



U.S. DEPARTMENT OF COMMERCE

Malcolm Baldrige, Secretary

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

John V. Byrne, Administrator

NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE

John H. McElroy, Assistant Administrator

Solar - Geophysical Data

Part I (Prompt Reports)

NO. 485 JANUARY 1985

DATA FOR
DECEMBER 1984
NOVEMBER 1984

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. Subscription Price for the U.S., Canada and Mexico: \$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. For foreign mailing \$90.00 for both parts or \$45.00 for either part. We now 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. UNESCO coupons acceptable.

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.

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 - 1984	Microfiche

Microfilm are available at \$30.00 per reel; microfiche at \$40.00 per year; \$1,000.00 for above set. Back issues in booklet form are available as long as stocks exist at \$4.00 for either part plus a \$3.00 handling charge per order. Foreign orders must be over \$10.00.

To standardize referencing these reports in the open literature, the following format is recommended: Solar-Geophysical Data, 474 Part I (or Part II), pages, February 1984, 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 485

(Issued in Two Parts)

Editor:
Helen E. Coffey, Physicist

Joe H. Allen, Chief
Solar-Terrestrial Physics Division

Staff:
John A. McKinnon, Physicist
Daniel C. Wilkinson, Physicist
Viola W. Miller, Physical Science Technician
Carol Weathers, Editorial Assistant
Charles T. Shanks, Draftsman

C O N T E N T S

PART I (PROMPT REPORTS)

DETAILED INDEX FOR 1984	Page 2
DATA FOR DECEMBER 1984.	3- 22
DATA FOR NOVEMBER 1984	23- 81
LATE DATA	83- 114
Culgoora Solar Radio Spectral Data October 1984	
Pioneer 12 IMF August 1984	
Geomagnetic Sudden Commencements October 1984	
Cosmic Rays Thule, Deep River, Alert Data October 1984	
Forbush Decreases Mt. Washington 1955-April 1984	
Interplanetary Scintillations (Solar Wind) May-October 1984	
Vostok Inferred IMF 1982-1983 Corrected Data	
Big Bear Solar Calcium Plage Regions June-August 1983	

PART II (COMPREHENSIVE REPORTS)

DETAILED INDEX FOR 1984.	Page 2
DATA FOR JULY 1984	3- 24
SOLAR FLARE DATA FEBRUARY 1982 (Preliminary)	25- 67
MISCELLANEOUS DATA	69- 83
Solar Irradiance NIMBUS November 1978-March 1984	
SMM February 1980-August 1984	

Published with partial support from NASA (W-15,519) and NSF (ATM-831491).

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

CODE	KIND OF OBSERVATION	MAY 84	JUN	JUL	AUG	SEP	OCT	NOV	DEC
A.	SOLAR AND INTERPLANETARY PHENOMENA								
A.1	Sunspot Drawings	479A 34	480A 32	481A 36	482A 28	483A 28	484A 30	485A 28	
A.2aa	Internat. Provisional Sunspot Numbers	478A 9	479A 9	480A 9	481A 7	482A 7	483A 7	484A 7	485A 7
A.2c	American Sunspot Numbers	478A 9	479A 9	480A 9	481A 7	482A 7	483A 7	484A 7	485A 7
A.3a	Mt. Wilson Magnetograms	479A 34	480A 32	481A 36	482A 28	483A 28	484A 30	485A 28	
A.3b	Mt. Wilson Sunspot Magnetic Class	479A 65	480A 62	481A 67	482A 59	483A 58	484A 61	485A 58	
A.3c	Kitt Peak Magnetograms	479A 34	480A 32	481A 36	482A 28	483A 28	484A 30	485A 28	
A.3d	Mean Solar Magnetic Field (Stanford)	478A 44	479A 26	480A 24	481A 23	482A 21	483A 22	484A 24	485A 22
A.3e	Stanford Magnetograms	479A 34	480A 32	481A 36	482A 28	483A 28	484A 30	485A 28	
A.4	H-alpha Filtergrams	479A 34	480A 32	481A 36	482A 28	483A 28	484A 30	485A 28	
A.5	Calcium Plage Photographs	Apr-May 83 in 483A 88; Jun-Aug 83 in 485A101							
A.5a	Calcium Plage and Sunspot Regions								
A.5b	Daily Calcium Plage Indices	Apr-May 83 in 483A 94; Jun-Aug 83 in 485A113							
A.6	H-alpha Synoptic Charts	479A 30	480A 28	481A 28	482A 24	483A 24	484A 26	485A 24	
A.6b	Active Region Synoptic Chart (Paris)	483B 4	484B 4	485B 4					
A.6c	Stanford Solar Mag Field Synoptic Maps	479A 31	480A 29	481A 30	482A 25	483A 25	484A 27	485A 25	
A.6d	Kitt Peak Solar Mag Field Synoptic Maps	479A 32	480A 30	481A 32	482A 26	483A 26	484A 28	485A 26	
A.6e	Mass Ejections from the Sun	483B 62	484B 24	485B 21					
A.6f	Active Prominences and Filaments	483B 63	484B 25	485B 22					
A.7g	Kitt Peak Helium Synoptic Maps	479A 33	480A 31	481A 34	482A 27	483A 27	484A 29	485A 27	
A.7h	Coronal Line Emission (Sacramento Peak)	479A 34	480A 32	481A 36	482A 28	483A 28	484A 30	485A 28	
A.8aa	2800 MHz - Solar Flux (Ottawa)	478A 9	479A 9	480A 9	481A 7	482A 7	483A 7	484A 7	485A 7
A.8ac	2800 MHz - Adj. Solar Flux (Ottawa)	478A 9	479A 9	480A 9	481A 7	482A 7	483A 7	484A 7	485A 7
A.8g	Adjusted Daily Solar Fluxes (Sagamore)	478A 9	479A 9	480A 9	481A 7	482A 7	483A 7	484A 7	485A 7
A.10a	Interferometric Chart -169 MHz- Nancay	478A 27	479A 18	480A 17	482A 86	482A 15	483A 14	484A 15	
A.10c	East-West Scans - 21 cm - Fleurs	478A 30	479A 21	480A 20	481A 19	482A 18	483A 17	484A 18	485A 16
A.10d	East-West Scans - 43 cm - Fleurs	478A 31	479A 22	480A 21	481A 20	482A 18	483A 18	484A 19	485A 17
A.10e	East-West Scans - 10 cm - Ottawa	478A 29	479A 20	480A 19	481A 18	482A 17	483A 16	484A 17	485A 15
A.10f	East-West Scans - 3 cm - Toyokawa	478A 28	479A 19	480A 18	481A 17	482A 16	483A 15	484A 16	
A.11g	Solar X-ray SMS/GOES (graphs)	483B 56	484B 19	485B 15					
A.12e	Solar Particles (IMP H & J)	1982 data in 476B 66; Jan-Mar 83 data in 478B 28							
A.13d	Solar Wind from IP Scintillations	485A 92	485A 93	485A 94	485A 95	485A 96	485A 97		
A.13e	Solar Plasma (IMP H & J)	483B 55	484B 18						
A.13f	Solar Wind (Pioneer 12)								
A.16a	SMM Solar Irradiance	Feb 80-Aug 84 data in 485B 78							
A.16b	NIMBUS Solar Irradiance	Nov 78-Mar 84 data in 485B 70							
A.17	Interplanetary Mag Field (Pioneer 12)	481A 99	481A 99	482A 87	485A 86				
A.17c	Inferred Interplanetary Magnetic Field	478A 42				482A 20	483A 20	484A 22	485A 19
B.	IONOSPHERIC RADIO PROPAGATION PHENOMENA								
B.52	Field Strength Graphs - North Atlantic	479A 96	480A 92	481A 94	482A 82	483A 76	484A 78	485A 80	
B.53	Quality Indices on Paths to Germany	479A 95	480A 91	481A 93	482A 81	483A 75	484A 77	485A 79	
C.	SOLAR FLARE-ASSOCIATED EVENTS								
C.1a	H-alpha Flares	478A 14	479A 14	480A 14	481A 12	482A 12	483A 12	484A 12	485A 12
C.1ba	H-alpha Flare Groups	1981	Dec 81 data in 483B 68; Jan 82 data in 484B 29; Feb 82 data in 485B 26						
C.1d	Flare Patrol Observations	478A 26	479A 17	480A 16	481A 15	482A 14	483A 13	484A 14	485A 14
C.1d	Flare Patrol Observations	1981	Dec 81 data in 483B 98; Jan 82 data in 484B 58; Feb 82 data in 485B 66						
C.1e	Flare Indices (by day)	1981	Nov 81 data in 482B 99; Dec 81 data in 483B 97; Jan 82 data in 484B 58						
C.3	Radio Bursts Fixed Freq.*	483B 6	484B 6	485B 4					
C.3	Radio Bursts Fixed Freq. Selected	478A 32	479A 23	480A 22	481A 21	482A 19	483A 19	484A 20	485A 18
C.4d	Radio Bursts Spectral (Culgoora)	---	480A 75	481A 81	483A 80	483A 62	485A 84	485A 65	
C.4e	Radio Bursts Spectral (Weissenau)	479A 81	480A 75	481A 81	482A 68	483A 62	484A 66	485A 65	
C.4f	Radio Bursts Spectral (Sagamore Hill)	479A 81	480A 75	481A 81	482A 68	483A 62	484A 66	485A 65	
C.4i	Radio Bursts Spectral (Bleien)				482A 68	484A 82	---	485A 65	
C.4k	Radio Bursts Spectral (Learmonth)	479A 81	480A 75	481A 81	482A 68	483A 62	484A 66	485A 65	
C.4l	Radio Bursts Spectral (Palehua)	479A 81	480A 75	481A 81	482A 68	483A 62	484A 66	485A 65	
C.5e	Solar X-ray SMS/GOES (graphs)	483B 56	484B 19	485B 15					
C.6	Sudden Ionospheric Disturbances	479A 76	480A 73	481A 79	482A 66	483A 61	484A 64	485A 63	
D.	GEOMAGNETIC & MAGNETOSPHERIC PHENOMENA								
D.1a	Geomagnetic Indices	479A 91	480A 86	481A 89	482A 76	483A 70	484A 72	485A 74	
D.1ba	27-day Chart of Kp Indices	479A 93	480A 88	481A 91	482A 78	483A 72	484A 74	485A 76	
D.1c	27-day Chart of Cg								
D.1d	Principal Magnetic Storms	479A 94	480A 89	481A 92	482A 80	483A 74	484A 76	485A 78	
D.1f	Sudden Commencement/Solar Flare Effects	480A 96	480A 90	482A 89	483A 82	484A 82	485A 86		
D.1g	Equatorial Indices Dst	480A 97	481A 98	482A 88	482A 79	483A 73	484A 75	485A 77	
D.1h	Geomagnetic Substorm Log (Boulder)	478A 45	479A 27	480A 25	481A 24	---	---	---	---
F.	COSMIC RAYS								
F.1a	Cosmic Ray Neutron Counts (Deep River)	479A 87	480A 85	483A 83	483A 84	483A 66	485A 87	485A 73	
F.1b	Cosmic Ray Neutron Counts (Climax)	480A105	480A 85	484A 84	484A 85	484A 86	484A 68		
F.1e	Cosmic Ray Neutron Counts (Alert)	479A 87	480A 85	483A 83	483A 84	483A 66	485A 87	485A 73	
F.1h	Cosmic Ray Neutron Counts (Thule)	479A 87	480A 85	481A 85	482A 71	483A 66	485A 87	485A 73	
F.1i	Cosmic Ray Neutron Counts (Kiel)	479A 87	480A 85	481A 85	482A 71	483A 66	484A 68	485A 73	
F.1j	Cosmic Ray Neutron Counts (Tokyo)	479A 87	480A 85	481A 85	482A 71	483A 66	484A 68	485A 73	
F.1l	Cosmic Ray Neutron Counts (Huancayo)	480A105	484A 83	484A 84					
F.1m	Cosmic Ray Neutron Counts (Predigtstuhl)	479A 87	480A 85	481A 85	482A 71	483A 66	484A 68	485A 73	
H.	MISCELLANEOUS								
H.60	IUWDS Alert Periods	478A 4	479A 5	480A 5	481A 4	482A 4	483A 4	484A 4	485A 4

The entry "479A 34" under May 1984, for example, means that the sunspot drawings for May 1984 appear in SOLAR-GEOPHYSICAL DATA No. 479, Part I, and that they begin on page 34. "A" denotes Part I and "B", Part II. Blanks indicate data not yet received and dashes mark unavailable data.

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

GOES Solar Proton Events 1976-Apr 1984 -- 476B118
Cosmic Ray Forbush Decreases at Mt. Washington 1955-Apr 1984 -- 485A 91

CONTENTS

Prompt Reports

DATA FOR DECEMBER 1984

Number 485 Part I

IUWDS ALERT PERIODS (Advance and Worldwide)	Page 4- 5
SOLAR ACTIVITY INDICES	
Daily Sunspot Numbers and 2800 MHz Solar Flux (12 Months).	6
Daily Solar Indices (Sunspot Numbers and Solar Flux)	7
Observed and Predicted Solar Activity Indices.	8
Smoothed Observed and Predicted Sunspot Numbers.	9
Graph of Observed and Predicted Sunspot Numbers.	10
Graph and Table of Sunspot Numbers (1944 - 1984)	11
SOLAR FLARES	
H-alpha Solar Flares	12-13
Intervals of No Flare Patrol Observation	14
SOLAR RADIO EMISSION	
Solar Interferometric Chart - 169 MHz - Nancay (Unavailable at time of publication.)	
East-West Solar Scans at 3 cm - Toyokawa (Unavailable at time of publication.)	
East-West Solar Scans at 10 cm - Ottawa.	15
East-West Solar Scans at 21 cm - Fleurs.	16
East-West Solar Scans at 43 cm - Fleurs.	17
Selected Fixed Frequency Events.	18
Selected Graphs of Solar Noise Bursts (None available.)	
INTERPLANETARY SCINTILLATION MEASUREMENTS OF SOLAR WIND (See "Late Data" for May-October 1984 data.)	
INFERRED INTERPLANETARY MAGNETIC FIELD POLARITY Table	19
Graph unavailable at time of publication.	
MEAN SOLAR MAGNETIC FIELD	
Stanford Mean Solar Magnetic Field (Graph)	20
Stanford Mean Solar Magnetic Field (Table)	21

4
DEC 84

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SUMMARY OF THE GEOALERT MESSAGES

DECEMBER 1984

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
336	01	30	014	079	026	S11W60	0	0	0	PRESTO MAGSTORM 30/01XX UT	01	S11W60	E	SOLQUIET MAGALERT 01
337	02	01	037	079	013	S11W74	1	0	0		02	S11W74	Q	SOLQUIET
						S10W53	0	0	0			S10W53	Q	MAGNIL
						S06E01	0	0	0			S06E01	Q	
338	03	02	056	079	017	S12W83	0	0	0		03	S12W83	Q	SOLQUIET
						S12W68	2	0	0			S12W68	Q	MAGQUIET
						S06W11	0	0	0			S06W11	Q	
						S08E72	0	0	0			S08E72	Q	
						N17E74	3	0	0			N17E74	E	
339	04	03	024	080	014	S08E58	0	0	0		04	S08E58	Q	SOLQUIET
						N18E60	0	0	0			N18E60	Q	MAGQUIET
340	05	04	033	078	017	S07E44	0	0	0		05	S07E44	Q	SOLQUIET
						N18E45	0	0	0			N18E45	Q	MAGQUIET
341	06	05	018	076	015	S06W80	0	0	0		06	S06W80	Q	SOLQUIET MAGQUIET
342	07	06	030	075	019	S03E18	2	0	0		07	S03E18	Q	SOLQUIET
						N18E21	1	0	0			N18E21	Q	MAGQUIET
343	08	07	037	075	017	N19E03	0	0	0		08	N19E03	Q	SOLQUIET
						S04E03	0	0	0			S04E03	Q	MAGQUIET
						S10E35	0	0	0			S10E35	Q	
344	09	08	034	076	011	S04W11	1	0	0		09	S04W11	Q	SOLQUIET
						S10E21	1	0	0			S10E21	Q	MAGQUIET
345	10	09	060	077	006	S05W23	0	0	0		10	S05W23	Q	SOLQUIET
						N19W20	0	0	0			N19W20	Q	MAGQUIET
						S15W07	0	0	0			S15W07	Q	
						S09E07	0	0	0			S09E07	Q	
						S06E61	0	0	0			S06E61	Q	
346	11	10	049	078	012	S10W06	0	0	0		11	S10W06	Q	SOLQUIET
						S12E07	1	0	0			S12E07	Q	MAGALERT
						S07E49	1	0	0			S07E49	Q	MAJOR 12/15
						N16E77	0	0	0			N16E77	Q	RECURRENCE
347	12	11	034	081	013	S12W06	6	0	0		12	S12W06	Q	SOLQUIET
						N19E65	1	0	0			N19E65	Q	MAGALERT MAJOR 12/15 RECURRENCE
348	13	12	038	080	022	S12W19	0	0	0		13	S12W19	Q	SOLQUIET
						N17E53	0	0	0			N17E53	Q	MAGALERT 13/15 RECURRENCE
349	14	13	033	079	022	S11W33	0	0	0		14	S11W33	Q	SOLQUIET
						N18E39	0	0	0			N18E39	Q	MAGALERT 14/15 RECURRENCE
350	15	14	034	077	010	S11W46	1	0	0		15	S11W46	Q	SOLQUIET
						N18E27	0	0	0			N18E27	Q	MAGNIL
351	16	15	032	077	014	S11W59	0	0	0		16	S11W59	Q	SOLQUIET
						N18E15	2	0	0			N18E15	E	MAGQUIET
352	17	16	032	077	022	S11W72	0	0	0		17	S11W72	Q	SOLQUIET
						N11E02	1	0	0			N11E02	Q	MAGALERT MINOR 17/XX

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

5
DEC 84

SUMMARY OF THE GEOALERT MESSAGES

DECEMBER 1984

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
353	18	17	028	075	019	S11W85 N18W12	0 0	0 0	0 0		18	S11W85 N18W12	Q Q	SOLQUIET MAGALERT MINOR 18/XX
354	19	18	014	073	010	N18W24	0	0	0		19	N18W24	Q	SOLQUIET MAGNIL
355	20	19	012	073	006	N18W38	0	0	0		20	N18W38	Q	SOLQUIET MAGQUIET
356	21	20	011	072	016	N18W50	0	0	0		21	N18W50	Q	SOLQUIET MAGQUIET
357	22	21	022	072	010	N18W63 S13E23	0 1	0 0	0 0		22	N18W63 S13E23	Q Q	SOLQUIET MAGQUIET
358	23	22	011	073	008	S07E22	0	0	0		23	S07E22	Q	SOLQUIET MAGQUIET
359	24	23	013	074	012	S05E13	0	0	0		24	S05E13	Q	SOLQUIET MAGQUIET
360	25	24	015	074	006	S06W00	0	0	0		25	S06W00	Q	SOLQUIET MAGQUIET
361	26	25	028	075	006	S05W15 S11E40	0 0	0 0	0 0		26	S05W15 S11E40	Q Q	SOLQUIET MAGQUIET
362	27	26	027	075	018	S05W29 S10E25	0 0	0 0	0 0	PRESTO KAKIOKA MAGSTORM 26/02XX UT	27	S05W29 S10E25	Q Q	SOLQUIET MAGQUIET
363	28	27	017	075	020	S10E12	0	0	0		28	S10E12	Q	SOLQUIET MAGALERT MINOR 28/29
364	29	28	023	075	019	S10W00	0	0	0		29	S10W00	Q	SOLQUIET MAGALERT MINOR 29/31
365	30	29	027	075	022	S14W64 S10W13	0 0	0 0	0 0		30	S14W64 S10W13	Q Q	SOLQUIET MAGALERT MINOR 30/31
366	31	30	022	074	019	S13W82 S09W28	1 0	0 0	0 0		31	S13W82 S09W28	Q Q	SOLQUIET MAGALERT MINOR 31
001	01	31	000	072	017	SPOTNIL					01	SPOTNIL		SOLQUIET MAGALERT 01/02

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

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS)

PRESTO KAKIOKA 30/0615 UT MAGSTORM 30/01XX UT
PRESTO KAKIOKA 27/0100 UT MAGSTORM 26/02XX UT

INTERNATIONAL* (R_I) RELATIVE SUNSPOT NUMBERS

Day	1984 Final										1984 Prov		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep		Oct	Nov	Dec
01	10	110	74	103	109	48	33	14	45	7	16	19	
02	16	82	78	94	89	44	36	17	50	9	14	24	
03	17	67	66	88	69	45	61	19	61	10	11	19	
04	18	61	54	81	52	34	80	25	58	11	14	22	
05	21	66	65	61	38	30	72	18	53	0	12	14	
06	29	76	49	70	27	23	61	24	32	0	0	21	
07	37	79	51	50	35	34	64	27	21	0	0	16	
08	38	94	64	33	54	31	74	32	20	12	11	23	
09	50	115	60	36	72	26	63	35	13	14	13	21	
10	44	123	46	12	85	31	74	31	10	17	21	15	
11	48	118	65	21	94	37	57	29	9	25	30	25	
12	51	108	72	28	100	39	54	31	9	18	21	26	
13	48	82	79	24	118	41	44	28	9	11	16	27	
14	46	77	88	32	111	50	34	27	0	12	13	25	
15	44	80	112	59	85	80	30	23	8	14	13	25	
16	46	53	117	60	97	83	25	23	12	19	11	30	
17	51	51	105	56	83	73	21	18	0	24	11	24	
18	49	50	95	73	70	62	26	17	0	25	13	11	
19	51	54	90	82	74	51	22	11	10	25	15	10	
20	69	54	103	69	70	53	18	16	0	16	27	9	
21	76	76	98	68	65	43	12	12	9	22	36	13	
22	64	100	87	55	77	48	22	10	10	12	36	12	
23	70	121	89	59	83	54	25	19	8	11	41	11	
24	70	117	80	80	86	58	38	24	8	10	47	13	
25	99	117	97	99	75	44	30	36	7	10	59	21	
26	105	101	97	124	87	49	25	49	0	9	44	18	
27	99	78	96	121	86	40	9	41	0	8	39	14	
28	106	78	98	125	69	41	9	37	0	0	34	15	
29	110	88	94	120	74	50	12	34	0	8	30	16	
30	102		107	107	70	42	16	27	8	14	25	10	
31	82		113		63		12	36		18		14	
Mean	57	85	84	70	76	46	37	26	16	13	22	18	

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

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

ALGONQUIN RADIO OBSERVATORY, OTTAWA

Day	Jan 84	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
01	84.5	154.6	143.6	135.7	153.7	116.1	101.7	84.0	94.1	72.0	69.5	77.0
02	87.4	142.0*	138.2	134.6*	139.3*	111.3	103.6	86.5	93.2	74.8	70.1	76.8
03	89.5	131.4	122.5	128.8*	123.1	109.6	104.8	88.4	94.5	75.2	72.0	77.9
04	91.0	126.0	114.4*	129.5	113.5*	106.8	105.7	85.7	91.9	75.2	72.2	75.9
05	88.2	114.2	109.3	118.7	114.9	104.6	104.4*	85.7	89.8	74.0	71.7	73.4
06	85.6	111.8	109.5	112.1*	108.1	98.9	100.3	89.9	85.9	73.2	71.0	73.0
07	86.5	113.6	105.0	107.8	118.3	97.3	100.1	92.4	85.2	73.5	70.1	72.7
08	92.3	127.2	103.8	100.7	121.9	94.6	101.1	94.0	83.4	74.6	70.5	74.1
09	94.4	139.9	102.4	94.9	138.3	93.6	104.5	94.4	80.6	73.5	72.7	74.5
10	95.2	136.7*	98.8	93.9	150.9	92.3	101.3	95.4	79.1	74.1	75.8	75.7
11	96.8	141.1*	98.6	97.3	147.9	93.2	96.8	90.8	77.8	74.3	73.1	78.9
12	101.1	135.8*	102.3*	107.2	148.2*	93.0	94.7	88.0	76.5	73.9	72.8	77.8
13	102.1	128.4	114.7	113.7	151.4	98.6	92.6	86.5	75.0	74.7	71.6	76.2
14	99.2	120.3*	121.1	118.8	146.9	110.2	92.2*	84.0	74.5	73.2	72.0	75.8
15	97.8	113.4	134.4	119.7	139.6	116.5*	92.2	82.6	73.3	76.4	72.9	74.9
16	96.6*	114.5*	124.0	117.2	137.3	110.3	90.1	83.1	73.4	76.6	70.7	74.2
17	95.2	116.5	129.1	122.9*	130.1	109.5*	87.3	81.0	74.6	76.2	71.0	72.6
18	95.0	122.2*	125.8*	119.9	131.9	108.9	85.5	79.1	73.8	76.5	71.7	70.2
19	93.4	128.4*	126.5	112.5*	137.6	107.8	84.7	76.2	74.6	74.2	72.3	71.0
20	102.2	134.6	126.3	124.1*	138.0	106.6	84.8	75.6	74.1	73.5	74.8	69.9
21	103.3	143.8	122.4	127.7	145.3*	103.4*	86.7	77.2	75.1	73.2	78.3	69.7
22	110.5	158.0	122.7	130.8	130.1	104.6	86.3	75.7	75.9	74.5	78.2	70.7
23	113.3	166.1	115.1	136.6*	130.0	105.3	87.3	76.0	76.1	72.7	79.3	71.3
24	126.4*	172.9*	113.0	142.9	126.9	103.6	86.8	81.6	76.2	70.8	81.1	71.8
25	146.8	169.4*	111.6	152.4	125.7*	104.6	85.9	83.0	74.6	70.2	83.1	72.2
26	164.8*	164.2	120.2	174.0	121.0	100.1	83.4	87.7	74.3	69.4	82.5	72.3
27	172.3	154.3	129.1*	183.7*	120.3	101.5	83.0	90.4	73.5	68.6	82.5*	72.0
28	168.9	148.8	135.9	182.6*	118.5	99.5	82.5	88.6	73.1	69.3	81.0	72.2
29	174.6	148.1	138.1*	178.2*	121.0	100.3	82.3	90.3	71.7	68.2	77.1	72.1
30	161.5		143.8	170.8	119.7A	101.1	82.2	91.8	72.4	68.8	76.4	71.4
31		143.7		115.9		83.0	93.1*		69.8			70.0
Mean	112.4	137.2	120.8	129.7	131.1	103.5	92.2	85.8	78.9	73.1	74.6	73.5

A = interpolated value; --- = no observation.

*Adjusted for burst in progress at time of measurement.

The yearly mean 2800 MHz flux adjusted to 1 astronomical unit equaled 119.8 in 1983.

DAILY SOLAR INDICES

7
Dec 84

DECEMBER 1984

Julian		Bartels	Sunspot		Obs Flux	----- Solar Flux Adjusted to 1 Astronomical Unit -----								
Day	Day	Cycle	Int	Amer	Ottawa	SGMR	SGMR	SGMR	Ottawa	SGMR	SGMR	SGMR	SGMR	SGMR
		Day			(2800)	(15400)	(8800)	(4995)	(2800)	(2695)	(1415)	(606)	(410)	(245)
01	336	6	19	21	79.2	564	269	94	77.0	72	63	58	21	13
02	337	7	24	21	79.0	571	264	90	76.8	72	64	56	23	11
03	338	8	19	17	80.2	552	270	90	77.9	74	74	58	22	11
04	339	9	22	18	78.2	573	273	101	75.9	73	61	59	21	10
05	340	10	14	15	75.6	569	267	88	73.4	69	59	53	21	10
06	341	11	21	19	75.2	483	255	86	73.0	69	74	34	21	12
07	342	12	16	15	75.0	568	265	97	72.7	70	60	57	21	10
08	343	13	23	18	76.4	573	265	96	74.1	71	67	58	23	11
09	344	14	21	13	76.8	558	261	94	74.5	70	60	49	20	10
10	345	15	15	15	78.0	480	249	92	75.7	--	59	50	20	12
11	346	16	25	25	81.4	559	274	94	78.9	--	65	54	28	45
12	347	17	26	31	80.3	---	---	---	77.8	---	---	---	---	---
13	348	18	27	28	78.6	555	266	99	76.2	74	64	58	22	12
14	349	19	25	26	78.2	564	274	110	75.8	72	62	55	25	11
15	350	20	25	26	77.3	543	274	106	74.9	74	62	56	23	11
16	351	21	30	29	76.7	548	267	106	74.2	70	61	55	22	12
17	352	22	24	18	75.0	563	---	96	72.6	72	63	61	22	12
18	353	23	11	11	72.5	565	---	91	70.2	68	58	53	21	13
19	354	24	10	10	73.3	547	270	105	71.0	70	61	54	22	13
20	355	25	9	11	72.2	558	266	98	69.9	68	61	55	23	12
21	356	26	13	11	72.0	---	---	---	69.7	---	---	---	---	---
22	357	27	12	6	73.0	545	264	106	70.7	70	62	---	20	11
23	358	1	11	2	73.7	570	271	103	71.3	67	65	54	23	12
24	359	2	13	13	74.2	---	---	---	71.8	---	---	---	---	---
25	360	3	21	18	74.7	---	---	---	72.2	---	---	---	---	---
26	361	4	18	24	74.8	563	267	104	72.3	70	67	---	---	---
27	362	5	14	16	74.5	555	277	99	72.0	69	63	---	---	---
28	363	6	15	14	74.7	499	271	98	72.2	73	60	---	---	---
29	364	7	16	10	74.6	544	257	105	72.1	69	59	---	---	---
30	365	8	10	4	73.8	571	273	98	71.4	68	58	---	---	---
31	366	9	14	1	72.4	569	273	90	70.0	68	57	---	---	---
Mean			18	16	75.9	552	267	97	73.5	70	63	54	22	11

*Adjusted for burst in progress at time of measurement.

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

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

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

OBSERVED AND PREDICTED SOLAR ACTIVITY INDICES

DECEMBER 1984

Date	RELATIVE SUNSPOT NUMBERS						2800 MHz RADIO FLUX Adjusted to 1 AU (Sa)	
	Zurich or Internat (Ri)		American (Ra)		Derived (Rs)		Monthly Mean	Smoothed
	Monthly Mean	Smoothed	Monthly Mean	Smoothed	Monthly Mean	Smoothed		
Jan 81	114.0	140	115.4	144	120.5	149	169.0	195
Feb	141.3	142	143.7	146	153.5	152	199.5	198
Mar	135.5	143	149.2	149	157.5	156	203.2	202
Apr	156.4	143	169.2	149	180.7	158	224.7	204
May	127.5	143	141.3	149	152.8	159	198.9	204
Jun	90.9	142	99.0	147	112.9	158	161.9	203
Jul	143.8	140	154.3	146	152.1	157	198.2	203
Aug	158.7	141	170.4	147	182.1	158	226.0	203
Sep	167.3	143	174.5	148	177.7	158	221.9	204
Oct	162.4	142	157.0	146	178.6	156	222.8	202
Nov	137.5	139	138.8	142	157.6	151	203.3	197
Dec	150.1	138	145.0	140	155.5	149	201.4	195
Jan 82	111.1	137	110.4	139	124.2	148	173.4	195
Feb	163.6	133	161.0	134	163.6	144	208.9	191
Mar	153.8	129	155.5	130	163.0	139	208.3	186
Apr	122.0	124	121.9	124	113.9	134	162.9	182
May	82.2	120	82.6	120	97.7	129	147.9	177
Jun	110.4	117	113.5	118	129.6	127	177.4	175
Jul	106.1	115	113.3	117	116.0	125	164.8	174
Aug	107.6	109	110.5	111	123.9	120	172.1	168
Sep	118.8	101	117.8	103	118.5	112	167.1	161
Oct	94.7	96	90.1	97	111.8	106	160.9	155
Nov	98.1	95	93.2	95	114.8	103	163.7	153
Dec	127.0	95	145.0	95	146.7	101	193.2	151
Jan 83	84.3	93	82.8	93	86.7	98	137.7	148
Feb	51.0	90	53.4	90	67.2	94	119.6	145
Mar	66.5	86	60.5	85	64.7	90	117.3	141
Apr	80.7	82	74.5	81	67.5	85	119.9	136
May	99.2	77	97.7	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	47*	72.1	45	79.6	49	131.1	103
Jun	46.1	46*	45.2	44	49.8	48	103.5	102
Jul	37.0†	45(2)*	36.2	43	37.6	47	92.2	---
Aug	24.8†	44(5)*	24.5	42	30.7	46	85.8	---
Sep	15.4†	42(6)*	13.6	40	23.2	44	78.9	---
Oct	12.6†	41(7)*	9.8	39	16.9	42	73.1	---
Nov	22.4†	39(7)*	19.4	37	18.6	41	74.6	---
Dec	18.2†	38(8)*	---	36	17.4	39	73.5	---
Jan 85	---	36(9)*	---	35	---	38	---	---
Feb	---	35(9)*	---	33	---	36	---	---
Mar	---	34(10)*	---	32	---	35	---	---
Apr	---	33(11)*	---	31	---	34	---	---
May	---	32(12)*	---	30	---	33	---	---
Jun	---	30(13)*	---	29	---	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. All tabulated entries of the American sunspot number are final values. The two columns headed "Derived" represent a sunspot number computed from a linear regression equation between the 2800 MHz solar flux (adjusted to 1 astronomical unit) and the Zurich sunspot number.

†International numbers replaced the Zurich values in January 1981.

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS FOR CYCLE 21

9
Dec 84

DECEMBER 1984

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1976	15	13	12	13	13	12*	13	14	14	13	14	15
1977	17	18	20	22	24	26	29	33	39	46	52	57
1978	61	65	70	77	83	89	97	104	108	111	113	118
1979	124	131	137	141	147	153	155	155	156	158	162	165*
1980	164	163	161	159	156	155	153	150	150	150	148	143
1981	140	142	143	143	143	142	140	141	143	142	139	138
1982	137	133	129	124	119	117	115	109	101	96	95	95
1983	93	90	86	82	71	71	66	66	68	68	59	64
1984	60	56	53	50	47	46	45 (2)	44 (5)	42 (6)	41 (7)	39 (7)	38 (8)
1985	36 (9)	35 (9)	34 (10)	33 (11)	32 (12)	30 (13)	29 (12)	28 (12)	27 (11)	26 (11)	25 (12)	25 (12)
1986	24 (13)	24 (13)	23 (13)	21 (13)	20 (12)	19 (12)	17 (13)	16 (13)	15 (12)	15 (12)	14 (11)	13 (10)

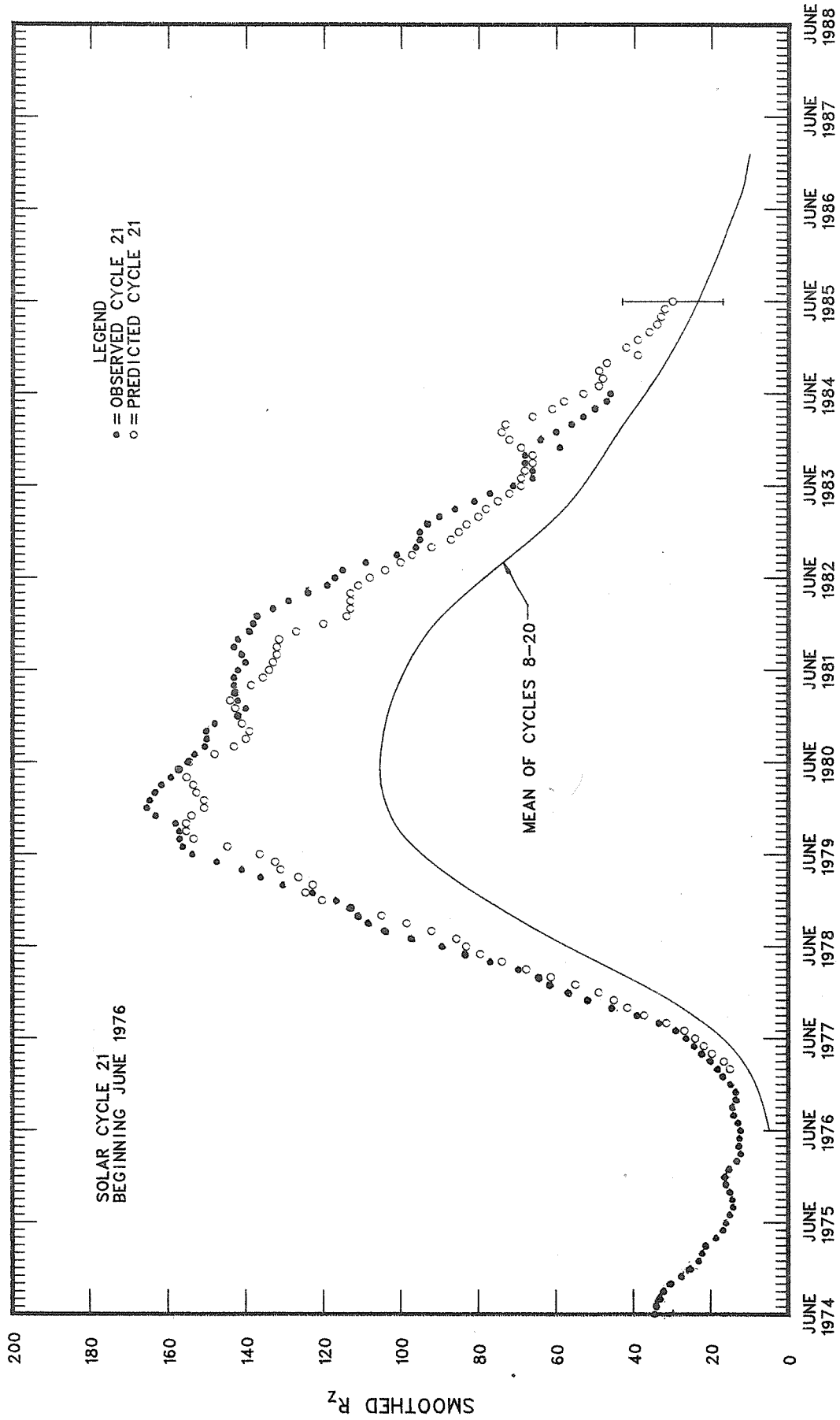
An asterisk marks the minimum and the maximum of Sunspot Cycle 21.

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

The entries with numbers in parentheses below them denote predictions by the McNish-Lincoln method. (See page 10 in the February 1984 edition of the "Solar-Geophysical Data" supplement.) Adding the number in parentheses to the predicted value generates the upper limit of the 90% confidence interval; subtracting the number in parentheses from the predicted value generates the lower limit. Consider, for example, the June 1985 prediction tabulated above. There exists a 90% chance that in June 1985 the actual smoothed sunspot number will fall somewhere between 17 and 43.

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

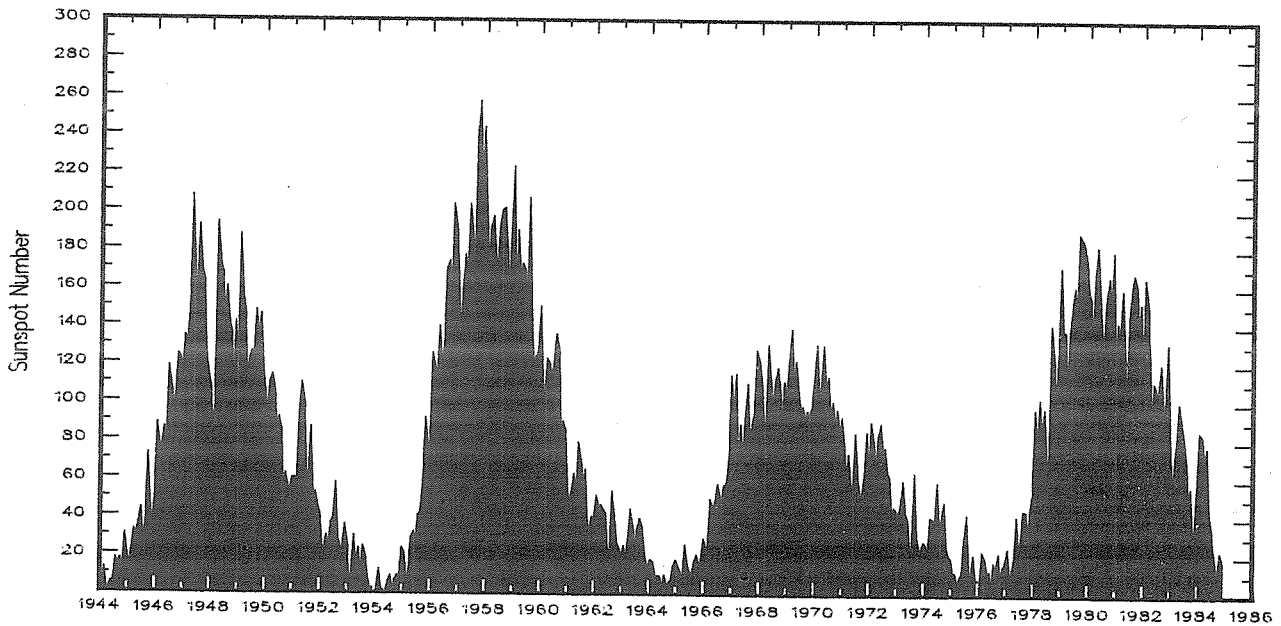
OBSERVED AND ONE-YEAR-AHEAD PREDICTED SMOOTHED SUNSPOT NUMBERS



MONTHLY MEAN SUNSPOT NUMBERS

January 1944 - December 1984

11
Dec 84



MONTHLY MEAN SUNSPOT NUMBERS

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1944	3.7	0.5	11.0	0.3	2.5	5.0	5.0	16.7	14.3	16.9	10.8	28.4
1945	18.5	12.7	21.5	32.0	30.6	36.2	42.6	25.9	34.9	68.8	46.0	27.4
1946	47.6	86.2	76.6	75.7	84.9	73.5	116.2	107.2	94.4	102.3	123.8	121.7
1947	115.7	133.4	129.8	149.8	201.3	163.9	157.9	188.8	169.4	163.6	128.0	116.5
1948	108.5	86.1	94.8	189.7	174.0	167.8	142.2	157.9	143.3	136.3	95.8	138.0
1949	119.1	182.3	157.5	147.0	106.2	121.7	125.8	123.8	145.3	131.6	143.5	117.6
1950	101.6	94.8	109.7	113.4	106.2	83.6	91.0	85.2	51.3	61.4	54.8	54.1
1951	59.9	59.9	55.9	92.9	108.5	100.6	61.5	61.0	83.1	51.6	52.4	45.8
1952	40.7	22.7	22.0	29.1	23.4	36.4	39.3	54.9	28.2	23.8	22.1	34.3
1953	26.5	3.9	10.0	27.8	12.5	21.8	8.6	23.5	19.3	8.2	1.6	2.5
1954	0.2	0.5	10.9	1.8	0.8	0.2	4.8	8.4	1.5	7.0	9.2	7.6
1955	23.1	20.8	4.9	11.3	28.9	31.7	26.7	40.7	42.7	58.5	89.2	76.9
1956	73.6	124.0	118.4	110.7	136.6	116.6	129.1	169.6	173.2	155.3	201.3	192.1
1957	165.0	130.2	157.4	175.2	164.6	200.7	187.2	158.0	235.8	253.8	210.9	239.4
1958	202.5	164.9	190.7	196.0	175.3	171.5	191.4	200.2	201.2	181.5	152.3	187.6
1959	217.4	143.1	185.7	163.3	172.0	168.7	149.6	199.6	145.2	111.4	124.0	125.0
1960	146.3	106.0	102.2	122.0	119.6	110.2	121.7	134.1	127.2	82.8	89.6	85.6
1961	57.9	46.1	53.0	61.4	51.0	77.4	70.2	55.9	63.6	37.7	32.6	40.0
1962	38.7	50.3	45.6	46.4	43.7	42.0	21.8	21.8	51.3	39.5	26.9	23.2
1963	19.8	24.4	17.1	29.3	43.0	35.9	19.6	33.2	38.8	35.3	23.4	14.9
1964	15.3	17.7	16.5	8.6	9.5	9.1	3.1	9.3	4.7	6.1	7.4	15.1
1965	17.5	14.2	11.7	6.8	24.1	15.9	11.9	8.9	16.8	20.1	15.8	17.0
1966	28.2	24.4	25.3	48.7	45.3	47.7	56.7	51.2	50.2	57.2	57.2	70.4
1967	110.9	93.6	111.8	69.5	86.5	67.3	91.5	107.2	76.8	88.2	94.3	126.4
1968	121.8	111.9	92.2	81.2	127.2	110.3	96.1	109.3	117.2	107.7	86.0	109.8
1969	104.4	120.5	135.8	106.8	120.0	106.0	96.8	98.0	91.3	95.7	93.5	97.9
1970	111.5	127.8	102.9	109.5	127.5	106.8	112.5	93.0	99.5	86.6	95.2	83.5
1971	91.3	79.0	60.7	71.8	57.5	49.8	81.0	61.4	50.2	51.7	63.2	82.2
1972	61.5	88.4	80.1	63.2	80.5	88.0	76.5	76.8	64.0	61.3	41.6	45.3
1973	43.4	42.9	46.0	57.7	42.4	39.5	23.1	25.6	59.3	30.7	23.9	23.3
1974	27.6	26.0	21.3	40.3	39.5	36.0	55.8	33.6	40.2	47.1	25.0	20.5
1975	18.9	11.5	11.5	5.1	9.0	11.4	28.2	39.7	13.9	9.1	19.4	7.8
1976	8.1	4.3	21.9	18.8	12.4	12.2	1.9	16.4	13.5	20.6	5.2	15.3
1977	16.4	23.1	8.7	12.9	18.6	38.5	21.4	30.1	44.0	43.8	29.1	43.2
1978	51.9	93.6	76.5	99.7	82.7	95.1	70.4	58.1	138.2	125.1	97.9	122.7
1979	166.6	137.5	138.0	101.5	134.4	149.5	159.4	142.2	188.4	186.2	183.3	176.3
1980	159.6	155.0	126.2	164.1	179.9	157.3	136.3	135.4	155.0	164.7	147.9	174.4
1981	114.0	141.3	135.5	156.4	127.5	90.9	143.8	158.7	167.3	162.4	137.5	150.1
1982	111.2	163.6	153.8	122.0	82.2	110.4	106.1	107.6	118.8	94.7	98.1	127.0
1983	84.3	51.0	66.5	80.7	99.2	91.1	82.2	71.8	50.3	55.8	33.3	33.4
1984	57.0	85.4	83.5	69.7	76.4	46.1	37.4	25.5	15.7	12.6*	22.4*	18.2*

*Provisional

12
Dec 84

H - ALPHA SOLAR FLARES

DECEMBER 1984

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Time (UT)	Area Measurement		Remarks
																Apparent (10 ⁻⁶ Disk)	Corr (Sq Deg)	
LEAR	01	0146	0148	0153	S14	W65	4598	11	26.3	7	SF		3	C		35		F
ISTA	01	0812	0813	0821	N22	E90		12	08.2	9	1B							A
RAMY	01	1200	1204	1211	N20	E90		12	08.4	11	SF		3	C		11		
GOES	01	1404	1425	1456						52		C 1.8						
RAMY	01	1448	1450	1454	N19	E90		12	08.5	6	SF		3	C		18		
LEAR	02	0053	0054	0101	S10	W55	4600	11	28.0	8	SF		3	C		21		F
YUNN	02	0144E	0148	0200	S11	W56		11	27.9	16D	SN			P		47	.9	
LEAR	02	0146	0146	0152	S10	W56	4600	11	28.0	6	SF		3	C		22		F
GOES	02	0855	0913	0931						36		C 1.0						
HOLL	02	1738	1738	1744	N17	E78	4602	12	08.7	6	SF		3	C		12		
HOLL	02	1830	1833	1843	N17	E79	4602	12	08.8	13	SF		3	C		16		
HOLL	02	2041	2043	2047	N17	E78	4602	12	08.8	6	SF		3	C		11		
LEAR	06	0607	0608	0620	S03	E26	4603	12	08.2	13	SF		2	C		30		FH
RAMY	06	1645	1649	1655	S03	E22	4603	12	08.3	10	SN		3	C		46		
RAMY	06	2111	2112	2123	N18	E20	4602	12	08.4	12	SN		3	C		28		
ISTA	08	0814		0830	N35	E90		12	15.5	16	SF							A
WEND	08	1042	1048	1101	S07	E85		12	14.8	19	SN			C	1048	20		D
RAMY	08	1311	1316	1322	S10	E30	4604	12	10.8	11	SF		3	C		26		
RAMY	08	1800	1803	1819	S03	W08	4603	12	08.1	19	SF		3	C		28		
YUNN	09	0301	0303	0306	S04	W13		12	08.1	5	SN			C		31	.3	
GOES	09	1649	1719	1741						52		C 1.3						
GOES	10	0212	0223	0236						24		C 1.2						
ISTA	10	0740		0801	N37	E90		12	17.6	21	1B							A
RAMY	10	1701	1703	1722	S06	E52	4605	12	14.6	21	SN		3	C		102		F
HOLL	10	1702	1704	1716	S07	E52	4605	12	14.6	14	SF		3	C		18		F
RAMY	10	1831	1837	2002	S12	E12		12	11.7	91	SF		3	C		35		K
RAMY	10	1831	1853	2002	S12	E12		12	11.7	91	SN		3	C		50		K
RAMY	11	1126	1138	1316	S11	E02	4607	12	11.6	110	SN		3	C		67		
RAMY	11	1323	1407	1408	S11	E00	4607	12	11.5	45	SF		3	C		33		
RAMY	11	1436	1512	1623	S11	W00	4607	12	11.6	107	SN		3	C		92		K
RAMY	11	1436	1528	1623	S11	W00	4607	12	11.6	107	SN		3	C		51		K
RAMY	11	1630	1702	1919	S11	W01	4607	12	11.6	169	SF		3	C		32		
RAMY	11	1744	1745	1807D	N19	E72	4608	12	17.2	23D	SF		3	C		42		
RAMY	11	1928	2005	2030	S11	W03	4607	12	11.6	62	SF		3	C		27		
RAMY	11	2043	2048	2100	S12	W04	4607	12	11.6	17	SB		3	C		109		
WEND	12	1254	1259	1315	S11	W11		12	11.7	21	SN			C	1259	44	.5	
RAMY	14	1531	1531	1542	S12	W41	4607	12	11.5	11	SN		3	C		30		
PALE	15	1845	1845	1851	N16	E19	4608	12	17.2	6	SF		3	C		22		
HOLL	15	2110	2115	2118	N20	E17	4608	12	17.2	8	SF		3	C		26		F
LEAR	16	0711	0716	0720	N20	E11	4608	12	17.1	9	SF		3	C		57		
YUNN	17	0223	0230	0250	N23	W02		12	16.9	27	SN			C		46	.5	
RAMY	19	2115	2116	2124D	S12	E49		12	23.6	9D	SN		2	C		99		F
YUNN	20	0740	0745	0755	S12	E45		12	23.7	15	SN			C		79	1.2	G
RAMY	20	1526E		1534	S12	E41	4609	12	23.7	8D	SF		3	C		26		F
RAMY	20	1832	1853	1853	S13	E38	4609	12	23.6	21	SN		3	C		45		
PEKG	21	0204E		0246	S13	E34		12	23.6	42D	SN			C	0246	101	1.4	EK
LEAR	21	0236	0250	0332	S13	E34	4609	12	23.7	56	SF	C 1.1	3	C		68		U
PEKG	21	0252E	0252	0338	S14	E34		12	23.7	46D	SN	C 1.1		C	0252	134	1.7	E
YUNN	23	0526	0534	0615	S13	E05		12	23.6	49	SN			C		63	.7	G
LEAR	23	0536	0558U	0615	S14	E04	4609	12	23.5	39	SF		3	C		50		UF

H - ALPHA SOLAR FLARES

13
Dec 84

DECEMBER 1984

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	Obs See	Type	Time (UT)	Area Measurement		Remarks
																Apparent (10 ⁻⁶ Disk)	Corr (Sq Deg)	
[HOLL	25	1925	1925	1933	S15	W30	4609	12	23.5	8	SF		3	C		23		F
RAMY	25	1926	1926	1937	S12	W30	4609	12	23.5	11	SF		3	C		22		
[HOLL	30	1822	1824	1826	S10	W79	4612	12	24.8	4	SF		3	C		18		
PALE	30	1823	1824	1828	S09	W79	4612	12	24.8	5	SF		3	C		15		

"Remarks":

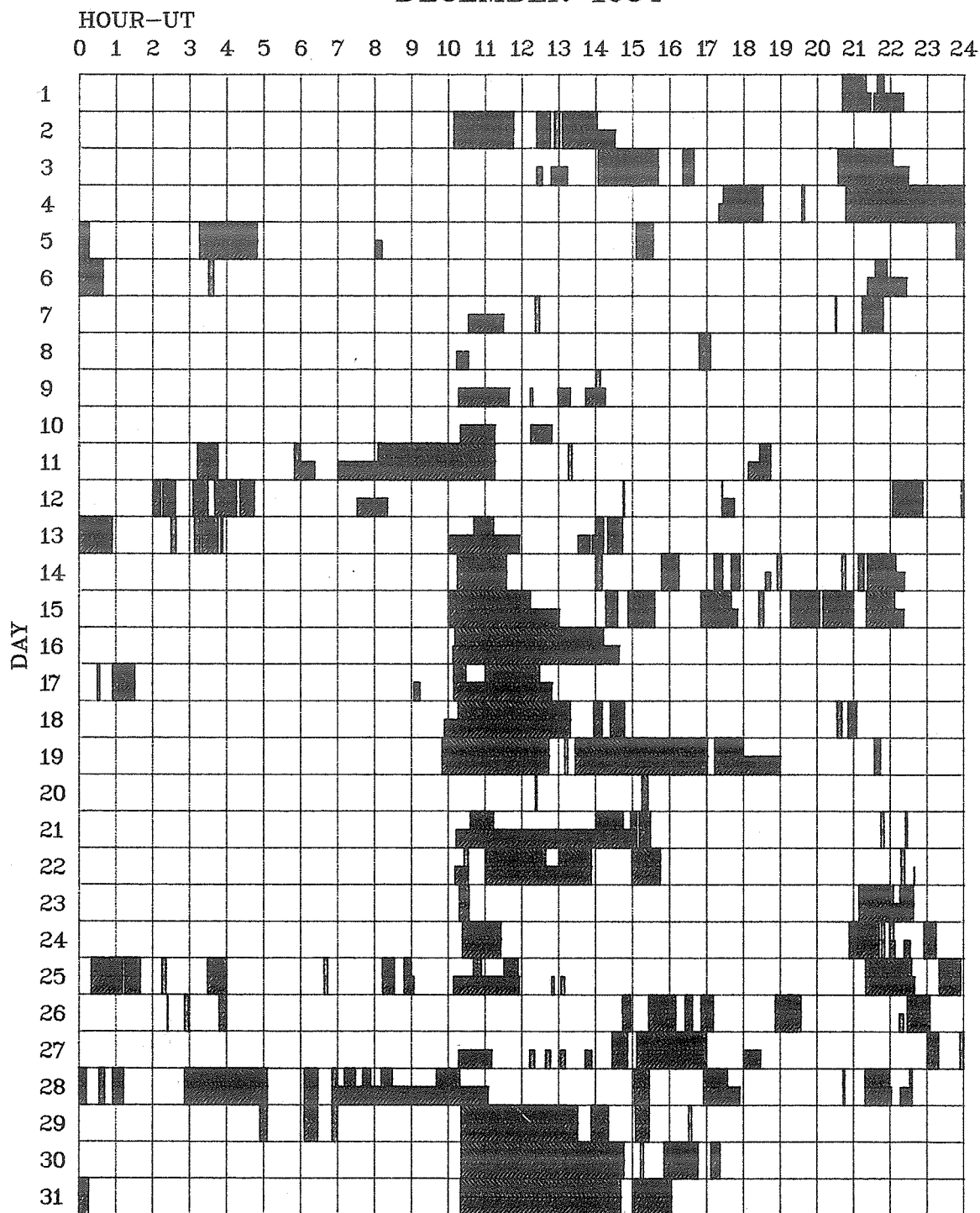
A = Eruptive prominence whose base is less than 90° from central meridian.
 B = Probably the end of a more important flare.
 C = Invisible 10 minutes before.
 D = Brilliant point.
 E = Two or more brilliant points.
 F = Several eruptive centers.
 G = No visible spots in the neighborhood.
 H = Flare accompanied 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.

14
Dec 84

INTERVALS OF NO FLARE PATROL OBSERVATION FOR PRECEDING SOLAR FLARE TABLE

DECEMBER 1984



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

Athens

Holloman
Istanbul

Learmonth
Palehua

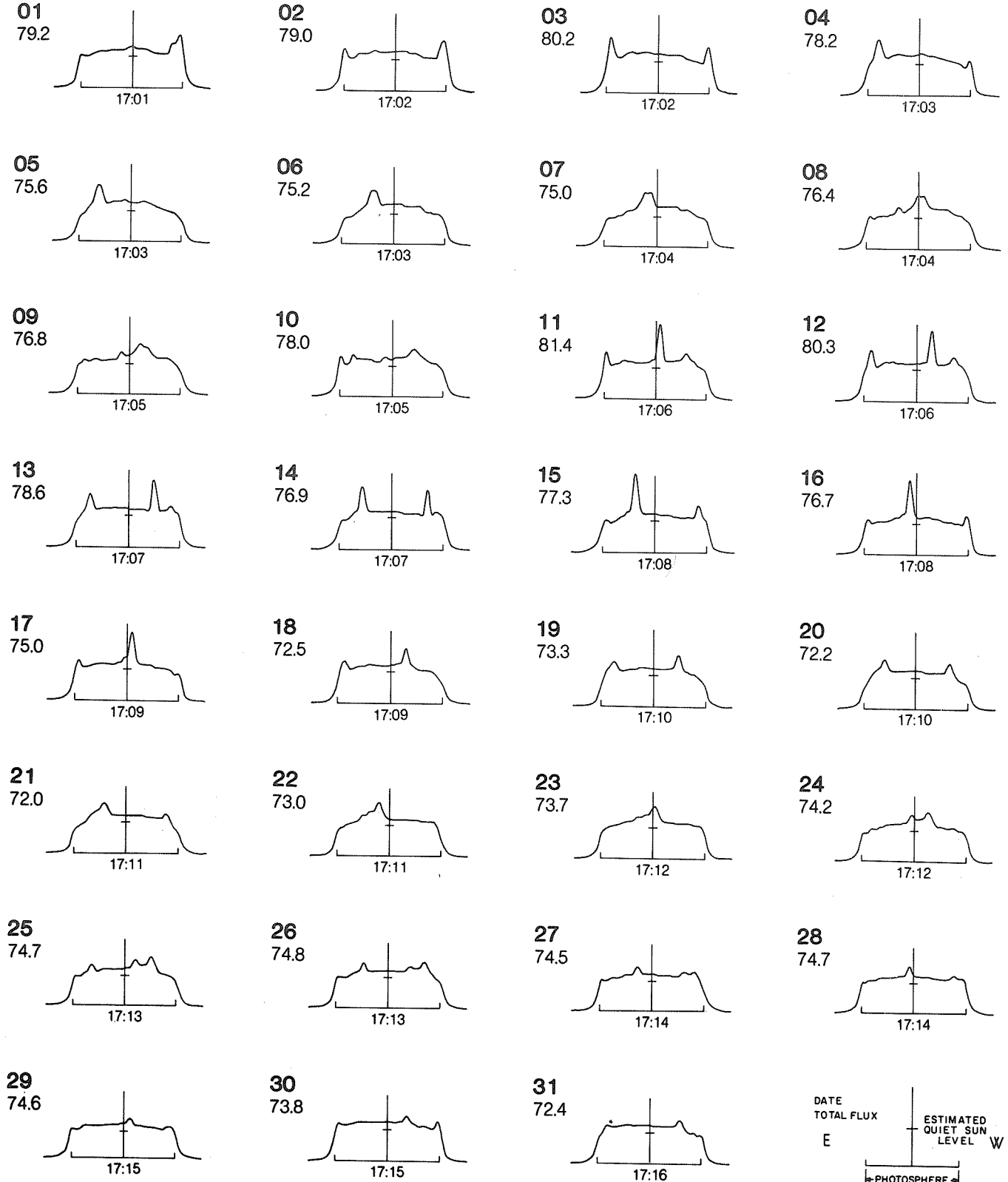
Peking
Ramey

Wendelstein
Yunnan

EAST-WEST SOLAR SCANS DECEMBER 1984

ALGONQUIN RADIO OBSERVATORY
CANADA

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



DATE TOTAL FLUX
E
ESTIMATED QUIET SUN LEVEL W
PHOTOSPHERE
TIME U.T.

