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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
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Solar - Geophysical Data

NO. 384 AUGUST 1976

Part I (Prompt Reports)

DATA FOR
JULY 1976
JUNE 1976

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

For obtaining bulletins on a data exchange basis, send request to: World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, Colorado 80302.

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SOLAR - GEOPHYSICAL DATA

No. 384

Issued in two parts

Hope I. Leighton, Editor

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

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Note: A = Part I, B = Part II.

374A 28 listed under 1975 Aug shows that data for August 1975 were contained in *Solar-Geophysical Data* Number 374 - Part I beginning on page 28.

JULY 1976 DATA

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ALERT PERIODS

INTERNATIONAL URSIGRAM
AND WORLD DAYS SERVICE

JULY 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 Lat-Long	No. of Flares Total	M	X		Date	Location Lat-Long	Desc*	
183	1	30	12	68	22	S27W40	0	0	0		1	S27W40	Q	SOLQUIET MAGALERT MINOR 01/02
184	2	01	12	67	21	S27W57	0	0	0		2	S27W57	Q	SOLQUIET MAGALERT 02/03
185	3	02	11	67	12	S27W71	0	0	0		3	S27W71	Q	SOLQUIET MAGNIL
186	4	03	24	66	12	S27W84 N21E00	0 0	0 0	0 0		4	S27W84 N21E00	Q Q	SOLQUIET MAGQUIET
187	5	04	14	67	11	N21W11	0	0	0		5	N21W11	Q	SOLQUIET MAGQUIET
188	6	05	12	67	07	N22W26	0	0	0		6	N22W26	Q	SOLQUIET MAGQUIET
189	7	06	14	67	07	N19W37	0	0	0		7	N19W37	Q	SOLQUIET MAGALERT MINOR 07/08
190	8	07	11	67	10	N19W50	0	0	0		8	N19W50	Q	SOLQUIET MAGNIL
191	9	08	00	67	13	-	-	-	-		9	SPOTNIL		SOLQUIET MAGQUIET
192	10	09	00	67	08	-	-	-	-		10	SPOTNIL		SOLQUIET MAGQUIET
193	11	10	00	68	06	-	-	-	-		11	SPOTNIL		SOLQUIET MAGQUIET
194	12	11	00	68	04	-	-	-	-		12	SPOTNIL		SOLQUIET MAGQUIET
195	13	12	00	68	05	-	-	-	-		13	SPOTNIL		SOLQUIET MAGQUIET
196	14	13	00	68	06	-	-	-	-		14	SPOTNIL		SOLQUIET MAGALERT MINOR 14/15
197	15	14	00	68	06	-	-	-	-		15	SPOTNIL		SOLQUIET MAGALERT MINOR 15/XX
198	16	15	13	69	13	N05E17	0	0	0		16	N05E17	Q	SOLQUIET MAGALERT MINOR 16/XX
199	17	16	00	68	16	-	-	-	-		17	SPOTNIL		SOLQUIET MAGNIL
200	18	17	00	67	04	-	-	-	-		18	SPOTNIL		SOLQUIET MAGQUIET
201	19	18	00	68	06	-	-	-	-		19	SPOTNIL		SOLQUIET MAGQUIET
202	20	19	00	68	06	-	-	-	-		20	SPOTNIL		SOLQUIET MAGALERT MINOR 21/22
203	21	20	00	67	05	-	-	-	-		21	SPOTNIL		SOLQUIET MAGALERT MINOR 21/22
204	22	21	00	68	05	-	-	-	-		22	SPOTNIL		SOLQUIET MAGNIL
205	23	22	00	68	03	-	-	-	-		23	SPOTNIL		SOLQUIET MAGQUIET
206	24	23	00	67	06	-	-	-	-		24	SPOTNIL		SOLQUIET MAGQUIET
207	25	24	00	67	05	-	-	-	-		25	SPOTNIL		SOLQUIET MAGQUIET
208	26	25	00	67	10	-	-	-	-		26	SPOTNIL		SOLQUIET MAGALERT MINOR 27/29
209	27	26	00	66	07	-	-	-	-		27	SPOTNIL		SOLQUIET MAGALERT MINOR 27/29
210	28	27	00	67	08	-	-	-	-		28	SPOTNIL		SOLQUIET MAGALERT MINOR 28/29
211	29	28	00	67	21	-	-	-	-		29	SPOTNIL		SOLQUIET MAGALERT MINOR 28/29
212	30	29	00	67	20	-	-	-	-		30	SPOTNIL		SOLQUIET MAGNIL
213	31	30	00	67	20	-	-	-	-		31	SPOTNIL		SOLQUIET MAGQUIET
214	01	31	00	69	20	-	-	-	-		01	SPOTNIL		SOLQUIET MAGQUIET

* Q=Quiet E=Eruptive A=Active P=Proton C=Caution D=Doubtful O.G.=Other Groups MF=Major Flare

RELATIVE SUNSPOT NUMBERS

ZURICH, R_Z

	1975 FINAL					1976 PROVISIONAL						
DAY	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
1	37	14	15	0	7	0	0	0	26	35	0	9
2	36	16	8	0	23	0	0	0	25	26	0	8
3	46	19	9	7	20	0	0	0	22	25	0	14
4	78	29	10	18	23	0	0	0	13	8	0	8
5	93	25	8	22	21	0	0	0	12	22	0	8
6	104	24	10	27	18	0	0	10	9	10	0	10
7	102	24	9	30	20	0	0	12	0	10	0	7
8	89	23	16	33	18	0	0	7	0	9	11	0
9	83	17	15	30	8	0	0	10	8	8	10	0
10	80	10	8	26	0	0	0	12	10	10	7	0
11	72	10	8	30	0	0	0	13	15	16	7	0
12	45	16	10	24	0	20	0	13	17	17	8	0
13	52	19	21	22	0	26	13	13	17	23	8	0
14	34	17	26	29	7	36	16	22	19	30	15	0
15	31	8	21	28	7	20	18	16	19	17	18	0
16	26	14	18	28	7	22	11	11	19	12	12	0
17	19	14	16	30	9	24	8	30	24	18	18	0
18	16	18	16	33	8	20	15	45	27	8	24	0
19	9	13	15	36	7	18	10	51	27	20	23	0
20	22	30	10	35	0	16	12	51	30	20	17	0
21	23	27	7	31	0	11	8	48	39	14	30	0
22	7	23	0	23	0	10	7	36	20	7	31	0
23	14	0	0	12	0	10	0	28	17	15	23	0
24	8	0	7	11	18	0	7	25	16	8	26	0
25	11	0	0	9	14	0	0	22	17	0	19	0
26	16	0	0	7	8	0	0	42	28	7	19	0
27	18	0	0	0	0	7	7	46	23	0	9	0
28	10	0	0	0	0	0	0	50	21	0	16	0
29	10	0	0	0	0	14	0	42	26	0	11	0
30	21	7	0	0	0	8		32	38	0	10	0
31	21		0		0	0		27		0		0
MEAN	39.7	13.9	9.1	19.4	7.8	8.5	4.6	23.0	19.5	12.7	12.4	2.1

1975 yearly mean = 15.5

DAILY SOLAR FLUX AT 2800 MHz
OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S_a

	1975					1976						
DAY	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
1	91.6	87.0	76.4	70.4	72.1	72.1	68.6	67.7	79.6	77.6	58.4	69.3
2	95.4	87.9	78.1	71.4	74.8	71.2	68.6	68.1	76.8	74.2	67.9	69.1
3	97.0*	87.8	78.4	73.0	74.3	71.3	68.4	67.4	76.1	71.9	68.1	69.5
4	104.6	92.8	76.3	75.4	74.1	71.8	68.4	67.4	74.7	71.5	68.4	68.6
5	107.9	94.4	76.1	78.9	77.4	71.9	67.6	67.6	73.0	71.1	68.7	69.5
6	120.0*	94.0	75.1	80.1	75.8	71.7	68.1	67.5	71.3	69.9	69.3	69.6
7	123.2	91.1	74.3	80.5	73.7	71.6	69.3	67.9	70.3	70.3	69.0	69.5
8	123.7	88.5	74.0	80.9	76.9	70.9	68.4	67.9	71.9	70.2	70.7	69.7
9	115.9	84.3	75.4	78.8	73.3	69.4	68.3	68.2	74.1	70.6	70.1	69.7
10	116.5	82.5	74.3	78.9	73.3	70.5	68.5	68.4	75.3	71.7	71.0	70.1
11	107.3	81.1	73.3	78.6	74.3	72.1	68.4	68.8	77.1	72.5	71.4	70.2
12	104.5*	78.2*	74.8	79.9	73.4	76.9	67.8	68.9	78.1	72.6	71.7	69.8
13	98.0	75.2	79.0	79.2	72.8	80.0	69.7	70.9	79.6	73.6	72.0	69.8
14	90.9*	74.2	80.0	82.7	71.8	82.1*	69.9	70.1	79.5	74.2	73.7	70.7
15	86.0	74.1	80.3	83.7	71.5	80.4	69.6	69.1	79.2	76.9	74.3	71.4
16	82.8	74.3	78.5	87.6	70.5	78.1	69.7	72.5	80.6	79.2	77.1	69.8
17	79.0	74.8	78.9	88.9	70.5	76.6	69.9	74.4*	80.5	76.5	77.1	69.4
18	76.4	76.2	79.2	90.8*	69.6	76.7	70.1	79.0	80.5	75.6*	77.9	70.6
19	76.7	76.2	78.0	93.0*	69.1	75.2	70.1	81.6*	79.8	73.8	76.9	70.2
20	77.2	76.5	77.1	90.9	69.7	74.6	70.0	85.0	80.0	73.0	76.9	69.4
21	80.0	76.7	75.7	86.6	69.0	72.1	68.8	91.2	78.0	74.0	77.7	70.1
22	78.5	75.3	74.2	81.5	68.9	70.9	68.9	83.0	76.2*	72.5	78.9	70.1
23	76.8	76.1	74.3	77.2	69.6	70.2	69.2	86.9	75.7	71.9	76.5	68.7
24	77.0	76.8	72.7*	74.7	71.4	68.5	69.6	82.2*	76.8	70.8	75.2	69.4
25	80.6	76.7	72.1	73.7	71.0	68.2	68.4	85.1	75.7	69.8	74.9	68.8
26	81.3	76.7	71.9	71.9	71.9	68.2	68.5	84.1*	75.7	69.5	74.3	68.5
27	83.6	75.7	72.1	70.7	72.5	67.2	68.5	85.5	74.6	69.6	72.8	69.4
28	83.3	76.1	71.7	70.4	71.5	67.1	67.9	87.1*	73.4	69.0	71.8	69.4
29	84.7	75.9	70.8	70.9	72.5	67.4	67.4	84.0	79.6	68.0	71.3	69.4
30	86.2	75.8	70.2	70.6	71.9	68.9		92.4	79.5*	68.1	70.3	70.7
31	86.7		69.9		72.1	69.1		82.7		68.7		72.3
MEAN	92.7	80.4	75.3	79.1	72.3	72.4	68.8	75.8	76.7	72.2	72.8	69.8

* adjusted for burst

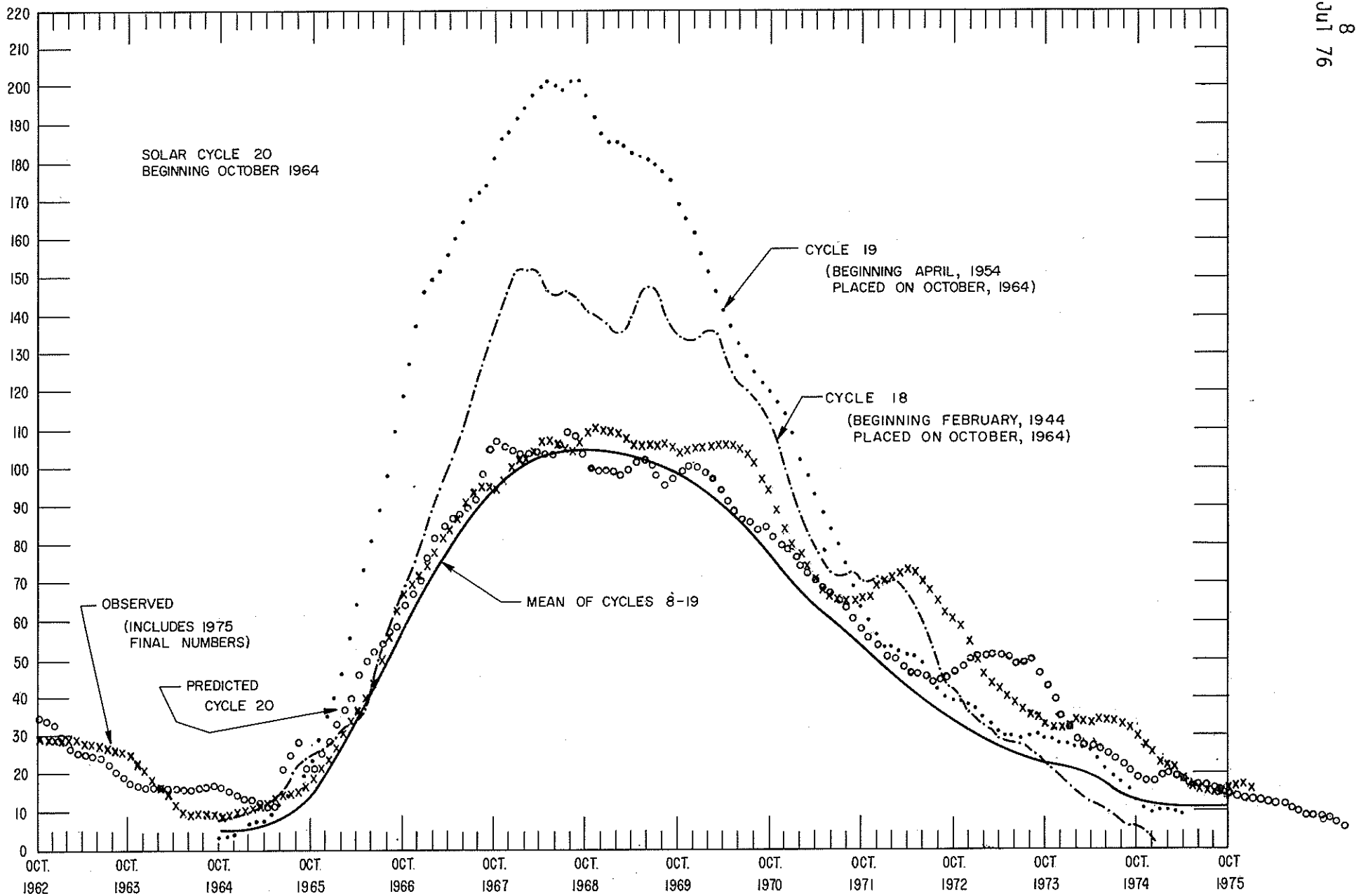
DAILY SOLAR INDICES

JULY 1976

JUL 1976	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	SUNSPOT NUMBERS		OBSERVED FLUX OTTAWA 2800	SOLAR FLUX ADJUSTED TO 1 A.U.								
			R_Z	$R_{A'}$		AFGL 15400	AFGL 8800	AFGL 4995	OTTAWA 2800	AFGL 2695	AFGL 1415	AFGL 606	AFGL 410	AFGL 245
1	183	9	9	9	67.0	514	262	111	69.3	66.3	42.6	34.4	19.1	8.2
2	184	10	8	9	66.8	514	264	113	69.1	66.4	41.6	34.1	21.3	8.0
3	185	11	14	6	67.2	515	267	111	69.5	67.6	42.4	35.6	19.6	8.4
4	186	12	8	10	66.3	516	270	111	68.6	67.1	41.7	35.8	20.4	8.3
5	187	13	8	2	67.2	517	266	111	69.5	66.3	41.5	34.5	20.8	8.7
6	188	14	10	2	67.3	517	266	112	69.6	66.1	41.8	33.9	20.4	8.2
7	189	15	7	4	67.2	517	265	112	69.5	66.7	42.7	34.3	20.0	8.7
8	190	16	0	0	67.4	518	267	112	69.7	66.2	43.6	33.5	20.4	8.8
9	191	17	0	0	67.4	519	268	111	69.7	66.2	41.6	34.2	19.5	8.2
10	192	18	0	0	67.8	517	272	112	70.1	66.3	41.9	35.9	19.9	8.8
11	193	19	0	0	67.9	517	270	113	70.2	66.4	40.7	36.6	20.8	8.8
12	194	20	0	0	67.6	516	268	111	69.8	66.1	40.8	34.6	20.8	8.7
13	195	21	0	0	67.6	514	266	112	69.8	67.1	43.7	37.4	20.3	8.7
14	196	22	0	0	68.4	515	264	113	70.7	67.1	42.8	36.5	19.6	8.1
15	197	23	0	0	69.1	515	264	112	71.4	67.8	44.0	34.3	21.0	8.7
16	198	24	0	0	67.6	515	265	112	69.8	66.5	42.6	35.9	20.1	7.9
17	199	25	0	0	67.2	514	265	111	69.4	66.0	41.9	35.6	20.2	8.2
18	200	26	0	0	68.3	515	267	113	70.6	67.1		35.4	20.6	8.0
19	201	27	0	0	68.0	514	266	113	70.2	66.8	42.3	34.8	22.4	8.5
20	202	1	0	0	67.2	515	265	111	69.4	66.3	42.1	33.2	19.1	8.2
21	203	2	0	0	67.9	514	266	112	70.1	67.0	42.1	32.8	21.0	8.4
22	204	3	0	0	67.9	515	267	114	70.1	67.6	42.1	32.8	21.4	9.4
23	205	4	0	0	66.6	511	263	110	68.7	66.0			19.9	8.4
24	206	5	0	0	67.2	512	264	111	69.4	65.8	41.5	32.8	19.6	7.8
25	207	6	0	0	66.7	513	270	112	68.8	65.9	41.3	34.4	20.2	8.2
26	208	7	0	0	66.4	511	267	110	68.5	64.7	40.2	31.3	20.4	8.3
27	209	8	0	0	67.3	515	264	112	69.4	65.8	40.9	33.2	20.7	8.1
28	210	9	0	0	67.3	518	270	113	69.4	66.7	40.1	32.6	20.4	7.9
29	211	10	0	0	67.3	522	273	113	69.4	66.9	40.0	32.6	23.2	8.8
30	212	11	0	0	68.6	523	274	114	70.7	67.3	42.7	33.6	20.7	9.4
31	213	12	0	1	70.2	524	274	115	72.3	68.5	47.9	34.9	19.1	11.0
MEAN			2.1	1.4	67.5	516	267	112	69.8	66.6	42.1	34.4	20.4	8.5

* Adjusted for burst.

Note: 15400 MHz fluxes are uncertain due to damage to the antenna.



PREDICTED AND OBSERVED SUNSPOT NUMBERS

8 Jul 76

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS
CYCLE 20

MONTH	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1964										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	50.9	46.5	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	16.5
1976	15.5	13.9 (--)	12.7 (--)	11.6 (--)	10.7 (--)	9.9 (--)	9.1 (--)	8.6 (--)	8.0 (--)	7.5 (--)	7.1 (--)	6.6 (--)
1977	6.2 (--)											

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.

Note: There are indications that sunspot minimum may have been reached during July 1976. However, new cycle predictions have been unavoidably delayed. Low confidence should be given to the prediction numbers after July in the above table.

Hα SOLAR FLARES

JULY 1976

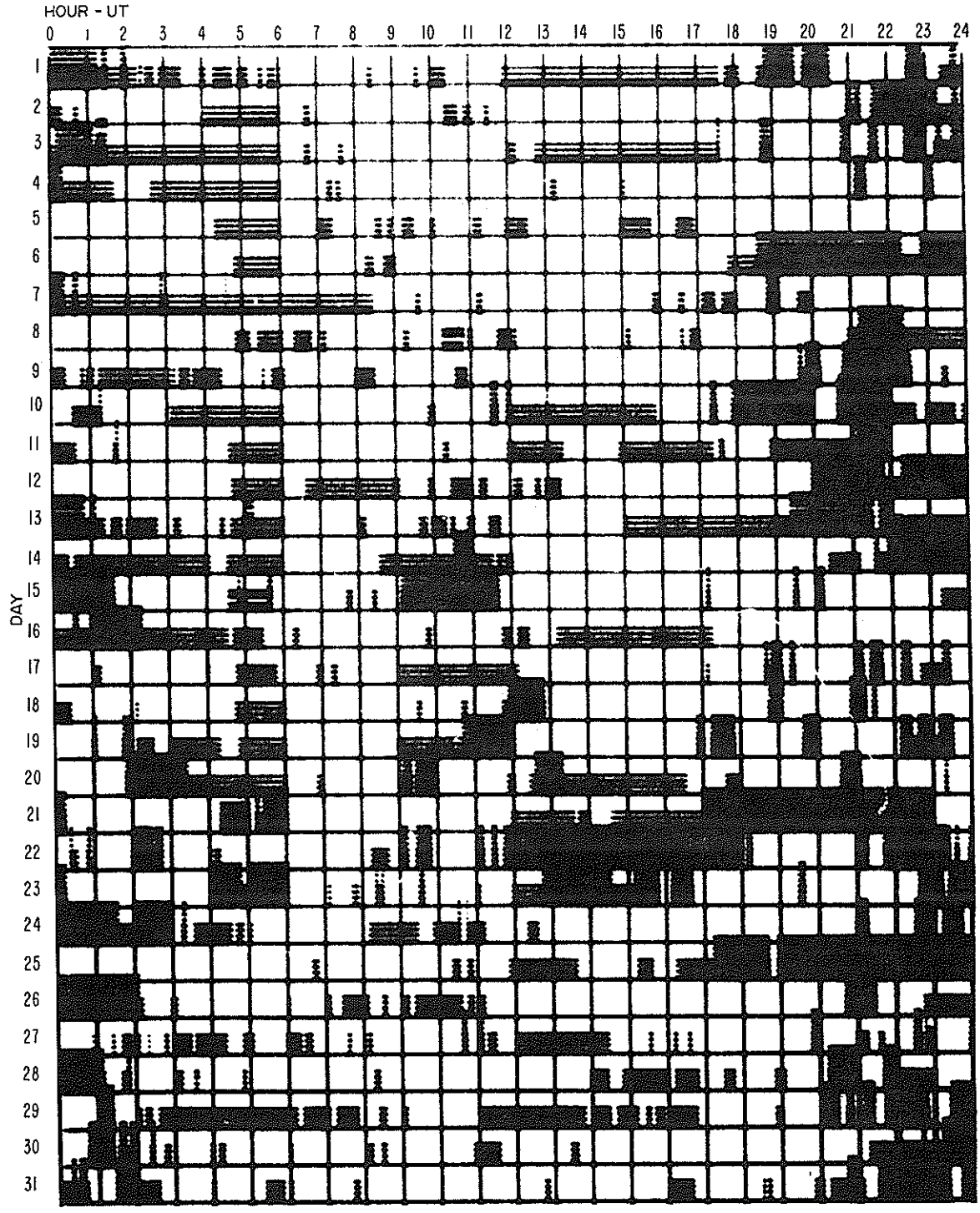
OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY			COND.	TYPE	TIME — UT	MEAS. AREA Mill of Disk	CORR. AREA Sq. Deg.	

THERE WERE NO Hα FLARES REPORTED.

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

JULY 1976



Observatories included in total patrol:

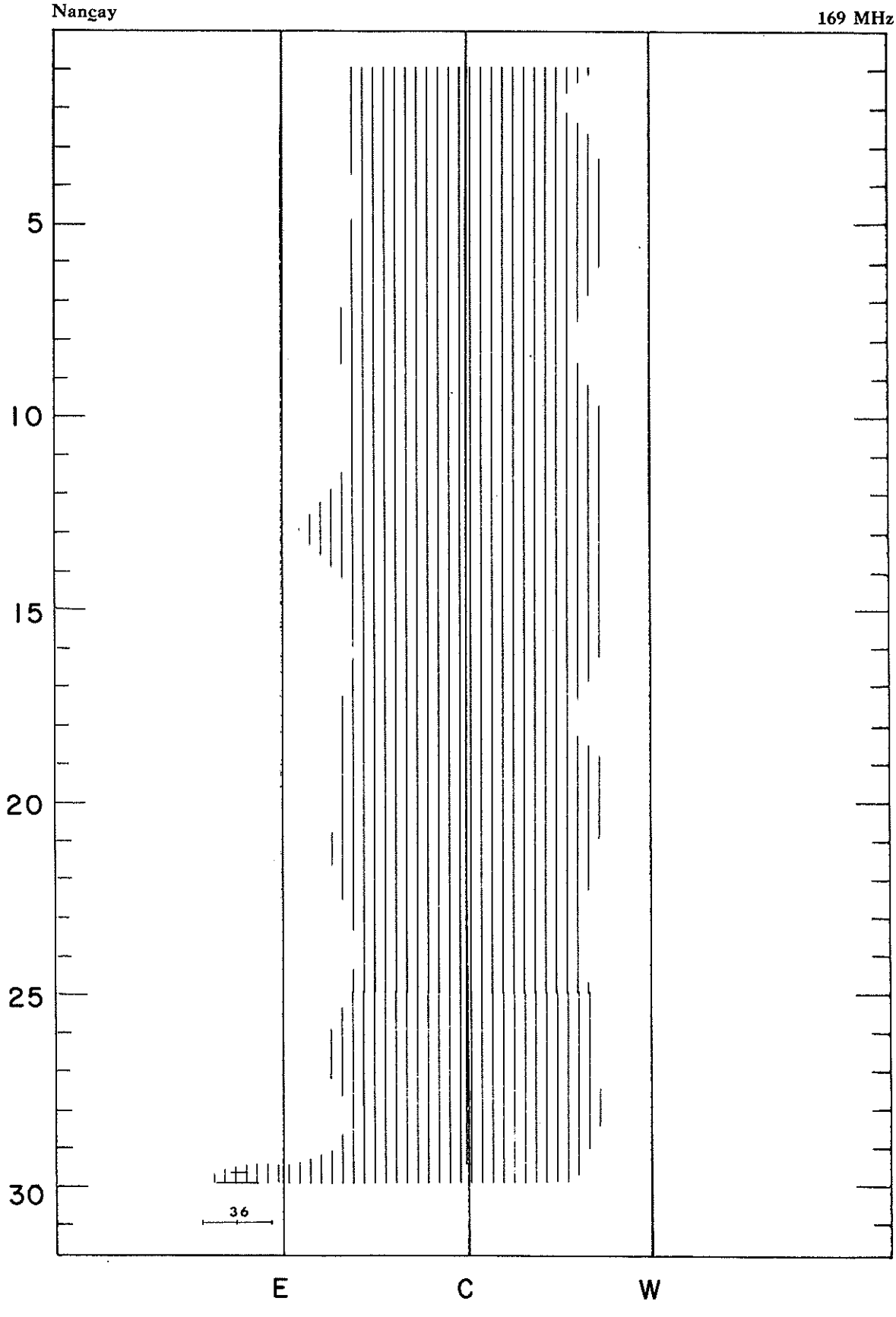
Athenes	Herstmonceux	Manila	Palehua	Upice
Bucharest	Istanboul	McMath-Hulbert	Ramey	Wendelstein
Catania	Kodaikanal	Mitaka	Tehran	

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
Jul 76

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

JULY 1976

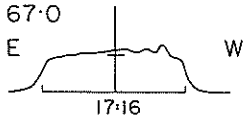


EAST-WEST SOLAR SCANS

JULY 1976

ALGONQUIN RADIO OBSERVATORY
CANADA

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

01
67·0


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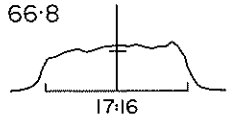

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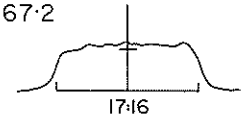

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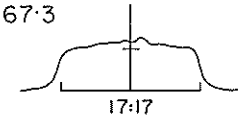

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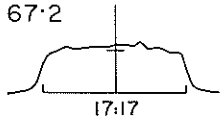

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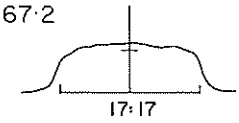

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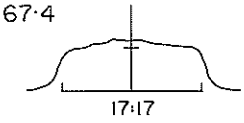

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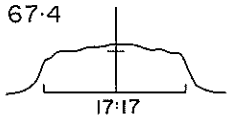

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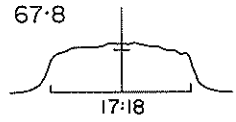

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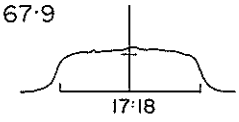

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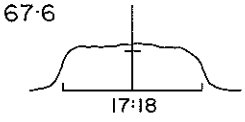

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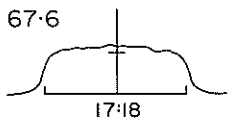

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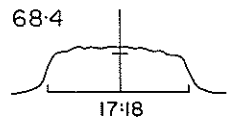

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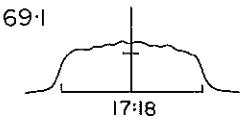

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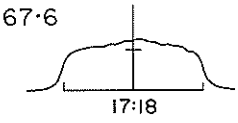

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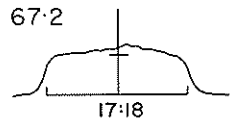

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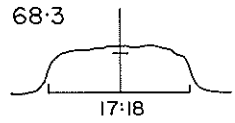

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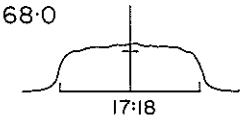

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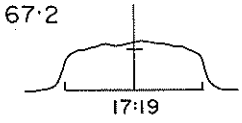

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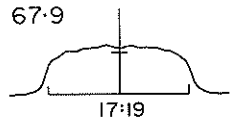

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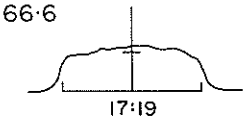

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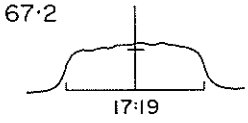

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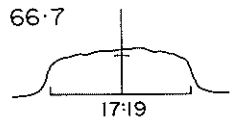

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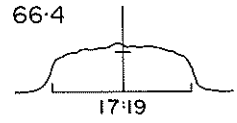

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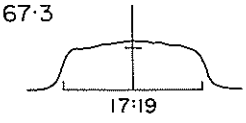

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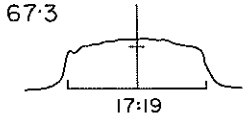

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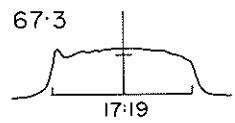

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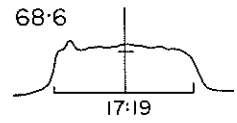
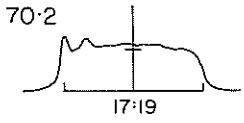
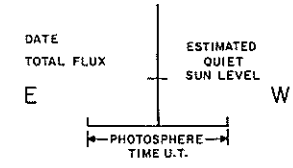


31
70·2




14
Jul 76

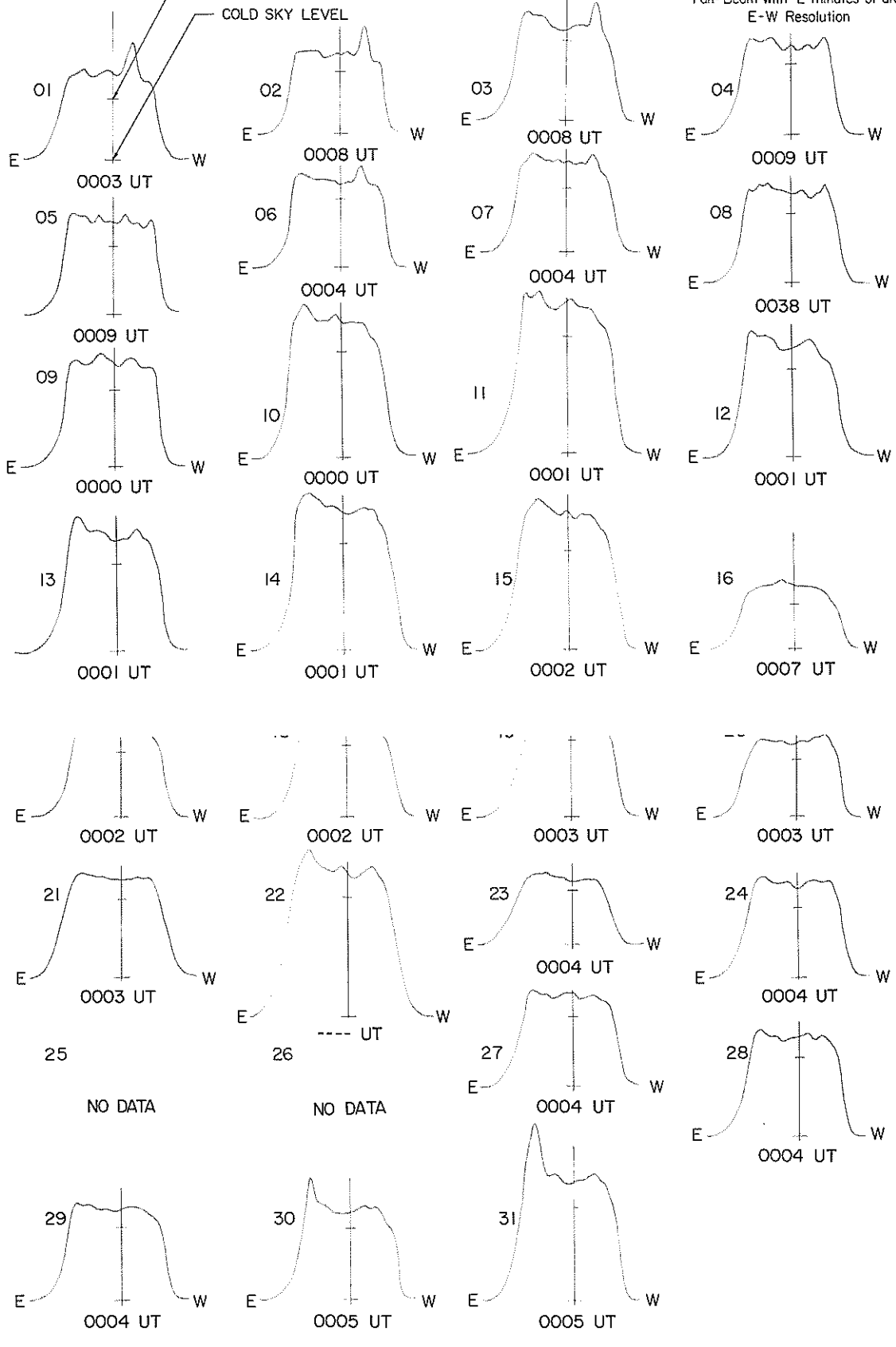
EAST-WEST SOLAR SCANS

JULY 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

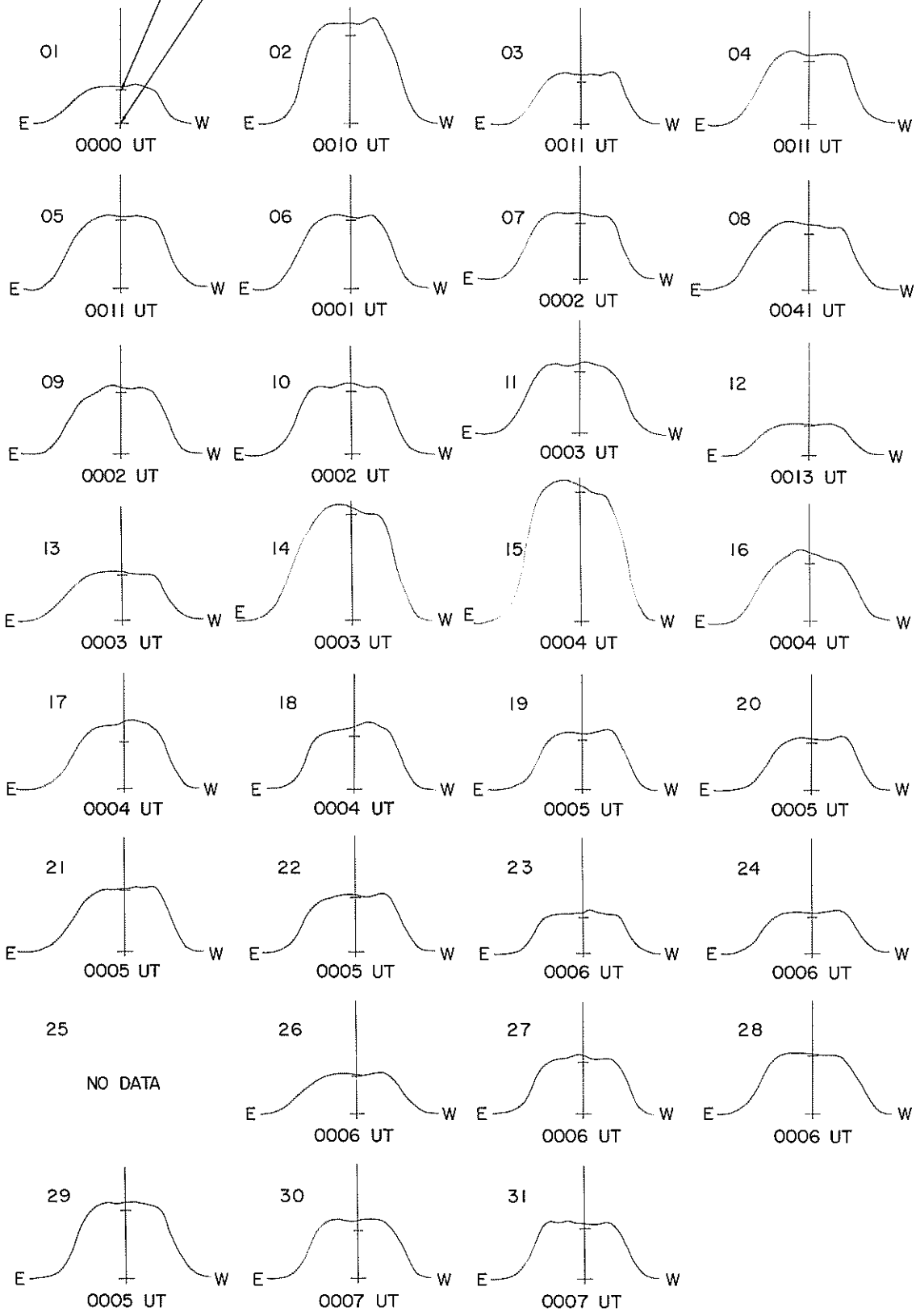
JULY 1976

Fleurs, Australia

ESTIMATED QUIET SUN LEVEL

COLD SKY LEVEL

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



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

JULY 1976

	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
			UT	UT	MINUTES	PEAK	MEAN		

THERE WERE NO BURSTS REPORTED.

SOLAR X-RAYS BY SATELLITE
SMS GOES

JULY 1976

.5 - 4Å Hourly Averages (10^{-5} watts/m^2)

MO 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
7/ 1	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	B	B	B	B	B	B	B	B
7/ 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
7/ 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
7/ 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
7/ 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
7/ 6	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	B
7/ 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
7/ 8	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	M	B	B
7/ 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
7/10	B	B	B	B	B	B	B	B	B	B	B	M	M	M	M	M	M	M	M	B	B	B	B	B	B
7/11	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
7/12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	B	B	B
7/13	B	B	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	B	B	B	B	M	M	M	B
7/14	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	M	M	B	B
7/15	M	M	M	M	M	M	M	M	M	M	M	M	M	B	M	B	B	B	B	B	B	B	B	B	B
7/16	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
7/17	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
7/18	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
7/19	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	M	B	B	B
7/20	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B
7/21	B	B	B	B	B	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
7/22	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	M	B	B	B
7/23	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	B
7/24	B	B	B	B	B	B	B	B	B	B	B	M	M	M	M	M	M	M	B	B	B	B	B	B	B
7/25	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
7/26	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	B
7/27	B	B	B	M	M	B	B	B	M	M	M	M	M	M	B	M	B	B	B	B	B	B	B	B	B
7/28	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
7/29	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
7/30	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	M	M	M	M	M	B	B	B	B
7/31	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B

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

Errata: The exponents on all previous tables of hourly averages were incorrect. The units should read 10^{-5} watts/m^2. The cut-off values for determining "B" were 10^{-7} watts/m^2.

SOLAR X-RAYS BY SATELLITE
SMS GOES
JULY 1976

1 - 8Å Hourly Averages (10^{-4} watts/m^2)

MO 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
7/ 1	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	B	B	B	B	B	B	B	B
7/ 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
7/ 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
7/ 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
7/ 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
7/ 6	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	B
7/ 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
7/ 8	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	M	B	B
7/ 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
7/10	B	B	B	B	B	B	B	B	B	B	B	M	M	M	M	M	M	M	M	B	B	B	B	B	B
7/11	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
7/12	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	B	B	B
7/13	B	B	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	B	B	B	B	M	M	M	B
7/14	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	M	M	B	B
7/15	M	M	M	M	M	M	M	M	M	M	M	M	M	B	M	B	B	B	B	B	B	B	B	B	B
7/16	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
7/17	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
7/18	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
7/19	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	M	B	B	B
7/20	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B
7/21	B	B	B	B	B	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
7/22	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	M	B	B	B
7/23	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	B
7/24	B	B	B	B	B	B	B	B	B	B	B	M	M	M	M	M	M	M	B	B	B	B	B	B	B
7/25	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
7/26	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	B
7/27	B	B	B	M	M	B	B	B	M	M	M	M	M	M	B	M	B	B	B	B	B	B	B	B	B
7/28	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
7/29	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
7/30	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	M	M	M	M	M	B	B	B	B
7/31	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B

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

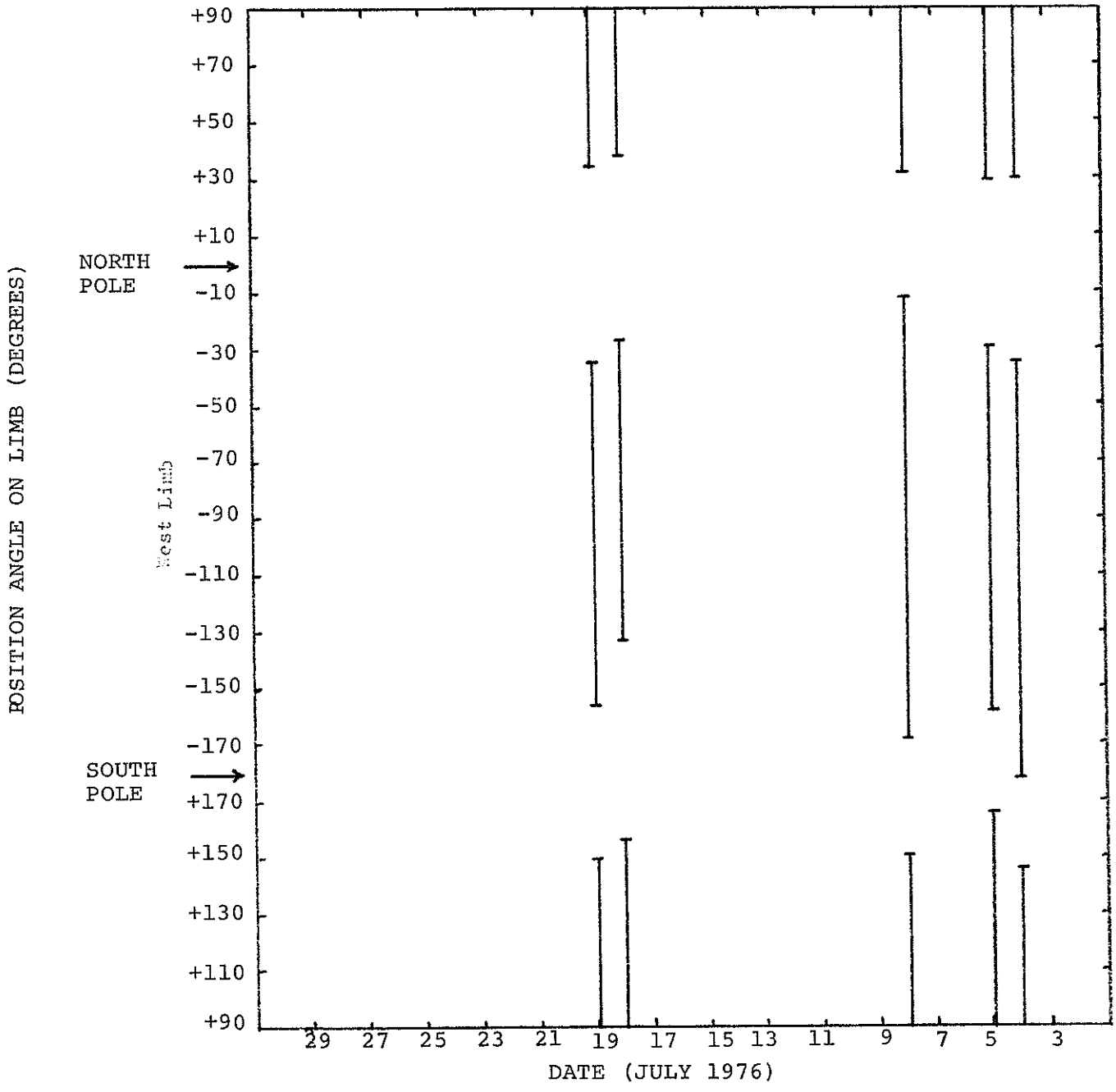
Errata: The exponents on all previous tables of hourly averages were incorrect. The units should read 10^{-4} watts/m^2. The cut-off values for determining "B" were 10^{-6} watts/m^2.

CORONAL HOLES

Helium D3 Chromosphere at Solar Limb

JULY 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
1936	FEB 23	TA	A A	A A	A*	TA	A A	AT	A A	A A	A A	A A	AT	T A	A A	A T	T T	T T	A*	T T	T T	T TA	T A*	T T	T A	T *	T T	T T	A A
1937	MAR 22	A	A A	A TA	A	T T	A A*	A A	A A	A A	AT	A*	T A	A A	T *	TA T	T T	T T	T *	T A*	T T	A AT	A T	T T	A A	T T	T T	A A	A A
1938	APR 18	A	A A	A A	A A	A *	A A*	A A	– A	A A	A A	A A	T T	A A	A A	T T	– T	T T	– T	T T	T T	A A*	T T	T T	– A	T AT	T T	TA T	
1939	MAY 15	T	T A	A TA	TA	A A	A A	T T	TA TA	– *	A A	A A	A A	A –	– –	– –	– –	– –	– –	– –	– –	T –	* –	* –	* *	T T	T T	A A	
1940	JUN 11	A	A A	A A	A A	A *	– –	– –	– –	– A	A A	A A	TA A	A AT	A A	A A	A T	T T	T T	T T	A A	TA*	A A	T T	T T	T T*	T T*	T T	
1941	JUL 8	A	A A	A A	A A	TA A	A A	TA *	A A	TA TA	A A	T T	A A	A A*	– *	A A*	A T	A A	T T	T TA	A AT	T T	T T	T T	T T	AT AT	A A	A A	
1942	AUG 4	A	A A	A A	T A	A T	T AT	T A	A A	A A	A A	A A	A A	A A	T T	T –	A T	T *	T T	TA T	T T	T T	T –	AT AT	T T	T T	A A	A A	
1943	AUG 31	A	A A	A TA	A*	T T	A A	A A	A TA	A T	T*	A A	A A	A A	A *	A A	A A*	A A*	A T	T T	T T	T –	T TA	T T	T T	T T	T T	A T	A A
1944	SEP 27	A	A T	A A	A A	A T	T T	A T	– A	– A	– A	A*	A A	A A	A *	AT A	T T	A A	A A	AT *	T A	T T	T A	T T	T T	T T	TA A	A –	
1945	OCT 24	T	T T	T T	T T	T T	TA A	A A	* A	A A	A A	A A	A*	A *	A A	A *	AT –	AT –	AT T	AT T	T T	T T	T T	T T	A T	* T	T T	T T	T T
1946	NOV 20	A	T A	* T	T TA	T T	T A	A T*	A T*	A A	A –	A –	A –	A A	A *	A *	A A	A A	A A	AT A	AT T	T T	T T	T T	T T	T *	T T	T T	T T
1947	DEC 17	T	– T	T T	T T	T T	T T	TA *	A T	A T	A *	AT *	TA A	A A	A *	A A	A A	A A	T T*	T A	T *	T T	T T	T T	T A*	TA *	T *	T T	
1948	1976 JAN 13	TA	T T	T* T	TA T	T TA	A T	AT T	A A	A T	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	TA T	T T	
1949	FEB 9	T	A T	A T	T T	– T	– A	T T	– TA	A T	A T	A*	T T	A TA	A A	A A	A T	A AT	A T	T T	T T*	T A	T T	T T	T T	T *	T A	T TA	TA *	
1950	MAR 7	T	A T	A T	T T	T T	T T	T T	– T	TA A	A* A	A TA	A A	A A	A A	A A	A A	A *	T *	T AT	T T	T T	T T	T T*	T T	T T	T –	TA T	T T	
1951	APR 3	T	T T	T T	T 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	A AT	A TA	T* A	T* T	T T	T T	* AT	T TA	A* T	T	
1952	APR 30	T	T AT	T T	T T	T T	T T	TA A	AT T*	A A	A –	A A	A A	A –	A –	A –	T T	A A	A A*	A TA	AT AT	T T	T T	T A	A* T	T A	A T	– T	T
1953	MAY 27	T	– T	T T	T T	T T	T T	T *	TA T	A A	A A	A A	A T	A T	A –	T *	A A	A A	A –	T T	T A	T T	A A	T T*	A A	T A	A A	A A	A
1954	JUN 23	T	T T	T T	T T	T T	T AT	A T	T A	A AT	A A	A TA	T* AT	A A	A A	A A	A A	TA A*	T T	A A	A T	T T	A AT	A* A	TA AT	AT T	A A	A T	A*
1955	JUL 20	T	A A	T* T	T A	A A	A A	A A	A A	A A	A TA	A* T	T A	A															

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

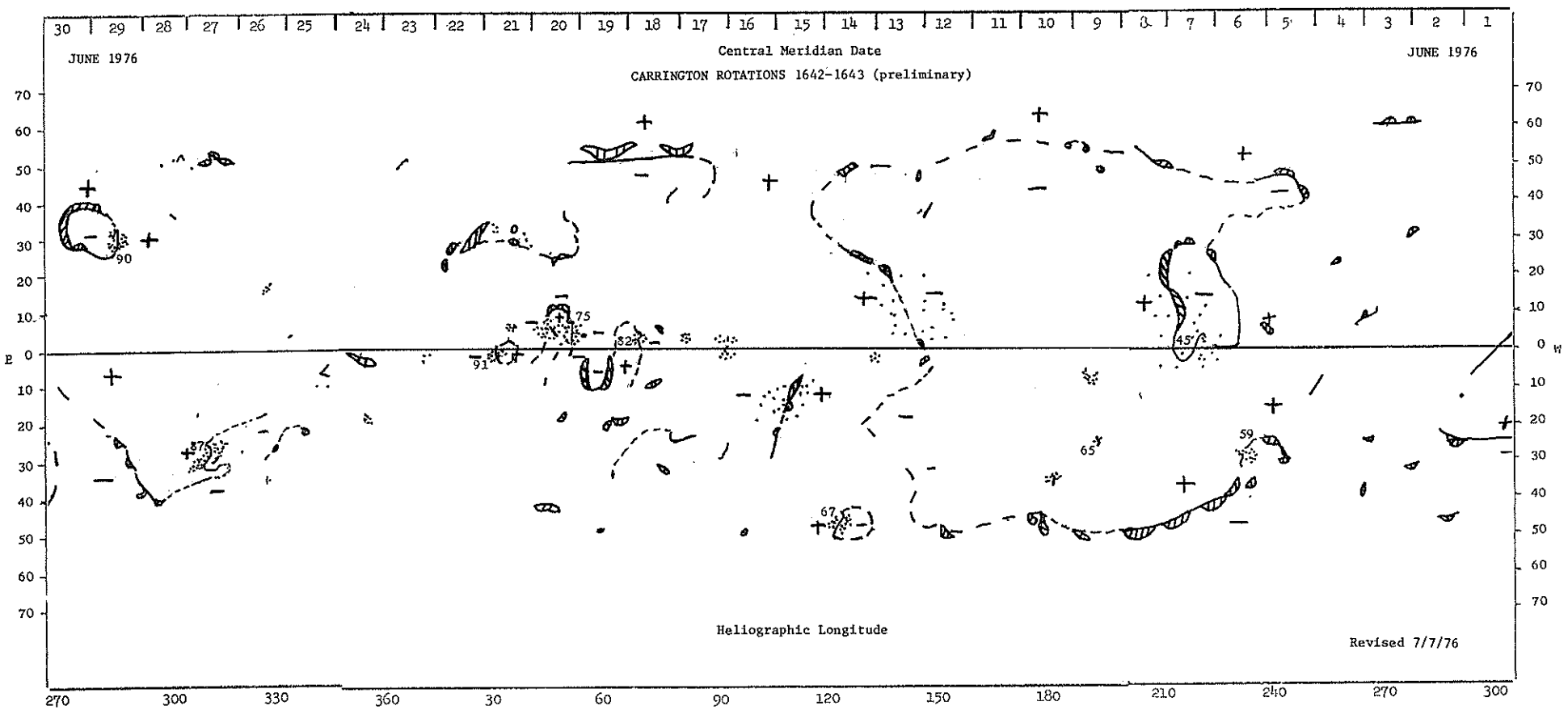
The table shows daily inferences of the polarity of the interplanetary magnetic field. The first half of the day is based principally on magnetograms produced by the magnetometer at the Vostok Antarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service operated by the Air Force Geophysics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

JUNE 1976 DATA

Contents

Hα SYNOPTIC CHART

JUNE 1976

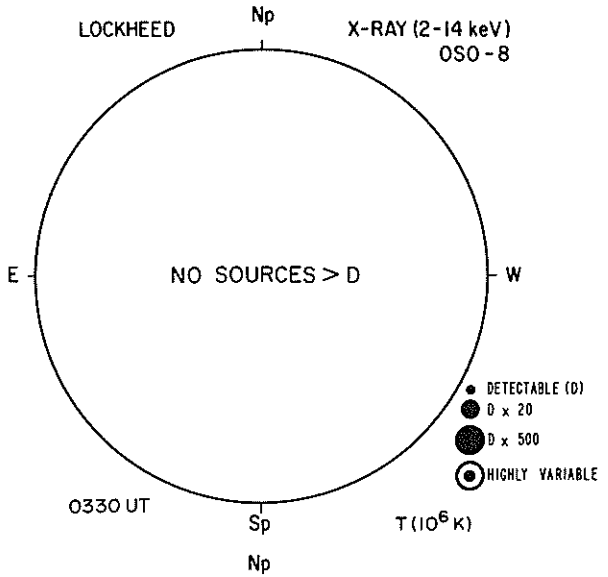


23 Jun 76

JUNE 1, 1976 (P =-15.41, B_o =-0.61, L_o =303.74)

LOCKHEED

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



KITT PEAK

MAGNETOGRAM
Bright- Plus
Dark - Minus

E

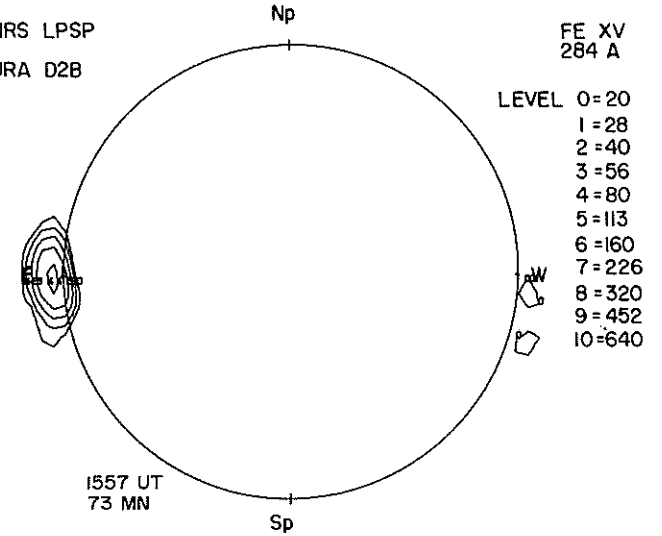
NO MAGNETOGRAMS WERE MADE AT KITT PEAK IN JUNE 1976.

