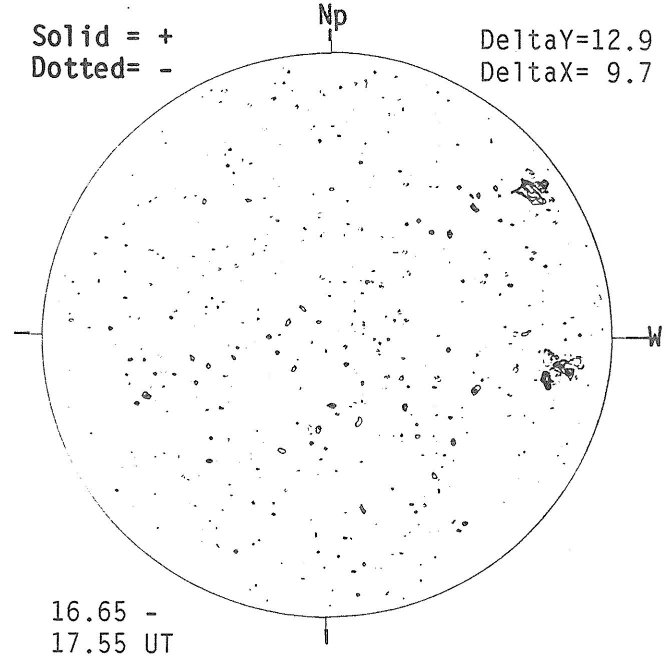


2021 UT

MT. WILSON MAGNETOGRAM

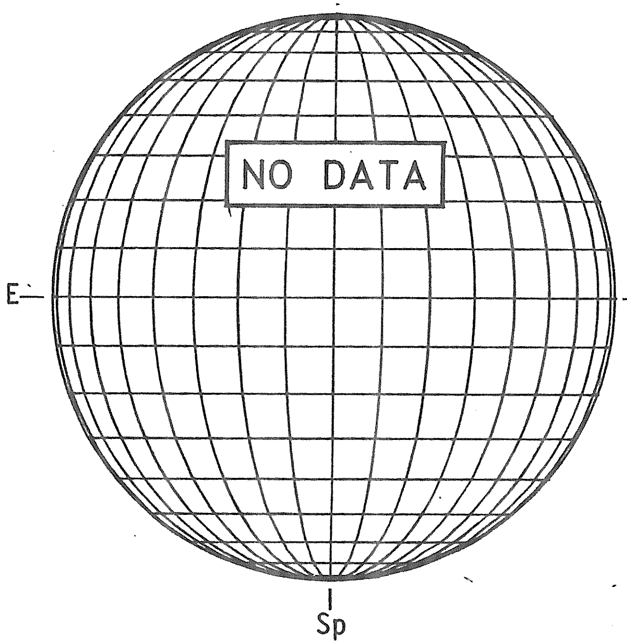
Solid = +
Dotted= -

DeltaY=12.9
DeltaX= 9.7



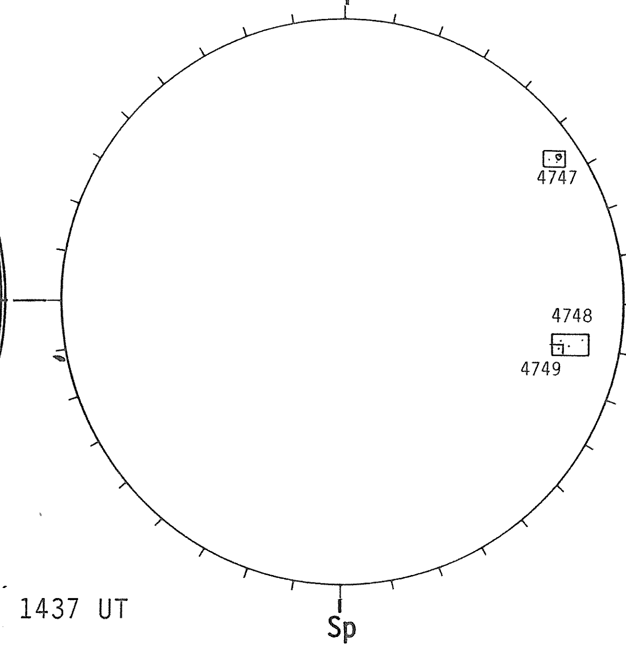
16.65 -
17.55 UT

SACRAMENTO PEAK H-ALPHA

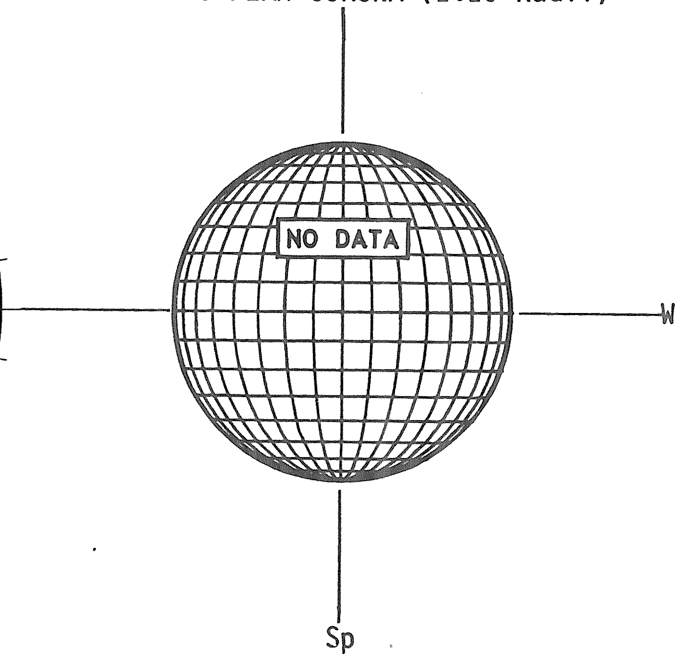


1437 UT

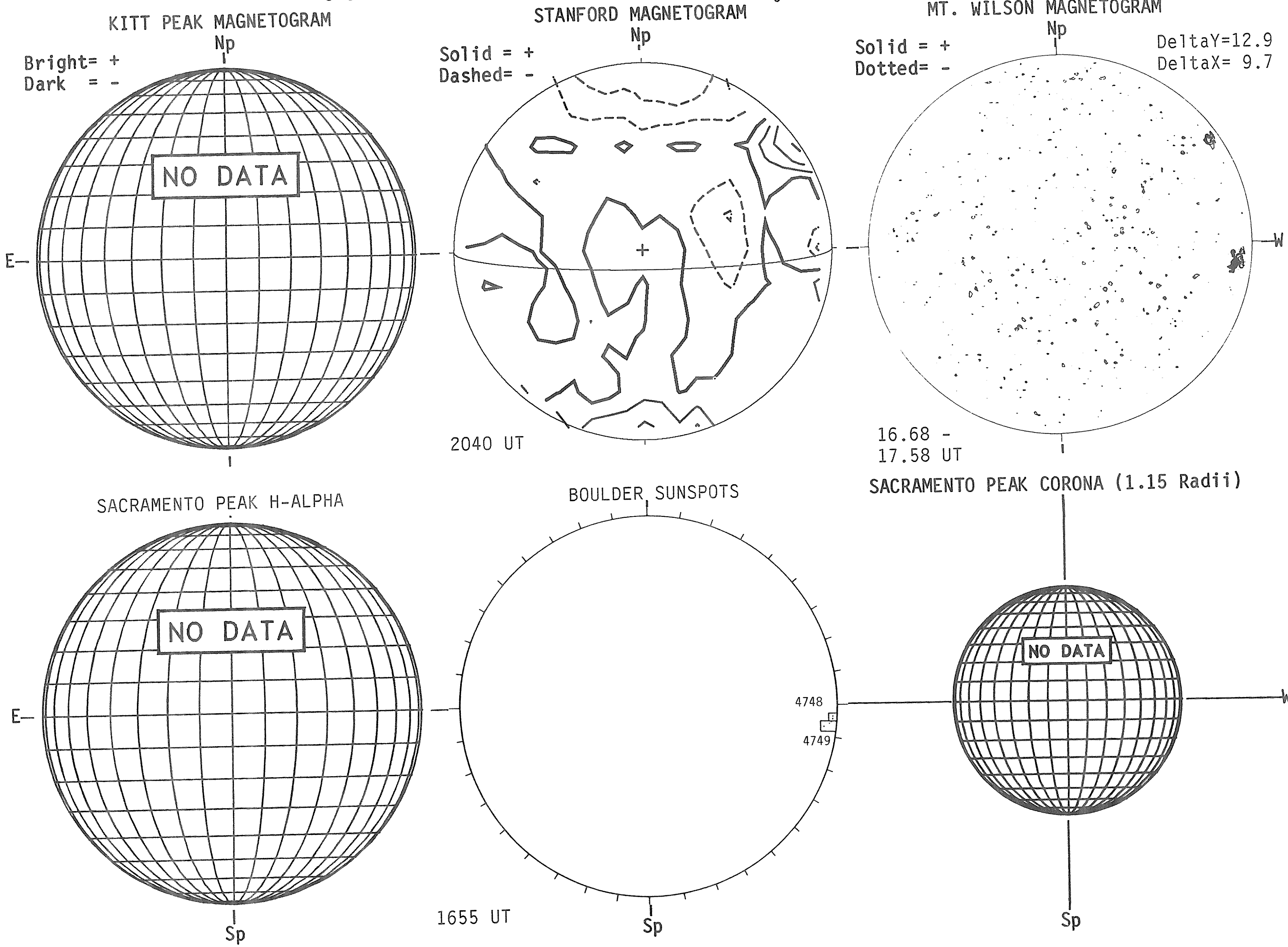
RAMEY SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



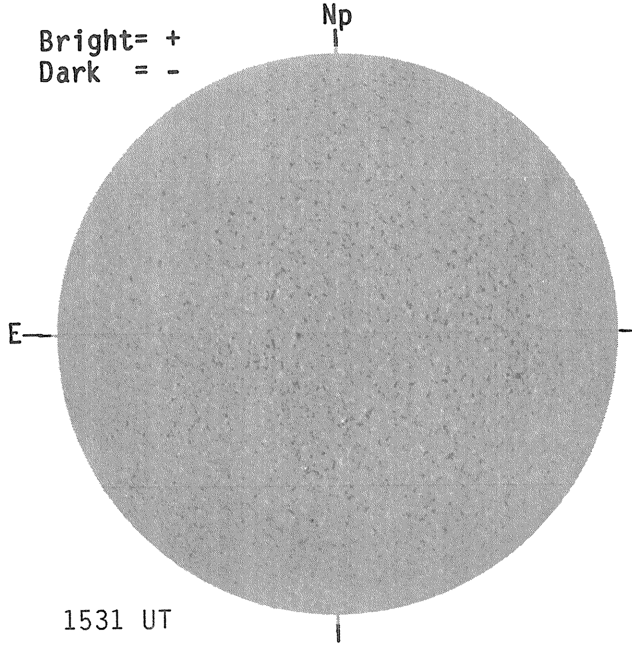
O C T O B E R 12, 1 9 8 6 (P= 26.22, B_0= 6.03, L_0= 23.69)



O C T O B E R 13, 1 9 8 6 (P= 26.20, B_0= 5.96, L_0= 10.50)

KITT PEAK MAGNETOGRAM

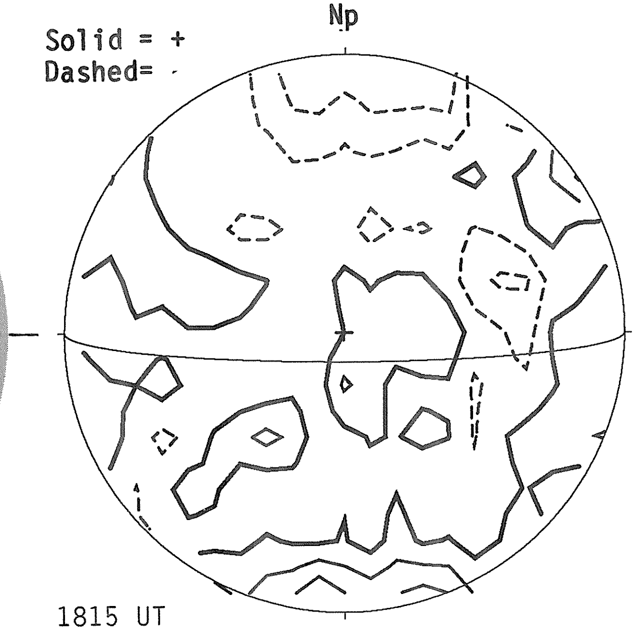
Bright= +
Dark = -



1531 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

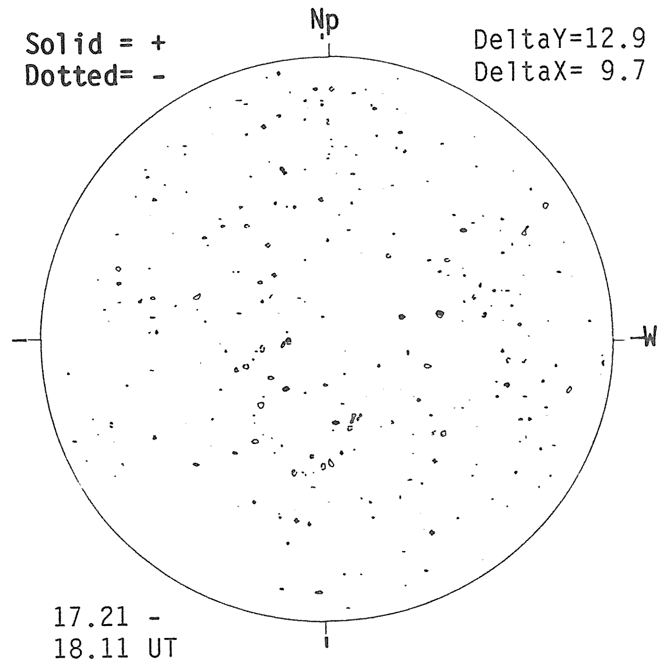


1815 UT

MT. WILSON MAGNETOGRAM

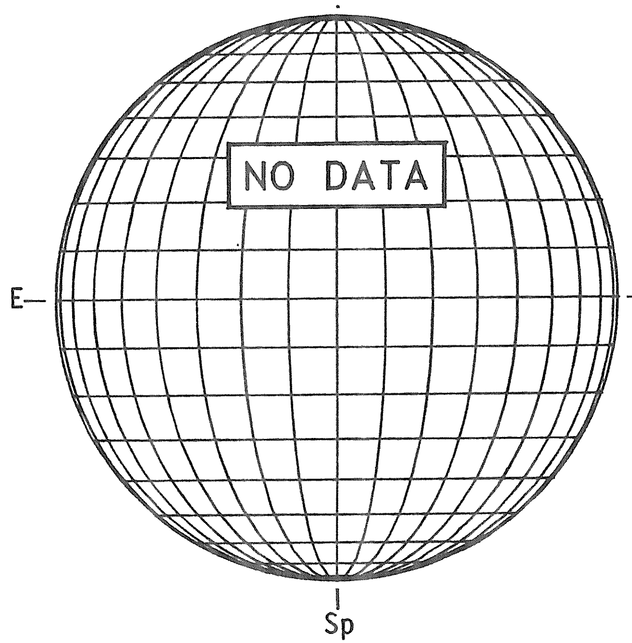
Solid = +
Dotted= -

DeltaY=12.9
DeltaX= 9.7

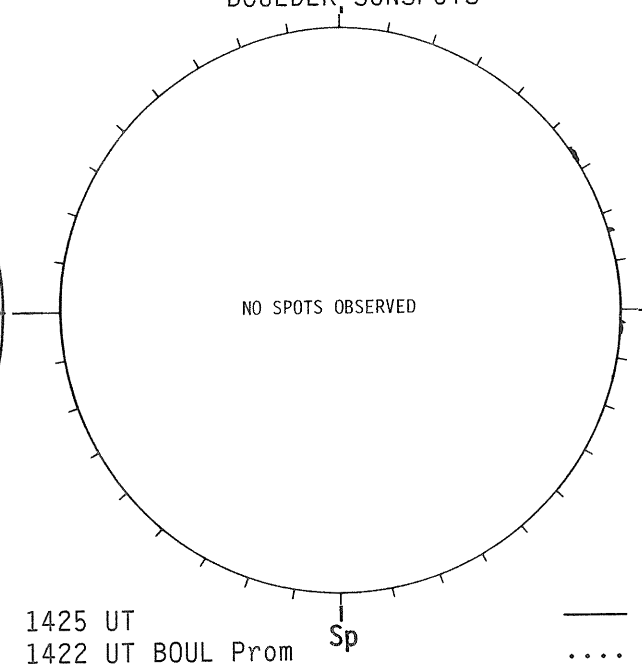


17.21 -
18.11 UT

SACRAMENTO PEAK H-ALPHA

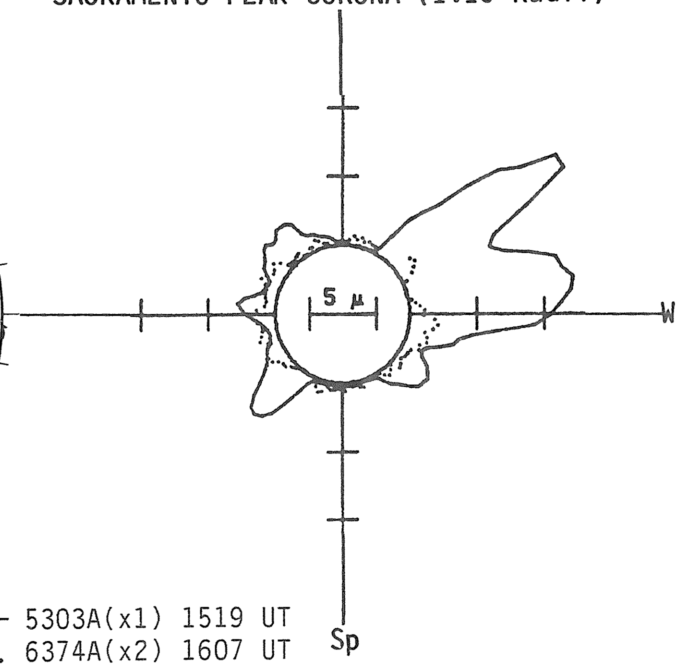


BOULDER SUNSPOTS



1425 UT
1422 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

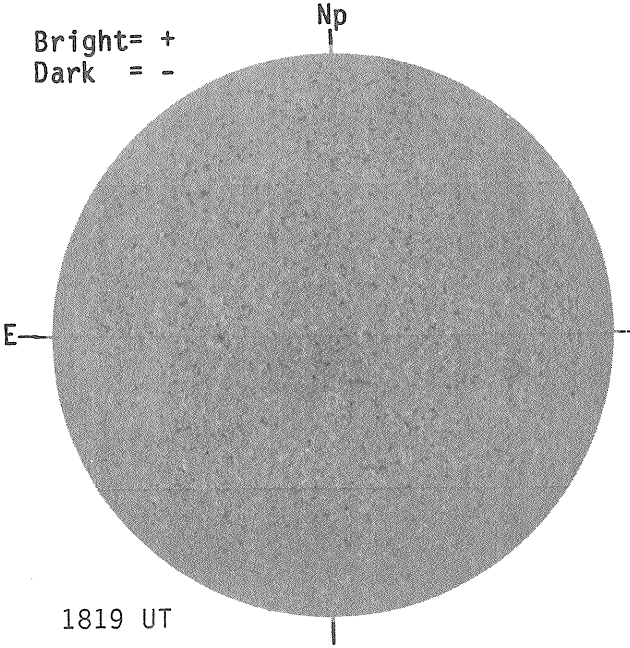


—— 5303A(x1) 1519 UT
.... 6374A(x2) 1607 UT

O C T O B E R 14, 1 9 8 6   ($P = 26.18$, $B_0 = 5.89$, $L_0 = 357.31$)

KITT PEAK MAGNETOGRAM

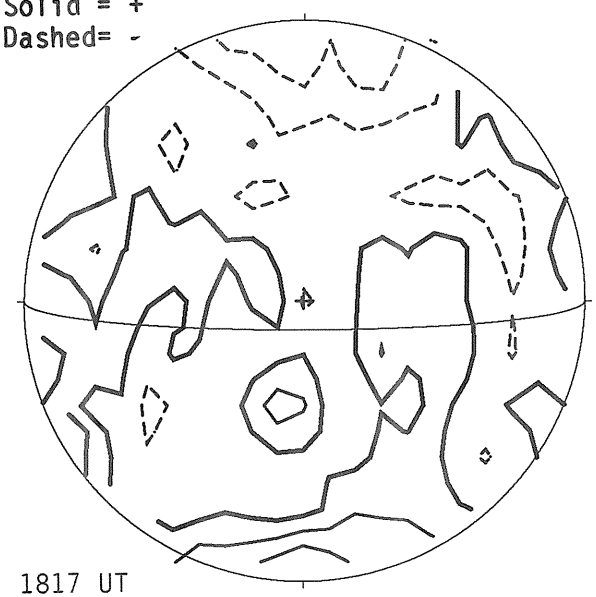
Bright= +
Dark = -



1819 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

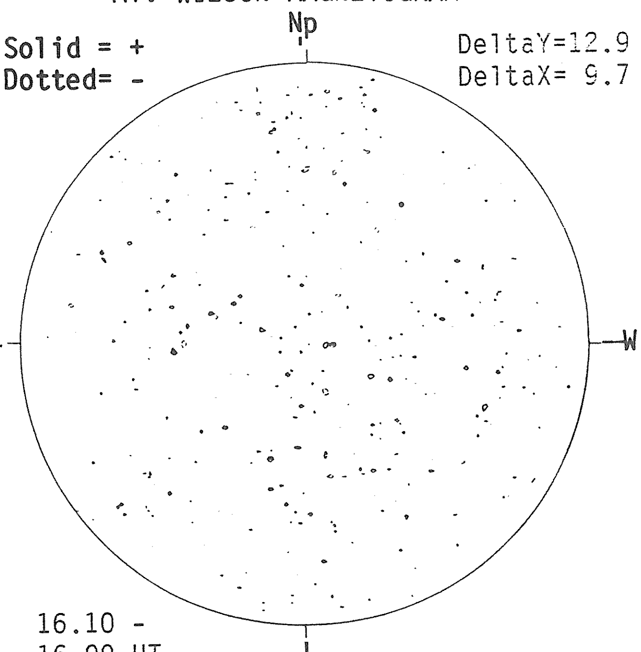


1817 UT

MT. WILSON MAGNETOGRAM

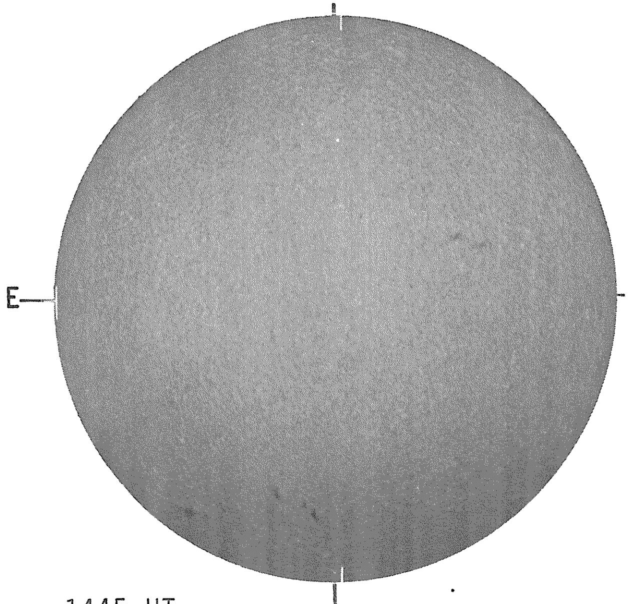
Solid = +
Dotted= -

DeltaY=12.9
DeltaX= 9.7



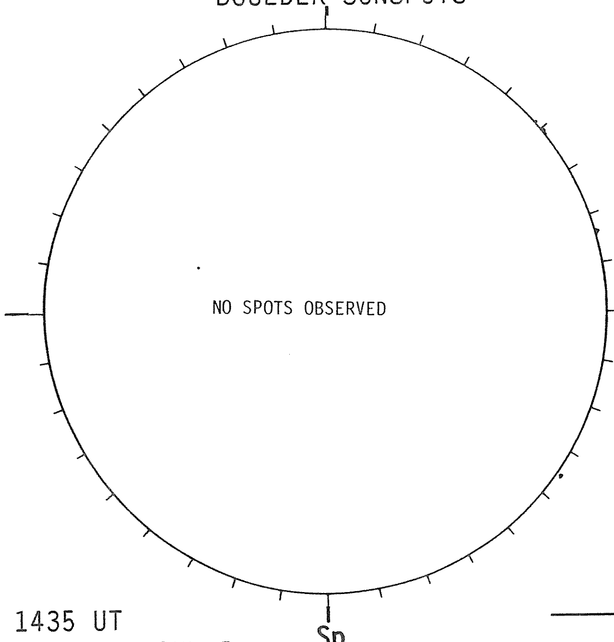
16.10 -
16.99 UT

BOULDER H-ALPHA



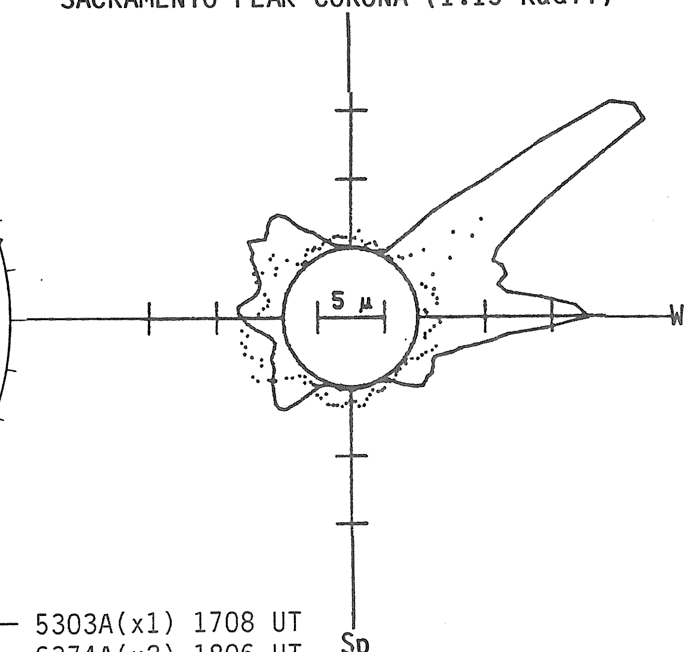
1445 UT

BOULDER SUNSPOTS



1435 UT
1445 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

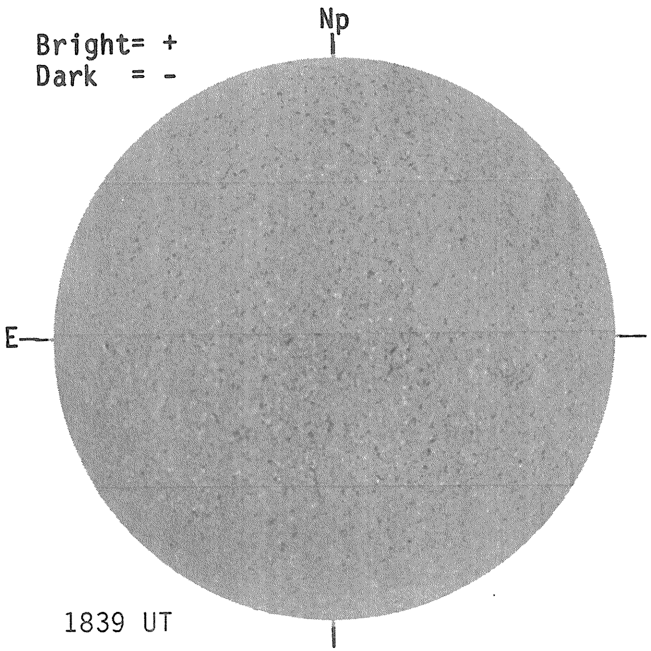


—— 5303A(x1) 1708 UT
.... 6374A(x2) 1806 UT
xxxx 5694A(x6) 1753 UT
NO 5694A ACTIVITY TODAY

O C T O B E R 15, 1 9 8 6 (P= 26.15, B_0= 5.82, L_0= 344.12)

KITT PEAK MAGNETOGRAM

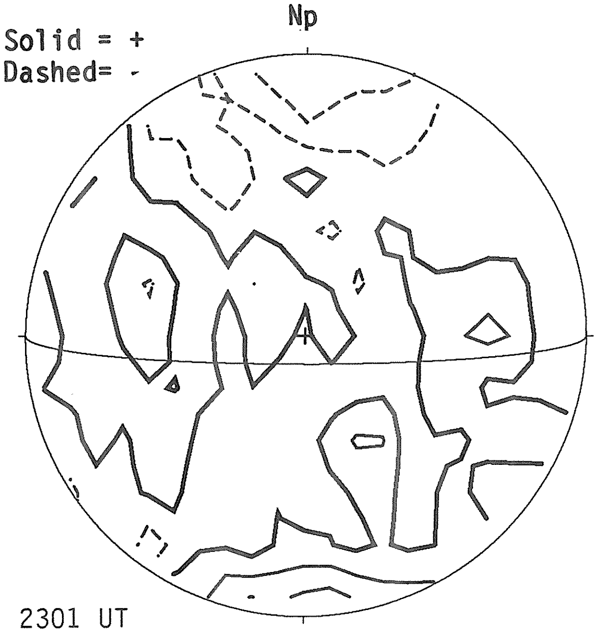
Bright= +
Dark = -



1839 UT

STANFORD MAGNETOGRAM

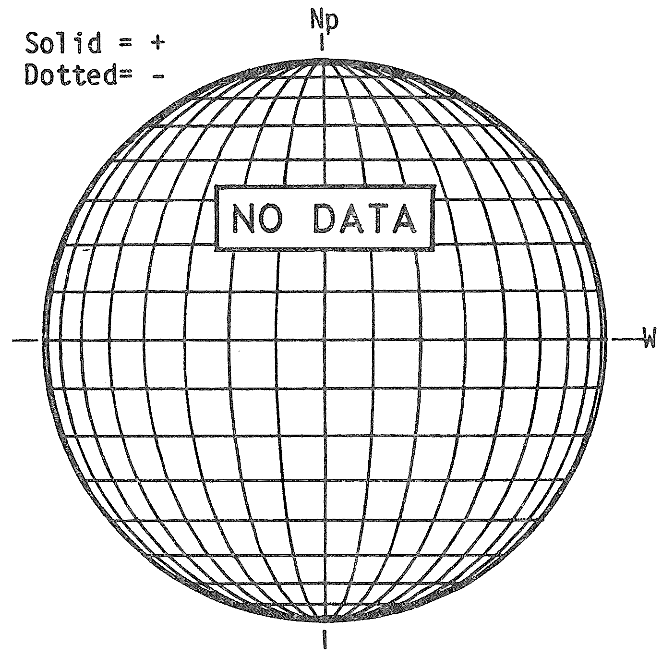
Solid = +
Dashed= -



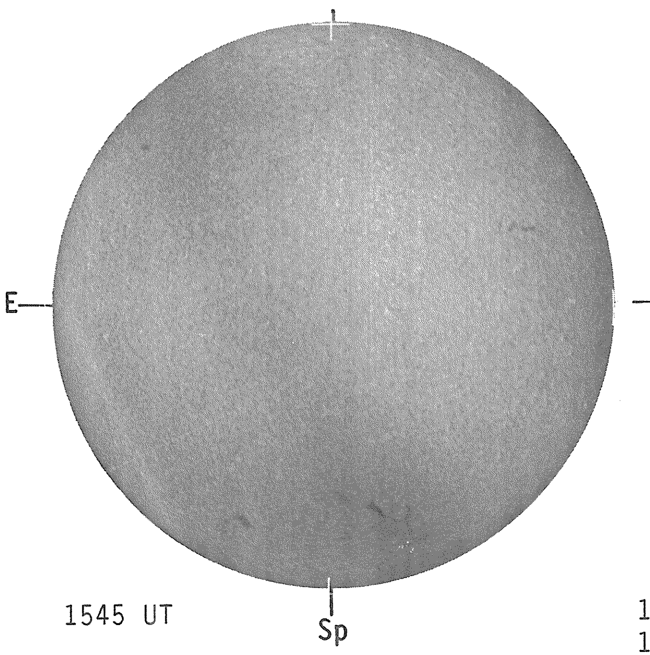
2301 UT

MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

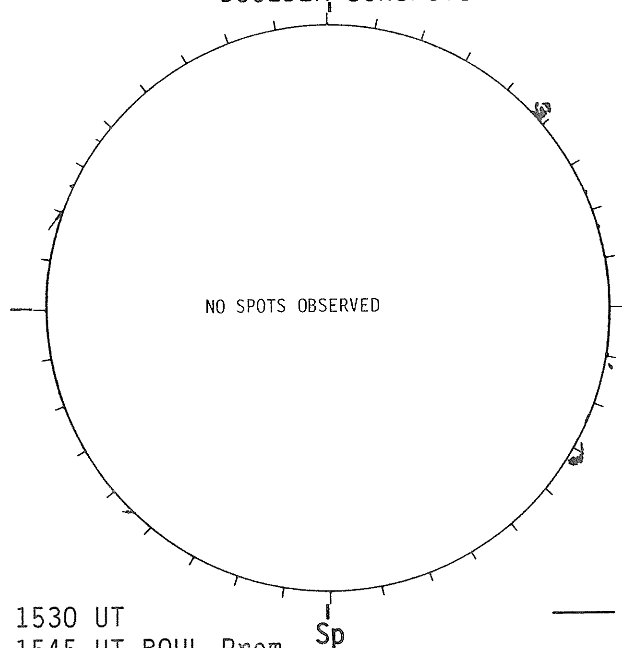


BOULDER H-ALPHA



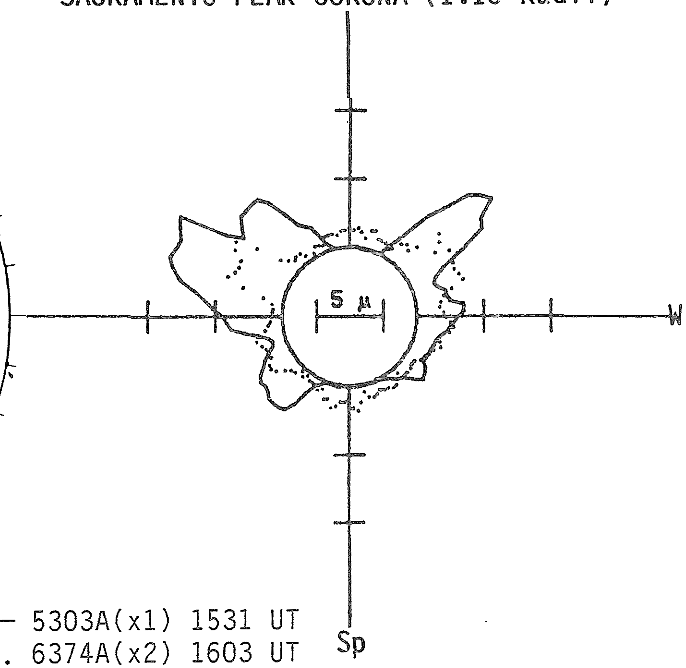
1545 UT

BOULDER SUNSPOTS



1530 UT
1545 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

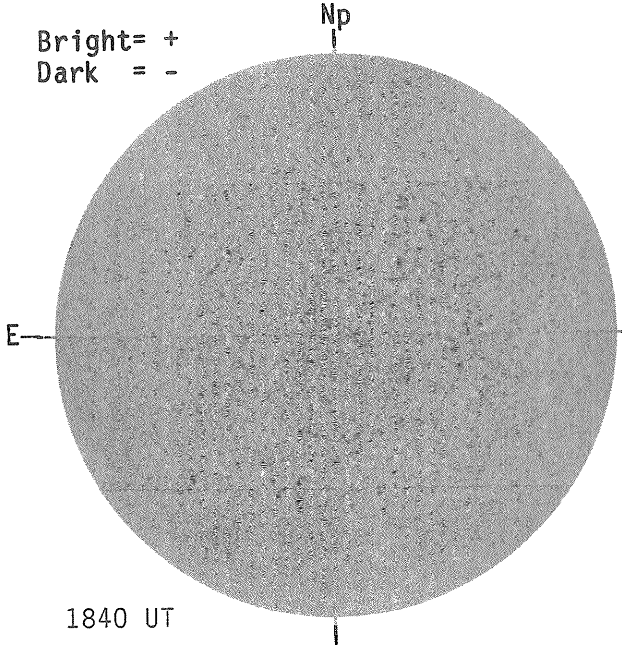


—— 5303A(x1) 1531 UT
.... 6374A(x2) 1603 UT
xxxx 5694A(x6) 1550 UT
NO 5694A ACTIVITY TODAY

O C T O B E R 16, 1 9 8 6 (P= 26.11, B_0= 5.74, L_0= 330.93)

KITT PEAK MAGNETOGRAM

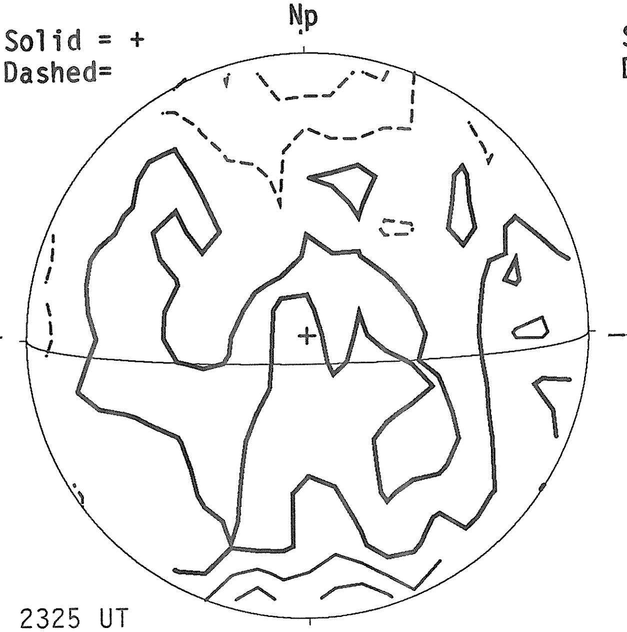
Bright= +
Dark = -



1840 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed=

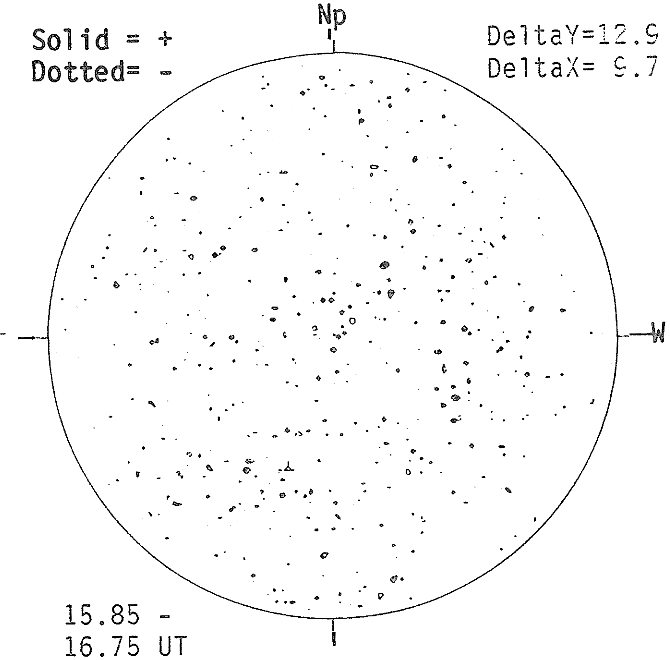


2325 UT

MT. WILSON MAGNETOGRAM

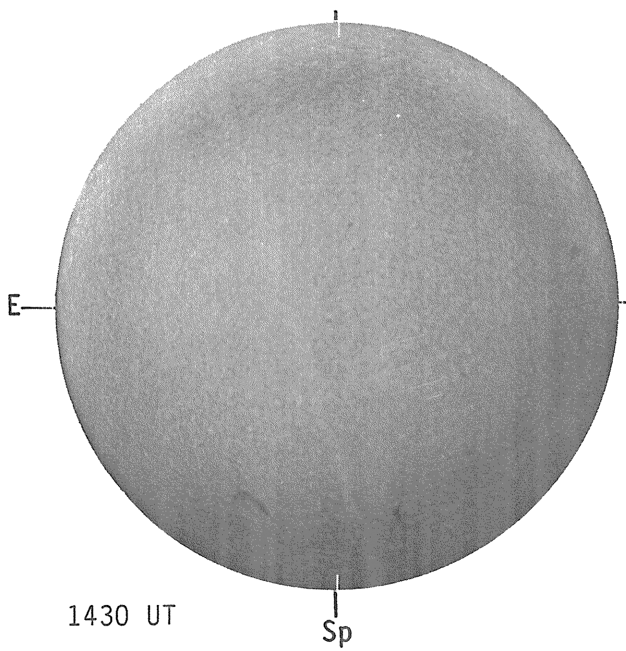
Solid = +
Dotted= -

DeltaY=12.9
DeltaX= 9.7



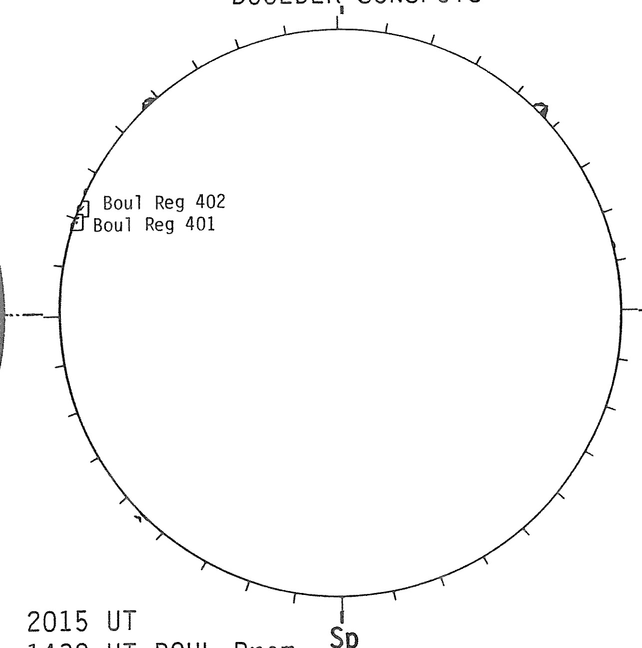
15.85 -
16.75 UT

BOULDER H-ALPHA



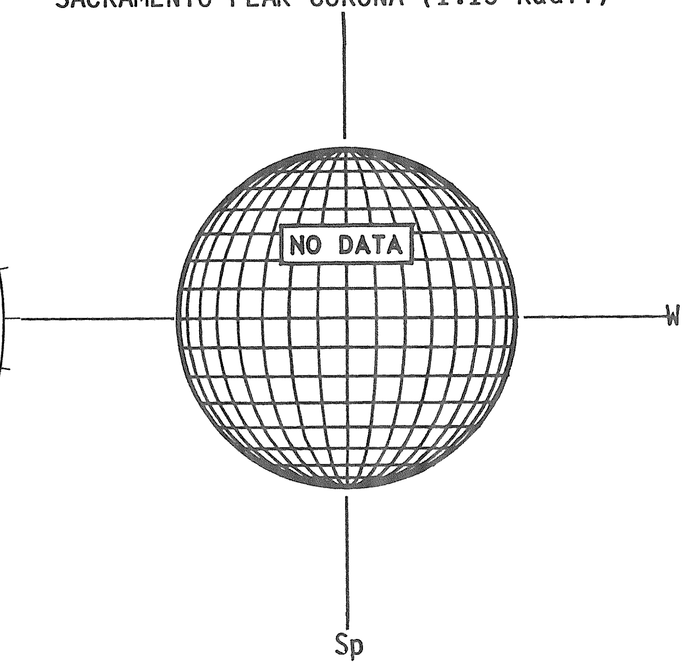
1430 UT

BOULDER SUNSPOTS



2015 UT
1430 UT BOUL Prom

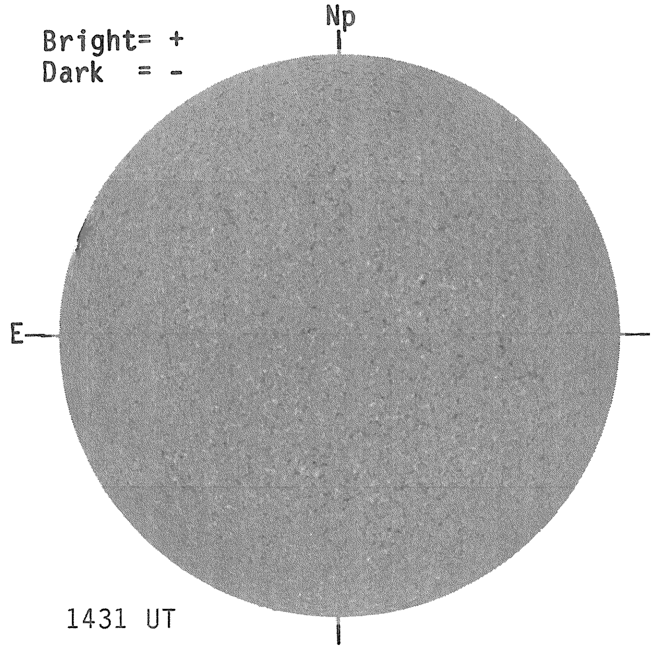
SACRAMENTO PEAK CORONA (1.15 Radii)



O C T O B E R 17, 1 9 8 6 (P= 26.07, B_0= 5.67, L_0= 317.74)

