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Solar - Geophysical Data

NO. 363 NOVEMBER 1974

Part I (Prompt Reports)

DATA FOR
OCTOBER 1974
SEPTEMBER 1974

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

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SOLAR - GEOPHYSICAL DATA

No. 363

Issued in two parts

Hope I. Leighton, Editor

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

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OCTOBER 1974 DATA

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ALERT PERIODS

INTERNATIONAL URSIGRAM
AND WORLD DAYS SERVICE

OCTOBER 1974

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS).

Boulder 03/0201Z K-Index equals 5 for 2 consecutive periods. Gradual Commencement. Weak Magstorm in progress 030200Z.

Boulder 11/1500Z Soflare 1B/M7 N10W05 11/1449Z. Tenflare 520 F.U. above background 11/1446Z.

Boulder 12/1530Z Tenflare 130 F.U. 12/1148Z duration not reported.

Boulder 12/2058Z 12/2056Z Magstorm begins 12/2016Z.

Boulder 20/1445Z 20/1440Z Weak Magstorm in progress 20/0315Z.

Boulder 24/0425Z 24/0400Z Recurrent Magnetic Disturbance reinitiates 24/0235Z. Boulder deflection 160 gammas in 40 minutes.

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10cm solar flux	A index	Active Regions: Location Lat-Long	Active Regions: No. of Flares Total	Active Regions: No. of Flares M	Active Regions: No. of Flares X	Outstanding events	Forecasts: Date	Forecasts: Location Lat-Long	Forecasts: Desc*	Alert Situations
274	01	30	098	091	13	N09E37	0	0	0	MINOR GEOMAGNETIC	01	S06E40	E	SOLALERT 01/02
						S10E07	0	0	0	DISTURBANCE CON-		O.G.	Q	MAGALERT 01/02
						S06E41	15	1	0	TINUES				
						S14E29	0	0	0					
						N15W37	0	0	0					
275	02	01	083	093	18	N10E23	1	0	0	MINOR MAGNETIC	02	N10E23	C	SOLQUIET
						S10W05	0	0	0	DISTURBANCE		O.G.	Q	MAGALERT MINOR 02/03
						S06E27	3	0	0	ENDED 01/18XXZ				
						S14E16	0	0	0					
276	03	02	097	095	16	N10E11	1	0	0	GRADUAL MINOR	03	ALL		SOLQUIET
						S10W20	0	0	0	MAGNETIC STORM		GROUPS	Q	MAGALERT 03/04
						S06E14	1	0	0	COMMENCEMENT		NE LIMB	C	
						S14E03	0	0	0	02/22XXZ				
277	04	03	077	093	11	N10W03	3	0	0	MINOR GEOMAGNETIC	04	ALL		SOLQUIET
						S10W32	0	0	0	DISTURBANCE ENDS		GROUPS	Q	MAGNIL
						S06W00	0	0	0	03/15XX				
						N04W80	1	0	0					
278	05	04	085	101	06	N10W15	0	0	0		05	ALL		SOLQUIET
						S12W52	0	0	0			GROUPS	Q	MAGQUIET
						S06W12	2	0	0					
						N04E63	0	0	0					
						S19E41	1	0	0					
						N09E77	0	0	0					
279	06	05	097	109	06	N10W27	0	0	0		06	N09E78	E	SOLALERT 06/08
						S12W64	0	0	0			S06W24	E	MAGQUIET
						S06W24	0	0	0			O.G.	Q	
						N06E50	0	0	0					
						S18E38	0	0	0					
						N11E64	0	0	0					
						N09E78	0	0	0					
280	07	06	131	115	10	N09W41	2	0	0		07	N09E67	E	SOLALERT 07/08
						S12W78	0	0	0			O.G.	Q	MAGQUIET
						S05W38	0	0	0					
						N06E34	1	0	0					
						S19E24	1	0	0					
						N11E52	0	0	0					
						N09E67	9	3	0					
						S11E46	1	0	0					
281	08	07	199	116	07	N09W56	0	0	0		08	S18E08	E	SOLALERT 08/09
						S06W53	0	0	0			N10E53	E	MAGQUIET
						N06E21	0	0	0			O.G.	Q	
						S18E08	3	0	0					
						N11E37	0	0	0					
						N10E53	3	0	0					
						N11E43	0	0	0					
282	09	08	199	126	05	N09W68	0	0	0		09	N08E41	A C P	SOLALERT 09/12
						S06W66	0	0	0			N11E31	A C P	MAGQUIET
						N05E08	0	0	0			O.G.	Q	
						S18W02	2	0	0					
						N11E23	0	0	0					
						N08E41	8	1	0					
						N11E31	2	0	0					
283	10	09	198	129	27	S06W79	0	0	0	MINOR RECURRENT	10	N08E26	A C P	SOLALERT 10/12
						N05W03	3	0	0	GEOMAGNETIC STORM		O.G.	Q	MAGALERT MINOR 10/12
						S17W16	5	0	0	BEGAN 09/03XXZ				
						N08E26	8	0	0					
						N11E16	2	0	0					
284	11	10	191	132	30	N06W16	5	0	0		11	N12E08	A	SOLALERT 11/13
						S17W28	7	0	0			N11W00	E	MAGALERT 11/13
						N08E12	15	1	0					
						N11W00	6	1	0					
285	12	11	202	144	06	N05W32	2	0	0	X-2 FLARE SB AT	12	N05W32	Q	SOLALERT 12/15
						S19E42	1	0	0	11/0332Z		S19E42	Q	MAGALERT 12/13
						N12W17	0	0	0	M FLARES AT		N12W17	Q	
						N08W00	16	3	0	11/0831Z; 11/1006Z		N08W00	A	
						N10W09	8	2	1	11/1026Z; 11/1426Z		N10W09	A	
										11/1434Z; 11/1729Z				
										11/1955Z				

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

ALERT PERIODS

INTERNATIONAL URSIGRAM
AND WORLD DAYS SERVICE
OCTOBER 1974

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10cm solar flux	A index	Active Regions: Location Lat-Long	Active Regions: No. of Flares Total	Active Regions: No. of Flares M	Active Regions: No. of Flares X	Outstanding events	Forecasts: Date	Forecasts: Location Lat-Long	Forecasts: Desc*	Alert Situations
286	13	12	179	145	15	S19W56 N12W31 N09W12 N11W23	3 0 14 12	0 0 0 0	0 0 1 0	SMALL SC AT 12/1245Z BUT FIELD IS ONLY UNSETTLED AT THIS TIME	13	S19W56 N12W31 N09W12 N12W23	Q Q A E	SOLALERT 13/16 MAGALERT 13/16
287	14	13	193	127	57	S17W73 N10W27 N12W37	0 6 5	0 1 1	0 0 0	MAJOR MAGSTORM DECREASING TO MINOR STORM	14	S17W73 N10W27 N12W37	Q E E	SOLALERT 14/16 MAGALERT 14/16
288	15	14	113	117	20	N10W39 N12W50 S08E01	0 1 0	0 1 0	0 0 0		15	N10W39 N12W50 S08E01	E E Q	SOLALERT 15 MAGALERT 15/16
289	16	15	065	105	33	N09W51 N11W64	8 4	2 0	0 0	MINOR MAGSTORM ENDED 15/17XXZ	16	N09W51 N11W64	E E	SOLALERT 16/18 MAGALERT MINOR16/17
290	17	16	063	096	37	N09W65 N12W77	6 8	1 0	0 0	MINOR MAGSTORM BEGAN GRADUALLY 16/03XXZ	17	N09W65 N12W77	E E	SOLALERT 17/19 MAGALERT MINOR 17/19 STRATWARM ALERT/THURSDAY STRATWARM EXISTS ANTARCTICA FINAL WARMING IN PROGRESS.
291	18	17	032	084	45	N08W75	5	1	0	MINOR MAGSTORM CONTINUES	18	N08W75	C	SOLALERT 18/19 MAGALERT MINOR 18/19 STRATWARM ALERT/FRIDAY STRATWARM EXISTS ANTARCTICA IN MID STRATOSPHERE OVER WILKES, PALMER PENINSULA.
292	19	18	012	082	029	N08W34	0	0	0		19	N08W34	Q	SOLALERT 19 MAGALERT MINOR 19/21 STRATWARM ALERT/SATURDAY/WARM AREAS IN ANTARCTIC MID STRATOSPHERE SLOPE SOUTH WESTWARD FORMING SINGLE WARM REGION OVER SOUTH POLE IN UPPER STRATOSPHERE.
293	20	19	015	076	26	N07W48	0	0	0	THE MINOR GEOMAGNETIC STORM CONTINUES	20	N07W48	Q	SOLNIL MAGALERT 20/22 STRATWARM ALERT/SUNDAY/ STRATWARM EXISTS ANTARCTICA UPPER STRATOSPHERE WESTERLY CIRCULATION WEAKENING.
294	21	20	023	076	30	N08W61	0	0	0	THE MINOR GEOMAGNETIC STORM CONTINUES	21	N08W61	Q	SOLQUIET MAGALERT 21/22 STRATWARM ALERT/ MONDAY/STRATWARM EXISTS ANTARCTICA.
295	22	21	013	078	07	N08W74	0	0	0	THE MINOR GEOMAGNETIC DISTURBANCE IS DECREASING	22	N08W74	Q	SOLQUIET, MAGALERT 22 STRATWARM ALERT/TUESDAY/ STRATWARM EXISTS ANTARCTICA.
296	23	22	013	073	17	N07W87	0	0	0	MINOR GEOMAGNETIC DISTURBANCE CONTINUES	23	N07W87	Q	SOLQUIET MAGALERT MINOR 23/25 STRATWARM ALERT/ WEDNESDAY/STRATWARM EXISTS ANTARCTICA SPRINGTIME POLAR TEMPERATURE REVERSAL ESTABLISHED ABOVE APPROX. 35 KM PROGRESSING DOWNWARD.
297	24	23	024	075	03	S09W77 N10E60	0 0	0 0	0 0	MINOR MAGNETIC DISTURBANCE ENDS 23/01XXZ	24	ALL GROUPS	Q	SOLQUIET MAGNIL STRATWARM ALERT/THURSDAY/ STRATWARM EXISTS ANTARCTICA
298	25	24	012	075	31	S03W04	0	0	0	MINOR RECURRENT MAGNETIC DISTURBANCE BEGAN 24/ 0235Z	25	S03W04	Q	SOLQUIET MAGALERT MINOR INTERMITTENT 25/26 STRATWARM ALERT/FRIDAY/STRATWARM EXISTS ANTARCTICA. SPRINGTIME POLAR TEMPERATURE REVERSAL ESTABLISHED ABOVE APPROX. 30 KM PROGRESSING DOWNWARD.
299	26	25	011	078	19	S05E62	0	0	0		26	S05E62	Q	SOLQUIET MAGALERT 26/28 STRATWARM ALERT/ SATURDAY/STRATWARM END ANTARCTICA. SPRINGTIME TEMPERATURE REVERSAL ESTABLISHED ABOVE APPROX. 30 KM MODERATE WARMING WILL CONTINUE IN LOWER STRATOSPHERE WITH POLAR CIRCULATION REVERSAL PROGRESSING DOWNWARD FROM UPPER STRATOSPHERE DURING NEXT 3 WEEKS.
300	27	26	049	082	19	S06E53 S13E41 N08E23 N05E75	0 0 1 0	0 0 0 0	0 0 0 0	THE MINOR GEOMAGNETIC DISTURBANCE CONTINUES	27	S06E53 S13E41 N08E23 N05E75	Q Q Q Q	SOLQUIET MAGALERT MINOR 27/29
301	28	27	071	081	18	S06E39 S13E28 N08E12 N05E65 S08E44	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	THE MINOR GEOMAGNETIC DISTURBANCE CONTINUES	28	S06E39 S13E28 N08E12 N05E65 S08E44	Q Q Q Q Q	SOLQUIET MAGALERT MINOR 28/29
302	29	28	041	083	20	S06E24 S13E15 S09E29	0 0 0	0 0 0	0 0 0	THE MINOR MAGSTORM CONTINUES	29	S06E24 S13E15 S09E29	Q Q Q	SOLQUIET MAGALERT 29
303	30	29	011	083	14	S05E11	0	0	0	MINOR MAGSTORM ENDS GRADUALLY 29/1600Z	30	S05E11	Q	SOLQUIET MAGNIL
304	31	30	034	084	09	S04W02 S12W17 S18E68	0 0	0 0	0 0		31	ALL GROUPS	Q	SOLQUIET MAGQUIET
305	01	31	023	093	06	S04W15 S18E52	0 0	0 0	0 0		01	ALL GROUPS NE LIMB	Q C	SOLALERT NORTHEAST LIMB 01/XX MAGQUIET

RELATIVE SUNSPOT NUMBERS

ZURICH, R_z

	1973 FINAL		1974 PROVISIONAL									
DAY	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1	31	46	18	13	25	26	48	38	82	37	8	61
2	33	24	15	12	16	20	70	49	97	23	8	53
3	23	24	13	8	16	19	89	55	96	12	16	46
4	20	0	12	7	17	22	103	80	98	17	41	60
5	7	0	8	0	18	21	106	62	107	18	40	85
6	0	0	0	0	19	23	113	78	111	26	50	83
7	0	0	0	8	20	28	109	70	88	32	44	81
8	0	7	29	16	16	38	106	59	63	34	32	91
9	0	8	36	22	20	58	91	64	42	45	63	102
10	0	16	44	21	30	70	69	61	29	51	80	114
11	7	9	49	21	37	75	64	58	22	50	83	110
12	0	9	60	36	38	78	56	38	27	67	88	92
13	9	8	45	50	30	83	40	48	28	69	82	76
14	11	8	74	26	42	87	35	46	46	66	67	63
15	12	17	77	46	37	98	24	34	65	59	67	48
16	13	26	64	48	23	93	16	25	74	57	70	41
17	16	40	65	47	20	75	8	24	65	52	73	28
18	16	43	52	46	32	64	0	29	59	44	68	14
19	22	41	58	45	20	51	0	32	45	43	58	7
20	16	47	49	43	9	49	0	23	50	32	34	11
21	23	51	37	37	16	43	0	20	55	28	13	12
22	29	51	36	45	31	28	7	11	61	34	0	9
23	39	47	28	35	27	17	9	11	64	34	7	7
24	38	51	16	29	21	19	7	16	62	28	11	7
25	46	53	0	17	18	20	0	15	61	25	11	8
26	62	57	8	20	10	20	20	8	67	8	13	16
27	60	26	0	42	9	38	18	8	60	8	19	30
28	61	12	8	35	17	30	32	18	61	8	23	27
29	64	0	7		19	22	20	30	42	14	38	22
30	59	0	0		25	16	0	52	41	8	60	22
31		0	0		26		52		38	15		16
MEAN	23.9	23.3	29.3	27.7	22.7	44.4	42.3	38.7	61.5	33.7	42.2	46.5

1973 yearly mean = 38.0

DAILY SOLAR FLUX AT 2800 MHz
OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S_a

	1973		1974									
DAY	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1	87.0	86.9	71.5	71.8	76.4	72.1	98.5	97.9	105.4*	85.1	77.8	93.1
2	83.9	86.3	73.2	73.1	76.5	71.3	113.1	100.1	112.7*	85.2	79.4	94.6
3	81.1	82.7	73.3	73.1	77.1	71.6	115.5	98.9	118.5*	83.0	79.2	93.4
4	77.4	78.6	72.5	72.9	79.0	73.3	118.0	98.2	127.8*	85.8	81.0	100.5
5	73.9	73.6	72.1	74.0	78.6	76.3	119.7	96.5	125.6*	86.5	81.5	113.3*
6	73.2	70.9	74.7	75.4	77.5	80.0	123.0	95.0*	121.5	88.0	82.2	115.0
7	72.1	70.4	76.0	77.4	76.0	80.2	119.3	92.8	110.9*	85.8	85.4	114.5*
8	70.4	70.9	79.7	78.8	77.0	81.1	115.8	95.0*	104.7*	89.4	93.4	125.2
9	70.4	71.2	84.5	80.8	80.2	87.8	110.0	95.1	95.5	87.5	96.0	128.9
10	70.7	72.3*	89.2	80.5	86.1	93.5*	105.1	97.0	88.2	88.3	102.0	129.3*
11	71.2	71.9	91.0*	77.5	85.9	99.8	104.3	95.3*	83.1	94.4	104.6	137.5*
12	70.7	72.5	94.6	76.5	86.2	105.6*	97.1	91.7	83.3	99.4	105.6	144.1
13	72.6	73.1	94.8*	77.3	84.5	102.8	93.5	89.8	83.3	95.2	106.8*	126.6
14	73.8	73.8	98.7	76.3	81.9	116.3	88.2	88.1	83.3	93.2	104.1	113.2*
15	75.0	76.6	91.8	83.7	82.9	122.9*	84.9	84.7	85.5	92.1	103.6	103.7*
16	75.6	79.7	90.0	84.7	81.8	115.0*	80.3	86.2	91.3	96.6	102.0*	94.9
17	75.3	82.1	89.2	85.9	82.7	101.8	75.8	87.2	91.0	98.8	100.3	83.8
18	75.5	84.9	87.1	87.5	80.2	98.0	75.2	84.4	86.5	95.1*	100.0	81.0
19	75.4	87.8	85.8	82.7	80.0	87.5*	73.0	82.8	87.1	88.8	91.7	75.2
20	76.8	89.9	84.4	82.2	79.6	82.3	72.5	83.8	86.7	82.6	85.9*	75.5
21	80.7	97.6	79.7	82.2	79.1	79.5	71.9	81.4	90.1	81.2*	82.7	73.9
22	84.7	96.7*	83.5*	82.2	80.0	75.3	72.2	82.3	95.3*	80.6	81.0	72.6
23	86.5	96.0	81.0	84.2	79.8	73.9	71.5	80.2	98.5	81.0	74.6	74.0
24	87.0	98.1	77.8	80.9	76.6	75.0	72.4	79.1	92.1*	77.4	72.8	74.7
25	88.0*	97.6	74.1	78.6	74.3	76.5	72.4	78.8	89.5	75.7	72.8	76.9
26	91.8*	92.9	71.5	76.2	72.6	74.9	79.6	79.6	93.1	73.8	75.4	80.7
27	88.8	88.6	70.7	76.4	71.8	75.3	85.1	82.4	87.9	72.7	77.0	80.0
28	90.7	81.7*	70.8	75.8	70.4	77.9	87.4	83.0	84.5	71.8	80.7	81.6
29	94.9	76.4	70.7		71.5	81.6	89.4	89.4*	85.2	72.4	90.7	81.6
30	95.7*	74.1	70.8		72.1	91.7	91.3	93.1*	85.9	74.2	91.5	82.7
31		72.0	71.3		72.9		95.1		87.4	75.6		86.7*
MEAN	79.7	81.5	80.4	78.9	78.4	86.7	92.6	89.0	95.5	85.1	88.7	97.1

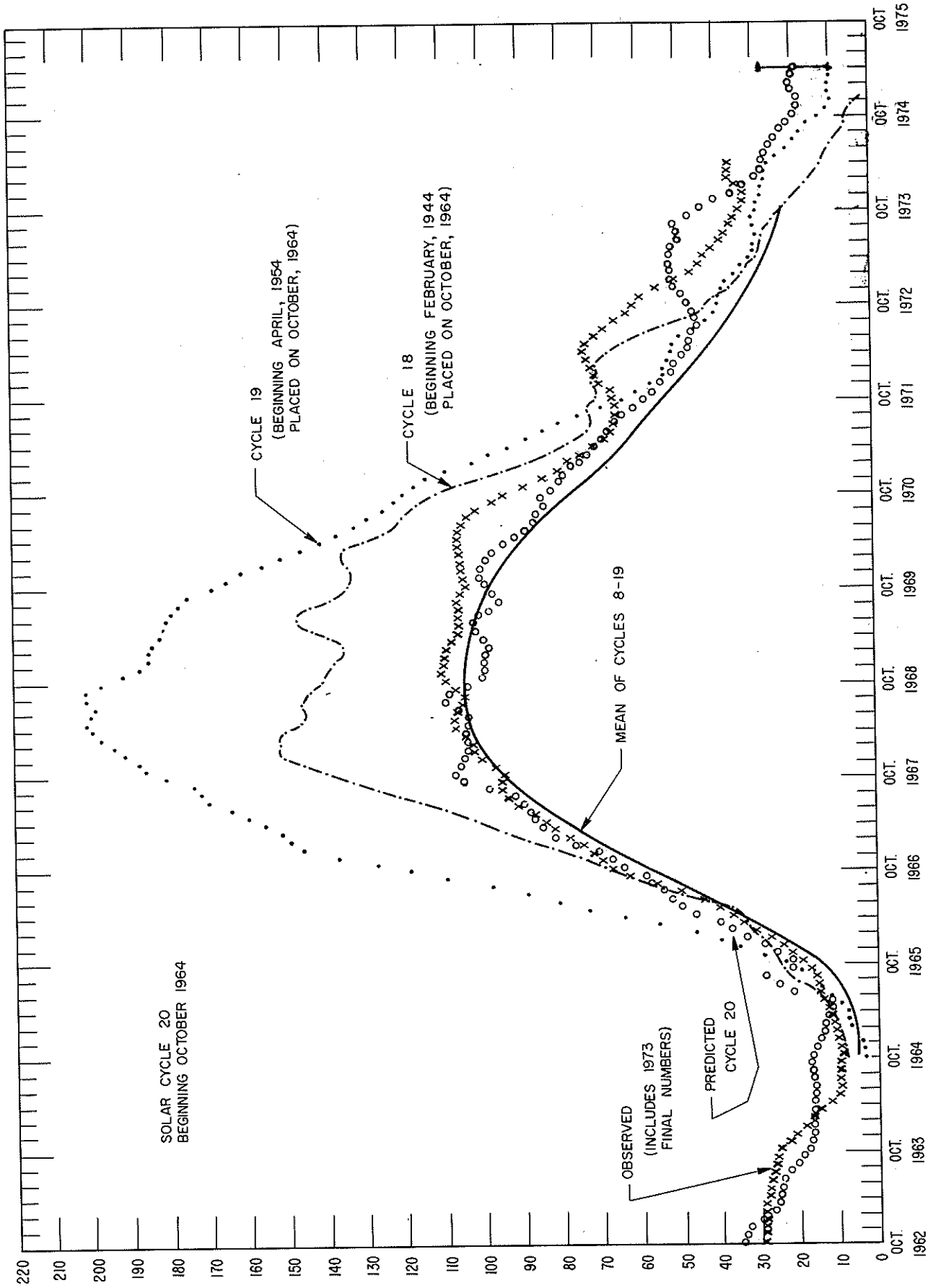
* adjusted for burst

DAILY SOLAR INDICES

OCTOBER 1974

OCT 1974	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	SUNSPOT NUMBERS		OBSERVED FLUX OTTAWA 2800	SOLAR FLUX ADJUSTED TO 1 A.U.								
			R_Z	$R_{A'}$		AFCRL 15400	AFCRL 8800	AFCRL 4995	OTTAWA 2800	AFCRL 2695	AFCRL 1415	AFCRL 606	AFCRL 410	AFCRL 245
1	274	18	61	58	92.9	523	281	134	93.1	91.0	61.0	41.9	23.4	11.9
2	275	19	53	48	94.5	529	283	135	94.6	92.0	63.7	42.2	26.4	13.4
3	276	20	46	43	93.3	527	283	136	93.4	91.8	65.4	43.3	26.5	11.0
4	277	21	60	58	100.5	529	292	144	100.5	99.5	66.4	44.3	28.0	15.0
5	278	22	85	84	113.3*	535	304	159	113.3*	103.3	73.2	45.0	26.9	10.3
6	279	23	83	87	115.1	530	291	158	115.0	109.5	69.7	42.8	26.7	9.9
7	280	24	81	85	114.6*	527	292	155	114.5*	111.2	73.9	43.5	27.1	12.7
8	281	25	91	108	125.5	535	303	165	125.2	123.7	75.7	47.9	27.8	11.6
9	282	26	102	111	129.3	536	303	167	128.9	125.8	80.9	46.8	28.1	16.4
10	283	27	114	113	129.7*	533	301	176	129.3*	128.6	91.1	48.4	28.6	14.3
11	284	1	110	116	138.1*	548	329	196	137.5*	140.4	95.3	49.6	29.8	23.0
12	285	2	92	92	144.7	542	322	193	144.1	133.9	92.2	47.7	28.5	19.4
13	286	3	76	83	127.2	537	310	173	126.6	125.2	87.6	45.1	26.7	14.7
14	287	4	63	66	113.8*	531	297	159	113.2*	111.0	79.9	42.8	26.2	11.5
15	288	5	48	50	104.3*	524	283	149	103.7*	102.5	69.7	40.1	25.0	10.2
16	289	6	41	43	95.6	526	280	137	94.9	87.0	66.3	38.0	25.1	9.8
17	290	7	28	33	84.4	524	274	129	83.8	81.5	57.9	36.2	23.5	9.3
18	291	8	14	6	81.7	533	276	124	81.0	78.8	55.3	37.3	25.2	10.0
19	292	9	7	10	75.8	524	275	118	75.2	73.8	53.4	36.3	23.6	9.0
20	293	10	11	12	76.2	524	273	119	75.5	73.4	54.3	36.9	22.9	9.2
21	294	11	12	13	74.6	522	274	119	73.9	72.7	51.8	35.8	21.7	9.0
22	295	12	9	9	73.3	518	270	118	72.6	71.4	51.8	34.6	21.5	8.7
23	296	13	7	9	74.7	518	269	117	74.0	70.7	50.3	35.2	21.8	8.8
24	297	14	7	7	75.5	510	273	117	74.7	72.8	49.8	36.0	22.5	8.5
25	298	15	8	9	77.8	514	269	122	76.9	75.5	54.0	36.3	23.1	8.8
26	299	16	16	20	81.7	519	278	125	80.7	79.2	58.4	38.0	23.1	8.6
27	300	17	30	37	81.1	520	279	123	80.0	78.2	56.9	37.7	24.7	8.7
28	301	18	27	26	82.7	519	279	123	81.6	79.5	58.7	39.5	23.7	8.9
29	302	19	22	21	82.8	524	276	125	81.6	79.1	60.1	41.0	24.5	8.7
30	303	20	22	26	83.9	522	272	128	82.7	80.2	62.0	41.0	24.8	9.0
31	304	21	16	18	88.0*	534	282	142	86.7*	88.9	67.4	41.4	24.6	9.0
MEAN			46.5	48.4	97.6	527	286	141	97.1	94.6	66.3	41.1	25.2	11.3

* 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	37.6	36.3	34.7	33.2	32.7	32.6
1974	34.2	36.1	35.7	35.7	35.3 (2)	34.2 (4)	32.6 (5)	30.6 (6)	28.4 (7)	26.5 (8)	24.7 (9)	23.5 (9)
1975	22.2 (9)	20.8 (9)	19.6 (9)	18.4 (9)	17.1 (9)	16.1 (10)	15.2 (12)					

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.

SOLAR FLARES

PARTIAL LISTING

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

OCTOBER 1974

OBSERVATORY	OBSERVED UT DATE OCT	START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	TYPE	TIME UT	MEASUREMENTS MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	REMARKS
BOUL	03	2047	2145D	2101	N 9	E 1	.036		3.9	58D	1F		C	2101	2.68	2.68			
MCMA	03	2116E	2128D		N11	W01	.068	13262	3.8	12D	1N		P	2122	2.58	2.50			E
MITK	04	0420E	0440D		S12	E90	1.000	13281	10.9	20D	1N		P	0420	.93				
ATHN	04	1414	1438	1421	S18	E59	.895		9.0	24	SF	2	C		.50				F
BOUL	04	1428E	1445D	1433	S19	E56	.875	13278	8.8	17D	1F		C	1433	1.50	2.66			
MITK	05	0341	0349	0344	N13	E90	1.000	13280	11.9	8	1B		C	0344	1.03				H
PALE	06	0228	0259D	0240	N 5	E78	.976		12.0	31D	SN	3	C		.72				F
MANI	06	0236	0247D	0242	N05	E80	.983	13280	12.1	11D	1N	2		0242	1.65	4.24			F
MITK	06	0244E	0316D	0246	N05	E85	.995	13280	12.5	32D	1B		C	0246	.93				E
PALE	06	2117	2204	2134	N11	E64	.893	13280	11.7	47	1N	3	C		1.80				F
PALE	06	2122E	2204	2124	N12	E63	.884		11.6	42D	SN	3	C		.93				F
TEHR	07	0855E	0918D	0905U	N11	E62	.877		12.0	23D	SB	4	C		.55				F
ATHN	07	0856E	0926D	0858	N14	E60	.859		11.9	30D	SN	2	C		.99				F
ARCE	07	0917E	0931D		N12	E64	.892	13280	12.2	14D	1N		P	0925	1.31	2.10			
PALE	10	1819	1902	1830	N13	E 6	.143		11.2	43	SB	3	C		1.27				F
MCMA	10	1820	1900	1836	N13	E05	.132	13280	11.1	40	SB		C	1836	1.55	1.50			EH
BOUL	10	1825E	1914	1829	N13	E 7	.156		11.3	49D	1N		C	1829	2.57	2.59			
TEHR	11	0329E	0402	0329	N12	E 3	.098	13280	11.4	33D	1B	3	C		5.07				Z U
PALE	11	0336E	0357	0336U	N12	E 2	.090		11.3	21D	SN	1	V		1.65				DE
TEHR	11	1006E	1022D	1012	N13	W 1	.102	13280	11.3	16D	1B	4	V		2.31				Z
ATHN	11	1027E	1126	1033	N12	W 2	.090	13280	11.3	59D	1B	2	C		2.31				U F
HERS	11	1032E	1039D	1034	N10	W03	.071	13280	11.2	7D	1N		P	1034	4.01	4.00			E
RAMY	11	1408	1434	1424	N 9	E 9	.158		12.3	26	SN	5	C		1.30				FDE
MCMA	11	1420	1438	1426	N10	E08	.146	13280	12.2	18	1B		C	1426	2.06	2.10			EHV
MCMA	11	1425	1550		N13	W03	.113	13280	11.4	85	1B		C	1439	2.06	2.10			FIWZ
RAMY	11	1425	1548	1441	N12	W 1	.085	13280	11.5	83	1N	5	C		3.71				FDE
PALE	11	1725	1743D	1732	N11	E 8	.152	13280	12.3	18D	1B	2	C		2.71				U
MCMA	11	1729E	1745D		N11	E05	.108	13280	12.1	16D	SB		P	1733	.83	.80			E
RAMY	11	1731	1746	1734	N10	E 8	.146		12.3	15	SB	4	C		1.65				F
PALE	12	0337E	0357D	0337U	N12	E 2	.090	13280	12.3	20D	1N	1	C		3.07				DE
TEHR	12	1130	1145	1140	N12	W12	.221		11.6	15	SN	4	C		.56				DE
TEHR	12	1133	1219	1144	N10	E 2	.059	13280	12.6	46	1N	4	C		2.31				F
RAMY	12	1133E	1237D	1148U	N 8	W 5	.087	13280	12.1	64D	1N	4	C		4.64				F
TEHR	13	0453	0558	0519	N12	W14	.252	13280	12.2	65	1B	4	C		2.73				U
ATHN	13	0508	0555	0512	N12	W12	.221		12.3	47	SN	3	V		1.32				U F
ARCE	13	0838E	0925D		N12	W30	.499		11.1	47D	SF		C	0848	.75	.90			
BUCA	13	0840	0900		N14	W30	.503		11.1	20	SF		C	0842	1.10	1.20			
TEHR	13	0840	1140	0936	N13	W25	.427	13280	11.5	18D	1B	4	C		4.93				U F
ATHN	13	0848	0855D	0855D	N11	W25	.422		11.5	7D	SF	3	C		.83				F
TEHR	13	0905E	0918D	0909U	N12	W22	.378		11.7	13D	SF	4	V		.50				F
ARCE	13	0916E	1000D		N10	W20	.341	13280	11.9	44D	2N		C	0950	7.37	8.30			FI
TEHR	13	0926E	0950D	0934	N10	W25	.420		11.5	24D	SN	3	V		.52				F
TEHR	13	0959E	1034	1009	N10	W26	.436	13280	11.5	35D	1N	3	V		2.48				F Z
RAMY	13	1036E	1059	1036U	N10	W24	.405		11.6	23D	SF	3	C		.84				DE
MANI	15	0812	0824D	0818	N08	W42	.664	13280	12.2	12D	1N	2		0818	2.99	4.03			F
TEHR	15	0815E	0859	0816U	N 7	W40	.639	13280	12.3	44D	1B	4	V		4.29				U
BOUL	15	1323	1425	1328	N 7	W47	.727		12.0	62	1N		C	1328	2.36	3.47			
RAMY	15	1324	1418	1336	N 6	W48	.739	13280	12.0	54	1B	4	C		4.18				DE F
TEHR	15	1325E	1329D	1326U	N 6	W43	.678	13280	12.3	4D	1B	1	V		4.13				U
MCMA	15	1330E	1450D	1335	N10	W48	.737	13280	12.0	80D	2B		C	1335	4.64	7.00			FH
BOUL	15	1845U	1906D	1856U	N10	W48	.737		12.2	21D	SF		C	1856	.43	.64			
MCMA	15	1850	1924D	1900	N10	W51	.771	13280	12.0	34D	SN		C	1900	1.13	1.70			E
PALE	15	1851	1914	1858	N10	W49	.749	13280	12.1	23	1N	3	C		1.44				F
RAMY	15	1851	1916	1856	N 6	W51	.773		12.0	25	SF	4	C		.56				F
PALE	15	1853E	1958D	1958D	N10	W49	.749		12.1	65D	1N	3	V		1.44				F
RAMY	15	1938	1958	1946	N 8	W58	.843		11.5	20	SF	4	C		.65				F
PALE	15	1940	2013	1954U	N11	W59	.851	13280	11.4	33	1N	2	C		1.35				DE
ARCE	16	0835E	0927D		N09	W60	.860	13280	11.9	52D	2B		C	0909	5.76	11.50			K
TEHR	16	0839	1003	0904U	N13	W58	.841	13280	12.0	84	1N	4	C		2.89				U F
ARCE	16	0917	0927	0924	N17	W65	.899		11.5	10	SF		C	0924	.57	1.30			
ATHN	16	1256E	1329D	1307	N10	W63	.885	13280	11.8	33D	1B	2	C		2.64				U F
MCMA	16	1302E	1445D		N10	W63	.885	13280	11.8	103D	2B		C	1304	3.61	7.50			FL
TEHR	16	1302E	1309D	1303	N10	W61	.869	13280	12.0	7D	1B	2	C		1.46				U F
BOUL	16	1320E	1400	1324	N11	W56	.823		12.4	40D	1N		C	1324	1.71	3.03			
ATHN	16	1410E	1415D	1411U	N13	W65	.900		11.7	5D	SN	2	C		.66				F
TEHR	17	0412	0502	0418	N10	W71	.940	13280	11.8	50	1B	4	C		2.64				F
KODA	17	0416E	0419D	0417	N10	W70	.935		11.9	3D	SN		V	0416			2.20		D
MITK	17	0436E	0453D		N13	W75	.960		11.6	17D	SN		C	0436	.52				D

SOLAR FLARES

PARTIAL LISTING

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

OCTOBER 1974

OBSERVATORY	OBSERVED UT DATE OCT	START	END	MAX. PHASE	LOCATION APPROX. LAT.	MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	TYPE	MEASUREMENTS TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	REMARKS
BOUL	18	1415	1429	1419	N 4	W82	.989		12.4	14	1N		C	1419	.64	2.24			
ATHN	18	1416E	1420D	1417U	N 4	W90	1.000		11.8	4D	SF	1	C						DE
RAMY	18	1416	1424	1418	N 2	W88	.999		12.0	8	SN	3	C						
MCMA	18	1417	1426	1418	N11	W90	1.000	13280	11.8	9	SF		C	1418					

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 D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked asymmetry in Hα 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 Hα line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

SOLAR FLARES

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

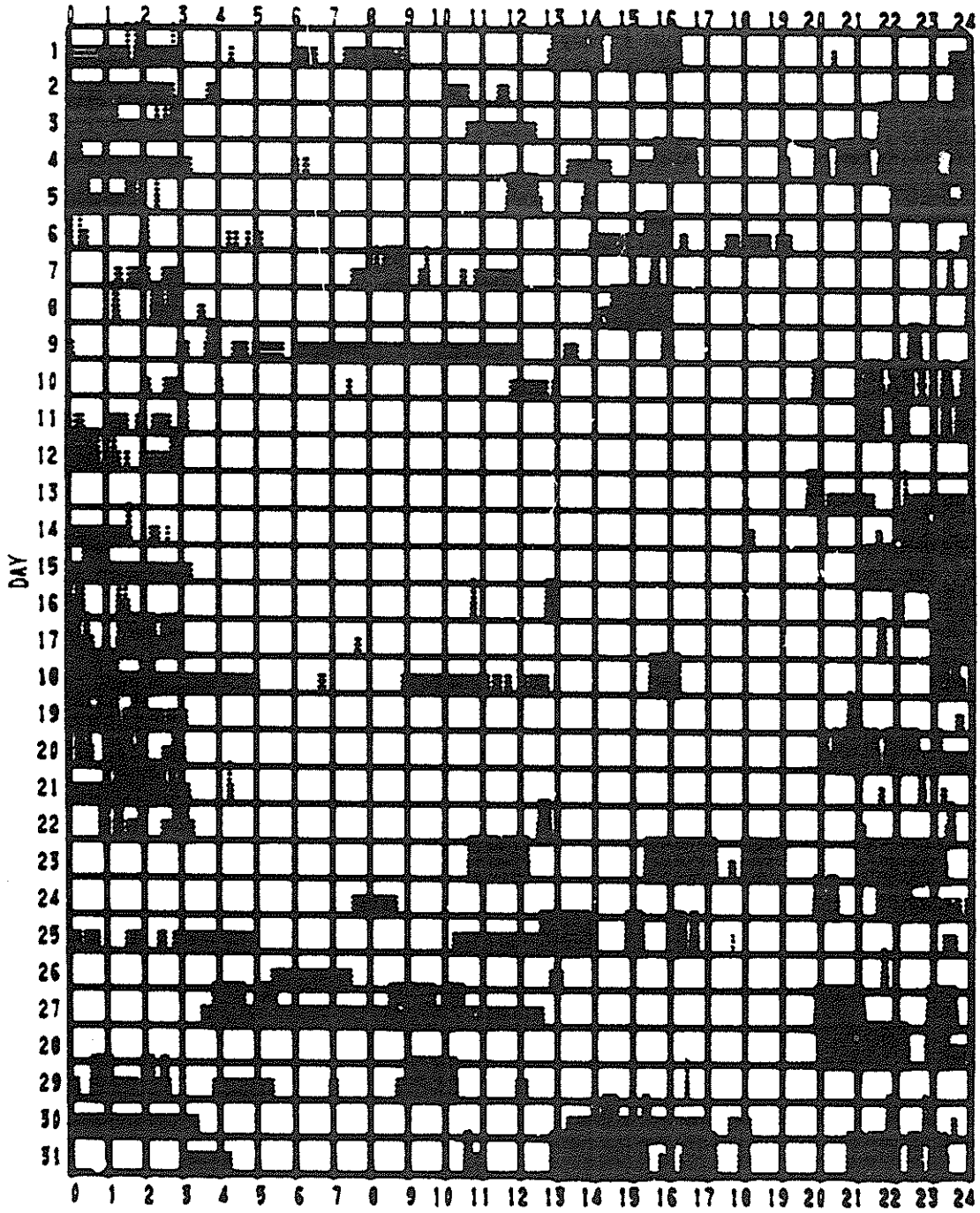
OCTOBER 1974

01 0622 S 8 E42	01 0622 S09 E42	01 0748 S 9 E41	01 0748 S11 E40	01 0810E S06 E37	01 1100 S 8 E35
01 1109 S 7 E29	01 1110 S 5 E35	01 1746 N13 E25	01 1746E N12 E27	01 2050 S 5 E23	02 0101 N07 E22
02 0107 S07 E30	02 0214E N12 E80	02 0220E N 1 W39	02 0626 S 9 E29	02 0628 N11 E20	02 0755 S 8 E28
02 1023 S06 E24	02 1412 N13 E14	02 1414 N12 E15	02 1838 N10 E15	02 2018 N12 E11	02 2138 N10 E13
02 2213 N10 E14	03 0207E N12 E 7	03 0629 N12 E 6	03 0729 S 6 E11	03 0805 S 5 E10	03 0946 S 5 E 9
03 1228 S22 E75	03 1655 N03 E87	04 0517 S07 W02	04 0527E S08 W02	04 0959 S 5 W 4	04 1004E S 5 W 4
04 1114 S18 E59	04 1115 S17 E65	04 1226E S 4 W 7	04 1226 S 5 W 6	04 1331 S17 E58	04 1449 S17 E57
05 0348 S06 W21	05 0352E S 9 W19	05 0603 S 9 W20	05 0735 S 8 W21	05 0809 N16 E78	05 0830 S 9 W20
05 0851 S 5 W22	05 1405 S09 W18	05 1507 S19 E43	05 1510 S21 E44	05 1736 N08 E89	06 0108 N 5 E86
06 0523E N11 E73	06 0603 S12 E58	06 0604 S12 E56	06 0637E S 7 E84	06 0638 N 8 E83	06 0641 N06 E81
06 0740 S 6 E83	06 0740E N 7 E78	06 0741 N 6 E83	06 0749 S10 W35	06 0819 N 5 E83	06 0820E N07 E82
06 0823 N 7 E77	06 0825E S 5 E83	06 0930 N 7 E77	06 1023 N 7 E78	06 1036 S20 E35	06 1144 N15 W39
06 1146 N11 W39	06 1223 S10 W35	06 1225 S07 W38	06 1320 N 4 W30	06 1358 N 5 E48	06 1446 N 6 E73
06 2148 S18 E23	07 0216E N14 E65	07 0431E N12 E66	07 0529 N05 E65	07 0612 N 7 E53	07 0643 N 6 E67
07 0647E N 6 E71	07 0754 S20 E21	07 1310 S17 E17	07 1311 S12 E17	07 1312 S21 E16	07 1913 S19 E14
07 1917E S20 E15	07 2050 N 5 E21	08 0901 N 6 E51	08 1021 N 7 E50	08 1024 N 7 E50	08 1113 N 6 E50
08 1114 N 7 E50	08 1116E N 7 E50	08 1310 N12 E32	08 1310 N12 E41	08 1311 N10 E42	08 1349 N 7 E50
08 1402 N 9 E42	08 1405 N11 E42	08 1449 N 6 E48	08 1555E N 7 E47	08 1741 N 8 E45	08 1743 N 7 E47
08 1815 S18 W 1	08 1822E S19 E 1	08 1918 N 7 E49	08 1918 N 7 E45	08 2054 S16 W 0	08 2258 N 6 E44
08 2302 N 7 E43	08 2318 S19 W 6	08 2328 S17 W 2	09 0048 N 5 E42	09 0114 N 5 E41	09 0118 S18 W 4
09 0156 N10 E35	09 0235 S18 W 4	09 0252 N 7 E40	09 0351E S 8 W 6	09 0351E N 9 E32	09 0351E S18 W 6
09 0426E N05 E38	09 0445E N05 E42	09 0446E N 7 E41	09 0505 S20 W02	09 0510 N04 E04	09 0542 N 5 E 5
09 0543E N 4 E 6	09 0714 N 7 E40	09 0807E S18 W09	09 1006 N11 E19	09 1205E S19 W11	09 1248 N 8 E10
09 1253 N 9 E10	09 1359 N 7 E35	09 1400 N 6 E36	09 1619E S19 W13	09 1638E S23 W10	09 1639 S23 W 8
09 1640 N05 E35	09 1650 S23 W 9	09 1716 N10 E24	09 2058E N05 E38	09 2101 N 7 E32	09 2150E N 3 W 7
09 2202E N 6 E27	09 2324E N 6 E29	09 2329E N 6 E27	10 0000E S07 W78	10 0001E S60 W79	10 0034 N 8 E26
10 0118 N 7 E26	10 0303 S19 W20	10 0305 N 7 E26	10 0542 S18 W17	10 0544 S19 W18	10 0618 N05 W03
10 0620 N 5 W 9	10 0822 N09 E27	10 0905E N10 E25	10 0914 N11 E25	10 0945E N07 E25	10 1036 N05 E25
10 1047 N05 E15	10 1047 N18 E03	10 1100 N07 E25	10 1131 N05 E24	10 1152 N05 W09	10 1221 N10 E15
10 1432 N11 E22	10 1449 N 4 W16	10 1510 N10 E20	10 1521 N07 E21	10 1525E N 8 E21	10 1634 S19 W29
10 1645 S19 W29	10 1723E N13 E 8	10 1723E N 7 E21	10 1726 N 7 E20	10 1726E N13 E 6	10 1730E N05 E20
10 1741 N12 E 7	10 1808 N10 E18	10 1809E N12 E19	10 1838 S18 W26	10 1841E S18 W25	10 1925 N05 E19
10 1935 N 6 E18	10 1938E N 4 E19	10 1941 N13 E05	10 1949 N13 E 5	10 2002E N12 E 6	10 2031 N 8 E18
10 2043 N10 E20	10 2044 N10 E20	10 2050E N10 E12	10 2052 N 7 E18	10 2055E N 7 E18	10 2249E N 3 W20
10 2316 N 9 E15	10 2333E N12 E 5	11 0325E S20 W42	11 0425 N12 E 2	11 0444 N 8 E10	11 0523 N 5 W23
11 0611 N 8 E15	11 0616 N10 E14	11 0631 N10 E14	11 0640 S19 W34	11 0707 N 9 E14	11 0739 N11 E13
11 0752 N 9 E15	11 0757 N10 E13	11 0830 N 9 E14	11 0836 N15 E15	11 1125 N 4 W28	11 1130E N 4 W27
11 1137 N12 W 3	11 1139 N10 E 8	11 1205 N13 W 6	11 1210 N13 W 1	11 1223E N12 W04	11 1250 N10 E10
11 1258 N10 E10	11 1305E N 8 E11	11 1338 N10 E03	11 1621 N11 E06	11 1640 N11 E06	11 1645 N12 W06
11 1657E N11 E 9	11 1657E N12 W 6	11 1755E N11 E05	11 1801E N11 E 7	11 1820 N10 E 6	11 1822E N11 E 8
11 1823 N12 W 7	11 1829E N12 W08	11 1952 N11 E 7	11 2038 N 7 E 2	12 0125 N12 W10	12 0129 N 9 E17
12 0137 N 7 E 2	12 0137E N07 E02	12 0137E N10 W10	12 0145E N12 E 4	12 0216E N09 E02	12 0300 N09 E02
12 0321 S20 W46	12 0332E S20 W47	12 0350 S19 W48	12 0425 N12 E 1	12 0448E S19 W45	12 0448E N07 E00
12 0448E N11 W15	12 0551 N 5 E 0	12 0552 N 8 E 0	12 0617 N12 W14	12 0718 N10 E 1	12 0720 N10 W03
12 0720 N 1 W12	12 0721 N10 W 1	12 0745 N11 W13	12 0755E N10 W01	12 0755E N11 W15	12 0812 N10 W02
12 0812 N11 W 1	12 0813 N11 W 4	12 0829 S18 W44	12 0843 N11 W15	12 1027 N12 W10	12 1030 N12 W11
12 1041 N11 W 6	12 1049E N10 W 3	12 1049 N11 E 2	12 1050 N 6 W 4	12 1148 N14 W18	12 1149 N14 W14
12 1307 N10 W 3	12 1315 N11 W 4	12 1426 N14 W20	12 1426 N12 W18	12 1503 N11 W18	12 1607 N 9 W16
12 1649 N12 W20	12 1726 N10 W 6	12 1833 N12 W18	12 1858 N11 W 8	12 1901E N10 W 6	12 2205 N 8 W22
12 2211 N13 W 9	13 0513 N 8 W23	13 0654 N12 W15	13 0655 N13 W17	13 0811 N04 W13	13 1628 N 6 W18
13 1729 N10 W22	13 1730 N10 W22	13 1741 N10 W22	13 1743E N 9 W22	13 1923 S18 W67	13 2024 N10 W31
13 2221E N10 W31	13 2241 N12 W31	13 2250 S17 E15	13 2251 N10 W24	13 2258E N11 W24	13 2302E N11 W27
13 2303 N 9 W39	14 0552 N13 W36	14 0553E N12 W33	14 0956 N13 W34	14 1421E N 7 W49	14 1623 N 8 W51
14 1638E N10 W50	14 1640E N10 W50	14 2154 N15 W53	15 0054E N09 W54	15 0315E N11 W39	15 0903E N10 W42
15 0929 N10 W47	15 1112E N10 W53	15 1153 N10 W43	15 1233 N 8 W46	15 1242E N10 W44	15 1402 N 4 W75
15 1723 N 9 W52	15 1922 N 4 W77	15 1923 N 7 W80	15 2011 N 7 W51	15 2013 N11 W51	15 2020E N10 W51
15 2034E N10 W51	16 0003E N11 W52	16 0028 N12 W59	16 0032 N12 W60	16 0121E N14 W62	16 0133E N12 W54
16 0201E N 8 W57	16 0256E N10 W59	16 0728 N12 W72	16 1457 S09 E03	16 1642 N 8 W57	16 1657 N11 W68
16 1753E N 6 W66	16 1802 N 9 W57	16 1804E N10 W59	16 1804 N10 W60	16 1843 N13 W70	16 1844 N10 W66
16 1937E N10 W72	16 1951 N 7 W70	16 1955 N 9 W77	16 2003 N11 W78	16 2026 N 9 W75	17 0317 N 9 W67
17 0720 N12 W79	17 1108 N 7 W83	17 1257 N 8 W71	17 1435 N15 W68	17 1748 N10 W83	17 1752E N11 W81
17 1822 N10 W88	17 1839E N11 W81	17 1948 N11 W77	17 1949 N11 W78	18 0359 N14 W86	18 0646E N15 W86
18 0716 N 4 W85	18 0725 N 5 W85	18 0747E N10 W90	18 0754 N15 W84	18 0825E N10 W90	18 1329 N 6 W89
18 1330 N 5 W82	18 1708 N 9 W83	18 1826 N 8 W90	20 1945E N 5 W61	21 1439 N 4 W65	22 2043 S 9 W64
23 0656 S 9 W72	23 0801 S 9 W72	23 1015 S 9 W73	24 0129 S 9 W83	24 0256 S08 W84	26 2147E N 8 E25
26 2150E N 7 E26	27 0545E N 6 E69	27 1328 N 7 E70	29 1018E N 3 E47	29 1422 N 2 E42	

INTERVALS OF NO FLARE PATROL OBSERVATION
FOR PRECEDING SOLAR FLARE TABLE

OCTOBER 1974

HOUR–UT



Observatories included in total patrol:

Arcetri	Bucharest	Manila	Palehua	Upice
Athenes	Herstmonceux	McMath-Hulbert	Ramey	Wendelstein
Boulder	Kodaikanal	Mitaka	Teheran	

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).

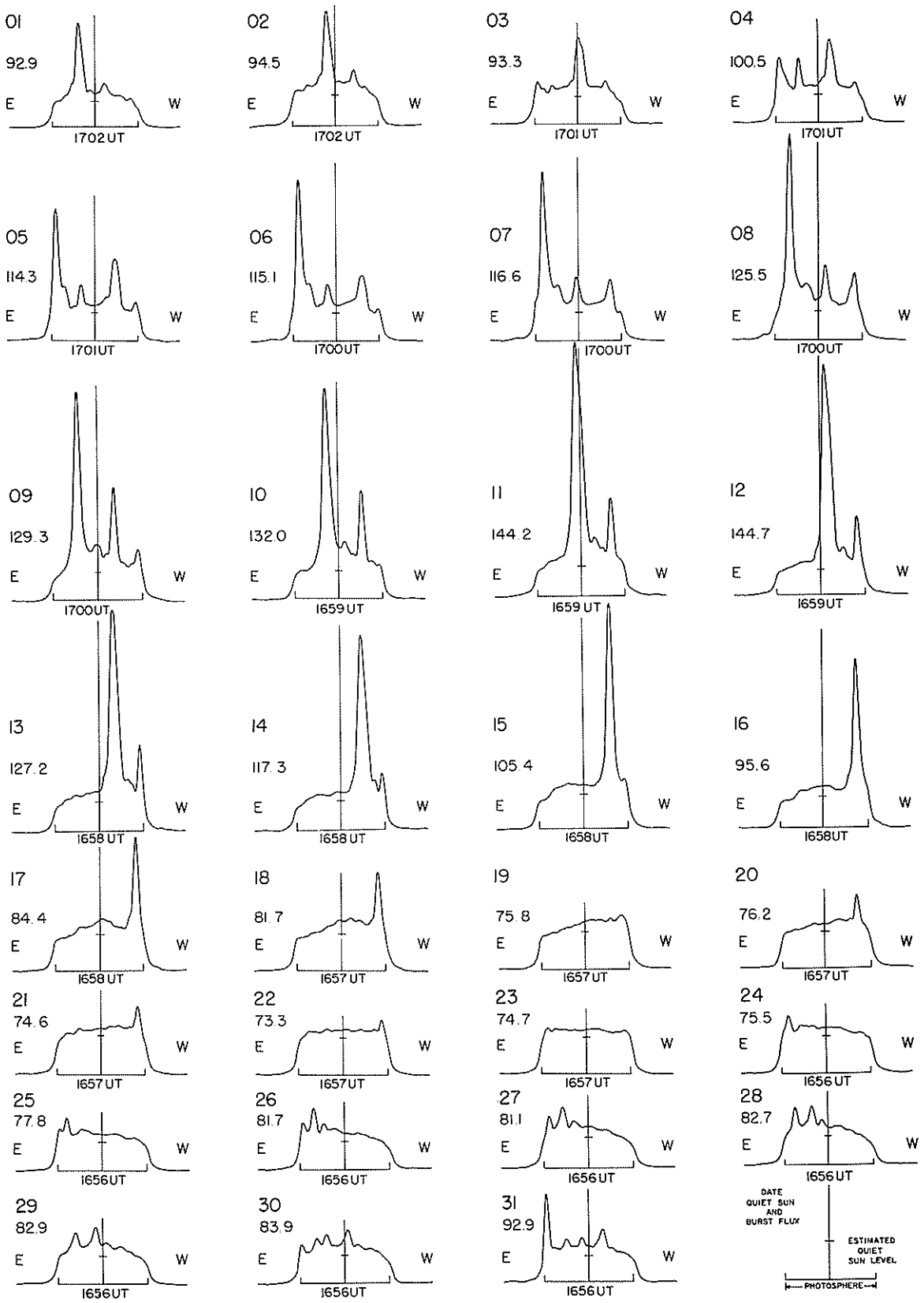
14
Oct 74

EAST - WEST SOLAR SCANS

October 1974

ALGONQUIN RADIO OBSERVATORY
CANADA

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

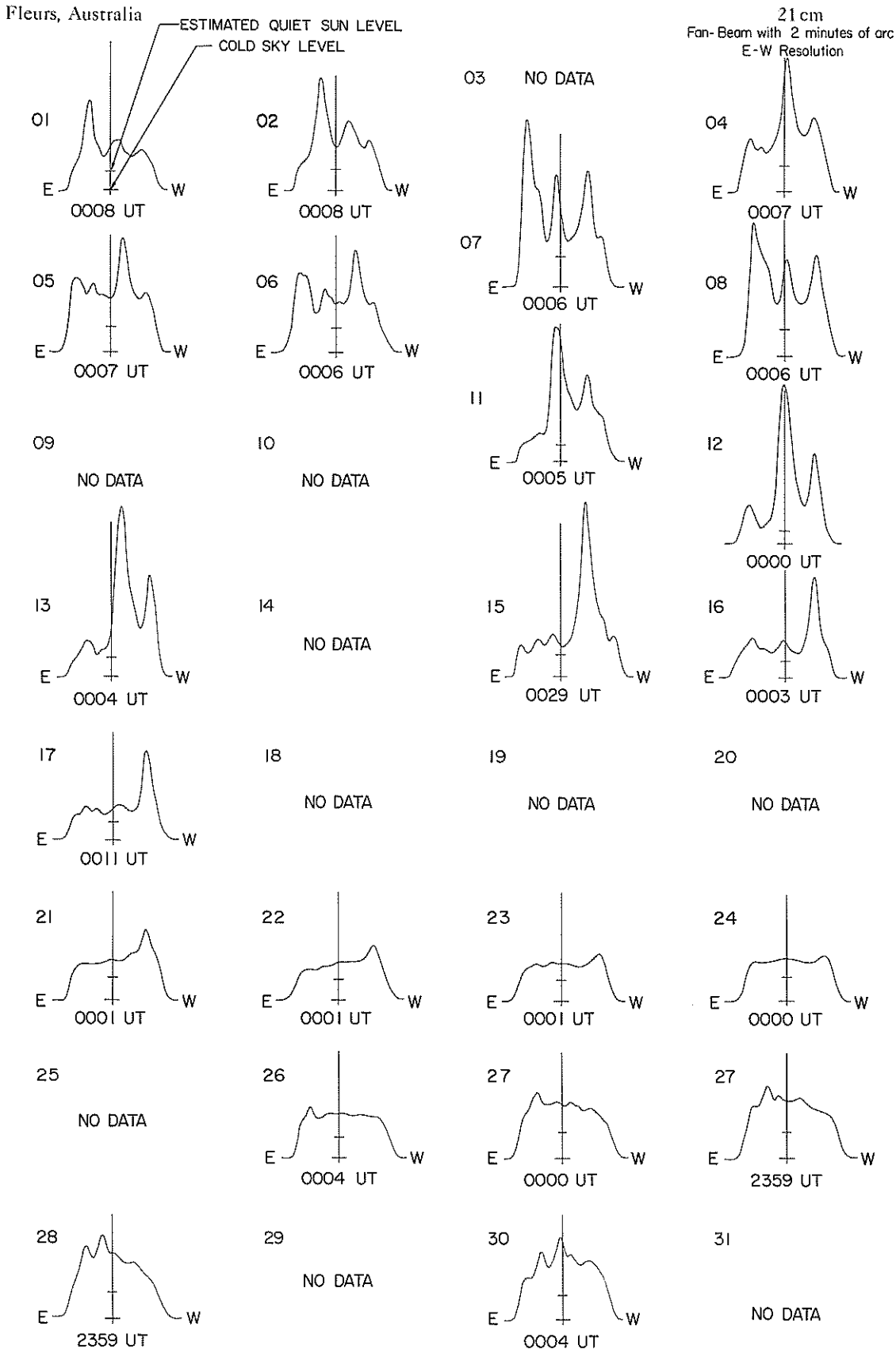


EAST-WEST SOLAR SCANS

OCTOBER 1974

Fleurs, Australia

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



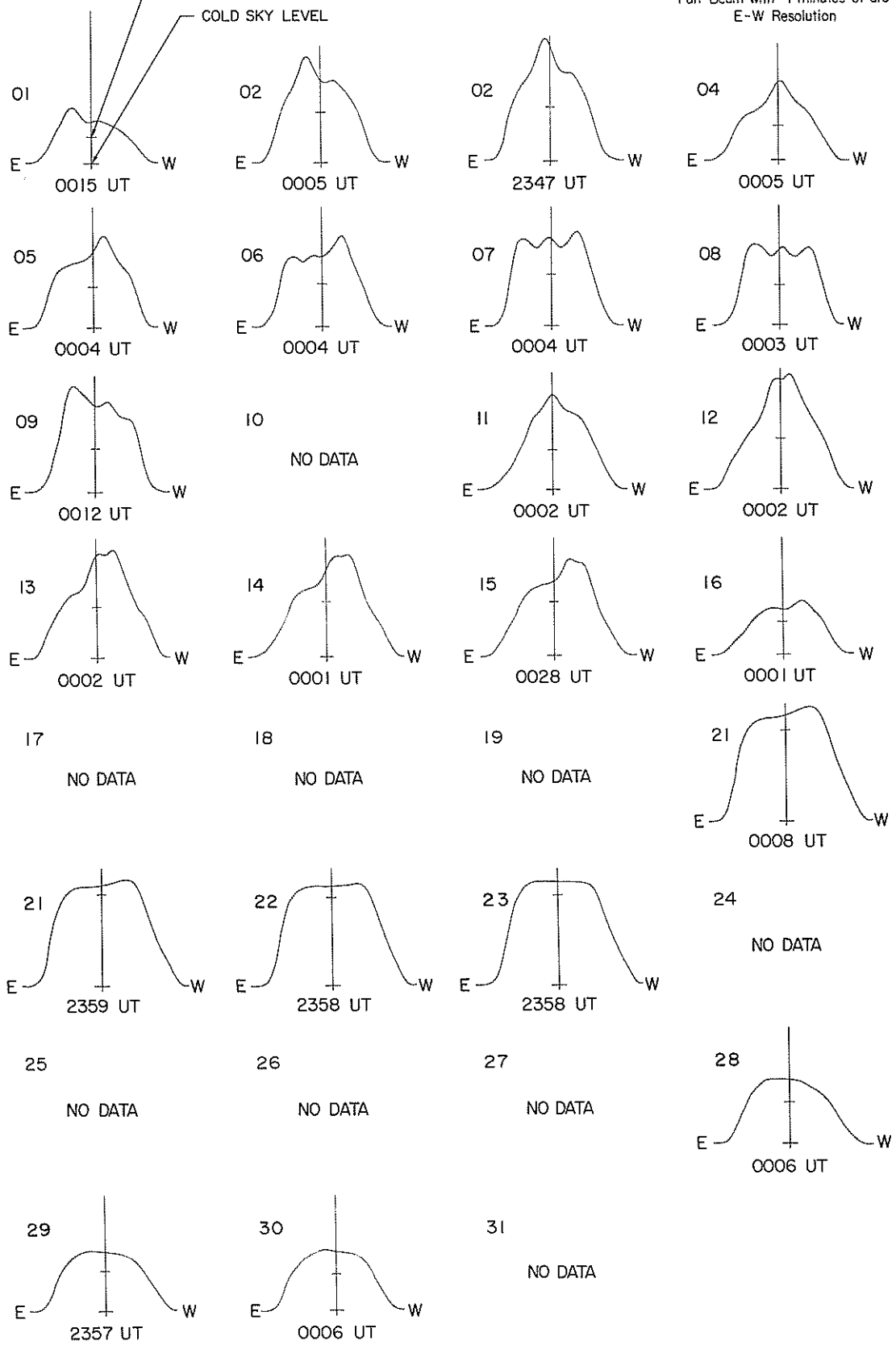
16
Oct 74

EAST-WEST SOLAR SCANS

OCTOBER 1974

Fleurs, Australia

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



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

OCTOBER 1974

OCT 1974	FREQUENCY STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22} Wm^{-2} Hz^{-1}$ PEAK	MEAN	INT	REMARKS
1	2800 OTTA	20	1705	1750	90	1.8	0.9		
	2800 OTTA	20	1920		100	1.4	0.8		
2	2800 OTTA	20	2015	2020	25	1.2	0.6		
3	2800 OTTA	24	2000	2100	60	2.6	0.9		
	2800 OTTA	24	2100		180 D	2.6			
	2800 OTTA	21	2105	2145	100	1.8	1.0		
	2800 OTTA	1	2135	2139	7	1.6	0.8		
	2695 BOUL	45	2137.5	2140.5	4	3.0	1.0		
	2695 PENT	1	2146	2147	3	4.0	1.8		ARO PF=1.3
	2695 BOUL	45	2146.5	2147	2.5	5.0	2.0		
4	8800 SGMR	4	1324.3	1326.8	5.7	22.9	6.7		
	2800 OTTA	24	1335	1420	45	3.0	1.5		
	2800 OTTA	24	1420		540 D	3.0			
	2800 OTTA	1	1427	1428	2	2.2	1.0		
	2800 OTTA	20	1430	1505	100	1.8	1.0		
	2800 OTTA	21	1620	1755	150	2.4	1.2		
	2800 OTTA	1	1724	1726	5	1.2	0.6		
	2800 OTTA	20	1905	2120	170	3.6	1.8		
5	2800 OTTA	24	1415	1440	25	4.8	2.4		
	2800 OTTA	24	1440		560 D	4.8			
	2800 OTTA	40	1442	1452	48	2.9			
	2800 OTTA	1	1551	1553	3	1.4	0.7		
	8800 SGMR	22	1619	1631.2	34.5	26.0	15.6		
	2695 SGMR	22	1618	1631.8	38.6	58.8	35.3		
	2800 OTTA	4	1618	1632	32	63.0	24.0		
	2695 BOUL	3	1619	1633.5	40	40.0	10.0		
	2800 OTTA	29	1650	1650	140	2.8	2.5		
	2800 OTTA	20	1920	1950	50	1.8	0.9		
6	8800 MANI	4	0114.5	0121.5U	21.5U	35.2U	8.8U		RFI
	2695 MANI	4	0112.1	0127.3	14.8	28.2	9.4		
	8800 MANI	22	0226	0234.2	20.6	18.5	9.3		
	2695 MANI	2	0230	0233.1	8.6	7.4	1.9		
	2800 OTTA	21	1920	2128	160 D	12.2			
	2800 OTTA	1	2123.5	2124.2	2	6.0	3.0		
	2695 BOUL	45	2124.5	2128.5	6	6.0	2.0		
	2800 OTTA	4	2133	2134.5	3	27.8	13.6		
	2695 BOUL	8	2133.5	2135	6	19.0	7.0		
	2800 OTTA	29	2136	2136	4	3.4	1.7		
	2695 BOUL	3	2217.5	2219	3	4.0	1.0		
	2695 BOUL	3	2229.5	2233	5	3.0	1.0		
7	2800 OTTA	23	1215	1235	85	5.0	2.6		
	2800 OTTA	2	1223	1230	9	4.2	2.1		
	2800 OTTA	20	1435	1625	170	3.2	1.6		
	8800 SGMR	4	1534.9	1536.5	5.9	61.0	18.3		
	2695 SGMR	2	1536.3	1536.8	1.7	2.0	.6		
	2800 OTTA	24	1755	2020	145	5.0	2.8		
	2695 SGMR	20	1831.2	1831.9	22.2	1.6	.6		
	2800 OTTA	24	2020		220 D	5.0			
	2695 PENT	20	2205	2245	85	1.8	1.0		
8	2800 OTTA	27	1255		175	2.0	1.8		
	2800 OTTA	24	1255	1320	25	2.0	1.0		
	2800 OTTA	20	1310	1315	10	1.4	0.7		
	8800 SGMR	3	1310.9	1311.9	7.3	23.2	7.0		
	2800 OTTA	24	1320		140	2.0			
	8800 SGMR	3	1404.5	1404.7	1.3	14.0	4.2		
	2800 OTTA	20	1420	1458	75	15.8	4.0		
	8800 SGMR	4	1430.8	1431.1	.8	14.0	4.2		
	2695 SGMR	2	1430.5	1431.1	1.3	5.4	1.6		
	8800 SGMR	4	1448	1449.5	12	39.4	11.8		
	2695 SGMR	20	1450.5	1458	32.9	11.3	3.4		
	2695 BOUL	45	1450	1459	29	13.0	4.0		
	2800 OTTA	26	1540	1550	10	-2.0	-1.0		
	2800 OTTA	27	1705		65	1.6	1.4		
	2800 OTTA	24	1705	1713	8	1.6	0.8		
	2800 OTTA	24	1713		52	1.6			
	8800 SGMR	4	1742.2	1743.8	3.3	88.4	26.5		
	2695 SGMR	4	1741.8	1743.4	3.7	23.2	7.0		
	2800 OTTA	3	1742	1743.3	3	23.0	11.5		
	2695 BOUL	8	1742	1744	18.5	32.0	8.0		
	8800 SGMR	29	1745.5	1745.5	12.2	7.8	3.1		
	2695 SGMR	29	1745.5	1745.5	21.2	5.7	2.3		
	2800 OTTA	29	1745	1745	15	5.8	2.7		
	2800 OTTA	26	1805	1810	5	-1.6	-0.5		
	2800 OTTA	21	1815	1840	155	2.2	1.3		
	2695 SGMR	1	1854.4	1855.8	3.9	3.5	1.1		
	2800 OTTA	1	1855	1855.2	1	3.2	1.6		
	2695 BOUL	3	1855.5	1856	2	4.0	1.0		
	8800 SGMR	4	1917.6	1918.6	5.7	47.8	14.4		
9	8800 MANI	4	0154.5	0154.8	4.4	10.4	2.1		
	2695 MANI	2	0154	0155.3	4.5	2.9	1.0		
	8800 MANI	3	0345.2	0349.1	8.8	10.4	2.1		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