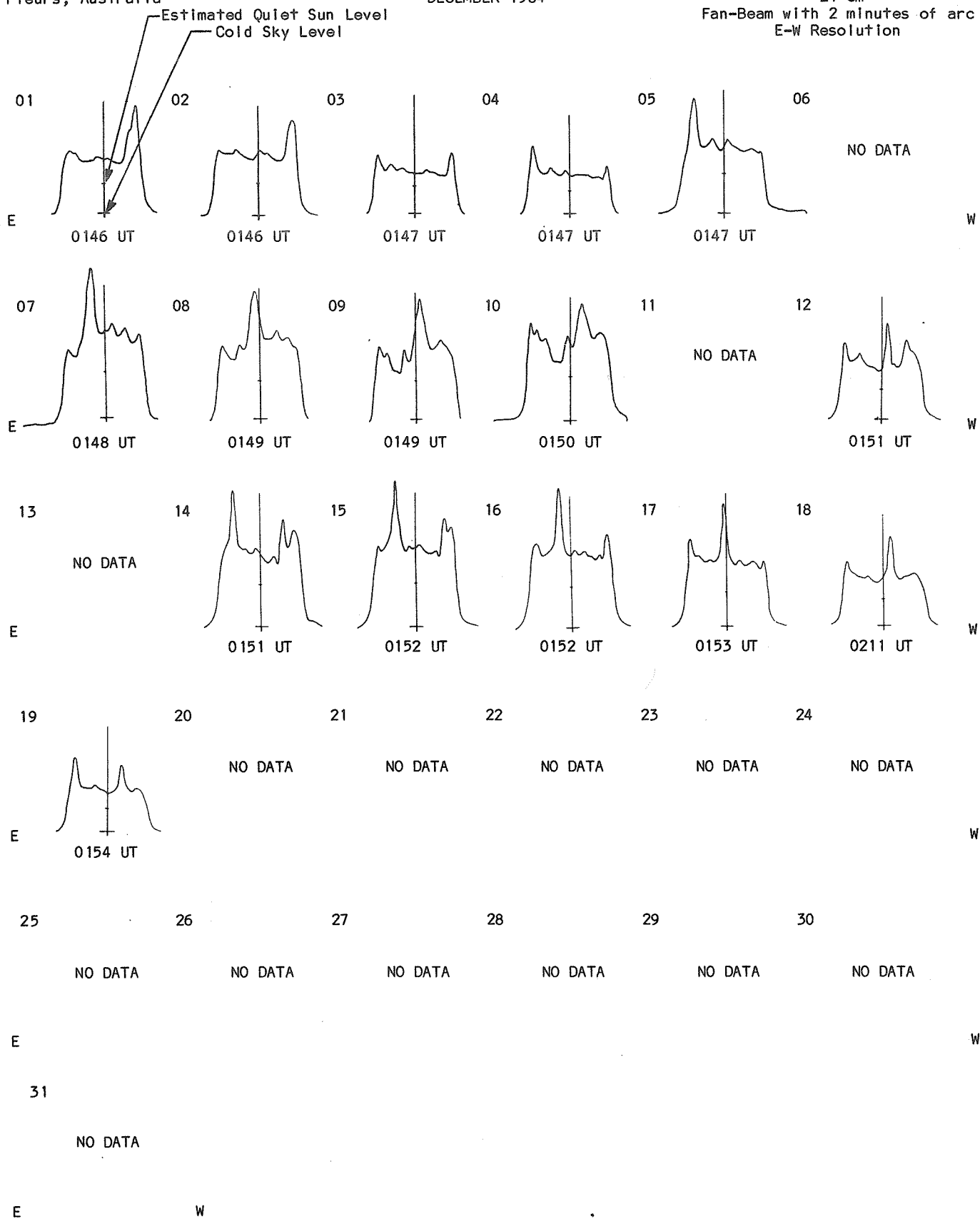
16
Dec 84

EAST-WEST SOLAR SCANS

Fleurs, Australia

DECEMBER 1984

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



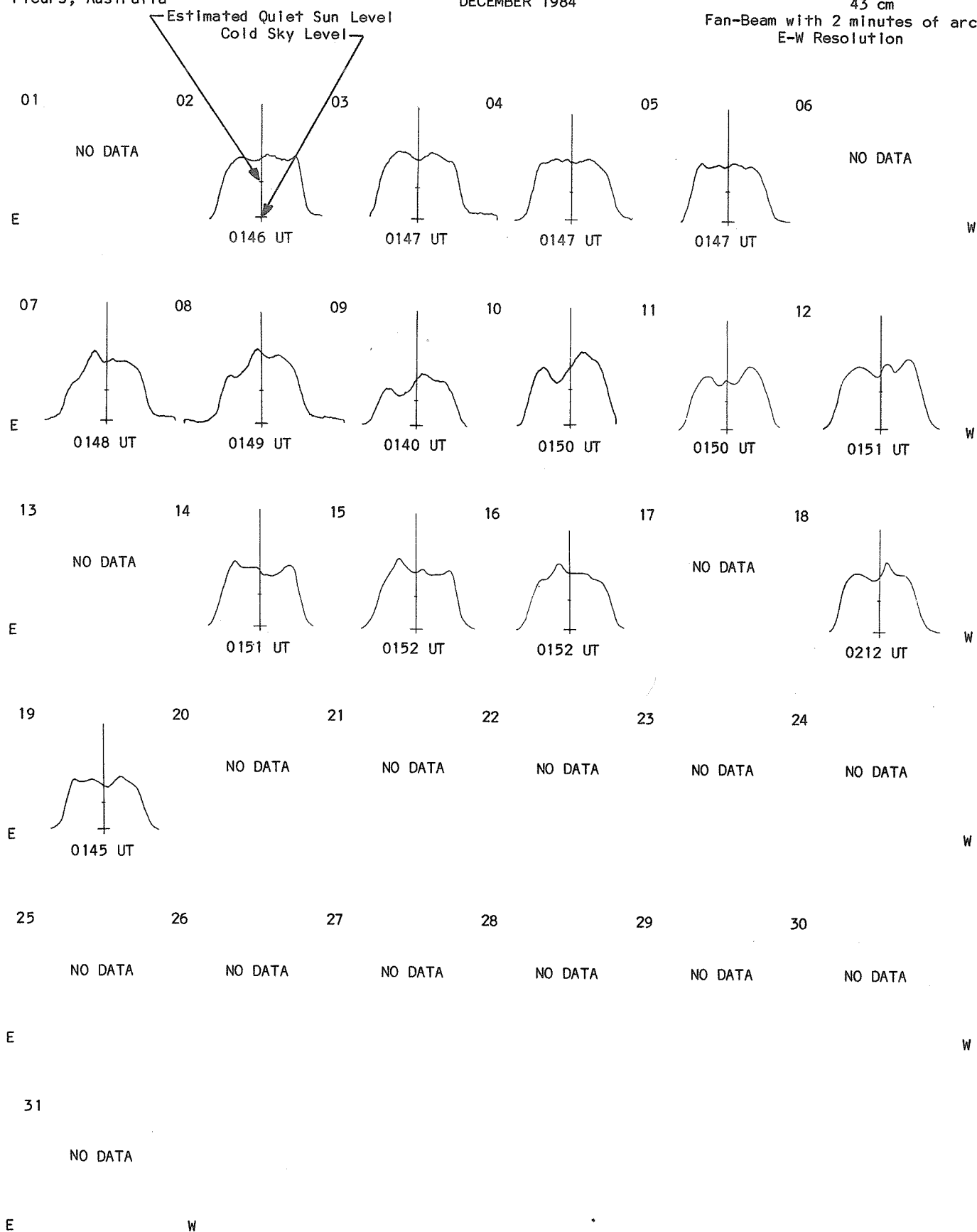
EAST - WEST SOLAR SCANS

17
Dec 84

Fleurs, Australia

DECEMBER 1984

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



18
Dec 84

SOLAR RADIO EMISSION SELECTED FIXED FREQUENCY EVENTS

DECEMBER 1984

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density		Int	Remarks
							Peak (10 -22	Mean W/m 2 Hz)		
04	8800	LEAR	8 S	0933.1	0933.6	1.2	15.0			QL=6 ST=2 TYP=3
	2695	LEAR	8 S	0933.3	0933.6	1.0	6.0			QL=6 ST=2 TYP=3
	8800	LEAR	8 S	0952.0	0952.1	.5	22.0			QL=6 ST=2 TYP=3
	2695	LEAR	8 S	0952.1	0952.1	.2	7.0			QL=6 ST=2 TYP=3
05	2695	SGMR	47 GB	1508.1	1508.1	.2	88.0			QL=6 ST=2 TYP=5
11	2800	OTTA	27A RF	1500.0		110.0	1.2	1.1		
	2800	OTTA	24 R	1500.0	1504.0	4.0	1.2			
	2800	OTTA	1 S	1502.0	1503.0	2.0	0.8	0.4		
	2800	OTTA	24P R	1504.0		91.0	1.2			
	2800	OTTA	26 FAL	1635.0	1650.0	15.0	-1.2	-0.6		
	2800	OTTA	20 GRF	1805.0	1830.0	40.0	1.0	0.5		
16	2695	LEAR	8 S	0710.6	0710.6	.2	7.0			QL=6 ST=2 TYP=3
19	2800	OTTA	1 S	1831.2	1831.3	1.5	0.8	0.3		
20	2800	OTTA	8 S	1832.0	1832.0	.5	1.4	0.4		

Observatories:

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

Explanation of Type Code:

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

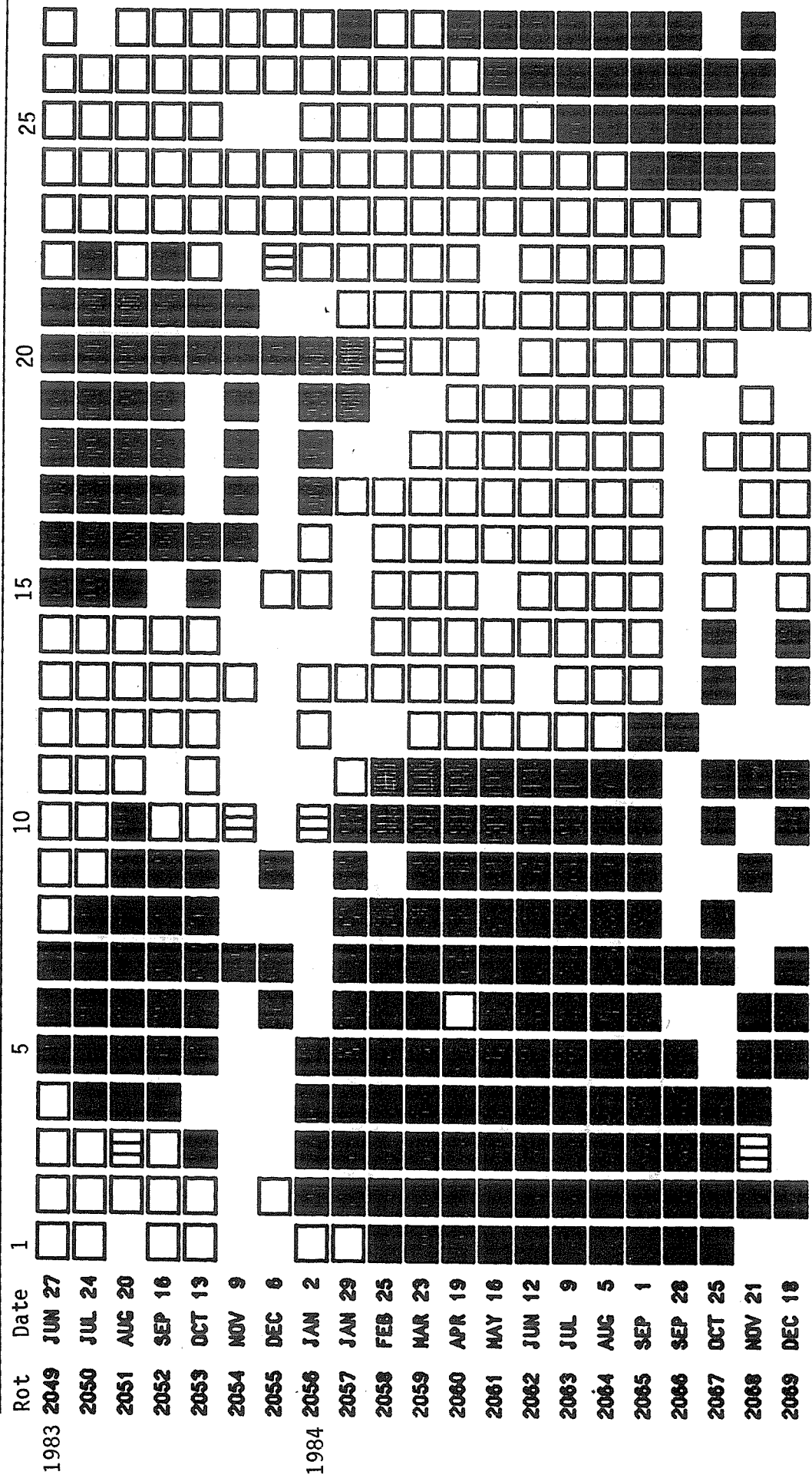
Remarks:

QL = Quality (1=poor to 6=excellent)

ST = Status (1=real time; 2=final; 3=correction; 4=deletion)

TYP= Type (1=noise storm; 2=rise in base level; 3=minor; 4=group; 5=major; 6=major plus; 7=Castelli U-type burst)

STANFORD MEAN SOLAR MAGNETIC FIELD



Mean Solar Magnetic Field Polarity: = field > 2 microT; = -2 microT < field < 2 microT
 = field < -2 microT; No box = no data available

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

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

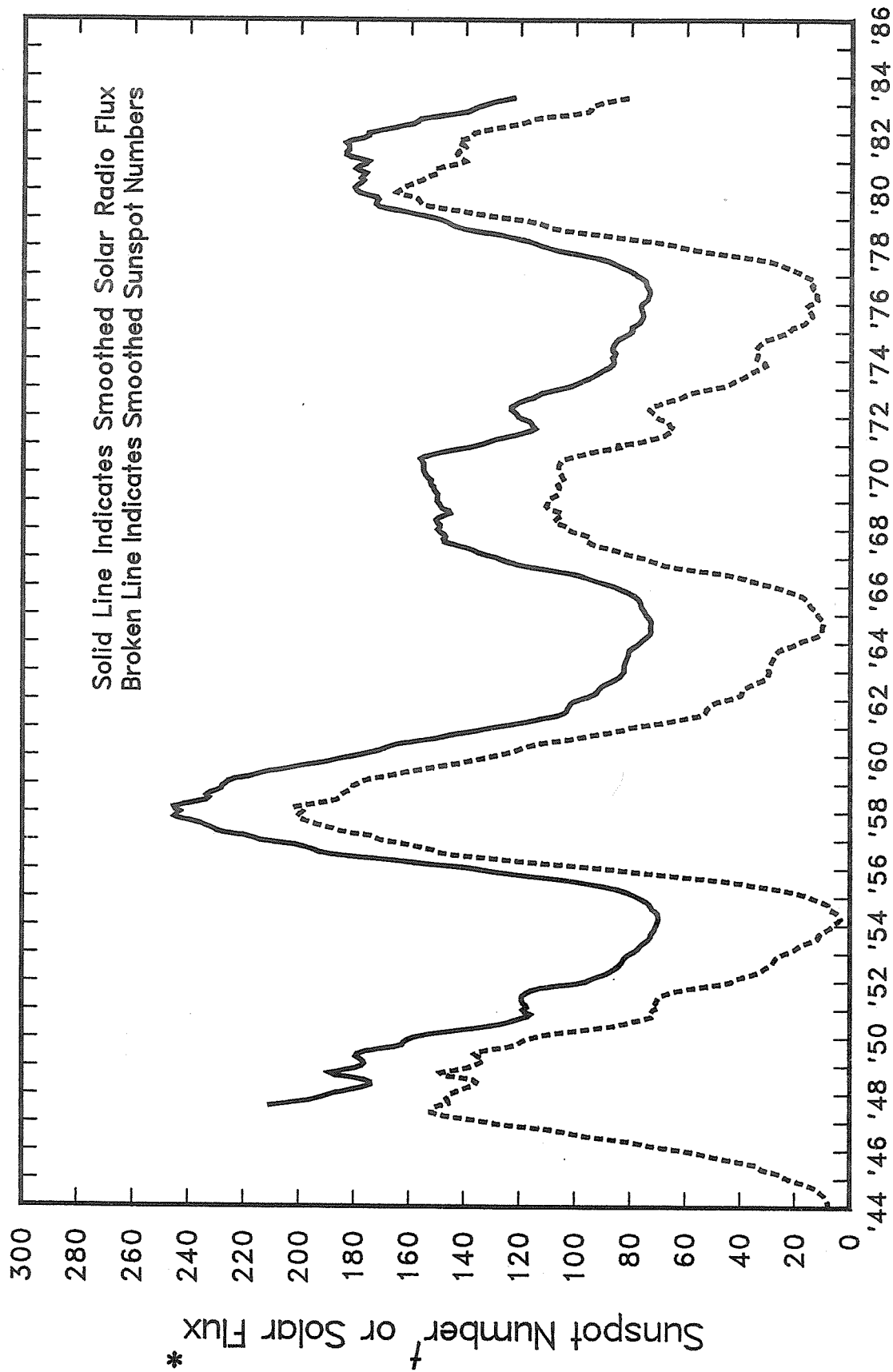
21
Dec 84

Day	Jan 84	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	41	-41	-79	-34	56	24	38	17	-38	-42	-13	-32
2	11	-63	-66	-23	53	27	44	-2	-20	-63	.	.
3	-2	-62	-55	9	40	42	33	-35	-42	.	-64	.
4	-16	-43	.	29	36	.	62	-40	-58	-76	-37	.
5	-29	-19	-31	34	24	66	41	-44	-77	.	.	.
6	-50	-8	-2	31	15	.	5	-37	-86	.	-22	15
7	.	-4	.	38	15	65	-28	-50	-89	.	-4	28
8	.	16	62	41	30	53	-41	-82	-95	.	10	44
9	.	.	58	25	7	24	-62	-83	-81	-21	12	30
10	.	61	45	.	19	-18	-56	-73	-55	.	.	.
11	-1	.	47	17	47	-37	-66	-84	-27	.	16	39
12	.	.	35	31	42	-47	-70	-91	-8	.	.	27
13	47	.	.	46	32	-57	-96	-71	3	.	48	12
14	56	15	.	56	20	-63	-91	-67	11	.	24	-10
15	.	.	-1	56	-5	-61	-102	-13	10	.	.	-12
16	37	-14	19	52	-39	-75	-93	6	12	.	.	-20
17	20	-23	55	28	-62	-73	-59	11	21	32	-4	-11
18	-3	3	76	21	-57	-89	-39	21	23	36	-25	.
19	-14	29	82	-40	-58	-59	-11	18	49	.	-23	-8
20	-28	39	87	-53	-62	-66	14	19	52	15	.	.
21	-34	31	57	-52	-59	-52	9	21	44	-7	.	.
22	.	36	4	-18	-66	-31	31	26	34	-32	-6	-24
23	24	19	-33	-14	-68	11	7	39	20	-38	1	-35
24	43	-33	-47	9	-79	.	30	47	-5	-24	-15	-46
25	33	-59	-59	-17	-76	37	22	52	-26	-14	-10	.
26	25	-74	-57	-34	-42	33	26	31	-35	-18	-20	.
27	23	-72	-51	-49	13	16	53	25	-26	-15	.	-23
28	21	-74	-49	-40	57	26	43	11	-19	-32	.	-22
29	10	-78	-20	-15	66	15	54	-4	-19	.	-45	.
30	-13	.	-35	28	.	32	36	-13	-30	.	.	-9
31	-22	.	-21	.	38	.	31	-36	.	-71	.	-3

Dot symbol indicates no data available for the day.

SUNSPOT NUMBERS AND 10.7 cm SOLAR RADIO FLUX

January 1944 - April 1983



National Geophysical
Data Center
D. B. Wilkerson

* Solar Flux Units (10^{-22} W/m² Hz) Adjusted to 1 A.U., Ottawa Series D.
† Reduced Zürich Sunspot Numbers.

C O N T E N T S

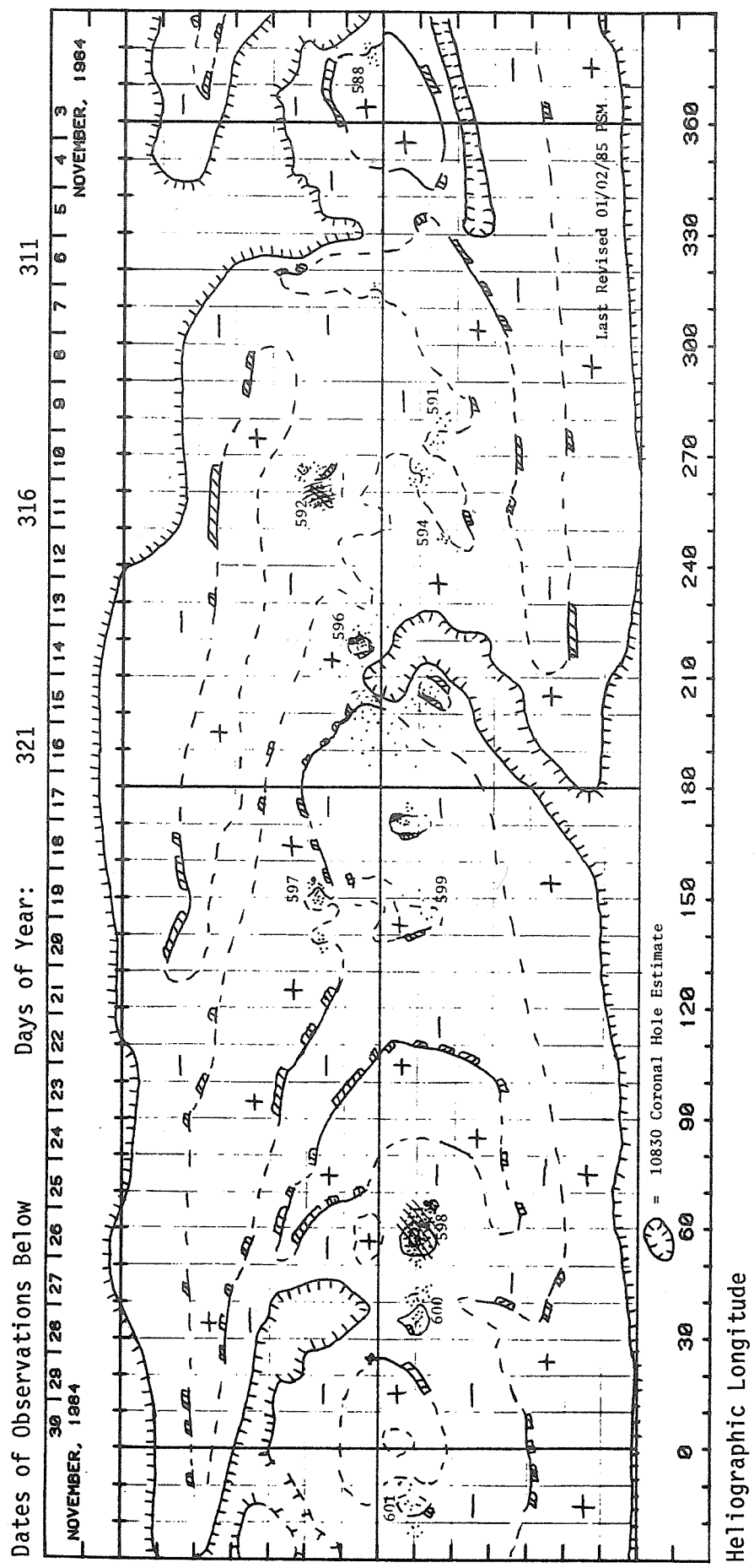
Prompt Reports

DATA FOR NOVEMBER 1984

Number 485 Part I

SOLAR ACTIVE REGIONS	Page
Solar Synoptic Charts.	24- 27
Daily Activity Solar Maps.	28- 57
Regions of Solar Activity/Calcium Plage Index (Data currently unavailable)	
Regions of Sunspot Activity.	58- 62
SUDDEN IONOSPHERIC DISTURBANCES	63- 64
PIONEER XII INTERPLANETARY MAGNETIC FIELD MAGNITUDES (Unavailable at time of publication)	
SOLAR RADIO SPECTRAL OBSERVATIONS	65- 69
COSMIC RAY MEASUREMENTS BY NEUTRON MONITOR	
Chart of Variations	70- 72
Daily Counting Rates	73
GEOMAGNETIC INDICES	
Geomagnetic Activity Indices	74
Daily Average Ap	75
Chart of Kp by 27-day Rotation.	76
Provisional Values of Hourly Equatorial Dst.	77
Principal Magnetic Storms.	78
Sudden Commencements/Solar Flare Effects (Unavailable at time of publication.)	
RADIO PROPAGATION INDICES	
Quality Indices on Paths to Germany.	79
Field Strength Diagram - North Atlantic Path	80- 81

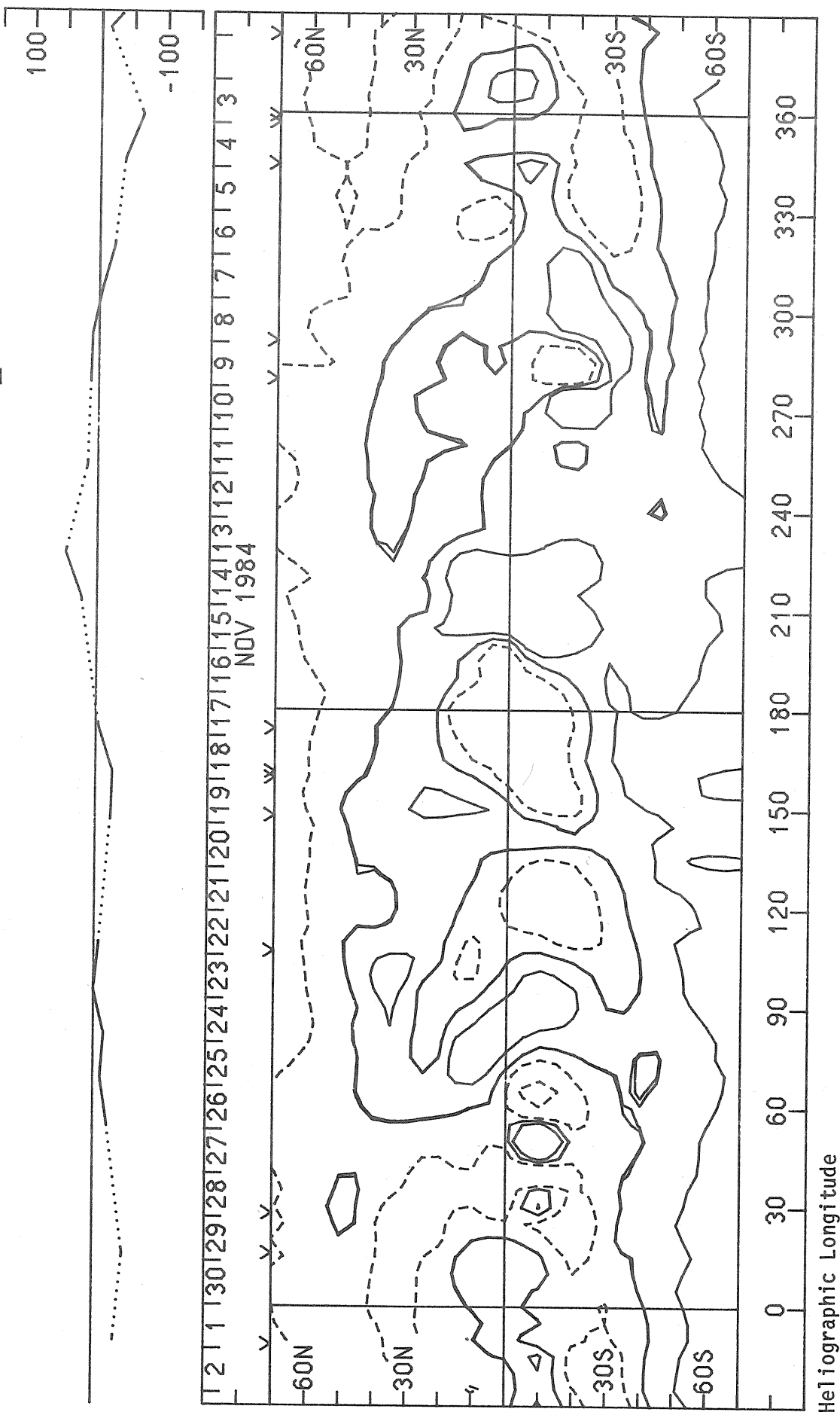
PRELIMINARY H - ALPHA SOLAR SYNOPSIS CHART
CARRINGTON ROTATION NUMBER 1755
(November 3 to November 30, 1984)

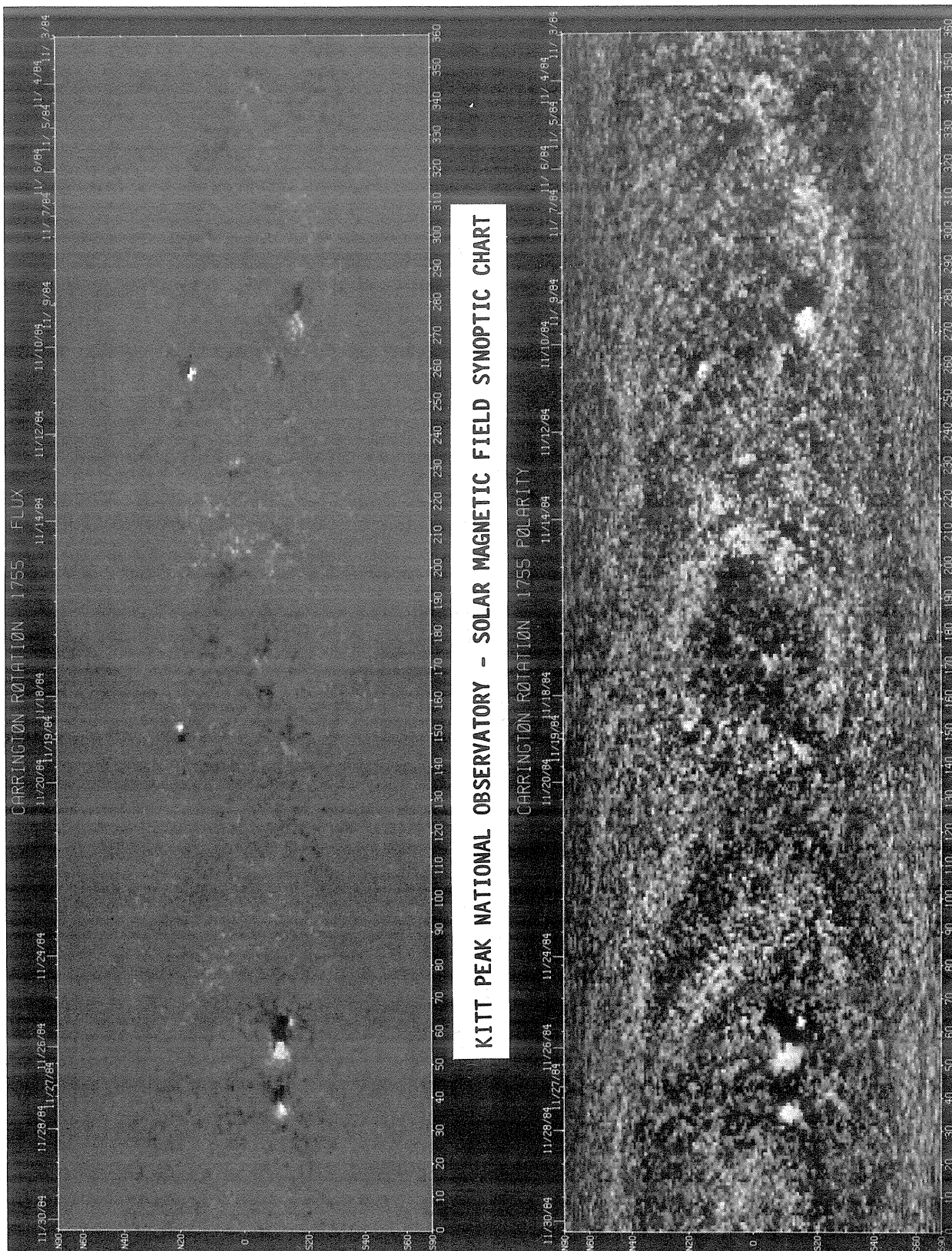


SOLAR MAGNETIC FIELD SYNOPSIS CHART CARRINGTON ROTATION NUMBER 1755 (November 3 to November 30, 1984)

Stanford Solar Observatory

0, +100, 500, 1000, 2000 microTesla



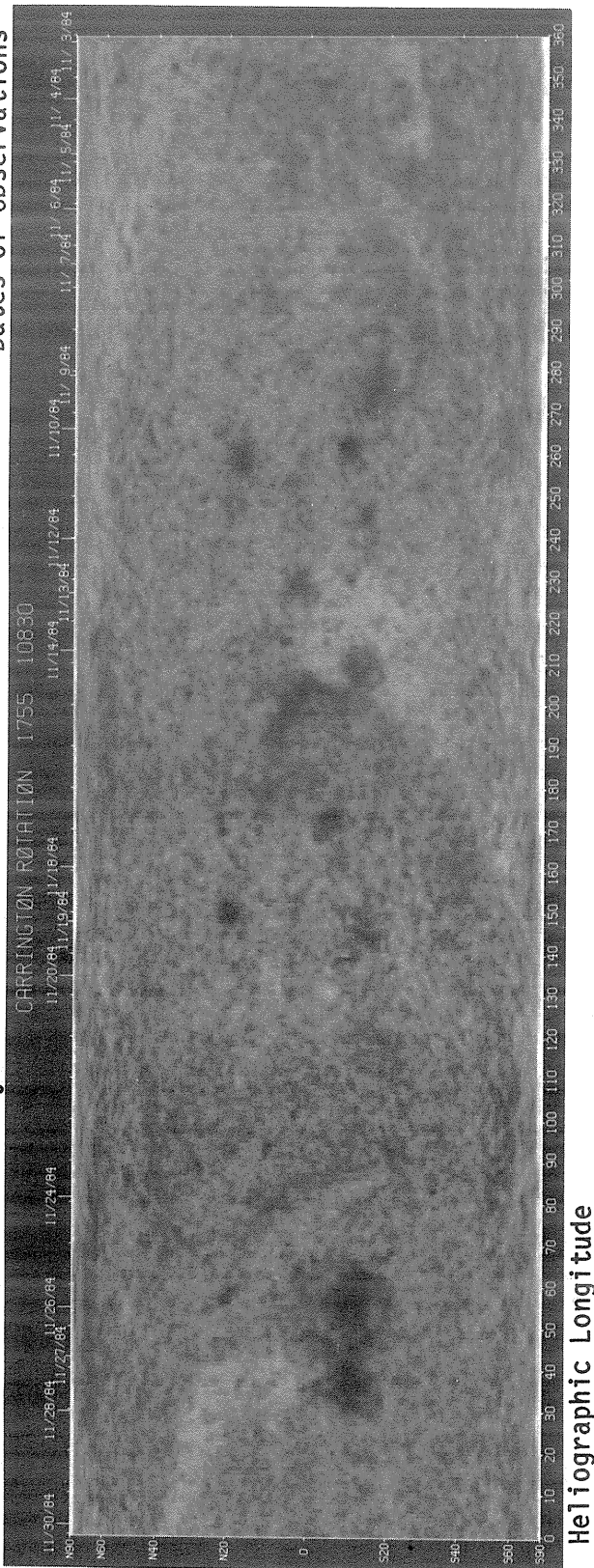


HELIUM 10830 ANGSTROM SYNOPTIC MAP OF THE SOLAR CORONA

CARRINGTON ROTATION NUMBER 1755
(November 3 to November 30, 1984)

Kitt Peak National Observatory

Dates of Observations



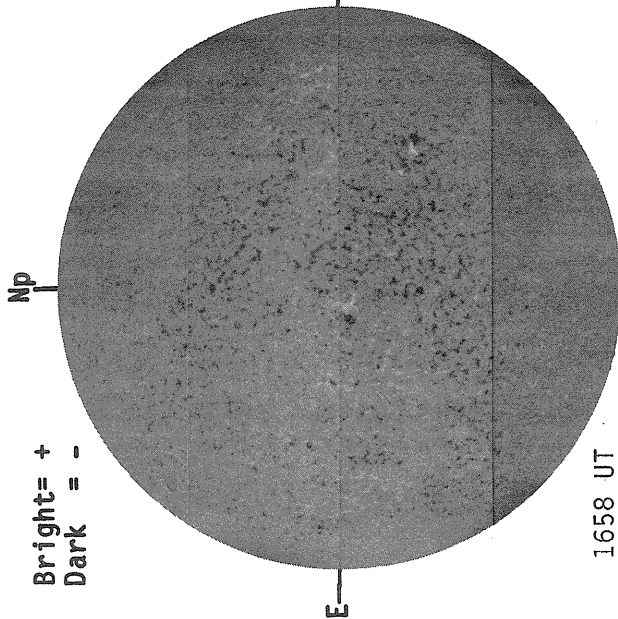
Regions for which no observations were available are black.
Irregularly shaped light areas mark either coronal holes or filament cavities.
Gray-scale display represents the strength of the helium 10830A absorption line.

N O V E M B E R 01, 1 9 8 4 (P= 24.49, B₀= 4.33, L₀= 34.92)

28
Nov 84

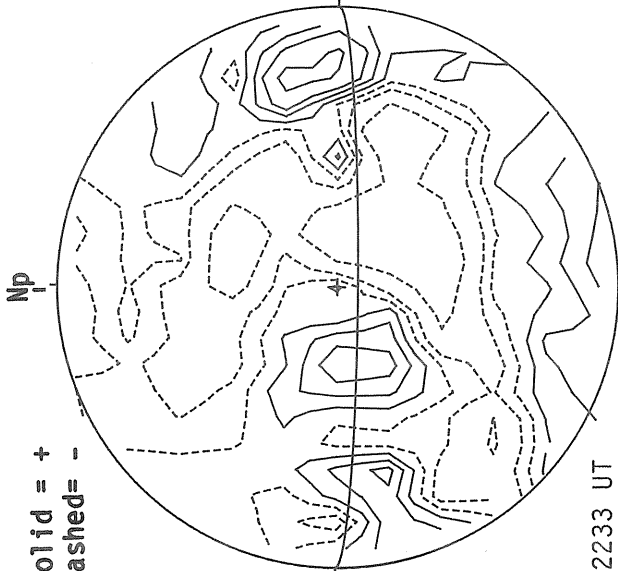
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



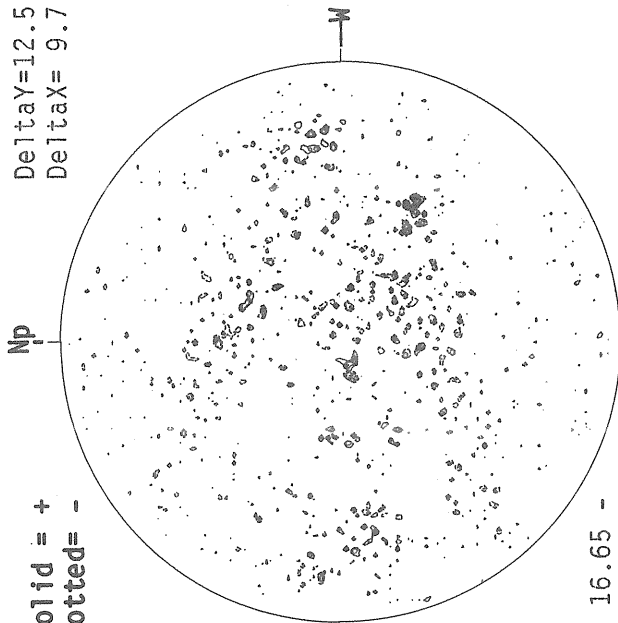
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

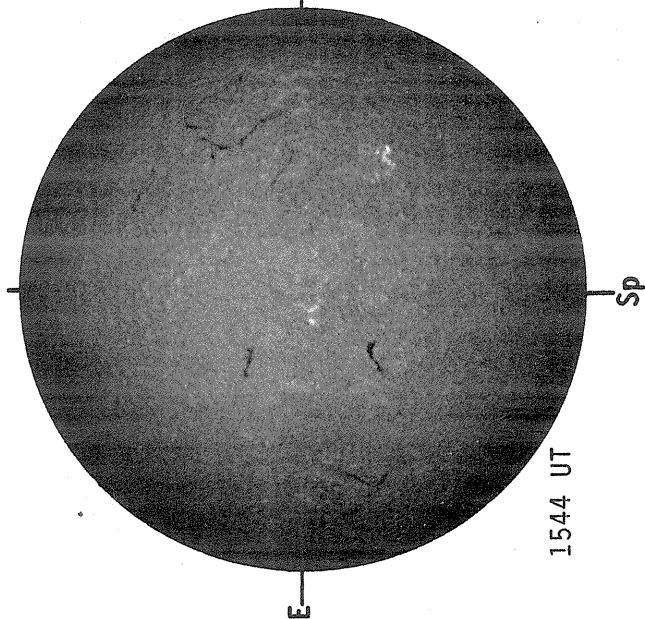
Solid = +
Dotted = -



DeltaY=12.5
DeltaX= 9.7

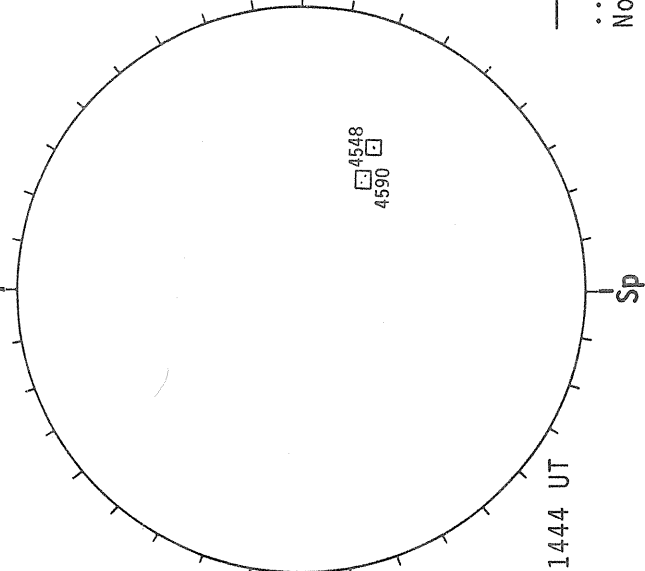
SACRAMENTO PEAK H-ALPHA

1658 UT



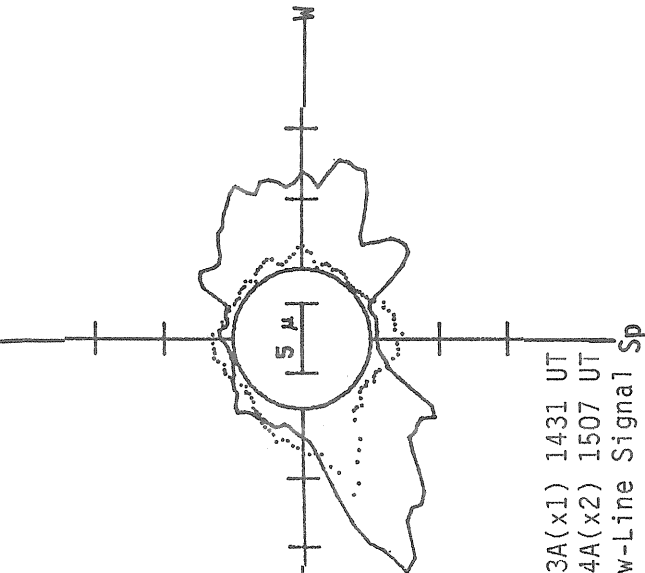
HOLLOMAN SUNSPOTS

2233 UT



SACRAMENTO PEAK CORONA (1.15 Radii)

16.65 -
17.59 UT



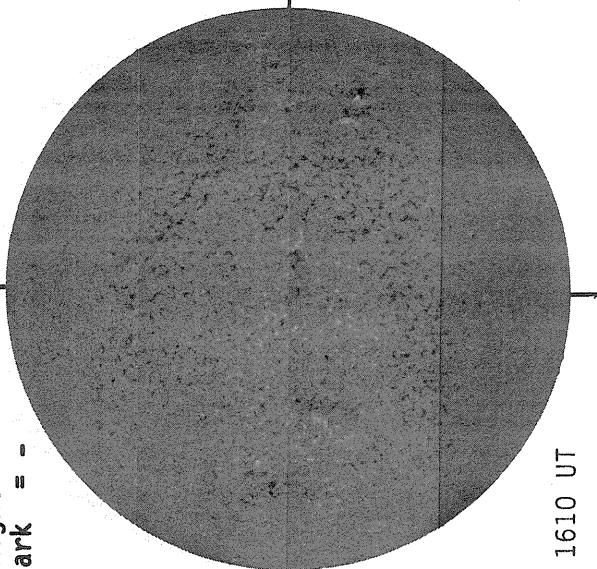
— 5303A(x1) 1431 UT
.... 6374A(x2) 1507 UT
No Yellow-Line Signal Sp

NOVEMBER 02, 1984 (P= 24.32, B₀ = 4.23, L₀ = 21.73)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

Np

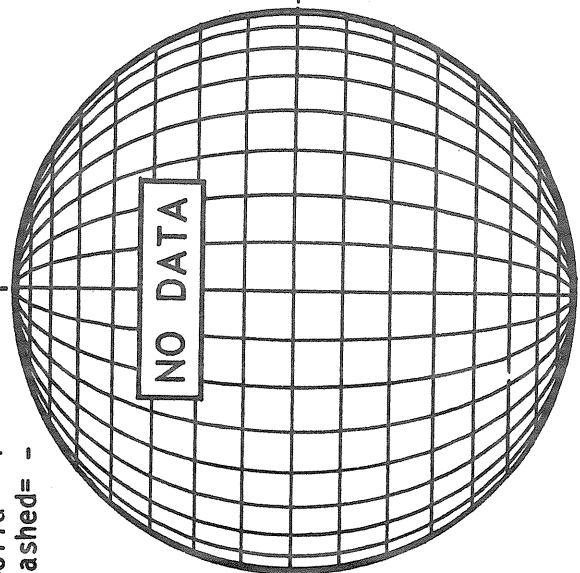


1610 UT

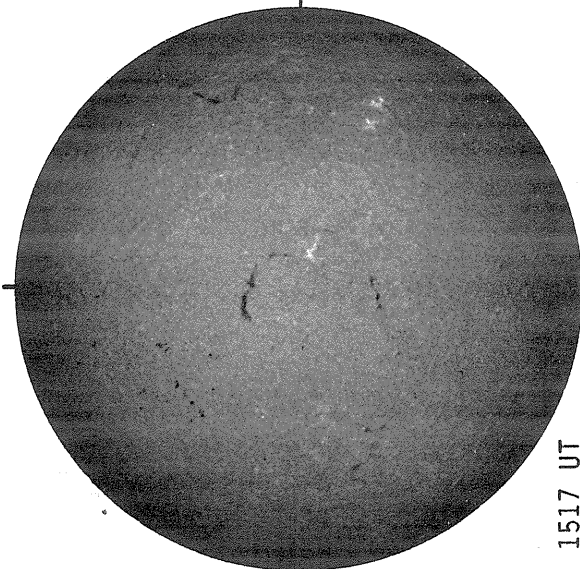
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

Np

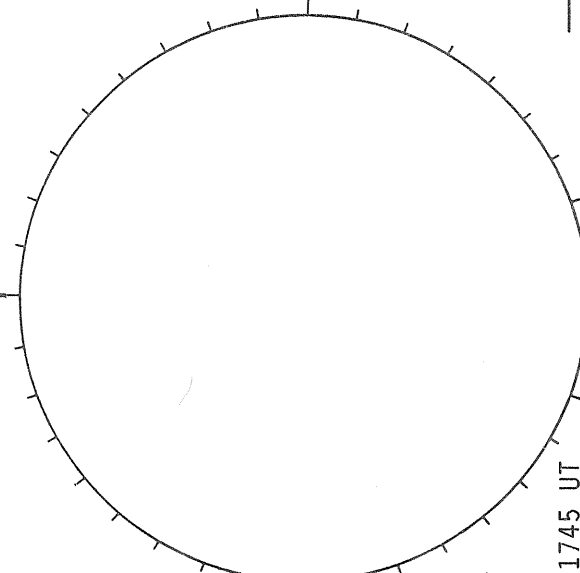


SACRAMENTO PEAK H-ALPHA



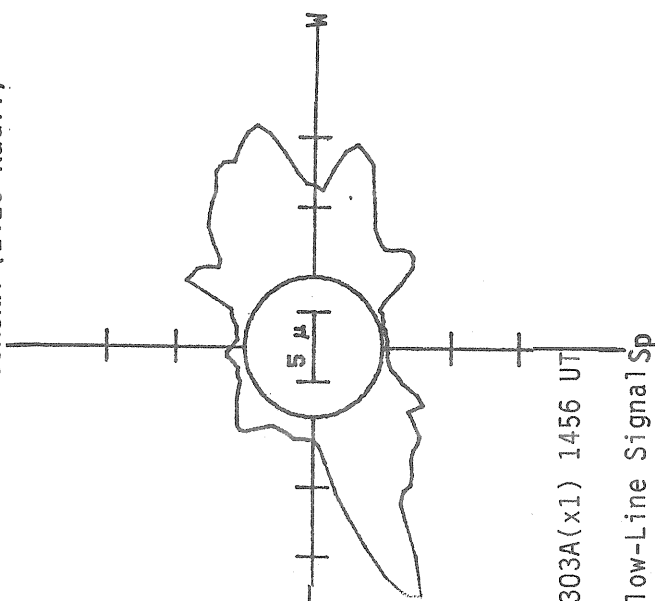
1517 UT

BOULDER SUNSPOTS



1745 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

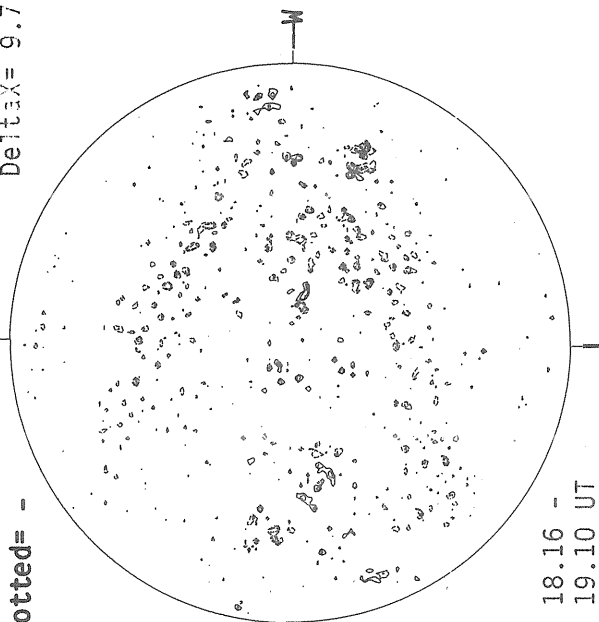


1456 UT

No Yellow-Line Signal

MT. WILSON MAGNETOGRAM

Solid = +
Dotted = -
Np
Delta Y = 12.5
Delta X = 9.7



18.16 -
19.10 UT

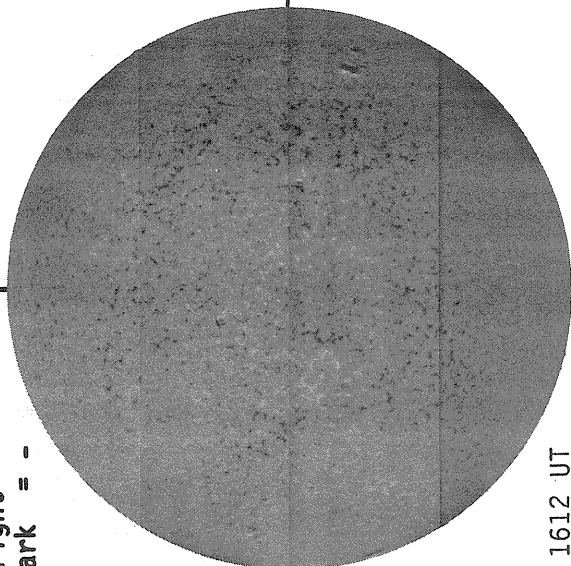
NOVEMBER 03, 1984 (P=24.14, B₀=4.12, L₀=8.55)

30
Nov 84

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

Np

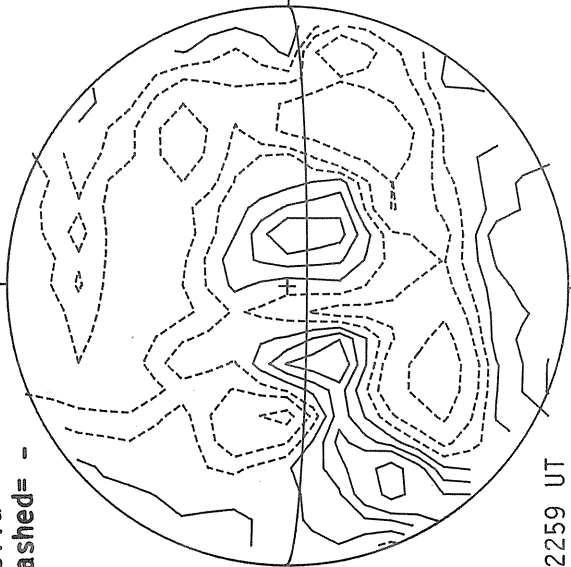


1612 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

Np

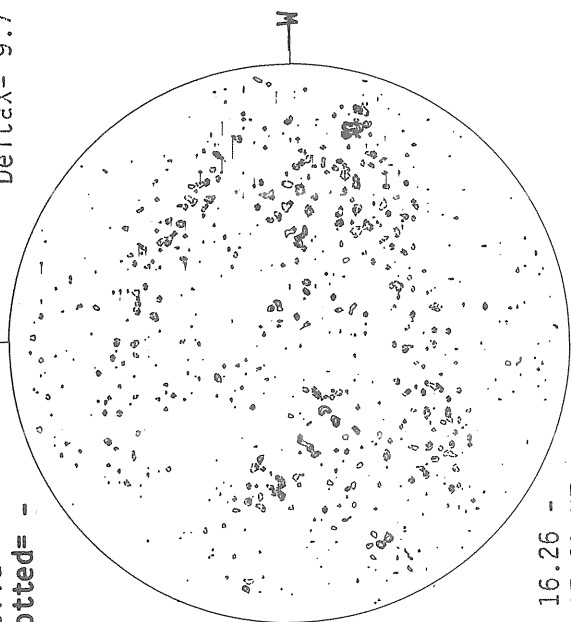


2259 UT

MT. WILSON MAGNETOGRAM

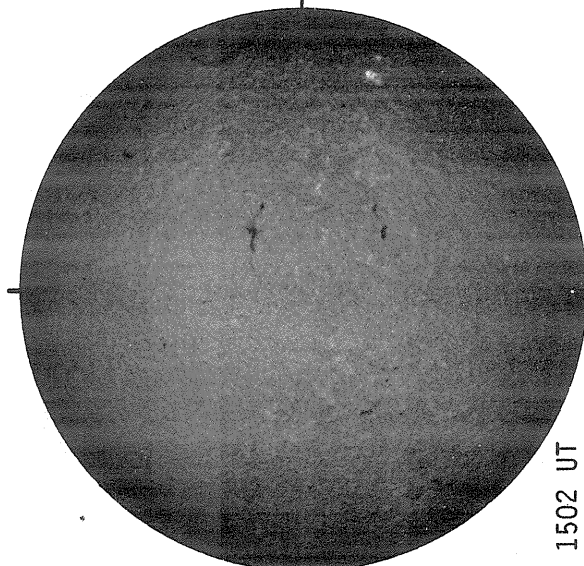
Solid = +
Dotted = -

Np



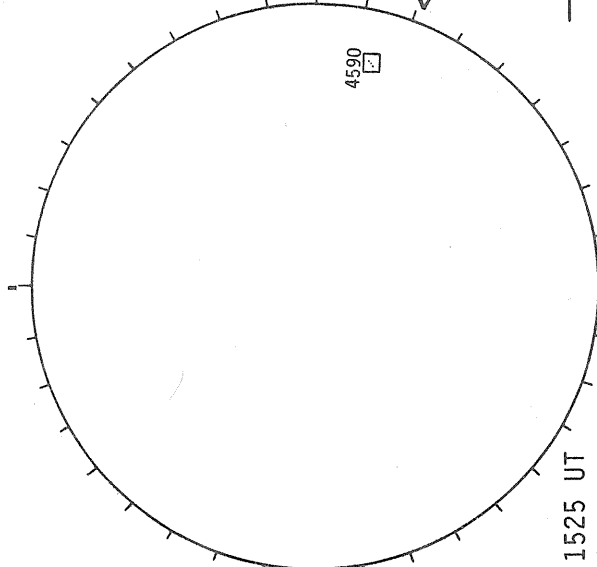
16.26 -
17.21 UT

SACRAMENTO PEAK H-ALPHA



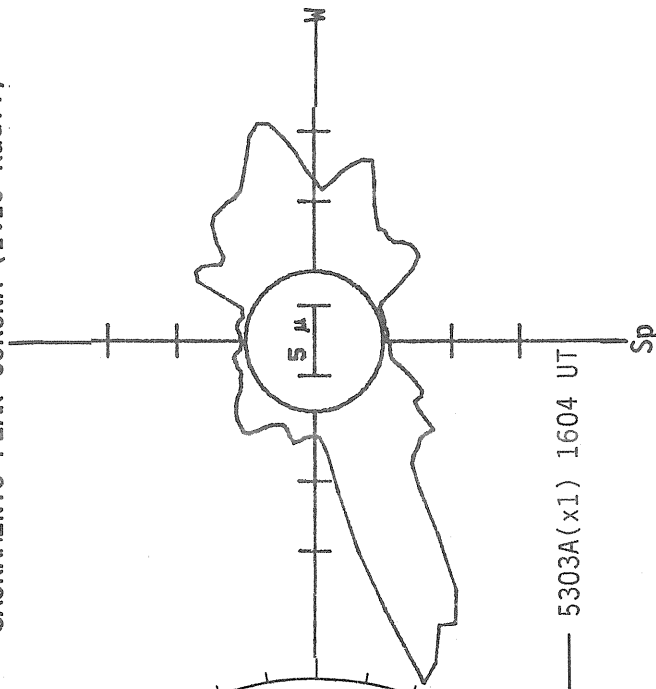
1502 UT

BOULDER SUNSPOTS



1525 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



1604 UT

Delta Y = 12.4
Delta X = 9.7

4590

E

E

Sp

Sp

Sp

W

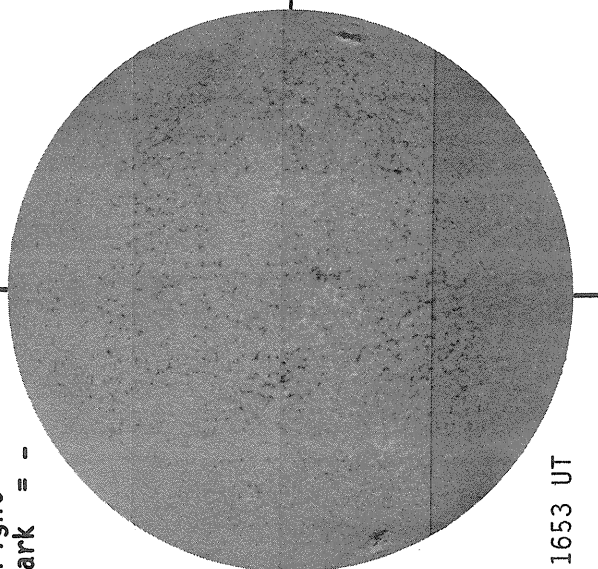
W

N O V E M B E R 04, 1 9 8 4 (P= 23.95, B₀ = 4.02, L₀ = 355.36)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

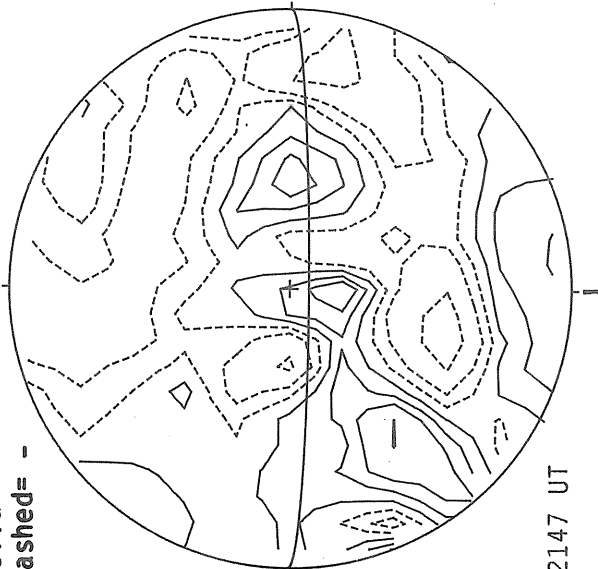
Np



STANFORD MAGNETOGRAM

Solid = +
Dashed = -

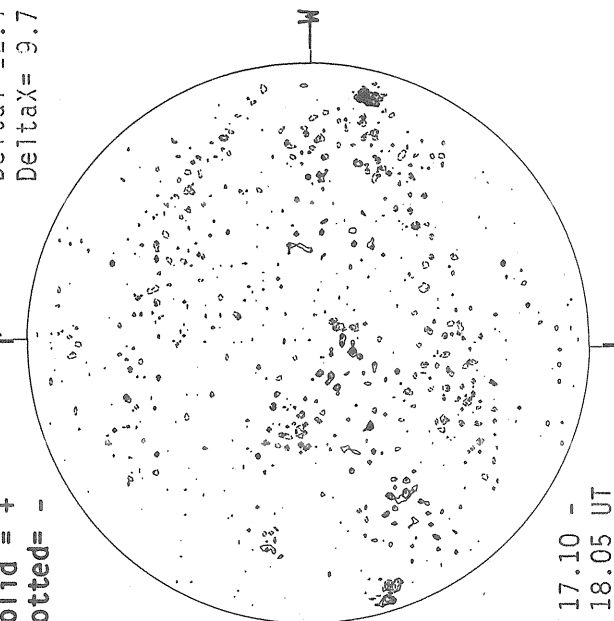
Np



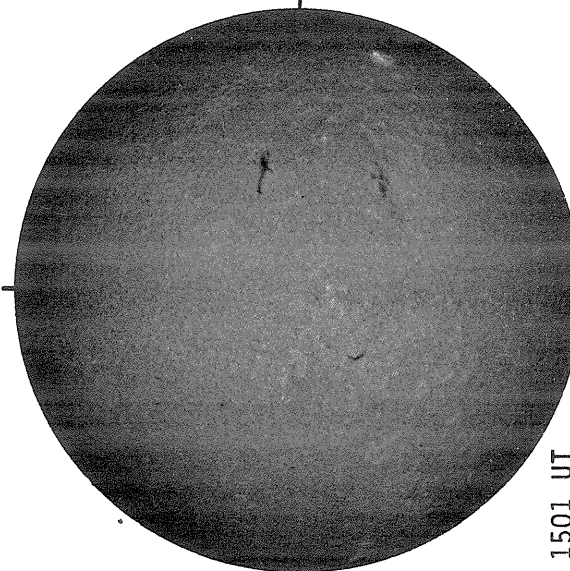
MT. WILSON MAGNETOGRAM

Solid = +
Dotted = -

Np



SACRAMENTO PEAK H-ALPHA

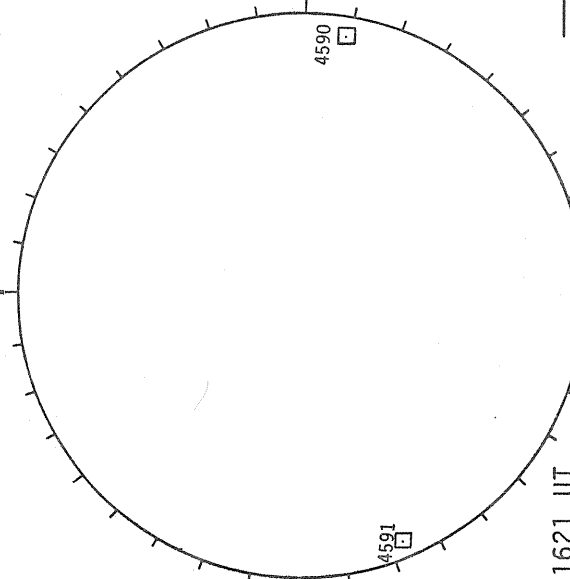


E

1501 UT

Sp

BOULDER SUNSPOTS

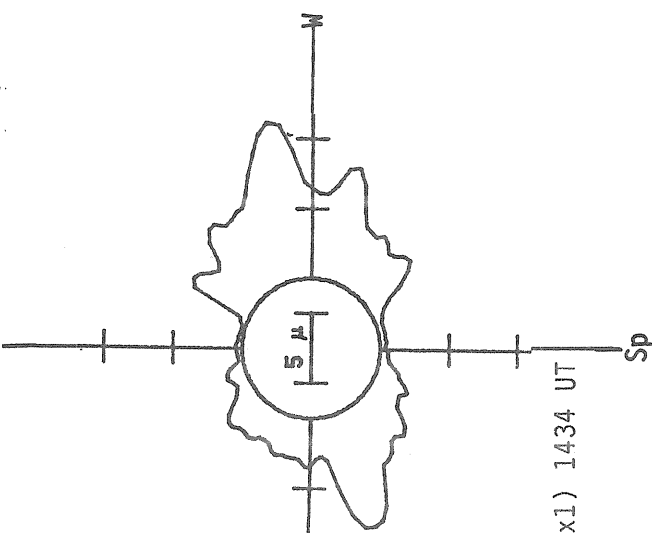


1621 UT

1630 UT BOULDER

Sp

SACRAMENTO PEAK CORONA (1.15 Radii)



5303A(x1) 1434 UT

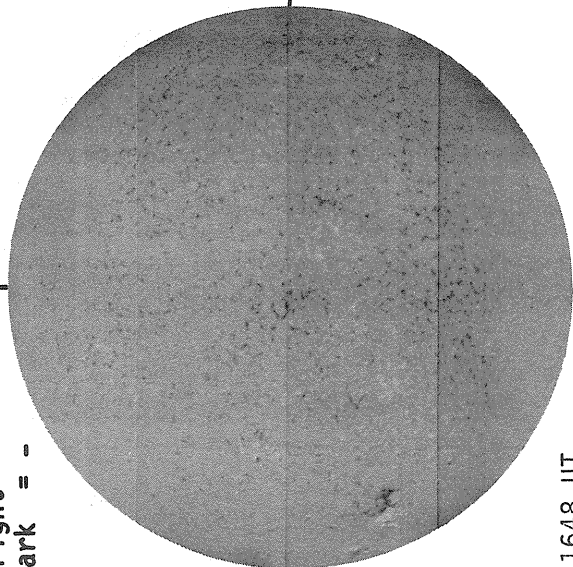
NOVEMBER 05, 1984 (P= 23.75, B₀ = 3.91, L₀ = 342.18)

32
Nov 84

KITT PEAK MAGNETOGRAM

Np

Bright = +
Dark = -



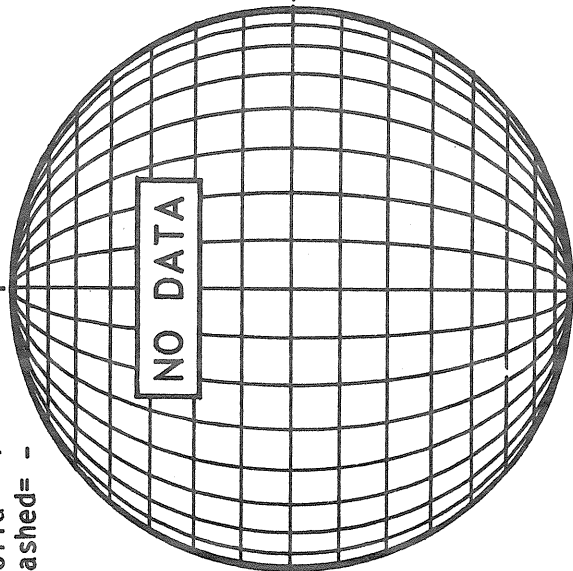
1648 UT

E

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed = -



BOULDER H-ALPHA

I



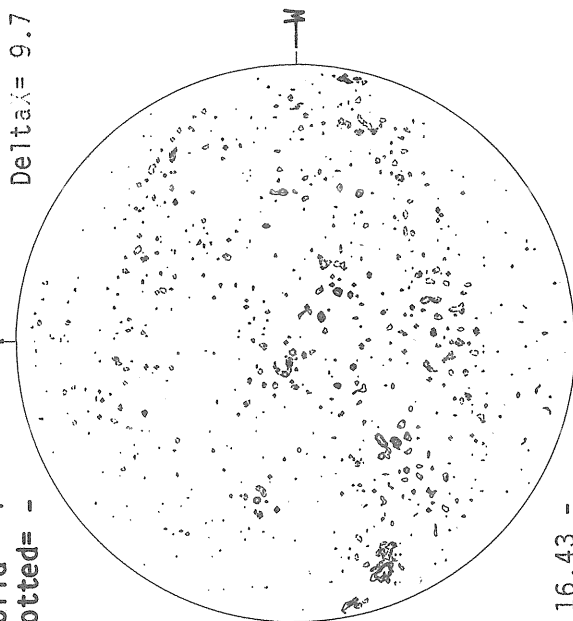
1710 UT

E

MT. WILSON MAGNETOGRAM

Np

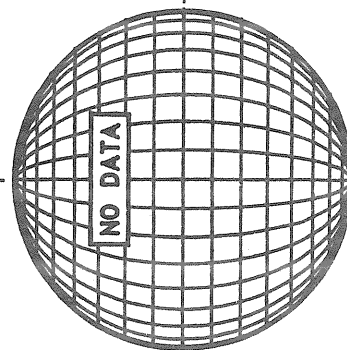
Solid = +
Dotted = -



16.43 -
17.38 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

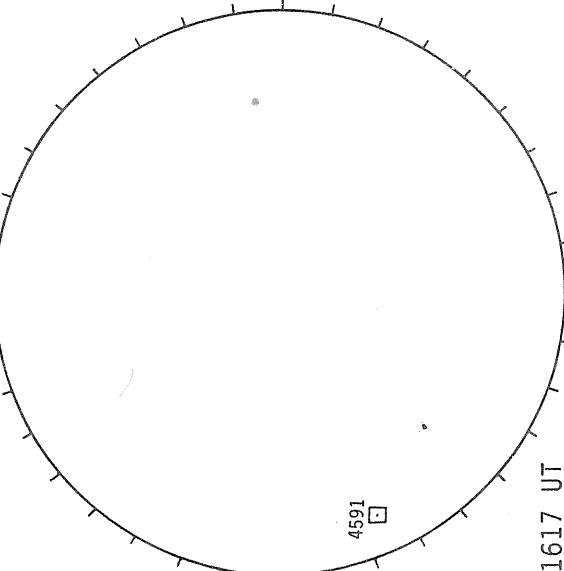
NO DATA



Sp

BOULDER SUNSPOTS

I



1617 UT
1710 UT BOUL Prom

Sp

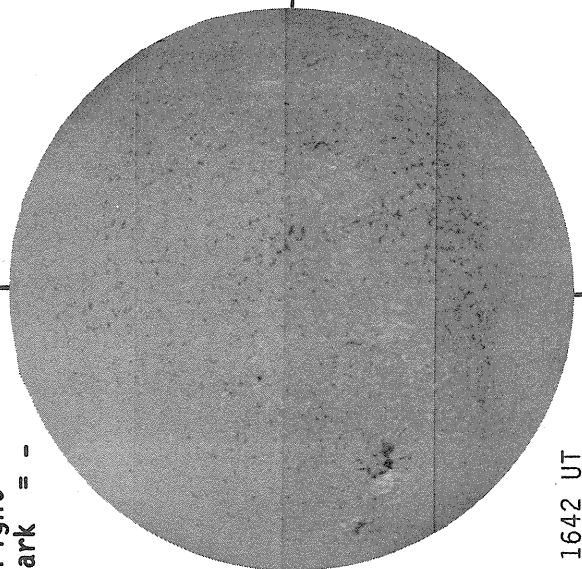
Delta V = 12.4
Delta lambda = 9.7

4591

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

Np

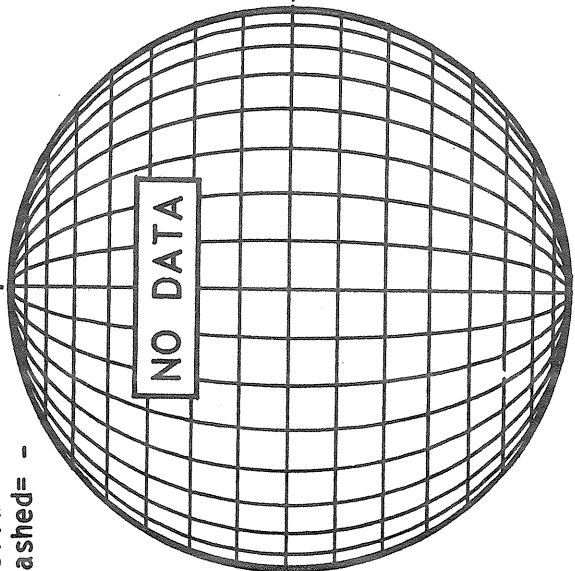


1642 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

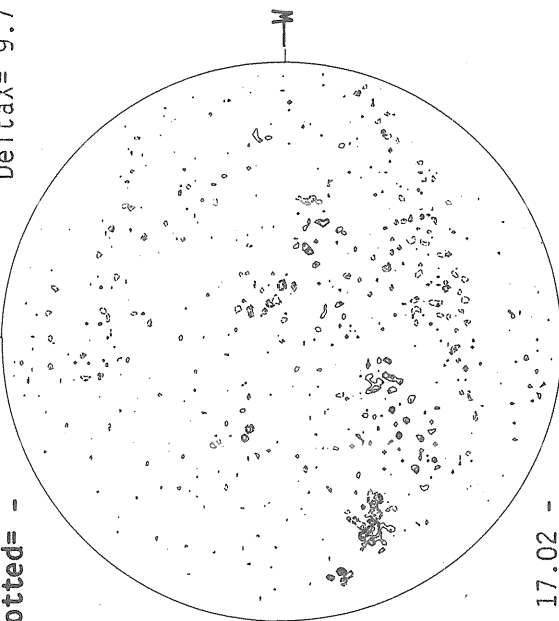
Np



MT. WILSON MAGNETOGRAM

Solid = +
Dotted = -

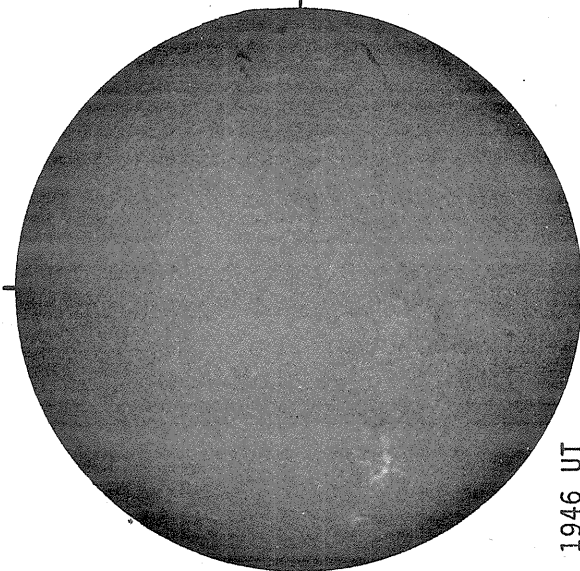
Np



17.02 -
17.97 UT

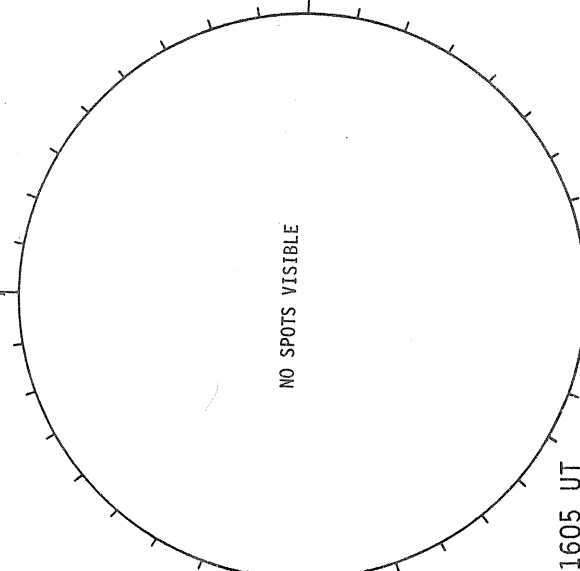
DeltaY=12.4
DeltaX= 9.7

SACRAMENTO PEAK H-ALPHA



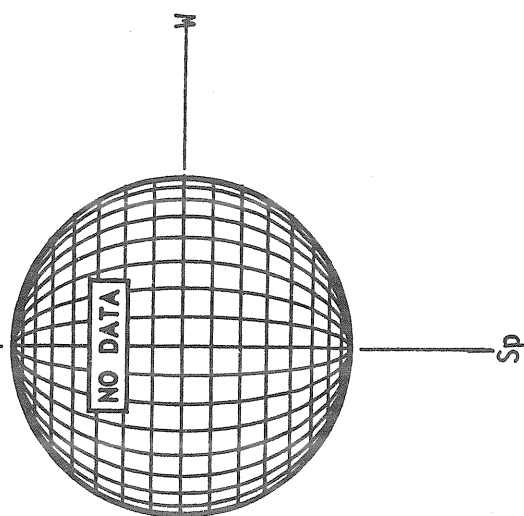
1946 UT

HOLLOMAN SUNSPOTS



1605 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

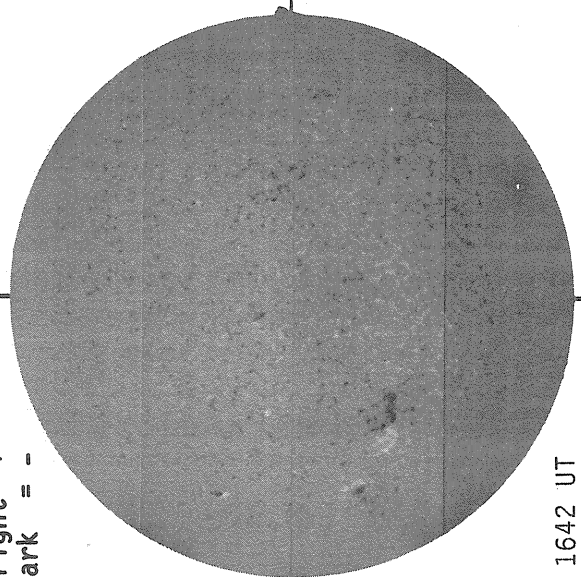


N O V E M B E R 07, 1 9 8 4 (P= 23.34, B₀= 3.70, L₀= 315.81)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