KITT PEAK MAGNETOGRAM

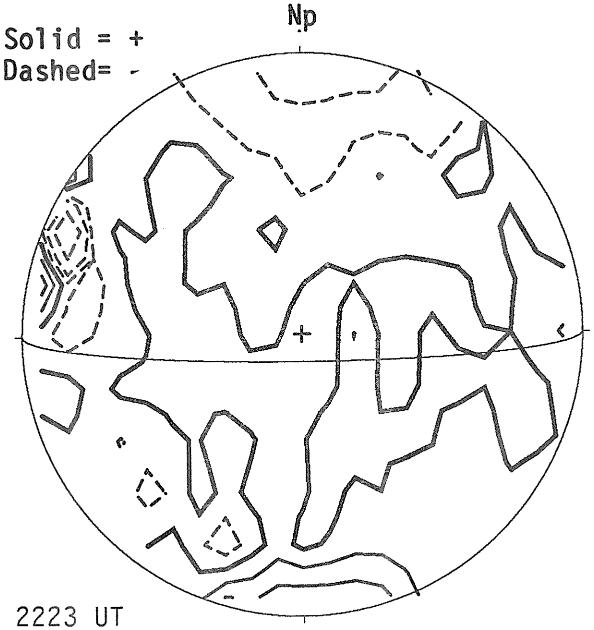
Bright= +
Dark = -



1431 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

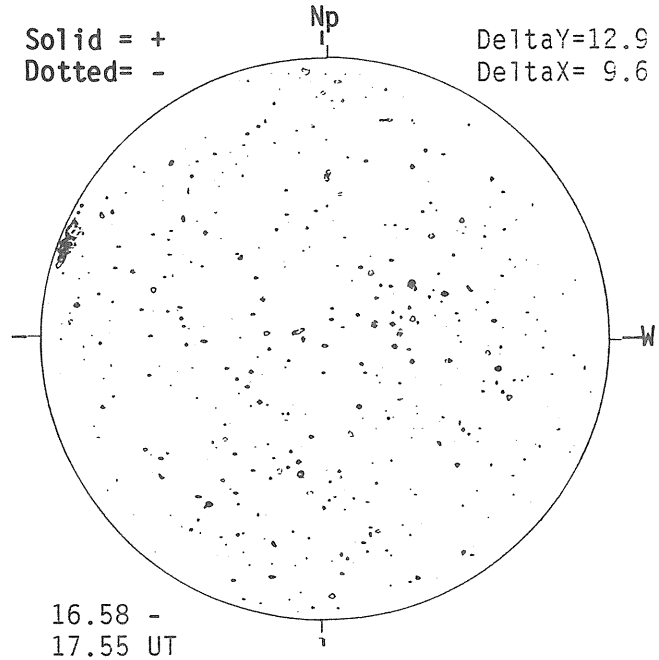


2223 UT

MT. WILSON MAGNETOGRAM

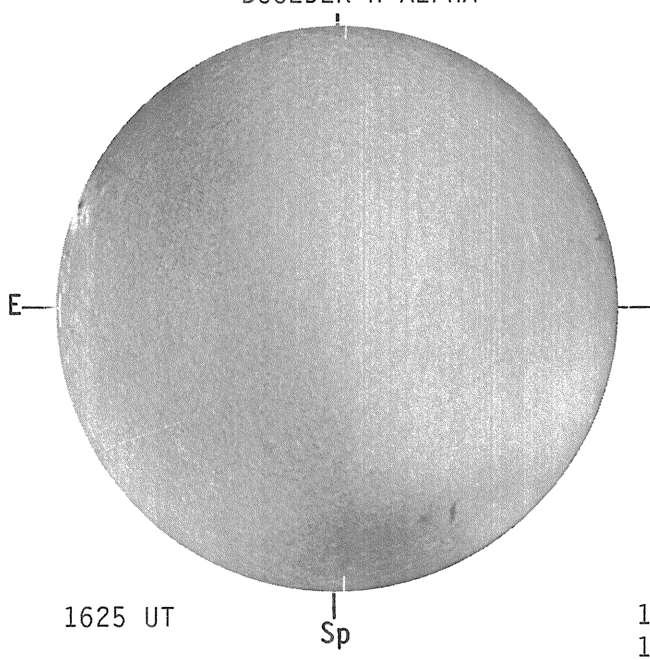
Solid = +
Dotted= -

DeltaY=12.9
DeltaX= 9.6



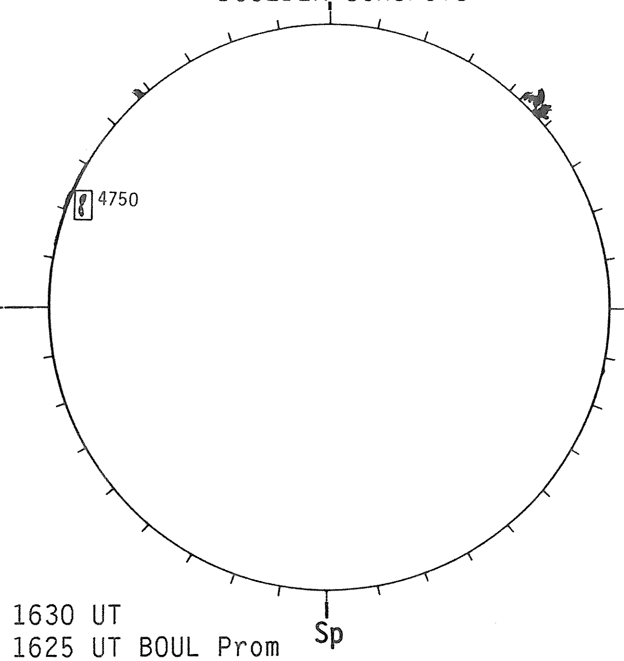
16.58 -
17.55 UT

BOULDER H-ALPHA



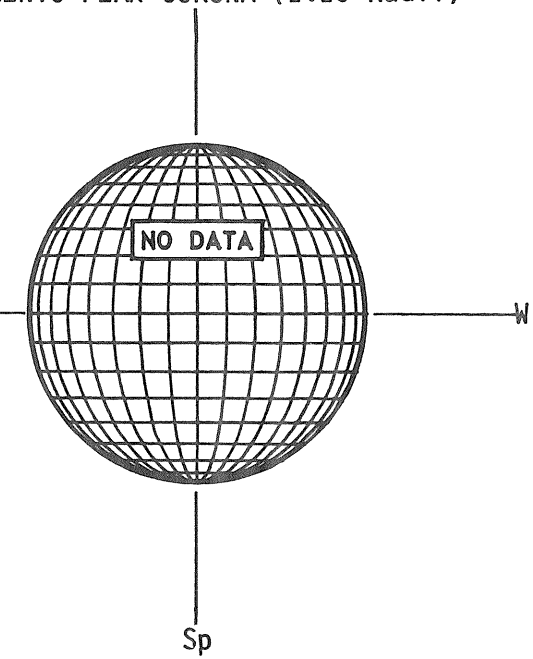
1625 UT

BOULDER SUNSPOTS



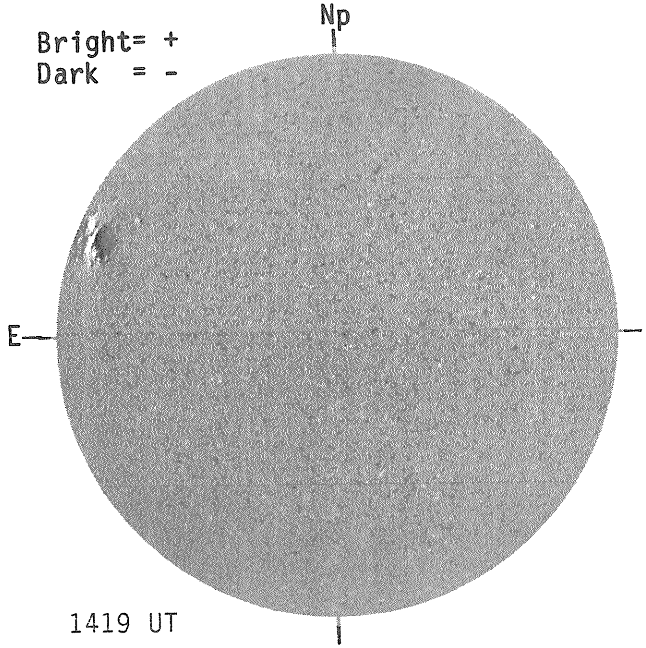
1630 UT
1625 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



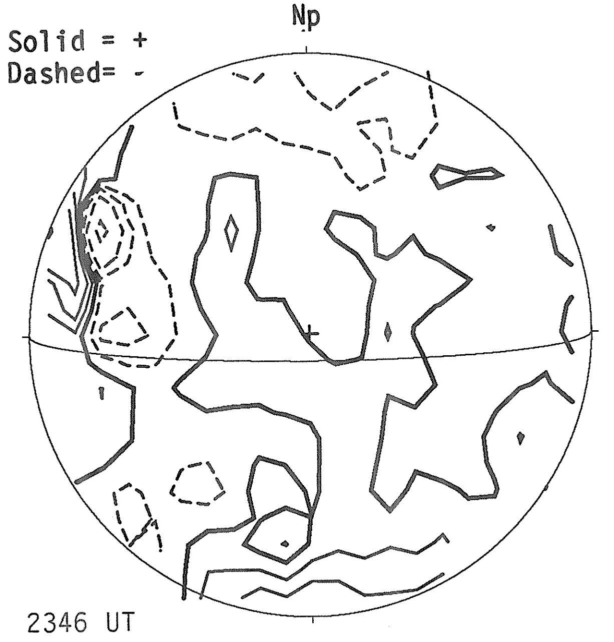
O C T O B E R 18, 1 9 8 6 (P= 26.01, B_0= 5.59, L_0= 304.55)

KITT PEAK MAGNETOGRAM



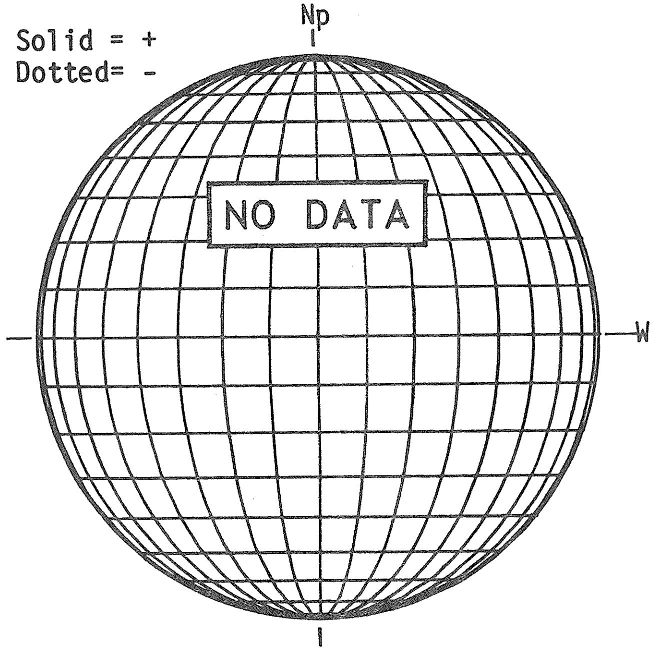
1419 UT

STANFORD MAGNETOGRAM

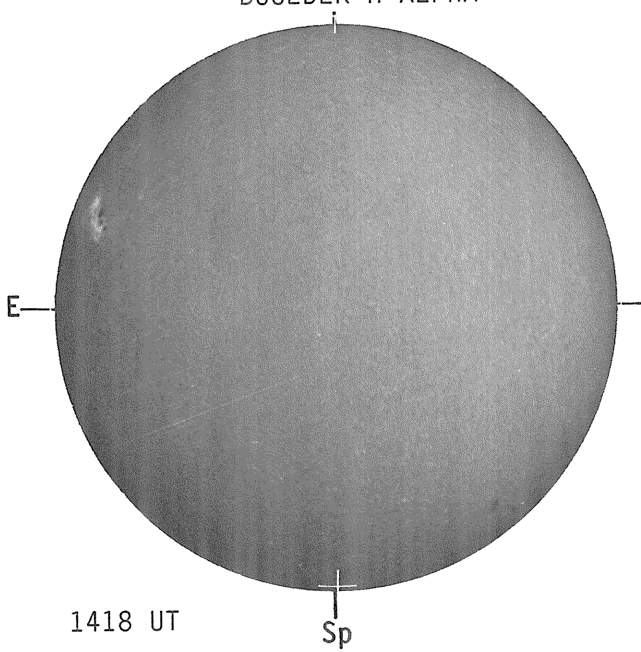


2346 UT

MT. WILSON MAGNETOGRAM

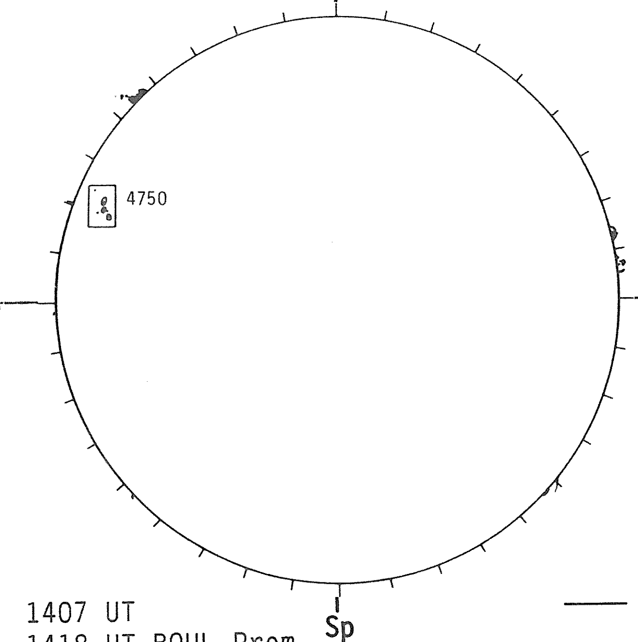


BOULDER H-ALPHA



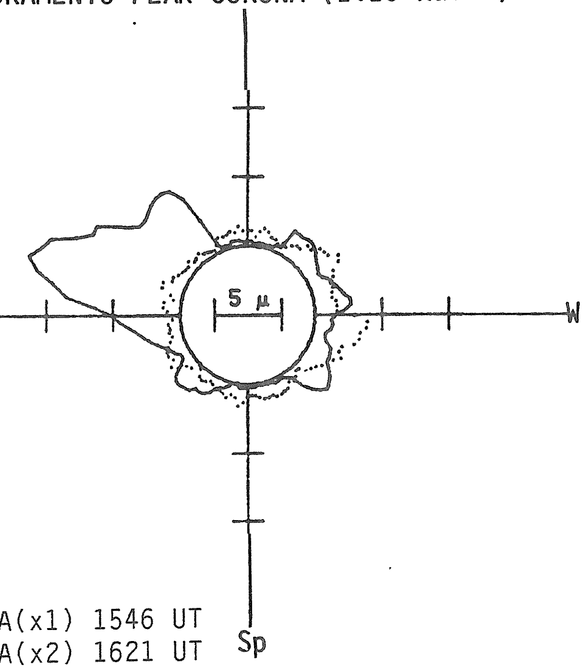
1418 UT

BOULDER SUNSPOTS



1407 UT
1418 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

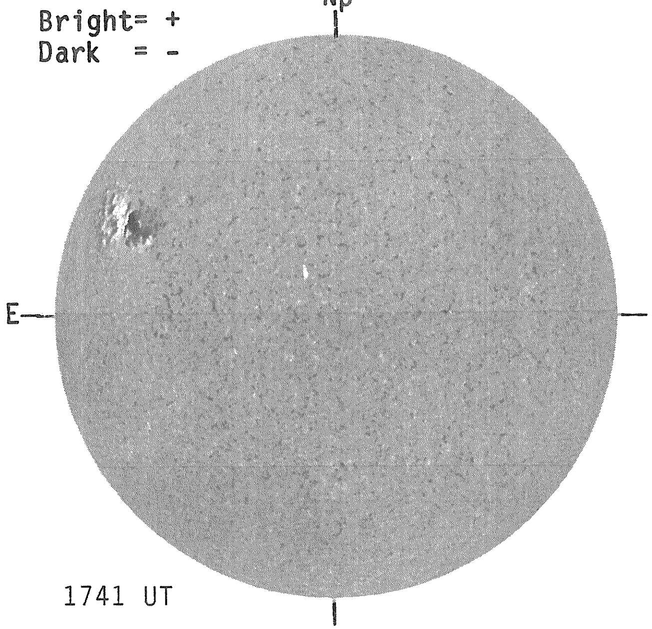


—— 5303A(x1) 1546 UT
.... 6374A(x2) 1621 UT
xxxx 5694A(x6) 1606 UT
NO 5694A ACTIVITY TODAY

OCTOBER 19, 1986 (P= 25.95, B_0= 5.52, L_0= 291.36)

KITT PEAK MAGNETOGRAM

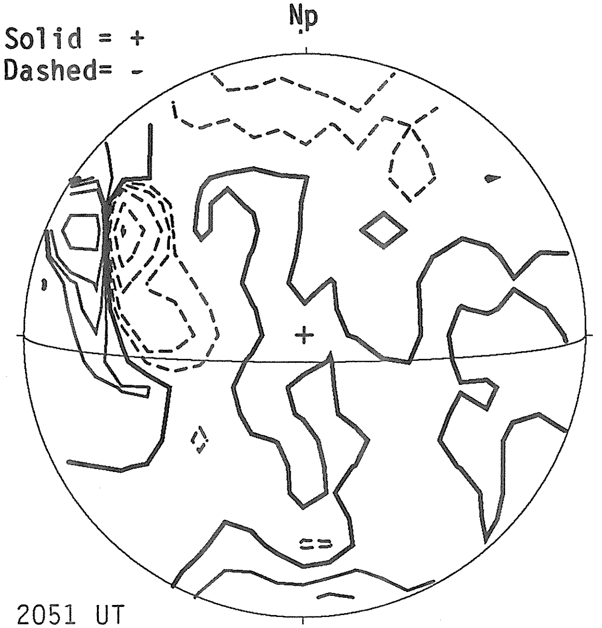
Bright= +
Dark = -



1741 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

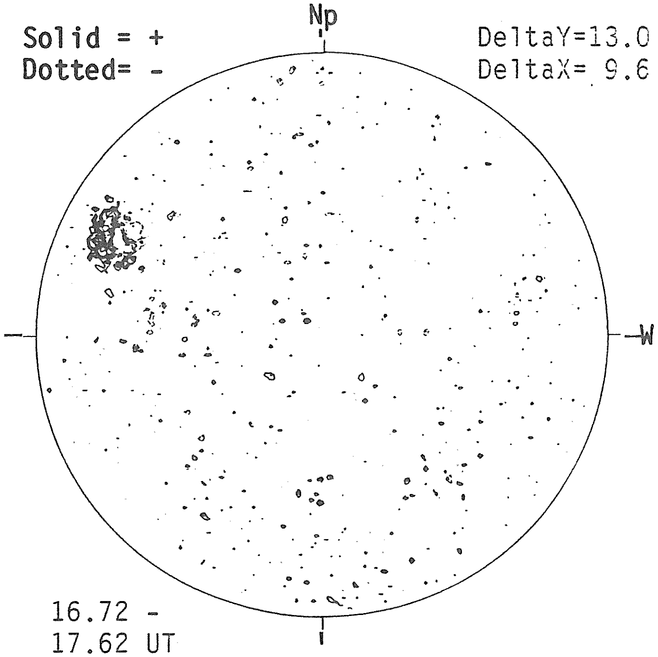


2051 UT

MT. WILSON MAGNETOGRAM

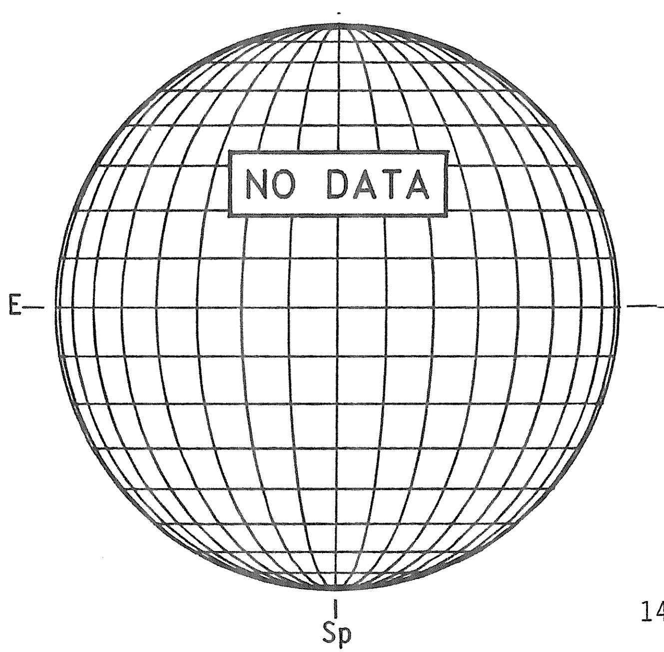
Solid = +
Dotted= -

DeltaY=13.0
DeltaX= 9.6

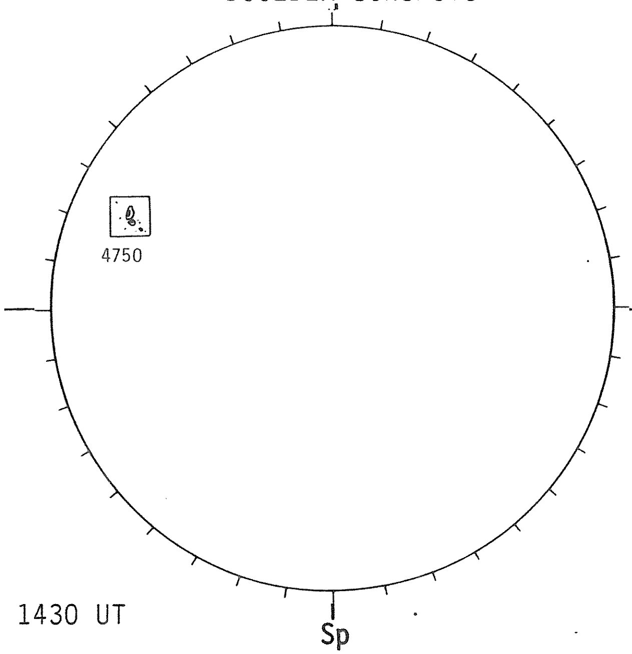


16.72 -
17.62 UT

SACRAMENTO PEAK H-ALPHA

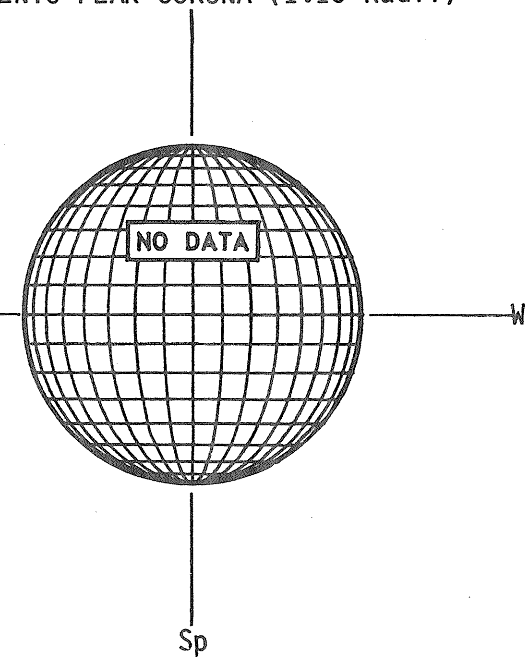


BOULDER SUNSPOTS



1430 UT

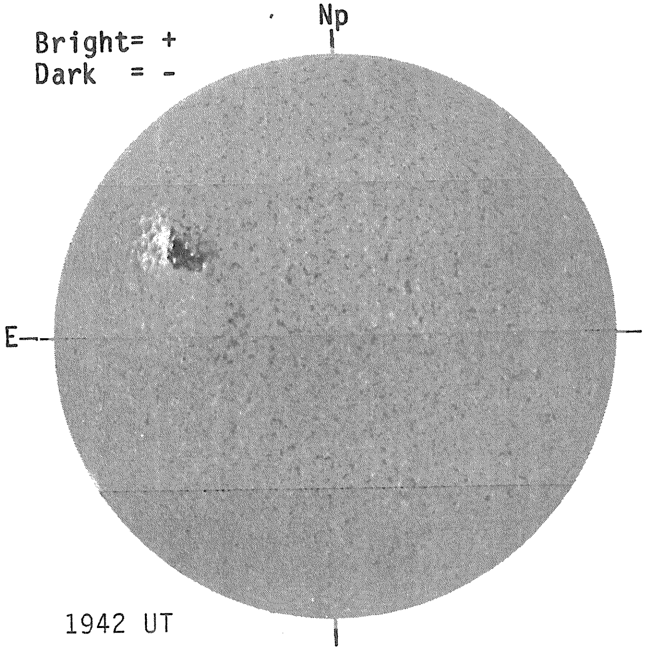
SACRAMENTO PEAK CORONA (1.15 Radii)



O C T O B E R 20, 1 9 8 6 (P= 25.89, B_0= 5.44, L_0= 278.17)

KITT PEAK MAGNETOGRAM

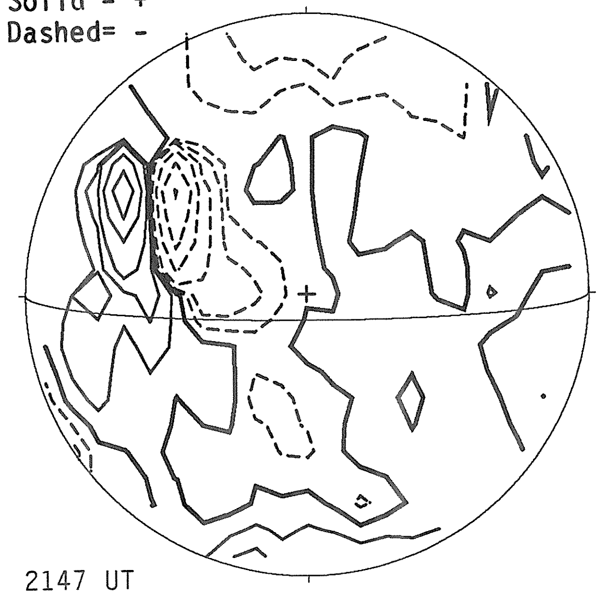
Bright= +
Dark = -



1942 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

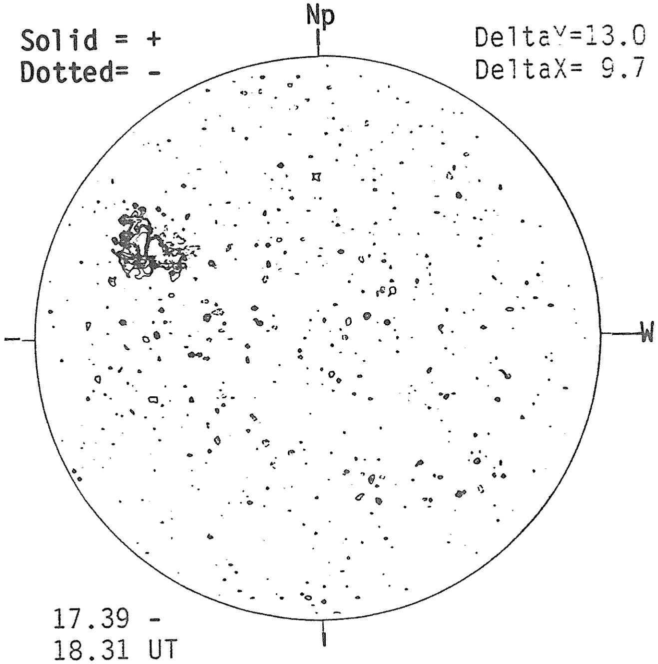


2147 UT

MT. WILSON MAGNETOGRAM

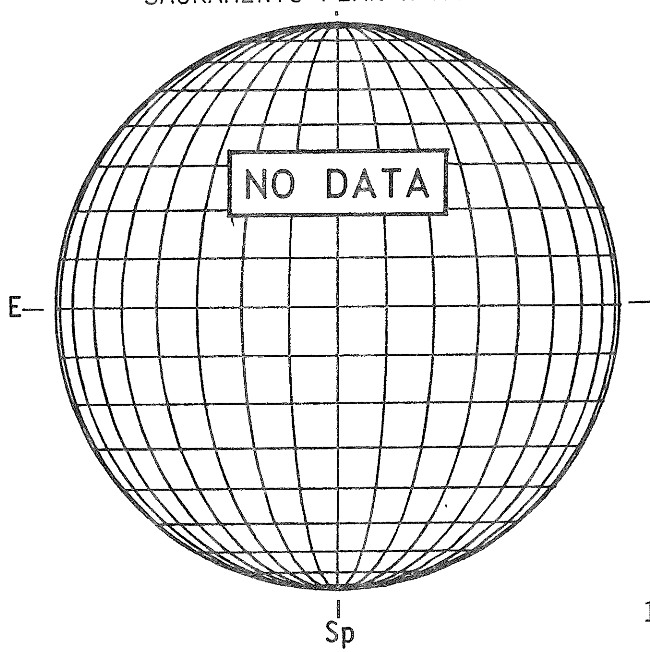
Solid = +
Dotted= -

DeltaY=13.0
DeltaX= 9.7

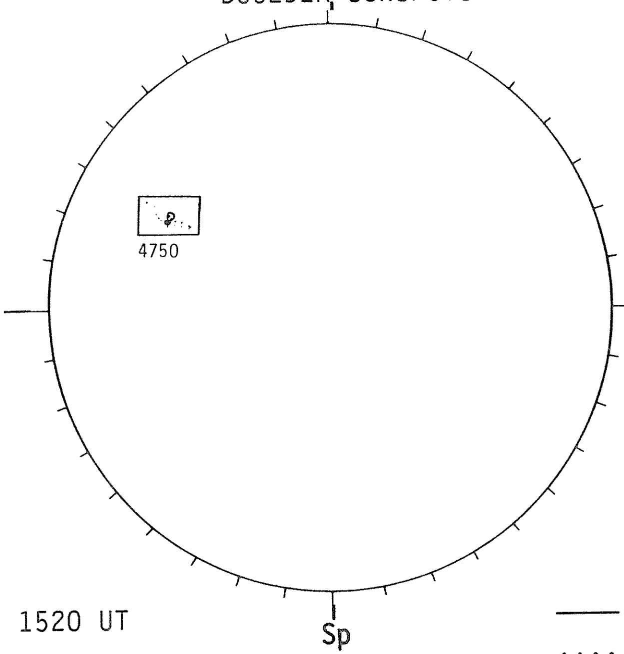


17.39 -
18.31 UT

SACRAMENTO PEAK H-ALPHA

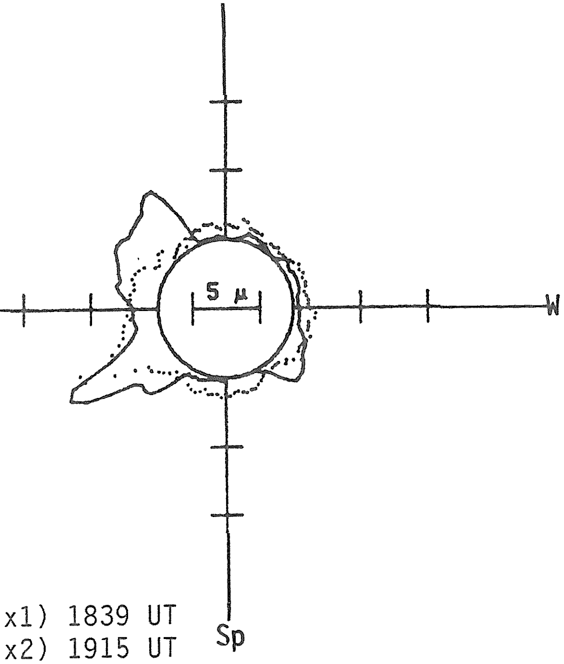


BOULDER SUNSPOTS



1520 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

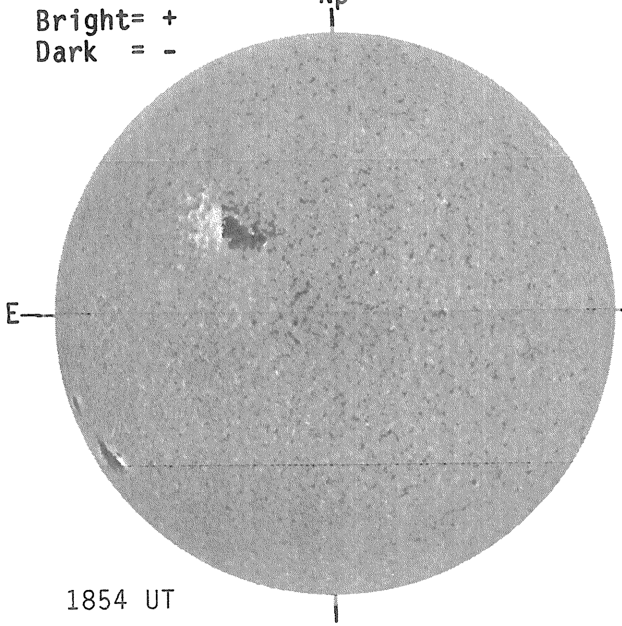


—— 5303A(x1) 1839 UT
.... 6374A(x2) 1915 UT
xxxx 5694A(x6) 1906 UT
NO 5694A ACTIVITY TODAY

O C T O B E R 21, 1 9 8 6 (P= 25.81, B_0= 5.36, L_0= 264.98)

KITT PEAK MAGNETOGRAM

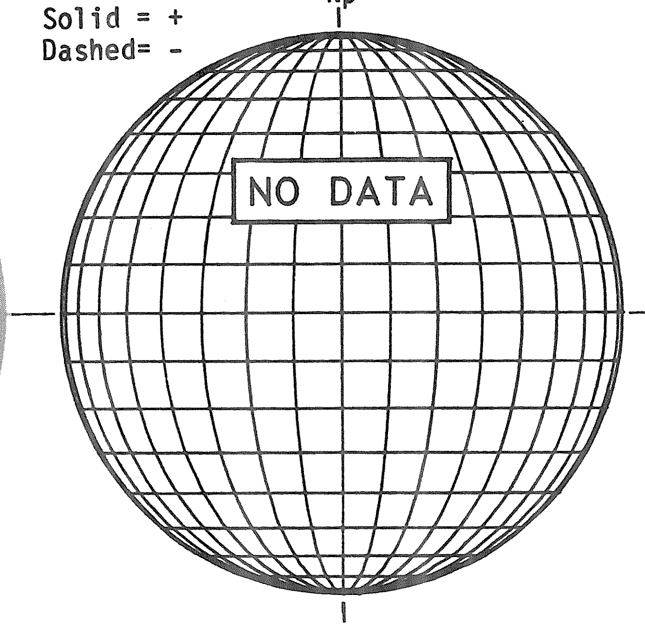
Bright= +
Dark = -



1854 UT

STANFORD MAGNETOGRAM

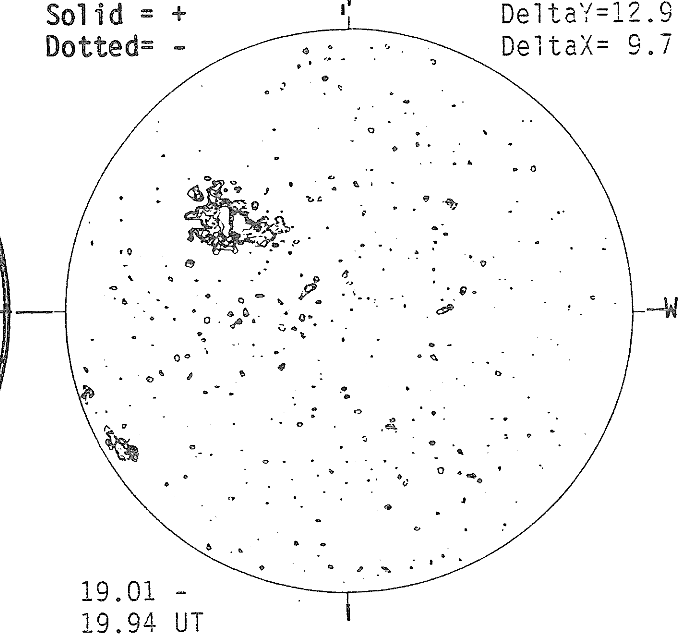
Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

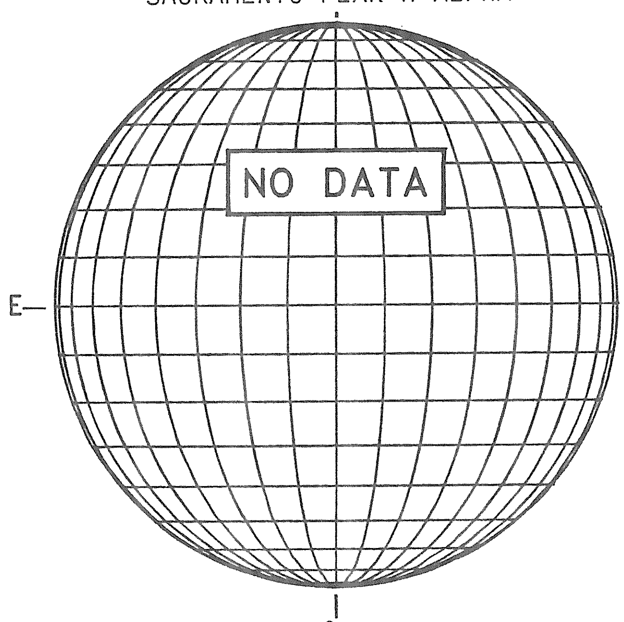
Solid = +
Dotted= -

DeltaY=12.9
DeltaX= 9.7

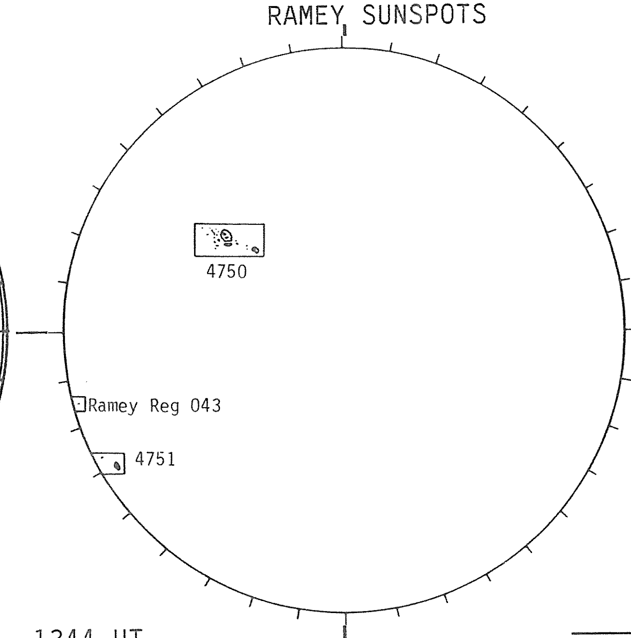


19.01 -
19.94 UT

SACRAMENTO PEAK H-ALPHA

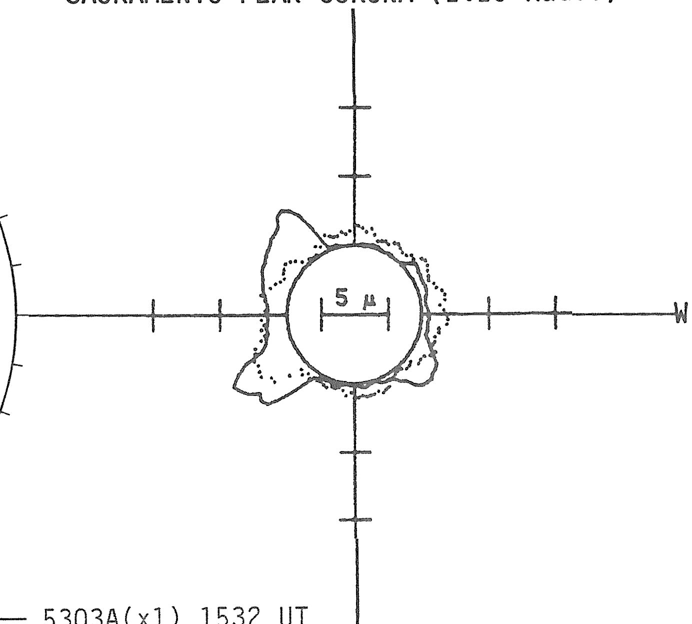


RAMEY SUNSPOTS



1344 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

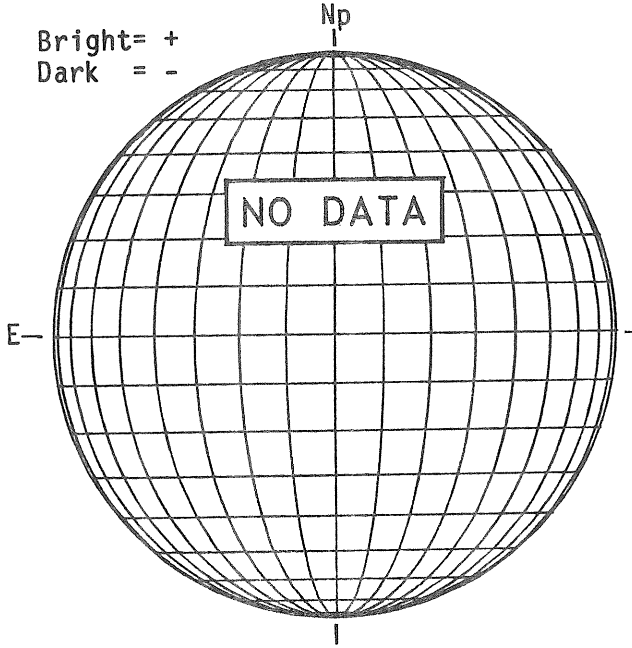


—— 5303A(x1) 1532 UT
.... 6374A(x2) 1610 UT
xxxx 5694A(x6) 1558 UT
NO 5694A ACTIVITY TODAY

O C T O B E R 22, 1 9 8 6 ($P= 25.73$, $B_0= 5.27$, $L_0= 251.79$)

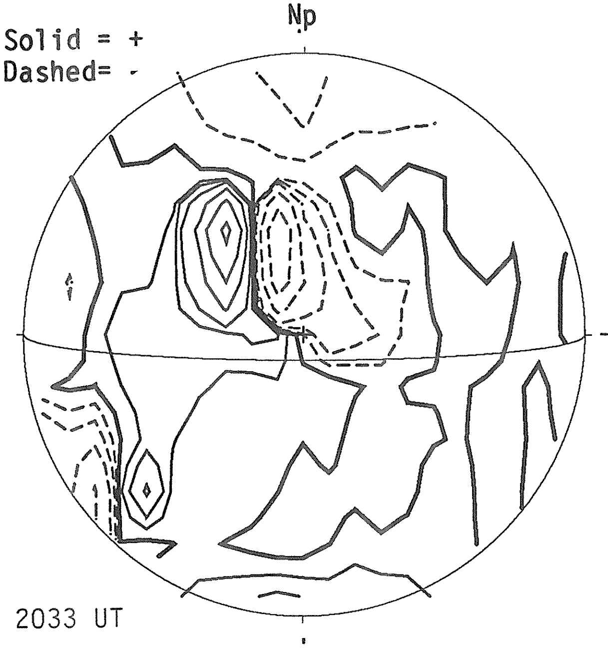
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

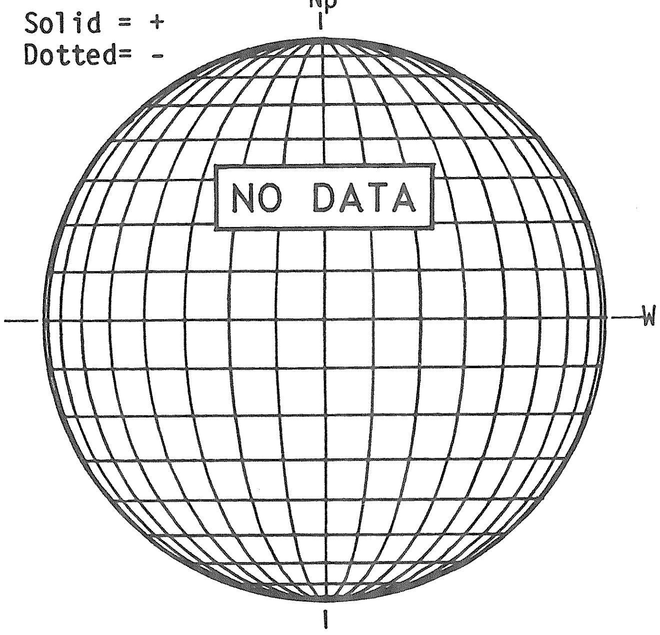
Solid = +
Dashed= -



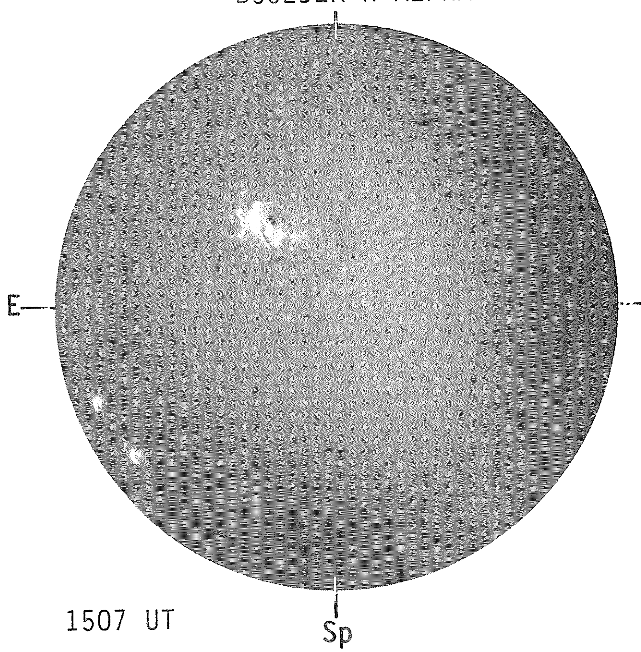
2033 UT

MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

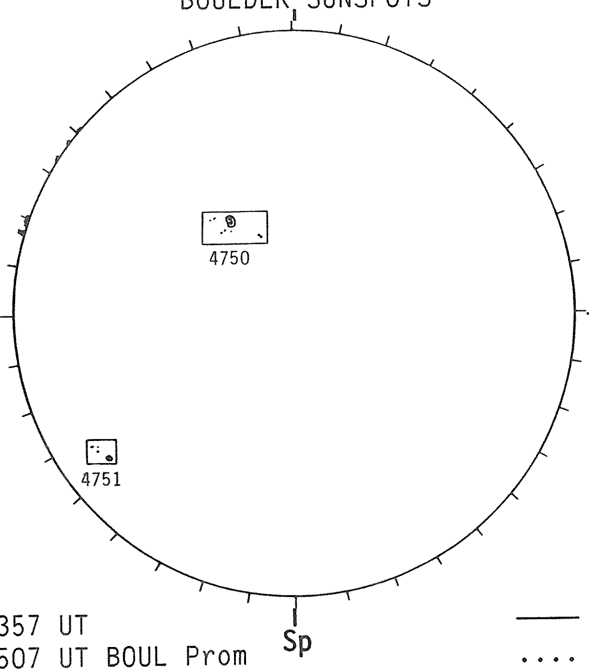


BOULDER H-ALPHA



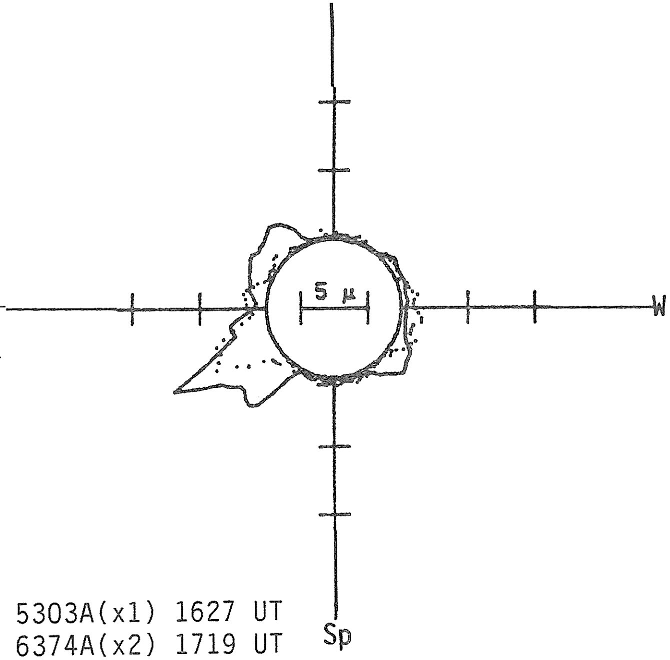
1507 UT

BOULDER SUNSPOTS



1357 UT
1507 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

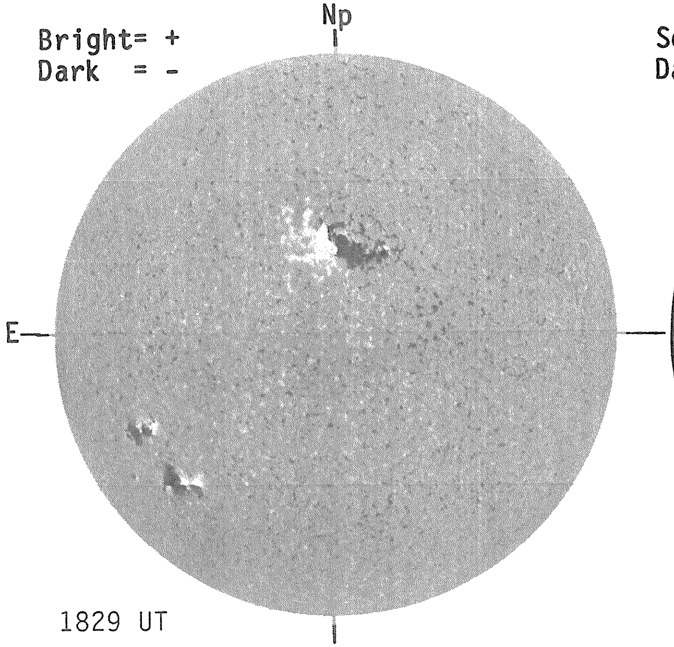


—— 5303A(x1) 1627 UT
.... 6374A(x2) 1719 UT
xxxx 5694A(x6) 1703 UT
NO 5694A ACTIVITY TODAY

O C T O B E R 23, 1 9 8 6 (P= 25.64, B_0= 5.19, L_0= 238.60)

KITT PEAK MAGNETOGRAM

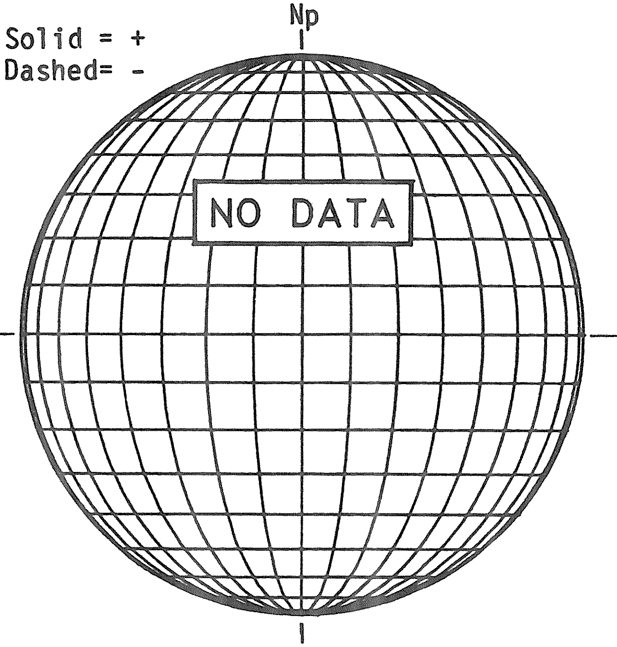
Bright= +
Dark = -



1829 UT

STANFORD MAGNETOGRAM

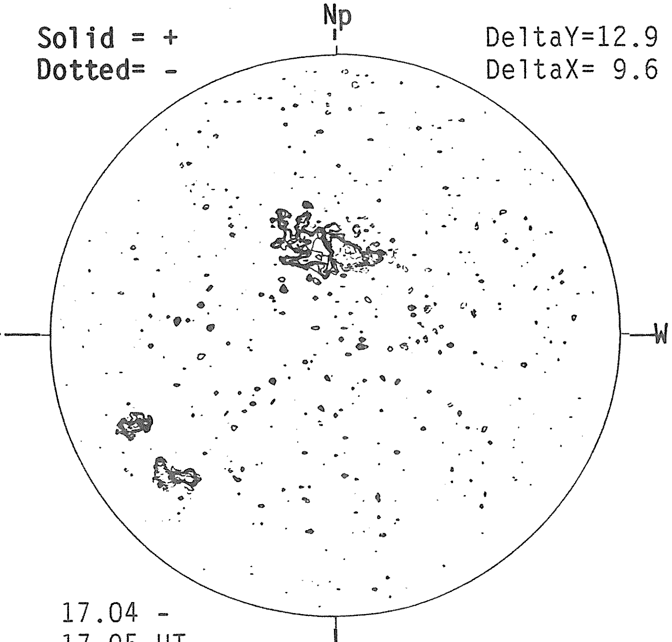
Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

