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ENVIRONMENTAL DATA SERVICE

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Solar - Geophysical Data

NO. 358

JUNE 1974

Part I (Prompt Reports)

DATA FOR

MAY 1974

APRIL 1974

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

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SOLAR - GEOPHYSICAL DATA

No. 358

Issued in two parts

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For explanations of the data contained herein see *Descriptive Text* published as supplement to February 1974 *Solar-Geophysical Data* (Number 354).

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May 74

ALERT PERIODS

INTERNATIONAL URSIGRAM
AND WORLD DAYS SERVICE
MAY 1974

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS)

Date 05	BOULDER 05/0950Z STRONG MAGSTORM IN PROGRESS 05/0500Z GRADUAL COMMENCEMENT, POSSIBLE ASSOCIATION WITH EAST LIMB FLARES
17	BOULDER 17/0515Z WEAK MAGSTORM IN PROGRESS, INTENSIFIES 17/0500Z BOULDER K INDEX EQUALS 5 17/0000 to 0300Z AND 0300Z TO 0600Z

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of obser- vation	Wolf number	10cm solar flux	A index	Active Regions				Outstanding events	Forecasts			Alert Situations
						Location	No. of Flares				Date	Location	Desc#	
							Lat-Long	Total	M					
121	01	30	024	090	19	S04E57 S09E77	1 7	0 3	0 0		01	S04E57 S09E77	Q A	SOLALERT 01/XX MAGALERT MINOR 01/07
122	02	01	073	098	05	S03E44 S07E65 S12E76 N07W29	0 7 2 0	0 0 0 0	0 0 0 0		02	S03E44 S07E65 S12E76 N07W29	Q E A Q	SOLALERT 02/XX MAGNIL
123	03	02	111	114	13	S03E32 S07E53 S12E64 N07W42 S08E61 N08E26	0 1 6 4 0 0	0 0 0 0 0 0	0 0 0 0 0 0	A MINOR GEOMAGNETIC DISTURBANCE IS IN PROGRESS AT SUB- STORM LEVEL	03	S03E32 S07E53 S12E64 N07W42 S08E61 N08E26	Q Q A E Q Q	CAUTION SOUTHEAST LIMB SOLALERT 03/XX MAGQUIET
124	04	03	109	114	20	S03E18 S06E39 S12E51 N07W58 S08W46 N07W30 S11E72	0 8 1 0 0 2 0	0 1 0 0 0 0 0	0 0 0 0 0 0 0		04	S03E18 S06E39 S12E51 N07W58 S08W46 N07W30 S11E72	Q E Q Q Q Q Q	SOLALERT 04/XX MAGQUIET
125	05	04	151	117	28	S03E03 S07E25 S12E39 N08W79 S09E32 N05W45 S12E57 N10W35 S06E10	0 4 0 0 0 1 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	THE MAGNETIC DIS- TURBANCE INCREASED TO MINOR STORM LEVEL AND WILL CON- TINUE FOR 24 HOURS	05	S03E03 S07E25 S12E39 S08W79 S09E32 N05W45 S12E57 N10W35 S06E10	Q Q Q Q Q Q Q Q Q	SOLQUIET MAGQUIET
126	06	05	223	119	32	S03W09 S07E11 S13E27 S10E21 N04W59 S13E44 S05W03 N08W16	0 0 4 0 1 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0		06	S03W09 S07E11 S13E27 S10E21 N04W59 S13E44 S05W03 N08W16	Q Q Q Q Q Q Q Q	SOLQUIET MAGALERT 06/08
127	07	06	183	122	08	S03W22 S07W02 S13E11 S09E08 N05W74 S13E30 N11W63 S05W14 N09W25 S08W37	0 1 3 0 2 0 6 2 1 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0		07	S03W22 S07W02 S13E11 S09E08 N05W74 S13E30 N11W63 S05W14 N09W25 S08W37	Q Q Q Q Q Q Q Q Q Q	SOLQUIET MAGNIL
128	08	07	141	117	09	S03W36 S07W17 S13W01 S09W05 S13E17 N11W78 S05W31 S09W52	1 3 6 0 1 0 0 0	0 0 1 0 0 0 0 0	0 0 0 0 0 0 0 0		08	S13W01 S07W17 SIX GROUPS	A E Q	SOLALERT 08/12 MAGQUIET
129	09	08	119	114	07	S03W49 S07W31 S12W14 S08W16 S12E04 S05W46 S10E56	0 2 5 1 0 3 0	0 0 1 0 0 0 0	0 0 2 0 0 0 0	TENFLARE 08/0009Z 2N OPTICAL M3 XRAY	09	S08W16 S12W14 S07W31 O.G.	A E E Q	SOLALERT 09/13 MAGQUIET
130	10	09	105	108	09	S05W63 S07W43 S13W26 S09W30 S12W08 S05W59 S19W17	0 7 1 0 1 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	POSSIBLE 2B 09/1043Z S06W37	10	S07W43 S13W26 O.G.	A E Q	SOLALERT MINOR 10/12 MAGQUIET
131	11	10	113	103	03	S03W77 S07W57 S12W40 S09W45 S12W22 S04W73	1 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0		11	S03W77 S07W57 S12W40 S09W45 S12W22 S04W73	Q Q Q Q Q Q	SOLNIL MAGQUIET

ALERT PERIODS

INTERNATIONAL URSIGRAM
AND WORLD DAYS SERVICE

MAY 1974

SUMMARY OF THE GEGALERT WWA MESSAGES

SUMMARY OF THE GEOMAGNETIC WWA MESSAGES														
Message serial number	Date of issue	Date of obser- vation	Wolf number	10cm solar flux	A index	Active Regions				Outstanding events	Forecasts			Alert Situations
						Location	No. of Flares				Date	Location	Desc#	
						Lat-Long	Total	M	X			Lat-Long		
132	12	11	088	102	04	S10E30	0	0	0		12	S10E30	Q	SOLQUIET MAGQUIET
						S19W30	0	0	0			S19W30	Q	
						S02W93	0	0	0			S02W43	Q	
						S07W73	0	0	0			S07W73	Q	
						S12W57	0	0	0			S12W57	Q	
						S09W60	0	0	0			S09W60	Q	
						S12W37	1	0	0			S12W37	Q	
						S19W44	0	0	0			S19W44	Q	
133	13	12	075	094	04	N11W22	0	0	0		13	N11W22	Q	SOLQUIET MAGALERT 14/XX
						S07W86	1	0	0			S07W86	Q	
						S12W73	2	0	0			S12W73	Q	
						S12W49	3	0	0			S12W49	Q	
						N04E09	0	0	0			N04E09	Q	
						N12W28	2	0	0			N12W28	Q	
						S15W08	0	0	0			S15W08	Q	
134	14	13	051	093	03	S12W62	2	0	0	A 2N FLARE WAS OBSERVED 13/2119Z AT S11W60. 10 cm RADIO 370 F.U. ABOVE BACKGROUND. ONLY SMALL X-RAY BURST OBSERVED.	14	S12W62	Q	
						N05W00	0	0	0			N05W00	Q	
						S13W12	0	0	0			S13W12	Q	
						S10W61	0	0	0			S10W61	Q	
135	15	14	035	086	08	S12W78	0	0	0		15	ALL THE GROUPS	Q	SOLQUIET MAGALERT RECURRENCE 15/XX
						N05W16	0	0	0					
						S13W27	0	0	0					
136	16	15	017	083	21	S11W89	0	0	0	ACTIVE MAGNETIC CONDITONS ASSOCI- ATED WITH RECURRENT DISTURBANCE BEGAN 15/0000Z	16	S11W89	Q	SOLQUIET MAGALERT RECURRENCE 16/XX
						N06W29	1	0	0			N06W29	Q	
137	17	16	017	078	19	N06W45	1	0	0		17	N06W45	Q	SOLQUIET MAGALERT MINOR RECURRENCE 17/18
138	18	17	013	074	32	N06W59	3	0	0	MINOR MAGSTORM IN PROGRESS START 17/0500Z	18	N06W59	Q	SOLQUIET MAGALERT 18/XX MINOR
139	19	18	000	073	22	N06W72	1	0	0		19	SPOTNIL		SOLQUIET MAGALERT 19/XX MINOR
140	20	19	000	071	16	-	0	0	0		20	SPOTNIL		SOLQUIET MAGALERT 20/22
141	21	20	000	071	18	-	0	0	0		21	SPOTNIL		SOLQUIET MAGALERT 21/22 MINOR
142	22	21	000	70	18	N07E66	1	0	0	MAGSTORM ENDED 21/2100Z. DISTURBED COND. CONTINUES.	22	SPOTNIL		SOLQUIET MAGNIL
143	23	22	012	070	17	S17W17	0	0	0		23	S17W17	Q	SOLQUIET MAGQUIET
144	24	23	012	070	20	S18W32	0	0	0	MAG. DISTURBANCE CONTINUES LOCAL NIGHT TIME	24	S18W32	Q	SOLQUIET MAGQUIET
145	25	24	000	070	23	-	0	0	0	MINOR GEOMAGNETIC DISTURBANCE CON- TINUES AT SUBSTORM LEVEL	25	SPOTNIL		SOLQUIET MAGQUIET
146	26	25	000	071	18	-	0	0	0	THE MINOR GEOMAG- NETIC DISTURBANCE CONTINUES AT SUB- STORM LEVEL	26	SPOTNIL		SOLQUIET MAGQUIET
147	27	26	047	078	09	N15W69	0	0	0		27	N15W69	Q	SOLQUIET MAGQUIET
						N16W43	1	0	0			N16W43	Q	
						S04E73	0	0	0			S04E73	Q	
148	28	27	029	083	12	S15W58	7	0	0		28	S15W58	E	SOLQUIET MAGQUIET
149	29	28	034	085	14	S16W73	0	0	0		29	S16W73	E	SOLQUIET MAGALERT MINOR 30/04
						N07W53	0	0	0			O.G.	Q	
						S14E63	1	0	0					
150	30	29	015	087	09	S15W84	0	0	0		30	S15W84 SE LIMB	Q C	SOLQUIET MAGALERT MINOR 30/04
151	31	30	015	086	18	S14E76	3	1	0		31	S14E76	E	MAGALERT 31/04 MINOR
152	01	31	022	093	21	S14E65	4	3	0	SATELLITE REPORTS INDICATE 3 SMALL M EVENTS, BUT CLOUD COVER HAS PREVENTED OPTICAL PATROL.	01	S14E65	E	SOLALERT 31/XX SOLALERT 01/XX MAGALERT 01/04

* Q=Quiet E=Eruptive A=Active P=Proton C=Caution D=Debutful O.G.=Other Groups

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May 74

RELATIVE SUNSPOT NUMBERS ZURICH, R_Z

1973 FINAL								1974 PROVISIONAL				
DAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY
1	8	29	36	89	68	31	46	18	13	25	26	48
2	8	31	28	124	66	33	24	15	12	16	20	70
3	16	39	21	130	52	23	24	13	8	16	19	89
4	14	32	28	121	50	20	0	12	7	17	22	103
5	7	42	34	108	44	7	0	8	0	18	21	106
6	16	56	40	84	38	0	0	0	0	19	23	113
7	37	57	42	77	30	0	0	0	6	20	28	109
8	41	50	40	72	22	0	7	29	16	16	38	106
9	31	38	38	75	23	0	8	36	22	20	58	91
10	38	32	27	58	6	0	16	44	21	30	70	69
11	60	23	23	42	0	7	9	49	21	37	75	64
12	58	14	0	22	0	0	9	60	36	38	78	56
13	52	15	0	0	8	9	8	45	50	30	83	40
14	54	10	0	0	10	11	8	74	26	42	87	35
15	48	16	0	13	16	12	17	77	46	37	98	24
16	45	9	0	26	18	13	26	64	48	23	93	16
17	36	28	0	20	19	16	40	65	47	20	75	8
18	18	42	7	16	15	16	43	52	46	32	64	0
19	38	23	7	8	0	22	41	58	45	20	51	0
20	51	8	7	30	0	16	47	49	43	9	49	0
21	75	8	15	39	0	23	51	37	37	16	43	0
22	66	14	10	48	16	29	51	36	45	31	28	7
23	54	0	17	58	28	39	47	28	35	27	17	9
24	51	9	22	63	36	38	51	16	29	21	19	7
25	49	14	28	74	53	46	53	0	17	18	20	0
26	46	8	38	78	59	62	57	8	20	10	20	20
27	43	9	37	78	53	60	26	0	42	9	38	18
28	42	10	47	80	62	61	12	8	35	17	30	32
29	51	17	56	75	65	64	0	7		19	22	20
30	33	11	64	71	55	59	0	0		25	16	0
31		22	82		37		0	0		26		52
MEAN	39.5	23.1	25.6	59.3	30.7	23.9	23.3	29.3	27.7	22.7	44.4	42.3

1973 yearly mean = 38.0

DAILY SOLAR FLUX AT 2800 MHz OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S_a

1973								1974				
DAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY
1	85.2	90.9	86.9	114.9	109.0	87.0	86.9	71.5	71.8	76.4	72.1	98.5
2	83.1	93.1	86.8	129.2*	106.1	83.9	86.3	73.2	73.1	76.5	71.3	113.1*
3	81.5	93.5	85.0	136.5	103.5	81.1	82.7	73.3	73.1	77.1	71.6	115.5
4	81.0	94.9	86.2	135.0*	94.9	77.4	78.6	72.5	72.9	79.0	73.3	118.0
5	82.5	97.9	85.1	135.1*	90.6*	73.9	73.6	72.1	74.0	78.6	76.3	119.7
6	85.1	99.4	88.8	130.9	85.9	73.2	70.9	74.7	75.4	77.5	80.0	123.0
7	85.3	99.9	90.8	121.7*	72.1	70.4	70.4	76.0	77.4	76.0	80.2	119.3
8	87.4	97.6*	87.5	115.7	80.1	70.4	70.9	79.7	78.8	77.0	81.1	115.8
9	88.9	98.6*	87.1	113.1*	79.1	70.4	71.2	84.9	80.8	80.2	87.8	110.0
10	91.0	100.5	83.4	106.7*	77.0	70.7	72.3*	89.2	80.5	86.1	93.5*	105.1
11	92.9	94.0	78.9	96.8	74.9	71.2	71.9	91.0*	77.5	85.9	99.8	104.3
12	93.6	85.4	76.3	89.5	72.0	70.7	72.5	94.6	76.5	86.2	105.6*	97.1
13	96.3	80.3	74.7	84.6	70.5	72.6	73.1	94.8*	77.3	84.5	102.8	93.5
14	97.7*	79.5	74.1	82.9	72.7	73.8	73.8	96.7	76.3	81.9	116.3	88.2
15	98.2	78.7	72.6	82.6	75.7	75.0	76.6	91.8	83.7	82.9	122.9*	84.9
16	95.2	79.5	74.1	83.9	75.6	75.6	79.7	90.0	84.7	81.8	115.0*	80.3
17	89.8	78.1	75.0	81.8	79.5	75.3	82.1	89.2	85.9	82.7	101.8	75.8
18	91.4	83.6	75.3	84.6	78.3	75.5	84.9	87.1	87.5	80.2	98.0	75.2
19	99.2	81.6	75.4	86.6	76.7	75.4	87.8	85.8	82.7	80.0	87.5*	73.0
20	105.4	79.5	76.8	92.0	73.4	76.8	89.9	84.4	82.2	79.6	82.3	72.5
21	108.8	79.4	80.4*	94.9	80.0	80.7	97.6	79.7	82.2	79.1	79.5	71.9
22	109.4	77.6	80.4	99.5	85.0	84.7	96.7*	83.5*	82.2	80.0	75.3	72.2
23	108.8	78.6	81.8	103.9	89.9	86.5	96.0	81.0	84.2	79.8	73.9	71.5
24	106.1	81.6	85.3	106.2	97.6*	87.0	98.1	77.8	80.9	76.6	75.0	72.4
25	101.3	83.8	88.9	112.7	101.0	88.0*	97.6	74.1	78.6	74.3	76.5	72.4
26	100.3	85.0	91.2	115.5	101.0	91.8*	92.9	71.5	76.2	72.6	74.9	79.6
27	94.8	85.5	95.1	115.9	101.7*	88.8	88.6	70.7	76.4	71.8	75.3	85.1
28	95.2	84.2	97.5	118.1	100.7	90.7	81.7*	70.8	75.8	70.4	77.9	87.4
29	95.1	89.5*	100.8	116.5	99.1	94.9	76.4	70.7		71.5	81.6	89.4
30	94.1*	86.1	101.3	116.5*	97.4*	95.7*	74.1	70.8		72.1	91.7	91.3
31		86.6	109.6		90.5		72.0	71.3		72.9		95.1
MEAN	94.2	87.2	84.9	106.8	87.1	79.7	81.5	80.4	78.9	78.4	86.7	92.6

* adjusted for burst

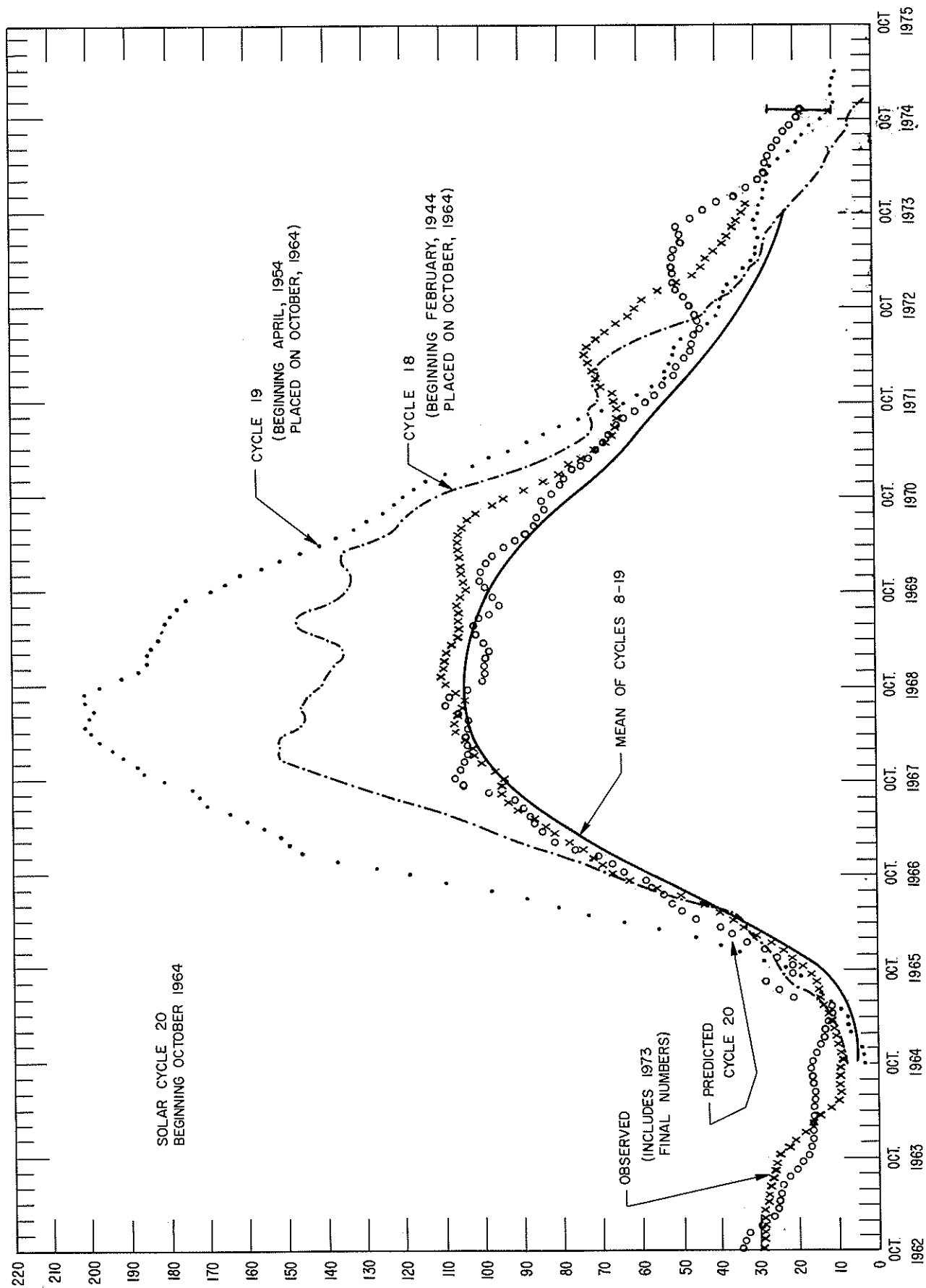
DAILY SOLAR INDICES

MAY 1974

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May 74

MAY 1974	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	SUNSPOT NUMBERS		OBSERVED FLUX OTTAWA 2800	SOLAR FLUX ADJUSTED TO 1 A.U.									
			R _Z	R _A *		AFCLR 15400	AFCLR 8800	AFCLR 4995	OTTAWA 2800	AFORL 2695	AFCLR 1415	AFCLR 606	AFCLR 410	AFCLR 245	
1	121	27	48	49	96.9	526	284	143	98.5	94.4	61.2	44.5	24.2	10.6	
2	122	1	70	69	111.3*	536	298	154	113.1*	112.6	74.5	50.7	31.8	18.3	
3	123	2	89	85	113.6	525	295	154	115.5	112.4	75.4	46.8	27.3	17.7	
4	124	3	103	103	116.0	522	290	149	118.0	115.4	77.6	45.4	25.6	15.1	
5	125	4	106	93	117.6	520	291	151	119.7	115.6	78.7	46.2	26.1	12.4	
6	126	5	113	92	120.8	521	295	152	123.0	119.9	86.5	49.0	25.6	9.6	
7	127	6	109	98	117.1	521	289	145	119.3	116.5	84.6	49.7	26.5	9.9	
8	128	7	106	82	113.6	521	292	143	115.8	113.6	82.4	49.6	25.6	9.2	
9	129	8	91	81	107.9	524	289	138	110.0	108.5	81.6	48.5	26.8	11.2	
10	130	9	69	70	103.0	522	287	138	105.1	101.2	78.1	48.8	25.4	10.5	
11	131	10	64	55	102.3	520	285	137	104.3	102.3	73.5	48.3	26.1	10.8	
12	132	11	56	37	95.1	518	284	131	97.1	93.7	70.9	46.7	27.4	11.1	
13	133	12	40	23	91.6	516	277	132	93.5	89.5	66.5	46.0	25.0	10.1	
14	134	13	35	22	86.3	515	278	129	88.2	83.3	60.0	44.4	24.7	10.1	
15	135	14	24	17	83.1	511	272	125	84.9	74.9	57.1	42.2	24.8	9.3	
16	136	15	16	11	78.5	508	269	122	80.3	75.6	53.3	39.7	22.7	9.9	
17	137	16	8	9	74.1	514	264	119	75.8	71.5	49.6	36.6	23.0	8.7	
18	138	17	0	0	73.4	509	265	119	75.2	70.4	46.1	36.8	21.3	9.2	
19	139	18	0	0	71.3	511	268	117	73.0	69.7	46.1	35.8	21.8	8.5	
20	140	19	0	0	70.8	507	268	115	72.5	67.6	44.3	36.2	21.1	9.0	
21	141	20	0	0	70.1	510	270	116	71.9	67.9	46.9	36.2	21.8	9.1	
22	142	21	7	5	70.4	512	269	117	72.2	67.2	46.7	36.3	21.1	8.6	
23	143	22	9	5	69.7	510	268	117	71.5	68.0	43.6	36.3	20.7	8.4	
24	144	23	7	2	70.6	506	267	116	72.4	68.4	47.0	37.2	21.9	8.1	
25	145	24	0	5	70.6	520	265	117	72.4	70.6	47.0	37.9	22.0	8.6	
26	146	25	20	22	77.5	520	273	122	79.6	77.0	52.0	39.4	23.2	9.3	
27	147	26	18	19	82.9	519	280	128	85.1	82.9	55.7	40.4	23.6	13.2	
28	148	27	32	29	85.1	523	279	130	87.4	83.8	56.8	41.2	24.3	10.1	
29	149	1	20	14	87.0	522	280	132	89.4	84.7	59.5	43.1	26.3	11.2	
30	150	2	0	10	88.8	520	280	134	91.3	86.0	60.3	42.2	23.5	10.9	
31	151	3	52	31	92.5	522	282	138	95.1	90.4	60.5	43.1	24.1	10.5	
MEAN			42.3	36.7	90.6	518	279	132	92.6	88.9	62.1	42.7	24.4	10.6	

* Corrected for burst.



PREDICTED AND OBSERVED SUNSPOT NUMBERS

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS

CYCLE 20

MONTH	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1964										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	40.7	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	66.8	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 (1)	37.6	36.3	34.7	33.2	32.7	31.2 (1)
1974	29.8 (2)	28.6 (3)	27.7 (4)	27.0 (4)	26.6 (5)	25.8 (6)	24.5 (6)	23.0 (7)	21.4 (7)	20.0 (8)	18.7 (8)	17.7 (9)
1975	16.9 (8)	16.0 (8)	15.4 (8)	14.8 (8)	14.1 (8)	13.6 (9)	13.5 (11)					

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 1973.

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

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May 74

SOLAR FLARES

PARTIAL LISTING

Solar Flares for which at least one observatory has assigned a numerical importance of "1" or greater.

MAY 1974

OBSERVATORY	DATE	OBSERVED UT			LOCATION				DURATION	IM-PORTANCE	OBS. COND.	TYPE	MEASUREMENTS				REMARKS
		START	END	MAX. PHASE	APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION					CMP DAY	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	
CATA	01	0810	0820	0815	S03	E90	1.000	12906	8.1	10	1F	3	0815	.58			(138)
CATA	01	0812	0820	0812	S07	E80	.984		7.3	8	SN	3	0812	.29			(178)
CATA	01	0910	0920	0910	S06	E78	.977	12906	7.2	10	1B	3	0910	.58			(204)
UPIC	01	1005E	1023		S11	E73	.954	12906	6.9	180	2B		1005	2.73			
CATA	01	1006E	10200	1006	S12	E74	.959	12906	7.0	140	3B	3	1006	5.80			(380)
CATA	01	1150	11500	1150	S12	E78	.976	12906	7.3		1B	3	1150	.87			(245)
MCHA	01	1155	1204	1157	S11	E82	.989	12906	7.6	9	SB		1157				D
RAMY	01	1200E	1206	1200U	S11	E82	.989		7.7	80	SN	4	C	.37			DE
RAMY	01	1225	1240	1229	S07	E74	.959		7.1	15	SB	4	C	.84			DE
MCHA	01	1225	1231	1227	S10	E75	.964	12906	7.1	6	SB		1227				E
UPIC	01	1227U	1231	1229	S10	E73	.954	12906	7.0	40	1N		1229	1.05			
BOUL	01	1433	1456	1443	S10	E72	.949		7.0	23	1N	C	1443	.75	2.12		
RAMY	01	1437	1452	1443	S07	E72	.949		7.0	15	SN	4	V	.33			DE
MCHA	01	1437	1452	1443	S10	E74	.959	12906	7.2	15	SB	C	1443	.41	1.60		O
BOUL	01	1844	1857	1849	S 9	E66	.911		6.7	13	2N	C	1849	2.36	5.67		
MCHA	01	1845	1854	1849	S09	E66	.911	12906	6.7	9	SB	C	1849	.62	1.50		E
RAMY	01	1845E	1854	1849U	S07	E66	.911		6.7	90	SN	4	V	.66			DE
PALE	01	1845	1856	1850	S09	E68	.925		6.9	11	SN	3	V	1.03			F
MANI	02	0704	0725	0707	S13	E79	.979	12906	8.2	21	1N	2	0707	1.03	2.60		
MITK	02	0705E	0723	0708	S13	E80	.983		8.3	180	SB		0708	.52			D
MANI	03	0213E	0235	0216	S09	E52	.787	12906	7.0	220	1N	1	0216	2.58	4.10		FH
MITK	03	0221	0255	0228	S09	E51	.776		6.9	34	SB		0228	.83	1.30		H
RAMY	03	1924	1942	1927	S07	E46	.718		7.3	18	SB	3	V	.93			DE
PALE	03	1924	19450	1927	S08	E46	.718	12906	7.3	210	1N	3	C	1.99			U F
BOUL	03	1925E	1950E	1927	S 7	E45	.706		7.2	250	1B		1927	2.68	3.81		
BOUL	06	1410	1446	1423	N 8	W23	.434		4.9	36	1N	C	1423	3.75	4.06		
RAMY	06	1411	1438	1416	N08	W24	.448		4.8	27	SN	4	C	.56			U S
PALE	07	0014	00190	00190	S16	E01	.216	12906	7.1	50	1N	3	V	3.30			UDE
MITK	07	0519	0545	0529	S18	E17	.375	12906	8.5	26	1F	C	0529	1.96	2.10		
MITK	07	0519	0540	0529	S17	E12	.307	12906	8.1	21	1F	C	0529	2.06	2.20		
MCHA	07	1248	1335	1252	S13	E07	.203	12906	8.1	47	SN	C	1252	1.24	1.20		E
WEND	07	1256	1333		S12	E07	.189	12906	8.1	37	2N	V	1100				
BOUL	07	1309E	14000	1309U	S12	E 6	.179		8.0	510	1N	C	1309	3.21	3.23		
MANI	08	0010	01450	0015	S17	E04	.244	12906	8.3	950	1N	2	0015	3.30	3.42		F
MITK	08	0012	0044	0020	S16	H 2	.220	12906	7.9	32	1N	C	0020	3.40	3.50		F
MITK	08	0012	0047	0019	S17	E 7	.262	12906	8.5	35	1N	C	0019	3.20	3.30		F
BOUL	08	0016	01100	0028	S17	E 2	.237		8.2	540	2N	C	0028	10.71	10.72		
PALE	08	0017E	0145	0017U	S16	E02	.220	12906	8.2	880	1N	3	C	4.69			DE
BOUL	08	1233	1310U	1235	N 3	E76	.971		14.2	370	1F	C	1235	.86	2.62		
MANI	09	0200	0210	0204	S13	W15	.304		8.0	10	SF	2	0204	.62	.65		FU
MANI	09	0200	02150	0215	S13	W15	.304	12906	8.0	150	1N		0215	2.89	3.02		
MANI	09	0212	0230	0215	S13	W14	.290	12906	8.0	18	1N	2	0215	2.68	2.81		F
PALE	09	0224E	0237	0224U	S12	W14	.281	12915	8.0	130	1F	3	C	2.17			F
ARCE	09	1032E	1100		S04	W39	.628		6.5	280	SB	G	1040	.59	.80		F
RAMY	09	1039	1102	1046	S05	W38	.615	12906	6.6	23	1B	4	C	2.88			F H
BOUL	09	1259	1343	1302	S 4	W39	.628		6.6	44	1F	C	1303	3.64	4.69		
RAMY	09	1302	1318	1305	S05	W39	.628		6.6	16	SF	4	C	.46			DE H
BOUL	09	1613	1715	1624	S 4	W40	.642		6.7	62	1N	C	1624	3.32	4.33		
CATA	09	1630E	1645	1635	S05	W41	.655	12906	6.6	150	1N	3	1635	2.02	2.68	(195)	
BOUL	11	1542	1606	1554	S13	W64	.899		6.9	24	1F	C	1554	.96	2.21		
RAMY	11	1549	1608	1555	S14	W65	.906		6.8	19	SF	4	C	.37			DE
BOUL	12	2139	2244	2157	S18	W62	.887		8.3	65	2N	C	2157	4.82	10.41		
PALE	12	2141	2231	2210U	S16	W63	.893	12906	8.2	50	1N	3	C	1.18			DE
PALE	12	2141	2231	2156U	S16	W63	.893	12906	8.2	50	1N	3	C	1.44			DE
BOUL	13	0023	00450	0041	S16	W65	.908		8.1	220	1F	C	0041	1.71	4.07		
PALE	13	0038	0125	0102	S15	W65	.907		8.2	47	1N	3	C	1.35			F
PALE	13	0038	0125	0043	S15	W65	.907		8.2	47	SF	3	C	.81			F
ARCE	13	1145E	11550		S11	W63	.891		8.8	100	SF	C	1150	.36	.80		
CATA	13	1147E	11570	1152	S13	W63	.891	12906	8.8	100	1B	3	1152	1.16	2.55	(224)	
BOUL	13	2115E	23280	2129U	S11	W64	.898		9.1	1330	3N	C	2129	6.96	16.00		
PALE	13	2131E	21480	2139U	S13	W65	.906	12906	9.0	170	2N	1	V	6.19			F
MCHA	25	1702	1714		S11	E90	1.000	12972	1.5	12	1N	P	1710				
CATA	26	1030E	12200	1030	S16	W37	.633	12921	23.7	1100	1B	3	1030	1.73	2.24	(209)	
UPIC	28	0849	0903U	0854U	S15	W63	.896	12968	23.6	14U	1N		0854	1.26			
UPIC	28	1149U	1200U	1155	S13	W67	.923	12968	23.5	11U	1N		1155	1.47			
UPIC	28	1207	1213	1209U	S13	W68	.929	12968	23.4	6	1N		1209	1.05			

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SOLAR FLARES

PARTIAL LISTING

Solar Flares for which at least one observatory has assigned a numerical importance of "1" or greater.

MAY 1974

OBSERVATORY	OBSERVED UT				LOCATION					DURATION MIN.	IMPORTANCE	OBS. COND. TYPE	MEASUREMENTS					REMARKS
	DATE MAY	START	END	MAX. PHASE	APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY				TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH H ₀	MAX. INT. %	
CATA UPIC UPIC MANI	30	0720	0730	0725	S22	E90	1.000	12974	6.1	10	2N	3	0725	2.31			(162)	
	30	0724E	0748U		S25	E90	1.000	12974	6.1	24U	1B		0734	.42				
	30	1452E	1506U		S20	E86	.997	12974	6.1	14U	1N		1452	.42				
	30	2252E	2310	2252U	S14	E84	.994	12974	6.3	180	1N	1	2252	.83	2.30			
MANI CATA	31	0159E	0207D	0205	S16	E80	.985		6.1	80	1N	1	0205	.93	2.38			
	31	0955E	1050	1020	S15	E75	.967	12974	6.0	550	1B	3	1020	1.73			(214)	

Note: Catania and Capri-S express Maximum Intensities in percent of the local undisturbed chromosphere instead of percent of the local continuum. Parentheses are used to indicate this difference.

"Remarks":

A = Eruptive prominence whose base is less than 90° from central meridian.
 B = Probably the end of a more important flare.
 C = Invisible 10 minutes before.
 D = Brilliant point.
 E = Two or more brilliant points.
 F = Several eruptive centers.
 G = No visible spots in the neighborhood.
 H = Flare accompanied by a high speed dark filament.
 I = Active region very extended.
 J = Distinct variations of plage intensity before or after the flare.
 K = Several intensity maxima.
 L = Existing filaments show signs of sudden activity.
 M = White-light flare.

N = Continuous spectrum shows effects of polarization.
 O = Observations have been made in the calcium II lines H and K.
 P = Flare shows helium D₃ in emission.
 Q = Flare shows the Balmer continuum in emission.
 R = Marked asymmetry in H α line suggests ejection of high velocity material.
 S = Brightness follows disappearance of filament (same position).
 T = Region active all day.
 U = Two bright branches, parallel (||) or converging (Y).
 V = Occurrence of an explosive phase: important and abrupt expansion in about a minute with or without important intensity increase.
 W = Great increase in area after time of maximum intensity.
 X = Unusually wide H α line.
 Y = System of loop-type prominences.
 Z = Major sunspot umbra covered by flare.

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May 74

SOLAR FLARES

Date, time (UT) and coordinates of Subflares not included in preceding table.

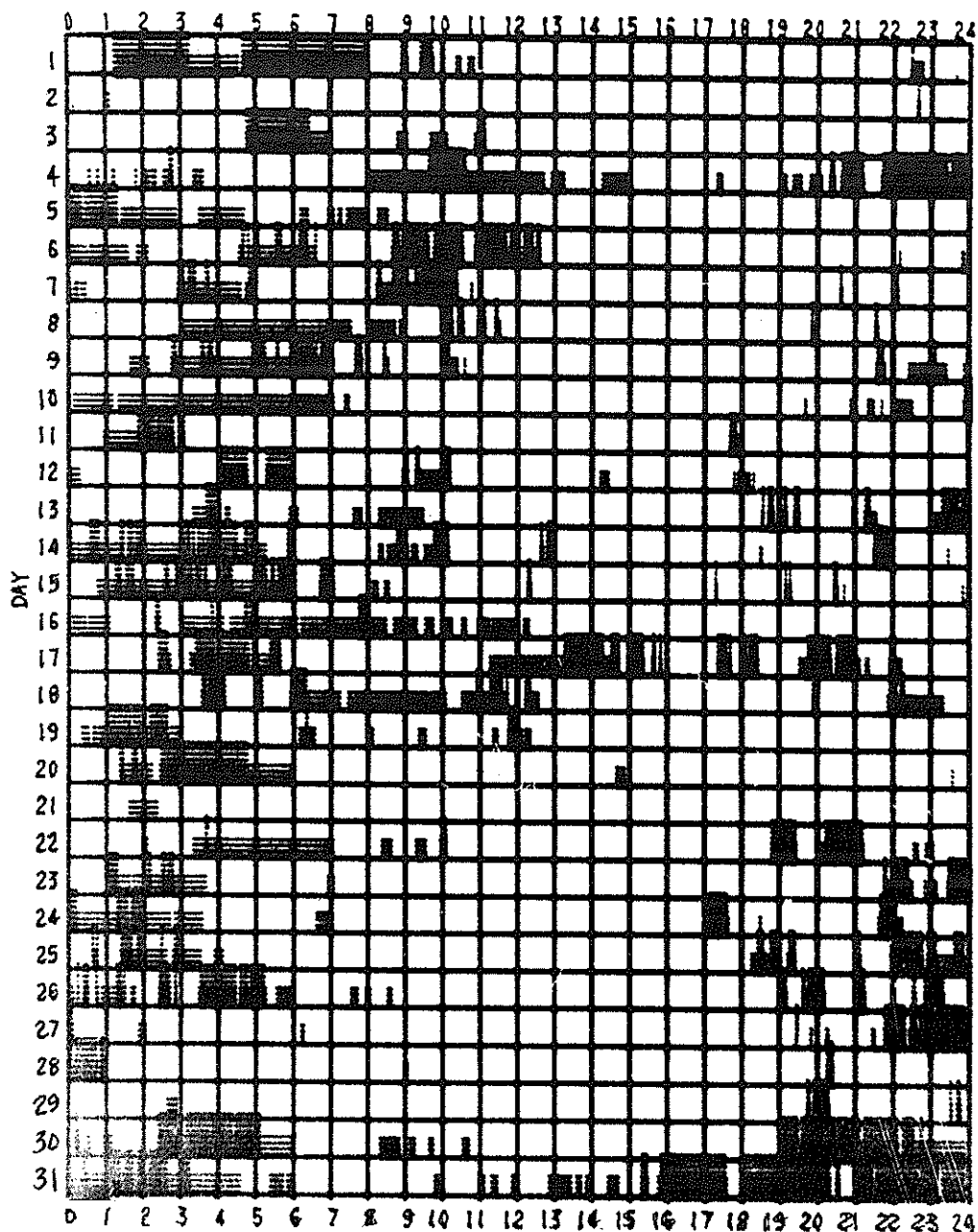
MAY 1974

01 0357E N08 W16	01 1310 S 9 E69	01 1313E S07 E68	01 2305E S14 E85	01 2306 S15 E85	02 0239E N08 E36
02 0354 N07 E36	02 0415 S06 E62	02 0451 S13 E81	02 0604 S13 E79	02 0828 S12 E74	02 1151 S12 E78
02 1354 S07 E62	02 1504 S11 E36	02 1513 S13 E76	02 1526 S13 E76	02 1527 S11 E75	02 1937 S09 E60
02 1937E S12 E61	02 1937E N 6 W45	02 2030E N 7 W46	02 2033E N08 W46	02 2133E N08 W46	02 2139 N 7 W47
02 2247E N 8 W47	03 0137 S10 E57	03 0702 S09 E47	03 0702 S09 E48	03 0703 S09 E51	03 1242 S08 E46
03 1400 S08 E45	03 1456 S07 E45	03 17371 S08 E43	03 1810 S10 E42	03 1810 S08 E44	03 1812 S06 E46
03 2113 S 8 E41	03 2120 S12 E42	03 2302 S 5 E36	03 2305E S05 E32	04 0049 S10 E40	04 0222 S03 E34
04 0226 S05 E33	04 0312 S08 E38	04 0315E S09 E37	04 0336E S10 E37	04 0831U S04 E18	04 0910E S04 E18
05 0230 N06 W47	05 0233E N05 W47	05 0321 S06 E34	05 1038E S03 E01	05 1348 S16 E35	05 1349 S14 E33
05 1349 S14 E33	05 1732 S15 E29	05 2023 S13 E27	05 2155 S18 E32	05 2155 S18 E32	05 2245E S19 E35
05 2304E S18 E21	06 0354 S04 W07	06 0448E N04 W61	06 0525E S15 E25	06 0743E N10 W54	06 0814E N10 W54
06 1225E N10 W56	06 1225E N08 W58	06 1332E N10 W58	06 1418 N11 W58	06 1449 S14 E20	06 1450 N10 W58
06 1512E N10 W59	06 1518 S14 E16	06 1925E S04 E19	06 1938 S 9 E79	06 2025 S12 E10	06 2218E S11 E09
06 2219 S12 E09	06 2239 S18 E31	06 2252 S15 E34	06 2252 S15 E34	06 2252 S15 E34	06 2302E S17 E31
07 0003E S14 E15	07 0126 S04 W22	07 0235 S12 E10	07 0726 S13 E10	07 0732 S11 E75	07 1110 S06 W12
07 1141 S05 W12	07 1213 S13 E07	07 1213 S13 E07	07 1453 N03 W29	07 1454 S03 W28	07 1519 S13 E05
07 1520E S13 E07	07 1647E S14 E18	07 1653E S14 E18	07 1805 S11 E04	07 1807 S10 E03	07 1810 S08 W15
07 1811 S06 W16	07 1813E S08 W16	07 1848 S 7 W16	07 1930 S05 W17	07 20100 S11 E17	07 2027E S13 E03
07 2219E S06 W18	07 2222 S14 E15	07 2223 S13 E14	07 2301 S10 E04	07 2304E S10 E04	07 2312E S11 E03
08 0150 S11 E02	08 0237 S06 W21	08 0258 S11 E01	08 0448 S11 W00	08 0500 S04 W35	08 0514 S12 W01
08 0606 N04 E79	08 1218 S13 W08	08 1225U S 4 W38	08 1545 S05 W40	08 1546 S 4 W40	08 1837 S 9 W18
08 1840 S09 W20	08 1844E S08 E18	08 2129 S13 W13	09 0136 S12 W01	09 0213 S12 E16	09 0408 S05 W35
09 0410 S04 W33	09 0824 S04 W36	09 0829E S05 W37	09 1407 S 4 W40	09 1410E S06 W40	09 1412E S05 W39
09 2153E S13 W32	09 2245E S05 W45	09 2335E S 3 W43	10 0807 S02 W73	10 0810 S03 W74	10 1427 S05 W54
10 1500 S12 E30	10 2341 S13 W45	11 0217E S13 W47	11 0450 S14 W58	11 0807 S11 W44	11 0814E S08 W48
11 1220 S11 W32	11 1319 S15 W27	11 1320 S12 W28	11 2008 S15 W67	12 0025 S15 W36	12 0028 S13 W35
12 0218 N12 W20	12 1455E S05 W88	12 1603 S15 W80	12 1604 S13 W85	12 1604 S06 W80	12 1740 S06 W82
12 2213 S13 W47	12 2213 S13 W47	12 2240 S10 W47	12 2253 S40 W82	12 2257E S41 W80	12 2350E S41 W80
13 0940E S13 W53	13 1356 S11 W56	13 1356 S11 W57	13 1401 S11 W56	15 0200 S13 W85	15 1025E S11 W83
16 2309 N 7 W43	16 2341E N08 W43	17 0307E N07 W45	17 1533 N 8 W51	17 1829E N06 W53	17 1921 N08 W54
17 2347E N06 W51	18 2054 N05 W69	19 1337 N21 W74	19 1640E N 7 W76	19 2324 N 7 W78	21 2004 S12 E21
21 2009 S13 E25	21 2009 S15 E21	23 1435 N09 E28	25 1524 S03 E77	25 1741 S16 W28	25 1748E S15 W28
26 1519 S02 E77	26 1521 S 4 E76	27 0317E S15 W46	27 0832 S13 W50	27 0835 S14 W52	27 0855E S15 W49
27 1040E S18 W50	27 1443 S15 E74	27 1520 S16 W50	27 1521 S15 W54	27 1526 S17 W51	27 1530 S16 W52
27 1716 S14 W55	27 1723 S13 E79	27 1723 S13 E79	27 1732 S13 E83	27 1741 S15 W54	27 1846 S13 W57
27 1934E S15 W56	27 2003 S13 E87	27 2111E S18 W53	27 2223E S17 W57	28 1055 S14 W64	28 1239 S17 W67
28 1910 S14 E65	29 0648 S11 E68	30 1344 S12 E83	30 1605 S10 E79	30 1605 S11 E80	30 1835 S11 E78
30 1844 S12 E89	31 0329E S14 E78	31 1200E S08 E14	31 1543 S17 E57	31 2026E S14 E69	

INTERVALS OF NO FLARE PATROL OBSERVATION FOR PRECEDING SOLAR FLARE TABLE

MAY 1974

HOUR-UT



Observatories included in total patrol:

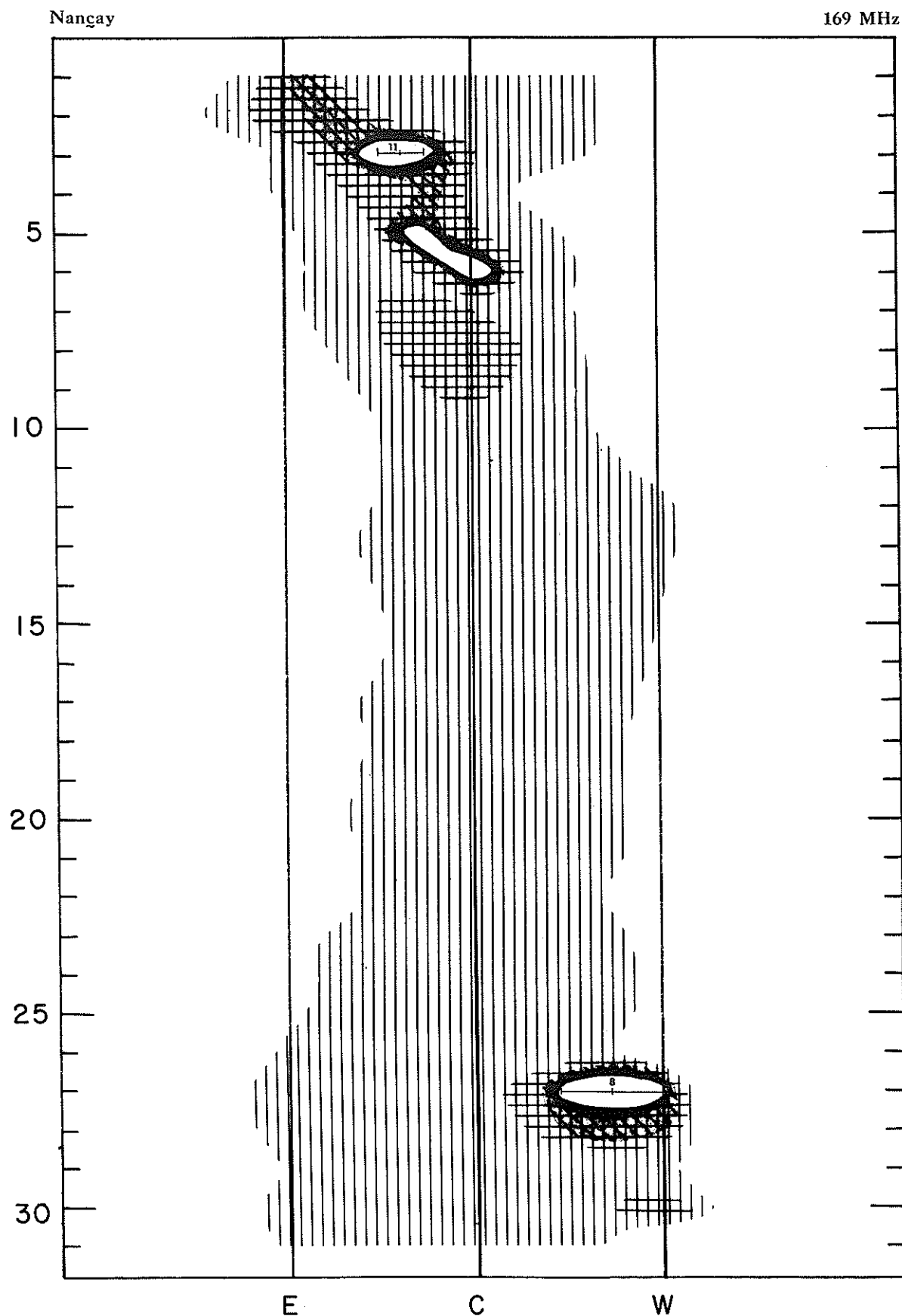
Arcetri	Bucharest	Manila	Palehua	Upice
Athens	Catania	McMath-Hulbert	Ramey	Wendelstein
Boulder	Herstmonceux	Mitaka	Tehran	

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).

