



U.S. DEPARTMENT OF COMMERCE  
Elliot L. Richardson, Secretary  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
Robert M. White, Administrator  
ENVIRONMENTAL DATA SERVICE  
Thomas S. Austin, Director

## Solar - Geophysical Data

NO. 382 JUNE 1976

Part I (Prompt Reports)

DATA FOR  
MAY 1976  
APRIL 1976

**NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER  
BOULDER, COLORADO**

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# SOLAR - GEOPHYSICAL DATA

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No. 382

Issued in two parts

Hope I. Leighton, Editor

J. Virginia Lincoln, Director  
Solar - Terrestrial Data Services Division

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May 76

ALERT PERIODS  
INTERNATIONAL URSIGRAM  
AND WORLD DAYS SERVICE

MAY 1976

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS)

BOULDER 30/2225Z APRIL, COSMIC RAY INCREASE 30/2222Z 05-06 PERCENT  
BOULDER 30/2151Z APRIL, SOFLARE 2B S09W46 30/2050Z IN PROGRESS  
BOULDER 30/2054Z APRIL, TENFLARE 1750 FLUX UNITS 30/2054Z IN PROGRESS  
BOULDER 03/0030Z MAGSTORM BEGINS GRADUALLY 02/1200Z, K = 6 AT 02/2300Z, K = 7 AT 03/0030Z  
KAKIOKA 03/0100Z MAGSTORM BEGINS 02/1828Z

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions				Outstanding events	Forecasts			Alert Situations
						Location		No. of Flares			Date	Location	Desc*	
						Lat-Long	Total	M	X					
122	1	30	70	80	11	S09W46 N05W01	8 0	0 0	1 0	2B FLARE S09W46, 30/2050Z FLARE WAS TENFLARE 1750 FLUX UNITS, COSMIC RAY INCREASE 05-06 %	1	S09W46 N05W01	A Q	SOLALERT 01/03 MAGALERT 01/04
123	2	01	48	76	08	S09W59	3	0	0		2	S09W59	E	SOLALERT 02/03 MAGALERT 02/04
124	3	02	32	73	22	S09W70	0	0	0	A MAGSTORM STARTED GRADUALLY 02/1200Z K = 6 at 2300Z, K = 7 at 03/0030Z	3	S09W70	E	SOLALERT 03/04 MAGALERT 03/04
125	4	03	25	71	58	S09W87 N09E23	0 0	0 0	0 0	MAGNETIC STORM CON- TINUES BUT INTENSI- TY HAS DECREASED	4	S09W87 N09E23	Q Q	SOLNIL MAGALERT 04/05 MINOR
126	5	04	17	70	20	N09E09	0	0	0	MAGNETIC STORM HAS DECREASED TO UNSPE- TTLED TO SPORADIC ACTIVE CONDITIONS	5	N09E09	Q	SOLQUIET MAGNIL
127	6	05	27	70	10	N09W05 N01E75	0 0	1 0	0 0		6	N09W05 N01E75	Q Q	SOLQUIET MAGQUIET
128	7	06	12	69	12	N03E63	0	0	0		7	N03E63	Q	SOLQUIET MAGQUIET
129	8	07	12	69	08	N01E50	0	0	0		8	N01E50	Q	SOLQUIET MAGQUIET
130	9	08	11	69	11	N01E37	0	0	0		9	N01E37	Q	SOLQUIET MAGQUIET
131	10	09	12	69	05	N01E23	0	0	0		10	N01E23	Q	SOLQUIET MAGQUIET
132	11	10	24	71	05	N01E08 N07E16	0 0	0 0	0 0		11	N01E08 N07E16	Q Q	SOLQUIET MAGQUIET
133	12	11	23	71	10	N01W02 N08E70	0 0	0 0	0 0		12	N01W02 N08E70	Q Q	SOLQUIET MAGQUIET
134	13	12	23	71	08	N01W16 N07E56	0 0	0 0	0 0		13	N01W16 N01E56	Q Q	SOLQUIET MAGQUIET
135	14	13	34	72	04	N01W28 N07E40 N09E74	0 0 0	0 0 0	0 0 0		14	N01W28 N07E40 N09E74	Q Q Q	SOLQUIET MAGQUIET
136	15	14	46	73	04	N00W43 N07E26 S09E59 N10E04	1 0 0 0	0 0 0 0	0 0 0 0		15	N00W43 N07E26 S09E59 N01E04	Q Q Q Q	SOLQUIET MAGQUIET
137	16	15	50	75	03	N00W57 N06E16 S10E45 S03W58	1 0 0 0	0 0 0 0	0 0 0 0		16	N00W57 N06E16 S10E45 S03W58	Q Q Q Q	SOLQUIET MAGQUIET
138	17	16	37	77	04	N00W70 N09E00 S03W70	0 0 0	0 0 0	0 0 0		17	N00W70 N09E00 S03W70	Q Q Q	SOLQUIET MAGQUIET
139	18	17	23	75	04	N00W82 S14E25	0 0	0 0	0 0		18	N00W82 S14E25	Q Q	SOLQUIET MAGALERT MINOR 19XX
140	19	18	26	75	02	S07E06 S07E63	0 2	0 0	0 0		19	S07E06 S07E63	Q Q	SOLQUIET MAGNIL
141	20	19	22	72	08	S07E48 S08E64	0 0	0 0	0 0		20	S07E48 S08E64	Q Q	SOLQUIET MAGQUIET
142	21	20	23	71	14	S07E33 S08E49	0 0	0 0	0 0		21	S07E33 S07E49	Q Q	SOLQUIET MAGALERT
143	22	21	22	72	10	S07E20 S08E36	0 0	0 0	0 0		22	S07E20 S08E36	Q Q	SOLQUIET MAGNIL
144	23	22	12	71	10	S09E23	0	0	0		23	S09E23	Q	SOLQUIET MAGQUIET
145	24	23	24	70	10	S08W06 S08E09	1 0	0 0	0 0		24	S08W06 S08E09	Q Q	SOLQUIET MAGQUIET

ALERT PERIODS  
INTERNATIONAL URSIGRAM  
AND WORLD DAYS SERVICE

MAY 1976

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions				Outstanding events	Forecasts			Alert Situations
						Location		No. of Flares			Date	Location	Desc*	
						Lat-Long	Total	M	X					
146	25	24	11	69	08	S08W19	0	0	0		25	S08W19	Q	SOLQUIET MAGQUIET
147	26	25	00	68	10	-	-	-	-		26	SPOTNIL		SOLQUIET MAGQUIET
148	27	26	14	68	08	S08W26	0	0	0		27	S08W26	Q	SOLQUIET MAGQUIET
149	28	27	00	68	06	-	-	-	-		28	SPOTNIL		SOLQUIET MAGQUIET
150	29	28	00	67	18	-	-	-	-		29	SPOTNIL		SOLQUIET MAGALERT MINOR 29/31
151	30	29	00	66	17	-	-	-	-		30	SPOTNIL		SOLQUIET MAGALERT MINOR 30/01
152	31	30	00	66	16	-	-	-	-		31	SPOTNIL		SOLQUIET MAGALERT MINOR 31/01
153	1	31	00	66	09	-	-	-	-		1	SPOTNIL		SOLQUIET MAGALERT MINOR 31/01

Note: For clarification the Errata published in May 1976 is restated: The "stratwarms" published in March 1976 (379 - Part I) with the Alert Periods for February 1976 were listed on the wrong days. They must all be advanced one day. Thus, the one listed on the 9th was issued on the 10th, the one shown on the 10th should appear on the 11th, etc.

RELATIVE SUNSPOT NUMBERS  
ZURICH, R<sub>Z</sub>

DAY	1975 FINAL							1976 PROVISIONAL				
	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY
1	7	23	37	14	15	0	7	0	0	0	26	35
2	11	18	36	16	8	0	23	0	0	0	25	26
3	8	22	46	19	9	7	20	0	0	0	22	25
4	7	16	73	29	10	18	23	0	0	0	13	8
5	7	23	93	25	8	22	21	0	0	0	12	22
6	7	33	104	24	10	27	18	0	0	10	9	10
7	0	23	102	24	9	30	20	0	0	12	0	10
8	0	19	89	23	16	33	18	0	0	7	0	9
9	0	16	83	17	15	30	8	0	0	10	8	8
10	0	23	80	10	8	26	0	0	0	12	10	10
11	9	29	72	10	8	30	0	0	0	13	15	16
12	0	33	45	16	10	24	0	28	0	13	17	17
13	0	43	52	19	21	22	0	26	13	13	17	23
14	0	46	34	17	26	29	7	36	16	22	19	30
15	8	43	31	8	21	28	7	20	16	16	19	17
16	19	39	26	14	18	28	7	22	11	11	19	12
17	17	29	19	14	16	30	9	24	8	30	24	18
18	12	32	16	16	16	33	8	20	15	45	27	8
19	15	36	8	13	15	36	7	18	10	51	27	20
20	0	28	22	30	10	35	0	16	12	51	30	20
21	7	30	23	27	7	31	0	11	8	48	39	14
22	0	27	7	23	0	23	0	10	7	36	20	7
23	12	19	14	0	0	12	6	10	6	28	17	15
24	20	30	8	0	7	11	18	0	7	25	16	8
25	24	33	11	0	0	9	14	0	0	22	17	0
26	33	30	16	0	0	7	8	0	0	42	23	7
27	38	29	18	0	0	0	0	7	7	46	23	0
28	36	26	10	0	0	0	0	0	0	50	21	0
29	23	20	10	0	0	0	0	14	0	42	26	0
30	22	27	21	7	0	0	0	8	0	32	38	0
31		34	21		0		0	0		27		0
MEAN	11.4	28.2	39.7	13.9	9.1	19.4	7.8	8.5	4.6	23.0	19.5	12.7

1975 yearly mean = 15.5

DAILY SOLAR FLUX AT 2800 MHz  
OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S<sub>01</sub>

DAY	1975							1976				
	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY
1	71.4	78.7	91.6	87.0	76.4	70.4	72.1	72.1	66.6	67.7	79.6	77.6
2	73.0	75.8	95.4	87.9	78.1	71.4	74.8	71.2	68.6	68.1	76.8	74.2
3	70.8	77.1*	97.0*	87.8	78.4	73.0	74.3	71.3	68.4	67.4	76.1	71.9
4	70.4	76.8	104.6	92.8	76.3	75.4	74.1	71.8	68.4	67.4	74.7	71.5
5	69.3	76.8	107.9	94.4	76.1	78.9	77.4	71.9	67.6	67.6	73.0	71.1
6	68.2	76.1	120.0*	94.0	75.1	80.1	75.8	71.7	68.1	67.5	71.3	69.9
7	68.1	74.1	123.2	91.1	74.3	80.5	73.7	71.6	69.3	67.9	70.3	70.3
8	67.5	74.6	123.7	88.5	74.0	80.9	76.0	70.9	68.4	67.9	71.9	70.2
9	67.7	73.3	115.9	84.3	75.4	78.8	73.3	69.4	68.3	68.2	74.1	70.6
10	68.8	73.0	116.5	82.5	74.3	78.9	73.3	70.5	68.5	68.4	75.3	71.7
11	68.1	77.6	107.3	81.1	73.3	73.6	74.3	72.1	68.4	68.8	77.1	72.5
12	68.4	82.7	104.5*	78.2*	74.8	79.9	73.4	76.9	67.8	68.9	73.1	72.6
13	67.9	88.5*	98.0	75.2	79.0	79.2	72.8	80.0	69.7	70.9	79.6	73.6
14	68.5	89.0	90.9*	74.2	80.0	82.7	71.8	82.1*	69.9	70.1	79.5	74.2
15	68.9	85.6	86.0	74.1	80.3	83.7	71.8	80.4	69.6	69.1	79.2	76.9
16	71.4	83.6	82.8	74.3	78.5	87.6	70.5	78.1	69.7	72.5	80.6	79.2
17	70.2	81.2	79.0	74.8	78.9	88.9	70.5	76.6	69.9	74.4*	80.5	76.5
18	70.2	82.8	76.4	76.2	79.2	90.8*	69.6	76.7	70.1	79.0	80.5	75.6*
19	71.0	81.9	76.7	76.2	78.0	93.0*	69.1	75.2	70.1	81.6*	79.3	73.8
20	72.5	83.3	77.2	76.5	77.1	90.9	69.7	74.6	70.0	85.0	80.0	73.6
21	68.7	83.1	80.0	76.7	75.7	86.6	69.0	72.1	68.8	91.2	78.0	74.0
22	69.9	82.7	78.5	75.3	74.2	81.5	68.9	70.9	68.9	83.0	76.2*	72.5
23	72.9	82.0	76.8	76.1	74.3	77.2	69.6	70.2	69.2	86.9	75.7	71.9
24	75.9	73.3	77.0	76.8	72.7*	74.7	71.4	68.5	69.6	82.2*	76.8	70.8
25	77.7	79.8	80.6	76.7	72.1	73.7	71.0	68.2	68.4	85.1	75.7	69.8
26	79.8	80.0	81.3	76.7	71.9	71.9	71.8	68.2	68.5	84.1*	75.7	69.5
27	81.5	78.5	83.6	75.7	72.1	70.7	72.9	67.2	68.5	85.5	74.6	69.6
28	80.7	76.5	83.3	76.1	71.7	70.4	71.8	67.1	67.9	87.1*	73.4	69.0
29	79.4	75.5	84.7	75.9	70.8	70.9	72.9	67.4	67.4	84.0	79.6	68.0
30	78.8	78.9	86.2	75.8	70.2	70.6	71.9	68.9		82.4	79.5*	68.1
31		81.9*	36.7		69.9		72.1	69.1		82.7		68.7
MEAN	71.9	79.7	92.7	80.4	75.3	79.1	72.3	72.4	68.8	75.8	76.7	72.2

\* adjusted for burst

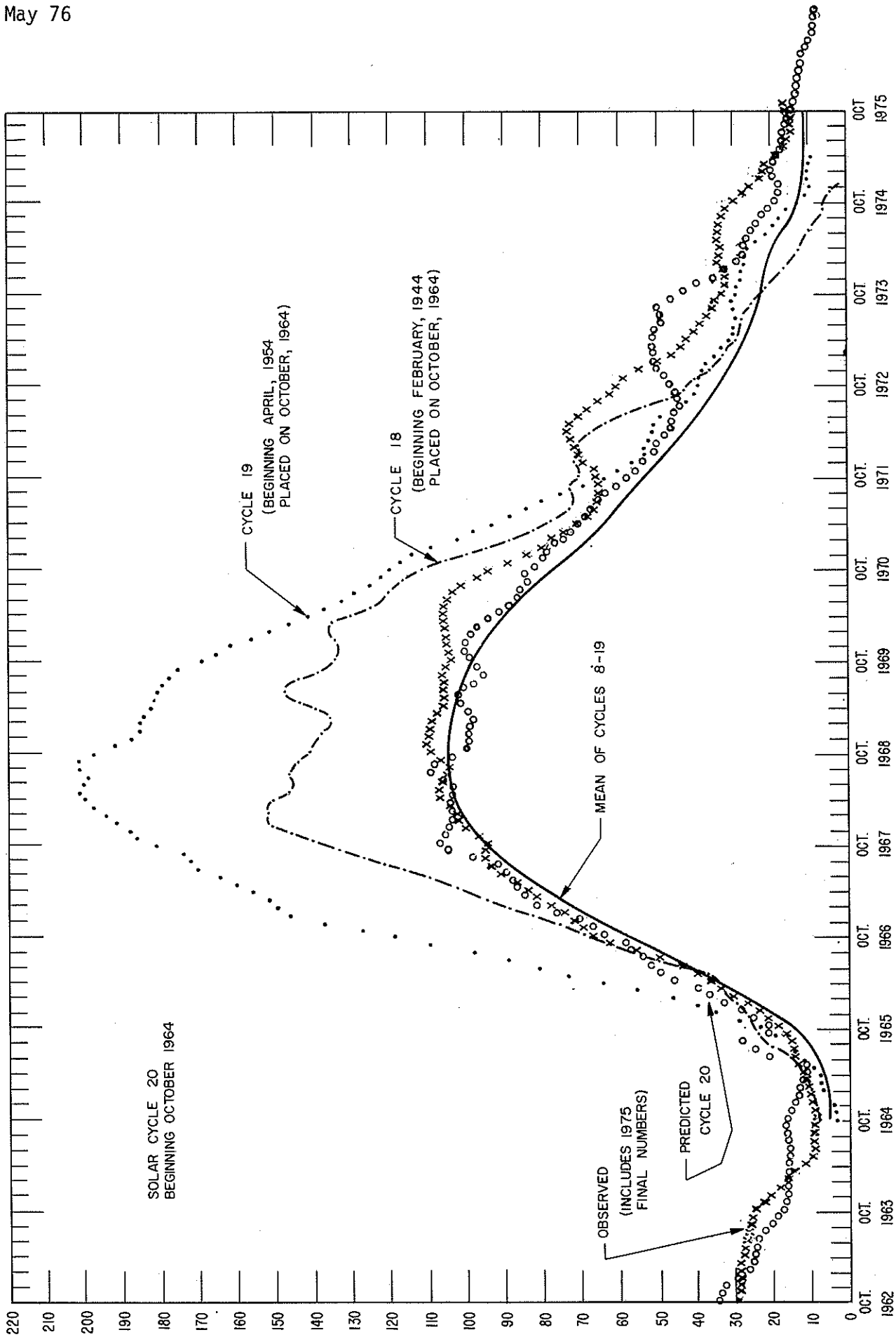
DAILY SOLAR INDICES

MAY 1976

MAY 1976	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	SUNSPOT NUMBERS		OBSERVED FLUX OTTAWA 2800	SOLAR FLUX ADJUSTED TO 1 A.U.									
			R <sub>Z</sub>	R <sub>A'</sub>		AFGL 15400	AFGL 8800	AFGL 4995	OTTAWA 2800	AFGL 2695	AFGL 1415	AFGL 606	AFGL 410	AFGL 245	
1	122	2	35	30	76.4	513	277	127	77.6	75.9	47.5	32.6	21.3	8.4	
2	123	3	26	25	73.0	513	266	119	74.2	71.9	46.5	30.6	19.3	8.2	
3	124	4	25	23	70.7	516	274	118	71.9	70.6	45.5	31.0	21.5	7.6	
4	125	5	8	4	70.3	511	279	116	71.5	71.8	45.5	33.9	19.3	6.0	
5	126	6	22	8	69.8	517	271	116	71.1	70.0	45.8	30.0	20.4	8.1	
6	127	7	10	7	68.7	510	269	117	69.9	69.3	45.0	30.7	19.9	8.3	
7	128	8	10	8	69.0	513	275	115	70.3	70.8	46.2	35.2	20.5	9.8	
8	129	9	9	10	68.9	516	278	116	70.2	70.5	44.9		21.7	9.0	
9	130	10	8	9	69.3	514	276	115	70.6	69.5	47.5		20.5	8.2	
10	131	11	10	10	70.3	516	273	117	71.7	69.6	44.5		22.9	9.0	
11	132	12	16	20	71.1	514	276	117	72.5	70.6	45.7	37.4	21.8	8.4	
12	133	13	17	21	71.1	528	263	116	72.6	70.8	46.3	33.1	20.0	8.7	
13	134	14	23	20	72.1	517	275	117	73.6	71.5	47.0	28.3	22.9	9.1	
14	135	15	30	27	72.6	515	270	114	74.2	71.5	48.5	37.0	22.0	8.7	
15	136	16	17	15	75.2	523	275	118	76.9	73.5	49.6	37.7	17.3	7.7	
16	137	17	12	15	77.4	516	274	122	79.2	76.0	51.4	34.0	21.2	8.6	
17	138	18	18	20	74.8	524	275	119	76.5	74.2	50.4	37.4	22.5	8.8	
18	139	19	8	8	73.8*	523	274	121	75.6*	74.4	50.3	37.2	22.5	9.0	
19	140	20	20	16	72.1	525	264	116	73.8	71.3	48.9	35.5	21.4	8.5	
20	141	21	20	17	71.3	514	266	116	73.0	71.8	48.2	36.5	22.2	8.5	
21	142	22	14	10	72.2	518	272	116	74.0	72.9	49.8	37.7	25.8	9.1	
22	143	23	7	8	70.7	516	271	115	72.5	70.1	47.1	36.8	22.9	8.9	
23	144	24	15	8	70.1	520	276	114	71.9	69.8	45.5	34.0	20.5	8.6	
24	145	25	8	7	69.0	511	274	114	70.8	68.5	44.1	33.9	22.8	8.8	
25	146	26	0	0	68.0	512	273	113	69.8	68.5	44.3	36.0	22.5	9.1	
26	147	27	7	2	67.7	513	270	112	69.5	68.4	43.3	34.4	22.9	9.8	
27	148	1	0	0	67.8	505	272	112	69.6	68.1	42.9	33.5	22.9	8.7	
28	149	2	0	0	67.2	503	263	112	69.0	66.6	41.5	31.9	19.0	8.4	
29	150	3	0	0	66.1	506	269	111	68.0	65.3	40.2	34.6	22.6	8.7	
30	151	4	0	0	66.2	518	269	113	68.1	66.2	41.2	35.1	24.5	8.8	
31	157	5	0	0	66.8	522	269	113	68.7	65.8			22.4	8.4	
MEAN			12.7	11.2	70.6	516	272	116	72.2	70.5	46.2	34.3	21.6	8.6	

\* Adjusted for burst.





PREDICTED AND OBSERVED SUNSPOT NUMBERS

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS  
CYCLE 20

MONTH	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1964	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.6	10.2	11.0
1965	11.7	12.0	12.5	13.6	14.6	15.0	15.5	16.4	17.4	19.7	22.3	24.5
1966	27.7	31.3	34.5	37.4	40.4	44.6	50.3	56.6	63.1	67.6	70.2	72.7
1967	75.0	78.8	82.2	84.6	87.4	91.3	94.1	95.3	95.3	95.0	97.1	100.6
1968	102.6	102.9	104.7	107.2	107.6	106.6	105.2	104.8	107.0	109.9	110.6	110.1
1969	110.0	109.6	108.0	106.4	106.2	106.1	105.8	106.4	105.4	104.1	104.6	104.9
1970	105.6	106.0	106.2	106.1	105.8	105.3	103.8	101.0	97.2	93.9	89.4	84.1
1971	80.4	77.8	74.4	70.9	68.1	66.7	65.4	64.6	65.8	66.2	66.0	69.4
1972	70.8	71.2	72.4	73.4	72.9	70.5	68.2	65.5	62.2	60.6	58.7	55.1
1973	50.0	48.5	44.2	42.7	40.7	39.1	37.5	36.1	34.4	32.6	31.0	31.5
1974	32.7	34.4	34.0	33.9	34.6	34.5	34.0	33.1	32.1	30.3	27.6	25.2
1975	23.9	22.2	21.3	18.6	16.9	16.0	15.0	14.3	14.5	15.6	16.3	15.3 (--)
1976	14.2 (--)	13.0 (--)	12.0 (--)	11.0 (--)	10.2 (--)	9.4 (--)	8.7 (--)	8.4 (--)	8.2 (--)	8.0 (--)	7.9 (--)	7.7 (--)

For each month, the upper figure is the observed or predicted Zürich smoothed sunspot number. The lower figure in parenthesis is the corresponding absolute value of the 90% prediction interval, an indication of the uncertainty above and below the predicted number. Observed numbers are those with no prediction intervals. The observed smoothed sunspot numbers are based on final Zürich numbers through 1975.

The predicted sunspot numbers are derived from a regression analysis based on cycles 8 through 19. Tests indicate that earlier cycles are from a different statistical population. From July 1968 - February 1970 a regression analysis based on cycles 1 through 19 was used because it had not then been proven that two populations exist.

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May 76

# H $\alpha$ SOLAR FLARES

MAY 1976

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IM- POR- TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE MAY	START	MAX. PHASE	END	APPROX.		CENTRAL DISTANCE	MCATH PLAGE REGION	CMP DAY			CORD.	TYPE	TIME UT	MEAS. AREA MIL of Dia	CORR. AREA Sq. Deg.	
					LAT.	MER. DIST.											
PALE	01	2042		2057D	S 9	W60	.864		27.4	150	SF	3	C		54		U
PALE	01	2142E	2154U	2235	S 9	W60	.864		27.4	53D	SF	3	C		90		
MANI	01	2155E	2155U	2210	S08	W61	.872		27.3	150	SN	2	V	2155	90	1.7	FU
MCMA	05	1113E		1245	N03	W67	.923	14185	30.4	92D	SN		C	1114	30	.9	DH
ATHN	13	1401	1403	1408	S10	E73	.955		19.1	7	SF	3	C		19		DE
MANI	15	0314	0315	0322D	S03	W45	.706		11.8	8D	SF	3	P	0315	30	.4	
RAMY	15	1037E	1040U	1108	S15	E60	.869		19.9	31D	SF	4	C		72		FDE
RAMY	15	1037E	1040U	1100D	S14	E60	.868		19.9	23D	SF	4	V		96		DE
RAMY	16	1444E	1446U	1520D	S 3	W65	.906		11.7	36D	SF	4	V		48		FDE
RAMY	16	1444	1501	1517	S 4	W65	.906		11.7	33	SF	4	C		54		FDE
ATHN	18	1348E	1351U	1407	S 6	E67	.920		23.6	19D	SF	3	C		4		F
RAMY	18	1354	1400	1406	S 4	E66	.913		23.5	12	SF	4	C		149		F
CATA	18	1355	1400	1405	S07	E66	.913	14215	23.5	10	1B	2		1400	140		
ATHN	18	1623	1627	1638	S 8	E68	.926		23.8	15	SF	2	C		48		F
RAMY	18	1625	1644	1716	S 8	E70	.939		23.9	51	SF	3	C		123		DE
MCMA	18	2041E		2048D	S06	E64	.898	14215	23.7	7D	SN		P	2045	30	.7	E
ATHN	19	1337	1340	1346	N 7	W31	.534		17.2	9	SF	3	C		48		F
CATA	19	1340	1340	1355	N08	W31	.538		17.2	15	SN	2		1340	56	.7	
MCMA	21	1220	1247	1510	S14	W25	.461	14211	19.6	17D	SF		C	1247	100	1.2	E
RAMY	21	1225	1243	1324	S12	W28	.492		19.4	59	SF	4	C		135		FDE
RAMY	21	1252	1255	1307	S20	E13	.375		22.5	15	SF	4	C		36		DE
RAMY	21	1253E	1255U	1330D	S12	W28	.492		19.4	37D	SF	4	V		159		FDE
RAMY	21	1255E	1258U	1315D	S21	E11	.372		22.4	20D	SF	4	V		47		DE
MCMA	21	2134		2138D	S10	E40	.650	14215	24.9	4D	SF		C	2135	40	.6	E
CATA	22	1455	1455	1455	S09	E14	.270		23.7		SN	1		1455	56	.6	
RAMY	23	1137	1146	1208	S 8	E 5	.139		23.9	31	SF	4	C		114		FDE
MCMA	23	1138	1145	1210	S09	E05	.153	14215	23.9	32	SF	4	C	1145	60	.6	EL
RAMY	23	1142E	1146	1204D	S 9	E 6	.163		23.9	22D	SF	4	V		96		FDE
CATA	23	1145	1215	1255	S09	E05	.153	14215	23.9	7D	1N	2		1215	196	2.0	
UPIC	26	0906E		0950U	S11	W90	1.000		19.6	44U	SN		P	0906			A

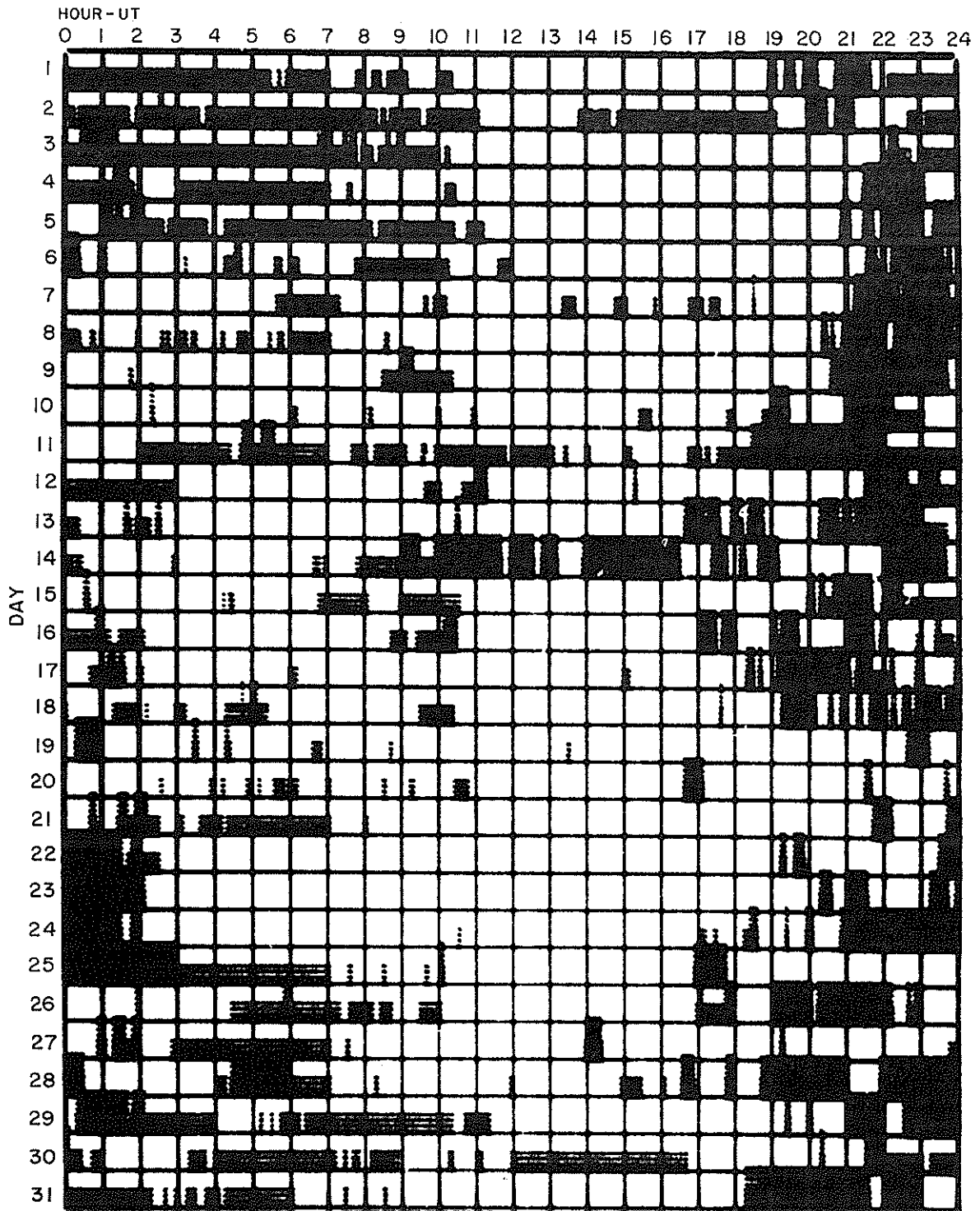
"Remarks":

- 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 a 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 calcium II lines H and K.
- P = Flare shows helium D<sub>3</sub> in emission.
- Q = Flare shows the Balmer continuum in emission.
- R = Marked asymmetry in H $\alpha$  line suggests ejection of high velocity material.
- S = Brightness follows disappearance of filament (same position).
- T = Region active all day.
- U = Two bright branches, parallel (||) or converging (Y).
- V = Occurrence of an explosive phase: important and abrupt expansion in about a minute with or without important intensity increase.
- W = Great increase in area after time of maximum intensity.
- X = Unusually wide H $\alpha$  line.
- Y = System of loop-type prominences.
- Z = Major sunspot umbra covered by flare.

INTERVALS OF NO FLARE PATROL OBSERVATION  
FOR PRECEDING SOLAR FLARE TABLE

MAY 1976



Observatories included in total patrol:

- |           |              |            |                |             |
|-----------|--------------|------------|----------------|-------------|
| Arcetri   | Catania      | Istanbul   | McMath-Hulbert | Ramey       |
| Athenes   | Herstmonceux | Kodaikanal | Mitaka         | Tehran      |
| Bucharest | Hurbanovo    | Manila     | Palehua        | Upice       |
|           |              |            |                | Wendelstein |

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

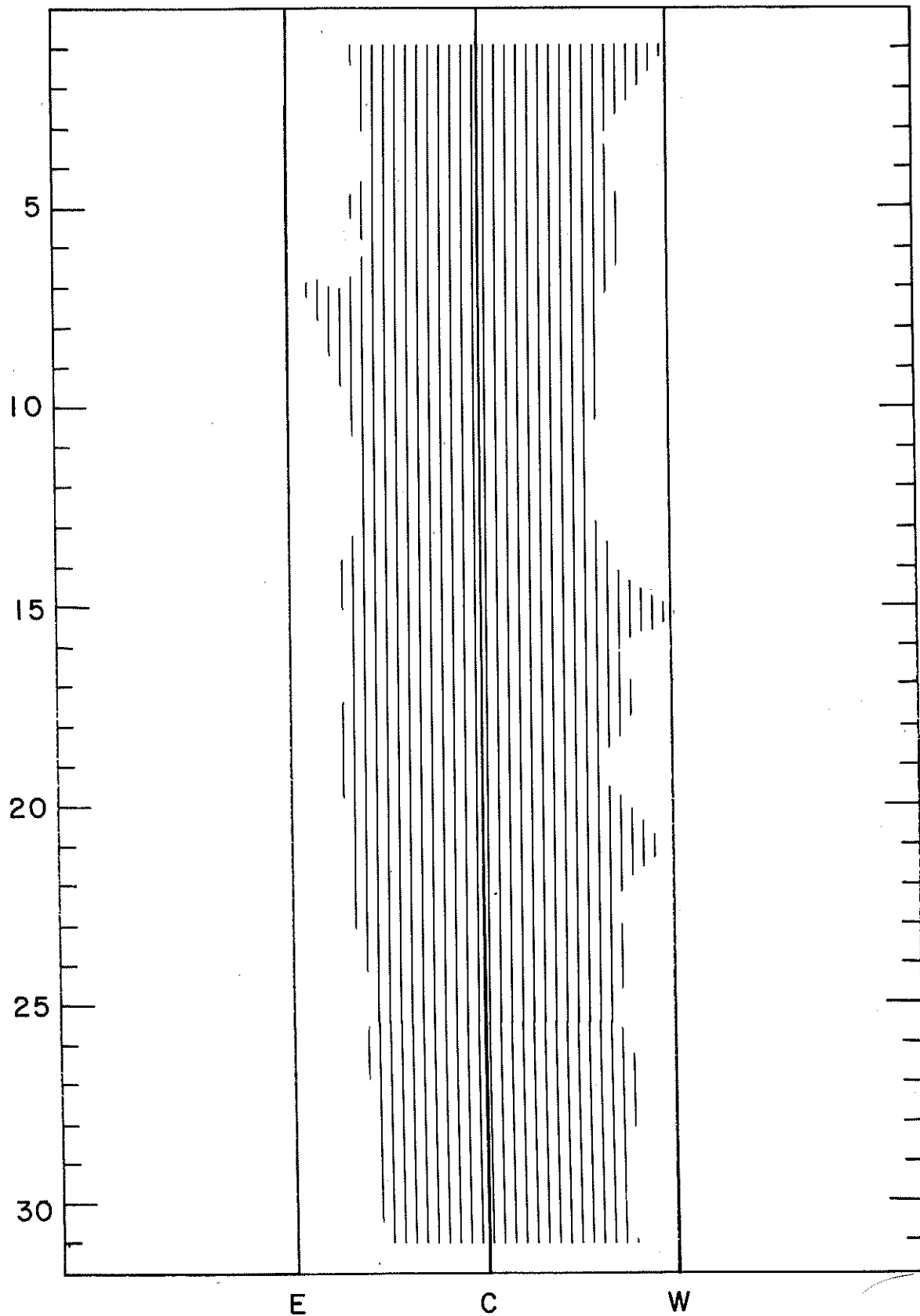
12  
May 76

# SOLAR RADIO EMISSION INTERFEROMETRIC OBSERVATION

MAY 1976

Nançay

169 MHz

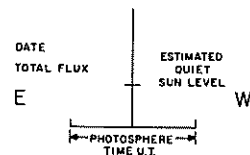
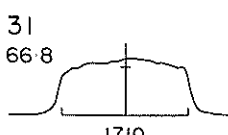
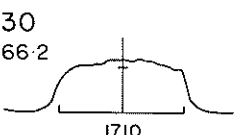
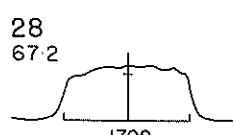
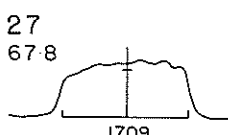
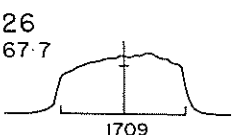
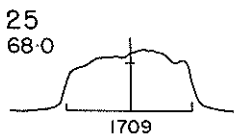
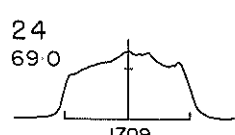
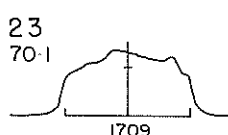
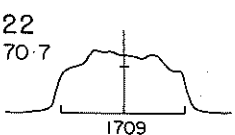
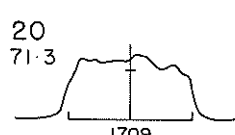
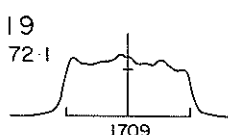
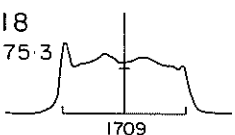
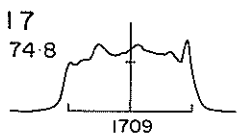
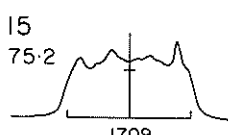
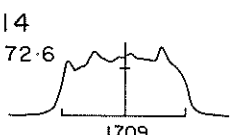
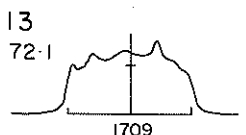
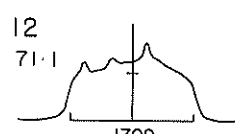
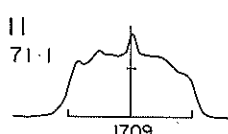
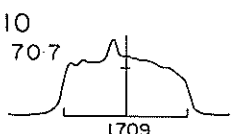
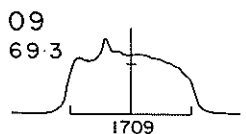
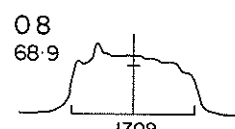
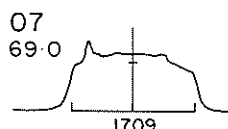
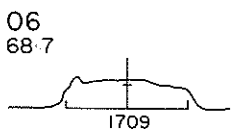
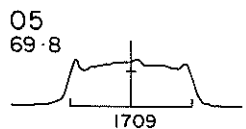
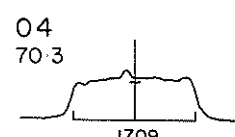
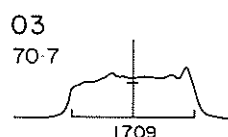
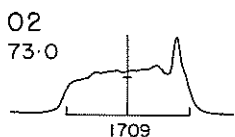
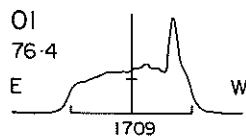


EAST-WEST SOLAR SCANS

MAY , 1976

ALGONQUIN RADIO OBSERVATORY  
CANADA

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

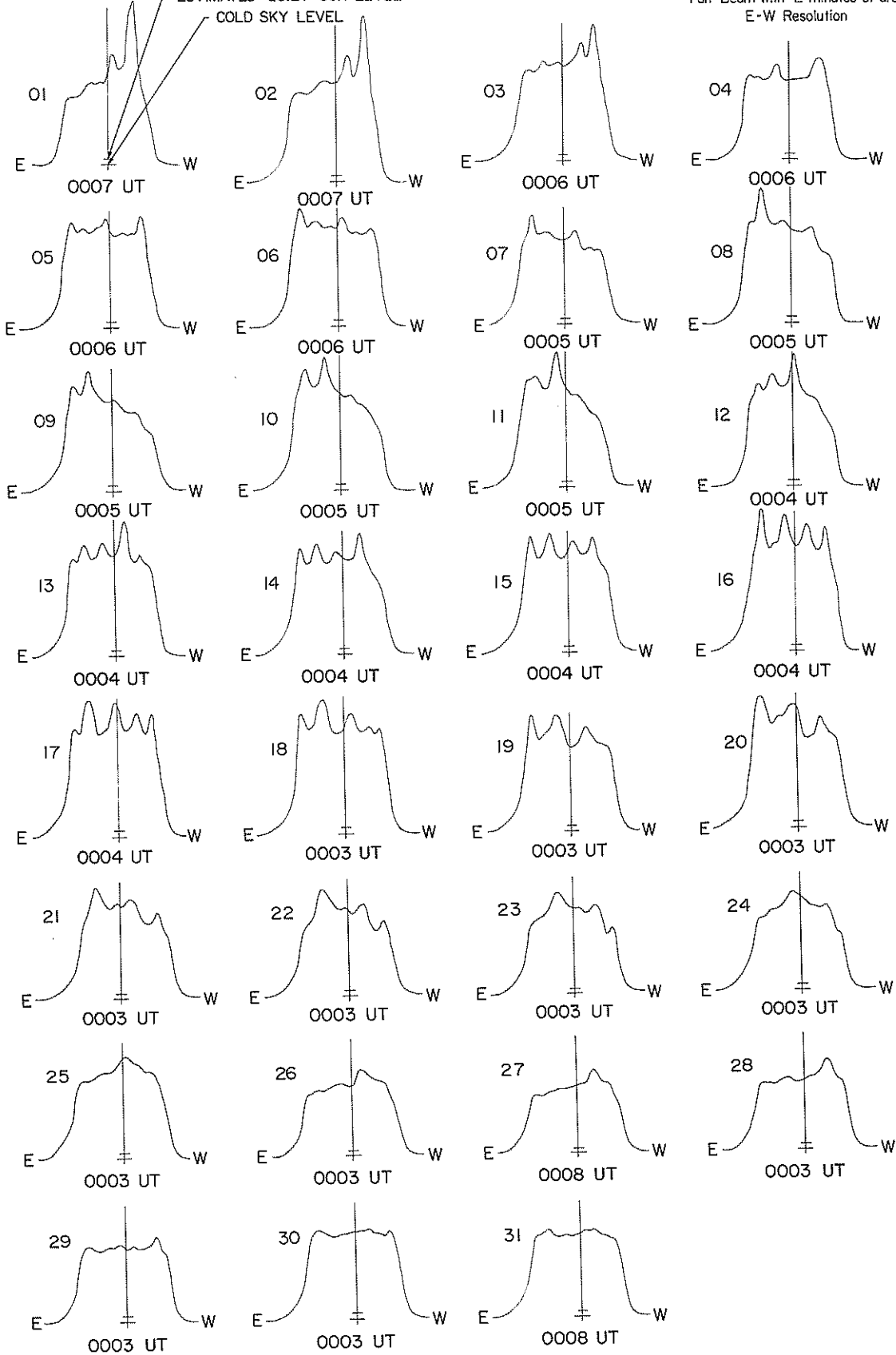


EAST-WEST SOLAR SCANS  
MAY 1976

Fleurs, Australia

ESTIMATED QUIET SUN LEVEL  
COLD SKY LEVEL

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



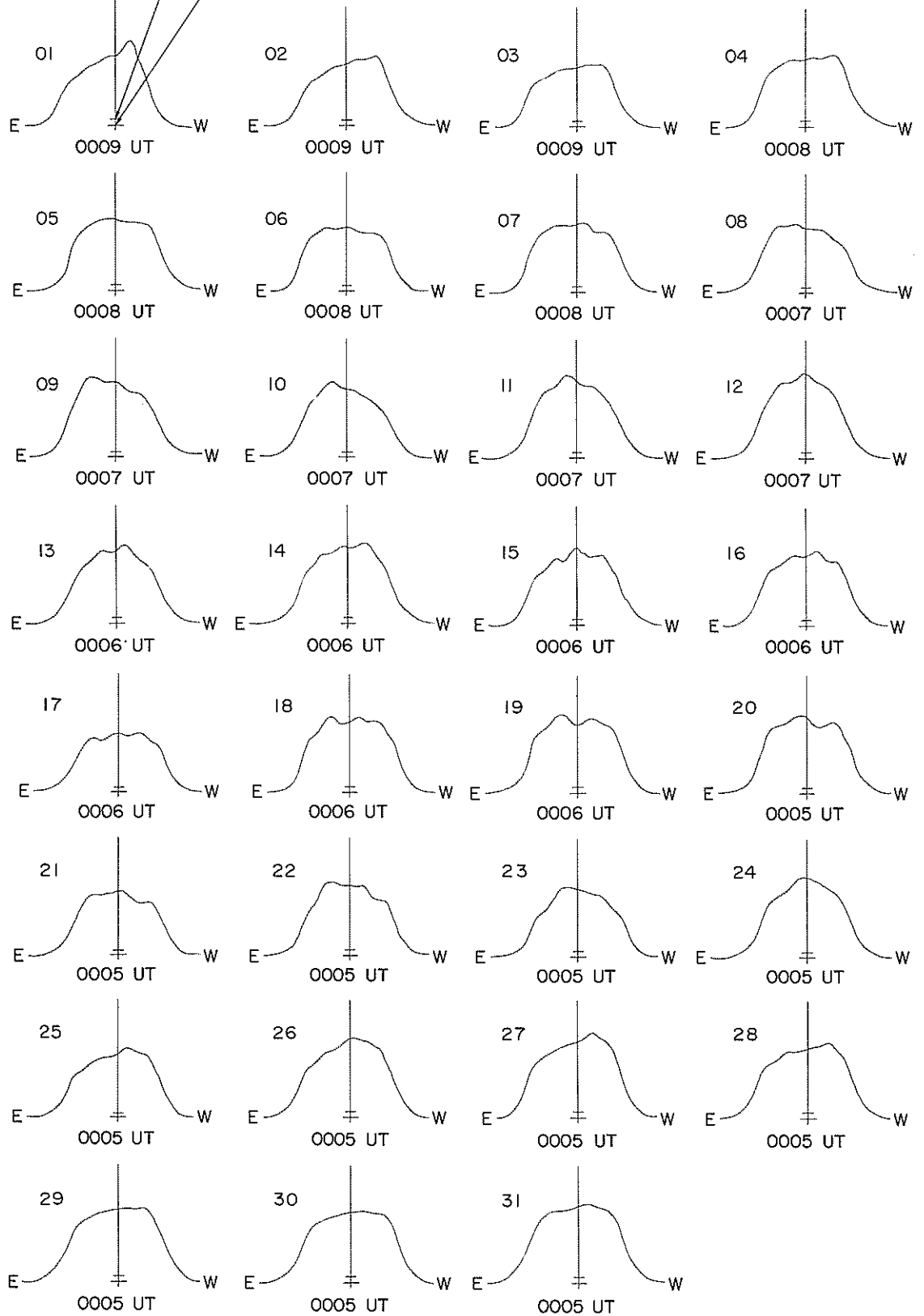
EAST-WEST SOLAR SCANS

MAY 1976

Fleurs, Australia

ESTIMATED QUIET SUN LEVEL  
COLD SKY LEVEL

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





16  
May 76

## SOLAR RADIO EMISSION SELECTED FIXED FREQUENCY EVENTS

MAY 1976

	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{-22} \text{ Wm}^{-2} \text{ Hz}^{-1}$		INT	REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
1	2800 OTTA	21 GRF	2135		200 0	4.4			
	2695 BOUL	40 F	2140.5	2144.5	25	15	2		
	2800 OTTA	4 S/F	2141	2143	5	12.8	4.3		
	2800 OTTA	45 C	2155.5	2203	10	2.8	1.6		
	2695 BOUL	1 S	2207.5	2208	1.5	2	1		
	2800 OTTA	2 S/F	2211	2212.3	5	8	3.4		
	2695 BOUL	3 S	2211.5	2213.5	5.5	9	3		
	2800 OTTA	4 S/F	2228.5	2229.7	8	11.6	3		
	2695 BOUL	30 PBI	2229.5	2230.5	9	15	5		
2	2800 OTTA	8 S	1829.5	1829.8	0.5	0.8	0.4		
3	2800 OTTA	26 FAL	1635	1700	25	1.2	0.6		
9	2695 BOUL	3 S	2159	2201.5	5	4	1		
11	2695 BOUL	1 S	1616.5	1618	2.5	3	1		
12	2695 PENT	240 R	2240	2440	120	1.6	0.8		
	2695 PENT	24P R	2440		40 0	1.6			
14	2800 OTTA	1 S	2042	2043	8	0.6	0.4		
15	2800 OTTA	22 GRF	1050		190	1.4	0.8		
16	2695 MANI	3 S	0602.4	0605.1	6.5	11	3.7		
	2800 OTTA	20 GRF	1415	1450	150	2.4	1.3		1
18	2800 OTTA	20 GRF	1620	1645	95	2.6	1.3		
20	2695 BOUL	1 S	1415.5	1417.5	2.5	7	2		
21	2695 BOUL	3 S	2235.5	2241.5	10.5	6	2		
	2695 BOUL	3 S	2250	2253	6	7	2		
	2695 BOUL	45 C	2251.5	2301.5	12	6	2		
	2695 BOUL	1 S	2313.5	2315	2	4	1		
	2695 BOUL	45 C	2320	2321	4	3	1		
27	2695 BOUL	1 S	1540	1540.5	2.5	3	1		

Observatories:

BOUL = Boulder

MANI = Manila

OTTA = Ottawa ARO

PENT = Penticton

SGMR = Sagamore Hill

Explanation of Type Code:

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

SOLAR WIND  
Interplanetary Scintillations

MAY 1976

UCSD 74 MHZ SCINTILLATIONS

DAY	3 C 48 VEL ERR	3C144 VEL ERR	3C147 VEL ERR	3C161 VEL ERR	3C237 VEL ERR	3C273 VEL ERR	3C298 VEL ERR	3C459 VEL ERR
1		292 16						
2	610 136			533 7	332 70	488 58		645 96
3	628 70	266 58	289 33			504 137	792 165	569 37
4	819 95	250 39		430 14		480 *		390 56
5	827 34	177 43		405 25				666 46
6	564 23	248 23		461 7				
7	652 63	217 1						
8		237 16				572 216	582 28	
9		273 *		413 58			408 *	218 *
10	797 75	275 53	610 *	341 46				
11	961 60	231 24		465 37				
12		259 8		356 36				
13	918 23	250 *	286 109	390 53			532 *	755 227
14	847 126	272 *	428 *	541 138	298 13		484 *	364 *
15	658 37	278 15	351 81	416 42				
16		284 26	310 94	590 44	313 54			
17	1123 164	277 16	238 37	356 7				
18	942 71	299 7				320 28		730 165
19	584 9	289 *		436 *				
20	608 18	382 23		400 56		427 28	304 50	536 43
21	520 71			343 *			268 *	
22	802 58	460 *		486 35			366 122	
23	942 39	396 *		435 *				
24	0	457 *					244 95	
25	749 28	451 12		473 65			365 61	
26	950 93			314 9				
27	747 40			436 55	411 *			
28	575 39	412 27		510 47		205 74		
29	572 89							528 129
30	721 26	441 9	408 108	536 83				
31	642 73			538 53		400 87	351 40	

MAY	5	15	25
	UT LAT DIST DLON	UT LAT DIST DLON	UT LAT DIST DLON
3C48	19. 56. 0.40 34.	18. 43. 0.49 44.	18. 33. 0.59 43.
3C144	23. -8. 0.62 -52.	22. -9. 0.47 -62.	22. -10. 0.32 -71.
3C147	22. 17. 0.73 -38.	21. 25. 0.64 -43.	21. 36. 0.55 -45.
3C161	0. -24. 0.84 -26.	24. -30. 0.76 -31.	23. -37. 0.67 -34.
3C237	4. -6. 1.12 -15.	3. -5. 1.07 -16.	2. -4. 1.02 -17.
3C273	6. -3. 1.24 -9.	5. -2. 1.21 -11.	4. -1. 1.18 -13.
3C298	8. 0. 1.28 -4.	7. 1. 1.27 -6.	6. 2. 1.25 -8.
3C459	16. 6. 0.82 34.	16. 4. 0.90 25.	15. 3. 0.96 17.

\* indicates data for which no error estimate is available, because only two antennas were operating.

3C 161 was observed at 0 hr.UT up to May 11, at 23 hr.UT after May 11.

SOLAR X-RAYS BY SATELLITE  
SMS GOES

MAY 1976

.5 - 4Å Hourly Averages ( $10^{-6}$  watts/m<sup>2</sup>)

DD	DA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean
5/1	0.32	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/2	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/3	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/4	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/5	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/6	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/7	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/8	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/9	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/10	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/11	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/13	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/14	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/15	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/16	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/17	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/18	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/19	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/20	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/21	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/22	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/23	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/24	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/25	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/26	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/27	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/28	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/29	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/30	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/31	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B

Note: "B" indicates the flux was below the cut-off levels.  
"M" denotes periods of missing data.

SOLAR X-RAYS BY SATELLITE  
SMS GOES

MAY 1976

1 - 8Å Hourly Averages ( $10^{-5}$  watts/m<sup>2</sup>)

YR	DA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean
5/1	0.02	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/2	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/3	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/4	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/5	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/6	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/7	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/8	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/9	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/10	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/11	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/13	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/14	0.01	B	B	B	B	B	B	B	B	0.02	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/15	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/16	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/17	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/18	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/19	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/20	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/21	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/22	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/23	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/24	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/25	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/26	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/27	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/28	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/29	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/30	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
5/31	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B

Note: "B" indicates the flux was below the cut-off levels.  
"M" denotes periods of missing data.