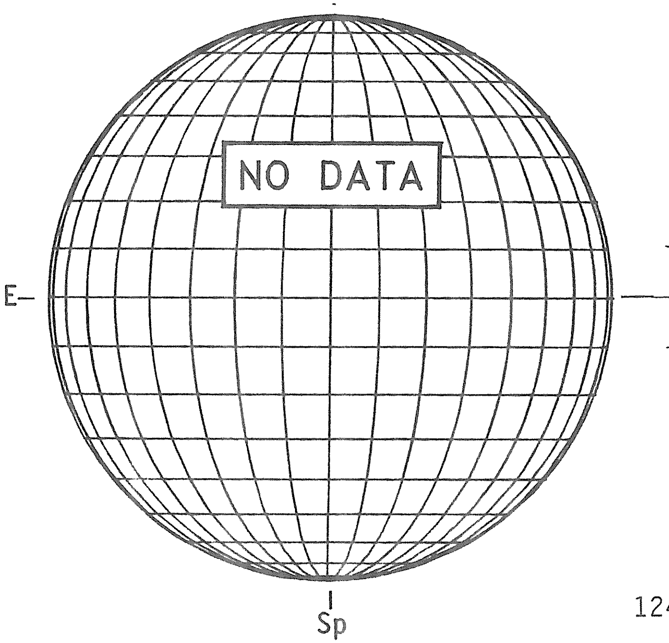
Solid = +
Dotted= -

DeltaY=12.9
DeltaX= 9.6

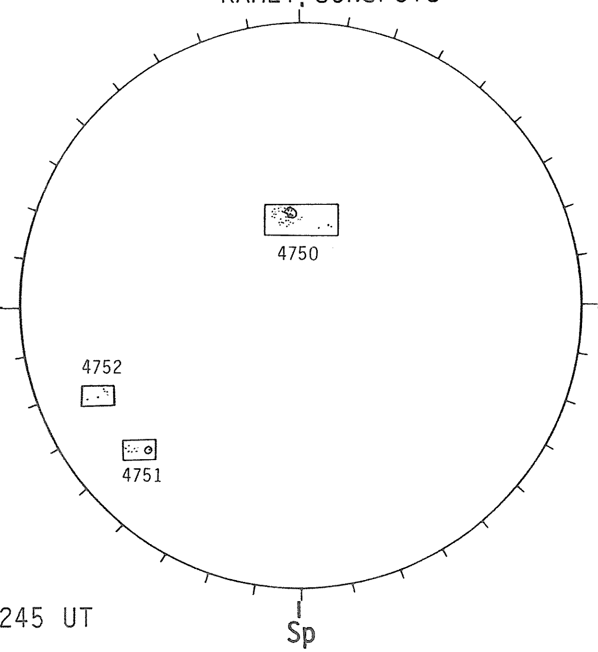


17.04 -
17.95 UT

SACRAMENTO PEAK H-ALPHA

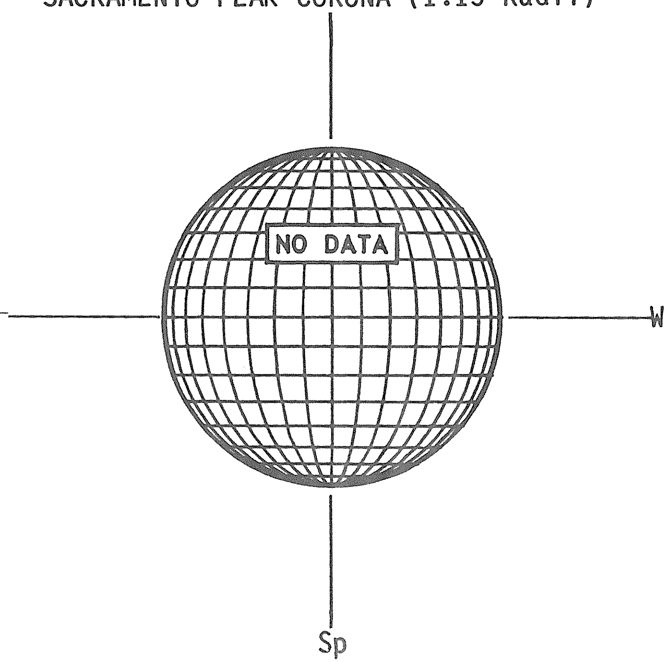


RAMEY SUNSPOTS



1245 UT

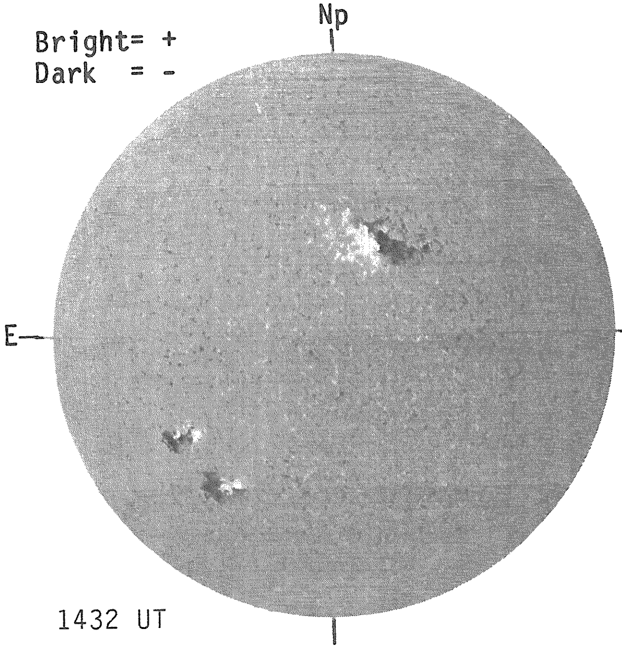
SACRAMENTO PEAK CORONA (1.15 Radii)



OCTOBER 24, 1986

KITT PEAK MAGNETOGRAM

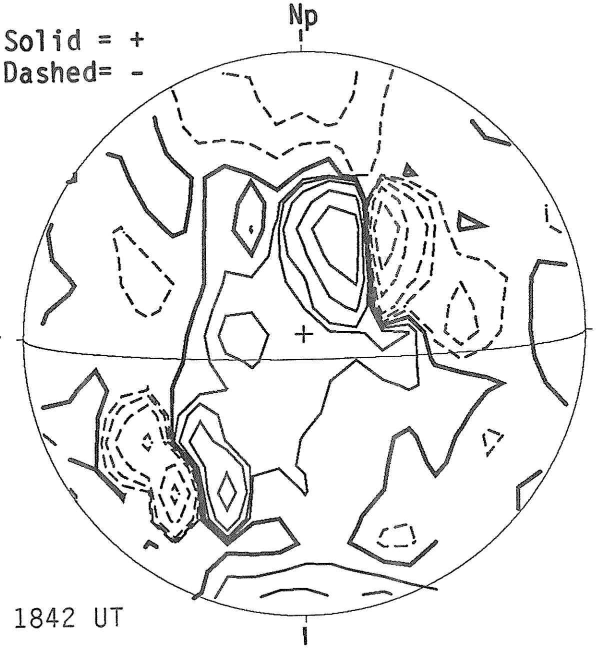
Bright= +
Dark = -



1432 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

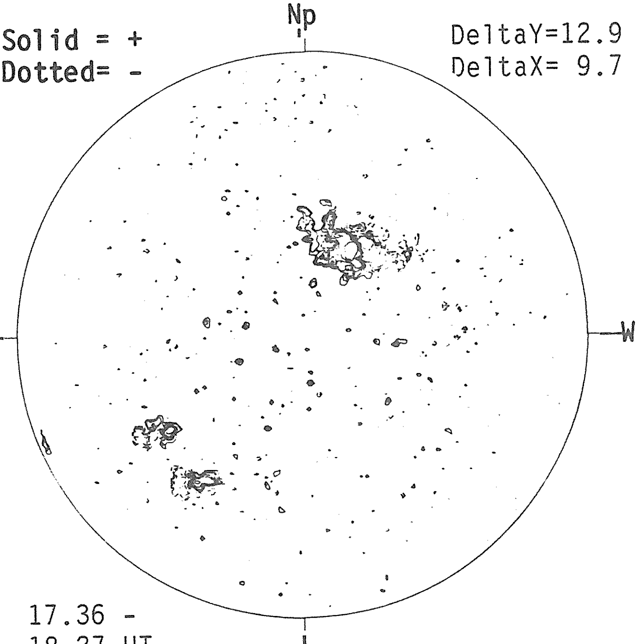


1842 UT

MT. WILSON MAGNETOGRAM

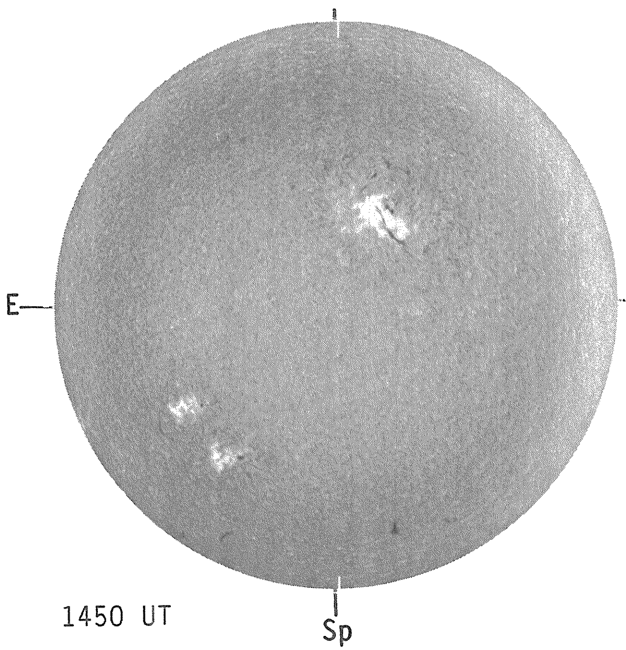
Solid = +
Dotted= -

DeltaY=12.9
DeltaX= 9.7



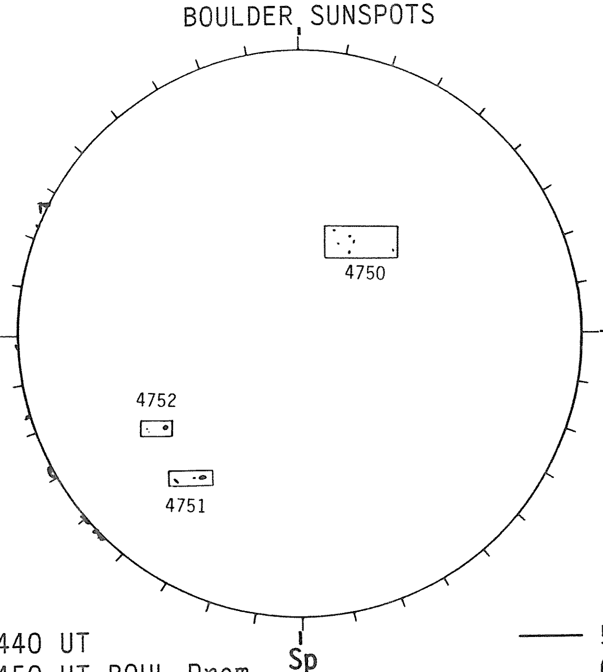
17.36 -
18.27 UT

BOULDER H-ALPHA



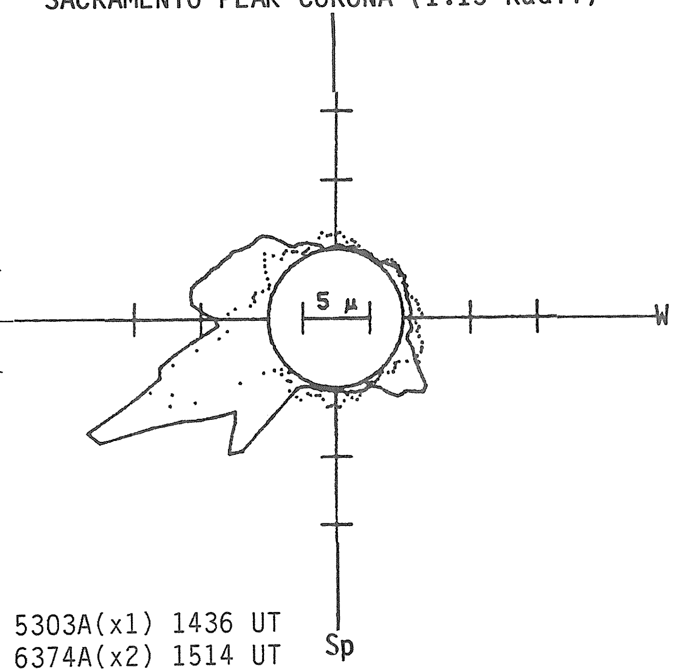
1450 UT

BOULDER SUNSPOTS



1440 UT
1450 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

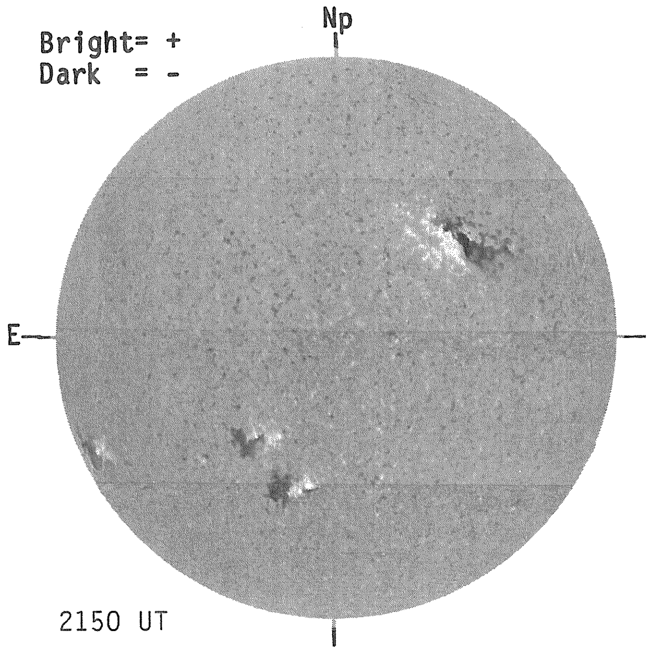


—— 5303A(x1) 1436 UT
.... 6374A(x2) 1514 UT
xxxx 5694A(x6) 1459 UT
NO 5694A ACTIVITY TODAY

O C T O B E R 25, 1 9 8 6 (P= 25.43, B_0= 5.01, L_0= 212.22)

KITT PEAK MAGNETOGRAM

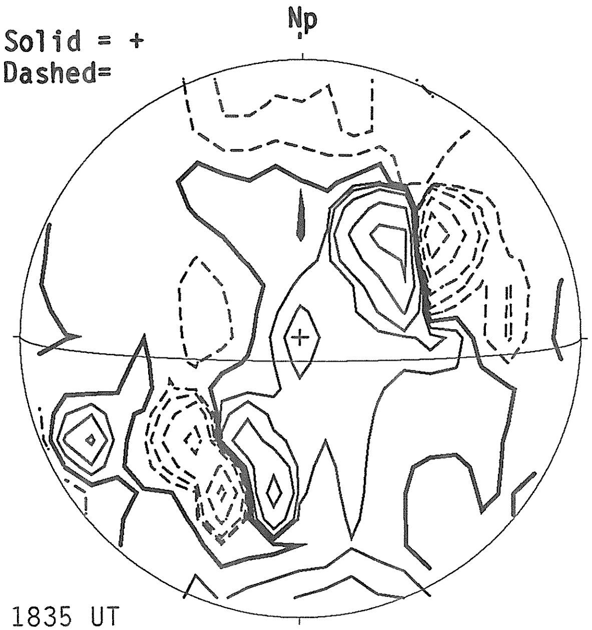
Bright= +
Dark = -



2150 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed=

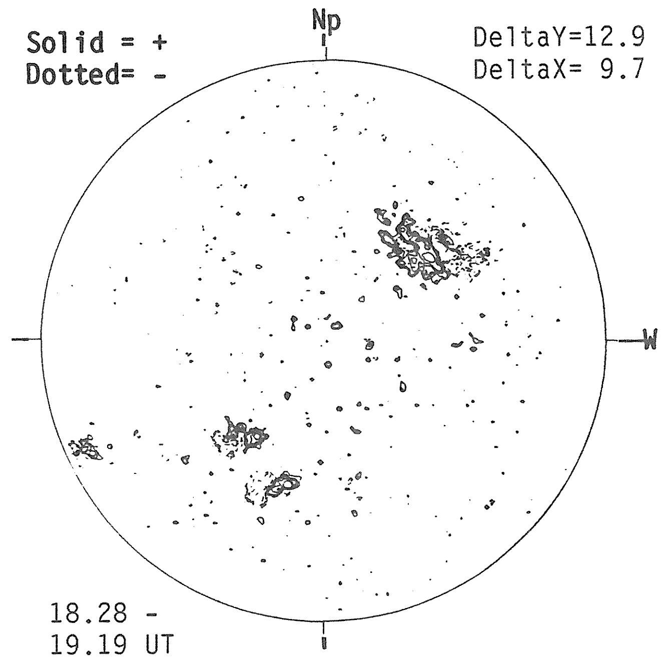


1835 UT

MT. WILSON MAGNETOGRAM

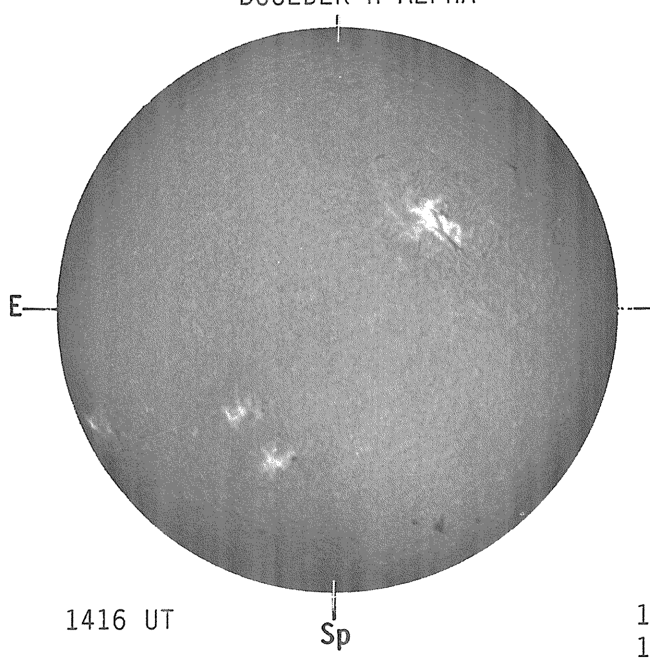
Solid = +
Dotted= -

DeltaY=12.9
DeltaX= 9.7



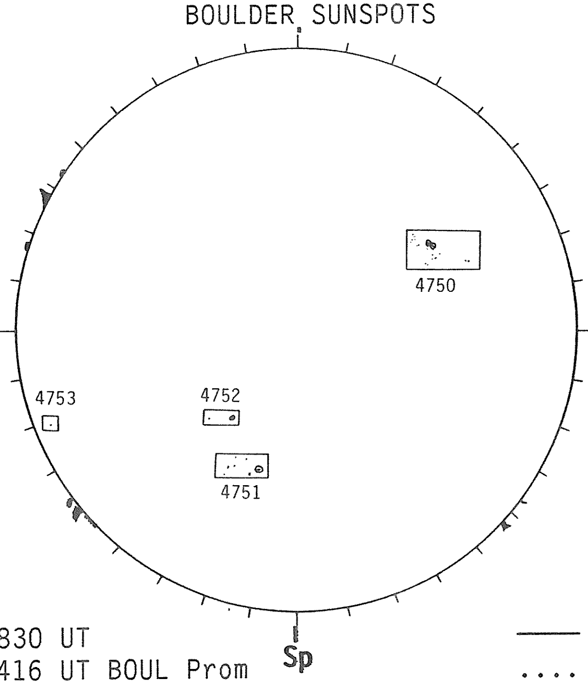
18.28 -
19.19 UT

BOULDER H-ALPHA



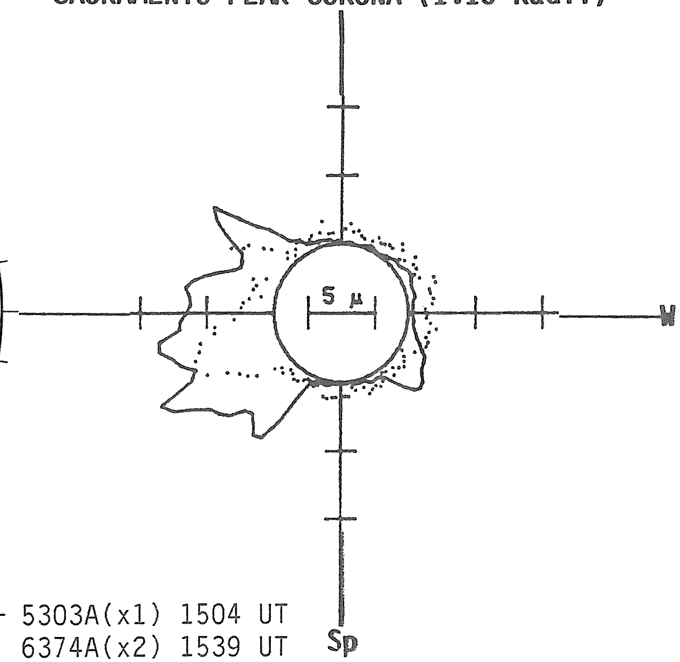
1416 UT

BOULDER SUNSPOTS



1830 UT
1416 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

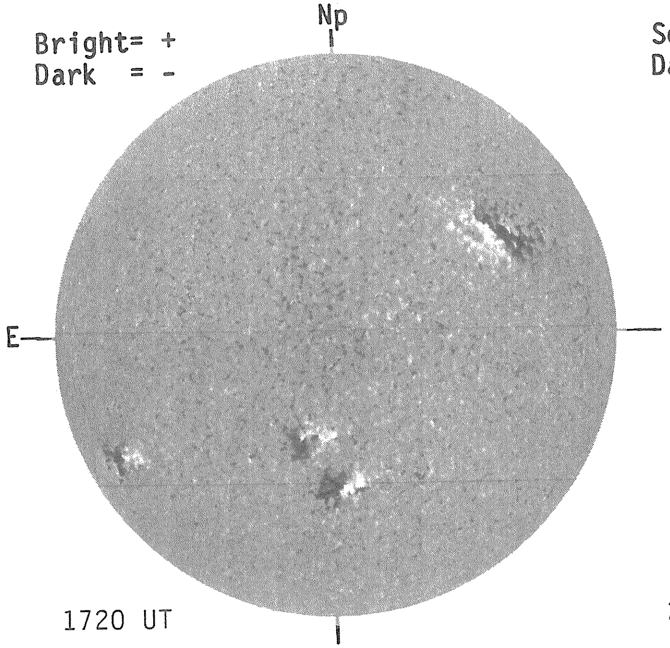


—— 5303A(x1) 1504 UT
.... 6374A(x2) 1539 UT
xxxx 5694A(x6) 1525 UT
NO 5694A ACTIVITY TODAY

O C T O B E R 26, 1 9 8 6 (P= 25.32, B_0= 4.92, L_0= 199.03)

KITT PEAK MAGNETOGRAM

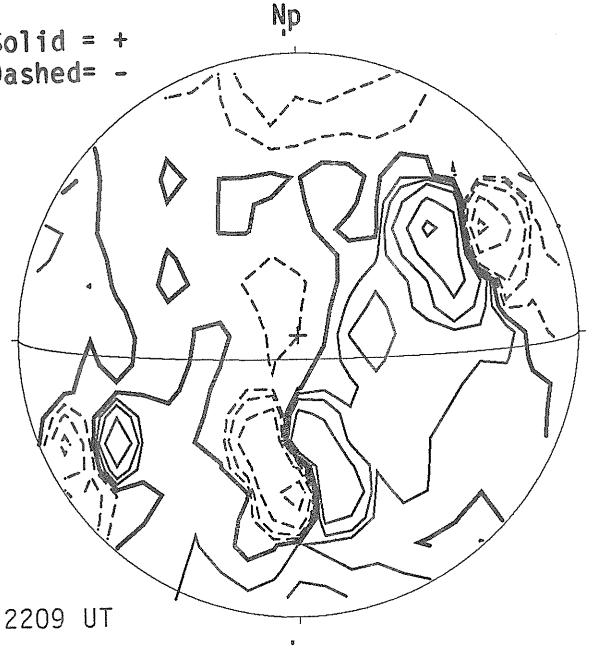
Bright= +
Dark = -



1720 UT

STANFORD MAGNETOGRAM

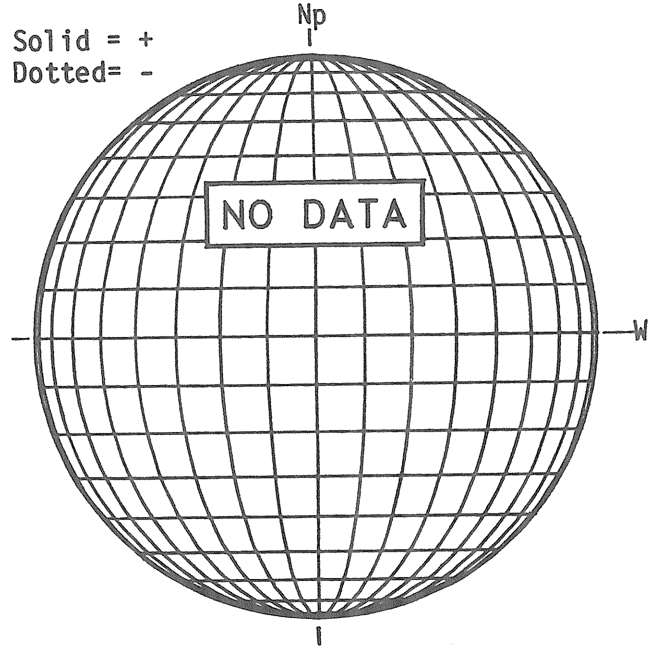
Solid = +
Dashed= -



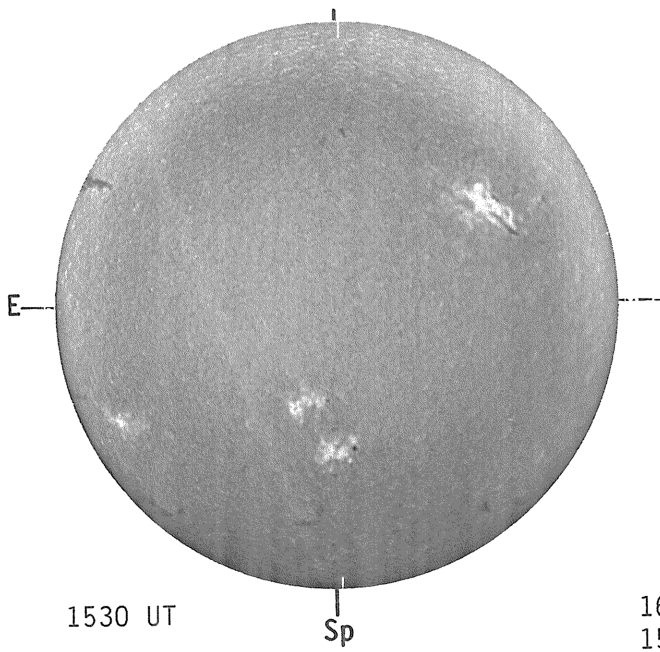
2209 UT

MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

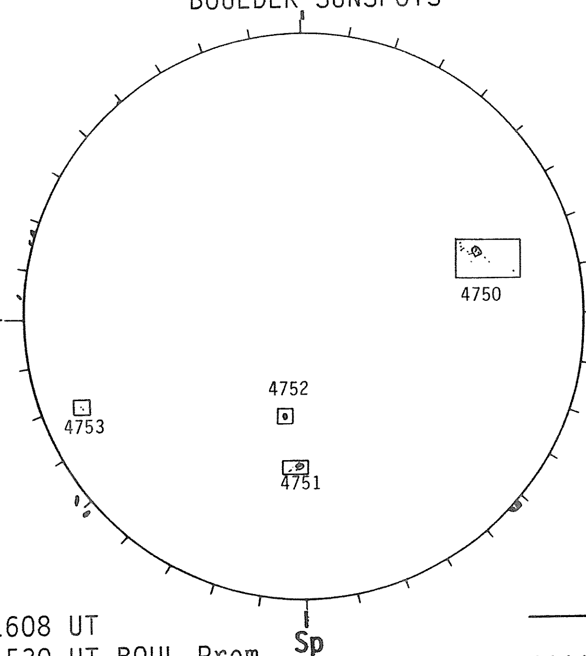


BOULDER H-ALPHA



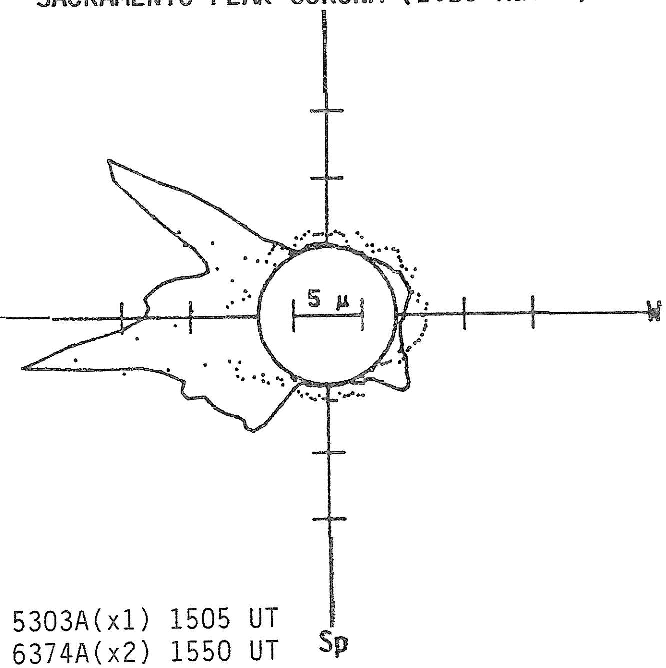
1530 UT

BOULDER SUNSPOTS



1608 UT
1530 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

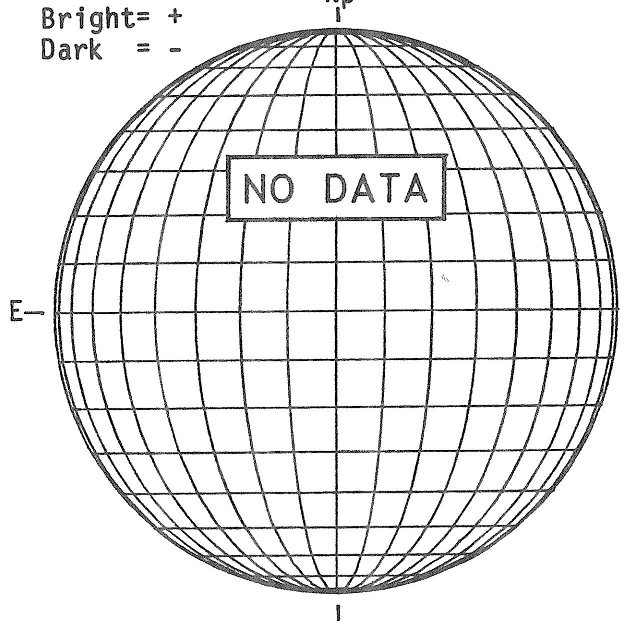


—— 5303A(x1) 1505 UT
.... 6374A(x2) 1550 UT
xxxx 5694A(x6) 1524 UT
NO 5694A ACTIVITY TODAY

O C T O B E R 27, 1 9 8 6 (P= 25.20, B_0= 4.83, L_0= 185.85)

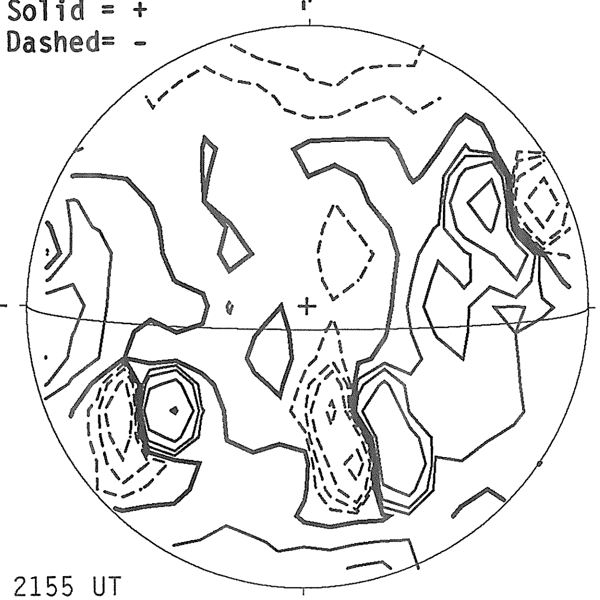
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

Solid = +
Dashed= -

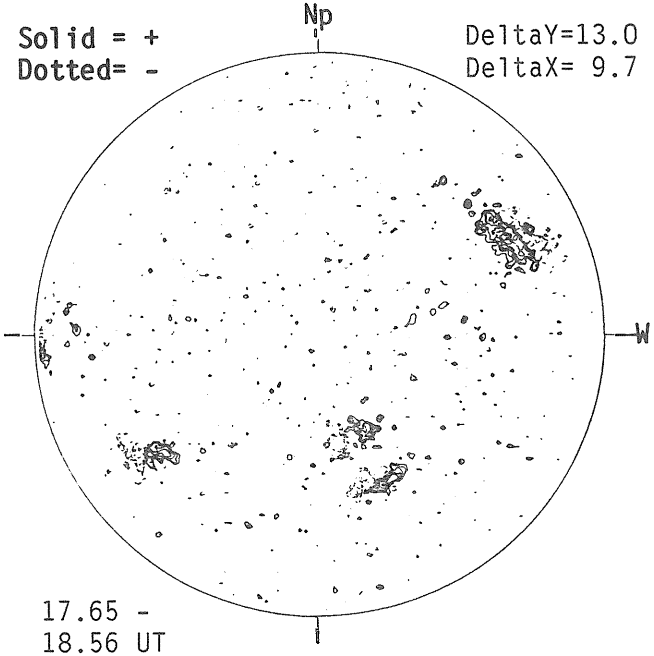


2155 UT

MT. WILSON MAGNETOGRAM

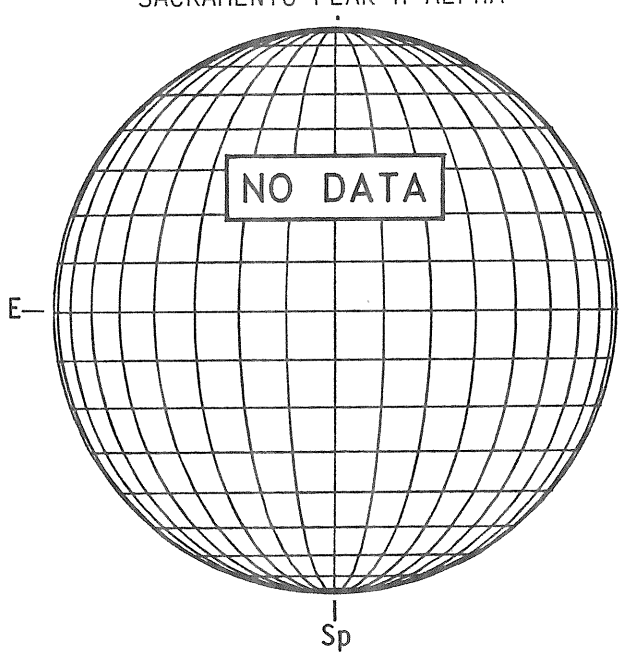
Solid = +
Dotted= -

DeltaY=13.0
DeltaX= 9.7



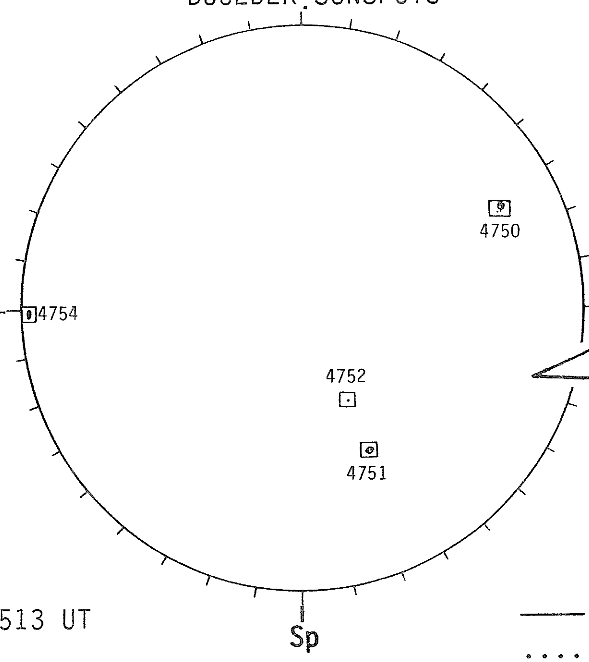
17.65 -
18.56 UT

SACRAMENTO PEAK H-ALPHA

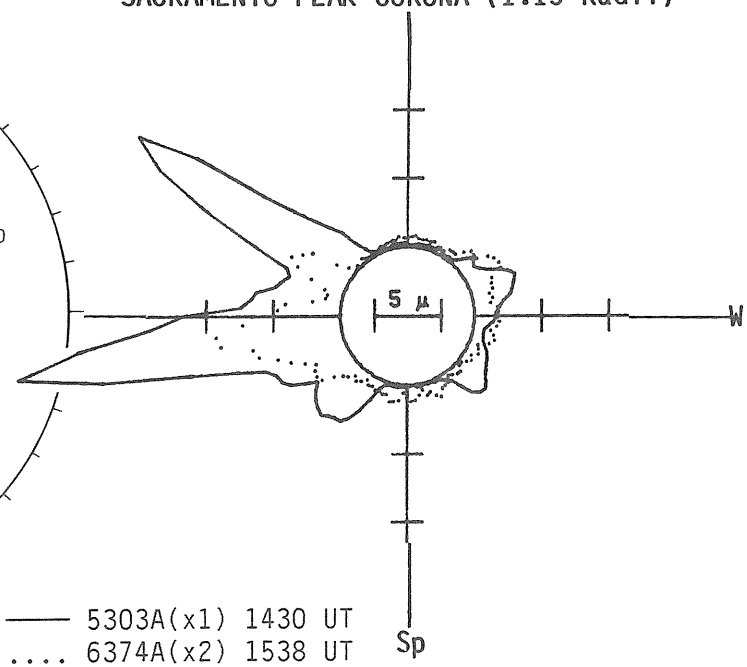


1513 UT

BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

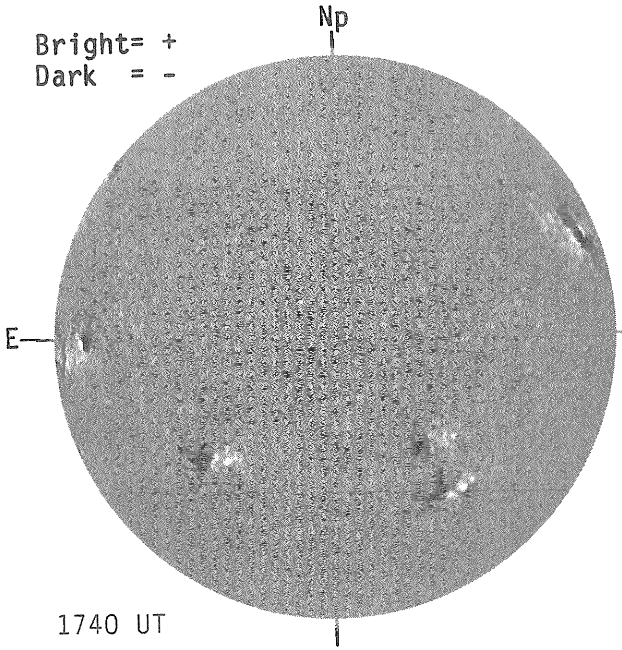


—— 5303A(x1) 1430 UT
.... 6374A(x2) 1538 UT
xxxx 5694A(x6) 1524 UT
NO 5694A ACTIVITY TODAY

O C T O B E R 28, 1 9 8 6 (P= 25.07, B_0= 4.74, L_0= 172.66)

KITT PEAK MAGNETOGRAM

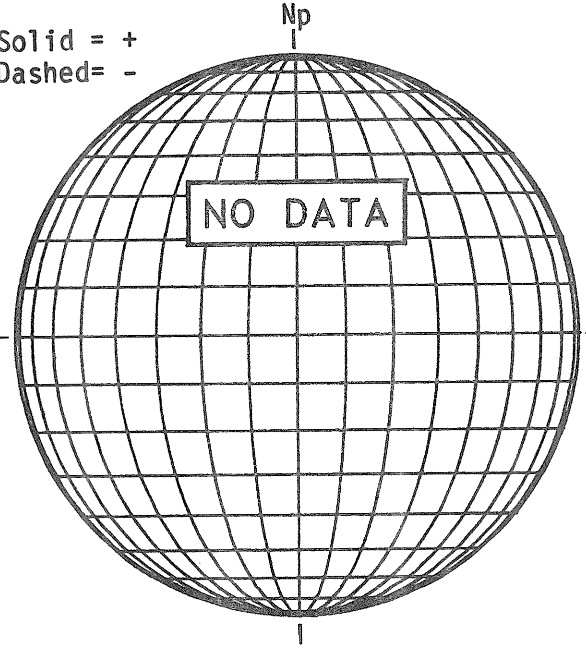
Bright= +
Dark = -



1740 UT

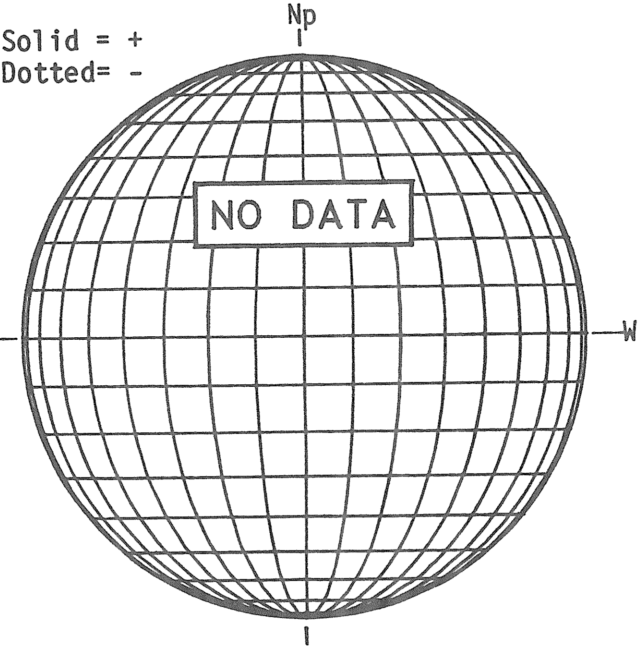
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

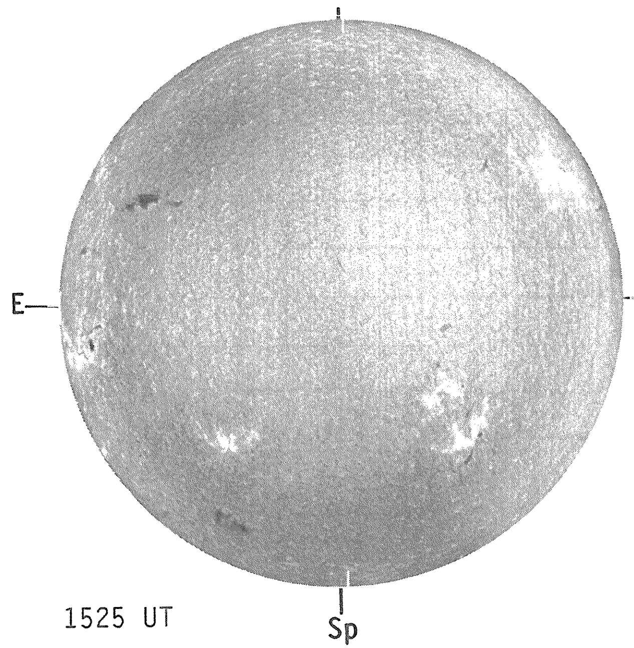


MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

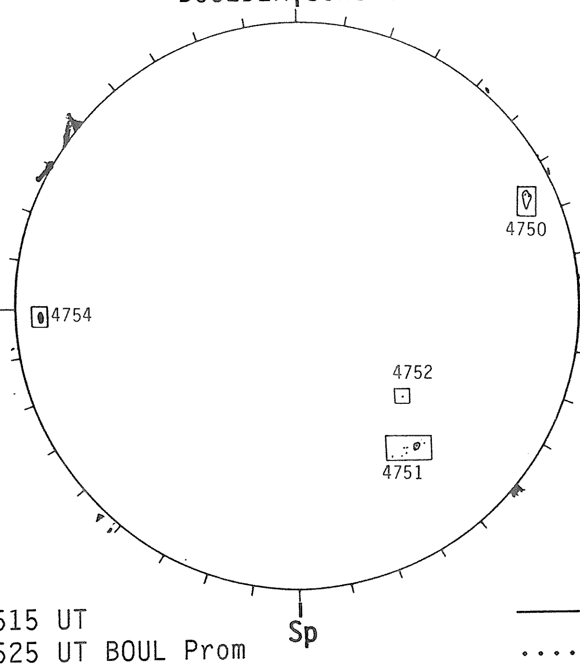


BOULDER H-ALPHA



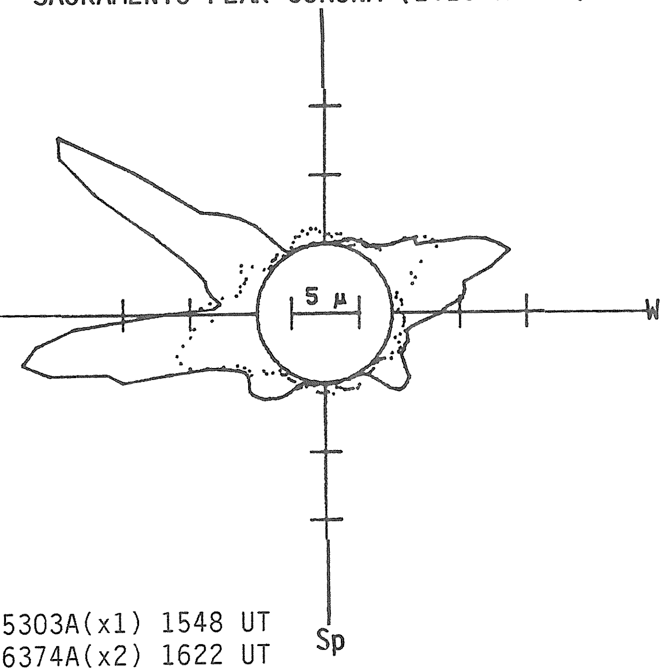
1525 UT

BOULDER SUNSPOTS



1515 UT
1525 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

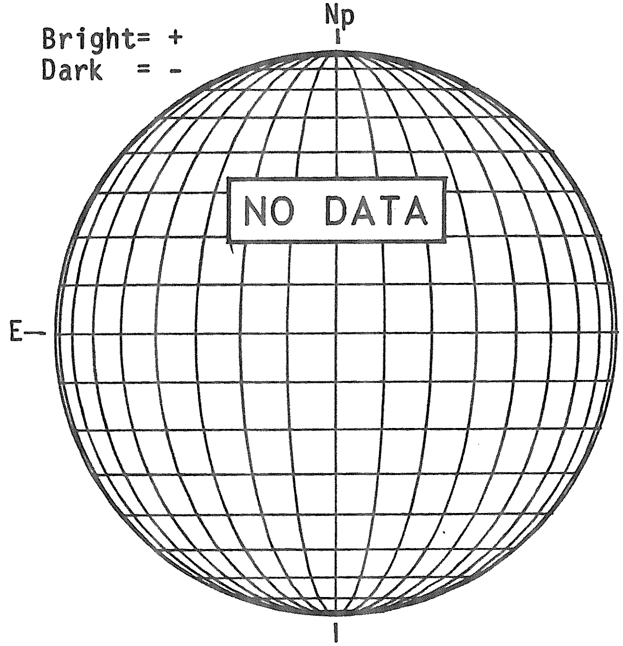


—— 5303A(x1) 1548 UT
.... 6374A(x2) 1622 UT
xxxx 5694A(x6) 1607 UT
NO 5694A ACTIVITY TODAY

O C T O B E R 29, 1 9 8 6 (P= 24.93, B_0= 4.65, L_0= 159.47)