14
May 74

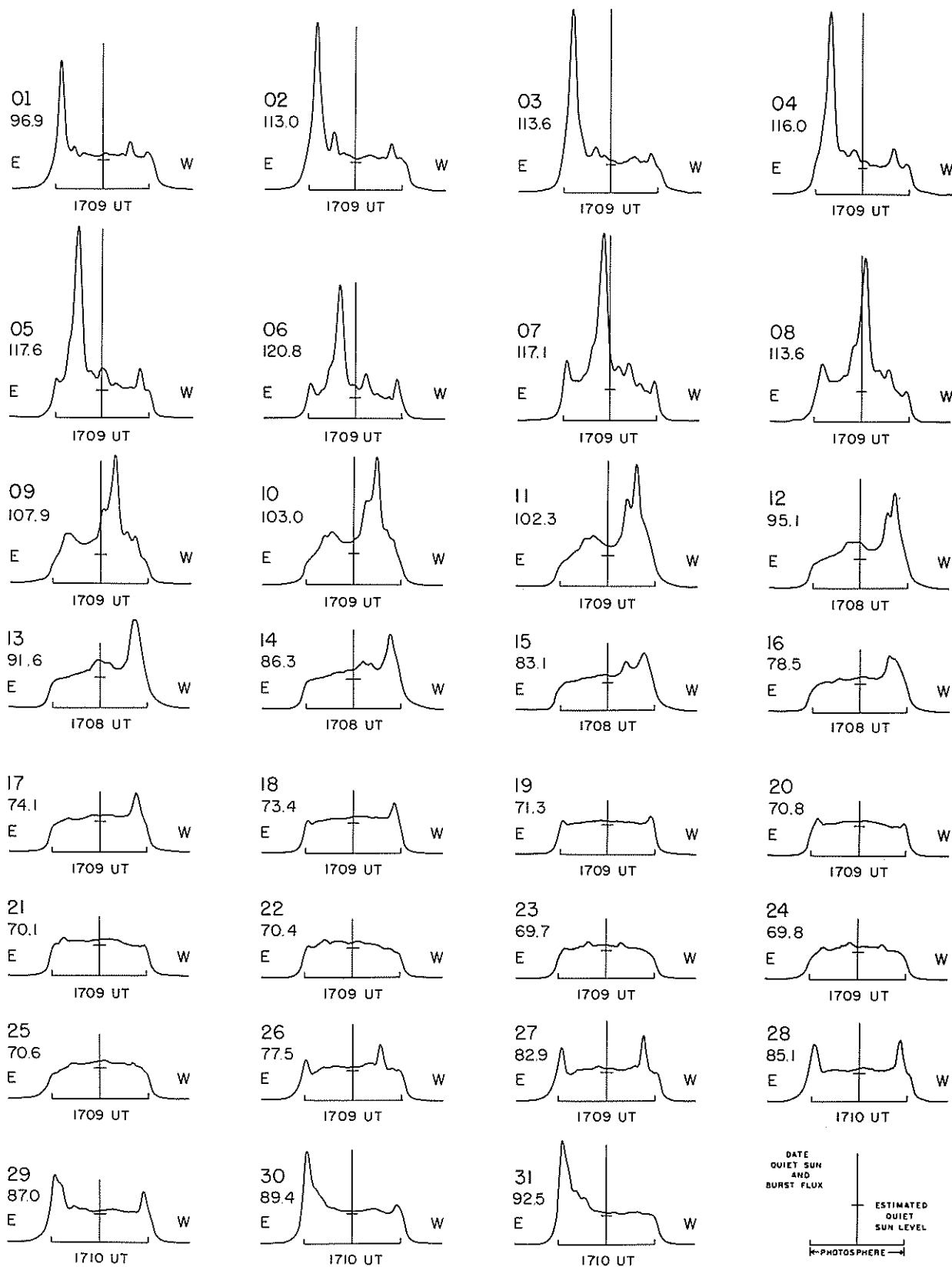
SOLAR RADIO EMISSION INTERFEROMETRIC OBSERVATION

MAY 1974



EAST-WEST SOLAR SCANS

May 1974

ALGONQUIN RADIO OBSERVATORY
CANADA10.7 cm
Fan-Beam with 1.5 minutes of arc
E-W Resolution

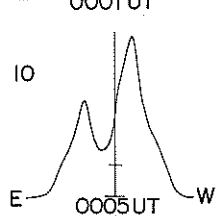
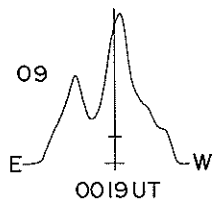
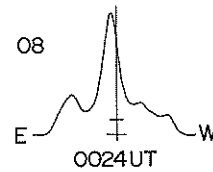
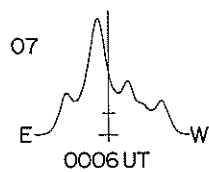
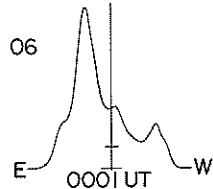
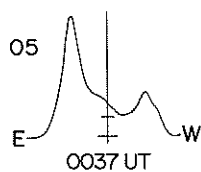
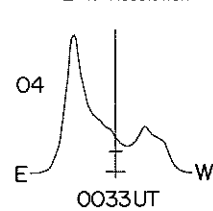
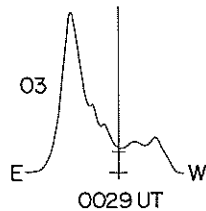
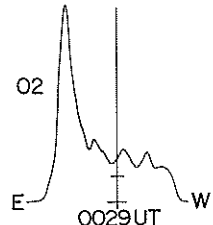
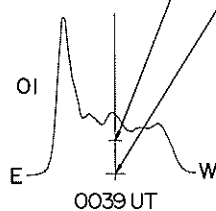
16
May 74

EAST-WEST SOLAR SCANS
MAY 1974

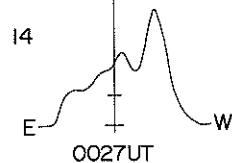
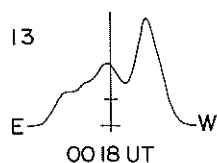
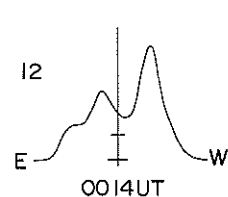
Fleurs, Australia

ESTIMATED QUIET SUN LEVEL
COLD SKY LEVEL

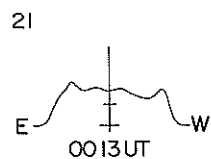
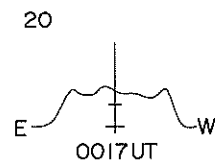
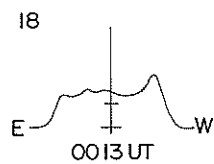
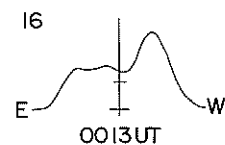
21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution



11
NO DATA



15
NO DATA



22
NO DATA

23
NO DATA

24
NO DATA

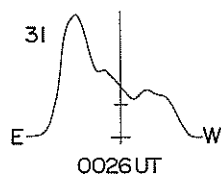
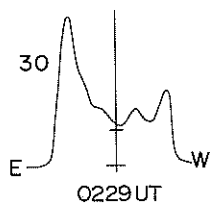
25
NO DATA

26
NO DATA

27
NO DATA

28
NO DATA

29
NO DATA



17
May 74

EAST-WEST SOLAR SCANS

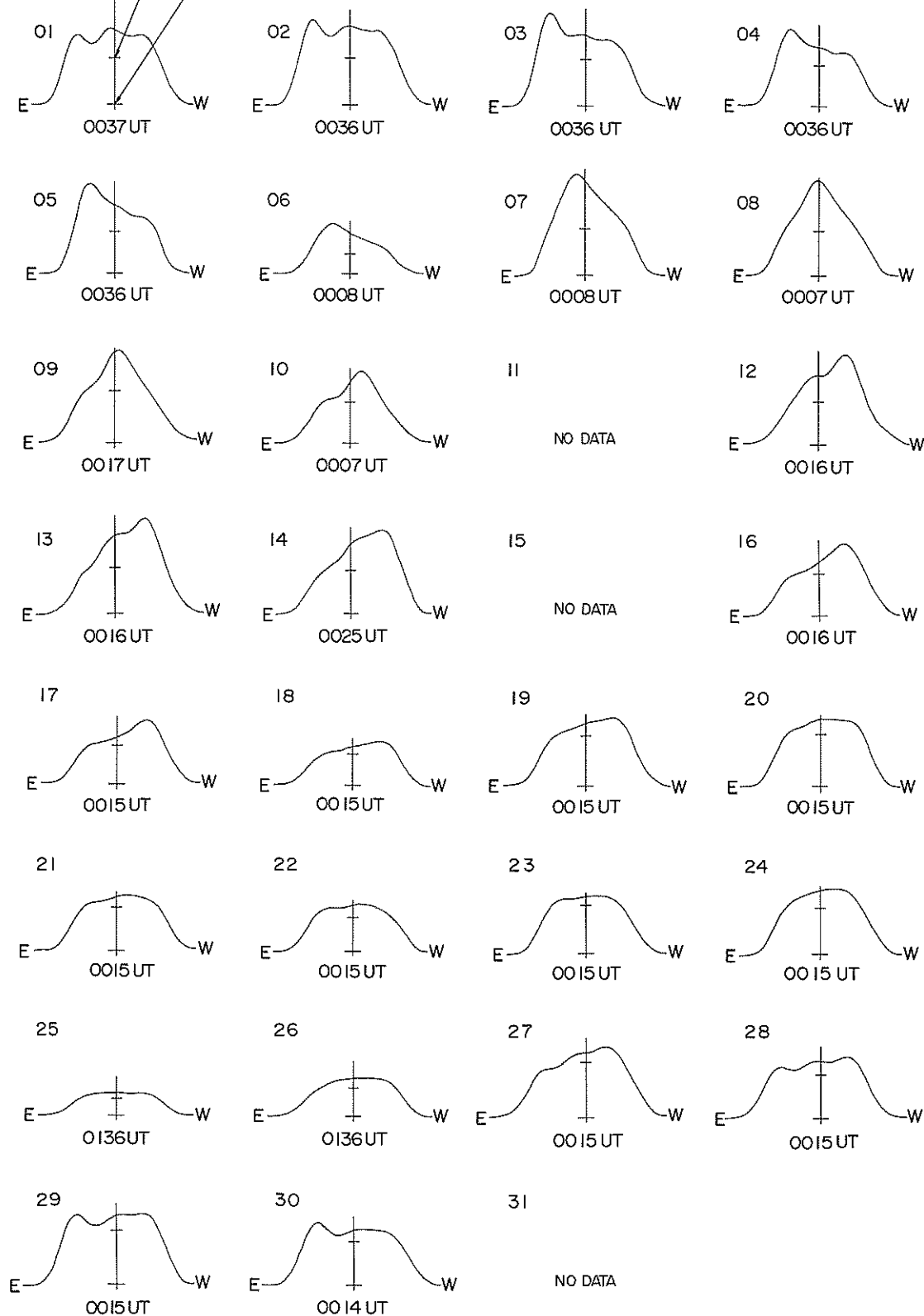
MAY 1974

Fleurs, Australia

ESTIMATED QUIET SUN LEVEL

COLD SKY LEVEL

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



18
May 74

SOLAR RADIO EMISSION SELECTED FIXED FREQUENCY EVENTS

MAY 1974

MAY 1974	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{-22} \text{ W m}^{-2} \text{ Hz}^{-1}$		INT	REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
1	8800 SGMR	1	1006.1	1006.5	.5	3.9	1.0	SPIKE=23FU	
	2695 SGMR	1	1006.1	1006.2	.7	2.8	.8		
	2800 OTTA	24	1105	1140	35	5.6	2.8		
	2800 OTTA	24	1140		180	5.6			
	2800 OTTA	2	1224	1226	6	8.4	2.4		
	8800 SGMR	46	1225.2	1226	6.1	13.2	3.6		
	8800 SGMR	46		1228.1		18.1			
	2695 SGMR	46	1225.1	1226	4.1	6.9	3.4		
	2695 SGMR	46		1228.8		17.0			
	2800 OTTA	31	1230	1238	35	-4.0	-2.0		
	2800 OTTA	8	1237	1237.2	.2	2.0			
	2800 OTTA	32	1440	1510	60	-4.6	-2.6		
	2800 OTTA	67	1740		35	.8			
	2800 OTTA	32	2230	2240	25	-1.8	-0.9		
	2695 PENT	24	2300	2350	50	3.4	1.7		
	2695 PENT	24	2350		120	3.4			
2	2695 PENT	32	0035	0050	35	-3.4	-1.7		
	2800 OTTA	41	1235		40	1.8			
	2800 OTTA	20	1235	1237	20	1.8	0.9		
	2800 OTTA	20	1300	1302	15	1.8	0.9		
	2800 OTTA	20	1330	1333	12	2.6	1.3		
	2800 OTTA	22	1445	1537	180	4.8	2.4		
	2695 SGMR	22	1534.1	1538.1	16.9	3.5	2.1		
	2695 SGMR	2	1558.1	1559	4.3	1.8	1.1		
	2800 OTTA	32	1950	2040	120	-2.2	-1.1		
	8800 SGMR	2	2023.2	2025.6	8.7	7.6	3.0		
3	8800 MANI	4	0210.8	0211.7	11	98.0	29.4		
	2695 MANI	4	0210.8	0212	10.8	123.0	28.5		
	8800 MANI	3	0325.4	0329	9	15.7	3.9		
	8800 MANI	3	0701.4	0701.8	1.1	31.4	7.8		
	2695 MANI	1	0701.4	0701.8	1.2	5.7	1.0		
	2800 OTTA	8	1242	1242.2	.5	2.2	1.1		
	2695 SGMR	1	1242	1242.1	1.5	2.1	.6		
	2695 BOUL	8	1400.5	1401.5	2	9.0	3.0		
	2695 SGMR	1	1400.7	1401.2	1.1	6.9	2.1		
	2695 PENT	41	1400.7	1406	6.5	10.0			
	2800 OTTA	1	1400.7	1401	1.5	7.4	2.5		
	2695 PENT	3	1405.8	1406	1.5	10.0	2.0		
	2800 OTTA	1	1456	1456.5	1.5	1.0	0.5		
	2800 OTTA	67	1505		195	2.6			
	2695 BOUL	3	1810.5	1811.5	1.5	4.0	1.0		
	2800 OTTA	41	1811	1817.7	8	4.0			
	2800 OTTA	1	1811	1811.2	1	1.6	0.8		
	2800 OTTA	8	1817.5	1817.7	.3	4.0			
	2800 OTTA	1	1818	1818.5	1	.8	0.4		
	2800 OTTA	1	1900.2	1901	2	1.0	0.5		
	2695 BOUL	3	1900.5	1901.5	2.5	3.0	1.0		
	8800 SGMR	4	1924.8	1925.9	18.9	47.6	14.3		
	2695 SGMR	4	1924.6	1925.8	19	80.9	24.3		
	2800 OTTA	4	1924	1925.8	6	54.0	14.0		
	2695 BOUL	8	1925	1926.5	5	44.0	15.0		
	2800 OTTA	29	1930	1930	135	2.4	1.2		
4	2800 OTTA	20	1219	1225	40	2.0	1.0		
	8800 SGMR	2	1602.9	1603.3	4.4	7.8	2.3		
	2800 OTTA	20	1635	1643	25	1.2	0.6		
	2800 OTTA	22	1725	1817	105	3.4	1.5		
	2800 OTTA	1	2155	2155.5	1	1.2	0.6		
	2695 PENT	1	2257	2258.5	3	1.2	0.6		
5	2695 BOUL	3	0112.5	0113	1	4.0	1.0		
	2800 OTTA	26	1212	1310	58	-2.0	-1.0		
	8800 SGMR	1	1348.4	1349.1	5	9.1	2.7		
	2800 OTTA	21	1350	1400	45	2.6	1.3		
	2695 BOUL	3	1352.5	1356	8	6.0	2.0		
	2800 OTTA	1	1353	1355.5	4	5.4	2.7		
	8800 SGMR	3	1731.1	1731.5	7.5	10.0	3.0		
	8800 SGMR	1	2020.4	2024.4	6.8	3.2	1.0		
	2800 OTTA	1	2022	2022.8	4	2.6	1.3		
	8800 SGMR	20	2029.9	2031.9	12.9	10.0	6.0		
	2695 SGMR	20	2030.6	2033	11.6	5.5	3.3		
	2800 OTTA	22	2153	2202	25	2.0	1.1		
6	2800 OTTA	20	2240	2250	40	3.0	1.5		
	2695 SGMR	1	1533.9	1534.8	2.4	1.6	.5		
	2695 PENT	67	1706		44	1.6			
7	2800 OTTA	1	1707	1708	4	3.0	1.5		
	2695 MANI	4	0523.8	0527.6	9	35.6	8.9		
	8800 SGMR	4	1213.1	1214	1.5	17.6	5.3		
	2695 SGMR	4	1212.9	1214.2	2.7	14.9	4.5		
	2800 OTTA	4	1213	1214	3	19.0	13.8		
	8800 SGMR	30	1214.6	1214.6	61.4U	7.0	2.6U		
	2695 SGMR	30	1215.6	1215.6	61.6	6.5	2.6		
	2800 OTTA	29	1216	1216	22	9.0	3.0		
	2800 OTTA	67	1247		140	3.4			
	2695 SGMR	22	1248.1	1252.1	26.5	6.2	1.9		
	2800 OTTA	2	1249	1252	8	6.2	3.1		

Note: 67 = oscillation (see example on page 22).

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

MAY 1974

MAY 1974	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY $10^{22} \text{ W m}^{-2} \text{ Hz}^{-1}$		INT	REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
8	8800 SGMR	1	1251 U	1252.9	2.6U	4.7	1.4U	NULL	
	2800 OTTA	1	1518	1519.2	6	2.6	0.8		
	2695 PENT	1	1518	1519.2	6	0.0	0.0		
	2695 SGMR	1	1518	1519	1.7	2.2	.6		
	2695 BOUL	3	1518.5	1519.5	1.5	2.0	1.0		
	2800 OTTA	22	1805	1809	25	2.4	1.2		
	2800 OTTA	20	1912	1945	60	2.0	1.0		
	2800 OTTA	20	2105	2112	25	3.2	1.6		
	2695 PENT	20	2250	2305	30	1.4	0.7		
	2695 BOUL	3	2311.5	2313.5	2.5	3.0	1.0		
	8800 MANI	4	0013.5	0015.7	27.4	56.0	18.7		
	2695 PENT	3	0008	0015.5	22	248.0	59.0		
	2695 MANI	4	0009.3	0015.7	32.8	210.0	42.0		
	2695 BOUL	3	0012	0016.5	15	127.0	45.0		
	2695 PENT	29	0030	0030	70 D	15.8			
9	2695 MANI	1	0244.4	0244.8	.8	5.5	1.8		
	2695 MANI	4	0513.7	0515.5	10.9	10.0	36.0		
	8800 SGMR	1	1550.4	1550.5	.3	4.0	1.2		
	2695 SGMR	1	1550.4	1550.5	.3	9.5	2.9		
	2800 OTTA	20	1710	1712	15	2.6	1.3		
	2695 SGMR	22	1038.7	1040	13.9	6.7	4.0		
	2695 SGMR	1	1258.9	1259.4	1.4	2.4	.7		
	2695 BOUL	3	1416	1416.5	1.5	4.0	1.0		
	8800 SGMR	4	1623.7	1624.2	5.3	16.0	4.8		
	2695 SGMR	4	1623.4	1624.1	4.1	19.9	6.0		
	2800 OTTA	3	1623.2	1624	2.3	18.8	9.2		
	2695 BOUL	8	1623.5	1624	3.5	20.0	7.0		
	2800 OTTA	29	1625.5	1625.5	5	1.6	0.8		
	2800 OTTA	27	1215		370	2.2	1.9		
	2800 OTTA	24	1215	1320	65	2.2	1.1		
11	2800 OTTA	24	1320		280	2.2			
	2800 OTTA	20	1505	1605	90	1.2	0.6		
	2800 OTTA	26	1800	1825	25	-2.2	-1.1		
	2695 BOUL	21	2138.5	2145	44.5	16.0	4.0		
	2800 OTTA	1	2143.5	2145	9.5	8.2	4.1		
	2800 OTTA	21	2148	2156	70	5.8	2.9		
	8800 MANI	3	2202.2	2202.9	1.3	14.4	54.0		
	2695 PENT	22	0035	0058	70 D	3.8			
	2800 OTTA	28	2100	2115	20	3.4	2.4		
	2695 BOUL	45	2110.5	2126	48.5	203.0	38.0		
	8800 SGMR	22	2121 U	2127	13 U	19.0	11.4U		
	2800 OTTA	4	2120	2125.3	25	262.0	22.6		
	2695 SGMR	4	2123 U	2125.4	8 U	159.0	46.2U		
	2800 OTTA	29	2145	2145	135	6.2	3.1		
	2800 OTTA	26	1228	1248	20	-1.8	-0.9		
13	2800 OTTA	20	1529	1540	45	1.6	0.8		
	2695 SGMR	3	1724.9	1725.8	3.1	45.4	13.7		
	2800 OTTA	1	1725	1725.8	2.5	7.8	2.6		
	2695 BOUL	8	1725.5	1726.5	1.5	37.0	16.0		
	2800 OTTA	8	1725.8	1725.8		48.0			
	2800 OTTA	1	2219.8	2220	1	1.8	0.9		
	2800 OTTA	1	2226	2226.5	1	1.4	0.7		
	2800 OTTA	20	1140	1200	90	1.4	0.7		
	2800 OTTA	24	1810	1920	70	1.6	0.8		
	2800 OTTA	24	1920		385 D	1.6			
	8800 SGMR	1	1346	1346.6	2	3.2	1.0		
	8800 SGMR	1	1446.9	1450.4	6.6	4.4	1.3		
	2800 OTTA	1	1450	1450.3	1	1.4	0.7		
	2800 OTTA	21	2100	2305	160	2.6	1.3		
	2800 OTTA	20	2136	2144	75	5.6	2.6		

Observatories:

BOUL = Boulder

MANI = Manila

OTTA = Ottawa ARO

PENT = Penticton

SGMR = Sagamore Hill

Explanation of Type Code:

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

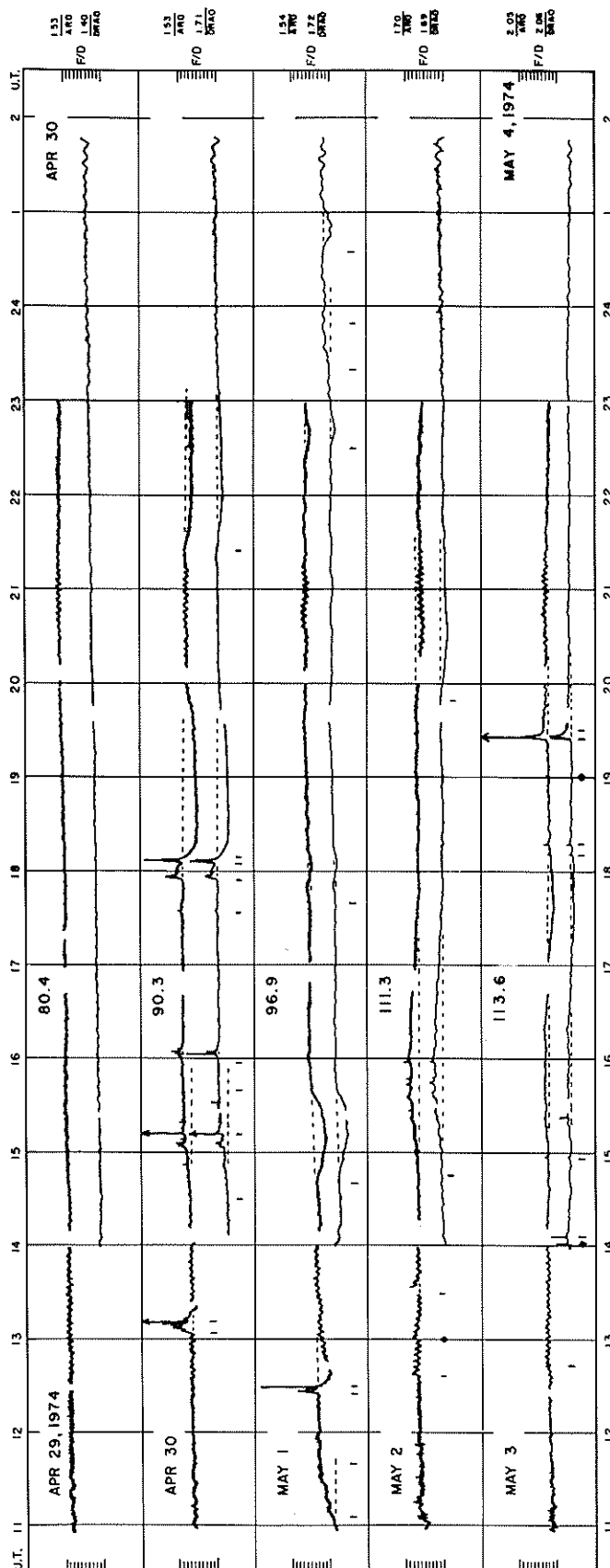
20
May 74

SERIES OF UNUSUAL MICROWAVE ABSORPTIONS,
April 30, May 1, 2 and 3, 1974

May 28, 1974
A.E. Covington

The variations in the microwave solar emission observed at ARO and at DRAO for the end of April and the beginning of May have been copied in detail from the slow speed records of 1 1/2 inches per hour in order to show profiles of bursts which do not occur frequently. The two traces have been edited to remove operational marks and in the accompanying photograph, one is displaced with respect to the other so that features in common can be readily recognized as being of true solar origin. The legend in the photograph gives a list of features to be noted in separating solar bursts from the quiet sun level. The records for April 29 do not have any bursts but do show a steady increase of the solar flux throughout the day which is also verified by the calibration; 80.9 flux units on the 29th and 90.3 on the 30th.

A list of events has been made from the monthly report together with starting times, type of burst and Solar Geophysical Data Code. Examples of the 'Oscillation' type of event shown for May 1 and 3 are not as outstanding as the prototype variation which occurred on March 30, 1966. The oscillatory event consists of a single burst of emission followed immediately by an absorption, or absorption followed by emission and are approximated by a single cycle of a sinusoid. A series of small oscillations of short duration was noted during the decline of the event of Aug. 1, 1949 as shown in Fig. 5 of Jour. Roy. Astro. Soc. of Can., page 53, Vol. 45, 1951. In keeping with past experiences, the observer at ARO correctly identified some of the absorptive events as caused by local snow storm and it was only the subsequent confirmation of the same feature from the DRAO records that enabled the true solar origin to be established.



SOLAR NOISE VARIATIONS AT 2800 MHZ AND 2700 MHZ COPIED FROM RECORDS MADE AT ALGONQUIN RADIO OBSERVATORY -ARO- AND FROM DOMINION RADIO ASTROPHYSICAL OBSERVATORY -DRAD- (RECORDS 1 1/2 INCH PER HOUR)

_____ DETAILED TRACE OF RESIDUAL RECEIVER NOISE
 _____ SMOOTH TRACE OF RESIDUAL RECEIVER NOISE
 _____ DETAILED ATMOSPHERIC SCINTILLATIONS FOLLOWED BY RECEIVER NOISE
 _____ SMOOTHED
 _____ DETAILED INTERFERENCE BETWEEN DIRECT AND REFLECTED WAVES FOLLOWED BY RECEIVER NOISE
 _____ SMOOTHED
 _____ QUIET DAILY SOLAR EMISSION AS ZERO REFERENCE FOR BURST
 _____ GAP IN RECORD FOR CALIBRATION OR OTHER ADJUSTMENT
 _____ OR ♦ START OF BURST
 _____ DAILY LEVEL OF QUIET SUN, 2800 MHZ SERIES C - OBSERVED VALUES
 F/D XXX
 ARO FLUX PER SMALL DIVISION AT OBSERVATORY INDICATED

DESCRIPTION OF SELECTED FEATURES FROM MONTHLY REPORTS
SOME LETTER SYMBOLS SUGGESTED BY UNDERLINES

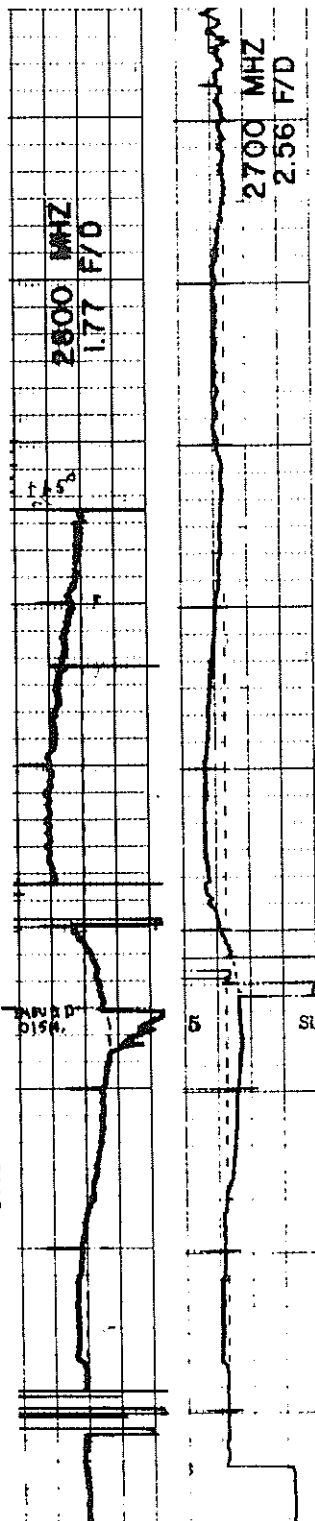
START	BURST TYPE	SGD CODE	START	BURST TYPE	SGD CODE
APR 29	NO BURSTS, ONLY QUIET SOLAR LEVEL	---	22 30	ABSORPTION	32
APR 30	13 03 SIMPLE III A F GRADUAL RISE & FALL	23	23 20	RISE ONLY	240
13 10 SPIKE	8		23 50	POST RISE ENHANCED LEVEL	24P
14 30 RISE ONLY A	25				
15 40 POST RISE ENHANCED LEVEL	24P		MAY 2	00 35 ABSORPTION	32
17 33 SIMPLE I	1		12 35	GROUP (2)	41
17 54 COMPLEX (2)	46			2 SIMPLE III BURSTS OBSCURED IN RIPLE	
18 09 POST BURST DECREASE	31		14 45	SIMPLE III F GRADUAL RISE AND FALL	22
21 25 ABSORPTION	32		19 50	ABSORPTION	32
MAY 1	11 05 RISE ONLY		12 42	SPIKE	8
11 40 POST RISE ENHANCED LEVEL	240		14 01	GROUP (2)	41
12 24 SIMPLE I F	2		14 56	SIMPLE I	1
12 30 POST BURST DECREASE	31		15 05	OSCILLATION	---
12 37 SPIKE	8		18 11	GROUP (2)	41
14 40 ABSORPTION	32		19 20	SIMPLE II BURST IMPULSIVE	4
17 40 OSCILLATION	---		19 30	POST BURST INCREASE	29

MAR 30, 1966

22
May 74

SNOW REMOVED FROM DISH

A.R.O.



D.R.A.O.

17 18 19 20 21 22 23 24 01

BURST CLASSIFICATIONS

START U.T.	ORIGINAL	TYPE REVISED	DURATION MIN	PEAK FLUX
17:17	SIMPLE 3	RISE & FALL	48 ^m	2.2
18:10	ABSORPTION	> OSCILLATION	105	-6.0
19:55	SIMPLE 3		145	+8.8
22:55	SIMPLE 3	RISE & FALL	85	2.6
01:13	SIMPLE 1	SPIKE	1	7.0

PIONEER IX

MAY 1974

Date May 1974	DSN Coverage (UT)	Data Time (UT)	ESP (°)	SOLAR WIND ¹				IP E-FIELD ² 400 Hz (mv)	IMF ³		COSMIC RAY PROTONS ⁴ (particles/sec)	
				U _{H+} (km/sec)	N _{H+} (H ⁺ /cc)	T _{H+} (x10 ⁶ °K)	TAU (days)		B (γ)	φ (°)	>13.9 Mev	>40 Mev
15	0419-1158	0500	-102.6	475.	---	---	-7.22	0.106	6.6	151	6.39	1.03
		0600		475.	---	0.746		.102	6.5	147	6.07	1.31
		0700		493.	---	.26		.095	6.5	141.	6.18	1.31
		0800		438.	---	---		.095	6.5	146.	6.2	1.26
		0900		---	---	---		---	---	---	---	---
		1000		412.	---	.155		.088	6.5	151.	6.1	1.01
		1100		411.	---	.223		.095	6.6	156.	6.37	1.13
		1200		542.**	---	---		.081	6.8	176.	6.16	1.24
16	1144-2036	1200	-102.8	430.**	---	---	-7.25	.091	6.4	138.	6.34	1.17
		1300		390.**	---	---		.088	6.4	135.	6.4	1.19
		1400		404.**	---	---		.097	6.5	138.	6.14	1.19
		1500		430.**	---	---		.081	6.1	135.	6.36	1.24
		1600*		486.**	---	---		.109	6.4	138.	6.14	1.19
17	1350-2127	1400	-102.9	363.	---	.042	-7.2	.25	6.5	128.	6.12	1.24
		1500		361.	---	.021		.258	6.8	140.	6.33	1.24
		1600		---	---	---		.243	7.1	116.	6.22	1.34
		1700		367.	---	.027		.187	7.5	139.	6.36	1.31
		1800		359.	---	---		.233	7.4	139.	6.18	1.13
		1900		358.	---	---		.167	6.6	136.	6.16	1.07
		2000		358.	---	---		.172	6.7	133.	6.31	1.27
		2100		355.	---	.017		.171	7.2	140.	6.14	1.2
18	1322-2130	1400	-103.3	369.	---	.055	-7.21	.218	5.8	103.	6.36	1.16
		1500		352.	---	---		.163	5.1	198.	6.39	1.24
		1600		357.	---	.061		.136	4.9	227.	6.42	1.1
		1700		376.	---	.072		.133	4.3	348.	6.47	1.53
		1800		353.	---	---		.148	3.8	152.	6.46	1.18
		1900		338.	---	---		.133	5.	228.	6.5	1.09
		2000		325.	---	---		.117	5.3	193.	6.38	1.17
		2100		336.	---	---		.132	4.8	218.	6.49	1.2
19	1322-2126	1400	-103.4	315.	---	.029	-7.19	.148	6.7	103.	6.43	1.19
		1500		314.	---	---		.164	6.6	097.	6.63	1.1
		1600		314.	---	---		.14	6.6	099.	6.49	1.27
		1700		313.	---	---		.14	6.	091.	6.5	1.14
		1800		310.	---	---		.113	5.4	099.	6.5	1.34
		1900		309.	---	---		.121	5.2	108.	6.43	1.13
		2000		316.	---	.023		.125	5.8	099.	6.6	1.31
		2100		309.	---	---		.121	5.9	095.	6.55	1.27
20	1324-2126	1400	-103.6	312.	---	---	-7.15	.163	4.5	081.	6.67	1.21
		1500		297.	---	.03		.171	3.1	056.	6.55	1.4
		1600		295.	---	.027		.148	4.3	061.	6.68	1.38
		1700		---	---	---		---	---	---	---	---
		1800		281.	---	.035		.129	---	---	6.6	1.31
		1900		287.	---	---		.148	5.	092.	6.63	1.2
		2000		282.	---	---		.136	4.8	073.	6.67	1.23
		2100		278.	---	---		.14	4.7	087.	6.64	1.24
21	1320-2126	1400	-103.7	280.	---	.042	-7.15	.148	10.7	078.	6.71	1.2
		1500		276.	---	.043		.156	9.3	032.	6.68	1.26
		1600		274.	---	.046		.155	8.3	333.	6.77	1.2
		1700		270.	---	---		.144	8.8	326.	6.65	1.24
		1800		276.	---	---		.14	9.2	306.	6.81	1.21
		1900		274.	---	---		.163	12.4	294.	6.6	1.34
		2000		273.	---	.028		.148	10.3	297.	6.69	1.6
		2100		266.	---	.032		.155	8.5	280.	6.61	1.21

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May 74

PIONEER IX

MAY 1974

Date MAY 1974	DSN Coverage (UT)	Data Time (UT)	ESP (°)	SOLAR WIND ¹				IP E-FIELD ² 400 Hz (mv)	IMF ³		COSMIC RAY PROTONS ⁴ (particles/sec)	
				U _{H⁺} (km/sec)	N _{H⁺} (H ⁺ /cc)	T _{H⁺} (x10 ⁶ °K)	TAU (days)		B (γ)	φ (°)	>13.9 Mev	>40 Mev
22	1326-2126	1400	-103.8	359.	---	---	-7.33	.148	13.3	327.	6.64	1.26
		1500		360.	---	.206		.148	---	---	6.89	1.25
		1600		379.	---	.132		.156	17.1	288.	6.66	1.29
		1700		379.	---	---		.148	21.	039.	6.84	1.43
		1800		367.	---	.133		.155	22.6	289.	6.68	1.46
		1900		373.	---	.096		.133	16.7	299.	6.82	1.27
		2000		365.	---	.112		.182	16.6	326.	6.74	1.19
		2100		372.	---	.087		.163	17.0	285.	6.85	1.2
23	1327-2114	1400	-104.	402.	---	.223	-7.4	.163	13.4	318.	6.92	1.34
		1500		422.	---	---		.14	12.9	293.	6.65	1.44
		1600		421.	---	---		.133	13.9	311.	6.78	1.38
		1700		419.	---	---		.125	13.8	321.	6.64	1.16
		1800		414.	---	---		.148	12.3	313.	6.84	1.19
		1900		428.	---	.185		.144	13.5	324.	6.74	1.26
		2000		434.	---	---		.155	10.1	294.	6.61	1.11
		2100		431.	---	.27		.156	10.6	325.	6.76	1.32
24	1339-2136	1400	-104.1	410.	---	.073	-7.42	.113	10.9	292.	6.85	1.22
		1500		402.	---	.133		.132	9.9	304.	6.73	
		1600		404.	---	---		.14	8.7	306.	6.74	1.19
		1700		---	---	---		---	8.5	053.	---	---
		1800		400.	---	.155		.172	9.4	332.	6.76	1.13
		1900		406.	---	.084		.121	11.	304.	6.82	1.19
		2000		399.	---	---		.125	10.7	335.	6.71	1.19
		2100		416.	---	.095		.121	11.4	288.	6.66	1.43

¹ Wolfe - NASA/ARC

² Scarf - TRW, Inc.

³ Sonett and Colburn - NASA/ARC

⁴ Webber - Univ. of N. H.

ESP = Earth-Sun Probe Angle.

Data sampled hourly unless otherwise noted.

* 1700-2000 data not usable.

** Peak velocity-Wolfe's least squares analysis not done. The extremely low N_{H⁺} during this coverage caused the Least Squares program to fail.

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																
1893	1971 DEC 20	T	A	A	A	A	A	A	A	T	T	T	T	-	T	T	T	T	T	T	T	T	T	T	-	T	T	T																
1894	1972 JAN 16	T	A	A	A	A	T	T*	T	T	T	T	T	T	T	T	T	T	A	A	A	T	T	T	T	T	TA	A																
1895	FEB 12	A	T	A	A	A	A	T	T	T	TA	A	-	A	T	T	T	T	TA	A	T	T	T	T	T	TA	A	A																
1896	MAR 10	A	A	A	A	A	A	A	A	A	A	A	T	A	T	T	T	T	A	A	T	T	T	T	T	T	A	A																
1897	APR 6	A	T	T	A	T	T	T	T	T	T	T	T	T	A	T	T	A	A	A	A	A	-	A	A	T	TA	A																
1898	MAY 3	A	A	A	-	A	T	T	T	T	T	T	T	T	A	A	T	A	A	A	A	A	T	A	T	T	A	T																
1899	MAY 30	A	A	*	A	A*	T	T	A	T	T	T	A	-	-	-	-	-	T	-	A	A	T	T	T	T	TA	A																
1900	JUN 26	A	A	A	A	A	A	A	AT	T	T	T	TA	A	T	T	A	A	A*	A*	A	T*	T	T	T	T	T	TA																
1901	JUL 23	A*	A*	A*	A	A	A	A	A*	T	T	A	A	A	-	A	T	T	T	T	T	A	T	T	T	T	A	-																
1902	AUG 19	-	-	A	A	A	A	A	T	A	A	A	A	T	A	A	A	T	T	T	T	A	A	T	A	A	A	-																
1903	SEP 15	A	T*	A	A	A	A	A	T	A	A	A	-	-	-	-	-	T	T	T	T	T	-	T	A	A	A	T																
1904	OCT 12	T	-	-	A*	T	T	T	A	A	T	A	A	A	A	A	AT	T	AT	T*	T	-	A*	AT	T	T	*	A																
1905	NOV 8	A	A	A	AT	AT	AT	T	T*	A	A	A*	AT	A	A	AT	T	T	TA	T	T	T	A	A	A	A	AT	T																
1906	DEC 5	T	T	AT	-	-	T	T	AT	-	T	T	A	-	-	T	TA	A	T	T	T	A*	T	T	T	T	AT	T																
1907	1973 JAN 1	T	T	T	T	T	T	T	-	AT	T	-	-	TA	A	A	A	A	A	A	T	-	-	T	-	T	-	T	T															
1908	JAN 28	T	A	T	T	T	T	T	T	A	TA	A	A	AT	TA	AT	TA	AT	-	A	A	T	T	T	T	T	T	T																
1909	FEB 24	T	T	TA	T	T	-	TA	A	A	T	A	A	A	AT	A	A	A	TA	A	A	TA	A	A	T	T	T	T																
1910	MAR 23	T	T	T	A	T	T	T	TA	A	TA	A	A	-	A	A	TA	A	A	AT	T	-	T	T	T	T	T*	T*																
1911	APR 19	T	AT	T	T	T	T	A	T	T	TA	A	A	A*	A	AT	TA	A*	T	A	TA	T*	AT	A	T	A	T	A*																
1912	MAY 16	T	T	T	T	T	T	TA	T	A	AT	T	A	A	A	A	A	A*	A	A	A	A	T*	-A	A	-	T	T																
1913	JUN 12	T*	T	-	T	T*	A	T	T*	T*	T	T	AT	A	A	T	-	T	A	A	A	A*	AT	-	T	A	A	T																
1914	JUL 9	T	T	A	T	T	A	T*	T*	A	AT	-	A	T	TA	T	T	T	A	A*	A	A*	TA	A	TA	T*	T*	T																
1915	AUG 5	T	A	A	AT	A	T	T*	T	*	AT	T	AT	T	A	TA	T	T	A	A	AT	A*	AT	A	A	TA	A*	A																
1916	SEP 1	TA*	T	T	AT	A	TA*	A	*	T	T	T	A	A	A	T	T	T	A	T	A	A*	A	T*	A	A	A*	A																
1917	SEP 28	A*	A	AT	T	A*	A	A	A	A	T*	A	AT	A*	AT	T*	AT	T	T*	T	T*	T*	AT	TA	A*	T	A*	A*	A	T	AT	A	AT	T	T*	T								
1918	OCT 25	T*	T	T*	T	A	TA	A*	A*	T	A	T	A	A*	A*	A	T	A	T	T*	T*	T*	T*	T*	T*	A	A	A	A	AT	A	TA	A*	T	A*	-	A	A						
1919	NOV 21	A	*	T*	T	-	A	A	A*	A	AT	T	A	T	A*	T*	TA	A*	A*	A*	A	T	TA	T	T	T	T*	T*	T*	T	T	TA	TA	A*	T*	T	-	T	A	A	T	T		
1920	DEC 18	T	T	AT	A	T	A*	T	A	TA	A*	T	A*	A	A	A*	AT	T	T*	T	T	T	T	A	T	AT	T	A	T	T	T	AT	TA	T	T	A	A*	T	AT	T				
1921	1974 JAN 14	T	A	A*	T	-	T	A	A	T	A	A	A	A*	-	A	A	-	AT	-	T*	T	T*	TA	T*	T	A	T*	T	T	A*	-	T	-	T	TA	A	-	-	T	T	-	A	
1922	FEB 10	A	-	A	-	*	A	A	A	A	A	A	A	TA	T	-	A	-	*	T	T	T	T	-	A	-	-	T	T	T	T	T	TA	T	T	T	T	T	T	A	A	A		
1923	MAR 9	A	A	A	A	A	A	A	A	A	T	T	TA	TA	A	AT	A	A	A	T	A	T	TA	T	A	T	A	T	A	A	T	T	T	T	T	TA	T	TA	T	TA	TA	-	A	TA
1924	APR 5	A	A	A	A	-	TA	A	A	A	A	A	A	A	A	A	A	T	T	TA	TA	T	T	T	T	T	T	T	A	A	AT	T	A	A	A	-	-	-	-	-	-			
1925	MAY 2	-	-	A	A	A*	AT	T	A	AT	AT	T	A	T*	TA	A	A	TA	T*	A	A*	AT	AT	T	T	T	T	T	T	A	-	T	T	TA	T*	T	T	A	-	-	-	-	-	
1926	MAY 29	T	T	A	A	*																																						

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

The table shows daily inferences of the polarity of the interplanetary magnetic field made from magnetograms produced by magnetometers at the Vostok Antarctic Station of the USSR for the first half of the day and the Thule Geopole Station of the U.S. Air Weather Service for the second half.