20  
May 76

SOLAR X-RAYS BY SATELLITE  
SMS GOES  
MAY 1976

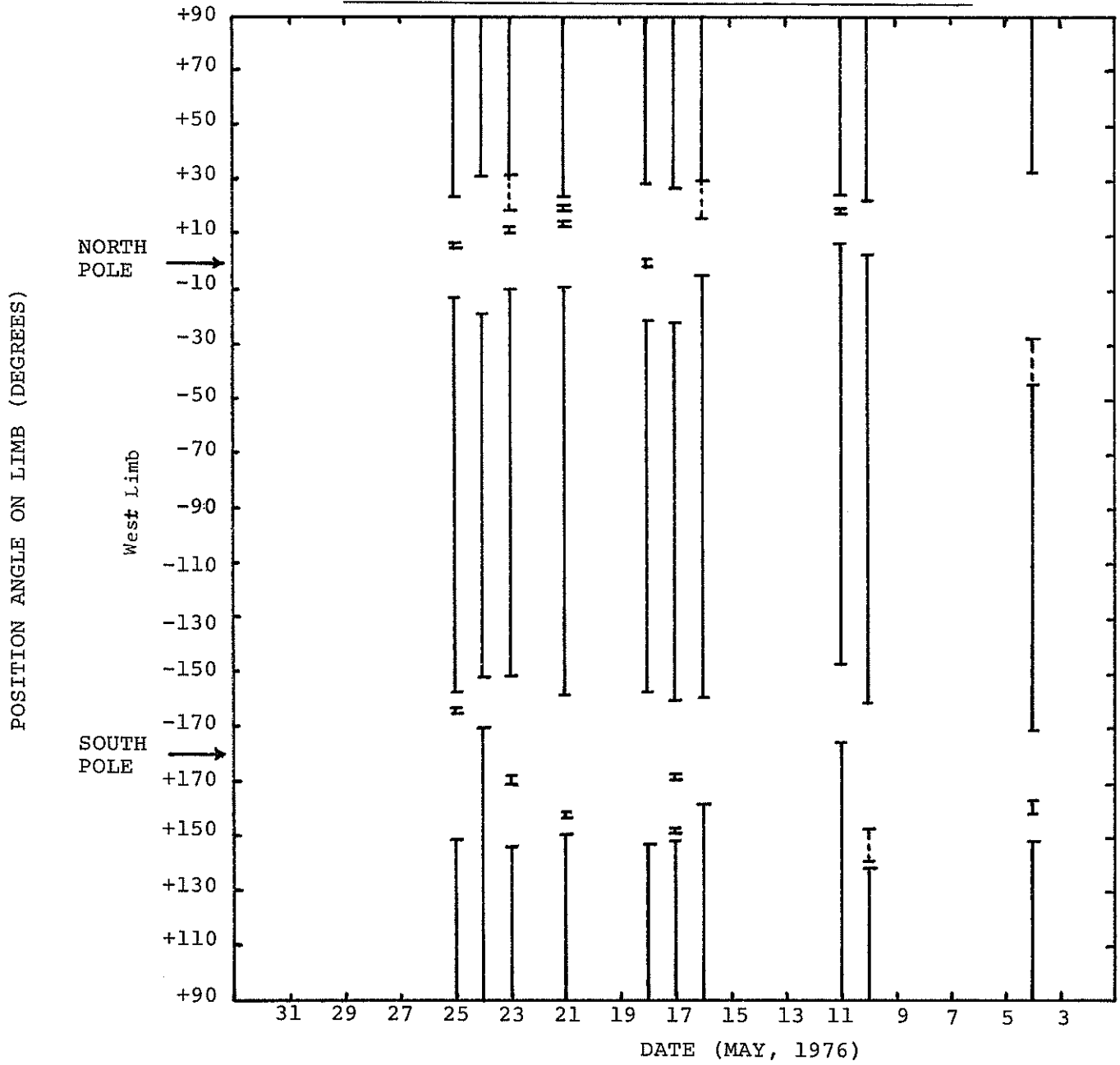
DAY	BEGIN TIME	.5-4A $Wm^{-2}$	1-8A $Wm^{-2}$	MAX TIME	.5-4A $Wm^{-2}$	1-8A $Wm^{-2}$	1/2P TIME	.5-4A $Wm^{-2}$	1-8A $Wm^{-2}$
16	0559	0.0E+00	1.3E-07	0609	4.5E-07	7.4E-06	0614	1.0E-07	3.8E-06

# CORONAL HOLES

Helium D3 Chromosphere at Solar Limb

MAY 1976

## OBSERVATIONS OF D3 CHROMOSPHERE AT SOLAR LIMB



INFERRED IP MAGNETIC FIELD

BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1934	DEC 31	T	A	T	T	A	T	A	-	A	A	A	A	A	T	T	T	T	T	T	T	T	T	T	T	T	T	T
1935	1975 JAN 27	T	T	T	A	A	A	T	A	A	T	A	T	-	T	T	T	T	T	T	T	T	T	T	T	T	T	T
1936	FEB 23	T	A	A	A	A	A	A	A	A	A	A	A	A	T	T	T	T	T	T	T	T	T	T	T	T	T	T
1937	MAR 22	A	A	A	T	A	A	A	A	A	A	A	T	*	T	T	T	T	T	T	T	T	T	T	T	T	T	T
1938	APR 18	A	A	A	A	A	A	A	A	A	A	A	T	A	A	T	T	T	T	T	T	T	T	T	T	T	T	T
1939	MAY 15	T	T	A	A	T	T	T	A	A	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1940	JUN 11	A	A	A	A	A	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1941	JUL 8	A	A	A	A	A	A	A	A	A	A	A	T	A	A	A	A	A	T	T	T	T	T	T	T	T	T	T
1942	AUG 4	A	A	A	A	A	A	A	A	A	A	A	A	A	T	T	T	T	T	T	T	T	T	T	T	T	T	T
1943	AUG 31	A	A	A	A	A	A	A	T	A	A	A	A	A	A	A	A	A	T	T	T	T	T	T	T	T	T	T
1944	SEP 27	A	A	A	A	A	T	T	A	-	A	A	A	A	A	T	T	T	T	T	T	T	T	T	T	T	T	T
1945	OCT 24	T	T	T	T	T	T	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
1946	NOV 20	A	T	A	T	A	A	T	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
1947	DEC 17	T	T	T	T	T	T	T	A	T	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
1948	1976 JAN 13	T	T	T	T	T	T	T	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
1949	FEB 9	T	A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
1950	MAR 7	T	A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
1951	APR 3	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
1952	APR 30	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
1953	MAY 27	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T

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

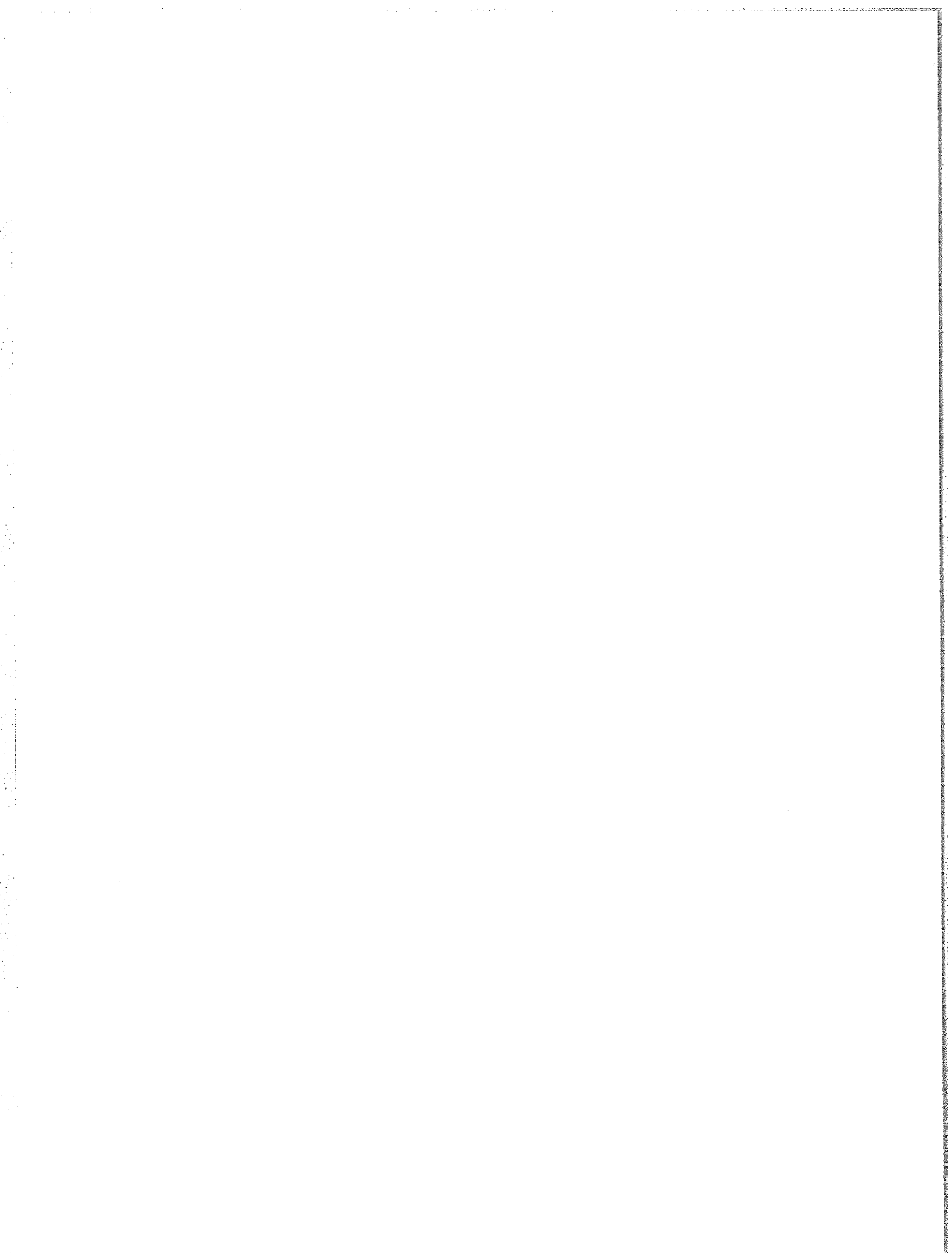
The table shows daily inferences of the polarity of the interplanetary magnetic field. The first half of the day is based principally on magnetograms produced by the magnetometer at the Vostok Antarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service operated by the Air Force Geophysics Laboratories at the Thule Geopole Station is used for the second half of the day.

## APRIL 1976 DATA

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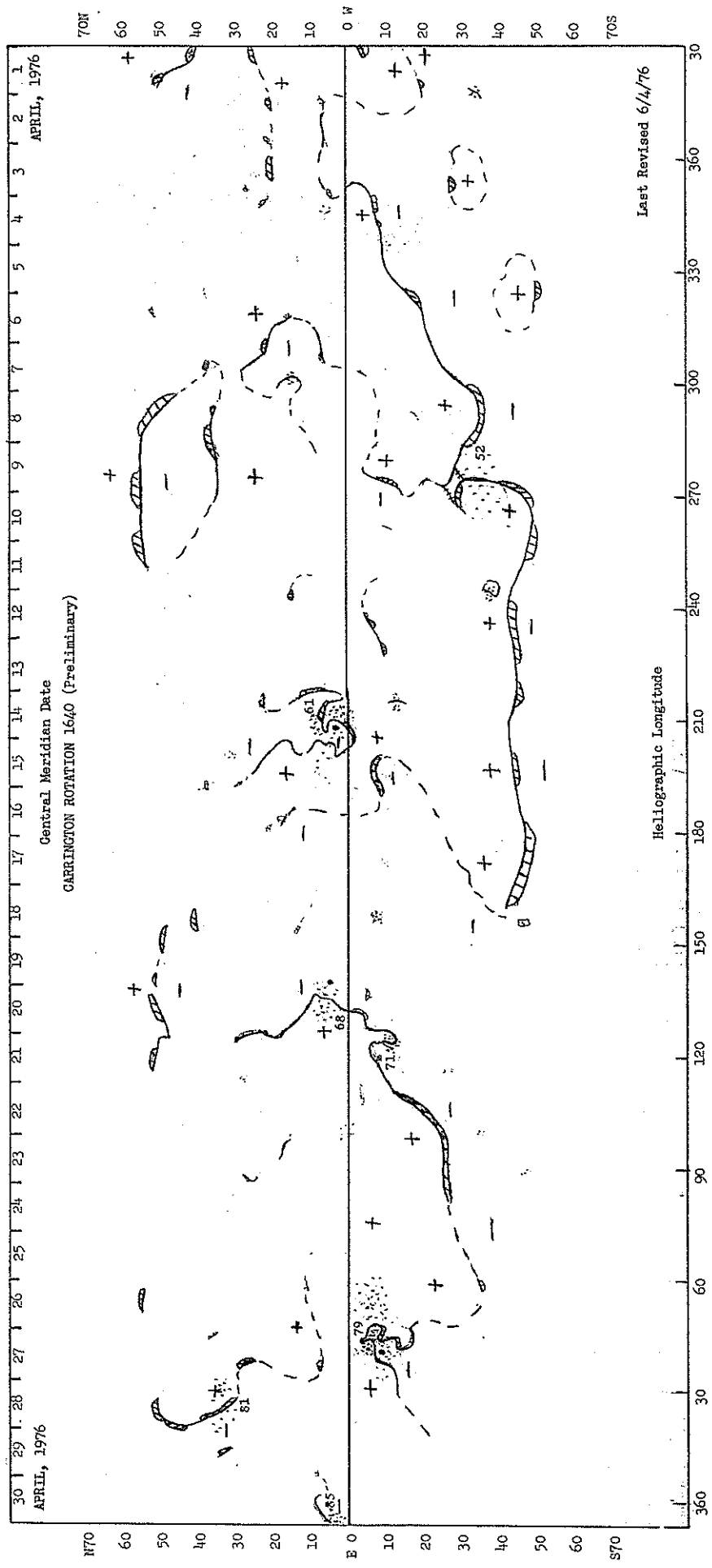




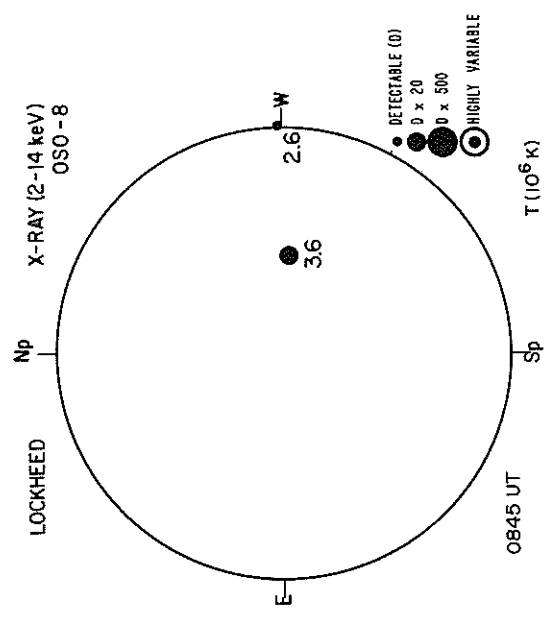
# H<sub>α</sub> SYNOPSIS CHART

APRIL, 1976

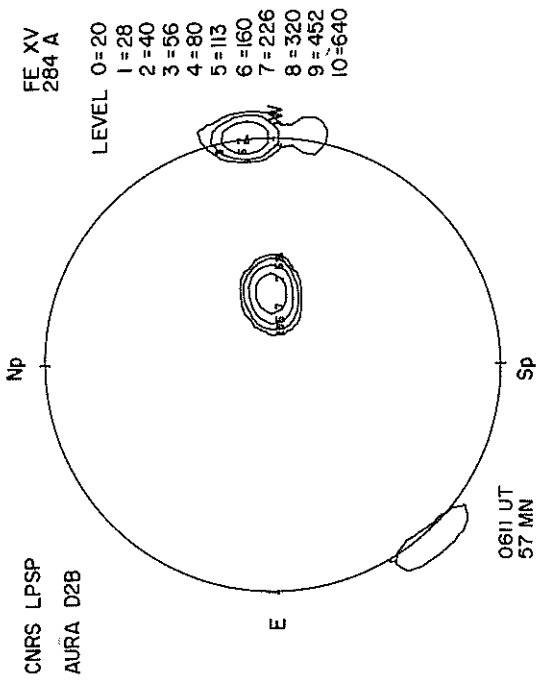
Central Meridian Date  
GARRINGTON ROTATION 1640 (Preliminary)



APRIL 1, 1976 (P = -26.21, B<sub>0</sub> = -6.52, L<sub>0</sub> = 29.89)

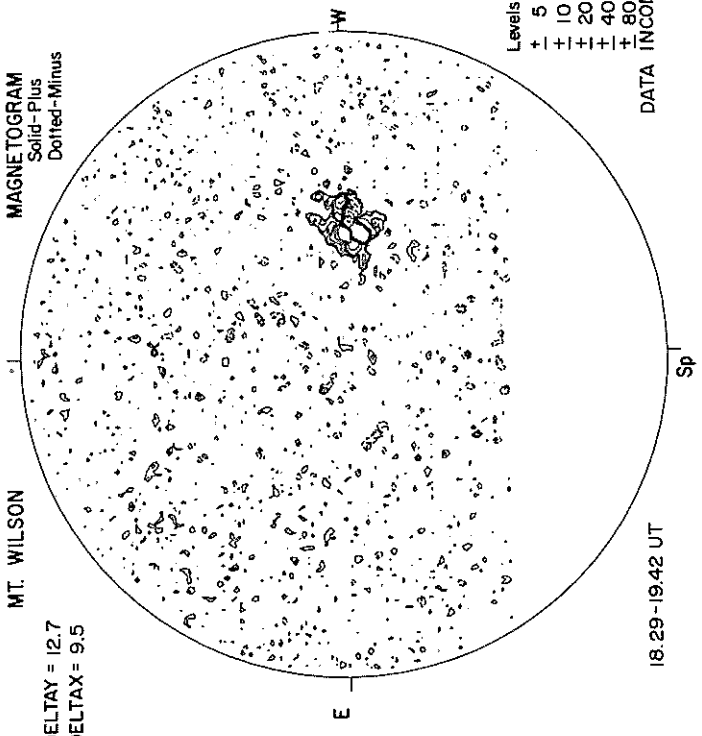


KITT PEAK  
MAGNETOGRAM  
Bright- Plus  
Dark - Minus

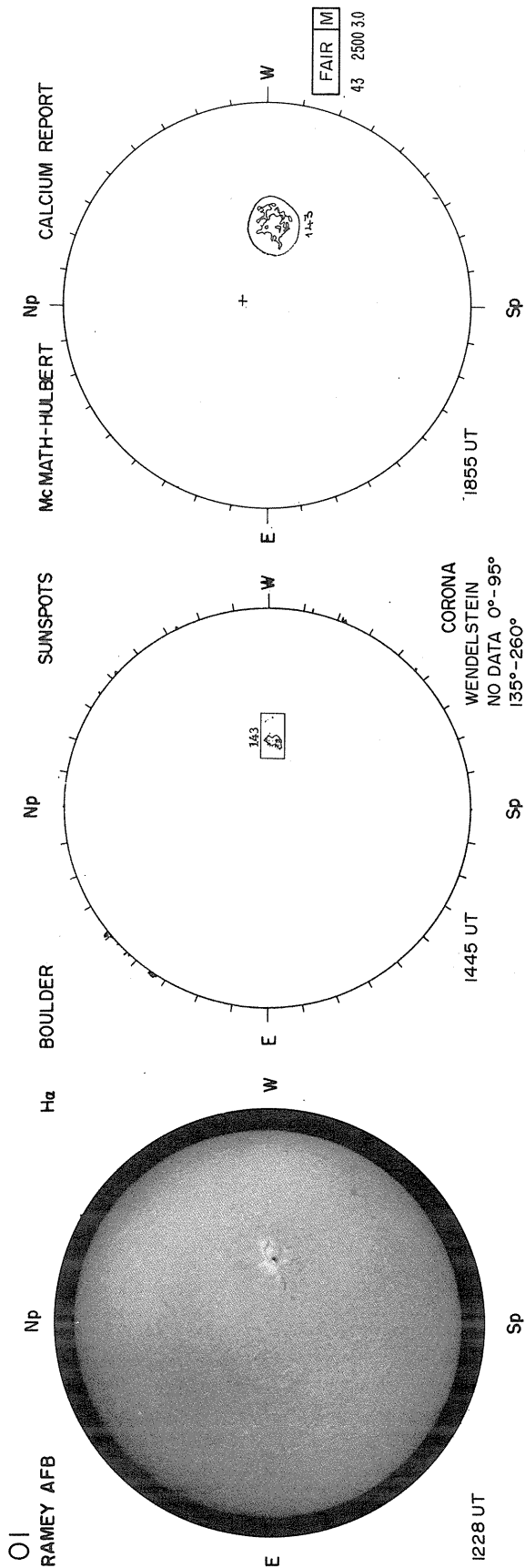


MAGNETOGRAM  
Solid-Plus  
Dotted-Minus

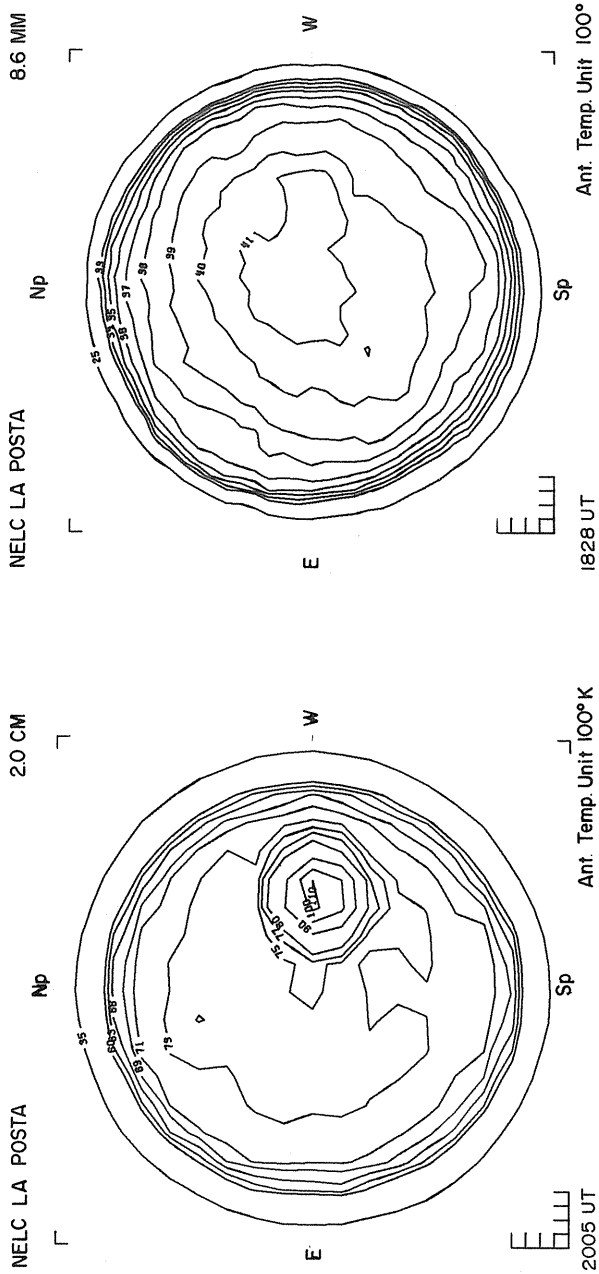
MT. WILSON  
DELTA Y = 12.7  
DELTA X = 9.5



NO MAGNETOGRAMS WERE PRODUCED AT KITT PEAK OBSERVATORY DURING THE MONTH OF APRIL 1976.

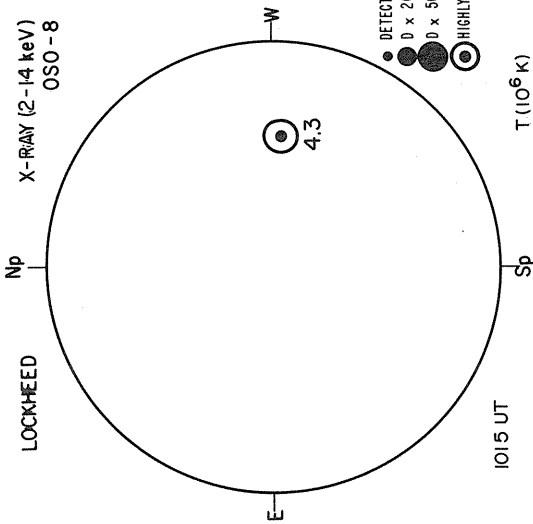


CORONA  
WENDELSTEIN  
NO DATA 0°-95°  
135°-260°  
295°-355°



APRIL 2, 1976 (P = -26.25, B<sub>0</sub> = -6.46, L<sub>0</sub> = 16.70)

LOCKHEED  
X-RAY (2-14 keV)  
OSO-8



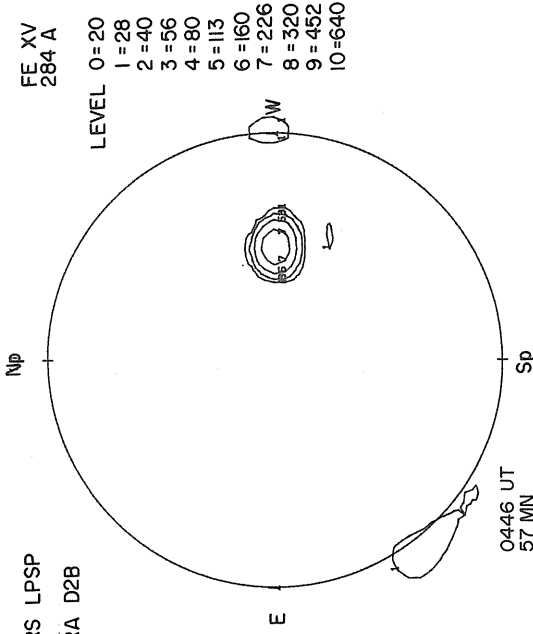
MAGNETOGRAM  
Bright - Plus  
Dark - Minus

KITT PEAK

- DETECTABLE (D)
- 0 x 20
- 0 x 500
- HIGHLY VARIABLE

T (10<sup>6</sup> K)

CNRS LPSP  
AURA D2B



MT. WILSON

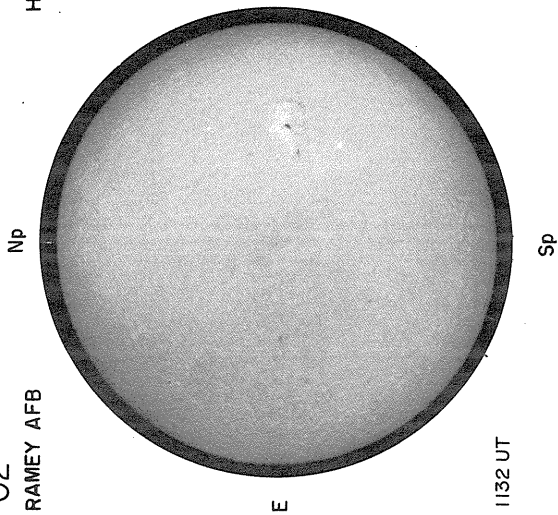
DELTA Y = 12.7  
DELTA X = 9.5

MAGNETOGRAM  
Solid - Plus  
Dotted - Minus

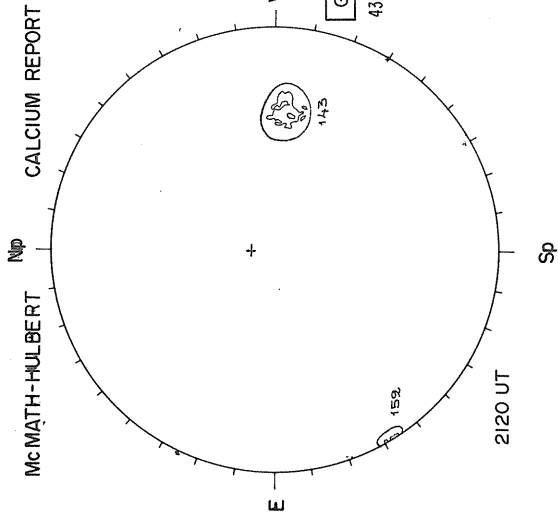
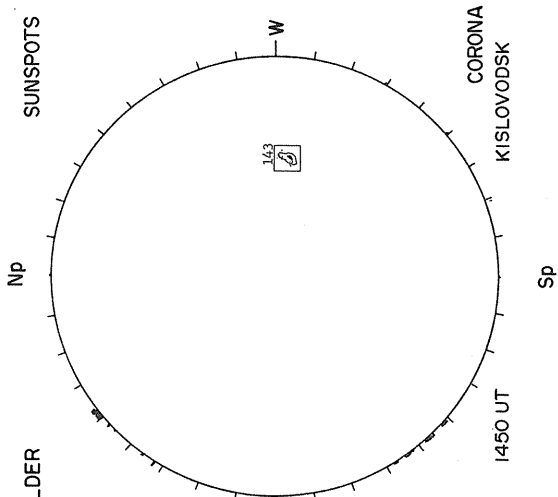
22.94 - 24.35 UT

- Levels
- 5
- + 10
- + 20
- + 40
- + 80

O2  
RAMEY AFB

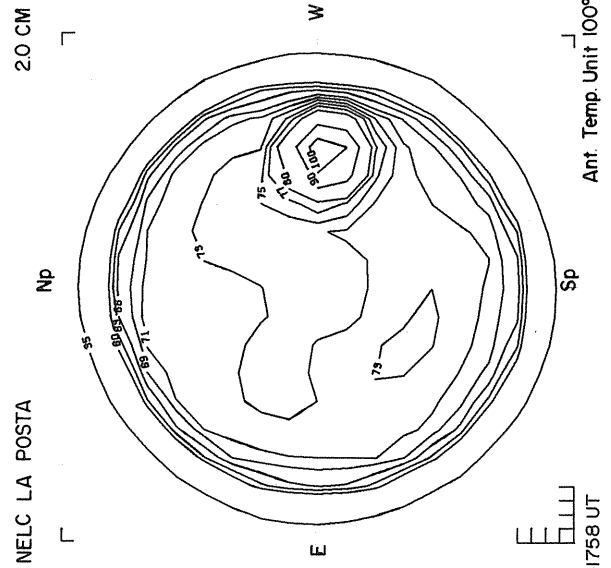


H $\alpha$  BOULDER

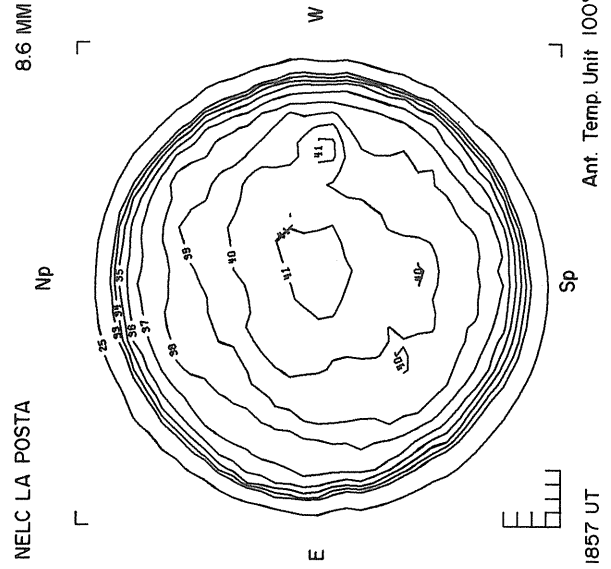


CALCIUM REPORT

NELC LA POSTA

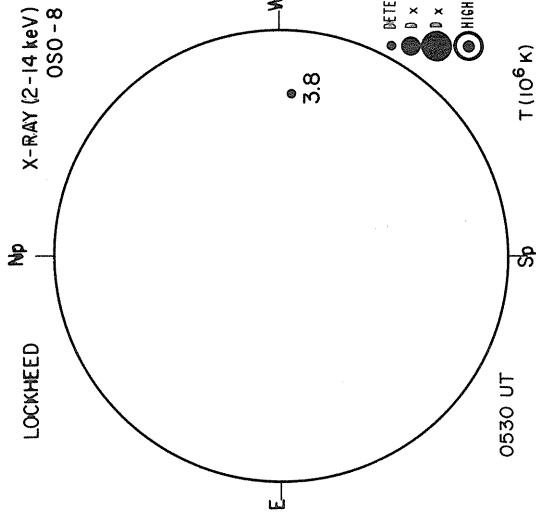


NELC LA POSTA



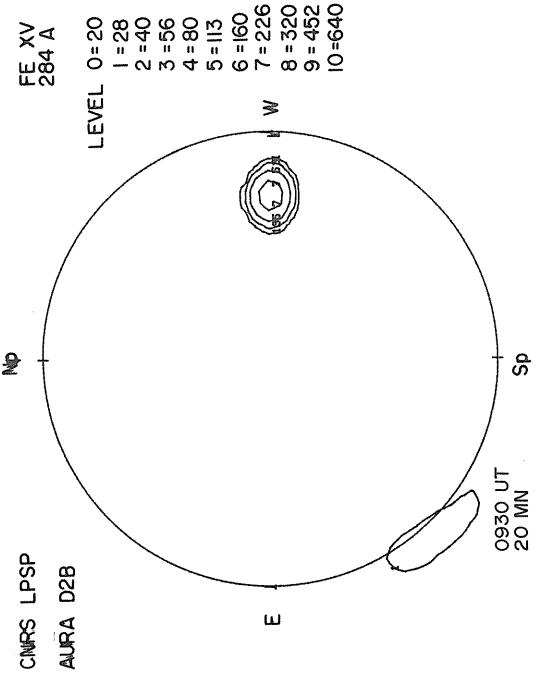
8.6 MM

APRIL 3, 1976 (P = -26.28, B<sub>0</sub> = -6.40; L<sub>0</sub> = 3.51)



KITT PEAK

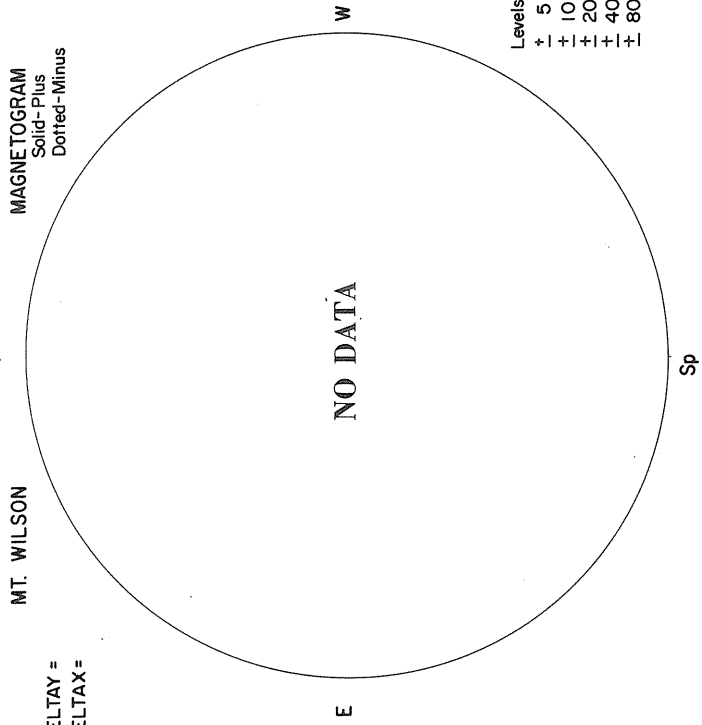
MAGNETOGRAM  
Bright - Plus  
Dark - Minus



MT. WILSON

MAGNETOGRAM  
Solid-Plus  
Dotted-Minus

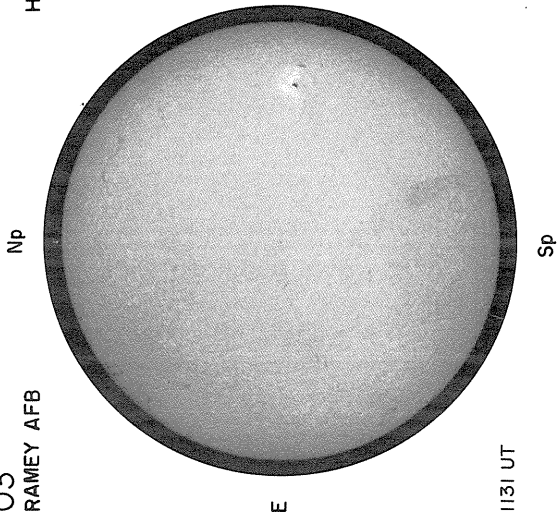
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DELTA X =



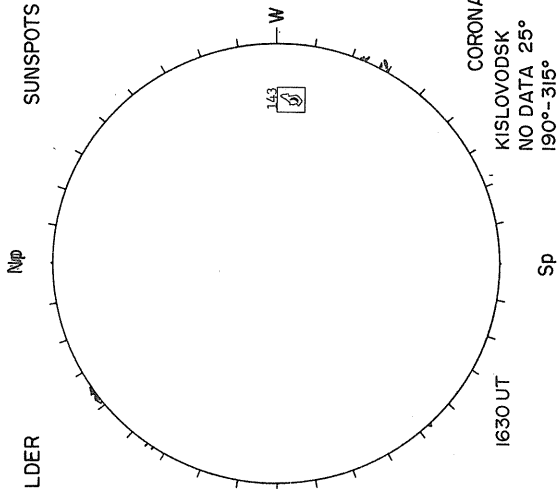
W

E

O3  
RAMEY AFB

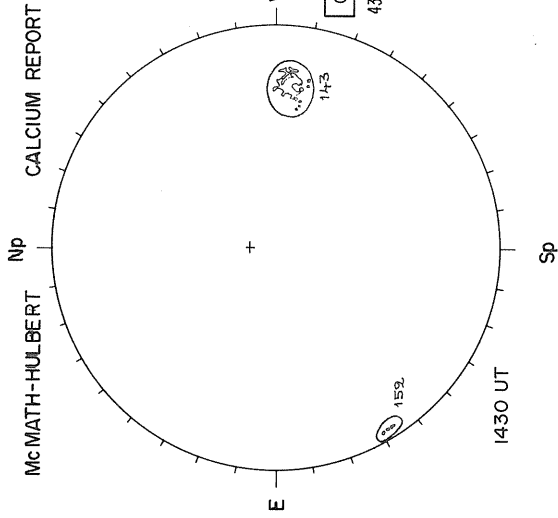


H $\alpha$   
BOULDER



CORONA  
KISLOVODSK  
NO DATA 25°  
190°-315°

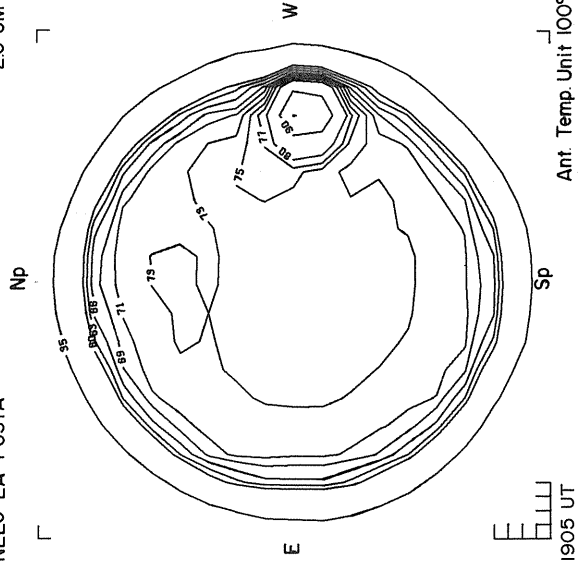
SUNSPOTS



Mc MATH-HULBERT  
CALCIUM REPORT

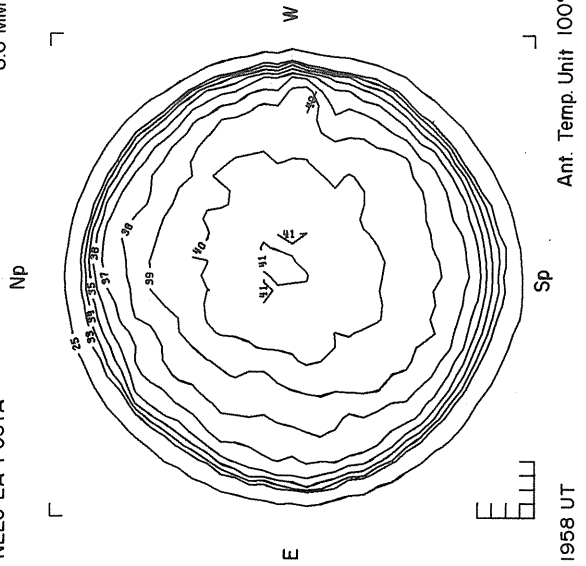
NELC LA POSTA

20 CM



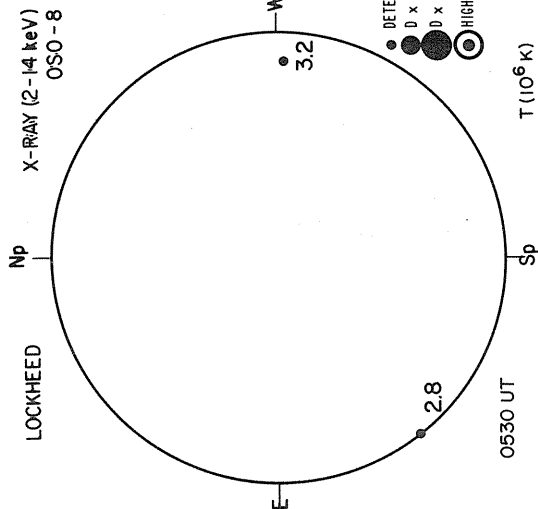
NELC LA POSTA

8.6 MM



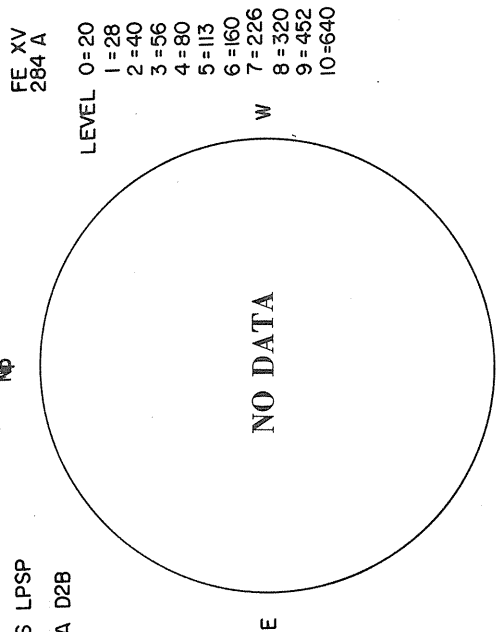


APRIL 4, 1976 (P = -26.31, B<sub>0</sub> = -6.34, L<sub>0</sub> = 350.31)



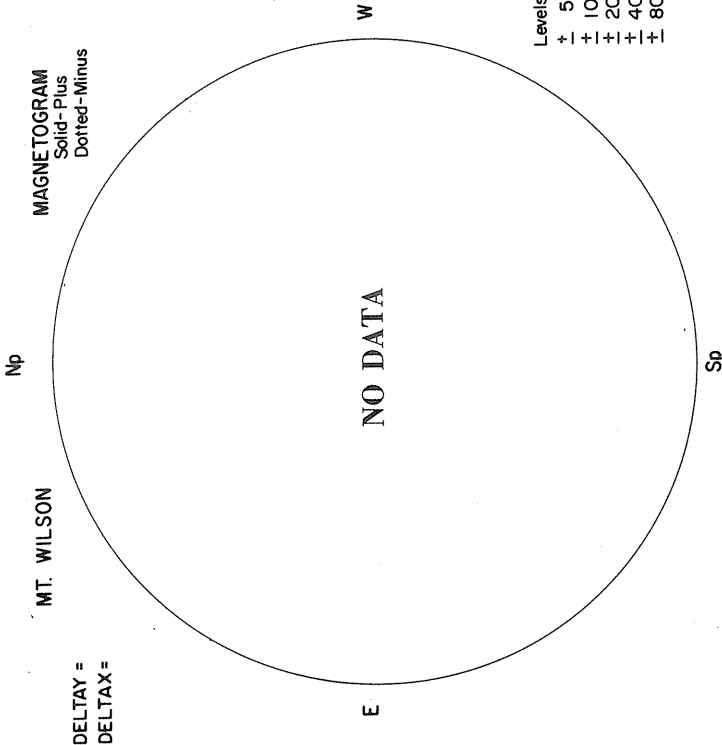
- DETECTABLE (D)
- 0 x 20
- 0 x 500
- HIGHLY VARIABLE

MAGNETOGRAM  
Bright - Plus  
Dark - Minus



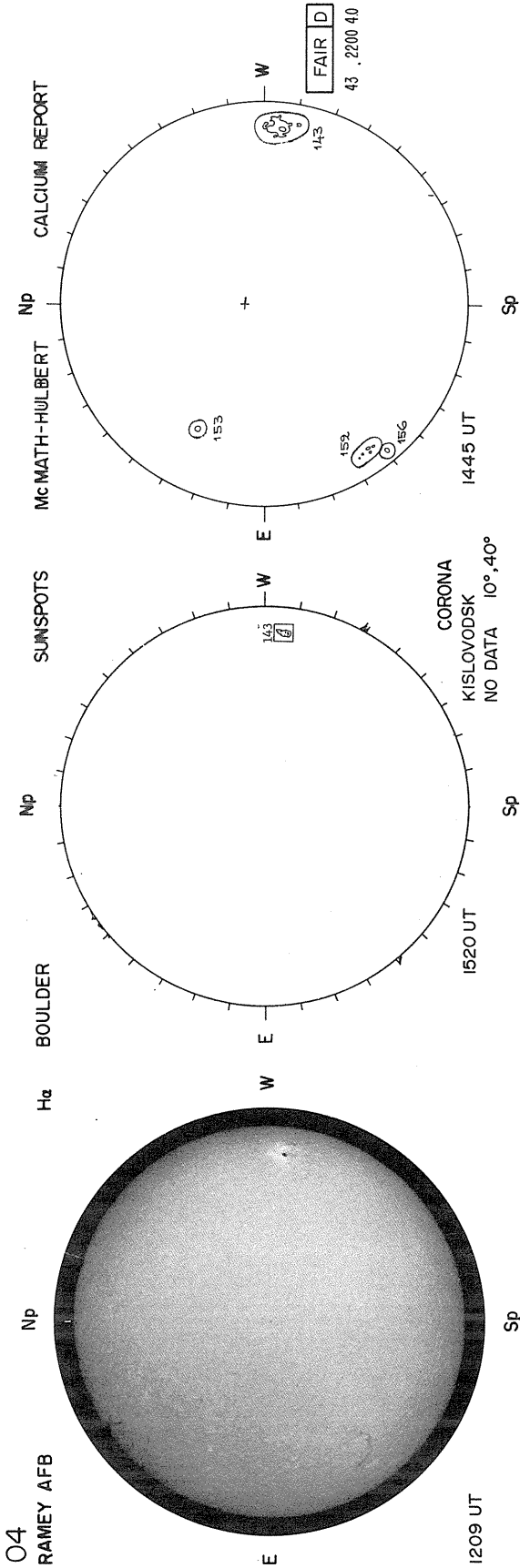
FE XV  
284 A

MAGNETOGRAM  
Solid-Plus  
Dotted-Minus



- Levels
- + 5
- + 10
- + 20
- + 40
- + 80

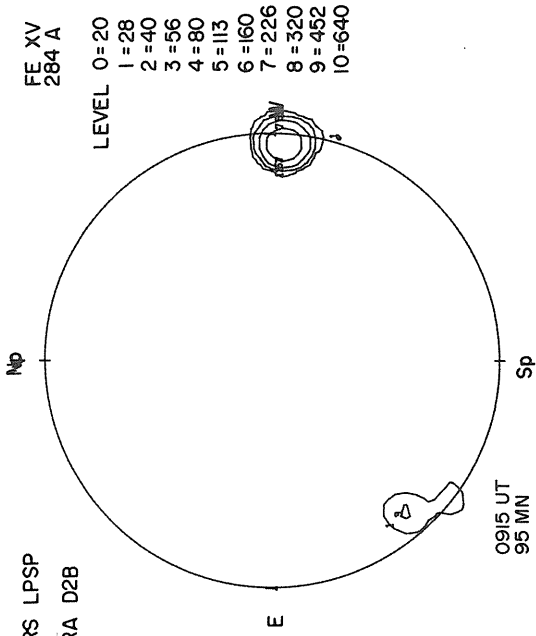
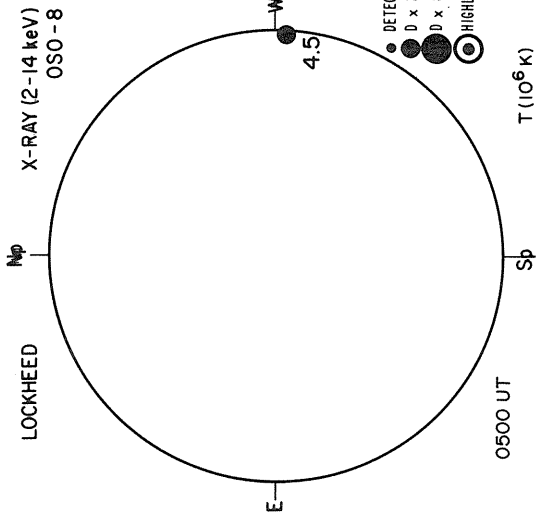
Sp



CORONA  
KISLOVODSK  
NO DATA 10°, 40°

NELC LA POSTA	Np	2.0 CM	NELC LA POSTA	Np	8.6 MM
NO DATA			NO DATA		
E CLOUDY	W		WEATHER	W	
E					
1906 UT					
E					
Ant. Temp. Unit 100°K			Ant. Temp. Unit 100°K		
Sp			Sp		
-----UT			-----UT		

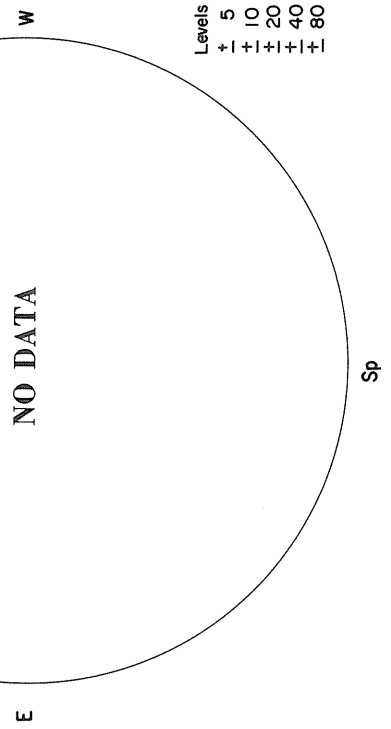
APRIL 5, 1976 (P = -26.32, B<sub>0</sub> = -6.28, L<sub>0</sub> = 337.12)



KITT PEAK

DELTA Y =  
DELTA X =

MT. WILSON



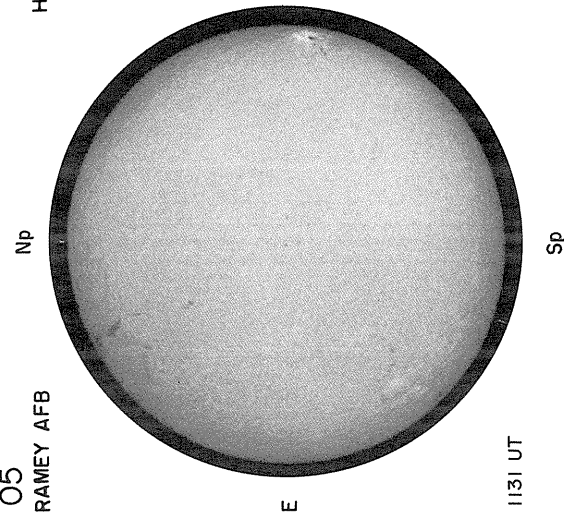
Levels  
+ 5  
+ 10  
+ 20  
+ 40  
+ 80