W

Sp

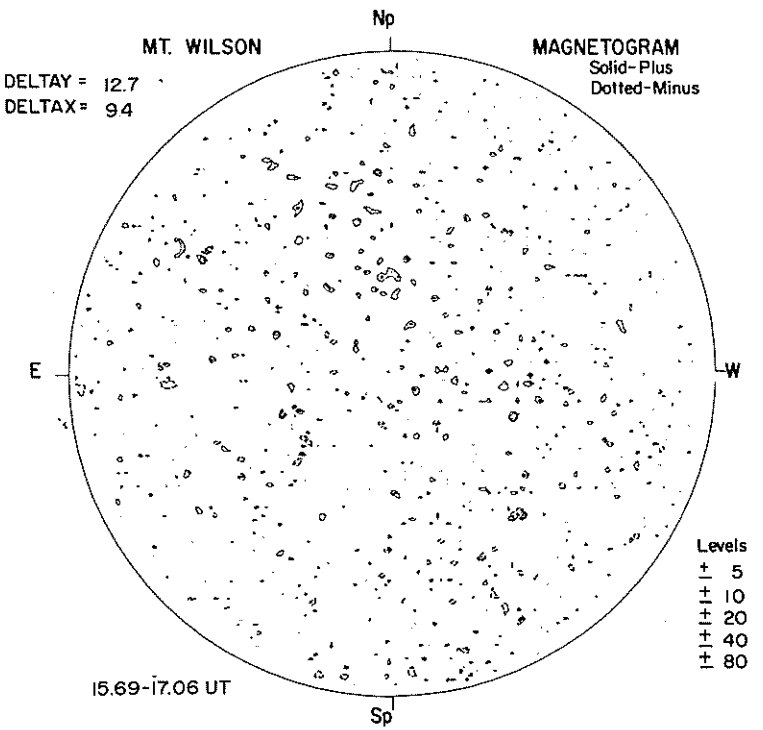
CNRS LPSP
AURA D2B

FE XV
284 A



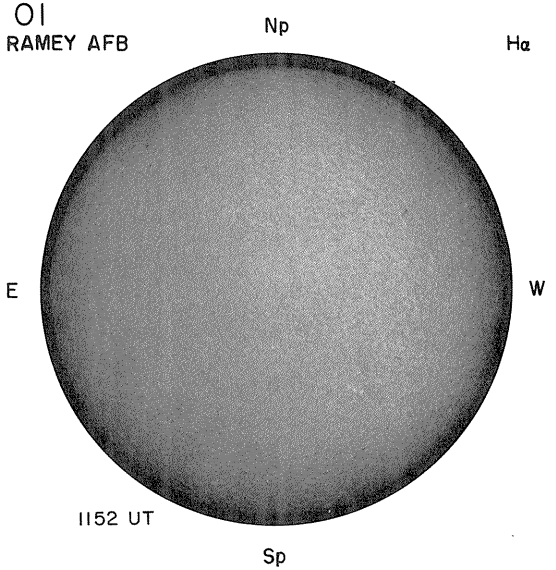
MT. WILSON

MAGNETOGRAM
Solid-Plus
Dotted-Minus



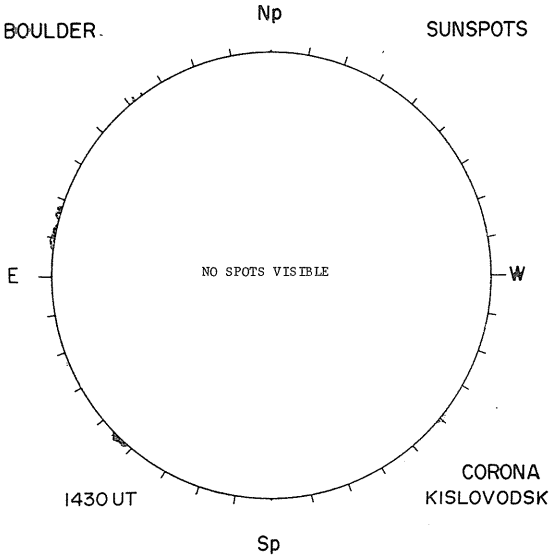
01

RAMEY AFB



1152 UT

BOULDER

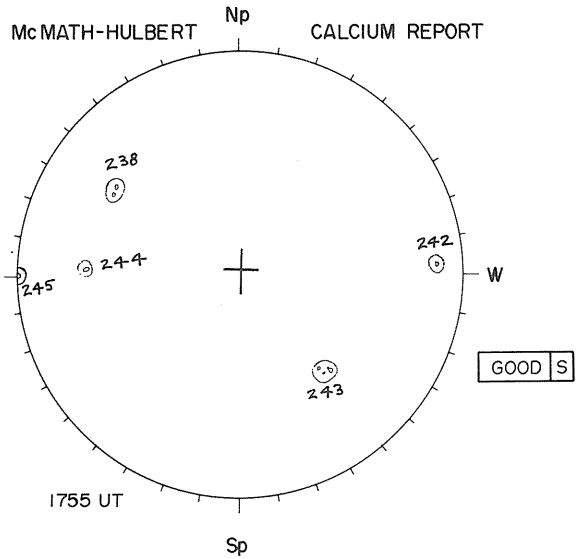


1430 UT

SUNSPOTS

CORONA
KISLOVODSK

McMATH-HULBERT



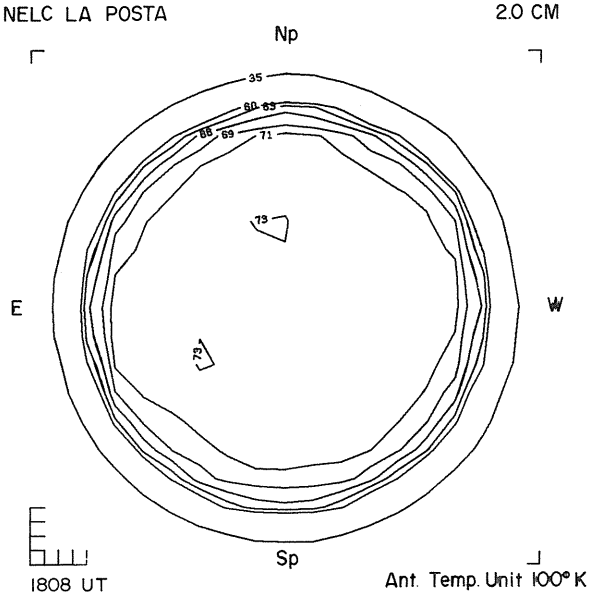
1755 UT

CALCIUM REPORT

GOOD | S

NELC LA POSTA

2.0 CM

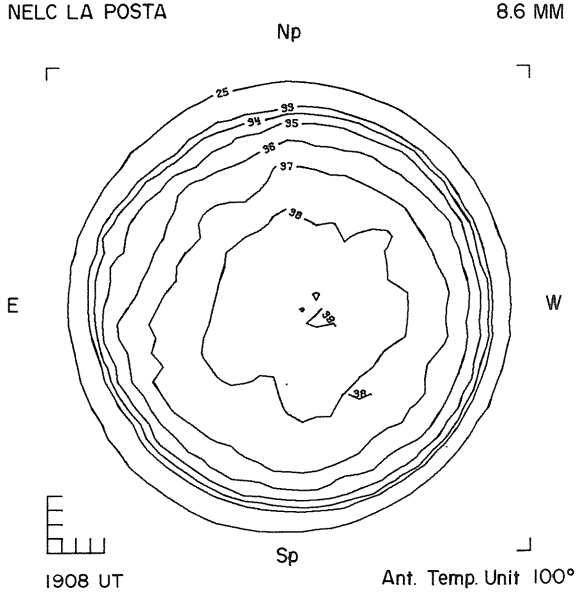


1808 UT

Ant. Temp. Unit 100° K

NELC LA POSTA

8.6 MM



1908 UT

Ant. Temp. Unit 100° K

25 Jun 76

JUNE 2, 1976 (P =-15.03, B_o =-0.49, L_o =290.50)

LOCKHEED

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

Np

E

NO SOURCES > D

W

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

0330 UT

Sp

T (10^6 K)

Np

KITT PEAK

MAGNETOGRAM
Bright- Plus
Dark - Minus

CNRS LPSP
AURA D2B

Np

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

W

0354 UT
54 MN

Sp

Np

MT. WILSON

MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY = 12.7
DELTAX = 9.4

E

W

Levels
± 5
± 10
± 20
± 40
± 80

16.05-17.42 UT

Sp

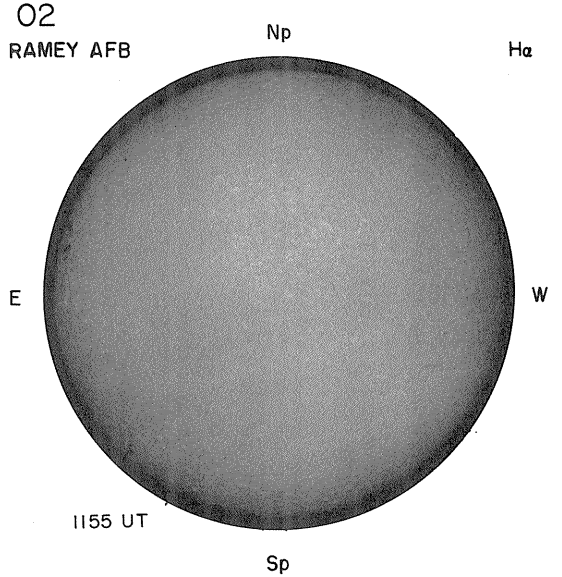
E

W

Sp

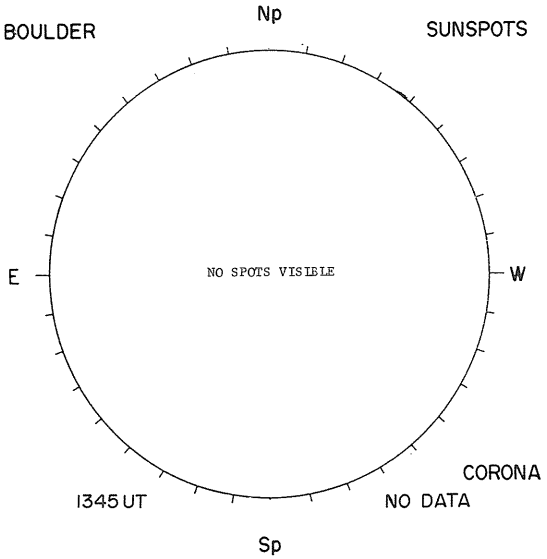
02

RAMEY AFB



BOULDER

SUNSPOTS

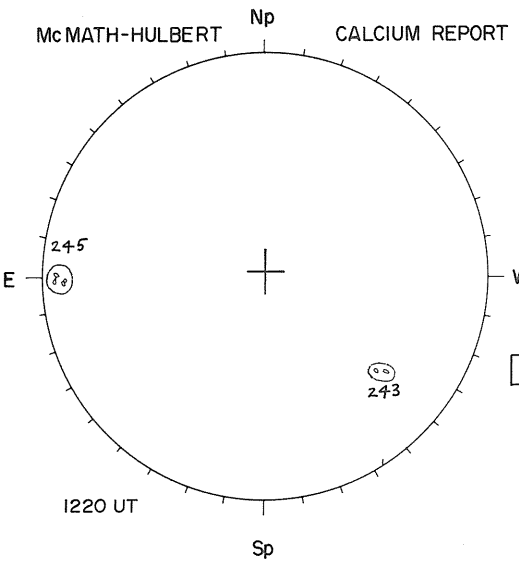


CORONA

NO DATA

McMATH-HULBERT

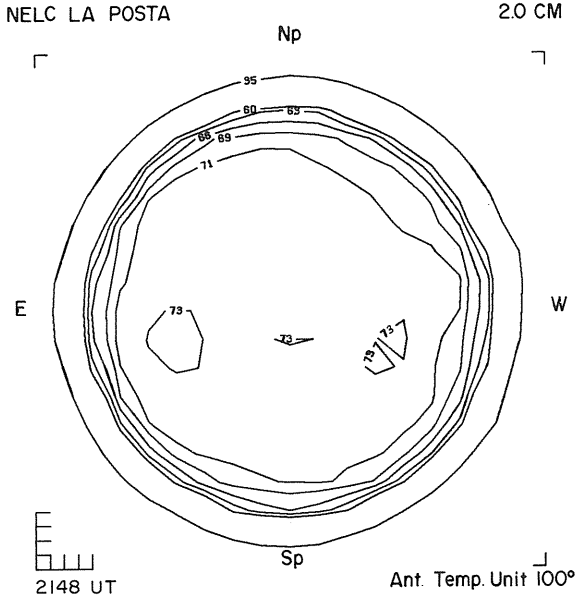
CALCIUM REPORT



GOOD | S

NELC LA POSTA

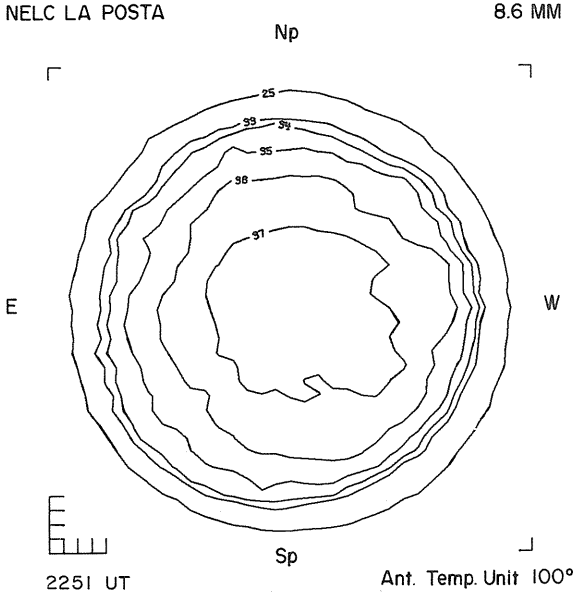
2.0 CM



Ant. Temp. Unit 100° K

NELC LA POSTA

8.6 MM



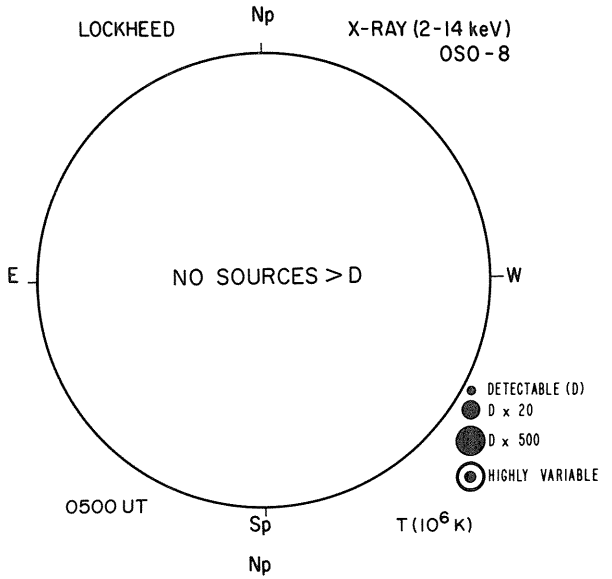
Ant. Temp. Unit 100° K

27 Jun 76

JUNE 3, 1976 (P =-14.65, B_o =-0.36, L_o =277.27)

LOCKHEED

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

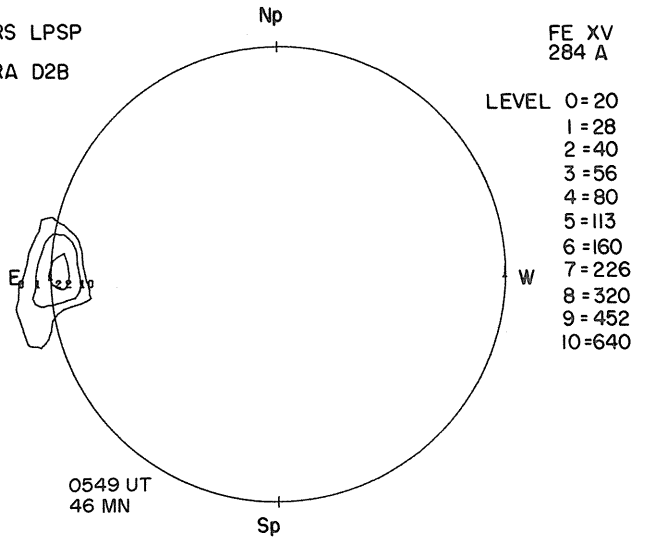


KITT PEAK

MAGNETOGRAM
Bright- Plus
Dark - Minus

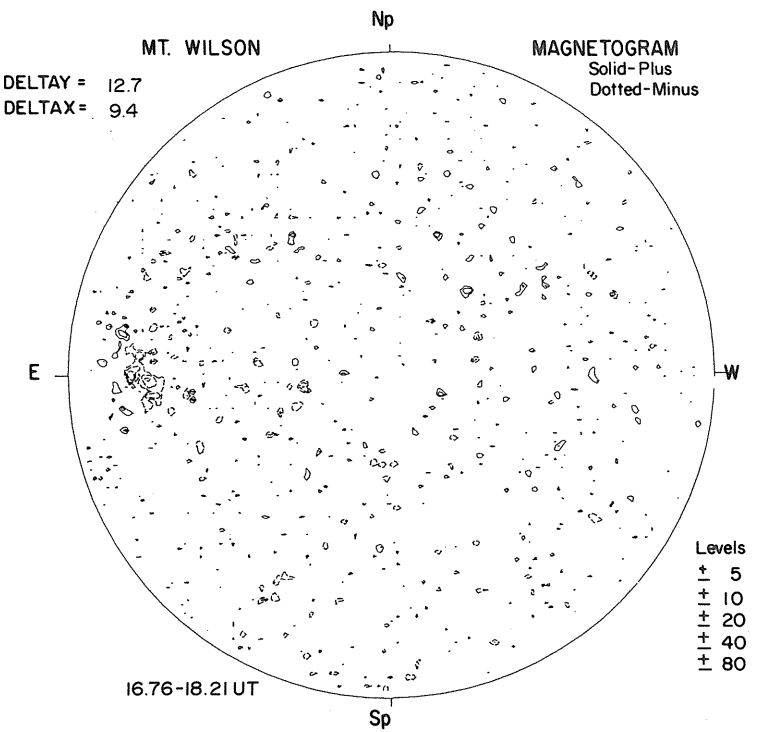
CNRS LPSP
AURA D2B

FE XV
284 A



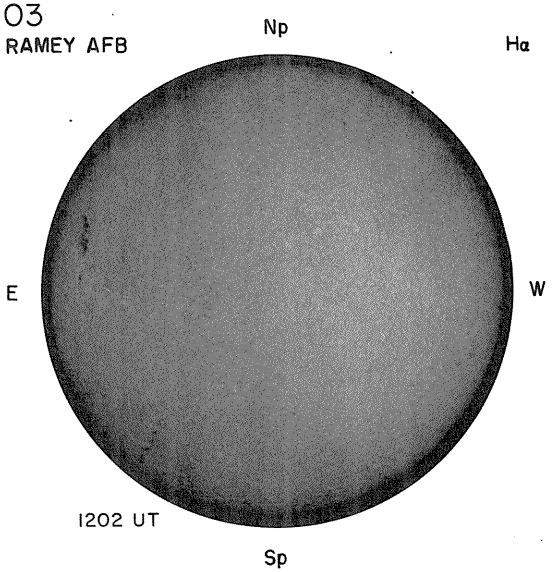
MT. WILSON

MAGNETOGRAM
Solid-Plus
Dotted-Minus



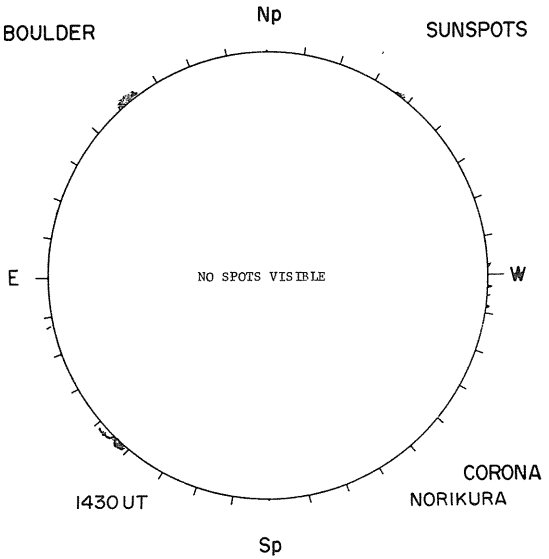
03

RAMEY AFB



BOULDER

SUNSPOTS

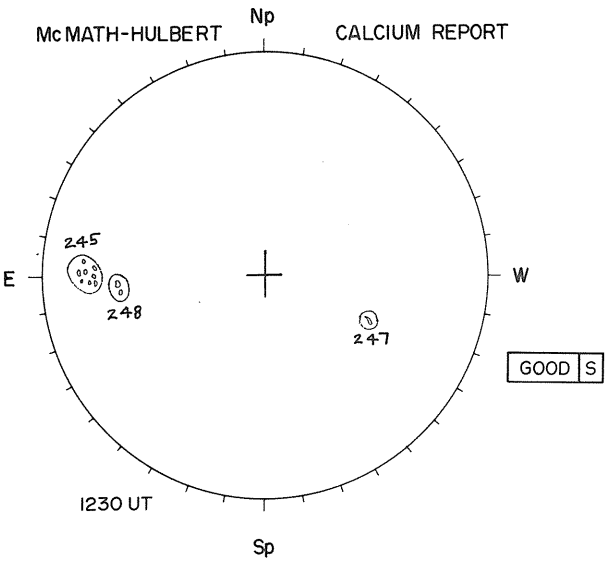


CORONA

NORIKURA

McMATH-HULBERT

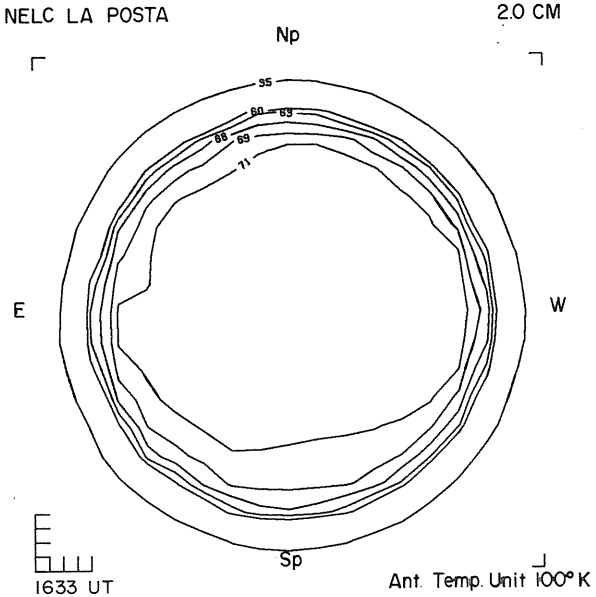
CALCIUM REPORT



GOOD | S

NELC LA POSTA

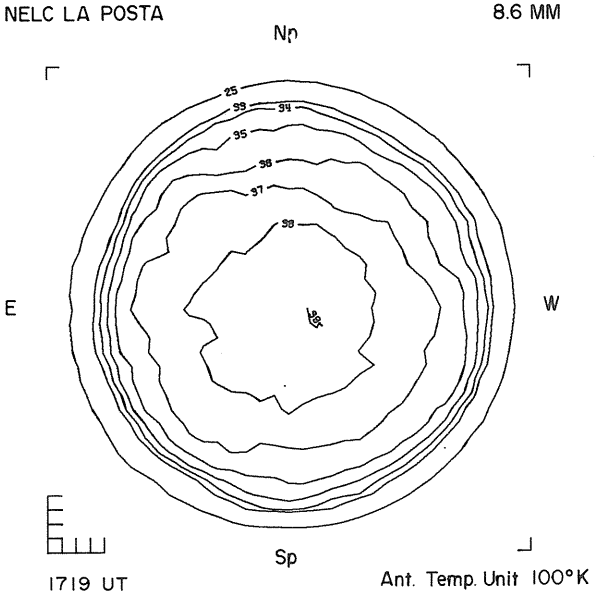
2.0 CM



Ant. Temp. Unit 100° K

NELC LA POSTA

8.6 MM



Ant. Temp. Unit 100° K

29 Jun 76

JUNE 4, 1976 (P =-14.26, B_o =-0.24, L_o = 264.03)

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

Np
E
W
Sp

NO SOURCES > D

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

0445 UT
T(10^6 K)

KITT PEAK

MAGNETOGRAM
Bright- Plus
Dark - Minus

CNRS LPSP
AURA D2B

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

0600 UT
45 MN

MT. WILSON

DELTAY = 12.7
DELTAX = 9.4

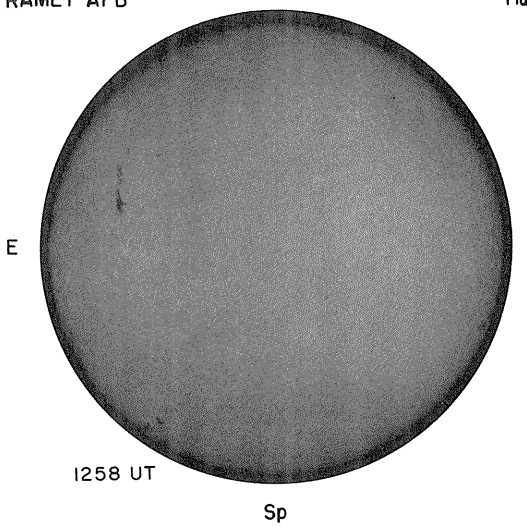
MAGNETOGRAM
Solid- Plus
Dotted-Minus

Levels
± 5
± 10
± 20
± 40
± 80

16.20-17.78 UT

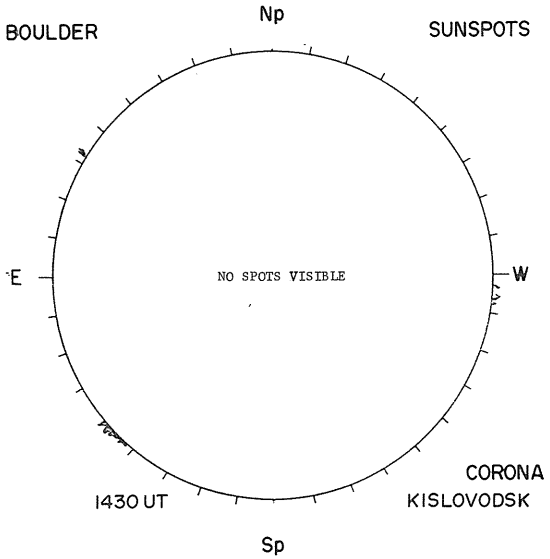
04

RAMEY AFB



Hα

BOULDER

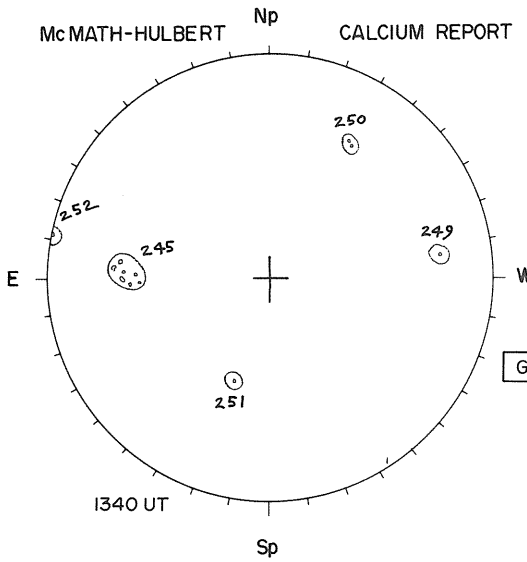


SUNSPOTS

CORONA

KISLOVODSK

McMATH-HULBERT

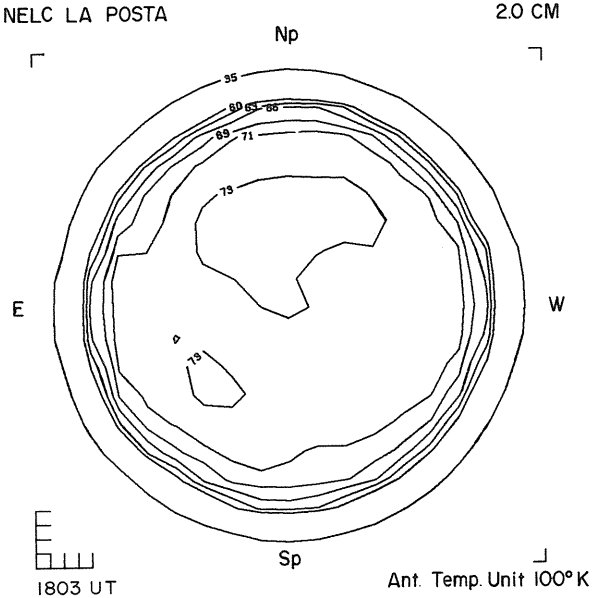


CALCIUM REPORT

GOOD | M

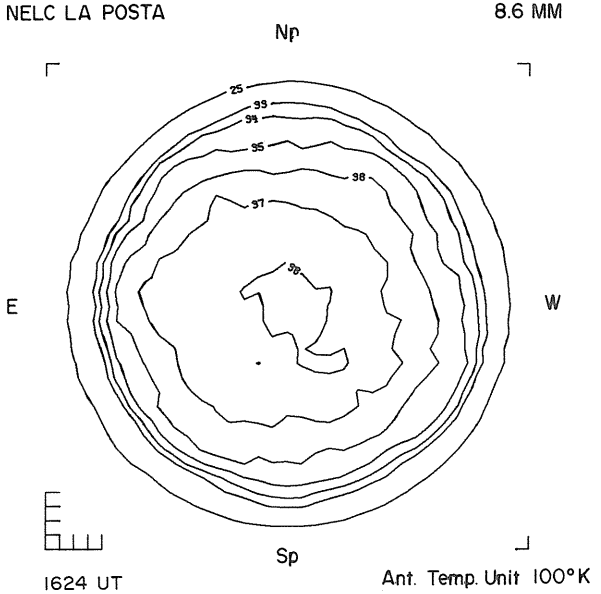
NELC LA POSTA

2.0 CM

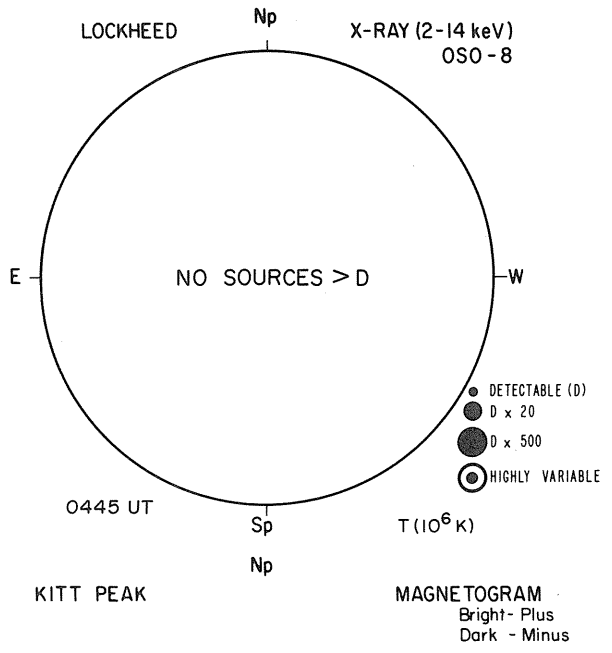


NELC LA POSTA

8.6 MM



JUNE 5, 1976 (P =-13.87, B_0 =-0.12, L_0 = 250.80)

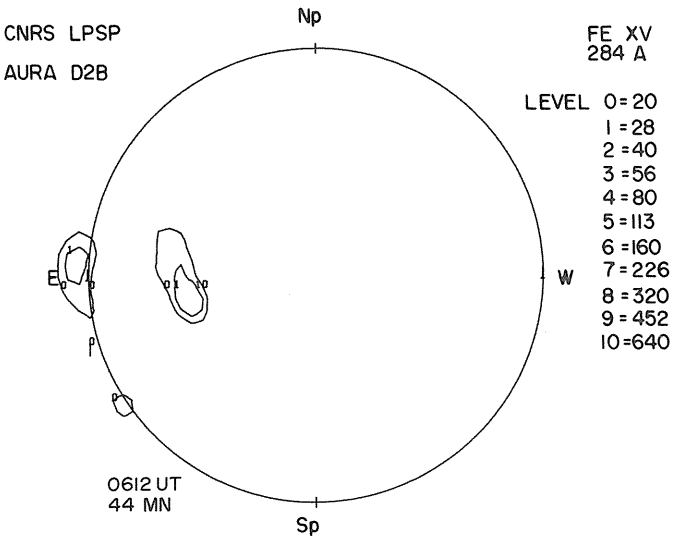


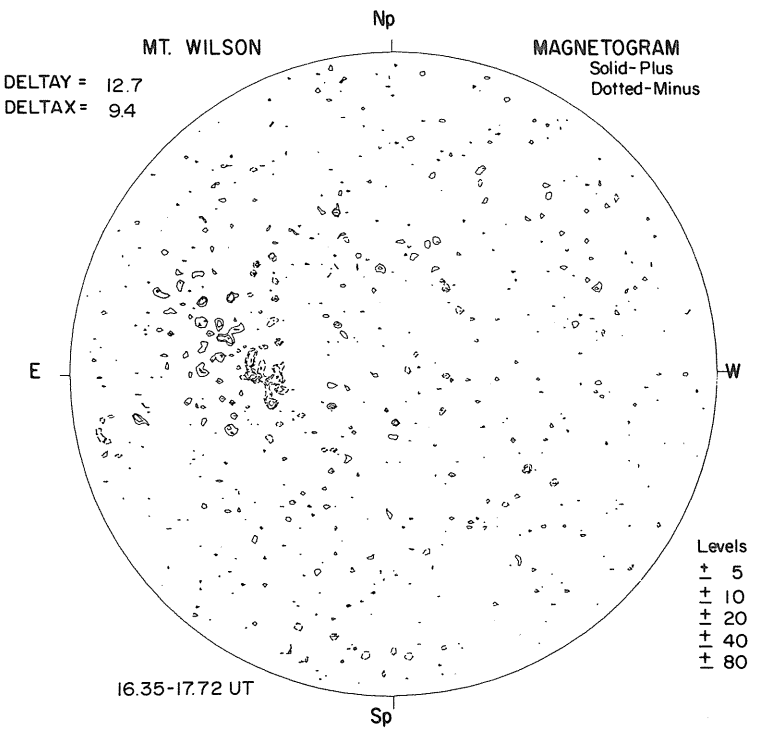
KITT PEAK

MAGNETOGRAM
Bright- Plus
Dark - Minus

E W

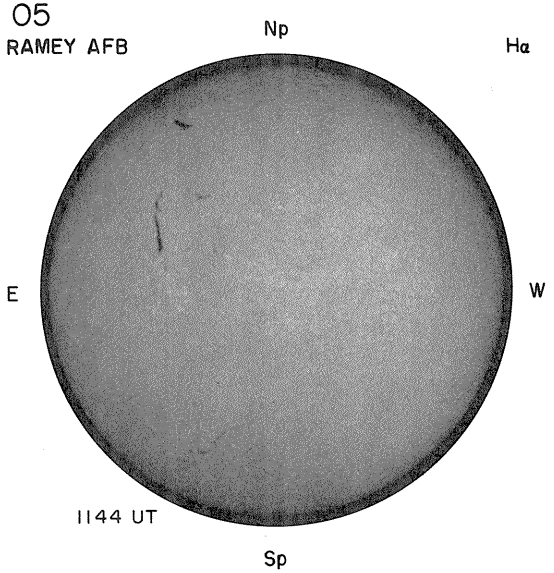
Sp



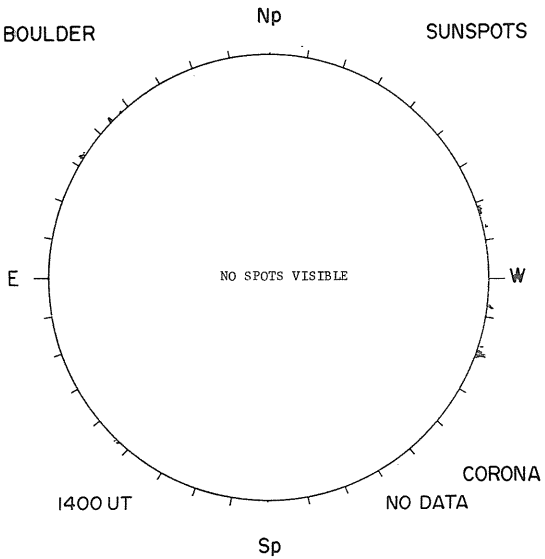


05

RAMEY AFB



BOULDER

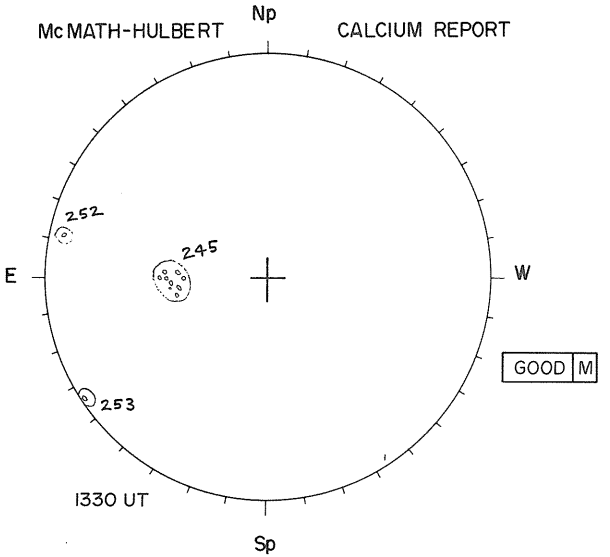


SUNSPOTS

CORONA

NO DATA

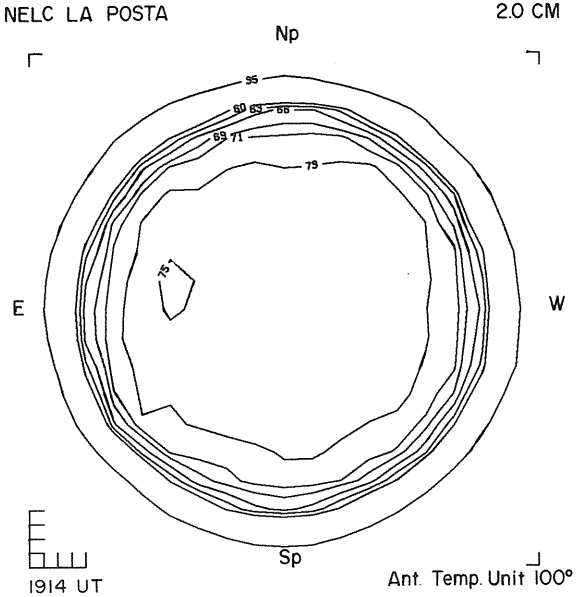
McMATH-HULBERT



CALCIUM REPORT

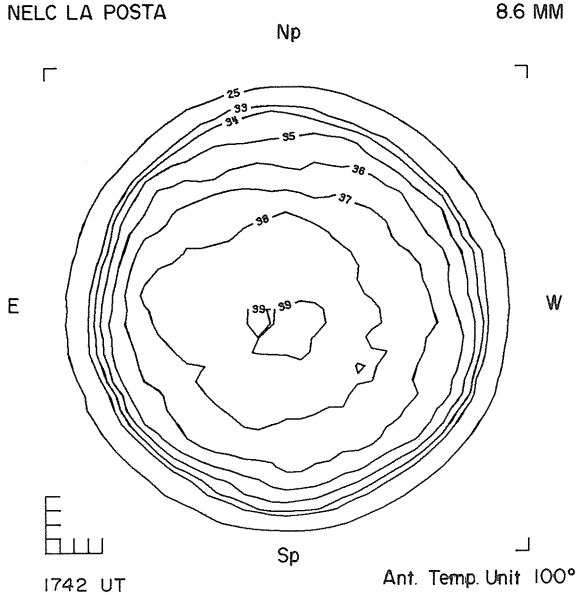
GOOD | M

NELC LA POSTA 2.0 CM



Ant. Temp. Unit 100°K

NELC LA POSTA 8.6 MM

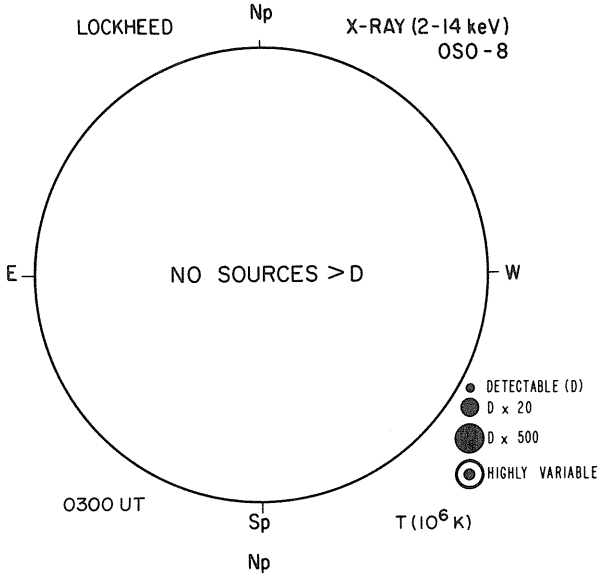


Ant. Temp. Unit 100°K

JUNE 6, 1976 (P =-13.48, B_o =0.00, L_o =237.56)

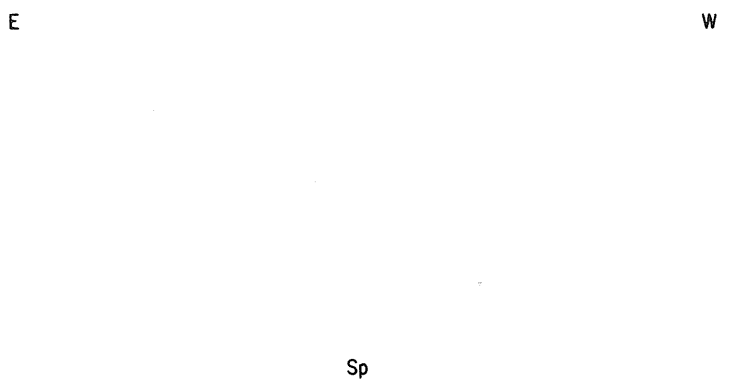
LOCKHEED

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



KITT PEAK

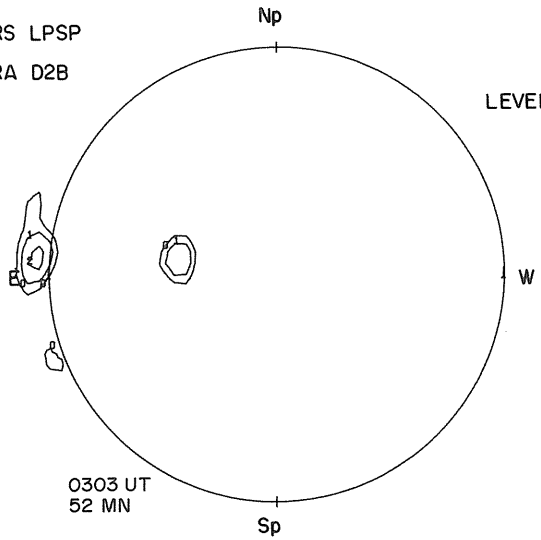
MAGNETOGRAM
Bright- Plus
Dark - Minus



CNRS LPSP
AURA D2B

FE XV
284 A

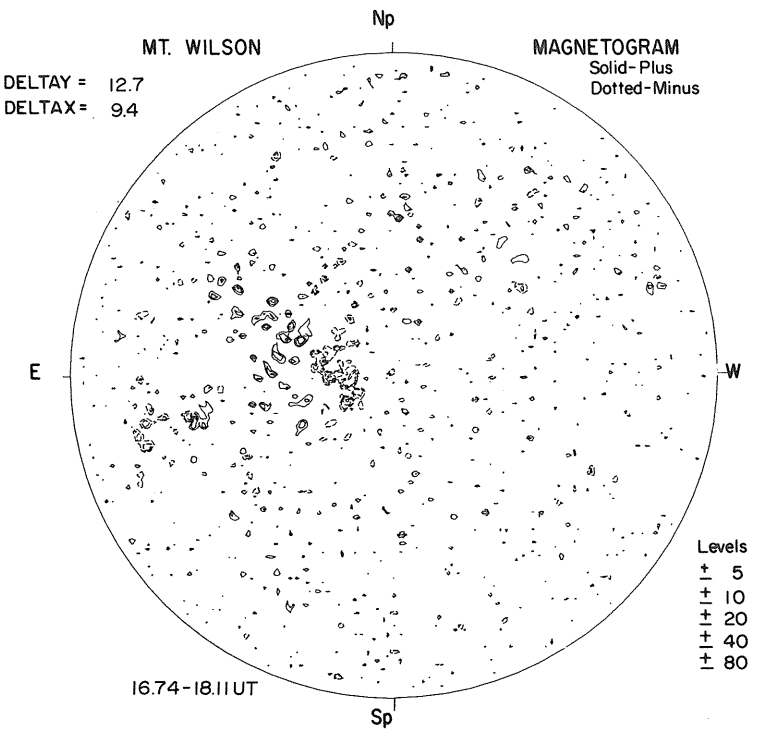
LEVEL 0=20
1=28
2=40
3=56
4=80
5=113
6=160
7=226
8=320
9=452
10=640



MT. WILSON

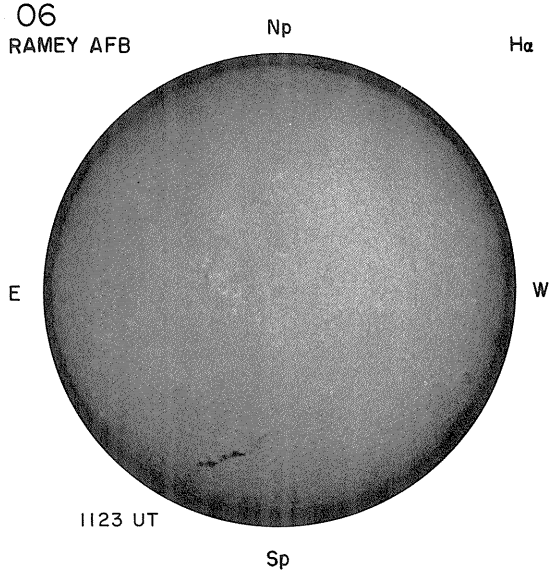
DELTAY = 12.7
DELTAX = 9.4

MAGNETOGRAM
Solid-Plus
Dotted-Minus



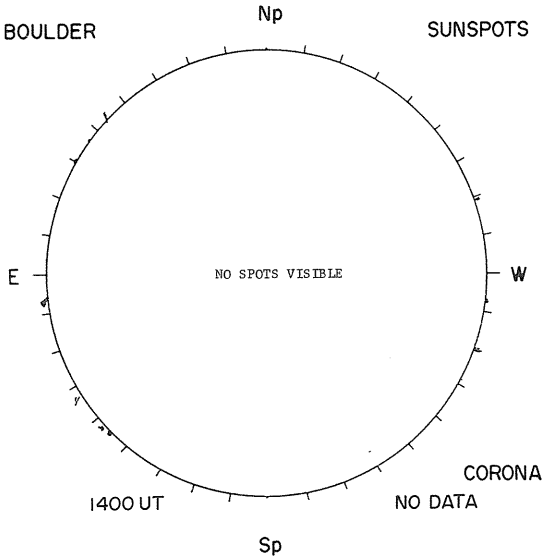
06

RAMEY AFB



BOULDER

SUNSPOTS

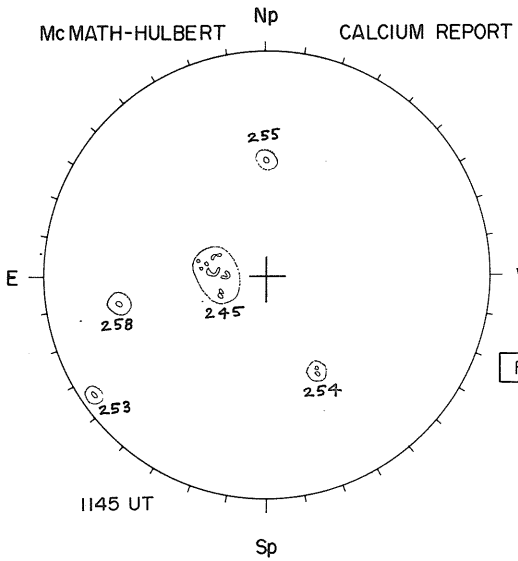


CORONA

NO DATA

McMATH-HULBERT

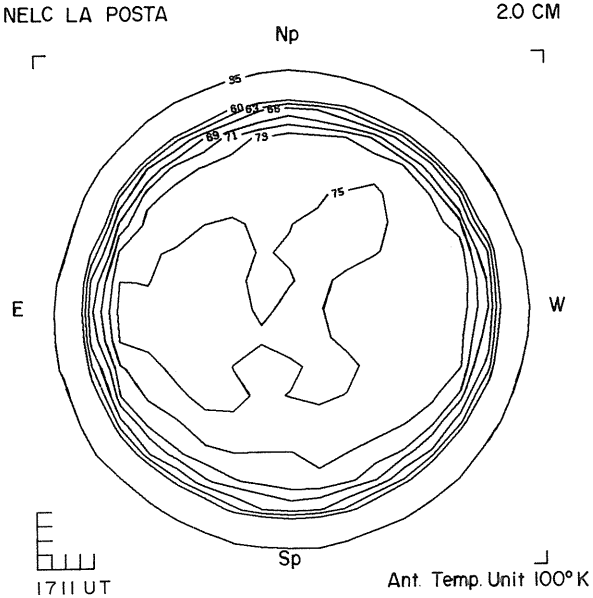
CALCIUM REPORT



FAIR | D

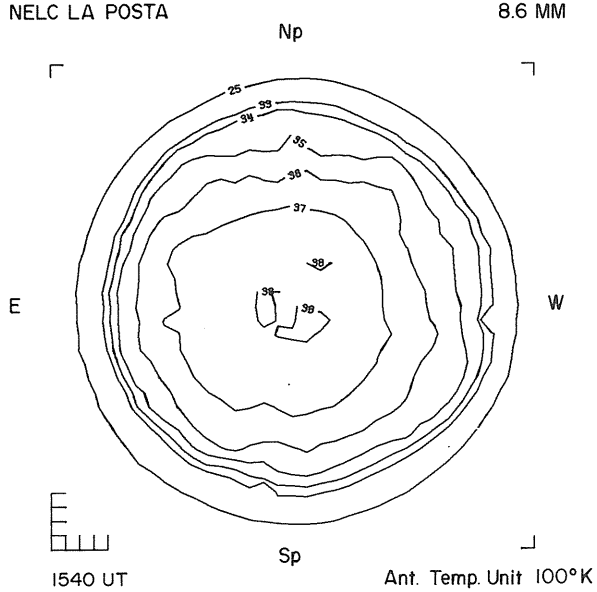
NELC LA POSTA

2.0 CM



NELC LA POSTA

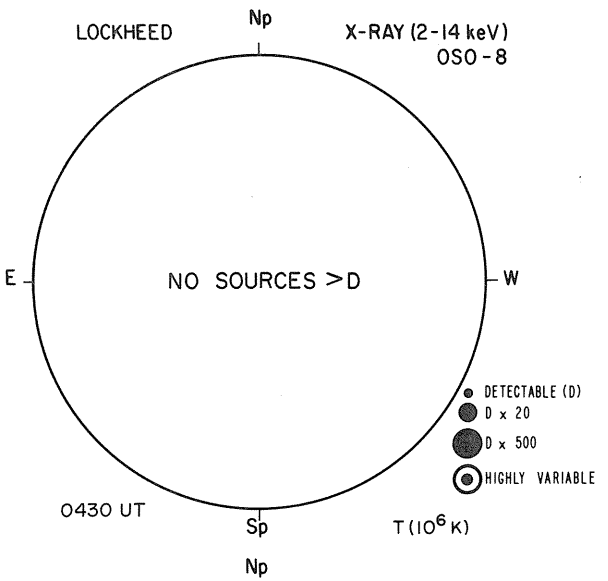
8.6 MM



JUNE 7, 1976 (P =-13.08, B_0 =0.12, L_0=224.33)

