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NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE
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JULY 1988 NUMBER 527 - Part I

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Data for June, May 1988, and Late Data

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NATIONAL GEOPHYSICAL DATA CENTER
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Boulder, Colorado

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NUMBER 527

(Issued in Two Parts)

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C O N T E N T S

PART I (PROMPT REPORTS)

PART II (COMPREHENSIVE REPORTS)

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Prompt Reports DATA FOR **JUNE 1988** Number 527 Part I

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages JUNE 1988

Julian Day	Date of Issue	Date of Observation	Wolf No.	10-cm Solar Flux	A-index	Location	Flares			Date of Forecast	Location	Region Forecast[1]	Geoalerts
						°Lat °Long	Total	M	X		°Lat °Long		
153	01	31	109	145	009	S24 W49	6	0	0	01	S24 W49	E	Solalert 01/XX,
						S23 W62	0	0	0		S23 W62	Q	Magquiet.
						N27 E56	3	0	0		N27 E56	Q	
						N17 E50	8	0	0		N17 E50	E	
						N38 W19	0	0	0		N38 W19	Q	
154	02	01	117	150	006	S24 W61	5	0	0	02	S24 W61	E	Solalert 02/XX,
						S22 W73	1	0	0		S22 W73	Q	Magquiet.
						N26 E44	1	0	0		N26 E44	Q	
						N17 E39	6	0	0		N17 E39	E	
						N38 W31	0	0	0		N38 W31	Q	
						S21 E69	1	0	0		S21 E69	E	
155	03	02	110	144	005	S24 W72	3	0	0	03	S24 W72	E	Solnil, Magquiet.
						N27 E31	2	0	0		N27 E31	Q	
						N18 E25	5	0	0		N18 E25	E	
						N38 W46	0	0	0		N38 W46	Q	
						S21 E59	1	0	0		S21 E59	E	
156	04	03	125	145	002	S24 W83	9	0	0	04	S24 W83	E	Solquiet, Magquiet.
						N27 E18	1	0	0		N27 E18	E	
						N18 E13	0	0	0		N18 E13	E	
						N38 W57	0	0	0		N38 W57	Q	
						S22 E47	2	0	0		S22 E47	Q	
						N14 W28	0	0	0		N14 W28	Q	
157	05	04	132	147	001	S24 W97	3	1	0	05	S24 W97	Q	Solquiet, Magquiet.
						N27 E05	0	0	0		N27 E05	Q	
						N19 W01	3	0	0		N19 W01	E	
						S22 E33	8	0	0		S22 E33	Q	
						N14 W40	0	0	0		N14 W40	Q	
						S16 E80	0	0	0		S16 E80	Q	
158	06	05	152	147	007	N27 W05	1	0	0	06	N27 W05	Q	Solquiet,
						N17 W18	3	0	0		N17 W18	E	Magalert 06/06.
						S22 E20	0	0	0		S22 E20	Q	
						N14 W53	0	0	0		N14 W53	Q	
						S17 E72	2	0	0		S17 E72	Q	
						N14 W07	1	0	0		N14 W07	Q	
						S25 W21	6	0	0		S25 W21	Q	
						N32 E29	0	0	0		N32 E29	Q	
159	07	06	176	154	009	N27 W17	7	0	0	07	N27 W17	Q	Solquiet,
						N18 W30	7	0	0		N18 W30	E	Magalert 07/07.
						S21 E06	1	0	0		S21 E06	E	
						N14 W69	2	0	0		N14 W69	Q	
						S17 E60	2	0	0		S17 E60	E	
						N15 W20	0	0	0		N15 W20	Q	
						S25 W36	4	0	0		S25 W36	E	
						N32 E16	0	0	0		N32 E16	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages JUNE 1988

Julian Day	Date of Issue	Date of Obser-vation	Wolf No.	10-cm Solar Flux	A-index	Location °Lat °Long	Flares Total	M	X	Date of Forecast	Location °Lat °Long	Region Forecast[1]	Geoalerts
160	08	07	198	160	005	N26 W38	3	0	0	08	N26 W38	Q	Solquiet, Magnil.
						N19 W43	1	0	0		N19 W43	Q	
						S22 W06	1	0	0		S22 W06	Q	
						N14 W82	2	0	0		N14 W82	Q	
						S17 E45	2	0	0		S17 E45	E	
						N14 W32	2	0	0		N14 W32	Q	
						S25 W50	4	0	0		S25 W50	E	
						N31 E01	0	0	0		N31 E01	Q	
						N27 W21	0	0	0		N27 W21	E	
						N15 E78	0	0	0		N15 E78	Q	
161	09	08	217	163	008	N26 W49	1	0	0	09	N26 W49	Q	Solquiet, Magquiet.
						N19 W58	2	0	0		N19 W58	E	
						S21 W20	1	0	0		S21 W20	E	
						N13 W96	0	0	0		N13 W96	Q	
						S17 E31	9	0	0		S17 E31	E	
						N14 W46	2	0	0		N14 W46	Q	
						S25 W62	2	0	0		S25 W62	E	
						N27 W35	0	0	0		N27 W35	E	
						N13 E65	3	0	0		N13 E65	Q	
						S17 W05	0	0	0		S17 W05	Q	
162	10	09	203	165	005	N26 W63	0	0	0	10	N26 W63	Q	Solquiet, Magquiet.
						N19 W71	2	0	0		N19 W71	E	
						S22 W33	2	0	0		S22 W33	E	
						S17 E18	3	0	0		S17 E18	E	
						N14 W60	0	0	0		N14 W60	Q	
						S25 W75	1	0	0		S25 W75	E	
						N32 W23	0	0	0		N32 W23	Q	
						N27 W46	2	0	0		N27 W46	E	
						N13 E54	0	0	0		N13 E54	Q	
						N29 E16	0	0	0		N29 E16	Q	
163	11	10	177	145	011	N26 W77	0	0	0	11	N26 W77	Q	Solquiet, Magquiet.
						N19 W87	0	0	0		N19 W87	E	
						S22 W46	0	0	0		S22 W46	Q	
						S16 E05	3	0	0		S16 E05	Q	
						N14 W74	0	0	0		N14 W74	Q	
						S26 W87	0	0	0		S26 W87	Q	
						N32 W37	0	0	0		N32 W37	Q	
						N29 W58	1	0	0		N29 W58	Q	
						N14 E38	2	0	0		N14 E38	Q	
164	12	11	139	134	009	N27 W89	0	0	0	12	N27 W89	Q	Solquiet, Magquiet.
						S22 W59	0	0	0		S22 W59	Q	
						S16 W08	5	0	0		S16 W08	E	
						N15 W86	2	0	0		N15 W86	Q	
						N32 W49	0	0	0		N32 W49	Q	
						N29 W68	1	0	0		N29 W68	Q	
						N14 E27	1	0	0		N14 E27	Q	

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages JUNE 1988

Julian Day	Date of Issue	Date of Observation	Wolf No.	10-cm Solar Flux	A-index	Location °Lat °Long	Flares Total	M	X	Date of Forecast	Location °Lat °Long	Region Forecast[1]	Geoalerts
165	13	12	123	122	003	S23 W70	6	0	0	13	S23 W70	E	Solquiet, Magquiet.
						S17 W22	3	0	0		S17 W22	Q	
						N33 W60	0	0	0		N33 W60	Q	
						N29 W80	1	0	0		N29 W80	Q	
						N13 E12	4	0	0		N13 E12	Q	
						N19 E32	0	0	0		N19 E32	Q	
166	14	13	094	112	007	S23 W83	0	0	0	14	S23 W83	Q	Solquiet, Magquiet.
						S17 W34	0	0	0		S17 W34	Q	
						N13 W02	0	0	0		N13 W02	Q	
						N20 E18	0	0	0		N20 E18	Q	
						S36 W02	0	0	0		S36 W02	Q	
						N24 E49	1	0	0		N24 E49	Q	
167	15	14	066	108	023	S18 W48	0	0	0	15	S18 W48	Q	Solquiet, Magquiet.
						N13 W16	0	0	0		N13 W16	Q	
						S15 E72	0	0	0		S15 E72	Q	
						N37 E73	0	0	0		N37 E73	Q	
168	16	15	089	111	009	S18 W60	1	0	0	16	S18 W60	Q	Solquiet, Magquiet.
						N13 W29	0	0	0		N13 W29	Q	
						S16 E61	1	0	0		S16 E61	E	
						N37 E62	1	0	0		N37 E62	Q	
						S30 E28	0	0	0		S30 E28	Q	
						S22 E45	0	0	0		S22 E45	Q	
169	17	16	121	118	007	S17 W79	1	0	0	17	S17 W79	E	Solquiet, Magquiet.
						N13 W41	5	0	0		N13 W41	E	
						N23 E06	0	0	0		N23 E06	Q	
						S16 E47	1	0	0		S16 E47	E	
						N37 E51	3	0	0		N37 E51	E	
						S31 E15	0	0	0		S31 E15	Q	
						N34 E39	0	0	0		N34 E39	Q	
						N30 E41	0	0	0		N30 E41	Q	
170	18	17	113	121	011	N14 W52	6	0	0	18	N14 W52	E	Solquiet, Magquiet.
						N25 W05	0	0	0		N25 W05	Q	
						S15 E34	3	0	0		S15 E34	E	
						N37 E37	0	0	0		N37 E37	Q	
						S29 E02	1	0	0		S29 E02	Q	
						N34 E26	0	0	0		N34 E26	Q	
						N30 E27	0	0	0		N30 E27	Q	
171	19	18	095	122	013	N14 W66	2	0	0	19	N14 W66	E	Solquiet, Magquiet.
						N26 W19	0	0	0		N26 W19	Q	
						S17 E23	6	0	0		S17 E23	E	
						N38 E25	0	0	0		N38 E25	Q	
						N34 E12	0	0	0		N34 E12	Q	
						S21 E76	6	0	0		S21 E76	Q	
172	20	19	088	116	016	N15 W80	3	0	0	20	N15 W80	E	Solquiet, Magquiet.
						N19 W63	0	0	0		N19 W63	Q	
						S15 E09	8	0	0		S15 E09	E	
						N38 E14	0	0	0		N38 E14	Q	
						N36 W00	1	0	0		N36 W00	Q	
						S20 E63	2	0	0		S20 E63	Q	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages JUNE 1988

Julian Day	Date of Issue	Date of Obser-vation	Wolf No.	10-cm Solar Flux	A-index	Location °Lat °Long	Flares Total	M	X	Date of Forecast	Location °Lat °Long	Region Forecast[1]	Geoalerts
173	21	20	113	115	014	N16 W93	0	0	0	21	N16 W93	Q	Solquiet, Magquiet.
						S15 W03	4	0	0		S15 W03	E	
						N38 E02	0	0	0		N38 E02	Q	
						N36 W12	0	0	0		N36 W12	Q	
						S20 E50	0	0	0		S20 E50	Q	
						S25 E27	1	0	0		S25 E27	Q	
						S23 E34	0	0	0		S23 E34	Q	
174	22	21	119	121	007	S15 W15	15	1	0	22	S15 W15	E	Solalert 22/XX,
						N38 W11	0	0	0		N38 W11	Q	Magquiet.
						N36 W24	2	0	0		N36 W24	Q	
						S20 E38	0	0	0		S20 E38	Q	
						S25 E16	4	0	0		S25 E16	Q	
						S24 E22	2	0	0		S24 E22	Q	
		Presto:[2] Sydney Culgoora Strong Type IV 72-22 MHz 21/0526 UT.											
175	23	22	109	119	014	S16 W29	13	1	0	23	S16 W29	E	Solalert 23/XX,
						N38 W24	0	0	0		N38 W24	Q	Magquiet.
						N35 W37	0	0	0		N35 W37	Q	
						S21 E24	0	0	0		S21 E24	Q	
						S25 E04	0	0	0		S25 E04	Q	
						S24 E09	0	0	0		S24 E09	Q	
176	24	23	139	125	011	S16 W42	15	1	1	24	S16 W42	A	Solalert 24/XX,
						N38 W35	0	0	0		N38 W35	Q	Magalert 24/24.
						N36 W49	0	0	0		N36 W49	Q	
						S21 E10	0	0	0		S21 E10	Q	
						S25 W07	0	0	0		S25 W07	Q	
						S24 W02	0	0	0		S24 W02	Q	
						S24 E20	0	0	0		S24 E20	Q	
						N22 E24	0	0	0		N22 E24	Q	
						S18 E75	0	0	0		S18 E75	Q	
		Presto: Boulder X-ray event X1/2N S18 W27 23/0914 UT duration 46 minutes.											
177	25	24	135	135	020	S16 W56	11	0	3	25	S16 W56	P	Solalert 25/XX,
						N38 W48	0	0	0		N38 W48	Q	Magalert 26/27.
						N37 W63	4	0	0		N36 W63	E	
						S21 W03	0	0	0		S21 W03	Q	
						S25 W21	0	0	0		S25 W21	Q	
						S24 W16	0	0	0		S24 W16	Q	
						S24 E07	1	0	0		S24 E07	Q	
						S18 E64	0	0	0		S18 E64	Q	
						N15 E40	0	0	0		N15 E40	Q	
		Presto: Boulder X-ray event X1/1B S18 W45 24/0418 UT duration 108 minutes.											
		Boulder Tenflare 270 flux units began 24/0422 UT duration 3 minutes.											
		Boulder X-ray event X2/1B S17 W49 24/1601 UT duration 41 minutes.											
		Boulder Tenflare 340 flux units began 24/1643 UT duration 8 minutes.											
		Boulder X-ray event X5/1B S17 W49 24/1644 UT duration 94 minutes.											

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages JUNE 1988

Julian Day	Date of Issue	Date of Obser-vation	Wolf No.	10-cm Solar Flux	A-index	Location °Lat °Long	Flares Total	M	X	Date of Forecast	Location °Lat °Long	Region Forecast[1]	Geoalerts
178	26	25	139	150	024	S17 W69	6	1	0	26	S17 W69	P	Solalert 26/XX,
						N38 W60	0	0	0		N38 W60	Q	Magalert 26/27.
						N36 W73	4	0	0		N37 W73	E	
						S22 W16	0	0	0		S22 W16	Q	
						S26 W36	0	0	0		S26 W36	Q	
						S24 W03	0	0	0		S24 W03	Q	
						S18 E53	0	0	0		S18 E53	Q	
						N13 E28	0	0	0		N13 E28	Q	
						S22 E75	4	2	0		S22 E75	A	
179	27	26	143	155	013	S16 W82	4	1	0	27	S16 W82	A	Solalert 27/XX,
						N38 W74	0	0	0		N38 W74	Q	Magalert 27/XX.
						N36 W86	1	0	0		N36 W86	Q	
						S23 W17	0	0	0		S23 W17	Q	
						S17 E40	0	0	0		S17 E40	Q	
						N14 E13	0	0	0		N14 E13	Q	
						S19 E63	7	0	0		S19 E63	A	
						N27 E75	0	0	0		N27 E75	Q	
						N13 E72	1	0	0		N13 E72	Q	
		Presto:[2] Toyokawa Tenflare 150 flux units began 26/0020 UT duration 8 minutes.											
180	28	27	158	155	011	S17 W96	1	0	0	28	S17 W96	Q	Solalert 28/XX,
						N37 W84	0	0	0		N37 W84	Q	Magalert 28/XX.
						S24 W32	1	0	0		S24 W32	Q	
						S18 E26	0	0	0		S18 E26	Q	
						N13 W03	0	0	0		N13 W03	Q	
						S20 E50	7	1	0		S20 E50	A	
						N26 E65	0	0	0		N26 E65	Q	
						N13 E58	12	1	0		N13 E58	E	
181	29	28	166	178	012	S23 W46	1	0	0	29	S23 W46	Q	Solalert 30/XX,
						S17 E14	0	0	0		S17 E14	Q	Magalert 30/01.
						S19 E35	22	5	0		S19 E35	P	
						N27 E53	0	0	0		N27 E53	Q	
						N13 E45	11	1	0		N13 E45	A	
						N19 E31	0	0	0		N19 E31	Q	
182	30	29	166	183	026	S23 W58	0	0	0	30	S23 W58	Q	Solalert 29/XX,
						S17 E01	0	0	0		S17 E01	Q	Magalert 29/30.
						S19 E23	19	3	0		S19 E23	P	
						N27 E40	0	0	0		N27 E40	Q	
						N12 E31	5	0	0		N12 E31	A	
						N21 W10	0	0	0		N21 W10	Q	
		Presto: Boulder Tenflare 370 flux units began 29/0733 UT duration 8 minutes.											
		Meudon Type IV radio sweep 29/0735 UT in progress.											
		Boulder Tenflare 320 flux units began 29/2015 UT duration 20 minutes.											

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages JUNE 1988

Julian Day	Date of Issue	Date of Obser-vation	Wolf No.	10-cm Solar Flux	A-index	Location	Flares			Date of Forecast	Location	Region Forecast[1]	Geoalerts
						°Lat °Long	Total	M	X		°Lat °Long		
183	01	30	191	184	021	S24 W69	0	0	0	01	S24 W69	Q	Solalert 01/XX,
						S17 W12	0	0	0		S17 W12	Q	Magalert 01/02.
						S19 E10	12	1	0		S19 E10	P	
						N27 E27	0	0	0		N27 E27	Q	
						N13 E17	8	0	0		N13 E17	E	
						N21 E06	0	0	0		N21 E06	Q	
						N23 E55	0	0	0		N23 E55	Q	

[1]Q = quiet, E = eruptive, A = active, P = proton.
[2]Presto message is a rapid report of a major event.

INTERNATIONAL RELATIVE SUNSPOT NUMBERS

Day	Jul 87	Aug	Sep	Oct	Nov	Dec	Jan 88	Feb	Mar	Apr†	May†	Jun†
01	13	45	33	34	56	17	47	63	68	110	69	101
02	0	47	38	25	57	16	31	68	66	96	84	96
03	0	39	37	31	57	16	25	68	72	94	76	100
04	0	33	38	58	46	15	23	74	77	74	96	105
05	0	31	39	54	47	19	32	58	64	66	97	114
06	0	32	44	48	27	24	40	43	61	62	77	145
07	9	38	56	39	31	34	58	44	65	84	50	141
08	12	45	67	55	43	36	57	46	67	92	63	151
09	13	39	64	50	42	41	62	50	49	115	74	173
10	11	47	59	51	30	34	68	38	36	107	87	144
11	0	56	58	63	28	22	75	26	20	115	65	108
12	0	48	44	53	25	13	67	14	39	118	56	77
13	0	47	25	74	18	20	76	23	53	120	44	47
14	0	49	20	92	23	26	91	28	62	138	37	53
15	13	49	21	101	22	42	90	33	63	145	44	65
16	17	55	24	101	33	40	83	42	74	148	53	87
17	14	46	25	91	46	39	72	35	99	144	54	76
18	17	43	30	86	48	39	68	55	95	137	44	67
19	23	45	35	82	51	28	73	66	105	108	20	70
20	38	51	38	79	49	26	85	51	85	88	23	77
21	67	48	32	61	51	14	78	27	81	79	25	95
22	87	34	23	50	70	24	66	15	76	72	32	92
23	02	39	26	33	83	17	47	13	74	48	41	91
24	92	35	25	22	56	13	44	23	83	30	47	87
25	88	35	12	29	42	25	33	19	92	44	57	111
26	85	34	12	40	47	27	44	15	93	44	63	107
27	77	24	19	70	21	29	54	31	103	36	61	111
28	60	23	22	79	11	28	67	40	109	43	70	116
29	60	13	26	82	20	30	59	52	104	39	74	121
30	62	10	26	85	16	42	56		108	44	83	127
31	63	20		62		43	57		120		86	
Mean	33.0	38.7	33.9	60.6	39.9	27.1	59.0	40.0	76.2	88.0	59.7	101.8

† = preliminary. The yearly mean sunspot number equaled 29.2 in 1987.

Algonquin Radio Observatory — OTTAWA 2800 MHz (10.7 cm) SOLAR FLUX — Adjusted to 1 AU

Day	Jul 87	Aug	Sep	Oct	Nov	Dec	Jan 88	Feb	Mar	Apr	May	Jun
01	76.0	91.0	85.3*	84.2	99.1	87.6	100.1	105.5	99.8*	127.2	108.8	149.3*
02	74.4	89.7	85.5	84.8	105.0	86.5	93.7	104.3	99.1	126.5	113.1*	147.6
03	73.7	87.1	87.5	85.6*	98.0	85.8	101.2	103.6	101.9*	127.6	116.4*	149.5
04	73.2	84.0	89.6	89.2	101.1*	85.1	98.2	103.1	102.6*	122.6	127.4	150.9
05	73.4	81.6	93.5*	90.1	99.2	86.8	99.5	102.6	106.7*	114.6	121.1	151.2
06	73.3	85.2	95.6*	89.5	94.9	85.7	101.7	103.6	107.6	116.8	116.5	159.0
07	74.1	89.5*	99.5*	90.9	94.4	85.3	102.1	105.3	107.3	120.0	112.9	164.6
08	76.1	93.8	101.9	95.0	92.7	88.7	105.6	102.5	104.1*	121.8*	116.7	168.3
09	76.3	94.8	100.9	92.7	90.3	91.2	100.6*	101.0	101.5	121.8*	121.9	165.9*
10	76.3	94.0	97.8	101.1	89.2	90.1	100.9	100.2	99.2	127.2	116.4	149.8
11	75.7	99.8*	95.4	100.8*	92.6	91.1	101.7*	99.6	102.9	128.0*	114.6	137.8
12	75.5	100.0	91.1	102.2	92.6	91.5*	107.5*	101.3	103.5	130.6*	111.6	125.9
13	75.1	101.8*	89.7	105.5	92.9	91.1	108.1*	102.9	107.8	134.6	105.9	115.0
14	76.6	102.4	86.8	113.3*	92.3	91.5	113.7	102.6	108.9*	146.3	105.2	111.7
15	78.8	101.3	85.0	117.8I	93.7	92.0*	112.4	100.4	112.6*	143.5	103.4	113.5
16	80.9	102.7	83.5	111.1	95.0	93.4*	121.8*	101.0	114.1*	147.6	103.3	121.7
17	81.5	101.2	84.0	106.0	96.8	92.2	116.4*	106.2	117.4	145.5	103.7	124.8
18	82.5	100.4	82.4	106.5	100.0	90.2	110.9	112.5	116.1	145.3	106.7	125.7
19	85.1	99.0	82.7	100.4	106.6	88.4	114.2	109.0	116.1*	138.5	104.8	119.4
20	93.8	101.2	84.9	95.6	112.2	86.9	112.7	106.5	116.3*	134.9	106.1	118.5
21	95.6	96.6	83.0	89.3	115.3	90.7	111.6	104.7	117.5*	127.6	112.6	122.8*
22	02.6*	94.4*	81.3	88.2	117.8	88.1	104.5	102.5	117.6	120.1	114.0	124.4*
23	15.6	91.8	80.4	87.0	115.1	88.2	104.7	100.2	120.9*	111.5	122.2	129.3
24	15.0	89.6	80.3	87.1	109.4	89.9	102.2	99.6	123.0*	105.6	119.8	135.7*
25	14.9	89.9	77.9	92.3	104.9	96.2*	94.9	96.4	128.5*	106.7	123.8*	153.7
26	09.8*	87.3	76.4	96.9	101.3	96.8*	93.5	96.7	127.5*	103.8	127.8	157.6*
27	05.4	85.1	80.2	105.9	94.9	101.4	101.6	96.3	128.0*	101.9	130.0	160.5
28	02.5	81.3	82.3	106.2	92.3	102.5	103.0	97.1	129.8	101.6	130.1	183.2
29	97.3	79.9	83.5	102.7	90.7	101.4	99.1	103.3	131.7	102.1	140.2	189.5
30	94.0	78.5	81.9	104.2	89.1	99.2	100.1		128.3	104.8	142.8	187.4*
31	91.9	83.2		97.8		99.7	103.1		130.6*		153.6*	
Mean	87.0	92.2	87.0	97.4	99.0	91.5	104.6	102.4	113.8	123.6	117.9	143.8

* = corrected for burst in progress; I = 1700 UT calibration taken at 1915 UT. The yearly mean flux equaled 85.3 in 1987.

DAILY SOLAR INDICES

June 1988

Day	Julian Day	Bartels Cycle Day	Sunspot Numbers Int	Sunspot Numbers Amer	Obs Flux Ottawa (2800)	Solar Flux Adjusted to 1 Astronomical Unit — SGMR (15400)	SGMR (8800)	SGMR (4995)	Ottawa (2800)	SGMR (2695)	SGMR (1415)	SGMR (610)	SGMR (410)	SGMR (245)
01	153	15	101	100	145.2*	568	263	185	149.3*	153	100	57	28	13
02	154	16	96	91	143.5	626	266	181	147.6	145	97	58	29	15
03	155	17	100	106	145.3	592	274	181	149.5	149	101	58	29	12
04	156	18	105	113	146.6	581	270	183	150.9	153	107	59	30	15
05	157	19	114	124	146.8	571	280	185	151.2	154	110	60	29	18
06	158	20	145	140	154.4	573	273	185	159.0	155	108	59	29	23
07	159	21	141	160	159.8	577	266	190	164.6	162	110	57	30	21
08	160	22	151	169	163.3	582	268	190	168.3	163	111	66	33	27
09	161	23	173	167	160.9*	547	269	186	165.9*	162	106	60	30	19
10	162	24	144	134	145.3	582	265	170	149.8	146	101	57	28	22
11	163	25	108	105	133.6	572	257	160	137.8	138	97	58	29	19
12	164	26	77	85	122.1	552	244	150	125.9	121	93	54	27	16
13	165	27	47	52	111.5	542	231	145	115.0	115	88	52	26	15
14	166	1	53	57	108.2	547	232	143	111.7	113	85	48	25	15
15	167	2	65	77	110.0	550	240	148	113.5	115	83	47	26	19
16	168	3	87	89	117.9	555	244	154	121.7	120	85	52	25	16
17	169	4	76	80	120.9	589	257	157	124.8	121	86	55	27	25
18	170	5	67	76	121.7	585	260	156	125.7	121	86	55	32	--
19	171	6	70	70	115.6	595	258	152	119.4	117	85	52	27	--
20	172	7	77	86	114.7	578	251	153	118.5	115	84	52	37	--
21	173	8	95	104	118.9*	597	249	154	122.8*	120	87	91	42	56
22	174	9	92	93	120.4*	647	272	164	124.4*	126	90	44	29	31
23	175	10	91	104	125.2	712	274	170	129.3	130	89	53	33	24
24	176	11	87	106	131.3*	792	355	220	135.7*	155	101	60	32	39
25	177	12	111	114	148.7	733	317	205	153.7	149	96	60	30	17
26	178	13	107	121	152.5*	816	354	240	157.6*	183	113	71	38	61
27	179	14	111	129	155.3	---	320	215	160.5	161	103	62	33	25
28	180	15	116	137	177.3	748	391	296	183.2	220	130	62	37	52
29	181	16	121	140	183.3	---	402	271	189.5	186	115	66	39	66
30	182	17	127	145	181.3*	748	360	270	187.4*	187	112	65	35	35
Mean			101.8	109.1	139.4	616	282	185	143.8	145	99	58	31	27

All sunspot numbers shown above are preliminary values.

The observed and the adjusted Ottawa fluxes tabulated here are the "Series C" daily values reported by the Algonquin Radio Observatory, Ottawa, Ontario, Canada. Numbers in parentheses in the column headings denote frequencies in MHz. Qualifiers after an entry have the following meaning:

* = corrected for burst in progress

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

OBSERVED AND PREDICTED SOLAR ACTIVITY INDICES

JUNE 1988

Date	RELATIVE SUNSPOT NUMBERS: International (R_i) Monthly Mean	International (R_i) Smoothed	American (R_a) Monthly Mean	American (R_a) Smoothed	Derived (R_s) Monthly Mean	Derived (R_s) Smoothed	2800 MHz RADIO FLUX Adjusted to 1 AU (S_a) Monthly Mean	2800 MHz RADIO FLUX Adjusted to 1 AU (S_a) Smoothed
Jul 84	37.4	44	36.2	42	37.6	39	92.2	99
Aug	25.5	40	24.5	38	30.7	41	85.8	95
Sep	15.7	34	13.6	32	23.2	35	78.9	90
Oct	12.0	29	9.8	27	16.9	31	73.1	86
Nov	22.8	25	19.4	23	18.6	26	74.6	72
Dec	18.7	22	17.0	20	17.4	23	73.5	79
Jan 85	16.5	20	14.5	19	15.9	21	72.1	77
Feb	15.9	20	16.3	18	15.7	20	71.9	76
Mar	17.2	19	11.8	16	16.3	19	72.5	75
Apr	16.2	18	17.1	17	19.8	19	75.7	75
May	27.5	18	24.0	17	26.6	19	82.0	75
Jun	24.2	18	22.2	16	22.8	19	78.5	75
Jul	30.7	17	30.8	16	25.8	19	81.3	75
Aug	11.1	17	10.7	15	17.2	19	73.3	75
Sep	3.9	17	3.4	16	13.8	20	70.2	76
Oct	18.6	17	16.5	16	18.1	20	74.2	76
Nov	16.2	17	16.4	15	16.4	19	72.6	75
Dec	17.3	15	10.1	14	16.2	19	72.4	75
Jan 86	2.5	14	2.3	12	14.6	18	70.9	74
Feb	23.2	13	23.8	11	26.0	17	81.5	74
Mar	15.1	13	12.5	11	20.3	17	76.2	73
Apr	18.5	14	13.8	12	19.6	18	75.6	74
May	13.7	14	11.6	12	18.1	18	74.2	74
Jun	1.1	14	0.8	11	13.3	18	69.7	74
Jul	18.1	14	17.7	11	16.3	18	72.5	74
Aug	7.4	13	7.6	11	13.7	17	70.1	73
Sep	3.8	12	3.5	10	13.0	17	69.4	73
Oct	35.4	13	19.8	11	27.0	17	82.4	73
Nov	15.2	15	14.7	13	19.5	18	75.5	74
Dec	6.8	16	5.1	14	14.0	19	70.4	75
Jan 87	10.4	18	9.4	16	13.8	20	70.2	76
Feb	2.4	20	3.0	18	13.4	22	69.8	78
Mar	14.7	22	13.3	20	17.2	24	73.3	80
Apr	39.6	24	39.4	23	30.3	25	85.5	81
May	33.0	26	30.7	26	35.0	27	89.8	83
Jun	17.4	28	18.0	28	24.8	29	80.4	84
Jul	33.0	31	34.3	31	32.0	32	87.0	87
Aug	38.7	35	39.0	34	37.6	35	92.2	89
Sep	33.9	39	34.0	38	32.0	38	87.0	93
Oct	60.6	44*	55.8	43	43.2	41	97.4	96
Nov	39.9	47*	42.5	47*	44.9	44	99.0	99
Dec	27.1	51*	26.7	52*	36.8	49	91.5	102
Jan 88	59.0	57(3)*	56.8	58	51.0	55	104.6	--
Feb	40.0	63(6)*	39.1	64	48.6	61	102.4	--
Mar	76.2	69(10)*	77.5	70	60.9	66	113.8	--
Apr	88.0*	75(13)*	90.9	76	71.5	72	123.6	--
May	59.7*	81(15)*	64.7	82	65.3	78	117.9	--
Jun	101.8*	87(17)*	109.1*	88	93.3	83	143.8	--
Jul	----	94(21)*	----	95	----	90	----	--
Aug	----	102(25)*	----	103	----	98	----	--
Sep	----	108(28)*	----	110	----	104	----	--
Oct	----	114(32)*	----	115	----	110	----	--
Nov	----	118(36)*	----	120	----	114	----	--
Dec	----	122(39)*	----	124	----	118	----	--

*An asterisk marks either a preliminary value or one based in part on preliminary observations.

Underlined entries indicate predicted values and parentheses enclose the absolute value of the 90% confidence limits. The two columns headed "Derived" represent a sunspot number computed from a linear regression equation between the 2800 MHz solar flux (adjusted to 1 astronomical unit) and the Zurich sunspot number.

SMOOTHED (OBSERVED AND PREDICTED) SUNSPOT NUMBERS: CYCLES 21 AND 22

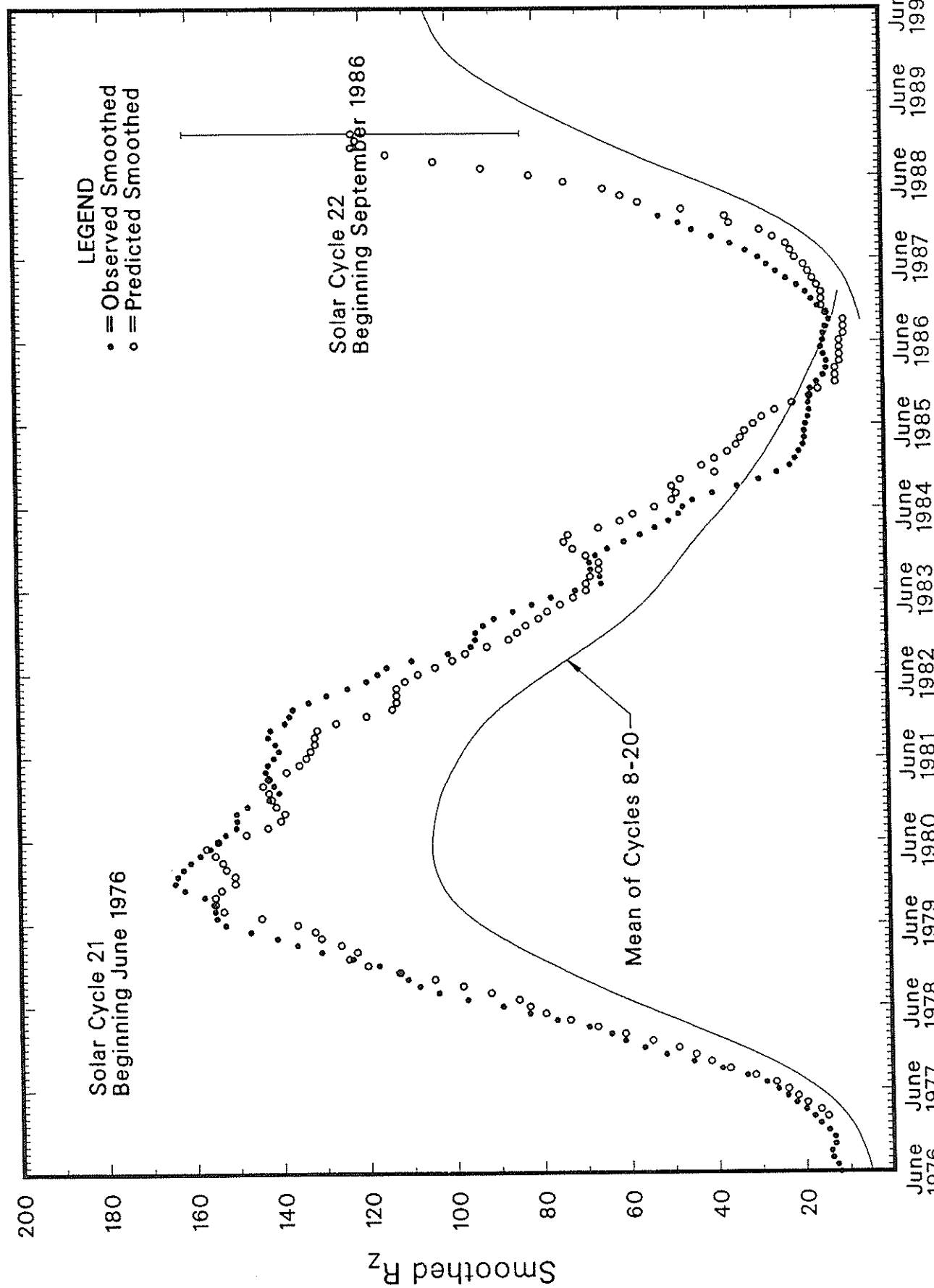
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1980	164	163	161	159	156	155	153	150	150	150	148	143
1981	140	142	143	143	143	142	140	141	143	142	139	138
1982	137	133	129	124	120	117	115	109	101	96	95	95
1983	93	90	86	82	77	70	66	66	68	68	67	64
1984	60	56	53	50	48	46	44	40	34	29	25	22
1985	20	20	19	18	18	18	17	17	17	17	17	15
1986	14	13	13	14	14	14	14	13	12*	13	15	16
1987	18	20	22	24	26	28	31	35	39	44	47	51
1988	57	63	69	75	81	87	94	102	108	114	118	122
	(3)	(6)	(10)	(13)	(15)	(17)	(21)	(25)	(28)	(32)	(36)	(39)
1989	125	130	139	147	153	159	162	166	172	177	180	180
	(39)	(38)	(37)	(37)	(38)	(40)	(41)	(43)	(46)	(47)	(49)	(51)
1990	179	178	175	169	163	159	156	153	147	139	132	128
	(54)	(57)	(59)	(58)	(55)	(50)	(49)	(49)	(47)	(44)	(40)	(36)

*September 1986 marks the onset of Sunspot Cycle 22.

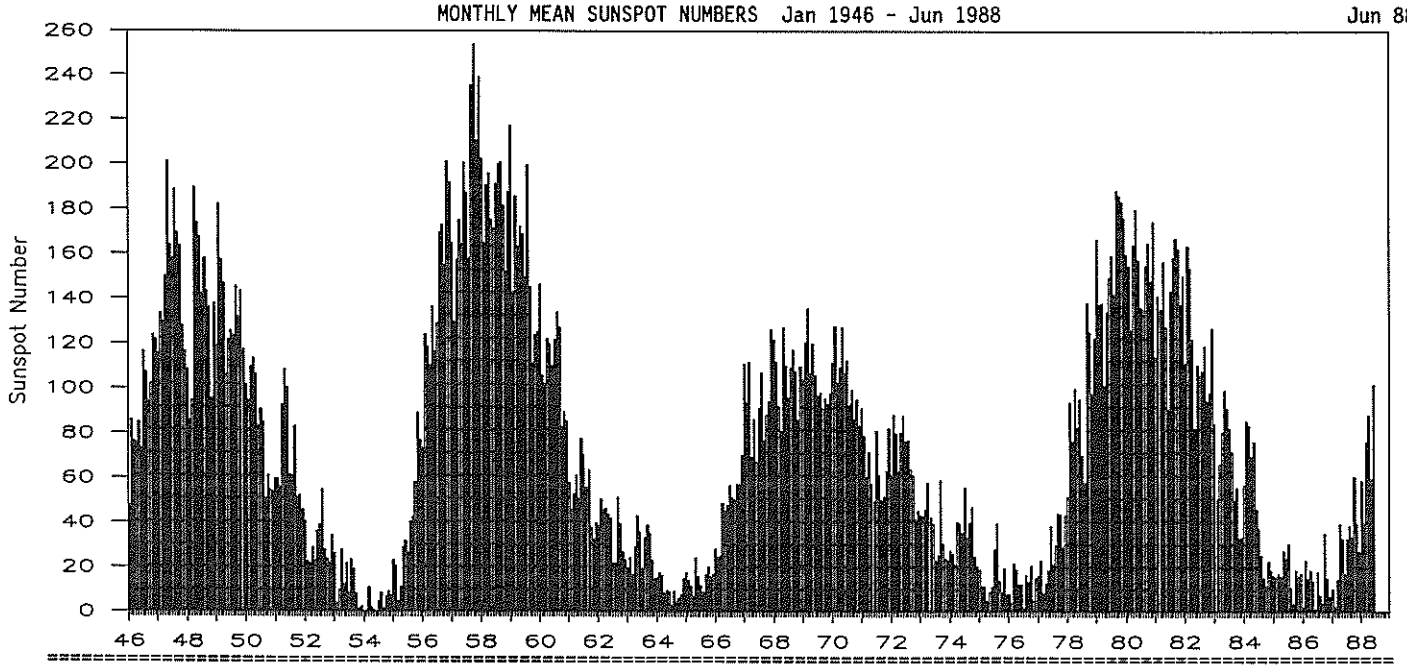
For the end of Solar Cycle 21, and the beginning of 22, the table gives observed smoothed sunspot numbers up to the one calculated from the most recently available monthly mean. These smoothed observed values are based on final, monthly means through March 1988 and on provisional numbers thereafter.

Table entries, with numbers in parentheses below them, denote predictions by the McNish-Lincoln method. (See page 9 in the July 1987 supplement to *Solar-Geophysical Data.*) Adding the number in parentheses to the predicted value generates the upper limit of the 90% confidence interval; subtracting the number from the predicted value generates the lower limit. Consider, for example, the December prediction. There exists a 90% chance that in December 1988 the actual smoothed sunspot number will fall somewhere between 83 and 161.

THE MCNISH-LINCOLN PREDICTION METHOD GENERATES USEFUL ESTIMATES OF SMOOTHED, MONTHLY MEAN SUNSPOT NUMBERS FOR NO MORE THAN 12 MONTHS AHEAD. Beyond a year the predictions regress rapidly toward the mean of all 14 cycles used in the computation. Moreover, the method is very sensitive to the data defined as the beginning of the current sunspot cycle, that is, to the date of the most recent sunspot minimum. The new cycle predictions tabulated above are based on the minimum value of 12.3 that occurred in September 1986.


OBSERVED AND ONE-YEAR-AHEAD PREDICTED SUNSPOT NUMBERS
LEGEND
• = Observed Smoothed
○ = Predicted Smoothed
Solar Cycle 21
Beginning June 1976
Solar Cycle 22
Beginning September 1986
Mean of Cycles 8-20
Smoothed R_Z
200
180
160
140
120
100
80
60
40
20
June 1976
June 1977
June 1978
June 1979
June 1980
June 1981
June 1982
June 1983
June 1984
June 1985
June 1986
June 1987
June 1988
June 1989
June 1990

MONTHLY MEAN SUNSPOT NUMBERS Jan 1946 - Jun 1988



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean	
1946	47.6	86.2	76.6	75.7	84.9	73.5	116.2	107.2	94.4	102.3	123.8	121.7	92.6	
1947	115.7	133.4	129.8	149.8	201.3	163.9	157.9	188.8	169.4	163.6	128.0	116.5	151.6	M
1948	108.5	86.1	94.8	189.7	174.0	167.8	142.2	157.9	143.3	136.3	95.8	138.0	136.3	
1949	119.1	182.3	157.5	147.0	106.2	121.7	125.8	123.8	145.3	131.6	143.5	117.6	134.7	
1950	101.6	94.8	109.7	113.4	106.2	83.6	91.0	85.2	51.3	61.4	54.8	54.1	83.9	
1951	59.9	59.9	55.9	92.9	108.5	100.6	61.5	61.0	83.1	51.6	52.4	45.8	69.4	
1952	40.7	22.7	22.0	29.1	23.4	36.4	39.3	54.9	28.2	23.8	22.1	34.3	31.5	
1953	26.5	3.9	10.0	27.8	12.5	21.8	8.6	23.5	19.3	8.2	1.6	2.5	13.9	
1954	0.2	0.5	10.9	1.8	0.8	0.2	4.8	8.4	1.5	7.0	9.2	7.6	4.4	m
1955	23.1	20.8	4.9	11.3	28.9	31.7	26.7	40.7	42.7	58.5	89.2	76.9	38.0	
1956	73.6	124.0	118.4	110.7	136.6	116.6	129.1	169.6	173.2	155.3	201.3	192.1	141.7	
1957	165.0	130.2	157.4	175.2	164.6	200.7	187.2	158.0	235.8	253.8	210.9	239.4	190.2	M
1958	202.5	164.9	190.7	196.0	175.3	171.5	191.4	200.2	201.2	181.5	152.3	187.6	184.8	
1959	217.4	143.1	185.7	163.3	172.0	168.7	149.6	199.6	145.2	111.4	124.0	125.0	159.0	
1960	146.3	106.0	102.2	122.0	119.6	110.2	121.7	134.1	127.2	82.8	89.6	85.6	112.3	
1961	57.9	46.1	53.0	61.4	51.0	77.4	70.2	55.8	63.6	37.7	32.6	39.9	53.9	
1962	38.7	50.3	45.6	46.4	43.7	42.0	21.8	21.8	51.3	39.5	26.9	23.2	37.6	
1963	19.8	24.4	17.1	29.3	43.0	35.9	19.6	33.2	38.8	35.3	23.4	14.9	27.9	
1964	15.3	17.7	16.5	8.6	9.5	9.1	3.1	9.3	4.7	6.1	7.4	15.1	10.2	m
1965	17.5	14.2	11.7	6.8	24.1	15.9	11.9	8.9	16.8	20.1	15.8	17.0	15.1	
1966	28.2	24.4	25.3	48.7	45.3	47.7	56.7	51.2	50.2	57.2	57.2	70.4	47.0	
1967	110.9	93.6	111.8	69.5	86.5	67.3	91.5	107.2	76.8	88.2	94.3	126.4	93.8	
1968	121.8	111.9	92.2	81.2	127.2	110.3	96.1	109.3	117.2	107.7	86.0	109.8	105.9	M
1969	104.4	120.5	135.8	106.8	120.0	106.0	96.8	98.0	91.3	95.7	93.5	97.9	105.5	
1970	111.5	127.8	102.9	109.5	127.5	106.8	112.5	93.0	99.5	86.6	95.2	83.5	104.5	
1971	91.3	79.0	60.7	71.8	57.5	49.8	81.0	61.4	50.2	51.7	63.2	82.2	66.6	
1972	61.5	88.4	80.1	63.2	80.5	88.0	76.5	76.8	64.0	61.3	41.6	45.3	68.9	
1973	43.4	42.9	46.0	57.7	42.4	39.5	23.1	25.6	59.3	30.7	23.9	23.3	38.0	
1974	27.6	26.0	21.3	40.3	39.5	36.0	55.8	33.6	40.2	47.1	25.0	20.5	34.5	
1975	18.9	11.5	11.5	5.1	9.0	11.4	28.2	39.7	13.9	9.1	19.4	7.8	15.5	
1976	8.1	4.3	21.9	18.8	12.4	12.2	1.9	16.4	13.5	20.6	5.2	15.3	12.6	m
1977	16.4	23.1	8.7	12.9	18.6	38.5	21.4	30.1	44.0	43.8	29.1	43.2	27.5	
1978	51.9	93.6	76.5	99.7	82.7	95.1	70.4	58.1	138.2	125.1	97.9	122.7	92.5	
1979	166.6	137.5	138.0	101.5	134.4	149.5	159.4	142.2	188.4	186.2	183.3	176.3	155.4	M
1980	159.6	155.0	126.2	164.1	179.9	157.3	136.3	135.4	155.0	164.7	147.9	174.4	154.6	
1981	114.0	141.3	135.5	156.4	127.5	90.9	143.8	158.7	167.3	162.4	137.5	150.1	140.4	
1982	111.2	163.6	153.8	122.0	82.2	110.4	106.1	107.6	118.8	94.7	98.1	127.0	115.9	
1983	84.3	51.0	66.5	80.7	99.2	91.1	82.2	71.8	50.3	55.8	33.3	33.4	66.6	
1984	57.0	85.4	83.5	69.7	76.4	46.1	37.4	25.5	15.7	12.0	22.8	18.7	45.9	
1985	16.5	15.9	17.2	16.2	27.5	24.2	30.7	11.1	3.9	18.6	16.2	17.3	17.9	
1986	2.5	23.2	15.1	18.5	13.7	1.1	18.1	7.4	3.8	35.4	15.2	6.8	13.4	m
1987	10.4	2.4	14.7	39.6	33.0	17.4	33.0	38.7	33.9	60.6	39.9	27.1	29.2	
1988	59.0	40.0	76.2	88.0*	59.7*	101.8*							70.8*	

*Preliminary

For the yearly means, each "M" marks a sunspot cycle maximum and each "m" a minimum.

H - ALPHA S O L A R F L A R E S

JUNE 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0001	HOLL	01	0122	0125	0134	N28	E56	5032	06	5.4	12	SF	C 1.4	2	E		30		FH
0002		01	02046	02121	0222	S22	W61	5028	05	27.5	18	SN					59	0.9	
	PALE	01	0204	0213	0226	S22	W61	5028	05	27.5	22	SF		3	E		76		
	PEKG	01	0210	0212	0219	S21	W61	5028	05	27.5	9	SN			C	0212	42	0.9	
0003	CATA	01	0645	0645	0645D	S15	W09		05	31.6	9D	SN		2	P	0645	56	0.6	
0004	RAMY	01	1157	1200	1209	S24	W46	5027	05	29.0	12	SF		3	E		24		
0005	RAMY	01	1223	1224	1241	N18	E49	5032	06	5.2	18	SF	C 2.1	3	E		27		
0006		01	13521	13552	1359	S24	W46	5027	05	29.1	7	SF					24		H
	HOLL	01	1352	1357	1400	S25	W46	5027	05	29.1	8	SF		3	E		31		H
	RAMY	01	1353	1355	1358	S23	W46	5027	05	29.1	5	SF		3	E		17		
0007	HOLL	01	1502	1502	1505	N26	E56	5031	06	6.0	3	SF		3	E		17		
0008	HOLL	01	1524	1525	1531	N30	E46	5031	06	5.2	7	SF		3	E		16		
0009		01	1604E	1610	1653	S28	E80	5034	06	7.9	49D	1N	C 3.1				134		FU
	HOLL	01	1604E	1610	1653	S26	E78	5034	06	7.7	49D	1N	C 3.1	3	E		167		UF
	RAMY	01	1604E	1613U	1626D	S29	E83	5034	06	8.2	22D	1F	C 3.1	3	E		100		
0010		01	17422	1754	1759	N19	E41	5032	06	4.9	17	SF					14		
	HOLL	01	1742	1754	1759	N20	E41	5032	06	4.9	17	SF		3	E		15		
	RAMY	01	1744	1745U	1803D	N18	E41	5032	06	4.9	19D	SF		3	E		13		
0011	HOLL	01	1831	1835	1848	N16	E40	5032	06	4.8	17	SF		3	E		20		F
0012		01	2008	20081	2014	S26	W56	5027	05	28.6	6	SF	C 1.2				34		
	HOLL	01	2008	2008	2012	S26	W56	5027	05	28.6	4	SF	C 1.2	3	E		28		
	RAMY	01	2008	2009	2016	S25	W57	5027	05	28.5	8	SF	C 1.2	3	E		39		
0013	HOLL	01	2036	2038	2058	N14	E36	5032	06	4.6	22	SF		3	E		13		
0014	HOLL	01	2110	2110	2121	S25	W57	5027	05	28.6	11	SF		3	E		14		
0015	HOLL	01	2332	2347	2355	N13	E36	5032	06	4.7	23	SF		3	E		25		F
0016	PEKG	01	2344	2346	2354	N25	E47	5031	06	5.6	10	SN			P	2346	42	0.7	
0017	HOLL	02	0006	0008	0016	N18	E42	5032	06	5.2	10	SF		3	E		25		
0018	HOLL	02	0020	0030	0038	N18	E41	5032	06	5.1	18	SF		4	E		13		F
0019		02	03327	03355	0346	S24	W64	5027	05	28.3	14	1N	C 2.1				148	4.6	
	YUNN	02	0332	0335	0345	S23	W64	5027	05	28.3	13	1B	C 2.1		C		241	4.6	
	LEAR	02	0339	0340	0348	S25	W65	5027	05	28.2	9	SF	C 2.1	3	E		55		
0020	SVTO	02	0838	0840	0852	N20	E36	5032	06	5.1	14	SF	C 1.1	3	E		14		
0021	SVTO	02	0857	0903	0924	S27	W65	5027	05	28.4	27	SF	C 7.1	3	E		68		
0022	RAMY	02	1227	1229	1245	N19	E34	5032	06	5.1	18	SF	C 1.2	3	E		15		
0023	HOLL	02	1825E	1825U	1841	S23	W70	5027	05	28.5	16D	SF	C 3.0	3	E		25		F
0024	HOLL	02	1859	1900	1903	N26	E26	5031	06	4.8	4	SF		3	E		12		
0025	HOLL	02	1919	1920U	1931D	N26	E26	5031	06	4.8	12D	SF		3	E		33		
0026		02	23531	23551	2402	S20	E56	5034	06	7.3	9	SF					14		
	HOLL	02	2353	2355	2407	S20	E53	5034	06	7.0	14	SF		3	E		13		
	LEAR	02	2354	2356	2358	S19	E60	5034	06	7.6	4	SF		3	E		14		
0027	HOLL	03	0101	0101	0105	S26	W73	5027	05	28.5	4	SF	C 2.4	3	E		17		F
0028	LEAR	03	0136	0137	0140	S24	W71	5027	05	28.7	4	SF		3	E		14		

H - ALPHA S O L A R F L A R E S

JUNE 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0029		03	0237	02383	0250	S20	E62	5034	06	7.8	13	SN					28		
	LEAR	03	0237	0238	0252	S20	E60	5034	06	7.7	15	SF		3	E		24		
	YUNN	03	0237E	0241	0249	S20	E63	5034	06	7.9	12D	SN			P		32		
0030	LEAR	03	0527	0539	0548	S20	E57	5034	06	7.6	21	SF		3	E		25		
0031		03	05301	05324	0544	S24	W66	5027	05	29.2	14	SF	C 1.3				72		F
	LEAR	03	0530	0536	0547	S23	W65	5027	05	29.3	17	SF	C 1.3	3	E		82		
	SVTO	03	0531	0532	0542	S25	W67	5027	05	29.1	11	SF	C 1.3	3	E		62		F
0032		03	0613*	0614*	0630	S25	W66	5027	05	29.2	17	SF	C 1.2				38		F
	SVTO	03	0613	0614	0626	S27	W67	5027	05	29.1	13	SF	C 1.2	3	E		33		F
	LEAR	03	0613	0615	0628	S24	W66	5027	05	29.2	15	SF	C 1.2	3	E		69		F
	LEAR	03	0631	0635	0636	S23	W66	5027	05	29.3	5	SF		3	E		13		
0033	LEAR	03	0719	0722	0727	S27	W77	5027	05	28.4	8	SF		3	E		24		
0034	LEAR	03	0840	0843	0850	S27	W78	5027	05	28.4	10	SF	C 3.4	3	E		29		
0035	LEAR	03	0844	0848	0857	N18	E20	5032	06	4.9	13	SF		3	E		13		F
0036		03	1246	1246	1306	N24	E17	5031	06	4.8	20	SF					24		F
	HOLL	03	1246E	1246U	1301	N26	E17	5031	06	4.8	15D	SF		3	E		19		
	RAMY	03	1246	1246	1312	N21	E17	5031	06	4.8	26	SF		3	E		28		F
0037		03	1922	19261	1933	S23	W78	5027	05	28.9	11	SN	C 2.5				91		
	RAMY	03	1922E	1925U	1931D	S23	W78	5027	05	28.9	9D	1F	C 2.5	2	E		102		
	PALE	03	1922	1926	1932	S22	W80	5027	05	28.7	10	SN	C 2.5	3	E		95		
	HOLL	03	1922	1927	1934	S24	W76	5027	05	29.0	12	SN	C 2.5	3	E		76		
0038	HOLL	03	2006	2007	2017	N29	E17	5031	06	5.2	11	SF		3	E		11		F
0039	HOLL	03	2043	2045	2053	S19	E51	5034	06	7.7	10	SF		3	E		11		F
0040	HOLL	03	2332	2334	2402	S20	E47	5034	06	7.6	30	SF		3	E		31		F
0041	HOLL	03	2339	2343	2343	N24	E11	5031	06	4.8	4	SF		3	E		13		
0042	HOLL	03	2339E	2340U	2345D	S25	W81	5027	05	28.8	6D	SF		3	E		50		
0043		04	00121	00122	0024	S20	E47	5034	06	7.6	12	SF					26		F
	PALE	04	0012	0012	0018	S20	E47	5034	06	7.6	6	SF		3	E		11		F
	HOLL	04	0013	0014	0030	S21	E47	5034	06	7.6	17	SF		3	E		41		F
0044	HOLL	04	0051E	0101	0108	S24	W80	5027	05	28.9	17D	SN		3	E		12		
0045		04	01141	01153	0121	S23	W79	5027	05	29.1	7	SF					28		
	PALE	04	0114	0116	0120	S22	W79	5027	05	29.1	6	SF		2	E		40		
	LEAR	04	0115	0115	0122	S24	W77	5027	05	29.2	7	SF		3	E		19		
	HOLL	04	0115	0118	0122	S22	W80	5027	05	29.0	7	SF		3	E		24		
0046	LEAR	04	0253	0256	0320	S23	E44	5034	06	7.5	27	SF		3	E		36		
0047	LEAR	04	0334	0339	0342	S20	E45	5034	06	7.6	8	SF		3	E		12		
0048	LEAR	04	0509	0509	0520	N17	E11	5032	06	5.0	11	SF		3	E		18		
0049	LEAR	04	0527	0529	0533	S22	E44	5034	06	7.6	6	SF		3	E		14		
0050	LEAR	04	0542	0544	0605	S20	E47	5034	06	7.8	23	SF		3	E		21		
0051	HOLL	04	1740	1742	1802	S20	E40	5034	06	7.8	22	SF	C 2.2	3	E		24		F
0052	HOLL	04	1901	1905	1932	N17	E03	5032	06	5.0	31	SF		4	E		58		FH
0053	HOLL	04	2043	2045	2053	S19	E51	5034	06	8.7	10	SF		3	E		11		F
0054	RAMY	04	2141	2145	2156	N20	W01	5032	06	4.8	15	SF		3	E		30		

H - ALPHA S O L A R F L A R E S

JUNE 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0055		05	1437	1438	1450	N18	W06	5032	06	5.1	13	SF	C 1.2				34		F
	RAMY	05	1437	1438	1450	N18	W07	5032	06	5.1	13	SF	C 1.2	3	E		36		
	HOLL	05	1437	1438	1453D	N17	W06	5032	06	5.1	16D	SF	C 1.2	3	E		31		F
0056	RAMY	05	1530	1604	1654	N17	W07	5032	06	5.1	84	SF	C 1.2	3	E		35		F
0057	RAMY	05	1636	1647	1653	S25	W18	5038	06	4.3	17	SF		3	E		10		
0058		05	1746E	17512	1817	N15	W04	5037	06	5.4	31D	1F	C 2.4				109		FU
	HOLL	05	1746E	1753	1846D	N15	W04	5037	06	5.4	60D	1F	C 2.4	3	E		112		UF
	PALE	05	1750E	1751	1817	N15	W05	5037	06	5.4	27D	1F	C 2.4	3	E		106		F
0059	RAMY	05	1751	1753	1801	S25	W19	5038	06	4.3	10	SF		3	E		15		
0060	RAMY	05	1840	1841	1848	S24	W20	5038	06	4.2	8	SF		3	E		19		
0061	HOLL	05	1921	1923	1928	N25	E01	5031	06	5.9	7	SF		3	E		15		
0062		05	1955	1957	2008	S24	W21	5038	06	4.2	13	SF	C 1.2				22		
	RAMY	05	1955	1957	2005	S24	W21	5038	06	4.2	10	SF	C 1.2	3	E		25		
	HOLL	05	2010E	2010U	2012	S25	W21	5038	06	4.2	2D	SF		3	E		18		
0063		05	2010E	2010U	2038	N18	W14	5032	06	4.8	28D	1N	C 8.6				202		F
	HOLL	05	2010E	2010U	2035	N18	W16	5032	06	4.6	25D	1N	C 8.6	3	E		225		
	PALE	05	2014E	2014U	2041	N18	W11	5032	06	5.0	27D	1N	C 8.6	3	E		180		F
0064		05	2008	20141	2125	N28	W03	5031	06	5.6	77	1F					133		F
	RAMY	05	2008	2014	2124	N28	W05	5031	06	5.4	76	1F		3	E		123		F
	HOLL	05	2010E	2015	2119	N28	W03	5031	06	5.6	69D	1N		3	E		155		F
	PALE	05	2014E	2016U	2132	N27	W02	5031	06	5.7	78D	1F		3	E		120		F
0065		05	2043	2046	2052	S24	W21	5038	06	4.2	9	SF					15		
	HOLL	05	2043	2046	2046	S25	W21	5038	06	4.2	3	SF		3	E		11		
	RAMY	05	2043	2046	2059	S24	W21	5038	06	4.2	16	SF		3	E		19		
0066		05	21261	2129	2137	S24	W22	5038	06	4.2	11	SF					16		
	RAMY	05	2126	2129	2142	S24	W22	5038	06	4.2	16	SF		3	E		23		
	HOLL	05	2127	2129	2132	S25	W21	5038	06	4.3	5	SF		3	E		10		
0067		05	21501	2152	2158	S24	W22	5038	06	4.2	8	SF					16		
	RAMY	05	2150	2152	2158	S24	W22	5038	06	4.2	8	SF		3	E		18		
	HOLL	05	2151	2152	2159	S25	W21	5038	06	4.3	8	SF		3	E		15		
0068	HOLL	05	2150	2206	2221	S12	E74	5036	06	11.5	31	SF	C 2.5	3	E		48		
0069		06	0122	0127	0137	N18	W12	5032	06	5.1	15	SN	C 1.1				70	1.3	EF
	YUNN	06	0118E	0118U	0120D	N18	W12	5032	06	5.1	2D	SN	C 1.1		P	0118	113	1.3	E
	LEAR	06	0122	0127	0137	N18	W11	5032	06	5.2	15	SF	C 1.1	3	E		26		F
0070	LEAR	06	0448	0448	0453	N23	W04	5031	06	5.9	5	SF		3	E		12		F
0071		06	0450	0501	0529	N16	W18	5032	06	4.8	39	1F	C 2.3				116		F
	LEAR	06	0450	0501	0529	N17	W18	5032	06	4.8	39	1F	C 2.3	3	E		152		F
	SVTO	06	0508E	0509U	0530D	N16	W19	5032	06	4.8	22D	SF	C 2.3	2	E		80		F
0072	LEAR	06	0522	0524	0526	N25	W05	5031	06	5.8	4	SF		3	E		16		F
0073		06	06102	06111	0616	N18	W16	5032	06	5.0	6	SF					24		F
	SVTO	06	0610	0611	0633D	N17	W16	5032	06	5.0	23D	SF		2	E		26		
	LEAR	06	0612	0612	0616	N18	W15	5032	06	5.1	4	SF		3	E		21		F
0074	LEAR	06	0707	0708	0716	N28	W12	5031	06	5.3	9	SF		3	E		20		F
0075	LEAR	06	0746	0748	0803	N18	W18	5032	06	4.9	17	SF		3	E		21		F
0076	LEAR	06	0747	0750	0800	N12	W59	5035	06	1.9	13	SF		3	E		42		
0077	SVTO	06	1040	1043	1053	N14	W15	5032	06	5.3	13	SF		3	E		67		F
0078	HOLL	06	1332	1338	1359	N18	W20	5032	06	5.0	27	SF		3	E		30		

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JUNE 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0079	HOLL	06	1342	1348	1414	N25	W21	5031	06	4.9	32	SF		3	E		25		
0080	HOLL	06	1415	1420	1427	N12	W64	5035	06	1.8	12	SF		3	E		14		
0081	HOLL	06	1432	1434	1437	S24	E10	5034	06	7.4	5	SF		3	E		10		F
0082	HOLL	06	1548	1548	1556	S25	W33	5038	06	4.1	8	SF		3	E		18		
0083	HOLL	06	1638	1638	1644	N29	W13	5031	06	5.7	6	SF		3	E		13		
0084	HOLL	06	1639	1645	1656	S16	E59	5036	06	11.2	17	SF	C 1.1	3	E		43		
0085		06	1735	1735	1742	S15	E64	5036	06	11.6	7	SF					16		
	HOLL	06	1735	1735	1741	S14	E65	5036	06	11.6	6	SF		3	E		14		
	RAMY	06	1735	1735	1742	S16	E64	5036	06	11.6	7	SF		3	E		17		
0086		06	18047	18079	1820	S24	W35	5038	06	4.0	16	SF					28		
	HOLL	06	1804	1816	1823	S25	W34	5038	06	4.1	19	SF		3	E		36		
	RAMY	06	1805	1807	1810	S24	W35	5038	06	4.0	5	SF		3	E		26		
	RAMY	06	1811	1814	1828	S24	W35	5038	06	4.0	17	SF		3	E		23		
0087	RAMY	06	1914	1915	1940	S15	E64	5036	06	11.6	26	SF		3	E		16		
0088		06	19253	1933*	2000	N25	W13	5031	06	5.8	35	SF					31		F
	RAMY	06	1925	1949U	1957D	N25	W13	5031	06	5.8	32D	SF		3	E		30		F
	HOLL	06	1925	1955	2024	N26	W13	5031	06	5.8	59	SF		3	E		32		F
	PALE	06	1928	1933	1936	N24	W13	5031	06	5.8	8	SF		3	E		31		F
0089		06	1950	19511	2000	S26	W35	5038	06	4.1	10	SF	C 1.3				71		
	RAMY	06	1950	1951	1957D	S25	W35	5038	06	4.1	7D	SF	C 1.3	3	E		79		
	PALE	06	1950	1951	1958	S27	W35	5038	06	4.1	8	SF	C 1.3	3	E		58		
	HOLL	06	1950	1952	2003	S25	W35	5038	06	4.1	13	SF	C 1.3	4	E		75		
0090	HOLL	06	2208	2217	2220	N26	W21	5031	06	5.3	12	SF		3	E		16		F
0091	HOLL	06	2332	2334	2343	N25	W21	5031	06	5.3	11	SF		3	E		32		F
0092		07	0102	0102	0108	N16	W26	5032	06	5.1	6	SF					15		F
	PALE	07	0102	0102	0107	N16	W25	5032	06	5.1	5	SF		3	E		14		F
	HOLL	07	0102	0102	0110	N17	W27	5032	06	5.0	8	SF		3	E		16		
0093	LEAR	07	0611E	0611U	0624D	N27	W22	5031	06	5.5	13D	SF	C 2.8	2	E		84		F
0094	LEAR	07	0611E	0615	0631D	S21	E51	5036	06	11.2	20D	SF		2	E		88		F
0095	RAMY	07	1308	1308	1315	N26	W15	5031	06	6.4	7	SF		3	E		16		
0096		07	14165	1419	1502	N28	W27	5031	06	5.5	46	SF	C 1.8				65		F
	HOLL	07	1416	1419	1505	N28	W26	5031	06	5.6	49	SF	C 1.8	3	E		59		F
	RAMY	07	1416	1421U	1516	N28	W27	5031	06	5.5	60	SF	C 1.8	2	E		74		F
	SVTO	07	1421	1425U	1444	N27	W27	5031	06	5.5	23	SF	C 1.8	2	E		61		F
0097	RAMY	07	1423	1425	1429	S24	W45	5038	06	4.1	6	SF		3	E		12		
0098	HOLL	07	1427	1427	1441	S17	E53	5036	06	11.6	14	SF		3	E		11		
0099		07	14382	1441	1457	N14	W30	5037	06	5.3	19	SF					23		F
	RAMY	07	1438	1441	1501	N15	W30	5037	06	5.3	23	SF		3	E		34		F
	HOLL	07	1440	1441	1453	N14	W30	5037	06	5.3	13	SF		3	E		12		
0100	RAMY	07	1440	1440	1446	S25	W44	5038	06	4.2	6	SF		3	E		11		
0101	PALE	07	1751	1752	1757	S26	W46	5038	06	4.2	6	SF		3	E		38		
0102	HOLL	07	1831	1832	1839	N13	W79	5035	06	1.8	8	SF		3	E		25		
0103	HOLL	07	1911	1914	1920	N13	W79	5035	06	1.8	9	SF		3	E		27		
0104	RAMY	07	2003	2004	2038	N15	W33	5037	06	5.3	35	SF		2	E		40		

H - ALPHA S O L A R F L A R E S

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0105		07	20264	2032	2036	S26	W46	5038	06	4.3	10	SF					29		F
	RAMY	07	2026	2032	2033	S25	W46	5038	06	4.3	7	SF		2	E		41		F
	HOLL	07	2030	2032	2039	S26	W47	5038	06	4.2	9	SF		3	E		17		
0106		07	2122	2123	2128	S25	W49	5038	06	4.1	6	SF					14		F
	RAMY	07	2122	2123	2127	S24	W51	5038	06	3.9	5	SF		2	E		12		
	HOLL	07	2122	2123	2130	S26	W47	5038	06	4.2	8	SF		3	E		16		F
0107	HOLL	07	2341	2344	2357	S20	W05	5034	06	7.6	16	SF		3	E		46		F
0108		08	0419*	04287	0430	S16	E46	5036	06	11.7	11	SF					48		
	PALE	08	0419	0428	0430	S16	E46	5036	06	11.7	11	SF		3	E		60		
	PALE	08	0430	0435	0437D	S16	E46	5036	06	11.7	7D	SF		3	E		37		
0109	LEAR	08	0516	0517	0534	N15	W37	5037	06	5.4	18	SF	C 1.2	3	E		39		
0110		08	1217	1217	1227	N12	E72	5041	06	13.9	10	SF					20		
	RAMY	08	1217	1217	1224	N10	E72	5041	06	13.9	7	SF		3	E		17		
	HOLL	08	1220E	1224U	1230	N14	E72	5041	06	13.9	10D	SF		2	E		24		
0111	HOLL	08	1259	1302	1309	N12	E75	5041	06	14.2	10	SF		3	E		16		
0112	HOLL	08	1314	1314	1328	S22	W11	5034	06	7.7	14	SF		4	E		11		
0113	HOLL	08	1329	1334	1345	N25	W36	5031	06	5.8	16	SF		3	E		20		
0114	HOLL	08	1340	1341	1351	S16	E36	5036	06	11.3	11	SF		3	E		13		
0115		08	13561	13592	1406	N12	E74	5041	06	14.1	10	SF					30		
	HOLL	08	1356	1359	1407	N12	E76	5041	06	14.3	11	SF		4	E		29		
	RAMY	08	1357	1401	1406	N11	E72	5041	06	14.0	9	SF		3	E		30		
0116	HOLL	08	1429	1438	1446	N20	W54	5032	06	4.5	17	SF		4	E		16		
0117		08	16122	16141	1625	S16	E34	5036	06	11.2	13	SF					20		
	RAMY	08	1612	1614	1626	S17	E34	5036	06	11.2	14	SF		3	E		19		
	HOLL	08	1614	1615	1624	S16	E35	5036	06	11.3	10	SF		3	E		21		
0118		08	16322	16341	1650	N20	W53	5032	06	4.6	18	SF	C 2.4				53		EF
	HOLL	08	1632	1635	1700	N20	W54	5032	06	4.5	28	SF	C 2.4	4	E		81		E
	RAMY	08	1633	1635	1649	N21	W53	5032	06	4.6	16	SF	C 2.4	3	E		38		F
	PALE	08	1634	1634	1640	N20	W52	5032	06	4.7	6	SF	C 2.4	3	E		39		F
0119		08	17068	17192	1733	S17	E37	5036	06	11.5	27	SF					33		F
	HOLL	08	1706	1720	1735	S16	E37	5036	06	11.5	29	SF		3	E		42		F
	RAMY	08	1707	1721	1741D	S17	E35	5036	06	11.4	34D	SF		3	E		29		
	PALE	08	1714	1719	1731	S18	E40	5036	06	11.8	17	SF		3	E		28		F
0120	HOLL	08	1805	1805	1815	S16	E35	5036	06	11.4	10	SF		3	E		11		
0121	HOLL	08	1953	1956	1959	N14	W46	5037	06	5.3	6	SF		3	E		23		
0122		08	20301	20311	2118	S18	E36	5036	06	11.6	48	SF	C 1.8				66		F
	HOLL	08	2030	2031	2107	S17	E36	5036	06	11.6	37	SF	C 1.8	4	E		44		F
	PALE	08	2031	2032	2130	S18	E36	5036	06	11.6	59	SF	C 1.8	3	E		89		F
0123		08	2142	2154	2214	S25	W62	5038	06	4.1	32	SF					22		
	PALE	08	2142	2154	2226	S25	W60	5038	06	4.2	44	SF		3	E		26		
	HOLL	08	2152E	2154	2201	S25	W63	5038	06	4.0	9D	SF		3	E		18		
0124	HOLL	08	2152	2152	2159	S17	E31	5036	06	11.3	7	SF		3	E		16		F
0125		08	2226*	2238*	2253	S16	E32	5036	06	11.4	27	SN	C 4.1				45		EF
	PALE	08	2226	2248	2301	S16	E32	5036	06	11.4	35	SN	C 4.1	3	E		67		
	HOLL	08	2234	2238	2243	S16	E34	5036	06	11.5	9	SF	C 4.1	3	E		18		F
	HOLL	08	2245	2248	2254	S16	E31	5036	06	11.3	9	SN	C 4.1	4	E		49		FE
0126	HOLL	08	2342	2342	2351	S25	W63	5038	06	4.1	9	SF		3	E		12		

H - ALPHA SOLAR FLARES

JUNE 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0127		09	0002*	0016*	0038	S26	W64	5038	06	4.0	36	SF					18		F
	PALE	09	0002	0016	0036	S26	W62	5038	06	4.2	34	SF		3	E		20		F
	HOLL	09	0017	0031	0040	S25	W65	5038	06	4.0	23	SF		3	E		17		
0128		09	0140	0143	0148	S17	E26	5036	06	11.0	8	SN					80	1.0	T
	YUNN	09	0140	0143	0147	S16	E28	5036	06	11.2	7	SF			C		64	0.8	T
	YUNN	09	0146E	0146U	0148	S18	E24	5036	06	10.9	2D	SN			P		96	1.1	T
0129		09	02036	02092	0215	S17	E30	5036	06	11.4	12	SF					46	1.2	T
	YUNN	09	0203	0211	0214	S17	E29	5036	06	11.3	11	SN			C		96	1.2	T
	PALE	09	0208	0209	0215	S16	E30	5036	06	11.4	7	SF		3	E		19		
	LEAR	09	0209	0210	0216	S17	E30	5036	06	11.4	7	SF		3	E		24		
0130	YUNN	09	0250	0254	0254D	S17	E29	5036	06	11.3	4D	SF			P		32	0.4	T
0131	LEAR	09	0706	0715	0739	N15	W63	5032	06	4.5	33	SF	C 2.3	3	E		47		
0132	RAMY	09	1131	1136U	1146D	S21	W27	5034	06	7.4	15D	SF		2	E		37		F
0133		09	1324*	13391	1354	S21	W28	5034	06	7.4	30	SF					28		F
	HOLL	09	1324	1339	1349	S21	W28	5034	06	7.4	25	SF		3	E		21		F
	RAMY	09	1337	1340	1359	S21	W29	5034	06	7.3	22	SF		4	E		34		F
0134	RAMY	09	1416	1420	1434D	N27	W41	5040	06	6.4	18D	SF		4	E		10		
0135	RAMY	09	1547	1547	1550	N26	W42	5040	06	6.4	3	SF		4	E		21		
0136		09	1544*	1559	1613	S20	E27	5036	06	11.7	29	SF					36		F
	RAMY	09	1544	1559	1617	S20	E26	5036	06	11.6	33	SF		3	E		31		
	HOLL	09	1557	1559	1609	S19	E28	5036	06	11.8	12	SF		3	E		42		F
0137		09	16492	16541	1809	N18	W62	5032	06	5.0	80	1F	C 9.3				147		FHU
	RAMY	09	1649	1655	1809	N18	W62	5032	06	5.0	80	1F	C 9.3	3	E		145		FH
	HOLL	09	1651	1654	1809	N18	W63	5032	06	4.9	78	1F	C 9.3	3	E		149		UH
0138	HOLL	09	1651	1653U	1653D	N15	W56	5037	06	5.5	2D	1F	C 9.3	3	E		109		
0139		10	0002	0003	0010	S16	E17	5036	06	11.3	8	SF					16		F
	LEAR	10	0002	0003	0014	S16	E16	5036	06	11.2	12	SF		3	E		23		
	HOLL	10	0006E		0006	S16	E18	5036	06	11.4	12D	SF		3	E		10		F
0140	PEKG	10	0336E	0342	0352	S17	E21	5036	06	11.7	16D	SN			P	0342	126	1.5	D
0141	LEAR	10	0637	0638	0644	N14	E50	5041	06	14.0	7	SF		3	E		10		
0142	LEAR	10	0821	0823	0826	N11	E49	5041	06	14.0	5	SF		3	E		17		
0143	RAMY	10	1316	1324	1340	S15	E12	5036	06	11.5	24	SF		3	E		23		
0144	HOLL	10	1752	1759	1811	S15	E11	5036	06	11.6	19	SF		3	E		20		
0145		10	21563	21584	2210	N26	W60	5040	06	6.2	14	SF					18		F
	RAMY	10	2156	2158	2211	N26	W59	5040	06	6.3	15	SF		3	E		20		
	HOLL	10	2159	2202	2209	N26	W60	5040	06	6.2	10	SF		3	E		16		F
0146		11	0117	0118	0134	S16	E04	5036	06	11.3	17	SN	C 1.2				103	1.7	E
	LEAR	11	0117	0118	0135	S16	E04	5036	06	11.3	18	SF	C 1.2	3	E		45		
	YUNN	11	0118E	0118U	0134	S15	E04	5036	06	11.3	16D	SN	C 1.2		P		161	1.7	E
0147	YUNN	11	0208	0219	0240	S17	E05	5036	06	11.5	32	1N			C		225	2.4	F
0148		11	06482	06516	0710	N27	W62	5040	06	6.4	22	SF	C 2.2				35	1.0	EFS
	LEAR	11	0648	0657	0712	N27	W61	5040	06	6.5	24	SF	C 2.2	4	E		38		F
	PEKG	11	0649	0651	0709	N27	W62	5040	06	6.4	20	SN	C 2.2		P	0651	42	1.0	E
	SVTO	11	0650	0652	0710	N26	W62	5040	06	6.5	20	SF	C 2.2	3	E		26		S
0149		11	07459	07553	0804	N14	E40	5041	06	14.3	19	SF					16		
	SVTO	11	0745	0755	0800	N16	E40	5041	06	14.3	15	SF		3	E		13		
	LEAR	11	0754	0758	0807	N13	E40	5041	06	14.3	13	SF		4	E		18		

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0150		11	08496	08542	0901	N15	W82	5037	06	5.1	12	SF					33		D
	LEAR	11	0849	0855	0902	N16	W78	5037	06	5.4	13	SF		3	E		39		
	SVTO	11	0854	0854	0857	N14	W82	5037	06	5.2	3	SF		3	E		11		
	PEKG	11	0855	0856	0904	N15	W86	5037	06	4.9	9	SN			P	0856	50		D
0151	RAMY	11	1235	1237	1240	S16	W02	5036	06	11.4	5	SF		3	E		19		
0152	RAMY	11	1348	1356	1402	S18	W01	5036	06	11.5	14	SF		3	E		15		F
0153	HOLL	11	1433	1441	1457	S16	W06	5036	06	11.1	24	SF	C 1.1	3	E		23		FH
0154	RAMY	11	1438	1443	1450	S20	E01	5036	06	11.7	12	SF	C 1.1	3	E		25		F
0155	HOLL	11	1625	1627	1638	S16	W05	5036	06	11.3	13	SF		3	E		40		F
0156	HOLL	11	1949	1950	1958	N15	W87	5037	06	5.2	9	SF		3	E		31		
0157	LEAR	12	0249	0251	0257	N16	E27	5041	06	14.2	8	SF		4	E		13		
0158	LEAR	12	0355	0356	0406	S13	W11	5036	06	11.3	11	SF		4	E		11		
0159	LEAR	12	0421	0422	0425	S23	W59	5034	06	7.6	4	SF		3	E		17		
0160		12	06142	06162	0625	S24	W61	5034	06	7.5	11	SN	C 2.8				70	2.0	CD
	PEKG	12	0614	0617	0621	S23	W61	5034	06	7.5	7	SB	C 2.8		P	0617	84	2.0	CD
	SVTO	12	0616	0616	0622	S25	W61	5034	06	7.5	6	SF	C 2.8	3	E		38		
	LEAR	12	0616	0618	0633	S23	W60	5034	06	7.6	17	SF	C 2.8	3	E		87		
0161	YUNN	12	0651	0655	0705	S23	W63	5034	06	7.4	14	SN			C		80		
0162	YUNN	12	0751E	0751U	0755D	N12	E21	5041	06	13.9	4D	SN			P		80	0.9	
0163	SVTO	12	1025	1026	1031	S25	W62	5034	06	7.6	6	SF	C 1.2	3	E		21		
0164		12	1041	1042	1050	N12	E20	5041	06	13.9	9	SF	C 1.3				42		
	RAMY	12	1041E	1042U	1049	N11	E19	5041	06	13.9	8D	SF	C 1.3	2	E		42		
	SVTO	12	1041	1042	1050	N13	E20	5041	06	13.9	9	SF	C 1.3	4	E		42		
0165	HOLL	12	1255	1255	1259	S18	W17	5036	06	11.2	4	SF		4	E		16		F
0166		12	13171	1319	1328	S24	W65	5034	06	7.5	11	SF					46		F
	HOLL	12	1317	1319	1328	S25	W65	5034	06	7.5	11	SF		4	E		57		
	RAMY	12	1318	1319	1329	S23	W65	5034	06	7.5	11	SF		4	E		34		F
0167	HOLL	12	1341	1341	1343	N28	W68	5040	06	7.2	2	SF		4	E		12		
0168		12	1342	13441	1419	S20	W68	5034	06	7.4	37	SF					46		F
	RAMY	12	1342	1344	1419	S23	W66	5034	06	7.5	37	SF		4	E		45		F
	HOLL	12	1342	1345	1419	S18	W69	5034	06	7.3	37	SF		4	E		46		
0169		12	13461	13472	1402	N11	E18	5041	06	13.9	16	SF	C 1.5				26		
	HOLL	12	1346	1349	1406	N12	E19	5041	06	14.0	20	SF	C 1.5	4	E		39		
	RAMY	12	1347	1347	1358	N10	E18	5041	06	13.9	11	SF	C 1.5	4	E		14		
0170		12	15241	15251	1539	S16	W15	5036	06	11.5	15	SF					16		F
	RAMY	12	1524	1526	1537	S15	W16	5036	06	11.4	13	SF		4	E		15		F
	HOLL	12	1525	1525	1541	S16	W14	5036	06	11.6	16	SF		4	E		17		F
0171	HOLL	12	2003	2004	2011	N24	E63		06	17.7	8	SF		3	E		18		
0172		12	2031	2032	2039	N14	E14	5041	06	13.9	8	SF					16		H
	RAMY	12	2031	2032	2039	N13	E14	5041	06	13.9	8	SF		4	E		16		H
	HOLL	12	2031	2032	2039	N15	E13	5041	06	13.8	8	SF		3	E		15		H
0173		12	2136	21363	2143	S24	W68	5034	06	7.6	7	SF					28		
	HOLL	12	2136	2136	2143	S25	W68	5034	06	7.6	7	SF		3	E		19		
	RAMY	12	2136E	2139	2144D	S23	W67	5034	06	7.7	8D	SF		2	E		38		
0174	HOLL	12	2357	2358	2403	N14	E16	5041	06	14.2	6	SF		3	E		12		

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0175	RAMY	13	1142	1143	1153	N22	E54		06	17.6	11	SF		3	E		17		H
0176		15	0440	0452	0459	S21	W54	5036	06	11.0	19	SF	C 3.3				31		
	LEAR	15	0440	0452	0502	S21	W59	5036	06	10.7	22	SF	C 3.3	3	E		12		
	SVTO	15	0441E	0441U	0456	S21	W48	5036	06	11.5	15D	SF	C 3.3	1	E		50		
0177	KAND	15	0910	0923	0935	S18	E68	5047	06	20.6	25	SN			P	0923	73		E
0178	HOLL	15	1847	1849	1852	N37	E66	5048	06	21.1	5	SF		3	E		11		
0179	PALE	15	2240E	2244U	2329D	S17	E61	5047	06	20.6	49D	SB	C 8.5	3	E		78		F
0180		16	0128	0134	0159	S13	W61	5036	06	11.4	31	1N	C 1.8				194	5.8	F
	LEAR	16	0128	0134	0214	S13	W60	5036	06	11.5	46	1F	C 1.8	3	E		185		F
	PALE	16	0131E	0137U	0205D	S13	W61	5036	06	11.5	34D	1F	C 1.8	3	E		140		F
	YUNN	16	0136E	0136U	0144	S13	W62	5036	06	11.4	8D	2B	C 1.8		P	0136	257	5.8	
0181	YUNN	16	0257	0258	0304	N11	W30	5041	06	13.9	7	SF			C		32	0.4	D
0182	LEAR	16	0549	0552	0555	N34	E50	5048	06	20.2	6	SF		3	E		25		
0183	LEAR	16	0632	0635	0643	N37	E63	5048	06	21.3	11	SF		3	E		23		
0184	LEAR	16	0649	0649	0713	S19	E54	5047	06	20.4	24	SF		3	E		30		
0185		16	12364	1239*	1307	N12	W34	5041	06	14.0	31	SF	C 1.2				50		F
	RAMY	16	1236	1239	1311	N12	W32	5041	06	14.1	35	SF	C 1.2	3	E		49		
	SVTO	16	1238	1239	1246	N11	W33	5041	06	14.0	8	SF	C 1.2	3	E		24		
	HOLL	16	1240	1253	1323	N13	W36	5041	06	13.8	43	SF		3	E		76		F
0186		16	1309*	13281	1407	N39	E60	5048	06	21.4	58	1F	C 1.8				105		E
	HOLL	16	1309	1329	1422	N39	E58	5048	06	21.2	73	1N	C 1.8	4	E		110		E
	RAMY	16	1322	1328	1404	N38	E61	5048	06	21.5	42	1F	C 1.8	3	E		113		
	SVTO	16	1325	1328	1356	N39	E60	5048	06	21.4	31	SF	C 1.8	3	E		92		
0187		16	1439	14411	1448	N12	W35	5041	06	14.0	9	SF					17		
	HOLL	16	1439	1441	1447	N12	W37	5041	06	13.8	8	SF		3	E		20		
	RAMY	16	1439	1441	1448	N12	W34	5041	06	14.0	9	SF		3	E		16		
	SVTO	16	1439	1442	1449	N13	W33	5041	06	14.1	10	SF		3	E		15		
0188		16	16063	16151	1623	N13	W36	5041	06	13.9	17	SF					14		
	RAMY	16	1606	1616	1638D	N13	W35	5041	06	14.0	32D	SF		3	E		14		
	HOLL	16	1609	1615	1623	N13	W37	5041	06	13.9	14	SF		3	E		13		
0189	HOLL	16	1654	1656	1706	N13	W38	5041	06	13.8	12	SF		3	E		13		
0190	LEAR	17	0039	0042	0101	N13	W40	5041	06	14.0	22	SF		3	E		19		
0191		17	02321	0235*	0254	N13	W44	5041	06	13.8	22	SN					40	0.7	DE
	PEKG	17	0232	0239	0255	N13	W43	5041	06	13.9	23	SB			C	0239	84	1.2	E
	LEAR	17	0233	0235	0257	N13	W43	5041	06	13.9	24	SF		3	E		25		
	URUM	17	0235E	0236	0244	N13	W45	5041	06	13.7	9D	SF			C		16	0.2	D
	PALE	17	0243E	0251	0259	N13	W43	5041	06	13.9	16D	SF		3	E		34		
0192		17	0342	03463	0429	S18	E43	5047	06	20.4	47	1N	C 6.1				239	3.6	E
	PEKG	17	0342	0346	0443	S18	E43	5047	06	20.4	61	2B	C 6.1		C	0346	378	5.6	E
	URUM	17	0344E	0349	0415	S17	E44	5047	06	20.5	31D	SN	C 6.1		C		113	1.7	E
	PALE	17	0349E	0349U	0449D	S18	E43	5047	06	20.4	60D	1N	C 6.1	3	E		225		
0193	LEAR	17	0731	0732	0741	N13	W45	5041	06	13.9	10	SF		3	E		10		
0194		17	1226	1231	1240	S16	E47	5047	06	21.1	14	SF					24		
	HOLL	17	1225E	1230U	1237	S16	E47	5047	06	21.1	12D	SF		2	E		30		
	RAMY	17	1226	1231	1242	S17	E47	5047	06	21.1	16	SF		3	E		18		
0195	HOLL	17	1338	1339	1344	N39	E41	5049	06	20.9	6	SF		3	E		10		
0196	PALE	17	2004	2004	2009	N12	W52	5041	06	13.9	5	SF		3	E		10		
0197	HOLL	17	2311E	2317U	2323	S17	E35	5047	06	20.6	12D	SF		3	E		26		F

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	See	Obs Type	Area Measurement Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	Remarks
0198		17	2334	2342	2345	N12	W56	5041	06	13.8	11	SF					14		F
	HOLL	17	2317E	2326U	2333D	N12	W55	5041	06	13.8	16D	SF		3	E		15		F
	HOLL	17	2334	2342	2345	N11	W56	5041	06	13.8	11	SF		3	E		12		F
0199		18	00101	0014	0102	S18	E36	5047	06	20.7	52	SN	C 5.4				60		F
	HOLL	18	0010	0016U	0042	S17	E35	5047	06	20.7	32	SN	C 5.4	3	E		72		F
	LEAR	18	0011	0014	0122	S18	E36	5047	06	20.7	71	SF	C 5.4	4	E		49		
0200		18	05352	05371	0546	S17	E32	5047	06	20.7	11	SN					70	1.6	DH
	PEKG	18	0535	0537	0541	S17	E33	5047	06	20.7	6	SN			C	0537	121	1.6	D
	SVTO	18	0537	0538	0550	S17	E32	5047	06	20.7	13	SF		3	E		20		H
0201		18	06011	06042	0628	S18	E32	5047	06	20.7	27	1N	C 3.7				173	4.3	DEH
	SVTO	18	0601	0611U	0637	S17	E32	5047	06	20.7	36	1N	C 3.7	3	E		108		EH
	LEAR	18	0602	0604	0627	S18	E32	5047	06	20.7	25	SF	C 3.7	4	E		76		
	PEKG	18	0603E	0606	0620	S18	E31	5047	06	20.6	17D	1B	C 3.7		C	0611	336	4.3	D
0202		18	0653	06541	0700	S18	E32	5047	06	20.7	7	SF					27	0.5	DH
	LEAR	18	0653	0654	0657	S18	E32	5047	06	20.7	4	SF		3	E		14		
	SVTO	18	0653	0654	0702	S17	E32	5047	06	20.7	9	SF		3	E		25		H
	PEKG	18	0653	0655	0700	S19	E31	5047	06	20.6	7	SN			C	0655	42	0.5	D
0203	KAND	18	0902	0903	0909	S18	E32	5047	06	20.8	7	SN			P	0903	42	0.5	E
0204	RAMY	18	1348	1348	1406	N12	W62	5041	06	13.9	18	SF		3	E		30		
0205		18	1438	14391	1444	S18	E28	5047	06	20.7	6	SF					20		
	RAMY	18	1438	1439	1443	S19	E28	5047	06	20.7	5	SF		3	E		17		
	HOLL	18	1438	1440	1445	S18	E27	5047	06	20.7	7	SF		3	E		24		
0206	RAMY	18	1758	1813	1820	N13	W60	5041	06	14.2	22	SF		3	E		12		
0207	HOLL	18	1938	1939	1945	S24	E74	5053	06	24.5	7	SF		3	E		23		F
0208	HOLL	18	2109	2109	2114	S18	E18	5047	06	20.2	5	SF		3	E		25		F
0209	HOLL	18	2130	2132	2137	S26	E81	5053	06	25.2	7	SF		3	E		47		Z
0210	HOLL	18	2200	2201	2211	S21	E79	5053	06	25.0	11	SF		3	E		66		
0211		18	22409	2240*	2251	S20	E79	5053	06	25.0	11	SF					17		
	HOLL	18	2240	2240	2247	S22	E79	5053	06	25.0	7	SF		3	E		11		
	HOLL	18	2249	2251	2255	S18	E79	5053	06	25.0	6	SF		3	E		23		
0212	HOLL	18	2346	2349	2353	S21	E73	5053	06	24.6	7	SF		3	E		19		
0213		19	00593	01004	0107	S22	E75	5053	06	24.8	8	SF					41		D
	URUM	19	0059	0100	0105	S21	E77	5053	06	24.9	6	SN			C		64		D
	HOLL	19	0059	0104	0109	S21	E75	5053	06	24.8	10	SF		4	E		40		
	LEAR	19	0102	0104	0107	S23	E74	5053	06	24.7	5	SF		3	E		18		
0214		19	0222	0226	0243	N13	W64	5041	06	14.3	21	1F	C 2.0				102		
	LEAR	19	0222	0226	0243	N14	W63	5041	06	14.3	21	1F	C 2.0	2	E		133		
	PALE	19	0229E		0233D	N12	W66	5041	06	14.1	4D	SF	C 2.0	3	E		72		
0215	LEAR	19	0653	0653	0659	S17	E17	5047	06	20.6	6	SF		3	E		22		
0216		19	0824	0827	0845	S19	E18	5047	06	20.7	21	SN	C 1.5				56		
	SVTO	19	0824	0827	0839	S18	E19	5047	06	20.8	15	SN	C 1.5	4	E		56		
	LEAR	19	0832E	0832U	0851	S20	E18	5047	06	20.7	19D	SF	C 1.5	2	E		55		
0217		19	09241	09247	0941	S18	E16	5047	06	20.6	17	SN					48	0.9	CE
	SVTO	19	0924	0924	0944	S17	E15	5047	06	20.5	20	SF		3	E		14		
	KAND	19	0925	0931	0938	S19	E18	5047	06	20.8	13	SB			P	0931	83	0.9	CE
0218	RAMY	19	1103	1105	1117	S22	E72	5053	06	25.0	14	SF		4	E		35		H
0219	RAMY	19	1151	1152	1157	S19	E17	5047	06	20.8	6	SF		4	E		26		H
0220	HOLL	19	1315	1316	1324	S17	E20	5047	06	21.1	9	SF		3	E		18		