W

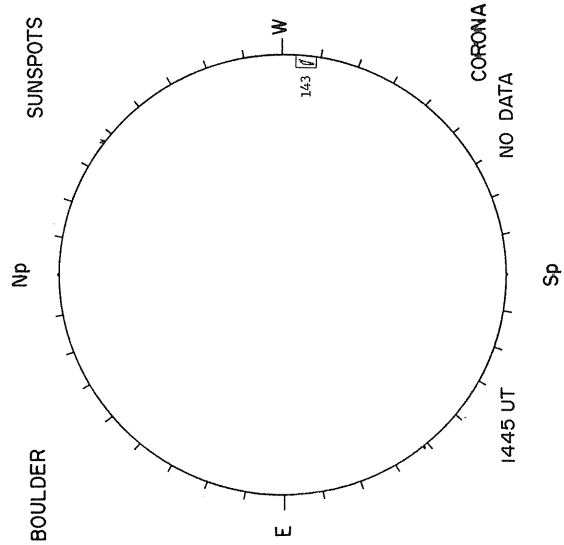
E

Sp

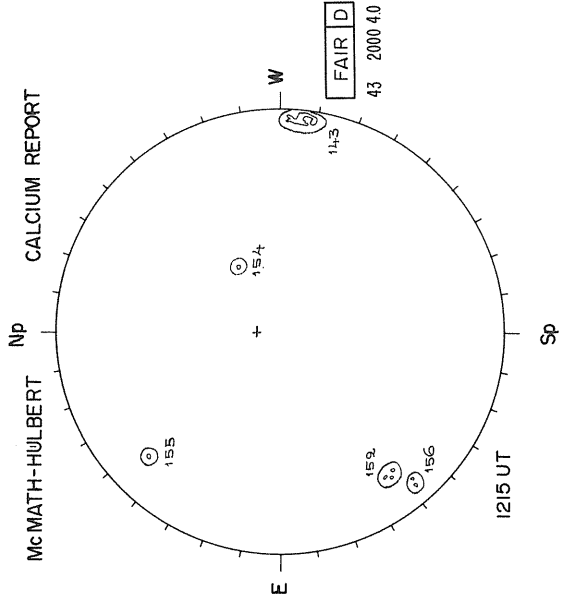
O5  
RAMEY AFB



McMATH-HULBERT



McMATH-HULBERT



NELC LA POSTA

NO DATA

2.0 CM

NELC LA POSTA

NO DATA

8.6 MM

FAIR D  
43 2000.40

E

WEATHER

W

E

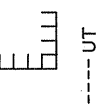
WEATHER

W



Sp

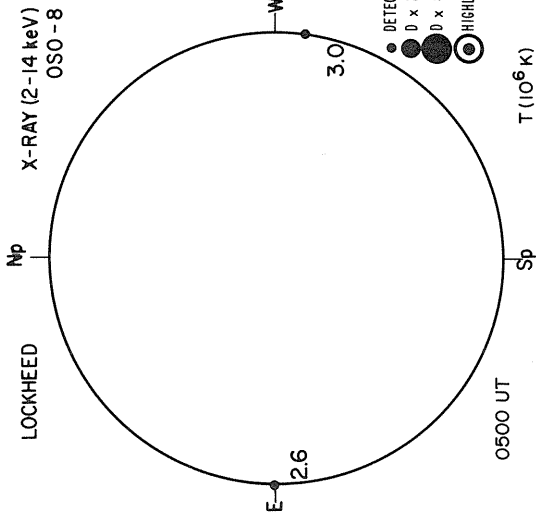
Ant. Temp. Unit 100°K



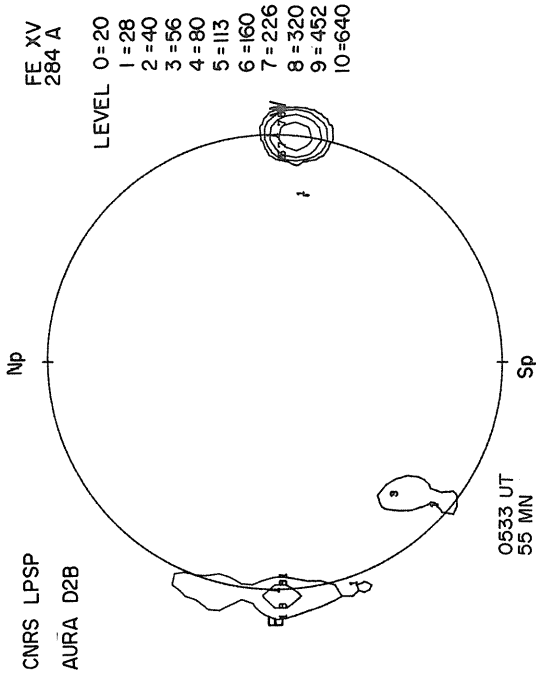
Sp

Ant. Temp. Unit 100°K

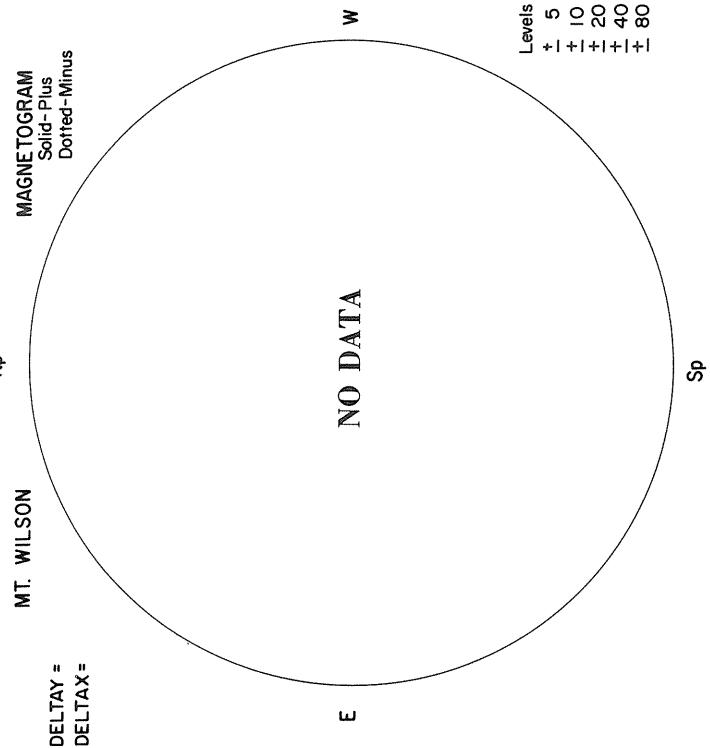
APRIL 6, 1976 (P = -26.33, B<sub>0</sub> = -6.22, L<sub>0</sub> = 323.92)



KITT PEAK  
MAGNETOGRAM  
Bright-Plus  
Dark-Minus



MT. WILSON  
MAGNETOGRAM  
Solid-Plus  
Dotted-Minus

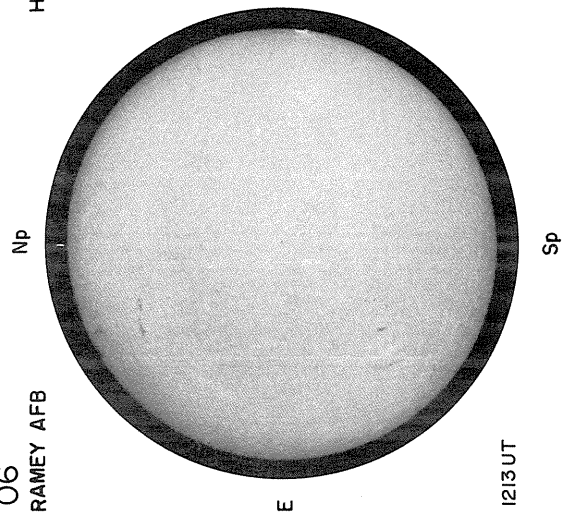


W

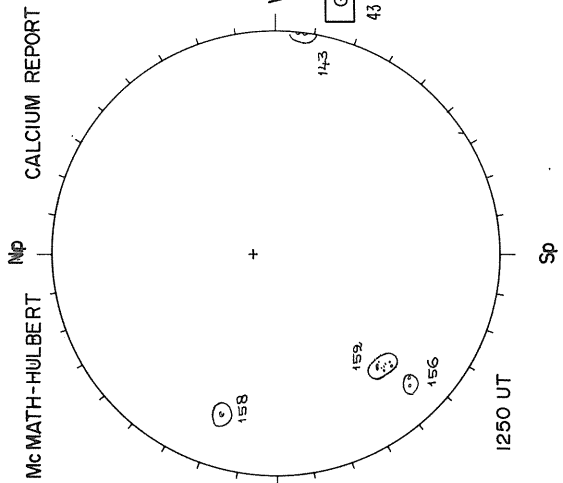
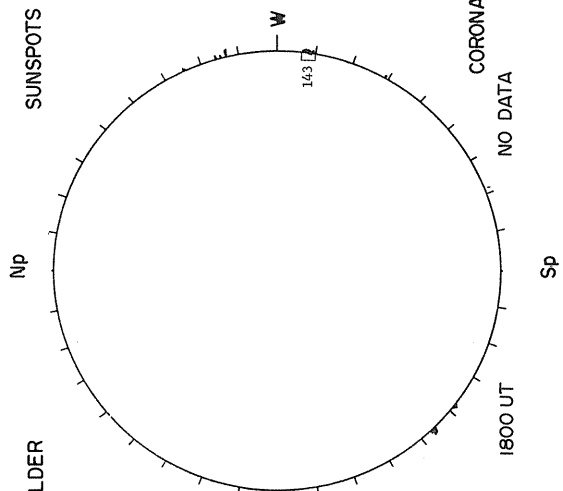
E

Sp

06  
RAMEY AFB



H $\alpha$  BOULDER



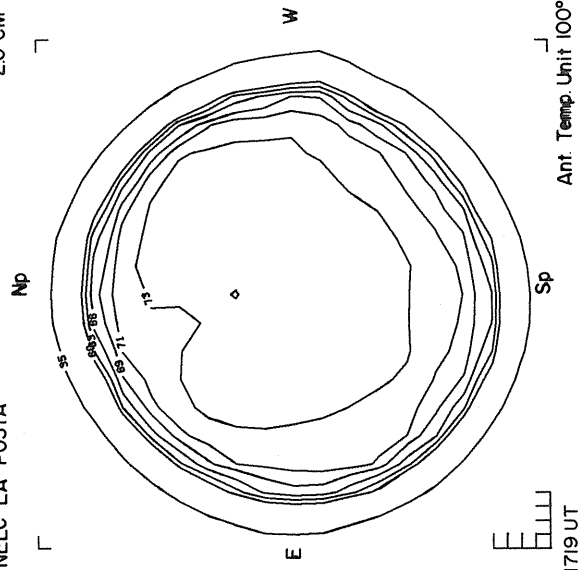
McMATH-HULBERT  
CALCIUM REPORT

1213 UT

1800 UT

1250 UT

NELC LA POSTA



2.0 CM

NELC LA POSTA

8.6 MM

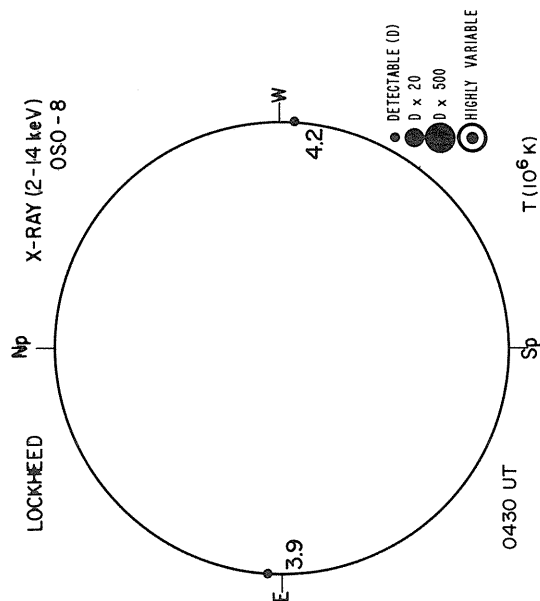
1719 UT

1927 UT

Ant. Temp. Unit 100°K

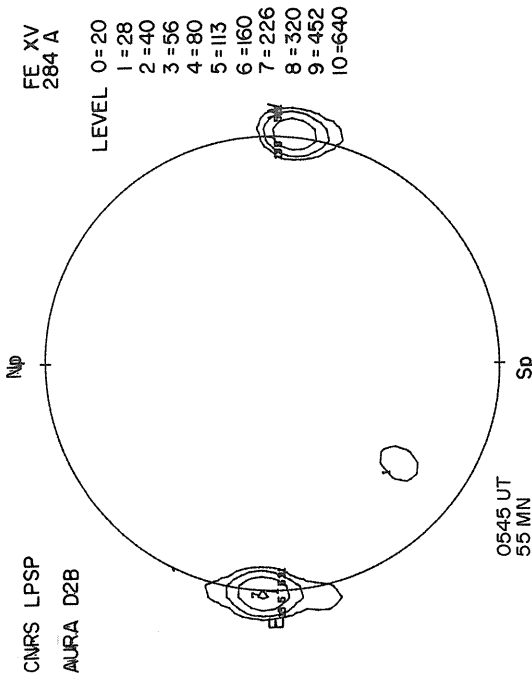
Ant. Temp. Unit 100°K

APRIL 7, 1976 (P = -26.33, B<sub>0</sub> = -6.15, L<sub>0</sub> = 310.72)



KITT PEAK

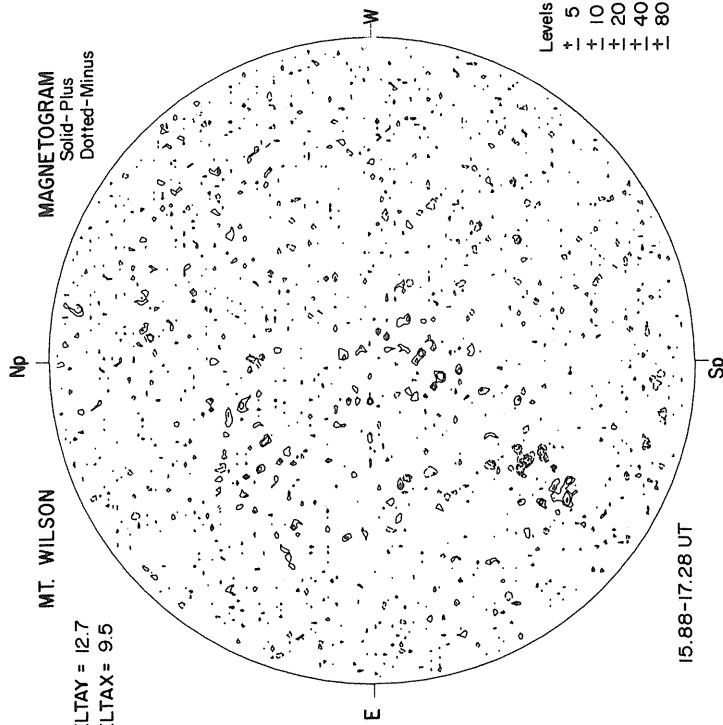
MAGNETOGRAM  
Bright-Plus  
Dark - Minus



MT. WILSON

MAGNETOGRAM  
Solid-Plus  
Dotted-Minus

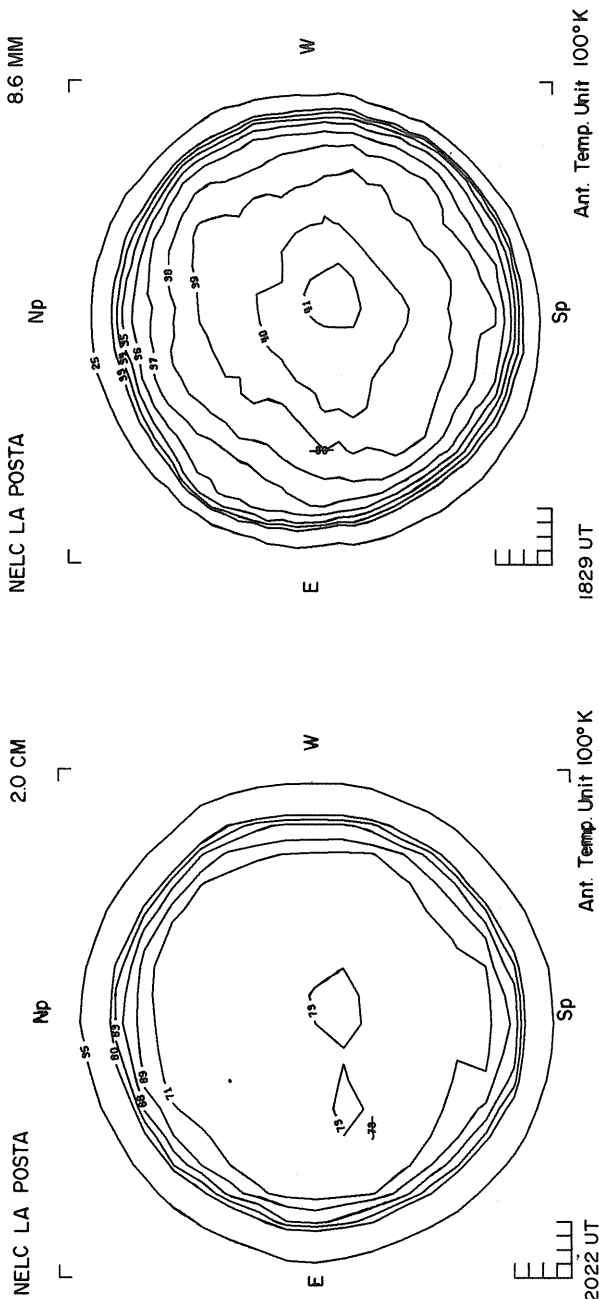
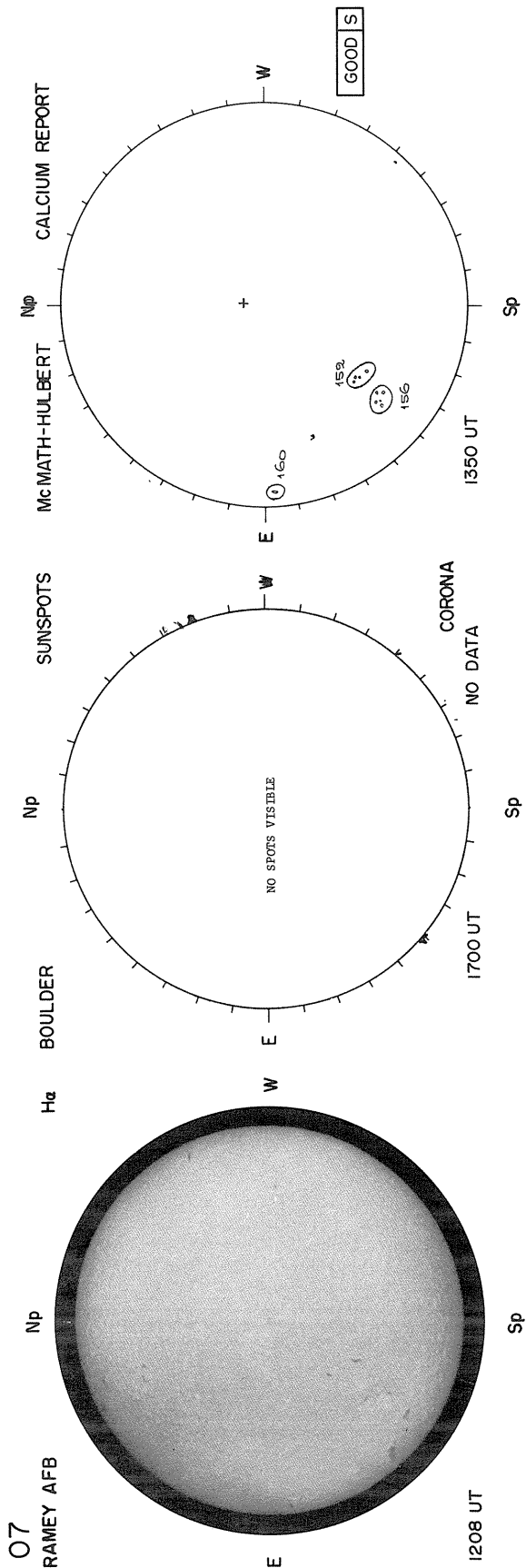
DELTA Y = 12.7  
DELTA X = 9.5



W

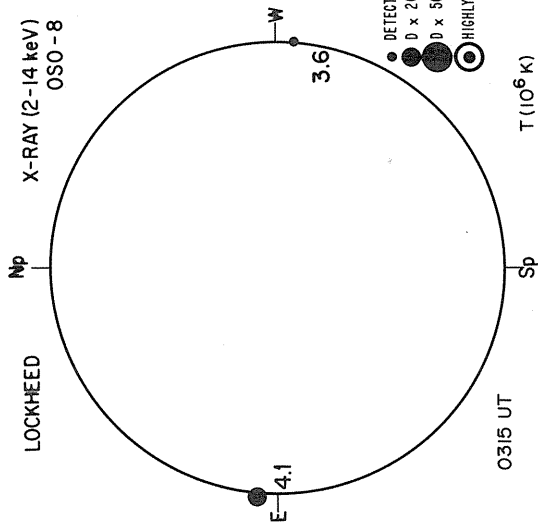
E

Sp



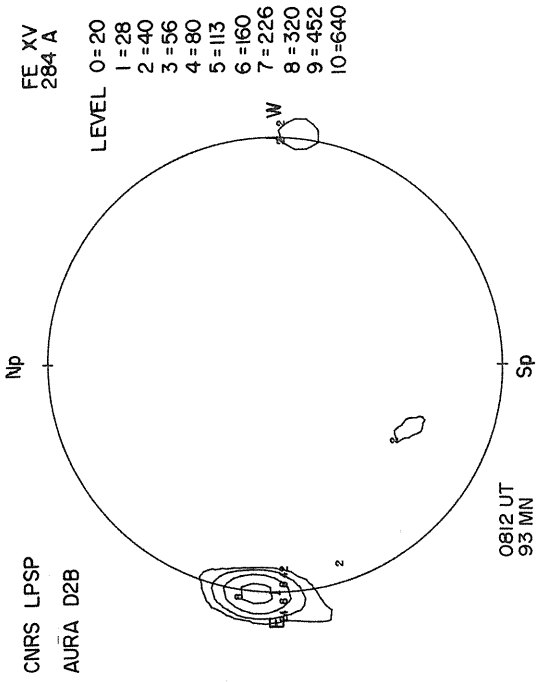


APRIL 8, 1976 (P = -2632, B<sub>0</sub> = -6.09, L<sub>0</sub> = 297.53)



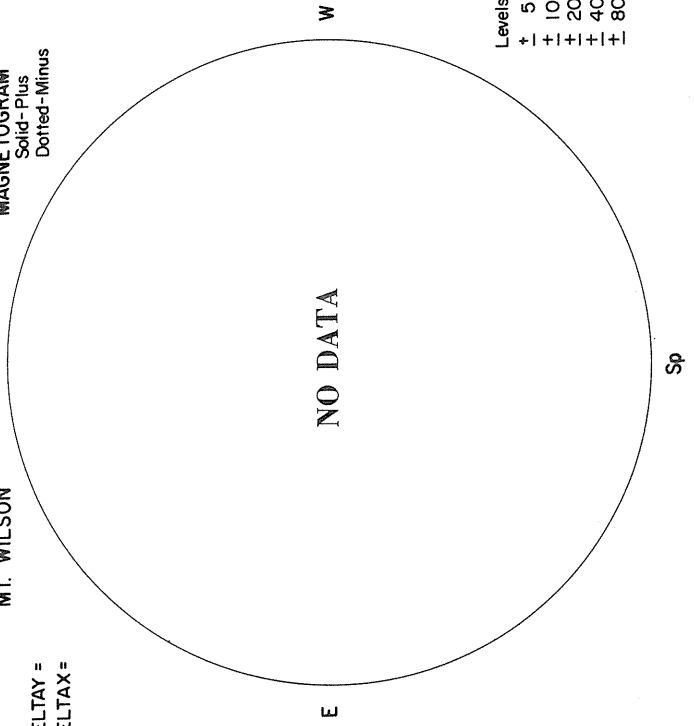
KITT PEAK  
MAGNETOGRAM  
Bright- Plus  
Dark - Minus

- DETECTABLE (D)
- D x 20
- D x 500
- ⊙ HIGHLY VARIABLE

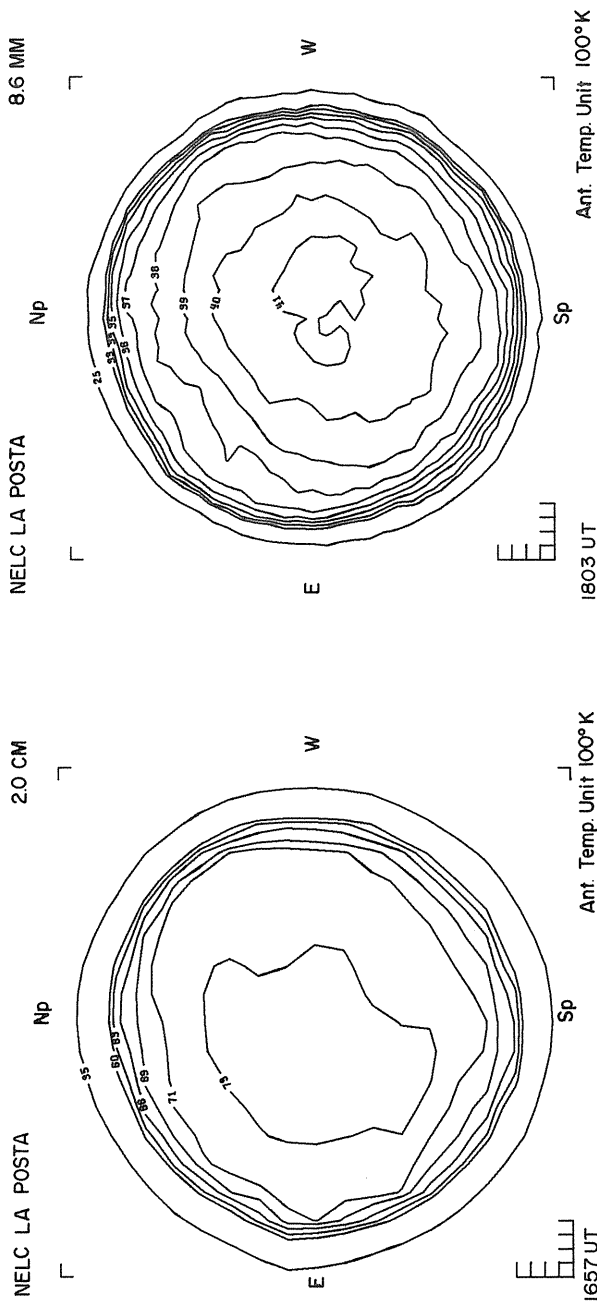
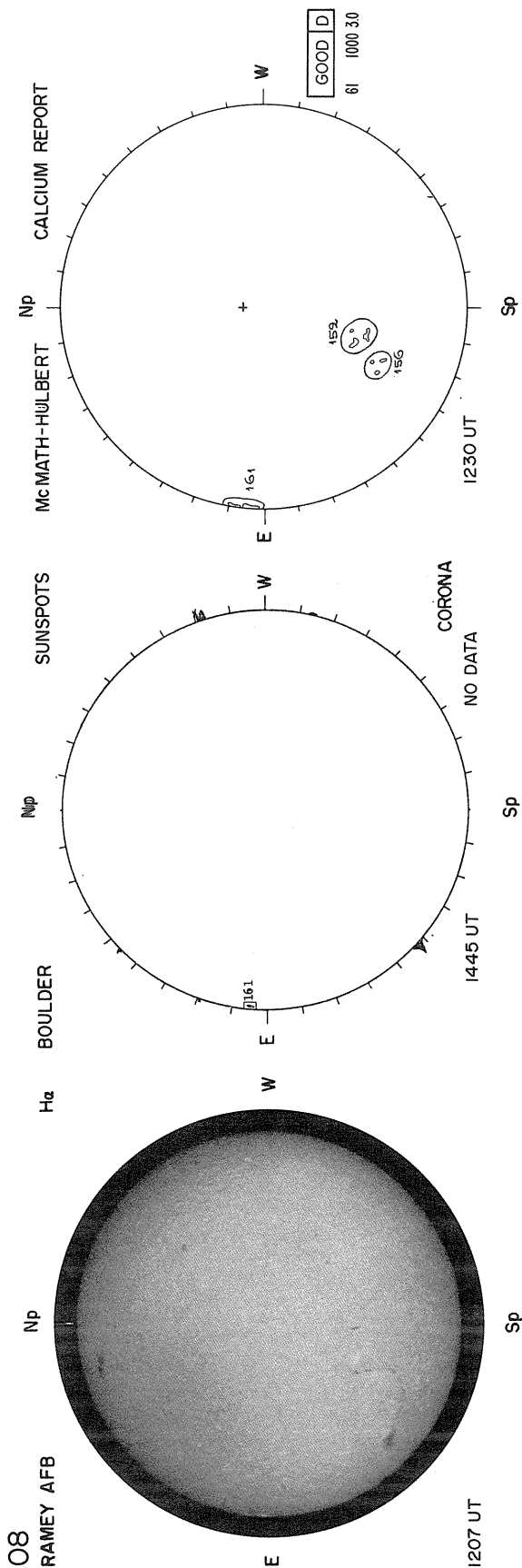


MT. WILSON  
MAGNETOGRAM  
Solid- Plus  
Dotted- Minus

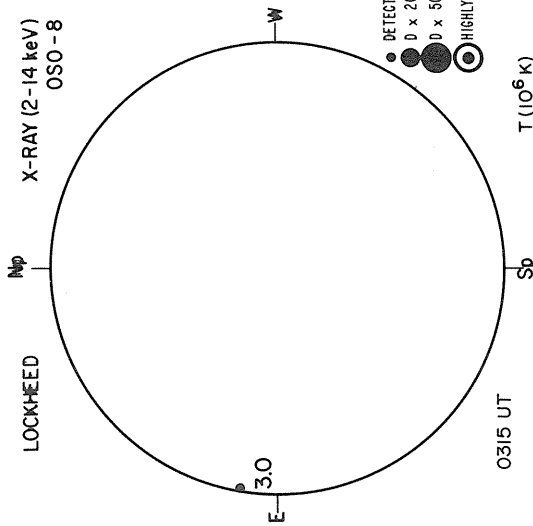
DELTAY =  
DELTAX =



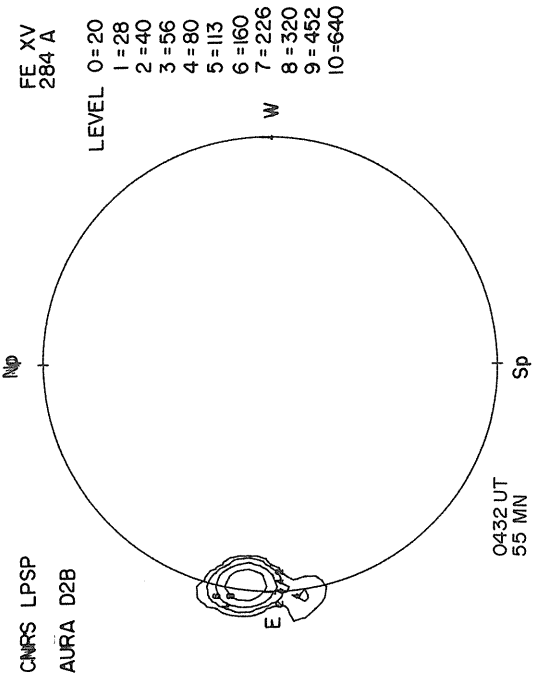
- Levels
- 5
- + 10
- + 20
- + 40
- + 80



APRIL 9, 1976 (P = -26.3l, B<sub>0</sub> = -6.02, L<sub>0</sub> = 284.33)

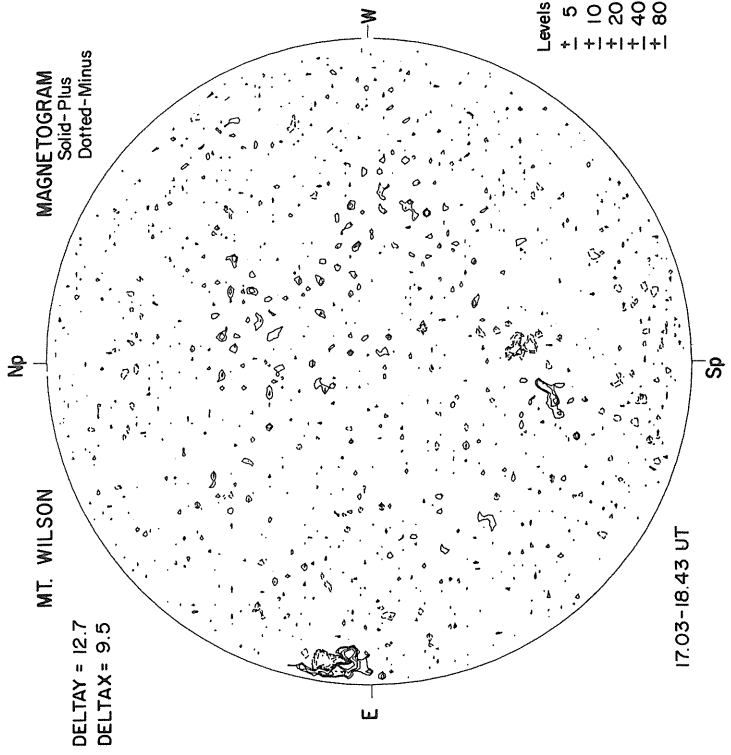


KITT PEAK  
MAGNETOGRAM  
Bright - Plus  
Dark - Minus

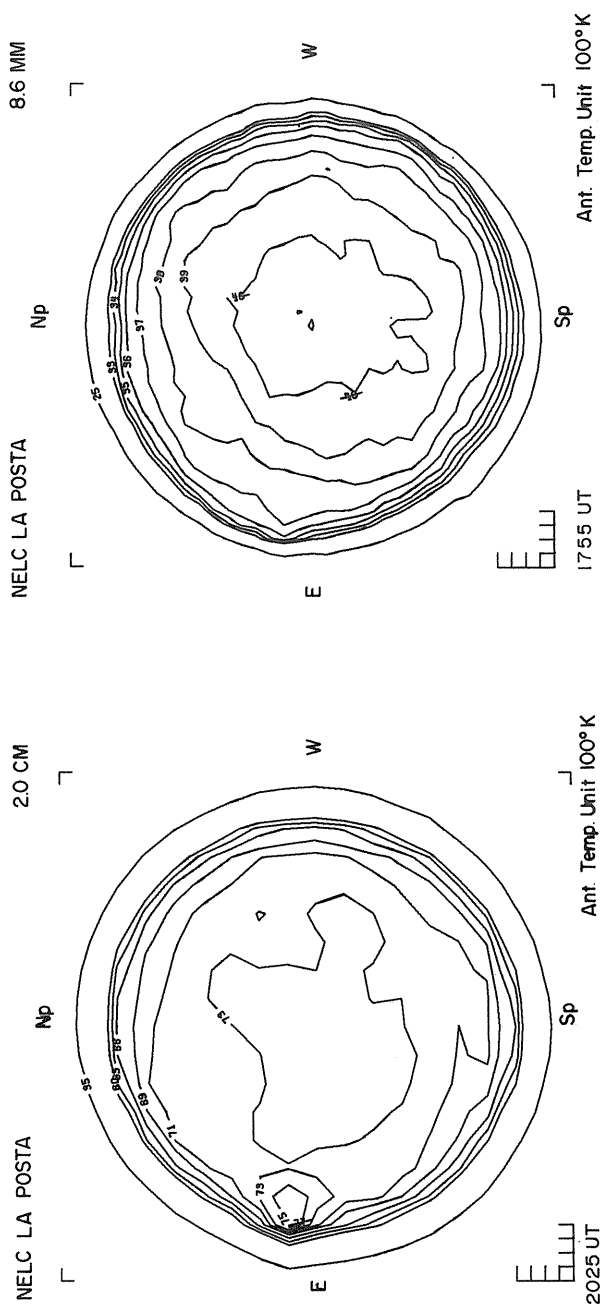
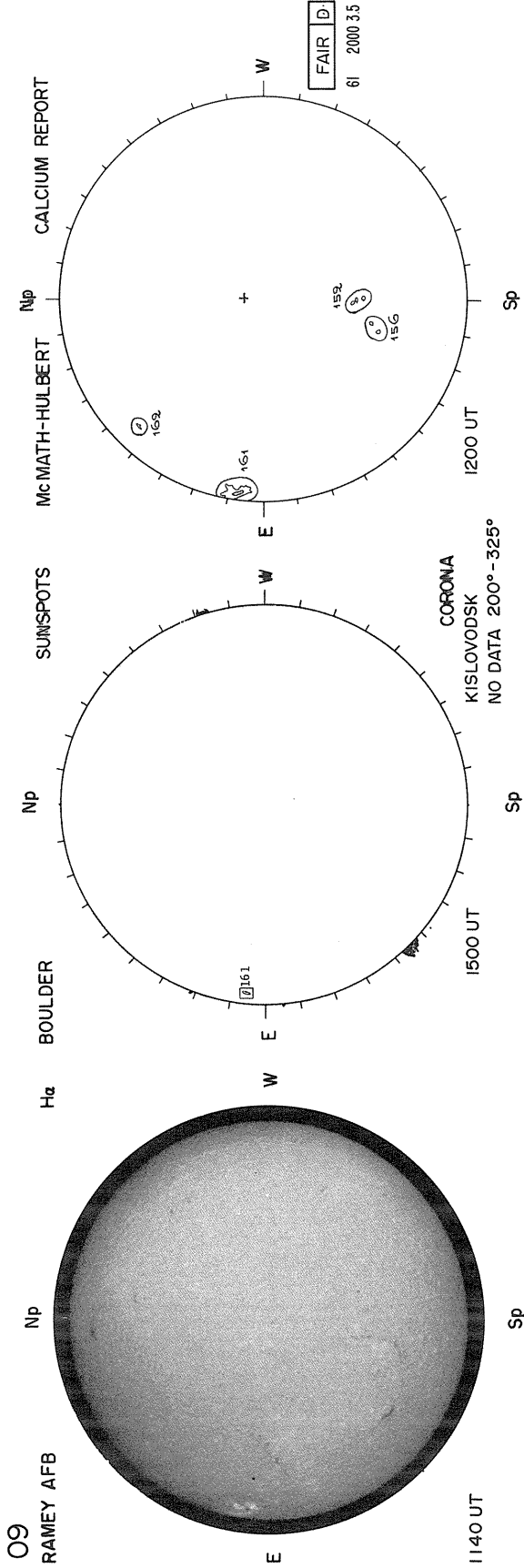


MT. WILSON  
MAGNETOGRAM  
Solid - Plus  
Dotted - Minus

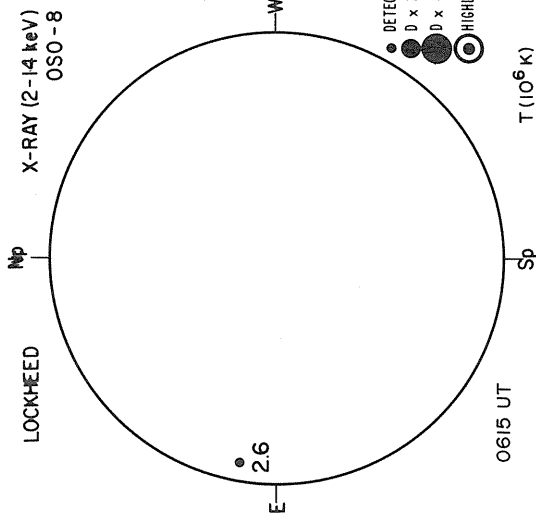
DELTA T = 12.7  
DELTA X = 9.5



Sp



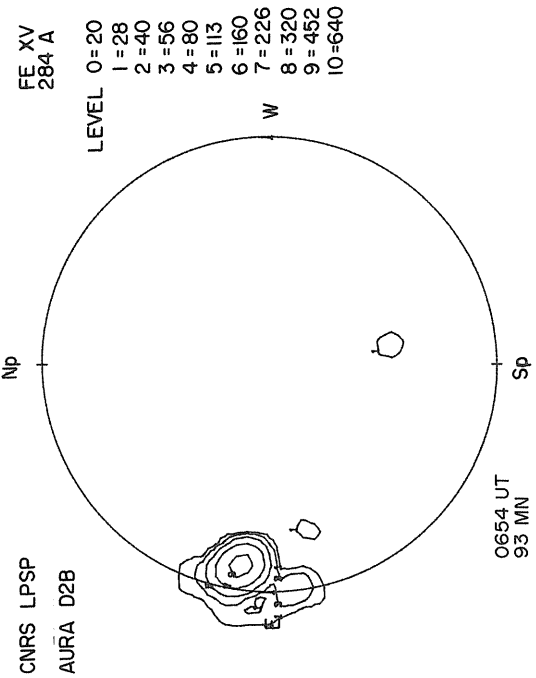
APRIL 10, 1976 (P = -26.29, B<sub>0</sub> = -5.95, L<sub>0</sub> = 271.13)



- DETECTABLE (D)
- 0 x 20
- 0 x 500
- HIGHLY VARIABLE

KITT PEAK

MAGNETOGRAM  
Bright - Plus  
Dark - Minus

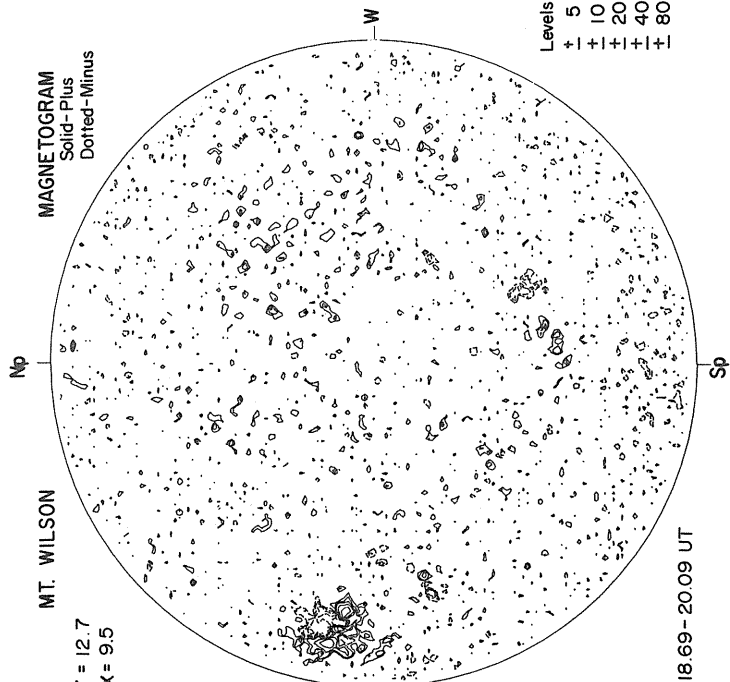


- LEVEL
- 0 = 20
  - 1 = 28
  - 2 = 40
  - 3 = 56
  - 4 = 80
  - 5 = 113
  - 6 = 160
  - 7 = 226
  - 8 = 320
  - 9 = 452
  - 10 = 640

MT. WILSON

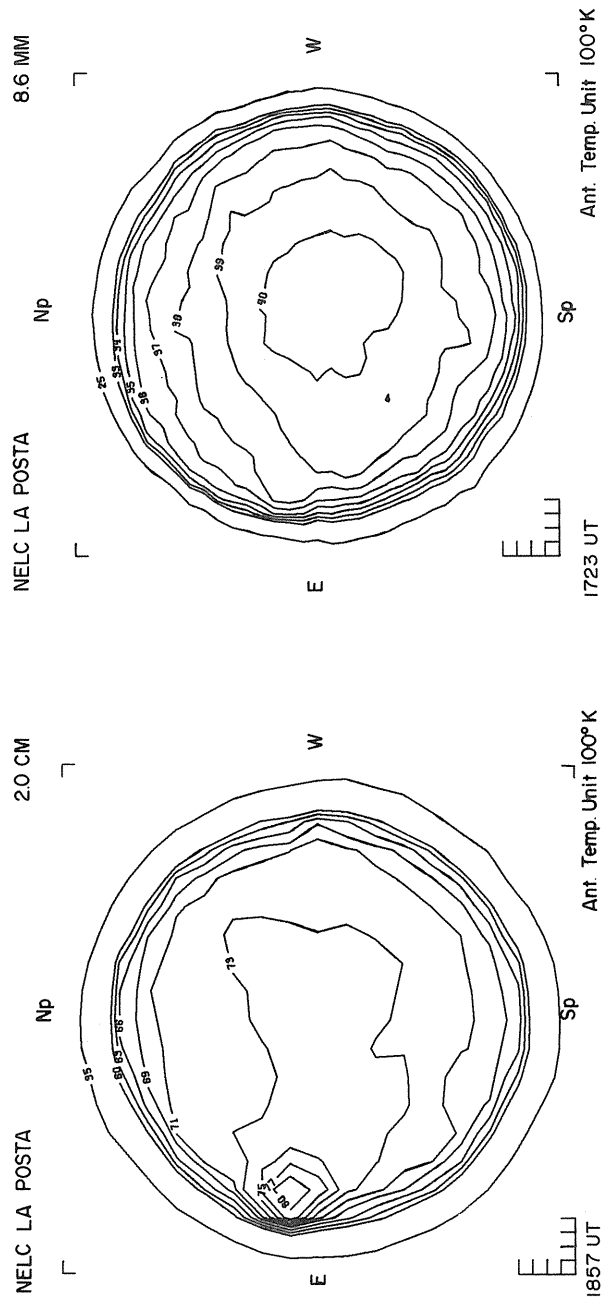
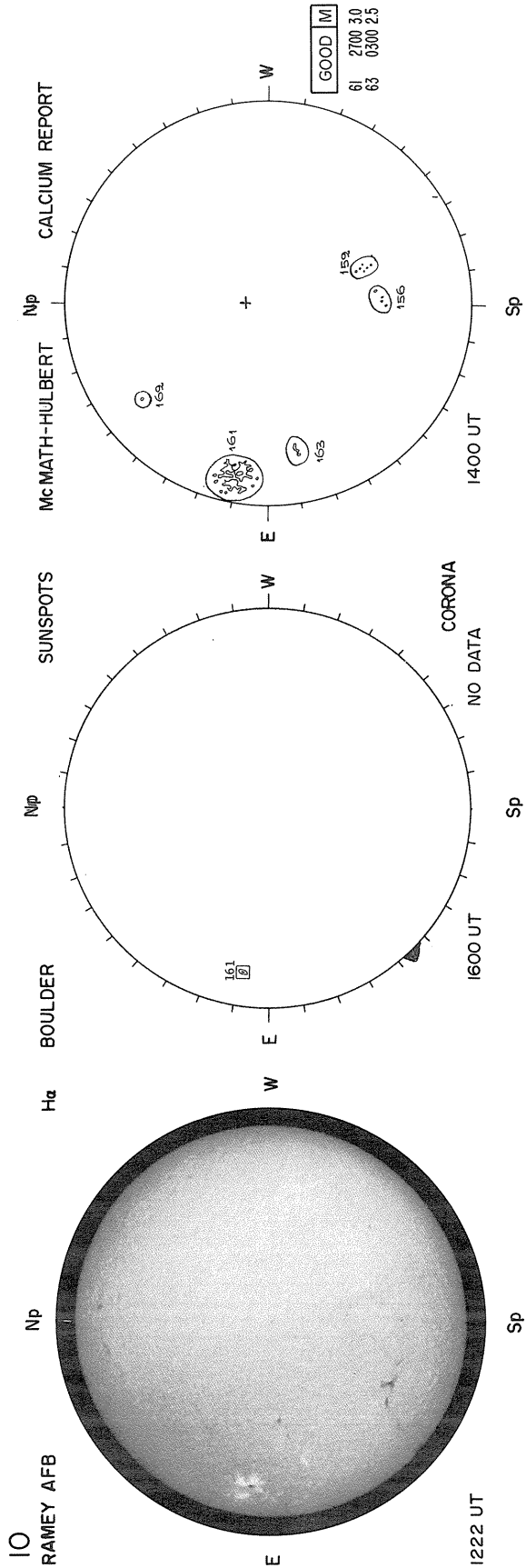
DELTA Y = 12.7  
DELTA X = 9.5

MAGNETOGRAM  
Solid-Plus  
Dotted-Minus

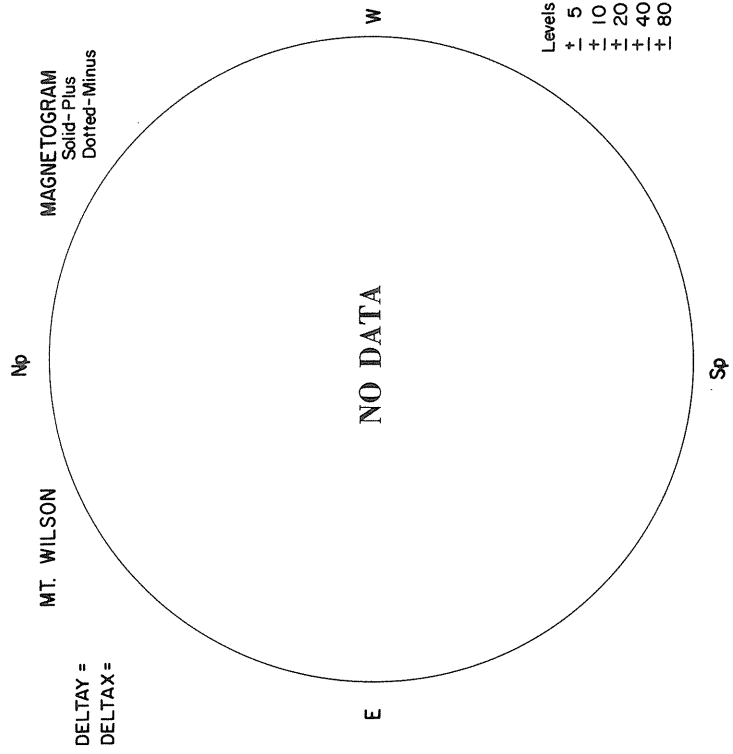
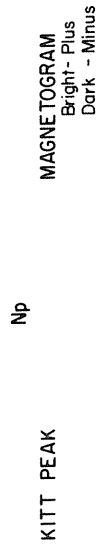
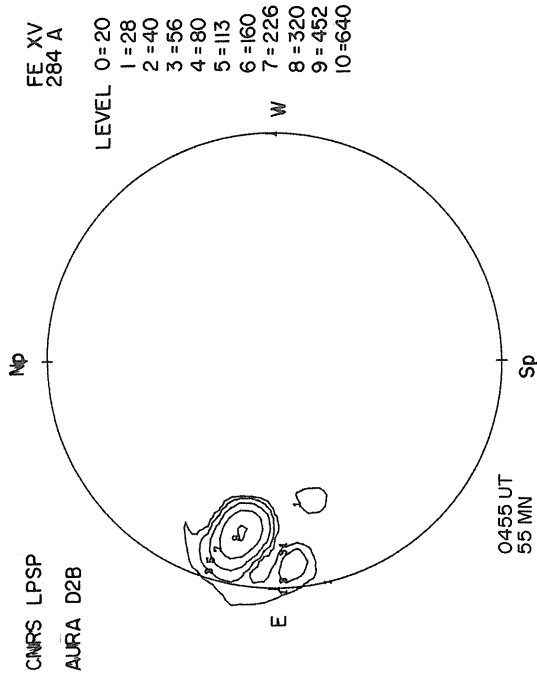
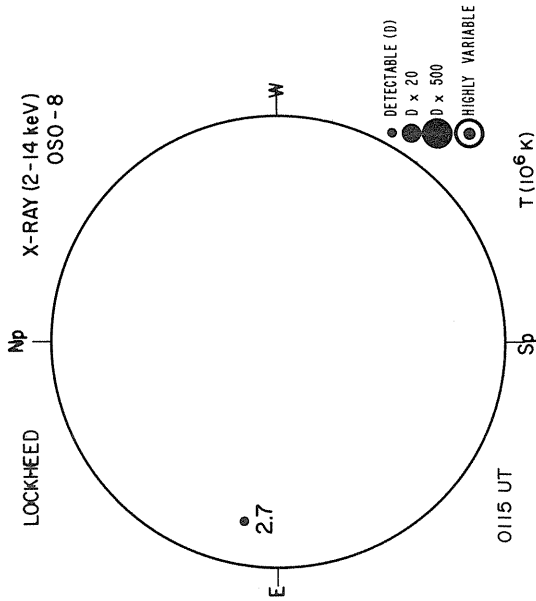