LOCKHEED

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



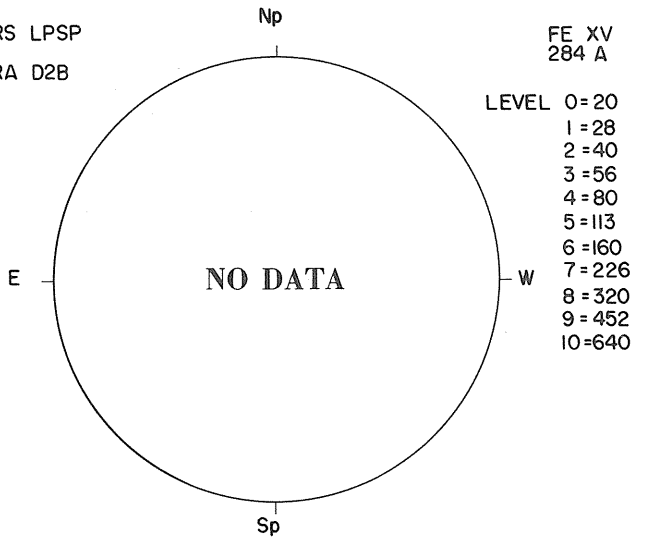
KITT PEAK

MAGNETOGRAM
Bright- Plus
Dark - Minus

CNRS LPSP
AURA D2B

FE XV
284 A

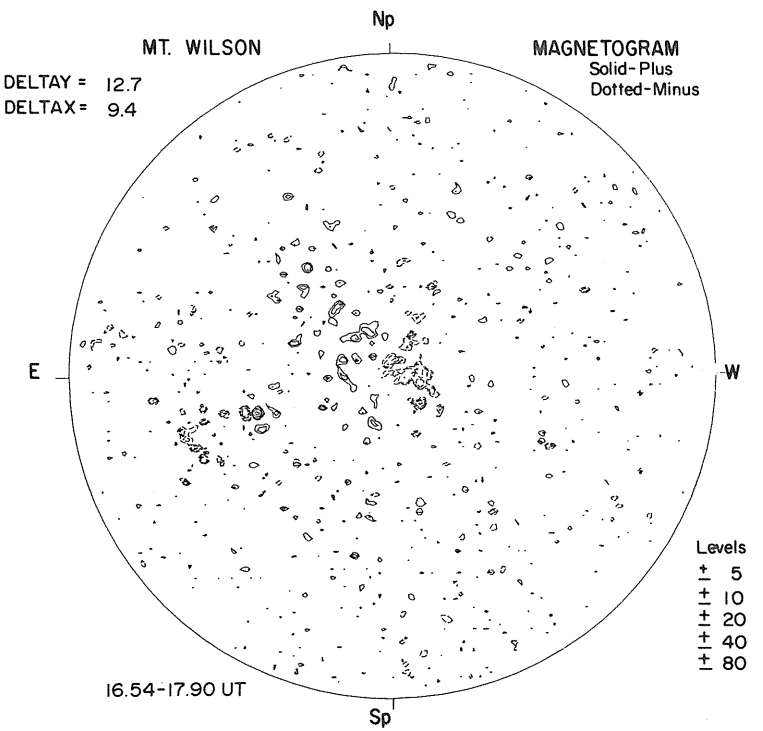
LEVEL 0=20
1=28
2=40
3=56
4=80
5=113
6=160
7=226
8=320
9=452
10=640



MT. WILSON

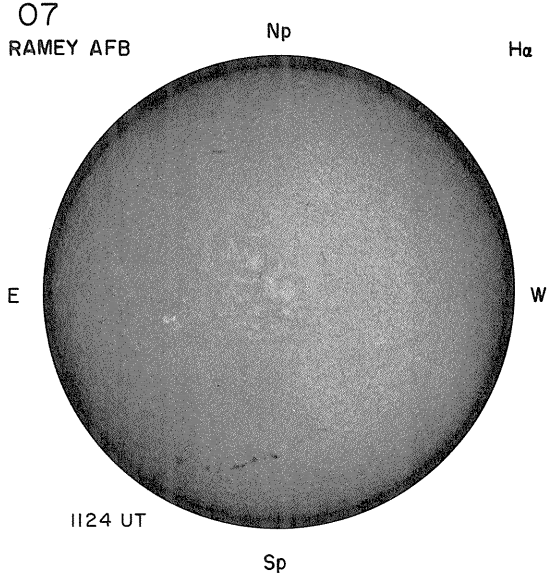
DELTAY = 12.7
DELTAX = 9.4

MAGNETOGRAM
Solid- Plus
Dotted-Minus

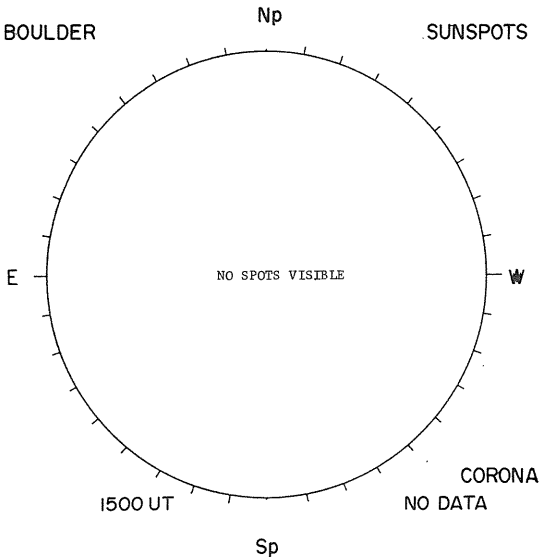


07

RAMEY AFB



BOULDER



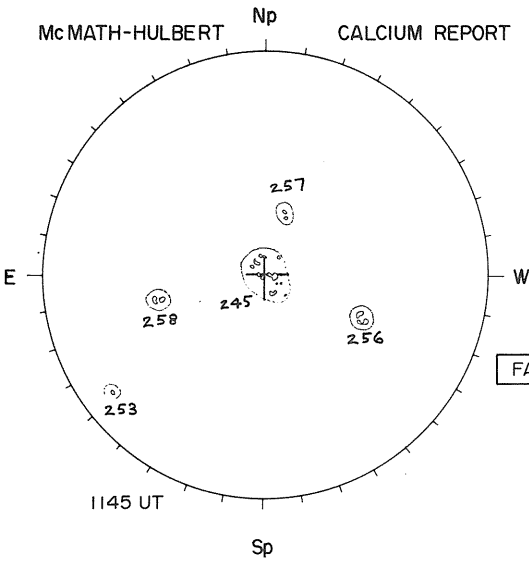
SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT

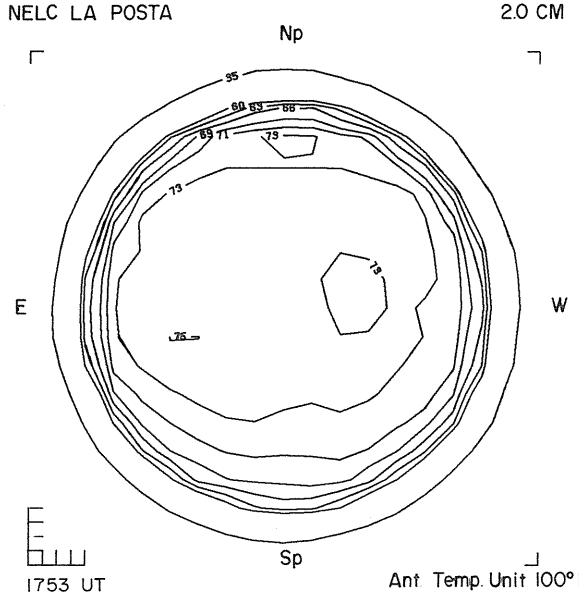
CALCIUM REPORT



FAIR | D

NELC LA POSTA

2.0 CM

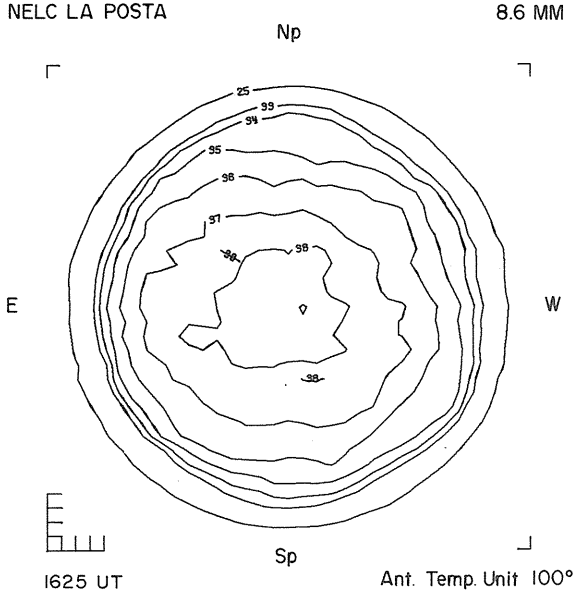


1753 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM



1625 UT

Ant. Temp. Unit 100°K

JUNE 8, 1976 (P =-12.68, B_o =0.24, L_o =211.09)

LOCKHEED

Np

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

E

NO SOURCES >D

W

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

0430 UT

Sp

T(10^6 K)

Np

KITT PEAK

MAGNETOGRAM
Bright- Plus
Dark - Minus

CNRS LPSP

AURA D2B

Np

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

E

NO DATA

W

Sp

Np

MT. WILSON

MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY =
DELTAX =

E

NO DATA

W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

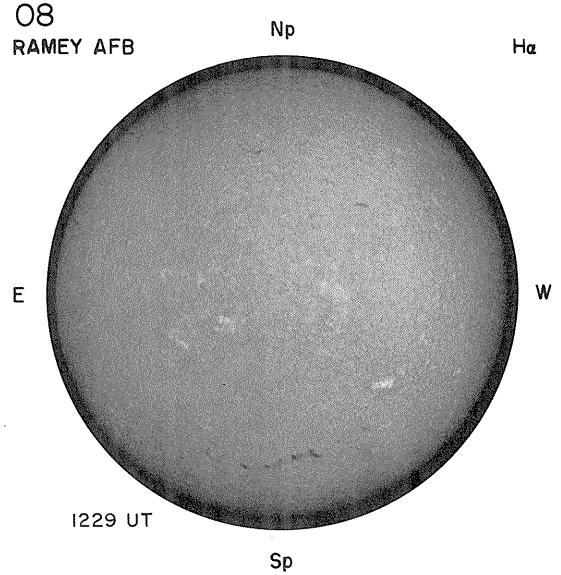
E

W

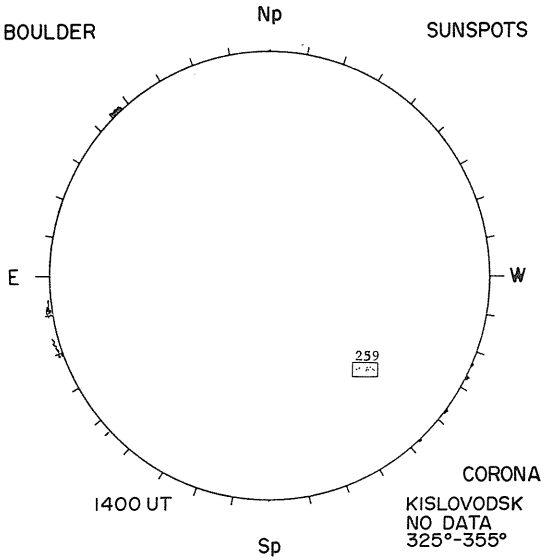
Sp

08

RAMEY AFB



BOULDER



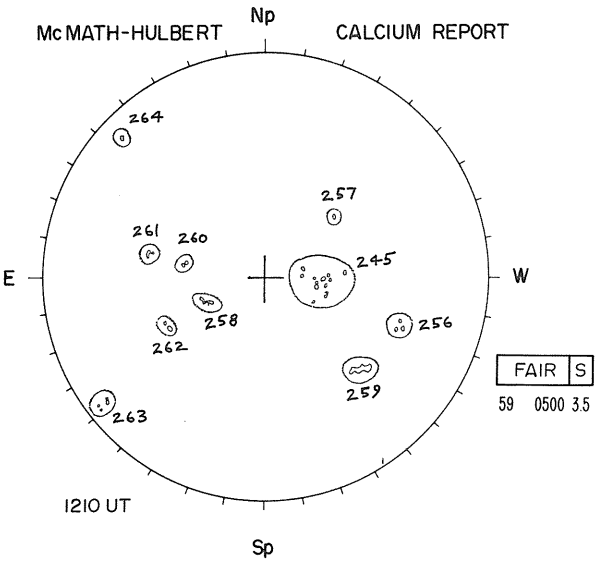
SUNSPOTS

CORONA

KISLOVODSK
NO DATA
325°-355°

McMATH-HULBERT

CALCIUM REPORT

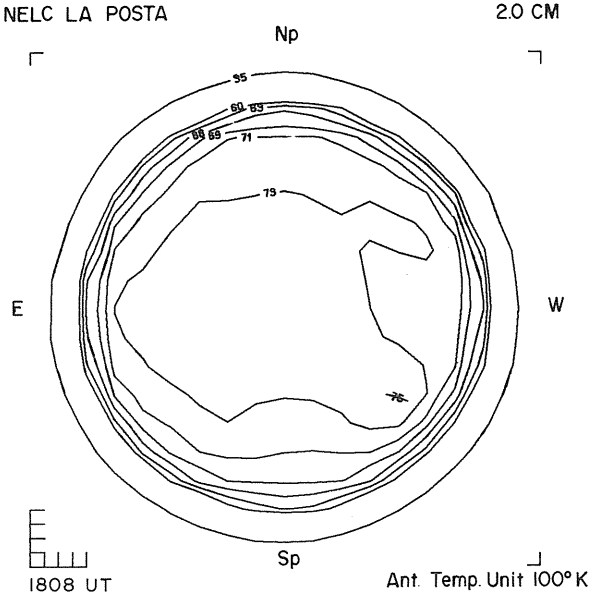


FAIR | S

59 0500 3.5

NELC LA POSTA

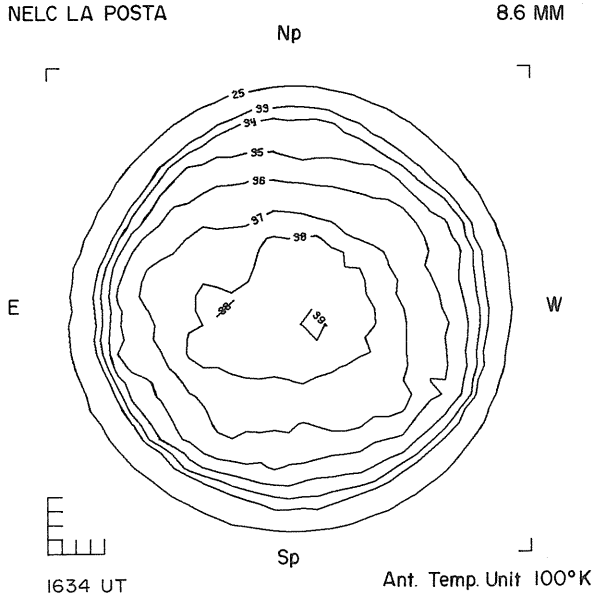
2.0 CM



Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM



Ant. Temp. Unit 100°K

JUNE 9, 1976 (P =-12.27, B_o =0.36, L_o =197.86)

LOCKHEED

Np

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

E

NO SOURCES >D

W

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

0415 UT

Sp

T(10^6 K)

Np

KITT PEAK

MAGNETOGRAM
Bright- Plus
Dark - Minus

CNRS LPSP
AURA D2B

Np

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

E

W

1948 UT
54 MN

Sp

Np

MT. WILSON

MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY =
DELTAX =

E

NO DATA

W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

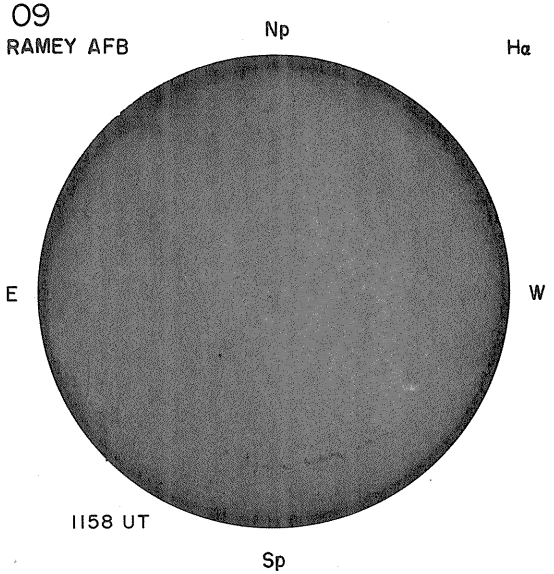
E

W

Sp

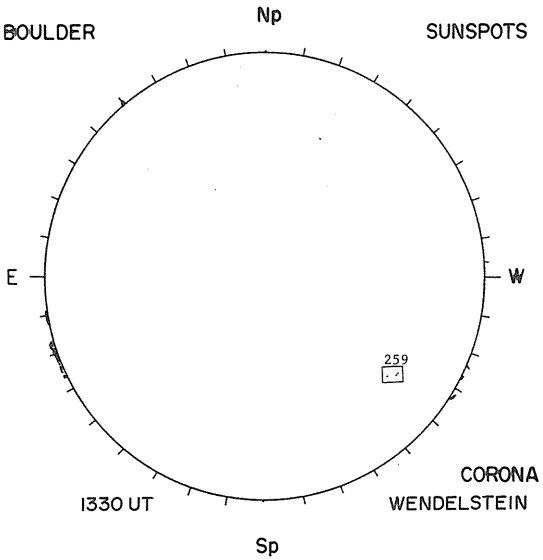
09

RAMEY AFB Hα



1158 UT

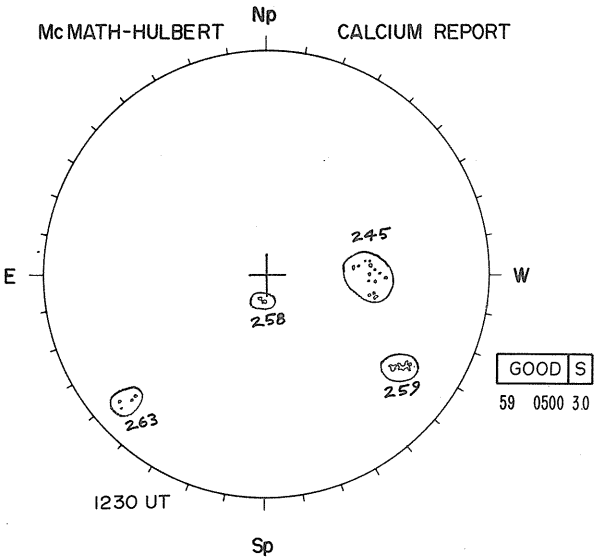
BOULDER SUNSPOTS



1330 UT

CORONA
WENDELSTEIN

McMATH-HULBERT CALCIUM REPORT

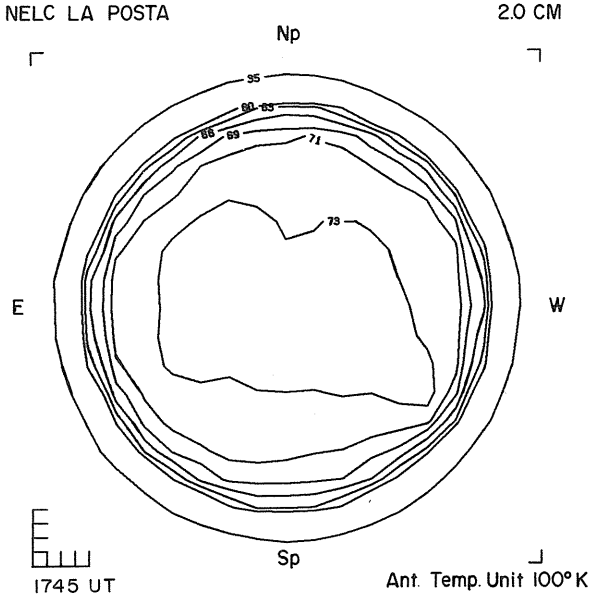


1230 UT

GOOD	S

59 0500 3.0

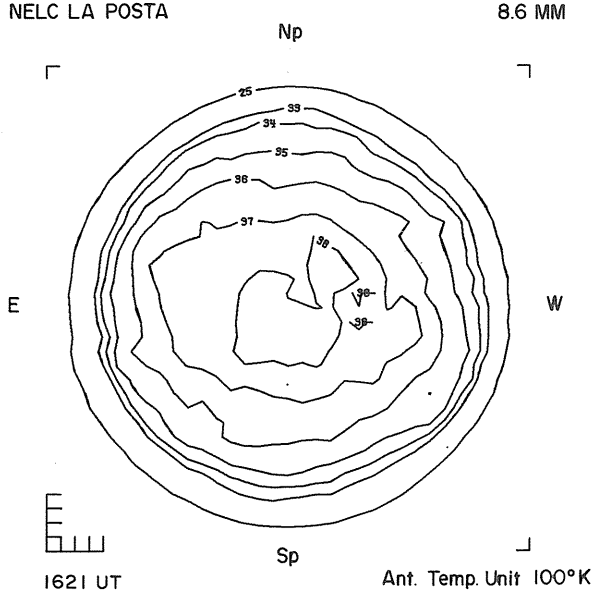
NELC LA POSTA 2.0 CM



1745 UT

Ant. Temp. Unit 100°K

NELC LA POSTA 8.6 MM



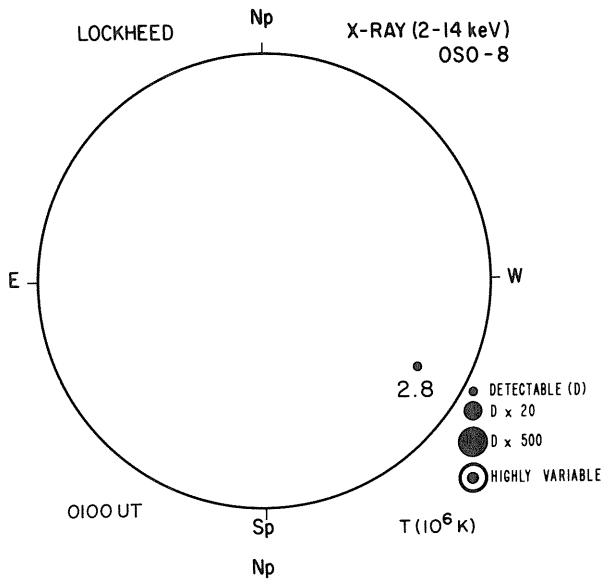
1621 UT

Ant. Temp. Unit 100°K

JUNE 10, 1976 (P =-11.86, B_o =0.48, L_o =184.62)

LOCKHEED

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



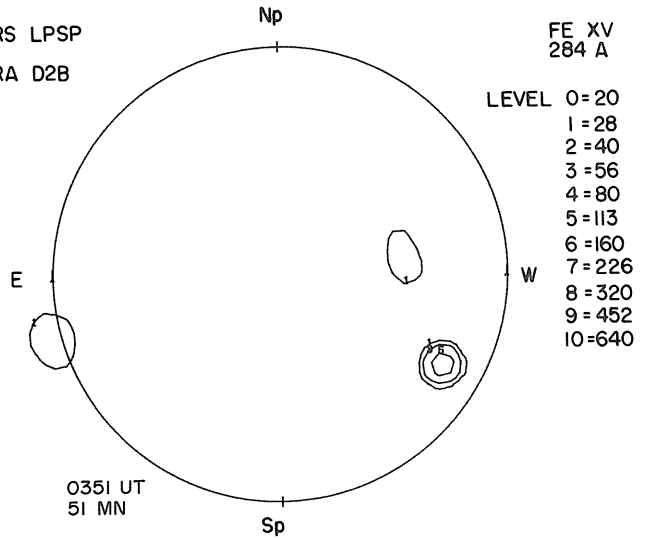
KITT PEAK

MAGNETOGRAM
Bright- Plus
Dark - Minus

CNRS LPSP
AURA D2B

FE XV
284 A

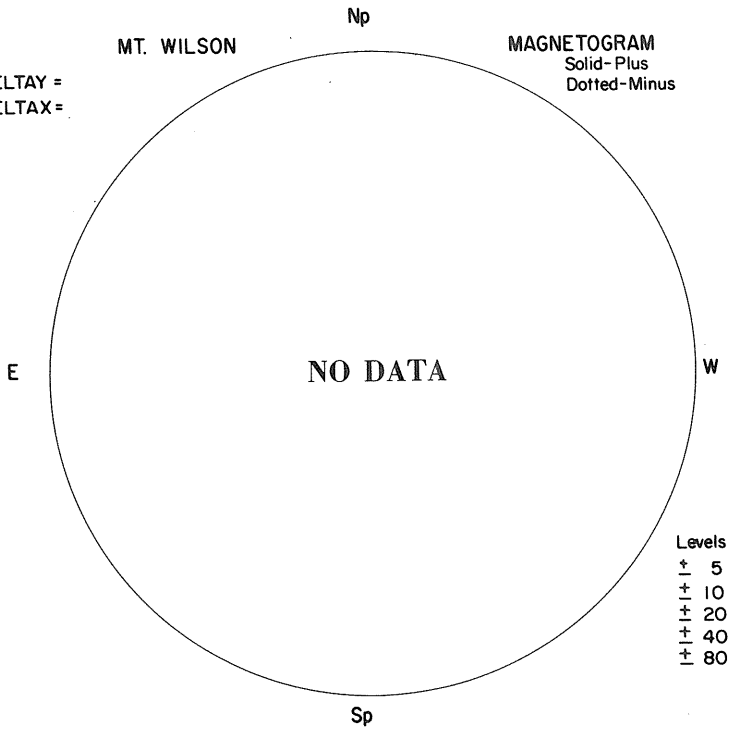
LEVEL 0=20
1=28
2=40
3=56
4=80
5=113
6=160
7=226
8=320
9=452
10=640



MT. WILSON

DELTAY =
DELTAX=

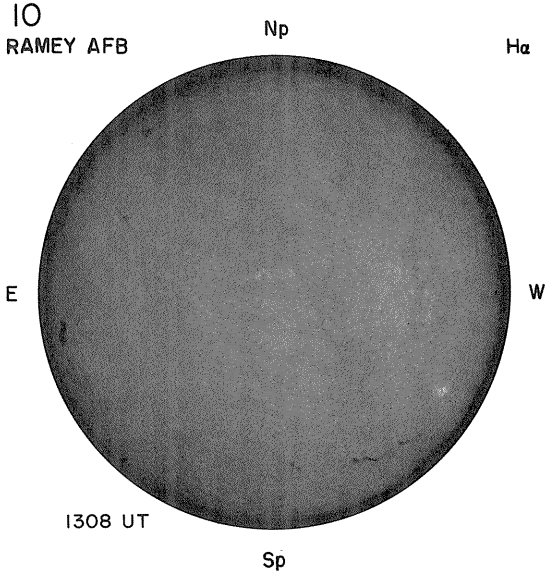
MAGNETOGRAM
Solid-Plus
Dotted-Minus



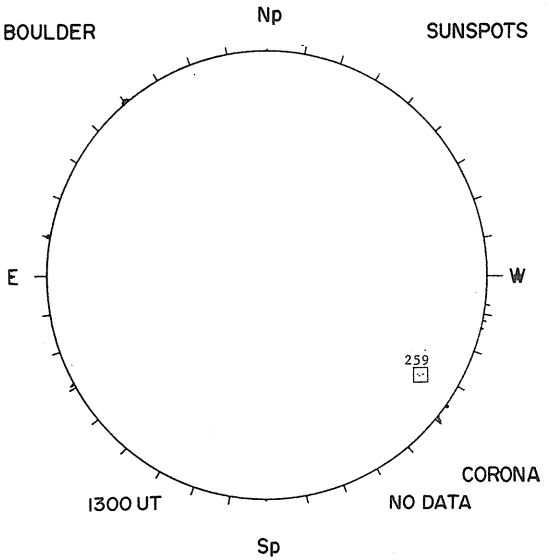
E W Sp

10

RAMEY AFB



BOULDER



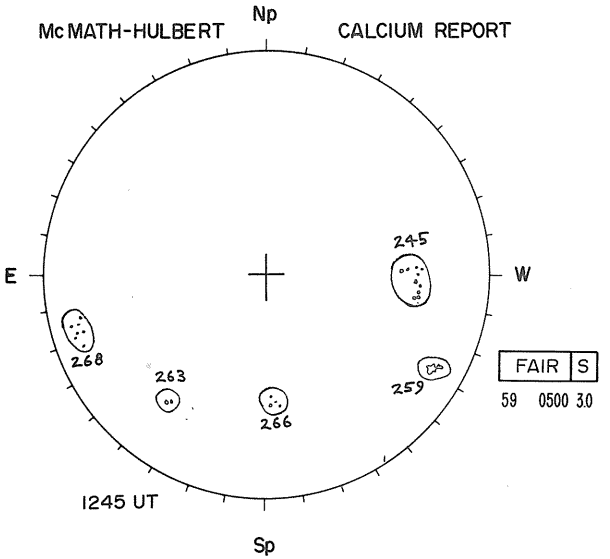
SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT

CALCIUM REPORT

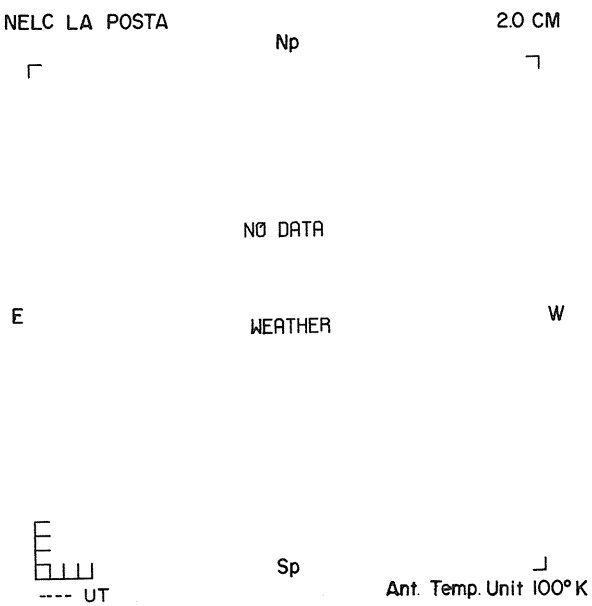


FAIR | S

59 0500 3.0

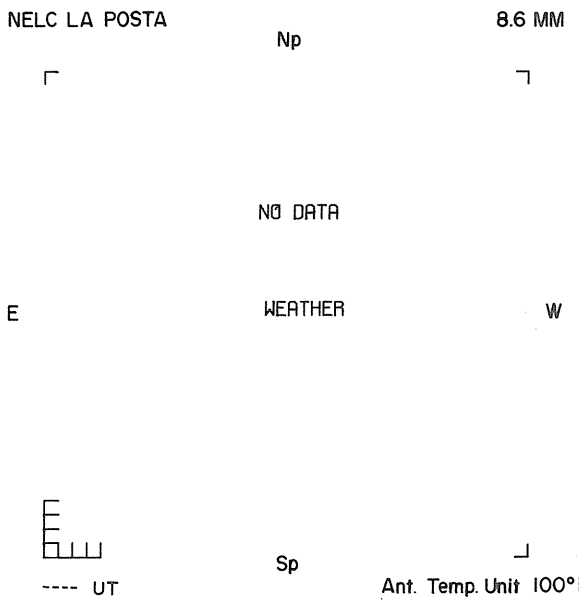
NELC LA POSTA

2.0 CM



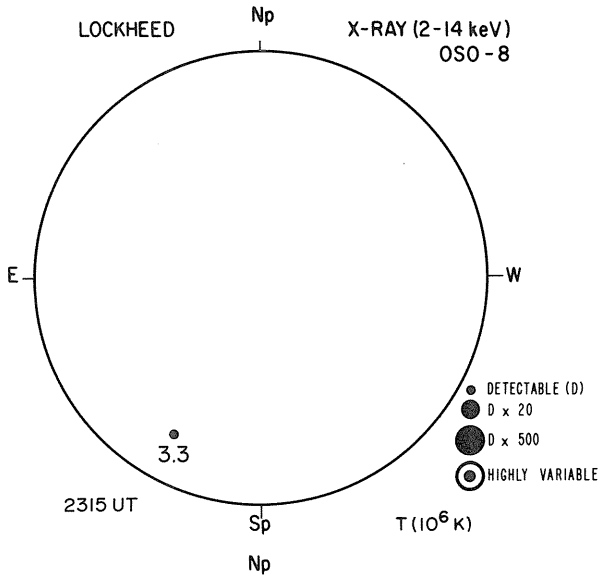
NELC LA POSTA

8.6 MM



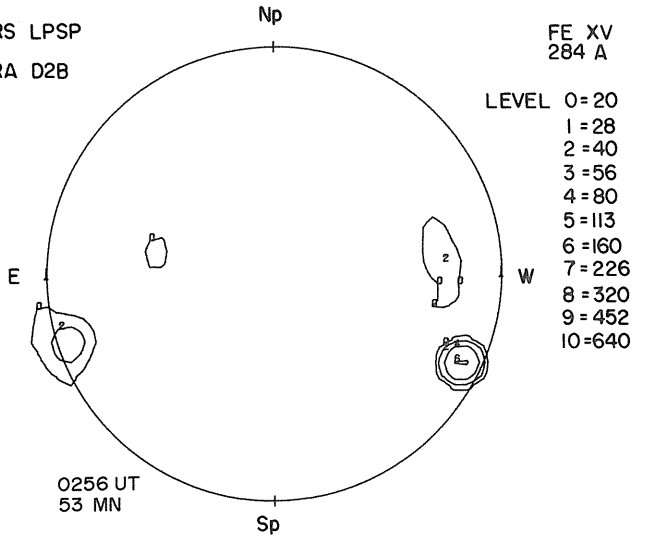
JUNE 11, 1976 (P =-11.45, B_o =0.60, L_o =171.39)

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

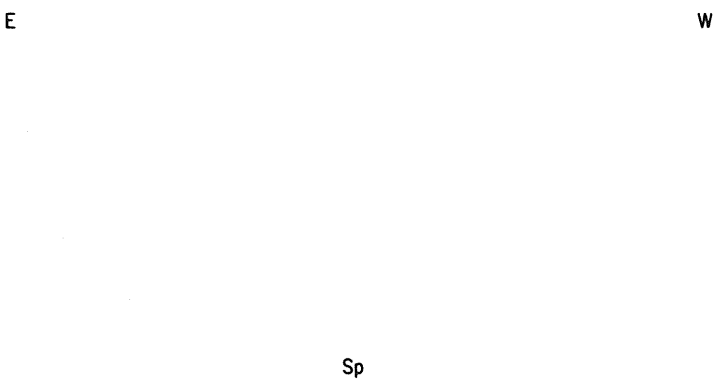


KITT PEAK
MAGNETOGRAM
Bright- Plus
Dark - Minus

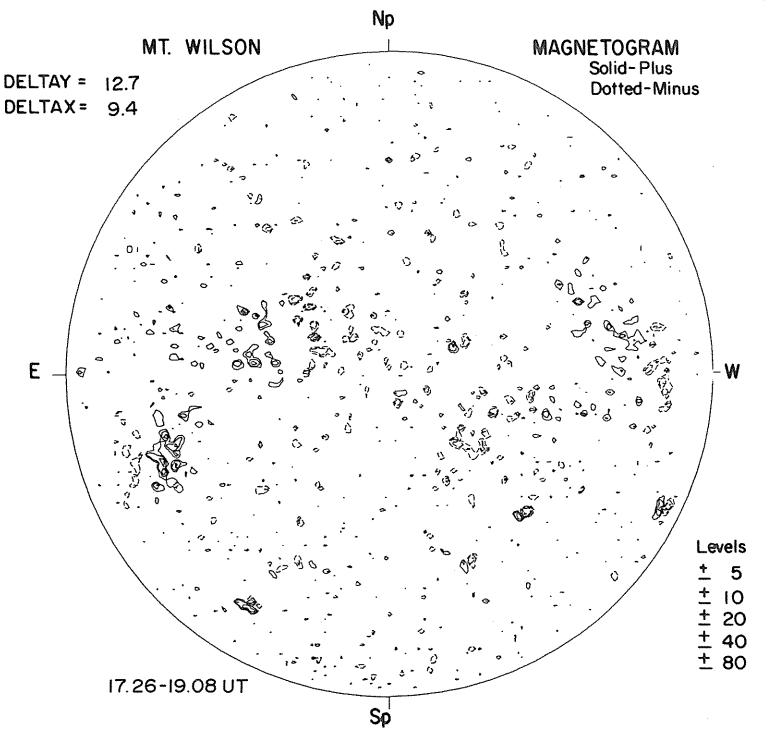
CNRS LPSP
AURA D2B
FE XV
284 A



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



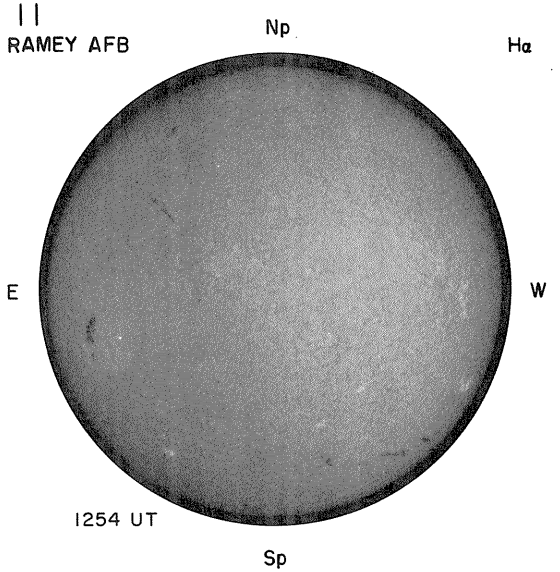
MT. WILSON
MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.4



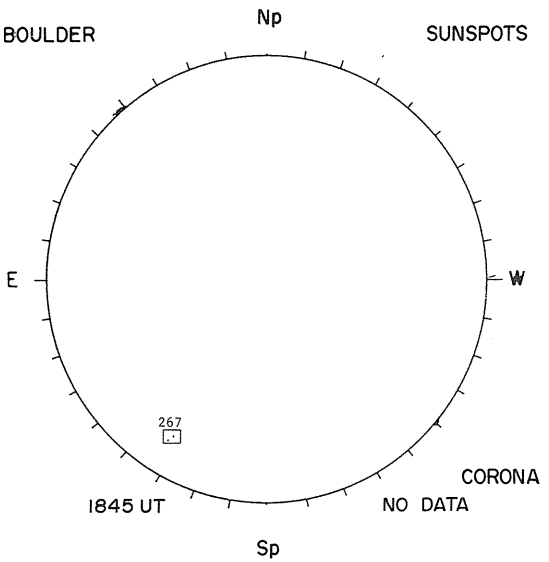
Levels
± 5
± 10
± 20
± 40
± 80

II

RAMEY AFB



BOULDER



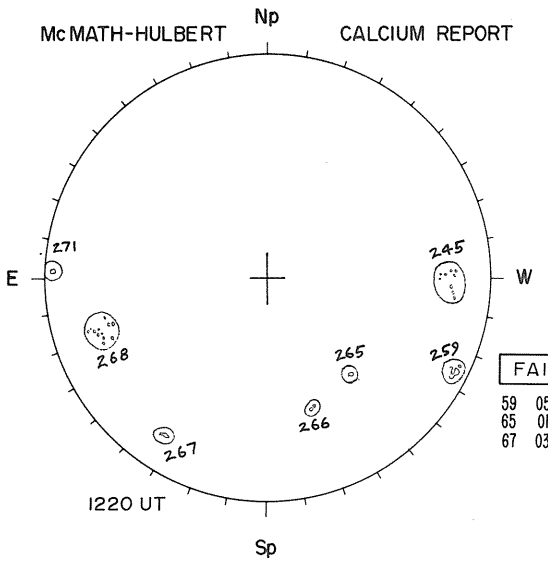
SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT

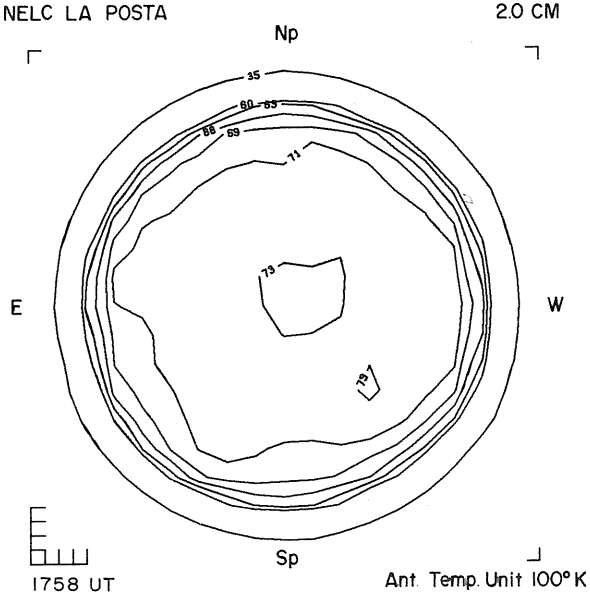
CALCIUM REPORT



FAIR	S
59	0500 2.5
65	0100 2.5
67	0300 3.0

NELC LA POSTA

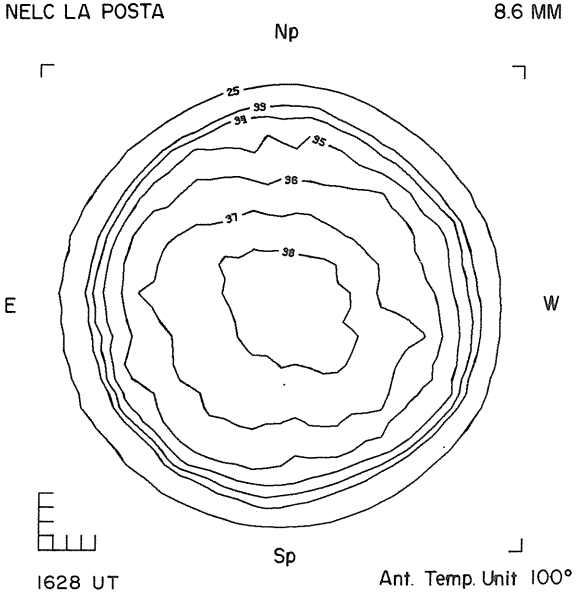
2.0 CM



Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM

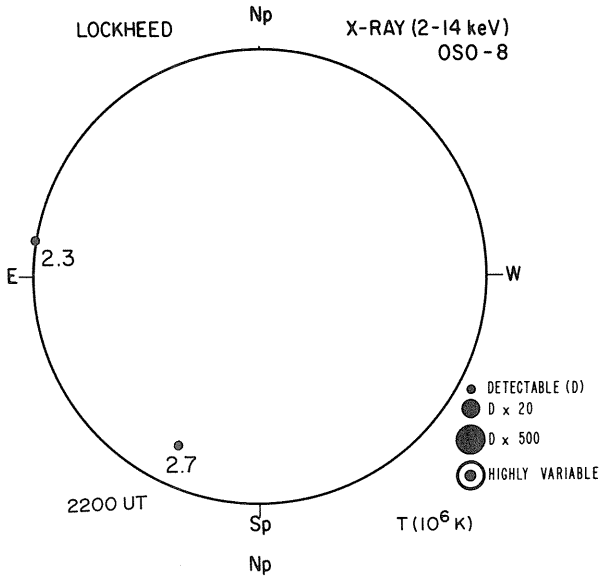


Ant. Temp. Unit 100°K

JUNE 12, 1976 (P =-11.03, B_o =0.72, L_o =158.15)

LOCKHEED

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



2200 UT

T(10^6 K)

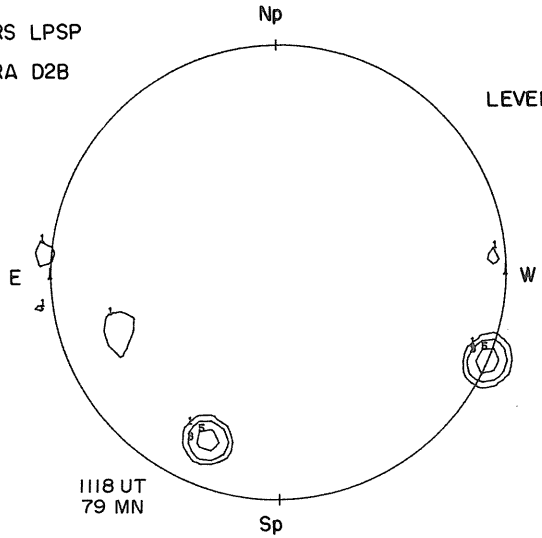
KITT PEAK

MAGNETOGRAM
Bright- Plus
Dark - Minus

CNRS LPSP
AURA D2B

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

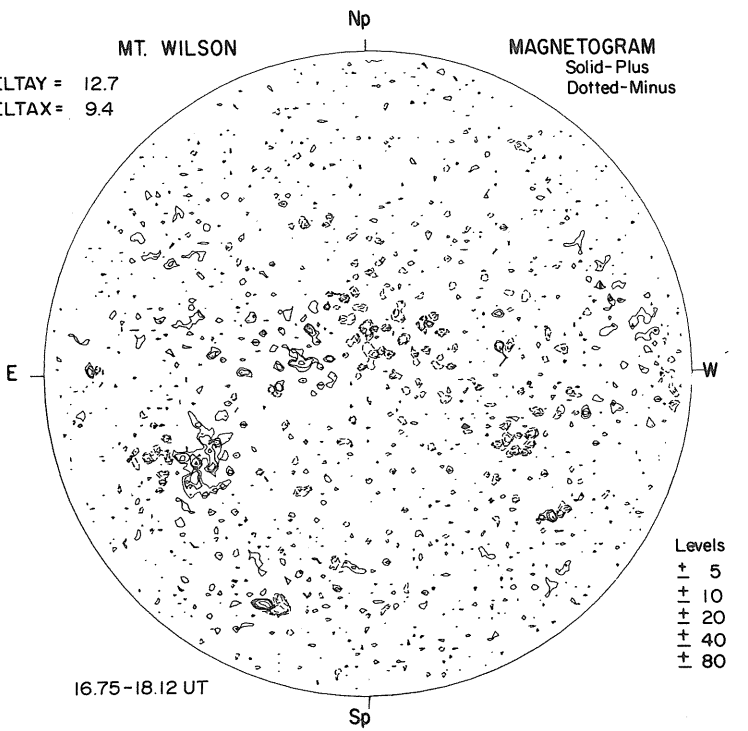


1118 UT
79 MN

MT. WILSON

DELTAY = 12.7
DELTAX = 9.4

MAGNETOGRAM
Solid-Plus
Dotted-Minus

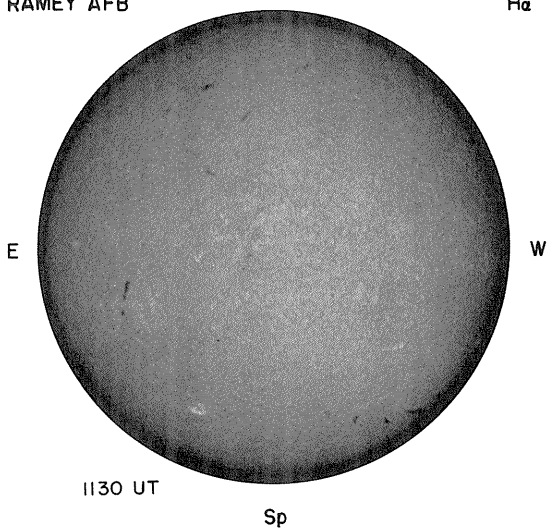


Levels
± 5
± 10
± 20
± 40
± 80

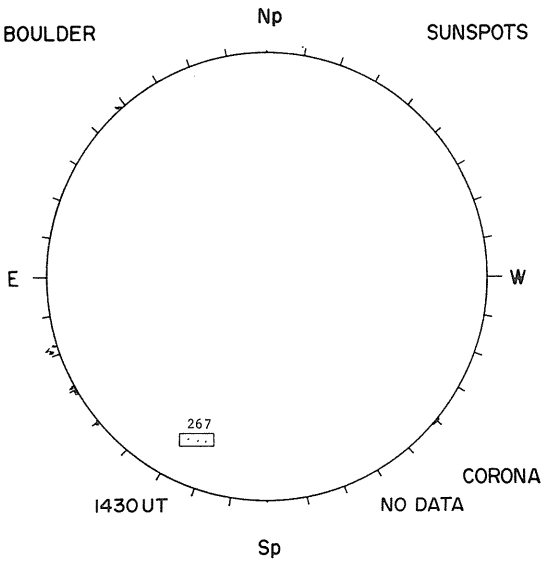
16.75-18.12 UT

12

RAMEY AFB



BOULDER



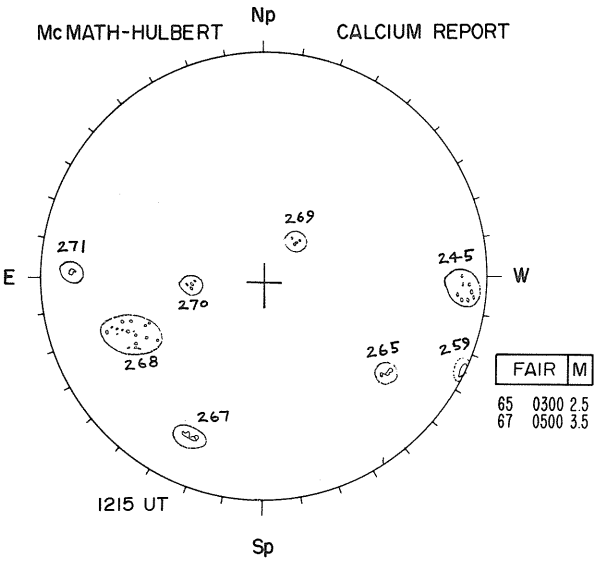
SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT