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	Day	Dur (Min)	Imp Opt	Xray	See	Obs Type	Area Measurement Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	Remarks
0221		19	14308	1442	1504	N12	W76	5041	06	13.9	34	SF	C 1.0				24		F
	HOLL	19	1430	1442	1504	N11	W79	5041	06	13.7	34	SF	C 1.0	4	E		23		F
	RAMY	19	1438	1442	1549D	N14	W72	5041	06	14.2	71D	SF	C 1.0	2	E		25		F
0222	HOLL	19	1459	1506	1535	N33	W03	5051	06	19.4	36	SF		4	E		21		F
0223		19	1639	1644	1654	S17	E08	5047	06	20.3	15	SF					16		F
	HOLL	19	1639	1644	1656	S17	E08	5047	06	20.3	17	SF		4	E		18		F
	RAMY	19	1648E	1648U	1653	S17	E09	5047	06	20.4	5D	SF		2	E		15		
0224	RAMY	19	1847	1848	1855	S17	E10	5047	06	20.5	8	SF		3	E		12		
0225		19	21351	21501	2202	S16	E06	5047	06	20.3	27	SF					42		E
	PALE	19	2135	2150	2202	S17	E07	5047	06	20.4	27	SF		3	E		32		E
	HOLL	19	2136	2151	2202	S16	E06	5047	06	20.3	26	SF		3	E		53		
0226	HOLL	19	2335	2337	2345	N13	W80	5041	06	13.9	10	SF		3	E		33		
0227		20	0232	0233*	0240	S16	E04	5047	06	20.4	8	SF					72	1.4	D
	PEKG	20	0228E	0233	0240	S17	E04	5047	06	20.4	12D	SF			C	0233	126	1.4	D
	PALE	20	0232	0245	0253D	S16	E04	5047	06	20.4	21D	SF		3	E		19		
0228		20	0333*	0335*	0401	S17	E04	5047	06	20.4	28	SF					42	0.9	EF
	LEAR	20	0333	0335	0407	S17	E04	5047	06	20.4	34	SF		3	E		21		F
	PALE	20	0336	0342	0402	S16	E04	5047	06	20.4	26	SF		3	E		21		F
	PEKG	20	0345	0348	0355	S17	E03	5047	06	20.4	10	SF			C	0348	84	0.9	E
0229		20	16111	16147	1639	S15	E05	5047	06	21.0	28	SF	C 1.4				23		F
	HOLL	20	1611	1619	1645	S15	E05	5047	06	21.0	34	SF	C 1.4	3	E		35		F
	RAMY	20	1612	1614	1644	S16	E05	5047	06	21.0	32	SF	C 1.4	3	E		24		F
	SVTO	20	1613E	1621	1629	S14	E05	5047	06	21.0	16D	SF	C 1.4	3	E		11		F
0230	HOLL	20	1620	1623	1630	N18	W77	5044	06	14.8	10	SF		3	E		13		
0231	RAMY	20	2114E	2119	2125	S26	E31	5054	06	23.3	11D	SF		3	E		19		
0232		20	2317*	2318*	2330	S17	W01	5047	06	20.9	13	SF					13		F
	HOLL	20	2317	2318	2322	S18	W03	5047	06	20.7	5	SF		4	E		14		
	HOLL	20	2328	2328	2339	S16	E01	5047	06	21.0	11	SF		4	E		12		F
0233		20	2357*	2411*	2456	S16	W02	5047	06	20.8	59	SF	C 3.3				45		F
	LEAR	20	2357	2449	2519	S15	W04	5047	06	20.7	82	SF		3	E		75		F
	HOLL	21	0007	0011	0021	S16	W01	5047	06	20.9	14	SF		4	E		15		F
	HOLL	21	0045	0047	0048D	S17	W02	5047	06	20.9	3D	SF	C 3.3	4	E		53		F
	PALE	21	0048E	0048U	0107	S16	E00	5047	06	21.0	19D	SF		3	E		36		
0234	HOLL	21	0045	0046	0048D	N36	W12	5051	06	20.1	3D	SF		4	E		18		
0235	LEAR	21	0049	0050	0100	S26	E29	5054	06	23.3	11	SF		3	E		40		F
0236		21	02161	0221*	0318	S17	W02	5047	06	20.9	62	SF	C 3.2				94	0.5	EFS
	LEAR	21	0216	0316	0343	S17	W03	5047	06	20.9	87	1N		3	E		137		FS
	PALE	21	0217	0221	0336	S17	E00	5047	06	21.1	79	SF	C 3.2	2	E		96		F
	URUM	21	0220E	0224	0234	S16	W03	5047	06	20.9	14D	SF	C 3.2		C		48	0.5	E
0237		21	05251	05272	0541	S26	E27	5054	06	23.3	16	SN	C 7.0				60		U
	LEAR	21	0525	0527	0541	S26	E26	5054	06	23.2	16	SN	C 7.0	3	E		80		
	SVTO	21	0526	0529	0541	S25	E28	5054	06	23.4	15	SF	C 7.0	3	E		40		U
0238	SVTO	21	0526	0526	0532	S24	E29	5055	06	23.5	6	SF	C 7.0	3	E		13		
0239		21	0655	06551	0704	S26	E24	5054	06	23.1	9	SN					39		
	LEAR	21	0655	0655	0707	S26	E26	5054	06	23.3	12	SN		3	E		61		
	SVTO	21	0655	0656	0702	S25	E23	5054	06	23.1	7	SF		3	E		17		
0240	SVTO	21	0655	0657	0705	S22	E31	5055	06	23.7	10	SF		3	E		13		
0241	CATA	21	0701	0710	0725	N30	W90	5041	06	14.2	24	1F		2	C	0710	84		A

H - ALPHA S O L A R F L A R E S

JUNE 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo Day	Dur (Min)	Imp Opt	Xray	See	Obs Type	Area Measurement Time (UT)	Apparent (10-6 Disk)	Corr (Sq Deg)	Remarks
0242		21	0752	0752	0802	S16	W02	5047	06 21.2	10	SN	C 1.6				21		
	LEAR	21	0752	0752	0800	S17	W02	5047	06 21.2	8	SN	C 1.6	3	E		20		
	SVTO	21	0752	0752	0804	S16	W03	5047	06 21.1	12	SF	C 1.6	3	E		22		
0243	HOLL	21	1248E	1249	1303	N35	W18	5051	06 20.1	15D	SF		4	E		31		
0244	HOLL	21	1311	1318	1420	S16	W10	5047	06 20.8	69	SF	C 2.8	4	E		57		F
0245	SVTO	21	1346	1348	1401	S17	W07	5047	06 21.0	15	SF		3	E		73		
0246	HOLL	21	1549	1551	1559	S26	E21	5054	06 23.3	10	SF		4	E		25		
0247	HOLL	21	1656	1701	1706	S17	W12	5047	06 20.8	10	SF		3	E		12		F
0248	HOLL	21	1831	1833	1836	S17	W13	5047	06 20.8	5	SF		3	E		22		F
0249		21	2158	2215	2224	S18	W14	5047	06 20.8	26	SF	C 1.6				28		F
	HOLL	21	2158	2215	2241	S18	W16	5047	06 20.7	43	SF	C 1.6	3	E		29		
	RAMY	21	2200E	2200U	2206	S17	W13	5047	06 20.9	6D	SF	C 1.6	2	E		28		F
0250		21	2332	2344	2552	S17	W16	5047	06 20.8	140	1B	C 1.6				117		EF
	HOLL	21	2255E	2344U	2358D	S16	W17	5047	06 20.7	63D	1B	C 1.6	3	E		111		FE
	LEAR	21	2332	2344	2552	S18	W15	5047	06 20.8	140	1N	C 1.6	3	E		123		
0251	HOLL	22	0047	0055	0103	S17	W14	5047	06 21.0	16	SF	C 2.6	3	E		19		
0252		22	0107	0109	0126	S18	W18	5047	06 20.7	19	SN	C 2.6				73	1.1	D
	URUM	22	0107	0109	0120	S17	W19	5047	06 20.6	13	SN	C 2.6		C		96	1.1	D
	PALE	22	0121E	0122U	0133	S18	W17	5047	06 20.8	12D	SF	C 2.6	3	E		50		
0253	LEAR	22	0158	0159	0204	S18	W18	5047	06 20.7	6	SF		3	E		14		F
0254	LEAR	22	0351	0413	0426	S18	W19	5047	06 20.7	35	SF		3	E		67		
0255	LEAR	22	0521	0528	0630	S19	W15	5047	06 21.1	69	1N	C 4.3	3	E		98		F
0256	CATA	22	0601E	0601	0606D	S24	E79		06 28.3	5D	1B		2	P	0601	84		
0257	SVTO	22	0903	0912	0916	S19	W21	5047	06 20.8	13	SF	C 1.0	3	E		19		H
0258	SVTO	22	1112	1113	1116	S18	W28	5047	06 20.3	4	SF	C 1.5	3	E		21		F
0259		22	1344*	1353*	1412	S18	W22	5047	06 20.9	28	SF					11		
	HOLL	22	1344	1353	1400D	S16	W20	5047	06 21.0	16D	SF		3	E		12		
	SVTO	22	1403	1403	1412	S19	W24	5047	06 20.7	9	SF		3	E		10		
0260	RAMY	22	1513E	1513U	1526	S18	W25	5047	06 20.7	13D	SF		3	E		30		
0261	SVTO	22	1647	1648	1655	S18	W25	5047	06 20.8	8	SF	C 5.9	3	E		13		
0262	PALE	23	0053	0102	0108	S17	W27	5047	06 21.0	15	SF		3	E		16		F
0263	LEAR	23	0215	0216	0229	S17	W27	5047	06 21.0	14	SF		3	E		18		
0264	LEAR	23	0236	0239	0252	S19	W31	5047	06 20.7	16	SF	C 1.1	3	E		22		
0265	PALE	23	0315	0315	0319	S17	W32	5047	06 20.7	4	SF		3	E		17		
0266	PALE	23	0353	0355	0414D	S18	W32	5047	06 20.7	21D	SF		3	E		38		
0267	SVTO	23	0531E	0532U	0707D	S18	W45	5047	06 19.8	96D	SN		1	E		50		
0268	LEAR	23	0606	0606	0612	S16	W31	5047	06 20.9	6	SF		4	E		12		
0269		23	09128	09203	0938	S18	W34	5047	06 20.8	26	1B	X 1.6				243	4.4	EFIUVZ
	KAND	23	0912	0920	0938	S17	W33	5047	06 20.9	26	1B	X 1.6		P	0920	187	2.4	EIVZ
	YUNN	23	0916	0923	1009D	S19	W35	5047	06 20.7	53D	2B	X 1.6		P	0934	482	6.5	F
	LEAR	23	0920	0922	0929D	S18	W33	5047	06 20.9	9D	SB	X 1.6	3	E		61		ZU

H - ALPHA SOLAR FLARES

JUNE 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0270	SVTO	23	1033	1046	1119	S17	W31	5047	06	21.1	46	SF		3	E		31		
0271	RAMY	23	1135	1142	1209	S18	W36	5047	06	20.7	34	SF		3	E		14		H
0272		23	1217	1229	1257	S18	W38	5047	06	20.6	40	SN					22		F
	RAMY	23	1217	1229	1257	S19	W36	5047	06	20.8	40	SF		3	E		19		
	HOLL	23	1233E	1235U	1305D	S17	W39	5047	06	20.5	32D	SN		2	E		25		F
0273		23	13146	13203	1331	S19	W38	5047	06	20.6	17	SF	C 1.7				12		
	RAMY	23	1314	1323	1332	S19	W38	5047	06	20.6	18	SF	C 1.7	3	E		14		
	HOLL	23	1320	1320	1330	S19	W37	5047	06	20.7	10	SF	C 1.7	3	E		10		
0274	RAMY	23	1431	1434	1442	S25	E25	5056	06	25.5	11	SF		3	E		14		
0275		23	17503	17571	1848	S17	W37	5047	06	20.9	58	1B	M 8.1				229		F
	HOLL	23	1738E	1758	2046D	S17	W35	5047	06	21.1	188D	1B	M 8.1	3	E		214		F
	RAMY	23	1750	1756U	1812D	S18	W40	5047	06	20.7	22D	2B	M 8.1	2	E		253		F
	PALE	23	1753	1757	1848	S17	W35	5047	06	21.1	55	1B	M 8.1	3	E		220		F
0276	PALE	23	1938	1945	2003	S17	W36	5047	06	21.1	25	SF		3	E		39		F
0277	PALE	23	2027	2034	2048	S17	W36	5047	06	21.1	21	SF		3	E		38		F
0278		24	00133	00282	0056	S17	W40	5047	06	21.0	43	SF	C 3.6				52		F
	PALE	24	0013	0030	0057	S17	W39	5047	06	21.0	44	SF	C 3.6	3	E		83		F
	LEAR	24	0016	0028	0055	S17	W40	5047	06	21.0	39	SF	C 3.6	3	E		22		
0279	LEAR	24	0140	0143	0146	N36	W50	5051	06	20.0	6	SF	C 3.3	3	E		20		
0280	LEAR	24	0218	0219	0230	S19	W41	5047	06	21.0	12	SF		3	E		18		
0281		24	0256*	0308*	0354	S16	W42	5047	06	20.9	58	1N	C 4.9				160	3.8	FT
	LEAR	24	0256	0313	0403	S18	W43	5047	06	20.8	67	SN	C 4.9	3	E		62		
	YUNN	24	0306	0308	0348	S17	W43	5047	06	20.9	42	2B	C 4.9		C		482	7.2	FT
	PALE	24	0312	0322	0401	S16	W42	5047	06	20.9	49	SN		3	E		71		F
	YUNN	24	0337	0339	0345	S13	W40	5047	06	21.1	8	SF	C 2.0		C		24	0.3	T
0282		24	04163	04228	0634	S17	W45	5047	06	20.7	138	2B	X 1.3				397	12.9	FTZ
	YUNN	24	0416	0425	0608	S18	W47	5047	06	20.6	112	3B	X 1.3		C		804	12.9	FT
	LEAR	24	0418	0430	0701	S18	W45	5047	06	20.7	163	1B	X 1.3	3	E		223		ZF
	PALE	24	0419	0422	0424D	S16	W42	5047	06	21.0	5D	1B	X 1.3	3	E		163		F
0283	LEAR	24	0633	0633	0638	N36	W60	5051	06	19.4	5	SF		3	E		26		
0284	LEAR	24	0732	0739	0841	S18	W46	5047	06	20.8	69	SF	C 9.5	3	E		55		
0285		24	0828	08255	0840	S26	E17	5056	06	25.7	12	SN					54	1.4	
	CATA	24	0825E	0825	0840D	S27	E17	5056	06	25.7	15D	SB		2	P	0825	84	1.4	
	LEAR	24	0828	0830	0840	S24	E17	5056	06	25.7	12	SF		3	E		25		
0286	RAMY	24	1128E	1156	1202	S17	W45	5047	06	21.0	34D	SF		3	E		35		
0287		24	1224	1232	1349	S17	W49	5047	06	20.8	85	1N	C 8.4				64		F
	RAMY	24	1224	1232	1349	S17	W49	5047	06	20.8	85	1N	C 8.4	3	E		102		
	HOLL	24	1233E	1235U	1305D	S17	W49	5047	06	20.8	32D	SN	C 8.4	2	E		25		F
0288	RAMY	24	1349	1352	1403	N35	W56	5051	06	20.1	14	SF	C 7.4	3	E		17		
0289	RAMY	24	1603	1648	1654D	S17	W52	5047	06	20.7	51D	2B	X 2.4	3	E		323		FZ
0290	HOLL	24	1707E	1711U	1829D	S17	W52	5047	06	20.8	82D	1B	X 2.4	2	E		138		F
0291	HOLL	24	1846E	1852U	1859	S22	E90	5060	07	1.7	13D	SN		3	E		64		
0292	RAMY	24	1920	1920	1942	S17	W52	5047	06	20.8	22	SF	C 8.2	3	E		54		
0293	RAMY	24	2116	2120	2131	N35	W59	5051	06	20.2	15	SF		3	E		12		

H - ALPHA S O L A R F L A R E S

JUNE 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0294		24	21221	2128	2153	S20	E90	5060	07	1.8	31	1B	M 3.3				98		
	HOLL	24	2122	2126U	2133D	S19	E90	5060	07	1.7	11D	SB	M 3.3	3	E		76		
	RAMY	24	2123	2128	2153	S21	E89	5060	07	1.7	30	1B	M 3.3	3	E		119		
0295	PALE	24	2306	2308	2338	S18	E89	5060	07	1.7	32	SF		3	E		51		E
0296	HOLL	24	2352	2355	2359	S23	E87	5060	07	1.7	7	SF		3	E		18		
0297		25	0219E	0224	0246	S24	E89	5060	07	2.0	27D	1N					116		AH
	PALE	25	0219E	0224U	0237D	S26	E89	5060	07	2.0	18D	1F		3	E		185		
	YUNN	25	0223E	0224	0246	S23	E89	5060	07	1.9	23D	SN			C		48		AH
0298	YUNN	25	0315	0325	0339	S26	W24		06	23.3	24	SN			C		64	0.8	
0299		25	0322*	0325*	0406	S17	W58	5047	06	20.7	44	SN	C 6.1				88	2.0	EFT
	YUNN	25	0322	0325	0427	S18	W58	5047	06	20.7	65	SN	C 6.1		C		64	1.4	T
	URUM	25	0330	0335	0346	S18	W58	5047	06	20.7	16	1N	C 6.1		C		129	2.7	E
	PALE	25	0337	0338	0403D	S16	W58	5047	06	20.7	26D	SF	C 6.1	3	E		71		F
0300	PALE	25	0409	0412	0416	S17	W59	5047	06	20.7	7	SF		3	E		49		
0301	YUNN	25	0525	0527	0546	S15	W64	5047	06	20.4	21	SN	C 3.2		C		48		T
0302		25	0645	0652	0729D	S20	W60	5047	06	20.7	44D	2N	M 1.7				290	4.1	E
	YUNN	25	0645	0656U	0729D	S22	W63	5047	06	20.4	44D	2F	M 1.7		P	0656	386		
	URUM	25	0651E	0652	0655D	S17	W58	5047	06	20.9	4D	1N	M 1.7		C		193	4.1	E
0303	RAMY	25	1109	1113	1124	S19	W65	5047	06	20.5	15	SF	M 1.7	3	E		20		
0304	RAMY	25	1113	1115	1132	S20	E73	5060	07	1.0	19	1N		3	E		122		H
0305		25	1248E	1256*	1344	S16	W64	5047	06	20.7	56D	SN	M 1.3				48		F
	RAMY	25	1248E	1256	1342	S16	W66	5047	06	20.5	54D	SN	M 1.3	3	E		77		F
	HOLL	25	1329E	1332	1346	S17	W63	5047	06	20.8	17D	SF		3	E		18		F
0306		25	1636	16396	1656	S20	E87	5060	07	2.3	20	SN	M 6.0				70		E
	RAMY	25	1636	1639	1654	S21	E89	5060	07	2.5	18	SN	M 6.0	3	E		95		E
	HOLL	25	1636	1645	1657	S20	E89	5060	07	2.5	21	SB	M 6.0	4	E		91		
	PALE	25	1645E	1647U	1701D	S20	E83	5060	07	2.0	16D	SF	M 6.0	2	E		24		E
0307	RAMY	25	1657	1714	1725	N35	W72	5051	06	19.9	28	SF		3	E		20		
0308		25	1723	17233	1738	S17	W69	5047	06	20.5	15	SF					18		
	RAMY	25	1723	1723	1738	S17	W70	5047	06	20.4	15	SF		3	E		20		
	HOLL	25	1723	1726	1737	S17	W68	5047	06	20.5	14	SF		3	E		16		
0309	HOLL	25	1728	1730	1736	N35	W72	5051	06	20.0	8	SF		3	E		10		
0310	HOLL	25	1738	1741	1755	N35	W71	5051	06	20.0	17	SF		4	E		16		
0311	HOLL	25	1825	1834	1838	N35	W71	5051	06	20.1	13	SF		3	E		17		
0312	HOLL	25	1827	1835	1839	S22	E84	5060	07	2.2	12	SF		3	E		34		
0313	PALE	25	1829	1830	1844	S21	E89	5060	07	2.6	15	SF		3	E		41		
0314	PALE	26	0014	0101	0117D	S20	E89	5060	07	2.8	63D	SF	C 8.5	3	E		40		
0315	PALE	26	0309	0309	0329D	N35	W76	5051	06	20.0	20D	SF		3	E		29		
0316	LEAR	26	0703	0705	0709	S21	E80	5060	07	2.4	6	SF		3	E		36		F
0317	RAMY	26	1233	1241	1257	S17	W77	5047	06	20.7	24	SF		3	E		30		F
0318	RAMY	26	1248	1248	1253	N12	E81	5062	07	2.6	5	SF	C 4.3	3	E		11		
0319	RAMY	26	1256	1257	1305	S22	E78	5060	07	2.5	9	SF		3	E		34		
0320	RAMY	26	1335	1337	1341	N13	E80	5062	07	2.6	6	SF		3	E		24		

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0321		26	1340	1345U	1353	S20	W78	5047	06	20.6	13	1N	M 1.3				88		E
	RAMY	26	1340	1345U	1357	S18	W77	5047	06	20.7	17	1N	M 1.3	3	E		151		E
	SVTO	26	1346E	1347U	1349	S21	W79	5047	06	20.5	3D	SF	M 1.3	1	E		26		
0322	RAMY	26	1423	1430U	1441	S22	E67	5060	07	1.7	18	SN		2	E		60		F
0323	RAMY	26	1529E	1533	1546	S22	E76	5060	07	2.5	17D	SF		2	E				F
0324	RAMY	26	1608	1610	1611	S21	E71	5060	07	2.1	3	SF		3	E		18		F
0325		26	1630	1630	1636	S17	W78	5047	06	20.8	6	SF					52		
	HOLL	26	1630	1630	1635	S18	W78	5047	06	20.7	5	SF		4	E		44		
	RAMY	26	1630	1630	1637	S16	W78	5047	06	20.8	7	SF		3	E		60		
0326	HOLL	26	1640	1640	1645	S20	E70	5060	07	2.0	5	SF		4	E		11		
0327		26	17362	17362	1750	S18	W79	5047	06	20.7	14	SN					67		
	HOLL	26	1736	1736	1749	S17	W79	5047	06	20.7	13	SN		3	E		92		
	PALE	26	1738	1738	1752	S19	W79	5047	06	20.7	14	SF		3	E		42		
0328	RAMY	26	2211E	2211U	2228	N12	E74	5062	07	2.5	17D	SF		3	E		19		
0329	PALE	27	0035	0046	0052	N13	E78	5062	07	2.9	17	SN		3	E		78		
0330	PALE	27	0249E	0249U	0310	S20	W89	5047	06	20.3	21D	SN	C 7.8	3	E		80		
0331	PALE	27	0249E	0304	0358	S20	E66	5060	07	2.2	69D	SN	M 1.1	3	E		99		
0332	LEAR	27	0508	0510	0518	N13	E68	5062	07	2.3	10	SF		3	E		33		
0333	LEAR	27	0549	0558	0607	N13	E67	5062	07	2.3	18	SF	M 1.3	3	E		21		
0334		27	06124	06171	0628	N14	E68	5062	07	2.4	16	SN	M 1.3				32		
	LEAR	27	0612	0618	0634	N12	E67	5062	07	2.3	22	SN	M 1.3	3	E		53		
	SVTO	27	0616	0617	0621	N15	E68	5062	07	2.4	5	SF	M 1.3	3	E		10		
0335	CATA	27	0800	0800	0820	S26	E17		06	28.6	20	SN		2	C	0800	84	1.0	
0336	YUNN	27	0825E	0825U	0827	S24	W27		06	25.3	2D	SN			P	0825	48	0.6	D
0337	LEAR	27	0829	0832	0837	N13	E66	5062	07	2.3	8	SF	C 2.3	3	E		21		
0338	YUNN	27	0835	0838	0846	S18	E61	5060	07	2.0	11	SN			C		24	0.6	E
0339	YUNN	27	0904	0919U	0919D	S18	E58	5060	07	1.8	15D	SB			P	0919	24	0.5	D
0340	YUNN	27	0917E	0919U	0919D	N13	E66	5062	07	2.4	2D	SN			P	0919	16		D
0341	SVTO	27	0943	0944	0951	N16	E67	5062	07	2.5	8	SF	C 6.8	3	E		28		F
0342	RAMY	27	1152	1153	1207	S20	E59	5060	07	2.0	15	SF	C 2.5	4	E		29		
0343	RAMY	27	1302	1304	1309	S19	E55	5060	07	1.7	7	SF		3	E		14		
0344	RAMY	27	1357	1403	1419	S18	E55	5060	07	1.8	22	SF		3	E		29		
0345		27	1438	1443	1508	N14	E61	5062	07	2.2	30	1N	C 7.3				76		EF
	RAMY	27	1438	1443	1514	N13	E61	5062	07	2.2	36	1N	C 7.3	3	E		113		FE
	SVTO	27	1445E	1458U	1502	N16	E61	5062	07	2.2	17D	SF	C 7.3	2	E		39		
0346	RAMY	27	1458	1459	1506	S20	E57	5060	07	2.0	8	SF		3	E		11		F
0347	RAMY	27	1459	1459	1506	S24	W33	5056	06	25.1	7	SF		3	E		11		
0348	RAMY	27	1617	1617	1623	S18	E53	5060	07	1.7	6	SF	C 2.4	3	E		32		
0349	RAMY	27	1641	1642	1647	N13	E62	5062	07	2.4	6	SF		3	E		19		
0350	RAMY	27	1832	1833	1836	N13	E61	5062	07	2.4	4	SF		3	E		23		F

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0351	HOLL	27	1907E	1908U	1919D	N14	E61	5062	07	2.4	12D	SF		2	E		25		F
0352	HOLL	27	1953E	1955U	2026	N14	E60	5062	07	2.4	33D	SN	C 8.8	2	E		60		F
0353	PALE	27	2154	2220	2255	S20	E49	5060	07	1.7	61	SF	C 2.4	3	E		44		
0354	PALE	27	2223	2226	2235	N14	E61	5062	07	2.5	12	SF		3	E		11		
0355		27	2301	23021	2329	S18	E50	5060	07	1.8	28	SN	C 6.8				70		
	HOLL	27	2301E	2302	2304D	S16	E51	5060	07	1.8	3D	SN	C 6.8	2	E		80		
	PALE	27	2301	2303	2329	S20	E49	5060	07	1.7	28	SN	C 6.8	3	E		60		
0356		28	0001*	00014	0012	S20	E50	5060	07	1.8	11	SF	C 3.4				18		
	HOLL	28	0001	0001	0014	S17	E52	5060	07	1.9	13	SF	C 3.4	3	E		23		
	PALE	28	0001	0005	0009	S23	E52	5060	07	2.0	8	SF	C 3.4	3	E		16		
	HOLL	28	0015	0018U	0019D	S19	E46	5060	07	1.5	4D	SF		2	E		16		
0357	PALE	28	0003	0015	0039	N14	E60	5062	07	2.5	36	SF		3	E		15		
0358		28	01182	01201	0130	S22	E54	5060	07	2.2	12	SN	C 1.9				20	0.4	ET
	YUNN	28	0118	0120	0131	S20	E50	5060	07	1.9	13	SB	C 1.9		C		24	0.4	ET
	PALE	28	0120	0121	0129	S23	E58	5060	07	2.5	9	SF	C 1.9	3	E		15		
0359		28	01521	01537	0207	S22	E56	5060	07	2.4	15	SF					22	0.8	DT
	PALE	28	0152	0153	0212	S23	E57	5060	07	2.5	20	SF		3	E		15		
	YUNN	28	0152	0200	0208	S21	E56	5060	07	2.4	16	SN			C		40	0.8	DT
	LEAR	28	0153	0153	0202	S22	E55	5060	07	2.3	9	SF		3	E		10		
0360	LEAR	28	0152	0154	0157	S25	W34	5056	06	25.4	5	SF		3	E		17		
0361	PALE	28	0338	0338	0350	S23	E50	5060	07	2.0	12	SF	C 4.9	3	E		11		
0362	PALE	28	0411	0413	0416	S21	E51	5060	07	2.1	5	SF		3	E		19		F
0363	LEAR	28	0414	0430	0437	N13	E55	5062	07	2.3	23	SF		3	E		19		
0364		28	0418*	0427*	0505	S21	E50	5060	07	2.0	47	1N	M 1.3				173	6.6	FT
	YUNN	28	0418	0427	0434	S20	E50	5060	07	2.0	16	1N			C		289	5.0	FT
	PALE	28	0421	0445	0450D	S23	E48	5060	07	1.9	29D	1N	M 1.3	2	E		158		
	LEAR	28	0424	0427	0430	S20	E50	5060	07	2.0	6	SF		3	E		13		
	YUNN	28	0440	0448	0537	S20	E50	5060	07	2.0	57	2B	M 1.3		C		466	8.1	FT
	LEAR	28	0443	0444	0531	S19	E49	5060	07	1.9	48	SN	M 1.3	3	E		46		F
	SVTO	28	0444	0445	0514	S23	E50	5060	07	2.0	30	SN	M 1.3	3	E		64		F
0365		28	05582	0600	0611	S16	E48	5060	07	1.9	13	1N					103	3.2	T
	SVTO	28	0558	0600	0603	S16	E48	5060	07	1.9	5	SF		3	E		13		
	YUNN	28	0600	0600U	0619	S16	E49	5060	07	2.0	19	1N			P	0600	193	3.2	T
0366		28	0740	0744	0748	S16	E45	5060	07	1.7	8	1N					115	3.2	ET
	SVTO	28	0740	0744	0748	S16	E45	5060	07	1.7	8	SF		3	E		21		
	YUNN	28	0741E	0741U	0749	S16	E45	5060	07	1.7	8D	1N			P	0741	209	3.2	ET
0367	LEAR	28	0748	0748	0754	S23	E49	5060	07	2.1	6	SF		3	E		24		
0368		28	0815	08166	0826	S20	E51	5060	07	2.2	11	SN	M 1.5				109	2.7	DT
	BUCA	28	0814E	0816	0823	S21	E52	5060	07	2.3	9D	SN	M 1.5		C	0816	64	1.1	
	LEAR	28	0815	0816	0823	S20	E50	5060	07	2.2	8	SN	M 1.5	3	E		23		
	YUNN	28	0818E	0822	0831	S20	E51	5060	07	2.2	13D	1N	M 1.5		P		241	4.3	DT
0369		28	0825	0826	0831	N14	E54	5062	07	2.4	6	SF					40	0.7	D
	BUCA	28	0825	0826	0828	N14	E54	5062	07	2.4	3	SF			C	0826	43	0.7	D
	LEAR	28	0825	0826	0834	N13	E53	5062	07	2.3	9	SF		3	E		36		
0370		28	0902*	0913*	0928	N13	E51	5062	07	2.2	26	SF					53	1.6	
	LEAR	28	0902	0913	0926	N13	E51	5062	07	2.2	24	SF		3	E		36		
	SVTO	28	0921	0922	0931	N14	E52	5062	07	2.3	10	SF		3	E		28		
	YUNN	28	0921	0923	0928	N13	E51	5062	07	2.2	7	SN			C		96	1.6	
0371	SVTO	28	0937	0938	0945	S20	E51	5060	07	2.3	8	SF	C 7.3	3	E		43		

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0372	SVTO	28	1012	1013	1018	N12	E53	5062	07	2.4	6	SF	M 3.2	3	E		18		
0373	SVTO	28	1046	1047	1055	S23	E47	5060	07	2.1	9	SF		3	E		25		
0374		28	1058	1109*	1124	N15	E50	5062	07	2.2	26	SF					46		
	SVTO	28	1058	1109	1121	N16	E50	5062	07	2.2	23	SF		3	E		75		
	RAMY	28	1119E	1124	1127	N14	E50	5062	07	2.2	8D	SF		2	E		16		
0375		28	1109	1116	1119	S22	E48	5060	07	2.1	10	SN	M 4.5				40		F
	SVTO	28	1109	1116	1119	S23	E47	5060	07	2.1	10	SF	M 4.5	3	E		18		
	RAMY	28	1110E	1124U	1144D	S21	E48	5060	07	2.1	34D	SN	M 4.5	2	E		62		F
0376	CATA	28	1114	1114	1123	S26	W09		06	27.8	9	SB		2	C	1114	56	0.6	
0377	RAMY	28	1204	1216	1221	S16	E48	5060	07	2.1	17	SF		3	E		52		F
0378	SVTO	28	1238	1238	1243	N15	E50	5062	07	2.3	5	SF		3	E		26		
0379	RAMY	28	1312	1325	1413	S22	E45	5060	07	2.0	61	SF	C 5.5	3	E		38		F
0380		28	1653*	1659*	1741	S23	E42	5060	07	1.9	48	SF	C 8.8				71		EF
	RAMY	28	1653	1732	1809	S24	E43	5060	07	2.0	76	1F	C 8.8	3	E		104		FE
	PALE	28	1659	1659	1713	S26	E41	5060	07	1.9	14	SF		3	E		18		
	PALE	28	1726	1728	1743	S20	E41	5060	07	1.9	17	SN	M 2.4	3	E		85		
	SVTO	28	1736E	1736U	1740	S23	E43	5060	07	2.0	4D	SF	M 2.4	1	E		78		
0381	HOLL	28	1919	1921	1948	S20	E46	5060	07	2.3	29	SF		3	E		36		F
0382		28	19553	1959	2036	S21	E42	5060	07	2.0	41	SB	M 2.1				75		EFU
	HOLL	28	1955	1959	2051	S19	E45	5060	07	2.3	56	SB	M 2.1	3	E		86		UF
	PALE	28	1958	1959	2022	S23	E39	5060	07	1.8	24	SB	M 2.1	3	E		71		FE
	RAMY	28	2004E	2004U	2028D	S21	E43	5060	07	2.1	24D	SB	M 2.1	3	E		67		F
0383	HOLL	28	2052	2058	2119	S18	E30	5060	07	1.1	27	SF		3	E		19		
0384	HOLL	28	2113	2114	2122	N14	E46	5062	07	2.4	9	SF	C 5.6	3	E		14		
0385	RAMY	28	2127	2128	2131	N12	E47	5062	07	2.4	4	SF	C 5.6	3	E		20		
0386		28	2134	22081	2244	S18	E40	5060	07	1.9	70	1N					104		EF
	HOLL	28	2128E	2209	2309	S18	E40	5060	07	1.9	101D	1N		2	E		105		FE
	PALE	28	2134	2208	2220	S19	E39	5060	07	1.9	46	1N		3	E		103		F
0387		28	21436	21495	2209	N12	E43	5062	07	2.1	26	SF					18		E
	PALE	28	2143	2154	2207	N11	E37	5062	07	1.7	24	SF		3	E		24		E
	HOLL	28	2149	2149	2211	N14	E49	5062	07	2.6	22	SF		3	E		12		
0388	HOLL	28	2312	2312	2318D	N13	E48	5062	07	2.6	6D	SF		2	E		13		
0389	HOLL	28	2335	2335	2341	S20	E40	5060	07	2.0	6	SF		3	E		12		
0390		29	00052	00081	0023	N13	E46	5062	07	2.5	18	SF					34		
	LEAR	29	0005	0009U	0041D	N13	E46	5062	07	2.5	36D	SF		3	E		51		
	PALE	29	0006	0008	0023	N13	E44	5062	07	2.3	17	SF		3	E		19		
	HOLL	29	0007	0009	0013D	N14	E47	5062	07	2.5	6D	SF		2	E		31		
0391		29	0017*	0050*	0142	S20	E36	5060	07	1.8	85	1N	M 2.6				144	3.8	EFTU
	PALE	29	0017	0053	0115	S18	E36	5060	07	1.7	58	1B	M 2.6	3	E		183		UF
	HOLL	29	0021E	0029U	0039D	S23	E40	5060	07	2.1	18D	SF	C 3.2	2	E		31		
	LEAR	29	0028	0050	0126	S21	E41	5060	07	2.2	58	1B	M 2.6	4	E		195		FE
	PALE	29	0051	0053	0203D	S19	E32	5060	07	1.5	72D	1N	M 2.6	3	E		105		FU
	YUNN	29	0151	0152	0202	S19	E32	5060	07	1.5	11	1N			C		289	3.8	T
	LEAR	29	0152	0154	0203	S20	E32	5060	07	1.5	11	SF		4	E		58		
0392	YUNN	29	0129E	0130U	0133	N13	E38	5062	07	1.9	4D	SN			P	0130	48	0.6	

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Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0393		29	0208*	0216*	0259	S24	E35	5060	07	1.8	51	1N	C 3.7				138	3.4	FT
	PALE	29	0208	0311U	0311D	S24	E35	5060	07	1.8	63D	1B		3	E		105		F
	YUNN	29	0214	0220	0241	S21	E34	5060	07	1.7	27	1N			C		257	3.5	FT
	LEAR	29	0215	0216	0237	S25	E35	5060	07	1.8	22	SF		4	E		49		
	YUNN	29	0309	0312	0318	S24	E35	5060	07	1.8	9	1N	C 3.7		C		225	3.2	T
	LEAR	29	0312	0313	0320	S25	E36	5060	07	1.9	8	SF	C 3.7	4	E		52		
0394	YUNN	29	0438E	0438U	0456	S21	E26	5060	07	1.2	18D	SF			P	0438	48	0.6	DT
0395	YUNN	29	0503	0511	0515	S23	E39	5060	07	2.2	12	1F			P		321	4.8	T
0396		29	05064	0511	0516	N14	E40	5062	07	2.2	10	1F					182	4.4	
	YUNN	29	0506	0511	0515	N15	E40	5062	07	2.2	9	1F			C		321	4.4	
	LEAR	29	0510	0511	0516	N14	E39	5062	07	2.2	6	SF		4	E		44		
0397	YUNN	29	0544	0546	0556	S19	E31	5060	07	1.6	12	1N			C		161	2.1	ET
0398	YUNN	29	0615E	0615U	0619	S20	E26	5060	07	1.2	4D	SN			P	0615	161	2.0	ET
0399		29	06381	06391	0647	S18	E33	5060	07	1.8	9	SF	C 3.1				101	2.6	ET
	SVTO	29	0638	0639	0652	S18	E34	5060	07	1.9	14	SF	C 3.1	3	E		78		
	LEAR	29	0639	0640	0644	S18	E31	5060	07	1.6	5	SF	C 3.1	4	E		32		
	YUNN	29	0642E	0642U	0646	S18	E34	5060	07	1.9	4D	1N	C 3.1		P	0642	193	2.6	ET
0400		29	0722*	0738	0829	S20	E28	5060	07	1.4	67	2B	M 6.5				547	8.0	EFT
	SVTO	29	0722	0738	0854	S20	E25	5060	07	1.2	92	2B		3	E		540		FE
	YUNN	29	0727E	0727U	0731	S21	E37	5060	07	2.1	4D	SN			P		80	1.1	T
	LEAR	29	0734	0738	0847	S19	E24	5060	07	1.1	73	2B	M 6.5	4	E		363		FE
	YUNN	29	0735E	0735U	0844	S19	E25	5060	07	1.2	69D	3B	M 6.5		P	0735	1206	14.8	FT
0401		29	09214	09232	0928	S18	E31	5060	07	1.7	7	SN					59	1.0	DT
	YUNN	29	0921	0925	0927	S18	E27	5060	07	1.4	6	SN			C		96	1.2	DT
	SVTO	29	0923	0923	0928	S18	E28	5060	07	1.5	5	SF		3	E		18		
	YUNN	29	0925	0928U	0928D	S17	E38	5060	07	2.3	3D	SN			P	0928	64	0.9	DT
0402	SVTO	29	1027	1029	1036	N13	E38	5062	07	2.3	9	SF		3	E		17		
0403	SVTO	29	1030	1033	1043	S23	E30	5060	07	1.7	13	SF	C 6.1	3	E		54		
0404		29	1114	11164	1129	S21	E30	5060	07	1.8	15	SF	C 6.9				80	0.8	EFT
	SVTO	29	1114	1116	1131	S23	E29	5060	07	1.7	17	1F	C 6.9	3	E		133		
	KAND	29	1114	1120	1128	S18	E30	5060	07	1.7	14	SN	C 6.9		P	1120	62	0.8	EFT
	RAMY	29	1116E	1120U	1127	S23	E30	5060	07	1.8	11D	SF	C 6.9	3	E		45		
0405	KAND	29	1120		1135D	N14	E39	5062	07	2.4	15D	SN			P				ET
0406	HOLL	29	1305E	1307	1320	N14	E40	5062	07	2.6	15D	SF		3	E		36		E
0407		29	13254	13268	1344	N16	E37	5062	07	2.4	19	SN	C 4.2				48		EF
	HOLL	29	1325	1326	1342D	N16	E37	5062	07	2.4	17D	SN	C 4.2	3	E		61		FE
	SVTO	29	1329	1334	1344	N15	E37	5062	07	2.4	15	SF	C 4.2	3	E		35		
0408		29	1652	16533	1703	S20	E24	5060	07	1.5	11	1N	C 5.5				152		F
	PALE	29	1648E	1653	1725D	S21	E22	5060	07	1.4	37D	2N	C 5.5	3	E		286		
	RAMY	29	1652	1656	1703	S19	E26	5060	07	1.7	11	SF	C 5.5	3	E		18		F
0409		29	1751	17522	1808	S19	E28	5060	07	1.9	17	SF	C 2.3				20		F
	HOLL	29	1751	1752	1807	S19	E26	5060	07	1.7	16	SF	C 2.3	3	E		20		
	PALE	29	1751	1754	1808	S19	E31	5060	07	2.1	17	SF	C 2.3	3	E		20		F
0410	HOLL	29	1823	1828	1836	S17	E26	5060	07	1.7	13	SF	C 5.5	3	E		39		
0411		29	19195	19196	1936	S21	E28	5060	07	1.9	17	SF					19		
	PALE	29	1919	1919	1937	S21	E29	5060	07	2.0	18	SF		3	E		28		
	HOLL	29	1924	1925	1934	S21	E28	5060	07	1.9	10	SF		3	E		10		
0412		29	2015	20161	2119	S19	E27	5060	07	1.9	64	1B	M 4.1				200		FUZ
	PALE	29	2015	2016	2123	S19	E27	5060	07	1.9	68	1B	M 4.1	3	E		224		UF
	HOLL	29	2015	2017	2115	S19	E27	5060	07	1.9	60	1B	M 4.1	3	E		177		ZF

H - ALPHA SOLAR FLARES

JUNE 1988

Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0413		29	2022	2023	2054	N13	E34	5062	07	2.4	32	SN					53		F
	PALE	29	2022	2023	2054	N13	E34	5062	07	2.4	32	SF		3	E		60		F
	HOLL	29	2022	2023	2054	N13	E34	5062	07	2.4	32	SN		3	E		46		
0414	PALE	29	2127	2129	2133	S18	E25	5060	07	1.8	6	SF		3	E		14		
0415	PALE	29	2206	2216	2235	S19	E25	5060	07	1.8	29	SF		3	E		31		F
0416		30	00032	00043	0018	N14	E33	5062	07	2.5	15	SF	C 1.8				24		
	PALE	30	0003	0004	0020	N14	E33	5062	07	2.5	17	SF	C 1.8	3	E		22		
	HOLL	30	0005	0007	0017	N14	E33	5062	07	2.5	12	SF	C 1.8	3	E		25		
0417		30	0056	00564	0112	S18	E23	5060	07	1.8	16	SF					37	0.8	FT
	PALE	30	0056	0056	0110	S18	E23	5060	07	1.8	14	SF		3	E		23		
	HOLL	30	0056	0100	0113	S17	E23	5060	07	1.8	17	SF		3	E		25		F
	YUNN	30	0058E	0100	0110D	S18	E23	5060	07	1.8	12D	SN			P		64	0.8	T
0418	PALE	30	0138	0142	0145	S21	E17	5060	07	1.4	7	SF		3	E		32		
0419		30	01561	02071	0229	N13	E30	5062	07	2.3	33	SF	C 3.2				46		EF
	PALE	30	0156	0208	0224	N13	E30	5062	07	2.3	28	SF	C 3.2	3	E		42		E
	LEAR	30	0157	0207	0234	N13	E29	5062	07	2.3	37	SF	C 3.2	3	E		51		F
0420		30	0452	0456	0521	N13	E30	5062	07	2.5	29	SN	C 1.5				34	0.2	EF
	LEAR	30	0452	0456	0520	N13	E30	5062	07	2.5	28	SF	C 1.5	3	E		51		F
	YUNN	30	0501E	0501U	0522	N13	E30	5062	07	2.5	21D	SN	C 1.5		P	0501	16	0.2	E
0421	YUNN	30	0504E	0504U	0508	S17	E27	5060	07	2.3	4D	SB	C 1.5		P	0504	64	0.8	T
0422		30	0629	06301	0640	N13	E29	5062	07	2.4	11	SF	C 1.6				97	1.9	F
	YUNN	30	0624E	0630	0639	N13	E30	5062	07	2.5	15D	SF	C 1.6		P		161	1.9	
	LEAR	30	0629	0631	0641	N13	E28	5062	07	2.4	12	SF	C 1.6	3	E		33		F
0423	CATA	30	0625E	0625	0634D	S23	W26		06	28.3	9D	1B		2	P	0625	197	2.4	
0424		30	0810*	08221	0854	S21	E20	5060	07	1.9	44	SN	C 5.8				182	4.5	FT
	SVTO	30	0810	0822	0846	S20	E23	5060	07	2.1	36	SN	C 5.8	3	E		88		F
	YUNN	30	0820	0823	0855	S21	E21	5060	07	1.9	35	1B	C 5.8		C		370	4.5	FT
	LEAR	30	0821	0823	0900	S22	E17	5060	07	1.6	39	SN	C 5.8	3	E		87		F
0425		30	09031	09062	0924	S16	E23	5060	07	2.1	21	2B	M 9.2				308	4.0	EFHT
	SVTO	30	0903	0907	0915	S15	E24	5060	07	2.2	12	2N		3	E		296		H
	LEAR	30	0904	0906	0916	S16	E22	5060	07	2.0	12	2B	M 9.2	3	E		291		FE
	YUNN	30	0904E	0908	0940	S16	E23	5060	07	2.1	36D	1B	M 9.2		P		338	4.0	FHT
0426	SVTO	30	0905	0906	0913	N15	E28	5062	07	2.5	8	SF		3	E		16		
0427	SVTO	30	1005	1006	1013	N15	E28	5062	07	2.5	8	SF	C 1.5	3	E		14		
0428	CATA	30	1100	1104	1104D	S24	W27		06	28.4	4D	1N		2	P	1104	169	2.1	
0429	RAMY	30	1111	1117	1127	S22	E22	5060	07	2.1	16	SF		3	E		24		
0430		30	12531	12542	1329	S18	E16	5060	07	1.7	36	SF	C 4.0				53		EF
	RAMY	30	1253	1254	1336	S19	E14	5060	07	1.6	43	SF	C 4.0	3	E		66		F
	SVTO	30	1253	1256	1316	S20	E15	5060	07	1.7	23	SF	C 4.0	3	E		33		F
	HOLL	30	1254	1255	1336	S14	E18	5060	07	1.9	42	SF	C 4.0	4	E		60		FE
0431	RAMY	30	1320	1326	1327	N13	E26	5062	07	2.5	7	SF		3	E		10		
0432	HOLL	30	1359	1359	1402	N13	E28	5062	07	2.7	3	SF		4	E		14		
0433		30	14352	14392	1448	S21	E15	5060	07	1.7	13	1N					115		EF
	HOLL	30	1435	1439	1448	S21	E16	5060	07	1.8	13	1N		4	E		128		FE
	SVTO	30	1437	1441	1447	S21	E14	5060	07	1.7	10	1F		3	E		102		F
0434		30	1707*	1729	1746	S20	E17	5060	07	2.0	39	SF	C 4.5				38		F
	HOLL	30	1707	1729U	1750	S20	E17	5060	07	2.0	43	SF	C 4.5	3	E		47		F
	PALE	30	1721	1729	1743	S21	E17	5060	07	2.0	22	SF	C 4.5	3	E		28		F

H - ALPHA SOLAR FLARES

JUNE 1988

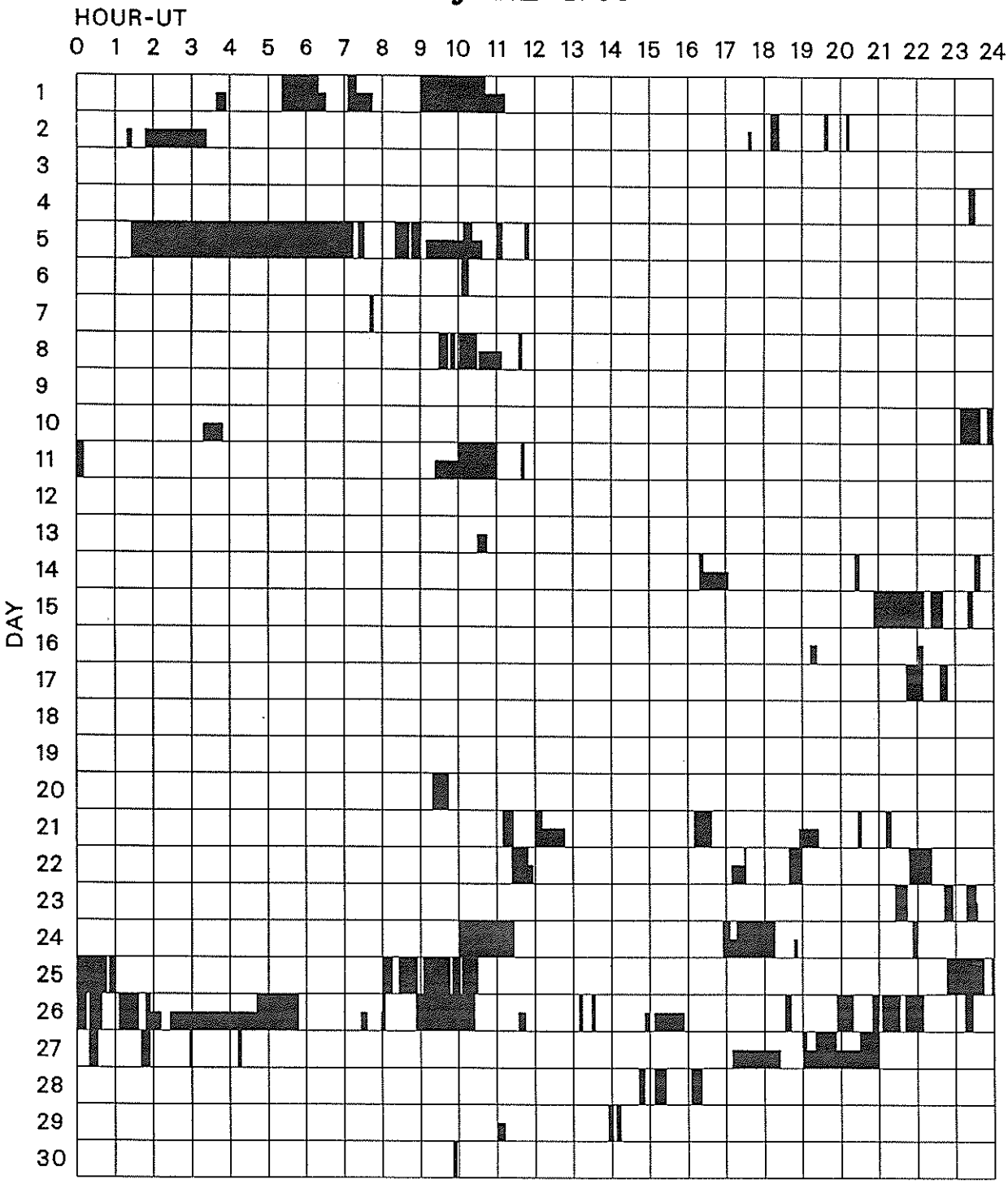
Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0435		30	17541	1802	1826	S18	E14	5060	07	1.8	32	SF					28		F
	HOLL	30	1754	1802	1830	S18	E14	5060	07	1.8	36	SF		4	E		42		F
	PALE	30	1755	1802	1823	S19	E13	5060	07	1.7	28	SF		3	E		14		
0436	PALE	30	2018	2021	2027	N14	E20	5062	07	2.3	9	SF		3	E		19		
0437	PALE	30	2217	2225	2237	S22	E09	5060	07	1.6	20	SF		3	E		51		
0438	HOLL	30	2349	2349	2354	S15	E15	5060	07	2.1	5	SF		3	E		14		

"Remarks"

A = Eruptive prominence whose base is less than 90 degrees from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by high-speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the H and K lines of Ca II.
P = Flare shows Helium D3 in emission.
Q = Flare shows Balmer continuum in emission.
R = Marked asymmetry in H-alpha line suggests ejection of high-velocity material.
S = Brightness follows disappearance of filament in same position.
T = Region active all day.
U = Two bright branches, parallel or converging.
V = Occurrence of an explosive phase; important, expansion within roughly 1 minute that often includes a significant intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide H-alpha line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

INTERVALS OF NO FLARE PATROL OBSERVATION
FOR PRECEDING SOLAR FLARE TABLE

JUNE 1988



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

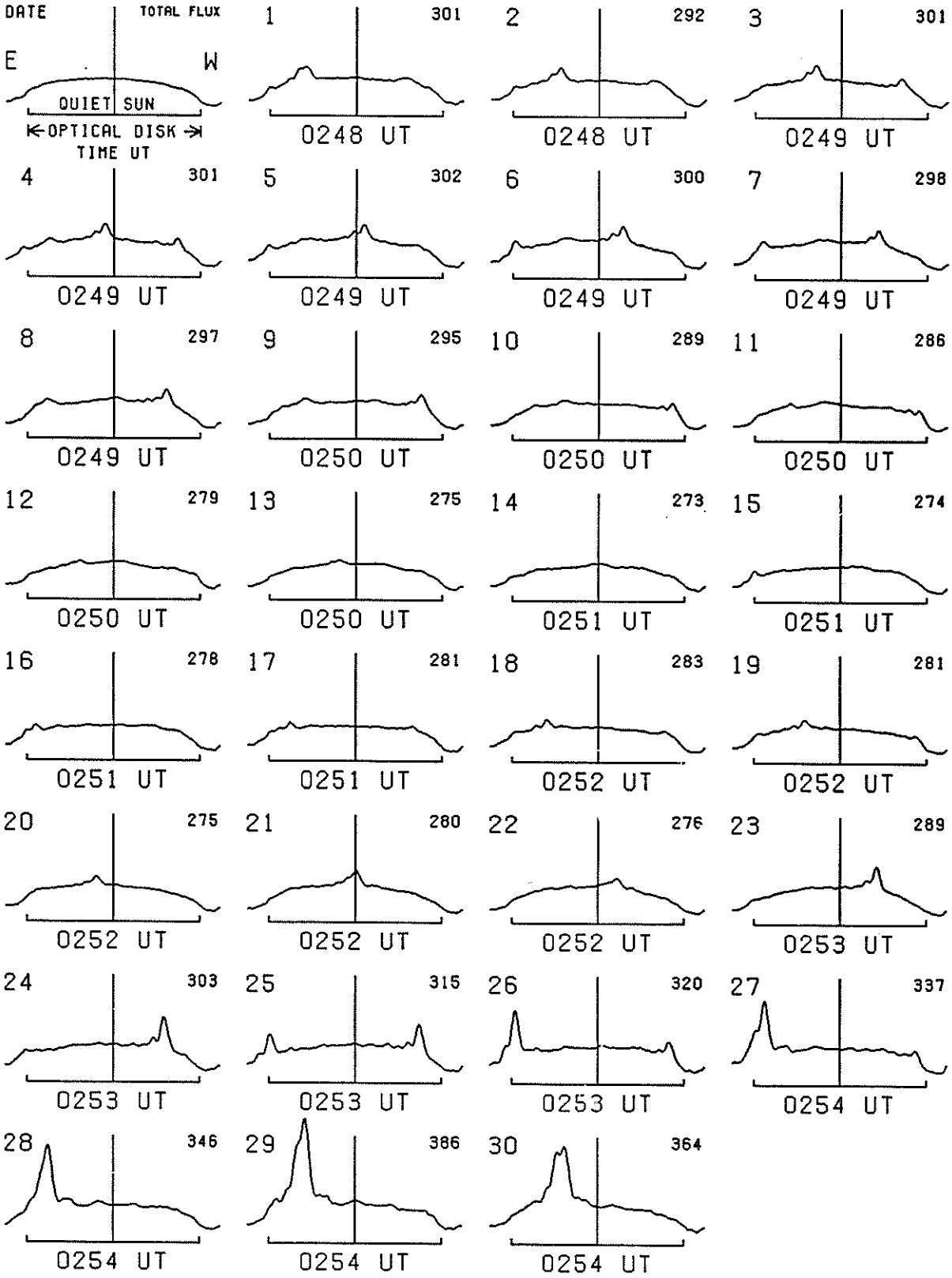
Bucharest	Holloman	Learmonth	Peking	San Vito
Catania	Kandilli	Palehua	Ramey	Urumqi
				Yunnan

EAST-WEST SOLAR SCANS

JUNE 1988

TOYOKAWA, JAPAN

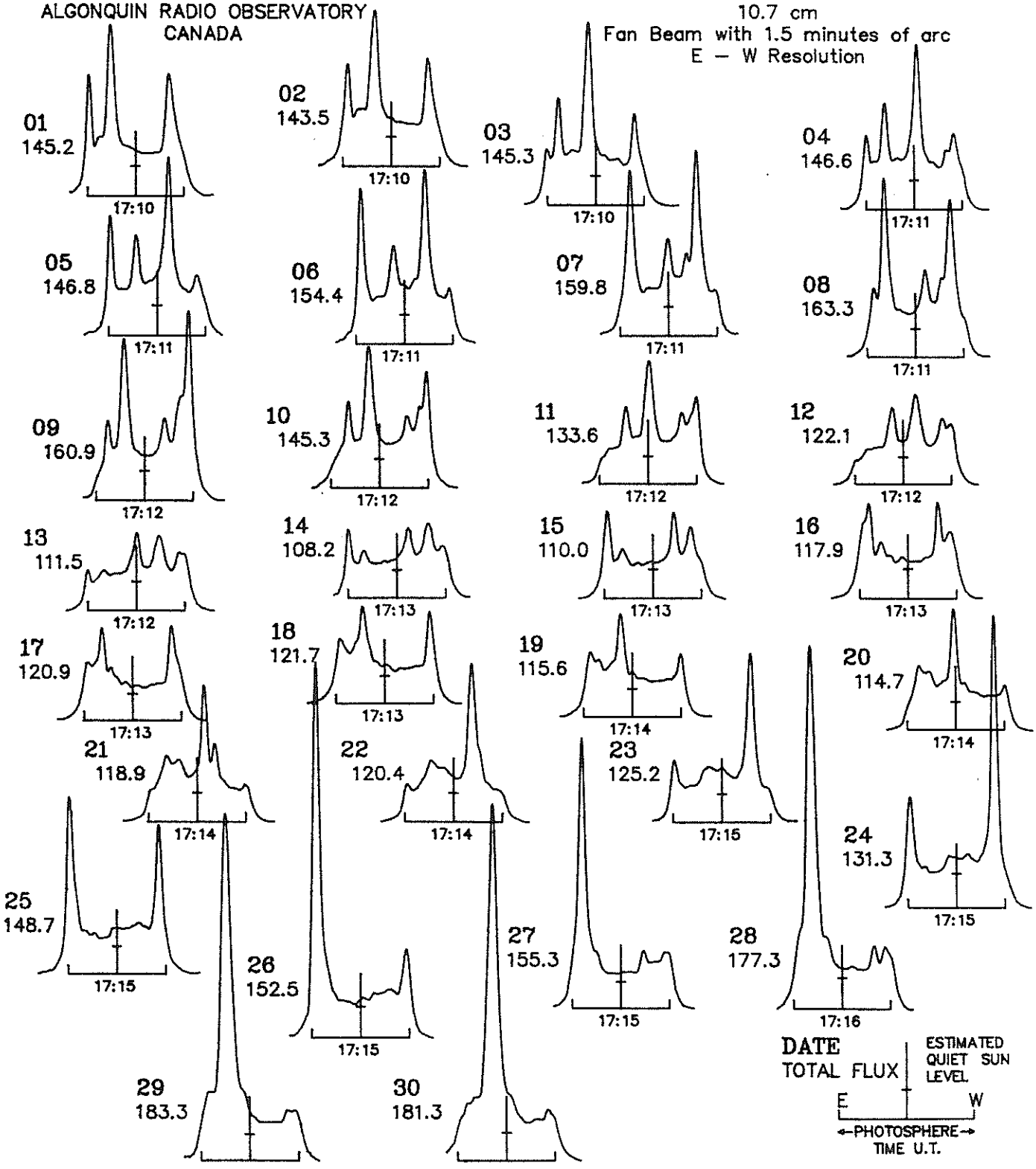
3 CM
FAN BEAM WITH 1.1 MINUTES OF ARC



EAST – WEST SOLAR SCANS
JUNE 1988

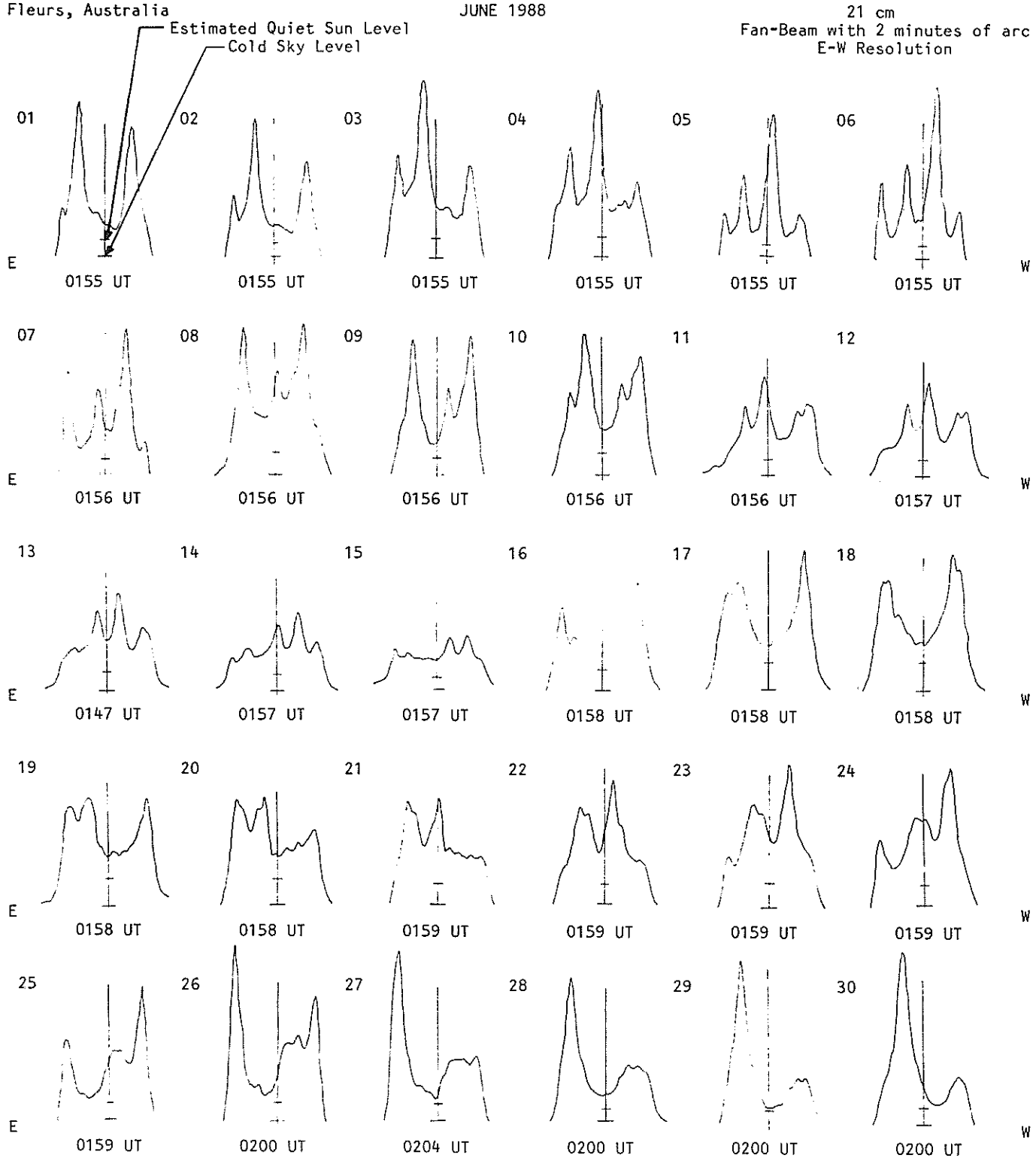
ALGONQUIN RADIO OBSERVATORY
CANADA

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



E A S T - W E S T S O L A R S C A N S

Fleurs, Australia — JUNE 1988 — 21 cm Fan-Beam with 2 minutes of arc E-W Resolution



SOLAR INTERFEROMETRIC OBSERVATIONS

Nancay JUNE 1988 164 MHz

Day

5

10

CHART UNAVAILABLE AT TIME OF PUBLICATION

15

20

25

30

E C W

SOLAR RADIO EMISSION--SELECTED FIXED FREQUENCY EVENTS

JUNE 1988

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remark
01	2800	OTTA	20	GRF	1521.0	1615.0	210.0	7.6	3.0		
02	2695	LEAR	4	S/F	0334.0	0334.0	3.0	14.0			QL=5 ST=2 TYP=3
03	2695	SGMR	8	S	1245.0	1245.0	1.0	120.0			QL=5 ST=2 TYP=5
	8800	SVTO	8	S	1245.0	1245.0	1.0	41.0			QL=5 ST=2 TYP=3
	2695	SVTO	8	S	1245.0	1245.0	1.0	120.0			QL=5 ST=2 TYP=5
	2800	OTTA	8	S	1245.5	1246.2	0.8	156.0	78.0		
04	2695	PALE	4	S/F	0426.0	0428.0	3.0	25.0			QL=5 ST=2 TYP=3
	2695	SVTO	8	S	0427.0	0428.0	1.0	20.0			QL=5 ST=2 TYP=3
	2695	LEAR	8	S	0428.0	0428.0	1.0	31.0			QL=5 ST=2 TYP=3
06	2695	SVTO	8	S	0358.0	0358.0	1.0	23.0			QL=5 ST=2 TYP=3
	8800	SVTO	4	S/F	0358.0	0358.0	5.0	29.0			QL=5 ST=2 TYP=3
	8800	SVTO	4	S/F	0359.0	0403.0	4.0	9.0			QL=5 ST=2 TYP=3
07	2695	SVTO	4	S/F	0609.0	0611.0	5.0	27.0			QL=3 ST=2 TYP=3
09	2800	OTTA	20	GRF	1650.0	1726.0	170.0	8.5	4.0		
11	2800	OTTA	20	GRF	1427.0	1440.0	50.0	7.8	4.0		
	2800	OTTA	20	GRF	1610.0	1627.0	42.0	3.9	2.0		
15	2695	LEAR	8	S	0459.0	0459.0	1.0	57.0			QL=1 ST=2 TYP=3
	2800	PENT	22	GRF	2220.0	2227.0	58.0	32.1	7.0		
	8800	PALE	8	S	2225.0	2225.0	1.0	89.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	2225.0E	2225.0	1.0D	84.0			QL=1 ST=2 TYP=3
17	8800	LEAR	4	S/F	0341.0	0351.0		50.0			QL=1 ST=1 TYP=3
	2695	PALE	8	S	0345.0	0345.0	2.0	92.0			QL=1 ST=2 TYP=3
	2695	SVTO	8	S	0346.0	0346.0	1.0	65.0			QL=1 ST=2 TYP=3
18	2695	LEAR	4	S/F	0603.0E	0603.0		14.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0604.0E	0604.0		12.0			QL=1 ST=2 TYP=3
21	2695	SYDN	4	S/F	0310.0	0311.0	3.0	34.0			QL= ST= TYP=3
	2695	LEAR	4	S/F	0311.0	0313.0	7.0	40.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0311.0	0311.0	7.0	60.0			QL=1 ST=2 TYP=3
	8800	PALE	8	S	0311.0E	0311.0U	2.0D	71.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0524.0	0526.0	8.0	36.0			QL=1 ST=2 TYP=3
	2695	LEAR	8	S	0525.0	0526.0	2.0	80.0			QL=1 ST=2 TYP=3
	2695	LEAR	8	S	0654.0	0655.0	2.0	84.0			QL=1 ST=2 TYP=3
	2800	OTTA	22	GRF	1300.0	1317.0	85.0	26.6	8.0		
22	8800	LEAR	8	S	0119.0	0120.0	1.0	12.0			QL=1 ST=2 TYP=3
	8800	LEAR	8	S	0347.0	0348.0	1.0	34.0			QL=1 ST=3 TYP=3
	8800	LEAR	4	S/F	0527.0	0530.0	5.0	16.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	0527.0	0527.0	4.0	18.0			QL=1 ST=2 TYP=3
	8800	LEAR	20	GRF	0533.0E	0534.0	1.0D	21.0			QL=1 ST=2 TYP=2
	2695	LEAR	20	GRF	0533.0E	0534.0	1.0D	19.0			QL=1 ST=2 TYP=2
	8800	LEAR	8	S	0545.0	0546.0	1.0	18.0			QL=1 ST=2 TYP=3
	2800	OTTA	3	S	1420.0	1421.0	2.2	78.9	39.0		
	2695	SGMR	8	S	1420.0	1420.0	1.0	74.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1420.0	1420.0	1.0	110.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	1420.0	1420.0	1.0	130.0			QL=1 ST=2 TYP=3
	2695	SVTO	4	S/F	1420.0E	1420.0		81.0			QL=1 ST=2 TYP=3
	2800	OTTA	29	PBI	1422.2	1458.0	53.0	3.2	1.0		
	2800	OTTA	22	GRF	1631.0	1647.0	47.0	4.9	2.0		
	2800	OTTA	45	C	1647.0	1655.3	11.7	34.2	13.0		
	2800	OTTA	45	C	1647.0	1648.8	3.5	22.3	11.0		
	8800	SGMR	8	S	1648.0	1649.0	2.0	140.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	1648.0	1648.0	1.0	140.0			QL=1 ST=2 TYP=3
	2800	OTTA	45	C	1650.5	1651.7	3.7	22.1	11.0		
	8800	SGMR	8	S	1654.0	1655.0	1.0	72.0			QL=1 ST=2 TYP=3
	2800	OTTA	45	C	1654.2	1655.3	4.5	34.2	17.0		
	2695	SGMR	20	GRF	2239.0	2240.0	1.0	24.0			QL=1 ST=2 TYP=2
	8800	SGMR	8	S	2239.0	2239.0	1.0	85.0			QL=1 ST=2 TYP=3
23	8800	LEAR	8	S	0241.0	0241.0	1.0	17.0			QL=1 ST=2 TYP=3

SOLAR RADIO EMISSION--SELECTED FIXED FREQUENCY EVENTS

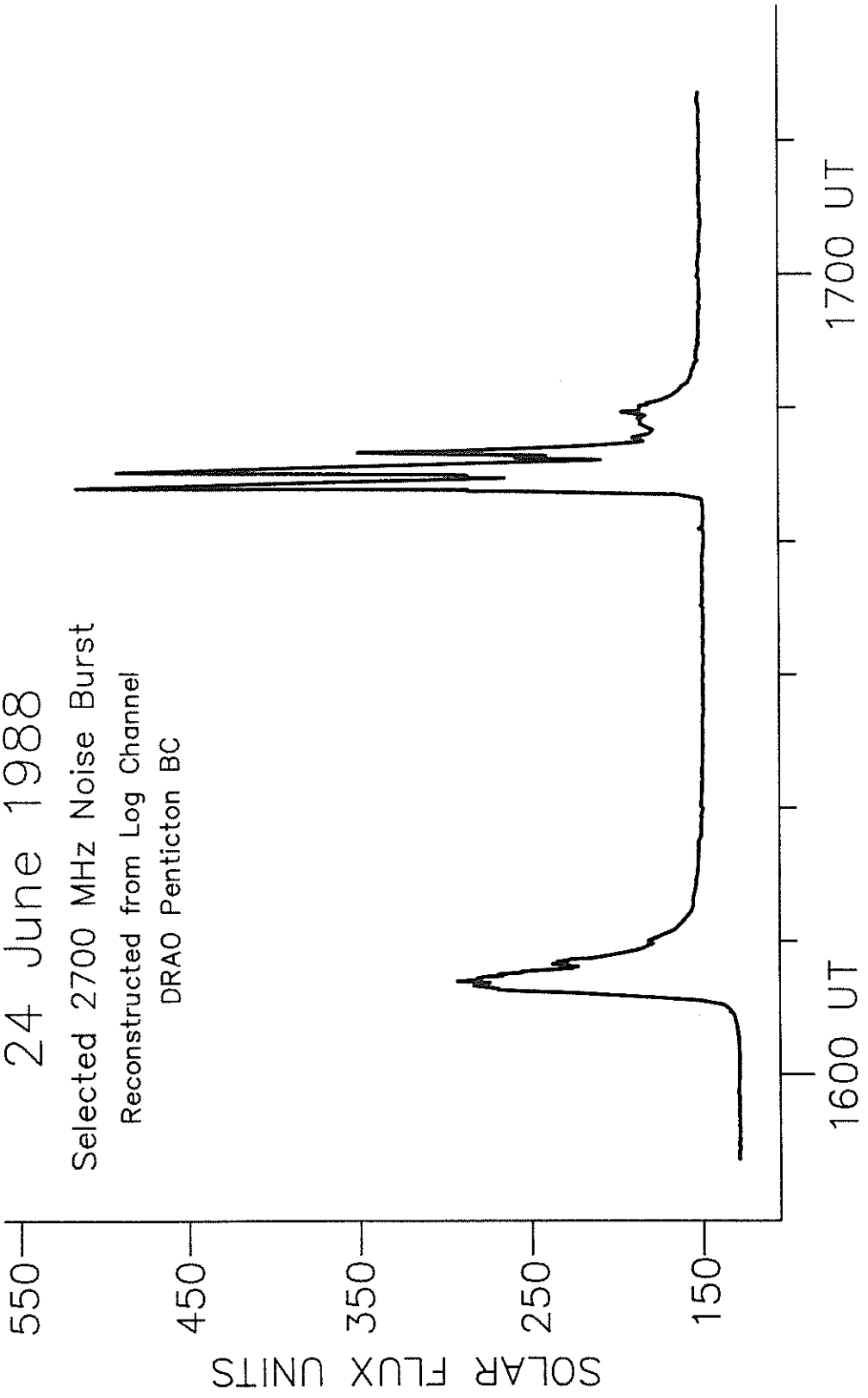
JUNE 1988

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remark
23	8800	LEAR	4	S/F	0918.0	0924.0	13.0	150.0			QL=1 ST=2 TYP=5
	2695	LEAR	4	S/F	0918.0	0921.0	13.0	73.0			QL=1 ST=2 TYP=3
	8800	SVTO	4	S/F	0919.0	0924.0	10.0	260.0			QL=1 ST=2 TYP=5
	2695	SVTO	8	S	0920.0	0921.0	2.0	81.0			QL=1 ST=2 TYP=3
	2695	SGMR	8	S	1426.0	1426.0	1.0	69.0			QL=1 ST=2 TYP=3
	2695	SVTO	4	S/F	1744.0	1758.0	16.0	130.0			QL=1 ST=2 TYP=3
	2800	OTTA	45	C	1752.0	1757.0	18.0	57.7	28.0		
	2800	OTTA	45	C	1752.0	1757.0	11.0	57.7	23.0		
	8800	PALE	4	S/F	1753.0	1756.0	8.0	170.0			QL=1 ST=2 TYP=3
	8800	SVTO	4	S/F	1753.0	1756.0	7.0	130.0			QL=1 ST=2 TYP=3
	8800	SGMR	20	GRF	1753.0	1756.0	17.0	190.0			QL=1 ST=2 TYP=2
	2695	PALE	8	S	1756.0	1757.0	1.0	54.0			QL=1 ST=2 TYP=3
	2695	SGMR	8	S	1756.0	1757.0	1.0	56.0			QL=1 ST=2 TYP=3
	2800	OTTA	45	C	1803.0	1807.5	7.0	26.9	13.0		
	8800	PALE	20	GRF	1804.0E	1807.0	6.0D	85.0			QL=1 ST=2 TYP=2
	2695	PALE	20	GRF	1804.0E	1804.0	6.0D	40.0			QL=1 ST=2 TYP=2
	2800	OTTA	29	PBI	1810.0	1810.0	195.0	15.1	7.0		
24	8800	LEAR	20	GRF	0308.0E	0309.0	13.0D	10.0			QL=1 ST=2 TYP=2
	8800	PALE	49	GB	0421.0E	0422.0	20.0D	950.0			QL=1 ST=2 TYP=6
	8800	SVTO	49	GB	0421.0E	0422.0	27.0D	970.0			QL=1 ST=2 TYP=6
	2695	PALE	4	S/F	0422.0	0422.0	3.0	270.0			QL=1 ST=2 TYP=3
	2695	SVTO	4	S/F	0422.0	0422.0	3.0	260.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0423.0	0423.0	3.0	300.0			QL=1 ST=2 TYP=3
	2695	LEAR	20	GRF	0423.0E	0424.0	127.0D	170.0			QL=1 ST=2 TYP=2
	2800	OTTA	22	GRF	1414.0	1430.0	106.0	11.2	5.0		
	2800	OTTA	4	S/F	1603.0	1607.0	9.0	162.0	81.0		
	8800	SGMR	49	GB	1604.0E	1605.0	13.0D	680.0			QL=1 ST=2 TYP=6
	2695	SGMR	4	S/F	1605.0	1606.0	5.0	180.0			QL=1 ST=2 TYP=3
	2695	SVTO	4	S/F	1605.0	1606.0	7.0	160.0			QL=1 ST=2 TYP=3
	8800	SVTO	49	GB	1605.0E	1605.0	7.0D	640.0			QL=1 ST=2 TYP=6
	2800	OTTA	29	PBI	1612.0	1612.0	332.0	32.5	16.0		
	2695	PALE	49	GB	1643.0E	1644.0	7.0D	270.0			QL=1 ST=2 TYP=7
	8800	PALE	49	GB	1643.0E	1644.0	9.0D	1300.0			QL=1 ST=2 TYP=7
	2695	SGMR	49	GB	1643.0E	1644.0	7.0D	400.0			QL=1 ST=3 TYP=7
	8800	SGMR	49	GB	1643.0E	1644.0	8.0D	1600.0			QL=1 ST=3 TYP=7
	2695	SVTO	2	S/F	1643.0	1644.0	8.0D	340.0			QL=1 ST=2 TYP=5
	8800	SVTO	49	GB	1643.0E	1643.0	10.0D	1600.0			QL=1 ST=2 TYP=7
	2800	OTTA	4	S/F	1643.5	1646.5	14.0	365.0	109.0		
25	8800	LEAR	8	S	0213.0	0214.0	1.0	30.0			QL=1 ST=2 TYP=3
	2695	LEAR	8	S	0213.0	0214.0	2.0	84.0			QL=1 ST=2 TYP=3
	2695	PALE	8	S	0213.0	0214.0	1.0	56.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	0645.0	0646.0	4.0	34.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1113.0	1113.0	1.0	63.0			QL=1 ST=3 TYP=3
	8800	SVTO	8	S	1113.0	1113.0	1.0	70.0			QL=1 ST=3 TYP=3
	8800	SVTO	8	S	1251.0	1251.0	1.0	66.0			QL=1 ST=3 TYP=3
	8800	SGMR	4	S/F	1642.0	1644.0	3.0	200.0			QL=1 ST=2 TYP=3
	8800	PALE	8	S	1643.0	1644.0	1.0	100.0			QL=1 ST=2 TYP=3
26	2695	LEAR	4	S/F	0020.0	0021.0	6.0	93.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0020.0	0021.0	6.0	150.0			QL=1 ST=2 TYP=3
	8800	PALE	8	S	0020.0	0021.0	1.0	190.0			QL=1 ST=2 TYP=3
	2695	PALE	8	S	0020.0	0021.0	1.0	88.0			QL=1 ST=2 TYP=3
	8800	PALE	8	S	0024.0	0025.0	1.0	67.0			QL=1 ST=2 TYP=3
	8800	SGMR	4	S/F	1101.0	1102.0	3.0	220.0			QL=1 ST=2 TYP=3
	2695	SGMR	4	S/F	1101.0	1102.0	3.0	130.0			QL=1 ST=2 TYP=3
	8800	SVTO	4	S/F	1101.0	1102.0	3.0	200.0			QL=1 ST=2 TYP=3
	2695	SVTO	4	S/F	1101.0	1102.0	3.0	110.0			QL=1 ST=2 TYP=3
	2800	OTTA	22	GRF	1430.0	1600.0	560.0	34.3	17.0		
27	8800	LEAR	4	S/F	0301.0E	0304.0	7.0D	44.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0312.0	0312.0	7.0	26.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	1616.0	1617.0	1.0	94.0			QL=1 ST=2 TYP=3
	8800	SGMR	4	S/F	1617.0E	1617.0		87.0			QL=1 ST=1 TYP=3
	2695	SGMR	8	S	2301.0	2302.0	2.0	27.0			QL=1 ST=3 TYP=3
	8800	SGMR	8	S	2301.0	2302.0	1.0	33.0			QL=1 ST=3 TYP=3
28	8800	PALE	20	GRF	0442.0	0443.0	6.0	360.0			QL=1 ST=2 TYP=2
	8800	SVTO	4	S/F	0442.0	0443.0	9.0	370.0			QL=1 ST=2 TYP=3

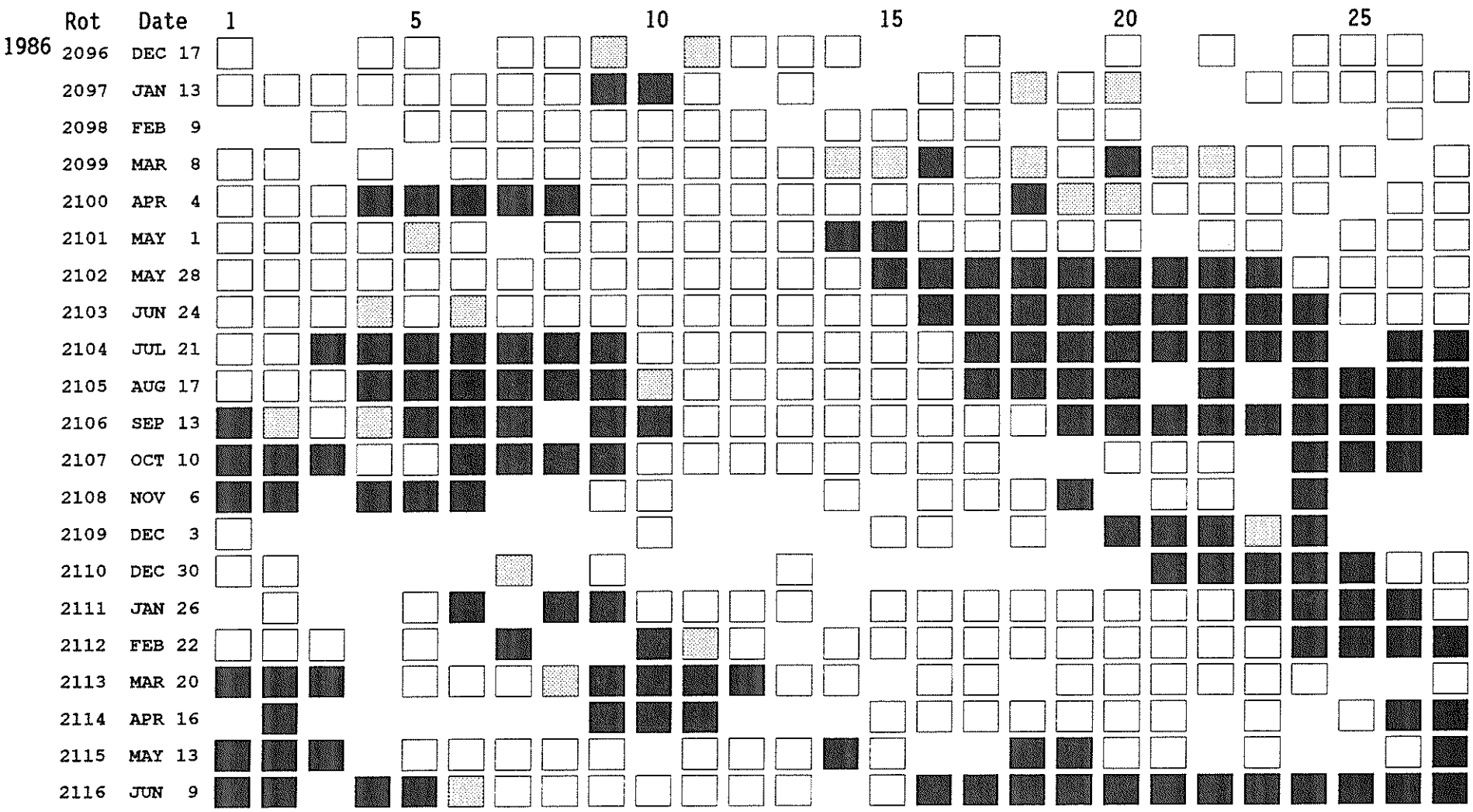
SOLAR RADIO EMISSION--SELECTED FIXED FREQUENCY EVENTS

JUNE 1988

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10^{-22} W/m^2 Hz)	Flux Density Mean (10^{-22} W/m^2 Hz)	Int	Remark
28	8800	LEAR	4	S/F	0443.0E	0444.0	21.0D	330.0			QL=1 ST=3 TYP=3
	8800	PALE	4	S/F	0452.0E	0452.0		120.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	0936.0E	0936.0	1.0D	52.0			QL=1 ST=2 TYP=3
	8800	SGMR	4	S/F	1045.0E	1045.0		77.0			QL=1 ST=1 TYP=3
	8800	SVTO	8	S	1045.0	1045.0	1.0	77.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1123.0	1123.0	1.0	92.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	1123.0	1123.0	1.0	110.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1355.0	1355.0	1.0	190.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	1355.0	1355.0	1.0	190.0			QL=1 ST=2 TYP=3
	8800	PALE	8	S	1652.0	1652.0	1.0	150.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	1652.0	1653.0	1.0	140.0			QL=1 ST=2 TYP=3
	2800	OTTA	3	S	1652.7	1653.0	1.0	16.4	8.0		
	2695	PALE	8	S	1701.0	1701.0	1.0	63.0			QL=1 ST=2 TYP=3
	8800	PALE	8	S	1701.0	1701.0	1.0	130.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	1701.0	1701.0	1.0	94.0			QL=1 ST=2 TYP=3
	2800	OTTA	3	S	1701.2	1701.8	21.0	42.3	8.0		
	8800	PALE	8	S	1727.0	1727.0	1.0	62.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1727.0	1727.0	1.0	81.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	1727.0	1727.0	1.0	77.0			QL=1 ST=3 TYP=3
	2800	OTTA	22	GRF	1915.0	1922.0	25.0	4.1	2.0		
	8800	PALE	8	S	1958.0	1958.0	1.0	81.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1958.0	1958.0	1.0	77.0			QL=1 ST=2 TYP=3
	2800	OTTA	22	GRF	1958.0	1958.8	90.0	18.4	9.0		
29	8800	LEAR	4	S/F	0029.0	0030.0	3.0	67.0			QL=1 ST=2 TYP=3
	2695	LEAR	8	S	0029.0	0030.0	1.0	75.0			QL=1 ST=2 TYP=3
	8800	PALE	4	S/F	0046.0	0048.0	6.0	170.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	0048.0	0049.0	4.0	90.0			QL=1 ST=2 TYP=3
	2695	PALE	8	S	0048.0	0049.0	2.0	85.0			QL=1 ST=2 TYP=3
	2695	SYDN	4	S/F	0048.0	0049.0	5.0	64.0			QL= ST= TYP=3
	8800	LEAR	8	S	0105.0	0106.0	2.0	78.0			QL=1 ST=2 TYP=3
	8800	PALE	4	S/F	0105.0E	0105.0	6.0D	64.0			QL=1 ST=2 TYP=3
	2695	LEAR	8	S	0151.0	0152.0	2.0	66.0			QL=1 ST=2 TYP=3
	2695	PALE	8	S	0151.0	0151.0	2.0	61.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	0733.0	0737.0	8.0	370.0			QL=1 ST=2 TYP=3
	8800	LEAR	49	GB	0734.0E	0738.0	7.0D	500.0			QL=1 ST=2 TYP=6
	8800	LEAR	4	S/F	0743.0	0745.0	14.0	77.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	0743.0	0746.0	34.0	130.0			QL=1 ST=2 TYP=3
	8800	PALE	8	S	1652.0	1652.0	2.0	230.0			QL=1 ST=3 TYP=3
	8800	SVTO	8	S	1652.0	1652.0	2.0	280.0			QL=1 ST=2 TYP=3
	8800	PALE	49	GB	2014.0E	2016.0	21.0D	2300.0			QL=1 ST=2 TYP=6
	8800	SGMR	49	GB	2014.0E	2016.0	226.0D	2800.0			QL=1 ST=3 TYP=6
	2800	OTTA	4	S/F	2014.0	2016.2	7.0	164.0	82.0		
	2695	PALE	4	S/F	2015.0	2016.0	3.0	160.0			QL=1 ST=2 TYP=3
	2695	SGMR	4	S/F	2015.0	2016.0	3.0	170.0			QL=1 ST=2 TYP=3
	2800	OTTA	29	PBI	2021.2	2021.2	84.0	26.4	13.0		
	8800	PALE	4	S/F	2035.0	2036.0	7.0	91.0			QL=1 ST=2 TYP=3
30	8800	LEAR	4	S/F	0819.0	0822.0	14.0	86.0			QL=1 ST=2 TYP=3
	8800	SVTO	4	S/F	0820.0	0822.0	3.0	100.0			QL=1 ST=2 TYP=3
	2695	LEAR	4	S/F	0821.0	0822.0	6.0	28.0			QL=1 ST=2 TYP=3
	8800	SVTO	49	GB	0903.0E	0903.0	3.0D	890.0			QL=1 ST=3 TYP=6
	2695	LEAR	4	S/F	0903.0	0904.0	10.0	300.0			QL=1 ST=2 TYP=3
	8800	SVTO	4	S/F	1251.0	1252.0	4.0	320.0			QL=1 ST=3 TYP=3
	8800	SGMR	20	GRF	1251.0E	1252.0	12.0D	310.0			QL=1 ST=2 TYP=2
	8800	SVTO	8	S	1638.0	1638.0	1.0	75.0			QL=1 ST=2 TYP=3


24 June 1988
Selected 2700 MHz Noise Burst
Reconstructed from Log Channel
DRAO Penticton BC
SOLAR FLUX UNITS
550
450
350
250
150
1600 UT
1700 UT

STANFORD MEAN SOLAR MAGNETIC FIELD



Mean Solar Magnetic Field Polarity: □ = field > 2 microT; ▒ = -2 microT ≤ field ≤ 2 microT

■ = field <-2 microT; No box = no data available

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

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

Day	1987 Jul	Aug	Sep	Oct	Nov	Dec	1988 Jan	Feb	Mar	Apr	May	Jun
1	11	39	12	-3	.	.	.	.	.	12	13	14
2	20	43	-3	-4	-20	.	.	-16	-16	21	12	7
3	26	27	-16	-3	-19	2	.	-5	1	.	28	.
4	33	14	-19	-17	-24	.	.	16	22	35	29	33
5	33	4	-31	-28	.	.	0	25	.	42	25	.
6	32	-10	.	-35	-10	.	.	42	49	.	37	.
7	17	-16	-49	-28	-12	.	20	40	50	45	.	12
8	2	-29	.	-24	.	.	.	.	49	41	39	-14
9	-10	-37	-50	-20	-28	.	.	62	44	53	.	-25
10	-13	-38	-39	-16	-28	.	.	56	53	47	6	-17
11	-19	-36	-24	-6	-20	.	29	58	52	43	-8	.
12	-29	-43	-18	-3	.	19	.	58	49	36	-11	-14
13	-24	-32	-10	6	.	.	.	48	36	.	-22	-11
14	-22	.	-1	7	4	.	.	47	35	.	-29	-1
15	-18	-19	4	-11	5	.	.	23	21	8	-25	13
16	-15	-7	-1	-9	.	.	.	16	-13	.	.	22
17	-9	2	-5	-10	.	22	.	-13	-9	-25	10	28
18	4	6	-5	-6	.	30	.	-22	-13	.	17	27
19	9	3	-8	5	18	.	-12	-25	-9	.	15	30
20	11	-13	.	6	.	20	-22	-13	-20	.	12	37
21	7	-15	-10	9	21	.	-35	11	-14	.	22	35
22	11	-18	-5	12	30	-10	-28	14	-8	.	.	.
23	-5	-22	7	23	3	-17	-15	35	.	.	5	15
24	-12	-25	14	25	-10	-18	4	37	18	-6	5	-3
25	-11	-18	19	21	.	-1	15	.	21	-20	4	-35
26	-10	-2	21	23	4	-3	.	17	12	-26	-6	-67
27	-10	12	22	.	4	.	23	.	-1	.	7	-75
28	-5	26	20	.	.	.	.	-14	-13	.	.	-80
29	-10	33	15	15	-5	.	.	.	-43	.	.	-57
30	6	22	5	2	.	24	3		-40	18	-19	-29
31	27	16		4		24	-15		-11		-13	

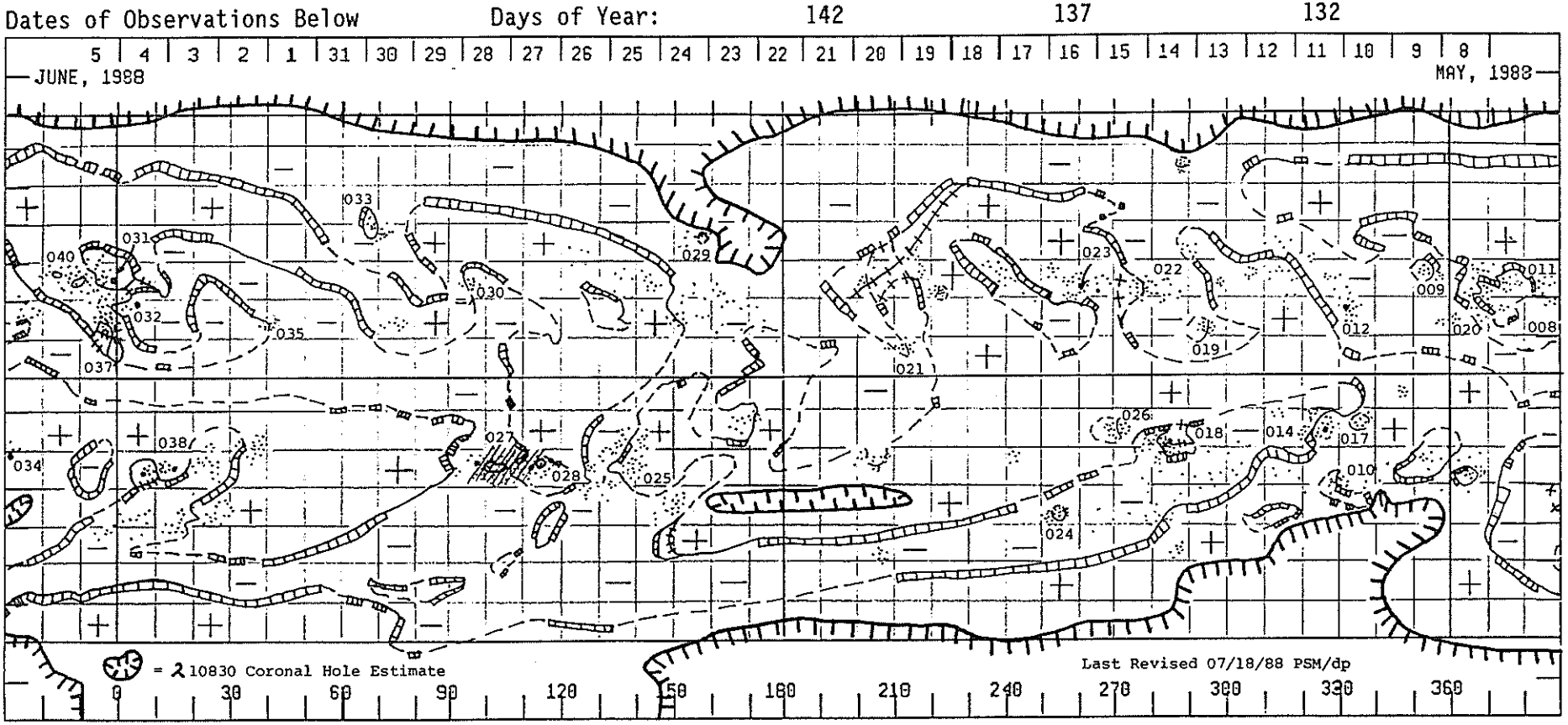
Dot symbol indicates no data available for the day.