OCTOBER 1974

OCT 1974	FREQUENCY STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22} Wm^{-2} Hz^{-1}$ PEAK	MEAN	INT	REMARKS
	2695 MANI	1	0348	0349.1	6.8	1.9	1.0		
	8800 MANI	3	0439.7	0440.4	2.8	14.5	8.3		
	2695 MANI	2	0439.6	0440.4	4.9	9.5	2.9		
	2695 MANI	1	0540.7	0542.6	8	4.7	1.9		
	2800 OTTA	8	1210.2	1210.3	.3	5.2			
	2800 OTTA	24	1440	1520	40	3.2	1.6		
	2800 OTTA	24	1520		500 D	3.2			
	2800 OTTA	27	1645		240	2.2	2.0		
	2800 OTTA	24	1645	1705	20	2.2	1.1		
	2695 PENT	1	1648	1648.7	1.5	2.4	0.8		
	2800 OTTA	24	1705	2010	185	2.2			
	8800 SGMR	20	1710.4	1711.9	10	8.0	4.8		
	2800 OTTA	22	1710	1716	30	3.2	1.5		
	2695 SGMR	20	1714.3	1715.8	20.8	3.8	2.3		
	2695 BOUL	3	1716	1717.5	3	4.0	1.0		
	2800 OTTA	26	2010	2045	35	-2.2	-1.1		
	2800 OTTA	1	2127	2129	5	1.2	0.6		
10	2800 OTTA	23	1508	1845	380	8.8	4.4		
	8800 SGMR	22	1509.2	1513.6	55.4	15.1	7.6		
	2695 SGMR	22	1509.4	1515.2	53.1	6.8	3.4		
	2800 OTTA	8	1510	1510		7.0			
	2800 OTTA	1	1513	1515	4	5.6	2.8		
	2695 BOUL	45	1513.5	1516	4	7.0	2.0		
	2800 OTTA	1	1525	1528	6	2.8	1.4		
	2695 BOUL	21	1527.5	1529	7.5	5.0	2.0		
	2695 BOUL	45	1807.5	1810	7.5	19.0	5.0		
	8800 SGMR	4	1808	1810.1	6.3	20.8	6.2		
	2695 SGMR	4	1808	1809.7	7.1	18.6	5.6		
	2800 OTTA	45	1808	1809.6	8	18.6	4.6		
	8800 SGMR	46	1826.6	1833.3	13.9	105.0	32.0		
	8800 SGMR	46		1837		75.0			
	2695 SGMR	46	1826.6	1833.6	19.9	35.0	11.0		
	2695 SGMR	46		1837.1		35.0			
	2800 OTTA	46	1827	1833.5	18	35.0	8.8		
	2695 BOUL	45	1828	1838 U	17.5	22.0U	6.0U		
	8800 SGMR	29	1840.5	1840.5	19.5	18.2	7.3		
	2695 PENT	20	2240	2332	80 D	5.8			
11	8800 MANI	46	0143.6U	0153.8	22.1U	55.0U	19.1U		WX
	2695 MANI	46	0138.5U	0151.5	20.2U	68.0U	23.8U		WX
	8800 MANI	47	0323	0329.4	44.9	1750.0	255.0		
	2695 MANI	46	0323.8	0329.3	43.9	340.0	150.0		
	8800 MANI	3	0500.8U	0501.3	4 U	19.2U	5.8U		WX
	2695 MANI	3	0500.8U	0501.3	3 U	14.1U	4.7U		WX
	2695 MANI	2	0616.3U	0617.2	2.6U	2.8U	.9U		WX
	8800 MANI	4	0758.6	0800.1	8.1	19.2	5.8		
	2695 MANI	2	0759.5	0800	7.5	2.8	.9		
	8800 SGMR	4	1259	1259.8	9	202.5	60.7		
	2695 SGMR	4	1259.1	1259.9	8.7	64.3	19.3		
	2800 OTTA	21	1259	1505	410	21.4	7.3		
	2800 OTTA	4	1259	1300	5	63.0	15.8		
	8800 SGMR	1	1339.2	1339.7	3	5.3	1.6		
	2695 SGMR	20	1339.2	1343.5	15.4	2.7	1.6		
	2800 OTTA	40	1420	1424.3	9	17.8			
	2695 SGMR	40	1420.5	1423.5	9.5	7.8	2.4		
	8800 SGMR	40	1422.5	1424.5	10.5	58.3	17.5		
	2695 SGMR	4	1432.5	1446.6	24.3	460.0	138.0		
	2695 BOUL	3	1434.5	1448	86	258.0	61.0		
	2800 OTTA	4	1435	1446.6	21	444.0	53.0		
	8800 SGMR	47	1435.2	1446.3	20.8	1665.0	500.0		
	8800 SGMR	29	1456	1456	49	53.0	26.5		
	2695 SGMR	29	1456.8	1456.8	55.2	19.2	9.6		
	8800 SGMR	3	1729.6	1731.9	14.9	387.4	116.2		
	2695 SGMR	3	1730.9	1732	19.4	144.7	43.4		
	2800 OTTA	3	1731	1732.1	4	152.0	30.0		
	2695 BOUL	8	1731.5	1733.5	12	81.0	30.0		
	2800 OTTA	30	1735	1735	15	4.6	2.3		
	2800 OTTA	1	1738.8	1739	3	1.6	1.0		
	8800 SGMR	3	1756.5	1757.7	17.1	22.8	6.8		
	2800 OTTA	23	1810	1830	75	4.8	2.0		
	8800 SGMR	20	1817.1	1831.1	53.7	26.5	10.0		
	2695 SGMR	20	1822.5	1831.1	61.8	5.4	1.6		
	2695 BOUL	45	1828.5	1832	4	5.0	2.0		
	2800 OTTA	1	1830.9	1831	1	2.6	1.3		
	2695 BOUL	45	2037.5	2048	16	5.0	2.0		
	2800 OTTA	22	2038	2047	30	4.8	2.4		
	2695 PENT	24	2112	2247	95	4.2	2.1		
	2695 PENT	24	2248		70 D	4.2			
	2695 PENT	8	2251	2251	.2	3.6			
12	8800 MANI	3	0138.3	0138.9	2.4	36.2	14.5		
	8800 MANI	1	0552	0552.5	1.9	7.2	1.8		
	2695 MANI	1	0552	0552.5	1.4	2.0	1.0		
	8800 SGMR	47	1141 U	1145.2	16.7U	891.0	458.4U		
	8800 SGMR	47		1146.4		1146.0			
	2695 SGMR	46	1141 U	1145.3	15.5U	102.7	38.2U		
	2695 SGMR	46		1146.4		127.4			
	8800 SGMR	29	1157.7	1157.7	48.4	26.0	13.0		
	2695 SGMR	29	1156.5	1156.5	64.5	19.2	9.8		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

OCTOBER 1974

OCT 1974	FREQUENCY STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22} Wm^{-2} Hz^{-1}$ PEAK	MEAN	INT	REMARKS
	2800 OTTA	26	1238	1310	32	-6.6	-4.0		
	8800 SGMR	41	1309.2	1316.5	18.1	71.2	21.3		
	2695 SGMR	41	1307.2	1316.7	39.2	32.2	9.7		
	2800 OTTA	46	1314	1316.8	13	35.0	13.4		
	2800 OTTA		1314	1316.8	7	35.0			
	2800 OTTA		1321	1323.5	6	29.0			
	2800 OTTA	29	1327	1327	83	7.0	3.5		
	2800 OTTA	20	1514	1516	10	3.0	1.5		
	2800 OTTA	27	1526		28	3.2	2.8		
	2800 OTTA	24	1526	1528	2	3.2	1.6		
	2800 OTTA	24	1528		21	3.2			
	2800 OTTA	26	1549	1554	5	-3.2	-1.6		
	8800 SGMR	22	1612.9	1621.9	20	17.7	5.3		
	2695 SGMR	22	1614.8	1619	11.1	3.1	.9		
	2800 OTTA	22	1614	1619	14	4.6	2.0		
	2800 OTTA	26	1630	1715	45	-9.2	-4.6		
	8800 SGMR	4	1726.7	1729.3	8.8	149.2	44.7		
	2695 SGMR	3	1726.3	1729.4	8.7	62.1	18.6		
	2695 BOUL	8	1727.5	1731	19	25.0	8.0		
	2800 OTTA	4	1728	1729.3	5.2	65.0	23.2		
	2800 OTTA	30	1733.2	1733.2	50	8.6	3.0		
	2800 OTTA	1	1734	1734.9	1	4.2	1.4		
	8800 SGMR	29	1735.5	1735.5	29	6.8	3.4		
	2695 SGMR	29	1735	1735	62.5	10.2	5.1		
	8800 SGMR	22	1859.6	1906.8	24	20.3	6.1		
	2695 SGMR	22	1858.5	1907.2	68.5	13.3	4.0		
	2800 OTTA	45	1900	1907	9	9.4	4.7		
	2695 BOUL	45	1900.5	1908	19.5	10.0	3.0		
	2800 OTTA	29	1909	1909	95	4.4	2.2		
	2800 OTTA	1	1958.3	1958.7	1	4.8	2.4		
	2695 PENT	27	2205		85	2.4	2.0		
	2695 PENT	24	2205	2209	4	2.4	1.8		
	2695 PENT	24	2209		50	2.4			
	2695 PENT	1	2233	2233	1	6.2	3.1		
	2695 BOUL	8	2233.5	2234	1.5	7.0	2.0		
	2695 PENT	26	2259	2330	31	-2.4	-1.4		
13	8800 MANI	3	0513.8	0522.4	17.9	36.2	12.7		
	2695 MANI	4	0512.9	0528.3	19.6	25.0	12.0		
	2800 OTTA	20	1353	1420	67	2.4	1.2		
	2800 OTTA	27	1517		98	1.8	1.5		
	2800 OTTA	24	1517	1532	15	1.8	0.9		
	2800 OTTA	24	1532		68	1.8			
	2800 OTTA	26	1640	1655	15	-1.8	-0.9		
	2800 OTTA	20	1728	1745	45	2.2	1.2		
	2800 OTTA	27	1840		135	2.2	2.0		
	2800 OTTA	24	1840	1850	10	2.2	1.4		
	2800 OTTA	24	1850		106	2.2			
	2800 OTTA	22	1940	1955	40	2.2	1.1		
	2800 OTTA	21	2024	2030	11	2.2	1.1		
	2800 OTTA	1	2024.5	2025	1.5	1.4	0.7		
	2800 OTTA	26	2036	2055	19	-3.4	-1.7		
	2695 PENT	21	2248		40	2.8	1.8		
	2695 PENT	8	2251.9	2251.9		3.4			
	8800 MANI	4	2254	2257.2	5.3	225.0	35.6		
	2695 MANI	2	2256.3	2257.2	3.6	8.6	2.9		
	2695 PENT	1	2256.9	2257	1	4.0	2.0		
	2695 BOUL	8	2257.5	2258	1.5	7.0	2.0		
14	2800 OTTA	20	1250	1305	50	2.2	1.4		
	2800 OTTA	27	1420		110	1.2	1.1		
	2800 OTTA	24	1420	1424	4	1.2	0.6		
	2800 OTTA	24	1424		96	1.2			
	2800 OTTA	1	1434	1436	4	2.4	1.2		
	2800 OTTA	1	1506	1508	6	1.8	0.9		
	8800 SGMR	1	1534.8	1535.2	2.6	8.0	1.6		
	2695 SGMR	1	1534.9	1535.2	2.9	6.2	1.2		
	2800 OTTA	8	1535	1535.3	.5	4.6	2.3		
	2800 OTTA	26	1600	1610	10	-1.2	-0.6		
	2800 OTTA	21	1610	1645	210	5.6	2.8		
	2800 OTTA	2	1624	1625.5	3	9.2	4.6		
	2695 BOUL	8	1624.5	1626.5	3.5	10.0	3.0		
	8800 SGMR	20	1625	1635.5	24.1	18.0	10.8		
	2695 SGMR	20	1624	1625.3	41.4	10.5	6.3		
15	8800 MANI	4	0813.9	0816	6.8	140.0	43.2		
	2695 MANI	4	0811.6	0816	10.4	130.0	30.9		
	2800 OTTA	21	1230	1238	20	2.0	1.0		
	8800 SGMR	20	1231.3	1236.2	27.6	10.9	3.3		
	2695 SGMR	20	1231.4	1233	17.7	7.0	2.1		
	2800 OTTA	2	1231.8	1233	4	5.2	1.5		
	8800 SGMR	47	1323.7	1325.6	7.3	1063.0	318.9		
	2695 SGMR	4	1323.6	1326.1	8.1	235.8	70.7		
	2800 OTTA	3	1325	1326	7	224.0	68.0		
	8800 SGMR	30	1331	1331	43.1	29.6	17.8		
	2695 SGMR	30	1331.7	1331.7	103.4	16.2	9.7		
	2800 OTTA	29	1332	1332	82	20.0	10.0		
	8800 SGMR	4	1336.8	1337.2	1.9	14.0	4.2		
	2695 SGMR	2	1337.2	1337.4	1.9	3.3	1.0		
	2800 OTTA	20	1628	1636	47	2.2	1.1		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

OCTOBER 1974

OCT 1974	FREQUENCY STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY $10^{-22} Wm^{-2} Hz^{-1}$ PEAK	MEAN	INT	REMARKS
	2695 BOUL	8	1713	1713.5	2	5.0	2.0		
	2695 BOUL	3	1717.5	1718.5	2.5	3.0	1.0		
	2800 OTTA	27	1722		62	1.6	1.5		
	2800 OTTA	24	1722	1725	3	1.6	0.8		
	2800 OTTA	24	1725		55	1.6			
	2800 OTTA	26	1820	1824	4	1.6	0.8		
	2800 OTTA	20	1845	1853	45	2.8	1.4		
	8800 SGMR	22	1849.7	1853.7	16.7	12.2	3.7		
	2695 SGMR	2	1849.6	1853.6	9.9	5.8	1.7		
	2695 SGMR	20	1939.6	1947.4	32.4	2.9	1.7		
	2800 OTTA	20	1940	1942	51	3.2	1.6		
	8800 SGMR	3	2011.1	2011.3	4.2	26.5	7.8		
	2800 OTTA	32	2058	2125	80	-2.4	-1.2		
16	2695 MANI	4	0031.3	0032.9	3.1	19.4	9.7		
	2800 OTTA	21	1258	1405	140	4.4	2.2		
	2800 OTTA	46	1258	1303	32	79.0	16.0		
	2800 OTTA		1258	1303	8	79.0			
	2800 OTTA		1306	1307	24	40.0			
	8800 SGMR	46	1259.7	1301.3	30.6	27.1	15.0		
	8800 SGMR	46		1302.8		50.0			
	2695 SGMR	46	1259.6	1301.8	31	51.3	18.2		
	2695 SGMR	46		1302.9		60.8			
	2800 OTTA	20	1817	1819	23	1.4	0.7		
	2695 SGMR	20	1843.2	1844.9	16	4.5	1.4		
	2800 OTTA	21	1843	1845	16	3.0	1.5		
	2800 OTTA	8	1845	1845		4.6			
	2800 OTTA	20	1920	2055	150	2.8	1.4		
17	2800 OTTA	1	1750.8	1751.5	2	1.2	0.6		
	2800 OTTA	20	1906	1909	10	1.0	0.5		
	2800 OTTA	20	1955	2010	35	1.2	0.6		
	2695 PENT	20	2212	2247	43	1.2	0.6		
18	2695 MANI	1	0355.5	0356.4	6	4.3	2.1		
	2695 MANI	1	0629.4	0631	7.9	6.4	2.1		
	2800 OTTA	20	2110	2128	70	2.4	1.0		
19	2695 MANI	3	0049	0051.6	19	11.0	5.0		
	2800 OTTA	1	1543	1544	6	1.4	0.7		
23	2800 OTTA	2	1326.1	1327	2	4.4	2.2		
31	2800 OTTA	21	1540	1610	315	8.0	3.0		
	2695 BOUL	45	1542	1546.5	20.5	30.0	9.0		
	2695 SGMR	4	1542.4	1545.6	42.7	26.9	8.1		
	2800 OTTA	46	1543	1546	20	29.0	12.0		
	8800 SGMR	20	1543.3	1550.2	47.7	15.2	4.6		

Errata & Addenda: September 1974

7	2695 PENT	24	2346		105 D	4.0			
9	2695 PENT	26	0040	0105	25	-1.2	-0.6		
13	2800 OTTA	25	1458	2120	382	3.7	1.8		
19	2800 OTTA	21	2000		330 D	4.6			
29	2800 OTTA	27	1450		103	1.4	1.0		
	2800 OTTA	24	1450	1543	53	1.4	0.7		
	2800 OTTA	24	1543		43	1.4			
	2800 OTTA	26	1626	1633	7	-1.4	-0.7		
	2800 OTTA	20	1650	1730	80	2.8	1.6		
	2800 OTTA	27	1830		300	3.6	2.4		
	2800 OTTA	24	1830	2055	145	3.6	1.8		
	2800 OTTA	24	2055		105	3.6			
	2695 PENT	26	2240	2330	50	-3.6	-1.9		
30	2800 OTTA	24	1855	1950	55	1.8	0.9		
	2695 PENT	24	1940		250 D	1.8			

Observatories:

BOUL = Boulder MANI = Manila OTTA = Ottawa ARO PENT = Penticton SGMR = Sagamore Hill

Explanation of Type Code:

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

PIONEER IX

OCTOBER 1974

Date Oct. 1974	DSN Coverage (UT)	Data Time (UT)	ESP (°)	SOLAR WIND[1]				IP E-FIELD[2]	IMF[3]		COSMIC RAY PROTONS[4] (particles/sec)	
				U_{H^+} (km/sec)	N_{H^+} (H^+/cc)	T_{H^+} ($\times 10^6$ °K)	TAU (days)	400 Hz (mv)	|B| (γ)	φ (°)	>13.9 Mev	>40 Mev
28	1952-2030	2000	-113.1	526.	---	0.204	-7.98	0.298	7.6	108.	5.47	.96

[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.

Note: Data sampled hourly unless otherwise noted.

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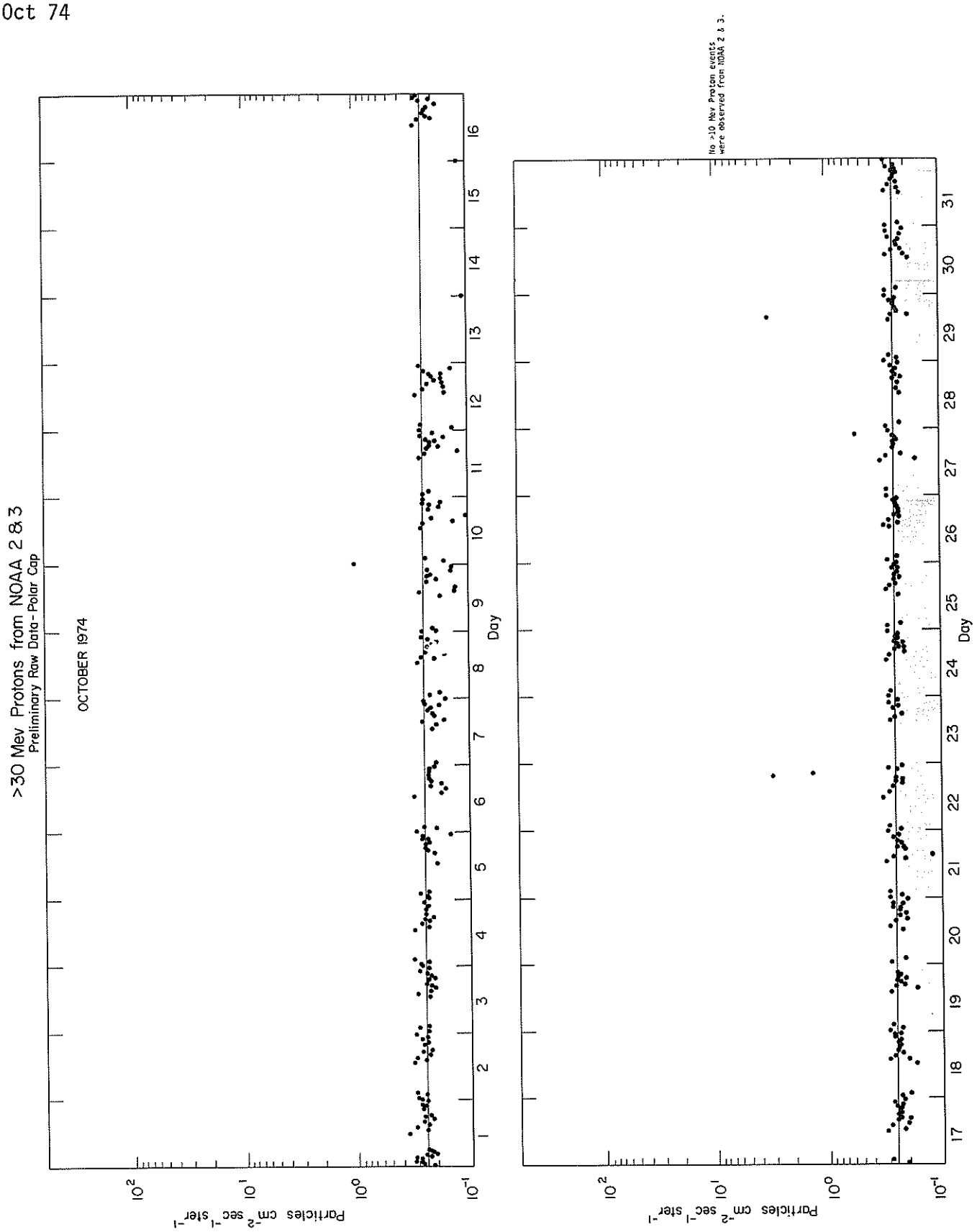
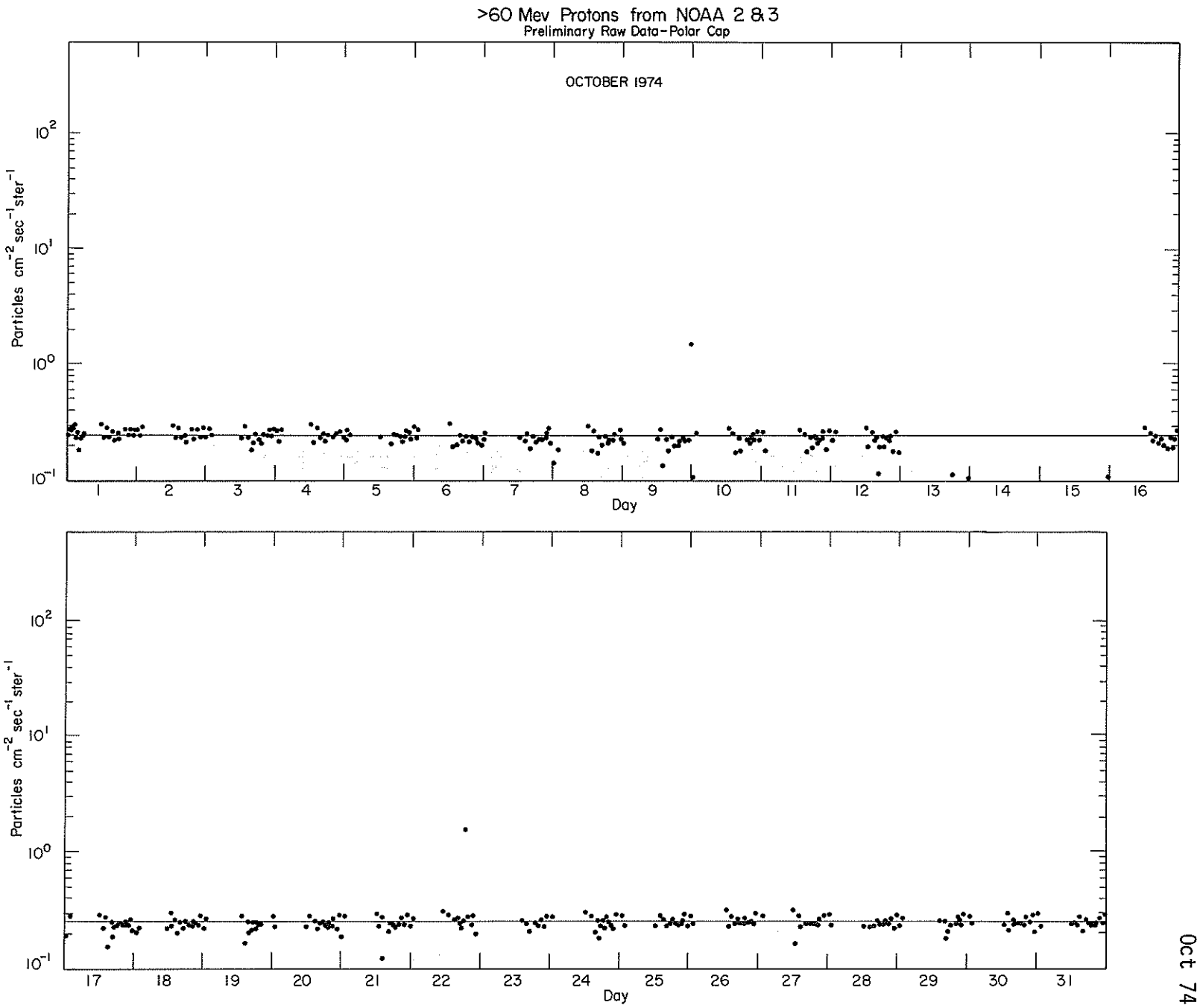
Oct 74


>30 Mev Protons from NOAA 2 & 3
Preliminary Raw Data - Polar Cap
OCTOBER 1974
Day
Particles cm^{-2} sec^{-1} ster^{-1}
No >10 Mev Proton events were observed from NOAA 2 & 3.


>60 Mev Protons from NOAA 2 & 3
Preliminary Raw Data-Polar Cap
OCTOBER 1974
Particles cm^{-2} sec^{-1} ster^{-1}
10^2
10^1
10^0
10^{-1}
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
Day
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Day

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Oct 74

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
1896	1972 MAR 10	A A	A A	A A	A A	A A	A A	T A	T A	T A	T A	T A	T T	A A	A T	T T	A T	TA T	A A	A A	T T	T T	T T	T T	T T	TA T	A A	A A
1897	APR 6	A A	T T	T T	A A	AT T	T T	T T	T T	TA T	T T	T T	T T	T T	A A	T T	T T	AT A	A A	A A	A A	A A	T -	A A	A A	T T	TA TA	A A
1898	MAY 3	A A	A A	A A	T -	A A	T T	T T	T T	T T	T T	T T	T T	T T	A A	T A	A T	A A	AT A	A A	AT A	AT A	T T	A A	T T	T T	A A	T T
1899	MAY 30	A A	A A	A *	A A	AT A*	T T	T T	A A	T T	T T	TA T	A A	A -	A -	TA -	A -	A -	T T	T -	A A	A A	T T	T T	T T	T T	TA TA	A A
1900	JUN 26	A A	A A	A A	TA A	TA A	A A	A A	T AT	TA T	T T	T T	T TA	A A	T T	T T	A A	A A	T A*	TA A*	A A	T T*	T T	T T	T T	T T	T T	TA TA
1901	JUL 23	TA A*	TA A*	T A*	T A	A A	A A	A A	T A*	TA T	T T	A A	A A	TA A	T -	AT A	T T	T T	T T	T T	T T	T A	T T	T T	T T	T T	A A	TA -
1902	AUG 19	A -	A -	A A	A A	A A	A A	A A	TA T	A A	A A	A A	A A	T T	A A	A A	A A	A T	T T	T T	T T	TA A	A A	TA T	A A	A A	TA A	A -
1903	SEP 15	A A	TA T*	A A	A A	A A	AT A	A A	A T	T A	AT A	A A	A -	A -	A -	A -	A -	A T	T T	T T	T T	T T	A -	T T	T A	AT A	TA A	A T
1904	OCT 12	T T	A -	TA -	A A*	A T	A T	TA T	A A	A A	A T	TA A	TA A	AT A	AT A	A A	T AT	T T	A AT	A T*	T T	A -	A A*	T AT	T T	TA T	TA *	A A
1905	NOV 8	A A	T A	AT A	AT AT	TA AT	T AT	A T	TA T*	A A	A A	A A*	TA AT	A A	A A	TA AT	T T	A T	TA TA	A T	A T	AT T	A A	TA A	A A	A A	AT AT	T T
1906	DEC 5	T T	T T	TA AT	T -	T -	T T	T T	A AT	A -	TA T	TA T	A A	AT -	A -	A T	T TA	A T	T T	T T	T A	A* A	T T	T T	T T	T T	TA AT	TA T
1907	1973 JAN 1	T T	T T	T T	T T	TA T	T T	A T	AT -	A AT	A T	A -	AT -	A TA	A A	A A	A A	A A	A A	T T	A -	T -	T T	T -	TA T	T -	T T	T T
1908	JAN 28	T T	A A	T T	TA T	AT T	T T	T T	A T	A A	A TA	A A	A A	A AT	T TA	A AT	A TA	A AT	AT -	A A	A A	T T	T T	AT T	T T	T T	T T	T T	T T
1909	FEB 24	AT T	AT T	AT TA	AT T	T T	T -	AT TA	AT A	T A	T T	A A	A A	A A	AT TA	A AT	A A	A A	AT TA	A A	T A	AT TA	A A	AT A	T T	T T	T T	T T
1910	MAR 23	T T	T T	T T	T A	T T	T T	T T	T TA	AT A	T TA	A A	A A	A -	A A	A A	T TA	A A	A A	A AT	AT T-	T -	T T	A T	T T	T T	AT T*	T T*
1911	APR 19	T T	T AT	T T-	A T	T T	AT T	A A	AT T	T T	T TA	A A	A A	AT A*	A A	- AT	A TA	A A*	- T	A A	T TA	T T*	- AT	A A	T T	- A	- T	A A*
1912	MAY 16	T T	T T	T T	T T	AT T	- T	- TA	T T	A A	AT AT	T T	AT A	A A	- A	A A	- A	A A*	A A	A A	A A	A A	- T*	A -A	A A	- -	T T	T T
1913	JUN 12	TA T*	- T	* -	T T	TA T*	A A	T T	- T*	T T*	T T	T T	AT AT	A A	A A	TA T	* -	T T	- A	A A	A A	A A*	A AT	T -	T T	A A	- A	T T
1914	JUL 9	T T	T T	A A	T T	- T	AT A	T T*	A T*	- A	A AT	* -	A A	T T	A TA	- T	T T	T T	A A	- A*	A A	A A*	A TA	- A	A TA	T T*	T T*	T T
1915	AUG 5	T T	A A	A A	T AT	A A	A T	T T*	T T	AT *	T AT	T T	A AT	T T	A A	A TA	T T	T T	A A	A A	A AT	A A*	A AT	A A	A A	T TA	A A*	A A
1916	SEP 1	T TA*	T T	T T	A AT	A A	A TA*	A A	A *	T T	T T	T T	T A	A A	A A	T T	T T	T T	T A	T T	T A	A A*	T A	A T*	A A	A A	TA A*	A A
1917	SEP 28	A A*	TA A	T AT	T T	A A	A A	A A	T A	AT A*	AT T*	AT AT	T T	T T	T T*	T T	T T*	T T*	AT T	TA A	A T	- A*	A A	A A	A T	AT A	AT T	T T
1918	OCT 25	T T	T T	A TA	A A	A T	A T*	T A	T A	A A	A A	T A	TA T	T T	AT T	T T	T T	T T	TA T	T T	T T	* A	A A	AT A	AT TA	A T	A -	A A
1919	NOV 21	A *	T T	T -	A A	A A	AT T	A T	A T*	A TA	A A	A A	A A	A T	TA T	T T	T T	T T	* T	T T	T TA	TA A	A T	T -	T A	A TA	A A	T T
1920	DEC 18	T T	AT A	A T	A T	A TA	A T	A *	A A	A *	AT T	T T	T T	T T	T *	T T	T T	T T	A T	AT T	T A	T T	T T	AT TA	T T	T A	A T	AT T
1921	1974 JAN 14	T A	A T	- T	T A	A T	A A	A A	A A	- A	A -	AT -	T T	T TA	T *	T A	T T	T T	T A*	AT T	AT T	TA A	T -	T T	T T	T T	T T	TA A
1922	FEB 10	A -	A -	A *	A A	A A	A A	A A	TA T	A A	A A	T *	T T	T T	T T	T A	T -	T T	T T	T T	TA T	T T	T T	T T	T T	T T	A A	A A
1923	MAR 9	A A	A A	A A	A A	A A	A A	T T	TA TA	A AT	A A	A A	T A	T TA	T A	T T	A T	A A	T A	T T	T T	T T	TA T	T TA	T TA	TA -	A TA	
1924	APR 5	A A	A A	A -	TA A	A A	A A	A A	* A	A A	A A	A A	T T	TA TA	TA T	T T	T T	T T	T T	T T	T T	T A	TA A	AT T	A A	A -	- -	
1925	MAY 2	- -	A A	A A*	AT T	A AT	AT T	A T*	TA A	A A	TA T*	A A*	AT AT	T T	T T	T T	T T	TA T*	T T	T T	T T	T T	TA -	T T	TA T*	T T	A -	- -
1926	MAY 29	T T	A A	A *	- A	A A	A *	A A	* -	TA *	A A	A A	T T	T T	TA TA	T T	T T	T T	T T	T T	T T	T T	T T	T T	T T	T T	AT *	- T
1927	JUN 25	TA TA	A A	- A	- A	A T	A A	A A	A A	A A	A A	- TA	TA -	T T	T T	T T	T T	- T	T -	T T	T T	T T	T T	A AT	AT T	T T	T T	T T
1928	JUL 22	T T	A A	A A	AT A	A A	A A	A A	A A	A A	A A	A -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
1929	AUG 18	- -	- -	- -	- -	- -	- -	- -	- -	A -	A T	T T	T T	T T	T T	T -	T -	AT T	T T	T T	AT T	T T	TA A	- -	T T	T T	T -	T -
1930	SEP 14	- T	- TA	AT A*	A A	- A	A A	A A	TA A	AT A	A A	AT T	- TA	A T	TA T	- T	T T	T T	- -	T T	T AT	T T	T T	T T	- T	T A	- T	- T
1931	OCT 11	T T	TA T	A A	A A	- A	- A	- A	A A	AT A	A A	A A	- A	T T	- -	- T	T T	T T	T T	T T	T T	T -	T					

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

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

Note: Computer problems are responsible for the considerable amount of missing data in August 1974.

SEPTEMBER 1974 DATA

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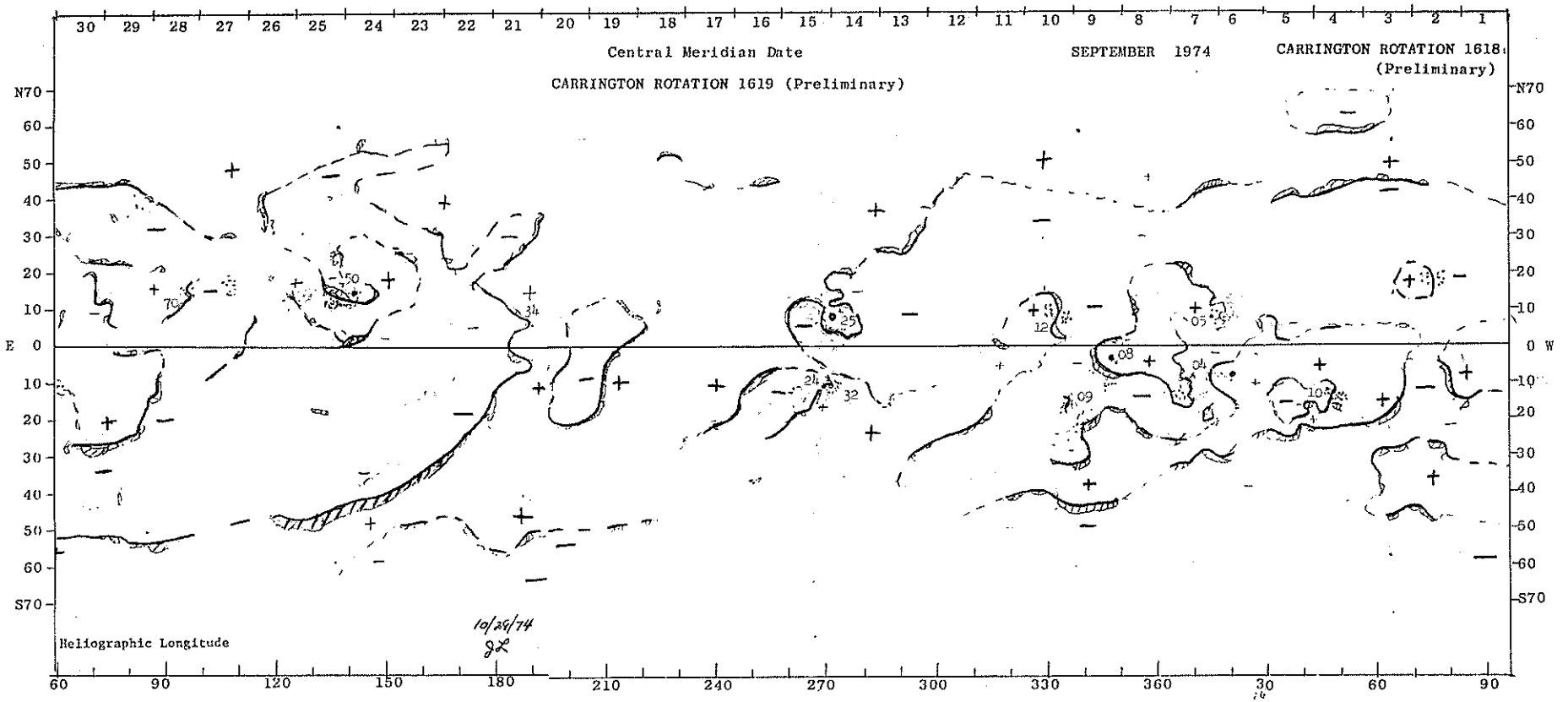
For explanations of the data contained herein see *Descriptive Text* published as supplement to February 1974 *Solar-Geophysical Data* (Number 354).

Hα SYNOPTIC CHART

SEPTEMBER 1974

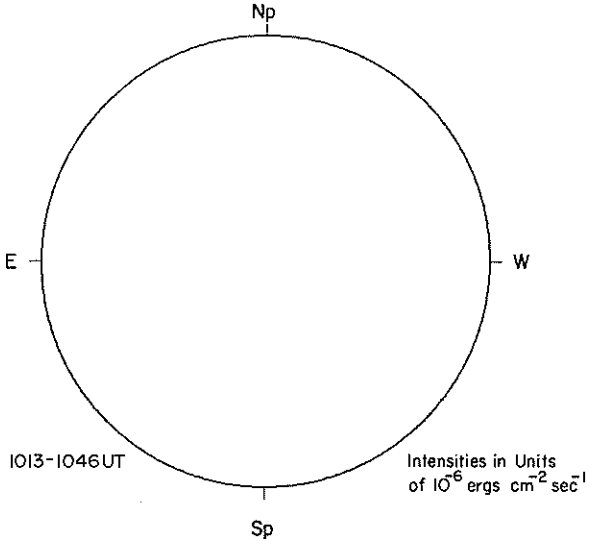


27
Sep 74

SEPTEMBER 1, 1974 (P = 21.01, B_o = 7.19, L_o = 95.05)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

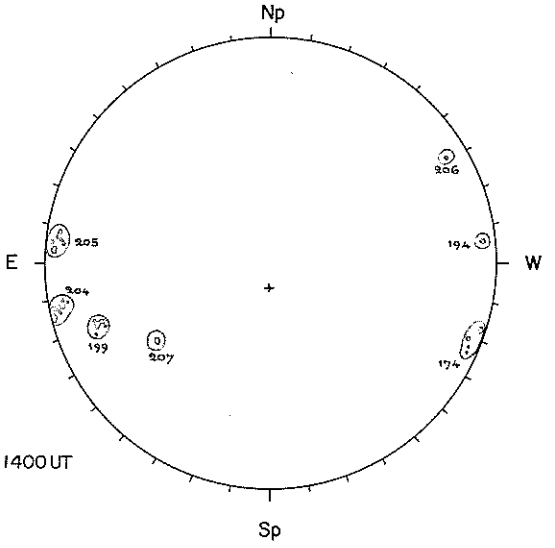


1013-1046UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT

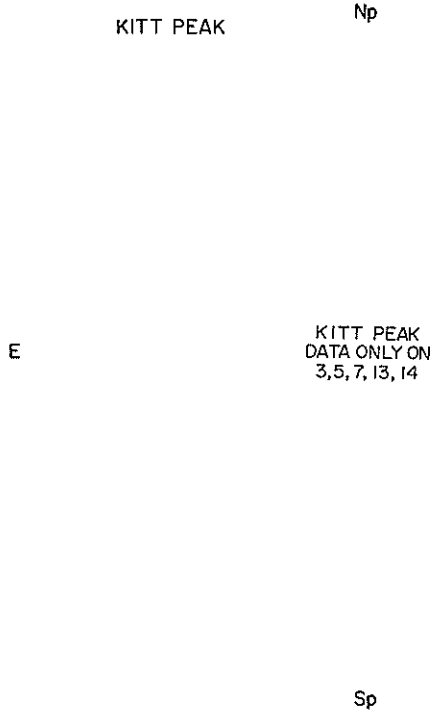


1400UT

GOOD	S
06 - 0100	-2.5
07 - 0100	-3.0

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

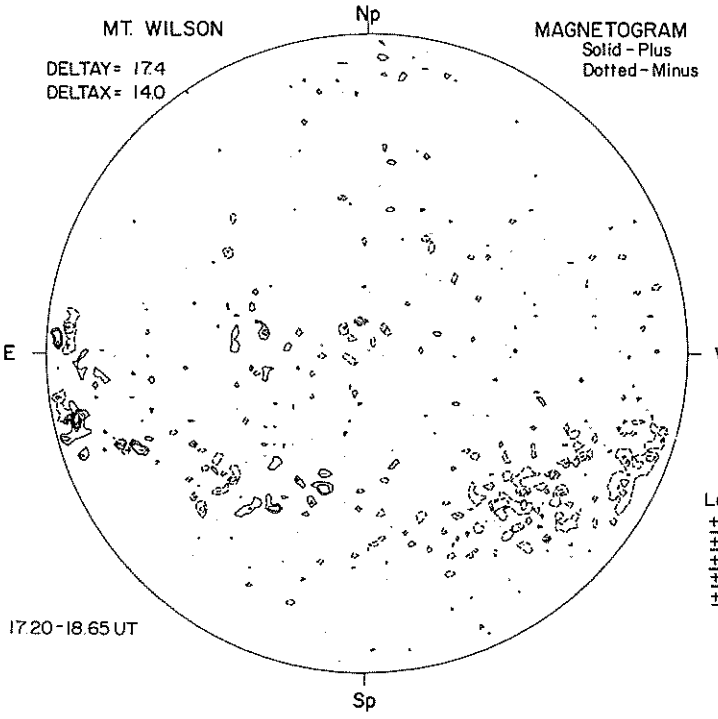


KITT PEAK
DATA ONLY ON
3,5,7,13,14

MT. WILSON

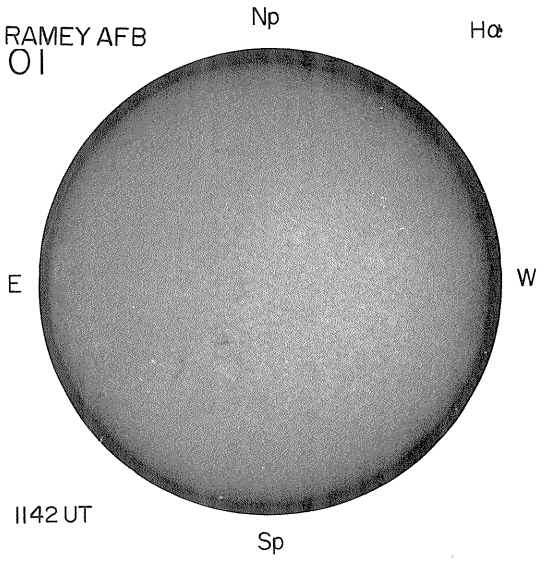
MAGNETOGRAM
Solid - Plus
Dotted - Minus

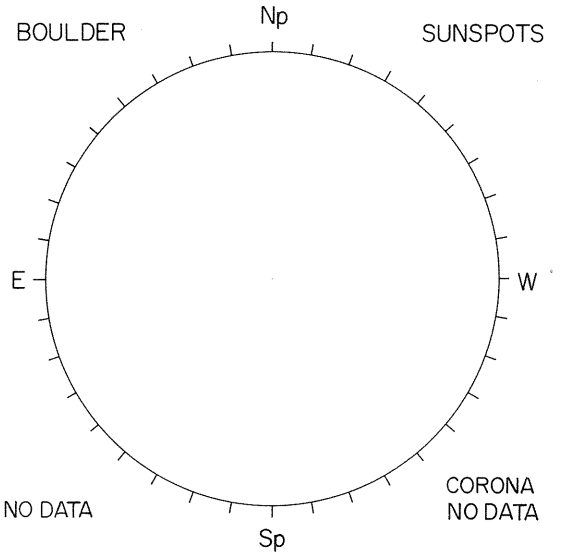
DELTAY = 17.4
DELTAX = 14.0

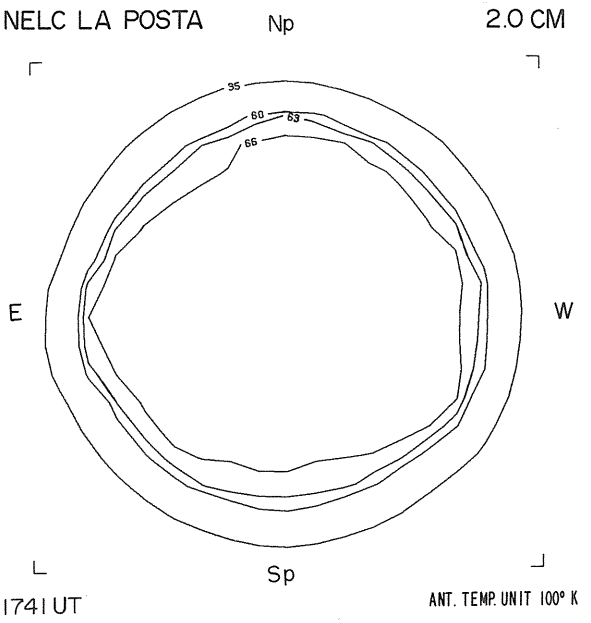


17.20-18.65 UT

Levels
± 5
± 10
± 20
± 40
± 80


RAMEY AFB
O I
Np
Hα
E
W
1142 UT
Sp


BOULDER
Np
SUNSPOTS
E
W
NO DATA
Sp
CORONA
NO DATA

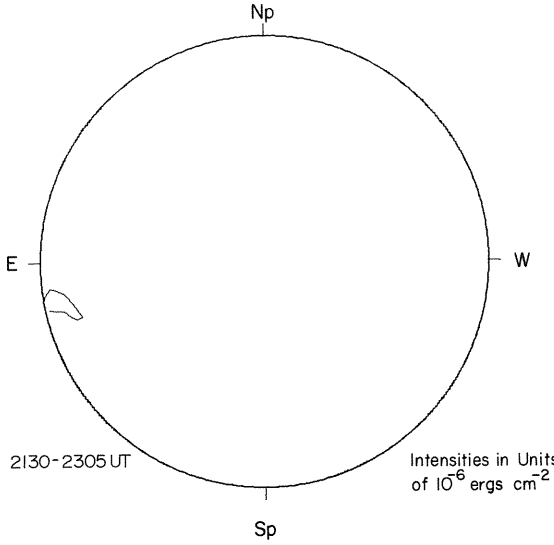

NELC LA POSTA
Np
2.0 CM
95
60
63
66
E
W
Sp
1741 UT
ANT. TEMP. UNIT 100° K

29
Sep 74

SEPTEMBER 2, 1974 (P = 21.26, B_o = 7.21, L_o = 81.84)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

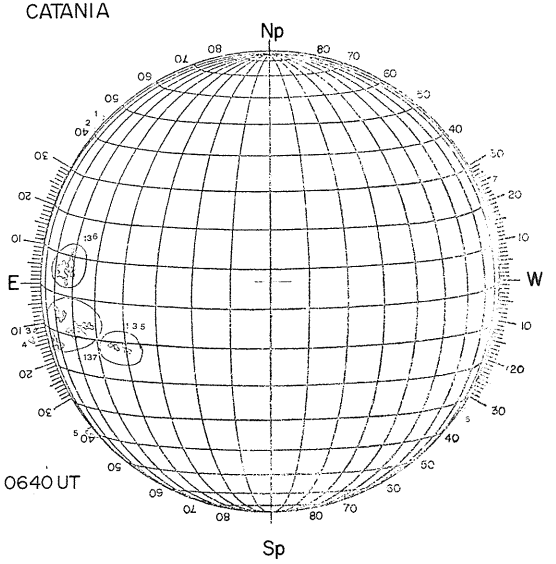


2130-2305 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

CATANIA

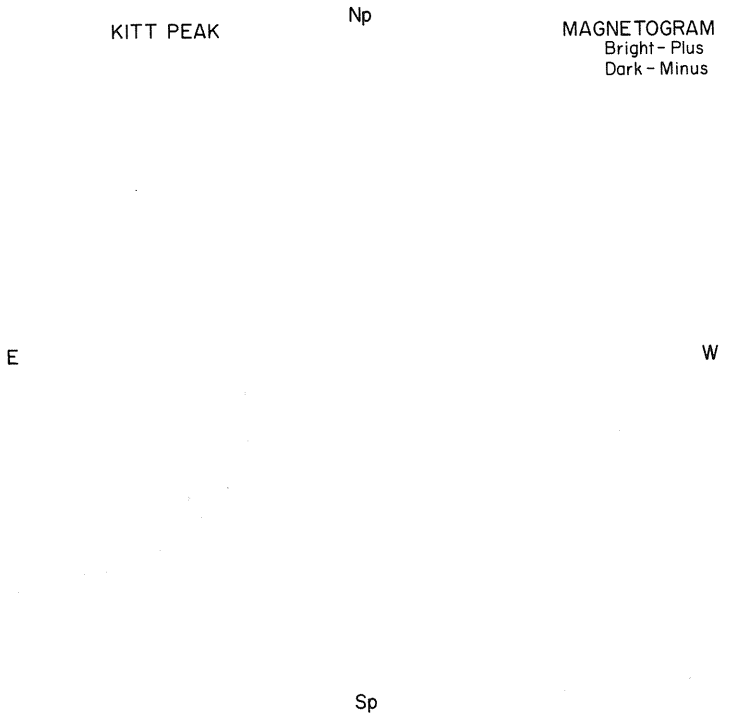
CALCIUM REPORT



0640 UT

FAIR	EC
37 - 2295	---
36 - 1206	---

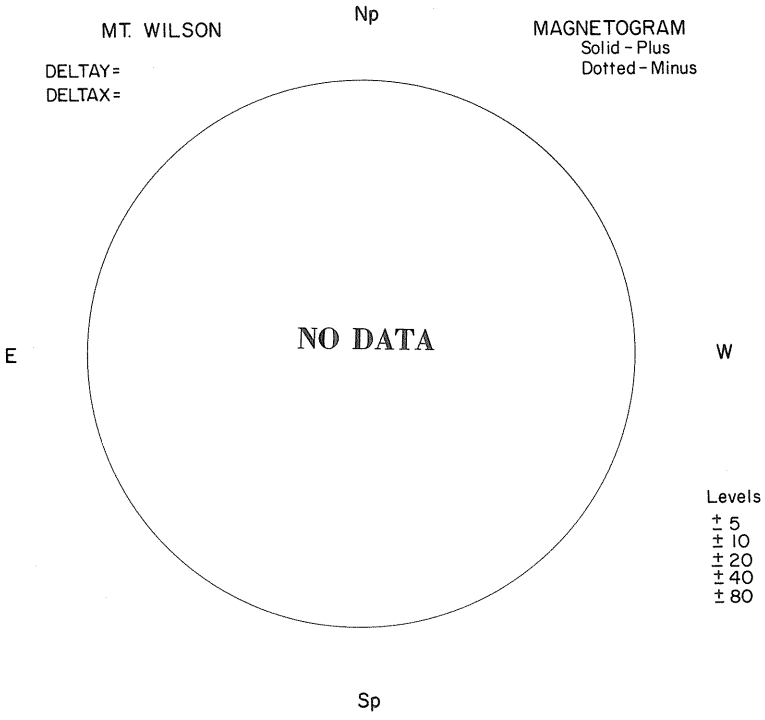
KITT PEAK



MAGNETOGRAM
Bright - Plus
Dark - Minus

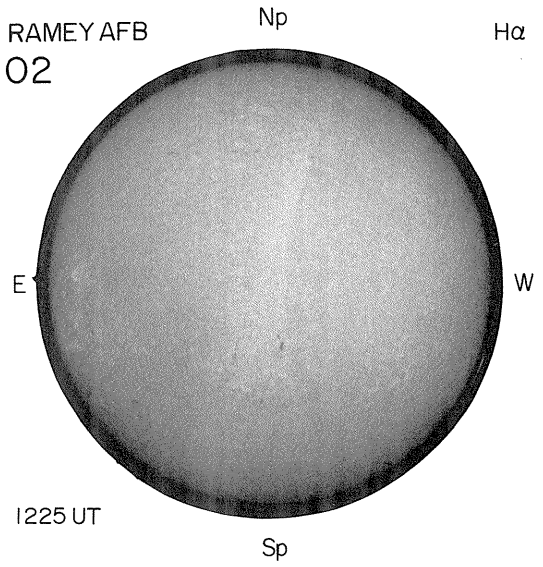
MT. WILSON

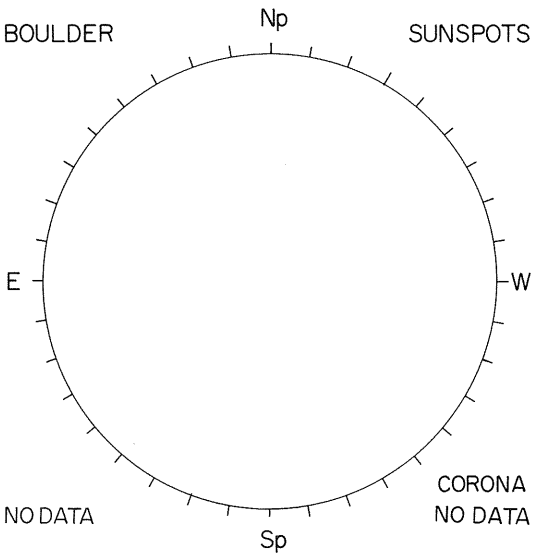
DELTAY =
DELTAX =

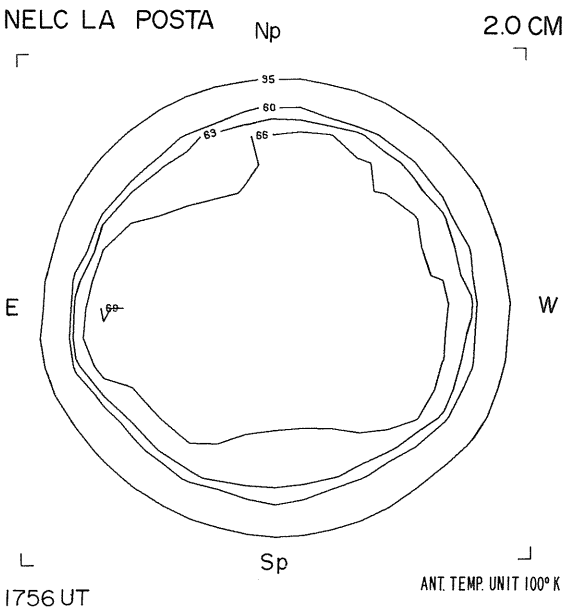


MAGNETOGRAM
Solid - Plus
Dotted - Minus

Levels
± 5
± 10
± 20
± 40
± 80


RAMEY AFB
02
Np
Hα
E
W
1225 UT
Sp


BOULDER
Np
SUNSPOTS
E
W
NO DATA
Sp
CORONA
NO DATA

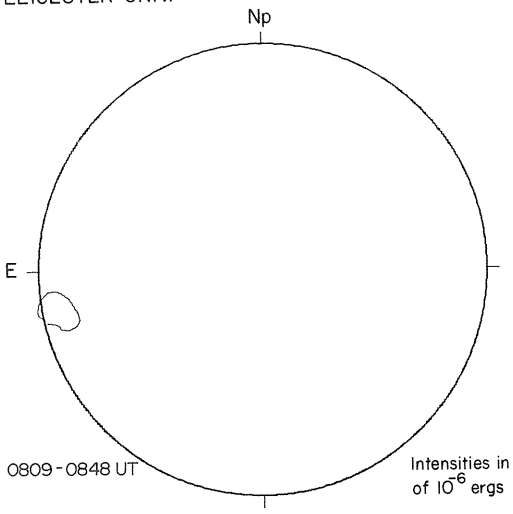

NELC LA POSTA
Np
2.0 CM
95
60
63
55
E
W
Sp
1756 UT
ANT. TEMP. UNIT 100° K

31
Sep 74

SEPTEMBER 3, 1974 (P = 21.51, B_o = 7.22, L_o = 68.63)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