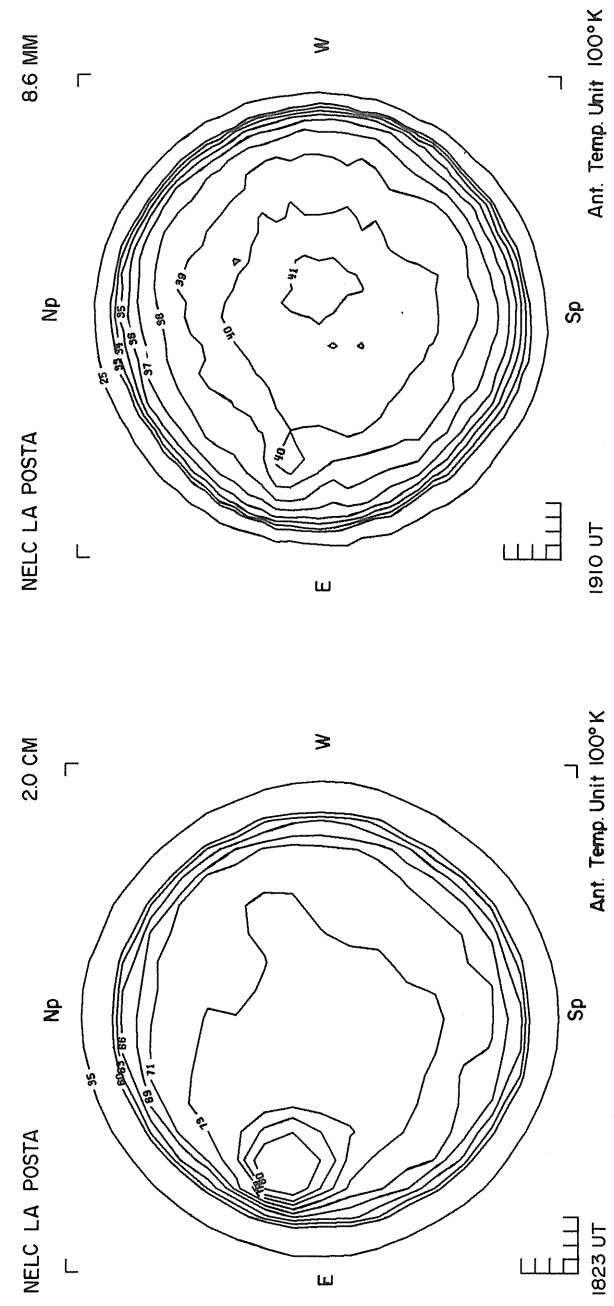
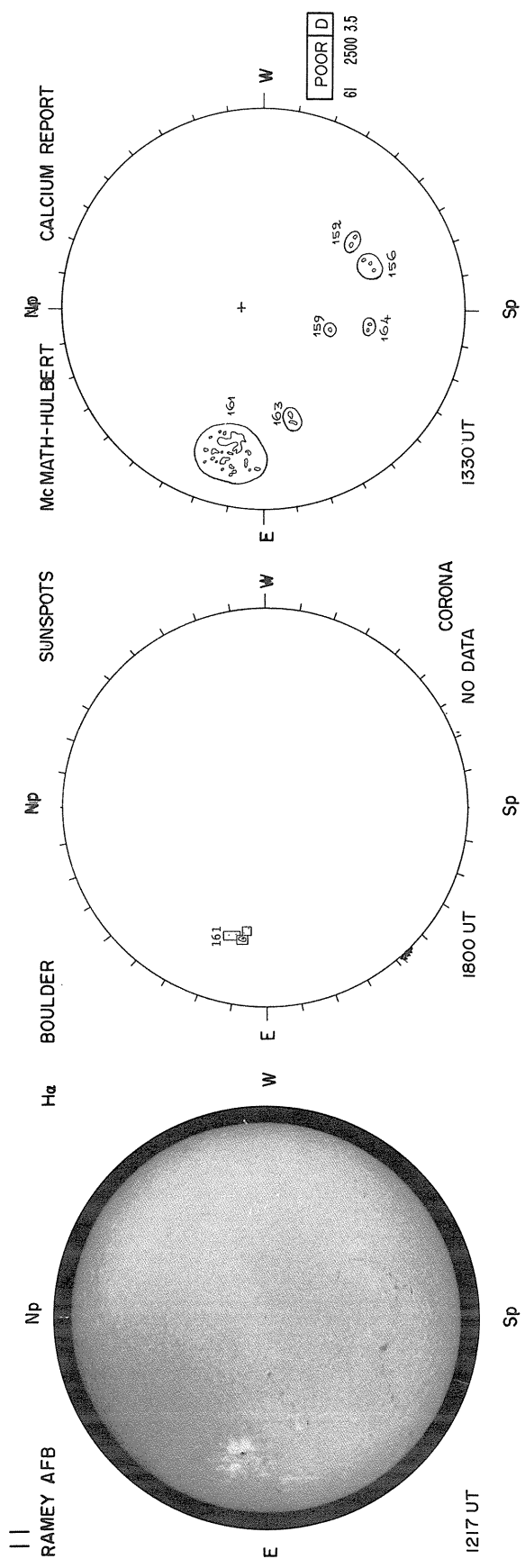
- Levels
- + 5
  - + 10
  - + 20
  - + 40
  - + 80

Sp



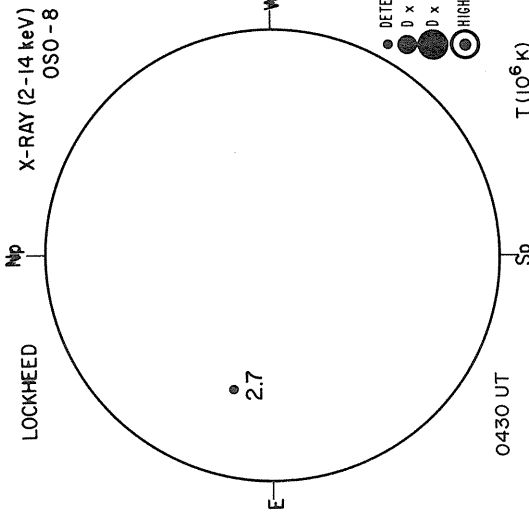
APRIL 11, 1976 (P = -26.26, B<sub>0</sub> = -5.87, L<sub>0</sub> = 257.93)





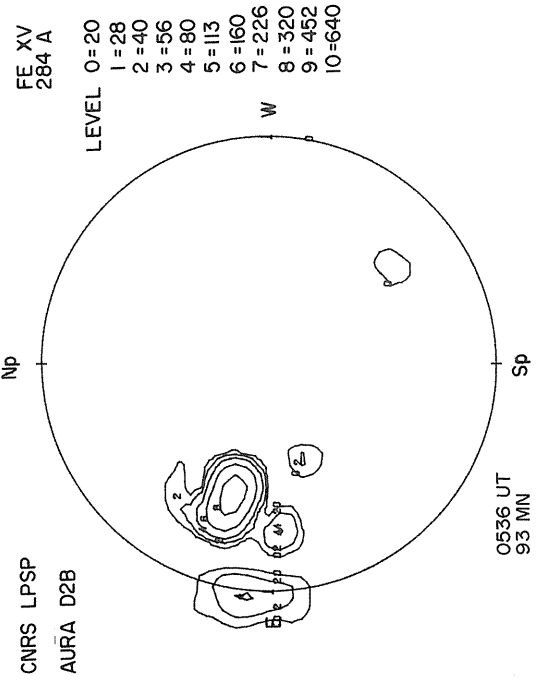


APRIL 12, 1976 (P = -26.23, B<sub>0</sub> = -5.80, L<sub>0</sub> = 244.73)



MAGNETOGRAM  
Bright - Plus  
Dark - Minus

KITT PEAK



MAGNETOGRAM  
Solid - Plus  
Dotted - Minus

DELTAY =  
DELTAX =

MT. WILSON

Np

Sp

W

E

W

NO DATA

E

W

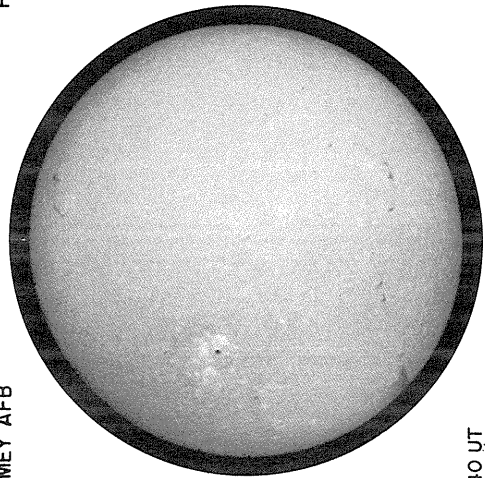
E

Levels  
+ 5  
+ 10  
+ 20  
+ 40  
+ 80

Sp

12  
RAMEY AFB

Np

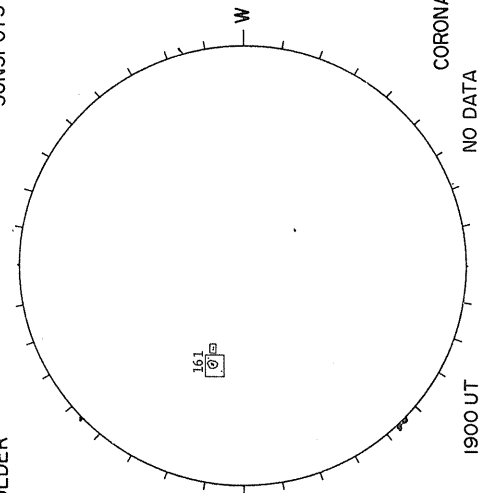


E

1140 UT

H $\alpha$  BOULDER

Np



1900 UT

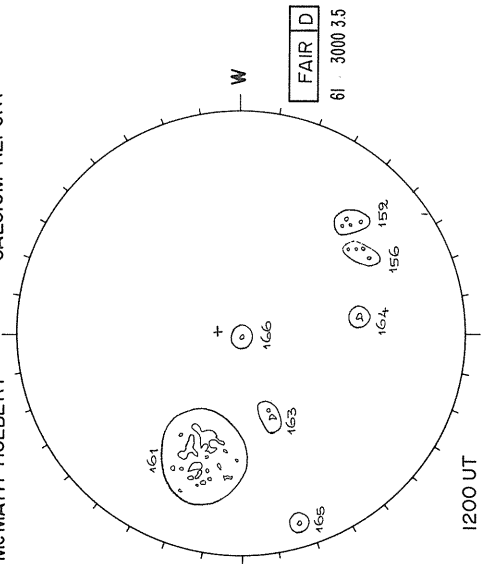
SUNSPOTS

CORONA

NO DATA

Mc MATH-HULBERT

CALCIUM REPORT



1200 UT

NELC LA POSTA

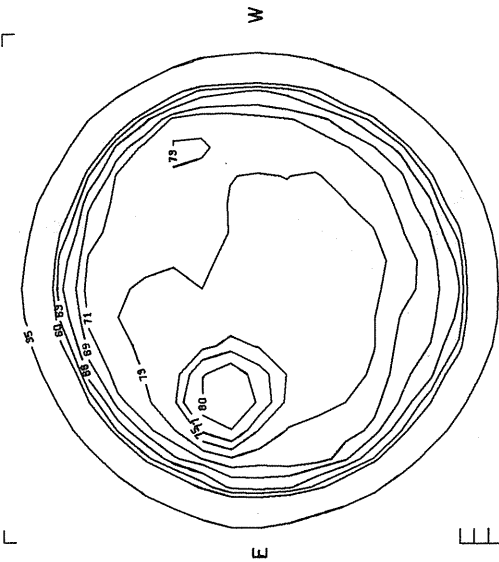
2.0 CM

Np

NELC LA POSTA

8.6 MM

Np



1700 UT

Ant. Temp. Unit 100°K

-----UT

Ant. Temp. Unit 100°K

NO DATA

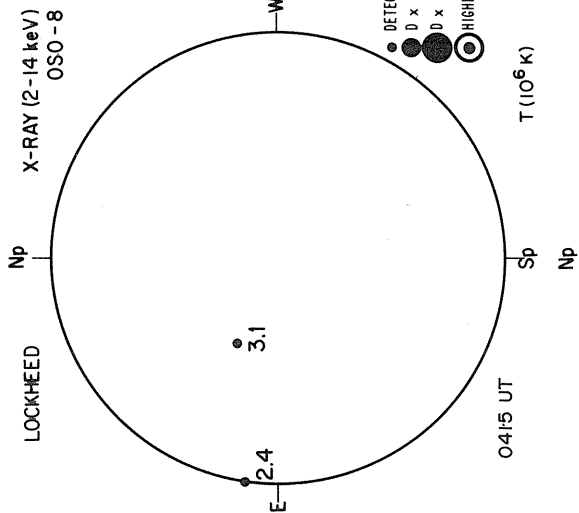
WEATHER

W

Sp

Ant. Temp. Unit 100°K

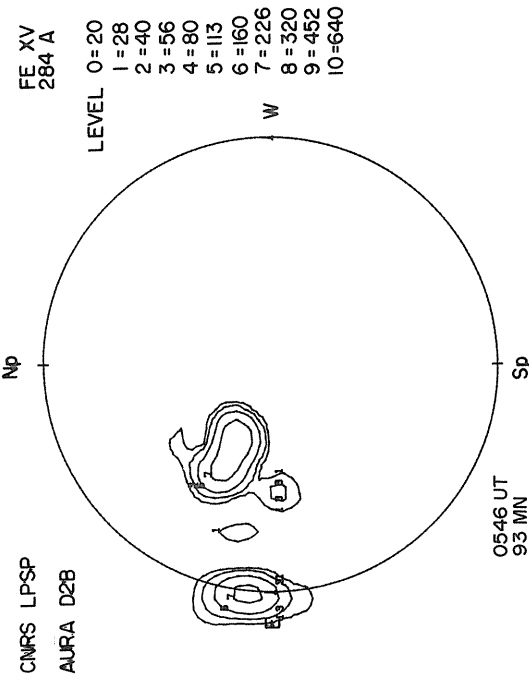
APRIL 13, 1976 (P = -26.18, B<sub>0</sub> = -5.73, L<sub>0</sub> = 231.52)



- DETECTABLE (0)
- 0 x 20
- 0 x 500
- ⊙ HIGHLY VARIABLE

T (10<sup>6</sup> K)

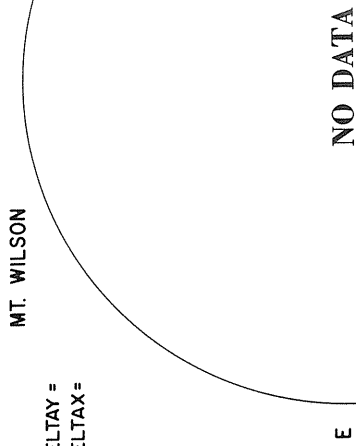
MAGNETOGRAM  
Bright - Plus  
Dark - Minus



- FE XV 284 A
- LEVEL 0=20  
1=28  
2=40  
3=56  
4=80  
5=113  
6=160  
7=226  
8=320  
9=452  
10=640

DELTA Y =  
DELTA X =

MAGNETOGRAM  
Solid - Plus  
Dotted - Minus



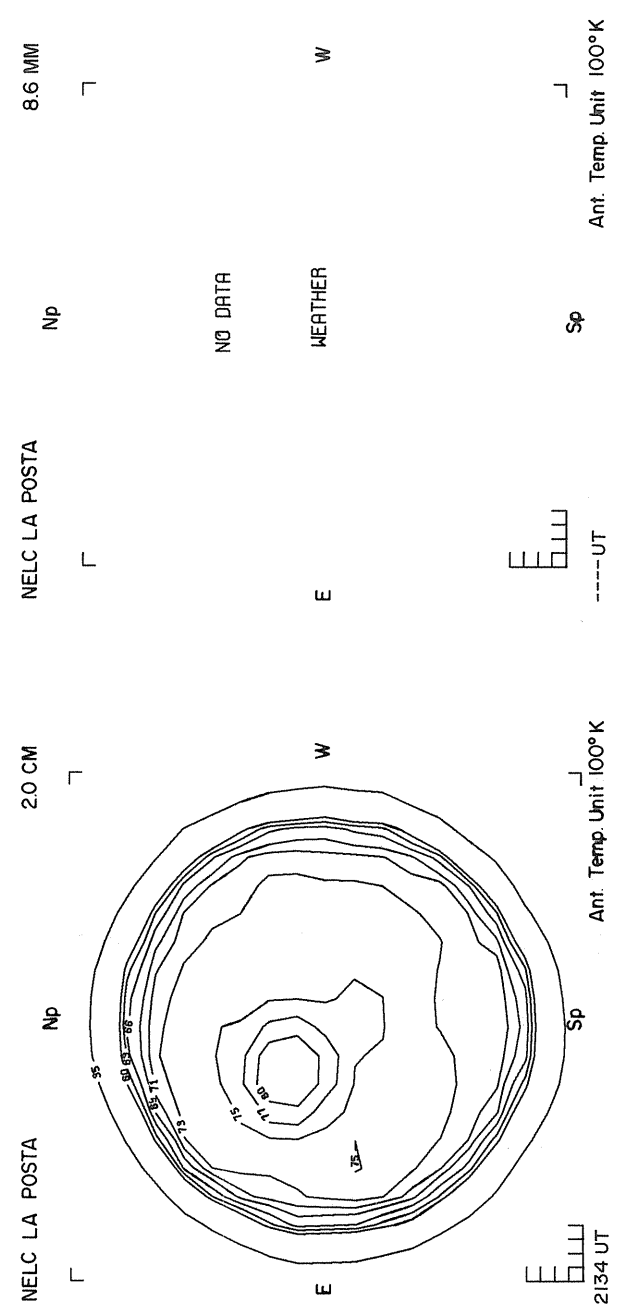
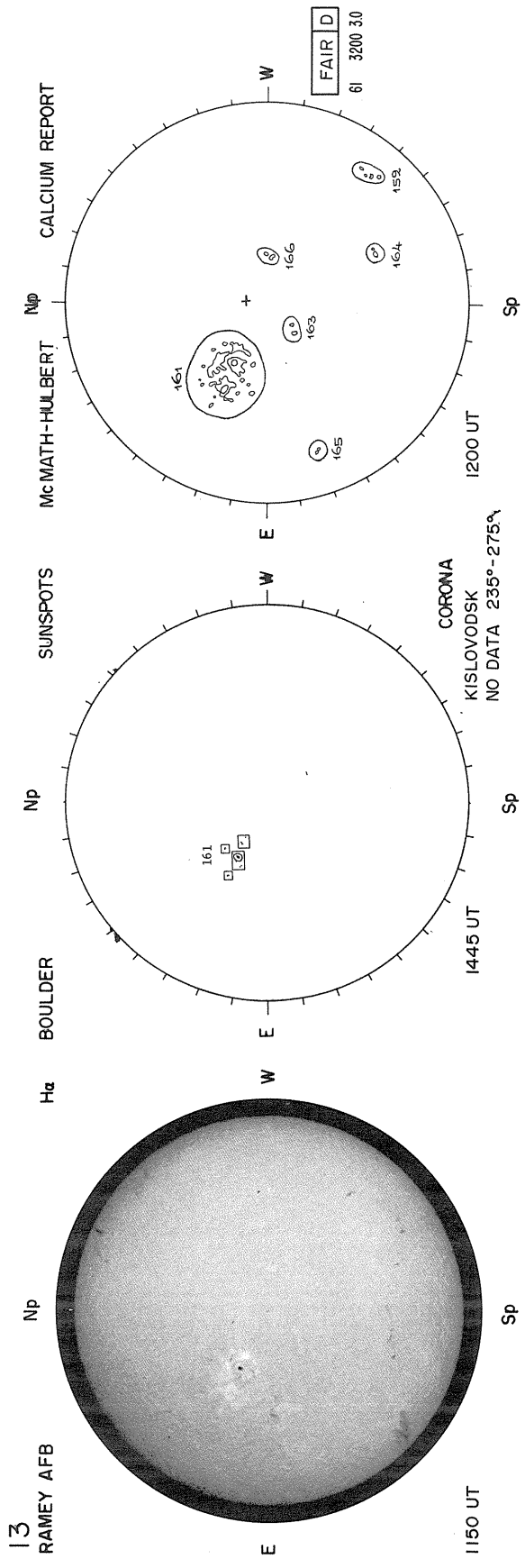
- Levels  
+ 5  
+ 10  
+ 20  
+ 40  
+ 80

E

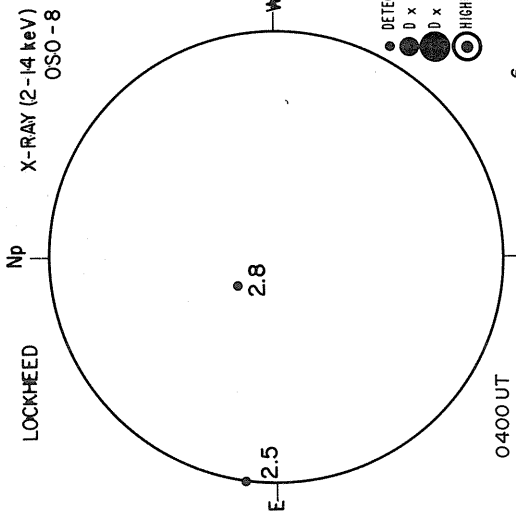
W

Sp

Sp

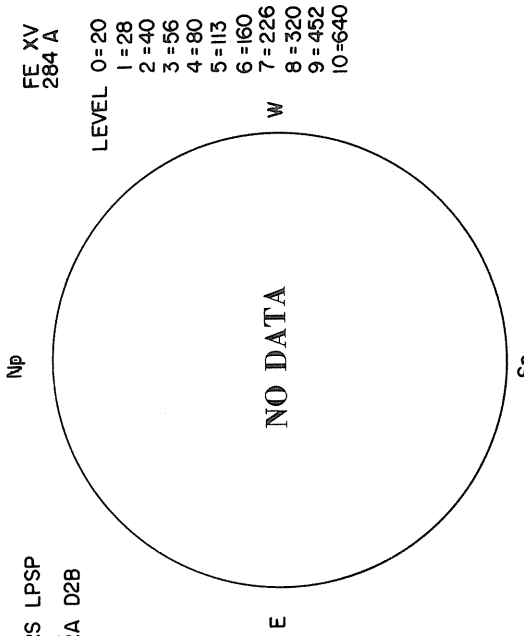


APRIL 14, 1976 (P = -26.13, B<sub>0</sub> = -5.65, L<sub>0</sub> = 218.32)



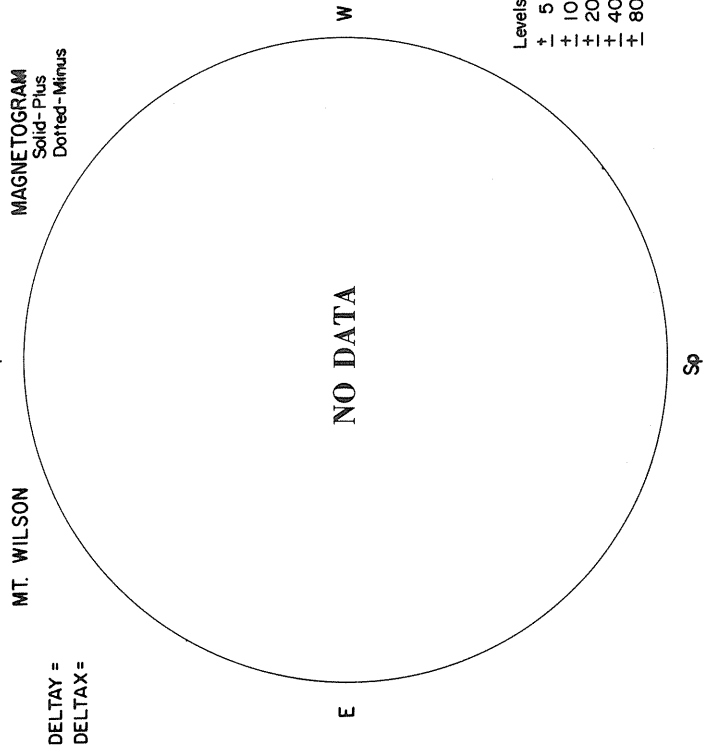
- DETECTABLE (D)
- D x 20
- D x 500
- HIGHLY VARIABLE

MAGNETOGRAM  
Bright- Plus  
Dark - Minus



- LEVEL
- 0 = 20
  - 1 = 28
  - 2 = 40
  - 3 = 56
  - 4 = 80
  - 5 = 113
  - 6 = 160
  - 7 = 226
  - 8 = 320
  - 9 = 452
  - 10 = 640

MAGNETOGRAM  
Solid- Plus  
Dotted- Minus



W

E

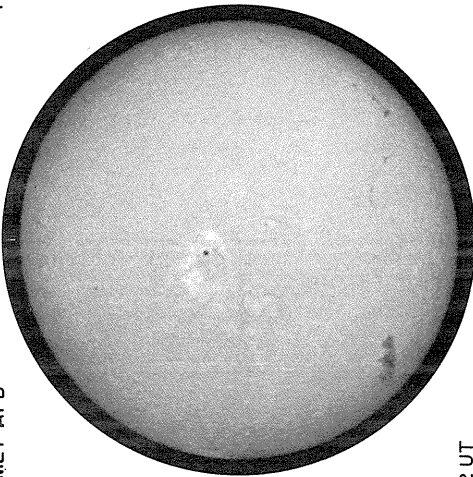
Sp

Sp

Sp

14  
RAMEY AFB

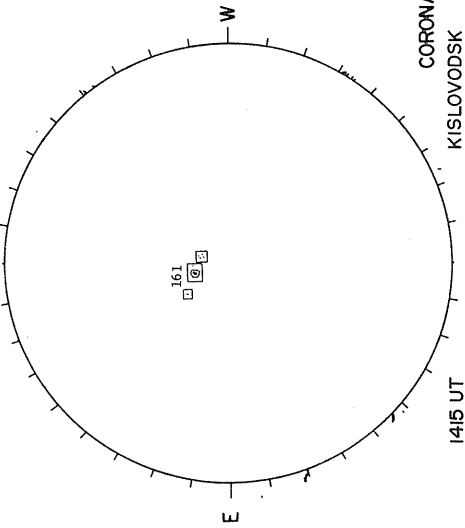
Np



Sp

H $\alpha$  BOULDER

Np

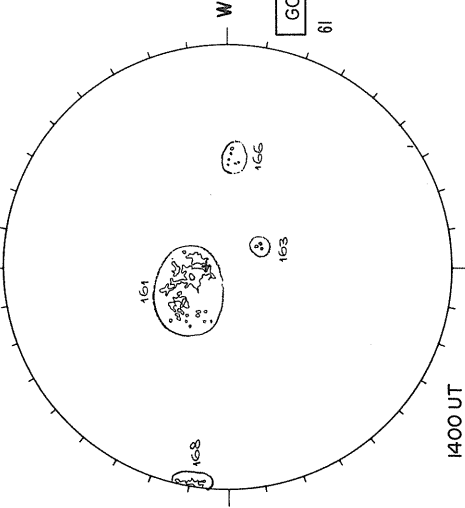


1415 UT

Sp

SUNSPOTS

Np



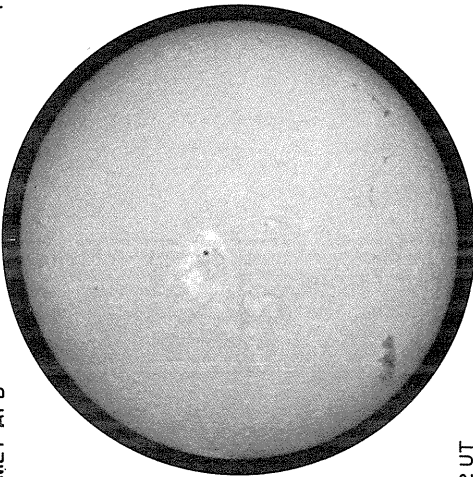
1400 UT

Sp

McMATH-HULBERT  
CALCIUM REPORT

14  
RAMEY AFB

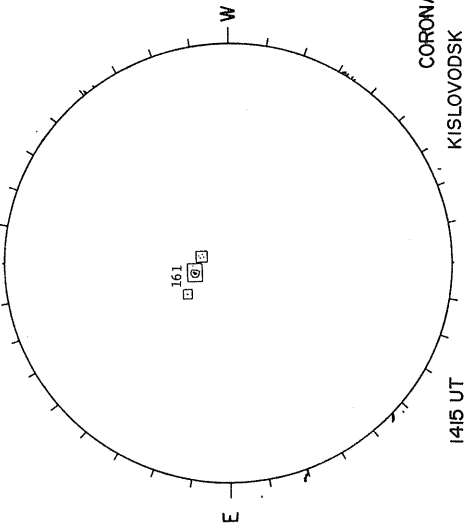
Np



Sp

H $\alpha$  BOULDER

Np

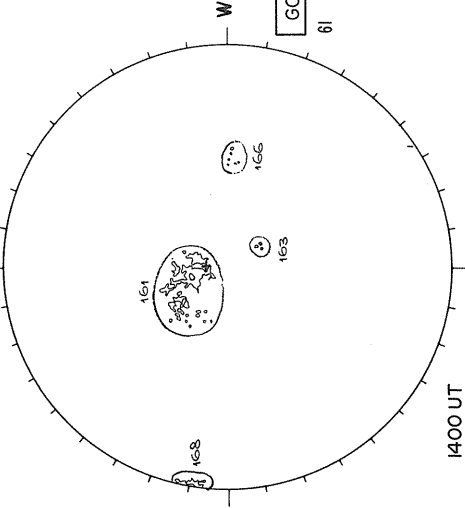


1415 UT

Sp

SUNSPOTS

Np



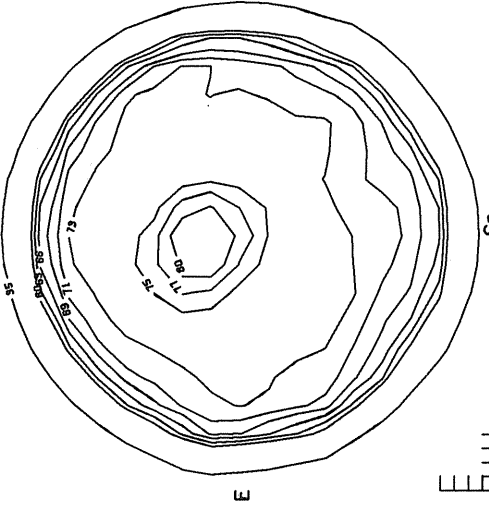
1400 UT

Sp

McMATH-HULBERT  
CALCIUM REPORT

NELC LA POSTA

Np



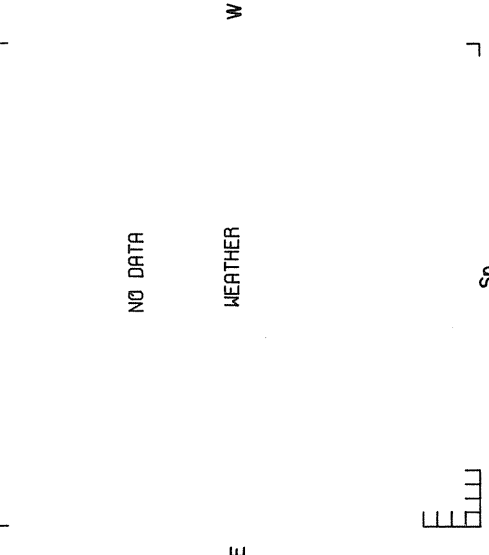
Sp

Ant. Temp. Unit 100°K

2.0 CM

NELC LA POSTA

Np



Sp

Ant. Temp. Unit 100°K

8.6 MM

NO DATA

WEATHER

W

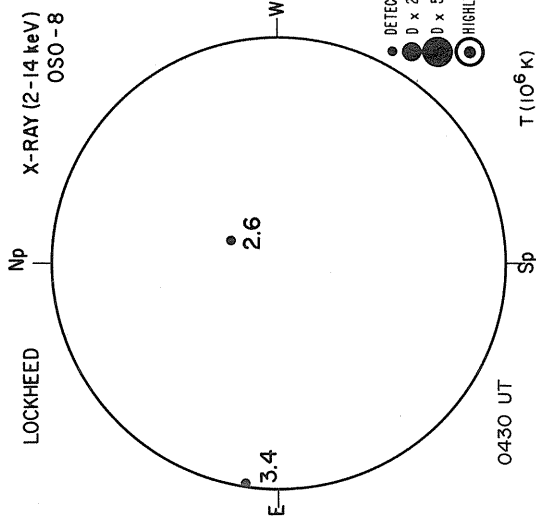


----UT



1636 UT

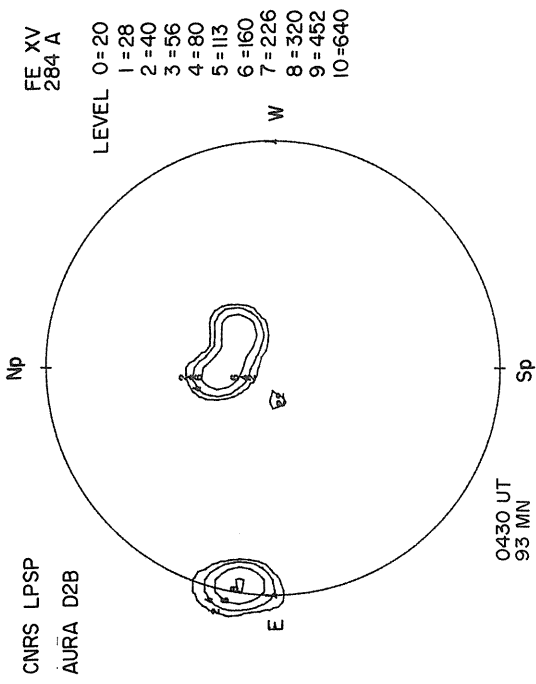
APRIL 15, 1976 (P = -26.08, B<sub>0</sub> = -5.57, L<sub>0</sub> = 205.12)



- DETECTABLE (D)
- D x 20
- D x 500
- HIGHLY VARIABLE

MAGNETOGRAM  
Bright - Plus  
Dark - Minus

KITT PEAK



MAGNETOGRAM  
Solid - Plus  
Dotted - Minus

MT. WILSON

DELTA Y =  
DELTA X =

NO DATA

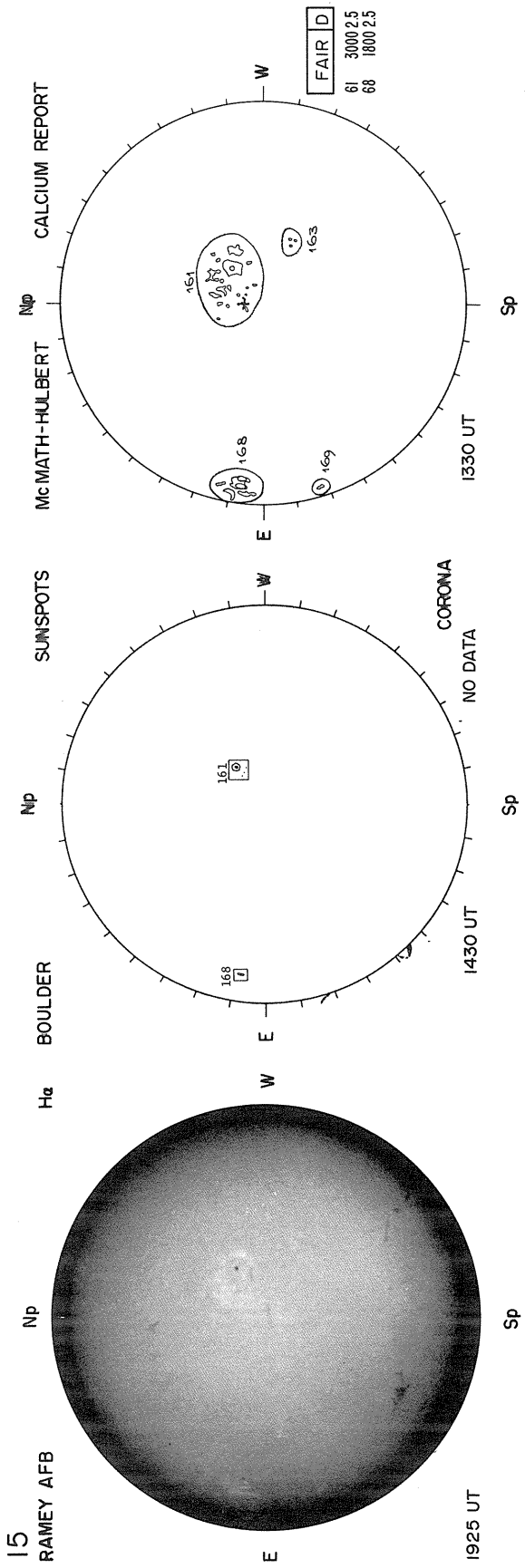
- Levels 5
- + 10
- + 20
- + 40
- + 80



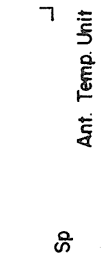
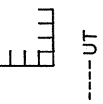
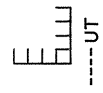
W

E

Sp

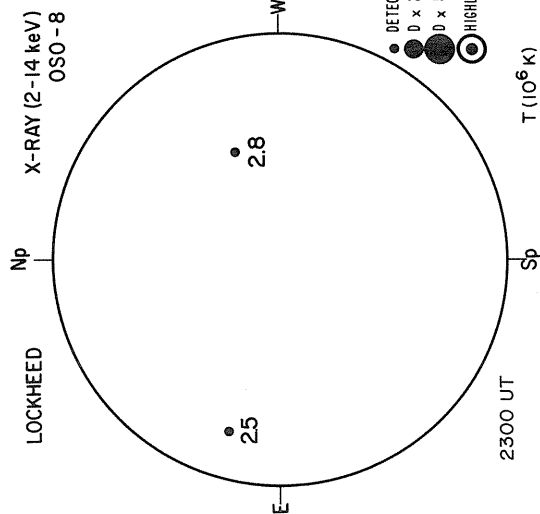


NELC LA POSTA	Np	2.0 CM	NELC LA POSTA	Np	8.6 MM
☐		☐	☐		☐
NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA
WEATHER	WEATHER	WEATHER	WEATHER	WEATHER	WEATHER
E	W	E	W	E	W
☐	☐	☐	☐	☐	☐
Ant. Temp. Unit 100°K	Ant. Temp. Unit 100°K	Ant. Temp. Unit 100°K	Ant. Temp. Unit 100°K	Ant. Temp. Unit 100°K	Ant. Temp. Unit 100°K
Sp	Sp	Sp	Sp	Sp	Sp





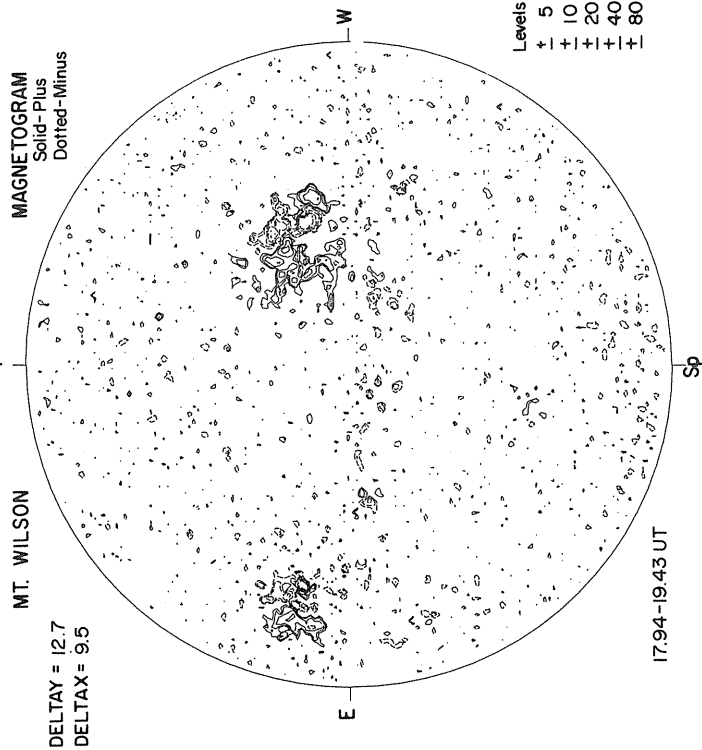
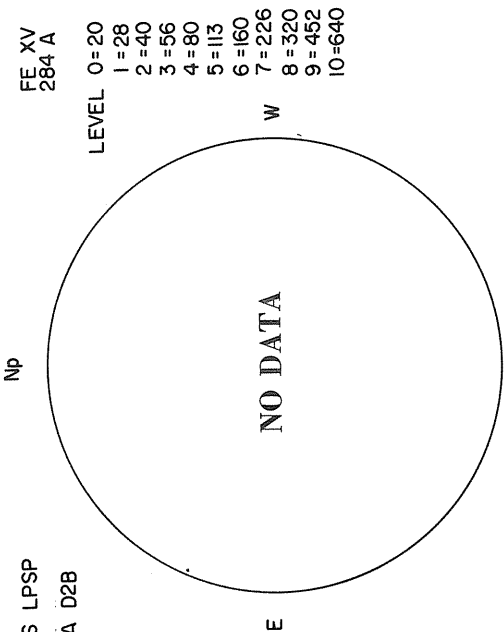
APRIL 16, 1976 (P = -26.01, B<sub>0</sub> = -549, L<sub>0</sub> = 191.91)



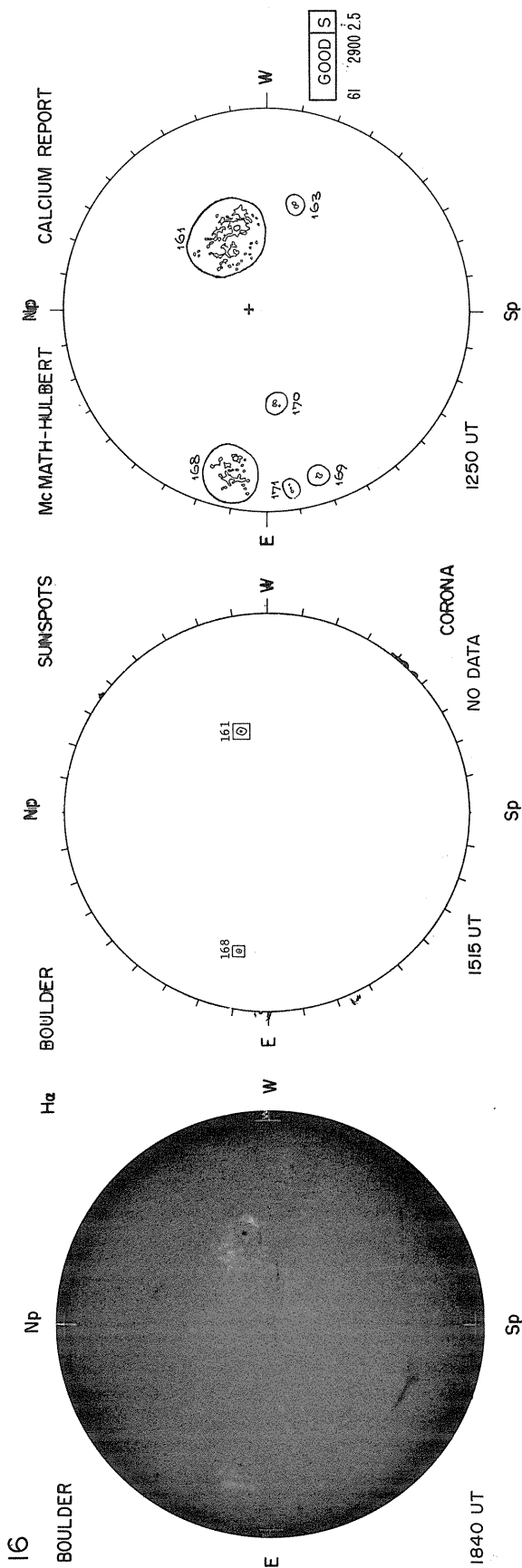
● DETECTABLE (D)  
○ D x 20  
○ D x 500  
○ HIGHLY VARIABLE

MAGNETOGRAM  
Bright - Plus  
Dark - Minus

KITT PEAK

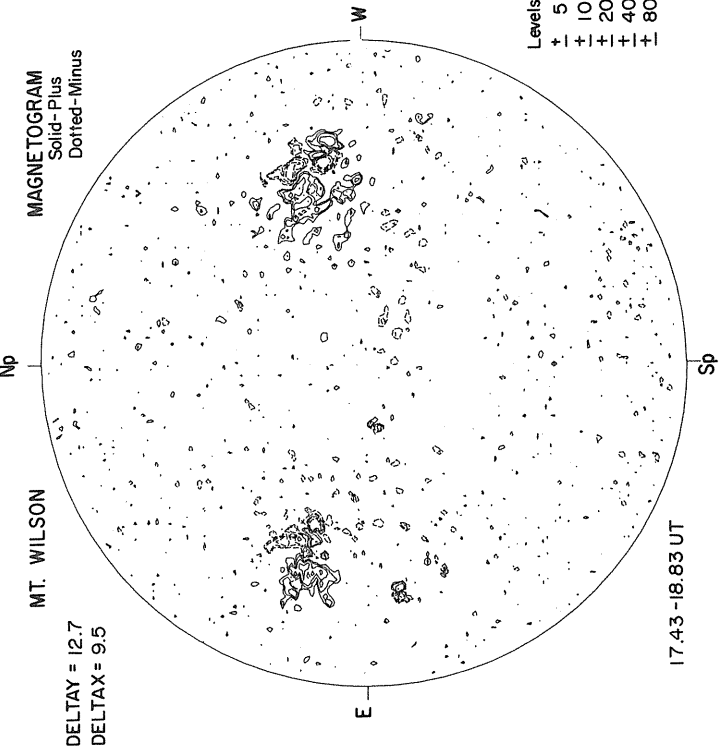
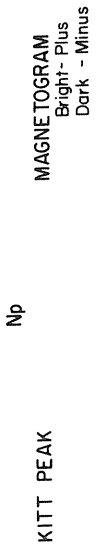
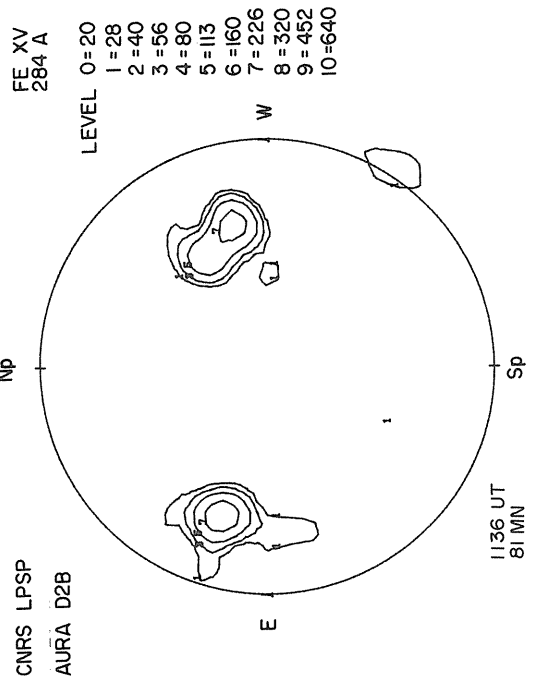
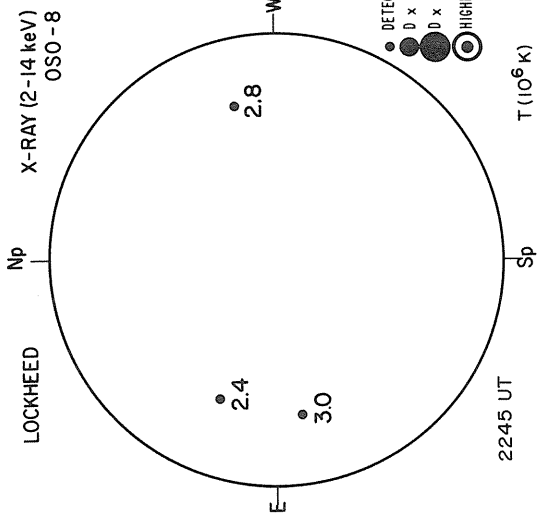


Sp



NELC LA POSTA	2.0 CM	NELC LA POSTA	8.6 MM
NO DATA	NO DATA	NO DATA	NO DATA
CALIBRATION	W	CLOUDY	W
E	E	Sp	Sp
Ant. Temp. Unit 100°K	Ant. Temp. Unit 100°K	Ant. Temp. Unit 100°K	Ant. Temp. Unit 100°K
2002 UT	2103 UT		

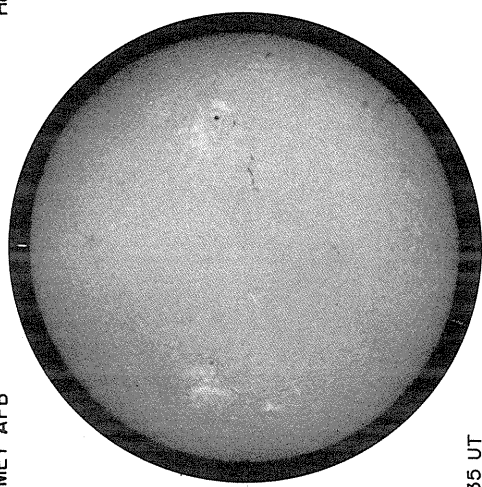
APRIL 17, 1976 (P = 25.94, B<sub>0</sub> = -5.41, L<sub>0</sub> = 178.71)



17

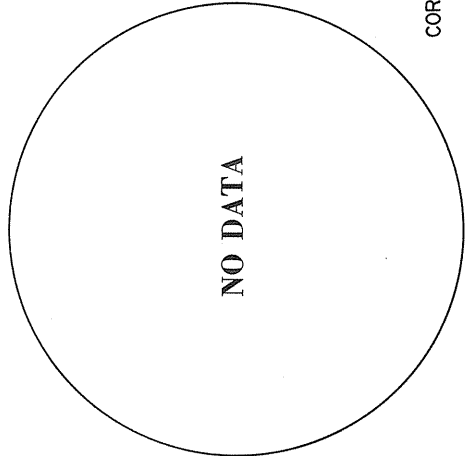
RAMEY AFB

Np



H $\alpha$  BOULDER

W E



Np

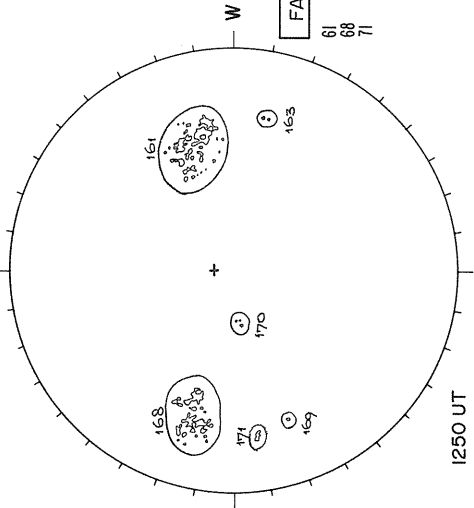
SUNSPOTS

W E

CORONA

McMATH-HULBERT

NP CALCIUM REPORT

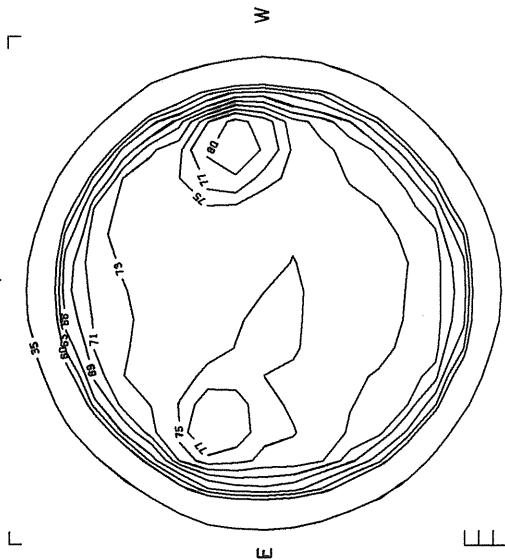


FAIR	M
61	2600 2.5
68	1600 2.5
71	0300 3.0

1235 UT

NELC LA POSTA

Np



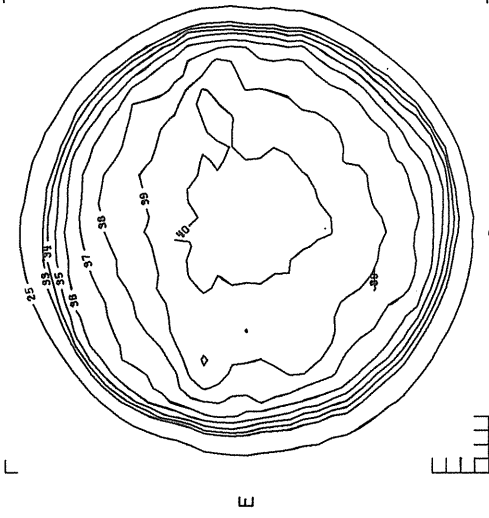
1852 UT

2.0 CM

Ant. Temp. Unit 100° K

NELC LA POSTA

Np

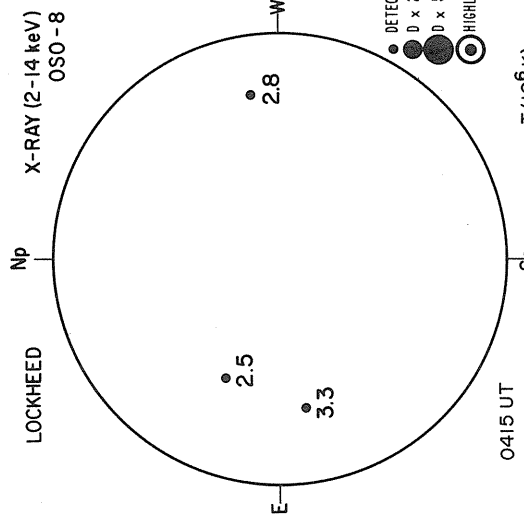


1724 UT

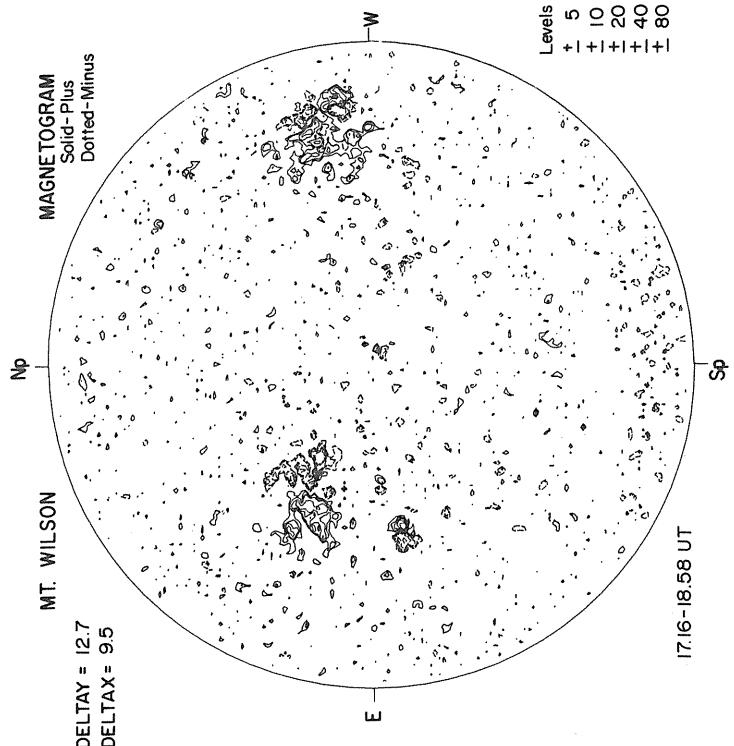
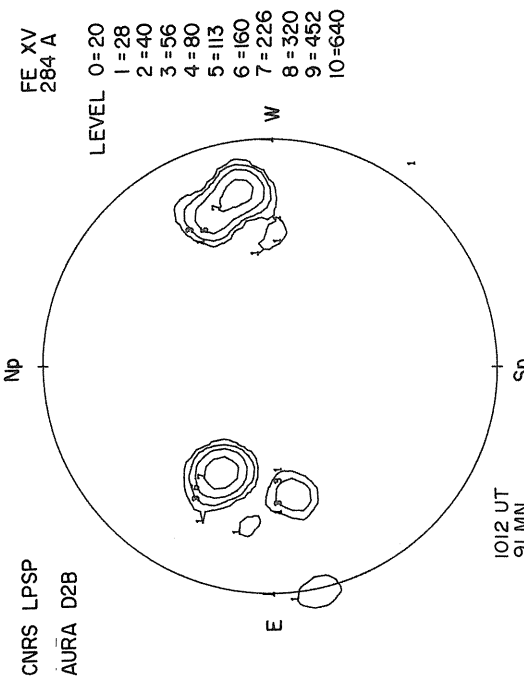
8.6 MM