C O N T E N T S

Prompt Reports DATA FOR MAY 1988 Number 527 Part I

PRELIMINARY H-ALPHA SOLAR SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1802
(8 May to 5 June 1988)

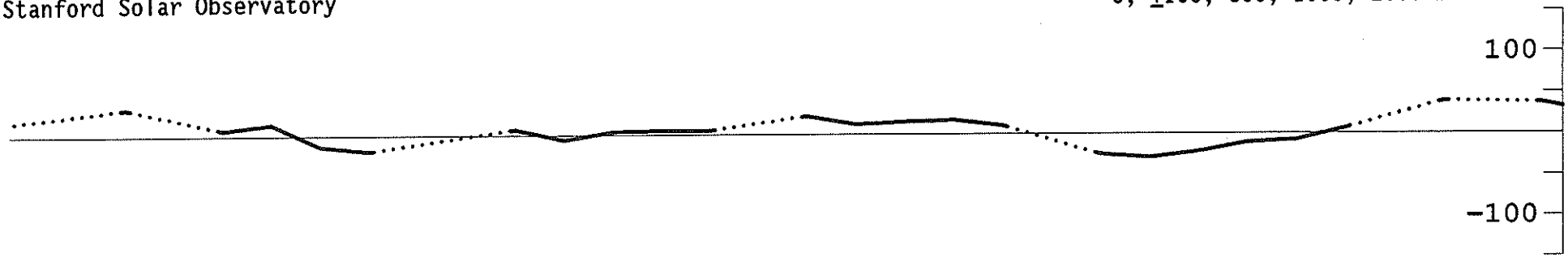


SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1802
(8 May to 5 June 1988)

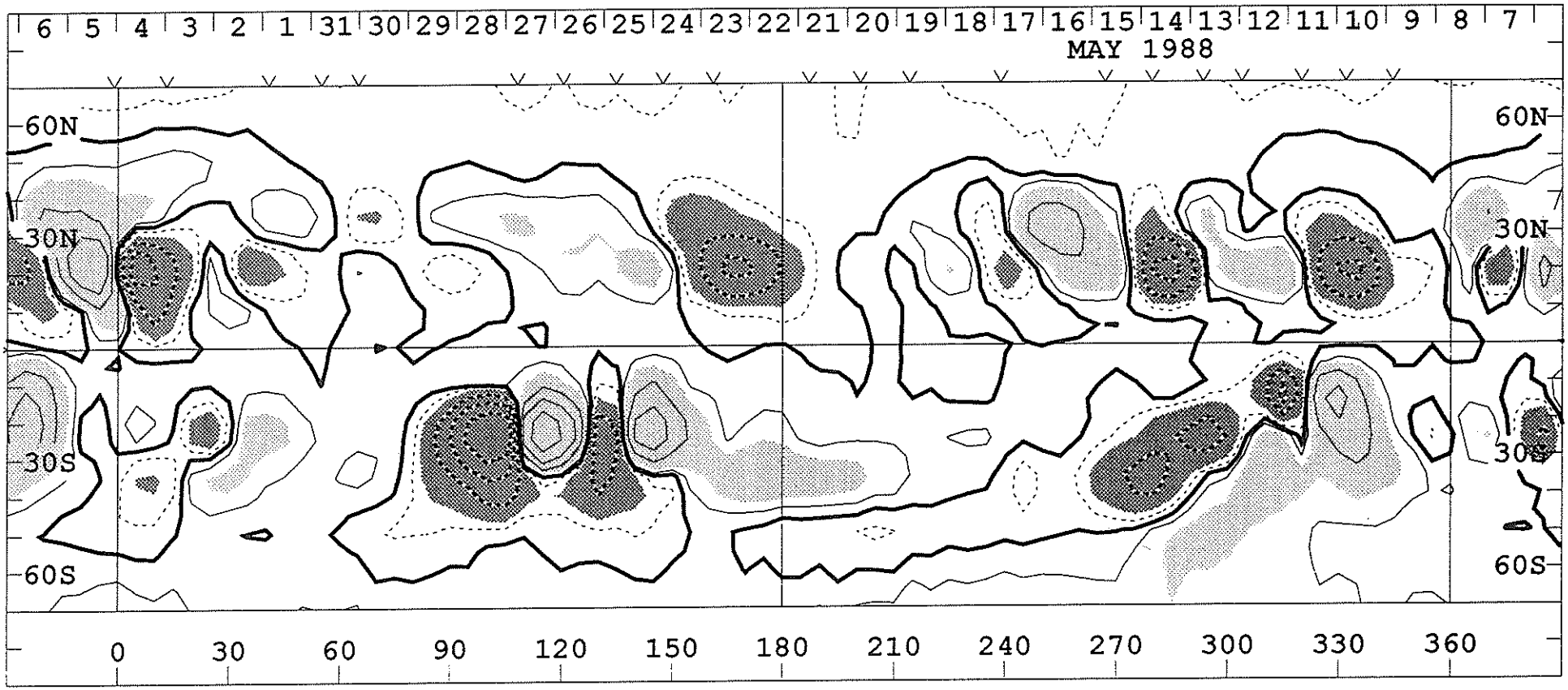
Stanford Solar Observatory

0, ±100, 500, 1000, 2000 microTesla



Photospheric Magnetic Field

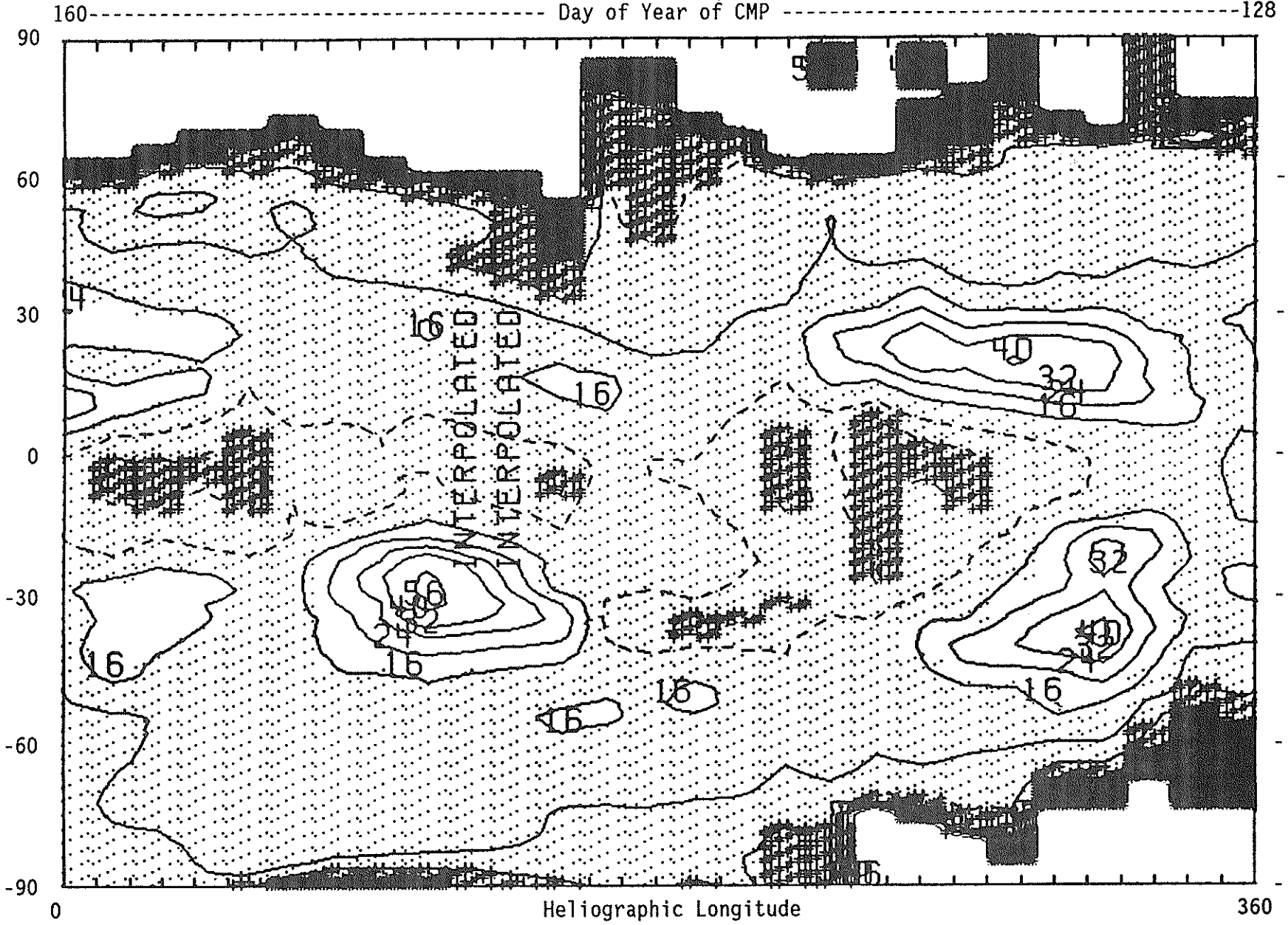
0, ±100, 500, 1000, 2000 MicroTesla

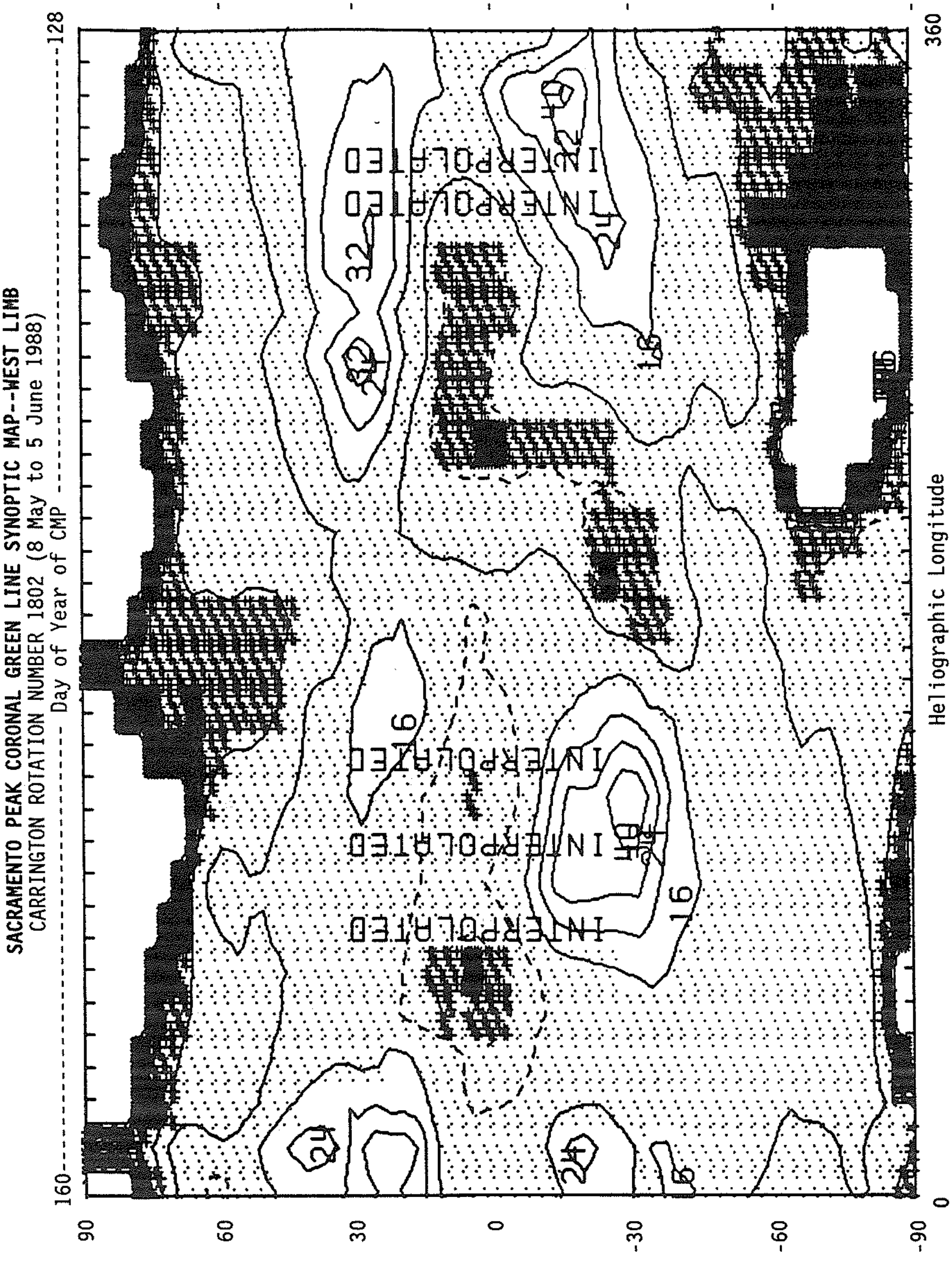


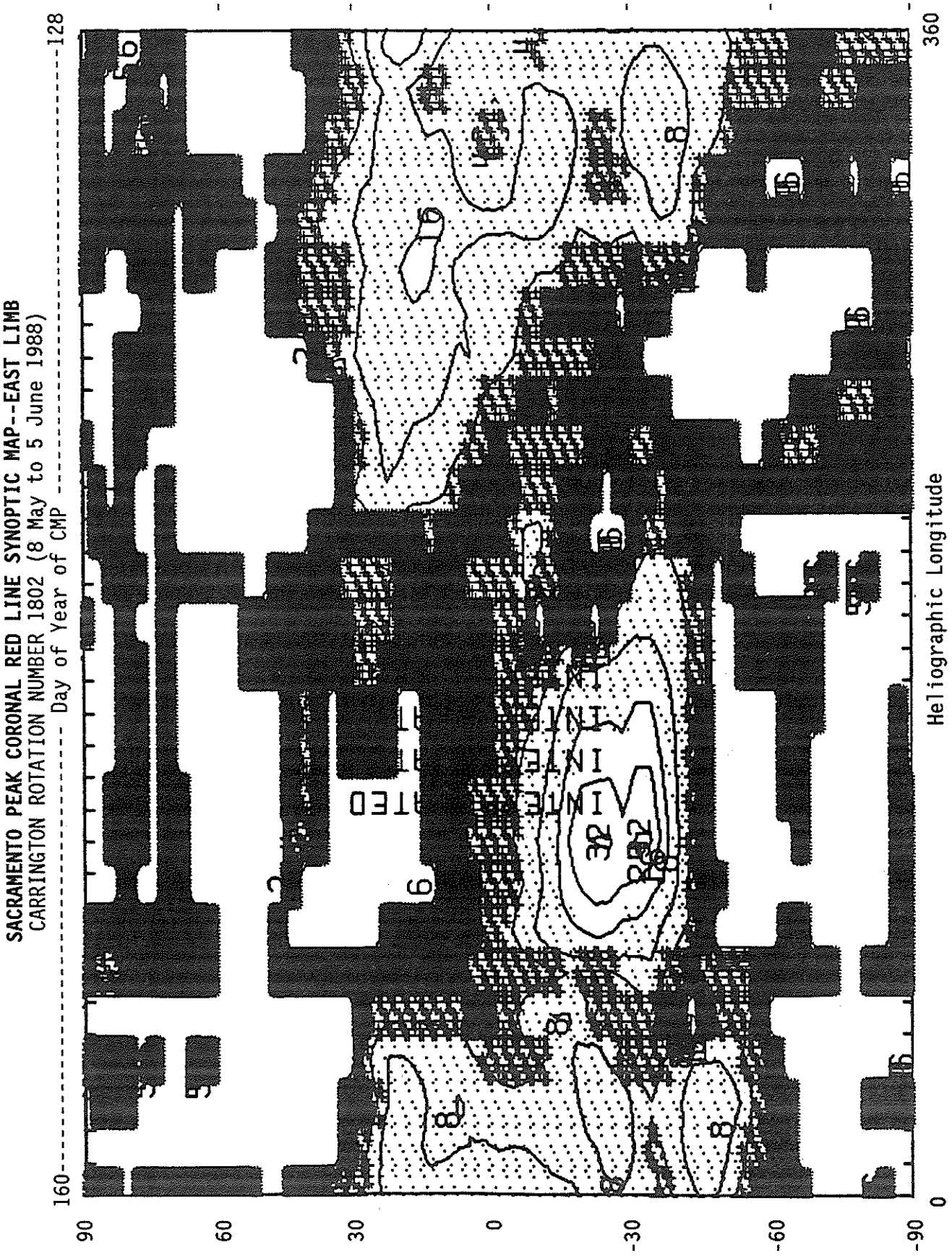
Heliographic Longitude

SACRAMENTO PEAK CORONAL GREEN LINE SYNOPTIC MAP--EAST LIMB

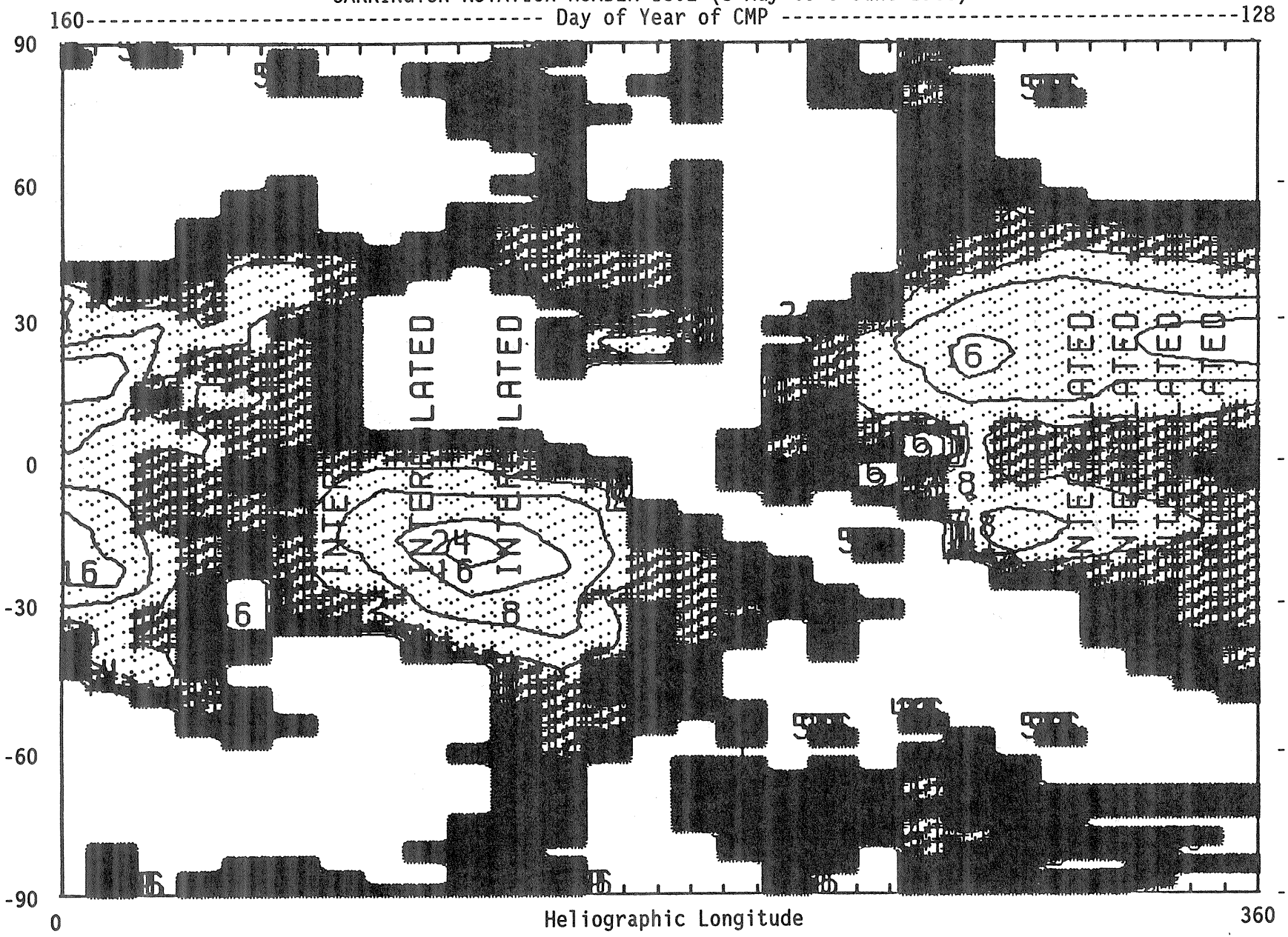
CARRINGTON ROTATION NUMBER 1802 (8 May to 5 June 1988)




SACRAMENTO PEAK CORONAL GREEN LINE SYNOPTIC MAP--WEST LIMB
CARRINGTON ROTATION NUMBER 1802 (8 May to 5 June 1988)
160 ---- Day of Year of CMP ---- 128
Heliographic Longitude
INTERPOLATED
16
24
32
90
60
30
0
-30
-60
-90
0
360


SACRAMENTO PEAK CORONAL RED LINE SYNOPTIC MAP--EAST LIMB
CARRINGTON ROTATION NUMBER 1802 (8 May to 5 June 1988)
Day of Year of CMP
160
128
90
60
30
0
-30
-60
-90
0
360
Heliographic Longitude

SACRAMENTO PEAK CORONAL RED LINE SYNOPTIC MAP--WEST LIMB
CARRINGTON ROTATION NUMBER 1802 (8 May to 5 June 1988)

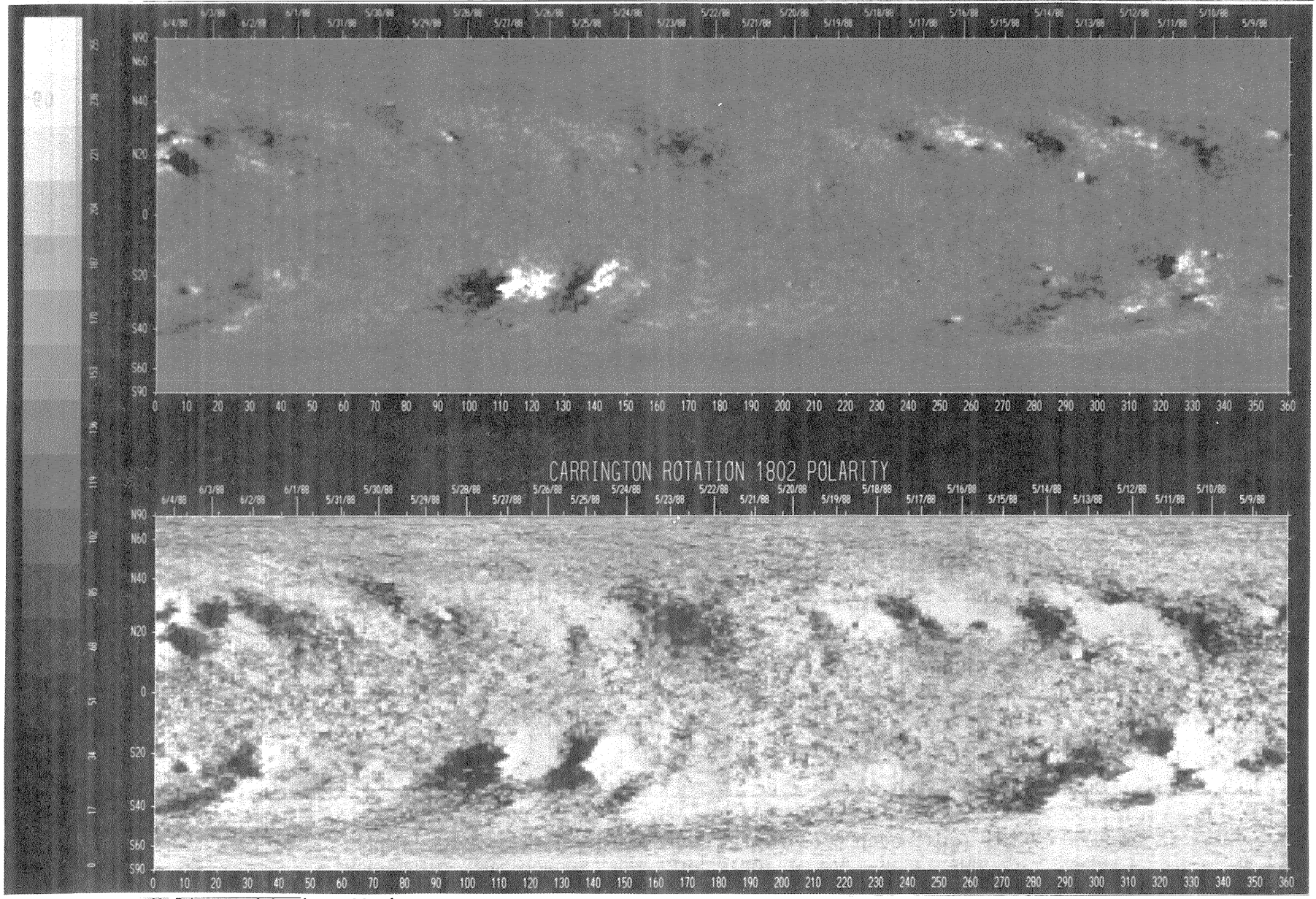


SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1802
(8 May to 5 June 1988)

Kitt Peak National Observatory

Dates of Observation

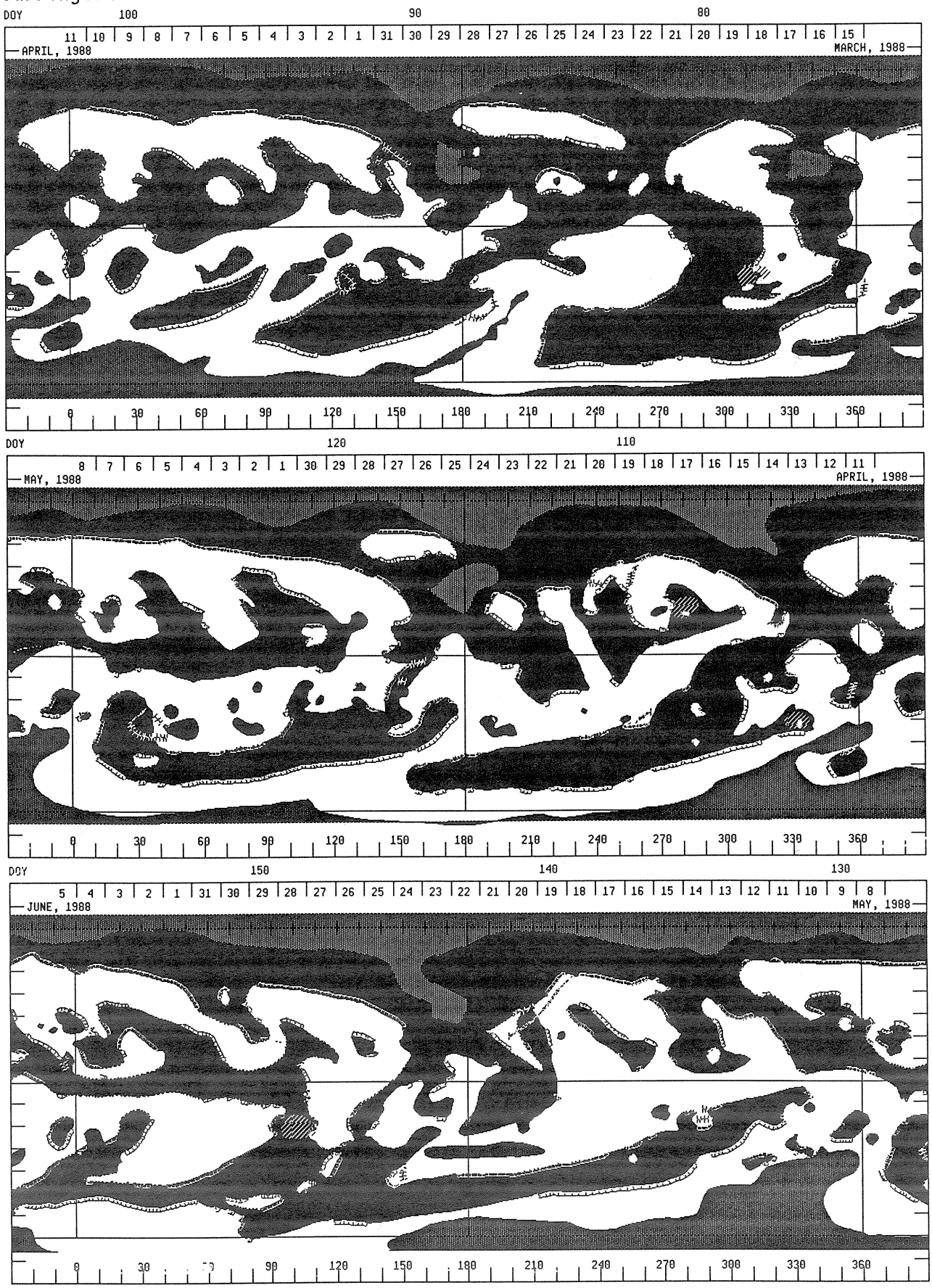


Heliographic Longitude

SHADED H-ALPHA SOLAR SYNOPTIC CHARTS

Carrington Rot. 1800-1802

15 March to 5 June 1988

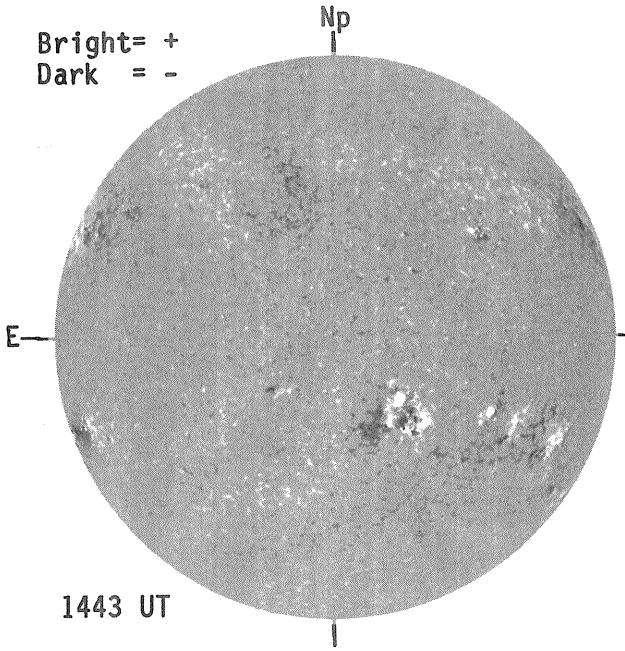


□ = Positive Polarity ■ = Negative Polarity ■ = 10830 Coronal Hole Estimate ▨ = X-Ray Flares > M1

Heliographic Longitude

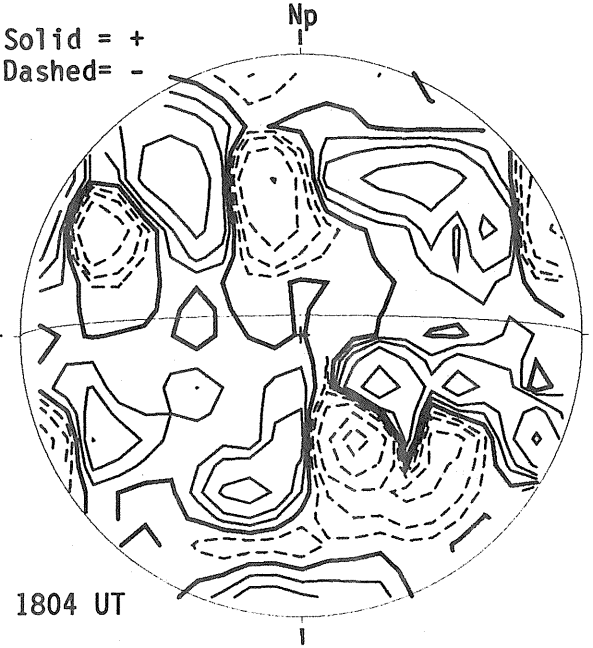
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



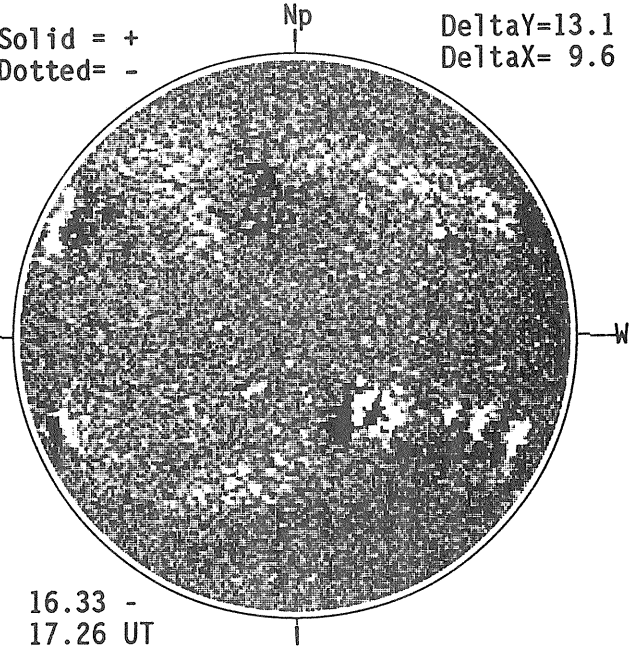
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

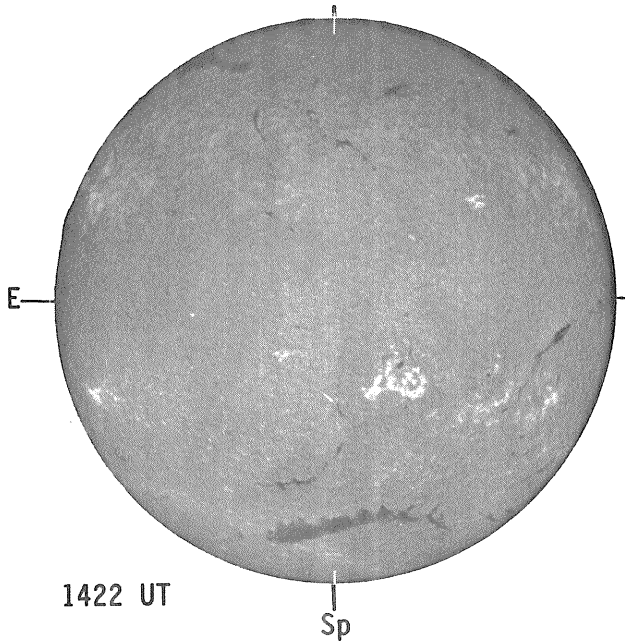


MT. WILSON MAGNETOGRAM

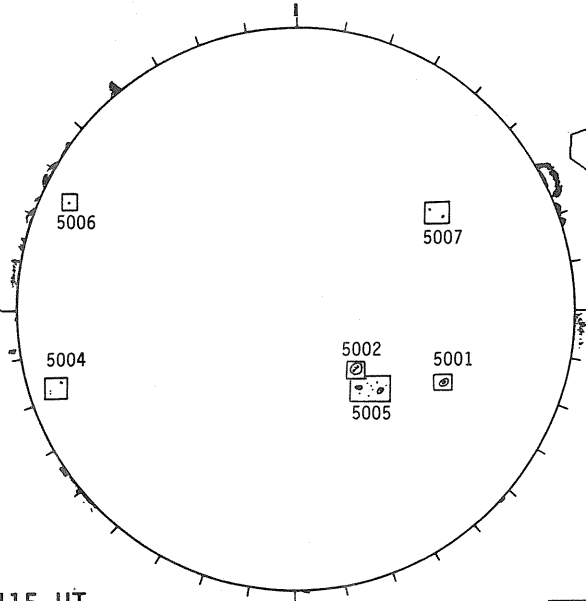
Solid = +
Dotted= -
DeltaY=13.1
DeltaX= 9.6



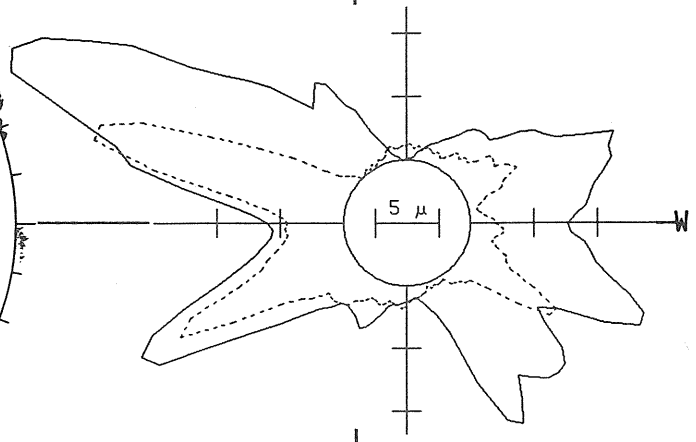
BOULDER H-ALPHA



BOULDER SUNSPOTS



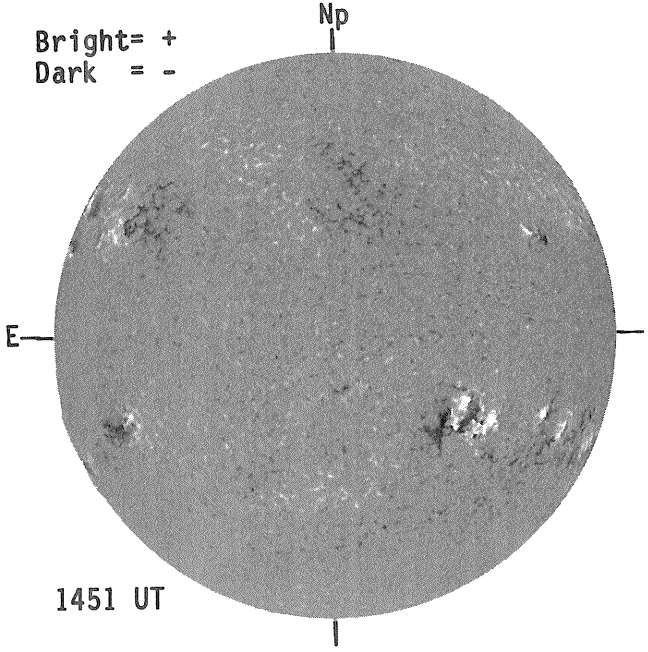
SACRAMENTO PEAK CORONA (1.15 Radii)



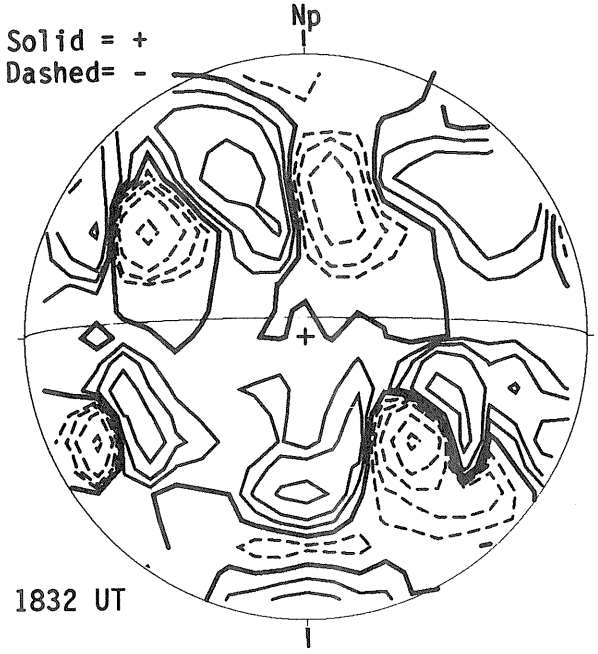
—— 5303A, 1349 UT
···· 6374A, 1427 UT
xxxx 5694A, 1419 UT
NO 5694A ACTIVITY TODAY

MAY 01, 1988 (P=-24.11, B_o=-4.12, L_o= 103.47)

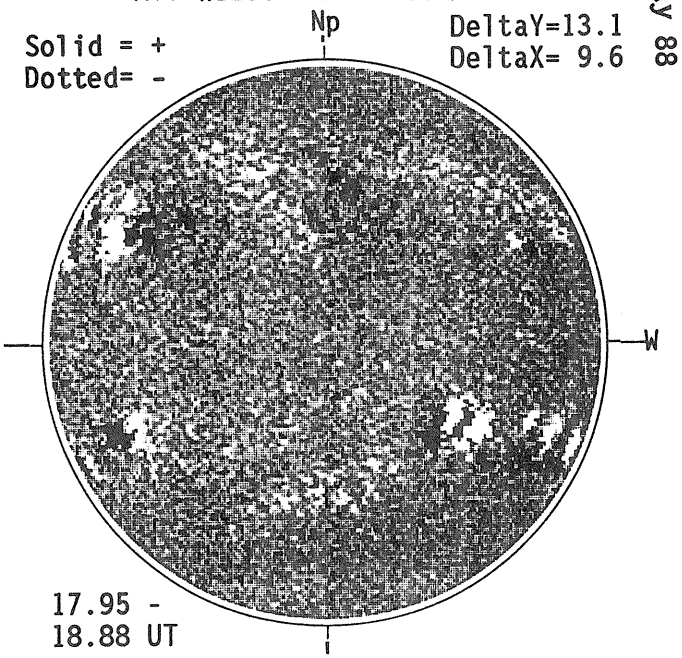
KITT PEAK MAGNETOGRAM



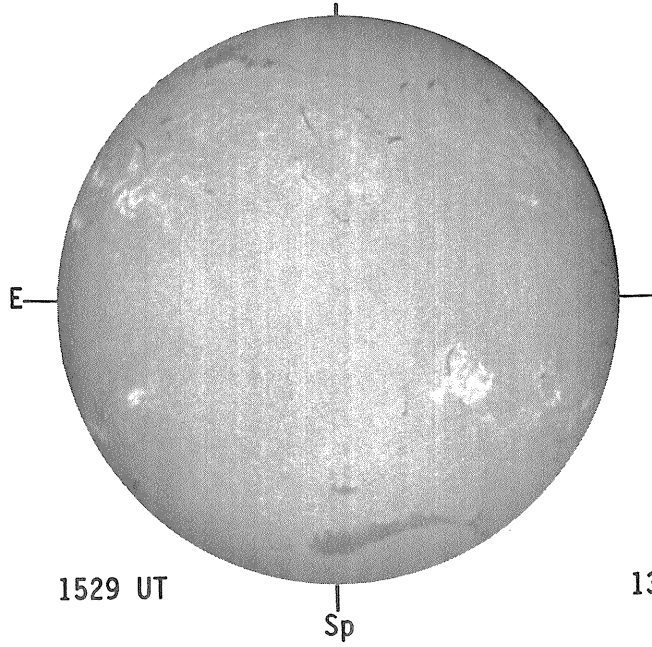
STANFORD MAGNETOGRAM



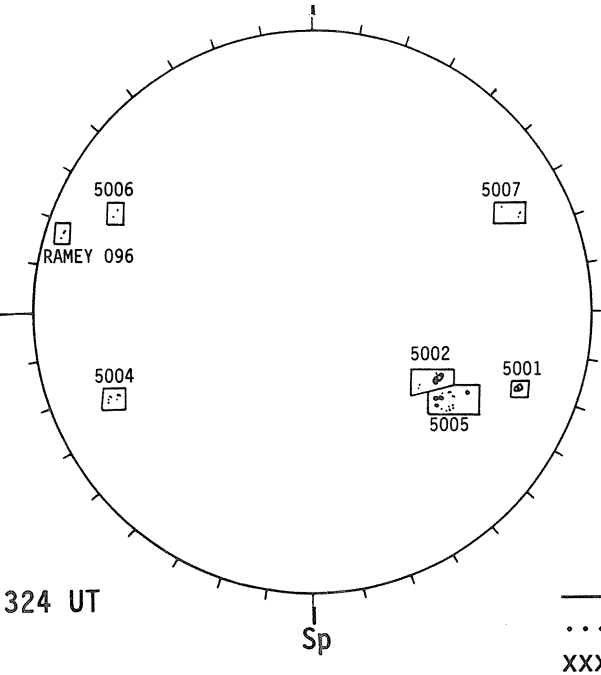
MT. WILSON MAGNETOGRAM



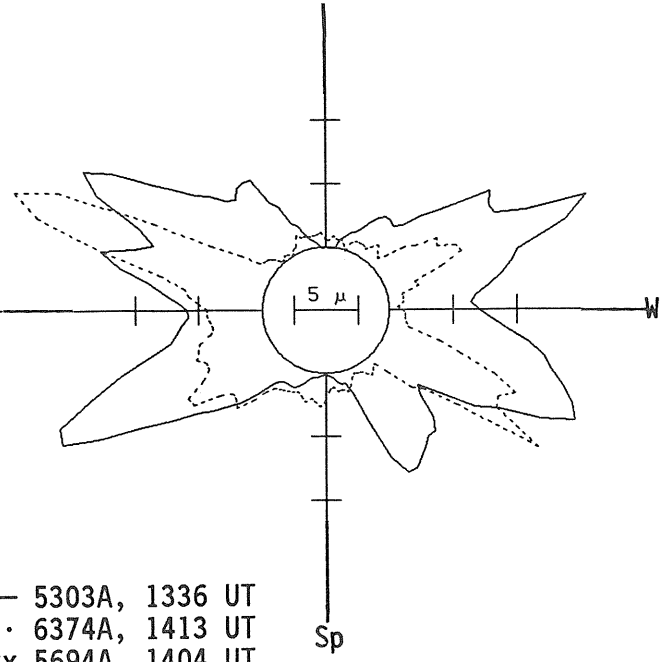
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOTS



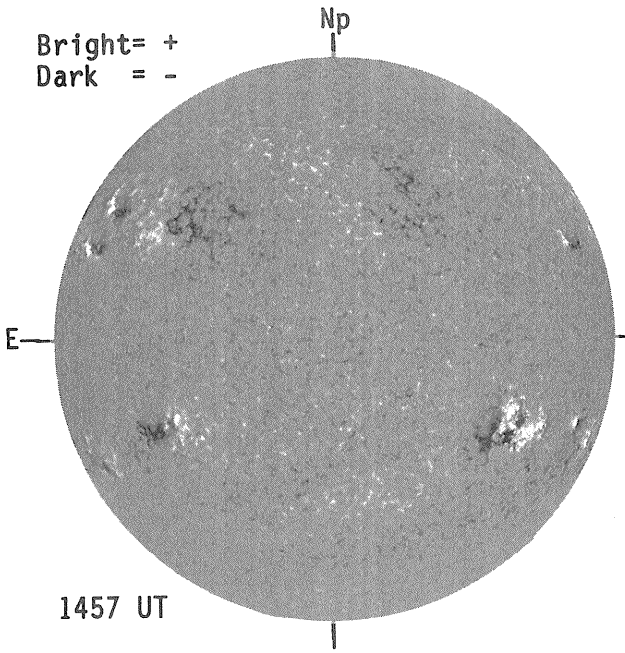
SACRAMENTO PEAK CORONA (1.15 Radii)



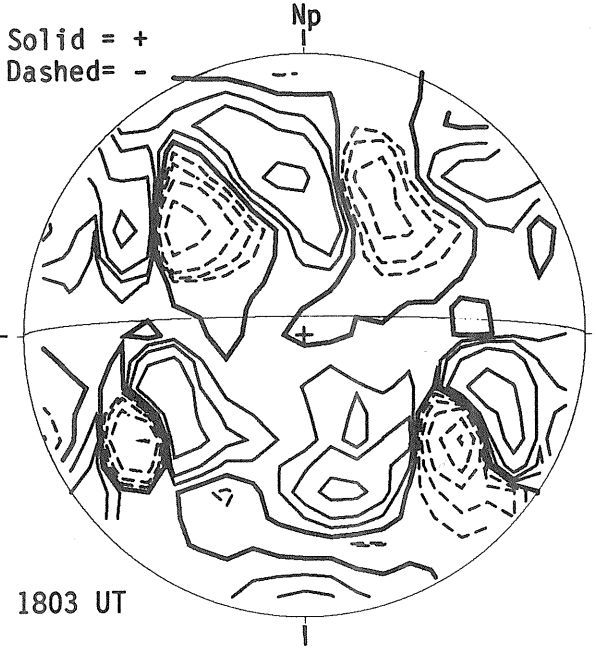
—— 5303A, 1336 UT
···· 6374A, 1413 UT
xxxx 5694A, 1404 UT
NO 5694A ACTIVITY TODAY

MAY 02, 1988 (P=-23.93, B_o=-4.02, L_o= 90.26)

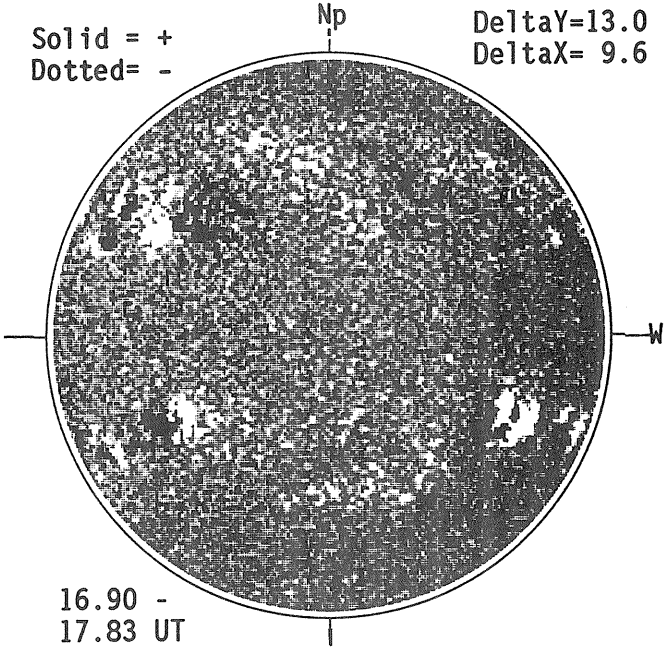
KITT PEAK MAGNETOGRAM



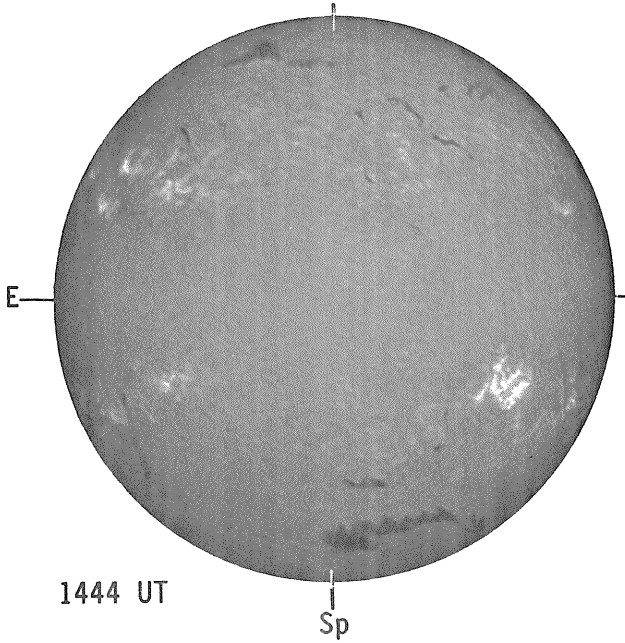
STANFORD MAGNETOGRAM



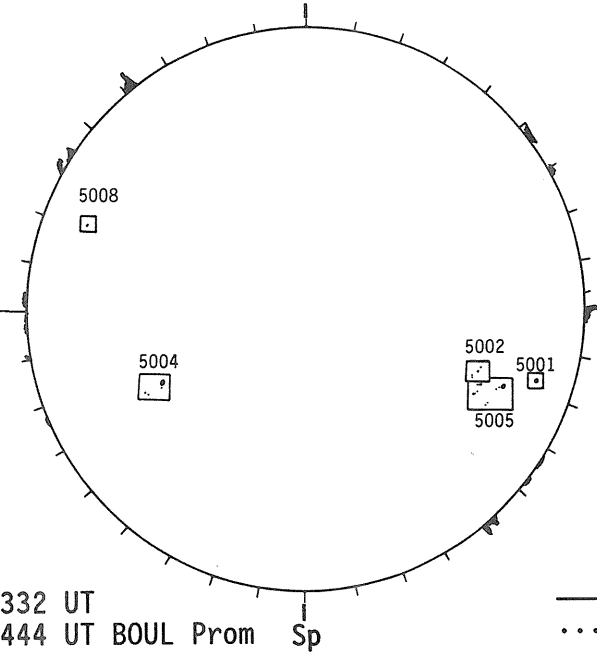
MT. WILSON MAGNETOGRAM



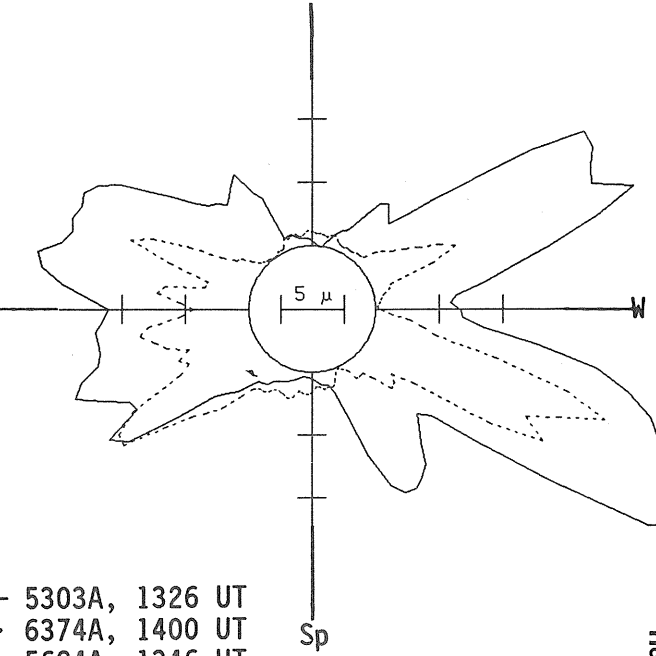
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



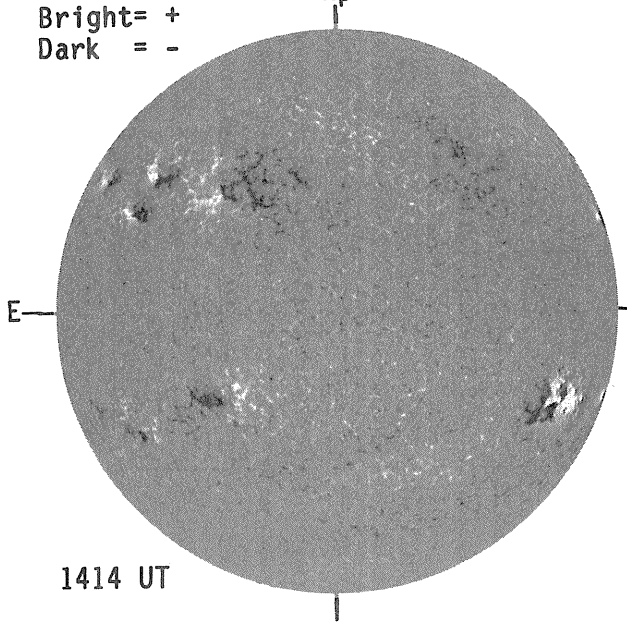
—— 5303A, 1326 UT
···· 6374A, 1400 UT
xxxx 5694A, 1346 UT
NO 5694A ACTIVITY TODAY

MAY 03, 1988 (P=-23.74, B_o=-3.92, L_o= 77.04)

58
May 88

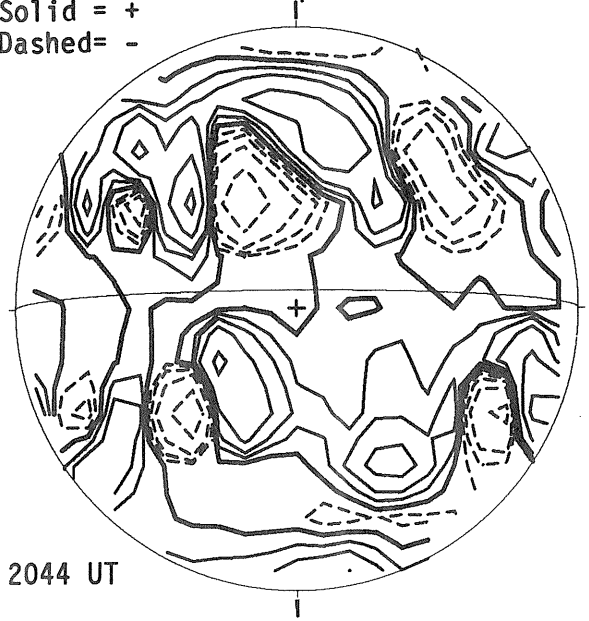
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



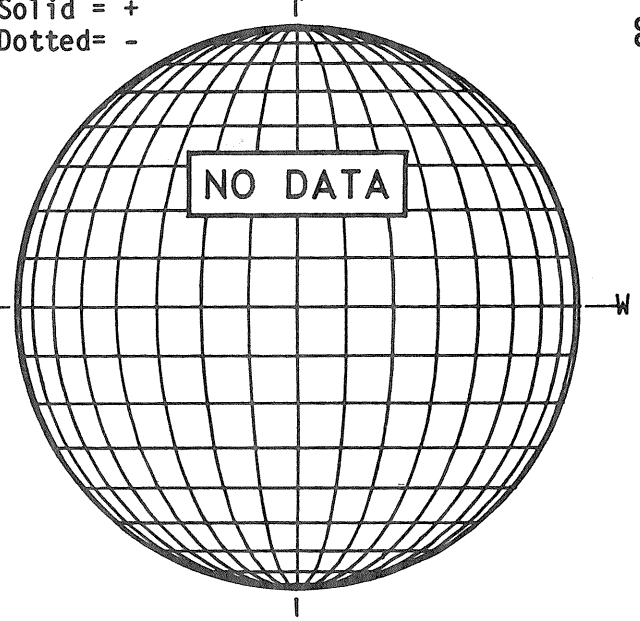
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

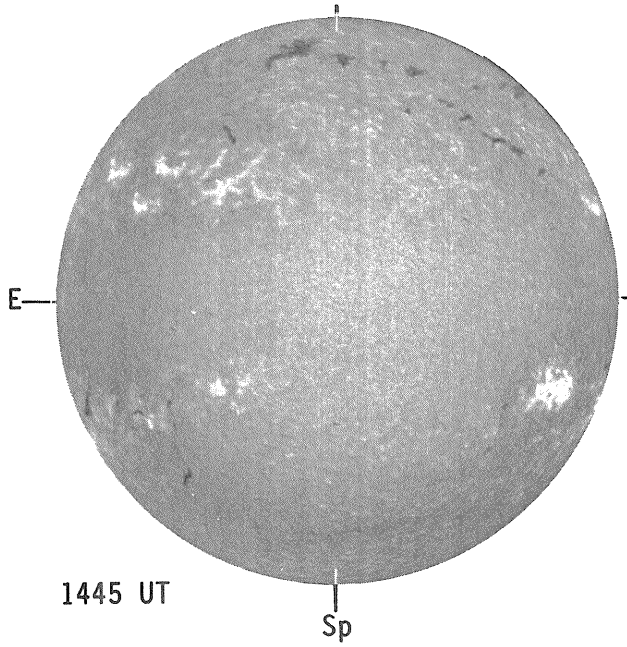


MT. WILSON MAGNETOGRAM

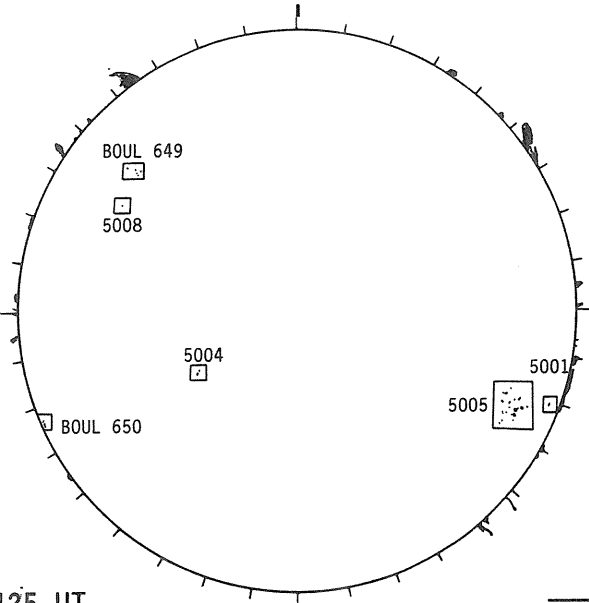
Solid = +
Dotted= -



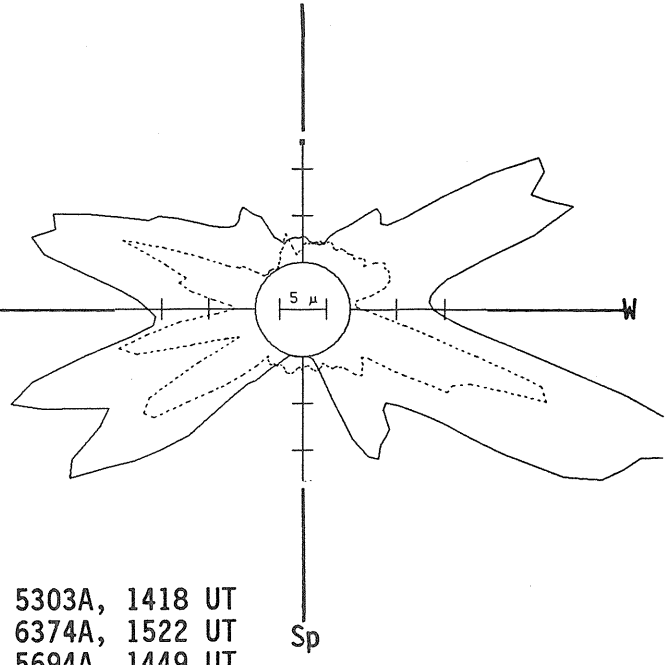
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

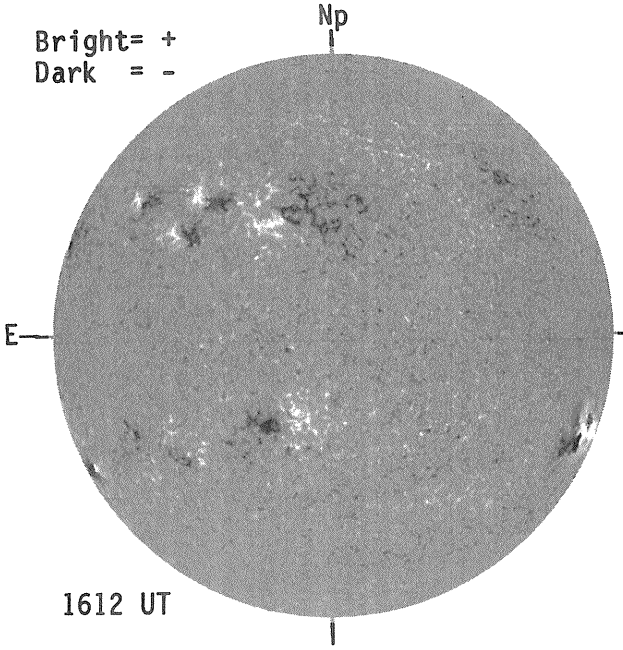


—— 5303A, 1418 UT
···· 6374A, 1522 UT
xxxx 5694A, 1449 UT
NO 5694A ACTIVITY TODAY

MAY 04, 1988 (P=-23.54, B_o=-3.81, L_o= 63.82)

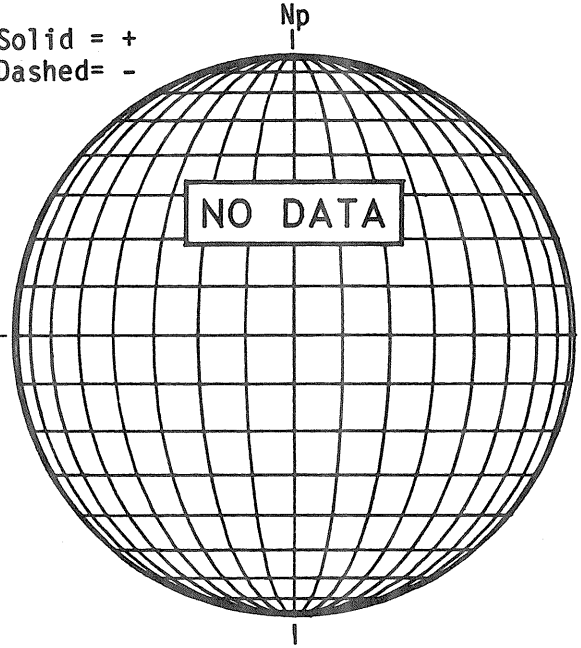
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



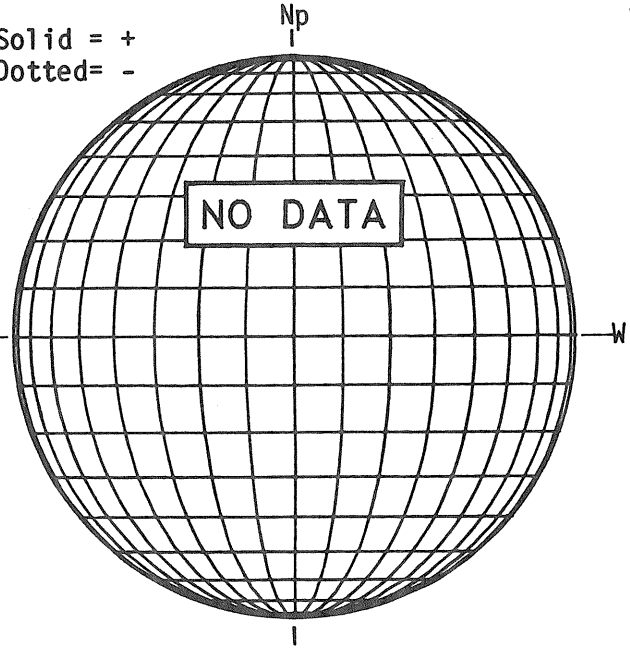
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

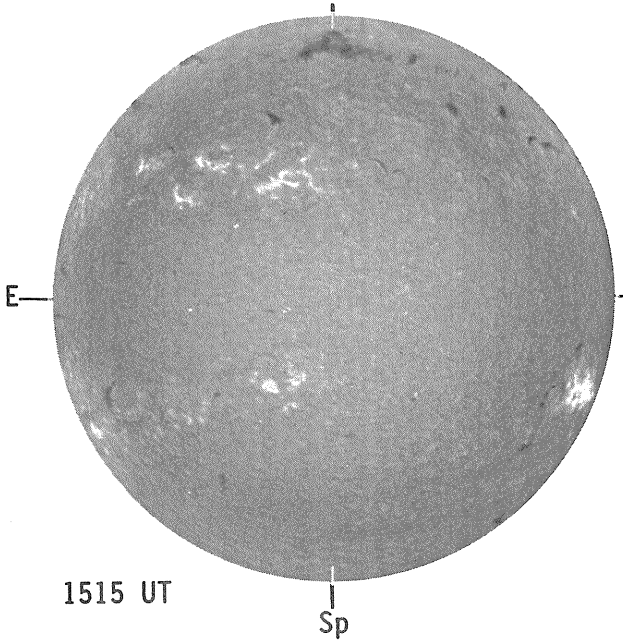


MT. WILSON MAGNETOGRAM

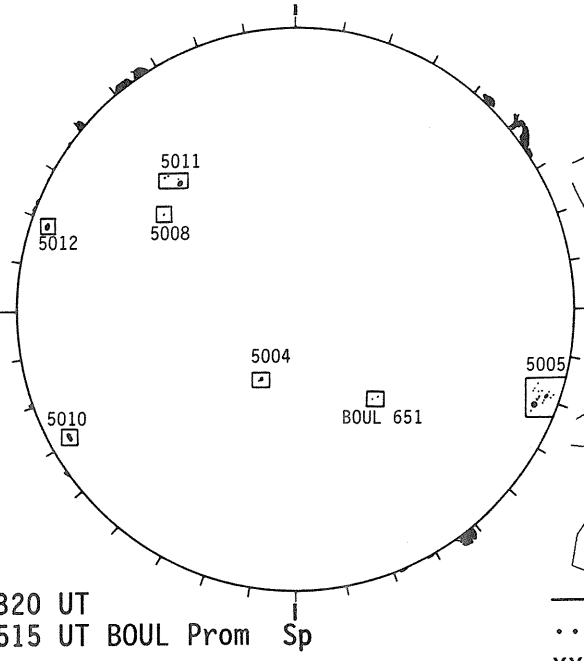
Solid = +
Dotted= -



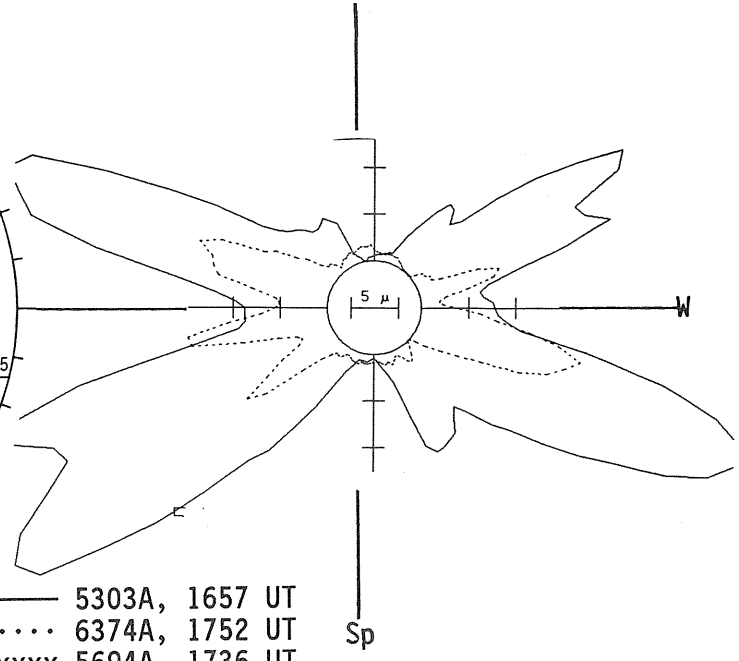
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

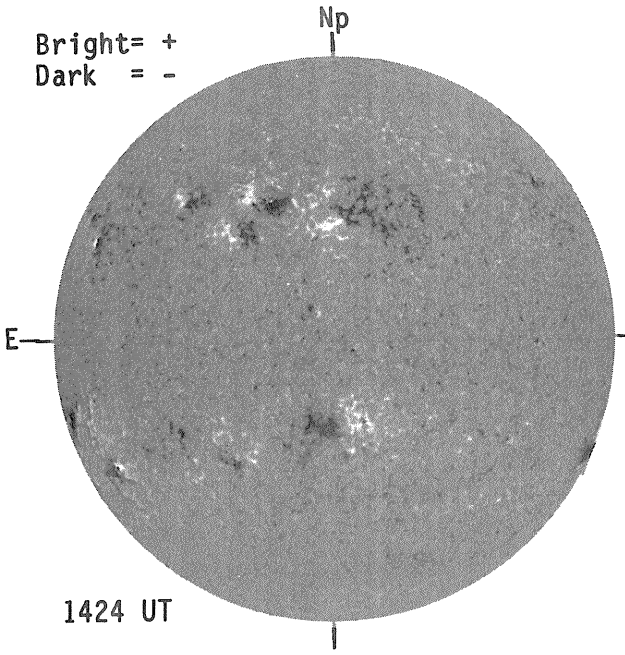


—— 5303A, 1657 UT
···· 6374A, 1752 UT
xxxx 5694A, 1736 UT
NO 5694A ACTIVITY TODAY

MAY 05, 1988 (P=-23.34, B_o=-3.71, L_o= 50.60)

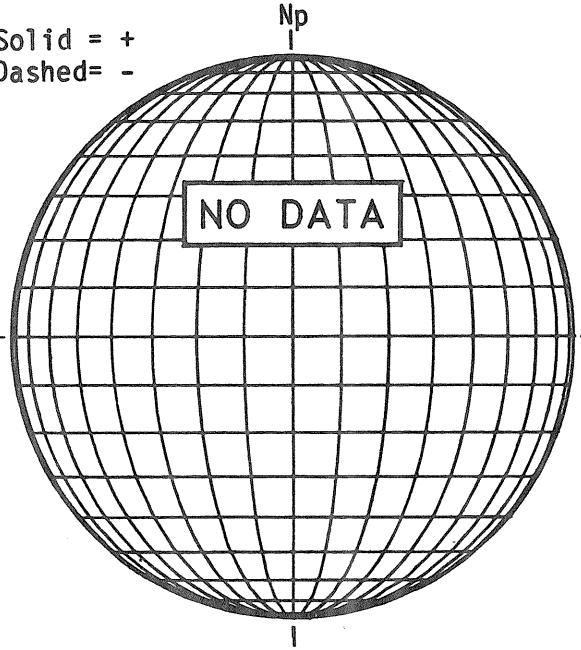
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



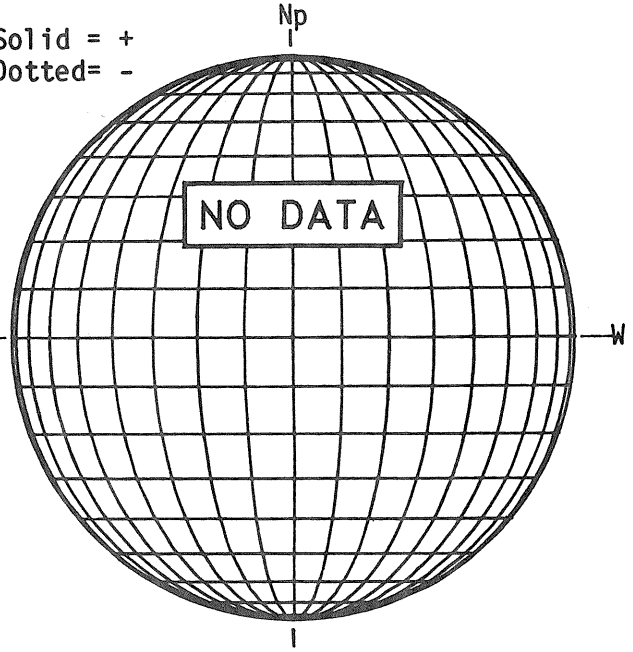
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

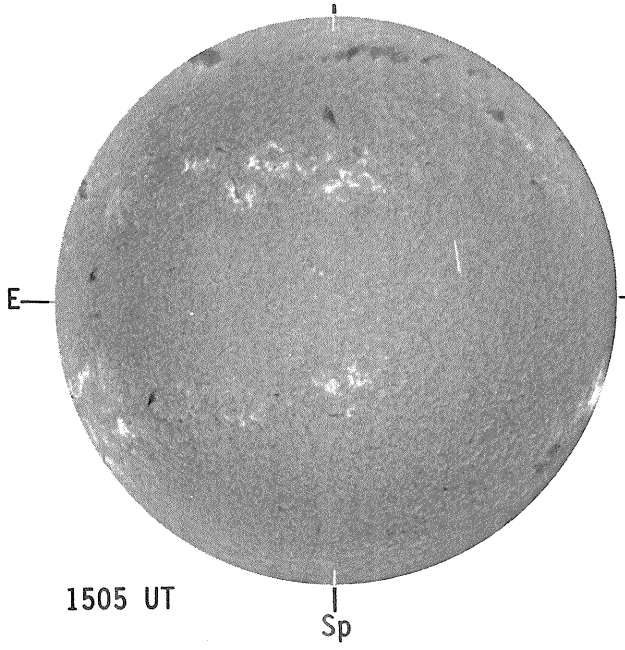


MT. WILSON MAGNETOGRAM

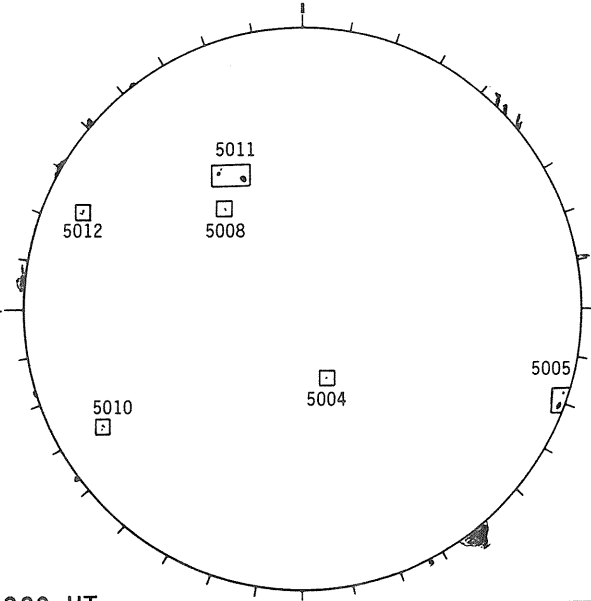
Solid = +
Dotted= -



BOULDER H-ALPHA



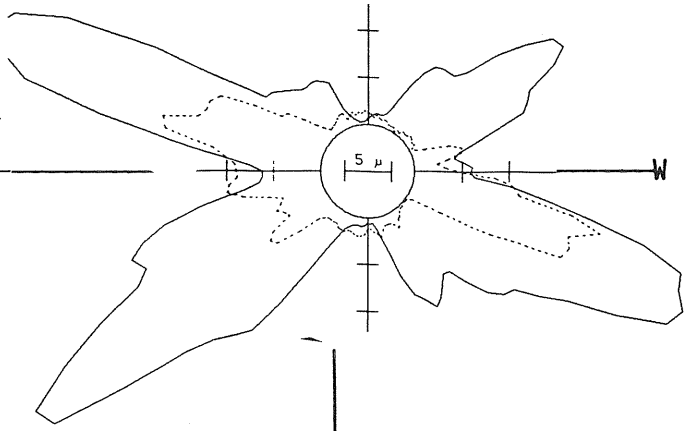
BOULDER SUNSPOTS



1320 UT
1505 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (1.15 Radii)



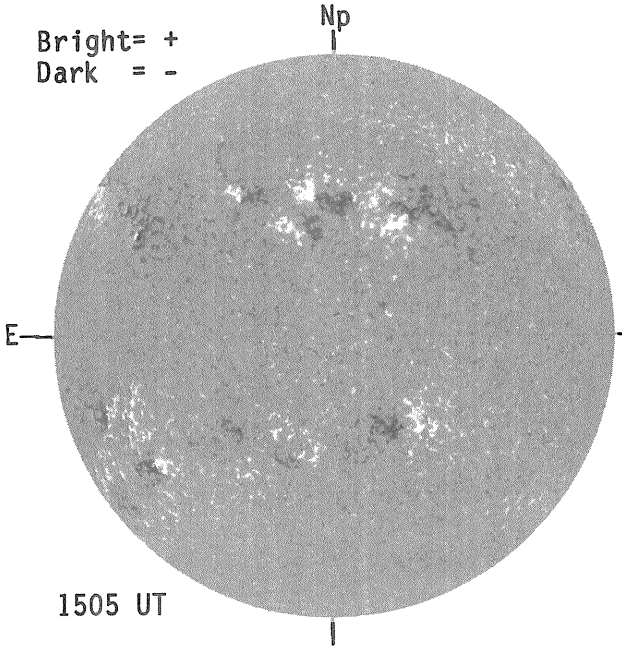
—— 5303A, 1403 UT
···· 6374A, 1434 UT
xxxx 5694A, 1447 UT
NO 5694A ACTIVITY TODAY

Sp

MAY 06, 1988 (P=-23.13, B_o=-3.60, L_o= 37.38)

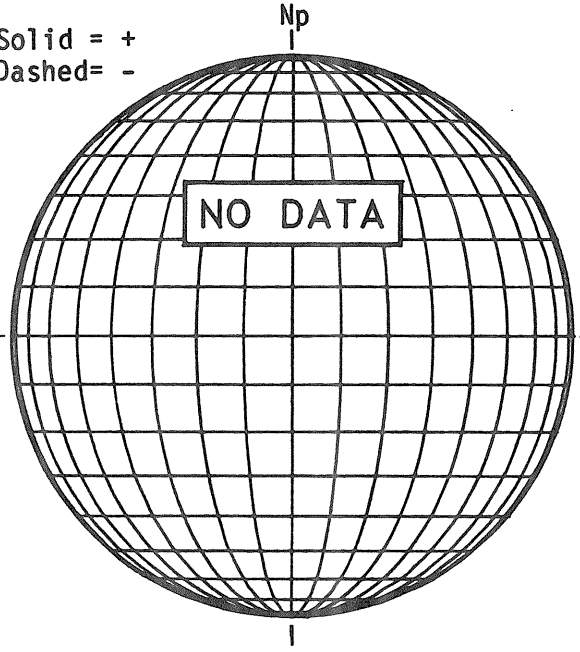
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



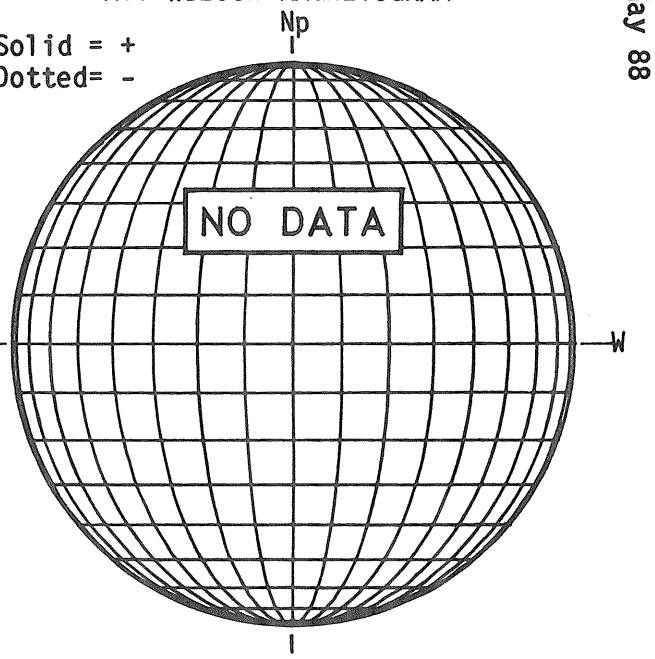
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

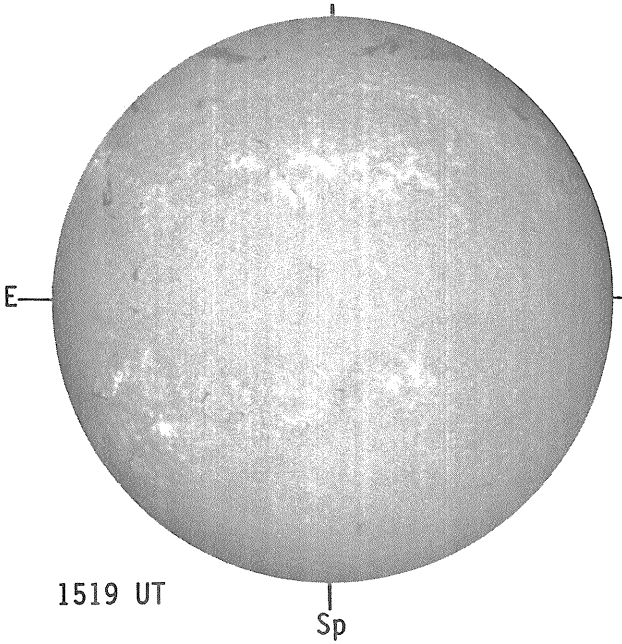


MT. WILSON MAGNETOGRAM

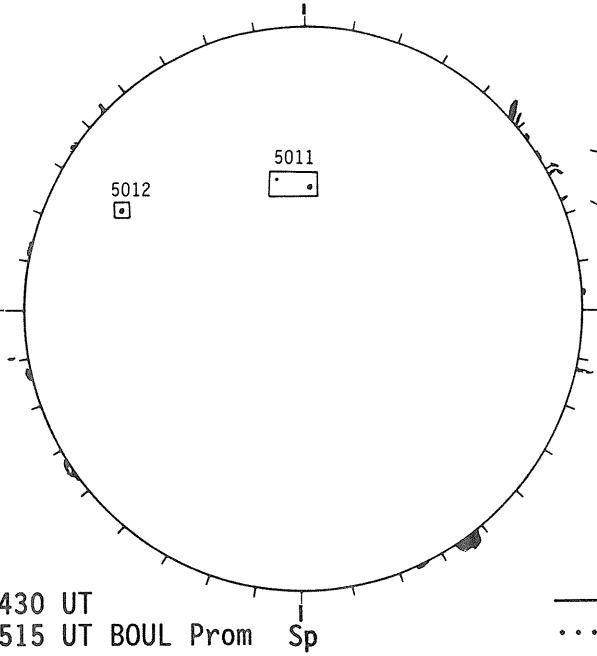
Solid = +
Dotted= -



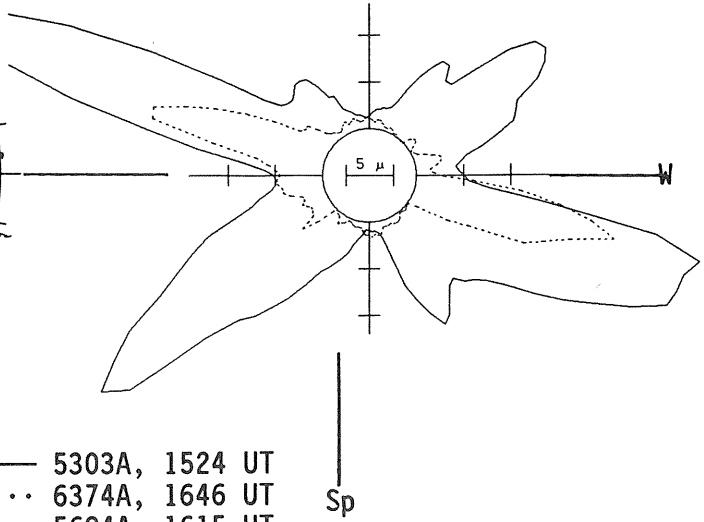
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