Np

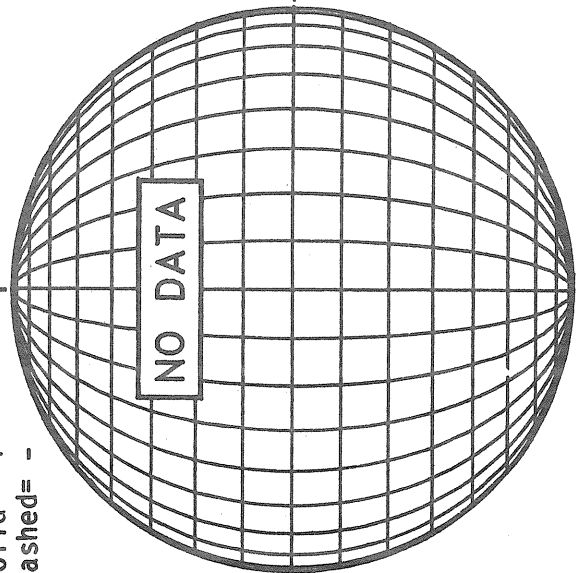


1642 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

Np

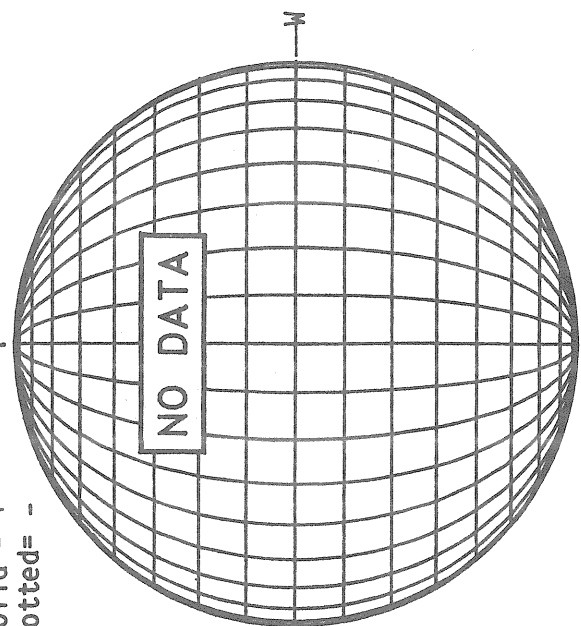


NO DATA

MT. WILSON MAGNETOGRAM

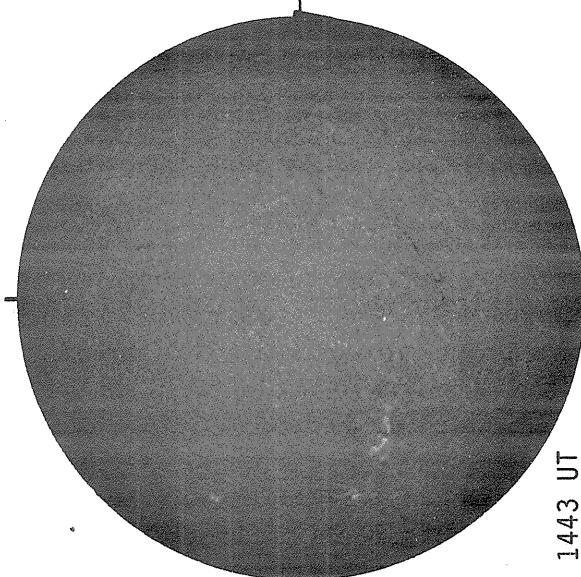
Solid = +
Dotted= -

Np



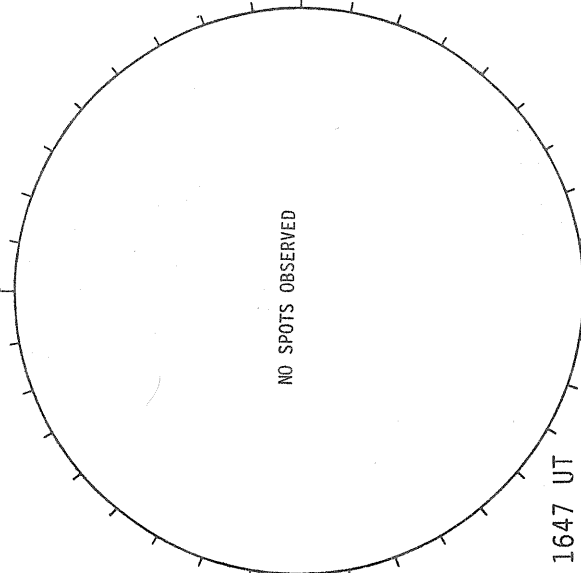
NO DATA

SACRAMENTO PEAK H-ALPHA



1443 UT

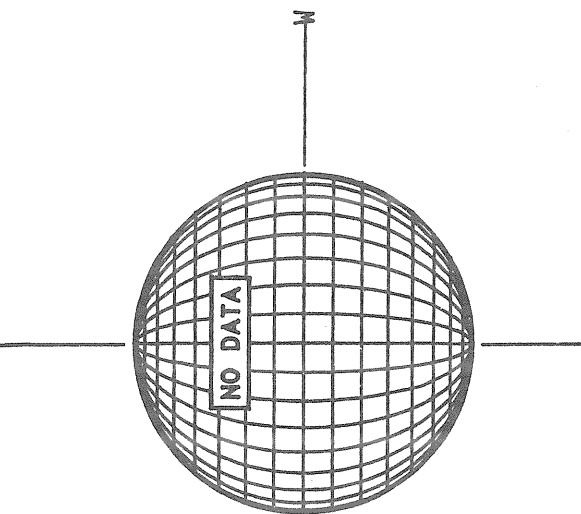
BOULDER SUNSPOTS



NO SPOTS OBSERVED

1647 UT
1703 UT BOUL P₁₀₀₀

SACRAMENTO PEAK CORONA (1.15 Radii)



NO DATA

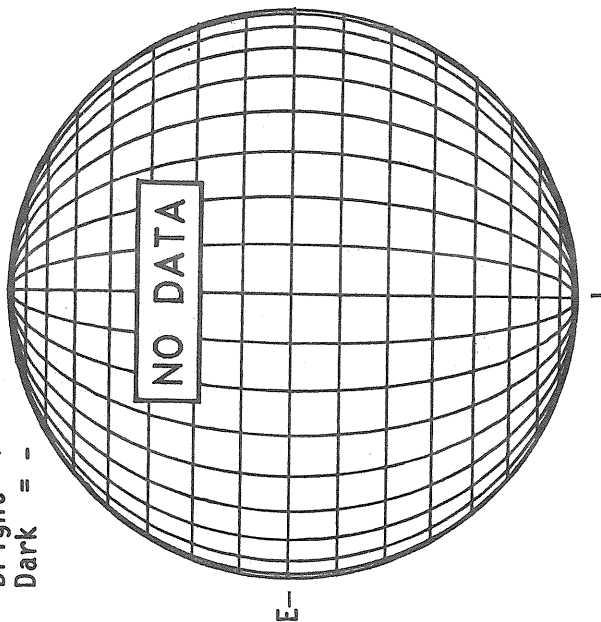
Sp

Sp

Sp

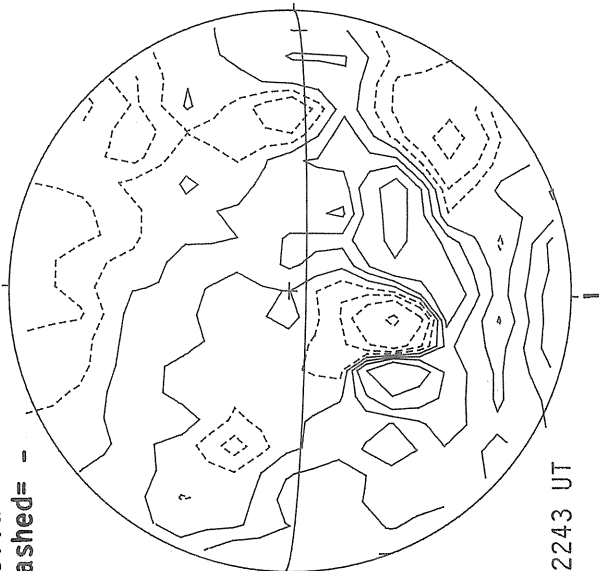
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



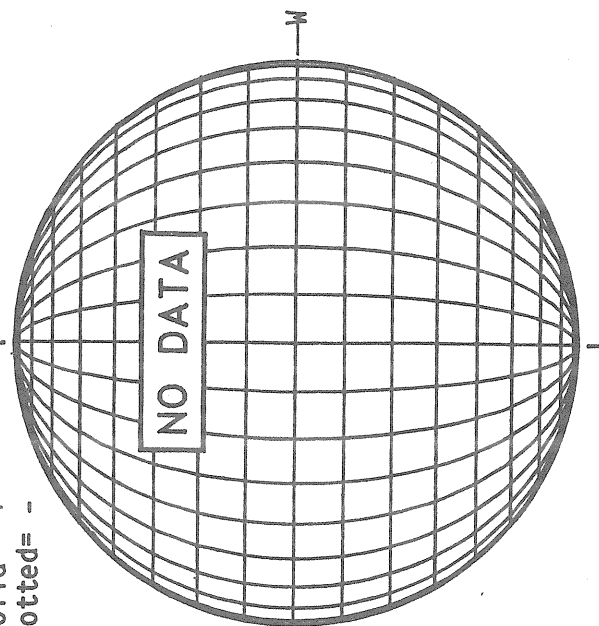
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

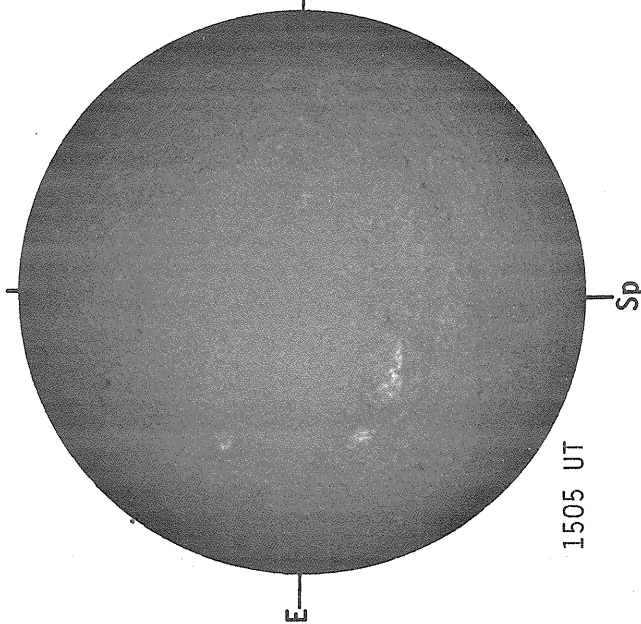


MT. WILSON MAGNETOGRAM

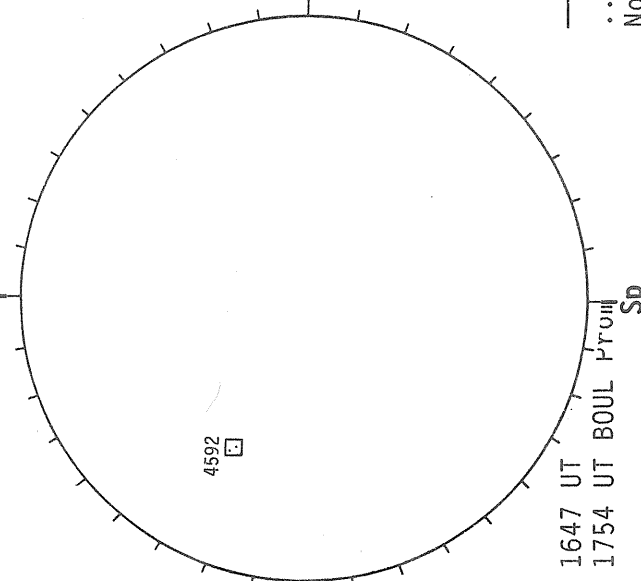
Solid = +
Dotted = -



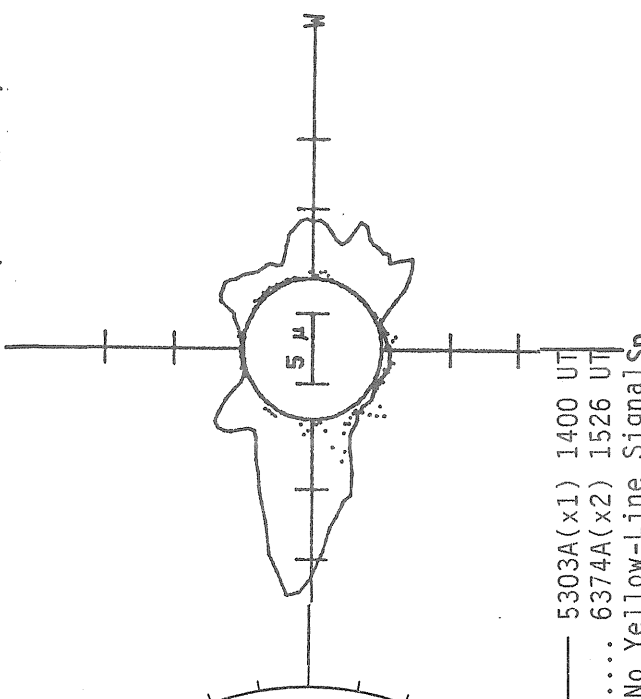
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



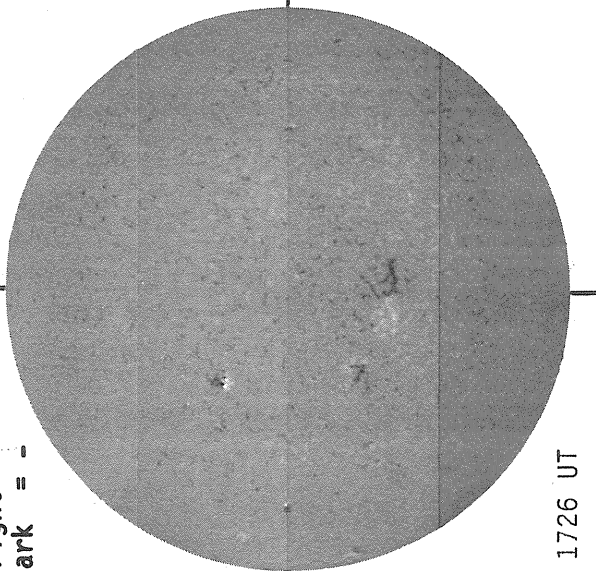
NOVEMBER 09, 1984 (P= 22.89, B₀ = 3.48, L₀ = 289.44)

36
Nov 84

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

Np

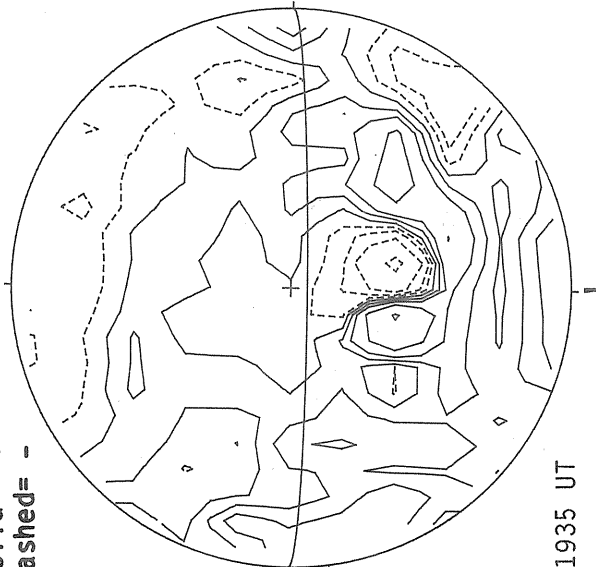


1726 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

Np

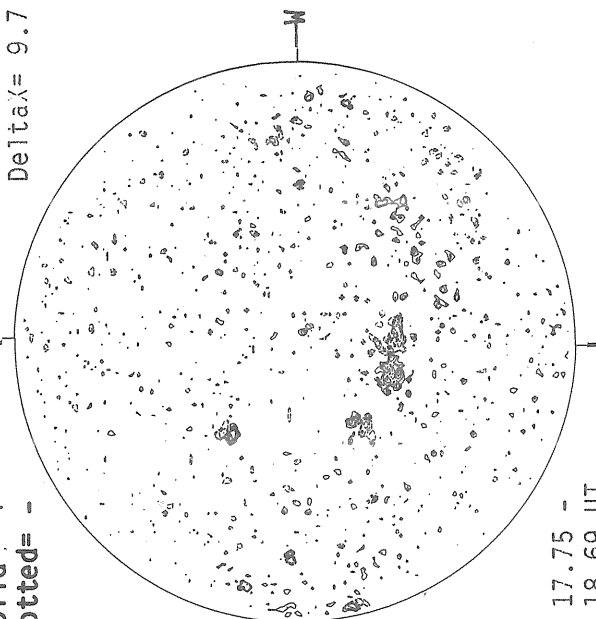


1935 UT

MT. WILSON MAGNETOGRAM

Solid = +
Dotted = -

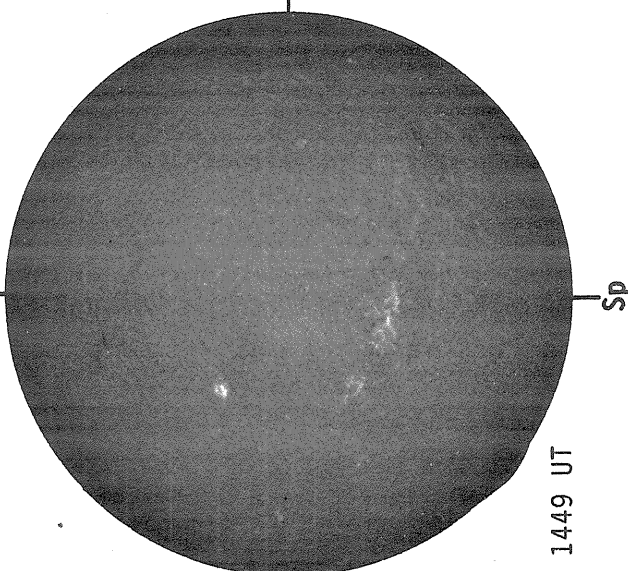
Np



17.75 -
18.69 UT

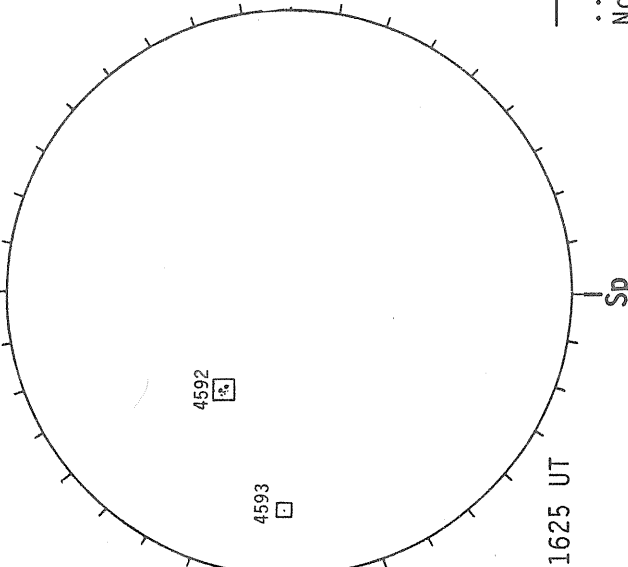
Delta Y = 12.5
Delta X = 9.7

SACRAMENTO PEAK H-ALPHA



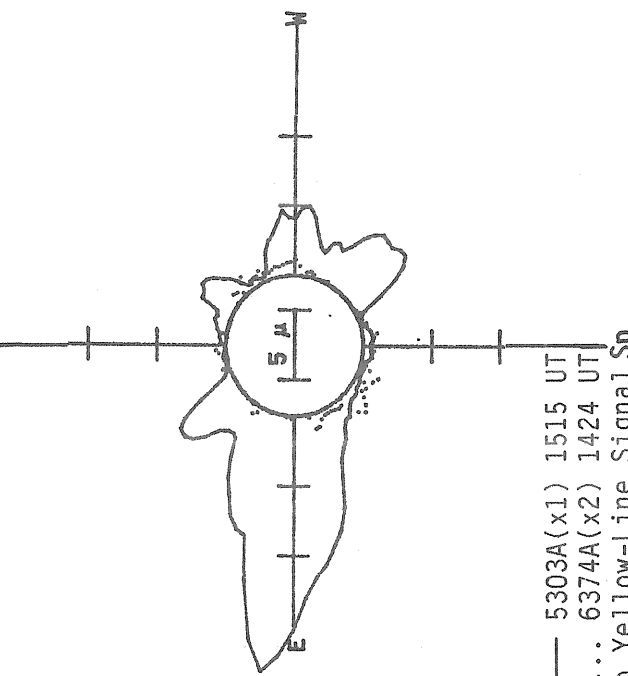
1449 UT

HOLLOMAN SUNSPOTS



1625 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

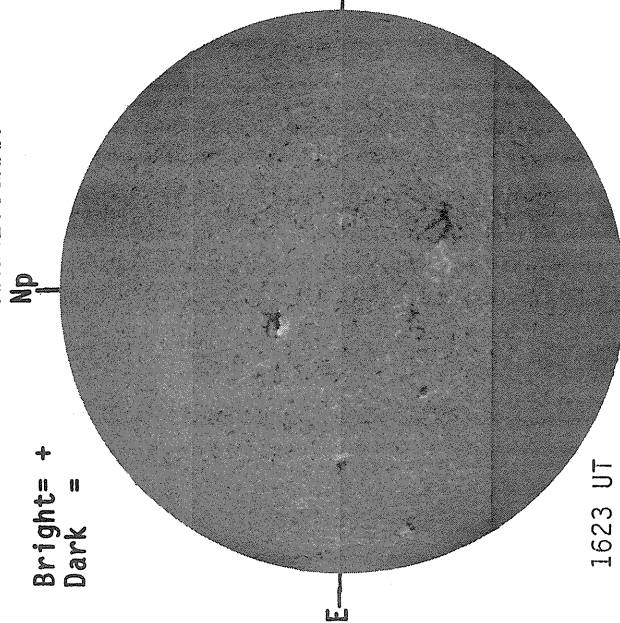


— 5303A(x1) 1515 UT
.... 6374A(x2) 1424 UT
No Yellow-Line Signal Sp

NOVEMBER 10, 1984 (P= 22.66, B₀ = 3.37, L₀ = 276.25)

KITT PEAK MAGNETOGRAM

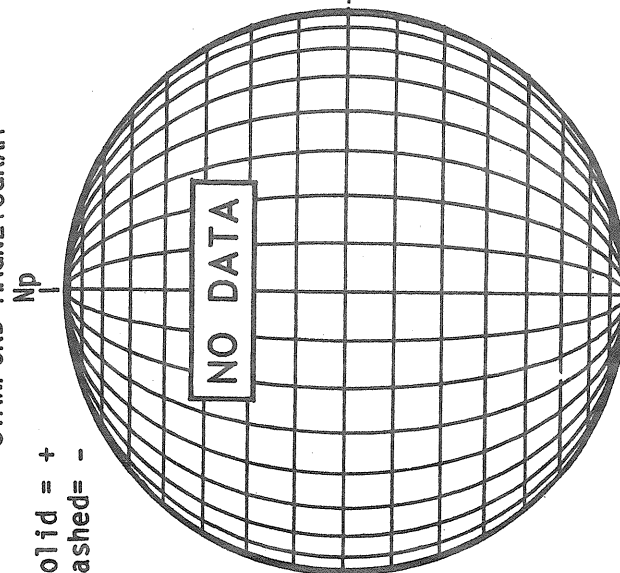
Bright = +
Dark = -



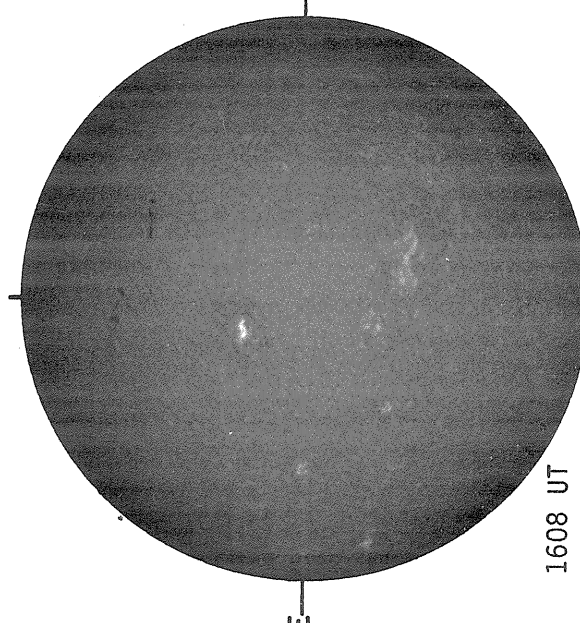
1623 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -



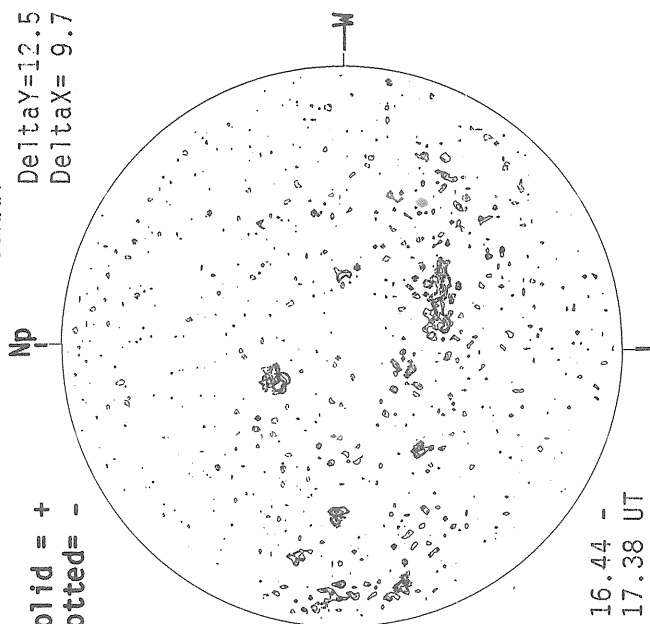
SACRAMENTO PEAK H-ALPHA



1608 UT

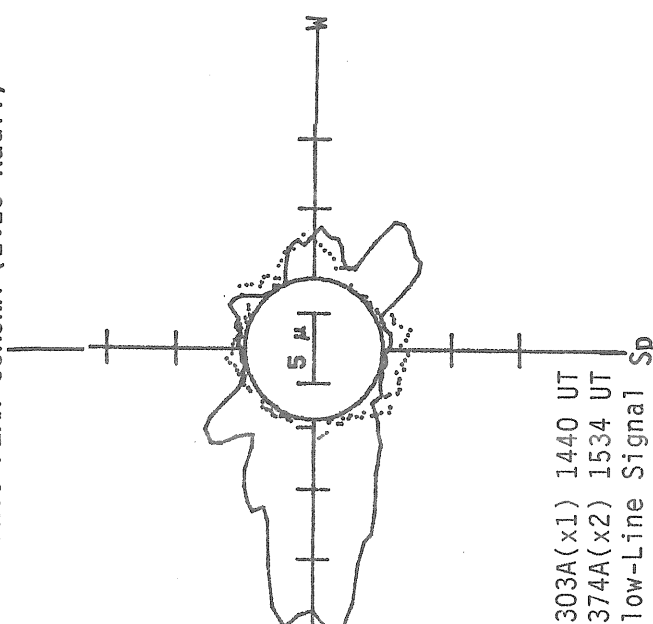
MT. WILSON MAGNETOGRAM

Solid = +
Dotted = -
Delta Y = 12.5
Delta X = 9.7



16.44 -
17.38 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

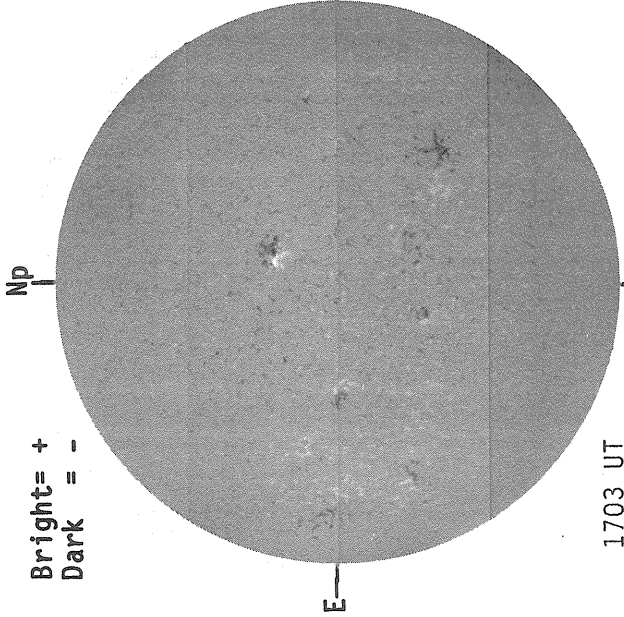


— 5303A(x1) 1440 UT
.... 6374A(x2) 1534 UT
No Yellow-Line Signal

NOVEMBER 11, 1984 (P= 22.41, $B_0 = 3.25$, $L_0 = 263.07$)

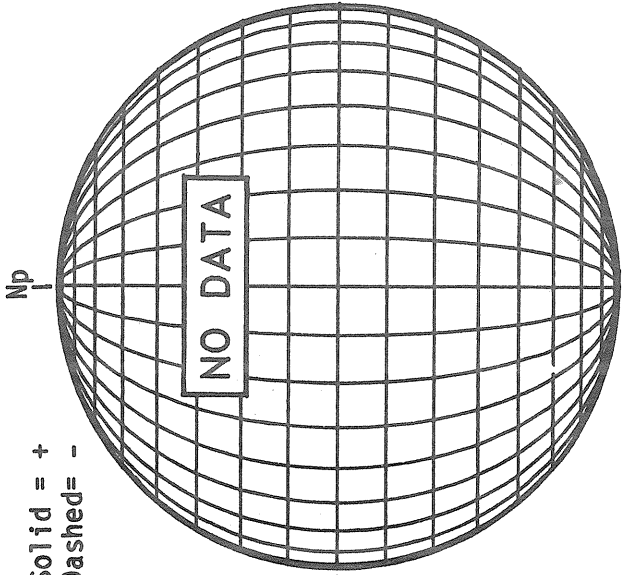
38
Nov 84

KITT PEAK MAGNETOGRAM



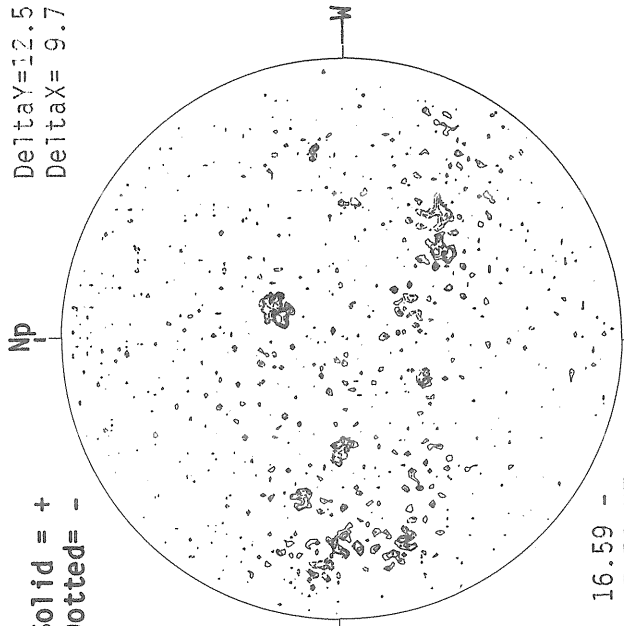
Bright= +
Dark = -

STANFORD MAGNETOGRAM



Solid = +
Dashed = -

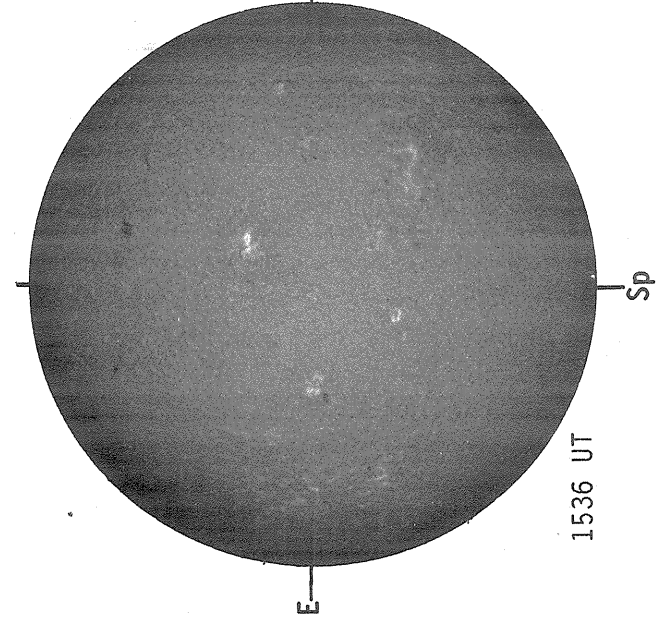
MT. WILSON MAGNETOGRAM



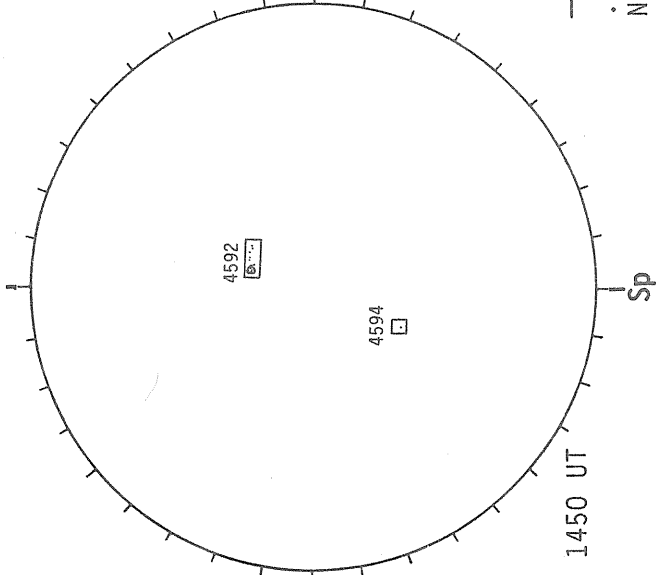
Solid = +
Dotted = -

Delta Y = 12.5
Delta X = 9.7

SACRAMENTO PEAK H-ALPHA



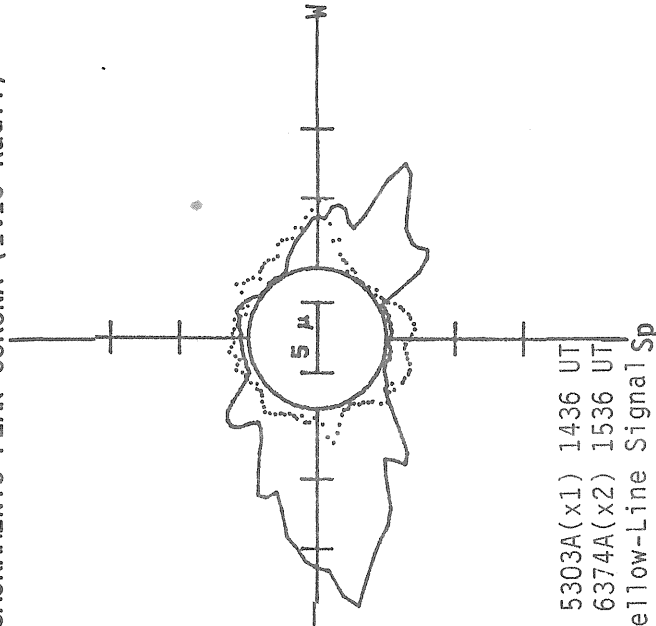
HOLLOMAN SUNSPOTS



4592

4594

SACRAMENTO PEAK CORONA (1.15 Radii)

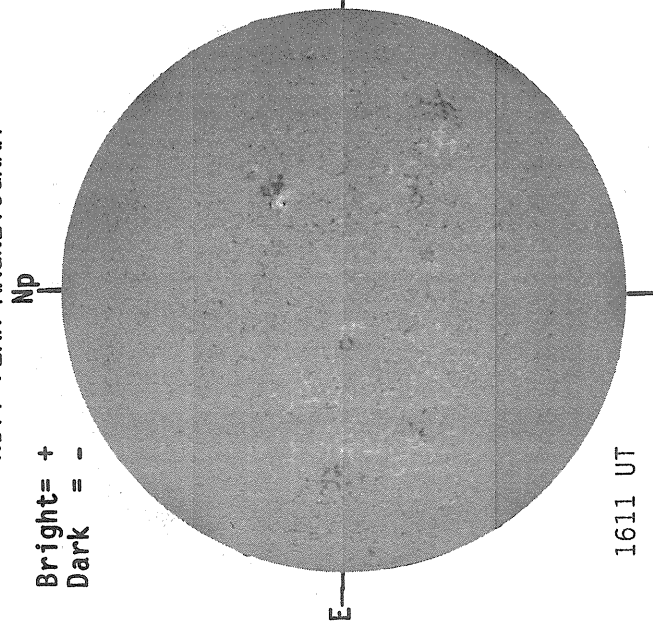


— 5303A(x1) 1436 UT
.... 6374A(x2) 1536 UT
No Yellow-Line Signal Sp

N O V E M B E R 12, 1 9 8 4 (P= 22.16, B₀ = 3.14, L₀ = 249.89)

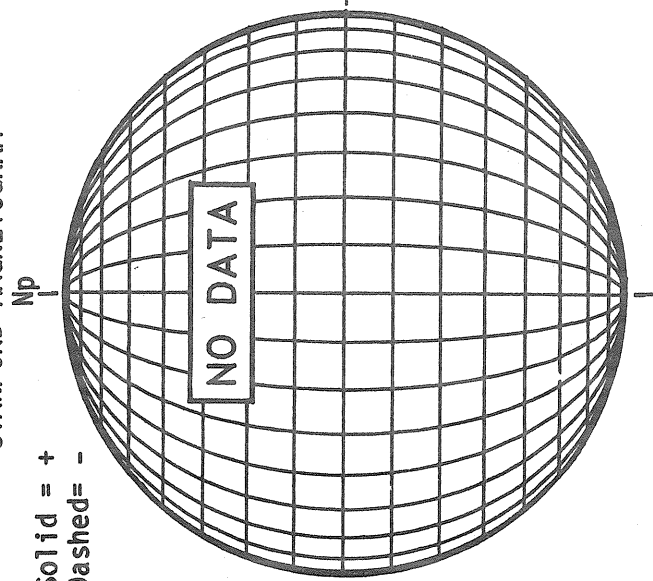
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



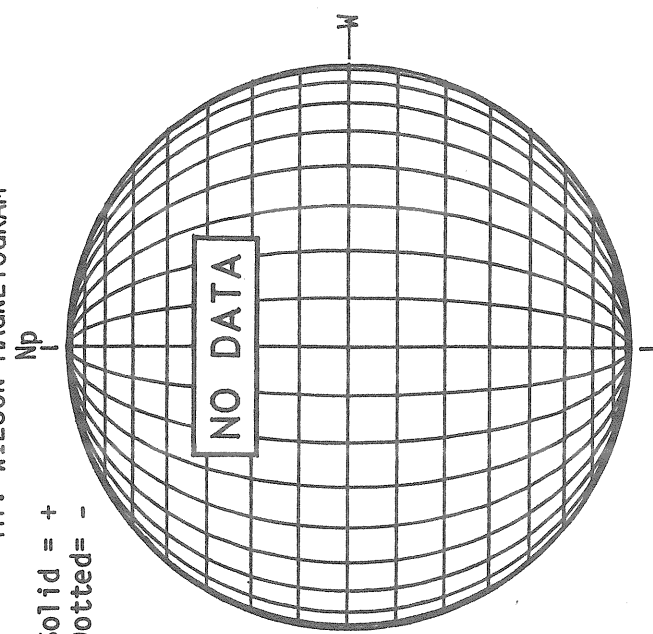
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

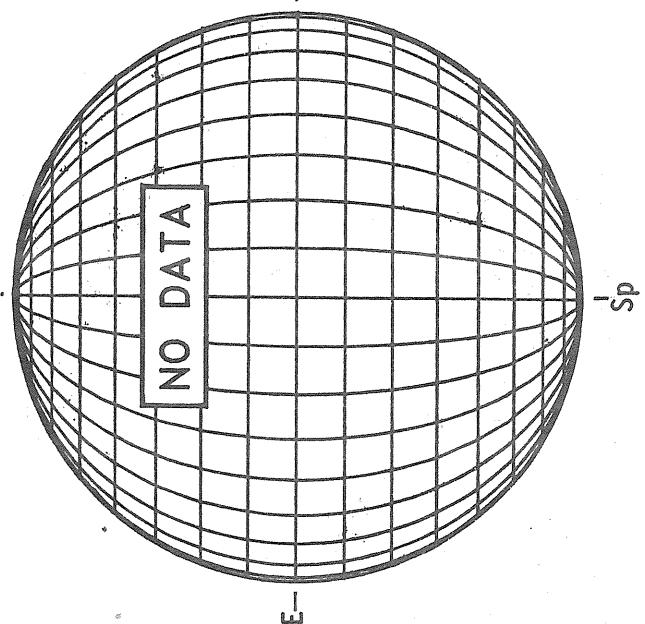


MT. WILSON MAGNETOGRAM

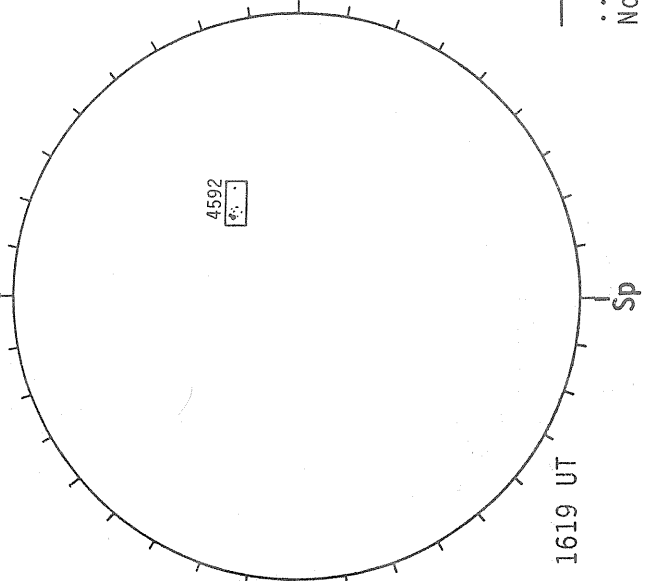
Solid = +
Dotted = -



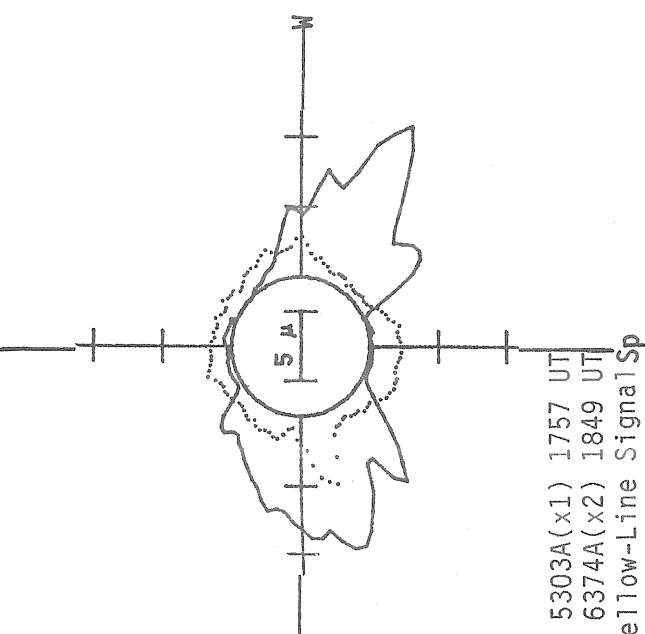
SACRAMENTO PEAK H-ALPHA



HOLLOMAN SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



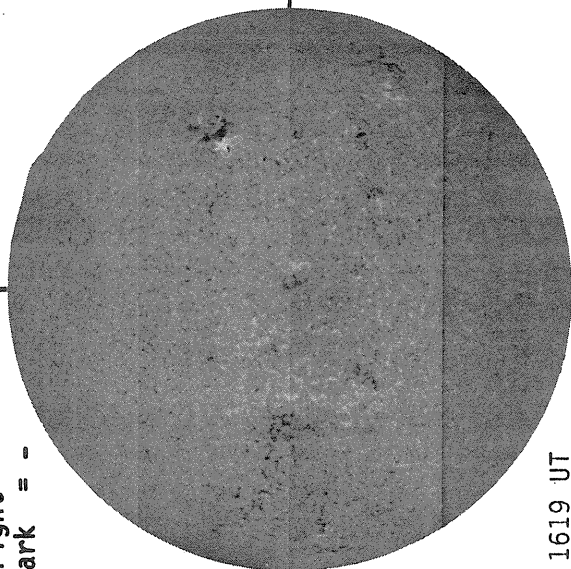
— 5303A(x1) 1757 UT
.... 6374A(x2) 1849 UT
No Yellow-Line Signal Sp

NOVEMBER 13, 1984 (P= 21.91, $B_0 = 3.02$, $L_0 = 236.70$)

KITT PEAK MAGNETOGRAM

Np

Bright = +
Dark = -

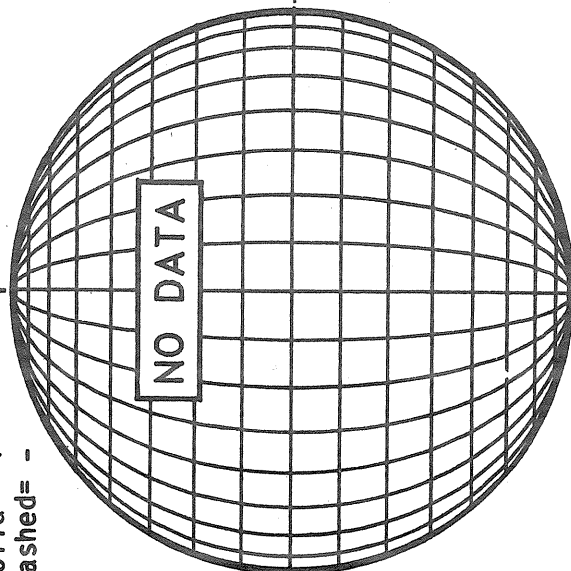


1619 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed = -

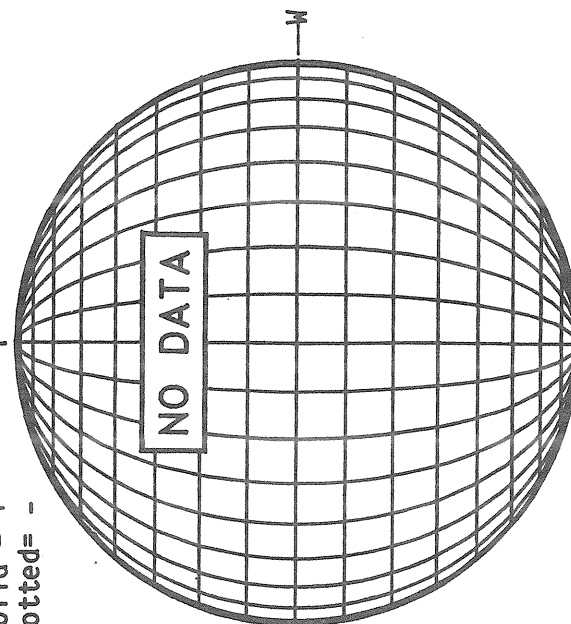


1547 UT

MT. WILSON MAGNETOGRAM

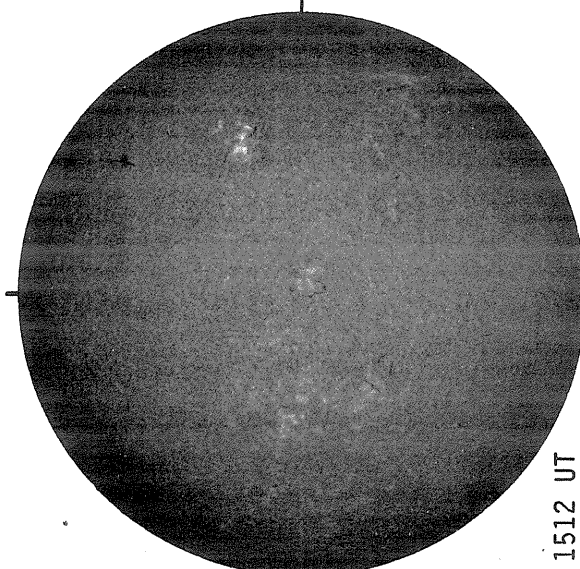
Np

Solid = +
Dotted = -



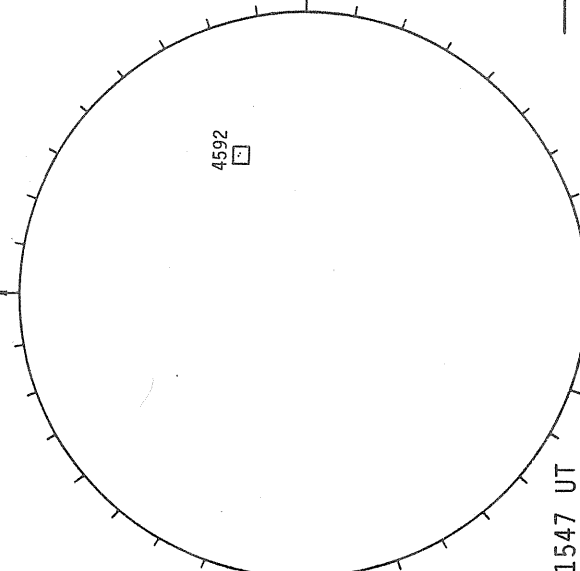
1523 UT

SACRAMENTO PEAK H-ALPHA



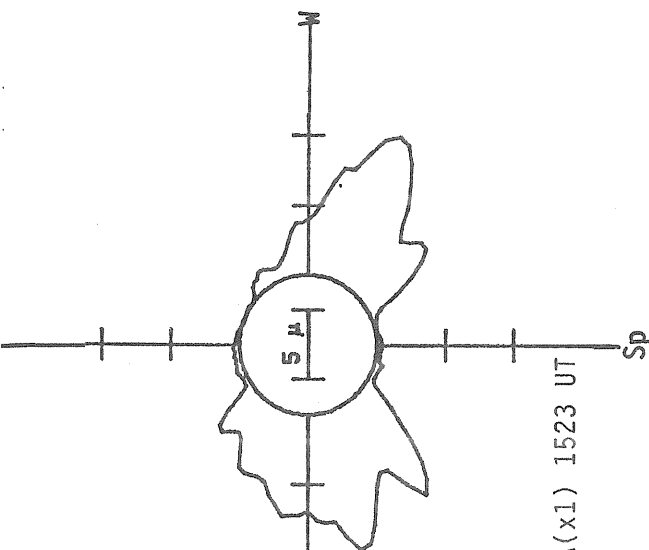
1512 UT

BOULDER SUNSPOTS



1547 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



1523 UT

1512 UT

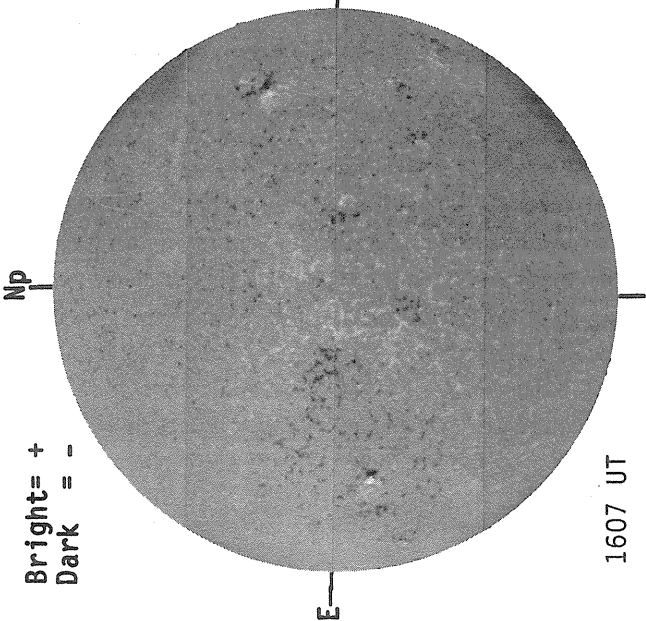
1523 UT

1512 UT

NOVEMBER 14, 1984 (P= 21.64, B₀ = 2.91, L₀ = 223.52)

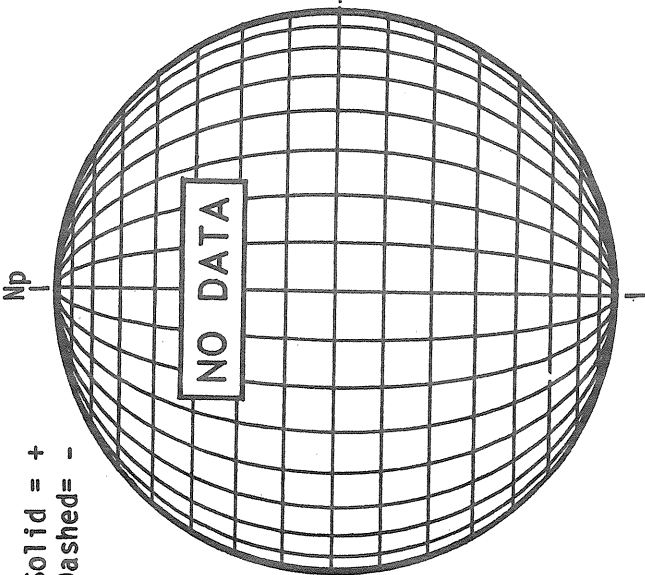
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



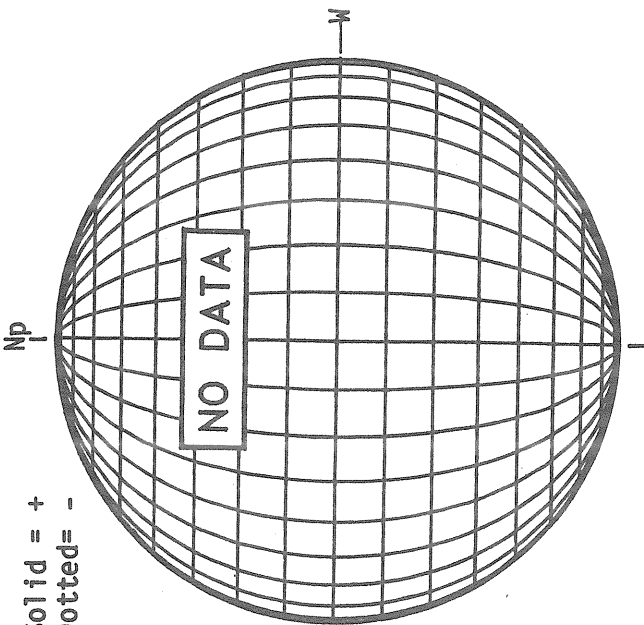
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



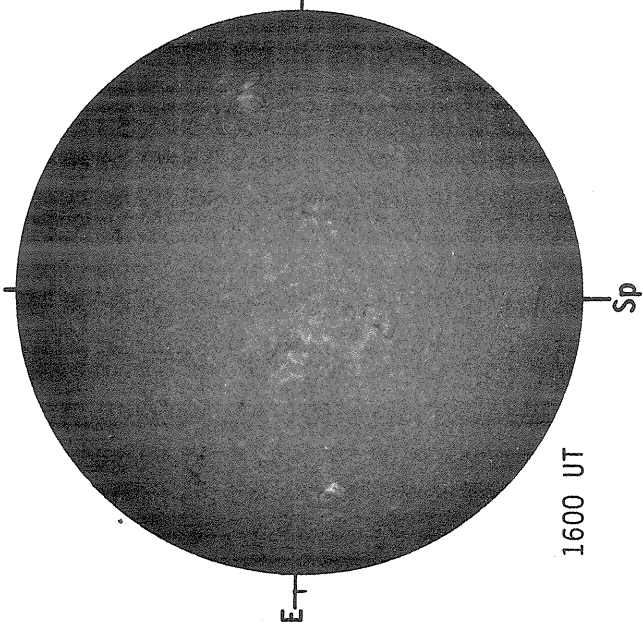
MT. WILSON MAGNETOGRAM

Solid = +
Dotted = -



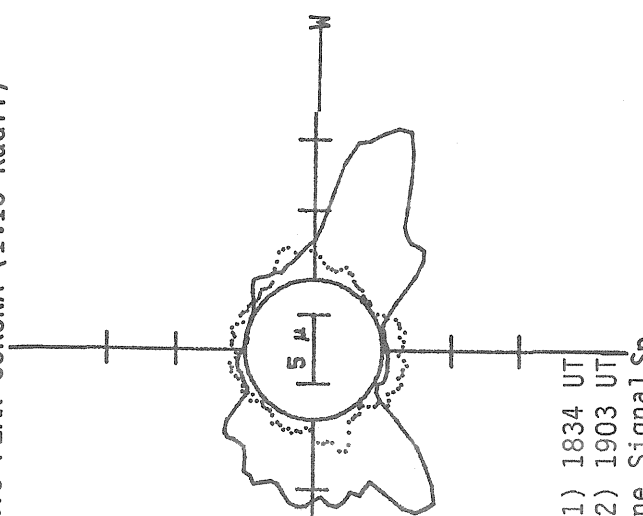
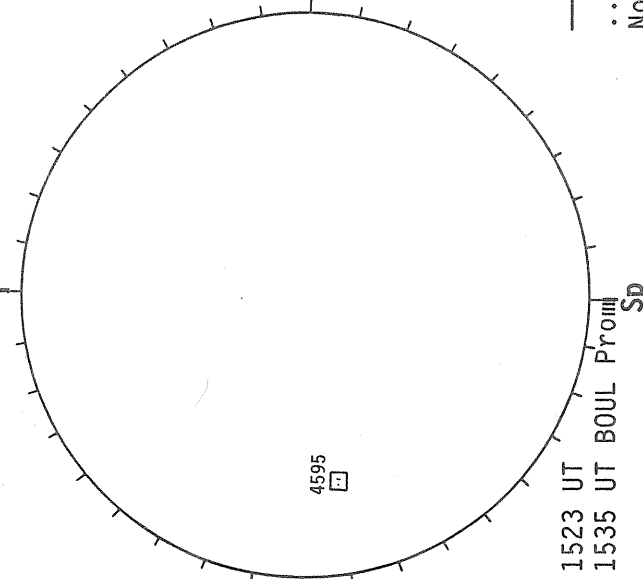
SACRAMENTO PEAK H-ALPHA

1607 UT



BOULDER SUNSPOTS

SACRAMENTO PEAK CORONA (1.15 Radii)



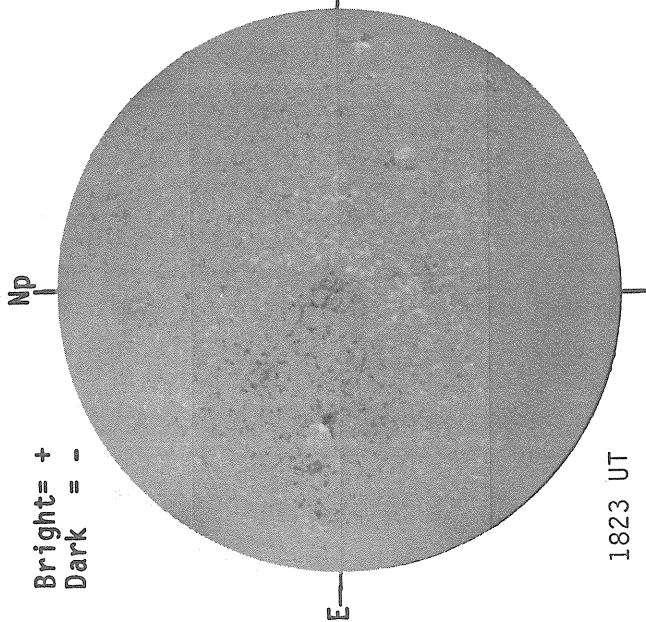
— 5303A(x1) 1834 UT
.... 6374A(x2) 1903 UT
No Yellow-Line Signal Sp

NOVEMBER 15, 1984 (P= 21.37, B₀ = 2.79, L₀ = 210.34)

42
Nov 84

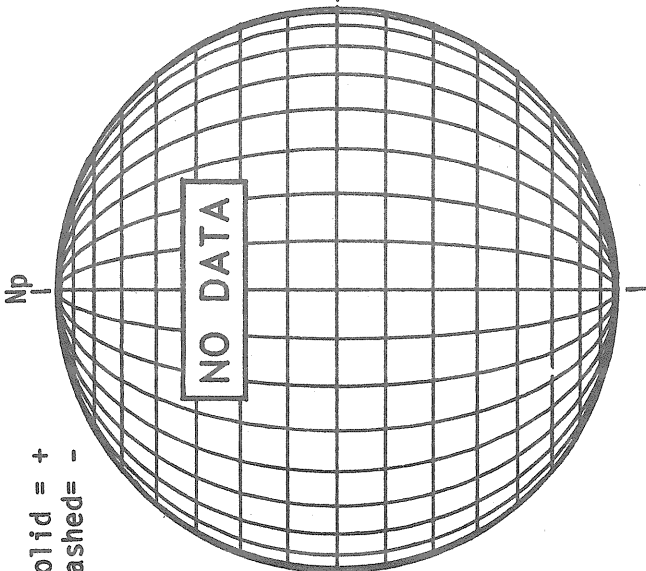
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



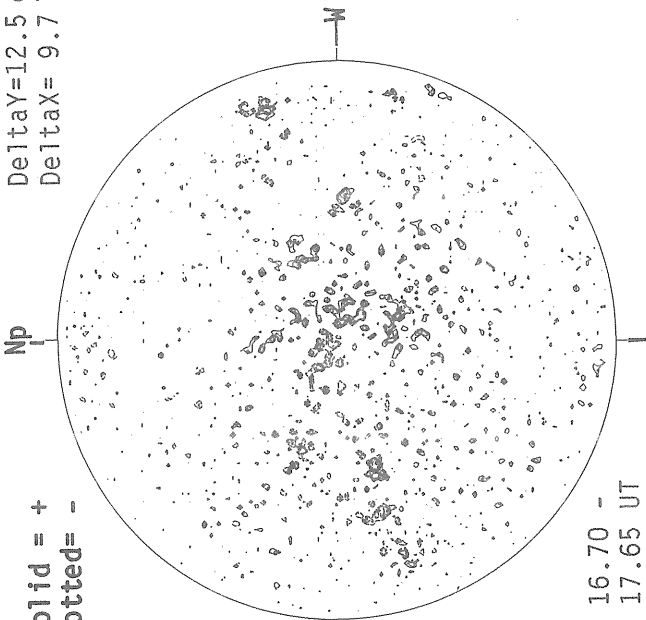
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

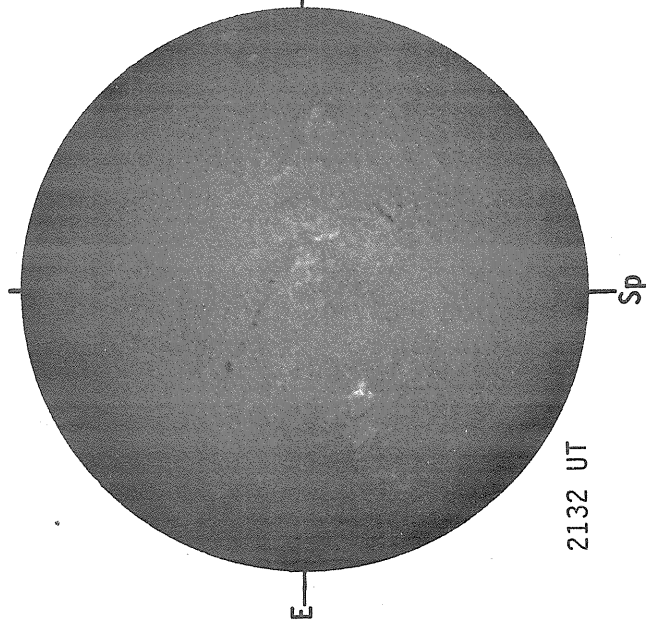


MT. WILSON MAGNETOGRAM

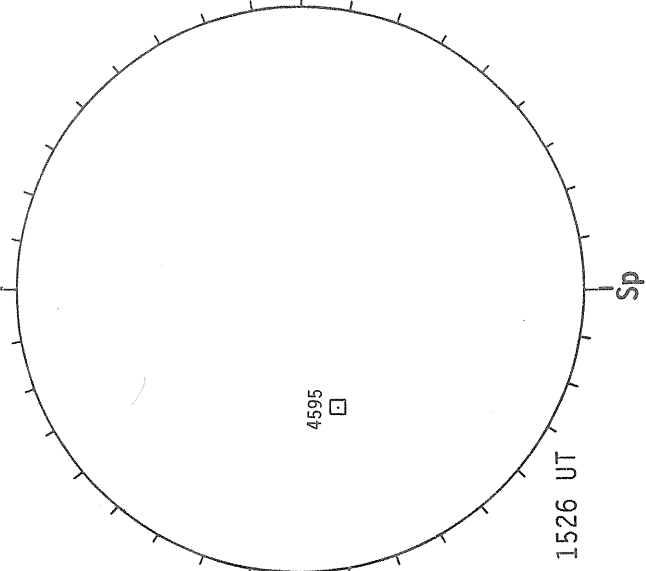
Solid = +
Dotted = -



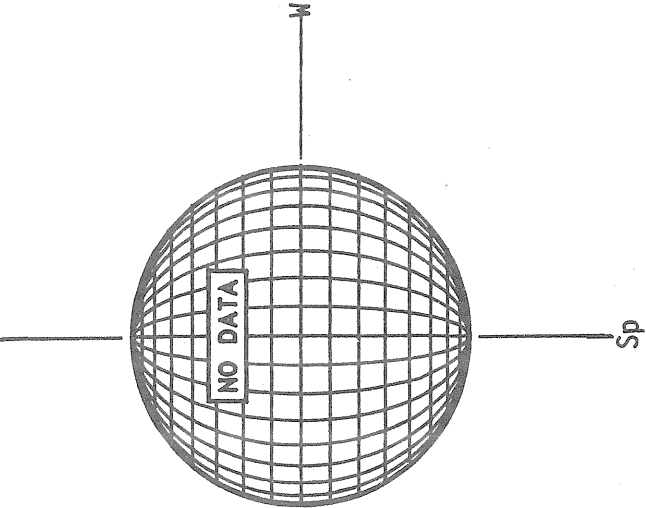
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



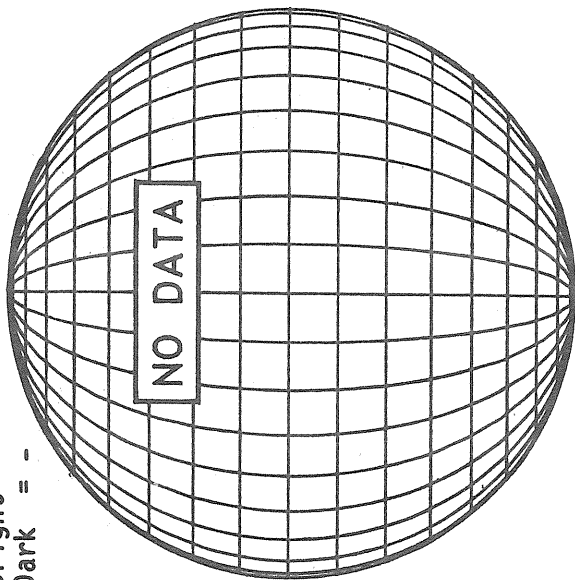
Delta Y = 12.5
Delta X = 9.7

N O V E M B E R 16, 1 9 8 4 (P= 21.09, B₀ = 2.67, L₀ = 197.15)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