Ant. Temp. Unit 100° K

APRIL 18, 1976 (P = -25.86, B<sub>0</sub> = -5.33, L<sub>0</sub> = 165.50)



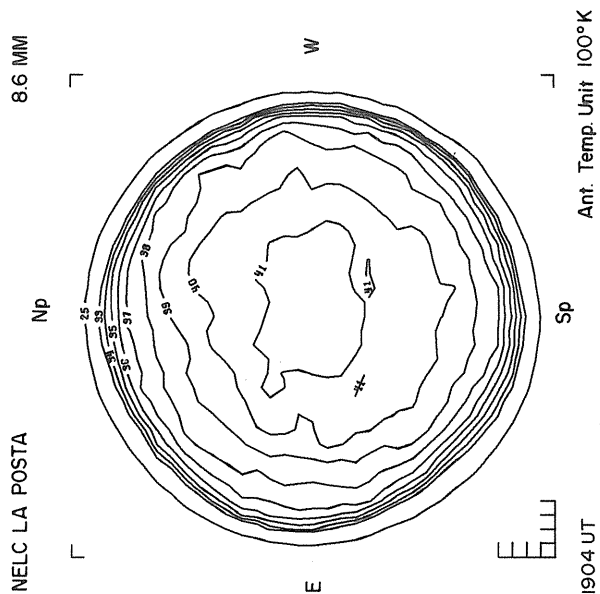
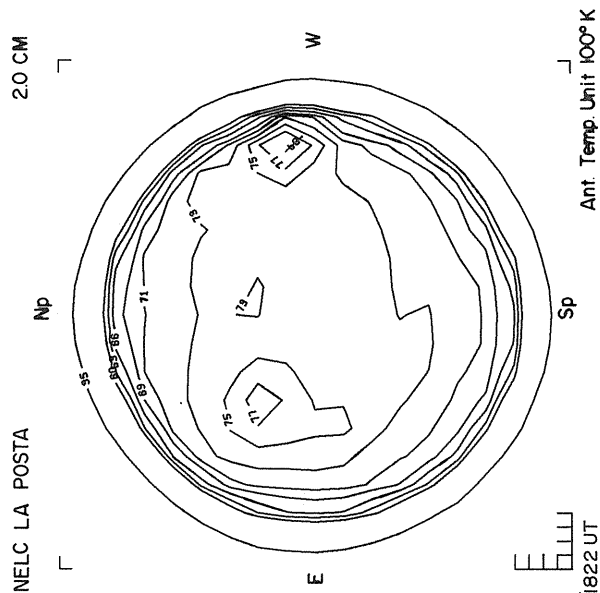
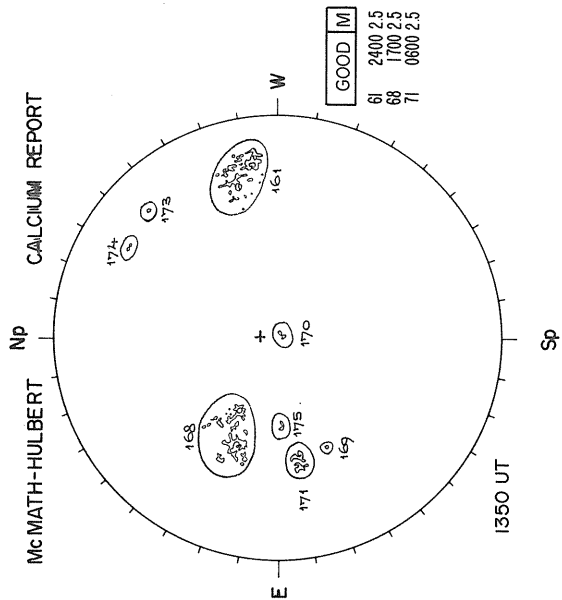
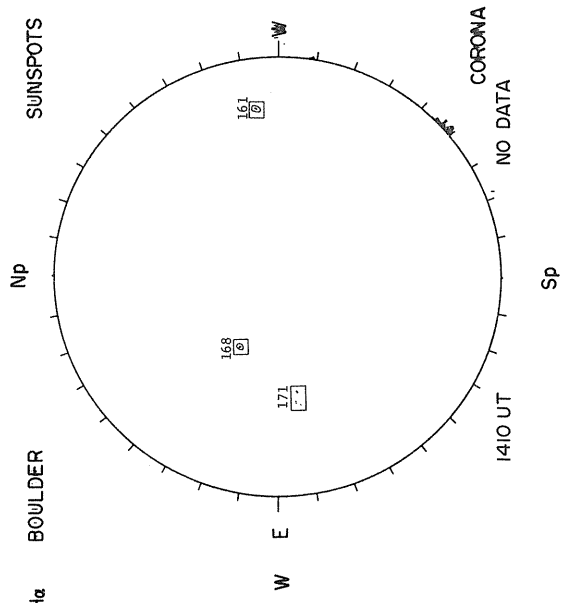
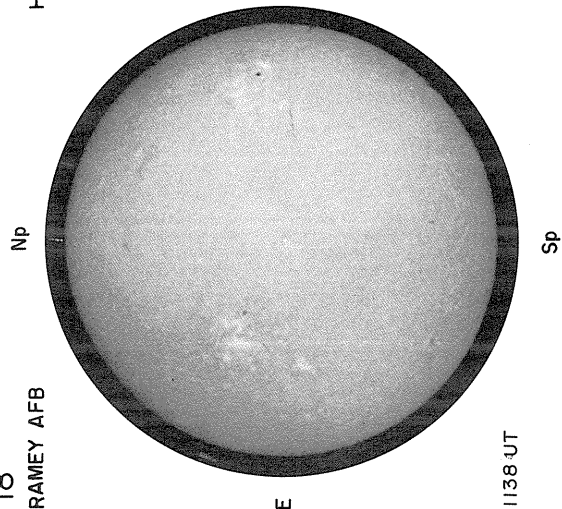
KITT PEAK  
MAGNETOGRAM  
Bright - Plus  
Dark - Minus



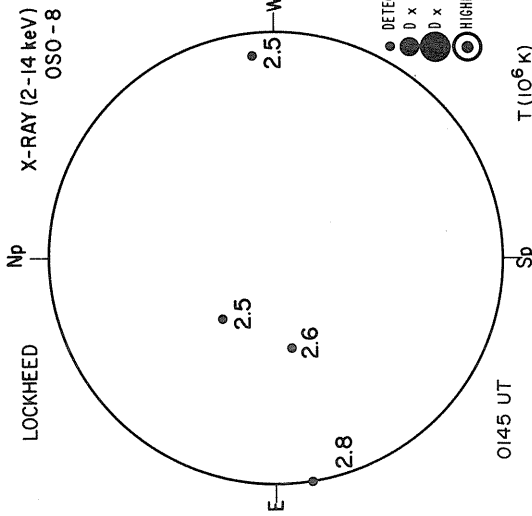
MAGNETOGRAM  
Solid - Plus  
Dotted - Minus

Sp

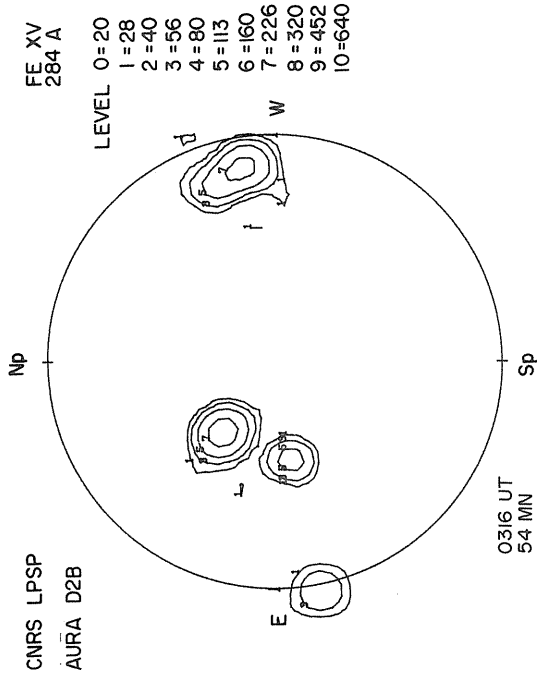
18  
RAMEY AFB



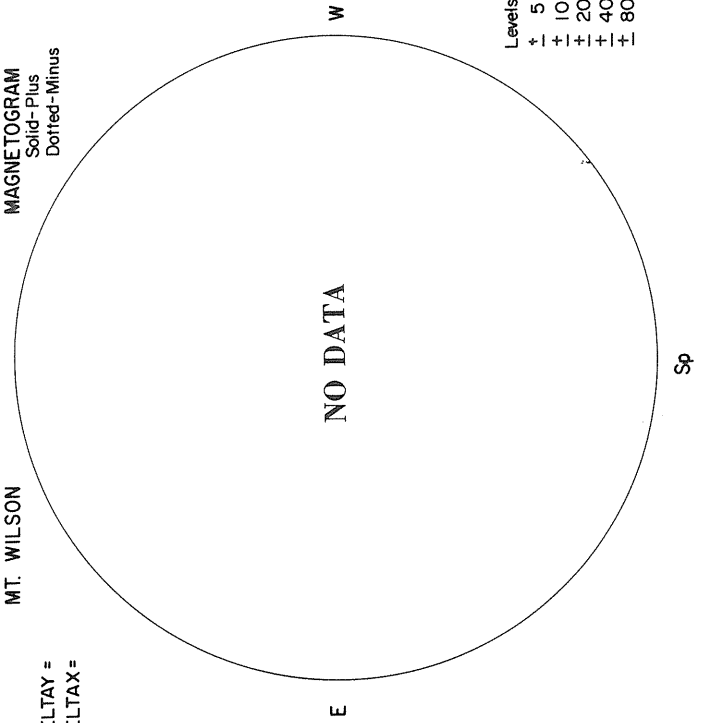
APRIL 19, 1976 (P = -25.77, B<sub>0</sub> = -5.24, L<sub>0</sub> = 152.29)



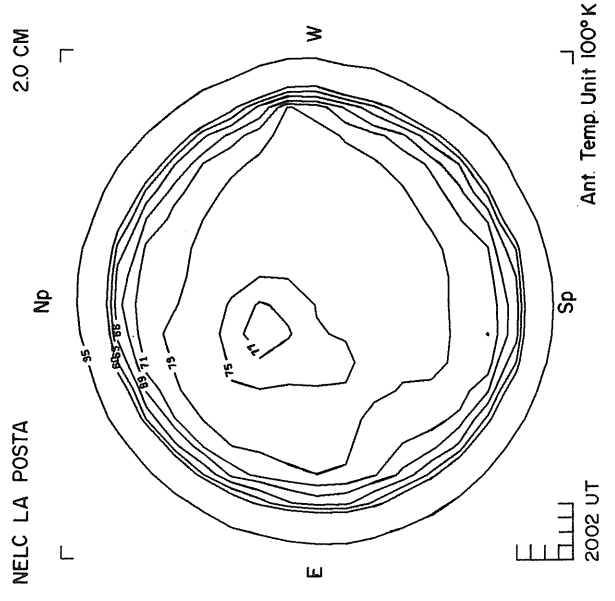
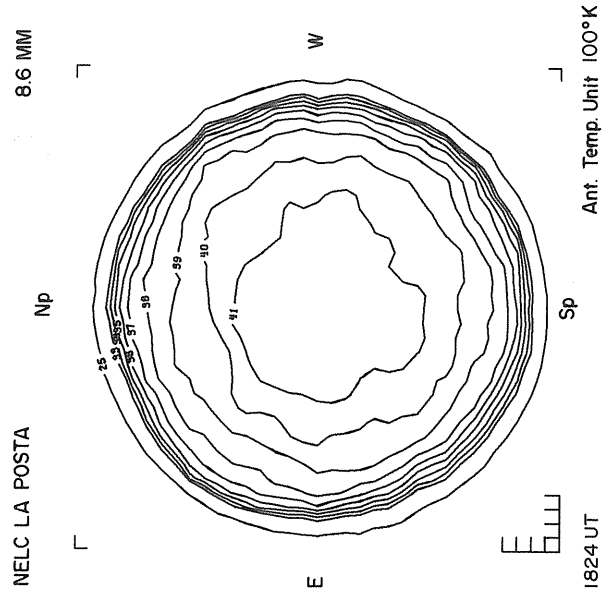
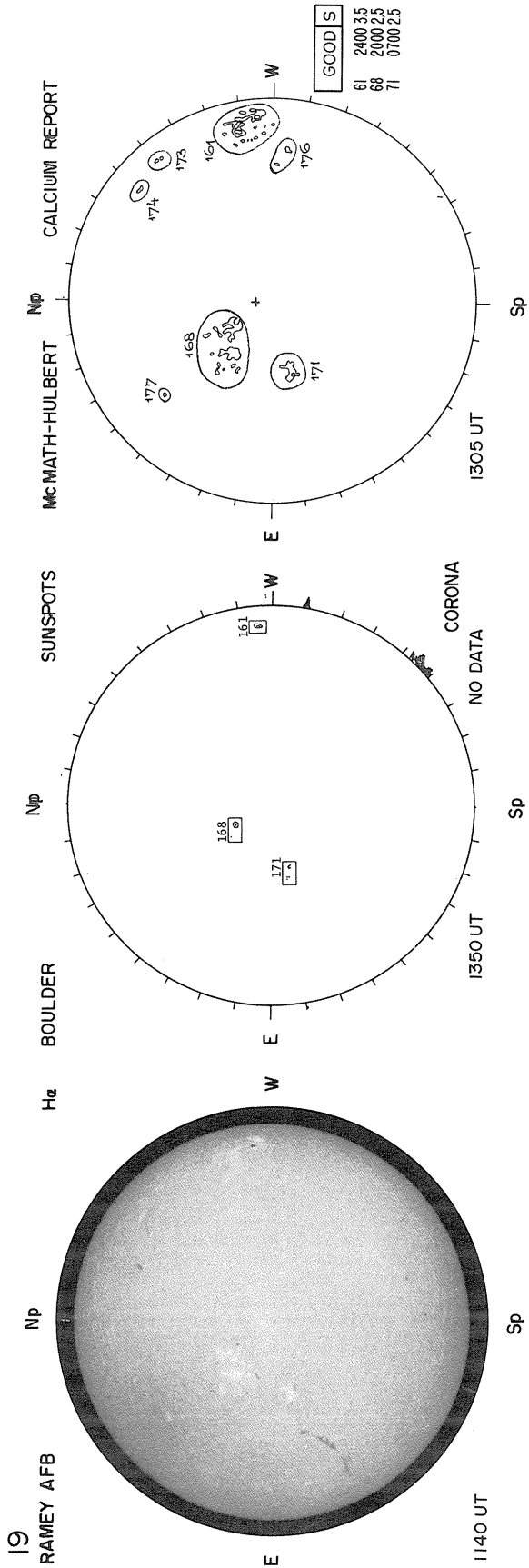
KITT PEAK  
MAGNETOGRAM  
Bright - Plus  
Dark - Minus



MT. WILSON  
MAGNETOGRAM  
Solid-Plus  
Dotted-Minus

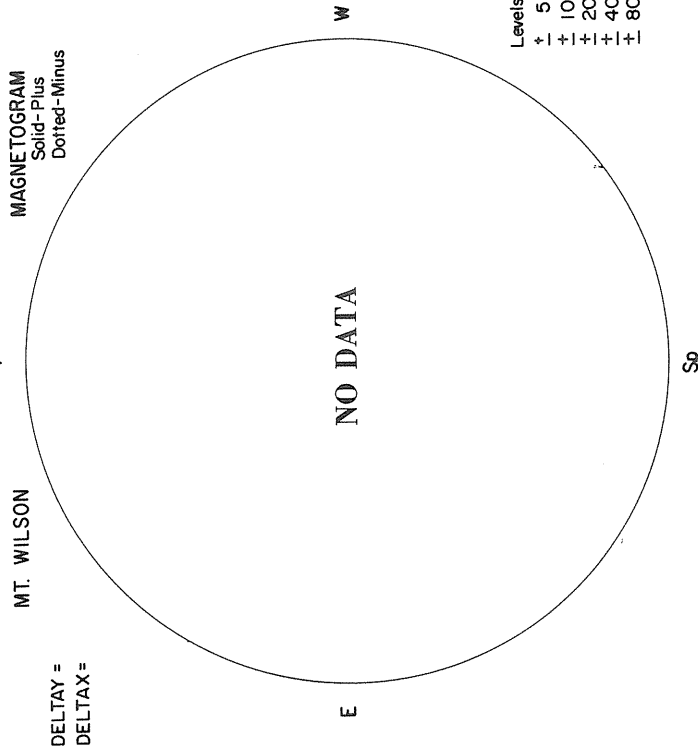
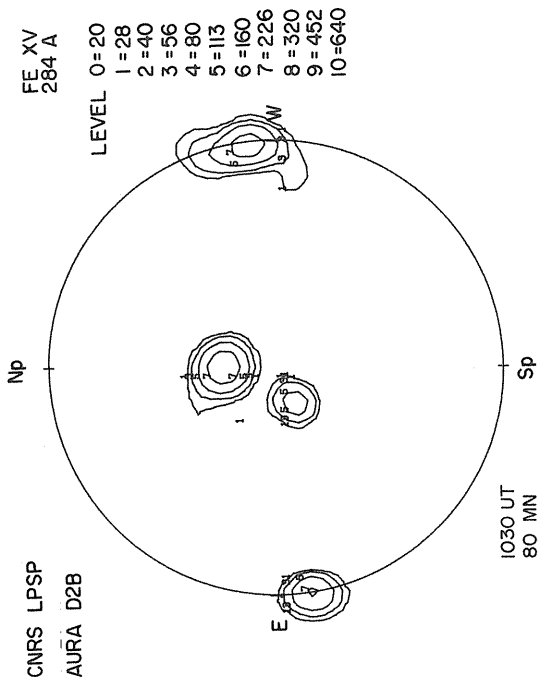
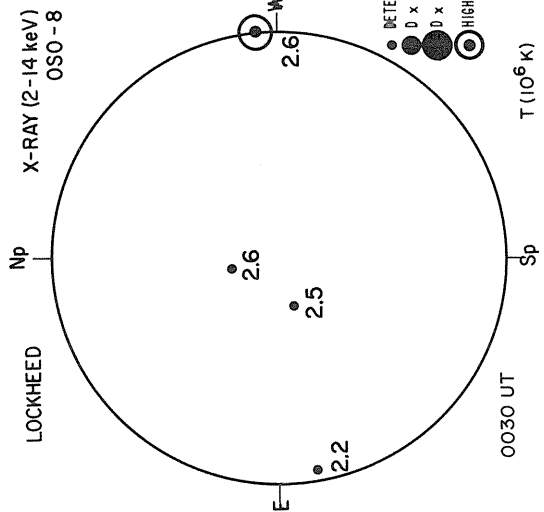


E W Sp





APRIL 20, 1976 (P = -25.68, B<sub>0</sub> = -5.15, L<sub>0</sub> = 139.08)



W

E

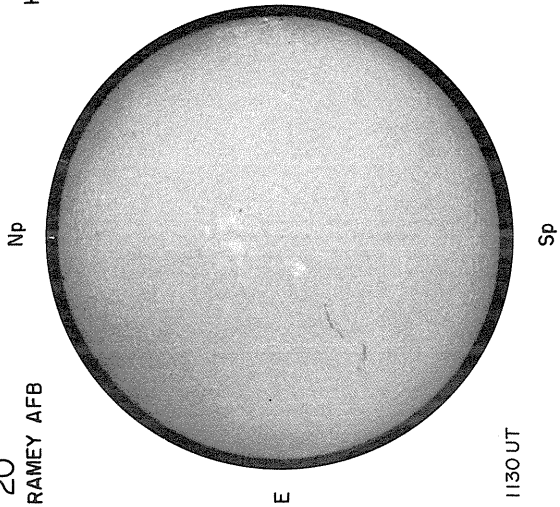
NO DATA

W

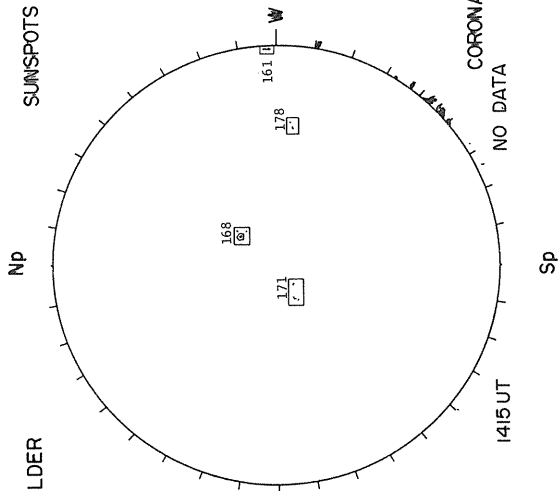
Sp

E

20  
RAMEY AFB

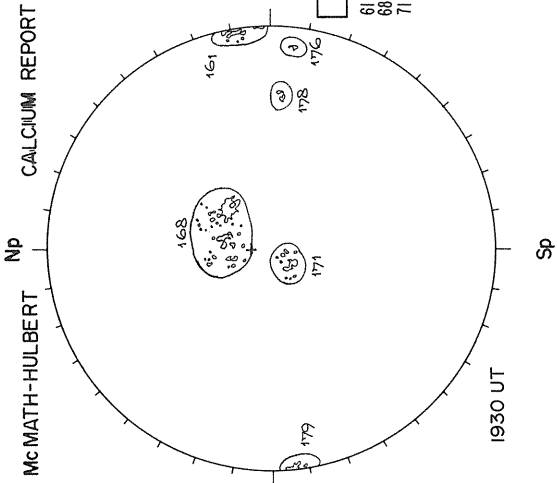


H $\alpha$  BOULDER



SUNSPOTS

CORONA  
NO DATA

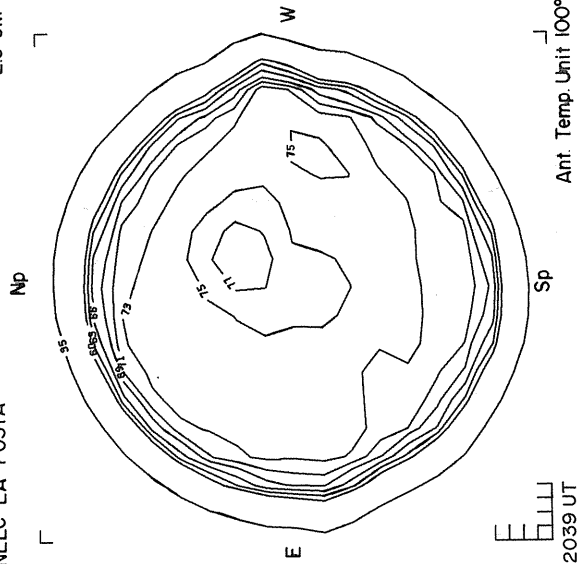


CALCIUM REPORT

FAIR	M
61	2500.35
68	1800.25
71	0500.25

NELC LA POSTA

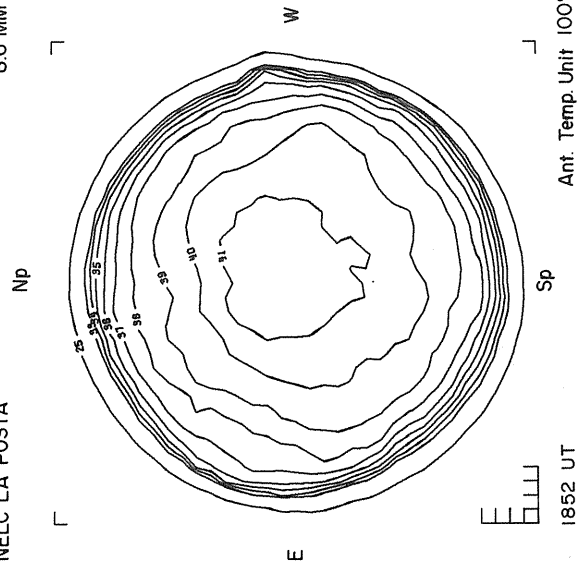
20.0 CM



Ant. Temp. Unit 100°K

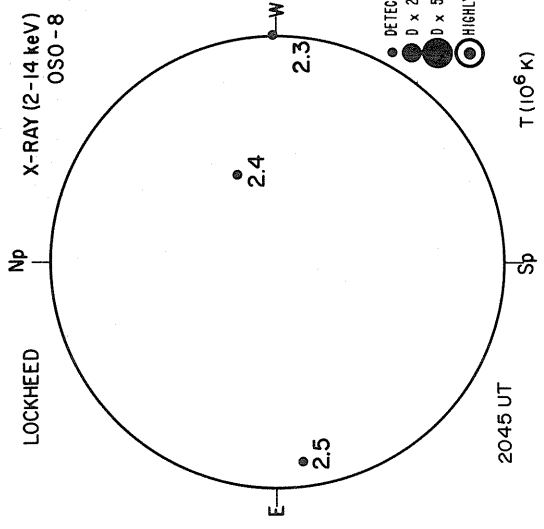
NELC LA POSTA

8.6 MM

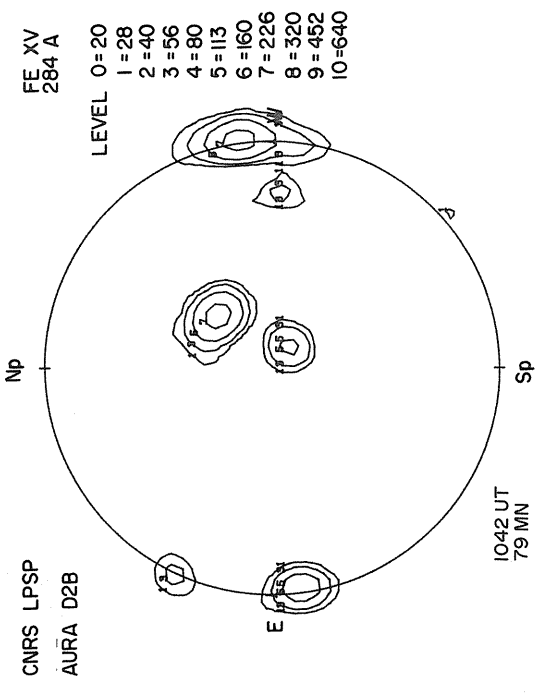


Ant. Temp. Unit 100°K

APRIL 21, 1976 (P = -25.58, B<sub>0</sub> = -5.07, L<sub>0</sub> = 125.88)



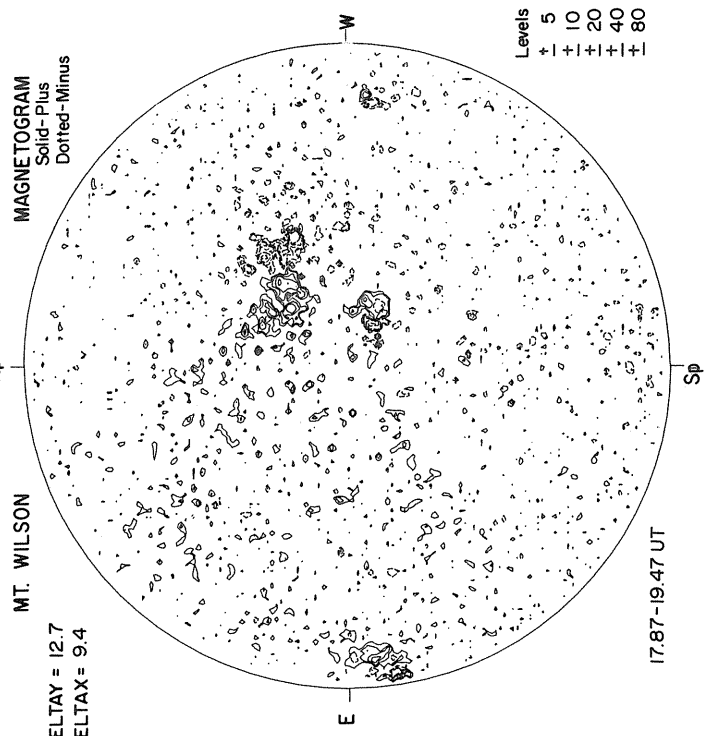
KITT PEAK  
MAGNETOGRAM  
Bright - Plus  
Dark - Minus



FE XV  
284 A

MT. WILSON  
DELTA Y = 12.7  
DELTA X = 9.4

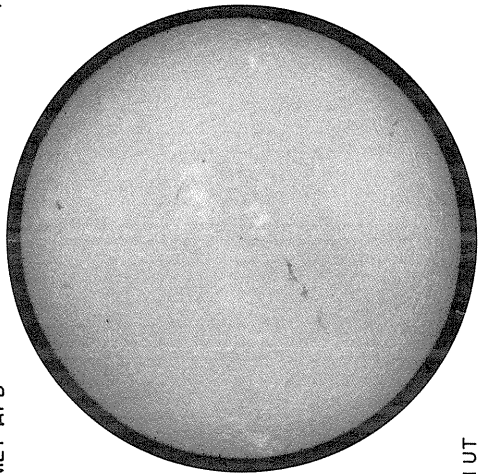
MAGNETOGRAM  
Solid-Plus  
Dotted-Minus



E W  
Sp

21  
RAMEY AFB

Np

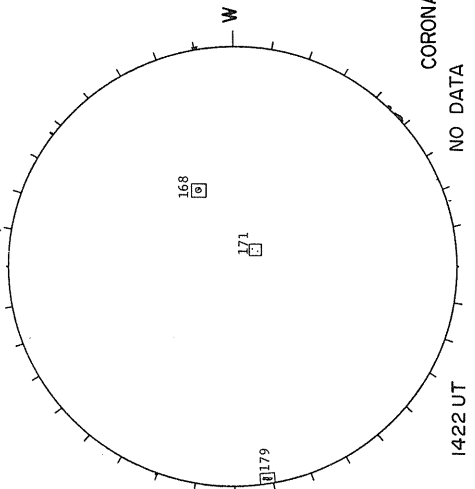


E

1141 UT

H $\alpha$  BOULDER

Np



Sp

1422 UT

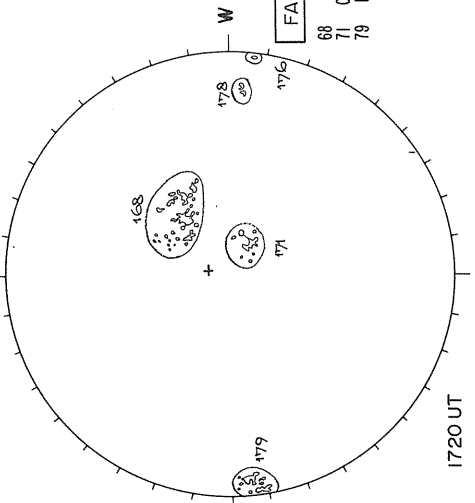
CORONA

NO DATA

SUNSPOTS

Mc MATH-HULBERT

CALCIUM REPORT



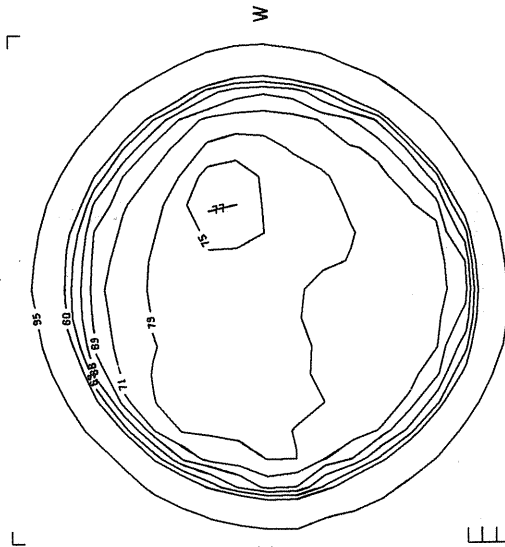
Sp

1720 UT

FAIRISM
68 1700 25
71 0500 30
79 1800 25

NELC LA POSTA

Np

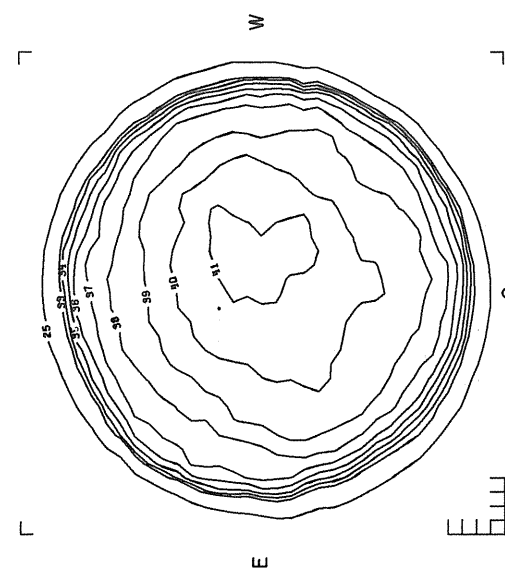


Sp

2202 UT

NELC LA POSTA

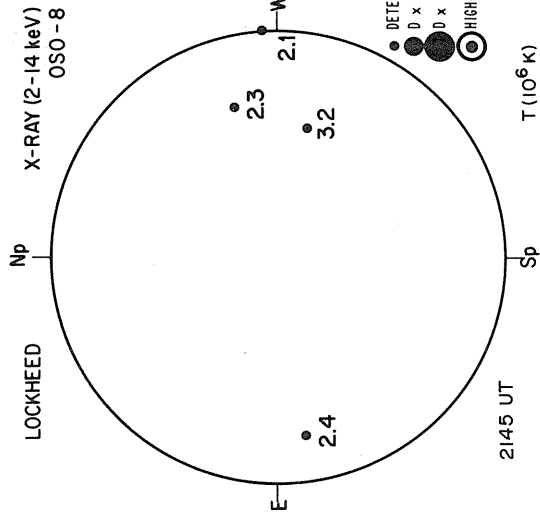
Np



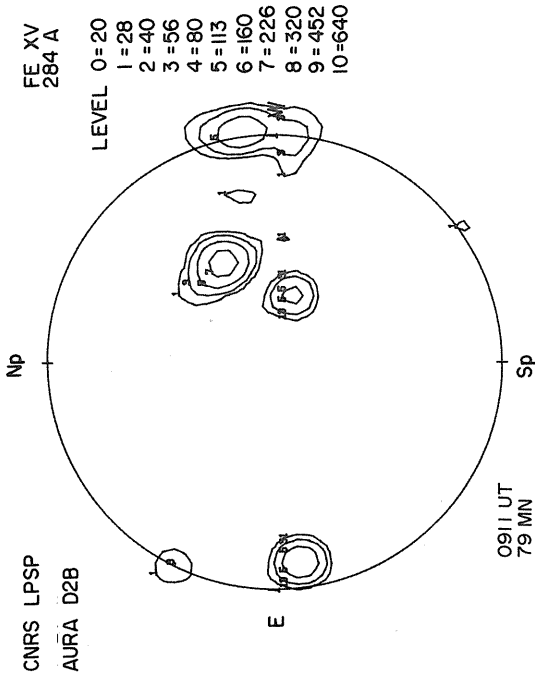
Sp

1829 UT

APRIL 22, 1976 (P = -25.47, B<sub>0</sub> = -4.98, L<sub>0</sub> = 12.67)

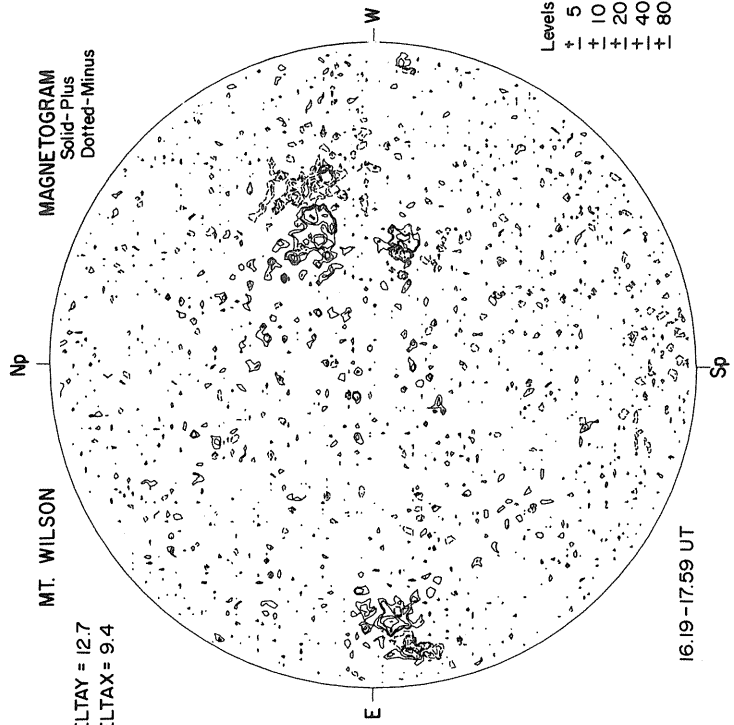


KITT PEAK  
MAGNETOGRAM  
Bright-Plus  
Dark - Minus



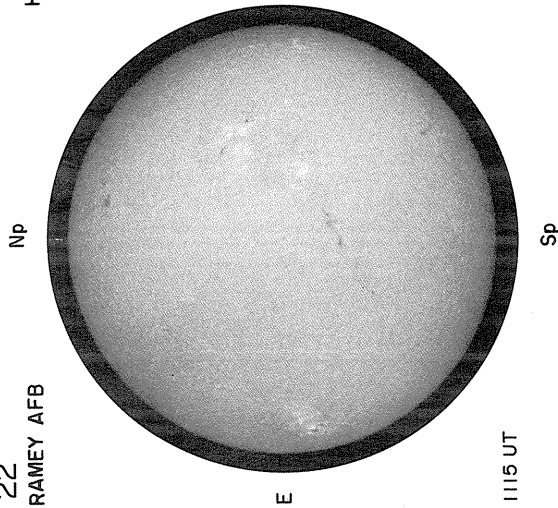
MT. WILSON  
MAGNETOGRAM  
Solid-Plus  
Dotted-Minus

DELTA T = 12.7  
DELTA X = 9.4

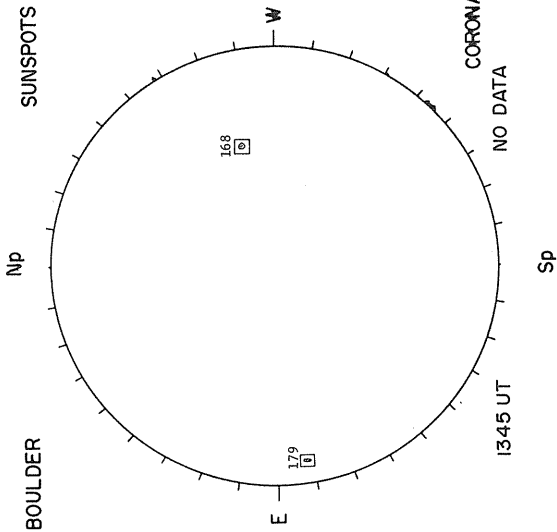


Sp

22  
RAMEY AFB

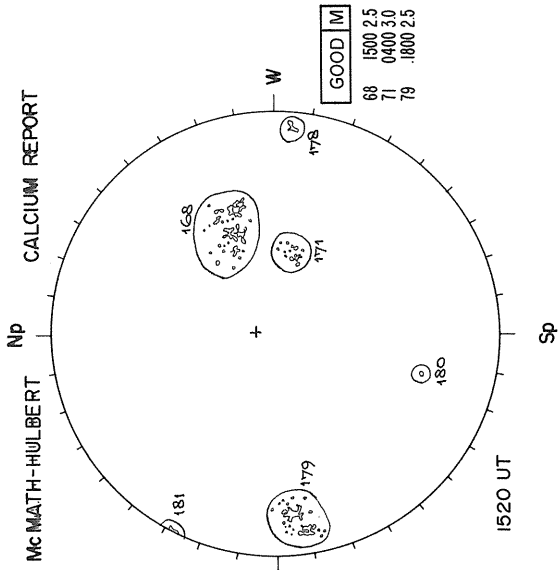


H $\alpha$  BOULDER



SUNSPOTS

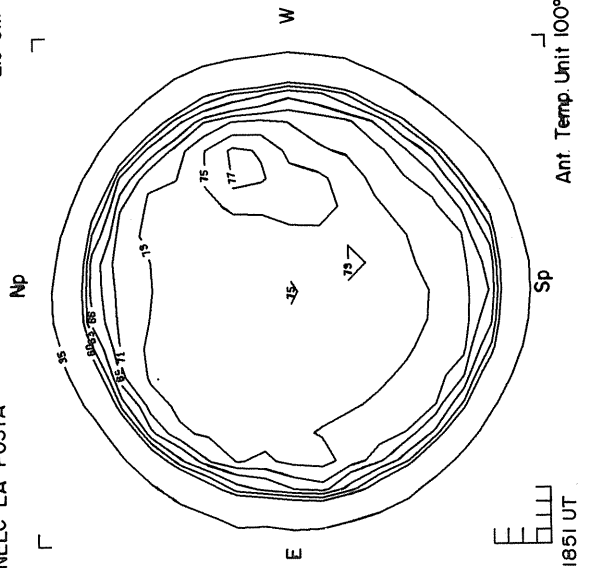
McMATH-HIULBERT



CALCIUM REPORT

NELC LA POSTA

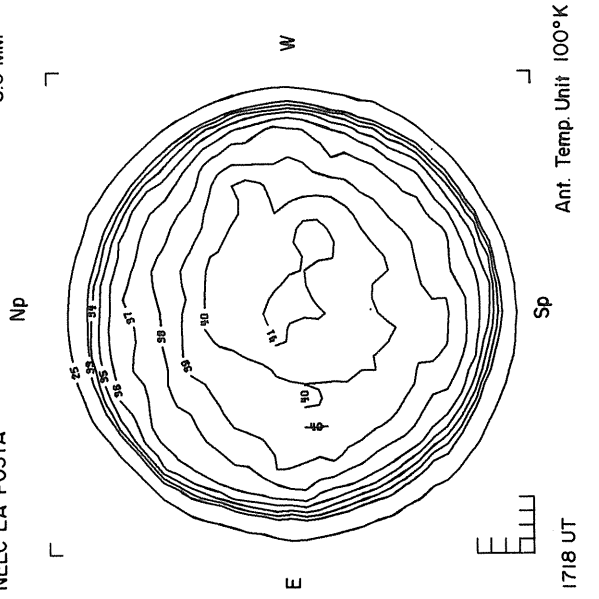
2.0 CM



Ant. Temp. Unit 100°K

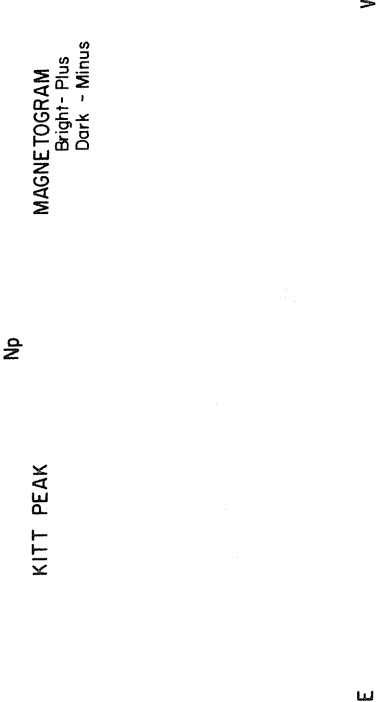
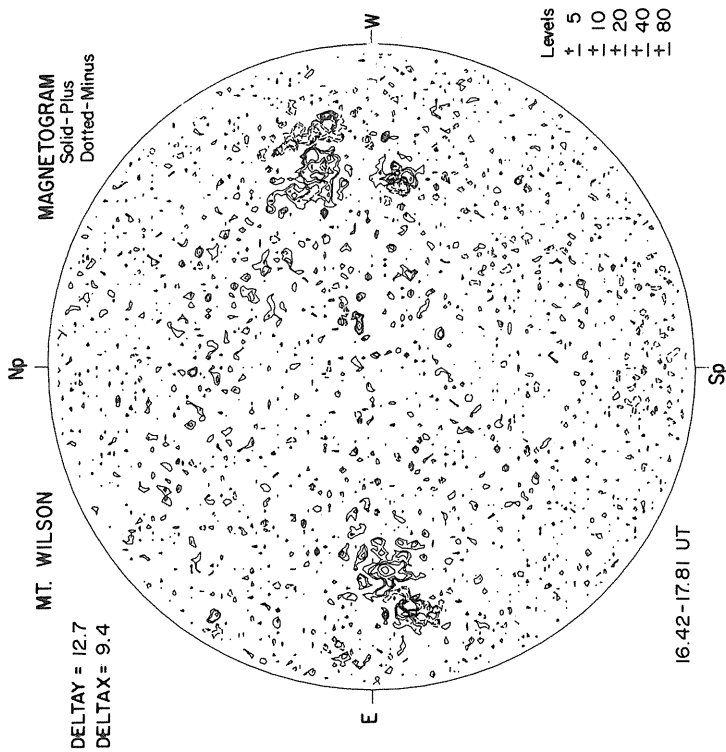
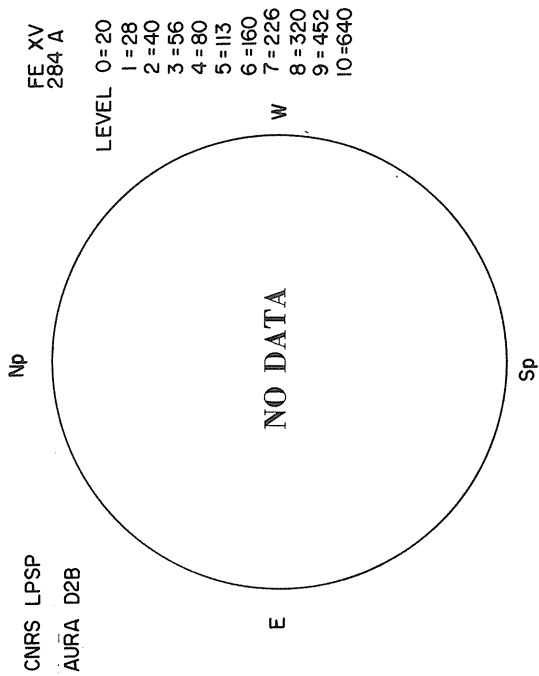
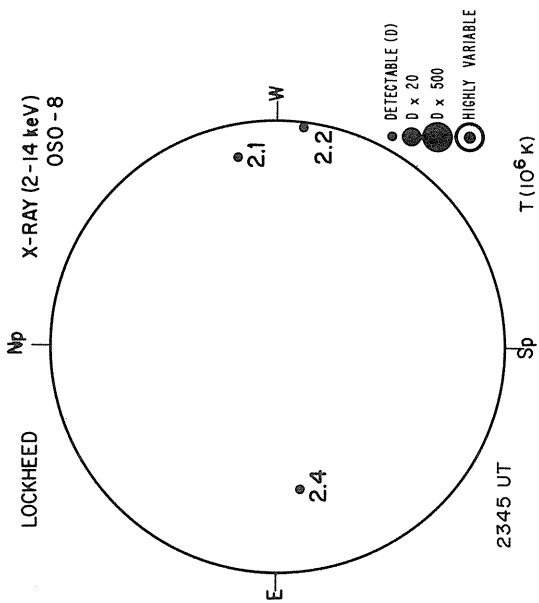
NELC LA POSTA

8.6 MM

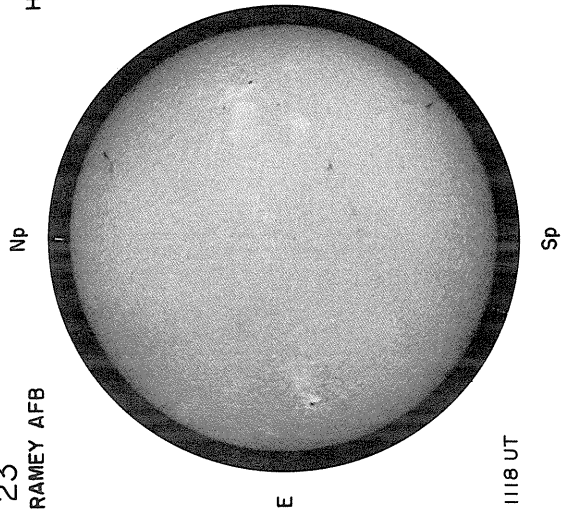


Ant. Temp. Unit 100°K

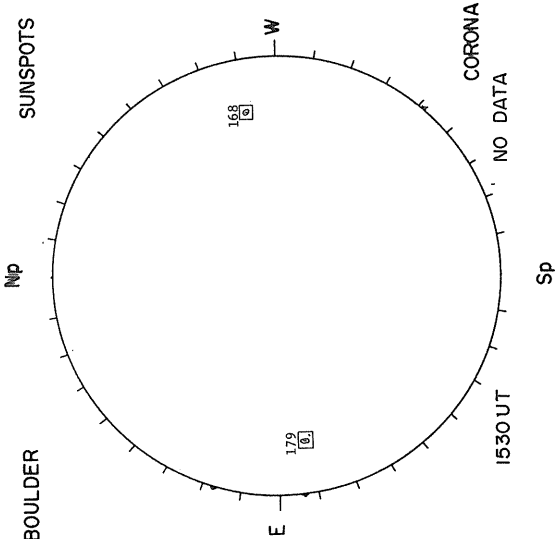
APRIL 23, 1976 (P = -25.35, B<sub>0</sub> = -4.89, L<sub>0</sub> = 99.46)