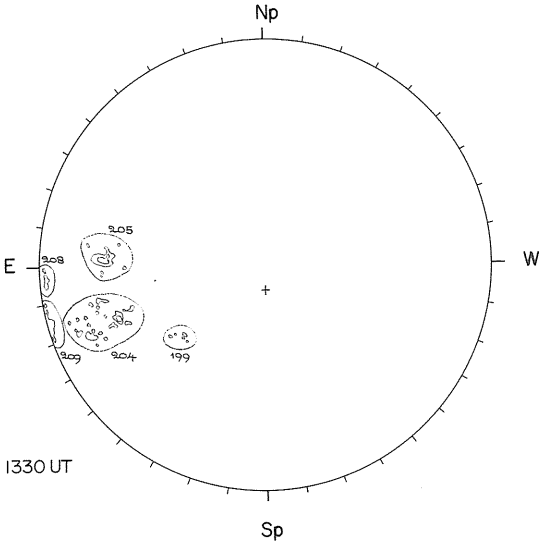


0809 - 0848 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT

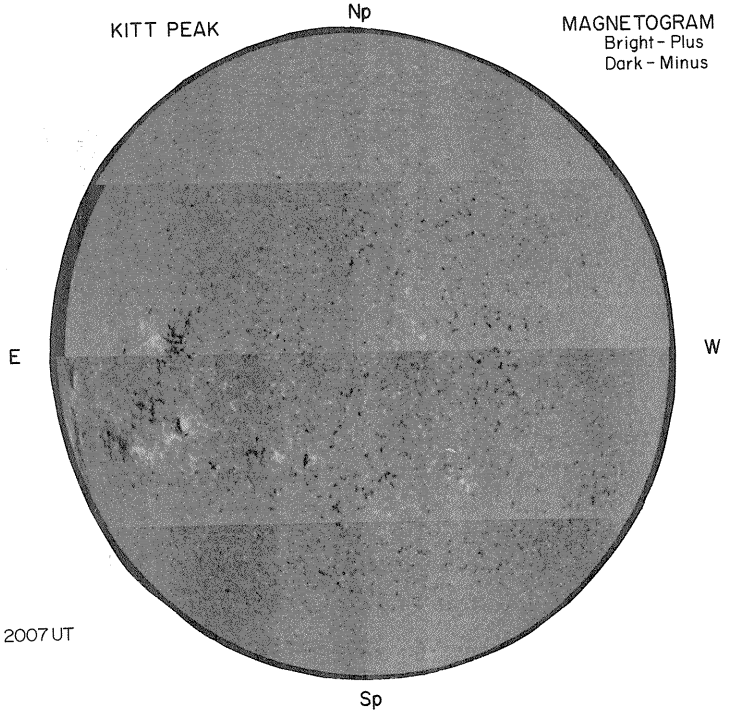


1330 UT

GOOD	D
04 - 1300	- 2.5
05 - 1000	- 2.5
09 - 1200	- 2.5

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

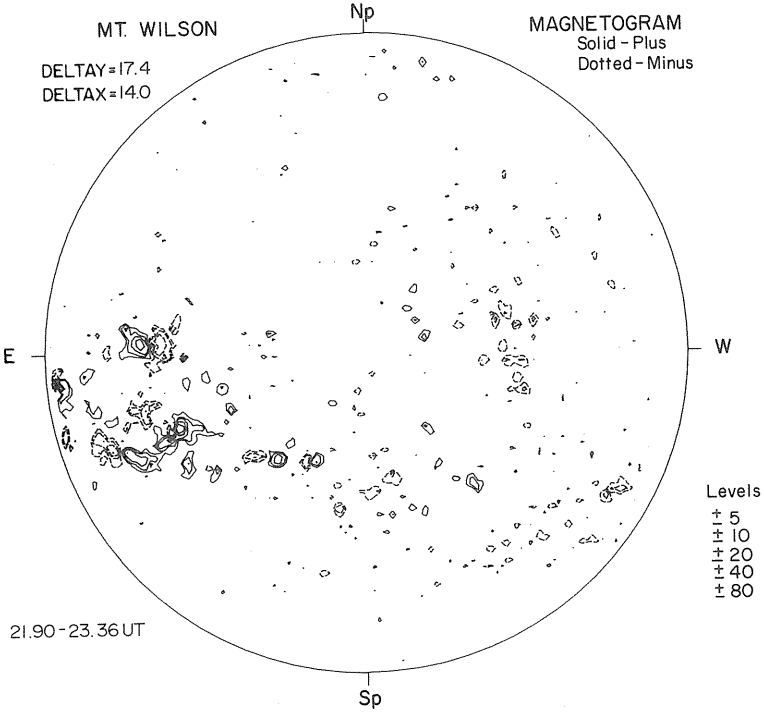


2007 UT

MT. WILSON

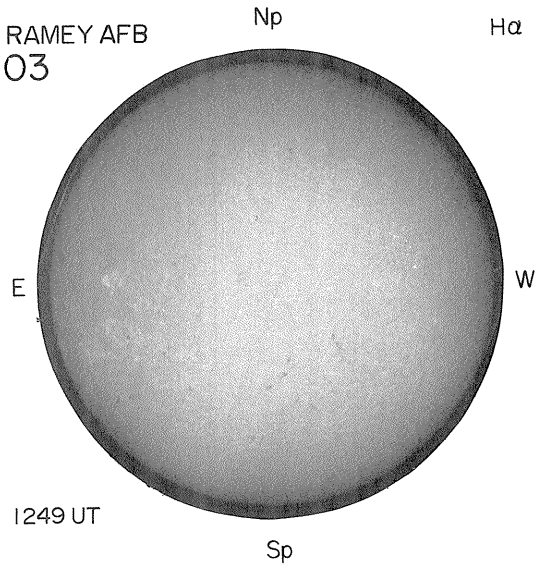
DELTAY = 17.4
DELTAX = 14.0

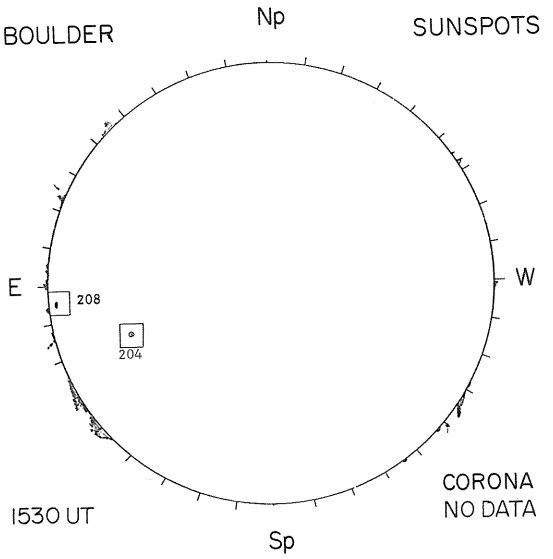
MAGNETOGRAM
Solid - Plus
Dotted - Minus

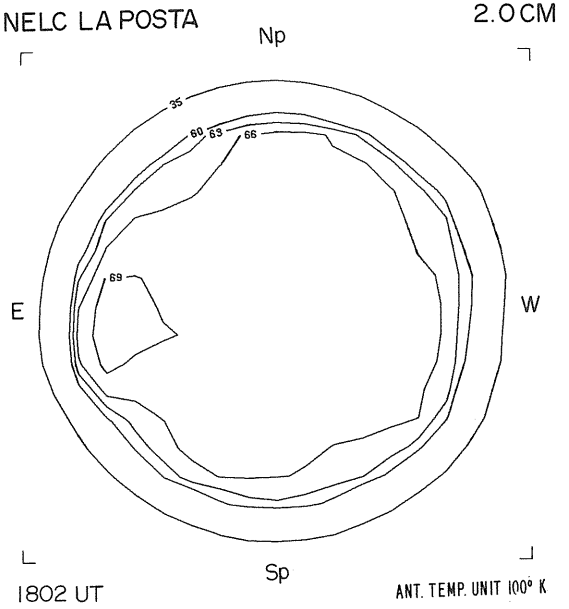


21.90 - 23.36 UT

Levels
± 5
± 10
± 20
± 40
± 80


RAMEY AFB
03
Np
Hα
E
W
1249 UT
Sp


BOULDER
Np
SUNSPOTS
E
W
208
204
CORONA
NO DATA
1530 UT
Sp

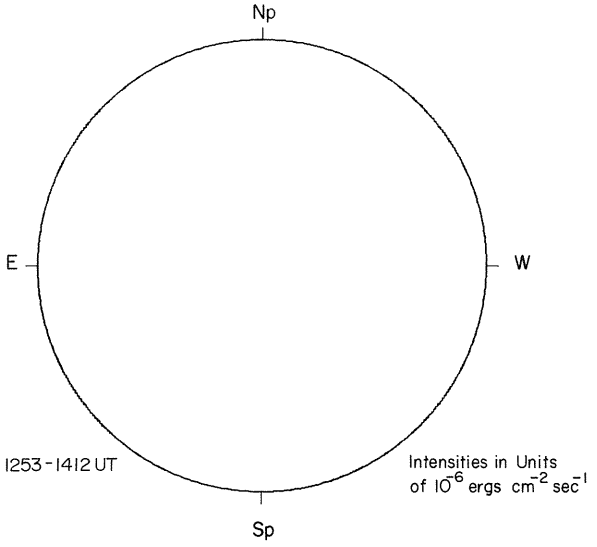

NELC LA POSTA
Np
2.0 CM
35
60
63
66
69
E
W
1802 UT
Sp
ANT. TEMP. UNIT 100° K

33
Sep 74

SEPTEMBER 4, 1974 (P = 21.75 B_o = 7.23, L_o = 55.42)

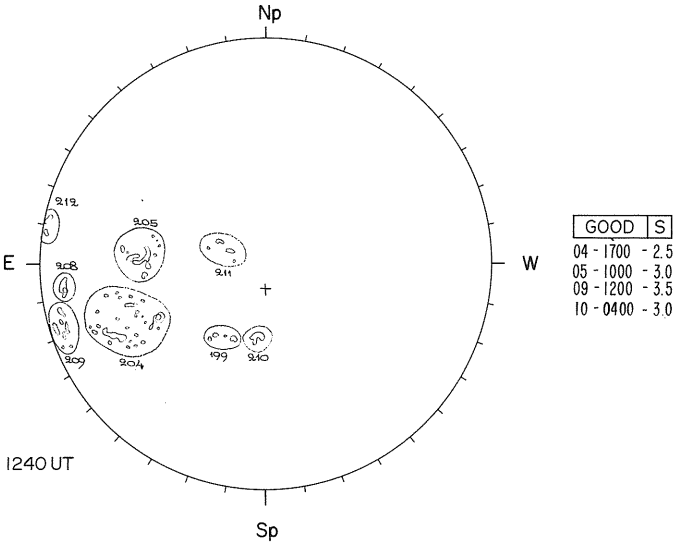
UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



McMATH-HULBERT

CALCIUM REPORT



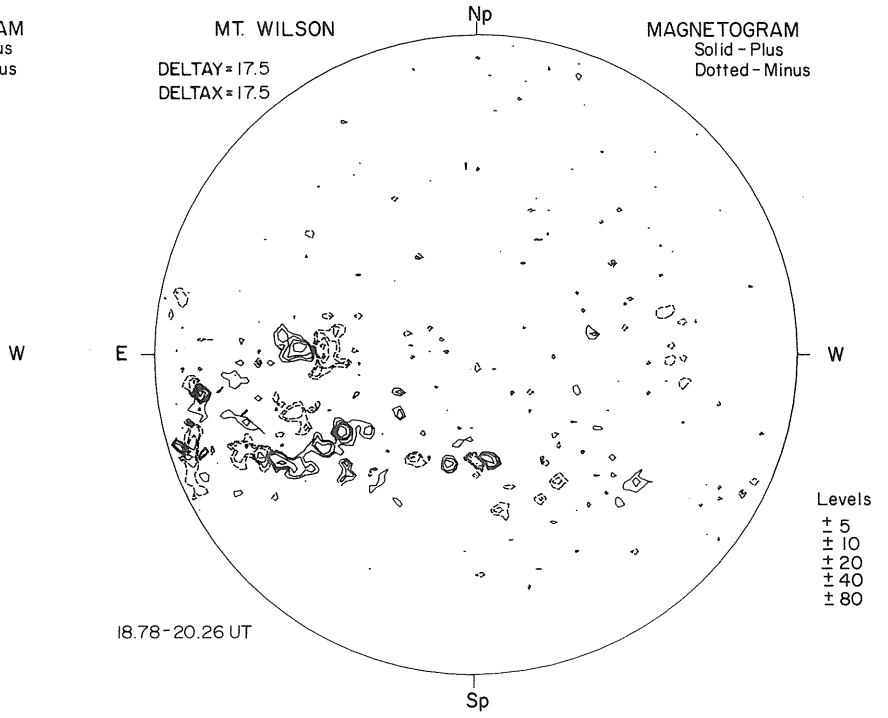
KITT PEAK

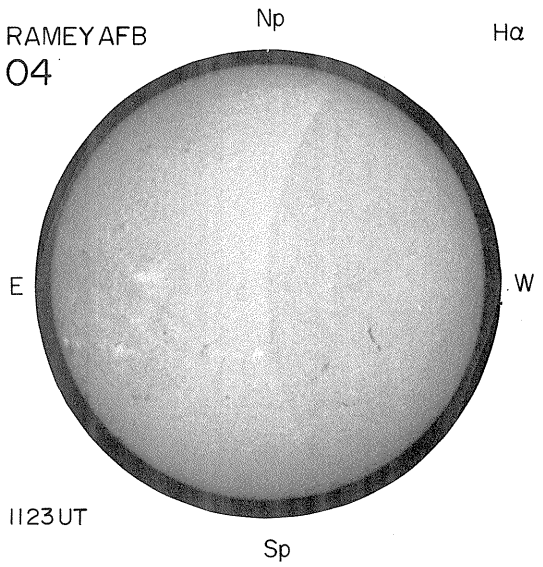
MAGNETOGRAM
Bright - Plus
Dark - Minus

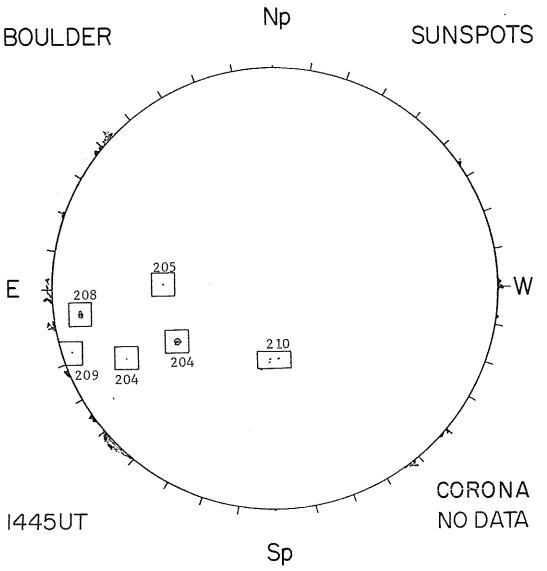
MT. WILSON

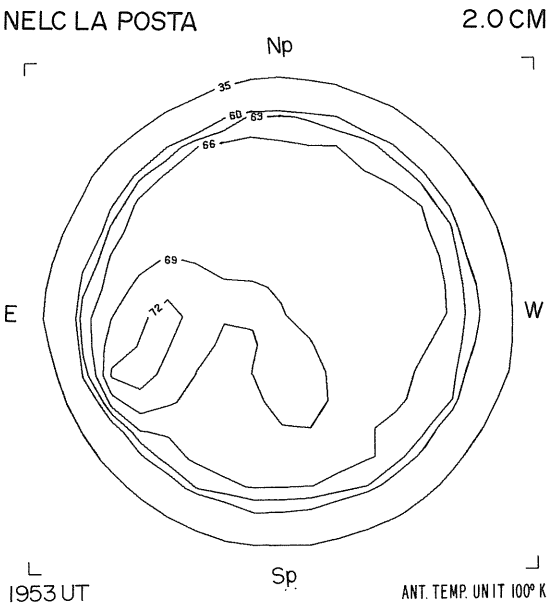
DELTAY = 17.5
DELTAX = 17.5

MAGNETOGRAM
Solid - Plus
Dotted - Minus




RAMEY AFB
04
Np
Hα
E
W
1123 UT
Sp

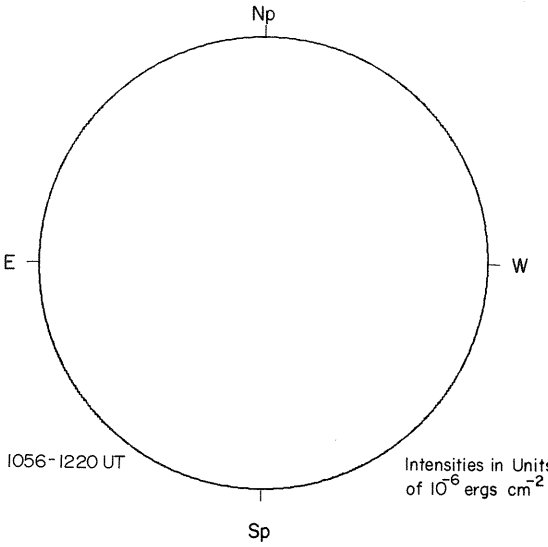

BOULDER
Np
SUNSPOTS
E
W
208
205
209
204
204
210
1445 UT
Sp
CORONA
NO DATA


NELC LA POSTA
2.0 CM
Np
35
60
63
66
69
72
E
W
1953 UT
Sp
ANT. TEMP. UNIT 100° K

SEPTEMBER 5, 1974 (P = 21.99, B_o = 7.24, L_o = 42.22)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

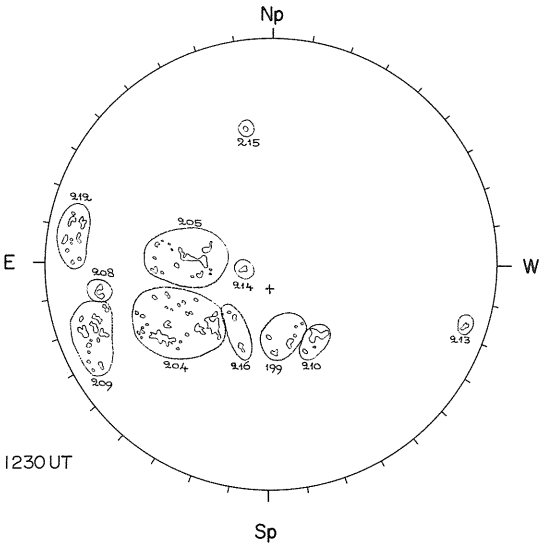


1056-1220 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT

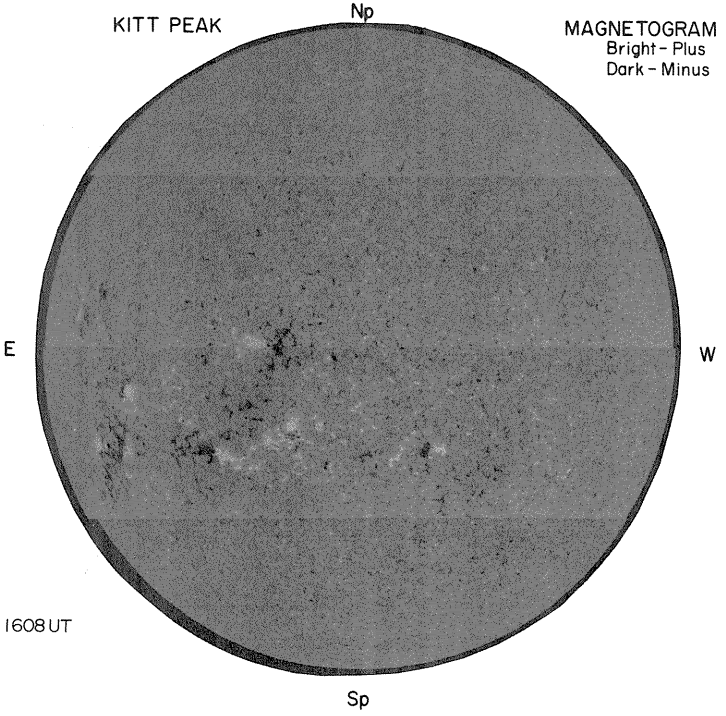


1230 UT

GOOD	D
04 - 1800	- 3.0
05 - 1000	- 3.5
08 - 0400	- 2.5
09 - 1500	- 3.0
10 - 0500	- 3.0
16 - 0300	- 2.5

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

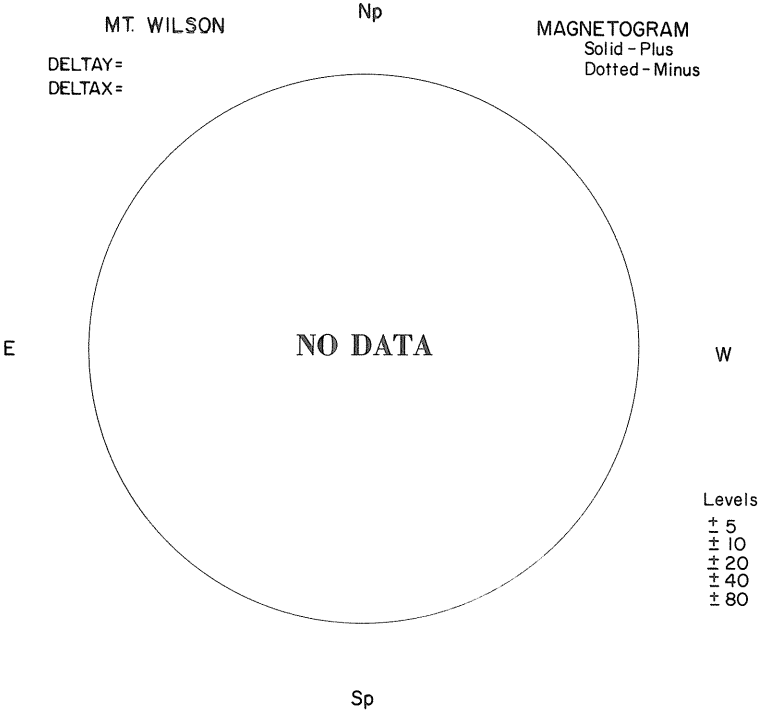


1608 UT

MT. WILSON

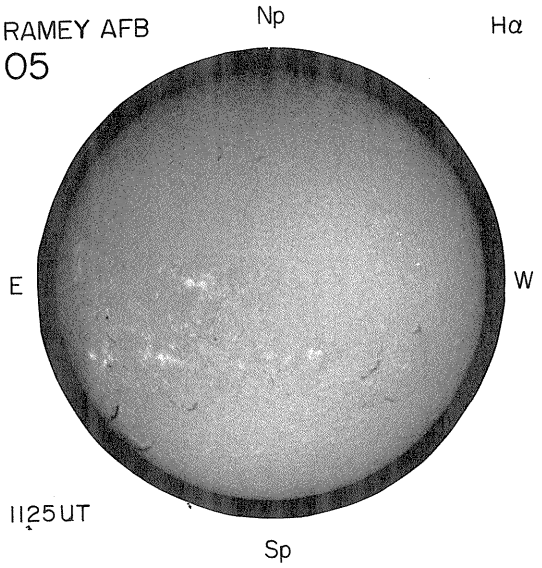
DELTAY=
DELTAX=

MAGNETOGRAM
Solid - Plus
Dotted - Minus

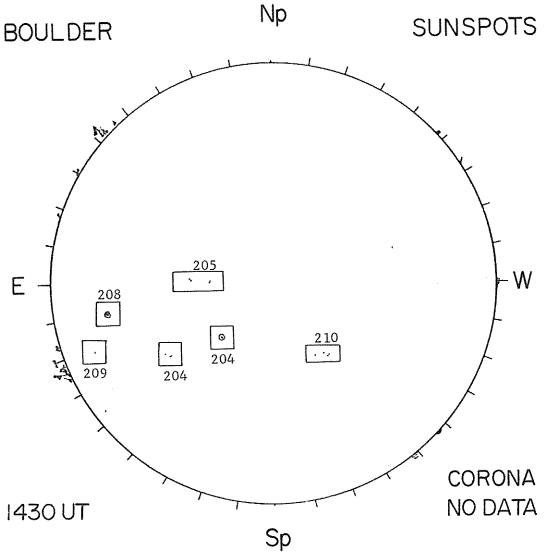


Levels
± 5
± 10
± 20
± 40
± 80

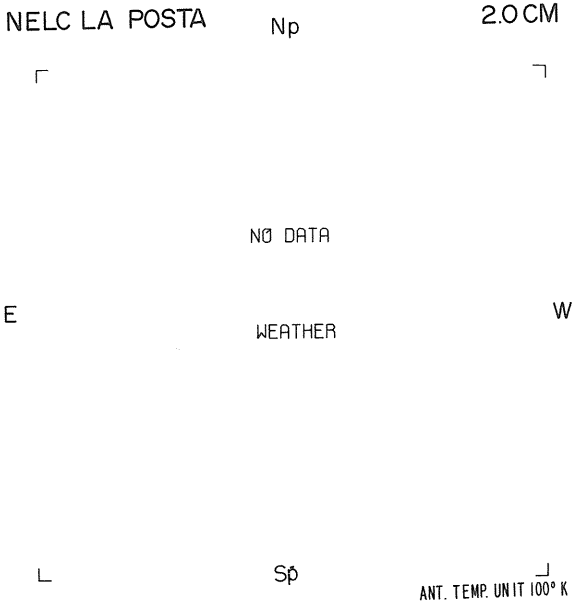
RAMEY AFB
05



BOULDER



NELC LA POSTA

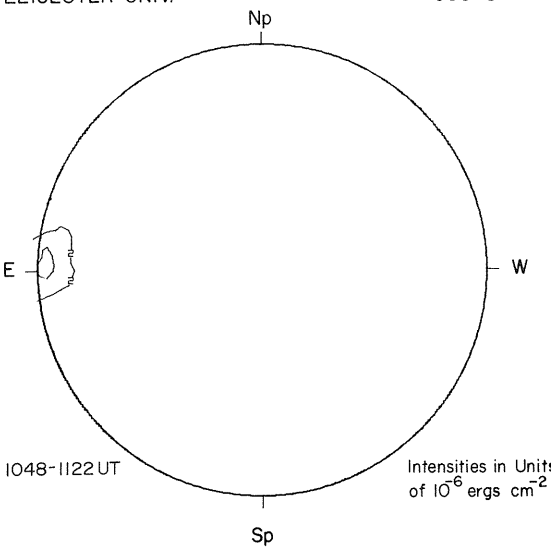


37
Sep 74

SEPTEMBER 6, 1974 (P = 22.22, B_o = 7.24, L_o = 29.01)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

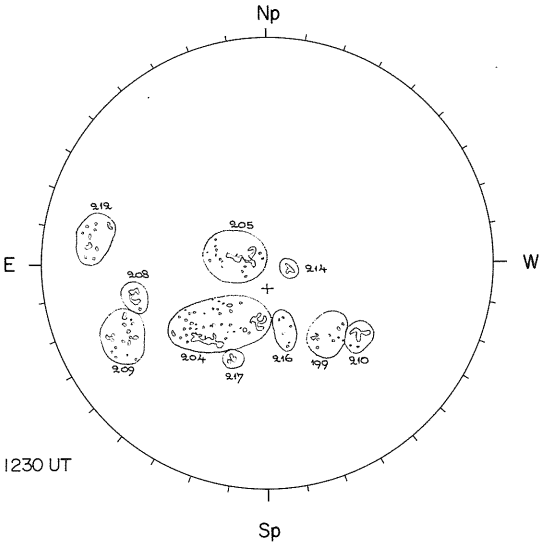


1048-1122 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT



1230 UT

POOR	D
04 - 1800	- 3.0
05 - 1000	- 3.5
08 - 0400	- 2.5
09 - 1200	- 3.0
10 - 0600	- 2.5
12 - 0800	- 2.5
14 - 0200	- 3.0
17 - 0200	- 3.0

KITT PEAK

Np

E

Sp

MAGNETOGRAM
Bright - Plus
Dark - Minus

W

MT. WILSON

DELTAY =
DELTAX =

Np

E

NO DATA

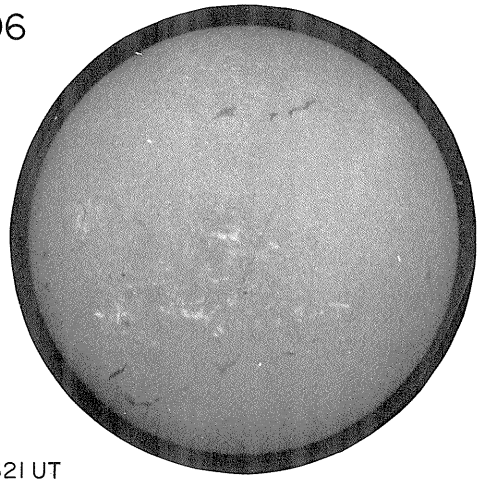
W

Sp

MAGNETOGRAM
Solid - Plus
Dotted - Minus

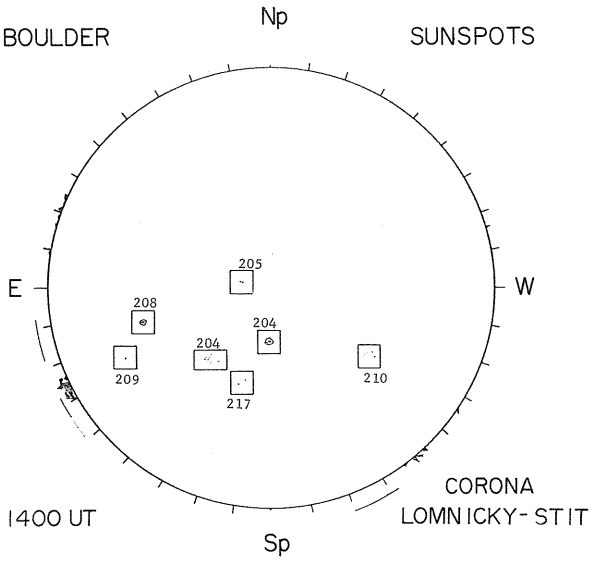
Levels
± 5
± 10
± 20
± 40
± 80

RAMEY AFB
06



1621 UT

BOULDER



1400 UT

NELC LA POSTA

2.0 CM

Np

NO DATA

E

EQUIPMENT

W

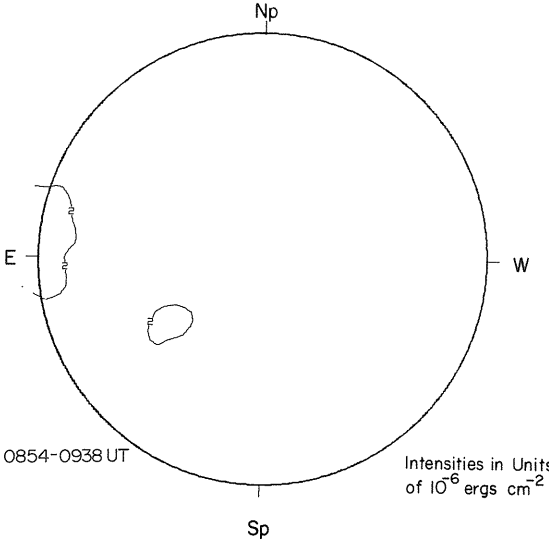
Sp

ANT. TEMP. UNIT 100°K

SEPTEMBER 7, 1974 (P = 22.45, B_o = 7.25, L_o = 15.80)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

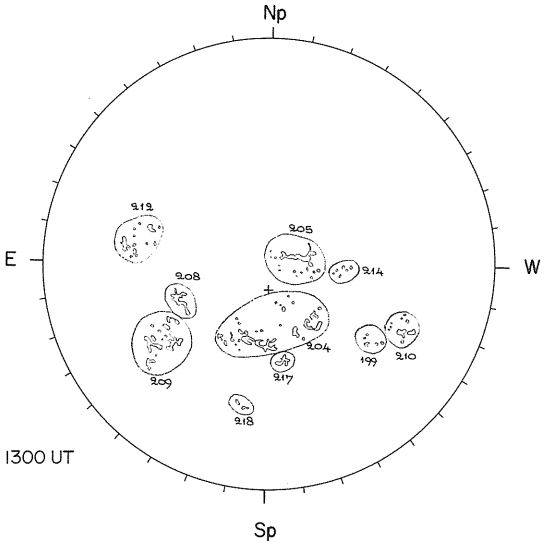


0854-0938 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT

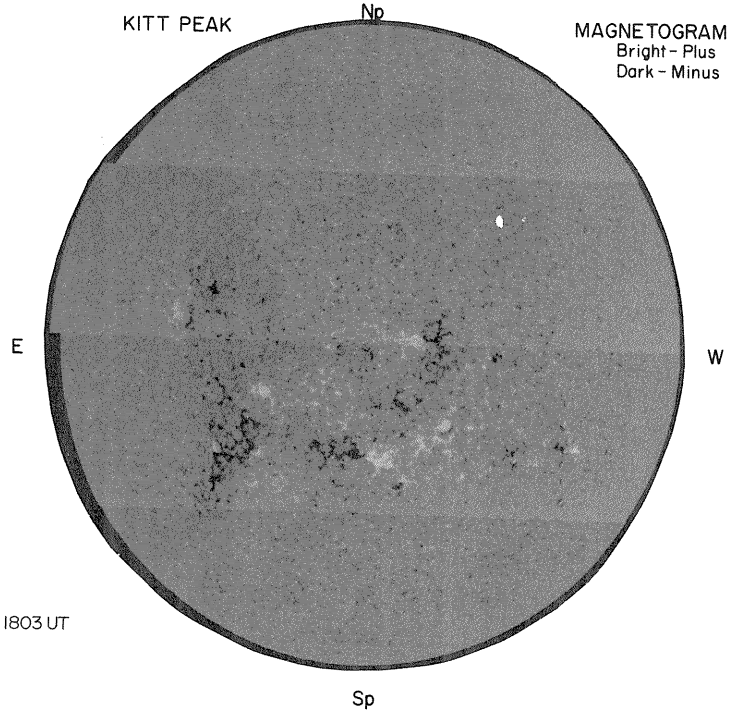


1300 UT

FAIR	M
04 - 1400 - 2.5	
05 - 0700 - 3.0	
09 - 1100 - 2.5	

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

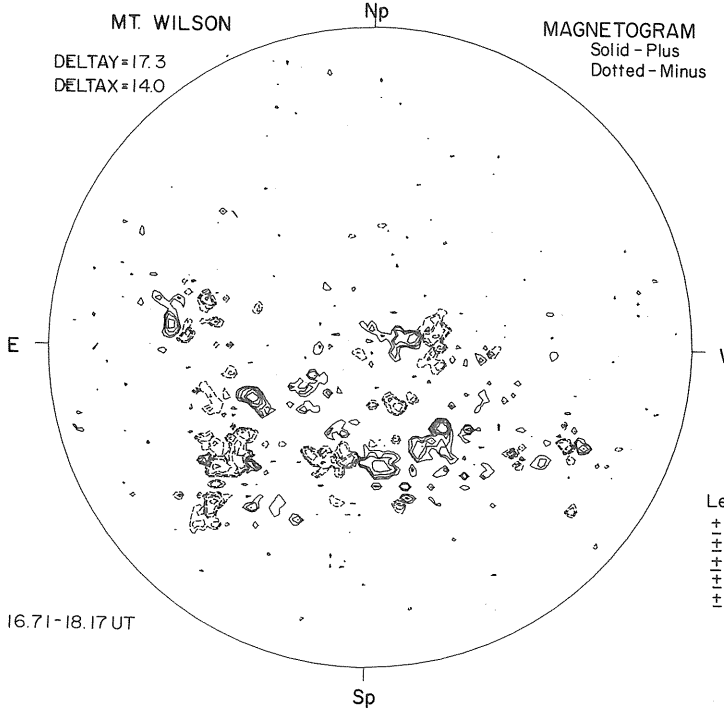


1803 UT

MT. WILSON

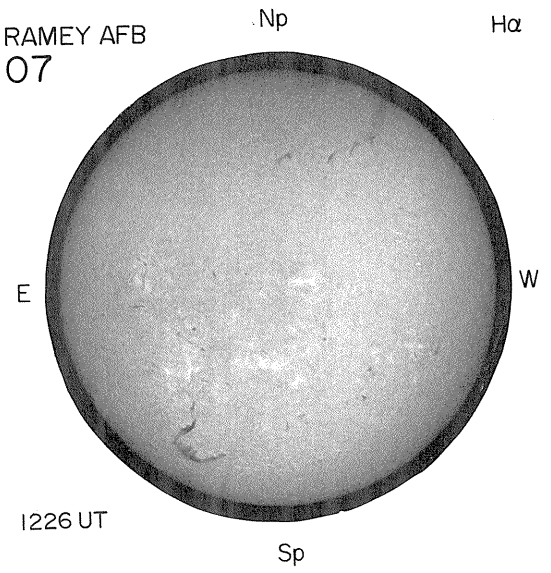
DELTAY = 17.3
DELTAX = 14.0

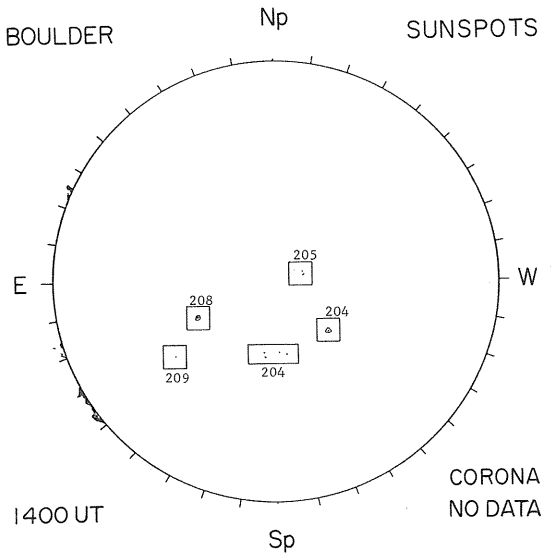
MAGNETOGRAM
Solid - Plus
Dotted - Minus

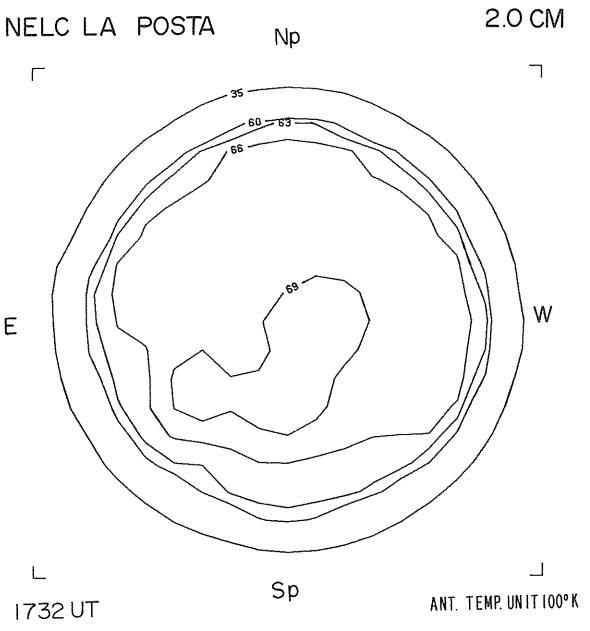


16.71 - 18.17 UT

Levels
± 5
± 10
± 20
± 40
± 80


RAMEY AFB
07
Np
Hα
E
W
1226 UT
Sp

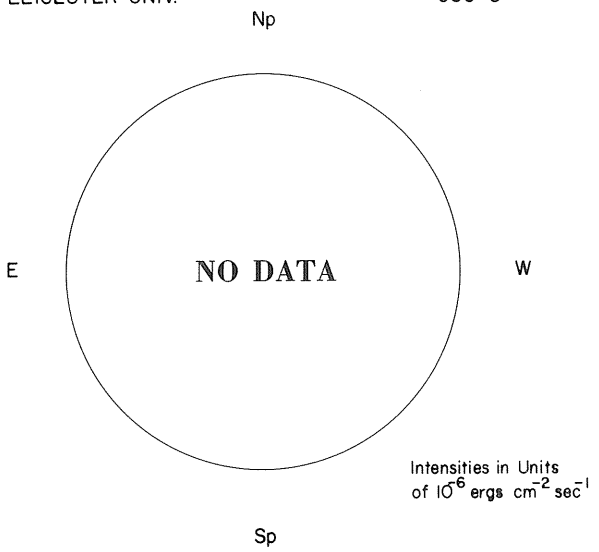

BOULDER
Np
SUNSPOTS
E
W
205
208
204
209
204
CORONA
NO DATA
1400 UT
Sp


NELC LA POSTA
Np
2.0 CM
35
60
63
66
69
E
W
1732 UT
Sp
ANT. TEMP. UNIT 100°K

SEPTEMBER 8, 1974 (P = 22.67, B_o = 7.25, L_o = 2.60)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

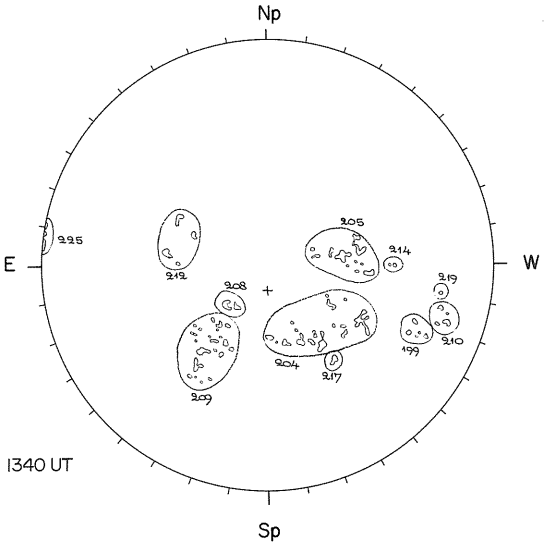
X-RAY
OSO-5



Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT



1340 UT

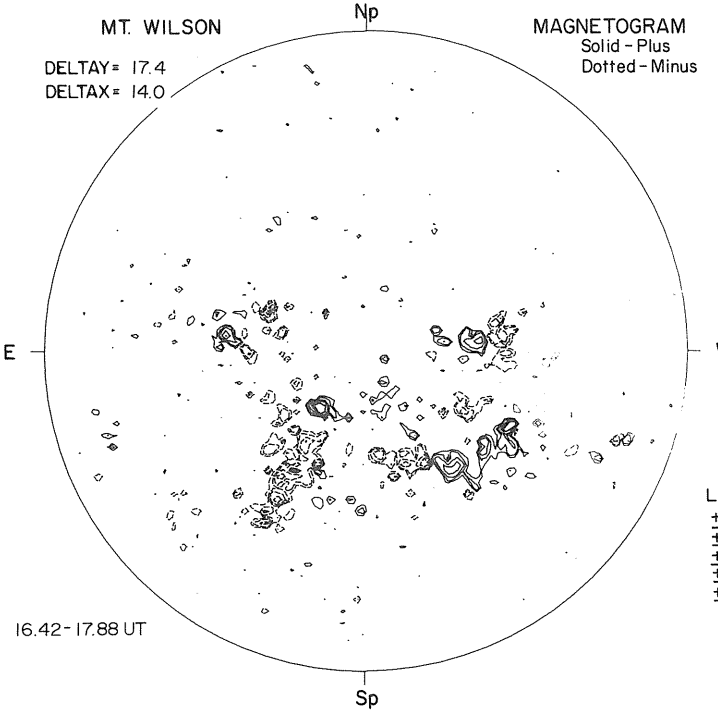
POOR	D
04 - 1400	- 3.0
05 - 0900	- 2.5
09 - 1000	- 2.5
12 - 0500	- 2.5

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

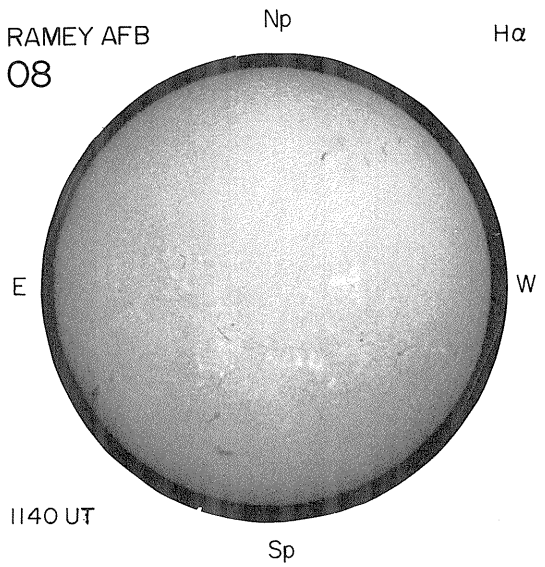
DELTAY = 17.4
DELTAX = 14.0

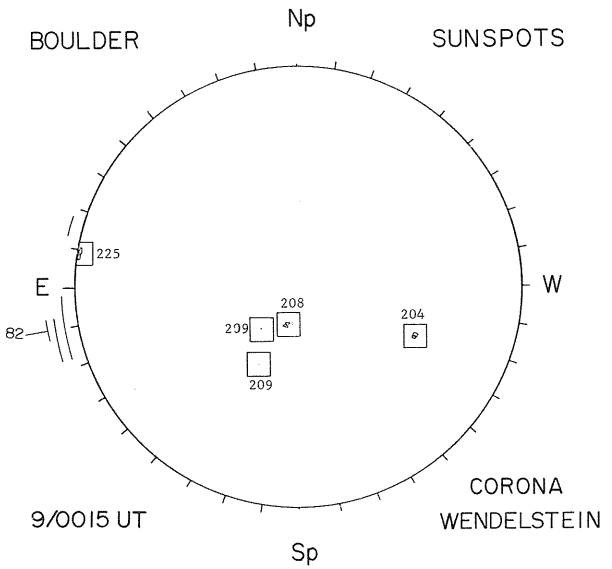


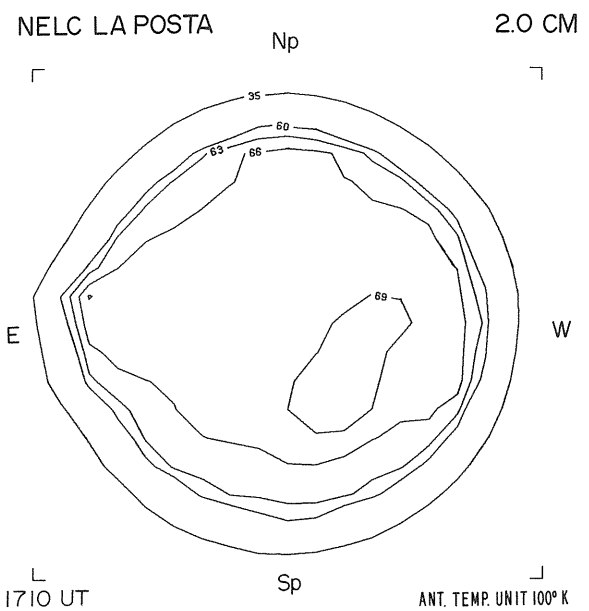
MAGNETOGRAM
Solid - Plus
Dotted - Minus

16.42 - 17.88 UT

Levels
± 5
± 10
± 20
± 40
± 80


RAMEY AFB
08
Np
Hα
E
W
1140 UT
Sp

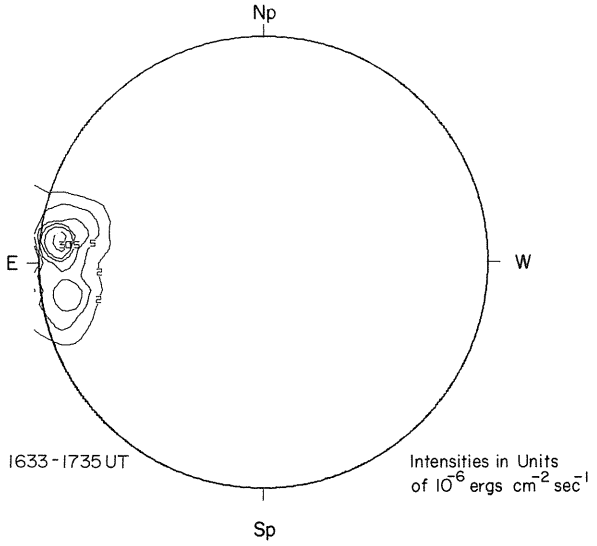

BOULDER
Np
SUNSPOTS
225
E
W
208
204
299
82
209
CORONA
WENDELSTEIN
9/0015 UT
Sp


NELC LA POSTA
Np
2.0 CM
35
60
63
66
69
E
W
1710 UT
Sp
ANT. TEMP. UNIT 100° K

SEPTEMBER 9, 1974 (P = 22.88, B_o = 7.25, L_o = 349.39)

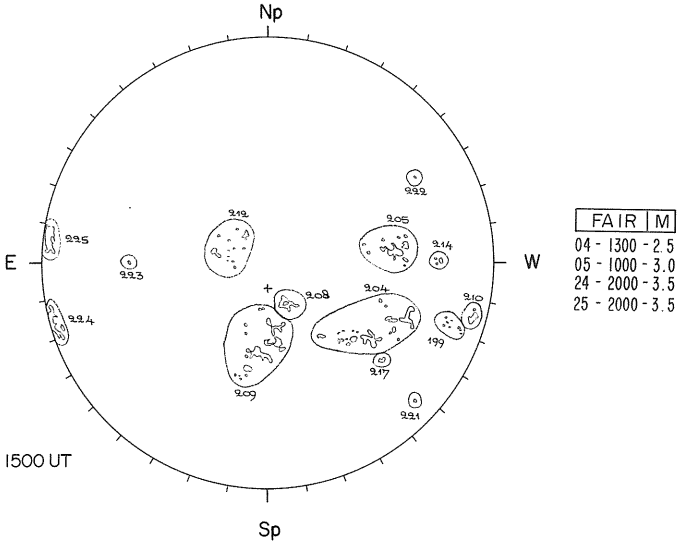
UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



McMATH-HULBERT

CALCIUM REPORT



KITT PEAK

Np

E

W

Sp

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

DELTAY =
DELTAX =

Np

E

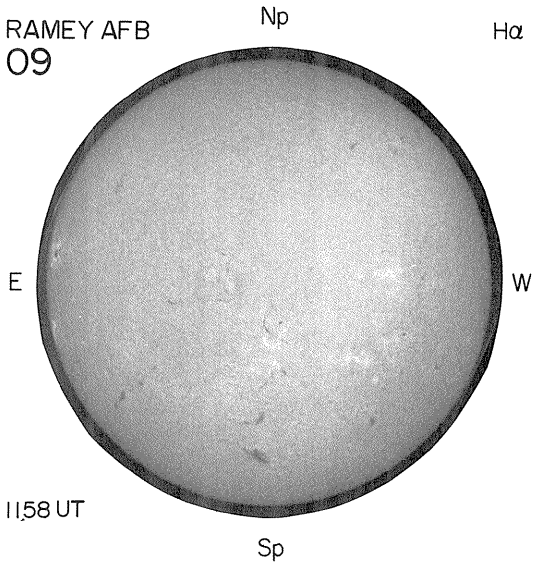
NO DATA

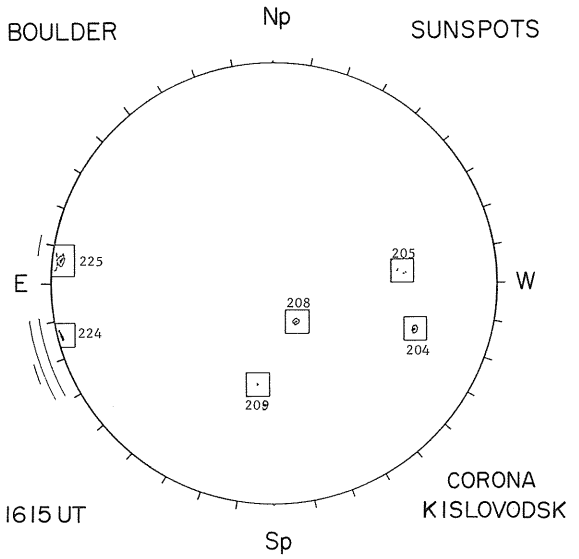
W

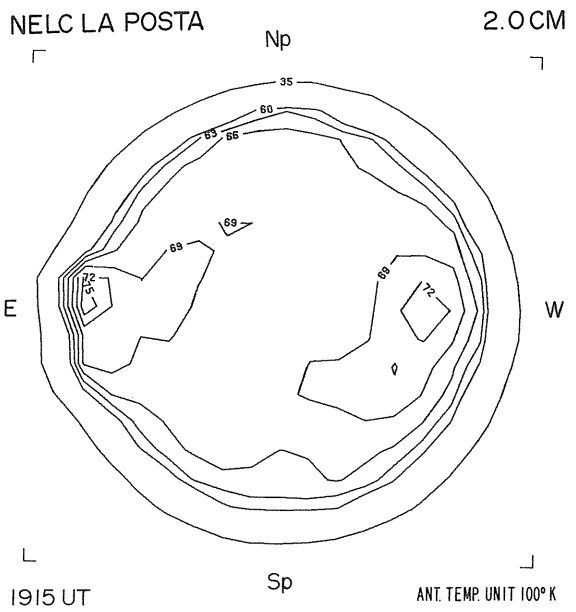
Sp

MAGNETOGRAM
Solid - Plus
Dotted - Minus

Levels
± 5
± 10
± 20
± 40
± 80


RAMEY AFB
09
Np
Hα
E
W
11,58 UT
Sp

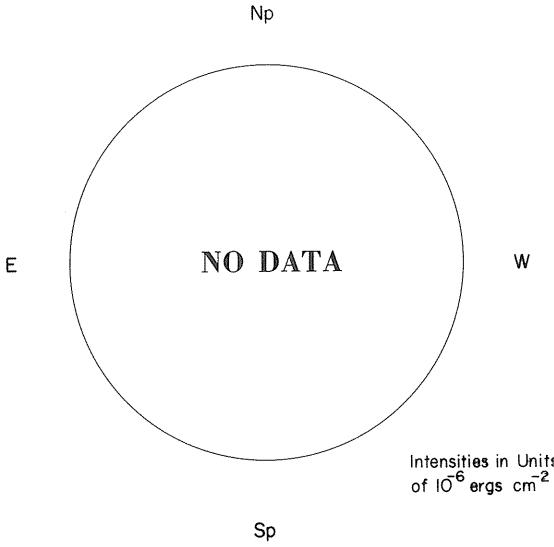

BOULDER
Np
SUNSPOTS
E
W
225
224
208
205
204
209
1615 UT
Sp
CORONA
KISLOVODSK


NELC LA POSTA
Np
2.0 CM
35
60
63
66
69
72
E
W
1915 UT
Sp
ANT. TEMP. UNIT 100° K

SEPTEMBER 10, 1974 (P = 23.09, B_o = 7.25, L_o = 336.19)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

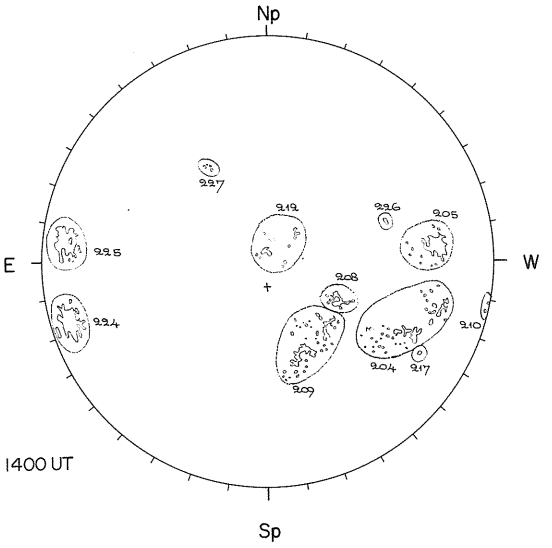
X-RAY
OSO-5



Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT



1400 UT

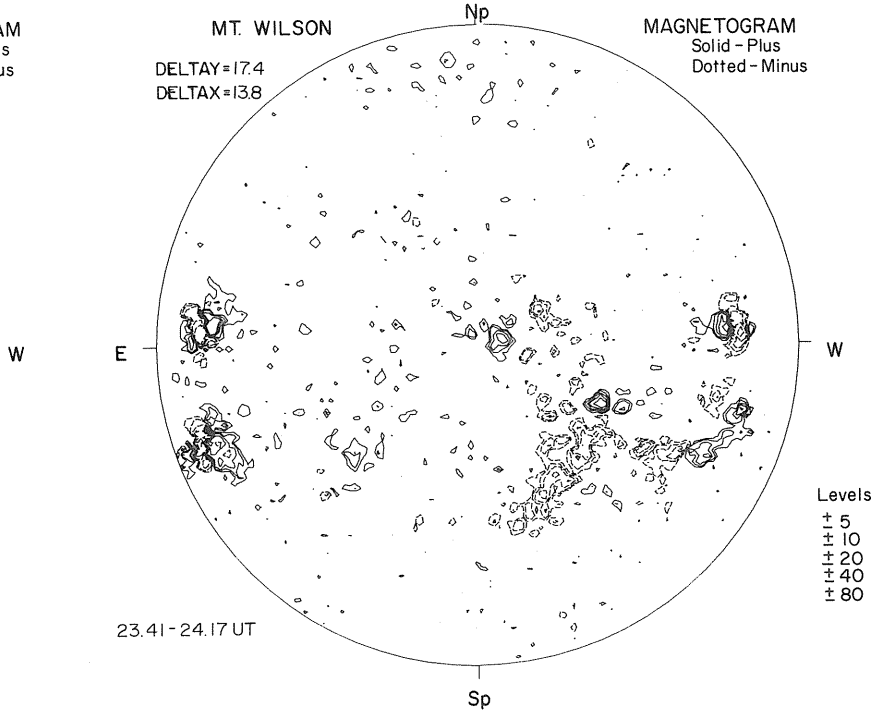
GOOD	M
05 - 1600	-3.5
24 - 2800	-3.5
25 - 3000	-4.0