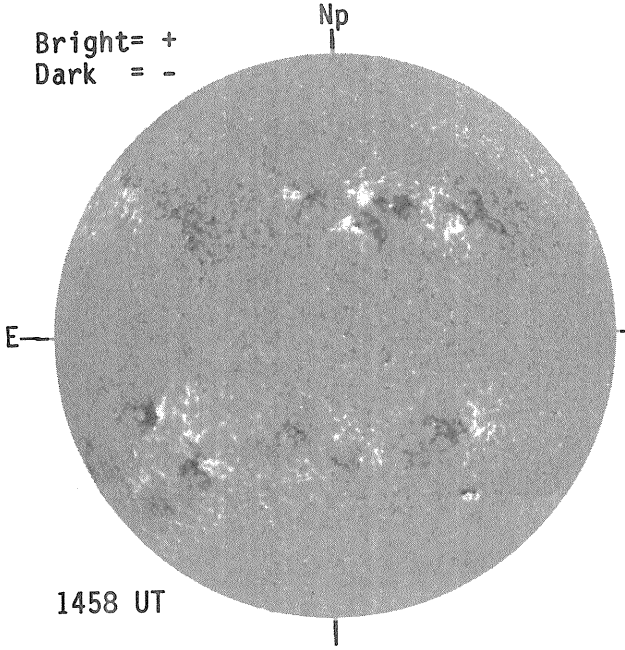


—— 5303A, 1524 UT
···· 6374A, 1646 UT
xxxx 5694A, 1615 UT
NO 5694A ACTIVITY TODAY

MAY 07, 1988 (P=-22.91, B_o=-3.50, L_o= 24.16)

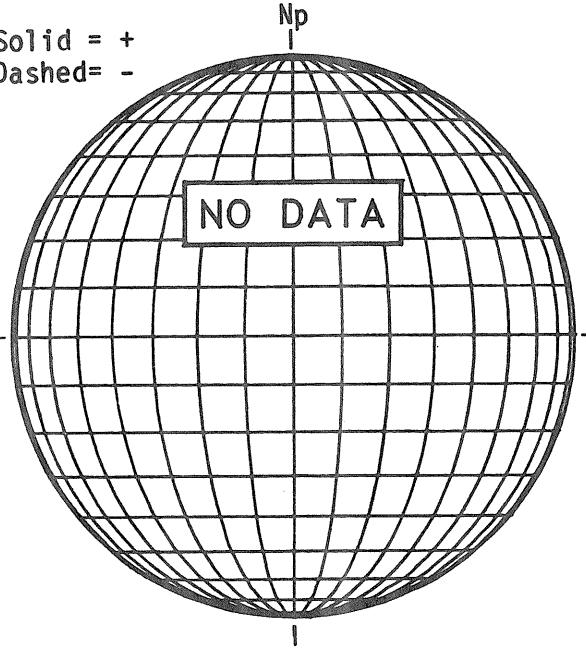
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

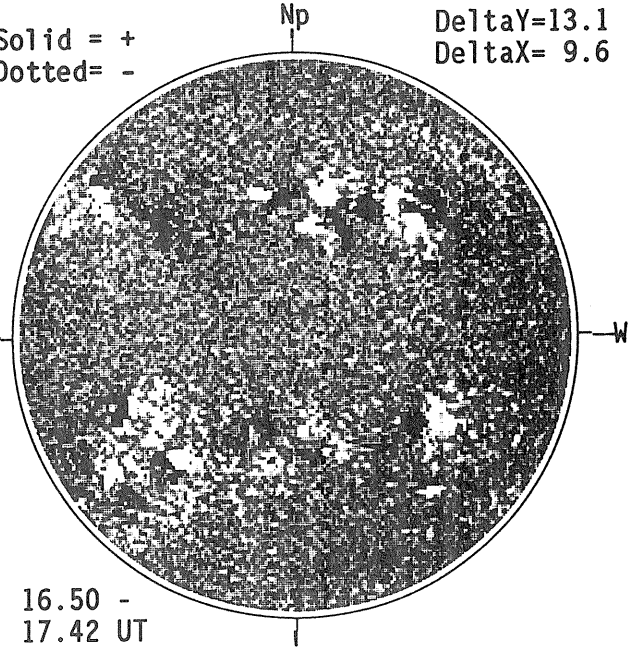
Solid = +
Dashed= -



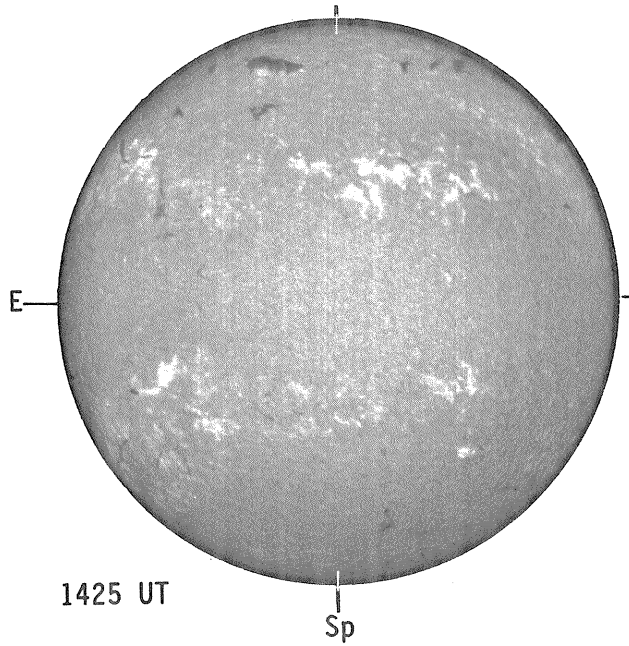
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

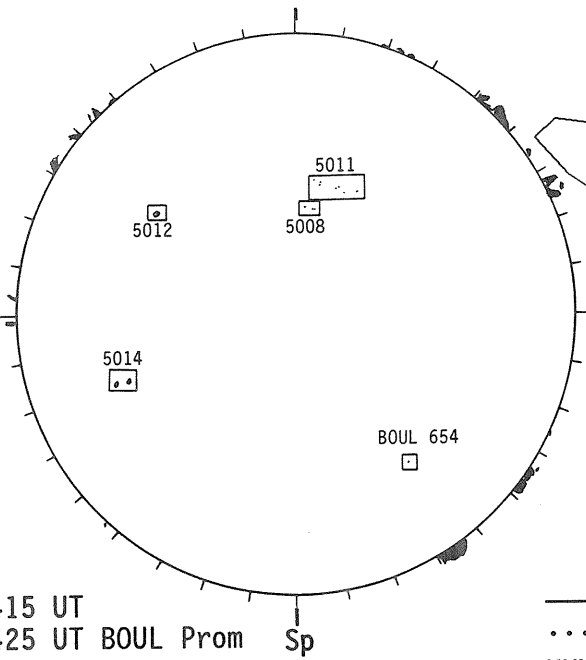
DeltaY=13.1
DeltaX= 9.6



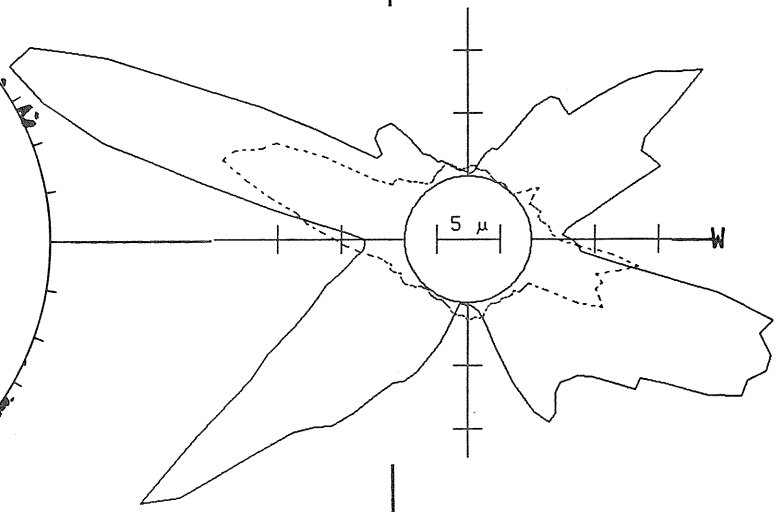
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



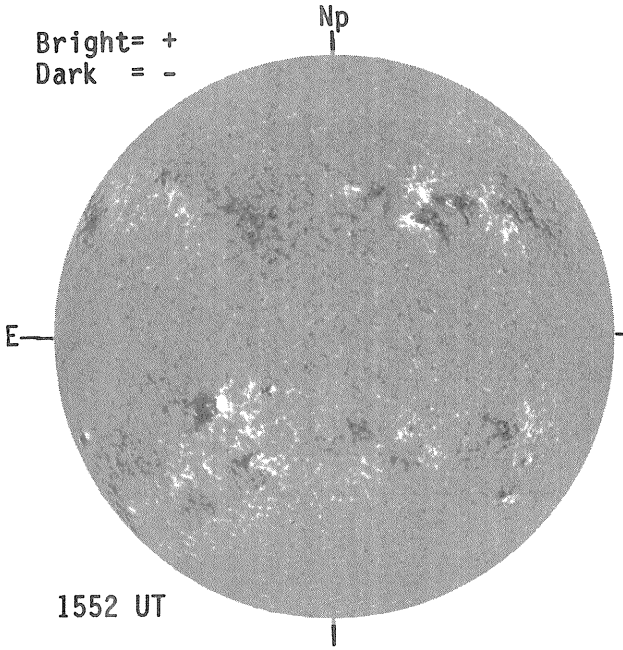
—— 5303A, 1520 UT
···· 6374A, 1556 UT
xxxx 5694A, 1540 UT
NO 5694A ACTIVITY TODAY

MAY 08, 1988 (P=-22.69, B_o=-3.39, L_o= 10.94)

63
May 88

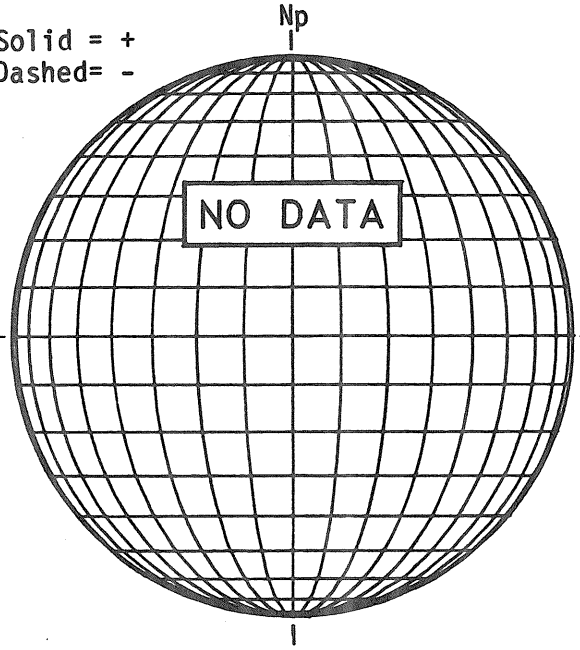
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



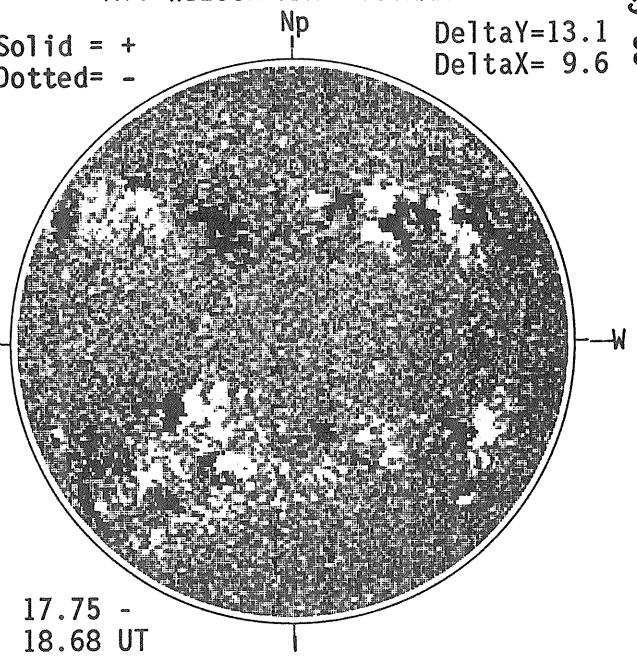
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

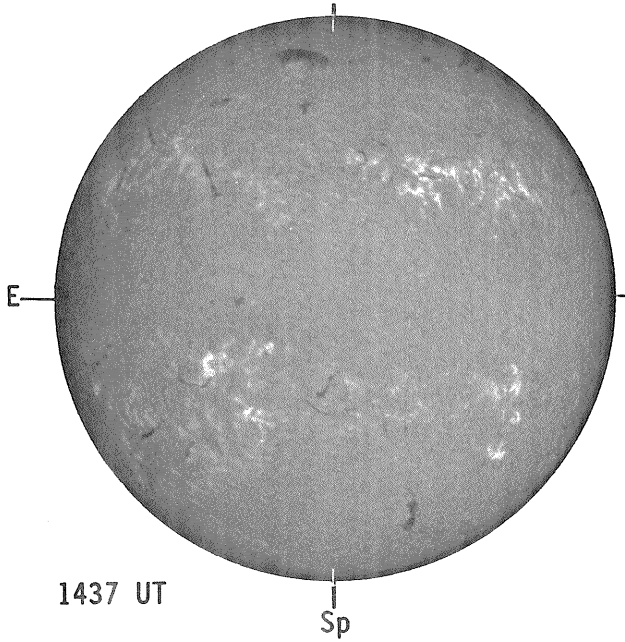


MT. WILSON MAGNETOGRAM

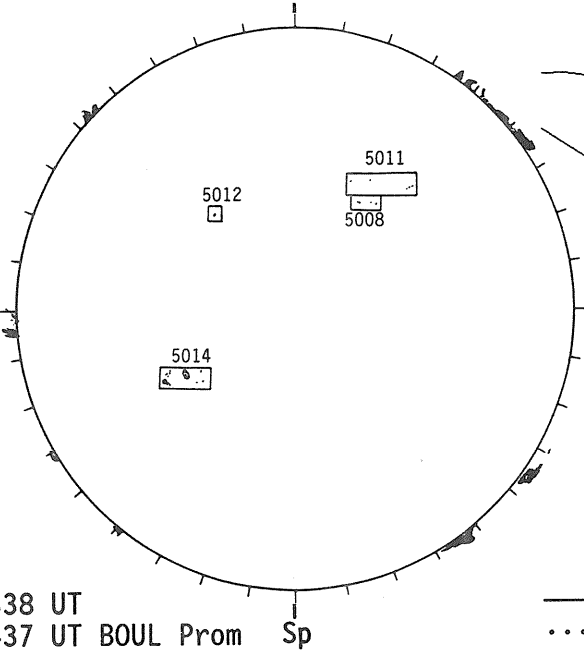
Solid = +
Dotted= -
DeltaY=13.1
DeltaX= 9.6



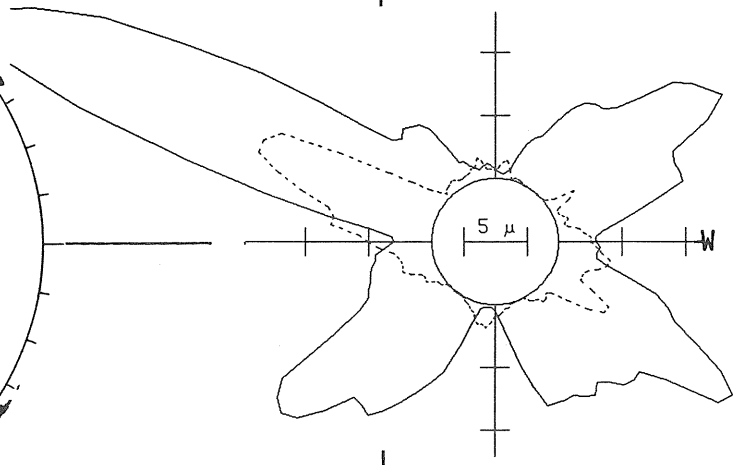
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

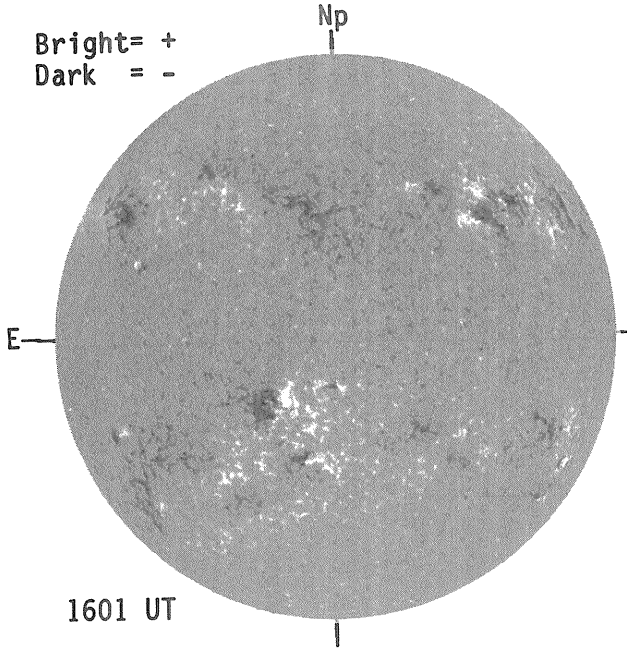


—— 5303A, 1537 UT
···· 6374A, 1618 UT
xxxx 5694A, 1603 UT
NO 5694A ACTIVITY TODAY

MAY 09, 1988 (P=-22.45, B_o=-3.28, L_o= 357.72)

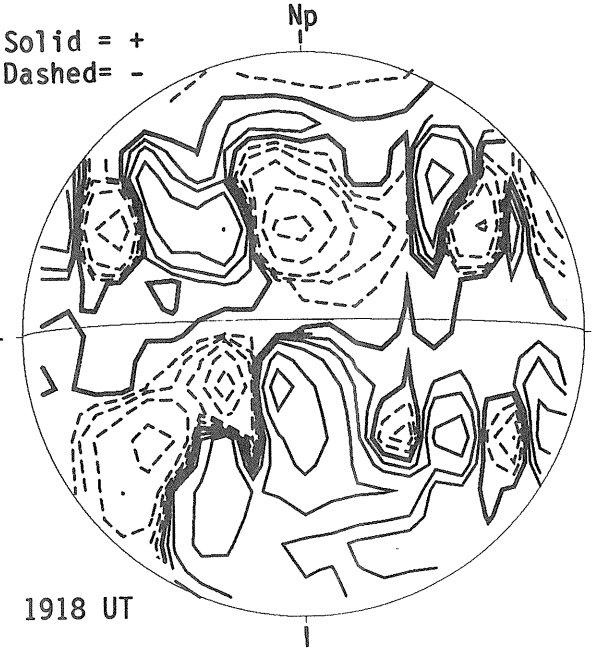
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



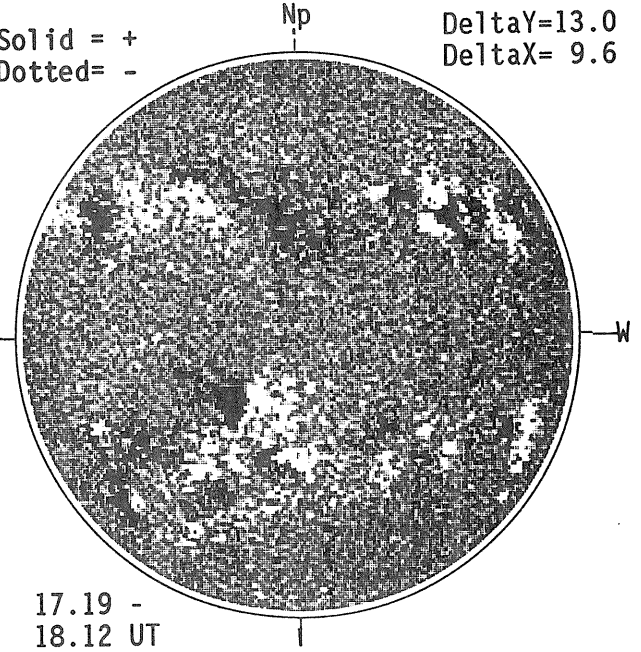
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

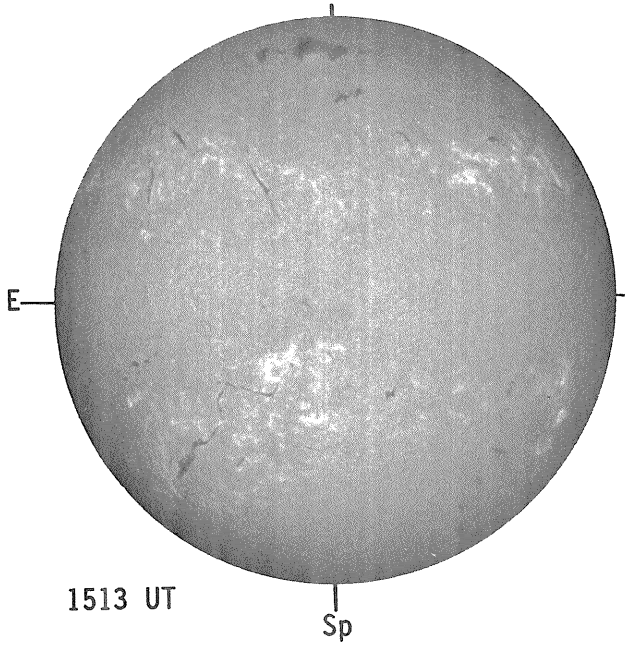


MT. WILSON MAGNETOGRAM

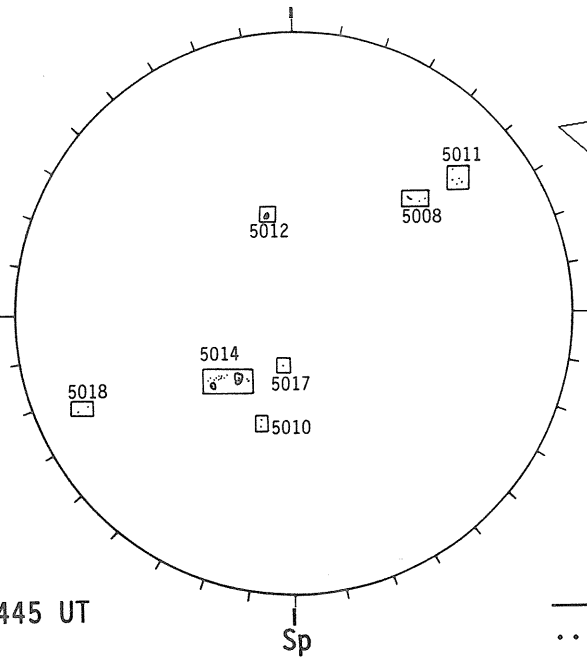
Solid = +
Dotted= -
DeltaY=13.0
DeltaX= 9.6



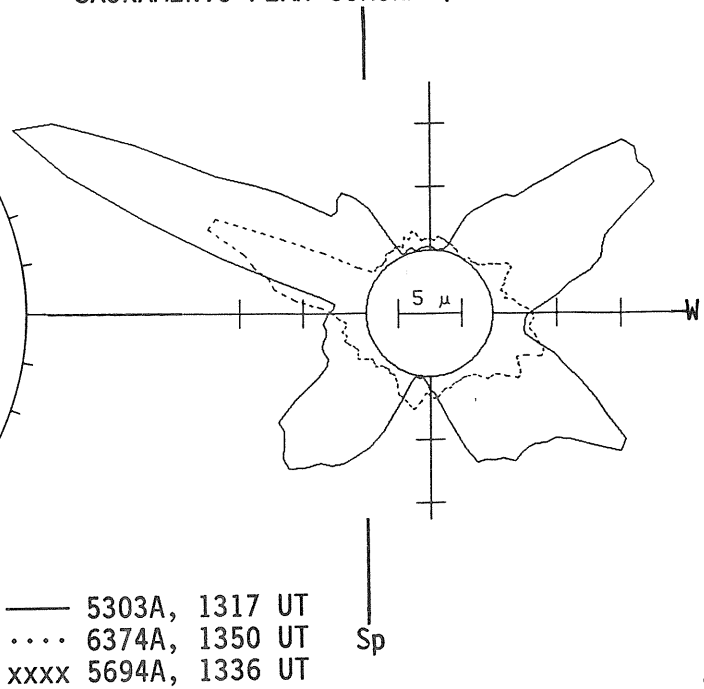
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



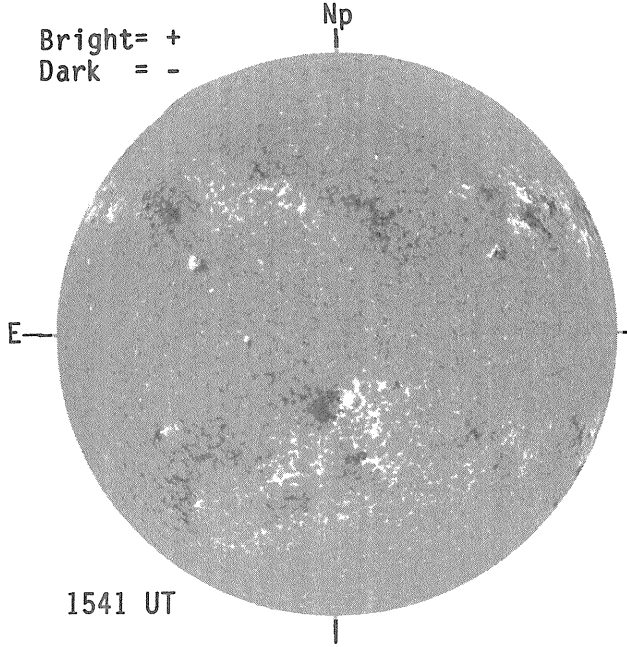
—— 5303A, 1317 UT
···· 6374A, 1350 UT
xxxx 5694A, 1336 UT
NO 5694A ACTIVITY TODAY

MAY 10, 1988 (P=-22.22, B_o=-3.17, L_o= 344.49)

May 88 66

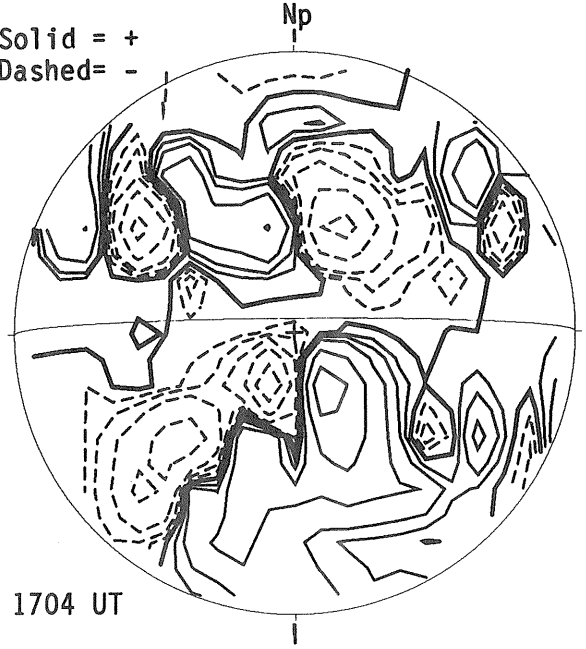
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



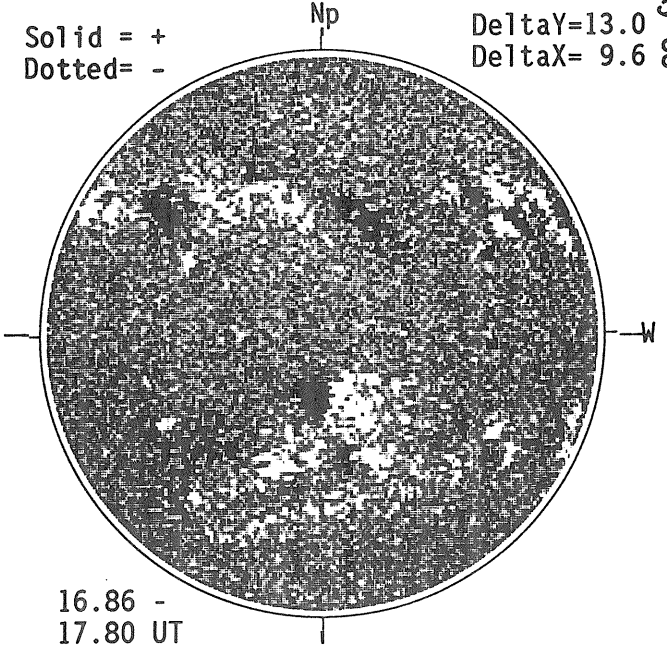
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

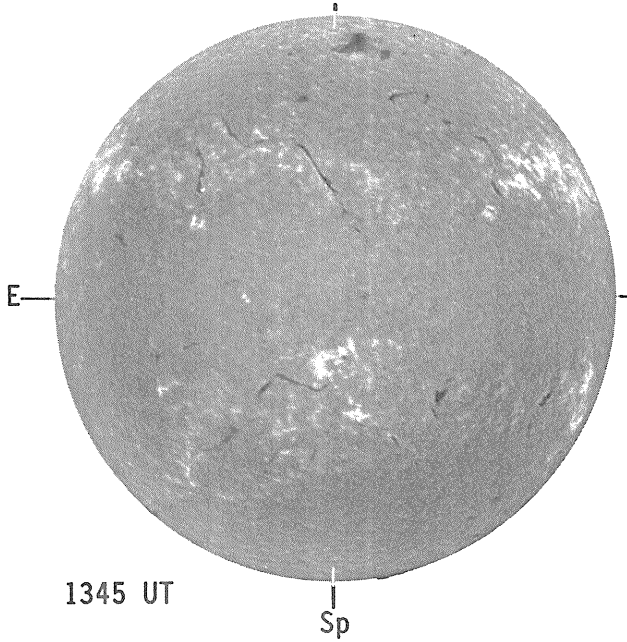


MT. WILSON MAGNETOGRAM

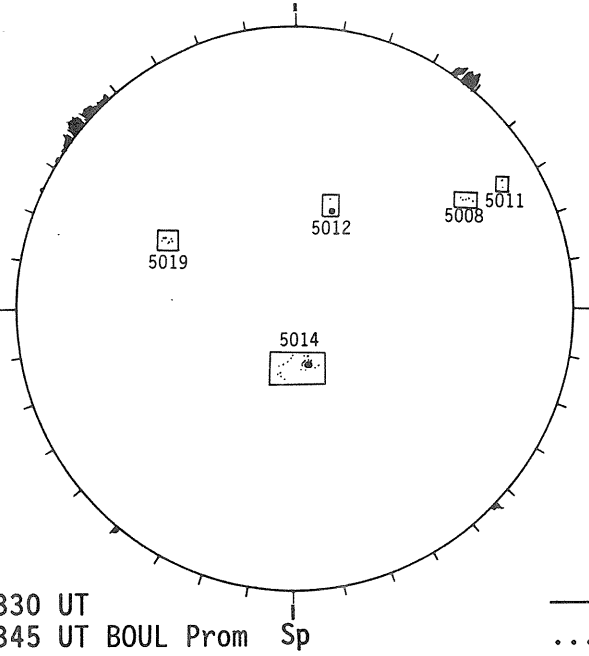
Solid = +
Dotted= -
DeltaY=13.0
DeltaX= 9.6



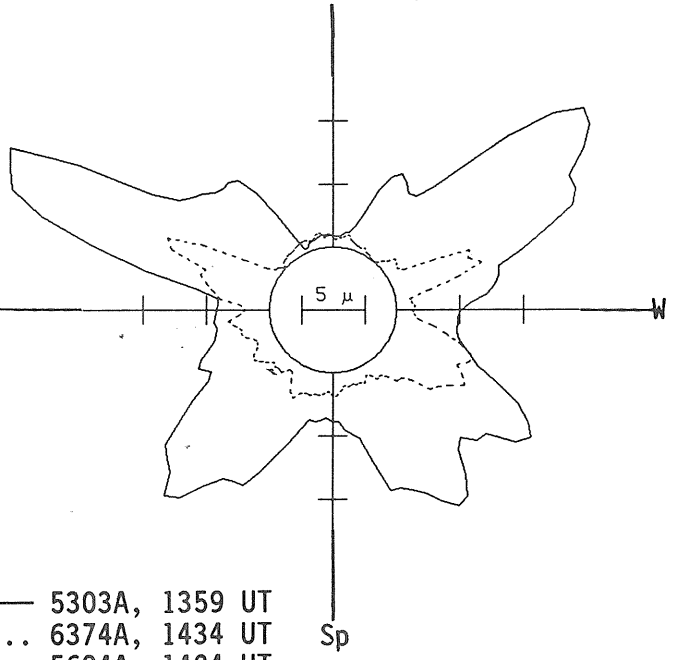
BOULDER H-ALPHA



BOULDER SUNSPOTS



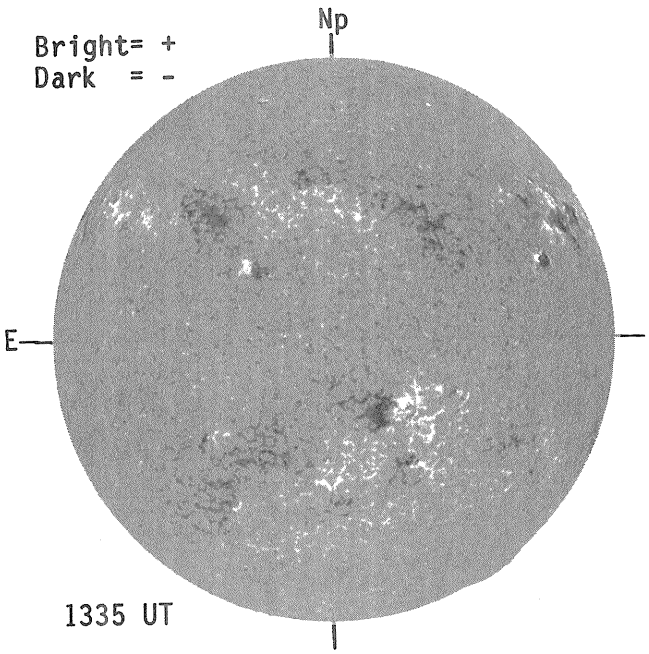
SACRAMENTO PEAK CORONA (1.15 Radii)



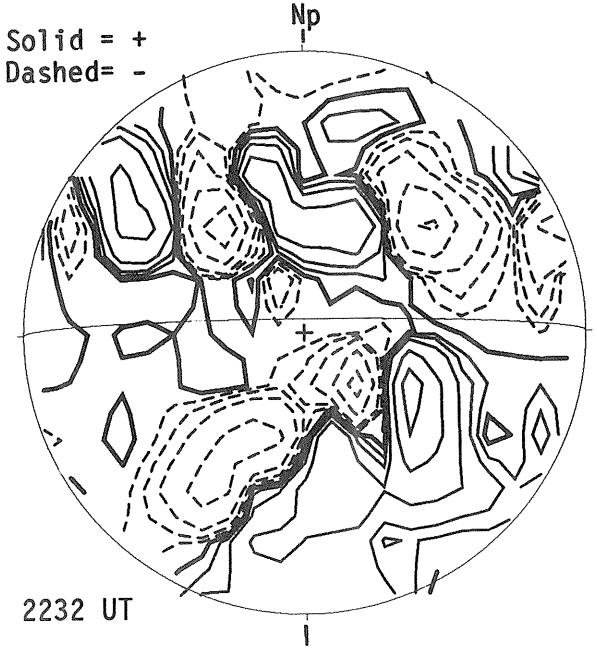
—— 5303A, 1359 UT
.... 6374A, 1434 UT
xxxx 5694A, 1424 UT
NO 5694A ACTIVITY TODAY

MAY 11, 1988 (P=-21.97, B_o=-3.06, L_o= 331.27)

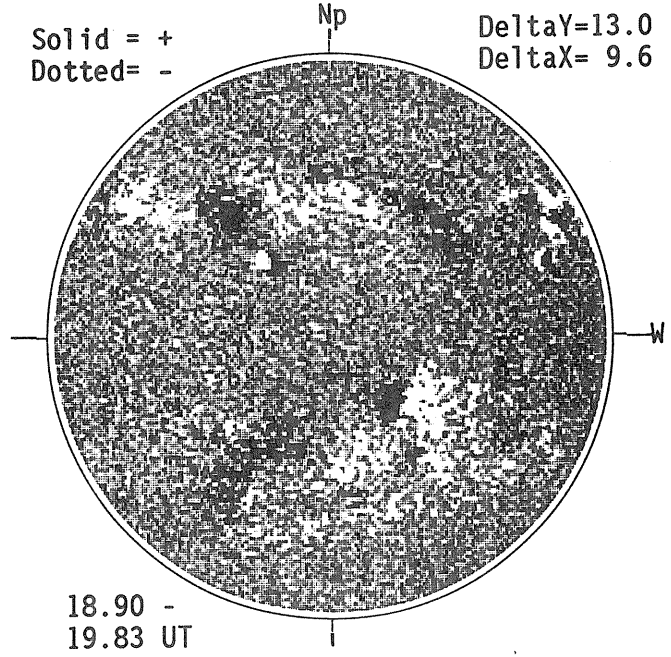
KITT PEAK MAGNETOGRAM



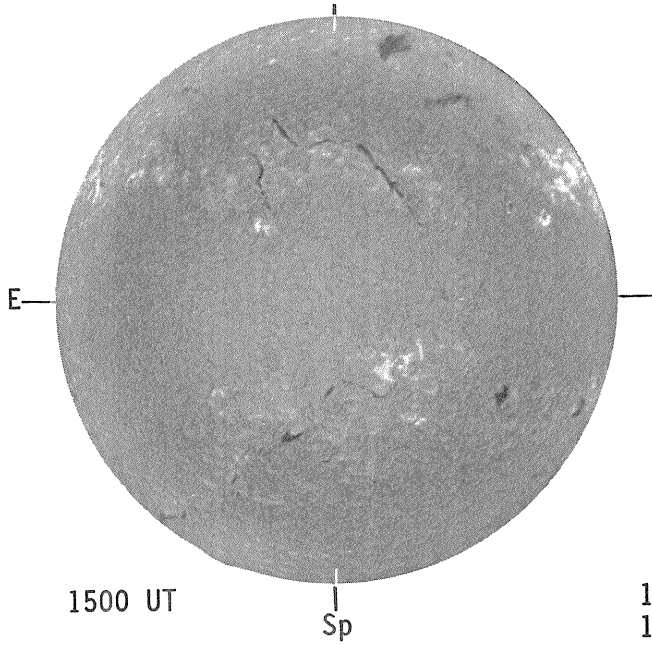
STANFORD MAGNETOGRAM



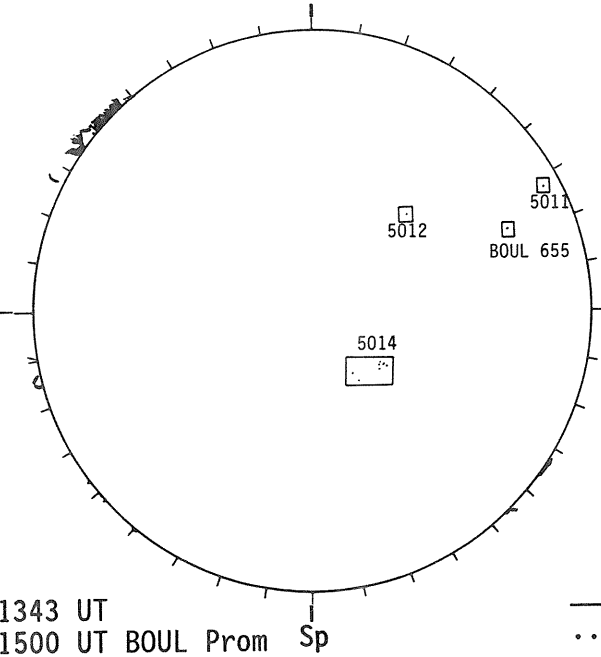
MT. WILSON MAGNETOGRAM



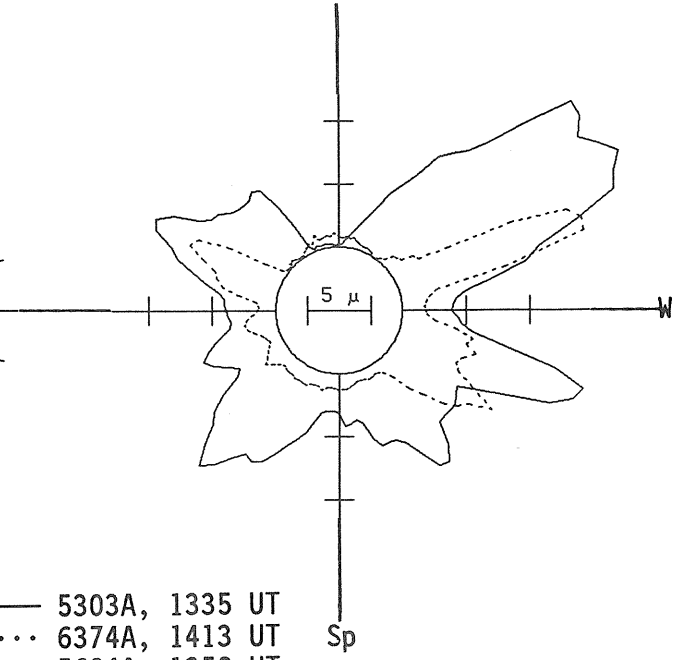
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

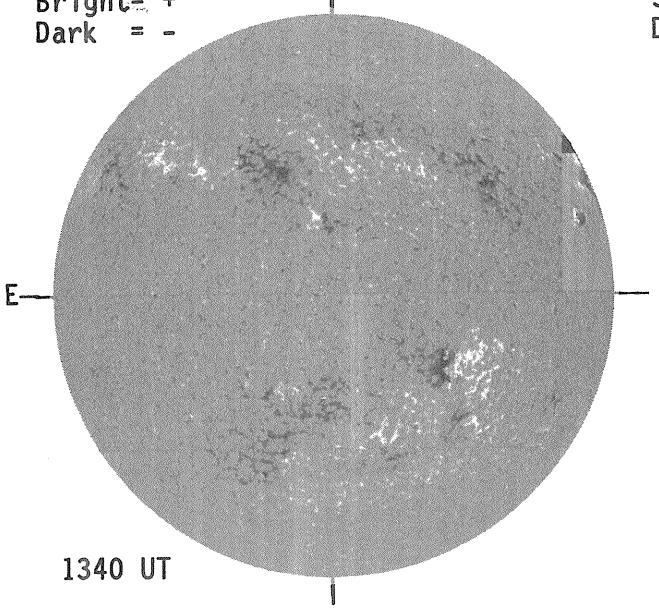


—— 5303A, 1335 UT
···· 6374A, 1413 UT
xxxx 5694A, 1359 UT
NO 5694A ACTIVITY TODAY

MAY 12, 1988 (P=-21.72, B_o=-2.95, L_o= 318.05)

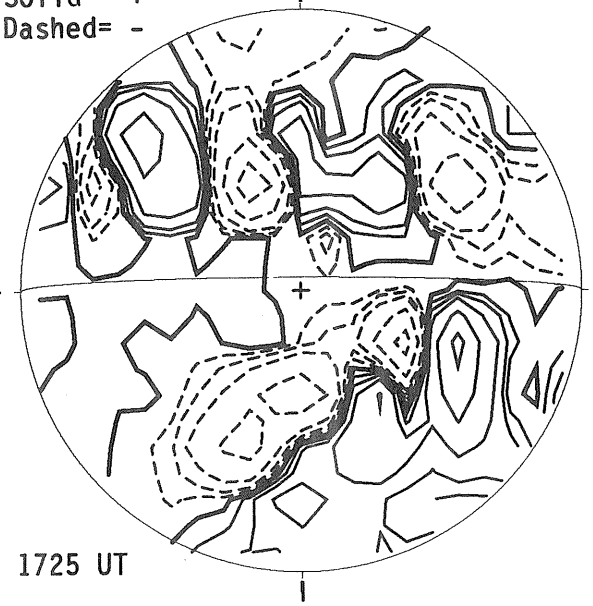
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



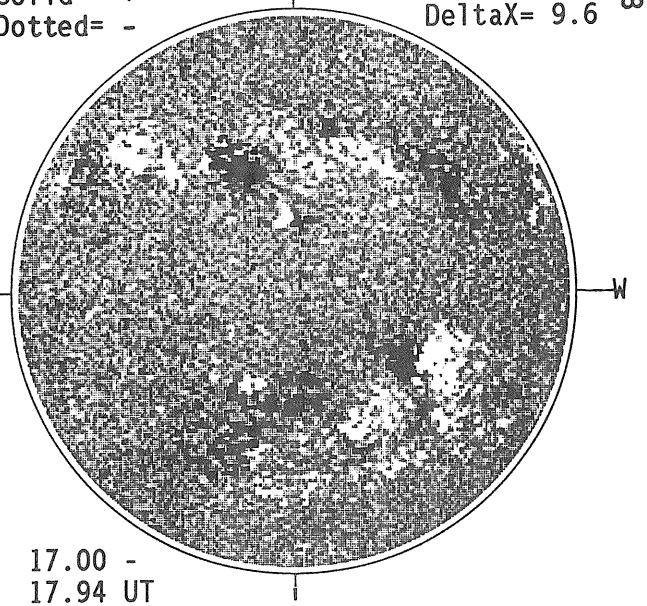
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

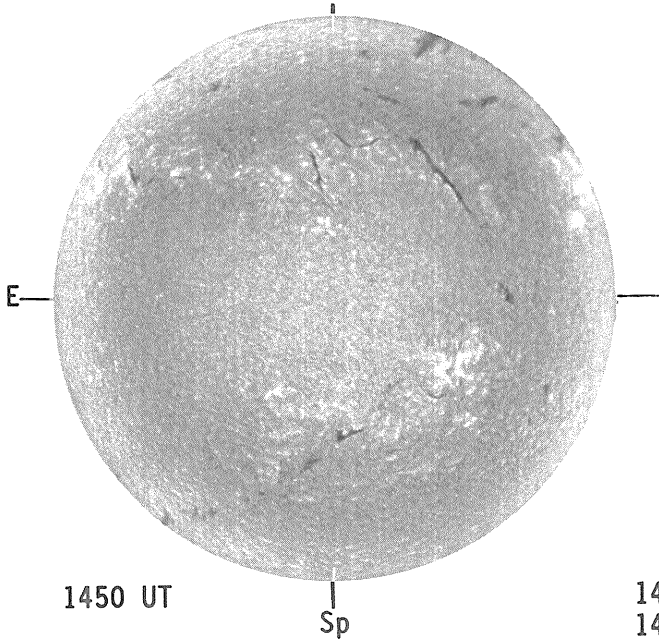


MT. WILSON MAGNETOGRAM

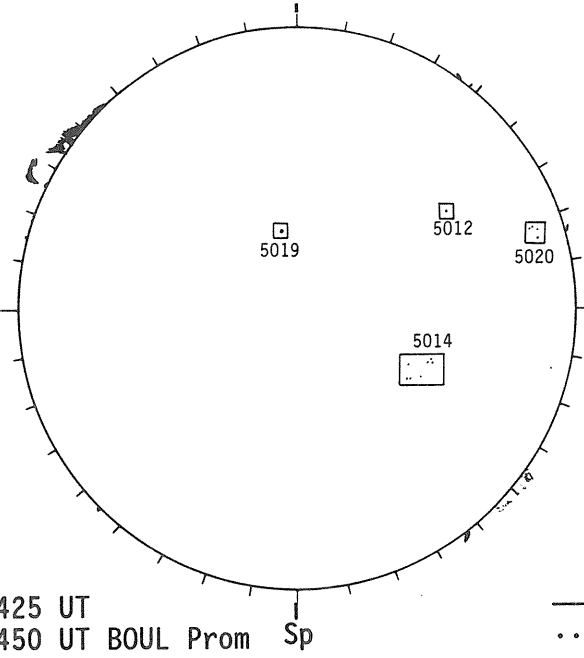
Solid = +
Dotted= -
DeltaY=13.0
DeltaX= 9.6



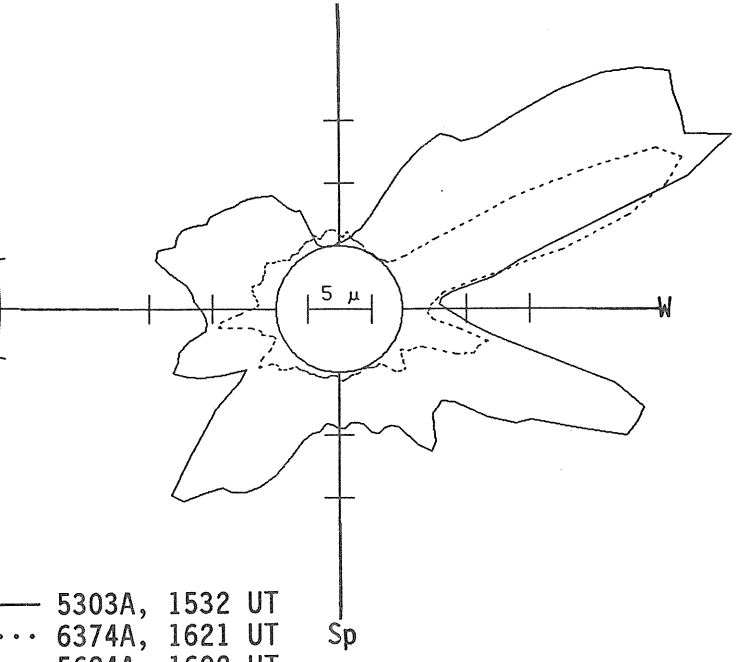
BOULDER H-ALPHA



BOULDER SUNSPOTS



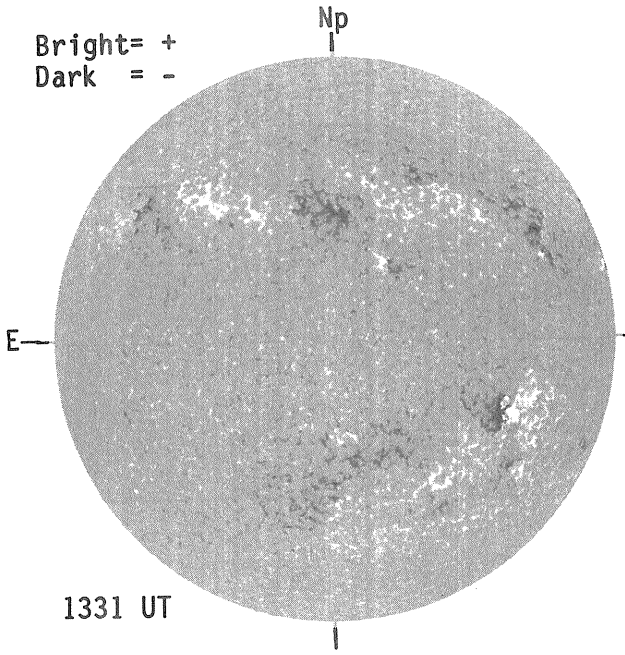
SACRAMENTO PEAK CORONA (1.15 Radii)



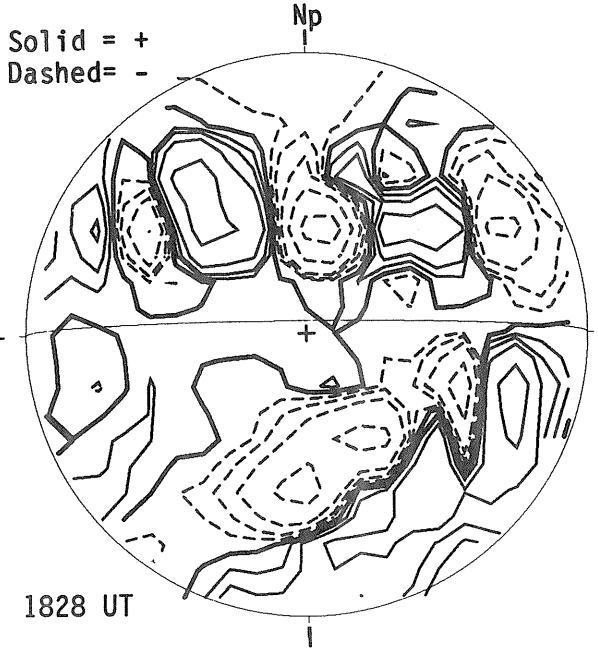
—— 5303A, 1532 UT
···· 6374A, 1621 UT
xxxx 5694A, 1602 UT
NO 5694A ACTIVITY TODAY

MAY 13, 1988 (P=-21.46, B_o=-2.84, L_o= 304.82)

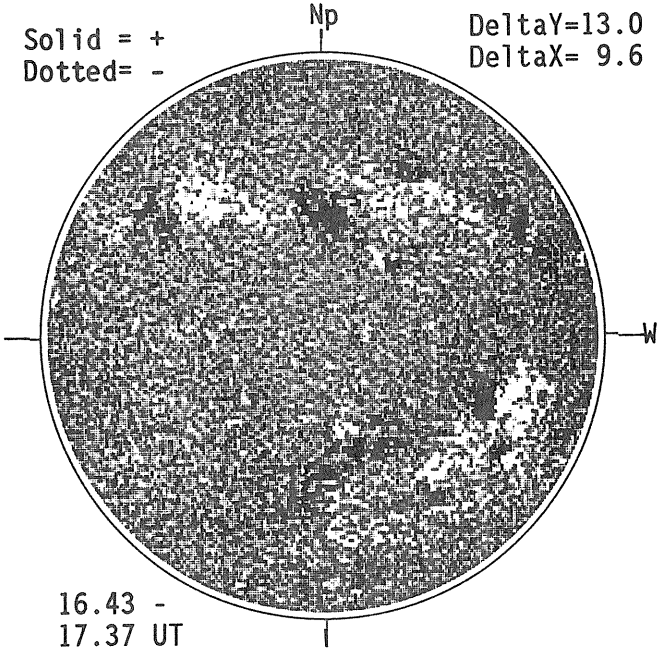
KITT PEAK MAGNETOGRAM



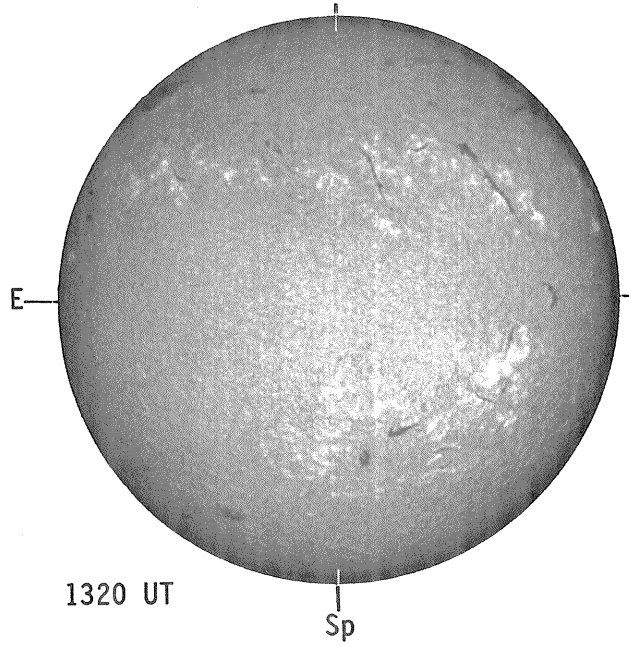
STANFORD MAGNETOGRAM



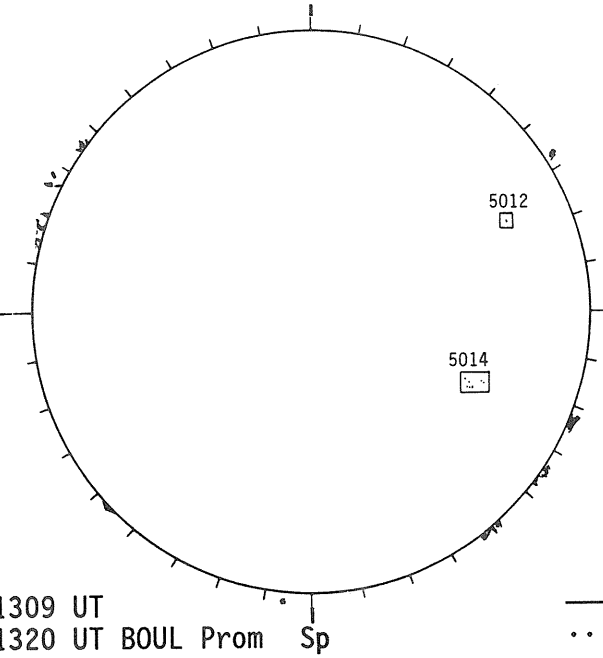
MT. WILSON MAGNETOGRAM



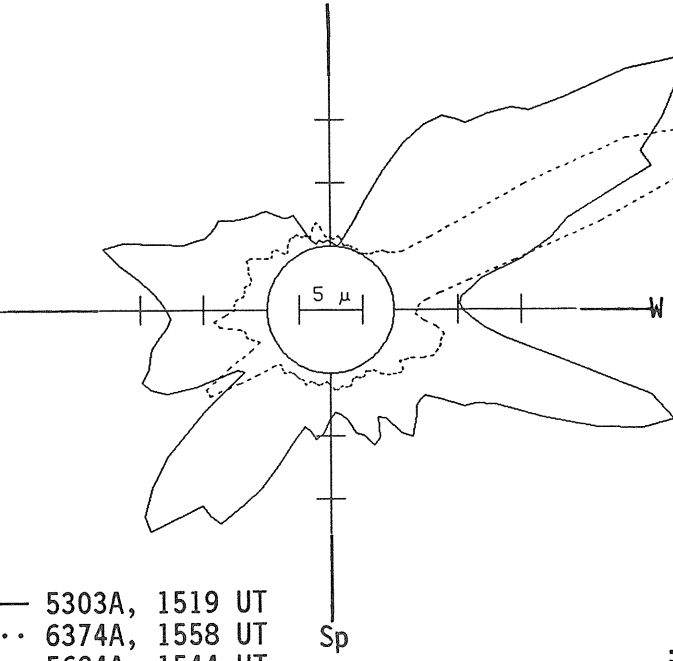
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

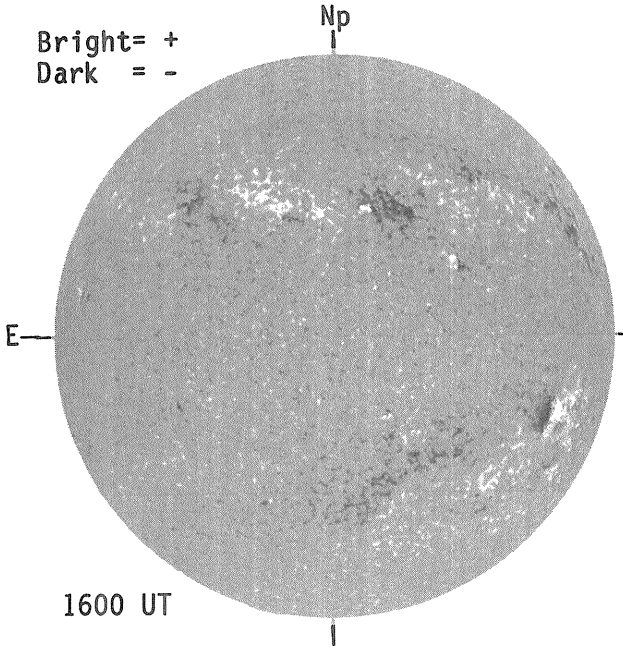


—— 5303A, 1519 UT
···· 6374A, 1558 UT
xxxx 5694A, 1544 UT
NO 5694A ACTIVITY TODAY

MAY 14, 1988 (P=-21.19, B_0=-2.73, L_0= 291.60)

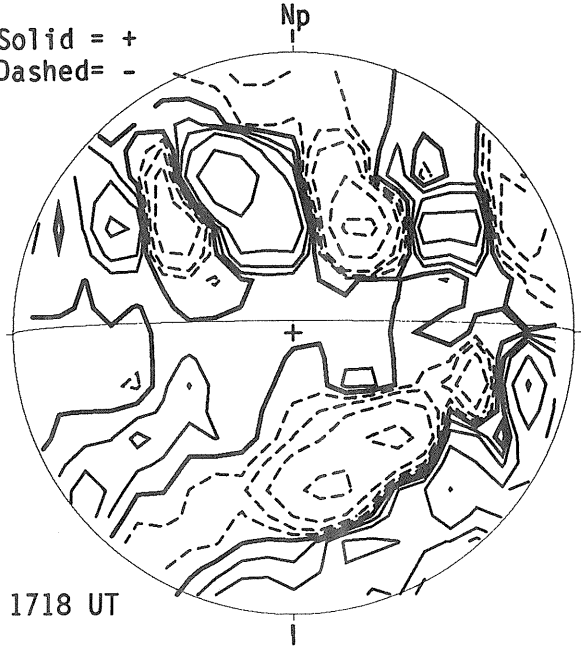
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



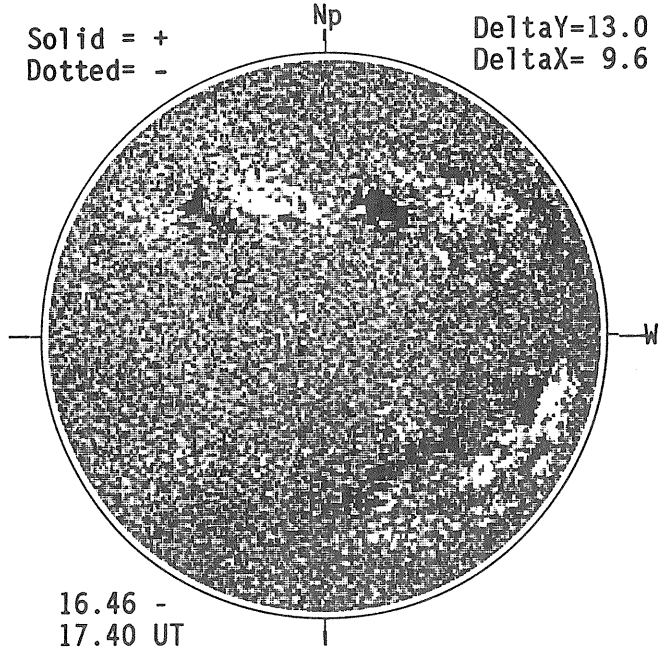
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

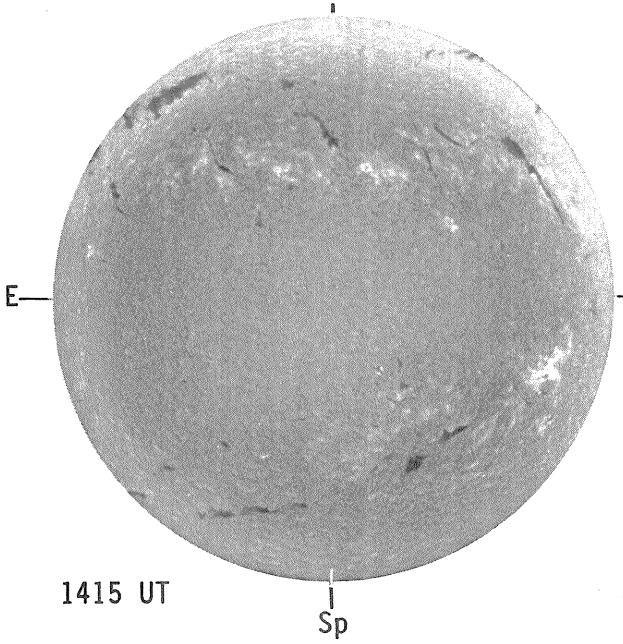


MT. WILSON MAGNETOGRAM

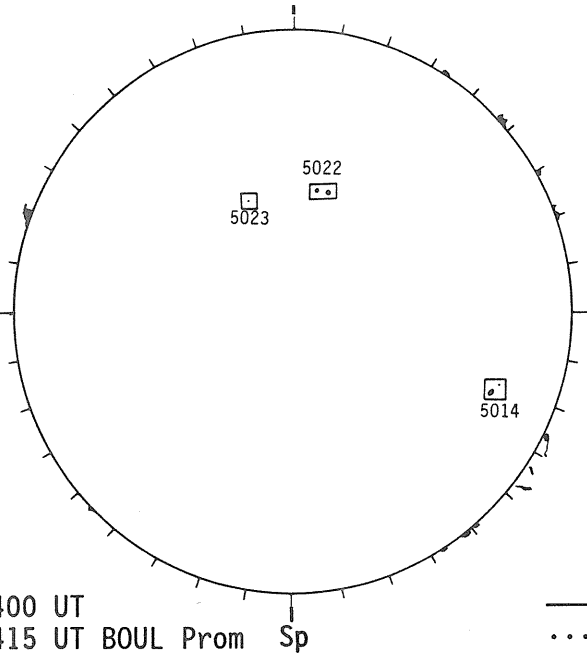
Solid = +
Dotted= -
DeltaY=13.0
DeltaX= 9.6



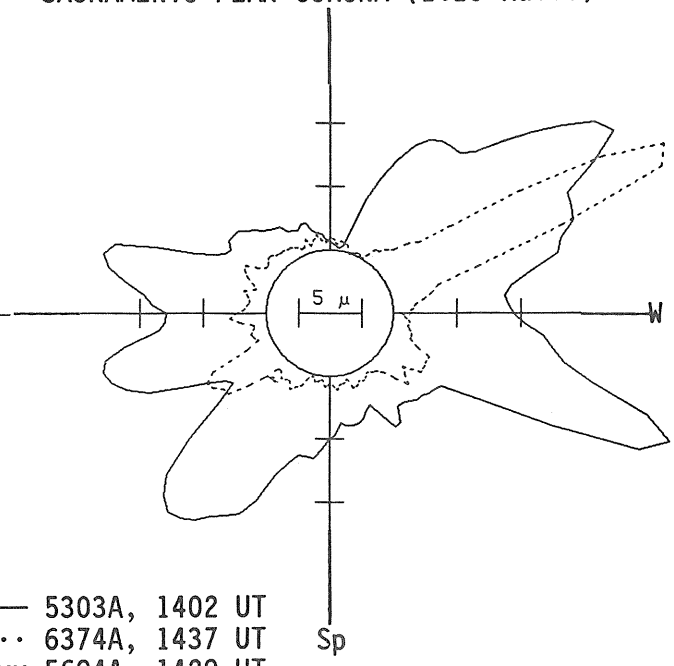
BOULDER H-ALPHA



BOULDER SUNSPOTS



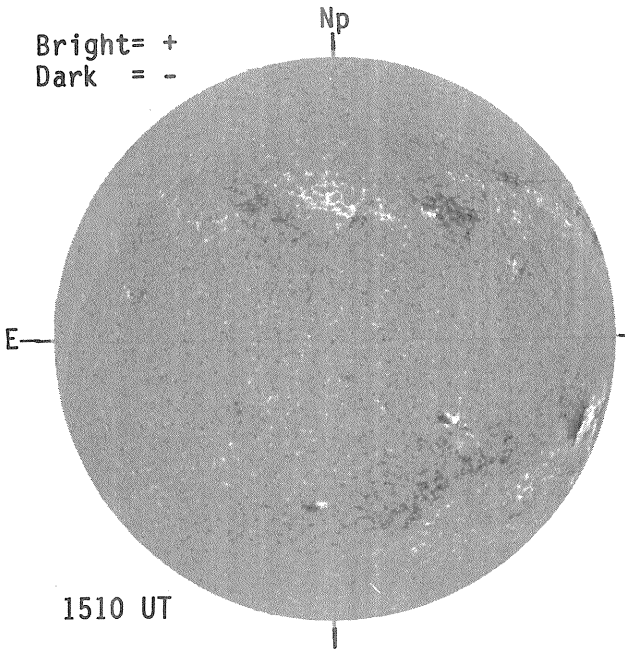
SACRAMENTO PEAK CORONA (1.15 Radii)



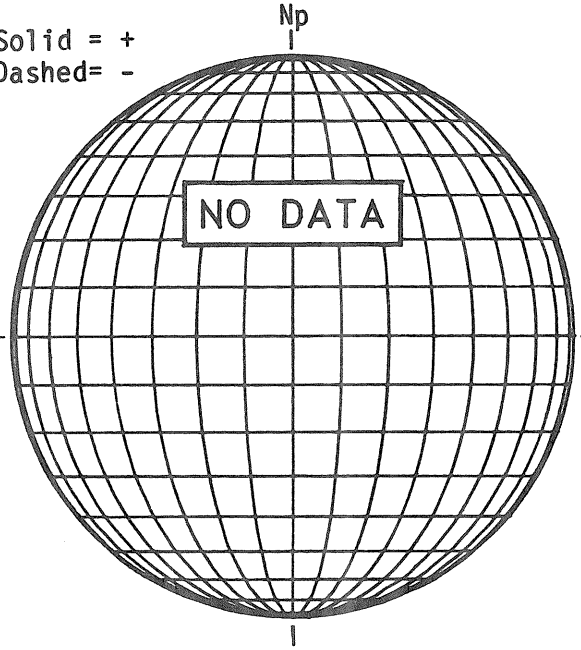
—— 5303A, 1402 UT
···· 6374A, 1437 UT
xxxx 5694A, 1429 UT
NO 5694A ACTIVITY TODAY

MAY 15, 1988 (P=-20.92, B_o=-2.62, L_o= 278.37)

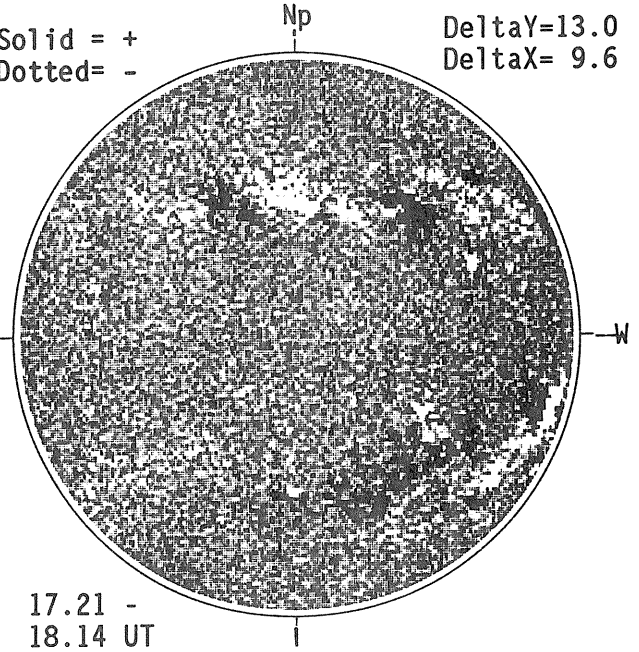
KITT PEAK MAGNETOGRAM



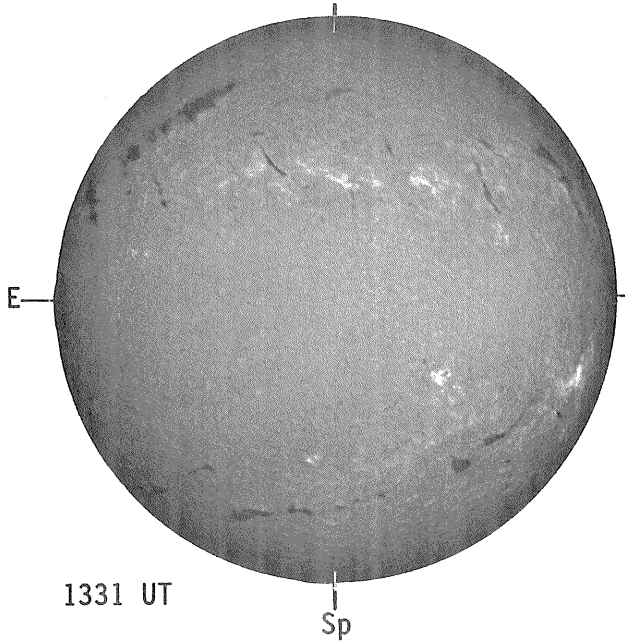
STANFORD MAGNETOGRAM



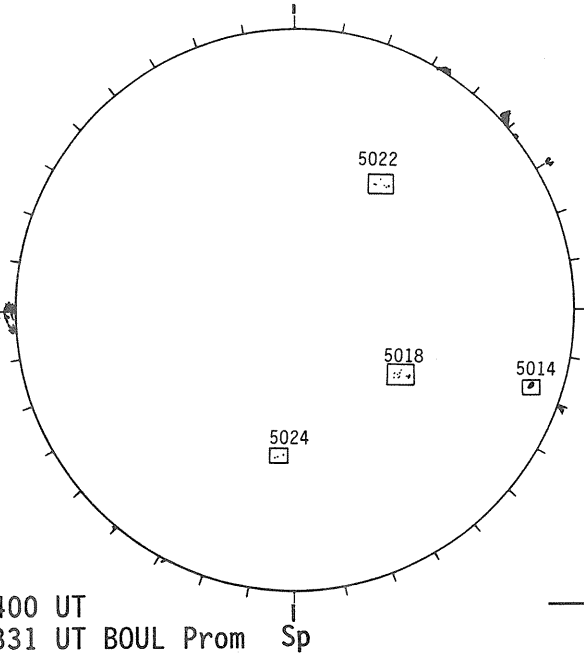
MT. WILSON MAGNETOGRAM



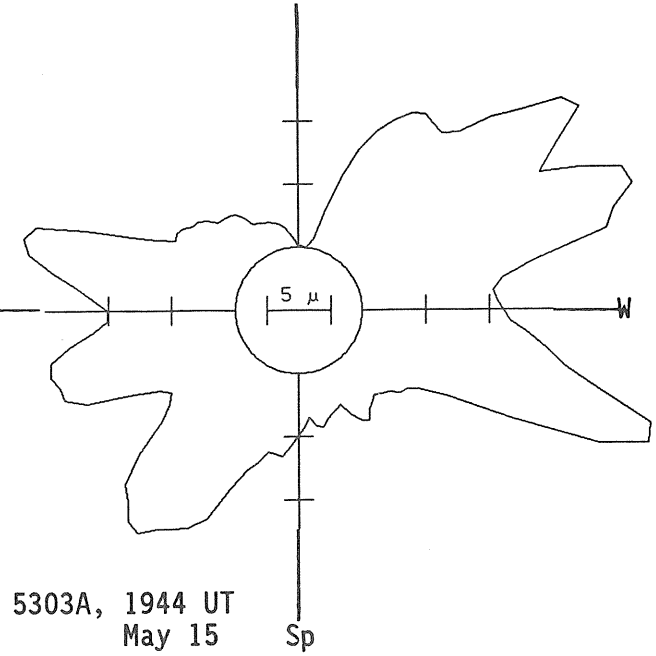
BOULDER H-ALPHA



BOULDER SUNSPOTS



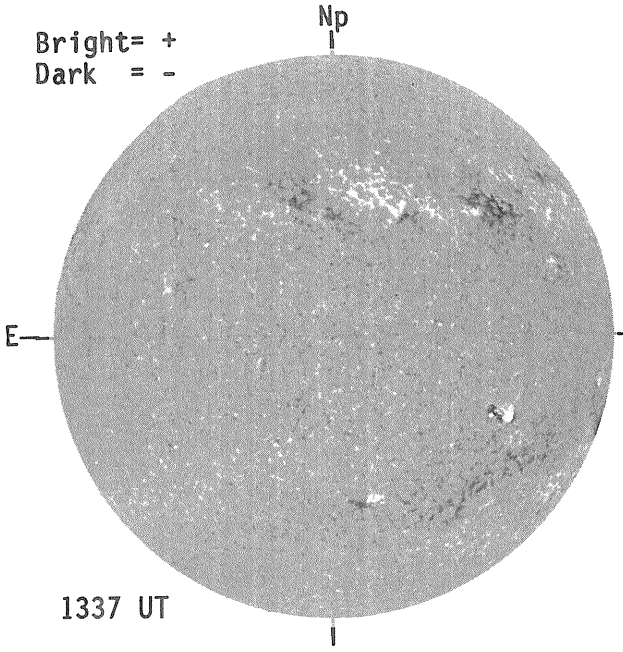
SACRAMENTO PEAK CORONA (1.15 Radii)



MAY 16, 1988 (P=-20.64, B_o=-2.50, L_o= 265.15)

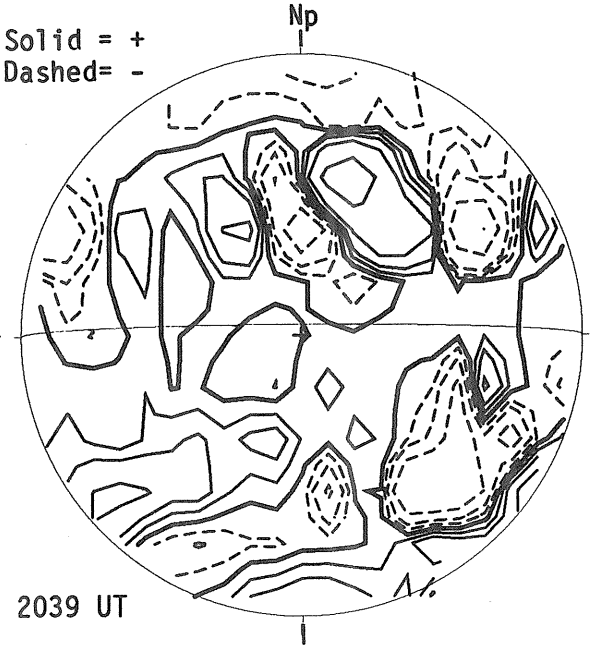
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



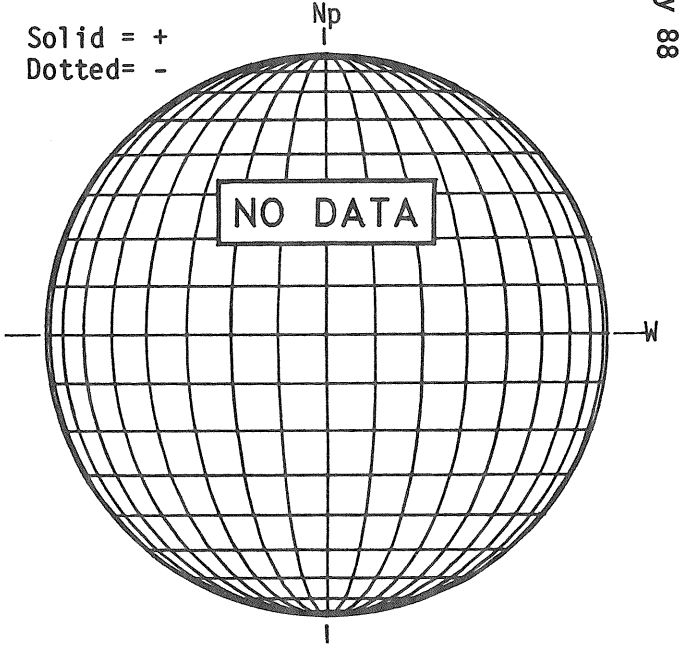
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

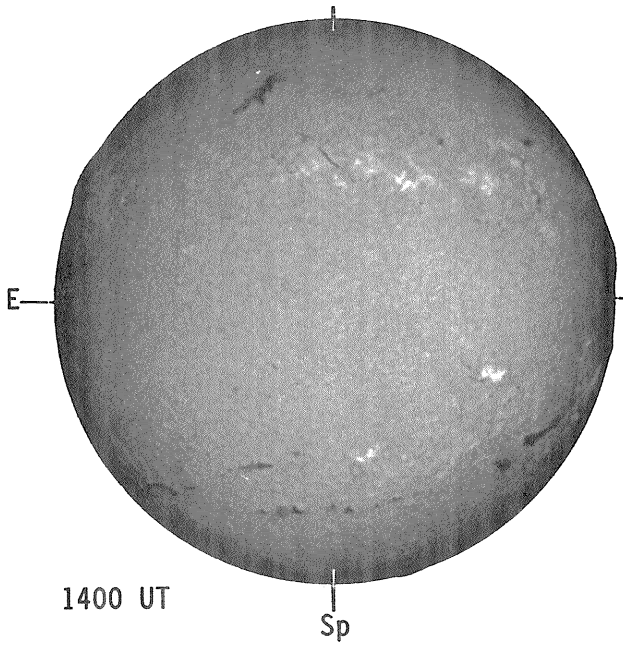


MT. WILSON MAGNETOGRAM

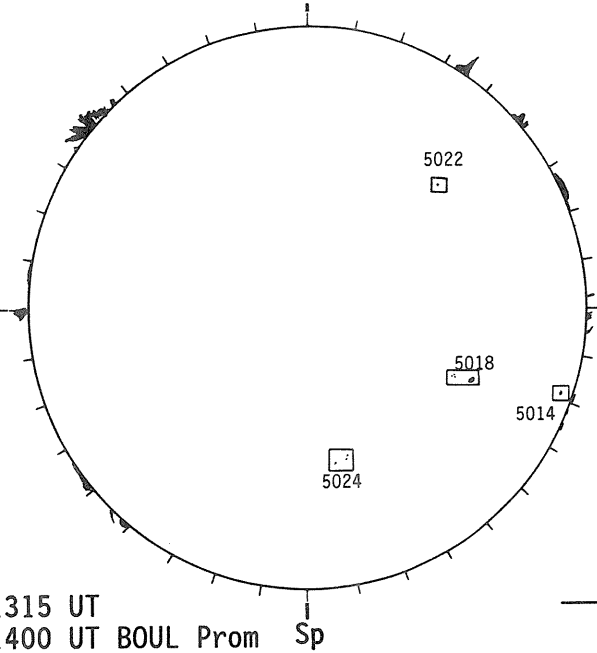
Solid = +
Dotted= -



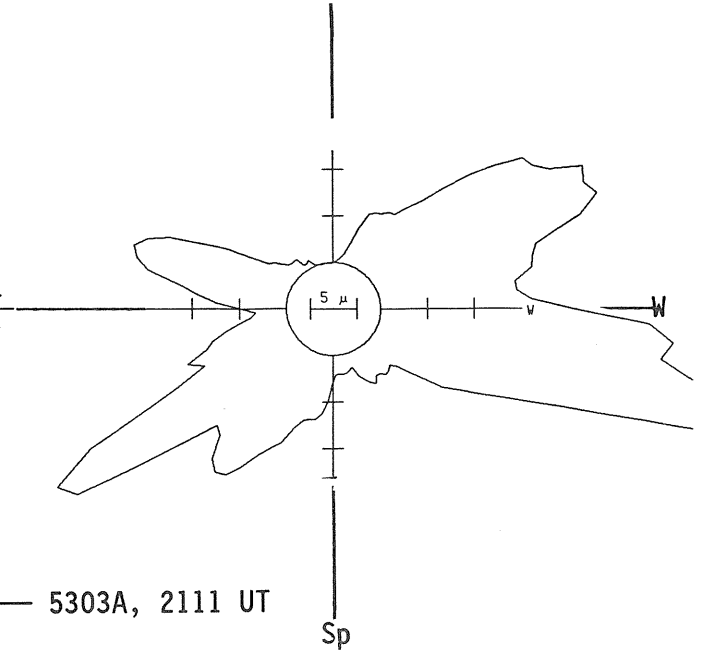
BOULDER H-ALPHA



BOULDER SUNSPOTS



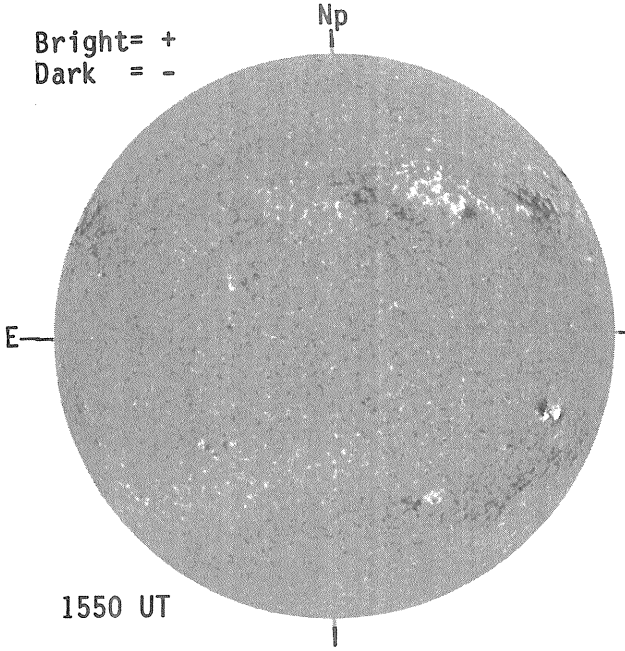
SACRAMENTO PEAK CORONA (1.15 Radii)



MAY 17, 1988 (P=-20.35, B_0=-2.39, L_0= 251.92)

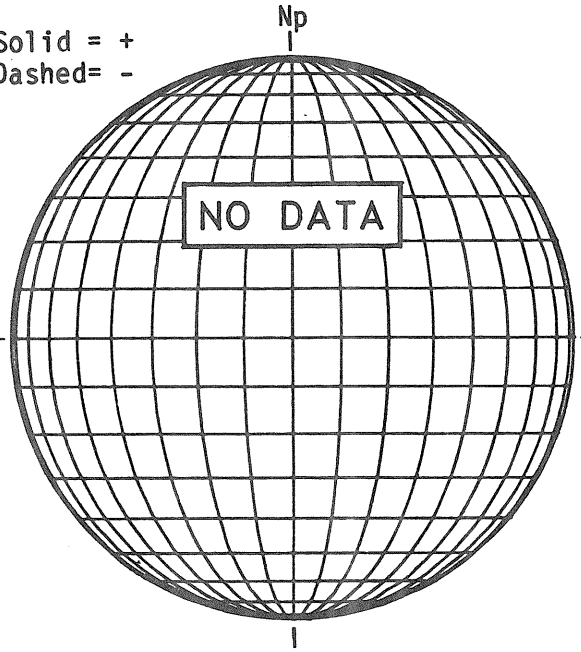
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



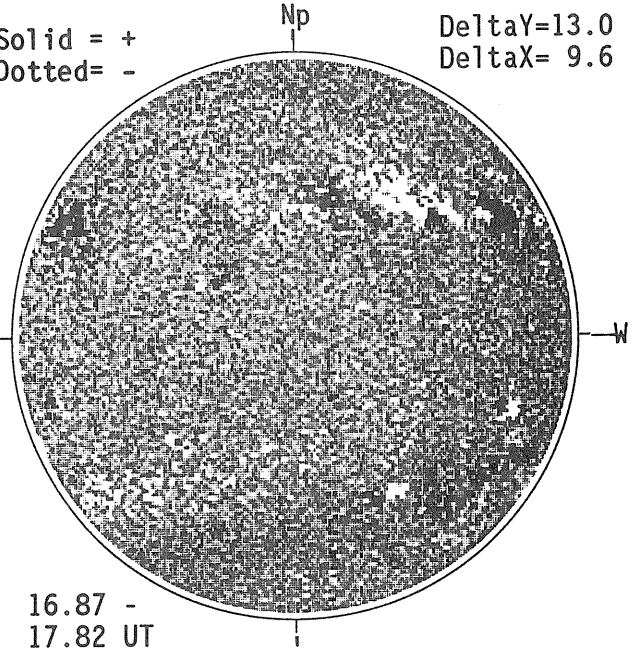
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

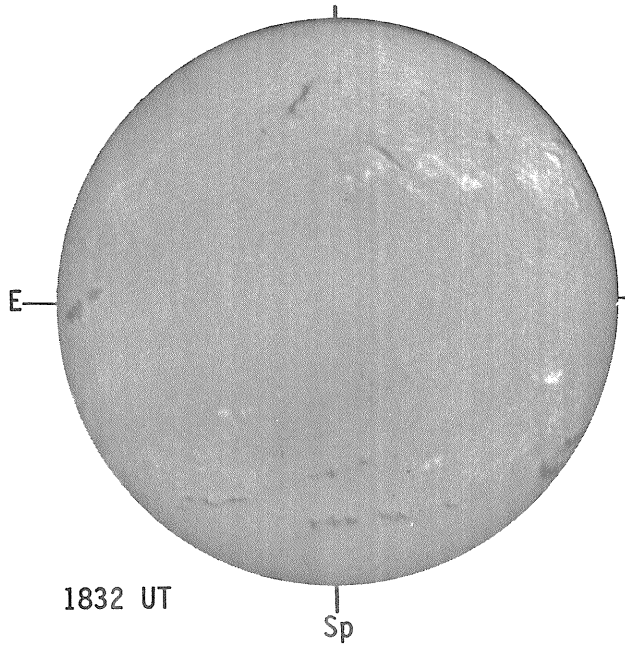


MT. WILSON MAGNETOGRAM

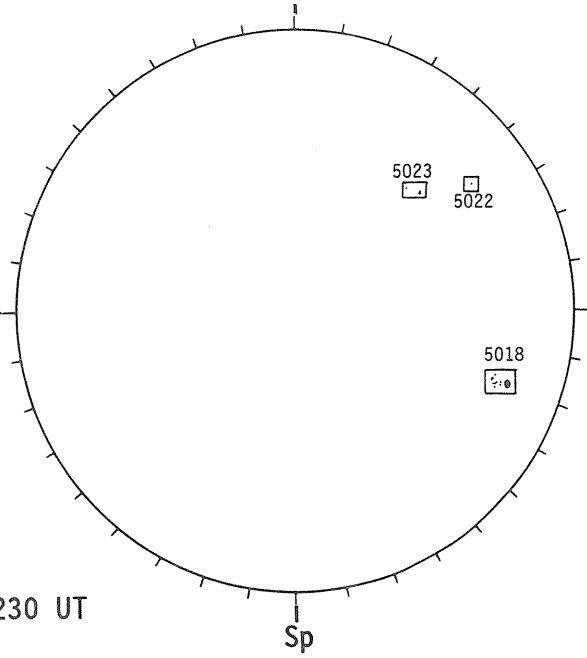
Solid = +
Dotted= -
DeltaY=13.0
DeltaX= 9.6



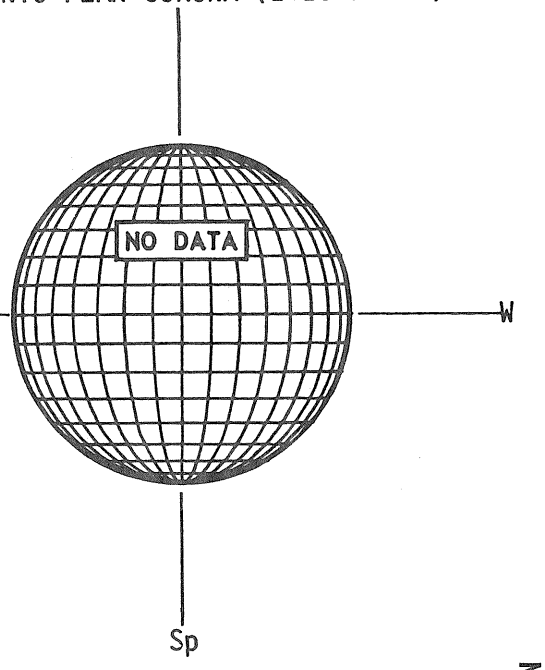
HOLLOMAN H-ALPHA



RAMEY SUNSPOTS



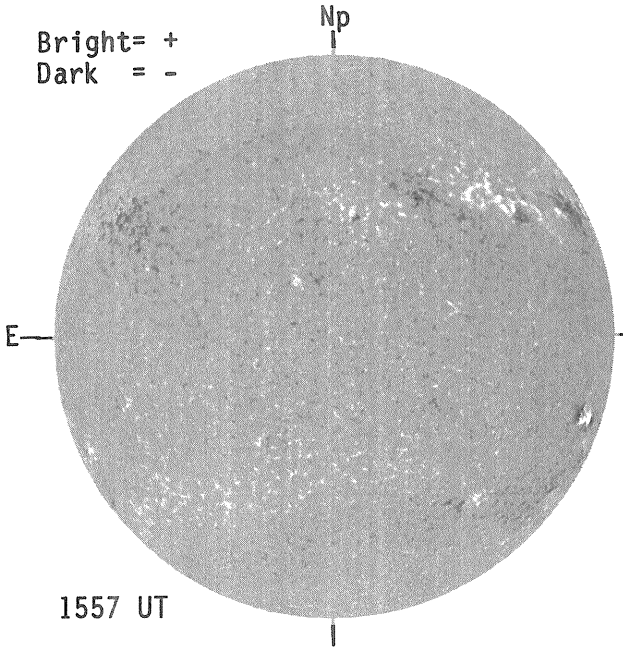
SACRAMENTO PEAK CORONA (1.15 Radii)