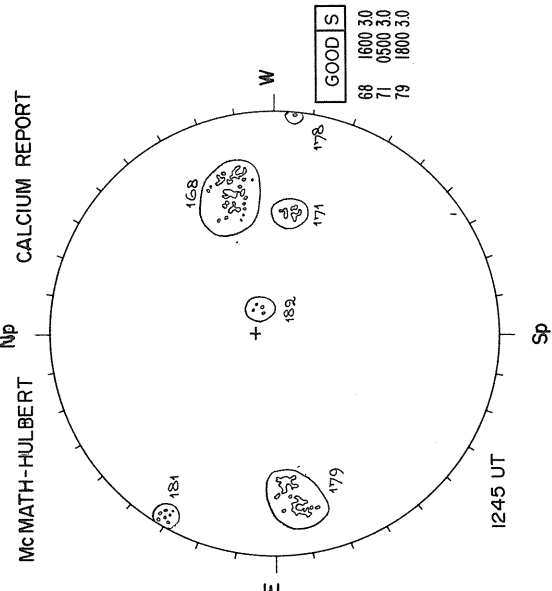
23  
RAMEY AFB



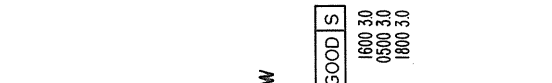
H $\alpha$  BOULDER



McMATH-HULBERT



CALCIUM REPORT



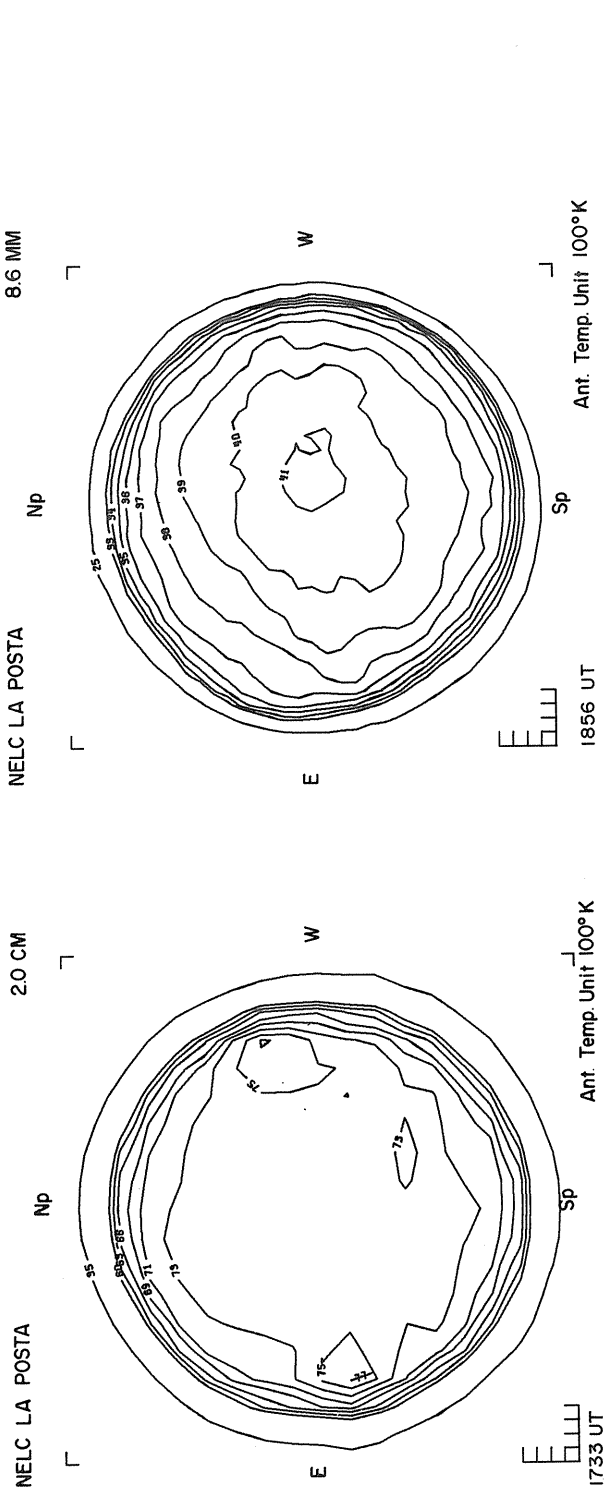
1245 UT

NELC LA POSTA

2.0 CM

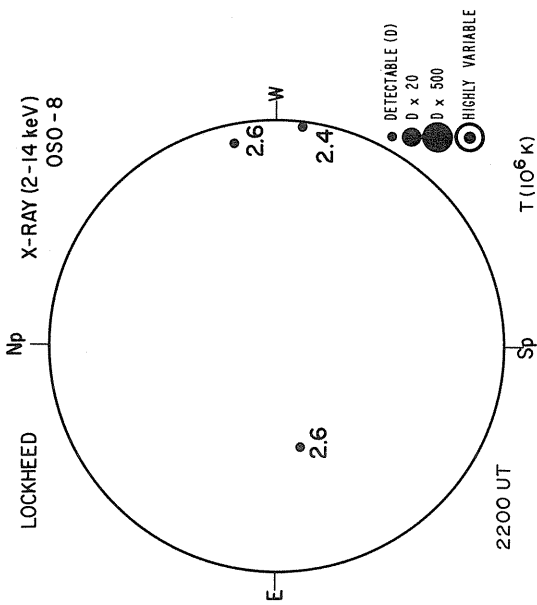
NELC LA POSTA

8.6 MM

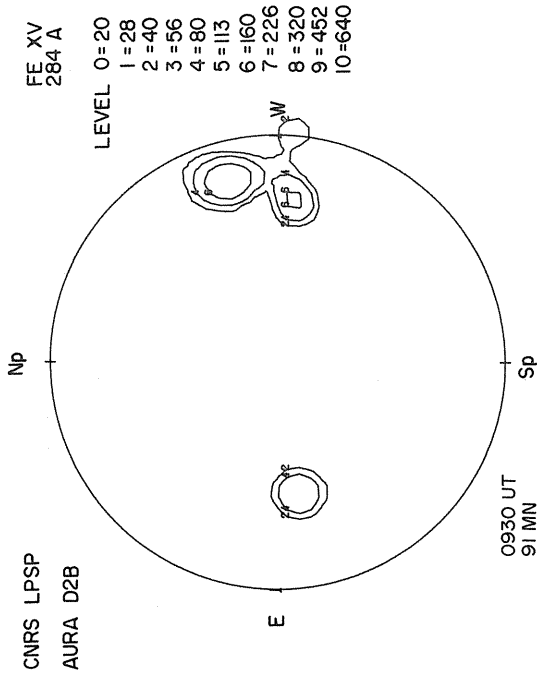




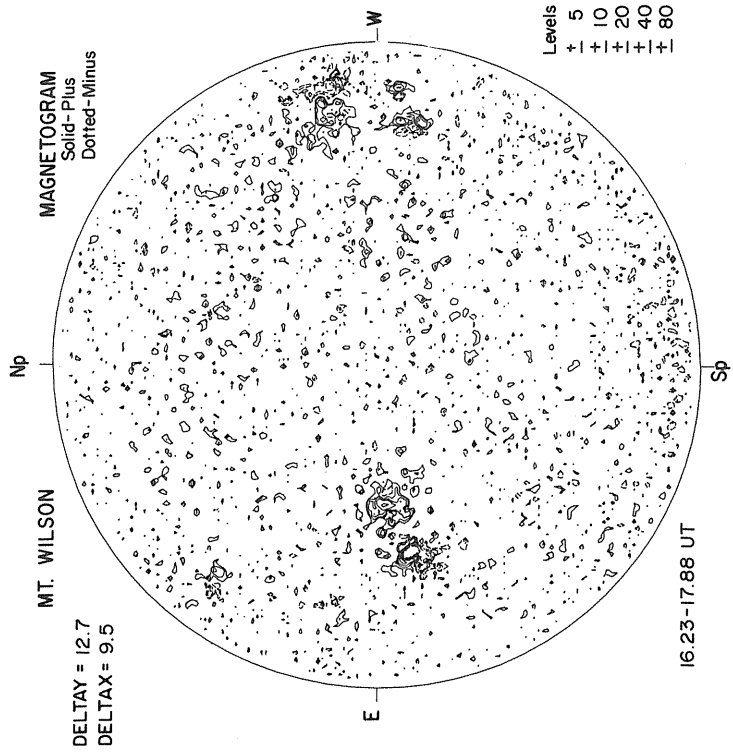
APRIL 24, 1976 (P = -25.23, B<sub>0</sub> = -4.80, L<sub>0</sub> = 86.24)



KITT PEAK  
MAGNETOGRAM  
Bright - Plus  
Dark - Minus

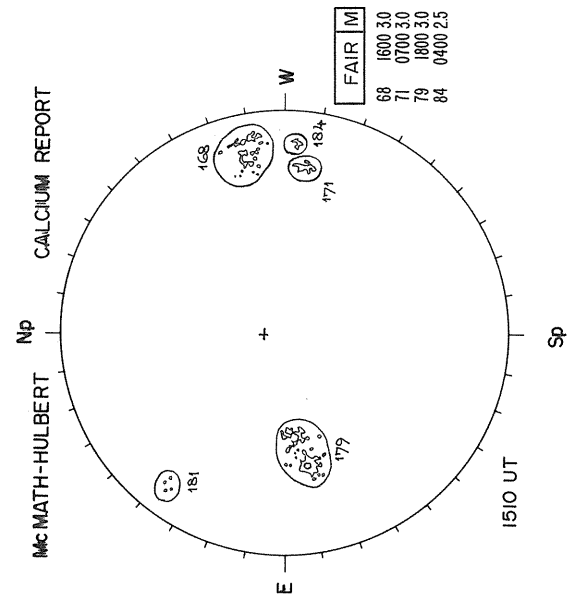
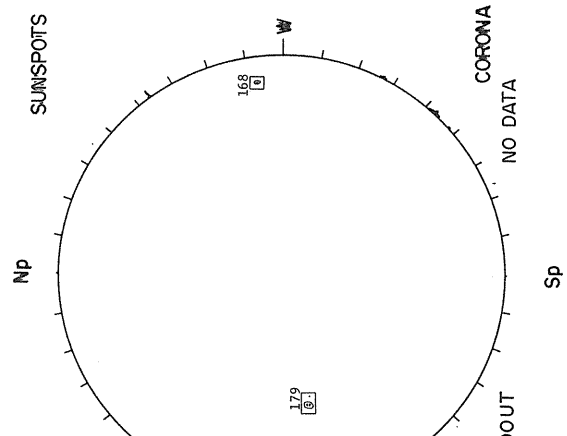
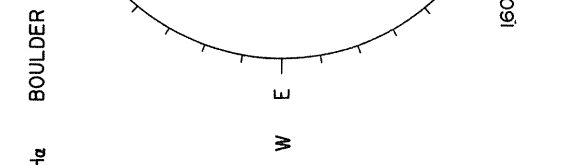
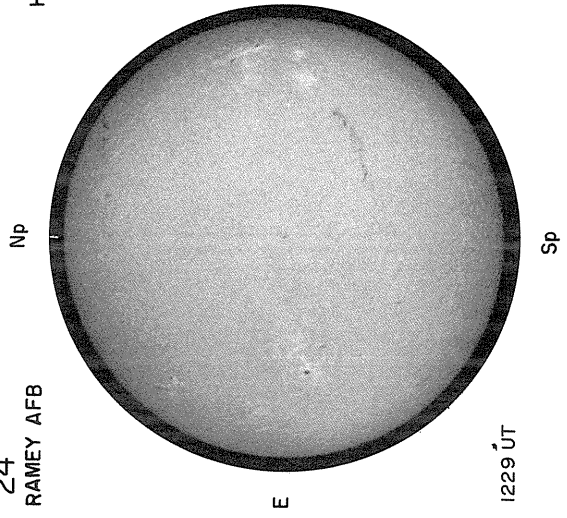


MT. WILSON  
MAGNETOGRAM  
Solid-Plus  
Dotted-Minus

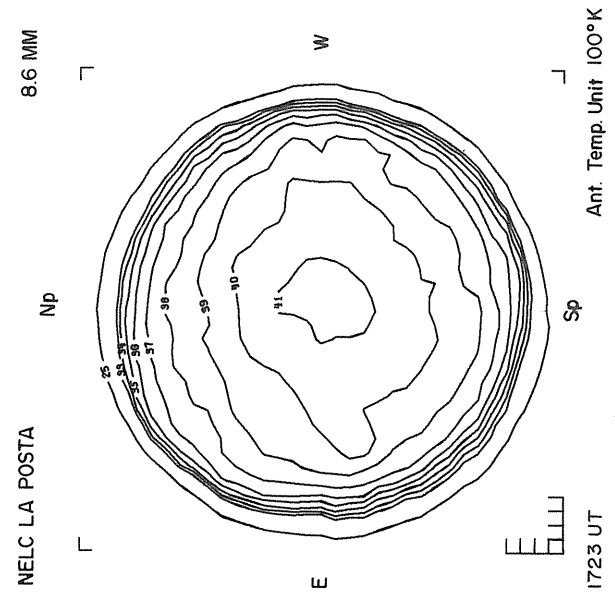
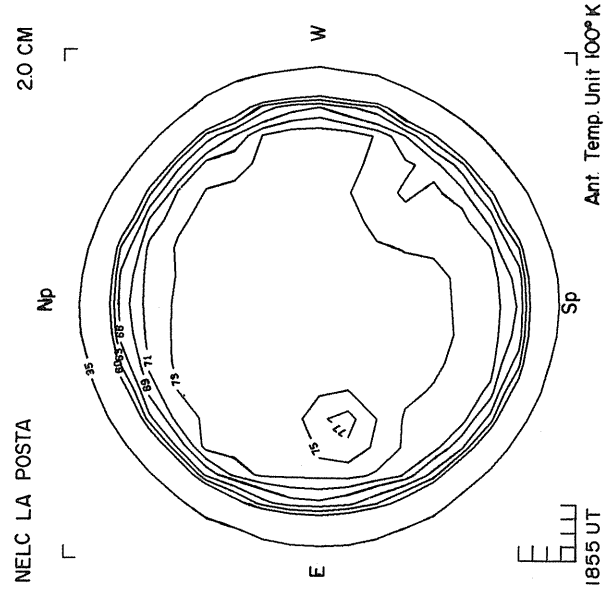


Sp

24  
RAMEY AFB



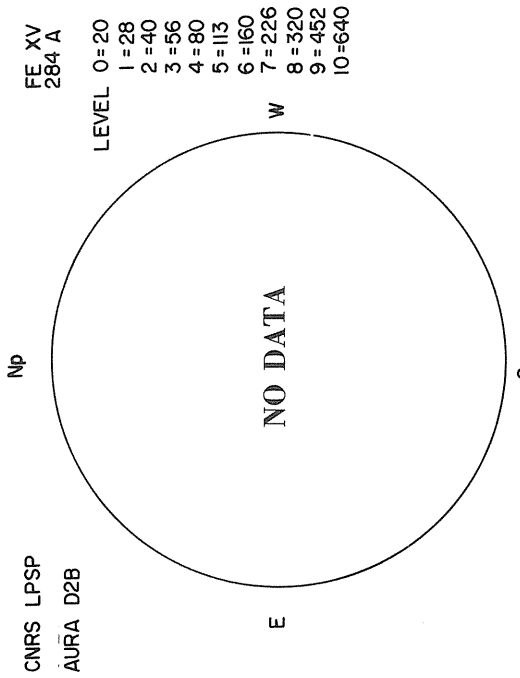
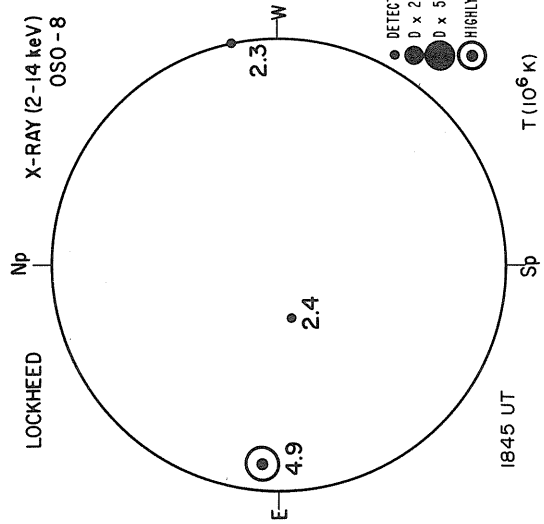
CALCIUM REPORT



Ant. Temp. Unit 100°K

Ant. Temp. Unit 100°K

APRIL 25, 1976 (P = -25.10, B<sub>0</sub> = -4.70, L<sub>0</sub> = 73.03)



LOCKHEED  
X-RAY (2-14 keV)  
OSO-8

MAGNETOGRAM  
Bright-Plus  
Dark-Minus

MAGNETOGRAM  
Solid-Plus  
Dotted-Minus

DELTA T = 12.7  
DELTA X = 9.4

Levels  
+ 5  
+ 10  
+ 20  
+ 40  
+ 80

Sp

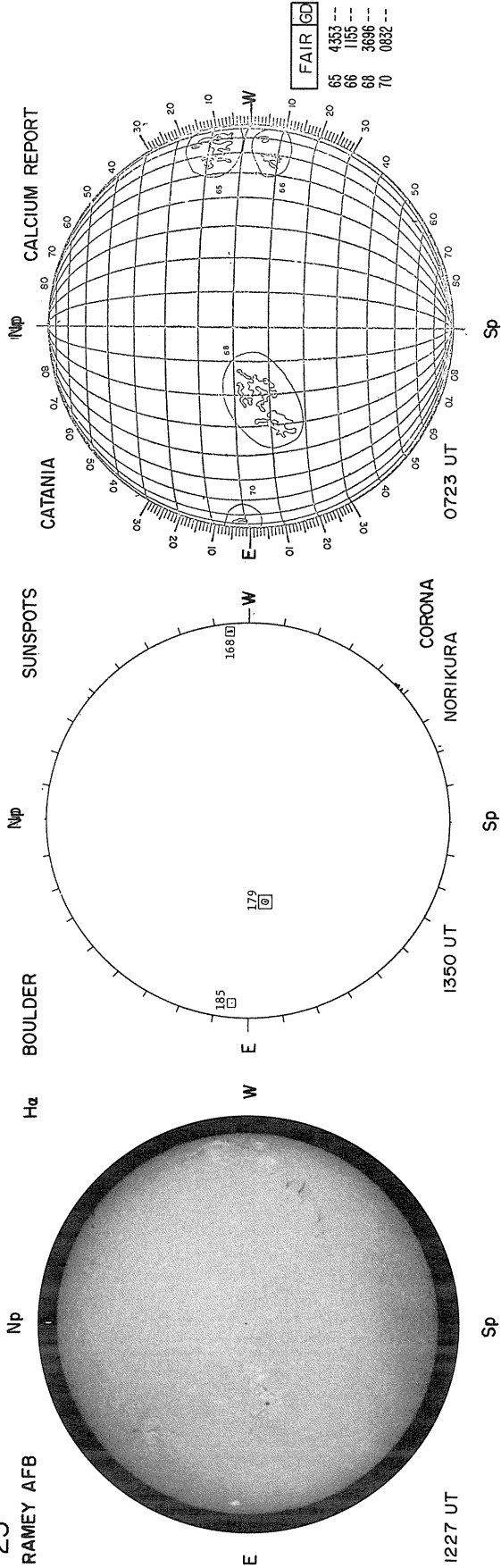
25

RAMEY AFB

H $\alpha$  BOULDER

SUNSPOTS

CALCIUM REPORT

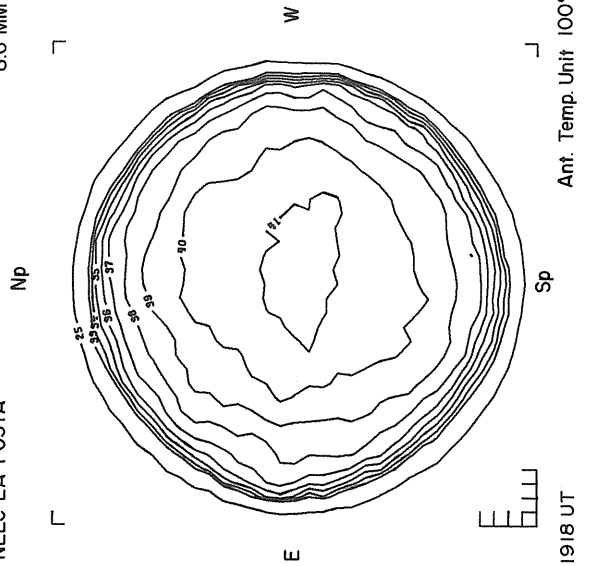
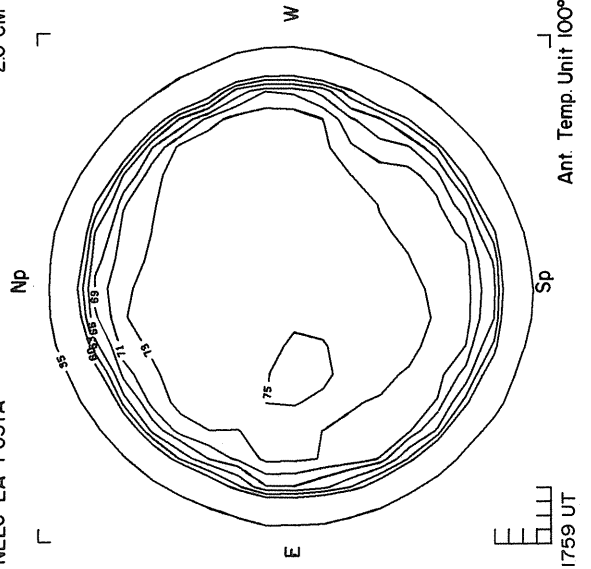


NELC LA POSTA

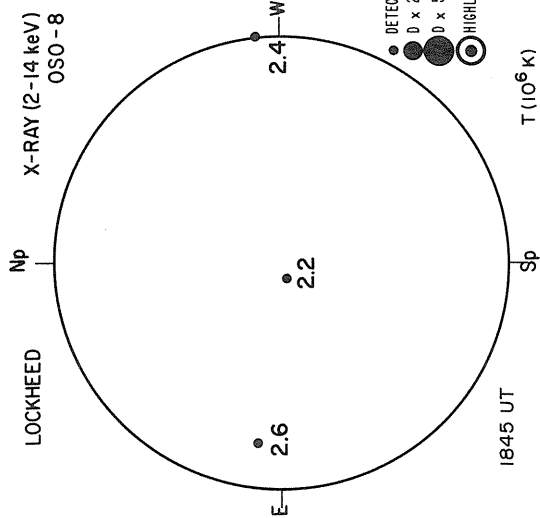
20 CM

NELC LA POSTA

8.6 MM



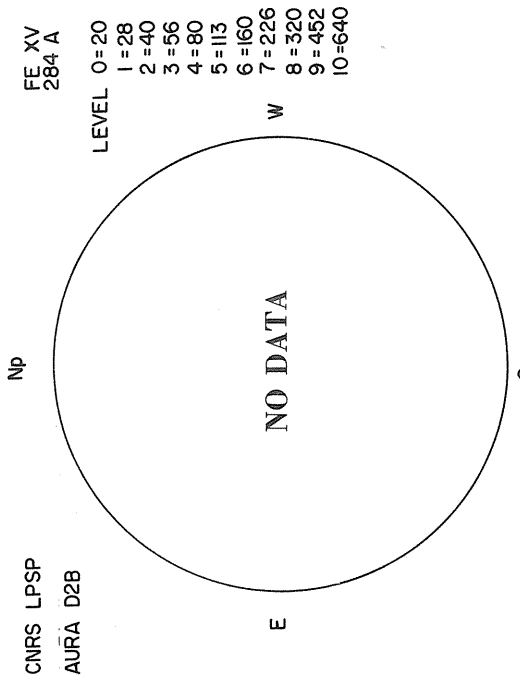
APRIL 26, 1976 (P = -24.96, B<sub>0</sub> = -4.61, L<sub>0</sub> = 59.82)



- DETECTABLE (0)
- 0 x 20
- 0 x 500
- HIGHLY VARIABLE

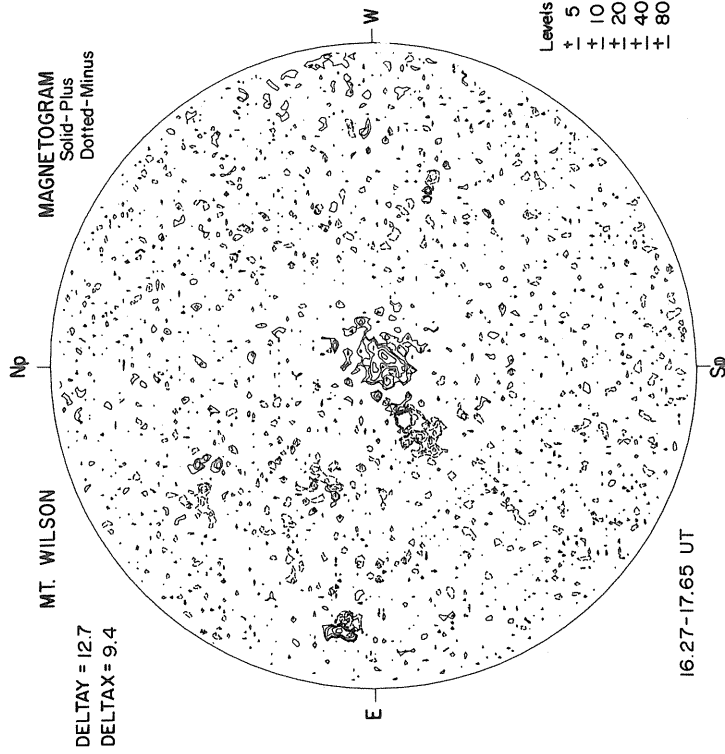
MAGNETOGRAM  
Bright - Plus  
Dark - Minus

KITT PEAK

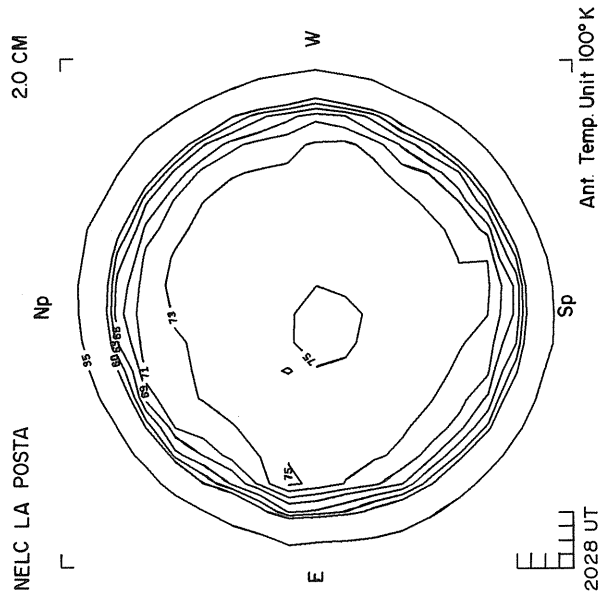
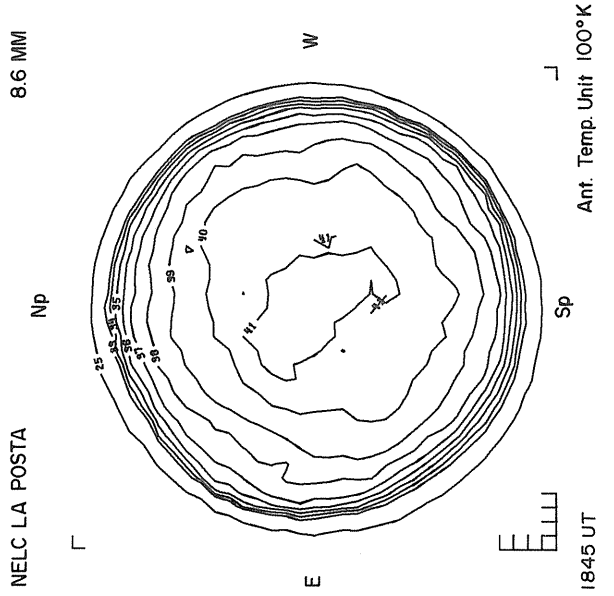
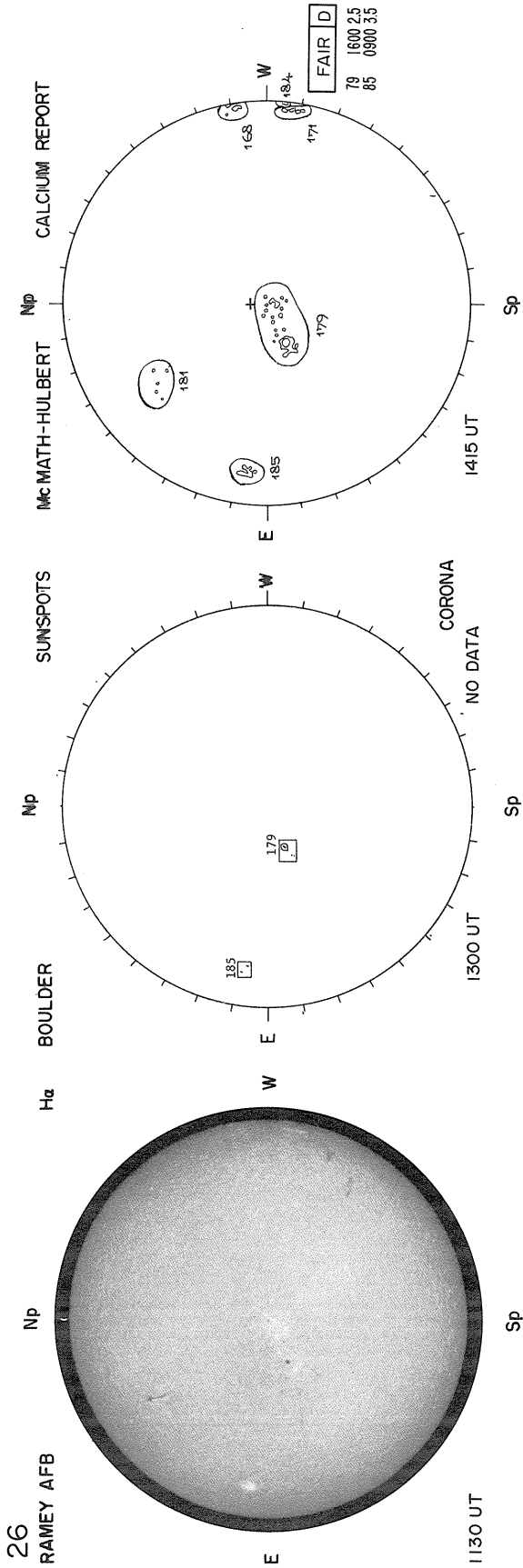


- LEVEL 0=20
- 1=28
  - 2=40
  - 3=56
  - 4=80
  - 5=113
  - 6=160
  - 7=226
  - 8=320
  - 9=452
  - 10=640

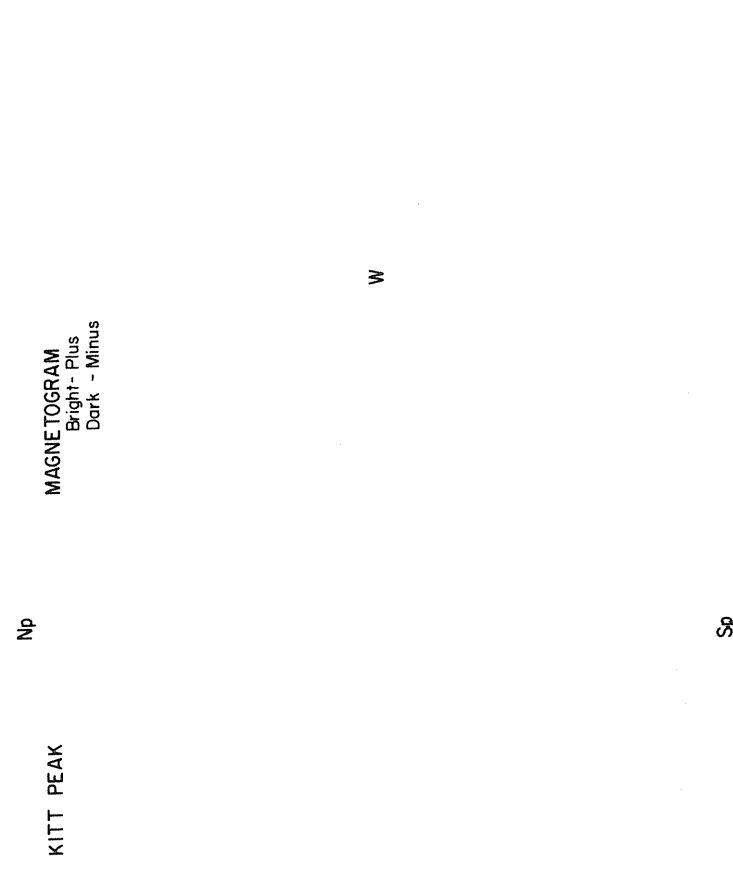
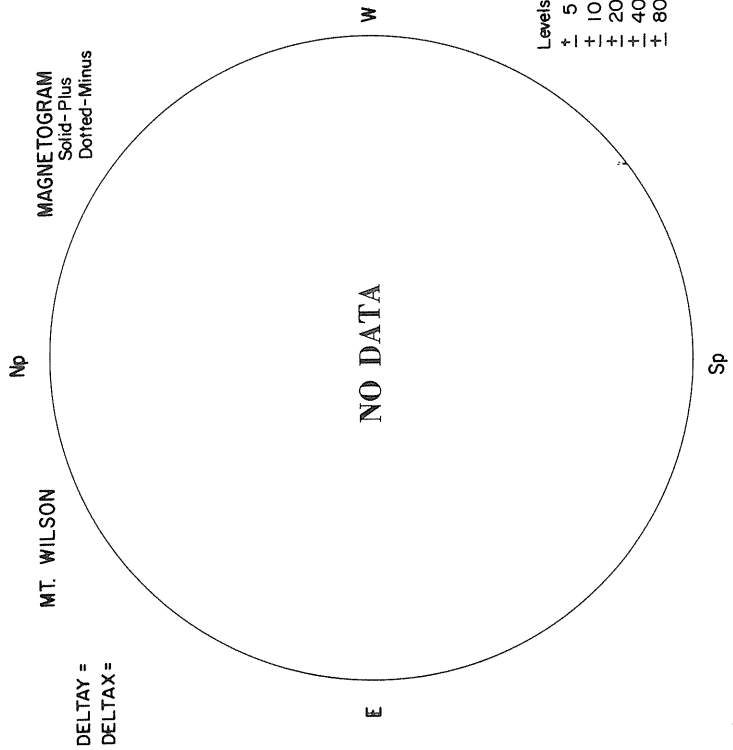
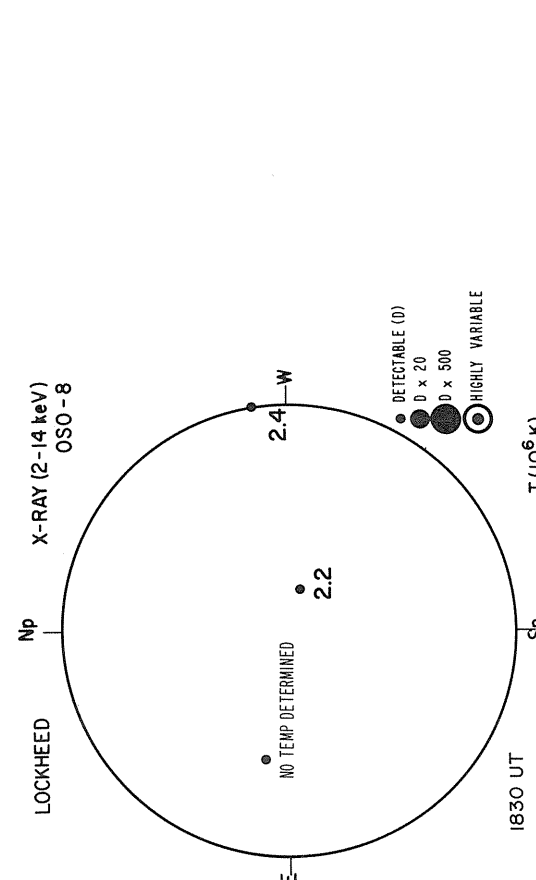
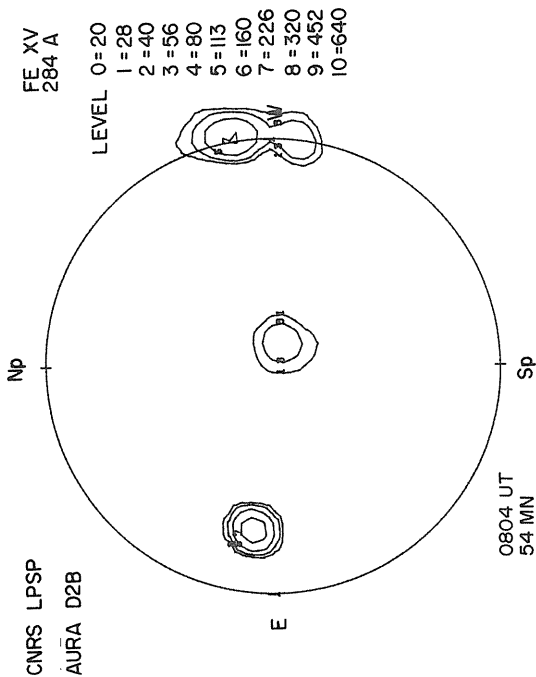
FE XV  
284 A



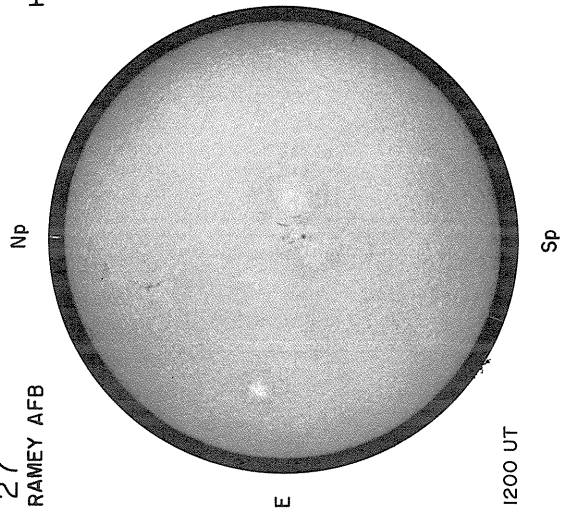
- Levels
- 5
  - + 10
  - + 20
  - + 40
  - + 80



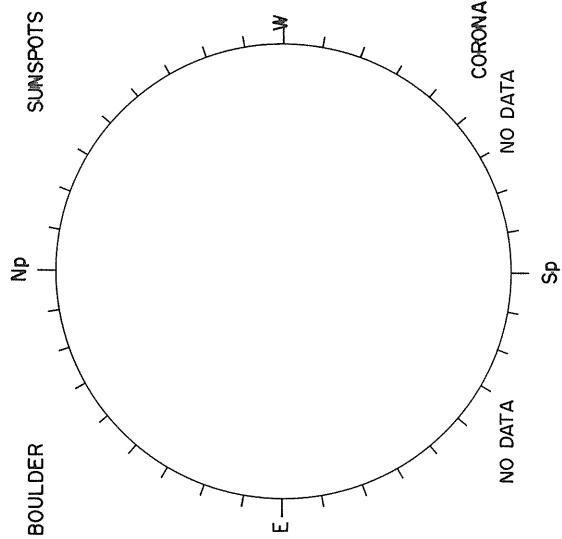
APRIL 27, 1976 (P = -24.8l, B<sub>0</sub> = -4.5l, L<sub>0</sub> = 46.6l)



27  
RAMEY AFB

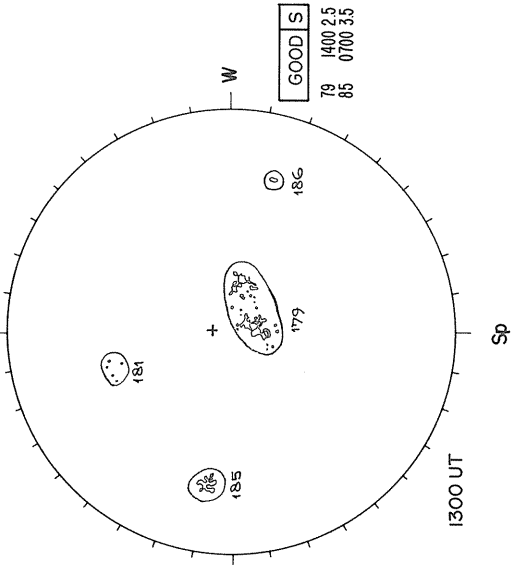


H $\alpha$  BOULDER

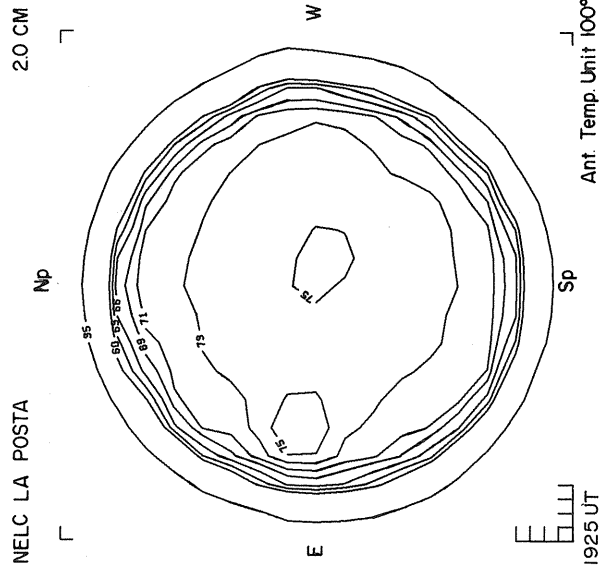


SUNSPOTS

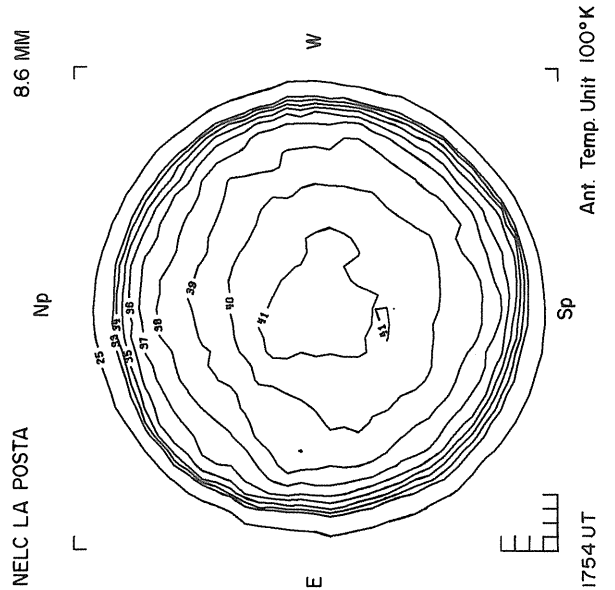
McMATH-HULBERT  
CALCIUM REPORT



NELC LA POSTA



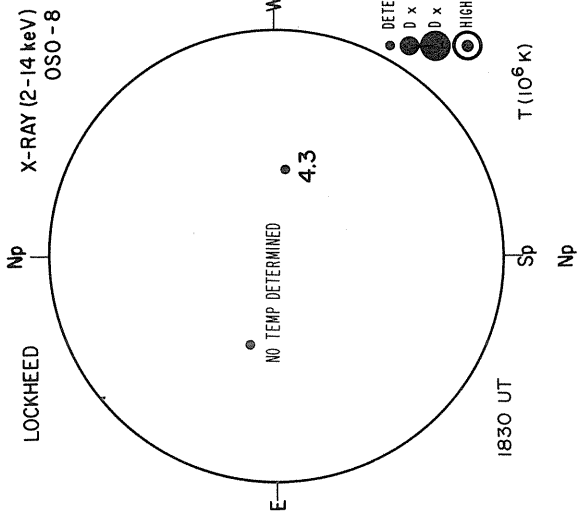
NELC LA POSTA



8.6 MM

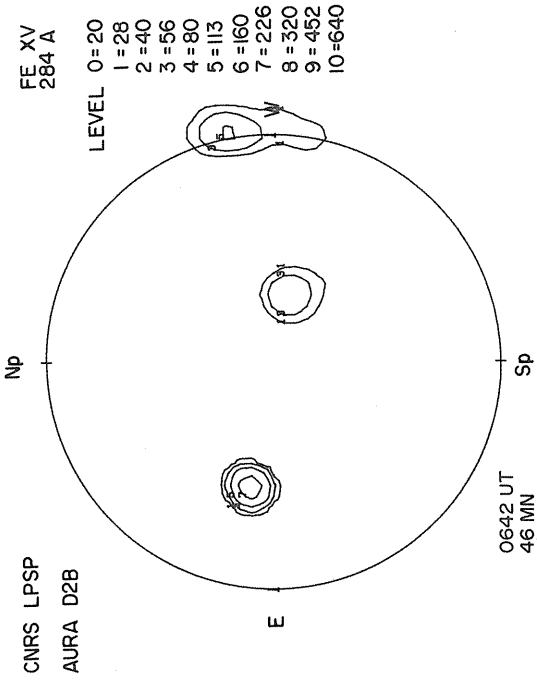


APRIL 28, 1976 (P = -24.66, B<sub>0</sub> = -4.42, L<sub>0</sub> = 33.39)



• DETECTABLE (D)  
 ○ D x 20  
 ○ D x 500  
 ○ HIGHLY VARIABLE

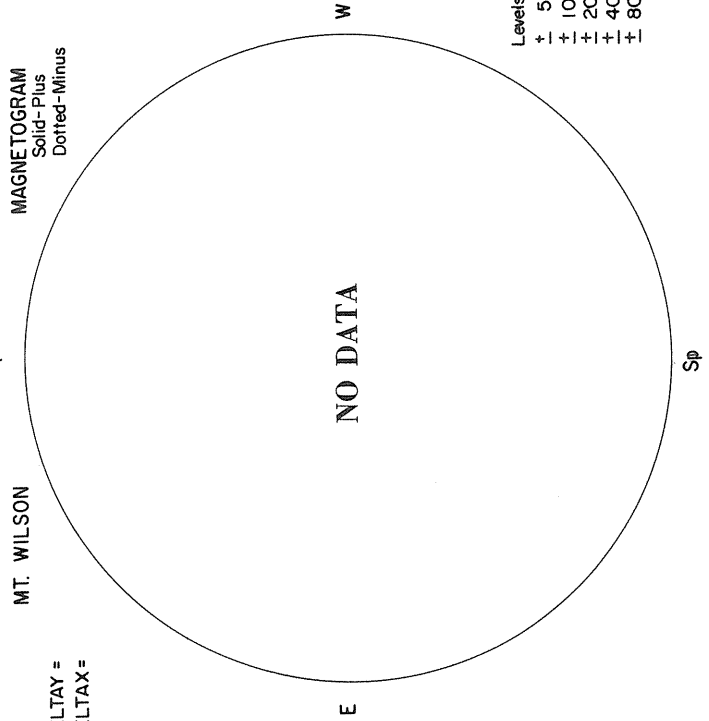
MAGNETOGRAM  
 Bright- Plus  
 Dark - Minus



MAGNETOGRAM  
 Solid-Plus  
 Dotted-Minus

MT. WILSON

DELTA Y =  
DELTA X =

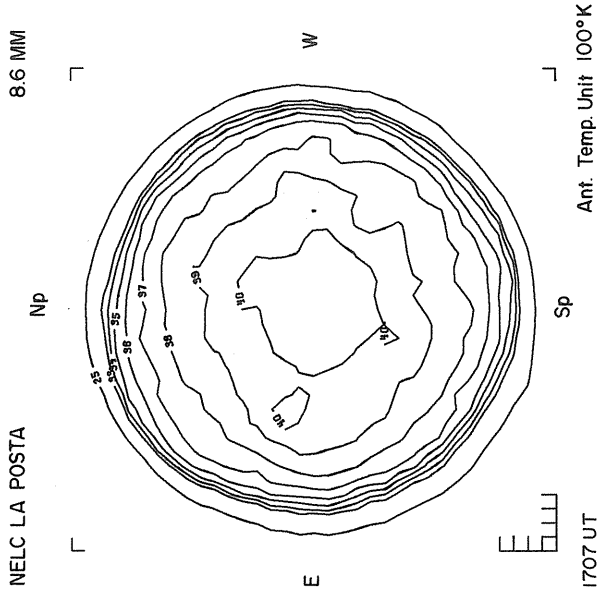
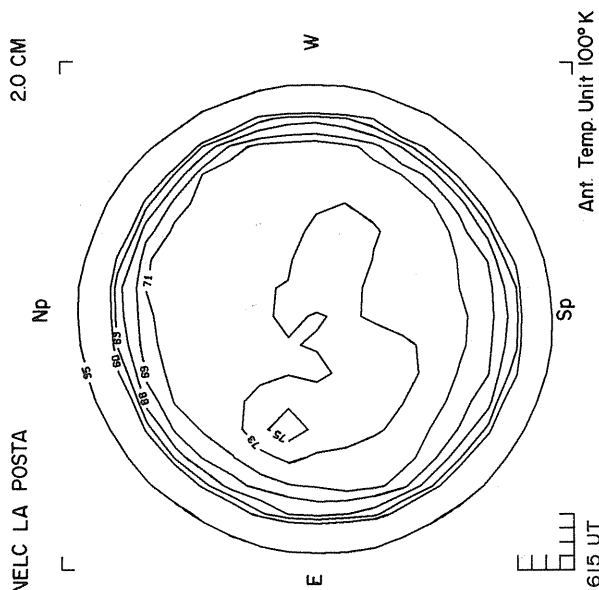
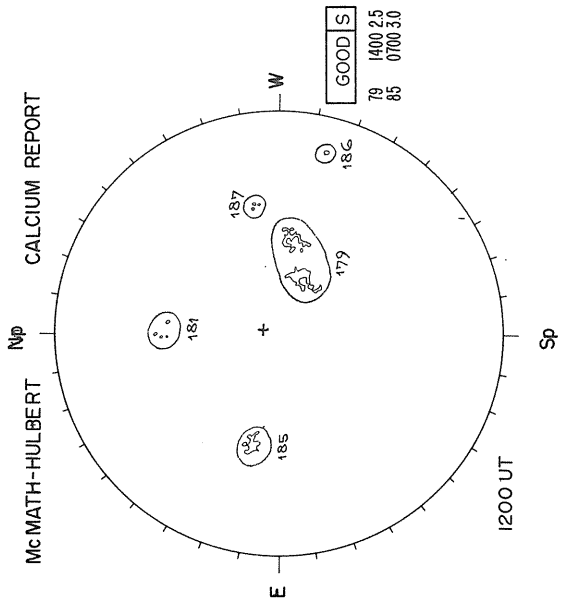
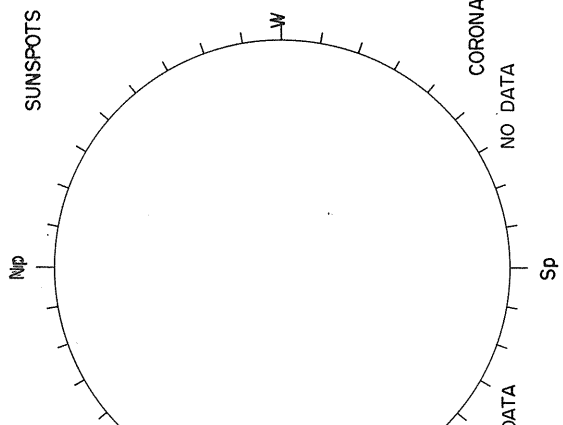
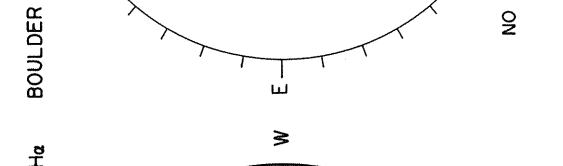
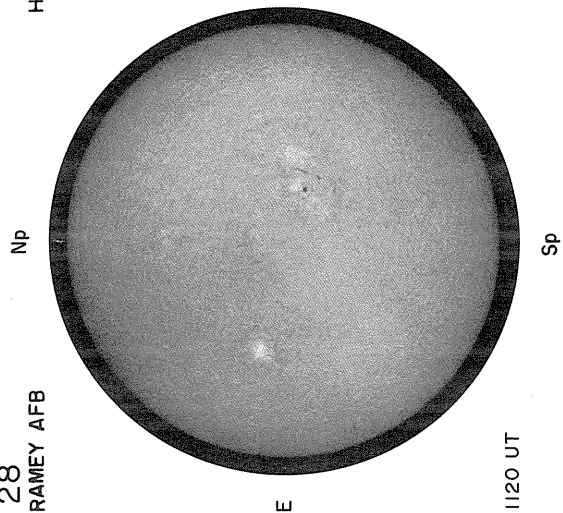


W

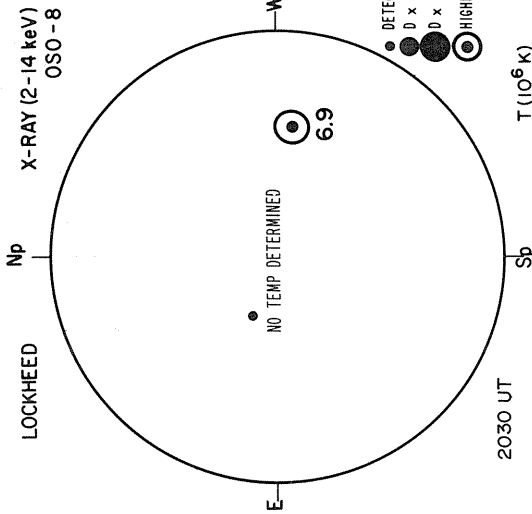
E

Sp

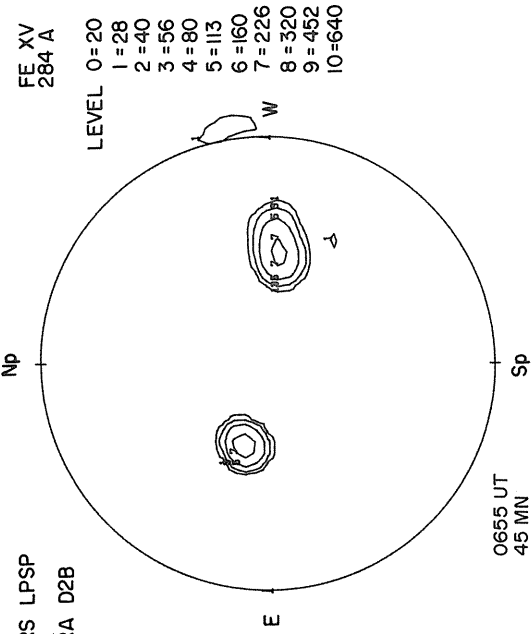
28  
RAMEY AFB



APRIL 29, 1976 (P = -24.50, B<sub>0</sub> = -4.32, L<sub>0</sub> = 20.18)