APRIL 1974 DATA

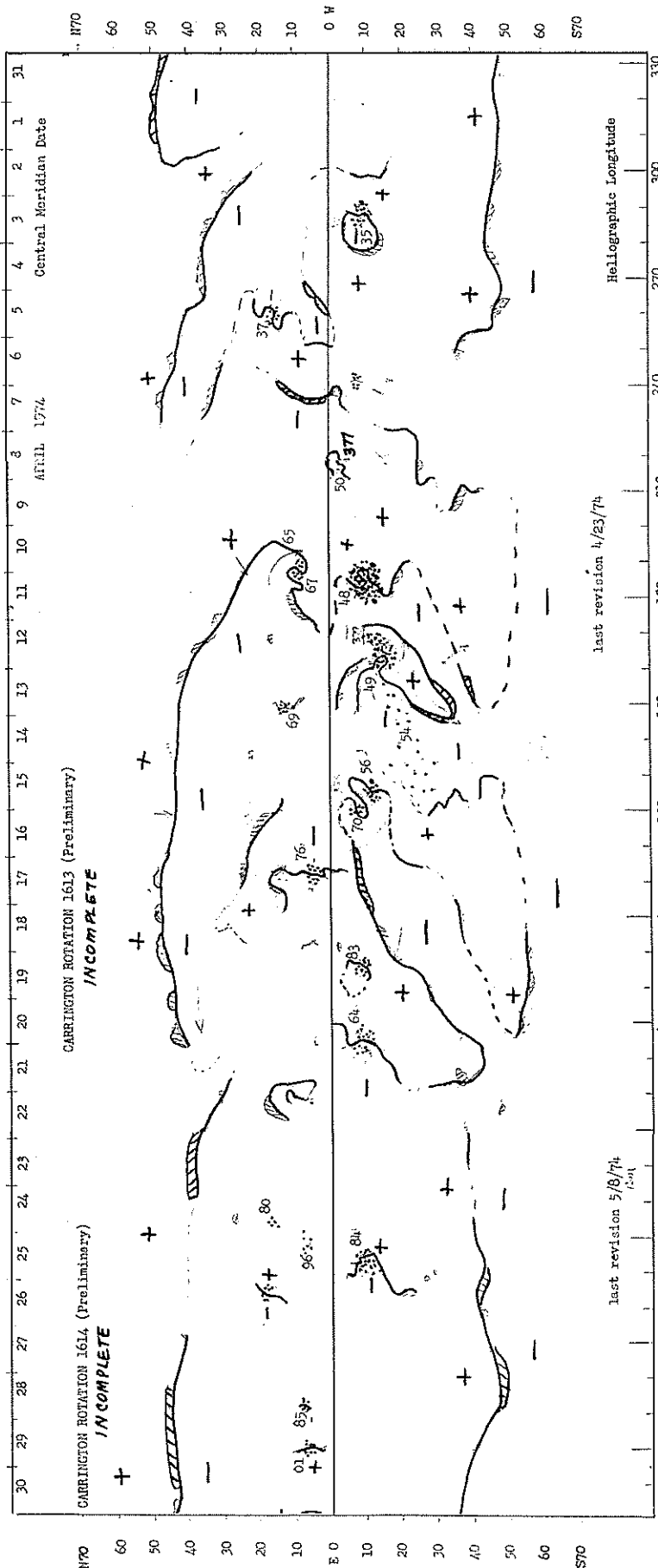
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For explanations of the data contained here in see *Descriptive Text* published as supplement to February 1974 *Solar-Geophysical Data* (Number 354).

H α SYNOPTIC CHART

APRIL 1974



Errata: The longitudes on the synoptic charts have been labeled "Carrington longitude". These longitudes are, in fact, in the heliographic system. This change should also be noted on page 20 of the *Descriptive Text* published February 1974 including the reference to L0, as shown on the pages of solar maps which follow.

APRIL 1, 1974 (P = -26.20, B₀ = -6.54, L₀ = 318.21)

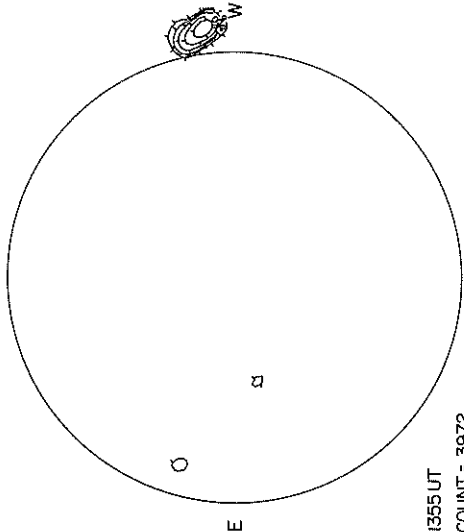
NASA GSFC
OSO - 7

X-RAY
8-16A

McMATH-HULBERT

CALCIUM REPORT

Np



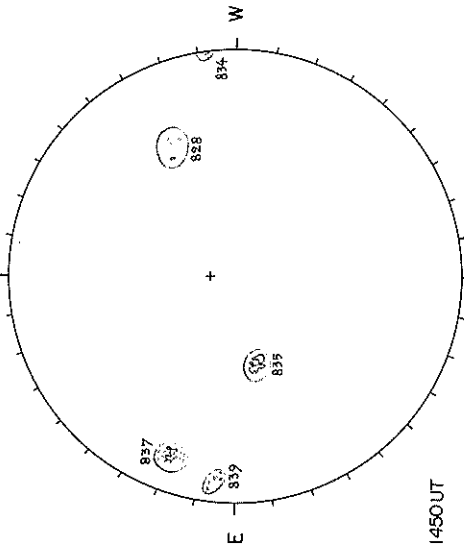
1355 UT

COUNT = 3972
ROLL = 52.8°
P-TH = -3.20

Counts per 0.125 sec.

Sp

Np



1450 UT

GOOD	M
35-0700	-2.5
37-0600	-2.5

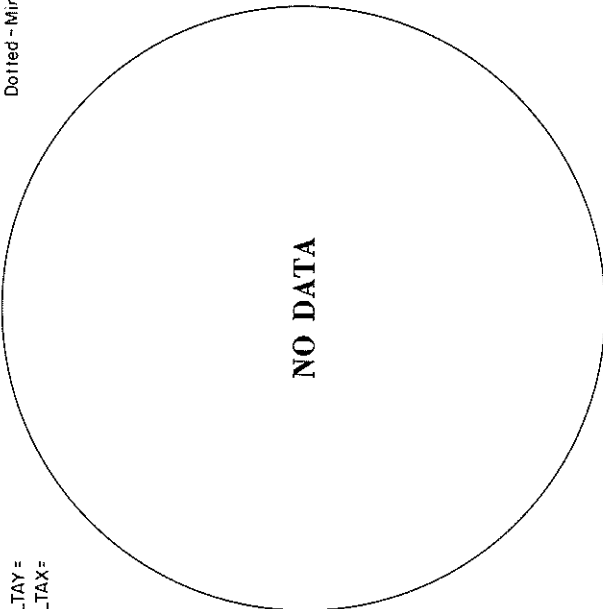
MT. WILSON

Np

MAGNETOGRAM

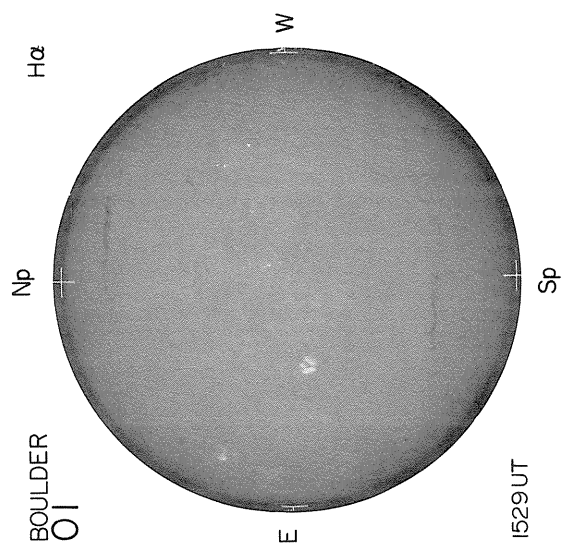
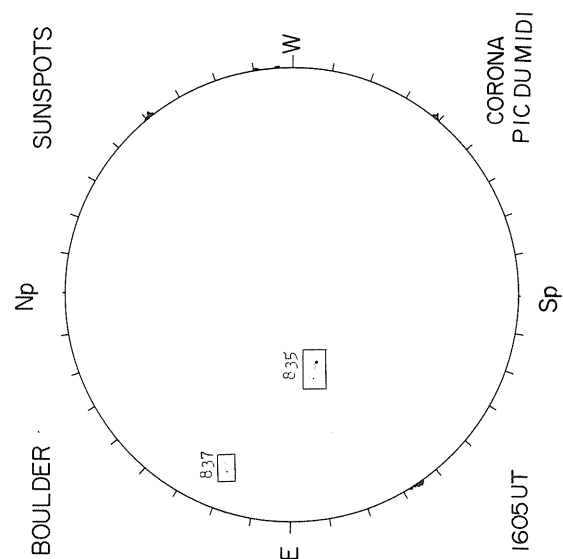
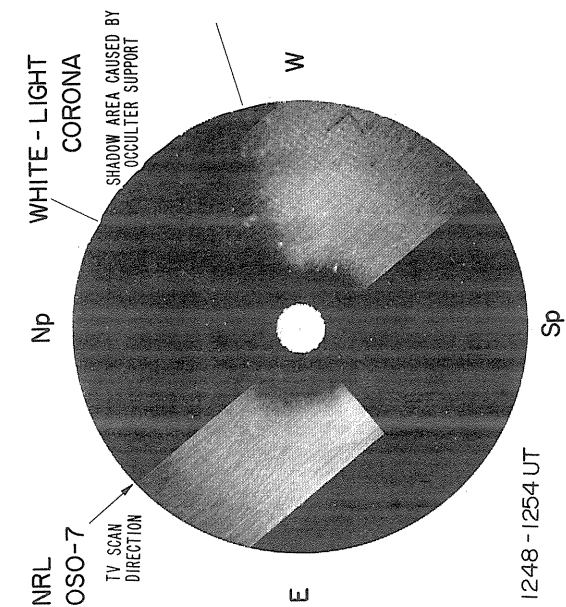
Solid - Plus
Dotted - Minus

DELTA Y =
DELTA X =



Note: The Princeton Hill Observatory has ceased operation on 8.6 mm.
A replacement map at this frequency is expected.

Levels
± 5
± 10
± 20
± 40
± 80



APRIL 2, 1974 (P = -26.24, B₀ = -6.49, L₀ = 305.02)

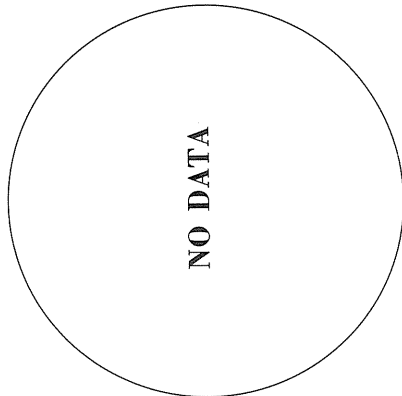
NASA GSFC
OSO - 7

X-RAY
8-16A

McMATH-HULBERT

CALCIUM REPORT

Np

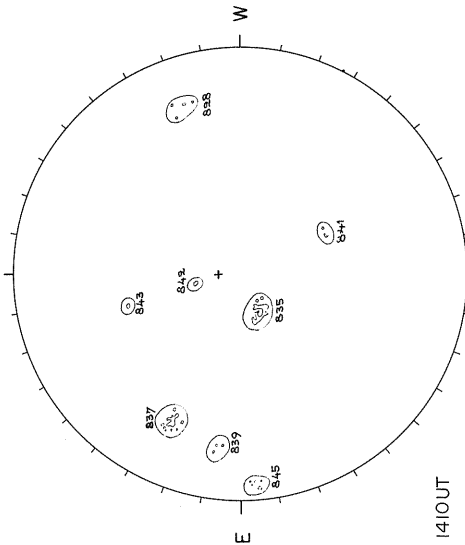


NO DATA

W

E

Np



1410UT

GOOD M
37 - 0800 - 2.5

COUNT =
ROLL =
P-TH =

Counts per 0.125 sec.

Sp

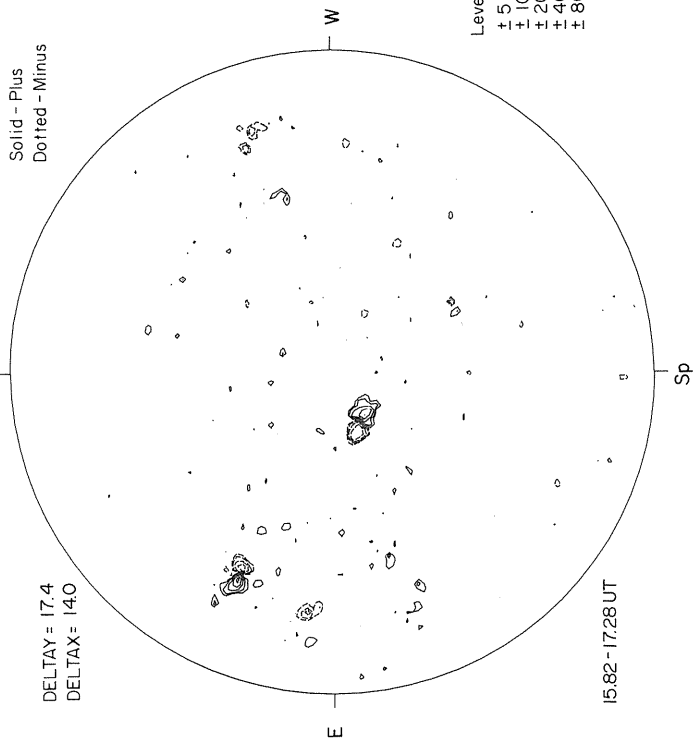
MT. WILSON

Np

MAGNETOGRAM

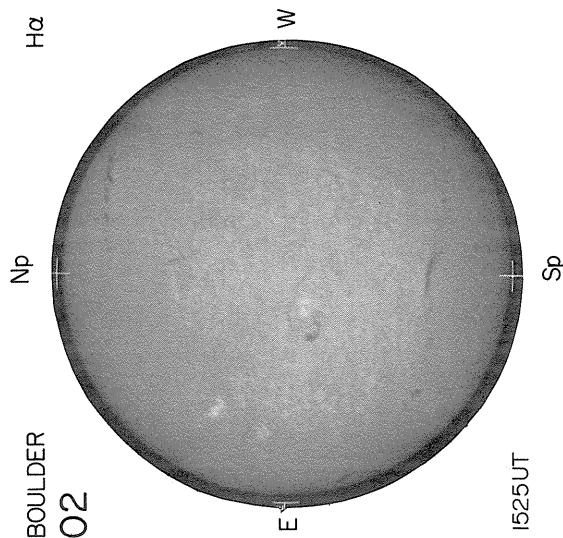
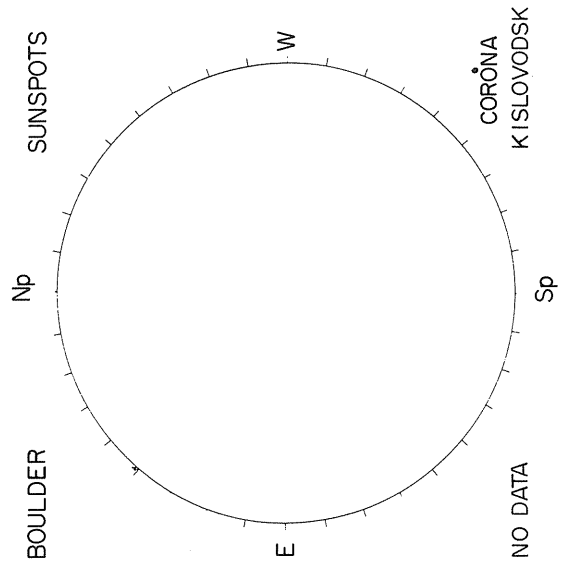
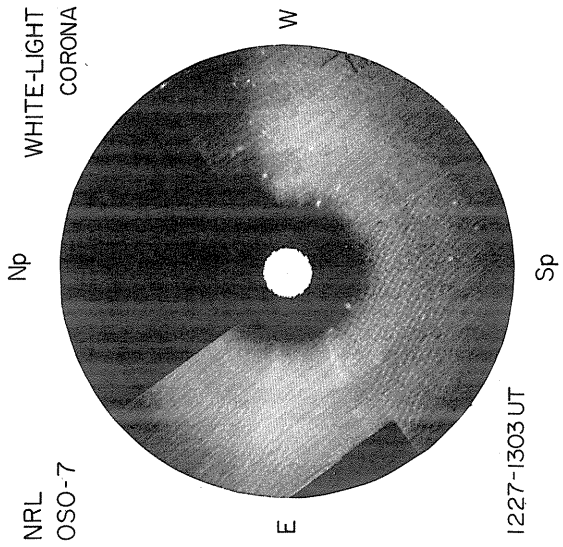
Solid - Plus
Dotted - Minus

DELTA Y = 17.4
DELTA X = 14.0



15.82 - 17.28 UT

Levels
±5
±10
±20
±40
±80



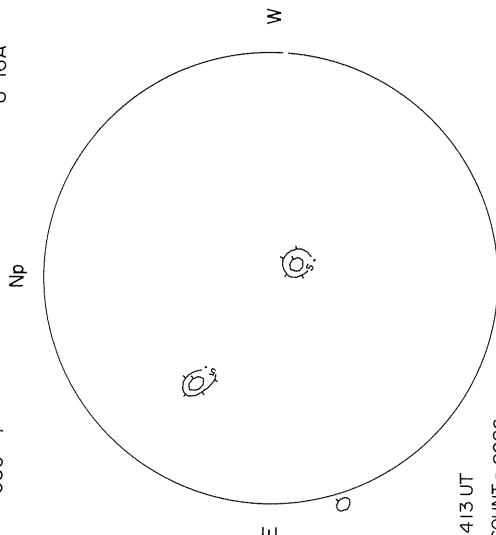
APRIL 3, 1974 (P = -26.27, B₀ = -6.43, L₀ = 291.82)

NASA GSFC
OSO-7

X-RAY
8-16A

McMATH-HULBERT

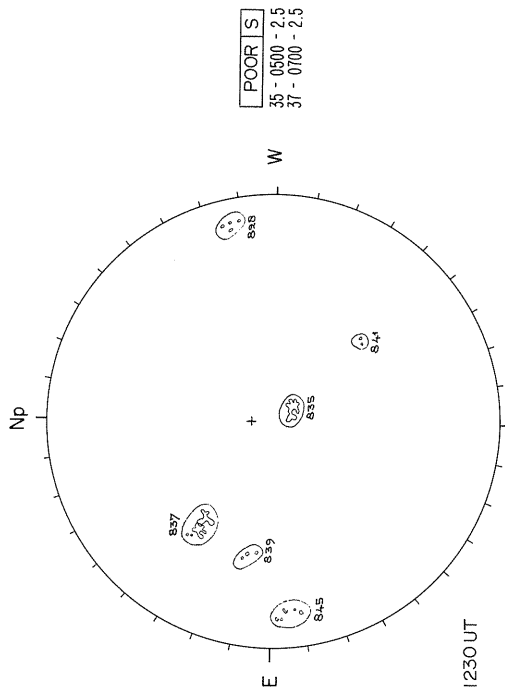
CALCIUM REPORT



1413 UT

COUNT = 2986
ROLL = 53.9°
P-TH = -3.42

Counts per 0.125 sec.

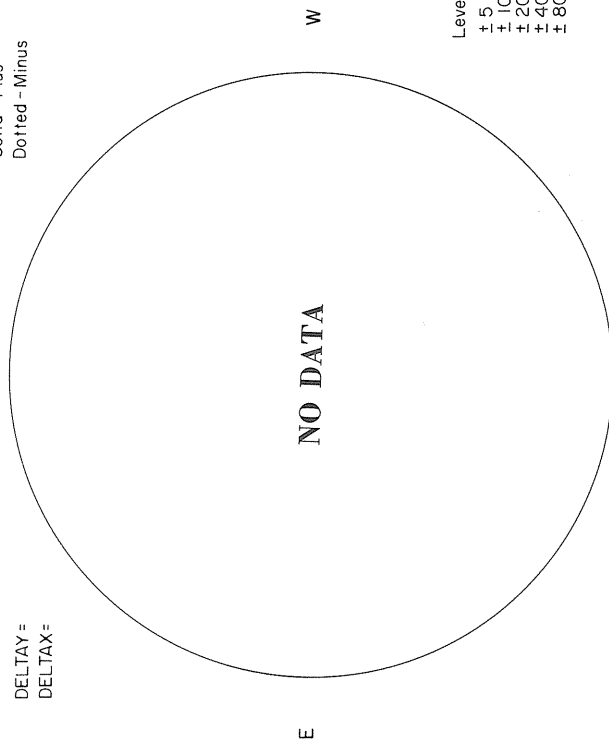


1230 UT

POOR IS
35 - 0500 - 2.5
37 - 0700 - 2.5

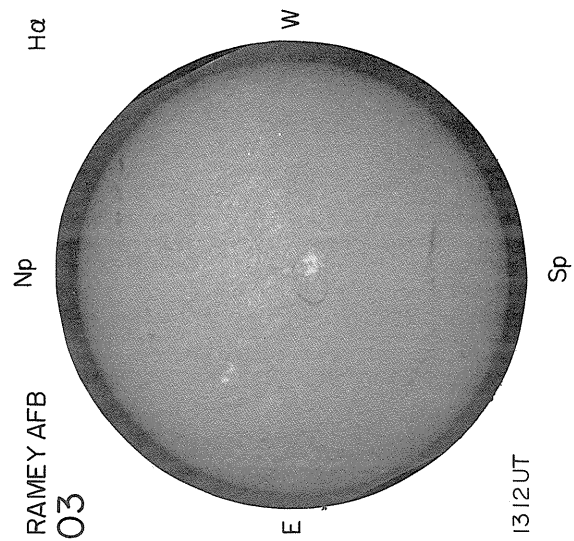
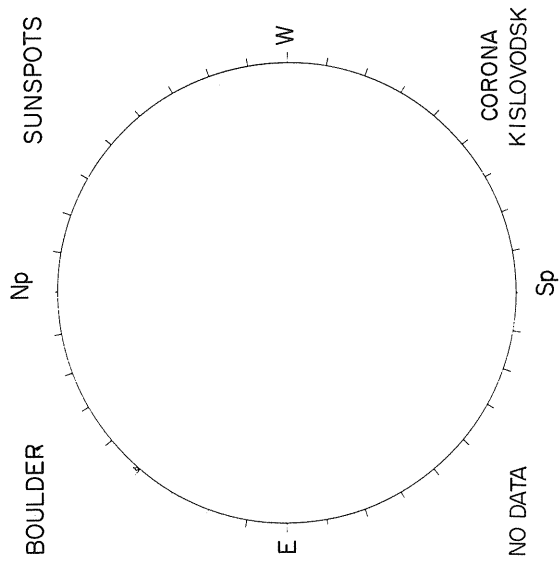
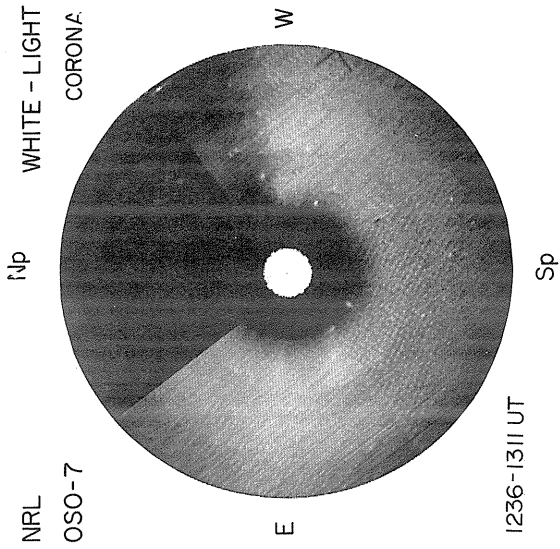
MT. WILSON

MAGNETOGRAM
Solid - Plus
Dotted - Minus



Sp

Levels
+5
+10
+20
+40
+80



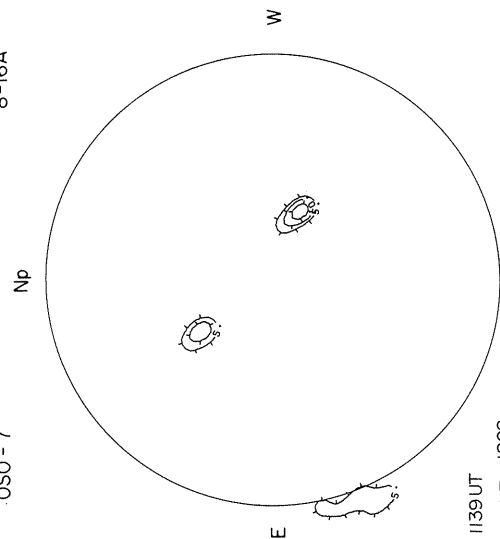
APRIL 4, 1974 (P = -26.30, B₀ = -6.37, L₀ = 278.63)

NASA GSFC
OSO-7

X-RAY
8-16A

McMATH-HULBERT

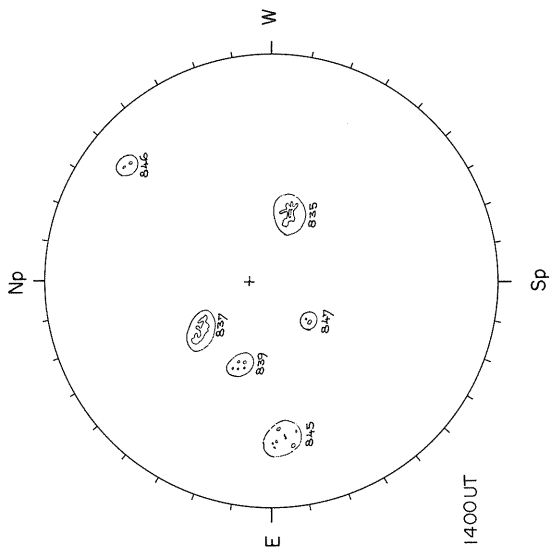
CALCIUM REPORT



1139 UT

COUNT = 1802
ROLL = 54.3°
P-TH = -352

Counts per 0.125 sec.



1400 UT

GOOD	M
35 - 0500	- 2.5
37 - 0600	- 2.5

MAGNETOGRAM

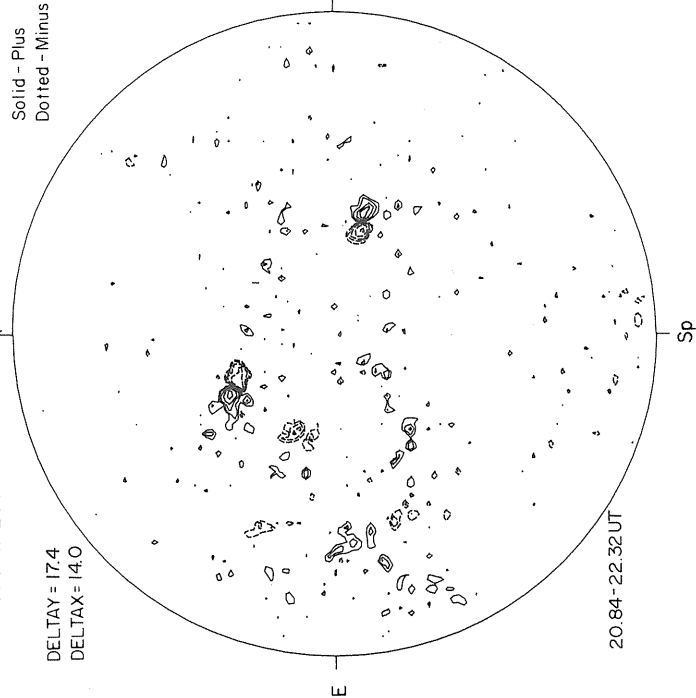
Solid - Plus
Dotted - Minus

MT. WILSON

DELTA Y = 17.4
DELTA X = 14.0

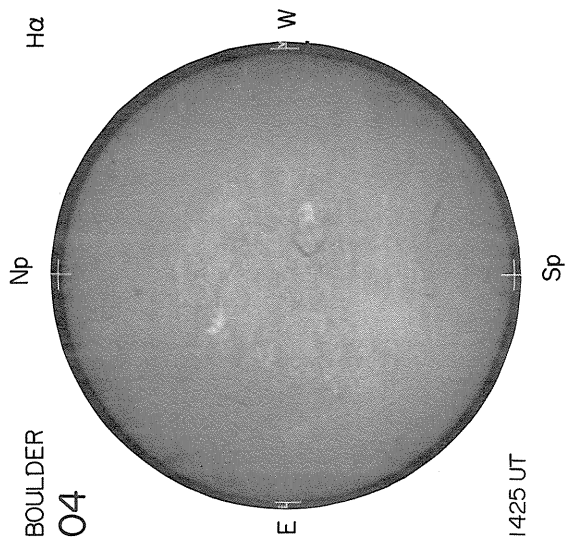
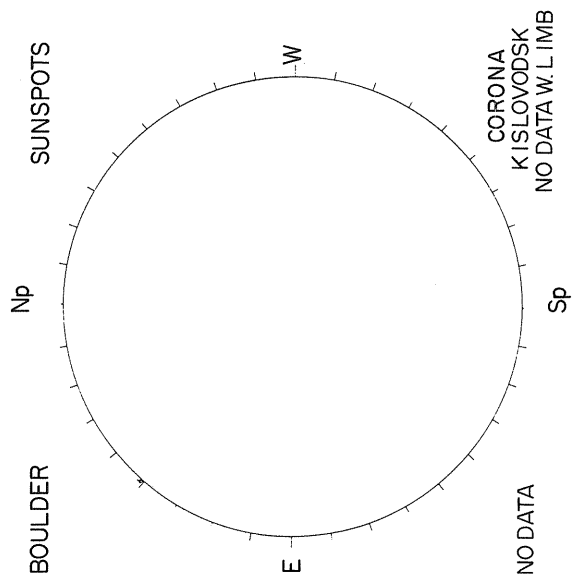
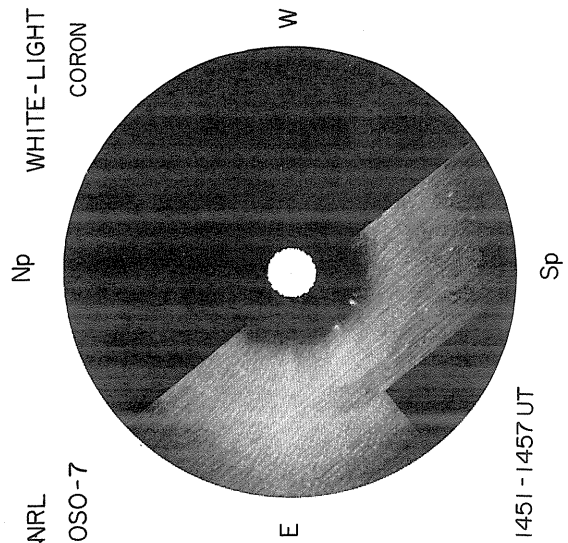
Np

Sp



20.84 - 22.32 UT

Levels
+5
+10
+20
+40
+80



BOULDER
04

APRIL 5, 1974 (P = -26.32, B₀ = -6.31, L₀ = 265.43)

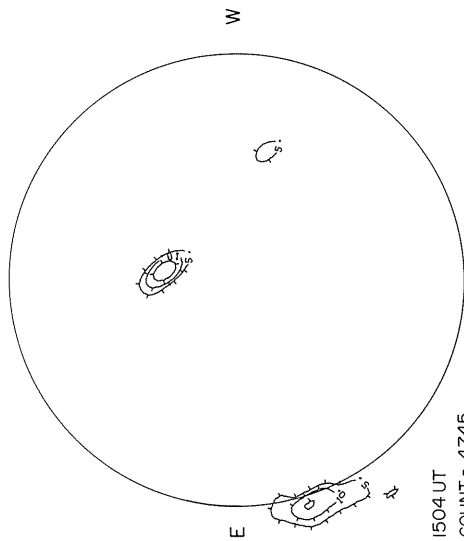
McMATH-HULBERT

X-RAY
8-16A

NASA GSFC
OSO-7

Np

Np

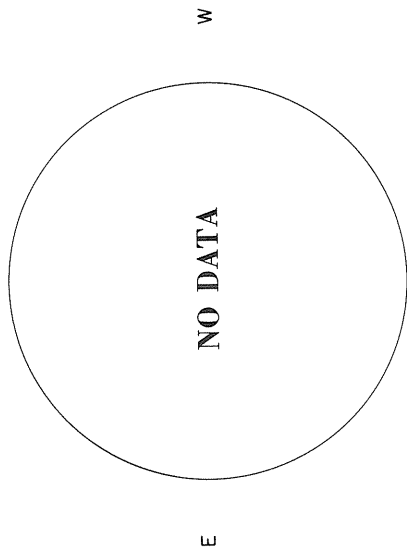


1504 UT
COUNT = 4745
ROLL = 55.4°
P-TH = -3.64

Counts per 0.125 sec.

Np

Sp



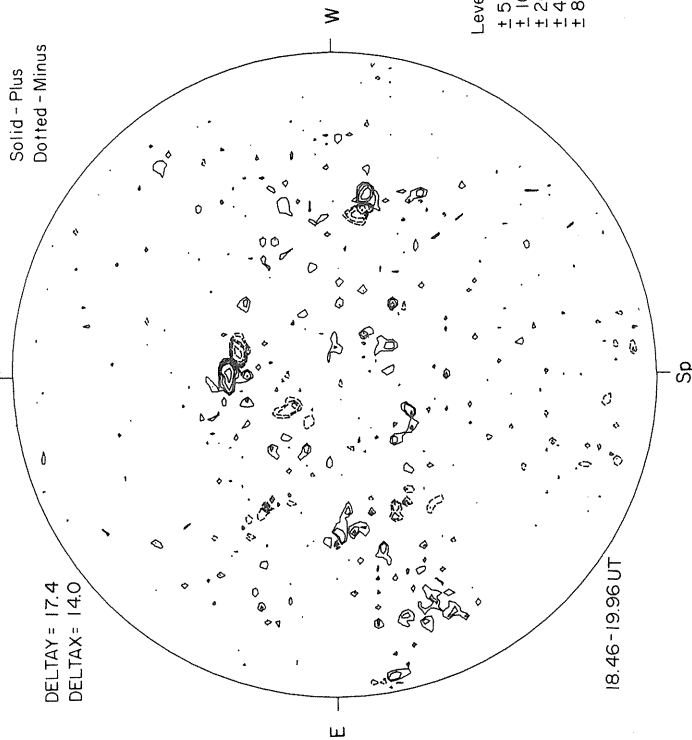
MT. WILSON

Np

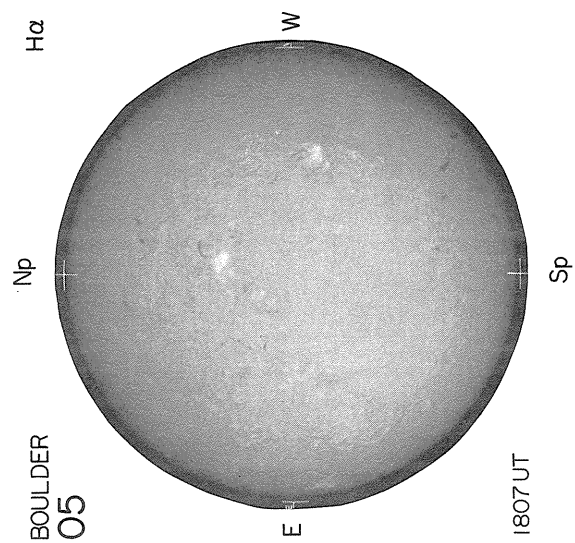
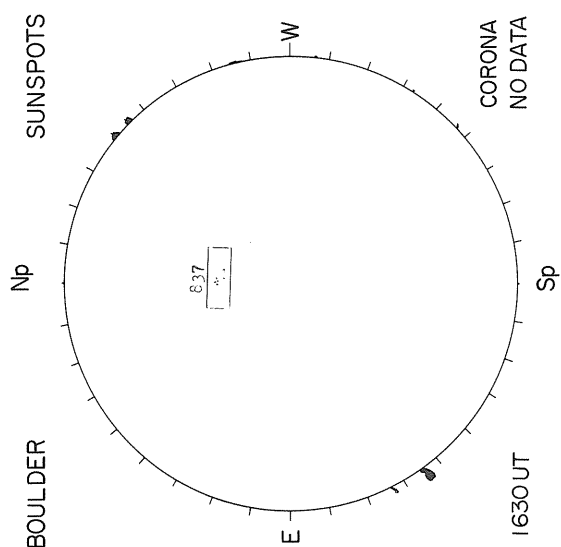
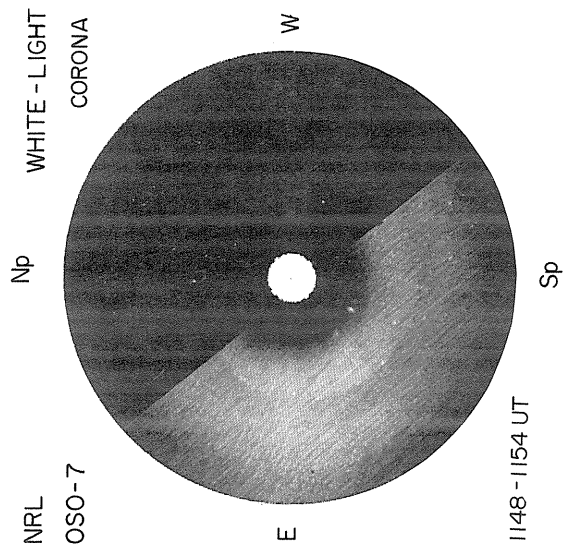
Sp

MAGNETOGRAM
Solid - Plus
Dotted - Minus

DELTA Y = 17.4
DELTA X = 14.0



18.46-19.96 UT



40
Apr 74

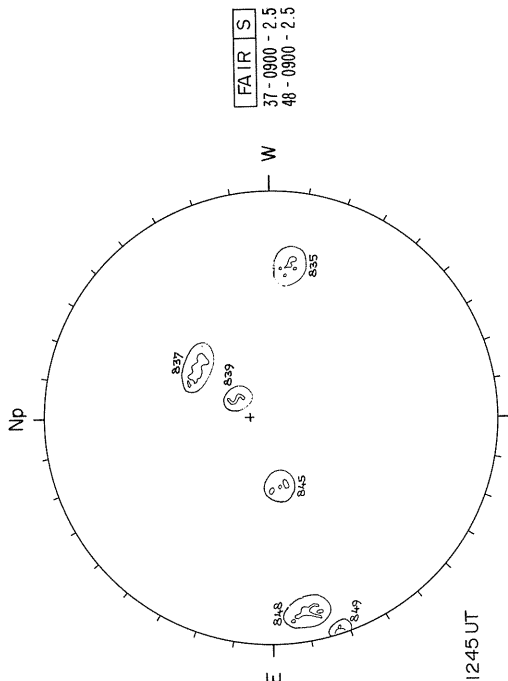
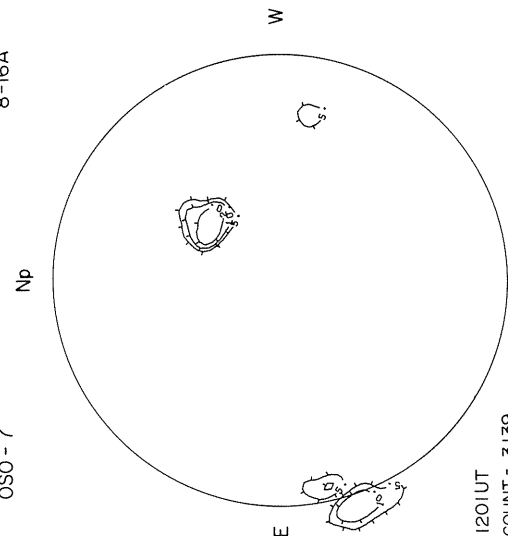
APRIL 6, 1974 (P=-26.33, B₀=-6.25, L₀=252.24)

NASA GSFC
OSO-7

X-RAY
8-16A

McMATH-HULBERT

CALCIUM REPORT



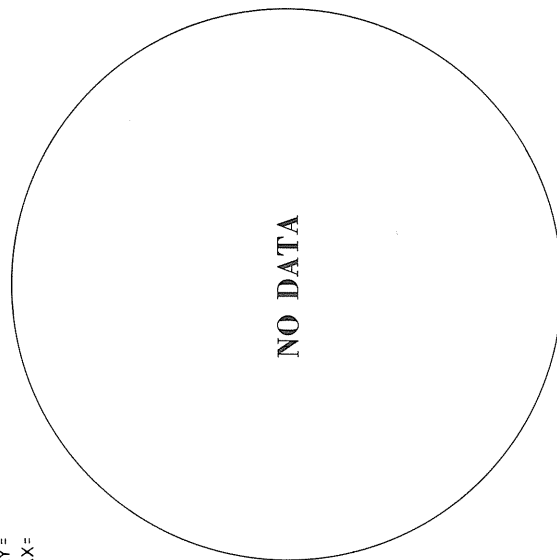
MAGNETOGRAM
Solid - Plus
Dotted - Minus

Np

MT. WILSON

Sp

DELTA Y =
DELTA X =

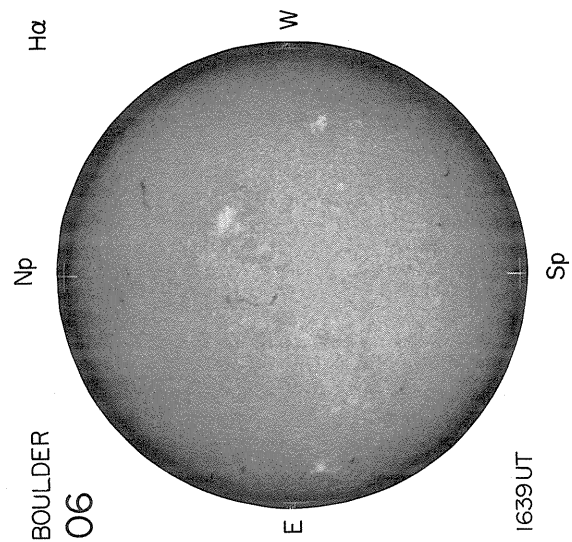
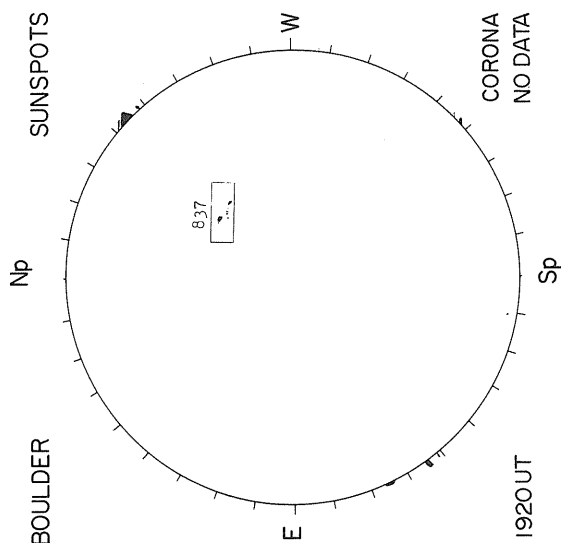
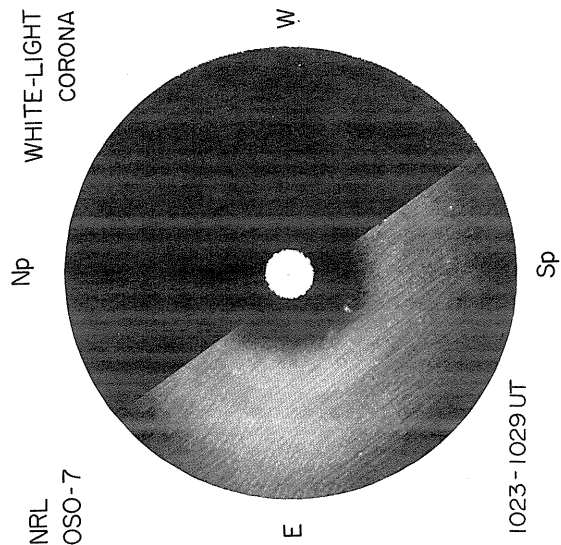


W

E

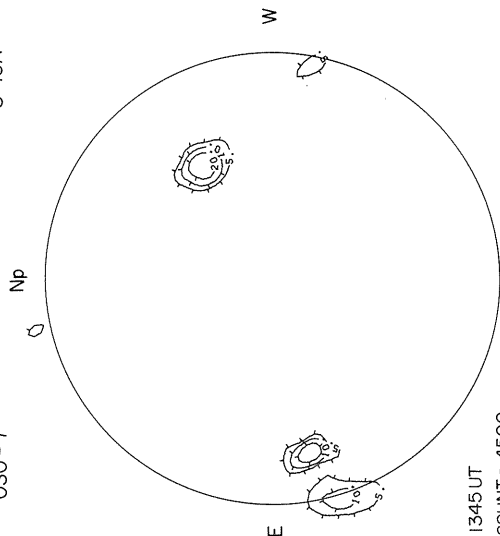
Levels
± 5
± 10
± 20
± 40
± 80

Sp



APRIL 7, 1974 (P=-26.34, B₀=-6.18, L₀=239.04)

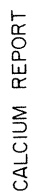
X-RAY
8-16A



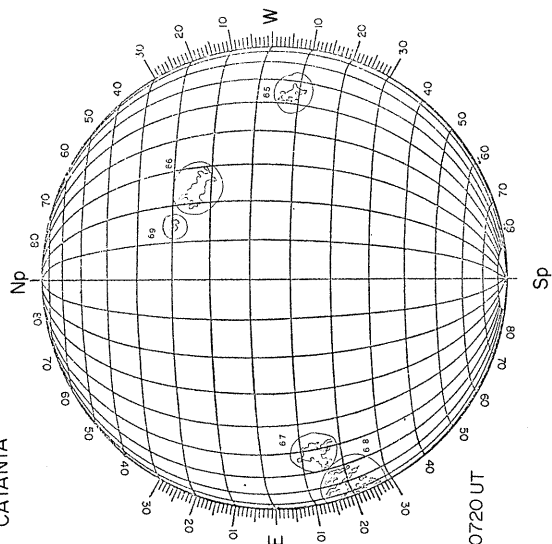
COUNT = 4500
ROLL = 59.0°
P-TH = -3.85

Counts per 0.125 sec.