Np

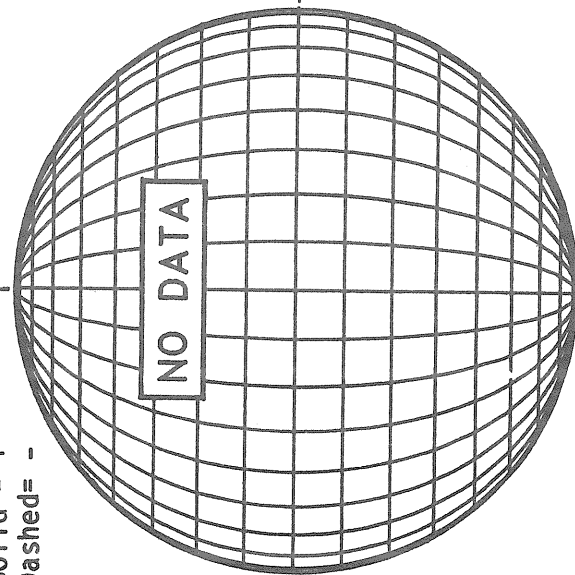


E

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

Np

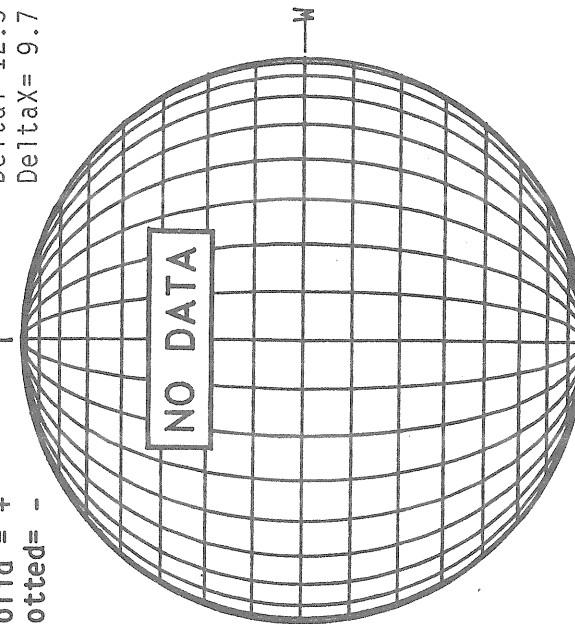


MT. WILSON MAGNETOGRAM

Solid = +
Dotted = -

Np

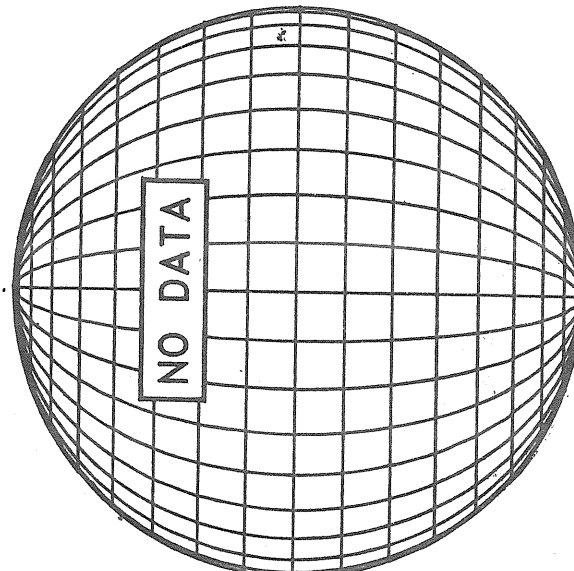
Delta Y = 12.5
Delta X = 9.7



W

SACRAMENTO PEAK H-ALPHA

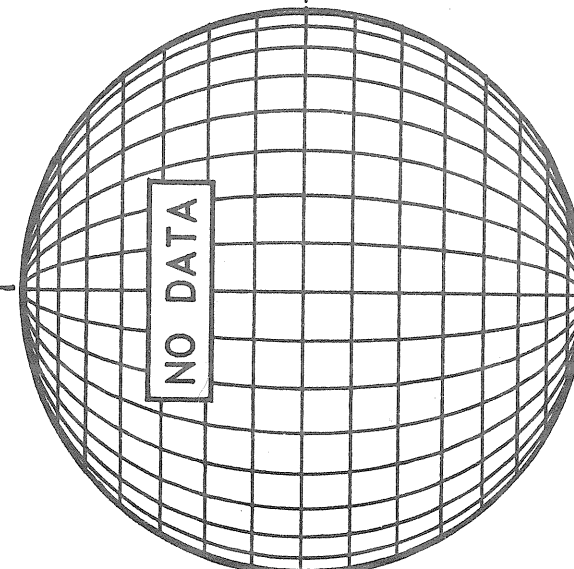
NO DATA



E

BOULDER SUNSPOTS

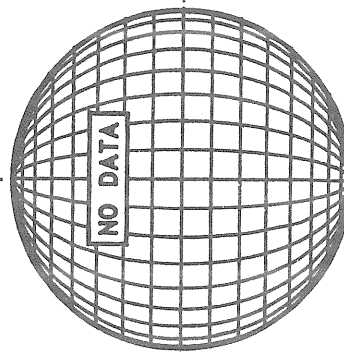
NO DATA



Sp

SACRAMENTO PEAK CORONA (1.15 Radii)

NO DATA



W

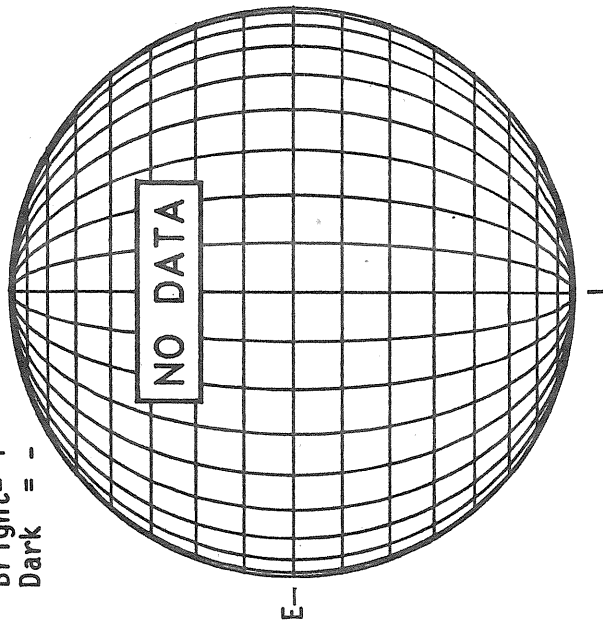
Sp

NOVEMBER 17, 1984 (P= 20.80, $B_0 = 2.56$, $L_0 = 183.97$)

KITT PEAK MAGNETOGRAM

Np

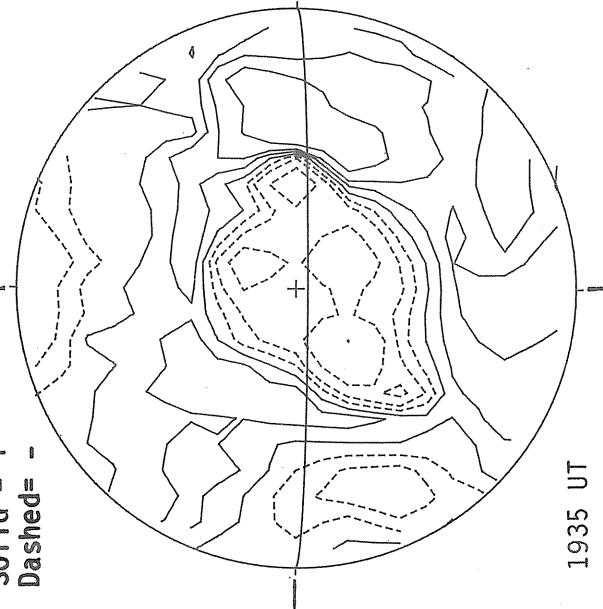
Bright = +
Dark = -



STANFORD MAGNETOGRAM

Np

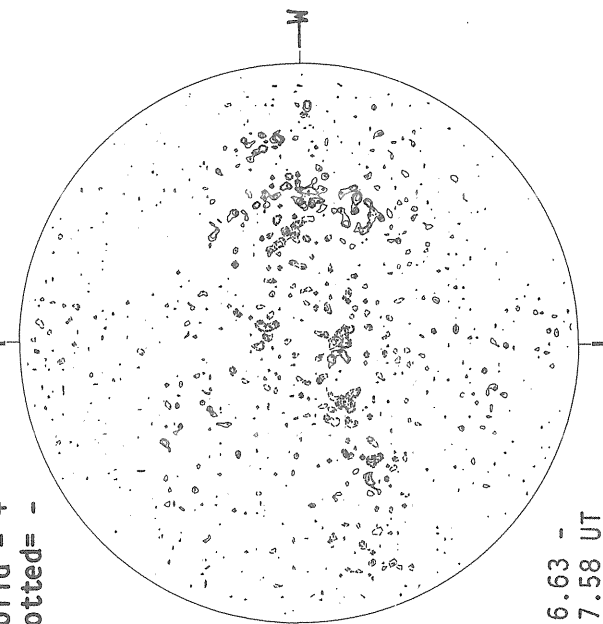
Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

Np

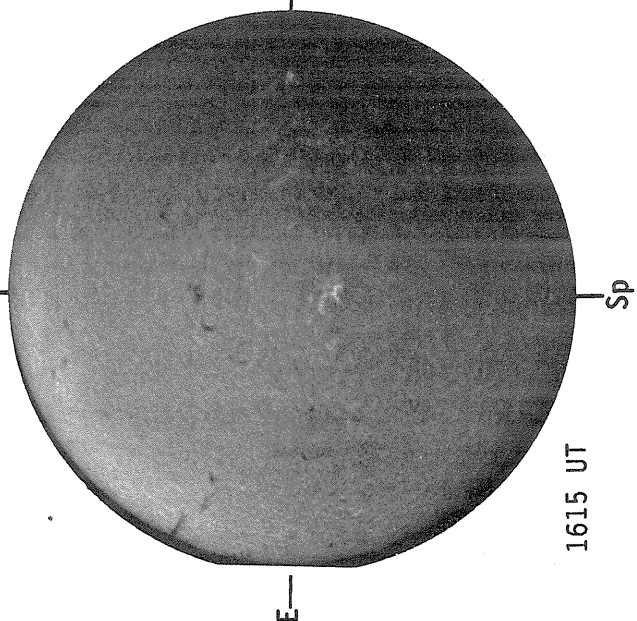
Solid = +
Dotted = -



16.63 -
17.58 UT

BOULDER H-ALPHA

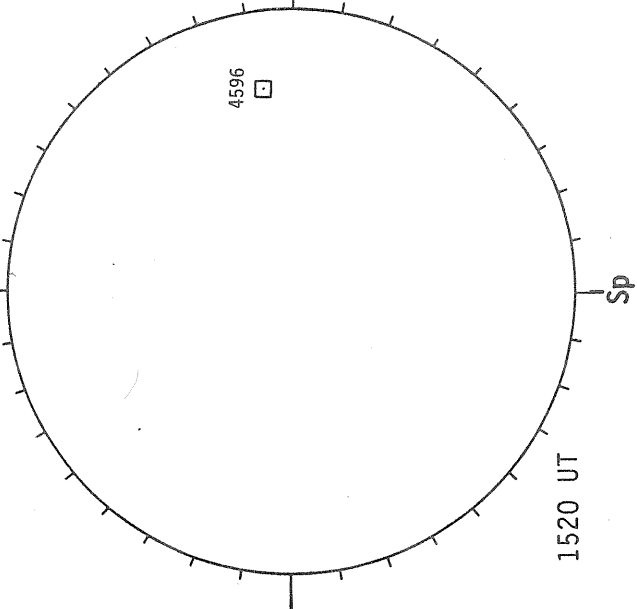
E



1615 UT

BOULDER SUNSPOTS

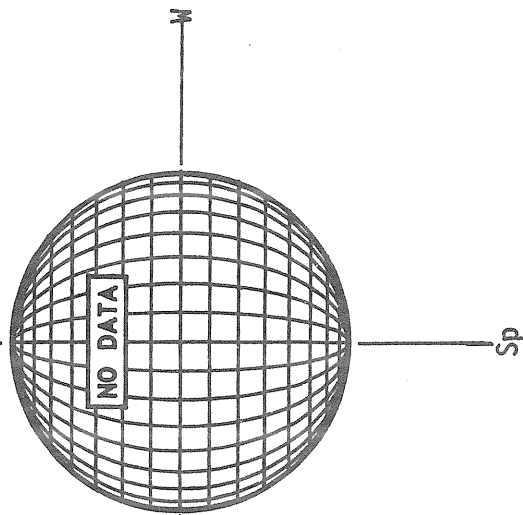
Sp



1520 UT

SACRAMENTO PEAK CORONA (1.15 Radii)

NO DATA

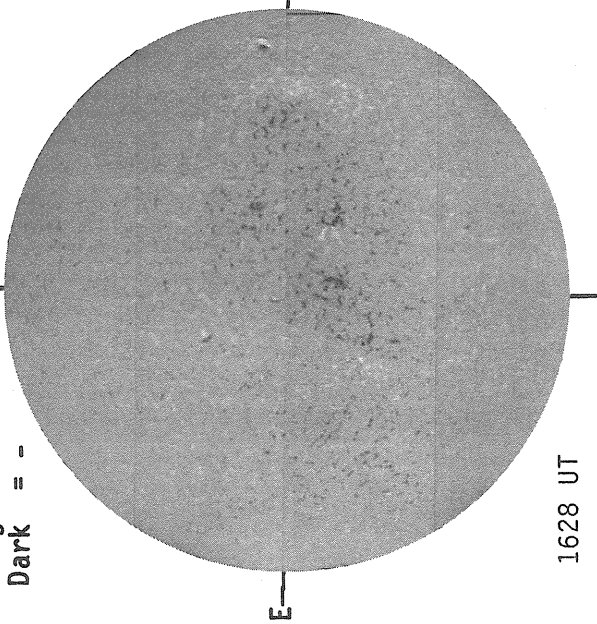


NOVEMBER 18, 1984 (P= 20.50, B₀ = 2.44, L₀ = 170.79)

KITT PEAK MAGNETOGRAM

Np

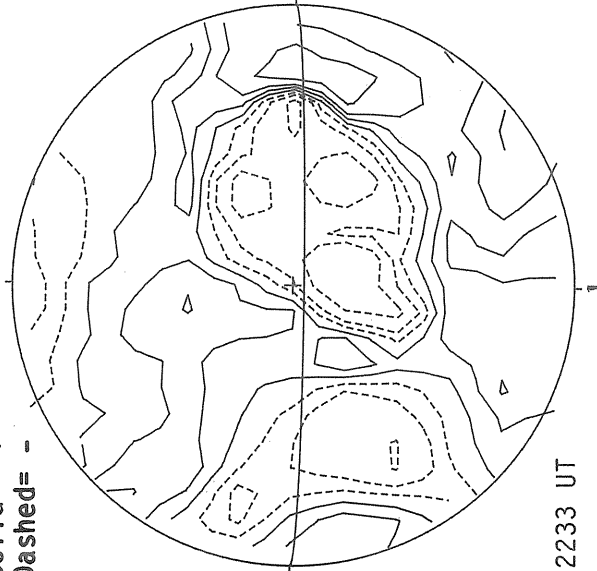
Bright= +
Dark = -



STANFORD MAGNETOGRAM

Np

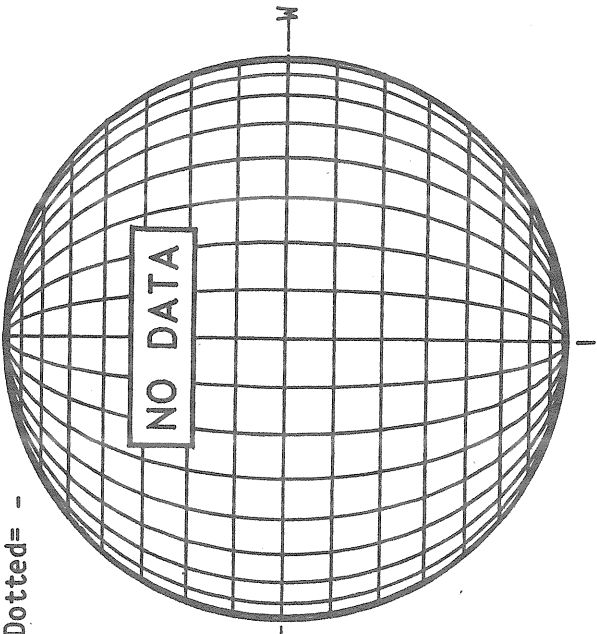
Solid = +
Dashed = -



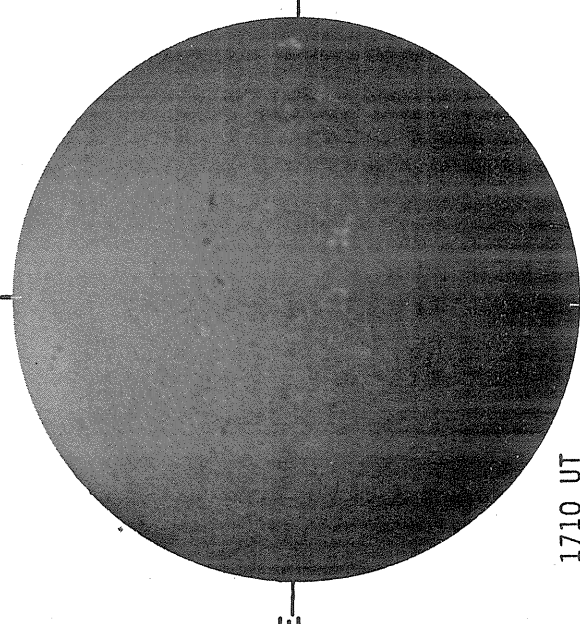
MT. WILSON MAGNETOGRAM

Np

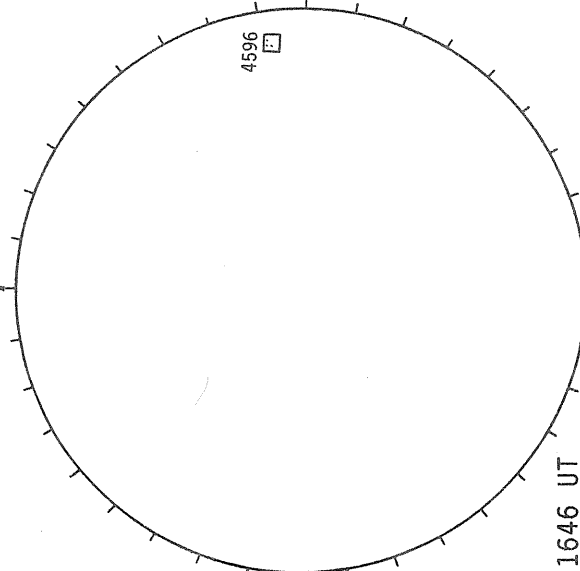
Solid = +
Dotted = -



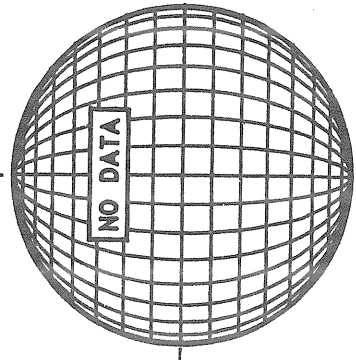
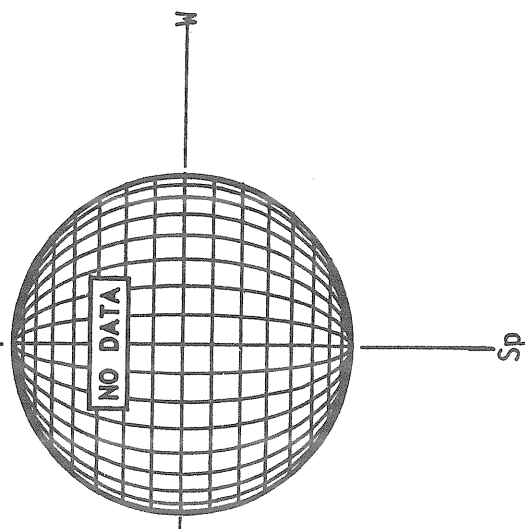
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



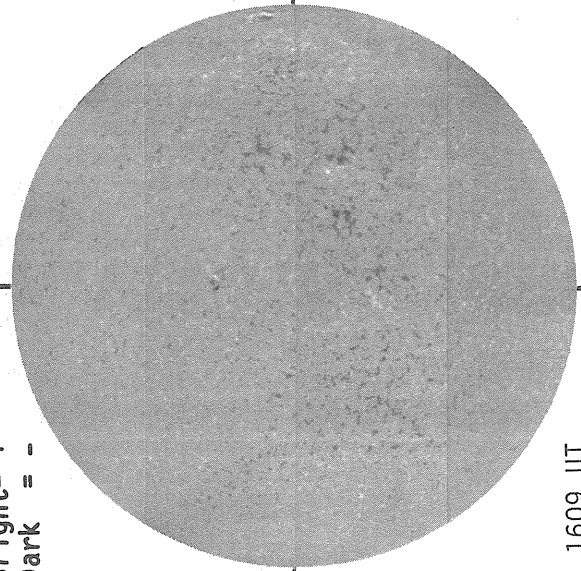
N O V E M B E R 19, 1 9 8 4 (P= 20.20, B₀ = 2.32, L₀ = 157.61)

46
Nov 84
DeltaY=12.5
DeltaX= 9.6

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

Np

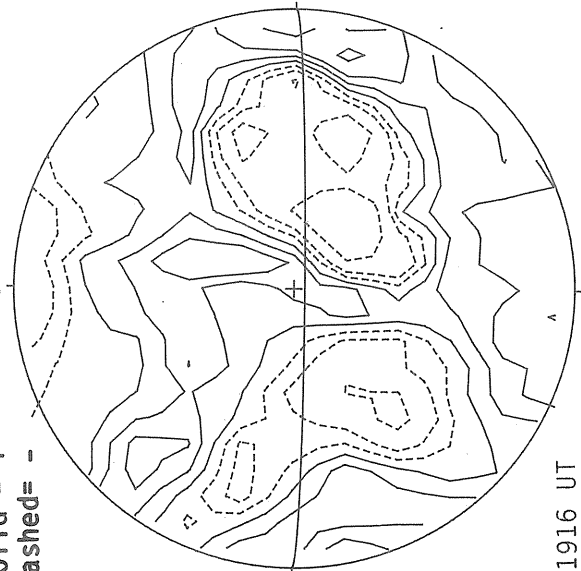


1609 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

Np

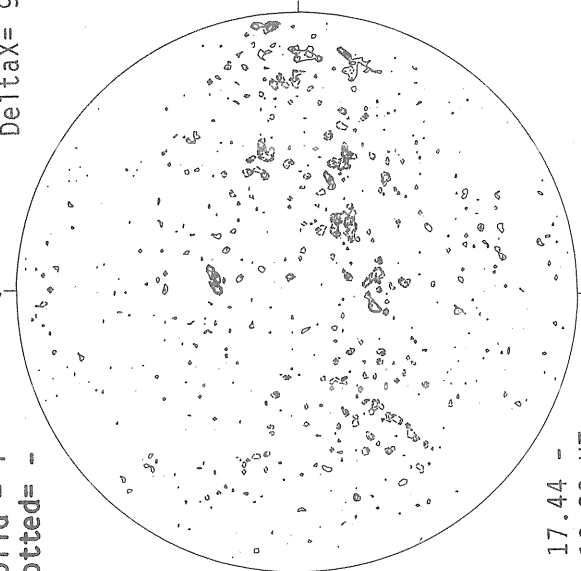


1916 UT

MT. WILSON MAGNETOGRAM

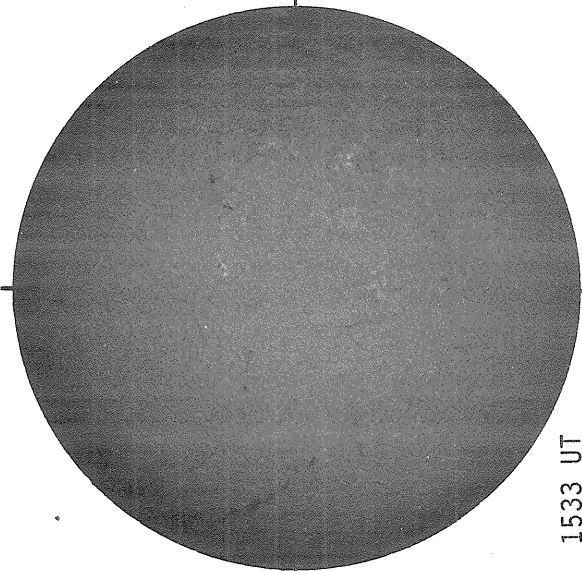
Solid = +
Dotted = -

Np



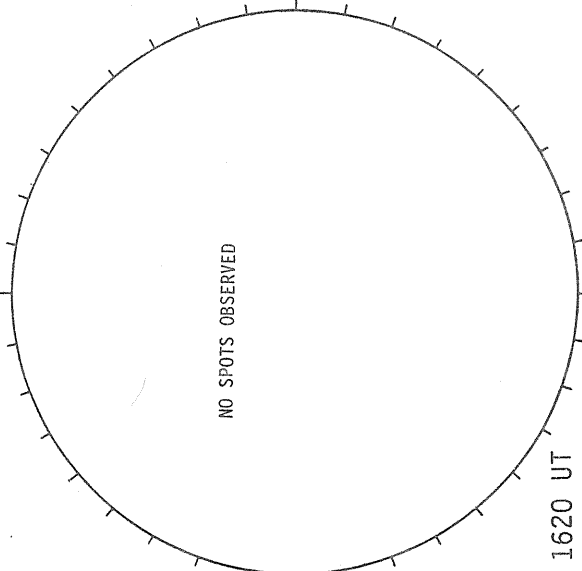
17.44 -
18.39 UT

SACRAMENTO PEAK H-ALPHA



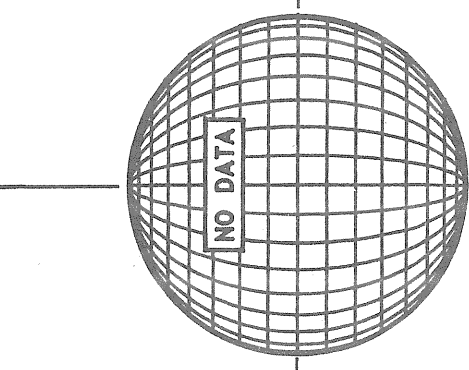
1533 UT

BOULDER SUNSPOTS



1620 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



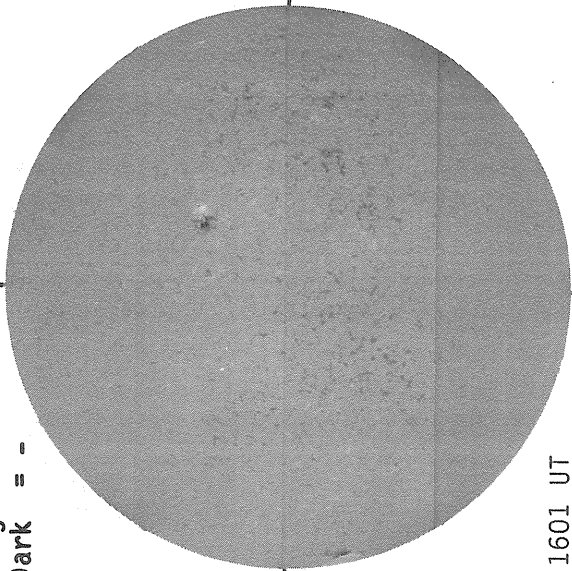
Sp

NOVEMBER 20, 1984 (P= 19.89, B₀ = 2.20, L₀ = 144.43)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

Np

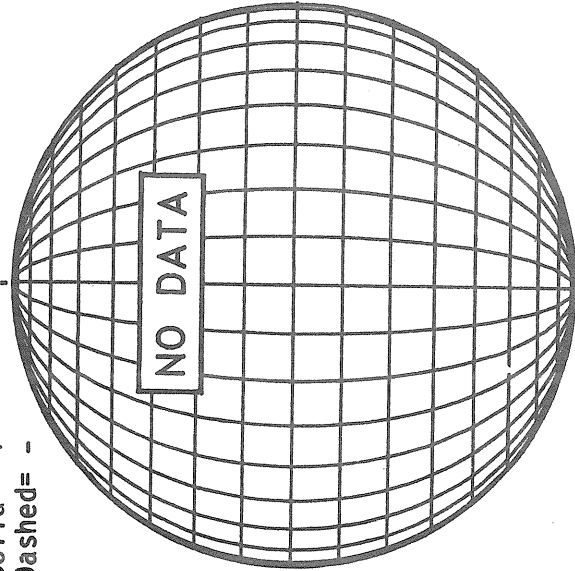


1601 UT

STANFORD MAGNETOGRAM

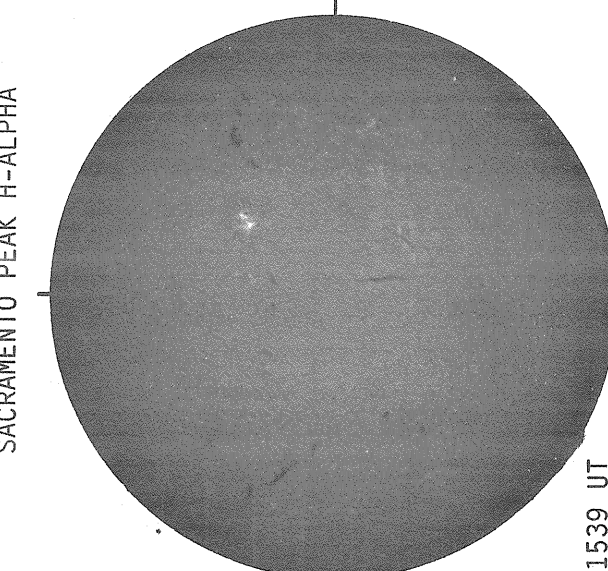
Solid = +
Dashed = -

Np

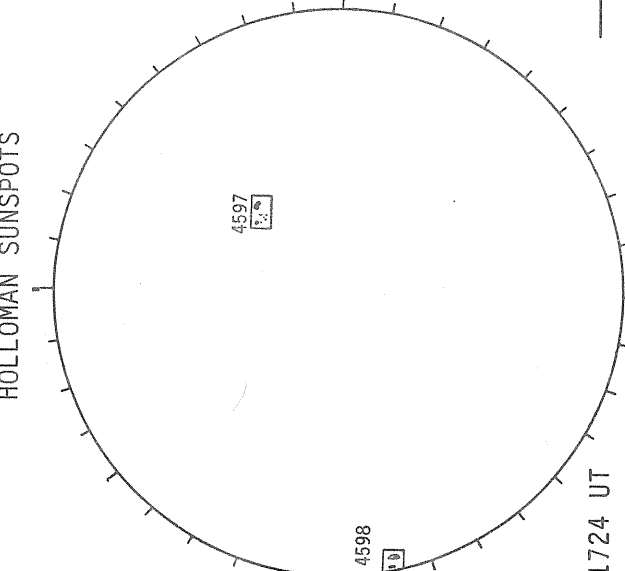


SACRAMENTO PEAK H-ALPHA

HOLLOMAN SUNSPOTS



1539 UT

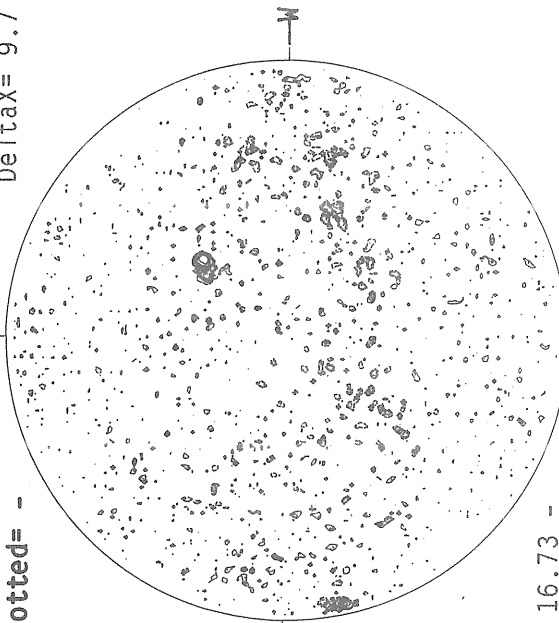


1724 UT

MT. WILSON MAGNETOGRAM

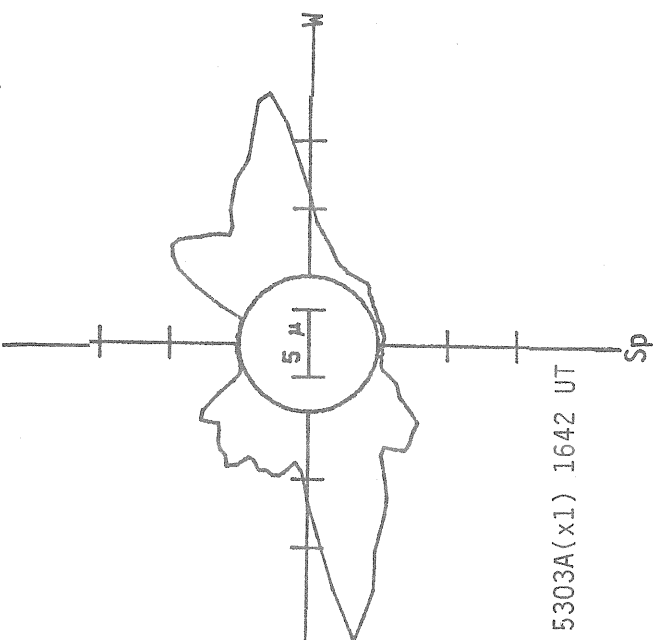
Solid = +
Dotted = -

Np



16.73 -
17.68 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



5303A(x1) 1642 UT

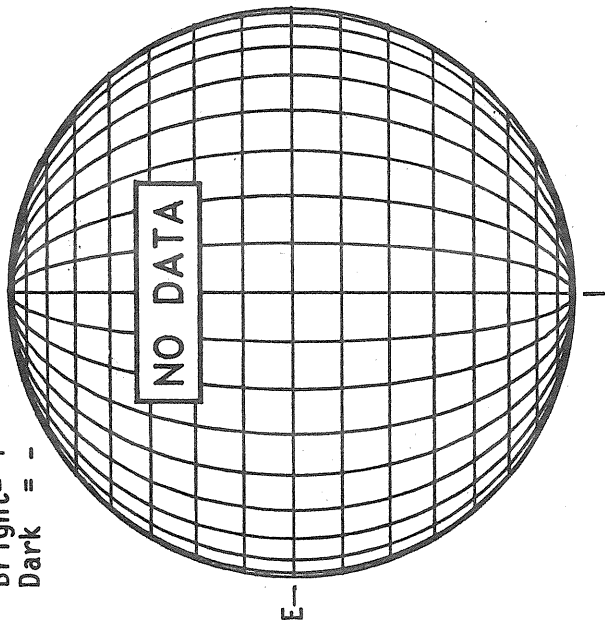
Sp

NOVEMBER 21, 1984 (P= 19.57, $B_0 = 2.07$, $L_0 = 131.25$)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

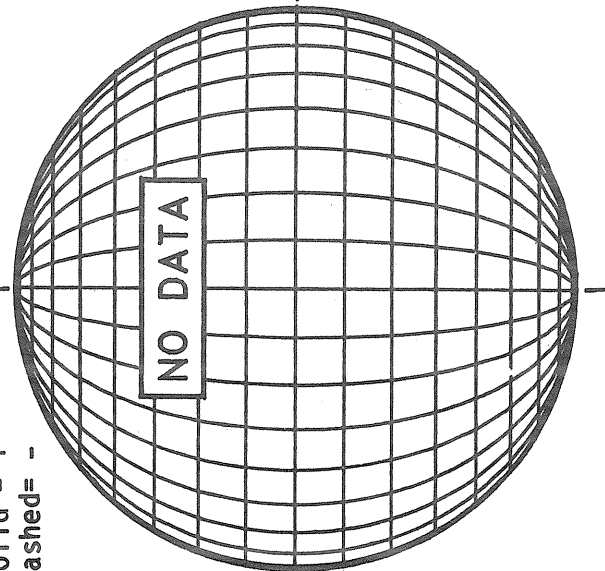
Np



STANFORD MAGNETOGRAM

Solid = +
Dashed = -

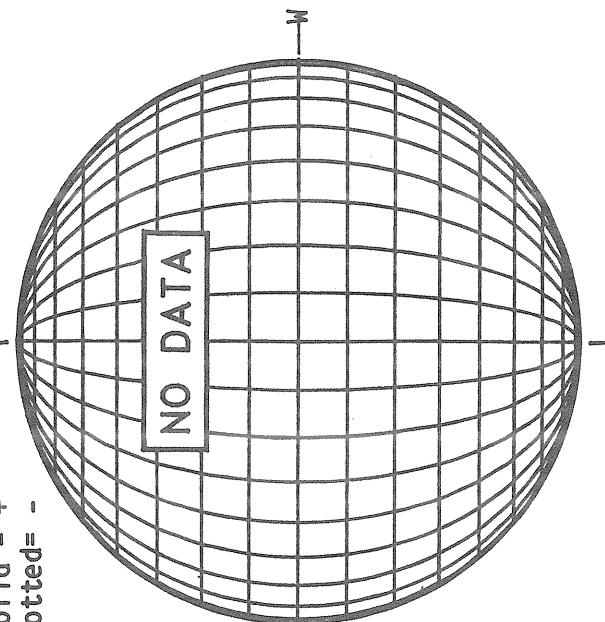
Np



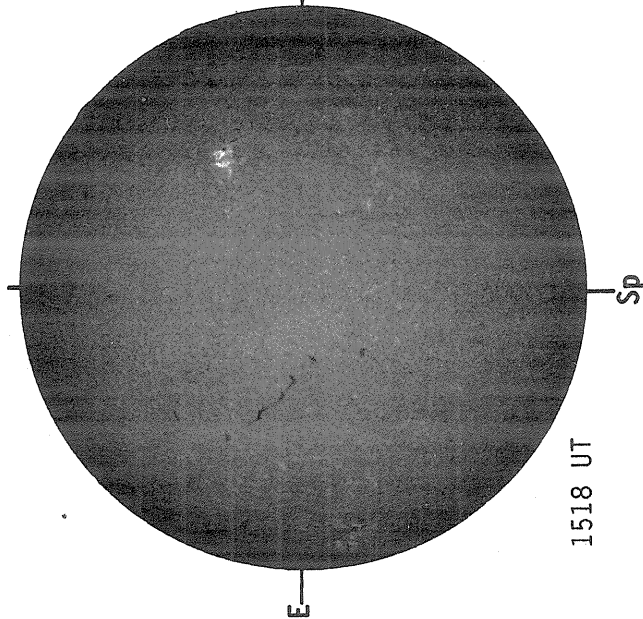
MT. WILSON MAGNETOGRAM

Solid = +
Dotted = -

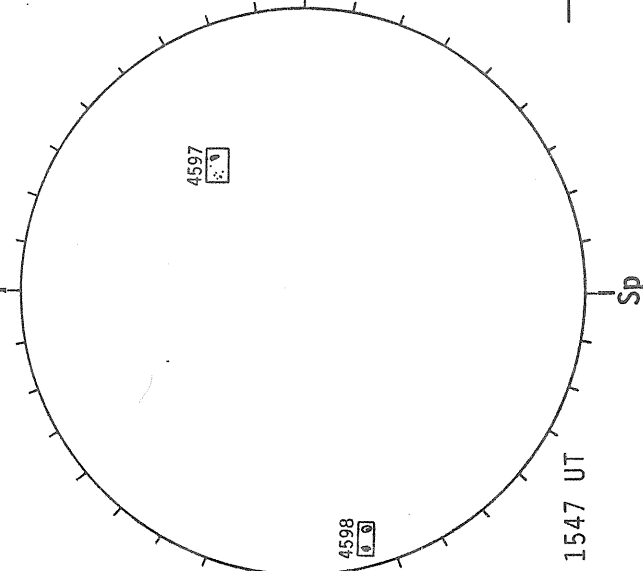
Np



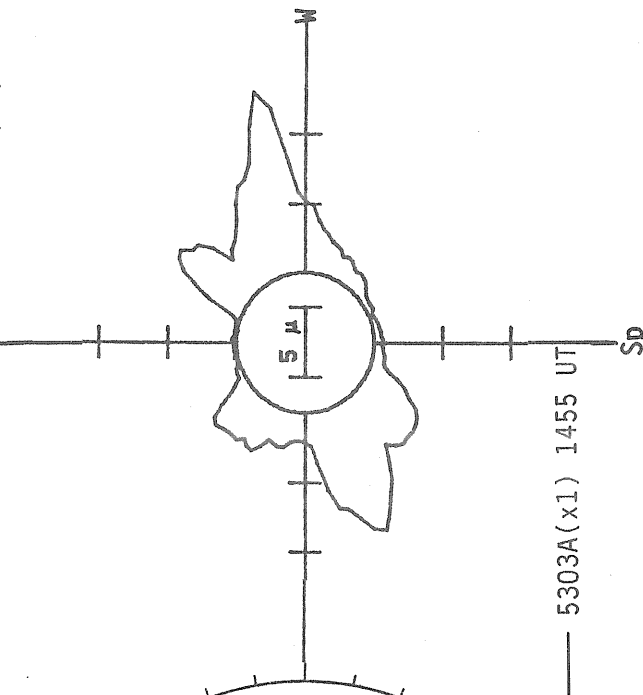
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



— 5303A(x1) 1455 UT

1518 UT

1547 UT

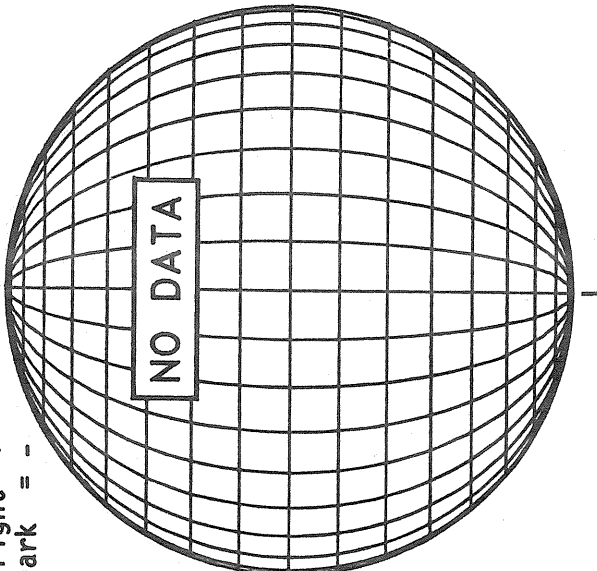
— 5303A(x1) 1455 UT

NOVEMBER 22, 1984 (P= 19.25, B₀ = 1.95, L₀ = 118.06)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

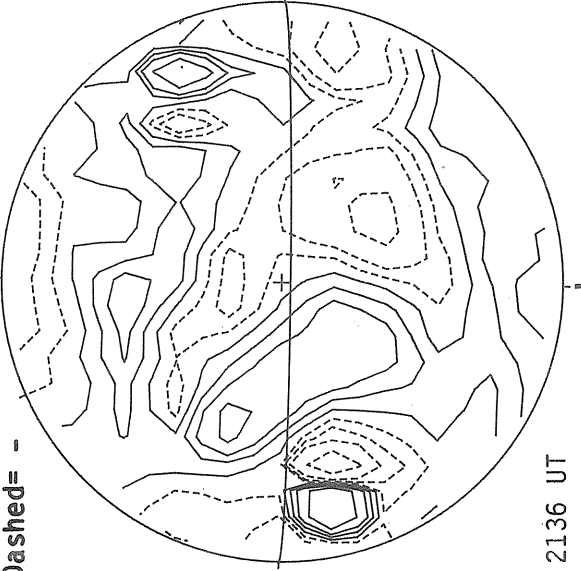
Np



STANFORD MAGNETOGRAM

Solid = +
Dashed = -

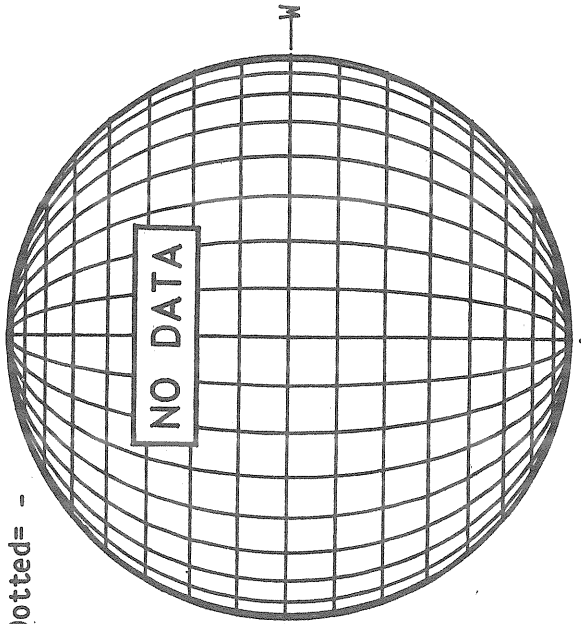
Np



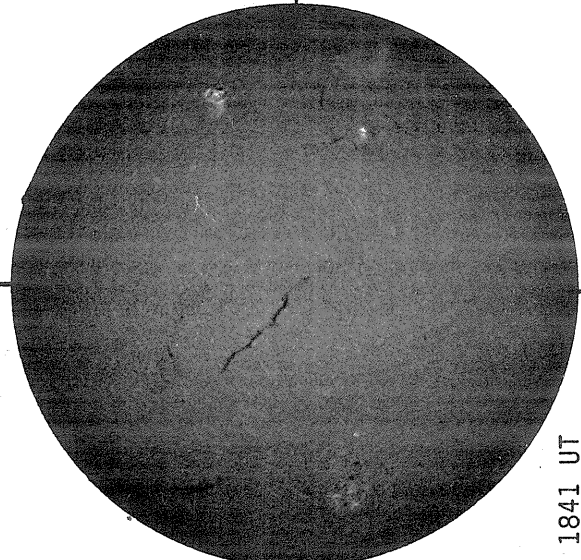
MT. WILSON MAGNETOGRAM

Solid = +
Dotted = -

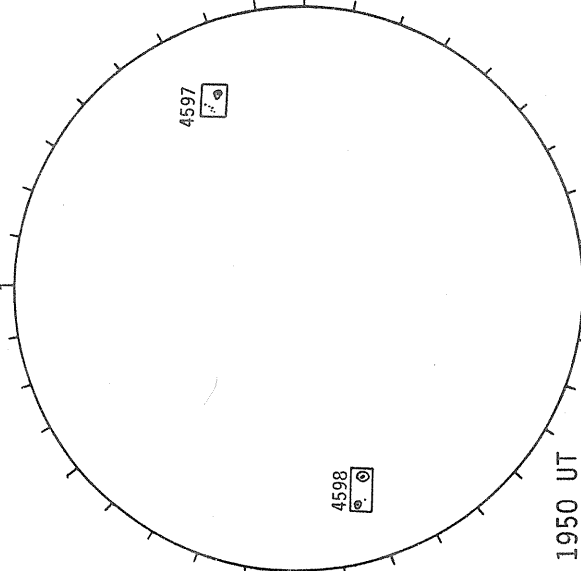
Np



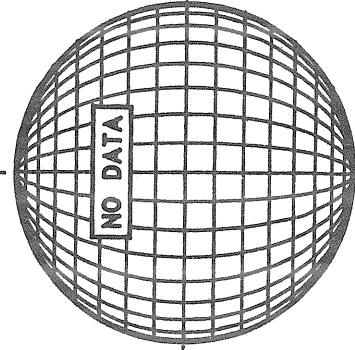
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



1841 UT

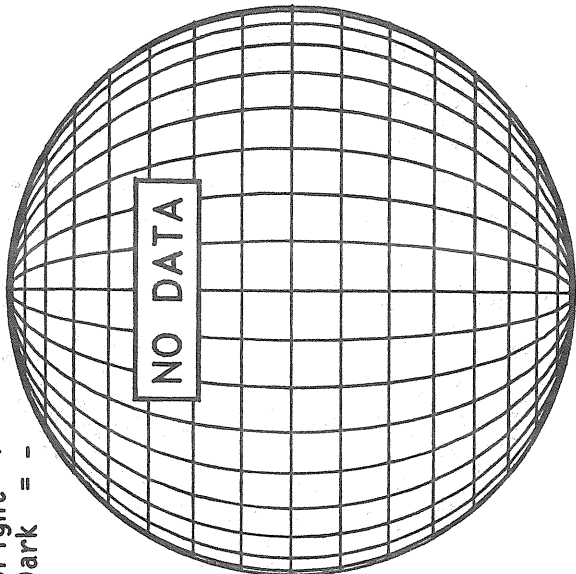
1950 UT

NOVEMBER 23, 1984 (P= 18.92, B₀ = 1.83, L₀ = 104.88)

KITT PEAK MAGNETOGRAM

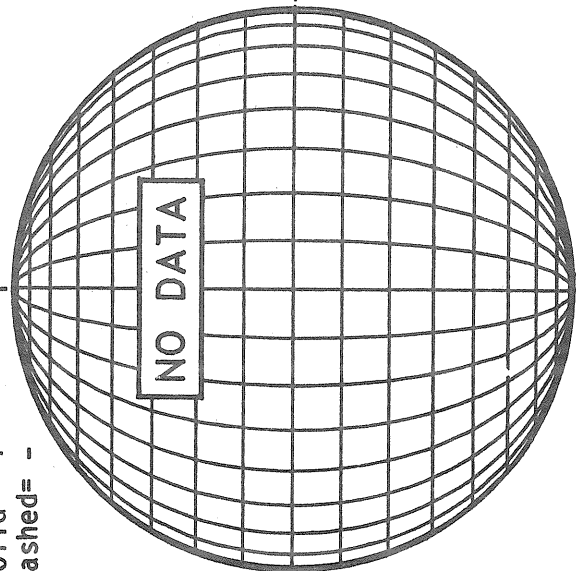
Bright = +
Dark = -

Np



Solid = +
Dashed = -

Np

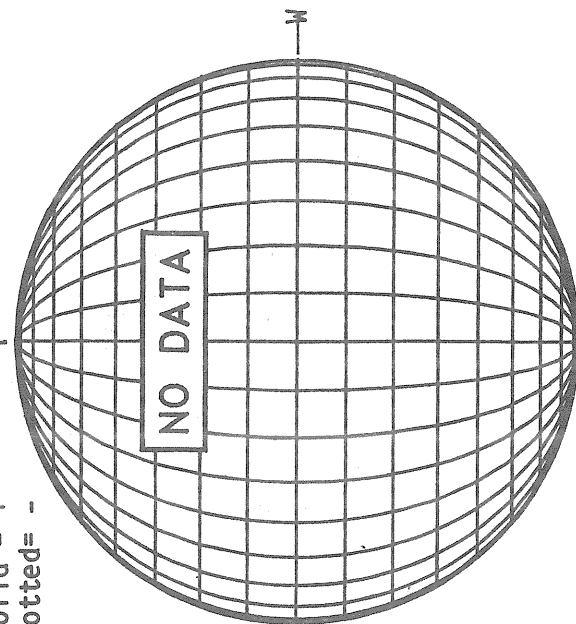


STANFORD MAGNETOGRAM

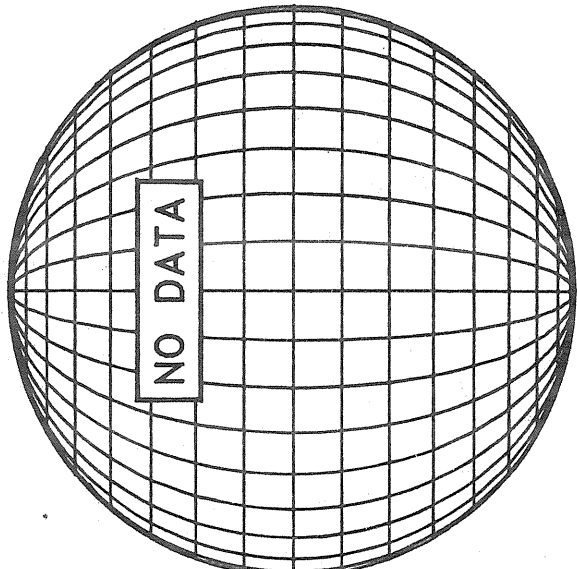
MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted = -

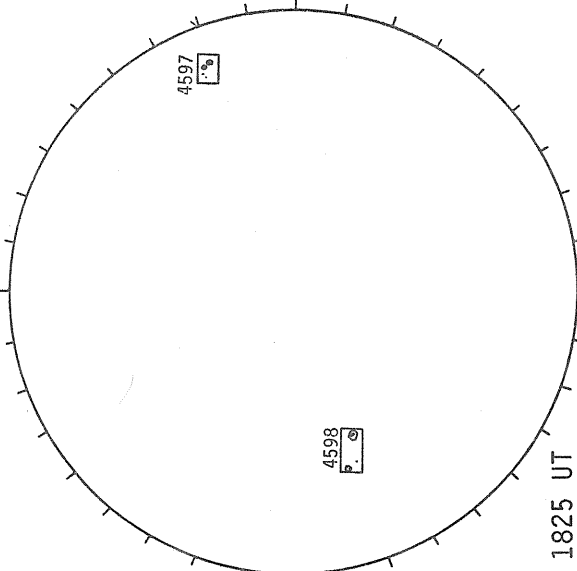


SACRAMENTO PEAK H-ALPHA



Sp

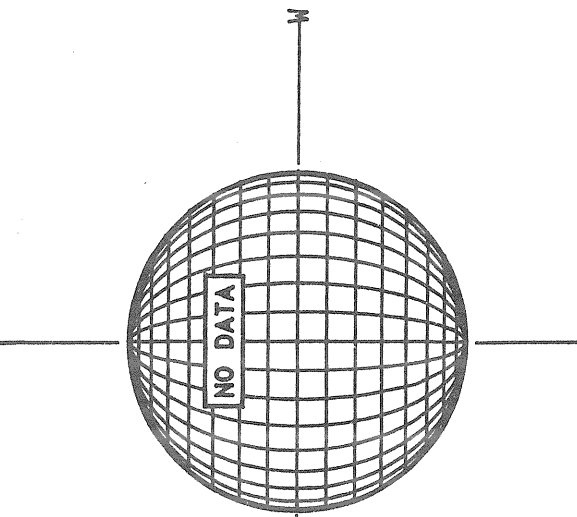
BOULDER SUNSPOTS



1825 UT

Sp

SACRAMENTO PEAK CORONA (1.15 Radii)

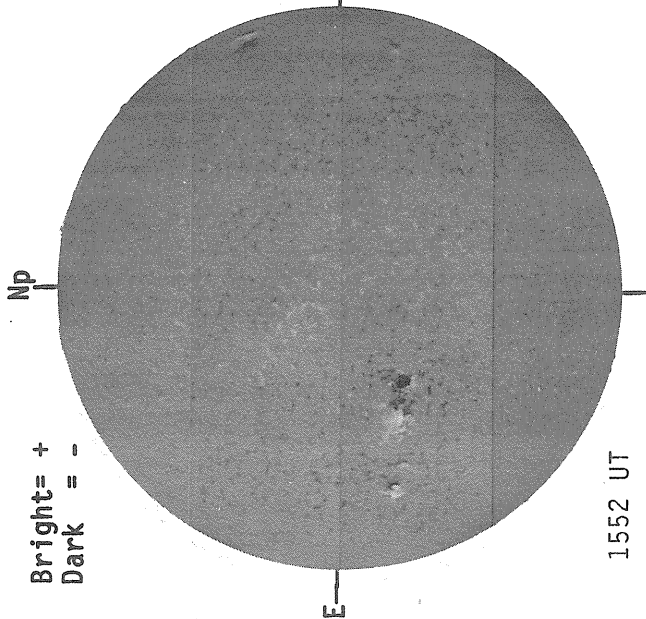


Sp

N O V E M B E R 24, 1 9 8 4 (P= 18.58, B₀= 1.71, L₀= 91.70)

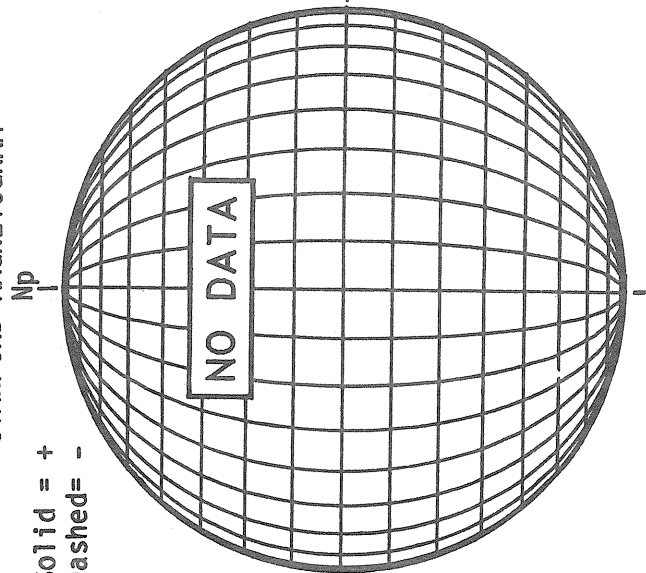
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



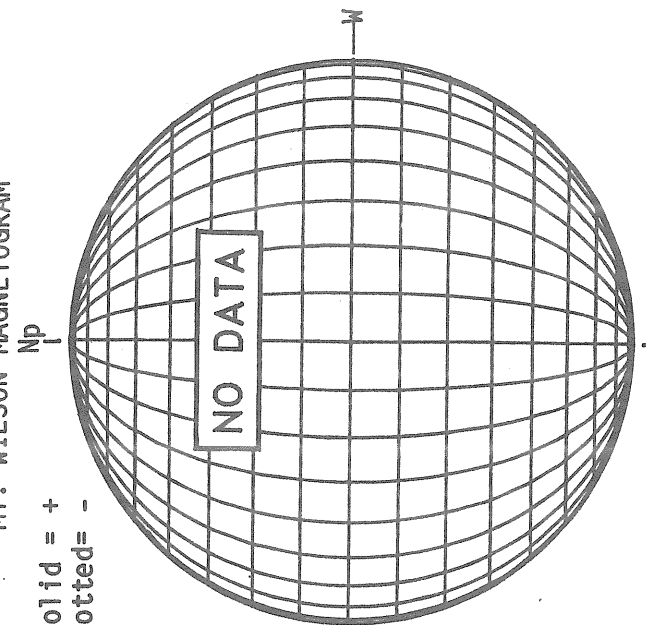
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

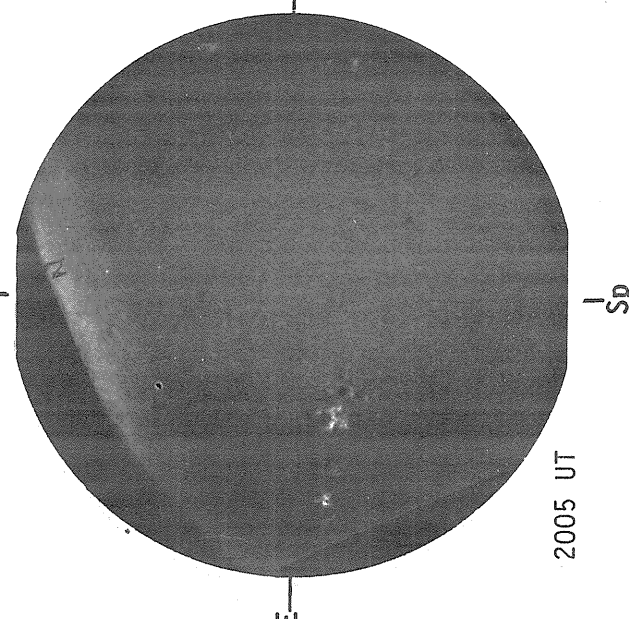


MT. WILSON MAGNETOGRAM

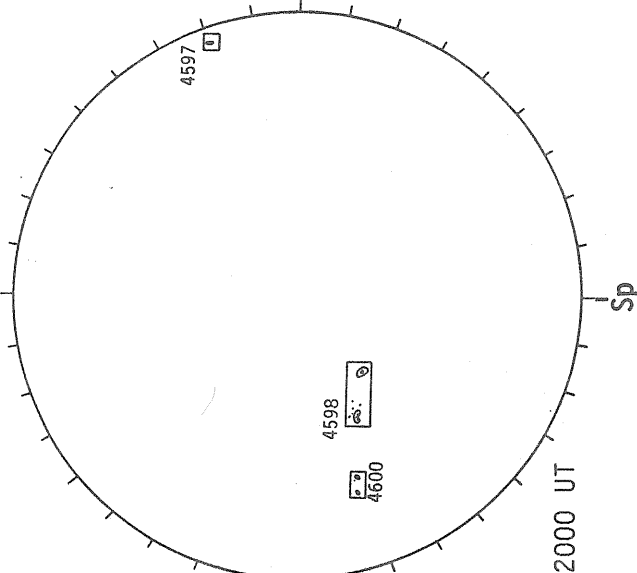
Solid = +
Dotted = -



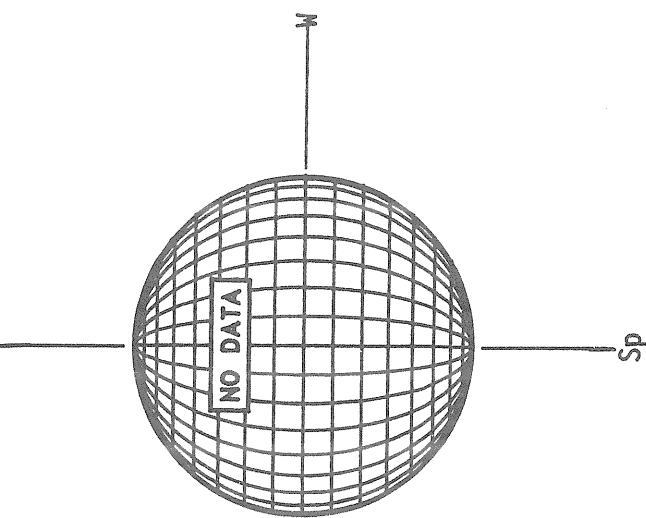
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



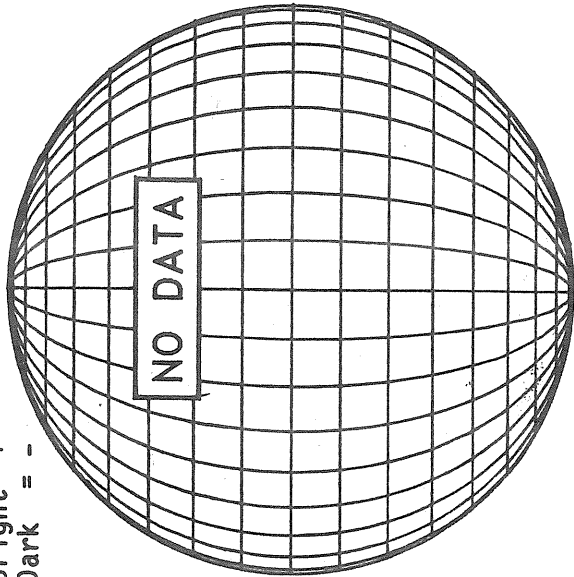
NOVEMBER 25, 1984 (P= 18.24, B₀= 1.58, L₀= 78.52)

52
Nov 84
Delta Y=12.5
Delta X= 9.7

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

Np

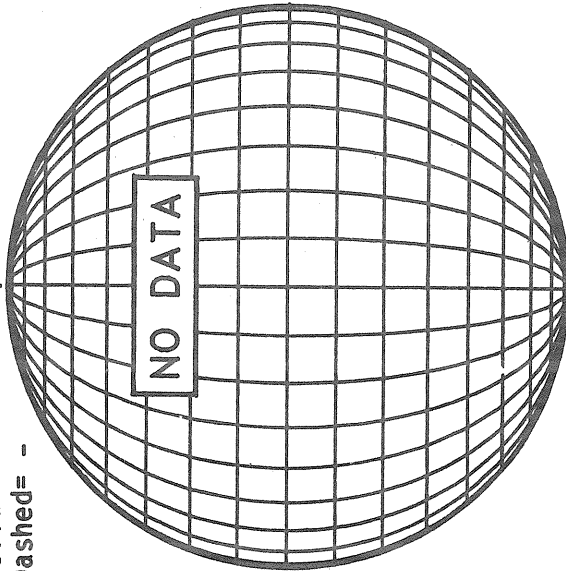


E-

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

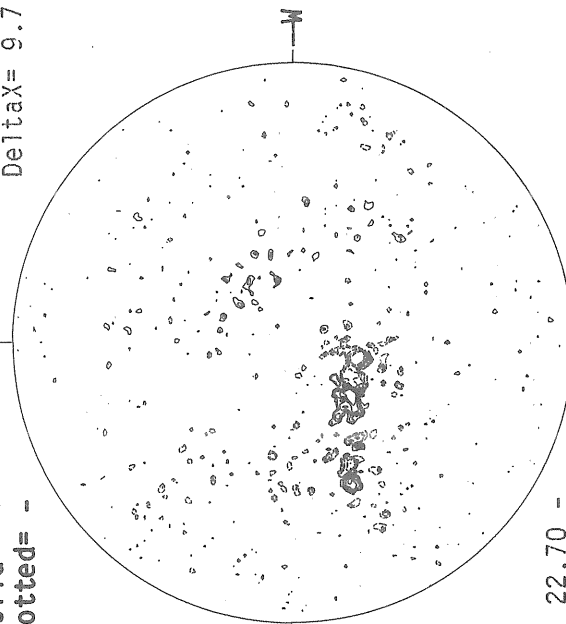
Np



MT. WILSON MAGNETOGRAM

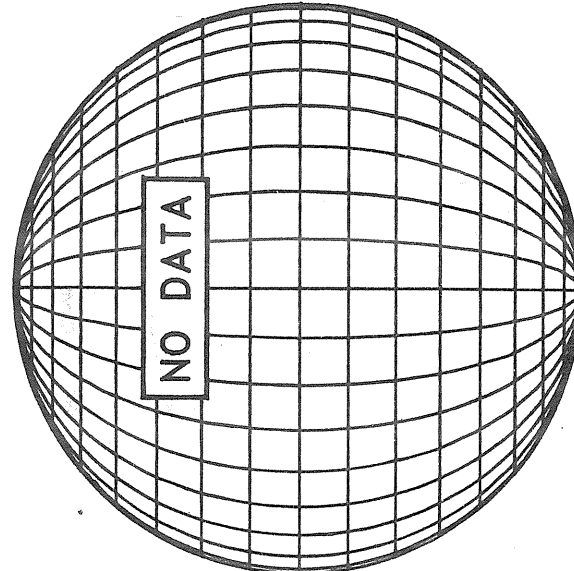
Solid = +
Dotted = -

Np



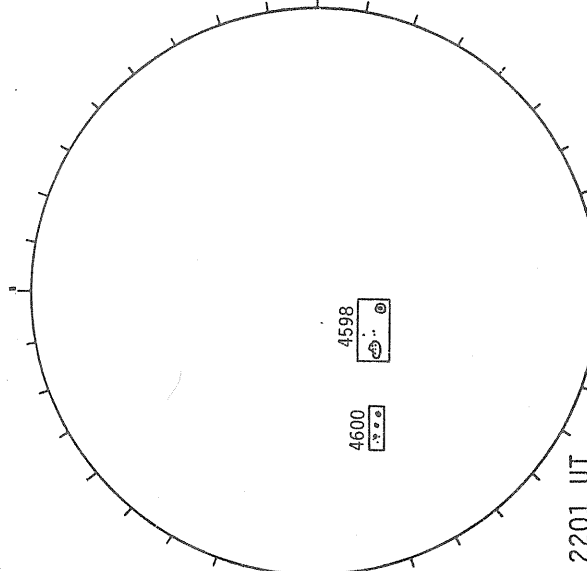
22.70 -
23.65 UT

SACRAMENTO PEAK H-ALPHA



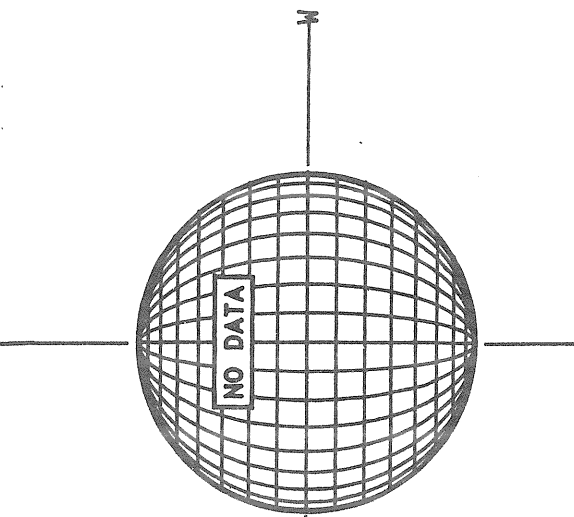
E-

HOLLOMAN SUNSPOTS



2201 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



Sp

Sp

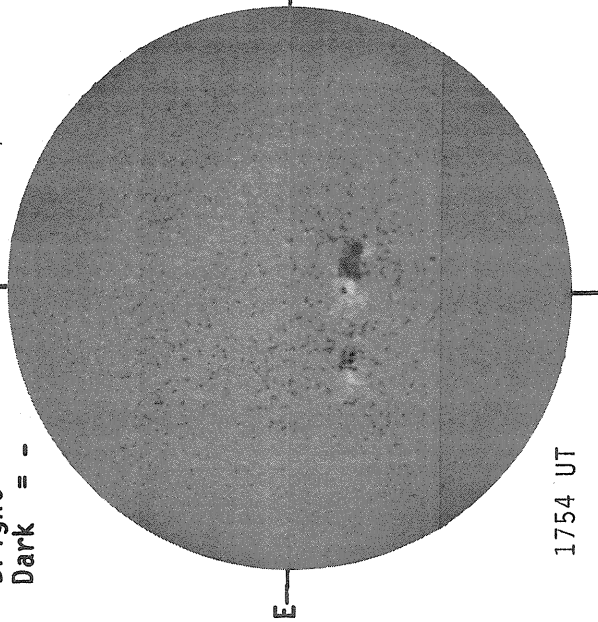
Sp

NOVEMBER 26, 1984 (P= 17.88, B₀ = 1.46, L₀ = 65.35)