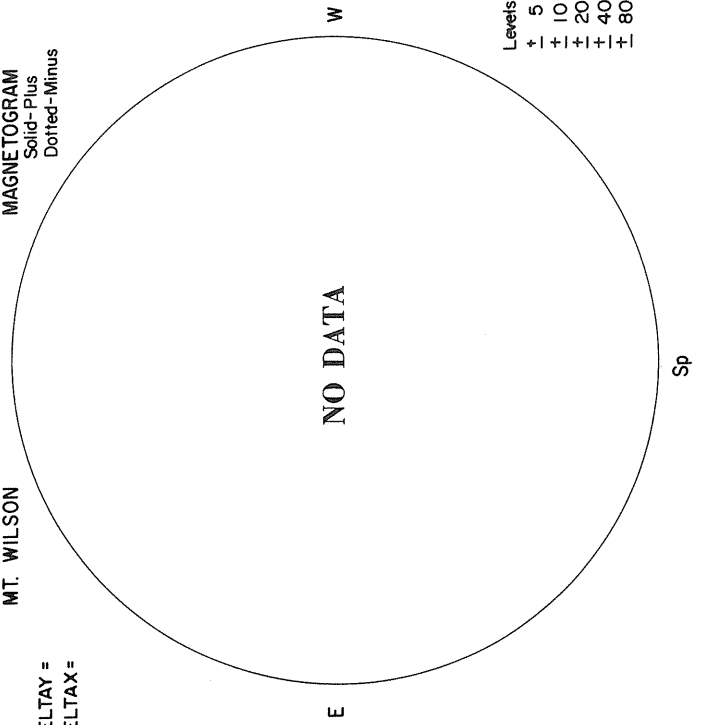


KITT PEAK  
2030 UT



MT. WILSON  
MAGNETOGRAM  
Solid-Plus  
Dotted-Minus

DELTA Y =  
DELTA X =

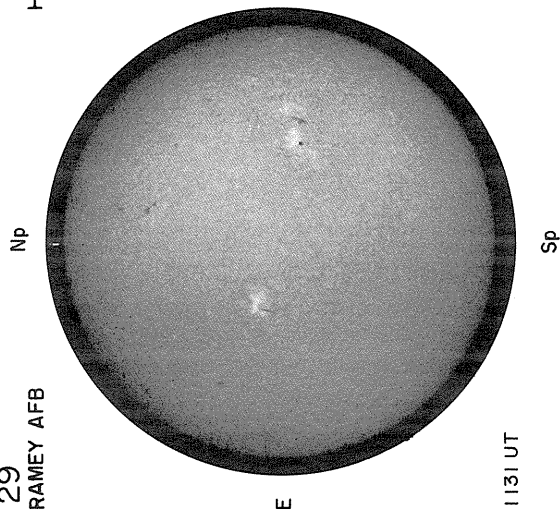


W

E

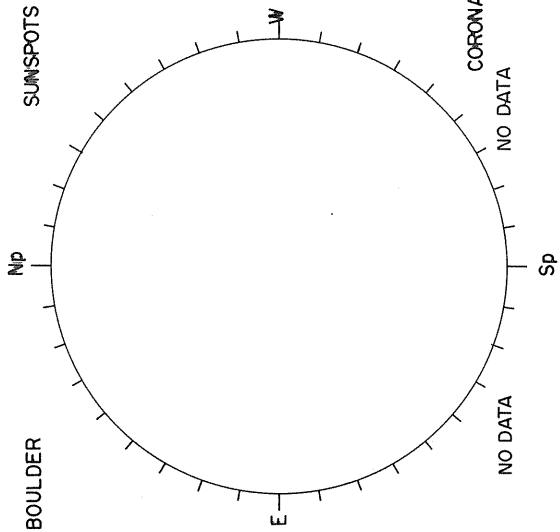
Sp

29  
RAMEY AFB



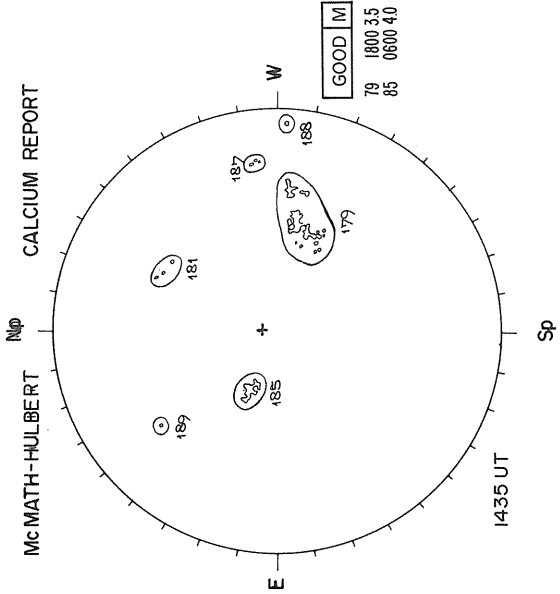
1131 UT

H $\alpha$  BOULDER



Mc MATH-HULBERT

CALCIUM REPORT

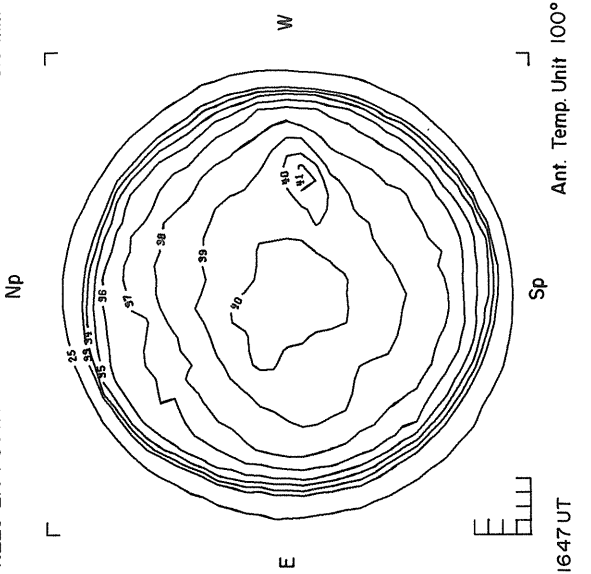
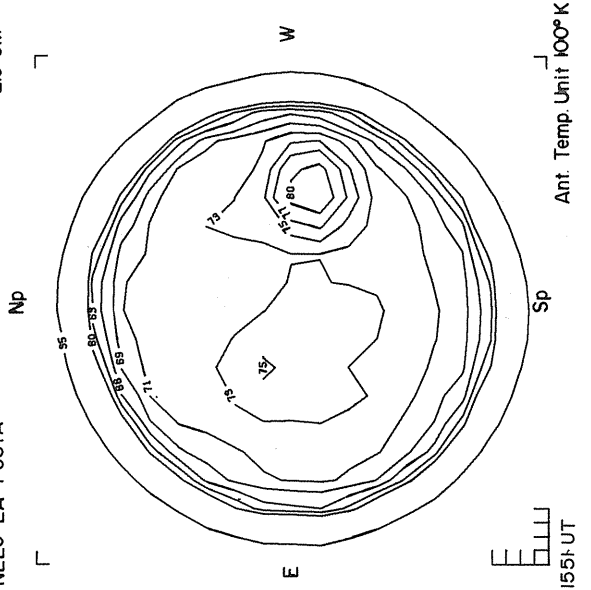


NELC LA POSTA

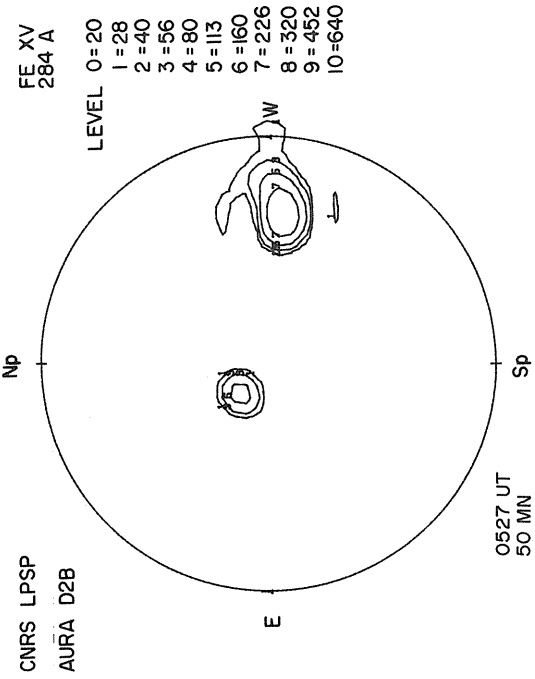
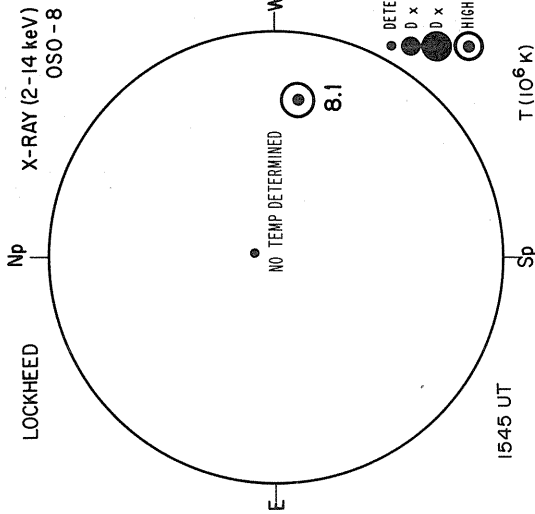
20 CM

NELC LA POSTA

8.6 MM



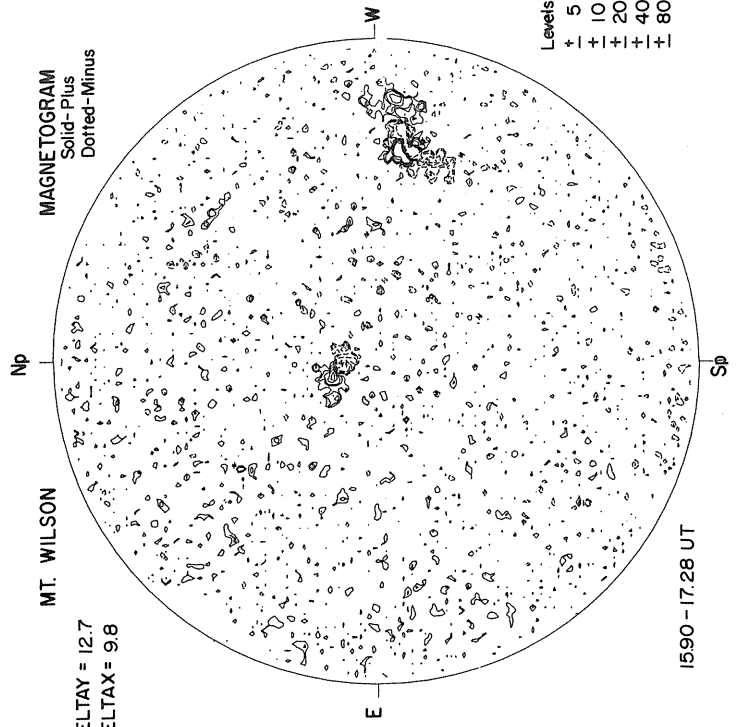
APRIL 30, 1976 (P = -24.33, B<sub>0</sub> = -4.22, L<sub>0</sub> = 6.96)



MAGNETOGRAM  
Bright-Plus  
Dark-Minus

MAGNETOGRAM  
Solid-Plus  
Dotted-Minus

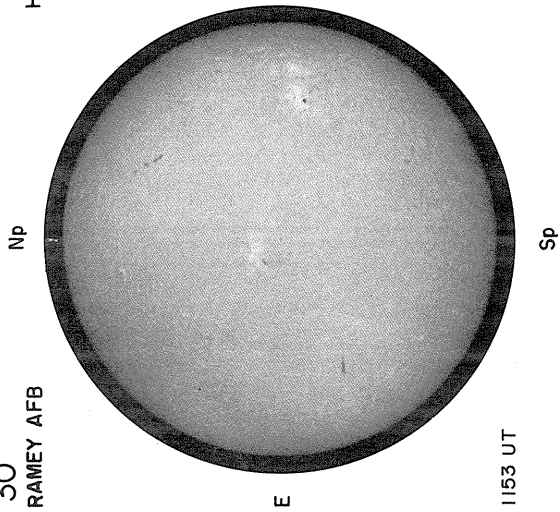
DELTA T = 12.7  
DELTA T AX = 9.8



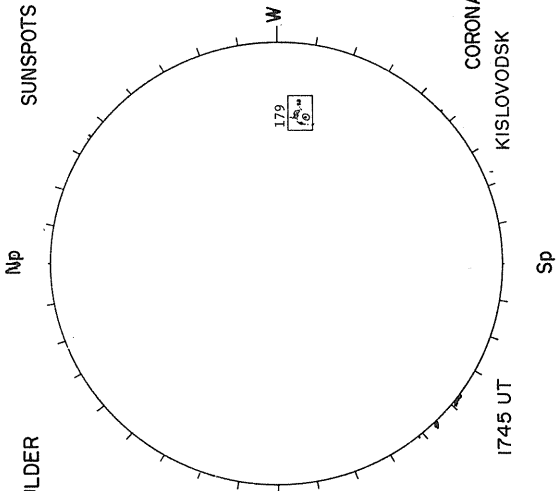
KITT PEAK

Sp

30  
RAMEY AFB

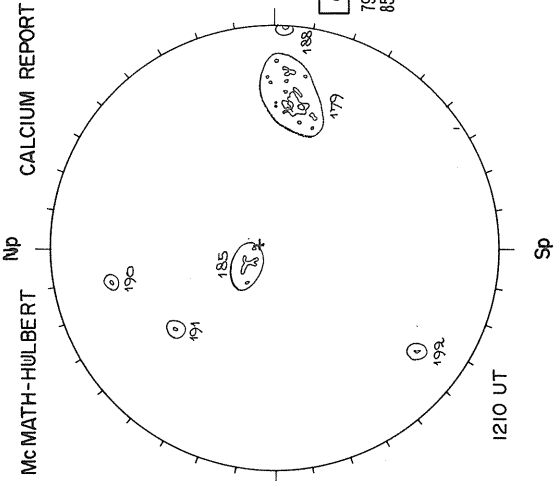


H $\alpha$  BOULDER



SUNSPOTS

CORONA  
KISLOVODSK

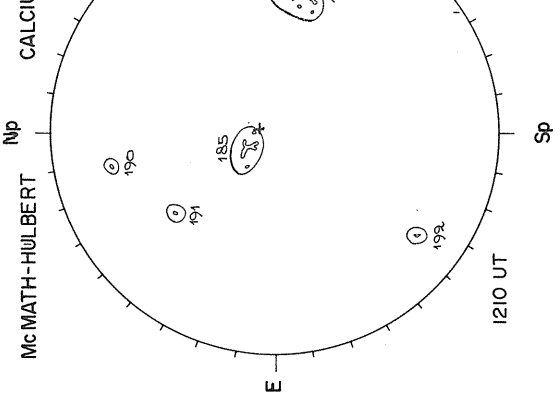


Mc MATH-HULBERT

GOOD S  
79 2000 40  
85 0800 25

30  
RAMEY AFB

H $\alpha$  BOULDER



Mc MATH-HULBERT

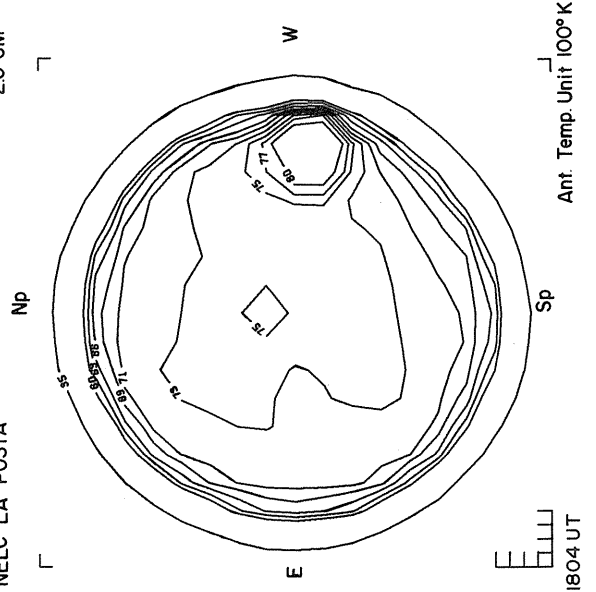
GOOD S  
79 2000 40  
85 0800 25

NELC LA POSTA

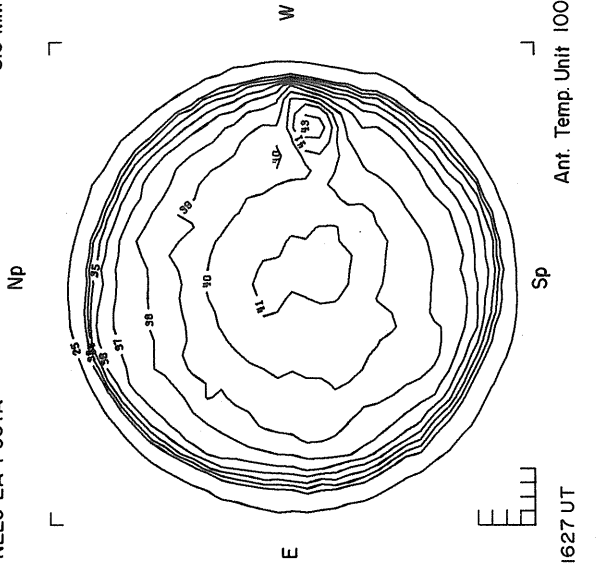
2.0 CM

NELC LA POSTA

8.6 MM



Ant. Temp. Unit 100°K



Ant. Temp. Unit 100°K



## REGIONS OF SOLAR ACTIVITY

APRIL 1976

MCMATH REGION 14164				CMP DATE 12.1				CALCIUM PLAGE DATA				SUNSPOT DATA				
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS	
76	4	11	14164	S37 E07	244	100	1.5									
76	4	12	14164	S38 W06	244	100	1.5									
76	4	13	14164	S38 W19	244	200	1.0									
MCMATH REGION 14166				CMP DATE 12.6				CALCIUM PLAGE DATA				SUNSPOT DATA				
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS	
76	4	12	14166	S07 E91	237	100	1.0									
76	4	13	14166	S07 W14	239	200	1.0									
76	4	14	14166	S07 W29	240	200	1.0									
MCMATH REGION 14160				CMP DATE 12.7				CALCIUM PLAGE DATA				SUNSPOT DATA				
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS	
76	4	7	14160	S04 E68	235	200	1.0									
MCMATH REGION 14162				CMP DATE 13.5				CALCIUM PLAGE DATA				SUNSPOT DATA				
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS	
76	4	9	14162	N34 E50	228	100	2.0									
76	4	10	14162	N34 E38	226	100	1.0									
MCMATH REGION 14163				CMP DATE 14.0				CALCIUM PLAGE DATA				SUNSPOT DATA				
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS	
76	4	10	14163	S12 E47	217	300	2.5									
76	4	11	14163	S12 E35	216	200	2.0									
76	4	12	14163	S13 E21	217	200	1.5									
76	4	13	14163	S13 E07	218	200	1.5									
76	4	14	14163	S13 W06	217	100	1.0									
76	4	15	14163	S13 W19	217	200	1.5									
76	4	16	14163	S13 W32	217	100	2.0									
76	4	17	14163	S13 W44	215	100	1.0									
MCMATH REGION 14161				CMP DATE 14.9				RETURN OF REGION 14127				ROTATION 2				
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS	
76	4	8	14161	N06 E35	206	1000	3.0		N05 E85			B	150	1	HSX	
76	4	9	14161	N06 E72	206	2000	3.5	19672	N03 E66	208	(AP)	4	B	190	1	HSX
76	4	10	14161	N07 E60	204	2700	3.0	19672	N03 E55	207	(AP)	4	B	200	1	HSX
76	4	11	14161	N06 E46	205	2500	3.5		N02 E38			B	10	2	BX0	
76	4								N07 E39			B	10	4	BX0	
76	4								N04 E41			B	190	1	HSX	
76	4	12	14161	N06 E32	206	3000	3.5	19673	N02 E24	212	(A)	1	B	10	7	AXX
76	4							19672	N03 E28	208	(AP)	5	B	200	6	HSX
76	4	13	14161	N06 E19	206	3200	3.0		N07 E14			B	0	4	AXX	
76	4								N06 E22			B	0	5	AXX	
76	4								N02 E11			B	0	6	BX0	
76	4								N03 E16			B	220	7	HSX	
76	4	14	14161	N06 E04	207	3300	3.0	19673	N01 W04	213	(A)	2	B	0	5	BX0
76	4							19672	N02 E01	208	(AP)	5	B	180	1	HSX
76	4								N08 E06			B	0	1	AXX	
76	4								N06 E08			B	10	1	AXX	
76	4	15	14161	N05 W10	208	3000	2.5		N02 W10			B	180	7	CS0	
76	4	16	14161	N04 W23	208	2900	2.5	19672	N03 W30	210	(AP)	5	B	190	1	HSX
76	4	17	14161	N04 W35	206	2600	2.5	19672	N03 W39	208	(AP)	5	R	200	1	HSX
76	4	18	14161	N04 W48	206	2400	2.5	19672	N02 W53	210	(AP)	5	B	210	1	HSX
76	4	19	14161	N05 W62	207	2400	3.5	19672	N02 W67	211	(AP)	5	B	210	1	HSX
76	4	20	14161	N06 W79	208	2500	3.5	19672	N02 W30	210	(AP)	4	B	170	1	HSX









REGIONS OF SOLAR ACTIVITY

APRIL 1976

MCMATH REGION 14185

CMP DATE 30.8

			CALCIUM PLAGE DATA				SUNSPOT DATA									
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	4	25						19679	N03 E69	358	(BP)	2	B	10	1	AXX
76	4	26	14185	N04 E56	358	900	3.5	19679	N03 E57	357	(BP)	3	B	20	4	BX0
76	4	27	14185	N04 E43	357	700	3.5	19679	N03 E40	359	8P		R	50	6	CS0
76	4	28	14185	N04 E30	358	700	3.0	19679	N03 E27	359	(3P)	2				
76	4	29	14185	N04 E16	358	600	4.0									
76	4	30	14185	N04 E34	358	600	2.5	19679	N05 E04	357	(AF)	3				
76	5	1	14185	N04 W12		600	3.0									
76	5	2	14185	N04 W24		600	3.0									
76	5	3	14185	N04 W36		600	3.0									
76	5	4	14185	N03 W50		500	2.0									
76	5	5	14185	N03 W64		400	2.5									

Note: Region 14171 forms on the disk near the east limb, in the location of plage 14147 of the previous rotation.  
No calcium spectroheliogram was obtained at the McMath-Hulbert Observatory on April 25, 1976.  
No sunspot observations were made at Mt. Wilson Observatory on April 4, 5, 8, 11, 13 and 15, 1976.

DAILY CALCIUM PLAGE INDEX

APRIL 1976

YR	MO	DAY	INDEX	YR	MO	DAY	INDEX	YR	MO	DAY	INDEX
76	4	1	6.7	76	4	11	6.7	76	4	21	7.0
76	4	2	5.9	76	4	12	9.6	76	4	22	6.9
76	4	3	4.7	76	4	13	9.8	76	4	23	8.7
76	4	4	4.3	76	4	14	10.3	76	4	24	9.0
76	4	5	2.3	76	4	15	9.3	76	4	25	*
76	4	6	0.4	76	4	16	8.7	76	4	26	6.2
76	4	7	0.4	76	4	17	9.0	76	4	27	5.4
76	4	8	0.8	76	4	18	9.4	76	4	28	5.5
76	4	9	2.4	76	4	19	10.8	76	4	29	8.0
76	4	10	4.5	76	4	20	7.9	76	4	30	7.7

\* NO OBSERVATIONS



# SOLAR RADIO EMISSION SPECTRAL OBSERVATIONS

APRIL 1976

APR 1976	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
	START UT	END UT		DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
				START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
01	0000	0130	BOUL				0700	0104	1	0000	0104	1	CONT
	0530	1741	DURN	0530.0	1741.E.3	3	0530.0	1741.E.3	3				IC,N,DC
			DURN	0536.0	0536.1	1	0536.0	0536.1	1				III
	0000	1009	MANI							0609.1	0612.0	1	IIIG
			DURN	0623.5	0623.5	1	0623.5	0623.5	2				IIIG
			DURN	0742.5	0742.5	1							III,RS
	0745	1146	WEIS				0936.0	0941.0	1				IDC
	0954	1459	DWIN				0954	1459	1				IS
			DWIN				1041.3	1046.0	3				IIIGG
			WEIS				1041.4	1041.7	3				IIIGG
	1029	2305	SGMR							1041.8	1043.5	2	III
			DWIN				1055.4	1102.0	1				IIIGG
			DWIN				1115.6	1115.9	2				IIIG
			DWIN				1118.6	1121.0	3				IIIG
			WEIS				1118.7	1121	3				IIIGG
			SGMR							1118.8	1121.1	2	IIIG
			DURN	1119.0	1120.0	3	1119.0	1120.0	3				IIIG
			WEIS				1122.4	1122.5	2				IIIB
			DWIN				1211.2	1211.4	2				IIIG
			SGMR							1225.8	1234.1	1	IIIG
			SGMR							1244.6	1249.2	1	IIIG
	1319	1421	WEIS										
			DWIN				1322.2	1322.3	2				IIIG
			DURN	1322.2	1322.3	1	1322.2	1322.3	2				IIIG
			SGMR							1322.3	1322.6	2	III
			DWIN				1436.0	1437.1	2				IIIG
			SGMR							1436.3	1437.0	2	III
	1319	2345	HARV				1436	1437	1	1436	1437	1	IIIG
			DURN	1520.8	1521.3	3	1520.9	1521.3	3				IIIG
			DURN	1536.7	1536.9	3	1536.7	1536.9	3				IIIG
			SGMR							1537.0	1537.3	2	III
			HARV				1537		2	1537		1	IIIG
			DURN	1539.1	1539.1	1	1539.0	1539.1	1				IIIG
			HARV				1539		2	1539		1	IIIB
	1601	2400	BOUL							1601	1755	2	CONT
			BOUL				1616.1	1617.0	2	1616.1	1617.0	2	IIIG
			SGMR							1616.3	1617.2	1	III
			HARV				1616	1617	2	1616	1617	2	IIIG
			DURN	1644.3	1644.4	1	1644.3	1644.4	1				III
			BOUL							1650	1700	1	CONT
			HARV				1655	1659	2	1655	1659	2	IIIG
			HARV				1704	1709	2	1704	1709	2	IIIGG
			SGMR							1705.2	1705.4	1	III
			DURN	1705.6	1705.6	2	1705.6	1705.6	1				III
			HARV				1721	2038	1	1721	2038	1	IIIN
		BOUL				1755	1900	1	1755	1900	1	CONT	
		SGMR							1756.5	2305.0	1	I	
		HARV				1756	1757	3	1756	1757	3	IIIB	
		HARV				1810	1814	2				IIIG	
		HARV				1816	1821	2	1816	1821	1	IIIG	
		HARV				1837	1839	3	1837	1839	3	IIIG	
		BOUL							1900	2400	1	CONT	
		HARV				1925	1926	3	1925	1926	3	IIIB	
2153	2400	MANI											
		BOUL				2157.1	2159.5	2	2157.1	2159.5	2	IIIG	
		HARV				2157	2159	2	2157	2159	2	IIIG	
		HARV				2255	2345	1				IN	
02	0000	1009	MANI										
	0000	0130	BOUL						0000	0130	1	CONT	
	0529	0612	DURN				0529.0	0612.E.1	1				IC,N
	0621	1743	DURN	0621.0	1743.E.2	2	0621.0	1743.E.2	2				IC,DC,N
	0948	1715	WEIS										
	1249	1734	DWIN				1249	1734	1				IS
			DWIN				1328.6	1329.0	2				IIIG
			DWIN				1558.8	1610.0	1				IIIGG
	1530	2400	BOUL				1637.5	1639.2	2	1637.5	1639.2	2	IIIG
			DWIN				1637.9	1638.5	1				IIIG
	1316	2345	HARV				1637	1638	2	1637	1638	2	IIIG
	1028	2307	SGMR							1638.1	1638.2	1	III



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SPECTRAL OBSERVATIONS

APRIL 1976

APR 1976	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE		
	START UT	END UT		DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND					
				START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT			
06	0524	0557	DURN				1101	1538	1					IN	
	0747	0817	DWIN				1209	1212	2					IIIG	
	1101	1538	DWIN											IIIG,RS	
	0609	1748	DURN	1211.3	1211.8	3	1211.5	1211.7	3					IIIB	
	0656	1719	WEIS				1211.7	1212.2	2		1212.0	1212.2	1	III	
	1021	2311	SGMR											IIIG	
			DWIN				1249.4	1249.8	2					IIIGG	
			DWIN				1410.0	1414.0	2					IIIGG	
			WEIS				1410.3	1413.5	2					IIIGG	
	1230	2400	BOUL				1410.3	1415.0	2	1410.3	1415.0	2		IIIG	
			SGMR							1410.7	1413.2	2		IIIG	
			DURN	1411.2	1413.4	3	1411.2	1413.4	3					IIIGG	
	1301	2345	HARV				1411	1414	2	1411	1412	1		IIIG	
			SGMR							1449.9	1450.5	1		III	
			DWIN				1519.1	1520.0	1					IIIG	
			WEIS				1559.6	1600.7	2					IIIG	
			SGMR							1559.9	1601.0	2		III	
			HARV				1559	1601	2	1600	1601	2		IIIG,V	
			BOUL				1600.0	1600.5	2	1600.0	1600.5	2		III	
			BOUL				1925.5	1927.2	2	1925.5	1927.2	2		III	
			SGMR							1925.8	1925.0	1		III	
			HARV				1925	1926	3	1925	1926	3		IIIG,V	
			BOUL				2007.5	2007.7	1	2007.5	2007.7	1		III	
	2149	2400	MANI												
			BOUL				2203.3	2204.0	2	2203.3	2204.0	2		III	
			SGMR							2203.4	2203.6	1		III	
			HARV				2203	2204	2	2203	2204	2		IIIG	
	07	0000	1009	MANI											
		0130	2400	BOUL											
		0813	1313	DWIN				0813	1313	1					IS
				DWIN				0822.4	0822.8	2					IIIG
		0651	1719	WEIS				0822.4	0823.1	2					IIIG
0524		1750	DURN	0822.5	0822.7	1	0822.5	0822.7	1					IIIG	
			DWIN				0924.1	0924.5	1					IIIG	
			DWIN				1031.0	1031.2	2					IIIG	
			WEIS				1043.7	1043.3	1					IIIB	
			DWIN				1121.0	1122.0	2					IIIG	
1019		2312	SGMR							1121.0	1122.5	1		V	
			WEIS				1121.1	1122.6	2					IIIG	
			DURN				1121.8	1121.9	3					IIIGW	
			DWIN				1130.5	1130.6	1					IIIG	
			WEIS				1130.6	1130.7	2					IIIB	
			DWIN				1132.9	1133.5	3					IIIG	
			SGMR							1132.9	1133.6	2		III	
			DURN	1133.0	1133.1	1	1133.0	1133.1	3					IIIRS	
			WEIS				1142.9	1143.5	3					IIIG	
			DWIN				1208.2	1209.3	2					IIIG	
			WEIS				1208.3	1209.5	1		1208.5	1212.4	1		IIIG
			SGMR											IIIG	
			WEIS				1211.9	1212.2	1					IIIB	
			WEIS				1318.2	1213.3	1		1318.2	1319.3	2		IIIG
			SGMR											V	
			WEIS				1418.5	1423.5	1		1418.6	1421.0	1		IIIG
			SGMR											IIIG	
1301		2345	HARV				1420	1421	3					IIIG	
1437		1547	DWIN				1437	1547	1					IS	
1500		2400	BOUL				1517.9	1518.2	1	1517.9	1518.2	1		III	
			WEIS				1521.7	1523.2	2					IIIG	
			DWIN				1521.9	1523.1	2					IIIG	
		BOUL				1521.9	1523.4	2	1521.9	1523.4	2		III		
		SGMR							1522.2	1523.4	2		V		
		HARV				1522	1523	3	1522	1523	2		IIIG		
		BOUL				1530	1657	1					IS		
		BOUL				1657	2200	2					IS		
		DURN	1711.2	1713.5	1								DCIM		
		DURN	1714.9	1714.9	1	1714.9	1714.9	1					III		
		BOUL				1723	1920	1					CONT		
		HARV				1822	1922	1					IN		







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APRIL 1976

APR 1976	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE		
	START UT	END UT		DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND					
				START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT			
18	0600	0200	BOUL												
	0503	1730	WEIS												
	0505	1002	DURN	0810	1002	E								I,W,N	
	1001	2325	SGMR												
	1010	1754	DURN				1051.1	1051.4	2						IIIG
			DURN	1110	1754	E	1	1740	1754	E	1				I,DC,N
	1200	2400	BOUL												
1302	2345	HARV													
		DURN	1413.7	1413.8		1	1413.7	1413.8		1				IIIG,U	
	2143	2400	MANI												
19	0000	1009	MANI												
	0600	0200	BOUL												
	0504	1756	DURN	0504.0	1756	E	2	1030	1756	E	1			IC,DC,N	
			DURN	0829.9	0829.9		1							III,RS	
	0959	2326	SGMR												
	1200	2400	BOUL												
	1302	2345	HARV												
1319	1739	WEIS													
	2143	2400	DURN	1429.4	1429.4		2							IIIG	
		2400	MANI												
20	0000	1009	MANI												
	0000	0200	BOUL												
	0502	1756	DURN	0502.0	1756	E	1	0107.2	0107.4		2			III	
			DURN	0520.4	0520.5		2	0502.0	1756	E	1			IC,N	
			DURN	0535.1	0535.1		2	0520.4	0520.5		2			IIIG	
			DURN	0537.7	0537.7		3	0535.1	0535.1		2			III	
			DURN	0537.7	0538.1		3	0537.7	0538.1		2			IIIG	
			DURN	0545.4	0550.3		3	0545.4	0550.3		2			IIIGG	
			DURN	0555.5	0556.0		3	0555.5	0556.0		2			IIIG	
			DURN	0613.0	0633.0		3	0618.0	0633.0		3			IIIGG	
			DURN	0652.7	0701.0		3	0652.7	0701.0		3			IIIGG	
			DURN	0713.6	0717.6		3	0714.2	0717.6		3			IIIGG	
			DURN	0734.3	0740.5		1	0734.3	0740.5		1			IIIGG	
			DURN	0757.0	0757.7		1	0757.0	0757.7		3			IIIGG	
		0504	0946	WEIS											IIIG
				DURN	0810.3	0816.0		2	0757.7	0757.9		1			IIIG
				DURN	0839.8	0900		3	0812.3	0816.0		1			IIIG
				DURN	0905.2	0910.9		2	0839.8	0900		3			IIIGG
				DURN	0945.7	1005.1		3	0909.3	0910.9		1			IIIG,N
				DURN	1103.3	1103.3		1	0945.7	1005.1		3			IIIG,N
				DURN	1230.4	1256.3		3	1102.8	1104.3		1			IIIG
				DURN					1233.6	1256.3		3			IIIGG
		1200	2400	BOUL					1245	1256.1		1			IS
				BOUL					1255.9	1256.1		1			III
				DURN	1349.3	1349.5			1347.9	1349.5		3			IIIG,W
				DURN	1425.6	1426.8		2	1425.5	1426.8		3			IIIG
				BOUL					1426.8	1427.0		1			III
			DURN	1457.7	1457.7			1457.7	1457.7					IIIW	
	1530	1741	WEIS												
			DURN	1536.3	1613.3		3	1536.3	1613.3		3			IIIG,N	
			DURN	1640	1756	E	3	1640	1756	E	3			IIIG,N	
			BOUL					1714.3	1715.0		1			III	
			BOUL					1738.7	1739.7		1	1733.7	1739.7	III	
	0957	2327	SGMR									1738.8	1739.1	III	
			DURN	1746.3	1755.5		3							OCIM	
			BOUL					1748.3	2040		2	1752.6	2040	IV	
	1302	2345	HARV					1802.5	1814		2	1806	1814	II	
			SGMR									1806.3	1956.0	2	
			HARV					1806	1906		2	1813	1906	2	
			HARV					1806	1812		2			I	
			HARV					1815	1815		3	1815	1816	3	
	2143	2400	MANI											IIIG,V	
21	0000	1009	MANI												
	0000	0200	BOUL												
	0442	1343	WEIS												
	0500	1755	DURN	0500.0	1755	E	3	0500.0	1755	E	3			IC,DC,N	
	0956	2323	SGMR												
	1022	1230	DWIN												
		DWIN						1022	1230		1			IS	
								1055.0			1			IIIB	

# SOLAR RADIO EMISSION SPECTRAL OBSERVATIONS

APRIL 1976

APR 1976	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE						
	START UT	END UT		DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND									
				START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT							
21	1302 1345  1630 2143	2345 1742  2400 2400	DWIN	1112	1122	1	1112.3	1112.9	2				IIIG						
			DURN				1112	1122	1				III,N						
			DWIN				1121.2	1121.5	2				IIIG						
			DWIN				1127.7	1129.0	1				IIIG						
			DWIN				1217.7	1218.5	2				IIIG						
			DURN				1523.6	1528.5	3				1521.2	1528.5	3	IIIGG,DCIM			
			HARV				1523	1524	2				1523	1526	2	IIIGG			
			WEIS				1537.0	1537.5	3				1524.0	1524.6	3	IIIG			
			WEIS										1525.7	1526.7	1	IIIG			
			DURN				1545.7	1549.5	2				1545.7	1549.5	1	IIIG			
			BOUL													IIIG			
MANI							IIIG												
22	0000 0000 0447 0459  0821 0955 1302 1200  2143	1009 0200 1743 0807  1757 2329 2345 2400  2400	MANI																
			BOUL																
			WEIS																
			DURN				0459 D	0807 E	3				0459 D	0807 E	2	IC,DC,N			
			DURN				0531.6	0537.7	3				0531.6	0537.7	2	IIIGG			
			DURN				0821 D	1757 E	3				0821 D	1757 E	3	IC,DC,N			
			HARV										1528	1843	1	I			
			BOUL										1855.6	1856.1	1	1855.6	1856.1	1	III
			HARV										1856		2	1856		2	IIIB
			BOUL										2016.6	2016.7	1				III
23	0000 0000 0415 0459 0720 0953 1037  1302 1200 2141	0550 0200 1744 1757 1902 2330 1222  2345 2400 2400	MANI																
			BOUL																
			WEIS																
			DURN				0459 D	1757 E	2				0459 D	1757 E	2	IC,DC,N			
			MANI																
			SGMR																
			DWIN										1056.7	1056.3	1	IIIG			
			DWIN										1122.5	1123.2	2	IIIG			
			DWIN										1127.8	1128.0	1	IIIG			
			HARV																
BOUL				1314.9	1315.0	1	III												
24	0000 0000 0431 0459 1200  0952 1302  2140	1009 0200 1421 1755 2400  2331 2345  2400	MANI																
			BOUL																
			WEIS																
			DURN				0459 D	1755 E	1				0459 D	1755 E	1	IC,DC,N			
			BOUL										1331.0	1332.7	1	1331.0	1332.7	1	III
			BOUL										1600.2	1602.0	1	1600.2	1602.0	1	III
			SGMR													1600.4	1601.2	1	III
			HARV										1600	1601	2				IIIG
			BOUL										1823.1	1823.2	1				III
			BOUL										1834.6	1835.0	1				IIIG
HARV				1834	1835	2				IIIG									
25	0000 0000 0458 0951 1200 1302 2140	1009 0200 1756 2333 2400 2245 2400	MANI																
			BOUL																
			DURN				0458 D	1756 E	1				0458 D	1756 E	1	IC,DC,N			
			SGMR																
			BOUL																
			HARV																
26	0000 0000 0456 0839 0857 1126 1200  0735	1009 0200 0825 1755 0927 1422 2400  1749	MANI																
			BOUL																
			DURN				0456 D	0825 E	1				0456 D	0825 E	1	IC,DC,N			
			DURN				0839 D	1600					0839 D	1600		IC,DC,N,N			
			DWIN										0857	0927	1	IN			
			DWIN										1126	1422	1	IN			
			BOUL																
			DWIN										1230.2		1	IIIB			
			WEIS										1345.3	1345.5	2	IIIG			

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APRIL 1976

APR 1976	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE		
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND					
	START UT	END UT			START UT	END UT	INT	START UT	END UT	INT	START UT	END UT		INT	
26	0949	2334	DWIN				1354.5	1355.2	2				III G		
	1302	2245	SGMR							1355.1	1355.6	1	III		
	2139	2400	HARV				1355		2				IIIB		
			MANI												
27	0000	1009	MANI												
	0000	0200	BOUL												
	0948	2335	SGMR												
	0959	1515	DWIN				1015.7	1019.0	1				III G		
			DWIN				1029.2	1029.5	1				III G		
	0441	1500	WEIS				1030.4	1030.7	2				IIIB		
			DWIN				1030.7	1031.1	2				III G		
	1200	2400	BOUL												
	0456	1755	DURN	1225	D	1755	F							IC, DC, N, W	
			DWIN				1226.3	1233.0	1				III G		
	1302	2245	HARV												
1522	1715	WEIS													
2139	2400	MANI													
28	0000	0200	BOUL												
	0600	1610	MANI												
	0440	1359	WEIS												
	0453	1757	DURN												
	0946	2335	SGMR												
	0857	1015	DWIN				1904.5		1				IIIB		
	1200	2400	BOUL												
	1302	2245	HARV												
	1504	1752	WEIS												
	2139	2400	MANI												
29	0000	1010	MANI												
	0000	0200	BOUL												
	0452	1754	DURN	0532.1		0532.4	2							IC, DC	
			WEIS												
	0700	1753	DWIN				0825	0910	1				IN		
	0825	1225	DWIN				0834.4	0834.6	2				III G		
			DWIN												
	0945	2337	SGMR												
	1302	2245	HARV												
	1200	2400	DURN	1510		1754	F	1510	1754	E	1				I, N, W
BOUL						1955	2130	1				IV			
2137	2400	MANI													
30	0000	1010	MANI												
	0000	0200	BOUL				0055.8	0056.8	2	0055.8	0056.8	2	III G		
	0440	0945	WEIS				0443.2	0444.7	2				III GG		
	0450	0558	DURN												
	0609	1818	DURN	0754.6		0754.8	2	0754.6	1754.8	2				III G	
			DURN	0813.9		0816.4	2	0813.9	0816.4	2				III G	
			DURN	0839.9		0845.3	2	0839.9	0844.3	2				III G, DCIM	
			WEIS				1033.5	1033.3	1				III G		
	1024	1754	WEIS				1242.7	1246.6	3				III GG		
			DURN	1242.7		1248	3	1242.7	1247.3	3				IV	
			WEIS				1243.0	1247.0	2				IV		
	0943	2338	SGMR				1244.1	1245.0	1	1243.3	1248.2	2		III G	
			BOUL										III G		
	1200	2400	DURN	1252.8		1253.2	1	1252.8	1253.2	1				IV	
			DURN	1257.4		1301.3	3	1257.4	1301.0	3				III GG	
	1248	2245	WEIS				1300.2	1301.2	2				III G		
			HARV				1300	1301	1				III G		
	2137	2400	BOUL				2103.0	2400	0	2	1030	I	400	3	IV
			SGMR								2103.2	2130.0	2	IV	
HARV						2103	2107	3		2103	2107	3		III GG, V, U	
HARV			2103		2159	2	2106.5	2129	3	2107	2129	3		IVN	
HARV										2130.0	2338.0	2		II	
SGMR						2134	2156	1		2134	2156	1		CONT	
2137	2400	HARV				2212	2214	1					IN		
		MANI											III G		

The symbols used in connection with the spectral type in describing the important bursts are as follows:

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

**COSMIC RAY INDICES**  
(Neutron Monitors)  
APRIL 1976

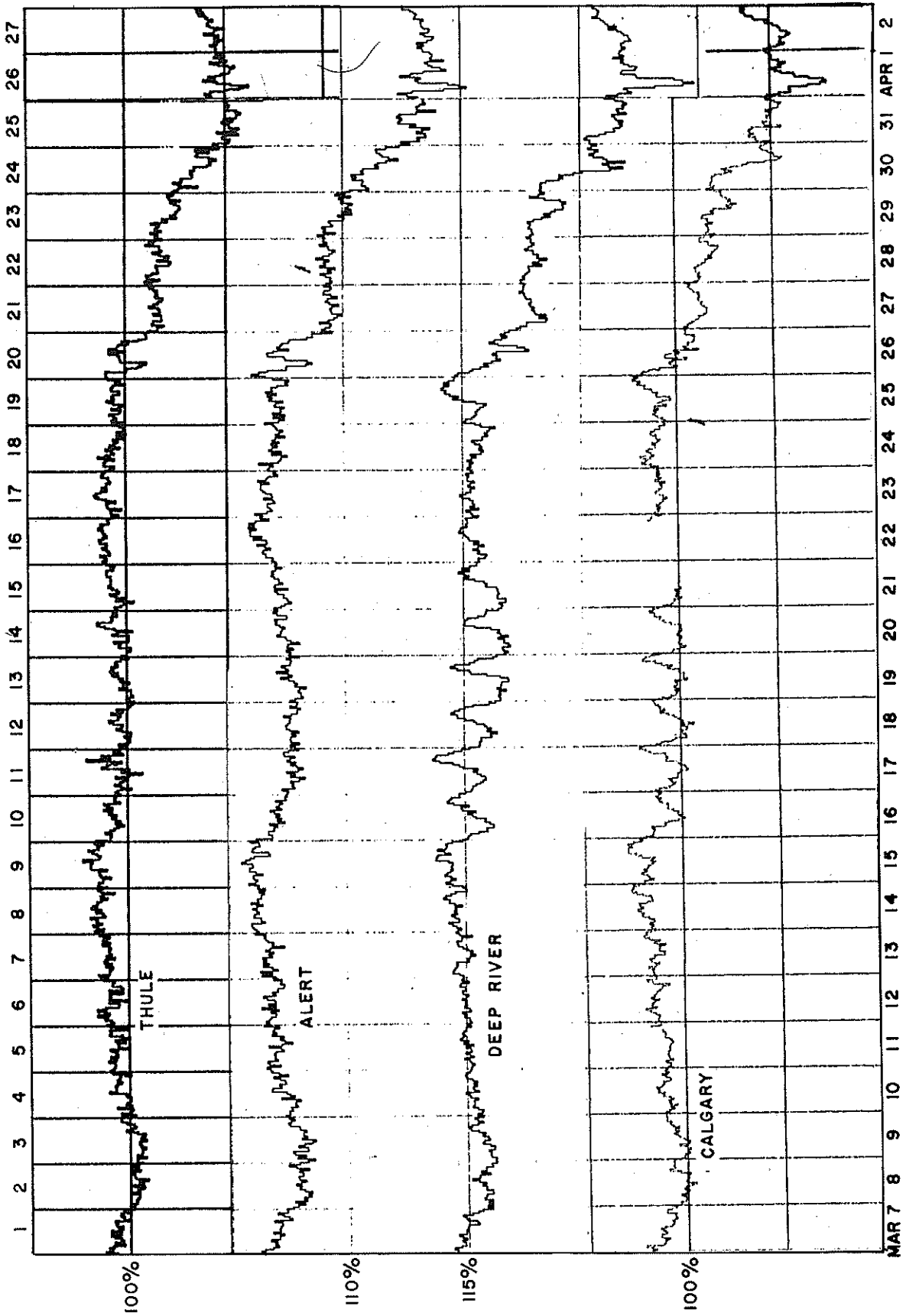
Apr. 1976	THULE Average cts/hr	ALERT Average cts/hr	DEEP RIVER Average cts/hr	CALGARY Average cts/hr	SULPHUR MT Average cts/hr	KIEL Average cts/hr	CLIMAX Average cts/hr	TOKYO Average cts/hr
1	4282.9	7101.3	6623.1	11002.9	8354.4	6006.3	4012.2	3496.6
2	4305.8	7123.5	6684.6	11118.7	8462.9	6026.0	4025.7	3504.8
3	4354.5	7210.0	6752.2	11277.1	8562.3	6102.8	4075.5	3522.2
4	4405.2	7289.4	6864.8	11429.7	8715.3	6169.9	4132.5	3546.8
5	4461.3	7372.3	6952.8	11573.6	8852.5	6221.7	4183.0	3563.1
6	4484.3	7421.0	6988.0	11630.6	8912.2	6261.5	4216.3	3563.8
7	4510.7	7454.2	7025.4	11649.2	8964.4	6311.4	4228.6	3566.8
8	4522.7	7468.2	7037.5	11724.3	8980.2	6312.0	4224.7	3565.0
9	4533.4	7487.9	7040.8	11724.6	9012.6	6308.4	4228.5	3560.7
10	4539.0	7488.0	7039.8	11709.4	9013.3	6297.9	4225.6	3560.5
11	4538.4	7484.8	7044.2	11759.2	9010.7	6305.7	4210.6	3557.7
12	4537.7	7477.1	7015.8	11698.8	8985.8	6298.8	4198.5	3538.5
13	4539.8	7495.9	7009.8	11638.8	8951.8(22)	6286.7	4200.2	3531.5
14	4520.9	7460.6	7000.0	11685.3	8872.1	6291.6	4196.3	3541.8
15	4519.8	7446.4	6975.3	11674.6	8925.6	6274.0	4208.0	3552.6
16	4515.7	7441.0	6963.8	11665.5	8894.3	6269.7	4218.9	3548.2
17	4531.7	7460.5	6971.8	11716.0	8896.1	6272.1	4220.2	3549.6
18	4547.3	7484.6	7002.8	11755.2	8956.4	6287.2	4219.4	3554.1
19	4540.0	7467.9	7011.0	11726.4	8972.6	6292.8	4217.7	3552.0
20	4551.5	7475.2	7037.8	11802.8	9024.1	6304.1	4192.7(6)	3543.6
21	4572.0	7508.3	7045.0	11775.3	9038.7	6333.0	-- (0)	3545.0
22	4552.1	7485.2	7045.0	11782.4	9043.4	6353.3	-- (0)	3553.2
23	4560.3	7495.3	7059.8	11779.3	9030.3	6352.1	-- (0)	3549.5
24	4567.0	7501.6	7060.9	11786.9	9025.0	6339.5	-- (0)	3544.5
25	4553.9	7470.6	7058.3	11757.2(23)	9029.3	6322.6	-- (0)	3541.7
26	--	7462.7	7052.6	11741.8	8992.8	6318.8	4224.9(36)	3541.5
27	--	7420.3	7023.1	11682.2	8947.2	6290.0	4229.6	3534.9
28	--	7415.3	7001.5	11670.5	8938.8	6288.0	4245.1	3535.9
29	--	7420.4	7009.7	11674.1	8952.5	6284.0	-- (0)	3531.8
30	--	7441.5	7020.9	11704.1	8965.6	6283.1	- (0)	3527.2
MEAN	4501.9	7424.4	6980.6	11643.9	8909.4	6268.8	4188.5	3544.2

( ) Number of hours for which data are available if less than 24. Number of Section Hours at Climax if sum of both sections is less than 40 hours.

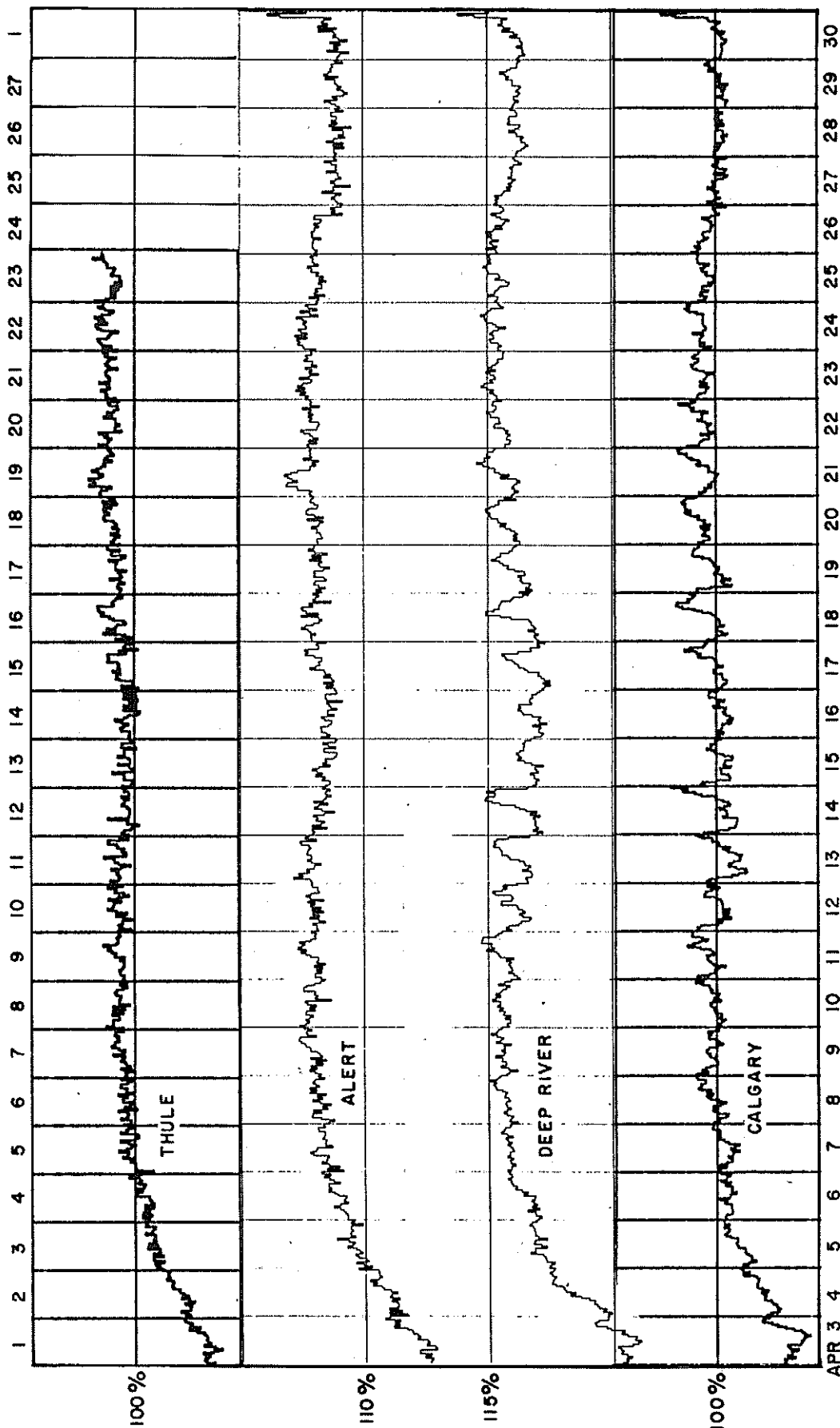
Thule, Alert, Calgary, Sulphur Mountain, Kiel and Climax Scaling Factors = 100.  
Deep River Scaling Factor = 300.  
Tokyo Scaling Factor = 128.