Sp



CATANIA



0720 UT

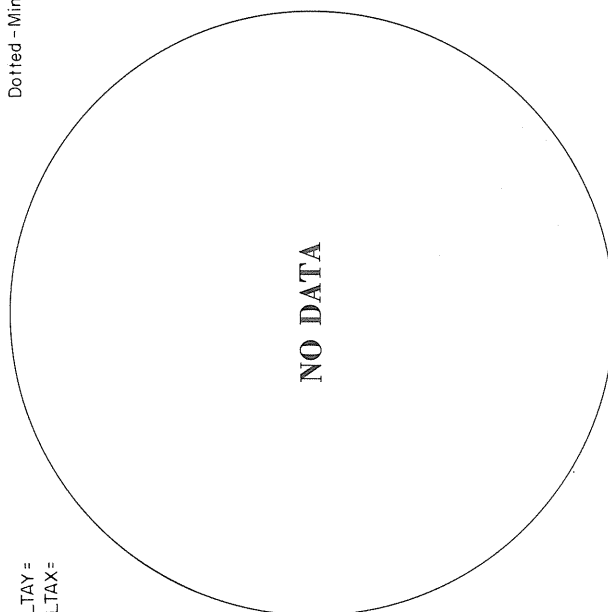
FAIR	SS
66 - 1512	--
67 - 1961	--

2

MT. WILSON

MAGNETOGRAM

Solid - Plus
Dotted - Minus

DELTA Y =
DELTA X =

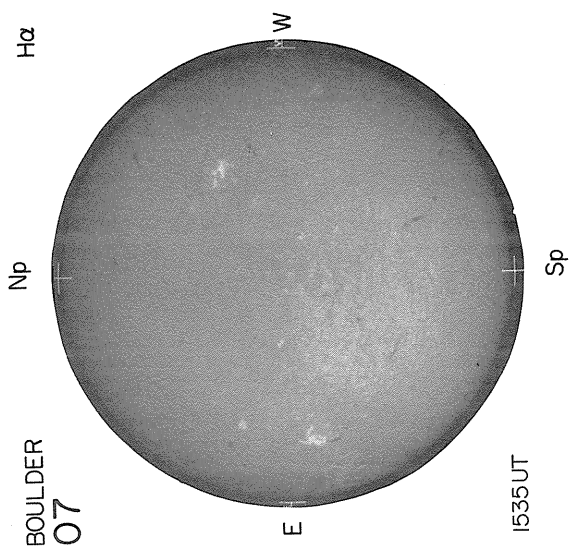
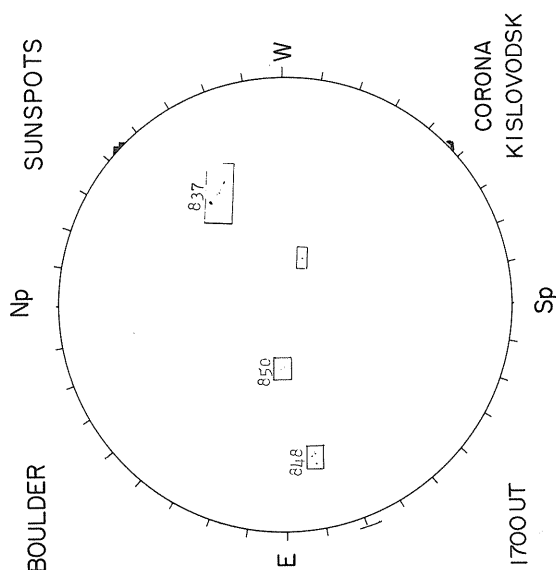
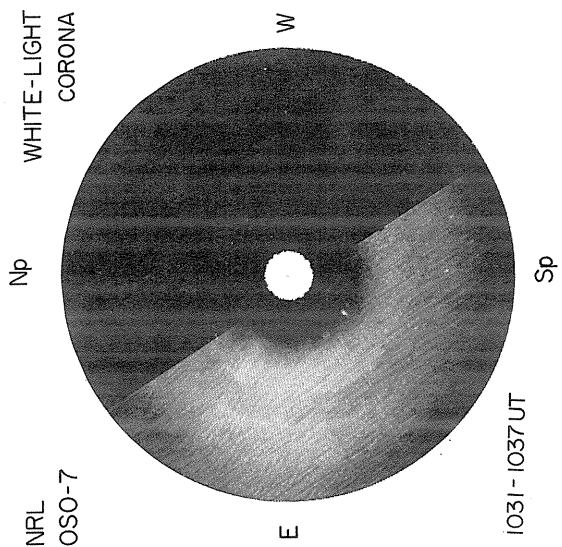
W

NO DATA

W

50

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



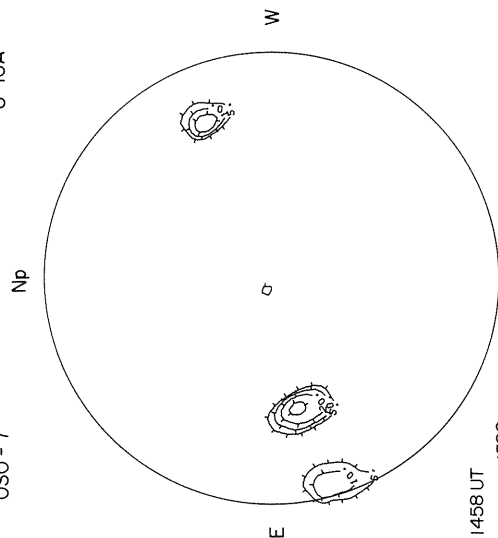
APRIL 8, 1974 (P = -26.33, B₀ = -6.12, L₀ = 225.84)

NASA GSFC
OSO-7

X-RAY
8-16A

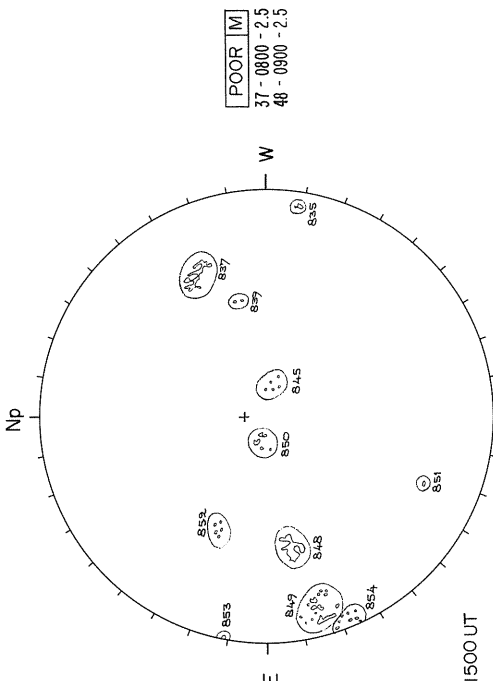
McMATH-HULBERT

CALCIUM REPORT



1458 UT
COUNT = 1589
ROLL = 61.5°
P-TH = -3.96

Counts per 0.125 sec.



POOR IM
37 - 0800 - 2.5
48 - 0900 - 2.5

1500 UT

Sp

Counts per 0.125 sec.

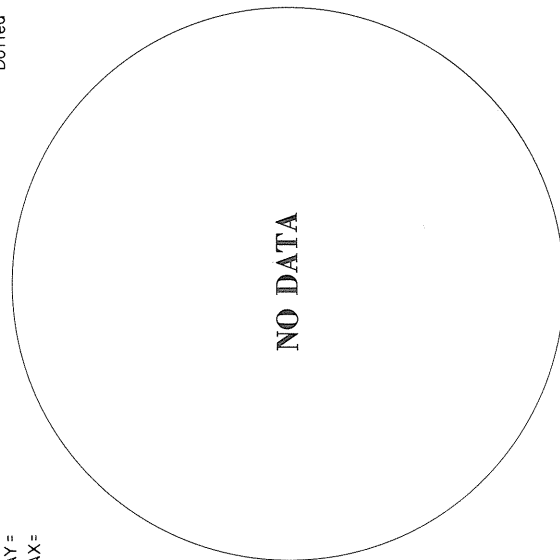
MT. WILSON

Np

MAGNETOGRAM

Solid - Plus
Dotted - Minus

DELTA Y =
DELTA X =



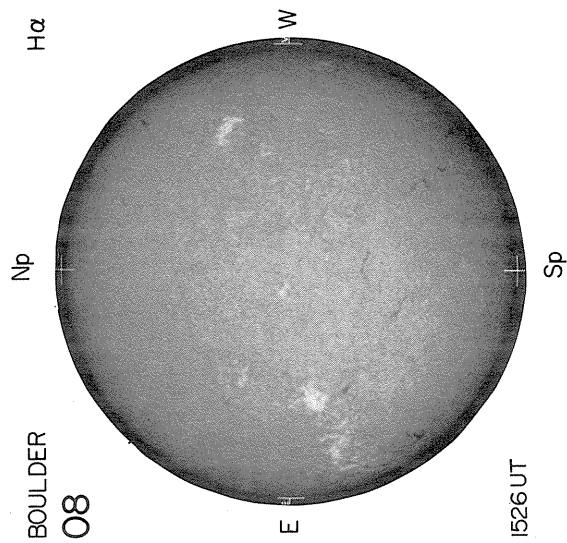
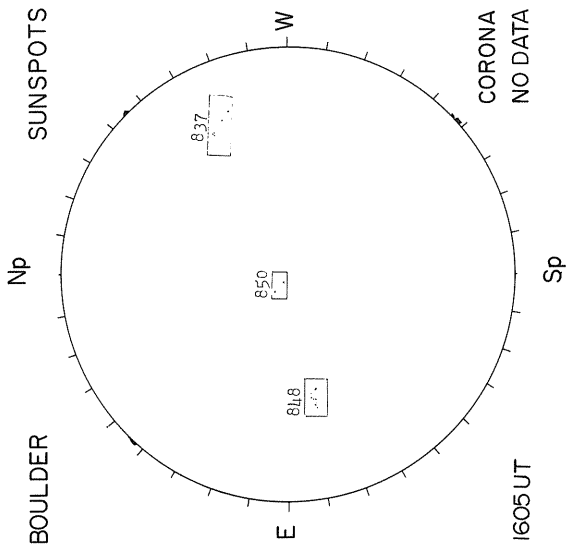
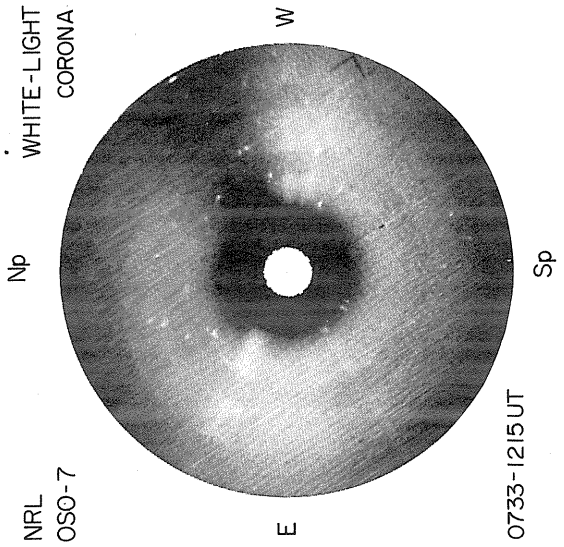
NO DATA

E

W

Levels
+5
+10
+20
+40
+80

Sp

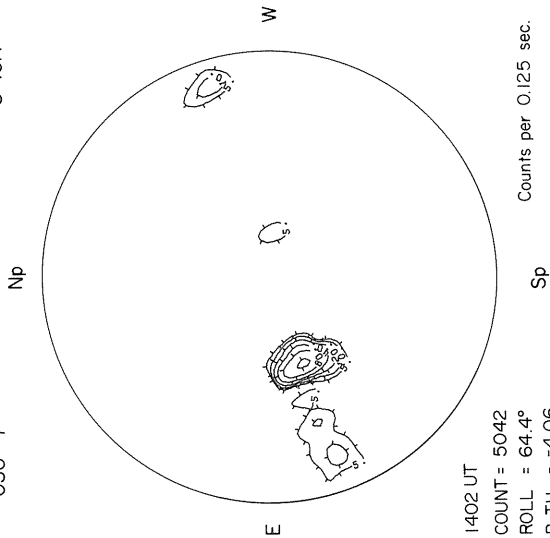


APRIL 9, 1974 (P = -26.32, B₀ = -6.05, L₀ = 212.64)

46
Apr 74

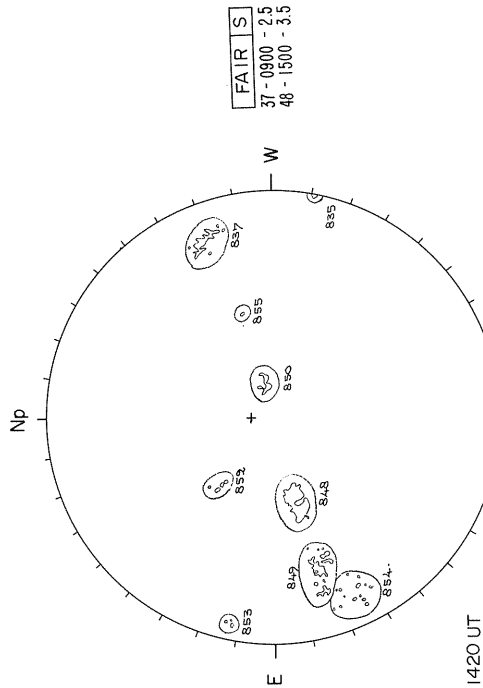
NASA GSFC
OSO - 7

X-RAY
8-16A



McMATH-HULBERT

CALCIUM REPORT

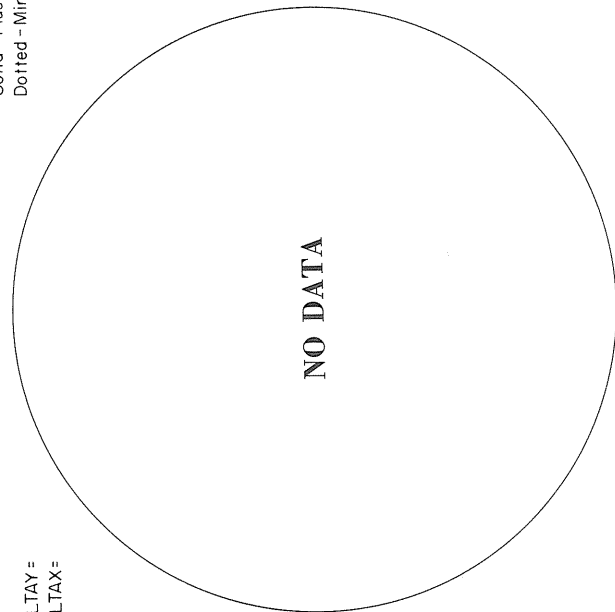


MAGNETOGRAM
Solid - Plus
Dotted - Minus

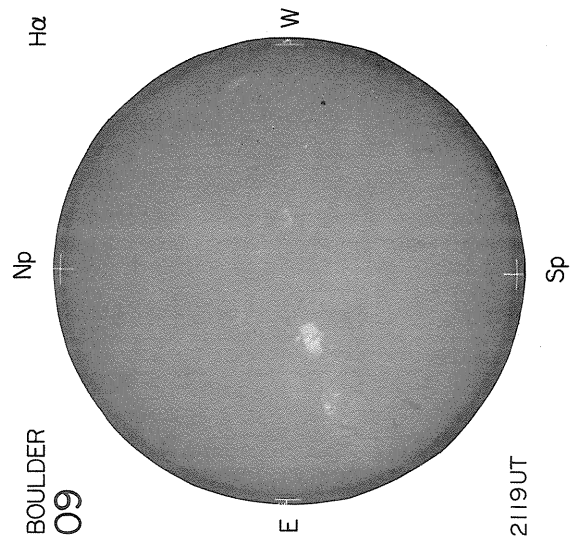
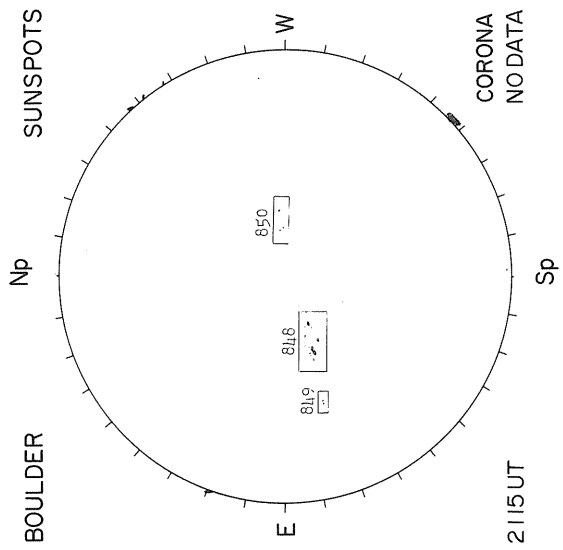
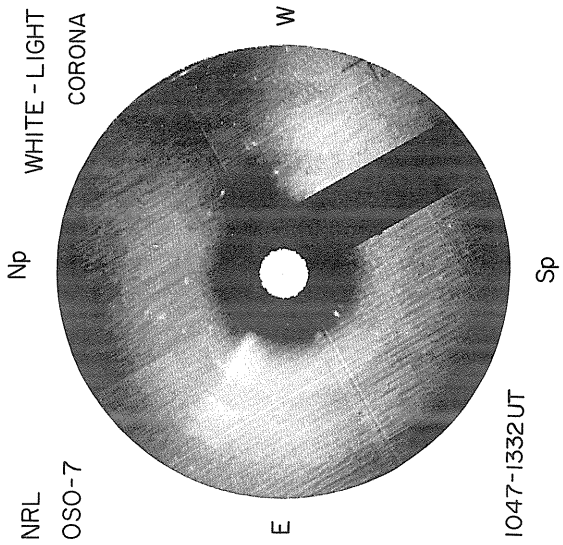
Np

MT. WILSON

DELTA Y =
DELTA X =



Levels
+ 5
+ 10
+ 20
+ 40
+ 80



APRIL 10, 1974 (P = -26.3I, B₀ = -5.98, L₀ = 199.44)

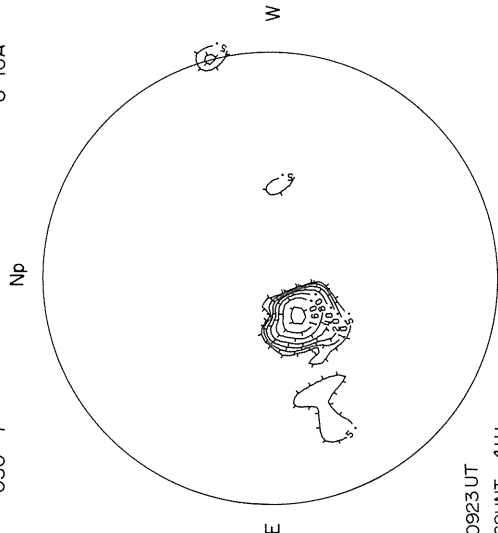
48
Apr 74

NASA GSFC
OSO-7

X-RAY
8-16A

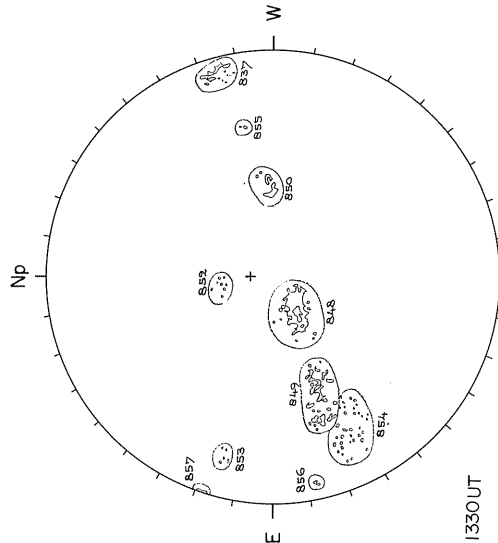
McMATH-HULBERT

CALCIUM REPORT



0923 UT

COUNT = 4111
ROLL = 66.2°
P-TH = -4.15



1330 UT

GOOD	M
37 - 0800 - 2.5	
48 - 1900 - 3.5	
49 - 1200 - 2.5	
50 - 0500 - 2.5	

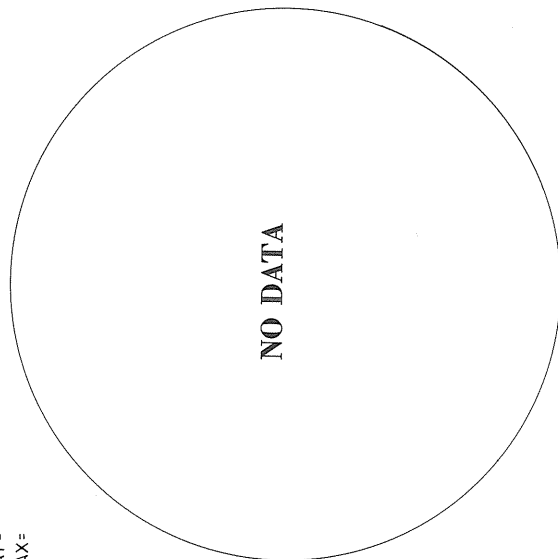
MAGNETOGRAM
Solid - Plus
Dotted - Minus

Np

MT. WILSON

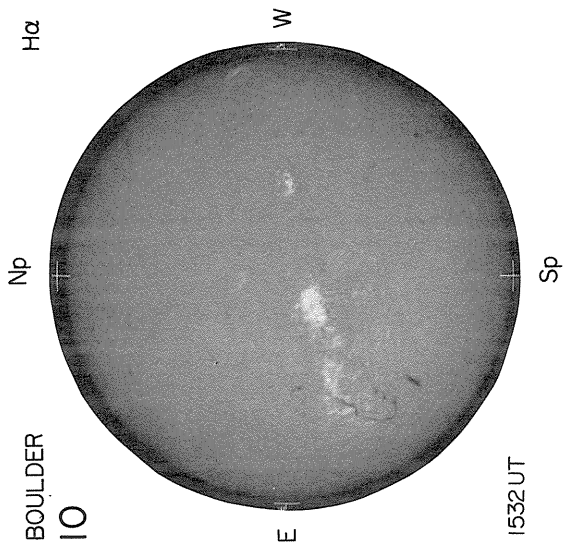
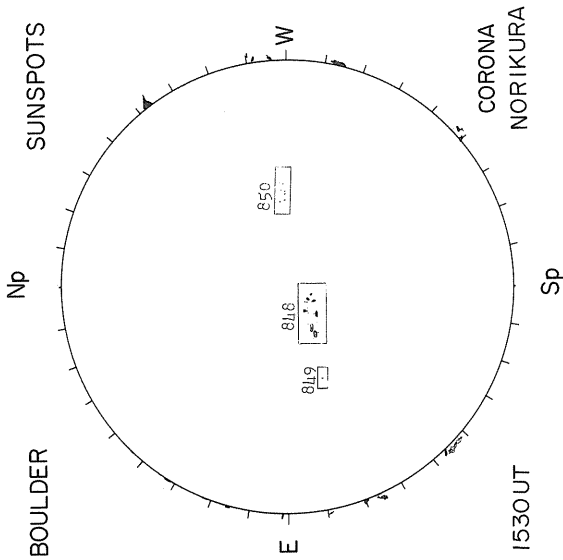
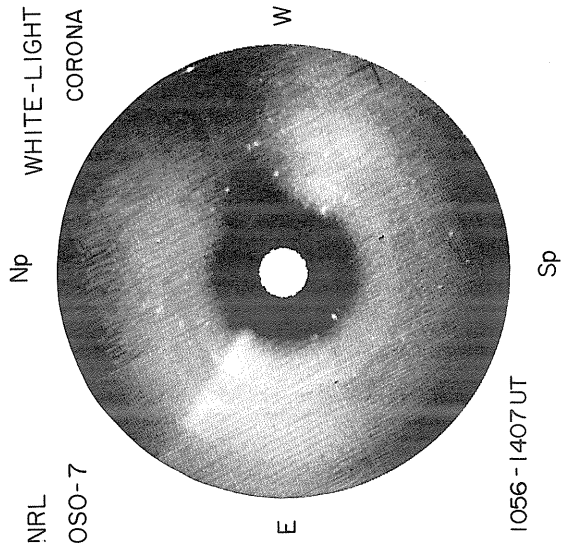
Sp

DELTA Y =
DELTA X =



NO DATA

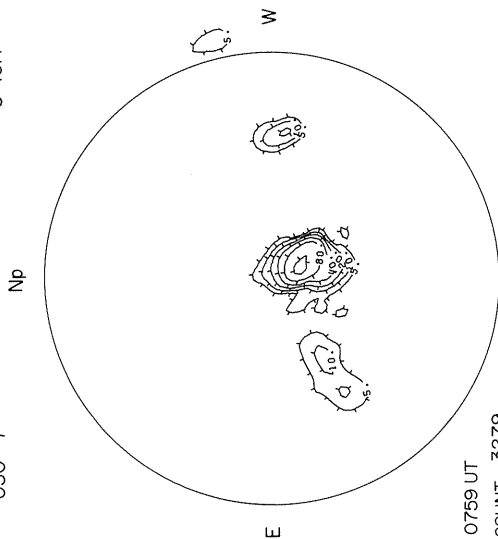
Levels
± 5
± 10
± 20
± 40
± 80



50
Apr 74

APRIL 11, 1974 (P = -26.28, B₀ = -5.91, L₀ = 186.24)

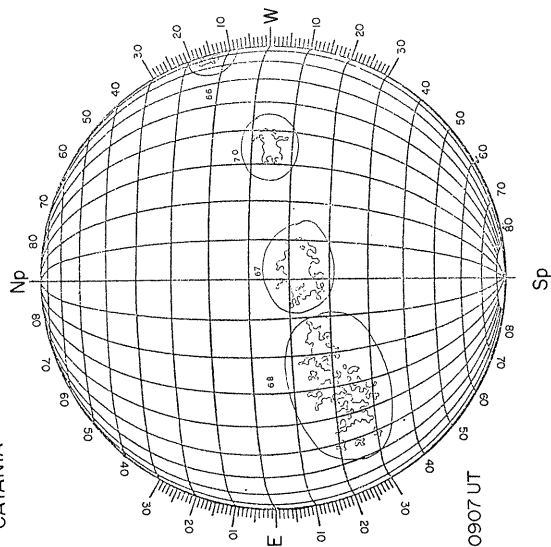
NASA GSFC
OSO-7



0759 UT
COUNT = 3279
ROLL = 66.6°
P-TH = -4.24

CALCIUM REPORT

CATANIA



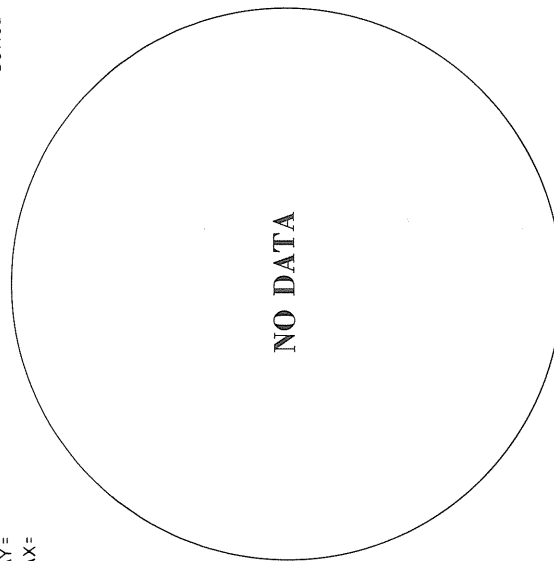
FAIR GD
66-3228 ---
70-1817 ---
67-4793 ---
68-6356 ---

MAGNETOGRAM
Solid - Plus
Dotted - Minus

MT. WILSON

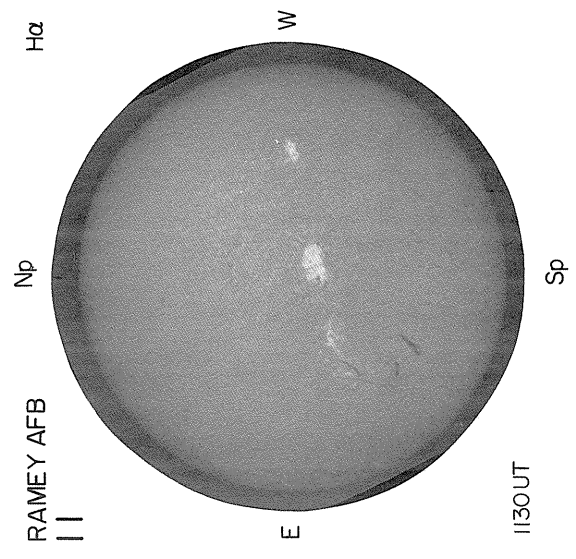
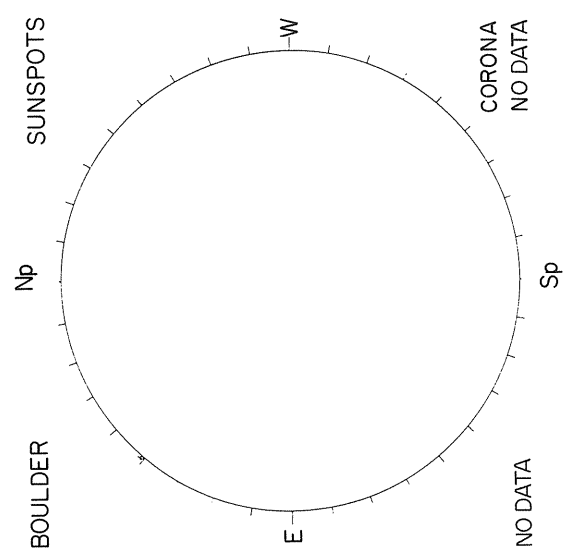
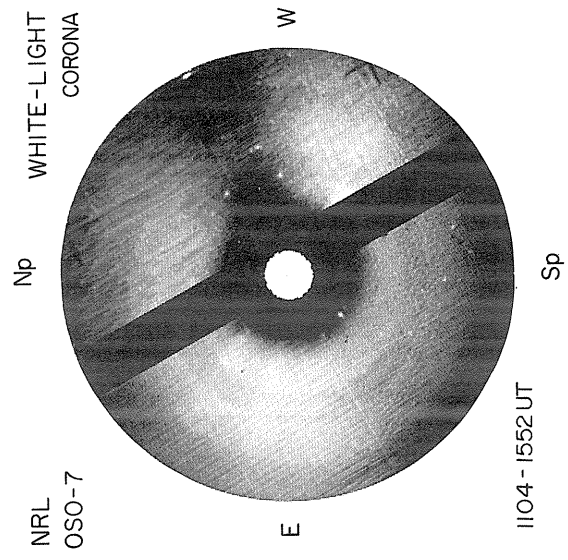
Np

DELTA Y =
DELTA X =



Levels
± 5
± 10
± 20
± 40
± 80

Sp

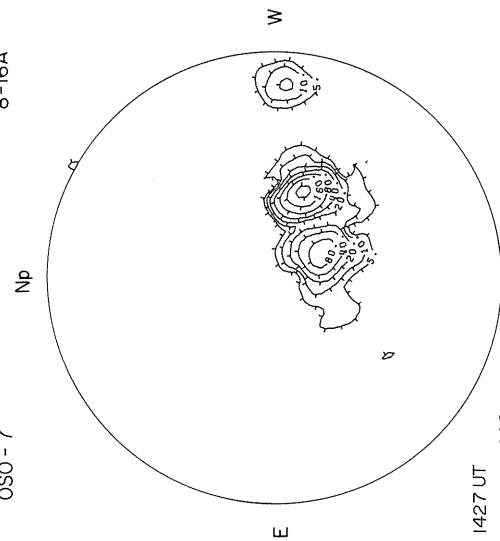


APRIL 12, 1974 (P = -26.25, B_o = -5.84, L_o = 173.04)

McMATH-HULBERT CALCIUM REPORT

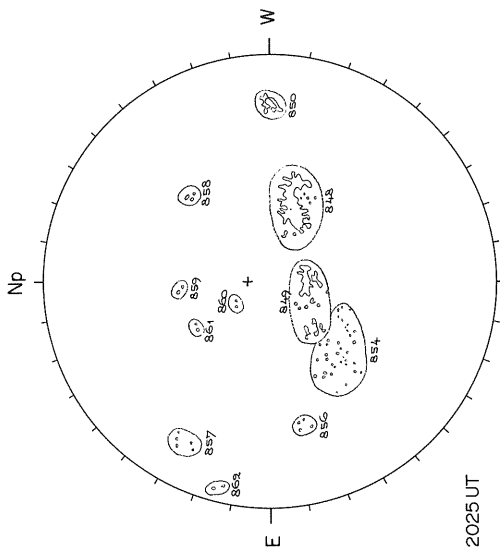
X-RAY
8-16A

NASA GSFC
OSO-7



1427 UT
COUNT = 4866
ROLL = 67.0°
P-TH = -4.37

Counts per 0.125 sec.



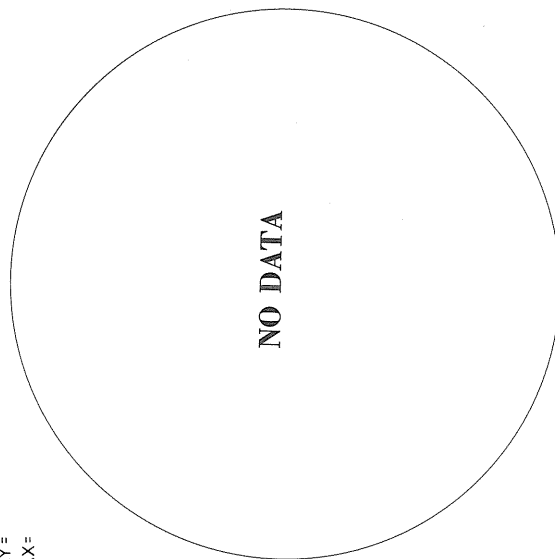
GOOD | M |
48 - 2900 - 3.5
49 - 1400 - 3.0
50 - 0800 - 2.5

2025 UT

MAGNETOGRAM
Solid - Plus
Dotted - Minus

MT. WILSON
Np
Sp

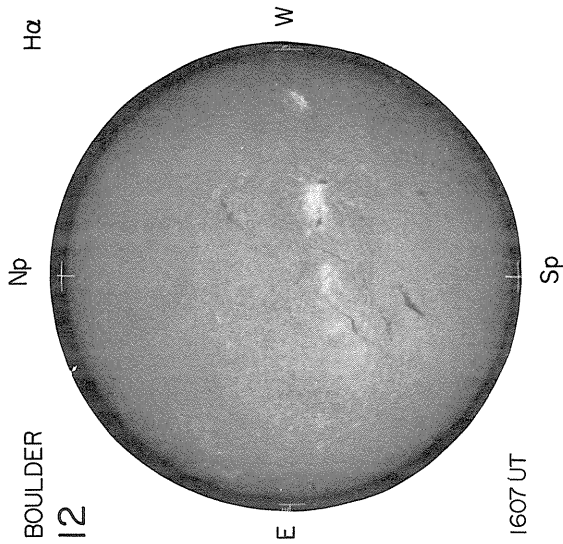
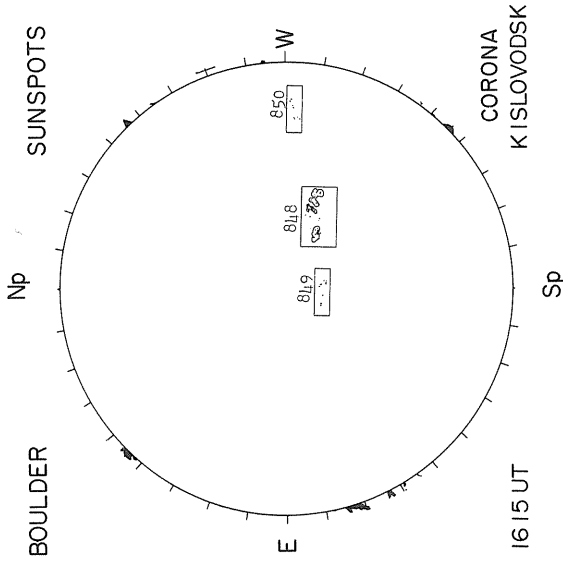
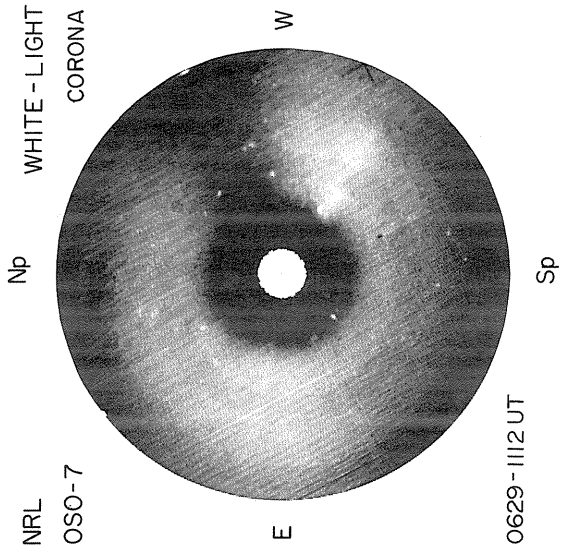
DELTA Y =
DELTA X =



NO DATA

Levels
+ 5
+ 10
+ 20
+ 40
+ 80

Sp



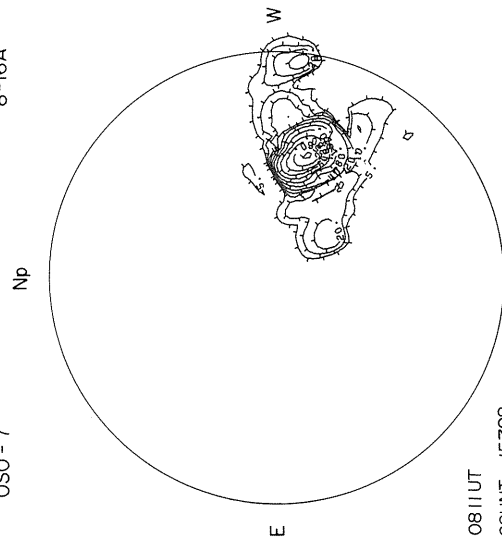
APRIL 13, 1974 (P=-26.2I, B₀=-5.76, L₀=159.84)

NASA GSFC
OSO-7

X-RAY
8-16A

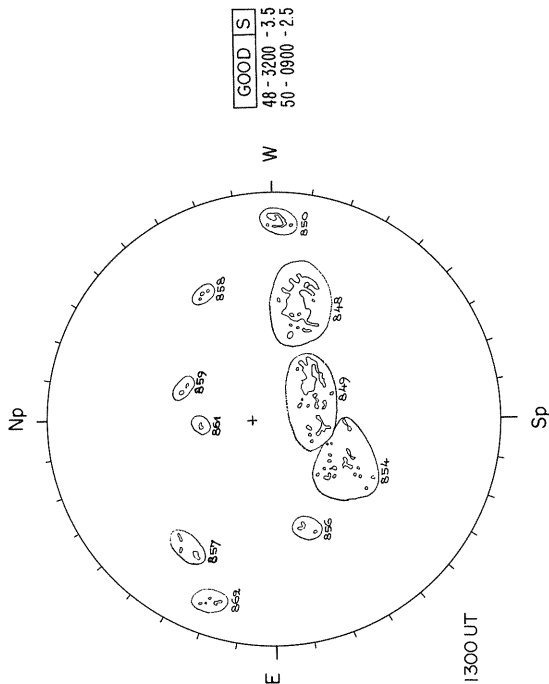
McMATH-HULBERT

CALCIUM REPORT



0811UT
COUNT = 15798
ROLL = 67.2°
P-TH = -4.44

Counts per 0.125 sec.



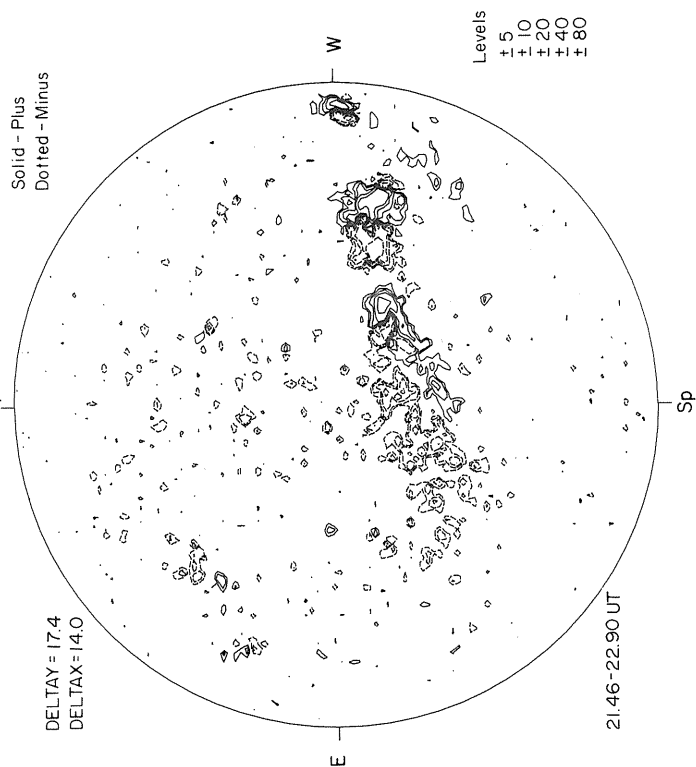
1300 UT

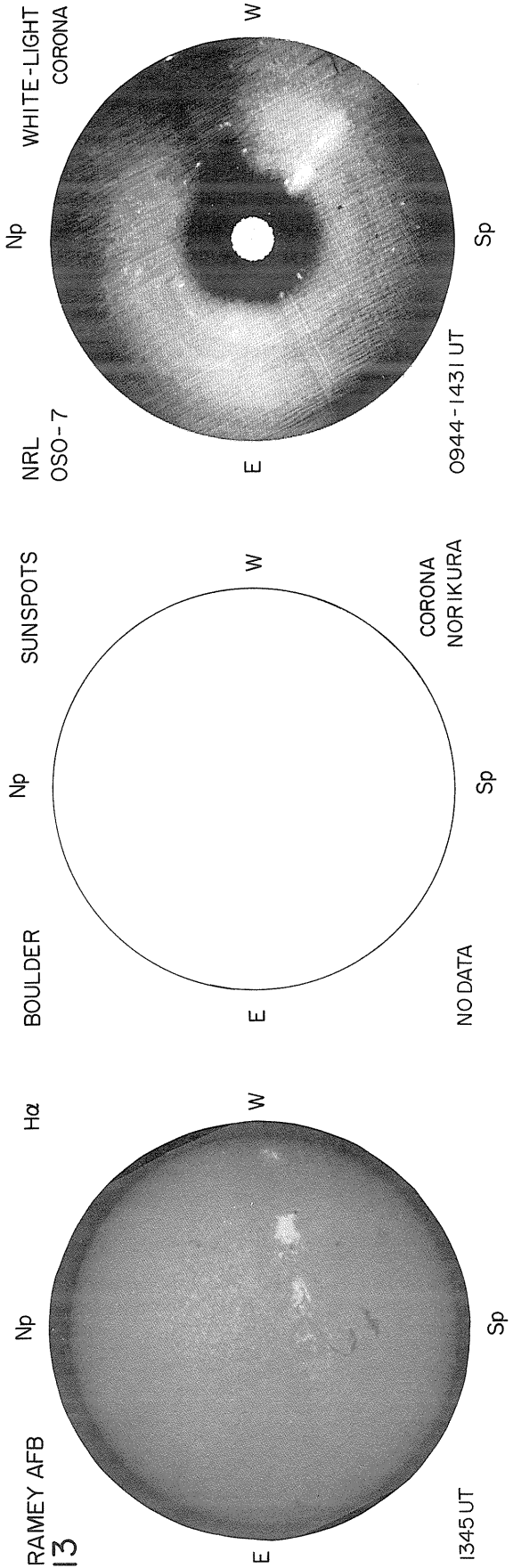
MT. WILSON

MAGNETOGRAM

Solid - Plus
Dotted - Minus

DELTA Y = 17.4
DELTA X = 14.0





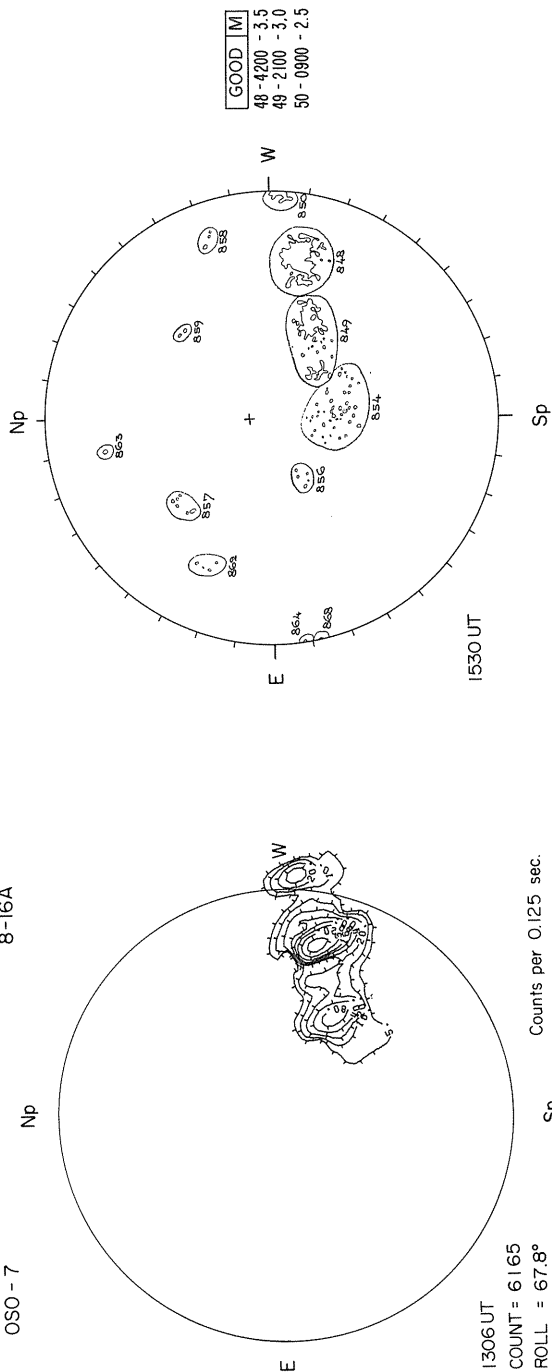
APRIL 14, 1974 (P = -26.16, B₀ = -5.69, L₀ = 146.64)

CALCIUM REPORT

McMATH-HULBERT

X-RAY
8-16A

NASA GSFC
OSO-7



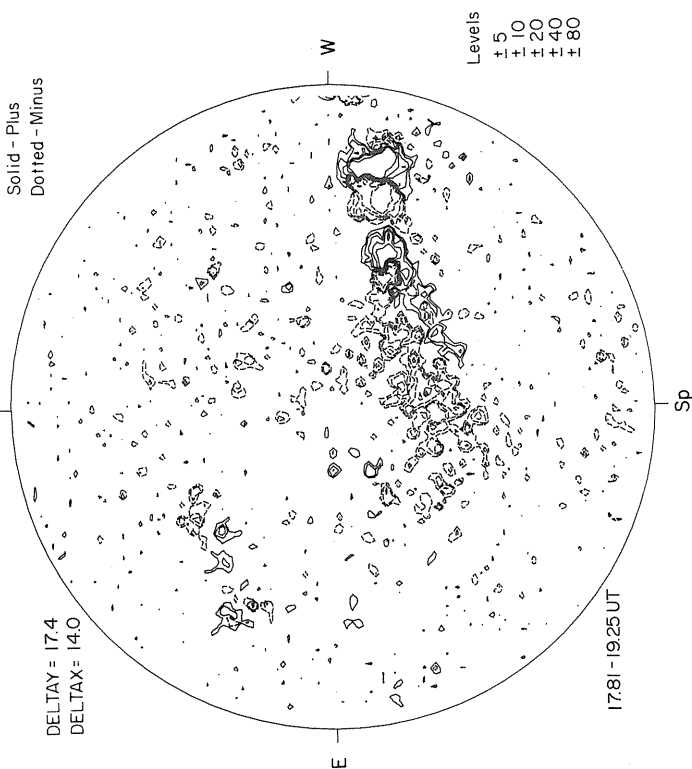
1306 UT
COUNT = 6.165
ROLL = 67.8°
P-TH = -4.56

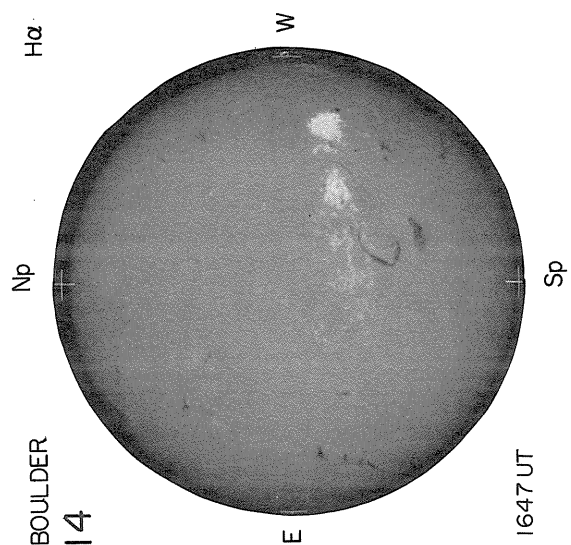
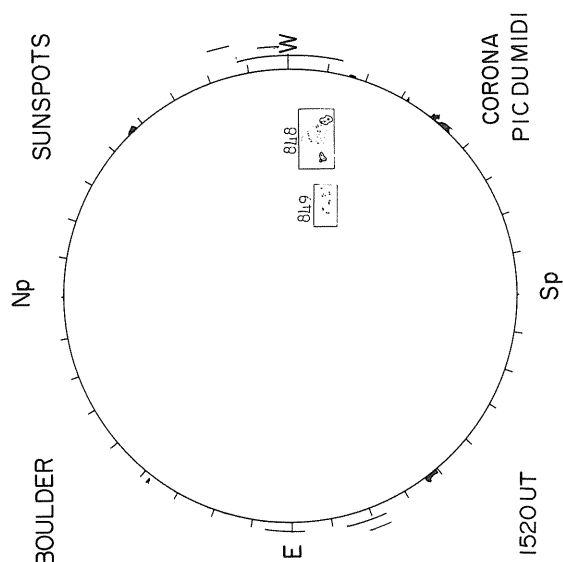
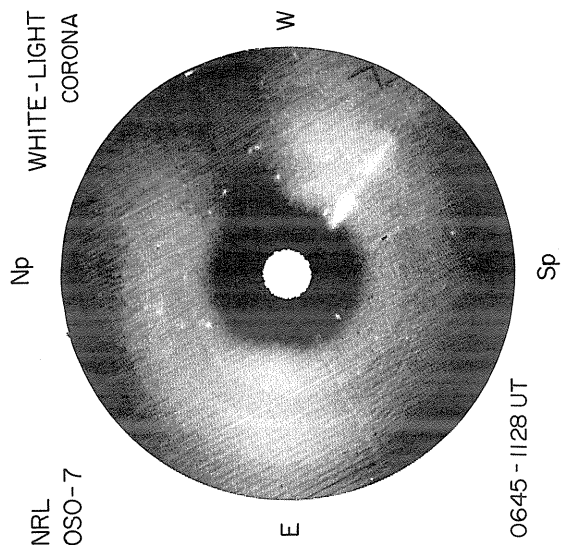
Counts per 0.125 sec.