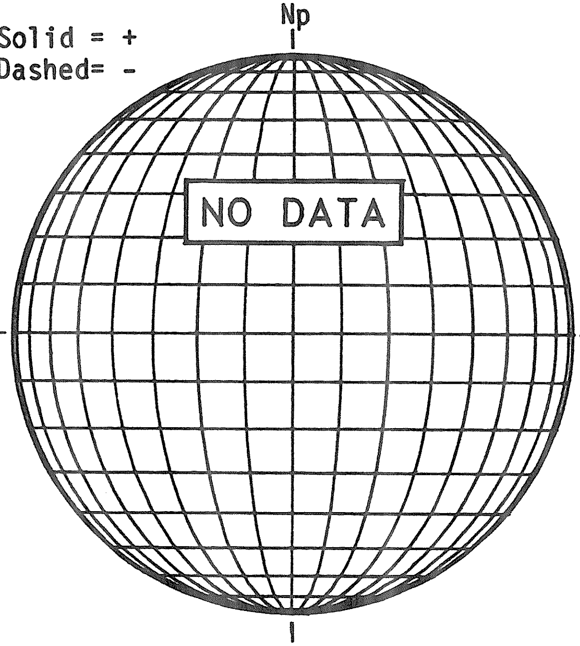
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

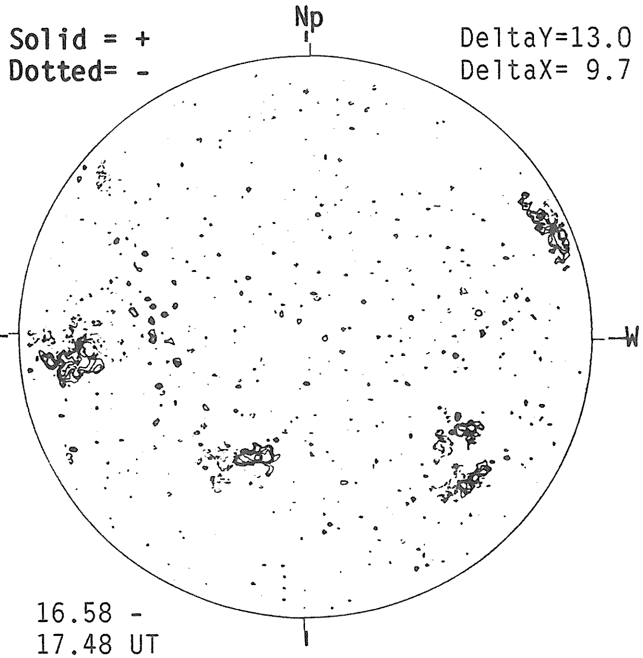
Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

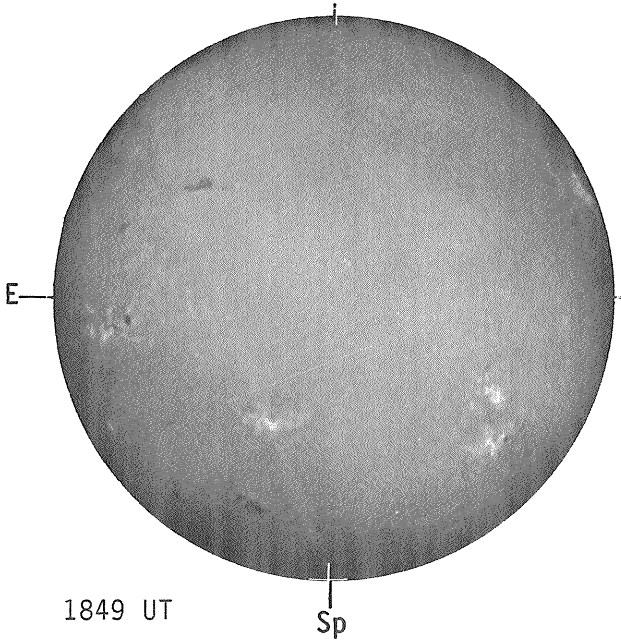
Solid = +
Dotted= -

DeltaY=13.0
DeltaX= 9.7



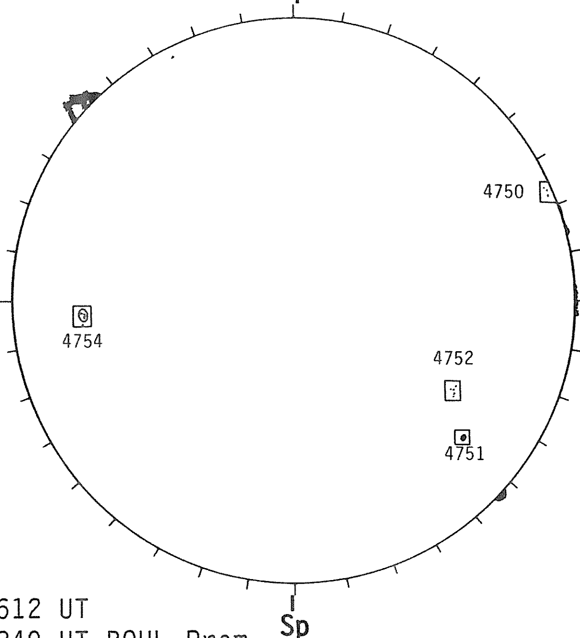
16.58 -
17.48 UT

BOULDER H-ALPHA



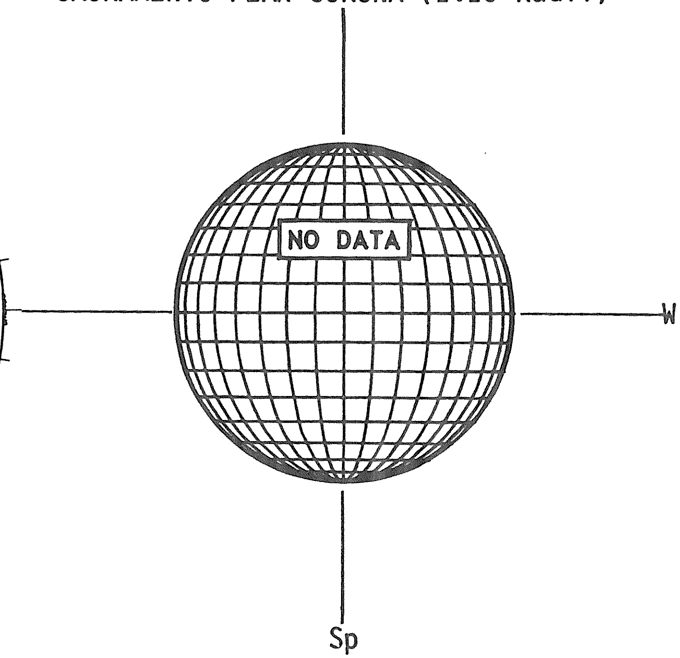
1849 UT

BOULDER SUNSPOTS



1612 UT
1849 UT BOUL Prom

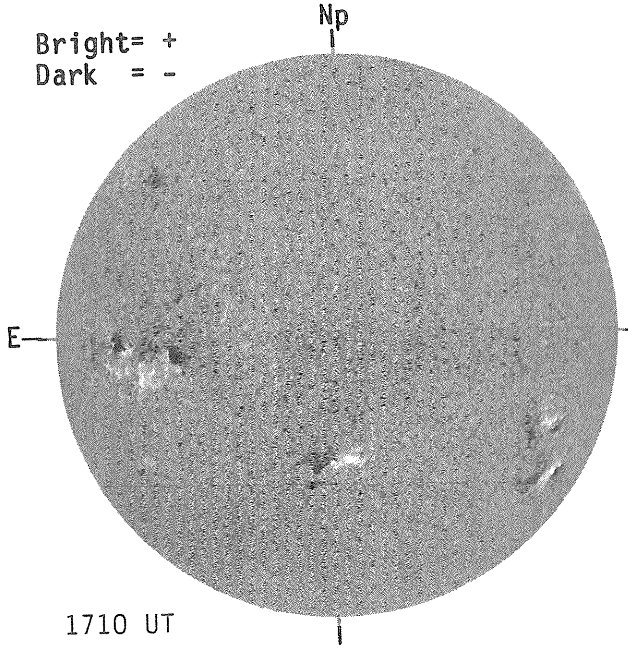
SACRAMENTO PEAK CORONA (1.15 Radii)



O C T O B E R 30, 1 9 8 6 (P= 24.78, B_0= 4.55, L_0= 146.29)

KITT PEAK MAGNETOGRAM

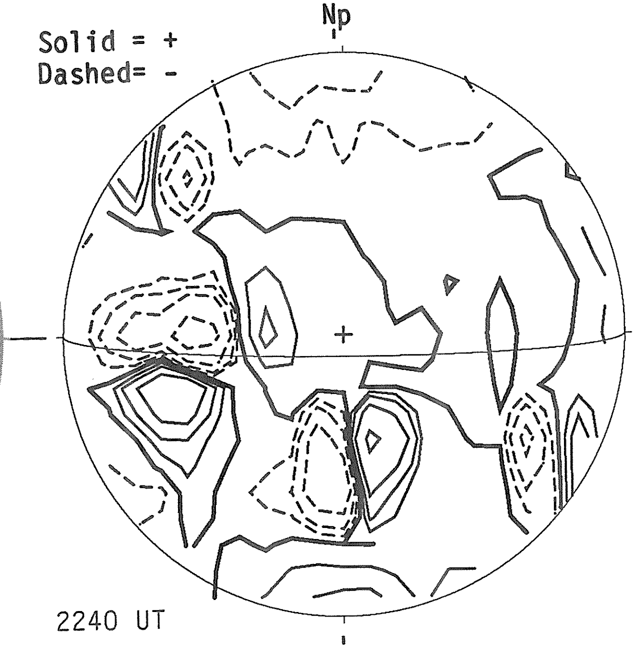
Bright= +
Dark = -



1710 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

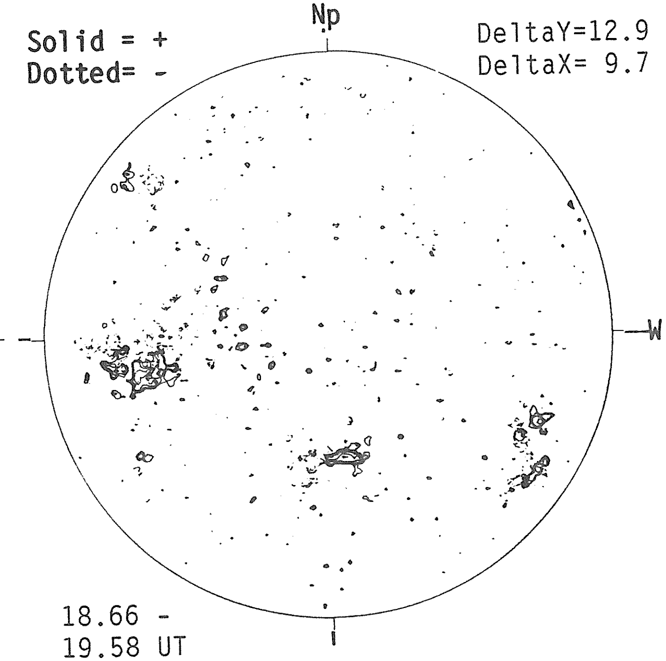


2240 UT

MT. WILSON MAGNETOGRAM

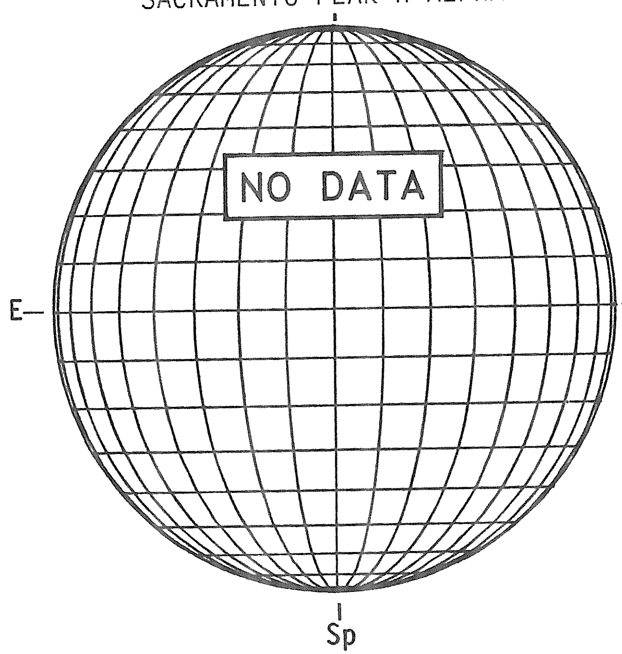
Solid = +
Dotted= -

DeltaY=12.9
DeltaX= 9.7

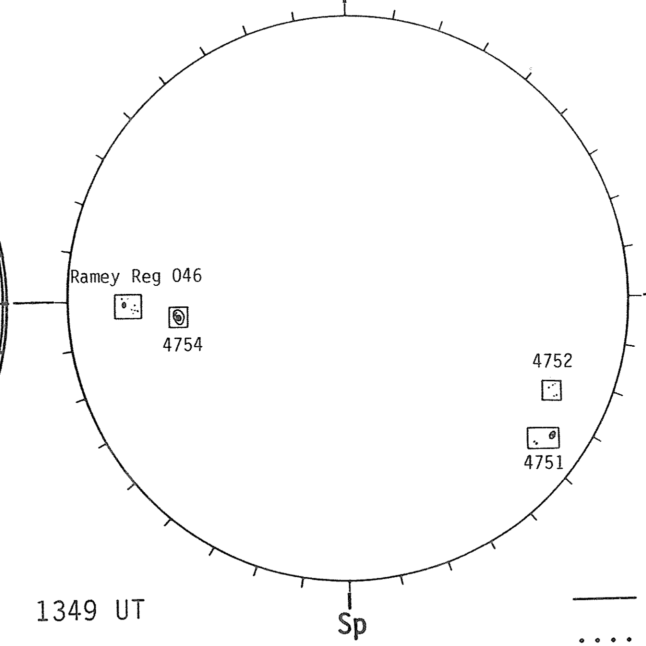


18.66 -
19.58 UT

SACRAMENTO PEAK H-ALPHA

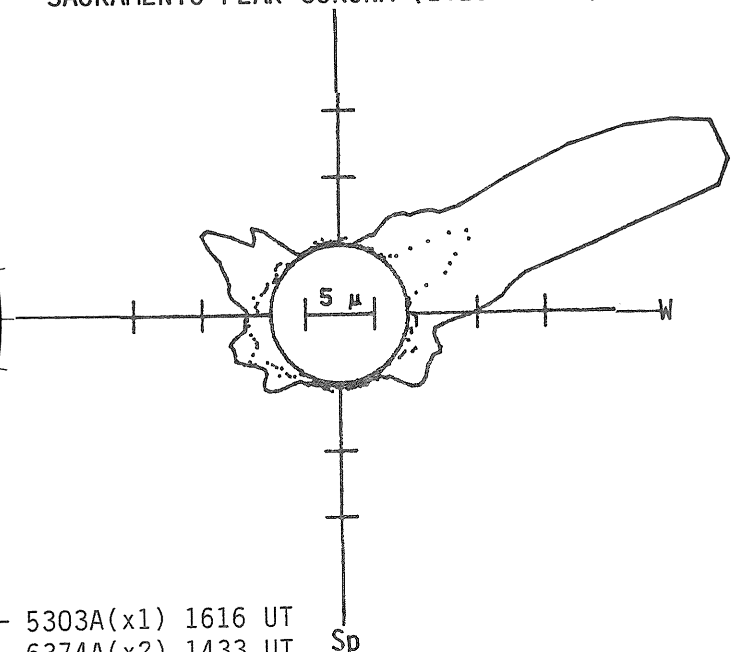


RAMEY SUNSPOTS



1349 UT

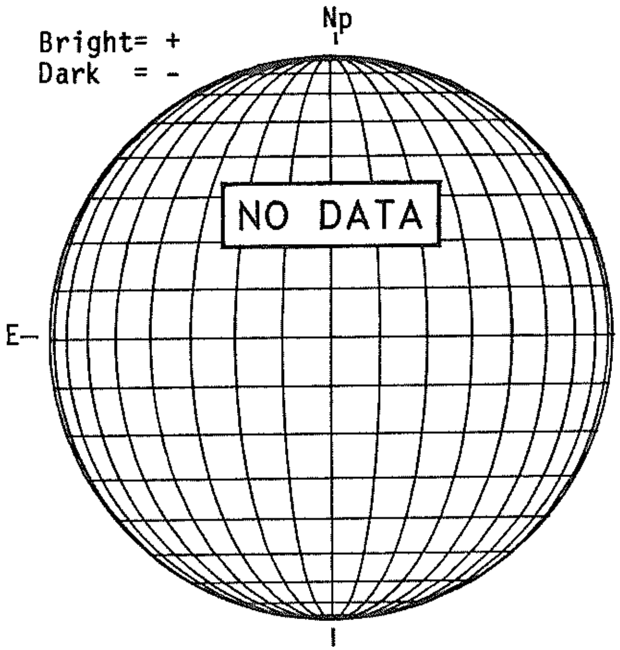
SACRAMENTO PEAK CORONA (1.15 Radii)



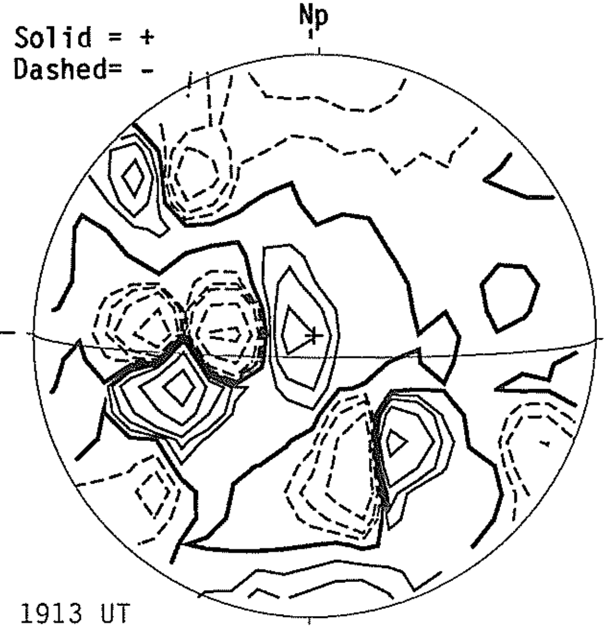
—— 5303A(x1) 1616 UT
.... 6374A(x2) 1433 UT
xxxx 5694A(x6) 1448 UT
NO 5694A ACTIVITY TODAY

O C T O B E R 31, 1 9 8 6 (P= 24.63, B_0= 4.46, L_0= 133.10)

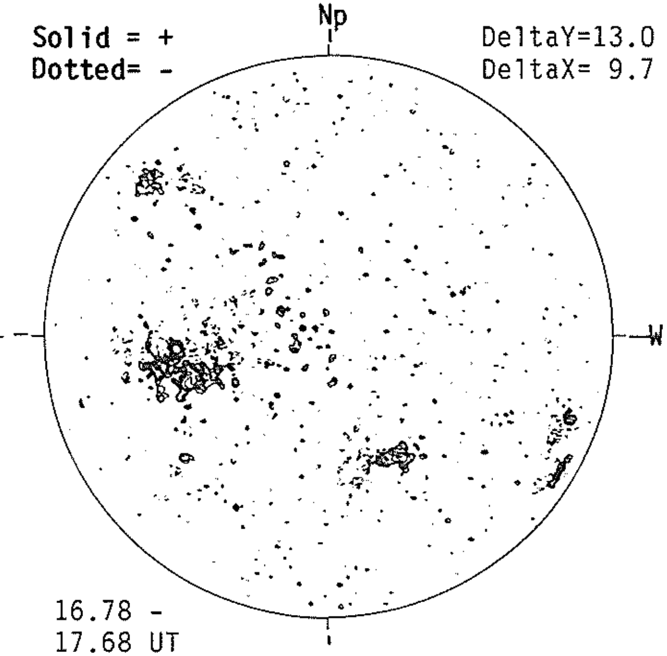
KITT PEAK MAGNETOGRAM



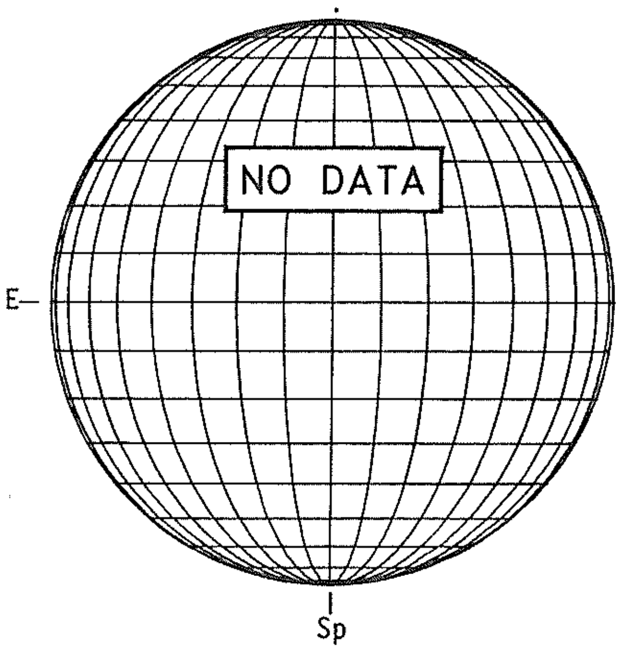
STANFORD MAGNETOGRAM



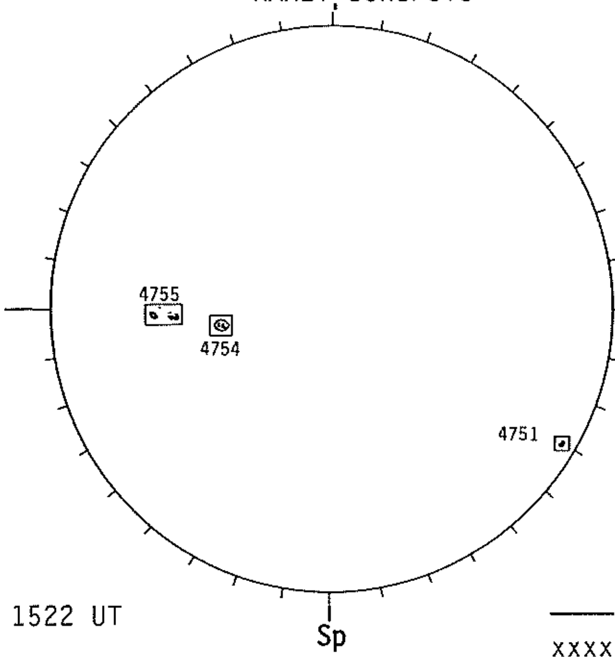
MT. WILSON MAGNETOGRAM



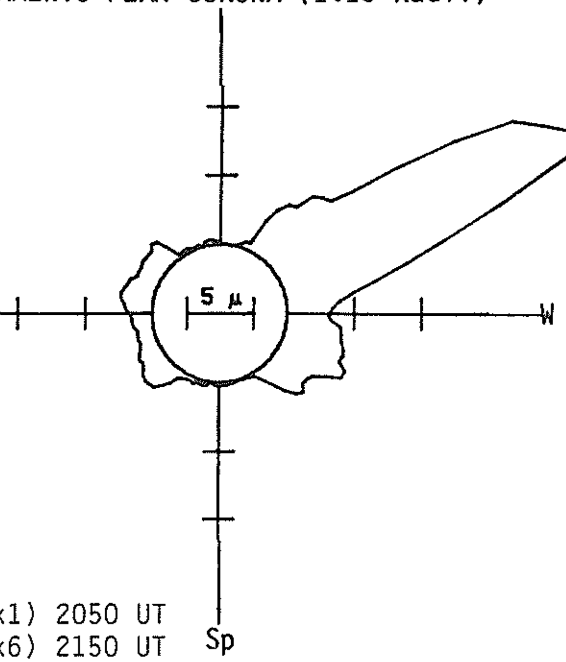
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



—— 5303A(x1) 2050 UT
xxxx 5694A(x6) 2150 UT
NO 5694A ACTIVITY TODAY

SUNSPOT GROUPS
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

OCTOBER 1986

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4746		LEAR	09	29	0603	N05	E85	10	5.6		A	HS	30	1	2	3
4746		RAMY	09	29	1357	N05	E78	10	5.4		A	HS	100	1	2	3
4746	24335	MWIL	09	29	1430	N07	E80	10	5.6	4	(AP)					
4746		HOLL	09	29	1551	N08	E79	10	5.6		A	HS	70	1	2	3
4746		BOUL	09	29	1615	N06	E79	10	5.6		A	HS	30	1	1	2
4746		PALE	09	29	2058	N06	E76	10	5.6		A	HS	120	1	2	2
4746		LEAR	09	30	0040	N06	E75	10	5.6		A	HS	30	1	2	3
4746		BOUL	09	30	1342	N07	E67	10	5.6		A	HS	60	1	2	3
4746		RAMY	09	30	1425	N08	E66	10	5.5		A	HS	100	1	2	4
4746		HOLL	09	30	1428	N08	E66	10	5.5		A	HS	70	2	2	3
4746	24335	MWIL	09	30	1430	N07	E66	10	5.5	4	(AP)					
4746		LEAR	10	01	0001	N06	E61	10	5.6		A	HA	20	1	2	3
4746	24335	MWIL	10	01	1445	N07	E53	10	5.6	4	(AP)					
4746		SVTO	10	02	1145	N08	E43	10	5.7		B	CSO	70	5	4	3
4746		BOUL	10	02	1350	N08	E38	10	5.4		A	HS	30	1	1	1
4746		HOLL	10	02	2250	N08	E35	10	5.6		A	HS	80	3	3	2
4746	24335	MWIL	10	03	1430	N07	E26	10	5.6	5	(AP)					
4746		HOLL	10	03	1440	N08	E26	10	5.6		A	HS	50	4	2	4
4746		RAMY	10	03	1518	N08	E26	10	5.6		A	HA	70	3	3	3
4746		PALE	10	03	1805	N07	E24	10	5.5		A	HS	30	3	2	3
4746		CULG	10	04	0440	N07	E19	10	5.6		A	HS	20	2	1	3
4746		LEAR	10	04	0442	N07	E18	10	5.5		A	HS	40	3	2	2
4746		SVTO	10	04	0840	N08	E18	10	5.7		A	HR	30	3	2	4
4746		RAMY	10	04	1230	N09	E14	10	5.6		B	CAO	20	2	1	3
4746		BOUL	10	04	1350	N08	E12	10	5.5		B	BXO	20	2	2	2
4746	24335	MWIL	10	04	1430	N07	E13	10	5.6	4	(AP)					
4746		HOLL	10	04	1550	N08	E13	10	5.6		A	HA	30	3	2	3
4746		PALE	10	04	1740	N08	E11	10	5.6		A	HS	20	3	2	3
4746		LEAR	10	05	0002	N07	E08	10	5.6		B	BXO	10	3	2	5
4746		CULG	10	05	0455	N08	E04	10	5.5		A	HS	20	1	1	3
4746		SVTO	10	05	1015	N08	E03	10	5.6		A	HR	20	2	1	4
4746		RAMY	10	05	1330	N07	W01	10	5.5		A	HA	20	1	1	2
4746		BOUL	10	05	1415	N08	W01	10	5.5		A	AX	10	1	1	3
4746	24335	MWIL	10	05	1445	N07	W01	10	5.5	4	(AP)					
4746		HOLL	10	05	1715	N07	W03	10	5.5		A	HS	10	1	1	3
4746		PALE	10	05	1813	N08	W03	10	5.5		A	AX	10	1	1	3
4746		LEAR	10	06	0001	N07	W07	10	5.5		A	AX	10	1	1	4
4746		LEAR	10	07	0001	N07	W18	10	5.6		B	BXO	10	2	3	4
4746		LEAR	10	09	0353	N09	W45	10	5.8		A	AX	10	1	1	3
4746		SVTO	10	09	0912	N08	W49	10	5.7		A	AX		1		3
4747		SVTO	10	02	1145	N35	E55	10	6.9		B	BXO	20	2	3	3
4747		HOLL	10	02	2250	N33	E49	10	6.8		A	AX	10	2	1	2
4747		LEAR	10	03	0554	N34	E44	10	6.7		B	BXO	30	3	4	3
4747	24336	MWIL	10	03	1430	N35	E39	10	6.7	4	(B)					
4747		HOLL	10	03	1440	N34	E38	10	6.6		B	DRO	40	3	4	4
4747		RAMY	10	03	1518	N35	E38	10	6.7		B	BXO	20	3	6	3
4747		PALE	10	03	1805	N33	E37	10	6.7		B	BXO	10	3	4	3
4747		CULG	10	04	0440	N33	E33	10	6.8		B	BXO	10	3	6	3
4747		LEAR	10	04	0442	N34	E32	10	6.7		B	BXO	30	4	5	2
4747		SVTO	10	04	0840	N35	E31	10	6.8		B	BXO	50	5	7	4
4747		RAMY	10	04	1230	N35	E26	10	6.6		B	DAO	40	3	6	3
4747		BOUL	10	04	1350	N34	E24	10	6.5		B	BXO	20	3	5	2
4747	24336	MWIL	10	04	1430	N35	E26	10	6.7	3	(B)					
4747		HOLL	10	04	1550	N36	E26	10	6.7		B	CRO	20	3	5	3
4747		PALE	10	04	1740	N35	E25	10	6.7		B	BXO	20	4	7	3
4747		LEAR	10	05	0002	N34	E20	10	6.6		B	BXO	10	3	6	5
4747		CULG	10	05	0455	N34	E18	10	6.6		B	BXO	10	2	6	3
4747		SVTO	10	05	1015	N34	E17	10	6.8		B	BXO	20	2	6	4
4747		RAMY	10	05	1330	N34	E13	10	6.6		B	CAO	10	2	5	2
4747		BOUL	10	05	1415	N34	E12	10	6.5		B	BXO	10	2	5	3
4747	24336	MWIL	10	05	1445	N34	E13	10	6.7	4	(B)					
4747		HOLL	10	05	1715	N34	E12	10	6.7		B	CRO	10	2	6	3
4747		PALE	10	05	1813	N35	E11	10	6.6		B	BXO	10	2	6	3
4747		LEAR	10	06	0001	N34	E09	10	6.7		B	BXO	10	3	6	4
4747		CULG	10	06	0420	N33	E07	10	6.7		B	CRO	10	4	5	3
4747		BOUL	10	06	1440	N34	E00	10	6.6		B	BXO	30	6	5	2
4747		RAMY	10	06	1502	N34	E00	10	6.6		B	BXO	20	7	6	4
4747	24336	MWIL	10	06	1600	N34	E00	10	6.7	4	(B)					
4747		PALE	10	06	1820	N34	W02	10	6.6		B	BXO	40	6	5	2
4747		HOLL	10	06	1900	N35	W03	10	6.5		B	BXO	40	8	5	3

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

OCTOBER 1986

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	CMP Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4747		LEAR	10	07	0001	N34	W05	10	6.6		B	BXO	30	14	6	4
4747		CULG	10	07	0430	N36	W04	10	6.9		B	DRO	50	6	7	3
4747		RAMY	10	07	1340	N34	W13	10	6.5		B	DAO	40	5	7	3
4747	24336	MWIL	10	07	1445	N35	W12	10	6.7	6	(B)					
4747		HOLL	10	07	1504	N35	W16	10	6.3		B	CAI	90	12	6	4
4747		PALE	10	07	1749	N35	W14	10	6.6		B	CRO	30	7	7	3
4747		LEAR	10	08	0010	N34	W16	10	6.7		BG	CRO	40	12	6	4
4747		SVTO	10	08	0910	N35	W23	10	6.5		B	DAI	100	14	7	3
4747		RAMY	10	08	1010	N35	W25	10	6.4		B	DAO	70	10	7	4
4747		BOUL	10	08	1425	N34	W26	10	6.5		B	CSO	20	3	5	4
4747	24336	MWIL	10	08	1600	N34	W26	10	6.6	5	(B)					
4747		PALE	10	08	1823	N34	W26	10	6.7		B	CSO	80	11	6	3
4747		LEAR	10	09	0119	N35	W30	10	6.6		B	CSO	50	12	7	3
4747		CULG	10	09	0240	N34	W32	10	6.6		B	CSO	130	3	6	2
4747		SVTO	10	09	0912	N35	W36	10	6.5		B	CSI	770	10	7	3
4747		RAMY	10	09	1329	N34	W38	10	6.5		B	CAO	90	7	7	3
4747	24336	MWIL	10	09	1430	N35	W40	10	6.4	5	(B)					
4747		HOLL	10	09	1620	N35	W40	10	6.5		B	CSO	100	8	6	3
4747		PALE	10	09	1745	N35	W40	10	6.5		B	CSO	70	5	7	3
4747		BOUL	10	09	2045	N34	W41	10	6.6		B	CSO	40	4	6	2
4747		LEAR	10	10	0014	N35	W41	10	6.7		B	CSO	50	5	7	3
4747		SVTO	10	10	0944	N34	W48	10	6.6		B	CAO	70	5	7	3
4747		RAMY	10	10	1227	N35	W50	10	6.5		B	CAI	60	4	8	3
4747		BOUL	10	10	1635	N33	W55	10	6.3		B	HS	20	1	2	2
4747		PALE	10	10	1725	N36	W52	10	6.5		B	CSO	40	3	7	4
4747	24336	MWIL	10	10	1730	N35	W55	10	6.3	6	(AP)					
4747		HOLL	10	10	2022	N34	W54	10	6.5		B	CSO	60	5	8	3
4747		LEAR	10	11	0013	N35	W56	10	6.5		B	CSO	50	4	7	3
4747		CULG	10	11	0440	N35	W59	10	6.5		B	CSO	40	2	7	4
4747		SVTO	10	11	0824	N35	W60	10	6.5		B	CAO	90	3	6	3
4747		RAMY	10	11	1437	N34	W65	10	6.4		B	CSO	70	3	7	3
4747	24336	MWIL	10	11	1445	N35	W63	10	6.6	4	(B)					
4747		HOLL	10	11	1625	N34	W67	10	6.3		B	CAO	60	3	7	2
4747		PALE	10	11	1916	N35	W67	10	6.4		B	CSO	50	2	6	2
4747		CULG	10	12	0440	N35	W72	10	6.4		A	HS	40	1	1	4
4747		LEAR	10	12	0503	N36	W68	10	6.7		B	CSO	100	3	9	3
4747		SVTO	10	12	0814	N35	W75	10	6.3		A	HA	80	1	1	4
4747	24336	MWIL	10	12	1430	N35	W77	10	6.4	3	AP					
4747		RAMY	10	12	1715	N34	W80	10	6.3		A	HS	20	1	1	2
4747		PALE	10	12	1751	N35	W81	10	6.3		A	HS	60	1	1	3
4747		LEAR	10	13	0134	N35	W80	10	6.7		A	HS	40	1	1	3
4747		SVTO	10	13	0903	N35	W88	10	6.3		A	HA	80	1	1	3
4748		BOUL	10	06	1440	S01	E09	10	7.3		A	AX		1	1	2
4748		RAMY	10	06	1502	S03	E10	10	7.4		A	AX		1	1	4
4748	24337	MWIL	10	06	1600	S04	E09	10	7.3	3	(B)					
4748		PALE	10	06	1820	S04	E08	10	7.4		B	BXO	10	2	2	2
4748		HOLL	10	06	1900	S04	E08	10	7.4		B	BXO	10	2	1	3
4748		LEAR	10	07	0001	S04	E04	10	7.3		A	AX	10	1	1	4
4748		CULG	10	07	0430	S03	E02	10	7.3		A	AX		1		3
4748		RAMY	10	07	1340	S04	W04	10	7.3		A	AX		1		3
4748	24337	MWIL	10	07	1445	S03	W04	10	7.3	3	(B)					
4748		PALE	10	07	1749	S03	W07	10	7.2		A	AX	10	1	1	3
4748		LEAR	10	09	0119	S01	W20	10	7.6		A	AX	10	1	1	3
4748		SVTO	10	09	0912	S03	W22	10	7.7		B	DRO	200	10	6	3
4748	24337	MWIL	10	09	1430	S01	W28	10	7.5	3	(B)					
4748		SVTO	10	10	0944	S03	W35	10	7.8		B	CRO	20	5	3	3
4748		RAMY	10	10	1227	S03	W39	10	7.6		B	BXO	10	3	3	3
4748		PALE	10	10	1725	S03	W45	10	7.4		B	BXO	10	4	8	4
4748	24337	MWIL	10	10	1730	S03	W47	10	7.2	4	(B)					
4748		HOLL	10	10	2022	S03	W46	10	7.4		B	BXO	10	2	6	3
4748		SVTO	10	11	0824	S03	W47	10	7.8		B	CRO	10	3	2	3
4748		RAMY	10	11	1437	S04	W55	10	7.5		B	BXO	10	3	9	3
4748	24337	MWIL	10	11	1445	S04	W57	10	7.4	3	(AF)					
4748		HOLL	10	11	1625	S04	W62	10	7.0		B	BXO	10	2	6	2
4748		PALE	10	11	1916	S04	W62	10	7.2		A	AX	10	1		2
4748		LEAR	10	12	0503	S02	W67	10	7.2		B	BXO	40	4	3	3
4748		SVTO	10	12	0814	S03	W69	10	7.2		B	CRO	20	3	1	4
4748		BOUL	10	12	1655	S03	W77	10	6.9		B	BXO	30	2	1	2
4748		RAMY	10	12	1715	S05	W77	10	7.0		B	CAO	10	6	7	2
4748		PALE	10	12	1751	S03	W77	10	7.0		B	BXO	30	2	1	3

SUNSPOT GROUPS
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

OCTOBER 1986

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4748		LEAR	10	13	0134	S03	W82	10	6.9		B	BXO	100	3	3	3
4748		SVTO	10	13	0903	S03	W83	10	7.2		B	BXO	90	3	3	3
4748		HOLL	11	20	1520	N26	W17	11	19.3		A	AX		1		4
4748		HOLL	11	21	1525	N25	W30	11	19.3		A	AX	10	2	1	3
4749		RAMY	10	09	1329	S04	W24	10	7.8		B	CRO	30	7	6	3
4749	24339	MWIL	10	09	1430	S04	W24	10	7.8	5	(BP)					
4749		HOLL	10	09	1620	S05	W25	10	7.8		B	BXO	20	5	4	3
4749		PALE	10	09	1745	S03	W27	10	7.7		B	BXO	20	5	6	3
4749		BOUL	10	09	2045	S04	W28	10	7.8		B	BXO	10	2	3	2
4749		LEAR	10	10	0014	S03	W30	10	7.8		B	BXO	20	4	3	3
4749		RAMY	10	10	1227	S04	W34	10	8.0		A	AX	10	1	1	3
4749		BOUL	10	10	1635	S05	W37	10	7.9		A	AX	10	1	1	2
4749		PALE	10	10	1725	S04	W38	10	7.9		A	AX		1		4
4749	24339	MWIL	10	10	1730	S04	W39	10	7.8	4	(B)					
4749		HOLL	10	10	2022	S05	W39	10	7.9		A	AX	10	2	2	3
4749		LEAR	10	11	0013	S04	W42	10	7.9		B	BXO	10	2	2	3
4749		RAMY	10	11	1437	S05	W52	10	7.7		B	BXO	10	3	4	3
4749	24339	MWIL	10	11	1445	S05	W50	10	7.9	2	(AF)					
4749		HOLL	10	11	1625	S04	W53	10	7.7		A	AX	10	1		2
4749		PALE	10	11	1916	S05	W53	10	7.8		A	AX	10	1		2
4749		CULG	10	12	0440	S03	W63	10	7.5		B	BXO	10	3	7	4
4749		LEAR	10	12	0503	S03	W60	10	7.7		B	BXO	20	3	3	3
4749		SVTO	10	12	0814	S03	W62	10	7.7		A	AX		3	2	4
4749	24339	MWIL	10	12	1430	S03	W67	10	7.6	4	(BG)					
4749		BOUL	10	12	1655	S04	W70	10	7.5		B	BXO	20	3	8	2
4749		RAMY	10	12	1715	S04	W69	10	7.6		B	BXO	10	2	2	2
4749		PALE	10	12	1751	S05	W71	10	7.4		B	BXO	20	3	7	3
4749		LEAR	10	13	0134	S04	W73	10	7.6		B	BXO	50	3	3	3
4749		SVTO	10	13	0903	S03	W76	10	7.7		B	BXO	10	2	3	3
4749		HOLL	10	13	1605	S06	W80	10	7.7		A	AX		1		3
4750		BOUL	10	16	2015	N23	E85	10	23.4		A	AX	30	1	1	3
4750		PALE	10	16	2025	N22	E89	10	23.7		B	DSO	50	3	2	2
4750		LEAR	10	17	0211	N21	E85	10	23.6		B	DHI	170	6	9	3
4750		CULG	10	17	0435	N18	E83	10	23.5		B	BXO		3	5	3
4750		SVTO	10	17	0915	N21	E79	10	23.4		B	DKI	210	8	5	3
4750		RAMY	10	17	1420	N23	E77	10	23.5		B	ESI	290	4	12	2
4750	24341	MWIL	10	17	1445	N27	E77	10	23.6	5	(AP)					
4750		BOUL	10	17	1630	N22	E73	10	23.3		B	DKI	160	3	5	4
4750		HOLL	10	17	1700	N23	E77	10	23.6		B	FKO	360	4	16	4
4750		PALE	10	17	2001	N21	E77	10	23.7		B	DKI	400	4	8	2
4750		LEAR	10	18	0020	N23	E74	10	23.7		B	FHI	220	10	17	3
4750		SVTO	10	18	1131	N22	E69	10	23.8		B	DKI	480	12	14	3
4750		RAMY	10	18	1215	N23	E68	10	23.7		BD	FKC	480	9	16	4
4750		BOUL	10	18	1407	N23	E63	10	23.4		B	DKI	370	6	11	3
4750	24341	MWIL	10	18	1430	N24	E65	10	23.6	5	(AP)					
4750		HOLL	10	18	1550	N23	E65	10	23.7		B	FKI	480	14	18	4
4750		PALE	10	18	1850	N22	E65	10	23.8		B	FHI	410	16	17	3
4750		LEAR	10	19	0304	N22	E60	10	23.7		B	FHI	240	23	16	3
4750		CULG	10	19	0435	N23	E55	10	23.4		B	FKI	800	9	15	3
4750		RAMY	10	19	1325	N25	E54	10	23.7		B	EKI	1110	32	14	4
4750		BOUL	10	19	1430	N23	E50	10	23.4		B	EKC	380	11	14	1
4750	24341	MWIL	10	19	1500	N24	E52	10	23.6	6	(BP)					
4750		HOLL	10	19	1525	N23	E52	10	23.6		B	EKI	460	17	14	3
4750		PALE	10	19	1745	N22	E51	10	23.6		B	EKI	390	18	14	2
4750		CULG	10	20	0445	N22	E47	10	23.8		BGD	FKI	850	15	16	2
4750		LEAR	10	20	0700	N22	E44	10	23.7		BD	EKI	430	24	15	2
4750		SVTO	10	20	0942	N22	E42	10	23.6		BD	EKI	570	31	15	4
4750		RAMY	10	20	1326	N24	E40	10	23.6		BG	EAI	490	29	15	4
4750	24341	MWIL	10	20	1500	N23	E39	10	23.6	5	(BP)					
4750		BOUL	10	20	1520	N23	E38	10	23.6		B	EKC	200	19	10	3
4750		HOLL	10	20	1625	N23	E39	10	23.7		BG	EKI	440	24	13	3
4750		PALE	10	20	1822	N22	E38	10	23.7		BG	EKI	510	16	14	2
4750		LEAR	10	21	0024	N23	E35	10	23.7		B	FKI	400	24	18	2
4750		CULG	10	21	0500	N22	E30	10	23.5			EKI	270	27	14	2
4750		SVTO	10	21	1220	N22	E27	10	23.6		B	FKI	450	25	16	2
4750		RAMY	10	21	1344	N23	E27	10	23.6		B	EAI	380	28	15	3
4750	24341	MWIL	10	21	1500	N23	E26	10	23.6	5	(BP)					
4750		PALE	10	21	2015	N22	E23	10	23.6		B	EKI	390	27	15	2
4750		LEAR	10	22	0002	N22	E22	10	23.7		B	FKI	470	25	14	3

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

OCTOBER 1986

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4750		SVTO	10	22	0839	N22	E15	10	23.5		B	EKI	400	25	15	4
4750		BOUL	10	22	1357	N23	E14	10	23.6		B	EAI	170	9	11	2
4750		HOLL	10	22	1625	N22	E12	10	23.6		B	EKI	450	24	13	3
4750	24341	MWIL	10	22	1730	N23	E11	10	23.6	5	(BP)					
4750		PALE	10	22	2025	N24	E10	10	23.6		B	EKI	390	34	14	3
4750		LEAR	10	23	0150	N23	E07	10	23.6		B	EKI	230	39	14	3
4750		CULG	10	23	0420	N23	E06	10	23.6		B	EKI	200	13	13	2
4750		SVTO	10	23	0840	N24	E04	10	23.7		B	EAI	200	43	18	4
4750		RAMY	10	23	1245	N23	E02	10	23.7		B	EAI	260	37	13	3
4750	24341	MWIL	10	23	1500	N23	W01	10	23.5	5	(BP)					
4750		HOLL	10	23	1547	N22	W02	10	23.5		B	FAI	190	29	16	2
4750		PALE	10	23	1810	N22	W02	10	23.6		B	CAI	210	25	13	2
4750		LEAR	10	24	0105	N23	W06	10	23.6		B	EAI	160	43	15	3
4750		CULG	10	24	0430	N24	W09	10	23.5		B	EAI	190	14	14	3
4750		SVTO	10	24	1040	N23	W09	10	23.7		B	EAI	230	31	14	3
4750		BOUL	10	24	1440	N24	W14	10	23.5		B	ESI	140	6	13	3
4750	24341	MWIL	10	24	1445	N24	W14	10	23.5	6	(B)					
4750		HOLL	10	24	1640	N24	W15	10	23.5		B	EAI	200	27	15	4
4750		PALE	10	24	1740	N23	W14	10	23.6		B	EKI	210	31	15	4
4750		LEAR	10	25	0112	N24	W19	10	23.6		B	EAI	140	42	15	3
4750		CULG	10	25	0430	N24	W22	10	23.5		B	EAI	110	14	14	3
4750		BOUL	10	25	1357	N24	W26	10	23.6		B	ESI	110	7	13	2
4750		RAMY	10	25	1426	N24	W27	10	23.5		B	ESI	130	11	15	3
4750	24341	MWIL	10	25	1500	N24	W25	10	23.7	5	(BP)					
4750		HOLL	10	25	1625	N24	W28	10	23.5		B	FAI	170	15	16	3
4750		LEAR	10	26	0002	N24	W32	10	23.5		B	CAO	80	10	15	3
4750		CULG	10	26	0430	N24	W36	10	23.4		B	FAI	60	7	15	3
4750		SVTO	10	26	0903	N24	W38	10	23.4		B	EAO	280	14	15	3
4750		RAMY	10	26	1355	N23	W39	10	23.6		B	ESI	200	29	15	4
4750	24341	MWIL	10	26	1500	N24	W39	10	23.6	5	(BG)					
4750		BOUL	10	26	1515	N24	W37	10	23.8		B	FKI	220	11	16	3
4750		HOLL	10	26	1658	N24	W41	10	23.5		B	FAI	170	18	17	3
4750		PALE	10	26	1750	N23	W42	10	23.5		B	FHO	190	16	16	3
4750		LEAR	10	27	0031	N26	W46	10	23.4		B	EKI	80	15	15	3
4750		SVTO	10	27	1111	N24	W52	10	23.4		B	EKI	200	15	15	3
4750		RAMY	10	27	1420	N23	W53	10	23.5		B	EAI	100	23	15	4
4750	24341	MWIL	10	27	1445	N24	W50	10	23.8	5	(BP)					
4750		BOUL	10	27	1513	N23	W50	10	23.8		B	CAO	130	3	2	2
4750		PALE	10	27	1800	N23	W51	10	23.8		B	CSO	160	13	6	3
4750		LEAR	10	28	0026	N26	W56	10	23.7		B	CAO	140	11	7	3
4750		CULG	10	28	0440	N25	W57	10	23.8			HA	120	6	3	3
4750		SVTO	10	28	0948	N24	W65	10	23.4		B	CKO	400	5	15	3
4750		RAMY	10	28	1429	N24	W65	10	23.6		B	DAI	240	11	9	3
4750	24341	MWIL	10	28	1430	N23	W62	10	23.8	5	(BP)					
4750		BOUL	10	28	1515	N25	W65	10	23.6		B	DAO	200	2	4	3
4750		HOLL	10	28	1610	N23	W70	10	23.3		B	CAO	360	3	16	3
4750		PALE	10	28	1810	N24	W65	10	23.7		B	DKI	310	5	5	3
4750		LEAR	10	29	0131	N24	W72	10	23.5		B	CHO	270	3	9	3
4750		CULG	10	29	0420	N26	W69	10	23.8		A	HA	260	3	3	3
4750		RAMY	10	29	1415	N23	W77	10	23.7		B	DRI	550	3	9	3
4750	24341	MWIL	10	29	1450	N24	W76	10	23.7	4	(AP)					
4750		BOUL	10	29	1612	N24	W77	10	23.7		B	BXO	90	3	4	2
4750		HOLL	10	29	1630	N24	W79	10	23.6		B	CAO	250	3	3	2
4750		PALE	10	29	1835	N25	W78	10	23.7		A	HK	190	2	3	4
4750		LEAR	10	30	0049	N24	W85	10	23.5		B	BXO	140	3	13	3
4750		CULG	10	30	0450	N24	W83	10	23.8		A	HA	300	1	2	3
4751		SVTO	10	20	0942	S27	E78	10	26.5		A	HR	10	1	1	4
4751		RAMY	10	20	1326	S26	E78	10	26.6		A	HR	10	1	1	4
4751	24342	MWIL	10	20	1500	S27	E72	10	26.2	3	(AP)					
4751		HOLL	10	20	1625	S27	E74	10	26.5		A	HS	100	1	2	3
4751		PALE	10	20	1822	S28	E75	10	26.6		A	HS	40	1	4	2
4751		LEAR	10	21	0024	S28	E73	10	26.7		A	HS	90	1	2	2
4751		SVTO	10	21	1220	S27	E64	10	26.5		B	CAO	110	2	7	2
4751		RAMY	10	21	1344	S27	E65	10	26.6		B	CAO	100	3	8	3
4751	24342	MWIL	10	21	1500	S27	E60	10	26.3	4	(AP)					
4751		PALE	10	21	2015	S27	E64	10	26.8		B	CSO	100	3	7	2
4751		LEAR	10	22	0002	S27	E60	10	26.7		B	CSO	160	5	5	3
4751		SVTO	10	22	0839	S27	E54	10	26.6		B	CSO	200	4	8	4
4751		BOUL	10	22	1357	S26	E50	10	26.5		B	CSO	60	3	6	2
4751		HOLL	10	22	1625	S27	E51	10	26.6		B	CAO	90	4	9	3