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

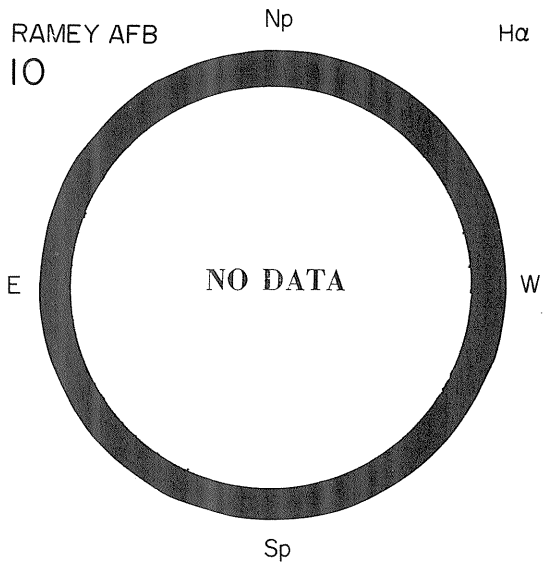
DELTAY = 17.4
DELTAX = 13.8

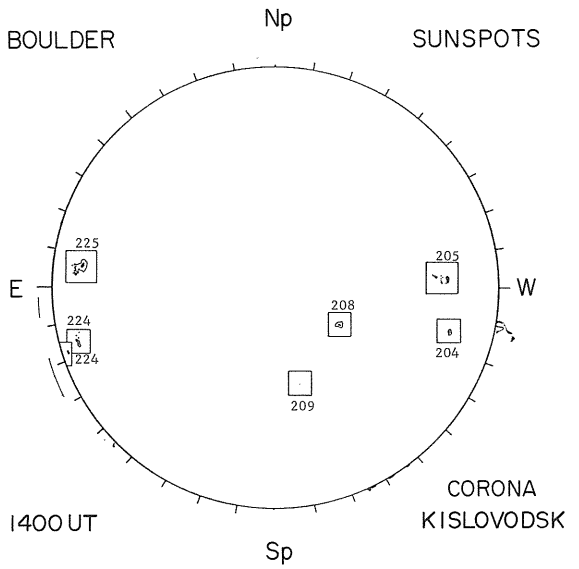


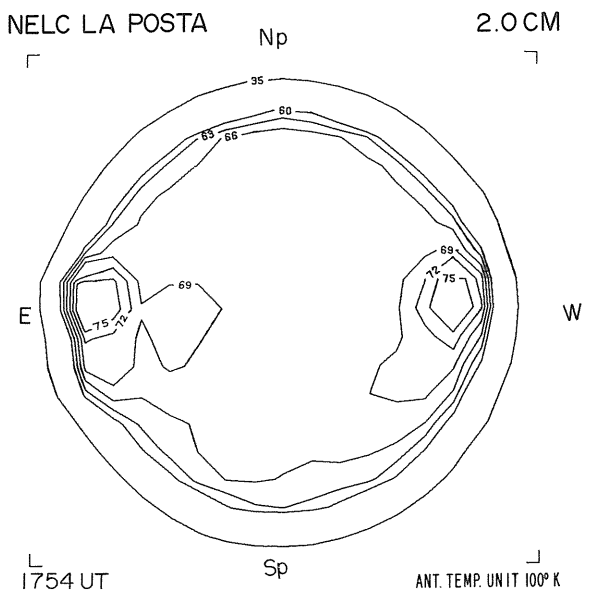
MAGNETOGRAM
Solid - Plus
Dotted - Minus

Levels
± 5
± 10
± 20
± 40
± 80

23.41 - 24.17 UT


RAMEY AFB
10
Np
Hα
E
W
NO DATA
Sp

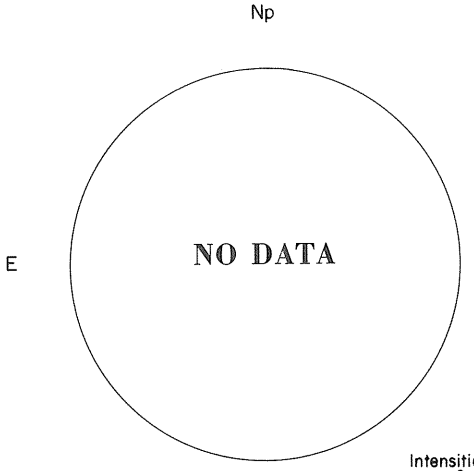

BOULDER
Np
SUNSPOTS
E
W
225
224
224
208
209
205
204
1400 UT
Sp
CORONA
KISLOVODSK


NELC LA POSTA
Np
2.0 CM
95
60
65
66
69
75
72
E
W
1754 UT
Sp
ANT. TEMP. UNIT 100° K

SEPTEMBER 11, 1974 (P = 23.29, B_o = 7.24, L_o = 322.98)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

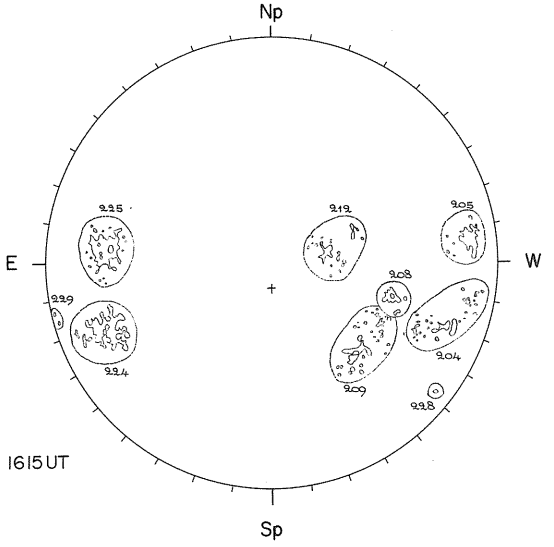
X-RAY
OSO-5



Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

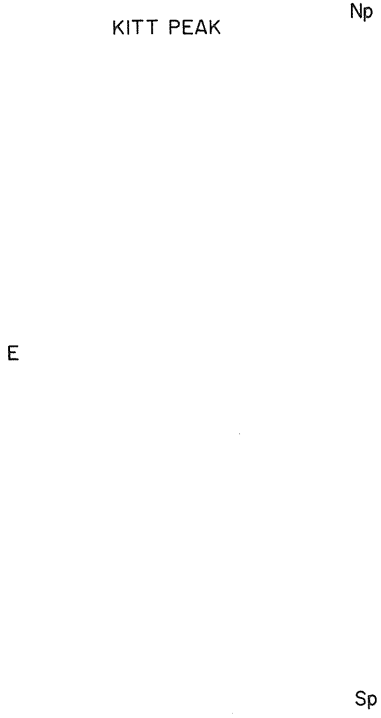
CALCIUM REPORT



1615 UT

GOOD	M
05 - 2000	-3.0
24 - 3000	-3.5
25 - 3000	-4.0

KITT PEAK

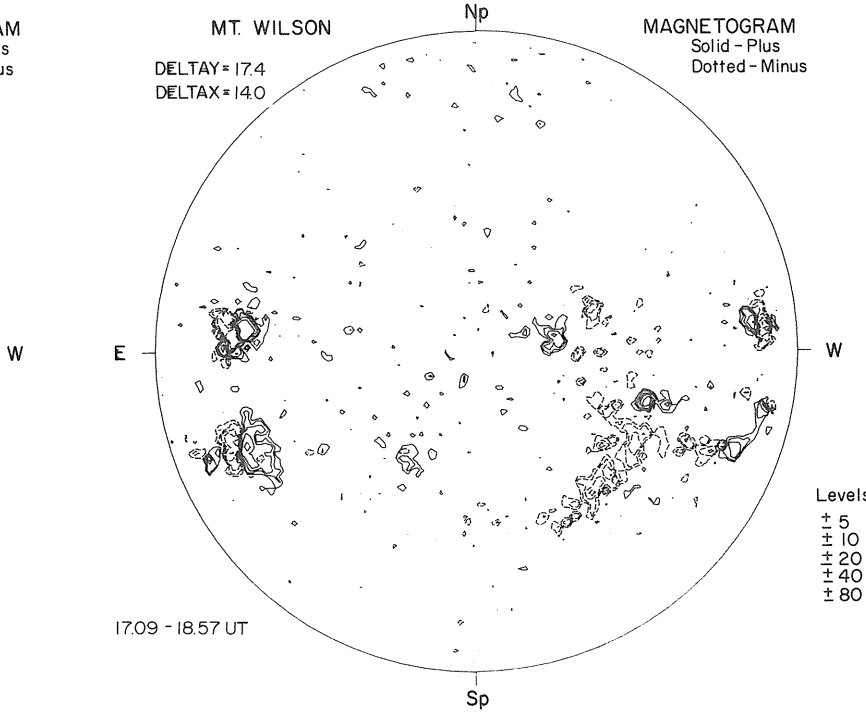


MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

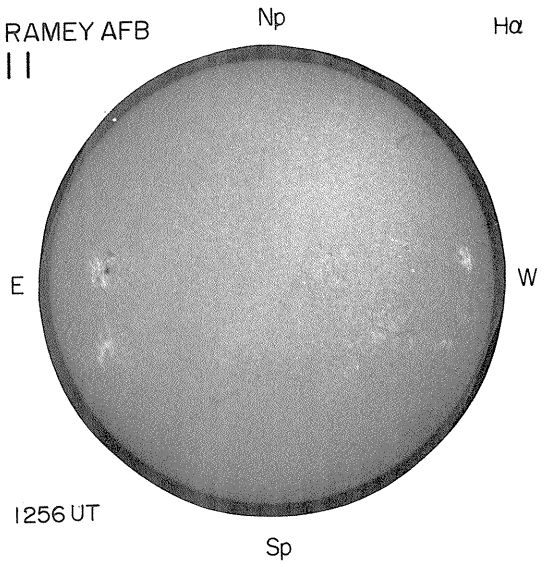
DELTAY = 17.4
DELTAX = 14.0

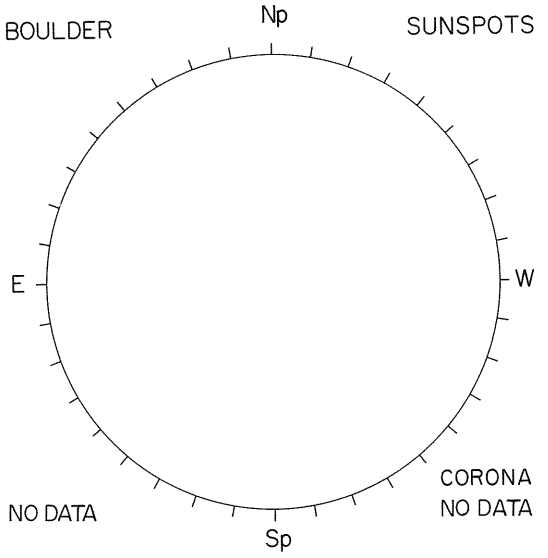
MAGNETOGRAM
Solid - Plus
Dotted - Minus

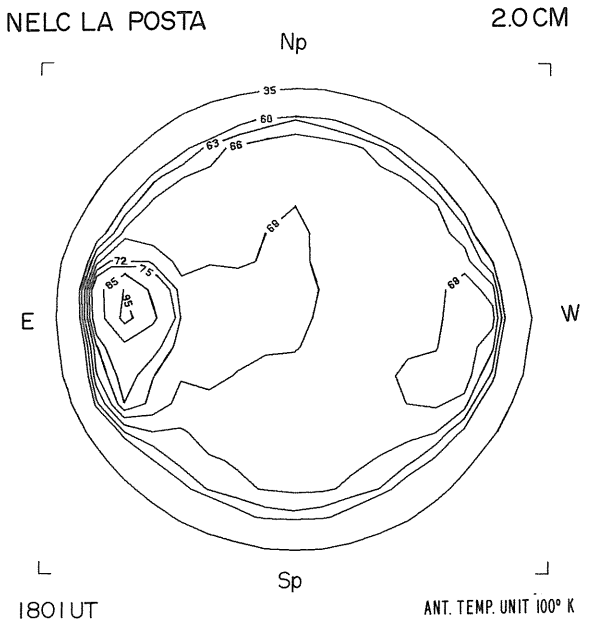


17.09 - 18.57 UT

Levels
± 5
± 10
± 20
± 40
± 80


RAMEY AFB
Np
Hα
E
W
1256 UT
Sp

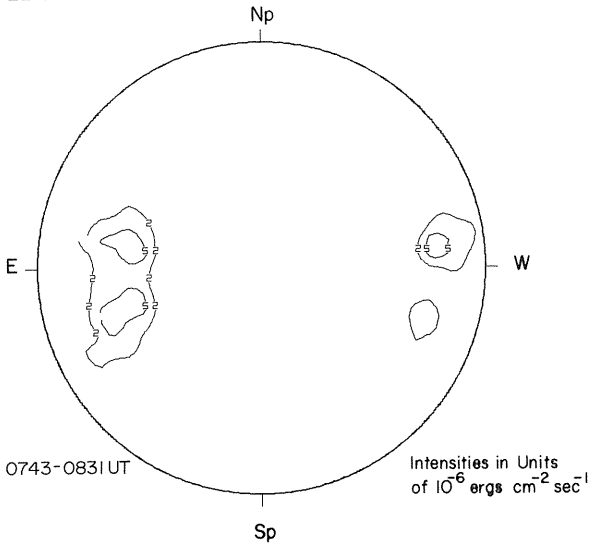

BOULDER
Np
SUNSPOTS
E
W
NO DATA
Sp
CORONA
NO DATA


NELC LA POSTA
2.0 CM
Np
E
W
Sp
1801 UT
ANT. TEMP. UNIT 100° K
95
60
63
66
69
72
75
78
81
84
69

SEPTEMBER 12, 1974 (P = 23.48, B_o = 7.24, L_o = 309.78)

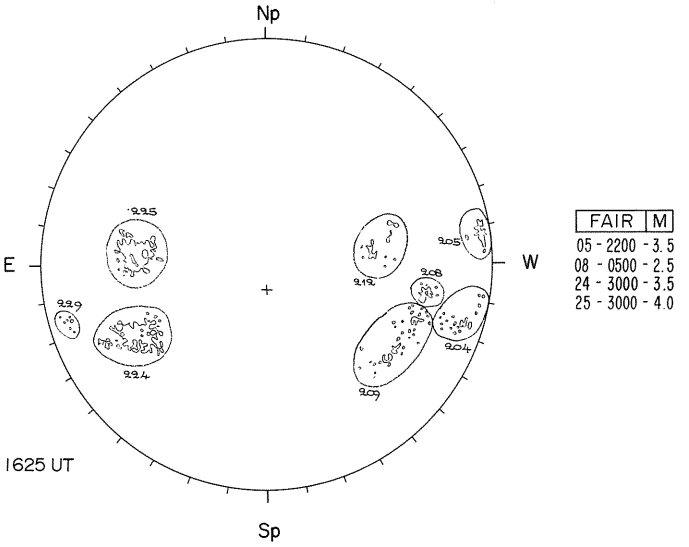
UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



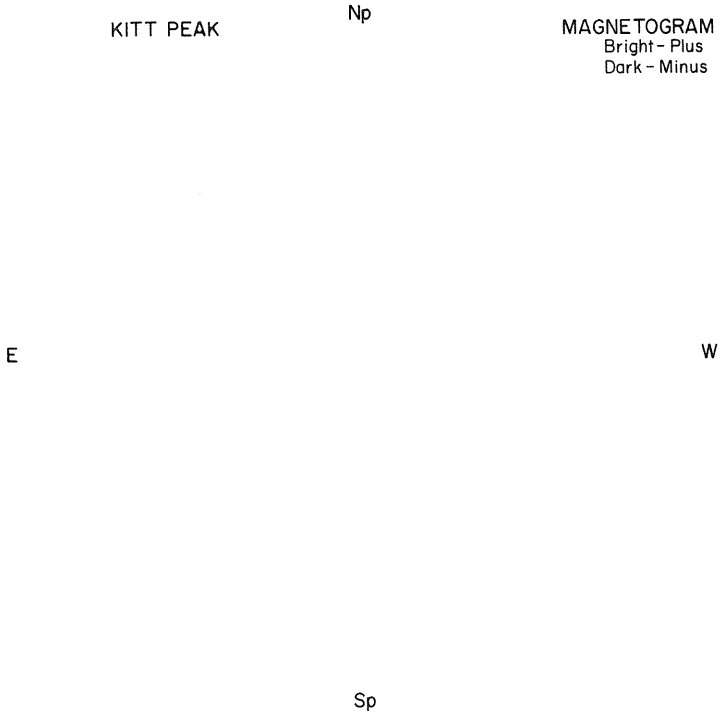
McMATH-HULBERT

CALCIUM REPORT



KITT PEAK

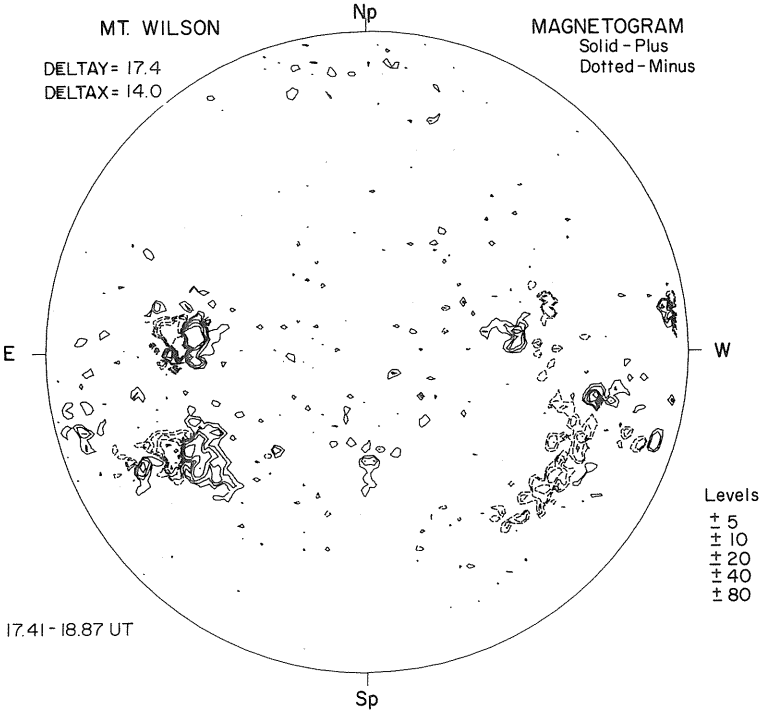
MAGNETOGRAM
Bright - Plus
Dark - Minus

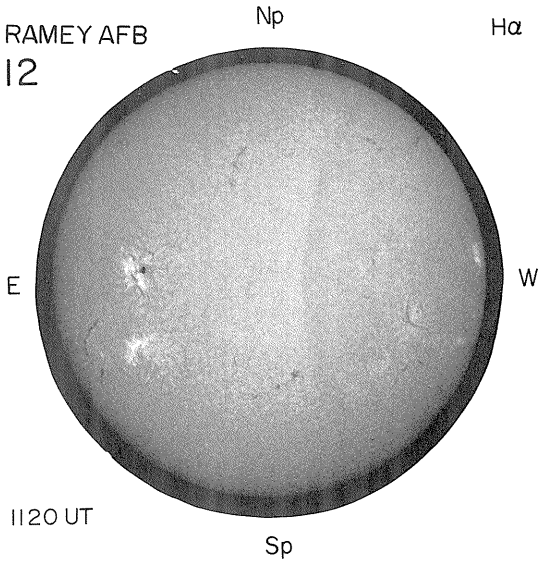


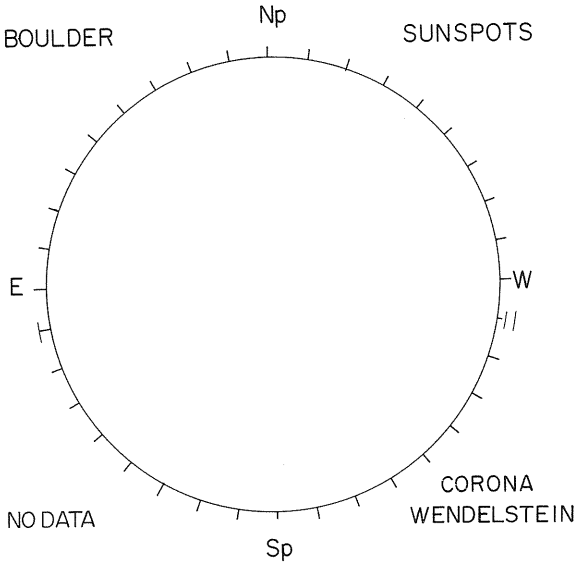
MT. WILSON

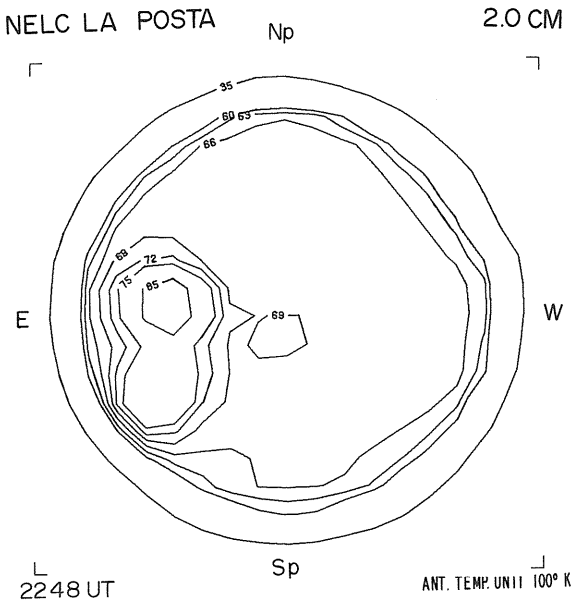
MAGNETOGRAM
Solid - Plus
Dotted - Minus

DELTAY = 17.4
DELTAX = 14.0




RAMEY AFB
12
Np
Hα
E
W
1120 UT
Sp

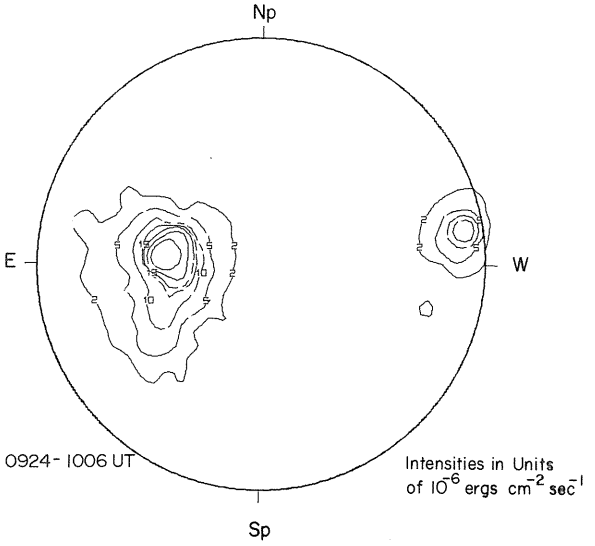

BOULDER
Np
SUNSPOTS
E
W
CORONA
WENDELSTEIN
NO DATA
Sp


NELC LA POSTA
Np
2.0 CM
35
60 65
66
63
72
75
85
69
E
W
Sp
2248 UT
ANT. TEMP. UNIT 100° K

SEPTEMBER 13, 1974 (P = 23.67, B_o = 7.23, L_o = 296.57)

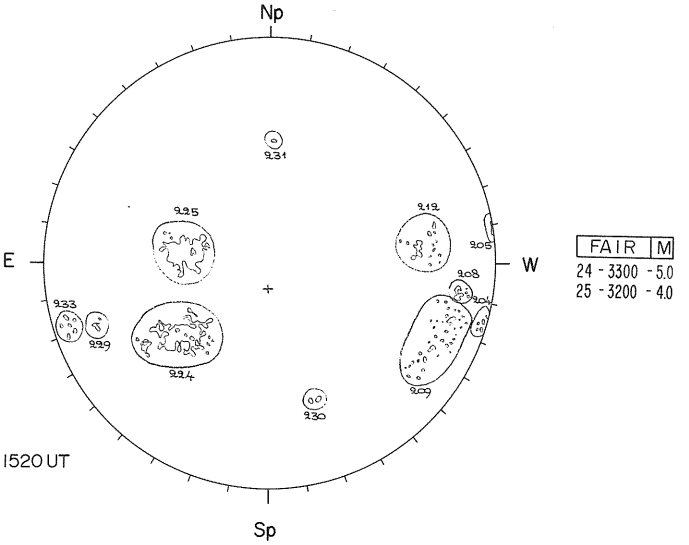
UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



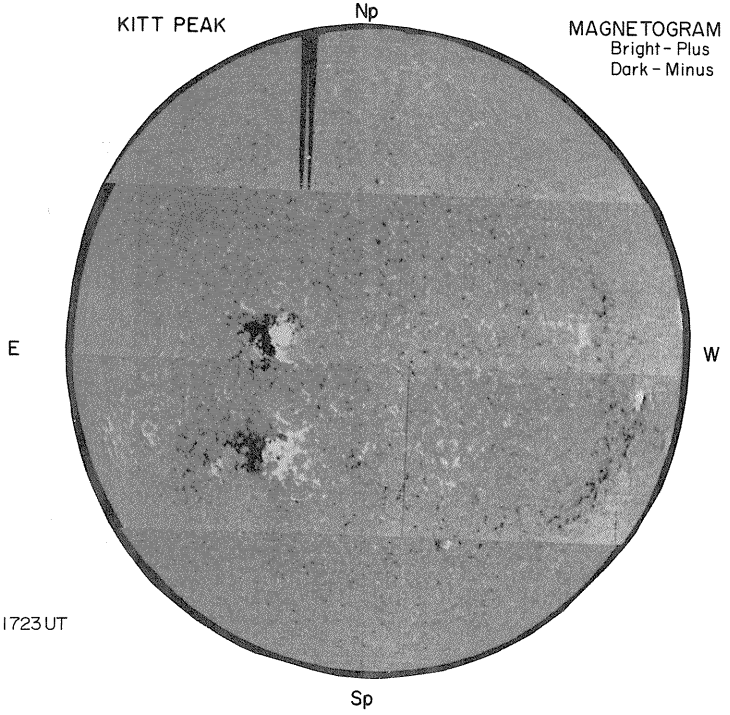
McMATH-HULBERT

CALCIUM REPORT



KITT PEAK

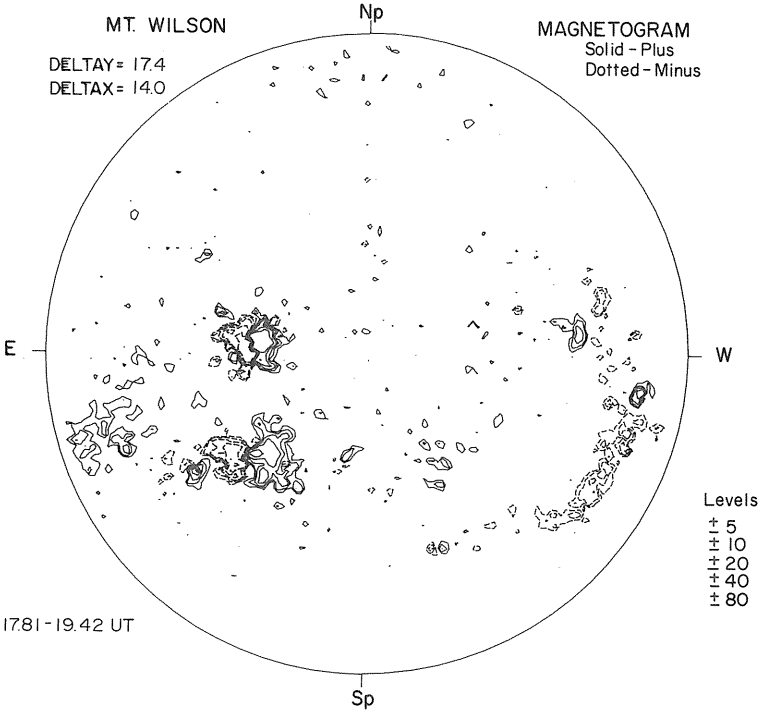
MAGNETOGRAM
Bright - Plus
Dark - Minus



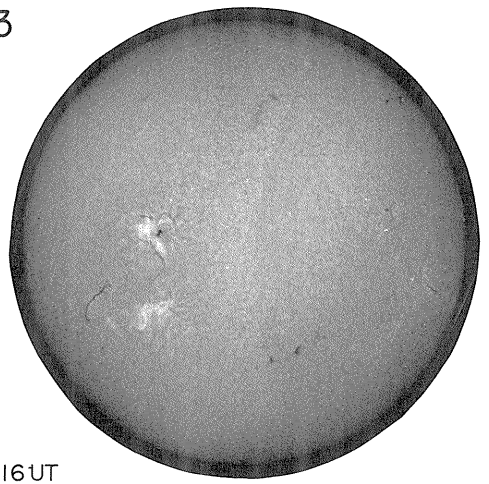
MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

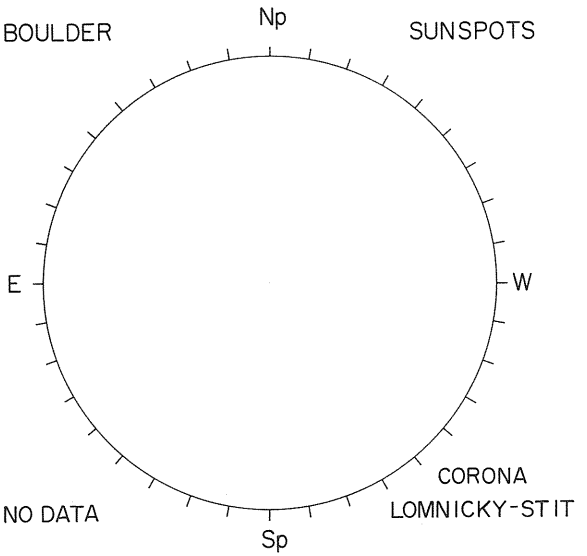
MAGNETOGRAM
Solid - Plus
Dotted - Minus



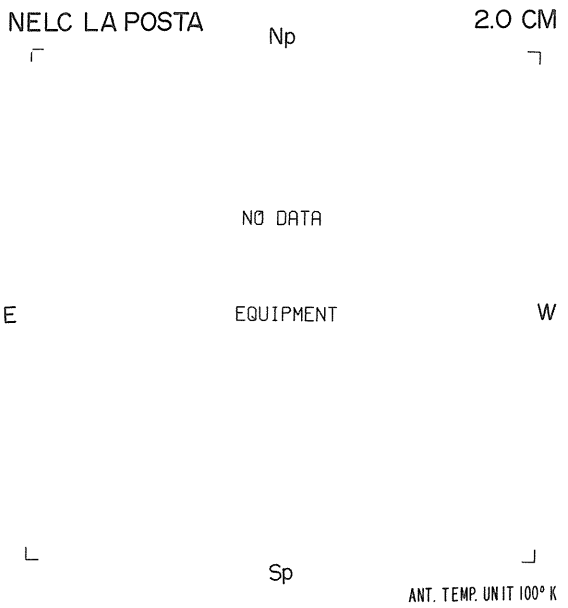
RAMEY AFB
13



BOULDER



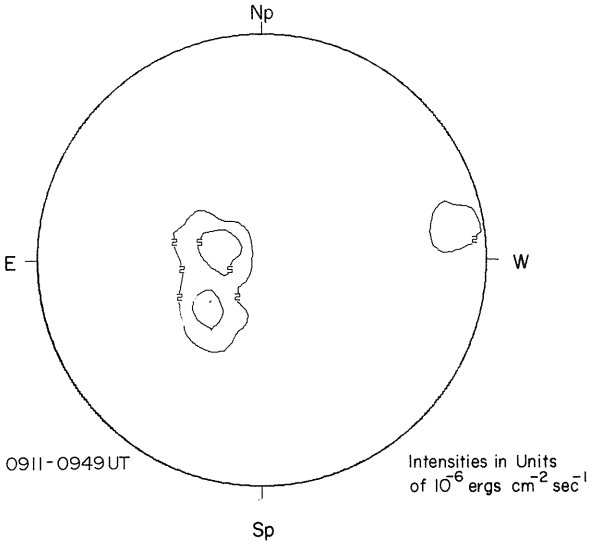
NELC LA POSTA



SEPTEMBER 14, 1974 (P = 23.86, B_o = 7.22, L_o = 283.37)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

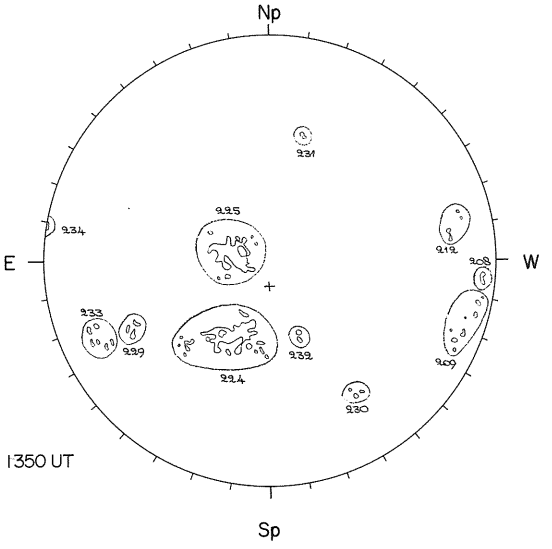


0911-0949 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT

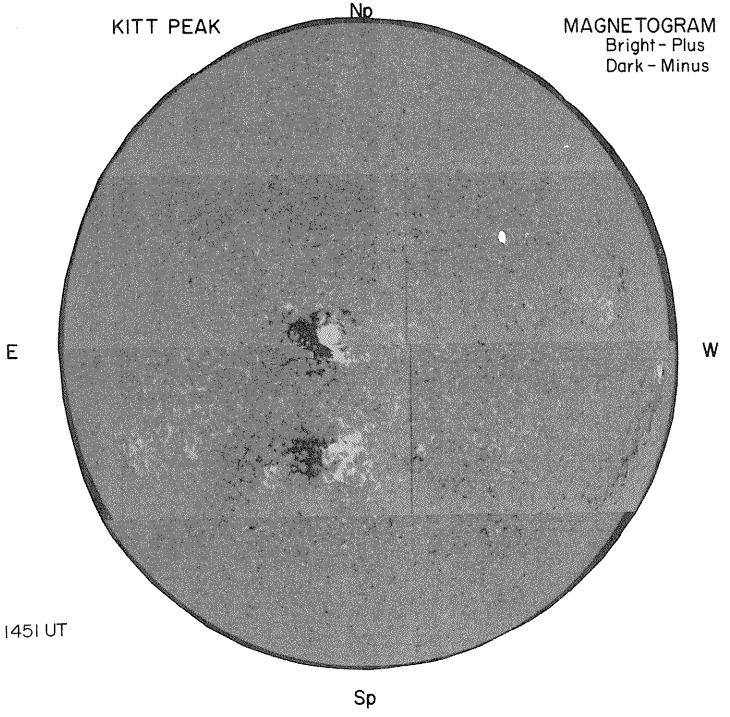


1350 UT

FAIR	S
24 - 3200	- 3.0
25 - 3000	- 3.5

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

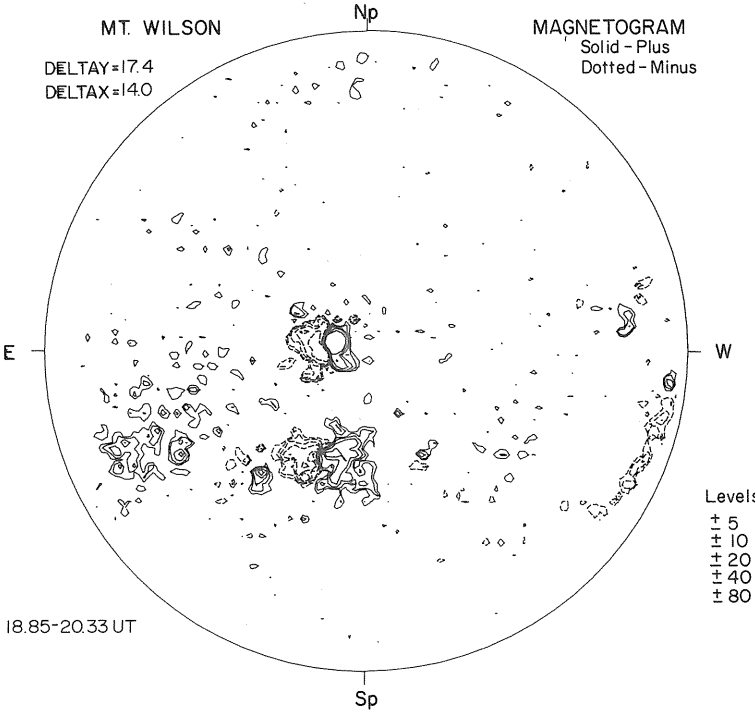


1451 UT

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

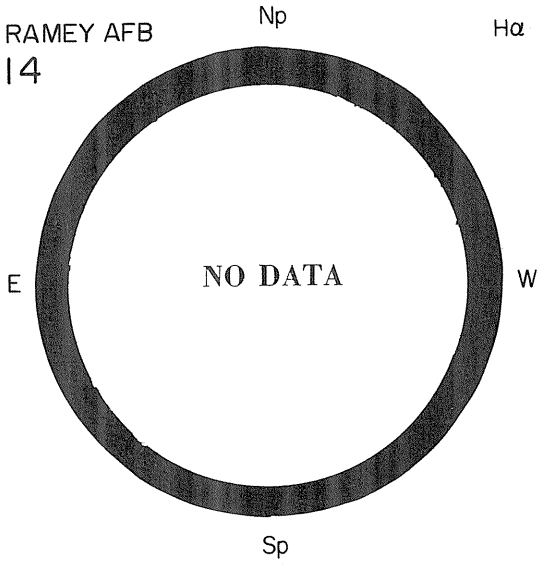
MAGNETOGRAM
Solid - Plus
Dotted - Minus



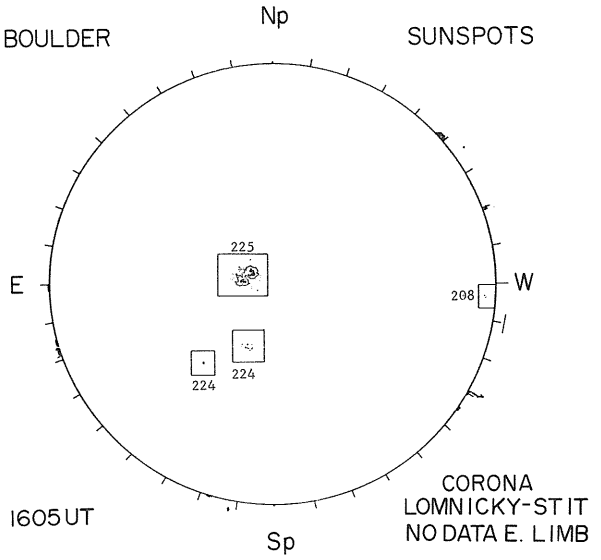
18.85-20.33 UT

Levels
± 5
± 10
± 20
± 40
± 80

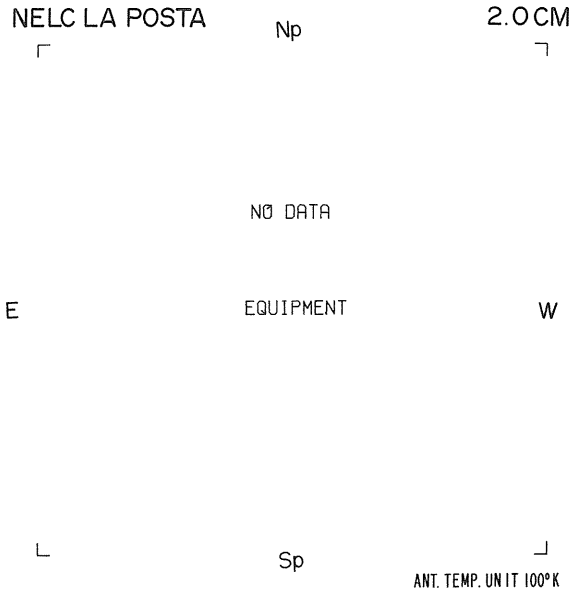
RAMEY AFB
14



BOULDER



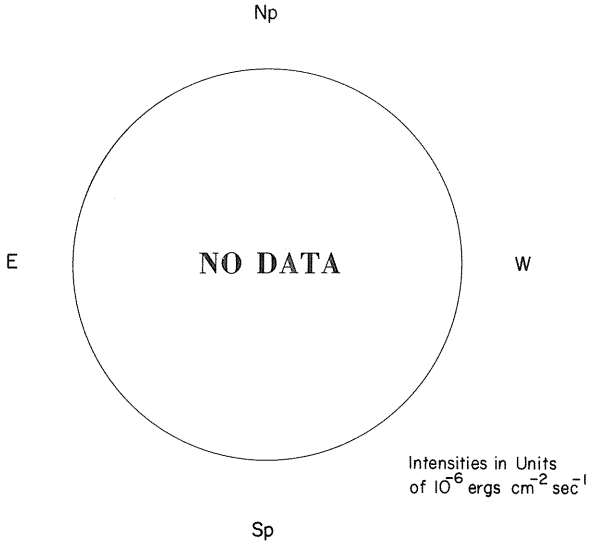
NELC LA POSTA



SEPTEMBER 15, 1974 (P = 24.04, B_o = 7.21, L_o = 270.17)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

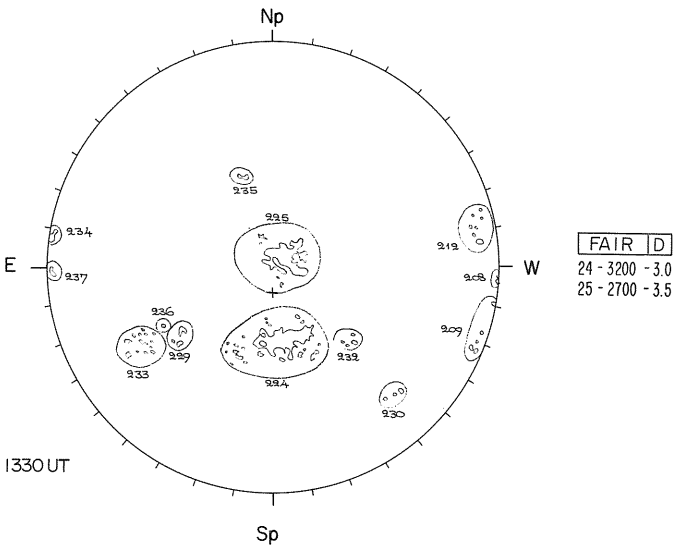
X-RAY
OSO-5



Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT



1330 UT

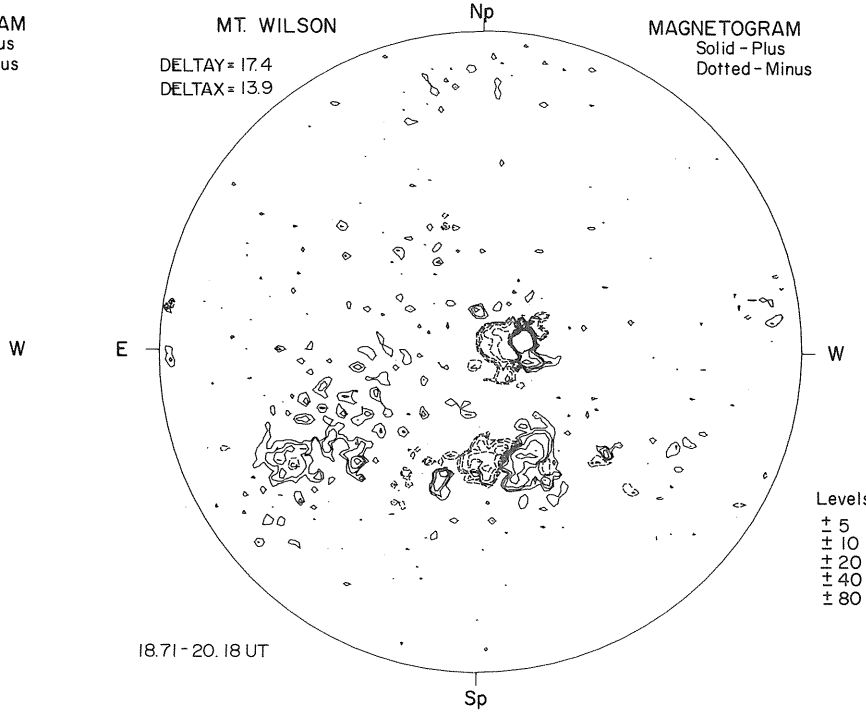
FAIR	D
24 - 3200 - 3.0	
25 - 2700 - 3.5	

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

DELTAY = 17.4
DELTAX = 13.9

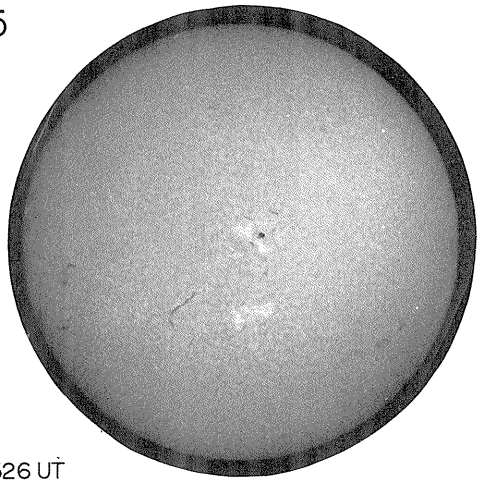


MAGNETOGRAM
Solid - Plus
Dotted - Minus

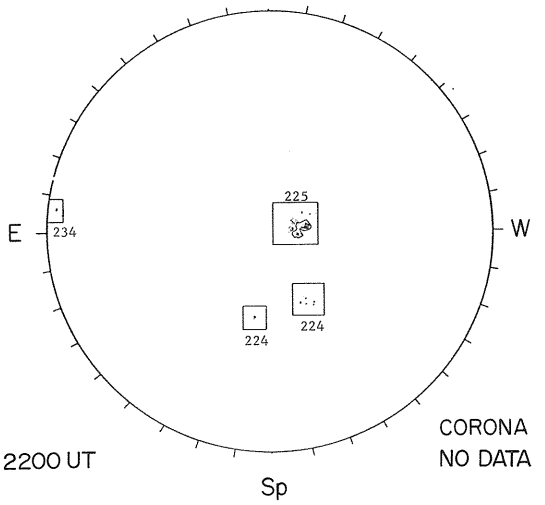
Levels
± 5
± 10
± 20
± 40
± 80

18.71 - 20.18 UT

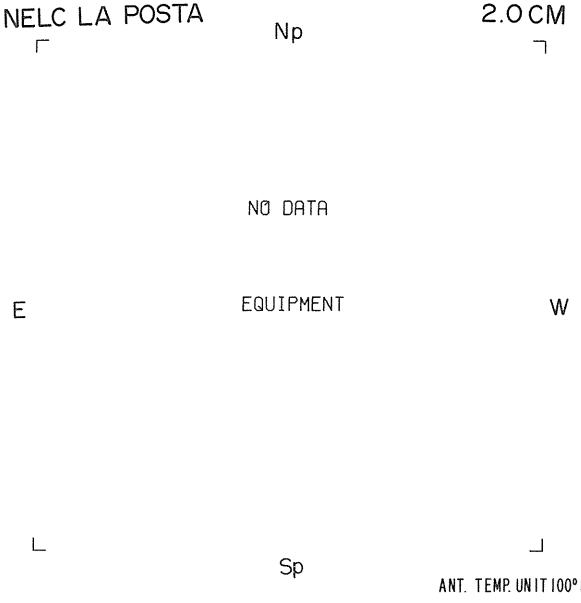
RAMEY AFB
15



BOULDER



NELC LA POSTA

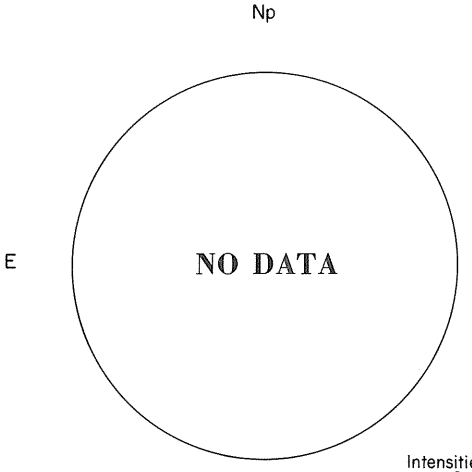


57
Sep 74

SEPTEMBER 16, 1974 (P = 24.21, B_o = 7.19, L_o = 256.97)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

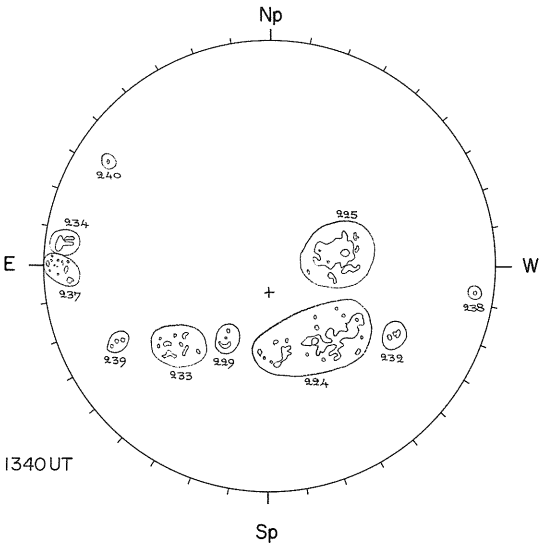
X-RAY
OSO-5



Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT



GOOD	M
24 - 3300	- 3.0
25 - 3000	- 4.5
34 - 1200	- 3.0

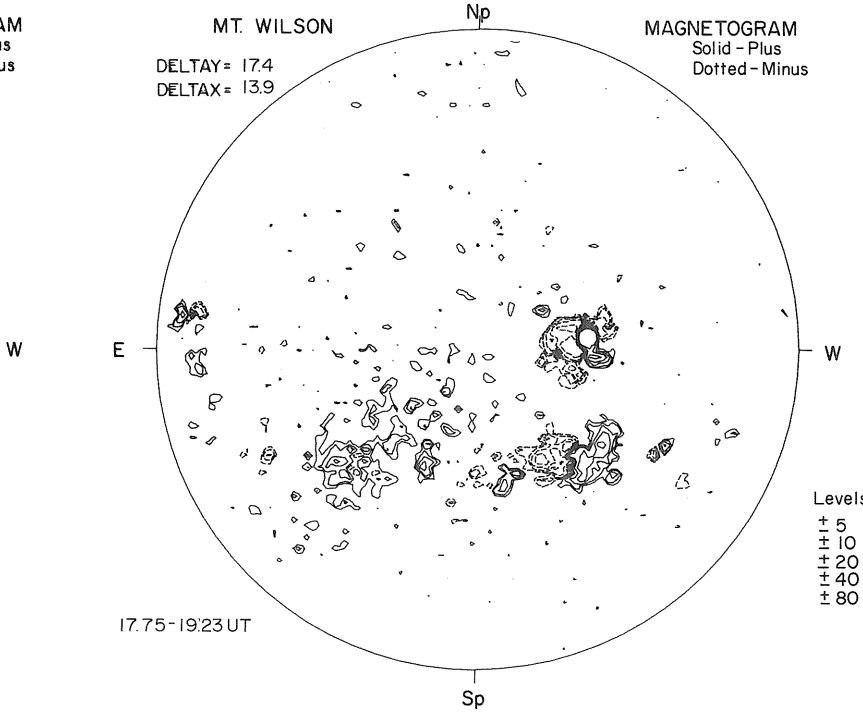
1340 UT

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

DELTAY = 17.4
DELTAX = 13.9

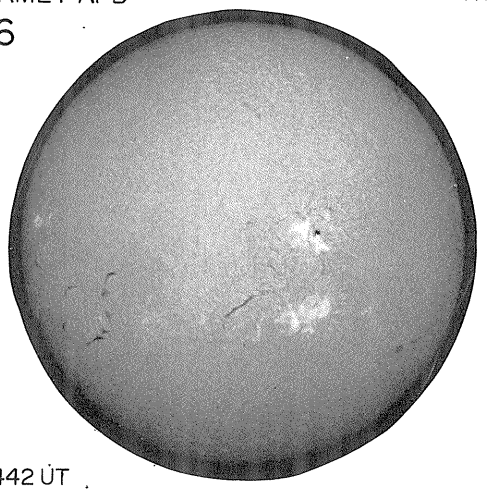


MAGNETOGRAM
Solid - Plus
Dotted - Minus

Levels
± 5
± 10
± 20
± 40
± 80

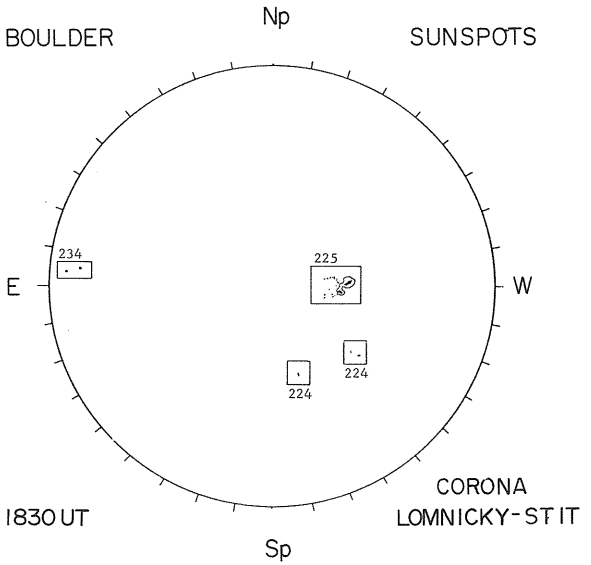
17.75 - 19:23 UT

RAMEY AFB
16



1442 UT

BOULDER



1830 UT

CORONA
LOMNICKY-STIT

NELC LA POSTA

Np

2.0 CM

NO DATA

E

EQUIPMENT

W

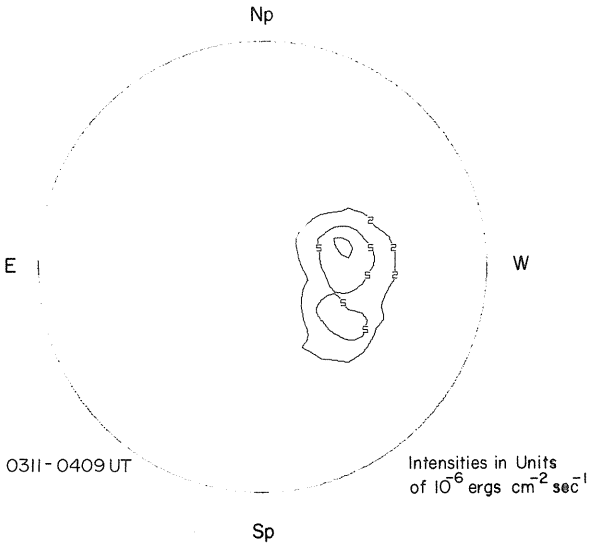
Sp

ANT. TEMP. UNIT 100° K

SEPTEMBER 17, 1974 (P = 24.37, B_o = 7.17, L_o = 243.77)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

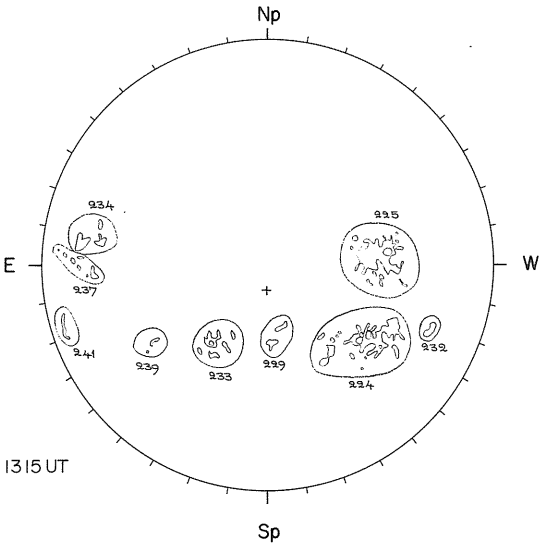


0311-0409 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT



1315 UT

GOOD	S
24 - 3600	- 3.0
25 - 3200	- 4.0
32 - 0600	- 3.0
34 - 1300	- 3.0

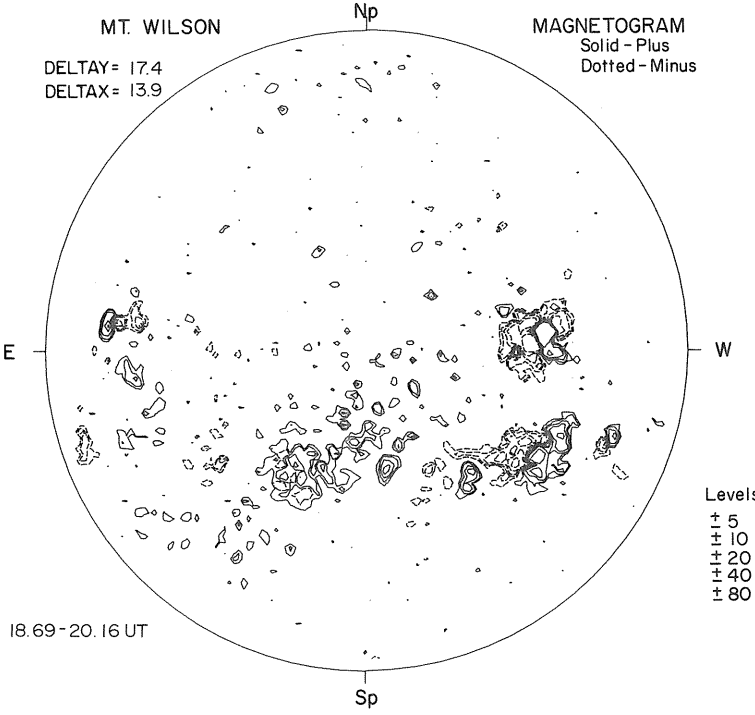
KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

DELTAY = 17.4
DELTAX = 13.9

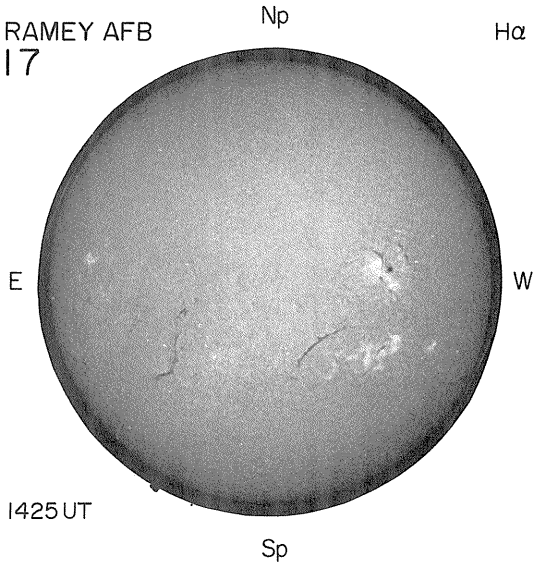
MAGNETOGRAM
Solid - Plus
Dotted - Minus

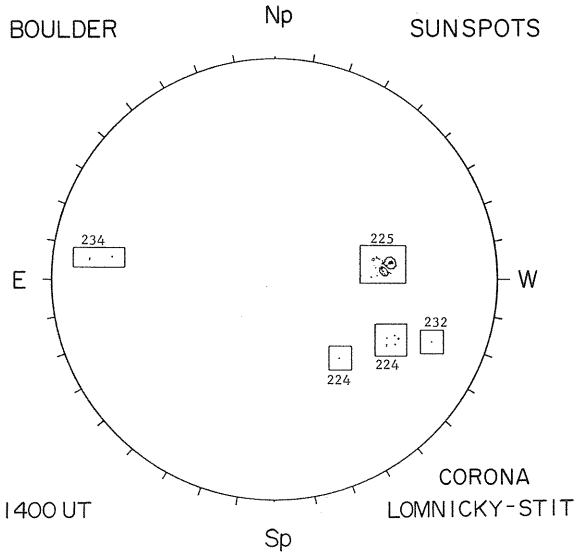


18.69 - 20.16 UT

Levels
± 5
± 10
± 20
± 40
± 80

RAMEY AFB
17





NELC LA POSTA Np 2.0 CM

NO DATA

E EQUIPMENT W

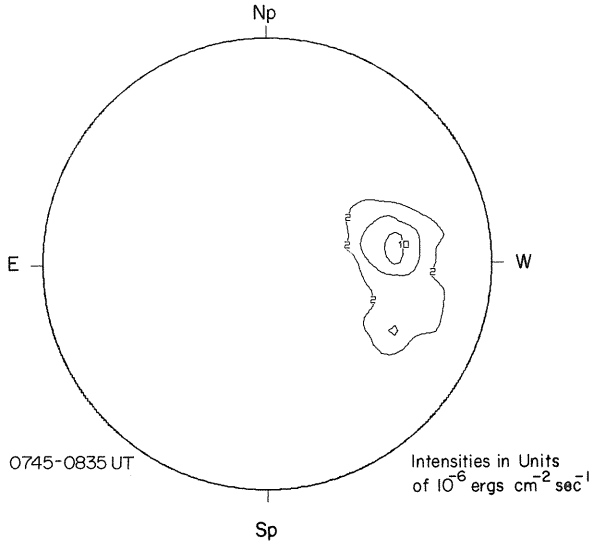
Sp

ANT. TEMP. UNIT 100° K

SEPTEMBER 18, 1974 (P = 24.53, B_o = 7.15, L_o = 230.57)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