# COSMIC RAY INDICES (Neutron Monitors)

Bartel's Rotation 1950 (MAR - APR 1976)

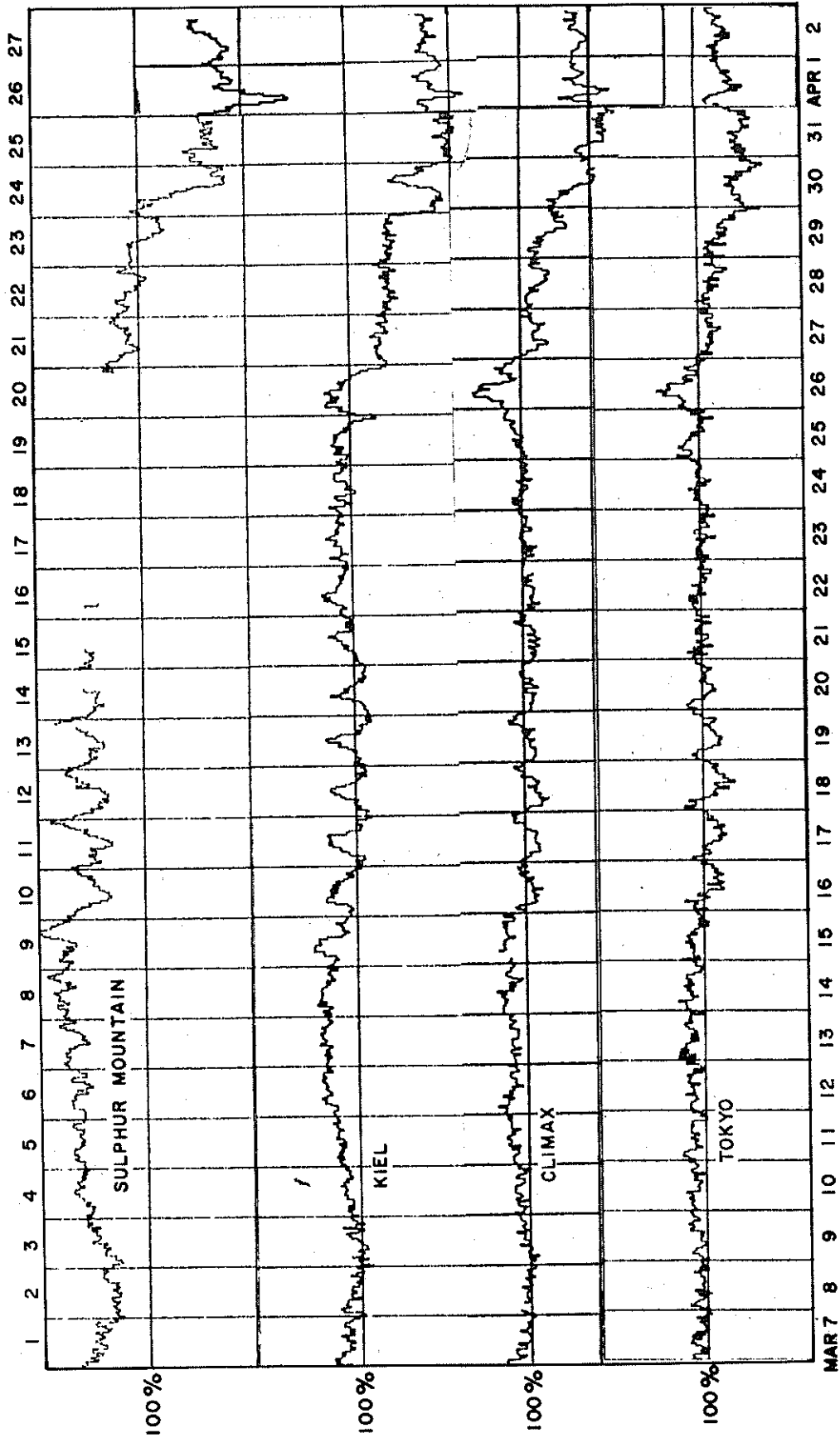


COSMIC RAY INDICES  
(Neutron Monitors)  
Bartel's Rotation 1951 (APRIL 1976)

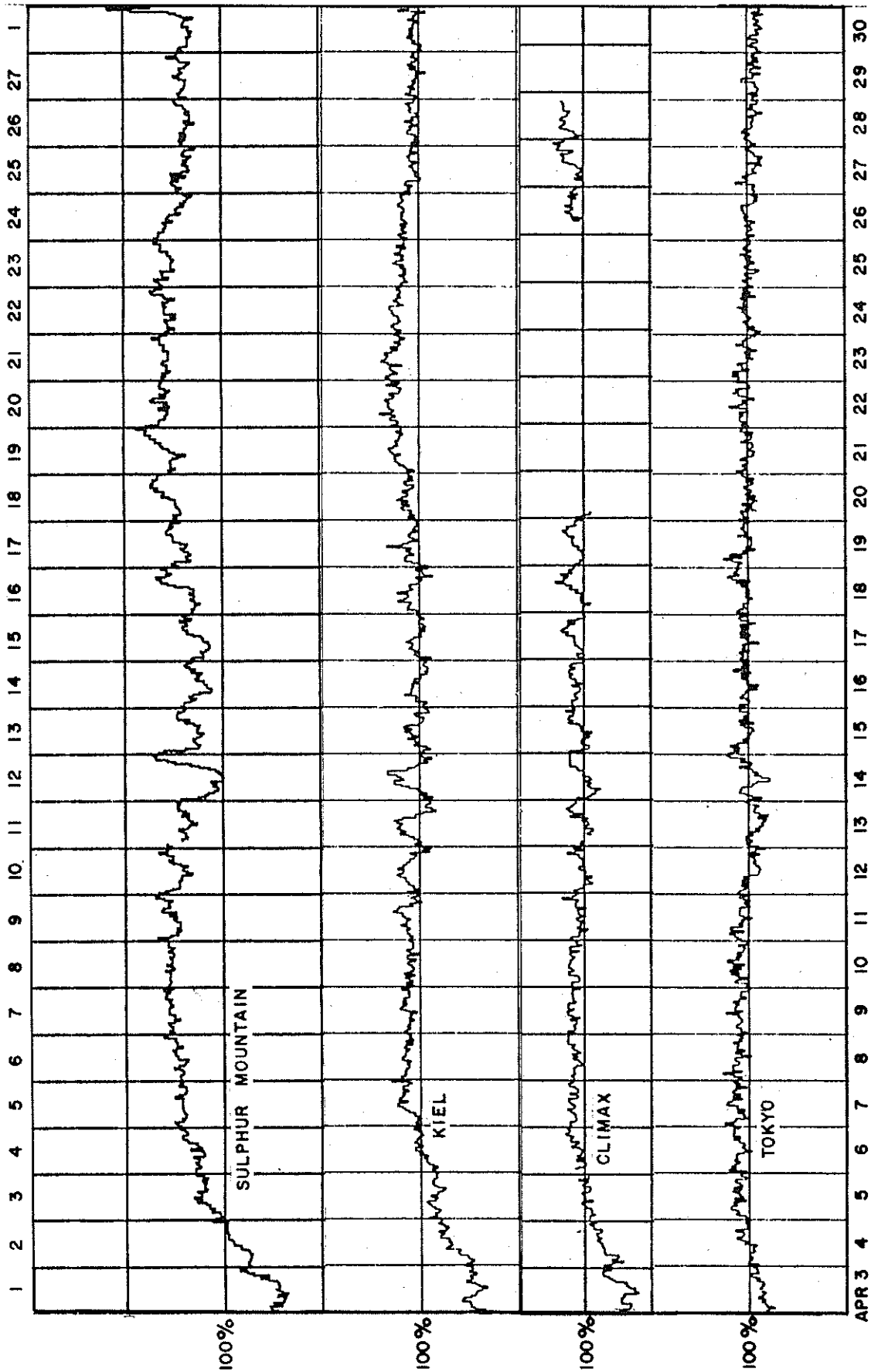




COSMIC RAY INDICES  
(Neutron Monitors)  
Bartel's Rotation 1950 (MAR-APR 1976)



COSMIC RAY INDICES  
(Neutron Monitors)  
Bartel's Rotation 1951 (APRIL 1976)



# GEOMAGNETIC ACTIVITY INDICES

APRIL 1976

Day	Three-Hourly Indices Kp								Sum	Three-Hourly Indices Km								Ap	aa				Cp		
	1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8		N	S	M				
1	D	6	8+	8	8	6-	4+	3+	3-	46+	5+	7-	7	7	5	3+	3	3-	107	90	140	188	42	1.9	
2		4	3+	2+	1-	1	2+	3	5-	21+	3+	3	2+	1+	1	2+	3-	4	16	28	18	17	30	0.9	
3	D	4	5+	5+	2	4	5-	5	6+	37-	3+	4+	5-	2	4	4	4	5+	44	53	63	45	71	1.5	
4	D	5+	4	4+	5-	4	4+	2+	4-	33-	5	4-	4+	4+	4	3+	2+	4-	30	40	57	56	42	1.3	
5	D	4	5-	4	4	4-	3	5-	3+	31+	3+	4	3+	3+	3	3-	4	3	27	34	39	39	34	1.2	
6	D	5-	5-	4+	4+	4-	3+	4+	4	33+	4-	4	4-	4	4	3	4-	3+	30	40	59	59	40	1.3	
7		4-	4-	5-	3+	5	3-	3+	5-	31	4-	3	4-	3+	4	2+	3+	4	27	41	40	40	41	1.2	
8		4+	3+	2+	3-	3-	2-	3	2+	22+	4-	3-	2-	3-	2	2-	3-	3-	14	32	19	28	24	0.8	
9		4+	4-	2-	2-	3+	3+	2+	3	23+	4-	3	1+	1+	3	3	3-	2+	16	30	24	23	32	0.9	
10		3+	4	3-	2+	3	2	1+	1+	20	3-	3+	2+	3-	3	2-	1	1+	12	18	18	22	14	0.7	
11		3-	2	2-	3	3	2	3-	4-	21-	2+	1+	2-	3-	3	2+	2+	3	12	26	25	23	29	0.7	
12		2	3-	4-	3-	1+	1+	1+	2	17-	2	3-	3	3	2-	1	1	2-	9	18	15	20	13	0.5	
13		4-	3-	2-	3-	2+	2+	3+	3	21+	3	2	1+	2+	2	2	3-	3-	13	23	16	18	22	0.7	
14		2+	3-	3	3-	3+	4-	3-	3+	24-	2	2	3-	2+	3	3	2+	3	15	32	29	23	39	0.8	
15	QQ	2-	1-	1-	1	1	1+	1	1+	9-	1+	1-	1-	1	2-	1	1+	2-	4	10	5	7	8	C	0.1
16	Q	3-	3-	2+	2-	1+	1-	1+	2+	15	2+	2+	2+	2-	1+	1-	1	3-	8	17	9	15	12	CK	0.4
17	Q	1+	3-	1+	1-	1-	2-	2	0+	11-	1+	3-	2	1	1-	2-	2	0+	5	12	13	15	11	KK	0.2
18	QQ	0	0+	1-	1-	0+	0+	0+	0+	3+	0	0+	0+	1+	0+	0+	0+	0+	2	6	3	5	4	CC	0.0
19	QQ	1+	1-	1	2+	1	2-	1+	0+	10-	1+	1-	1-	2	1	2-	2-	1-	5	13	8	11	11	CC	0.2
20	QQ	0+	1-	0+	1-	1-	0+	1-	0+	4	0+	1	0+	1	1-	0+	0+	0	2	5	4	4	5	CC	0.0
21	QQ	0+	0+	1	2+	2	1+	1	2-	10	0	0+	1	2+	2	2-	1	2-	5	10	12	10	13	K	0.2
22		3-	4-	5-	4-	3-	2+	3	3+	26	2	3+	4	3+	3-	2+	3-	3	19	29	34	37	26		1.0
23	Q	3+	3-	1+	2-	2-	1+	1	1+	14+	3	2+	1+	1+	2-	2-	1	1+	8	14	11	13	12	C	0.4
24		2-	4-	3+	3	3	2+	4	3	24	1+	3	3-	3	3+	2+	3+	3-	16	28	34	27	35		0.9
25	Q	2+	3+	2+	1	1+	2-	2	3-	17-	2+	3-	2	1+	2-	2-	2-	2+	9	17	12	14	15		0.5
26	Q	2-	1+	1+	1+	1+	2+	1	2-	12	2-	1+	2-	2	2-	1+	1	2-	6	12	13	12	13	C	0.3
27		3+	3+	2+	1+	2-	1+	2+	3	19-	3	3	2+	1+	2-	2-	2+	3	11	23	19	20	22		0.6
28		3-	2+	3+	1	1+	2	2+	3-	18-	3-	2+	3-	1+	1+	2-	2	3-	10	21	15	18	18		0.5
29		2	2+	1+	2	3	4	4+	4+	23+	2-	2+	2-	3-	3-	4-	4-	4	17	32	24	18	38		0.9
30		2+	3+	3+	2+	2	2-	2+	1+	19-	2+	3+	3	2+	2	2-	2	1+	10	22	18	26	14		0.6
												Mean	17	25.9	26.5	26.3			0.71						

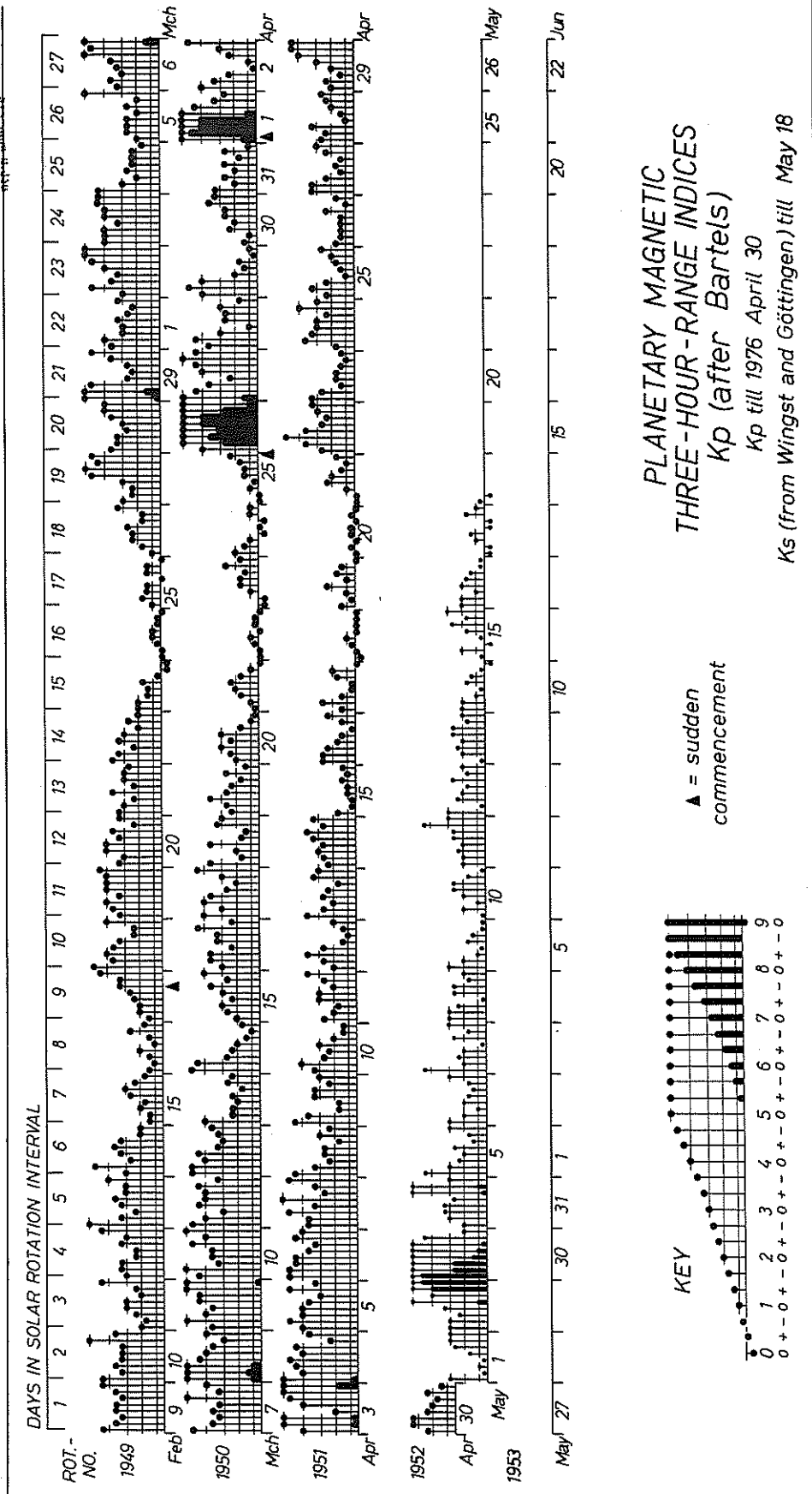
Day	Three-Hourly Indices Kn								Three-Hourly Indices Ks							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
1	5-	7-	7-	7-	5	3	3-	3-	6-	7	7+	7+	5-	4-	3+	3
2	3+	3	2+	1+	1-	2+	3	4	4-	3	2	1+	1+	2	3-	4+
3	3	5-	5-	2	4	4-	4	5-	4	4+	5-	2-	4+	4	4+	5-
4	5-	4-	4+	4+	4-	3+	2+	3+	5	4-	4+	5-	4+	4-	2	4+
5	3	4	3	3+	3	2+	4-	3	4-	4	4-	4-	3	3	4+	3+
6	4-	4	3+	4-	3+	3-	4-	3	4-	4-	4	4+	4+	3+	4	4-
7	3+	3	3+	3+	4+	2+	3	4-	4-	3	4-	4-	4+	2	3+	4
8	3+	3	2	3-	3+	2-	3-	3-	4	3-	2-	2+	2+	2-	3	3-
9	3+	3	1+	1+	3-	3+	2+	3-	4	3	2-	1	3	3	3-	2+
10	3-	3+	2+	3-	3-	2	1+	2-	3	3+	2+	2+	2+	1+	1-	1+
11	2+	2-	2	3-	3+	2	2+	3+	3-	1+	1+	3-	3	2+	2	3
12	2-	3-	3+	2+	2-	1+	1	2+	2+	3-	3-	3-	2-	1-	1+	1+
13	3-	2	1+	2+	2+	2-	3-	2+	3	2+	1+	2+	2	2	3-	3-
14	2+	2	3-	2	3	3	2+	3	2	2+	3	3-	4-	3	2+	3
15	2-	1-	1	1	2	1+	1+	2	1	0+	0+	1-	1	1-	1	1+
16	2+	2+	3-	2-	1+	1	1+	2+	2	2+	2+	2	1+	1-	1	3
17	1+	3-	2-	1	1	2-	2+	0+	2-	3	2+	1	0+	2-	2-	1-
18	0	0	1-	1	0+	0+	0+	0+	0	1-	0+	1+	1-	0+	0+	0
19	1	1	1-	2	1	2-	2-	1	1+	1-	1-	2	1-	2-	2-	0+
20	0	1-	0+	1	1-	0+	1-	0+	1-	1	0	1	1-	0+	0	0
21	0+	0+	1+	2+	2	2	1+	2	0	0+	1	2+	2+	2-	1-	1+
22	2+	3+	4	3+	3-	2+	3-	3-	2+	4-	4+	4-	2+	2+	3	3
23	3-	2	1+	1+	2-	2-	1	2-	3	2+	2-	1	2-	1+	1	1+
24	1+	3	3-	3-	3	2+	3	3-	1+	3-	3	3+	4-	2+	4-	3-
25	1+	3-	2+	1+	2-	1+	2-	2	3-	3-	2-	1	2	2-	2-	3-
26	2	1+	2-	2-	2-	1+	1	2	2-	1+	2-	2	2-	2-	1	2-
27	3	3	2	1+	2	2-	2+	3-	3	3	3-	1+	1+	2	2+	3
28	3-	2+	3-	2-	1	2-	2+	3-	3	2+	2+	1+	2-	2-	2-	3-
29	1+	2	2-	3-	3-	4-	4-	4	2	2+	1+	3	3	4-	3+	4+
30	2	3	3	2	2	2-	2	1+	3-	3+	3+	2+	2+	1+	2-	1-

DAILY AVERAGE INDICES AP

1976

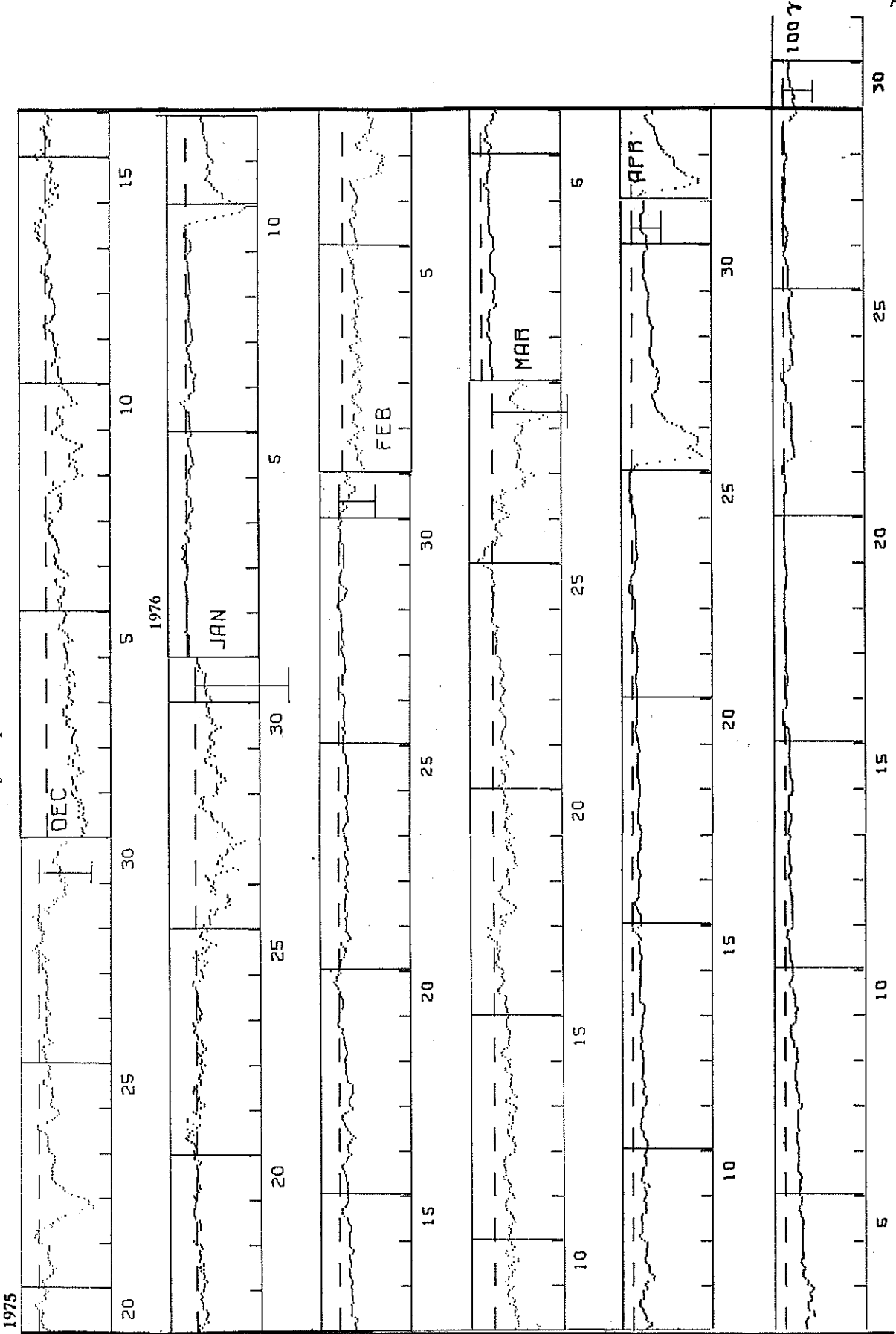
1975

DAY	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
1	6	24	12	9	7	6	7	32	4	23	17	107
2	16	28	6	7	6	2	36	27	4	20	32	16
3	19	12	7	5	3	11	65	12	15	16	27	44
4	14	11	6	6	3	9	41	13	10	12	12	30
5	34	12	5	29	4	6	22	8	9	8	15	27
6	35	11	6	7	13	25	11	7	13	8	33	30
7	22	6	12	5	7	38	10	4	11	21	26	27
8	14	4	37	14	6	45	7	18	5	29	42	14
9	16	5	35	15	24	37	37	16	4	24	36	16
10	19	4	17	15	26	24	20	8	47	24	32	12
11	2	14	18	7	26	8	13	5	40	12	27	12
12	3	27	5	4	19	12	9	3	13	17	26	9
13	6	14	10	5	17	7	4	3	9	22	11	13
14	14	8	13	16	13	9	3	6	11	17	14	15
15	3	13	15	18	8	5	4	9	7	8	15	4
16	28	17	12	5	6	10	6	14	10	6	18	8
17	14	12	14	9	13	8	17	9	14	14	20	5
18	7	12	15	6	14	4	7	6	9	22	13	2
19	15	12	9	4	8	3	8	6	8	25	11	5
20	23	6	6	15	7	5	9	3	11	19	8	2
21	12	9	6	17	6	6	18	9	20	14	5	5
22	11	5	6	12	4	6	50	10	23	14	3	19
23	8	4	6	10	4	7	8	7	20	4	5	8
24	5	3	6	6	2	4	13	2	21	3	4	16
25	14	4	33	9	3	4	15	18	10	4	4	9
26	18	5	19	5	14	5	14	34	5	9	138	6
27	10	4	11	6	14	5	5	31	6	26	35	11
28	5	4	10	5	8	9	9	15	5	20	15	10
29	11	26	4	27	5	12	29	15	6	34	15	17
30	6	22	5	14	2	9	36	11	9		12	10
31	4		5	6		19		7	29		10	
MEAN	13	11	12	10	10	12	18	12	13	16	22	17



# GEOMAGNETIC ACTIVITY INDICES

## Hourly Equatorial Dst



Note the changes in sensitivity as well as the changing 0 reference level.

HOURLY EQUATORIAL DST VALUES (PROVISIONAL)

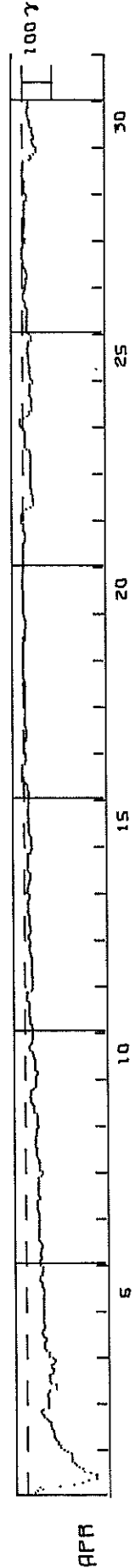
APRIL 1976

NASA/GODDARD SPACE FLIGHT CENTER

(Units - Gammas)

(Time-UT)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-29	-36	-53	-38	-105	-149	-176	-195	-221	-214	-215	-195	-175	-170	-162	-151	-145	-138	-139	-137	-138	-134	-126	-113
2	-104	-101	-95	-94	-89	-85	-82	-81	-80	-79	-75	-73	-72	-71	-66	-60	-54	-49	-44	-43	-55	-72	-66	-69
3	-71	-71	-68	-63	-68	-74	-77	-96	-90	-89	-74	-70	-69	-72	-77	-36	-39	-86	-78	-75	-88	-93	-92	-81
4	-68	-68	-70	-61	-55	-58	-60	-60	-66	-60	-53	-49	-47	-55	-59	-62	-56	-53	-52	-52	-56	-54	-54	-54
5	-56	-53	-54	-58	-59	-55	-55	-58	-61	-61	-54	-52	-48	-49	-47	-43	-42	-46	-55	-53	-57	-52	-51	-43
6	-43	-45	-53	-52	-44	-49	-53	-52	-56	-52	-47	-43	-38	-40	-45	-47	-45	-42	-43	-41	-43	-42	-45	-47
7	-43	-40	-38	-36	-34	-36	-35	-37	-43	-48	-47	-39	-41	-44	-41	-42	-41	-40	-40	-39	-41	-53	-58	-53
8	-44	-42	-45	-44	-43	-41	-37	-34	-33	-38	-37	-35	-31	-30	-31	-31	-32	-34	-39	-38	-39	-39	-44	-42
9	-36	-37	-40	-36	-37	-34	-27	-25	-26	-28	-22	-18	-18	-17	-15	-23	-20	-24	-30	-37	-40	-35	-33	-34
10	-39	-42	-45	-37	-31	-33	-34	-32	-32	-30	-27	-24	-23	-22	-15	-12	-12	-22	-26	-28	-30	-25	-25	-26
11	-28	-24	-21	-20	-16	-15	-16	-16	-12	-12	-12	-15	-16	-18	-15	-11	-6	-5	-12	-13	-14	-27	-30	-25
12	-26	-27	-30	-29	-26	-21	-23	-25	-23	-25	-24	-21	-22	-23	-21	-19	-18	-15	-17	-16	-18	-22	-21	-14
13	-11	-17	-21	-25	-23	-20	-17	-14	-16	-16	-16	-15	-13	-10	-13	-12	-10	-10	-14	-16	-21	-22	-17	-9
14	-11	-14	-18	-19	-20	-22	-25	-22	-22	-18	-12	-9	-14	-16	-16	-15	-15	-17	-15	-18	-24	-28	-30	-27
15	-22	-21	-21	-21	-20	-16	-14	-15	-16	-15	-14	-13	-15	-15	-13	-12	-13	-13	-12	-16	-17	-18	-20	-20
16	-18	-16	-18	-15	-13	-10	-13	-9	-5	5	2	2	4	4	2	4	3	-1	-8	-11	-13	-10	-9	-5
17	-2	-5	-8	-7	-4	-7	-14	-13	-16	-16	-14	-10	-7	-6	-3	-3	-7	-10	-11	-11	-9	-8	-9	-6
18	-6	-9	-10	-9	-8	-7	-6	-6	-7	-9	-7	-5	-4	-1	1	1	2	2	-1	-1	-3	-4	-5	-6
19	-5	-4	-4	-2	0	-1	0	-1	-3	-9	-12	-11	-8	-7	-7	-11	-14	-13	-11	-12	-6	-4	-2	1
20	0	-2	-1	-1	0	-1	-1	-1	-1	-1	0	2	3	2	-2	-2	-1	-2	-3	-2	-3	-3	-6	-5
21	-4	-5	-6	-6	-7	-6	-3	-3	-3	-1	-2	-8	-11	-13	-12	-11	-9	-5	-1	-1	-2	-1	5	4
22	0	1	2	-6	-4	-17	-31	-38	-39	-31	-35	-35	-33	-28	-28	-27	-24	-23	-23	-27	-26	-26	-27	-31
23	-29	-29	-27	-26	-30	-30	-27	-26	-25	-23	-20	-20	-13	-7	-7	-10	-11	-9	-9	-8	-9	-6	-2	4
24	8	9	7	3	-8	-21	-27	-27	-34	-36	-27	-27	-29	-31	-27	-24	-21	-25	-29	-30	-29	-30	-38	-35
25	-27	-23	-23	-21	-23	-29	-24	-20	-19	-19	-18	-20	-18	-17	-16	-16	-18	-24	-23	-26	-33	-31	-28	-21
26	-14	-13	-16	-17	-18	-16	-15	-16	-17	-18	-16	-16	-14	-9	-8	-8	-6	-2	-4	-8	-11	-13	-15	-15
27	-16	-19	-11	-10	-21	-18	-14	-11	-9	-6	-2	-3	-1	-1	2	0	2	1	-4	-5	-8	-8	-13	-14
28	-10	-2	-8	-11	-10	-7	-9	-13	-10	-12	-8	-5	-6	-8	-11	-12	-6	-6	-9	-13	-19	-19	-15	-10
29	-5	-6	-9	-10	-11	-11	-9	-2	1	1	-1	-5	-5	-7	-4	-1	-9	-28	-33	-25	-41	-48	-48	-49
30	-37	-33	-31	-30	-42	-40	-32	-30	-31	-31	-23	-22	-21	-22	-19	-16	-17	-15	-17	-22	-25	-24	-23	-19



PRINCIPAL MAGNETIC STORMS

APRIL 1976

OBS. 2 letter IAGA code	GEOMAG- NETIC LATI- TUDE	COMMENCEMENT			SC - AMPLITUDES			MAXIMUM 3 HOUR - INDEX K		RANGES			UT END	
		DAY	hr min		D(')	H( $\gamma$ )	Z( $\gamma$ )	DAY (3 HOUR PERIOD)	K	D(')	H( $\gamma$ )	Z( $\gamma$ )	DAY	HOUR
			DAY	UT										
CO	64.6N	1	01--	..	..	..	01(2,4)	8	632	2580	1840	02	09	
SI	60.0N	1	0254	SC*	-20.1*	+240	+53.4	1(4)	9	--	--	--	01	18
WI	54.2N	1	0035	..	..	..	..	01(2)	7	40	455	250	02	05
FR	49.6N	1	01--	..	..	..	..	01(3)	8	57	295	425	02	07
BO	48.9N	1	01--	..	..	..	..	01(4)	7	60	298	274	01	18
TU	40.4N	1	00--	..	..	..	..	01(2,3,4)	6	23	160	65	01	16
SJ	29.9N	1	0254	SC	+01	+34	+10	01(2)	6	12	149	28	02	07
HO	21.1N	1	01--	..	..	..	..	01(2)	7	13	231	43	01	18
JP	17.3N	1	0254	SC	- 0.9	32	- 8	--	-	6	342	30	01	15
UJ	13.5N	1	0254	SC	..	30	- 8	--	-	6	364	30	01	15
AL	09.5N	1	0254	SC	- 0.7	36	- 5	01(2)	3	5	353	39	01	15
HD	07.6N	1	0254	SC	- 0.1	+37	- 3	01(4)	9	7	352	47	02	09
GU	04.0N	1	0255	SC*	..	36	-10	01(2)	8	10	330	50	01	15
AN	01.5N	1	0254	SC	- 1.4	53	16	--	-	5	367	117	01	15
HU	00.6S	1	0254	SC	1	51	9	01(2,3,4,5,6)	6	12	179	44	01	23
TV	01.1S	1	0254	SC	..	..	..	--	-	5	365	174	01	15
AP	16.0S	1	0255	SC	+ 1	+ 8	- 4	01(2)	7	4	192	42	02	09
PM	18.6S	1	01--	..	..	..	..	01(4)	6	12	320	130	08	16
HR	33.7S	1	00--	..	..	..	..	01(2,3)	7	46	346	197	08	06
GN	43.2S	1	01--	..	..	..	..	01(4)	3	48	250	290	08	15
TO	46.7S	1	0254	SC	+ 2.4	-35	+ 2	01(4)	8	66	240	200	01	21
KG	56.5S	1	00--	..	..	..	..	01(2,3,4)	8	--	--	--	02	10
CO	64.6N	2	17--	..	..	..	03(5,6) 04(4) 07(5)	7	310	1690	870	08	02	
NE	55.1N	2	17--	..	..	..	03(2) 06(2)	6	40	179	198	10	16	
WI	54.2N	2	18--	..	..	..	03(8)	6	32	180	95	04	18	
TU	40.4N	2	17--	..	..	..	03(2,3,8) 04(1,2,3)	5	12	140	40	08	11	
HO	21.1N	2	17--	..	..	..	05(2) 06(2)	..	..	..	..	..	..	..
JP	17.3N	2	1700	..	..	..	04(1)	5	11	81	40	--	--	
SH	14.6N	2	1700	..	..	..	--	-	5	93	30	05	00	
UJ	13.5N	2	1700	..	..	..	--	-	6	86	35	05	00	
AL	09.5N	2	1700	..	..	..	--	-	5	94	28	05	00	
HD	07.6N	2	1747	SC	- 0.1	+ 8	- 1	03(2,5,7)	5	5	111	35	05	00
GU	04.0N	2	1748	..	..	..	03(6,7)	5	4	121	27	05	01	
TV	01.1S	2	1700	..	..	..	03(3)	5	10	110	40	04	18	
TO	46.7S	3	14--	..	..	..	--	-	4	172	84	05	00	
KG	56.5S	3	15--	..	..	..	03(5,8) 04(1,4,5)	5	24	140	50	04	18	
HD	07.6N	7	0300	..	..	..	03(8)	3	--	--	--	05	01	
HD	07.6N	7	0300	..	..	..	07(5)	5	4	91	21	08	02	
HD	07.6N	21	2211	SC	0.0	+12	- 1	22(2)	4	4	112	25	23	02
NE	55.1N	22	0052	SC	1	9	..	22(3)	5	21	80	128	23	09
CO	64.6N	22	0208	SC*	+ 2	-14	..	22(3,4)	6	94	800	370	22	14
JP	17.3N	29	0700	..	..	..	--	-	7	86	29	30	11	
SH	14.6N	29	0700	..	..	..	--	-	5	79	26	30	11	
UJ	13.5N	29	0700	..	..	..	--	-	6	98	30	30	11	
AL	09.5N	29	0700	..	..	..	--	-	6	106	35	30	11	
HD	07.6N	29	0705	SC	- 0.3	+10	- 1	29(6)	5	5	113	25	30	20
AN	01.5N	29	0700	..	..	..	29(6)	5	5	132	48	30	11	
TV	01.1S	29	0700	..	..	..	--	-	4	159	68	30	11	
HR	33.7S	29	15--	..	..	..	29(6,8)	5	8	62	62	29	24	



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Apr 76

# SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

APRIL 1976

## PRELIMINARY REPORT ON RAPID MAGNETIC VARIATIONS (by Dr. A. Romana)

The meaning of the station symbols is given in the IAGA-Bulletins nr. 32. Times of ssc are mean values.

### Sudden commencements followed by a magnetic storm or a period of storminess (ssc)

01 0255 A: DB FU AQ IK EB CI AE HU LM; B: WN WI NI VI MT KA KY TO CZ  
(si: A: GN; B: TL)

### Solar-flare effects (sfe)

Effects confirmed by ionospheric or solar observations are underlined.

08 1231 - 1241 LG  
17 1432 - 1441 LG  
25 1440 - 1450 LG  
30 2102 - 2130 HU

RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

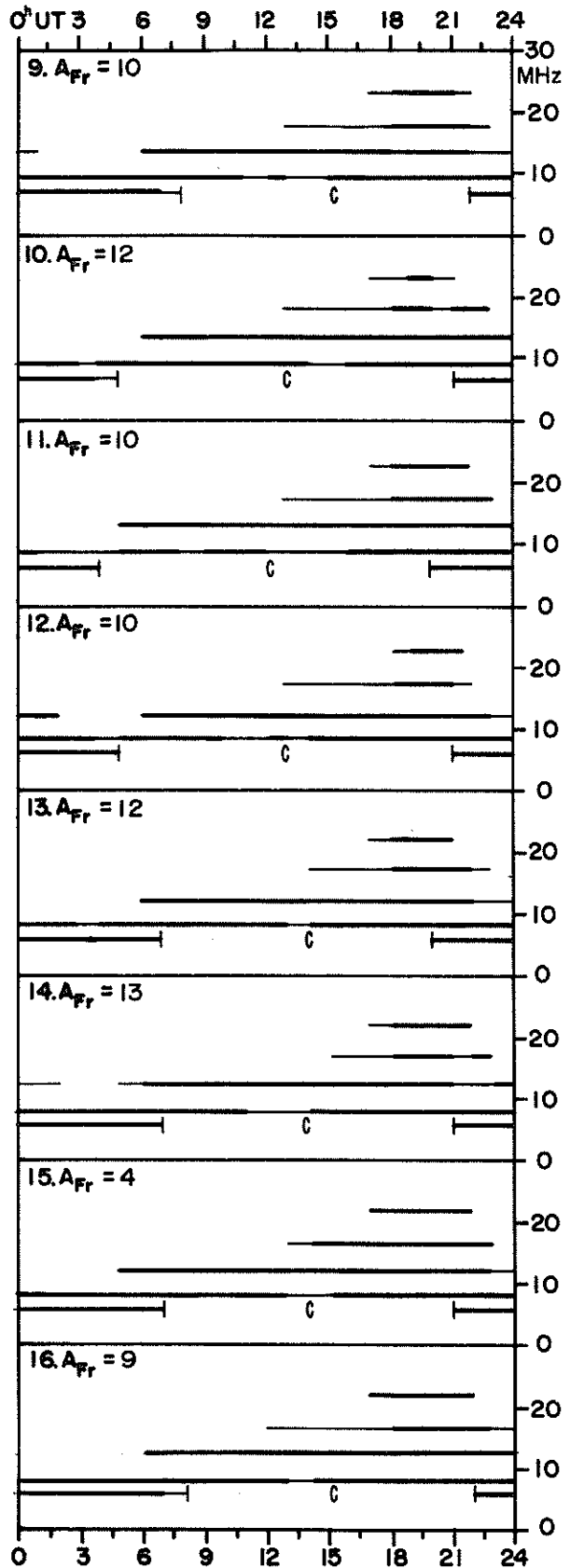
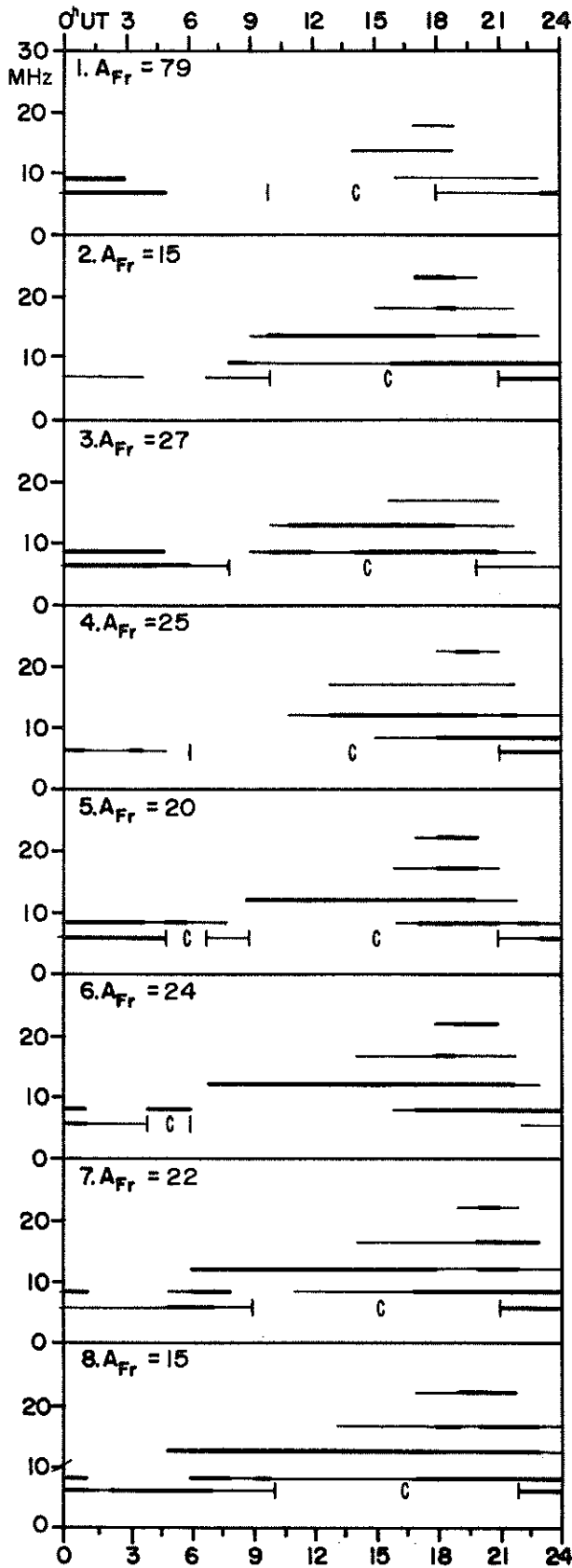
APRIL 1976

North Atlantic

APR 1976	WHOLE DAY INDICES  NORTH ATLANTIC	ADVANCE FORECASTS (JC- REPORTS) FOR WHOLE DAY	NORTH ATLANTIC								GEOMAGNETIC INDICES		
			6-HOURLY QUALITY FIGURES				SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF				K <sub>FR</sub>		A <sub>FR</sub>
			00 TO 06	06 TO 12	12 TO 18	18 TO 24	02	08	14	20	HALF DAY (1) (2)		OBSERVED
01	3+	6	5-	2-	4-	3+	5	5	4	4	(7 )	3	79
02	4+	6	30	50	5+	5-	4	3	5	4	3	2	15
03	5-	5	5+	4-	6-	50	5	5	6	5	(4 )	(4 )	27
04	4+	4	4+	3+	5-	50	5	5	5	5	(4 )	3	25
05	50	4	6-	40	5+	5+	5	5	5	5	(4 )	3	20
06	5-	5	4+	50	50	5-	5	4	4	5	(4 )	(4 )	24
07	50	5	50	4+	5+	5+	4	4	5	4	(4 )	3	22
08	5+	5	5+	4+	60	6+	4	5	5	5	3	2	15
09	5+	5	6-	3+	6+	6+	5	4	6	6	3	2	10
10	5+	6	6-	4+	60	60	6	5	6	6	3	2	12
11	6-	6	5+	5-	7-	6-	6	5	6	6	2	2	10
12	5+	6	5+	40	6+	6+	6	5	6	6	3	1	10
13	6-	5	60	5+	6-	60	6	5	6	6	3	2	12
14	6-	5	6-	50	6-	6+	6	6	6	6	3	3	13
15	6-	6	6-	50	6+	6+	5	6	6	6	1	2	4
16	60	6	60	5+	7-	7-	5	5	6	6	3	2	9
17	6+	6	6+	6-	7-	6+	6	5	6	6	2	1	6
18	6+	6	60	6-	6+	7-	6	5	6	6	1	1	2
19	6+	6	6+	60	6+	7-	6	6	6	7	2	1	4
20	6+	6	6+	60	6+	6+	6	6	6	7	1	0	1
21	6+	6	6-	60	7-	60	6	6	6	6	1	1	4
22	60	5	60	5+	60	6+	6	4	6	5	(4 )	3	16
23	6+	4	60	60	7-	6+	5	5	5	6	2	2	8
24	60	4	7-	6-	60	60	6	5	5	5	3	3	13
25	60	5	60	60	6-	6-	6	5	6	6	2	2	8
26	6-	6	60	6-	6-	6+	6	5	5	6	2	1	6
27	60	6	6-	6-	6+	6+	6	5	6	6	3	2	13
28	6+	4	6+	6-	70	7-	5	5	6	6	3	2	12
29	60	5	6+	50	6+	60	6	6	6	5	3	3	16
30	60	5	60	5+	6+	60	5	5	5	5	3	2	10

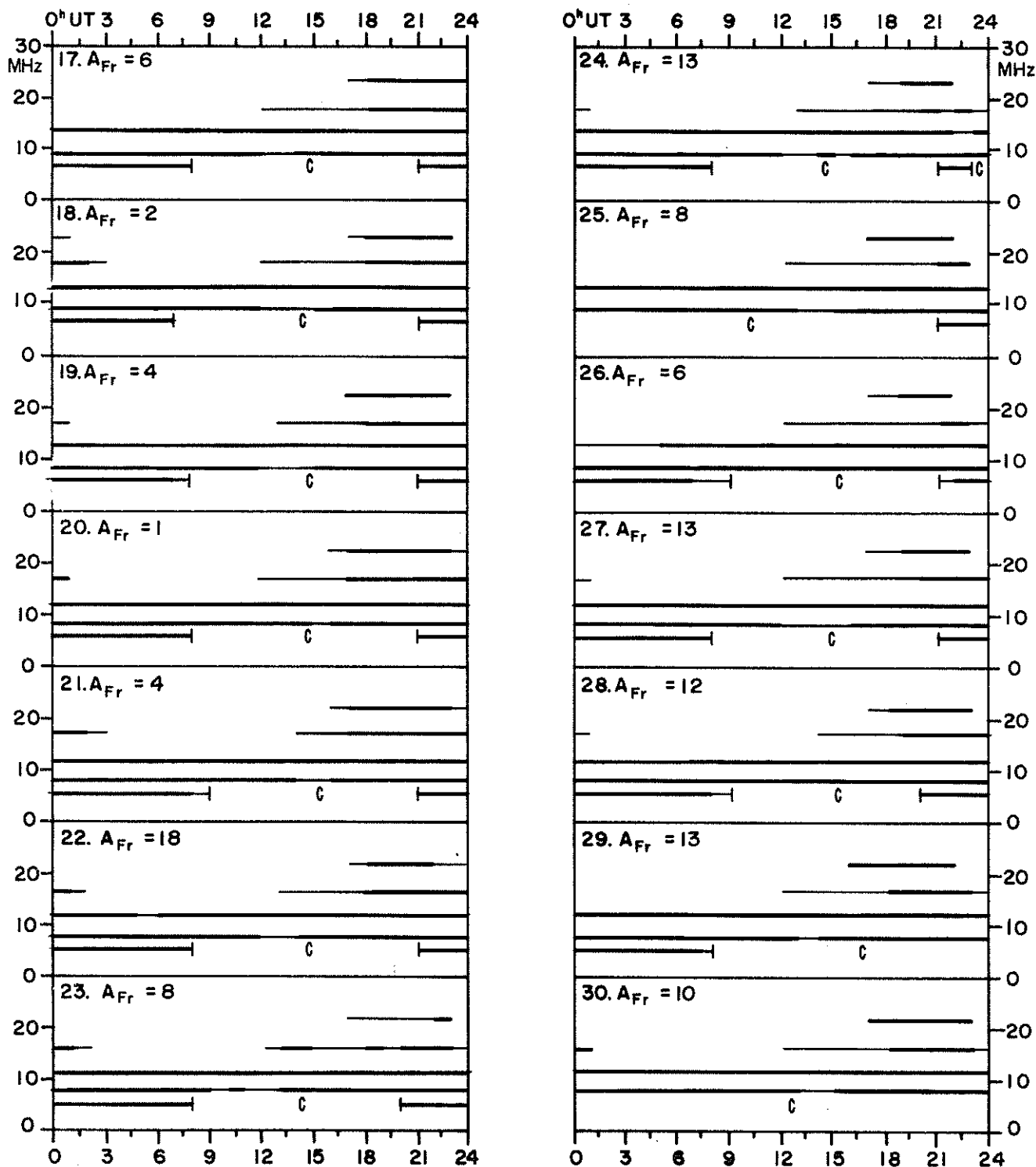
# TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

APRIL, 1976



# TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

APRIL 1976



Field strengths from five frequencies, 6.425, 8.542, 12.813, 17.084 and 22.378 MHz, observed on a Lüchow - Halifax circuit are represented above. Heavy solid lines represent field strengths  $\geq -12$  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.

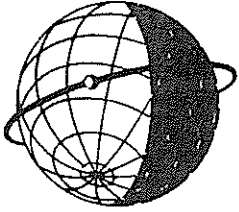
Adapted from Observations by Deutsche Bundespost

RADIO PROPAGATION QUALITY INDICES

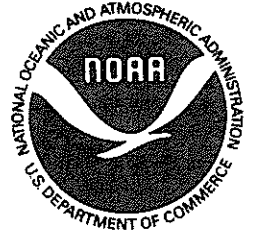
APRIL 1976

Quality Indices calculated for reception at Lüchow

	TOKYO	HALIFAX	MOSCOW	CANBERRA	BRACKWELL
1	2.6	1.4	10.5	3.5	11.5
2	5.0	5.0	13.8	3.5	13.6
3	2.5	3.6	11.8	3.3	12.5
4	3.2	4.9	12.5	4.2	12.4
5	3.5	4.9	12.4	4.1	12.2
6	3.6	5.7	11.6	4.3	11.9
7	3.7	6.8	11.7	3.9	12.7
8	4.2	7.6	12.1	4.0	13.4
9	3.6	6.5	12.9	4.6	12.8
10	4.1	6.6	12.5	4.6	13.0
11	5.5	8.0	12.4	4.7	13.1
12	3.9	7.6	12.0	4.3	13.3
13	4.4	7.6	12.6	4.5	12.7
14	4.7	7.3	13.7	4.8	12.3
15	6.9	8.2	13.4	4.3	13.2
16	6.3	8.8	13.5	4.6	13.5
17	7.4	8.5	13.5	5.6	13.9
18	7.7	8.4	13.6	5.6	14.0
19	7.4	8.3	13.3	5.6	13.7
20	7.0	8.5	13.3	6.2	13.1
21	6.4	8.6	13.2	5.9	13.3
22	6.0	8.2	13.4	5.8	12.8
23	6.1	8.3	13.5	5.8	12.5
24	4.0	7.4	13.2	5.2	12.9
25	4.8	8.2	13.1	5.3	13.0
26	5.6	8.7	12.8	5.4	13.5
27	5.2	9.0	13.5	5.4	13.2
28	6.1	8.6	13.2	5.2	12.9
29	5.4	8.6	12.9	5.4	13.2
30	4.7	8.1	12.3	5.1	13.0
MEAN	5.0	7.3	12.8	4.8	13.0



**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."