SUNSPOT GROUPS
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

OCTOBER 1986

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4751	24342	MWIL	10	22	1730	S27	E49	10	26.5	4	(B)					
4751		PALE	10	22	2025	S27	E50	10	26.7		B	CSO	150	6	10	3
4751		LEAR	10	23	0150	S27	E46	10	26.7		B	CAO	130	7	7	3
4751		CULG	10	23	0420	S27	E44	10	26.6		B	CSO	60	2	5	2
4751		SVTO	10	23	0840	S27	E43	10	26.7		B	CSO	80	10	8	4
4751		RAMY	10	23	1245	S27	E40	10	26.6		B	CSO	150	9	6	3
4751	24342	MWIL	10	23	1500	S27	E39	10	26.7	4	(BP)					
4751		HOLL	10	23	1547	S27	E38	10	26.6		B	CSO	90	11	8	2
4751		PALE	10	23	1810	S28	E37	10	26.6		B	DSI	260	7	9	2
4751		LEAR	10	24	0105	S27	E33	10	26.6		B	DAO	120	10	10	3
4751		CULG	10	24	0430	S28	E30	10	26.5		B	DAI	130	4	8	3
4751		SVTO	10	24	1040	S28	E28	10	26.6		B	CAI	180	7	11	3
4751		BOUL	10	24	1440	S26	E25	10	26.5		B	CSO	80	3	8	3
4751	24342	MWIL	10	24	1445	S25	E25	10	26.6	6	(BP)					
4751		HOLL	10	24	1640	S26	E25	10	26.6		B	DAI	110	5	9	4
4751		PALE	10	24	1740	S28	E25	10	26.7		B	DAI	110	7	9	4
4751		LEAR	10	25	0112	S27	E21	10	26.7		B	DAO	100	11	9	3
4751		CULG	10	25	0430	S27	E20	10	26.7		B	CAO	50	4	8	3
4751		BOUL	10	25	1357	S26	E13	10	26.6		B	CSO	70	3	8	2
4751		RAMY	10	25	1426	S27	E15	10	26.8		B	CSO	70	4	10	3
4751	24342	MWIL	10	25	1500	S26	E13	10	26.6	5	(B)					
4751		HOLL	10	25	1625	S26	E12	10	26.6		B	CSO	110	4	8	3
4751		LEAR	10	26	0002	S27	E09	10	26.7		B	CSO	40	4	8	3
4751		CULG	10	26	0430	S27	E06	10	26.6		B	CSO	20	2	3	3
4751		SVTO	10	26	0803	S27	E00	10	26.4		B	DSO	110	2	3	3
4751		RAMY	10	26	1355	S27	W01	10	26.5		B	CSO	100	3	4	4
4751	24342	MWIL	10	26	1500	S26	W03	10	26.4	5	(AP)					
4751		BOUL	10	26	1515	S26	W03	10	26.4		B	CSO	70	2	3	3
4751		HOLL	10	26	1658	S27	W03	10	26.5		B	CSO	110	3	4	3
4751		PALE	10	26	1750	S28	W03	10	26.5		B	CSO	70	3	3	3
4751		LEAR	10	27	0031	S26	W07	10	26.5		B	CSO	60	2	3	3
4751		SVTO	10	27	1111	S27	W11	10	26.6		B	CSO	80	8	9	3
4751		RAMY	10	27	1420	S27	W12	10	26.7		B	CSO	110	5	6	4
4751	24342	MWIL	10	27	1445	S26	W14	10	26.5	5	(BP)					
4751		BOUL	10	27	1513	S26	W15	10	26.5		A	HS	70	2	2	2
4751		PALE	10	27	1800	S28	W15	10	26.6		B	CSO	60	6	7	3
4751		LEAR	10	28	0026	S26	W19	10	26.5		B	CSO	90	4	9	3
4751		CULG	10	28	0440	S27	W21	10	26.5		B	CSO	40	4	7	3
4751		SVTO	10	28	0948	S27	W24	10	26.5		B	DSO	90	5	7	3
4751		RAMY	10	28	1429	S28	W27	10	26.5		B	CSI	80	5	7	3
4751	24342	MWIL	10	28	1430	S26	W27	10	26.5	5	(BP)					
4751		BOUL	10	28	1515	S29	W27	10	26.5		B	CSO	80	4	6	3
4751		HOLL	10	28	1610	S28	W26	10	26.6		B	CSO	100	5	8	3
4751		PALE	10	28	1810	S28	W28	10	26.6		B	CSO	70	5	8	3
4751		LEAR	10	29	0131	S27	W33	10	26.5		B	CSO	40	3	7	3
4751		CULG	10	29	0420	S27	W33	10	26.6		B	CSO	30	3	3	3
4751		RAMY	10	29	1415	S27	W39	10	26.5		B	CSO	60	3	4	3
4751	24342	MWIL	10	29	1450	S26	W41	10	26.4	5	(BP)					
4751		BOUL	10	29	1612	S25	W41	10	26.5		A	HS	60	1	1	2
4751		HOLL	10	29	1630	S27	W40	10	26.6		B	CSO	70	2	4	2
4751		PALE	10	29	1835	S26	W42	10	26.5		A	HS	30	1	2	4
4751		CULG	10	30	0450	S26	W50	10	26.3		A	HS	30	1	1	3
4751		LEAR	10	30	0750	S27	W52	10	26.3		A	HS	40	1	2	3
4751		RAMY	10	30	1349	S27	W54	10	26.4		B	BXO	60	3	5	4
4751	24342	MWIL	10	30	1515	S27	W53	10	26.5	6	(AP)					
4751		HOLL	10	30	1515	S27	W54	10	26.4		A	HS	60	1	2	3
4751		PALE	10	30	1908	S27	W58	10	26.3		A	HS	20	1	1	2
4751		LEAR	10	31	0033	S27	W60	10	26.3		A	HS	50	1	1	3
4751		CULG	10	31	0450	S27	W61	10	26.4		A	HS	10	1	1	1
4751	24342	MWIL	10	31	1515	S27	W68	10	26.3	4	(AP)					
4751		RAMY	10	31	1522	S27	W68	10	26.3		A	HA	50	1	2	4
4751		HOLL	10	31	1605	S27	W68	10	26.4		A	HS	40	1	1	3
4751		PALE	10	31	2008	S28	W75	10	26.0		A	HS	20	1	2	2
4751		LEAR	11	01	0030	S26	W74	10	26.4		A	HS	30	1	1	3
4751		SVTO	11	01	1014	S25	W78	10	26.5		A	AX		1		3
4751		RAMY	11	01	1321	S27	W80	10	26.4		A	HA		1	1	3
4752		RAMY	10	21	1344	S13	E73	10	27.1		A	AX		1		3
4752		LEAR	10	22	0002	S15	E70	10	27.3		A	AX	10	1	1	3
4752		SVTO	10	22	0839	S16	E66	10	27.4				10		6	4
4752		HOLL	10	22	1625	S16	E60	10	27.2		B	BXO	10	7	6	3

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

OCTOBER 1986

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	CMP Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4752	24343	MWIL	10	22	1730	S15	E59	10	27.2	4	(B)					
4752		PALE	10	22	2025	S15	E58	10	27.2		B	BXO	60	5	6	3
4752		LEAR	10	23	0150	S17	E54	10	27.2		B	BXO	20	2	6	3
4752		CULG	10	23	0420	S15	E54	10	27.3		B	BXO	40	3	5	2
4752		SVTO	10	23	0840	S16	E50	10	27.1		B	BXO	70	8	8	4
4752		RAMY	10	23	1245	S15	E48	10	27.2		B	BXO	30	6	5	3
4752	24343	MWIL	10	23	1500	S16	E46	10	27.1	3	(B)					
4752		HOLL	10	23	1547	S15	E47	10	27.2		B	BXO	30	10	7	2
4752		PALE	10	23	1810	S15	E45	10	27.2		G	BXI	30	7	8	2
4752		LEAR	10	24	0105	S15	E41	10	27.1		B	CSO	50	12	8	3
4752		CULG	10	24	0430	S17	E41	10	27.3		B	DAO	70	4	8	3
4752		SVTO	10	24	1040	S17	E36	10	27.2		B	DKO	120	10	2	3
4752		BOUL	10	24	1440	S15	E32	10	27.0		B	BXO	30	3	5	3
4752	24343	MWIL	10	24	1445	S15	E32	10	27.0	5	(B)					
4752		HOLL	10	24	1640	S15	E33	10	27.2		B	DAI	80	8	9	4
4752		PALE	10	24	1740	S18	E32	10	27.2		BG	DAI	70	9	10	4
4752		LEAR	10	25	0112	S16	E28	10	27.2		B	CSO	60	11	9	3
4752		CULG	10	25	0430	S16	E26	10	27.1		B	CSO	20	3	7	3
4752		BOUL	10	25	1357	S15	E19	10	27.0		B	BXO	20	2	5	2
4752		RAMY	10	25	1426	S15	E19	10	27.0		B	CAO	30	2	5	3
4752	24343	MWIL	10	25	1500	S15	E16	10	26.8	5	(B)					
4752		HOLL	10	25	1625	S15	E18	10	27.0		B	CAO	40	4	8	3
4752		LEAR	10	26	0002	S15	E12	10	26.9		A	HS	20	1	1	3
4752		CULG	10	26	0430	S14	E10	10	26.9		A	HS	10	1		3
4752		SVTO	10	26	0903	S15	E06	10	26.8		A	HR	40	1	1	3
4752		RAMY	10	26	1355	S15	E04	10	26.9		A	HA	30	1	1	4
4752	24343	MWIL	10	26	1500	S15	E03	10	26.9	5	(AP)					
4752		BOUL	10	26	1515	S15	E02	10	26.8		A	HR	20	1	1	3
4752		HOLL	10	26	1658	S15	E02	10	26.8		A	HR	30	1	1	3
4752		PALE	10	26	1750	S16	E01	10	26.8		A	HS	20	1	1	3
4752		LEAR	10	27	0031	S15	W02	10	26.9		A	HS	20	1	1	3
4752		SVTO	10	27	1111	S15	W08	10	26.9		A	HR	40	1	1	3
4752		RAMY	10	27	1420	S15	W08	10	27.0		B	CAO	10	2	3	4
4752	24343	MWIL	10	27	1445	S14	W11	10	26.8	5	(AP)					
4752		BOUL	10	27	1513	S15	W10	10	26.9		A	AX	10	1	1	2
4752		PALE	10	27	1800	S16	W12	10	26.8		A	AX	10	1	1	3
4752		LEAR	10	28	0026	S15	W17	10	26.7		A	AX	10	1	1	3
4752		CULG	10	28	0440	S16	W18	10	26.8		A	HR	10	1	1	3
4752		SVTO	10	28	0948	S14	W21	10	26.8		A	HR	20	1	1	3
4752		RAMY	10	28	1429	S15	W23	10	26.9		A	AX	10	1	1	3
4752	24343	MWIL	10	28	1430	S15	W23	10	26.9	5	(AP)					
4752		BOUL	10	28	1515	S15	W23	10	26.9		A	AX	10	1	1	3
4752		HOLL	10	28	1610	S14	W24	10	26.8		A	AX	20	1	1	3
4752		PALE	10	28	1810	S16	W25	10	26.9		A	AX	10	1	1	3
4752		LEAR	10	29	0131	S15	W28	10	26.9		B	BXO	10	3	3	3
4752		CULG	10	29	0420	S13	W29	10	27.0		B	BXO	10	2	2	3
4752		RAMY	10	29	1415	S16	W33	10	27.1		B	BXI	30	8	7	3
4752	24343	MWIL	10	29	1450	S16	W34	10	27.0	4	(B)					
4752		BOUL	10	29	1612	S14	W36	10	26.9		B	BXO	30	5	2	2
4752		HOLL	10	29	1630	S16	W37	10	26.9		B	BXO	20	5	3	2
4752		PALE	10	29	1835	S15	W38	10	26.9		B	BXO	30	5	3	4
4752		LEAR	10	30	0049	S16	W43	10	26.8		B	BXO	30	4	4	3
4752		CULG	10	30	0450	S16	W44	10	26.9		B	BXO	30	3	3	3
4752		RAMY	10	30	1349	S16	W48	10	26.9		B	CSO	20	6	4	4
4752		HOLL	10	30	1515	S15	W50	10	26.8		B	BXO	10	4	3	3
4752	24343	MWIL	10	30	1515	S17	W48	10	27.0	4	(B)					
4752		PALE	10	30	1908	S15	W52	10	26.9		B	BXO	30	2	2	2
4753		HOLL	10	24	1640	S20	E78	10	30.7		A	AX		1		4
4753		PALE	10	24	1740	S23	E80	10	30.9		A	AX		1		4
4753		LEAR	10	25	0112	S24	E75	10	30.8		A	AX	10	2	2	3
4753	24344	MWIL	10	25	1500	S20	E65	10	30.6	4	(AP)					
4753		HOLL	10	25	1625	S21	E65	10	30.7		A	AX		2		3
4753		LEAR	10	26	0002	S23	E61	10	30.7		A	AX	10	2	1	3
4753		CULG	10	26	0430	S20	E64	10	31.1		A	AX		1		3
4753		SVTO	10	26	0903	S22	E57	10	30.7		A	AXO	40	3	2	3
4753		RAMY	10	26	1355	S21	E55	10	30.8		B	BXO		3	1	4
4753	24344	MWIL	10	26	1500	S21	E50	10	30.5	3	(AP)					
4753		HOLL	10	26	1658	S21	E52	10	30.7		A	AX		2		3
4753		PALE	10	26	1750	S22	E51	10	30.7		A	AX	10	1		3
4753		LEAR	10	27	0031	S22	E50	10	30.9		B	BXO	10	2	4	3

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

OCTOBER 1986

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4753		SVTO	10	27	1111	S22	E44	10	30.8		A	AXO	10	4	5	3
4753		RAMY	10	27	1420	S21	E42	10	30.8		B	BXO	10	6	4	4
4753	24344	MWIL	10	27	1445	S21	E41	10	30.8	3	(BP)					
4753		PALE	10	27	1800	S22	E41	10	30.9		B	BXO	10	4	4	3
4753		LEAR	10	28	0026	S22	E36	10	30.8		B	BXO	20	2	5	3
4753		CULG	10	28	0440	S21	E31	10	30.6		B	BXO		2	3	3
4753		SVTO	10	28	0948	S21	E28	10	30.5		B	CRO	10	3	4	3
4753		RAMY	10	28	1429	S21	E26	10	30.6		B	BXO	10	2	3	3
4753	24344	MWIL	10	28	1430	S21	E25	10	30.5	4	(AP)					
4753		HOLL	10	28	1610	S21	E25	10	30.6		B	BXO	10	2	4	3
4753		PALE	10	28	1810	S22	E23	10	30.5		B	BXO	10	3	3	3
4753		LEAR	10	29	0131	S22	E19	10	30.5		B	BXO	110	3	2	3
4753		CULG	10	29	0420	S21	E18	10	30.6		B	BXO		2	2	3
4753		RAMY	10	29	1415	S21	E12	10	30.5		B	BXO	10	2	2	3
4753	24344	MWIL	10	29	1450	S21	E11	10	30.5	3	(AP)					
4753		HOLL	10	29	1630	S21	E11	10	30.5		A	AX	10	2	1	2
4753		PALE	10	29	1835	S22	E10	10	30.5		A	AX	10	3	1	4
4753		LEAR	10	30	0750	S23	E04	10	30.6		B	BXO	10	3	3	3
4753	24344	MWIL	10	30	1515	S22	W03	10	30.4	4	(AP)					
4753		LEAR	11	01	0500	S22	W18	10	30.9		A	AX	10	1	1	3
4753		RAMY	11	01	1321	S21	W22	10	31.0		B	BXO		2	3	3
4753		HOLL	11	01	1620	S21	W24	10	30.9		B	BXO	10	2	3	3
4753		RAMY	11	03	1240	S23	W44	10	31.1		A	AX	10	1	1	4
4753	24347	MWIL	11	03	1500	S24	W45	10	31.1	3	(AP)					
4753		PALE	11	03	1800	S24	W46	10	31.2		A	AX		1		3
4753		LEAR	11	04	0001	S23	W49	10	31.2		A	AX	10	1	1	4

Stations reporting:

BOUL = Boulder
CULG = Culgoora
HOLL = Holloman
LEAR = Learmonth
MWIL = Mt. Wilson
PALE = Palehua
RAMY = Ramey

OCTOBER 1986

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide-spread Index	SWF	SEA	SPA	LF-SPA	SES	Known Flare	X-ray Class	NOAA/SESC Region
						Number of Station Reports by Type							
11	0533	0540	0604	1-	1			1			0531 UT		4747
13	0009	0017	0113	1-	1			1			0009 UT	C1.1	4748
13	2308	2309	2318	1-	1			1			No flare		
14	1345	1350	1405	1	1						1338 UT	C2.2	
15	1239	1246	1320	1-	3			1	1	1	No flare		
16	1424	1432	1454	1-	1			1		1	1417 UT	C1.5	
16	2204	2207	2232	1-	1			1			2201 UT	C1.5	
17	0050	0055	0133	1-	1			1			0046 UT	C2.0	
17	0336	0418	0730	2	1			1			0343 UT	C3.7	
17	1146	1158	1236U	1-	1		1				No flare		
18	0012	0015	0030	1-	1			1			0012 UT	C2.0	4750
18	0031	0034	0053	1-	1			1			0029 UT	C1.6	4750
18	0145	0149	0204	1-	1			1			0144 UT		4750
18	0342	0346	0402D	1-	1			1			0342	C1.8	4750
18	0402E	0416	0433	1-	1			1			0404 UT	C1.3	4750
18	0512	0525	0604	1-	1			1			0514 UT	C1.5	
18	1215	1220	1240	1-	3	1		1	1		1202 UT	C1.1	4750
19	0008	0049	0508	3	1			1			0015 UT	M4.7	4750
19	0028	0106	0114	2	3	2					0021 UT		No data
19	0957	1004	1020	1-	1				1		0953 UT	C1.1	
19	1630	1638	1652	1-	3		1	1		1	1622 UT	C1.1	4750
19	2111	2121	2151	1-	3		1		1	2	2110E UT	C5.2	4750
23	0104	0112	0130	1-	1			1			0103 UT	C1.9	4750
24	0125	0130	0150	1-	1			1			0121 UT		4750
24	0531	0550	0644	1-	1			1			0529 UT	C1.4	
24	1237	1243	1300	1-	5	1	4	1	1	5	1239 UT	C2.4	
25	0608	0614	0715	1	3			1		1	0608 UT	C4.1	4750
25	1156	1210	1222	1	1	1					No flare		

Observatories Reporting for October 1986*

Ayrshire, Scotland	SES	Louisville, Kentucky, USA	SES
Edenvale, Rep. of S. Africa	SES	Maui, Hawaii, USA	SWF
Farsta, Sweden	SES	Panska Ves, Czechoslovakia	SEA, SWF, SES
Hiraiso, Japan	SWF	Paterson, New Jersey, USA	SES
Houston, Texas, USA	SES	Sao Paulo, Brasil	SPA, SES
Inubo, Japan	SPA	Sofia, Bulgaria	SES
Juliusruh, German Dem. Rep.	SWF	Tucson, Arizona, USA	SES
Kuhlungsborn, German Dem. Rep.	SES, SPA	Upice, Czechoslovakia	SEA
Lake Hiawatha, New Jersey, USA	SES	Valley Cottage, New York, USA	SES
Latrobe, Pennsylvania, USA	SES		

*Observations are not necessarily continuous

S I D s by N O A A/S E S C R E G I O N S

OCTOBER 1986

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
Events in Region #																															
4747											1																				
4748													1																		
4750																		6	3				1	1	1						
Events with X-ray													1	1		2	2	6	4				1	2	1						
Events with no flare reported													1		1		1								1						
Events with no flare patrol																															
Events with flare but no region number																			1												
Daily Event Totals											1		2	1	1	2	3	7	5				1	3	2						

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

OCTOBER 1986

Observation				Decimetric Band			Metric Band			Dekametric Band			
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Spectral Type
05			CULG				0202.0	0203.0	1				III
			LEAR				0202.0	0204.0	1				III
08			PALE				2213.0	2213.0	1				III
09			CULG				0546.0	0546.0	1				III
			LEAR				0546.0	0546.0	1				III
			LEAR				0725.0	0728.0	1				III
10			LEAR				0228.0	0229.0	1				III
12			SVTO				0655.0	0656.0	1				III
13			LEAR				2310.0	2311.0	1				III
			PALE				2310.0	2311.0	1				III
14			LEAR				0307.0	0308.0	1				III
			CULG				0308.0	0308.0	1				III
			CULG				0319.0	0320.0	1				III
			LEAR				0319.0	0320.0	1				V
			CULG				2201.0	2201.0	1				III
15			LEAR				0151.0	0152.0	1				III
			LEAR				0659.0	0701.0	2				III
			LEAR				0816.0	0817.0	1				III
			LEAR				0819.0	0821.0	1				III
			LEAR				0855.0	0857.0	1				III
			LEAR				0911.0	0912.0	2				III
			PALE				1946.0	1947.0	1				V
			SGMR				1946.0	1947.0	1				V
			CULG				2040.0	2040.0	1				III
			CULG							2043.0	2043.0	1	III
			CULG				2057.0	2057.0	1				III
			CULG				2058.0	2058.0	1				III
			CULG				2102.0	2102.0	1				III
			PALE				2102.0	2102.0	1				III
			CULG				2236.0	2237.0	2				III
			PALE				2236.0	2237.0	1				V
			CULG				2251.0	2251.0	2				III
			LEAR				2251.0	2251.0	1				III
			CULG				2255.0	2255.0	1				III
16			LEAR				0058.0	0102.0	1				III
			CULG				0059.0	0059.0	1				III
			CULG				0102.0	0102.0	1				III
			CULG				0112.0	0112.0	1				III
			LEAR				0112.0	0112.0	1				III
			PALE				0244.0	0244.0	1				III
			LEAR				0245.0	0245.0	2				III
			LEAR				0355.0	0430.0	2				S
			LEAR				0842.0	0845.0	2				III
			LEAR				0953.0	0956.0	1				III
			SGMR				1528.0	1529.0	2				V
			PALE				1807.0	1809.0	1				V
			PALE				1833.0	1834.0	1				V
			SGMR				1833.0	1836.0	1				V
			PALE				1838.0	1838.0	1				III
			PALE				1908.0	1908.0	1				III
			PALE				1912.0	1915.0	1				S
			PALE				2009.0	2012.0	1				V
			SGMR				2009.0	2012.0	1				V
			CULG				2020.0	2020.0	1				III
			CULG				2025.0	2025.0	1				III
			PALE				2034.0	2035.0	1				V
			CULG				2036.0	2036.0	2				III
			CULG				2047.0	2047.0	1				III
			CULG				2056.0	2056.0	1				III
			CULG				2120.0	2120.0	1				III
			CULG				2156.0	2156.0	1				III
			CULG				2201.0	2201.0	2				III
			PALE				2201.0	2220.0	3				S

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

OCTOBER 1986

Observation Day	Start (UT)	End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
16			CULG				2202.0	2205.0	2				V
			LEAR				2202.0	2203.0	2				III
			CULG	2204.0	2204.0	1							III
			CULG				2205.0	2206.0	1				III
			CULG				2213.0	2214.0	1				III
			CULG				2220.0	2227.0	1				III
			CULG							2237.0	2237.0	1	III
			LEAR				2300.0	2301.0	2				III
			PALE				2300.0	2301.0	1				III
			CULG				2301.0	2301.0	2				III
			CULG				2302.0	2302.0	1				III
			LEAR				2332.0	2339.0	1				III
			PALE				2332.0	2339.0	1				III
			LEAR				2358.0	0004.0	2				III
17			PALE				0003.0	0004.0	1				V
			CULG				0004.0	0004.0	2				III
			LEAR				0045.0	0057.0	3				S
			CULG				0046.0	0046.0	1				III
			PALE				0047.0	0052.0	2				V
			CULG				0048.0	0053.0	2				III
			LEAR				0150.0	0155.0	1				III
			PALE				0150.0	0151.0	1				III
			CULG				0151.0	0151.0	1				III
			CULG				0155.0	0155.0	1				III
			CULG				0204.0	0205.0	1				III
			CULG				0211.0	0211.0	1				III
			LEAR				0211.0	0211.0	1				III
			CULG				0227.0	0227.0	1				III
			CULG				0317.0	0317.0	1				III
			CULG				0335.0	0335.0	1				III
			LEAR				0335.0	0335.0	1				III
			LEAR				0519.0	0520.0	2				III
			LEAR				0531.0	0533.0	2				III
			LEAR				0646.0	0647.0	2				III
			LEAR				0822.0	0823.0	2				III
			SVTO				0822.0	0823.0	3				III
			LEAR				0853.0	0854.0	2				III
			LEAR				0934.0	0935.0	1				III
			LEAR				1006.0	1007.0	1				III
			SGMR				1251.0	1252.0	1				V
			SVTO				1444.0	1445.0	1				V
			SGMR				1651.0	1652.0	1				V
			PALE				1744.0	1751.0	1				V
			SGMR				1744.0	0000.0	1				CONT
			SGMR				1744.0	2137.0	1				CONT
			SGMR				1751.0	1752.0	1				V
			PALE				1759.0	1803.0	1				S
			PALE				1844.0	1902.0	1				S
			CULG				2017.0	0000.0D	2				S
			CULG				2042.0	2042.0	3				V
			PALE				2042.0	2046.0	3				V
			CULG				2043.0	2047.0	3				V
			SGMR				2043.0	2047.0	2				V
			CULG				2140.0	2142.0	2				V
			PALE				2143.0	2146.0	1				III
			PALE				2236.0	2236.0	1				III
			LEAR				2237.0	2237.0	1				III
			PALE				2237.0	2237.0	1				III
			PALE				2259.0	2303.0	1				III
			LEAR				2302.0	0043.0	3				S
			CULG	2310.0	2314.0	3							V
			PALE				2311.0	2315.0	1				III
			CULG				2313.0	2314.0	2				V
			CULG				2325.0	2329.0	2				V
			PALE				2325.0	2329.0	1				III
			PALE				2354.0	2355.0	2				III
18			PALE				0010.0	0023.0	3				S
			PALE				0111.0	0135.0	3				S
			LEAR				0123.0	0135.0	3				III

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

OCTOBER 1986

Observation Day	Start (UT)	End (UT)	Sta	Decimetric Band Start (UT)	End (UT)	Int (1-3)	Metric Band Start (UT)	End (UT)	Int (1-3)	Dekametric Band Start (UT)	End (UT)	Int (1-3)	Spectral Type
18			LEAR				0239.0	0240.0	2				III
			PALE				0239.0	0240.0	1				III
			LEAR				0253.0	0253.0	2				III
			LEAR				0257.0	0257.0	1				III
			LEAR				0333.0	0333.0	1				III
			LEAR				0340.0	0345.0	3				V
			CULG				0341.0	0343.0	3				V
			PALE				0341.0	0350.0	1				III
			LEAR				0348.0	0350.0	2				III
			LEAR				0441.0	0442.0	1				III
			LEAR				0459.0	0501.0	1				III
			LEAR				0516.0	0517.0	2				III
			LEAR				0534.0	0539.0	2				III
			SVTO				0537.0	0537.0	3				III
			LEAR				0552.0	0554.0	1				III
			LEAR				0656.0	0658.0	2				III
			LEAR				0741.0	0745.0	2				III
			LEAR				0901.0	0901.0	1				III
			SGMR				1242.0	1248.0	2				II
			SGMR				1343.0	1344.0	1				V
			SGMR				1511.0	1513.0	1				V
			SGMR				1606.0	1606.0	2				V
			PALE				2013.0	2014.0	1				III
			CULG				2024.0	2024.0	2				III
			PALE				2024.0	2025.0	1				III
			SGMR				2024.0	2024.0	1				III
			PALE				2040.0	2045.0	2				III
			CULG				2042.0	2059.0	2				III
			PALE				2054.0	2100.0	1				III
			CULG				2133.0	2137.0	2				III
			PALE				2133.0	2136.0	1				III
			LEAR				2221.0	2224.0	3				III
			CULG				2222.0	2225.0	3				III
			LEAR				2251.0	2252.0	3				III
			PALE				2251.0	2253.0	3				III
			CULG				2253.0	2253.0	2				III
19			LEAR				0007.0	0011.0	2				III
			PALE				0007.0	0011.0	1				III
			CULG				0008.0	0012.0	1				III
			CULG				0033.0	0052.0	3				II
			LEAR				0033.0	0316.0	3				IV
			PALE				0034.0	0053.0	3				II
			PALE				0034.0	0153.0	3				II
			CULG	0043.0	0148.0	1							IV
			CULG				0053.0	0053.0	2				III
			PALE				0053.0	0159.0	1				IV
			CULG				0151.0	0157.0	2				III
			LEAR				0152.0	0156.0	3				III
			LEAR				0225.0	0230.0	3				III
			PALE				0225.0	0230.0	1				III
			CULG				0226.0	0230.0	2				III
			CULG				0247.0	0256.0	1				III
			LEAR				0247.0	0247.0	1				III
			LEAR				0254.0	0255.0	1				III
			LEAR				0332.0	0332.0	2				III
			LEAR				0349.0	0403.0	2				S
			LEAR				0416.0	0419.0	1				III
			LEAR				0444.0	0447.0	1				III
			LEAR				0509.0	0543.0	2				S
			LEAR				0554.0	0555.0	2				III
			LEAR				0616.0	0632.0	2				S
			LEAR				0639.0	0715.0	2				S
			LEAR				0729.0	0730.0	3				III
			LEAR				0734.0	0734.0	2				III
			LEAR				0744.0	0745.0	1				III
			LEAR				0755.0	0818.0	3				S
			LEAR				0839.0	0839.0	1				III
			LEAR				0950.0	1002.0	2				S
			SGMR				1203.0	1204.0	1				V
			SGMR				1211.0	1211.0	1				V

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

OCTOBER 1986

Observation Day	Start (UT)	End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
19			SGMR				1216.0	1216.0	1				V
			SGMR				1343.0	1346.0	1				V
			SGMR				1628.0	1632.0	2				V
			PALE				1746.0	1751.0	2				V
			SGMR				1746.0	1749.0	1				V
			PALE				1805.0	1805.0	1				III
			PALE				1828.0	1833.0	2				V
			SGMR				1828.0	1829.0	1				V
			SGMR				1835.0	1836.0	1				V
			PALE				1836.0	1848.0	1				S
			PALE				1858.0	1900.0	2				V
			SGMR				1858.0	1900.0	1				V
			PALE				1904.0	1905.0	1				V
			SGMR				1904.0	1905.0	1				V
			PALE				1909.0	1937.0	1				S
			SGMR				1931.0	1932.0	1				V
			PALE				1954.0	2000.0	2				V
			SGMR				1958.0	1959.0	1				V
			PALE				2004.0	2008.0	2				V
			SGMR				2004.0	2007.0	1				V
			CULG				2020.0	2050.0	2				III
			PALE				2020.0	2035.0	3				S
			SGMR				2031.0	2032.0	2				V
			PALE				2041.0	2051.0	1				S
			PALE				2108.0	2130.0	1				S
			CULG				2109.0	2158.0	2				III
			CULG				2207.0	2210.0	2				III
			LEAR				2208.0	2209.0	1				III
			LEAR				2225.0	2227.0	2				III
			PALE				2225.0	2227.0	2				V
			CULG				2226.0	2247.0	2				III
			LEAR				2240.0	2247.0	2				III
			PALE				2240.0	2247.0	1				III
			LEAR				2307.0	2307.0	1				III
			CULG				2320.0	2330.0	2				III
			LEAR				2320.0	2324.0	3				III
			PALE				2320.0	2324.0	2				V
			LEAR				2324.0	1012.0	1				CONT
20			LEAR				0018.0	0019.0	2				III
			PALE				0018.0	0019.0	1				III
			CULG				0019.0	0019.0	1				III
			LEAR				0042.0	0054.0	3				S
			PALE				0042.0	0058.0	1				S
			PALE				0109.0	0109.0	1				III
			LEAR				0110.0	0110.0	2				III
			LEAR				0217.0	0218.0	2				V
			PALE				0217.0	0218.0	1				V
			LEAR				0321.0	0328.0	3				V
			PALE				0322.0	0327.0	2				V
			LEAR				0330.0	0331.0	3				III
			PALE				0330.0	0330.0	2				III
			LEAR				0337.0	0341.0	2				III
			LEAR				0536.0	0601.0	2				S
			LEAR				0634.0	0643.0	3				V
			LEAR				0739.0	0803.0	3				S
			SVTO				0759.0	0759.0	1				III
			LEAR				0906.0	0909.0	2				III
			SGMR				1236.0	0000.0	1				CONT
			SGMR				1236.0	2133.0	1				CONT
			PALE				1949.0	1950.0	1				III
			PALE				1950.0	2317.0	1				CONT
			CULG				2039.0	2041.0	2				III
			CULG				2119.0	2120.0	2				III
			CULG							2148.0	0000.0D	1	S
			LEAR				2256.0	2258.0	2				III
			LEAR				2329.0	2329.0	1				III
21			LEAR				0119.0	0125.0	3				III
			PALE				0119.0	0123.0	2				V
			LEAR				0230.0	0232.0	2				III

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

OCTOBER 1986

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
21			PALE				0231.0	0232.0	1				III
			LEAR				0300.0	0300.0	1				III
			LEAR				0327.0	0333.0	2				III
			LEAR				0416.0	0416.0	1				III
22			LEAR				0045.0	0045.0	1				III
			LEAR				0221.0	0222.0	1				III
			LEAR				0421.0	0421.0	1				III
			LEAR				2341.0	2341.0	1				III
24			CULG							0457.0	0457.0	1	III
			LEAR				2348.0	2349.0	1				III
25			CULG				0039.0	0042.0	1				III
			LEAR				0039.0	0041.0	2				III
			PALE				0039.0	0041.0	1				III
			CULG				0300.0	0300.0	1				III
			LEAR				0300.0	0301.0	2				III
			PALE				0300.0	0301.0	1				III
			LEAR				0602.0	0603.0	1				III
			CULG				0603.0	0603.0	1				III
			CULG							2051.0	2052.0	1	III
			PALE				2348.0	2349.0	1				III
26			CULG							0230.0	0230.0	1	III
			LEAR				0230.0	0231.0	1				III
			LEAR				0823.0	0849.0	2				S
			LEAR				0849.0	0951.0	1				CONT
			LEAR				2338.0	2338.0	1				III
			PALE				2338.0	2338.0	1				III
27			CULG				0000.0	0716.0	1				I
			CULG							2128.0	2128.0	1	III
28			CULG				0549.0	0549.0	1				III
29			CULG							0000.0	0716.0	1	I
			CULG				0333.0	0333.0	1				III
			LEAR				0507.0	0507.0	1				III
			LEAR				0515.0	0516.0	2				III
			CULG				0518.0	0518.0	1				III
			CULG				0525.0	0525.0	1				III
30			CULG				0003.0	0003.0	1				III
			CULG				0015.0	0017.0	2				III
			LEAR				0016.0	0017.0	2				III
			PALE				0017.0	0017.0	1				III
			CULG				0031.0	0033.0	3				V
			PALE				0031.0	0032.0	2				V
			CULG				0412.0	0412.0	1				III
			LEAR				2213.0	2214.0	1				V
			CULG				2214.0	2215.0	2				III
31			LEAR				0751.0	0751.0	2				III
			PALE				2118.0	2120.0	1				V
			PALE				2139.0	2139.0	1				III
			LEAR				2352.0	2352.0	1				III

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

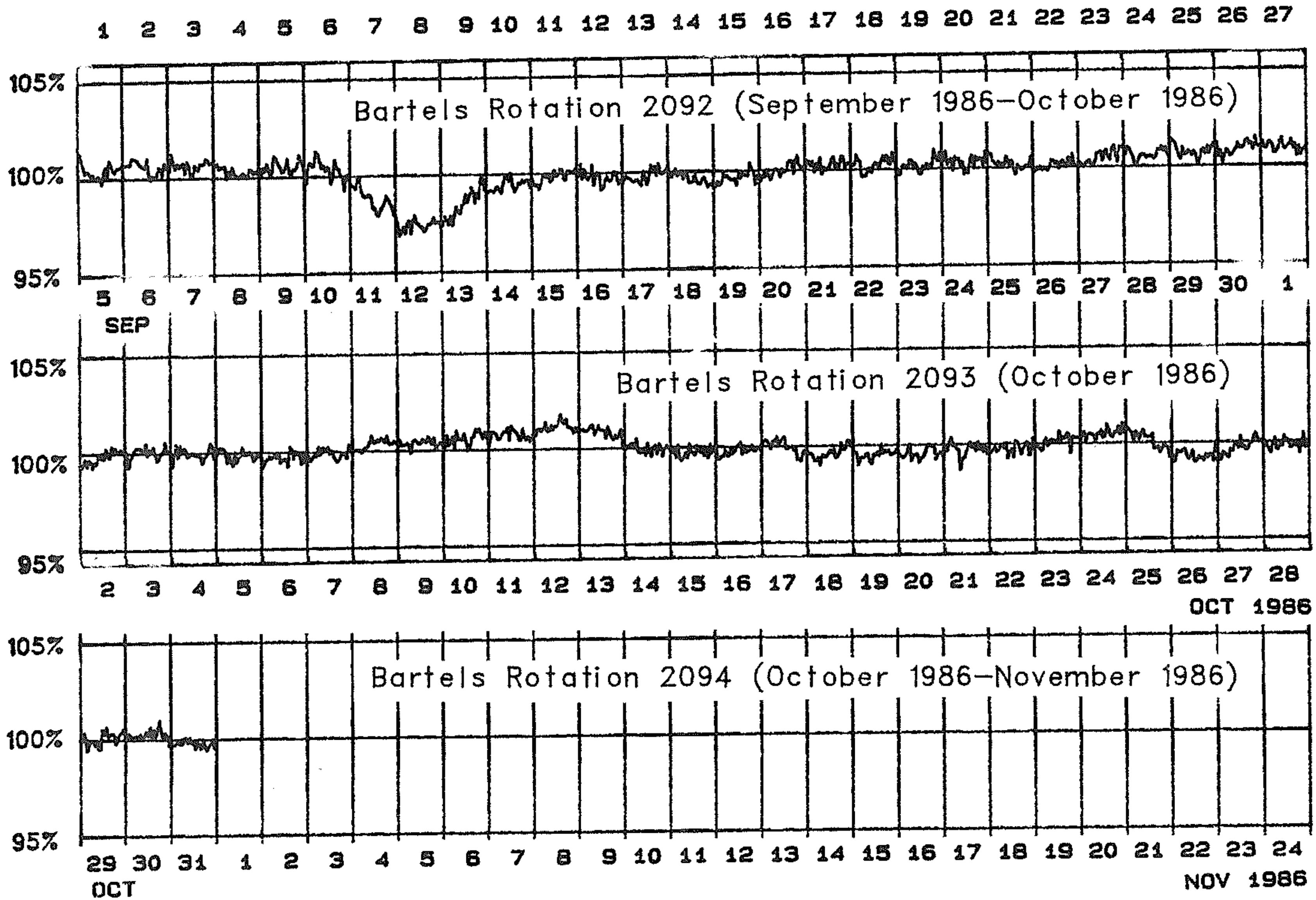
B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of burst
C = Underlying continuum (particularly with Type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III

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

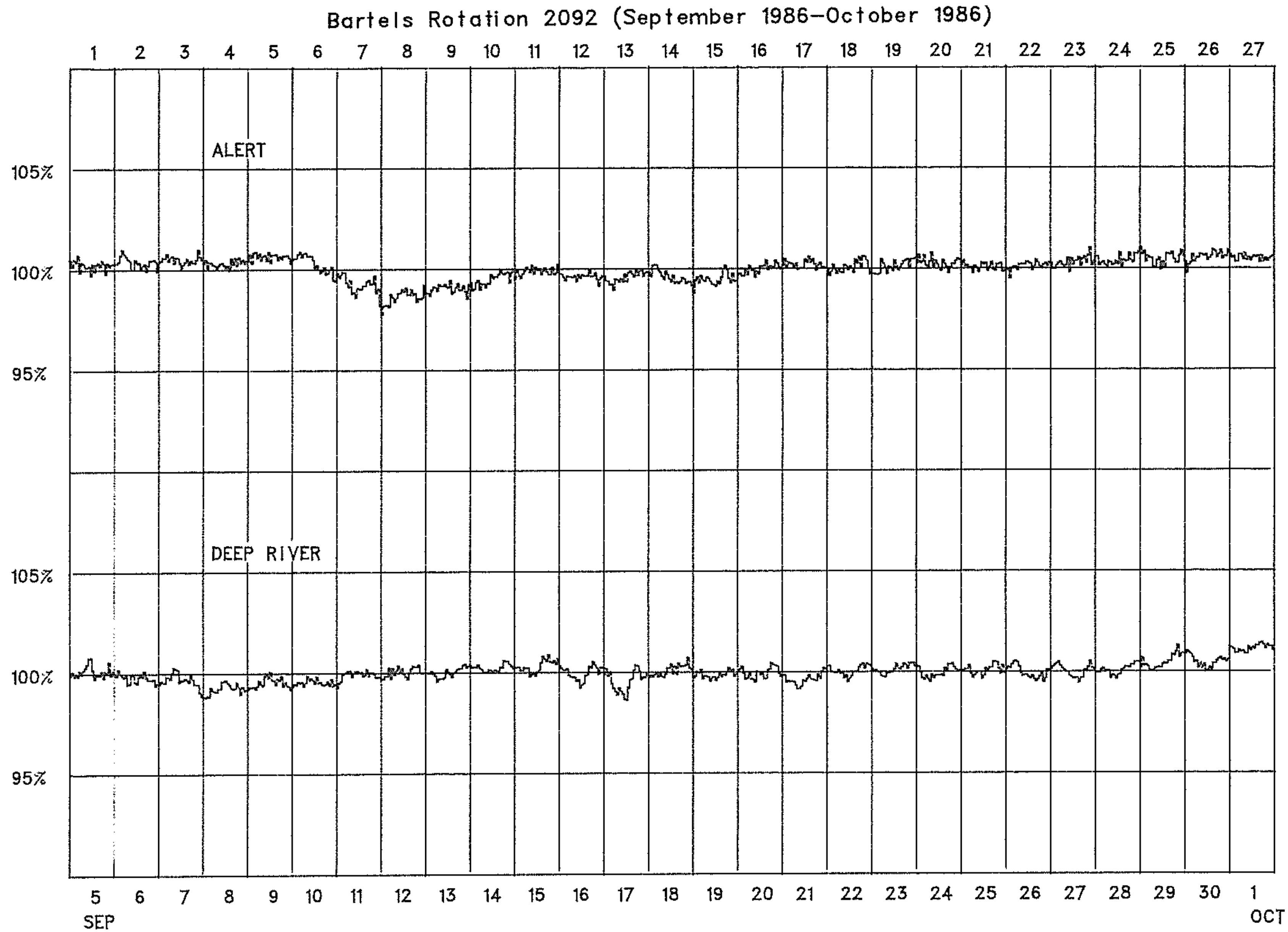
Stations Reporting:

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

THULE NEUTRON MONITOR

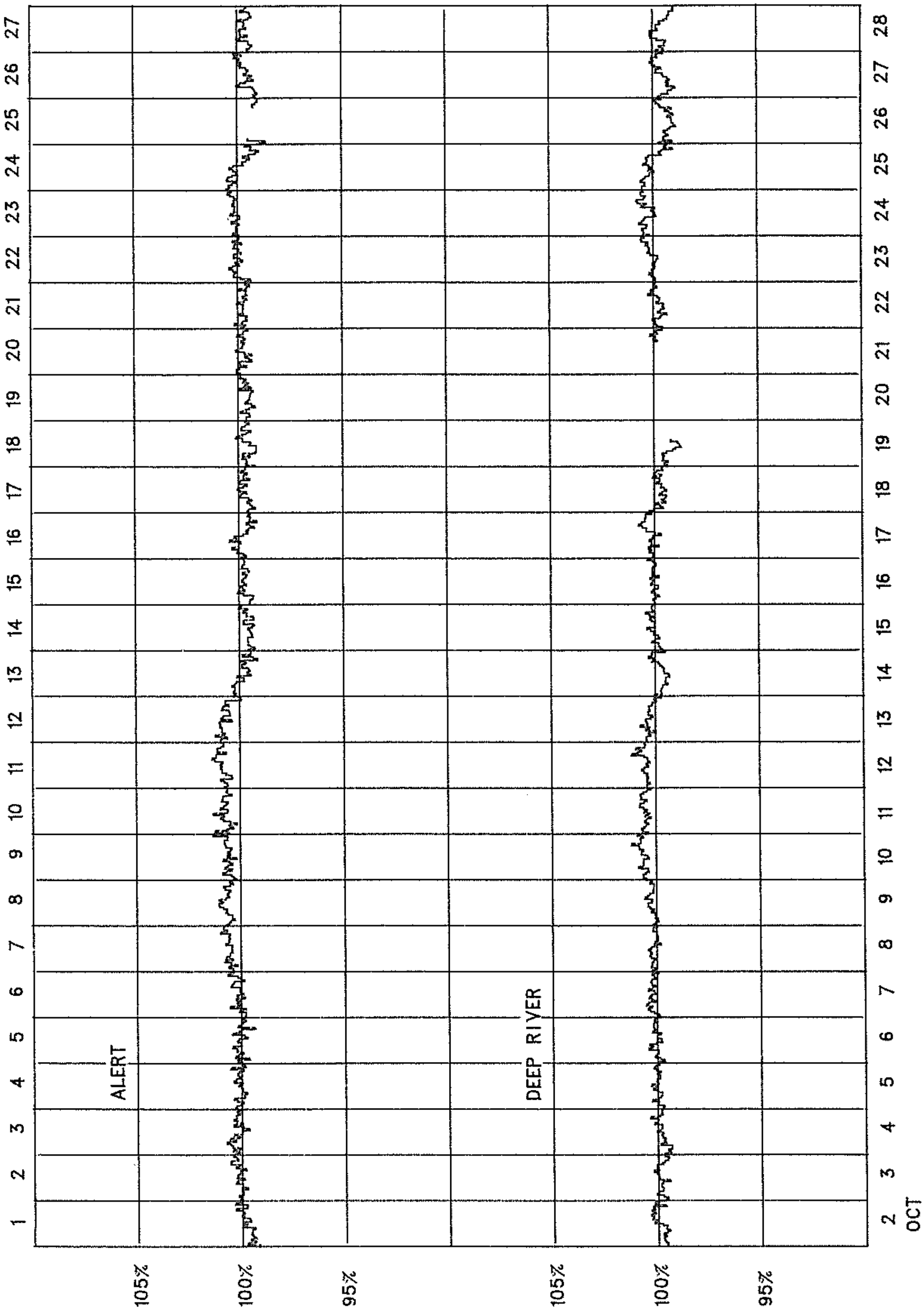


COSMIC RAY INDICES
(Neutron Monitor)