MAY 18, 1988 (P=-20.06, B_o=-2.27, L_o= 238.70)

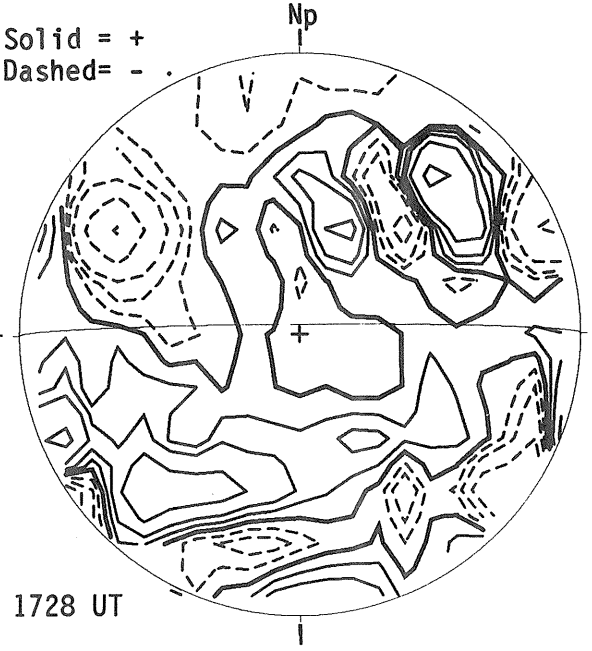
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



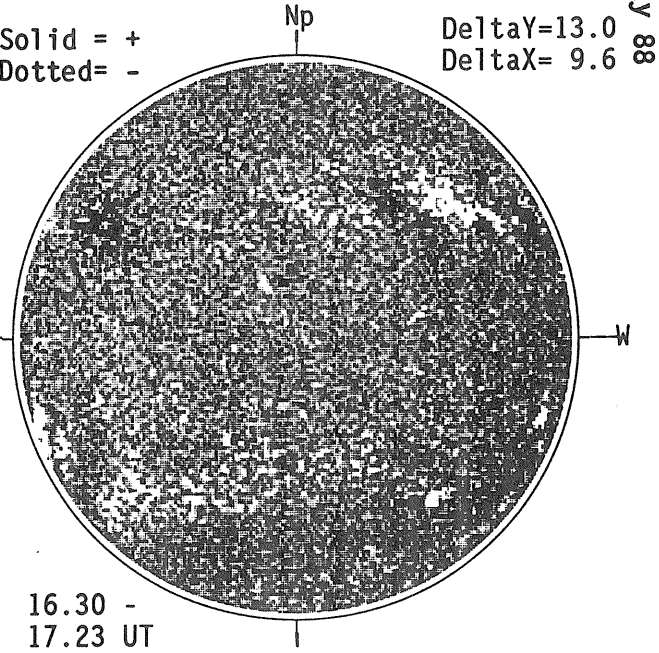
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

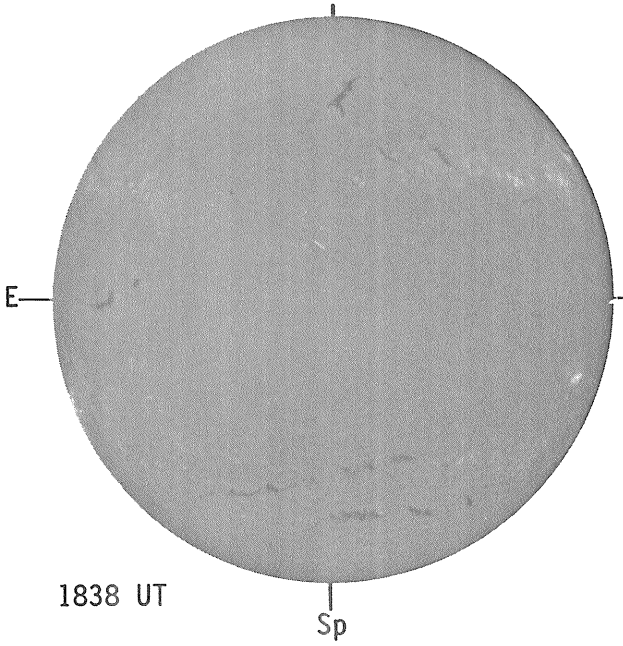


MT. WILSON MAGNETOGRAM

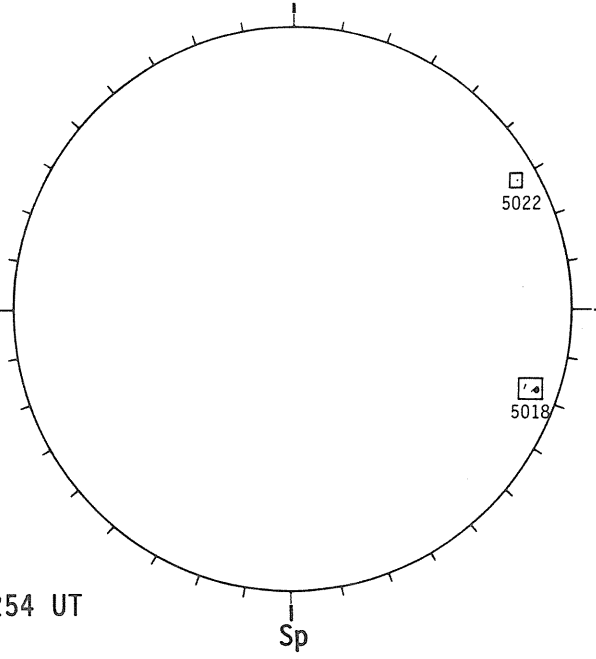
Solid = +
Dotted= -
DeltaY=13.0
DeltaX= 9.6



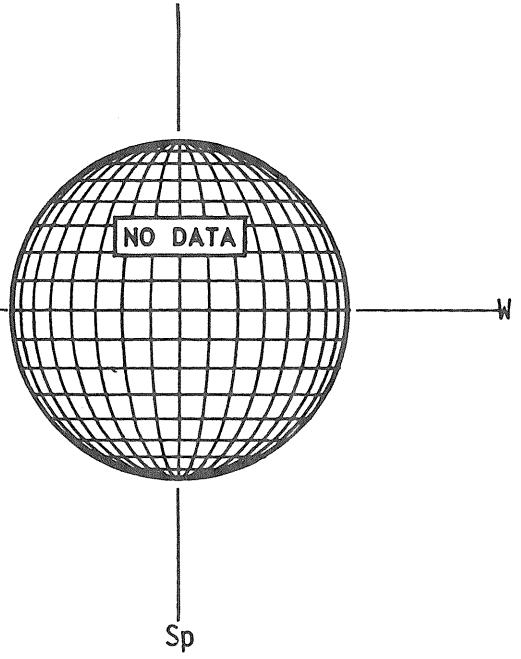
HOLLOMAN H-ALPHA



RAMEY SUNSPOTS

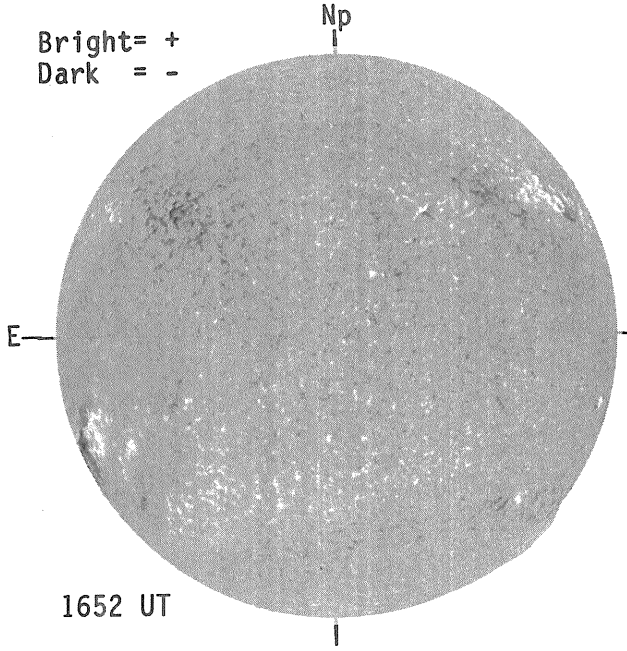


SACRAMENTO PEAK CORONA (1.15 Radii)

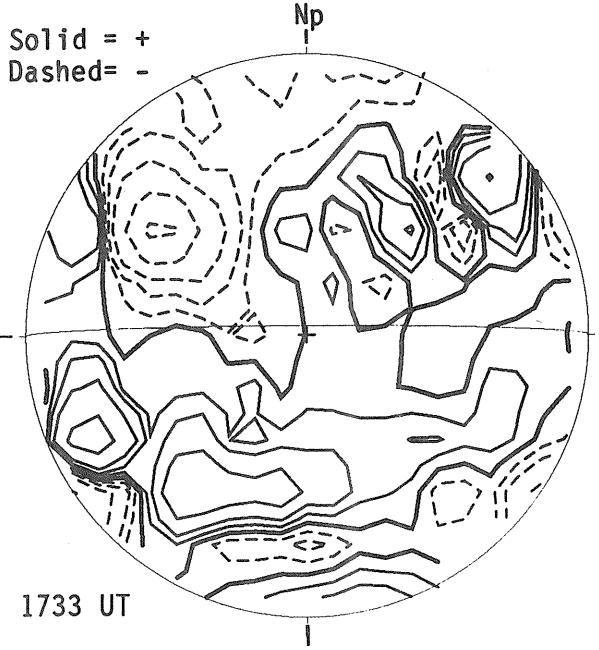


MAY 19, 1988 (P=-19.76, B_o=-2.16, L_o= 225.47)

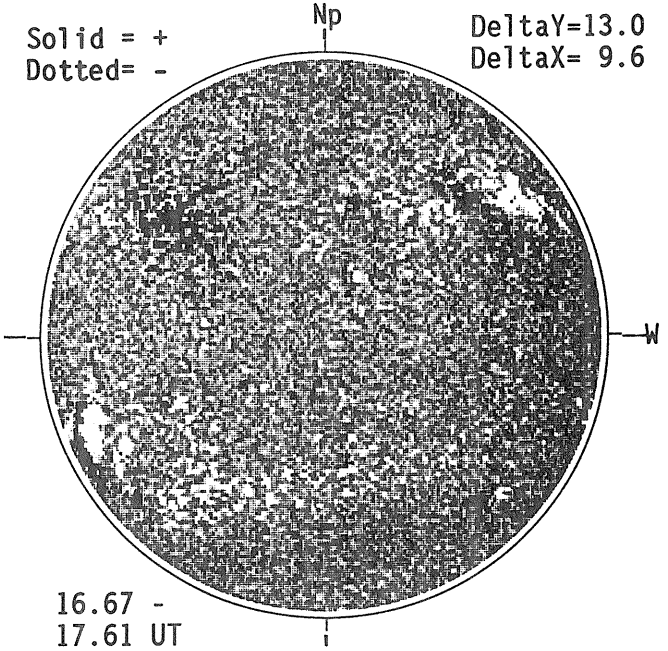
KITT PEAK MAGNETOGRAM



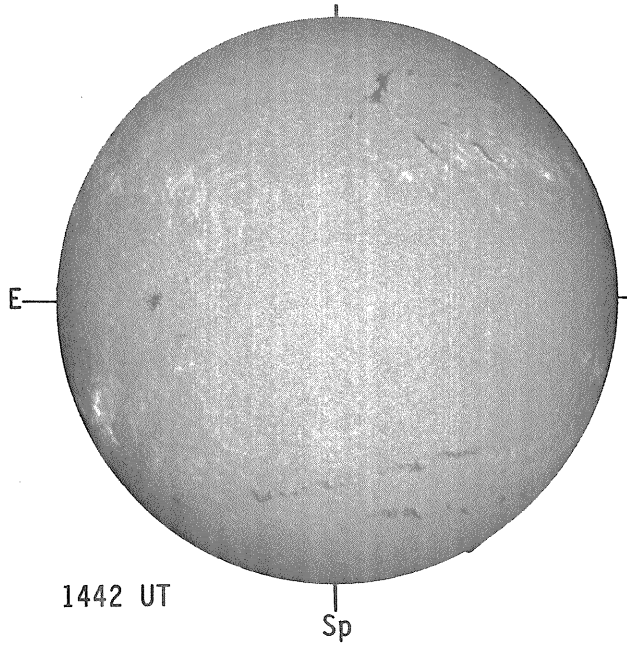
STANFORD MAGNETOGRAM



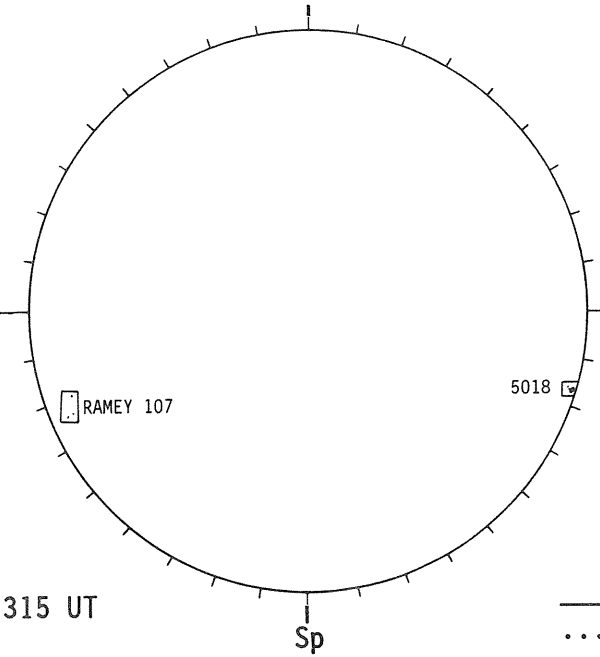
MT. WILSON MAGNETOGRAM



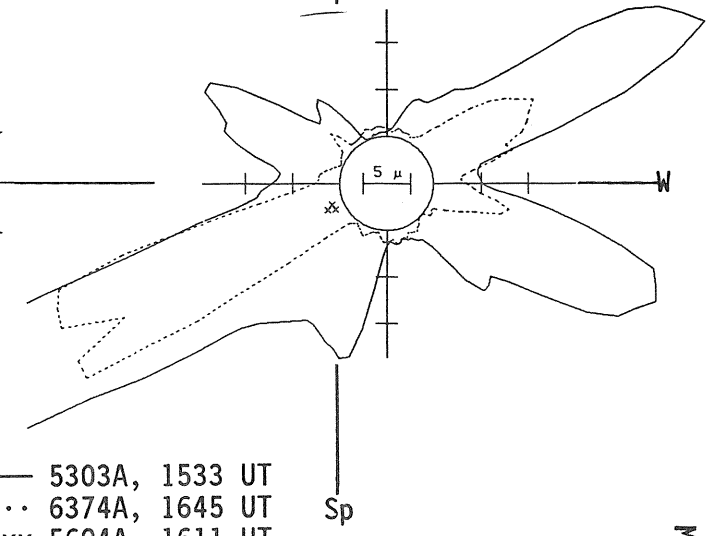
SACRAMENTO PEAK H-ALPHA



RAMEY SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



—— 5303A, 1533 UT
···· 6374A, 1645 UT
xxxx 5694A, 1611 UT
NO 5694A ACTIVITY TODAY

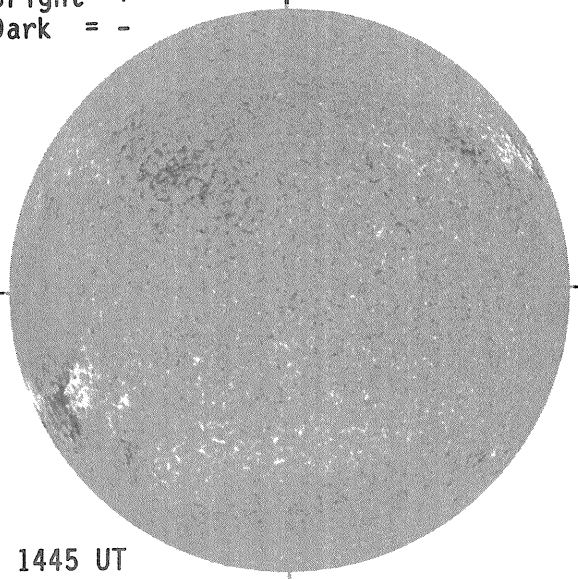
MAY 20, 1988 (P=-19.46 B_o=-2.04, L_o= 212.24)

75
May 88

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



E

1445 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -

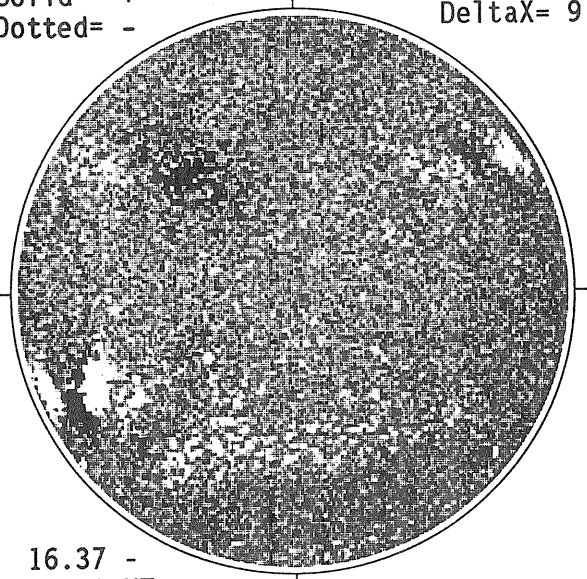
1832 UT

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

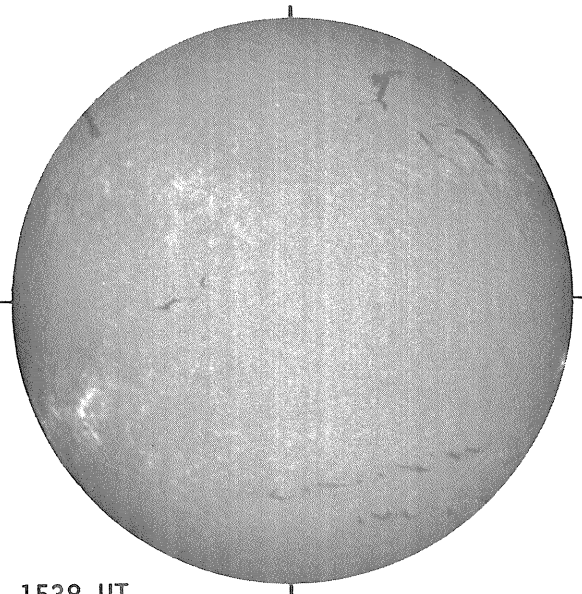
DeltaY=13.0
DeltaX= 9.6



W

16.37 -
17.30 UT

SACRAMENTO PEAK H-ALPHA

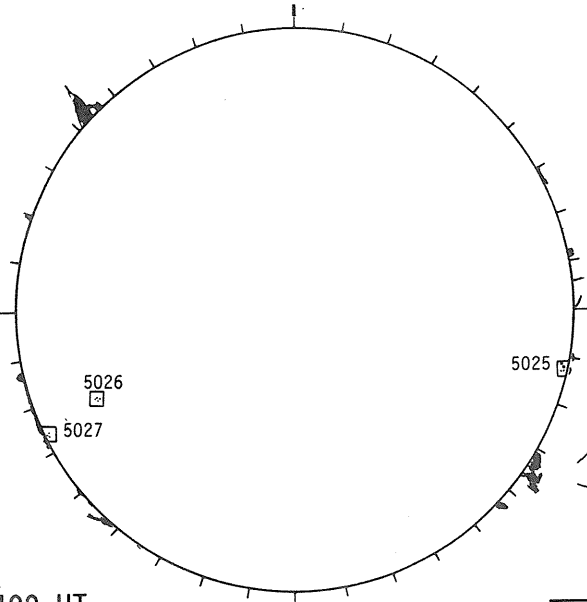


E

1538 UT

Sp

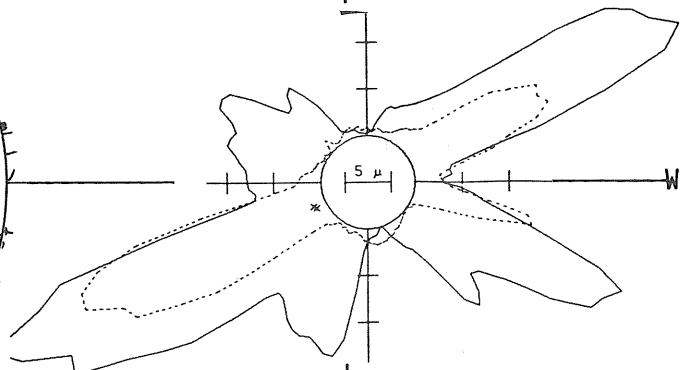
BOULDER SUNSPOTS



1400 UT
1405 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (1.15 Radii)



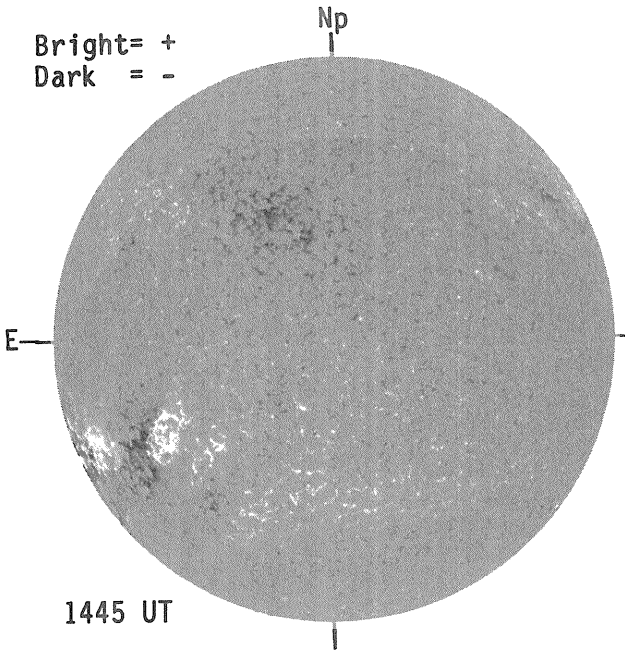
W

Sp

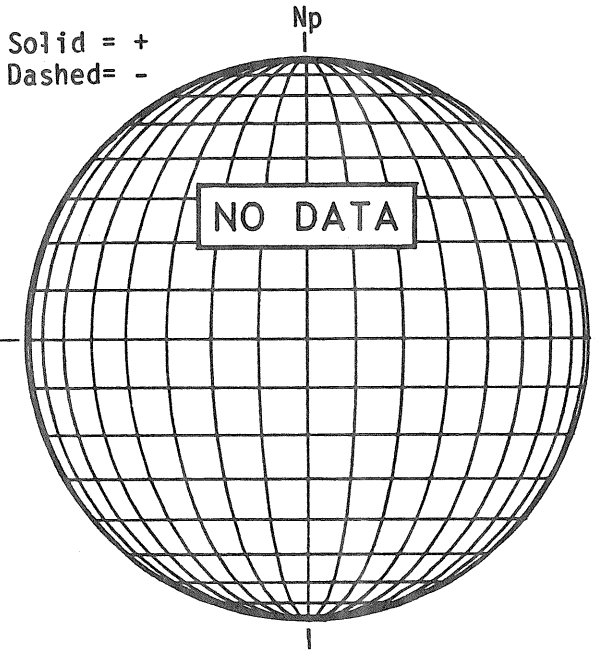
—— 5303A, 1410 UT
···· 6374A, 1448 UT
xxxx 5694A, 1438 UT
NO 5694A ACTIVITY TODAY

MAY 21, 1988 (P=-19.15, B_o=-1.92, L_o= 199.01)

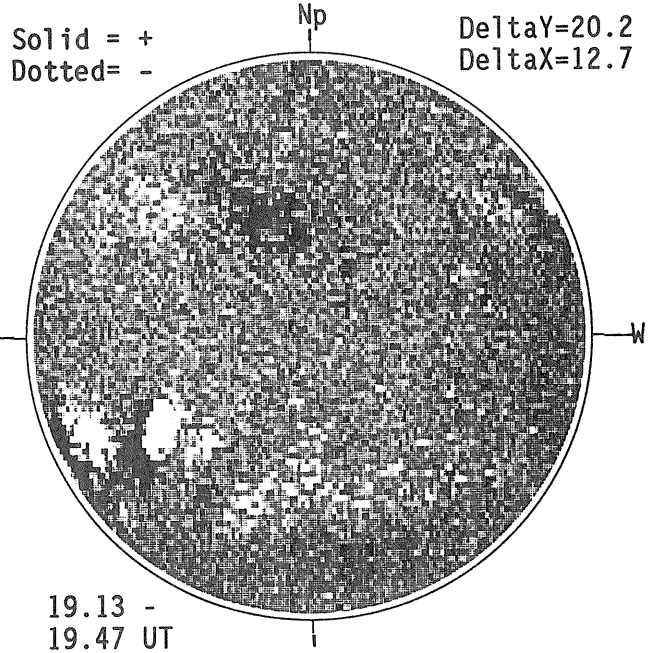
KITT PEAK MAGNETOGRAM



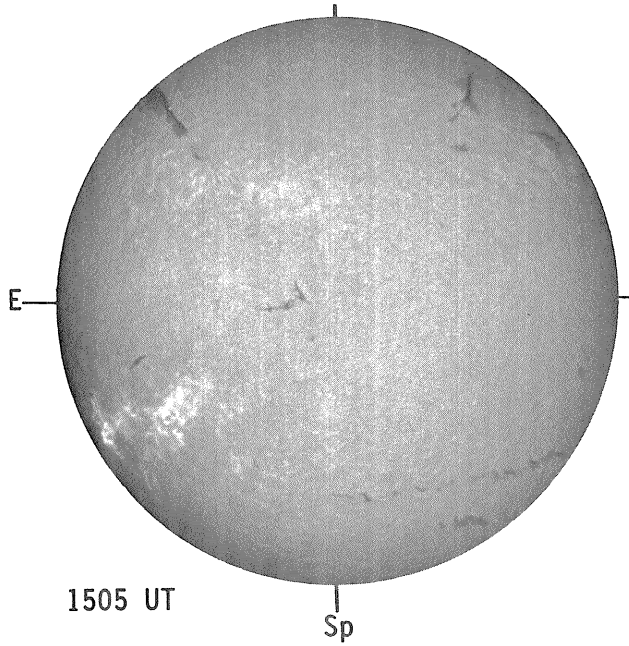
STANFORD MAGNETOGRAM



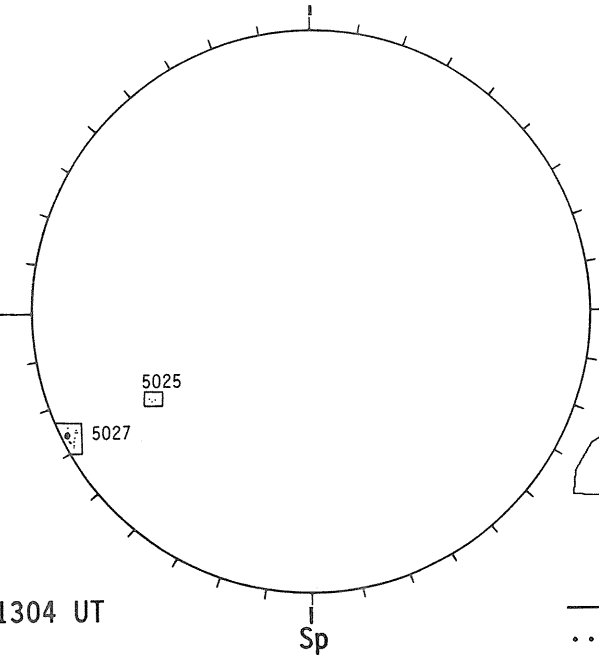
MT. WILSON MAGNETOGRAM



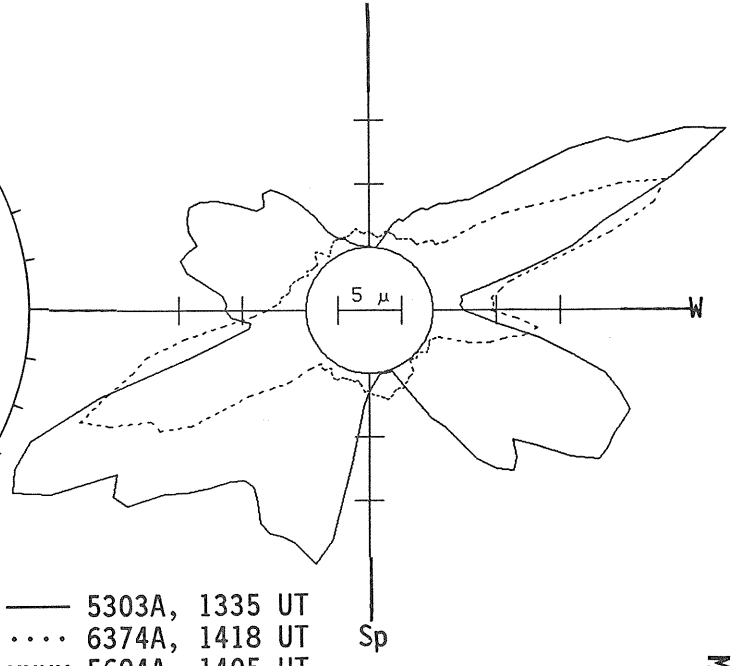
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



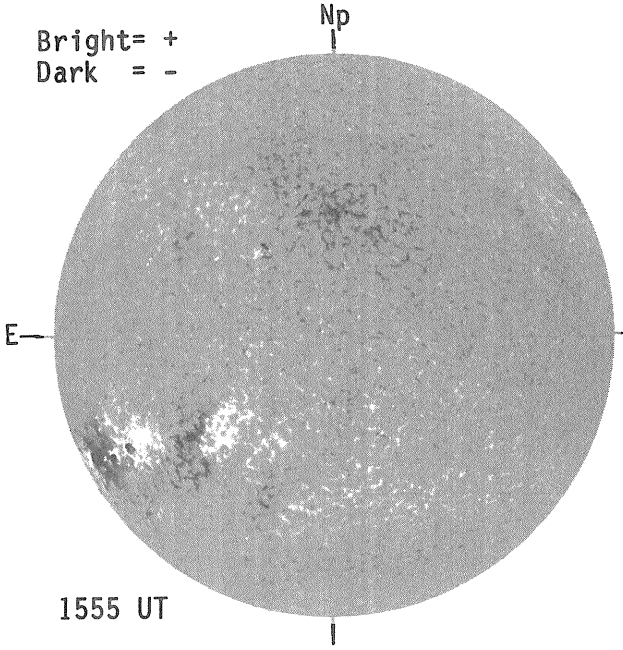
—— 5303A, 1335 UT
···· 6374A, 1418 UT
xxxx 5694A, 1405 UT
NO 5694A ACTIVITY TODAY

MAY 22, 1988 (P=-18.83, B_o=-1.81, L_o= 185.78)

77
May 88

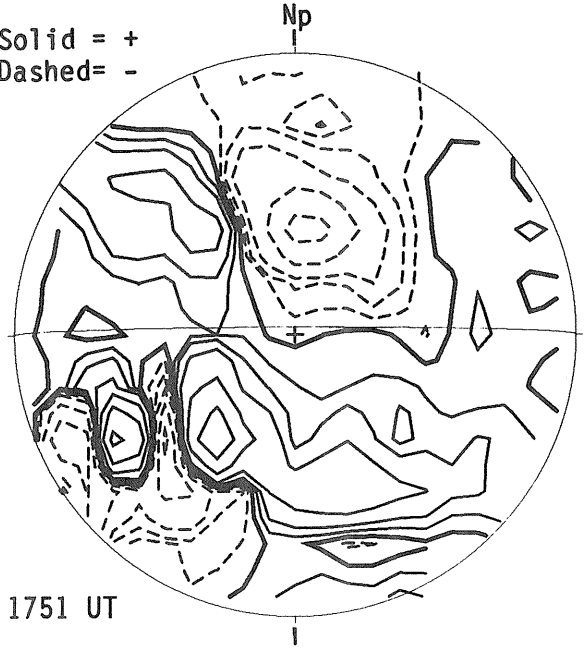
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



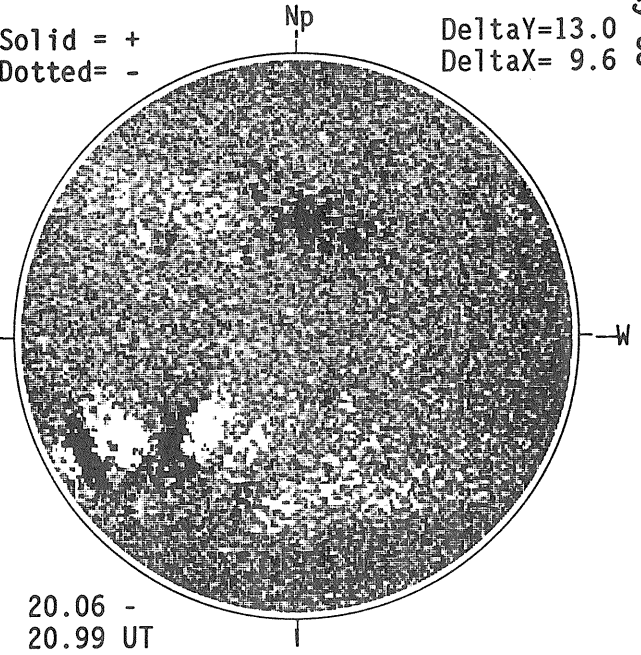
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

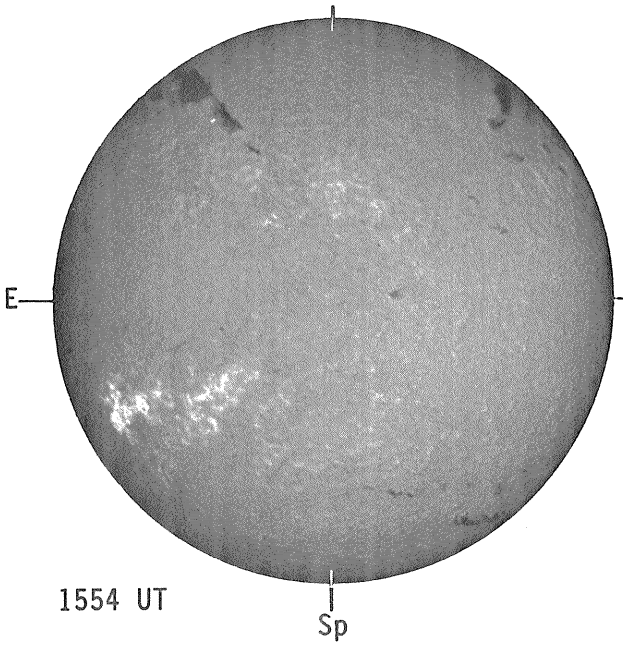


MT. WILSON MAGNETOGRAM

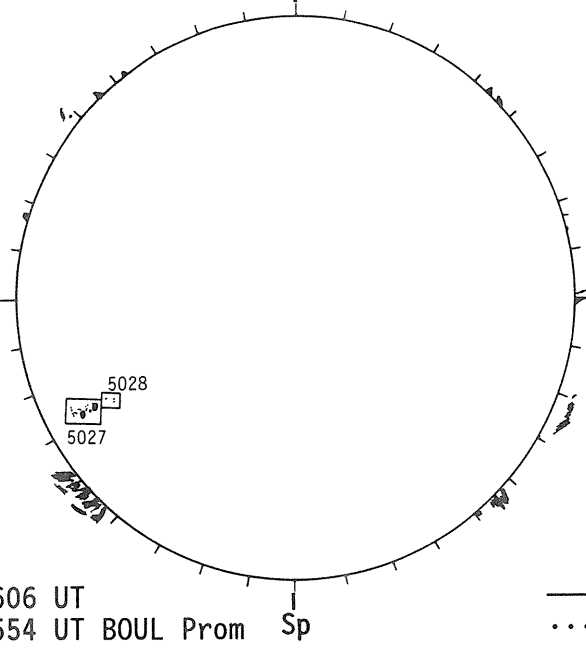
Solid = +
Dotted= -
DeltaY=13.0
DeltaX= 9.6



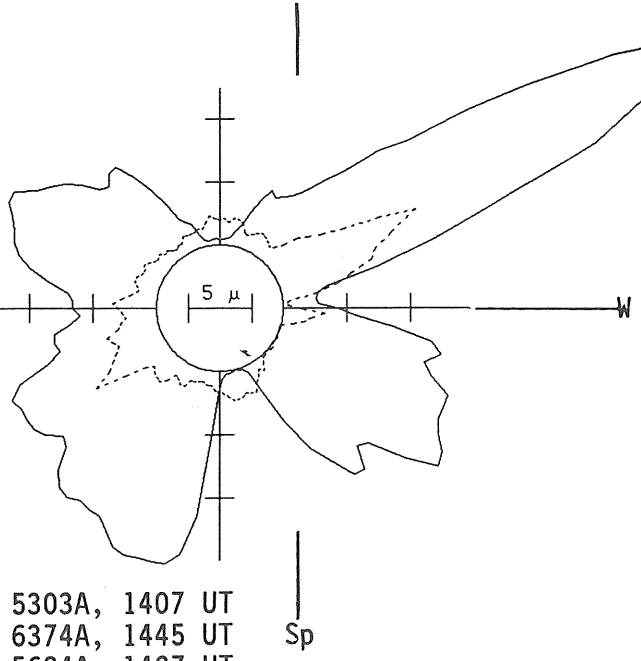
BOULDER H-ALPHA



BOULDER SUNSPOTS



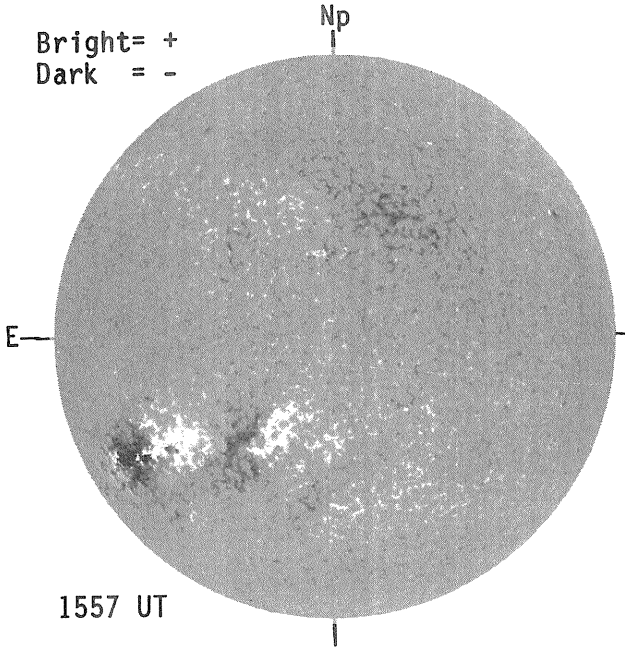
SACRAMENTO PEAK CORONA (1.15 Radii)



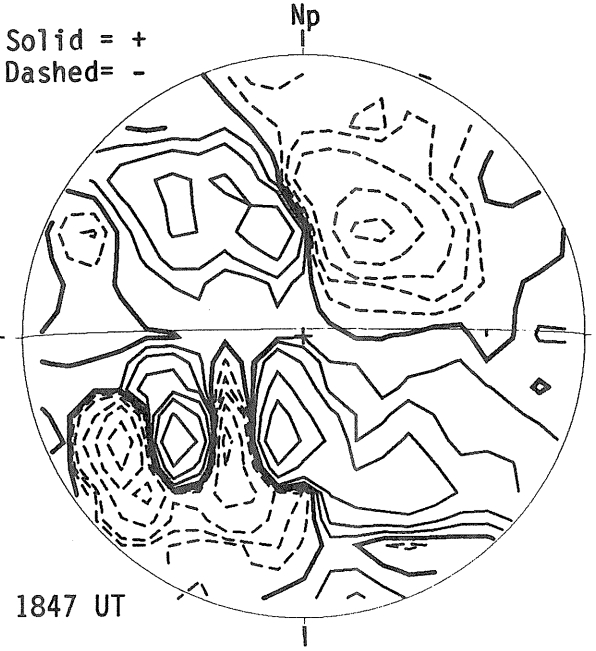
—— 5303A, 1407 UT
···· 6374A, 1445 UT
xxxx 5694A, 1427 UT
NO 5694A ACTIVITY TODAY

MAY 23, 1988 (P=-18.51, B_o=-1.69, L_o= 172.55)

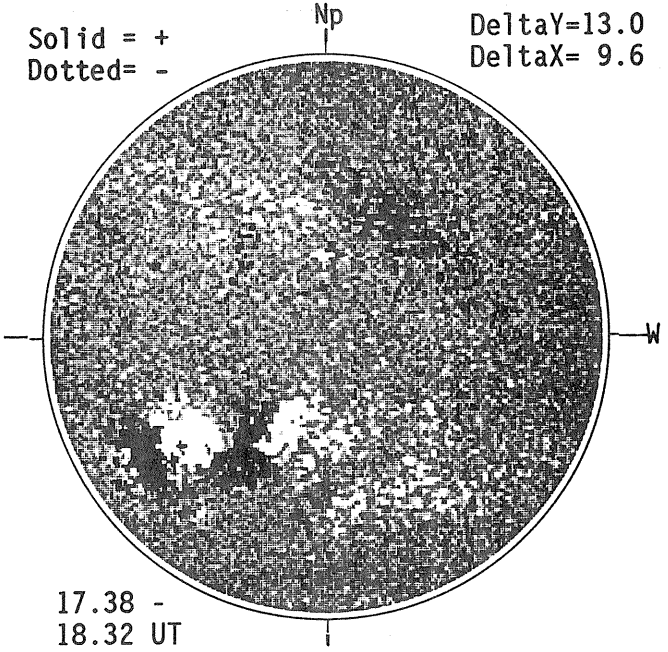
KITT PEAK MAGNETOGRAM



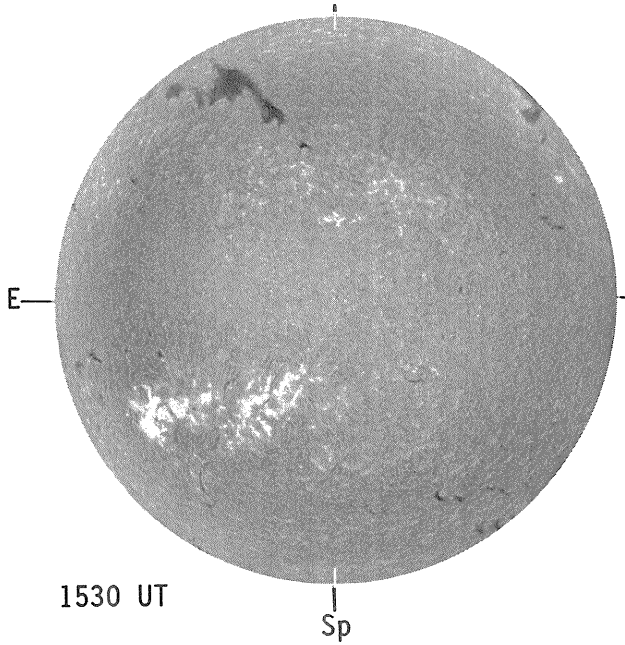
STANFORD MAGNETOGRAM



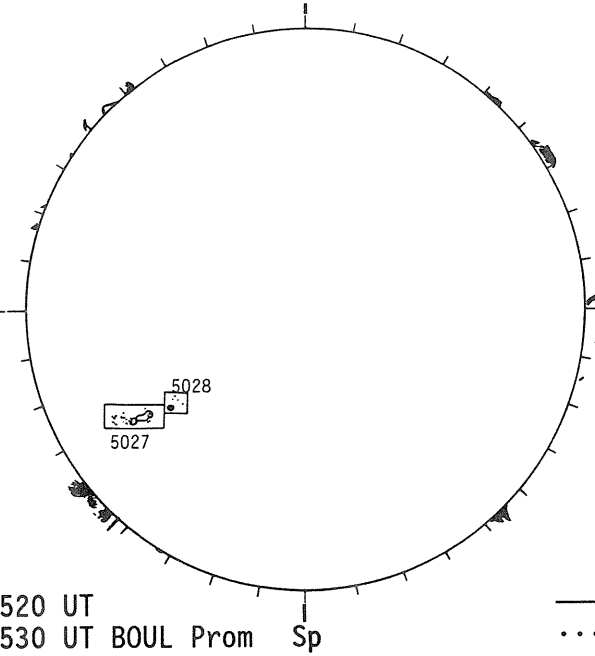
MT. WILSON MAGNETOGRAM



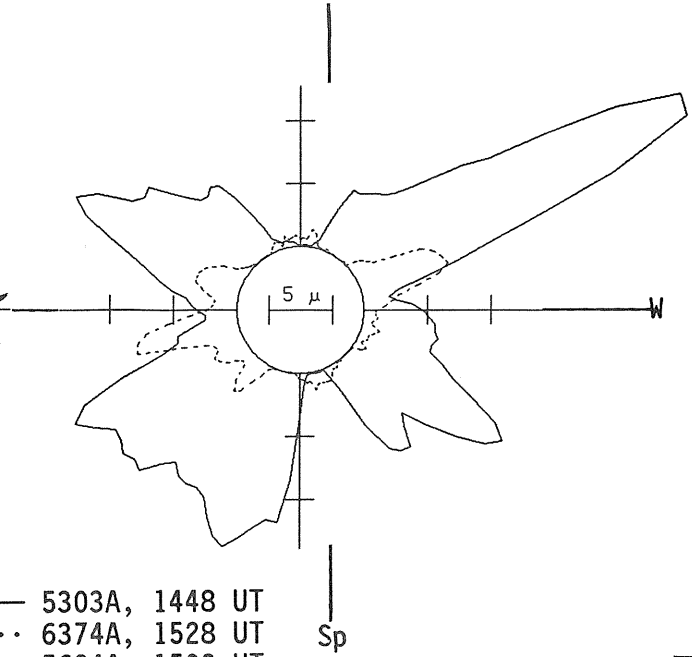
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

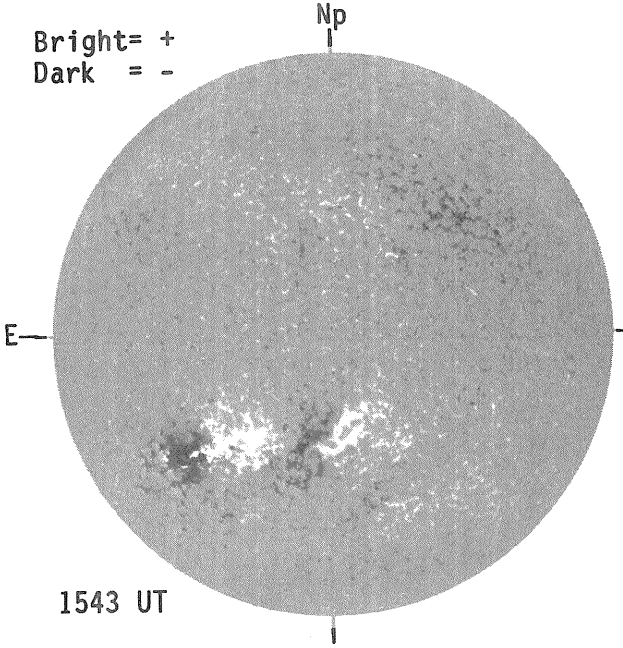


—— 5303A, 1448 UT
···· 6374A, 1528 UT
xxxx 5694A, 1509 UT
NO 5694A ACTIVITY TODAY

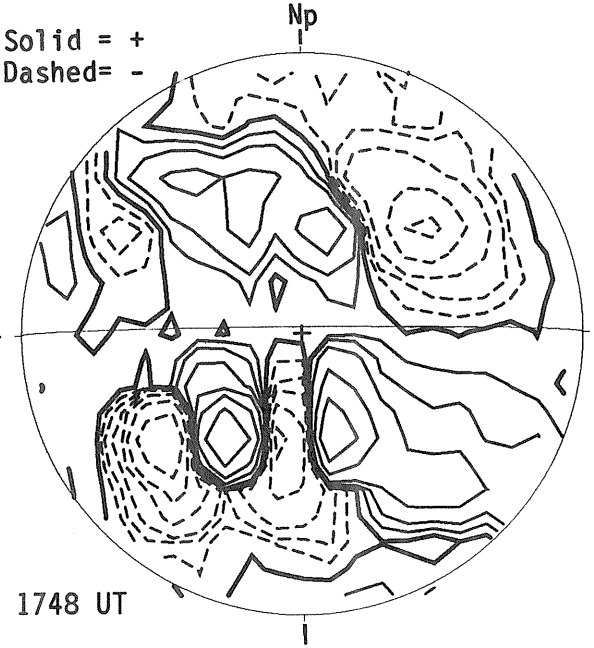
MAY 24, 1988 (P=-18.18, B_o=-1.57, L_o= 159.32)

79
May 88

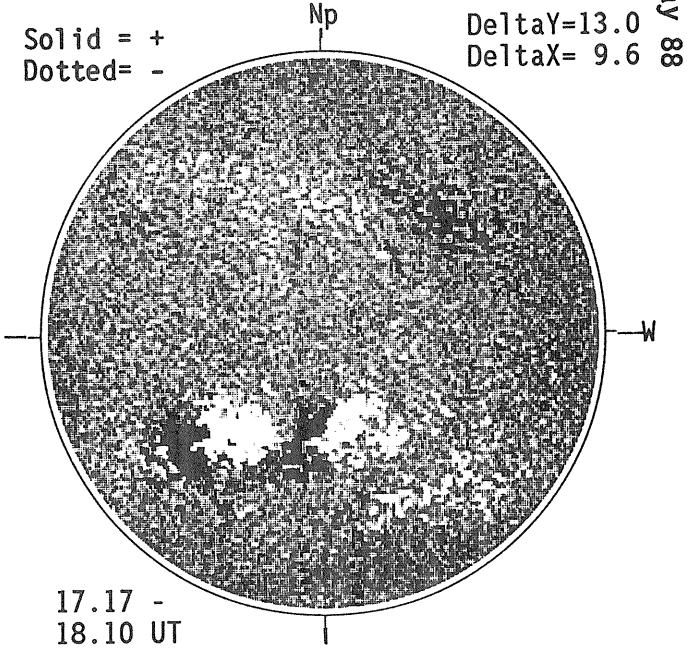
KITT PEAK MAGNETOGRAM



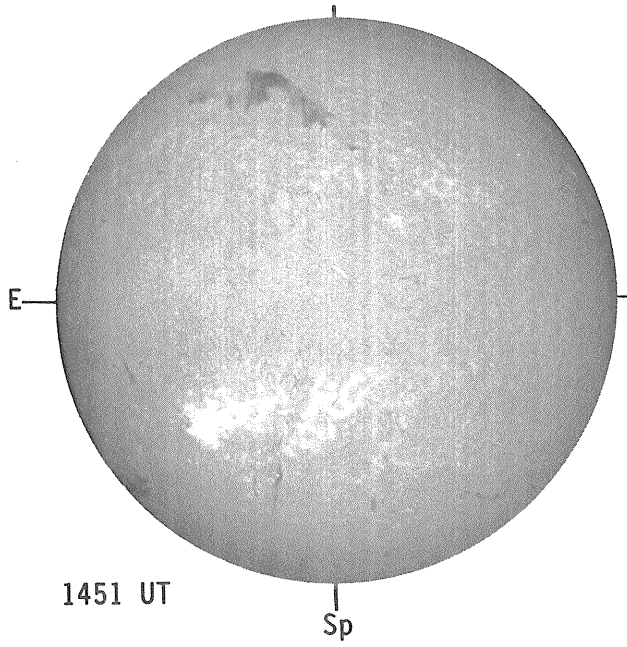
STANFORD MAGNETOGRAM



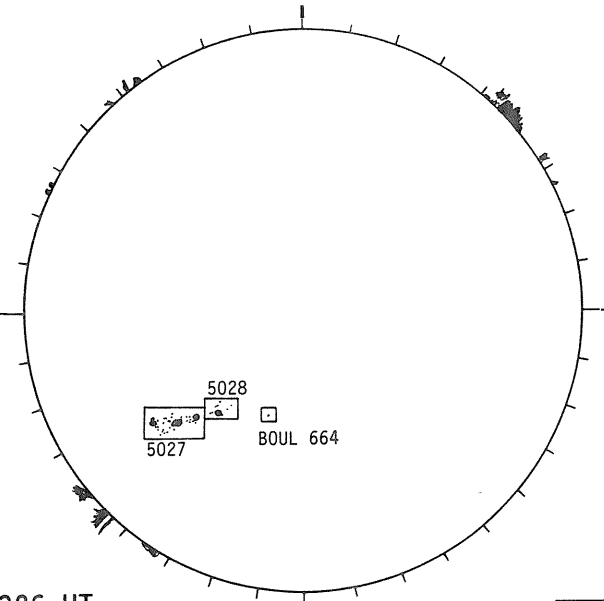
MT. WILSON MAGNETOGRAM



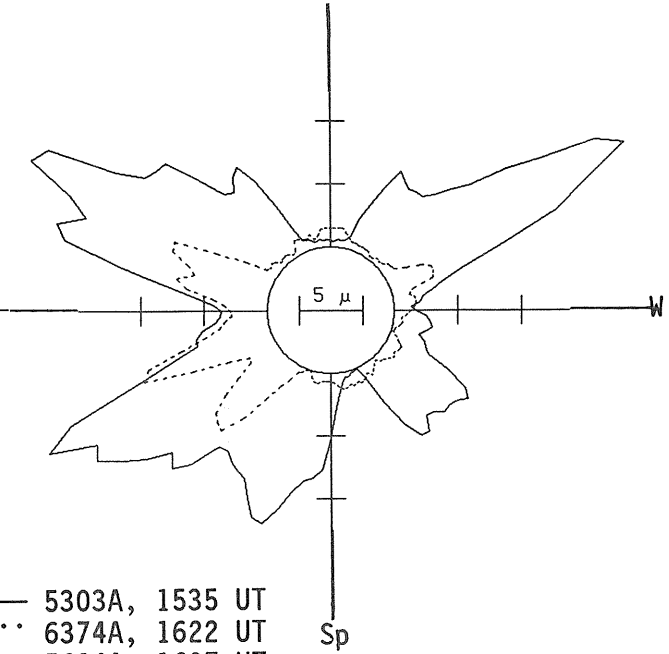
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS

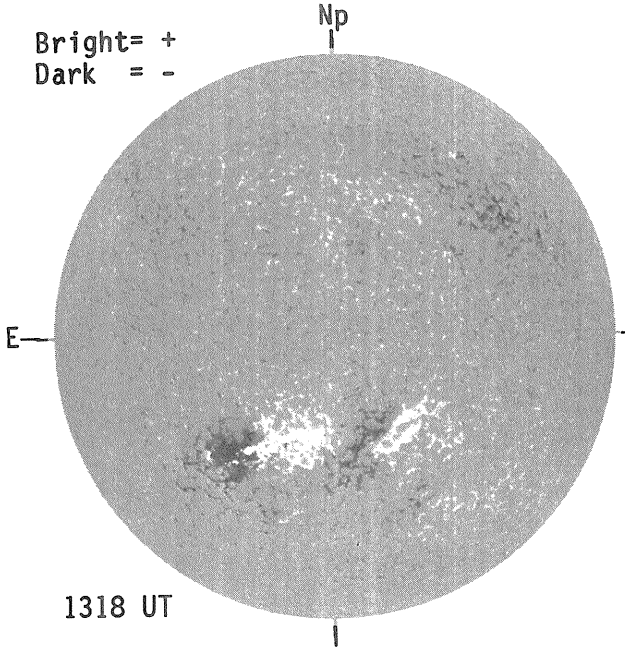


SACRAMENTO PEAK CORONA (1.15 Radii)

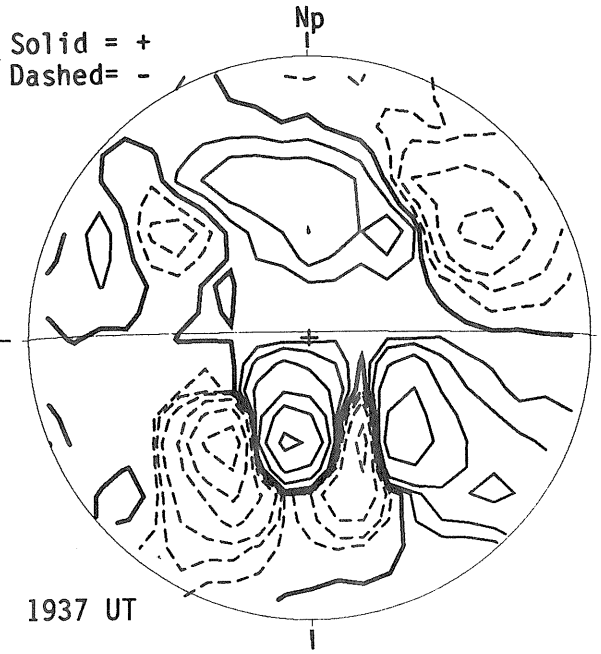


MAY 25, 1988 (P=-17.85, B_o=-1.45, L_o= 146.09)

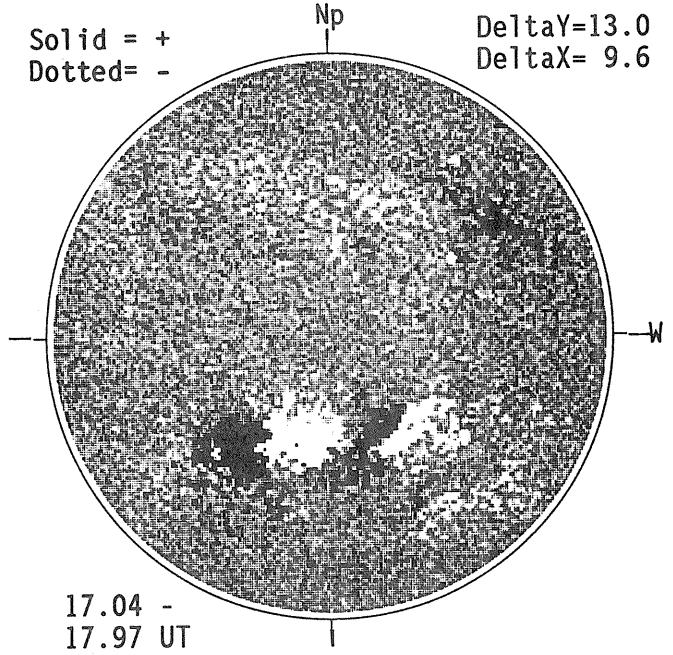
KITT PEAK MAGNETOGRAM



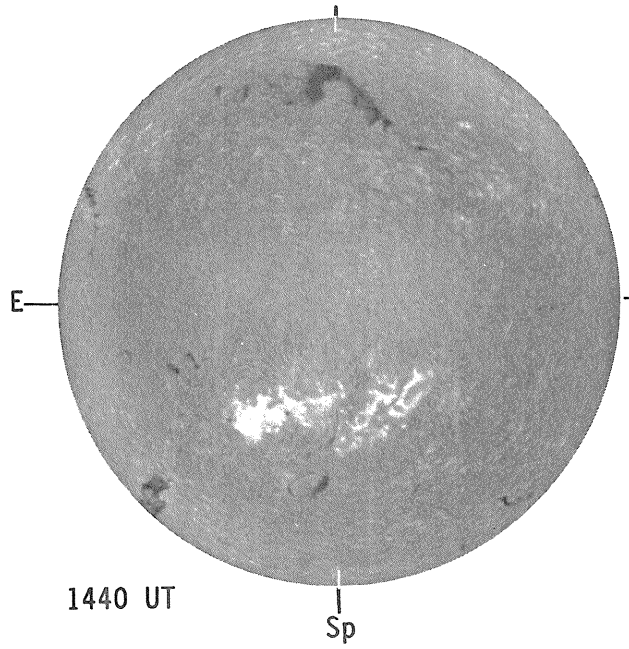
STANFORD MAGNETOGRAM



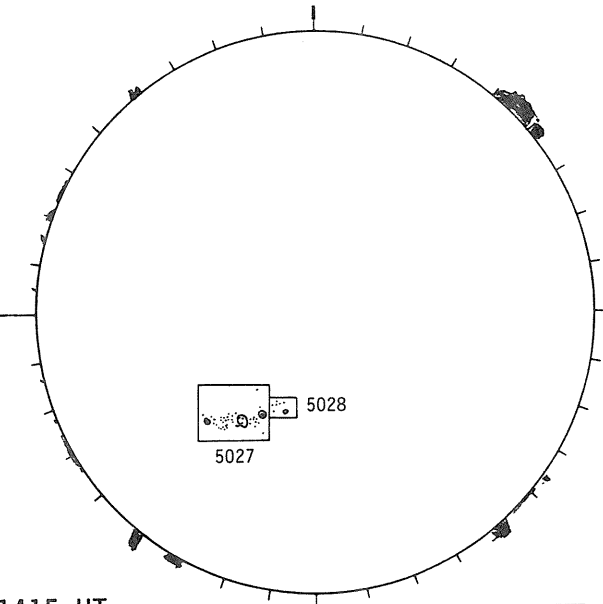
MT. WILSON MAGNETOGRAM



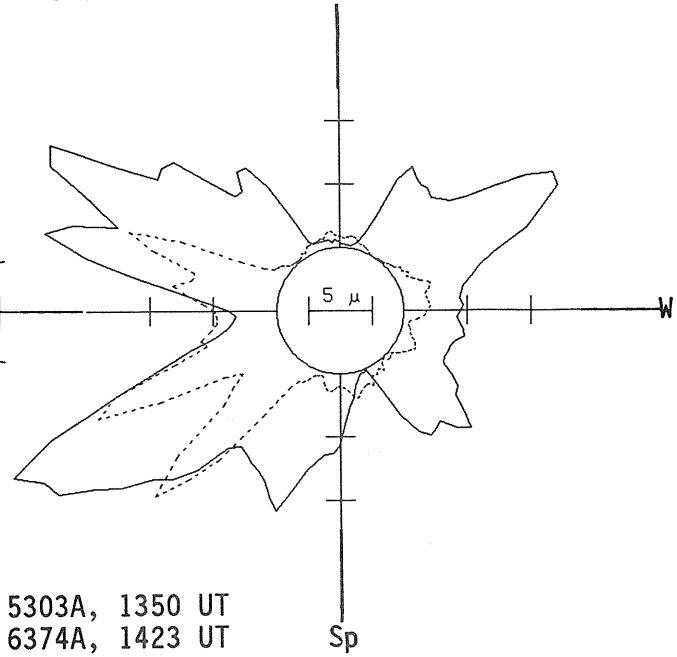
BOULDER H-ALPHA



BOULDER SUNSPOTS



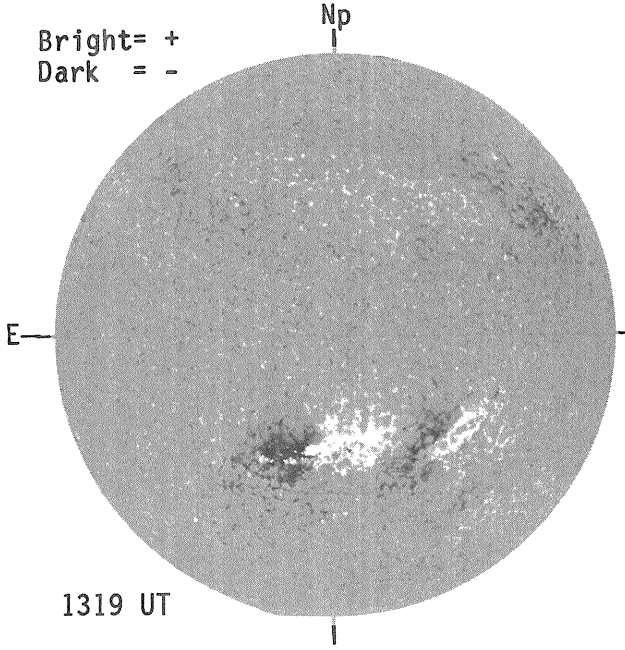
SACRAMENTO PEAK CORONA (1.15 Radii)



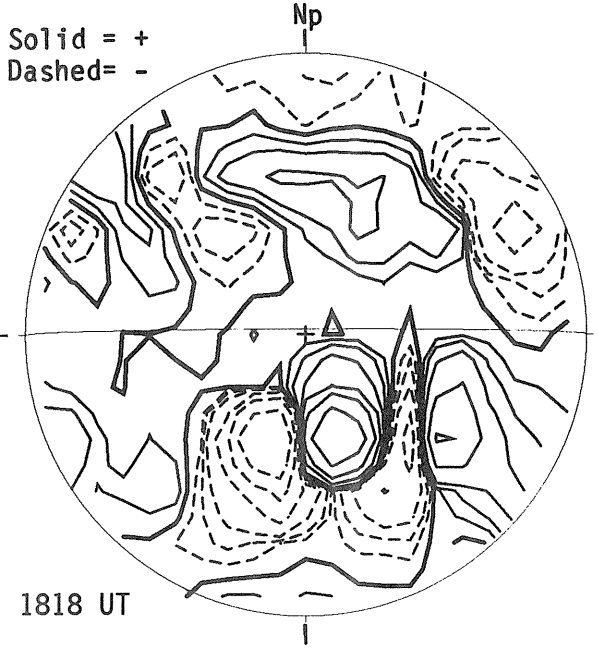
—— 5303A, 1350 UT
···· 6374A, 1423 UT
xxxx 5694A, 1410 UT
NO 5694A ACTIVITY TODAY

MAY 26, 1988 (P=-17.51, B_0=-1.34, L_0= 132.86)

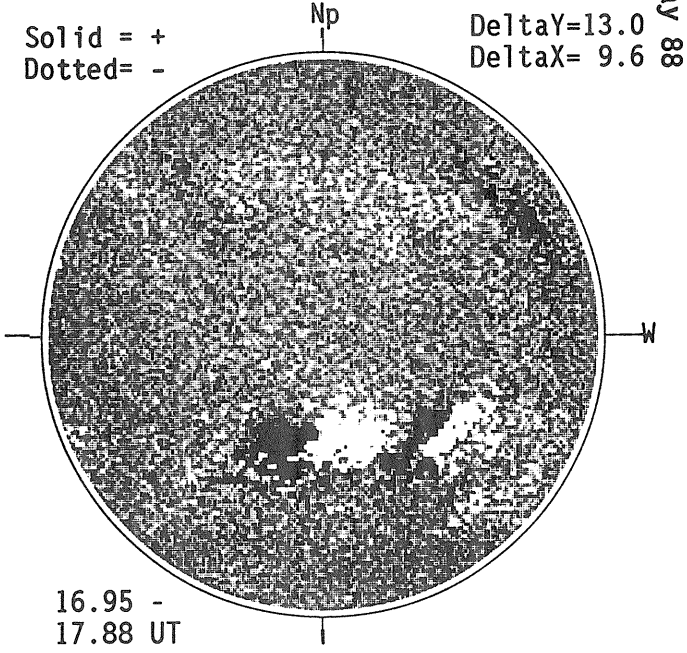
KITT PEAK MAGNETOGRAM



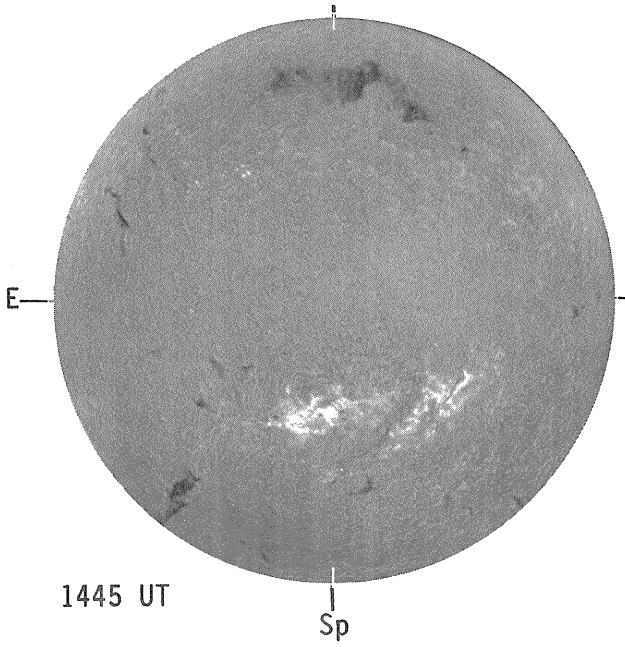
STANFORD MAGNETOGRAM



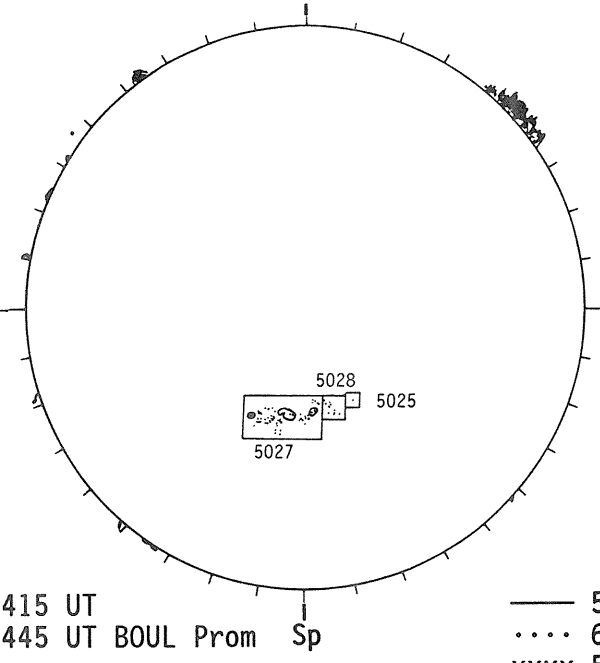
MT. WILSON MAGNETOGRAM



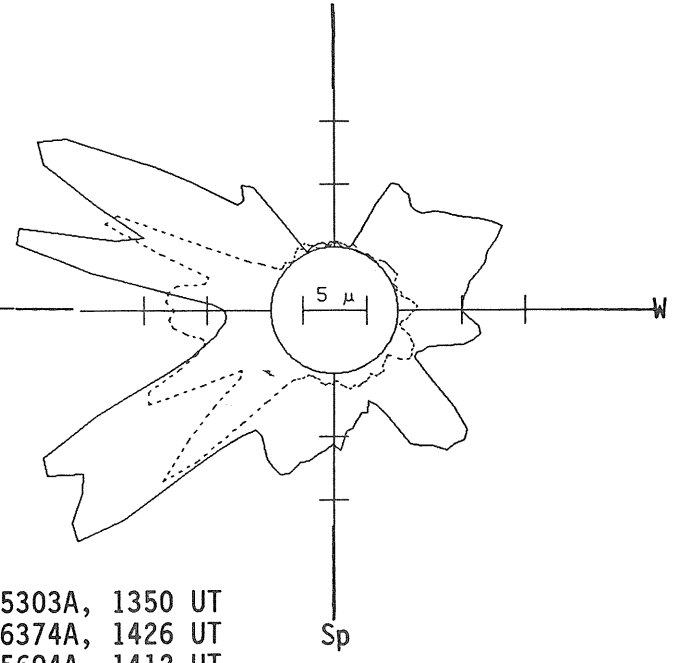
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



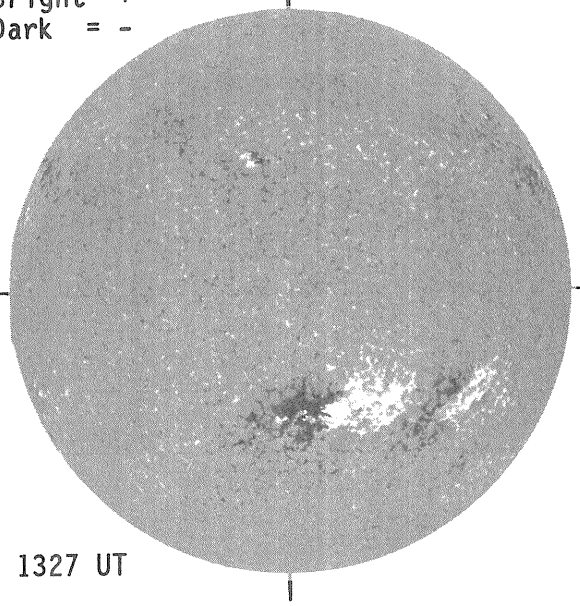
—— 5303A, 1350 UT
···· 6374A, 1426 UT
xxxx 5694A, 1412 UT
NO 5694A ACTIVITY TODAY

MAY 27, 1988 (P=-17.16, B_0=-1.22, L_0= 119.63)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



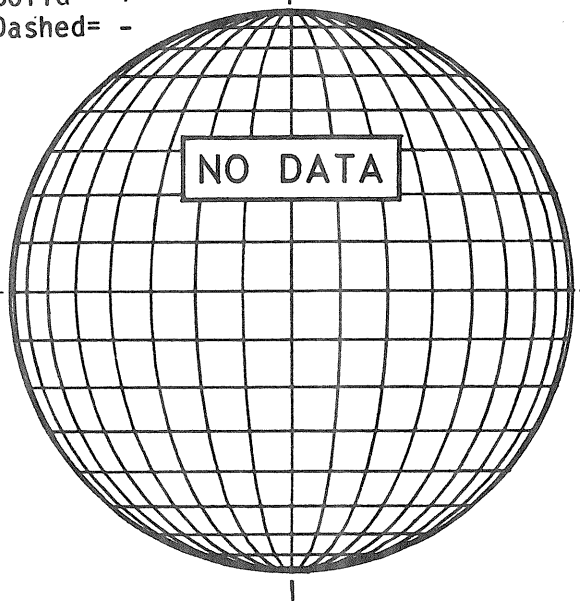
E

1327 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -

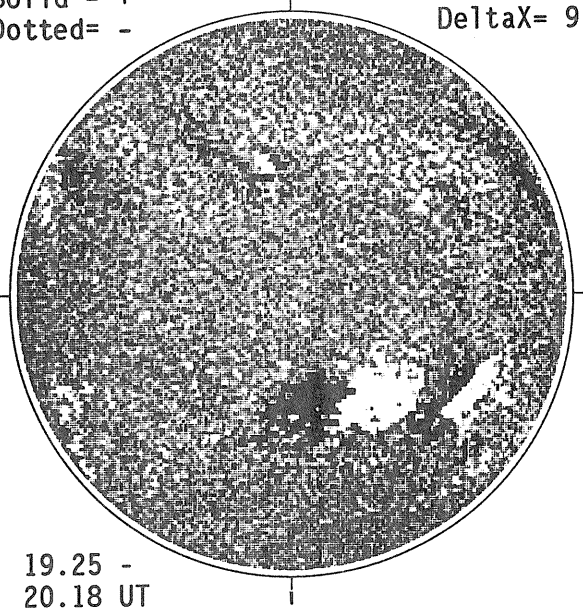


MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

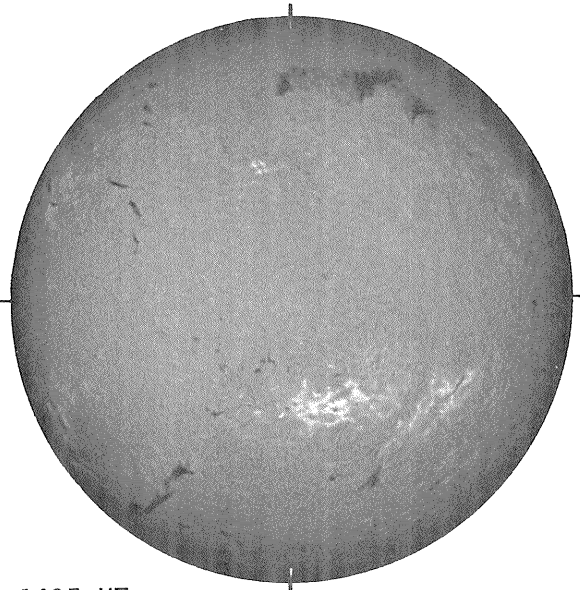
DeltaY=13.0
DeltaX= 9.6



W

19.25 -
20.18 UT

BOULDER H-ALPHA

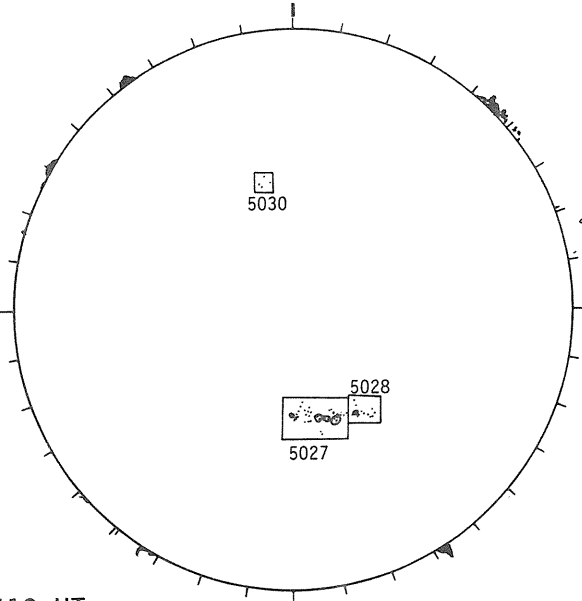


E

1435 UT

Sp

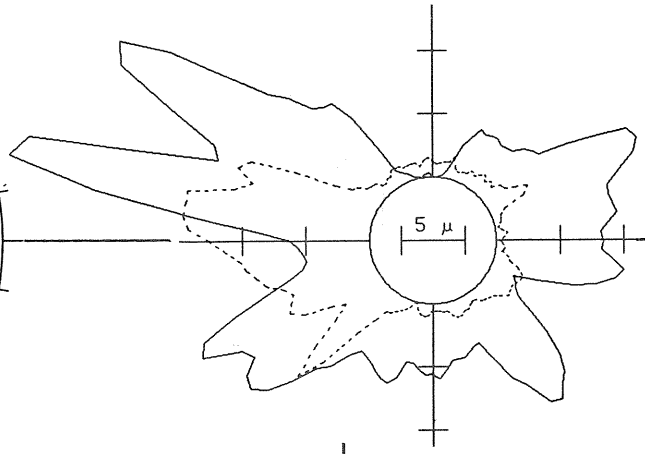
BOULDER SUNSPOTS



1418 UT
1435 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (1.15 Radii)



W

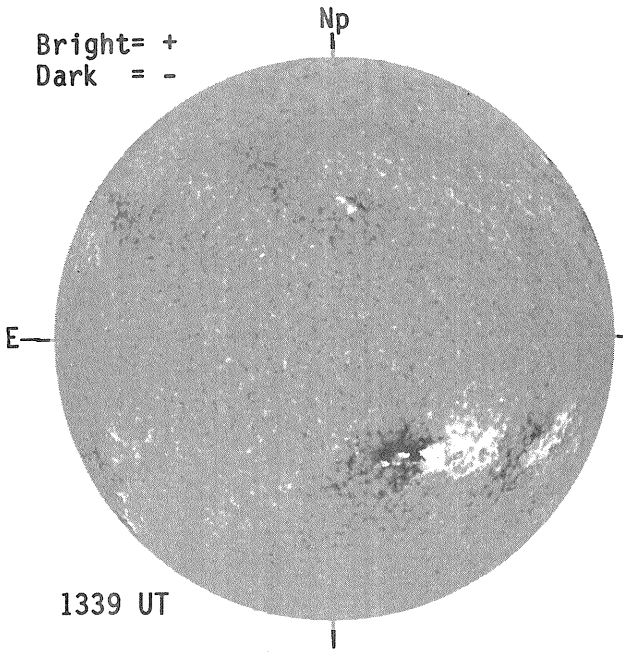
Sp

—— 5303A, 1741 UT
···· 6374A, 1830 UT
xxxx 5694A, 1859 UT
NO 5694A ACTIVITY TODAY

MAY 28, 1988 (P=-16.81, B_o=-1.10, L_o= 106.40)

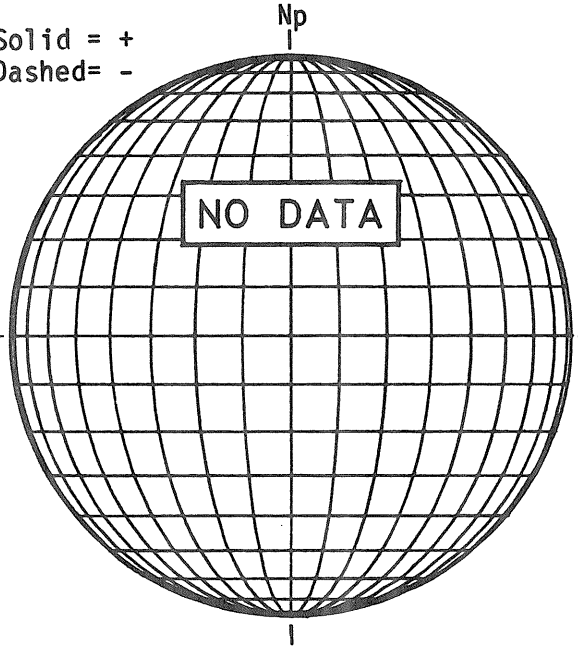
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

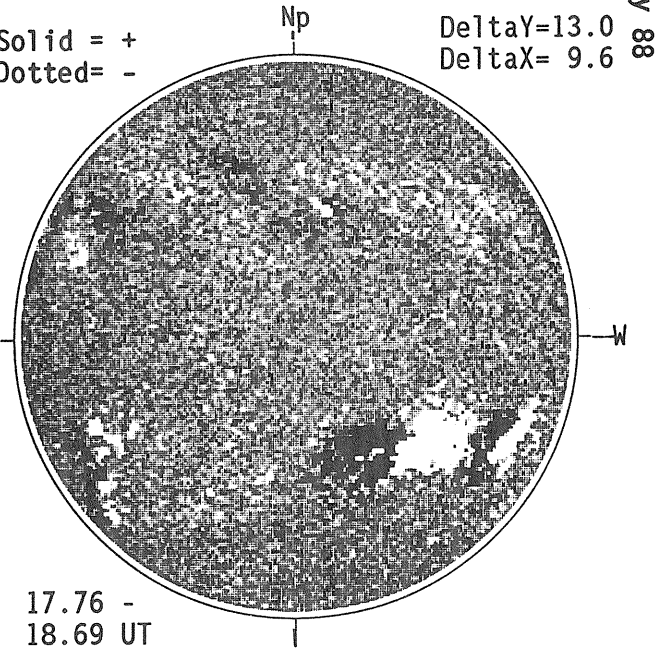
Solid = +
Dashed= -



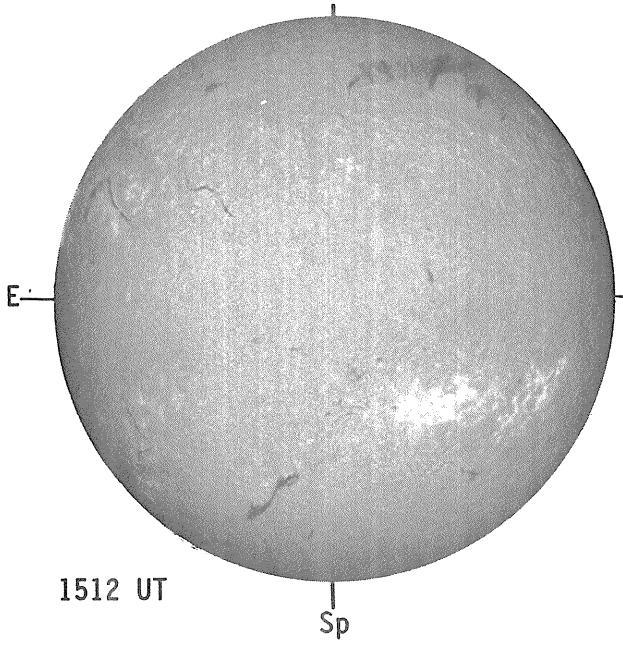
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

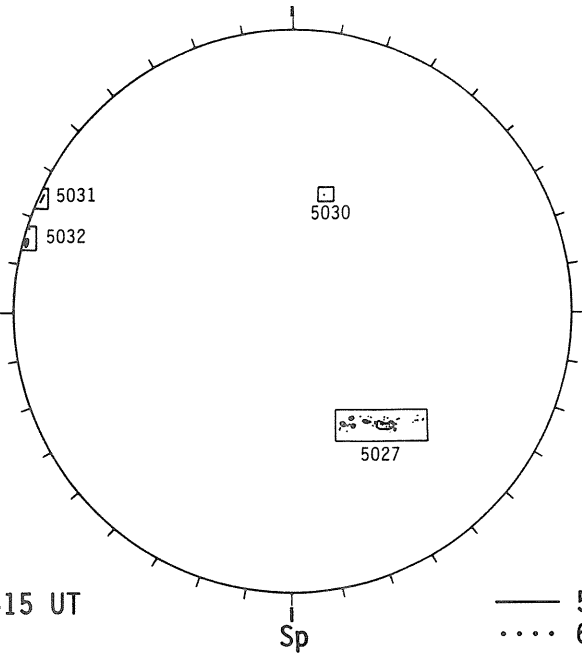
DeltaY=13.0
DeltaX= 9.6



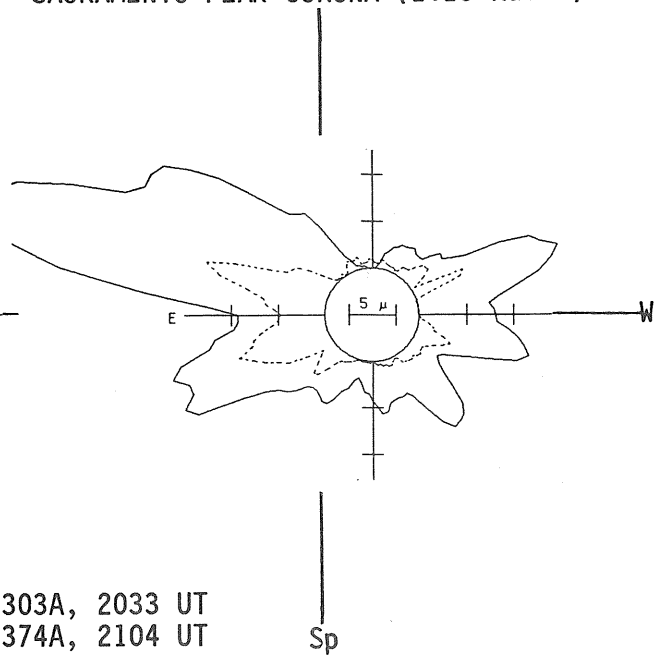
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

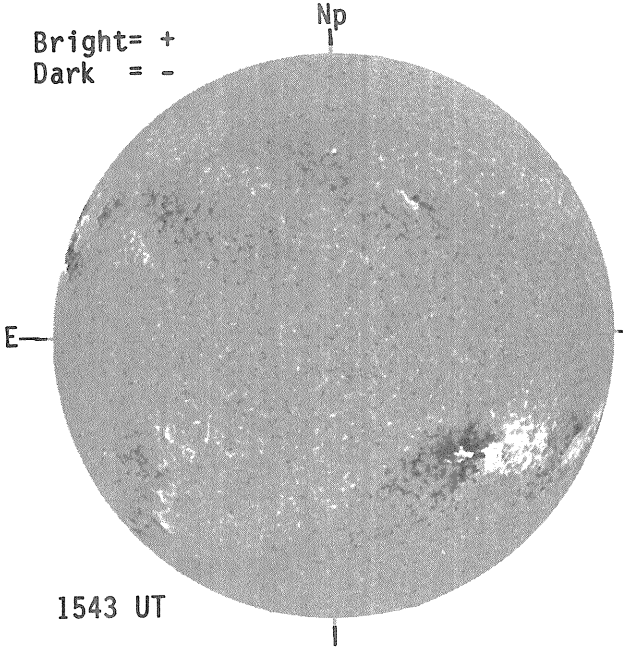


—— 5303A, 2033 UT
···· 6374A, 2104 UT

MAY 29, 1988 (P=-16.45, B_o=-0.98, L_o= 93.16)

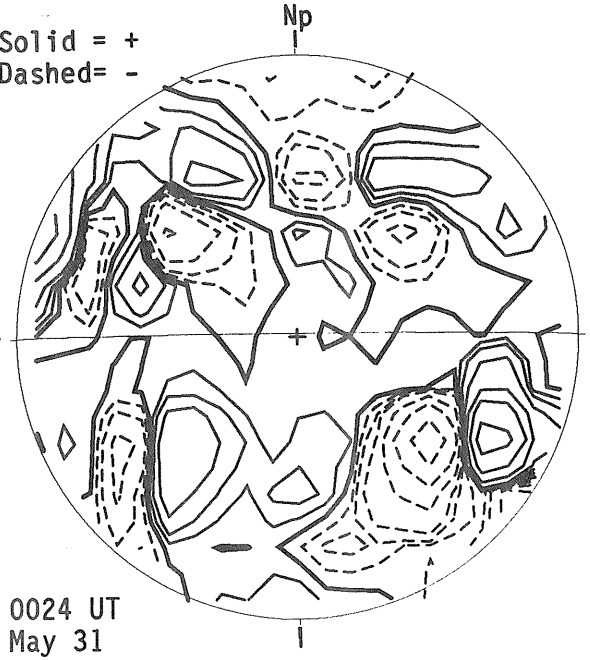
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

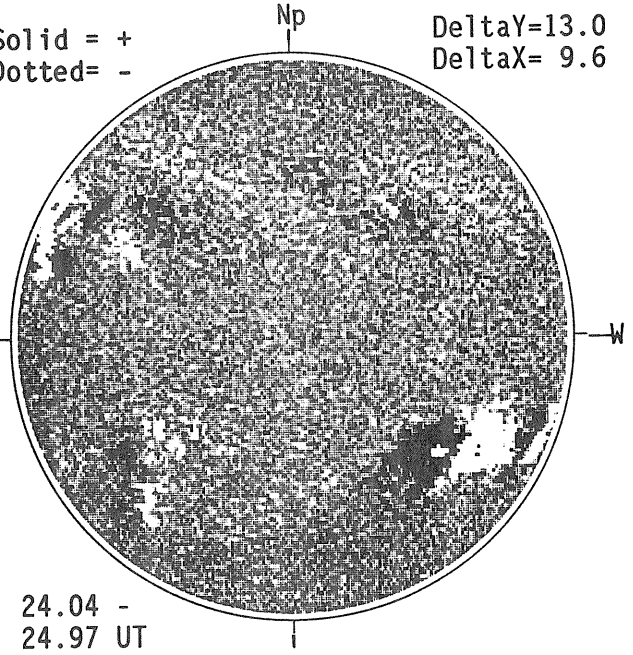
Solid = +
Dashed= -



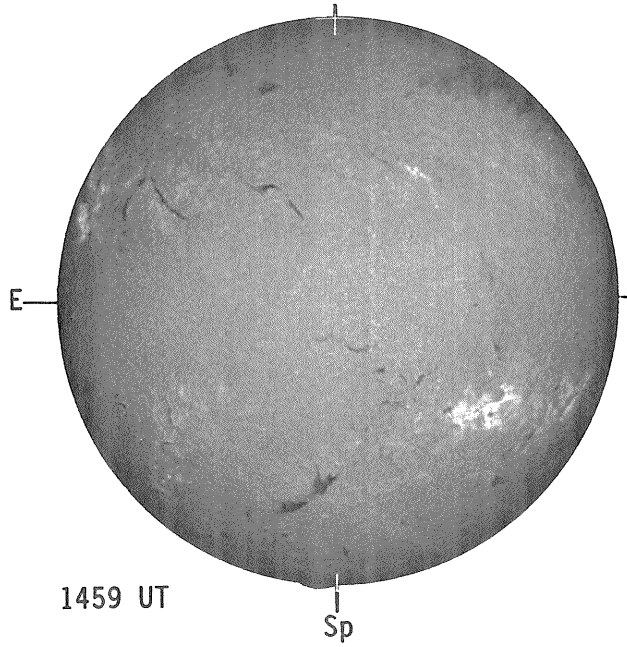
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