CALCIUM REPORT



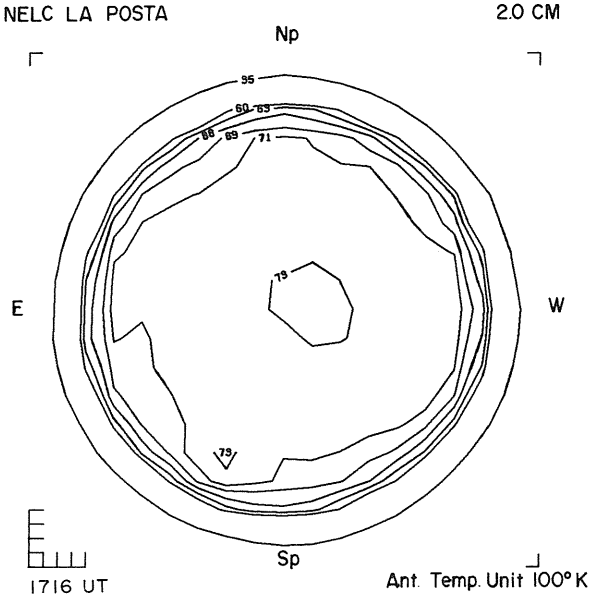
FAIR | M

65 0300 2.5

67 0500 3.5

NELC LA POSTA

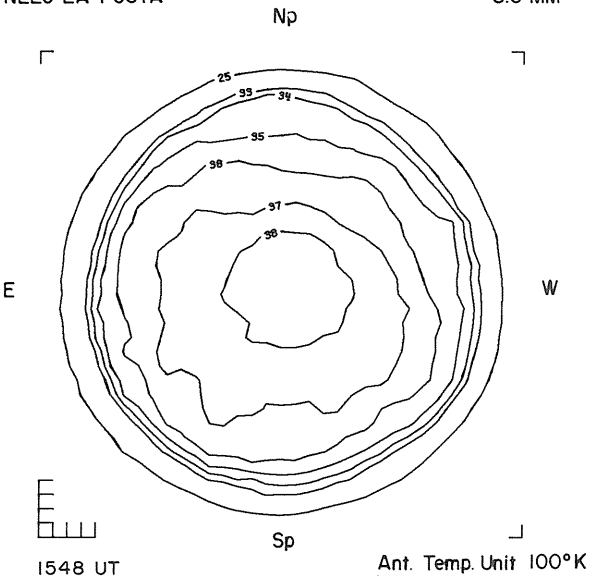
2.0 CM



Ant. Temp. Unit 100° K

NELC LA POSTA

8.6 MM

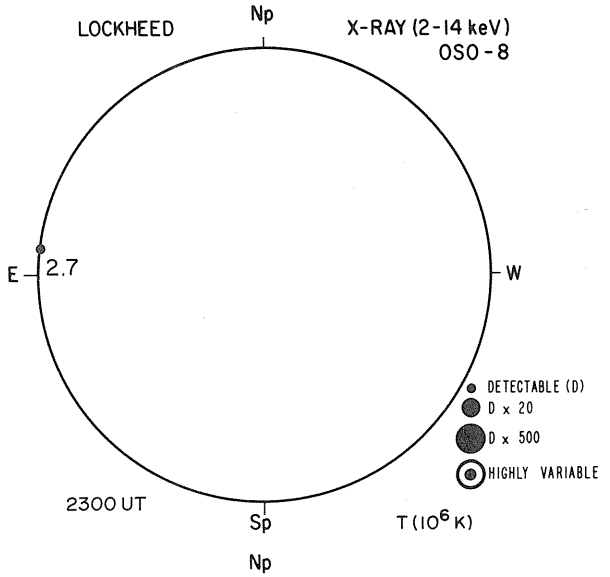


Ant. Temp. Unit 100° K

JUNE 13, 1976 (P =-10.61, B_o =0.84, L_o =144.91)

LOCKHEED

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



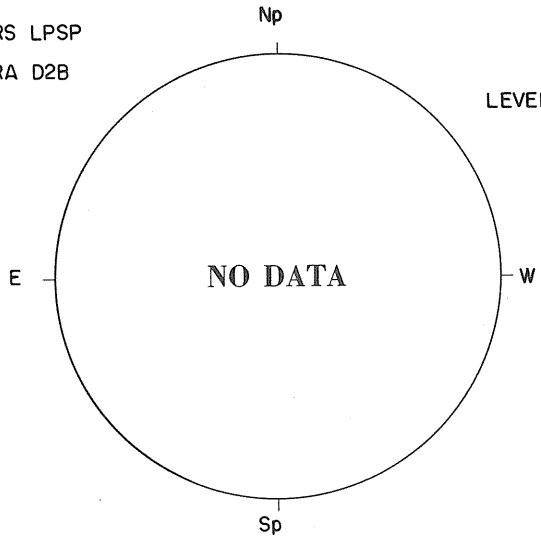
KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

CNRS LPSP
AURA D2B

FE XV
284 A

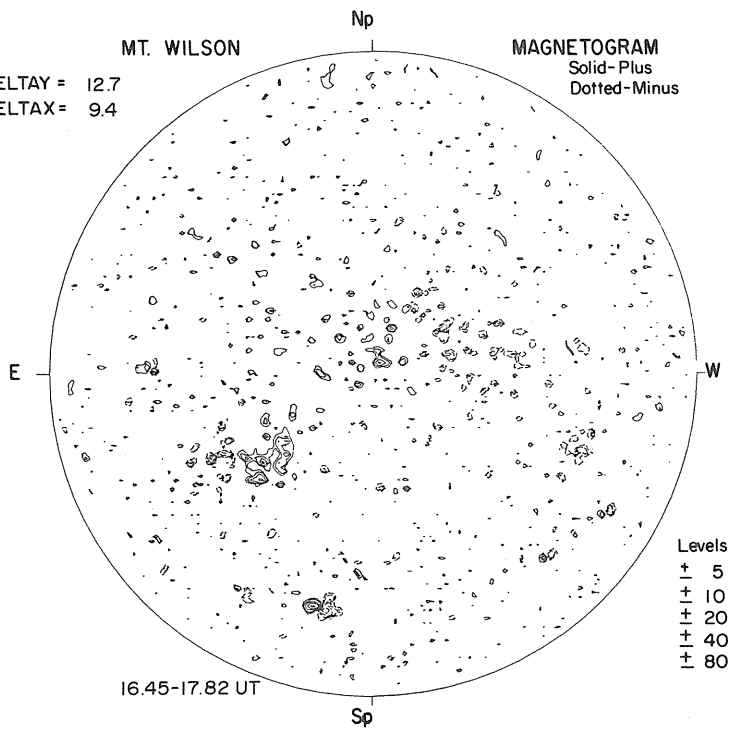
LEVEL 0=20
1=28
2=40
3=56
4=80
5=113
6=160
7=226
8=320
9=452
10=640



MT. WILSON

DELTAY = 12.7
DELTAX = 9.4

MAGNETOGRAM
Solid - Plus
Dotted - Minus

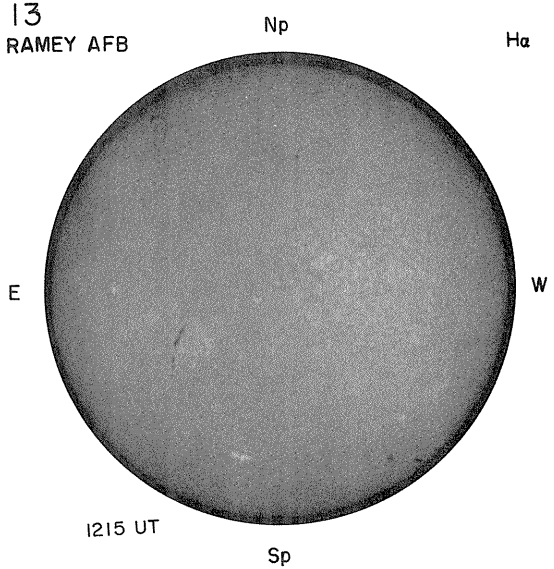


E W

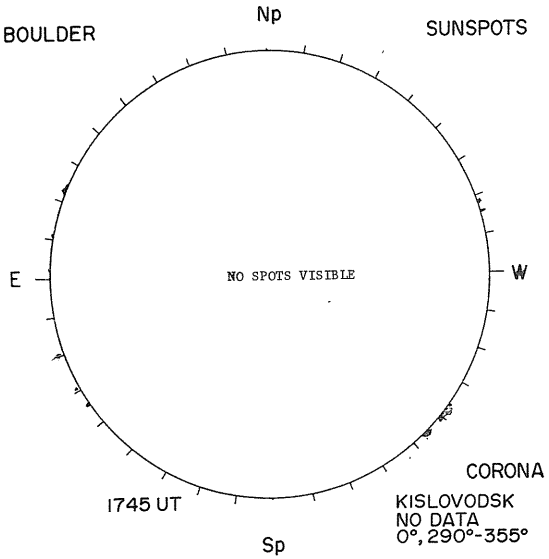
Sp

13

RAMEY AFB



Hα BOULDER



SUNSPOTS

CORONA

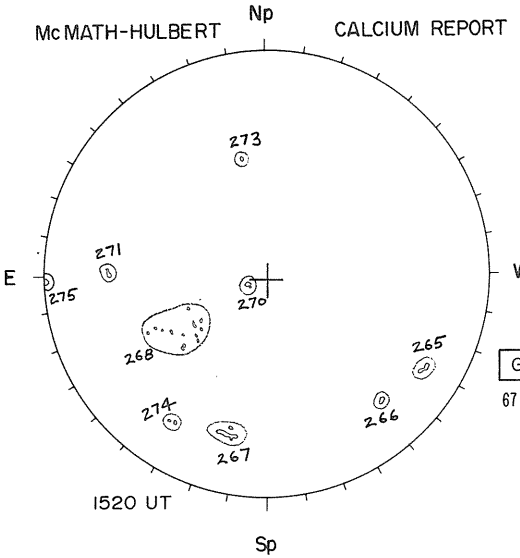
KISLOVODSK

NO DATA

0°, 290°-355°

McMATH-HULBERT

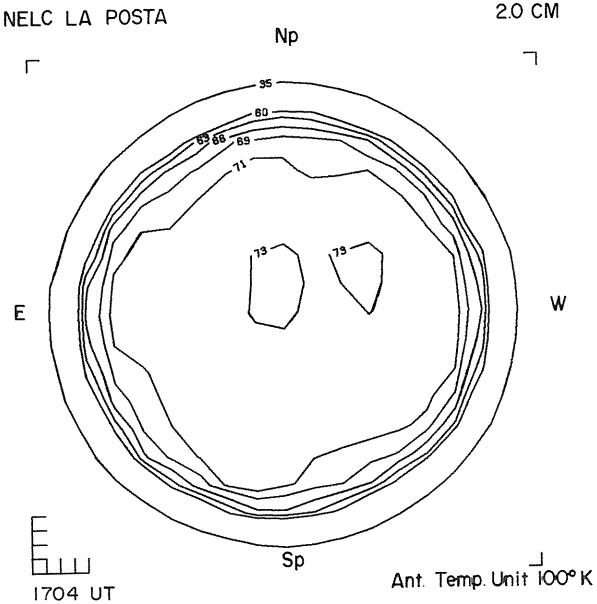
CALCIUM REPORT



GOOD	S
67	0500 3.0

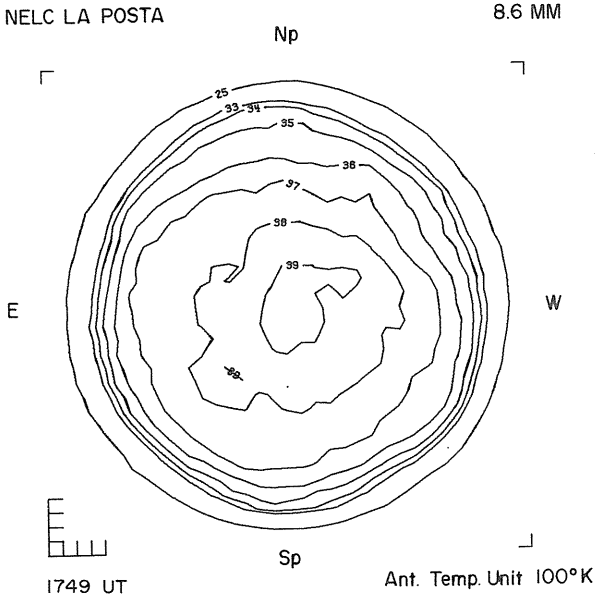
NELC LA POSTA

2.0 CM



NELC LA POSTA

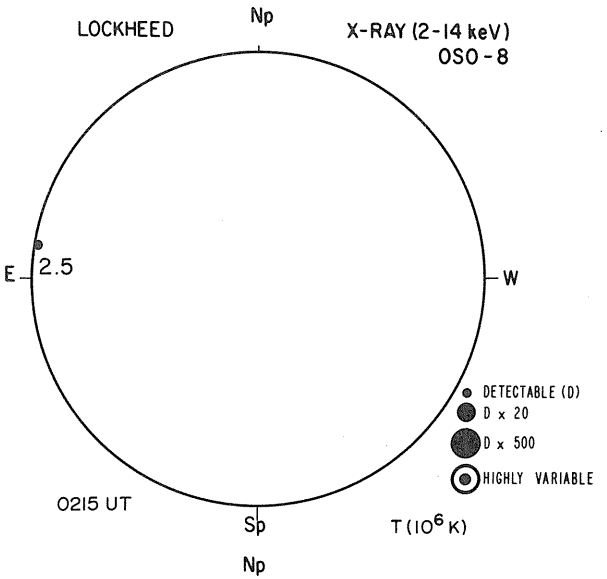
8.6 MM



JUNE 14, 1976 (P =-10.18, B_o =0.96, L_o =131.67)

LOCKHEED

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

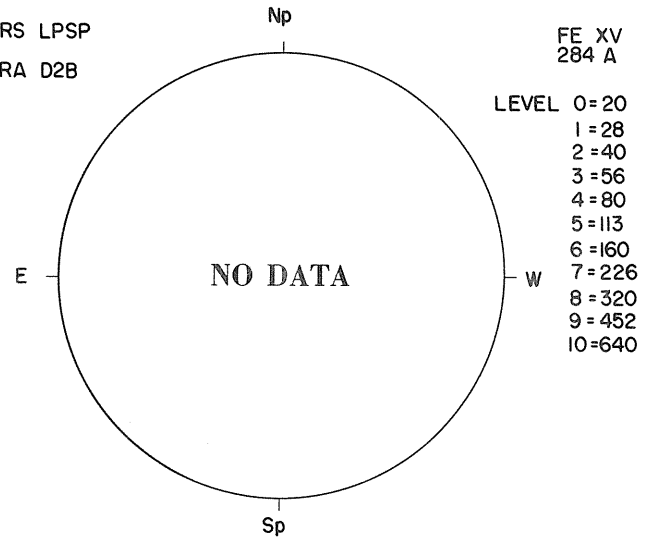


KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

CNRS LPSP
AURA D2B

FE XV
284 A

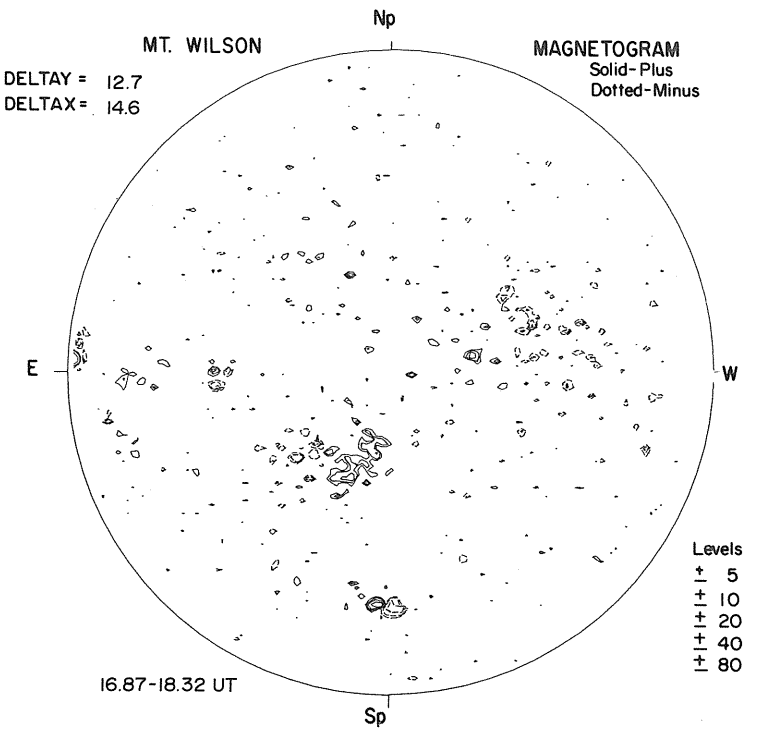


LEVEL 0 = 20
1 = 28
2 = 40
3 = 56
4 = 80
5 = 113
6 = 160
7 = 226
8 = 320
9 = 452
10 = 640

MT. WILSON

DELTAY = 12.7
DELTAX = 14.6

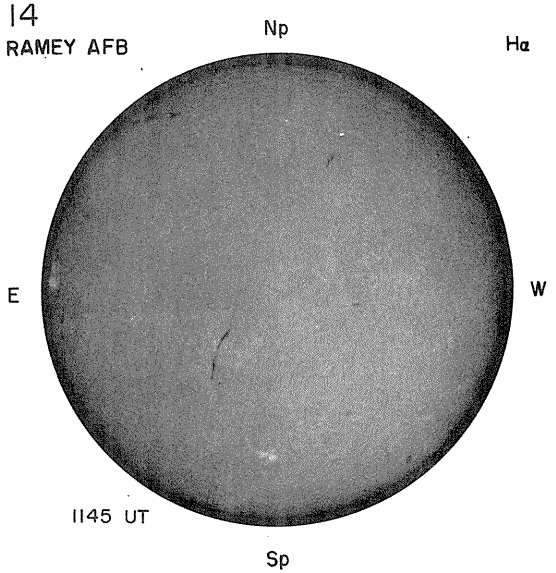
MAGNETOGRAM
Solid - Plus
Dotted - Minus



E W Sp

14

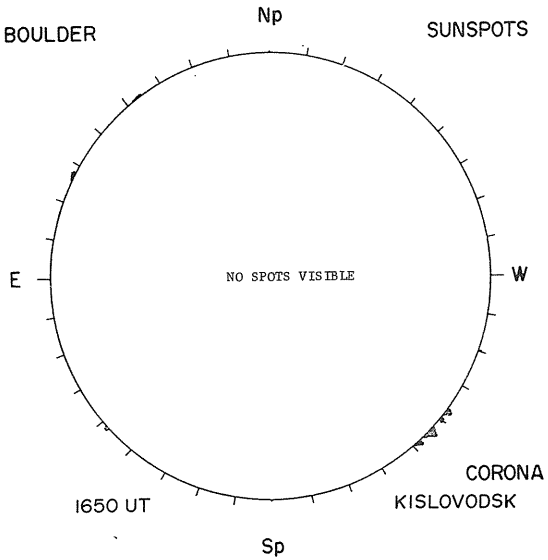
RAMEY AFB



1145 UT

Hα

BOULDER



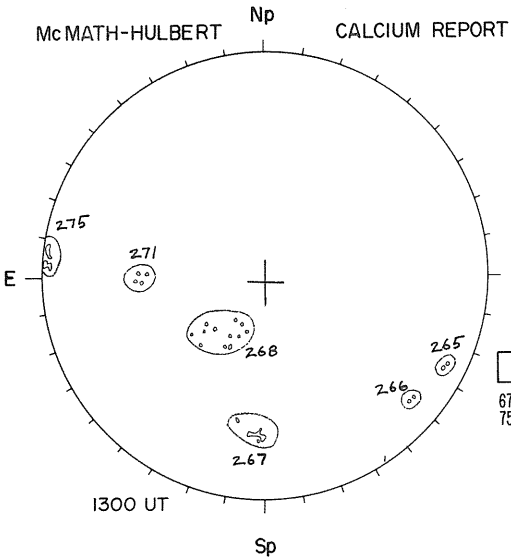
1650 UT

SUNSPOTS

CORONA

KISLOVODSK

McMATH-HULBERT



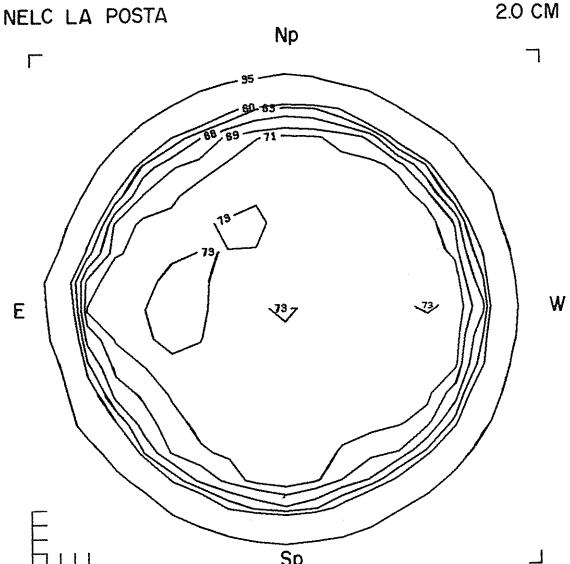
1300 UT

CALCIUM REPORT

FAIR	S
67	0500 3.5
75	1000 3.5

NELC LA POSTA

2.0 CM

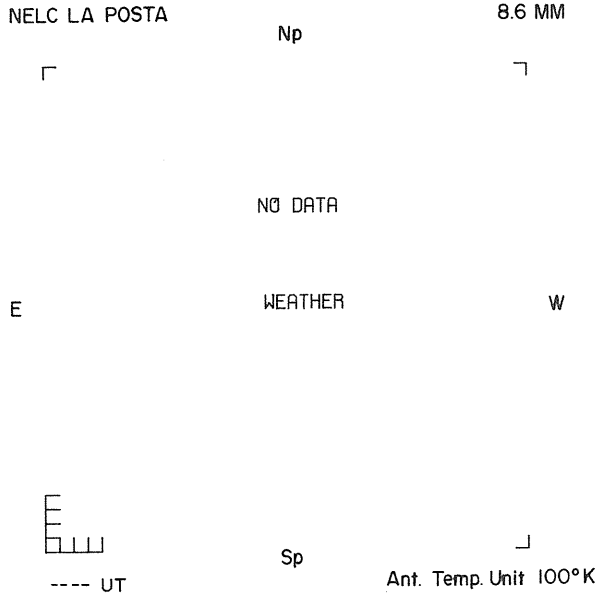


1612 UT

Ant. Temp. Unit 100° K

NELC LA POSTA

8.6 MM



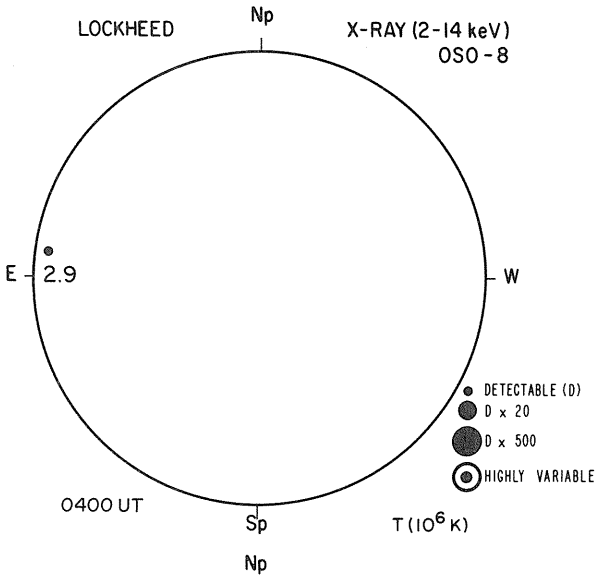
---- UT

Ant. Temp. Unit 100° K

JUNE 15, 1976 (P =-9.76, B_o =1.08, L_o =118.44)

LOCKHEED

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

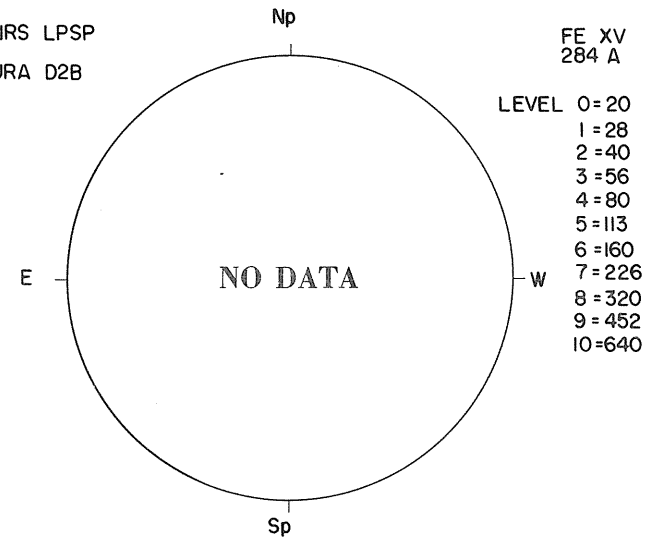


KITT PEAK

MAGNETOGRAM
Bright- Plus
Dark - Minus

CNRS LPSP
AURA D2B

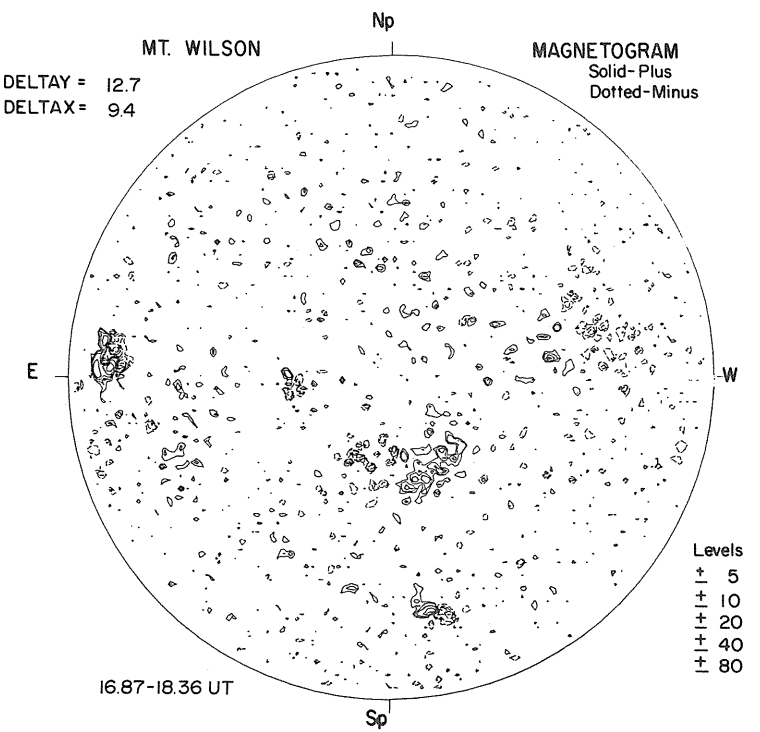
FE XV
284 A



MT. WILSON

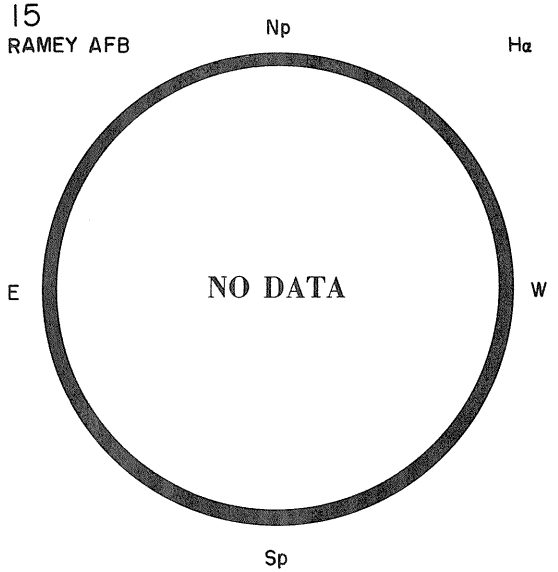
MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY = 12.7
DELTAX = 9.4

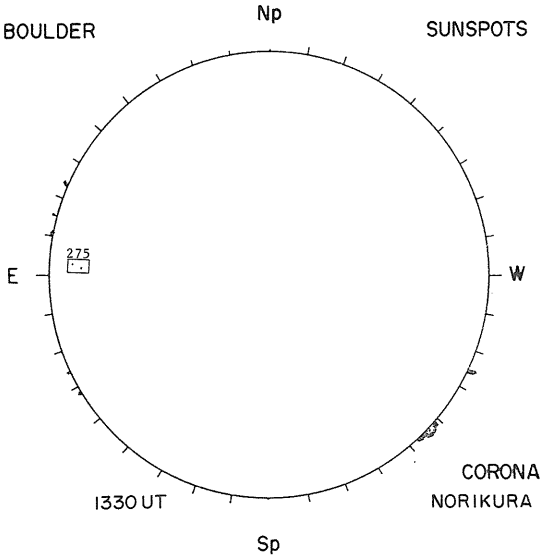


15

RAMEY AFB



BOULDER



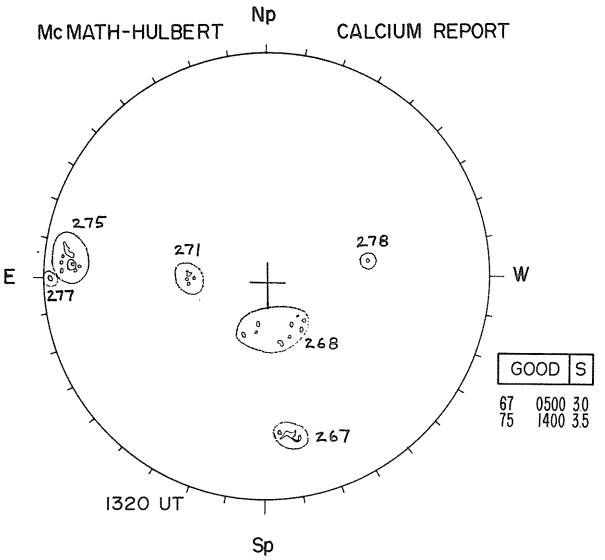
SUNSPOTS

CORONA

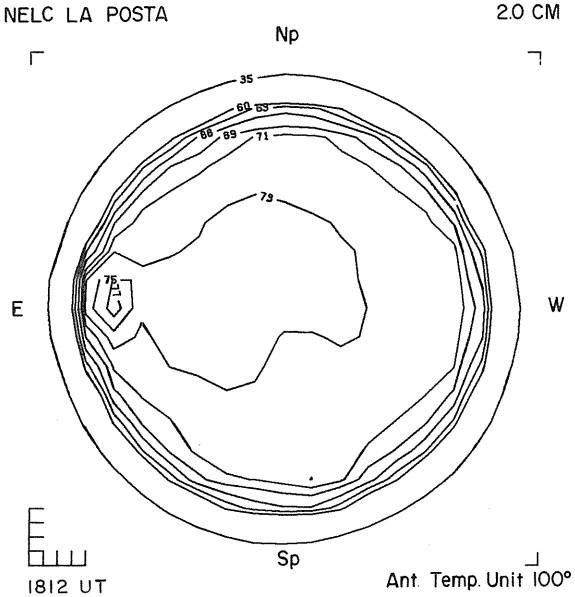
NORIKURA

McMATH-HULBERT

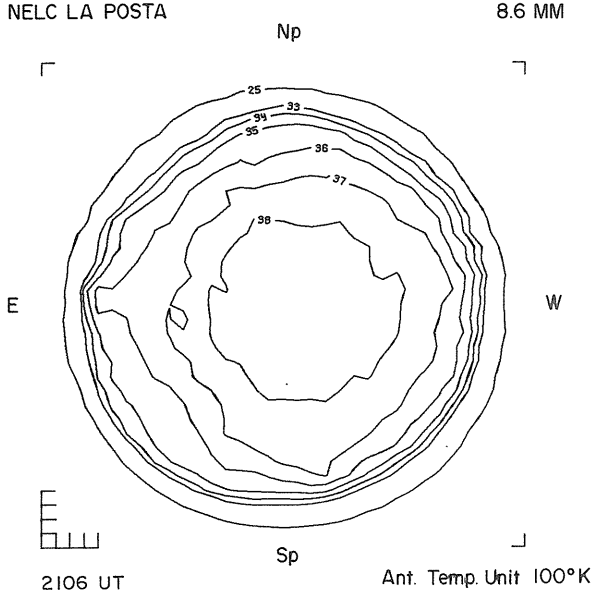
CALCIUM REPORT



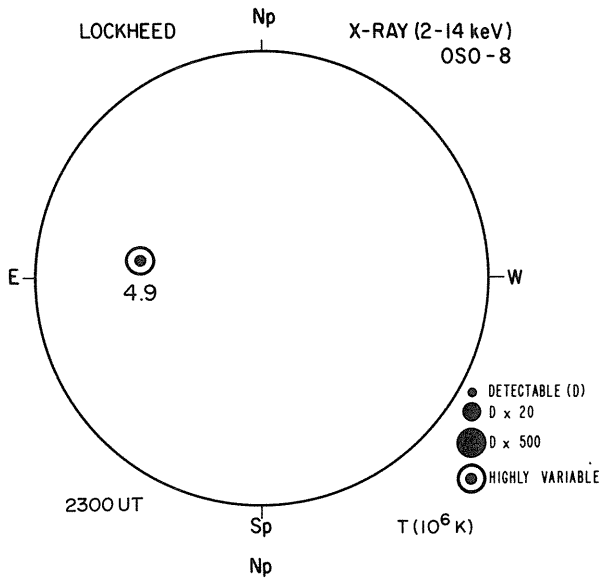
NELC LA POSTA 2.0 CM



NELC LA POSTA 8.6 MM

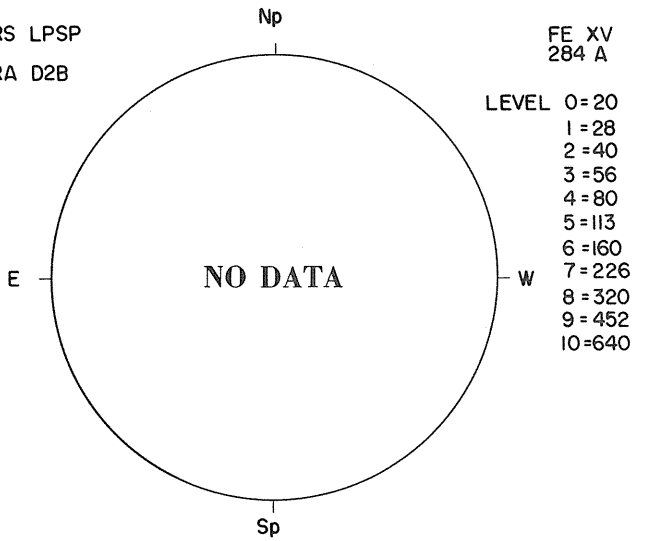


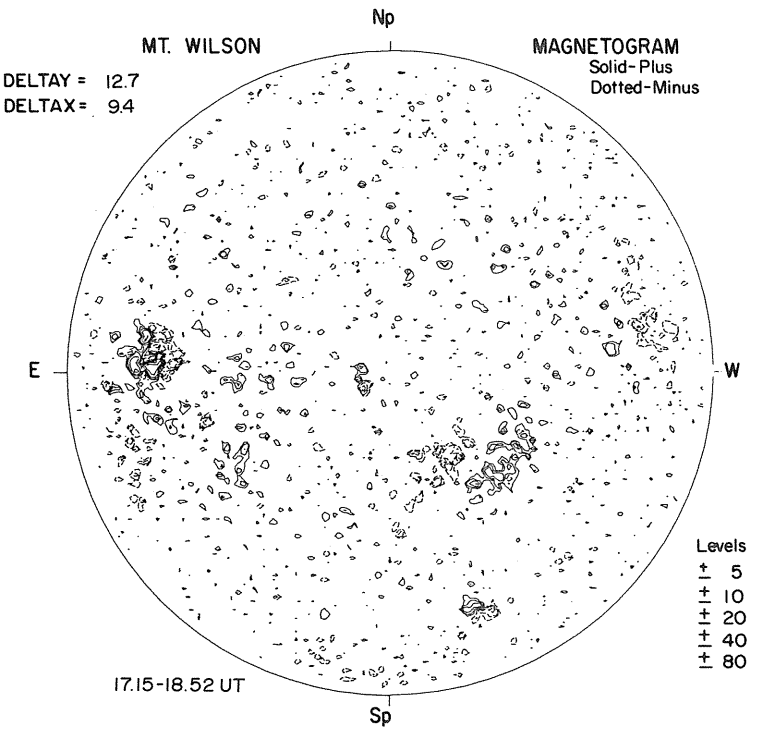
JUNE 16, 1976 (P =-9.33, B_o =1.20, L_o =105.20)



KITT PEAK

MAGNETOGRAM
Bright- Plus
Dark - Minus



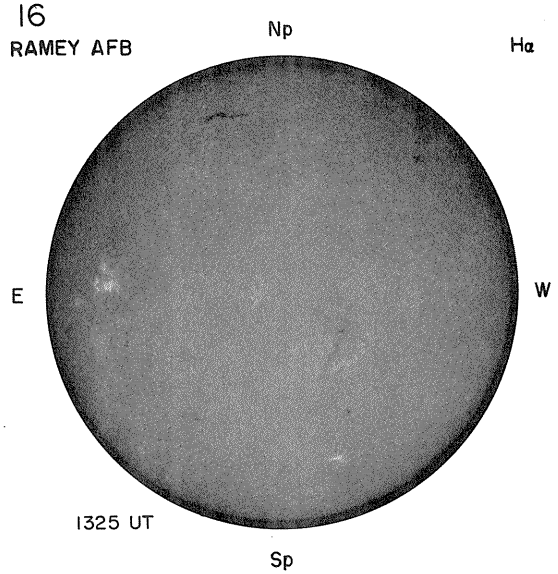


E W

Sp

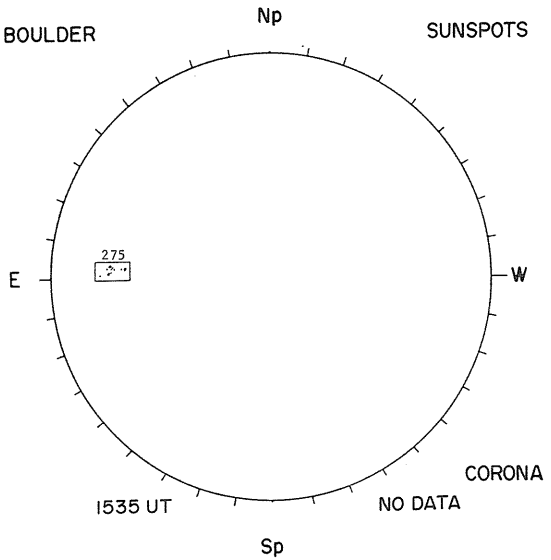
16

RAMEY AFB



Hα

BOULDER



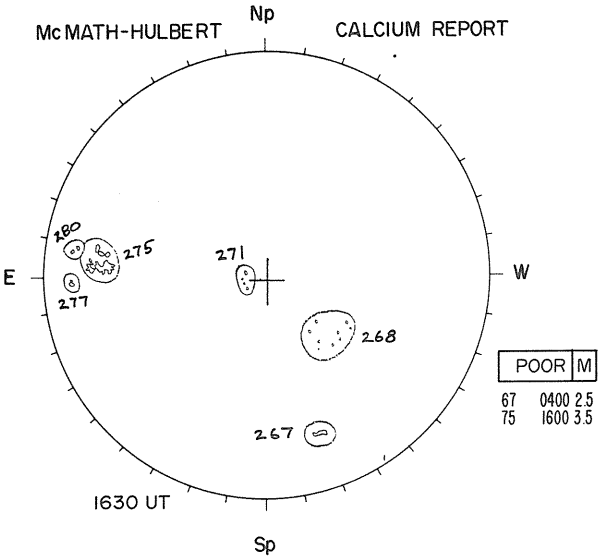
SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT

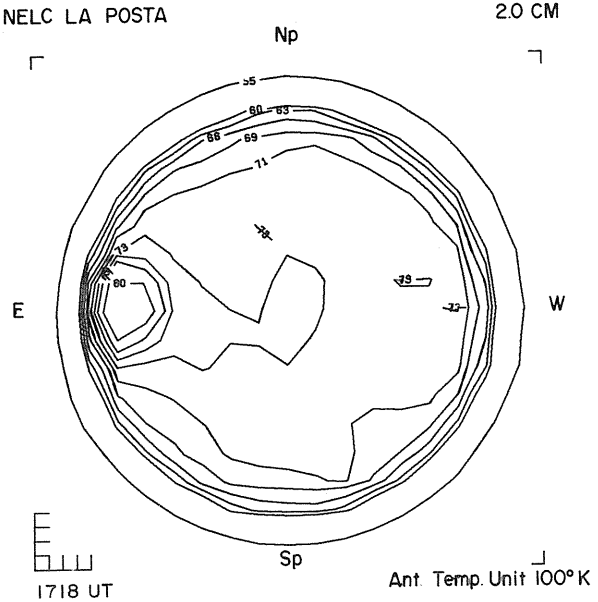
CALCIUM REPORT



POOR	M
67	0400 2.5
75	1600 3.5

NELC LA POSTA

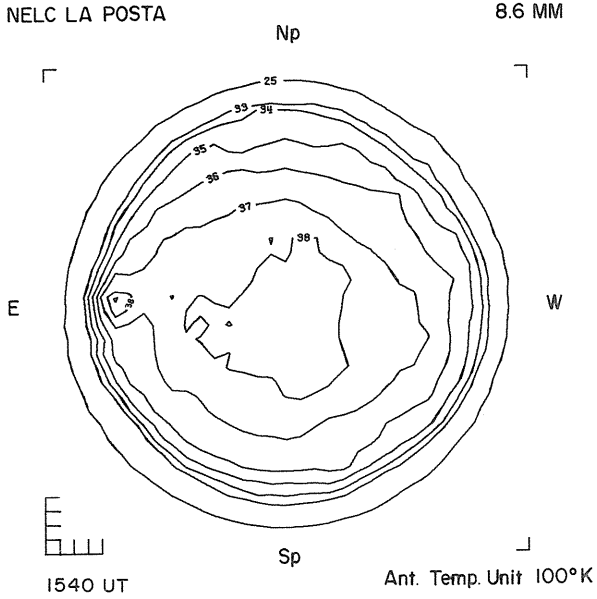
2.0 CM



Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM



Ant. Temp. Unit 100°K

JUNE 17, 1976 (P =-8.89, B_o =1.32, L_o =91.96)

LOCKHEED

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

Np

E

W

3.9

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

2300 UT

Sp

T(10^6 K)

Np

KITT PEAK

MAGNETOGRAM
Bright- Plus
Dark - Minus

E

W

Sp

CNRS LPSP

AURA D2B

Np

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

E

NO DATA

W

Sp

Np

MT. WILSON

DELTAY = 12.7
DELTAX = 9.4

MAGNETOGRAM
Solid-Plus
Dotted-Minus

E

W

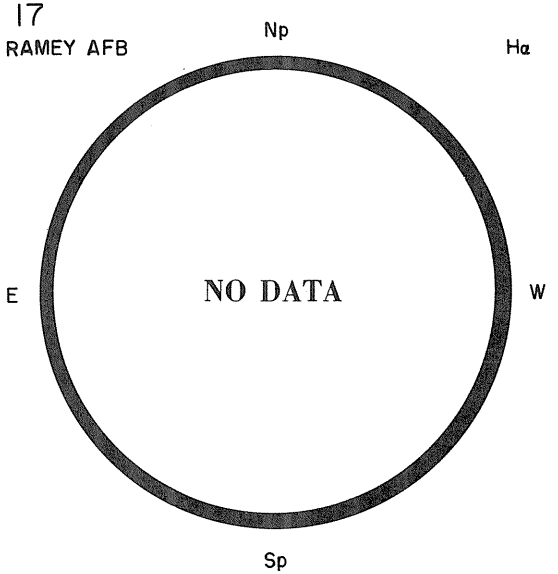
Levels
± 5
± 10
± 20
± 40
± 80

17.71-19.39 UT

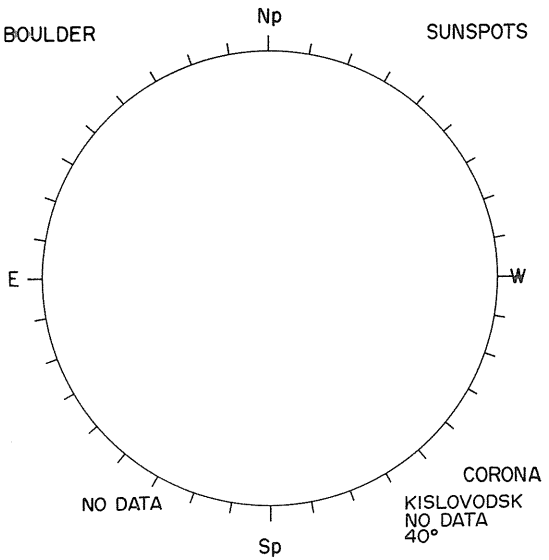
Sp

17

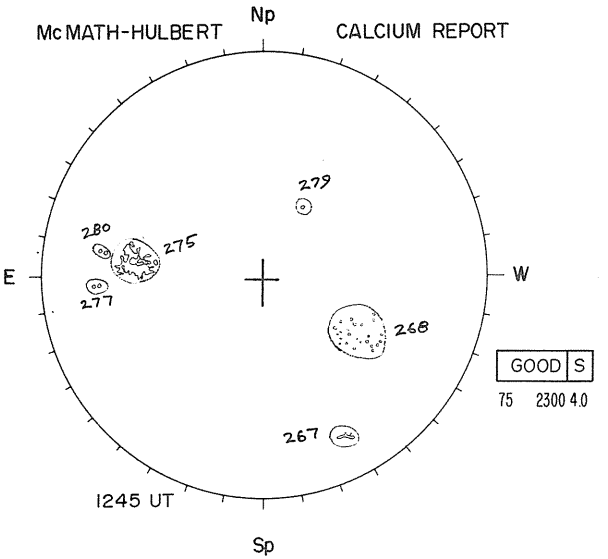
RAMEY AFB



BOULDER



SUNSPOTS



McMATH-HULBERT

1245 UT

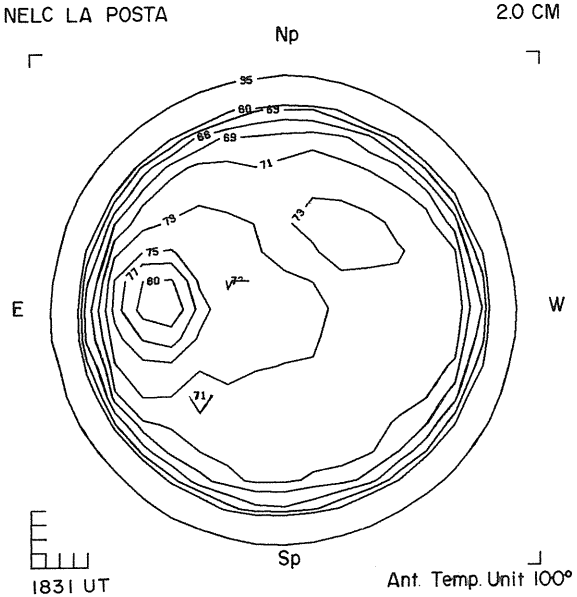
CALCIUM REPORT

GOOD	S
75	2300 4.0

CORONA

KISLOVODSK
NO DATA
40°

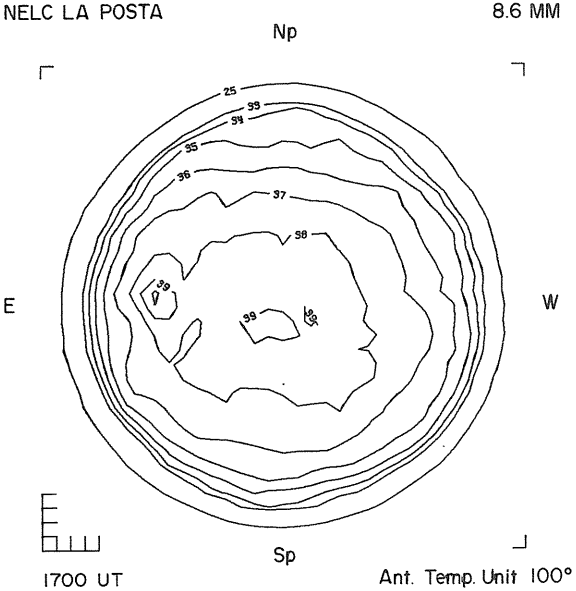
NELC LA POSTA 2.0 CM



1831 UT

Ant. Temp. Unit 100° K

NELC LA POSTA 8.6 MM



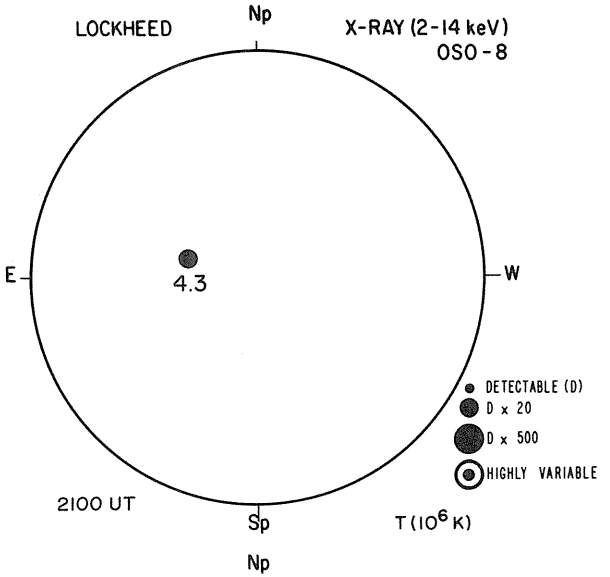
1700 UT

Ant. Temp. Unit 100° K

JUNE 18, 1976 (P =-8.46, B_o =1.44, L_o =78.73)

LOCKHEED

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



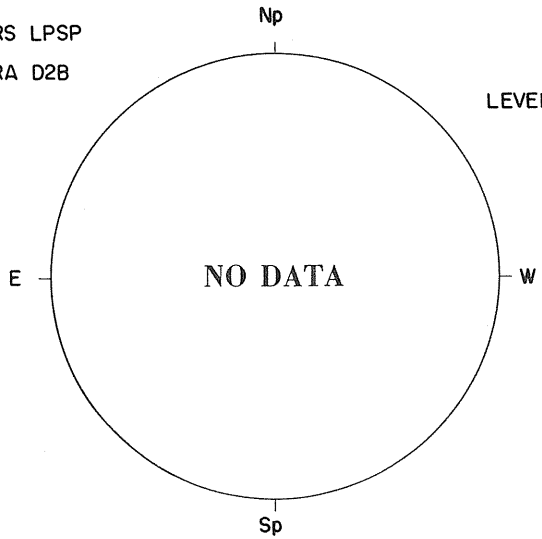
KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