KITT PEAK MAGNETOGRAM

Bright = +
Dark = -

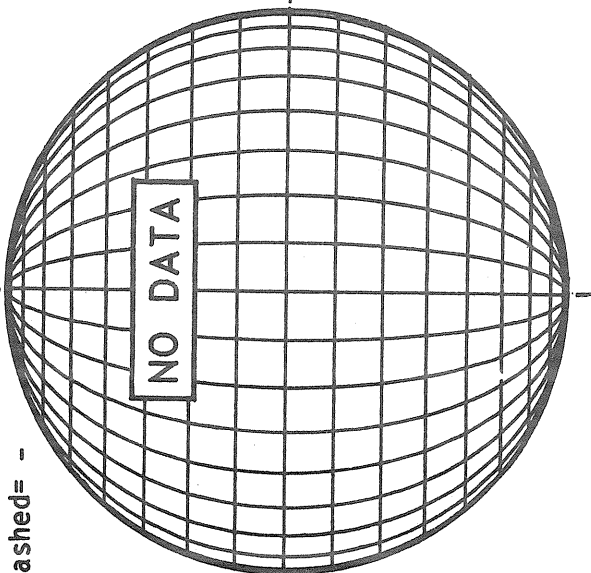
Np



STANFORD MAGNETOGRAM

Solid = +
Dashed = -

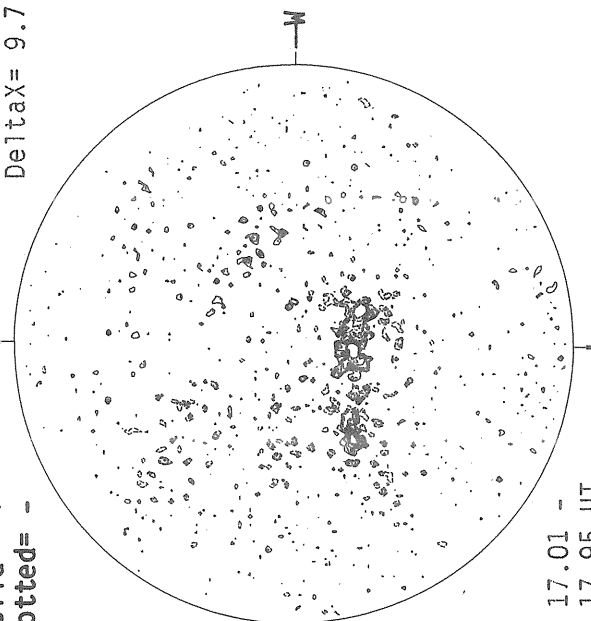
Np



MT. WILSON MAGNETOGRAM

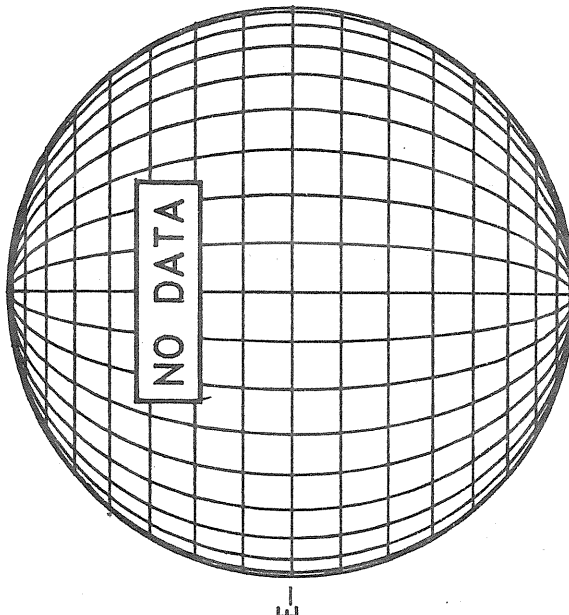
Solid = +
Dotted = -
Delta Y = 12.5
Delta X = 9.7

Np



17.01 -
17.95 UT

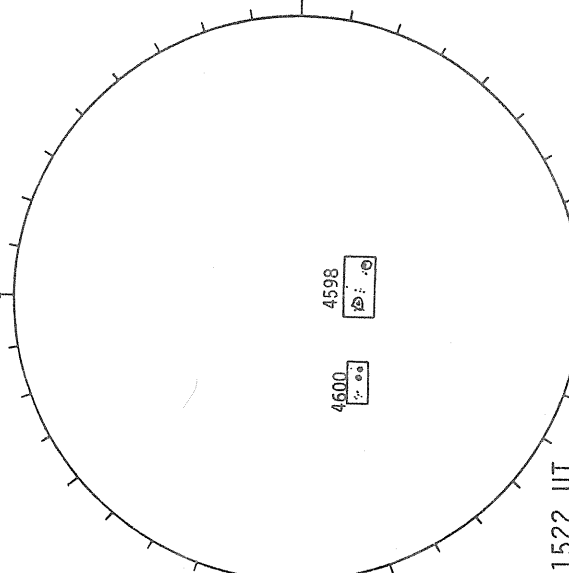
SACRAMENTO PEAK H-ALPHA



E

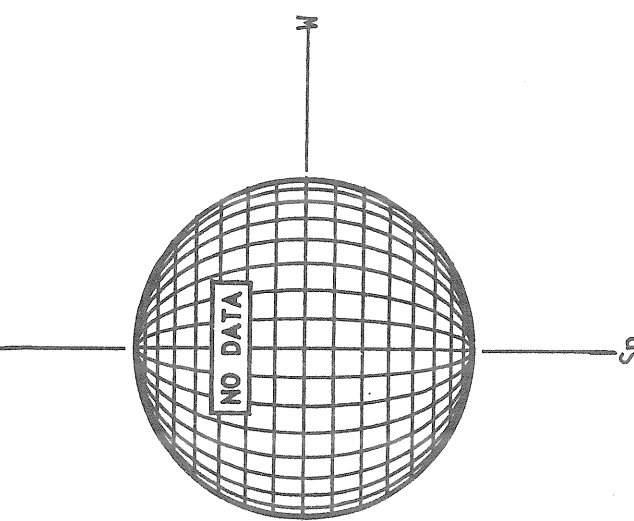
Sp

HOLLOMAN SUNSPOTS



1522 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



NO DATA

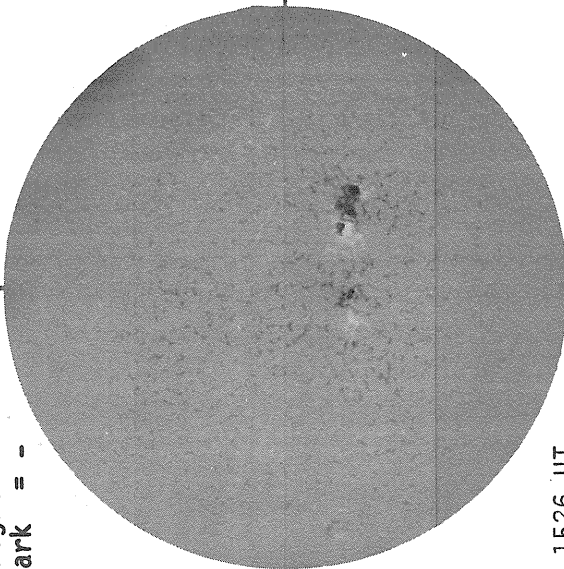
Sp

N O V E M B E R 27, 1 9 8 4 (P= 17.53, B₀ = 1.33, L₀ = 52.17)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

Np

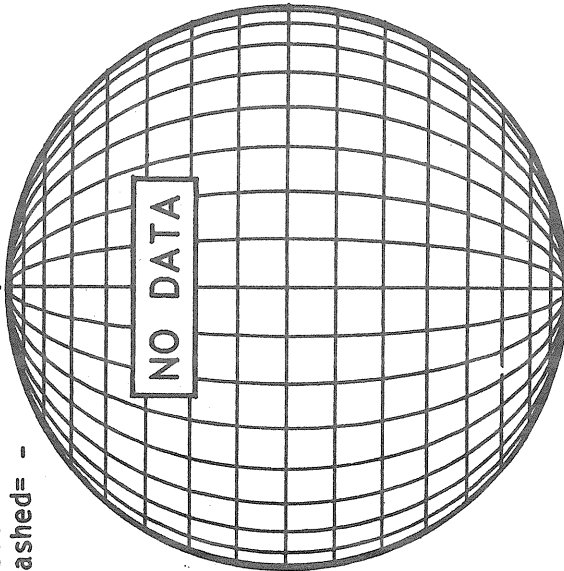


1526 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

Np

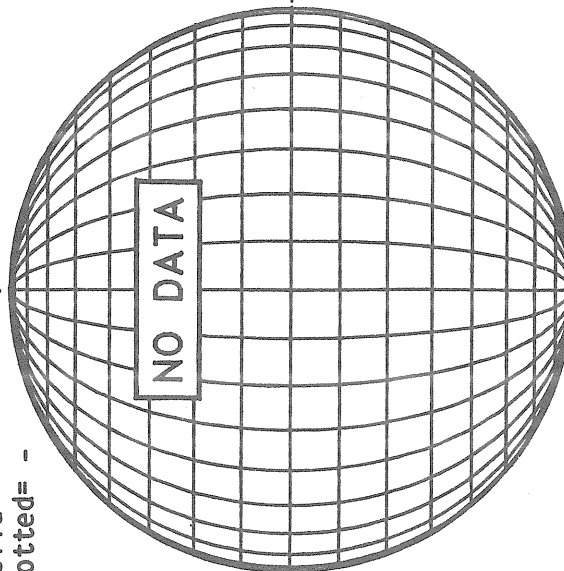


NO DATA

MT. WILSON MAGNETOGRAM

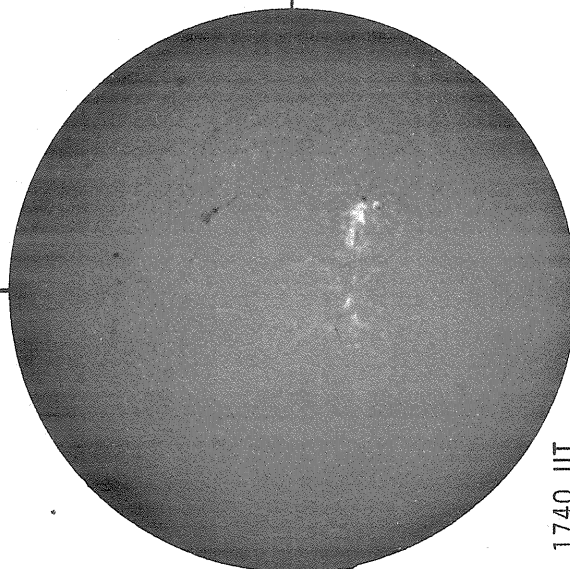
Solid = +
Dotted = -

Np



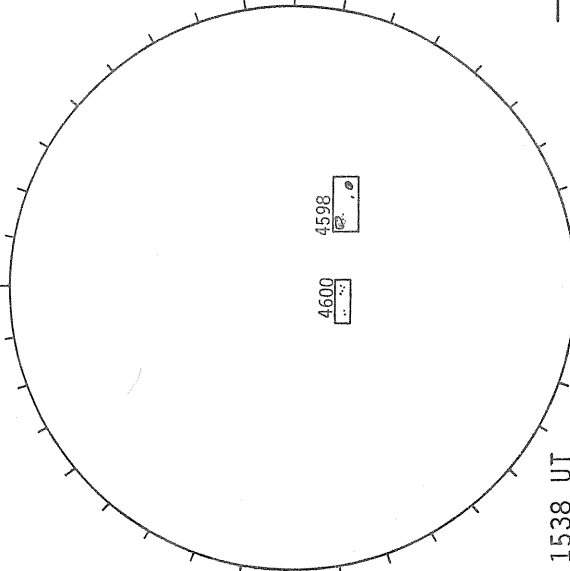
NO DATA

SACRAMENTO PEAK H-ALPHA



1740 UT

BOULDER SUNSPOTS



4600

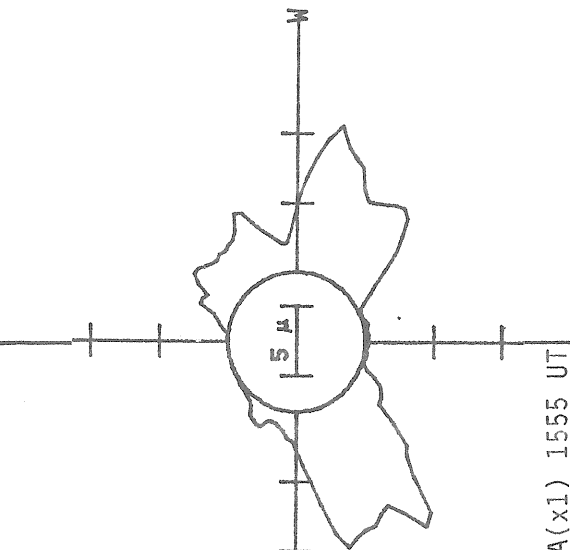
4598

1538 UT

1546 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (1.15 Radii)



15

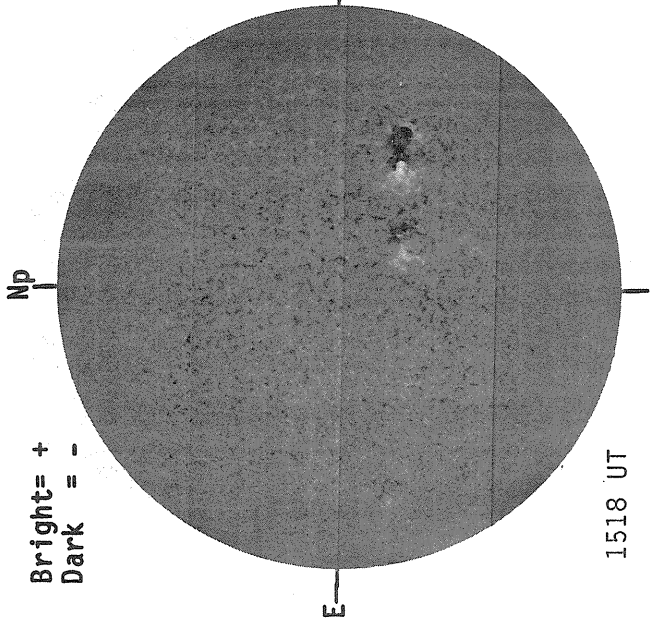
5303A(x1) 1555 UT

Sp

N O V E M B E R 28, 1 9 8 4 (P= 17.16, B₀= 1.21, L₀= 38.99)

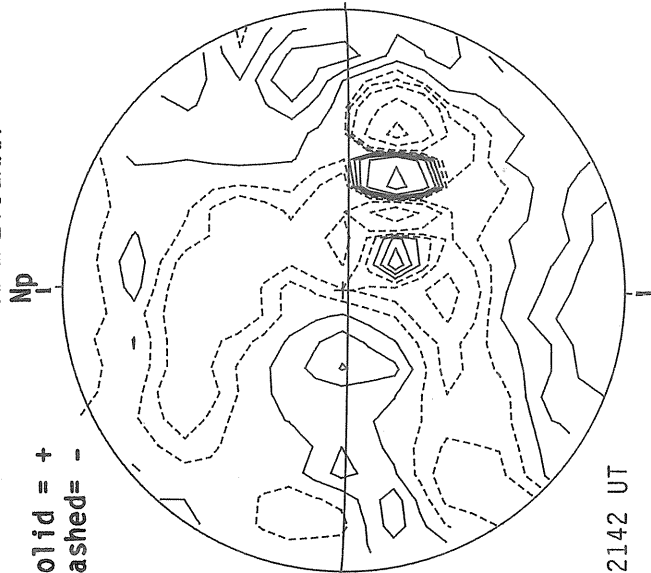
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



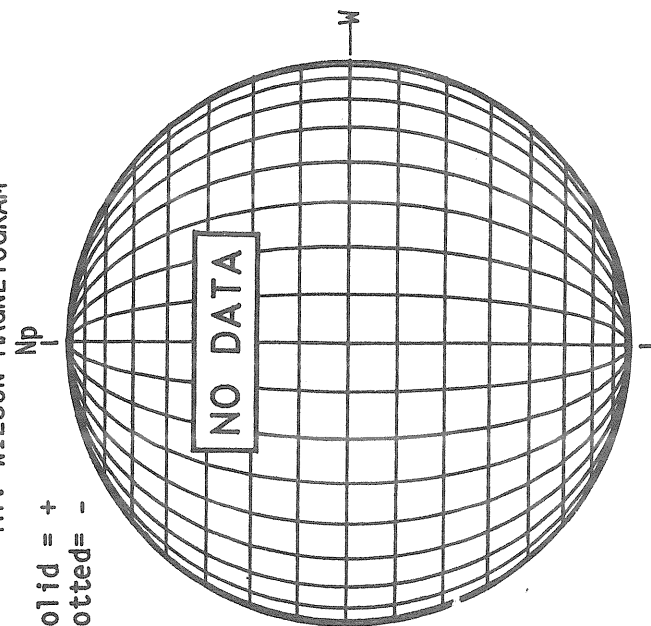
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

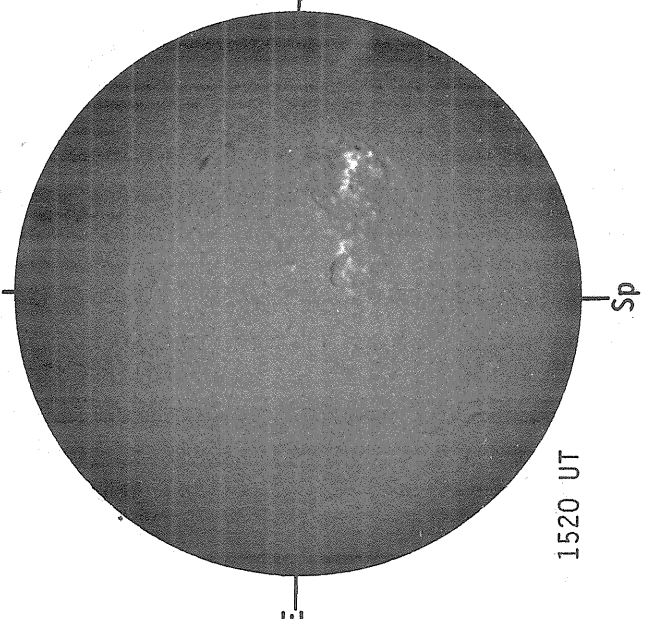


MT. WILSON MAGNETOGRAM

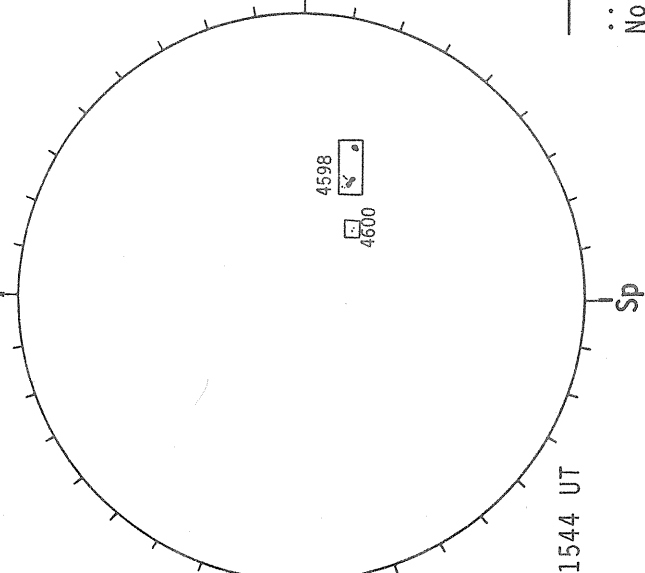
Solid = +
Dotted = -



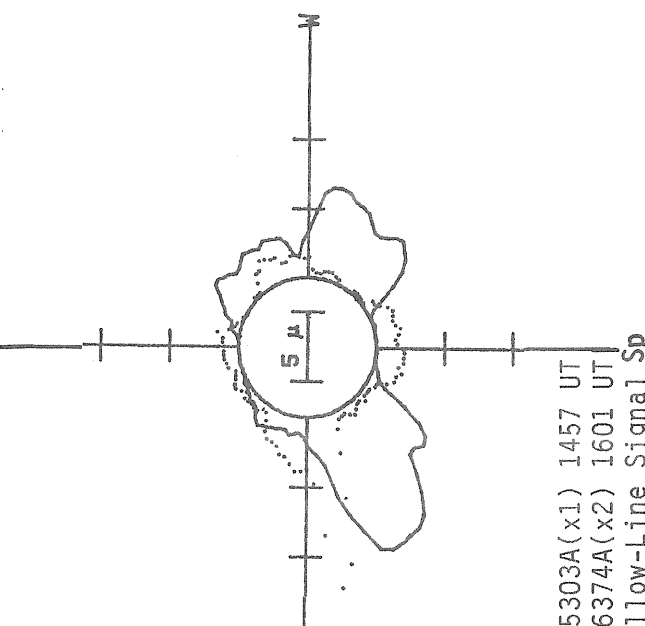
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



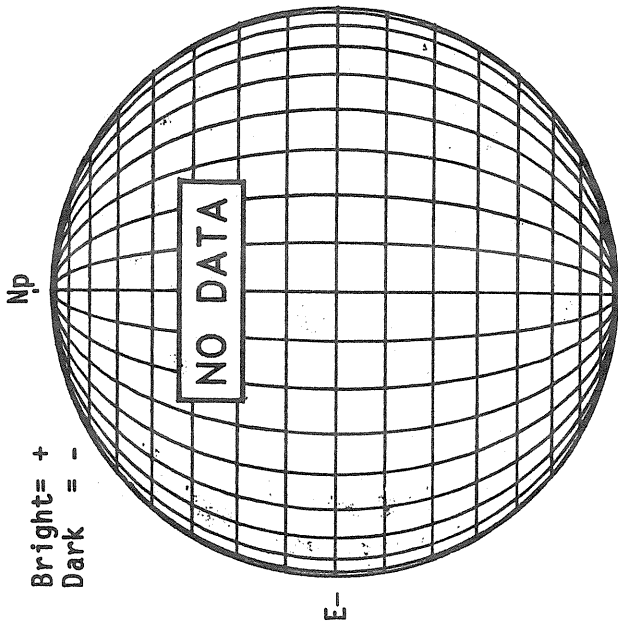
— 5303A(x1) 1457 UT
.... 6374A(x2) 1601 UT
No Yellow-Line Signal Sp

NOVEMBER 29, 1984 (P= 16.79, B₀ = 1.08, L₀ = 25.81)

56
Nov 84

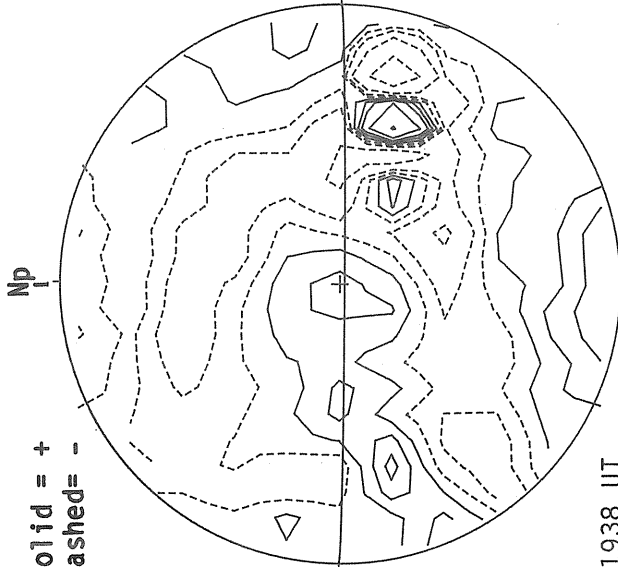
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



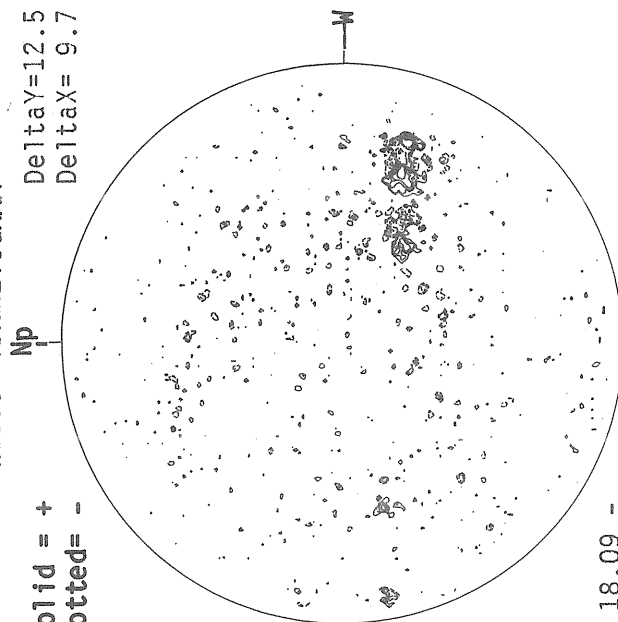
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



MT. WILSON MAGNETOGRAM

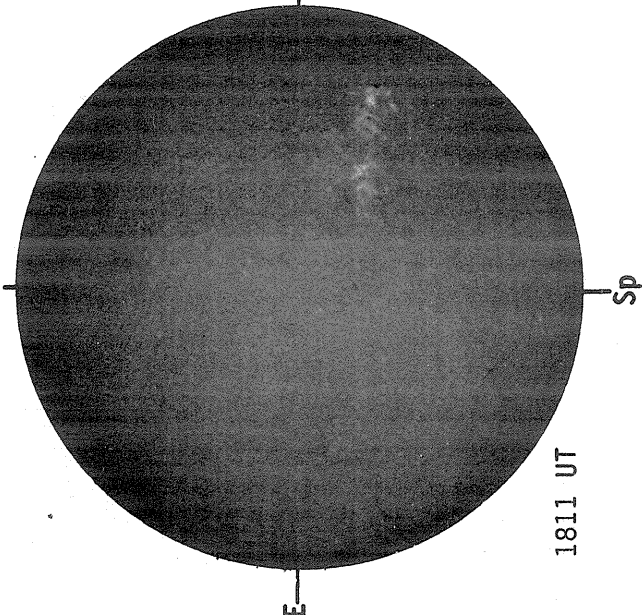
Solid = +
Dotted = -



Delta Y = 12.55
Delta X = 9.7

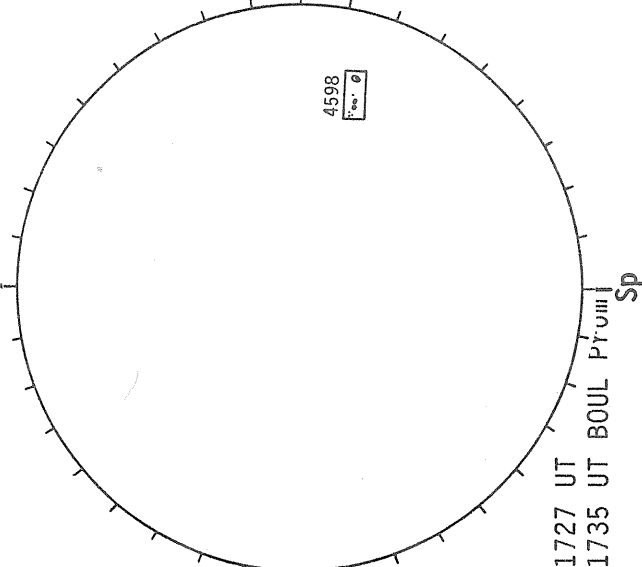
18.09 -
19.04 UT

SACRAMENTO PEAK H-ALPHA



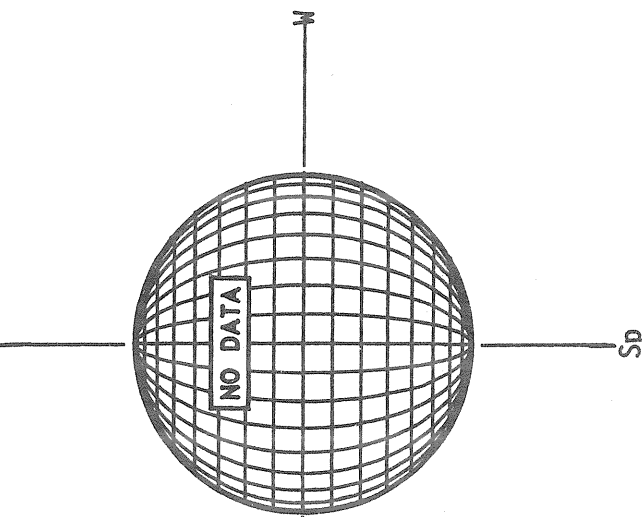
1811 UT

BOULDER SUNSPOTS



1727 UT
1735 UT BOUL PROM

SACRAMENTO PEAK CORONA (1.15 Radii)

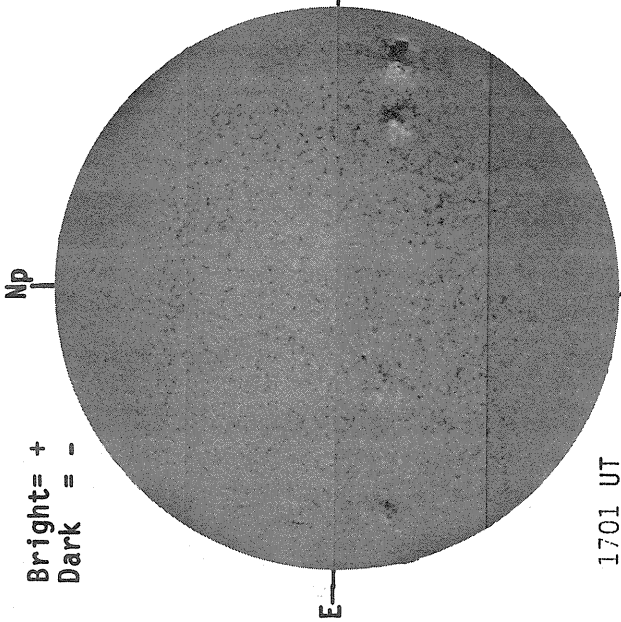


Sp

N O V E M B E R 30, 1 9 8 4 (P= 16.41, B₀ = 0.95, L₀ = 12.63)

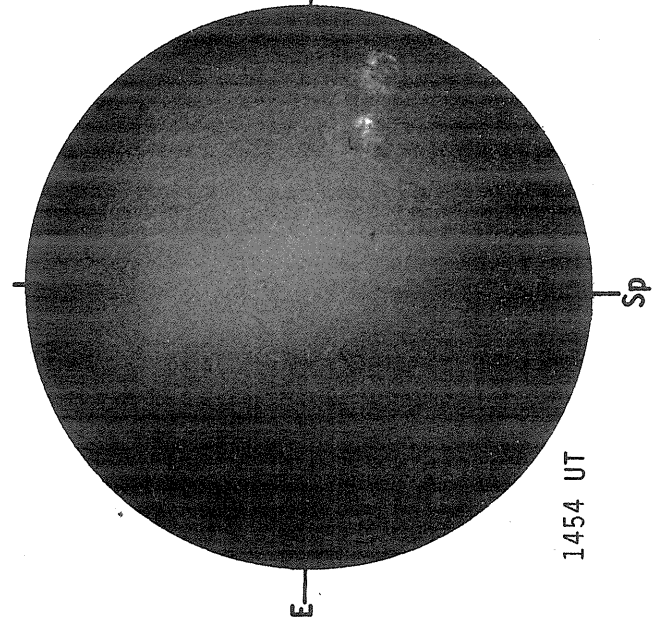
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



1701 UT

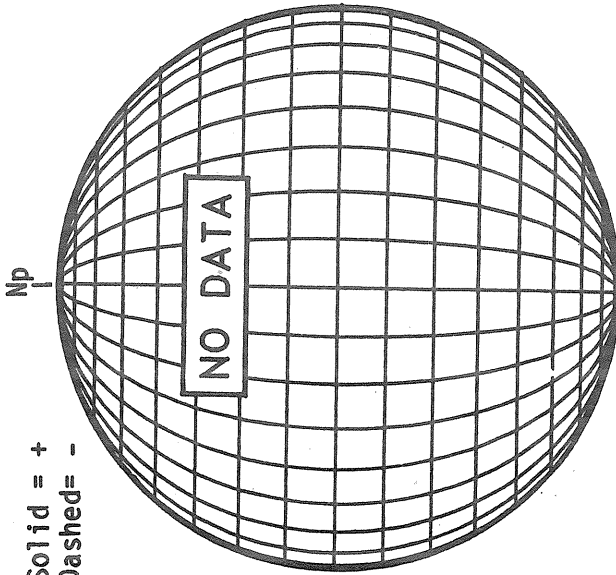
SACRAMENTO PEAK H-ALPHA



1454 UT

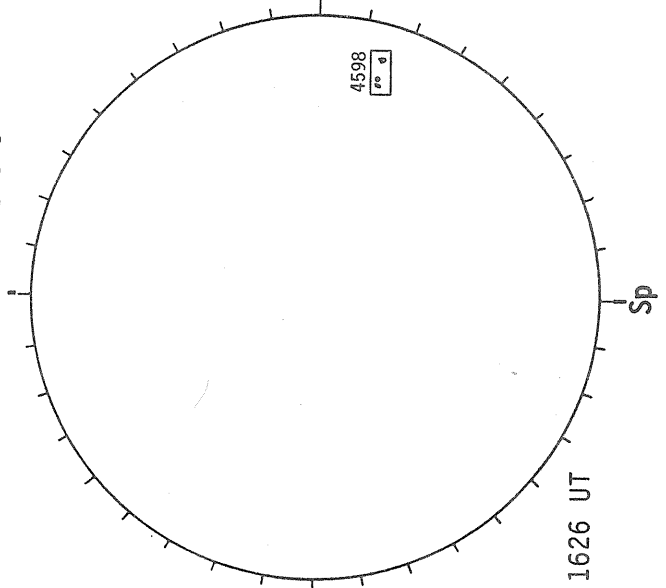
STANFORD MAGNETOGRAM

Solid = +
Dashed = -



1626 UT

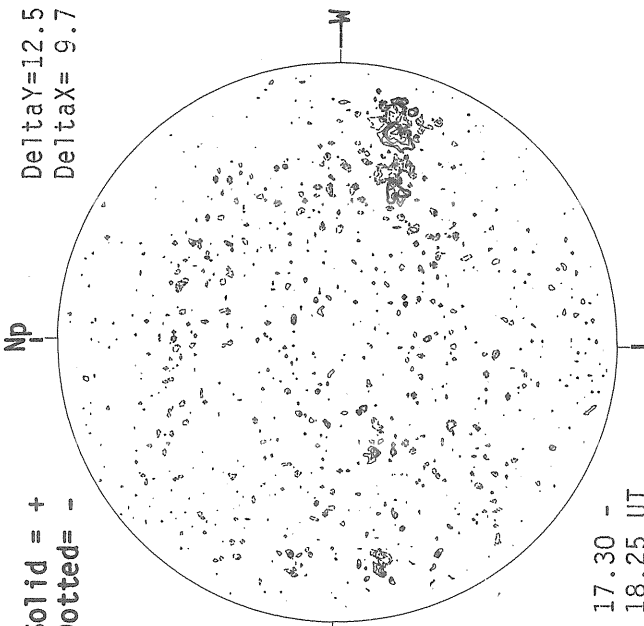
HOLLOMAN SUNSPOTS



Sp

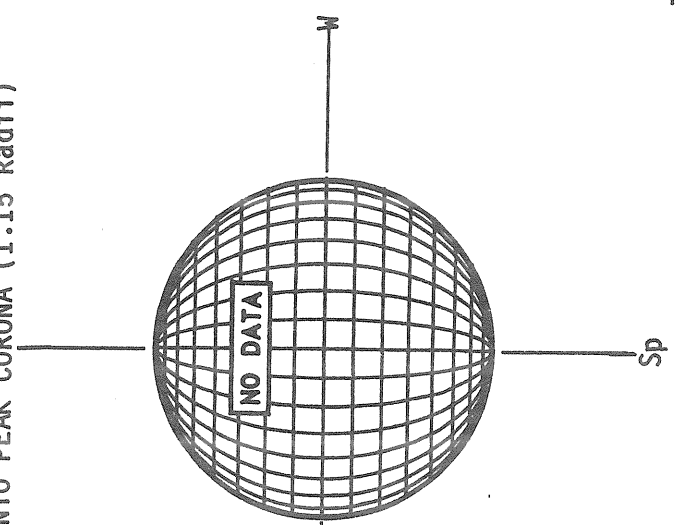
MT. WILSON MAGNETOGRAM

Solid = +
Dotted = -
Delta Y = 12.5
Delta X = 9.7



17.30 -
18.25 UT

SACRAMENTO PEAK CORONA (1.15 Radii)



Sp

58
Nov 84

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

NOVEMBER 1984

NOAA/ USAF Region	MT Wilson Region	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4588		LEAR	10 29 0602	N02 E51	11 2.1		A	AXX	10	1	1	2
4588		RAMY	10 29 1345	N02 E46	11 2.0		A	AXX	20	1	1	2
4588		RAMY	10 30 1413	N01 E33	11 2.1		A	AXX	10	1	1	4
4588		HOLL	10 30 1545	N01 E32	11 2.0		A	AXX		1		3
4588	24167	MWIL	10 30 1630	N02 E32	11 2.1	3	(BP)					
4588		PALE	10 30 1750	N02 E30	11 2.0		A	AXX	10	1		4
4588		LEAR	10 31 0004	N02 E28	11 2.1		A	AXX	10	1	1	3
4588		LEAR	10 31 0232	N02 E27	11 2.1		B	BXO	20	3	3	3
4588		RAMY	10 31 1419	N02 E18	11 1.9		A	AXX		1		3
4588A		PALE	11 09 2012	S08 W63	11 5.1		A	AXX	10	1		3
4588A		MANI	11 09 2313	S08 W61	11 5.4			AXX		1		3
4588A		LEAR	11 10 0648	S08 W68	11 5.2		A	AXX	10	1	1	3
4588A		RAMY	11 10 1230	S08 W75	11 4.9		A	AXX	10	2	2	3
4588A	24171	MWIL	11 10 1530	S07 W74	11 5.1	2	(AP)					
4588A		LEAR	11 11 0032	S07 W79	11 5.1		A	AXX	10	1	1	4
4591	24169A	MWIL	11 04 1545	S16 E70	11 10.0	3	(AF)					
4591		BOUL	11 04 1621	S19 E68	11 9.9		A	AXX	20	1	1	2
4591		BOUL	11 05 1617	S18 E55	11 9.9		A	AXX	20	1	1	2
4591		LEAR	11 08 0347	S16 E27	11 10.2		A	AXX	10	1	1	1
4591		LEAR	11 11 0032	S13 W21	11 9.4		A	AXX	10	1	1	4
4591		LEAR	11 14 0055	S19 W63	11 9.2		A	AXX	10	1	1	3
4591A	24173	MWIL	11 15 1545	S11 W62	11 11.0	2	(AF)					
4592	24169	MWIL	11 08 1600	N15 E35	11 11.3	3	(B)					
4592		HOLL	11 08 1612	N16 E35	11 11.3		B	BXO	10	3	3	2
4592		BOUL	11 08 1647	N18 E35	11 11.4		A	AXX	10	2	3	3
4592		MANI	11 09 0020	N14 E30	11 11.3			CSO	40	4	3	3
4592		LEAR	11 09 0028	N13 E30	11 11.3		B	BXO	200	3	2	2
4592		ATHN	11 09 0600	N16 E26	11 11.2			CXO	40	2	2	3
4592		RAMY	11 09 1425	N16 E22	11 11.3		B	DAO	40	6	3	3
4592	24169	MWIL	11 09 1600	N16 E22	11 11.3	5	(BF)					
4592		HOLL	11 09 1625	N16 E21	11 11.3		B	DAO	30	6	3	3
4592		PALE	11 09 2012	N16 E18	11 11.2		B	DAO	50	7	4	3
4592		MANI	11 09 2313	N15 E17	11 11.3			DAO	130	6	3	3
4592		LEAR	11 10 0648	N16 E12	11 11.2		B	DAI	50	6	4	3
4592		ATHN	11 10 0730	N16 E13	11 11.3			BXO	40	4	3	1
4592		RAMY	11 10 1230	N15 E09	11 11.2		B	DAO	120	13	4	3
4592	24169	BOUL	11 10 1525	N16 E08	11 11.2		B	DSI	80	7	4	1
4592		MWIL	11 10 1530	N16 E08	11 11.3	5	(BF)					
4592		HOLL	11 10 1714	N16 E07	11 11.2		B	DAO	90	10	4	3
4592		PALE	11 10 2138	N17 E04	11 11.2		B	DAI	100	15	7	2
4592		MANI	11 10 2336	N16 E03	11 11.2			DAO	140	13	6	2
4592		LEAR	11 11 0032	N16 E02	11 11.2		B	DSI	140	17	6	4
4592		ATHN	11 11 0714	N17 W01	11 11.2		B	DAO	60	7	7	3
4592		RAMY	11 11 1225	N16 W05	11 11.1		B	DAO	120	18	6	3
4592		HOLL	11 11 1450	N16 W06	11 11.2		B	DAO	50	16	6	3
4592	24169	MWIL	11 11 1545	N16 W06	11 11.2	5	(D)					
4592		PALE	11 11 1815	N16 W07	11 11.2		B	DAO	80	11	6	3
4592		LEAR	11 12 0011	N16 W12	11 11.1		B	DAO	60	17	7	3
4592		MANI	11 12 0052	N16 W11	11 11.2			DAO	140	11	6	2
4592		ATHN	11 12 0805	N15 W15	11 11.2			DSO	40	8	6	1
4592	24169	MWIL	11 12 1545	N15 W19	11 11.2	5	(BY)					
4592		HOLL	11 12 1619	N16 W20	11 11.2		B	CAO	60	12	7	3
4592		RAMY	11 12 1633	N16 W21	11 11.1		B	DAO	60	14	8	3
4592		PALE	11 12 1900	N16 W22	11 11.1		B	DAI	50	11	7	3
4592		LEAR	11 13 0030	N16 W25	11 11.1		B	DAO	50	10	7	3
4592		MANI	11 13 0115	N16 W25	11 11.2			DAO	130	8	4	2
4592		RAMY	11 13 1511	N16 W33	11 11.1		B	CAO	50	16	7	3
4592	24169	MWIL	11 13 1530	N15 W33	11 11.1	3	BF					
4592		BOUL	11 13 1547	N16 W31	11 11.3		A	AXX	10	2	2	2
4592		HOLL	11 13 1625	N16 W34	11 11.1		B	BXO	30	7	6	3
4592		PALE	11 13 1835	N15 W35	11 11.1		B	BXO	30	12	6	3
4592		MANI	11 14 0005	N15 W39	11 11.1			BXO	110	7	4	2
4592		LEAR	11 14 0055	N16 W37	11 11.2		B	BXO	30	6	4	3
4592		ATHN	11 14 0730	N16 W40	11 11.3			BXO	20	2	2	1
4592	24169	MWIL	11 15 1545	N16 W59	11 11.2	3	(AP)					
4592		PALE	11 15 2013	N18 W65	11 10.9		A	AXX		1		3
4594		LEAR	11 10 0648	S15 E26	11 12.3		A	AXX	10	1	1	3

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

59
Nov 84

NOVEMBER 1984

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4594	24172	MWIL	11 10 1530	S14 E21	11 12.2	4	(AP)					
4594		HOLL	11 10 1714	S15 E21	11 12.3		A	AXX		1		3
4594		PALE	11 10 2138	S14 E17	11 12.2		A	AXO		2		2
4594		MANI	11 10 2336	S14 E16	11 12.2			BXO	10	3	3	2
4594		LEAR	11 11 0032	S14 E16	11 12.2		B	BXO	10	3	3	4
4594		ATHN	11 11 0714	S15 E11	11 12.1		A	AXX	10	1	1	3
4594		RAMY	11 11 1225	S15 E09	11 12.2		A	AXX	10	1	1	3
4594		HOLL	11 11 1450	S15 E08	11 12.2		A	AXX	10	1		3
4594	24172	MWIL	11 11 1545	S15 E07	11 12.2	3	(AP)			1		3
4594		PALE	11 11 1815	S15 E06	11 12.2		A	AXX		1		3
4594		LEAR	11 12 0011	S15 E03	11 12.2		A	AXO	10	2	2	3
4594		MANI	11 12 0052	S14 E02	11 12.2			AXX	10	1		2
4593	24170	RAMY	11 09 1425	N03 E51	11 13.4		A	AXX	10	1		3
4593		MWIL	11 09 1600	N03 E49	11 13.3	3	(AP)					
4593		HOLL	11 09 1625	N03 E50	11 13.4		A	AXX		1		3
4593		PALE	11 09 2012	N04 E48	11 13.4		A	AXX	10	1		3
4593		MANI	11 09 2313	N03 E46	11 13.4			AXX	10	1	1	3
4593		LEAR	11 10 0648	N03 E41	11 13.3		A	AXO	10	2	2	3
4593		RAMY	11 10 1230	N03 E39	11 13.4		B	BXO	10	2	3	3
4593		LEAR	11 11 0032	N03 E31	11 13.3		B	BXO	10	2	3	4
4596	24175	BOUL	11 17 1520	N08 W46	11 14.2		A	AXX		1	1	3
4596		MWIL	11 17 1530	N07 W45	11 14.3	2	(AF)					
4596		RAMY	11 17 1530	N07 W46	11 14.2		A	HAX	10	1	1	3
4596		PALE	11 17 1854	N08 W48	11 14.2		B	BXO	40	3	4	2
4596		MANI	11 18 0038	N08 W52	11 14.1			CSO	40	3	4	2
4596		LEAR	11 18 0110	N07 W53	11 14.1		B	CSO	30	5	4	3
4596		RAMY	11 18 1358	N07 W59	11 14.2		B	DAO	100	6	3	3
4596	24175	MWIL	11 18 1530	N07 W60	11 14.2	3	(B)					
4596		BOUL	11 18 1646	N08 W64	11 13.9		B	BXO	20	3	3	3
4596		HOLL	11 18 1709	N07 W62	11 14.1		B	BXO	10	4	6	3
4596		PALE	11 18 2220	N09 W65	11 14.1		B	BXO	40	4	5	2
4596		LEAR	11 19 0030	N08 W66	11 14.1		B	BXO	10	3	4	2
4596		ATHN	11 19 0640	N06 W69	11 14.1			BXO	20	2	2	4
4596A		PALE	11 16 1830	N04 W18	11 15.4		A	AXX		2		4
4595		LEAR	11 14 0055	S05 E50	11 17.8		A	AXX	10	1	1	3
4595		ATHN	11 14 0730	S05 E48	11 17.9			BXO	20	2	2	1
4595		BOUL	11 14 1523	S05 E42	11 17.8		B	BXO	20	3	3	2
4595		HOLL	11 14 1752	S06 E42	11 17.9		B	BXO	20	3	4	3
4595		PALE	11 14 2200	S08 E38	11 17.8		B	BXO	30	6	4	3
4595		LEAR	11 15 0042	S07 E37	11 17.8		B	CSO	300	3	4	3
4595		MANI	11 15 0049	S06 E38	11 17.9			CRO	40	7	4	3
4595		RAMY	11 15 1323	S06 E29	11 17.7		B	CAO	50	9	5	2
4595		BOUL	11 15 1526	S05 E25	11 17.5		A	AXX	10	1	1	2
4595	24174	MWIL	11 15 1545	S06 E27	11 17.7	4	(B)					
4595		HOLL	11 15 1708	S06 E28	11 17.8		B	BXO	10	4	3	3
4595		PALE	11 15 2013	S07 E24	11 17.6		B	BXO	20	3	3	3
4595		LEAR	11 16 0022	S07 E21	11 17.6		A	BSX	100	1		3
4595		MANI	11 16 0037	S07 E22	11 17.7			CRO	10	3	3	3
4595		RAMY	11 16 1305	S06 E14	11 17.6		A	HAX	20	1	1	3
4595		PALE	11 16 1830	S07 E10	11 17.5		A	AXX	10	2		4
4595		LEAR	11 17 0345	S06 E05	11 17.5		A	BXO	10	2	1	2
4595		ATHN	11 17 0700	S06 E04	11 17.6		A	HSX	10	1	1	2
4595		RAMY	11 17 1530	S07 W02	11 17.5		A	HAX	10	1	1	3
4597		RAMY	11 19 1413	N19 E00	11 19.6		B	BXO	10	3	2	3
4597		PALE	11 19 1815	N19 W02	11 19.6		B	BXO	20	5	3	3
4597		HOLL	11 19 1845	N19 W04	11 19.5		B	BXO	10	2	3	3
4597	24176	MWIL	11 19 2230	N19 W06	11 19.5	3	(BP)					
4597		LEAR	11 20 0030	N20 W06	11 19.6		B	CRO	40	5	4	2
4597		RAMY	11 20 1159	N19 W13	11 19.5		B	DAO	90	14	5	4
4597	24176	MWIL	11 20 1530	N19 W15	11 19.5	5	(B)					
4597		HOLL	11 20 1724	N18 W16	11 19.5		B	DSO	60	10	5	3
4597		PALE	11 20 1940	N20 W17	11 19.5		B	CSO	90	9	6	3
4597		LEAR	11 21 0006	N18 W20	11 19.5		B	DSO	140	7	7	3
4597		MANI	11 21 0130	N19 W21	11 19.5			DAO	130	8	7	3
4597		ATHN	11 21 0940	N19 W25	11 19.5		B	DSO	100	6	7	3
4597		RAMY	11 21 1246	N18 W27	11 19.5		B	DAO	130	18	9	3

60
Nov 84

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

NOVEMBER 1984

NOAA/ USAF Region	Mt Wilson Region	Sta	Mo	Day	Observation Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4597		BOUL	11	21	1547	N20	W27	11	19.6		B	DAO	60	7	7	2
4597		HOLL	11	21	1611	N18	W29	11	19.5		B	DSO	140	8	7	3
4597		PALE	11	21	1850	N20	W29	11	19.6		B	DSO	110	11	7	3
4597		MANI	11	21	2307	N19	W34	11	19.4			DAO	180	12	7	2
4597		LEAR	11	22	0034	N19	W35	11	19.4		B	DAO	120	14	7	3
4597		ATHN	11	22	0715	N20	W38	11	19.4		B	DSO	110	5	7	3
4597		RAMY	11	22	1313	N19	W43	11	19.3		BD	CAO	80	6	6	4
4597		HOLL	11	22	1804	N19	W44	11	19.4		B	CSO	60	5	6	3
4597		BOUL	11	22	1950	N20	W44	11	19.5		B	CAO	100	6	5	3
4597		LEAR	11	23	0003	N20	W47	11	19.4		B	CSO	80	10	6	3
4597		ATHN	11	23	0700	N22	W49	11	19.5			DSO	140	5	7	2
4597		RAMY	11	23	1235	N18	W54	11	19.4		BD	DAO	80	12	8	4
4597	24176	MWIL	11	23	1630	N19	W57	11	19.2	5	(B)					
4597		BOUL	11	23	1825	N19	W57	11	19.4		B	CSO	50	4	6	3
4597		PALE	11	23	1928	N23	W58	11	19.3		B	DAO	120	6	7	2
4597		LEAR	11	24	0009	N18	W58	11	19.6		BG	CAO	60	4	6	3
4597		ATHN	11	24	0645	N19	W64	11	19.4		B	DSO	80	5	9	2
4597		RAMY	11	24	1620	N18	W71	11	19.3		B	CAO	70	3	8	2
4597		PALE	11	24	1921	N22	W74	11	19.1		B	CAO	80	4	5	2
4597		BOUL	11	24	2000	N19	W71	11	19.4		B	HSX	50	2	2	3
4597		LEAR	11	25	0100	N19	W77	11	19.2		B	CSO	30	2	3	2
4597		RAMY	11	25	1627	N18	W89	11	18.9		A	HAX	20	1	2	3
4599		ATHN	11	21	0940	S12	W17	11	20.1		A	HRX	20	1	1	3
4599		RAMY	11	21	1246	S12	W18	11	20.2		A	AXX	10	1	1	3
4599		HOLL	11	21	1611	S12	W21	11	20.1		A	AXX		1		3
4599		PALE	11	21	1850	S10	W23	11	20.1		A	AXX		1		3
4599		RAMY	11	22	1313	S11	W32	11	20.1		B	CAO	20	3	3	4
4599		HOLL	11	22	1804	S12	W33	11	20.3		A	AXX		1		3
4599		PALE	11	22	1820	S10	W35	11	20.1		B	BXO	10	2	4	3
4599		LEAR	11	23	0003	S11	W37	11	20.2		B	BXO	10	6	4	3
4599		ATHN	11	23	0700	S09	W39	11	20.4			BXO	20	2	3	2
4599		RAMY	11	23	1235	S11	W45	11	20.1		B	DAO	20	4	3	4
4598	24177	HOLL	11	19	1845	S10	E86	11	26.2		A	AXX	30	1	2	3
4598		MWIL	11	19	2230	S12	E81	11	26.0	2	(AP)					
4598		LEAR	11	20	0030	S11	E81	11	26.1		A	HSX	40	1	2	2
4598	24177	RAMY	11	20	1159	S12	E76	11	26.2		B	DSO	200	2	8	4
4598		MWIL	11	20	1530	S12	E75	11	26.3	3	(B)					
4598		HOLL	11	20	1724	S12	E75	11	26.4		B	DSO	260	2	10	3
4598		PALE	11	20	1940	S15	E74	11	26.4		B	DHO	240	2	10	3
4598		LEAR	11	21	0006	S12	E73	11	26.5		B	EHO	100	2	11	3
4598		MANI	11	21	0130	S13	E73	11	26.6			EHO	650	2	11	3
4598		ATHN	11	21	0940	S12	E75	11	27.1		B	ESO	190	2	10	3
4598		RAMY	11	21	1246	S12	E65	11	26.4		BGD	EHO	250	2	11	3
4598		BOUL	11	21	1547	S12	E62	11	26.3		B	ESO	260	2	11	2
4598		HOLL	11	21	1611	S12	E63	11	26.4		B	EHO	280	2	11	3
4598		PALE	11	21	1850	S14	E61	11	26.4		B	EHO	250	2	11	3
4598		MANI	11	21	2307	S11	E58	11	26.3			EHO	380	2	12	2
4598		LEAR	11	22	0034	S12	E58	11	26.4		BG	EHO	140	2	11	3
4598		RAMY	11	22	1313	S13	E52	11	26.5		BGD	DHO	290	6	10	4
4598		HOLL	11	22	1804	S11	E49	11	26.4		B	DHO	210	2	10	3
4598		PALE	11	22	1820	S14	E49	11	26.5		B	EHO	380	4	13	3
4598		BOUL	11	22	1950	S12	E46	11	26.3		B	DSO	300	3	10	3
4598		LEAR	11	23	0003	S11	E46	11	26.5		B	EHO	240	5	11	3
4598		ATHN	11	23	0700	S12	E42	11	26.5			EHO	340	6	12	2
4598	24177	RAMY	11	23	1235	S13	E39	11	26.5		BGD	EKO	360	13	12	4
4598		MWIL	11	23	1630	S12	E32	11	26.1	6	(B)					
4598		BOUL	11	23	1825	S11	E35	11	26.4		B	DSO	150	5	10	3
4598		PALE	11	23	1928	S14	E34	11	26.4		BG	EHO	250	7	11	2
4598		LEAR	11	24	0009	S11	E32	11	26.4		B	EHO	220	7	11	3
4598		ATHN	11	24	0645	S11	E28	11	26.4		B	EHO	330	8	11	2
4598		RAMY	11	24	1620	S12	E24	11	26.5		BGD	EKO	340	12	11	2
4598		PALE	11	24	1921	S13	E22	11	26.5		BG	EKO	330	11	11	2
4598		BOUL	11	24	2000	S11	E19	11	26.3		B	DSO	180	9	9	3
4598		LEAR	11	25	0100	S11	E19	11	26.5		B	EHO	300	17	11	2
4598		ATHN	11	25	0700	S10	E15	11	26.4			EHO	220	16	11	3
4598	24177	RAMY	11	25	1627	S11	E11	11	26.5		BG	EKO	390	37	11	3
4598		MWIL	11	25	1930	S11	E08	11	26.4	6	(B)					
4598		HOLL	11	25	2201	S11	E08	11	26.5		BG	EKO	390	10	12	2
4598		LEAR	11	26	0100	S12	E05	11	26.4		BGD	EKO	330	18	12	2

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

61
Nov 84

NOVEMBER 1984

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4598		RAMY	11 26 1251	S12 W01	11 26.5							
4598		HOLL	11 26 1522	S11 W02	11 26.5		BG	EKO	490	31	11	3
4598	24177	MWIL	11 26 1600	S11 W04	11 26.4	6	(B)	EKO	390	14	11	3
4598		PALE	11 26 2215	S12 W07	11 26.4		BG	EKO	420	11	14	2
4598		LEAR	11 27 0017	S12 W07	11 26.5		BGD	EHO	370	15	13	3
4598		ATHN	11 27 0645	S11 W12	11 26.4		BG	EHO	460	12	13	2
4598		RAMY	11 27 1231	S12 W14	11 26.5		BG	EKO	490	26	13	4
4598		BOUL	11 27 1538	S08 W18	11 26.3		B	DHI	230	18	10	2
4598	24177	HOLL	11 27 1556	S12 W15	11 26.5		BGD	EKO	530	18	13	3
4598		MWIL	11 27 1600	S13 W15	11 26.5	5	(B)					
4598		LEAR	11 28 0018	S12 W21	11 26.4		BGD	EHO	350	13	12	3
4598		MANI	11 28 0049	S11 W21	11 26.5			EHO	360	15	13	3
4598		ATHN	11 28 1015	S11 W24	11 26.6			EKO	380	6	13	1
4598		RAMY	11 28 1345	S13 W26	11 26.6		BGD	EKO	360	16	14	3
4598		BOUL	11 28 1544	S09 W26	11 26.7		B	DSO	120	13	10	2
4598		HOLL	11 28 1554	S12 W28	11 26.6		BG	EHO	340	13	14	3
4598		PALE	11 28 1804	S11 W30	11 26.5		BGD	EKO	280	17	14	3
4598		MANI	11 29 0039	S11 W33	11 26.5			EKO	370	11	12	3
4598		LEAR	11 29 0205	S11 W34	11 26.5		BG	ESO	220	7	12	2
4598	24177	RAMY	11 29 1314	S12 W41	11 26.5		BG	EKO	330	9	12	3
4598		MWIL	11 29 1530	S12 W43	11 26.4	5	(B)					
4598		HOLL	11 29 1636	S11 W42	11 26.5		B	ESO	190	7	11	3
4598		BOUL	11 29 1727	S11 W42	11 26.6		B	ESO	170	8	12	3
4598		PALE	11 29 1800	S09 W44	11 26.4		B	EA0	190	9	12	3
4598		LEAR	11 30 0012	S08 W47	11 26.5		BG	EHO	220	7	12	3
4598		RAMY	11 30 1340	S12 W54	11 26.5		B	EA0	350	3	11	3
4598	24177	HOLL	11 30 1626	S12 W55	11 26.5		B	ESO	100	3	11	2
4598		MWIL	11 30 1630	S12 W57	11 26.4	5	(B)					
4598		PALE	11 30 1750	S10 W57	11 26.5		B	EA0	160	5	12	4
4598		LEAR	12 01 0055	S12 W60	11 26.5		B	ESO	60	3	11	2
4598		RAMY	12 01 1238	S12 W67	11 26.5		B	EA0	90	3	12	4
4598	24177	BOUL	12 01 1535	S07 W68	11 26.6		B	DSO	70	3	10	1
4598		MWIL	12 01 1630	S12 W69	11 26.5	5	(B)					
4598		HOLL	12 01 1755	S12 W75	11 26.1		B	DKO	100	4	15	2
4598		PALE	12 01 1845	S09 W71	11 26.5		B	EA0	110	4	13	3
4598		MANI	12 02 0016	S12 W73	11 26.5			ESO	190	4	11	2
4598		LEAR	12 02 0020	S12 W72	11 26.6		B	ESO	60	4	11	2
4598	24177	HOLL	12 02 1614	S12 W79	11 26.7		B	BX0		2	4	3
4598		MWIL	12 02 1630	S11 W78	11 26.8	3	(B)					
4598		BOUL	12 02 1645	S09 W75	11 27.1		A	HSX	30	2	12	3
4598		PALE	12 02 1915	S08 W77	11 27.0		B	BX0	20	2	14	2
4598A		LEAR	11 25 0100	S12 E33	11 27.5							
4598A		ATHN	11 25 0700	S11 E27	11 27.3		A	AXX	10	1	1	2
								AXX	10	1	1	3
4600		ATHN	11 24 0645	S10 E50	11 28.0		B	BX0	20	3	3	2
4600		RAMY	11 24 1620	S11 E46	11 28.1		B	CRO	80	7	5	2
4600		PALE	11 24 1921	S13 E43	11 28.1		B	CRO	70	5	5	2
4600		BOUL	11 24 2000	S11 E42	11 28.0		B	DSO	40	3	5	3
4600		LEAR	11 25 0100	S11 E40	11 28.1		B	CRO	50	6	6	2
4600		ATHN	11 25 0700	S11 E35	11 27.9			CRO	40	7	5	3
4600	24178	RAMY	11 25 1627	S11 E33	11 28.2		B	DAO	80	11	7	3
4600		MWIL	11 25 1930	S10 E28	11 27.9	5	(B)					
4600		HOLL	11 25 2201	S12 E28	11 28.0		B	DSO	80	6	8	2
4600		LEAR	11 26 0100	S12 E27	11 28.1		B	CRO	40	9	6	2
4600		RAMY	11 26 1251	S11 E20	11 28.0		B	DAO	60	9	6	3
4600	24178	HOLL	11 26 1522	S12 E18	11 28.0		B	DSO	60	8	7	3
4600		MWIL	11 26 1600	S11 E19	11 28.1	6	(B)					
4600		PALE	11 26 2215	S13 E14	11 28.0		B	DAO	60	4	7	2
4600		LEAR	11 27 0017	S11 E15	11 28.1		B	CSO	40	7	8	3
4600		ATHN	11 27 0645	S09 E13	11 28.3		B	CSO	400	5	8	2
4600		RAMY	11 27 1231	S12 E07	11 28.0		B	DAO	60	8	8	4
4600		BOUL	11 27 1538	S09 E04	11 28.0		B	BX0	30	6	6	2
4600	24178	HOLL	11 27 1556	S12 E04	11 28.0		B	CSO	40	4	7	3
4600		MWIL	11 27 1600	S11 E05	11 28.0	5	(B)					
4600		LEAR	11 28 0018	S11 W01	11 27.9		B	CSO	40	4	8	3
4600		MANI	11 28 0049	S11 W00	11 28.0			CSO	60	4	8	3
4600		ATHN	11 28 1015	S11 W07	11 27.9		B	HSO	30	2	2	1
4600		RAMY	11 28 1345	S12 W11	11 27.7		B	DAO	40	4	3	3
4600		BOUL	11 28 1544	S09 W15	11 27.5		A	AXX	10	2	2	2
4600		HOLL	11 28 1554	S12 W13	11 27.7		B	BX0	20	3	2	3

62
Nov 84

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

NOVEMBER 1984

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time		Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10 ⁻⁶ Hemi)	Spot Count	Long. Extent (Deg)	Qual
4600		PALE	11	28	1804	S12 W15	11	27.6		A	HRX	20	3	2	3
4600		MANI	11	29	0039	S12 W18	11	27.7			CRO	20	3	3	3
4600		LEAR	11	29	0205	S11 W17	11	27.8		B	BX0	10	4	4	2
4600		RAMY	11	29	1314	S12 W22	11	27.9		B	CA0	20	4	6	3
4600	24178	MWIL	11	29	1530	S11 W25	11	27.8	3	(B)					
4600		HOLL	11	29	1636	S12 W24	11	27.9		B	BX0	10	3	7	3
4600		PALE	11	29	1800	S10 W26	11	27.8		B	BX0	10	3	7	3
4600		RAMY	12	01	1238	S10 W47	11	28.0		A	AXX		1		4
4600		MANI	12	02	0016	S11 W64	11	27.2			AXX	20	1	1	2
4600		LEAR	12	02	0020	S12 W55	11	27.9		A	AXX	10	1	1	2
4600		HOLL	12	02	1614	S12 W65	11	27.8		B	BX0		2	2	3
4600	24180	MWIL	12	02	1630	S11 W65	11	27.8	3	(AP)					
4600A		RAMY	12	03	1410	S01 W75	11	28.0		A	AXX	10	1	1	3

S U D D E N I O N O S P H E R I C D I S T U R B A N C E S

63
Nov 84

November 1984

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide- spread Index	Number of Station Reports by Type					Known Flare	X-ray Class	NOAA/SESC Region
						SWF	SEA	SPA	LF- SPA	SES			
01	0047	0051	0057D	1-	1				1		No Flare		
04	0907	0931U	0959	1	1		1				No Flare		
05	1245		1300		1		1				No Flare		
07	0553	0555	0557	1-	1				1		No Flare		
07	0612	0615	0619	1-	1				1		No Flare		
10	0432	0441	0733	3	3		1	1	1	1	0432 UT	M2.1	4592
10	1208	1218	1251	1	1		2				No Flare		
10	1315	1327	1510	1-	3		1	1			1305 UT	C1.8	No data
10	2004	2012	2107	2	5	1		2		9	2000 UT		4592
11	2240	2248	2311	1-	1			1			2241 UT	C1.0	4592
12	0829	0834	0910	2	1				1		No Flare		
12	0913	0927U	0959	1-	1		1				No Flare		
12	0955	1013	1106	1-	3		1	1			0952 UT	C4.5	4592
13	0440		0530		1		1				No Flare		
14	0120	0130	0140U	1-	1				1		No Flare		
20	1329	1343	1424	2+	3					3	No Flare		
21	1128	1132	1140	1-	3	1		1		1	1120 UT	C3.8	4598
22	0514	0520	0542	1-	1			1			0514 UT		No data
22	1400	1405	1442	1-	1		1				*		
23	1101	1119	1200	1-			1				No Flare		
25	2316	2321	2338	1-	1			1			2315 UT		4598
27	0054	0110	0149	1-	1			1			0059 UT		4598
27	0218	0225	0310	1-	3			1	1		0218 UT	C2.0	4598
27	0448	0456	0552	1-	3			1	1		0449 UT	C1.2	4598
27	0622	0636	0752	1	3			1	1		0622 UT	C2.5	4598
27	0837	0906U	0923	1-	1		1			1	No Flare		
27	1053	1101	1154	1-	3		1	2	1	2	1050 UT		No data
27	1507	1526	1526D	1-	1			1			1508 UT	C1.9	4598
27	1528	1547	1635	1-	1			1		1	No Flare		
27	1600	1645	1730	1	3			1		2	No Flare		
27	1751	1813	1833	1-	1			1			1746 UT		4598
27	1837	1906	2038	1	3			1		1	1838 UT		4598
28	0024	0054	0240	2	1			1			0024 UT		4598
28	0044	0056	0220	2	3	1		1		1	0044E UT		No data
28	0458	0509	0613	1-	3			1	1	2	0457E UT	C1.9	4598
28	0740	0758	0900	2	1				1		No Flare		
29	0756	0812	0850	2	1				1		No Flare		
29	1122	1140	1145	1			2				No Flare		
30	0814	0825	0900	2	1				1		No Flare		