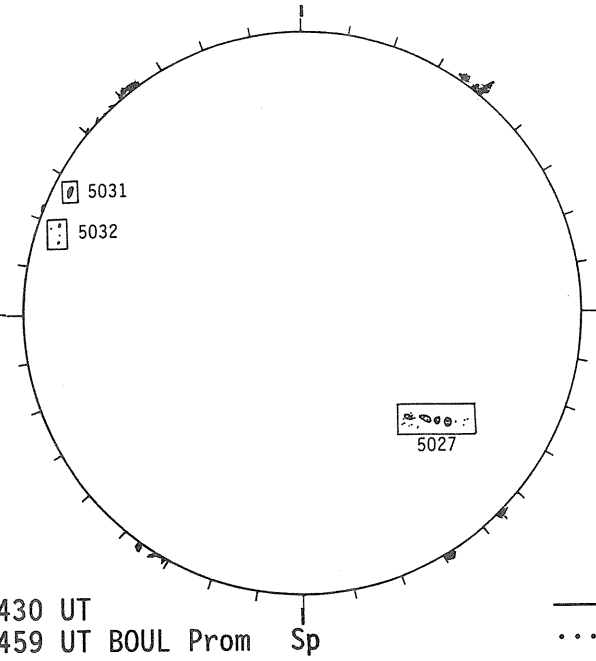
DeltaY=13.0
DeltaX= 9.6



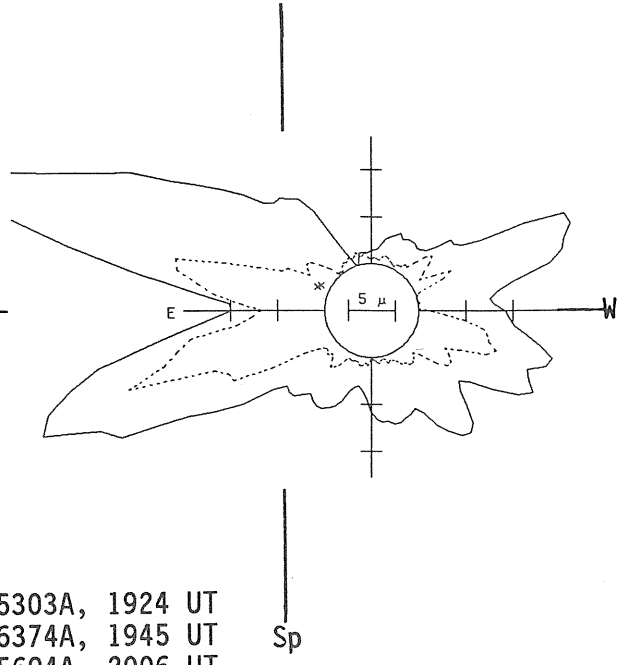
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

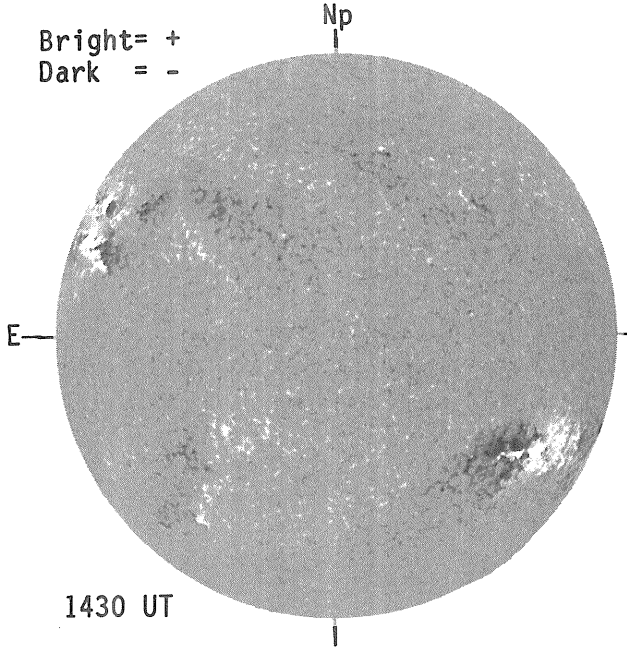


—— 5303A, 1924 UT
···· 6374A, 1945 UT
xxxx 5694A, 2006 UT
NO 5694A ACTIVITY TODAY

MAY 30, 1988 (P=-16.09, B_o=-0.86, L_o= 79.93)

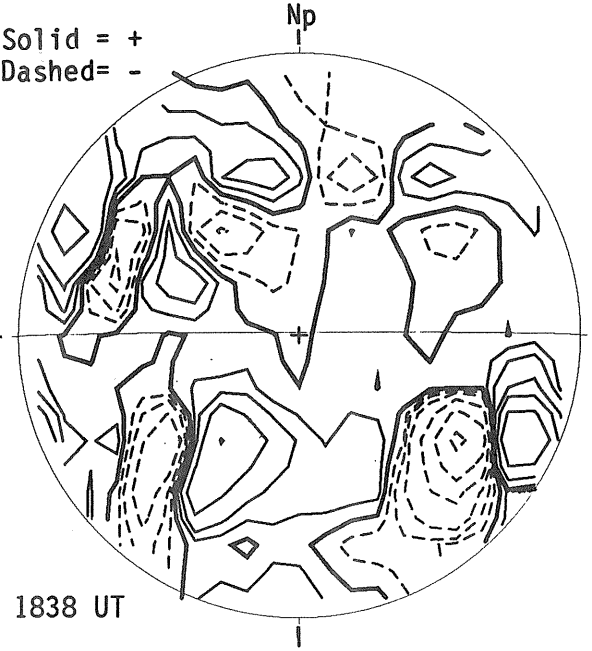
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

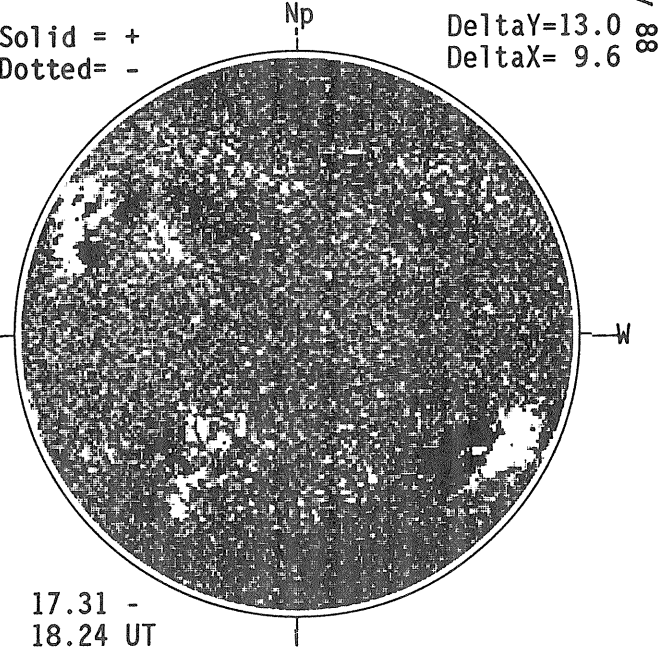
Solid = +
Dashed= -



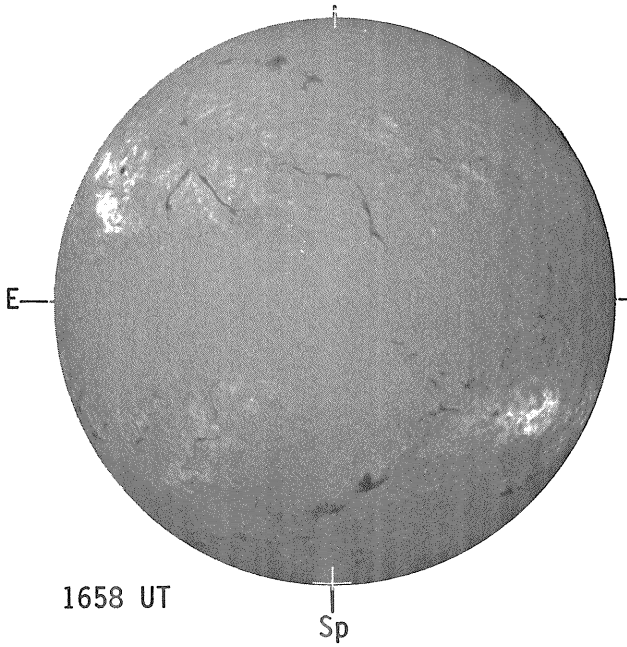
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

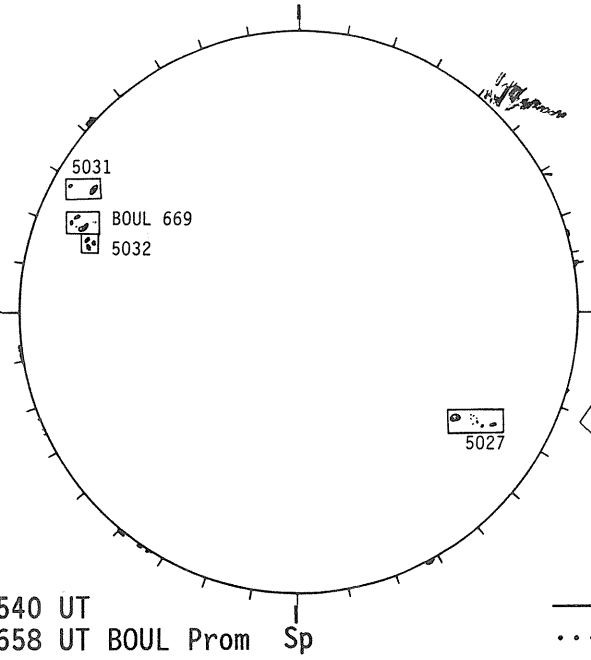
DeltaY=13.0
DeltaX= 9.6



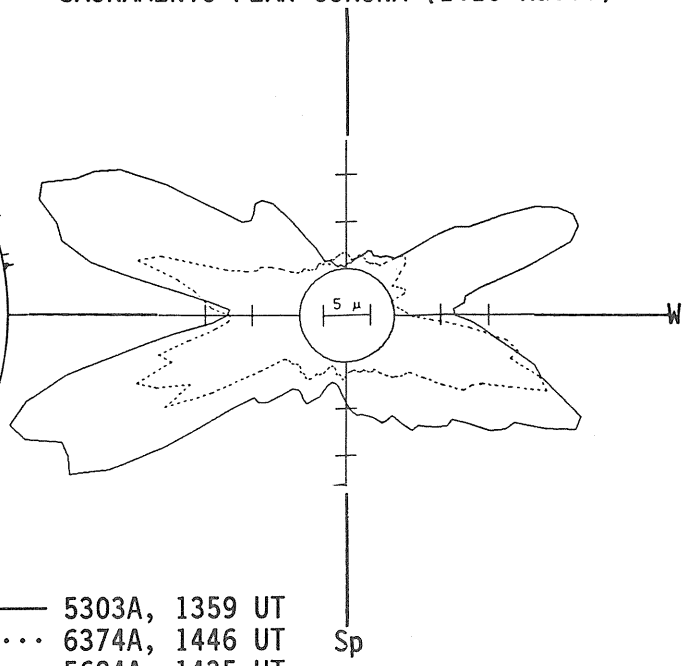
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



—— 5303A, 1359 UT
···· 6374A, 1446 UT
xxxx 5694A, 1435 UT
NO 5694A ACTIVITY TODAY

MAY 31, 1988 (P=-15.73, B_o=-0.74, L_o= 66.70)

SUNSPOT GROUPS
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

MAY 1988

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
5002B		HOLL	04 30 1930	S14 E23	05 2.5		B	BXO	10	2	3	4
5002C		BOUL	05 05 1320	S23 W27	05 3.5		B	BXO	20	2	2	3
5002D		HOLL	05 05 1537	S22 W20	05 4.1		B	BXO	10	2	1	3
5015		SVTO	05 08 0705	S33 W27	05 6.1		A	AX	10	1	1	3
5015		RAMY	05 08 1340	S34 W33	05 5.9		B	BXO	20	4	5	2
5015		BOUL	05 08 1415	S34 W29	05 6.3		A	AX	10	1	1	2
5015		HOLL	05 08 1415	S35 W34	05 5.9		B	BXO	10	4	5	4
5015	24587	MWIL	05 08 1415	S36 W33	05 5.9	4	(BF)					
5015		LEAR	05 09 0004	S36 W38	05 5.9		B	BXO	10	3	4	4
5015		CULG	05 09 0458	S34 W42	05 5.8		B	BXO	10	3	4	2
5015		SVTO	05 09 0935	S34 W40	05 6.2		B	BXO	30	3	5	3
5004		PALE	04 30 1735	S18 E75	05 6.4		A	AX	10	1		4
5004		HOLL	04 30 1930	S19 E74	05 6.4		B	BXO	20	3	6	4
5004		LEAR	05 01 0015	S19 E73	05 6.6		B	BXO	20	2	6	4
5004		CULG	05 01 0330	S20 E66	05 6.2		A	AX	10	1		2
5004		SVTO	05 01 0736	S19 E68	05 6.5		B	BXO	10	3	5	2
5004		RAMY	05 01 1328	S20 E67	05 6.7		B	BXO	50	5	8	3
5004		BOUL	05 01 1415	S18 E63	05 6.4		B	BXO	20	3	8	4
5004	24581	MWIL	05 01 1445	S18 E61	05 6.2	3	(AP)					
5004		HOLL	05 01 1500	S19 E65	05 6.6		B	BXO	30	3	8	4
5004		PALE	05 01 1735	S18 E65	05 6.7		B	CRO	30	4	8	4
5004		LEAR	05 02 0115	S16 E58	05 6.4		B	BXO	20	4	4	4
5004		CULG	05 02 0435	S19 E54	05 6.3		B	CSO	10	3	5	2
5004		SVTO	05 02 0619	S18 E53	05 6.3		B	CRO	40	6	4	3
5004		RAMY	05 02 1324	S20 E52	05 6.5		B	CAO	30	3	4	4
5004		HOLL	05 02 1430	S18 E50	05 6.4		B	CSO	50	2	5	3
5004	24581	MWIL	05 02 1530	S18 E48	05 6.3	4	(BP)					
5004		PALE	05 02 1705	S18 E49	05 6.4		B	CSO	50	3	4	4
5004		LEAR	05 03 0201	S18 E41	05 6.2		B	CRO	30	6	4	4
5004		CULG	05 03 0330	S18 E41	05 6.3		A	HS	20	1	1	3
5004		SVTO	05 03 0702	S20 E41	05 6.4		B	CSO	30	4	6	2
5004		BOUL	05 03 1332	S18 E36	05 6.3		B	CSO	30	5	7	2
5004		RAMY	05 03 1340	S19 E38	05 6.5		B	CAO	40	5	5	3
5004	24581	MWIL	05 03 1515	S19 E35	05 6.3	5	(B)					
5004		HOLL	05 03 1515	S19 E40	05 6.7		B	CSO	50	6	6	3
5004		LEAR	05 04 0029	S18 E29	05 6.2		B	CAO	20	4	1	4
5004		CULG	05 04 0412	S17 E26	05 6.1		A	HS	30	2	1	3
5004		BOUL	05 04 1425	S17 E21	05 6.2		B	CSO	20	3	1	4
5004	24581	MWIL	05 04 1530	S18 E20	05 6.2	5	AP					
5004		HOLL	05 04 1545	S19 E21	05 6.2		A	HS	10	2	1	3
5004		LEAR	05 05 0015	S20 E15	05 6.1		A	HS	30	7	3	3
5004		CULG	05 05 0400	S19 E14	05 6.2		A	HS	10	3	1	3
5004		BOUL	05 05 1320	S18 E07	05 6.1		A	HA	20	2	1	3
5004		HOLL	05 05 1537	S19 E11	05 6.5		B	BXO	20	3	8	3
5004		LEAR	05 06 0015	S20 E03	05 6.2		A	HS	20	5	2	3
5004		CULG	05 06 0358	S18 E00	05 6.2		A	AX	10	1		2
5004		BOUL	05 06 1320	S19 W04	05 6.2		A	AX	10	1	1	2
5004		RAMY	05 06 1430	S20 W03	05 6.4		B	BXO	10	3	7	3
5004		HOLL	05 06 1500	S19 W06	05 6.2		A	AX	10	1	2	3
5004		LEAR	05 07 0237	S20 W12	05 6.2		A	AX	10	2	2	3
5004		CULG	05 07 0317	S18 W11	05 6.3		A	AX	10	2	1	2
5006		HOLL	04 30 1930	N21 E70	05 6.2		A	AX	10	1	1	4
5006		LEAR	05 01 0015	N20 E70	05 6.4		A	AX	10	1	1	4
5006		SVTO	05 01 0736	N19 E66	05 6.3		A	HR	20	1	1	2
5006		RAMY	05 01 1328	N20 E63	05 6.4		A	AX	10	1	1	3
5006		BOUL	05 01 1415	N20 E59	05 6.1		A	AX	10	1	1	4
5006	24580	MWIL	05 01 1445	N20 E60	05 6.2	3	(AP)					
5006		HOLL	05 01 1500	N20 E61	05 6.3		A	AX	10	1	1	4
5006		PALE	05 01 1735	N22 E61	05 6.4		A	AX	10	1		4
5006		LEAR	05 02 0115	N23 E54	05 6.2		A	AX	10	1	1	4
5006		CULG	05 02 0435	N19 E54	05 6.3		A	AX	10	1		2
5006		SVTO	05 02 0619	N18 E52	05 6.2		B	BXO	10	2	1	3
5006		RAMY	05 02 1324	N19 E49	05 6.3		B	BXO	20	2	2	4
5006		HOLL	05 02 1430	N18 E48	05 6.2		B	BXO	20	2	3	3

SUNSPOT GROUPS
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

MAY 1988

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
5006	24580	MWIL	05 02 1530	N20 E48	05 6.3	3	(AP)					
5006		PALE	05 02 1705	N20 E48	05 6.4		B	BXO	10	2	2	4
5006		CULG	05 04 0412	N18 E26	05 6.1		A	AX	10	1		3
5006	24580	MWIL	05 04 1530	N22 E21	05 6.2	2	AP					
5016		BOUL	05 08 1415	S29 W29	05 6.3		A	AX	10	1	1	2
5016		SVTO	05 09 0935	S25 W44	05 6.0		A	AX	10	1	1	3
5016	24590	MWIL	05 09 1515	S27 W48	05 5.9	3	(B)					
5016		HOLL	05 09 1530	S27 W47	05 6.0		B	BXO	10	3	3	4
5016		LEAR	05 10 0013	S27 W53	05 5.9		A	AX	10	1	1	3
5016		SVTO	05 10 1218	S25 W60	05 5.9		A	AX		1		3
5016	24590	MWIL	05 10 1500	S27 W63	05 5.7	3	(AP)					
5016		HOLL	05 10 1542	S28 W61	05 5.9		B	BXO	20	5	3	3
5016		PALE	05 10 2030	S28 W64	05 5.8		A	AX	50	1	1	2
5016		LEAR	05 11 0105	S27 W66	05 5.9		B	CRO	30	3	5	3
5016		SVTO	05 11 0810	S27 W71	05 5.8		A	AX	10	2	1	3
5016	24590	MWIL	05 11 1500	S27 W78	05 5.5	3	(B)					
5013		SVTO	05 06 0903	N02 E07	05 6.9		B	BXO	10	2	3	2
5013		HOLL	05 06 1500	N02 E03	05 6.8		B	BXO	10	2	2	3
5013		CULG	05 07 0317	N03 W06	05 6.7		A	AX	10	1		2
5011		LEAR	05 04 0029	N25 E49	05 7.8		B	CRO	10	2	3	4
5011		CULG	05 04 0412	N27 E48	05 7.9		B	BXO	10	3	4	3
5011		BOUL	05 04 1425	N26 E40	05 7.7		B	BXO	30	5	4	4
5011	24583	MWIL	05 04 1530	N25 E42	05 7.9	4	B					
5011		HOLL	05 04 1545	N25 E43	05 8.0		B	BXO	20	6	3	3
5011		LEAR	05 05 0015	N25 E37	05 7.9		B	DSO	80	9	5	3
5011		CULG	05 05 0400	N24 E33	05 7.7		B	DSO	20	2	5	3
5011		BOUL	05 05 1320	N24 E28	05 7.7		B	DSO	60	4	6	3
5011		HOLL	05 05 1537	N25 E28	05 7.8		B	CSO	60	6	4	3
5011		LEAR	05 06 0015	N24 E23	05 7.8		B	DSO	120	9	8	3
5011		CULG	05 06 0358	N25 E21	05 7.8		B	DSO	30	7	7	2
5011		SVTO	05 06 0903	N25 E20	05 7.9		B	DAO	60	8	8	2
5011		BOUL	05 06 1320	N24 E16	05 7.8		B	DSO	80	3	6	2
5011		RAMY	05 06 1430	N24 E17	05 7.9		B	DAO	90	12	8	3
5011		HOLL	05 06 1500	N25 E15	05 7.8		B	DAO	70	7	7	3
5011		LEAR	05 07 0237	N24 E09	05 7.8		B	DSO	120	9	8	3
5011		CULG	05 07 0317	N26 E08	05 7.7		B	DSO	20	4	8	2
5011		SVTO	05 07 0713	N25 E07	05 7.8		B	DAO	40	9	9	3
5011	24583	MWIL	05 07 1415	N25 E03	05 7.8	4	(BF)					
5011		BOUL	05 07 1430	N24 E03	05 7.8		A	DSO	20	2	2	1
5011		RAMY	05 07 1430	N26 E04	05 7.9		B	CRO	40	10	9	4
5011		CULG	05 08 0341	N23 W05	05 7.8		B	DSI	20	8	9	2
5011		SVTO	05 08 0705	N25 W06	05 7.8		B	CRO	30	8	10	3
5011		RAMY	05 08 1340	N25 W08	05 7.9		B	CRI	30	11	10	2
5011		BOUL	05 08 1415	N24 W09	05 7.9		B	BXI	10	7	11	2
5011	24583	MWIL	05 08 1415	N24 W10	05 7.8	4	(BG)					
5011		HOLL	05 08 1415	N25 W10	05 7.8		B	CRO	30	11	11	4
5011		LEAR	05 09 0004	N25 W17	05 7.7		B	BXO	10	13	10	4
5011		CULG	05 09 0458	N26 W19	05 7.7		B	CRO	10	4	10	2
5011		SVTO	05 09 0935	N26 W15	05 8.2		B	BXO	20	4	10	3
5011		BOUL	05 09 1338	N23 W20	05 8.0		B	BXO	10	5	14	2
5011	24583	MWIL	05 09 1515	N26 W27	05 7.5	5	(B)					
5011		HOLL	05 09 1530	N25 W25	05 7.7		B	BXO	20	7	11	4
5011		PALE	05 09 1745	N23 W31	05 7.3		B	BXO	20	4	5	4
5011		RAMY	05 09 1945	N24 W30	05 7.5		B	BXO	20	3	6	2
5011		LEAR	05 10 0013	N25 W29	05 7.8		B	BXO	10	7	12	3
5011		CULG	05 10 0312	N23 W36	05 7.3		A	AX	10	5	4	2
5011		SVTO	05 10 1218	N26 W41	05 7.3		B	BXO	10	2	3	3
5011		RAMY	05 10 1445	N25 W43	05 7.3		B	BXO	20	5	4	3
5011	24583	MWIL	05 10 1500	N24 W41	05 7.4	3	(AP)					
5011		HOLL	05 10 1542	N25 W41	05 7.5		A	AX	10	1	1	3
5011		BOUL	05 11 1330	N23 W54	05 7.4		B	BXO	20	2	1	3
5011		RAMY	05 11 1415	N25 W54	05 7.4		B	BXO	10	2	2	4
5011	24583	MWIL	05 11 1500	N24 W56	05 7.3	4	(AP)					
5011		HOLL	05 11 1513	N26 W56	05 7.3		A	AX	20	1	1	3
5011		BOUL	05 12 1343	N24 W66	05 7.5		A	AX	20	1	1	2
5011		RAMY	05 12 1350	N24 W68	05 7.3		A	AX	10	2	1	4

S U N S P O T G R O U P S
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
5011	24583	MWIL	05	12	1500	N24	W69	05	7.3	3	(AP)					
5011		HOLL	05	12	1538	N24	W66	05	7.5		B	BXO	10	3	4	4
5008		SVTO	05	02	0619	N16	E72	05	7.7		B	BXO	60	4	2	3
5008		RAMY	05	02	1324	N16	E71	05	7.9		B	CRO	30	2	2	4
5008		HOLL	05	02	1430	N16	E68	05	7.8		B	BXO	20	2	3	3
5008	24582	MWIL	05	02	1530	N17	E70	05	8.0	3	AP					
5008		PALE	05	02	1705	N18	E70	05	8.0		B	BXO	20	4	5	4
5008		LEAR	05	03	0201	N19	E61	05	7.7		B	BXO	30	4	1	4
5008		CULG	05	03	0330	N17	E65	05	8.1		B	CSO	20	3	6	3
5008		SVTO	05	03	0702	N16	E59	05	7.8		A	HR	20	1	1	2
5008		BOUL	05	03	1332	N16	E54	05	7.6		A	AX	10	2	1	2
5008		RAMY	05	03	1340	N17	E58	05	8.0		A	AX	20	3	1	3
5008		HOLL	05	03	1515	N16	E62	05	8.3		A	AX	20	1	2	3
5008	24582	MWIL	05	03	1515	N17	E56	05	7.9	4	(AP)					
5008		LEAR	05	04	0029	N17	E52	05	8.0		B	CRO	20	3	3	4
5008		CULG	05	04	0412	N18	E46	05	7.7		B	CSO	10	2	1	3
5008		BOUL	05	04	1425	N18	E41	05	7.7		A	AX	10	1	1	4
5008	24582	MWIL	05	04	1530	N17	E43	05	7.9	5	AP					
5008		HOLL	05	04	1545	N17	E43	05	7.9		A	AX	10	1	1	3
5008		LEAR	05	05	0015	N16	E36	05	7.7		A	AX	10	1	1	3
5008		CULG	05	05	0400	N16	E34	05	7.7		A	AX	10	1	1	3
5008		BOUL	05	05	1320	N16	E29	05	7.7		A	AX	10	1	1	3
5008		HOLL	05	05	1537	N17	E30	05	7.9		B	BXO	10	2	1	3
5008		LEAR	05	06	0015	N16	E25	05	7.9		A	HS	10	2	3	3
5008		CULG	05	06	0358	N16	E21	05	7.7		A	AX	10	1	1	2
5008		SVTO	05	06	0903	N16	E20	05	7.9		A	HR	10	1	1	2
5008		BOUL	05	06	1320	N16	E17	05	7.8		A	AX	10	1	1	2
5008		RAMY	05	06	1430	N17	E17	05	7.9		A	AX		1	1	3
5008		HOLL	05	06	1500	N18	E17	05	7.9		B	CRO	120	2	2	3
5008		LEAR	05	07	0237	N17	E09	05	7.8		A	AX	10	4	2	3
5008		CULG	05	07	0317	N18	E10	05	7.9		A	AX	10	2	1	2
5008		SVTO	05	07	0713	N17	E08	05	7.9		A	AX	10	2	2	3
5008		RAMY	05	07	1430	N18	E04	05	7.9		A	AX		1	1	4
5008		SVTO	05	08	0705	N20	E02	05	8.4		B	BXO	10	2	2	3
5008		RAMY	05	08	1340	N20	W04	05	8.3		B	BXO	10	3	3	2
5008		BOUL	05	08	1415	N19	W03	05	8.4		B	BXO	10	3	3	2
5008	24582	MWIL	05	08	1415	N20	W04	05	8.3	4	(B)					
5008		HOLL	05	08	1415	N20	W05	05	8.2		B	BXO	20	6	4	4
5008		LEAR	05	09	0004	N21	W10	05	8.2		B	DSO	30	3	4	4
5008		CULG	05	09	0458	N20	W12	05	8.3		B	CRO	20	3	4	2
5008		SVTO	05	09	0935	N21	W13	05	8.4		B	CRO	30	4	5	3
5008		BOUL	05	09	1338	N19	W16	05	8.3		B	BXO	10	4	5	2
5008	24582	MWIL	05	09	1515	N21	W17	05	8.3	4	(B)					
5008		HOLL	05	09	1530	N21	W18	05	8.3		B	BXO	20	4	5	4
5008		PALE	05	09	1745	N20	W21	05	8.1		B	BXO	10	3	5	4
5008		RAMY	05	09	1945	N20	W19	05	8.4		B	BRO	30	4	6	2
5008		LEAR	05	10	0013	N21	W23	05	8.2		B	CRO	10	5	6	3
5008		CULG	05	10	0312	N20	W27	05	8.1		B	CSO	10	4	6	2
5008		SVTO	05	10	1218	N21	W29	05	8.3		B	CAO	20	6	5	3
5008		RAMY	05	10	1445	N21	W29	05	8.4		B	CRO	20	4	5	3
5008	24582	MWIL	05	10	1500	N21	W30	05	8.3	4	(BF)					
5008		HOLL	05	10	1542	N20	W29	05	8.4		A	AX	10	4	2	3
5008		PALE	05	10	2030	N19	W32	05	8.4		A	AX	10	3	2	2
5008		LEAR	05	11	0105	N21	W35	05	8.4		B	BXO	10	4	4	3
5008		SVTO	05	11	0810	N21	W38	05	8.4		A	AX	10	2	1	3
5008		BOUL	05	11	1330	N19	W40	05	8.5		B	BXO	20	5	3	3
5008		RAMY	05	11	1415	N22	W42	05	8.4		B	CRO	20	5	4	4
5008	24582	MWIL	05	11	1500	N21	W43	05	8.3	4	(BF)					
5008		HOLL	05	11	1513	N20	W41	05	8.5		A	AX	10	3	1	3
5008		PALE	05	11	1730	N20	W42	05	8.5		A	AX	20	1	1	3
5008		SVTO	05	12	0744	N21	W51	05	8.4		A	HR	10	1	1	1
5008		RAMY	05	12	1350	N22	W54	05	8.4		A	AX		1	1	4
5008	24582	MWIL	05	12	1500	N21	W54	05	8.5	4	(AF)					
5008		HOLL	05	12	1538	N21	W54	05	8.5		A	AX	10	1	1	4
5008		RAMY	05	13	1235	N22	W66	05	8.4		A	AX	10	1	1	4
5020		CULG	05	12	0510	N16	W43	05	8.9		B	BXO	10	2	3	3

SUNSPOT GROUPS
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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
5020		SVTO	05 12 0744	N15 W44	05 9.0		B	CRO	20	2	1	1
5020		BOUL	05 12 1343	N14 W47	05 9.0		A	HA	20	1	1	2
5020		RAMY	05 12 1350	N14 W49	05 8.9		B	CRO	30	6	5	4
5020	24595	MWIL	05 12 1500	N15 W49	05 8.9	4	(B)					
5020		HOLL	05 12 1538	N15 W49	05 8.9		B	CAO	30	7	5	4
5020		PALE	05 12 2000	N12 W52	05 8.9		B	CSO	10	4	2	3
5020		CULG	05 13 0530	N16 W55	05 9.0		A	AX	10	1	1	3
5020		LEAR	05 13 0856	N14 W58	05 9.0		B	BXO	10	5	5	2
5020		RAMY	05 13 1235	N14 W60	05 9.0		B	BXO	20	4	3	4
5020		BOUL	05 13 1425	N13 W60	05 9.1		B	BXO	30	4	3	3
5020	24595	MWIL	05 13 1445	N14 W63	05 8.8	4	(B)					
5020		HOLL	05 13 1448	N13 W61	05 9.0		B	CRO	50	7	5	3
5020		PALE	05 13 1820	N13 W65	05 8.8		B	BXO	10	3	3	3
5009		RAMY	05 03 1340	N25 E71	05 9.1		A	AX	20	2	1	3
5009		HOLL	05 03 1515	N24 E68	05 8.9		B	BXO	10	2	3	3
5009		LEAR	05 04 0029	N25 E67	05 9.2		B	BXO	20	2	3	4
5009		CULG	05 04 0412	N25 E63	05 9.0		A	AX	10	1		3
5009	24584	MWIL	05 04 1530	N26 E62	05 9.5	2	X					
5017	24591	MWIL	05 09 1515	S13 E13	05 10.6	3	(AP)					
5017		HOLL	05 09 1530	S12 E13	05 10.6		B	BXO	10	4	3	4
5017		PALE	05 09 1745	S12 E11	05 10.6		A	AX		1		4
5017		RAMY	05 09 1945	S14 E11	05 10.6		B	BXO	10	3	1	2
5017		LEAR	05 10 0013	S12 E08	05 10.6		B	BXO	10	2	2	3
5017		CULG	05 10 0312	S13 E06	05 10.6		B	BXO	10	2	2	2
5017		SVTO	05 10 1218	S12 E03	05 10.7		A	AX		1		3
5017		RAMY	05 10 1445	S13 E01	05 10.7		A	AX		1	1	3
5017	24591	MWIL	05 10 1500	S14 E01	05 10.7	3	(AF)					
5017		HOLL	05 10 1542	S13 E00	05 10.6		A	AX		1	1	3
5012	24586	MWIL	05 04 1530	N17 E85	05 11.1	3	AP					
5012		LEAR	05 05 0015	N17 E74	05 10.6		A	HS	60	3	2	3
5012		CULG	05 05 0400	N16 E73	05 10.7		A	HS	20	1	1	3
5012		BOUL	05 05 1320	N17 E67	05 10.6		A	HS	80	1	1	3
5012		HOLL	05 05 1537	N18 E69	05 10.9		A	HS	120	1	1	3
5012		LEAR	05 06 0015	N17 E64	05 10.9		A	HS	50	3	3	3
5012		CULG	05 06 0358	N18 E60	05 10.7		A	HS	40	1	1	2
5012		SVTO	05 06 0903	N17 E62	05 11.1		A	HS	90	1	2	2
5012		BOUL	05 06 1320	N18 E57	05 10.9		A	HA	70	3	2	2
5012		RAMY	05 06 1430	N17 E57	05 10.9		A	HS	70	1	2	3
5012		HOLL	05 06 1500	N18 E56	05 10.9		A	HA	80	2	2	3
5012		LEAR	05 07 0237	N17 E50	05 10.9		A	HS	60	2	2	3
5012		CULG	05 07 0317	N19 E50	05 10.9		B	HS	20	1		2
5012		SVTO	05 07 0713	N17 E48	05 10.9		A	HS	60	1	2	3
5012	24586	MWIL	05 07 1415	N18 E44	05 10.9	4	(AP)					
5012		BOUL	05 07 1430	N18 E43	05 10.9		B	HS	30	1	7	1
5012		RAMY	05 07 1430	N18 E44	05 10.9		A	HS	60	1	2	4
5012		SVTO	05 08 0705	N18 E36	05 11.0		A	HS	30	1	2	3
5012		RAMY	05 08 1340	N18 E31	05 10.9		A	HS	50	1	2	2
5012	24586	MWIL	05 08 1415	N18 E30	05 10.9	5	(AP)					
5012		BOUL	05 08 1415	N18 E32	05 11.0		A	HS	20	1	1	2
5012		HOLL	05 08 1415	N19 E31	05 10.9		A	HS	20	1	1	4
5012		LEAR	05 09 0004	N19 E25	05 10.9		A	HS	40	2	1	4
5012		CULG	05 09 0458	N18 E24	05 11.0		A	HS	20	1	1	2
5012		SVTO	05 09 0935	N17 E22	05 11.1		A	HS	20	1	2	3
5012		BOUL	05 09 1338	N17 E18	05 10.9		A	HS	20	1	1	2
5012	24586	MWIL	05 09 1515	N18 E17	05 10.9	5	(AP)					
5012		HOLL	05 09 1530	N19 E17	05 10.9		A	HS	20	1	1	4
5012		PALE	05 09 1745	N19 E16	05 11.0		A	HS	20	1	1	4
5012		RAMY	05 09 1945	N16 E16	05 11.0		A	HS	40	1	2	2
5012		LEAR	05 10 0013	N19 E12	05 10.9		A	HS	40	1	1	3
5012		CULG	05 10 0312	N18 E08	05 10.7		A	HS	20	1	1	2
5012		SVTO	05 10 1218	N19 E06	05 11.0		A	HS	10	2	1	3
5012		RAMY	05 10 1445	N18 E05	05 11.0		A	HS	20	1	1	3
5012	24586	MWIL	05 10 1500	N18 E04	05 10.9	5	(AP)					
5012		HOLL	05 10 1542	N18 E04	05 10.9		A	HS	20	1	1	3
5012		PALE	05 10 2030	N18 E02	05 11.0		A	HS	20	1	1	2
5012		LEAR	05 11 0105	N18 W02	05 10.9		A	HS	20	2	1	3

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
5012		CULG	05 11 0420	N18 W03	05 10.9		A	HS	20	1	1	2
5012		SVTO	05 11 0810	N18 W06	05 10.9		A	HS	20	2	2	3
5012		BOUL	05 11 1330	N18 W08	05 10.9		B	CRO	30	2	1	3
5012		RAMY	05 11 1415	N20 W08	05 11.0		B	CSO	40	2	3	4
5012	24586	MWIL	05 11 1500	N18 W09	05 10.9	5	(AP)					
5012		HOLL	05 11 1513	N19 W10	05 10.9		A	HS	20	2	1	3
5012		PALE	05 11 1730	N18 W11	05 10.9		A	HS	20	1	1	3
5012		CULG	05 12 0510	N18 W17	05 10.9		A	HS	10	1	1	3
5012		SVTO	05 12 0744	N18 W19	05 10.9		A	HR	10	1	1	1
5012		BOUL	05 12 1343	N16 W21	05 11.0		A	HA	10	1	1	2
5012		RAMY	05 12 1350	N17 W23	05 10.8		A	HR	10	2	1	4
5012	24586	MWIL	05 12 1500	N18 W23	05 10.9	5	(AP)					
5012		HOLL	05 12 1538	N18 W22	05 11.0		A	HR	10	1	1	4
5012		PALE	05 12 2000	N16 W26	05 10.9		A	HS	20	1	1	3
5012		CULG	05 13 0530	N19 W29	05 11.0		A	AX	10	1	1	3
5012		LEAR	05 13 0856	N17 W32	05 10.9		A	AX	10	1	1	2
5012		RAMY	05 13 1235	N17 W34	05 10.9		A	HR	10	1	1	4
5012		BOUL	05 13 1425	N17 W34	05 11.0		A	AX	10	1	1	3
5012	24586	MWIL	05 13 1445	N17 W36	05 10.9	4	(AP)					
5012		HOLL	05 13 1448	N17 W36	05 10.9		A	HR	10	1	1	3
5012		PALE	05 13 1820	N16 W38	05 10.9		B	BXO	10	3	3	3
5012		LEAR	05 14 0045	N16 W42	05 10.8		B	CRO	20	4	3	3
5012		CULG	05 14 0500	N19 W45	05 10.8		B	BXO	10	2	3	3
5012		SVTO	05 14 0722	N17 W48	05 10.6		B	BXO	20	2	3	2
5012		BOUL	05 14 1309	N17 W46	05 11.0		A	AX	10	1	1	2
5012		RAMY	05 14 1320	N17 W47	05 11.0		A	AX	10	1	1	3
5012	24586	MWIL	05 14 1445	N16 W50	05 10.8	3	(AP)					
5012		HOLL	05 14 1538	N18 W48	05 11.0		A	AX		1		4
5012		PALE	05 15 1815	N18 W67	05 10.6		A	HS	100	2	2	3
5012	24586	MWIL	05 16 1515	N25 W70	05 11.2	3	(AP)					
5010		BOUL	05 04 1425	S25 E79	05 10.7		B	BXO	30	3	2	4
5010	24585	MWIL	05 04 1530	S27 E79	05 10.8	3	AP					
5010		HOLL	05 04 1545	S28 E79	05 10.8		A	HS	60	1	1	3
5010		LEAR	05 05 0015	S27 E72	05 10.6		A	HS	90	3	3	3
5010		CULG	05 05 0400	S28 E73	05 10.9		A	HS	30	1	2	3
5010		BOUL	05 05 1320	S28 E67	05 10.8		A	HA	70	2	2	3
5010		HOLL	05 05 1537	S27 E66	05 10.8		A	HS	50	2	1	3
5010		LEAR	05 06 0015	S27 E64	05 11.0		B	CSO	80	6	4	3
5010		CULG	05 06 0358	S28 E60	05 10.8		A	HS	40	1	1	2
5010		SVTO	05 06 0903	S29 E58	05 10.9		A	HR	20	5	2	2
5010		BOUL	05 06 1320	S27 E54	05 10.8		A	HA	50	3	2	2
5010		RAMY	05 06 1430	S28 E54	05 10.8		A	HA	40	4	3	3
5010		HOLL	05 06 1500	S27 E54	05 10.8		A	HA	30	3	2	3
5010		LEAR	05 07 0237	S27 E49	05 10.9		A	HS	30	7	3	3
5010		CULG	05 07 0317	S26 E48	05 10.9		B	HS	10	2	2	2
5010		SVTO	05 07 0713	S28 E46	05 10.9		A	HR	20	5	2	3
5010	24585	MWIL	05 07 1415	S28 E42	05 10.9	5	(AP)					
5010		RAMY	05 07 1430	S27 E42	05 10.9		A	HR	20	3	3	4
5010		CULG	05 08 0341	S28 E35	05 10.9		A	HS	10	3	3	2
5010		SVTO	05 08 0705	S27 E35	05 11.0		B	BXO	20	4	6	3
5010		RAMY	05 08 1340	S28 E30	05 10.9		B	BXO	10	3	4	2
5010		HOLL	05 08 1415	S26 E31	05 11.0		B	BXO	10	3	5	4
5010	24585	MWIL	05 08 1415	S28 E29	05 10.9	4	(AP)					
5010		HOLL	05 09 1530	S27 E18	05 11.0		A	AX	10	2	1	4
5010		RAMY	05 09 1945	S28 E17	05 11.1		B	BXO	10	2	1	2
5010		RAMY	05 10 1445	S26 E06	05 11.1		B	BXO		2	2	3
5010		SVTO	05 11 0810	S27 W03	05 11.1		B	BXO	10	4	3	3
5010		RAMY	05 11 1415	S27 W06	05 11.1		B	BXO		2	2	4
5014		HOLL	05 06 1500	S15 E63	05 11.4		A	AX		1		3
5014		SVTO	05 08 0705	S16 E45	05 11.7		B	BXO	20	6	4	3
5014		RAMY	05 08 1340	S17 E40	05 11.6		B	CRO	50	11	4	2
5014		BOUL	05 08 1415	S16 E38	05 11.5		B	DSO	30	4	5	2
5014		HOLL	05 08 1415	S16 E40	05 11.6		B	DAO	50	10	6	4
5014	24589	MWIL	05 08 1415	S18 E40	05 11.6	5	(B)					
5014		LEAR	05 09 0004	S16 E35	05 11.6		B	DAO	200	24	6	4
5014		CULG	05 09 0458	S16 E30	05 11.5		B	DSO	110	17	6	2
5014		SVTO	05 09 0935	S16 E30	05 11.7		B	DAO	160	15	6	3

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
5014		BOUL	05 09 1338	S16 E27	05 11.6		B	DAO	110	19	6	2
5014	24589	MWIL	05 09 1515	S16 E25	05 11.5	5	(B)					
5014		HOLL	05 09 1530	S16 E26	05 11.6		B	DAO	160	26	8	4
5014		PALE	05 09 1745	S16 E25	05 11.6		B	DSO	180	19	7	4
5014		RAMY	05 09 1945	S17 E24	05 11.6		B	DKO	140	22	9	2
5014		LEAR	05 10 0013	S16 E22	05 11.7		B	DAO	210	26	8	3
5014		CULG	05 10 0312	S16 E18	05 11.5		B	DSO	120	13	6	2
5014		SVTO	05 10 1218	S15 E14	05 11.6		B	DAI	240	17	7	3
5014		RAMY	05 10 1445	S16 E13	05 11.6		B	DAI	160	22	9	3
5014	24589	MWIL	05 10 1500	S16 E13	05 11.6	5	(B)					
5014		HOLL	05 10 1542	S16 E13	05 11.6		B	DKO	210	21	9	3
5014		PALE	05 10 2030	S17 E12	05 11.8		B	DSO	170	6	7	2
5014		LEAR	05 11 0105	S16 E09	05 11.7		B	DAO	180	22	8	3
5014		CULG	05 11 0420	S16 E06	05 11.6		B	DSO	120	12	8	2
5014		SVTO	05 11 0810	S15 E03	05 11.6		B	DAO	160	13	9	3
5014		BOUL	05 11 1330	S16 E00	05 11.6		B	CAI	150	25	8	3
5014		RAMY	05 11 1415	S15 W01	05 11.5		B	DAO	140	20	10	4
5014	24589	MWIL	05 11 1500	S16 W02	05 11.5	5	(B)					
5014		HOLL	05 11 1513	S15 W01	05 11.5		B	DAI	160	18	10	3
5014		PALE	05 11 1730	S16 W01	05 11.6		B	CSO	100	6	6	3
5014		CULG	05 12 0510	S17 W09	05 11.5		B	CSO	40	4	5	3
5014		SVTO	05 12 0744	S16 W09	05 11.6		B	CAO	50	9	9	1
5014		BOUL	05 12 1343	S16 W13	05 11.6		B	CSO	40	8	7	2
5014		RAMY	05 12 1350	S16 W13	05 11.6		B	CRO	40	16	10	4
5014	24589	MWIL	05 12 1500	S16 W15	05 11.5	5	(B)					
5014		HOLL	05 12 1538	S16 W14	05 11.6		B	CRO	30	17	9	4
5014		PALE	05 12 2000	S17 W15	05 11.7		B	CSO	20	9	7	3
5014		CULG	05 13 0530	S16 W22	05 11.6		B	CRO	20	3	5	3
5014		LEAR	05 13 0856	S16 W24	05 11.5		B	CRO	20	7	8	2
5014		RAMY	05 13 1235	S16 W25	05 11.6		B	CRI	20	15	9	4
5014		BOUL	05 13 1425	S16 W27	05 11.5		B	CAO	40	7	6	3
5014	24589	MWIL	05 13 1445	S16 W28	05 11.5	4	(B)					
5014		HOLL	05 13 1448	S15 W26	05 11.6		B	DAI	40	21	10	3
5014		PALE	05 13 1820	S17 W29	05 11.6		B	CRO	30	11	7	3
5014		LEAR	05 14 0045	S16 W32	05 11.6		B	CRO	20	10	8	3
5014		CULG	05 14 0500	S14 W38	05 11.3		B	CRO	20	5	6	3
5014		SVTO	05 14 0722	S16 W37	05 11.5		B	CRO	40	12	7	2
5014		BOUL	05 14 1309	S17 W37	05 11.7		B	BXO	30	7	6	2
5014		RAMY	05 14 1320	S17 W38	05 11.7		B	CRO	40	14	8	3
5014	24589	MWIL	05 14 1445	S17 W40	05 11.6	4	(BF)					
5014		HOLL	05 14 1538	S17 W38	05 11.8		B	CRO	30	13	5	4
5014		PALE	05 14 1753	S18 W41	05 11.6		B	BXO	30	12	6	3
5014		LEAR	05 15 0003	S17 W44	05 11.6		B	CXO	30	10	7	3
5014		SVTO	05 15 0805	S16 W47	05 11.8		B	CRO	50	8	6	2
5014		RAMY	05 15 1255	S17 W52	05 11.6		B	DAO	60	8	5	3
5014		BOUL	05 15 1400	S17 W51	05 11.7		B	CAO	80	2	3	2
5014	24589	MWIL	05 15 1500	S17 W52	05 11.7	4	(B)					
5014		HOLL	05 15 1502	S17 W51	05 11.7		B	CRO	50	6	6	3
5014		PALE	05 15 1949	S18 W57	05 11.5		B	BXO	30	5	4	3
5014		LEAR	05 16 0002	S16 W57	05 11.7		B	BXO	20	8	9	3
5014		SVTO	05 16 0532	S17 W59	05 11.7		B	CRO	50	3	4	4
5014		RAMY	05 16 1245	S16 W64	05 11.7		B	CKO	120	7	8	4
5014		BOUL	05 16 1400	S18 W63	05 11.8		A	HA	50	2	1	2
5014		HOLL	05 16 1503	S17 W63	05 11.8		B	CRO	60	5	9	3
5014	24589	MWIL	05 16 1515	S18 W65	05 11.7	4	(BF)					
5014		PALE	05 16 1815	S18 W67	05 11.6		A	HS	100	2	2	3
5014		LEAR	05 17 0105	S18 W69	05 11.8		B	CRI	40	9	3	4
5014		BOUL	05 17 1315	S18 W74	05 11.9		A	HA	60	2	2	1
5014		RAMY	05 17 1425	S17 W75	05 11.9		A	AX	30	3	2	3
5014		HOLL	05 17 1715	S19 W77	05 11.8		A	HA	60	2	1	3
5014	24589	MWIL	05 17 1815	S18 W79	05 11.7	3	(AF)					
5014		PALE	05 17 1910	S19 W78	05 11.8		A	HS	20	1	1	2
5014		LEAR	05 18 0020	S19 W79	05 12.0		A	HS	30	2	2	3
5014		SVTO	05 18 0519	S19 W88	05 11.5		A	HA	20	1	1	3
5014A	24594	MWIL	05 11 1500	S31 E11	05 12.5	3	(AP)					
5019		SVTO	05 10 1218	N12 E44	05 13.8		B	BXO		2	3	3
5019	24593	MWIL	05 10 1500	N13 E43	05 13.9	4	(B)					

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5019		SVTO	05 11 0810	N13 E32	05 13.7		B	BXO	10	4	3	3
5019		BOUL	05 11 1330	N12 E28	05 13.7		B	BXO	30	6	3	3
5019		RAMY	05 11 1415	N13 E28	05 13.7		B	BXO	20	9	4	4
5019	24593	MWIL	05 11 1500	N13 E28	05 13.7	4	(B)					
5019		HOLL	05 11 1513	N12 E27	05 13.7		B	CRO	20	2	3	3
5019		PALE	05 11 1730	N13 E28	05 13.8		A	AX	10	6	3	3
5019	24593	MWIL	05 12 1500	N13 E16	05 13.8	4	(BP)					
5019		BOUL	05 13 1425	N13 E03	05 13.8		A	AX	20	1	1	3
5019	24593	MWIL	05 13 1445	N13 E03	05 13.8	3	(BF)					
5019		HOLL	05 13 1448	N12 E02	05 13.8		A	AX	20	2	2	3
5019		PALE	05 13 1820	N12 E00	05 13.8		A	AX	10	3	1	3
5019		LEAR	05 14 0045	N13 W03	05 13.8		B	BXO	10	2	1	3
5019A		HOLL	05 14 1538	N23 W03	05 14.4		A	AX	10	3	1	4
5018		SVTO	05 09 0935	S22 E67	05 14.5		A	AX	20	1	1	3
5018	24592	MWIL	05 09 1515	S20 E64	05 14.5	4	(B)					
5018		HOLL	05 09 1530	S19 E65	05 14.6		B	BXO	10	3	5	4
5018		PALE	05 09 1745	S19 E63	05 14.5		B	BXO	10	2	4	4
5018		RAMY	05 09 1945	S22 E63	05 14.7		B	BXO	20	3	4	2
5018		LEAR	05 10 0013	S19 E60	05 14.6		B	BXO	20	2	4	3
5018		CULG	05 10 0312	S19 E55	05 14.3		A	AX	10	1	1	2
5018		SVTO	05 10 1218	S20 E51	05 14.4		A	AX		1		3
5018		RAMY	05 10 1445	S21 E52	05 14.6		B	BXO	10	2	5	3
5018	24592	MWIL	05 10 1500	S21 E52	05 14.6	3	(B)					
5018		HOLL	05 10 1542	S20 E51	05 14.5		B	BXO	10	2	4	3
5018		LEAR	05 11 0105	S20 E47	05 14.6		B	BXO	10	2	3	3
5018	24592	MWIL	05 15 1500	S17 W11	05 14.8	4	(B)					
5018		HOLL	05 15 1502	S18 W11	05 14.8		A	AX	10	3	2	3
5018		PALE	05 15 1949	S18 W15	05 14.7		B	BXO	10	4	3	3
5018		LEAR	05 16 0002	S17 W16	05 14.8		B	CRO	20	6	3	3
5018		SVTO	05 16 0532	S17 W19	05 14.8		B	BXO	20	8	4	4
5018		RAMY	05 16 1245	S17 W23	05 14.8		B	DAI	60	14	7	4
5018		BOUL	05 16 1400	S17 W23	05 14.8		B	DAO	30	10	4	2
5018		HOLL	05 16 1503	S17 W23	05 14.9		B	DSO	60	10	4	3
5018	24592	MWIL	05 16 1515	S18 W25	05 14.7	5	(B)					
5018		PALE	05 16 1815	S17 W27	05 14.7		B	DAI	70	10	5	3
5018		LEAR	05 17 0105	S18 W30	05 14.8		B	DAO	130	13	5	4
5018		BOUL	05 17 1315	S16 W35	05 14.9		B	CAO	70	5	5	1
5018		RAMY	05 17 1425	S17 W37	05 14.8		B	CSO	80	7	7	3
5018		HOLL	05 17 1715	S17 W37	05 14.9		B	DSO	100	6	6	3
5018	24592	MWIL	05 17 1815	S17 W39	05 14.8	5	(B)					
5018		PALE	05 17 1910	S17 W40	05 14.7		B	DAO	90	7	6	2
5018		LEAR	05 18 0020	S17 W43	05 14.7		B	DSO	100	12	7	3
5018		CULG	05 18 0440	S16 W44	05 14.8		B	DSO	80	6	7	3
5018		SVTO	05 18 0519	S17 W45	05 14.8		B	DSO	120	15	7	3
5018		RAMY	05 18 1230	S17 W49	05 14.8		B	DSI	160	14	7	4
5018	24592	MWIL	05 18 1500	S17 W51	05 14.7	5	(B)					
5018		PALE	05 18 1715	S18 W51	05 14.8		B	CSI	80	7	8	3
5018		HOLL	05 18 1900	S16 W51	05 14.9		B	DSO	80	5	8	2
5018		LEAR	05 19 0009	S17 W55	05 14.8		B	DSO	80	9	7	4
5018		CULG	05 19 0410	S16 W57	05 14.8		B	CSO	140	5	7	2
5018		SVTO	05 19 0518	S17 W58	05 14.8		B	DSO	120	9	7	4
5018		RAMY	05 19 1254	S17 W63	05 14.8		B	CSO	100	8	6	3
5018	24592	MWIL	05 19 1415	S18 W64	05 14.7	4	(B)					
5018		HOLL	05 19 1722	S17 W65	05 14.8		B	DAO	140	5	8	3
5018		PALE	05 19 1833	S18 W67	05 14.7		B	CSO	80	6	8	3
5018		LEAR	05 20 0210	S18 W70	05 14.7		B	DSO	100	5	5	2
5018		CULG	05 20 0514	S16 W70	05 14.9		B	CSO	50	3	5	2
5018		SVTO	05 20 0713	S17 W73	05 14.7		B	CSO	50	4	8	3
5018		RAMY	05 20 1315	S17 W75	05 14.8		B	CSO	20	3	7	3
5018	24592	MWIL	05 20 1415	S18 W79	05 14.6	4	(BP)					
5018		HOLL	05 20 1700	S18 W77	05 14.8		B	DSO	70	4	6	4
5022		HOLL	05 14 1538	N25 E05	05 15.0		A	AX		1		4
5022		PALE	05 14 1753	N24 E02	05 14.9		A	AX	10	2	2	3
5022		LEAR	05 15 0003	N23 E00	05 15.0		B	BXO	10	7	3	3
5022		SVTO	05 15 0805	N24 W05	05 14.9		B	CRO	30	4	3	2
5022		RAMY	05 15 1255	N24 W07	05 15.0		B	CRO	20	5	3	3

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5022		BOUL	05 15 1400	N23 W07	05 15.0		B	CRO	40	2	3	2
5022	24598	MWIL	05 15 1500	N24 W08	05 15.0	5	(B)					
5022		HOLL	05 15 1502	N24 W07	05 15.1		B	BXO	30	8	5	3
5022		PALE	05 15 1949	N24 W13	05 14.8		B	BXO	20	2	4	3
5022		LEAR	05 16 0002	N25 W13	05 15.0		B	CRO	20	6	3	3
5022		SVTO	05 16 0532	N24 W16	05 15.0		B	CRO	20	6	4	4
5022		RAMY	05 16 1245	N25 W20	05 15.0		B	DRO	30	8	6	4
5022		BOUL	05 16 1400	N23 W19	05 15.1		B	BXO	20	6	4	2
5022		HOLL	05 16 1503	N25 W20	05 15.1		B	BXO	30	8	5	3
5022	24598	MWIL	05 16 1515	N23 W22	05 14.9	5	(B)					
5022		PALE	05 16 1815	N23 W23	05 15.0		B	BXO	10	5	4	3
5022		LEAR	05 17 0105	N23 W27	05 15.0		B	CRO	20	3	3	4
5022		BOUL	05 17 1315	N24 W31	05 15.1		A	AX	10	1	1	1
5022		RAMY	05 17 1425	N25 W33	05 15.0		A	AX	10	1	1	3
5022		HOLL	05 17 1715	N25 W34	05 15.1		A	AX	10	1	1	3
5022	24598	MWIL	05 17 1815	N25 W35	05 15.0	3	(AF)					
5022		PALE	05 17 1910	N25 W36	05 15.0		A	AX	10	1	1	2
5022		LEAR	05 18 0020	N25 W38	05 15.1		A	AX	10	1	1	3
5022		SVTO	05 18 0519	N24 W40	05 15.1		A	AX		1		3
5022		RAMY	05 18 1230	N26 W45	05 15.0		A	AX		1	1	4
5022		SVTO	05 21 0545	N24 W79	05 15.1		A	AX		1		3
5026	24603	MWIL	05 20 1415	S14 W67	05 15.5	3	(AP)					
5026		HOLL	05 20 1700	S14 W68	05 15.6		A	AX	10	1	1	4
5026		LEAR	05 21 0543	S14 W76	05 15.5		B	BXO	20	3	5	2
5026		SVTO	05 21 0545	S14 W76	05 15.5		B	BXO	10	3	5	3
5026		RAMY	05 21 1307	S14 W78	05 15.6		B	BXO	20	3	3	3
5026		BOUL	05 21 1400	S14 W80	05 15.5		B	BXO	30	4	4	2
5026	24603	MWIL	05 21 1415	S15 W80	05 15.5	3	(BF)					
5026		HOLL	05 21 1540	S15 W76	05 15.9		B	BXO	20	4	5	3
5026		PALE	05 21 1826	S17 W85	05 15.3		B	BXO	30	3	3	3
5026		LEAR	05 22 0018	S14 W89	05 15.3		A	AX	30	1	4	3
5023		LEAR	05 13 0856	N23 E41	05 16.5		A	AX	10	1	1	2
5023		HOLL	05 14 1538	N21 E24	05 16.5		B	BXO	10	2	3	4
5023		PALE	05 14 1753	N22 E22	05 16.4		A	AX		1		3
5023		LEAR	05 15 0003	N24 E20	05 16.5		B	BXO	10	3	7	3
5023		SVTO	05 15 0805	N22 E13	05 16.3		B	BXO	10	2	2	2
5023		RAMY	05 15 1255	N23 E11	05 16.4		B	BXO	10	2	2	3
5023		BOUL	05 15 1400	N20 E10	05 16.3		A	AX	10	1	1	2
5023	24599	MWIL	05 15 1500	N22 E08	05 16.2	3	(B)					
5023		HOLL	05 15 1502	N21 E09	05 16.3		A	AX	10	1	1	3
5023		PALE	05 15 1949	N22 E04	05 16.1		A	AX		1		3
5023		LEAR	05 16 0002	N22 E03	05 16.2		A	AX	10	1	1	3
5023		RAMY	05 16 1245	N23 W04	05 16.2		A	AX		1	1	4
5023		HOLL	05 16 1503	N22 W05	05 16.2		B	BXO	10	3	3	3
5023		PALE	05 16 1815	N24 W05	05 16.4		A	AX		2	2	3
5023		LEAR	05 17 0105	N23 W09	05 16.3		B	HR	10	1	1	4
5023		PALE	05 17 1910	N22 W18	05 16.4		A	AX	10	1	1	2
5023		LEAR	05 18 0020	N23 W21	05 16.4		B	BXO	20	5	3	3
5023		SVTO	05 18 0519	N23 W23	05 16.4		B	CRO	20	5	4	3
5023		RAMY	05 18 1230	N24 W27	05 16.4		B	CXO	10	4	5	4
5023	24599	MWIL	05 18 1500	N24 W31	05 16.2	4	(AP)					
5023		PALE	05 18 1715	N23 W33	05 16.2		A	AX	20	1	1	3
5023		HOLL	05 18 1900	N22 W31	05 16.4		B	BXO	10	2	4	2
5023		LEAR	05 19 0009	N23 W35	05 16.3		B	BXO	10	3	4	4
5023		SVTO	05 19 0518	N23 W37	05 16.4		A	AX		1		4
5024		HOLL	05 15 1502	S37 E17	05 17.0		B	BXO	10	2	3	3
5024		LEAR	05 16 0002	S36 E12	05 17.0		B	BXO	10	3	1	3
5024		SVTO	05 16 0532	S35 E09	05 16.9		B	BXO		3	3	4
5024		RAMY	05 16 1245	S35 E04	05 16.8		B	BXO	10	6	4	4
5024		BOUL	05 16 1400	S36 E04	05 16.9		B	BXO	10	3	3	2
5024		HOLL	05 16 1503	S36 E04	05 16.9		B	BXO	20	5	4	3
5024	24601	MWIL	05 16 1515	S37 E04	05 16.9	4	(B)					
5024		PALE	05 16 1815	S36 E03	05 17.0		B	CRO	20	4	6	3
5024		LEAR	05 17 0105	S36 W02	05 16.9		B	CRO	30	9	5	4
5024		BOUL	05 17 1315	S35 W09	05 16.8		B	BXO	20	3	3	1
5024		RAMY	05 17 1425	S35 W10	05 16.8		B	BXO	10	4	5	3

S U N S P O T G R O U P S
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo Day (UT)	Lat CMD	CMP Mo Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
5024		HOLL	05 17 1715	S36 W09	05 17.0		B	BXO	20	5	6	3
5024	24601	MWIL	05 17 1815	S35 W13	05 16.7	3	(AP)					
5024		PALE	05 17 1910	S35 W14	05 16.7		A	AXO	10	2	1	2
5024		LEAR	05 18 0020	S35 W16	05 16.7		B	BXO	20	2	2	3
5021	24596	MWIL	05 14 1445	N08 E73	05 20.1	3	(AP					
5021		HOLL	05 14 1538	N08 E70	05 19.9		B	BXO	10	2	3	4
5021		PALE	05 14 1753	N08 E68	05 19.8		A	AX	10	2	2	3
5021		LEAR	05 15 0003	N08 E64	05 19.8		A	AX	10	1	1	3
5021		SVTO	05 15 0805	N08 E60	05 19.8		A	AX	10	1	1	2
5021	24596	MWIL	05 15 1500	N08 E56	05 19.8	4	(AP)					
5021		HOLL	05 15 1502	N08 E57	05 19.9		A	AX		1		3
5021A		RAMY	05 24 1330	N24 W58	05 20.1		A	AX		1	1	4
5021A	24611	MWIL	05 24 1515	N24 W60	05 20.0	3	(AP)					
5021B		HOLL	05 24 2155	N19 W27	05 22.8		A	AX	10	1	1	3
5021C		HOLL	05 26 1452	N37 W36	05 23.7		A	AX	10	1	1	4
5021C	24613	MWIL	05 26 1515	N37 W37	05 23.6	2	(AP)					
5021C		PALE	05 26 1912	N37 W39	05 23.6		A	AX	10	1	1	3
5025		HOLL	05 19 1722	S21 E70	05 25.1		A	AX	20	2	1	3
5025		SVTO	05 20 0713	S18 E68	05 25.5		B	BXO	20	2	2	3
5025		RAMY	05 20 1315	S21 E67	05 25.7		B	BXO	60	2	6	3
5025	24604	MWIL	05 20 1415	S18 E64	05 25.5	3	(AP)					
5025		HOLL	05 20 1700	S20 E65	05 25.7		B	BXO	10	3	8	4
5025		CULG	05 21 0142	S17 E57	05 25.4		A	AX	10	1	1	2
5025		LEAR	05 21 0543	S19 E54	05 25.3		B	BXO	10	2	5	2
5025		SVTO	05 21 0545	S18 E59	05 25.7		B	BXO	10	5	11	3
5025		RAMY	05 21 1307	S17 E49	05 25.3		B	BXO	10	4	4	3
5025		BOUL	05 21 1400	S19 E48	05 25.2		B	BXO	20	4	2	2
5025	24604	MWIL	05 21 1415	S16 E48	05 25.2	4	(AP)					
5025	24604	MWIL	05 21 1415	S19 E51	05 25.5	4	(BP)					
5025		HOLL	05 21 1540	S19 E51	05 25.5		B	BXO	20	9	12	3
5025		PALE	05 21 1826	S21 E53	05 25.8		B	CSO	20	6	11	3
5025		LEAR	05 22 0018	S19 E46	05 25.5		B	BXO	30	9	6	3
5025		CULG	05 22 0427	S18 E42	05 25.4		A	AX	10	1	1	2
5025		SVTO	05 22 0645	S19 E42	05 25.5		B	BXO	10	6	2	3
5025		RAMY	05 22 1304	S19 E37	05 25.4		A	AX	10	3	2	2
5025		HOLL	05 22 1529	S18 E37	05 25.5		A	AX	10	3	2	3
5025	24604	MWIL	05 22 1530	S19 E36	05 25.4	3	(AP)					
5025		PALE	05 22 1913	S18 E35	05 25.5		A	AX	10	4	2	3
5025		LEAR	05 23 0026	S19 E31	05 25.4		B	AX	10	2	2	3
5025		SVTO	05 23 0600	S20 E28	05 25.4		A	AX		1		3
5025		RAMY	05 23 1325	S17 E22	05 25.2		A	AX		1	1	3
5025		LEAR	05 24 0012	S18 E18	05 25.4		B	BRO	10	2	4	4
5025		RAMY	05 24 1330	S17 E12	05 25.5		A	AX		2	2	4
5025		LEAR	05 25 0025	S17 E05	05 25.4		A	AX	10	2	2	4
5025		SVTO	05 25 0525	S17 E03	05 25.4		A	AX		1		3
5025		HOLL	05 26 1452	S18 W15	05 25.5		A	AX	10	2	1	4
5025		PALE	05 26 1912	S19 W19	05 25.3		A	AX	10	3	4	3
5025A	24605	MWIL	05 20 1415	S25 E73	05 26.2	3	(AF)					
5025A	24605	MWIL	05 21 1415	S26 E59	05 26.2	4	(AF)					
5025A	24605	MWIL	05 24 1515	S19 E14	05 25.7	3	(BP)					
5025A		LEAR	05 25 0010	S23 E15	05 26.2		B	CSO	30	3	3	3
5025A		BOUL	05 25 1326	S23 E08	05 26.2		A	AX	10	1	1	2
5025A	24605	MWIL	05 25 1515	S20 E04	05 25.9	3	(BP)					
5025A		HOLL	05 26 1452	S23 W07	05 26.1		A	AX	10	3	2	4
5025A	24605	MWIL	05 26 1515	S24 W06	05 26.2	3	(AF)					
5028	24607	MWIL	05 21 1415	S24 E75	05 27.4	3	(AP)					
5028		SVTO	05 22 0645	S22 E63	05 27.1		A	AX		1		3
5028		HOLL	05 22 1529	S22 E60	05 27.2		A	AX		1		3
5028	24607	MWIL	05 22 1530	S22 E58	05 27.1	3	(AP)					
5028		PALE	05 22 1913	S21 E56	05 27.1		B	BXO	10	2	4	3
5028		LEAR	05 23 0026	S23 E54	05 27.2		B	AX	10	2	1	3
5028		SVTO	05 23 0600	S24 E52	05 27.3		A	AX	10	1		3

SUNSPOT GROUPS
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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
5028		RAMY	05	23	1325	S23	E47	05	27.2		B	CRO	30	5	4	3
5028	24607	MWIL	05	23	1515	S21	E46	05	27.2	3	(BP)					
5028	24607	MWIL	05	23	1515	S24	E47	05	27.3	5	(B)					
5028		BOUL	05	23	1606	S23	E42	05	26.9		B	BXO	20	3	3	2
5028		HOLL	05	23	1736	S23	E45	05	27.2		B	CSO	30	5	3	3
5028		PALE	05	23	2045	S21	E44	05	27.2		B	DSO	60	5	7	3
5028		LEAR	05	24	0012	S24	E42	05	27.2		B	CRO	20	4	3	4
5028		CULG	05	24	0410	S21	E39	05	27.2		B	BRO	10	2	1	2
5028		SVTO	05	24	0730	S24	E38	05	27.2		B	CSO	20	3	4	2
5028		RAMY	05	24	1330	S23	E34	05	27.2		B	CSO	50	5	7	4
5028		HOLL	05	24	1500	S22	E33	05	27.2		B	CSO	30	3	4	3
5028	24607	MWIL	05	24	1515	S24	E33	05	27.2	5	(BP)					
5028		BOUL	05	24	1520	S21	E30	05	26.9		B	CAO	40	5	5	3
5028		PALE	05	24	1745	S22	E31	05	27.1		B	CSO	30	3	4	3
5028		LEAR	05	25	0025	S22	E29	05	27.2		B	CSO	40	3	4	4
5028		SVTO	05	25	0525	S22	E26	05	27.2		B	CSO	30	3	4	3
5028		BOUL	05	25	1326	S21	E20	05	27.1		B	CAO	30	8	7	2
5028		HOLL	05	25	1505	S22	E20	05	27.2		B	CSO	20	3	4	3
5028	24607	MWIL	05	25	1515	S24	E20	05	27.2	5	(BP)					
5028		PALE	05	25	1749	S22	E20	05	27.3		B	CSO	20	3	4	2
5028		LEAR	05	26	0010	S23	E15	05	27.2		B	CSO	30	3	3	3
5028		SVTO	05	26	0530	S23	E12	05	27.1		B	CSO	20	7	3	4
5028		CULG	05	26	0530	S24	E10	05	27.0		A	HS	10	1	1	1
5028		RAMY	05	26	1230	S22	E09	05	27.2		B	CAO	20	8	4	4
5028		BOUL	05	26	1415	S21	E08	05	27.2		B	CAO	60	7	4	3
5028		HOLL	05	26	1452	S21	E08	05	27.2		B	CAO	30	13	5	4
5028	24607	MWIL	05	26	1515	S23	E07	05	27.2	5	(BP)					
5028		PALE	05	26	1912	S22	E08	05	27.4		B	CSO	30	7	4	3
5028		LEAR	05	27	0135	S23	E01	05	27.1		B	CRO	20	4	1	4
5028		CULG	05	27	0500	S22	W01	05	27.1		B	CSO	20	2	2	1
5028		SVTO	05	27	0538	S22	W02	05	27.1		B	BXO	20	5	3	2
5028		RAMY	05	27	1307	S21	W05	05	27.2		B	BXO	10	6	4	4
5028		BOUL	05	27	1415	S22	W06	05	27.1		B	BXO	20	9	4	3
5028		HOLL	05	27	1505	S22	W06	05	27.2		B	BXO	10	6	3	4
5028	24607	MWIL	05	27	1515	S23	W07	05	27.1	4	(BP)					
5028		PALE	05	27	1800	S23	W07	05	27.2		A	AX	10	4	1	3
5028		LEAR	05	28	0208	S23	W12	05	27.2		B	CRO	20	3	2	2
5028		CULG	05	28	0600	S23	W16	05	27.0		B	BXO	20	2	2	2
5028		SVTO	05	28	0733	S21	W15	05	27.2		B	CRO	20	5	4	3
5028		RAMY	05	28	1250	S22	W19	05	27.1		B	BXO	20	10	7	4
5028		BOUL	05	28	1418	S22	W16	05	27.4		B	CSI	40	15	5	2
5028	24607	MWIL	05	28	1530	S23	W18	05	27.2	3	(AP)					
5028		HOLL	05	28	1619	S23	W19	05	27.2		B	BXO	10	6	4	3
5028		PALE	05	28	1835	S25	W21	05	27.1		B	BXO	10	5	5	3
5028		SVTO	05	29	0430	S23	W25	05	27.3		A	AX		2		1
5028		CULG	05	29	0500	S22	W27	05	27.1		A	AX	10	1	1	3
5028		RAMY	05	29	1330	S21	W32	05	27.1		A	AX	10	4	2	4
5028		HOLL	05	29	1447	S22	W31	05	27.2		A	AX	10	5	2	3
5028		PALE	05	29	1755	S23	W30	05	27.4		B	BXO	20	4	4	3
5028		SVTO	05	30	0541	S24	W38	05	27.3		A	HR	20	5	4	4
5028		RAMY	05	30	1420	S23	W41	05	27.4		A	AX	30	3	3	3
5028		HOLL	05	30	1510	S23	W42	05	27.4		A	AX	20	3	2	4
5028		PALE	05	30	1709	S23	W44	05	27.3		A	AX	20	2	2	3
5028		LEAR	05	31	0012	S23	W47	05	27.4		A	AX	10	3	2	3
5028		SVTO	05	31	0708	S23	W51	05	27.4		A	AX	10	4	3	3
5028		HOLL	05	31	1408	S21	W60	05	27.0		A	AX	20	2	2	4
5028		PALE	05	31	1920	S24	W59	05	27.2		A	AX	10	3	2	3
5028		RAMY	06	01	1217	S22	W67	05	27.5		A	AX	10	2	1	4
5028		HOLL	06	01	1540	S22	W68	05	27.5		A	AX	10	1	1	4
5027		SVTO	05	21	1250	S25	E80	05	27.7		B	BXO	30	4	4	3
5027		RAMY	05	21	1307	S25	E79	05	27.7		B	CRO	40	2	3	3
5027		BOUL	05	21	1400	S26	E81	05	27.9		B	BXO	20	3	3	2
5027	24608	MWIL	05	21	1415	S25	E84	05	28.1	4	(B					
5027		HOLL	05	21	1540	S23	E80	05	27.8		B	BXO	30	6	5	3
5027		PALE	05	21	1826	S23	E80	05	27.9		B	DSO	60	4	7	3
5027		LEAR	05	22	0018	S24	E76	05	27.9		B	CSO	60	9	6	3
5027		CULG	05	22	0427	S24	E73	05	27.8		B	BXO	30	3	5	2
5027		SVTO	05	22	0645	S26	E75	05	28.1		B	DAI	60	19	10	3

SUNSPOT GROUPS
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NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
5027		RAMY	05	22	1304	S25	E71	05	28.0		B	CSI	120	13	9	2
5027		HOLL	05	22	1529	S24	E70	05	28.0		BG	DSI	110	14	6	3
5027	24608	MWIL	05	22	1530	S20	E70	05	28.0	3	(AF)					
5027	24608	MWIL	05	22	1530	S26	E72	05	28.2	4	(B)					
5027		PALE	05	22	1913	S24	E71	05	28.3		BG	EAI	210	21	11	3
5027		LEAR	05	23	0026	S25	E66	05	28.1		B	DSI	80	19	10	3
5027		SVTO	05	23	0600	S26	E64	05	28.2		BG	EAI	240	24	11	3
5027		RAMY	05	23	1325	S26	E57	05	28.0		B	EKC	590	48	11	3
5027	24608	MWIL	05	23	1515	S21	E58	05	28.1	3	(AF)					
5027	24608	MWIL	05	23	1515	S26	E59	05	28.2	5	(D)					
5027		BOUL	05	23	1606	S25	E55	05	27.9		B	EAI	270	26	11	2
5027		HOLL	05	23	1736	S24	E57	05	28.1		BG	EKC	400	31	11	3
5027		PALE	05	23	2045	S24	E58	05	28.3		BG	EKI	510	32	14	3
5027		LEAR	05	24	0012	S26	E53	05	28.1		BG	EAI	320	38	12	4
5027		CULG	05	24	0410	S22	E49	05	27.9		BGD	EKI	370	7	12	2
5027		SVTO	05	24	0730	S26	E50	05	28.2		BGD	EKI	220	26	12	2
5027		RAMY	05	24	1330	S24	E45	05	28.0		BGD	EKC	650	61	14	4
5027	24608	MWIL	05	24	1515	S21	E43	05	27.9	3	(AF)					
5027	24608	MWIL	05	24	1515	S26	E44	05	28.0	5	(D)					
5027		BOUL	05	24	1520	S25	E43	05	28.0		B	EKC	630	33	13	3
5027		PALE	05	24	1745	S24	E44	05	28.1		BG	EKC	600	32	12	3
5027		HOLL	05	24	2155	S22	E41	05	28.1		BGD	EKI	620	32	12	3
5027		LEAR	05	25	0025	S24	E39	05	28.0		BGD	EAI	490	40	12	4
5027		SVTO	05	25	0525	S25	E38	05	28.2		BGD	EKI	370	28	13	3
5027		BOUL	05	25	1326	S25	E32	05	28.0		B	EAI	340	50	14	2
5027		HOLL	05	25	1505	S23	E32	05	28.1		BGD	EKC	590	54	15	3
5027	24608	MWIL	05	25	1515	S26	E34	05	28.3	5	(D)					
5027		PALE	05	25	1749	S23	E33	05	28.3		BGD	EKI	530	45	15	2
5027		LEAR	05	26	0010	S25	E24	05	27.9		BGD	EAI	490	45	13	3
5027		SVTO	05	26	0530	S25	E24	05	28.1		BGD	ESI	400	61	15	4
5027		CULG	05	26	0530	S26	E21	05	27.9		BD	EKI	440	13	13	1
5027		RAMY	05	26	1230	S24	E20	05	28.1		BGD	EKI	720	54	15	4
5027		BOUL	05	26	1415	S24	E18	05	28.0		BGD	EKC	700	42	15	3
5027		HOLL	05	26	1452	S23	E19	05	28.1		BGD	FKC	500	59	16	4
5027	24608	MWIL	05	26	1515	S24	E18	05	28.0	5	(D)					
5027		PALE	05	26	1912	S23	E18	05	28.2		BGD	FKC	490	57	17	3
5027		LEAR	05	27	0135	S23	E11	05	27.9		BGD	FAI	630	66	19	4
5027		CULG	05	27	0500	S25	E11	05	28.1		BGD	EKI	600	20	14	1
5027		SVTO	05	27	0538	S25	E10	05	28.0		BGD	FKC	420	49	16	2
5027		RAMY	05	27	1307	S23	E06	05	28.0		BGD	FKI	740	65	17	4
5027		BOUL	05	27	1415	S23	E05	05	28.0		BGD	FKC	500	70	16	3
5027		HOLL	05	27	1505	S23	E06	05	28.1		BGD	FKC	400	78	17	4
5027	24608	MWIL	05	27	1515	S24	E05	05	28.0	5	(D)					
5027		PALE	05	27	1800	S24	E04	05	28.0		BGD	FKC	610	79	17	3
5027		LEAR	05	28	0208	S23	W01	05	28.0		BGD	FKC	570	60	17	2
5027		CULG	05	28	0600	S24	W04	05	27.9		BGD	FKC	520	15	16	2
5027		SVTO	05	28	0733	S24	W04	05	28.0		BGD	FKC	600	59	16	3
5027		RAMY	05	28	1250	S23	W07	05	28.0		B	FKC	670	84	18	4
5027		BOUL	05	28	1418	S23	W06	05	28.1		B	EKC	440	57	14	2
5027	24608	MWIL	05	28	1530	S25	W07	05	28.1	5	(D)					
5027		HOLL	05	28	1619	S24	W07	05	28.1		B	FKC	460	63	18	3
5027		PALE	05	28	1835	S24	W09	05	28.1		B	FKI	540	63	17	3
5027		SVTO	05	29	0430	S24	W14	05	28.1		BGD	FKC	680	43	18	1
5027		CULG	05	29	0500	S24	W15	05	28.0		BG	FKC	250	20	17	3
5027		RAMY	05	29	1330	S23	W19	05	28.1		BGD	FKC	750	89	18	4
5027		BOUL	05	29	1415	S24	W21	05	28.0		B	FKC	550	56	22	3
5027		HOLL	05	29	1447	S24	W20	05	28.1		BGD	FKC	520	65	18	3
5027	24608	MWIL	05	29	1615	S25	W20	05	28.1	5	(D)					
5027		PALE	05	29	1755	S24	W19	05	28.3		BGD	FKC	510	50	16	3
5027		CULG	05	30	0500	S23	W28	05	28.0		BG	FAC	580	20	19	3
5027		SVTO	05	30	0541	S24	W27	05	28.1		BG	FKC	660	51	17	4
5027		RAMY	05	30	1420	S25	W30	05	28.3		BGD	FKC	590	47	16	3
5027		BOUL	05	30	1430	S24	W31	05	28.2		B	FAI	370	32	18	2
5027		HOLL	05	30	1510	S24	W33	05	28.1		BGD	FAC	360	40	16	4
5027	24608	MWIL	05	30	1515	S25	W31	05	28.2	5	(D)					
5027		PALE	05	30	1709	S24	W32	05	28.2		BGD	FKC	530	39	16	3
5027		LEAR	05	31	0012	S24	W35	05	28.3		BGD	FAI	400	43	15	3
5027		CULG	05	31	0400	S25	W39	05	28.1		BG	FHC	460	16	16	3
5027		SVTO	05	31	0708	S24	W40	05	28.2		BG	EKI	470	21	15	3

SUNSPOT GROUPS
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

MAY 1988

NOAA/ USAF Group	Mt Wilson Group	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
5027		RAMY	05	31	1320	S23	W44	05	28.2		BG	FKI	500	41	17	4
5027		HOLL	05	31	1408	S24	W46	05	28.0		BGD	FSC	380	30	18	4
5027	24608	MWIL	05	31	1500	S24	W44	05	28.2	5	(D)					
5027		BOUL	05	31	1540	S24	W43	05	28.3		B	EAI	250	10	14	2
5027		PALE	05	31	1920	S26	W45	05	28.3		B	FHI	170	18	16	3
5027		CULG	06	01	0325	S23	W52	05	28.2		BG	FSI	180	17	19	2
5027		LEAR	06	01	0450	S25	W55	05	28.0		B	EAO	180	16	18	3
5027		RAMY	06	01	1217	S24	W56	05	28.3		B	EAI	270	19	14	4
5027		BOUL	06	01	1400	S23	W53	05	28.6		B	FAI	150	7	18	3
5027	24608	MWIL	06	01	1500	S25	W57	05	28.3	5	(D)					
5027		HOLL	06	01	1540	S25	W53	05	28.6		B	FAO	230	25	17	4
5027		SVTO	06	01	1640	S24	W53	05	28.7		BGD	FAI	100	16	19	2
5027		LEAR	06	02	0328	S25	W65	05	28.2		B	FKO	260	11	19	2
5027		RAMY	06	02	1315	S24	W68	05	28.4		B	DAI	260	9	10	2
5027		BOUL	06	02	1320	S22	W66	05	28.6		B	DAI	290	10	10	3
5027		SVTO	06	02	1455	S24	W66	05	28.6		BG	DKO	370	13	8	4
5027		HOLL	06	02	1500	S24	W66	05	28.6		B	DKO	400	9	9	4
5027	24608	MWIL	06	02	1500	S24	W66	05	28.6	5	(B)					
5027		LEAR	06	03	0020	S24	W75	05	28.3		B	EHO	190	5	11	3
5027		CULG	06	03	0330	S24	W75	05	28.4		A	HS	250	2	6	1
5027		SVTO	06	03	0525	S24	W70	05	28.9		B	EHI	240	8	15	3
5027		BOUL	06	03	1325	S23	W75	05	28.9		B	CAO	150	9	11	4
5027		RAMY	06	03	1423	S24	W78	05	28.7		B	DAI	280	5	10	4
5027	24608	MWIL	06	03	1445	S23	W77	05	28.8	4	(AF)					
5027		HOLL	06	03	1550	S24	W78	05	28.7		B	CKO	240	5	9	3
5027		PALE	06	03	1746	S24	W74	05	29.1		B	CKO	170	4	9	2
5027		LEAR	06	04	0017	S24	W84	05	28.6		B	CSO	120	2	10	3
5027		SVTO	06	04	0550	S23	W86	05	28.7		B	BXO	70	2	7	3
5030		PALE	05	27	1800	N27	E17	05	29.1		B	BXO	10	2	3	3
5030		LEAR	05	28	0208	N26	E13	05	29.1		B	BXO	20	3	3	2
5030		SVTO	05	28	0733	N28	E09	05	29.0		B	CRO	20	6	4	3
5030		RAMY	05	28	1250	N27	E07	05	29.1		B	BXO	20	7	4	4
5030		BOUL	05	28	1418	N26	E06	05	29.1		B	BXO	10	4	4	2
5030	24614	MWIL	05	28	1530	N27	E07	05	29.2	3	(BP)					
5030		HOLL	05	28	1619	N26	E06	05	29.1		B	BXO	20	5	3	3
5030		PALE	05	28	1835	N27	E05	05	29.2		B	BXO	10	4	4	3
5030		RAMY	05	29	1330	N27	W06	05	29.1		B	BXO	10	3	3	4
5030		BOUL	05	29	1415	N23	W07	05	29.0		A	AX		1		3
5030		HOLL	05	29	1447	N26	W07	05	29.1		A	AX	10	2	2	3
5030		PALE	05	29	1755	N26	W10	05	29.0		A	AX	10	1	1	3
5030		SVTO	05	30	0541	N26	W17	05	28.9		A	AX		1		4
5033		LEAR	05	31	0012	N38	W07	05	30.4		A	AX	10	1	1	3
5033		CULG	05	31	0400	N38	W08	05	30.5		A	AX	10	1	1	3
5033		SVTO	05	31	0708	N39	W10	05	30.5		A	AX	20	2	2	3
5033		RAMY	05	31	1320	N38	W13	05	30.5		B	BXO	10	2	2	4
5033		HOLL	05	31	1408	N38	W13	05	30.5		A	AX	10	1	1	4
5033	24617	MWIL	05	31	1500	N39	W14	05	30.5	4	(AF)					
5033		PALE	05	31	1920	N39	W18	05	30.3		A	AX	30	1	1	3
5033		CULG	06	01	0325	N37	W20	05	30.6		A	AX	10	1	1	2
5033		LEAR	06	01	0450	N38	W21	05	30.6		A	AX	20	1	1	3
5033		RAMY	06	01	1217	N39	W25	05	30.6		A	AX		1	1	4
5033	24617	MWIL	06	01	1500	N39	W27	05	30.5	3	(AF)					
5033		HOLL	06	01	1540	N38	W26	05	30.6		A	AX	10	2	1	4
5033		SVTO	06	02	1455	N38	W40	05	30.5		A	AX		1		4
5033	24617	MWIL	06	02	1500	N37	W39	05	30.6	2	AF					
5033		HOLL	06	02	1500	N38	W41	05	30.4		A	AX	10	1	1	4
5033		LEAR	06	03	0020	N38	W45	05	30.5		A	AX	10	1	1	3
5033		SVTO	06	03	0525	N38	W48	05	30.4		A	AX		1		3
5033		RAMY	06	03	1423	N39	W50	05	30.6		B	BXO	20	4	5	4
5033	24617	MWIL	06	03	1445	N38	W52	05	30.5	3	(B)					
5033		HOLL	06	03	1550	N38	W54	05	30.4		B	BXO	10	3	5	3
5033		SVTO	06	04	0550	N40	W57	05	30.7		A	AX	10	2	1	3

Stations reporting:

BOUL = Boulder
CULG = Culgoora
HOLL = Holloman
LEAR = Learmonth
MWIL = Mt. Wilson
PALE = Palehua
RAMY = Ramey
SVTO = San Vito

SUDDEN IONOSPHERIC DISTURBANCES

MAY 1988

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF SPA	SES	Known Flare	X-ray Class	NOAA Region
02	1351	1359	1420	1-	3	1	1		1	3	1351 UT	C1.2	5005
03	1536	1550	1605	1	3	1			1	4	1536 UT	C5.0	5002
03	1755	1801	1830	2	3					8	1748 UT	C3.4	5002
03	2251	2259	2357	1-	1			1			2241 UT		5002
04	0209	0245	0352	1	3			1	1		0212 UT	C5.1	5002
04	0418	0421	0432	1-	3			1	1		0416 UT	C1.2	
04	0459	0509	0537	1-	3			1	1		No flare		
04	0851	0906	0950	1	3	1	2	1	1	3	0852 UT	C3.4	5005
04	1158	1213	1250	1	1				1		1158 UT	C1.8	
04	1612	1619	1643	1	1		1				1603 UT		5005
05	0319	0330	0407	1-	3			1	1		0319 UT	C1.5	
05	1944	1949	2027	1-	3	1		1		5	1944 UT	C8.8	5005
06	0506	0513	0531	1-	3			1	1		0508 UT	C1.3	
06	0933	0947	1015	1-	3				1	1	0933 UT	C1.8	
06	1435	1443	1506	1	3		2				1435 UT		5005
07	0424	0438	0509	1-	3			1	1		0422 UT	C1.1	
07	0901	0904	0915	1	1					1	0859 UT	C1.8	
10	0528	0600	0740	2+	3					3	No Flare		
12	2336	2343	0009	1-	1			1			2334 UT	C1.4	
15	1140	1230	1300	2	3		2				No flare		
15	1459	1502	1530	1	3		2				No flare		
17	0528	0544	0700	1-	3			1	1	1	0523 UT	C1.5	
17	1933	2027	2307	2+	1			1			1927 UT	M6.0	
17	2004	2024	2155	2+	5	1		1		9	*		
20	0612	0624	0745	3	5	4	2	1	2	5	0610 UT		
20	1358	1507	1631	3	1		1				1400 UT		
20	2345	2357	0020	1-	1				1		2354 UT		5026
21	1858	1908	2000	1	3			1		2	1859 UT	C3.8	5026
22	0137	0146	0210	1-	3			1	1		0137 UT	C1.4	5025
22	0324	0333	0354	1-	1				1		0325 UT	C1.8	5025
22	1104	1118	1205	1-	5	2	3	1	1	5	1101 UT	C4.6	5027
23	0231	0313	0435	1	3			1	1		0226 UT		5027
23	0250	0312	0414	1-	3			1	1		0254 UT	C8.6	5027
23	0529	0543	0743	2	3			1	2	2	0528 UT	C7.9	5027
23	0757	0801	0813	1-	3			1	1		0756 UT	C4.0	5027
23	0826	0841	0924	1+	3	1	2	1	1	5	0824 UT	C6.6	5027
23	1210	1226	1307	1-	5	3	3	1	1	9	1200 UT	M1.1	5027
23	1508	1517	1550	1-	3	1	1		1	6	1507 UT	C3.8	5028
23	1732	1737	1820	1-	3	1			1	7	1728 UT	C6.4	5027
23	1840	1845	1910	1+	1					1	1839 UT	C1.7	5027
24	0400	0409	0445	1-	3			1	1		No Flare		
24	0551	0601	0632	1-	3			1	1		0550 UT	C2.0	5027
24	0811	0827	0905	1	3	1	1	1	1	2	0812 UT	C4.6	5027
24	1330	1333	1350	1	1					1	1329 UT	C1.5	5027
24	2104	2106	2123	1	1					1	2057 UT	C1.2	
24	2232	2237	2317	1-	1			1			2231 UT	C2.1	5027
25	0327	0329	0350	1-	1			1			0327 UT	C1.0	5027
25	0614	0619	0640	1-	1			1			0606 UT		5027
25	0928	0940	1033	1+	3	2	2	1	1	4	0926 UT	C4.2	
25	1355	1358	1410	1-	1					1	1354 UT	C2.1	5027
25	1546	1558	1645	2	3		1			6	1548 UT		5027
25	2156	2202	2238	1-	1			1			2153 IT	C2.0	5027
25	2250	2300	2328	1-	1			1			2250 UT	C3.1	5027
26	0002	0004	0049	1-	3			1	1		0005 UT	C2.5	5027

SUDDEN IONOSPHERIC DISTURBANCES

MAY 1988

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF SPA	SES	Known Flare	X-ray Class	NOAA Region
26	0100	0108	0230	2+	3	2		1	1		0100 UT	M1.0	5027
26	0247	0300	0331	1-	3			1	1		0245 UT	C2.5	
26	0453	0505	0543	1-	3			1	1		0453 UT	C2.5	
26	0540	0557	0630	2	1		1				0540 UT		5027
26	2030	2054	2110	1-	3	1		1		2	2032 UT	M1.1	5027
26	2110	2117	2246	1+	3	1				8	No Flare		
27	0543	0553	0700	2	3	3	2	1	2	4	0540 UT	C5.7	5027
27	1127	1135	1220	1	5	3	1	1	1	11	1126 UT	C7.4	5027
27	1345	1348	1430	1+	5	2			1	10	1344 UT	M2.0	5027
27	2000	2009	2030	1-	3			1		4	2000 UT	C2.2	5027
27	2345	2347	0013	1-	1			1			2344 UT	C3.5	
28	0043	0057	0230	2+	3	2		1	1		0043 UT	M1.1	5027
28	0437	0439	0524	1-	1			1			0437 UT	C2.5	5027
28	0803	0806	0816	1-	3			1		2	0759E UT	C2.3	5027
28	0822	0831	0900	1	3	3	1	1	1	3	0820 UT	C5.2	
28	0905	0917	0941	1	3	3	1	1	1	4	0859 UT	C1.4	5027
28	1115	1121	1210	1	3	1			1	3	1109 UT	C2.5	5027
28	1322	1324	1330	1	1	1					1323 UT	C1.2	5027
28	2304	2327	0016	1-	1			1			2309E UT	C3.0	5027
29	0113	0128	0205	1-	3			1	1		No flare		
29	0436	0440	0454	1-	1				1		0432 UT	C1.0	
29	0535	0543	0712	2+	5	3	1	1	2	2	0531 UT	M1.0	5027
29	0909	0920	0950	1	3	1	1	1	1	3	0909 UT	C2.4	5027
29	1302	1315	1345	2	3				1	5	1259 UT	C4.6	
29	1350	1354	1430	1	3				1	5	1350 UT	C3.3	5027
29	2015	2016	2031	1-	1					1	2008 UT	C2.7	5027
29	2253	2255	2310	1-	1			1			2251 UT	C2.6	
30	0106	0113	0143	1-	3			1	1		0103 UT		
30	0445	0456	0532	1-	3			1	1		0439 UT	C1.9	5027
30	0622	0626	0700	1-	3	1		1	2		0612 UT	C1.8	5027
30	0849	0901	0920	1-	3	1		1	1	2	0847 UT	C2.7	5027
30	1502	1508	1528	1+	3					3	1501 UT	C2.1	5027
30	1750	1801	1833	2	3					4	1749 UT	C2.9	5027
30	1950	2104	2114	1-	3			1		7	1947 UT	C8.9	5027
30	2002	2017	2030	1	3	1				1	2008 UT	C2.7	5027
31	0018	0029	0143	1-	3	1		1			0018 UT	C5.7	5027
31	1420	1428	1455	1-	5	1	2		1	9	1419 UT	C5.4	5027
31	2044	2104	2126	1-	1	1					2043 UT	C2.1	

*No flare patrol.