CNRS LPSP
AURA D2B

FE XV
284 A

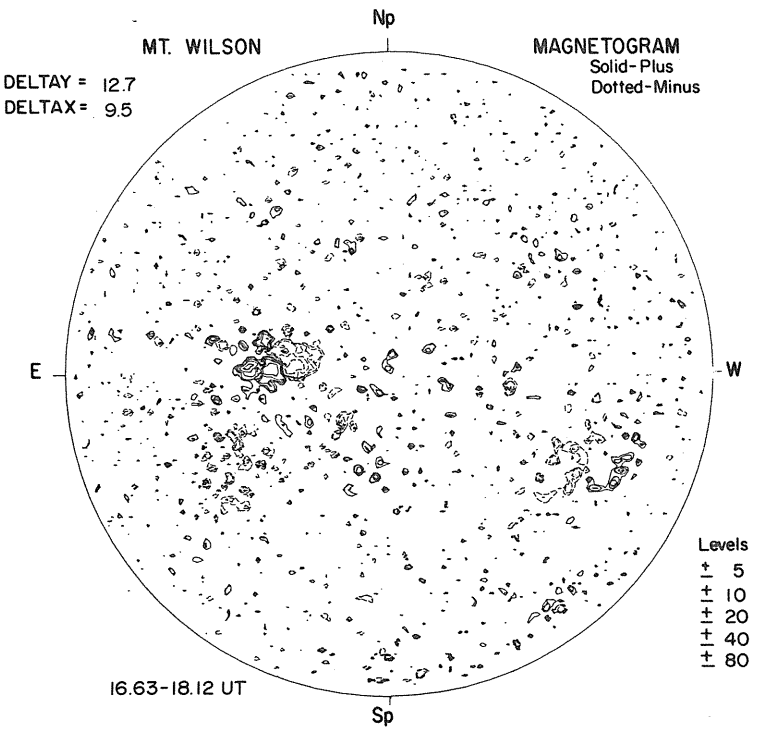
LEVEL 0=20
1=28
2=40
3=56
4=80
5=113
6=160
7=226
8=320
9=452
10=640



MT. WILSON

DELTAY = 12.7
DELTAX = 9.5

MAGNETOGRAM
Solid-Plus
Dotted-Minus

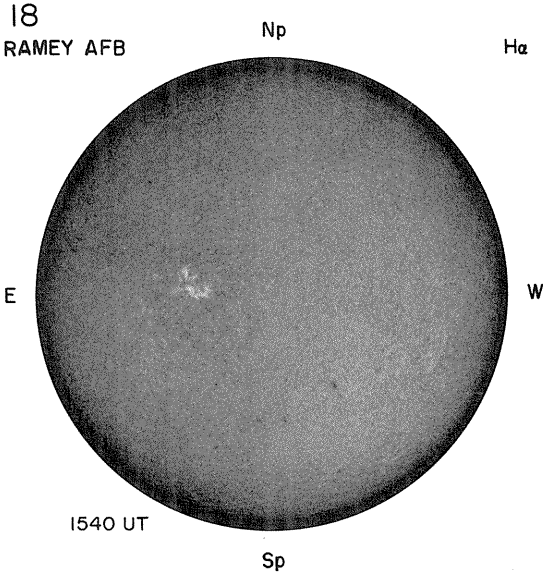


E W

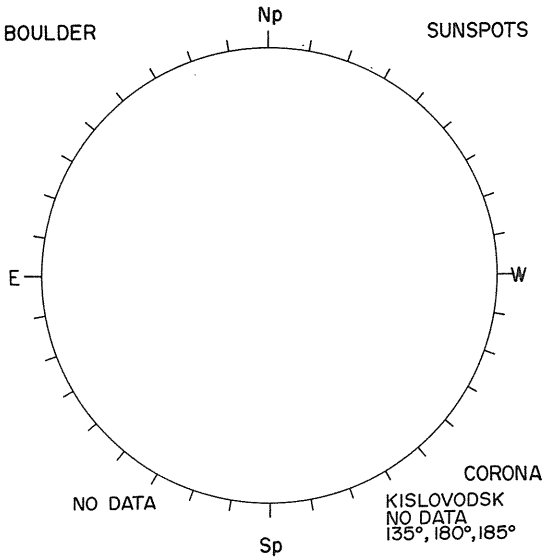
Sp

18

RAMEY AFB



BOULDER



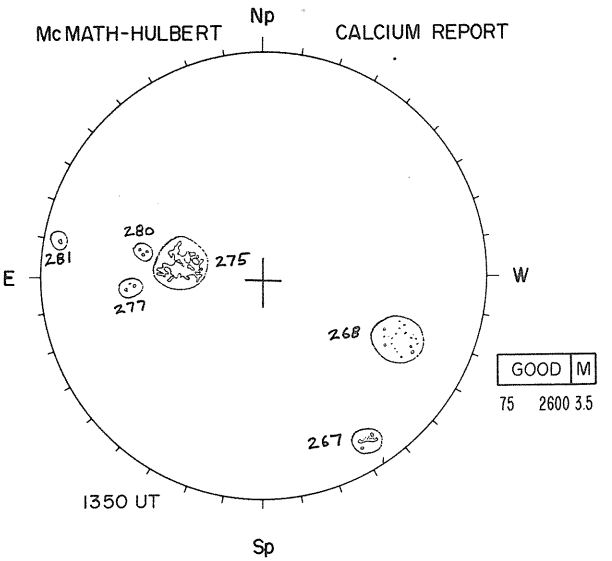
SUNSPOTS

NO DATA

CORONA

KISLOVODSK
NO DATA
135°, 180°, 185°

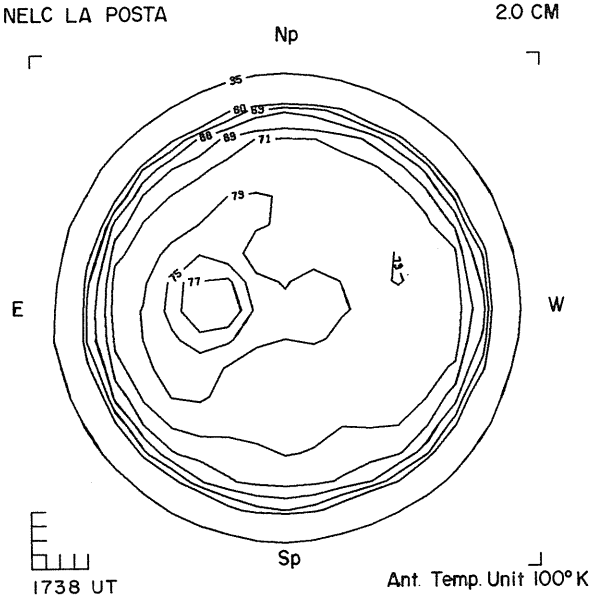
McMATH-HULBERT



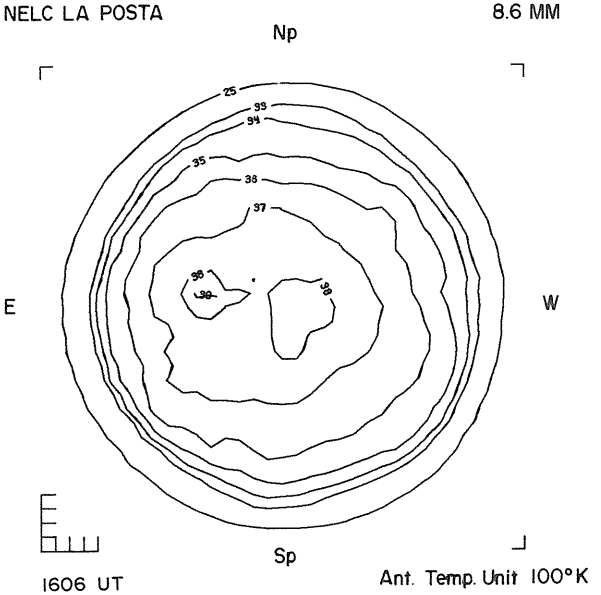
CALCIUM REPORT

GOOD	M
75	2600 3.5

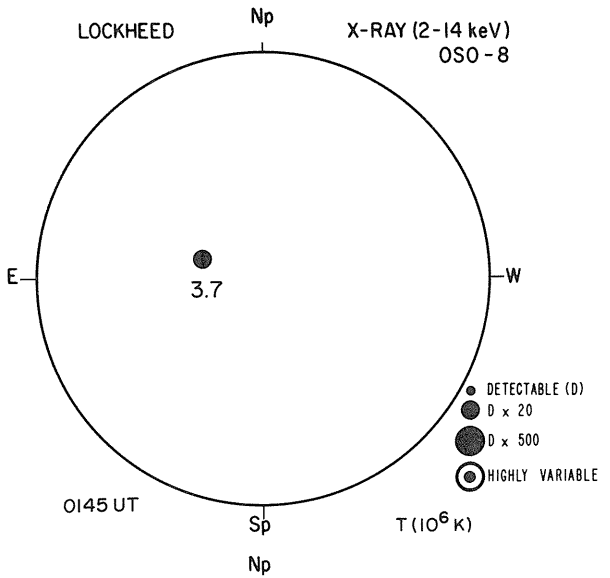
NELC LA POSTA 2.0 CM



NELC LA POSTA 8.6 MM

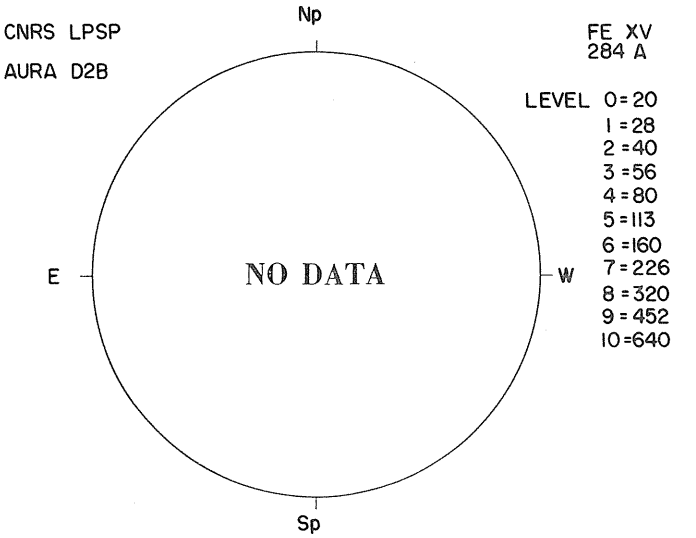


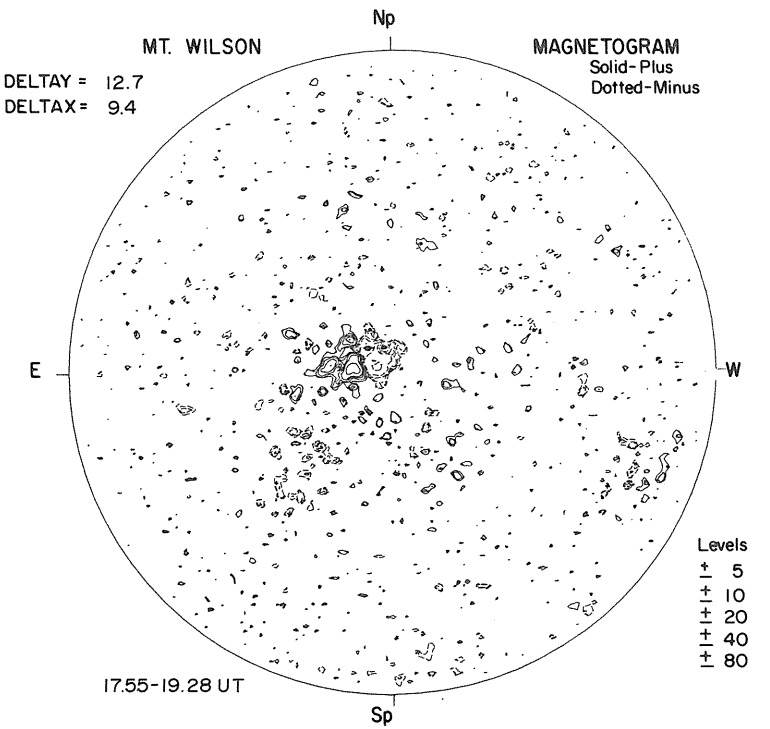
JUNE 19, 1976 (P =-8.02, B_o =1.55, L_o =65.49)



KITT PEAK

MAGNETOGRAM
Bright- Plus
Dark - Minus



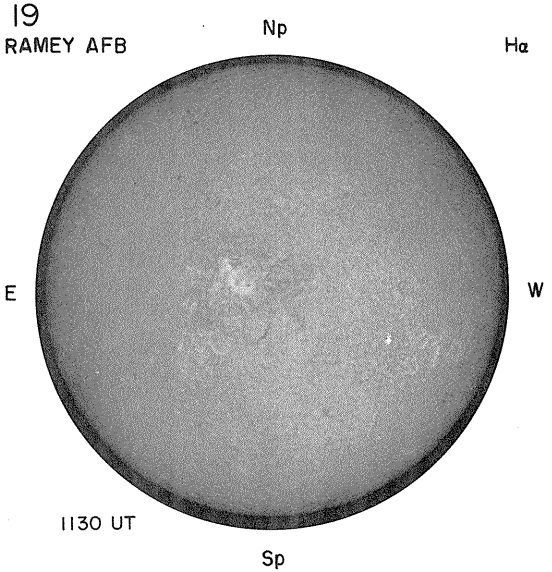


E W

Sp

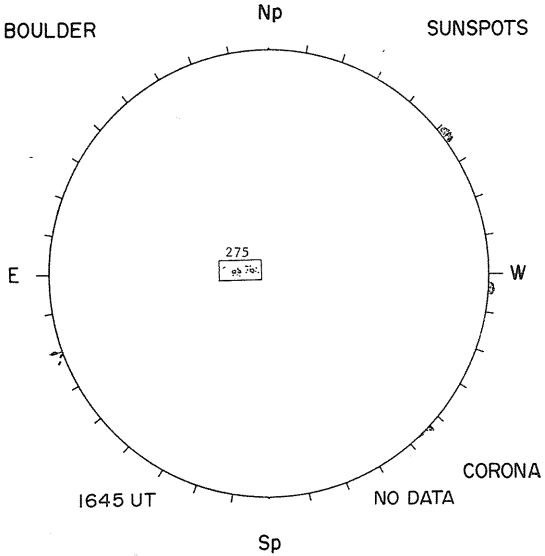
19

RAMEY AFB



BOULDER

SUNSPOTS

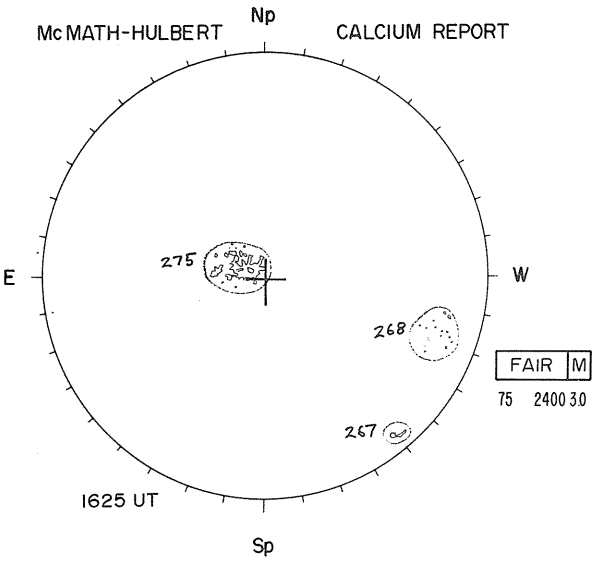


CORONA

NO DATA

McMATH-HULBERT

CALCIUM REPORT

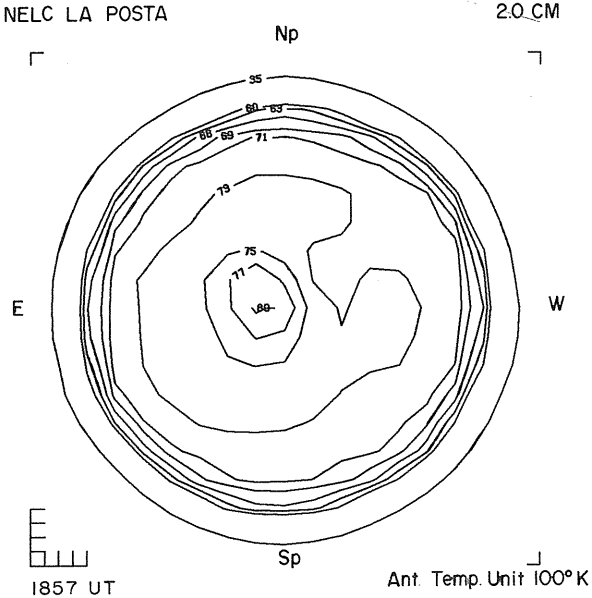


FAIR | M

75 2400 3.0

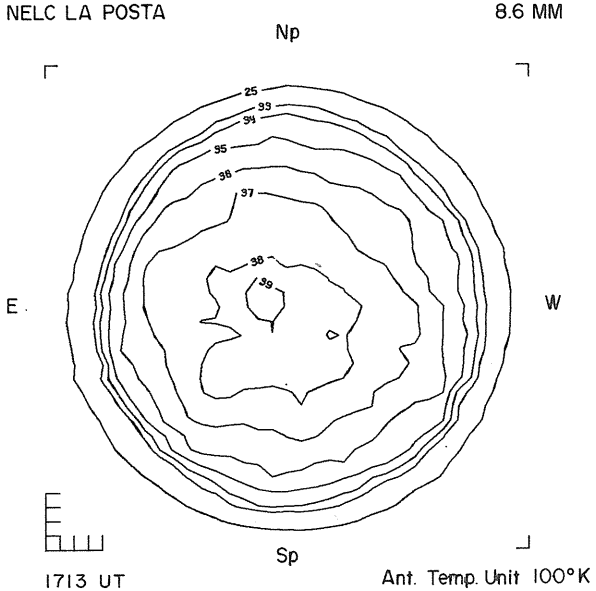
NELC LA POSTA

2.0 CM

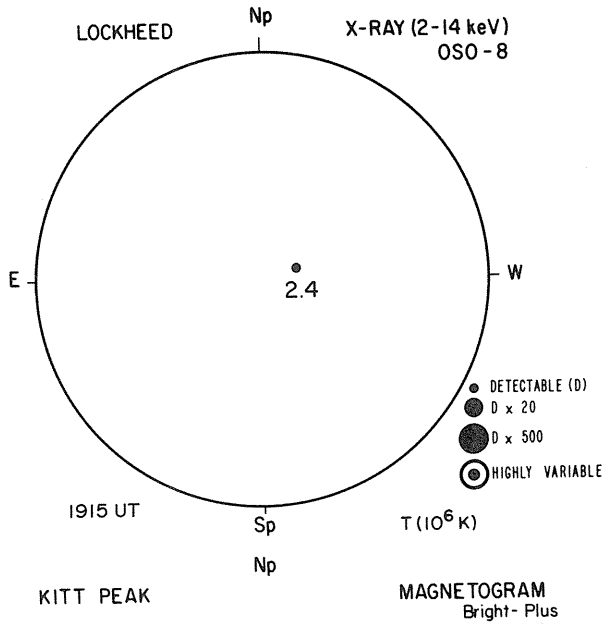


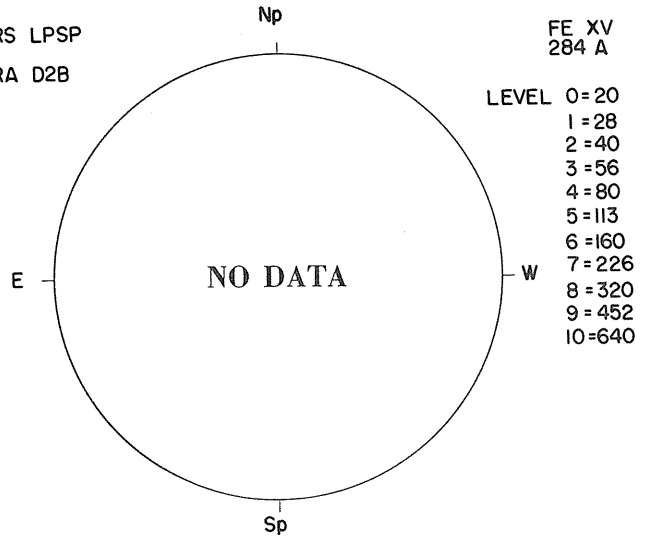
NELC LA POSTA

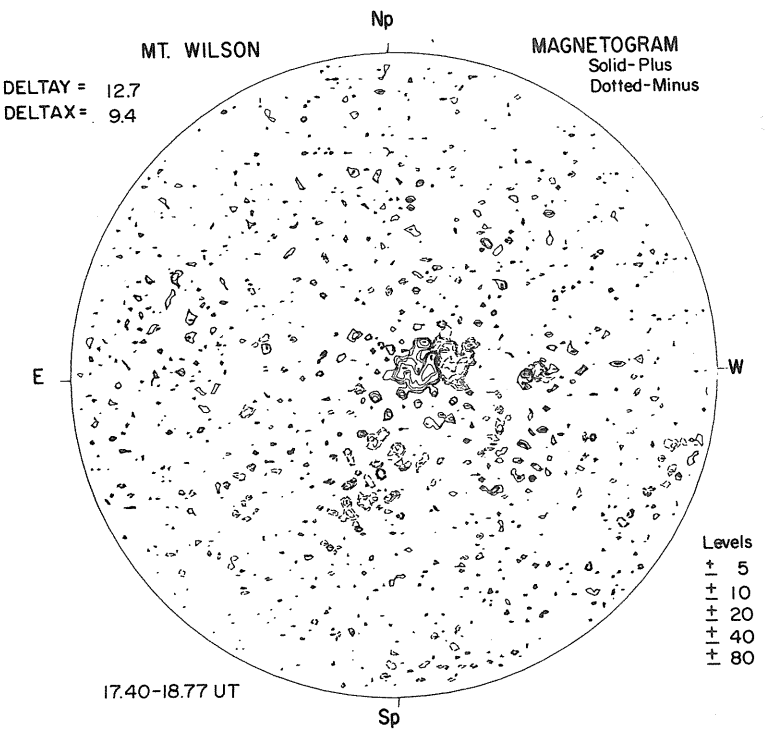
8.6 MM



JUNE 20, 1976 (P =-7.58, B_o =1.67, L_o =52.25)





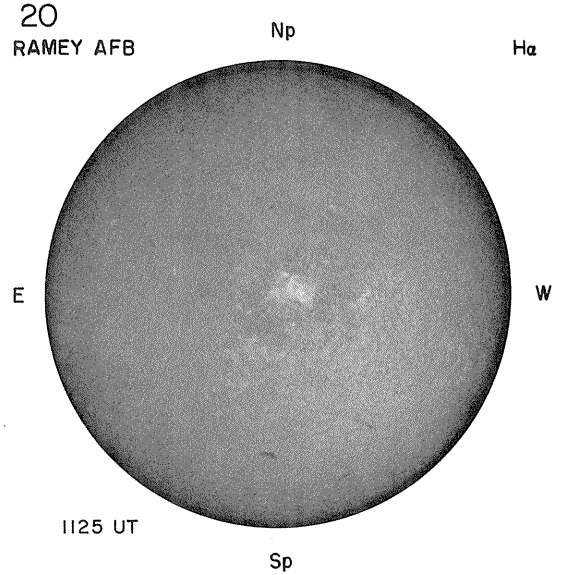


E W

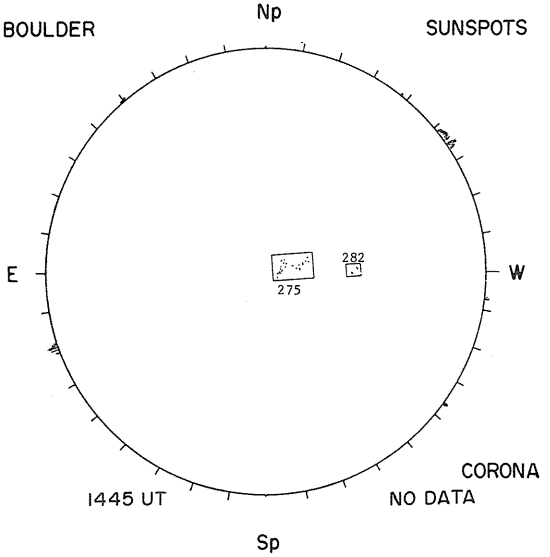
Sp

20

RAMEY AFB



BOULDER



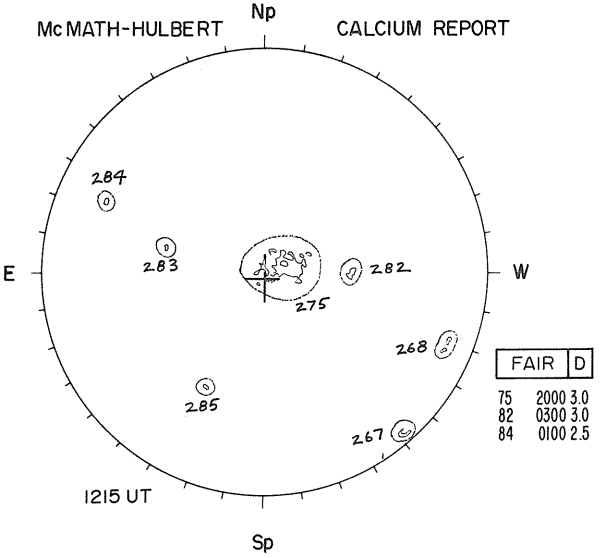
SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT

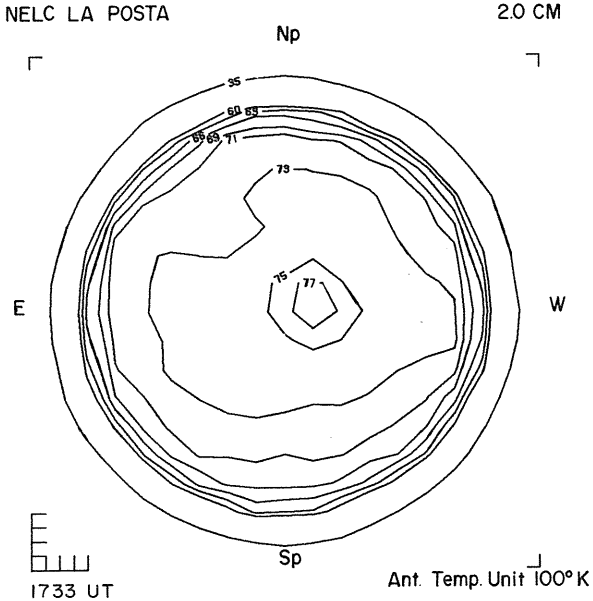
CALCIUM REPORT



FAIR	D
75	2000 3.0
82	0300 3.0
84	0100 2.5

NELC LA POSTA

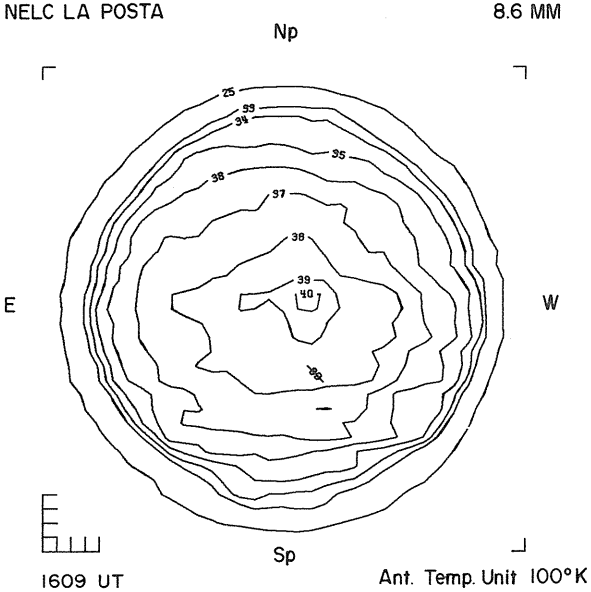
2.0 CM



Ant. Temp. Unit 100° K

NELC LA POSTA

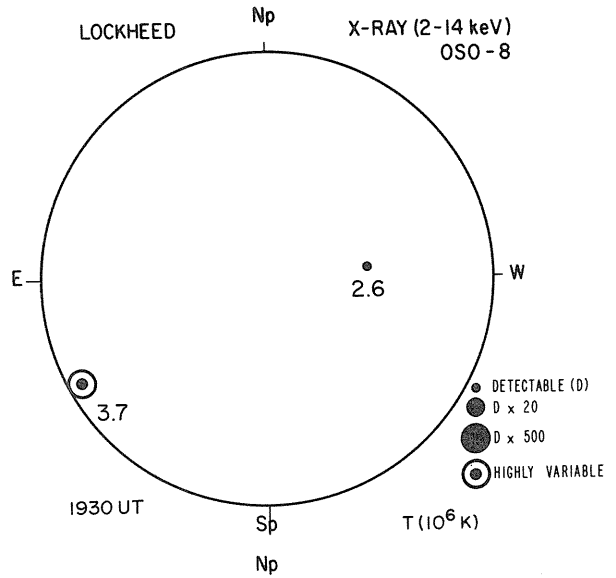
8.6 MM



Ant. Temp. Unit 100° K

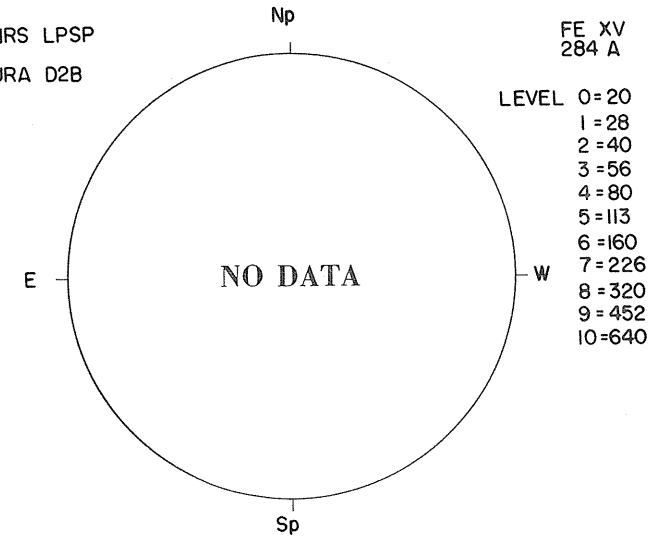
63
Jun 76

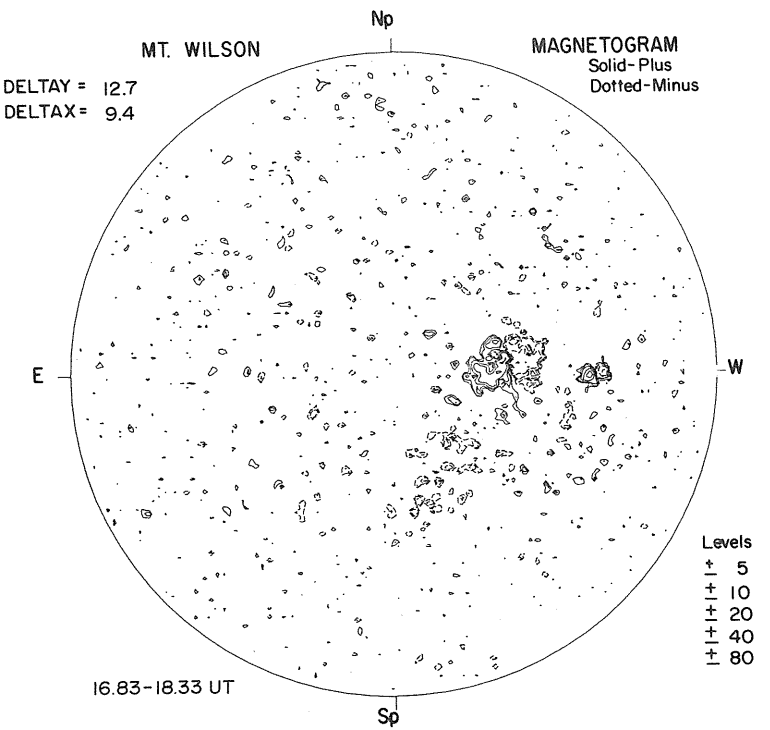
JUNE 21, 1976 (P =-7.14, B_o =1.79, L_o =39.02)



KITT PEAK

MAGNETOGRAM
Bright- Plus
Dark - Minus

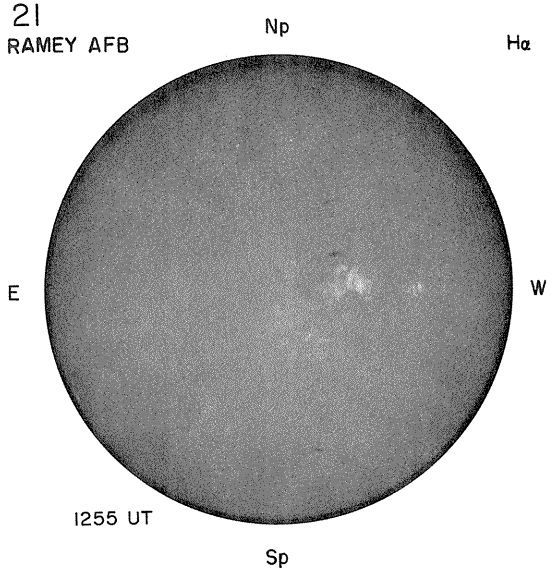




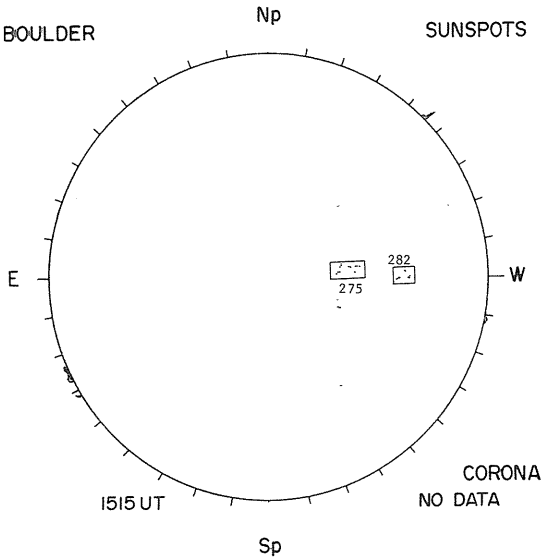
E W Sp

21

RAMEY AFB



Hα BOULDER

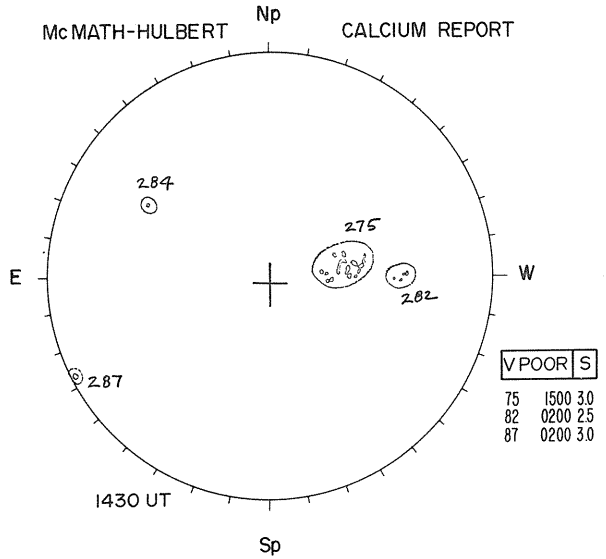


SUNSPOTS

CORONA

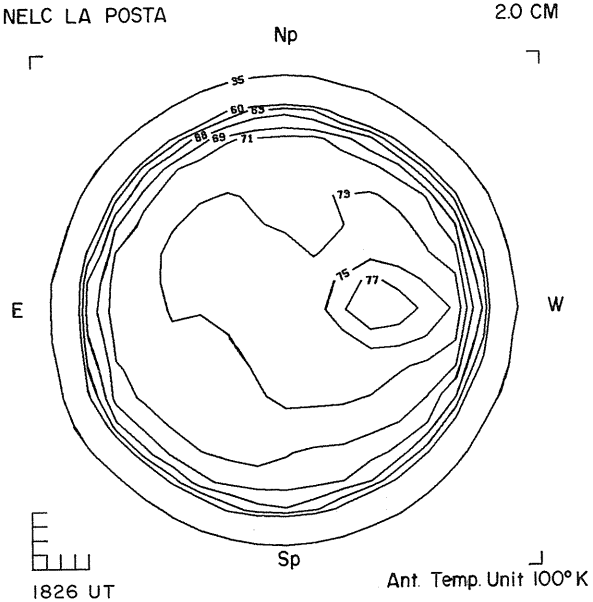
NO DATA

McMATH-HULBERT CALCIUM REPORT

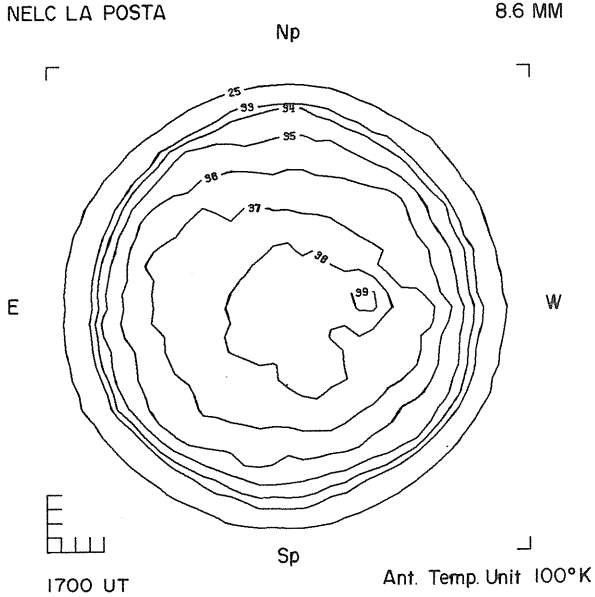


V POOR	S
75	1500 3.0
82	0200 2.5
87	0200 3.0

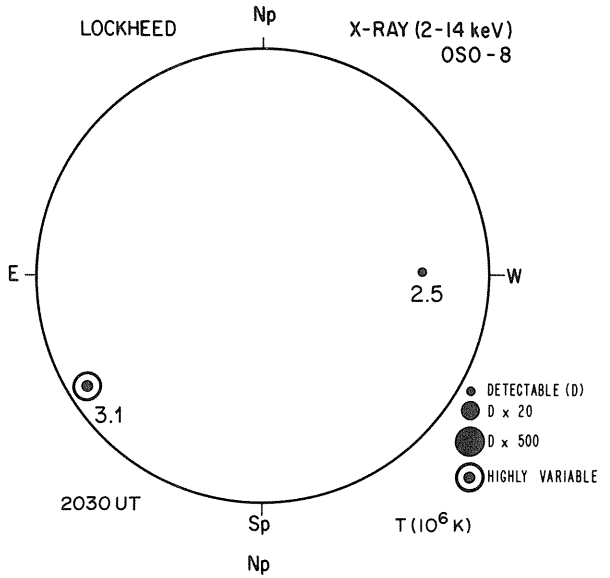
NELC LA POSTA 2.0 CM



NELC LA POSTA 8.6 MM

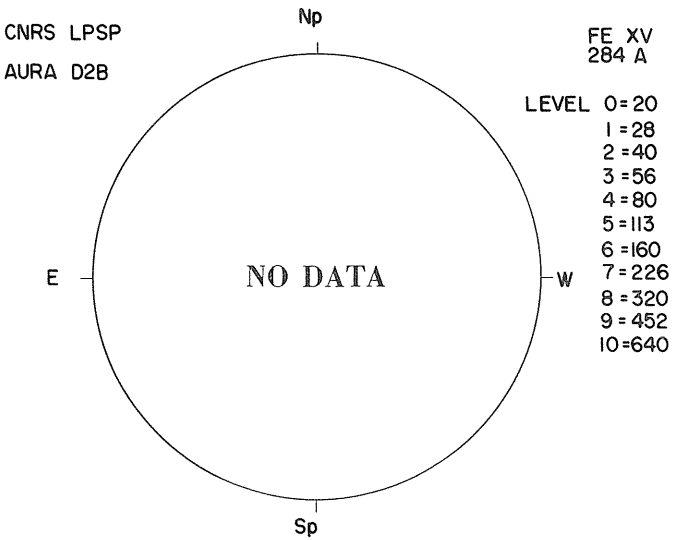


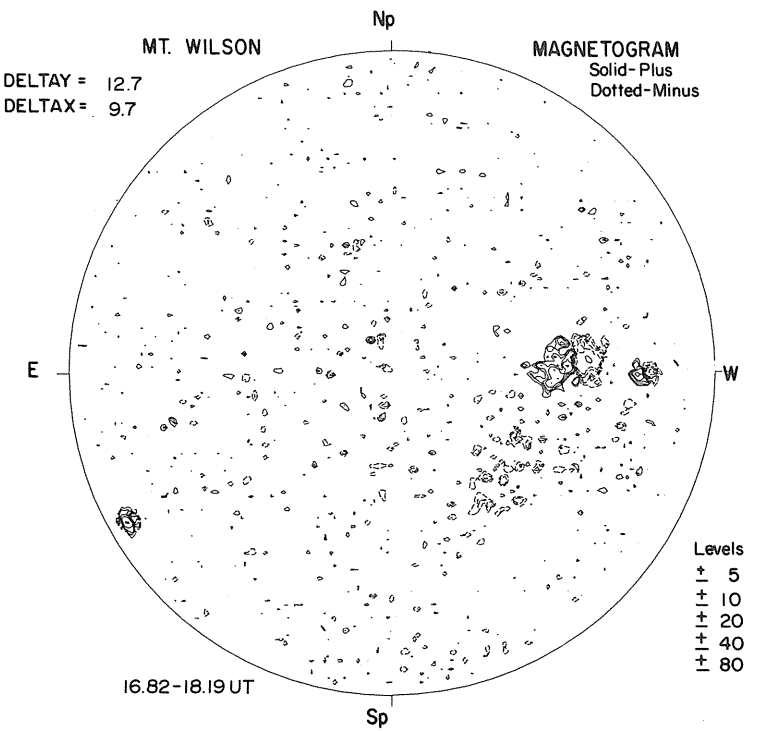
JUNE 22, 1976 (P =-6.69, B_o =1.90, L_o =25.78)



KITT PEAK

MAGNETOGRAM
Bright- Plus
Dark - Minus

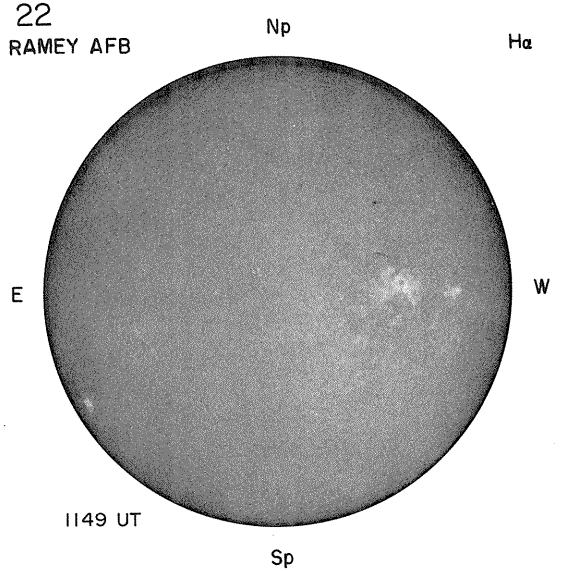




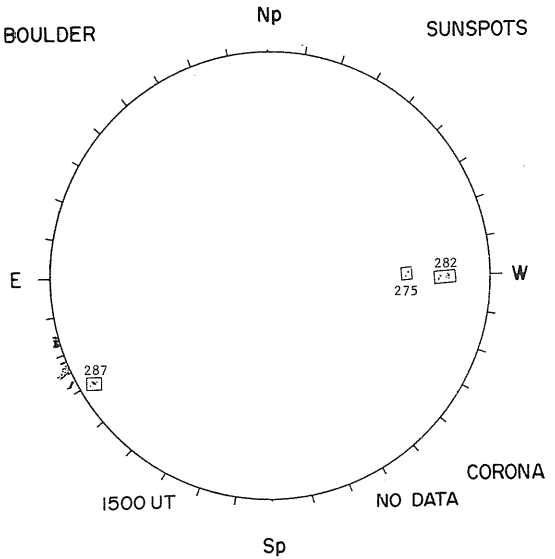
E W Sp

22

RAMEY AFB



Hα BOULDER

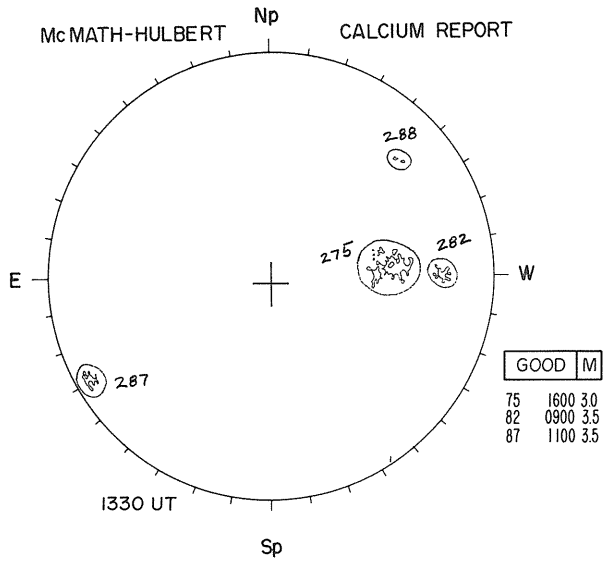


SUNSPOTS

CORONA

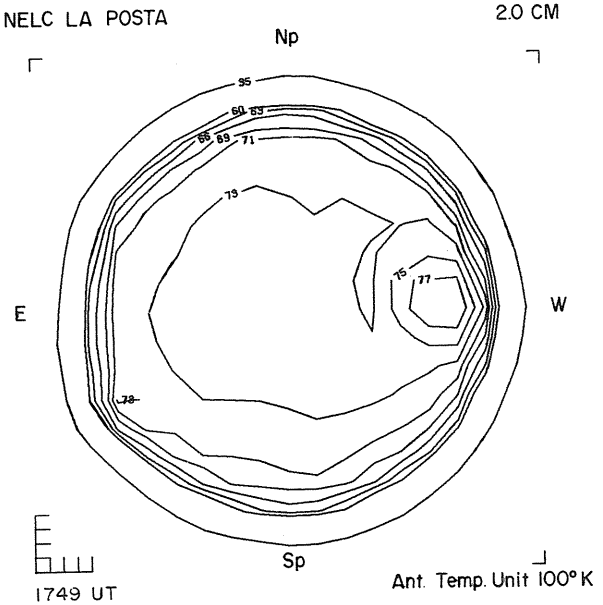
NO DATA

McMATH-HULBERT CALCIUM REPORT



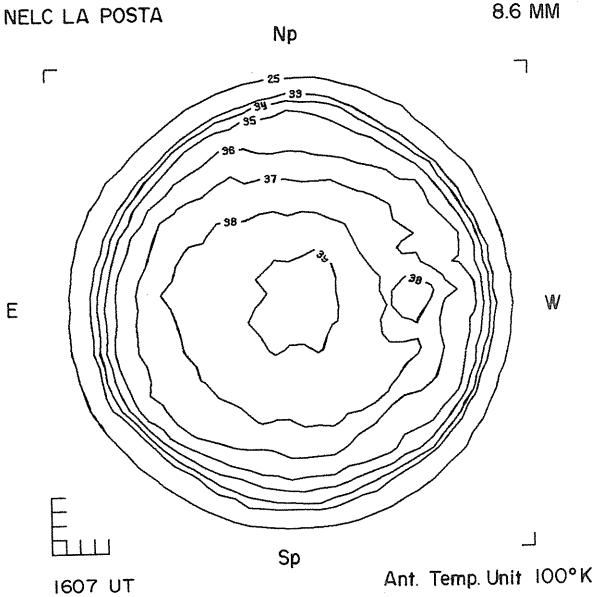
GOOD	M
75	1600 3.0
82	0900 3.5
87	1100 3.5

NELC LA POSTA 2.0 CM



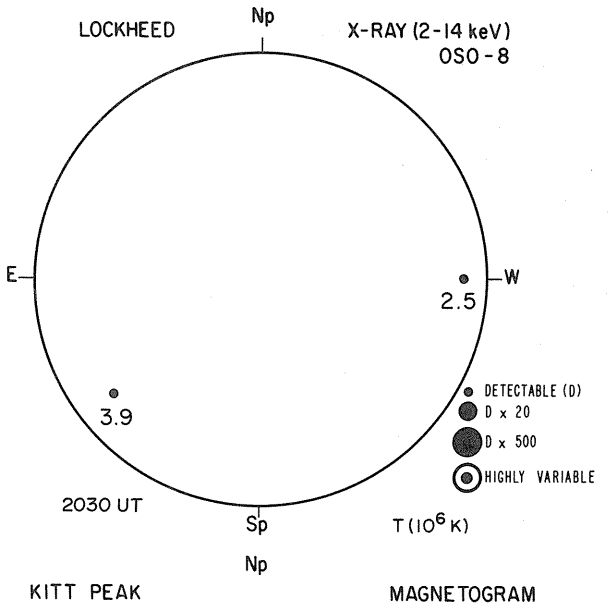
Ant. Temp. Unit 100°K

NELC LA POSTA 8.6 MM



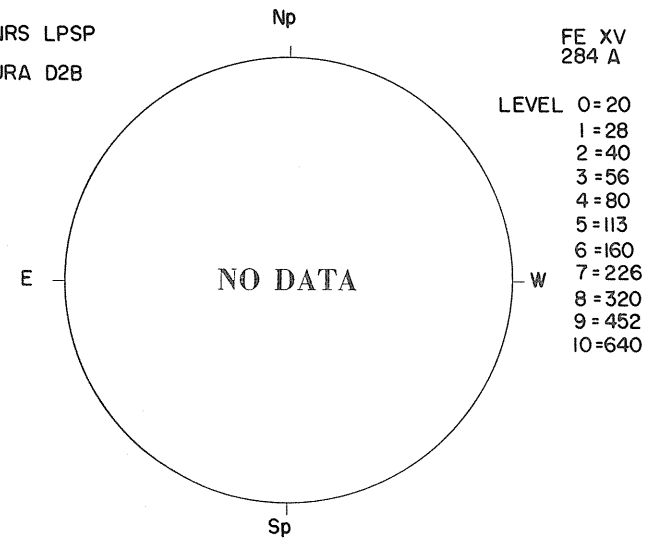
Ant. Temp. Unit 100°K

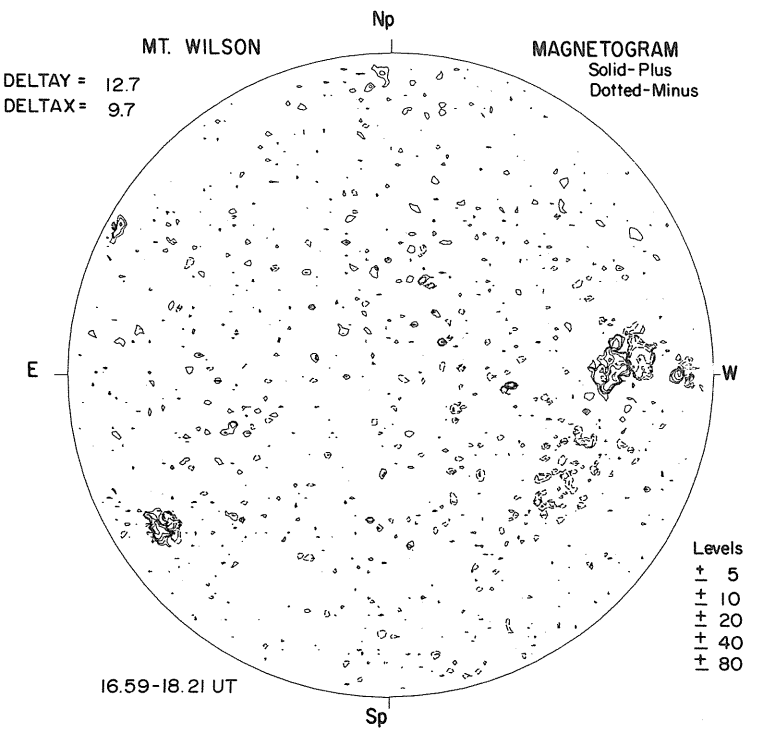
JUNE 23, 1976 (P = -6.25, B_o = 2.02, L_o = 12.54)



KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus



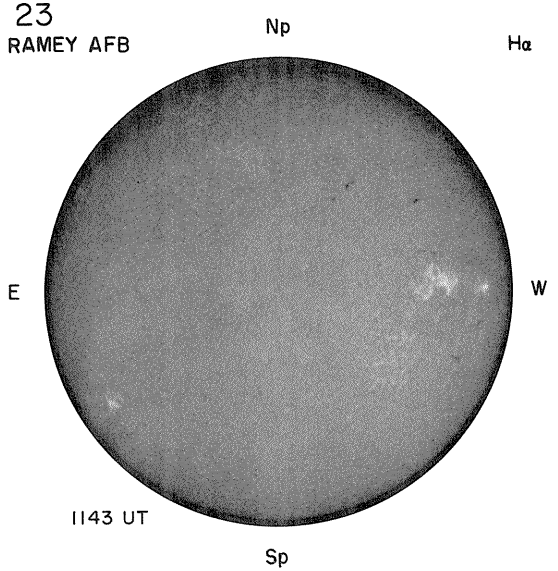


E W

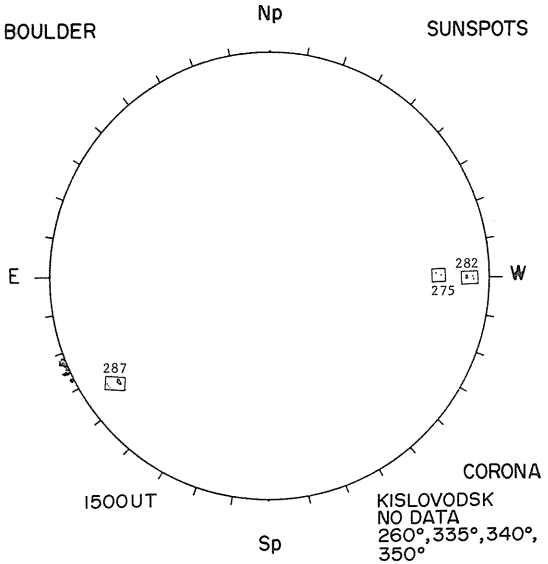
Sp

23

RAMEY AFB



BOULDER

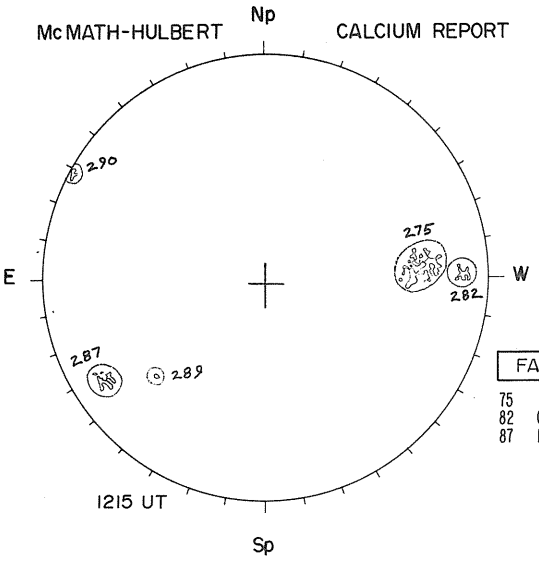


SUNSPOTS

CORONA

KISLOVODSK
NO DATA
260°,335°,340°,
350°

McMATH-HULBERT

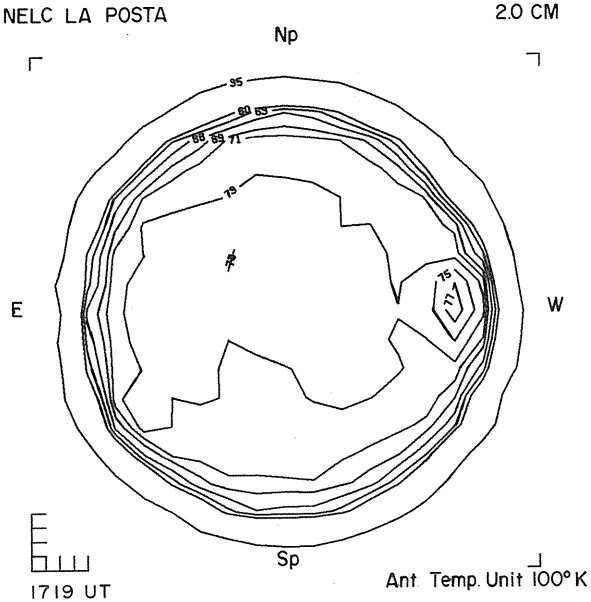


CALCIUM REPORT

FAIR	S
75	1800 3.5
82	0900 3.5
87	1200 3.0

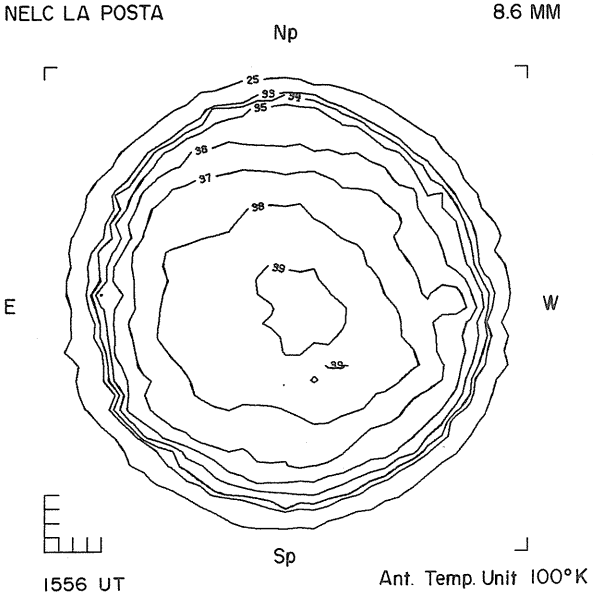
NELC LA POSTA

2.0 CM

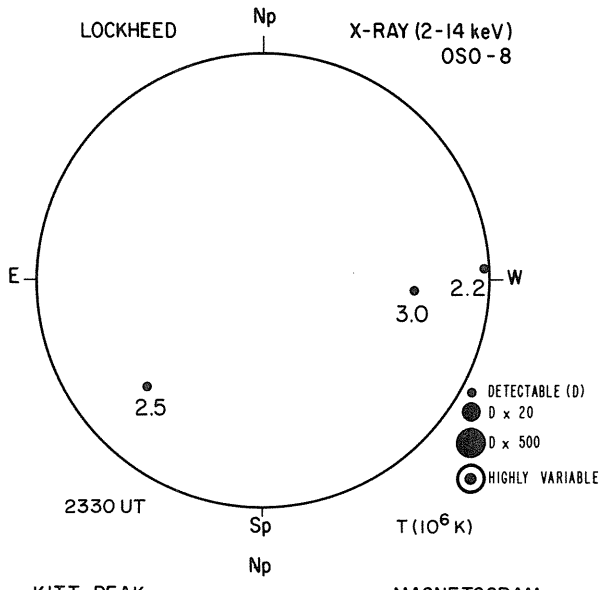


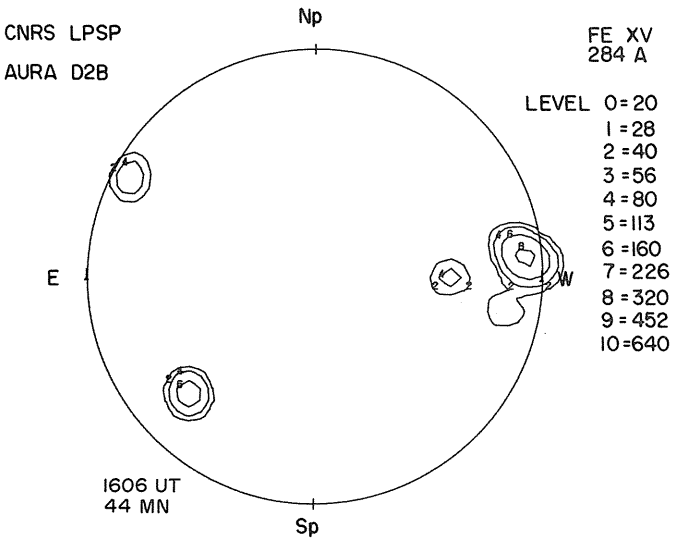
NELC LA POSTA

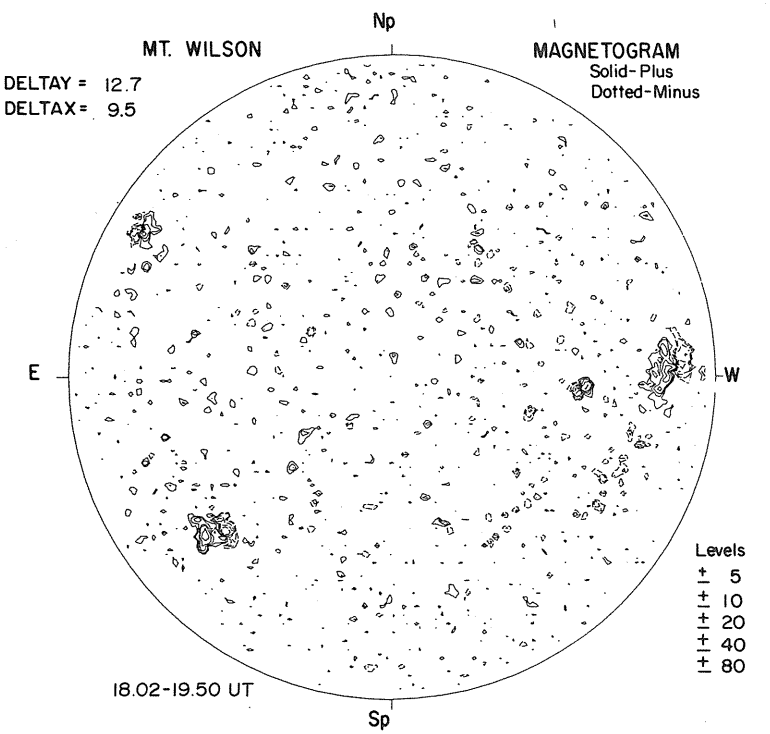
8.6 MM



JUNE 24, 1976 (P =-5.80, B_o =2.14, L_o =359.31)

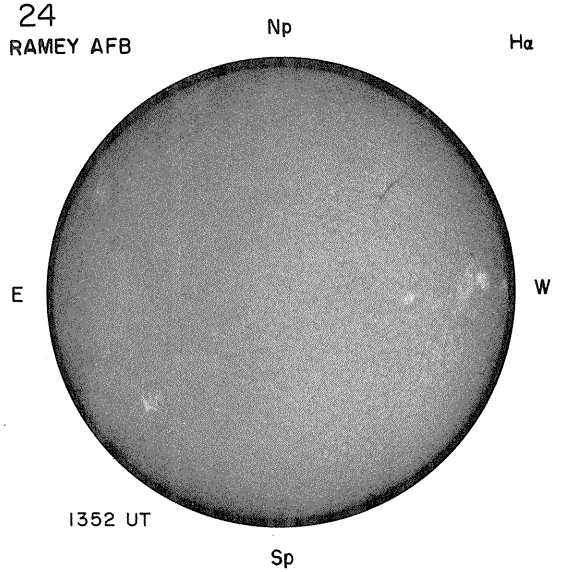






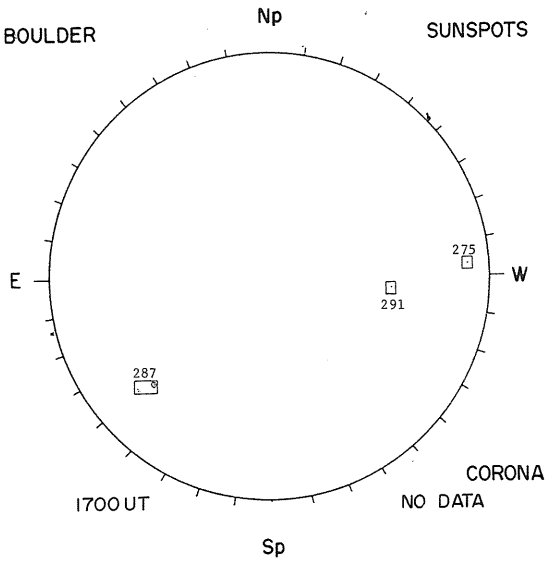
24

RAMEY AFB



BOULDER

SUNSPOTS

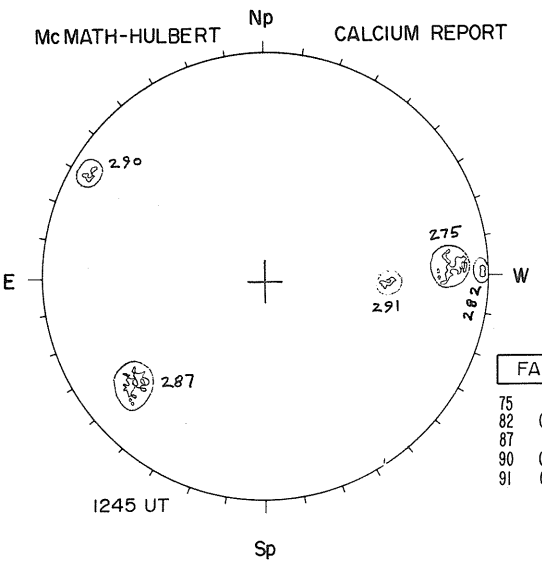


CORONA

NO DATA

McMATH-HULBERT

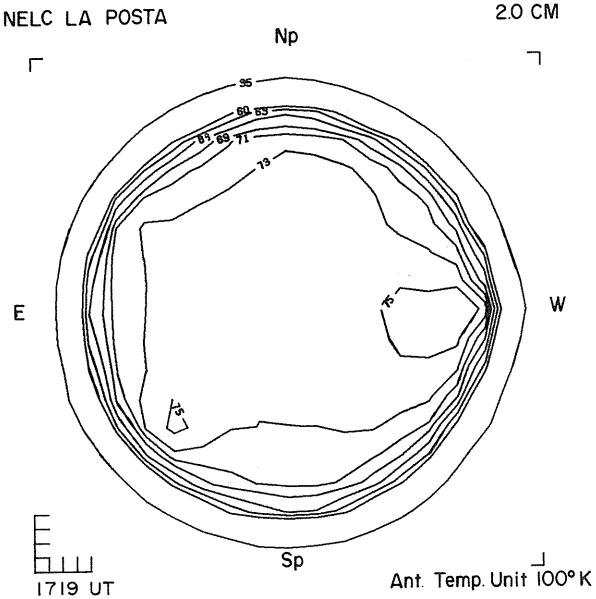
CALCIUM REPORT



FAIR	S
75	1600 3.0
82	0900 2.5
87	1500 3.0
90	0500 2.5
91	0300 3.0

NELC LA POSTA

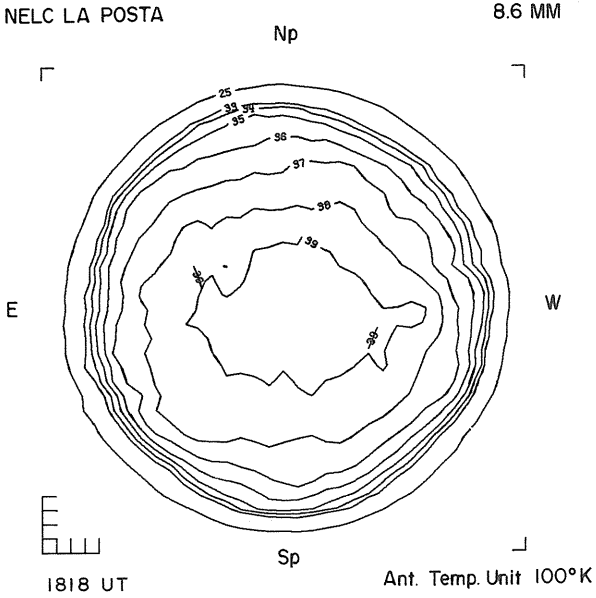
2.0 CM



Ant. Temp. Unit 100°K

NELC LA POSTA

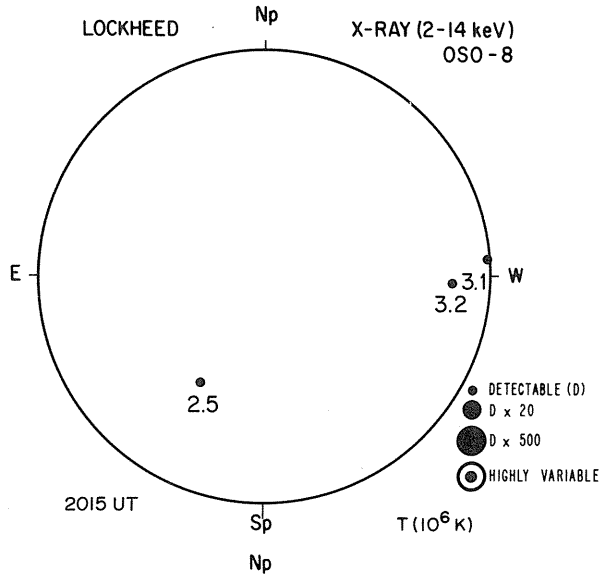
8.6 MM



Ant. Temp. Unit 100°K

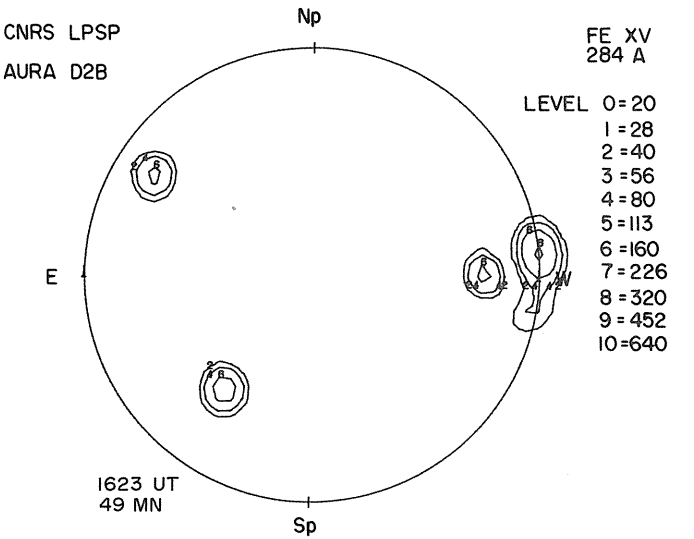
71
Jun 76

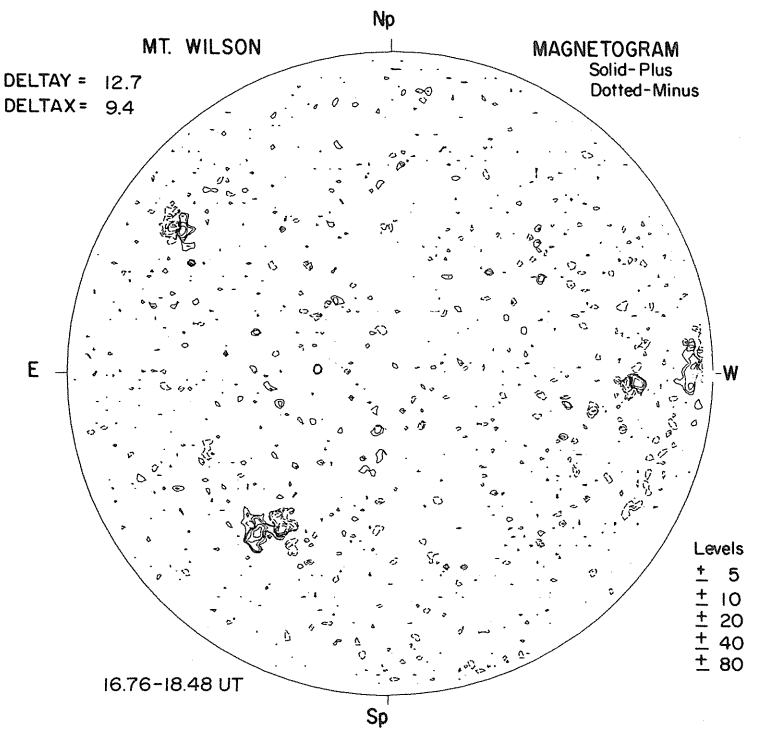
JUNE 25, 1976 (P =-5.35, B_o =2.25, L_o =346.07)



KITT PEAK

MAGNETOGRAM
Bright- Plus
Dark - Minus



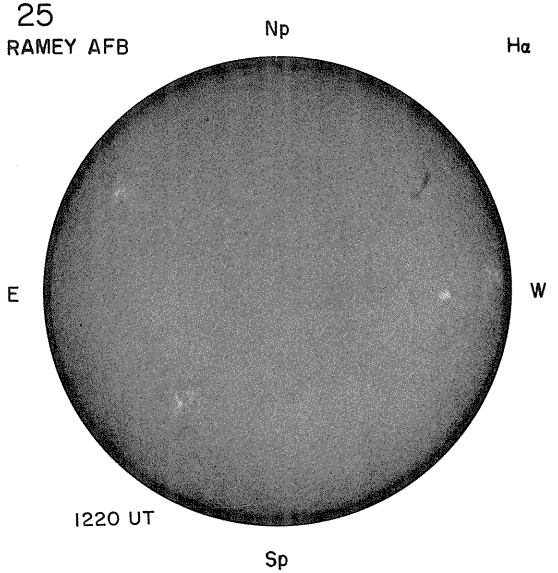


E W

Sp

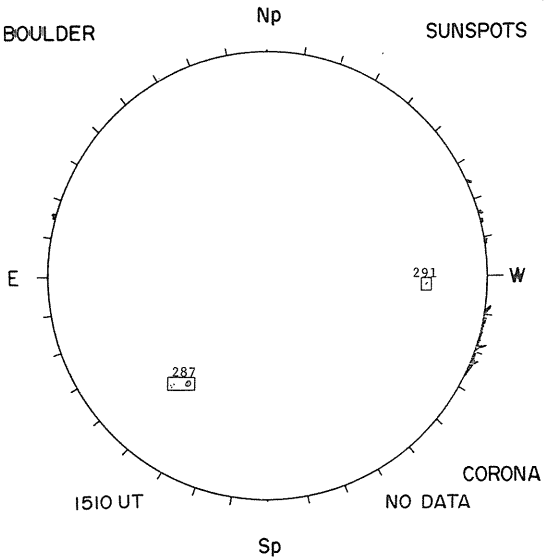
25

RAMEY AFB



BOULDER

SUNSPOTS

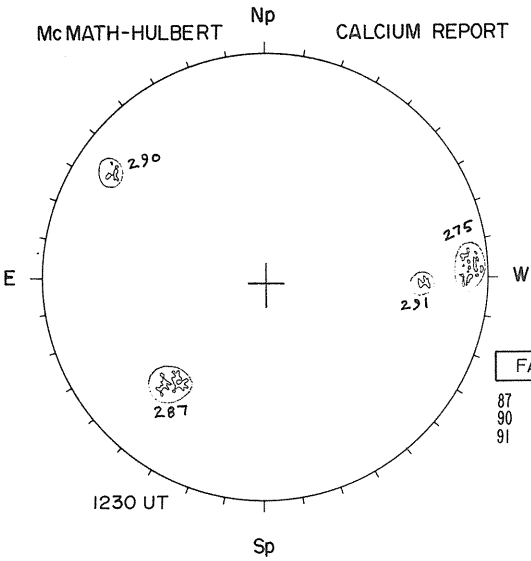


CORONA

NO DATA

McMATH-HULBERT

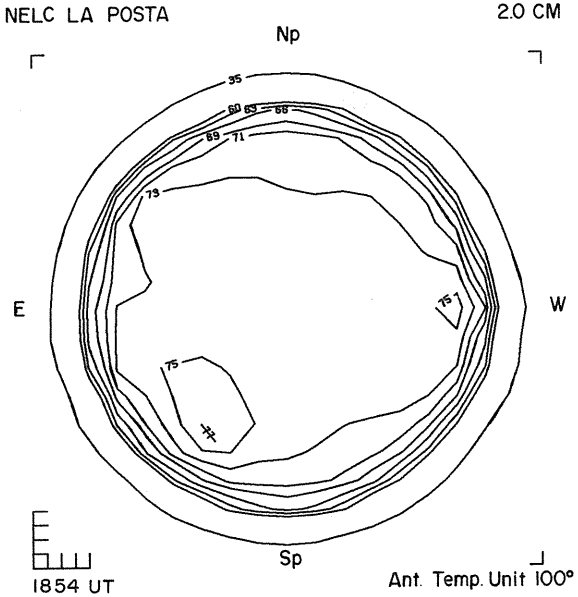
CALCIUM REPORT



FAIR	S
87	1400 2.5
90	0500 2.5
91	0400 3.0

NELC LA POSTA

2.0 CM

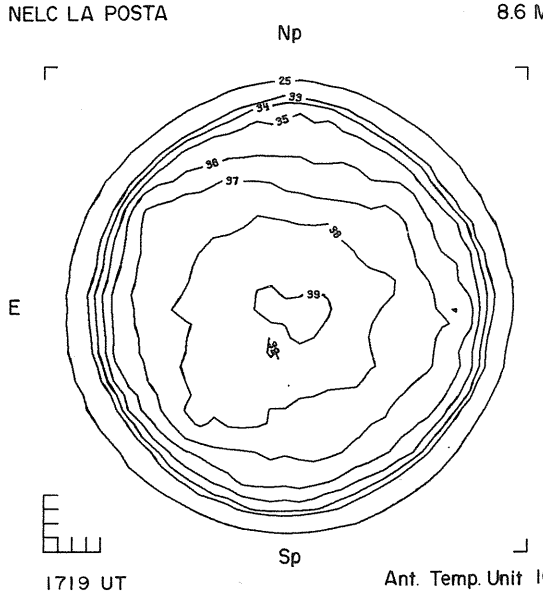


1854 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM

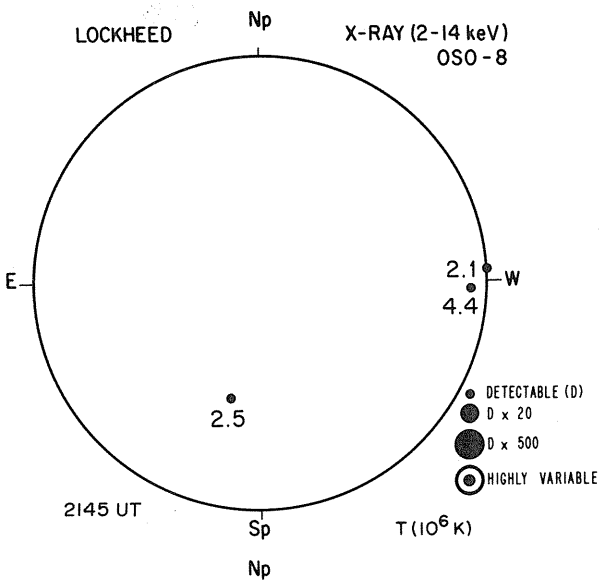


1719 UT

Ant. Temp. Unit 100°K

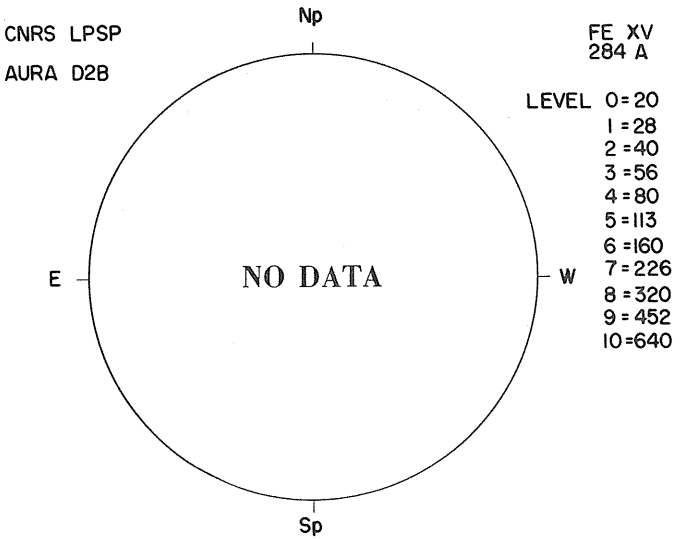
73 Jun 76

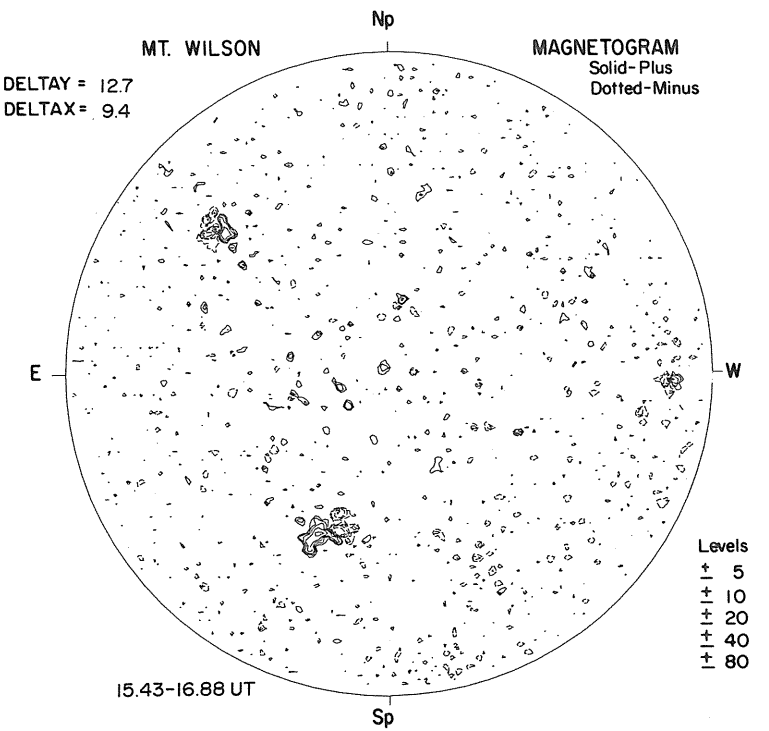
JUNE 26, 1976 (P =-4.90, B_o = 2.36, L_o = 332.83)



KITT PEAK

MAGNETOGRAM
Bright- Plus
Dark - Minus



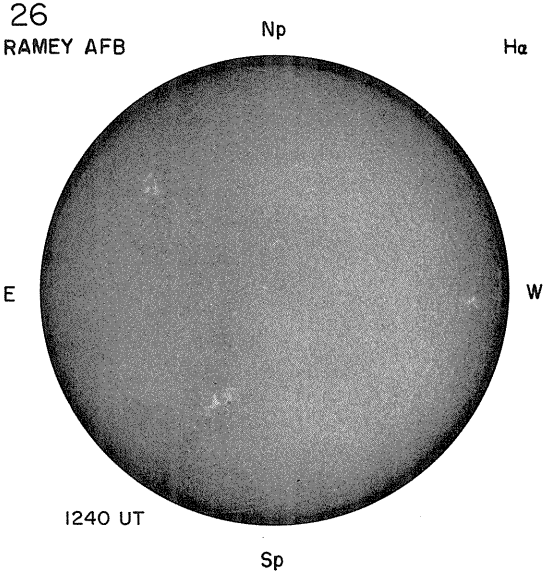


E W

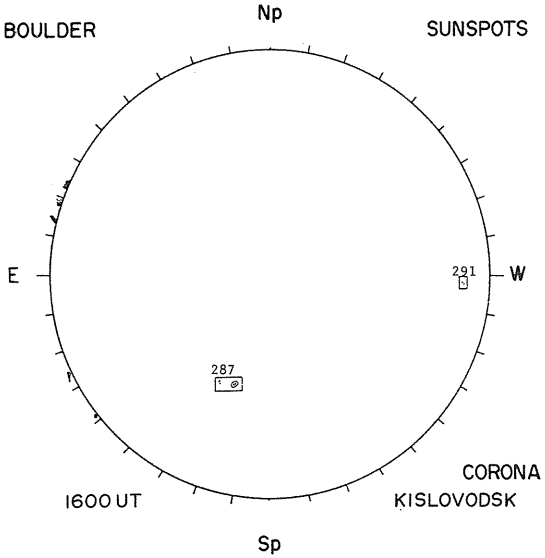
Sp

26

RAMEY AFB



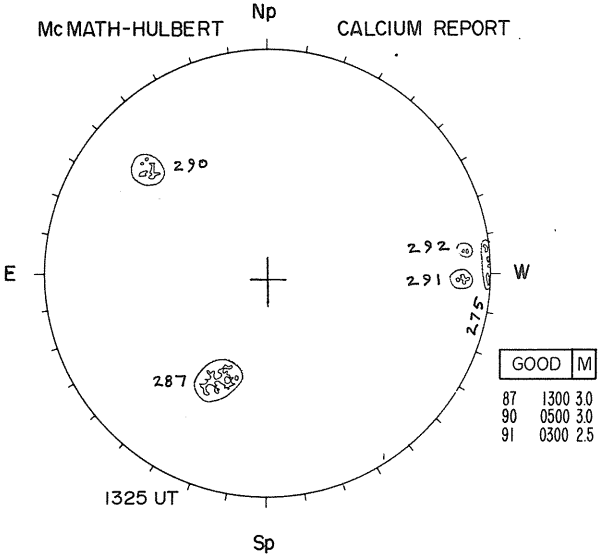
BOULDER SUNSPOTS



CORONA

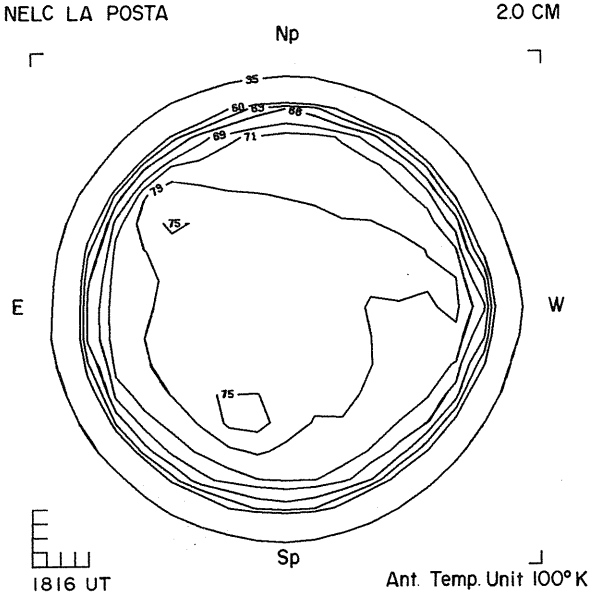
KISLOVODSK

McMATH-HULBERT CALCIUM REPORT

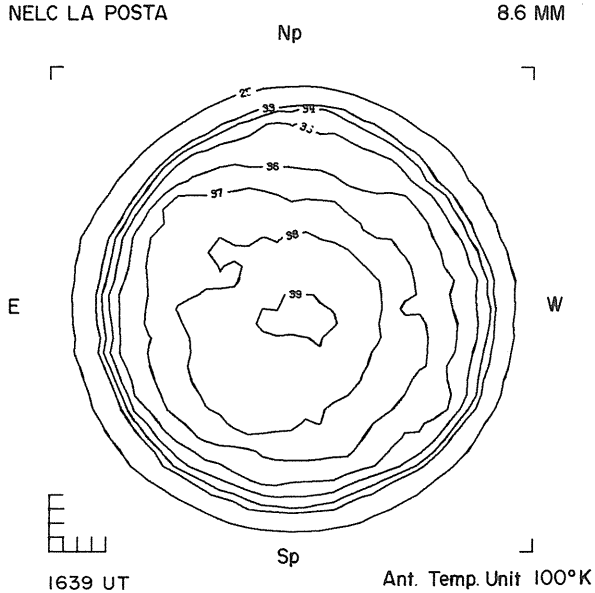


GOOD	M
87	1300 3.0
90	0500 3.0
91	0300 2.5

NELC LA POSTA 2.0 CM



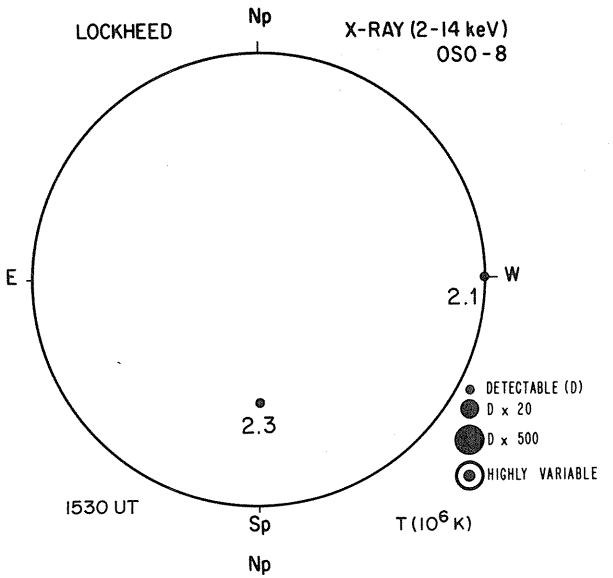
NELC LA POSTA 8.6 MM



JUNE 27, 1976 (P =-4.45, B_0 =2.48, L_0 =319.60)

LOCKHEED

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



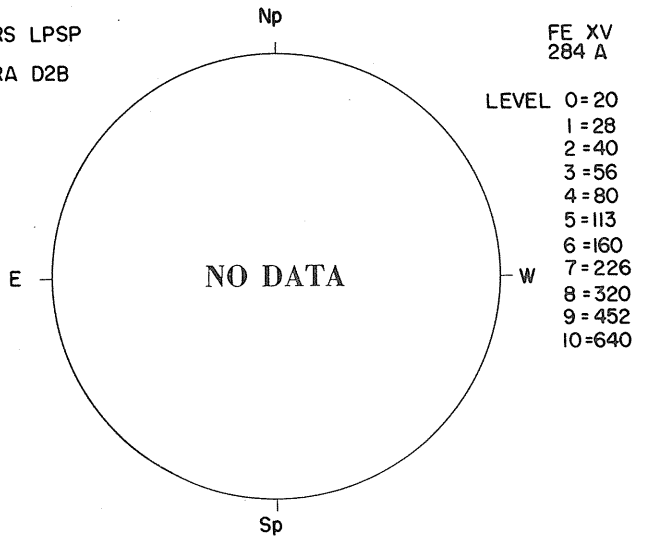
KITT PEAK

MAGNETOGRAM
Bright- Plus
Dark - Minus

CNRS LPSP

AURA D2B

FE XV
284 A

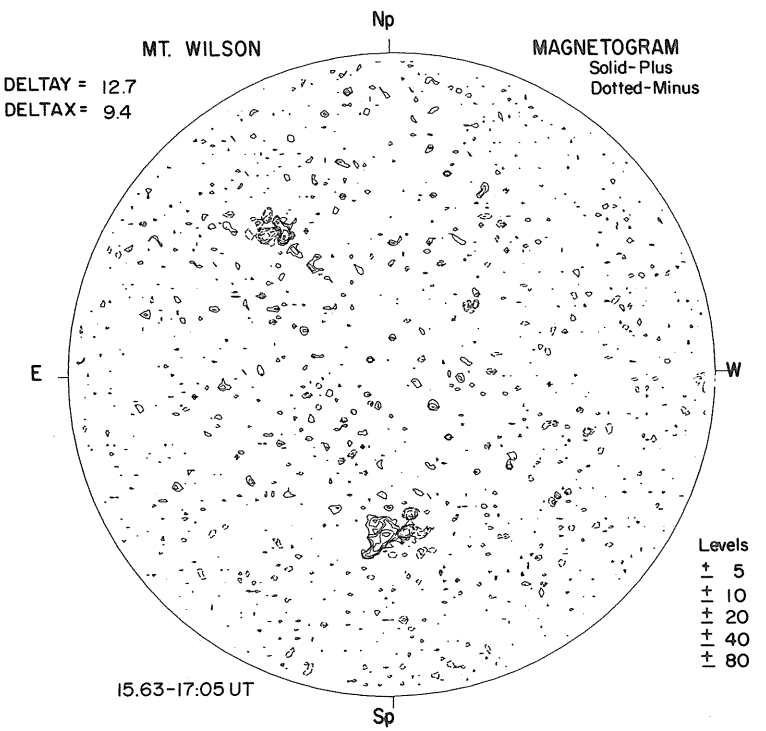


LEVEL 0=20
1=28
2=40
3=56
4=80
5=113
6=160
7=226
8=320
9=452
10=640

MT. WILSON

DELTAY = 12.7
DELTAX = 9.4

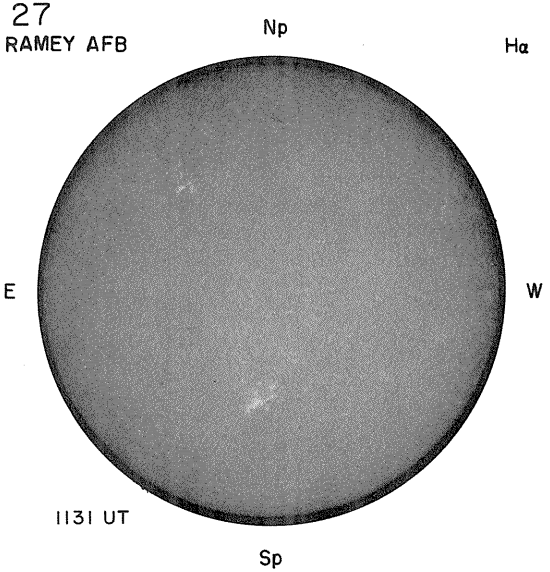
MAGNETOGRAM
Solid-Plus
Dotted-Minus



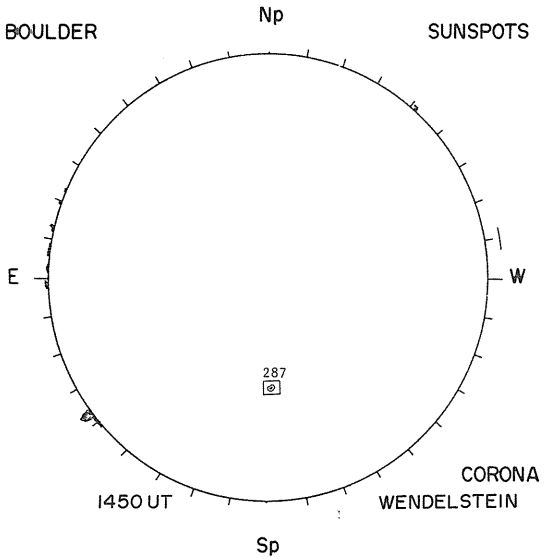
Levels
± 5
± 10
± 20
± 40
± 80

27

RAMEY AFB



BOULDER



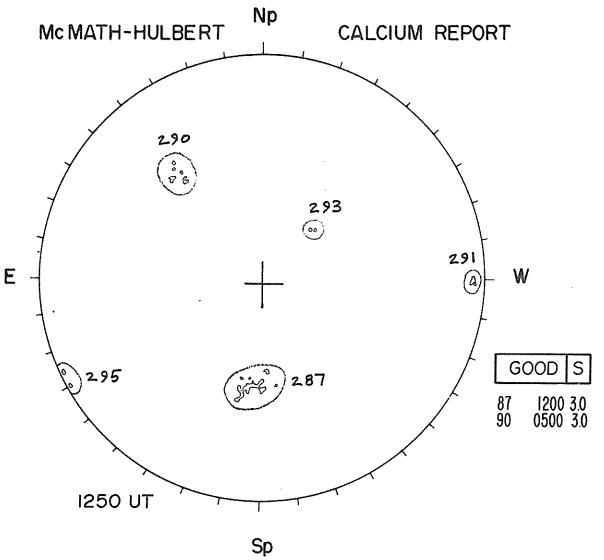
SUNSPOTS

CORONA

WENDELSTEIN

McMATH-HULBERT

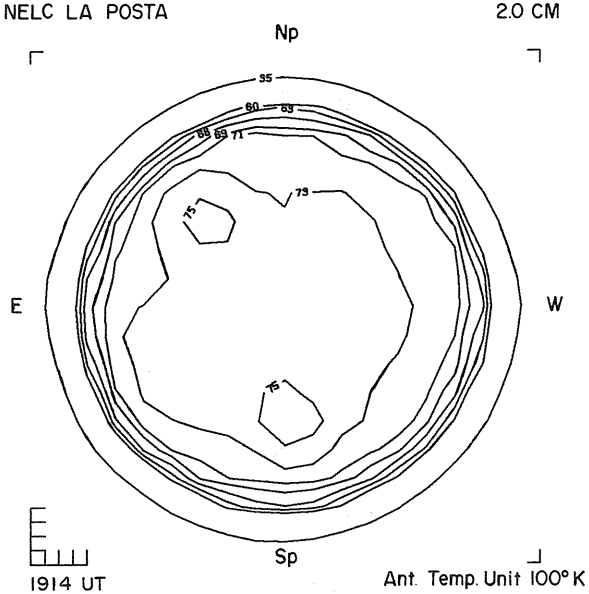
CALCIUM REPORT



GOOD	S
87	1200 3.0
90	0500 3.0

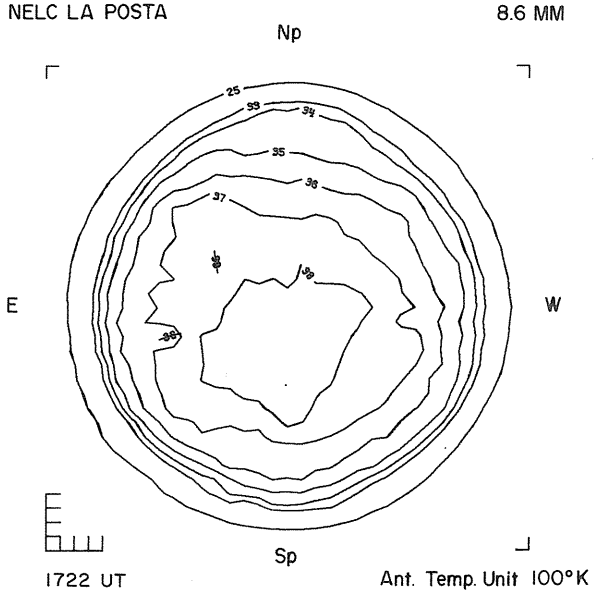
NELC LA POSTA

2.0 CM



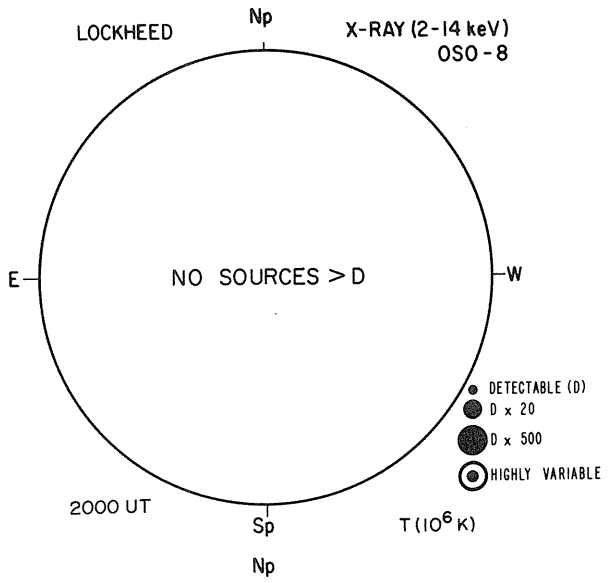
NELC LA POSTA

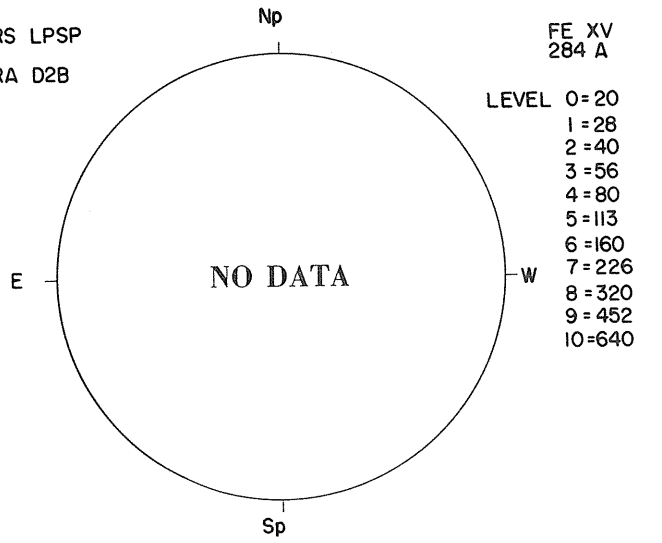
8.6 MM

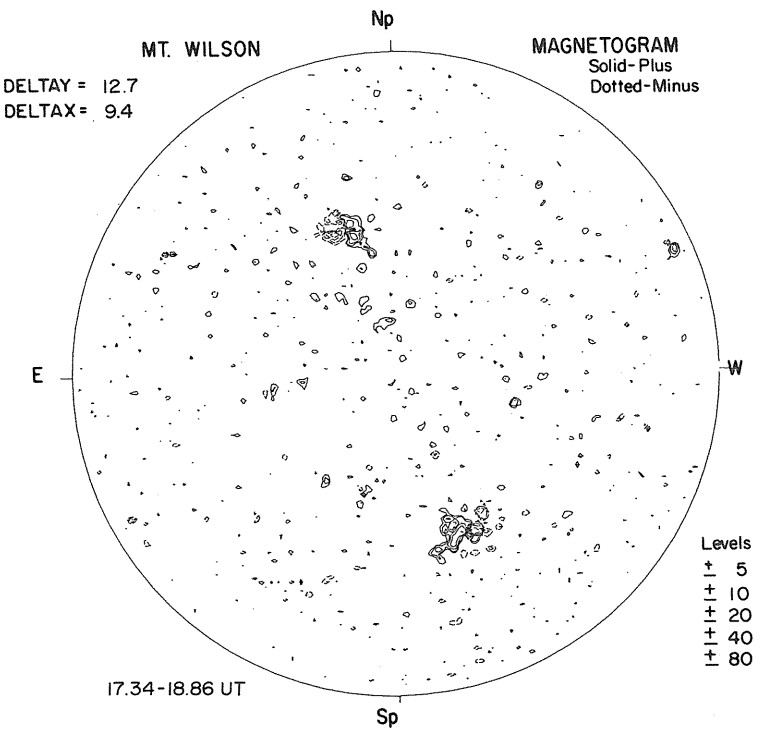


77
Jun 76

JUNE 28, 1976 (P =-4.00, B_o =2.59, L_o =306.36)