MAGNETOGRAM
Solid - Plus
Dotted - Minus

MT. WILSON

DELTA Y = 17.4
DELTA X = 14.0

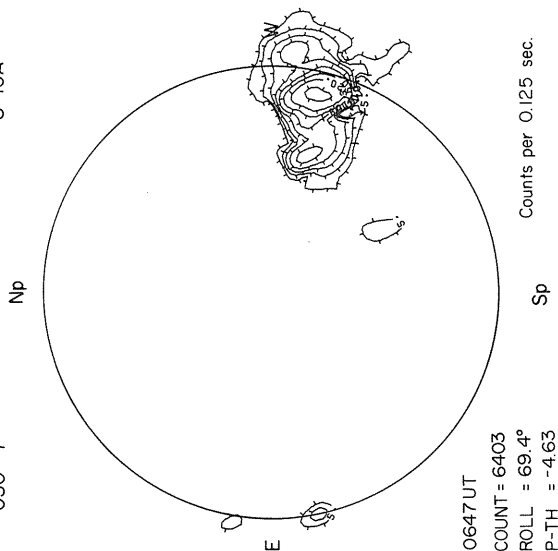




APRIL 15, 1974 (P = -26.11, B₀ = -5.61, L₀ = 133.43)

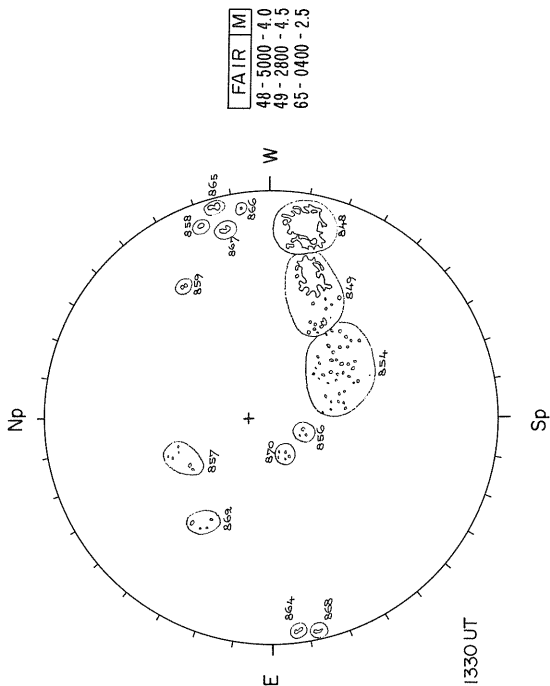
NASA GSFC
OSO - 7

X-RAY
8-16A



McMATH-HULBERT

CALCIUM REPORT



FAIR	M
48 - 5000 - 4.0	
49 - 2800 - 4.5	
65 - 0400 - 2.5	

MAGNETOGRAM

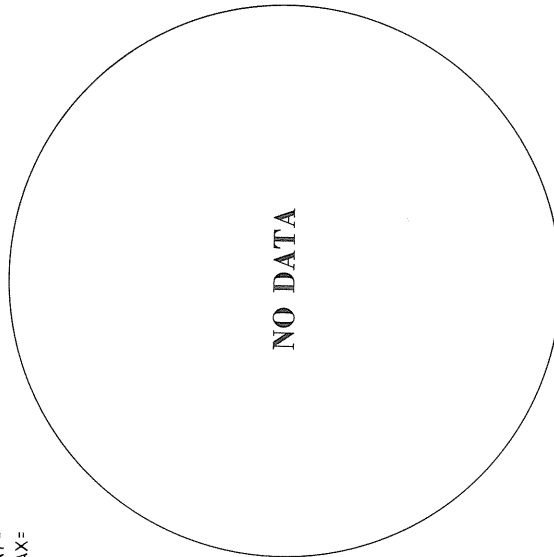
Solid - Plus
Dotted - Minus

Np

MT. WILSON

Sp

DELTA Y =
DELTA X =

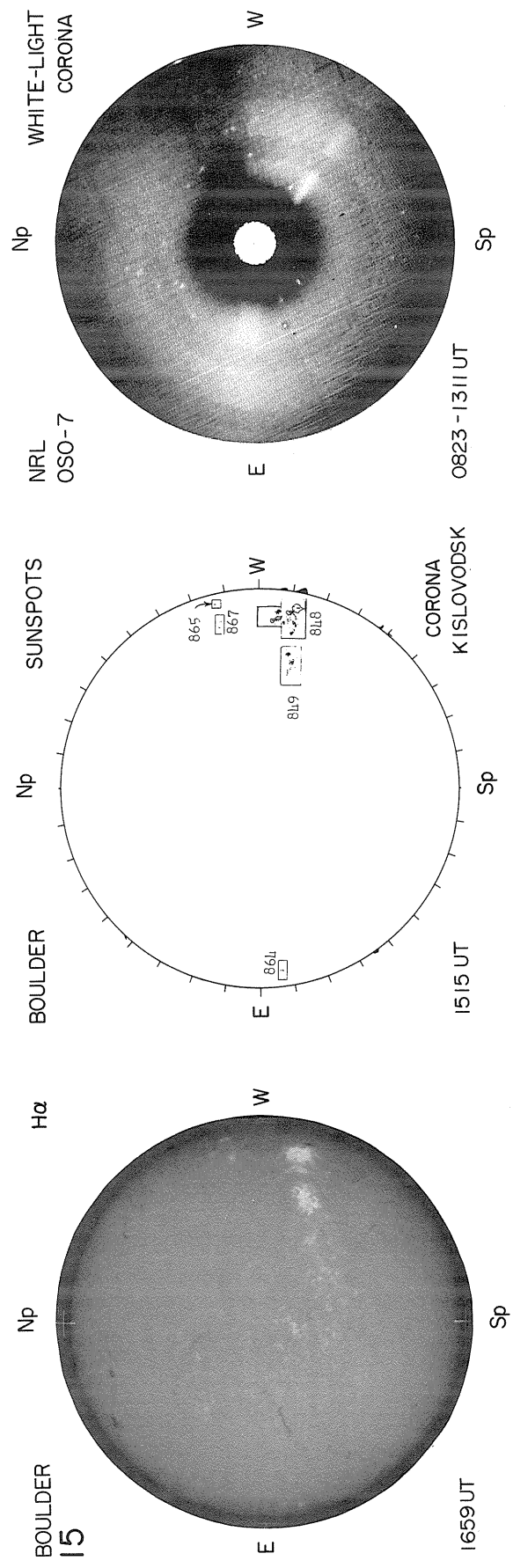


Levels
+ 5
+ 10
+ 20
+ 40
+ 80

W

E

Sp

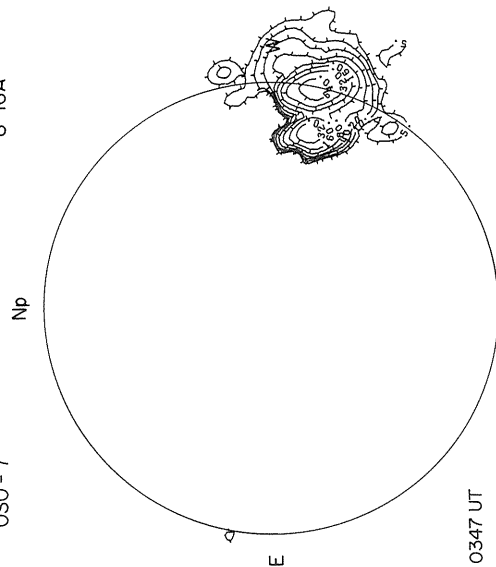


APRIL 16, 1974 (P = -26.05, B₀ = -5.53, L₀ = 120.23)

NASA GSFC
OSO - 7

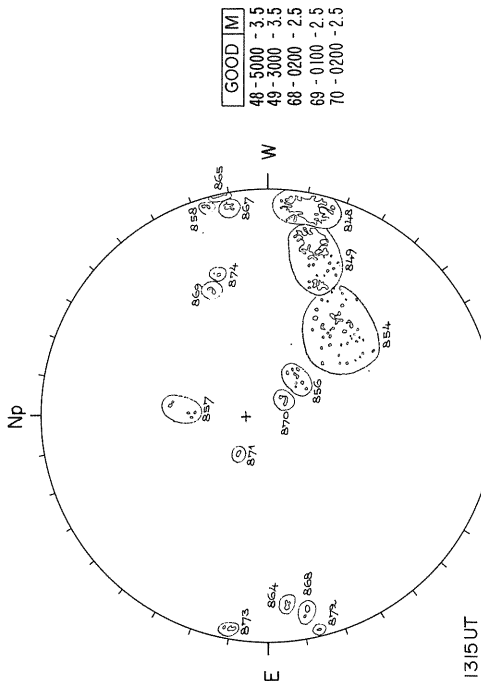
McMATH-HULBERT

X-RAY
8-16A



0347 UT
COUNT = 8559
ROLL = 72.5°
P-TH = -4.71

Counts per 0.125 sec.



1315 UT

GOOD	M
48 - 5000	- 3.5
49 - 3000	- 3.5
60 - 0200	- 2.5
68 - 0100	- 2.5
70 - 0200	- 2.5

Sp

Np

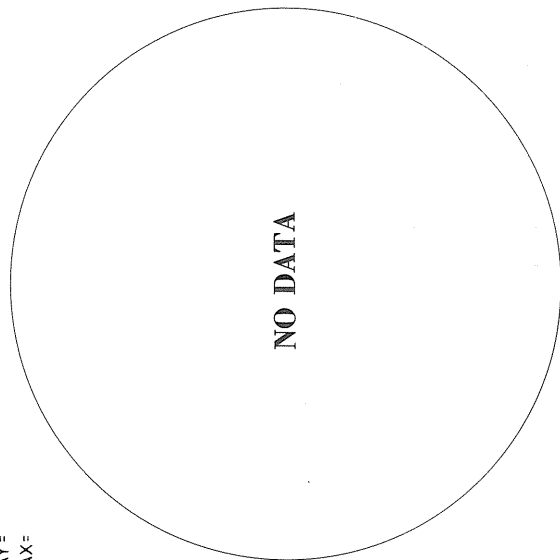
MT. WILSON

Sp

MAGNETOGRAM

Solid - Plus
Dotted - Minus

DELTA Y =
DELTA X =



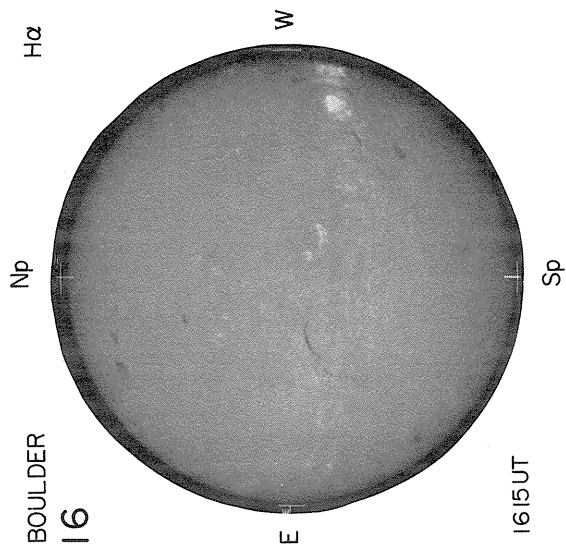
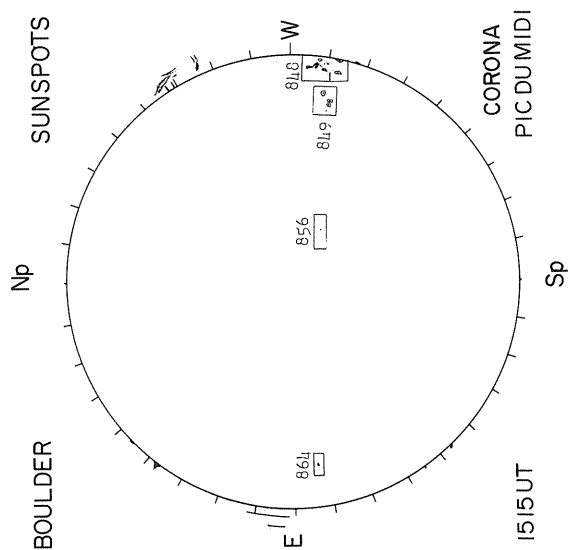
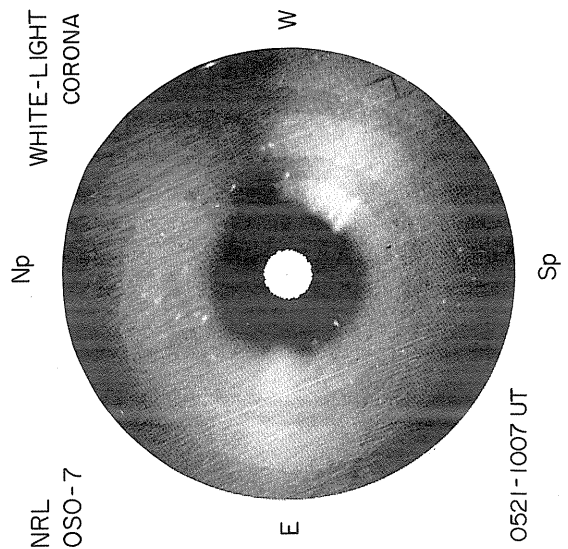
W

E

NO DATA

Levels
+ 5
+ 10
+ 20
+ 40
+ 80

Sp



62
Apr 74

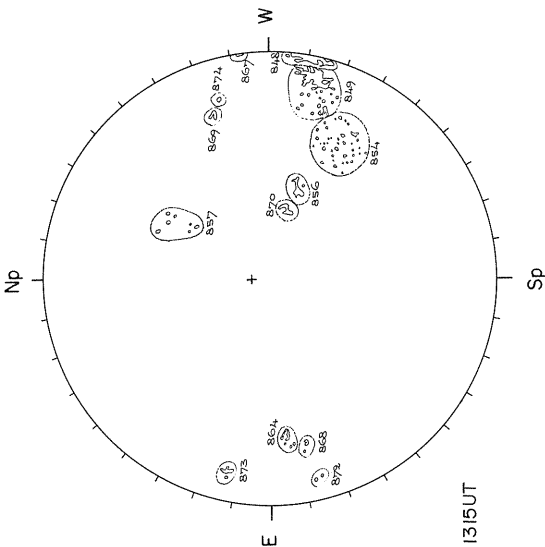
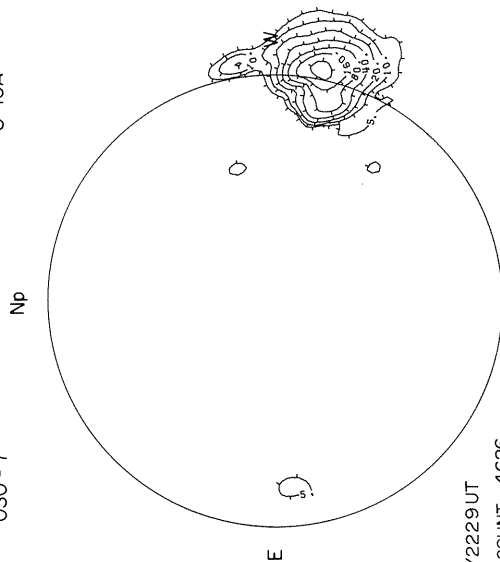
APRIL 17, 1974 (P = -25.98, B₀ = -5.45, L₀ = 107.02)

NASA GSFC
OSO - 7

McMATH-HULBERT

CALCIUM REPORT

X-RAY
8-16A



GOOD	M
48 - 4400 - 3.5	
49 - 3000 - 3.5	
56 - 0400 - 3.0	
70 - 0200 - 3.0	

MAGNETOGRAM

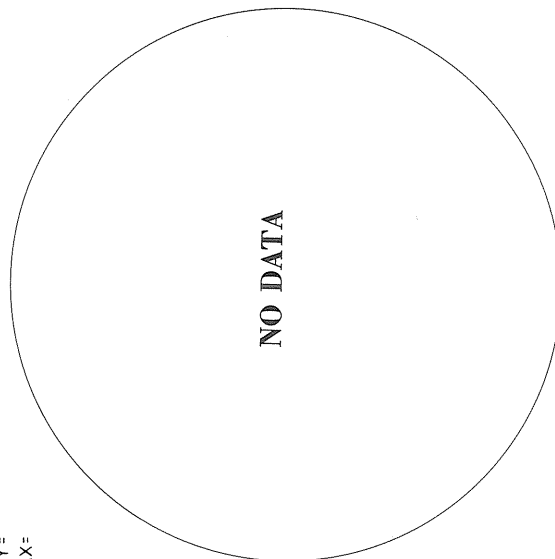
Solid - Plus
Dotted - Minus

Np

MT. WILSON

Sp

DELTA Y =
DELTA X =

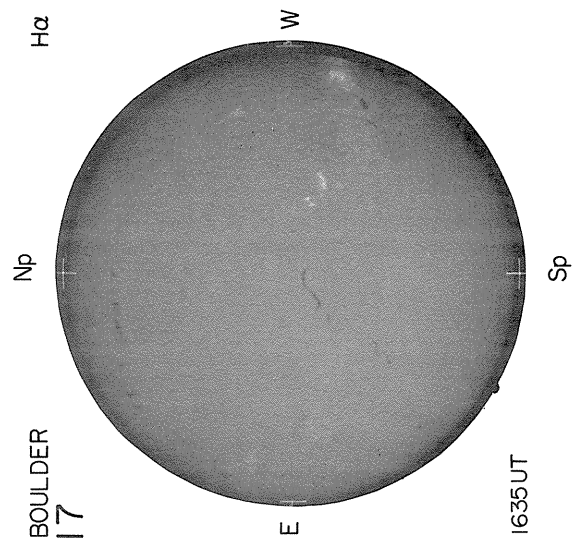
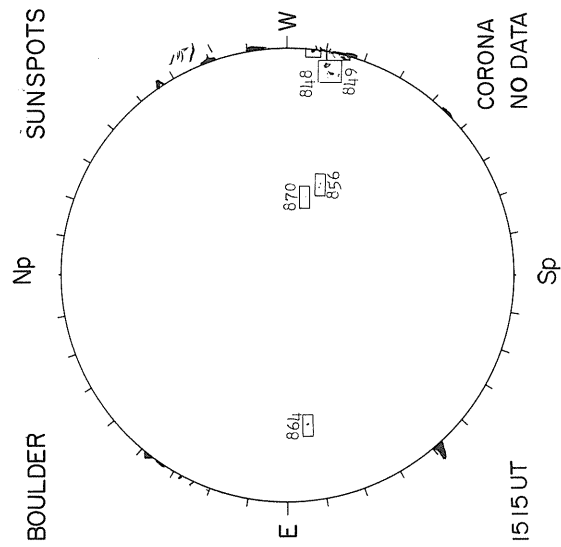
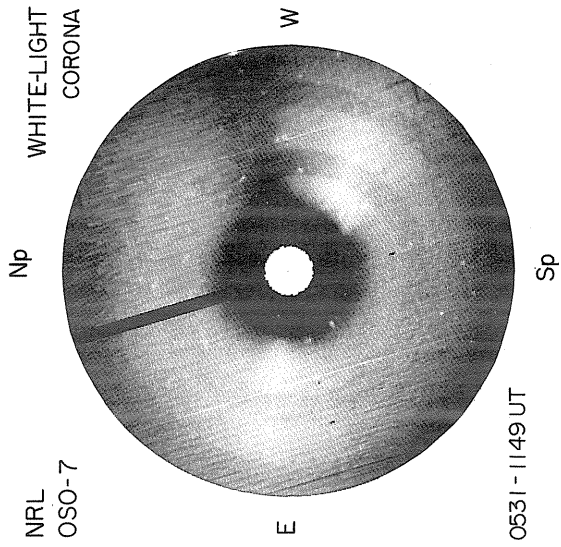


W

E

Levels
+ 5
+ 10
+ 20
+ 40
+ 80

Sp



64
Apr 74

APRIL 18, 1974 (P = -25.9I, B₀ = -5.37, L₀ = 93.82)

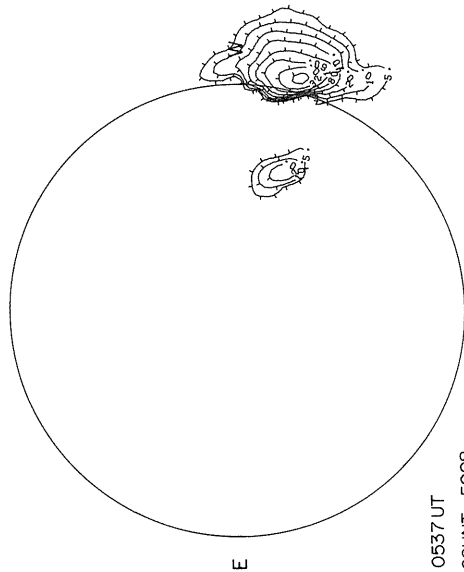
NASA GSFC
OSO-7

X-RAY
8-16A

McMATH-HULBERT

CALCIUM REPORT

Np



E

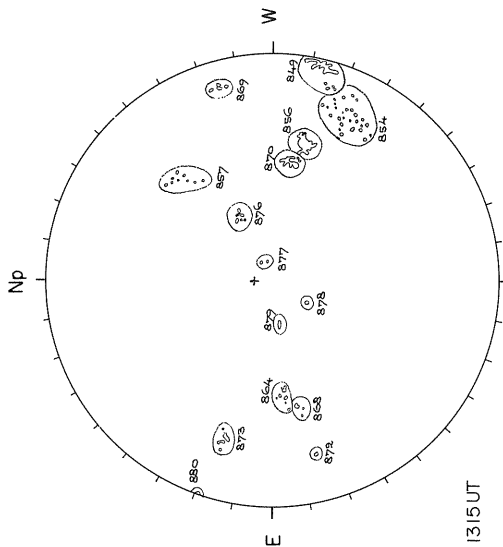
0537 UT

COUNT = 5998
ROLL = 80.3°
P-TH = -4.90

Sp

Counts per 0.125 sec.

FAIR	M
49-3000	-3.0
56-0900	-3.5
70-0400	-3.5
73-0300	-2.5
76-0300	-3.5
79-0200	-2.5



E

1315 UT

Sp

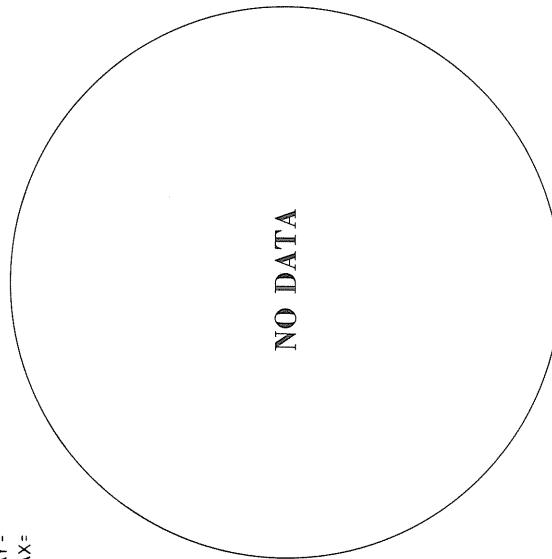
MT. WILSON

Np

MAGNETOGRAM

Solid - Plus
Dotted - Minus

DELTA Y =
DELTA X =



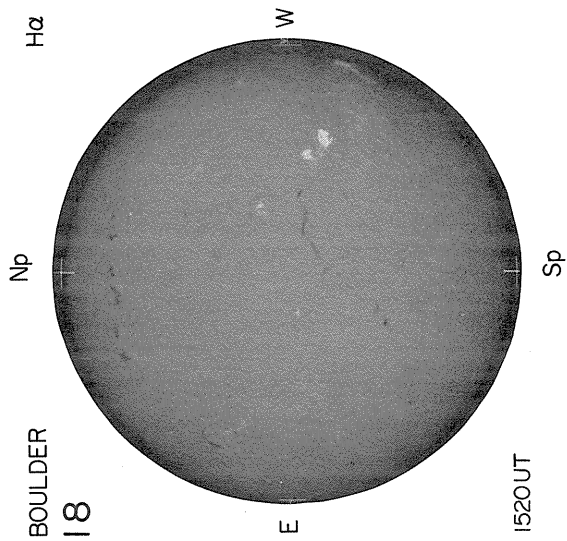
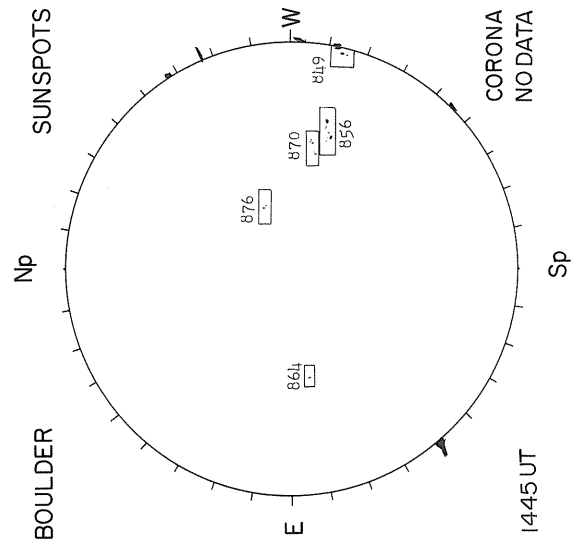
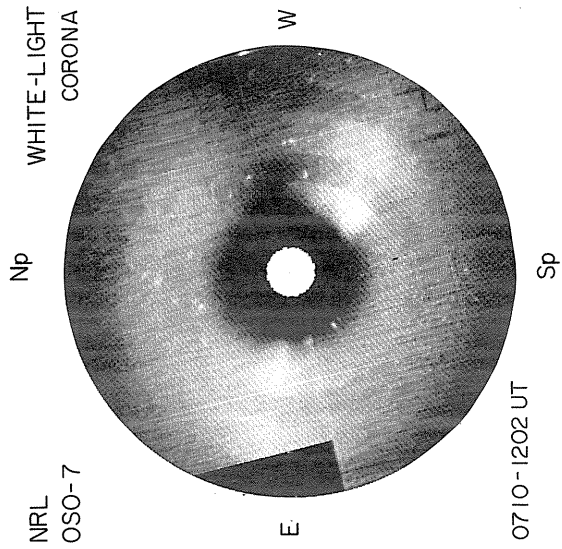
NO DATA

E

W

Levels
± 5
± 10
± 20
± 40
± 80

Sp



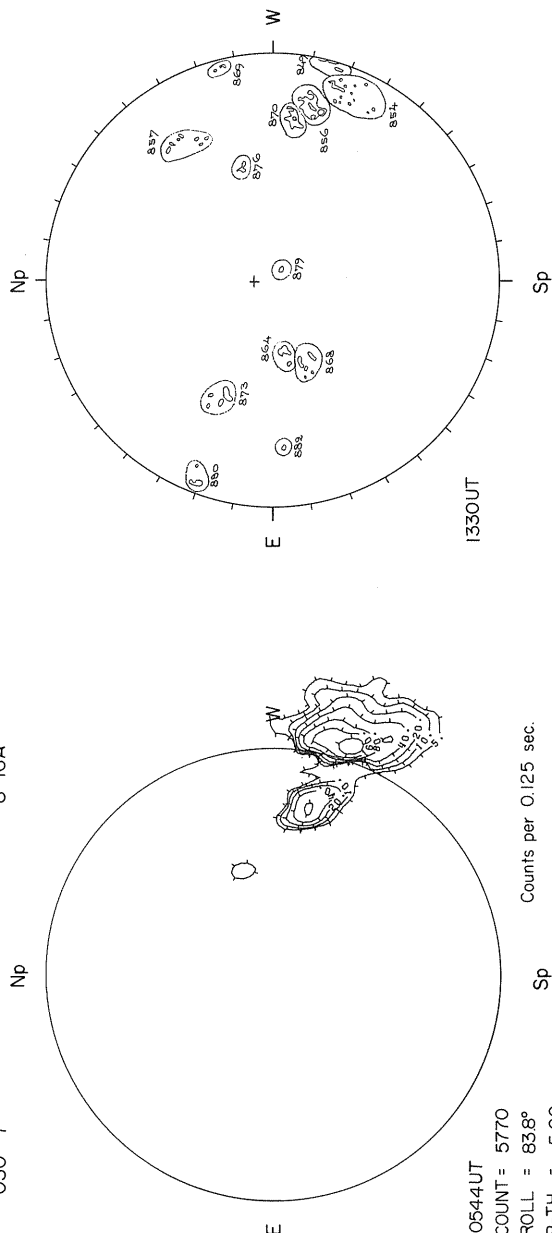
APRIL 19, 1974 (P = -25.82, B₀ = -5.28, L₀ = 80.61)

NASA GSFC
OSO-7

X-RAY
8-16A

McMATH-HULBERT

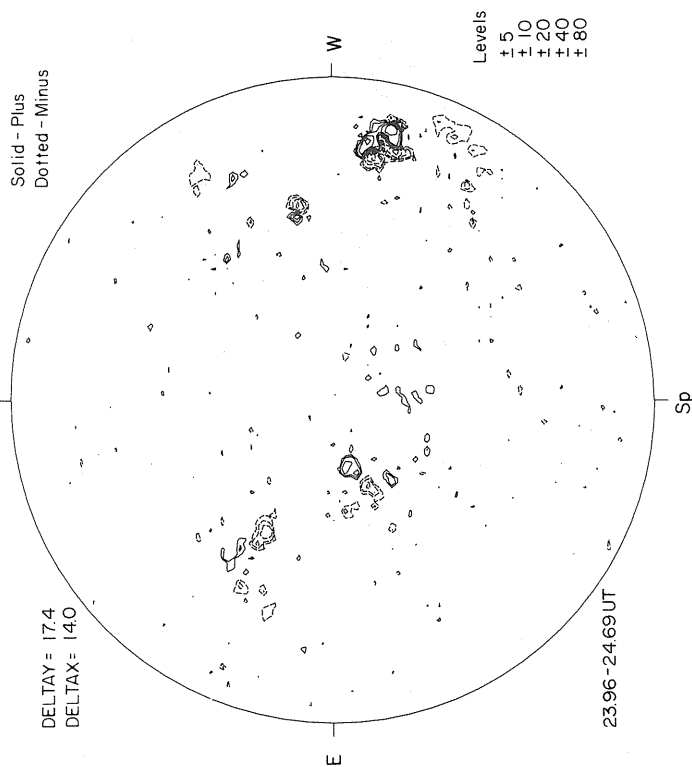
CALCIUM REPORT

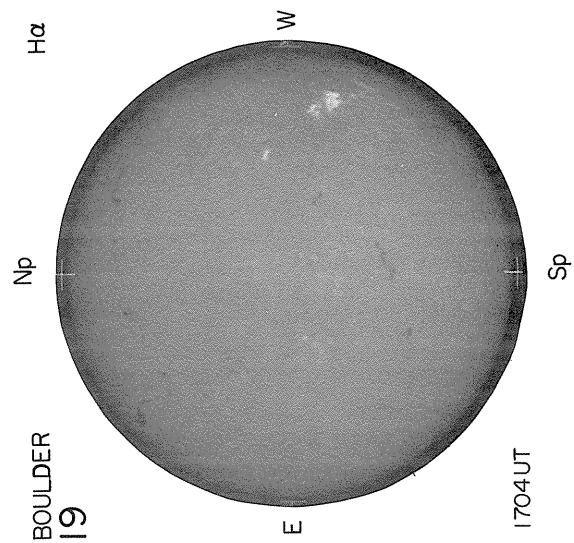
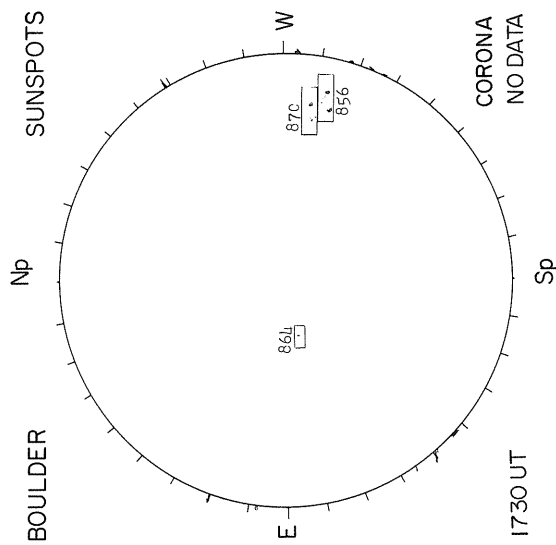
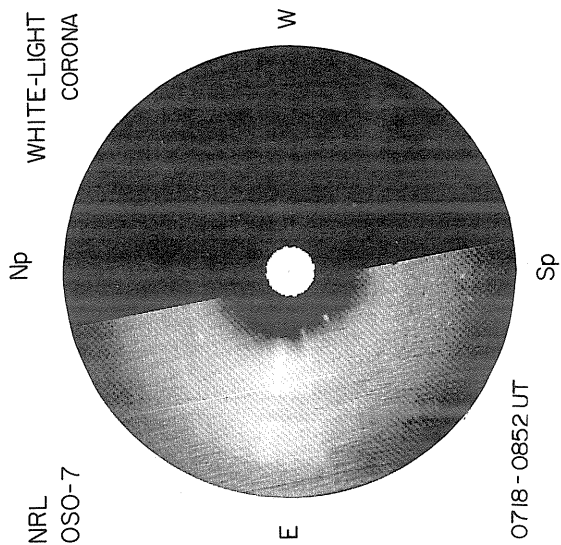


MAGNETOGRAM
Solid - Plus
Dotted - Minus

MT. WILSON

DELTA Y = 17.4
DELTA X = 14.0





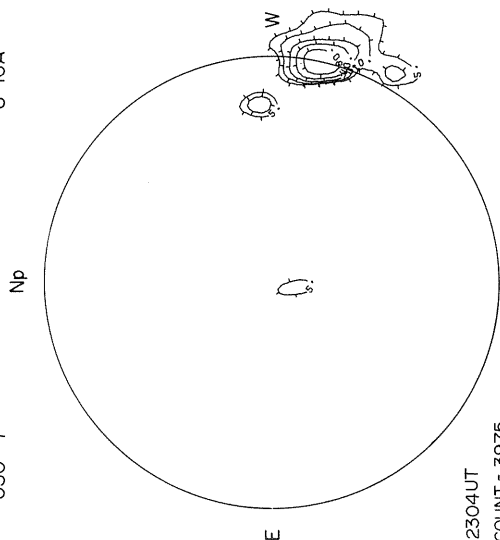
APRIL 20, 1974 (P = -25.73, B₀ = -5.20, L₀ = 67.41)

NASA GSFC
OSO-7

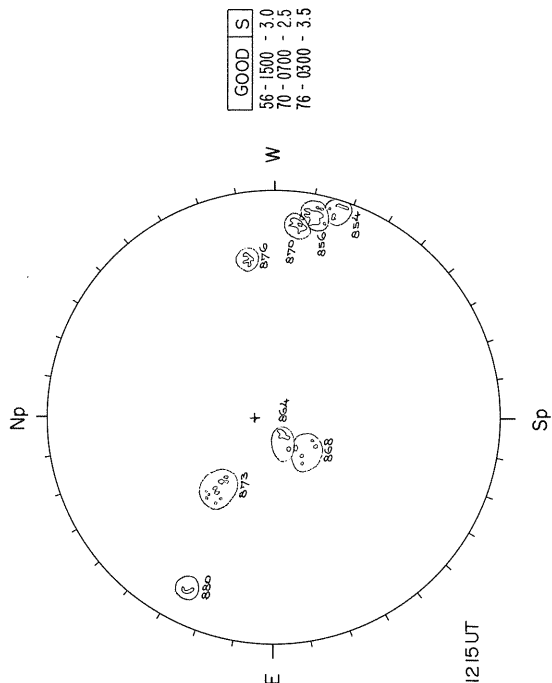
X-RAY
8-16A

McMATH-HULBERT

CALCIUM REPORT



2304 UT
COUNT = 3975
ROLL = 89.3°
P-TH = -5.15



GOOD	S
56 - 1500	- 3.0
70 - 0700	- 2.5
76 - 0300	- 3.5

MT. WILSON

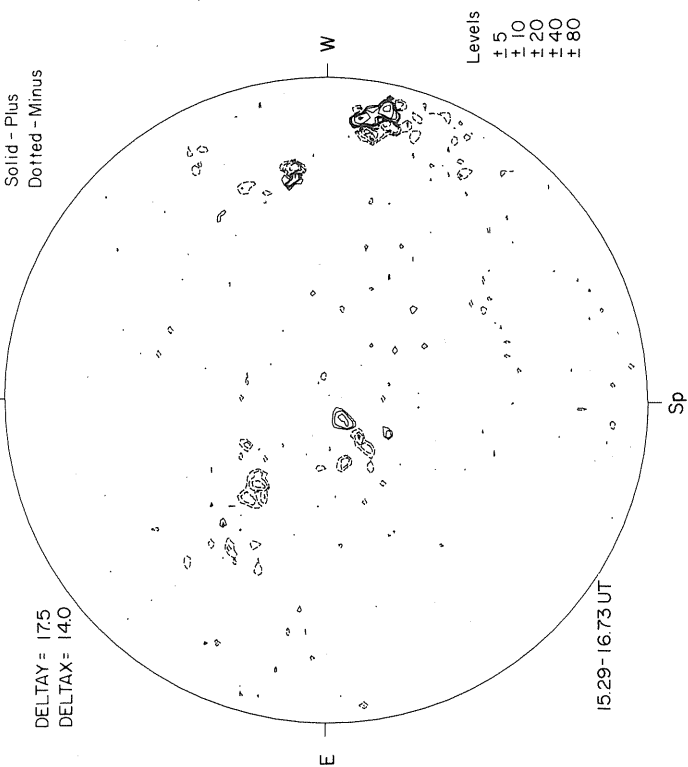
Np

Sp

1215 UT

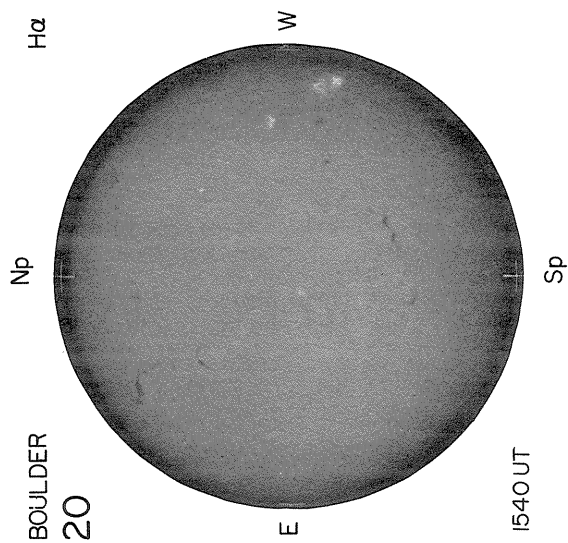
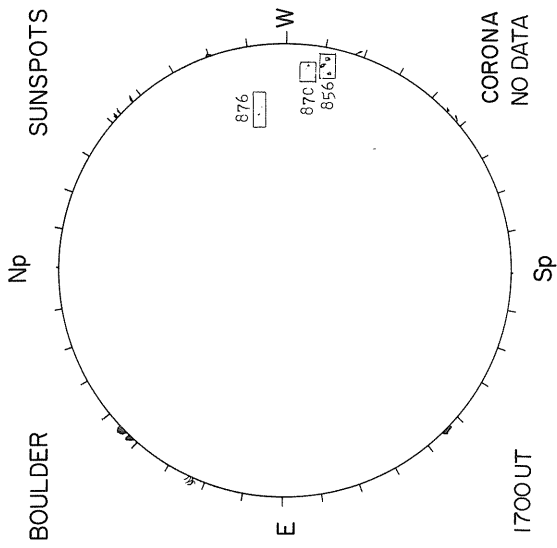
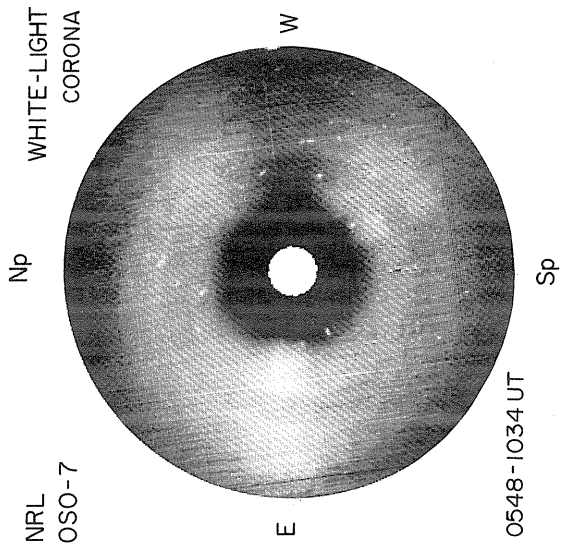
MAGNETOGRAM
Solid - Plus
Dotted - Minus

DELTA Y = 17.5
DELTA X = 14.0



Levels
± 5
± 10
± 20
± 40
± 80

15.29 - 16.73 UT



70
Apr 74

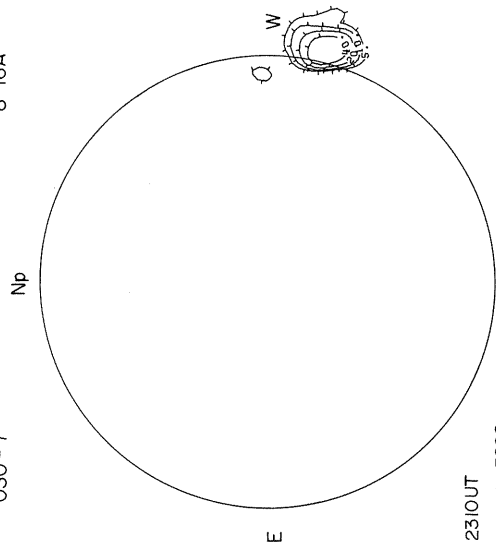
APRIL 21, 1974 (P = -25.63, B₀ = -5.11, L₀ = 54.20)

NASA GSFC
OSO - 7

X-RAY
8-16A

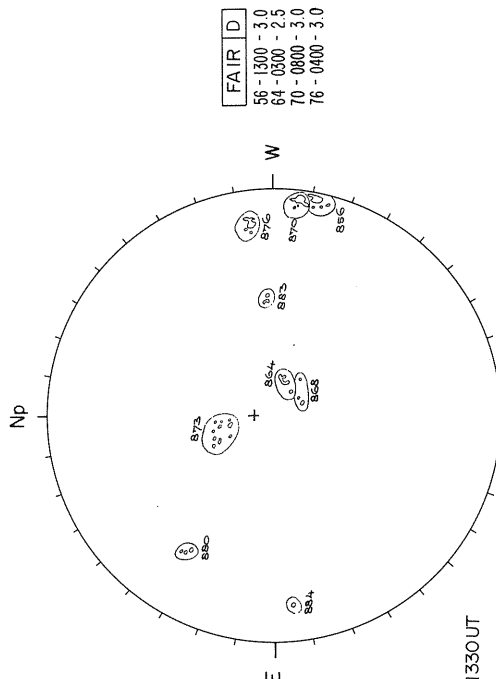
McMATH-HULBERT

CALCIUM REPORT



2310 UT
COUNT = 3822
ROLL = 92.2°
P-TH = -5.23

Counts per 0.125 sec.