SUDDEN IONOSPHERIC DISTURBANCES

OBSERVATORIES REPORTING FOR MAY 1988

Amherst, New Hampshire, USA	SES	Louisville, Kentucky, USA	SES
Ayrshire, Scotland	SES	Maui, Hawaii, USA	SWF
Darmstadt, German Federal Republic	SWF	Panska Ves, Czechoslovakia	SES, SEA, SWF
Farsta, Sweden	SES	Paterson, New Jersey, USA	SES
Hiraiso, Japan	SWF	Rimavska, Sobota, Czechoslovakia	SEA
Houston, Texas, USA	SES	Somesworth, New Hampshire, USA	SES
Inubo, Japan	SPA	Tavares, Florida, USA	SES
Juliusruh, German Democratic Rep.	SWF	Tournal, Belgium	SES
Kandilli, Turkey	SEA	Tucson, Arizona, USA	SES
Kuhlungsborn, German Democratic Rep.	SEA, SPA	Upice, Czechoslovakia	SEA
Latrobe, Pennsylvania, USA	SES	Valley Cottage, New York, USA	SES
Lintong, People's Republic of China	SPA	Zilina, Czechoslovakia	SEA

*Observations are not necessarily continuous.

SUDDEN IONOSPHERIC DISTURBANCES
MAY 1988

SIDs BY NOAA/SESC REGIONS

Day :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Reg No.																															
5002			3	1																											
5005		1		2	1	1																									
5025																						2									
5026																				1	1										
5027																						1	8	4	6	4	4	7	4	7	2
5028																							1								
Number of events with X-Ray flares																															
		1	2	4	2	2	2					1				2					1	3	8	5	5	5	5	8	7	7	3
Number of events with no flare patrol																															
																	1														
Number of events with no flare reported																															
				1						1					2									1		1			1		
Total SID events																															
		1	3	6	2	3	2			1		1			2		3			3	1	3	9	6	7	7	5	8	8	8	3

SOLAR RADIO EMISSION--SPECTRAL OBSERVATIONS

MAY 1988

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
01	0000	0729	CULG				0000.0	0635.0	1	0000.0	0635.0		IIIS
			CULG				0000.0	0235.0	1				I,DC
			LEAR				0017.0	0800.0	1				CONT
			PALE				0059.0	0100.0	1				III
			PALE				0111.0	0114.0	1				III
			PALE				0136.0	0137.0	1				III
			PALE				0159.0	0211.0	1				S
			LEAR				0229.0	0229.0	2				III
			PALE				0229.0	0229.0	2				III
			CULG				0235.0	0729.0	1				I,DC
	0447	1811	WEIS										
			SGMR				1000.0	2321.0	1				CONT
			PALE				1806.0	1807.0	2				III
			SGMR				1806.0	1807.0	2				V
	2029	2400	CULG				2029.0	2400.0	1				IIIB,N
02	0000	0729	CULG				0000.0	0626.0	1				IIIB,N
			CULG				0000.0	0729.0	1				IS
			LEAR				0234.0	0235.0	1				III
			LEAR				0337.0	0337.0	1				III
			SGMR				0958.0	2322.0	1				CONT
	0444	1400	WEIS				1313.7	1314.1	1				IIIB
	1410	1812	WEIS				1516.0	1517.2	1				IIIG
			SGMR				1640.0	1642.0	2				V
			WEIS				1640.9	1641.6	2				IIIG
			WEIS				1659.3	1659.8	2				IIIB
			PALE				1933.0	1934.0	2				III
			SGMR				1933.0	1934.0	2				V
			PALE				1951.0	1951.0	1				III
	2029	2400	CULG				2029.0	2400.0	1				I,DC
			CULG				2137.0	2137.0	1	2137.0	2137.0		IIIB
			CULG				2325.0	2327.0	1				IIIG
03	0000	0729	CULG				0000.0	0150.0	1				I,DC
			LEAR				0155.0	0155.0	2				III
			CULG				0156.0	0156.0	1				IIIB
			CULG				0225.0	0255.0	1				IIIB
			LEAR				0255.0	0258.0	1				III
			CULG				0258.0	0258.0	1				IIIB
	0447	0515	WEIS										
	0547	1814	WEIS										
			SGMR				1539.0	2323.0	1				CONT
	2029	2400	CULG				2240.0	2240.0	1				IIIG
04	0000	0729	CULG				0210.0	0347.0	1				IV C
			CULG				0210.0	0218.0	3	0210.0	0218.0	3	IIIGG
			LEAR				0210.0	0224.0	2				V
			PALE				0210.0	0219.0	2				V
			CULG				0223.0	0237.0	1				II
			LEAR				0224.0	0236.0	2				II
			PALE				0224.0	0230.0	2				II
			LEAR				0245.0	0324.0	1				CONT
			LEAR				0245.0	0340.0	1				IV
			LEAR				0245.0	0515.0	1				IV
	0441	1243	WEIS										
	1255	1814	WEIS										
	2029	2400	CULG				2308.0	2308.0	1				IIIB
05	0000	0729	CULG										
	0441	1021	WEIS										
			SGMR				1226.0	1226.0	1				V
	1325	1817	WEIS										
			SGMR				1500.0	1501.0	1				V
	2029	2400	CULG										
06			LEAR				0212.0	0212.0	1				III

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06	0000	0729	CULG				0214.0	0215.0	1				IIIB
			LEAR				0626.0	0627.0	2				III
			CULG				0627.0	0627.0	1				IIIB
	0438	0819	WEIS				0627.0	0627.2	1				IIIB
			CULG				0629.0	0629.0	1				IIIB
			CULG				0712.0	0714.0	2	0712.0	0714.0	2	IIIB
			LEAR				0712.0	0713.0	3				III
			WEIS				0712.2	0713.8	3				IIIG
	0826	1817	WEIS				0844.1	0846.1	2				IIIG,U
			WEIS				0849.7	0850.2	2				IIIG
			WEIS				0852.3	0852.6	3				IIIB
			WEIS				0935.9	0937.4	3				IIIG
			SGMR				1309.0	1311.0	1				V
			WEIS				1309.6	1311.0	2				IIIG
			SGMR				1329.0	1331.0	1				V
			WEIS				1329.3	1331.4	2				IIIG
			SGMR				1408.0	1408.0	1				III
			WEIS				1408.4	1408.6	1				IIIB
			SGMR				1455.0	1456.0	1				III
			SGMR				1458.0	1459.0	2				V
			WEIS				1458.8	1459.3	3				IIIG
			SGMR				1811.0	1812.0	1				V
			SGMR				1819.0	1820.0	1				V
	2028	2400	CULG										
07	0000	0728	CULG										
	0438	1819	WEIS										
	2028	2400	CULG				2254.0	2303.0	1				IIIG
			CULG				2355.0	2400.0	1				IIIG
			CULG				2359.0	2359.0	2	2359.0	2359.0	2	IIIB
08	0000	0728	CULG				0000.0	0024.0	1				IIIG
			CULG				0238.0	0238.0	1				IIIB
	0435	1737	WEIS										
			SGMR				1814.0	1814.0	1				V
	2028	2400	CULG				2150.0	2152.0	1				IIIG
09	0000	0728	CULG										
	0435	1822	WEIS										
			SGMR				1320.0	1320.0	1				V
	2028	2400	CULG										
10	0000	0728	CULG										
	0432	1114	WEIS				1034.4	1035.1	3				IIIG
	2028	2400	CULG										
11	0000	0728	CULG				0406.5	0715.0	1				IIIB,N
			LEAR				0714.0	0716.0	1				V
	0433	1746	WEIS				0714.3	0715.0	2				IIIG
			LEAR				0758.0	0759.0	1				III
			WEIS				0759.5	0759.8	2				IIIG
			SGMR				1143.0	1203.0	2				II
			WEIS				1144.0	1203.0	3				II HB,HARM
			SGMR				1203.0	1217.0	1				S
			SGMR				1249.0	1249.0	1				V
			WEIS				1249.1	1249.3	1				IIIG
	2028	2400	CULG										
12	0000	0728	CULG										
	0429	1823	WEIS										
	2028	2400	CULG										
13	0000	0728	CULG										
	0430	1048	WEIS										
	1053	1519	WEIS										
			SGMR				1140.0	1141.0	1				III
	1610	1827	WEIS										

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13			SGMR				1808.0	1809.0	1				III
	2028	2400	CULG										
14	0000	0728	CULG										
			SGMR				1715.0	1716.0	1				V
	0427	1828	WEIS				1715.3	1716.3	2				IIIG
	2028	2400	CULG										
15	0000	0728	CULG										
	0428	1639	WEIS										
	2028	2400	CULG										
16	0000	0728	CULG										
			LEAR				0726.0	0727.0	3				III
	0425	0808	WEIS				0726.7	0727.1	3				IIIG
			SGMR				1221.0	1228.0	1				V
			SGMR				1221.0	2336.0	1				CONT
	0829	1712	WEIS				1309.8	1311.8	2				IIIG
			SGMR				1345.0	1346.0	2				V
			WEIS				1345.6	1346.0	3				IIIG
			WEIS				1406.7	1406.9	2				IIIG
			PALE				1849.0	1849.0	1				III
			PALE				1917.0	1918.0	1				III
	2028	2400	CULG										
17			LEAR				0057.0	0059.0	1				III
			PALE				0058.0	0058.0	1				III
			LEAR				0219.0	0219.0	1				III
			PALE				0219.0	0220.0	1				III
	0000	0728	CULG				0220.0	0220.0	1				IIIB
			SGMR				1154.0	1155.0	2				V
	0426	1552	WEIS				1154.4	1154.9	3				IIIG
			SGMR				1208.0	1402.0	1				CONT
			WEIS				1242.1	1242.9	1				IIIB
			WEIS				1323.0	1643.0	3				IIIN
			SGMR				1324.0	1335.0	2				V
			SGMR				1402.0	0000.0	2				CONT
			SGMR				1402.0	1402.0	2				V
			SGMR				1402.0	2337.0	2				CONT
			WEIS				1428.4	1453.4	3				IIIGG
			PALE				1720.0	1721.0	2				V
	1556	1831	WEIS				1720.6	1721.4	3				IIIGG
			PALE				1754.0	1756.0	2				III
			WEIS				1754.7	1756.1	3				IIIG
			PALE				1903.0	1911.0	3				V
			SGMR				1905.0	1909.0	3				V
			PALE				1914.0	1922.0	2				III
			SGMR				2007.0	2023.0	3				IV
			PALE				2009.0	2041.0	3				IV
	2028	2400	CULG				2056.0	2111.0	1				U,C
			PALE				2101.0	2118.0	1				S
			CULG				2105.0	2119.0	1				IIIG,N
			CULG				2134.0	2321.0	1				IIIB,N
			PALE				2135.0	2145.0	1				S
			PALE				2200.0	2214.0	1				S
			PALE				2254.0	2254.0	1				III
			PALE				2306.0	2320.0	2				S
			CULG				2319.0	2320.0	2	2300.0	2320.0		IIIG
18			LEAR				0004.0	0006.0	1				III
			PALE				0004.0	0006.0	1				III
	0000	0728	CULG				0004.5	0006.0	1				IIIG
			CULG				0029.0	0234.0	1				
			LEAR				0110.0	0110.0	1				III
			PALE				0110.0	0110.0	1				III
			CULG				0136.5	0140.5	2	0136.5	0140.5	2	IIIG
			LEAR				0137.0	0140.0	2				V

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18			LEAR				0213.0	0220.0	2				V
			CULG				0215.0	0217.5	2	0215.0	0217.5	2	II H
			CULG				0215.0	0430.0	1				U,C
			PALE				0215.0	0217.0	2				V
			LEAR				0222.0	0227.0	2				III
			PALE				0222.0	0227.0	1				III
			LEAR				0519.0	0539.0	2				CONT
			LEAR				0624.0	0625.0	2				III
	0423	1703	WEIS				0624.3	0624.9	2				IIIG
			CULG				0624.5	0624.5	1				IIIB
			WEIS				0923.7	0926.5	1				IIIGG
			WEIS				0947.2	0947.4	1				IIIG
			SGMR				1056.0	2338.0	1				CONT
			SGMR				1208.0	1209.0	2				V
			WEIS				1208.6	1209.1	3				IIIG
			WEIS				1434.9	1435.1	2				IIIB
			WEIS				1442.1	1442.3	1				IIIB
			WEIS				1456.3	1500.6	3				IIIGG
			SGMR				1457.0	1500.0	3				V
			PALE				1915.0	1916.0	1				III
			PALE				2321.0	2322.0	1				III
	2028	2400	CULG				2321.5	2322.0	1				IIIU
19	0000	0728	CULG										
	0423	0539	WEIS										
	0546	0940	WEIS										
			SGMR				1425.0	1425.0	2				V
	0953	1834	WEIS				1425.5	1425.6	2				IIIB
			SGMR				1728.0	1728.0	1				V
			PALE				2013.0	2015.0	1				III
	2028	2400	CULG										
20	0000	0728	CULG										
	0421	1834	WEIS										
	2028	2400	CULG										
21			LEAR				0313.0	0314.0	1				III
	0000	0728	CULG				0314.0	0314.0	1				IIIB
	0421	1241	WEIS										
			SGMR				1252.0	1252.0	1				III
			SGMR				1456.0	1457.0	2				V
	1355	1457	WEIS				1456.8	1457.1	3				IIIB
	1602	1836	WEIS										
			SGMR				1653.0	1700.0	1				S
			PALE				1700.0	1713.0	1				S
			PALE				1806.0	1807.0	1				III
			SGMR				1809.0	1809.0	1				V
			SGMR				1942.0	1946.0	2				V
			PALE				1945.0	1945.0	2				III
			PALE				2034.0	2109.0	1				S
			SGMR				2034.0	2038.0	1				V
	2028	2400	CULG				2136.0	2136.0	1				IIIB
			CULG				2201.0	2202.0	1				IIIG
			CULG				2205.0	2205.0	1				IIIB
			CULG				2230.0	2233.0	1				IIIG
			CULG				2321.0	2321.0	1				IIIB
			CULG				2323.0	2325.0	2				IIIG
			PALE				2324.0	2325.0	2				V
			SGMR				2324.0	2325.0	1				V
			CULG				2351.0	2351.0	1				IIIG
			CULG				2354.0	2355.0	2				IIIB
			LEAR				2354.0	2354.0	2				III
			PALE				2354.0	2355.0	2				III
22	0000	0728	CULG				0006.0	0108.0	1				IIIB,N
			LEAR				0059.0	0108.0	1				III
			PALE				0059.0	0108.0	1				III

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22 0419	1836	WEIS										
		SGMR				1405.0	1405.0	1				V
2029	2400	CULG										
23		LEAR				0105.0	0106.0	1				III
		PALE				0105.0	0105.0	1				III
0000	0729	CULG				0106.0	0106.0	1				IIIG
		CULG				0210.0	0211.0	1				IIIG
		CULG				0308.0	0640.0	1				IIIS
		CULG				0534.0	0538.0	1				IIIG
		LEAR				0534.0	0538.0	1				III
		SGMR				1119.0	1129.0	1				V
		SGMR				1158.0	1200.0	2				V
0420	1238	WEIS				1158.7	1159.7	3				IIIG
		SGMR				1316.0	0000.0	1				CONT
		SGMR				1316.0	1317.0	1				V
		SGMR				1316.0	2343.0	1				CONT
1601	1637	WEIS										
		PALE				1829.0	1829.0	1				III
		PALE				2030.0	2031.0	1				III
		PALE				2042.0	2043.0	1				V
2029	2400	CULG				2112.0	2112.0	1				IIIB
		CULG				2123.0	2123.0	1				IIIG
		PALE				2123.0	2124.0	1				III
		CULG				2215.0	2223.0	1				IIIG
		PALE				2215.0	2223.0	1				III
		CULG				2345.0	2400.0	1				IIIN
24 0000	0729	CULG				0000.0	0634.0	1				IIIN
		LEAR				0014.0	0015.0	2				III
		PALE				0014.0	0015.0	1				III
		LEAR				0026.0	0027.0	2				III
		PALE				0026.0	0027.0	1				III
		PALE				0059.0	0059.0	1				III
		LEAR				0105.0	0105.0	2				III
		PALE				0105.0	0105.0	2				III
		LEAR				0120.0	0123.0	2				III
		PALE				0120.0	0125.0	2				III
		LEAR				0202.0	0204.0	2				III
		PALE				0202.0	0203.0	1				V
		CULG				0212.0	0314.0	1				IC
		CULG				0304.0	0305.0	1	0304.0	0305.0	1	IIIG
		LEAR				0304.0	0308.0	3				V
		PALE				0304.0	0307.0	2				V
		CULG				0305.0	0308.0	2				V
		CULG				0314.0	0405.0	1				IC
		LEAR				0351.0	0415.0	3				S
		CULG				0400.0	0402.0	2				V
		PALE				0400.0	0401.0	2				V
		CULG				0405.0	0454.0	1				IC
		PALE				0414.0	0415.0	1				V
		LEAR				0458.0	0500.0	2				III
		LEAR				0512.0	0513.0	3				III
0417	1243	WEIS				0512.4	0513.3	3				IIIG
		LEAR				0613.0	0619.0	1				III
		LEAR				0630.0	0634.0	1				III
		WEIS				0738.9	0740.3					IIIG
		LEAR				0739.0	0740.0	2				III
		WEIS				0759.1	0759.2	1				IIIB
		LEAR				0804.0	0804.0	2				III
		WEIS				0804.2	0804.8	3				IIIG
		WEIS				0843.7	0844.0	1				IIIB
		WEIS				0940.8	0941.4	3				IIIB
		SGMR				0941.0	0941.0	1				V
		WEIS				0950.3	0950.5	1				IIIB
		SGMR				1102.0	1102.0	1				V
		WEIS				1102.2	1102.6	3				IIIG

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24			SGMR				1140.0	2344.0	1				CONT
			WEIS				1149.8	1150.2	1				IIIG
			WEIS				1227.3	1238.3	2				IIIG
			SGMR				1348.0	1353.0	2				V
			WEIS				1349.7	1349.9	1				IIIG
	1323	1726	WEIS				1350.4	1352.0	3				IIIG
			WEIS				1640.2	1641.1	1				IIIG
			WEIS				1645.0	1645.6	1				IIIG
			PALE				1838.0	1839.0	1				III
			PALE				2052.0	2053.0	2				III
	2029	2400	CULG				2053.0	2052.0	1				IIIG
25			CULG				0024.0	0025.0	1				IIIG
			LEAR				0142.0	0151.0	2				III
	0000	0729	CULG				0143.0	0146.0	1				IIIG
			CULG				0150.0	0151.0	1				IIIG
			PALE				0150.0	0150.0	1				III
			CULG				0502.0	0502.0	1				IIIB
			CULG				0504.0	0515.0	1				IIIB
			CULG				0549.0	0549.0	1				IIIB
			LEAR				0549.0	0550.0	2				III
	0418	1840	WEIS				0549.6	0549.8	1				IIIG
			CULG				0614.0	0614.0	1				IIIB
			CULG				0631.0	0648.0	1				IIIG
			LEAR				0632.0	0633.0	1				III
			WEIS				0632.0	0632.6	2				IIIG
			WEIS				0918.4	0922.4	3				IIIG
			LEAR				0919.0	0920.0	1				III
			WEIS				0929.7	0939.9	3			II	HB,HARM
			SGMR				0931.0	0937.0	1			II	
			SGMR				1019.0	1020.0	1				V
			WEIS				1019.1	1021.4	3				IIIG
			SGMR				1148.0	1148.0	1				III
			SGMR				1156.0	1157.0	1				V
			WEIS				1157.3	1158.2	2				IIIG
			WEIS				1242.8	1243.0	1				IIIG
			SGMR				1359.0	1400.0	1				III
			SGMR				1412.0	1434.0	1				S
			SGMR				1431.0	1436.0	2				V
			WEIS				1431.7	1433.3	3				IIIG
			SGMR				1441.0	1554.0	2			II	
			WEIS				1441.3	1452.2	3			II	
			SGMR				1508.0	1518.0	2				S
			WEIS				1511.7	1512.1	2				IIIG
			WEIS				1513.7	1514.2	3				IIIG
			SGMR				1538.0	1539.0	2				V
			WEIS				1538.8	1539.1	1				IIIB
			SGMR				1620.0	1622.0	1				V
			PALE				1632.0	1634.0	1				III
			WEIS				1632.6	1635.3	3				IIIG
			SGMR				1650.0	1651.0	1				V
			PALE				1726.0	1730.0	2				V
			SGMR				1726.0	1732.0	3				V
			WEIS				1726.5	1729.9	3				IIIGG
			SGMR				1736.0	1755.0	1				S
			PALE				1743.0	1743.0	1				III
			WEIS				1743.2	1743.8	1				IIIG
			PALE				1914.0	1914.0	1				III
	2029	2400	CULG				2134.0	2139.0	3	2134.0	2139.0	3	IIIV
			PALE				2134.0	2138.0	3				V
			SGMR				2134.0	2137.0	3				V
			CULG				2142.0	2153.0	3	2142.0	2153.0	3	II
			SGMR				2143.0	2151.0	2			II	
			PALE				2144.0	2205.0	1				CONT
			CULG				2152.0	2157.0	1				UNCLF
			CULG				2156.0	2210.0	1				IIIGG
26	0000	0729	CULG				0237.0	0608.0	1				IIIB,N

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Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
26	0415	0552	WEIS										
			LEAR				0606.0	0608.0	1				III
	0559	1229	WEIS				0930.0	0930.4	2				IIIG
			SGMR				1122.0	1129.0	3				V
			WEIS				1122.0	1124.3	3				IIIGG
			SGMR				1137.0	1142.0	1				II
			SGMR				1153.0	1154.0	1				V
			SGMR				1353.0	1354.0	1				V
			SGMR				1523.0	1523.0	1				V
			SGMR				1537.0	1537.0	1				III
			PALE				1838.0	1839.0	1				V
			SGMR				1838.0	1839.0	2				V
	2020	2400	CULG										
27			PALE				0119.0	0120.0	1				III
	0000	0729	CULG				0120.0	0120.0	1	0120.0	0120.0	1	IIIB
			CULG				0213.0	0225.0	1	0213.0	0225.0	1	IIIGG
			LEAR				0216.0	0223.0	3				III
			PALE				0216.0	0223.0	2				V
			LEAR				0317.0	0323.0	3				S
			CULG				0318.0	0332.0	1	0318.0	0332.0	1	IIIB,N
			PALE				0322.0	0330.0	2				V
			CULG				0352.0	0357.0	1	0352.0	0357.0	1	IIIB,N
			LEAR				0352.0	0356.0	1				III
			LEAR				0440.0	0441.0	2				III
	0416	1347	WEIS				0440.8	0440.9	1				IIIB
			CULG				0441.0	0457.0	1	0441.0	0457.0	1	IIIB,N
			WEIS				0447.9	0449.2	1				IIIG
			LEAR				0449.0	0458.0	2				III
			WEIS				0455.7	0456.7	2				IIIG
			CULG				0603.0	0608.0	1	0603.0	0608.0	1	IIIB,N
			LEAR				0603.0	0608.0	1				III
			WEIS				0759.4	0801.9	3				IIIG
			LEAR				0800.0	0802.0	2				III
			LEAR				0852.0	0852.0	2				III
			WEIS				0852.2	0852.7	3				IIIG
			SGMR				1017.0	1018.0	1				III
			WEIS				1018.8	1019.7	3				IIIG
			WEIS				1058.2	1058.4	1				IIIB
			SGMR				1116.0	1125.0	1				S
			WEIS				1116.3	1118.3	1				IIIG
			WEIS				1123.7	1123.8	1				IIIB
			SGMR				1136.0	1138.0	2				V
			WEIS				1136.2	1137.9	3				IIIGG
			SGMR				1201.0	1205.0	3				V
			WEIS				1201.9	1205.7	3				IIIGG,U
			SGMR				1235.0	1237.0	1				V
			WEIS				1235.8	1237.3	2				IIIG
			SGMR				1256.0	1259.0	3				V
			SGMR				1314.0	1316.0	3				V
			SGMR				1321.0	1321.0	1				V
			SGMR				1356.0	1357.0	2				V
			SGMR				1414.0	1417.0	3				V
			SGMR				1552.0	1553.0	1				V
			SGMR				1615.0	1617.0	1				V
			SGMR				1640.0	2346.0	1				CONT
			SGMR				1938.0	1939.0	2				V
	2029	2400	CULG				2058.5	2058.5	1				IIIB
			PALE				2112.0	2121.0	2				V
			SGMR				2112.0	2115.0	2				V
			CULG				2113.0	2115.5	2				IIIG
			CULG				2119.0	2119.5	1				IIIB
			PALE				2119.0	2120.0	1				III
			CULG				2121.0	2121.0	1				IIIB
			CULG				2144.5	2231.0	1				IIIB,N
			CULG				2230.5	2230.5	1				IIIB
			PALE				2318.0	2333.0	2				S

MAY 1988

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
27			CULG				2319.0	2334.0	2	2319.0	2328.0	2	IIIGG
			LEAR				2321.0	2330.0	2				III
			CULG				2345.0	2348.0	3	2345.5	2348.0	3	IIIG,V
			LEAR				2345.0	2347.0	3				V
			PALE				2345.0	2347.0	3				V
			SGMR				2345.0	2346.0	3				V
28	0000	0729	CULG				0031.0		1	0031.0		1	IIIG,N
			LEAR				0103.0	0103.0	1				III
			LEAR				0213.0	0214.0	3				V
			PALE				0213.0	0214.0	2				III
			CULG				0214.0	0215.0	1	0214.0	0215.0	1	IIIB
			CULG				0229.0	2400.0	1				IIIS
			CULG				0314.0	0710.0	1				I
			CULG				0417.0	0710.0	1				IIIS
			LEAR				0455.0	0811.0	1				CONT
			SGMR				1144.0	1145.0	1				V
			SGMR				1226.0	1226.0	1				III
			SGMR				1226.0	2347.0	1				CONT
			SGMR				1337.0	1338.0	2				V
			SGMR				1425.0	1431.0	2				V
			SGMR				1443.0	1453.0	3				IV
			SGMR				1443.0	1453.0	3				V
	1544	1843	WEIS				1550.2	1550.4	1				IIIB
			WEIS				1647.2	1647.4	1				IIIB
			PALE				1800.0	1800.0	1				III
			PALE				1829.0	1831.0	3				V
			SGMR				1829.0	1832.0	3				V
			WEIS				1829.6	1831.8	3				IIIGG
			PALE				1853.0	1854.0	2				III
			SGMR				1853.0	1854.0	3				V
			SGMR				1923.0	1924.0	3				V
			PALE				1924.0	1924.0	2				V
			PALE				1926.0	1933.0	2				III
			SGMR				1931.0	1933.0	3				V
			PALE				1944.0	1945.0	1				III
			PALE				2018.0	2018.0	2				V
			SGMR				2018.0	2018.0	2				V
			PALE				2131.0	2131.0	2				III
			SGMR				2131.0	2132.0	2				V
	2229	2400	CULG				2229.0	2400.0	2				IC
29	0000	0700	CULG				0000.0	0700.0	1				I,III,S
			LEAR				0017.0	0929.0	1				CONT
	0415	0851	WEIS				0512.6	0518.3	1				IIIGG
			WEIS				0601.3	0601.7	1				IIIG
			WEIS				0650.3	0651.2	1				IIIG
			WEIS				0837.8	0838.3	2				IIIG
			SGMR				1256.0	1257.0	1				III
			SGMR				1256.0	2348.0	1				CONT
	1556	1617	WEIS										
	2100	2400	CULG				2100.0	2125.0	2				IV C
			PALE				2100.0	0157.0	1				CONT
			CULG				2104.0	2104.0	1				I
			CULG				2118.0	2400.0	1	2118.0	2400.0		IIIS
			PALE				2148.0	2148.0	1				III
			LEAR				2348.0	0929.0	1				CONT
30	0000	0700	CULG				0000.0	0625.0	1	0000.0	0625.0		IIIS
			LEAR				0209.0	0211.0	2				III
			CULG				0210.0	0212.0	1				IIIG
	0413	0756	WEIS				0429.0	0917.0	1				IIIN
	0829	0922	WEIS										
			SGMR				1138.0	1141.0	1				V
			SGMR				1138.0	2349.0	1				CONT
	1556	1748	WEIS										
			PALE				1921.0	1921.0	1				III

SOLAR RADIO EMISSION--SPECTRAL OBSERVATIONS

MAY 1988

Observation Day	Start (UT)	End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
30			PALE				1933.0	2000.0	1				S
			PALE				2045.0	2047.0	1				III
	2100	2400	CULG				2114.0	2400.0	1				I,III,S
			PALE				2118.0	2200.0	1				S
			PALE				2224.0	0100.0	1				CONT
31	0000	0700	CULG				0000.0	0628.0	1				I,III,S
			LEAR				0045.0	0000.0	1				CONT
			LEAR				0045.0	0929.0	1				CONT
			CULG				0218.0	0221.0	1				IIIG
			LEAR				0218.0	0220.0	2				III
			LEAR				0231.0	0235.0	2				III
			CULG				0232.0	0235.0	1				IIIG
			PALE				0232.0	0233.0	1				III
			CULG				0324.0	0324.0	1	0324.0	0324.0	1	IIIB
			LEAR				0324.0	0324.0	2				III
			PALE				0324.0	0324.0	1				III
			LEAR				0602.0	0608.0	2				III
	0414	1505	WEIS				0731.0	1306.0	2				IIIN
			LEAR				0811.0	0812.0	2				III
			WEIS				0811.4	0812.1	3				IIIG
			SGMR				0932.0	2350.0	1				CONT
			WEIS				0941.4	0941.6	2				IIIB
	1556	1845	WEIS				1607.9	1608.1	1				IIIB
			PALE				1958.0	2000.0	1				III
	2100	2400	CULG				2100.0	2400.0	1				I,III,S

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

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of burst
C = Underlying continuum (particularly with Type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III

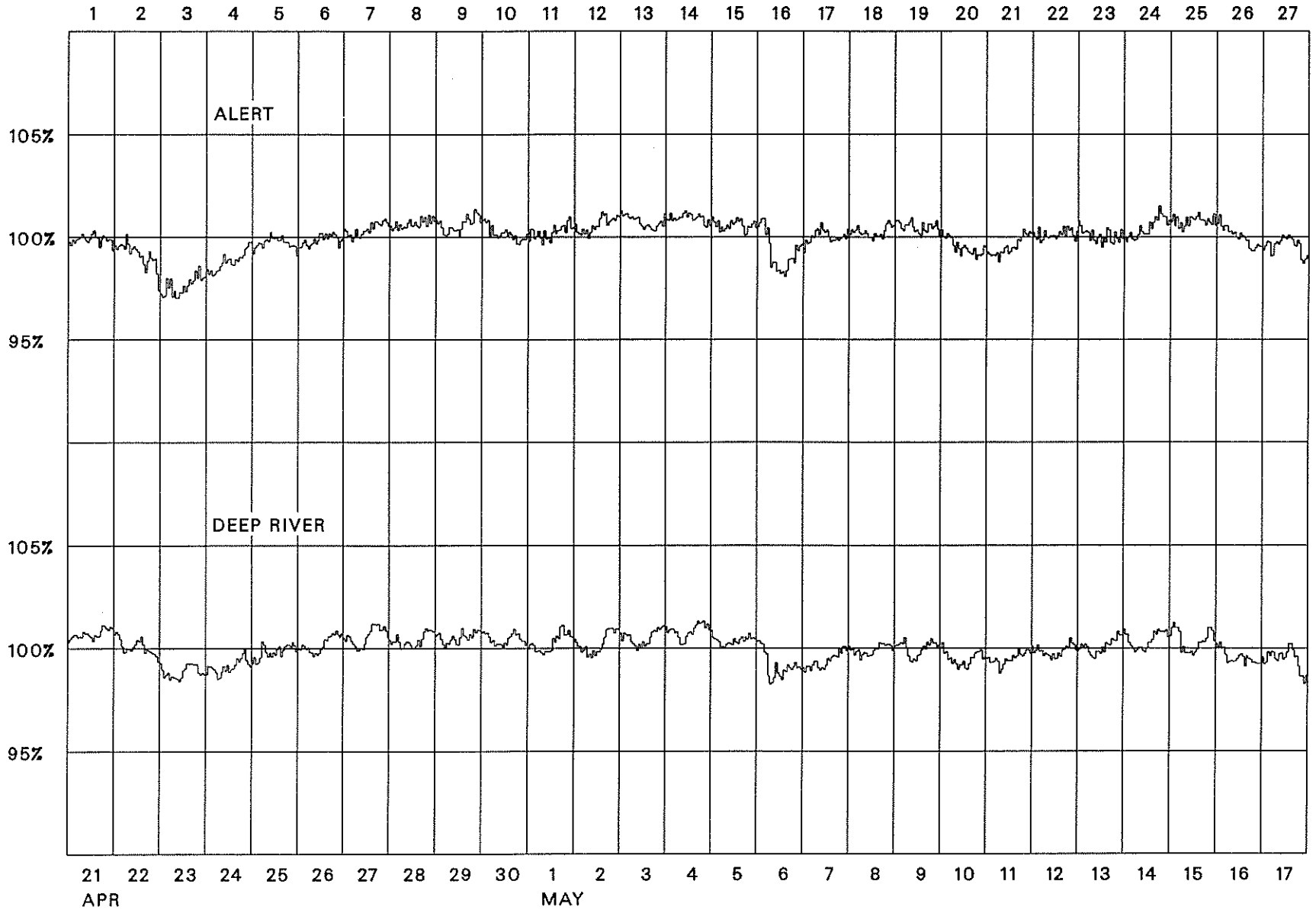
RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity
DCIM = Fast drift

Stations Reporting:

BLEN = Bleien CULG = Culgoora LEAR = Learmonth PALE = Palehua SGMR = Sagamore Hill
SVTO = San Vito WEIS = Weissenau

COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2114 (April 1988-May 1988)



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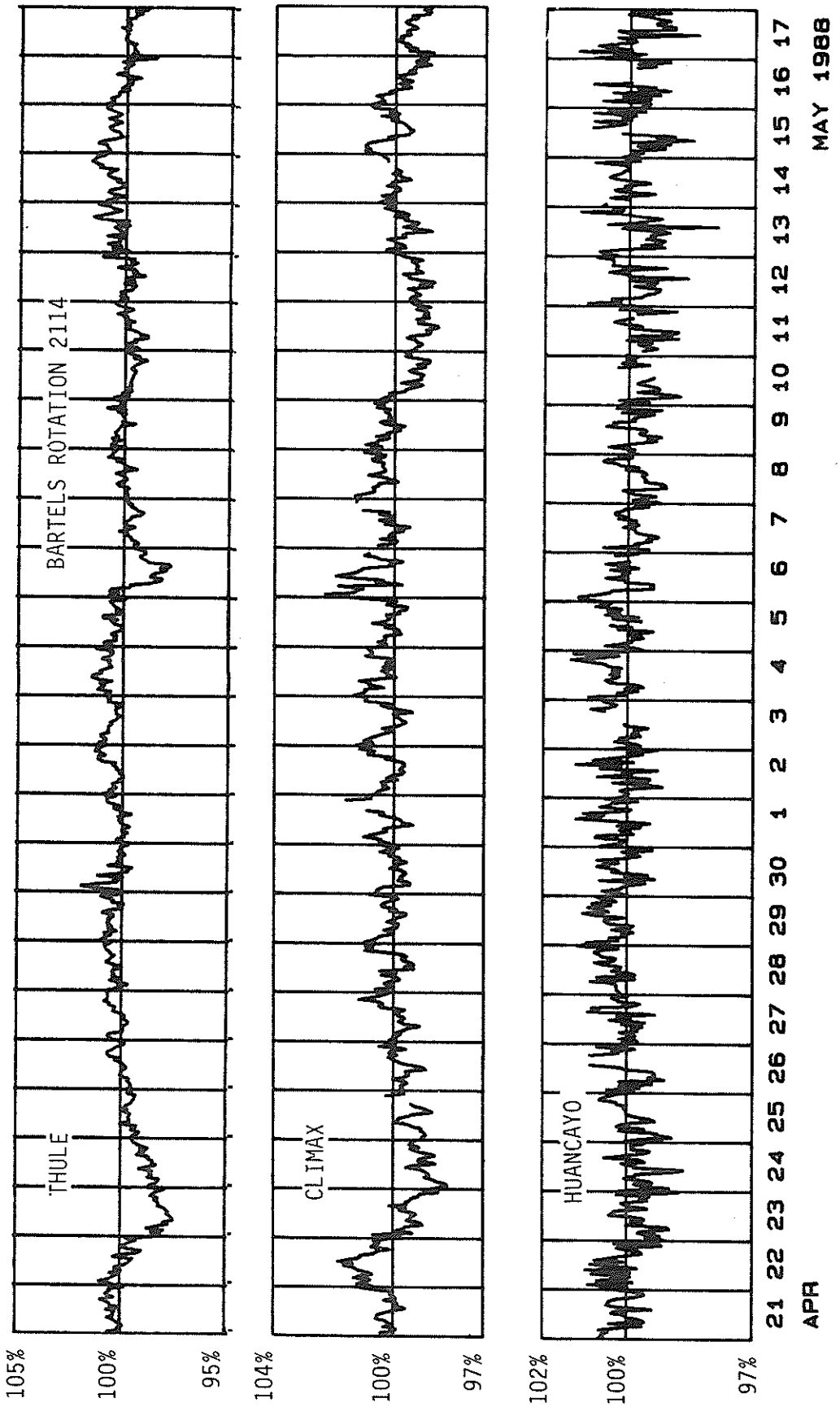
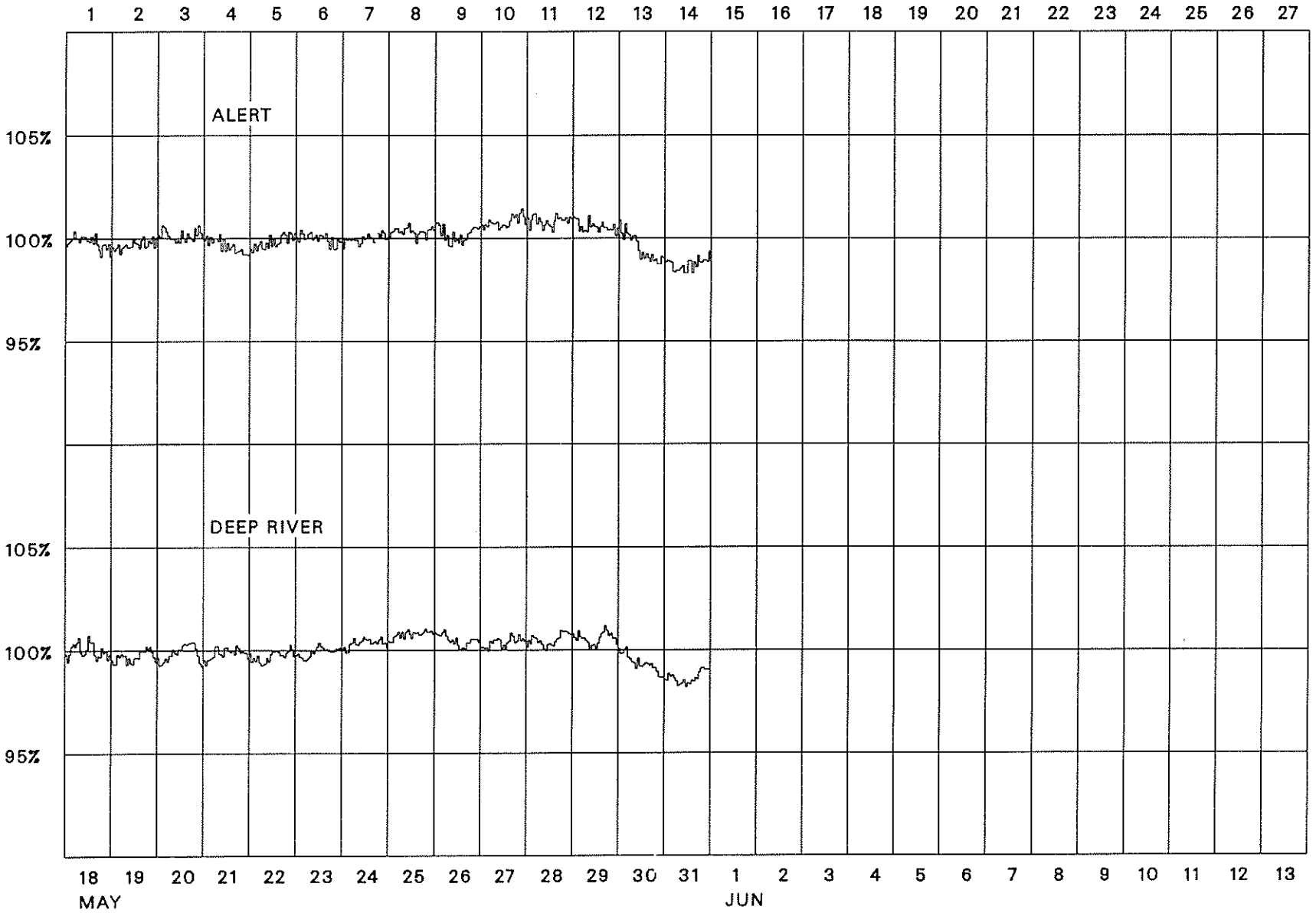
May 88

COSMIC RAY INDICES
(Neutron Monitor)



COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2115 (May 1988-June 1988)



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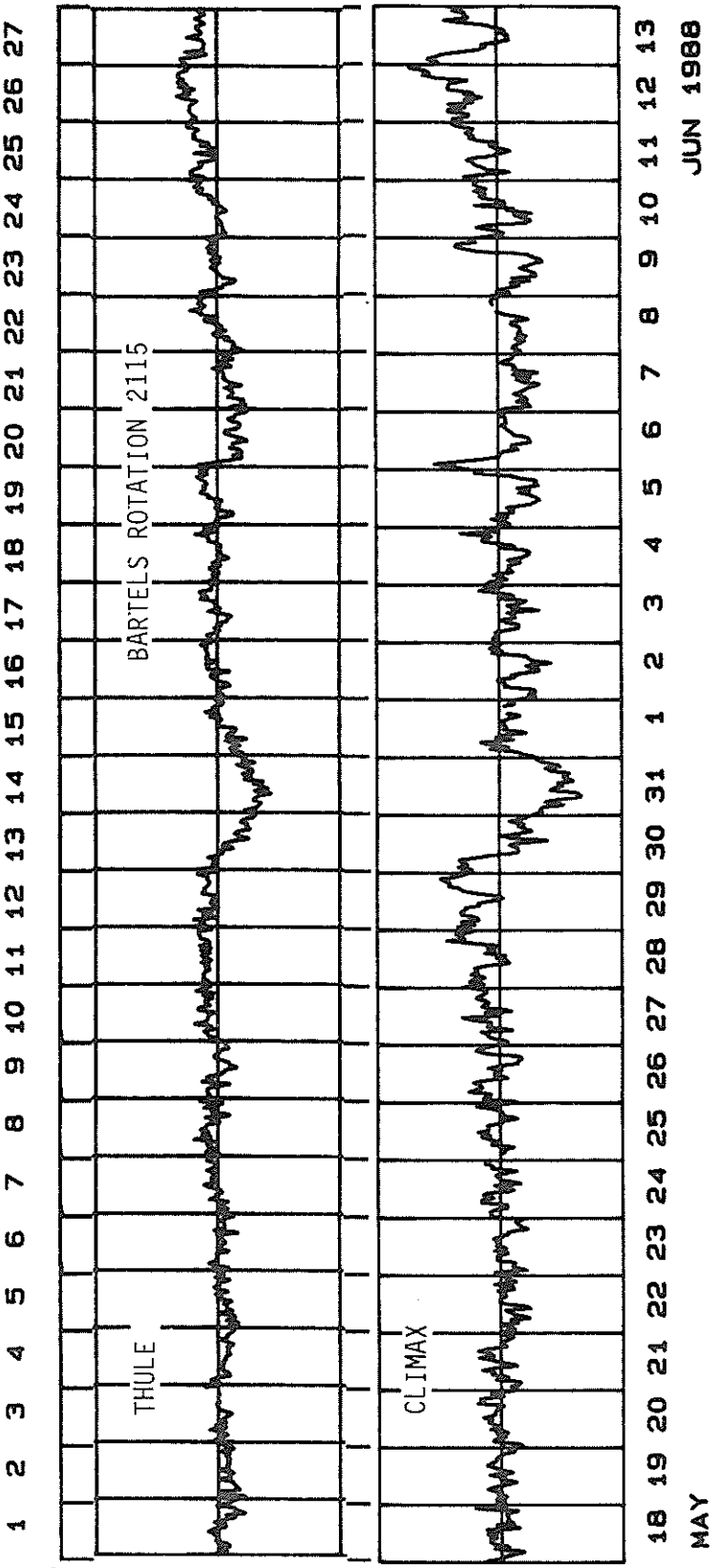
May 88

COSMIC RAY INDICES
(Neutron Monitor)



COSMIC RAY INDICES
(Neutron Monitor)

MAY 1988

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4350	7165.4	6844.9	6085.3	3991.6(38)	3611.8	1731.7
2	4367	7191.0	6843.5	6090.4	3984.5	3616.1	1726.9
3	4367	7201.3	6861.9	6094.7	3986.7	3614.9	1728.7(38)
4	4380	7213.4	6884.0	6103.7	3998.4	3622.0	1734.0
5	4360	7188.8	6851.6	6080.7	3981.1	3624.1	1728.3
6	4300	7096.2	6769.8	6024.7	4013.5	3629.3	1730.1
7	4327	7149.6	6784.5	6028.7	3985.7	3609.6	1724.4
8	4347	7166.3	6820.8	6049.0	3998.8	3623.5	1722.9
9	4352	7182.9	6824.9	6070.9	3987.9	3617.7	1724.3
10	4327	7114.3	6792.5	6044.5	3954.3	3603.5	1720.8
11	4333	7114.8	6791.9	6038.3	3940.0	3600.9	1720.9
12	4337	7157.0	6816.9	6052.7	3948.8	3614.1	1724.8
13	4366	7152.8	6832.4	6083.5	3966.5	3623.2	1730.5
14	4378	7179.7	6853.2	6088.3	3978.4	3617.7	1728.5
15	4372	7203.4	6852.1	6097.9	3984.4	3616.5	1727.9(36)
16	4342	7150.0	6797.0	6074.0	3965.8	3614.6	1725.1(26)
17	4331	7117.3	6789.9	6054.6	3951.8	3611.9	1724.0
18	4312	7074.7	6758.8	6029.7	3932.3	3598.4	1717.0
19	4306	7065.5	6738.9	6021.7	3932.8	3597.8	1716.5(26)
20	4319	7096.5	6749.2	6021.9	3936.0	3599.5	1711.0(6)
21	4309	7061.2	6748.4	6004.4	3932.2	3597.7	1721.6
22	4312	7074.7	6739.2	6008.8	3923.5	3596.1	1722.5(36)
23	4317	7085.7	6753.0	6013.3	3925.2	3599.8	1736.2
24	4329	7085.8	6781.6	6017.0	3935.3	3606.4	1736.0
25	4338	7110.3	6809.9	6026.7	3935.7	3605.5	1740.3
26	4322	7101.8	6791.1	6021.1	3938.0	3610.0	1741.8
27	4343	7142.7	6783.5	6045.7	3942.9	3611.1	1744.0
28	4347	7146.3	6791.6	6056.0	3950.5	3612.6	1743.3
29	4342	7127.2	6796.6	6046.7	3962.5	3615.8	1740.8
30	4297	7053.8	6715.7	6008.7	3928.8	3598.6	1735.0
31	4262	6996.9	6667.2	5957.7	3877.7	3575.4	1721.5(4)
Mean	4335	7128.0	6794.8	6046.5	3956.6	3609.5	1729.6

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

GEOMAGNETIC ACTIVITY INDICES

May 1988

Day		Kp Three-Hourly Indices 1	2	3	4	5	6	7	8	Sum	Ap	Cp	Km Three-Hourly Indices 1	2	3	4	5	6	7	8	aa Provisional Am	N	S	M	
1	Q6	2	1+	1+	2-	1+	1+	1	2-	12-	5	0.2	1+	2-	1+	2-	1	1-	0+	2-	8	13	8	11	10 CC
2		1-	2-	1+	2-	2	2	2	3	14+	7	0.4	0+	2-	2-	2-	2	2+	2-	3-	14	15	17	10	21 K
3		1+	2-	2-	1	1	2	3-	3-	14	7	0.4	1	2-	2-	1+	1+	2-	3-	2+	13	19	12	9	22
4		4-	4-	2	2-	3-	2	4-	2	21+	13	0.8	3+	4-	3-	2+	3-	2	3	2-	25	30	19	23	26
5	D4	1	1+	3-	4+	3	2-	2	6	22	20	1.0	1	1+	3-	4	3+	1+	2+	5	31	33	31	24	42
6	D1	7-	6	7+	7	7	7+	5+	4+	51	106	1.9	5+	5+	6+	7-	6+	7-	4+	4-	138	107	113	126	95
7		1+	2-	2-	3	3	3-	3+	4	21-	13	0.7	1+	1+	2-	2+	3	2+	3	3+	21	31	21	17	35
8	D5*	2+	2+	2+	2+	3+	4-	3	3	22+	13	0.8	3-	2+	2	2	3+	4-	3-	3-	25	27	24	16	35
9		2	2-	3+	3-	2+	2+	2+	2	19-	10	0.5	2-	2-	3-	3-	2+	2	2-	2-	16	22	18	24	16
10		3+	3	3	2+	2	2+	2-	2	20-	11	0.6	3-	3	3-	2+	2+	2+	1+	2	20	24	17	23	18
11		2-	2+	2+	2	2-	2	1	1	14	6	0.3	2-	2-	2	2-	2-	2-	1+	1-	11	18	8	15	11 C
12	Q5	3-	1	1+	1	1	1+	1-	1+	10+	5	0.2	2+	1+	1	1	1-	1	0+	1	7	19	4	12	11 CC
13	Q4	2-	2-	1-	1+	2-	2-	1	0+	10	5	0.2	1+	1+	0+	1+	2-	1+	0+	0+	7	13	5	10	8 CC
14	Q3	1-	1-	1-	1	1	1+	1	0+	7-	4	0.1	0+	0+	1-	1+	1	0+	0+	0+	4	7	4	7	4 CC
15	Q8K	1+	3	2-	1+	1	1-	1-	2-	11+	6	0.3	1	3	1+	1	1-	1-	0+	1+	9	20	7	17	10 KK
16		2-	3-	2+	3	3	4-	1-	2	19	11	0.6	1+	3	2+	3	3-	4-	1-	2-	22	27	24	24	28
17	D2	2	4	4-	4	5	4-	4-	3+	29+	24	1.2	2-	4-	3+	4	5	3	3+	3	42	43	40	34	49
18	D3*	5	3	3+	3	3+	2-	1+	3+	24	18	1.0	5-	3-	3	3+	3+	1+	1	3	31	38	26	40	25
19		3-	2-	2	2	2-	1+	1	1-	13	6	0.3	2+	2-	2-	2+	1+	2-	1-	0+	11	15	8	12	11 C
20	Q9	2	1+	1	1-	2-	1	3-	2+	13-	6	0.3	2	2	1	1	1	1-	2	2-	10	16	5	9	13 CC
21		2	3-	3-	1+	2-	2+	2+	4-	19-	10	0.6	1+	2+	3	1+	2-	2	2-	3+	17	25	14	17	22
22		3+	3-	2+	1+	2	2-	1	0+	15-	8	0.4	3	3-	2	1+	2	2	1-	0+	14	22	13	20	15
23	Q7K	2-	2-	1	1-	1	1	1+	3	11+	6	0.3	1+	2	1	1-	1+	1+	2-	3-	11	19	8	11	16 CC
24		2-	2-	2	2-	3	2+	2	1+	16-	8	0.4	2+	2+	2+	2	3	2-	2	1+	16	19	11	11	19
25	Q10K	1+	1	1	1	1	1	2+	3+	12	6	0.3	1+	1	1	1+	1	1+	2	3-	11	16	9	8	17 K
26		2+	4	2-	1-	1	2	1-	1-	13	8	0.4	2+	3+	1+	0+	1-	2-	0+	0+	11	19	7	18	9 KK
27	Q1	0+	1	0+	0+	1-	1-	1-	1	5	3	0.1	0	1-	0+	1-	1	0+	0+	1	4	10	3	5	8 CC
28	Q2	1-	1	0+	0+	1	1	1	1-	6	3	0.1	1-	1+	0+	0+	1-	1	1	1-	5	10	3	6	7 CC
29		1-	2	2	2-	3-	2+	1+	2-	14+	7	0.3	1-	2-	2-	2+	2+	2	1+	2-	13	21	10	14	16
30		2-	3+	3+	2	1	2-	3+	3+	20-	12	0.7	1+	3+	3	2-	1-	1	3-	3	19	31	14	27	19
31		3	2	2-	3-	2+	2+	2+	2-	18	9	0.5	3-	2-	2-	3	2+	2	1+	1+	16	28	12	21	19
Mean											12	0.51									19.4	24.5	16.7	20.5	

Day	Kn Three-Hourly Indices 1	2	3	4	5	6	7	8	An	Ks Three-Hourly Indices 1	2	3	4	5	6	7	8	As	Sa	Prov Ri	Ra	Rs	IMF
1	1+	2-	1+	2-	1+	1+	1-	2	10	1	1+	1+	1+	0+	0	0	1	6	108.8	69	70	56	-
2	1-	1+	2-	2-	2-	2	2	3-	13	0	2	1+	2-	2+	2+	2-	3-	14	113.1*	84	81	60	-
3	1+	2-	2	2-	1+	2-	3-	2+	14	1	1+	1+	1-	1	1+	3-	2+	12	116.4*	76	81	64	-
4	3+	3+	2+	2+	3	2+	3+	2	26	3	4	3	2+	2-	1+	3	1+	24	127.4	96	93	76	-
5	1	1+	3-	4+	3+	2	2+	5	33	1-	1+	2+	4-	3+	1-	2	5	29	121.1	97	94	69	-
6	5+	6-	6+	6+	6-	6-	4	4-	123	5	5	6+	7-	7-	7	5-	3+	153	116.5	77	78	64	-
7	2-	2-	2	3-	3+	3-	3-	3	23	1	1	1	2-	3	2-	3	3+	19	112.9	50	51	60	-
8	3-	2+	2	2+	3+	4-	3-	3	26	3-	3-	2	2-	3+	3+	2+	3-	24	116.7	63	68	64	-
9	2-	2-	3	3-	2+	2+	2+	2	19	2-	2-	3-	3	2	2-	1	1	14	121.9	74	89	70	-
10	3+	3	3-	3-	3-	3-	2	2+	23	2+	3	3	2	2-	2+	1-	2-	17	116.4	87	91	64	-
11	2-	2	3-	2	2	2	1+	1+	14	1+	1+	1+	1+	1+	1	1+	0	8	114.6	65	72	62	-
12	2+	2-	1+	1+	1+	1+	1-	1+	10	2+	1-	1-	0+	0+	0+	0	1-	5	111.6	56	61	59	-
13	1+	1+	1	2-	2	2-	1	1-	10	1	1	0	1	1-	1-	0	0	4	105.9	44	56	52	-
14	1	1-	1	1+	1+	1	1-	1-	6	0	0	0+	1	1-	0	0+	0	2	105.2	37	52	52	-
15	1+	3	2-	2-	1+	1	1-	2	12	1-	3	1	0	0	0+	0	1-	6	103.4	44	54	50	-
16	2-	3	3-	3	3	4-	1+	2-	24	1-	3	2	3+	3-	4-	0	2-	20	103.3	53	58	50	-
17	2-	4	3+	4-	5-	3+	3	3+	42	1+	3+	3+	4	5	3-	3+	3-	42	103.7	54	58	50	-
18	4	3	3	3+	3+	2	2-	3-	30	5	3-	3-	3+	3+	1-	0+	3	32	106.7	44	45	53	-
19	2+	2	2	2+	2-	2	1+	1	14	2	1	1+	2	1	1+	0	0	8	104.8	20	22	51	-
20	2-	2-	1+	1+	2	1+	2+	2+	13	2+	2+	1-	0+	0	0	1+	1	7	106.1	23	27	53	-
21	2-	2+	3	2-	2	2+	2+	3+	20	1-	2	3-	1-	1+	2-	1+	3	14	112.6	25	31	60	-
22	3	3-	2	2-	2-	2	1	1	15	3	3-	2-	1	2+	2	1-	0	14	114.0	32	35	61	-
23	2-	1+	1+	1+	2-	2-	2	3-	13	1	2+	1-	0	1-	1-	1+	3-	9	122.2	41	42	70	-
24	3	2+	3-	3-	3	2+	2	2-	20	1	2+	2-	1+	3	1+	2	1-	13	119.8	47	51	67	-
25	1+	1	2-	1+	1+	2-	3-	3	15	1+	1-	0+	1-	0+	1-	1+	2+	7	123.8*	57	61	72	-
26	3-	4-	2-	1	1+	2	1	0+	15	2-	3	1	0	0	1+	0	0	8	127.8	63	67	76	-
27	0+	1	1-	1	1+	1-	1	1	6	0	0+	0	0	0+	0	0	1-	1	130.0	61	71	78	-
28	1	1+	1	1-	1	2-	2-	1+	8	0+	1	0	0	0	0+	0	0	1	130.1	70	80	79	-
29	1	2	2	3-	3-	3-	2-	2	17	0	1	2-	2-	1+	1	1-	1+	8	140.2	74	87	89	-
30	1+	3+	4-	2	1+	2	3	3+	25	1-	3	3-	1+	0	0	2-	3-	13	142.8	83	89	92	-
31	3	2+	2	3+	3-	2+	2	2	21	2	1+	1+	2	2-	2-	1-	1-	10	153.6*	88	92	104	-
Mean									21.3									17.5	117.9	59.7	64.7	65.3	

D A I L Y A V E R A G E I N D I C E S Ap

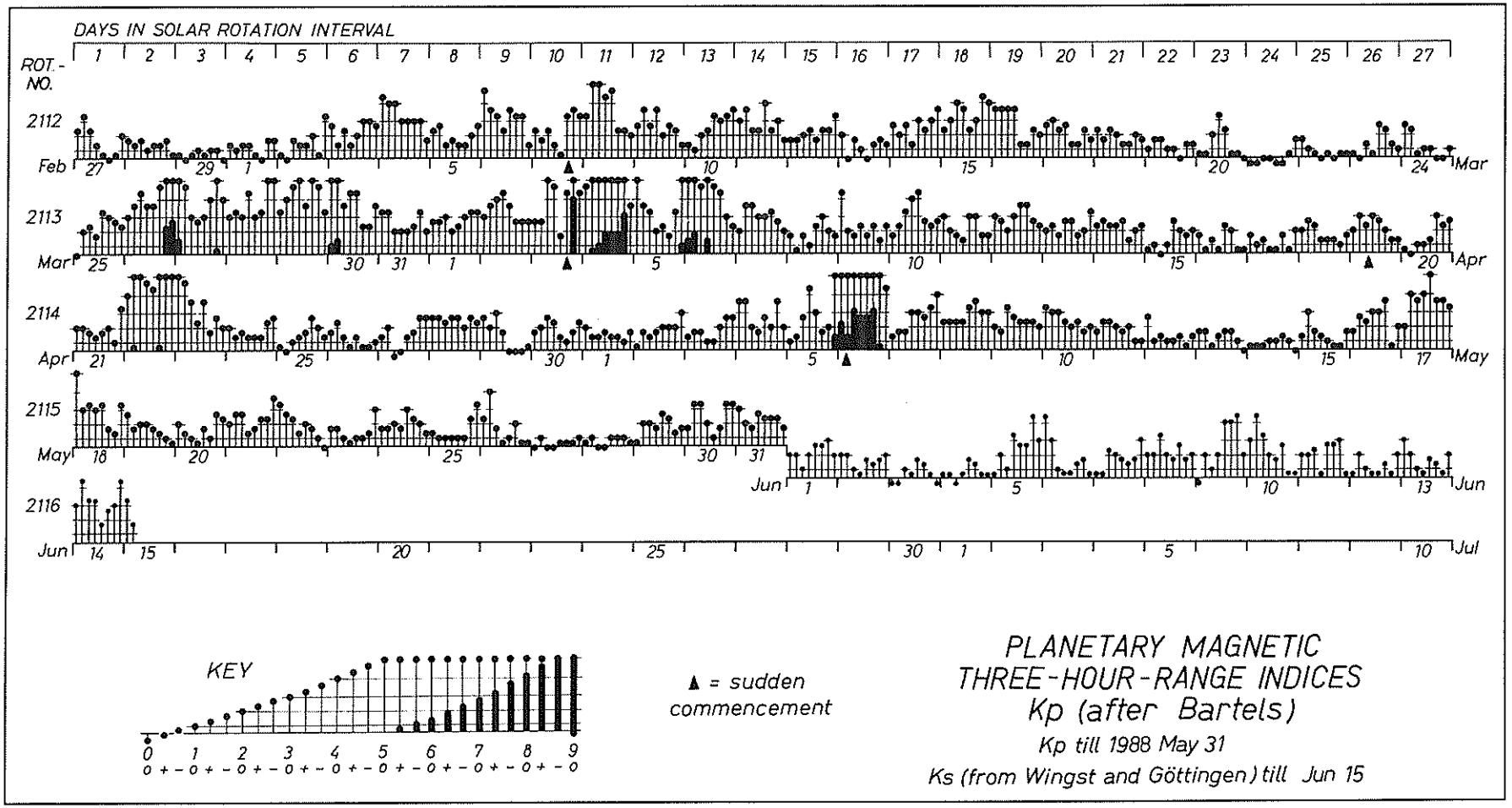
June 1987 to May 1988

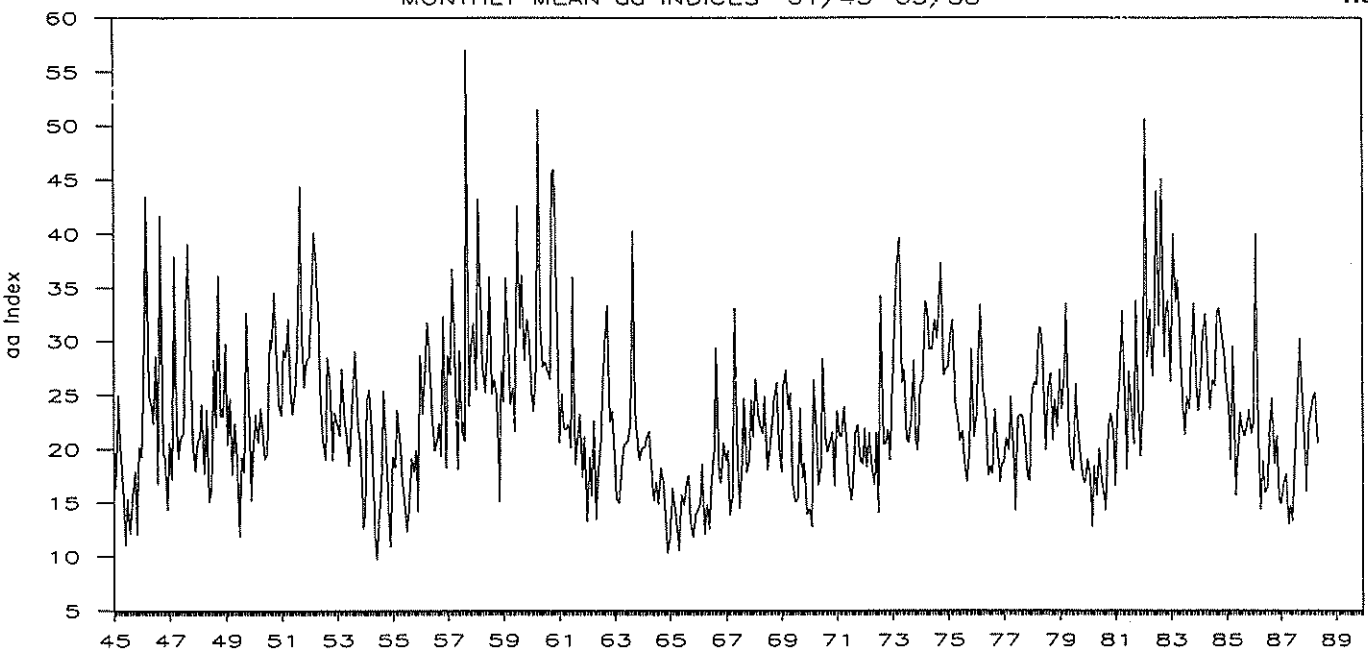
DAY	1987 JUN	JUL	AUG	SEP	OCT	NOV	DEC	1988 JAN	FEB	MAR	APR	MAY
1	8	2	10	34	13	7	5	5	2	4	13	5
2	8	3	5	12	9	23	4	29	5	6	19	7
3	4	9	12	4	36	27	12	7	3	10	48	7
4	6	8	7	6	14	9	10	14	7	19	78	13
5	7	6	13	6	6	10	17	14	29	8	24	20
6	25	5	8	9	5	9	8	31	11	19	48	106
7	9	4	4	11	8	5	4	24	6	11	15	13
8	4	10	10	10	8	4	1	19	5	26	7	13
9	3	9	8	10	3	10	6	7	11	13	10	10
10	4	11	4	38	7	11	28	4	13	12	16	11
11	7	7	7	40	28	14	15	11	11	14	9	6
12	13	7	16	22	8	20	9	21	16	9	14	5
13	6	4	23	23	24	27	4	7	14	5	10	5
14	6	5	16	26	31	22	4	48	7	12	9	4
15	4	24	19	29	26	14	11	63	19	20	6	6
16	8	20	12	19	13	8	39	5	15	14	5	11
17	6	14	11	17	18	3	16	7	14	9	5	24
18	6	10	6	7	5	5	8	12	19	7	7	18
19	17	8	9	3	6	12	7	10	7	4	9	6
20	8	9	8	11	8	10	4	12	5	6	7	6
21	6	6	5	10	13	6	10	9	26	2	8	10
22	4	8	7	29	5	7	22	7	97	3	44	8
23	3	6	10	17	11	35	10	2	36	5	21	6
24	7	12	11	14	19	24	6	5	12	5	7	8
25	7	17	39	46	28	12	7	6	14	10	6	6
26	9	4	40	20	11	17	4	8	9	49	5	8
27	5	5	21	11	35	20	1	12	7	34	6	3
28	4	26	15	22	44	9	2	6	5	26	11	3
29	5	52	12	30	19	3	5	4	3	32	6	7
30	3	9	14	43	13	3	3	3		34	7	12
31		14	34		11		4	3		11		9
MEAN	7	11	14	19	16	13	9	13	15	14	16	12

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

University of Göttingen

Kp through May 31, 1988





Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1945	16.1	16.4	25.0	19.1	15.4	11.1	15.3	12.1	15.6	17.9	12.0	20.2	16.3
1946	19.2	30.2	43.5	25.0	24.1	22.3	28.6	16.7	41.7	19.6	19.3	14.3	25.4
1947	20.6	17.1	37.9	23.3	19.1	21.1	21.4	32.9	39.1	31.3	20.7	17.9	25.2
1948	20.8	21.0	24.2	17.7	23.7	15.0	16.2	28.3	22.0	36.1	23.1	23.0	22.6
1949	29.8	20.4	24.7	17.6	22.4	17.9	11.8	19.2	17.8	32.7	24.6	15.1	21.2
1950	19.5	23.2	20.6	23.8	21.7	19.0	19.5	30.2	29.3	34.5	28.0	24.0	24.4
1951	23.1	29.2	28.5	32.1	25.5	23.2	25.2	29.7	44.4	30.3	25.7	28.2	28.8
1952	28.5	34.3	40.1	38.0	33.1	23.8	20.7	19.0	28.5	26.4	18.9	23.4	27.9
1953	22.3	21.2	27.4	22.7	21.4	18.4	22.5	26.1	29.0	22.4	20.2	12.6	22.2
1954	13.9	24.5	25.5	20.6	12.0	9.7	13.1	16.5	25.4	21.1	14.5	10.9	17.3
1955	19.3	18.2	23.6	21.1	16.7	15.1	12.3	14.3	19.1	17.8	19.9	14.1	17.6
1956	28.7	23.3	27.6	31.7	29.3	23.5	19.8	20.7	22.4	19.3	32.3	18.2	24.7
1957	28.7	26.8	36.7	28.8	18.1	29.1	21.7	20.7	57.0	24.0	29.5	31.7	29.4
1958	25.5	43.2	36.1	27.6	25.2	29.7	36.0	25.1	26.5	24.7	15.0	27.2	28.5
1959	24.3	35.9	29.9	24.2	25.7	21.6	42.5	31.2	36.1	28.2	32.1	30.8	30.2
1960	25.2	23.5	27.6	51.5	31.6	27.6	28.1	27.2	26.4	45.6	45.9	34.5	32.9
1961	20.6	25.1	22.0	21.8	22.3	20.1	36.0	18.5	20.7	23.3	17.3	21.1	22.4
1962	13.2	19.2	15.5	22.6	13.4	18.1	21.0	26.2	29.8	33.3	22.5	23.5	21.5
1963	19.3	15.3	14.9	18.2	20.4	20.5	20.8	22.5	40.2	23.5	20.7	18.9	21.3
1964	20.1	20.1	21.0	21.7	17.5	15.1	16.9	14.8	18.2	16.9	13.8	10.3	17.2
1965	11.8	16.3	14.3	12.6	10.5	15.7	14.7	16.8	17.5	13.1	11.7	13.8	14.1
1966	14.2	14.8	18.6	12.0	14.8	12.5	17.1	20.0	29.4	17.5	16.8	20.5	17.3
1967	18.9	19.8	13.8	15.5	33.1	18.6	14.4	17.5	24.7	17.8	18.9	24.5	19.8
1968	21.1	26.5	23.3	22.2	21.4	24.9	18.0	20.1	22.0	24.8	26.2	20.3	22.6
1969	17.8	25.8	27.3	23.6	25.2	16.7	15.0	15.3	23.8	17.2	18.7	13.8	20.0
1970	14.4	12.7	26.4	23.1	16.6	18.3	28.4	21.0	19.7	20.6	21.6	16.5	19.9
1971	23.5	21.2	21.1	23.9	21.1	17.0	15.2	17.1	21.4	22.2	18.8	18.6	20.1
1972	21.9	18.3	21.5	18.1	16.6	21.5	14.0	34.2	20.4	20.4	21.8	18.9	20.6
1973	26.1	32.7	36.9	39.6	26.1	27.3	20.9	20.6	22.8	28.2	20.7	19.9	26.8
1974	25.8	26.4	33.7	32.9	29.2	29.2	32.0	30.2	33.7	37.3	26.8	27.5	30.4
1975	27.6	31.1	32.0	24.3	22.7	20.7	21.7	18.1	16.9	20.2	29.3	21.1	23.8
1976	23.3	28.5	33.4	25.4	23.7	17.5	18.4	17.7	23.7	20.4	16.9	18.6	22.3
1977	18.7	21.0	19.9	24.9	20.1	14.2	22.9	23.2	23.0	20.9	17.3	17.0	20.3
1978	24.6	26.2	25.9	31.3	31.2	28.3	19.9	25.6	27.0	20.8	24.6	22.0	25.6
1979	27.3	23.7	26.9	33.5	21.0	18.3	17.9	26.0	22.0	19.3	17.1	16.8	22.5
1980	19.0	17.3	12.7	18.4	15.6	20.0	17.0	15.9	14.2	21.9	23.3	21.7	18.1
1981	16.5	23.1	26.6	32.8	26.9	18.0	27.2	24.0	20.4	33.7	24.1	19.3	24.4
1982	24.2	50.6	28.5	32.9	26.7	32.1	43.9	31.4	45.1	28.5	33.0	33.8	34.2
1983	26.2	40.0	33.6	35.7	31.6	24.9	21.3	24.9	23.7	28.3	33.5	26.0	29.1
1984	23.5	26.7	30.7	32.5	27.2	23.7	26.4	25.8	32.6	33.1	31.0	29.0	28.5
1985	25.7	24.1	19.0	29.5	15.6	19.9	23.4	22.0	21.2	22.2	23.7	21.4	22.3
1986	22.4	40.0	21.1	14.3	18.8	15.9	16.3	22.3	24.7	18.6	21.2	15.3	20.9
1987	14.8	16.6	17.6	12.9	14.7	13.2	19.3	24.3	30.3	25.8	22.4	16.0	19.0
1988	22.4	23.4	24.8	25.2	20.5								23.3

P R I N C I P A L M A G N E T I C S T O R M S

MAY 1988

Sta	Geomag Lat	Commencement Time Day	(UT)	Type	SC Amplitudes D (Min)	H (Gamma)	Z (Gamma)	Maximum 3-Hour K Index Day(3-Hour Periods)	K	Ranges D (Min)	H (Gamma)	Z (Gamma)	End Day	Hour (UT)
COL	64.6N	05	23--	..	..	..	..	06(3,5)	7	248	1760	1370	07	00
FRD	49.6N	05	23--	..	..	..	..	06(2,3,4,5,6)	6	48	297	159	07	00
BJI	28.5N	05	07--	..	..	..	..	06(3)	7	16	242	56	06	24
HYB	07.6N	05	0600	..	..	..	..	06(3,4)	8	8	327	52	07	01
GUA	04.0N	05	0819	..	..	..	..	05(4)	5	--	70	10	05	18
GUA	04.0N	05	2300	..	..	..	..	06(1)	6	10	100	30	06	04
ETT	00.6S	05	1900	..	..	..	..		-	7	416	146	08	01
HER	33.7S	05	23--	..	..	..	..	06(1,3,4,6)	6	41	214	128	06	24
GNA	43.2S	05	23--	..	..	..	..	06(4,6)	7	39	180	230	07	00
CNB	43.9S	05	23--	..	..	..	..	06(3,4,5,6)	6	38	249	106	06	18
SIT	60.0N	06	0428	SC*	- 5 *	107 *	15	06(4)	8	--	--	760	06	22
KRC	16.4N	06	0429	SC	- 1.2	45	21	06(6)	7	10	280	110	12	--
UJJ	13.5N	06	0424	SC	- 0.3	25	- 4		-	6	253	43	07	24
ABG	09.5N	06	0424	SC	- 0.6	22	- 4	06(3)	7	8	294	50	07	24
GUA	04.0N	06	0428	SC*	0.46	54	- 16	06(3)	7	--	270	30	06	23
TRD	01.1S	06	0424	SC	- 0.2	36	36		-	4	345	231	07	24
HYB	07.6N	15	2100	..	..	..	..	17(5)	6	5	186	36	18	04
KRC	16.4N	16	1635	SC	30	- 1	13	16(6) 17(4,5)	5	4	122	40	19	21
ETT	00.6S	16	2100	..	..	..	..		-	6	202	54	18	17
UJJ	13.5N	17	0400	..	..	..	..		-	5	130	35	18	24
ABG	09.5N	17	0400	..	..	..	..	17(4,5)	5	5	143	48	18	24
GUA	04.0N	17	04--	..	..	..	..	17(5)	5	10	90	10	17	20
TRD	01.1S	17	0400	..	..	..	..		-	5	201	56	18	24
HER	33.7S	18	01--	..	..	..	..	18(1)	5	10	53	58	18	03
HYB	07.6N	29	0500	..	..	..	..	30(2)	4	6	95	39	31	18

Stations Reporting:

ABG = ALIBAG
BJI = BEIJING
CNB = CANBERRA
COL = COLLEGE
ETT = ETAIYAPURAM
FRD = FREDERICKSBURG
GNA = GNANGARA
GUA = GUAM
HER = HERMANUS
HON = HONOLULU
HYB = HYDERABAD
KRC = KARACHI
SIT = SITKA
TRD = TRIVANDRUM
UJJ = UJJAIN

RADIO PROPAGATION QUALITY INDICES
MAY 1988

Day	For Circuits from Norddeich to: Bracknell England	Rome Italy	Teheran Iran	New York USA (East)	Tokyo Japan	Canberra Australia
1.	5.1	5.8	7.0	5.8	6.6	5.7
2.	5.4	5.9	6.7	6.8	6.6	6.2
3.	4.7	5.0	5.2	5.3	6.2	5.7
4.	4.9	5.5	6.5	5.7	5.2	5.9
5.	4.3	4.5	5.0	4.3	6.5	4.1
6.	3.1	4.5	3.9	0.4	2.8	2.7
7.	5.8	5.0	4.9	3.9	4.5	4.6
8.	3.7	4.2	5.5	3.1	4.6	3.7
9.	4.9	4.7	5.3	3.4	5.5	4.8
10.	4.3	4.6	5.7	3.7	6.8	4.7
11.	5.4	5.3	6.0	4.0	7.1	4.7
12.	5.5	5.7	6.0	4.8	6.9	5.1
13.	5.3	5.4	6.0	4.9	7.9	5.2
14.	5.7	5.5	5.6	4.4	7.9	5.3
15.	6.0	4.9	5.7	4.8	7.0	4.9
16.	6.5	5.8	5.5	4.8	6.3	6.3
17.	5.1	4.5	3.7	3.2	2.7	5.5
18.	6.7	5.1	4.6	4.1	3.7	5.1
19.	6.7	4.6	4.0	4.8	4.6	4.6
20.	6.7	5.3	5.2	5.9	5.9	5.0
21.	6.8	5.2	5.7	5.0	5.7	5.1
22.	7.0	5.0	5.7	4.9	7.1	5.4
23.	6.4	4.6	5.9	6.1	6.5	6.1
24.	7.0	5.4	6.2	5.7	7.0	6.4
25.	7.3	5.4	6.1	5.8	6.5	5.6
26.	7.6	5.5	5.7	5.8	6.7	6.2
27.	8.1	5.5	5.6	6.3	8.5	6.5
28.	7.8	5.6	5.7	5.9	8.0	6.0
29.	6.3	5.4	5.3	5.1	7.0	5.3
30.	6.6	5.6	5.7	6.0	6.3	6.1
31.	6.5	5.7	5.3	6.1	7.2	6.5
MEAN:	5.9	5.2	5.5	4.9	6.2	5.3

CALCULATION OF QUALITY INDICES (Q):

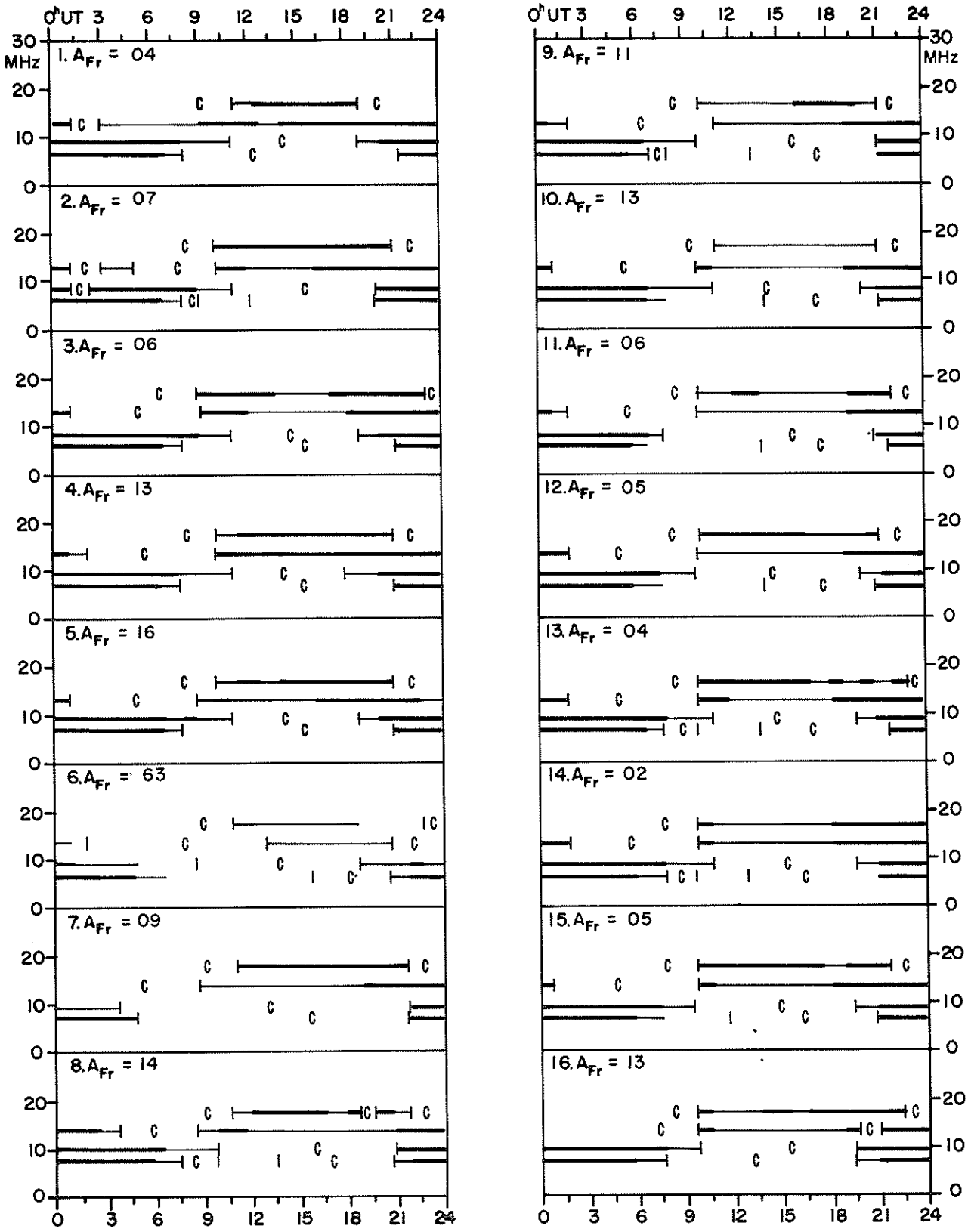
From all 24 hourly field strength values and from all frequencies of the same circuit a median field strength value is calculated (FD). This daily value is compared with the average value (FA) of the preceeding 27 days (1 sun rotation).

$Q = 6.0 + 20 \log (FD/FA)/3.0$

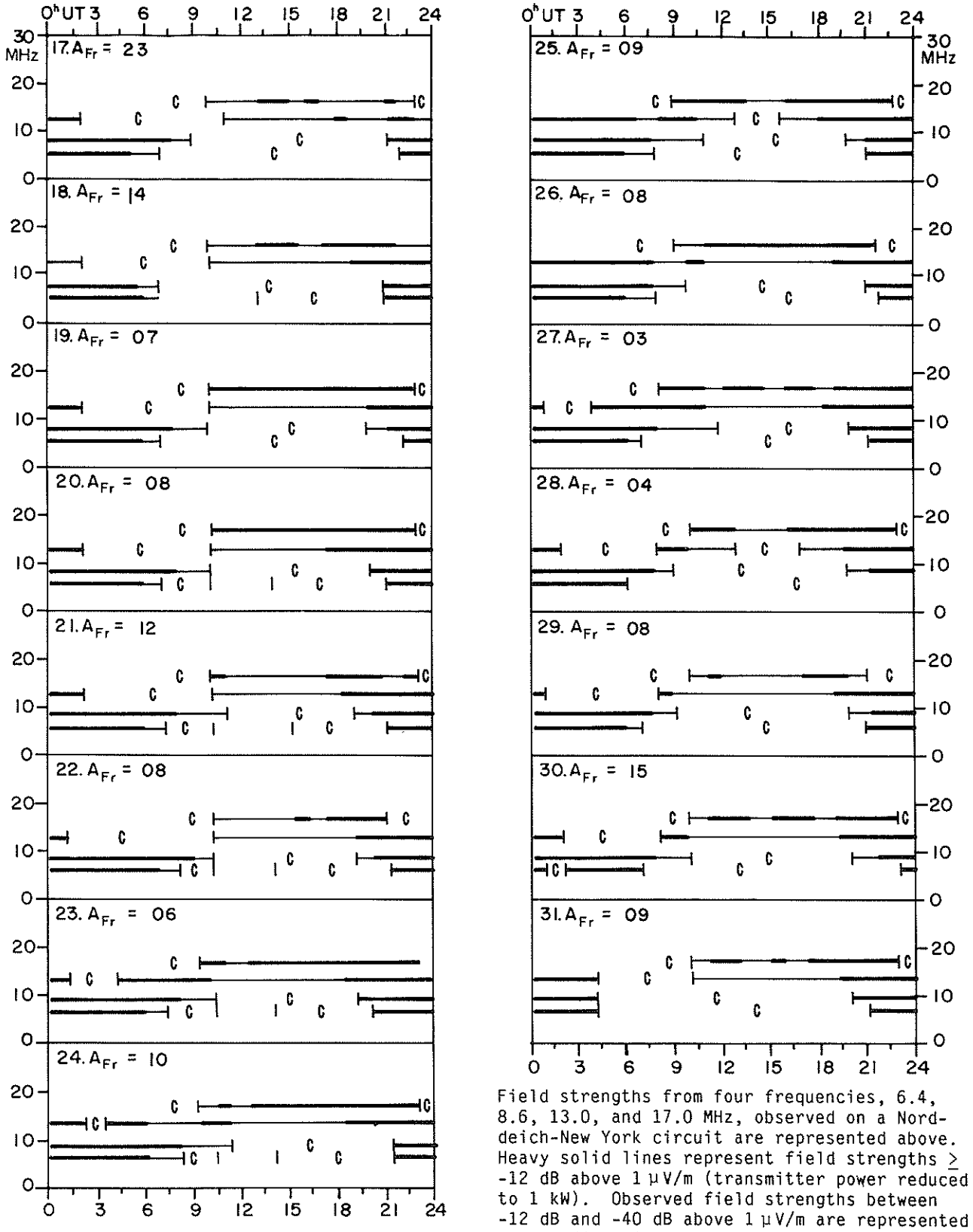
The quality indices vary from 0.1 to 9.9 where 6.0 is normal. Conditions are "normal" (index = 6.0), if they respond to the average of the preceeding 27 days.