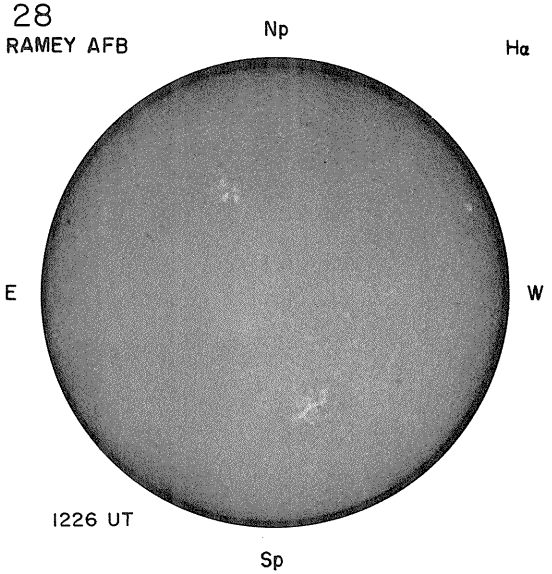


E W

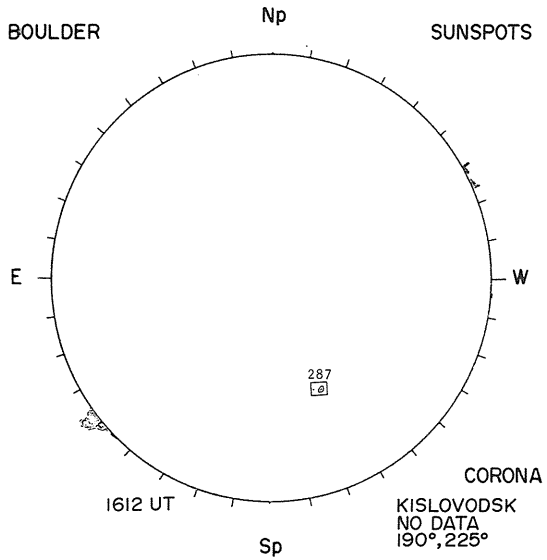
Sp

28

RAMEY AFB



BOULDER



SUNSPOTS

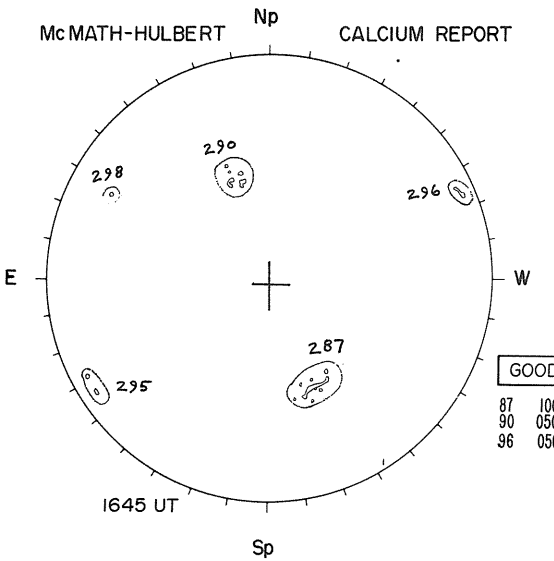
CORONA

KISLOVODSK

NO DATA

190°, 225°

McMATH-HULBERT

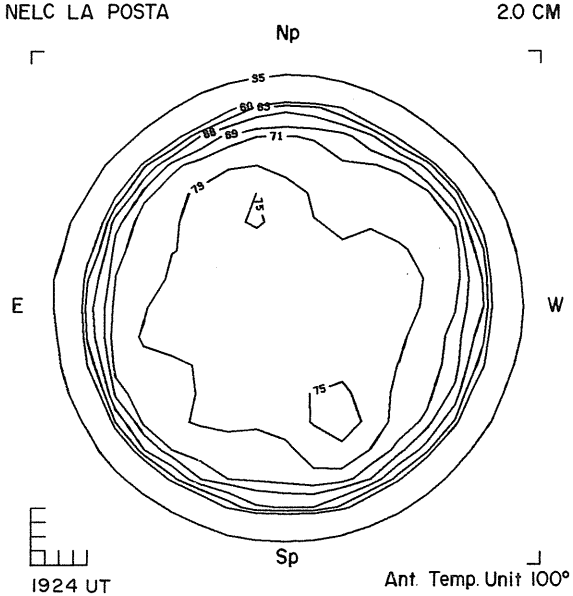


CALCIUM REPORT

GOOD	S
87	1000 3.0
90	0500 3.0
96	0500 2.5

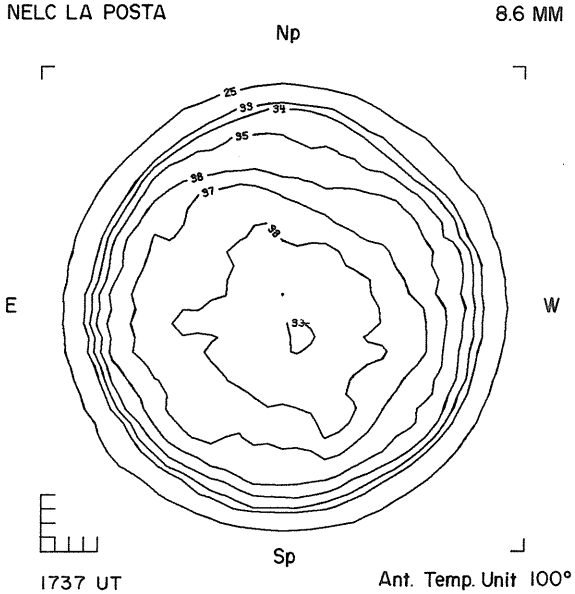
NELC LA POSTA

2.0 CM

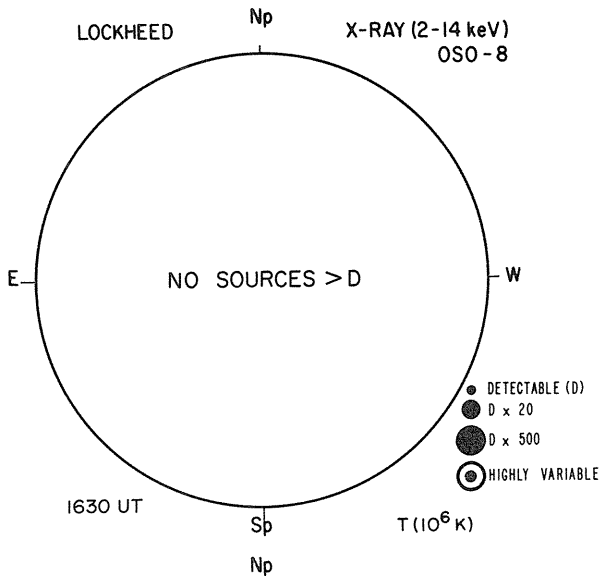


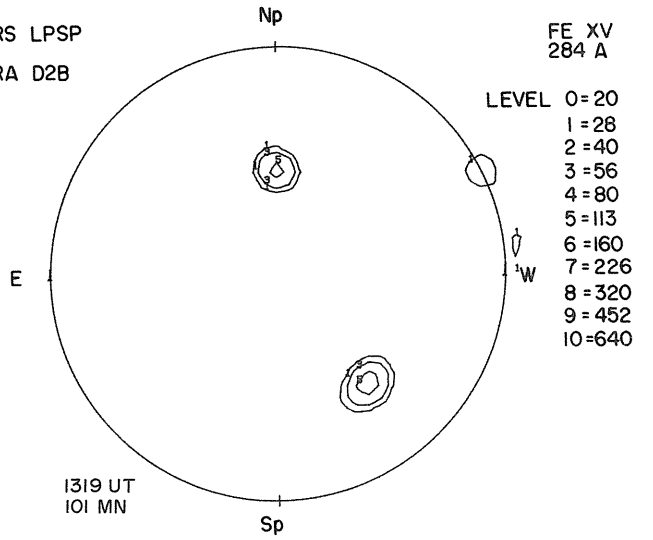
NELC LA POSTA

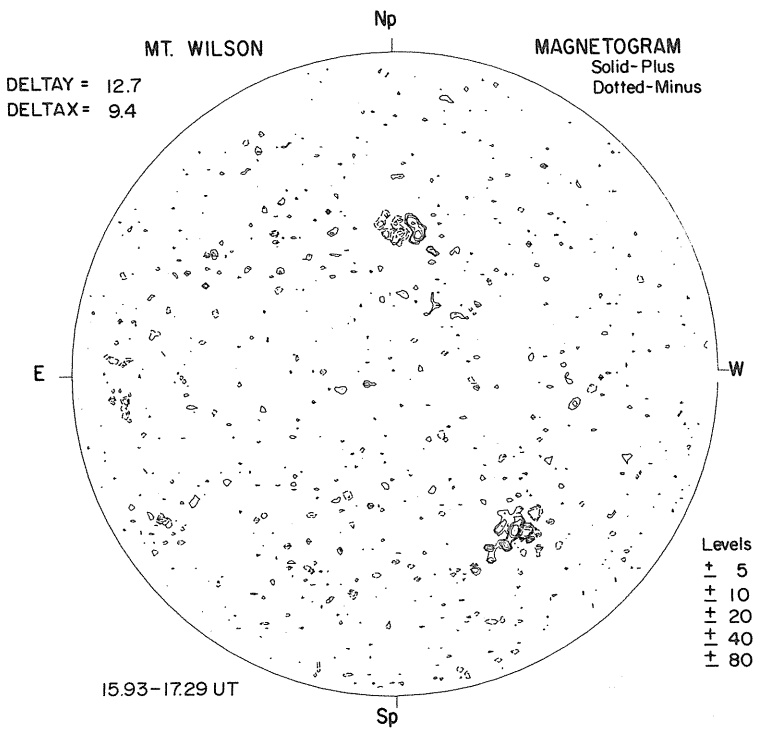
8.6 MM



JUNE 29, 1976 (P =-3.54, B_o = 2.70, L_o =293.12)

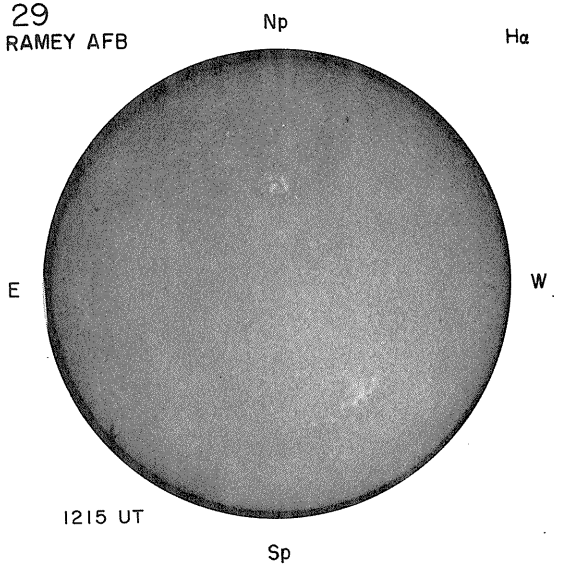




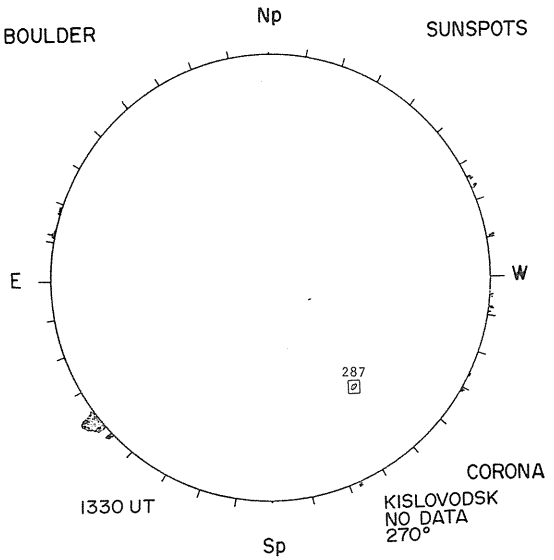


E W Sp

29
RAMEY AFB



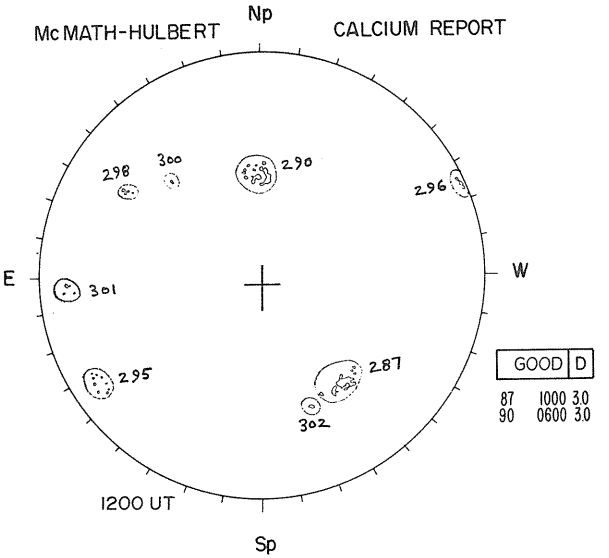
Hα BOULDER



SUNSPOTS

CORONA
KISLOVODSK
NO DATA
270°

McMATH-HULBERT CALCIUM REPORT



GOOD	D
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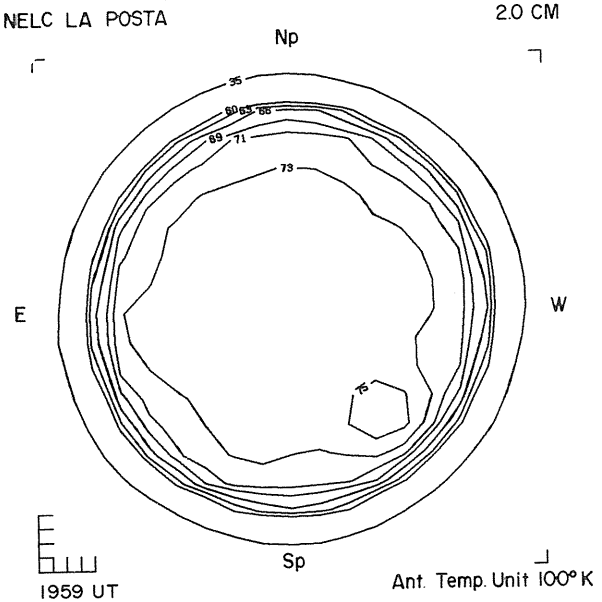
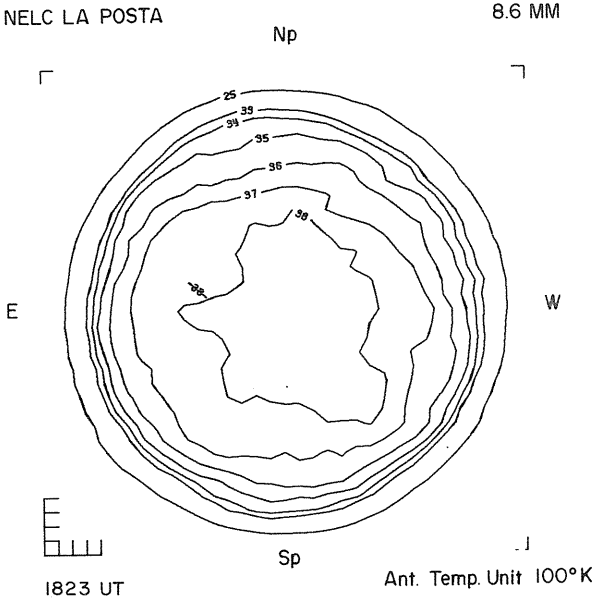
90	0600 3.0

NELC LA POSTA 2.0 CM



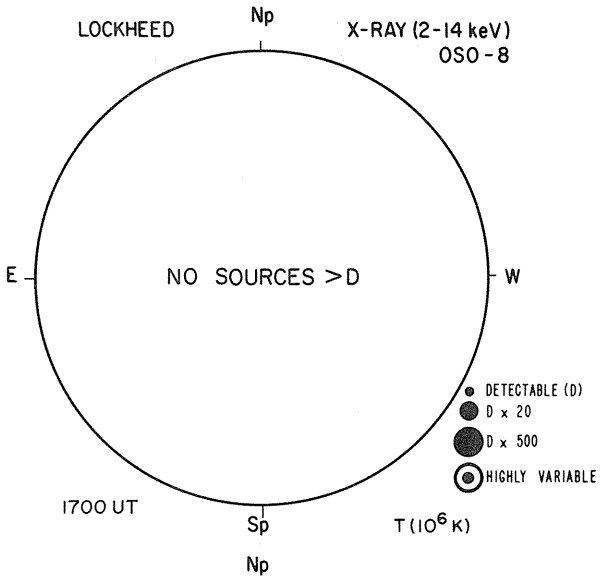
NELC LA POSTA 8.6 MM



JUNE 30, 1976 (P =-3.09, B_o = 2.81, L_o = 279.89)

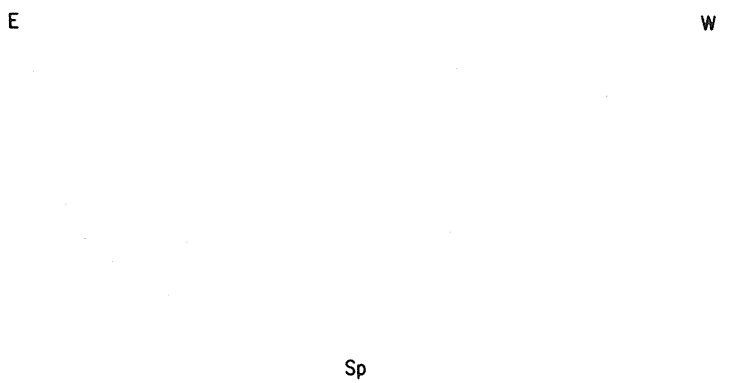
LOCKHEED

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



KITT PEAK

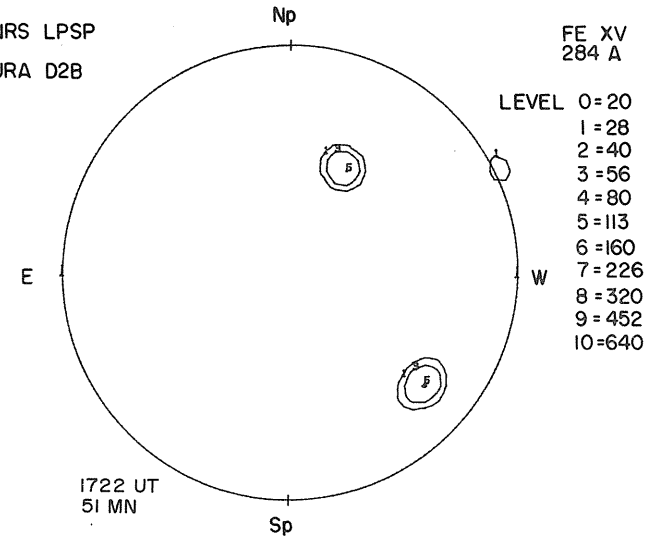
MAGNETOGRAM
Bright- Plus
Dark - Minus



CNRS LPSP
AURA D2B

FE XV
284 A

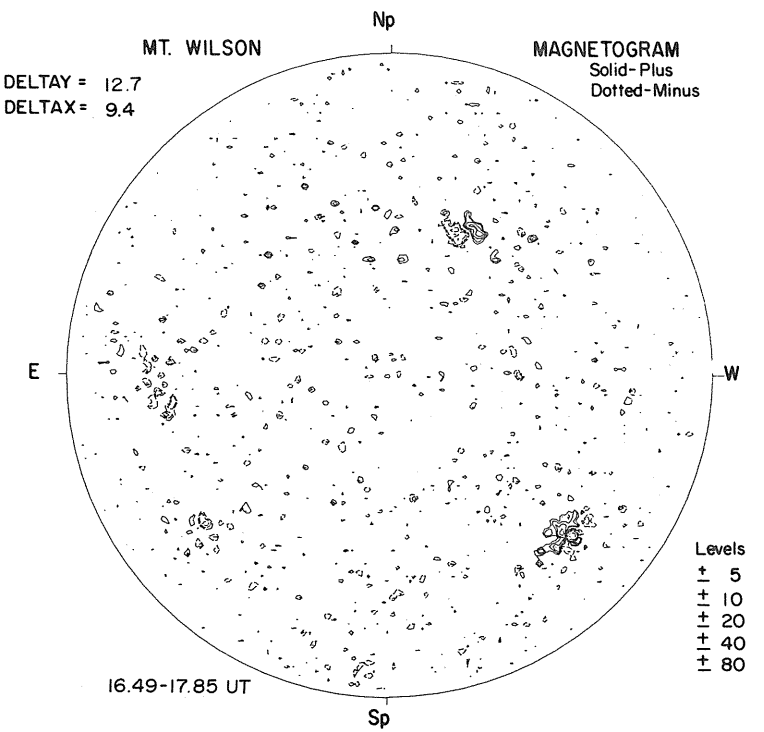
LEVEL 0=20
1=28
2=40
3=56
4=80
5=113
6=160
7=226
8=320
9=452
10=640



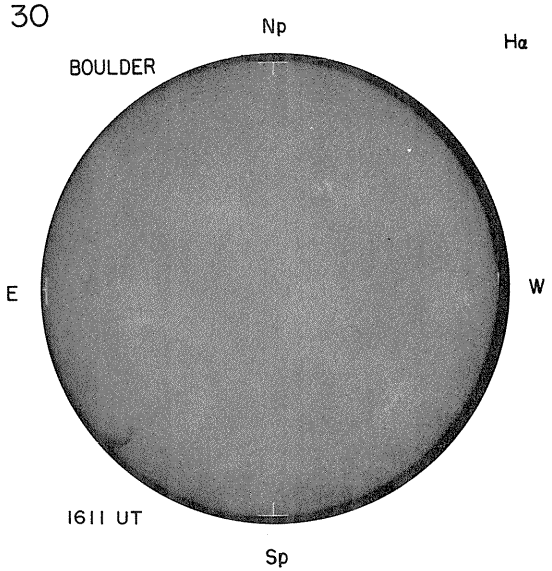
MT. WILSON

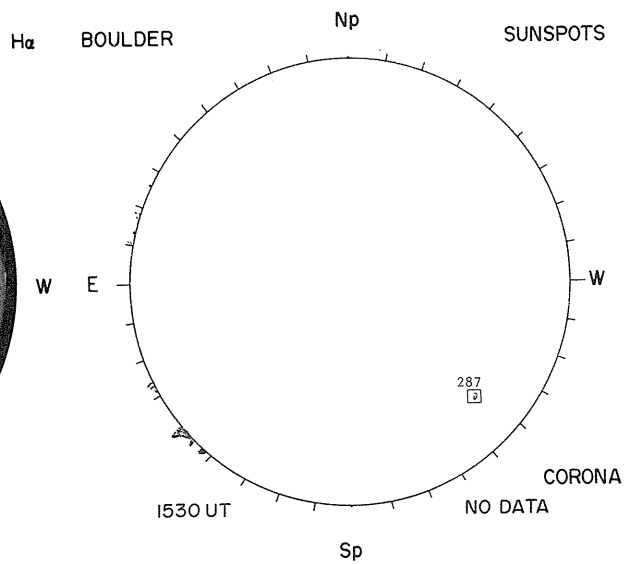
DELTAY = 12.7
DELTAX = 9.4

MAGNETOGRAM
Solid-Plus
Dotted-Minus



30

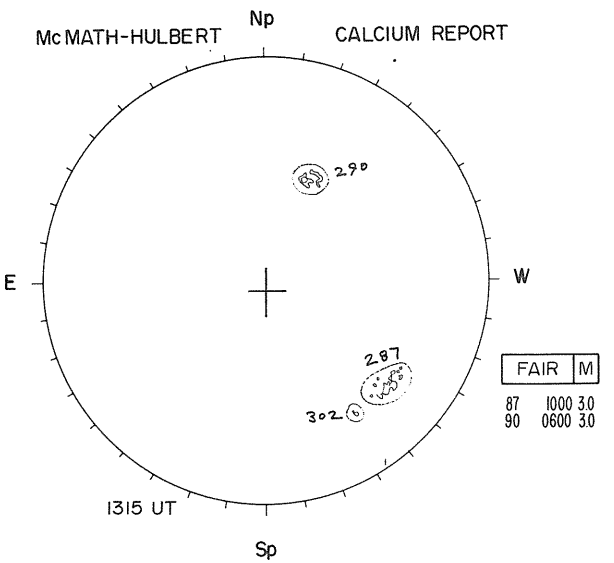




SUNSPOTS

CORONA

NO DATA



CALCIUM REPORT

FAIR	M
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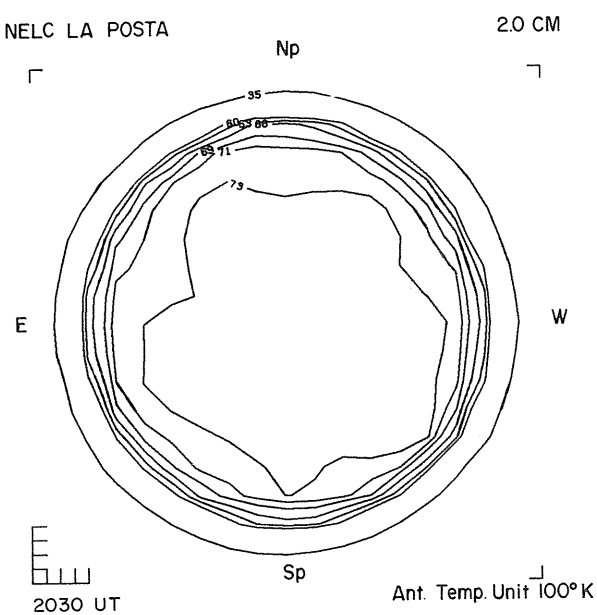
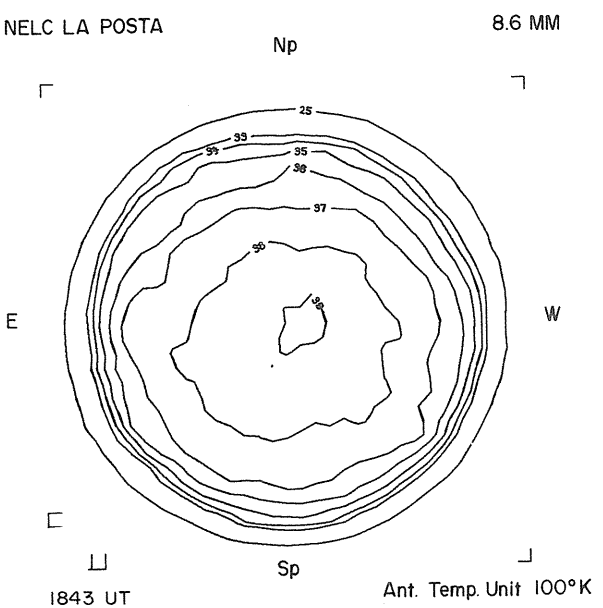
90	0600 3.0





REGIONS OF SOLAR ACTIVITY

JUNE 1976

MCMATH REGION 14249 CMP DATE .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	6	4	14249	N06 W51	307	100	1.0								

MCMATH REGION 14247 CMP DATE 1.3

			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	6	3	14247	S12 W29	299	100	1.0								

MCMATH REGION 14231 CMP DATE 1.7

			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	5	28	14231	S32 E54	296	100	2.0								

MCMATH REGION 14250 CMP DATE 2.4

			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	6	4	14250	N37 W28	284	100	1.0								

MCMATH REGION 14237 CMP DATE 2.8

			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	5	29	14237	S11 E55	278	100	1.0								
76	5	30	14237	S11 E43	281	100	1.5								

MCMATH REGION 14238 CMP DATE 4.5

			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	5	30	14238	N21 E69	255	200	1.0								
76	5	31	14238	N21 E52	257	200	1.5								
76	6	1	14238	N21 E37	257	200	1.0								

MCMATH REGION 14244 CMP DATE 5.0

			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	6	1	14244	N01 E43	251	100	1.5								

MCMATH REGION 14251 CMP DATE 5.3

			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	6	4	14251	S28 E10	246	100	1.0								

MCMATH REGION 14254 CMP DATE 5.4

			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	6	6	14254	S25 W15	246	100	1.0								

REGIONS OF SOLAR ACTIVITY

JUNE 1976

MCMATH REGION 14255 CMP DATE 5.4

			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
75	6	7	14256	S11 W27	244	300	1.0									
76	6	8	14256	S12 W39	243	200	1.0									

MCMATH REGION 14259 CMP DATE 6.3

			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	6	8	14259	S24 W29	233	500	3.5	19694	S25 W34	233	(BP)	3	8	20	10	BXI
76	6	9	14259	S24 W42	233	500	3.0		S25 W42				8	20	3	BXO
76	6	10	14259	S24 W55	233	500	3.0		S25 W53				8	20	3	BXO
76	6	11	14259	S24 W68	233	500	2.5									
76	6	12	14259	S24 W81	232	600	2.0									

MCMATH REGION 14255 CMP DATE 6.5

			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	6	6	14255	N31 E00	231	100	1.0									

MCMATH REGION 14248 CMP DATE 6.6

			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	6	3	14248	S03 E41	229	200	1.5									

MCMATH REGION 14257 CMP DATE 7.0

			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	6	7	14257	N17 W06	223	100	1.0									
76	6	8	14257	N16 W19	223	100	1.0									

MCMATH REGION 14245 CMP DATE 7.7 RETURN OF REGION 14203 ROTATION 4

			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	6	1	14245	N01 E85	209	100	1.0									
76	6	2	14245	S01 E72	211	400	2.0									
76	6	3	14245	N01 E56	214	500	1.5									
76	6	4	14245	N01 E42	214	400	1.5									
76	6	5	14245	N01 E28	215	400	1.0									
76	6	6	14245	N01 E15	216	500	2.0	19693	S04 E09	220	(AF)	2				
76	6	7	14245	N01 E03	214	500	1.5									
76	6	8	14245	N00 W14	218	500	1.5									
76	6	9	14245	N00 W28	219	400	1.5									
76	6	10	14245	N00 W41	219	300	1.5									
76	6	11	14245	N00 W55	220	300	1.0									
76	6	12	14245	N00 W68	219	300	1.0									

MCMATH REGION 14258 CMP DATE 9.6

			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	6	6	14258	S06 E42		100	1.5									
76	6	7	14258	S06 E29	188	200	2.0									
76	6	8	14258	S06 E15	189	200	2.0									
76	6	9	14258	S06 E01	190	100	2.0									

REGIONS OF SOLAR ACTIVITY

JUNE 1976

MCMATH REGION 14265 CMP DATE 9.6

				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	6	11	14265	S26 W25	190	100	2.5								
76	6	12	14265	S25 W37	188	300	2.5								
76	6	13	14265	S25 W53	189	200	1.5								
76	6	14	14265	S25 W64	188	100	1.0								

MCMATH REGION 14260 CMP DATE 10.1

				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	6	8	14260	N03 E21	183	100	2.0								

MCMATH REGION 14262 CMP DATE 10.5

				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	6	8	14262	S12 E26	178	200	2.0								

MCMATH REGION 14266 CMP DATE 10.5

				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	6	10	14266	S36 W01	179	100	1.0								
76	6	11	14266	S36 W14	179	100	2.0								
76	6	13	14266	S35 W40	176	100	2.0								
76	6	14	14266	S34 W52	176	100	1.0								

MCMATH REGION 14252 CMP DATE 10.9

				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	6	4	14252	N11 E90	166	100	1.0								
76	6	5	14252	N11 E71	172	100	1.5								

MCMATH REGION 14261 CMP DATE 10.9

				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	6	8	14261	N06 E31	173	100	1.5								

MCMATH REGION 14253 CMP DATE 11.7

				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	6	5	14253	S34 E80	163	100	1.5								
76	6	6	14253	S33 E69	162	200	1.5								
76	6	7	14253	S33 E55	162	100	1.0								

MCMATH REGION 14269 CMP DATE 11.9

				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	6	12	14269	N10 W08	159	100	1.5								

REGIONS OF SOLAR ACTIVITY

JUNE 1976

MCMATH REGION 14264 CMP DATE 12.9

			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	6	8	14264	N39 E58	146	100	1.5									

MCMATH REGION 14278 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	6	15	14278	N05 W27	138	100	1.0									

MCMATH REGION 14263 CMP DATE 13.6

			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	6	8	14263	S35 E65	139	200	1.5									
76	6	9	14263	S34 E52	139	200	1.0									
76	6	10	14263	S34 E40	138	100	1.0									

MCMATH REGION 14270 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	6	12	14270	S01 E19	132	100	1.5									
76	6	13	14270	S02 E05	131	100	1.0									

MCMATH REGION 14273 CMP DATE 14.2

			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	6	13	14273	N33 E07	129	100	1.5									

MCMATH REGION 14267 CMP DATE 14.7

			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	6	11	14267	S45 E41	124	300	3.0	19695	S45 E34	125	(AF)	2	B	10	2	BXO
76	6	12	14267	S45 E27	124	500	3.5	19695	S46 E26	123	(BF)	2	B	20	3	BXO
76	6	13	14267	S45 E15	121	500	3.0	19695	S46 E13	123	(AF)	1	M	10	3	BXO
76	6	14	14267	S45 E02	122	500	3.5	19695	S46 E03	120	(BF)	2	R	10	2	AXX
76	6	15	14267	S45 W09	120	500	3.0									
76	6	16	14267	S45 W20	116	400	2.5									
76	6	17	14267	S45 W32	117	400	2.0									
76	6	18	14267	S45 W45	116	400	1.5									
76	6	19	14267	S45 W59	115	300	1.5									
76	6	20	14267	S45 W68	114	300	1.0									

MCMATH REGION 14268 CMP DATE 15.5 RETURN OF REGION 14211 ROTATION 2

			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	6	10	14268	S14 E62	116	300	1.0									
76	6	11	14268	S14 E50	115	400	1.0									
76	6	12	14268	S14 E37	114	400	1.0									
76	6	13	14268	S14 E23	113	500	2.0									
76	6	14	14268	S14 E12	112	500	1.0									
76	6	15	14268	S14 W01	112	400	1.0									
76	6	16	14268	S14 W16	112	200	1.0									
76	6	17	14268	S14 W27	112	200	1.0									
76	6	18	14268	S14 W40	111	200	1.0									
76	6	19	14268	S14 W55	111	200	1.0									
76	6	20	14268	S15 W62	108	200	1.0									

REGIONS OF SOLAR ACTIVITY

JUNE 1976

MCMATH REGION 14274 CMP DATE 16.1

				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	6	13	14274	S41 E33	103	100	1.0									

MCMATH REGION 14279 CMP DATE 16.7

				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	6	17	14279	N19 W11	96	100	1.5									

MCMATH REGION 14271 CMP DATE 17.1

				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	6	11	14271	N01 E75	90	200	2.0									
76	6	12	14271	N01 E60	91	200	2.0									
76	6	13	14271	N01 E45	91	200	2.0									
76	6	14	14271	N01 E33	91	200	1.5									
76	6	15	14271	N00 E20	91	200	1.0									
76	6	16	14271	N00 E05	91	100	1.0									

MCMATH REGION 14282 CMP DATE 18.8

				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	6	20	14282	N02 W23	69	300	3.0	19697	N02 W26	70	(BF)	3	B	20	3	BXX
76	6	21	14282	N02 W37	69	200	2.5	19697	N01 W38	69	(B)	3	B	40	6	BXO
76	6	22	14282	N02 W51	69	900	3.5	19697	N01 W51	68	(BF)	3	B	40	8	BXI
76	6	23	14282	N02 W64	70	900	3.5	19697	N01 W65	69	(B)	4	B	80	5	CRO
76	6	24	14282	N02 W78	71	900	2.5									

MCMATH REGION 14288 CMP DATE 19.2

				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	6	22	14288	N33 W44	62	100	1.0									

MCMATH REGION 14275 CMP DATE 20.2

				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	6	13	14275	S01 E89	47	300	1.0									
76	6	14	14275	N05 E80	44	1000	3.5	19696	N03 E79	44	(B)	3	R	70	4	BXO
76	6	15	14275	N05 E65	46	1400	3.5	19696	N02 E60	50	(B)	3	B	40	2	BXO
76	6	16	14275	N04 E49	47	1600	3.5	19696	N02 E46	51	(BF)	3	B	110	10	DRI
76	6	17	14275	N05 E36	49	2300	4.0	19696	N02 E32	50	(D)	4	R	160	11	DAI
76	6	18	14275	N05 E23	48	2600	3.5	19696	N03 E19	51	(B)	4	R	160	11	DAI
76	6	19	14275	N04 E07	49	2400	3.0	19696	N03 E05	51	(B)	4	B	220	23	DSC
76	6	20	14275	N04 W05	51	2000	3.0	19696	N03 W08	52	(BF)	4	B	180	29	BXI
76	6	21	14275	N04 W20	52	1500	3.0	19696	N03 W22	53	(B)	2	B	70	12	BXI
76	6	22	14275	N04 W33	51	1600	3.0	19696	N04 W36	53	(B)	3	B	10	2	BXO
76	6	23	14275	N04 W46	52	1800	3.5	19696	N03 W51	55	(AP)	2	B	20	2	BXO
76	6	24	14275	N04 W59	52	1600	3.0	19696	N05 W64	55	(AF)	3	B	0	1	AXX
76	6	25	14275	N04 W72	53	1600	2.0	19696	N02 W73	52	AF					
76	6	26	14275	N04 W85	52	900	1.5									

MCMATH REGION 14280 CMP DATE 21.2

				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	6	16	14280	N08 E62	34	100	1.0									
76	6	17	14280	N08 E48	37	100	1.0									
76	6	18	14280	N08 E34	37	100	1.0									

REGIONS OF SOLAR ACTIVITY

JUNE 1976

MCMATH REGION 14277 CMP DATE 21.4

				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	6	15	14277	N00 E80	31	200	1.0									
76	6	16	14277	S01 E63	33	100	2.0									
76	6	17	14277	S01 E49	36	100	1.0									
76	6	18	14277	S01 E37	34	100	1.0									

MCMATH REGION 14292 CMP DATE 21.7

				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	6	26	14292	N07 W64	31	100	1.5									

MCMATH REGION 14285 CMP DATE 21.9

				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	6	20	14285	S29 E18	28	100	1.5									

MCMATH REGION 14291 CMP DATE 22.0

				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	6	24	14291	S01 W33	26	300	3.0	19699	S01 W36	27	(BF)	3	B	0	1	AXX
76	6	25	14291	S01 W46	27	400	3.0	19699	N00 W48	27	(BF)	4				
76	6	26	14291	S01 W60	27	300	2.5	19699	S01 W58	25	(AF)	1	B	10	2	AXX
76	6	27	14291	S01 W73	26	300	2.0									

MCMATH REGION 14283 CMP DATE 22.5

				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	6	20	14283	N09 E26	20	100	1.5									

MCMATH REGION 14296 CMP DATE 23.4

				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	6	28	14296	N24 W70	8	500	2.5									
76	6	29	14296	N24 W83	11	500	2.0									

MCMATH REGION 14281 CMP DATE 23.8

				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	6	18	14281	N10 E69	2	100	2.0									

MCMATH REGION 14284 CMP DATE 24.3

				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	6	20	14284	N20 E49	358	100	2.5									
76	6	21	14284	N20 E36	357	100	1.0									

MCMATH REGION 14289 CMP DATE 26.0

				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	6	23	14289	S24 E33	334	100	1.5									

REGIONS OF SOLAR ACTIVITY

JUNE 1976

MCMATH REGION 14293 CMP DATE 26.5

			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	6	27	14293	N14 W14	327	100	1.5									

MCMATH REGION 14287 CMP DATE 27.7

			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	6	21	14287	S26 E82	311	200	3.0									
76	6	22	14287	S27 E68	311	1100	3.5	19698	S26 E66	312	(BP)	4	B	60	4	CRI
76	6	23	14287	S26 E54	313	1200	3.5	19698	S27 E51	314	(BP)	4	B	80	5	CAO
76	6	24	14287	S27 E42	311	1500	3.0	19698	S28 E38	313	(BP)	4	B	50	4	BSO
76	6	25	14287	S27 E28	313	1400	2.5	19698	S27 E25	314	(BP)	4	B	50	4	CSI
76	6	26	14287	S27 E15	312	1300	3.0	19698	S27 E14	313	(BP)	3	B	100	4	CSI
76	6	27	14287	S27 E02	311	1200	3.0	19698	S27 W02	315	(AP)	3	B	180	1	HSX
76	6	28	14287	S28 W13	311	1000	3.0	19698	S27 W13	313	(BP)	3	B	60	3	CSO
76	6	29	14287	S28 W24	312	1000	3.0	19698	S27 W27	314	(AP)	3	B	40	2	HSX
76	6	30	14287	S28 W37	311	1000	3.0	19698	S27 W39	313	(AP)	2	R	50	1	HSX
76	7	01	14287	S28 W54		700	2.0	19698	S27 W52		AP		B	40	2	HRX
76	7	02	14287	S28 W63		900	2.5	19698	S27 W65		AP		B	10	1	AXX
76	7	03	14287	S28 W75		800	2.5	19698	S27 W80		AP		B	10	1	AXX

MCMATH REGION 14302 CMP DATE 28.3

			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	6	29	14302	S34 W16	304	100	1.0									
76	6	30	14302	S34 W29	303	100	1.5									

MCMATH REGION 14290 CMP DATE 29.5

			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	6	23	14290	N28 E80	287	600	1.5									
76	6	24	14290	N28 E66	287	500	2.5	19700	N29 E62	289	BP					
76	6	25	14290	N28 E53	288	500	2.5									
76	6	26	14290	N28 E38	289	500	3.0									
76	6	27	14290	N28 E26	287	500	3.0									
76	6	28	14290	N28 E10	288	500	3.0									
76	6	29	14290	N29 E00	288	600	3.0									
76	6	30	14290	N29 W13	287	600	3.0									
76	7	01	14290	N29 W30		400	2.0									
76	7	02	14290	N29 W39		400	2.5									
76	7	03	14290	N29 W52		400	2.0									
76	7	04	14290	N29 W66		400	2.0									

Note: Calcium spectroheliograms were obtained at the McMath-Hulbert Observatory on all 30 days of June 1976. No sunspot observations were made at Mt. Wilson Observatory on June 9 and 10, 1976.

DAILY CALCIUM PLAGE INDEX

JUNE 1976

YR	MO	DAY	INDEX	YR	MO	DAY	INDEX	YR	MO	DAY	INDEX
76	6	1	0.5	76	6	11	1.7	76	6	21	4.7
76	6	2	0.3	76	6	12	2.7	76	6	22	7.2
76	6	3	0.7	76	6	13	2.8	76	6	23	7.9
76	6	4	0.7	76	6	14	2.5	76	6	24	6.9
76	6	5	0.4	76	6	15	3.7	76	6	25	5.1
76	6	6	1.3	76	6	16	4.7	76	6	26	4.9
76	6	7	1.5	76	6	17	8.2	76	6	27	4.7
76	6	8	3.6	76	6	18	9.0	76	6	28	4.4
76	6	9	1.8	76	6	19	7.4	76	6	29	4.5
76	6	10	1.4	76	6	20	7.4	76	6	30	3.7

* NO OBSERVATIONS

Note: The Calcium Plage Index for May 31, 1976 is 0.2, not "no observation" as one might be led to believe from last month's publication.

SUDDEN IONOSPHERIC DISTURBANCES

JUNE 1976

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	McMATH REGION
08	1231	1259	1252	1-	1			1					1228	14259
16	2311	0030	2321	1-	5	2			3	1	5		2314	14275
17	0307	0334	0322	1-	1				1				0308E	14275
17	0442	0506	0451	1-	1				1				0447E	14275
17	0615	0701	0624	1-	1				1				0613	14275
17	0710	0728	0723	1-	1				1				0710	14275
17	1524	1608	1527	1-	5	1		3			7		1523	14275
18	0935E	1011	0956	1-	1			1					0945	14275

PERIODS OF NO OBSERVATIONS:

DATE	TIME (UT) and STATION
01-03	0000-2400 A32
06-11	0000-2400 A29
11-25	0000-2400 A30
22	2235-2316 TM
28	1130-1306 TM
30	0000-2400 A32, 1850-1904 TM

STATIONS REPORTING FOR JUNE 1976

AAVSO (A1, A19, A21, A29, A30, A31, A33, A34, A35, A37, A40) (SES) (A1, A26, A31, A32) (SEA) (A31) (SWF)
DEBRE ZEIT (DE) (SPA)
HERSTMONCEUX (HC) (SEA)
HIRAISO (HI) (SWF)
HOBART (TA) (SEA)
HUANCAYO (HU) (SWF)
INUBO (IN) (SPA)
KASUAGE (KA) (SPA)
MC MATH (MC) (SWF, SCNA)
PANSKA VES (PU) (SWF, SEA, SES)
PRESTON (LO) (SEA)
SAO PAULO (UM) (SES, SPA)
SOFIA (SF) (SES)
ST CLOUD (SC) (SES)
TABLE MOUNTAIN (TM) (SPA, LF-SPA)
TORINO (TN) (SPA)
UPICE (UI) (SEA)

SID's BY McMATH REGION

JUNE 1976

DAY	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
REGION																														
59								1																						
75																1	5	1												
X-RAY																														
UNKNOWN																														
NO FP																														

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1976

JUN 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	
01	0000	1011	MANI										
	0000	0230	BOUL										
	0409	1625	WEIS										
	0429	1842	DURN										
	0913	2409	SGMR										
	1130	2000	BOUL										
	1230	2245	HARV										
	1629	1830	WEIS										
	2129	2400	MANI										
02	0000	1011	MANI										
	0428	1842	DURN										
	0820	1831	WEIS										
	0912	2411	SGMR										
	1130	2200	BOUL										
	1230	2245	HARV										
	2129	2400	MANI										
03	0000	0230	BOUL										
	0050	1013	MANI										
	0406	1213	WEIS										
	0427	1527	DURN										
	0912	2411	SGMR										
	1130	2400	BOUL										
	1219	1233	WEIS										
	1230	2245	HARV										
	1820	1842	DURN										
	2129	2400	MANI										
04	0000	1013	MANI										
	0000	0230	BOUL										
	0404	1734	WEIS										
	0426	1842	DURN										
	0911	2412	SGMR										
	1130	2400	BOUL										
	1230	2245	HARV										
	1739	1833	WEIS										
	2129	2400	MANI										
05	0000	1013	MANI										
	0000	0230	BOUL										
	0403	1834	WEIS										
	0426	1842	DURN										
	0911	1800	SGMR										
	1130	1600	BOUL										
	1230	2245	HARV										
	2129	2400	MANI										
06	0000	1013	MANI										
	0407	0806	WEIS										
	0426	1842	DURN										
	1130	2400	BOUL										
	1230	2250	HARV										
	1419	1834	WEIS										
	2129	2400	MANI										
			SGMR										
07	0000	0856	MANI										
	0000	0230	BOUL										
	0405	1834	WEIS										
	0426	1453	DURN										
	1130	2400	BOUL										
	1230	2245	HARV										
	1341	2414	SGMR										
	1620	1842	DURN										
	2129	2400	MANI										
08	0000	1011	MANI										
	0000	0230	BOUL										
	0426	1840	DURN										

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1976

JUN 1976	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
08	0858	1835	WEIS										
	0910	2415	SGMR										
	1130	1930	BOUL										
	1230	2245	HARV										
	2129	2400	MANI										
09	0000	0647	MANI										
	0130	0230	BOUL										
	0406	1452	WEIS										
	0427	1840	DURN										
	0840	1011	MANI										
	0910	2415	SGMR										
	1130	2300	BOUL										
	1230	2245	HARV										
	1547	1837	WEIS										
	2129	2400	MANI										
10	0000	1011	MANI										
	0000	0230	BOUL										
	0407	1300	WEIS										
	0601	1840	DURN										
	0910	2416	SGMR										
	1130	2400	BOUL										
	1230	2245	HARV										
	2129	2400	MANI										
11	0000	0055	MANI										
	0000	0230	BOUL										
	0300	1011	MANI										
	0427	0601	DURN										
	0615	1825	DURN										
	0910	2416	SGMR										
	1047	1745	WEIS										
	1130	2400	BOUL				2056.8	2057.2	2				III
	1230	2245	HARV				2056	2057	1				IIIG
	2130	2400	MANI										
12	0000	1011	MANI										
	0000	0230	BOUL										
	0427	1825	DURN										
	0910	2417	SGMR										
	1033	1127	WEIS										
	1130	1700	BOUL										
	1230	2245	HARV										
	1607	1838	WEIS										
	2100	2400	BOUL										
	2130	2400	MANI										
13	0000	1011	MANI										
	0000	0230	BOUL										
	0405	1502	WEIS										
	0427	1820	DURN										
	0910	2417	SGMR										
	1130	2400	BOUL										
	1230	2245	HARV										
	1529	1839	WEIS										
	2131	2400	MANI										
14	0000	1011	MANI										
	0000	0230	BOUL										
	0405	0928	WEIS										
	0727	1745	DURN										
	0910	2418	SGMR										
	1130	2243	BOUL										
	1230	2245	HARV										
	1753	1820	DURN										
	2131	2400	MANI										
15	0000	1011	MANI										
	0427	1820	DURN	1627.7	1627.8	1	1627.2	1628.0	3				IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JUNE 1976

JUN 1976	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
15	0910	2418	SGMR							1628.5	1628.9	1	III
	1216	2245	HARV				1628	1629	2	1628	1629	2	IIIB
			HARV				1639	1640	2	1639	1640	2	IIIG
	2131	2400	MANI										
16	0000	0020	MANI										
	0029	1011	MANI										
	0427	1820	DURN	0507.2	0507.4	3	0507.2	0507.4	3				U,IIIG
	1216	2245	HARV										
	0910	2418	SGMR							1225.6	1226.1	1	III
	2131	2400	MANI										
17	0000	0746	MANI										
	0427	1820	DURN	0552.3	0552.3	1	0552.3	0552.3	1				III
	0800	1011	MANI							0823.5	0823.6	2	III
	0910	2419	SGMR										
	1217	2245	HARV										
			DURN				1241.7	1241.7	3				III
	2131	2400	MANI										
18	0000	1011	MANI										
	0426	0620	DURN	0426 D	0620 E	2	0426 D	0620 E	2				IC,DC,N
	0910	2419	SGMR										
	0633	1820	DURN				1636.6	1636.8	2				I
	0801	1840	WEIS				1636.6	1636.9	1				IIIG
	1217	2116	HARV				2021	2022	2	2021		2	IIIG
	2131	2400	MANI										
	2215	2245	HARV										
19	0000	1011	MANI										
	0401	0440	WEIS										
	0427	1820	DURN	0427 D	1820 E		0427 D	1820 E					IW,N
	0910	2419	SGMR										
	1218	2245	HARV										
	2132	2400	MANI										
20	0000	1011	MANI										
	0427	1820	DURN										
	1219	2245	HARV										
	2132	2400	MANI										
	0910	2420	SGMR							2216.9	2217.2	1	III
21	0000	1011	MANI										
	0427	1820	DURN										
	0716	0747	WEIS										
	1040	1842	WEIS										
	1219	2245	HARV										
	0910	2420	SGMR							2102.8	2103.2	1	III
	2132	2400	MANI										
22	0000	1012	MANI										
	0401	1527	WEIS										
	0548	1820	DURN										
	0911	2420	SGMR										
	1219	2245	HARV										
	1535	1842	WEIS										
	2132	2400	MANI										
23	0000	1012	MANI										
	0401	1842	WEIS										
	0428	1820	DURN										
	0911	2420	SGMR										
	1219	2245	HARV										
	2132	2400	MANI										
24	0000	1012	MANI										
	0401	0602	WEIS										
	0428	1820	DURN										
	0718	1843	WEIS										
	0911	2420	SGMR										

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

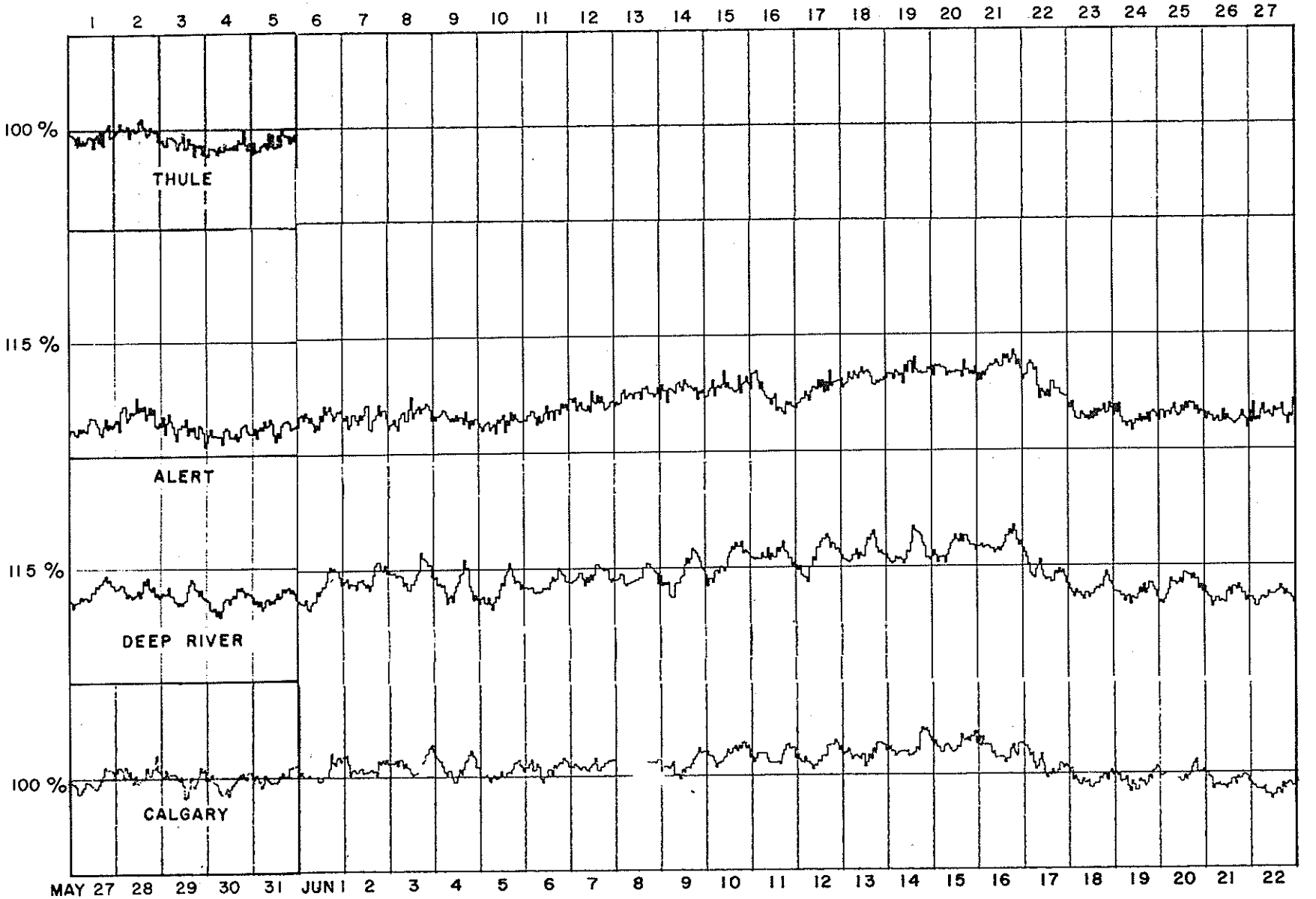
JUNE 1976

JUN 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	
24	1219	2245	HARV										
	2133	2400	MANI										
25	0000	0312	MANI										
	0317	0730	MANI										
	0401	1234	WEIS										
	0429	1729	DURN										
	0740	1012	MANI										
	0911	2420	SGMR										
	1219	2245	HARV										
	2133	2400	MANI										
26	0000	1013	MANI										
	0755	1820	DURN										
	0911	2420	SGMR										
	1219	2245	HARV										
	1806	1842	WEIS										
	2133	2400	MANI										
27	0000	1015	MANI										
	0401	1843	WEIS										
	0429	1820	DURN										
	0912	2420	SGMR										
	1219	2245	HARV										
	2133	2400	MANI										
28	0000	1015	MANI										
	0400	0912	WEIS										
	0430	1820	DURN										
	0913	2420	SGMR										
	0919	1843	WEIS										
	1219	2245	HARV										
	2133	2400	MANI										
29	0000	1010	MANI										
	0401	0741	WEIS										
	0430	1746	DURN										
	0802	1500	WEIS										
	0913	2420	SGMR										
	1219	2245	HARV										
	1502	1843	WEIS										
	2134	2400	MANI										
30	0000	1010	MANI										
	0400	0920	WEIS										
	0430	0910	DURN										
	0914	2420	SGMR										
	1051	1240	WEIS										
	1112	1818	DURN										
	1220	2245	HARV										
	1450	1843	WEIS										
	2134	2400	MANI										

Note: Severe wind damage to the University of Colorado (BOUL) antenna has caused suspension of activity from this station as of June 14, 1976.