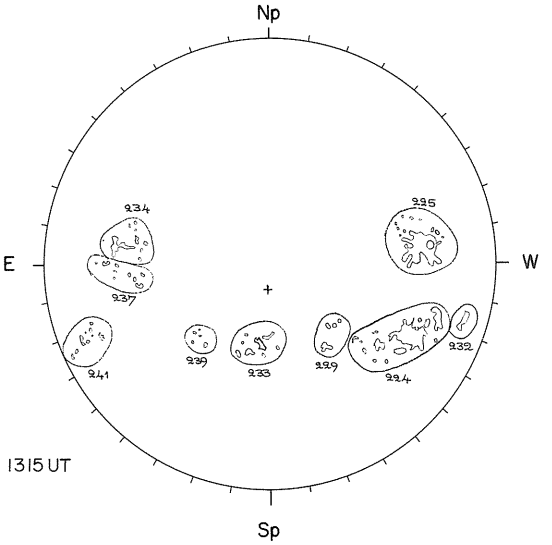


0745-0835 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT



1315 UT

GOOD	S
24 - 3600	- 3.0
25 - 3200	- 5.0
32 - 1000	- 3.0
34 - 1200	- 2.5

KITT PEAK

Np

E

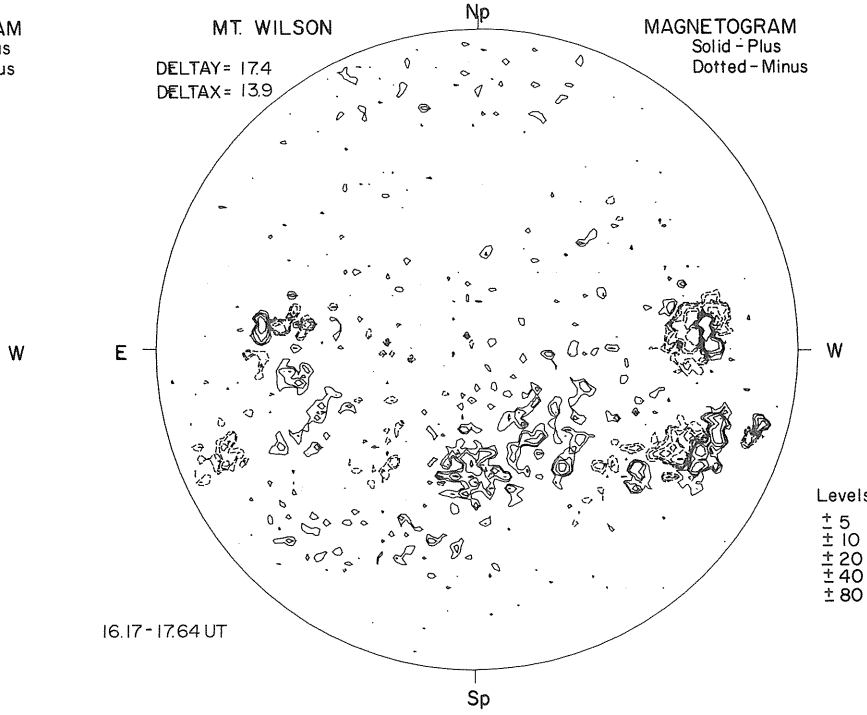
Sp

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

DELTAY = 17.4
DELTAX = 13.9

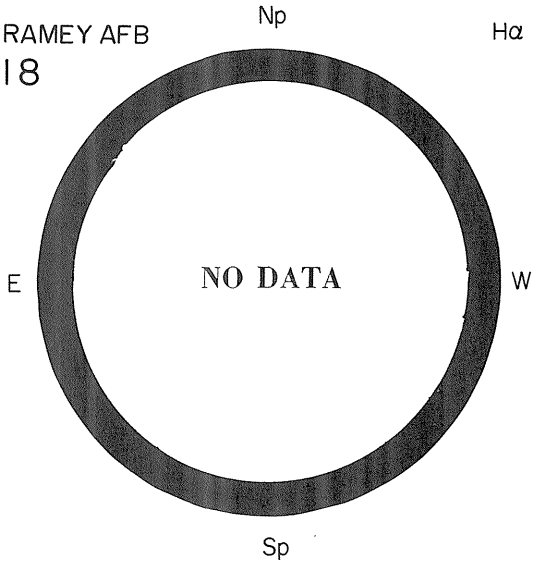
MAGNETOGRAM
Solid - Plus
Dotted - Minus



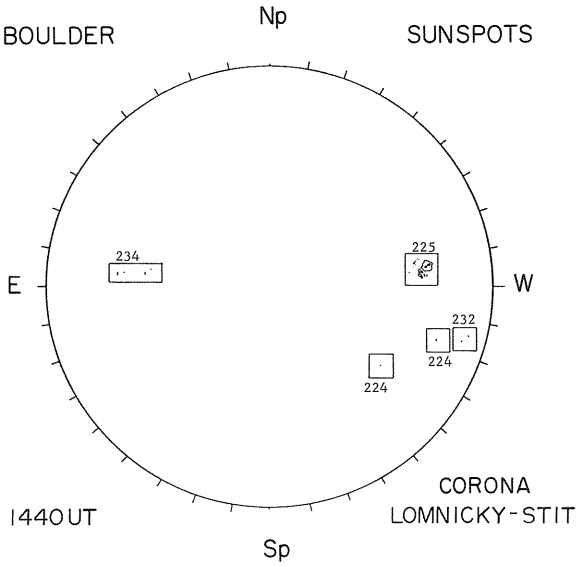
16.17 - 17.64 UT

Levels
± 5
± 10
± 20
± 40
± 80

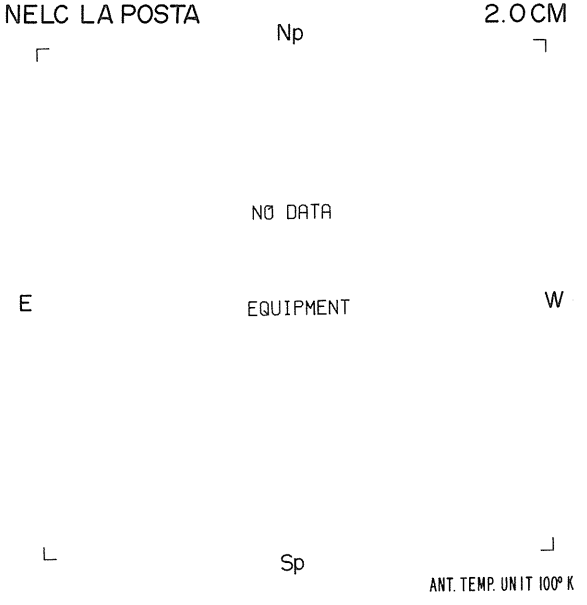
RAMEY AFB
18



BOULDER



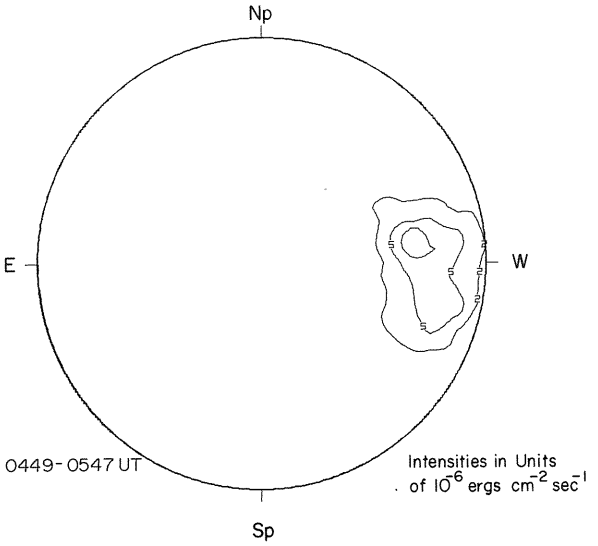
NELC LA POSTA



SEPTEMBER 19, 1974 (P = 24.68, B_o = 7.13, L_o = 217.36)

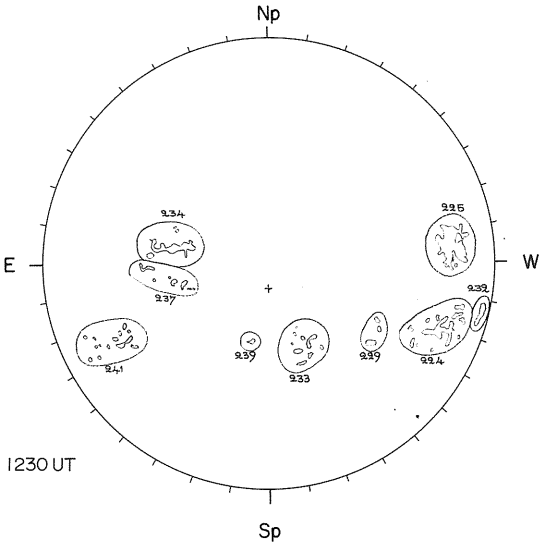
UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



McMATH-HULBERT

CALCIUM REPORT



FAIR	S
24 - 3100	- 3.0
25 - 3400	- 4.0
32 - 1000	- 3.5
34 - 1200	- 3.0

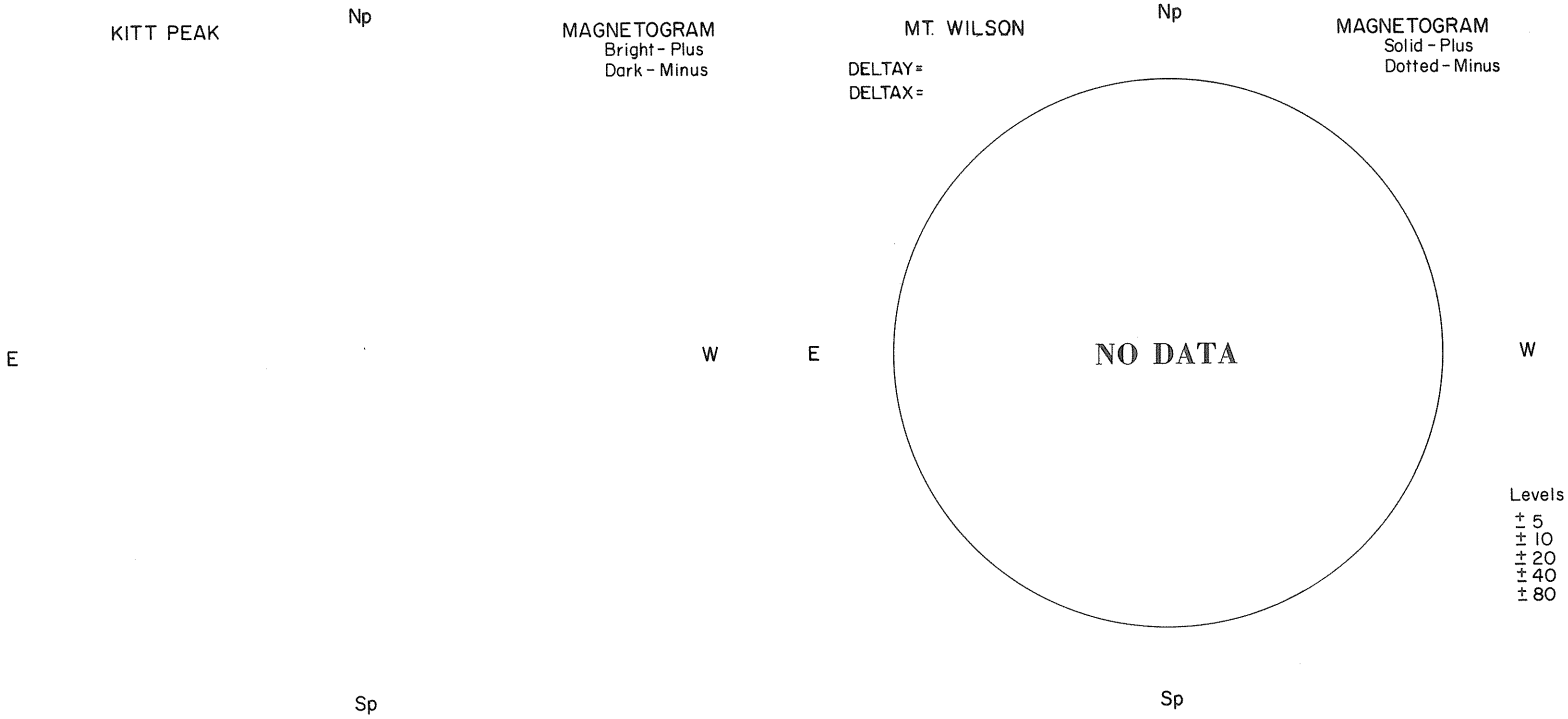
KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

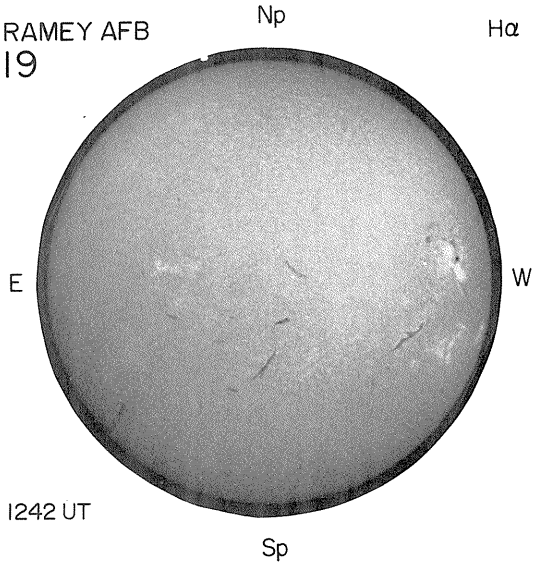
DELTAY =
DELTAX =

MAGNETOGRAM
Solid - Plus
Dotted - Minus

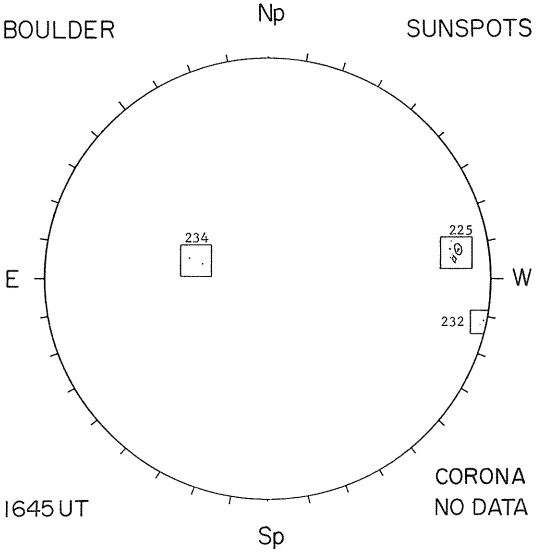


Levels
± 5
± 10
± 20
± 40
± 80

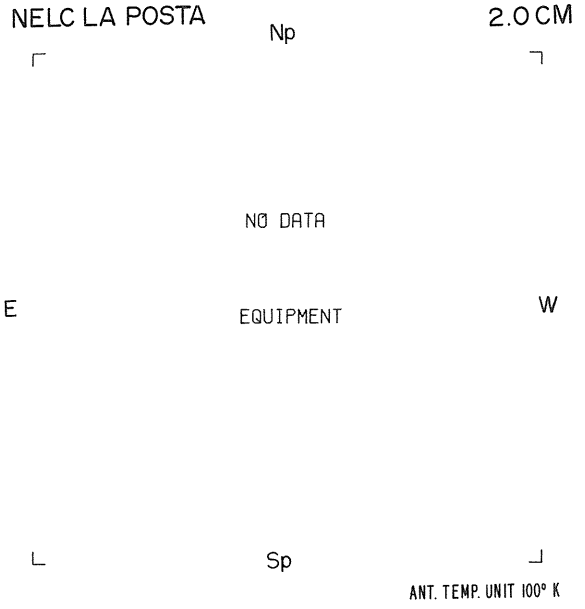
RAMEY AFB
19



BOULDER



NELC LA POSTA

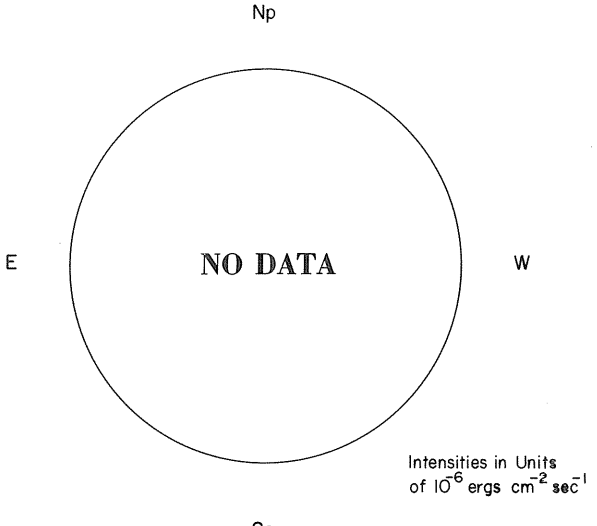


65
Sep 74

SEPTEMBER 20, 1974 (P = 24.83, B_o = 7.11, L_o = 204.16)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

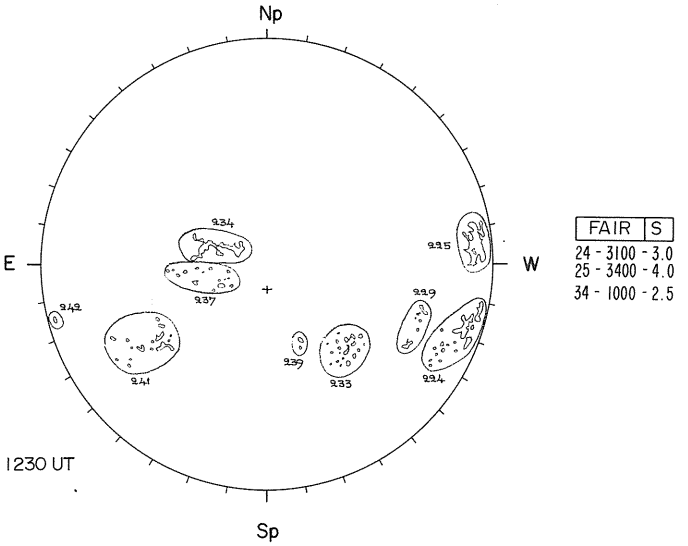
X-RAY
OSO-5



Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

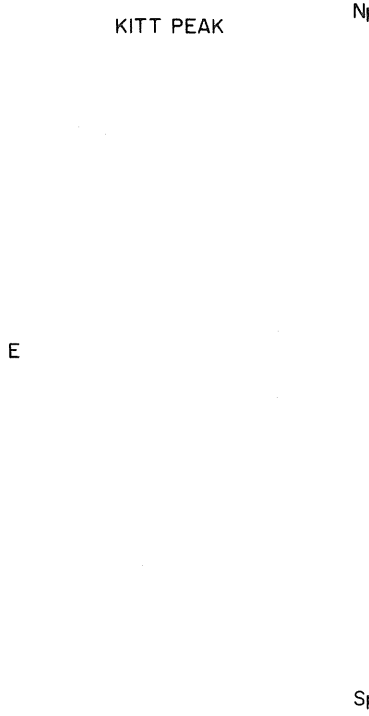
CALCIUM REPORT



FAIR	S
24 - 3100 - 3.0	
25 - 3400 - 4.0	
34 - 1000 - 2.5	

1230 UT

KITT PEAK

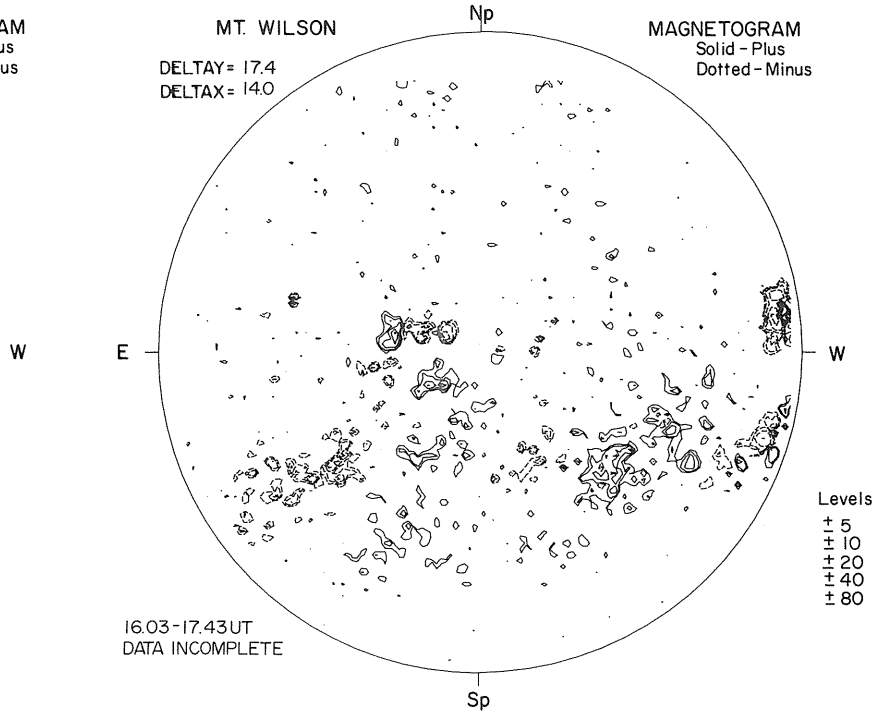


MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

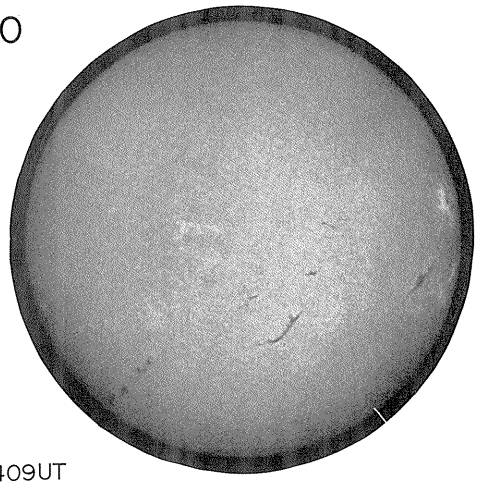
MAGNETOGRAM
Solid - Plus
Dotted - Minus



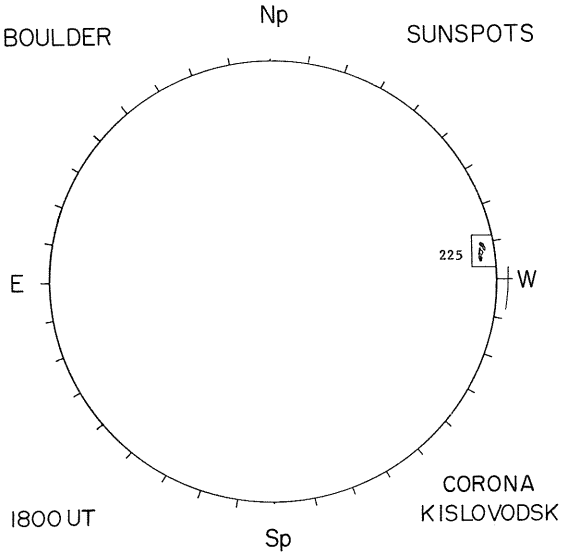
Levels
± 5
± 10
± 20
± 40
± 80

16.03 - 17.43 UT
DATA INCOMPLETE

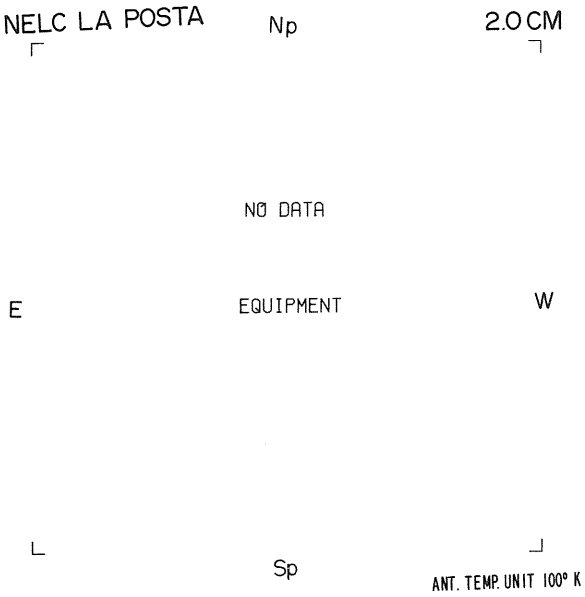
RAMEY AFB
20



BOULDER



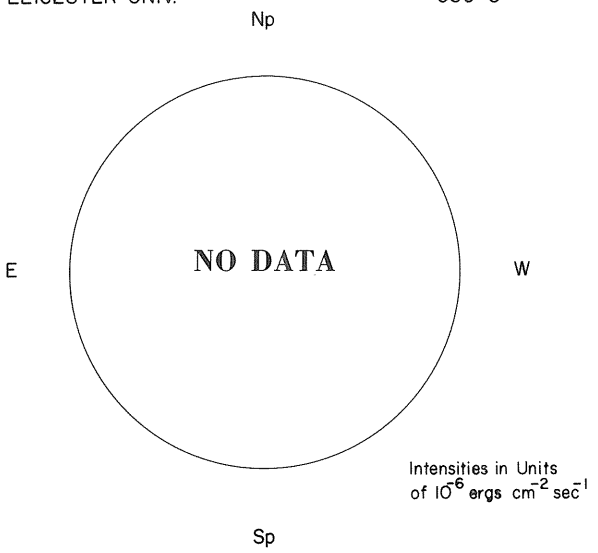
NELC LA POSTA



SEPTEMBER 21, 1974 (P = 24.97, B_o = 7.08, L_o = 190.97)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

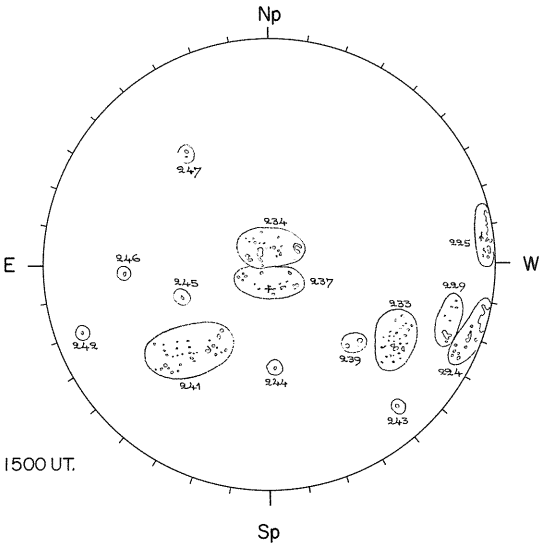
X-RAY
OSO-5



Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

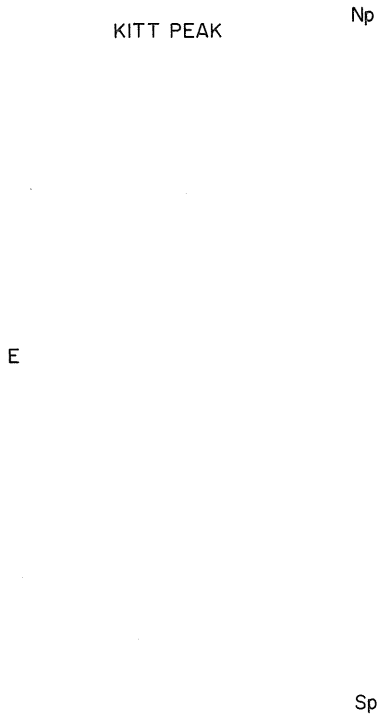
CALCIUM REPORT



GOOD	M
25 - 3200 - 4.0	
34 - 0700 - 2.5	

1500 UT.

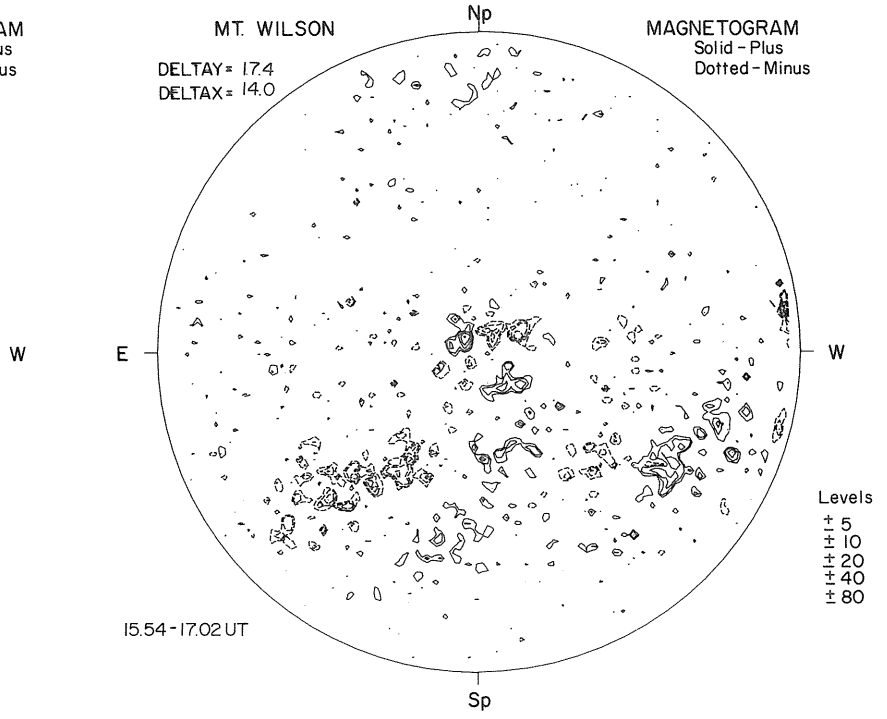
KITT PEAK



MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

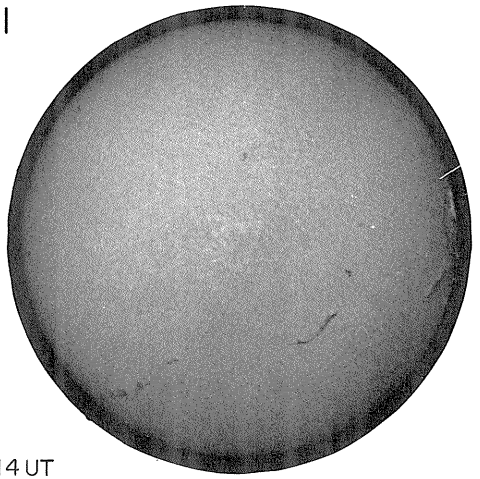


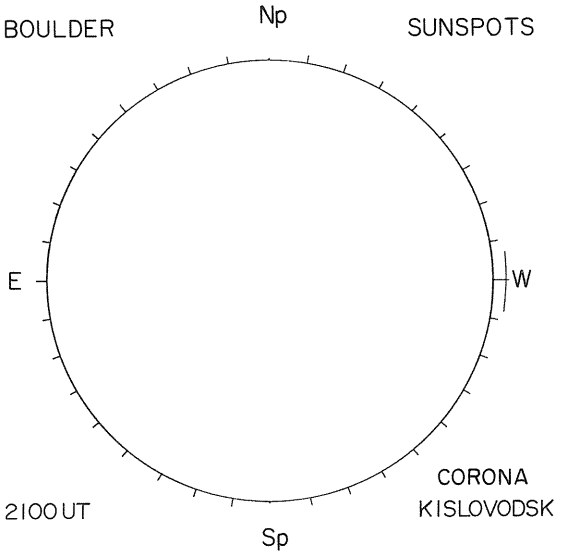
MAGNETOGRAM
Solid - Plus
Dotted - Minus

Levels
± 5
± 10
± 20
± 40
± 80

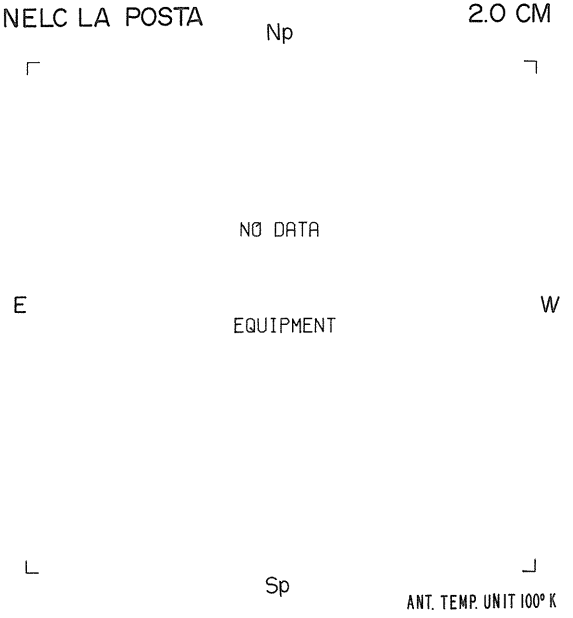
15.54 - 17.02 UT

RAMEY AFB
21





NELC LA POSTA

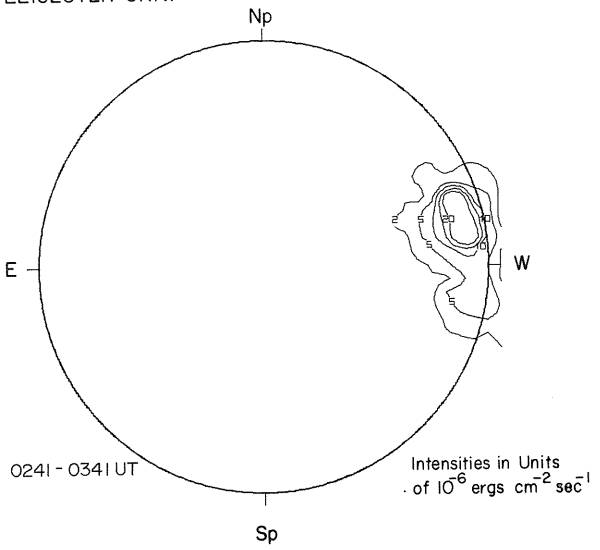


69
Sep 74

SEPTEMBER 22, 1974 (P = 25.10, B_o = 7.06, L_o = 177.77)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

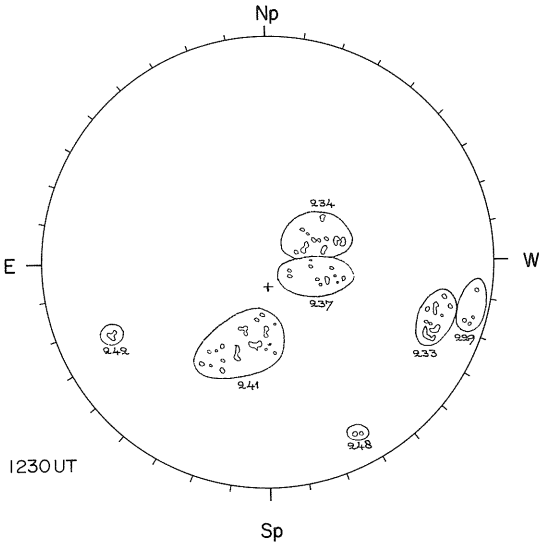


0241 - 0341 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT



POOR	D
34 - 0700	-2.5

1230 UT

KITT PEAK

Np

E

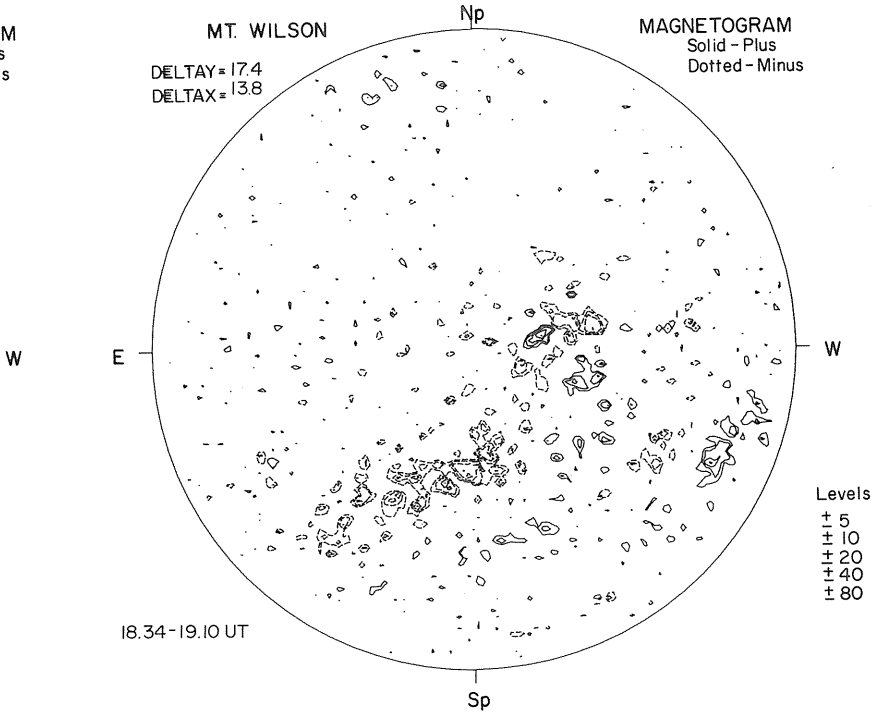
Sp

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

DELTAY = 17.4
DELTAX = 13.8

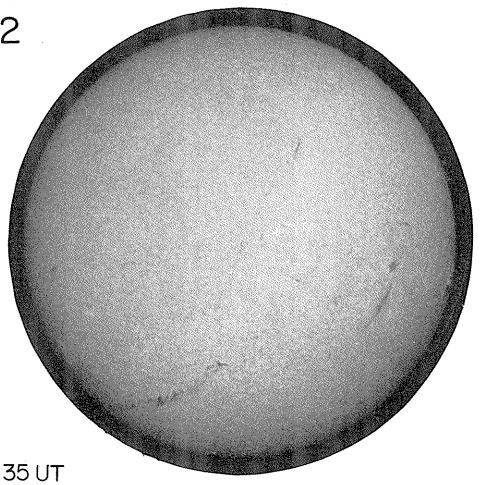
MAGNETOGRAM
Solid - Plus
Dotted - Minus



Levels
± 5
± 10
± 20
± 40
± 80

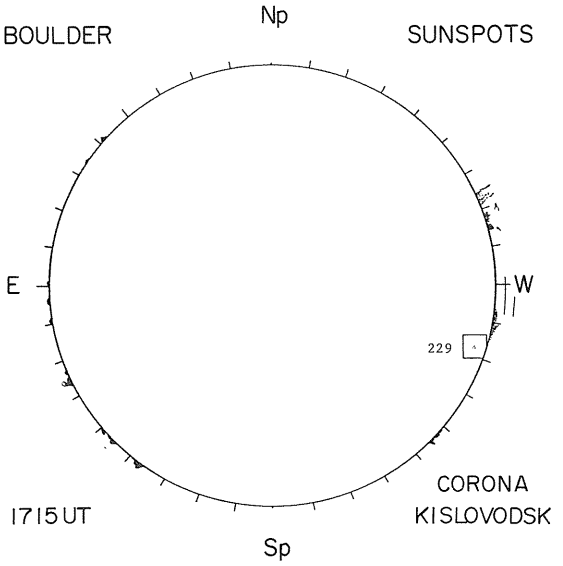
18.34 - 19.10 UT

RAMEY AFB
22



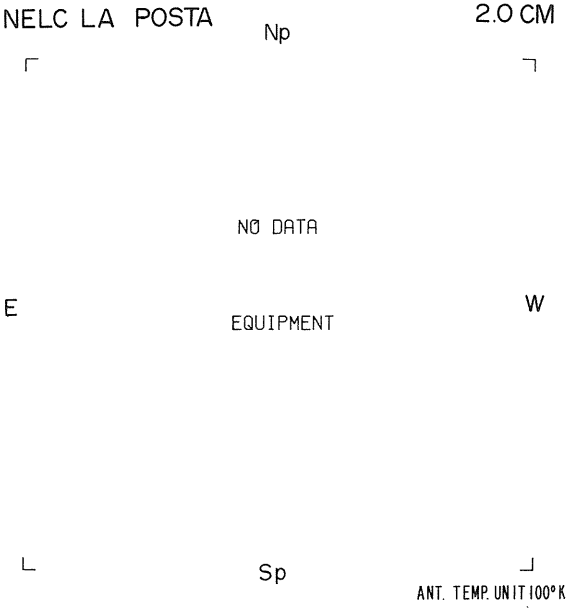
1235 UT

BOULDER



1715 UT

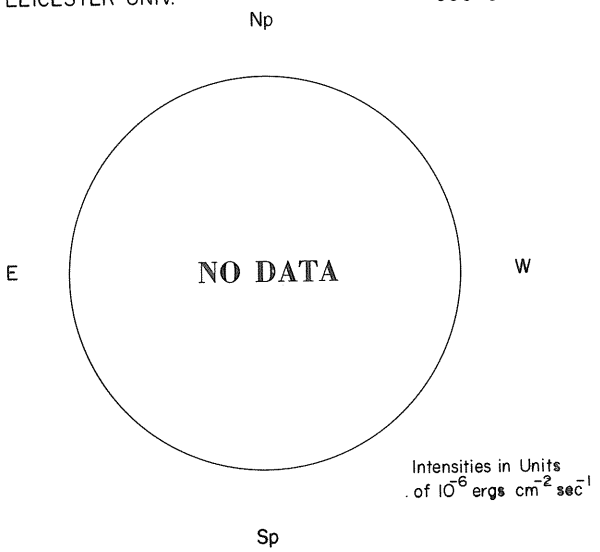
NELC LA POSTA



SEPTEMBER 23, 1974 (P = 25.23, B_o = 7.03, L_o = 164.57)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

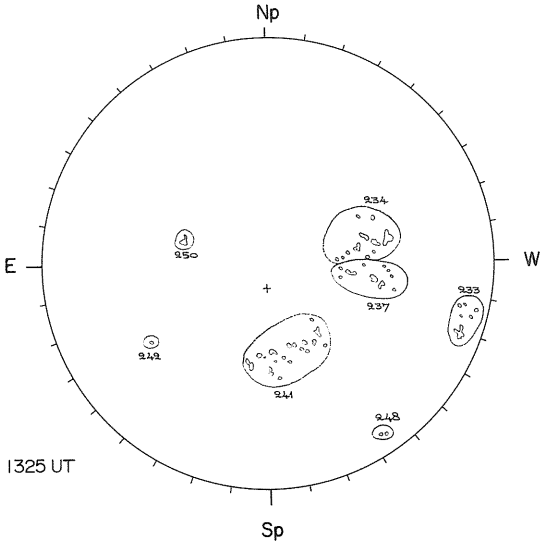
X-RAY
OSO-5



Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT



GOOD | D

1325 UT

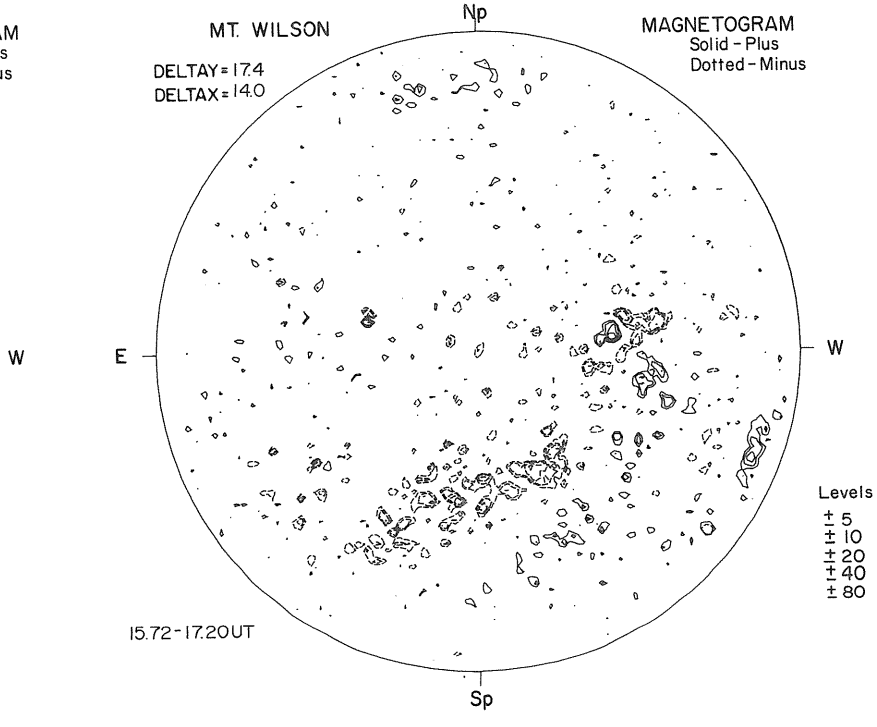
KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

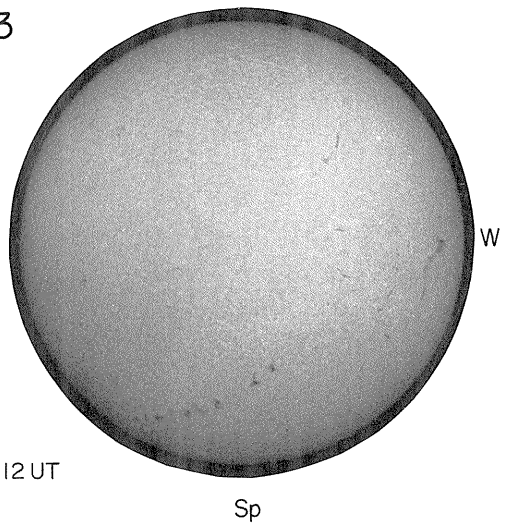
MAGNETOGRAM
Solid - Plus
Dotted - Minus

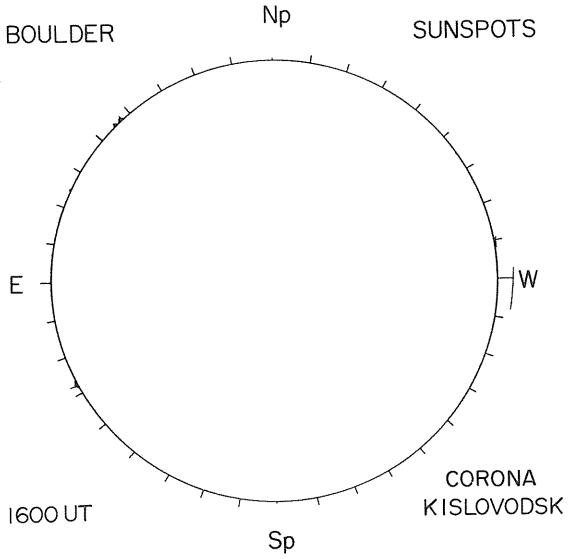


Levels
± 5
± 10
± 20
± 40
± 80

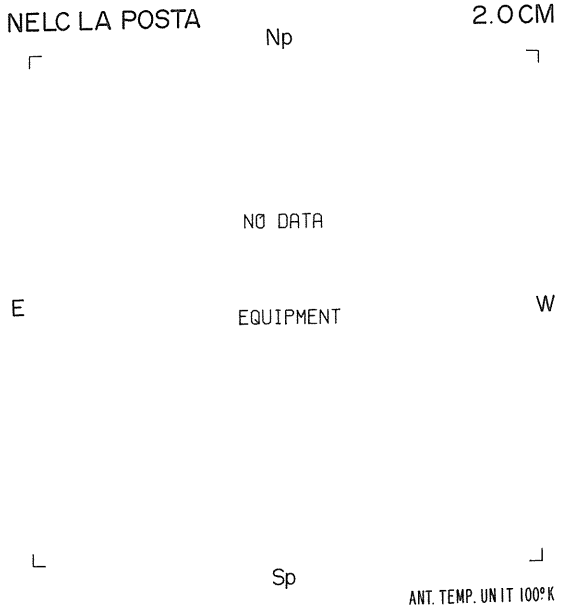
15.72 - 17.20 UT

RAMEY AFB
23





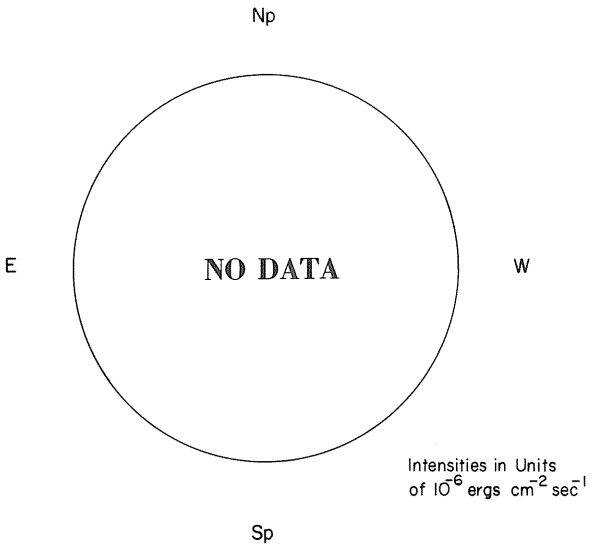
NELC LA POSTA



SEPTEMBER 24, 1974 (P = 25.35, B_o = 7.00, L_o = 151.37)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

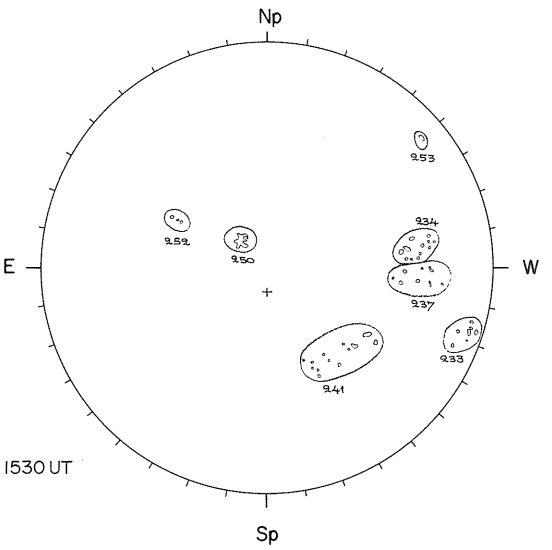
X-RAY
OSO-5



Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT



FAIR	S
34 - 0800	- 2.5
50 - 0400	- 3.0

1530 UT

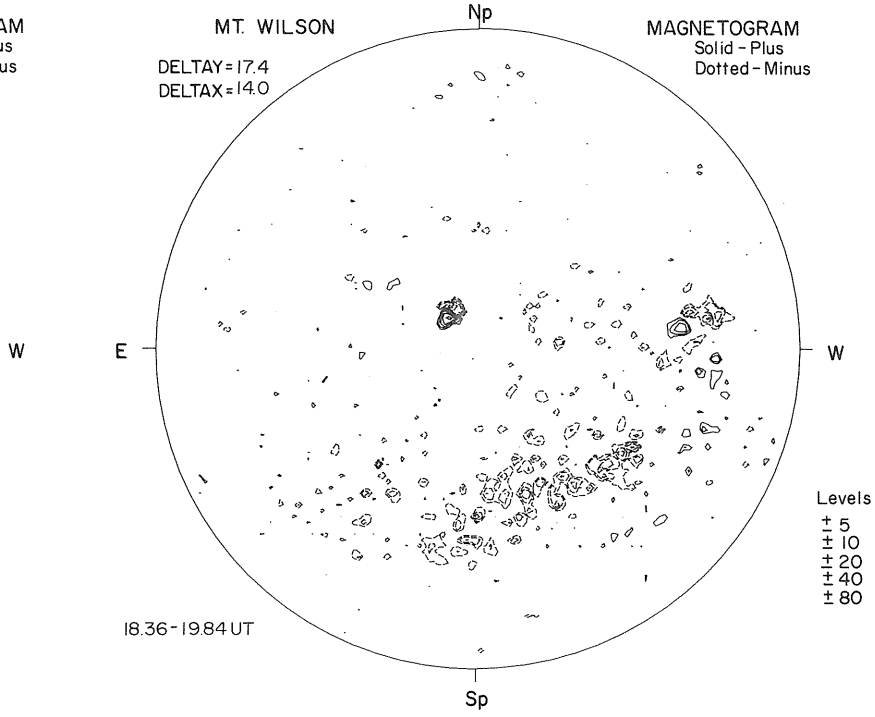
KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid - Plus
Dotted - Minus

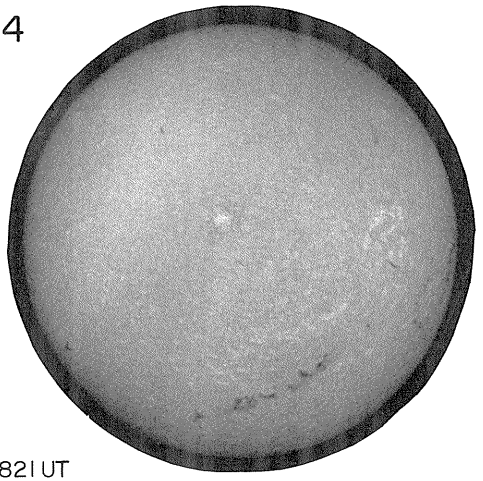


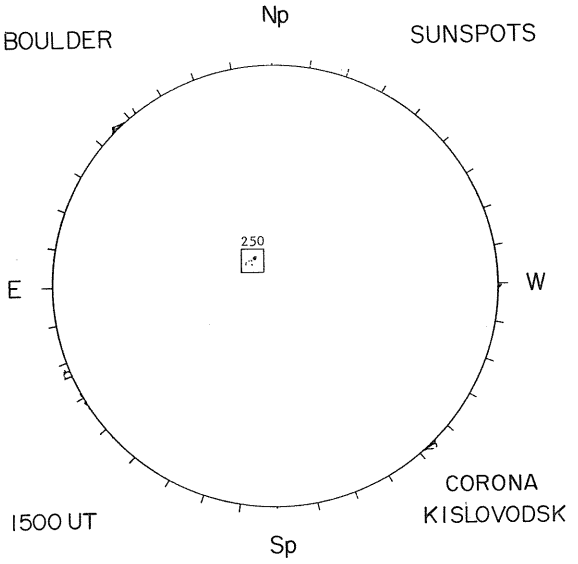
Levels
± 5
± 10
± 20
± 40
± 80

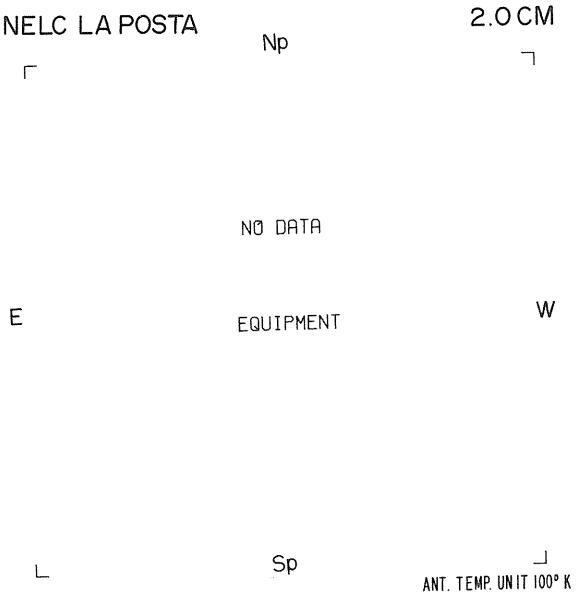
18.36 - 19.84 UT

RAMEY AFB

24


Np
Hα
E
W
1821 UT
Sp

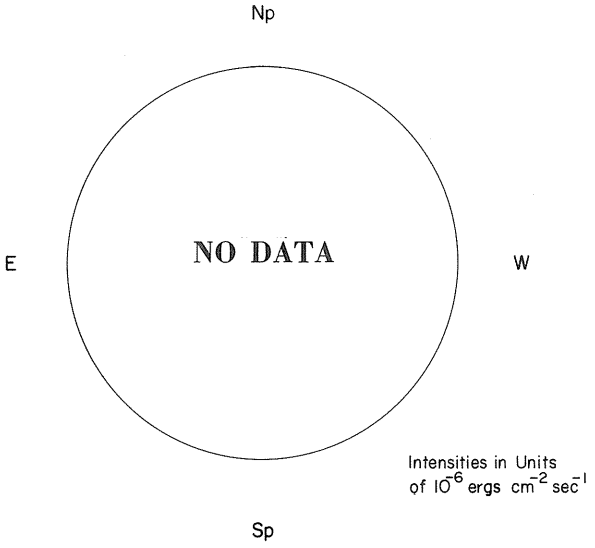

BOULDER
Np
SUNSPOTS
250
E
W
CORONA
KISLOVODSK
1500 UT
Sp


NELC LA POSTA
Np
2.0 CM
NO DATA
E
EQUIPMENT
W
Sp
ANT. TEMP. UNIT 100° K

SEPTEMBER 25, 1974 (P = 25.46, B_o = 6.96, L_o = 138.17)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

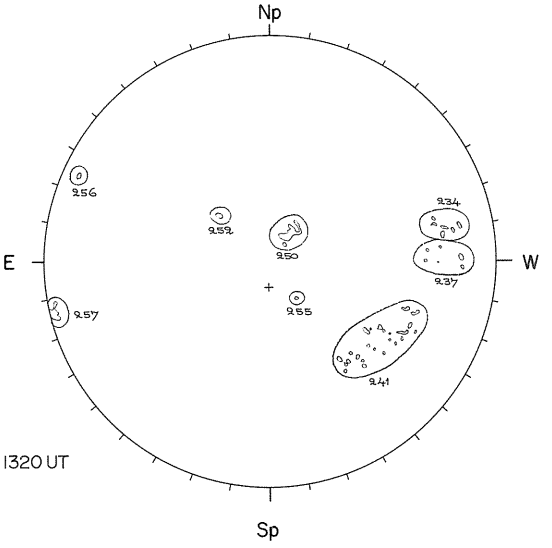
X-RAY
OSO-5



Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT



1320 UT

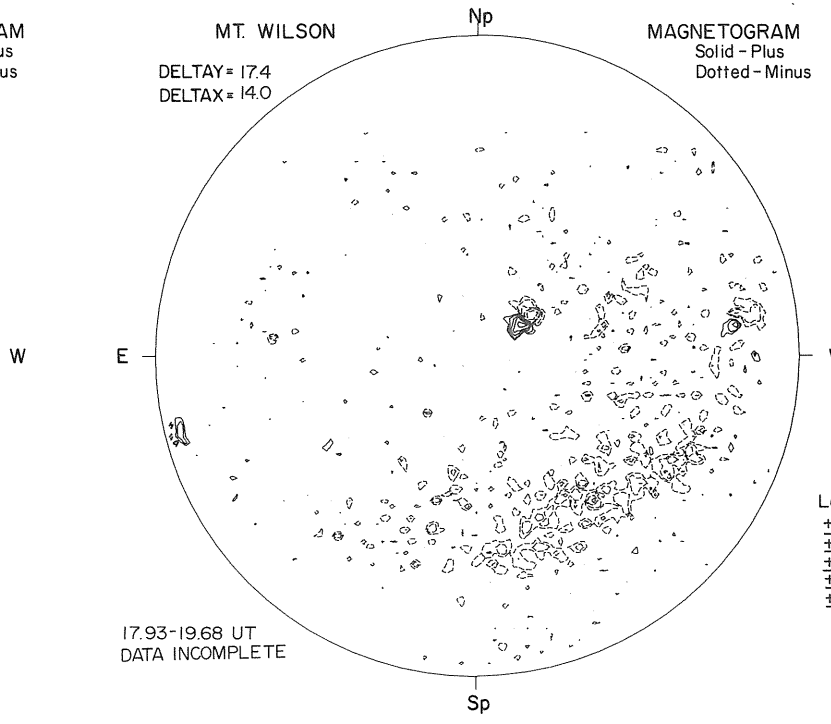
GOOD	S
34 - 0800	- 2.5
50 - 0600	- 3.0
57 - 0700	- 3.0