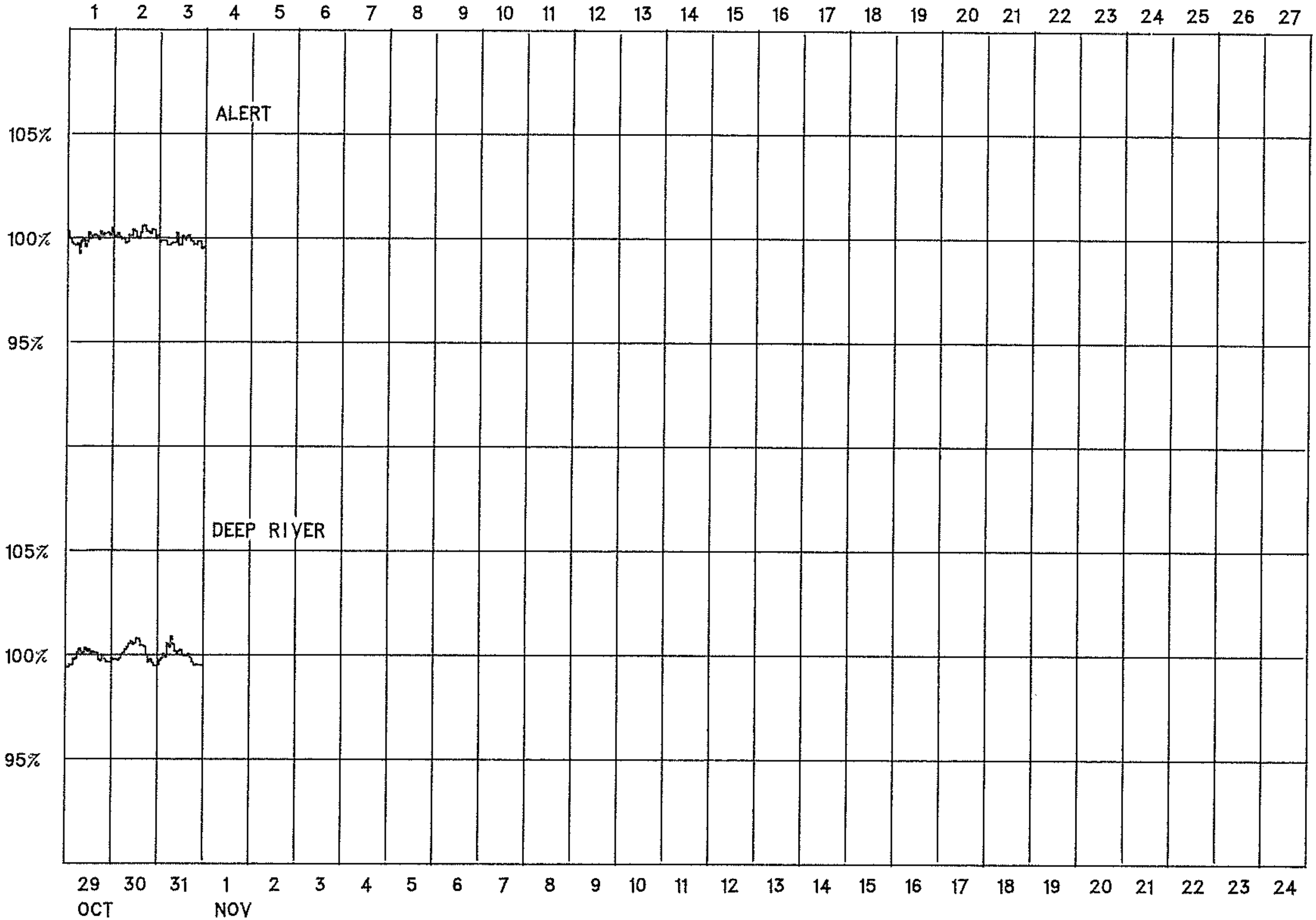
COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2093 (October 1986)



COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2094 (October 1986–November 1986)



COSMIC RAY INDICES
(Neutron Monitor)

OCTOBER 1986

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	PREDIGTSTUHL Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4569	7472.7	7127.8					
2	4574	7478.3	7139.4					
3	4585	7507.6	7134.6					
4	4580	7515.1	7131.3					
5	4577	7504.0	7145.5					
6	4570	7500.0	7150.5					
7	4578	7506.7	7161.6					
8	4600	7540.2	7156.6					
9	4601	7546.9	7160.9					
10	4610	7543.2	7193.9					
11	4618	7551.0	7185.2					
12	4635	7562.5	7185.0					
13	4620	7551.3	7167.4					
14	4582	7486.9	7127.5					
15	4573	7465.2	7150.9					
16	4573	7475.1	7149.3					
17	4582	7480.4	7163.5					
18	4568	7473.2	7127.1					
19	4561	7465.7	7093.9(14)					
20	4563	7465.0	---					
21	4572	7480.6	7140.2(8)					
22	4572	7476.9	7132.6					
23	4589	7498.3	7154.8					
24	4607	7507.5	7173.4					
25	4588	7490.8	7154.1					
26	4551	7430.0(8)	7100.5					
27	4572	7466.7	7116.8					
28	4576	7467.8	7116.2					
29	4577	7456.0	7114.5					
30	4582	7469.3	7130.6					
31	4561	7443.4	7119.4					
Mean	4583	7492.9	7143.5					

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

October 1986

		Kp Three-Hourly Indices											Km Three-Hourly Indices									aa Provisional				
Day		1	2	3	4	5	6	7	8	Sum	Ap	Cp	1	2	3	4	5	6	7	8	Am	N	S	M		
1		1-	1	1	3+	2+	2	2-	2	14	7	0.4	1-	1-	1	3	3-	2-	2-	2	14	17	12	12	17	
2	D3	3+	4-	1+	2+	4+	5+	4-	3+	27+	23	1.1	3-	3	1+	3	4-	5-	3+	3	36	44	31	21	55	
3		3+	3	2	1	1-	2-	2-	3	16+	9	0.5	3	3	2	1+	1-	1+	2-	3-	17	16	11	14	13	
4		3-	2	2-	1	1+	1+	2+	2-	14	7	0.3	2+	1+	1+	1	1+	2-	2+	2	12	13	10	11	12	C
5	D5*	4	3+	3-	3	4	4-	4-	2+	27-	19	1.0	3	3-	2	3+	4-	3	4-	2+	31	38	33	28	43	
6		2	4-	4+	2+	1+	2-	1+	2	19-	12	0.7	3-	3	4	2-	1+	2	1+	2-	21	17	23	29	11	
7	Q7	1	2-	2-	1+	0+	1	1+	2-	10	5	0.2	1+	1+	1	1+	0+	1	1+	2-	8	12	7	9	10	CC
8	Q9	1-	1-	1+	2	2-	3-	1+	1	11+	6	0.3	1-	1-	1+	2	2	3-	1	1+	11	13	12	9	17	KC
9		1+	1	2	1-	1	1+	2+	2+	12	6	0.3	1+	1-	1+	0+	2-	2-	2+	2+	11	17	9	10	16	CK
10	Q3	1-	0+	1+	1-	0	0	1	2-	6-	3	0.1	1-	0+	1+	1-	0+	0+	1+	2-	5	8	5	6	6	CC
11	Q5	1-	0	1-	1-	2-	1+	1+	1	7+	4	0.1	1+	0	1-	1	2	2-	1+	1+	8	9	7	4	12	CC
12	Q2	2	0	1-	0+	0+	0+	0+	0+	4+	2	0.0	2-	0	0+	0+	1-	0	1-	0+	4	6	4	5	5	CC
13	D2	0+	0+	2-	2	3+	4+	7-	5	24-	28	1.2	0+	0+	2-	2	3+	3+	6-	5	43	49	45	8	86	
14	D1	4+	5+	5-	5-	5-	2	3+	3+	32+	31	1.3	4	4	4	4-	4	2	3+	3	44	53	34	52	36	
15		2+	2	4	3+	3	2+	3	2+	22+	14	0.8	2	2-	3+	3+	3	2+	3	2+	25	31	27	29	29	
16	Q10	1	2+	1+	1+	1+	1	2	2-	12	6	0.3	1+	2-	1+	2-	1+	1	2-	2-	10	12	10	11	11	C
17		3-	2	1+	1+	1-	1-	1	3-	12+	6	0.3	2	2-	1	1	1-	0+	1+	3-	10	12	10	11	12	CC
18		1	1-	1-	2	3-	4+	4	3+	19-	13	0.8	1+	1	1-	2+	3-	4-	4-	3	23	27	20	9	39	
19	D4	4-	3+	3+	4-	5-	3+	3+	3-	28	21	1.1	3	3	3-	3+	5-	3-	3	3-	34	33	31	27	37	
20		3-	2+	2+	2+	3-	4-	4-	3	23-	14	0.8	2	2-	2	2	3-	3+	3+	3-	22	28	20	16	33	
21		3+	3	2+	2+	2	2	3-	2+	20	11	0.6	3	2+	2+	2+	2+	2-	3-	2+	20	21	15	17	19	
22		2+	2+	2+	2	0+	1-	1	0+	11+	6	0.3	2+	2-	2-	2	0+	1-	1	1-	10	13	7	15	6	CC
23	Q8	1+	1-	1-	1-	1+	1	3-	1+	10-	5	0.2	1+	1-	1	1-	1+	1+	2+	1+	9	11	7	5	12	CC
24	Q1	0+	0	0	0+	0+	2-	0	1	4-	2	0.0	0+	0	0	0+	0+	2-	0+	1-	3	4	5	3	6	CC
25	Q6	0+	1-	1-	1-	1-	1-	1-	3-	7	4	0.1	0+	0+	1-	1-	1-	1-	1	2	6	9	7	5	11	CC
26	Q4	1+	0	1-	1-	0+	1+	1-	2-	7-	3	0.1	1	0	0+	0+	1-	1+	1-	2-	5	7	7	6	8	CK
27		2	2+	3	3-	3+	5-	3-	3-	23+	16	0.9	2+	2	3	3	4-	5-	3+	3-	35	29	30	20	39	
28		4-	3+	1-	1+	0+	0	2-	3+	14+	9	0.5	3+	3+	0+	2-	0+	0	2-	3	16	19	10	15	14	
29		4-	3	3+	3+	3-	1	2	4	23	15	0.9	3+	2+	3-	3	2+	1+	2+	4	26	29	18	27	21	
30		3	3+	2+	2+	2	3	3	4	23	14	0.8	3+	3-	2+	3-	2+	3	3	4	29	32	25	31	27	
31		2+	2+	2-	1+	1	2	1-	2	13+	6	0.3	2-	1+	2	1+	1	2-	1+	2-	11	17	9	14	12	C
Mean											11	0.53									18.0	20.9	16.2	18.6		

	Kn Three-Hourly Indices									Ks Three-Hourly Indices										Prov				
Day	1	2	3	4	5	6	7	8	An	1	2	3	4	5	6	7	8	As	S_a	R_I	R_a	R_s	IMF	
1	1-	1-	1+	3	3	2	2	2+	15	1-	0+	1-	3	3-	2-	1+	2	12	71.2	11	D	15	D	-
2	3-	3	2-	3+	4	5	4-	3	40	3	3-	1+	3-	3+	5-	3+	3-	33	71.6	14	A	15	A	-
3	3	3	2+	1	1	2	2-	3	18	3+	3-	2-	1+	0+	1-	2-	3-	15	72.1	23	T	16	T	-
4	2	1+	1+	1	1+	2-	2+	2	12	2+	1+	1+	1	1+	1+	2+	2	12	70.7	24	A	14	A	-
5	3	3	2+	3	4-	3+	4-	3-	31	3	3-	2	4-	4-	3	4-	2+	31	71.1	24		15		-
																					N		N	
6	2+	3	4-	2-	2-	2+	2-	2	21	3	3	4	2-	1	2-	1+	2-	21	72.4	25	O	16	O	-
7	1	1+	1+	1+	0+	1+	1+	2-	9	1+	1+	1	1+	0	1-	1+	2-	7	74.3	27	T	18	T	-
8	1-	1-	2-	2+	2	3-	1	1	12	1	1-	1-	1+	2	3-	1	1+	10	74.8	20		19		-
9	1+	1-	2-	1-	2-	2-	2+	2+	12	1+	1-	1+	0+	1+	2-	2	2+	10	74.6	32	C	19	C	-
10	1-	0+	1	1-	0	0	1+	2-	5	0+	0	1+	0+	0+	0+	1+	2-	5	73.3	31	U	17	U	-
																					R		R	
11	1	0	1-	1	2+	2-	1+	1+	9	1+	0	1-	1	2-	1+	1+	1	7	73.2	23	R	17	R	-
12	2-	0	0+	0+	1-	0+	1-	0+	4	2	0	0+	0+	0+	0	0+	0	3	75.3	28	E	19	E	-
13	0+	0+	2	2	3+	4-	6-	5-	40	0+	0+	2-	2-	3	3	6	5+	45	75.1	22	N	19	N	-
14	4-	4	4	4	4	2	3+	3	42	4	4+	4+	4-	4+	2	3+	3-	46	75.0	0	T	19	T	-
15	2	2-	4-	3+	3+	2+	3	2+	26	2+	2-	3	4-	3	2+	3	3-	25	71.8	0	L	16	L	-
																					Y		Y	
16	1+	2-	1+	2-	2-	1+	2-	2-	11	1+	2-	1+	2-	1	1-	2-	2	10	79.1	15		23		-
17	2	1+	1+	1	1-	0+	1+	2+	10	2-	2-	0+	1	1	0+	1+	3	10	82.6	16	A	27	A	-
18	1	1	1-	2+	3-	4-	4-	3+	23	1+	1	1-	3-	3	4-	4-	3	24	86.3	22	V	31	V	-
19	3	3	3	3	5-	3	3	3-	33	3+	3	2+	3+	5-	3-	3	3-	35	88.6	21	A	34	A	-
20	2	2-	2	2+	3	3+	3+	3-	23	2	2-	2	2	3-	3+	3+	3	22	92.2	39	I	38	I	-
																					L		L	
21	3	3-	2+	2+	2	2	3-	2	20	3	2	3-	3-	2+	2-	3	3-	21	91.5	47	A	37	A	-
22	2	2-	2	2	1-	1	1+	0+	10	3-	2-	1+	2	0+	0+	1	1	9	94.4	54	B	40	B	-
23	1+	1-	1	1	1+	1+	2+	1+	9	1+	0+	1	0+	1+	1+	2+	1	8	97.9	67	L	44	L	-
24	0+	0	0	0	1-	2-	0+	1	4	0+	0	0	0+	0	1+	0	1-	3	97.3	76	E	43	E	-
25	0+	0+	1-	1-	1	1	1	2	6	0+	0+	1	1	0+	0+	1-	2+	6	94.4	72		40		-
26	1	0	0+	1-	1-	2-	1	2-	6	1	0	0+	0+	0+	1-	1-	2	5	94.2	60		40		-
27	2	2-	3-	3+	4	5-	3+	3-	35	3-	2	3+	3	3+	5-	4-	2+	35	94.3	65		40		-
28	3+	3	1-	1+	0+	0+	2-	3	17	3+	3+	0+	2-	0	0	2-	3	16	93.6	61		39		-
29	3+	3-	3	3	3-	1+	3-	4-	27	3+	2	3-	3	2	1+	2+	4+	25	91.4	63		37		-
30	3	3-	2+	3-	2+	3+	3	4	29	4-	3	2+	3	2	3-	3	4-	29	89.8	62		35		-
31	2	2-	2	2-	1+	2	2-	2-	13	2-	1-	2-	1	1	2-	1+	2-	9	89.2	53		34		-
Mean									18.5									17.7	82.4	35.7		27.0		

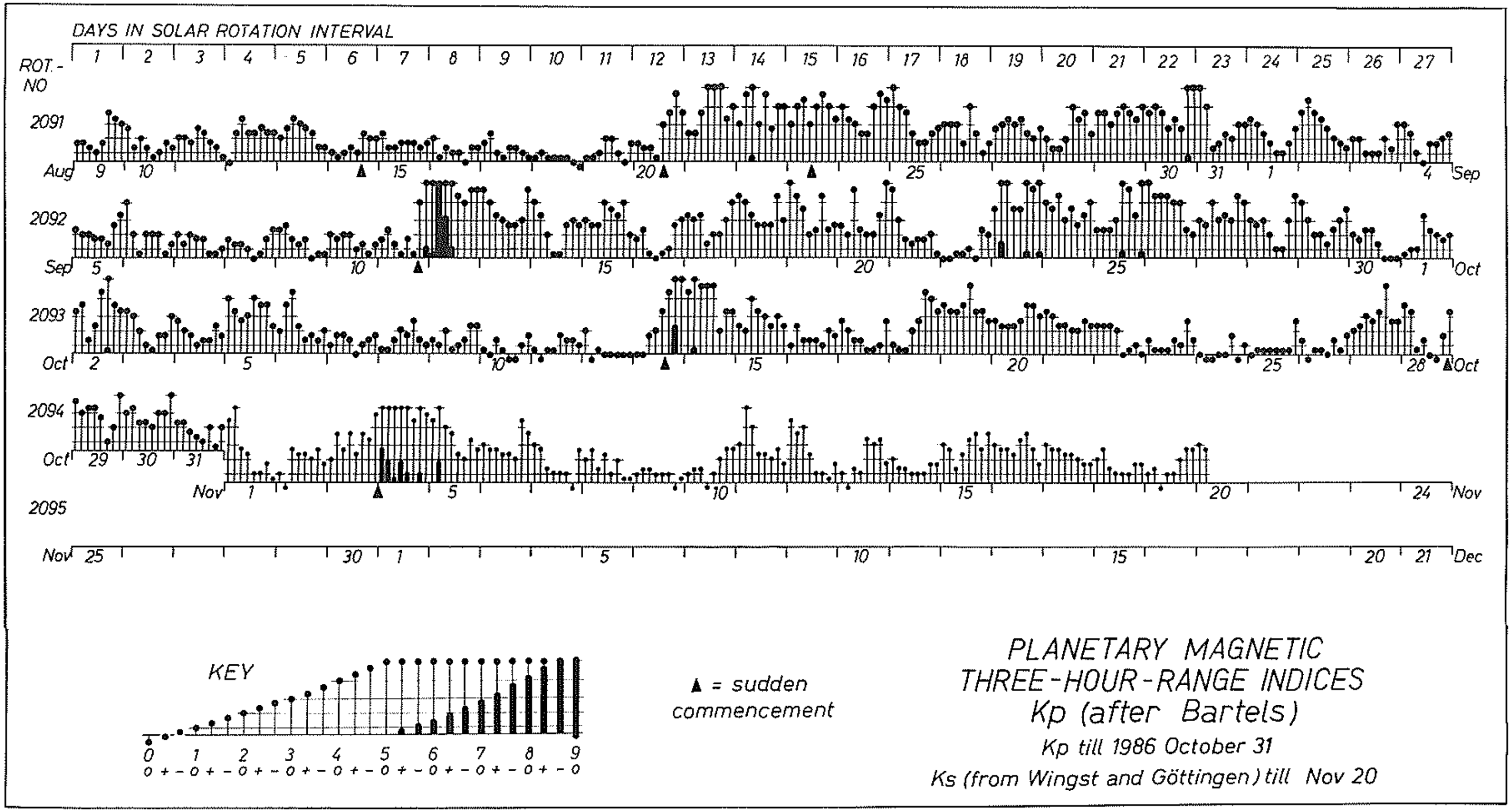
D A I L Y   A V E R A G E   I N D I C E S   Ap

DAY	1985 NOV	DEC	1986 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1	15	15	25	5	18	8	5	15	7	6	9	7
2	32	14	18	6	12	5	43	8	13	5	16	23
3	28	9	10	6	12	14	40	10	8	19	7	9
4	16	12	5	5	8	4	17	7	7	20	7	7
5	10	8	4	7	8	9	17	5	7	9	9	19
6	13	7	20	11	32	4	67	6	5	6	8	12
7	7	5	32	82	33	5	12	12	4	4	5	5
8	6	3	11	202	23	5	7	7	6	7	5	6
9	14	5	14	100	5	13	5	7	6	10	6	6
10	19	17	11	10	2	19	6	13	6	6	6	3
11	10	11	4	20	2	6	6	6	4	7	16	4
12	4	7	5	18	7	10	7	6	6	10	89	2
13	24	30	3	15	21	5	4	6	7	10	22	28
14	17	11	4	19	8	4	3	6	4	5	12	31
15	16	10	5	5	8	7	4	5	4	6	18	14
16	10	6	3	5	6	8	7	5	5	4	7	6
17	14	8	6	9	6	6	8	8	8	5	14	6
18	15	12	7	14	8	7	5	9	6	3	20	13
19	14	41	4	9	9	11	8	5	4	4	21	21
20	3	11	15	17	3	5	5	6	3	15	18	14
21	5	5	27	26	17	7	6	6	6	29	11	11
22	8	6	11	30	22	11	3	8	7	29	4	6
23	4	4	17	35	11	10	8	5	5	25	43	5
24	4	10	12	19	21	12	7	7	15	22	22	2
25	6	6	26	18	27	7	10	3	17	17	26	4
26	6	8	12	26	12	7	8	5	20	12	27	3
27	20	12	37	20	18	4	7	28	16	13	20	16
28	8	35	30	25	14	11	3	18	9	12	13	9
29	37	7	19		8	9	4	11	17	22	13	15
30	52	46	14		5	5	10	9	11	27	5	14
31		22	8		7		17		12	16		6
MEAN	15	13	14	27	13	8	12	8	8	12	17	11

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

University of Gottingen

Kp through October 31, 1986



PRINCIPAL MAGNETIC STORMS

OCTOBER 1986

Sta	Geomag Lat	Commencement Day	Time (UT)	Type	SC Amplitudes D (Min)	H (Gamma)	Z (Gamma)	Maximum 3-Hour K Index Day(3-Hour Periods)	K	Ranges D (Min)	H (Gamma)	Z (Gamma)	End Day	Hour (UT)
KGL	56.5S	01	1147	SC	- 4	- 10	6	02(6)	6	26	208	152	03	06
HER	33.7S	02	14--	..	..	..	..	02(6)	5	13	67	65	03	01
HYB	07.6N	04	1500	..	..	..	..	05(5,7)	4	5	90	43	06	17
COL	64.6N	13	0753	SC*	..	..	..	13(7) 14(3,4,5)	6	107	1010	700	14	22
SIT	60.0N	13	08--	..	..	..	..	14(2)	6	50	640	460	14	15
WIT	54.2N	13	1054	SC	0	7	0	13(7)	6	36	206	67	14	23
FRD	49.6N	13	14--	..	..	..	..	13(7)	6	27	142	45	15	--
BJI	28.5N	13	10--	..	..	..	..	13(7)	6	12	117	17	14	22
JAI	17.3N	13	1100	..	..	..	..		-	7	134	26	14	24
SHL	14.7N	13	1100	..	..	..	..		-	5	116	33	14	24
UJJ	13.5N	13	1100	..	..	..	..		-	5	139	24	14	24
ABG	09.5N	13	1100	..	..	..	..	13(7)	6	5	143	32	14	24
HYB	07.6N	13	1055	..	..	..	..	13(7,8)	6	4	145	24	15	22
GUA	04.0N	13	1026	..	..	..	..	13(7)	5	10	120	30	14	16
ETT	00.6S	13	0900	..	..	..	..		-	-4	121	68	14	21
TRD	01.1S	13	1100	..	..	..	..		-	3	145	103	14	24
HER	33.7S	13	10--	..	..	..	..	13(7)	7	36	181	181	14	14
GNA	43.2S	13	09--	..	..	..	..	13(7)	6	25	140	110	14	21
CNB	43.9S	13	1457	SC	0.3	21	3	13(7)	6	25	138	60	14	14
KGL	56.5S	13	1454	SC	- 1	- 10	- 6	13(7)	8	138	650	360	15	02
HYB	07.6N	17	2000	..	..	..	..	18(6) 19(5)	5	4	135	35	19	23
ETT	00.6S	18	1630	..	..	..	..		-	-3	185	59	19	22
HYB	07.6N	26	2200	..	..	..	..	27(5,6)	5	4	167	19	28	04
KGL	56.5S	27	1350	..	..	..	..	27(6)	7	92	408	256	28	04
JAI	17.3N	28	2100	..	..	..	..		-	4	78	30	31	03
SHL	14.7N	28	2100	..	..	..	..		-	--	--	--	31	03
UJJ	13.5N	28	2100	..	..	..	..		-	3	82	31	31	03
ABG	09.5N	28	2100	..	..	..	..	29(1)	5	3	93	38	31	03
TRD	01.1S	28	2100	..	..	..	..		-	3	151	66	31	03

Stations Reporting:

ABG = ALIBAG
BJI = BEIJING
COL = COLLEGE
CNB = CANBERRA
ETT = ETAIYAPURAM
FRD = FREDERICKSBURG
GNA = GNANGARA
GUA = GUAM
HER = HERMANUS
HYB = HYDERABAD
JAI = JAIPUR
KGL = KERGUELEN
PMG = PORT MORESBY
SHL = SHILLONG
SIT = SITKA
TRD = TRIVANDRUM
UJJ = UJJAIN
WIT = WITTEVEEN

RADIO PROPAGATION QUALITY INDICES

OCTOBER 1986

Day	Bracknell	Teheran	New York	Tokyo	Johannesburg	Canberra
1	4.3	3.9	6.5	7.8	6.0	7.2
2	4.8	2.7	4.5	7.0	5.0	7.5
3	4.1	1.9	5.2	5.1	5.4	6.6
4	3.9	2.0	6.5	7.7	4.5	6.2
5	3.9	0.0	5.4	8.1	4.8	6.8
6	6.4	7.2	8.9	9.9	8.3	9.3
7	6.4	7.7	9.1	9.5	7.7	8.4
8	7.9	9.0	9.3	9.4	7.6	9.5
9	8.0	8.5	9.5	9.9	8.4	9.4
10	7.1	8.9	9.0	9.7	7.5	9.0
11	7.8	9.2	9.2	9.9	8.5	9.0
12	7.6	8.9	8.7	9.9	8.1	8.8
13	7.4	7.7	6.9	9.7	9.3	9.5
14	6.3	8.9	6.0	9.8	8.8	8.3
15	7.8	8.9	8.0	9.2	8.1	9.0
16	7.5	8.7	8.2	9.1	8.7	8.3
17	7.0	6.7	8.4	9.2	8.2	8.7
18	7.3	6.8	8.4	9.3	8.0	7.4
19	7.2	8.8	7.4	8.5	8.7	8.2
20	7.2	8.4	8.4	9.5	7.9	8.3
21	8.0	8.0	8.3	9.8	8.5	8.9
22	6.3	7.6	8.0	8.5	8.1	7.8
23	6.7	6.6	8.2	9.4	7.1	8.0
24	6.4	7.1	7.6	9.3	7.2	6.9
25	6.3	6.1	7.6	9.4	6.9	8.1
26	6.0	5.4	7.3	9.2	7.2	7.9
27	6.9	6.8	5.7	8.5	8.3	8.4
28	6.9	6.0	6.6	8.8	7.1	7.5
29	6.7	6.4	6.6	8.9	7.2	7.3
30	6.1	3.9	7.2	8.0	6.5	6.0
31	4.1	2.6	4.5	7.1	6.0	5.1
Mean	6.5	6.5	7.5	8.9	7.4	8.0

CALCULATION OF QUALITY INDICES (Q)

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

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

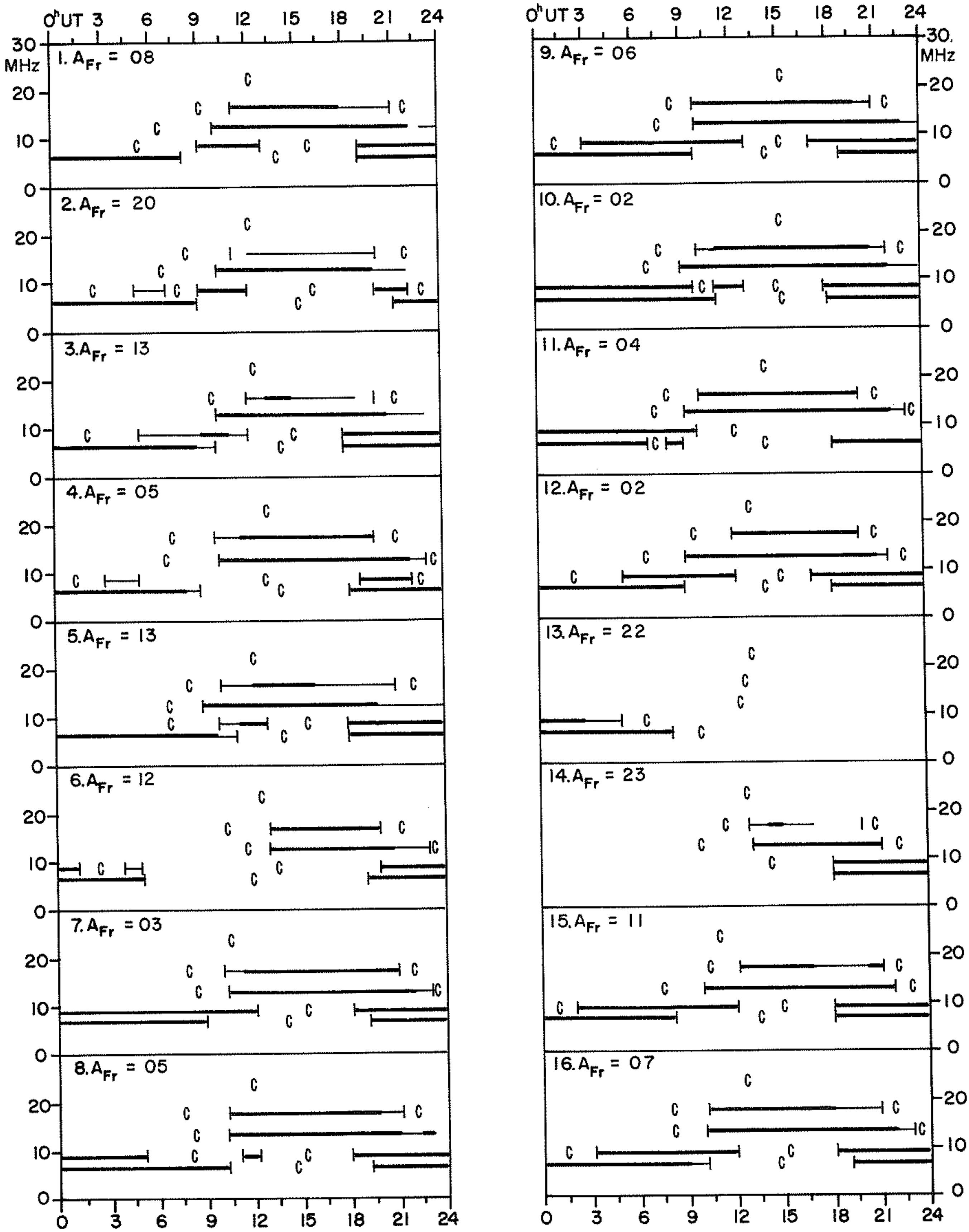
The quality indices vary from 0.0 to 9.9 where 6.0 is normal. Conditions are "normal" (index = 6.0), if they correspond to the average of the preceeding 27 days.

SCALE FOR QUALITY INDICES

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

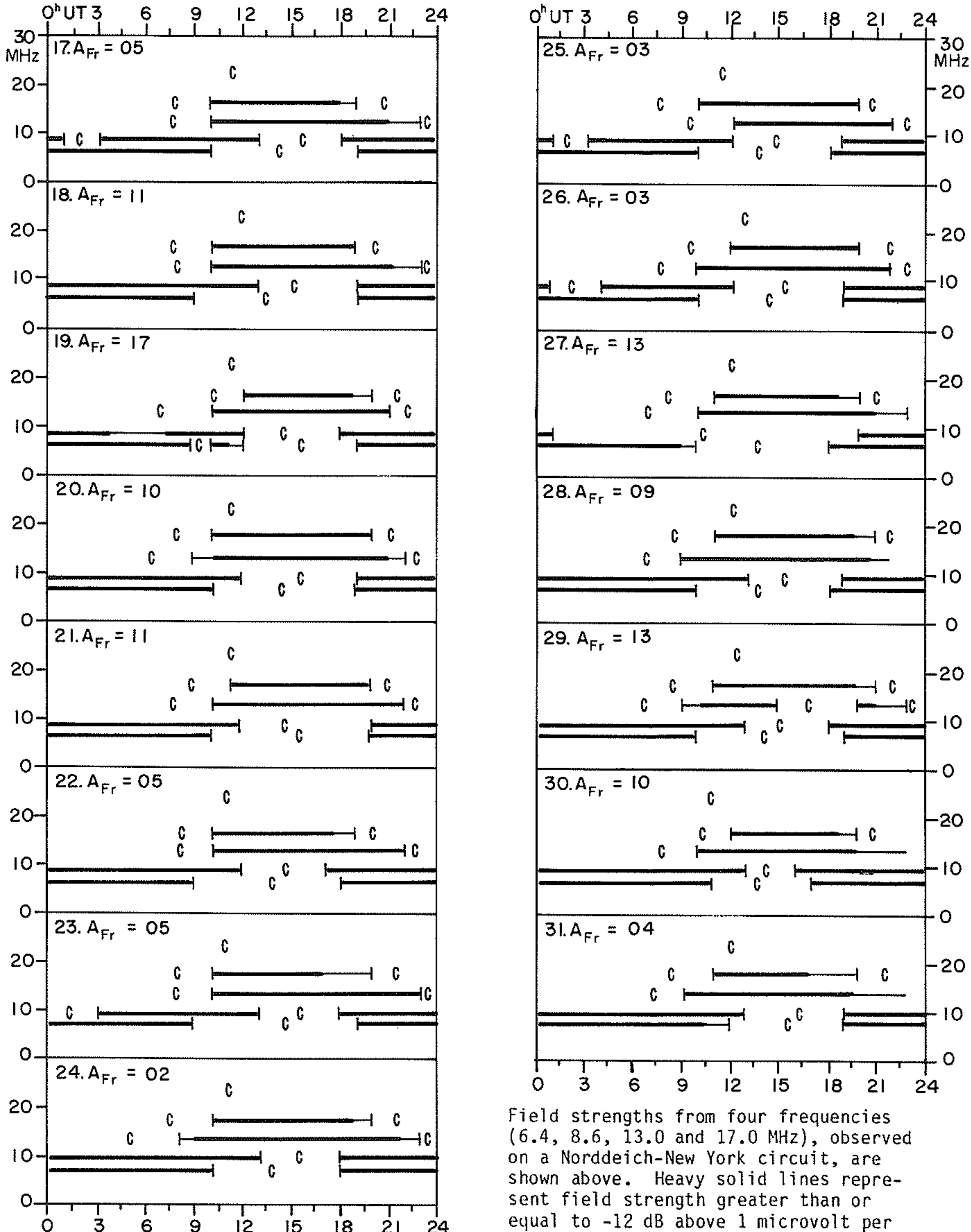
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

OCTOBER 1986



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

OCTOBER 1986



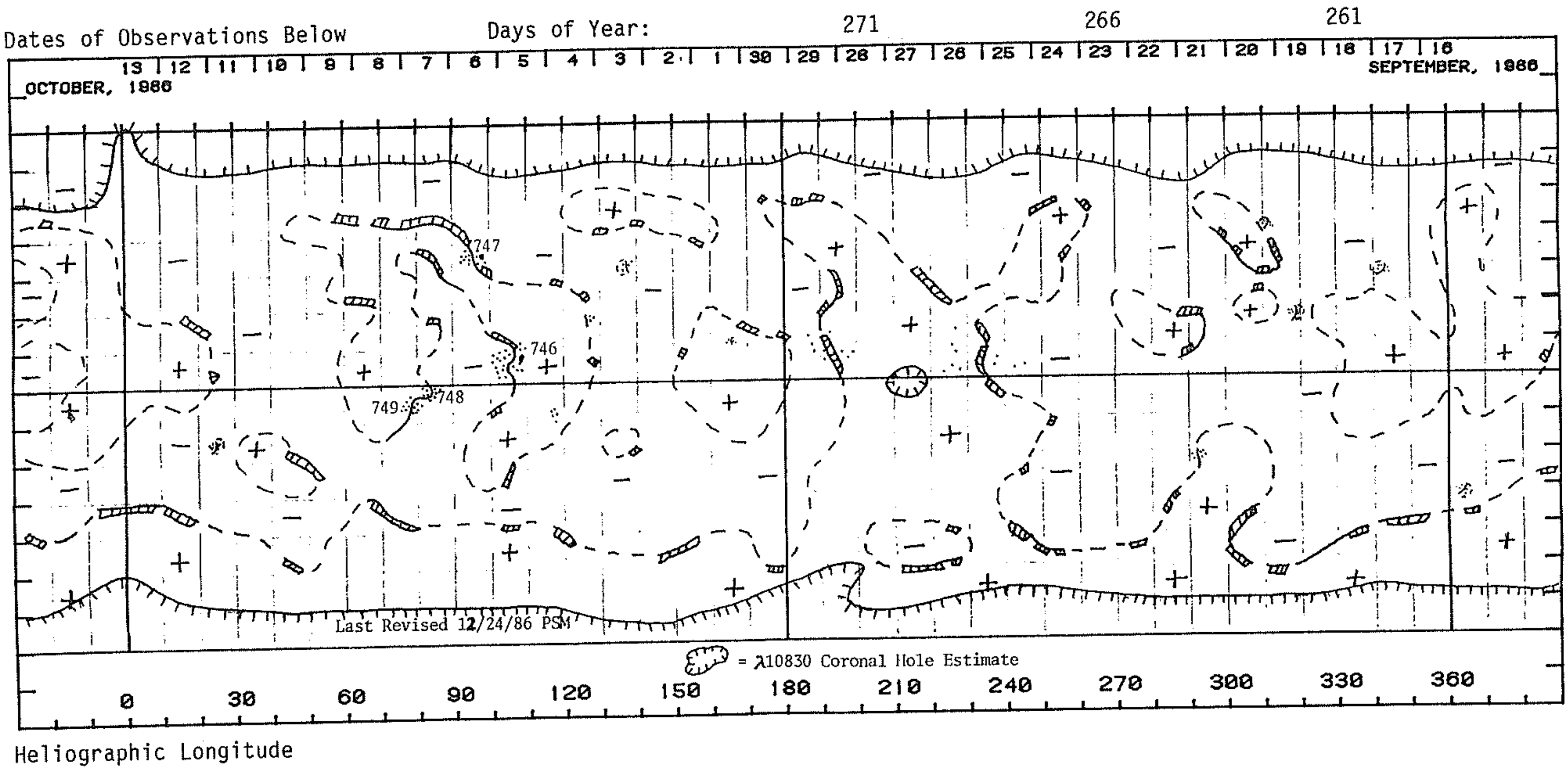
Field strengths from four frequencies (6.4, 8.6, 13.0 and 17.0 MHz), observed on a Norddeich-New York circuit, are shown above. Heavy solid lines represent field strength greater than or equal to -12 dB above 1 microvolt per meter (transmitter power reduced to 1 kilowatt). Observed field strengths between -12 and -40 dB above 1 microvolt per meter are represented by fine lines.

C O N T E N T S

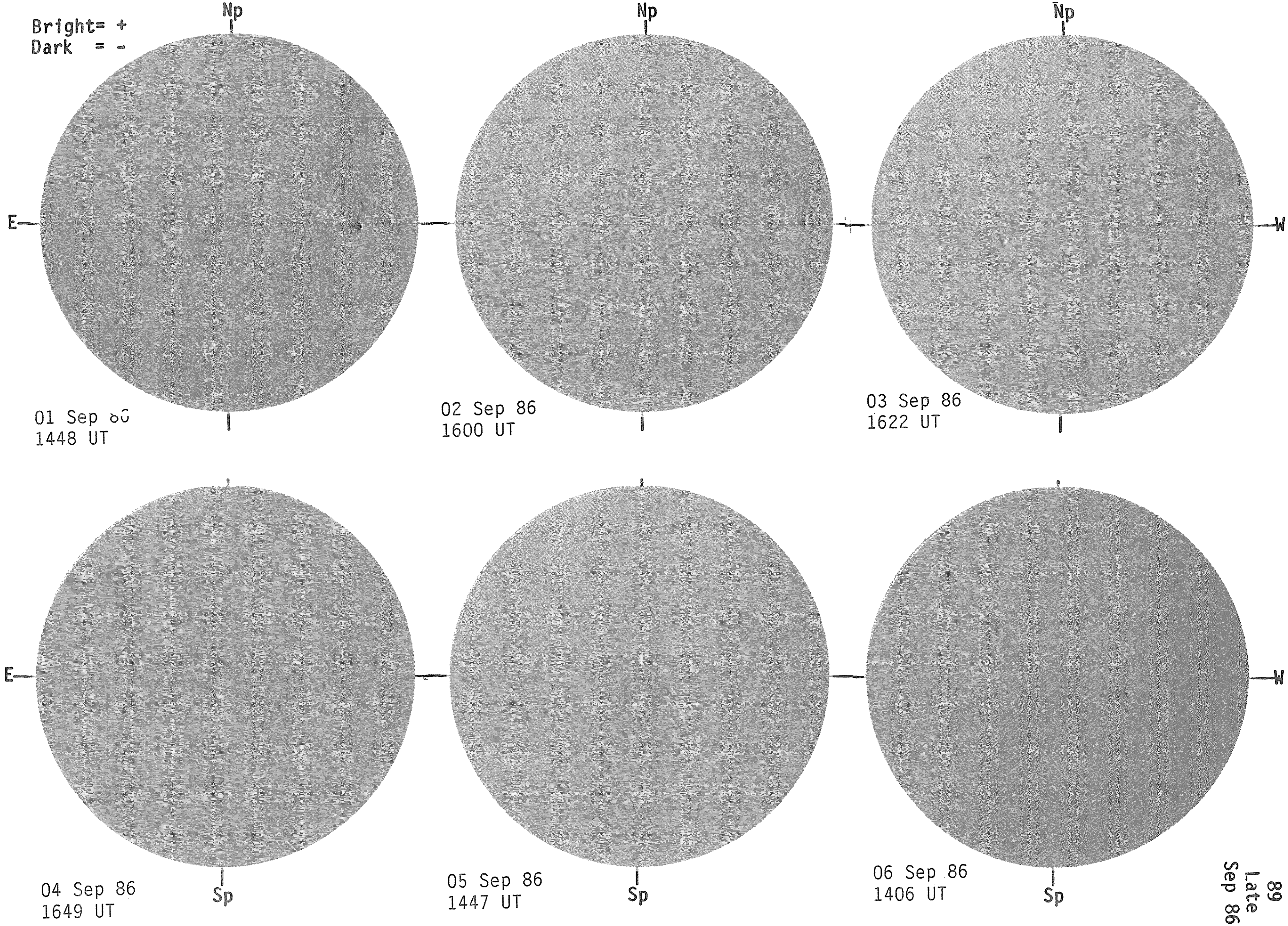
Prompt Reports | LATE DATA | Number 508 | Part I

PRELIMINARY H-ALPHA SOLAR SYNOPTIC CHART

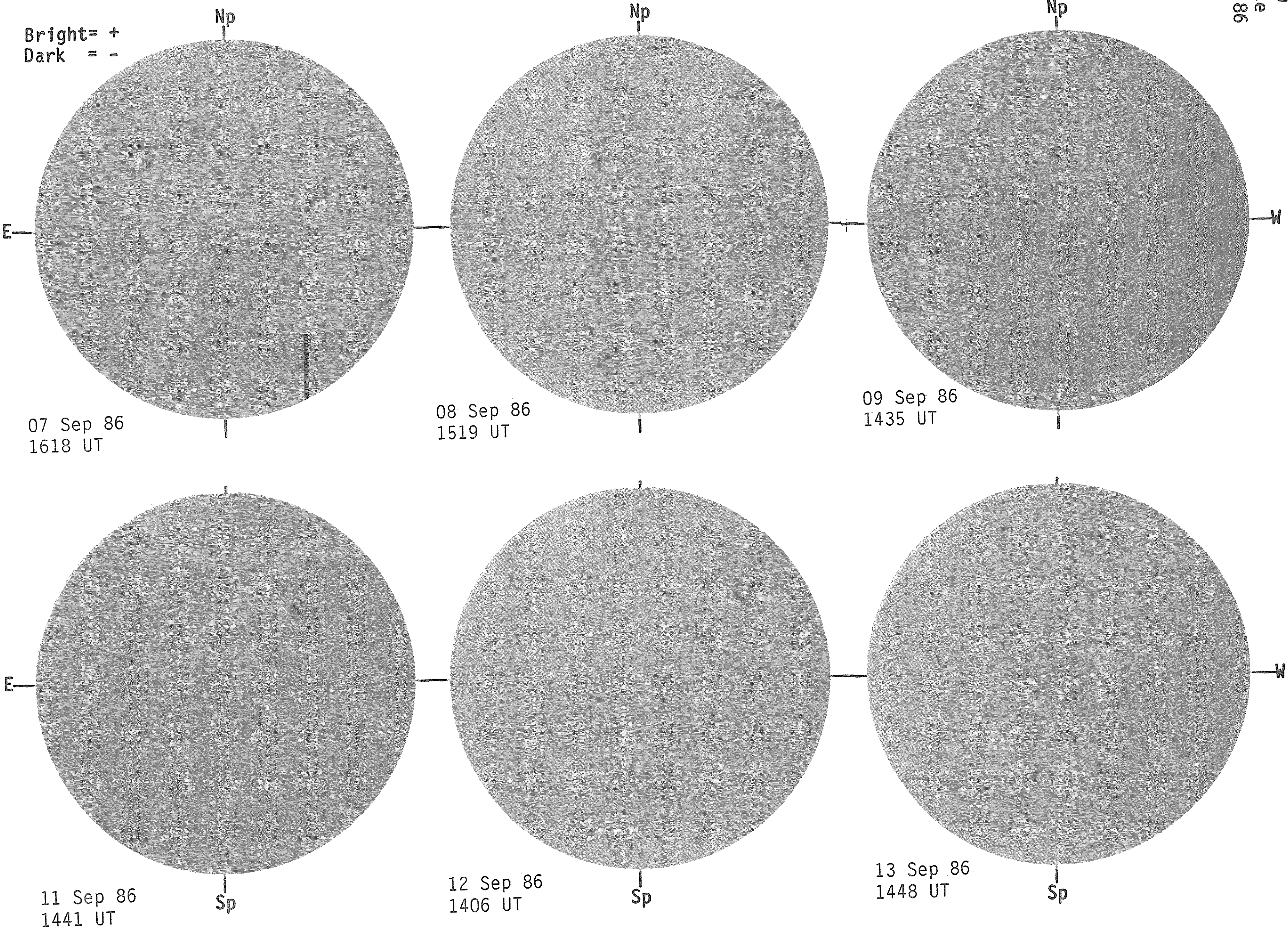
CARRINGTON ROTATION NUMBER 1780
(September 16 to October 13, 1986)