1330 UT

Sp

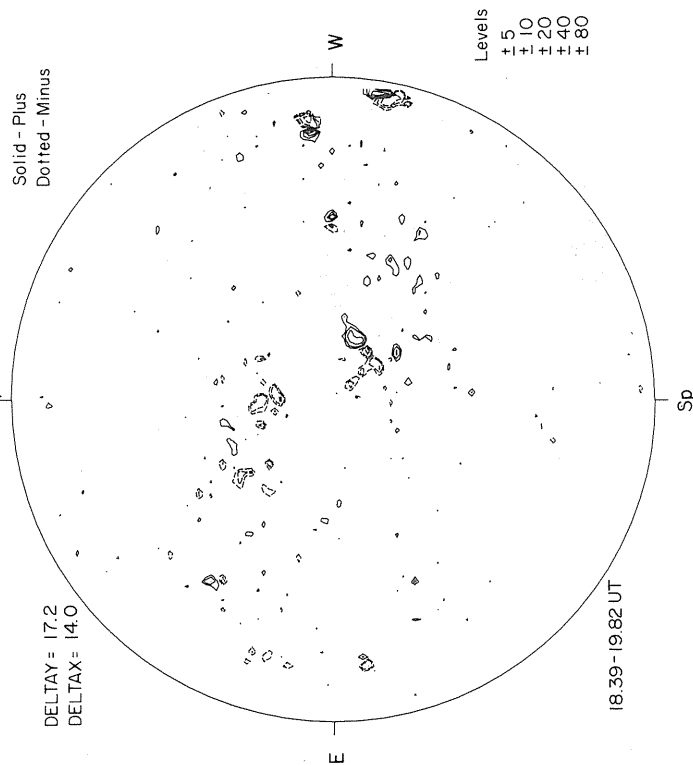
MT. WILSON

Np

MAGNETOGRAM

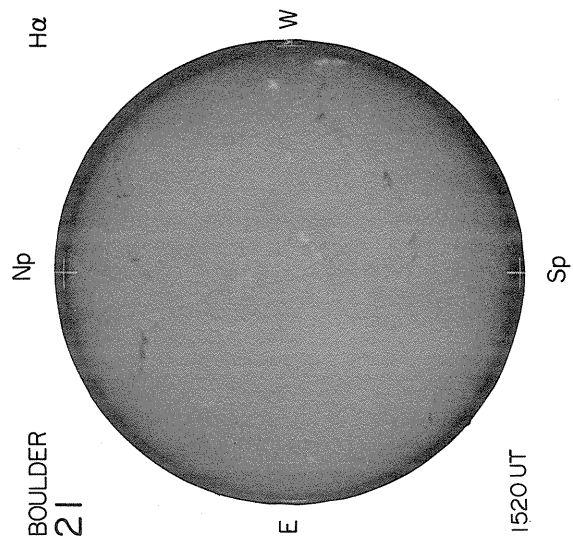
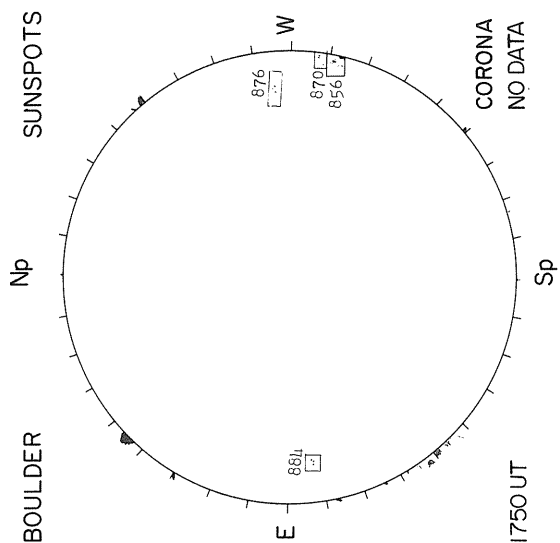
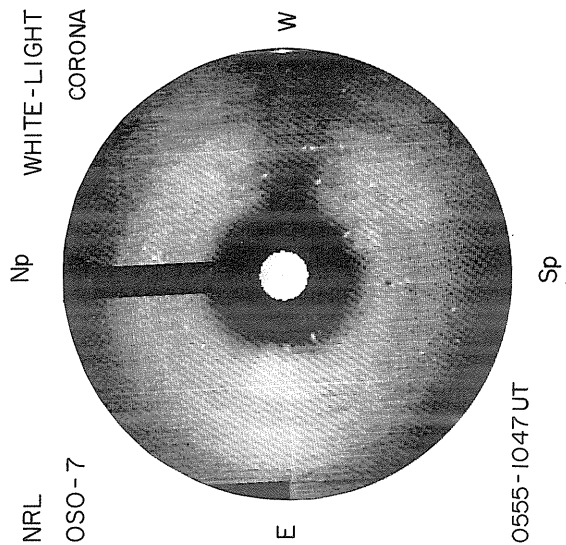
Solid - Plus
Dotted - Minus

DELTA Y = 17.2
DELTA X = 14.0



Levels
+5
+10
+20
+40
+80

1839-1982 UT



72
Apr 74

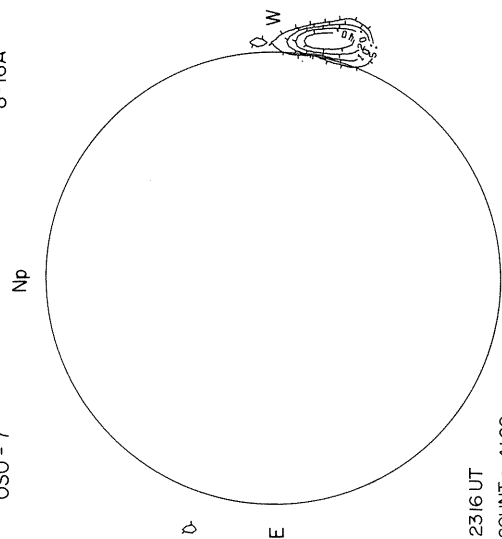
APRIL 22, 1974 (P=-25.53, B₀=-5.02, L₀=40.99)

NASA GSFC
OSO - 7

X-RAY
8-16A

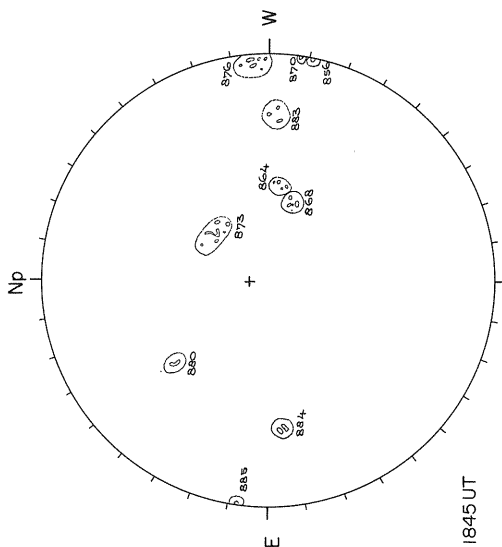
McMATH-HULBERT

CALCIUM REPORT



2316 UT
COUNT = 4160
ROLL = 94.6°
P-TH = -5.32

Counts per 0.125 sec.



FAIR S
56-0800 - 2.5
64-0500 - 2.5
76-0400 - 3.0

1845 UT

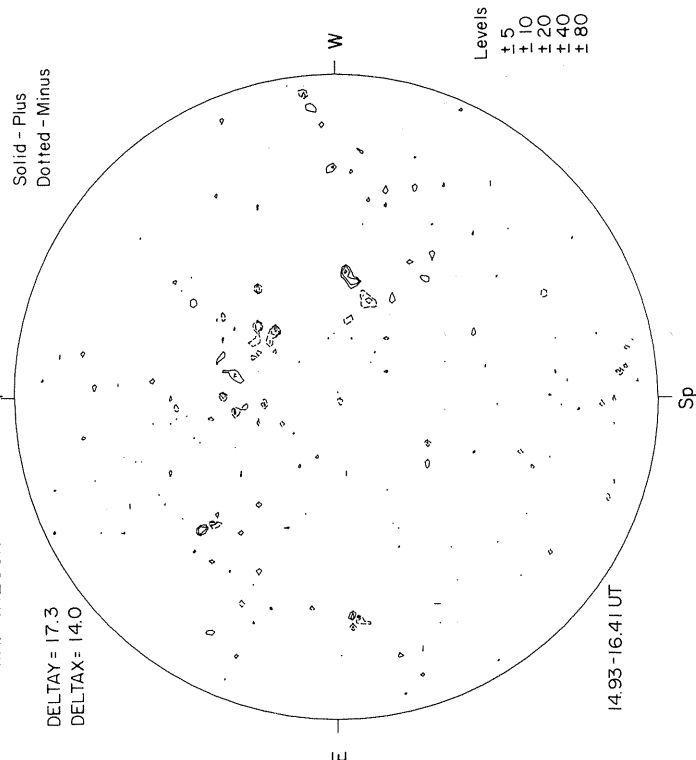
Sp

MT. WILSON

Np

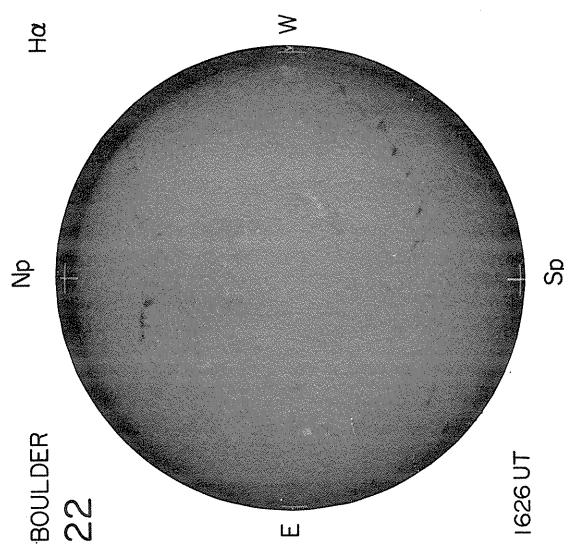
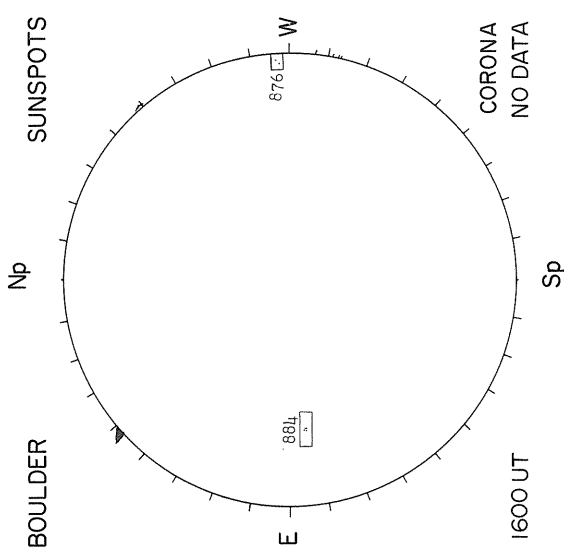
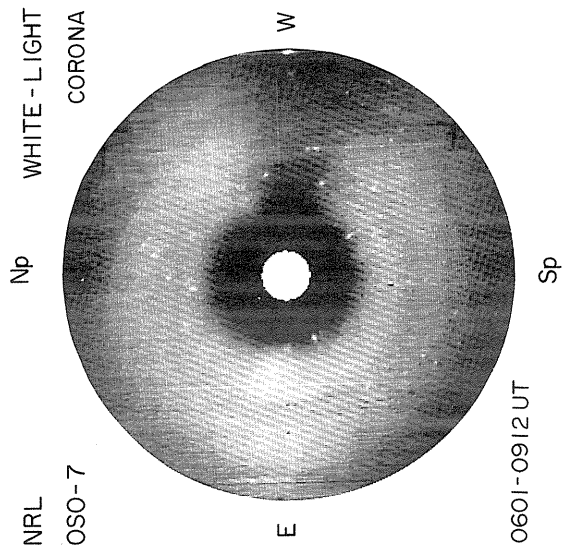
MAGNETOGRAM
Solid - Plus
Dotted - Minus

DELTA Y = 17.3
DELTA X = 14.0



Levels
± 5
± 10
± 20
± 40
± 80

14 93-16 41 UT



APRIL 23, 1974 (P = -25.42, B₀ = -4.93, L₀ = 27.78)

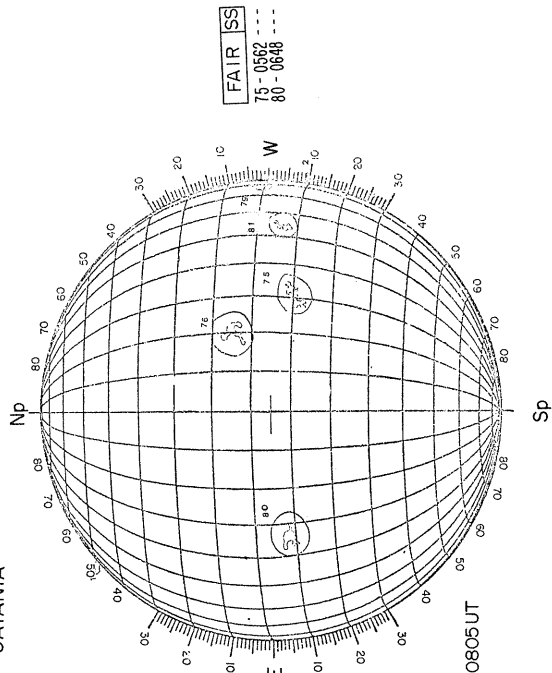
74
Apr 74

NASA GSFC
OSO-7

X-RAY
8-16A

CATANIA

CALCIUM REPORT



COUNT =
ROLL =
P-TH =

Counts per 0.125 sec.

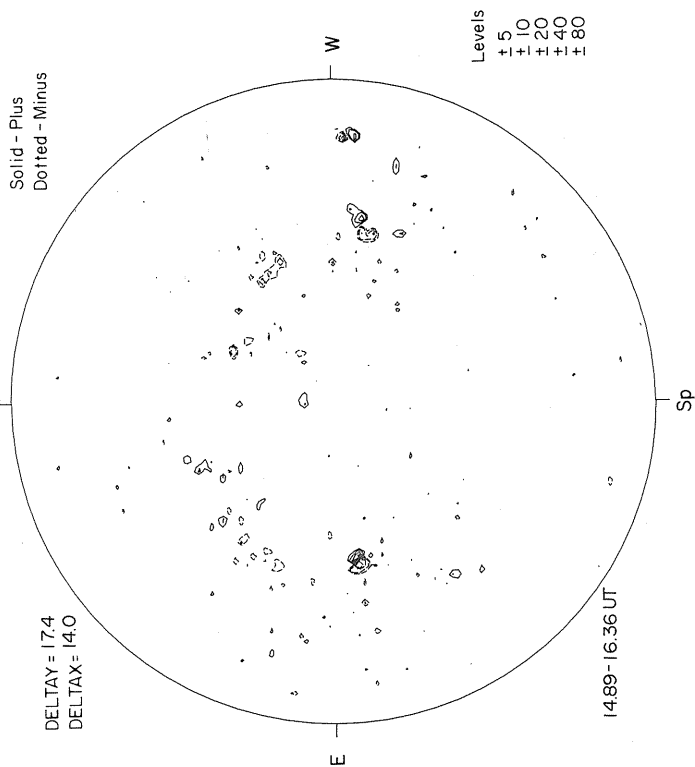
Sp

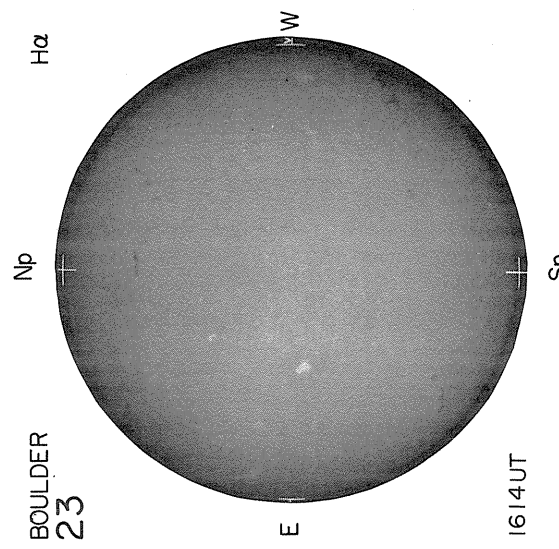
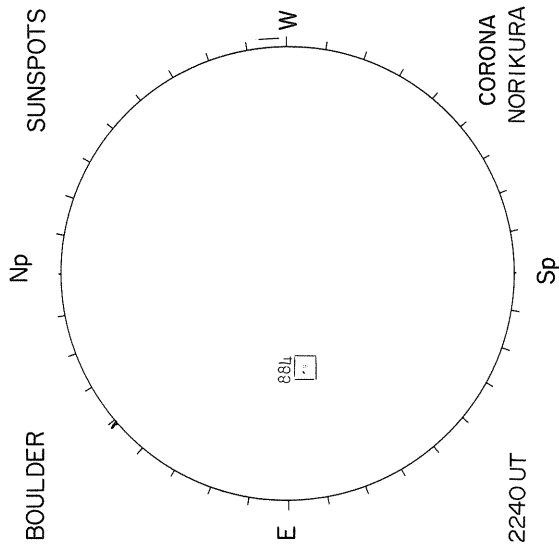
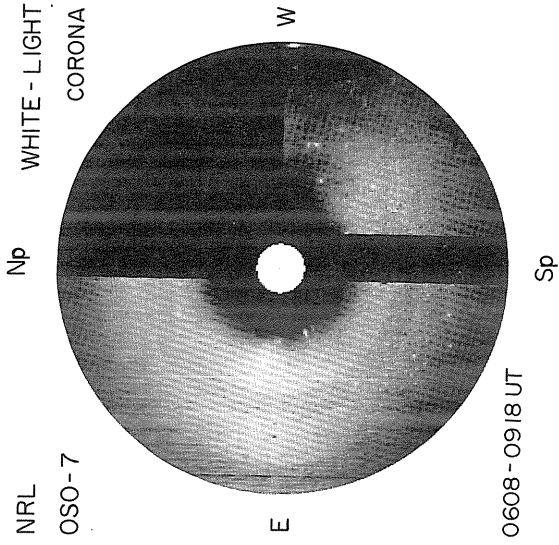
MT. WILSON

Np

MAGNETOGRAM

Solid - Plus
Dotted - Minus





BOULDER
23

APRIL 24, 1974 (P=-25.30, B₀ = -4.84, L₀ = 14.57)

76
Apr 74

NASA GSFC
OSO - 7

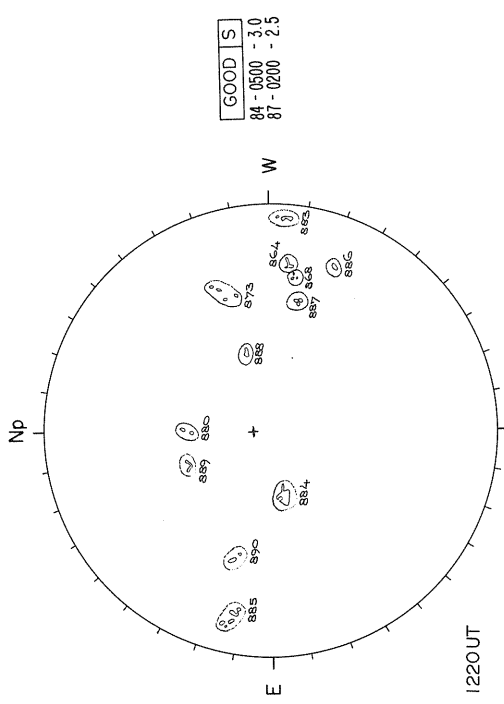
X-RAY
8-16A

McMATH-HULBERT

CALCIUM REPORT

Np

Np



GOOD S
84 - 0500 - 3.0
81 - 0200 - 2.5

W

E

2152 UT

COUNT = 3832

ROLL = 97.3°

P-TH = -5.48

Counts per 0.125 sec.

Sp

Sp

MT. WILSON

Np

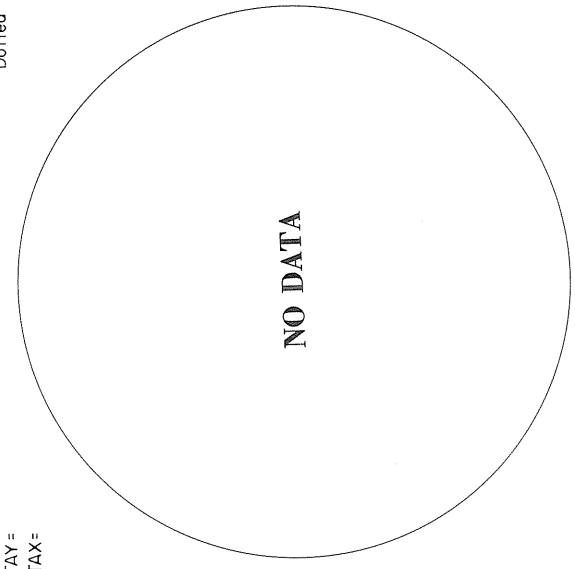
MAGNETOGRAM

Solid - Plus

Dotted - Minus

DELTA Y =

DELTA X =



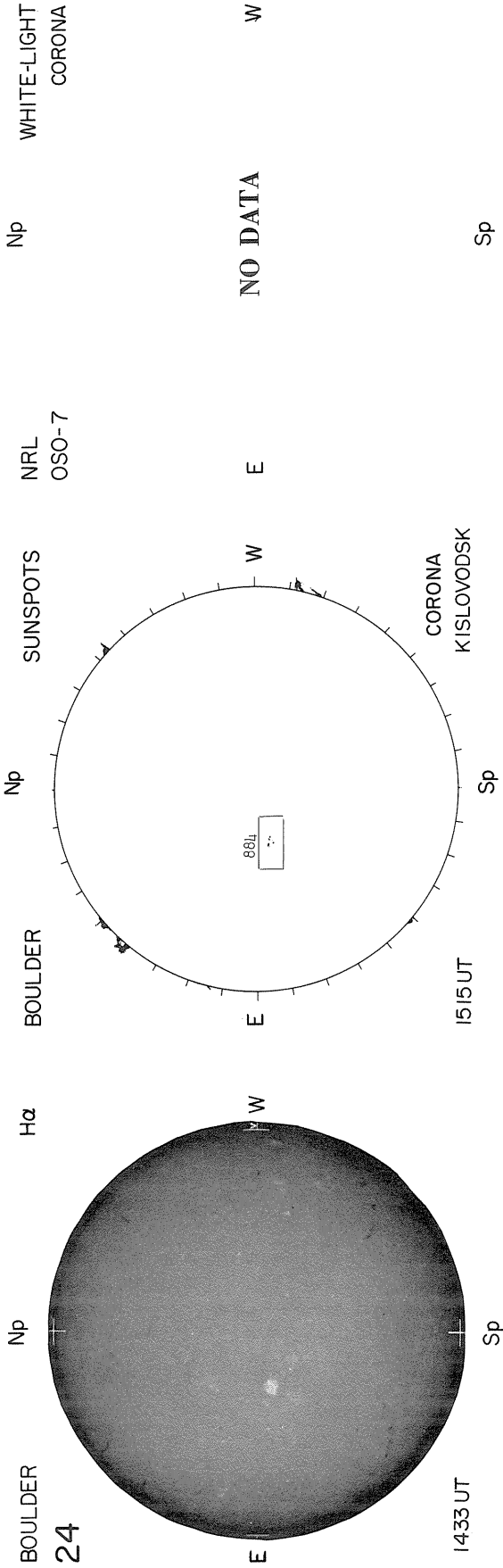
NO DATA

E

W

Levels
+ 5
+ 10
+ 20
+ 40
+ 80

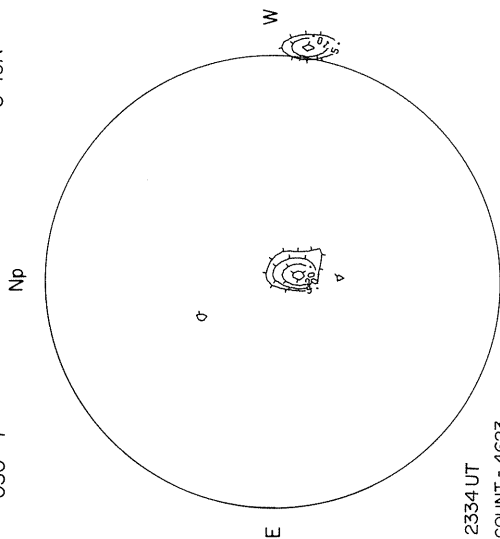
Sp



APRIL 25, 1974 (P = -25.17, B₀ = -4.75, L₀ = 1.36)

NASA GSFC
OSO-7

X-RAY
8-16A

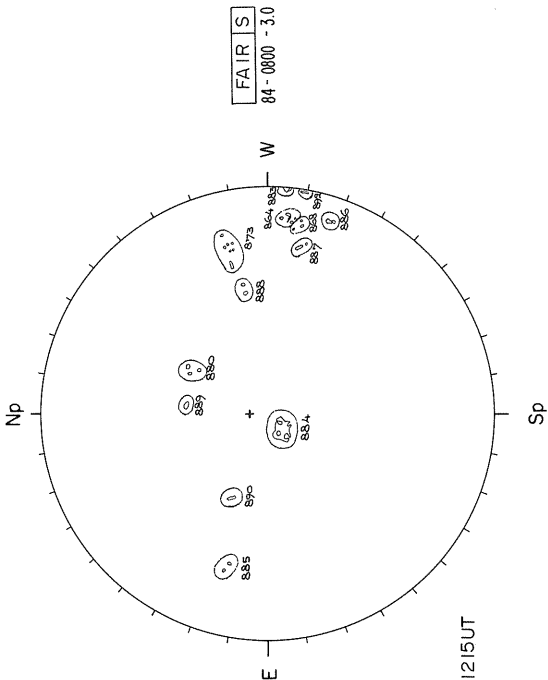


2334 UT
COUNT = 4623
ROLL = 97.9°
P-TH = -5.56

Counts per 0.125 sec.

McMATH-HULBERT

CALCIUM REPORT



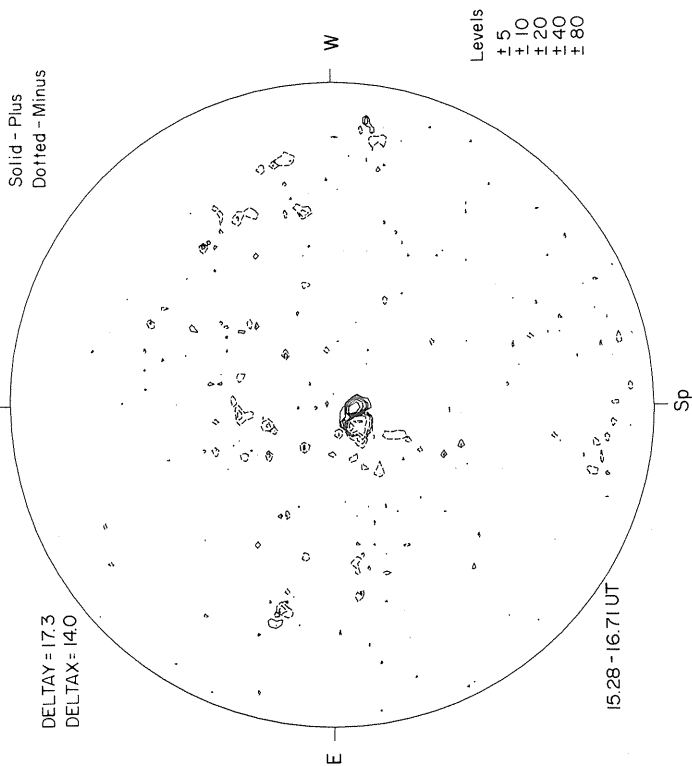
FAIR IS
84-0800 -3.0

1215 UT

MT. WILSON

MAGNETOGRAM

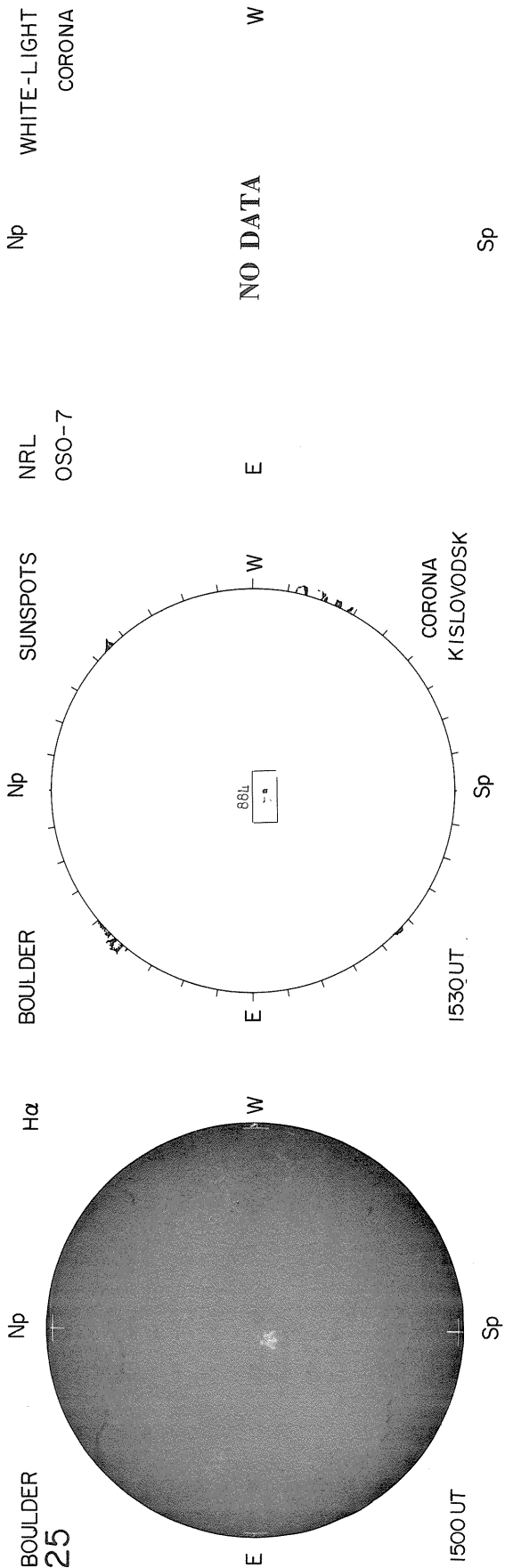
Solid - Plus
Dotted - Minus



DELTA Y = 17.3
DELTA X = 14.0

15.28 - 16.71 UT

Levels
± 5
± 10
± 20
± 40
± 80



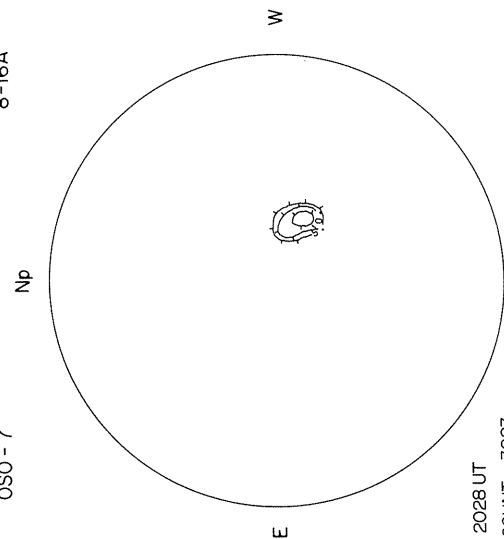
APRIL 26, 1974 (P = -25.03, B₀ = -4.65, L₀ = 348.15)

NASA GSFC
OSO-7

X-RAY
8-16A

McMATH-HULBERT

CALCIUM REPORT



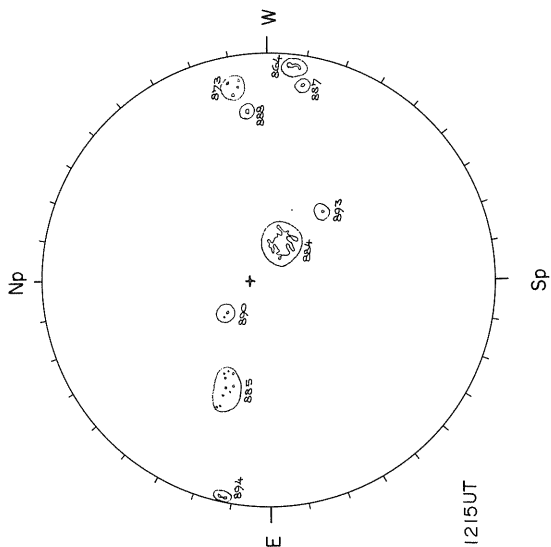
2028 UT

COUNT = 3283

ROLL = 98.6°

P-TH = -5.63

Counts per 0.125 sec.



1215 UT

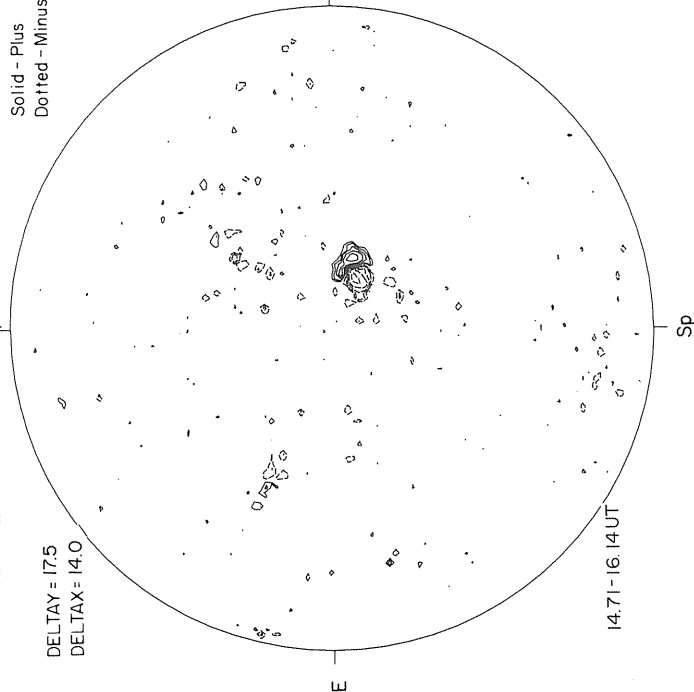
Sp

Sp

MT. WILSON

MAGNETOGRAM

Solid - Plus
Dotted - Minus

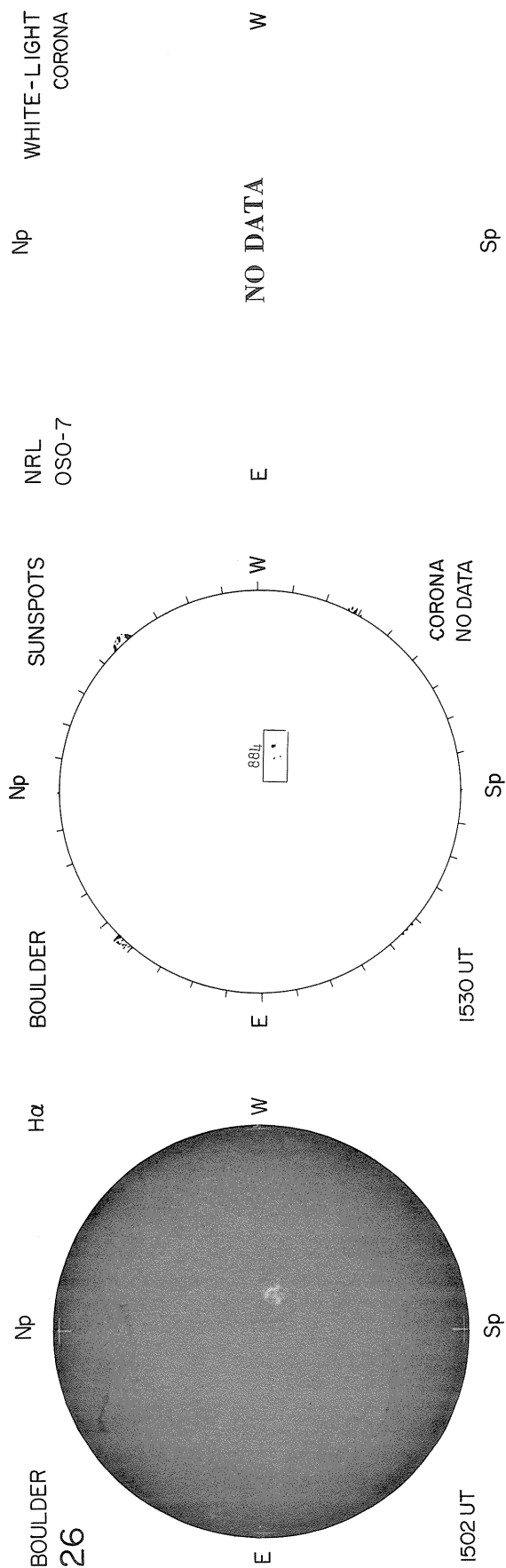


DELTA Y = 17.5

DELTA X = 14.0

14.71-16.14 UT

Levels
± 5
± 10
± 20
± 40
± 80



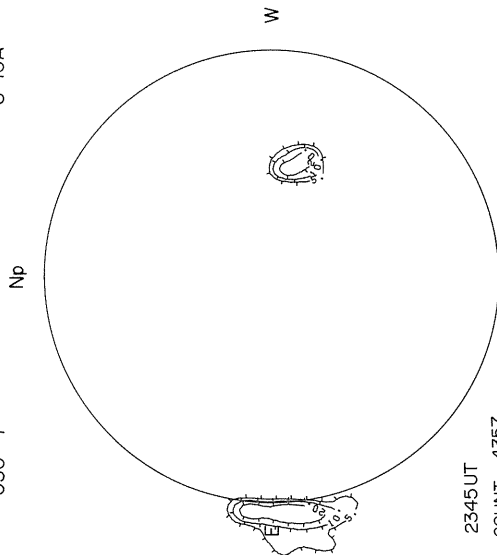
APRIL 27, 1974 (P=-24.89, B₀ = -4.56, L₀ = 334.93)

NASA GSFC
OSO-7

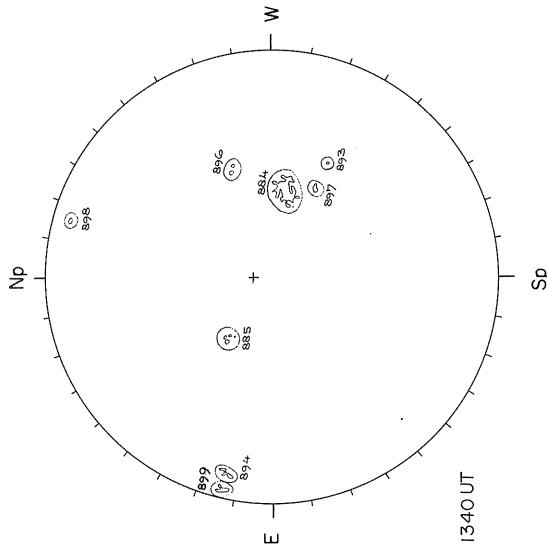
X-RAY
8-16A

McMATH-HULBERT

CALCIUM REPORT



2345 UT
COUNT = 4357
ROLL = 99.3°
P-TH = -5.72



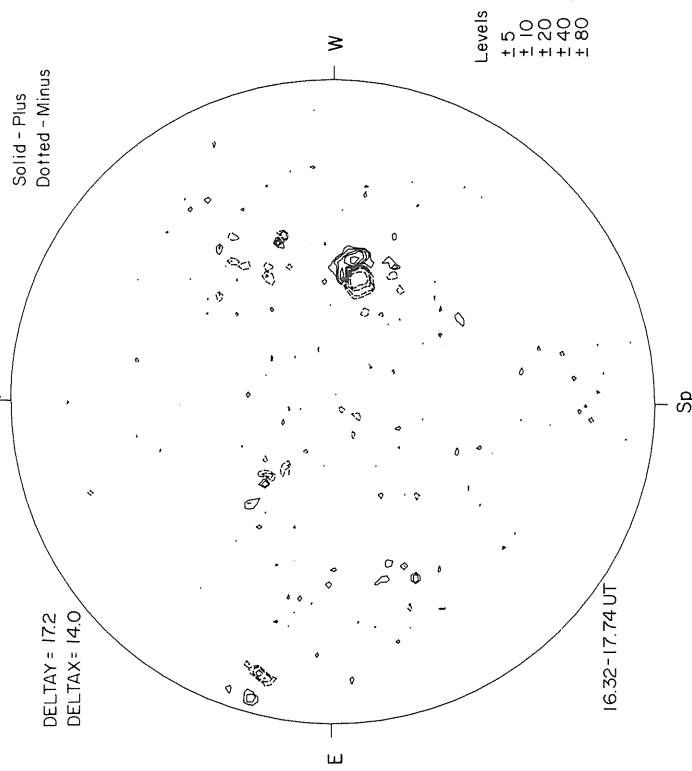
1340 UT

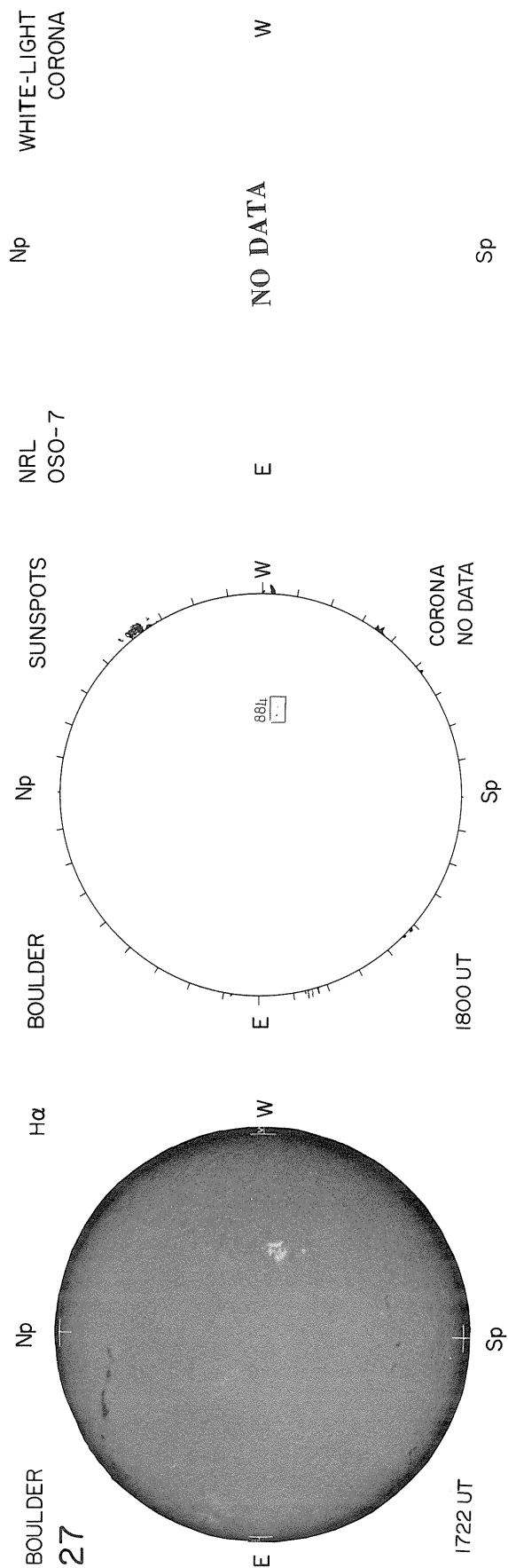
Counts per 0.125 sec.

MT. WILSON

MAGNETOGRAM
Solid - Plus
Dotted - Minus

DELTA Y = 17.2
DELTA X = 14.0





APRIL 28, 1974 (P=-24.74, B₀ = -4.46, L₀ = 321.72)

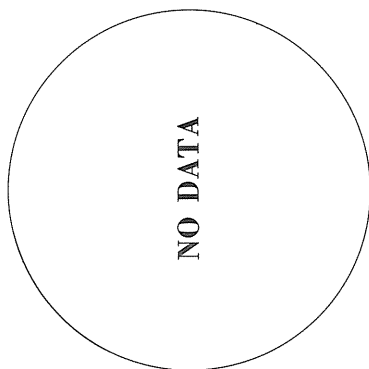
NASA GSFC
OSO-7

X-RAY
8-16A

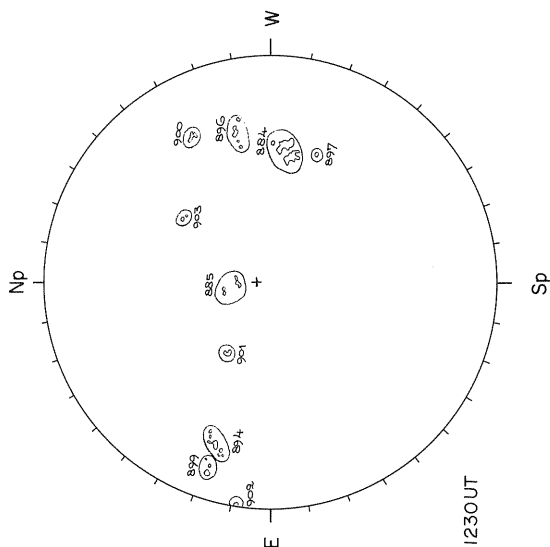
McMATH-HULBERT

CALCIUM REPORT

Np



FAIR	D
84 - 1100 - 3.0	



COUNT =
ROLL =
P-TH =

Counts per 0.125 sec.