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

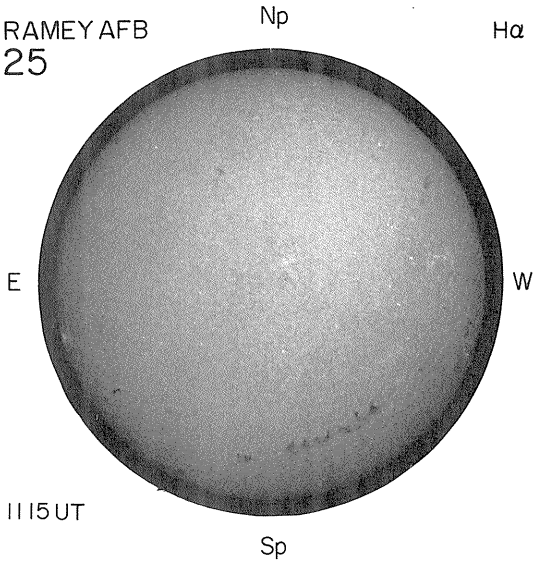


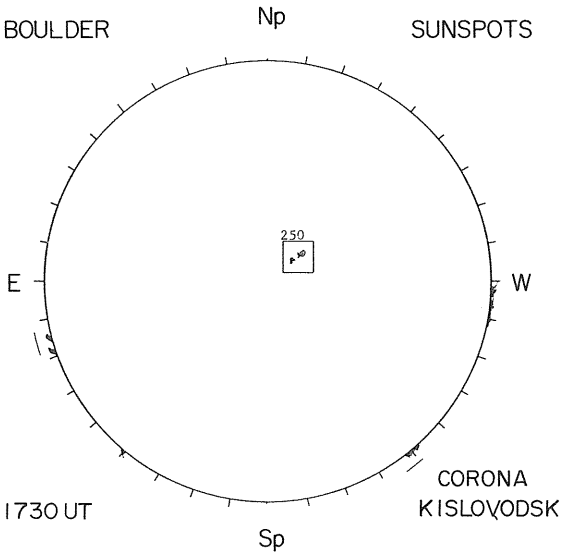
MAGNETOGRAM
Solid - Plus
Dotted - Minus

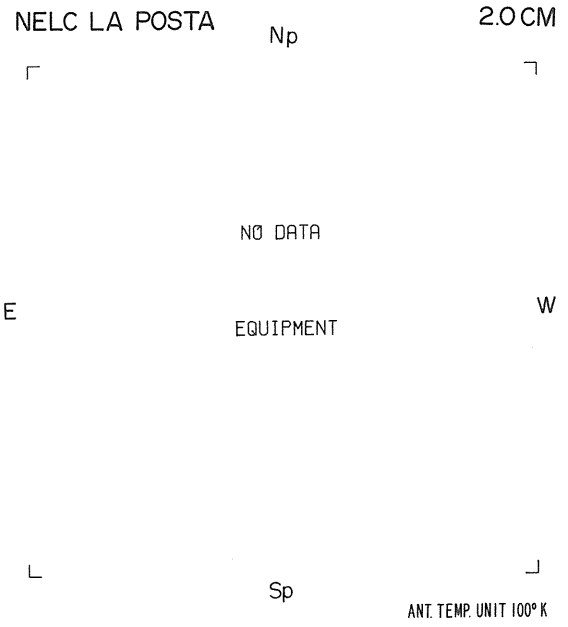
Levels
± 5
± 10
± 20
± 40
± 80

17.93-19.68 UT
DATA INCOMPLETE

RAMEY AFB
25





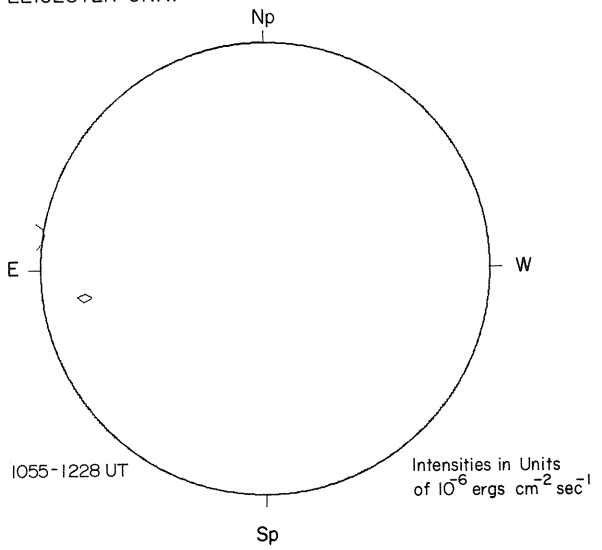


77
Sep 74

SEPTEMBER 26, 1974 (P = 25.57, B_o = 6.93, L_o = 124.97)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5

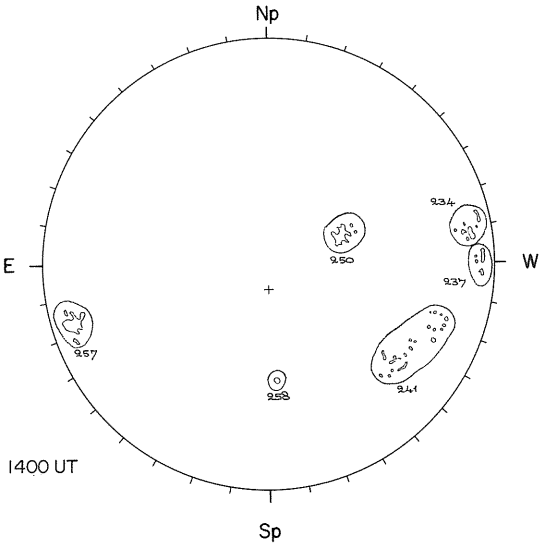


1055-1228 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT



1400 UT

GOOD	S
50 - 0700	-3.0
57 - 1500	-3.0

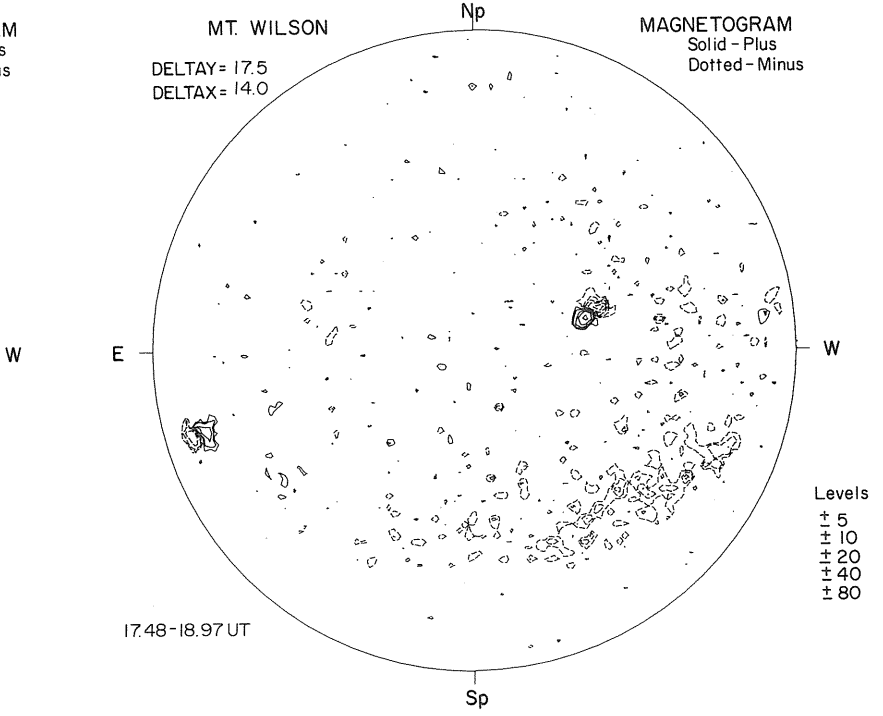
KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

DELTAY = 17.5
DELTAX = 14.0

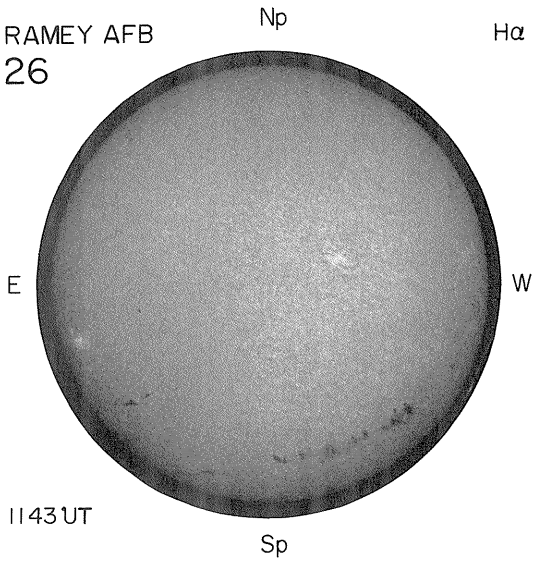
MAGNETOGRAM
Solid - Plus
Dotted - Minus

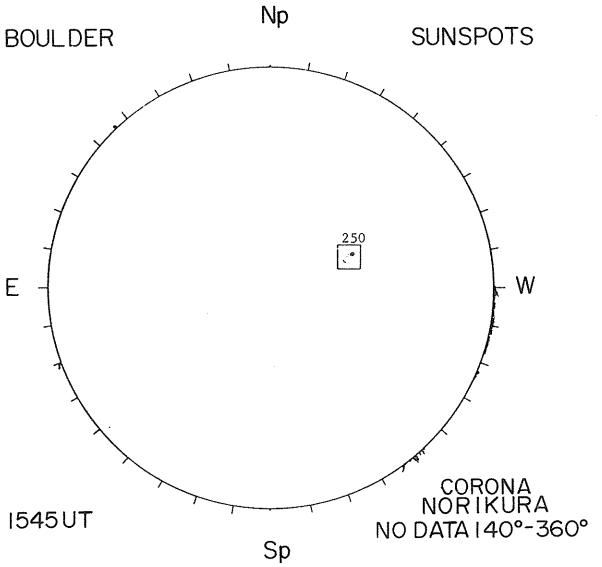


17.48-18.97 UT

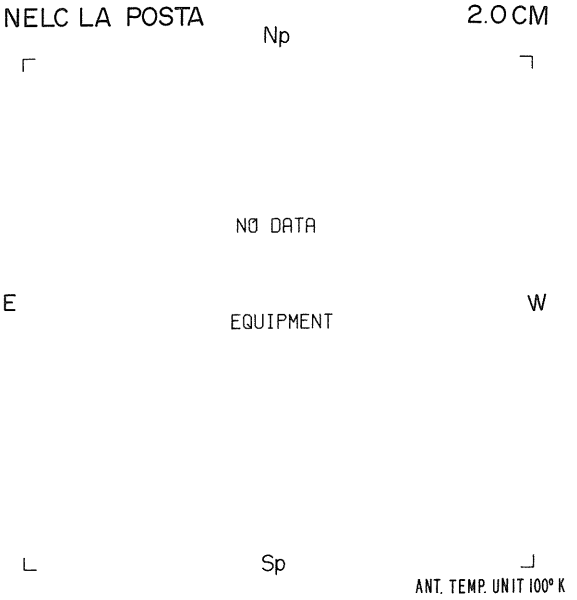
Levels
± 5
± 10
± 20
± 40
± 80

RAMEY AFB
26





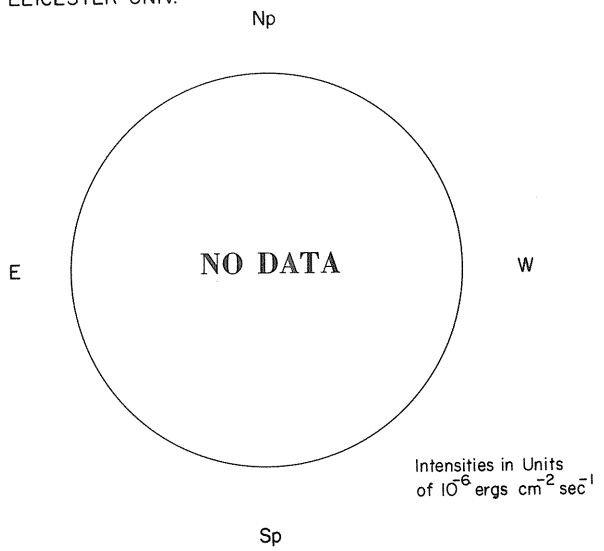
NELC LA POSTA



SEPTEMBER 27, 1974 (P = 25.67, B_o = 6.89, L_o = 111.77)

UNIV. COLLEGE LONDON
LEICESTER UNIV.

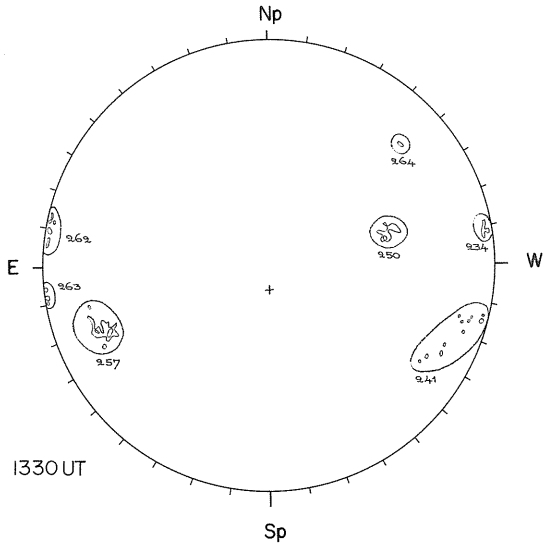
X-RAY
OSO-5



Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT

CALCIUM REPORT



GOOD	S
50 - 0700 - 3.0	
57 - 1500 - 3.0	
62 - 0800 - 2.5	

1330 UT

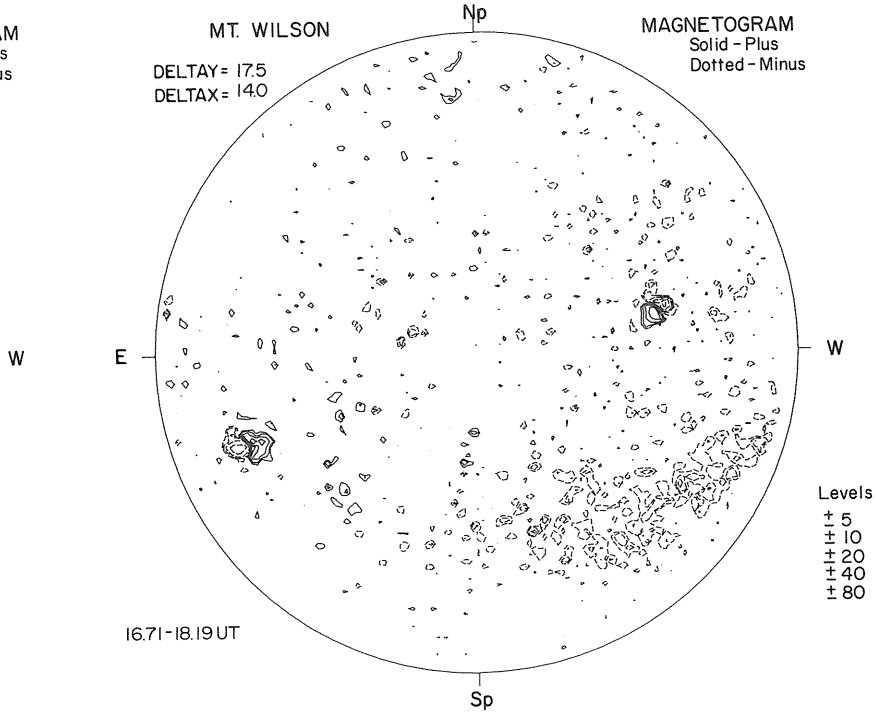
KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

DELTAY = 17.5
DELTAX = 14.0

MAGNETOGRAM
Solid - Plus
Dotted - Minus

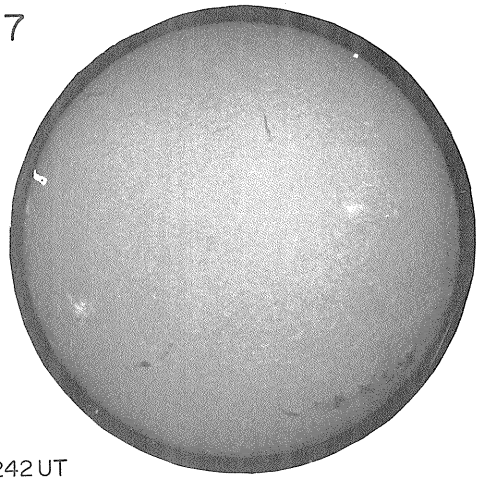


Levels
± 5
± 10
± 20
± 40
± 80

16.71 - 18.19 UT

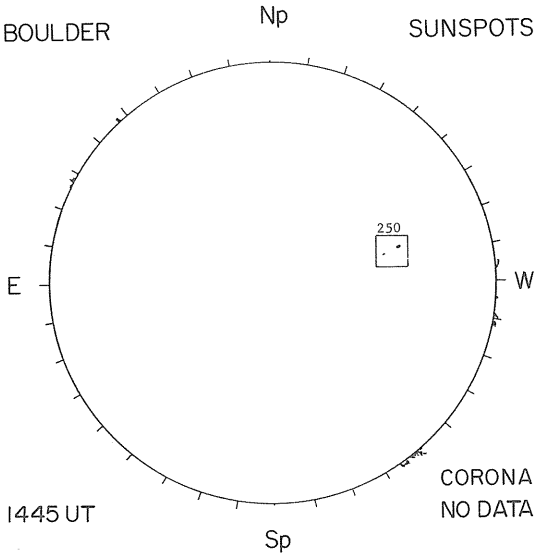
RAMEY AFB

27



1242 UT

BOULDER



1445 UT

CORONA
NO DATA

NELC LA POSTA

2.0 CM

Np

NO DATA

E

W

EQUIPMENT

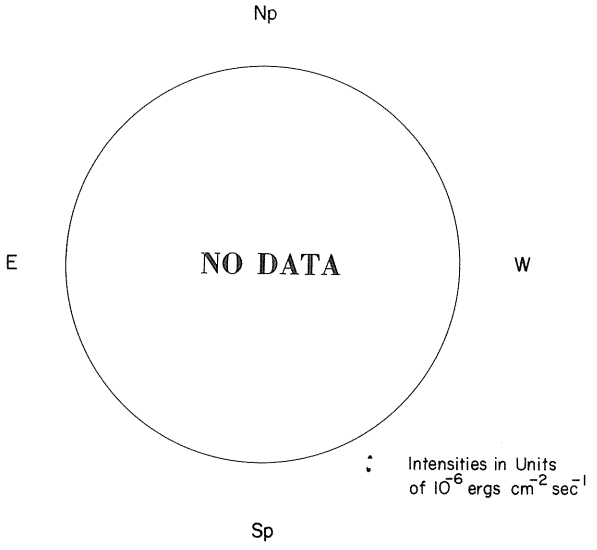
Sp

ANT. TEMP. UNIT 100°K

SEPTEMBER 28, 1974 (P = 25.76, B_o = 6.85, L_o = 98.58)

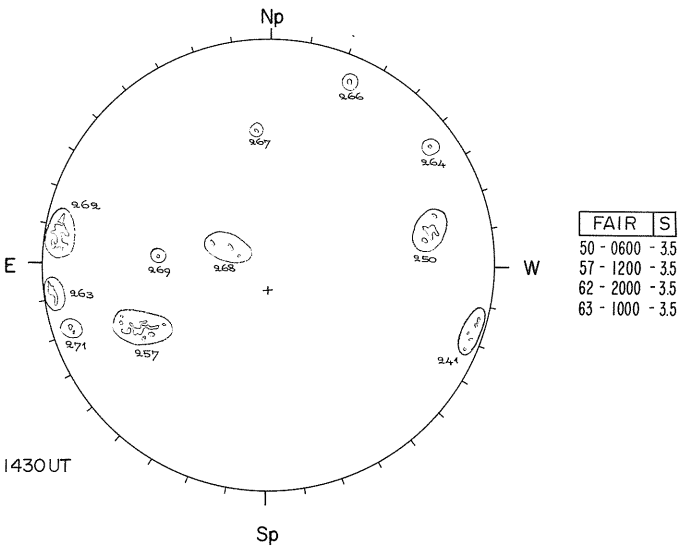
UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



McMATH-HULBERT

CALCIUM REPORT



FAIR	S
50 - 0600	- 3.5
57 - 1200	- 3.5
62 - 2000	- 3.5
63 - 1000	- 3.5

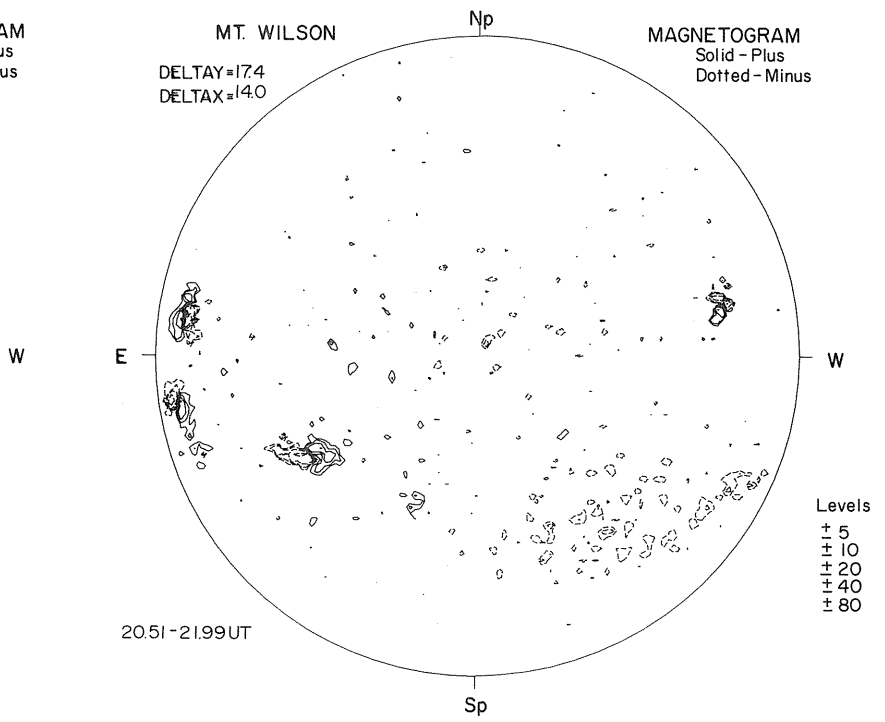
KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

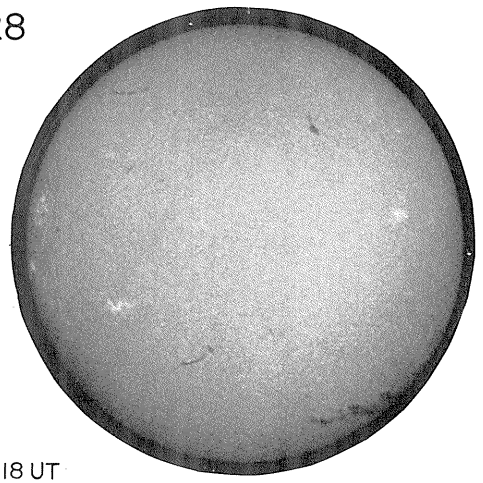
DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid - Plus
Dotted - Minus

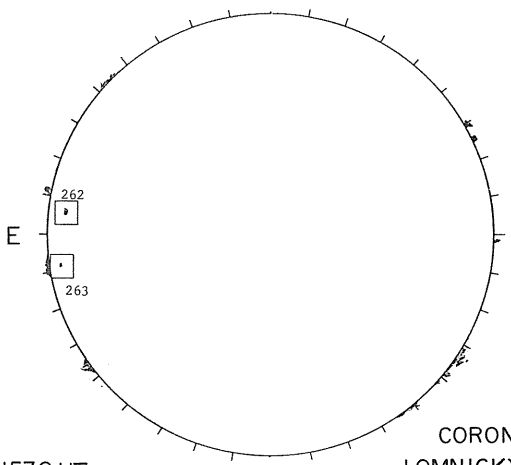


Levels
± 5
± 10
± 20
± 40
± 80

RAMEY AFB
28

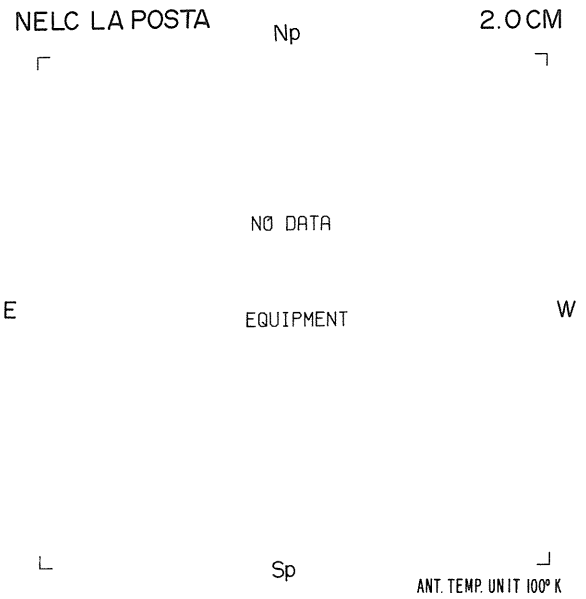


BOULDER



CORONA
LOMNICKY-STIT

NELC LA POSTA

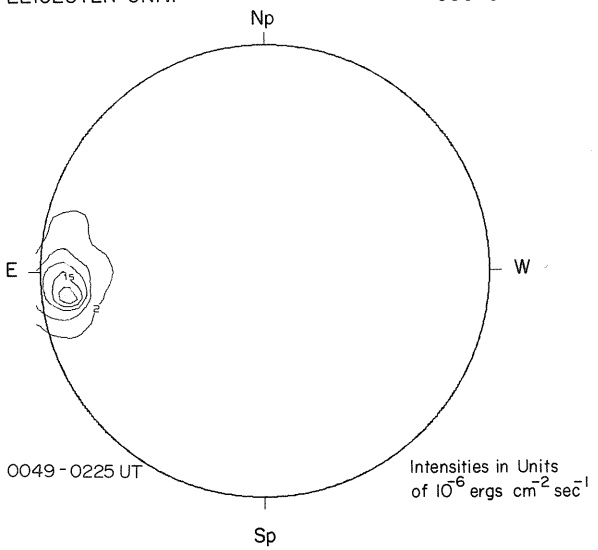


83
Sep 74

SEPTEMBER 29, 1974 (P = 25.85, B_o = 6.81, L_o = 85.38)

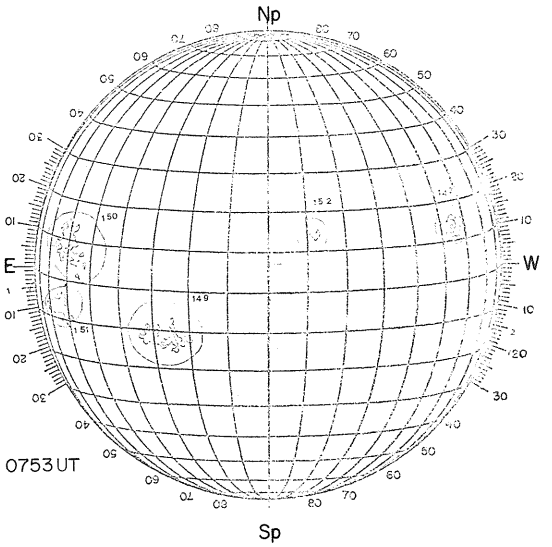
UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



CATANIA

CALCIUM REPORT



FAIR	SS
47 - 0898	---
52 - 0203	---
49 - 1768	---
50 - 3055	---
51 - 2287	---

KITT PEAK

Np

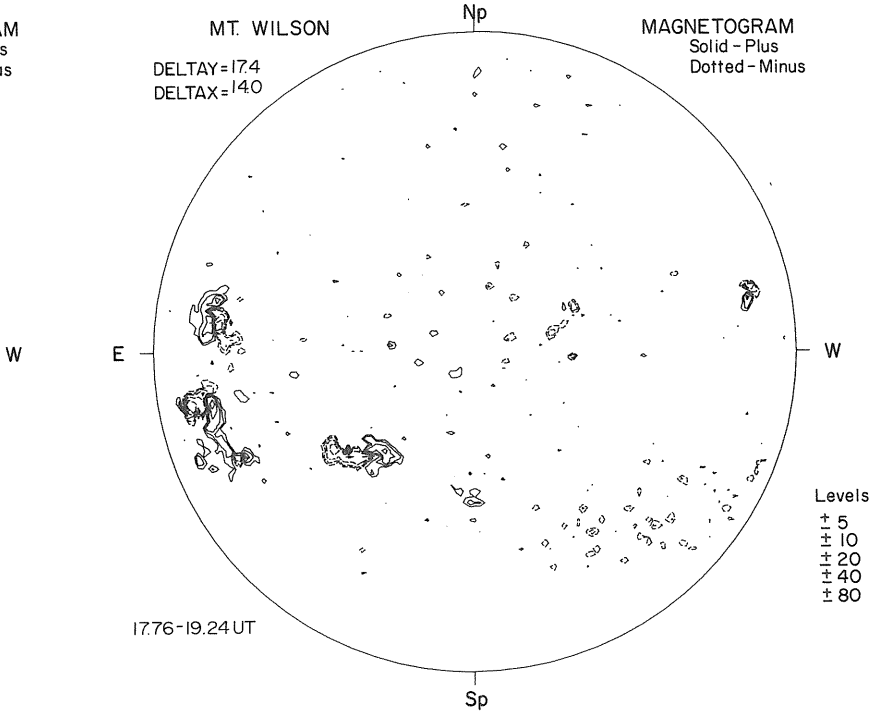
E

Sp

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

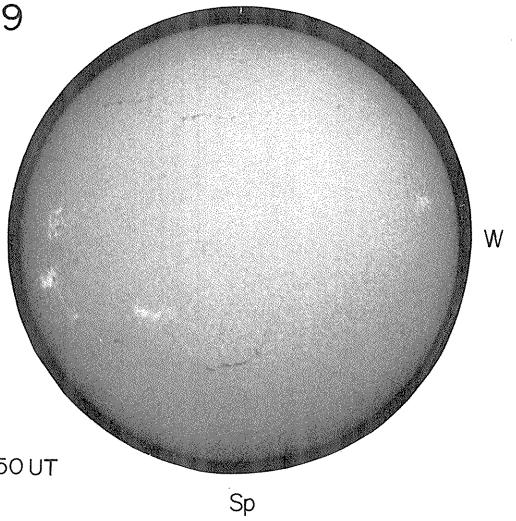
DELTAY = 17.4
DELTAX = 14.0



MAGNETOGRAM
Solid - Plus
Dotted - Minus

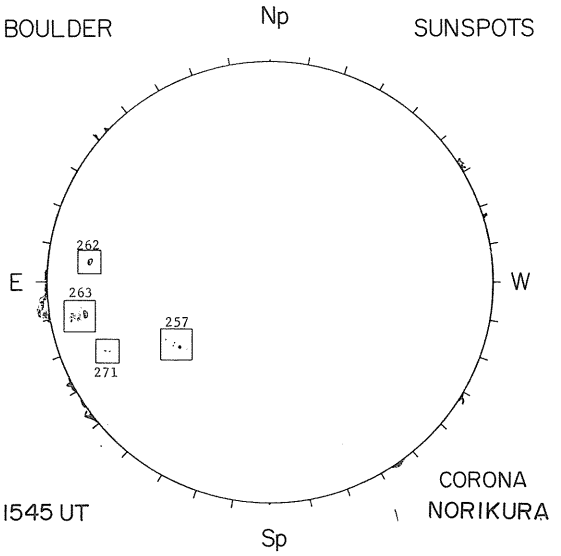
Levels
± 5
± 10
± 20
± 40
± 80

RAMEY AFB
29



1150 UT

BOULDER



1545 UT

CORONA
NORIKURA

NELC LA POSTA

2.0 CM

Np

NO DATA

E

W

EQUIPMENT.

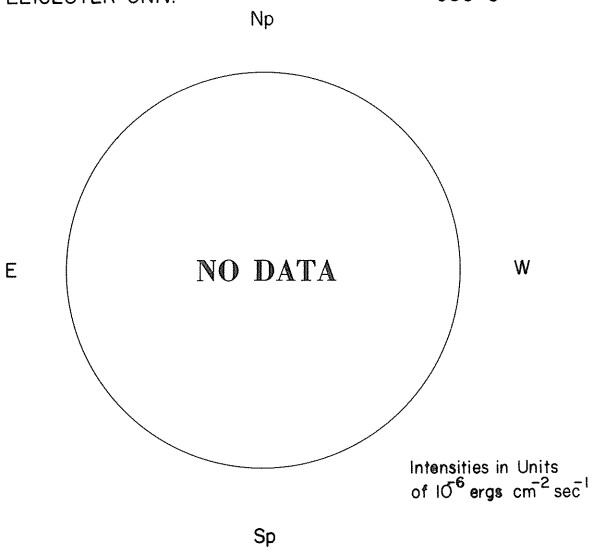
Sp

ANT. TEMP. UNIT 100° K

SEPTEMBER 30, 1974 (P = 25.92, B_o = 6.76, L_o = 72.18)

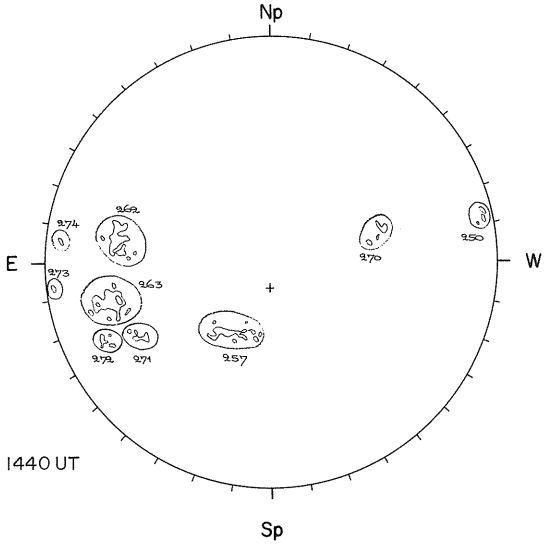
UNIV. COLLEGE LONDON
LEICESTER UNIV.

X-RAY
OSO-5



Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

McMATH-HULBERT



1440 UT

CALCIUM REPORT

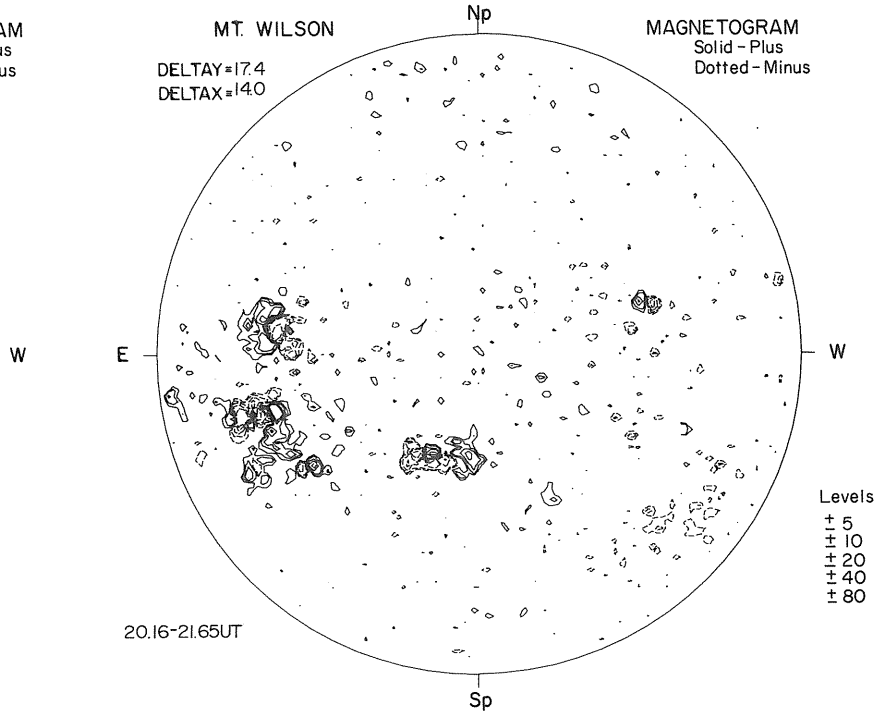
FAIR	S
50 - 0600 - 3.0	
57 - 1100 - 3.0	
62 - 1600 - 3.5	
63 - 1800 - 3.0	
70 - 0400 - 3.0	
71 - 0400 - 3.0	

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

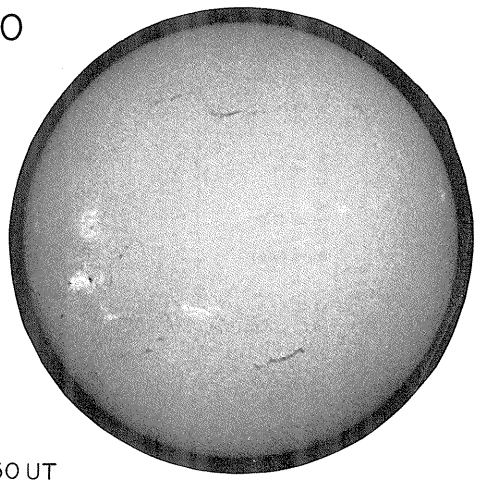


MAGNETOGRAM
Solid - Plus
Dotted - Minus

Levels
± 5
± 10
± 20
± 40
± 80

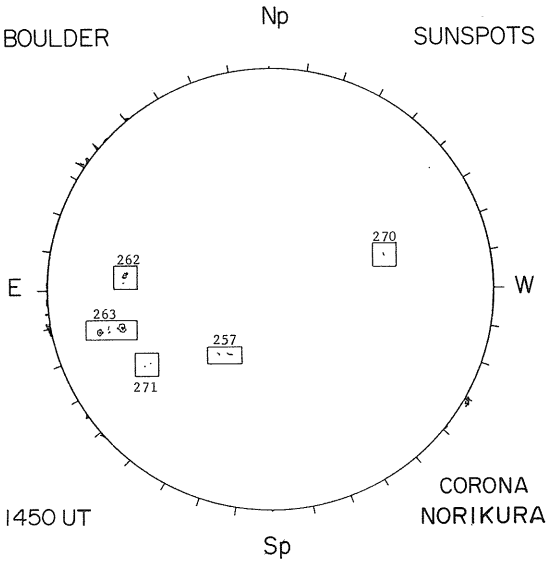
20.16-21.65UT

RAMEY AFB
30



1150 UT

BOULDER



1450 UT

CORONA
NORIKURA

NELC LA POSTA

Np

2.0 CM

NO DATA

E

EQUIPMENT

W

Sp

ANT. TEMP. UNIT 100°K

REGIONS OF SOLAR ACTIVITY

SEPTEMBER 1974

MCMATH REGION 13213 CMP DATE 1.0

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	9	5	13213	S13 W62	97	300	1.0									

MCMATH REGION 13202 CMP DATE 1.1

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	8	31	13202	N37 E07	94	100	2.0									

MCMATH REGION 13200 CMP DATE 2.0

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	8	30	13200	S16 E32	83	200	2.5									
74	8	31	13200	S17 E19	82	100	3.0									

MCMATH REGION 13190 CMP DATE 2.5

CALCIUM PLAGE DATA								SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	8	27	13190	S18 E80	74	400	1.0									
74	8	28	13190	S19 E69	73	300	2.5									
74	8	29	13190	S19 E54	73	200	2.0									
74	8	30	13190	S18 E38	77	300	1.0									
74	8	31	13190	S17 E25	76	100	1.0									

MCMATH REGION 13196 CMP DATE 3.0

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	8	29	13196	N14 E57	70	100	2.0									
74	8	30	13196	N15 E45	70	100	2.0									

MCMATH REGION 13207 CMP DATE 4.1

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	9	1	13207	S14 E33	54	100	3.0									

MCMATH REGION 13210 CMP DATE 4.7

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	9	4	13210	S12 E02	46	400	3.0	19464	S12 W05	47	(BP)	2	B	10	10	BXO
74	9	5	13210	S13 W11	46	500	3.0	19464	S12 W14	47	(BP)	2	B	10	7	BXO
74	9	6	13210	S13 W24	46	600	2.5	19464	S12 W28	48	(BP)	2	B	0	8	BXO
74	9	7	13210	S13 W38	45	400	2.0									
74	9	8	13210	S10 W51	45	400	2.0									
74	9	9	13210	S12 W67	48	400	1.5									
74	9	10	13210	S12 W80	49	300	1.0									

MCMATH REGION 13219 CMP DATE 4.8

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	9	8	13219	S03 W50	44	100	1.0									

REGIONS OF SOLAR ACTIVITY

SEPTEMBER 1974

MCMATH REGION 13199 CMP DATE 5.4

				CALCIUM PLAGE DATA					SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	9	1	13199	S12 E53	34	400	1.5									
74	9	3	13199	S13 E25	35	300	1.5									
74	9	4	13199	S12 E12	36	300	1.5									
74	9	5	13199	S12 W03	38	400	2.0									
74	9	6	13199	S12 W16	38	300	1.5									
74	9	7	13199	S12 W29	36	200	2.0									
74	9	8	13199	S12 W42	36	200	1.0									
74	9	9	13199	S12 W56	37	200	1.0									

MCMATH REGION 13211 CMP DATE 5.4

				CALCIUM PLAGE DATA					SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	9	4	13211	N10 E11	37	300	1.0									

MCMATH REGION 13221 CMP DATE 5.8

				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	9	9	13221	S33 W51	32	100	1.0									

MCMATH REGION 13214 CMP DATE 6.0

				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	9	5	13214	N06 E06	29	200	1.0									
74	9	6	13214	N06 W05	27	200	3.0									
74	9	7	13214	N06 W19	26	200	1.5									
74	9	8	13214	N06 W33	27	100	1.0									
74	9	9	13214	N06 W50	31	100	1.0									

MCMATH REGION 13222 CMP DATE 6.0

				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	9	9	13222	N27 W48	29	100	1.0									

MCMATH REGION 13215 CMP DATE 6.2

				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	9	5	13215	N43 E09	26	200	1.0									

MCMATH REGION 13216 CMP DATE 6.2

				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	9	5	13216	S10 E09	26	300	2.5									
74	9	6	13216	S10 W04	26	200	1.0									

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MCMATH REGION 13205 CMP DATE 7.2

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	9	1	13205	N07 E72	15	500	2.0									
74	9	3	13205	N07 E47	13	1000	2.5									
74	9	4	13205	N07 E33	15	1000	3.0	19465	N07 E27	15	(BP)	2	B	10	3	AXX
74	9	5	13205	N07 E23	12	1000	3.5	19465	N07 E18	15	(BP)	2	B	10	5	BXO
74	9	6	13205	N07 E09	13	1000	3.5	19465	N08 E07	13	(AF)	1	B	0	2	AXX
74	9	7	13205	N08 W05	12	700	3.0	19465	N08 W08	14	(AF)	1	B	10	4	BXI
74	9	8	13205	N08 W18	12	900	2.5									
74	9	9	13205	N08 W35	16	1000	3.0	19465	N08 W37	18	(B)	2	B	10	2	BXO
74	9	10	13205	N07 W48	17	1600	3.5	19465	N07 W51	19	(B)	4	B	90	19	DAO
74	9	11	13205	N07 W63	17	2000	3.0	19465	N08 W68	19	(B)	4	R	110	10	DAO
74	9	12	13205	N07 W76	16	2200	3.5	19465	N08 W78	19	(BP)	3	R	110	2	DSO
74	9	13	13205	N07 W90	18	600	2.0									

MCMATH REGION 13228 CMP DATE 7.2

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	9	11	13228	S32 W59	13	100	1.0									

MCMATH REGION 13217 CMP DATE 7.3

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	9	6	13217	S18 E10	12	200	3.0	19468	S19 E07	13	(BF)	2	B	10	2	BXO
74	9	7	13217	S18 W05	12	200	2.0									
74	9	8	13217	S18 W18	12	200	2.0									
74	9	9	13217	S18 W32	13	200	2.0									
74	9	10	13217	S18 W45	14	100	1.0									

MCMATH REGION 13204 CMP DATE 7.4 RETURN OF REGION 13124 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	9	1	13204	S10 E74	13	600	2.0	19462	S09 E66	20	(AP)	4	R	70	1	HSX
74	9	2						19462	S08 E52	20	(AP)	5	M	100	1	HSX
74	9	3	13204	S10 E46	14	1300	2.5	19462	S08 E38	20	(AP)	5	B	100	3	HSX
74	9	4	13204	S10 E36	12	1700	2.5	19462	S08 E22	20	(AP)	5	B	100	4	HSX
74	9							19466	S13 E38	4	(BP)	2	B	10	1	AXX
74	9	5	13204	S10 E24	11	1800	3.0	19462	S08 E13	20	(AP)	5	B	100	2	HSX
74	9							19466	S13 E28	5	(BP)	1	B	0	3	BXO
74	9	6	13204	S10 E11	11	1800	3.0	19462	S08 E00	20	(AP)	5	B	110	2	HSX
74	9							19466	S13 E15	5	(BF)	2	B	10	13	BXO
74	9	7	13204	S10 W02	9	1400	2.5	19462	S08 W14	20	(AP)	5	B	100	1	HSX
74	9							19466	S13 W03	9	(B)	1	B	10	4	BXO
74	9	8	13204	S10 W14	8	1400	3.0	19462	S07 W27	20	(AP)	5				
74	9	9	13204	S10 W28	9	1300	2.5	19462	S08 W40	21	(AP)	4	B	110	1	HSX
74	9	10	13204	S10 W40	9	1300	2.0	19462	S08 W53	21	(AP)	5	B	80	1	HSX
74	9	11	13204	S10 W55	9	1400	2.0	19462	S08 W70	21	(AP)	4	R	60	1	HSX
74	9							19473	S13 W55	6	(AP)	1				
74	9	12	13204	S10 W68	8	1200	2.0	19462	S08 W80	21	(AP)	3	R	60	1	HSX
74	9	13	13204	S12 W80	8	700	1.5									

MCMATH REGION 13226 CMP DATE 8.0

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	9	10	13226	N16 W34	3	200	1.5									

MCMATH REGION 13218 CMP DATE 8.1

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	9	7	13218	S32 E07	0	200	1.0									

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MCMATH REGION 13208 CMP DATE 9.3 RETURN OF REGION 13136 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	9	3	13208	S04 E78	343	500	2.0	19463	S03 E71	348	(AP)	3	B	120	1	HSX
74	9	4	13208	S04 E65	344	500	2.0	19463	S03 E57	346	(AP)	4	B	130	1	HSX
74	9	5	13208	S04 E51	345	400	2.5	19463	S03 E47	347	(AP)	5	B	140	2	HSX
74	9	6	13208	S04 E37	346	400	2.5	19463	S03 E34	347	(AP)	4	B	110	2	HSX
74	9	7	13208	S04 E24	344	400	1.5	19463	S03 E21	346	(AP)	5	B	100	1	HSX
74	9	8	13208	S04 E10	345	300	1.5	19463	S03 E07	347	(AP)	5				
74	9	9	13208	S04 W04	345	300	1.5	19463	S03 W06	347	(AP)	5	B	100	2	HSX
74	9	10	13208	S04 W17	346	500	2.0	19463	S03 W18	346	(AP)	5	B	110	2	HSX
74	9	11	13208	S04 W32	346	500	2.0	19463	S03 W36	347	(AP)	4	R	80	1	HSX
74	9	12	13208	S04 W45	345	500	2.5	19463	S03 W46	347	(AP)	5	R	80	1	HSX
74	9	13	13208	S04 W58	346	500	2.0	19463	S04 W62	348	(AP)	3	R	50	2	HSX
74	9	14	13208	S04 W70	346	400	2.0	19463	S04 W75	349	AP		B	0	2	AXX
74	9	15	13208	S03 W87	350	200	1.0									

MCMATH REGION 13209 CMP DATE 9.8 RETURN OF REGION 13128* & 13147 ROTATION 2&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	9	3	13209	S14 E85	336	1200	2.5									
74	9	4	13209	S15 E70	339	1200	3.5	19467	S14 E66	337	(BP)	2	B	10	1	AXX
74	9	5	13209	S16 E55	341	1500	3.0	19467	S13 E52	342	BF)	2	B	10	1	AXX
74	9	6	13209	S15 E42	341	1200	3.0	19467	S14 E41	340	(AF)	2	B	10	1	AXX
74	9	7	13209	S15 E29	339	1100	2.5	19467	S14 E28	339	(AF)	2	B	10	1	AXX
74	9	8	13209	S15 E16	339	1000	2.5	19467	S14 E15	339	(AF)	1				
74	9	9	13209	S15 E02	339	1200	2.0	19470	S20 E03	338	BF)	2	B	10	4	AXX
74	9	10	13209	S15 W10	339	1200	2.0	19467	S15 W13	341	BF)	1				
74	9							19470	S19 W10	338	BF)	2	B	0	3	AXX
74	9	11	13209	S15 W24	338	1200	2.0									
74	9	12	13209	S15 W37	337	1300	2.0									
74	9	13	13209	S15 W50	338	1200	2.0									
74	9	14	13209	S14 W64	340	900	1.0									
74	9	15	13209	S14 W76	339	400	1.0									

MCMATH REGION 13212 CMP DATE 10.4 RETURN OF REGION 13141 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	9	4	13212	N11 E82	327	400	1.0									
74	9	5	13212	N10 E66	330	1000	2.0									
74	9	6	13212	N10 E53	330	800	2.5									
74	9	7	13212	N11 E37	331	500	2.0									
74	9	8	13212	N12 E24	331	500	2.5									
74	9	9	13212	N11 E10	331	500	2.0									
74	9	10	13212	N11 W03	332	300	2.0									
74	9	11	13212	N10 W17	331	400	2.0									
74	9	12	13212	N11 W30	330	500	2.0									
74	9	13	13212	N10 W43	331	600	2.0									
74	9	14	13212	N11 W55	331	300	1.5									
74	9	15	13212	N11 W67	330	400	1.5									

MCMATH REGION 13238 CMP DATE 11.6

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	9	16	13238	S04 W66	315	200	1.5									

MCMATH REGION 13227 CMP DATE 11.9

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	9	10	13227	N32 E17	312	200	1.0									

*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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MCMATH REGION 13223 CMP DATE 12.5

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	9	9	13223	N06 E38	303	100	2.0									

MCMATH REGION 13230 CMP DATE 12.6

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	9	13	13230	S31 W14	302	200	2.0									
74	9	14	13230	S30 W26	302	300	2.0									
74	9	15	13230	S30 W38	301	200	1.0									

MCMATH REGION 13231 CMP DATE 13.6

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	9	13	13231	N38 W01	289	100	2.0									
74	9	14	13231	N40 W12	288	100	1.0									

MCMATH REGION 13232 CMP DATE 14.0

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	9	14	13232	S12 W08	284	200	2.0									
74	9	15	13232	S12 W20	283	200	1.5									
74	9	16	13232	S12 W34	283	200	2.0	19476	S12 W37	285	X					
74	9	17	13232	S12 W48	284	600	3.0	19476	S12 W49	280	BF		B	0	1	AXX
74	9	18	13232	S12 W61	284	1000	3.0	19476	S11 W64	286	(BP)	2	B	20	2	BXO
74	9	19	13232	S12 W75	286	1000	3.5	19476	S10 W80	290	(AP)	2	B	20	2	BXO

MCMATH REGION 13225 CMP DATE 15.3

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	9	8	13225	N08 E90	265	1000	2.5	19469	N08 E89	265	X					
74	9	9	13225	N07 E77	264	2000	3.5	19469	N08 E76	265	(D)	4	B	670	22	DKC
74	9	10	13225	N07 E65	264	3000	4.0	19469	N09 E62	266	(D)	6	B	750	35	DKC
74	9	11	13225	N07 E49	265	3000	4.0	19469	N08 E45	266	(D)	6	R	1000	7	DKC
74	9	12	13225	N07 E36	264	3000	4.0	19469	N08 E35	266	(D)	6	R	880	12	DKC
74	9	13	13225	N07 E23	265	3200	4.0	19469	N08 E19	267	(D)	6	R	800	22	DKC
74	9	14	13225	N07 E10	266	3000	3.5	19469	N08 E07	267	(D)	6	B	760	91	DKC
74	9	15	13225	N07 W02	265	2700	3.5	19469	N08 W09	267	(D)	6	B	610	56	DKC
74	9	16	13225	N09 W16	265	3000	4.5	19469	N08 W20	268	(D)	6	B	580	27	DKC
74	9	17	13225	N08 W29	265	3200	4.0	19469	N09 W36	267	(D)	5	B	600	49	DKC
74	9	18	13225	N08 W43	266	3200	5.0	19469	N09 W45	267	(D)	6	B	550	40	DKI
74	9	19	13225	N08 W56	267	3400	4.0	19469	N10 W58	268	(BP)	4	B	550	40	DKI
74	9								N10 W60				B	470	24	DKI
74	9	20	13225	N07 W70	268	3400	4.0	19469	N10 W70	267	(BP)	3	M	480	15	DHI
74	9	21	13225	N07 W84	266	3200	4.0	19469	N09 W89	272	(BP)	3				

MCMATH REGION 13224 CMP DATE 15.4 RETURN OF REGION 13151 & 13175 ROTATION 2 & 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	9	9	13224	S13 E79	262	2000	3.5	19471	S12 E78	263	(D)	3	B	350	3	HHX
74	9	10	13224	S13 E66	263	2800	3.5	19471	S11 E62	266	(D)	3	B	140	5	HSX
74	9							19472	S15 E73	255	(AP)	2	B	50	1	HSX
74	9	11	13224	S13 E50	264	3000	3.5	19471	S13 E48	263	(D)	4	R	120	4	CAO
74	9							19472	S16 E57	254	(AP)	2	R	10	1	HSX
74	9	12	13224	S13 E38	262	3000	3.5	19471	S13 E37	264	(BP)	4	R	90	6	CAO
74	9							19472	S16 E46	255	(AP)	4	R	10	1	HSX
74	9	13	13224	S13 E25	263	3300	5.0	19471	S11 E18	268	(AP)	3	R	70	12	CSI
74	9							19472	S06 E32	254	(AP)	3	R	30	1	HSX
74	9	14	13224	S13 E11	265	3200	3.0	19471	S11 E07	267	(BP)	3	B	30	13	BXO
74	9							19474	S13 E13	261	(B)	1				
74	9							19472	S16 E20	254	(AP)	4	B	20	1	HRX

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74	9	15	13224	S13 W01	264	3200	3.0	19471	S11 W11	269	(BP)	3	B	30	7	BXO
74	9							19472	S16 E04	254	(AP)	3	B	20	2	HRX
74	9	16	13224	S13 W15	264	3300	3.0	19471	S11 W23	271	(BP)	4	B	20	4	BXO
74	9							19472	S16 W06	254	(AP)	3	B	20	1	AXX
74	9								S23 W11				B	20	4	BXO
74	9	17	13224	S13 W30	266	3600	3.0	19471	S10 W41	272	(AP)	3	B	20	12	BXO
74	9							19472	S16 W24	255	(AP)	2	B	10	1	AXX
74	9	18	13224	S13 W43	266	3600	3.0	19471	S10 W51	273	(AP)	3	B	10	1	AXX
74	9								S10 W49				B	10	1	AXX
74	9	19	13224	S13 W55	266	3100	3.0	19471	S10 W64	274	B		B	20	2	BXO
74	9	20	13224	S13 W68	266	3100	3.0									
74	9	21	13224	S14 W82	264	2800	2.0									

MCMATH REGION 13235 CMP DATE 16.2

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	9	15	13235	N30 E09	254	200	1.5									

MCMATH REGION 13229 CMP DATE 17.5 RETURN OF REGION 13165* ROTATION 4

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	9	11	13229	S13 E79	235	200	1.0									
74	9	12	13229	S13 E65	235	300	1.0									
74	9	13	13229	S13 E52	236	300	1.0									
74	9	14	13229	S13 E39	237	300	1.5									
74	9	15	13229	S13 E26	237	400	2.0									
74	9	16	13229	S13 E12	237	300	2.0									
74	9	17	13229	S12 W03	239	500	1.5									
74	9	18	13229	S13 W15	238	400	1.5									
74	9	19	13229	S13 W28	239	400	1.5									
74	9	20	13229	S12 W41	239	400	1.5									
74	9	21	13229	S12 W55	237	300	1.5									
74	9	22	13229	S11 W66	237	300	1.0									

MCMATH REGION 13236 CMP DATE 17.8

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	9	15	13236	S09 E29	234	100	2.0									

MCMATH REGION 13243 CMP DATE 18.3

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	9	21	13243	S35 W44	226	100	1.0									

MCMATH REGION 13233 CMP DATE 18.7 RETURN OF REGION 13165* ROTATION 4

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	9	13	13233	S13 E68	220	600	1.0									
74	9	14	13233	S13 E53	223	500	1.0									
74	9	15	13233	S13 E39	224	700	2.0									
74	9	16	13233	S13 E26	223	800	2.0									
74	9	17	13233	S13 E14	222	800	1.5									
74	9	18	13233	S14 E02	221	800	1.5									
74	9	19	13233	S14 W10	221	800	1.5									
74	9	20	13233	S15 W22	220	800	1.5									
74	9	21	13233	S15 W36	218	700	1.5									
74	9	22	13233	S13 W49	220	900	1.5									
74	9	23	13233	S13 W63	220	600	1.5									
74	9	24	13233	S13 W75	218	300	1.0									

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MCMATH REGION 13239 CMP DATE 19.9

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	9	16	13239	S14 E44	205	300	1.5									
74	9	17	13239	S13 E30	206	300	1.0									
74	9	18	13239	S13 E18	205	300	1.0									
74	9	19	13239	S13 E05	206	200	1.0									
74	9	20	13239	S13 W08	206	100	1.0									
74	9	21	13239	S14 W23	205	200	1.5									

MCMATH REGION 13248 CMP DATE 19.9

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	9	22	13248	S45 W34	205	200	1.5									
74	9	23	13248	S45 W47	204	200	1.0									

MCMATH REGION 13253 CMP DATE 19.9

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	9	24	13253	N38 W62	205	300	2.0									

MCMATH REGION 13240 CMP DATE 20.9

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	9	16	13240	N32 E57	192	100	1.5									

MCMATH REGION 13234 CMP DATE 21.5

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	9	14	13234	N10 E90	186	200	1.0									
74	9	15	13234	N10 E81	182	700	3.0	19475	N10 E75	183	(AP)	2	B	40	1	HSX
74	9	16	13234	N10 E68	181	1200	3.0	19475	N09 E65	183	(BP)	3				
74	9	17	13234	N10 E56	180	1300	3.0	19475	N09 E48	183	(BP)	3	B	20	6	BXO
74	9	18	13234	N10 E43	180	1200	2.5	19475	N09 E38	184	(BP)	3	B	10	9	BXO
74	9	19	13234	N10 E28	183	1200	3.0	19475	N10 E25	185	(BP)	2	B	0	2	BXO
74	9	20	13234	N10 E14	184	1000	2.5	19475	N10 E12	185	BP					
74	9	21	13234	N10 W01	183	700	2.5	19475	N10 W01	184	BP					
74	9	22	13234	N12 W13	184	700	2.5									
74	9	23	13234	N12 W27	184	800	2.0									
74	9	24	13234	N12 W43	186	800	2.5									
74	9	25	13234	N12 W55	186	800	2.5									
74	9	26	13234	N12 W68	185	800	1.0									
74	9	27	13234	N12 W82	186	600	1.0									

MCMATH REGION 13244 CMP DATE 21.5

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	9	21	13244	S20 W01	183	100	1.5									

MCMATH REGION 13237 CMP DATE 21.7 RETURN OF REGION 13168 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	9	15	13237	N01 E79	184	500	1.5									
74	9	16	13237	N03 E64	185	500	1.0		N07 E63				B	70	2	DSO
74	9	17	13237	N03 E54	182	600	1.0									
74	9	18	13237	N03 E43	180	600	1.0									
74	9	19	13237	N03 E29	182	500	1.5									
74	9	20	13237	N03 E16	182	500	1.5									

(Cont'd)

REGIONS OF SOLAR ACTIVITY

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(Cont'd)

74	9	21	13237	N03 E01	181	400	1.5
74	9	22	13237	N03 W12	183	600	1.5
74	9	23	13237	N03 W25	182	600	1.5
74	9	24	13237	N03 W40	183	500	1.0
74	9	25	13237	N02 W58	189	300	1.0
74	9	26	13237	N03 W72	189	400	1.0

MCMATH REGION 13241 CMP DATE 23.1 RETURN OF REGION 13174 ROTATION 5

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	9	17	13241	S13 E68	168	500	1.0									
74	9	18	13241	S14 E55	168	600	1.0									
74	9	19	13241	S14 E48	163	800	1.0									
74	9	20	13241	S14 E35	163	700	1.5									
74	9	21	13241	S15 E21	161	800	1.5									
74	9	22	13241	S15 E08	163	1000	2.0									
74	9	23	13241	S15 W05	162	1000	2.0									
74	9	24	13241	S15 W22	165	800	2.0									
74	9	25	13241	S15 W32	163	900	2.0									
74	9	26	13241	S15 W44	161	1000	1.5									
74	9	27	13241	S15 W56	160	1000	2.0									
74	9	28	13241	S15 W70	161	400	1.0									

MCMATH REGION 13245 CMP DATE 23.4

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	9	21	13245	S02 E23	159	100	1.5									

MCMATH REGION 13247 CMP DATE 23.7

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	9	21	13247	N37 E27	155	100	1.5									

MCMATH REGION 13264 CMP DATE 24.0

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	9	27	13264	N36 W47	151	100	2.0									
74	9	28	13264	N36 W60	151	100	1.0									

MCMATH REGION 13246 CMP DATE 24.7

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	9	21	13246	N02 E40	142	100	1.5									

MCMATH REGION 13255 CMP DATE 25.0

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	9	25	13255	S03 W07	138	100	2.0									

MCMATH REGION 13250 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	9	23	13250	N13 E24	133	200	2.0	19477	N12 E22	135	(AP)	2				
74	9	24	13250	N13 E06	137	400	3.0	19477	N12 E06	136	(BP)	4	B	20	18	CRO
74	9	25	13250	N13 W06	137	600	3.0	19477	N12 W11	138	BP		B	140	28	DAI
74	9	26	13250	N13 W19	136	700	3.0	19477	N13 W25	137	(BP)	3	B	50	12	CSO

(Cont'd)

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(Cont'd)

74	9	27	13250	N13 W32	136	700	3.0	19477	N14 W37	140	(BP	4	B	40	5	CSO
74	9	28	13250	N13 W47	138	600	3.5									
74	9	30	13250	N13 W76	140	600	3.0									
74	10	1	13250	N14 W90	141	300	1.0									

MCMATH REGION 13266 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	9	28	13266	N59 W45	136	100	1.0									

MCMATH REGION 13242 CMP DATE 26.1

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	9	20	13242	S13 E75	123	200	1.0									
74	9	21	13242	S13 E59	123	100	1.0									
74	9	22	13242	S13 E46	125	300	1.5									
74	9	23	13242	S13 E33	124	100	1.5									

MCMATH REGION 13258 CMP DATE 26.4

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	9	26	13258	S24 W02	119	100	1.0									

MCMATH REGION 13252 CMP DATE 26.5

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	9	24	13252	N19 E25	118	200	2.0									
74	9	25	13252	N18 E13	118	200	1.5									

MCMATH REGION 13270 CMP DATE 28.3

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	9	30	13270	N14 W30	94	400	3.0	19483	N14 W34	97	(AP)	2	B	10	2	AXX
74	10	1	13270	N14 W44	95	400	2.0									
74	10	2	13270	N14 W57	94	400	2.0									
74	10	3	13270	N14 W71	95	400	2.0									
74	10	4	13270	N14 W85	95	200	1.0									

MCMATH REGION 13276 CMP DATE 28.4

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	10	2	13276	S14 W55	92	100	1.0									

MCMATH REGION 13267 CMP DATE 29.0

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	9	28	13267	N44 E05	86	100	1.0									

MCMATH REGION 13268 CMP DATE 29.5

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
74	9	28	13268	N11 E12	79	200	1.0									

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MCMATH REGION 13256 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	9	25	13256	N25 E69	62	100	1.5									

MCMATH REGION 13269 CMP DATE 30.9

				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	9	28	13269	N08 E30	61	100	1.0									

MCMATH REGION 13277 CMP DATE 30.9

				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	10	2	13277	N30 W22	59	100	2.0									

Note: Region 131299 is a small plage that has formed in the same location of small and short-lived plage 13122 of the previous rotation. Many of these so-called "regions" are very small and short-lived calcium plages that are seen on the disk very briefly for only 1 or 2 days.
No calcium spectroheliograms were secured at the McMath-Hulbert Observatory on September 2 and 29, 1974.
Sunspot observations were made at Mt. Wilson Observatory on all days in September 1974.