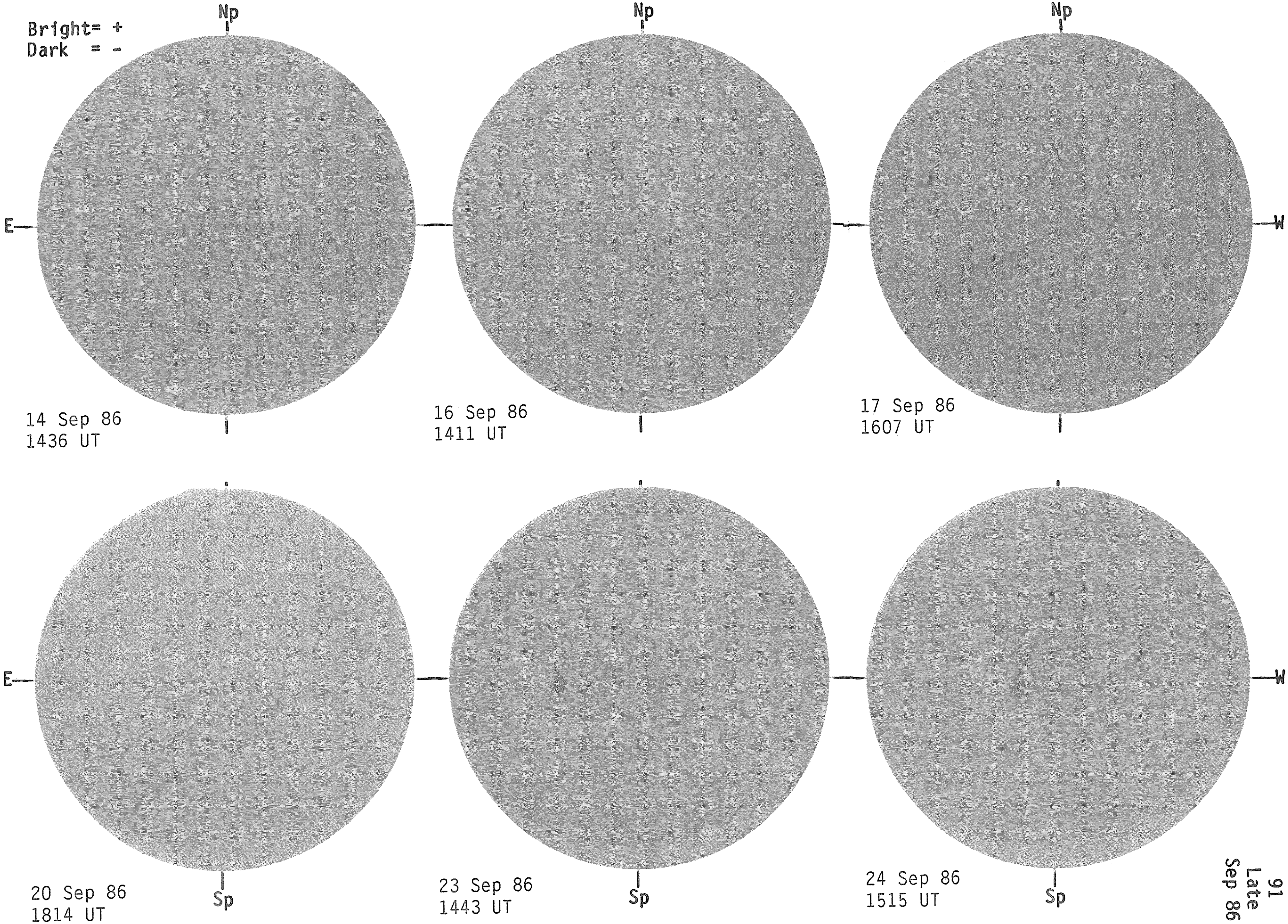
KITT PEAK MAGNETOGRAM



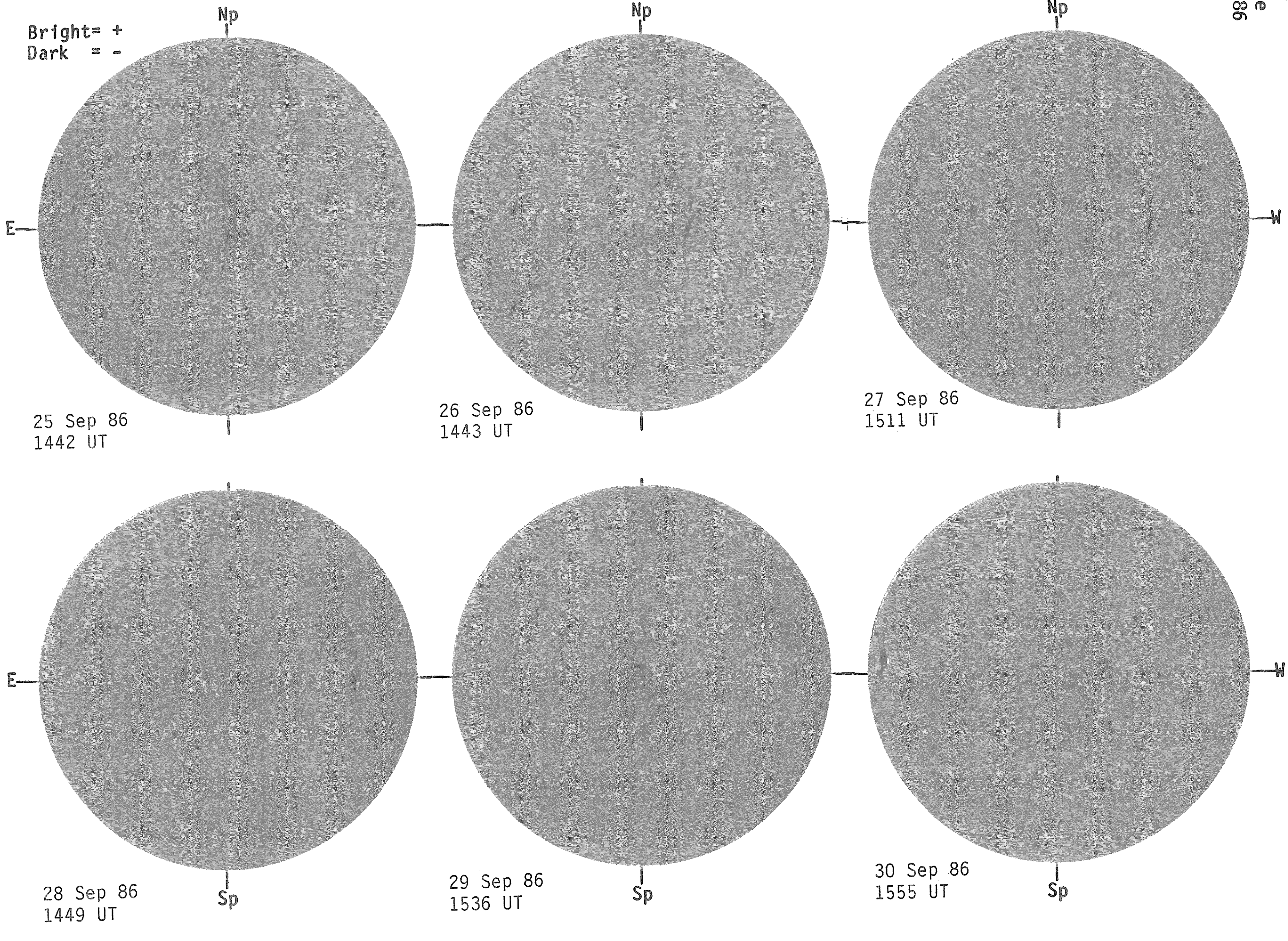
KITT PEAK MAGNETOGRAM



KITT PEAK MAGNETOGRAM



KITT PEAK MAGNETOGRAM

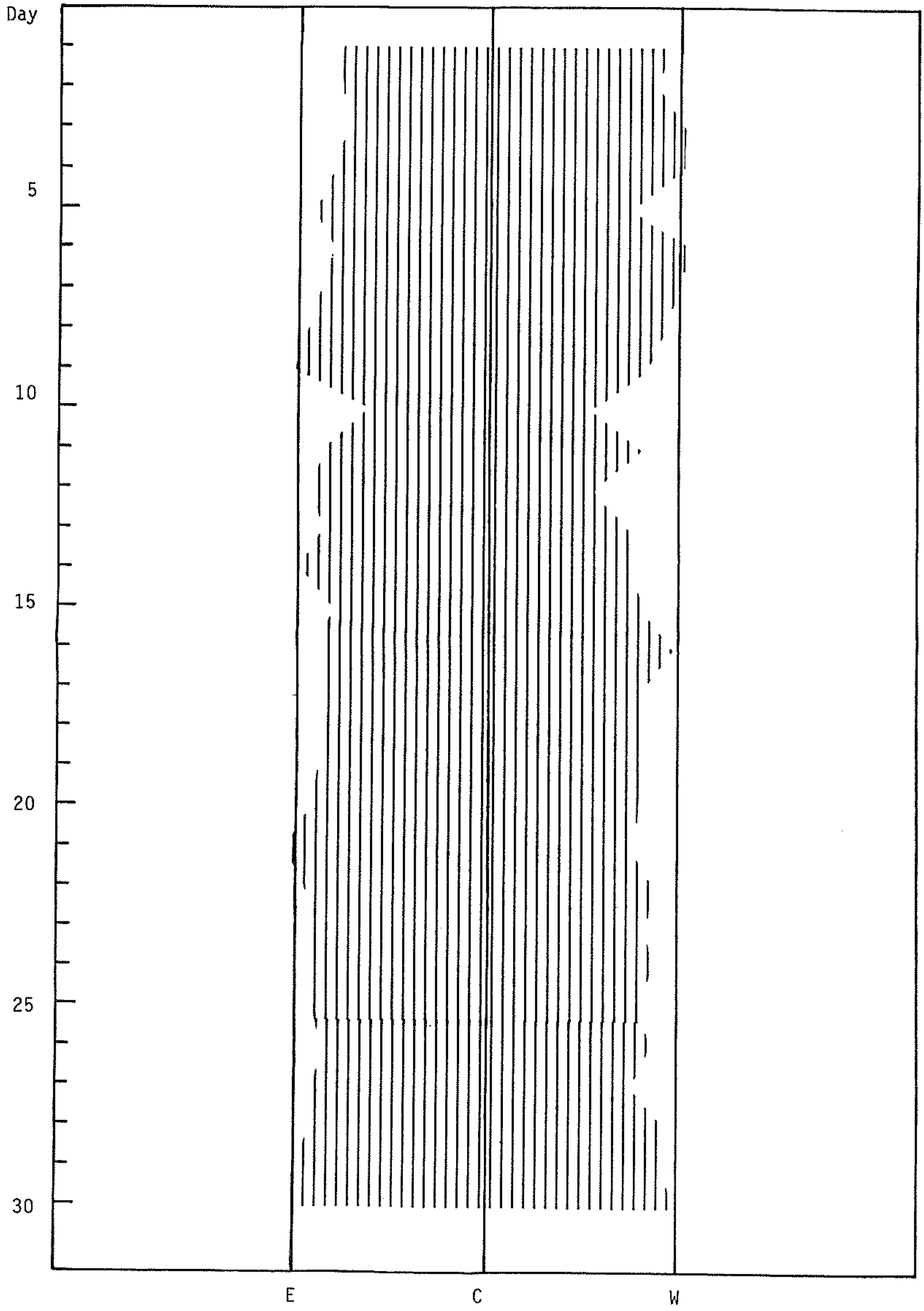


SOLAR INTERFEROMETRIC OBSERVATIONS

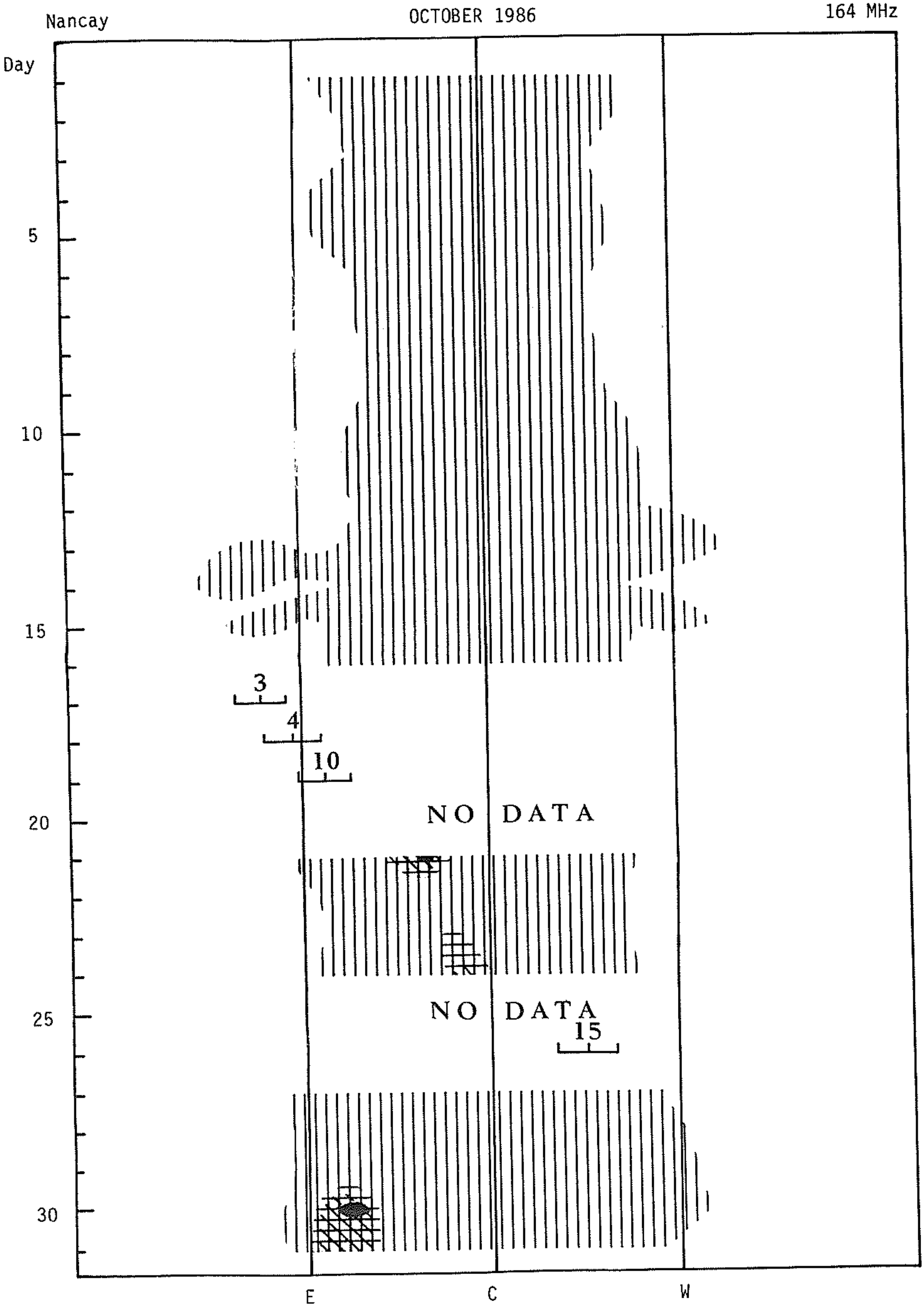
Nancay

SEPTEMBER 1986

164 MHz



SOLAR INTERFEROMETRIC OBSERVATIONS



SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

SEPTEMBER 1986

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
01	0542	1741	WEIS										
02	0521	1323	WEIS										
	1340	1501	WEIS										
03	0615	1409	WEIS				0626.5	0627.3	2				IIIG
			WEIS				0901.9	0902.0	1				IIIB
			WEIS				0902.0	0903.0	1				IIIB
	1416	1553	WEIS										
04	0718	1510	WEIS										
05	0549	0705	WEIS										
	0713	1733	WEIS										
06	0526	1731	WEIS										
07	0526	1729	WEIS				1654.6	1654.7	1				IIIG
08	0529	0736	WEIS				0849.4	0849.7	1				IIIG
	0747	1727	WEIS				1032.2	1032.4	3				IIIG
			WEIS				1120.5	1120.8	3				IIIG
09	0528	1539	WEIS										
	1546	1725	WEIS										
10	0532	1452	WEIS										
11	1445	1514	WEIS										
	1536	1721	WEIS										
12	0614	1232	WEIS										
	1337	1345	WEIS										
	1620	1719	WEIS										
13	0534	1717	WEIS										
14	0536	1715	WEIS										
15	0536	1713	WEIS										
16	0609	1710	WEIS										
17	1457	1707	WEIS										
18	0542	1706	WEIS										
19	1053	1703	WEIS										
20	0545	1702	WEIS										
21	0545	0743	WEIS										

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

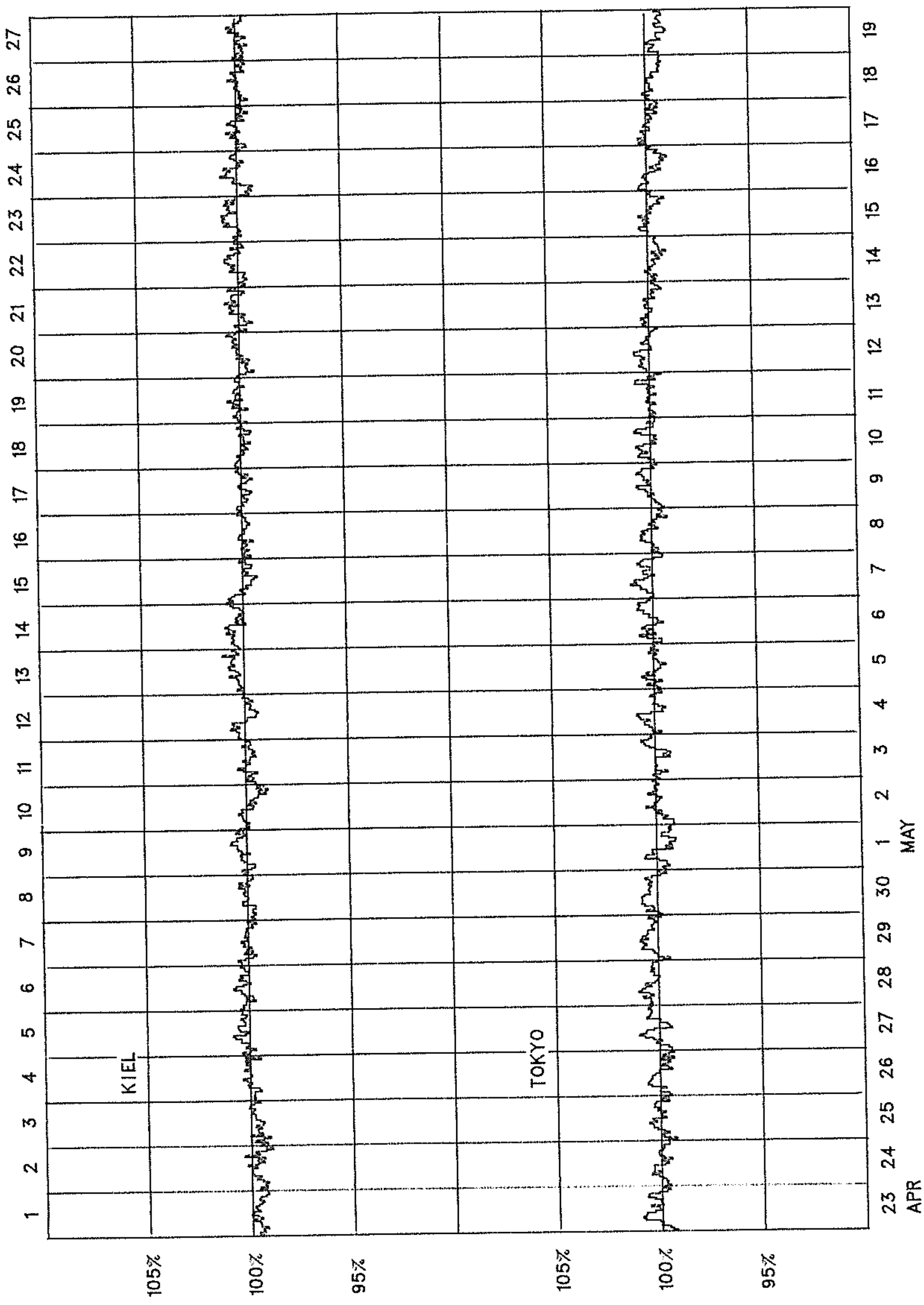
B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of burst
C = Underlying continuum (particularly with Type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III

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

Stations Reporting:

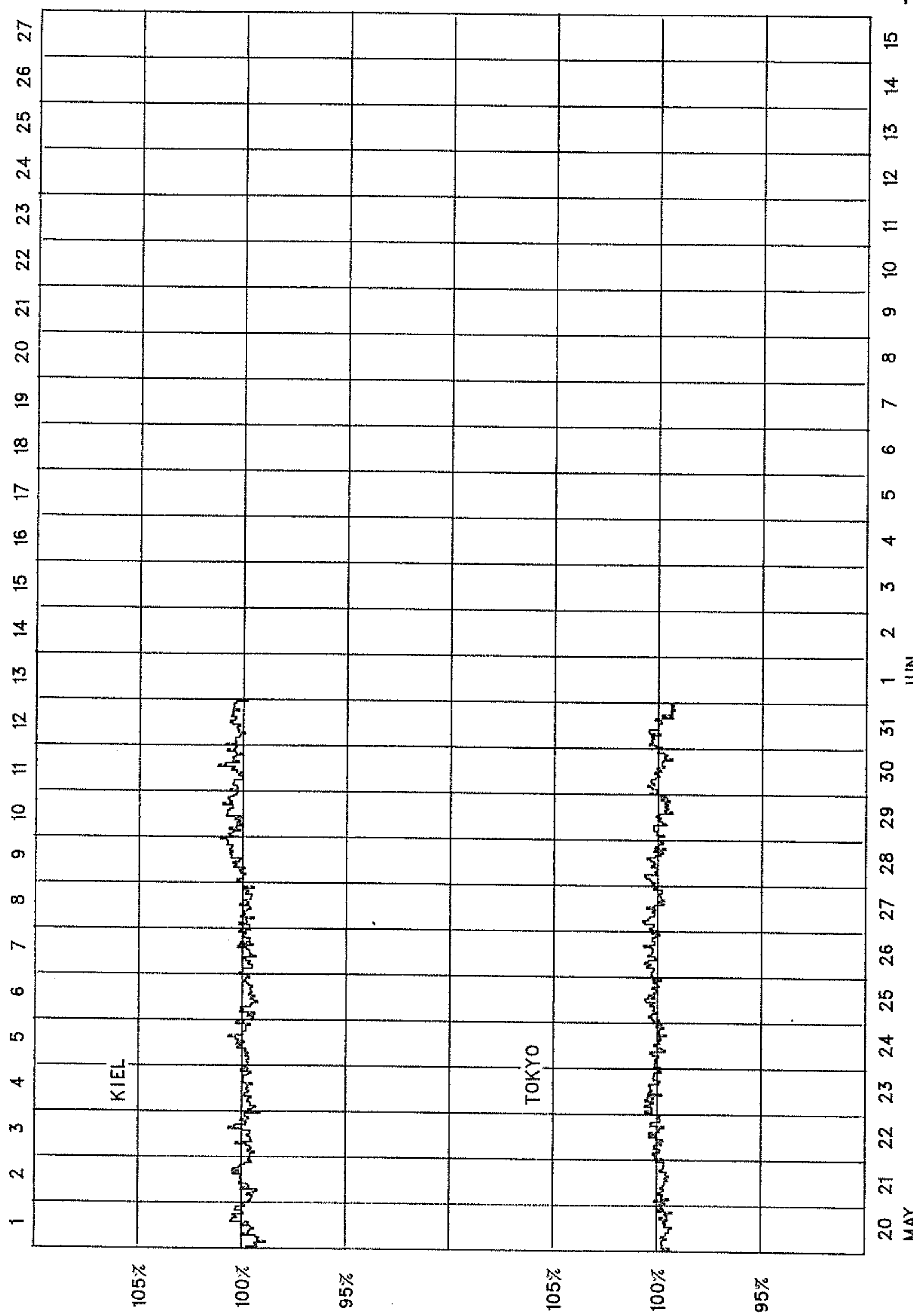
BLEN = Bleien   LEAR = Learmonth   PALE = Palehua   SGMR = Sagamore Hill   WEIS = Weissenau

COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2087 (April 1986–May 1986)



COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2088 (May 1986–June 1986)



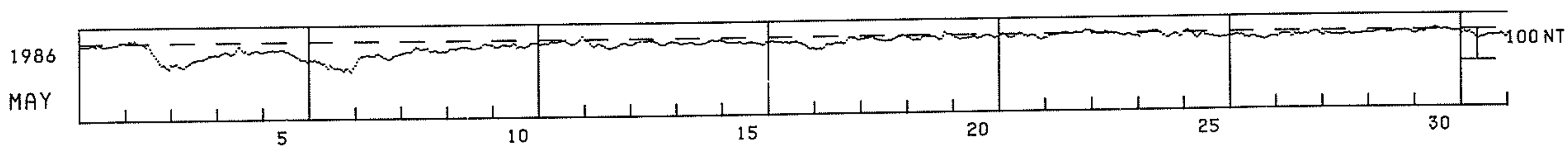
WDC-C2 FOR GEOMAGNETISM, KYOTO UNIVERSITY

HOURLY EQUATORIAL DST VALUES(PROVISIONAL)

MAY 1986

UNIT=NT

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	U.T. 24
1	-9	-9	-9	-8	-8	-5	-6	-7	-8	-4	-5	-9	-10	-9	-8	-7	-7	-6	-5	-4	2	1	3	1
2	1	6	6	3	9	3	-1	-2	-4	-7	-12	-4	-17	-27	-36	-45	-55	-64	-71	-69	-75	-79	-83	-69
3	-71	-68	-68	-75	-76	-79	-80	-73	-70	-67	-61	-57	-58	-55	-55	-54	-53	-50	-47	-43	-42	-41	-39	-41
4	-41	-38	-34	-31	-30	-34	-39	-38	-34	-26	-13	-13	-23	-30	-28	-34	-35	-30	-30	-27	-28	-31	-33	-32
5	-31	-29	-27	-27	-26	-29	-27	-27	-26	-26	-27	-31	-31	-36	-39	-43	-46	-50	-54	-57	-57	-57	-65	-64
6	-60	-61	-58	-62	-63	-68	-71	-69	-78	-84	-75	-79	-85	-87	-84	-86	-90	-95	-88	-87	-94	-98	-84	-76
7	-64	-54	-49	-48	-48	-44	-46	-47	-48	-47	-42	-40	-44	-47	-52	-54	-57	-58	-54	-49	-46	-45	-43	-41
8	-39	-38	-36	-35	-35	-33	-26	-20	-22	-27	-27	-25	-26	-24	-32	-34	-33	-31	-34	-36	-35	-34	-35	-34
9	-29	-25	-26	-28	-27	-24	-22	-21	-22	-20	-22	-24	-26	-27	-27	-23	-23	-21	-14	-11	-12	-14	-16	-16
10	-20	-22	-22	-18	-16	-15	-15	-17	-18	-15	-11	-13	-23	-20	-20	-23	-23	-20	-17	-12	-11	-9	-10	-12
11	-15	-13	-12	-12	-13	-9	-7	-8	-8	-8	-5	-5	-3	-2	-8	-12	-15	-16	-15	-10	-6	0	8	0
12	-4	-6	-14	-21	-23	-20	-16	-15	-19	-21	-25	-29	-31	-29	-27	-26	-25	-21	-16	-15	-14	-16	-18	-18
13	-18	-15	-12	-10	-9	-8	-8	-9	-9	-7	-8	-7	-11	-12	-17	-20	-21	-20	-17	-14	-12	-11	-12	-12
14	-14	-17	-18	-17	-16	-15	-13	-14	-15	-18	-19	-18	-19	-17	-17	-14	-11	-8	-7	-9	-10	-9	-7	-8
15	-11	-13	-15	-16	-16	-16	-15	-16	-14	-16	-19	-19	-17	-16	-15	-15	-17	-19	-19	-20	-23	-22	-16	-13
16	-13	-12	-14	-15	-15	-16	-17	-18	-15	-17	-20	-17	-17	-16	-16	-18	-20	-23	-25	-30	-36	-39	-38	-37
17	-40	-39	-38	-40	-36	-28	-23	-25	-25	-23	-21	-20	-22	-21	-23	-22	-14	-6	-4	-5	-6	-11	-12	-11
18	-11	-8	-7	-7	-5	-4	-8	-11	-14	-14	-16	-16	-17	-15	-15	-16	-12	-9	-5	-2	-1	1	-1	-6
19	-7	-11	-15	-15	-13	-14	-15	-9	-5	-3	-6	-6	-6	-5	-7	-11	-15	-13	-3	8	4	1	2	-4
20	-8	-9	-12	-13	-12	-12	-12	-11	-11	-8	-7	-9	-12	-11	-8	-5	-3	-1	-3	-5	-9	-12	-9	-5
21	-3	1	-1	-6	-10	-11	-10	-8	-3	0	3	1	-5	-5	-8	-6	-4	-5	-7	-13	-15	-18	-16	-14
22	-13	-7	-5	-6	-6	-3	-2	-1	2	3	3	1	-2	-2	1	3	1	1	2	7	10	9	8	7
23	5	1	-2	-1	-2	-3	5	4	-1	1	0	-1	0	-4	-6	-7	-8	-7	-4	-5	-8	-11	-11	-9
24	-13	-6	-2	-1	-1	3	4	5	5	5	1	-3	-10	-8	-16	-16	-12	-8	-5	-4	-7	-14	-12	-1
25	3	7	2	-3	-7	-14	-18	-14	-9	-4	-9	-11	-10	-13	-12	-15	-16	-17	-19	-17	-15	-17	-16	-15
26	-14	-12	-10	-9	-12	-11	-12	-18	-19	-21	-17	-15	-16	-20	-20	-22	-24	-27	-24	-22	-18	-17	-17	-17
27	-19	-13	-10	-8	-9	-9	-11	-19	-17	-11	-12	-11	-13	-12	-10	-11	-12	-7	-5	-4	-4	-6	-11	-16
28	-15	-9	-10	-11	-13	-13	-14	-14	-15	-16	-15	-12	-12	-10	-13	-13	-14	-12	-12	-12	-11	-10	-8	-9
29	-10	-8	-8	-7	-5	-3	-1	-1	-4	-8	-8	-7	-7	-5	-4	-4	-3	-3	-2	-3	-3	-6	-10	-12
30	-12	-9	-6	-6	-8	-5	0	0	2	5	6	5	1	-2	0	1	0	0	-4	-5	-6	-5	-5	-9
31	-13	-9	-12	-12	-8	-15	-19	-26	-32	-29	-26	-25	-24	-21	-19	-19	-20	-19	-19	-18	-16	-18	-26	-25



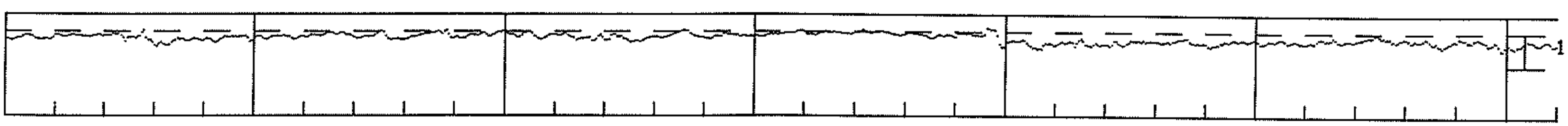
99
Late
Aug 86

HOURLY EQUATORIAL DST VALUES(PROVISIONAL)

AUGUST 1986

UNIT=NT

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	U.T. 24
1	-22	-24	-25	-24	-20	-18	-19	-15	-12	-10	-11	-12	-14	-19	-22	-22	-24	-22	-22	-21	-24	-22	-17	-10
2	-10	-11	-13	-16	-15	-14	-12	-10	-9	-12	-12	-12	-14	-14	-14	-16	-15	-13	-12	-10	-9	-11	-13	-10
3	-10	-11	-12	-7	-8	-8	-5	-12	-19	-29	-19	-17	-17	-17	-20	-16	-13	-3	4	-19	-25	-26	-33	-41
4	-44	-38	-33	-38	-39	-41	-39	-33	-29	-26	-20	-24	-22	-23	-28	-28	-26	-23	-21	-22	-23	-25	-27	-24
5	-21	-22	-23	-29	-33	-31	-26	-22	-18	-15	-15	-17	-15	-16	-16	-17	-16	-16	-13	-13	-18	-30	-28	-22
6	-15	-13	-14	-19	-22	-23	-21	-17	-15	-13	-14	-14	-13	-12	-14	-16	-16	-20	-23	-22	-18	-15	-14	-16
7	-17	-15	-11	-10	-11	-11	-12	-13	-11	-8	-6	-4	-3	-5	-9	-9	-5	-4	-6	-11	-10	-10	-13	-17
8	-21	-21	-19	-17	-13	-13	-16	-14	-13	-10	-6	0	2	-1	-13	-21	-24	-23	-22	-22	-21	-23	-23	-24
9	-22	-20	-16	-15	-15	-14	-11	-10	-8	-7	-7	-7	-4	-3	-1	2	-1	-7	0	4	-9	-19	-21	-18
10	-15	-19	-20	-18	-18	-14	-10	-8	-10	-11	-12	-8	-6	-4	-8	-13	-13	-10	-9	-4	-1	-2	1	0
11	-6	-9	-9	-9	-13	-17	-16	-10	-6	-3	-1	-2	-5	-14	-16	-20	-23	-22	-19	-16	-10	-8	-9	-9
12	-10	-12	-11	-8	-6	-10	-13	-17	-19	-26	-24	-21	-20	-20	-18	-19	-17	-27	-27	-22	-14	-11	-17	-25
13	-25	-23	-12	-9	-9	-16	-16	-14	-20	-22	-26	-31	-30	-29	-28	-28	-31	-28	-24	-21	-18	-17	-16	-16
14	-16	-17	-18	-18	-17	-16	-13	-10	-8	-6	-3	-1	1	3	3	1	-5	-9	-12	-14	-15	-17	-17	-18
15	-20	-21	-22	-18	-14	-13	-15	-13	-7	-5	-9	-8	-8	-10	-10	-11	-15	-14	-12	-13	-15	-13	-14	-14
16	-12	-13	-15	-15	-13	-11	-9	-7	-8	-7	-10	-7	-7	-6	-4	-4	-3	-3	-3	0	2	3	3	0
17	-7	-9	-7	-8	-11	-8	-6	-4	-2	1	-1	-1	-1	1	-1	-2	-2	-5	-5	-5	-6	-7	-5	-2
18	-2	1	4	6	4	-1	-3	-3	-1	2	3	1	1	0	-1	-2	-5	-7	-7	-8	-10	-10	-8	-7
19	-4	-3	-4	-5	-6	-7	-8	-9	-10	-12	-16	-19	-18	-16	-12	-8	-9	-12	-11	-9	-8	-11	-14	-16
20	-6	-4	-4	-3	-5	-5	-6	-8	-10	-9	-10	-11	-10	-7	11	10	6	9	5	-10	-36	-44	-44	-39
21	-29	-27	-26	-25	-28	-28	-26	-22	-24	-30	-38	-41	-45	-44	-49	-48	-49	-37	-33	-34	-33	-34	-39	-37
22	-34	-31	-28	-32	-31	-28	-27	-29	-40	-31	-24	-19	-26	-36	-37	-39	-40	-35	-31	-36	-39	-36	-36	-35
23	-38	-40	-35	-26	-25	-33	-35	-39	-38	-32	-30	-24	-25	-25	-26	-26	-29	-24	-29	-27	-25	-28	-28	-28
24	-28	-30	-30	-30	-28	-27	-30	-26	-25	-22	-21	-21	-18	-17	-17	-25	-29	-30	-33	-31	-33	-34	-31	-32
25	-39	-42	-39	-38	-35	-36	-31	-30	-25	-27	-29	-25	-22	-22	-26	-26	-22	-22	-25	-28	-26	-23	-20	-18
26	-26	-34	-33	-32	-29	-24	-25	-23	-28	-24	-20	-19	-20	-24	-31	-31	-28	-25	-23	-27	-30	-30	-32	-32
27	-30	-28	-30	-30	-23	-19	-17	-19	-23	-22	-22	-20	-14	-19	-25	-27	-29	-26	-24	-23	-24	-26	-25	-22
28	-21	-19	-19	-16	-13	-12	-14	-11	-6	-3	-9	-13	-12	-17	-15	-16	-23	-22	-28	-23	-19	-18	-16	-17
29	-21	-27	-25	-20	-23	-24	-24	-21	-16	-17	-23	-30	-32	-28	-35	-38	-42	-37	-35	-31	-29	-23	-22	-23
30	-16	-15	-18	-19	-25	-25	-27	-20	-19	-16	-19	-22	-23	-28	-35	-35	-32	-26	-28	-36	-50	-51	-41	-38
31	-34	-40	-43	-45	-39	-38	-35	-29	-27	-22	-23	-24	-28	-33	-34	-34	-30	-26	-23	-23	-29	-38	-37	-34



Note: The baselines for the observatories were adjusted for secular change. Therefore there is a small discontinuity in the Provisional Dst values between the last hour of July and the first hour of August.

HOURLY EQUATORIAL DST VALUES(PROVISIONAL)

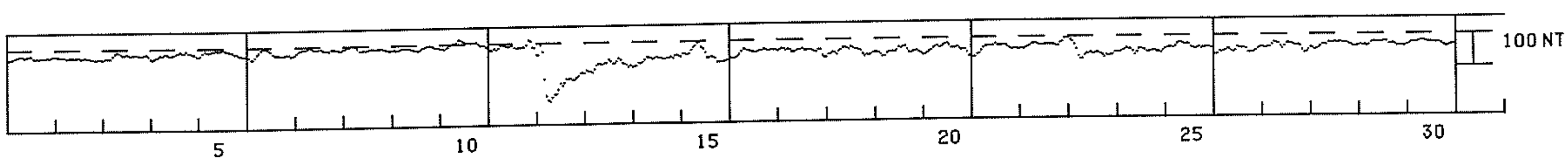
SEPTEMBER 1986

UNIT=NT

U.T.

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	-31	-29	-28	-24	-22	-21	-19	-20	-23	-21	-18	-18	-26	-27	-26	-27	-25	-26	-25	-24	-25	-23	-20	-20
2	-22	-22	-24	-24	-24	-27	-25	-25	-25	-26	-25	-23	-29	-27	-25	-27	-28	-30	-30	-32	-32	-31	-31	-32
3	-29	-29	-29	-29	-21	-14	-11	-11	-15	-18	-18	-16	-18	-20	-18	-19	-19	-21	-21	-20	-18	-17	-22	-31
4	-34	-31	-28	-25	-21	-22	-17	-17	-20	-22	-20	-18	-15	-14	-11	-14	-13	-9	-14	-15	-18	-18	-23	-25
5	-23	-16	-9	-12	-13	-12	-10	-8	-9	-9	-8	-6	-8	-10	-12	-13	-16	-20	-19	-24	-26	-28	-27	-29
6	-30	-37	-38	-30	-22	-16	-8	-5	-3	-7	-10	-13	-21	-25	-25	-25	-27	-28	-26	-24	-24	-29	-28	-24
7	-18	-13	-12	-9	-10	-7	-4	-5	-9	-10	-10	-9	-9	-12	-13	-14	-15	-11	-10	-11	-12	-14	-13	-11
8	-8	-5	-4	0	2	-1	-8	-15	-15	-13	-15	-13	-11	-11	-11	-12	-11	-10	-9	-12	-14	-16	-17	-15
9	-14	-17	-15	-13	-10	-11	-11	-11	-12	-13	-15	-17	-19	-15	-10	-8	-6	-3	-4	-6	-8	-11	-11	-12
10	-14	-15	-10	-8	-3	1	2	5	13	13	10	6	4	5	4	4	3	5	0	-5	-6	-6	-11	-16
11	-20	-20	-15	-18	-14	-6	-6	-7	-8	-10	-7	-6	-12	-15	-13	-13	-12	-12	-6	10	6	-12	-14	-36
12	-35	-7	-27	-111	-161	-174	-178	-166	-157	-156	-143	-124	-131	-122	-110	-111	-109	-113	-112	-107	-101	-93	-92	-93
13	-85	-88	-89	-91	-81	-69	-65	-66	-68	-62	-62	-53	-58	-65	-64	-57	-50	-55	-65	-67	-70	-77	-72	-77
14	-74	-73	-65	-67	-63	-54	-47	-48	-49	-52	-49	-46	-50	-50	-51	-53	-50	-50	-46	-51	-43	-40	-44	-46
15	-38	-38	-41	-38	-28	-19	-13	-7	-3	-19	-24	-36	-51	-51	-47	-49	-53	-64	-65	-65	-62	-62	-60	-56
16	-52	-54	-53	-50	-42	-34	-28	-28	-31	-33	-36	-35	-38	-36	-33	-32	-28	-29	-32	-32	-29	-31	-30	-34
17	-31	-28	-28	-33	-29	-31	-37	-38	-34	-31	-31	-28	-32	-33	-31	-31	-34	-36	-37	-31	-31	-49	-55	-54
18	-45	-44	-39	-40	-46	-38	-32	-26	-26	-28	-31	-23	-26	-30	-30	-32	-36	-46	-53	-48	-49	-47	-42	-40
19	-41	-42	-48	-54	-52	-44	-41	-40	-39	-40	-35	-27	-30	-26	-24	-34	-43	-44	-41	-39	-38	-43	-46	-51
20	-50	-45	-41	-37	-31	-25	-23	-29	-28	-22	-19	-17	-24	-31	-31	-30	-28	-33	-37	-35	-36	-44	-56	-66
21	-59	-59	-52	-49	-41	-33	-28	-27	-26	-27	-25	-21	-26	-26	-25	-24	-24	-29	-34	-37	-36	-36	-37	-38
22	-36	-37	-34	-30	-27	-22	-21	-21	-24	-26	-25	-23	-23	-23	-24	-23	-24	-28	-27	-18	-15	-6	-3	-5
23	-10	-15	-26	-39	-61	-70	-68	-57	-53	-53	-49	-52	-52	-49	-51	-54	-57	-64	-57	-60	-58	-58	-50	-50
24	-49	-47	-44	-43	-38	-40	-41	-47	-58	-51	-41	-39	-43	-44	-50	-50	-48	-45	-45	-50	-50	-52	-46	-41
25	-38	-36	-36	-37	-34	-26	-22	-22	-26	-28	-26	-27	-35	-39	-41	-39	-36	-41	-38	-38	-35	-36	-39	-56
26	-60	-58	-49	-53	-50	-48	-42	-44	-50	-53	-48	-37	-39	-40	-39	-43	-52	-55	-53	-53	-47	-42	-39	-38
27	-39	-40	-38	-37	-31	-24	-25	-27	-36	-43	-35	-27	-25	-28	-29	-32	-32	-33	-35	-47	-56	-54	-47	-41
28	-42	-47	-46	-42	-37	-32	-32	-32	-25	-26	-27	-24	-26	-25	-24	-27	-27	-27	-30	-33	-37	-37	-37	-35
29	-32	-36	-34	-37	-34	-28	-25	-24	-26	-25	-25	-23	-22	-24	-30	-30	-29	-33	-37	-36	-35	-37	-38	-34
30	-30	-28	-25	-25	-26	-24	-21	-21	-24	-26	-25	-26	-27	-28	-27	-28	-30	-35	-39	-39	-36	-34	-32	-33

1986
SEP



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

SEPTEMBER 1986

Storm Sudden Commencements (ssc)

Day	Time	Quality: Station Group*
11	1836	A: DOB NUR WNG HAD GCK AQU EBR COI SPT FRD LNP MPO; B: NGK BDV CLF NCK MMB KAK KNY GNA CAO AMS CZT KGL

Solar Flare Effects (sfe)

Day	Begin-End	Station(s)
01	1116-1124	MPO
02	0824-0830	NCK
05	0648-0702	MPO
10	1059-1106	CLF NCK
13	1447-1452	NCK
16	2214-2220	NCK
18	1054-1120	MPO
30	1106-1121	MPO

Underlines indicate confirming geophysical effects.

Reporting Observatories:

DOB NUR WNG NGK HAD BDV CLF NCK GCK MMB AQU EBR COI
SPT FRD KAK KNY LNP MPO GNA CAO AMS CZT KGL DUM

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

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

MAY 1986

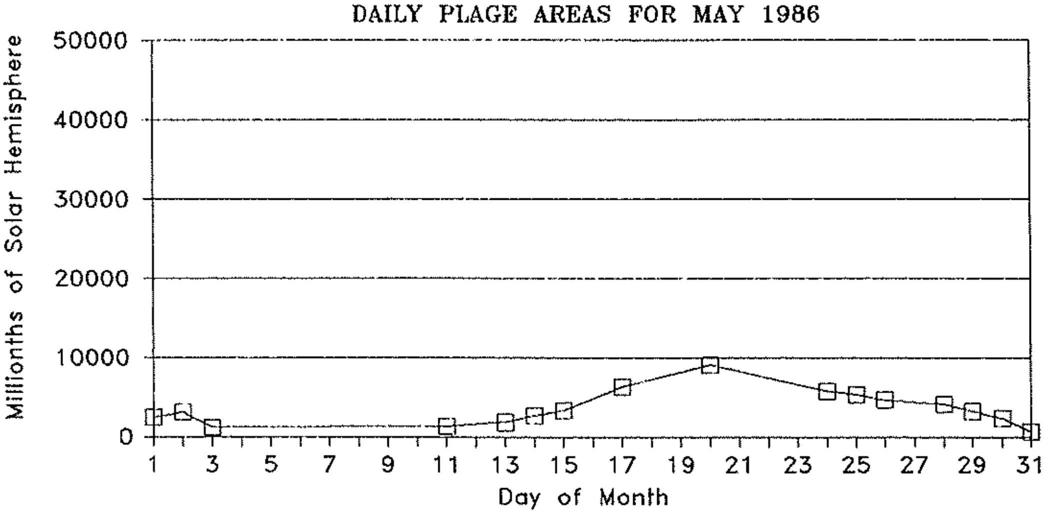
Calcium Plage Region	Sta	Observation Mo Day	Time (UT)	Lat CMD	CMP Mo Day	Intensity	Corrected Area (10-6 Hemi)	NOAA/USAF Sunspot Groups #1	#2	#3
19742	BIGB	05 15	1248	S25 W71	05 10.0	2.0	0168			
19741	BIGB	05 13	1413	N43 E44	05 17.2	1.9	0090			
19740	BIGB	05 11	1403	S04 E77	05 17.3	2.0	1396			
19740	BIGB	05 13	1413	S04 E51	05 17.4	2.4	1760			
19740	BIGB	05 14	1345	S04 E37	05 17.3	1.8	1436			
19740	BIGB	05 15	1248	S04 E24	05 17.3	2.1	1680			
19740	BIGB	05 17	2244	S04 W08	05 17.3	1.8	1290			
19740	BIGB	05 20	1300	S04 W42	05 17.4	2.0	1440			
19746	BIGB	05 17	2244	N13 E01	05 18.0	1.8	0190			
19743	BIGB	05 14	1345	N04 E80	05 20.5	.6	1238	4729		
19743	BIGB	05 15	1248	N05 E77	05 21.3	3.0	1478	4729		
19743	BIGB	05 17	2244	N05 E46	05 21.4	3.3	3120	4729		
19743	BIGB	05 20	1300	N05 E12	05 21.4	3.0	3130	4729		
19743	BIGB	05 24	2105	N05 W46	05 21.4	2.1	1720	4729		
19743	BIGB	05 25	1746	N05 W57	05 21.5	1.6	1200	4729		
19743	BIGB	05 26	1706	N05 W71	05 21.4	1.3	0710	4729		
19747	BIGB	05 17	2244	N30 E52	05 22.0	4.1	0330			
19748	BIGB	05 17	2244	N03 E66	05 22.9	3.6	0309	4730		
19748	BIGB	05 20	1300	N03 E32	05 22.9	1.9	0390	4730		
19749	BIGB	05 17	2244	N06 E80	05 23.9	2.4	0620	24315		
19749	BIGB	05 20	1300	N06 E46	05 24.0	2.6	0751	24315		
19749	BIGB	05 24	2105	N06 W17	05 23.6	2.2	0630	24315		
19749	BIGB	05 25	1746	N06 W28	05 23.6	2.0	0630	24315		
19749	BIGB	05 26	1706	N06 W41	05 23.6	2.0	0440	24315		
19749	BIGB	05 28	2032	N06 W70	05 23.6	1.0	0400	24315		
19750	BIGB	05 17	2244	S07 E80	05 23.9	2.7	0526			
19750	BIGB	05 20	1300	S07 E41	05 23.6	1.9	0380			
19755	BIGB	05 20	1300	N08 E65	05 25.4	1.3	2942	4731		
19755	BIGB	05 24	2105	N08 E02	05 25.0	2.6	3470	4731		
19755	BIGB	05 25	1746	N08 W10	05 25.0	2.6	3500	4731		
19755	BIGB	05 26	1706	N08 W22	05 25.1	2.7	3320	4731		
19755	BIGB	05 28	2032	N08 W51	05 25.0	2.2	3040	4731		
19755	BIGB	05 29	1658	N08 W62	05 25.0	2.2	2600	4731		
19755	BIGB	05 30	1731	N08 W75	05 25.1	2.2	1491	4731		
19754	BIGB	05 20	1300	S17 E60	05 25.1	2.1	0060			
19756	BIGB	05 26	1706	S02 E02	05 26.9	1.5	0230	4732		
19756	BIGB	05 28	2032	S02 W26	05 26.9	1.4	0440	4732		
19756	BIGB	05 29	1658	S02 W37	05 26.9	2.6	0610	4732		
19756	BIGB	05 30	1731	S02 W56	05 26.5	2.6	0780	4732		
19756	BIGB	05 31	1557	S02 W69	05 26.5	2.2	0546	4732		
19758	BIGB	05 30	1731	S32 W48	05 26.9	1.3	0090			
19758	BIGB	05 31	1557	S32 W56	05 27.2	1.0	0100			
19757	BIGB	05 28	2032	S20 W09	05 28.2	.8	0230			

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

MAY 1986

Day	Sta	Plage Index	Plage Count	Smallest Plage (Millionths	Largest Plage of Solar	Total Area Hemisphere)	Smallest Intensity	Largest Intensity
01	BIGB	3.3	2	1120	1290	2410	1.0	3.8
02	BIGB	3.2	3	720	1731	3171	.8	3.6
03	BIGB	0.9	2	115	1062	1177	1.6	2.8
04	No Observations This DAY							
05	No Observations This DAY							
06	No Observations This DAY							
07	No Observations This DAY							
08	No Observations This DAY							
09	No Observations This DAY							
10	No Observations This DAY							
11	BIGB	0.5	1	1396	1396	1396	2.0	2.0
12	No Observations This DAY							
13	BIGB	2.7	2	90	1760	1850	1.9	2.4
14	BIGB	2.1	2	1238	1436	2674	.6	1.8
15	BIGB	4.1	3	168	1680	3326	2.0	3.0
16	No Observations This DAY							
17	BIGB	11.1	7	190	3120	6385	1.8	4.1
18	No Observations This DAY							
19	No Observations This DAY							
20	BIGB	15.3	7	60	3130	9093	1.3	3.0
21	No Observations This DAY							
22	No Observations This DAY							
23	No Observations This DAY							
24	BIGB	12.7	3	630	3470	5820	2.1	2.6
25	BIGB	11.0	3	630	3500	5330	1.6	2.6
26	BIGB	9.5	4	230	3320	4700	1.3	2.7
27	No Observations This DAY							
28	BIGB	4.9	4	230	3040	4110	.8	2.2
29	BIGB	3.8	2	610	2600	3210	2.2	2.6
30	BIGB	1.9	3	90	1491	2361	1.3	2.6
31	BIGB	0.4	2	100	546	646	1.0	2.2

DAILY PLAGE AREAS FOR MAY 1986



BIG BEAR SOLAR OBSERVATORY
ACTIVE REGION SUMMARY

MAY 1986

Region Number	Return Of Region	Rotation Age	First Seen This Rotation	Duration This Rotation
19738	New	1	860503	13 days
19740	19732 and 19733	2	860511	≥10
19741	New	1	860513	01
19742	New	1	860515	≥01
19743	19734	2	860514	01
19746	New	1	860517	02
19747	New	1	860517	03
19748	New	1	860517	≥04
19749	19735	2	860517	12
19750	New	1	860517	≥04
19751	New	1	860519	01
19752	New	1	860519	01
19753	New	1	860519	01
19754	New	1	860519	≥02
19755	19737	2	860519	12
19756	New	1	860526	06
19757	New	1	860528	01
19758	New	1	860530	02