Sp

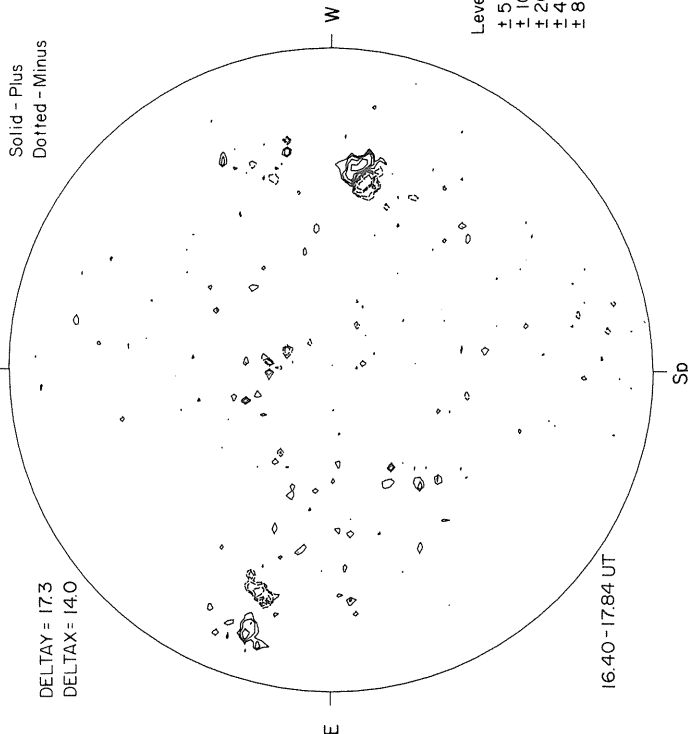
MT. WILSON

Np

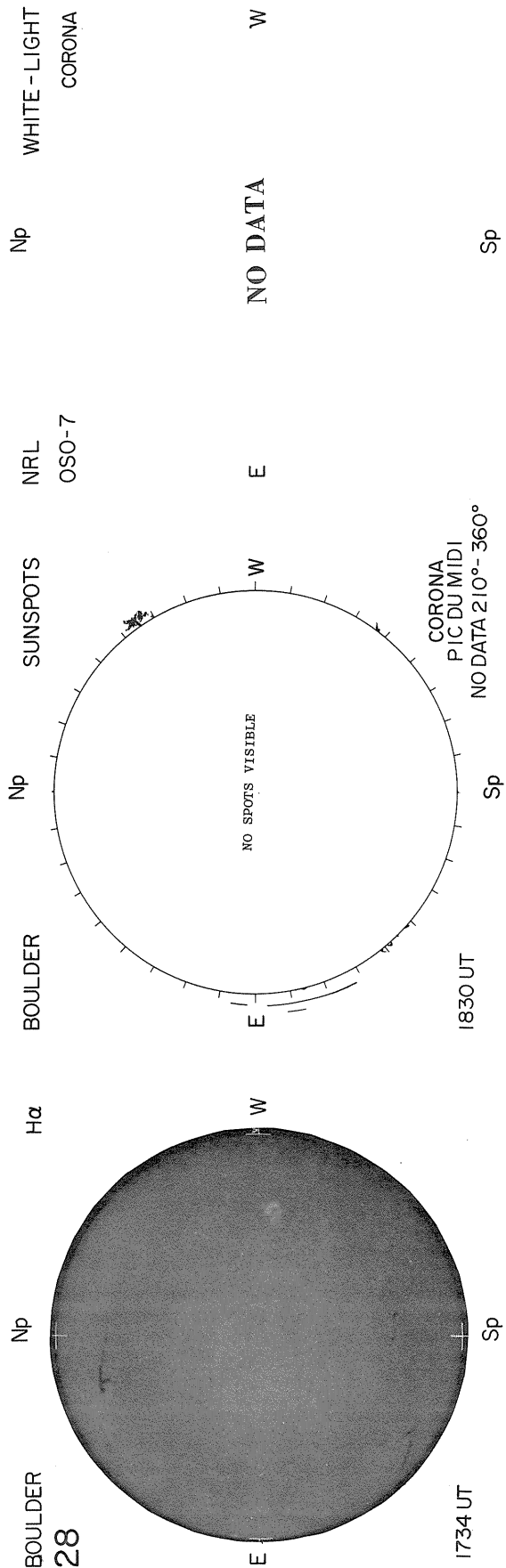
MAGNETOGRAM

Solid - Plus
Dotted - Minus

DELTA Y = 17.3
DELTA X = 14.0



Levels
+ 5
+ 10
+ 20
+ 40
+ 80



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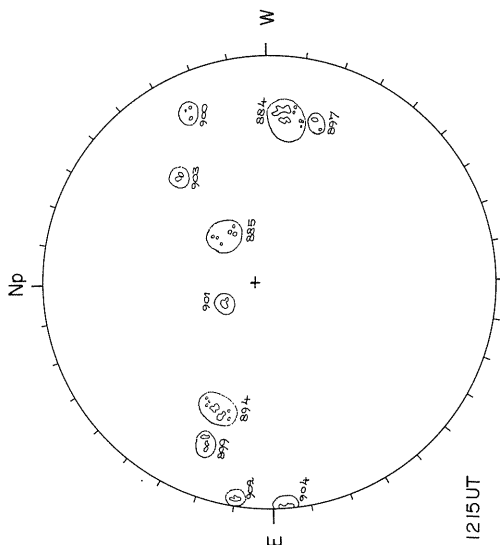
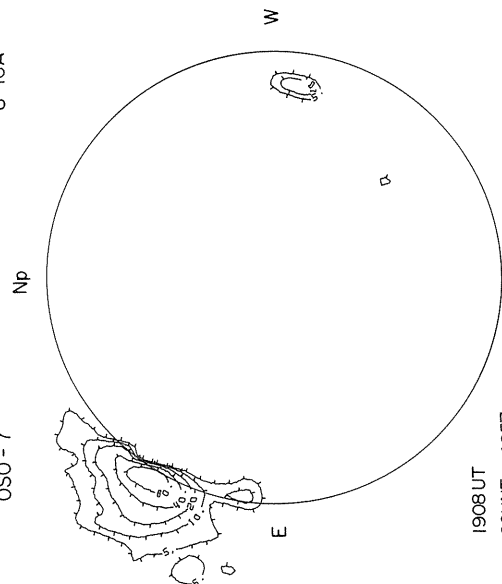
APRIL 29, 1974 (P = -24.58, B₀ = -4.37, L₀ = 308.51)

X-RAY
8-16A

McMATH-HULBERT

CALCIUM REPORT

NASA GSFC
OSO-7



BAD	D
84 - 0900 - 3.0	
03 - 0200 - 2.5	

MAGNETOGRAM
Solid - Plus
Dotted - Minus

Np

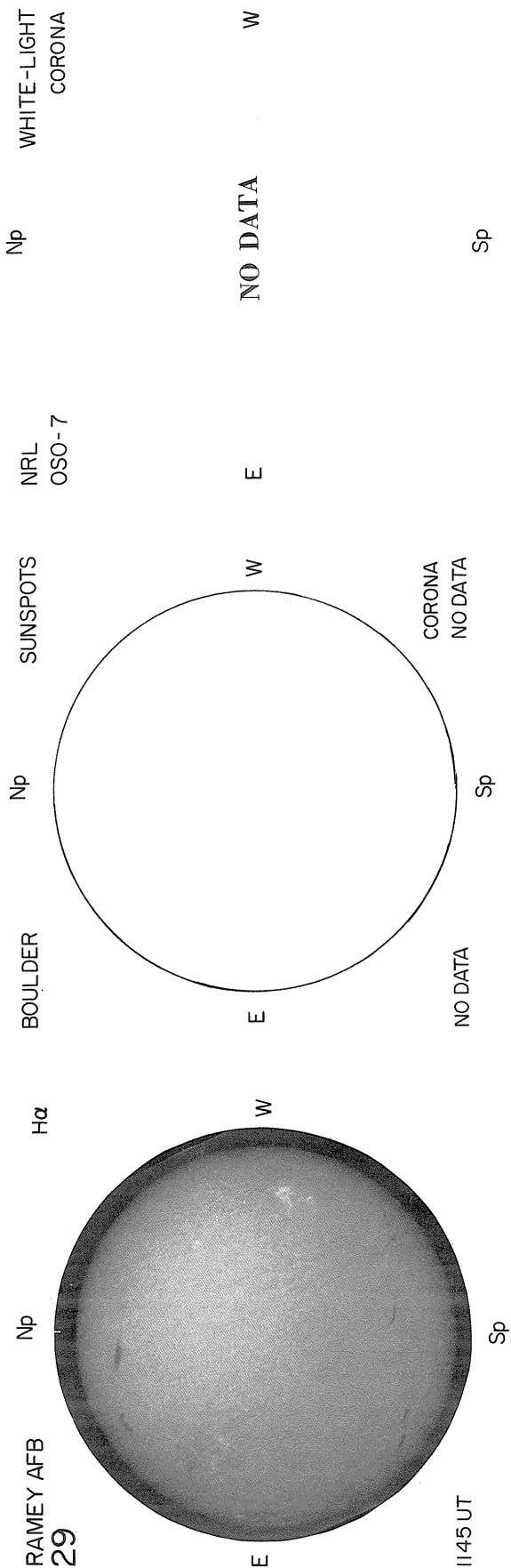
MT. WILSON

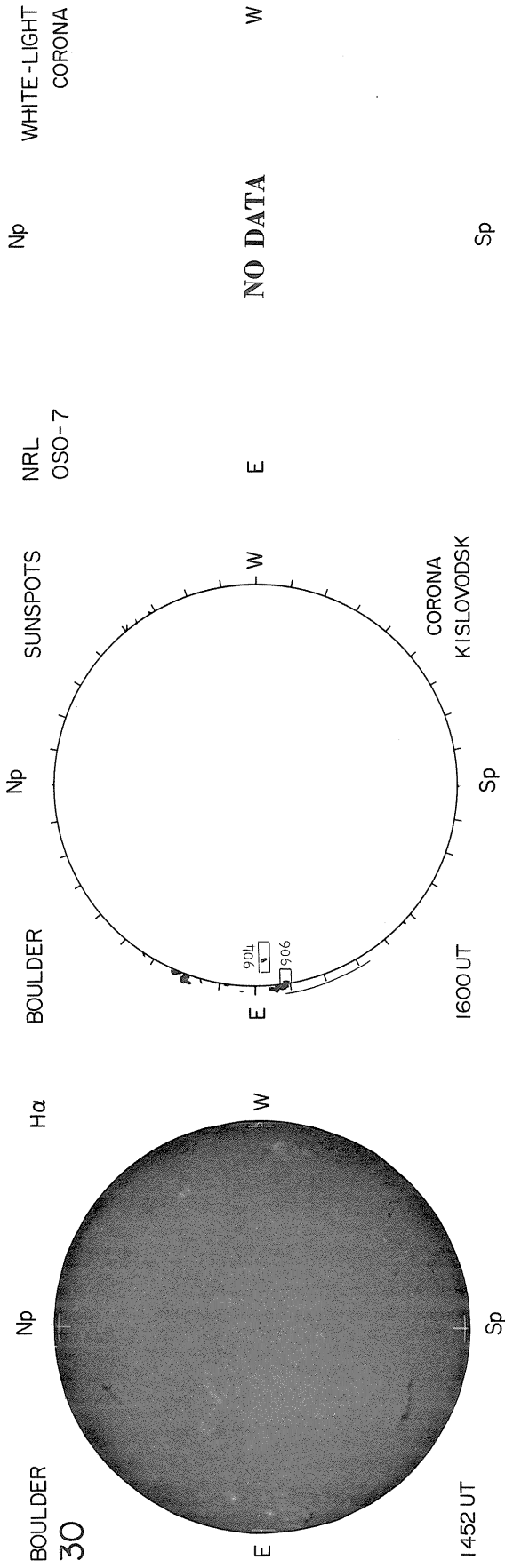
Sp



Levels
± 5
± 10
± 20
± 40
± 80

Sp





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REGIONS OF SOLAR ACTIVITY

APRIL 1974

MCMATH REGION 12846				CMP DATE 1.6				SUNSPOT DATA										
				CALCIUM		PLAGE DATA												
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	4	12846	N36	W40	310	100	1.0										

MCMATH REGION 12841				CMP DATE 1.7				SUNSPOT DATA										
				CALCIUM		PLAGE DATA												
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	2	12841	S28	W12	308	100	1.0										
74	4	3	12841	S28	W24	308	100	1.0										

MCMATH REGION 12842				CMP DATE 2.8				SUNSPOT DATA										
				CALCIUM		PLAGE DATA												
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	2	12842	N05	E03	293	100	1.5										

MCMATH REGION 12835				CMP DATE 3.3				SUNSPOT DATA										
				CALCIUM		PLAGE DATA												
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	3	30								S13	E48				B	10	3	BXO
74	3	31	12835	S11	E36	286	700	2.5	19357	S11	E33	288	(BP)	2	R	10	4	AXX
74	4	1	12835	S11	E24	285	700	2.5	19357	S12	E21	287	(BP)	3	B	30	7	CSO
74	4	2	12835	S11	E10	286	500	2.0	19357	S11	E06	286	(BP)	2	R	20	4	CRO
74	4	3	12835	S11	W03	287	500	2.5	19357	S11	W03	283	(BP)	2	R	0	1	AXX
74	4	4	12835	S11	W17	287	500	2.5	19357	S11	W18	287	(BF)	2	R	0	4	BXO
74	4	5							19357	S10	W30	286	X	1				
74	4	6	12835	S11	W44	289	500	2.0										
74	4	8	12835	S11	W71	287	300	2.0										
74	4	9	12835	S11	W83	287	200	1.0										

MCMATH REGION 12843				CMP DATE 3.3				SUNSPOT DATA										
				CALCIUM		PLAGE DATA												
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	2	12843	N24	E09	287	100	1.0										

MCMATH REGION 12836				CMP DATE 3.6				SUNSPOT DATA										
				CALCIUM		PLAGE DATA												
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	3	31	12836	S95	E38	284	100	1.5										

MCMATH REGION 12847				CMP DATE 5.5				SUNSPOT DATA										
				CALCIUM		PLAGE DATA												
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	4	12847	S15	E12	258	100	1.0										

MCMATH REGION 12837				CMP DATE 5.6				RETURN OF REGION 12781				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
74	3	31	12837	N14	E68	254	400	2.5	19358	N12	E64	257	(BP)	3	R	0	2	BXO
74	4	1	12837	N14	E55	254	600	2.5	19358	N12	E62	256	(BP)	3	R	20	3	BXO
74	4	2	12837	N14	E43	255	600	2.5	19358	N11	E36	256	(BP)	3	R	10	3	BXO
74	4	3	12837	N14	E29	255	700	2.5	19358	N11	E12	258	(AP)	3	R	20	3	CSO
74	4	4	12837	N14	E14	256	600	2.5	19358	N11	E12	257	(BF)	3	R	0	5	BXI
74	4	5							19358	N11	W01	257	(B)	3	B	30	9	CRO
74	4	6	12837	N14	W12	257	900	2.5	19358	N12	W15	258	(B)	4	B	70	10	DAI
74	4	7							19358	N12	W30	258	(BF)	4	B	60	10	DAO
74	4	8	12837	N14	W40	256	800	2.5	19358	N12	W44	259	(BP)	3	B	40	5	BXI
74	4	9	12837	N14	W53	257	900	2.5										
74	4	10	12837	N14	W66	257	800	2.5	19358	N13	W73	263	AP					

MCMATH REGION 12839				CMP DATE 6.2				RETURN OF REGION 12791				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
74	3	31	12839	N04	E80	242	200	1.0										
74	4	1	12839	N04	E66	243	200	1.0										
74	4	2	12839	N04	E53	243	200	1.5										
74	4	3	12839	N03	E38	246	100	1.5										
74	4	4	12839	N03	E24	246	200	1.5										
74	4	6	12839	N03	W05	250	200	1.0										
74	4	8	12839	N03	W31	247	100	1.0										
										N12	W30				B	60	9	DAO

The column marked STA is inserted to indicate the source of data for sunspot area, count and classification.
B = Boulder M = Manila R = Ramey

REGIONS OF SOLAR ACTIVITY

APRIL 1974

MT WILSON REGION 19360

CMP DATE 6.9

				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
74	4	7						19360	S10 W12	240	(BP)	1				

MCMATH REGION 12855

CMP DATE 7.6

				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
74	4	9	12855	N03 W27	231	100	1.5									
74	4	10	12855	N03 W41	232	100	1.0									

MCMATH REGION 12845

CMP DATE 8.0

RETURN OF REGION 12784*

ROTATION 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
74	4	2	12845	S08 E73	223	300	1.0									
74	4	3	12845	S08 E60	224	300	1.5									
74	4	4	12845	S08 E46	224	300	1.0									
74	4	6	12845	S08 E19	226	300	1.0									
74	4	8	12845	S08 W08	224	200	1.0									

MCMATH REGION 12850

CMP DATE 9.0

				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
74	4	7						19361	S05 E15	213	8		8	0	2	AXX
74	4								S10 W11				8	0	1	AXX
74	4	8	12850	S04 E05	211	300	2.0	19361	S05 E04	211	(BP)	3	8	20	2	BXO
74	4	9	12850	S04 W08	212	300	2.0		S04 W15				8	10	4	BXO
74	4	10	12850	S04 W22	213	500	2.5	19361	S04 W26	216	(BP)	3	8	40	6	BXO
74	4	11						19361	S04 W29	207	(BP)	3	8	20	2	BRI
74	4	12	12850	S04 W53	213	800	2.5	19361	S05 W54	217	(BP)		8	20	2	BXO
74	4	13	12850	S04 W64	215	900	2.5	19361	S04 W65	215	(BP)		8	20	2	BXO
74	4	14	12850	S04 W80	217	900	2.5	19361	S04 W82	219	(BP)	2	8	20	2	BXO

MCMATH REGION 12865

CMP DATE 10.0

				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
74	4	15	12865	N12 W73	198	400	2.5	19365	N11 W69	193	(BP)	2	8	0	1	AXX
74	4	16	12865	N12 W86	198	500	2.0	19365	N11 W85	195	BP					

MCMATH REGION 12866

CMP DATE 10.4

				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
74	4	15	12866	N05 W68	193	100	1.0									

MCMATH REGION 12851

CMP DATE 10.7

				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
74	4	8	12851	S49 E27	189	100	1.5									

MCMATH REGION 12852

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
74	4	8	12852	N08 E30	186	300	2.0									
74	4	9	12852	N08 E17	187	300	1.5									
74	4	10	12852	N08 E04	187	200	1.0									

MCMATH REGION 12858

CMP DATE 11.0

				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
74	4	12	12858	N15 W24	184	200	1.0									
74	4	13	12858	N14 W35	186	200	1.0									
74	4	14	12858	N14 W51	188	100	1.0									
74	4	15	12858	N14 W63	188	200	2.0									
74	4	16	12858	N14 W75	187	300	2.0									

MCMATH REGION 12867

CMP DATE 11.2

				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
74	4	15	12867	N08 W57	182	300	2.0	19366	N07 W57	181	(BP)	3	8	10	3	BXO
74	4	16	12867	N08 W70	182	500	2.0	19366	N08 W74	184	(BP)	1	8	10	2	BXO
74	4	17	12867	N08 W85	183	300	1.5									

*An asterisk beside the "Return of Region" number indicates that the new region is only part of the area of the old region.

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APRIL 1974

MCMATH REGION 12848

CMP DATE 11.3

				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					
74	4	6	12848	S12	E63	182	900	2.5	19359	S10	E58	185	(BP)	2	8	20	5	8X0					
74	4	7							19359	S12	E45	183	(BY)	3	8	20	5	8X1					
74	4	8	12848	S12	E36	180	900	2.5	19359	S13	E35	180	(BF)	3	8	20	5	8X2					
74	4	9	12848	S12	E23	181	1500	3.5								1300	2	8X3					
74	4	10	12848	S12	E10	181	1900	3.5	19359	S13	E16	184	(BY)	4	8	20	5	8X4					
74	4	11							19359	S12	E06	184	(D)	4	8	20	5	8X5					
74	4	12	12848	S12	W22	182	2900	3.5	19359	S12	W06	184	(D)	4	8	20	5	8X6					
74	4	13	12848	S12	W34	185	3200	3.5	19359	S12	W20	183	(D)	4	8	710	4	8X7					
74	4	14							19359	S12	W33	185	(D)	4	8	740	5	8X8					
74	4	14	12848	S12	W47	184	4200	3.5	19359	S11	W49	186	(D)	4	8	660	48	FSI					
74	4	15							19359	S10	W60	186	(BP)	4	8								
74	4	15	12848	S12	W60	185	5000	4.0	19359	S10	W60	184	(BP)	4	8	320	32	DAT					
74	4	16							19359	S13	W61	185	(D)	5	8	760	73	FKI					
74	4	16	12848	S12	W72	184	5000	3.5	19359	S13	W77	187	(BY)	4	8	680	35	FKI					
74	4	17							19359	S09	W76	186	(D)	4	8	360	14	DAT					
74	4	17	12848	S12	W85	183	4400	3.5	19359	S13	W89	186	X	4	8	150	16	OKT					
74	4								19363	S08	W89	186	X	8	8	80	6	DAT					

MCMATH REGION 12859

CMP DATE 13.0

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
74	4	12	12859	N19	E02	158	100	1.0										
74	4	13	12859	N18	W08	159	200	1.5										
74	4	14	12859	N18	W23	160	100	2.0										
74	4	15	12859	N18	W36	161	100	1.0										

MCMATH REGION 12849

CMP DATE 13.1

RETURN OF REGION 12795

ROTATION 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
74	4	6	12849	S17	E88	157	300	1.0										
74	4	8	12849	S16	E63	153	1100	2.0	19362	S17	E54	161	(BP)	2	8	0	2	AXX
74	4	9	12849	S16	E48	156	1000	2.0										
74	4	10	12849	S16	E34	157	1200	2.5	19362	S16	E39	166	(AP)	2	8	0	2	AXX
74	4	11							19362	S16	E34	166	(BP)	2	8	0	2	AXX
74	4	12	12849	S16	E03	157	1400	3.0	19362	S16	E01	162	(BP)	2	8	0	2	AXX
74	4	13	12849	S16	W10	161	1800	3.0	19362	S16	W14	164	(BP)	2	8	0	2	AXX
74	4	14	12849	S16	W24	161	2100	3.0	19362	S16	W15	165	(BP)	2	8	0	2	AXX
74	4	15	12849	S16	W37	162	2800	4.5	19362	S16	W27	164	(BP)	4	8	0	2	AXX
74	4	16	12849	S15	W50	162	3000	3.5	19362	S15	W42	166	(BP)	4	8	0	2	AXX
74	4	17	12849	S15	W63	161	3000	3.5	19362	S14	W56	165	(D)	4	8	0	2	AXX
74	4	18	12849	S14	W76	161	3000	3.0	19362	S13	W69	166	(D)	4	8	0	2	AXX
74	4	19	12849	S15	W85	157	800	1.0										

MCMATH REGION 12860

CMP DATE 13.2

SUNSPOT DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	12	12860	N02	E05	155	100	1.0										

MCMATH REGION 12874

CMP DATE 13.5

SUNSPOT DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	16	12874	N10	W40	152	100	1.0										
74	4	17	12874	N10	W54	152	100	1.0										

MCMATH REGION 12861

CMP DATE 13.8

SUNSPOT DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	12	12861	N13	E12	148	100	1.0										
74	4	13	12861	N13	E01	150	100	1.0										

MCMATH REGION 12869

CMP DATE 13.9

SUNSPOT DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	16	12869	N10	W35	147	100	2.5										
74	4	17	12869	N10	W48	146	200	2.0										
74	4	18	12869	N11	W61	146	300	1.5										
74	4	19	12869	N11	W77	149	300	1.5										

MCMATH REGION 12854

CMP DATE 14.3

RETURN OF REGION 12795*

ROTATION 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
74	4	8	128	54	S22	E75	141	800	1.0										
74	4	9	128	54	S23	E61	143	700	1.0										
74	4	10	128	54	S23	E48	143	900	1.5										
74	4	12	128	54	S23	E19	141	900	1.5										
74	4	13	128	54	S24	E10	141	1000	1.5										
74	4	14	128	54	S23	W04	141	900	1.5										
74	4	15	128	54	S23	W17	142	900	1.5										
74	4	16	128	54	S23	W29	141	900	1.5										

cont'd

REGIONS OF SOLAR ACTIVITY

APRIL 1974

MCMATH REGION 12873				CMP DATE 21.9				RETURN OF REGION 12834				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
74	4	16	12873	N08	E74	38	300	2.0									
74	4	17	12873	N08	E60	38	300	2.0									
74	4	18	12873	N08	E46	39	300	2.5									
74	4	19	12873	N08	E31	41	500	2.5									
74	4	20	12873	N08	E17	43	500	1.5									
74	4	21	12873	N08	E05	41	400	1.5									
74	4	22	12873	N08	W12	41	400	1.5									
74	4	24	12873	N08	W38	45	200	1.0									
74	4	25	12873	N07	W48	42	400	1.0									
74	4	26	12873	N07	W60	41	200	1.0									
MCMATH REGION 12872				CMP DATE 22.6													
				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
74	4	16	12872	S12	E79	33	100	1.0									
74	4	17	12872	S13	E66	32	100	1.5									
74	4	18	12872	S14	E53	32	100	1.5									
MCMATH REGION 12888				CMP DATE 23.0													
				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
74	4	24	12888	N02	W20	27	200	1.5									
74	4	25	12888	N02	W34	28	200	1.5									
74	4	26	12888	N02	W48	29	100	1.0									
MCMATH REGION 12882				CMP DATE 23.2													
				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
74	4	19	12882	S06	E48	24	100	1.0									
MCMATH REGION 12889				CMP DATE 24.4													
				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
74	4	18	12889	N19	E85	0	200	1.0									
74	4	19	12889	N18	E68	4	500	2.5									
74	4	20	12889	N19	E55	5	300	1.5									
74	4	21	12889	N19	E39	7	200	2.0									
74	4	22	12889	N19	E22	7	200	2.0									
74	4	24	12889	N17	W01	8	200	1.0									
74	4	25	12889	N16	W13	7	200	1.0									
MCMATH REGION 12893				CMP DATE 25.1													
				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
74	4	26	12893	S19	W19	0	100	1.0									
74	4	27	12893	S19	W32	359	100	1.0									
MCMATH REGION 12889				CMP DATE 25.2													
				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
74	4	24	12889	N17	E09	359	200	1.0									
74	4	25	12889	N17	W03	358	100	1.5									
MCMATH REGION 12898				CMP DATE 25.3													
				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
74	4	27	12898	N58	W30	357	100	1.5									
MCMATH REGION 12900				CMP DATE 25.3													
				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
74	4	28	12900	N17	W42	357	300	1.0									
74	4	29	12900	N17	W53	355	200	1.0									
MCMATH REGION 12896				CMP DATE 25.4													
				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
74	4	27	12896	N05	W29	356	200	2.0									
74	4	28	12896	N05	W42	357	300	1.0									

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APRIL 1974

McMATH REGION 12897

CMP DATE 25.7

				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
74	4	27	12897	S16	W24	351	200	2.0										
74	4	28	12897	S16	W36	351	100	1.5										
74	4	29	12897	S16	W47	349	100	1.5										
74	4	30	12897	S16	W68	352	100	1.0										
74	5	1	12897	S16	W77	352	100	1.0										

McMATH REGION 12884

CMP DATE 25.8

				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
74	4	21	12884	S08	E59	348	100	2.0	19370	S08	E56	349	(AP)	1	B	0	3	AXX
74	4	22	12884	S08	E42	348	200	2.0	19370	S08	E41	348	X			0	3	AXX
74	4	23							19370	S09	E28	352	BF)	2	B	300	7	8X0
74	4	24	12884	S08	E17	351	500	3.0								500	9	9X0
74	4	25	12884	S08	E04	351	800	3.0	19370	S08	E02	352	(BP)	4	B	600	14	CA0
74	4	26	12884	S08	W10	351	1000	3.9	19370	S09	W11	351	(B)	3	B	800	12	CA0
74	4	27	12884	S08	W24	351	1000	3.0	19370	S09	W27	351	(BP)	2	M	200	6	9X0
74	4	28	12884	S08	W36	351	1100	3.0										
74	4	29	12884	S08	W48	350	900	3.0										
74	4	30	12884	S08	W69	353	900	2.5										
74	5	1	12884	S08	W79	354	900	2.5										

McMATH REGION 12890

CMP DATE 27.2

				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
74	4	24	12890	N05	E34	334	200	1.0										
74	4	25	12890	N05	E22	333	100	1.5										
74	4	26	12890	N05	E09	332	100	1.5										

McMATH REGION 12903

CMP DATE 27.2

				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
74	4	28	12903	N18	W17	332	200	1.0										
74	4	29	12903	N18	W29	331	200	2.5	19372	N20	W33	333	(A)	2	R	0	1	AXX
74	4	30	12903	N18	W50	334	500	2.5										
74	5	1	12903	N18	W57	332	400	2.5										
74	5	2	12903	N18	W70	331	400	2.0										
74	5	3	12903	N19	W85	332	300	1.0										

McMATH REGION 12885

CMP DATE 28.7

				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
74	4	22	12885	N07	E89	301	100	1.5										
74	4	23	12885	N07	E56	312	300	2.0										
74	4	24	12885	N07	E43	312	200	1.0										
74	4	25	12885	N07	E30	311	200	1.0										
74	4	27	12885	N07	E16	311	200	1.5										
74	4	28	12885	N07	E02	313	200	1.5										
74	4	29	12885	N07	W12	314	300	1.0										

McMATH REGION 12901

CMP DATE 29.9

				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
74	4	28	12901	N07	E18	297	200	1.0										
74	4	29	12901	N07	E05	297	200	1.0										
74	4	30	12901	N07	W13	297	100	1.0										
74	5	1	12901	N07	W22	297	500	3.5	19375	N07	W25	307	(BP)	4	B	30	12	9X0
74	5	2	12901	N07	W36	297	900	3.0	19375	N07	W41	309	(BP)	3	B	40	6	0A0
74	5	3	12901	N07	W52	299	800	2.5	19375	N07	W55	310	(BP)	4	B	40	2	CS0
74	5	4	12901	N07	W64	299	900	2.0	19375	N08	W78	320	(AP)	2	R	30	2	CS0
74	5	5	12901	N07	W78	299	600	1.5										

McMATH REGION 12905

CMP DATE 30.8

				CALCIUM			PLAGE		DATA			SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	4	30	12905	S21	W01	285	100	2.0										

Note: Region 12848 is probably mostly new plage that has formed in the location of region 12794 of the previous rotation (i.e., a resurgence of activity while on the invisible hemisphere).

Region 12489 undergoes rapid growth and development on the disk after April 8.

Region 12856 is new plage which formed in the same location as short-lived region 12810 of the previous rotation, with a considerable increase in area and intensity after April 17.

No calcium spectroheliograms were secured at the McMath-Hulbert Observatory on April 5, 7, 11 and 23, 1974.

No sunspot observations were made at Mt. Wilson Observatory on April 9 and 18, 1974.

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DAILY CALCIUM PLAGE INDEX

APRIL 1974

YR	MO	DAY	INDEX	YR	MO	DAY	INDEX	YR	MO	DAY	INDEX
74	4	1	2.6	74	4	11	*	74	4	21	4.5
74	4	2	2.7	74	4	12	16.3	74	4	22	3.1
74	4	3	3.2	74	4	13	15.8	74	4	23	*
74	4	4	3.2	74	4	14	17.8	74	4	24	4.0
74	4	5	*	74	4	15	21.9	74	4	25	4.1
74	4	6	4.3	74	4	16	15.0	74	4	26	3.8
74	4	7	*	74	4	17	9.3	74	4	27	4.2
74	4	8	6.0	74	4	18	9.2	74	4	28	4.7
74	4	9	8.8	74	4	19	9.1	74	4	29	4.2
74	4	10	12.0	74	4	20	5.2	74	4	30	4.6

* NO OBSERVATIONS

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SUDDEN IONOSPHERIC DISTURBANCES

APRIL 1974

DAY	UNIVERSAL TIME				WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE								KNOWN FLARE	McMATH REGION
	START	END	MAX	IMP		SWF	SCNA	SEA	SPA	LF- SPA	SES	SFD			
02	2117	2120	2118	1-	1								1	*	
03	0351	0354	0352	1-	1								1	*	
07	0650	0750	0710	1-	1				1					0705E	12837
08	1121	1226	1131	2+	1				1					1121	12852
08	2245	2245	2245	1-	1							1		2245E	12848
09	0001	0002	0001	1-	1							1		0000E	12848
09	0726	0730	0728	1-	1							1		0726	12848
09	0742	0853	0819U	1-	1			1						0745	12848
09	1502	1515	1508	1-	1	1								1510	12848
10	0421	0446	0425	1-	1				1					0420	12848
10	0708	0735	0716	1-	3				1		1			0710E	12848
10	0948	1033	0953	1-	1			1						0950E	12848
10	1252E	1328	1308	1-	1			1						1250	12848
10	1351E	1457	1353	1-	1			1						1348	12848
10	1427	1440	1430	1-	1						1			1428	12848
10	1439	1454D	1454	1-	1				1		1			1440E	12848
10	1648	1652	1650	1-	1							1		1645	12848
10	1820	1855	1835	1-	1				1					1819E	12848
10	2028	2110	2035	1-	5	1			2		3			2023	12848
10	2116	2127	2119	2	1		1							2118	12848
11	0004	0100	0009	1-	5				4					0002	12848
11	0200	0250	0205	1-	3				3					0159	12848
11	0253	0353	0301	1-	3	1			3					0252	12850
11	0940	1000	0946	1-	1				1					0950E	12848
11	1539	1615	1548	1-	5	2			4		5			1540	12848
11	2119	2130	2120	1-	1				1					2117	12848
12	0215	0237	0220	1-	1				1					0215E	12848
12	0526	0656	0553	1	3	1			3					NF	
12	1545	1619	1546	1	3	1			1	1	3			1540E	12848
12	2357	0320	0010	1-	5	2			4		4			2357	12848
13	0104E	0325	0124	2-	3	2			2		1			0111E	12848
13	0407	0850	0428	1	3				3		1			0405	12848
13	0526	0650	0533	2+	5	5	2	3	3		3			NF	
13	0658	0734	0709	2	5	5	1	3	4		2			0658	12848
13	0752	0854	0800	2-	5	5	1	4	5		3			0748	12848
13	0840	0905	0855	1-	3				1		1			0840	12848
13	0930	1030	0955	2	5	2	1	2	4		1			0932E	12848
13	1048	1220	1056	2	5	3	1	3	7		4			1046	12848
13	1154	1235	1201	1-	1				1					1154	12848
13	1232	1258	1239	1-	1			1			1			1230E	12848
13	1315	1420	1325	2+	5	5		4	7	1	10			1312	12848
13	1541	1620	1550	3-	5	6	2	5	6	1	12			1541	12848
13	1715	1730	1720	1-	5	1			1		8			1714	12848
13	1730	1750	1740	1-	1				1					1728	12848
13	1744	1808	1748	1	5	3			3		7			NF	
13	1808	1900	1815	1	5	4	1		2	1	11	1		1807	12848
13	1910	1945	1915	1-	5	3			3	1	11			1910E	12848
13	2015	2045	2021	1-	3				1		8			NF	
13	2228	2251	2232	1-	5				2	1	6	1		2218E	12848
13	2358	0105D	0023	1	1				1					2352	12850

SUDDEN IONOSPHERIC DISTURBANCES

APRIL 1974

DAY	UNIVERSAL TIME				WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE								KNOWN FLARE	McMATH REGION
	START	END	MAX	IMP		SWF	SCNA	SEA	SPA	LF- SPA	SES	SFD			
14	0012	0030	0015	1-	5				3			1	0012	12848	
14	0049	0133	0102	1-	3				2				0049	12848	
14	0229	0312	0238	1-	1				1				0233E	12848	
14	0506	0527	0510	1-	1				1				0506E	12848	
14	0543	0609	0547	1-	3				2				0551E	12848	
14	0638	0736	0644	1-	5			4	4		3		0639	12848	
14	0748	0820	0754	1	3				2				0747	12848	
14	0919	0950	0930	1-	1						1		0921	12848	
14	1115	1215	1133	1-	5			1	2		2		1111	12848	
14	1230	1355	1245	1-	5			1	2		2		1228	12848	
14	1410	1438	1415	1-	5			1	2		7		1406	12848	
14	1435	1445D	1445	1-	3				1		2		1436	12848	
14	1456	1540	1540	1-	5	1		2	2		7		NF		
14	1646	1726	1657	1-	5				1	1	4		1645	12848	
14	1756	1817	1802	1-	5	1			1	1	9		NF		
14	1912	2000	1920	1-	5	4	1		3	1	10		1914E	12848	
14	2117	2135	2125	1-	5	1			1	1	7		NF		
14	2148	2225	2159	1-	5	1			4	1	8		3147	12848	
14	2350	0049	0001	1-	5	1			3		7		2357	12848	
15	0059	0211	0110	1	5	3			4		2		0108E	12848	
15	0222	0239	0227	1-	3				2				0222E	12848	
15	0321	0340	0325	1-	1				1				0321	12848	
15	0432	0447	0436	1-	3				2				0435E	12848	
15	0525	0611	0529	1-	3	1			3				0526	12848	
15	0618	0640	0628	1-	5	1			4				0621E	12848	
15	0818	0900	0830	2	3	3	1	3	3		2		0815	12848	
15	0923	0958	0933	1	3				2		1		0920E	12848	
15	0942	1030	0955	1+	5	3	1	2	2		2		0943E	12849	
15	1040	1117	1108	1-	3				1		1		1036	12848	
15	1117	1150	1123	1-	1						1		1117	12848	
15	1255	1430	1320	1-	5				3		4		1254	12848	
15	1307	1400	1317	2	5	4	1	1	4		6		1308	12849	
15	1454	1535	1500	1-	5			1	1		5		NF		
15	1743	1750D	1750	1-	3				1		4		1741	12848	
15	1803	1840	1813	1-	5				1		4	1	1807E	12848	
15	1838	1911	1848	1	1	1							1838E	12848	
15	1849	1951	1911	1-	5				3		3	1	1851E	12848	
15	2110	2140	2120	1-	5				3		3		NF		
15	2257	2327	2310	1-	5				4		3		NF		
15	2342	0108	2400	1-	5	2			4		2		NF		
16	0237	0320	0247	1	5	3			4		1	1	0236	12848	
16	0345	0442	0356	1	3	1			2		1	1	0351E	12848	
16	0556	0630	0559	1-	1						1		0559E	12848	
16	0733	0900	0742	2+	5	5	2	4	4		3		0732	12848	
16	0959	1030	1007	1	3	1			2		1		0959E	12849	
16	1105	1208	1117	2	5	3	1	4	5		4		1102E	12848	
16	1204	1230	1207	1	5			1	2		2		1200	12848	
16	1429	1500	1434	1	5	3	1	2	5	1	6		1430	12849	
16	1505	1545	1510	1-	5	1		1	2	1	6		1509	12849	
16	1620	1720	1626	3	5	6	2	6	9	1	6		1620	12849	
16	1714	1750	1718	1-	5	1	1		1		5		1713	12848	
16	1819	1851	1821	1-	1						1		1817	12849	
16	1900	1907D	1907	1-	3				1		2		1906	12849	
16	1920	2000	1932	1-	5	1			1	1	4		1919	12849	
16	2006	2031	2013	1-	5				1	1	2		2002	12848	
16	2033	2050D	2050	1-	5				2	1	2		2032	12849	
16	2145	2215	2152	1-	5	1			5	1	4		2147	12849	

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SUDDEN IONOSPHERIC DISTURBANCES

APRIL 1974

DAY	UNIVERSAL TIME				WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE								KNOWN FLARE	McMATH REGION
	START	END	MAX	IMP		SWF	SCNA	SEA	SPA	LF- SPA	SES	SFD			
17	0059	0156	0106	1-	3				2				0056	12849	
17	0556	0641	0608	1-	5				3		1		0555E	12849	
17	0645	0651	0647	1-	1			1					*		
17	0706	0715	0707	1-	1			1					0704	12849	
17	0824	0846	0829U	1-	1			1					0825	12848	
17	0918	1000	0926	1+	3	3		2	3		2		NF		
17	1100	1140	1105	2	5	3	1	2	5		3		NF		
17	1136	1232	1206U	1-	1			1					1137	12849	
17	1441	1529	1441	1-	1				1				1442	12848	
17	1615	1700	1635	1-	3				1	1	3		NF		
17	1835	1920	1845	1-	5	1			2	1	6		1835	12849	
17	1924	1950	1930	1-	5					1	3	1	1924	12849	
17	2322	0015	2325	1-	5	1			3	1	4	1	2321	12849	
18	0035	0200	0045	2	5	3	1		4		3		NF		
18	0216	0234	0220	1-	3				2				0210E	12849	
18	0242	0320	0246	1-	5	2			2				NF		
18	0441E	0459	0445	1-	1			1					0445	12849	
18	0530	0545	0533	1-	3			1	1				0527	12856	
18	0545	0750	0549	1-	3				1		1		0547	12856	
18	0601	0640	0608	1-	5			2	3		1		0601	12849	
18	0905	0950	0910	1	5	2	1		2		2		NF		
18	1035	1100	1040	1-	3				1		1		1039	12849	
18	1130	1310	1207	2-	3	1		1	1		2		1130E	12849	
18	1154	1300	1203	1+	5	1	1	2	4				NF		
18	1305	1340	1314U	1-	1			1					1305	12849	
18	1440	1500	1447	1-	3	1			2		1		NF		
18	1800	1840	1810	1-	3				1		3		*		
18	1850	1955	1907	1+	5	4	2		4	1	6		*		
18	1958	2114	2013	2	5	5	2		4	1	6		NF		
18	2153	2323	2210	1-	5	1			4	1	5		2152	12856	
18	2228	2304	2234	1-	3				1		3		NF		
19	0726	0915	0744	2	5	2	1	3	4		2		0718	X-RAY	
19	0818	0855	0830	2	3		1	1	2		1		0812	12856	
19	1525	1637	1540	1-	1				1				1524E	12856	
20	0214	0400	0222	1-	3	1		1	3				NF		
20	0447	0542	0456	1-	1				1				0457E	12856	
22	0149	0230	0154	1-	3				3				NF		
25	0030	0100	0034	1-	5	1			4		1		0027E	12884	
30	0205	0350	0215	2-	5	2	1		3		2		0207E	12906	
30	1309	1340	1315	1-	5	2		1	5		7		1306	12906	
30	1512	1520D	1520	1-	1				1				1512	12906	
30	1757	1920	1815	2-	5	4		1	5	1	5	1	1755	12906	

STATIONS REPORTING FOR APRIL 1974

AAVSO (A1, A17, A26) (SEA) (A1, A19,
A21, A29, A30, A31, A33, A35,
A37, A38) (SES) (A31, A38) (SWF)
AREQUIPA (AQ) (SPA)
BOULDER (BO) (SCNA, SEA)
DARMSTADT (DA) (SWF)
DEBRE ZEIT (DE) (SPA)
HAWAII (HA) (SCNA)
HERSTMONCEUX (HC) (SEA)
HIRAISO (HI) (SWF)
HOBART (TA) (SEA)
HONGKONG (HK) (SWF)
HUANCAYO (HU) (SWF)
INUBO (IN) (SPA)
JOHANNESBURG (JH) (SPA)
KASUAGI (KA) (SPA)

KONA, HAWAII (KN) (SFD)
KUHLEUNGSBORN (KU) (SPA, SEA)
KULA, MAUI (KL) (SPA)
MANILA (MA) (SWF, SCNA, SPA)
MCMATH (MC) (SWF, SCNA)
NATAL (NL) (SPA)
NEUSTRELITZ (NU) (SWF, SCNA)
PANSKA VES (PU) (SWF, SEA, SES)
POITIERS (PO) (SEA)
PRESTON (LO) (SEA)
SAO PAULO (UM) (SPA, SES)
SOFIA (SF) (SES)
ST. CLOUD (SC) (SES)
TABLE MOUNTAIN (TM) (SWF, SPA, LF-SPA)
TORTOSA (TS) (SEA)
UPICE (UI) (SEA)

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APRIL 1974

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APR 1974	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE		
	CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND					
	START UT	END UT		INT	START UT	END UT	INT	START UT	END UT	INT	START UT	END UT		INT	
14			BOUL									1513.8	1513.9	1	III
			BOUL									1537.3	1539.2	1	IIIG
			BOUL									1542.8	1542.9	1	III
			HARV									1640	2000	1	IN
			BOUL									1735.7	1736.1	1	III
			BOUL									1749.7	1749.9	1	III
			HARV									1803	1805	2	IIIG
			BOUL									1803.4	1803.9	1	IIIG
			BOUL									1933.1	1933.3	1	III
			HARV									2000	2245	0	I
			BOUL									2142.6	2142.9	1	III
			BOUL									2150.7	2150.8	1	III
			BOUL									2337.6	2337.7	1	III
			BOUL									2343.5	2345.0	2	IIIG
	2145	2400	MANI									2344.4	2344.8	1	III
			BOUL									2357.2	2357.3	1	III
15	0000	0200	BOUL												IIIB
	0518	0906	WEIS									0520.3	0520.4	1	IN
			WEIS									0525.0	1210.0	1	IIIG
			WEIS									0830.4	0830.7	1	IIIG
			WEIS									0842.7	0843.4	3	IIIG
	0000	1007	MANI									0842.8	0843.1	2	III
	0937	1522	WEIS												IIIG
			WEIS												IIIGG
	1007	2321	SGMR									1113.5	1114.4	1	III
			WEIS									1113.6	1114.2	1	IIIG
			WEIS									1125.9	1126.1	1	IIIG
			SGMR									1126.0	1131.8	2	IIIG
			WEIS									1127.8	1131.3	3	IIIGG
			WEIS									1134.3	1134.4	1	IIIB
			WEIS									1148.3	1148.4	2	IIIB
			WEIS									1201.4	1201.7	1	IIIB
			SGMR									1201.4	1202.0	1	III
	1301	2245	HARV			1325	1327	3							IIIG
	0757	1454	OWIN			1326.5	1326.5	2				1334.2	1334.7	2	IIIG
			HARV									1327	1756	1	IN
			HARV			1334	1335	3				1334	1335	2	IIIG
	1230	2400	BOUL												III
			HARV			1426	1430	3				1426	1430	3	IIIG
			BOUL												III
			BOUL												III
			BOUL												III
			BOUL												III
			BOUL												III
			HARV									1619.9	1620.0	1	III
			HARV			1909	1910	3				1716	1716	1	IIIG
			HARV												IIIG
			MANI									2009	2056	1	IN
16	0000	1008	MANI												IIIB
	0000	0200	BOUL												IIIG
	0802	0856	OWIN												IN
	0930	1154	OWIN												III
	0727	1730	WEIS												IN
			WEIS												IN
			WEIS												IN
	1005	2322	SGMR												IN
	1502	2245	HARV									1148.2	1148.7	2	III
			HARV			1624	1644	1							IN
	1230	2400	BOUL												III
			BOUL									1632.6	1632.9	1	III
			HARV									1707.0	1707.3	1	III
			HARV												IIIG
			BOUL												IIIGG
			BOUL												III
			BOUL												III
			BOUL									1948.3	1948.7	1	III
			HARV									1956.7	1956.9	1	III
			BOUL												IIIG
			BOUL									2025	2026	2	III
			BOUL												III
			BOUL									2254.0	2254.5	1	III
			BOUL									2257.3	2258.0	1	IIIG
			BOUL									2325.5	2328.7	1	IIIG
			BOUL									2329.7	2334.6	2	IIIG
	2145	2400	MANI									2332.7	2333.0	1	III
17	0000	0200	BOUL												IIIG
	0000	1008	MANI									0121.9	0124.3	2	IIIG
	0520	0957	WEIS									0122.5	0124.2	2	IIIG
	0802	1459	OWIN												IIIG
			WEIS												I
	1024	1415	WEIS												IIIG,U
	1302	2400	HARV												IIIG
	1429	1526	WEIS												II
			HARV									1433	1434	3	III
	1003	2323	SGMR									1433.7	1434.5	1	III
	1230	2400	BOUL									1433.7	1434.3	1	III
			BOUL									1539.8	1540.0	1	III
			HARV												IIIB
			HARV									1540		3	IIIG
			HARV									1542	1545	1	IN
			HARV									1558	2100	1	IN

SOLAR RADIO EMISSION SPECTRAL OBSERVATIONS

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SOLAR RADIO EMISSION SPECTRAL OBSERVATIONS

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APR 1974	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.			
21	1302 1215 2143	2245 1749 2400	HARV WEIS MANI							1305.4	1305.5	1				IIIB
22	0000 0000 0514 0803 0956 1200 1302 2142	1011 0200 1746 1500 2329 2400 2245 2400	MANI BOUL WEIS DWIN SGMR BOUL HARV MANI													
23	0000 0000 0500 0655 0803 0955 1200 2141 1301	1011 0200 0639 1748 1500 2330 2400 2400 2245	MANI BOUL WEIS WEIS DWIN SGMR BOUL MANI HARV							2211	2214	1				IIIG
24	0000 0000 0500 0802 0953 1200 1511 1302 2141	1011 0200 1507 1501 2331 2400 1749 2245 2400	MANI BOUL WEIS DWIN SGMR BOUL BOUL WEIS HARV BOUL MANI BOUL BOUL BOUL BOUL						1616.7 1617	1616.9	2 3		1234.3 1252.5	1234.5 1252.6	1 1	III III IIIG IIIG III III
									2038.8	2039.0	1		2012.8 2038.8	2013.0 2039.0	1 1	III III
									2148.2 2228.8	2149.3 2228.8	1 2		2148.2 2228.6	2149.3 2228.8	1 2	IIIG III
									2244.4 2257.0 2259.8	2244.6 2257.2 2300.3	1 1 1		2244.4 2257.0 2259.8	2244.6 2257.2 2300.3	1 1 1	III III III
25	0000 0000 0750 0801 1200 0951 0502 1301	0200 0640 1011 1204 2400 2332 1748 2245	BOUL MANI MANI DWIN BOUL BOUL SGMR BOUL WEIS HARV SGMR BOUL BOUL BOUL BOUL HARV BOUL 													

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1974

APR 1974	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECI-METRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.			
26	2140	2400	SGMR										1445.5	1446.0	1	III
			HARV										1613	1614	1	IIIGG
			BOUL										1613.1	1614.5	2	IIIG
			SGMR										1613.9	1614.2	1	III
			BOUL										1718.5	1718.6	1	III
			BOUL										1821.0	1821.3	2	III
			BOUL										1912.6	1912.8	1	III
			HARV										1938	2118	1	IN
			HANI										2147.2	2149.9	2	III
			BOUL										2151.4	2153.7	1	IIIG
27	0000	0200	BOUL									0123.2	0123.5	1	III	
			HANI										0149.8	0150.4	1	III
			OWIN										1654.2	1703.4	2	IIIGG
			BOUL										1655.7	1656.2	1	III
			SGMR										1656	1700	2	IIIG
			HARV										1702	1703	3	IIIG
			HARV										1702.7	1703.2	2	III
			SGMR										1751.8	1754.4	1	IIIG
			BOUL										1754.5	1754.6	1	III
			BOUL										1849.6	1849.9	1	III
28	0000	0200	BOUL									1901.3	1901.4	1	III	
			BOUL										1926.8	1927.0	1	III
			BOUL										1947.1	1948.8	1	IIIG
			BOUL										1958.5	2400	2	IIIN
			HARV										2001	2003	2	IIIG
			SGMR										2002.0	2002.9	1	III
			HARV										2013	2222	2	IIIN
			SGMR										2030.3	2030.6	1	III
			SGMR										2110.9	2111.5	1	III
			HANI										2146.9	2147.7	1	III
28	0000	1012	SGMR									2149.8	2150.3	1	III	
			BOUL										0031.9	0033.0	2	IIIG
			BOUL										0100.3	0104.2	2	IIIG
			HANI										0102.4	0102.7	1	III
			HANI										0236.6	0240.9	2	IIIG
			HANI										0747.6	0747.7	1	III
			OWIN										1127.8	1129.6	1	III
			SGMR										1223.9	1225.4	2	III
			SGMR										1224.2	1224.8	2	III
			BOUL										1309.8	1311.3	1	IIIG
28	1200	2400	BOUL									1312.8	1313.3	1	III	
			BOUL										1312.8	1313.3	1	III
			BOUL										1315.4	1315.6	1	III
			BOUL										1354.1	1354.2	1	III
			BOUL										1356.5	1356.6	1	III
			SGMR										1445.8	1446.7	1	III
			BOUL										1455.8	1456.4	2	III
			BOUL										1601.2	1601.5	1	III
			SGMR										1601.4	1603.8	1	IIIG
			BOUL										1603.2	1603.7	1	III
28	1301	2245	BOUL									1608.7	1610.1	2	IIIG	
			BOUL										1608.7	1610.1	2	IIIG
			BOUL										1627.1	1628.1	1	IIIG
			BOUL										1656.8	1656.9	1	III
			BOUL										1711.2	1711.3	1	III
			BOUL										1857.7	1901.8	2	IIIG
			HARV										1857.7	1901.8	2	IIIG
			SGMR										1858	1902	3	IIIG,U,V
			SGMR										1858.0	1859.8	2	V
			HARV										1901.2	1907.5	2	IIIG
28	2138	2400	BOUL									1907	2120	2	IIIN	
			BOUL										1907.4	1908.2	1	IIIG
			BOUL										1919.2	1923.6	1	IIIG
			BOUL										1926.4	1926.5	1	III
			BOUL										1932.1	1935.9	1	IIIG
			BOUL										1944.0	1944.2	1	III
			BOUL										1950.9	1952.1	1	IIIG
			SGMR										1951.8	1952.2	1	III
			BOUL										1956.2	1956.5	1	III
			HARV										2005	2008	3	IIIGG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1974

APR 1974	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE	
				CENTIMETRIC BAND			DECI-METRIC BAND			METRIC BAND			DEKAMETRIC BAND				
	START UT	END UT		INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.				
30	2138	2400	HARV							1756	1759	3	1756	1759	3	IIIGG,V	
BOUL										1756.5	1830.0	2	1756.5	1830.0	2	IIIN	
SGMR													1756.7	1758.7	2	IIIG	
HARV					1805	1808	2	1803	1813	3	1803	1811	3	1803	1811	3	IIIGG
SGMR													1806.0	1808.2	2	IIIG	
HARV											1820	1823	3	1820	1823	3	IIIG
HARV								1830		2	1830		3	1830		3	IIIE
BOUL											1854.8	1859.4	1	1854.8	1859.4	1	IIIG
BOUL														1909.6	1909.8	1	III
BOUL											1943.4	1943.5	1	1943.4	1943.5	1	III
HARV											2101	2150	2	2101	2150	2	IIIN
BOUL											2101.4	2101.5	1	2101.4	2101.5	1	III
BOUL											2126.5	2137.0	2	2126.5	2137.0	2	IIIG
SGMR														2128.8	2129.1	1	III
MANI																	
BOUL											2149.5	2150.6	2	2149.5	2150.6	2	III
SGMR														2149.7	2150.3	1	III
HARV											2211	2245	1				I
HARV											2212	2217	2	2212	2217	2	IIIGG
BOUL											2212.0	2220.5	2	2212.0	2220.5	2	IIIG
SGMR														2213.6	2215.7	1	III
BOUL											2220	2400	1	2220	2400	1	CONT

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

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

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COSMIC RAY INDICES (Neutron Monitors)

APRIL 1974

APR 1974	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	TOKYO Average cts/hr
1	4554.8	7473.7	6973.0	12040.0	8943.7	6332.9	3579.1
2	4552.6	7476.8	6975.1	12044.9	8926.8	6325.6	3579.2
3	4519.5	7415.5	6907.4	11964.0	8815.5	6274.9	3568.6
4	4488.4	7354.8	6864.7	11862.7	8725.1	6226.3	3559.9
5	4492.3	7367.0	6892.8	11843.5	8711.3	6253.6	3550.2
6	4482.7	7371.8	6903.8	11842.7	8782.6	6247.3	3554.1
7	4478.3	7373.1	6905.6	11900.5	8789.1	6249.4	3545.0
8	4485.8	7386.0	6906.3	11890.1	8788.4	6246.7	3533.2
9	4513.2	7423.1	6936.7	11933.0	8856.7	6279.5	3537.5
10	4497.0	7387.5	6935.7	11925.5	8824.1	6277.3	3542.0
11	4513.4	7394.8	6920.0	11903.5	8843.5	6294.2	3531.8
12	4529.2	7410.6	6901.0	11900.4	8823.6	6276.8	3525.7
13	4538.5	7428.1	6915.3	11964.2	8854.6	6277.7	3529.3
14	4557.2	7479.8	6954.7	12014.9	8883.5	6311.1	3539.9
15	4561.9	7483.5	7019.5	12043.7	8940.0	6338.7	3549.5
16	4586.0	7507.3	7022.6	12112.4	8982.2	6357.2	3548.1
17	4593.5	7551.4	7037.1	12134.2	9002.6	6361.0	3557.9
18	4577.3	7563.2	7047.5	12125.5	9025.5	6388.8	3572.6
19	4562.5	7542.3	7038.4	12066.6	8961.2	6375.0	3566.6
20	4526.9	7484.1	6994.3	12000.9	8937.2	6339.5	3549.7
21	4509.3	7435.8	6950.9	11951.6	8891.7	6318.9	3526.2
22	4504.9	7438.6	6948.0	11949.9 (23)	8884.3	6312.7	3536.5
23	4510.1	7457.3	6996.9	12012.9	8922.5	6338.1	3541.3
24	4524.2	7481.2	7011.7	12034.5	8944.5	6355.3	3553.5
25	4526.8	7477.1	7008.3	12037.2	8958.6	6362.7	3556.6
26	4522.2	7444.4	6968.2	11952.3	8896.6	6319.1	3561.0
27	4503.4	7405.5	6924.3	11790.5	8748.3	6298.7	3560.8
28	4506.2	7411.2	6908.3	11833.6	8779.2	6284.7	3548.5
29	4515.0	7410.5	6920.5	11910.9	8817.0	6294.4	3556.7
30	4526.5	7421.5	6946.0	11933.3	8816.9	6321.6	3563.2
MEAN	4522.6	7441.9	6954.2	11964.0	8869.2	6308.0	3550.8

() Number of hours for which data are available if less than 24.