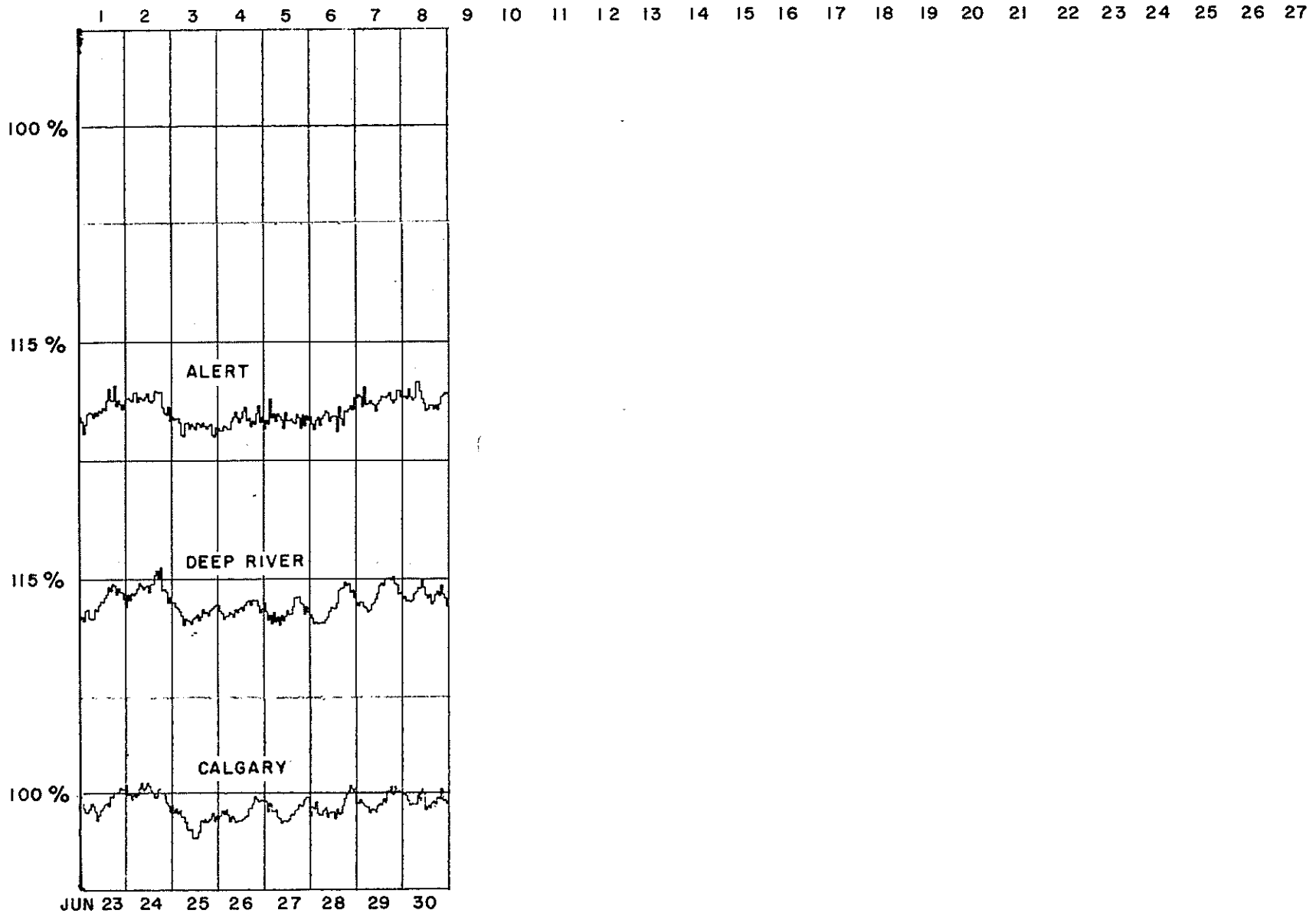
COSMIC RAY INDICES
(Neutron Monitors)

Bartel's Rotation 1953 (June 1976)



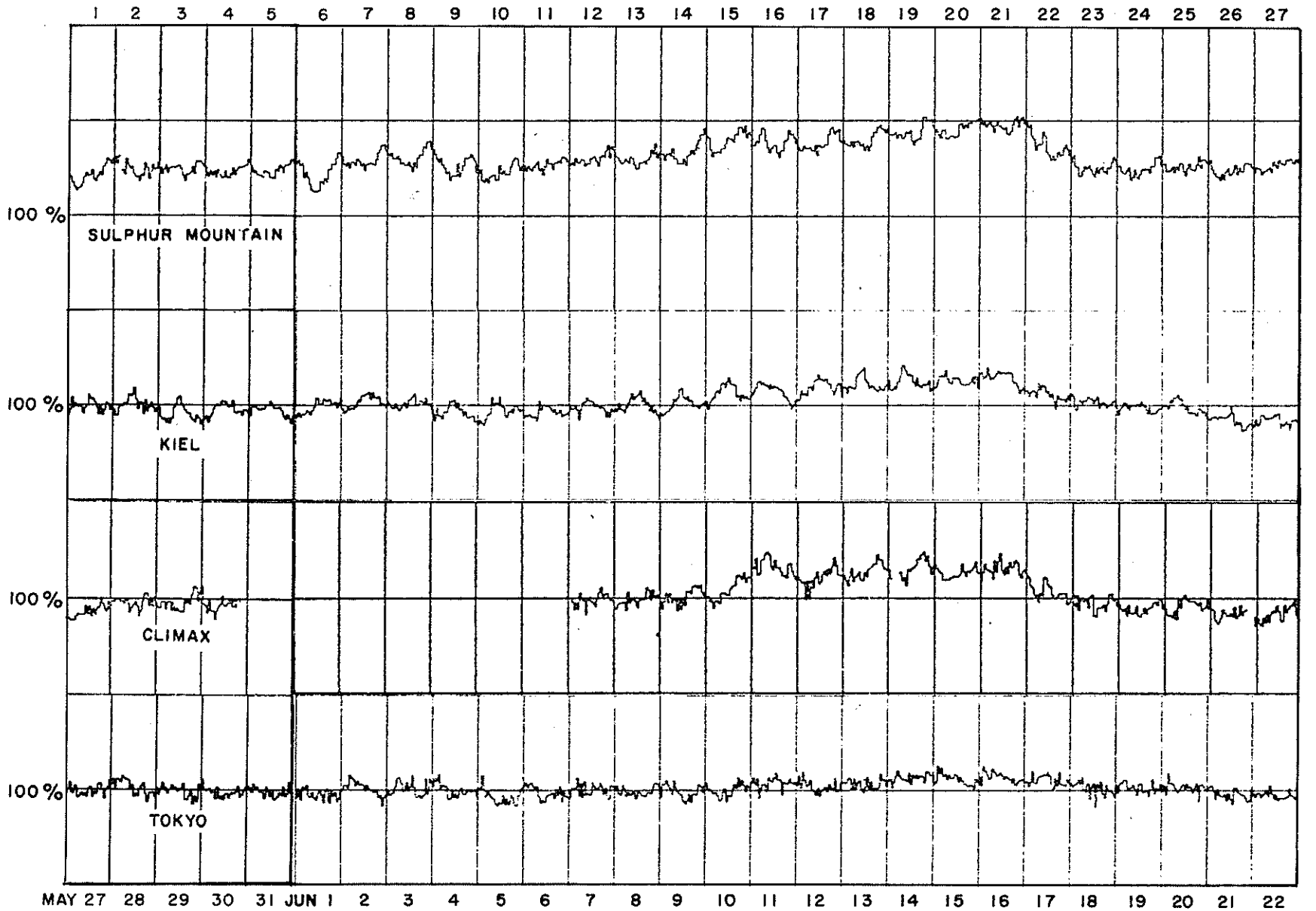
COSMIC RAY INDICES
(Neutron Monitors)

Bartel's Rotation 1954 (June 1976)



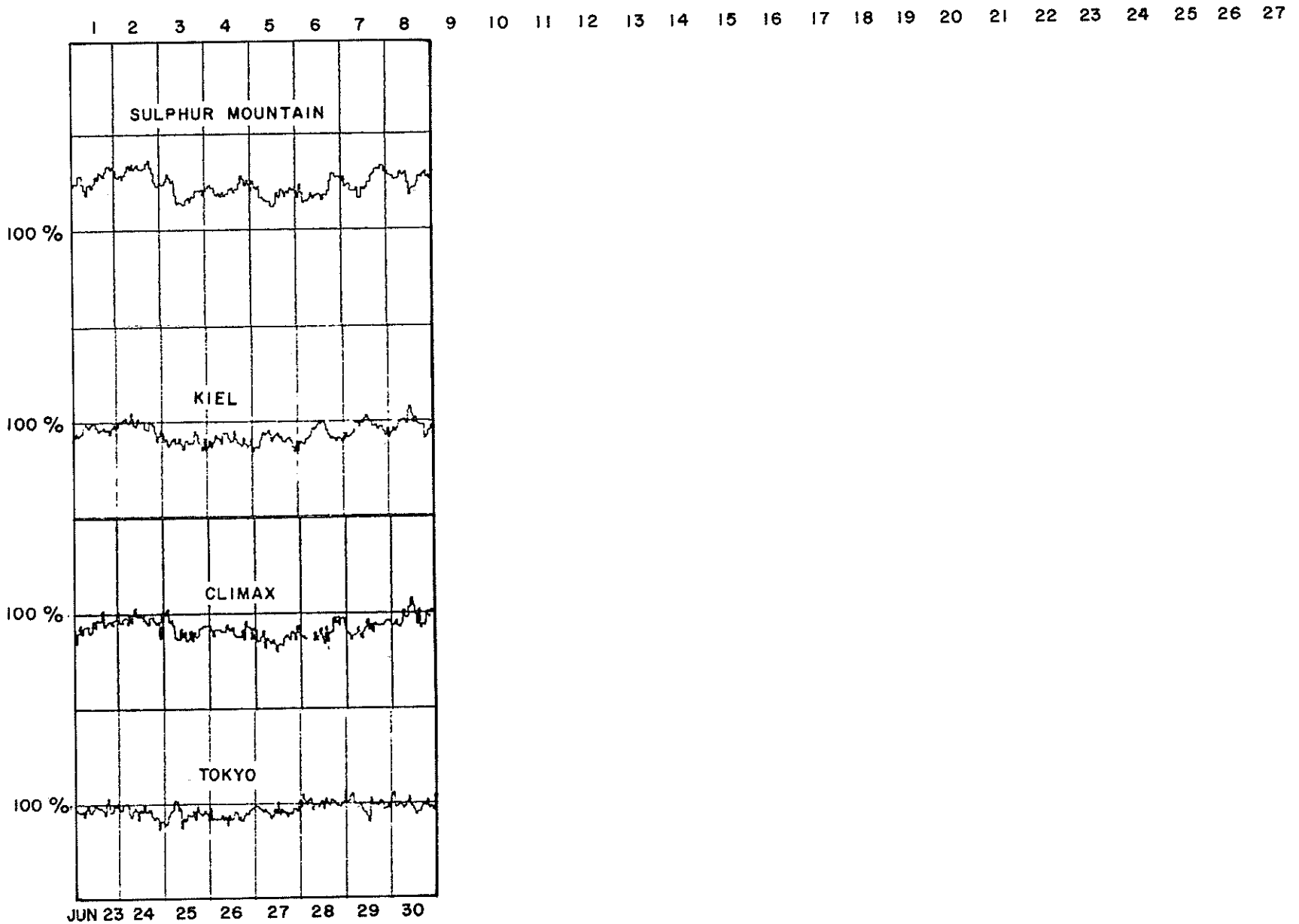
COSMIC RAY INDICES
(Neutron Monitors)

Bartel's Rotation 1953 (June 1976)



COSMIC RAY INDICES
(Neutron Monitors)

Bartel's Rotation 1954 (June 1976)



COSMIC RAY INDICES

(Neutron Monitors)

JUNE 1976

June 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		7453.9	7025.0	11739.4	8973.1	6325.5	-- (0)	3532.5
2		7452.8	7053.1	11763.5	9036.2	6339.7	-- (0)	3543.7
3		7457.4	7064.3	11794.7(22)	9050.2	6335.0	-- (0)	3544.5
4		7447.3	7031.5	11766.9	9013.5	6305.3	-- (0)	3541.0
5		7432.6	7021.9	11726.0	8981.0	6309.5	-- (0)	3529.1
6		7457.3	7033.8	11756.5	9015.3	6305.7	-- (0)	3536.7
7		7486.3	7055.9	11770.0	9043.9	6320.8	4239.8	3542.0
8		7509.8	7053.9	11783.5(8)	9041.0	6330.3	4240.2	3538.6
9		7524.1	7061.0	11774.0	9073.4	6334.6	4246.9	3538.8
10		7531.3	7090.8	11842.6	9128.6	6369.8	4262.4	3541.2
11		7502.4	7106.7	11826.0	9120.3	6375.3	4312.1	3555.2
12		7521.4	7105.0	11824.7	9116.2	6388.8	4289.3	3548.3
13		7555.0	7116.2	11839.7	9135.0	6399.9	4302.8	3553.5
14		7572.1	7116.0	11881.9	9169.5	6409.1	4311.3	3565.0
15		7575.1	7124.9	11892.4	9183.1	6411.2	4299.7	3562.3
16		7588.8	7135.8	11852.9	9202.4	6423.5	4308.7	3565.9
17		7533.3	7059.8	11762.9	9105.3	6365.7	4257.2	3560.3
18		7451.7	7012.0	11667.2	9002.7	6340.9	4233.0	3544.9
19		7434.9	7000.6	11665.1	8996.8	6320.5	4221.0	3546.7
20		7456.5	7022.0	11699.1(19)	9008.4	6324.5	4224.5	3546.8
21		7432.8	6994.3	11651.5	8991.9	6280.0	4206.9	3534.2
22		7447.8	6991.2	11599.3	9013.6	6278.7	4207.3	3533.3
23		7490.5	7014.4	11645.1	9017.5	6304.0	4218.3	3532.9
24		7515.8	7051.1	11700.9(22)	9049.6	6319.9	4232.0	3524.5
25		7442.8	6985.9	11530.0	8953.5	6261.7	4208.9	3522.0
26		7457.5	6998.0	11586.1	8967.9	6266.0	4204.5	3518.4
27		7461.8	6990.5	11596.1	8939.7	6266.8	4187.1	3528.4
28		7469.8	7004.7	11619.5	8956.1	6284.4	4204.8	3542.9
29		7518.2	7036.3	11654.1	8999.9	6307.7	4209.7	3537.0
30		7518.8	7032.4	11656.1	9013.3	6316.4	4234.2	3538.1
MEAN		7490.0	7046.3	11728.9	9043.3	6330.7	4244.4	3541.6

Not available at time of publication.

( ) 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.

GEOMAGNETIC ACTIVITY INDICES

JUNE 1976

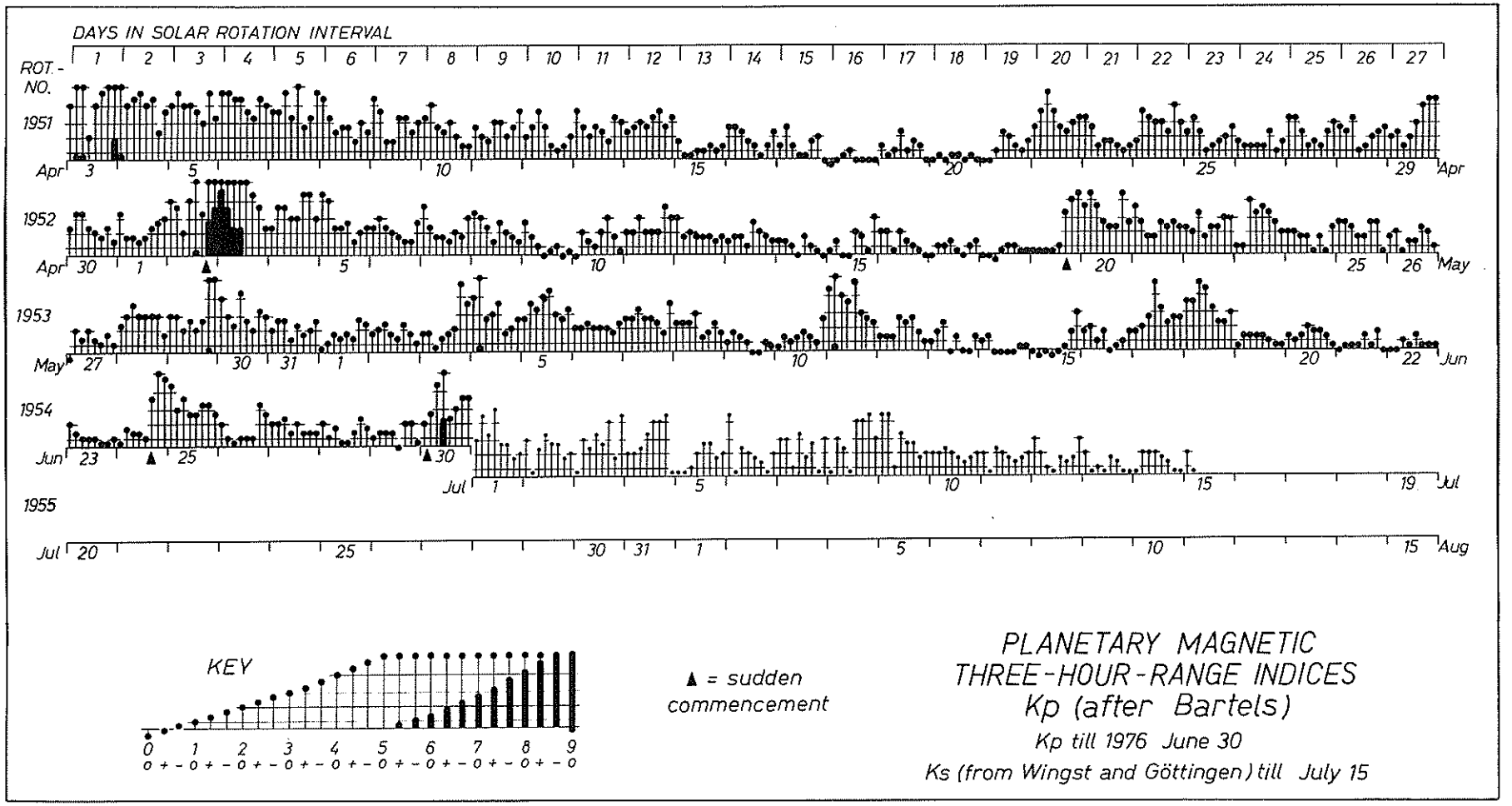
Day		Three-Hourly Indices Kp									Three-Hourly Indices Km								Ap	aa					Cp
		1	2	3	4	5	6	7	8	Sum	1	2	3	4	5	6	7	8		N	S	M			
1		1-	1	2-	1+	2-	1+	3-	2+	13-									6	17	15	12	20		0.3
2		2-	2	2+	2-	1+	2+	2-	1	14									6	17	10	13	14		0.3
3		2-	2-	1-	1+	2-	2	5-	4-	17+									12	28	14	11	32		0.7
4	D	4	5+	3-	3	4-	2-	2	3-	25									20	36	24	37	25		1.0
5	D	3-	4-	3+	4	4+	3	3-	3+	27									20	35	32	32	35		1.0
6		2	2	2+	2	2	2	2-	2+	16+									7	18	17	17	18		0.4
7		3-	3-	3+	3-	3-	2+	2-	4-	22-									13	29	18	24	24		0.7
8		2+	2+	2+	3	1+	2-	2+	2-	17									8	19	17	23	15		0.5
9	QQ	1	2-	1+	1	0+	0+	1	1-	7+									4	12	6	13	5	CC	0.1
10		1-	1+	1	1+	2-	1+	1	3-	11									6	16	10	9	17	K	0.2
11	D	4+	5+	4	4-	5-	3	3-	2+	30									26	37	45	47	35		1.2
12		1+	1+	1+	3-	2+	3-	2-	1	14+									7	16	16	13	19		0.4
13	Q	1	2-	2+	0+	1+	0+	0+	1+	9-									4	12	6	11	8	CK	0.2
14	QQ	1	1+	0+	0+	0+	0+	1-	1-	5									3	9	4	7	6	CC	0.1
15	Q	0+	0	0+	0	0+	1-	2-	3	6+									4	14	5	5	14	CC	0.1
16	Q	2-	2	1	2-	0+	1-	1	2-	10									5	14	7	13	8	C	0.2
17		2-	2	3-	5-	3+	2+	3-	3-	22									14	26	27	26	27		0.8
18	D	4-	4-	5-	4+	3+	2+	2+	3	27+									21	34	34	45	23		1.1
19	QQ	1-	1+	1+	1+	1+	1	1-	1-	8+									4	12	6	10	9	CK	0.1
20		1+	1	1+	2	2-	2-	1+	1-	11									5	14	7	11	11	CC	0.2
21	QQ	0+	1-	1-	1-	1+	1-	2-	0+	6+									3	9	4	4	9	CC	0.1
22	QQ	0+	0+	1	1-	1+	1-	1-	1-	6-									3	10	5	8	8	CC	0.1
23	Q	2	1+	1	1	1	1-	1-	1	9-									4	13	5	11	9	CC	0.1
24		1-	2-	1+	1+	1	4-	5	5-	19+									16	32	19	11	41		0.9
25		4+	3	4-	3-	3-	3+	3+	3-	26-									18	37	26	32	32		1.0
26		2	1	1-	1	1	1	3+	3-	13-									7	21	13	12	23		0.4
27		2	2	2+	1+	2	1+	1+	1+	14-									6	21	13	19	16		0.3
28		2	1	2-	1-	1-	1+	2+	2-	11+									5	15	8	10	14	CK	0.2
29	Q	1	1+	1+	1+	0+	2	2	1-	10									5	16	5	9	12	C	0.2
30	D	2	3-	4+	7-	2+	3	4-	4-	28+									29	41	37	55	23		1.3
																		Mean	10	21.0	15.3	18.3			0.47

Note: Data for Kn, Ks, Km indices were not received in time for publication. They will appear later in the Miscellaneous Section.

DAILY AVERAGE INDICES Ap

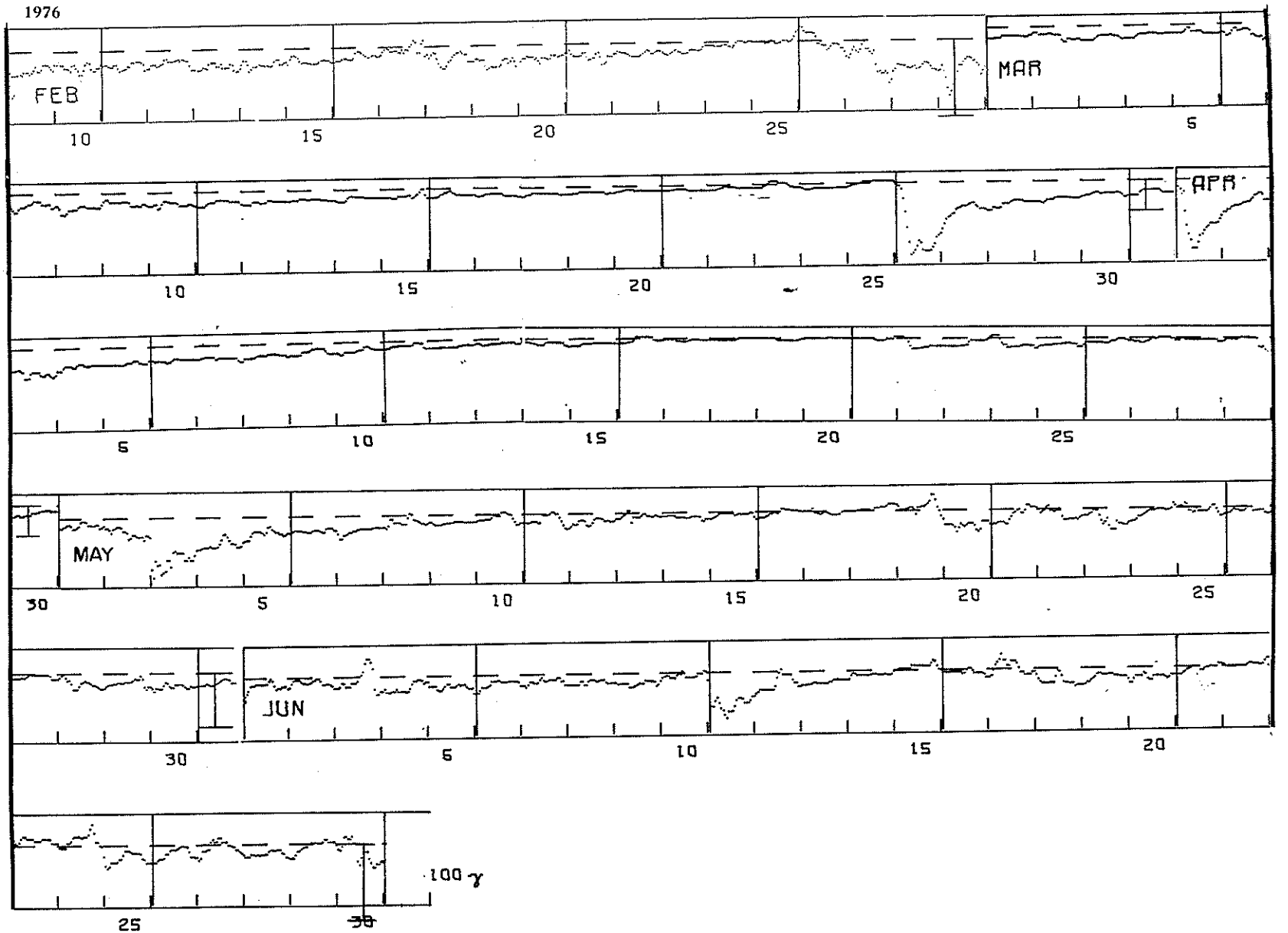
	1975						1976					
DAY	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
1	12	9	7	6	7	32	4	23	17	107	10	6
2	6	7	6	2	36	27	4	20	32	16	58	6
3	7	5	3	11	65	12	15	16	27	44	94	12
4	6	6	3	9	41	13	10	12	12	30	20	20
5	5	29	4	6	22	8	9	8	15	27	14	20
6	6	7	13	25	11	7	13	8	33	30	8	7
7	12	5	7	38	10	4	11	21	26	27	10	13
8	37	14	6	45	7	18	5	29	42	14	10	8
9	35	15	24	37	37	16	4	24	36	16	4	4
10	17	15	26	24	20	8	47	24	32	12	6	6
11	18	7	26	8	13	5	40	12	27	12	11	25
12	5	4	19	12	9	3	13	17	26	9	7	7
13	10	5	17	7	4	3	9	22	11	13	6	4
14	13	16	13	9	3	6	11	17	14	15	4	3
15	15	18	8	5	4	9	7	8	15	4	5	4
16	12	5	6	10	6	14	10	6	18	8	5	5
17	14	9	13	9	17	9	14	14	20	5	4	14
18	15	6	14	4	7	6	9	22	13	2	3	21
19	9	4	8	3	8	6	8	25	11	5	12	4
20	6	15	7	5	9	3	11	19	8	2	19	5
21	6	17	6	6	18	9	20	14	5	5	11	3
22	6	12	4	6	50	10	23	14	3	19	11	3
23	6	10	4	7	8	7	20	4	5	8	14	4
24	6	6	2	4	13	2	21	3	4	16	6	16
25	33	9	3	4	15	18	10	4	4	9	9	18
26	19	5	14	5	14	34	5	9	138	6	6	7
27	11	6	14	5	5	31	6	26	35	11	5	6
28	10	5	8	9	9	15	5	20	15	10	14	5
29	4	27	5	12	29	15	6	34	15	17	22	5
30	5	14	2	9	36	11	9		12	10	17	29
31	5	6		19		7	29		10		9	
MEAN	12	10	10	12	18	12	13	16	22	17	14	10

GEOMAGNETIC ACTIVITY INDICES



GEOMAGNETIC ACTIVITY INDICES

Hourly Equatorial Dst



Note the sensitivity indicator for each month on the last day of the month and also note that the zero reference level is different for each month.

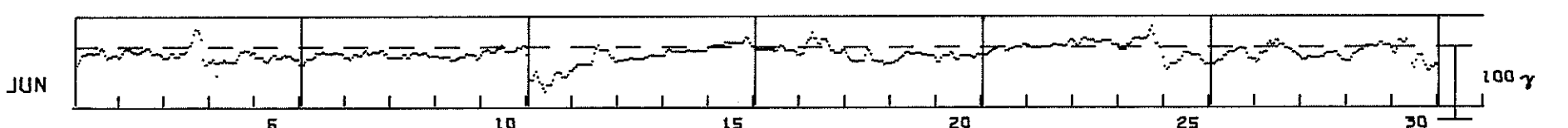
HOURLY EQUATORIAL Dst VALUES (PROVISIONAL)

JUNE 1976

NASA/GODDARD SPACE FLIGHT CENTER

(Time-UT) (Units-Gammas)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-24	-21	-17	-11	-10	-10	-9	-8	-9	-11	-9	-8	-8	-5	-2	-6	-13	-17	-14	-14	-12	-11	-14	-16
2	-13	-9	-5	-3	-4	-6	-8	-10	-10	-11	-8	-7	-5	-4	-2	-4	-7	-11	-11	-9	-9	-12	-14	-17
3	-17	-16	-13	-9	-11	-15	-15	-13	-9	-9	-8	-6	0	2	6	17	23	20	17	8	-19	-26	-23	-20
4	-20	-17	-23	-24	-22	-20	-20	-17	-22	-22	-20	-20	-23	-20	-16	-10	-7	-7	-5	-7	-8	-11	-8	-10
5	-16	-16	-14	-16	-20	-22	-22	-17	-14	-11	-11	-17	-15	-17	-13	-11	-15	-12	-14	-17	-19	-19	-19	-26
6	-25	-23	-20	-16	-16	-16	-15	-13	-9	-10	-9	-7	-10	-11	-10	-11	-10	-8	-8	-10	-11	-10	-12	-16
7	-16	-15	-19	-14	-10	-10	-14	-14	-11	-8	-5	-10	-12	-9	-7	-8	-10	-7	-5	-7	-11	-9	-16	-17
8	-15	-16	-16	-16	-17	-16	-10	-12	-16	-16	-10	-8	-8	-8	-12	-11	-9	-8	-9	-13	-15	-13	-12	-14
9	-14	-16	-16	-15	-13	-14	-16	-20	-20	-18	-16	-15	-13	-13	-13	-10	-10	-12	-13	-13	-14	-18	-15	-11
10	-7	-5	-4	-5	-9	-8	-7	-4	-2	-2	1	-3	-8	-9	-9	-8	-8	-5	-2	-2	-2	1	0	-12
11	-32	-46	-47	-37	-33	-42	-49	-51	-57	-61	-51	-52	-50	-44	-36	-34	-36	-37	-41	-41	-41	-37	-32	-31
12	-29	-26	-23	-23	-23	-24	-24	-24	-23	-24	-19	-8	-2	2	-6	-4	-4	-4	-7	-13	-16	-17	-21	-22
13	-18	-20	-18	-17	-19	-16	-15	-17	-18	-17	-17	-18	-17	-16	-14	-14	-12	-11	-11	-12	-12	-12	-14	-12
14	-11	-7	-4	-5	-8	-7	-7	-6	-8	-8	-8	-7	-5	-5	-6	-8	-8	-6	-5	-7	-8	-8	-5	-2
15	0	1	2	2	2	1	1	2	5	3	4	5	5	4	5	4	3	3	8	12	9	3	-1	-2
16	-5	-6	-4	-6	-4	-3	-3	-3	-3	-5	-8	-5	-1	1	-1	-4	-7	-7	-6	-7	-7	-9	-12	-13
17	-10	-9	-2	5	8	11	19	9	9	2	1	10	9	9	5	-1	-7	-5	-10	-10	-9	-8	-5	-4
18	-10	-16	-19	-21	-21	-22	-20	-19	-20	-19	-11	-3	-7	-11	-20	-21	-21	-22	-21	-22	-25	-22	-23	-23
19	-22	-21	-19	-19	-16	-14	-12	-9	-7	-9	-11	-11	-11	-8	-8	-9	-12	-13	-12	-14	-14	-14	-14	-17
20	-21	-21	-15	-12	-11	-11	-11	-8	-11	-17	-19	-17	-12	-11	-12	-14	-14	-14	-15	-17	-13	-10	-10	-11
21	-11	-12	-10	-8	-6	-4	-3	-2	0	0	0	-2	-7	-7	-3	-2	-1	0	-1	-2	-2	3	3	0
22	-1	-3	-4	-3	-1	-1	-1	0	-1	0	-1	-1	1	3	1	0	0	1	-1	-1	2	6	9	8
23	5	1	-1	4	9	11	11	7	8	7	8	4	3	4	6	8	8	6	6	6	2	0	1	0
24	-5	-6	-4	-3	3	1	5	10	11	11	12	8	8	11	10	14	21	27	14	2	2	-2	-4	-17
25	-29	-32	-28	-23	-24	-25	-22	-19	-18	-13	-7	-10	-10	-11	-13	-13	-11	-12	-14	-20	-21	-25	-24	-24
26	-25	-24	-23	-20	-18	-18	-17	-12	-11	-8	-6	-8	-8	-5	-3	-2	-2	-3	-5	-11	-18	-17	-19	-19
27	-22	-18	-9	-9	-7	-6	3	6	1	4	8	7	0	3	1	-3	-3	-5	-6	-9	-10	-12	-14	-16
28	-19	-19	-18	-14	-14	-17	-16	-15	-15	-14	-13	-13	-10	-8	-10	-10	-9	-7	-8	-13	-15	-19	-20	-21
29	-19	-19	-15	-10	-9	-7	-5	-4	-5	-1	1	1	0	-1	-2	-1	2	5	4	0	0	1	0	-4
30	-9	-11	-4	8	9	4	3	9	-2	-3	-25	-30	-19	-11	-12	-13	-22	-27	-34	-33	-27	-28	-24	-24



PRINCIPAL MAGNETIC STORMS

JUNE 1976

OBS. 2 letter IAGA code	GEOMAG-NETIC LATI-TUDE	COMMENCEMENT DAY	hr min (UT)	TYPE	SC - AMPLITUDES D(')	H(γ)	Z(γ)	MAXIMUM 3 HOUR - INDEX K DAY(3 HOUR PERIOD)	K	RANGES D(')	H(γ)	Z(γ)	UT END DAY	HOUR
NE	55.1N	3	12--	..	..	..	..	05(2,3)	5	23	76	147	07	08
IR	41.0N	3	05--	..	..	..	..	03(7)	5	15	106	30	05	21
HD	07.6N	3	1400	..	..	..	..	03(7)	5	6	82	21	05	23
HR	33.7S	3	18--	..	..	..	..	03(7)	5	13	68	75	04	05
GN	43.2S	3	18--	..	..	..	..	05(5)	5	13	50	60	05	21
NE	55.1N	10	19--	..	..	..	..	11(2)	6	47	161	301	12	18
IR	41.0N	10	19--	..	..	..	..	11(2,3,4,5)	5	17	112	51	12	21
HD	07.6N	10	2100	..	..	..	..	11(5)	5	5	108	16	11	23
TO	46.7S	10	20--	..	..	..	..	11(4,5)	5	19	110	50	11	18
CO	64.6N	11	00--	..	..	..	..	11(3,4)	6	165	1320	850	11	19
SI	60.0N	11	02--	..	..	..	..	11(4)	7	70	850	570	11	16
GN	43.2S	11	00--	..	..	..	..	11(1,4,5)	5	19	90	100	12	18
TU	40.4N	10	17--	..	..	..	..	11(2)	6	21	115	35	11	22
NE	55.1N	17	0013	SC	1	9	..	18(3)	5	31	98	122	19	01
FR	49.6N	17	0012	SC	-01	+12	-02	17(4,8) 18(2,3,4)	4	17	85	42	19	00
HD	07.6N	17	0000	..	..	..	..	17(3,4) 18(3,4)	4	6	138	34	18	23
HU	00.6S	17	0013	..	..	..	..	18(5)	5	5	107	21	18	20
CO	64.6N	24	1632	SC*	-11	-58	-19	25(1,3,5)	5	78	780	210	25	20
NE	55.1N	24	1633	SC*	4	9	..	24(7,8) 25(3)	5	27	130	77	26	04
FR	49.6N	24	1632	SC	+02	+06	-04	24(7)	5	19	143	40	26	03
BD	48.9N	24	1632	SC*	+ 4	+11	- 3	24(7)	5	17	82	66	25	07
IR	41.0N	24	1633	SC	0.9	44	9	24(7)	6	18	118	28	25	23
TU	40.4N	24	1633	SC*	+ 2	+ 8	+ 1	24(8)	5	14	80	50	26	03
SJ	29.9N	24	1632	SC	+ 0.5	+14	+ 3	24(7)	5	7	109	15	25	08
HD	07.6N	24	1632	SC	- 0.3	+23	- 1	24(7)	5	4	58	6	25	22
HU	00.6S	24	1632	SC*	2	76	6	24(7)	5	7	217	28	25	21
KG	56.5S	24	16--	..	..	..	..	24(6,7,8) 25(1)	4	--	--	--	25	09
NE	55.1N	30	0251	SC*	..	13	..	30(4)	7	53	331	448	01	14
WI	54.2N	30	0251	SC*	- 2 *	+10	0	30(4)	6	19	125	50	30	24
FR	49.6N	30	03--	..	..	..	..	30(4)	6	23	103	56	01	22
BD	48.9N	30	0250	SC*	+ 1	+10	- 3	30(4)	6	35	114	88	01	12
TU	40.4N	30	0250	SC	- 1	+ 8	+ 1	30(4)	6	18	100	30	01	21
HD	07.6N	30	0249	SC	- 0.2	+12	- 2	30(4)	6	6	150	31	01	20
GU	04.0N	30	0250	..	..	..	..	30(4)	5	0	140	10	30	23
HU	00.6S	30	0250	SC	1	5	2	30(4)	5	6	158	43	30	23
PM	18.6S	30	0251	SC	..	+ 3	+ 3	30(4)	5	5	110	60	31	18
HR	33.7S	30	0249	SC*	+ 1	+ 7	+ 4	30(4)	5	21	76	67	01	16
GN	43.2S	30	03--	..	..	..	..	30(4)	6	16	75	100	01	16
KG	56.5S	30	0250	SC	..	..	..	30(3,4,8) 01(6)	4	--	--	--	01	19

Reports were received from the following observatories:

College, Sitka, Newport, Witteveen, Fredericksburg, Boulder, Tucson, San Juan, Honolulu, Hyderabad, Guam, Huancayo, Apia, Port Moresby, Hermanus, Gnangara, Toolangi, Port-aux-Francais

SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

JUNE 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)

24 1635 A: SO DO NU WN WI DB FU HB LG EB TL AE KS LM AC TW; B: NI VI IK CI PM TN KG DU; C: MT KA SS KY CZ

30 0251 A: KG; B: WN DB VI FU EB PM HU DU; C: NI WI MT KA KY (si: B: SO TL; C: LM)

Solar-flare effects (sfe)

Effects confirmed by ionospheric or solar observations are underlined.

06 1222 - 1230 LG
11 0228 - 0240 TN (si: TW)
13 0043 - 0051 SS
14 0232 - 0245 SS
21 1950 - 2010 FU AE
29 1630 - 1642 NI FU IK TL? AE (si: KS HU)

RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

JUNE 1976

North Atlantic

JUN 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_{FR}		A_{FR}
			00 TO 06	06 TO 12	12 TO 18	18 TO 24	02	08	14	20	HALF DAY (1)	HALF DAY (2)	OBSERVED
01	6+	5	7-	6o	6+	6+	6	6	6	6	2	2	7
02	6+	5	6o	6+	6+	6o	5	6	6	6	3	2	9
03	6o	6	6o	6+	6o	6-	6	6	6	6	1	3	9
04	6+	6	6o	6+	6o	6o	6	6	6	6	(4)	3	21
05	6o	6	6o	6o	6-	6+	6	6	6	5	(4)	3	19
06	6o	7	6o	6-	6o	7-	6	5	6	6	3	2	10
07	6o	6	5+	6o	6-	6+	6	6	6	6	3	3	15
08	6+	6	6+	6o	6-	7-	5	5	6	6	3	2	12
09	6+	6	6o	6o	7-	7-	6	6	6	6	2	1	4
10	6+	6	6o	6+	7o	6o	6	6	6	7	2	1	5
11	6o	6	6-	6-	6+	6o	6	4	5	5	(4)	2	21
12	6-	6	6-	5o	6+	6-	4	5	5	6	2	2	8
13	6o	6	6-	6o	7-	6o	6	6	6	6	2	1	5
14	6o	6	6-	6o	7o	6-	6	6	6	6	1	1	3
15	6o	6	6-	6o	6+	7-	6	6	7	7	0	2	4
16	6+	6	7-	6o	6+	6o	6	6	6	6	2	1	5
17	6+	6	6+	7-	7-	6+	6	6	5	5	3	3	14
18	6o	6	6o	6o	6o	6+	5	5	4	5	(4)	3	19
19	6o	6	6o	6-	6-	6+	5	6	6	6	2	1	5
20	6o	6	6o	6-	7-	6o	6	6	6	6	2	2	7
21	6o	6	6+	6o	6o	6-	6	6	7	7	1	1	4
22	6o	6	6-	6o	6o	6-	6	6	6	7	1	1	3
23	6o	6	6+	6+	6-	6-	6	6	7	6	2	1	4
24	6+	6	7-	6+	6-	6o	6	6	6	6	2	3	14
25	6-	6	6o	6o	6-	6-	5	5	5	6	3	3	14
26	6o	6	6-	5+	6o	7-	5	5	5	5	2	2	7
27	6+	6	7-	6o	6-	6+	6	6	6	6	2	2	8
28	6+	6	7-	6+	6o	6o	6	6	6	6	2	1	6
29	6+	6	6-	6-	7o	6+	6	6	6	6	2	1	5
30	6-	6	6o	5-	5+	6o	6	6	6	5	(4)	3	24

RADIO PROPAGATION QUALITY INDICES

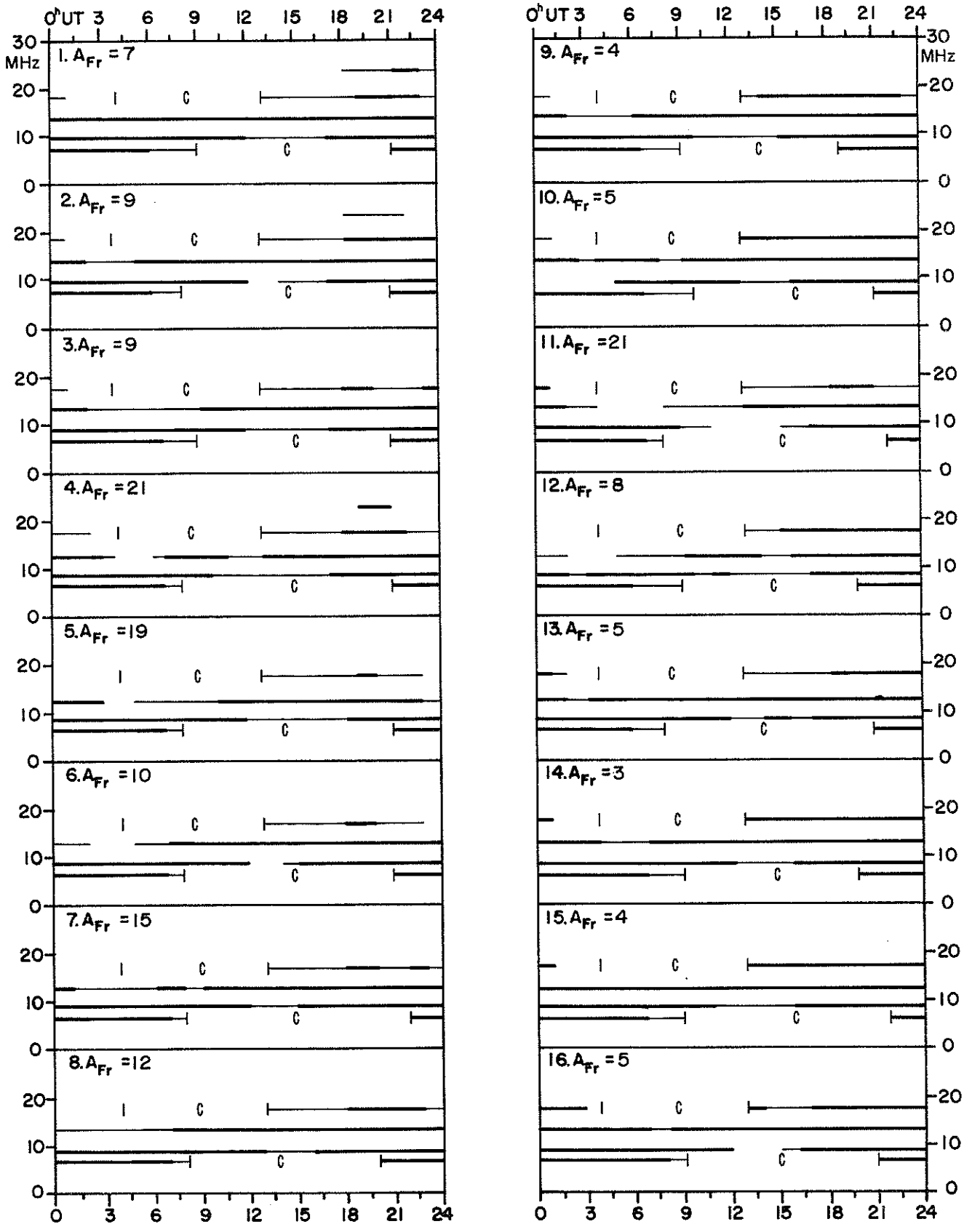
JUNE 1976

Quality indices calculated for reception at Lüchow

	TOKYO	HALIFAX	MOSCOW	CANBERRA	BRACKNELL
1	5.4	7.8	13.0	5.0	12.8
2	5.5	8.0	12.5	5.4	12.7
3	4.9	7.3	13.3	4.4	12.2
4	5.0	6.8	12.7	5.1	12.5
5	4.4	6.3	12.5	5.2	12.7
6	5.3	7.2	12.7	5.2	12.4
7	4.9	7.1	12.6	5.2	12.5
8	5.7	7.8	12.9	5.3	12.3
9	6.4	7.6	13.7	5.5	12.9
10	6.2	7.4	13.4	5.0	13.0
11	3.3	5.7	12.3	5.3	12.4
12	4.6	6.2	12.4	4.8	12.3
13	5.3	8.0	13.0	5.1	12.2
14	5.6	8.0	13.4	4.7	12.1
15	6.6	8.1	13.5	4.6	12.3
16	5.1	7.7	13.4	5.3	13.4
17	5.2	7.9	12.8	5.0	12.9
18	5.3	6.9	13.2	6.4	12.5
19	5.9	7.8	13.3	5.9	13.3
20	6.6	7.9	13.0	6.0	13.1
21	6.5	8.1	12.8	5.4	13.6
22	6.6	8.3	13.4	5.7	13.5
23	5.9	8.2	13.2	5.9	13.1
24	5.8	7.8	12.9	5.8	13.3
25	5.1	7.2	12.2	6.1	13.1
26	5.4	7.6	13.1	5.4	13.6
27	5.8	7.9	12.9	5.2	12.6
28	6.0	7.8	13.0	5.0	12.8
29	5.8	7.8	13.5	5.1	12.3
30	4.0	6.1	13.3	4.8	12.9
MEAN	5.5	7.5	13.0	5.3	12.8

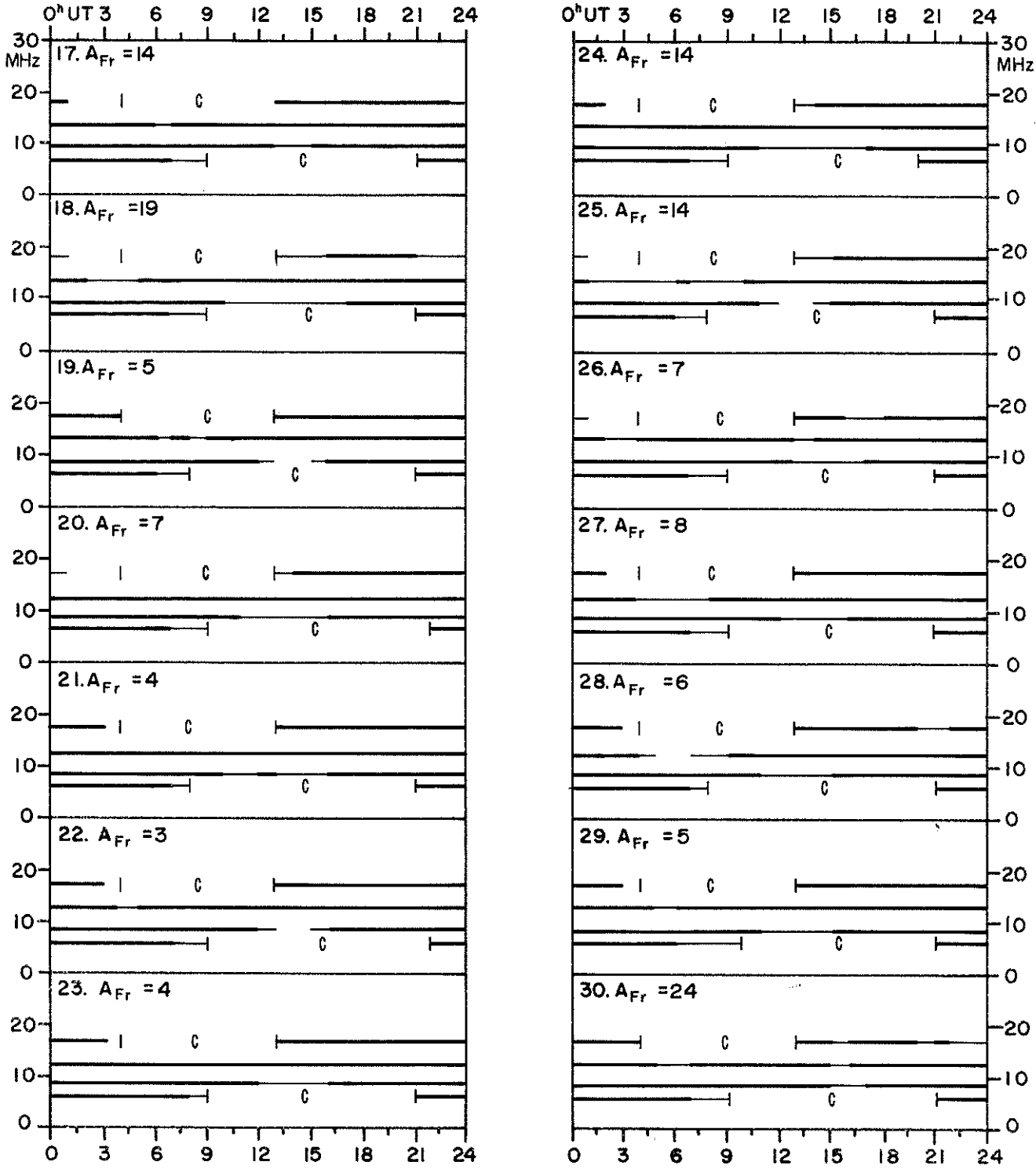
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

JUNE 1976



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

JUNE 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 ≥-12 dB above 1 μv/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μv/m and -40 dB above 1 μv/m are represented by the fine line.

Adapted from Observations by Deutsche Bundespost

USCOMM-NOAA-ASHEVILLE--8-31-76-950

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."