DAILY CALCIUM PLAGE INDEX

SEPTEMBER 1974

YR	MO	DAY	INDEX	YR	MO	DAY	INDEX	YR	MO	DAY	INDEX
74	9	1	1.4	74	9	11	21.9	74	9	21	6.8
74	9	2	*	74	9	12	23.7	74	9	22	5.9
74	9	3	4.5	74	9	13	30.0	74	9	23	5.1
74	9	4	9.4	74	9	14	21.8	74	9	24	5.0
74	9	5	15.2	74	9	15	22.0	74	9	25	5.2
74	9	6	16.2	74	9	16	26.3	74	9	26	5.2
74	9	7	10.9	74	9	17	25.9	74	9	27	5.8
74	9	8	11.2	74	9	18	25.2	74	9	28	8.4
74	9	9	12.3	74	9	19	19.2	74	9	29	*
74	9	10	18.2	74	9	20	12.9	74	9	30	13.5

* NO OBSERVATIONS

SUDDEN IONOSPHERIC DISTURBANCES

SEPTEMBER 1974

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	McMATH REGION
05	1311	1345	1330	1-	1			1					1312	13205
07	0843	0911	0854	1-	1			1					0853	13209
08	2125	2238	2133	1-	5	1			2		8		2117	13225
08	2314	0016	2329	1-	3				3				NF	
09	1720	1830	1736	1	3	3	1	2	2		11		1717	13225
09	2117	2159	2134	1-	5	1			1		7		NF	
09	2255	2330	2310	1-	1				1				*	
09	2331	0008	2347	1-	1				1				*	
10	0231	0340	0258	1-	1				1				*	
10	1238	1255	1245	1-	3				2		1		1238	13225
10	1316	1420	1321	1	5			3	3		5		1310	13225
10	2131	2348	2148	3	5	4	1	2	6	1	12		2120E	13225
10	2325	2332D	2332	1-	1				1				2320E	13225
11	1052E	1150	1110U	1-	1			1					1106E	13225
12	0754	0820	0804	1-	1			1					0754	13204
12	0925	0940	0928	1-	1			1					0924	13225
12	1243	1345	1246	1-	3				1		1		1240	13225
13	1515	1800	1543	3-	5	4	1	4	4	1	14		1505	13224
14	0634E	0800	0658	1-	1			1					0642	13225
14	0808E	0846	0815	1-	1			1					0813	13225
14	0941	1010	0943	1-	1			1					0943	13225
14	1032	1140	1047	1-	1						1		1033	13225
14	1229	1350	1235	1-	1						1		1225	13225
17	0328	0427	0333	1-	1				1				0326	13225
17	1107	1133	1115	1-	1			1					1105	13224
18	0820	0920	0834	1-	1						1		0825E	13225
18	1111	1230	1135	1	5	1		2	5		3		1110	13225
18	1144E	1331	1217	1-	1			1					1142E	13225
18	1523	1540D	1540	1-	3			1	1		1		1528	13225
18	1613U	1830U		1-	3	1		1					1610	13225
18	1645E	1745	1645	1-	1				1		1		1633E	13225
19	2230	0000	2250	2+	5	4	3		3		5		2225	13225
20	0138E	0317	0200	1-	1				1				0134E	13225
22	1811	1930	1824	1-	5	1			2		10		NF	
23	1158	1400	1227	2+	5	2	1	3	5		3		1200E	13225
25	2052	2338	2120	1-	3				1		7		NF	
29	0542	0616	0602	1-	1			1					0552	13263
29	1058	1135	1105	1-	5				3		1		1054	13263
29	1222	1320	1230	1-	5				3		1		1220	13263
29	1356	1445	1415	1-	3			1	1		1		1350E	13274
29	1650	1745	1712	1-	5	2			1		13		1648	13263
29	1833	1900	1842	1-	3						2		1833E	13263
30	0131	0202	0138	1-	3	1			1				0133E	13263
30	0654	0753	0703	1	3				1		1		0652	13263
30	0828	0848	0836	1-	1			1					0823	13263

PERIODS OF NO OBSERVATIONS:

DATE	TIME (UT) and STATION
01-02	0000-2400 A29, 0000-1900 A21 (24 kHz)
01-15	0000-2400 A4
02-05	0000-2400 A30
03	0800-0855 UM (16 kHz), 1006-1340 UM (16 kHz)
04	0754-0938 UM (16 kHz)
05	1859-1908 TM, 2050-2058 TM
06	0000-2400 A28, 1456-1740 UM (17 kHz)
08	0744-0930 UM (16 kHz)
09	0915-1115 A35 (34 kHz)
10	1005-1253 UM (16 kHz)
11	2055-2400 BO
12	0000-2400 A28, 0000-0200 BO, 0400-1430 A35 (34 kHz), 1645-2400 BO
13	0000-1843 BO, 1330-1720 SC (18 kHz), 1355-1620 UM (17 kHz), 1358-1619 UM (16 kHz)
16-19	0000-2400 A30
16	0442-1352 TM
17	1008-1328 UM (16 kHz)
20	0000-0453 UM (13 kHz), 1351-1722 UM (17 kHz), 2030-2152 UM (13 kHz)
21	1705-1712 TM
22	0000-2400 A4
23-28	0000-2400 A30
23	0752-0935 UM (16 kHz)
24-30	0000-2400 A32
24	1017-1108 UM (16 kHz), 1117-1353 UM (16 kHz)
26	0635-1120 MC
27	0400-0602 UM (13 kHz)
30	0000-2400 A28, 0000-2400 A30

SUDDEN IONOSPHERIC DISTURBANCES

SEPTEMBER 1974

STATIONS REPORTING FOR OCTOBER 1974

AAVSO (A1, A26) (SEA) (A1, A4, A19, A21, A28, A29, A30, A31, A32, A35, A36, A37) (SES) (A31) (SWF)
BOULDER (BO) (SCNA)
DEBRE SEUT (DE) (SPA)
HERSTMONCEUX (HC) (SEA)
HIRAISO (HI) (SWF)
HOBART (TA) (SEA)
HUANCAYO (HU) (SWF)
INUBO (IN) (SPA)
JOHANNESBURG (JH) (SPA)
KUHLUNGSBORN (KU) (SWF, SES, SPA, SEA)
KULA (KL) (SPA)
MANILA (MA) (SWF, SCNA, SPA)
MC MATH (MC) (SWF, SCNA)
NEUSTRELITZ (NU) (SCNA)
PANSKA VES (PU) (SWF, SEA, SES)
PRESTON (LO) (SEA)
SAO PAULO (UM) (SPA, SES)
SOFIA (SF) (SES)
ST CLOUD (SC) (SES)
TABLE MOUNTAIN (TM) (SPA, LF-SPA)
TORTOSA (TS) (SEA)
UPICE (UI) (SEA)

SIDS BY McMATH REGION

DAY	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
REGION																															
95	2	1		2																											
24						1	1																								
36																	1														
39										1																					
47																	1														
51																					1										
52																	1														
X-RAY																															
UNKNOWN																															
NO FP																										1					

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

SEPTEMBER 1974

SEP 1974	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
01	0000	0732	CULG													
	0000	1009	MANI													
	0000	0130	BOUL													
	0519	1306	DURN													
	0525	1731	WEIS													
	1012	2314	SGMR													
	1230	2200	BOUL													
	1301	2251	HARV													
	1515	1814	DURN													
	2034	2400	CULG													
	2146	2400	MANI													
02	0000	1009	MANI													
	0000	0548	CULG													
	0520	1816	DURN													
	0526	1042	WEIS													
	0600	0732	CULG													
	1013	2312	SGMR													
	1125	1725	WEIS													
	1301	2246	HARV													
	2032	2400	CULG													
	2146	2400	MANI													
03	0000	1008	MANI													
	0520	1816	DURN													
	0529	1727	WEIS													
	0000	0732	CULG							0657	0659					IIIG,W
	1014	2311	SGMR													
	1302	2245	HARV													
	1537	2400	BOUL													
	2032	2400	CULG													
	2146	2400	MANI													
04	0000	1004	MANI													
	0000	0130	BOUL													
	0000	0731	CULG							0344.5	0345.5	1				IIIG,U
	0520	1814	DURN													
	0529	0655	WEIS													
	0720	1721	WEIS													
	1015	2309	SGMR													
	1301	2246	HARV													
	1230	2400	BOUL										1648.2	1648.6	1	III
	2031	2400	CULG													
	2146	2400	MANI													
05	0000	1004	MANI													
	0000	0731	CULG													
	0000	0130	BOUL													
	0519	1816	DURN													
	0529	1458	WEIS													
	1504	1717	WEIS													
	1230	2400	BOUL							1712.8	1722.1	1	1712.8	1722.1	1	IIIGG
	1302	2245	HARV							1713	1716	1	1713	1716	1	IIIG
	1016	2307	SGMR										1713.7	1715.3	1	IIIG
			HARV							1837	1840	3	1837	1840	2	IIIG
			BOUL							1837.3	1840.0	2	1837.3	1840.0	2	IIIG
			SGMR										1837.7	1839.8	1	IIIG
			BOUL										1840.0	2400	1	CONT
			HARV							1908	1909	1	1908	1909	1	IIIG
			HARV							2002	2003	3	2002	2003	3	IIIG
			BOUL							2002.3	2002.9	2	2002.3	2002.9	2	III
			SGMR										2002.5	2003.1	2	III
	2031	2400	CULG							2032.5	2400					IIIN,W
	2146	2400	MANI													
			CULG							2325.5	2336	1				IIIGG
			BOUL							2325.7	2329.1	2	2325.7	2329.1	2	IIIGG
			BOUL							2334.4	2336.4	2	2334.4	2336.4	2	IIIG
06	0000	0731	CULG							0000	0625					IIIN,W
			CULG							0055.5	0056.5	1				IIIG
	0000	0130	BOUL							0055.5	0056.2	1	0055.5	0056.2	1	IIIG
			CULG							0100	0101	1				IIIG
			BOUL							0100.2	0100.5	2	0100.2	0100.5	2	III
			CULG							0306	0308	1				IIIG
			CULG							0312	0313	2	0312	0312.5	1	IIIG
	0000	1003	MANI										0312.3	0312.5	1	III
	0519	0628	DURN													
			MANI										0523.3	0323.8	2	III
			CULG				0523.5	0524	1	0522.5	0524	2	0523.5	0524	1	IIIG,V
	0637	1745	DURN													
	0530	1715	WEIS							0844.8	0846.0	2				IIIG
			WEIS							0847.6	0849.4	2				IIIG
			WEIS							0852.2	0854.3	2				IIIG
			MANI										0852.2	0853.6	2	IIIG
			WEIS							0857.0	0857.4	2				IIIG
			WEIS							0919.3	0921.0	3				IIIG
			MANI										0919.4	0920.2	2	IIIG
			WEIS							1120.8	1123.0	2				IIIG
	1017	2305	SGMR										1121.0	1121.6	1	III
			WEIS							1215.5	1215.9	1				IIIB

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SEP 1974	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
06			SGMR										1215.6	1216.2	2	III
			SGMR										1251.5	1251.7	1	III
	1230	2400	BOUL							1430	2400	1	1430	2400	1	CONT
			SGMR										1613.4	1613.6	2	III
			BOUL							1618.1	2400	2	1618.1	2400	2	IIIN
			WEIS							1630.2	1630.4	1				IIIG
	1301	2245	HARV							1756	1757	3	1756	1757	3	IIIG,V
			SGMR										1756.7	1800.3	2	IIIG
			HARV							1800	1801	3	1800	1801	3	IIIG
			HARV							1847	1849	3	1847	1848	3	IIIG
			SGMR										1847.7	1848.0	2	III
			HARV							1918	1919	3	1918	1919	3	IIIG
			SGMR										1918.6	1940.3	1	IIIG
	2031	2400	CULG							2031	2400	1				IIIN
			CULG							2043	2044.5	2				IIIGG
			CULG							2059	2101	2				IIIGG
			HARV							2059	2100	1	2059	2100	1	IIIG
			CULG							2120	2121	2				IIIG,V,U
			CULG							2134	2135	2				IIIG,V
			SGMR										2134.6	2134.9	1	III
	2146	2400	MANI													
			CULG				2152	2154	1	2152	2155	2				IIIGG
07	0000	0307	CULG							0000	0307	1				IIIN
	0000	0130	BOUL							0002.5	0003.7	2	0002.5	0003.7	2	III
	0000	0558	MANI										0002.8	0003.2	2	III
			CULG				0003	0003.5	1	0002.5	0003.5	2	0003	0003.5	1	IIIG
			CULG							0127	0128	1				IIIG
			CULG				0133.5	0134	1	0130.5	0136	1				IIIGG,U
			CULG				0138	0141	1	0138	0143	2	0138.5	0142	2	IIIGG,V
			MANI										0138.5	0141.8	3	V
			MANI										0152.7	0157.4	3	IIIG
			CULG				0154	0155	1	0153	0156	2	0154	0156	2	IIIGG,V
			CULG							0156.5	0159	2	0157	0157.5	2	IIIG,U
			CULG							0209.5	0210	1				IIIG,U
			CULG							0220.5	0221.5	2				IIIG,V,U
			MANI										0220.8	0221.2	2	III
			CULG				0232	0233.5	1							IIIG
	0338	0730	CULG							0338	0730					IIIN,W
			CULG							0502.5		1				IIIB,U
	0611	1003	MANI													
	0535	1152	WEIS							0856.2	0856.8	2				IIIB
			WEIS							0955.2	0955.7	1				IIIG
			WEIS							1029.0	1029.4	2				IIIG
			WEIS							1034.1	1035.0	2				IIIG
	1018	2304	SGMR										1034.3	1034.7	2	III
			WEIS							1048.5	1050.3	1				IIIG
			SGMR										1049.4	1049.9	1	III
			WEIS							1139.2	1139.9	2				IIIG
			SGMR										1139.5	1139.9	1	III
			WEIS							1150.9	1151.8	2				IIIG
			SGMR										1151.1	1151.4	2	III
	1230	2400	BOUL							1258.8	1300.5	2	1258.8	1300.5	2	IIIG
	1245	1718	WEIS							1259.0	1300.5	3				IIIG
			SGMR										1259.7	1300.9	3	III
	1301	2245	HARV							1421	1609	1				I
			BOUL							1426.7	1426.7	1				III
			WEIS							1430.0	1557.0	1				IS
	0535	1744	DURN							1440	1744 D	2				I,N
			BOUL							1451.5	1452.6	1				IIIG
			BOUL							1534.4	1535.0	1	1534.4	1535.0	1	III
			HARV							1541	1542	2				IIIG
			BOUL							1541.0	1541.9	1	1541.0	1541.9	1	IIIG
			WEIS							1541.2	1541.8	1				IIIG
			HARV							1609	2033	1				IN
			WEIS							1613.6	1613.8	1				IIIB
			BOUL							1613.7	1613.8	1				III
			BOUL							1900.7	1906.9	3	1900.7	1906.9	3	IIIG
			HARV							1901	1905	3	1901	1905	3	IIIGG,V
			SGMR										1901.0	1904.5	3	III
	2030	2400	CULG							2030	2400	1				IS
			CULG							2134	2400					IIIN,W
			CULG				2202	2400	1							IS
			BOUL										2230.6	2231.1	1	III
			CULG							2256.5	2307	2	2301	2304	1	IIIGG
			BOUL							2256.9	2300.0	2	2256.9	2300.0	2	IIIG
			CULG							2300	2304	2				IIIG,V
			BOUL							2300.0	2307.0	3	2300.0	2307.0	3	III
	2225	2400	MANI										2301.1	2304.1	2	CONT
08	0000	0003	MANI													
	0000	0730	CULG				0000	0225	1	0000	0225	1				IS
	0000	0130	BOUL										0000	0052	1	CONT
			BOUL							0000	0049	1				IS
	0028	0418	MANI													
			CULG							0044		1	0044		1	IIIB
			CULG							0413	0415	1				IIIG
	0448	1003	MANI													
			CULG							0525.5	0526.5	1				IIIG
	0534	1746	DURN													

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SEP 1974	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: CENTIMETRIC BAND START UT	CENTIMETRIC BAND END UT	CENTIMETRIC BAND INT.	DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT.	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT.	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT.	SPECTRAL TYPE
08	1230	2400	BOUL							1310	1620	1				IS
			BOUL							1345	2400	1	1345	2400	1	CONT
	1019	2302	SGMR										1349.0	1349.6	1	III
			SGMR										1423.2	1423.4	1	III
			BOUL							1606.1	2239.3	2	1606.1	2239.3	2	IIIN
	1302	2245	HARV							1616	1624	3	1616	1624	3	IIIGG
	0540	1719	WEIS							1616.4	1616.8	1				IIIG
			BOUL							1618.1	1626.7	3	1618.1	1626.7	3	IIIGG
			WEIS							1618.2	1620.2	2				IIIG
			SGMR										1619.9	1621.2	2	IIIG
			WEIS							1621.0	1624.0	2				IIIG
			SGMR										1621.7	1624.3	2	V
			HARV							1629	1633	1	1629	1633	1	IIIG
			SGMR										1629.8	1638.8	1	IIIG
			HARV							1843	1847	2	1843	1847	2	IIIG
			SGMR										1843.1	1844.0	1	III
			SGMR										2001.4	2020.1	1	IIIG
			HARV							2017	2020	2	2017	2020	2	IIIGG
			SGMR										2017.3	2018.2	1	III
	2030	2400	CULG							2030	2400	1				IIIN
			CULG							2145	2400	1				IS
	2146	2400	MANI													
			SGMR										2149.8	2150.3	1	III
			CULG				2244	2244.5								IIIG,H
			CULG				2254	2255	1							IIIG
09	0000	0730	CULG							0000	0730					IS,H
			CULG							0000	0730	1				IIIN
	0000	0130	BOUL										0000	0100	1	CONT
			BOUL							0007.9	0008.2	2	0007.9	0008.2	2	III
			CULG							0010.5		2				IIIB
			BOUL							0010.7	0011.0	2	0010.7	0011.0	2	III
			BOUL							0043.4	0052.5	3	0043.4	0052.5	3	IIIGG
			CULG				0043.5	0044.5	1	0043.5	0045	2	0044	0045	2	IIIG,V
	0000	1002	MANI										0043.7	0044.5	3	III
			MANI										0047.3	0048.7	1	IIIG
			CULG				0047.5	0048.5	1	0045.5	0049	2	0047	0049	1	IIIGG,V,U
			MANI										0051.4	0051.6	3	III
			CULG				0051.5	0052	1	0050	0052	2	0051.5	0052.5	1	IIIG,V
			CULG				0157	0157.5	1	0157	0157.5	2	0157	0157.5	2	IIIG
			MANI										0157.4	0157.6	2	III
	0535	1747	DURN													
			CULG							0641	0646					IIIGG,H
			CULG							0710.5	0711.5	1				IIIG
	0540	0927	WEIS							0711.0	0711.7	1				IIIG
			WEIS							0750.4	0754.0	2				IIIG
	1020	2300	SGMR										1053.3	1055.6	1	IIIG
			SGMR										1222.9	1223.4	1	III
	1230	2400	BOUL							1247	2025	1	1247	2025	1	CONT
			SGMR										1254.4	1255.3	2	III
			SGMR										1305.2	1305.7	3	III
			SGMR										1309.2	1310.6	1	III
			SGMR										1502.8	1506.2	1	IIIG
			SGMR										1618.6	1618.7	1	III
	1301	2245	HARV							1654	1658	1	1654	1658	1	IIIG
			HARV							1719	2134	1	1719	2134	1	IIIN
			BOUL							1730.6	1741.2	2	1730.6	1741.2	2	IIIGG
			HARV							1731	1739	2	1731	1739	2	IIIGG
			SGMR										1731.0	1739.0	2	IIIG
			HARV							1733	2033	1				IN
			SGMR										1907.7	1919.8	1	IIIG
			SGMR										1950.0	2300.0	1	CONT
			BOUL							2025	2400	2	2025	2400	2	CONT
			CULG				2030	2050	1							IS
			CULG							2030	2400	1				IIIS
	2030	2400	CULG							2030	2400	1				IS,CONT
			HARV							2045		3	2045		2	IIIG
			CULG							2045.5		2				IIIB
			HARV							2113	2114	2	2113	2114	2	IIIGG
			CULG				2115	2127	1	2111	2127	2	2113	2127	1	IIIGG
			HARV							2119	2124	2	2119	2124	3	IIIGG,V
	2146	2400	MANI													
			HARV							2226	2227	1				IIIG
			HARV							2229	2232	3	2229	2232	2	IIIGG
			CULG				2229	2236	1	2229	2239	2	2229	2239	1	IIIGG
			HARV							2235	2239	2	2235	2237	1	IIIGG
10	0000	0130	BOUL							0000	0100	2	0000	0100	2	CONT
			CULG							0000	0729	1				IIIS
	0000	0729	CULG							0000	0729	1				IS
			CULG							0004	0729	1				N,RS,DP
			CULG										0132	0713	1	IIIN
			CULG							0410	0411	2	0410.5	0411	1	IIIG
	0000	1001	MANI										0410.8	0411.2	1	III
			CULG				0505.5		1	0505.5		2	0505.5			IIIB
	0535	0711	DURN							0631.5	0631.7	2				IIIG
			CULG							0711	0715	2				IIIGG
			MANI										0712.0	0712.8	3	IIIG
			MANI										0732.2	0732.5	1	III
			MANI										0740.2	0740.5	2	III

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10			MANI										0842.3	0842.6	2	III
	1021	2258	SGHR										1125.2	2136.9	3	CONT
	1230	2400	BOUL							1247	2136.4	2	1247	2136.4	2	CONT
	1302	2400	HARV							1302	1306	2				IIIGG
			BOUL							1303.2	2136.4	3	1303.2	2136.4	3	IIIGG,N
			HARV							1309	1310	2				IIIGG
	0720		DURN							1309.7	1309.9	2				IIIG
			HARV							1311	1818	1				IN
			HARV							1351	1355	2	1351	1355	1	IIIGG
			DURN							1351.1	1351.3	2				IIIGG
			DURN							1400	1627	2				I,N
			HARV							1418	1421	3	1418	1421	3	IIIGG
			DURN							1420.4	1420.5	2				III
			HARV							1424	1428	2	1424	1428	2	IIIGG
			HARV							1441	1442	1				IIIG
			HARV							1511	1523	3	1511	1523	3	IIIGG
			DURN				1515.4	1520.0	2	1515.3	1527.0	3				IIIGG
			HARV							1525	1529	3	1525	1529	3	IIIGG
			HARV							1536	2133	1	1536	2133	1	IIIN
	1532	1706	WEIS							1540	1644	1				I
			WEIS							1553.3	1553.6	1				IIIB
			HARV							1601	1602	1	1601	1602	1	IIIG
			WEIS							1603.2	1603.5	1				IIIB
			HARV							1613	1618	2	1613	1618	2	IIIGG
			WEIS							1613.0	1616.0	1				IIIG
			WEIS							1617.1	1618.0	1				IIIG
			HARV							1620	1621	3	1620	1621	3	IIIG
			WEIS							1620.8	1621.4	3				IIIG
			HARV							1624	1640	3	1624	1640	3	IIIGG
			WEIS							1624.3	1639.8	3				IIIGG
			DURN				1636.6	1637.3	1	1625.2	1637.4	3				IIIGG
			HARV							1643	1646	2	1643	1646	2	IIIG
			WEIS							1645.5	1646.0	1				IIIG
			DURN							1656.8	1656.8	1				III
			HARV							1751	1759	3	1751	1759	3	IIIGG
			HARV							1805	1808	2	1805	1808	2	IIIGG
			HARV							1813	1820	2	1813	1820	2	IIIGG,DP
			HARV							1818	2400	1				I
			HARV							1828	1833	2	1828	1833	2	RS,DP
			HARV							1925	1926	3	1925	1926	3	IIIG
			HARV							2029	2030	2				IIIG,U
	2029	2400	CULG							2029	2400	1				IIIS
			CULG							2029	2030	2				IIIG
			CULG				2029	2127	1	2029	2135	1				IS
			CULG							2029	2400	1				S,RS,DP
			HARV							2040	2045	1	2040	2045	1	IIIGG
			CULG							2041	2044.5	1				IIIGG
			HARV							2109	2111	1	2109	2111	1	IIIG
			CULG				2127	2300	2	2130	2300	2				CONT
			HARV							2134	2220	2				IV
			HARV							2135	2207	3	2138	2206	3	IIIS
			CULG							2135	2210	2				IIIGG
			CULG							2135	2400	2				IS
			CULG							2135	2210	2				II UNCLF
			BOUL							2136.4	2300.0	3	2136.4	2300.0	3	IV
			SGHR										2136.9	2258.0	2	IV
			CULG										2137	2230	1	S.W.F.
			HARV							2137.3	2147	3	2137.7	2150	3	II
			HARV							2149	2214	2	2152	2214	2	II
			BOUL							2300.0	2315.0	2	2300.0	2315.0	2	CONT
	2146	2400	MANI										2313.9	2323.7	3	IIIG
			HARV							2315	2327	3	2315	2327	3	IIIGG
			CULG				2315	2327	1	2315	2327	2	2315	2327	2	IIIGG,V
			BOUL							2315.0	2330.0	3	2315.0	2330.0	3	IV
			MANI										2315.1	2324.0	3	CONT
			MANI										2327.8	2328.5	3	III
			HARV							2328	2330	3	2329	2330	2	IIIGG
			CULG							2328	2331	2				IIIGG
			CULG							2328	2331	2				IIH
			HARV							2328.2	2330	3				II
			BOUL							2330.0	2400	3				IS
			BOUL							2330.0	2400	2	2330.0	2400	2	CONT
11			BOUL							0000	0100	2				IS
	0000	0130	BOUL							0000	0100	1	0000	0100	1	CONT
	0000	0042	HARV							0000	0034	1				IN
			CULG							0000	0729	1				IIIS
	0000	0729	CULG							0000	0729	2				IS
			CULG							0000	0729	2				IIIGN
			CULG							0000	0729	1				N,RS,DP
			CULG				0010	0022	1							UNCLF
			CULG							0037	0043	2				IIIGG
			BOUL							0037.2	0043.4	3	0037.2	0043.4	3	IIIG
	0000	1001	MANI										0038.8	0040.5	2	IIIG
			CULG				0042	0105	2							CONT
			CULG				0106	0115	1							CONT
			MANI										0116.5	0120.0	2	IIIG
			CULG							0117	0121	1	0117	0121	1	IIIGG
			CULG				0124	0130	2							CONT
			CULG				0130	0140	1							CONT

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				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND				
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.		
11			MANI										0133.2	0133.7	2		III
			MANI										0136.8	0145.1	3		IIIG
			MANI										0137.6	0144.2	3		CONT
			CULG				0138	0153	1	0133	0157	3	0134	0153.5	1		IIIGG,V
			MANI										0150.4	0154.2	2		IIIG
			MANI										0204.7	0205.0	1		III
			MANI										0223.1	0223.5	2		III
			MANI										0230.5	0232.3	3		IIIG
			MANI										0254.5	0255.3	3		III
			MANI										0309.1	0314.8	1		IIIG
			MANI										0340.0	0345.3	2		IIIG
			MANI										0408.5	0409.3	2		III
			CULG				0411	0414.5	1	0409	0415.5	2	0409	0415	1		IIIGG,V
			MANI										0412.6	0414.4	2		IIIG
			CULG							0426	0432	2					IIIGG
			MANI										0426.2	0431.3	3		IIIG
			MANI										0440.7	0445.1	1		IIIG
			CULG							0441	0446	1					IIIG
			MANI										0507.2	0512.1	3		IIIG
			CULG							0508	0525	2					IIIG
			MANI										0515.9	0517.1	1		IIIG
			MANI										0523.0	0523.7	2		III
	0535	1746	DURN				0535 E	1746 D	3	0535 E	1746 D	3					I,N,C
			MANI										0536.0	0536.7	1		III
	0539	1707	WEIS							0540.1	0540.4	1					IIIG
			MANI										0546.7	0546.9	1		III
			WEIS							0547.2	0547.6	1					IIIG
			MANI										0552.6	0552.9	2		III
			WEIS							0553.1	0553.4	1					IIIG
			CULG							0558	0641	2					IIIGG
			WEIS							0558.3	0611.9	2					IIIGG
			MANI										0559.2	0611.2	3		IIIG
			WEIS							0615.0	1625	1					IN
			WEIS							0616.0	0616.4	1					IIIG
			MANI										0617.5	0622.2	3		IIIG
			WEIS							0617.8	0618.6	1					IIIG
			WEIS							0620.5	0622.8	2					IIIG
			MANI										0628.1	0630.4	1		IIIG
			WEIS							0628.6	0631.4	2					IIIG
			WEIS							0634.2	0636.8	2					IIIG
			MANI										0635.7	0638.6	2		IIIG
			WEIS							0638.0	0639.6	3					IIIG
			WEIS							0705.2	0705.4	1					IIIB
			WEIS							0719.4	0722.1	1					IIIG
			MANI										0733.0	0733.6	1		III
			WEIS							0733.6	0734.9	2					IIIG
			WEIS							0736.7	0736.9	1					IIIB
			WEIS							0746.3	0746.5	1					IIIB
			MANI										0747.4	0747.7	1		III
			WEIS							0748.0	0748.7	2					IIIB
			WEIS							0751.5	0751.7	1					IIIB
			WEIS							0805.6	0806.6	2					IIIG
			WEIS							0810.3	0815.0	3					IIIGG
			MANI										0810.3	0816.7	2		IIIG
			WEIS							0816.6	0817.6	3					IIIG
			DURN				0817.1	0817.1	1	0817.1	0817.1	2					III
			WEIS							0830.5	0839.3	3					IIIGG
			MANI										0830.5	0834.1	2		IIIG
			WEIS							0847.2	0848.7	2					IIIG
			WEIS							0855.5	0855.8	1					IIIG
			WEIS							0906.2	0906.2	1					IIIG
			WEIS							0909.0	0909.2	1					IIIBRS
			WEIS							0911.5	0911.7	1					IIIB
			WEIS							0920.1	0923.5	2					IIIG
			WEIS							0925.0	0926.1	1					IIIG
			WEIS							0927.8	0928.5	1					IIIG
			WEIS							0939.6	0939.8	1					IIIB
			WEIS							0943.8	0944.3	2					IIIG
			WEIS							1000.0	1001.8	2					IIIG
			WEIS							1002.7	1006.6	2					IIIGG
			WEIS							1007.6	1011.9	2					IIIGG
			WEIS							1016.0	1017.3	2					IIIG
			WEIS							1018.4	1019.4	2					IIIG
			WEIS							1024.3	1024.5	1					IIIG
			WEIS							1026.7	1028.7	2					IIIG
			WEIS							1031.0	1031.8	1					IIIG
			WEIS							1034.6	1035.6	1					IIIG
			WEIS							1037.7	1038.0	1					IIIG
			WEIS							1039.1	1039.6	2					IIIG
			WEIS							1045.7	1048.4	2					IIIG
	1022	2257	SGMR										1045.9	1105.9	2		IIIG
			WEIS							1049.7	1052.0	1					IIIG
			WEIS							1059.1	1101.5	2					IIIG
			WEIS							1105.3	1108.3	2					IIIG
			WEIS							1133.8	1144.3	2					IIIGG
			SGMR										1135.2	2257.0	2		CONT
			WEIS							1148.4	1149.7	1					IIIGRS
			WEIS							1155.2	1155.4	1					IIIGDP
			WEIS							1158.3	1158.8	1					IIIGDPRS
			WEIS							1203.3	1203.6	2					IIIB

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11			WEIS							1206.5	1207.0	2				IIIG
			WEIS							1208.4	1209.5	2				IIIG
			WEIS							1212.2	1213.6	2				IIIG
	1230	2400	BOUL							1249	1830	2	1249	1830	2	CONT
	1301	2400	HARV				1301	2220	1	1321	2400	1				I
			WEIS							1304.1	1304.3	1				IIIGBDPRS
			WEIS							1309.1	1309.5	1				IIIG
			WEIS							1311.9	1312.8	1				IIIG
			WEIS							1328.9	1329.1	1				IIIB
			WEIS							1330.3	1344.6	3				IIIGG
			HARV				1336	1341	1	1330	1346	2	1332	1346	2	IIIGG
			WEIS							1348.1	1349.8	1				IIIG
			WEIS							1408.1	1413.3	2				IIIG
			HARV							1409	1413	1	1410	1413	1	IIIGG
			WEIS							1416.1	1418.4	2				IIIG
			HARV							1417	1418	1	1417	1418	1	IIIG
			HARV				1420	1500	1							IVP
			WEIS							1420	1420.6	1				III
			HARV							1424	1425	1				IIIGG
			WEIS							1449.7	1450.6	1				IIIG
			WEIS							1454.2	1454.6	2				IIIG
			DURN							1454.3	1454.5	2				IIIG
			HARV				1500	1551	2							IVP
			HARV							1501	1620	1	1501	1620	1	IIIN
			WEIS							1554.3	1555.9	2				IIIG
			DURN							1554.9	1555.8	2				IIIGG
			HARV							1555	1557	2	1555	1557	2	IIIGG
			HARV				1557	1714	1							IVP
			WEIS							1609.7	1609.9	1				IIIB
			HARV										1620	2305	1	I
			HARV							1620	1710	1	1620	1710	1	IIIS,RS,DP
			HARV							1641	1649	3	1641	1649	3	IIIGG
			WEIS							1646.5	1649.4	1				IIIG
			HARV							1710	1728	3	1710	1728	3	IIIS,RS,DP
			DURN							1710.6	1714.5	2				IIIGG
			HARV				1714	1754	2							IVP
			HARV							1728	2024	2	1728	2024	2	IIIS,RS,DP
			HARV				1754	1940	3							IVP
			BOUL							1830	2400	3	1830	2400	3	CONT
			HARV				1940	2153	2							IVP
			HARV							2024	2043	3	2024	2043	3	IIIS
	2030	2400	CULG							2030	2400	2				IIIS
			CULG										2030	2400	1	IIIN
			CULG				2030	2400	1	2030	2400	2				IS
			HARV							2043	2119	2	2043	2119	2	IIIS,RS,DP
			HARV							2119	2138	1	2119	2138	1	IIIN
			HARV							2138	2150	3	2138	2150	3	IIIGG
			HARV				2153	2400	3							IVP
			HARV							2202	2305	2	2202	2305	2	IIIS,OP
	2146	2400	MANI										2210.5	2210.7	1	III
			MANI										2227.6	2228.3	2	III
			HARV							2228		3	2228		3	IIIGG
			MANI										2234.7	2400.0	2	CONT
			HARV							2359	2400	2	2359	2400	1	IIIG
12			HARV				0000	0035	1	0000	0039	1				I
	0000	0040	HARV							0000	0001	2				IIIG
			HARV				0000	0025	3							IVP
	0000	0130	BOUL							0000	0105	3	0000	0105	3	IV
			CULG							0000	0729	1				IS
	0000	0729	CULG							0000	0729	2				IIIS
			CULG							0000	0729	1				S,RS,DP
			CULG										0000	0729	1	IIIN
	0000	1000	MANI										0000.0	0035.0	2	CONT
			MANI										0000.2	0000.8	3	III
			MANI										0035.0	0543.5	1	CONT
			MANI										0154.9	0158.4	3	IIIG
			MANI										0206.9	0208.0	3	IIIG
			MANI										0212.1	0212.6	3	III
			MANI										0223.8	0224.5	3	III
			MANI										0412.6	0412.9	2	III
			MANI										0420.6	0420.9	2	III
	0535	1746	DURN							0535 E	1746 D	3				I,DC,C
	0537	1242	WEIS							0538	1702	2				I
			WEIS							0614	1637	2				IIIDPRS
			MANI										0706.7	0710.9	1	IIIG
			MANI										0712.4	0725.8	3	CONT
			WEIS							0716	0726	3				IIIGG
			CULG				0716	0726	1	0706	0730	2				IIIGG
			WEIS							0732	0735.3	2				IIIG
			MANI										0734.7	0735.5	1	III
			DURN							0734.9	0735.1	2				IIIG
			WEIS							0740.2	0750.4	1				IIIG
			WEIS							0932.2	0933.3	2				IIIG
	1023	2255	SGHR										1023.0	2255.0	2	CONT
			WEIS							1030.0	1032.0	2				IIIG
			WEIS							1037.7	1038.3	2				IIIG
			WEIS							1047.0	1047.2	2				IIIB
			DURN							1047.0	1047.1	2				III
			WEIS							1129.8	1133.5	3				IIIG

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				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND				
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.		
12	1230	2400	BOUL							1245	2400	2	1245	2400	2		CONT
	1301	2400	HARV							1301	1324	1					I
			HARV							1430	1542	1					IN
			HARV							1503	1506	1					IIIG
			HARV							1508	1515	2	1508	1515	2		IIIGG
	1249	1710	WEIS							1508.0	1509.6	3					IIIGG
			WEIS							1511.0	1513.4	2					IIIG
			WEIS							1517.7	1518.1	1					IIIG
			HARV							1518	1525	2	1518	1525	2		IIIGG
			WEIS							1521.6	1525.4	2					IIIGG
			HARV							1526	1605	1	1528	1605	1		IIIN
			HARV							1531	1533	2	1531	1533	2		IIIGG
			WEIS							1532.1	1532.9	1					IIIG
			WEIS							1536.7	1537.0	2					IIIG
			HARV							1537		3	1537		3		IIIG
			HARV							1542	2400	1					I
			HARV							1606	2058	2	1606	2058	2		IIIS,RS,DP
			HARV				1622	2400	1								IN
			HARV							1753	1754	3	1753	1754	3		IIIGG,V
			HARV				1843	1853	1	1839	1853	3	1839	1853	3		IIIGG,V
			HARV							1856	1859	2	1856	1859	2		IIIGG
			HARV				1905	1911	3	1901	1911	3	1901	1911	3		IIIGG,V
			HARV				2022	2100	2							IVP	
	2030	2400	CULG							2030	2400	1					IIIS
			CULG							2030	2400	1					S,RS,DP
			CULG				2030	2400	1	2030	2400	2					IS
			HARV							2035	2039	3	2035	2039	3		IIIGG
			HARV							2047	2050	3	2047	2050	3		IIIGG
			HARV							2102	2103	2	2102	2103	2		IIIGG
			HARV							2104	2137	2	2106	2137	2		IIIN
	2146	2400	MANI										2210.5	2216.5	2		IIIG
			CULG				2214.5	2229	1	2210.5	2230.5	2	2211	2230	1		IIIGG
			HARV				2215	2219	1	2211	2226	3	2211	2223	3		IIIGG
			MANI										2220.9	2221.2	2		III
			MANI										2227.2	2228.5	2		III
			HARV							2228	2230	3	2228	2230	3		IIIGG
			HARV							2236	2237	1					IIIG
13	0000	0038	HARV				0000	0014	1	0000	0033	1					I
	0000	0130	BOUL							0000	0105	2	0000	0105	2		CONT
	0000	0728	CULG							0000	0728	2					IIIS
			CULG							0000	0728	1					S,RS,DP
	0000	0959	MANI										0020.0	0602.5	1		CONT
			MANI										0136.8	0137.7	3		III
			CULG				0138	0138.5	1	0137.5	0139.5	2	0138	0139.5	1		IIIG,V
			MANI										0144.2	0145.8	2		IIIG
			CULG				0257	0728	1	0000	0728	2					IS
			CULG				0318.5	0320	1	0318.5	0320	1					IIIG,U
			MANI										0328.2	0328.8	2		III
			MANI										0352.7	0353.0	2		III
			MANI										0436.5	0437.6	2		IIIG
	0535	1745	OURN							0535 E	1745 D	2					I,DC,N
	0539	1712	WEIS							0540.0	1655.0	2					IDCS
			WEIS							0541.0	1701.8	2					IIIS,GG
			WEIS							0549.7	0549.9	2					IIIB
			MANI										0553.0	0553.5	2		III
			WEIS							0554.5	0554.9	1					IIIG
			MANI										0559.7	0601.5	2		IIIG
			WEIS							0601.1	0602.3	2					IIIG
			MANI										0728.4	0728.7	2		III
			MANI										0734.9	0735.0	1		III
			OURN							0735	0827	3					I,DC,C
			MANI										0742.4	0745.6	2		IIIG
			WEIS							0743.5	0748.0	2					IIIG
			WEIS							0901.8	0903.6	1					IIIG
			WEIS							1018.2	1025.0	3					IIIGG
	1024	2253	SGMR										1024.0	2253.0	2		CONT
			WEIS							1033.2	1037.5	2					IIIGG
			WEIS							1234.3	1234.7	2					IIIG
	1230	2400	BOUL							1235	1458.2	2	1235	1428.2	2		CONT
	1302	2400	HARV							1302	1328	1					I
			HARV							1358	1456	1					IN
			HARV				1458	1503	3	1458	1504	3	1458	1504	3		IIIGG,V
			BOUL							1458.2	2400	3	1428.2	2400	3	IV	
			WEIS							1458.2	1504.0	3					IIIGG
			SGMR										1458.3	1505.2	3	IV	
			OURN				1459.2	1501.8	2	1458.3	1501.9	3					IIIGG
			HARV							1501	1504	3				II	
			WEIS							1501.0	1503.6	2				II	
			HARV							1504	1523	1	1510	2145	1		I
			HARV				1511	1516	1	1513	1515	1	1513	1515	1		IIIG
			OURN							1513.0	1513.2	2					IIIG
			WEIS							1513.0	1513.4	2					IIIG
			SGMR										1513.6	1712.0	3	IV	
			HARV				1517	1607	3							IVP	
			OURN				1520	1610	1	1520	1610	1				IV	
			OURN							1520.3	1520.3	1					III
			WEIS							1520.3	1521.4	1					IIIG
			HARV							1521	1526	2	1521	1526	3		IIIGG
			HARV							1523	1609	2					IC

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13			WEIS							1526.5	1526.8	1				IIIG
			HARV							1527	1539	2	1532	1539	1	II
			HARV							1527	1638	2	1527	1638	2	IIIN
			WEIS							1552.5	1602.0	1				IV
			HARV				1558	1601	2							UNCLF
			DURN							1558.4	1601.2	3				UNCLF
			DURN							1608.2	1608.3	3				IIIG
			WEIS				1608.2	1608.4	2							IIIB
			HARV							1609	2145	1				I
			HARV							1638	2100	2	1638	2100	2	IIIS,RS,DP
			HARV							1700	1702	3	1700	1702	3	IIIGG
			HARV							2020	2024	3	2020	2024	3	IIIGG
			HARV							2027	2028	2	2027	2028	2	IIIG
			CULG										2029	2400	1	IIIN
			CULG							2029	2400	1				S,RS,DP
			CULG							2029	2400	2				IS
	2029	2400	CULG							2029	2400	2				IIIS
			HARV							2100	2256	1	2100	2256	1	IIIN
			HARV							2117		3	2117		3	IIIG
			HARV							2145	2320	1	2145	2226	1	IN
	2147	2400	MANI										2256.1	2256.3	1	III
14	0000	0130	BOUL							0000	0100	2	0000	0100	2	CONT
			CULG										0000	0727	1	IIIN
			CULG							0000	0727	2				S,RS,DP
			CULG							0000	0727	2				IS
	0000	0727	CULG							0000	0727	2				IIIS
	0000	0958	MANI										0000.1	0009.9	1	CONT
	0000	0035	HARV							0002	0020	1				IN
			MANI										0006.6	0006.8	2	III
			HARV				0008	0009	1	0006	0010	2				IIIGG
			MANI										0115.7	0117.6	2	IIIG
			MANI										0135.0	0136.3	2	IIIG
			MANI										0139.1	0139.3	1	III
			MANI										0207.5	0208.2	3	III
			MANI										0515.4	0515.6	1	III
	0535	1001	DURN							0535 E	1728 D	1				I,N
			WEIS							0555.0	0735.0	1				IS
	0541	0940	WEIS							0556.0	0905.0					IIIN
			MANI										0556.9	0557.7	2	III
			WEIS							0628.0	0628.3	1				IIIB
			WEIS							0643.0	0644.0	1				IIIG
			MANI										0643.3	0650.7	2	IIIG
			WEIS							0646.3	0650.4	2				IIIGG
			WEIS							0717.6	0718.7	2				IIIG
			MANI										0718.5	0723.5	2	IIIG
			WEIS							0722.0	0722.4	1				IIIG
			WEIS							0740.0	0740.4	2				IIIB
			MANI										0740.8	0741.0	1	III
	1026	2251	SGMR										1026.0	2251.0	2	CONT
			SGMR										1228.1	1232.5	2	IIIG
	1230	2400	BOUL										1246	2245	3	IV
	1301	2400	HARV				1301	2120	2	1302	1900	2				IC,DC
	1011	1728	DURN							1326	1418	2				I,DC
			HARV							1426	1600	1	1426	1600	1	IIIN
			HARV							1434	1435	1	1434	1435	1	IIIG
			HARV							1448	1600	2	1459	1600	1	IIIS
			HARV										1517	1900	1	I
			HARV							1600	1900	2	1600	1900	2	IIIS,RS,DP
			HARV							1900	2122	3	1900	2122	3	IC,DC
			HARV							1900	1957	3	1900	1957	3	IIIS,RS,DP
			HARV				1904	1906	2							IIIGG
			HARV							2003	2110	2	2003	2110	2	IIIS,RS,DP
			CULG										2028	2400	1	IIIN
			CULG							2028	2400	1				S,RS,DP
			CULG							2028	2400	2				IS,CONT
	2028	2400	CULG							2028	2400	2				IIIS
			HARV							2114	2250	1	2114	2213	1	IIIN,RS,DP
			HARV							2122	2400	1				I
	2147	2400	MANI													
			BOUL							2245	2400	3	2245	2400	3	IV
15	0000	0130	BOUL							0000	0105	3	0000	0105	3	IV
	0000	0033	HARV							0000	0030	1				I
			CULG										0000	0727	1	IIIN
			CULG							0000	0727	1				S,RS,DP
	0000	0727	CULG							0000	0727	2				IIIS
	0000	0957	MANI										0019.3	0532.5	1	CONT
			CULG				0303	0727	1	0000	0727	1				IS
	0536	1727	DURN							0536 E	1727 D	2				I,DC
			MANI										0738.6	0739.0	3	III
			MANI										0839.0	0840.6	2	IIIG
	1027	2250	SGMR										1123.0	2250.0	2	CONT
	1230	2400	BOUL							1240	2400	2	1240	2400	2	CONT
	1320	2400	HARV							1320 E	2400	1				I
			HARV				1340	2400	1				1336	2130	1	IN
			BOUL							1401.0	2336.2	3	1401.0	2336.2	3	IIIGG,N
			HARV				1402	1403	1	1402	1403	2	1402	1403	2	IIIG
			HARV							1447	1450	3	1447	1450	3	IIIGG
			HARV				1447	1505	2							IVP

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SEP 1974	TIMES OF OBSERVATION		STATION	EVENTS													SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND				
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.		
15			OURN							1447.4	1447.6	2					IIIG
			HARV				1505	1506	1	1504	1506	2	1504	1506	3		IIIGG
			HARV							1513	1514	3	1513	1514	3		IIIG
			HARV				1537	1653	1							IVP	
			HARV							1638	1740	2	1638	1740	2		IIIN
			HARV				1655	1657	3	1655	1658	3	1655	1658	3		IIIGG,V
			OURN				1656.4	1656.7	1	1656.1	1657.3	2					IIIGG
			HARV							1740	2020	2	1740	2020	2		IIIS,RS,DP
			HARV				1829	1830	1	1829	1831	3	1829	1831	3		IIIGG,V
			HARV							1837	1839	2	1837	1839	3		IIIGG
			HARV							1842	1845	3	1842	1845	3		IIIGG
			HARV				1853	1904	2							IVP	
			HARV							1857	1900	3	1857	1900	3		IIIGG,V
			HARV				2008	2012	1	2009	2012	3	2009	2012	3		IIIGG
			HARV							2020	2243	1	2020	2243	1		IIIN
			CULG							2028	2400	1	2028	2400	1		IIIN
			CULG							2028	2400	1					S,RS,DP
			CULG				2028	2400	1	2028	2400	2					IS
	2028	2400	CULG							2028	2400	1					IIIS
			HARV				2030	2031	3	2030	2031	3	2030	2031	3		IIIG
			HARV							2049		3	2049		3		IIIG
			HARV							2054	2057	2	2054	2057	2		IIIG
			CULG				2127.5	2135	1	2126.5	2135	2	2126	2135	1		IIIGG,U
			HARV				2128	2135	2	2127	2136	3	2127	2135	3		IIIGG
			HARV				2159	2202	2	2159	2206	2	2201	2206	2		IIIGG
			HARV				2209	2219	3	2210	2220	2	2211	2218	2		IIIGG
			HARV							2233	2238	2	2235	2237	2		IIIGG
			HARV				2240	2241	2								IIIGG
	2148	2400	MANI										2336.0	2340.0	1		IIIG
			HARV				2338	2340	2	2336	2338	2	2336		1		IIIGG
16	0000	0033	HARV				0000	0022	1	0000	0033	2					I
	0000	0130	BOUL							0000	0103	2	0000	0103	2		CONT
	0000	0205	CULG							0000	0205	1					IIIS
			CULG							0000	0205	1					S,RS,DP
			CULG				0000	0205	1	0000	0205	2					IS
			CULG										0000	0205	1		IIIN
	0000	0957	MANI										0149.7	0150.3	2		III
			MANI										0209.7	0215.6	3		IIIG
	0220	0722	CULG							0220	0722	2					IIIS
			CULG										0220	0722	1		IIIN
			CULG				0220	0722	1	0220	0722	2					IS
			MANI										0224.9	0239.8	3		IIIG
			CULG				0225.5	0245	1	0225.5	0245	2	0234.5	0238.5	2		IIIGG,V
			MANI										0244.3	0244.7	2		III
	0535	1726	OURN							0535 E	1726 D	3					I,DC
			MANI										0545.6	0546.5	3		III
			MANI										0550.5	0550.9	3		III
			MANI										0553.2	0553.7	1		III
			MANI										0650.1	0650.7	1		III
			MANI										0655.7	0655.9	1		III
	0659	1716	WEIS							0659.0	1525.0	2					IDCS
			WEIS							0659.8	0700.5	2					IIIG
			WEIS							0714.8	0716.1	2					IIIG
			WEIS							0717.3	0718.0	1					IIIG
			WEIS							0719.9	0720.3	1					IIIG
			WEIS							0726.5	0727.5	1					IIIG,RS
			MANI										0732.4	0732.7	2		III
			WEIS							0732.6	0734.0	2					IIIG
			WEIS							0743.8	0744.0	1					IIIB
			WEIS							0751.5	0751.6	1					IIIB
			WEIS							0800.7	0801.9	1					IIIG
			WEIS							0808.5	0808.7	2					IIIB
			WEIS							0812.6	0812.8	1					IIIB
			WEIS							0819.0	0819.9	2					IIIG
			WEIS							0821.2	0822.2	1					IIIG
			WEIS							0939.8	0940.0	2					IIIG
			WEIS							0945.3	0945.5	2					IIIG
			WEIS							1025.3	1026.0	1					IIIG
	1028	2248	SGMR										1028.0	2248.0	2		CONT
			WEIS							1038.5	1038.6	1					IIIG
			WEIS							1040.3	1040.5	1					IIIB
			WEIS							1056.6	1058.0	2					IIIG
			WEIS							1100.6	1100.9	2					IIIG
			WEIS							1102.2	1102.9	1					IIIG
			WEIS							1106.2	1106.5	2					IIIB
			WEIS							1108.0	1109.8	2					IIIG
			WEIS							1136.1	1136.2	1					IIIB
			WEIS							1138.8	1139.0	2					IIIB
			WEIS							1140.1	1142.1	2					IIIG
			WEIS							1143.3	1145.7	2					IIIG
			WEIS							1144.0	1144.6	2					IIIG
			WEIS							1146.5	1147.8	2					IIIG
			WEIS							1154.6	1155.0	1					IIIG
			WEIS							1156.6	1158.7	2					IIIG
			WEIS							1205.4	1205.8	1					IIIG
			WEIS							1211.6	1212.7	1					IIIG
			WEIS							1225.6	1226.1	2					IIIG
			WEIS							1227.3	1245.0	3					IIIG
			WEIS							1231.6	1231.8	1					IIIG

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16			WEIS							1233.6	1234.5	2				IIIG
	1230	2212	BOUL							1245	1655	3				IS
			BOUL							1250	2212	2	1250	2212	2	CONT
			WEIS							1254.5	1254.7	1				IIIB
			WEIS							1256.1	1256.8	2				IIIG
			WEIS							1312.5	1314.1	2				IIIG
			HARV				1319	1436	1							IN
	1319	2400	HARV							1319 E	1520	2				IC,DC
			WEIS							1322.7	1323.0	2				IIIB
			WEIS							1333.3	1334.3	2				IIIG
			HARV							1433	1434	3	1433	1434	2	IIIG
			WEIS							1433.0	1433.5	2				IIIG
			HARV				1436	1525	2							IC
			HARV							1437	1439	3	1437	1439	2	IIIGG
			WEIS							1437.1	1439.5	2				IIIG
			HARV										1444	2028	1	IN
			WEIS							1444.1	1446.0	1				IIIG
			WEIS							1450.4	1450.6	2				IIIG
			WEIS							1452.9	1455.5	1				IIIG
			WEIS							1457.4	1459.0	1				IIIG
			HARV				1505	1537	2							IVP
			WEIS							1505.4	1509.5	1				IIIG
			HARV							1506	2056	2	1506	2056	2	IIIN
			WEIS							1522.2	1522.6	2				IIIB
			WEIS							1524.7	1529.3	2				IIIG,RS
			OURN							1524.7	1525.2	2				IIIG,RS
			HARV				1525	1842	1	1520	2400	1				I
			HARV							1546	1547	3	1546	1547	3	IIIG
			WEIS							1546.5	1547.3	2				IIIG
			OURN							1546.6	1546.9	1				IIIG
			HARV				1615	1618	1	1615	1621	3	1615	1621	3	IIIGG
			WEIS							1615.0	1620.8	2				IIIGG
			OURN							1616.2	1616.4	3				IIIG
			WEIS							1628.7	1629.9	1				IIIG
			HARV							1629	1630	2	1629	1630	2	IIIG
			HARV							1728	1729	1	1728	1729	2	IIIG
			HARV				1734		2	1734		3	1734		3	IIIG
			HARV							1832	1833	3	1832	1833	3	IIIG
			HARV				1846	1847	1	1846	1847	3	1846	1847	3	IIIGG
			HARV							1905		3	1905		3	IIIB
			HARV							1927	1934	3	1927	1934	3	IIIGG
			HARV							1942	1944	1	1942	1944	1	IIIG
	2028	2400	CULG							2028	2400	1				IIIS
			CULG							2028	2400	2				IS
	2148	2400	MANI										2226.5	2227.0	2	III
			HARV							2227	2229	3	2227	2229	3	IIIGG
			CULG				2227	2229	1	2227	2229.5	2	2227.5	2229.5	1	IIIGG
17			CULG							0000	0725	1				N,RS,DP
			CULG							0000	0725	1				IS
	0000	0725	CULG							0000	0725	1	0000	0725	1	IIIS
	0000	0031	HARV							0000	0030	1				I
			CULG							0126.5	0131.5	3	0126.5	0130.5	2	IIIGG,V
	0000	0956	MANI										0127.0	0130.0	3	V
			CULG				0134.5	0136.5	1	0134.5	0138.5	2	0135	0137	1	IIIGG,U
			MANI										0135.2	0136.2	2	IIIG
			CULG				0147		1	0147	0147.5	3	0147	0147.5	3	IIIB
			MANI										0147.0	0147.4	3	III
			CULG				0150	0153.5	1	0150	0201	2	0153	0155.5	2	IIIGG,V
			MANI										0151.2	0156.5	1	IIIG
			MANI										0210.4	0210.8	2	III
			CULG							0210.5	0211	2	0210.5	0211	2	IIIG
			CULG							0224	0224.5	2	0224	0224.5	2	IIIG
	0534	1724	DURN							0534 E	1724 D	1				I,N
	0659	1635	WEIS							0734.2	0735.0	2				IIIB
			MANI										0734.3	0734.5	1	III
			WEIS							0950.4	0951.4	1				IIIG
			WEIS							1001.6	1002.0	2				IIIB
			WEIS							1003.2	1003.4	1				IIIB
			WEIS							1005.0	1005.5	1				IIIG
	1029	2246	SGMR										1029.0	1202.2	1	CONT
			WEIS							1044.3	1045.5	1				IIIG
			WEIS							1114.3	1115.0	2				IIIG
			OURN							1114.3	1114.4	2				III
			WEIS							1149.2	1201.7	2				IIIGG
			WEIS							1228.2	1228.5	1				IIIB
			SGMR										1228.3	1228.6	2	III
			SGMR										1328.2	1331.4	2	IIIG
			WEIS							1328.2	1330.5	2				IIIG
	1316	2400	HARV				1331		2	1328	1332	1	1331		1	IIIGG
			OURN							1331.0	1331.2	3				IIIG
			WEIS							1331.0	1331.4	3				IIIG
			WEIS							1411.7	1412.8	2				IIIG
			SGMR										1411.8	1412.2	2	V
			HARV							1412	1413	1	1412		1	IIIG
			HARV							1421	1423	2	1422	1423	1	IIIGG
			SGMR										1421.2	1423.7	3	IIIG
			WEIS							1421.2	1423.0	2				IIIG
			SGMR										1442.3	1444.7	1	IIIG
	1549	1650	WEIS													