* No flare patrol

64
Nov 84

S U D D E N I O N O S P H E R I C D I S T U R B A N C E S

November 1984

SIDs by NOAA/SESC REGION

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
Region Number																														
4592											2	1	1																	
4598																					1				1		7	2		
X-RAY											2	1	1								1						4	1		
No Flare	1			1	1		2			1		2	1	1						1			1				3	1	2	1
No Flare Patrol																						1								
No Region Data										1												1					1	1		
Event Totals	1		1	1		2				4	1	3	1	1						1	1	2	1		1		11	4	2	1

OBSERVATORIES REPORTING FOR NOV 1984*

Ayrshire, Scotland (AY)	SES	Lintong, China (LT)	SPA
Cleveland, Ohio, USA (A28)	SES	Louisville, Kentucky, USA (A26)	SES
Darmstadt, GFR (DA)	SWF	Maul, Hawaii, USA (MI)	SWF
Durban, South Africa (A58)	SES	Panska Ves, Czechoslovakia (PU)	SEA, SWF, SES
Edenvale, South Africa (A52)	SES	Paterson, New Jersey, USA (A46)	SES
Glenorchy, Tasmania, Australia (GN)	SES	Sao Paulo, Brasil (UM)	SPA, SES
Hiraiso, Japan (HI)	SWF	St. Cloud, Minnesota, USA (SC)	SES
Hobart, Tasmania, Australia (TA)	SEA	Tavares, Florida, USA (A49)	SES
Houston, Texas, USA (A50)	SES	Tournai, Belgium (TB)	SES
Inubo, Japan (IN)	SPA	Tucson, Arizona, USA (A9)	SES
Juliusruh, GDR (JU)	SWF	Upice, Czechoslovakia (UI)	SEA
Kuhlungsborn, GDR (KU)	SPA, SEA	Valley Cottage, New York, USA (A01)	SES
Lake Hiawatha, New Jersey, USA (A32)	SES	Vsetin, Czechoslovakia (VS)	SEA
Latrobe, Pennsylvania, USA (A19)	SES		

*Observations are not necessarily continuous for each station

SOLAR RADIO EMISSION SPECTRAL OBSERVATIONS

65
Nov 84

NOVEMBER 1984

Observation				Decimetric Band			Metric Band			Dekametric Band			Spectral Type
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)	
01	0000	0716	CULG										
	0647	1530	WEIS										
	2016	2400	CULG										
02	0000	0640	CULG				0159.0	0159.5	1				IIIG
			LEAR				0200.0	0200.3	1				III
			CULG				0201.0		2				IIIB
			CULG				0201.0	0202.0	1				IIIG
	0848	1237	WEIS										
	1245	1527	WEIS										
	2016	2400	CULG				2018.5	2021.5	2				IIIG
03	0000	0716	CULG				0021.0	0045.0	3				II
			PALE				0022.0	0023.1	1				V
			LEAR				0027.1	0045.1	2				II
			PALE				0104.8	0105.0	1				III
	0725	1525	WEIS										
	2016	2400	CULG										
04	0000	0600	CULG										
	0648	1523	WEIS										
			PALE				1724.0	1728.1	2				III
	2020	2400	CULG										
05	0000	0713	CULG										
	0649	0740	WEIS										
	0745	1522	WEIS										
	2016	2400	CULG										
06	0000	0716	CULG										
	0721	1024	WEIS										
	1118	1520	WEIS										
	2016	2400	CULG										
07	0000	0716	CULG										
	0655	1051	WEIS										
	1100	1237	WEIS										
	1330	1518	WEIS										
	2016	2400	CULG				2058.5		1				IIIB
08	0000	0716	CULG										
	0655	1259	WEIS										
	1503	1515	WEIS										
	2016	2400	CULG										
09	0000	0510	CULG										
	0634	1553	BLEN										
	0703	1450	WEIS										
	2016	2400	CULG										
10	0000	0716	CULG										
			LEAR				0435.6	0451.5	3				II
			CULG				0438.0	0512.5	3				II ,H
			CULG				0438.0	0547.0	1				IV
			LEAR				0451.5	0830.0	1				IV
	0634	1553	BLEN	1316.5	1410.5	1	1316.5	1410.5	1				IV
			BLEN	1316.7	1318.4	2	1316.7	1318.4	2				III,G
	0842	1512	WEIS				1316.7	1318.4	4				DCIM
			PALE				2005.0	2011.0	1				V
			SGMR				2007.0	2018.3	1				II
			PALE				2010.0	2021.0	1				III
			CULG				2016.0	2400.0	1				IS,C
	2016	2400	CULG				2016.0	2109.5	2				II ,H
11	0000	0716	CULG				0000.0	0519.0	1				IS,C
	0644	1505	BLEN										
	0701	1510	WEIS										
			SGMR				1704.6	1704.8	1				V
			PALE				1705.8	1716.8	1				V
			SGMR				1816.8	1817.1	1				III
			PALE				2111.8	2112.1	1				III

66
Nov 84

SOLAR RADIO EMISSION SPECTRAL OBSERVATIONS

NOVEMBER 1984

Observation			Decimetric Band			Metric Band			Dekametric Band			Spectral	Type	
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)
11			LEAR				2245.8	2247.1	1				III	
12	0055	0715	CULG				0413.0	0413.5	1				IIIG	
			CULG				0449.5	0450.0	2				IIIG	
			CULG				0452.0	0453.0	1				IIIG	
			CULG				0548.5		1				IIIB	
	0644	0807	BLEN											
			LEAR				0722.8	0723.3	1				III	
	0706	1218	WEIS				0724.1	0724.3	1				IIIG	
			WEIS				0919.0	0919.2	1				IIIG	
			WEIS				1012.9	1013.2	1				IIIB	
			WEIS				1014.7	1017.4	2				IIIGG	
			LEAR				1015.8	1016.3	1				III	
			WEIS				1021.6	1021.8	1				IIIG	
			WEIS				1023.1	1023.7	3				IIIG	
			WEIS				1026.6	1026.7	2				IIIB	
			WEIS				1137.1	1138.1	3				IIIG	
	1241	1509	WEIS				1347.3	1350.2	1				IIIGG	
			WEIS				1438.4	1440.7	2				IIIGG	
			SGMR				1438.8	1440.8	1				V	
			SGMR				1520.8	1524.5	1				V	
	2020	2203	CULG				2155.0	2156.0	1				IIIG	
13	0035	0716	CULG											
	0705	1508	WEIS											
	0716	1455	BLEN											
	2016	2400	CULG				2313.5		1				IIIB	
			CULG				2315.0		1				IIIB	
14	0000	0716	CULG											
	0803	1030	BLEN											
	0712	1506	WEIS				1141.4	1141.5	1				IIIB	
			WEIS				1144.6	1144.7	1				IIIB	
			WEIS				1451.7	1453.6	1				IIIG	
			WEIS				1459.4	1459.5	1				IIIB	
			PALE				1757.3	1800.8	1				V	
	2016	2400	CULG											
			PALE				2230.6	2231.1	1				III	
15	0000	0716	CULG											
	0700	1455	BLEN											
	0713	0900	WEIS											
	0907	1505	WEIS											
	2016	2400	CULG											
16			LEAR				0552.3	0553.8	1				V	
	0000	0716	CULG				0553.0	0553.0	2	0553.5	0556.0	1	IIIG	
	0702	1450	BLEN											
	0712	0756	WEIS											
	0759	1504	WEIS				1402.3	1405.2	1				IIIG	
			WEIS				1413.2	1414.7	2				IIIG	
			WEIS				1418.1	1426.8	2				II HARM	
	2016	2400	CULG											
17	0000	0717	CULG											
	0704	1450	BLEN											
			LEAR				1001.5	1002.3	1				III	
	0800	1415	WEIS				1002.8	1003.9	3				IIIG	
	2016	2400	CULG											
			LEAR				2152.8	2154.1	1				III	
18	0000	0717	CULG											
	0705	1450	BLEN											
	0715	1501	WEIS											
	2017	2400	CULG				2052.5	2053.0	2				IIIG	
			CULG				2213.5	2214.0	2				IIIB	
			CULG	2329.5	2330.0	2	2329.5	2330.0	3				IIIB	
			LEAR				2329.6	2300.0	2				III	
			LEAR				2353.3	2353.8	1				III	
			CULG				2353.5	2354.0	2	2353.5	2354.0	1	IIIG	
19	0000	0717	CULG				0024.5	0113.0	1				IIIS	

67
Nov 84

NOVEMBER 1984

Observation			Decimetric Band			Metric Band			Dekametric Band			Spectral Type	
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)
19			LEAR				0027.5	0028.3	1				III
			LEAR				0030.0	0030.8	1				III
			LEAR				0039.3	0113.6	1				G
			CULG				0039.5	0102.0	2				IIIIGG
			CULG				0309.0		1				IIIB
			CULG				0459.5		1				IIIB
			LEAR				0459.6	0459.8	1				III
			CULG				0540.0	0542.0	1				IIIB
0705	1450		BLEN				0945.1	0945.9	1				III,G
			BLEN				1048.2	1450.00	1				I,N
			BLEN				1307.3	1307.5	1				III
0646	1500		WEIS				1307.3	1307.7	2				IIIIG
			SGMR				1436.1	1436.3	1				III
			WEIS				1436.1	1436.3	1				IIIB
2017	2400		CULG				2017.5	2200.0	1				IS
			CULG				2139.0	2139.5	2				IIIIG
			CULG				2206.0		1				IIIB,U
			CULG				2213.5	2214.0	2				IIIIG
			LEAR				2353.3	2353.8	1				III
20	0000	0717	CULG				0539.0	0539.5	3				IIIIG
			CULG				0540.5	0541.0	1				IIIIG
			CULG				0550.5	0551.0	2				IIIIG
			CULG				0555.0	0635.0					IS,W
			CULG				0608.0	0608.5	1				IIIIG
			LEAR				0608.0	0608.3	1				III
			CULG				0703.0		1				IIIB
			CULG				0716.0		1				IIIB
			LEAR				0822.6	0823.0	1				III
			LEAR				0845.5	0846.0	1				III
0721	1500		WEIS				0845.5	0845.7	1				IIIIG
0705	1450		BLEN				1207.8	1211.1	2				III,G
			WEIS				1414.2	1414.4	1				DCIM
			BLEN				1415.0	1415.3	1				III,G
			WEIS				1415.9	1416.4	2				DCIM
2030	2400		CULG				2041.0		2				IIIB
21	0000	0718	CULG	0022.5	0023.0	1	0022.5	0023.0	1				IIIIG
			CULG				0118.5		1				IIIB
			CULG				0217.0		1				IIIB,U
			CULG				0226.5	0227.5	1				IS
			LEAR				0253.8	0255.1	1				III
			CULG				0256.0	0256.5	2				IIIIG,V
			CULG				0437.5		2				IIIB
			CULG				0453.0	0453.5	2				IIIIG,U
			LEAR				0454.6	0455.0	1				III
			CULG				0456.0	0457.0	2				IIIIG,U
			CULG				0553.0		1				IIIB
			CULG				0556.0		1				IIIB
			CULG				0558.0		1				IIIIG
			CULG	0637.0		1	0637.0		1				IIIIG
			CULG				0647.0	0648.0	1				IIIIG
			LEAR				0705.3	0705.6	2				III
0705	1430		CULG				0707.0	0707.5	2				IIIB
			BLEN				1019.0	1019.3	2				III,G
0721	1144		BLEN	1122.3	1133.3	2	1122.3	1133.3	3				III,GG
			WEIS				1125.2	1128.4	2				IIIIGG/V
			WEIS				1128.8	1131.6	1				DCIM
1153	1458		WEIS				1131.8	1136.2	2				II HARM
			BLEN	1353.1	1353.3	1	1353.1	1353.3	1				III,G
			SGMR				1520.6	1520.8	1				V
2018	2400		CULG				2200.0		1				IIIB
			CULG				2229.5		1				IIIB
22	0000	0718	CULG				0134.5	0138.5	1				IIIS
			CULG				0423.0	0504.0	1				IIIN
			CULG				0514.0	0517.0	3	0516.0	0516.5	2	IIIIG,V
			LEAR				0515.3	0517.0	2				III
0705	1518		BLEN										
0720	1457		WEIS										

68
Nov 84

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

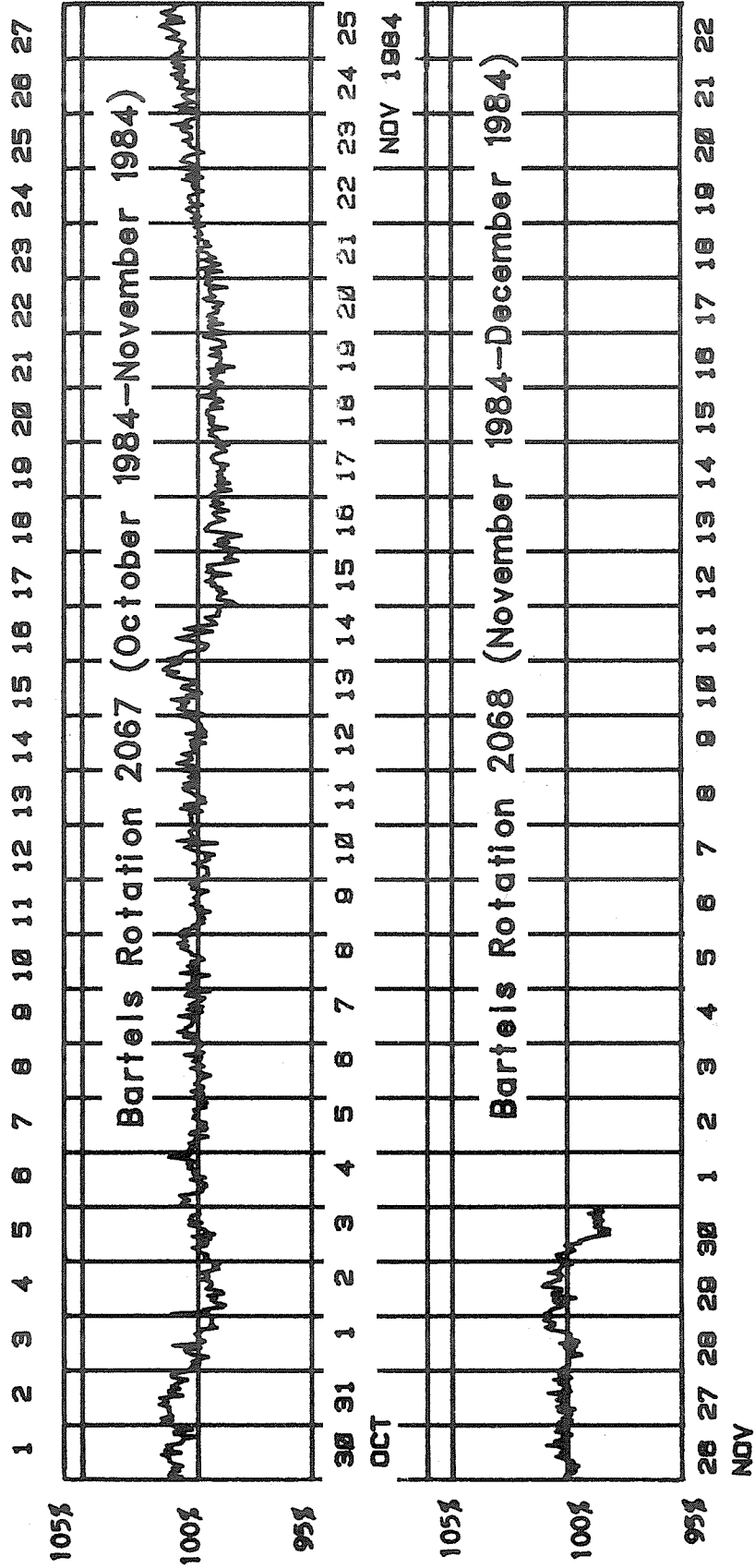
NOVEMBER 1984

Observation			Decimetric Band			Metric Band			Dekametric Band			Spectral Type	
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)
22			SGMR				1230.6	1238.0	1				V
	2021	2400	CULG				2043.0		1				IIIB
			CULG	2349.0		1	2349.0	2350.0	3				IIIG
			CULG				2352.5	2355.5	1				IIIN
23	0000	0718	CULG				0035.0	0054.0	1				IS
			CULG				0048.5	0429.5	1				IIIN
			CULG				0427.0	0517.0	1				IS
			CULG				0439.0	0718.5	2				IIIS
			LEAR				0450.0	0803.0	1				CONT
			CULG				0457.0		3				IIIB,U
			CULG				0517.0	0718.5	2				IS
	0705	0843	BLEN										
	0721	1456	WEIS				1144.2	1144.3	1				IIIB
			WEIS				1225.7	1225.9	2				IIIB,U
			CULG				2018.0	2055.5	1				IIIS
	2018	2400	CULG				2018.0	2056.0	2				IS
			CULG				2056.0	2358.5					IIIS,W
			CULG				2056.0	2400.0	1				IS
			CULG				2259.5	2300.0	1				IIIG
24	0000	0719	CULG				0000.0	0719.0	1				IS
			CULG				0018.0	0719.0	1				IIIS
			CULG	0019.0	0019.5	2	0019.0	0019.5	2				IIIG
			LEAR				0019.0	0019.6	1				III
			LEAR				0020.0	0632.0	1				CONT
			CULG				0024.0	0024.5	2				IIIB
			CULG				0045.0	0647.5	2				IIIN
			LEAR				0647.5	0647.8	1				III
			LEAR				0759.6	0800.0	1				III
	0724	0805	WEIS				0759.7	0759.9	1				IIIG
			LEAR				0834.1	0834.8	1				III
	0810	1455	WEIS				0834.3	0834.4	2				IIIB
			WEIS				0927.8	0928.3	1				IIIG
			WEIS				1028.4	1028.6	1				IIIG
			WEIS				1137.3	1137.4	2				IIIB
			WEIS				1206.5	1207.3	1				IIIG
			WEIS				1218.4	1218.8	3				IIIG
			WEIS				1340.9	1341.6	3				RS
	0705	1513	BLEN				1341.5	1341.7	3				III,RS
			BLEN				1430.3	1450.5	2				III,GG
			WEIS				1445.5	1449.6	3				IIIG
			WEIS				1451.5	1451.6	1				IIIB
			SGMR				1454.3	1456.6	1				V
			WEIS				1454.6	1455.0	3				IIIG
			SGMR				1802.8	1805.6	1				V
			SGMR				1831.6	1832.3	1				V
			SGMR				1923.5	1924.6	1				V
			CULG				2019.0	2145.0	1				IS,C,DC
	2019	2400	CULG				2019.0	2045.0	1				IIIS
			CULG				2024.0	2045.0	2				IIIN
			CULG				2026.0		3				IIIB
			CULG				2045.0	2107.0	2				IS
			CULG				2045.0	2152.0	2				IIIS
			CULG				2107.0	2225.0	3				IS,C,DC
			CULG				2152.0	2225.0	1				IIIS
			CULG				2225.0	2237.5	2				IS,C,DC
			CULG				2225.0	2400.0					IIIS,W
			CULG				2237.5	2400.0	1				IS
			CULG				2239.5	2240.5	2				IIIG
			CULG				2328.0	2328.5	2				IIIB,U
25			CULG				0000.0	0112.5					IS,W
	0000	0718	CULG				0000.0	0130.0					IIIS,W
			CULG				0018.0	0019.0	1				IIIG
			LEAR				0019.5	0020.5	1				III
			CULG				0021.5	0336.5	1				IIIN
			LEAR				0026.5	0027.3	1				III
			LEAR				0027.0	1032.0	1				CONT
			CULG				0049.5	0050.0	2				IIIG
			LEAR				0054.6	0055.3	1				III

69
Nov 84

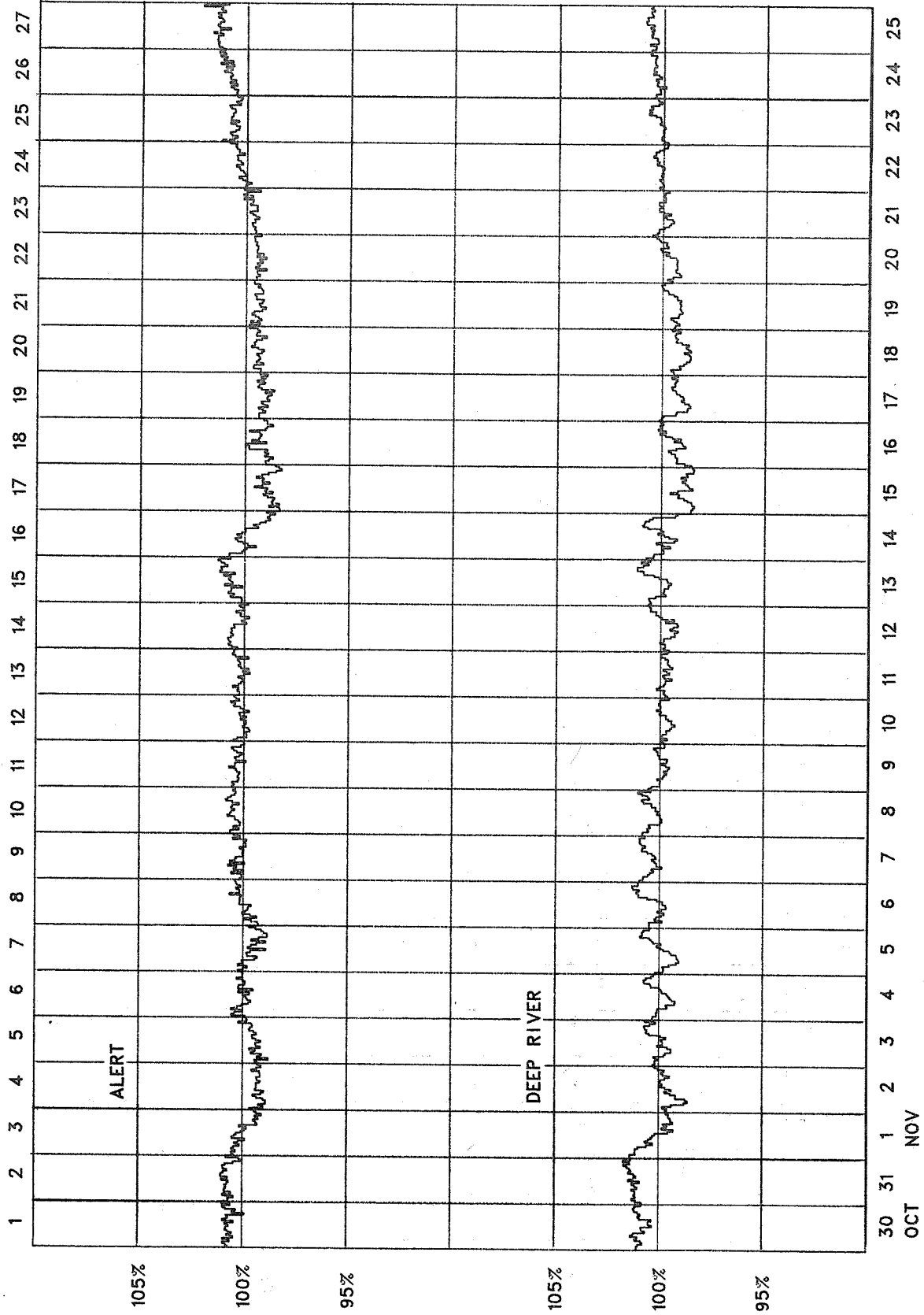
Observation			Decimetric Band			Metric Band			Dekametric Band			Spectral Type	
Day	Start (UT)	End (UT)	Sta	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)	Int (1-3)	Start (UT)	End (UT)		Int (1-3)
25			CULG				0112.5	0436.5	1				IS
			CULG				0130.0	0252.0	1				IIIS
			CULG				0146.5	0358.5	2				IIIN
			CULG	0317.5	0318.0	1							IIIG
			LEAR				0317.6	0319.0	2				III
			CULG				0318.0	0319.5	3	0318.0	0319.5	3	IIIG,V
			CULG				0645.5	0646.0	2				IIIB,U
			CULG				0706.5		1				IIIB
			CULG				0708.0		1				IIIB
			CULG				0710.0	0710.5	2				IIIB,V
			LEAR				0710.0	0716.1	2				III
			CULG				0714.5	0716.0	2				IIIG,V
0800	1513		BLEN				0823.0	1513.0D	2				I,DC,N
			WEIS				0831.0	1312.0	2				IN
0724	1454		WEIS				0935.0	0937.0	3				IIIGG
2019	2400		CULG				2019.0	2110.0	1				IS
			CULG				2205.5		2				IIIB,U
26	0000	0719	CULG				0310.0	0503.5	1				IS
			CULG				0317.5		2	0317.5		1	IIIG
			LEAR				0317.6	0317.8	1				III
	0726	1323	WEIS										
	0800	0905	BLEN										
	1318	1520	BLEN										
	1338	1453	WEIS										
	2019	2400	CULG				2125.0	2304.5	1				IN
27	0000	0718	CULG				0034.5	0104.0	1				IN
			CULG				0114.5	0116.0	3	0115.0	0115.5	2	IIIG,U
			LEAR				0114.8	0115.6	2				III
			PALE				0114.8	0115.5					III
			CULG				0218.0	0220.0	3	0219.0	0220.0	2	IIIG,V
			LEAR				0218.8	0220.1	2				III
			LEAR				0257.8	0258.1	1				III
			CULG	0259.0		1	0259.0		3	0259.0		1	IIIB
			CULG				0447.0	0448.0	1				IIIG
			LEAR				0447.3	0451.3	2				III
			CULG	0450.5	0451.5	1	0450.0	0451.5	3	0450.0	0451.0	2	IIIG,V
			LEAR				0620.8	0622.3	2				III
			CULG				0621.0	0622.5	3	0621.0	0622.0	2	IIIG,V

THULE NEUTRON MONITOR



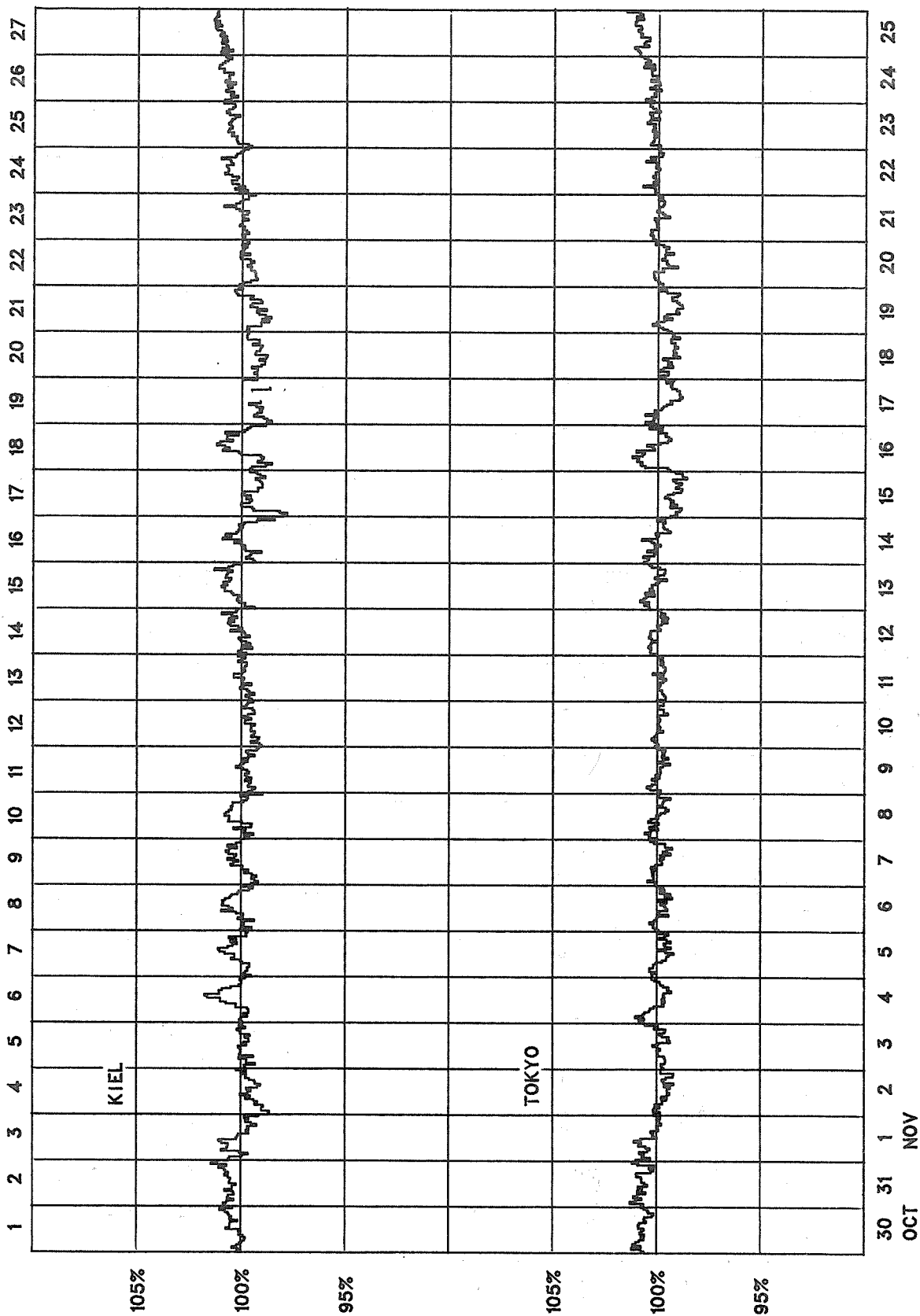
COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2067 (October 1984–November 1984)



COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2067 (October 1984–November 1984)



COSMIC RAY INDICES
(Neutron Monitor)

73
Nov 84

November 1984

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	PREDIGTSTUHL Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4196	6726.0	6483.9	5844.1	3836.3	1170	3576.0	
2	4176	6678.6	6443.3	5805.9	3786.5	1162	3552.1	
3	4195	6694.0	6476.9	5830.4	3822.2	1166	3556.9	
4	4211	6731.8	6471.1	5859.7	3829.8	1168	3565.5	
5	4200	6698.3	6466.5	5847.7	3818.6	1168	3556.5	
6	4196	6729.0	6497.4	5849.7	3819.1	1169	3557.3	
7	4208	6743.0	6506.4	5841.4	3830.6	1171	3561.6	
8	4213	6762.6	6498.0	5843.5	3831.0	1172	3563.0	
9	4200	6751.3	6467.6	5819.9	3813.5	1168	3560.5	
10	4197	6738.0	6456.8	5810.0	3806.7	1168	3560.8	
11	4209	6743.6	6455.3	5831.3	3811.0	1169	3556.5	
12	4207	6754.0	6455.8	5846.3	3814.1	1173	3566.3	
13	4226	6777.8	6490.0	5865.1	3823.6	1174	3571.4	
14	4193	6711.8	6475.0	5830.6	3814.9	1166	3566.8	
15	4158	6650.4	6391.1	5795.8	3773.6	1160	3532.4	
16	4160	6675.3	6436.5	5835.5	3845.3	1178	3571.5	
17	4159	6672.0	6423.2	5789.3(13)	3808.4	1161	3550.0	
18	4172	6690.6	6409.7	5797.1(12)	3793.9	1155	3542.2	
19	4163	6690.8	6432.8	5795.6	3796.6	1156	3543.4	
20	4172	6690.8	6446.6	5812.8	3793.8	1162	3556.3	
21	4186	6709.1	6467.3	5828.7	3799.2	1154	3564.4	
22	4208	6750.4	6478.5	5842.5	3801.5	1152	3568.9	
23	4213	6770.5	6484.0	5860.2	3810.0	1157	3572.3	
24	4227	6787.7	6492.8	5872.3	3841.2	1162	3574.8	
25	4242	6819.8	6507.4	5884.9	3865.0	1170	3596.0	
26	4254	6838.1	6525.8	5899.6	3884.0	1176	3601.6	
27	4258	6840.8	6528.3	5891.9	3868.8	1167	3597.2	
28	4257	6828.0	6538.8	5888.6	3866.3	1165	3596.7	
29	4269	6845.0	6556.9	5894.4	3874.2	1168	3593.4	
30	4214	6760.0	6475.5	5856.2	3827.0	1166	3573.0	
Mean	4205	6742.0	6474.7	5842.3	3823.6	1166	3566.8	

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

GEOMAGNETIC ACTIVITY INDICES

November 1984

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	D5	3+	3+	6-	6-	4-	2-	2+	3-	28+	27	1.2	3	3-	5-	5	4-	2-	2+	3-	41	34	42	53	24		
2	Q9A	2-	2-	2-	2+	1+	3+	4+	3	19+	12	0.7	2-	2-	2-	2+	1+	3+	4-	3-	21	27	24	13	38		
3		2+	1+	2+	2+	4+	4	4+	3+	24+	18	1.0	2	1	3-	2	4	4-	4-	3	29	33	28	15	46		
4		4-	3	3	4-	3	3-	4-	3+	26	18	1.0	3	3-	3-	3+	3	3-	3	3	27	29	28	27	31		
5		2+	4-	3+	3-	3+	3-	2	1+	21+	13	0.7	2+	3	3-	3-	3+	2	2	1+	21	19	23	23	19		
6		2-	2+	3+	4-	3-	4-	3-	2	22	14	0.8	1+	2-	3	3+	3-	3+	2	2+	23	26	22	23	25		
7		2	4-	2+	2	2+	5	3+	5-	25+	20	1.0	2	3	2-	2	2+	5-	3	4+	33	36	24	19	41		
8		4	4+	4	3+	3+	3+	3-	2	27	20	1.0	4-	4-	4-	3	3	3+	3-	2	32	33	28	36	26		
9		2-	2+	2+	2	3-	3	4	3	21	12	0.7	1+	2	2	2-	3-	3-	4	3	22	27	18	12	34		
10		3+	3	2	1	4+	2	3	5	24-	18	1.0	3	2+	2-	1+	4	3-	3	4	28	35	24	16	43		
11		3	3+	3-	4-	4-	3	2	5	26+	20	1.0	2+	3-	2	3+	4	3-	2+	4+	32	34	25	23	37		
12	Q3A	2	4-	3-	2	1	1-	0+	1-	13+	8	0.4	2+	3	2	2-	1	1	0+	1	11	12	10	18	4 K		
13	Q5A	1	1+	2-	2+	1	3	3	3+	17-	10	0.5	1	1+	2	2	1+	3	3	3	18	25	16	12	30		
14		2+	3	2+	3	4+	2+	3-	3-	23-	14	0.8	2+	2	2	3	4	2+	3	3	28	29	32	22	39		
15	D2	4+	5-	3+	5+	4+	5-	5	7+	39	52	1.6	4-	4	3	5+	4+	4+	5	6	76	79	64	56	88		
16	D1	8-	8	7	7-	6+	5+	6-	5	52-	112	1.9	6	6	6	6+	6	5	5	4	135	113	125	155	82		
17	D4	5+	4+	4+	5-	4+	5	4-	4-	35+	35	1.4	4	3+	3+	4-	4-	5-	3+	3+	46	55	34	43	46		
18		4+	4	5-	3+	3	2-	4-	3	28-	22	1.1	3+	3	4-	3	3-	1+	3+	2+	27	33	28	36	26		
19		4+	4-	4-	2	3-	4	4-	4-	28-	21	1.1	3+	3	3	2-	2+	3+	3+	3	30	40	20	23	38		
20		3+	4	4	3+	4-	3	4-	2+	27+	20	1.0	2+	3	3+	3-	3+	3	3	2+	29	35	25	25	36		
21		3+	4	3+	4	4-	4-	4-	3+	29	22	1.1	3	3-	3-	4-	3+	3+	3+	3	32	33	34	31	36		
22		2	3+	2+	4-	2+	3+	3+	3-	23	14	0.8	2-	3-	3-	3-	3-	3	3+	3-	25	27	22	22	27		
23	Q6A	4-	3	3-	2-	3-	1+	1+	0+	17-	10	0.6	3+	3-	3-	2-	3-	1	1+	1	17	18	19	27	10		
24	Q7A	2	3-	2+	3-	1-	2+	3-	3-	18	10	0.5	3-	2	2+	2+	1	2+	3	2+	18	20	21	19	22		
25	Q8A	3	2-	2	1	1-	2+	3+	3+	17+	10	0.6	2+	1+	1+	1	1-	2+	3+	3	17	28	13	14	27		
26	Q4A	3+	3-	2	1	1+	2	2	1	15+	8	0.4	3-	2+	1+	1+	2-	2-	2+	1-	13	14	12	18	9 K		
27	Q2A	0+	1-	2-	2-	2+	3	2	2-	13+	7	0.3	1-	1-	1+	1+	2+	3	2+	2-	13	18	18	10	26		
28	Q1	3-	1+	2-	2+	1+	1-	1-	1-	11+	6	0.3	2	1	2-	2	1+	1-	1	1-	9	10	7	12	6 C		
29	Q10A	0	2	5	4-	2	1+	2	2-	18-	13	0.7	0+	2+	4	3+	2-	1+	2	2-	20	18	23	29	12		
30	D3	4-	6	6	4-	3+	3	3+	4+	33+	36	1.4	4	5+	5	3+	3+	3-	3-	4-	54	50	47	63	34		
Mean											21	0.89												31.2	33.1	28.6	31.0
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	Sa	R _I	R _a	R _s	IMF		
1		3-	3-	5-	5	4-	2	3-	3-	40		3+	3	5	5	4-	2-	2+	3-	42	69.5	16	11	13	A	-	
2		2-	1+	2-	2+	2-	3+	4-	3-	21		2-	2	2-	2	1	3	4-	3-	21	70.1	14	4	14	T	-	
3		2	1+	3-	2	4	3+	4-	3	29		2	1	3	2+	4	4-	4-	3	30	72.0	11	10	16	T	-	
4		3	3-	2+	3	3	3-	3	3	26		3	3-	3-	3+	3-	2+	3+	3-	28	72.2	14	12	16	AT	-	
5		2	3	3-	3-	4-	2	2	1+	22		2+	3-	3-	3-	3	2-	2	1+	20	71.7	12	5	15	AT	-	
6		1+	2-	3	4-	3-	3+	2+	2+	24		1+	1+	3+	3	3-	3+	2-	2+	22	71.0	0	0	15	T	-	
7		2	3+	2	2	2+	5-	3	4+	34		2	3	2-	2	2+	5-	3	4+	32	70.1	0	0	14	T	-	
8		3+	4-	4-	3+	3+	3	3-	2	34		4-	3	3+	3	3-	3+	3-	2	30	70.5	11	10	14	T	-	
9		1	2	2	1+	3-	3	4-	3-	21		1+	2	2-	2-	3-	3-	4	3+	24	72.7	13	13	17	T	-	
10		3	2+	1+	1	4	3-	3	4+	30		3-	2+	2-	1+	4	2+	3-	4-	27	75.8	21	24	20	T	-	
11		2+	3-	2+	4-	4	3	2	5-	35		3-	2+	2-	3	4-	3-	2+	4	29	73.1	30	21	17	T	-	
12		2+	3	2+	2-	1+	1	1-	1	13		2	3	2	1+	1	1	0+	1-	11	72.8	21	18	17	T	-	
13		1	1+	2	2	1+	3	3	3+	19		1+	2-	2	2	1+	3-	3+	3-	18	71.6	16	13	15	T	-	
14		2	2	2+	3	4+	3-	3+	3+	30		3-	2+	2	3	4-	2	3	3	26	72.0	13	13	16	T	-	
15		4-	4	3-	5	4+	4+	5	6	76		4-	4	3+	5+	4+	4	5	6	77	72.9	13	10	17	A	-	
16		6	7-	6-	6+	6	5	5-	4+	138		6	6-	6	6+	6	5	5+	4-	133	70.7	11	10	14	A	-	
17		4+	4-	4-	4	4	5-	3+	3+	54		4-	3	3+	3+	3+	4	4-	3+	40	71.0	11	10	15	A	-	
18		3+	3	4-	3+	3	2-	3+	3-	31		3	3	3+	3	2	1	3+	2+	25	71.7	13	11	15	T	-	
19		4-	3+	3+	1+	3-	4-	4-	3+	35		3	3-	3-	2-	2	3	3	3	25	72.3	15	17	16	A	-	
20		3-	4-	4-	3	3+	3	3+	2+	33		2+	3-	3-	3-	3+	3	3	3-	25	74.8	27	25	19	T	-	
21		3	3-	2+	4-	3+	3+	3+	3	32		3	3	3-	4-	3	3	3+	3+	32	78.3	36	27	23	A	-	
22		2-	3	2+	3+	3-	3	3+	3-	27		1+	3-	3	3	3-	3	3	2+	24	78.2	36	29	22	A	-	
23		3	2+	2+	2-	3-	1+	1+	1	16		4-	3-	3-	2-	3-	1	2-	1	19	79.3	41	36	24	T	-	
24		2+	2	2+	3-	1	3-	3	2+	19		3-	2+	2+	2	1	2+	3-	2-	18	81.1	47	44	26	T	-	
25		2+	1+	2-	1-	1	3-	3+	3+	18		2+	1+	1+	1+	0+	2+	3+	3	16	83.1	59	49	28	T	-	
26		3-	2+	1+	1+	2-	2	2+	1-	13		3	2+	1+	1+	2-	1+	2+	1-	13	82.5	44	39	27	T	-	
27		1-	1-	1+	2-	2+	3+	3-	2	15		1-	1-	1+	2+	2+	3-	2	2-	14	82.5*	39	40	27	AT	-	
28		2+	1	2	2	2-	1	1-	1-	10		2-	1+	1+	2	1+	0+	1+	0+	8	81.1	34	35	26	-	-	
29		0	2+	5-	3+	2-	2-	2	2-	23		1-	2+	4-	3+	2-	1	2-	2-	18	77.1	30	28	21	-	-	
30		4	5	5+	3+	3+	3	3-	4	54		4+	5+	5	3+	3	3-	3	4-	56	76.4	25	17	21	-	-	
Mean											32.4												30.1	74.6	22.4	19.4	18.6

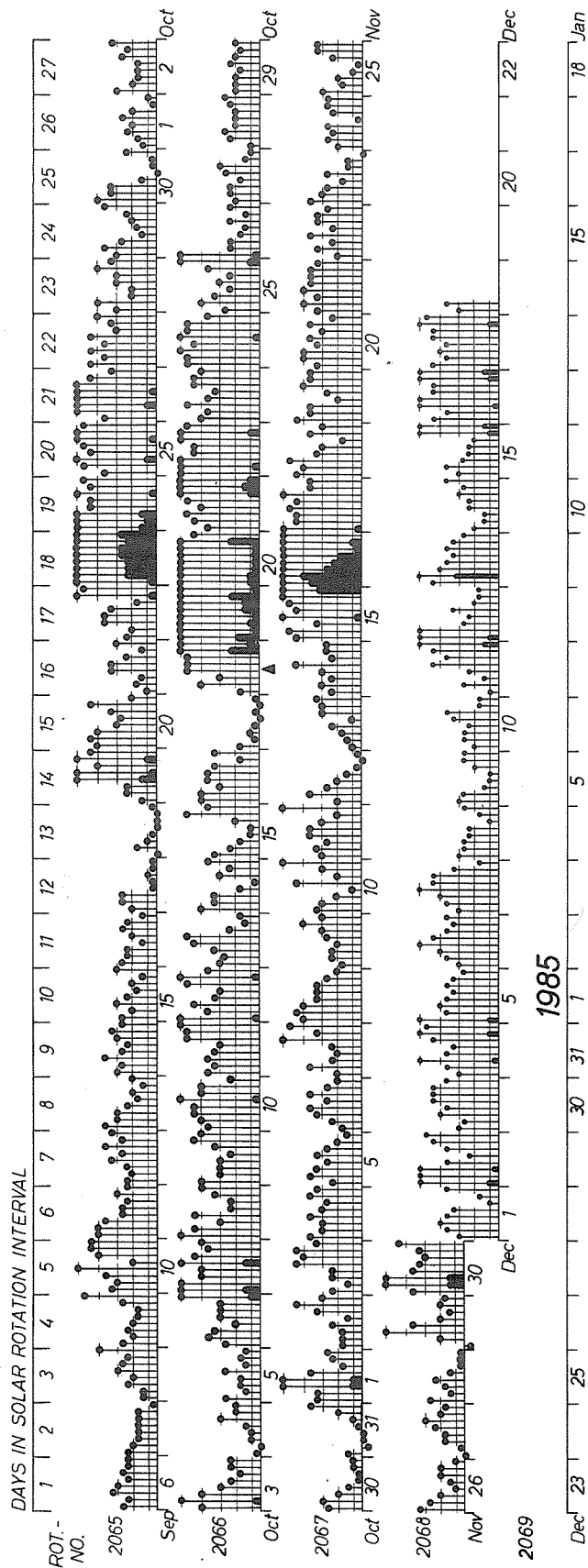
DAILY AVERAGE INDICES Ap

DAY	1983 DEC	1984 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
1	13	28	16	32	34	22	7	14	75	11	7	27
2	8	20	20	38	46	13	12	12	24	12	10	12
3	4	20	19	35	42	12	32	12	14	12	20	18
4	4	30	54	9	84	13	26	12	14	59	6	18
5	16	26	14	4	57	27	19	12	7	63	7	13
6	28	14	8	31	12	10	12	10	4	12	21	14
7	27	5	9	26	25	4	10	7	4	6	43	20
8	11	3	7	29	58	5	10	10	14	11	24	20
9	3	4	9	13	37	19	20	9	17	12	20	12
10	22	14	21	17	8	27	15	14	8	25	29	18
11	33	10	21	9	13	10	11	11	11	17	28	20
12	23	5	12	11	15	12	7	13	15	13	32	8
13	24	9	36	19	15	9	6	62	8	11	17	10
14	24	6	43	6	18	12	4	40	20	14	15	14
15	17	6	19	9	10	9	24	25	22	10	14	52
16	6	6	7	16	4	7	42	25	15	8	19	112
17	6	7	9	22	8	32	11	43	11	6	3	35
18	7	6	17	18	7	12	27	19	6	3	43	22
19	9	19	7	12	12	22	29	14	14	36	75	21
20	5	9	13	4	20	30	16	12	10	21	63	20
21	4	12	14	7	11	44	3	8	3	10	47	22
22	12	12	8	21	5	32	6	9	1	22	46	14
23	11	6	15	18	6	30	11	8	8	112	27	10
24	15	5	10	10	6	30	22	12	23	52	39	10
25	11	10	7	34	33	16	10	8	18	43	22	10
26	16	16	16	16	103	14	8	6	10	42	14	8
27	15	8	34	23	26	7	10	14	36	25	8	7
28	13	22	8	60	17	8	21	18	36	16	8	6
29	9	21	10	52	18	9	12	12	21	12	7	13
30	33	32		29	9	17	12	8	16	11	7	36
31	27	23		25		7		17	12		6	
MEAN	15	13	17	21	25	17	15	16	16	24	23	21

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

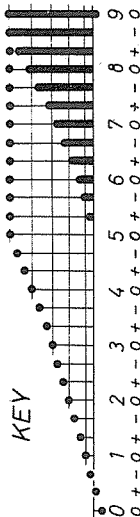
University of Göttingen

Kp through November 30, 1984



PLANETARY MAGNETIC
THREE-HOUR-RANGE INDICES
Kp (after Bartels)
Kp till 1984 November 30
Ks (from Wingst and Göttingen) till Dec 18

▲ = sudden
commencement



PRINCIPAL MAGNETIC STORMS

NOVEMBER 1984

Sta	Geomag Lat	Commencement Time		Type	SC Amplitudes			Maximum 3-Hour K Index Day(3-Hour Periods)	Ranges			End Hour	
		Day	(UT)		D (Min)	H (Gamma)	Z (Gamma)		D K (Min)	H (Gamma)	Z (Gamma)	Day	(UT)
CNB	43.9S	31	20--	..	..	..	..	01(3,4)	5	19	150	55	01 15
BJI	28.5N	01	05--	..	..	..	..	01(3)	6	10	163	17	02 01
HYB	07.6N	06	0700	..	..	..	..	06(4,6) 07(6,7) 08(6)	4	2	82	17	08 17
FRD	49.6N	14	2355	SC	1	- 22	3	16(1,2)	7	60	185	195	20 --
BJI	28.5N	14	23--	..	..	..	..	16(4)	6	28	244	41	18 01
HYB	07.6N	14	0200	..	..	..	..	15(4) 16(5)	7	10	306	34	17 17
HER	33.7S	14	23--	..	..	..	..	15(7) 16(7)	6	40	231	127	16 24
GNA	43.2S	14	23--	..	..	..	..	16(4)	7	39	190	250	18 00
CNB	43.9S	14	23--	..	..	..	..	16(4)	7	39	214	118	16 21
COL	64.6N	15	07--	..	..	..	..	16(2,4,5)	8	441	2510	1790	18 13
SIT	60.0N	15	09--	..	..	..	..	16(2)	9	--	--	--	17 20
WIT	54.2N	15	1600	..	..	..	..	15(7,8) 16(1,2)	6	48	351	187	17 01
JAI	17.3N	15	0000	..	..	..	..			16	272	34	17 21
ABG	09.5N	15	0000	..	..	..	..	15(4)	7	10	298	43	17 21
TRD	01.1S	15	0000	..	..	..	..			9	257	119	17 21
HYB	07.6N	21	0630	..	..	..	..	21(4,7) 22(7) 23(1)	4	4	73	23	23 07
FRD	49.6N	29	----	..	..	..	..	30(3)	6	24	106	59	-- --
BJI	28.5N	30	01--	..	..	..	..	30(2)	6	8	173	20	30 23
HYB	07.6N	30	0140	SC	- 0.3	17	- 1	30(3)	6	6	153	22	01 03
HER	33.7S	30	0141	SC	..	17	12	30(3)	5	24	128	70	30 13
GNA	43.2S	30	01--	..	..	..	..	30(2)	6	21	150	120	01 14
CNB	43.9S	30	01--	..	..	..	..	30(2,3)	5	23	169	63	30 15

ABG = ALIBAG
ANN = ANNAMALAINAGAR
BJI = BEIJING
CNB = CANBERRA
COL = COLLEGE
FRD = FREDERICKSBURG

GNA = GNANGARA
GUA = GUAM
HER = HERMANUS
HON = HONOLULU
HUA = HUANCAYO

HYB = HYDERABAD
IRK = IRKUTSK
JAI = JAIPUR
KGL = KERGUELEN
PMG = PORT MORESBY

SHL = SHILLONG
SIT = SITKA
TRD = TRIVANDRUM
UJJ = UJJAIN
WIT = WITTEVEEN

RADIO PROPAGATION QUALITY INDICES

79
Nov 84

NOVEMBER 1984

Day	Bracknell	Teheran	New York	Tokyo	Canberra
01	6.9	6.4	5.7	5.6	6.8
02	6.3	7.4	7.0	6.3	6.8
03	4.5	5.4	6.7	5.7	5.7
04	3.2	5.3	6.1	3.4	5.7
05	2.5	2.6	5.1	4.8	6.3
06	3.3	3.4	5.6	4.6	5.9
07	3.9	5.0	5.9	5.6	5.6
08	3.4	5.0	4.9	4.7	6.0
09	3.7	4.6	5.6	5.5	6.7
10	6.0	4.5	6.3	5.2	6.9
11	5.9	4.3	6.9	4.9	6.1
12	4.2	4.4	5.7	4.9	5.2
13	4.4	4.8	6.4	4.4	6.5
14	6.2	5.2	5.9	5.3	6.7
15	5.1	4.4	4.9	5.6	5.6
16	2.2	3.2	4.9	3.4	3.7
17	3.2	4.7	4.6	5.0	3.4
18	2.9	3.2	4.6	3.9	4.7
19	3.3	5.3	4.2	3.3	4.7
20	4.3	5.1	4.2	4.7	4.9
21	4.3	4.9	5.1	5.1	5.9
22	4.2	5.1	4.8	5.1	6.0
23	3.5	5.2	5.5	3.4	5.3
24	4.6	6.6	5.5	3.5	5.4
25	4.0	5.9	6.5	5.2	4.5
26	4.5	6.0	6.2	4.2	5.0
27	4.3	6.1	6.8	5.0	5.0
28	3.5	5.8	5.8	3.8	4.0
29	6.3	6.2	5.5	5.3	5.0
30	7.2	6.8	6.9	6.4	5.2
Mean	4.4	5.1	5.7	4.8	5.5

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.

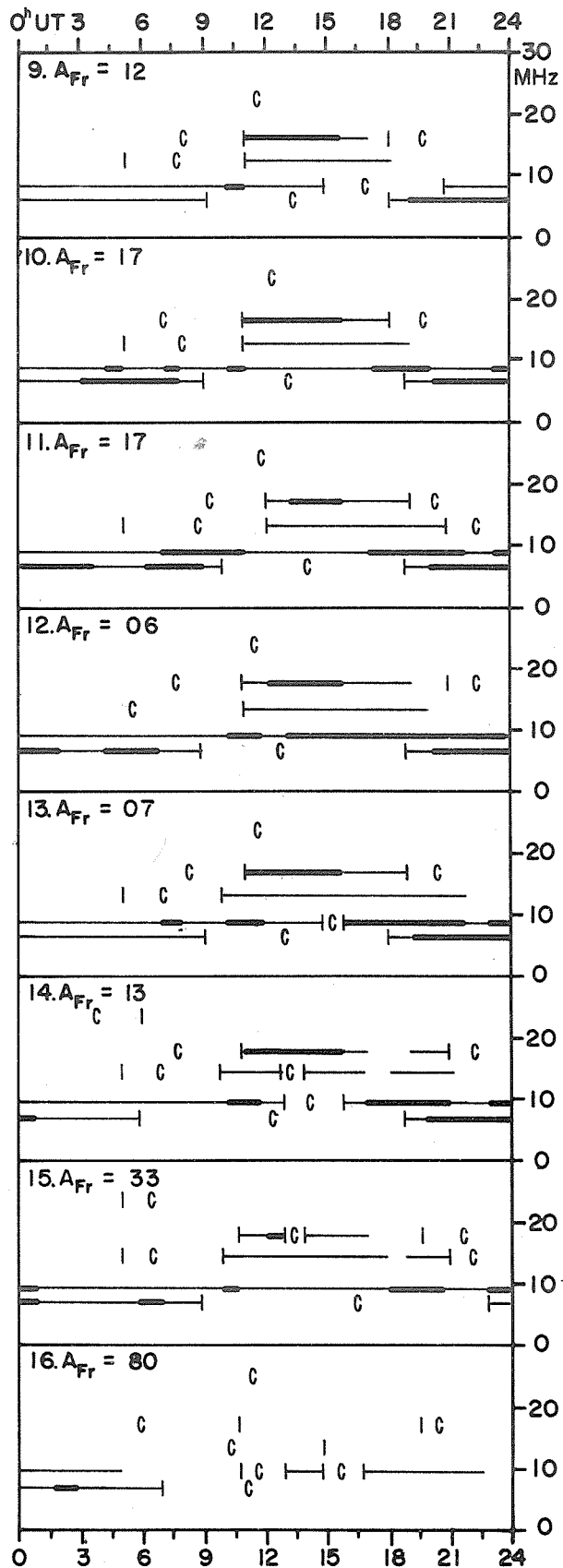
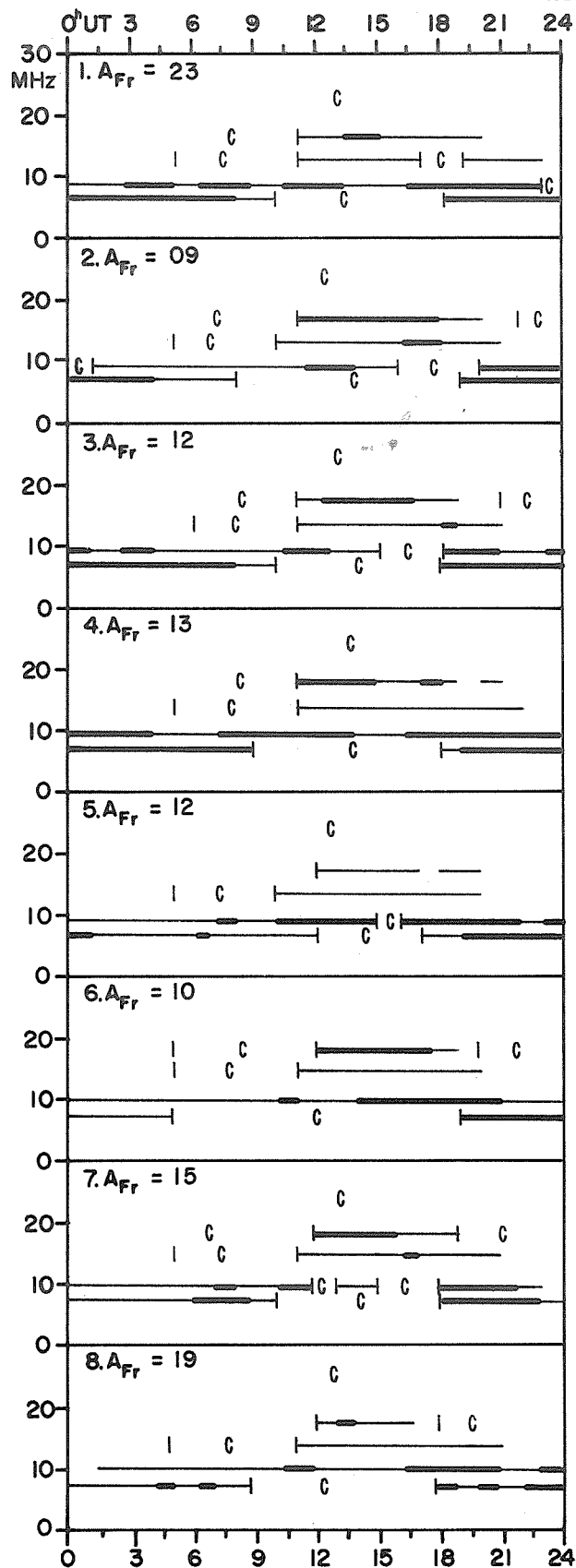
SCALE FOR QUALITY INDICES

- 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

80
Nov 84

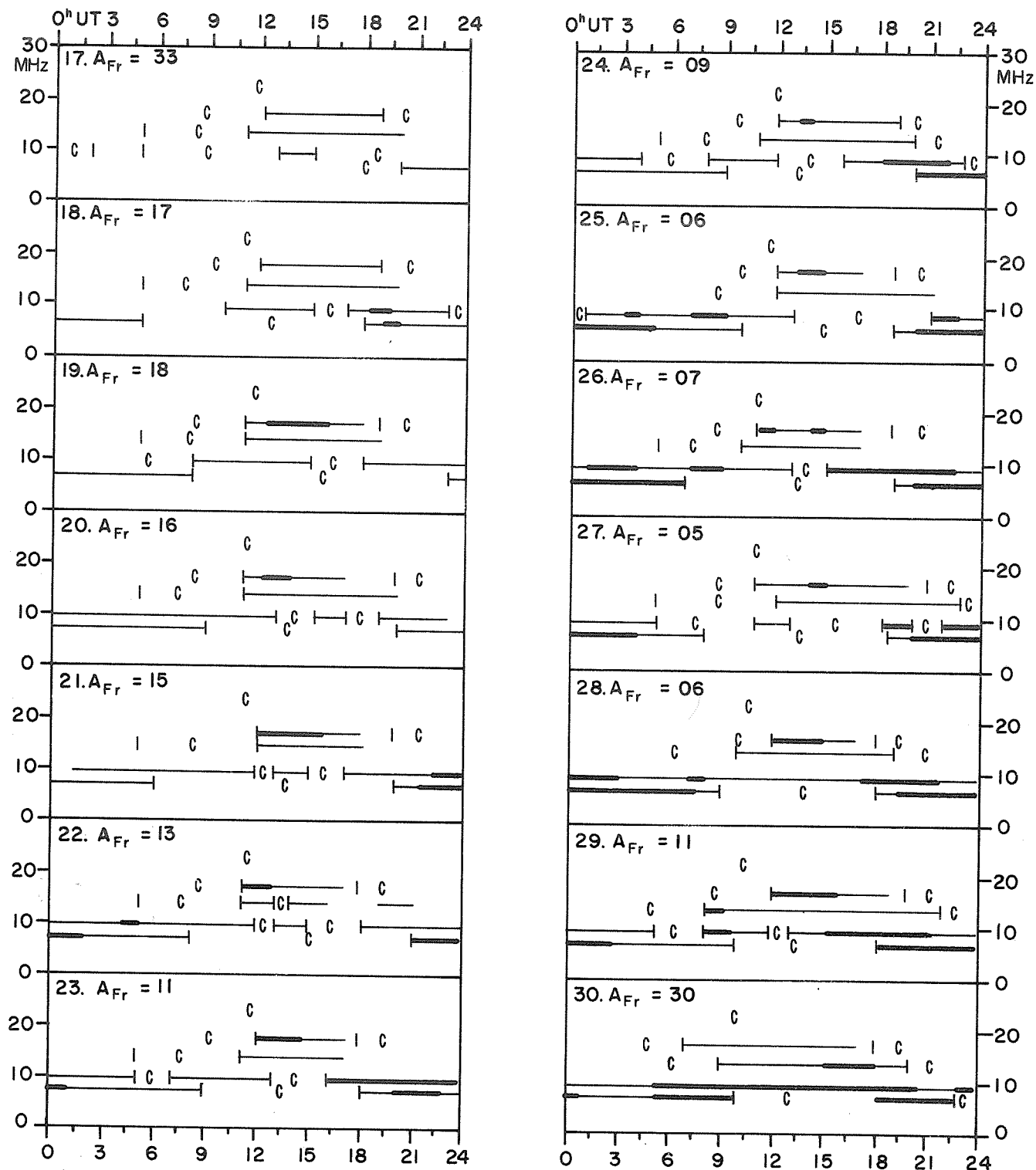
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

NOVEMBER 1984



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

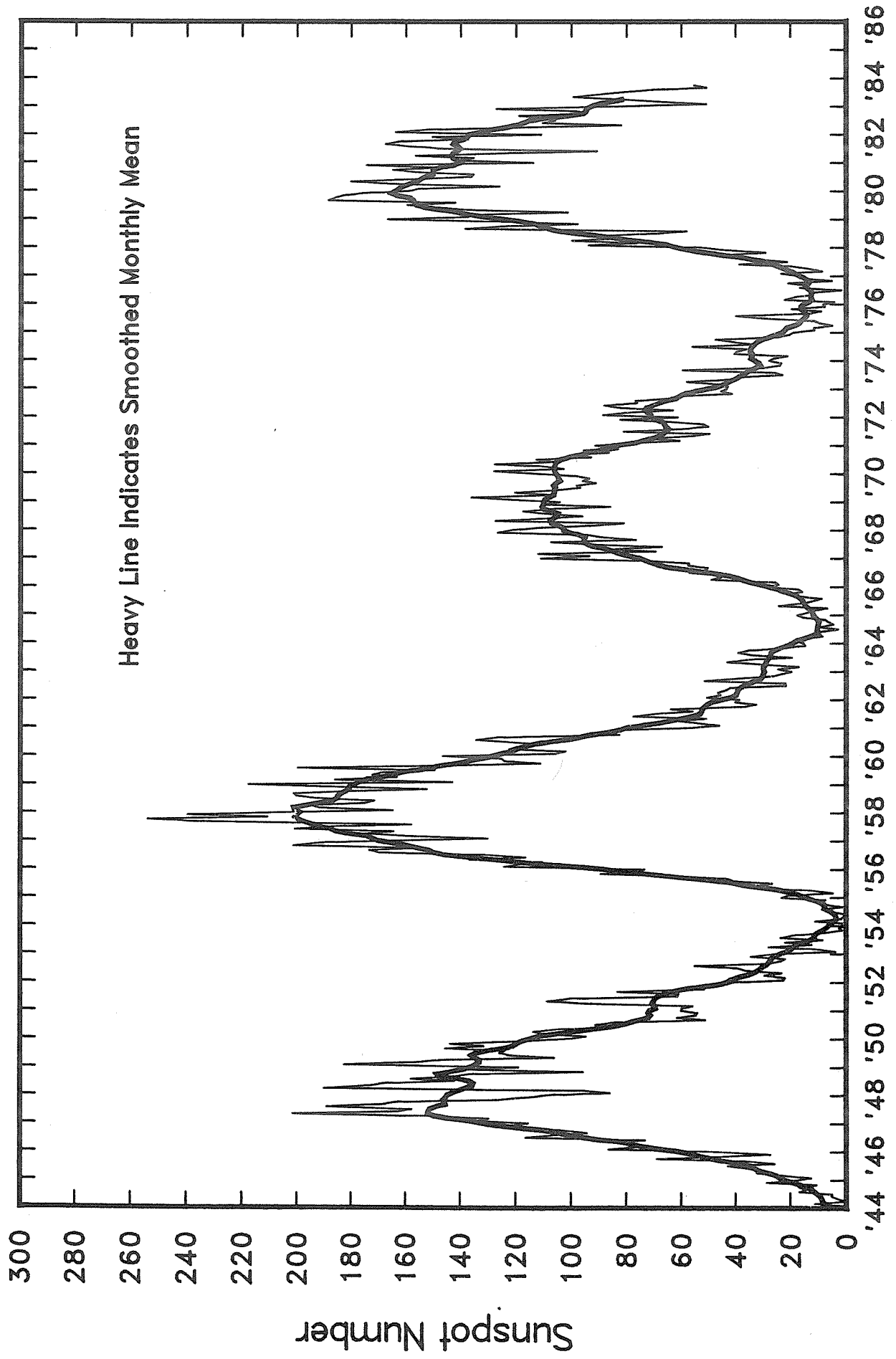
NOVEMBER 1984



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

MONTHLY MEAN SUNSPOT NUMBERS

January 1944 - October 1983



C O N T E N T S

Prompt Reports

LATE DATA

Number 485 Part I

SOLAR RADIO SPECTRAL DATA Culgoora for October 1984	Page 84 - 85
PIONEER XII INTERPLANETARY MAGNETIC FIELD MAGNITUDES August 1984	86
GEOMAGNETIC INDICES October 1984 Sudden Commencements/Solar Flare Effects	86
COSMIC RAYS October 1984 Thule, Deep River, Alert Daily Counting Rates Chart of Variations.	87 88 - 90
COSMIC RAY FORBUSH DECREASES Mt. Washington Neutron Monitor 1955-Apr 1984	91
INTERPLANETARY SCINTILLATION MEASUREMENTS OF SOLAR WIND May-October 1984	92 - 98
VOSTOK INFERRED INTERPLANETARY MAGNETIC FIELD POLARITY Corrected Data for 1982-1983	99 -100
BIG BEAR SOLAR CALCIUM PLAGE REGIONS Daily Maps June-August 1983 Calcium Plage Daily Index June-August 1983 Total Plage Areas June-August 1983	101 -112 113 114

SOLAR RADIO EMISSION SPECTRAL OBSERVATIONS

[illegible]

SOLAR RADIO EMISSION SPECTRAL OBSERVATIONS

85
Late
Oct 84

OCTOBER 1984

Observation				Decimetric Band			Metric Band			Dekametric Band			Spectral Type
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)	
24	2125	2400	CULG										
25	0000	0716	CULG										
	2016	2400	CULG										
26	0000	0716	CULG										
	2016	2400	CULG										
27	0000	0716	CULG										
	2016	2400	CULG										
28	0000	0675	CULG	1000.0			0426.5	0427.0	1				IIIB
	2016	2400	CULG										
29	0000	0716	CULG										
	2016	2400	CULG										
30	0000	0716	CULG										
	2016	2400	CULG										
31	0000	0716	CULG										
	2016	2400	CULG										

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

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

86
Late
Aug-Oct 84

PIONEER XII (VENUS ORBITER)
ONE-HOUR MAGNETIC FIELD AVERAGES AT APOAPSIS

AUGUST 1984

Day	Time (UT)	NanoTeslas in Spacecraft Coordinates			Region W-Wake
		(Bx)sc	(By)sc	(Bz)sc	Bt
1	1140	13.65	-7.18	-0.91	16.77
2	1140	7.85	3.44	9.96	15.71
3	1140	11.43	-10.67	1.93	17.25
4	1140	8.39	-7.65	-3.09	12.51
5	1140	7.92	-1.79	-4.64	12.08
6	1140	2.20	-6.62	5.35	10.86
7	1140	4.05	-6.93	3.69	10.47
8	1140	8.72	-3.84	-2.50	10.24
9	1140	8.16	-4.47	-7.85	12.64
10	1140	-8.18	3.26	0.82	9.05
11	1140	-14.86	13.55	7.59	23.76
12	1140	-7.93	2.61	4.79	17.09
13	1140	-8.79	6.29	-0.88	11.87
14	1140	-6.79	5.21	-0.31	9.54
15	1130	-11.21	10.07	-1.37	19.20
16	1130	-9.19	1.34	-3.43	12.30
17	1130	---	---	---	---
18	1130	-7.73	3.87	1.49	10.44
19	1130	-5.76	5.56	-1.62	10.20
20	1130	-5.92	0.96	2.40	9.86
21	1130	-9.34	-1.37	-1.86	10.74
22	1130	-10.67	-2.47	2.87	11.64
23	1130	---	---	---	---
24	1130	7.21	-4.87	1.50	9.77
25	1130	---	---	---	---
26	1130	5.83	-4.79	-2.36	10.02
27	1130	9.27	-6.22	-2.89	11.56
28	1130	9.39	1.91	-0.42	9.69
29	1130	3.08	-6.72	0.63	7.78
30	1130	10.97	-7.69	2.57	18.93
31	1130	---	---	---	---

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

OCTOBER 1984

Storm Sudden Commencements (ssc)			Solar Flare Effects (sfe)		
Day	Time	Quality: Station Group*	Day	Begin-End	Station(s)
08	1045	A: COI; B: WNG; C: WIT CLF EBR AMS KGL (bps A: MPO)	04	0745-0745 UT	MPO
			05	0332-0336 UT	GNA (ssc: C: MPO)
			06	0742-0757 UT	MPO (ssc: A: COI)
			10	2330-2335 UT	LNP
			12	1106-1121 UT	MPO
			17	0949-0957 UT	MPO
			25	1040-1057 UT	MPO
			29	0714-0730 UT	MPO
			29	1142-1155 UT	MPO

Reporting Observatories:

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

*Three-letter codes identify each observatory.