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

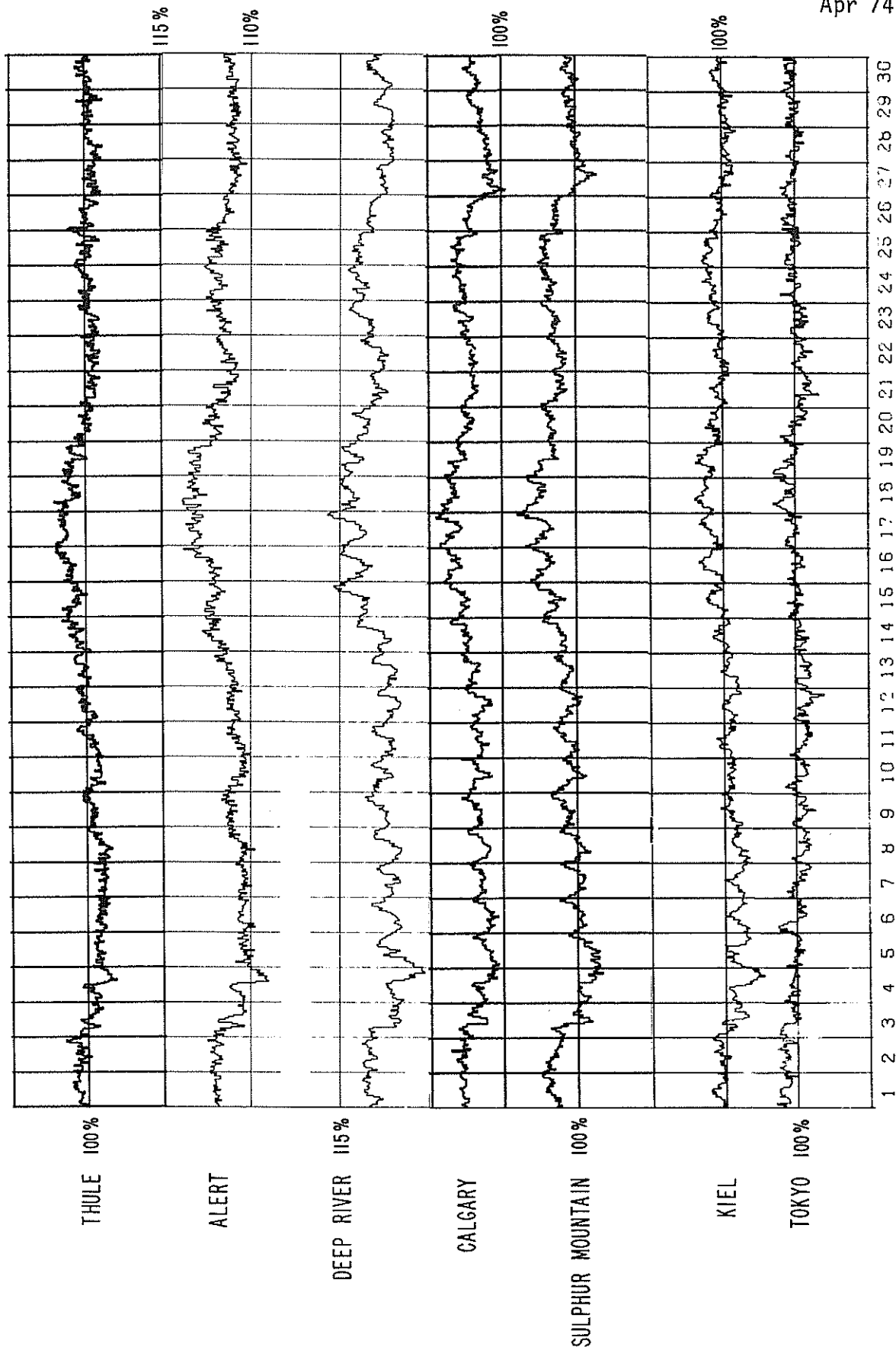
Tokyo " " = 128.

See *Descriptive Text* for other characteristics.

Note: The Dallas Neutron Monitor Station has ceased operation as of March 31, 1974.

COSMIC RAY INDICES (Pressure Corrected Hourly Totals)

APRIL 1974



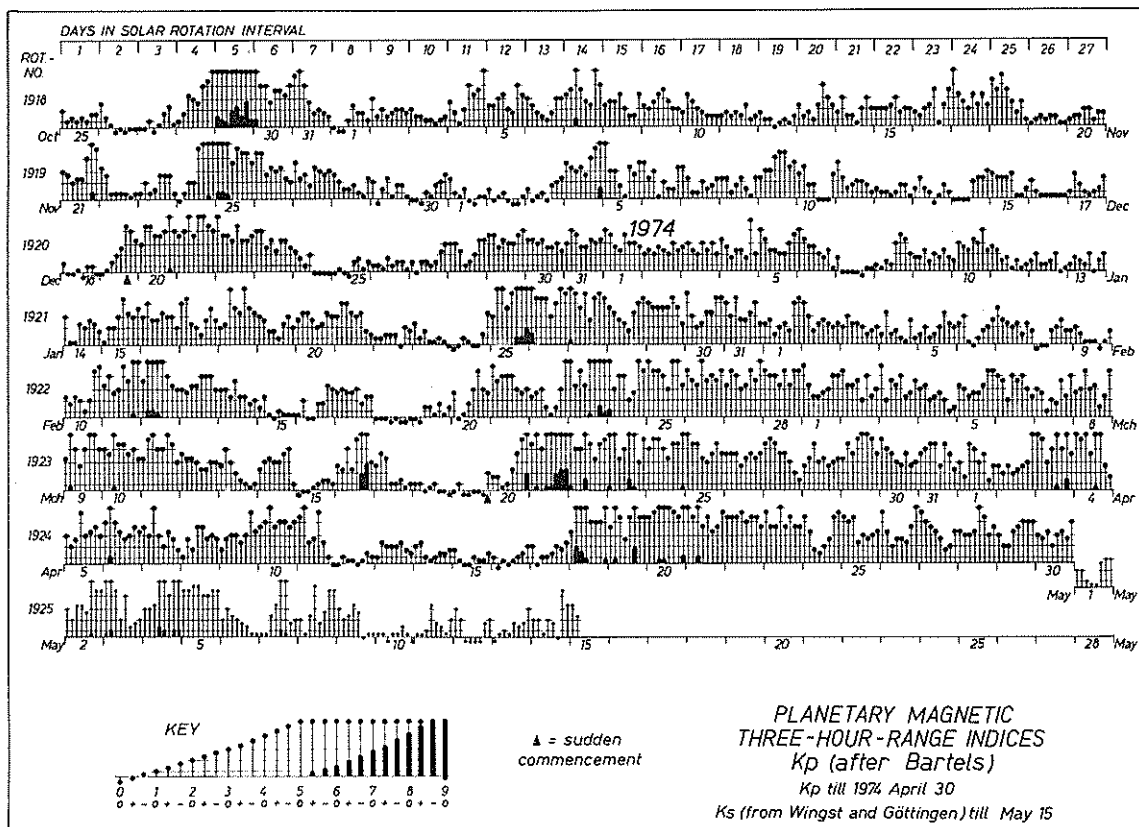
112
Apr 74

GEOMAGNETIC ACTIVITY INDICES

APRIL 1974

Day	Three-Hour Range Indices Kp									Prel Ci	Cp	Ap	aa			
	1	2	3	4	5	6	7	8	Sum				N	S	M	
1	3	2-	4+	4	3	4-	1+	3-	24-	0.9	0.9	17	27	29	26	29
2 Q	3-	2	3-	2	2+	3-	3	5	22+	0.8	0.9	15	29	23	17	35
3 D	5	5-	3	4	5+	4	6	4-	36-	1.5	1.4	39	64	59	47	76
4	5	5-	5	4-	5+	5	3-	2-	33	1.4	1.4	35	35	56	49	42
5	3	2	3-	5-	3	3+	4-	3	25+	1.0	1.0	18	32	35	34	34
6	4	6-	4	3+	3-	3	4-	3+	30-	1.1	1.2	26	40	37	42	36
7	4-	3	5	3	2	3+	3-	2-	24+	0.8	1.0	18	29	36	40	24
8 Q	1	3-	2-	4-	4-	3-	3	3-	21	0.8	0.8	13	20	24	19	25
9 Q	2-	3-	3	3	2+	3	5-	3+	24-	0.8	0.9	16	33	29	23	40
10	4-	4	5	4-	4	4	4-	4	32	1.2	1.2	28	43	46	44	44
11	4+	5	2+	3-	5-	2+	1	0+	23-	0.9	1.0	19	27	32	35	24
12 QQ	0+	1	1-	1-	0+	1-	1+	1	6	0.0	0.1	3	7	5	6	6 CK
13 Q	1	2+	2	2	2	2+	2-	1+	15-	0.2	0.3	7	18	12	14	17 K
14 QQ	2	2+	1	1-	1	1+	1+	2-	11+	0.1	0.2	5	13	7	12	9 CC
15 QQ	2-	1-	0+	0+	1	1-	1-	1+	7-	0.0	0.1	4	7	4	6	6 CC
16 QQ	1	0	1-	0+	1-	1	1+	2	7	0.1	0.1	4	12	4	5	11 CC
17 QQ	2	0+	1	1	1+	2	2-	2+	12-	0.3	0.2	6	12	11	6	17 C
18 D	3+	6+	6	5+	4	4	4	5+	38+	1.5	1.6	48	62	67	74	56
19 D	4-	5+	4+	3-	4+	6+	4+	4+	35+	1.4	1.4	39	46	54	34	66
20 D	4+	5-	5+	5+	5	5-	4+	6-	39+	1.4	1.5	46	53	74	58	69
21 D	5	4+	6-	4-	4+	3+	4-	5-	35-	1.2	1.4	35	52	52	55	50
22	4+	4+	4+	5-	4	4+	4+	4-	34	1.2	1.3	31	52	44	45	51
23	5-	4-	4-	5	4-	4+	4-	4-	32+	1.3	1.3	29	43	52	48	47
24	4+	3+	2-	1+	2	3-	4+	5-	24+	1.1	1.0	19	35	26	27	36
25	4+	4	4+	2+	3	3-	3	3+	27	1.1	1.0	20	32	40	40	32
26	5-	3+	2	3-	3-	2+	4-	5	26+	1.0	1.1	21	43	25	32	36
27	5-	4	4-	3+	3-	2-	2	6+	25+	1.0	1.0	19	27	37	44	20
28	3+	3	3	3+	5	4+	3	4-	29-	1.1	1.1	23	35	37	27	45
29	3	2	2	3+	4-	4	4	4	26	1.1	1.0	19	30	33	18	45
30 Q	3	3-	3+	2	3	3+	3-	4	24	1.0	0.9	16	27	35	26	37
MEAN										0.91	0.94	21	32.9	34.2	33.6	

GEOMAGNETIC ACTIVITY INDICES

DAILY AVERAGE INDICES A_p

1973									1974			
DAY	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR
1	17	3	19	12	5	5	4	4	17	13	20	17
2	12	20	11	16	6	31	7	2	9	12	18	15
3	9	14	7	7	6	48	5	5	11	8	20	39
4	8	19	4	8	12	12	18	29	13	7	10	35
5	5	10	4	9	15	10	14	17	14	8	18	18
6	13	8	3	13	9	12	9	10	12	7	20	26
7	16	4	3	8	8	6	28	8	2	10	13	18
8	17	6	13	9	8	6	11	7	10	5	17	13
9	12	9	8	5	44	10	12	21	7	4	33	16
10	7	33	6	4	27	21	8	8	14	14	30	28
11	6	34	6	4	12	11	6	8	6	30	32	19
12	7	30	6	5	7	15	4	4	5	40	15	3
13	20	24	8	10	8	17	10	4	5	20	10	7
14	80	18	8	8	4	7	8	6	8	12	16	5
15	37	13	32	4	12	6	8	8	15	4	3	4
16	32	11	15	3	14	30	10	4	15	7	42	4
17	27	18	6	2	10	27	17	6	16	11	9	6
18	22	30	6	4	7	22	19	3	24	1	3	48
19	21	38	10	6	3	20	4	13	9	4	2	39
20	23	18	9	9	12	20	6	29	14	12	23	46
21	46	6	5	6	15	37	23	34	16	23	68	35
22	20	3	6	12	17	20	7	25	5	14	39	31
23	15	10	14	22	63	6	8	18	4	44	42	29
24	4	34	6	46	28	7	26	4	4	29	34	19
25	6	6	9	29	27	5	42	3	50	34	28	20
26	8	4	36	18	25	3	18	4	38	28	20	21
27	10	4	29	26	8	4	14	6	34	26	22	19
28	8	21	14	28	4	20	6	11	18	27	18	23
29	3	41	18	20	4	86	5	19	22		34	19
30	3	29	19	13	4	28	4	15	21		20	16
31	4		26	9		19		17	19		24	
MEAN	17	17	12	12	14	18	12	11	15	16	23	21

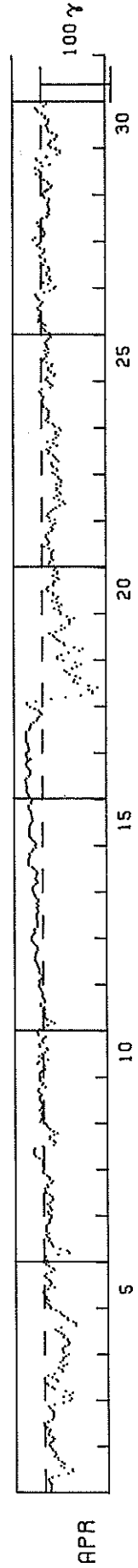
HOURLY EQUATORIAL DST VALUES (PROVISIONAL)

APRIL 1974

NASA/GODDARD SPACE FLIGHT CENTER

(Time-UT)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-8	-9	-9	-9	-8	-6	-5	-10	-19	-33	-40	-39	-27	-23	-28	-24	-19	-18	-14	-16	-15	-11	-10	-8
2	-6	-8	-11	-13	-11	-6	-5	-7	-8	-3	0	1	-5	-11	-12	-13	-13	-13	-11	-8	-6	-14	-27	-36
3	-38	-27	-36	-40	-30	-14	-11	-5	-4	-19	-17	-11	-5	-14	-26	-24	-20	-27	-32	-23	-26	-17	-30	-34
4	-27	-26	-26	-29	-34	-36	-34	-33	-27	-28	-24	-20	-16	-24	-45	-45	-41	-34	-33	-28	-25	-23	-16	-9
5	-9	-6	-3	-7	-3	-3	-1	1	1	-6	-15	-8	-10	-9	-7	-3	-1	-3	-10	-15	-13	-7	-3	-6
6	-4	-1	-2	-20	-36	-33	-23	-13	-12	-10	-7	-8	-5	-4	-7	-4	-4	-4	-4	-7	-8	-8	-10	-11
7	-7	-6	-11	-9	-9	-5	-9	-12	-13	-12	-8	-4	-2	-2	-5	-5	-10	-13	-8	-8	-5	0	1	0
8	-1	1	1	1	1	6	11	13	13	13	12	1	-15	-17	-14	-9	-9	-15	-20	-14	-9	-7	-5	-3
9	4	3	1	1	2	1	5	3	1	1	2	4	5	4	2	5	7	6	-3	2	0	4	5	4
10	5	5	3	-3	-1	-2	8	6	-7	2	6	1	-3	-7	-5	4	5	-1	1	-1	-3	6	7	9
11	4	-2	-7	-16	-12	-6	-3	-2	-3	0	-2	-2	3	3	-3	-2	-1	1	0	0	2	3	5	5
12	4	5	2	0	1	4	5	4	6	7	8	10	11	11	10	10	9	7	7	8	11	13	15	16
13	15	13	11	12	11	8	7	8	7	8	9	9	8	6	7	8	6	8	6	6	9	11	12	13
14	14	14	13	10	7	8	10	9	9	7	9	12	15	19	20	19	20	18	18	18	15	13	10	10
15	9	12	14	16	18	18	18	18	18	18	17	15	14	14	14	15	16	17	19	19	19	16	15	14
16	17	19	20	22	22	22	23	22	23	24	22	19	17	16	17	19	21	23	22	20	17	21	23	22
17	20	18	19	20	20	23	23	22	22	23	22	18	15	16	15	12	8	6	4	1	2	4	10	17
18	21	21	9	-13	-34	-56	-72	-71	-67	-79	-67	-50	-45	-46	-54	-48	-39	-35	-32	-43	-50	-56	-47	-30
19	-22	-22	-28	-38	-53	-57	-46	-32	-31	-25	-21	-18	-15	-11	-20	-28	-33	-28	-39	-40	-39	-46	-36	-27
20	-27	-24	-18	-25	-28	-21	-15	-21	-23	-16	-16	-9	-7	-9	-17	-16	-18	-24	-22	-16	-22	-23	-18	-20
21	-18	-10	-12	-16	-14	-14	-14	-14	-17	-10	-4	-9	-11	-10	-8	-6	-7	-10	-14	-16	-14	-16	-19	-12
22	-19	-11	-8	-10	-13	-16	-20	-26	-34	-31	-25	-18	-22	-27	-26	-22	-22	-27	-21	-28	-28	-25	-24	-20
23	-16	-23	-22	-17	-15	-15	-24	-21	-19	-17	-10	-11	-8	-13	-22	-17	-9	-17	-21	-24	-20	-21	-28	-26
24	-19	-16	-10	-7	-9	-11	-10	-11	-11	-8	-4	-2	-1	-1	-2	-3	-1	0	2	-1	-13	-16	-13	-10
25	-7	-9	-18	-20	-14	-10	-10	-15	-16	-8	-3	-5	-8	-7	-10	-6	-10	-8	-8	-6	-9	-11	-14	-12
26	-12	-7	-5	-2	-6	-3	3	3	0	2	0	0	3	4	1	-1	-2	2	4	7	7	-5	-13	-19
27	-21	-10	-4	-14	-12	-13	-9	-9	-12	-12	-11	-4	0	-7	-5	0	1	-3	-5	-5	1	5	2	0
28	11	8	-4	-6	-5	-3	-2	2	-1	4	0	-3	-9	-12	-10	-12	-12	-11	-10	-10	-12	-12	-5	-4
29	-3	-6	-10	-15	-16	-12	-10	-5	1	0	6	1	2	7	-2	-13	-1	5	6	-9	-24	-28	-27	-22
30	-15	-11	-13	-15	-20	-23	-23	-16	-12	-10	-9	-8	-10	-11	-12	-7	-7	-2	3	5	7	-5	-8	-8



PRINCIPAL MAGNETIC STORMS

APRIL 1974

OBS. 2 letter IAGA code	GEOMAG- NETIC LATI- TUDE	COMMENCEMENT		SC - AMPLITUDES			MAXIMUM 3 HOUR - INDEX K		RANGES			UT END	
		hr min	TYPE	D(°)	H(γ)	Z(γ)	DAY (3 HOUR PERIOD)	K	D(°)	H(γ)	Z(γ)	DAY	HOURL
NE	55.1N	1 05--	..	..	..	..	01(3)	5	17	112	109	01	18
IR	41.0N	1 08--	..	..	..	..	01(6)	5	14	117	39	01	17
GU	4.0N	1 0634	..	..	..	..	01(3)	5	00	130	30	07	14
SI	60.0N	2 19--	..	..	..	..	04(3)	7	120	970	820	04	18
NE	55.1N	2 1900	..	..	..	..	04(3)	6	45	189	217	04	18
WI	54.2N	2 19--	..	..	..	..	03(7)	7	40	235	100	04	19
FR	49.6N	2 19--	..	..	..	..	04(1)	5	35	130	75	07	21
BD	48.9N	2 19--	..	..	..	..	04(3)	6	34	125	80	04	16
IR	41.0N	2 10--	..	..	..	..	03(4)	7	22	168	40	04	21
TU	40.4N	2 19--	..	..	..	..	02(8) 03(2) 04(1,3,5)	5	16	130	35	04	18
SJ	29.9N	2 1800	..	..	..	..	02(8)	5	10	79	39	04	20
HR	33.7S	2 20--	..	..	..	..	03(7)	6	28	106	88	04	18
KG	56.5S	2 0237	SC	--	--	--	02(8) 03(5,7) 04(5)	6	--	--	--	04	--
EG	43.9N	3 0436	SC*	- 1.9	+13	+ 7	03(7)	6	18	119	97	04	20
AL	9.5N	3 0437	SC	--	17	--	03 5	6	3	123	20	03	20
HD	7.6N	3 0436	SC	- 0.2	+20	- 3	03(5,7)	5	3	128	11	03	22
GU	4.0N	3 0437	SC*	0.1	20	6	--	--	--	--	--	--	--
AN	1.5N	3 0437	SC	- 0.9	35	10	--	--	3	139	44	03	20
TV	1.1S	3 0437	SC	0.2	34	37	--	--	2	129	180	03	20
PM	18.7S	3 0437	SC	0.5	17	16	04(5)	5	5	100	50	07	15
GN	43.2S	3 0438	SC*	2	9	5	03(5)	6	21	120	130	04	18
AL	9.5N	4 03--	..	..	..	..	04 5	6	3	134	21	04	20
HD	7.6N	4 0600	..	..	..	..	04(5)	6	4	174	21	06	06
TV	1.1S	4 03--	..	..	..	..	--	--	2	150	77	04	20
NE	55.1N	5 0013	SC*	5	4	--	06(2)	6	44	85	192	07	20
BD	48.9N	5 09--	..	..	..	..	06(3)	6	35	65	45	07	21
IR	41.0N	5 05--	..	..	..	..	05(4) 06(2)	5	15	126	39	07	21
NE	55.1N	9 16--	..	..	..	..	10(3,5) 11(5)	5	30	108	89	11	16
BD	48.9N	9 21--	..	..	..	..	10(3)	5	20	70	45	11	21
IR	41.0N	9 05--	..	..	..	..	10(3,5)	6	22	126	29	11	16
HD	7.6N	10 0230	..	..	..	..	10(3,5,6)	4	4	101	19	11	16
SI	60.0N	17 08--	..	..	..	..	18(3)	7	110	920	540	24	02
NE	55.1N	18 0034	SC	2	22	3	18(3)	6	43	265	268	24	06
WI	54.2N	18 02--	..	..	..	..	19(6) 20(8)	6	30	220	105	24	03
FR	49.6N	18 02--	..	..	..	..	19(6)	6	28	145	110	24	06
BD	48.9N	18 02--	..	..	..	..	18(3)	6	33	110	70	24	09
EG	43.9N	18 00--	..	..	..	..	19(6) 20(8)	5	18	118	68	23	03
IR	41.0N	18 01--	..	..	..	..	18(3,4)	5	18	108	59	18	17
IR	41.0N	18 18--	..	..	..	..	19(6) 20(5)	6	29	172	39	21	15
TU	40.4N	18 02--	..	..	..	..	18(2,3,4) 19(2,6) 20(2,6) 21(3) 22(2) 23(1,4) 24(1)	5	17	125	30	24	06
SJ	29.9N	18 0030	..	..	..	..	18(2)	5	11	97	35	21	12
HD	7.6N	18 0100	..	..	..	..	18(2,3,4) 19(5,6)	5	5	134	30	19	23
GU	4.0N	18 0034	..	..	..	..	18(2)	6	10	220	40	24	09
AP	16.0S	18 01--	..	..	..	..	18(2,4)	K	6	150	40	24	06
PM	18.7S	18 00--	..	..	..	..	18(4) 19(6) 22(4) 23(1) 27(4)	5	5	210	80	01	00
HR	33.7S	18 02--	..	..	..	..	18(3) 19(6)	5	27	114	129	24	02
GN	43.2S	18 02--	..	..	..	..	19(6)	7	28	160	140	24	07
KG	56.5S	18 02--	..	..	..	..	18(8) 19(6) 24(1)	6	--	--	--	24	03
HD	7.6N	20 0300	..	..	..	..	20(5,6)	5	5	66	25	21	21
IR	41.0N	22 01--	..	..	..	..	22(4) 23(1,4)	5	16	92	42	24	02
HD	7.6N	22 0000	..	..	..	..	22(3,4,5,5) 23(4,5,6)	4	5	83	22	23	21
NE	55.1N	24 1906	..	..	..	..	25(1) 26(1) 27(1,2,4)	5	25	99	115	27	17
BD	48.9N	24 20--	..	..	..	..	25(1)	5	21	75	65	27	17
HR	33.7S	26 19--	..	..	..	..	27(1)	5	14	49	48	27	17

Reports were received from the following observatories:

Sitka Newport	Witteveen Fredericksburg	Boulder Ebro	Irkutsk Tucson	San Juan Alibag	Hyderabad Guam	Annamalainagar Trivandrum	Apia Port Moresby	Hermanus Gnangara Port-aux-Francais
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SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

APRIL 1974

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

The meaning of the station symbols is given in the IAGA-Bulletins nr. 12 and 32. Times of ssc and si commencements are mean values. If given by ten or more stations they are underlined.

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

03 0437 A: LM; B: EB SZ PM HU PP GN TO KG; C: VI? KA (si: A: SO WN FU LG;
B: NU WI TL? DU - sfe: IK)

Sudden impulses found in the magnetograms (si)

n o n e

Solar-flare effects (sfe)

Effects confirmed by ionospheric or solar observations are underlined.

02 1508 - 1544 TN

05 0728 - 0737 SZ

10 0920 - 0934 SZ

13 1046 - 1052 WN

15 1308 - 1321 WN

16 0736 - 0754 IK EB

16 1622 - 1638 EB FR SZ HU (si: A: LG)

17 1400 - 1420 TN

22 0817 - 0829 SZ

RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

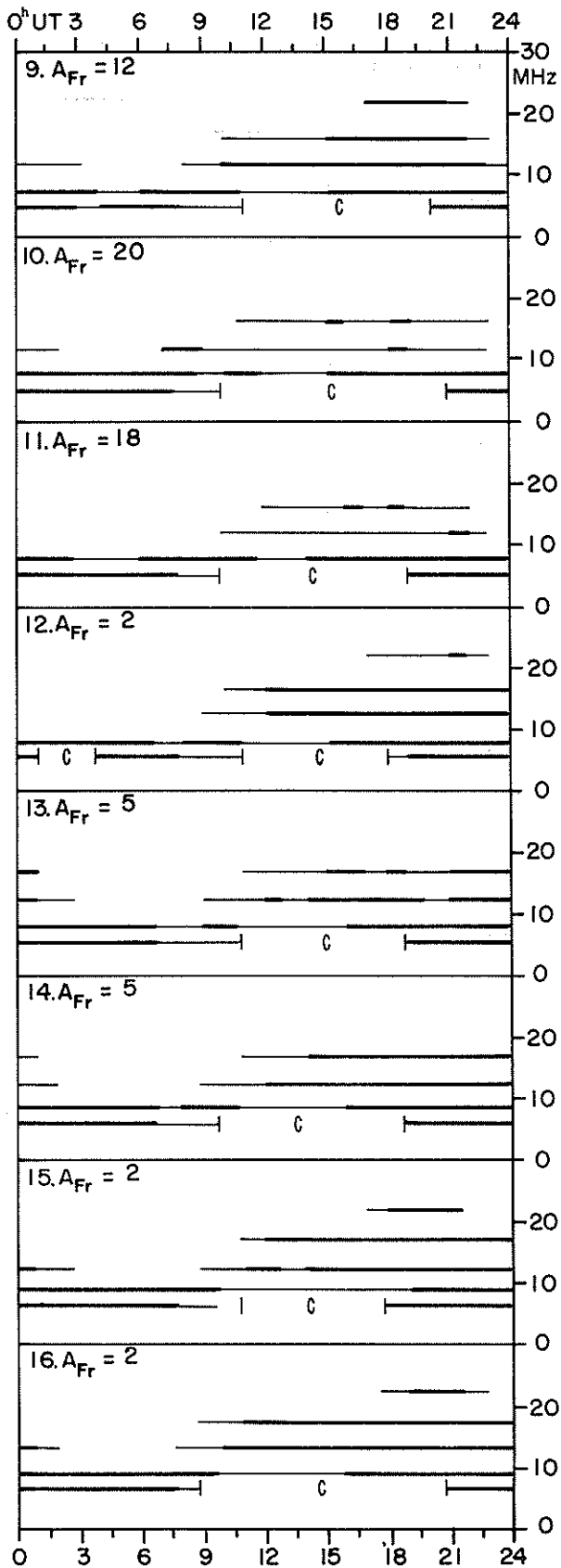
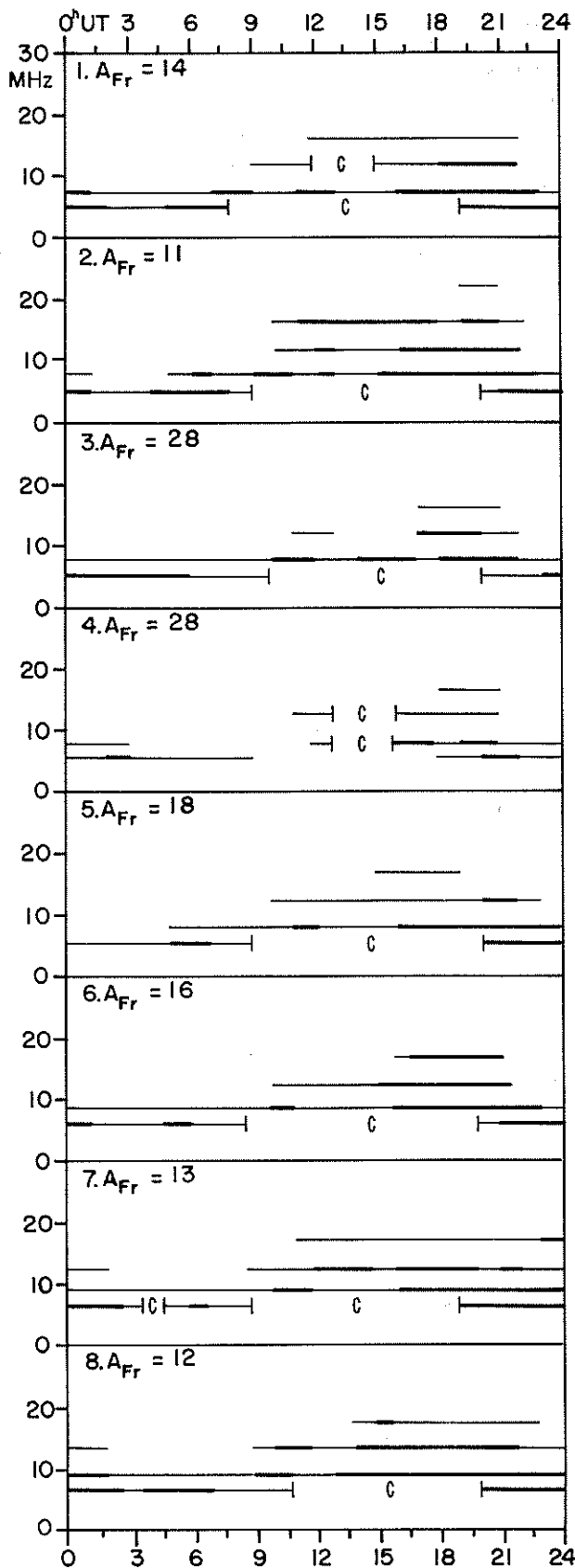
APRIL 1974

North Atlantic

APR 1974	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) (2)	OBSERVED
01	50	5	5+	4-	5+	6-	6	6	6	6	3 2	14
02	6-	5	5+	5+	60	5+	5	5	6	6	2 3	11
03	5+	6	6-	50	50	50	6	5	5	5	(4) (4)	28
04	40	5	50	2+	5-	4+	5	4	4	5	(5) 3	28
05	4+	5	40	3+	4+	5+	5	5	5	5	3 3	18
06	6-	5	5+	6-	6-	6-	5	5	5	5	3 3	16
07	6-	5	6-	6-	6-	5+	5	5	6	6	3 2	13
08	6-	6	6-	6-	6+	6-	5	5	6	6	2 3	12
09	6-	6	60	50	6+	6-	6	6	6	6	2 3	12
10	6-	6	60	50	5+	6-	6	5	5	5	(4) 3	20
11	6-	6	6-	50	6+	6-	5	5	6	6	(4) 2	18
12	60	6	6-	6-	6+	60	6	6	6	6	1 1	2
13	60	6	7-	6-	6+	6-	6	6	6	6	2 1	5
14	6+	6	60	60	7-	6+	6	5	6	7	2 1	5
15	6+	6	7-	5+	6+	7-	6	6	6	7	1 1	2
16	6+	5	70	6+	60	6+	6	7	6	7	0 1	2
17	7-	4	7-	7-	6+	70	6	7	7	6	1 1	4
18	4+	5	40	3+	50	5+	6	6	5	5	(4) 3	26
19	5-	4	4-	4+	6-	50	4	4	5	5	(4) (5)	33
20	4+	4	3-	3+	5+	60	4	4	5	5	(4) (4)	27
21	5+	5	5+	50	50	60	5	5	5	5	(4) 3	24
22	50	5	5+	50	5+	5+	5	5	5	5	(4) 3	22
23	50	5	5-	5-	5+	6-	5	4	5	5	(4) 3	20
24	6-	5	4+	6-	60	6+	5	5	5	6	3 3	14
25	5+	5	50	4+	60	60	5	5	6	6	(4) 3	18
26	60	5	60	6-	6+	60	5	5	6	6	3 3	14
27	50	6	5-	4+	6-	6-	6	5	5	5	(4) 3	22
28	6-	6	5+	50	60	60	5	5	6	5	3 (4)	18
29	50	5	5+	4-	6+	5+	5	5	5	5	3 (4)	16
30	60	4	6-	5+	6+	6+	5	5	5	5	(4) 3	19

TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

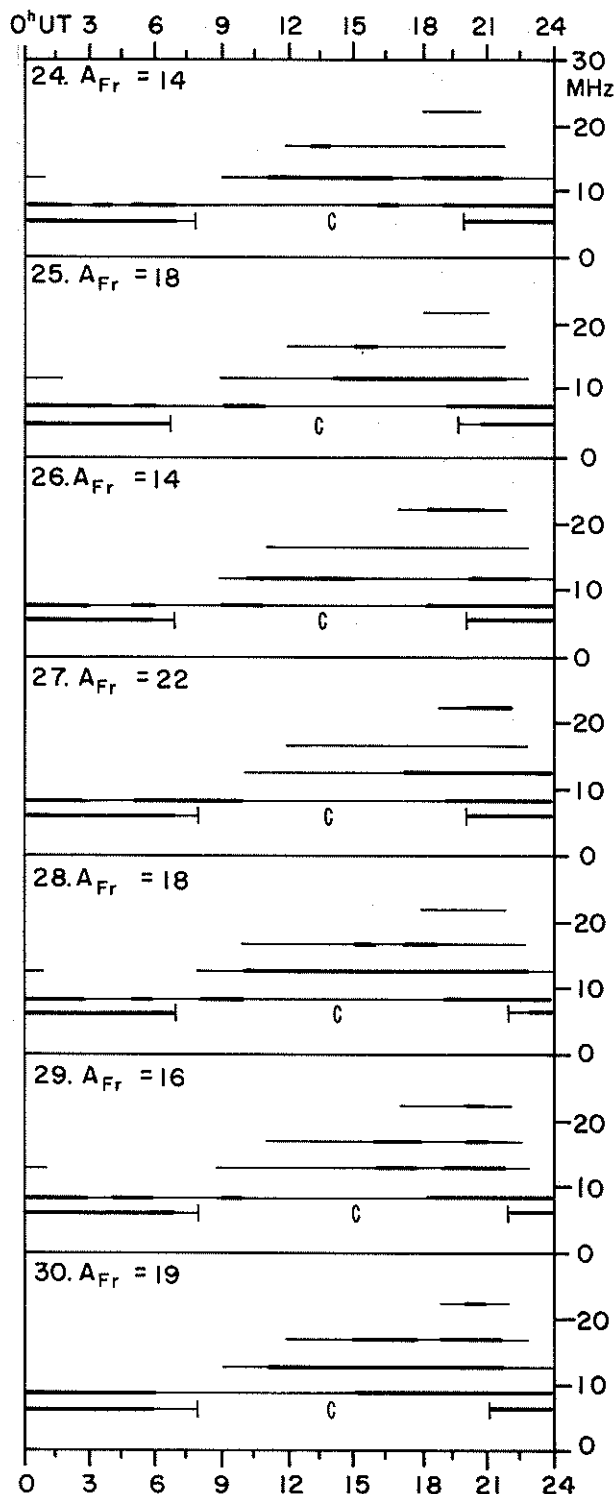
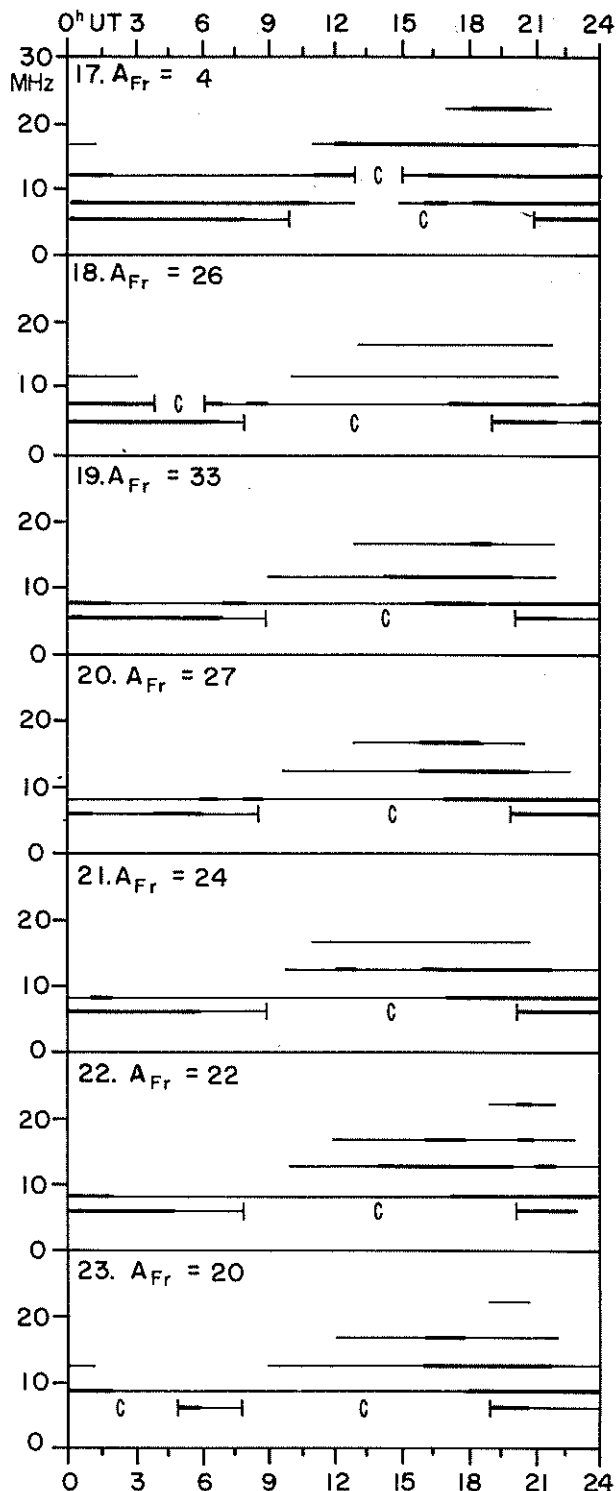
APRIL 1974



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

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Field strengths from four frequencies, 8.542, 12.813, 17.084 and 22.378 MHz, as observed on a Lüchow - Halifax circuit are represented above. Heavy solid lines represent field strengths ≥ -12 dB above $1 \mu\text{V/m}$ (transmitter power reduced to 1 kW). Observed field strengths between -12 dB and -40 dB above $1 \mu\text{V/m}$ are represented by the fine line.

Adapted from Observations by Deutsche Bundespost

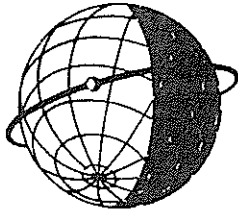
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RADIO PROPAGATION QUALITY INDICES

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Calculated from the records of four frequencies
on the circuit Lüchow - Halifax (Germany - Canada)

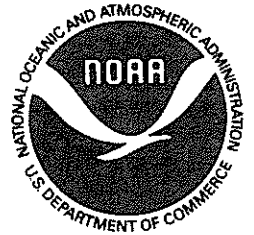
Date	Day	Night	D+N
1	3.8	3.2	3.6
2	5.3	3.6	4.8
3	3.2	2.5	2.9
4	2.2	2.5	2.3
5	3.6	2.9	3.2
6	4.1	3.8	3.8
7	5.0	4.4	4.5
8	5.8	5.6	5.3
9	7.3	6.2	6.6
10	5.1	5.0	4.7
11	4.8	4.9	4.4
12	8.6	7.2	7.4
13	6.6	6.8	6.0
14	7.8	8.0	7.2
15	8.5	8.3	7.8
16	9.4	9.6	8.7
17	7.7	6.6	6.7
18	3.6	3.7	3.4
19	4.0	3.1	3.6
20	4.3	3.5	3.8
21	4.6	3.7	4.0
22	5.0	3.7	4.2
23	4.3	3.7	3.9
24	5.3	4.6	4.6
25	4.8	3.9	4.2
26	5.2	4.5	4.6
27	5.4	5.2	4.8
28	5.9	4.7	5.0
29	5.1	4.2	4.5
30	5.7	4.5	5.0



WORLD DATA CENTER A

FOR

SOLAR-TERRESTRIAL PHYSICS



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

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