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17			SGMR										1602.9	1606.5	1	IIIG
			HARV							1624	1627	1	1624	1627	1	IIIGG
			HARV							1746	2240	1	1746	2220	1	IIIN
			HARV				1759	1800	2	1755	1801	3	1755	1801	3	IIIGG,V
			SGMR										1759.0	1801.0	2	V
			HARV							1805	1809	2	1805	1809	2	IIIGG
			HARV				1818	2359	1							IN
	1854	2400	BOUL										1854	2400	1	CONT
			BOUL							2001.6	2358.5	2	2001.6	2358.3	2	IIIG,N
			SGMR										2006.9	2009.2	2	III
			HARV				2007	2012	2	2007	2013	3	2007	2013	3	IIIGG
	2027	2400	CULG							2027	2400	1				IS
			CULG				2030	2310	1							IN
			CULG							2033	2400	1				IIIS
			CULG							2058	2059	2				IIIG,U
	2148	2400	MANI													
			CULG				2220	2220.5	1	2220	2220.5	2				IIIG
			CULG							2239.5	2240.5	2				IIIG
			HARV							2327	2400	1				IN
18	0000	0030	HARV							0000	0025	1				I
	0000	0100	BOUL										0000	0100	1	CONT
			CULG							0000	0726	1				IIIS
	0000	0726	CULG				0017	0726	1	0000	0726	1				IS
			CULG							0119	0120	2				IIIB,U
	0000	0956	MANI										0119.0	0119.5	2	III
			MANI										0136.7	0137.5	3	III
			CULG				0137	0137.5	1	0136.5	0137.5	2	0136.5	0137.5	2	IIIG,V
			CULG							0241	0241.5	2	0241	0241.5	1	IIIG
			MANI										0241.4	0241.6	1	III
			MANI										0450.0	0454.8	3	CONT
			CULG				0450.5	0455.5	1	0449	0459	2	0449.5	0454	1	IIIGG
			CULG							0500	0500.5	2				IIIG
			CULG				0504.5	0505	1	0504.5	0505	2	0504.5	0505	1	IIIB
			MANI										0505.0	0505.2	3	III
	0535	1649	DURN							0535 E	1723 D	2				I,DC
			MANI										0705.8	0709.0	1	IIIG
			DURN				0705.9	0707.4	1	0705.8	0707.5	2				IIIGG
			CULG				0706	0708	1	0706	0709	2				IIIGG
	0559	1652	WEIS							0706.0	0709.0	2				IIIG
			WEIS							0732.6	0733.2	1				IIIG
			WEIS							0735.5	0735.8	1				IIIB
			MANI										0752.8	0753.0	1	III
			WEIS							0753.5	0754.0	2				IIIB
			WEIS							0821.2	0822.3	1				IIIG
			WEIS							0823.4	0828.0	2				IIIGG
			MANI										0823.9	0824.2	2	III
			DURN							0824.9	0825.9	2				IIIGG
			WEIS							0829.3	0830.0	1				IIIG
			WEIS							0946.6	0947.3	2				IIIG
			WEIS							1005.0	1042.0	2				IS
	1030	2244	SGMR										1030.0	1235.0	2	CONT
			WEIS							1046.9	1047.9	2				IIIG
			WEIS							1055.0	1201.5	2				IIIG
			WEIS							1108.1	1116.1	3				IIIGG
			DURN				1109.5	1110.5	2	1109.2	1110.7	3				IIIGG
			WEIS							1116.4	1118.0	1				IIIG
			WEIS							1118.3	1124.1	2				IIIGG
			WEIS							1145.0	1530.0	2				IS
			WEIS							1147.8	1149.0	2				IIIG
			SGMR										1235.0	2010.5	2	IV
	1230	2400	BOUL							1300.0	1330.0	1	1300.0	1330.0	1	IV
			BOUL							1330.0	1600.0	3	1330.0	1600.0	3	IV
	1316	2400	HARV				1338	1937	2	1316 E	1934	1	1402	1837	1	I
			WEIS							1531.0	1638.0	2				IS
			BOUL							1600.0	1915	1	1600.0	1915	1	IV
			HARV				1641	1659	2							IVP
			HARV				1659	1720	3							IV
	1659	1723	DURN													
			HARV				1726	1733	1							IVP
			HARV							1934	2342	1				IN
			BOUL							1945	2400	2				IS
			BOUL							2000	2400	1	2000	2400	1	CONT
			CULG							2030	2400	1				IIIN
	2027	2400	CULG				2032	2400	1	2027	2200	2				IS
	2148	2400	MANI													
			CULG							2200	2400	1				IS
			CULG							2236	2237	2				IIIG,U
19			CULG							0000	0722					IIIN,H
	0000	0100	BOUL							0000	0025	2				IS
			BOUL							0000	0047	1	0000	0047	1	CONT
	0000	0029	HARV				0020	0027	1							I
	0000	0726	CULG				0020	0055	1	0000	0726	1				IS
			CULG							0123	0124	1				IIIG,U
			CULG							0251.5	0252	2				IIIG,U
	0000	0955	MANI										0251.6	0252.3	2	III
			CULG							0314	0316	2				IIIG,U
			MANI										0314.9	0315.3	2	III
			CULG							0317	0319.5	2				IIIGG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

SEPTEMBER 1974

SEP 1974	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
19			CULG							0337.5	0339	2				IIIG,U
			MANI										0338.2	0338.4	1	III
			CULG							0622	0626.5	2				IIIGG,U
	0547	1317	WEIS							0623.0	0626.0	2				IIIG
			MANI										0623.7	0625.4	2	IIIG
			CULG							0627.5	0629	2				IIIG
			WEIS							0627.8	0628.6	2				IIIG
			MANI										0628.4	0628.8	1	IIIG
			WEIS							0630.6	0630.7	1				IIIB
	0535	1721	DURN							1210	1721 D	2				I,N
	1230	2400	BOUL							1300	1515	1				IS
			BOUL							1330	1500	1	1330	1500	1	CONT
	1322	1644	WEIS							1357.0	1455.0	1				IS
			BOUL							1705	2231.7	1	1705	2231.7	1	CONT
	1316	2400	HARV				1714	1727	1							I
			HARV							1842	2217	1				IN
	2027	2400	CULG				2027	2400	1	2027	2400	1				IS
			CULG							2029	2400	1				IIIS
			HARV							2217	2253	1				I
			HARV				2224	2307	3							IVP
			CULG							2224	2255	2				IIIGG
			CULG				2225	2248	1	2230	2400	2				CONT,P
			HARV							2227	2232	1				IIIG
			BOUL							2231.7	2400	3	2231.7	2400	3	IV
			CULG							2232.5	2320	2				IIH
			CULG										2233	0130		S.W.F.
			HARV							2233.2	2301	3	2237	2256	2	II
	2148	2400	MANI										2234.9	2241.4	3	CONT
	1031	2243	SGMR										2234.9	2241.3	3	IV
			HARV				2235	2242	3	2234	2243	3	2234	2240	3	IIIGG
			CULG							2235.5	2241	3	2235.5	2241	2	IIIGG,V
			HARV				2246	2248	3	2246	2248	2	2246	2248	1	IIIG
			MANI										2246.3	2317.6	1	CONT
			CULG							2340	2400	2				CONT,P
			HARV				2357	2400	2							IV
20	0000	0028	HARV				0000	0003	2							IV
	0000	0100	BOUL							0000	0045	1	0000	0045	1	IV
	0000	0954	MANI													
	0000	0550	CULG							0000	0036	2				CONT,P
			CULG							0000	0215					IIIN,W
			CULG							0033	0550	1				N,CONT
			CULG							0358						IIIB,W
			CULG							0404.5	0407.5	1				P
			CULG							0407	0407.5					IIIG,W
	0535	1718	DURN													
			CULG							0539						IIIB,W
	0550	1645	WEIS													
	0650	0725	CULG													
	1317	2400	HARV				1806	1951	1							IN
	1230	2400	BOUL							1832.8	1834.3	2	1832.8	1834.3	2	IIIG
			HARV							1833	1834	3	1833	1834	2	IIIG
	1032	2241	SGMR										1833.0	1833.9	2	V
			BOUL							1925.8	1928.0	2	1925.8	1928.0	2	IIIG
			SGMR										1925.9	1928.0	1	IIIG
	2026	2400	CULG							2145	2324					IIIN,W
	2148	2400	MANI													
			HARV				2245	2246	2							IIIGG
21	0000	0027	HARV													
	0000	0100	BOUL													
	0000	0953	MANI													
	0000	0725	CULG							0228.5	0639					IIIN,W
			CULG							0352.5	0354	2				IIIG,U
			CULG				0406		2	0405	0406.5	2				IIIG
	0555	1712	DURN							0555 E	1712 D	1				I,N
			DURN							0602.5	0607.0	1				IIIG
			CULG				0602.5	0603	1							IIIG
			CULG				0607.5	0608	1							IIIG
	0555	1200	WEIS				0835.3	0835.5	1							IIIB
			DURN							0835.4	0835.5	1				III
			WEIS							0916.3	0916.5	1				IIIG
			DURN							0916.4	0916.5	2				IIIG
	1033	2239	SGMR													
			WEIS							1112.0	1112.6	2				IIIG
	1316	2400	HARV													
	1230	2400	BOUL							1825	2100	1	1825	2100	1	CONT
	2147	2400	MANI													
	2027	2400	CULG							2339		1				IIIB
22	0000	0952	MANI													
	0000	0100	BOUL													
	0000	0025	HARV													
	0000	0725	CULG							0141	0142					IIIG,W
			CULG							0259						IIIB,W
			CULG							0439						IIIB,W
			CULG							0619	0621	1				IIIG
	1230	2400	BOUL							1418.5	1423.6	2	1418.5	1423.6	2	IIIGG
	1034	2237	SGMR										1418.8	1423.3	2	IIIG
	0555	1711	DURN							1419.6	1427.0	2				I,DC

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

SEPTEMBER 1974

SEP 1974	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: CENTIMETRIC BAND START UT	CENTIMETRIC BAND END UT	CENTIMETRIC BAND INT.	DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT.	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT.	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT.	SPECTRAL TYPE
22	1349	2400	HARV				1422	1423	1	1422	1423	1				IIIG
			DURN							1427	1711	1				I,N
			BOUL							1430	1500	1				IS
			HARV				1807	1809	1							IIIGG
			HARV							1811	1815	3	1811	1815	3	IIIGG
			SGMR										1811.3	1814.8	2	IIIG
			HARV							1812	2300	1				I
			BOUL							1840.5	1844.0	1	1840.5	1844.0	1	IIIG
	2027	2400	CULG				2027	2110	1	2027	2400	2				IS,OC
			BOUL							2030	2310.2	2				IS
			CULG							2039	2400	1				IIIS
			BOUL							2107	2310.2	2	2107	2310.2	2	CONT
			CULG							2300	2400	2				CONT
			BOUL							2301.2	2400	3	2301.2	2400	3	IV
			HARV							2317	2340	1				IC
			HARV				2317	2319	1							IIIGG
	2147	2400	MANI										2323.2	2400.0	2	CONT
			HARV				2327	2350	3							IV
			HARV				2327	2330	2							IIIGG
			CULG							2330.5	2333	2				UNCLF
			HARV							2331	2333	2	2332	2333	1	UNCLF
			HARV				2333	2334	2							IIIG
			CULG										2336	2345	2	UNCLF
			HARV				2337	2339	2							IIIGG
			CULG										2340	0045	1	S.W.F.
23			CULG							0000	0210	1				I
	0000	0724	CULG							0000	0014	1				CONT
			CULG							0000	0019	1				IIIS
	0000	0100	BOUL							0000	0025	3	0000	0025	3	IV
	0000	0951	MANI										0000.0	0015.0	2	CONT
	0000	0023	HARV				0011	0016	2							IIIGG
			CULG							0013	0014	1				UNCLF
	0554	0714	DURN													
			CULG							0612	0612.5					IIIG,W
	0722	1649	DURN				1159.8	1211	3	1201.1	1215	3				IV
			WEIS							1200.8	1255.0	3				IV
	0813	1651	WEIS							1201.0	1215.0	3				IIIGG,RS
			DURN							1203.5	1203.6	2				III
	1035	2235	SGMR										1204.0	1238.0	3	IV
			WEIS							1214.0	1220.0	2				UNCLF
			DURN				1222.9	1231	3	1224.5	1233	3				II
			WEIS							1225.5	1232.0	2				II
			DURN				1231.5	1323	2	1231.5	1323	2				IV
			WEIS							1249.1	1251.0	2				UNCLF
			SGMR										1249.2	1253.2	2	IIIG
	1230	2400	BOUL							1249.2	1252.7	2	1249.2	1252.7	2	III
			BOUL							1305.0	1326	1				IS
	1317	2245	HARV													
			BOUL							1850.2	1850.9	1	1850.2	1850.9	1	III
	2147	2400	MANI													
	2025	2400	CULG							2201	2202					IIIG,W
24	0000	0100	BOUL													
			CULG				0402.5	0405	1							FAST DRIFT
	0000	0724	CULG				0402.5	0407	1	0403	0440	1				CONT
	0000	0950	MANI										0403.4	0417.5	3	IIIG
			CULG							0403.5	0440	1	0410.5	0412	1	II UNCLF
			MANI										0404.1	0407.2	4	IV
			CULG							0448		1				IIIB
	0555	1648	DURN													
	1300	2400	BOUL													
	0558	1634	WEIS							1315.5	1315.9	1				IIIG
	1036	2234	SGMR										1315.8	1316.0	1	III
	1316	2245	HARV													
	2025	2400	CULG													
	2147	2400	MANI													
25	0000	0948	MANI													
	0000	0100	BOUL													
	0000	0050	CULG													
	0149	0723	CULG							0519						IIIB,W
	0555	1649	DURN													
	0601	0646	WEIS													
	0653	1636	WEIS													
	1037	2231	SGMR													
	1300	2400	BOUL													
	1317	2245	HARV													
	2024	2400	CULG													
	2147	2400	MANI													
26	0000	0945	MANI													
	0000	0100	BOUL													
	0000	0723	CULG													
	0554	1650	DURN													
	0603	1547	WEIS													
	1039	2230	SGMR													
	1300	2400	BOUL													
	1316	2245	HARV													
	1550	1627	WEIS													

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

SEPTEMBER 1974

SEP 1974	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
26	2024	2400	CULG							2105		1				IIIB
	2147	2400	MANI													
27	0000	0944	MANI													
	0000	0100	BOUL													
	0000	0723	CULG													
	0555	1649	OURN													
	0606	1628	WEIS													
	1040	2228	SGMR													
	1300	2400	BOUL													
	1317	2245	HARV													
	2024	2400	CULG													
	2147	2400	MANI													
28	0000	0943	MANI													
	0000	0100	BOUL													
	0000	0722	CULG							0045	0046	1				IIIG
			CULG							0155.5		1				IIIB
	0555	0735	OURN													
	0607	1452	WEIS													
	0743	1649	OURN													
	1041	2227	SGMR													
	1317	2245	HARV													
	1300	2400	BOUL										1852.4	1853.3	1	III
	2023	2400	CULG													
	2146	2400	MANI													
29	0000	0941	MANI													
	0000	0100	BOUL													
	0547	1642	OURN													
	0000	0723	CULG							0638	0639	1				IIIG
	1042	2225	SGMR													
	1300	2400	BOUL													
	1316	2251	HARV							1954	2217	1				IN
			CULG							2055	2230	1				IIIS
	2055	2230	CULG							2055	2230	1				IS
	2146	2400	MANI													
			HARV							2217	2251 O	1				I
			CULG							2245	2400					IIIS,W
	2245	2400	CULG							2245	2400	1				IS,DC
30			CULG				0000	0025								IS,W
			CULG							0000	0046					IIIS,W
	0000	0723	CULG							0000	0120	1				IS,DC
	0000	0100	BOUL													
	0000	0340	MANI													
			CULG							0034	0037	1				IIIG
			CULG							0046	0723					IIIN,W
			CULG							0120	0650					IS,W
	0407	0940	MANI													
			CULG				0506.5	0507.5	1	0506.5	0507.5	2				IIIG,U
			CULG				0509	0510	1	0509	0510	2				IIIG,U
			CULG				0515.5	0518.5	1	0515.5	0519	2				IIIG,U
			CULG				0540.5	0541	1	0540.5	0541	1				IIIG
			CULG				0545	0723								IS,W
	0548	1642	OURN													
			CULG				0548.5	0551.5	1	0549	0551.5	1				IIIG
			CULG							0650	0723	1				IS
	0640	1617	WEIS							0653.0	1556.0	1				IN
			CULG							0718	0719	2				IIIG,U
			WEIS							0718.4	0718.8	2				IIIG
			WEIS							0732.2	0732.4	1				IIIG
			WEIS							0822.8	0823.5	2				IIIG
			WEIS							1246.6	1247.0	2				IIIG
	1317	2245	HARV							1320	1416	1				I
			WEIS							1347.8	1348.8	2				IIIG
			HARV							1348	1349	2				IIIGG
	1300	2400	BOUL							1348.0	1349.4	2				IIIG
	1043	2223	SGMR										1348.4	1348.8	2	III
			WEIS							1353.7	1354.2	2				IIIG
			BOUL							1354.3	1354.5	1				III
			HARV							1416	2240	1				IN
			WEIS							1423.9	1425.4	2				IIIGG
			HARV							1424	1425	2	1425		2	IIIGG
			BOUL							1424.1	1425.8	2	1424.1	1425.8	2	IIIG
			SGMR										1424.5	1425.7	2	V
			BOUL										1500	2400	1	CONT
			WEIS							1506.7	1507.0	2				IIIG
	2023	2400	CULG				2023	2155	1	2023	2400	1				IS,W
			BOUL										2052.0	2054.5	2	III
			CULG							2056	2400					IIIN,W
			CULG				2129.5	2131	1	2129.5	2131	1				IIIG
	2145	2400	MANI													
			CULG							2244.5	2245.5	2	2244.5	2245.5	1	IIIG,U
			CULG							2324	2327	1				IIIGG
			BOUL							2324.3	2327.2	2	2324.3	2327.2	2	IIIGG

Note: Commencing 1974 April 1, the frequency range of the spectral equipment at the Harvard Radio Astronomy Station, Fort Davis, Texas was reduced to 25-320 MHz for the sunspot minimum. The frequency range was temporarily increased to 25-2000 MHz for the period 1974 Sept. 11 1301 UT to Sept. 23 0023 UT.

SELECTED SOLAR EVENTS

SEPTEMBER 1974

Culgoora

UT Date 1974. Sept.	HELIOGRAPH EVENT							Spectral Type	REMARKS
	Start (UT)	End (UT)	Freq. (MHz)	Positions: Central Dist. ($R_\odot$)	Positions: Position Angle (Deg.)	Polarization	Intensity (1-3)		
7	0154	0158	160	1.1	90	0	3	IIIGG,V	Complex source structure*
			80	1.3	90	0	3		
			43.25	1.6	90	-	3		
9	0043	0050	160	1.0	90	0	3	IIIGG,V, U	*
			80	1.1	70	0	3		
			43.25	1.4	70	-	3		
10	2300	2330	160	0.8	80	L	2	IVs	(Flare event (before start (of heliograph (record. The (sources per- (sisted throughout (day with re- (duced inten- (sity.
			80	0.8	70	L	3		
			43.25	0.9	60	-	3		
11	0119	0121	80	1.1	50	0	2	IIIGG	*
			43.25	1.3	40	-	3		
17	0136	0138	160	0.8	310	0	1	IIIGG,U	*
			80	1.1	310	0	2		
			43.25	1.4	310	-	3		
19	0316	0319	160	0.8	340	0	1	IIIGG,U	*
			80	1.1	340	0	2		
			43.25	1.2	340	-	3		
19	2237	2257	160	1.0	320	r	-	IIIGG,V	†Flare continuum
			80	1.3	320	l	-		
			43.25	1.8	330	-	-		
19	2240	2300	160			0	-	II	†
			80			0	-		
			43.25			-	-		
22	2300	2355	160	1.1	310		2	I	(Complex source (structure (& polarizat- (ion.
			80	1.4	310		1		
			43.25	1.7	300		1		
24	0403	0415	160	1.1	320	0	3	unclassified possible type II	
			80	1.3	320	0	3		
			43.25	1.7	320	-	3		

Days without Heliograph observations: Nil

*Other type III observed at same position during day.

†Flare event with multiple sources in N.Hemisphere of sun.

Radiometer intensity measurements not available.

COSMIC RAY INDICES
(Neutron Monitors)
SEPTEMBER 1974

SEPT	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	4460.3	Data not available	Data not available	11751.1	8660.7	6178.9	3496.0
2	4474.5(3)			11785.4	8684.9	6190.2	3505.5
3	4485.5			11755.2	8690.9	6191.7	3503.7
4	4465.1			11704.9	8650.4	6170.6	3491.0
5	4461.1			11670.3	8622.5	6146.8	3495.7
6	4454.5			11658.2	8604.8	6148.2	3495.6
7	4462.4			11686.5(21)	8619.1	6156.6	3497.8
8	4467.5			11636.4	8628.2	6150.0	3504.5
9	4427.8			11511.3	8568.6	6097.7	3490.0
10	4441.1			11474.6	8577.7	6101.1	3487.9
11	4450.8			11505.3	8547.5	6102.1	3484.5
12	4428.6			11554.9	8558.1	6085.5	3485.9
13	4382.3			11439.4	8453.4	6030.9	3481.7
14	4310.8			11186.3	8245.6	5932.1	3460.0
15	4258.8			11092.8	8178.8	5905.5	3451.9(19)
16	4206.5			10959.8	8071.2	5826.3	3429.7
17	4243.8			10988.8	8102.1	5876.5	3433.8(23)
18	4311.5			11155.8	8243.7	5905.3	3437.5
19	4267.2			11088.3	8179.0	5933.2	3444.6
20	4361.0			11340.8	8380.9	6012.4	3473.2
21	4377.8			11359.0	8408.4	6076.2	3470.5
22	4413.1			11464.9	8484.6(19)	6101.2	3482.2
23	4453.7			11603.4	-- (0)	6184.2	3518.2
24	4456.7			11676.2	-- (0)	6200.7	3512.3
25	4444.3			11582.8	8551.6(3)	6201.5	3512.5
26	4444.9			11535.3	8634.1	6180.3	3510.9
27	4423.4			11478.9	8595.0	6135.3	3496.4
28	4428.0			11526.4	8618.0	6141.6	3501.5
29	4446.4			11624.2	8643.7	6171.7	3512.8
30	4413.3			11586.4	8595.2	6151.2	3513.5
MEAN	4404.1			11479.4	8493.2	6089.5	3486.4

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

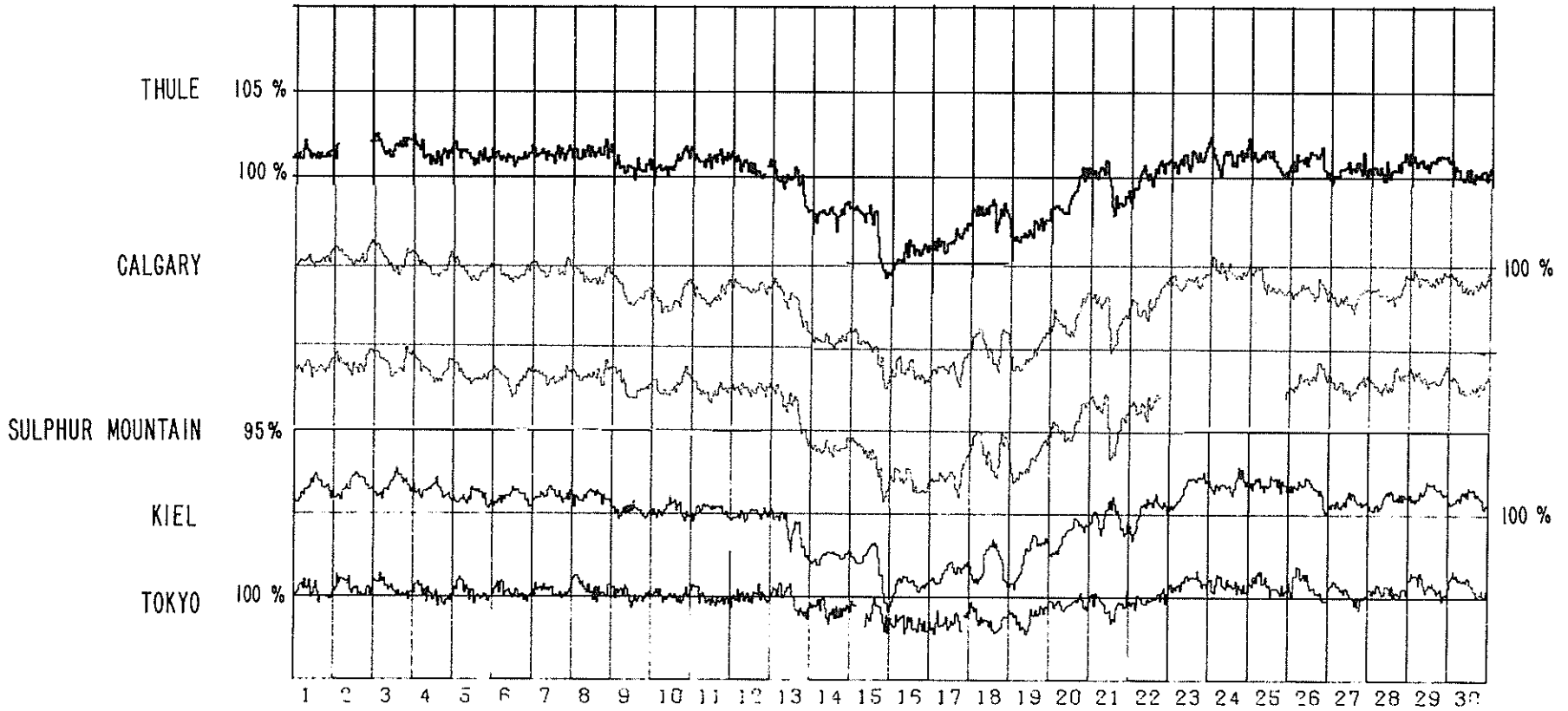
Thule, Alert, Calgary, Sulphur Mountain and Kiel Scaling Factors = 100.
Deep River Scaling Factor = 300.
Tokyo " " = 128.

See *Descriptive Text* for other characteristics.

COSMIC RAY INDICES

(Pressure Corrected Hourly Totals)

SEPTEMBER 1974



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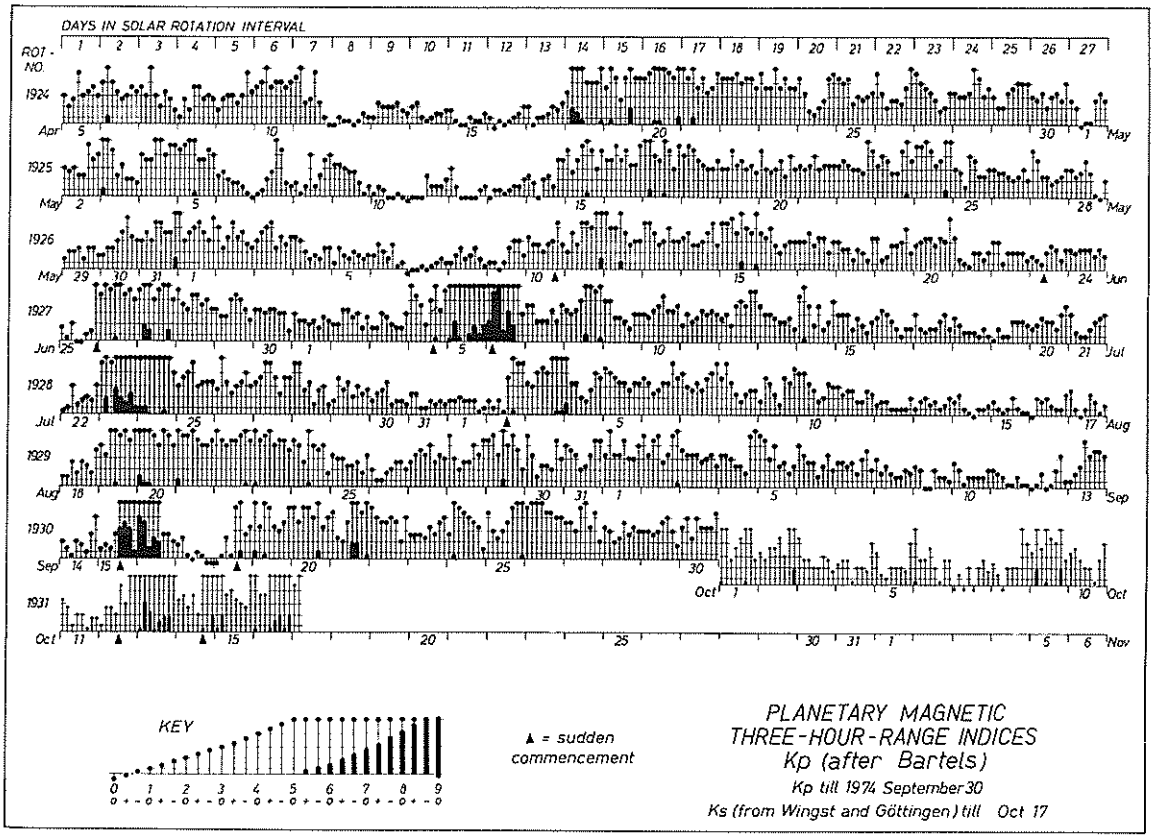
Sep 74

GEOMAGNETIC ACTIVITY INDICES

SEPTEMBER 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+	5	3+	3+	4+	3	3	4	29+	1.1	1.2	24	37	59	50 45	
2	5-	3+	4+	5-	3-	3+	5-	5+	33	1.3	1.3	32	54	52	53 53	
3	4-	3+	3+	3+	3-	3	3+	2+	25	1.0	0.9	16	32	36	39 29	
4	3+	3+	3	2+	2+	2-	5-	5	26-	1.0	1.0	20	38	26	20 45	
5	5-	4+	3	4	2+	3-	2-	2+	25	0.9	1.0	19	32	39	50 22	
6Q	4	3+	3-	3-	1+	2+	3+	2	22-	0.8	0.8	14	27	25	29 23	
7Q	3-	3-	2+	3-	2-	3	4-	2	21-	0.7	0.7	12	20	25	22 24	
8Q	3	2-	2+	2-	1+	1+	2	2-	15	0.2	0.4	7	18	16	19 16	
9QQ	2+	2	0+	0+	2	1+	1+	1	11-	0.1	0.2	5	14	9	12 11	CK
10QQ	3-	2	1-	1+	1+	1+	1+	2	13-	0.1	0.3	6	15	10	12 13	CC
11QQ	2	2-	1+	1-	1-	1+	1-	1-	9	0.0	0.2	4	9	7	9 8	CC
12QQ	0+	1-	2-	0+	1-	2	3+	1	10	0.3	0.3	6	11	11	8 15	KK
13	1	2-	2+	4+	3+	4-	4-	3+	23+	0.8	0.9	16	35	21	22 34	
14Q	2	1+	1-	2	2-	1	3-	4	15+	0.5	0.5	9	18	17	14 22	
15D	1+	2-	1+	3-	7+	8-	7+	6-	35	1.7	1.8	73	74	75	13 136	
16D	8	8-	6	7-	6+	3-	3-	2	42	1.8	1.8	88	90	94	146 38	
17QQ	2-	2+	1-	0+	1	1-	0	0	7-	0.0	0.1	3	6	8	8 5	C
18	0	1-	2+	1-	5-	6-	3-	3+	20	1.0	1.0	19	22	27	7 42	
19	6-	3+	5+	5-	3+	3	4-	5-	34-	1.5	1.4	34	47	49	61 36	
20D	5-	4-	5-	5-	4	6-	3+	4	35-	1.3	1.4	35	48	52	50 51	
21D	4+	2+	2	4-	6+	6+	4+	5+	35-	1.5	1.5	43	65	59	28 96	
22	5-	4	4-	4-	4	4-	2	4	30-	1.0	1.2	24	35	37	37 35	
23	3-	3-	3-	2+	3+	3-	4-	4	24	0.9	0.9	16	25	24	16 33	
24	3-	5+	5-	4+	4	4-	3+	1+	29+	1.1	1.2	26	36	48	46 39	
25	4+	3	2+	3	4-	5-	5	5+	31+	1.3	1.3	30	50	39	27 62	
26D	5-	5	5	5	4+	4+	4	4	36+	1.5	1.4	38	51	54	53 53	
27	4-	4-	3	5-	5	3+	4+	2	30-	1.2	1.2	25	40	54	41 53	
28Q	3+	3	2	2+	4-	3-	3+	3	23+	0.8	0.8	14	24	26	19 32	
29	3	3	3-	3	4-	4	3	2-	24	0.8	0.9	16	26	31	22 34	
30	3+	4	2+	4	3+	3+	3+	4+	28	1.1	1.1	21	32	42	30 44	
									MEAN	0.91	0.96	23	34.4	35.8	35.2	

GEOMAGNETIC ACTIVITY INDICES



DAILY AVERAGE INDICES Ap

	1973			1974								
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5	4	4	17	13	20	17	9	28	10	6	24
2	31	7	2	9	12	18	15	18	18	12	22	32
3	48	5	5	11	8	20	39	24	19	9	35	16
4	12	18	29	13	7	10	35	34	9	31	24	20
5	10	14	17	14	8	18	18	35	6	74	21	19
6	12	9	10	12	7	20	26	6	6	130	20	14
7	6	28	8	2	10	13	18	15	3	15	22	12
8	6	11	7	10	5	17	13	13	6	36	16	7
9	10	12	21	7	4	33	16	11	7	15	16	5
10	21	8	8	14	14	30	28	3	15	20	16	6
11	11	6	8	6	30	32	19	5	32	14	10	4
12	15	4	4	5	40	15	3	5	29	23	5	6
13	17	10	4	5	20	10	7	4	21	12	6	16
14	7	8	6	8	12	16	5	10	18	23	5	9
15	6	8	8	15	4	3	4	30	37	10	4	73
16	30	10	4	15	7	42	4	26	16	10	6	98
17	27	17	6	16	11	9	6	38	15	8	6	3
18	22	19	3	24	1	3	48	24	10	6	10	19
19	20	4	13	9	4	2	39	18	13	6	40	34
20	20	6	29	14	12	23	46	18	18	11	46	35
21	37	23	34	16	23	68	35	18	7	9	39	43
22	20	7	25	5	14	39	31	22	8	8	37	24
23	6	8	18	4	44	42	29	25	7	82	36	16
24	7	26	4	4	29	34	19	39	8	51	26	26
25	5	42	3	50	34	28	20	14	10	22	13	30
26	3	18	4	38	28	20	21	11	40	20	7	38
27	4	14	6	34	26	22	19	14	54	24	18	25
28	20	6	11	18	27	18	23	10	26	18	20	14
29	86	5	19	22		34	19	7	19	13	31	16
30	28	4	15	21		20	16	17	15	8	17	21
31	19		17	19		24		30		6	21	
MEAN	18	12	11	15	16	23	21	18	17	24	19	23

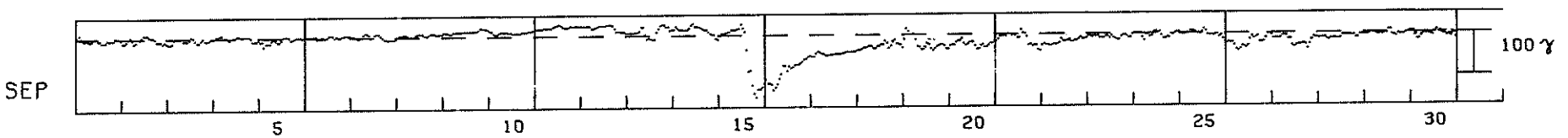
HOURLY EQUATORIAL DST VALUES (PROVISIONAL)

SEPTEMBER 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	5	10	2	-1	-4	0	-2	-6	-3	2	1	-3	-2	-8	-8	-5	-2	-5	-3	-4	1	1	0	-1
2	-4	-6	-4	0	2	-1	-12	-6	1	0	3	10	11	10	4	2	1	-2	-9	-9	-6	-9	-7	-7
3	-10	-12	-9	-2	1	1	0	1	-5	-7	-6	0	4	1	-5	-10	-9	-4	0	-6	-5	-4	-1	0
4	0	3	5	7	8	8	1	0	-4	0	2	1	5	4	2	4	4	4	3	0	-7	-4	-4	-2
5	-7	-5	-18	-11	-9	-11	-4	0	-5	-10	-11	-3	1	3	2	0	-5	-3	0	1	0	1	0	0
6	2	3	2	2	3	2	-1	-2	-3	0	-1	1	5	6	3	0	2	0	0	4	6	5	2	4
7	1	1	0	-2	0	2	7	11	9	5	0	0	6	9	7	2	0	-6	-5	-7	-4	-4	-3	-2
8	1	4	5	6	6	3	0	2	0	3	7	8	8	8	3	1	5	8	9	6	4	6	6	7
9	9	9	8	6	6	11	10	11	10	8	12	12	11	11	13	12	14	13	16	19	18	17	16	15
10	12	12	7	5	6	8	11	9	10	9	6	6	5	7	6	7	7	9	10	10	11	11	12	13
11	15	16	15	15	18	19	19	18	18	23	25	26	28	25	21	18	18	21	23	22	22	23	23	21
12	20	21	22	22	21	18	17	21	23	26	25	25	24	26	26	26	22	16	8	8	7	7	7	5
13	5	5	5	6	8	9	12	23	22	5	-6	-3	-6	-9	-7	7	15	23	26	25	20	19	10	14
14	14	19	16	13	14	12	13	16	19	26	30	22	22	20	17	14	11	11	7	4	1	1	-7	-8
15	-1	3	3	5	7	8	13	13	14	17	18	27	17	6	-35	-94	-91	-127	-146	-149	-125	-124	-120	-112
16	-96	-101	-102	-100	-121	-119	-111	-99	-88	-73	-72	-84	-77	-77	-74	-69	-67	-67	-64	-61	-56	-52	-49	-47
17	-49	-48	-43	-39	-41	-44	-45	-47	-47	-47	-46	-46	-45	-45	-45	-42	-41	-40	-38	-37	-37	-37	-36	-35
18	-34	-33	-32	-29	-29	-27	-25	-27	-33	-32	-28	-25	-21	-21	-14	-21	-34	-27	-16	-12	-19	-20	-21	-28
19	-6	18	8	1	1	2	-10	-27	-29	-35	-36	-28	-18	-23	-34	-37	-33	-29	-24	-19	-20	-23	-29	-28
20	-22	-20	-20	-16	-14	-12	-8	-20	-26	-21	-18	-16	-16	-27	-37	-33	-27	-24	-30	-28	-22	-16	-18	-13
21	-15	-10	-5	-3	-2	-1	0	0	-1	0	-3	-8	-7	7	1	0	-6	-25	-24	-29	-24	-20	-32	-35
22	-22	-20	-23	-24	-25	-26	-23	-24	-22	-20	-10	-15	-16	-14	-15	-18	-17	-14	-13	-10	-8	-10	-9	-7
23	-4	-6	-7	-4	-5	-6	-8	-11	-9	-5	-4	-8	-2	-7	-11	-13	-12	-6	-3	-2	-5	-8	-5	0
24	2	2	2	1	-7	-12	1	2	-5	-6	3	4	1	4	-3	-11	-12	-8	-9	0	-2	1	3	5
25	0	0	0	2	0	5	7	5	0	0	-2	1	9	5	-4	-5	-4	-5	-2	-1	-7	0	-10	-16
26	-19	-16	-18	-18	-23	-33	-39	-36	-29	-34	-38	-30	-14	-10	-13	-9	-6	-22	-21	-19	-10	0	-1	-1
27	-11	-10	-11	-11	-9	-4	-4	-4	-13	-16	-32	-37	-31	-29	-27	-25	-24	-27	-37	-25	-14	-9	-10	-11
28	-10	-12	-10	-10	-13	-15	-11	-12	-11	-14	-16	-12	-5	-6	-6	-4	-7	-7	-4	-11	-8	-2	-1	-2
29	-3	-4	-1	1	0	0	-2	-2	-3	-3	-1	-1	7	7	-5	-9	-10	-2	-3	-2	0	0	2	4
30	4	2	-5	-14	-13	-6	-1	0	-1	-3	-7	-8	1	6	1	0	-2	0	-6	-4	-3	1	0	-7



PRINCIPAL MAGNETIC STORMS

SEPTEMBER 1974

OBS. 2 letter IAGA code	GEOMAGNETIC LATITUDE	COMMENCEMENT DAY	hr min (UT)	TYPE	SC - AMPLITUDES D(')	H(γ)	Z(γ)	MAXIMUM 3 HOUR - INDEX K DAY(3 HOUR PERIOD)	K	RANGES D(')	H(γ)	Z(γ)	UT END DAY	HOUR
NE	55.1N	1	22--	..	..	..	..	02(3,4)	5	29	135	128	03	22
NE	55.1N	4	0018	..	..	..	..	04(2,8) 05(2)	5	26	112	115	05	14
NE	55.1N	13	0848	..	..	..	..	13(4)	5	28	58	45	14	02
HY	7.6N	13	0400	..	..	..	..	13(4,6)	4	6	124	24	15	00
HU	0.6S	13	0900	SC	..	..	..	13(6)	5	4	274	25	13	22
PM	18.7S	13	00--	..	..	..	..	13(4)	5	3	110	60	14	12
CO	64.6N	15	12--	..	..	..	..	16(5)	8	363	2370	1600	16	17
SI	60.0N	15	1344	SC	+10	-30.8	-21.7	16(3)	9	260	1750	1070	16	17
NE	55.1N	15	1344	SC*	6	45	26	15(5,6,7) 16(1,2,4,5)	7	77	552	703	16	18
WI	54.2N	15	1343	SC	-13	+11.5	+ 6	15(6) 16(1)	7	62	330	355	16	16
FR	49.6N	15	1343	SC*	15	60	22	16(1)	7	50	230	190	16	16
BD	48.9N	15	1344	SC*	+13	+60	-20	16(2)	7	55	300	200	17	00
EB	43.9N	15	1344	SC*	- 4.8	+24	-18	15(6)	7	35	212	118	16	21
IR	41.0N	15	1345	SC*	6.0	97	15	15(6,7)	7	42	268	156	16	17
TU	40.4N	15	1343	SC	+ 3	+48	+ 2	15(5)	7	29	255	80	16	18
SJ	29.9N	15	1343	SC	1.0	15	3	15(5)	6	11	187	67	17	00
HO	21.1N	15	1343	SC*	+ 1	+44	+19	16(1)	6	12	226	33	16	16
AL	9.5N	15	1342	SC	- 1.0	30	- 8	15(5)	7	9	188	62	16	15
HY	7.6N	15	1344	SC	- 0.7	+36	- 3	15(7)	8	9	230	22	17	00
GU	4.0N	15	1343	SC*	04	46	-14	15(5)	7	10	170	40	17	05
AN	1.5N	15	1342	SC	- 1.3	37	28	--	-	7	225	109	16	15
HU	0.6S	15	1332	..	5	14.2	11	15(6)	8	19	536	40	16	21
TV	1.1S	15	1342	SC	0.4	38	39	--	-	6	223	237	16	15
AP	16.0S	15	1225	SC	0	+38	-17	15(6) 16(1,4,5)	6	6	209	31	16	18
PM	18.7S	15	1343	SC	+ 0.5	+53	+42	15(5,6)	6	11	180	120	17	06
GN	43.2S	15	1343	SC	-01	+08	-01	15(5,6) 16(1,4)	7	44	180	260	16	16
TO	46.7S	15	1343	SC	- 5.7	75	16	15(5,6,7) 16(1,3,4)	6	43	280	140	16	18
KG	56.5S	15	1342	SC	--	--	--	15(6) 16(1)	9	--	--	--	16	16
CO	64.6N	18	1434	SC*	-11	-30.8	-70	18(6) 20(3,4,5,6)	7	482	1750	1310	21	02
SI	60.0N	18	2235	SC*	-12 *	+51 *	+ 4 *	20(3)	7	110	810	570	22	16
NE	55.1N	18	1434	SC*	3	2	3	18(6) 19(1,3,4) 20(1,3,4)	5	38	166	185	21	02
WI	54.2N	18	1433	SC*	- 4 *	+52 *	0	21(6)	7	40	235	95	23	01
FR	49.6N	18	1434	SC*	5	32	3	22(1)	6	33	148	53	22	16
BD	48.9N	18	1434	SC	- 1	+12	--	21(5)	6	35	135	80	22	18
EB	43.9N	18	1433	SC*	- 1.9	+24	+15	19(1) 21(6)	6	16	155	84	23	01
IR	41.0N	18	1435	SC*	2.4	47	8	16(1)	7	28	127	37	20	20
TU	40.4N	18	1433	SC	- 1	+16	+ 1	19(1)	6	15	130	40	22	18
SJ	29.9N	18	1434	SC	- 0.5	8	2	19(1)	5	9	60	34	19	15
AL	9.5N	18	1433	SC	- 3.7	21	- 5	18(6)	5	5	143	63	19	08
HY	7.6N	18	1434	SC	- 0.2	+22	- 2	19(1)	6	6	144	37	20	18
GU	4.0N	18	1434	SC	--	22	-06	18(5)	4	0	100	30	19	00
AN	1.5N	18	1433	SC	- 0.9	25	17	--	-	6	187	95	19	08
HU	0.6S	18	1433	SC*	4	11.7	9	18(6)	5	6	298	45	20	02
TV	1.1S	18	1433	SC	0.2	24	29	--	-	4	213	154	19	08
AP	16.0S	18	1434	SC	0	+18	- 8	19(1)	5	5	125	31	21	03
PM	18.7S	18	1433	SC	+ 0.3	+28	+19	19(1)	6	8	160	100	28	18
GN	43.2S	18	1434	SC*	+02	+23 *	-07	18(6) 19(1) 21(5)	6	20	100	130	22	17
TO	46.7S	18	1435	SC*	- 3.4*	34	7	18(6) 19(3)	5	25	100	50	20	00
KG	56.5S	18	1435	SC	--	--	--	18(6) 20(6) 21(6)	6	--	--	--	23	00
HY	7.6N	19	0025	SI	- 0.2	+22	- 1							
GU	4.0N	19	0044	SC*	--	32	-08	19(1)	6	10	150	40	21	12
CO	64.6N	21	08--	..	..	..	..	21(5)	8	219	2170	1040	22	17
NE	55.1N	21	0925	..	..	..	..	21(5)	6	42	189	243	22	18
IR	41.0N	21	07--	..	..	..	..	21(6)	6	23	124	34	22	22
SJ	29.9N	21	1245	SC*	--	9	2	21(5)	5	6	70	34	22	06
HY	7.6N	21	1246	SI	- 0.3	+22	- 1							
HY	7.6N	21	0815	..	..	..	..	21(5,6,7) 22(5)	4	5	79	27	22	22
GU	4.0N	21	1245	SC	--	32	-10	21(5)	5	0	60	20	22	18
HU	0.6S	21	1130	..	..	..	..	21(6)	5	6	250	30	22	03
AP	16.0S	21	1240	SC	0	+54	-11	21(5)	5	3	71	27	22	12
TO	46.7S	21	09--	..	..	..	..	21(5)	6	21	100	40	22	16
NE	55.1N	24	0327	..	..	..	..	24(4)	5	25	85	77	24	21
FR	49.6N	24	04--	..	..	..	..	26(1)	5	24	105	75	28	09
BD	48.9N	24	04--	..	..	..	..	24(2)	6	24	100	80	28	18
IR	41.0N	24	03--	..	..	..	..	25(7) 26(5,6) 27(5)	6	27	156	51	27	21
TU	40.4N	24	04--	..	..	..	..	24(2,4) 25(8) 26(1,2,3,4) 27(5)	5	13	90	30	28	09
HY	7.6N	24	0500	..	..	..	..	25(7)	5	5	73	28	26	00
GU	4.0N	24	0544	..	..	..	..	27(4)	5	10	100	40	28	19
CO	64.6N	25	00--	..	..	..	..	27(4)	8	222	2050	960	27	20
SI	60.0N	25	2115	SC	- 5.6	+30	+ 4	27(4)	8	110	1160	650	27	20
NE	55.1N	25	2315	..	..	..	..	26(3)	6	46	202	288	28	21
WI	54.2N	25	16--	..	..	..	..	25(6,7,8)	6	30	180	85	26	24
EB	43.9N	25	12--	..	..	..	..	25(6,7,8) 27(5)	5	15	109	76	27	21
HU	0.6S	25	0130	..	..	..	..	26(6)	5	6	215	27	26	23
TO	46.7S	25	08--	..	..	..	..	27(5)	6	27	130	60	27	21
HY	7.6N	26	0600	..	..	..	..	26(5,6) 27(4,5)	5	5	130	32	27	23
HU	0.6S	29	1151	..	..	..	..	29(5)	5	4	155	15	29	21
NE	55.1N	30	08--	..	..	..	..	01(2)	6	35	85	96	01	07
TU	40.4N	30	01--	..	..	..	..	02(8)	6	13	130	30	03	10
HU	0.6S	30	1253	..	..	..	..	30(6)	5	5	253	30	30	24

SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

SEPTEMBER 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 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)

15 1343 A: SO NU SI WN WI VI OT LG IK EB CI TL FR KS QU SZ HU LM CZ KG DU;
B: DO NI HB KA PP GN

18 1434 A: SO NU SI WN VI HB OT LG EB CI TL FR KS QU SZ HU LM CZ KG DU;
B: DO WI NI IK KA PP GN

Sudden impulses found in the magnetograms (si)

n o n e

Solar-flare effects (sfe)

Effects confirmed by ionospheric or solar observations are underlined.

01 2356 - .... TN

02 0751 - 0759 SZ

05 1128 - 1135 EB

08 1607 - 1613 LG

09 1413 - 1436 SO LG SZ HU

09 1436 - 1500 SO LG SZ HU

10 2134 - 2200 HU (b: B: PP?)

14 0110 - 0122 IK TN (si: A: LG QU)

22 1144 - 1200 TN

RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

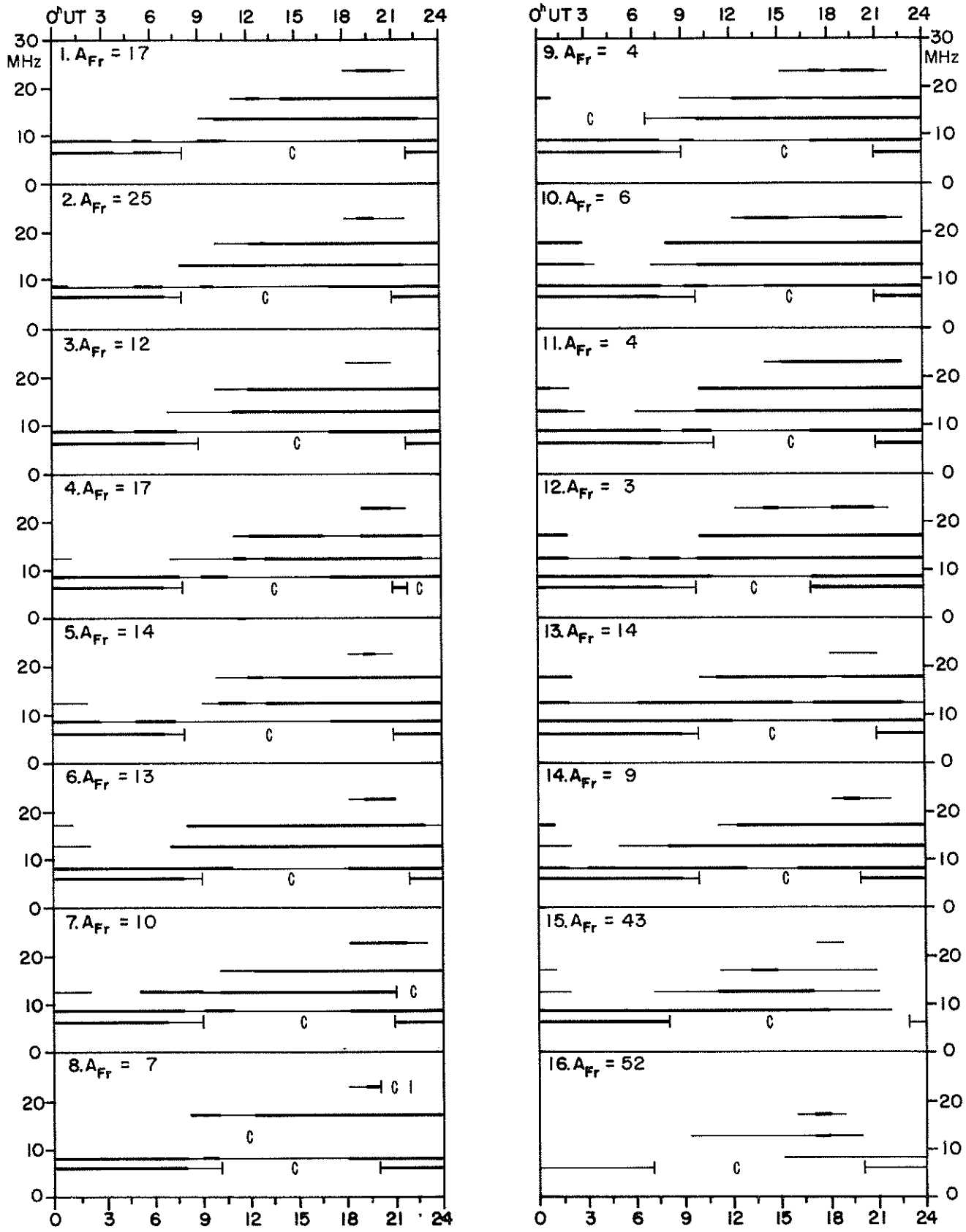
SEPTEMBER 1974

North Atlantic

SEP 1974	WHOLE DAY INDICES NORTH ATLANTIC	ADVANCE FORECASTS (JC-REPORTS) FOR WHOLE DAY	NORTH ATLANTIC 6-HOURLY QUALITY FIGURES 00 TO 06	06 TO 12	12 TO 18	18 TO 24	SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF 02	08	14	20	GEOMAGNETIC INDICES K_{FR} HALF DAY (1)	(2)	A_{FR} OBSERVED
01	6-	5	6-	5-	6o	6o	5	5	5	5	3	3	17
02	6-	6	6-	5-	6+	6+	5	5	5	5	(4)	(4)	24
03	5+	6	5o	4o	6o	6+	5	5	5	6	3	2	12
04	5+	6	5o	4+	6-	6-	6	5	5	6	3	3	17
05	5+	6	5o	5o	6-	6o	6	5	5	6	(4)	2	14
06	6-	6	6o	5+	6o	6-	5	5	5	6	3	2	13
07	6o	6	6o	6-	6+	7-	6	6	6	6	3	2	10
08	6+	6	6o	6o	7-	6o	6	6	6	6	2	1	7
09	6-	6	6o	5o	6o	6o	6	6	6	7	1	1	4
10	6o	6	6o	6-	6+	7-	6	6	6	7	2	1	6
11	6o	6	6o	5o	6o	7-	6	5	6	7	2	1	4
12	6o	6	6o	6-	7-	6o	6	6	6	7	1	1	3
13	6o	6	6+	6-	6-	6+	6	6	6	5	3	3	14
14	6o	5	6o	6o	6-	6-	5	5	6	6	2	2	9
15	6-	4	6o	6o	6-	5+	5	5	6	5	2	(6)	43
16	4+	4	5-	5-	4-	4o	4	4	3	3	(6)	3	52
17	5o	4	3+	5+	6-	6-	4	4	6	6	2	0	4
18	5+	4	6o	6-	6+	4o	5	6	6	5	1	(4)	15
19	4+	4	4-	4+	5o	4+	5	5	5	5	(4)	3	24
20	4o	4	4o	3+	5-	5-	4	4	5	5	(4)	3	24
21	5o	5	4+	5o	6-	5-	4	4	5	5	3	(5)	27
22	5o	5	4-	4+	6-	6-	5	4	5	5	(4)	3	26
23	5+	5	5+	5-	5-	6-	5	4	5	6	3	3	14
24	5o	5	5+	4+	5-	5+	5	5	5	5	(4)	3	20
25	5o	5	5o	5-	5+	5+	5	4	5	5	3	(4)	25
26	4+	5	5-	4o	4+	4+	5	4	3	5	(4)	3	25
27	5-	5	5o	4o	5-	5+	4	4	5	5	3	3	17
28	5-	5	4o	5o	5+	5-	5	5	5	5	3	2	13
29	5+	5	5-	6-	6-	6-	5	5	6	6	2	3	10
30	5+	5	5o	5o	6-	6-	6	5	6	6	3	3	18

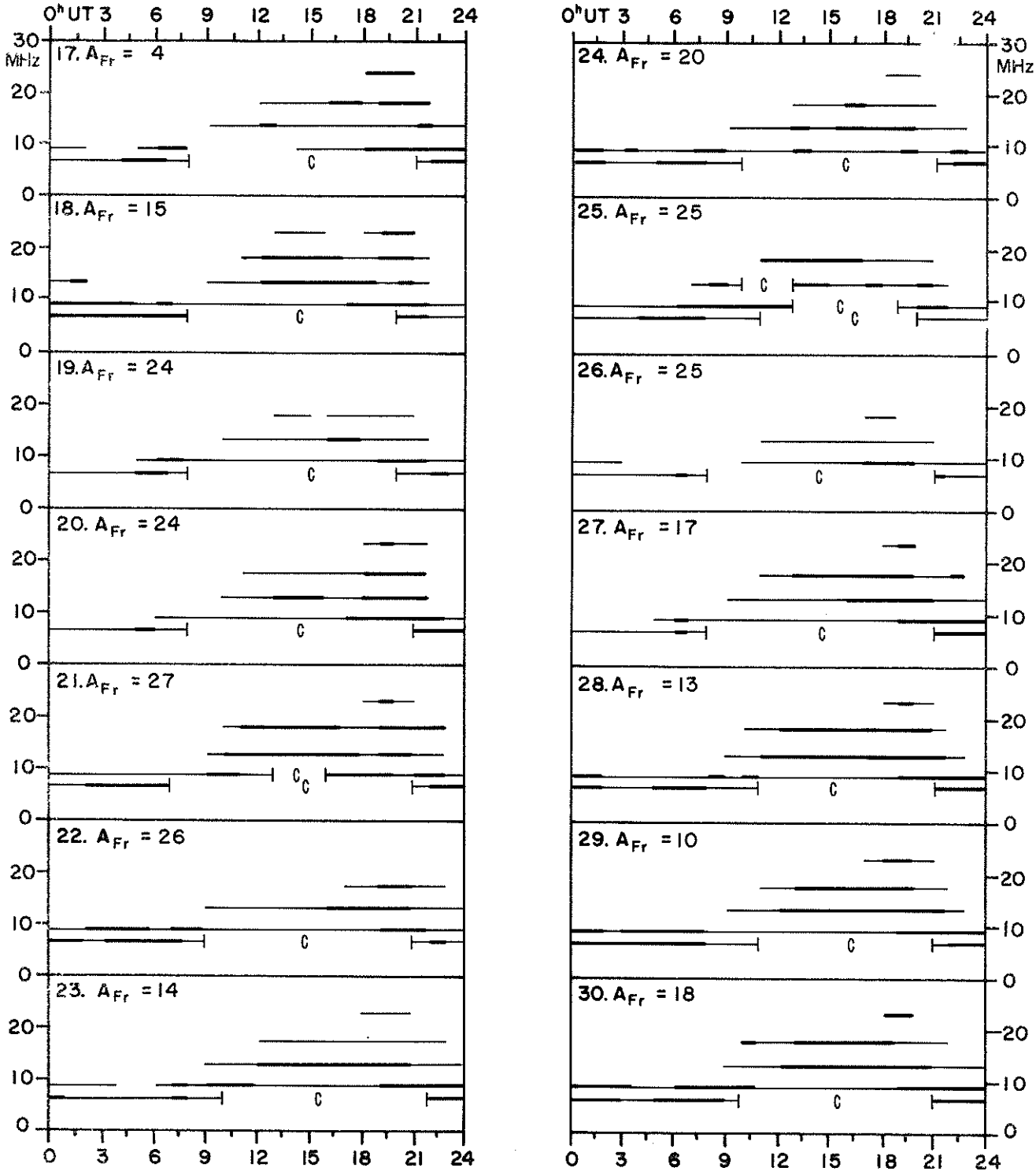
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

SEPTEMBER 1974



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

SEPTEMBER 1974



Field strengths from five frequencies, 6.425, 8.542, 12.813, 17.084 and 22.378 MHz, observed on a Lüchow - Halifax circuit are represented above. Heavy solid lines represent field strengths ≥-12 dB above 1 μv/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μv/m and -40 dB above 1 μv/m are represented by the fine line.

Adapted from Observations by Deutsche Bundespost

RADIO PROPAGATION QUALITY INDICES

SEPTEMBER 1974

Quality Indices calculated for reception at Lüchow

	TOKYO	HALIFAX	MAURITIUS	CANBERRA
1	5.2	5.8	6.7	4.7
2	5.5	6.4	7.0	5.1
3	5.4	6.4	5.7	5.2
4	6.9	6.5	6.1	5.4
5	5.1	6.3	5.7	5.4
6	6.3	7.7	5.9	5.8
7	6.0	6.8	6.0	5.4
8	6.9	8.1	6.7	5.4
9	8.0	8.9	6.3	6.3
10	8.0	9.7	6.8	6.4
11	7.3	9.9	6.5	6.5
12	8.1	9.8	6.0	7.1
13	5.5	6.7	5.7	7.2
14	6.5	7.9	6.5	6.8
15	4.2	4.2	4.0	5.6
16	2.7	2.7	2.0	3.6
17	5.3	5.0	5.0	4.5
18	4.2	4.6	4.7	4.7
19	3.1	4.0	5.4	4.4
20	3.3	4.4	5.3	4.4
21	4.5	5.3	5.6	5.4
22	1.9	3.9	4.4	4.5
23	3.2	5.0	4.5	4.3
24	1.9	4.2	4.3	4.6
25	3.3	4.6	5.1	5.0
26	2.3	3.2	3.8	5.0
27	3.9	4.7	5.0	4.8
28	2.9	6.6	4.8	5.0
29	4.1	5.7	5.4	5.1
30	4.0	6.7	5.5	5.0

The method of calculation of the radio propagation indices changed in July 1974. An absolute quality figure is calculated for a 24-hour period from Tokyo, Halifax, Mauritius (Africa) and Canberra. The figure 0.0 corresponds to a median field strength of -30 dB above 1μV/m (converted into 1 kW and referred to an omnidirectional antenna). The figures 1 to 10 are in steps of 5 dB with the figure 10.0 corresponding to a median field strength of +20 dB above 1μV/m. The field strength of the frequency with the highest value for each hour is used in place of a mean of all recorded frequencies. This is done on the assumption that the optimum frequency would be used for communication.

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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."