C O S M I C R A Y I N D I C E S
(Neutron Monitor)

87
Late
Oct 84

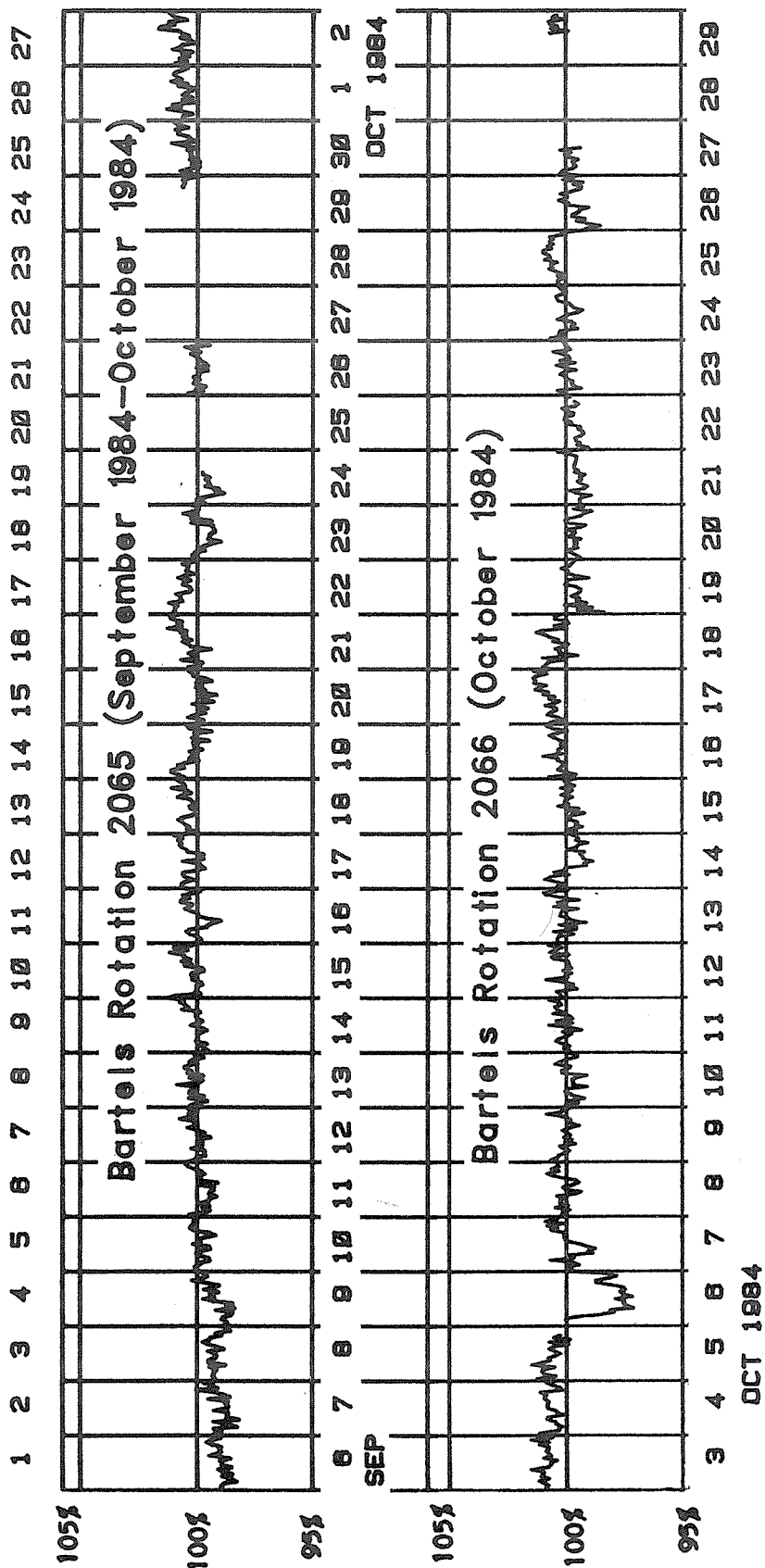
October 1984

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	PREDIGTSTUHL Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4255	6832.4	6564.3	5920.0	3866.3	1171	3578.4	
2	4262	6835.7	6569.8	5912.0	3859.1	1171	3574.9	
3	4259	6824.5	6557.8	5913.2	3859.0	1169	3571.7	
4	4248	6805.5	6539.5	5902.6	3853.2	1165	3569.9	
5	4249	6805.8	6550.9	5914.4	3848.1	1167	3569.2	
6	4145	6658.0	6431.4	5775.0	3761.4	1148	3547.8	
7	4219	6762.2	6479.1	5839.0	3819.5	1164	3573.5	
8	4227	6791.1	6471.2	5836.4	3818.1	1162	3570.9	
9	4224	6750.2	6473.7	5828.8	3818.5	1158	3565.9	
10	4213	6773.5	6476.5	5844.5	3841.0	1160	3555.7	
11	4228	6787.5	6488.8	5844.2	3847.8	1165	3560.0	
12	4229	6775.2	6502.7	5853.6	3861.0	1167	3551.4	
13	4226	6761.6	6501.8	5842.0	3848.6	1166	3557.5	
14	4212	6762.8	6514.2	5837.3	3859.1	1166	3569.9	
15	4214	6789.8	6520.3	5859.2	3877.3	1168	3582.0	
16	4236	6811.5	6516.5	5861.1	3867.2	1172	3582.1	
17	4256	6812.8	6540.1	5884.2	3878.9	1173	3574.5	
18	4240	6784.1	6520.2	5887.0	3882.5	1177	3578.1	
19	4204	6748.7	6465.9	5842.3	3858.2	1169	3565.0	
20	4204	6735.5	6449.9	5839.9	3836.9(38)	1171	3563.3	
21	4200	6721.0	6442.9	5813.5	3838.7	1167	3565.9	
22	4206	6741.0	6458.8	5822.9	3835.6	1170	3570.0	
23	4221	6769.4	6493.6	5843.3	3840.4	1169	3567.9	
24	4223	6772.6	6500.6	5853.0	3853.5	1170	3569.0	
25	4242	6794.2	6503.7	5881.7	3855.8	1173	3575.0	
26	4204	6728.3	6439.0	5813.2	3806.6	1161	3564.6	
27	4214	6747.5	6450.9	5831.6	3824.9	1161	3558.6	
28	---	6756.0	6474.5	5852.7	3832.6	1167	3567.1	
29	4242	6755.8	6515.5	5855.9	3837.4	1171	3576.6	
30	4240	6775.8	6528.5	5857.3	3840.7	1176	3588.6	
31	4247	6779.4	6551.9	5877.4	3863.2	1175	3590.3	
Mean	4226	6772.6	6499.9	5856.1	3845.1	1167	3569.5	

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.

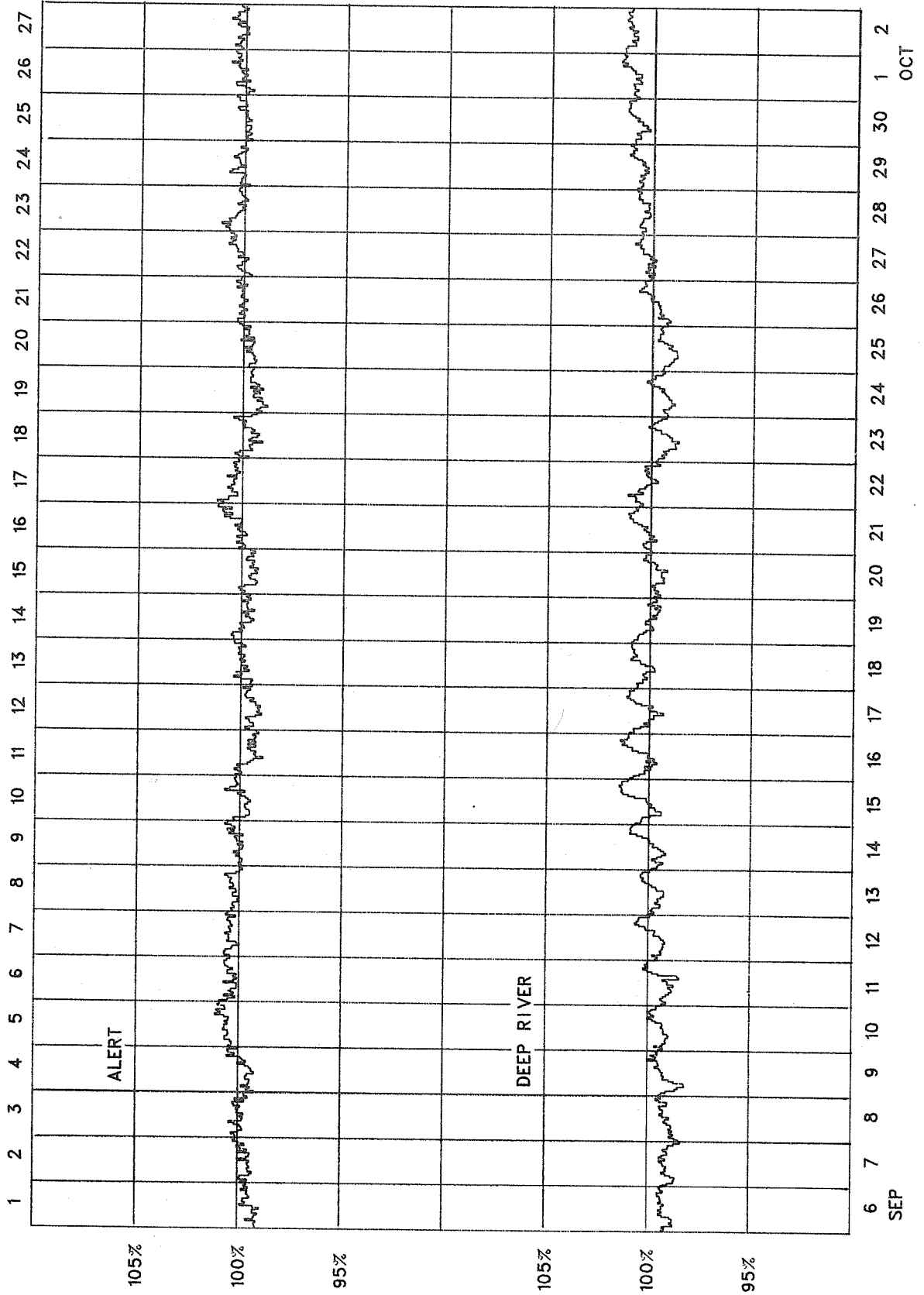
88
Late
Oct 84

THULE NEUTRON MONITOR



COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2065 (September 1984-October 1984)

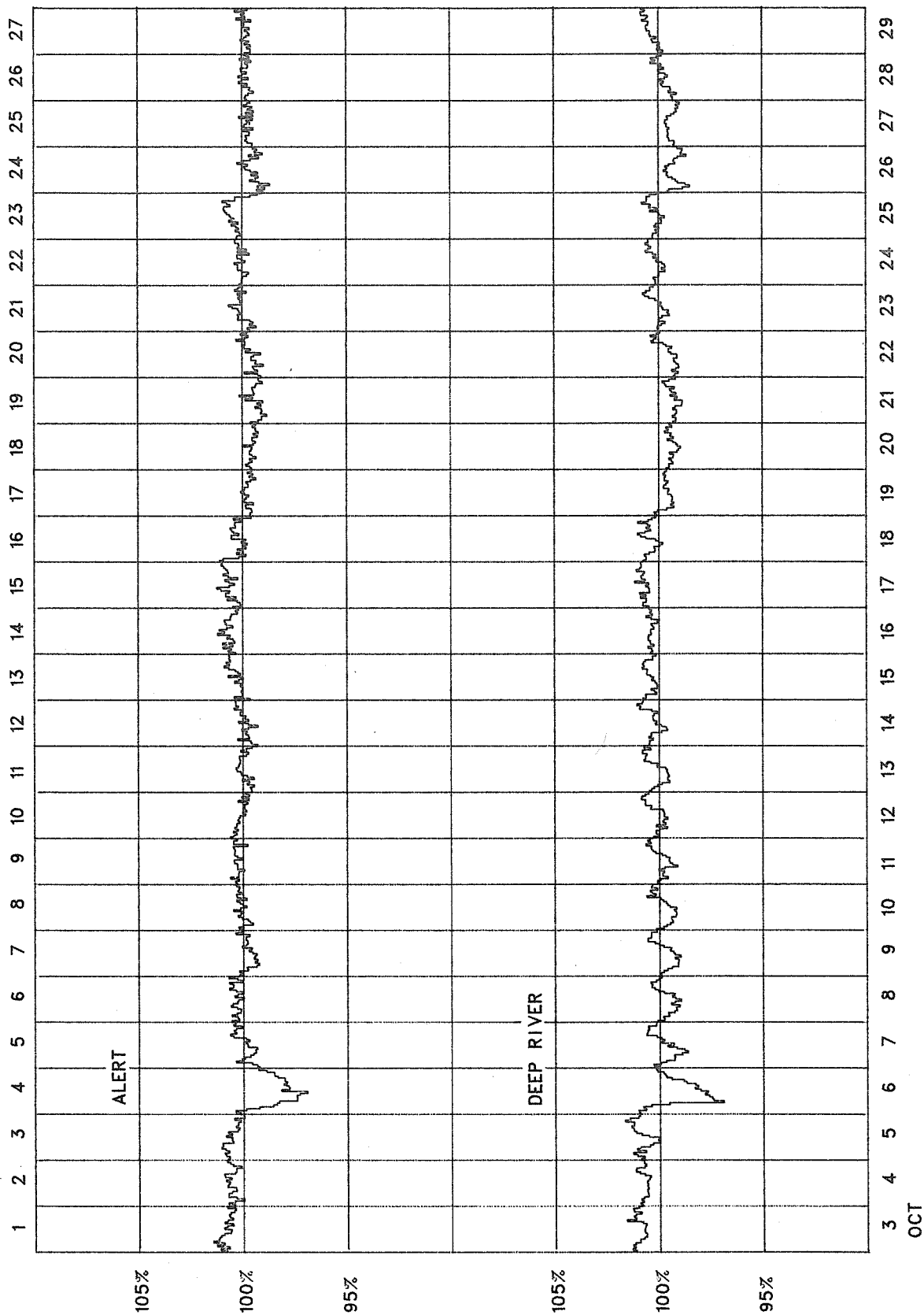


89
Late
Oct 84

90
Late
Oct 84

COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2066 (October 1984)



FORBUSH DECREASES 1955 - 1984
Observed by the Mt. Washington Neutron Monitor

91
Late
1955-84

1955 Nov 21	3.2%	1962 Apr 22	3.0%	1978 Jan 01	4.5%
1956 Jan 08	13.0%	1963 May 03	3.4%	Feb 30	3.9%
Mar 02	5.0%	Sep 15	3.0%	Feb 14	12.1%
12	4.7%	22	9.4%	Mar 06	7.4%
17	3.2%	Oct 28	3.0%	Apr 11	3.0%
Apr 28	4.9%	1965 Oct 06	3.1%	18	3.6%
May 14	4.5%	1966 Mar 23	5.3%	30	18.6%
Aug 17	3.0%	Aug 30	7.2%	May 29	7.5%
31	5.8%	Sep 05	3.4%	Jun 03	3.3%
Sep 22	3.0%	24	3.7%	25	5.6%
Nov 08	7.5%	Dec 14	3.1%	Jul 13	9.0%
Dec 27	4.1%	1967 Jan 13	3.9%	Sep 17	9.3%
1957 Jan 21	15.3%	May 02	3.1%	Nov 12	3.9%
Mar 10	8.2%	26	7.5%	Dec 21	3.3%
Apr 15	9.4%	Jun 07	3.0%	1979 Feb 23	6.2%
Jun 23	4.7%	Oct 28	5.4%	Mar 28	3.4%
Aug 05	7.0%	1968 Jun 11	4.1%	Apr 24	5.8%
Aug 29	13.7%	Jul 12	4.1%	Jun 06	6.0%
Sep 22	5.2%	Aug 22	3.0%	Jul 07	7.8%
29	5.0%	Oct 01	3.7%	Aug 18	7.8%
Oct 23	9.3%	28	11.1%	Oct 07	5.3%
Nov 23	8.5%	Nov 17	3.8%	Nov 10	5.2%
Dec 17	6.9%	Dec 06	4.9%	1980 Feb 06	5.3%
1958 Jan 17	5.1%	1969 Feb 28	6.6%	Mar 05	3.2%
Feb 11	5.2%	Mar 17	3.3%	Apr 04	6.9%
Mar 26	7.6%	24	6.8%	Jun 06	7.4%
May 29	4.4%	Apr 13	5.3%	25	4.1%
Jun 29	3.4%	28	3.1%	Jul 26	3.5%
Jul 09	6.1%	May 14	6.1%	Oct 27	3.2%
Aug 17	5.1%	Jun 09	4.9%	Nov 11	4.5%
24	5.6%	Sep 28	6.0%	30	8.3%
Sep 15	4.4%	Nov 08	4.1%	Dec 20	3.5%
Oct 01	3.3%	27	3.0%	1981 Feb 01	6.0%
22	5.3%	1970 Jan 28	3.7%	24	11.3%
Nov 10	3.9%	Apr 04	4.1%	Mar 27	4.0%
Dec 14	3.7%	Jun 06	3.7%	May 16	6.4%
1959 Jan 28	3.3%	17	4.8%	Jun 04	3.5%
Feb 13	8.4%	Jul 24	5.2%	Jul 24	8.2%
26	4.5%	Aug 16	4.8%	Aug 10	3.9%
Apr 11	3.2%	Sep 09	4.3%	Oct 03	4.2%
24	3.0%	Nov 06	6.5%	12	5.7%
May 12	12.8%	11	5.7%	Nov 11	3.9%
Jul 11	8.7%	1971 Jan 27	3.2%	Dec 24	3.2%
15	11.6%	Apr 16	3.3%	1982 Jan 30	8.0%
17	10.7%	Oct 07	3.6%	Feb 13	5.0%
Aug 20	6.5%	Nov 21	5.0%	28	5.0%
Sep 04	4.3%	Dec 15	5.6%	Apr 25	3.8%
19	3.8%	1972 Jan 17	3.0%	Jun 08	9.0%
Dec 03	6.4%	Mar 09	3.2%	Jul 10	22.1%
22	3.3%	May 17	3.9%	Aug 08	3.7%
1960 Jan 01	4.3%	Aug 04	16.9%	Sep 05	7.0%
Mar 30	10.6%	Oct 31	7.8%	18	8.8%
Apr 30	7.5%	1973 Jan 19	3.2%	Nov 24	8.1%
May 09	3.9%	Apr 13	4.8%	Dec 10	5.1%
24	3.4%	May 14	3.3%	1983 Jan 10	6.1%
30	3.5%	1974 May 07	5.4%	Feb 05	7.3%
Jun 06	3.0%	Jul 04	5.6%	1984 Apr 03	4.2%
30	6.1%	Sep 10	6.3%	25	6.4%
Jul 16	3.4%	1976 Mar 30	7.6%		
Aug 30	3.0%	1977 Sep 11	3.9%		
Oct 07	6.1%	21	5.4%		
25	3.6%				
Nov 16	14.2%				
Dec 27	3.1%				
1961 Feb 17	3.2%				
Apr 13	3.7%				
Jul 12	10.6%				
27	4.6%				
Sep 30	6.6%				
Oct 29	3.1%				
Dec 01	4.4%				

92
Late
May 84

SOLAR WIND Interplanetary Scintillations

MAY 1984

DATE	DOY	UT	VMID	ERR	VPK	ERR	RATING	SOURCE	ELONG	LAT	DIST	DLON	LAG	ROTATION
	HR		KM/S		KM/S		1-4		DEG	DEG	AU	DEG	DAY	NUMBER
840511	132	5	540	36	599	136	2	3C273	135	-3	1.23	-10	.04	1748.39
840514	135	23	636	104	917	67	2	3C161	51	-29	.78	-31	-3.00	1748.66
840515	136	18	517	15	538	44	3	3C48	29	44	.48	44	1.48	1748.50
	136	22	713	55	585	71	2	3C144	29	-10	.48	-62	-6.02	1748.82
840516	137	18	627	71	659	22	2	3C48	30	43	.50	44	1.88	1748.55
840517	138	4	511	14	566	13	2	3C273	129	-2	1.21	-10	-.00	1748.61
840518	139	22	476	30	445	41	3	3C144	26	-10	.44	-65	-7.09	1748.92
840519	140	18	395	53	416	63	2	3C48	32	40	.53	44	1.12	1748.62
	140	22	594	67	625	25	2	3C144	25	-10	.42	-65	-6.77	1748.97
840520	141	18	428	68	511	67	2	3C48	32	39	.53	45	1.33	1748.66
	141	22	690	68	535	28	3	3C144	24	-10	.41	-65	-6.56	1749.02
840521	142	17	507	99	488	68	2	3C48	33	38	.54	45	1.71	1748.71
840522	143	17	603	*	597	*	2	3C48	34	37	.56	43	1.91	1748.76
840524	145	17	593	*	593	*	2	3C48	35	35	.57	44	2.01	1748.83
	145	21	498	*	503	*	2	3C144	20	-11	.34	-70	-7.75	1749.17
840526	147	17	638	42	637	60	3	3C48	37	33	.60	43	2.08	1748.91
	147	23	701	*	696	*	2	3C196	54	15	.81	-33	-3.03	1749.11
840527	148	17	517	47	457	97	2	3C48	38	32	.62	42	1.78	1748.93
840528	149	17	592	*	615	*	2	3C48	38	32	.62	43	2.08	1748.98

VMID IS A MEAN AND VPK IS A MAXIMUM VELOCITY IN THE IPS SCATTERING REGION.
THE REGIONS CENTROID IS SPECIFIED BY LAT, DIST, DLON.
LAG AND ROTATION NUMBER GIVE MAPPING TO EARTH AND SUN AT VMID.
* INDICATES NO ERROR AVAILABLE, SINCE ONLY TWO ANTENNAS WERE OPERATING.

93
Late
Jun 84

SOLAR WIND Interplanetary Scintillations

JUNE 1984

DATE	DOY	UT HR	VMID KM/S	ERR	VPK KM/S	ERR	RATING 1-4	SOURCE	ELONG DEG	LAT DEG	DIST AU	DLOD DEG	LAG DAY	ROTATION NUMBER
840603	155	17	504	70	528	66	2	3C48	43	27	.68	39	1.76	1749.19
840604	156	0	351	*	350	*	2	3C216	57	12	.84	-31	-3.18	1749.32
	156	4	361	37	423	96	2	3C283	130	-5	1.21	-10	.38	1749.20
	156	6	520	*	540	*	2	3C298	133	3	1.22	-10	.06	1749.27
	156	17	532	26	503	26	3	3C48	44	27	.69	39	1.88	1749.23
840605	157	3	620	187	637	188	2	3C273	111	-1	1.14	-13	-.58	1749.35
840606	158	16	506	39	499	52	3	3C48	46	25	.72	37	1.78	1749.29
	158	21	794	126	766	109	2	3C161	36	-47	.59	-31	-3.33	1749.54
	159	0	444	*	438	*	2	3C216	54	14	.81	-33	-3.28	1749.47
840607	159	3	597	*	630	*	2	3C273	109	0	1.13	-15	-.69	1749.42
	159	16	725	36	702	35	3	3C48	46	25	.72	38	2.13	1749.36
	159	21	929	92	773	104	2	3C161	35	-48	.57	-30	-3.14	1749.58
840608	160	16	481	44	423	16	3	3C48	47	24	.73	37	1.74	1749.36
840609	161	16	427	61	437	62	2	3C48	48	24	.74	36	1.63	1749.39
	161	21	902	45	877	51	3	3C161	34	-50	.56	-28	-3.05	1749.65
840610	162	17	622	89	563	66	2	3C48	49	23	.75	35	1.93	1749.46
840611	163	16	394	75	436	52	2	3C48	50	23	.77	34	1.49	1749.45
840612	164	16	379	21	347	68	2	3C48	51	22	.78	35	1.53	1749.48
840614	166	16	526	145			3	3C48	52	21	.79	32	1.69	1749.60
840615	167	2	553	17	551	26	2	3C273	101	0	1.10	-15	-.79	1749.71
	167	16	457	109	404	13	2	3C48	53	21	.80	32	1.61	1749.62
840617	169	2	689	35	610	49	2	3C273	100	1	1.09	-16	-.96	1749.81
	169	16	528	75	590	86	3	3C48	55	20	.82	30	1.63	1749.71
	169	21	489	18	620	18	2	3C161	31	-56	.52	-17	-3.12	1749.88
840618	170	2	802	190	907	22	2	3C273	99	1	1.09	-16	-1.03	1749.87
840620	172	21	352	*	475	*	2	3C161	30	-57	.50	-11	-3.47	1749.95
840622	174	2	368	10			2	3C273	95	1	1.07	-16	-.89	1749.91
	174	15	766	92	711	19	2	3C48	59	18	.86	28	1.74	1749.93
840623	175	2	461	59	674	146	2	3C273	94	1	1.06	-17	-1.01	1749.99
	175	20	398	16	343	21	2	3C161	30	-58	.50	-4	-2.63	1750.05
840624	176	15	463	57	414	82	2	3C48	61	17	.87	26	1.44	1749.96
	176	22	466	*	466	*	2	3C216	41	27	.66	-45	-4.75	1750.20
	177	0	418	*	452	*	2	3C237	58	-4	.85	-32	-3.09	1750.12
840625	177	2	448	47	449	111	2	3C273	92	2	1.05	-17	-1.05	1750.06
	177	4	489	*	494	*	2	3C298	115	6	1.16	-13	-.40	1750.05
840626	178	3	518	27	529	26	2	3C283	110	-3	1.14	-13	-.49	1750.10
	179	0	558	*	525	*	2	3C237	56	-4	.83	-34	-3.18	1750.24
840627	179	1	456	16	424	27	2	3C273	90	2	1.04	-16	-1.05	1750.14
	179	4	440	*	435	*	2	3C298	113	6	1.15	-13	-.37	1750.11
	179	18	569	*	594	*	2	3C147	28	62	.47	23	-.01	1750.15
840628	180	2	376	27	401	31	2	3C283	108	-3	1.13	-13	-.33	1750.12
840629	181	1	539	40	607	43	2	3C273	88	2	1.03	-17	-1.18	1750.23
	181	15	467	51	471	37	2	3C48	65	15	.91	22	1.32	1750.15
840630	182	15	529	48			2	3C48	66	14	.91	22	1.33	1750.20

VMID IS A MEAN AND VPK IS A MAXIMUM VELOCITY IN THE IPS SCATTERING REGION.
THE REGIONS CENTROID IS SPECIFIED BY LAT, DIST, DLOD.
LAG AND ROTATION NUMBER GIVE MAPPING TO EARTH AND SUN AT VMID.
* INDICATES NO ERROR AVAILABLE, SINCE ONLY TWO ANTENNAS WERE OPERATING.

94
Late
Jul 84

SOLAR WIND
Interplanetary Scintillations
JULY 1984

DATE	DOY	UT HR	VMID KM/S	ERR	VPK KM/S	ERR	RATING 1-4	SOURCE	ELONG DEG	LAT DEG	DIST AU	DLON DEG	LAG DAY	ROTATION NUMBER
840701	183	4	403	20	383	19	2	3C298	109	6	1.13	-14	-1.45	1750.24
	183	15	339	10	324	6	3	3C48	67	14	.92	21	1.18	1750.17
840702	184	15	380	9	361	17	3	3C48	68	14	.93	20	1.16	1750.23
840703	185	1	548	28	522	19	3	3C273	84	2	1.01	-17	-1.27	1750.39
	185	3	489	*	454	*	2	3C295	84	17	1.01	-11	-.77	1750.36
	185	15	409	11	442	12	3	3C48	69	13	.93	19	1.13	1750.28
	185	23	415	*	434	*	2	3C237	49	-5	.75	-41	-4.18	1750.49
840704	186	3	491	42	458	40	2	3C295	83	17	1.01	-10	-.76	1750.40
	186	15	368	21	395	27	3	3C48	70	13	.94	18	1.08	1750.30
	186	18	629	94	580	31	2	3C147	31	55	.52	36	1.28	1750.37
	186	19	562	*	556	*	2	3C144	19	3	.33	71	3.13	1750.29
	186	23	446	*	514	*	2	3C237	48	-5	.74	-41	-4.17	1750.54
840705	187	15	461	*	524	*	2	3C48	70	13	.94	18	1.12	1750.37
	187	18	747	*	740	*	2	3C147	31	54	.52	37	1.60	1750.41
840706	188	14	462	*	423	*	2	3C48	71	12	.95	17	1.05	1750.41
840707	189	14	310	18	393	11	3	3C48	72	12	.95	16	.89	1750.38
	189	18	566	*	576	*	2	3C147	32	52	.53	39	1.41	1750.47
	189	18	518	*	541	*	2	3C144	22	4	.37	68	2.92	1750.40
	189	20	264	14	265	18	3	3C161	30	-51	.50	29	-1.29	1750.43
840708	190	1	520	33	517	59	3	3C273	80	3	.99	-18	-1.38	1750.57
	190	4	710	*	731	*	2	3C298	103	7	1.11	-15	-.88	1750.59
	190	14	348	*	371	*	2	3C48	73	12	.96	16	.94	1750.44
840709	191	1	475	*	433	*	2	3C273	79	3	.99	-17	-1.34	1750.59
	191	3	373	*	345	*	2	3C295	81	18	1.00	-11	-.82	1750.54
	191	14	305	16	353	18	3	3C48	74	12	.96	16	.95	1750.45
	191	18	440	*	443	*	2	3C144	24	4	.41	66	2.51	1750.47
840710	192	3	570	41	552	29	2	3C295	80	18	.99	-11	-.84	1750.64
	192	15	312	16	314	34	2	3C48	75	12	.97	16	1.01	1750.49
	192	18	470	*	476	*	2	3C144	25	4	.42	65	2.63	1750.51
840711	193	14	336	*	338	*	2	3C48	76	12	.97	15	.98	1750.54
840712	194	1	567	*	549	*	2	3C273	76	4	.97	-17	-1.39	1750.73
	194	14	469	42	423	12	2	3C48	77	12	.98	16	1.11	1750.63
840713	195	3	505	*	500	*	2	3C298	99	8	1.09	-16	-.88	1750.73
	195	14	441	37	459	27	2	3C48	77	12	.98	16	1.08	1750.66
840715	197	0	783	66	785	78	2	3C273	73	4	.96	-17	-1.39	1750.87
	197	14	544	*	554	*	2	3C48	79	12	.99	15	1.13	1750.76
	197	18	583	*	562	*	2	3C144	30	5	.50	60	2.95	1750.71
840716	198	14	232	*	257	*	2	3C48	80	12	.99	15	1.07	1750.63
	198	19	364	*	334	*	2	3C161	33	-41	.54	37	.49	1750.76
840717	199	19	440	*	403	*	2	3C161	34	-40	.56	37	.92	1750.82
840718	200	19	633	*		*	2	3C161	34	-39	.56	38	1.61	1750.88
840719	201	6	868	*	780	*	2	3C368	138	12	1.24	-6	.05	1750.98
840720	202	17	619	*	602	*	2	3C147	40	39	.64	39	1.92	1750.93
	202	18	544	*	560	*	2	3C144	34	5	.56	57	2.79	1750.89
840721	203	14	255	*	440	*	2	3C48	85	12	1.02	16	1.34	1750.83
840722	204	13	665	*	636	*	2	3C48	85	12	1.02	15	1.22	1751.03
840723	205	0	808	*	652	*	2	3C273	65	5	.91	-25	-2.08	1751.19
	205	13	470	*	490	*	2	3C48	86	12	1.02	17	1.34	1751.03
	205	17	448	*	448	*	2	3C144	37	5	.60	53	2.36	1750.99
840724	206	22	729	67	718	69	2	3C237	29	-8	.48	-59	-5.81	1751.39
840725	207	1	555	*	543	*	2	3C283	83	0	1.01	-17	-1.23	1751.20
	207	2	461	*	473	*	2	3C298	88	9	1.03	-17	-1.16	1751.17
	207	17	336	*	379	*	2	3C144	39	6	.63	51	1.81	1751.03
	207	18	406	105	355	103	2	3C161	38	-32	.62	39	1.17	1751.09
	208	0	448	40	418	38	2	3C273	63	5	.89	-28	-2.56	1751.25
840726	208	0	435	*	429	*	2	3C283	82	0	1.00	-17	-1.25	1751.20
	208	2	521	*	474	*	2	3C298	87	9	1.03	-17	-1.15	1751.22
	208	13	365	*	395	*	2	3C48	89	13	1.04	15	1.34	1751.09
	208	17	307	19	298	25	3	3C144	40	6	.64	50	1.59	1751.05
840727	209	17	324	*	331	*	2	3C144	41	6	.66	49	1.76	1751.10
840728	210	13	322	*	324	*	2	3C48	91	13	1.05	15	1.42	1751.14

SOLAR WIND
Interplanetary Scintillations
AUGUST 1984

DATE	DOY	UT	VMID	ERR	VPK	ERR	RATING	SOURCE	ELONG	LAT	DIST	DLON	LAG	ROTATION
		HR	KM/S#		KM/S		1-4		DEG	DEG	AU	DEG	DAY	NUMBER
840801	214	2	542	*	547	*	2	3C298	81	10	1.00	-16	-1.24	1751.45
	214	16	492	*	469	*	2	3C147	49	30	.75	35	1.75	1751.35
	214	19	608	*	629	*	2	3C196	31	57	.52	38	1.41	1751.40
840802	215	2	489	*	543	*	2	3C298	81	10	1.00	-16	-1.23	1751.48
	215	16	479	*	493	*	2	3C147	50	29	.77	34	1.65	1751.39
840803	216	16	586	*	563	*	2	3C147	51	29	.78	34	1.90	1751.44
840804	217	2	376	*	457	*	2	3C298	79	10	.99	-18	-1.39	1751.51
	217	18	294	12	262	17	2	3C161	44	-23	.69	37	.87	1751.40
	217	21	667	*	652	*	2	3C237	19	-13	.33	-69	-7.11	1751.83
	217	23	365	*	392	*	2	3C273	53	6	.80	-37	-3.81	1751.63
	218	0	410	*	465	*	2	3C283	73	0	.96	-17	-1.51	1751.56
840805	218	2	441	*	434	*	2	3C298	78	10	.98	-17	-1.34	1751.57
	218	23	529	*	642	*	2	3C273	52	6	.79	-39	-3.67	1751.72
	219	0	453	*	517	*	2	3C283	72	0	.95	-18	-1.53	1751.62
840807	221	0	330	*	369	*	2	3C283	70	0	.94	-19	-1.77	1751.65
840808	221	2	562	*	585	*	2	3C298	75	11	.97	-17	-1.42	1751.72
	221	16	290	*	300	*	2	3C144	52	6	.79	38	1.54	1751.52
	221	19	483	*	487	*	2	3C196	35	49	.57	41	1.45	1751.62
	221	23	463	*	467	*	2	3C273	49	7	.75	-41	-4.09	1751.82
840809	222	2	440	*	450	*	2	3C298	74	11	.96	-18	-1.50	1751.72
	222	5	486	*	491	*	2	3C368	125	14	1.20	-10	.04	1751.69
	222	19	463	*	463	*	2	3C196	35	48	.57	43	1.51	1751.65
840810	223	2	397	*	402	*	2	3C298	73	11	.96	-16	-1.43	1751.75
840815	228	16	488	*	495	*	2	3C144	59	6	.86	31	1.79	1751.86
840816	229	18	497	*	510	*	2	3C196	40	41	.64	41	1.79	1751.91
840817	230	15	455	*	477	*	2	3C144	61	6	.87	29	1.67	1751.93
840819	232	16	360	*	381	*	2	3C144	63	7	.89	27	1.50	1751.97
840823	236	16	238	*	321	*	2	3C144	67	7	.92	23	1.12	1752.03
	236	21	401	*			2	3C273	35	9	.57	-56	-6.23	1752.43
840824	237	15	433	31			2	3C144	68	7	.93	22	1.38	1752.19
840825	238	0	342	*	486	*	2	3C298	60	16	.87	-29	-2.94	1752.32
	238	18	995	*	848	*	2	3C196	46	33	.72	38	2.37	1752.28
	238	18	490	*	456	*	2	3C216	36	42	.59	48	2.04	1752.23
840826	239	18	504	*	447	*	2	3C196	47	32	.73	37	1.84	1752.27
	239	19	645	*	762	*	2	3C216	37	41	.60	46	2.34	1752.28
840828	241	19	593	*	673	*	2	3C216	38	39	.62	46	2.24	1752.35

VMID IS A MEAN AND VPK IS A MAXIMUM VELOCITY IN THE IPS SCATTERING REGION.
THE REGIONS CENTROID IS SPECIFIED BY LAT, DIST, DLON.
LAG AND ROTATION NUMBER GIVE MAPPING TO EARTH AND SUN AT VMID.
* INDICATES NO ERROR AVAILABLE, SINCE ONLY TWO ANTENNAS WERE OPERATING.

96
Late
Sep 84

SOLAR WIND
Interplanetary Scintillations
SEPTEMBER 1984

DATE	DOY	UT HR	VMID KM/S	ERR	VPK KM/S	ERR	RATING 1-4	SOURCE	ELONG DEG	LAT DEG	DIST AU	DLON DEG	LAG DAY	ROTATION NUMBER
840912	256	23	445	*	503	*	2	3C298	43	26	.68	-45	-4.71	1753.13
840923	267	13	593	*	617	*	2	3C144	97	6	1.08	16	1.48	1753.32
	267	14	337	*	360	*	2	3C161	84	-2	1.01	14	1.15	1753.25
	267	16	662	*	635	*	2	3C196	69	16	.93	18	1.20	1753.35
	267	17	461	*	497	*	3	3C216	58	20	.85	30	1.65	1753.29
	267	18	545	*	522	*	2	3C237	30	-5	.50	59	2.80	1753.28
	267	21	723	165			2	3C283	27	-22	.45	-57	-5.76	1753.62
840924	268	13	291	59	569	40	2	3C144	98	6	1.08	17	1.79	1753.23
	268	14	314	*	351	*	2	3C161	85	-2	1.02	15	1.27	1753.27
	268	16	917	*	853	*	2	3C196	70	16	.94	19	1.30	1753.41
	268	18	576	*	606	*	2	3C237	31	-4	.52	58	2.83	1753.32
	268	21	706	*	764	*	2	3C283	26	-23	.44	-58	-5.89	1753.66
840925	269	15	758	*	818	*	2	3C196	71	15	.95	17	1.18	1753.44
840926	270	15	674	*	738	*	2	3C196	72	15	.95	17	1.18	1753.46
	270	18	655	*	850	*	2	3C237	33	-4	.54	56	2.92	1753.40
840928	272	14	616	*	689	*	2	3C161	88	-2	1.03	14	1.15	1753.52
	272	15	826	*	605	*	2	3C196	74	14	.96	16	1.16	1753.56
	272	16	456	*	512	*	2	3C216	63	18	.89	25	1.45	1753.48
	272	17	342	*	371	*	2	3C222	42	-7	.67	46	1.68	1753.42
	272	18	457	*	598	*	2	3C237	35	-3	.57	54	2.37	1753.45
840929	273	14	627	*			2	3C161	89	-2	1.04	14	1.20	1753.56
	273	15	688	*	505	*	2	3C196	75	14	.97	15	1.08	1753.58
	273	16	588	*	578	*	2	3C216	63	17	.89	26	1.61	1753.55
	273	17	642	*	732	*	2	3C222	43	-7	.68	45	2.48	1753.52
	273	18	448	*	548	*	2	3C237	36	-3	.59	53	2.29	1753.48
840930	274	16	375	*	526	*	2	3C216	64	17	.90	24	1.33	1753.52
	274	18	592	*	619	*	2	3C237	37	-3	.60	52	2.69	1753.54

VMID IS A MEAN AND VPK IS A MAXIMUM VELOCITY IN THE IPS SCATTERING REGION.
THE REGIONS CENTROID IS SPECIFIED BY LAT, DIST, DLON.
LAG AND ROTATION NUMBER GIVE MAPPING TO EARTH AND SUN AT VMID.
* INDICATES NO ERROR AVAILABLE, SINCE ONLY TWO ANTENNAS WERE OPERATING.

SOLAR WIND
Interplanetary Scintillations
OCTOBER 1984

DATE	DOY	UT	VMID	ERR	VPK	ERR	RATING	SOURCE	ELONG	LAT	DIST	DLOD	LAG	ROTATION
		HR	KM/S		KM/S		1-4		DEG	DEG	AU	DEG	DAY	NUMBER
841001	275	14	511	*	850	*	2	3C161	91	-2	1.05	14	1.21	1753.61
	275	17	490	*	642	*	2	3C222	45	-7	.71	44	2.19	1753.57
	275	17	389	*	496	*	2	3C237	38	-3	.62	51	2.04	1753.54
841002	276	17	363	*	371	*	2	3C222	46	-6	.72	42	1.77	1753.58
	276	17	300	10			2	3C237	39	-3	.63	50	1.53	1753.55
	276	20	700	*	844	*	2	3C283	20	-34	.34	-61	-6.37	1753.97
841003	277	14	503	*	367	*	2	3C161	93	-2	1.06	13	1.23	1753.68
	277	17	404	*	451	*	2	3C222	47	-6	.73	42	1.91	1753.63
	277	17	393	*	471	*	2	3C237	40	-3	.64	50	2.08	1753.62
841004	278	13	484	*	431	*	2	3C144	108	5	1.13	15	1.61	1753.70
	278	14	519	71	365	80	2	3C161	93	-2	1.06	15	1.34	1753.72
841005	279	12	351	33	414	24	3	3C144	109	5	1.13	15	1.82	1753.67
	279	14	369	*	391	*	2	3C161	94	-2	1.06	14	1.40	1753.70
	279	15	398	*	742	*	2	3C196	80	13	.99	16	1.16	1753.72
	279	16	366	*	475	*	2	3C216	69	15	.93	20	1.20	1753.71
	279	16	315	*	316	*	2	3C222	49	-5	.75	40	1.59	1753.67
	279	17	269	*	296	*	2	3C237	42	-2	.67	47	1.27	1753.64
	279	19	488	*			2	3C273	9	31	.16	83	3.08	1753.69
	279	22	417	55	484	71	2	3C298	25	50	.42	-57	-6.89	1754.04
841006	280	12	459	19	464	18	3	3C144	110	5	1.14	14	1.63	1753.76
	280	13	600	79	583	75	2	3C161	95	-2	1.07	13	1.22	1753.81
	280	15	541	*	559	*	2	3C196	81	13	1.00	16	1.18	1753.80
	280	22	842	*	912	*	2	3C298	25	52	.42	-57	-5.62	1754.11
841007	281	12	343	64	437	13	3	3C147	106	12	1.12	14	1.70	1753.74
	281	12	406	14	403	14	3	3C144	111	5	1.14	14	1.71	1753.77
	281	16	358	*	524	*	2	3C216	70	14	.94	19	1.09	1753.78
	281	17	442	*	488	*	2	3C237	44	-2	.69	45	2.15	1753.78
	281	22	751	44	879	36	3	3C298	24	53	.41	-56	-5.74	1754.14
841008	282	15	479	*	606	*	2	3C196	82	13	1.00	17	1.27	1753.86
	282	17	422	*	517	*	2	3C237	45	-2	.71	45	2.11	1753.81
	282	22	817	55	882	148	3	3C298	24	55	.41	-57	-5.69	1754.18
841009	283	12	327	*	327	*	2	3C147	108	12	1.13	13	1.73	1753.81
	283	12	440	60	351	24	2	3C144	112	5	1.15	13	1.61	1753.86
	283	13	392	*	378	*	2	3C161	98	-3	1.08	13	1.39	1753.86
	283	15	556	55	573	18	2	3C196	83	13	1.01	15	1.20	1753.92
	283	16	486	118	533	139	2	3C222	52	-4	.79	37	2.01	1753.87
	283	17	612	22	589	121	2	3C237	46	-2	.72	44	2.49	1753.89
	283	22	522	64	555	36	2	3C298	23	57	.39	-56	-6.44	1754.20
841010	284	12	464	31	522	52	2	3C144	113	5	1.15	14	1.67	1753.91
	284	13	421	*	489	*	2	3C161	99	-3	1.09	13	1.34	1753.91
	284	16	559	*	585	*	2	3C222	53	-4	.80	36	2.05	1753.93
	284	17	510	*	604	*	2	3C237	47	-2	.73	42	2.19	1753.91
	284	21	642	20	724	28	2	3C298	23	59	.39	-55	-5.93	1754.24
841011	285	12	754	118	603	34	2	3C144	114	5	1.16	14	1.47	1754.01
	285	13	655	*	502	*	2	3C161	99	-3	1.09	13	1.25	1754.00
	285	16	520	*	558	*	2	3C222	54	-4	.81	35	1.95	1753.96
	285	17	764	23	827	142	2	3C237	48	-2	.74	42	2.57	1753.98
	285	20	702	*	674	*	2	3C295	61	34	.87	9	.38	1754.05
841012	286	13	462	*	421	*	2	3C161	100	-3	1.09	13	1.35	1753.99
	286	16	636	*	695	*	2	3C222	55	-4	.82	33	2.00	1754.01
	286	17	634	*	715	*	2	3C237	49	-1	.75	41	2.37	1754.00
841013	287	12	441	*	493	*	2	3C144	116	4	1.16	13	1.69	1754.01
	287	16	522	*	552	*	2	3C222	56	-3	.83	32	1.81	1754.03
	287	17	612	*	580	*	2	3C237	50	-1	.77	40	2.34	1754.04
841014	288	12	299	*	320	*	2	3C144	117	4	1.17	13	2.04	1753.96
	288	16	947	*	858	*	2	3C216	77	12	.98	17	1.22	1754.15
	288	16	543	*	576	*	2	3C222	57	-3	.84	32	1.88	1754.08
	288	17	520	*	517	*	2	3C237	51	-1	.78	38	2.10	1754.06
	288	20	844	*	713	*	2	3C295	62	33	.88	9	.45	1754.18
841015	289	15	669	*	764	*	2	3C216	77	12	.98	16	1.16	1754.16
	289	16	438	*	478	*	2	3C222	58	-3	.85	31	1.74	1754.09
	289	17	494	*	481	*	2	3C237	52	-1	.79	38	2.07	1754.09

98
Late
Oct 84

SOLAR WIND Interplanetary Scintillations

OCTOBER 1984

DATE	DOY	UT HR	VMID KM/S	ERR	VPK KM/S	ERR	RATING 1-4	SOURCE	ELONG DEG	LAT DEG	DIST AU	DLON DEG	LAG DAY	ROTATION NUMBER
841016	290	13	386	40	376	40	2	3C161	104	-3	1.11	12	1.47	1754.11
	290	16	490	47	449	18	2	3C237	52	-1	.79	38	2.04	1754.13
	290	21	790	73	782	91	2	3C298	20	71	.34	-40	-4.55	1754.43
841017	291	16	529	36	464	74	2	3C222	60	-3	.87	29	1.71	1754.19
	291	16	500	18	458	30	3	3C237	53	-1	.80	37	2.04	1754.17
841018	292	0	342	58	375	60	2	3C368	71	18	.95	-15	-1.43	1754.24
	292	12	382	26	398	27	2	3C144	121	4	1.18	13	1.87	1754.16
	292	13	566	37	527	48	3	3C161	105	-3	1.12	13	1.33	1754.24
	292	14	434	9	429	12	3	3C196	91	12	1.05	16	1.39	1754.20
	292	15	551	51	550	48	2	3C216	80	11	.99	17	1.24	1754.24
	292	16	485	21	439	15	3	3C237	54	-1	.81	35	1.92	1754.20
	292	20	395	21	367	19	2	3C295	63	31	.89	10	.21	1754.24
	292	21	361	30	480	20	2	3C298	20	74	.34	-26	-5.38	1754.43
841019	293	3	494	145	401	76	2	3C409	102	17	1.10	-11	-.43	1754.31
	293	4	487	28	446	52	2	3C446	130	7	1.21	-10	.04	1754.29
	293	12	613	91	506	19	2	3C144	122	4	1.19	12	1.51	1754.28
	293	21	516	31	467	34	2	3C298	19	75	.33	-16	-3.68	1754.46
841020	294	11	568	81	548	32	2	3C144	123	4	1.19	13	1.57	1754.30
	294	16	682	88	665	20	3	3C237	56	-1	.83	34	2.12	1754.31
	294	21	584	55	562	20	2	3C298	19	76	.33	-7	-2.66	1754.47
841021	295	12	442	42	430	95	2	3C144	124	4	1.19	12	1.70	1754.30
	295	14	538	*	533	*	2	3C196	94	11	1.06	15	1.39	1754.34
	295	18	696	39	613	191	2	3C273	23	9	.39	67	3.46	1754.30
	295	21	554	24	506	23	2	3C298	19	76	.33	5	-1.92	1754.48
841022	296	11	530	*	569	*	2	3C144	125	4	1.20	12	1.57	1754.37
	296	18	552	*	533	*	2	3C273	24	8	.41	66	2.99	1754.33
841023	297	11	753	*	822	*	2	3C144	126	4	1.20	12	1.39	1754.45
841024	298	11	447	*	458	*	2	3C144	127	4	1.20	12	1.75	1754.41
	298	14	659	*	652	*	2	3C196	96	11	1.07	15	1.34	1754.48
	298	15	588	*	623	*	2	3C216	86	11	1.02	16	1.31	1754.47
841025	299	13	566	*	422	*	2	3C196	97	11	1.08	15	1.41	1754.50
	299	16	631	*	642	*	2	3C237	61	0	.87	29	1.82	1754.50
	299	18	562	*	577	*	2	3C273	27	7	.45	63	2.98	1754.44
841026	300	4	595	97	624	86	2	3C446	123	7	1.19	-12	-.32	1754.59
	300	5	597	20	584	14	2	3C459	138	8	1.24	-9	.07	1754.58
	300	15	559	*	575	*	2	3C222	69	-1	.93	20	1.29	1754.54
	300	17	471	*	471	*	2	3C273	28	6	.47	63	2.64	1754.47
	300	21	587	67	595	18	3	3C298	20	69	.34	46	1.38	1754.55
841027	301	5	406	18	421	25	2	3C459	137	8	1.24	-9	.42	1754.55
	301	18	400	*	375	*	2	3C273	29	6	.48	61	2.24	1754.49
	301	19	409	*	436	*	2	3C295	65	27	.91	12	.45	1754.57
841028	302	4	236	20	265	30	2	3C446	121	7	1.18	-12	.53	1754.46
	302	5	359	83	306	69	2	3C459	136	8	1.23	-9	.50	1754.56
	302	19	414	*	463	*	2	3C295	66	26	.91	11	.43	1754.61
841029	303	17	326	23	366	26	3	3C273	31	5	.52	59	1.72	1754.55
	303	18	402	*	416	*	2	3C283	18	-49	.31	55	.98	1754.61
	303	19	543	*	521	*	2	3C295	66	26	.91	12	.59	1754.68
	303	20	432	*	480	*	2	3C298	20	62	.34	55	1.30	1754.62
841030	304	20	319	76	346	64	2	3C298	21	59	.36	55	.46	1754.63
841031	305	14	322	11	321	51	2	3C216	92	10	1.05	17	1.57	1754.62
	305	23	309	11	314	38	2	3C368	60	25	.87	-23	-2.54	1754.77

VMID IS A MEAN AND VPK IS A MAXIMUM VELOCITY IN THE IPS SCATTERING REGION.
THE REGIONS CENTROID IS SPECIFIED BY LAT, DIST, DLON.
LAG AND ROTATION NUMBER GIVE MAPPING TO EARTH AND SUN AT VMID.
* INDICATES NO ERROR AVAILABLE, SINCE ONLY TWO ANTENNAS WERE OPERATING.

VOSTOK INFERRED INTERPLANETARY MAGNETIC FIELD
CORRECTED DATA

99
Late
1982

1982

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

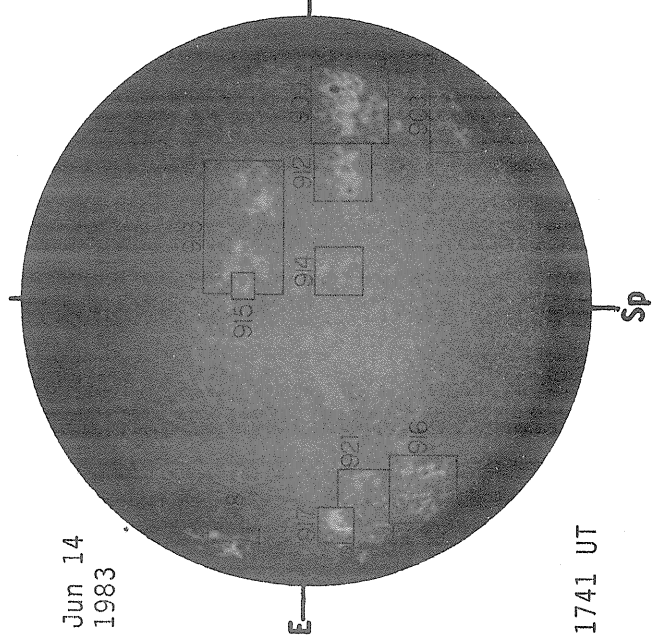
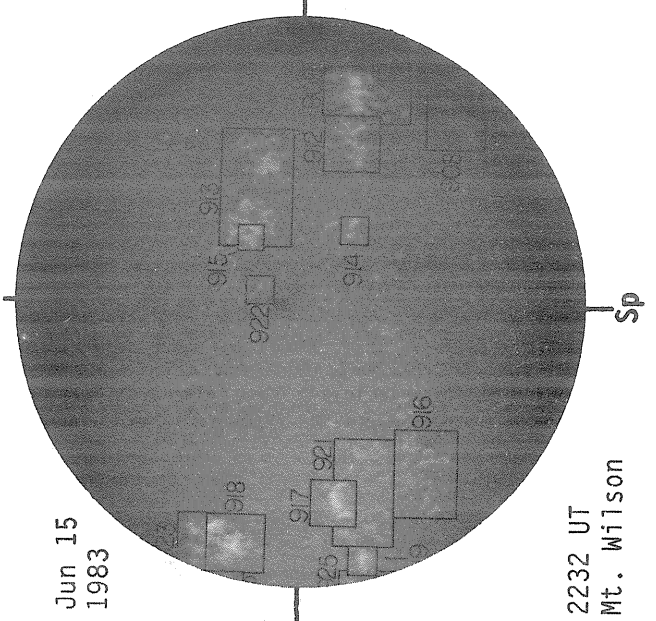
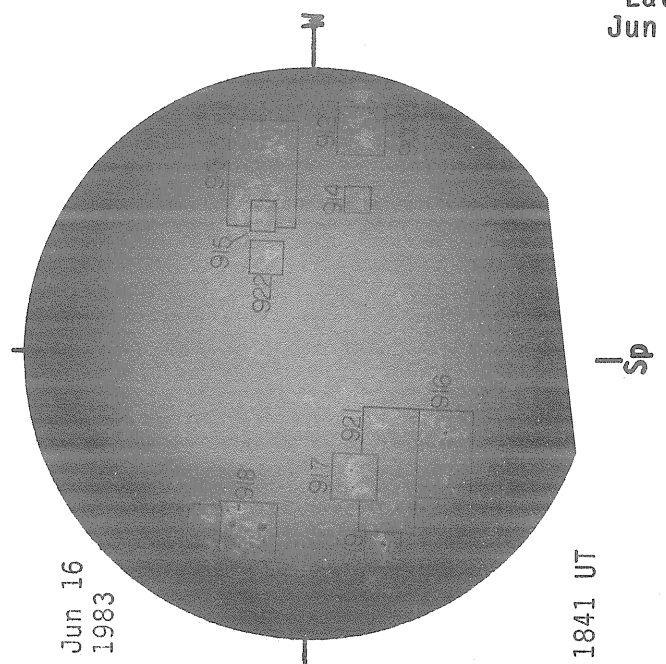
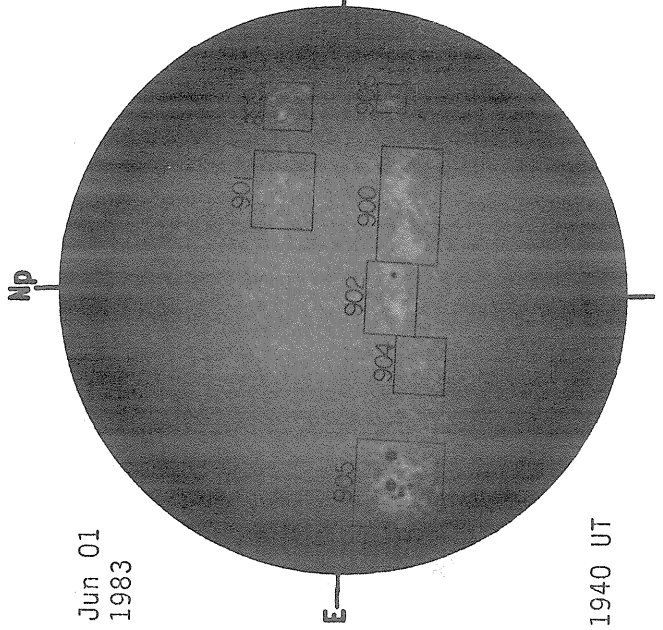
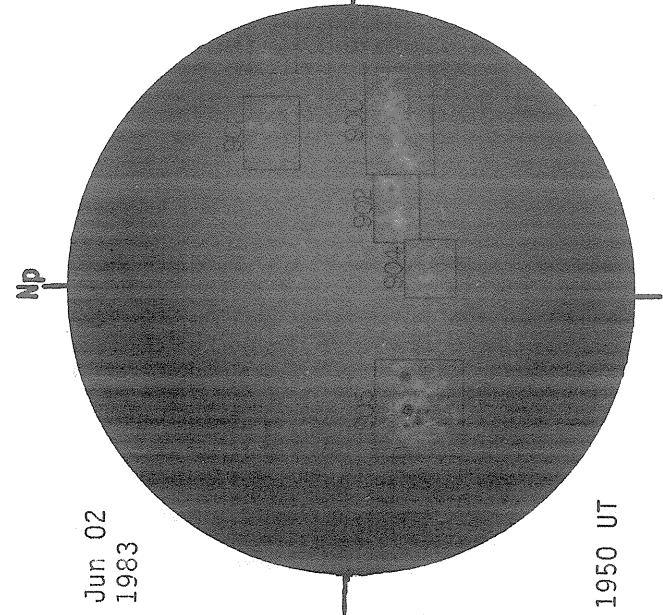
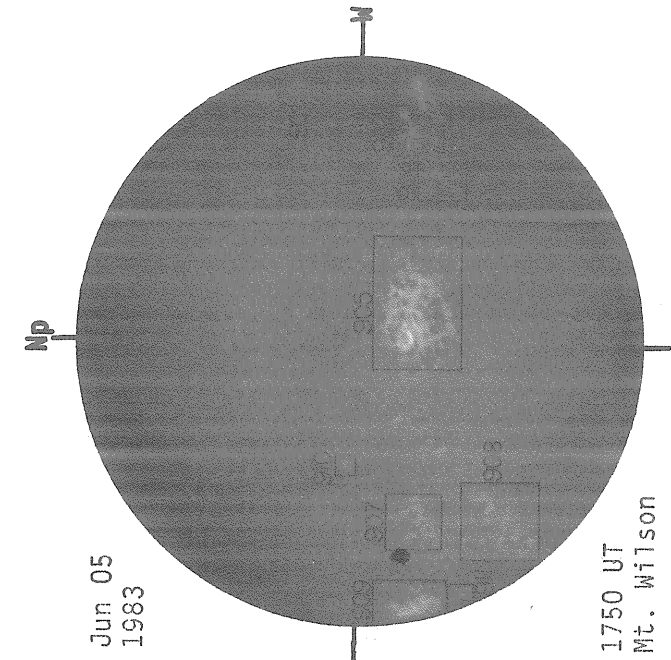
100
Late
1983

VOSTOK INFERRED INTERPLANETARY MAGNETIC FIELD
CORRECTED DATA

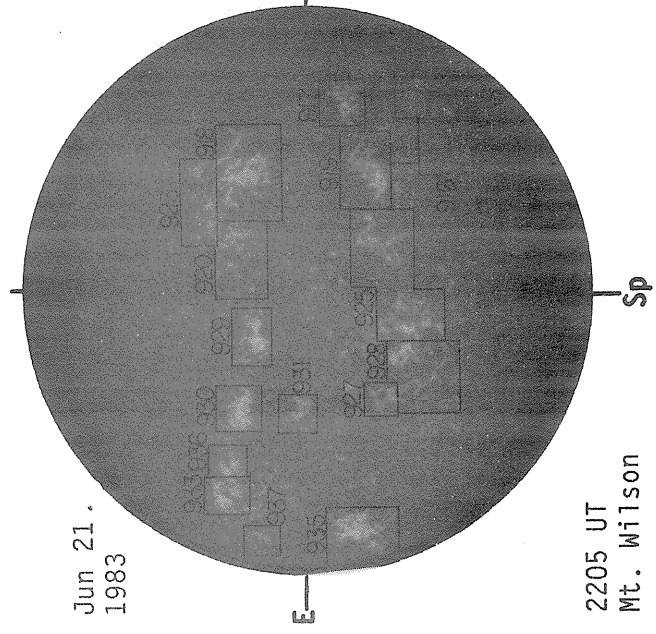
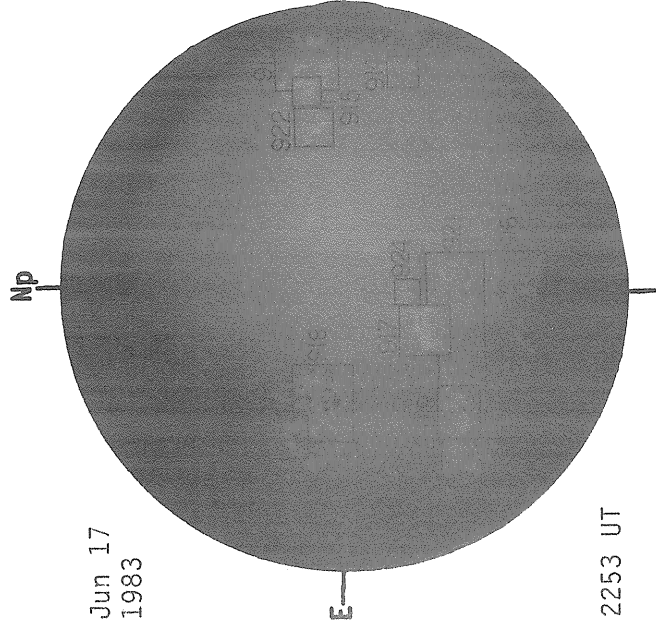
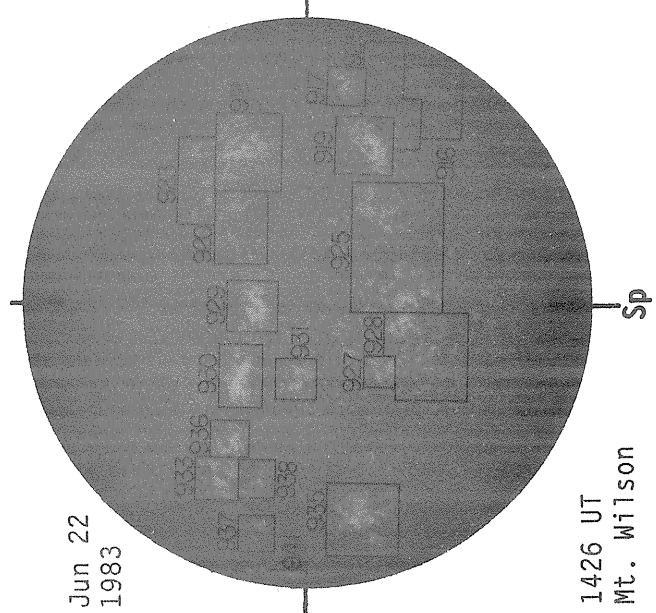
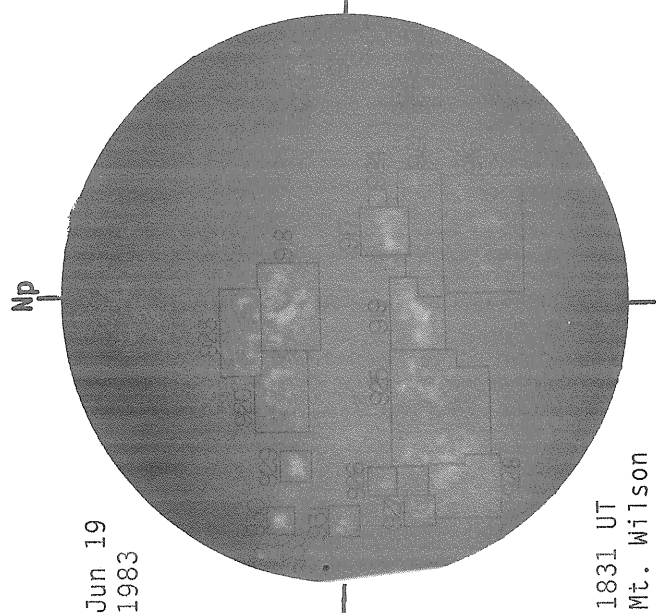
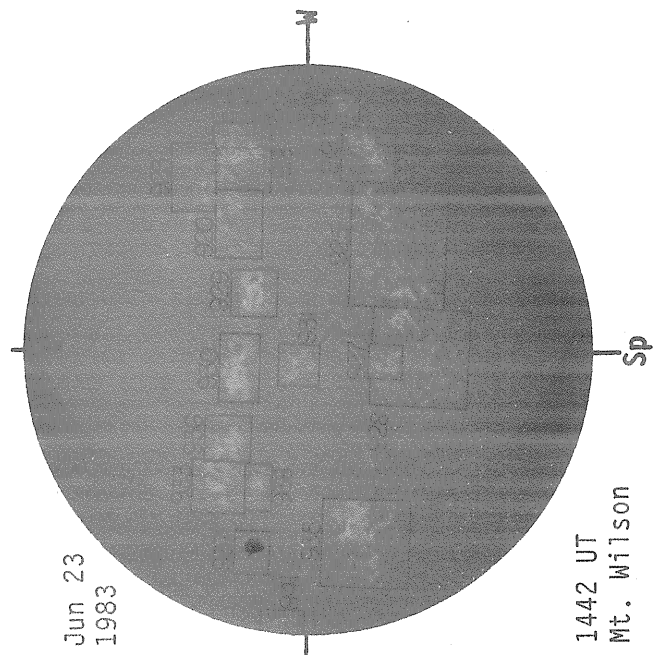
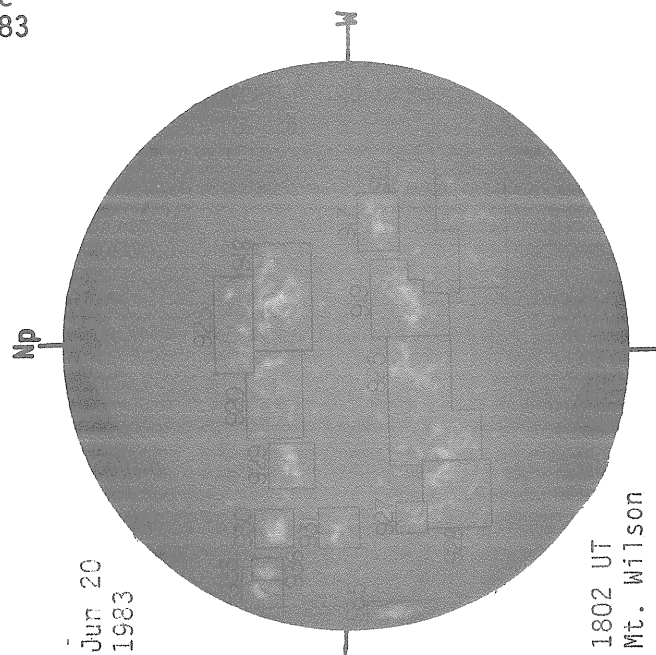
1983