1. No BBSO Cak Data on May 04-06, 8, 12, 16, 21-23 and 27.

2. No KPNO Magnetograms on May 02, 06 and 24.

3. Contiguous Plages: None

4. Plageless days: May 07, 09, and 10.

CALCIUM PLAGE REGIONS
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

JUNE 1986

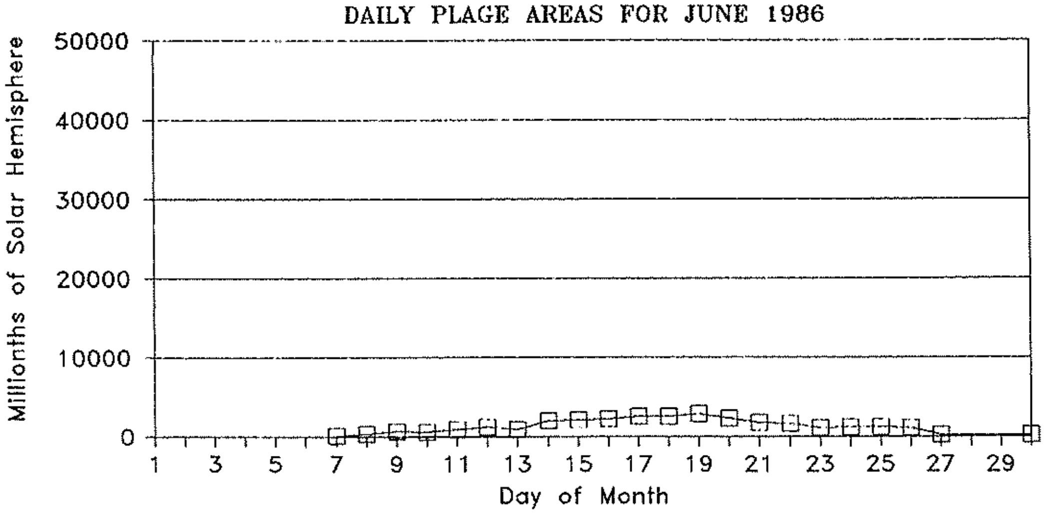
Calcium Plage Region	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Intensity	Corrected Area (10-6 Hemi)	NOAA/USAF Sunspot Groups #1	#2	#3
19759	BIGB	06	07	1722	N08	W31	06	5.4	1.7	0100			
19759	BIGB	06	08	1702	N08	W49	06	5.0	1.1	0320			
19759	BIGB	06	09	1914	N08	W60	06	5.3	.7	0060			
19760	BIGB	06	09	1914	S32	E64	06	14.9	.5	0220			
19760	BIGB	06	10	1642	S32	E52	06	14.8	.8	0200			
19760	BIGB	06	11	1944	S32	E43	06	15.2	.6	0100			
19760	BIGB	06	12	2201	S32	E28	06	15.1	1.0	0080			
19760	BIGB	06	13	2121	S32	E16	06	15.1	.8	0050			
19761	BIGB	06	09	1914	N02	E71	06	15.1	.7	0430			
19761	BIGB	06	10	1642	N02	E59	06	15.1	1.1	0350			
19761	BIGB	06	11	1944	N02	E45	06	15.2	1.0	0190			
19761	BIGB	06	12	2201	N02	E30	06	15.1	1.0	0185			
19761	BIGB	06	13	2121	N02	E17	06	15.1	.8	0167			
19762	BIGB	06	11	1944	N06	E74	06	17.4	.8	0650			
19762	BIGB	06	12	2201	N06	E60	06	17.4	.9	0810			
19762	BIGB	06	13	2121	N06	E43	06	17.1	1.0	0695			
19762	BIGB	06	14	1817	N06	E31	06	17.1	1.2	0830			
19762	BIGB	06	15	1757	N06	E18	06	17.1	1.3	0940			
19762	BIGB	06	16	1642	N06	E06	06	17.1	1.3	1010			
19762	BIGB	06	17	1800	N06	W08	06	17.1	1.2	1040			
19762	BIGB	06	18	1805	N06	W22	06	17.1	1.2	0910			
19762	BIGB	06	19	2234	N06	W37	06	17.2	1.2	0800			
19762	BIGB	06	20	1618	N06	W47	06	17.2	1.3	0680			
19762	BIGB	06	21	1716	N06	W61	06	17.1	1.2	0380			
19762	BIGB	06	22	1729	N06	W76	06	17.0	.9	0380			
19768	BIGB	06	19	2234	N27	W34	06	17.3	.9	0100			
19765	BIGB	06	17	1800	S07	E04	06	18.0	1.0	0130			
19763	BIGB	06	12	2201	N28	E67	06	18.1	1.0	0116			
19767	BIGB	06	19	2234	N07	W21	06	18.4	1.2	0170			
19769	BIGB	06	21	1716	S03	W29	06	19.5	1.6	0100			
19770	BIGB	06	22	1729	N08	W43	06	19.5	1.0	0050			
19766	BIGB	06	18	1805	S07	E12	06	19.6	1.0	0260			
19766	BIGB	06	19	2234	S07	W05	06	19.6	2.0	0380			
19766	BIGB	06	20	1618	S07	W15	06	19.5	1.5	0320			
19766	BIGB	06	21	1716	S07	W29	06	19.5	.8	0100			
19764	BIGB	06	14	1817	N08	E73	06	20.2	1.1	1170			
19764	BIGB	06	15	1757	N08	E61	06	20.3	1.4	1190			
19764	BIGB	06	16	1642	N08	E50	06	20.4	1.3	1205			
19764	BIGB	06	17	1800	N08	E36	06	20.4	1.5	1390			
19764	BIGB	06	18	1805	N08	E25	06	20.6	1.3	1440			
19764	BIGB	06	19	2234	N08	E10	06	20.7	1.5	1430			
19764	BIGB	06	20	1618	N07	W01	06	20.6	1.4	1370			
19764	BIGB	06	21	1716	N07	W14	06	20.7	1.3	1260			
19764	BIGB	06	22	1729	N07	W27	06	20.7	1.2	1220			
19764	BIGB	06	23	1749	N07	W41	06	20.7	1.0	1110			
19764	BIGB	06	24	1916	N07	W52	06	20.9	1.1	1090			
19764	BIGB	06	25	1926	N07	W65	06	20.9	1.1	1028			
19764	BIGB	06	26	1631	N07	W73	06	21.2	.7	0985			
19771	BIGB	06	24	1916	N04	E01	06	24.9	1.5	0110			
19771	BIGB	06	25	1926	N04	W12	06	24.9	1.6	0240			
19771	BIGB	06	26	1631	N04	W24	06	24.9	1.7	0120			
19772	BIGB	06	27	1819	S09	W36	06	25.1	.8	0090			
19774	BIGB	06	30	1601	N09	W71	06	25.3	2.0	0120			
19775	BIGB	06	30	1601	S34	W61	06	25.8	2.2	0100			
19773	BIGB	06	27	1819	N12	W22	06	26.1	1.0	0100			

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

JUNE 1986

Day	Sta	Plage Index	Plage Count	Smallest Plage (Millionths	Largest Plage of Solar	Total Area Hemisphere)	Smallest Intensity	Largest Intensity
01	No Observations This DAY							
02	No Observations This DAY							
03	No Observations This DAY							
04	No Observations This DAY							
05	No Observations This DAY							
06	No Observations This DAY							
07	BIGB	0.1	1	100	100	100	1.7	1.7
08	BIGB	0.2	1	320	320	320	1.1	1.1
09	BIGB	0.1	3	60	430	710	.5	.7
10	BIGB	0.3	2	200	350	550	.8	1.1
11	BIGB	0.3	3	100	650	940	.6	1.0
12	BIGB	0.6	4	80	810	1191	.9	1.0
13	BIGB	0.7	3	50	695	912	.8	1.0
14	BIGB	1.2	2	830	1170	2000	1.1	1.2
15	BIGB	1.9	2	940	1190	2130	1.3	1.4
16	BIGB	2.3	2	1010	1205	2215	1.3	1.3
17	BIGB	3.0	3	130	1390	2560	1.0	1.5
18	BIGB	2.9	3	260	1440	2610	1.0	1.3
19	BIGB	3.8	5	100	1430	2880	.9	2.0
20	BIGB	2.9	3	320	1370	2370	1.3	1.5
21	BIGB	2.0	4	100	1260	1840	.8	1.6
22	BIGB	1.4	3	50	1220	1650	.9	1.2
23	BIGB	0.8	1	1110	1110	1110	1.0	1.0
24	BIGB	0.9	2	110	1090	1200	1.1	1.5
25	BIGB	0.8	2	240	1028	1268	1.1	1.6
26	BIGB	0.4	2	120	985	1105	.7	1.7
27	BIGB	0.1	2	90	100	190	.8	1.0
28	No Observations This DAY							
29	No Observations This DAY							
30	BIGB	0.2	2	100	120	220	2.0	2.2

DAILY PLAGE AREAS FOR JUNE 1986



BIG BEAR SOLAR OBSERVATORY
ACTIVE REGION SUMMARY

JUNE 1986

Region Number	Return Of Region	Rotation Age	First Seen This Rotation	Duration This Rotation
19759	New	1	860607	03 days
19760	New	1	860609	05
19761	New	1	860609	05
19762	19743	3	860611	12
19763	New	1	860612	01
19764	19755	3	860614	13
19765	New	1	860617	01
19766	New	1	860618	04
19767	New	1	860619	01
19768	New	1	860619	01
19769	New	1	860621	01
19770	New	1	860622	01
19771	New	1	860624	03
19772	New	1	860627	01
19773	New	1	860627	01
19774	New	1	860630	01
19775	New	1	860630	01

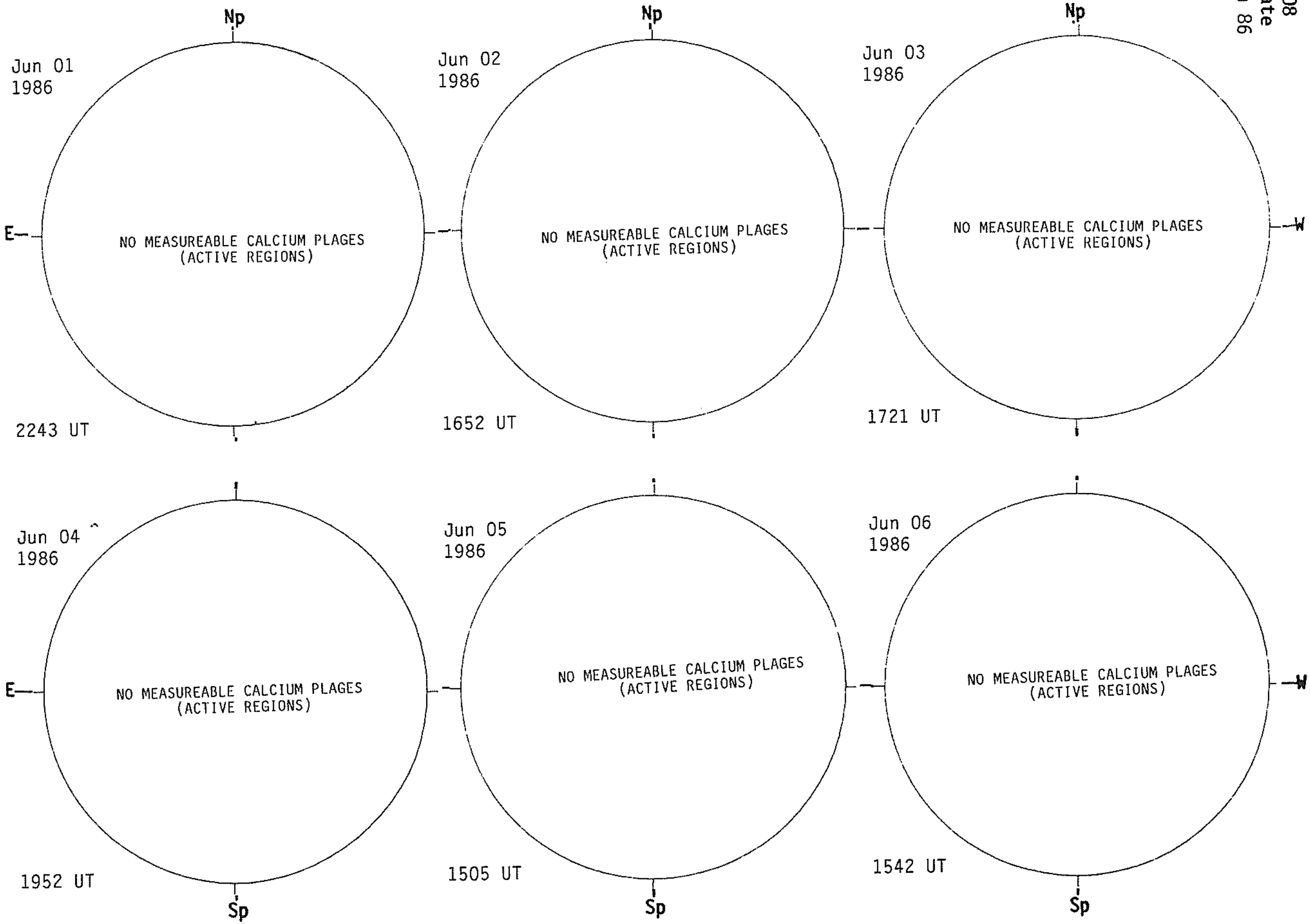
1. Calcium data on every day in June.

2. No KPNO Magnetograms on June 11, 29 and 30.

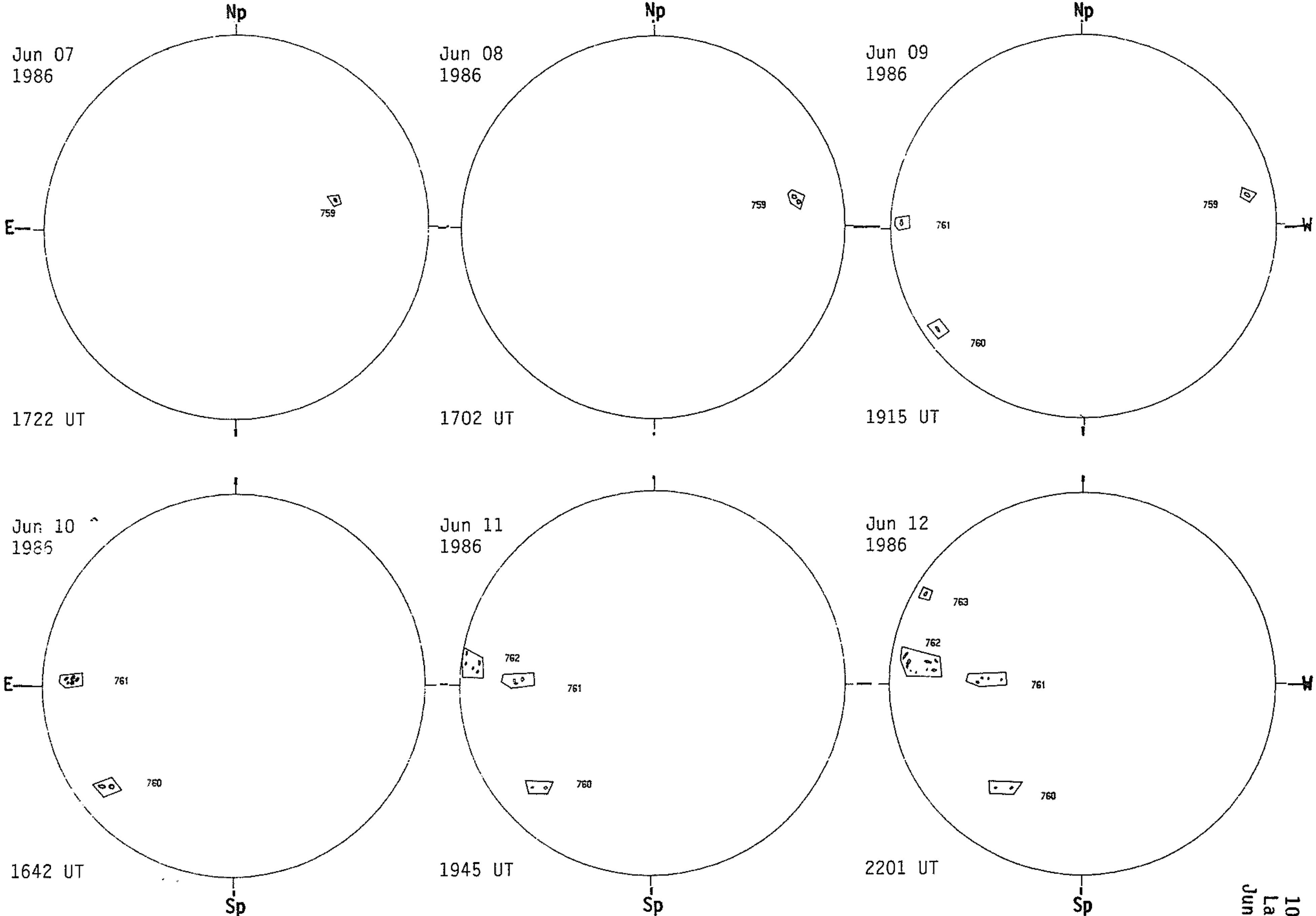
3. Contiguous Plages: None

4. Plageless days: June 1-6, 28 and 29.

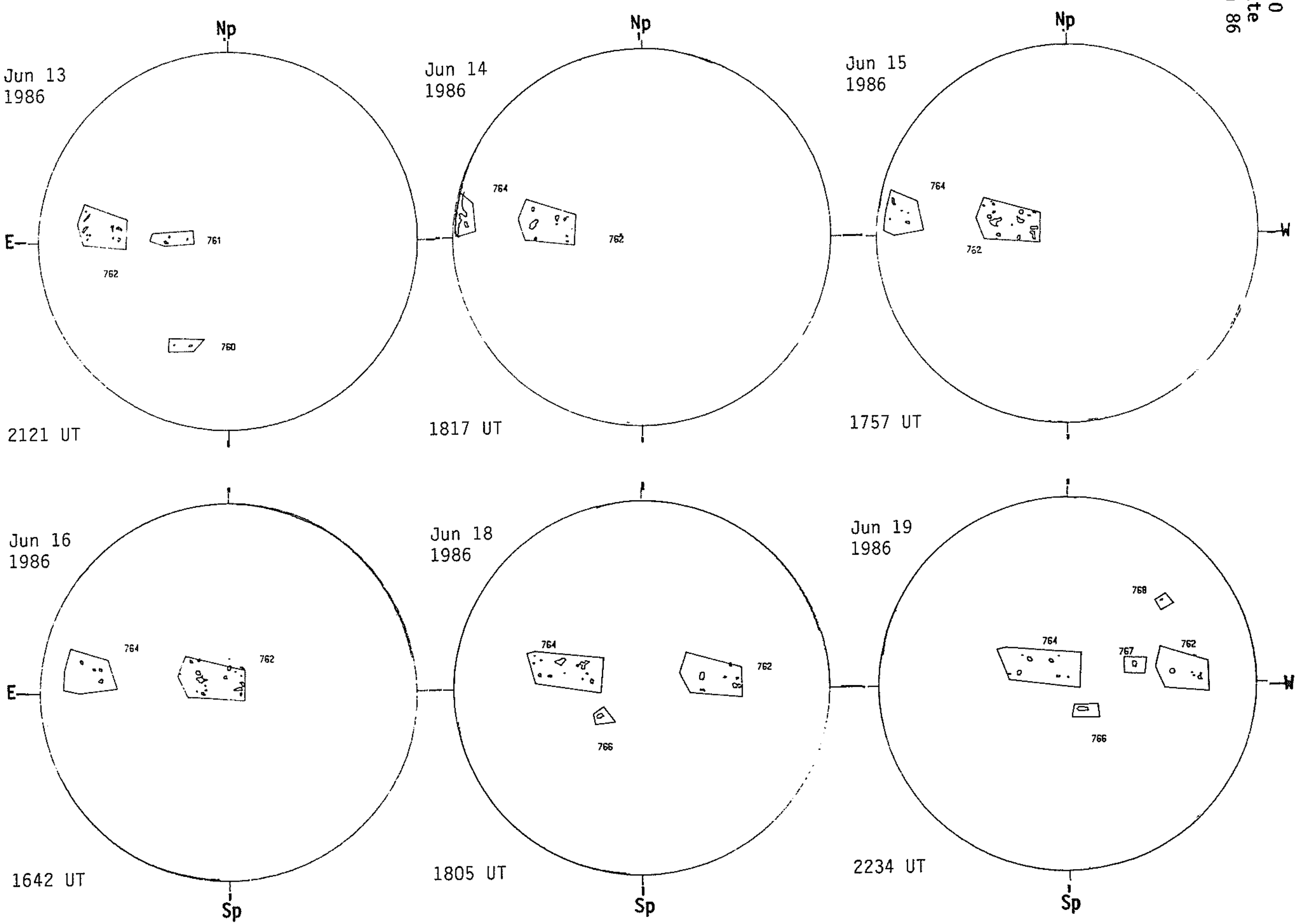
BIG BEAR SOLAR CALCIUM PLAGE REGIONS



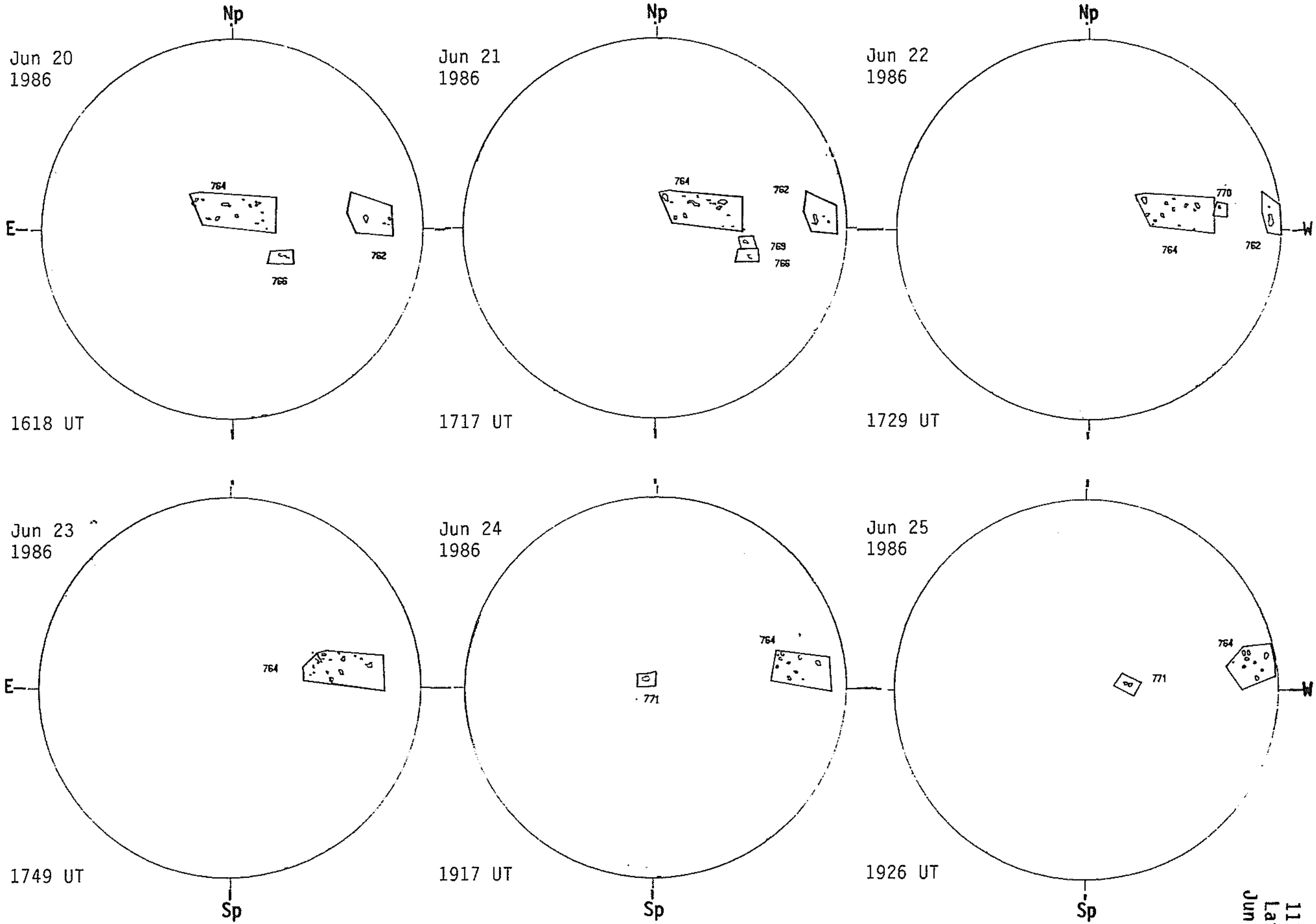
BIG BEAR SOLAR CALCIUM PLAGE REGIONS



BIG BEAR SOLAR CALCIUM PLAGE REGIONS



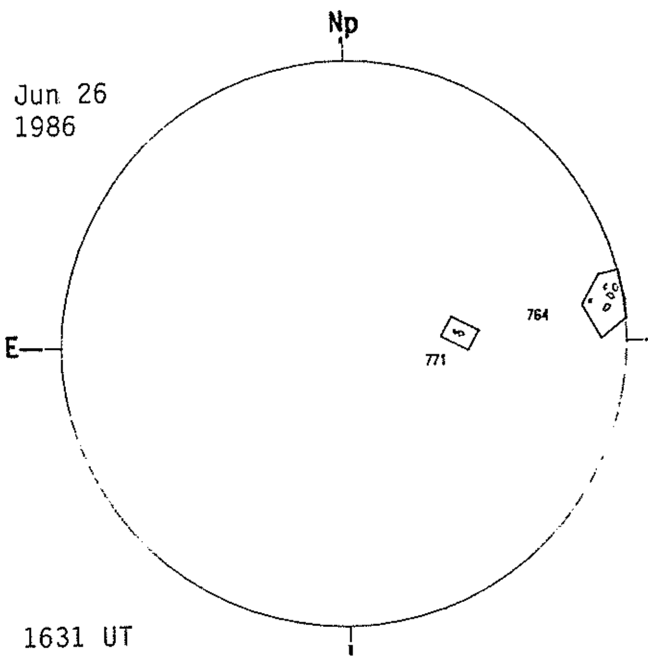
BIG BEAR SOLAR CALCIUM PLAGE REGIONS



111
Late
Jun 86

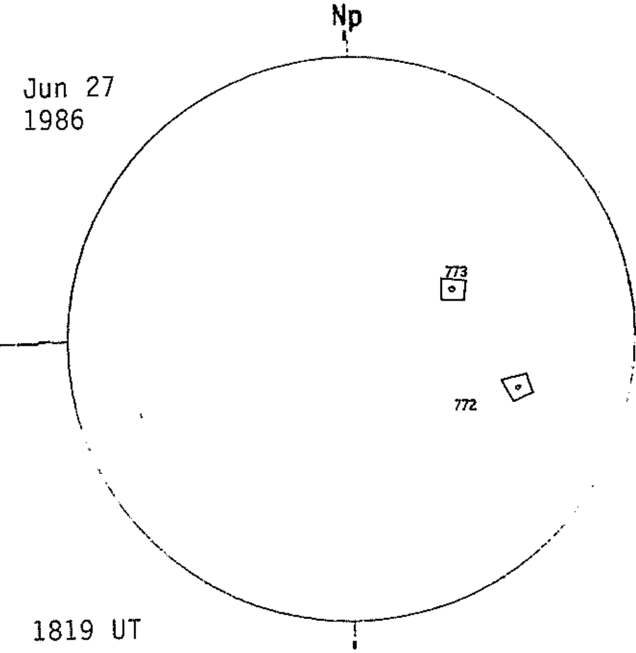
BIG BEAR SOLAR CALCIUM PLAGE REGIONS

Jun 26
1986



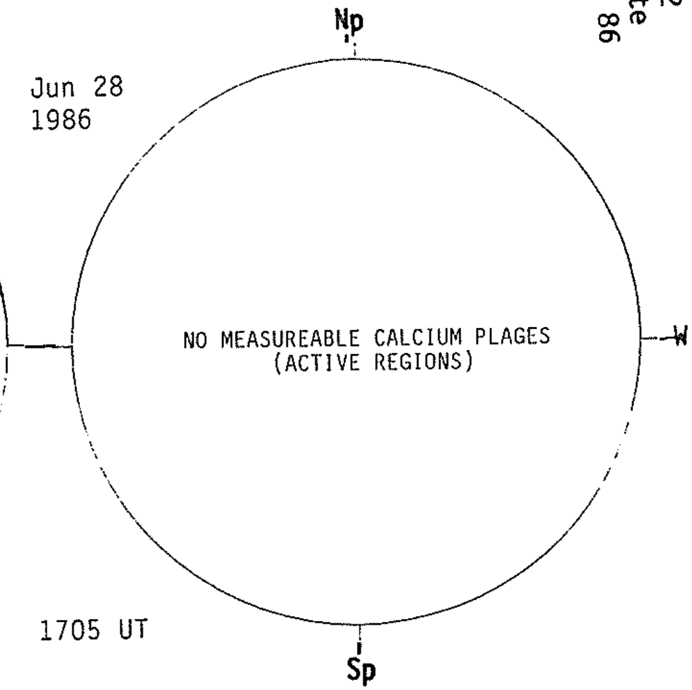
1631 UT

Jun 27
1986



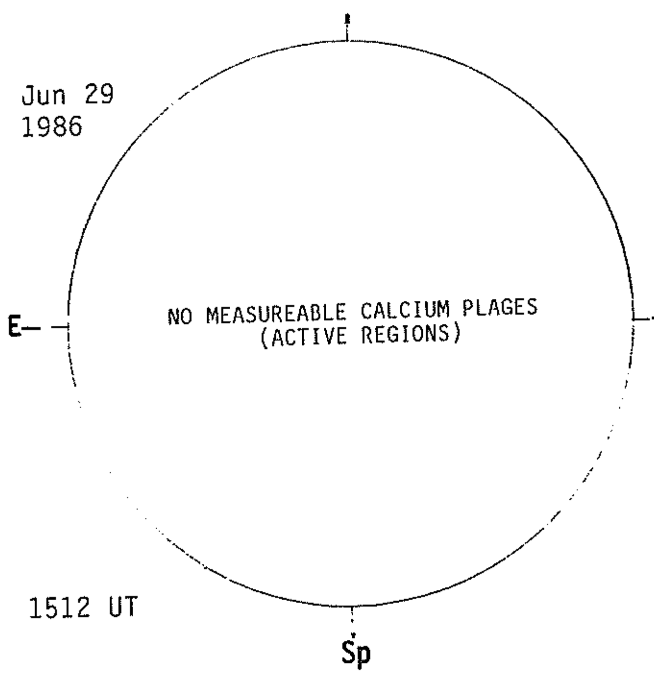
1819 UT

Jun 28
1986



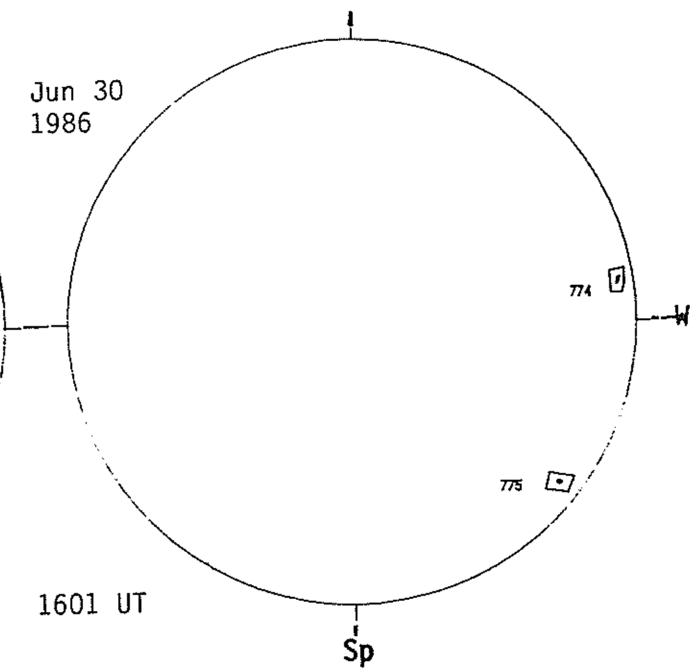
1705 UT

Jun 29
1986



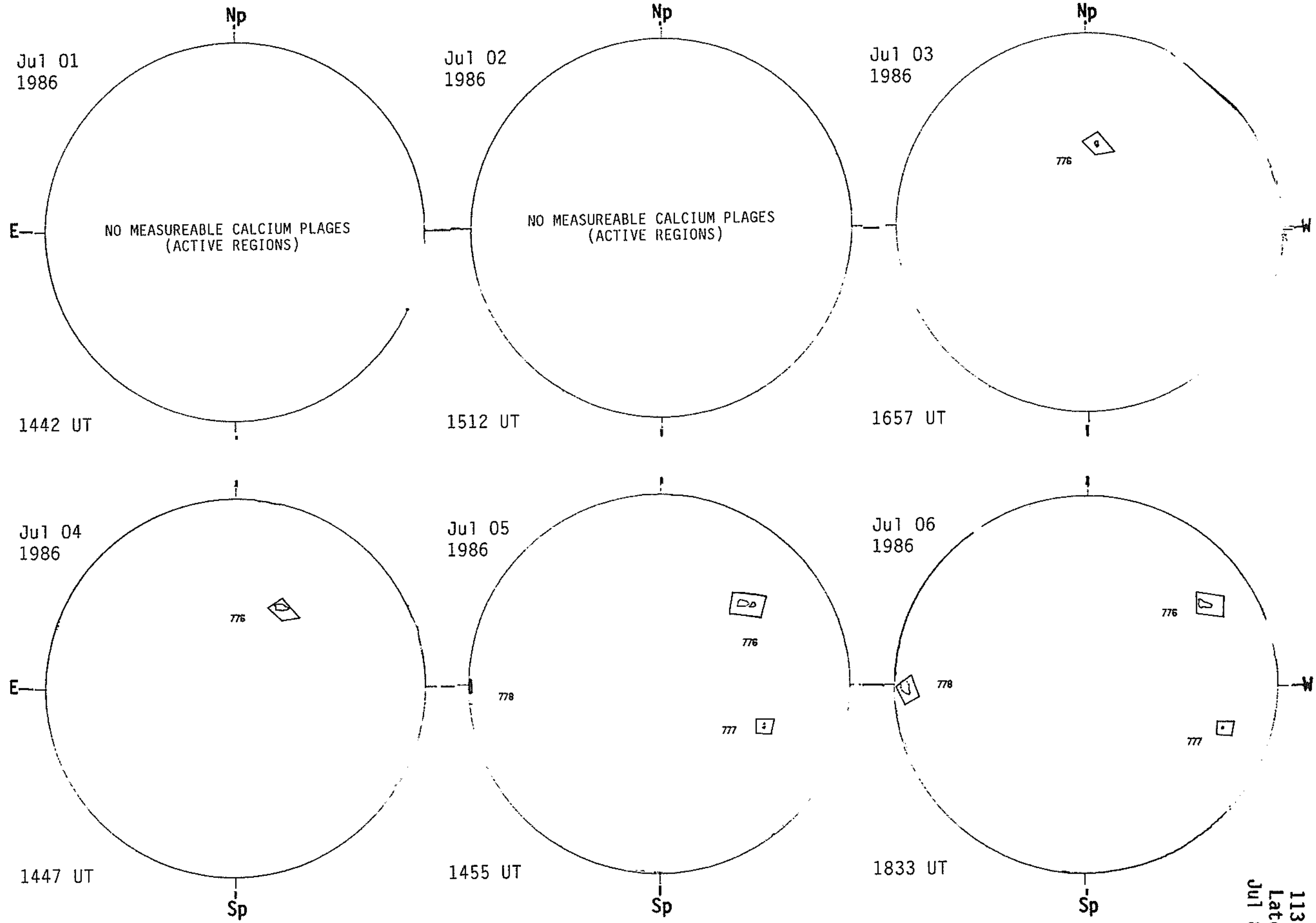
1512 UT

Jun 30
1986

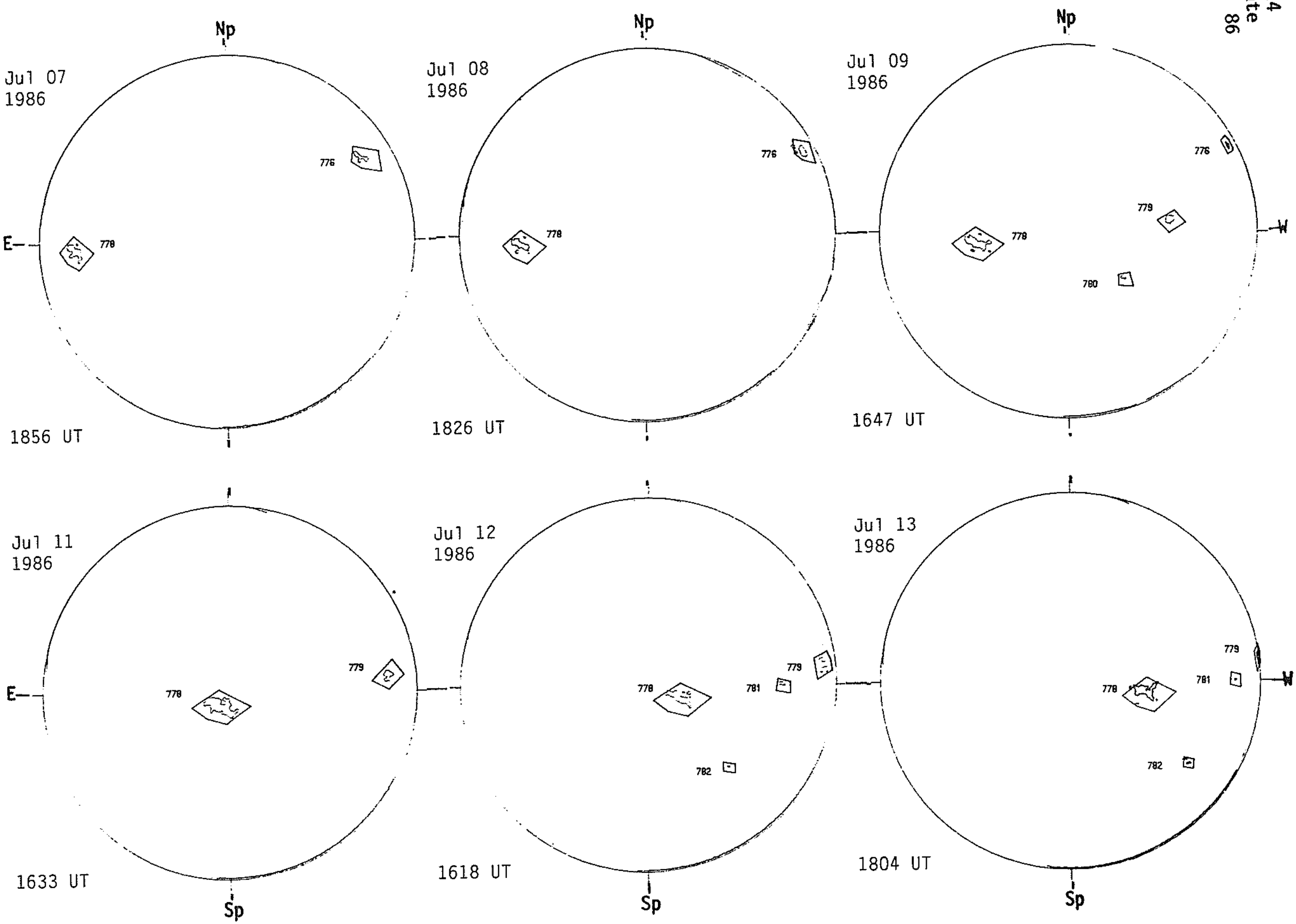


1601 UT

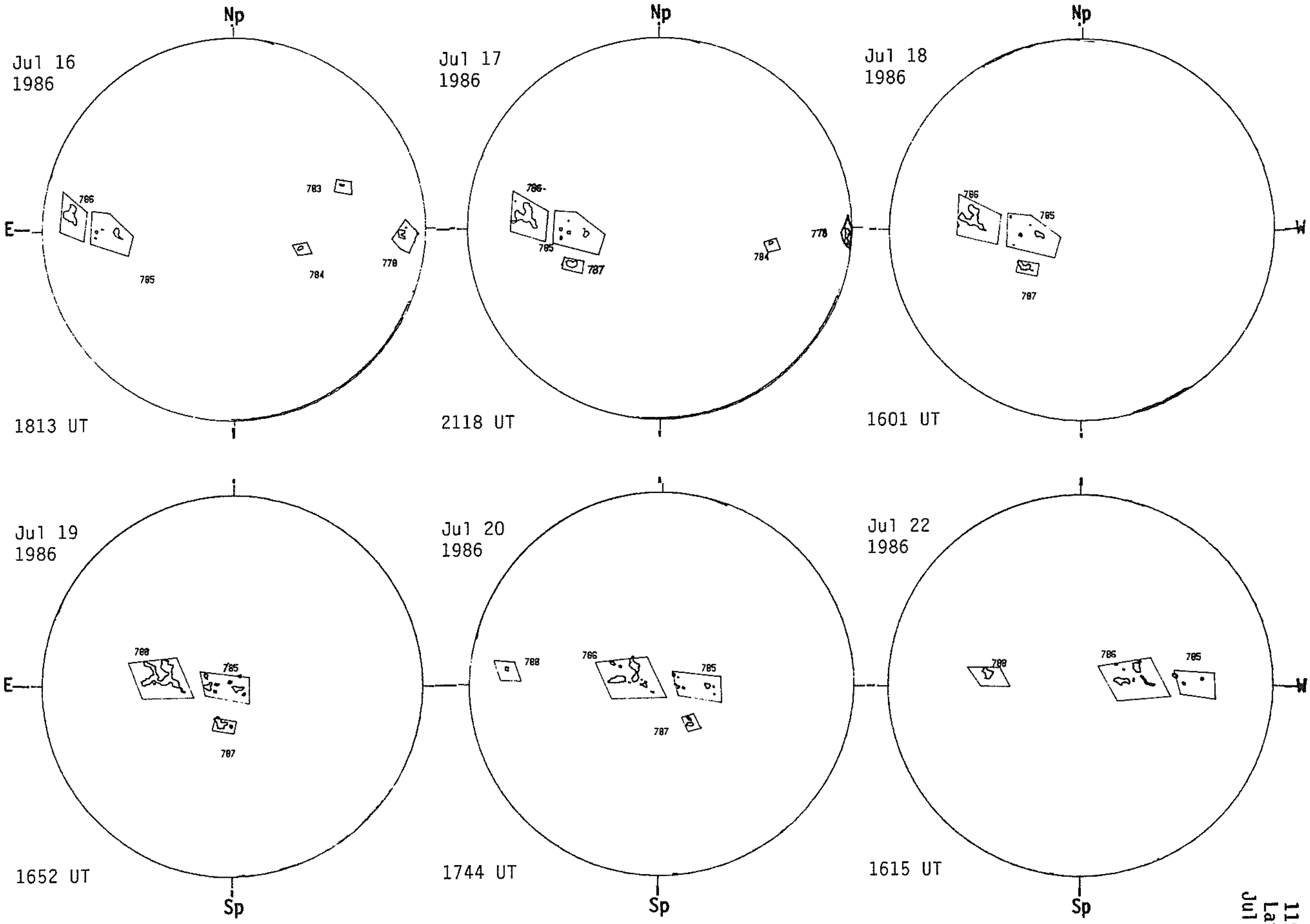
BIG BEAR SOLAR CALCIUM PLAGE REGIONS



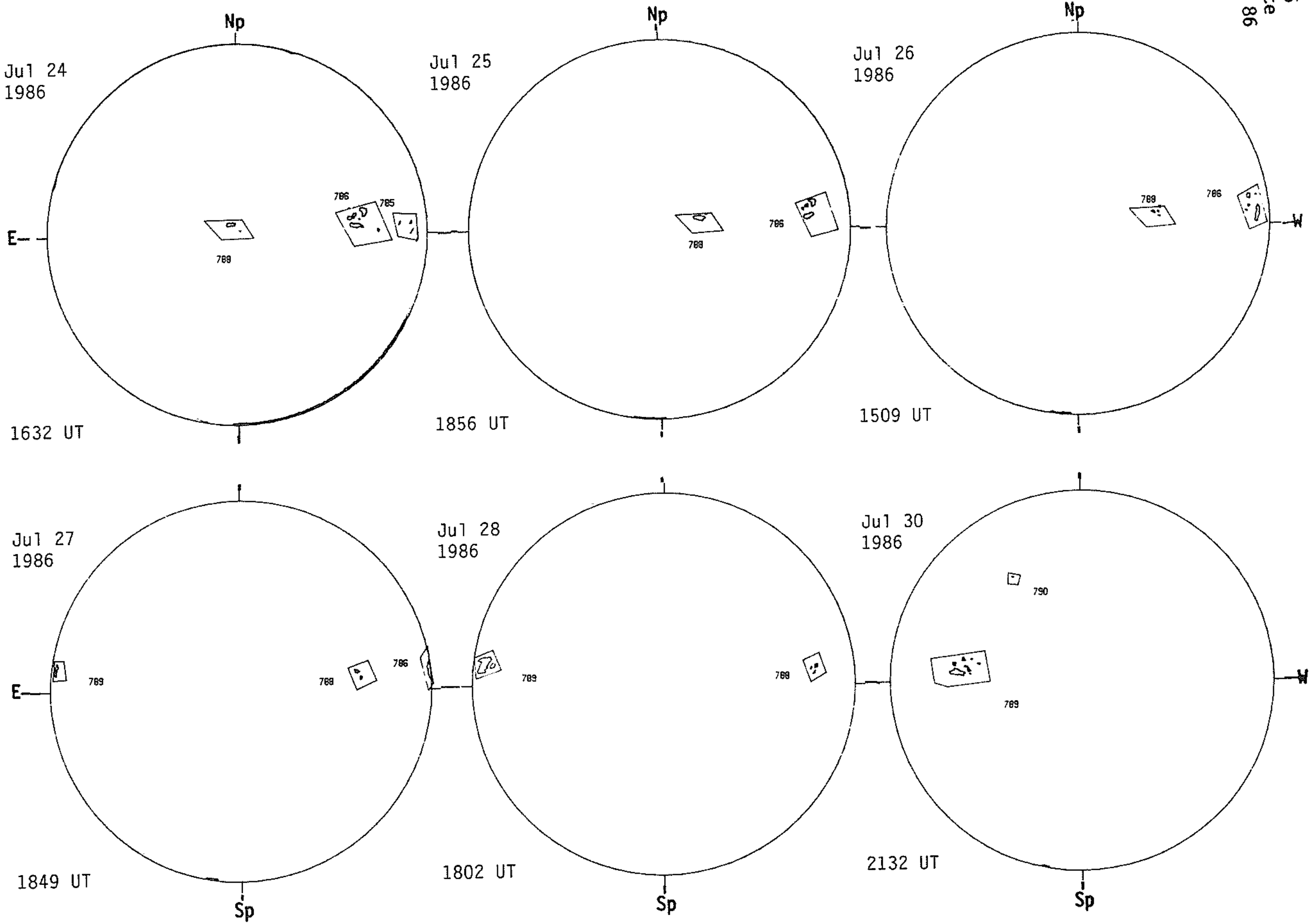
BIG BEAR SOLAR CALCIUM PLAGE REGIONS



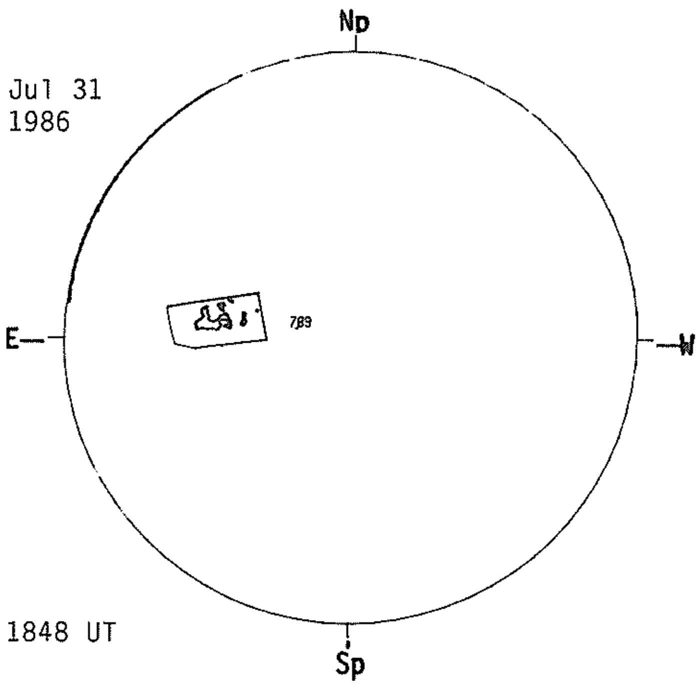
BIG BEAR SOLAR CALCIUM PLAGE REGIONS



BIG BEAR SOLAR CALCIUM PLAGE REGIONS



BIG BEAR SOLAR CALCIUM PLAGE REGIONS



*U.S. GOVERNMENT PRINTING OFFICE: 1986-0-773-027/40006

WORLD DATA CENTER A

FOR

SOLAR-TERRESTRIAL PHYSICS

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

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