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

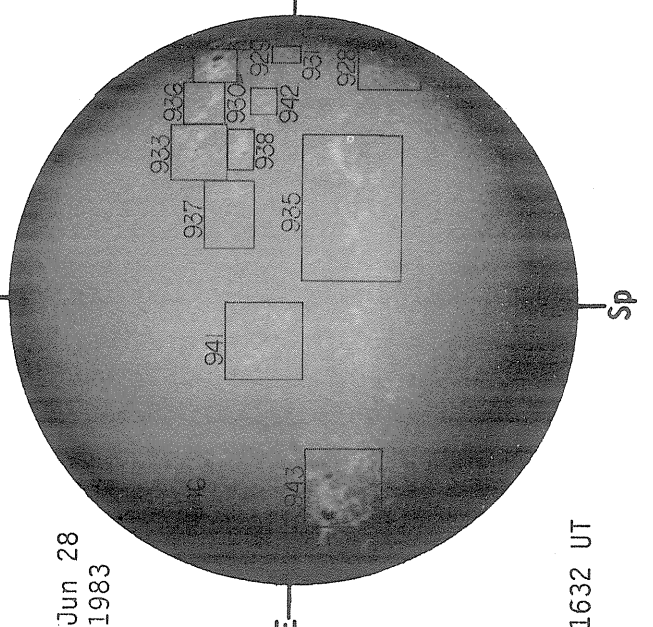
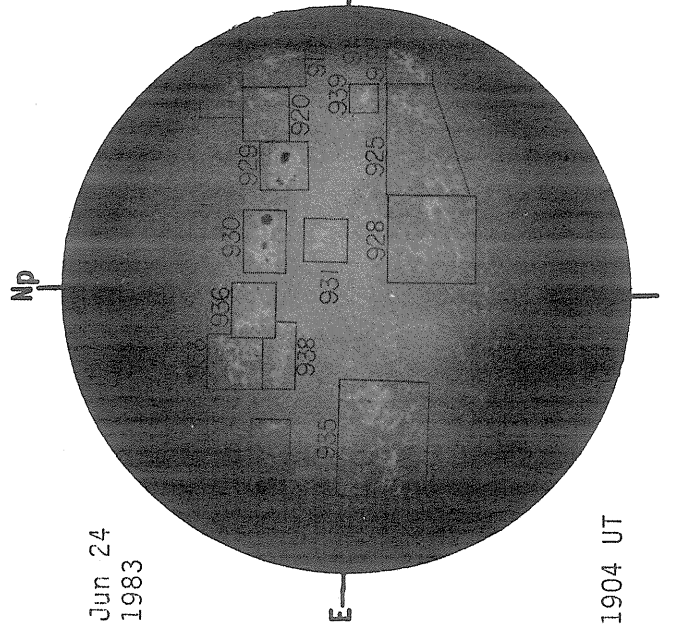
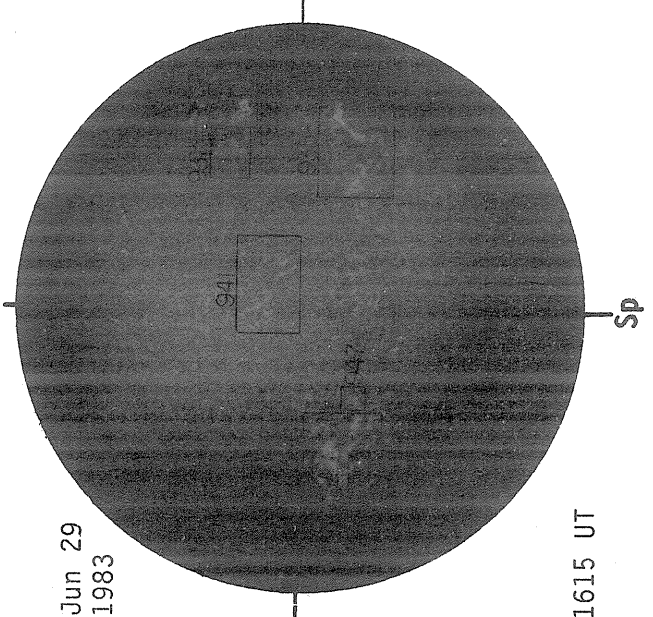
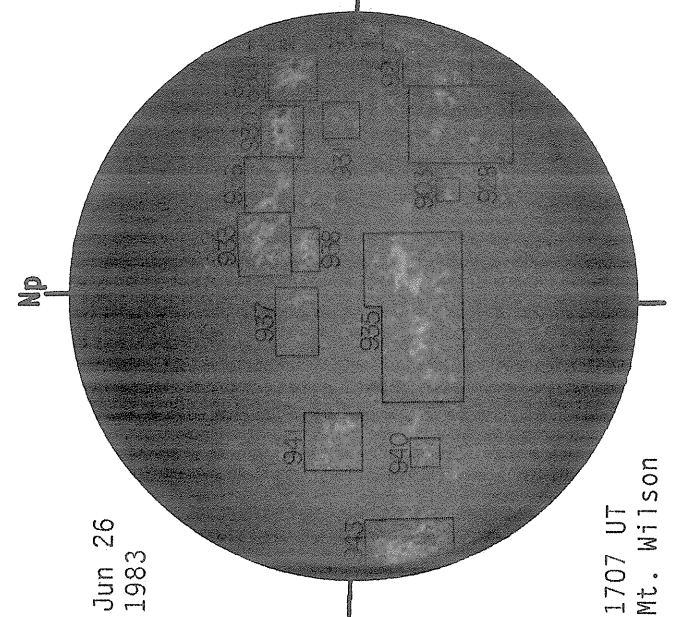
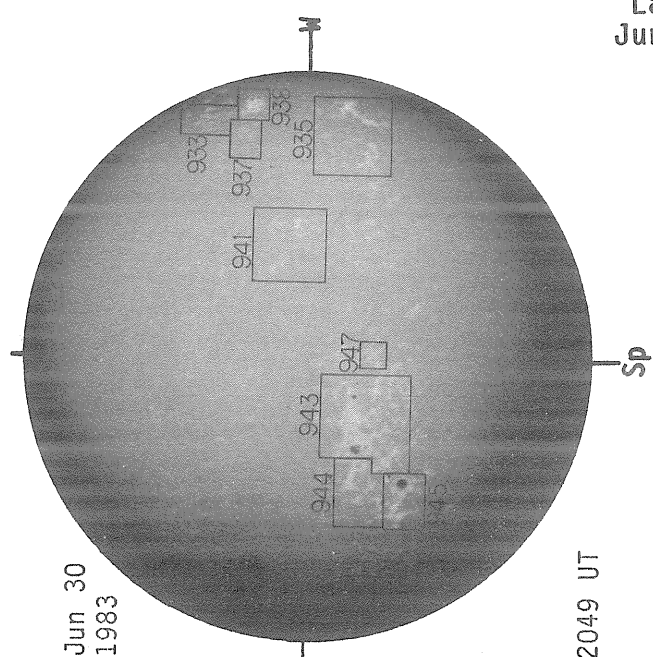
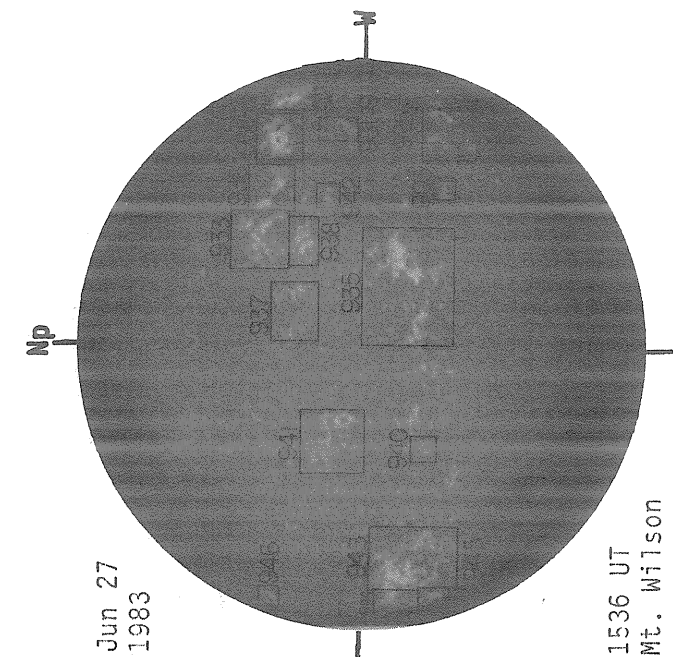
BIG BEAR SOLAR CALCIUM PLAGE REGIONS



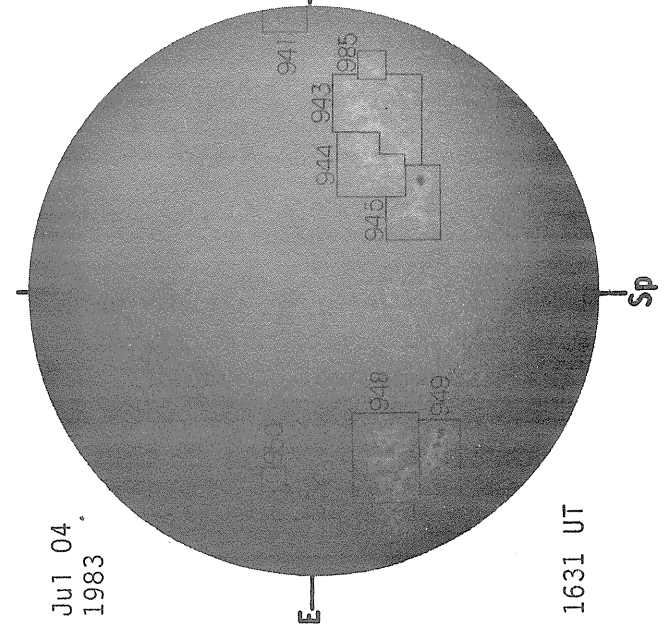
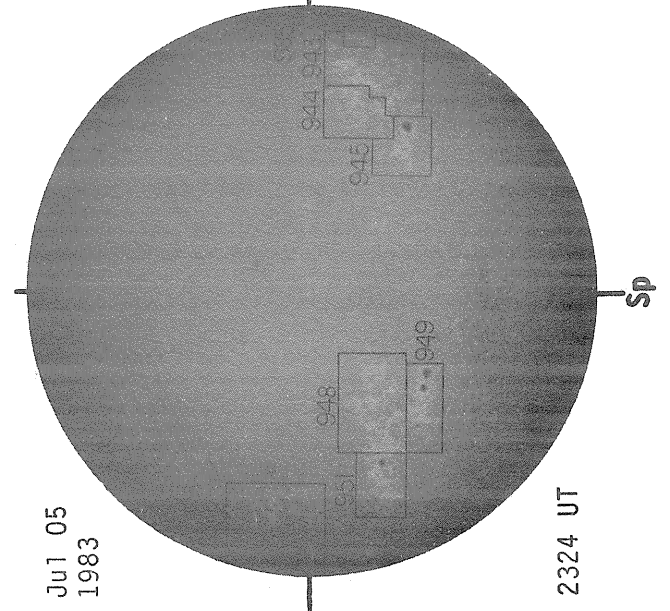
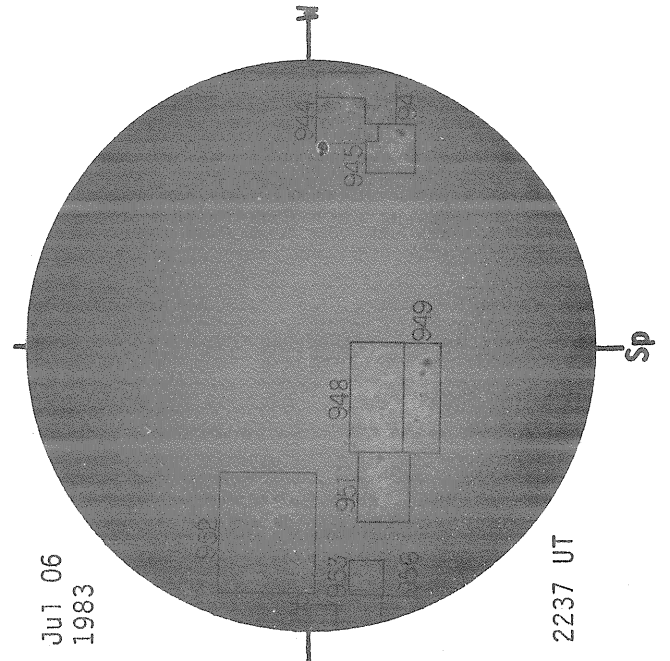
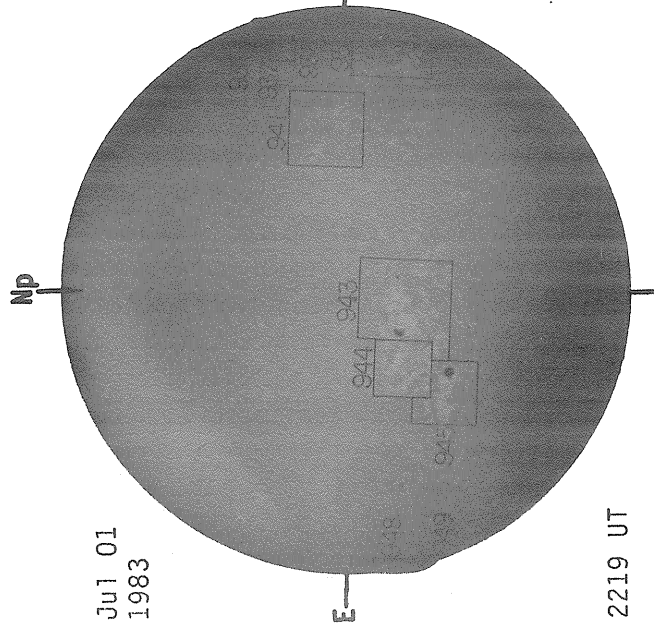
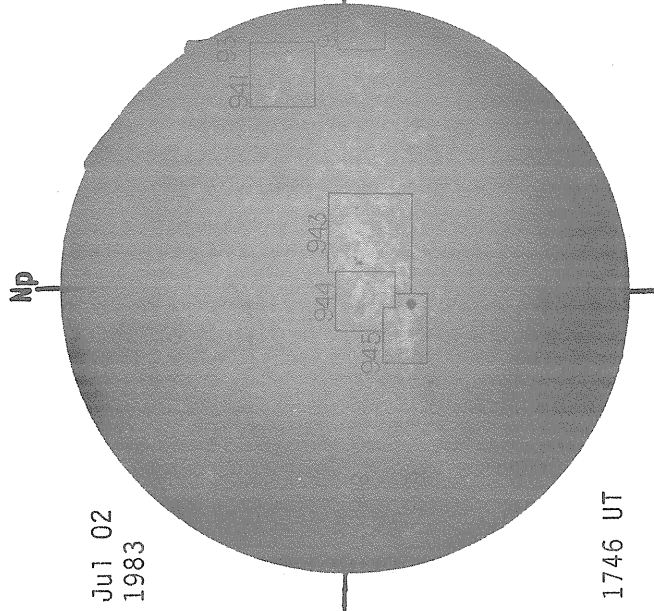
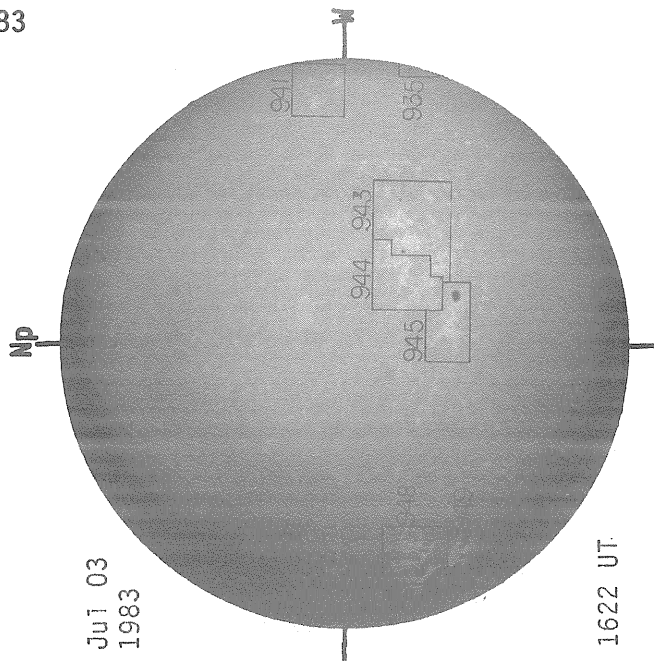
BIG BEAR SOLAR CALCIUM PLAGE REGIONS



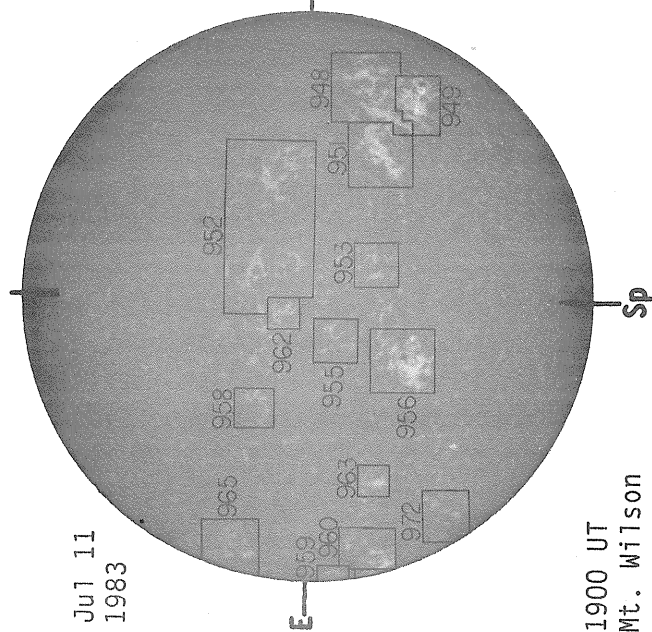
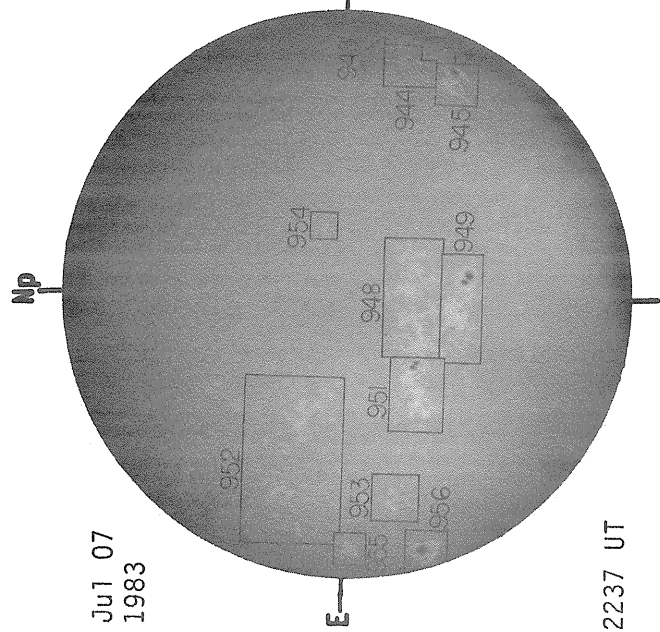
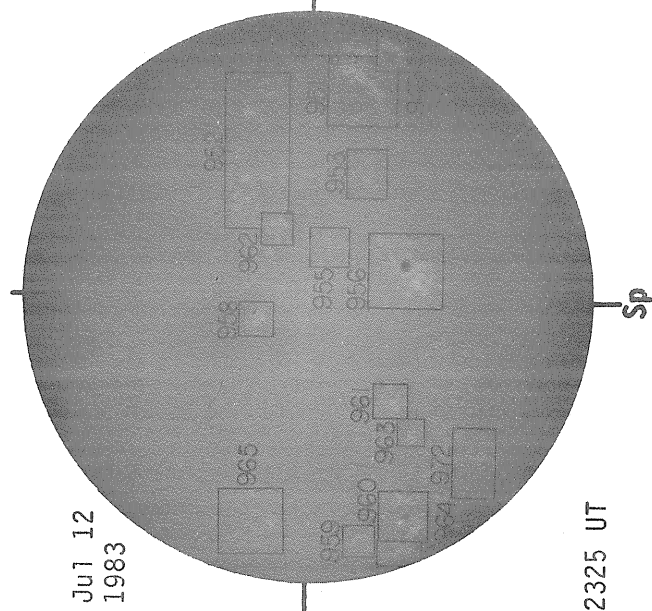
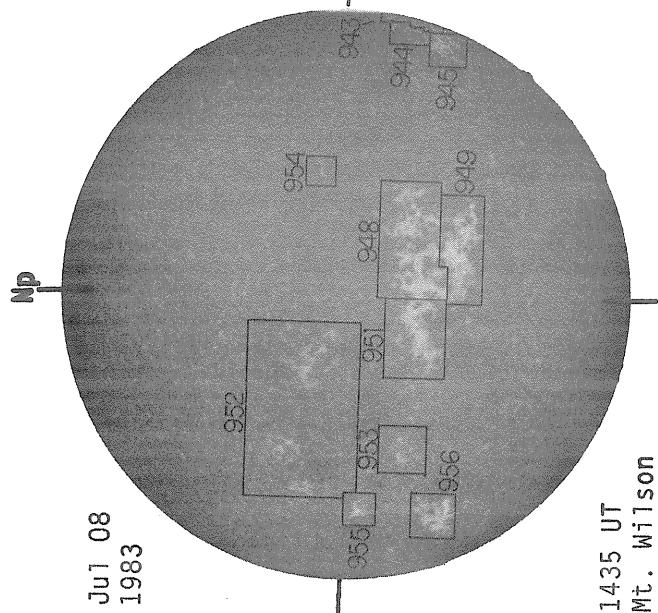
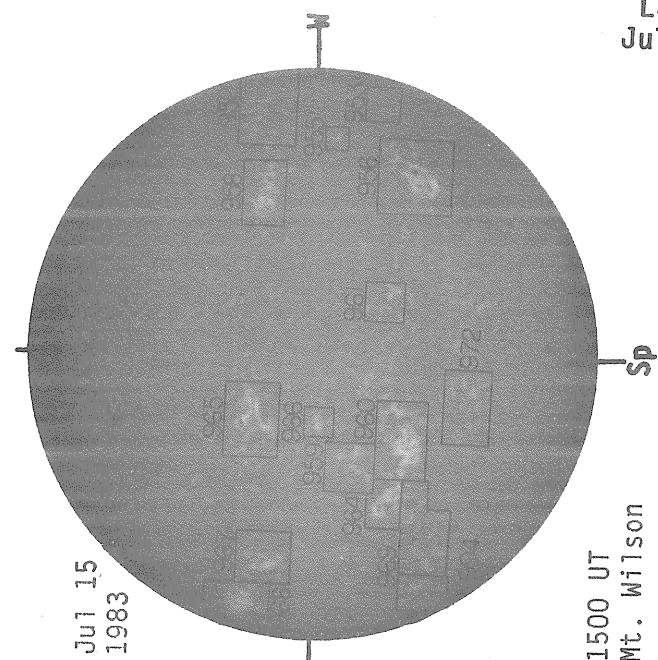
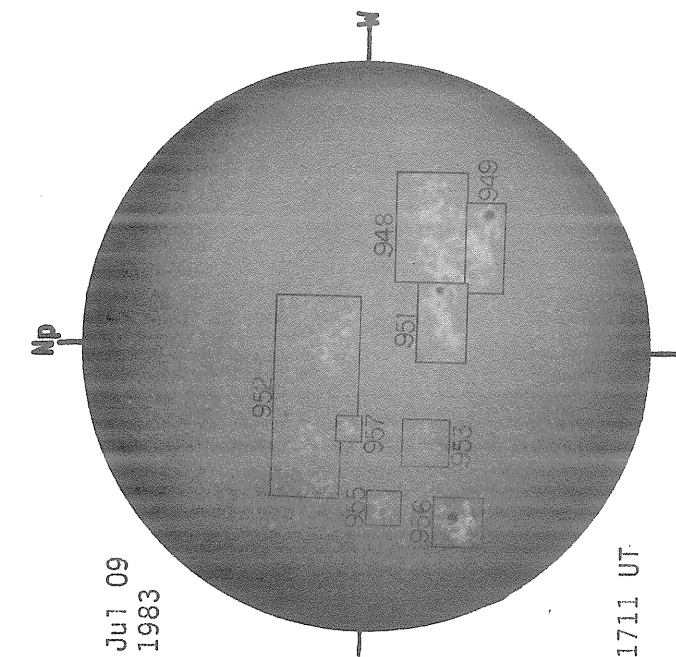
BIG BEAR SOLAR CALCIUM PLAGE REGIONS

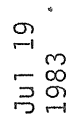
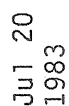
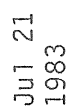
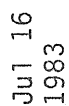
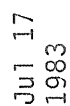
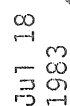


BIG BEAR SOLAR CALCIUM PLAGE REGIONS



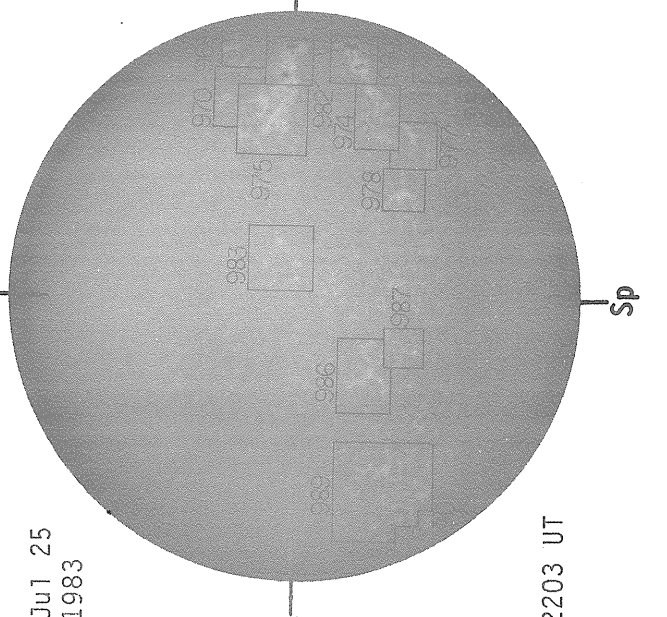
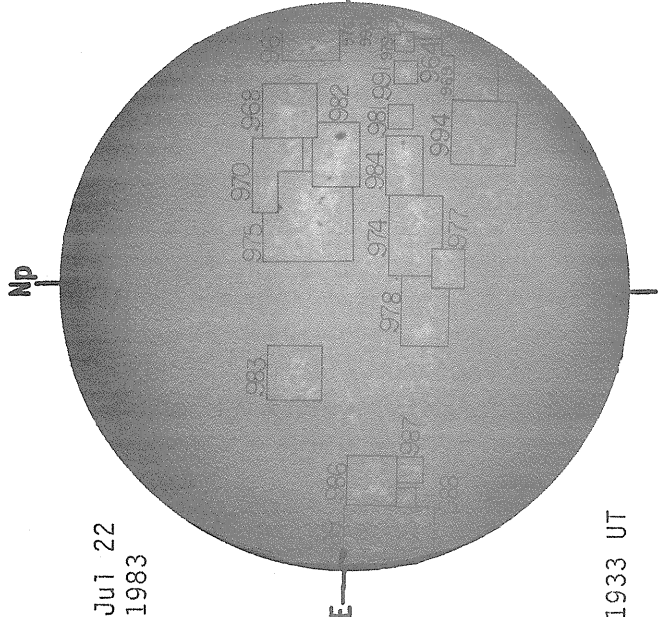
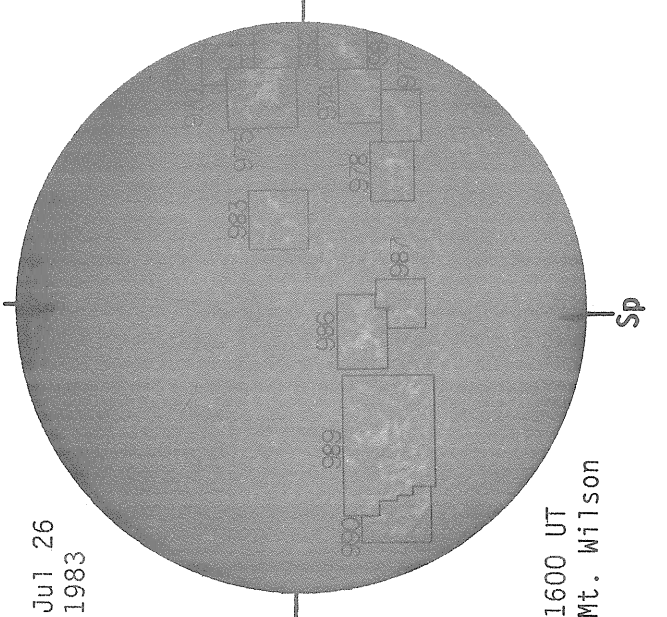
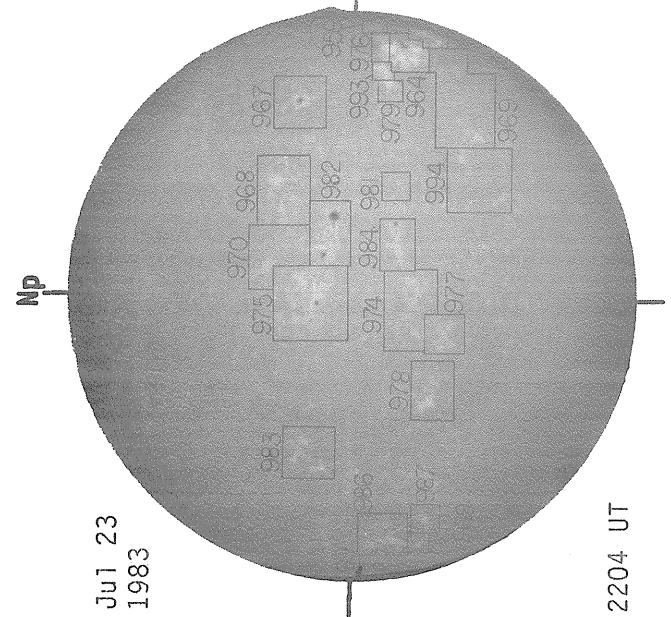
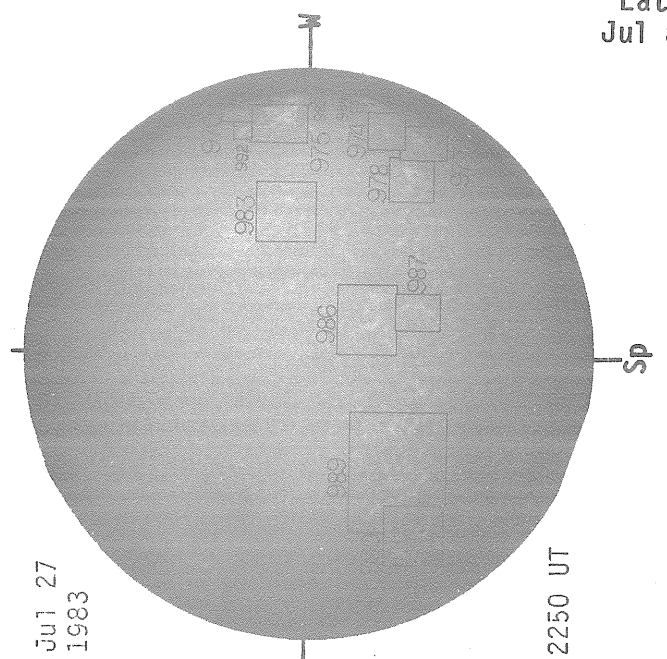
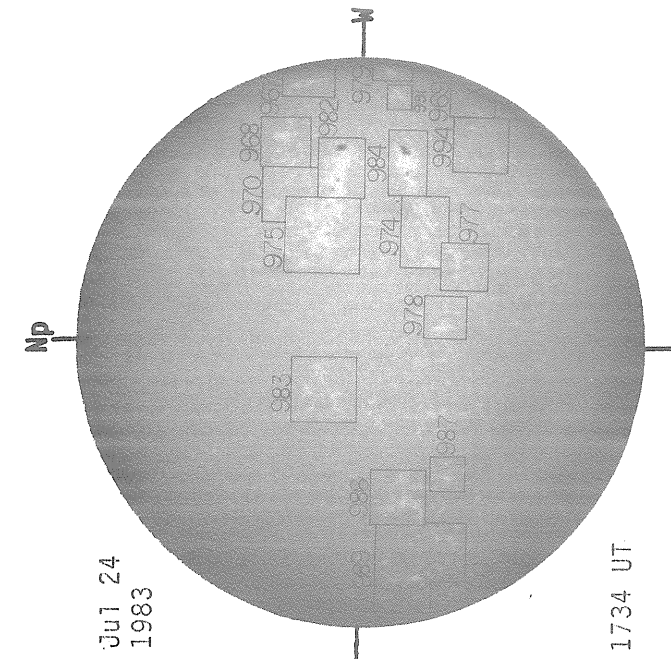
BIG BEAR SOLAR CALCIUM PLAGE REGIONS



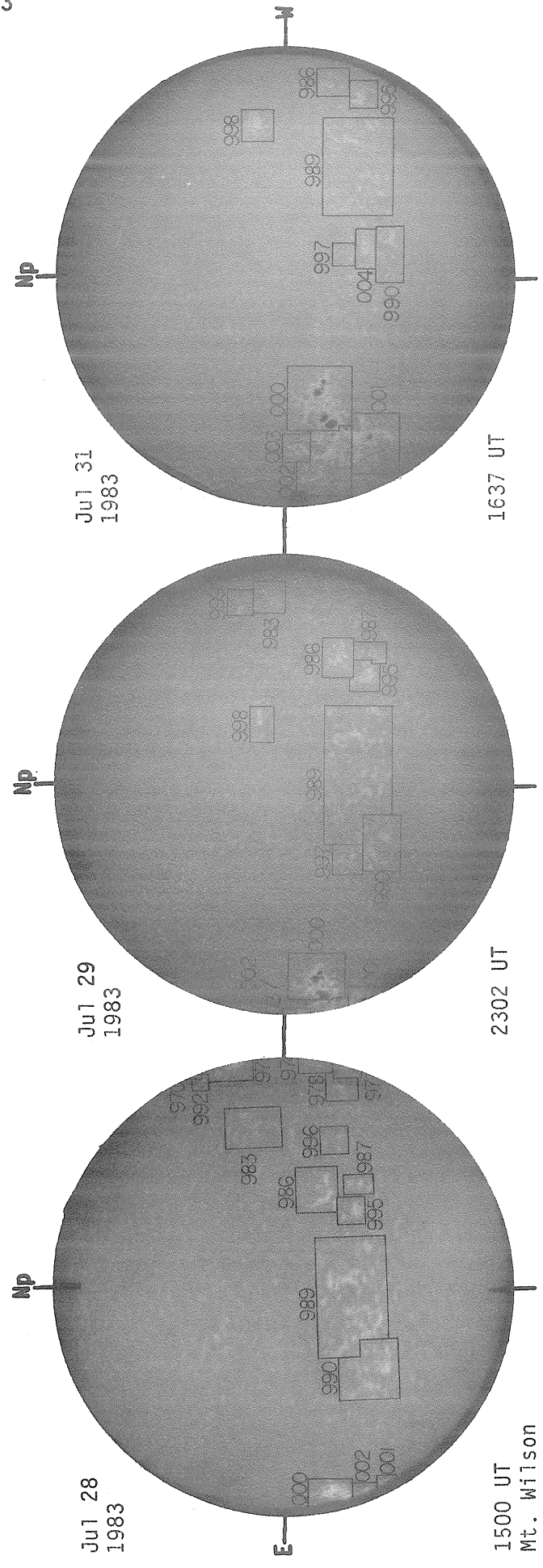


BIG BEAR SOLAR CALCIUM PLAGE REGIONS

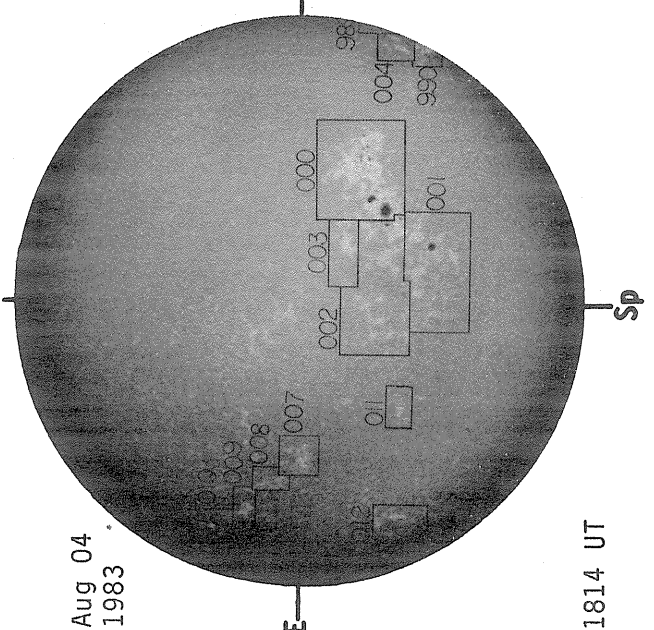
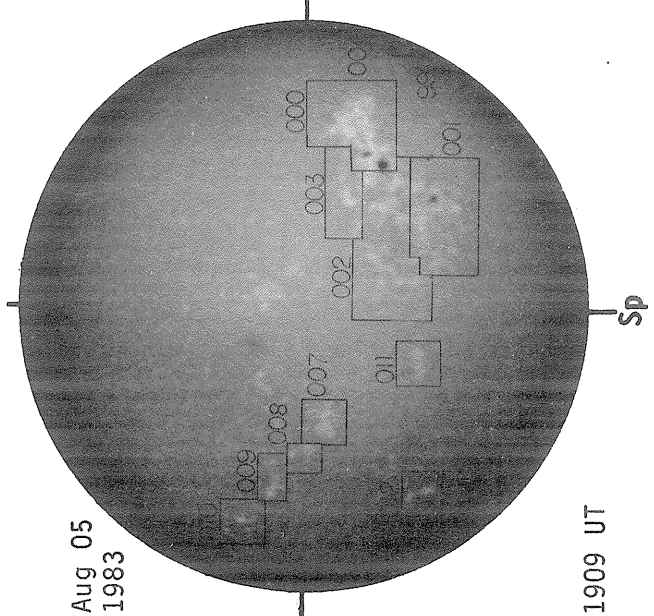
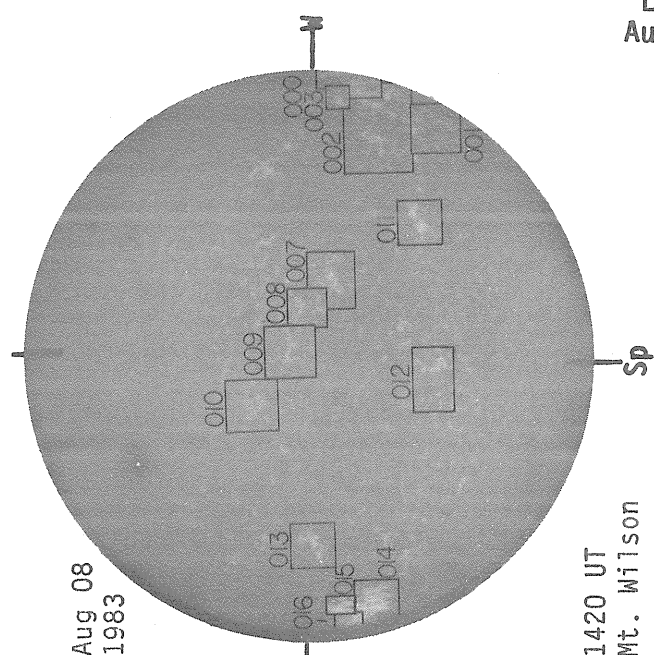
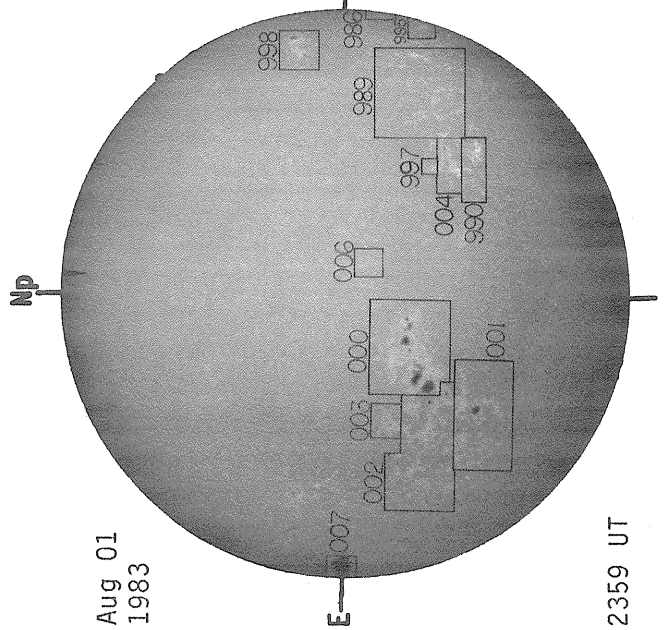
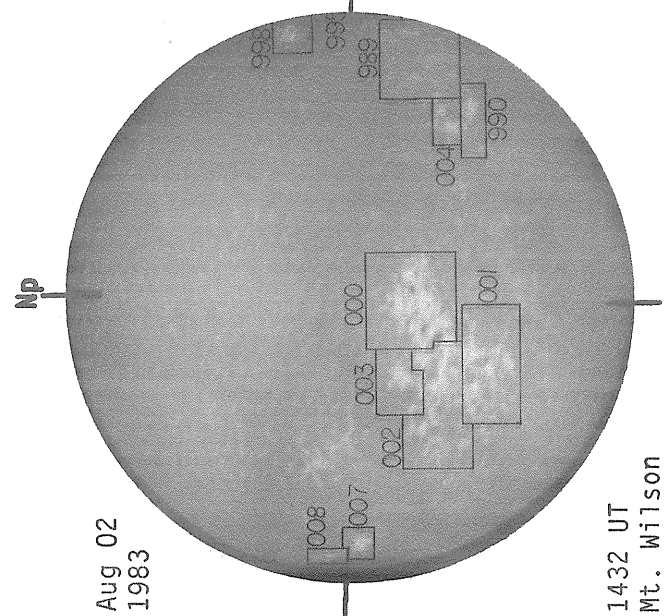
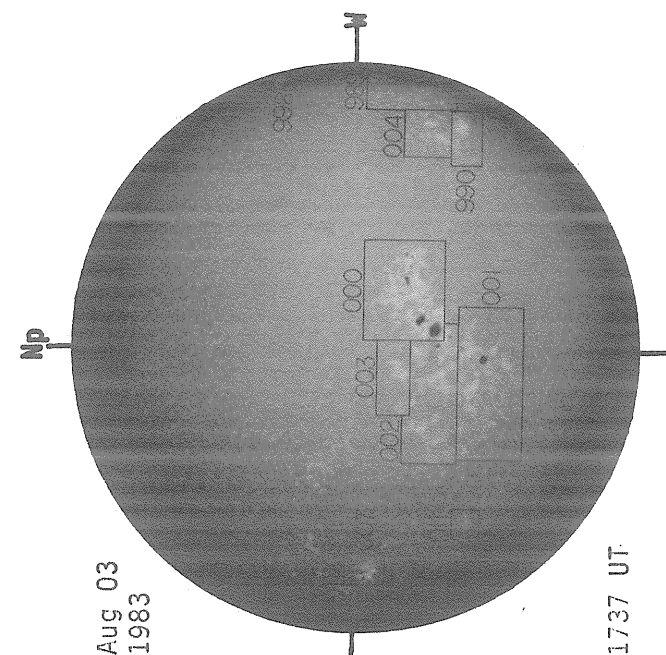
107
Late
Jul 83



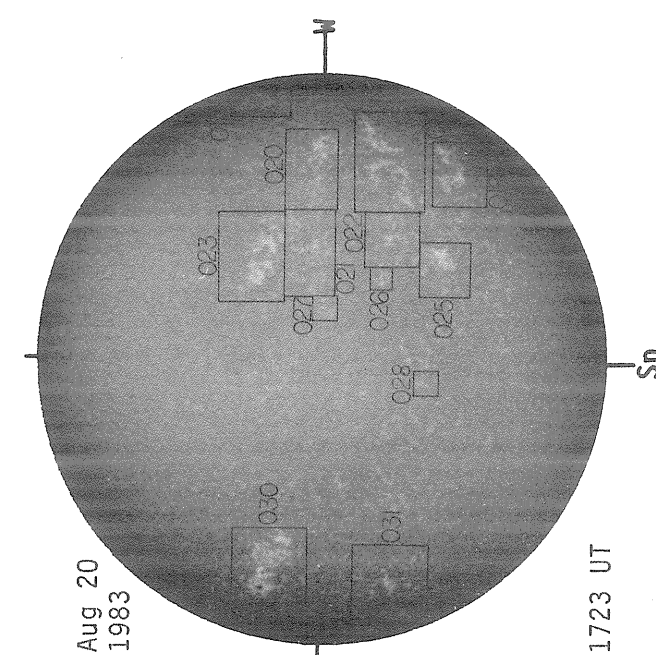
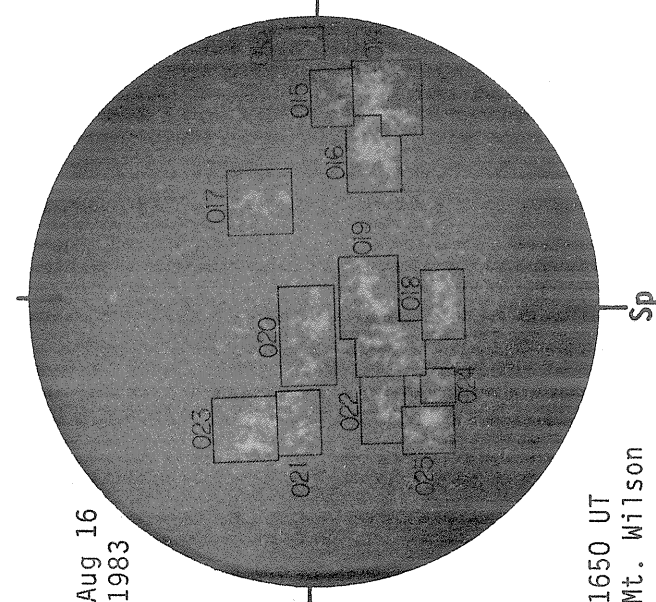
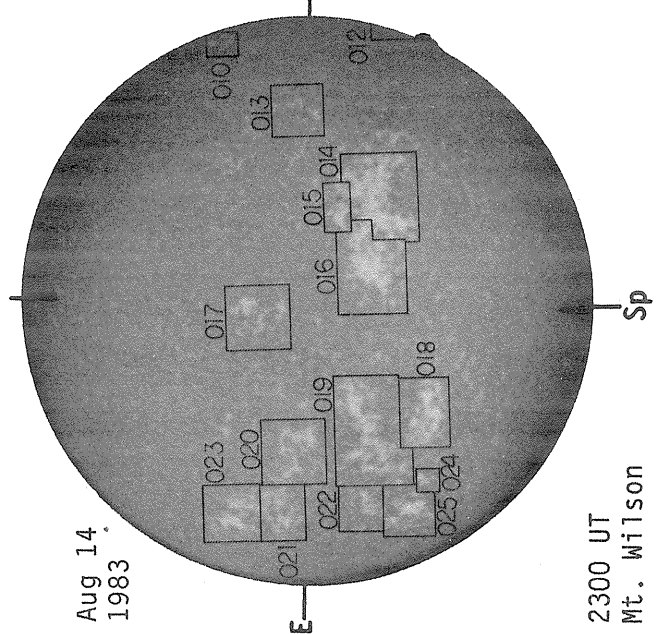
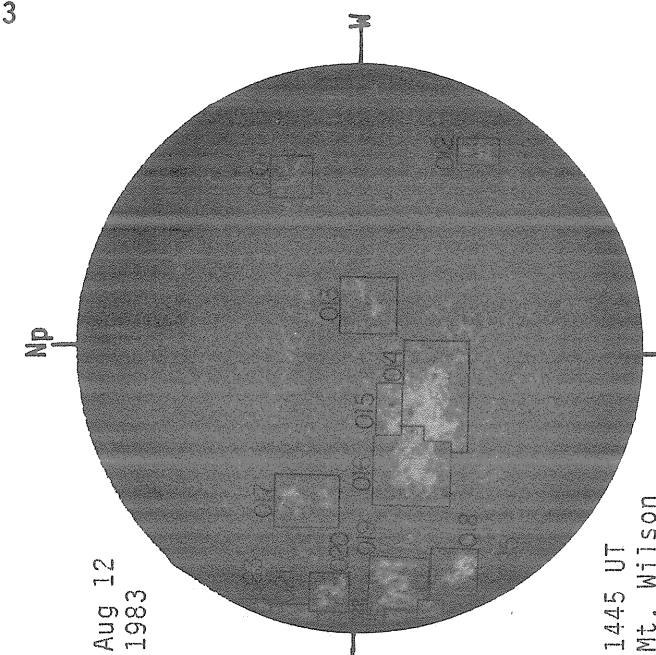
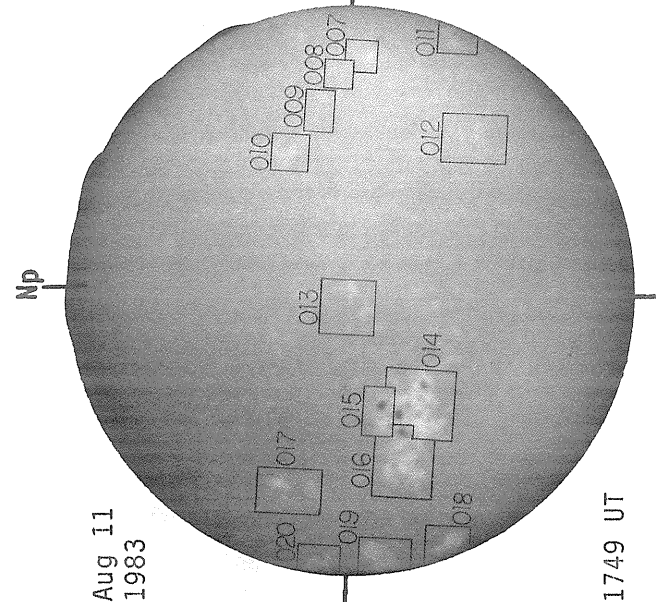
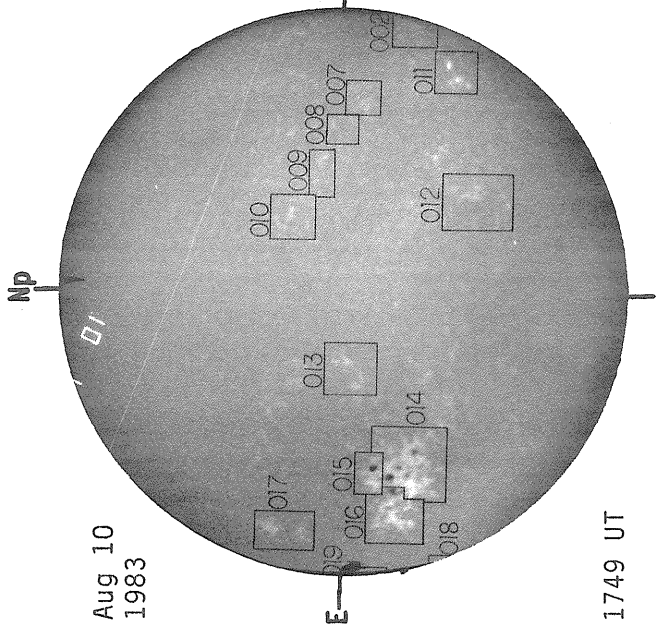
BIG BEAR SOLAR CALCIUM PLAGE REGIONS



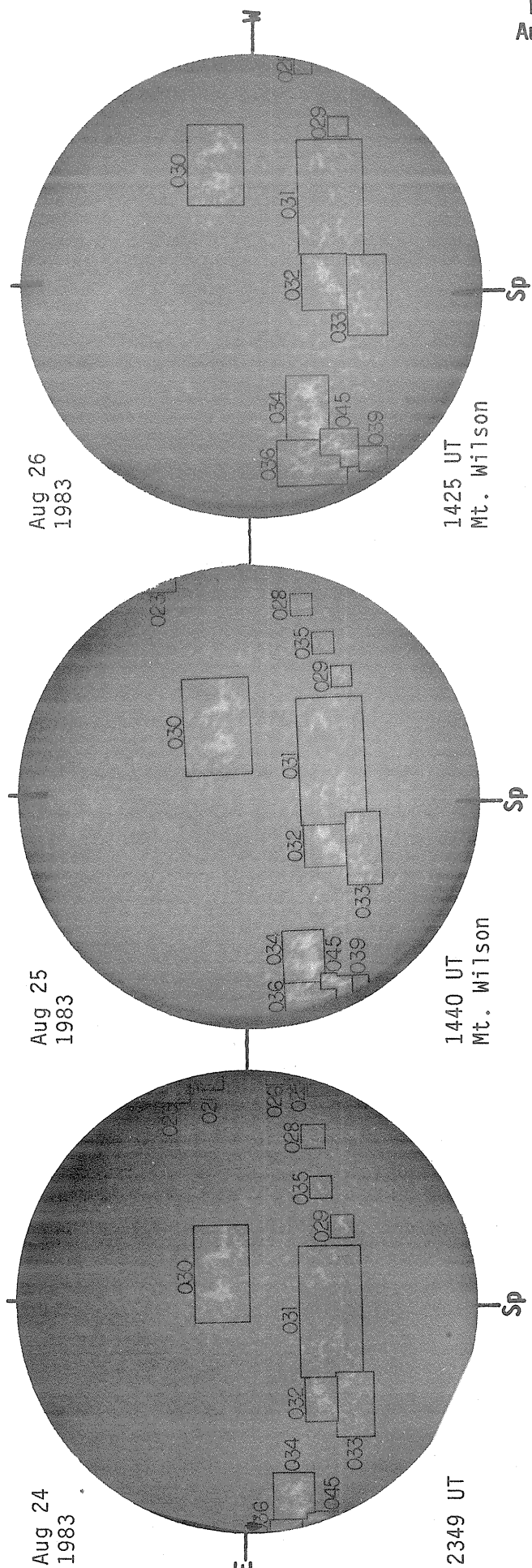
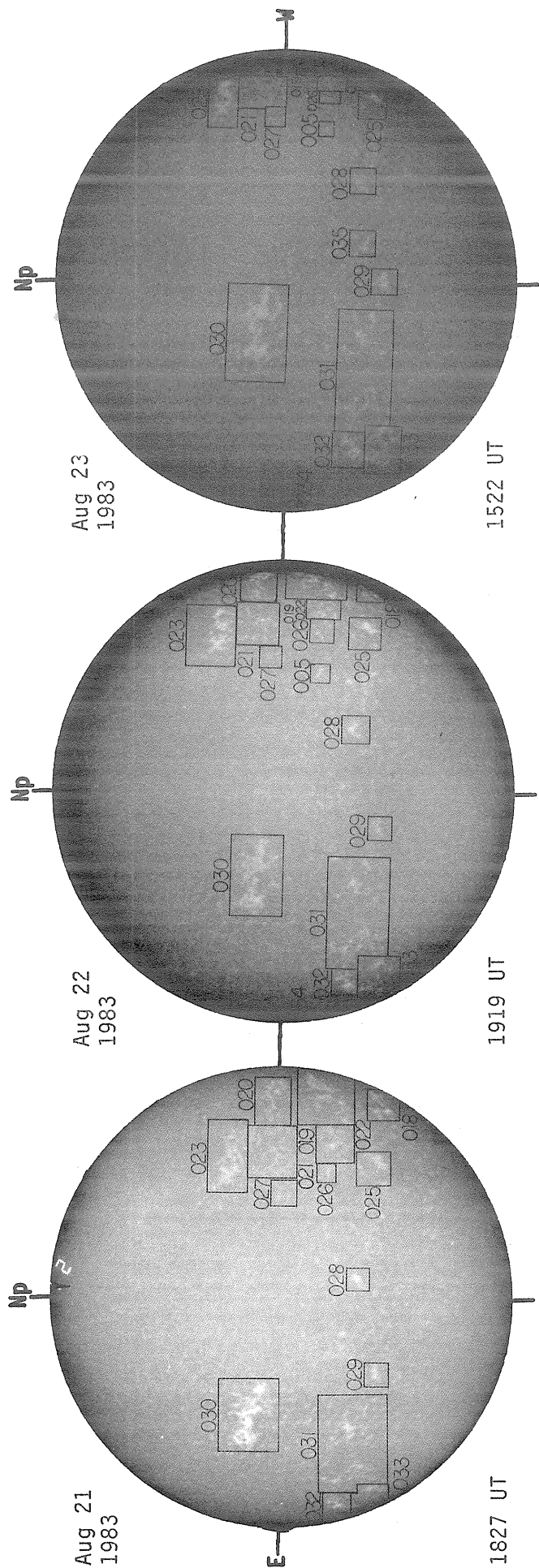
BIG BEAR SOLAR CALCIUM PLAGE REGIONS



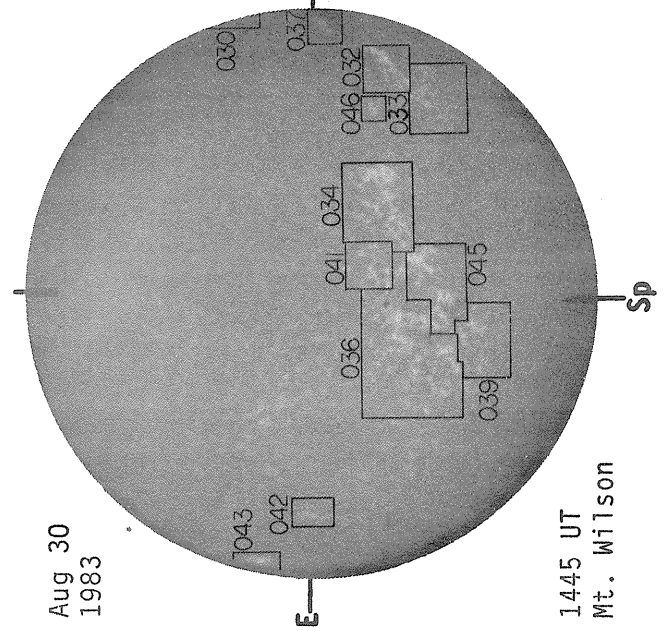
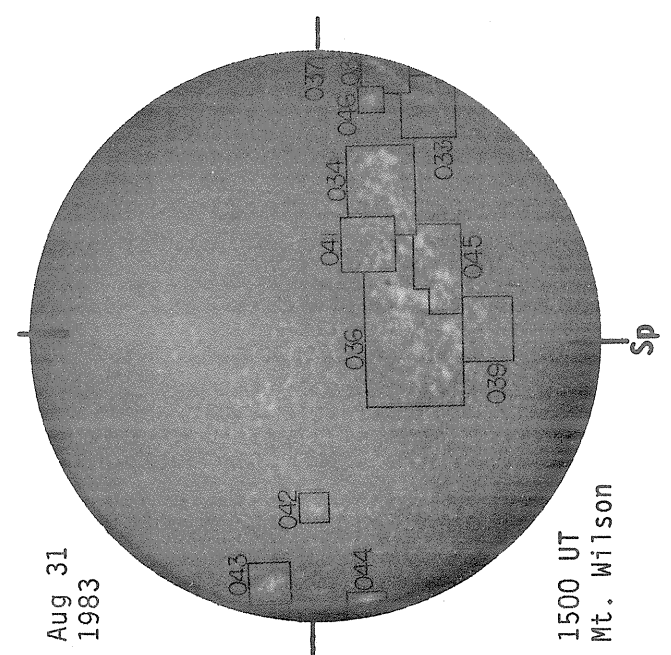
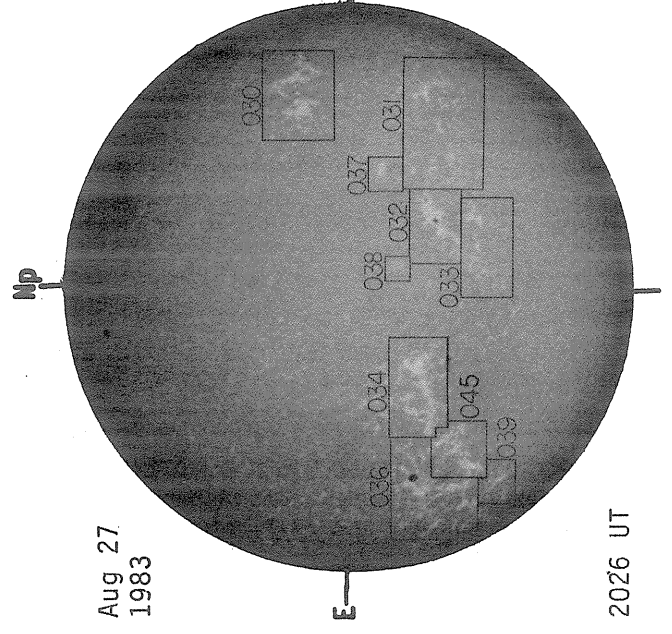
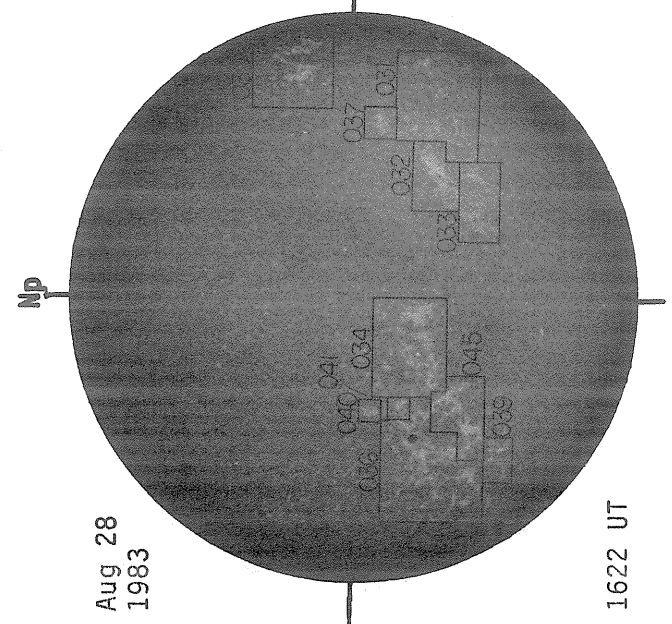
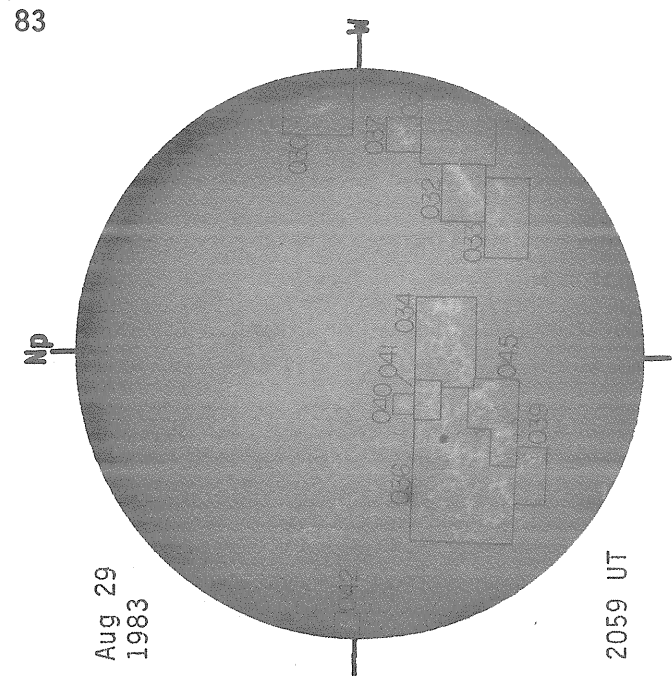
BIG BEAR SOLAR CALCIUM PLAGE REGIONS



BIG BEAR SOLAR CALCIUM PLAGE REGIONS



BIG BEAR SOLAR CALCIUM PLAGE REGIONS



Mt. Wilson

Mt. Wilson

DAILY CALCIUM PLAGE INDEX
1983

113
Late
1983

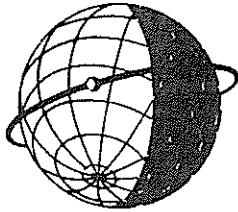
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	19.2	25.9	*	27.7	*	31.9	28.9	41.8	(Data not available at time of publication.)			
2	16.1	*	*	25.2	36.7	29.0	26.5	49.3				
3	18.8	*	*	22.9	35.4	*	27.6	39.6				
4	19.9	23.6	*	18.2	32.5	*	32.3	36.5				
5	29.7	*	*	*	30.8	32.6	36.0	35.4				
6	37.4	*	*	*	30.0	*	30.4	*				
7	39.4	*	*	*	34.5	34.6	29.5	*				
8	42.8	13.2	16.0	*	*	38.6	34.7	20.6				
9	40.8	15.4	*	19.7	36.5	37.2	32.5	*				
10	33.9	13.1	*	*	32.8	*	*	25.2				
11	31.0	9.1	*	*	*	38.0	36.7	33.3				
12	27.3	10.1	6.8	*	37.3	*	26.9	42.6				
13	23.5	11.0	*	*	31.3	*	*	*				
14	21.6	8.4	*	29.3	32.6	34.8	*	57.8				
15	19.1	7.8	9.1	35.7	37.7	36.4	33.6	*				
16	20.5	8.8	11.7	31.8	34.7	30.3	34.0	38.9				
17	25.9	8.8	*	27.6	32.3	33.0	30.6	*				
18	23.2	9.0	*	*	*	*	27.0	*				
19	23.4	8.4	*	*	30.5	43.5	29.0	*				
20	21.4	8.5	*	*	29.4	47.1	35.2	23.2				
21	*	8.6	*	*	35.8	47.5	38.4	24.2				
22	*	10.0	*	*	40.4	50.1	37.8	19.6				
23	*	*	*	38.5	43.8	52.8	35.4	22.6				
24	*	*	*	*	47.4	45.8	31.6	20.2				
25	16.3	*	13.8	*	45.6	*	24.5	24.5				
26	20.2	*	17.5	*	46.4	41.2	26.0	22.2				
27	*	*	*	41.2	48.8	37.7	17.1	21.6				
28	31.5	*	*	42.4	45.0	35.6	16.0	23.1				
29	39.1		20.9	*	44.6	33.8	25.9	22.0				
30	*		23.9	*	39.9	32.6	*	20.0				
31	30.2		23.8		37.7			18.1				

* No Observations.

BIG BEAR SOLAR ACTIVE REGIONS

1983

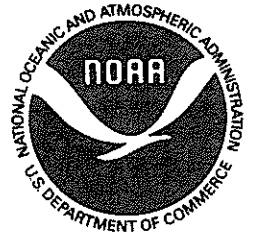
Day	JUNE				JULY				AUGUST			
	No of Active Regions	Total Plage Area	Corrected Excess Intensity	No of Active Regions	Total Plage Area	Corrected Excess Intensity	No of Active Regions	Total Plage Area	No of Active Regions	Total Plage Area	Corrected Excess Intensity	
1	9	14600	14260	10	13900	12500	13	18900	13	18900	17350	
2	9	13000	11890	9	13500	12280	11	20000	11	20000	19695	
3	-	-	-	10	15100	14120	14	16600	14	16600	15390	
4	-	-	-	10	16300	16135	13	15500	13	15500	15035	
5	10	16400	17125	9	17850	17318	13	16500	13	16500	15220	
6	-	-	-	10	15800	14615	-	-	-	-	-	
7	7	15800	16205	11	15000	13730	-	-	-	-	-	
8	8	17000	18420	10	14900	14380	14	16800	14	16800	15800	
9	7	17100	18275	8	13000	12416	-	-	-	-	-	
10	-	-	-	-	-	-	14	12900	14	12900	11920	
11	7	16700	17070	14	20850	18300	14	18000	14	18000	17055	
12	-	-	-	16	19525	15233	14	21200	14	21200	20915	
13	-	-	-	-	-	-	-	-	-	-	-	
14	12	20700	19290	-	-	-	15	22900	15	22900	22795	
15	15	23200	21575	16	18800	15760	-	-	-	-	-	
16	14	20800	19065	18	20500	16620	13	17300	13	17300	15880	
17	19	17900	15020	20	19550	16003	-	-	-	-	-	
18	-	-	-	23	17100	12230	-	-	-	-	-	
19	21	20100	18260	24	16825	12345	-	-	-	-	-	
20	19	22500	20930	24	18975	14928	16	13900	16	13900	11360	
21	17	22200	21495	25	21500	17869	15	14100	15	14100	11950	
22	19	24000	21755	23	22250	19070	17	13900	17	13900	10690	
23	19	25800	22920	22	21850	17540	17	15650	17	15650	12320	
24	18	24000	21595	18	19800	14738	14	14000	14	14000	10530	
25	-	-	-	14	16650	12845	12	14950	12	14950	12785	
26	17	23100	22215	13	15800	14625	10	11800	10	11800	10045	
27	19	22400	21745	14	15525	12603	10	11500	10	11500	9385	
28	15	21200	20450	16	15600	12505	11	12400	11	12400	9705	
29	13	17500	17380	13	17900	16565	12	12200	12	12200	9625	
30	10	15500	15120	-	-	-	12	11400	12	11400	8915	
31	-	-	-	11	16375	15335	12	10700	12	10700	8395	



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."