SCALE FOR QUALITY INDICES:
0.1 - 1.0 = very poor
1.1 - 3.0 = poor
3.1 - 5.0 = fair
5.1 - 7.0 = normal

TRANSMISSION FREQUENCY RANGES--NORTH ATLANTIC PATH
MAY 1988



TRANSMISSION FREQUENCY RANGES--NORTH ATLANTIC PATH
MAY 1988



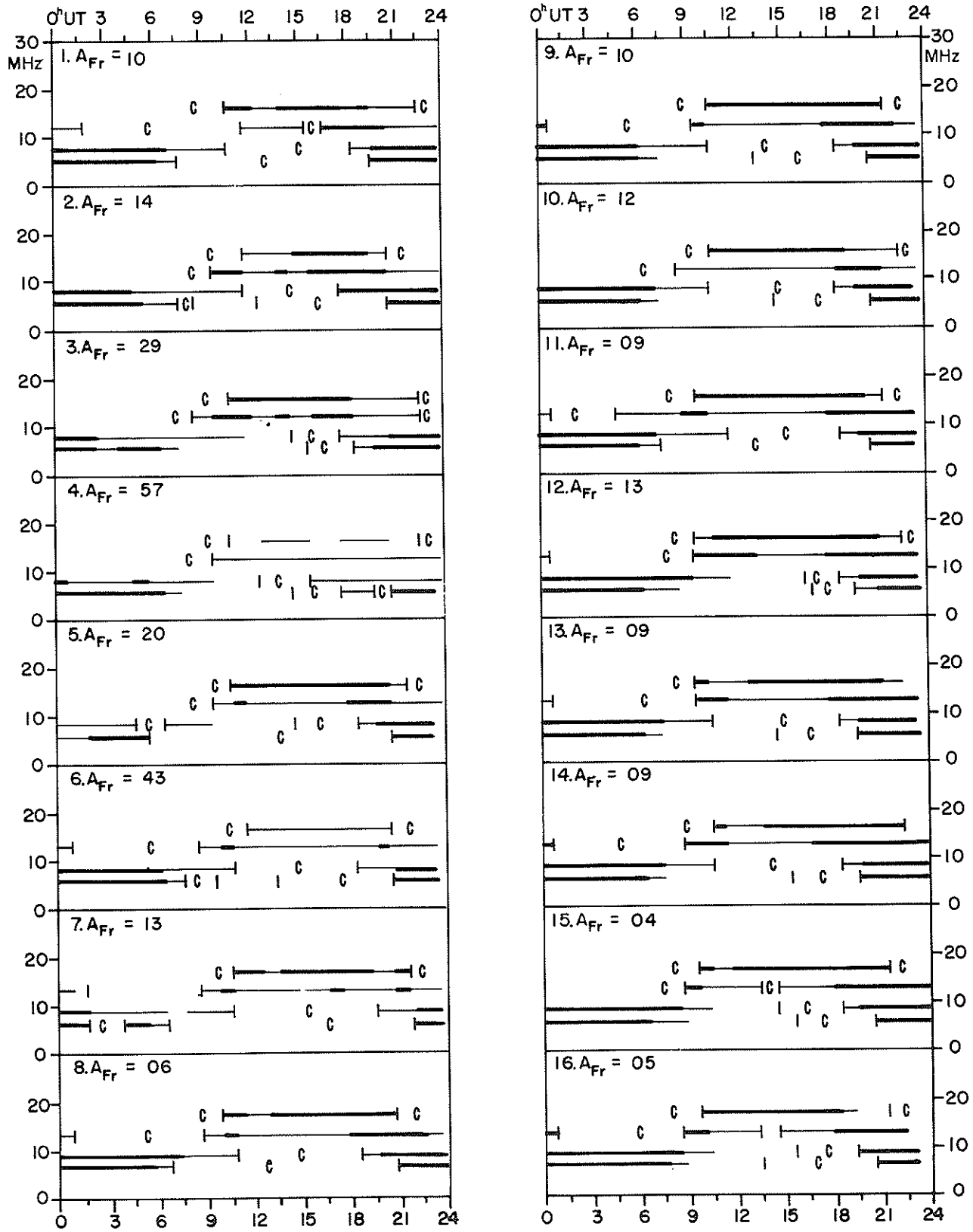
Field strengths from four frequencies, 6.4, 8.6, 13.0, and 17.0 MHz, observed on a Norddeich-New York circuit are represented above. Heavy solid lines represent field strengths $\geq$ -12 dB above 1 μV/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB and -40 dB above 1 μV/m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

C O N T E N T S

Prompt Reports **LATE DATA** Number 527 Part I

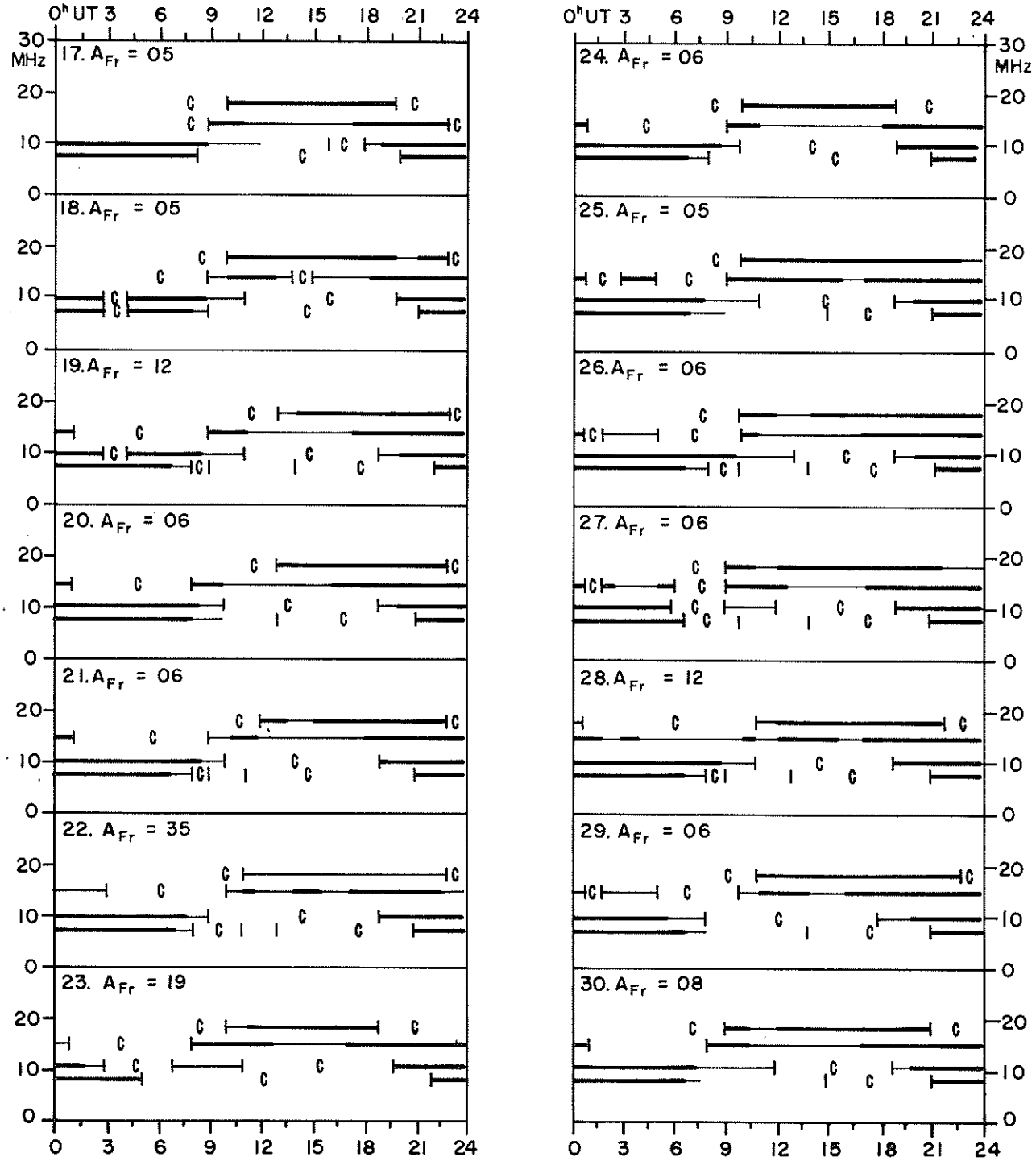
TRANSMISSION FREQUENCY RANGES--NORTH ATLANTIC PATH

APRIL 1988



TRANSMISSION FREQUENCY RANGES--NORTH ATLANTIC PATH

APRIL 1988



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

COSMIC RAY INDICES
(Neutron Monitor)

March 1985

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	PREDIGTSTUHL Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4340	6924.5	6669.3	6036.4	3982.4(10)	1167	3621.1	1753.1(14)
2	4327	6916.9	6667.6	6026.6	3968.0	1168	3617.8	---
3	4316	6931.8	6651.6	6017.6	3964.9	1165	3615.8	1754.3(18)
4	4330	6919.5	6667.8	6008.0	3965.2	1165	3615.5	1753.9(32)
5	4304	6883.0	6623.0	5968.2	3944.9	1165	3605.2	1748.4(28)
6	4311	6901.5	6633.3	5967.0	3940.2	1165	3603.3	1747.7(30)
7	4320	6915.4	6629.0	5984.4	3944.5	1166	3602.7	1745.9(36)
8	4333	6937.4	6619.6	5977.6	3937.3	1166	3597.2	1748.4(30)
9	4343	6968.0	6659.5	5977.3	3919.3	1167	3603.5	1749.4
10	4313	6905.0	6636.4	5961.4	3907.0	1166	3614.2	1748.7
11	4301	6894.7	6618.5	5949.7	3906.5	1166	3599.3	1748.7
12	4315	6925.6	6656.7	5980.7	3934.6	1166	3610.3	1752.5
13	4337	6939.5	6652.7	6001.1	3945.1	1167	3618.0	1752.1
14	4329	6944.8	6659.3	6017.6	3930.7	1167	3607.1	1748.5(32)
15	4338	6969.0	6688.7	6027.5	3952.6(38)	1167	3615.1	1750.8
16	4339	6980.0	6668.4	6035.4	3943.7	1167	3622.6	1752.3
17	4332	6972.1	6676.2	6013.5	3937.7	1166	3607.2	1752.2(34)
18	4336	6972.9	6711.0	6028.6	3949.8	1165	3614.1	1754.1
19	4338	6987.4	6682.5	6029.8	3952.0	1164	3617.2	1752.3
20	4316	6965.5	6684.5	6033.2	3945.1	1163	3617.8	1750.3
21	4282	6963.7	6691.5	6035.1	3945.2	1162	3621.9	1764.8(16)
22	4330	6969.5	6706.6	6037.8	3968.9	1162	3632.2	1755.7
23	4320	6993.7	6686.7	6020.4	3962.0	1162	3632.6	1760.4
24	4317	6996.7	6720.0	6039.1	3963.1	1162	3637.0	1760.1
25	4328	7011.8	6725.3	6042.2	3962.8	1162	3630.8	1758.5
26	4335	7022.9	6712.9	6064.8	3967.4	1163	3630.2	1762.1(34)
27	4322	7009.0	6709.0	6055.9	3980.6	1163	3626.7	1764.1(34)
28	4310	7013.6	6690.4	6024.3	3976.1	1163	3630.0	1760.9(32)
29	4306	7006.7	6700.8	6032.0	3981.9	1163	3627.0	1760.8(32)
30	4328	7033.0	6739.5	6048.7	3998.6	1163	3642.8	1767.2(38)
31	4325	7031.3	6741.3	6040.5	3995.9	1163	3651.8	1764.5(24)
Mean	4323	6961.5	6676.8	6015.6	3953.3	1165	3618.9	1754.3

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

COSMIC RAY INDICES
(Neutron Monitor)

April 1985

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	PREDIGTSTUHL Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4378	7017.2	6725.9	6028.2	3937.3(36)	1177	3652.0	1764.9(38)
2	4370	7029.2	6738.2	6030.9	3941.0	1179	3652.0	1762.2
3	4368	7037.1	6751.9	6020.5	3951.1	1183	3641.8	1764.8
4	4368	7020.3	6739.0	6045.2	3960.9	1187	3635.4	1761.1(34)
5	4386	7048.2	6737.4	6065.5	3963.7	1191	3641.7	1764.6(26)
6	4395	7064.6	6768.9	6077.4	3968.2	1194	3646.1	---
7	4402	7073.0	6791.1	6081.5	3980.3	1196	3644.3	---
8	4413	7103.1	6810.5	6111.4	3981.3	1198	3648.5	---
9	4395	7061.2	6808.2	6086.0	3987.5	1199	3654.2	---
10	4383	7052.4	6775.0	6071.0	3973.5	1198	3644.0	1765.5(4)
11	4387	7050.2	6763.3	6090.1	3971.2	1198	3643.0	1765.5(22)
12	4397	7066.1	6775.1	6095.2	3968.6	1199	3647.2	1765.7(24)
13	4406	7088.3	6785.4	6103.7	3974.6	1199	3647.9	1764.2(24)
14	4406	7085.7	6764.3	6097.9	3983.0	1199	3651.1	1765.3(24)
15	4411	7094.2	6772.9	6069.7	3982.9	1199	3648.2	1765.2(24)
16	4413	7104.6	6802.5	6084.1	3998.4	1198	3655.7	1767.7(26)
17	4414	7104.4	6811.7	6074.7	3992.5	1197	3662.7	1766.0(16)
18	4434	7148.0	6819.7	6087.5	3999.0	1196	3664.7	1765.9(18)
19	4419	7139.5	6775.8	6103.3	4005.9	1195	3663.9	1762.5(22)
20	4368	7044.0	6730.8	6083.6	3999.5	1196	3656.0	1771.1(20)
21	4372	7050.1	6751.0	6082.7	4059.0	1197	3670.7	---
22	4378	7072.8	6759.9	6074.0	4013.7	1198	3649.1	---
23	4368	7027.7	6775.8	6085.7	3993.8	1199	3651.2	---
24	4351	7057.2	6761.3	6084.4	3984.4	1199	3655.8	---
25	4355	7076.5	6760.0	6090.6	3979.3	1199	3654.4	---
26	4274	6942.6	6585.7	5962.0	3870.0	1199	3610.6	---
27	4142	6709.9	6430.4	5829.8	3756.8	1197	3564.0	---
28	4141	6738.9	6396.4	5763.2	3717.1	1195	3565.2	---
29	4159	6779.0	6428.0	5802.2	3747.5	1193	3575.5	1734.0(4)
30	4195	6845.9	6501.1	5852.5	3782.3	1191	3596.1	1739.8(24)
Mean	4355	7024.4	6719.9	6037.8	3947.4	1195	3639.8	1763.1

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

COSMIC RAY INDICES
(Neutron Monitor)

May 1985

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	PREDIGTSTUHL Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4206	6873.7	6519.6	5867.1	3819.9	1098	3604.0	1734.0(14)
2	4235	6940.2	6579.0	5932.4	3861.7	1106	3619.1	1743.9(20)
3	4268	6984.4	6655.5	5942.1	3886.7	1117	3619.5	1748.6(18)
4	4285	7020.9	6673.7	5979.3	3917.5	1137	3629.2	1751.3(20)
5	4305	7053.8	6674.7	5987.1	3926.0	1153	3618.2	1755.5(20)
6	4304	7079.6	6683.4	5985.4	3938.7	1174	3612.4	1758.7(26)
7	4301	7100.8	6717.2	5998.5	3948.5	1194	3616.8	1759.0(12)
8	4313	7123.3	6730.1	6008.6	3947.2	1198	3628.7	1759.5(26)
9	4338	7142.4	6726.2	6031.1	3954.2	1199	3632.1	1759.8(24)
10	4321	7130.1	6710.5	6011.8	3962.3	1201	3640.6	1759.9(26)
11	4330	7132.9	6742.1	6016.9	3983.9	1204	3652.5	1758.4(22)
12	4343	7165.2	6748.1	6044.9	3990.5	1212	3651.3	1767.3(24)
13	4365	7228.9	6776.7	6056.8	4022.3	1213	3647.1	1770.9(26)
14	4348	7218.5	6780.8	6062.9	4011.8	1214	3640.5	1770.2(26)
15	4349	7206.4	6777.6	6057.3	3997.2	1217	3650.3	1763.5(26)
16	4359	7240.1	6777.7	6062.5	3998.2	1216	3659.7	1768.1(22)
17	4336	7196.0	6763.7	6039.7	3971.2	1212	3643.2	1763.2(32)
18	4330	7252.1	6771.4	6045.3	3972.7(36)	1209	3635.7	1762.8(22)
19	4359	7140.7	6812.6	6084.8	---	1216	3643.0	1767.5(16)
20	4365	7123.1	6804.8	6119.2	4025.1(14)	1218	3638.4	1773.8(20)
21	4371	7116.2	6826.2	6118.8	4021.0	1214	3640.1	1762.2(12)
22	4381	7144.1	6833.0	6129.6	4024.0	1214	3639.1	1766.7(22)
23	4380	7157.7	6844.3	6121.8	4018.9	1214	3644.5	1764.2(20)
24	4368	7130.0	6837.5	6096.7	4009.0	1218	3630.0	1765.8(26)
25	4362	7093.8	6798.2	6062.3	3963.9(38)	1211	3619.0	1756.9(22)
26	4372	7092.9	6815.1	6077.1	3984.8(34)	1217	3636.4	1766.3(20)
27	4393	7127.0	6832.0	6109.3	4015.2	1223	3642.7	1663.0(2)
28	4389	7103.4	6855.4	6102.2	4022.8	1220	3641.9	1664.8(38)
29	4386	7099.3	6853.3	6101.7	4019.3	1219	3640.3	1760.8(12)
30	4406	7136.3	6870.4	6126.9	4041.3	1221	3645.1	1756.6(22)
31	4409	7146.8	6848.2	6123.8	4035.3	1220	3646.2	1752.6(28)
Mean	4341	7116.2	6762.6	6048.5	3975.7	1197	3635.7	1755.0

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

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

June 1985

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	PREDIGTSTUHL Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4410	7156.5	6858.4	6134.6	4052.2(38)	1222	3651.5	1771.5(16)
2	4404	7131.1	6855.5	6137.5	4045.0	1224	3648.5	---
3	4410	7141.7	6863.2	6147.0	4041.8	1223	3645.2	---
4	4409	7138.5	6866.8	6160.2	4037.5	1221	3655.5	---
5	4410	7127.8	6867.1	6158.8	4039.3	1222	3665.4	---
6	4394	7113.7	6844.7	6139.3	4020.6	1219	3663.2	---
7	4378	7105.5	6815.5	6128.3	4007.1	1215	3649.6	---
8	4374	7103.9	6819.7	6121.3	4017.2	1214	3649.2	---
9	4370	7095.8	6786.5	6134.8	4007.4	1208	3638.7	---
10	4372	7070.0	6786.8	6120.0	4028.6	1216	3649.8	---
11	4377	7101.3	6811.4	6154.9	4021.9	1215	3649.0	---
12	4393	7124.3(21)	6830.2	6146.4	4032.2	1217	3647.7	---
13	4390	7150.3(23)	6850.4	6132.4	4037.3	1215	3645.1	1666.3
14	4409	7146.2	6863.0	6132.4	4045.7	1218	3650	1668.4
15	4404	7148.2	6852.4	6138.4	4033.8	1216	3655.8	1672.4
16	4417	7168.1	6875.3	6076.5	4052.5	1221	3660.5	1677.0(2)
17	4426	7178.3	6868.0	6137.6	4049.0	1222	3655.5	---
18	4429	7199.6	6874.4	6046.3	4045.5	1220	3640.8	---
19	4443	7214.8	6894.2	6171.9	4059.3	1223	3633.8	---
20	4434	7211.2	6891.1	6349.7	4059.6	1223	3645.6	---
21	4406	7168.7	6862.7	6235.8	4047.0	1215	3629.2	---
22	4389	7156.2	6825.4	6385.1	4029.3	1211	3627.9	---
23	4409	7211.7	6831.3	6387.3	4046.9	1215	3632.4	---
24	4415	7231.4	6850.0	6266.2	4054.5	1214	3627.0	---
25	4392	7180.0	6823.9	6096.6	4062.7	1208	3622.4	---
26	4391	7176.2	6831.1	6056.1	4069.0	1210	3638.1	---
27	4408	7225.6	6838.9	6170.4	4064.1	1215	3636.1	---
28	4409	7222.0	6858.7	6229.5	4068.8	1220	3639.2	---
29	4420	7260.3	6855.8	6128.3	4062.3	1221	3636.5	---
30	4423	7265.1	6863.0	6056.9	4066.3	1224	3638.8	---
Mean	4404	7164.2	6847.2	6162.6	4043.3	1218	3644.3	1679.2

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

COSMIC RAY INDICES
(Neutron Monitor)

July 1985

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	PREDIGTSTUHL Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4431	7276.0	6864.9	6164.3	4065.6	1224	3647.0	---
2	4434	7253.5	6874.1	6147.6	4069.8	1227	3639.1	---
3	4443	7252.9	6902.2	6154.4	4078.3	1229	3636.4	---
4	4414	7229.3	6843.7	6116.3	4044.8	1222	3629.5	---
5	4388	7191.4	6791.4	6094.6	4026.8	1219	3623.0	---
6	4378	7186.0	6781.3	6102.7	4022.5	1218	3621.8	---
7	4371	7174.6	6781.5	6093.8	4012.7	1212	3625.6	---
8	4372	7119.3	6772.3	6096.2	3999.6	1210	3621.2	---
9	4384	7141.4(5)	6807.7	6118.9	4022.7	1216	3635.6	---
10	4392	---	6819.7	6119.9	4024.7	1217	3631.6	---
11	4372	---	6852.7	6110.6	4035.2	1216	3636.1	---
12	4305	---	6735.6	6006.9	3991.4(36)	1201	3625.9	1581.7(6)
13	4296	---	6690.5	5974.4	3940.1	1196	3594.5	1748.8(10)
14	4326	7056.1(19)	6714.2	6057.0	3977.3	1207	3627.4	1755.5(8)
15	4368	7124.5	6754.1	6087.6	4000.5	1214	3638.3	1759.6(14)
16	4372	7148.4	6788.7	6097.1	4005.5	1216	3632.1	1762.1(16)
17	4369	7125.3	6789.5	6091.3	4003.5	1214	3628.9	1765.2(26)
18	4365	7130.5	6785.5	6108.9	4000.0	1213	3624.2	1759.9(30)
19	4382	7129.5	6784.1	6136.1	4016.8	1217	3619.4	1761.6(36)
20	4372	7120.8	6793.2	6118.1	4023.5	1214	3615.9	1761.9(28)
21	4379	7139.6	6800.7	6112.7	4031.0	1213	3619.7	1764.4
22	4391	7148.2	6825.0	6119.3	4022.8(28)	1212	3627.8	1762.3
23	4390	7150.5	6827.3	6118.4	4026.1(20)	1217	3629.5	1765.1
24	4398	7187.7	6841.0	6114.8	4017.1(18)	1219	3630.0	1764.3(38)
25	4402	7226.9	6822.6	6134.0	4029.4	1221	3630.3	1770.0(16)
26	4412	7232.6	6830.4	6162.7	3992.9	1223	3630.1	1770.2
27	4423	7226.3	6864.3	6164.9	3996.2	1226	3630.6	1766.8
28	4419	7225.8	6865.2	6159.2	3984.0(32)	1225	3632.9	1769.2
29	4416	7216.6	6833.5	6176.8	---	1225	3632.6	1765.3
30	4420	7187.8	6841.4	6155.9	---	1220	3632.1	1772.0
31	4409	7203.5	6822.2	6126.9	---	1217	3625.6	1764.1
Mean	4387	7178.0	6809.7	6114.9	4016.8	1217	3628.2	1763.2

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

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

August 1985

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	PREDIGTSTUHL Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4390	7184.5	6796.0	6094.9	---	1212	3612.3	1762.9(34)
2	4387	7192.3	6800.7	6106.6	4027.7(6)	1212	3616.4	1759.3(28)
3	4390	7186.3	6796.8	6115.9	3996.8	1209	3615.2	1761.8
4	4385	7156.4	6795.3	6126.9	4006.1	1208	3620.6	1762.2(36)
5	4398	7149.5	6812.8	6133.8	4012.0	1209	3619.0	1767.6(24)
6	4398	7144.3	6817.0	6137.8	4010.0	1209	3618.5	1764.3
7	4393	7144.7	6816.3	6122.5	4013.4	1211	3612.0	1762.2
8	4399	7161.3	6814.3	6112.2	4006.0(34)	1208	3615.2	1764.0
9	4390	7149.3	6819.6	6108.4	4033.7(6)	1210	3619.1	1767.3
10	4385	7139.8	6807.7	6115.0	4011.3	1213	3616.5	1764.3
11	4400	7173.3	6823.6	6128.7	4017.7	1214	3612.5	1766.8
12	4394	7166.5	6844.2	6123.0	4033.6	1220	3613.3	1770.6
13	4371	7126.4	6795.6	6089.9	4025.8	1215	3617.7	1770.8
14	4390	7170.4	6791.0	6116.3	4017.1	1201	3620.1	1768.4
15	4389	7151.9	6812.6	6131.4	4031.1	1201	3621.1	1770.0
16	4396	7166.5	6839.8	6156.8	4041.0	1205	3623.5	1766.5
17	4407	7158.8	6846.2	6174.6	4044.3	1225	3628.1	1771.8
18	4418	7189.0	6879.5	6193.3	4045.6	1221	3633.8	1774.5(4)
19	4414	7184.0	6855.6(23)	6188.6	4051.1	1222	3631.4	1776.0(18)
20	4395	7163.4	6855.2	6148.2	4036.3	1219	3627.4	1766.3
21	4414	7189.0	6863.5	6145.9	4039.8	1221	3628.3	1765.8(26)
22	4414	7193.2	6874.0	6165.5	4044.2	1215	3633.5	1770.3(14)
23	4417	7181.8	6879.9	6167.9	4047.8	1217	3638.5	1770.7(16)
24	4421	7177.3	6880.2	6173.7	4048.4	1203	3634.6	1767.8(8)
25	4415	7171.7	6859.4	6168.0	4049.3	1221	3635.5	---
26	4394	7139.9	6819.8	6147.1	4023.6	1222	3627.0	---
27	4390	7131.9	6805.3	6116.9	4016.2	1217	3619.6	---
28	4387	7146.0	6809.3	6113.1	4011.2	1218	3612.1	---
29	4369	7133.1	6840.0	6101.3	4015.9	1218	3612.5	---
30	4378	7148.8	6840.9	6100.1	4020.3	1217	3602.3	---
31	4409	7180.4	6832.7	6160.2	4002.7(34)	1225	3603.2	---
Mean	4397	7163.0	6829.9	6134.9	4026.0	1214	3620.7	1766.5

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

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

SEPTEMBER 1985

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	PREDIGTSTUHL Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4378	7155.2	6822.9	6148.5	4025.8	1218	3603.2	---
2	4398	7177.2	6841.9	6164.5	4042.5	1219	3607.1	---
3	4422	7216.1	6862.6	6187.4	4060.0	1214	3613.4	---
4	4430	7238.7	6855.3	6179.3	4065.4	1220	3616.2	---
5	4433	7228.0	6878.8	6192.9	4067.6	1221	3620.6	---
6	4434	7244.8	6876.9	6213.0	4084.3	1229	3627.9	---
7	4449	7258.4	6884.0	6205.1	4091.9	1231	3630.0	---
8	4450	7274.9	6899.8	6210.1	4088.3	1232	3633.9	---
9	4447	7259.2	6902.7	6195.2	4086.8	1231	3633.6	1773.0(2)
10	4452	7271.3	6911.9	6182.5	4086.3	1236	3628.3	1773.8
11	4464	7306.5	6959.3	6197.4	4104.3	1241	3633.1	1775.9
12	4476	7320.6	6982.1	6213.0	4114.2	1244	3637.9	1775.5
13	4486	7309.4	6995.8	6235.6	4111.7	1244	3646.7	1784.7
14	4475	7299.1	6971.1	6227.9	4098.0	1245	3644.2	1779.5
15	4472	7297.8	6939.3	6237.7	4086.3	1242	3629.7	1776.4
16	4454	7273.9	6925.2	6222.8	4098.1	1240	3624.4	1772.3(30)
17	4448	7220.5	6912.7	6194.5	4114.0	1233	3627.5	1770.9
18	4434	7200.1	6890.6	6173.6	4102.1	1230	3617.9	1770.8
19	4426	7207.9	6854.9	6172.3	4088.8	1229	3613.2	1764.1(36)
20	4411	7218.5	6852.1	6172.4	4089.0	1229	3615.5	1767.8(32)
21	4438	7238.7	6874.9	6179.7	4095.6	1232	3620.5	1766.9
22	4437	7245.5	6888.8	6184.2	4098.0	1230	3621.2	1769.3
23	4436	7243.5	6886.8	6180.4	4086.0	1234	3618.1	1766.2(36)
24	4424	7236.5	6885.3	6178.6	4085.8	1233	3608.0	1765.4
25	4426	7238.8	6894.5	6172.9	4083.4	1233	3616.3	1772.3(12)
26	4433	7247.9	6894.3	6167.0	4088.9	1237	3618.8	1770.9(30)
27	4450	7289.6	6894.0	6187.3	4100.3	1238	3628.7	1773.2
28	4448	7272.6	6908.3	6199.8	4092.5	1239	3622.6	1773.2
29	4462	7292.5	6901.2	6196.7	4097.3	1240	3617.1	1772.1
30	4465	7280.0	6917.8	6200.8	4116.7	1239	3625.7	1772.7(14)
Mean	4442	7252.2	6898.9	6192.4	4088.1	1233	3623.3	1772.4

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

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

OCTOBER 1985

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	PREDIGTSTUHL Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4475	7300.0	6900.9	6192.6	4093.8	1241	3631.7	1767.2(30)
2	4486	7343.5	6951.6	6223.8	4120.3	1243	3643.2	1766.3(30)
3	4423	7230.3	6890.3	6162.5	4081.8	1236	3632.0	1767.4
4	4436	7255.6	6890.7	6184.8	4076.3	1240	3628.7	1771.2
5	4419	7217.5	6864.3	6165.4	4077.4	1241	3632.1	1770.8
6	4420	7210.8	6869.5	6149.8	4073.5	1239	3624.4	1769.0
7	4439	7232.9	6882.3	6162.2	4086.8	1239	3634.7	1767.2
8	4463	7278.7	6884.4	6219.3	4106.0	1237	3642.2	1772.6
9	4476	7304.9	6889.2	6234.4	4098.7	1234	3640.3	1773.6
10	4481	7308.7	6911.0	6213.3	4100.7	1238	3640.4	1773.4
11	4479	7308.6	6924.6	6190.7	4110.2	1236	3631.2	1774.3
12	4447	7251.1	6887.8	6170.2	4083.4	1230	3632.9	1768.1(30)
13	4440	7239.0	6862.5	6162.1	4073.8	1232	3633.4	---
14	4414	7190.8	6862.8	6136.5	4072.0	1229	3635.4	---
15	4421	7210.7	6870.3	6156.1	4075.0	1228	3641.2	1771.0(38)
16	4437	7251.2	6910.5	6182.0	4086.5	1232	3632.6	1772.9
17	4441	7230.9	6885.6	6188.4	4082.1	1229	3630.1	1770.6
18	4436	7224.5	6869.4	6178.1	4075.9(34)	1229	3633.9	1768.8
19	4442	7241.5	6871.4	6169.6	4071.2	1228	3629.2	1768.3
20	4445	7249.5	6902.7	6169.3	4080.7	1229	3625.5	1772.9
21	4437	7231.9	6882.5	6156.4	4066.7	1226	3628.0	1766.7
22	4439	7228.4	6879.8	6153.4	4086.8	1230	3636.8	1763.2
23	4444	7257.5	6883.5	6179.4	4094.6	1233	3644.0	1766.9
24	4451	7261.0	6910.5	6197.6	4089.3	1236	3645.9	1767.3
25	4462	7296.1	6935.9	6212.8	4097.7(34)	1238	3649.6	1769.2(28)
26	4445	7268.2	6937.6	6228.2	4108.2	1241	3650.0	1770.0(34)
27	4443	7243.3	6941.8	6242.3	4104.0	1242	3651.0	1769.8
28	4445	7229.5	6947.3	6228.8	4100.1	1239	3652.9	1774.2(34)
29	4447	7246.4	6942.5	6230.2	4107.3	1244	3646.3	1777.0(12)
30	4446	7257.3	6927.2	6243.3	4091.7	1225	3637.8	1779.1
31	4442	7249.9	6932.4	6254.9	4100.2	1238	3635.6	1779.4(18)
Mean	4446	7253.3	6900.1	6191.5	4089.3	1235	3637.2	1770.3

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

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

NOVEMBER 1985

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	PREDIGTSTUHL Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4438	7261.1	6940.5	6266.4	4108.2(38)	1235	3640.7	---
2	4456	7269.3	6938.0	6285.4	4126.2	1232	3663.2	---
3	4463	7285.0	6928.5	6271.7	4110.3	1237	3655.5	---
4	4482	7294.8	6947.7	6275.4	4118.9	1240	3656.4	1776.7(6)
5	4489	7325.3	6956.1	6309.9	4137.2	1241	3655.6	1777.8
6	4484	7300.2	6966.2	6295.4	4138.3	1241	3650.7	1779.8
7	4493	7320.5	6966.3	6277.4	4138.2	1241	3653.8	1773.8(38)
8	4498	7331.3	7001.0	6272.8	4142.1	1241	3662.4	1776.8(38)
9	4478	7315.7	6960.3	6256.9	4128.6	1233	3651.7	1781.7(6)
10	4468	7297.8	6923.2	62685.2	4120.5	1234	3653.7	1773.0
11	4491	7305.1	6950.3	6286.9	4132.2	1227	3665.5	1773.7(22)
12	4498	7315.0	6965.9	6270.0	4138.8	1226	3659.5	---
13	4488	7315.3	6935.4	6237.4	4128.8	1217	3656.0	---
14	4476	7290.3	6919.5	6222.3	4115.1	1211	3656.5	---
15	4475	7293.2	6923.8	6218.2	4102.5	1213	3651.2	---
16	4485	7306.8	6935.2	6219.8	4101.4	1217	3646.5	---
17	4480	7293.9	6920.2	6210.4	4110.3	1216	3643.4	---
18	4463	7270.7	6898.0	6205.0	4119.3	1218	3653.0	1772.8(10)
19	4484	7301.2	6894.1	6230.6	4119.6	1222	3656.9	1777.4(18)
20	4477	7293.5	6914.8	6226.7	4103.3	1219	3648.8	1770.7
21	4472	7277.3	6945.0	6233.0	4098.5	1217	3644.2	1770.3
22	4492	7319.1	6963.7	6268.4	4106.2(30)	1210	3648.6	1774.9
23	4491	7320.5	6955.0	6267.0	4120.6(34)	1223	3646.6	1775.6
24	4492	7340.3	6985.9	6278.6	4130.7	1222	3647.9	---
25	4479	7321.4	6987.2	6291.1	4130.0	1221	3662.2	1774.3(8)
26	4467	7276.8	6982.5	6308.6	4132.4	1221	3661.5	1778.5
27	4470	7294.1	6947.1	6304.7	4126.8	1221	3666.3	1776.0
28	4489	7313.1	6973.7	6295.3	4136.0	1220	3652.6	1778.0
29	4464	7261.4	6936.6	6231.8	4135.2	1213	3654.8	1775.8
30	4439	7214.7	6888.5	6196.2	4147.8	1202	3655.1	1776.9(38)
Mean	4477	7297.5	6945.0	6259.4	4123.7	1224	3654.0	1775.5

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

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

DECEMBER 1985

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	PREDIGTSTUHL Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4457	7241.2	6896.9	6186.9	4122.5	1200	3645.5	---
2	4464	7263.3	6966.5	6213.8	4122.9	1213	3652.7	1774.0(14)
3	4467	7258.0	6960.7	6215.3	4119.5	1226	3656.9	1774.8(32)
4	4468	7268.3	6957.2	6225.1	4123.5	1234	3647.7	1776.8
5	4470	7296.9	6956.2	6256.2	4118.1	1240	3652.8	1775.1(38)
6	4485	7323.7	6986.3	6282.7	4126.9(38)	1248	3652.6	1778.6
7	4488	7330.7	6975.1	6273.2	4124.6	1245	3652.5	1775.2
8	4494	7338.6	6974.9	6265.1	4135.5	1244	3653.0	1777.0
9	4506	7346.5	6993.0	6283.4	4145.3	1247	3667.9	1783.0(2)
10	4486	7317.4	6954.2	6260.6	4139.3	1239	3663.4	1784.4(10)
11	4476	7296.3	6903.9	6227.9	4123.7	1229	3656.9	1773.9(26)
12	4485	7315.3	6956.2	6226.2	4142.8	1224	3664.0	1773.0(32)
13	4448	7242.6	6907.4	6199.3	4103.0	1219	3642.5	1770.7
14	4446	7245.7	6931.6	6193.6	4109.9	1222	3641.1	1774.3
15	4452	7258.9	6941.2	6196.1	4110.8	1220	3649.8	---
16	4465	7267.4	6950.8	6203.9	4067.6	1215	3649.9	1769.2(12)
17	4466	7274.0	6951.0	6206.0	4063.5	1221	3650.0	1772.1(24)
18	4426	7203.9	6900.7	6180.1	4035.9	1212	3629.2	1762.7(34)
19	4399	7176.0	6853.8	6153.2	4015.9	1194	3616.4	1755.5
20	4410	7172.0	6866.0	6165.1	4029.8	1196	3625.5	1762.0(36)
21	4431	7206.6	6904.7	6164.0	4033.2	1180	3630.5	1766.0
22	4449	7233.8	6919.7	6192.3	4048.7	1186	3626.9	1764.7(34)
23	4454	7234.9	6924.2	6199.4	4061.4	1201	3631.4	1767.3(22)
24	4454	7239.9	6916.5	6228.9	4067.9	1209	3639.5	1768.8(38)
25	4467	7253.0	6952.8	6238.3	4073.2	1209	3642.5	1770.7
26	4468	7275.3	6972.8	6259.3	4084.4	1211	3653.1	1774.2
27	4474	7293.2	6967.2	6260.9	4089.5	1209	3650.1	1770.6(28)
28	4438	7215.5	6916.5	6227.4	4074.5	1201	3649.1	1770.8(38)
29	4452	7240.9	6931.9	6237.0	4073.6	1193	3644.2	1770.7(34)
30	4417	7187.5	6901.7	6189.7	4077.9	1178	3633.4	1773.4(26)
31	4437	7216.6	6895.7	6209.6	4067.6	1179	3637.0	1767.9
Mean	4458	7259.3	6935.1	6220.0	4091.3	1214	3645.4	1770.8

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

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

FEBRUARY 1986

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	PREDIGTSTUHL Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4515	7331.8	6963.5	6251.4	4101.8(38)	1194	3671.8	1785.1(32)
2	4512	7330.5	6974.4	6256.7	4107.8	1202	3668.4	1786.3
3	4522	7365.4	6984.0	6273.1	4128.5	1210	3676.7	1783.8(20)
4	4519	7343.3	6989.7	6281.4	4140.0	1214	3683.4	1786.9
5	4513	7361.4	6998.5	6297.2	4149.0	1220	3681.3	1791.0(34)
6	4487	7335.5	6965.9	6297.2	4127.8	1222	3681.2	1782.7(6)
7	4360	7118.1	6805.7	6124.2	4032.0	1193	3645.2	1769.0(8)
8	4205	6854.7	6563.0	5950.6	3912.7	1174	3624.3	1758.1(24)
9	4123	6729.1	6394.5	5776.2	3795.4	1141	3589.1	1730.3(30)
10	4199	6859.2	6522.5	5883.0	3869.8	1155	3601.0	1737.8(34)
11	4267	6973.2	6623.1	5962.6	3916.7	1160	3624.2	1756.2
12	4300	7020.0	6684.7	6003.5	3938.0	1163	3635.5	---
13	4334	7057.9	6739.6	6054.5	3958.6	1175	3636.2	1763.5(30)
14	4330	7038.5	6731.2	6049.2	3950.1	1175	3635.2	1759.1(28)
15	4266	6963.2	6667.3	5984.6	3904.1	1167	3636.5	1756.1
16	4259	6949.0	6640.4	5999.4	3899.8	1171	3624.4	1750.1
17	4214	6861.4	6543.7	5905.9	3811.5	1145	3584.5	1730.4(36)
18	4253	6946.2	6549.3	5930.7	3842.3	1158	3536.7	1754.6(14)
19	4268	6931.8	6590.0	5968.7	3858.5	1166	3535.5	1728.5(26)
20	4298	7043.3	6648.7	5999.6	3895.6	1171	3594.9	1739.3(30)
21	4343	7143.3	6699.3	6069.2	3952.3	1185	3628.8	1758.0(24)
22	4370	7163.2	6772.4	6106.0	3969.9	1192	3640.6	1755.9(30)
23	4422	7236.9	6851.3	6176.5	4033.4	1204	3664.5	1773.5(16)
24	4434	7266.2	6868.6	6185.7	4035.5	1203	3675.5	1773.9(26)
25	4452	7294.5	6923.7	6200.9	4049.7	1207	3670.2	1774.4
26	4458	7303.1	6939.5	6202.3	4068.1	1210	3670.8	1772.7(26)
27	4463	7308.6	6942.8	6202.5	4074.0	1210	3659.7	1778.1(30)
28	4445	7262.7	6908.8	6202.8	4063.7	1210	3676.6	1773.7(38)
Mean	4362	7121.1	6767.4	6092.7	3985.0	1147	3637.6	1762.9

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

COSMIC RAY INDICES
(Neutron Monitor)

MARCH 1986

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4424	7254.7	6893.9	6193.6	4052.3	3665.9	1768.4(18)
2	4426	7259.3	6899.3	6202.4	4047.6	3665.7	1773.9(30)
3	4447	7267.2	6880.2	6192.9	4038.3	3674.0	1769.0(28)
4	4448	7258.2	6890.4	6190.1	4041.8	3656.8	1776.0(2)
5	4462	7262.0	6901.4	6177.9	4060.9	3674.2	1778.1(36)
6	4466	7260.1	6916.7	6219.3	4078.0	3680.6	1788.1(24)
7	4429	7203.2	6908.7	6182.7	4070.5	3673.5	1779.9
8	4410	7148.7	6833.5	6142.1	4039.7	3657.4	1773.9
9	4351	7025.6	6709.2	6056.6	3945.9	3623.0	1763.5(32)
10	4341	7035.4	6718.6	6058.8	3969.5	3624.8	1759.9(30)
11	4343	7020.4	6719.1	6043.9	3972.3	3633.0	1763.4
12	4361	7065.4	6743.6	6079.4	3988.5	3641.9	1765.9
13	4395	7120.9	6785.8	6121.1	4027.8	3647.3	1775.1
14	4402	7128.7	6798.9	6114.4	4038.8	3623.1	1771.1
15	4402	7114.9	6829.9	6130.4	4035.2	3622.3	1770.2
16	4408	7156.4	6857.9	6153.9	4045.2	3657.0	1771.8(28)
17	4419	7210.6	6865.6	6157.8	4055.5	3660.5	1770.8
18	4420	7246.6	6874.7	6174.6	4066.8	3649.1	1774.3
19	4441	7254.0	6891.3	6184.7	4059.9	3652.6	1776.9
20	4455	7260.5	6921.7	6196.6	4054.2	3675.2	1776.7
21	4452	7271.7	6914.5	6194.8	4044.9	3667.1	1776.9
22	4461	7296.8	6904.1	6200.8	4060.3	3645.1	1776.8
23	4459	7318.4	6916.8	6220.4	4060.4	3574.2	1779.7
24	4448	7257.3	6912.6	6240.5	4059.8	3669.4	1778.0
25	4461	7307.8	6898.5	6229.4	4074.7	3677.4	1782.4
26	4431	7316.0	6903.5	6224.4	4074.1	3675.6	1783.4
27	4432	7313.0	6936.9	6209.0	4073.0	3669.8	1786.6
28	4442	7323.8	6954.0	6211.1	4081.3(36)	3656.4	1783.7
29	4445	7312.6	6942.5	6226.3	4084.8	3677.5	1783.4
30	4463	7361.6	6973.0	6264.3	4100.2	3665.6	1789.2
31	4460	7361.4	6988.0	6263.4	4106.2	3694.3	1785.7
Mean	4426	7225.6	6873.7	6176.0	4048.4	3655.8	1776.3

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

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

APRIL 1986

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4458	7330.8	6975.5	6257.9	4101.6	3691.9	1784.6
2	4465	7355.5	6990.9	6243.3	4128.2	3694.1	1787.6(32)
3	4466	7358.3	6998.5	6254.7	4144.0	3677.1	1783.1
4	4474	7371.6	7006.0	6257.8	4132.0	3662.4	1746.6(34)
5	4476	7384.6	7016.8	6264.0	4127.7	3692.4	---
6	4465	7379.2	7012.0	6240.8	4116.3	3692.9	1786.9(24)
7	4449	7355.5	7017.5	6227.7	4110.6	3710.0	1782.9(14)
8	4458	7375.2	7047.6	6241.7	4115.5	3686.8	1784.0
9	4452	7366.1	7053.7	6264.7	4126.6	---	1786.1
10	4429	7353.4	7047.2	6270.0	4133.1	3672.2	1787.5
11	4422	7348.5	7042.1	6268.7	4126.5	3698.3	1789.3
12	4436	7336.6	7040.4	6295.9	4141.2(28)	3706.3	1790.3
13	4437	7350.2	7039.7	6301.2	4148.6(22)	3700.4	1789.4
14	4443	7350.0	7046.2	6316.0	4141.5(22)	3689.8	1790.3(36)
15	4440	7343.6	7033.6	6291.0	4139.5	3663.6	1788.5
16	4443	7334.0	7038.9	6292.6	4125.0	3706.1	1791.8
17	4447	7338.5	7033.0	6286.7	4130.8	3676.4	1791.3(30)
18	4446	7351.8	7029.7	6288.1	4141.0	3675.6	1785.8
19	4442	7347.3	7025.5	6285.3	4148.7	3676.0	1787.8
20	4450	7340.0	7022.3	6291.6	4142.3	3678.3	1793.0
21	4456	7368.1	7044.9	6287.6	4140.9	3674.5	1787.6(36)
22	4459	7374.0	7058.2	6287.1	4148.6	3669.5	1793.4
23	4456	7378.2	7045.0	6276.9	4154.7	3691.0	1792.3
24	4466	7370.5	7035.1	6277.9	4163.3	3682.8	1791.8
25	4475	7385.1	7041.5	6281.2	4175.5(36)	3684.5	1794.7
26	4478	7381.0	7058.4	6300.4	---	3682.0	---
27	4490	7402.0	7064.9	6320.0	4194.5(8)	3690.6	1771.0(2)
28	4489	7393.5	7070.2	6317.5	4190.0(36)	3698.6	1789.6(38)
29	4486	7386.0	7088.3	6306.1	4189.0	3697.0	1794.5
30	4506	7404.9	7092.3	6299.5	4201.8	3697.3	1794.5(38)
Mean	4459	7363.8	7037.2	6279.8	4141.7	3686.8	1788.0

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

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

MAY 1986

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4510	7414.1	7090.6	6316.4	4180.1	3671.5	1793.4(18)
2	4476	7351.7	7065.5	6288.0	4179.1	3679.9	1793.6(22)
3	4453	7299.4	7043.1	6290.7	4163.1	3683.7	1791.4
4	4476	7363.5	7056.9	6301.8	4183.	3688.2	1794.5
5	4464	7348.7	7033.6	6328.6	4193	3683.3	1796.0
6	4458	7343.7	7025.4	6327.1	42.1	3692.3	1800.1(28)
7	4460	7314.8	6994.6	6299.4	4186.0	3696.4	1794.0
8	4467	7312.7	7015.6	6294.6	4183.3	3683.5	1791.5
9	4475	7339.2	7016.0	6297.7	4175.2	3689.0	1789.9(30)
10	4488	7364.4	7042.0	6298.2	4182.1	3690.3	---
11	4496	7377.6	7051.5	6310.7	4173.7(38)	3684.5	---
12	4497	7385.0	7049.4	6302.5	4171.1	3691.6	---
13	4501	7395.0	7065.4	6306.8	4167.8	3683.6	1794.4(34)
14	4515	7404.3	7070.4	6307.1	4181.4	3672.7	1794.0
15	4522	7412.0	7046.5	6321.3	4178.3	3681.3	1793.5
16	4519	7379.3	7017.7	6302.9	4163.1	3675.5	1790.6
17	4523	7397.7	7054.2	6297.7	4196.4	3680.7	1794.8
18	4523	7408.9	7038.7	6293.9	4174.5	3672.0	1794.2
19	4526	7420.5	7045.8	6292.3	4175.4	3663.7	1792.2
20	4505	7381.9	7022.7	6301.5	4161.9	3663.4	1791.6
21	4503	7385.5	7052.8	6305.1	4178.1	3667.0	1789.8
22	4509	7390.9	7057.0	6300.4	4178.2	3677.6	1786.2
23	4509	7385.4	7046.3	6298.4	4173.4	3685.8	1786.5
24	4510	7393.5	7054.2	6311.4	4176.5	3675.8	1790.4
25	4503	7387.1	7045.7	6293.2	4177.8	3684.6	1791.2
26	4514	7391.2	7050.6	6302.0	4184.3	3687.6	1790.9
27	4509	7377.9	7053.8	6302.1	4178.3	3682.5	1790.8
28	4525	7413.0	7081.4	6338.6	4189.4	3683.0	1791.6
29	4526	7410.9	7082.7	6345.3	4195.8	3671.3	1791.4(38)
30	4527	7410.2	7079.2	6340.2	4191.0	3677.6	1794.5
31	4526	7413.2	7057.4	6336.9	4186.7	3673.7	1788.5
Mean	4500	7379.8	7048.6	6308.2	4181.1	3680.4	1792.0

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

COSMIC RAY INDICES
(Neutron Monitor)

AUGUST 1987

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4469	7291.6	7024.0	6232.3	4127.0	3633.2	1782.2
2	4485	7327.3	7035.6	6252.0	4139.2	3635.0	1785.0
3	4460	7297.4	7002.6	6233.8	4130.5	3637.0	1783.9
4	4468	7303.7	6996.7	6236.1	4127.7	3630.4	1782.9
5	4460	7297.0	7021.3	6229.2	4138.2	3636.9	1783.5
6	4460	7305.0	7028.2	6257.6	4139.5	3634.5	1787.7
7	4467	7317.9	7024.1	6241.5	4136.4	3630.8	1784.8
8	4470	7331.6	7043.5	6236.6	4140.0	3634.0	1784.9
9	4484	7337.7	7056.0	6257.3	4149.8	3643.4	1788.3
10	4494	7366.6	7078.5	6271.4	4162.4	3647.4	1790.9
11	4504	7377.7	7091.8	6266.6	4165.0	3641.2	1792.7
12	4489	7366.4	7082.4	6264.8	4167.3	3647.1	1791.5
13	4489	7367.3	7076.7	6267.4	4178.7	---	1790.3
14	4494	7376.0	7036.9	6256.8	4171.1	3632.7	1783.9
15	4487	7350.8	7010.2	6245.3	4162.2	3639.5	1782.5
16	4491	7357.8	7005.1	6234.7	4161.6	---	1780.9
17	4481	7331.7	7003.0	6215.9	4145.8	3615.6	1778.0
18	4486	7344.5	7040.5	6233.8	4150.9	3618.1	1778.1
19	4482	7347.5	7048.2	6217.0	4143.0(30)	3618.2	1781.7
20	4497	7362.5	7064.8	6228.7	---	3622.2	1778.7
21	4517	7391.3	7071.3	6241.9	---	3626.5	1780.0
22	4484	7341.9	7053.2	6235.8	---	3611.9	1777.7
23	4462	7328.5	7036.6	6204.9	---	3616.6	1777.0
24	4462	7348.7	7026.4	6213.6	---	3610.9	1777.0
25	4404	7243.4	6918.2	6134.9	---	3593.7	1768.8
26	4429	7279.7	6944.7	6208.8	4069.5	3612.6	1773.4
27	4396	7237.2	6870.7	6136.8	4014.3	3597.0	1764.0
28	4371	7184.7	6850.5	6087.8	3995.7	3579.3	1759.2
29	4392	7188.2	6888.4	6117.1	4009.1	3590.9	1762.8
30	4405	7230.6	6919.5	6139.9	4031.4	3602.4	1771.2(34)
31	4368	7211.6	6906.1	6119.2	4030.7	3610.7	1769.0
Mean	4462	7314.3	7008.3	6216.7	4119.5	3621.8	1779.8

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

COSMIC RAY INDICES
(Neutron Monitor)

SEPTEMBER 1987

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4372	7187.7	6915.0	6136.1	4030.3(36)	3602.5	1768.6
2	4403	7224.4	6918.1	6141.0	4032.5	3604.3	1765.5
3	4421	7265.7	6944.8	6157.2	4038.4	3610.0	1768.3
4	4422	7269.1	6956.4	6166.2	4064.3	3607.7	1774.0
5	4440	7301.2	6965.9	6193.2	4078.8	3612.3	1772.5
6	4443	7308.2	6978.5	6209.1	4081.5	3616.2	1775.3
7	4435	7313.7	6975.2	6205.2	4082.1	3620.4	1776.6
8	4423	7304.1	6959.2	6209.6	4086.2	3619.2	1778.5
9	4425	7311.7	6985.7	6224.1	4101.5	3616.7	1779.3
10	4434	7306.9	7007.2	6228.0	4113.1	3619.0	1787.0
11	4441	7319.7	6978.3	6223.8	4111.0	3624.9	1783.7
12	4400	7279.9	6935.3	6178.8	4079.0	3619.0	1775.8
13	4408	7268.2	6936.2	6178.2	4079.4	3614.2	1773.0
14	4400	7250.5	6940.7	6167.1	4079.1	3613.9	1766.8
15	4388	7233.1	6941.8	6149.7	4067.9	3606.8	1770.0
16	4403	7237.8	6944.0	6169.6	4084.9	3607.8	1767.8
17	4409	7242.3	6955.7	6155.3	4074.2	3609.1	1766.9
18	4410	7235.8	6968.6	6161.3	4090.7(36)	3611.0	1771.6
19	4405	7242.6	6981.8	6186.9	4094.6	3618.9	1773.6
20	4395	7233.5	6943.6	6158.2	4075.6	3615.0	1767.6
21	4393	7219.7	6930.6	6150.7	4062.0	3606.7	1768.2
22	4433	7301.0	6961.1	6181.4	4088.8	3618.0	1773.9
23	4456	7337.5	6997.4	6223.6	4121.6	3632.7	1781.9
24	4410	7251.5	6929.6	6150.3	4049.2	3610.5	1769.4(30)
25	4396	7241.9	6939.5	6181.4	4064.4	3603.1	1773.1(14)
26	4382	7217.9	6907.3	6152.3	4058.2	3615.0	1771.5
27	4365	7198.4	6872.2	6100.9	4018.8	3601.9	1761.9
28	4389	7247.7	6895.4	6131.0	4054.2	3612.5	1773.3
29	4398	7238.2	6912.1	6142.2	4066.2	3616.9	1771.4
30	4397	7227.2	6921.9	6124.4	4062.8	3615.3	1765.6
Mean	4410	7260.6	6946.7	6171.2	4073.1	3613.3	1772.4

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

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

OCTOBER 1987

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4422	7271.5	6953.0	6151.3	4065.4	3614.2	1769.2(26)
2	4436	7304.7	6964.6	6175.4	4077.7	3618.0	1773.2(34)
3	4402	7248.5	6960.2	6185.0	4085.2	3633.0	1774.7
4	4419	7268.7	6966.4	6188.7	4077.6	3627.0	1775.4
5	4441	7270.9	6975.3	6209.4	4086.1	3627.7	1777.7
6	4445	7291.9	6999.5	6236.4	4093.5	3632.1	1781.3
7	4439	7297.6	7009.5	6240.6	4098.4	3632.1	1783.0
8	4439	7281.3	6999.6	6246.5	4091.4	3631.1	1776.1
9	4434	7270.8	6965.6	6204.9	4081.3	3636.2	1778.5
10	4432	7294.3	6991.8	6217.8	4093.0	3637.5	1777.7
11	4407	7251.2	6951.7	6196.1	4057.8	3612.5	1766.5
12	4373	7183.8	6921.5	6164.7	4048.5	3602.9	1762.1
13	4394	7247.4	6951.2	6189.2	4071.3	3608.3	1767.0
14	4415	7284.5	6969.7	6224.6	4109.8	3610.1	1771.3
15	4420	7284.7	6967.5	6227.5	4110.7	3614.0	1769.5
16	4410	7243.0	6955.0	6200.5	4096.6	3609.2	1770.1
17	4416	7254.6	6943.1	6179.4	4077.3	3617.6	1769.6
18	4421	7236.4	6959.7	6179.3	4088.4	3630.5	1769.8
19	4442	7274.6	6987.5	6204.2	4103.4	3629.4	1773.6
20	4452	7282.5	6994.4	6222.6	4107.9	3634.2	1774.2
21	4458	7295.2	---	6232.5	4111.6	3633.0	1777.7
22	4456	7282.2	---	6233.6	4108.5	3632.2	1774.4
23	4432	7267.8	---	6193.3	4090.9	3628.4	1771.2
24	4424	7253.8	6963.9	6195.8	4090.6	3618.3	1773.0
25	4406	7224.2	---	6161.9	4083.3	3609.8	1768.5
26	4432	7257.0	---	6156.3	4074.8	3606.7	1767.3
27	4423	7245.4	---	6177.2	4093.8	3622.0	1770.9
28	4408	7221.8	---	6178.1	4093.8	3628.0	1771.2
29	4417	7234.2	---	6186.1	4086.5	3625.5	1772.2
30	4424	7248.8	6988.5	6181.3	4097.2	3622.7	1774.1
31	4435	7272.8	6979.8	6204.0	4103.2	3634.8	1774.6
Mean	4425	7262.8	6970.4	6198.2	4088.9	3623.2	1772.8

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

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

NOVEMBER 1987

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
01	4440	7260.2	6982.0	6203.2	4095.4	3642.1	1772.2
02	4438	7266.5	6998.5	6207.3	4120.3	3630.9	1774.7
03	4392	7201.0	6884.8	6129.7	4047.0	3610.2	1767.0
04	4377	7164.9	6853.8	6090.2	4012.7	3607.7	1764.0
05	4381	7178.8	6900.3	6099.7	4023.1	3625.1	1765.5
06	4379	7164.5	6943.6	6111.6	4044.6	3633.7	1768.2
07	4353	7137.6	6902.0	6110.8	4017.4	3609.6	1762.0
08	4354	7138.5	6888.7	6110.1	4021.8	3609.3	---
09	4360	7144.1	6875.0	6118.5	4001.8	3699.2	---
10	4385	7169.2	6915.3	6157.8	4037.1	3615.7	---
11	4375	7160.0	6931.7	6156.0	4030.3	3619.4	1744.0(2)
12	4366	7150.5	6898.5	6148.4	4014.5	3612.0	1734.6
13	4372	7148.0	6902.7	6161.1	4037.7	3617.6	1731.8
14	4377	7149.4	6876.2	6133.0	4028.6	3617.4	1726.7
15	4357	7127.6	6852.9	6097.0	4010.2	3618.2	1731.7
16	4342	7110.8	6846.9	6094.2	4010.1	---	1730.7
17	4357	7139.9	6852.5	6098.8	4023.6	---	1737.5
18	4369	7179.7	6907.4	6105.4	4029.7	3631.0	1740.5
19	4366	7169.2	6912.5	6112.5	4010.1	3636.7	1737.3
20	4377	7199.7	6944.1	6163.8	4024.8	3638.0	1738.4
21	4397	7213.3	6985.0	6165.9	4052.8	3633.3	1738.2
22	4390	7197.4	6960.2	6182.7	4061.6	3641.5	1739.5
23	4362	7163.9	6914.7	6162.9	4053.5	3636.9	1739.7
24	4334	7127.5	6855.7	6124.9	4028.2	3630.2	1737.8
25	4320	7081.3	6829.8	6078.9	3997.8	3610.1	1725.0
26	4337	7076.9	6816.9	6106.1	4001.7	3615.7	1727.0
27	4346	7052.3	6837.2	6093.7	4005.0	3611.5	1732.7
28	4385	7114.5	6871.2	6101.8	4016.7	3619.3	1734.6
29	4411	7158.0	6890.1	6132.9	4032.1	3627.5	1737.6(22)
30	4405	7126.2	6914.8	6154.0	4037.7	3630.0	1741.1
Mean	4373	7155.8	6898.2	6130.4	4030.5	3622.5	1743.6

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

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

DECEMBER 1987

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
01	4379	7084.4	6927.5	6105.5	4036.1	3625.5	1728.7
02	4331	7006.8	6867.3	6085.3	3983.2	3623.8	1726.2
03	4320	6987.7	6848.1	6075.1	3969.7	3614.3	1731.2(34)
04	4340	7026.1	6869.7	6087.5	3981.0	3619.5	1750.4
05	4308	7009.3	6848.5	6079.4	3975.2	3624.0	1748.2
06	4309	7037.2	6834.1	6071.1	3977.9	---	1750.0
07	4350	7122.4	6875.1	6107.3	4006.2	3625.5	1752.4
08	4370	7159.2	6880.5	6128.5	4023.6	3625.1	1750.7
09	4376	7165.4	6872.5	6141.0	4023.8	3616.6	1748.2
10	4353	7137.8	6867.8	6120.0	4007.7	3617.4	1751.0
11	4362	7135.0	6902.5	6131.0	4019.3	3625.4	1754.1
12	4367	7126.8	6913.0	6137.1	4030.4	3625.3	1756.3
13	4385	7124.3	6907.3	6158.9	4055.4	3635.0	1757.2
14	4403	7134.1	6923.3	6170.1	4065.0	3632.2	1758.2
15	4404	7007.6	6928.4	6174.2	4059.0	3630.1	1760.8
16	4378	6877.6	6909.5	6164.0	4056.0	3629.7	1759.4
17	4375	6847.1	6898.9	6130.1	4039.8	3634.8	1756.9
18	4410	6877.7	6919.0	6152.5	4048.9	3639.7	1755.2
19	4391	6829.3	6900.1	6149.4	4055.8	3633.0	1752.5
20	4396	6822.1	6878.8	6124.2	4044.8	3628.5	1753.4
21	4387	6814.6	6899.6	6122.5	4053.1	3632.6	1757.7
22	4382	6853.0	6892.5	6117.6	4042.0	3626.7	1759.0
23	4386	---	6895.5	6124.7	4057.8	3622.2	1754.6
24	4401	---	6900.6	6153.9	4069.7	3628.8	1754.8
25	4423	---	6908.3	6169.9	4072.8	3629.0	1758.2
26	4420	---	6934.9	6164.7	4084.6	3632.7	1757.5
27	4426	---	6939.3	6151.9	4071.7	3635.3	1757.2
28	4429	---	6941.5	6145.0	4052.5	3631.7	1759.1
29	4415	---	6940.4	6126.2	4031.1	3623.1	1760.0
30	4412	---	6928.7	6138.7	4045.0(30)	3619.0	1756.7
31	4400	---	6902.3	6138.6	4033.8	3629.5	1754.8
Mean	4380	7008.5	6898.6	6130.5	4034.6	3627.2	1752.8

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

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

JANUARY 1988

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
01	4390	---	6861.3	6108.4	3987.1	3609.0	1748.3
02	4307	---	6769.5	6039.3	3953.0	3597.5	1744.1
03	4350	---	6822.1	6120.3	3992.3	3619.9	1752.0
04	4365	---	6842.1	6116.0	3974.3	3611.4	1753.6
05	4282	---	6662.3	5960.1	3850.2	3600.6	1725.7
06	4229	---	6635.7	5913.8	3835.0	3559.7	1724.3
07	4154	---	6559.5	5815.7	3793.9	3551.1	1710.5
08	4187	---	6599.3	5858.8	3831.2	3559.0	1723.1
09	4211	6932.6(9)	6645.3	5896.7	3850.5	3572.7	1726.6
10	4214	6912.7	6672.7	5900.7	3858.8	3584.5	1732.1
11	4214	6908.3	6663.2	5950.9	3854.7	3591.8	1730.6(28)
12	4249	6982.4	6661.3	5982.5	3881.8	3588.7	1735.2
13	4253	6985.8	6685.2	5948.1	3870.6	3585.0	1736.1
14	4146	6808.7	6580.2	5819.8	3790.5	3546.7	1715.0
15	4189	6914.5	6609.5	5882.7	3849.3	3573.0	1729.8
16	4232	6959.4	6645.0	5931.5	3888.7	3583.4	1734.3
17	4280	7045.5	6689.5	5993.6	3932.7	3598.4	1740.3
18	4302	7091.5	6725.7	6013.4	3960.9	3604.0	1741.8(36)
19	4331	7122.6	6772.0	6044.5	3979.6	3609.2	1744.4
20	4325	7093.6	6773.9	6052.5	3968.7	3609.2	1745.0
21	4340	7120.8	6797.7	6069.3	3978.2	3609.7	1747.6
22	4345	7139.3	6825.2	6083.3	3963.2	3613.1	1749.8
23	4344	7133.0	6839.0	6081.5	3961.2	3630.2	1748.5
24	4316	7108.4	6807.2	6069.5	3957.5	3623.9	1749.3
25	4330	7109.2	6817.8	6092.0	3965.8	3616.7	1752.8
26	4368	7174.8	6844.9	6088.8	3957.8	3616.7	1749.5
27	4381	7211.7	6869.2	6092.8	3973.5	3624.9	1749.6
28	4385	7198.9	6875.4	6104.1	3972.3	3626.0	1750.0
29	4376	7175.6	6862.7	6124.3	3984.0	3619.9	1752.1
30	4368	7156.1	6822.3	6115.9	3989.3	3621.9	1752.0
31	4364	7132.5	6822.8	6123.6	3997.2	3630.2	1762.0(22)
Mean	4294	7061.7	6743.9	6012.7	3922.3	3599.7	1740.0

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

COSMIC RAY INDICES
(Neutron Monitor)

FEBRUARY 1988

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
01	4364	7147.6	6855.6	6134.5	4003.4	3636.8	1759.6
02	4384	7182.2	6859.9	6153.9	4000.8	3636.5	1758.6
03	4381	7168.9	6880.7	6141.9	4001.0	3642.7	1756.0
04	4381	7164.4	6880.9	6147.3	3992.0	3629.8	1753.3(30)
05	4377	7189.0	6885.7	6140.9	3986.1	3628.9	---
06	4389	7180.7	6909.9	6154.7	3997.2	3640.8	---
07	4395	7203.2	6915.8	6163.6	4019.2	3647.5	---
08	4413	7260.5	6910.0	6179.0	4021.0	3648.4	---
09	4429	7250.8	6931.0	6175.1	4020.2	3649.0	---
10	4374	7150.5	6862.9	6121.9	4010.3(18)	3644.5	---
11	4335	7093.1	6822.8	6082.5	---	3625.6	1745.7(8)
12	4341	7094.2	6798.0	6071.9	---	3605.3	1745.0
13	4262	6974.9	6692.3	5959.1	3902.7	3585.6	1729.5
14	4226	6939.5	6641.5	5904.3	3873.2	3563.5	1716.7
15	4273	6990.6	6688.0	5979.2	3913.0	3591.0	1733.5
16	4293	7024.5	6728.1	6019.9	3940.1	3599.4	1739.1
17	4314	7088.5	6757.9	6050.3	3956.0	3616.9	1743.6
18	4318	7046.7	6753.2	6038.2	3955.8	3628.0	1739.6(20)
19	4340	7099.6	6778.7	6062.4	3960.8	3626.0	1748.3
20	4364	7187.5	6817.8	6081.8	3964.5	3630.5	1752.7
21	4187	6862.1	6589.1	5848.5	3799.5	3590.4	1718.6
22	4170	6841.6	6549.4	5880.9	3839.5	3597.6	1729.8
23	4263	7016.7	6668.5	6010.0	3895.7	3589.6	1733.6
24	4263	6989.8	6716.9	6006.4	3897.0	3593.2	1734.0
25	4280	6995.2	6750.7	6031.9	3901.9(34)	3596.5	1735.6(36)
26	4312	7074.0	6771.7	6045.3	3926.4	3602.5	1742.1
27	4347	7066.4	6790.6	6058.5	3939.3	3610.6	1748.8
28	4350	7086.5	6791.2	6085.0	3940.4	3621.0	1747.7
29	4342	7134.1	6800.2	6121.8	3899.7(14)	3606.0	1748.5
Mean	4326	7086.3	6786.2	6063.8	3946.5	3616.6	1741.4

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

COSMIC RAY INDICES
(Neutron Monitor)

MARCH 1988

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
01	4350	7137.9	6841.3	6113.8	3875.5	3609.2	1751.4
02	4350	7110.3	6820.6	6111.0	3892.3	3621.3	1752.9
03	4319	7098.7	6795.5	6088.7	3970.8	3615.5	1748.4
04	4317	7108.0	6787.6	6086.2	3962.8(34)	3621.5	1748.2
05	4304	7066.0	6787.7	6083.9	3946.3	3615.5	1747.5
06	4317	7083.0	6782.7	6083.8	3964.3	3623.5	1751.6
07	4341	7118.6	6814.9	6111.9	3984.7	3631.2	1756.2
08	4322	7068.8	6787.3	6082.4	3966.1	3624.2	1753.2
09	4317	7080.0	6767.7	6048.3	3945.1	3617.1	1743.4
10	4316	7045.0	6781.6	6043.1	3965.5	3607.9	1738.0
11	4331	7042.7	6791.8	6077.4	3985.1	3599.7	1743.4
12	4320	7080.2	6794.6	6100.7	3985.4	3609.1	1744.2
13	4309	7068.3	6801.9	6097.0	3977.7	3603.4	1746.7(24)
14	4312	7040.2	6797.8	6082.5	3960.2(38)	3594.7	1742.0
15	4321	7084.4	6803.2	6073.9	3970.9	3604.8	1743.5
16	4344	7157.5	6835.1	6118.6	4003.7	3622.5	1749.7
17	4355	7147.8	6840.0	6108.2	3994.1	3617.0	1752.8(38)
18	4375	7185.9	6858.3	6109.1	3989.9	3619.8	1755.8
19	4395	7207.0	6889.5	6114.8	3996.0	3627.9	1754.5
20	4407	7215.2	6925.5	6127.5	4012.1	3632.7	1757.0
21	4401	7189.0(14)	6912.0	6122.6	4004.4	3627.0	1758.9
22	4393	---	6879.1	6122.2	4007.5	3617.7	1753.5
23	4406	---	6881.5	6138.9	4004.0	3621.9	1753.3
24	4337	---	6789.3	6058.2	3965.3	3612.7	1744.7(38)
25	4339	---	6765.7	6071.4	3935.7	3593.7	1742.7
26	4338	---	6764.5	6052.5	3959.4	3605.8	1742.2
27	4332	---	6762.1	6054.4	3979.0	3619.7	1746.5
28	4332	---	6781.3	6050.6	3984.3	3611.7	1745.0
29	4319	---	6747.0	6048.4	3962.9	3599.7	1743.7
30	4293	7070.3(10)	6708.7	6021.4	3948.6	3600.2	1738.9
31	4306	7042.5	6742.0	6027.3	3955.7	3605.7	1740.3
Mean	4339	7106.4	6807.7	6084.9	3969.7	3614.0	1748.1

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

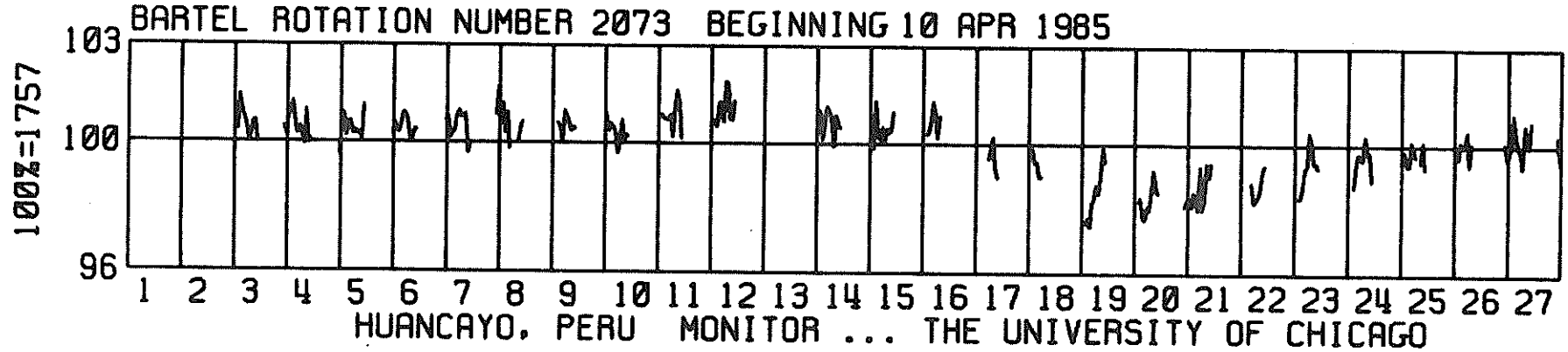
COSMIC RAY INDICES
(Neutron Monitor)

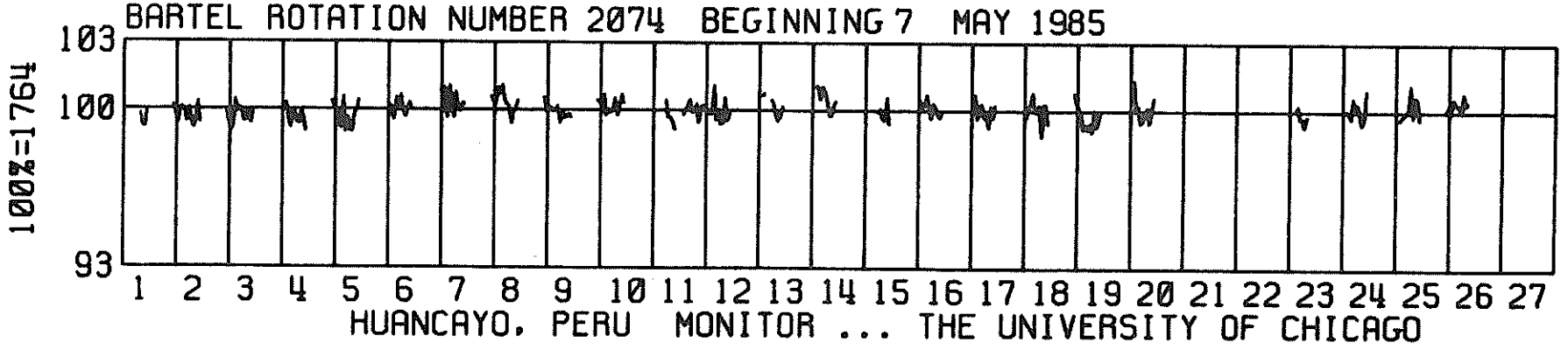
APRIL 1988

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	4309	7054.5	6759.3	6035.6	4321.2	3612.5	1743.6
2	4306	7068.0	6754.2	6013.9	4324.2	3609.2	1743.9
3	4269	6997.2	6702.2	5975.9	4323.2	3602.5	1739.3
4	4229	6933.5	6643.6	5946.7	4332.5	3601.9	1726.8(34)
5	4249	6963.7	6682.2	5970.1	4287.8	3597.8	1436.2
6	4262	6986.5	6678.8	5973.2	4284.9	3595.3	1738.9
7	4251	6935.0	6691.6	5956.1	4304.0	3574.0	1726.2(36)
8	4239	6959.0	6686.9	5943.8	4308.7	3568.2	1729.4
9	4255	6988.6	6692.2	5954.9	4315.0	3587.3	1730.0
10	4281	7001.5	6735.2	5987.4	4305.6	3597.7	1731.9
11	4291	7031.9	6748.5	5989.9	4320.5	3594.0	1734.4(28)
12	4310	7067.2	6794.2	6024.4	4322.5	3594.8	1721.0(6)
13	4328	7095.3	6829.8	6056.0	4315.9	3603.7	1726.1
14	4331	7109.0	6839.2	6068.7	4294.8	3619.5	1728.8
15	4329	7074.8	6856.2	6079.8	4291.2	3627.4	1732.6
16	4338	7064.0	6844.6	6058.3	4267.4	3625.4	1729.3
17	4349	7100.2	6833.1	6050.8	4288.6	3622.6	1724.3
18	4336	7041.6	6852.0	6058.3	4292.2	3623.8	1727.8
19	4338	7092.6	6853.2	6055.8	4284.2	3622.0	1729.0(38)
20	4355	7103.1	6877.7	6070.2	4269.8	3626.9	1733.2
21	4357	7139.5	6874.9	6082.9	4264.3	3622.2	1728.9
22	4335	7086.9	6831.8	6054.6	4259.0	3626.3	1729.8
23	4258	6978.9	6748.8	6003.0	4260.1	3615.2	1721.3
24	4288	7063.2	6766.6	6020.2	4276.2	3617.0	1721.5
25	4321	7127.4	6815.5	6060.0	4284.5	3615.3	1725.6
26	4342	7137.1	6840.1	6070.4	4274.5	3619.6	1726.1
27	4354	7175.2	6865.9	6080.0	4283.0	3622.1	1727.7
28	4360	7194.8	6854.1	6082.9	4280.4	3618.6	1733.3
29	4364	7191.2	6862.8	6088.5	4297.2	3613.1	1734.6
30	4353	7160.8	6858.0	6071.2	4295.6	3610.8	1728.2
Mean	4310	7064.1	6789.1	6029.4	4294.1	3610.8	1730.6

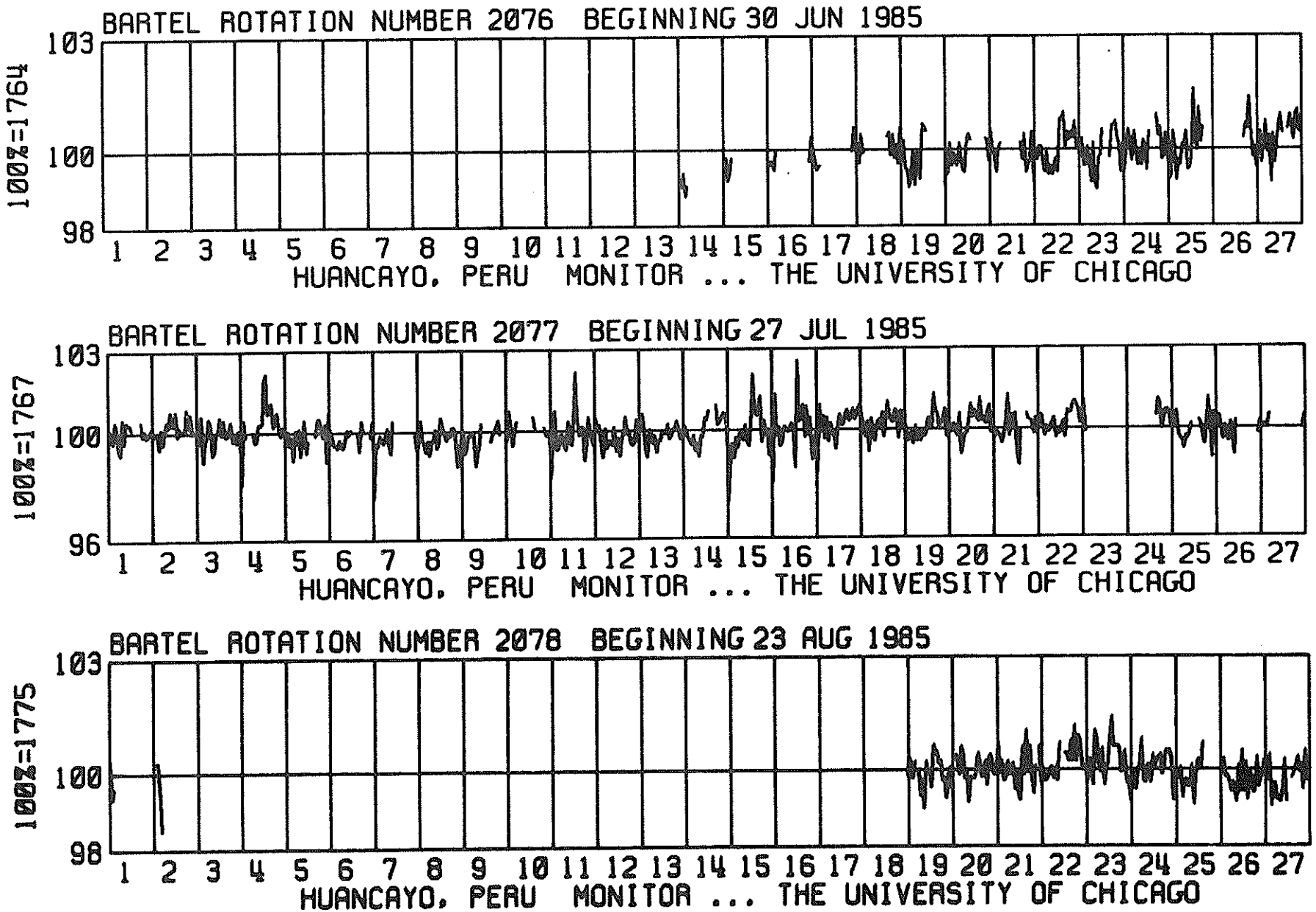
For less than 24-hour coverage, parentheses enclose the number of hours for which data are available. For Climax and Huancayo, parentheses enclose the number of section hours whenever the sum of both sections falls below 40 hours.

COSMIC RAY INDICES
(Neutron Monitor)

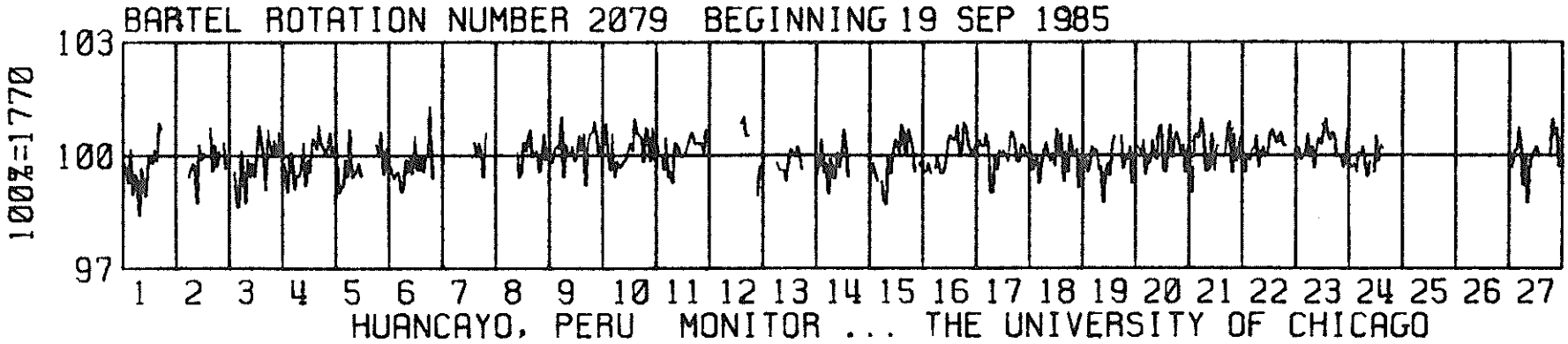


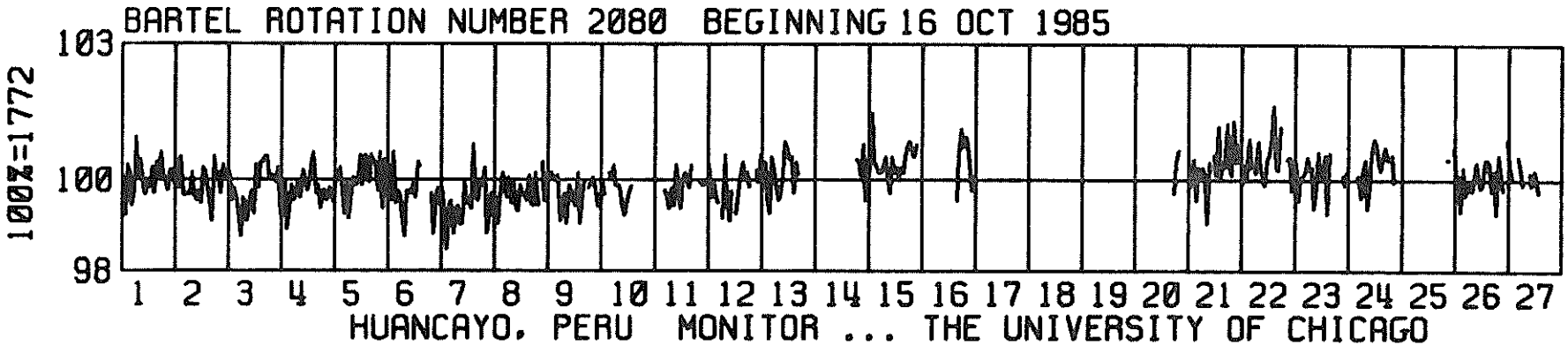


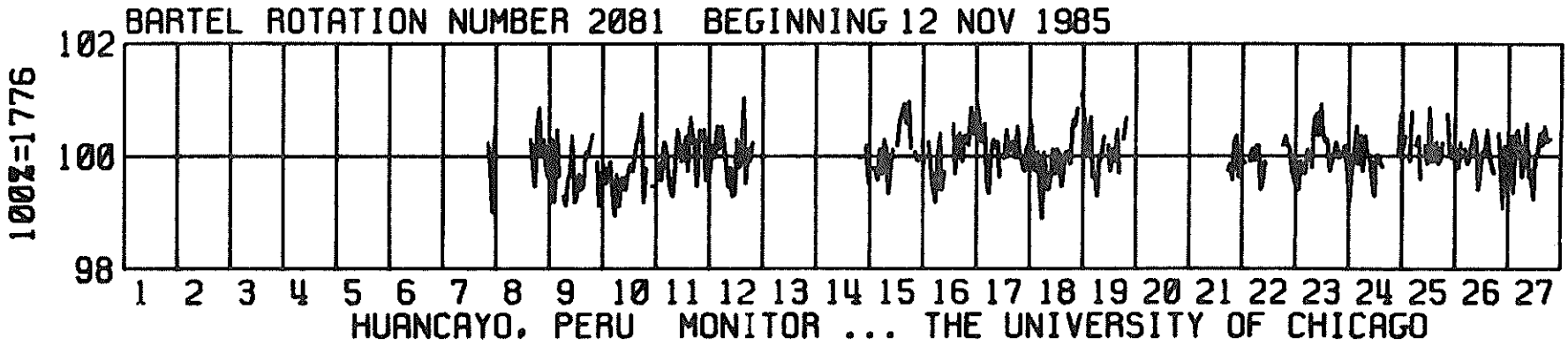
COSMIC RAY INDICES
(Neutron Monitor)



COSMIC RAY INDICES
(Neutron Monitor)

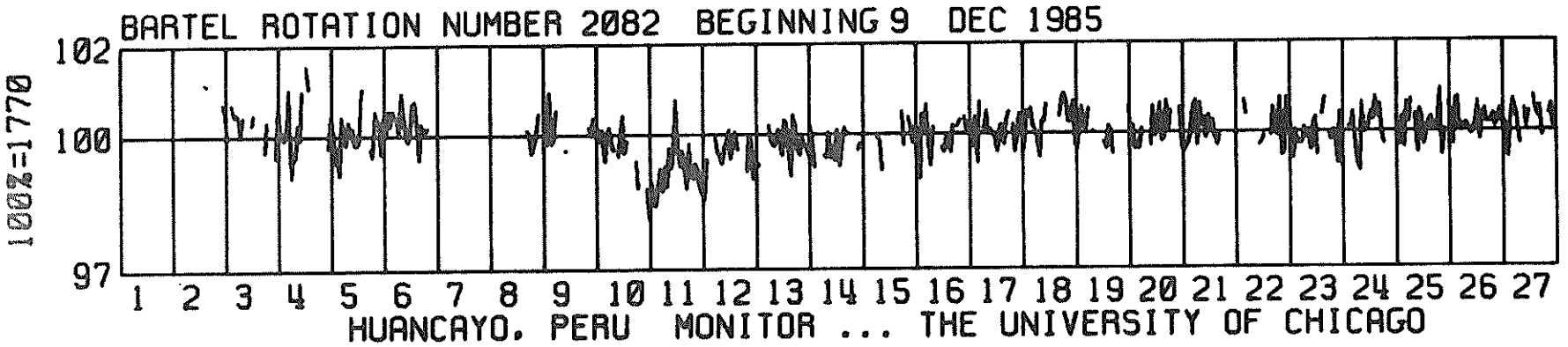


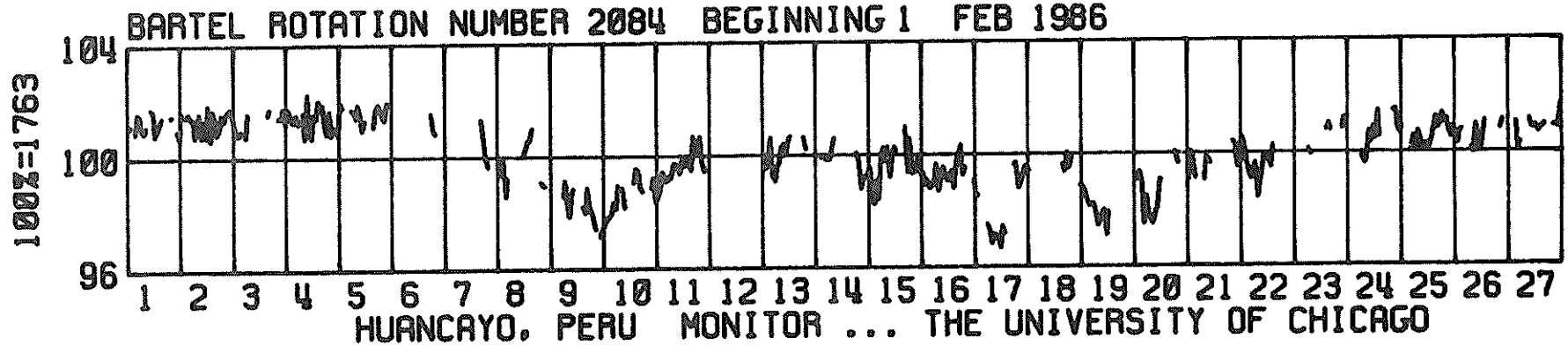




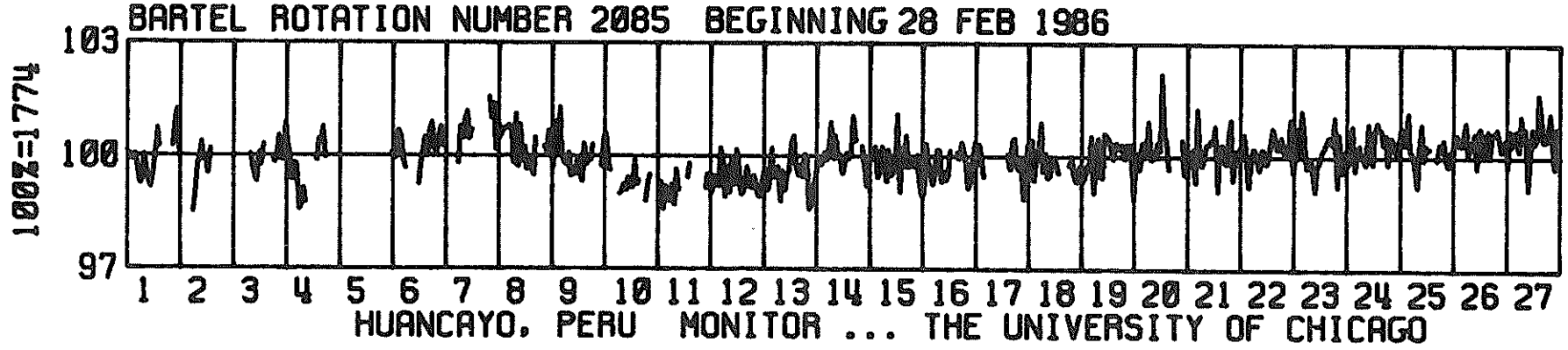
153
Late
Sep-Dec 85

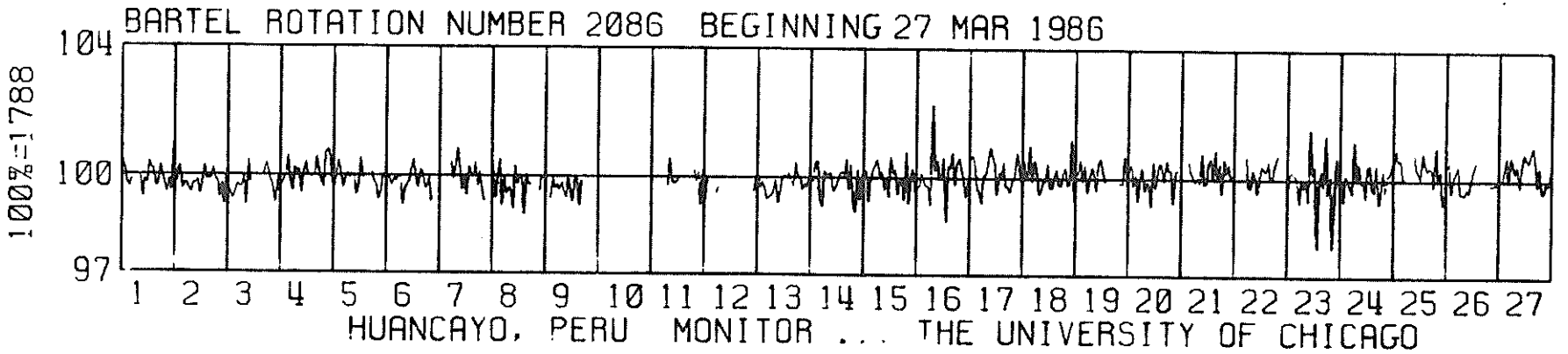
COSMIC RAY INDICES
(Neutron Monitor)

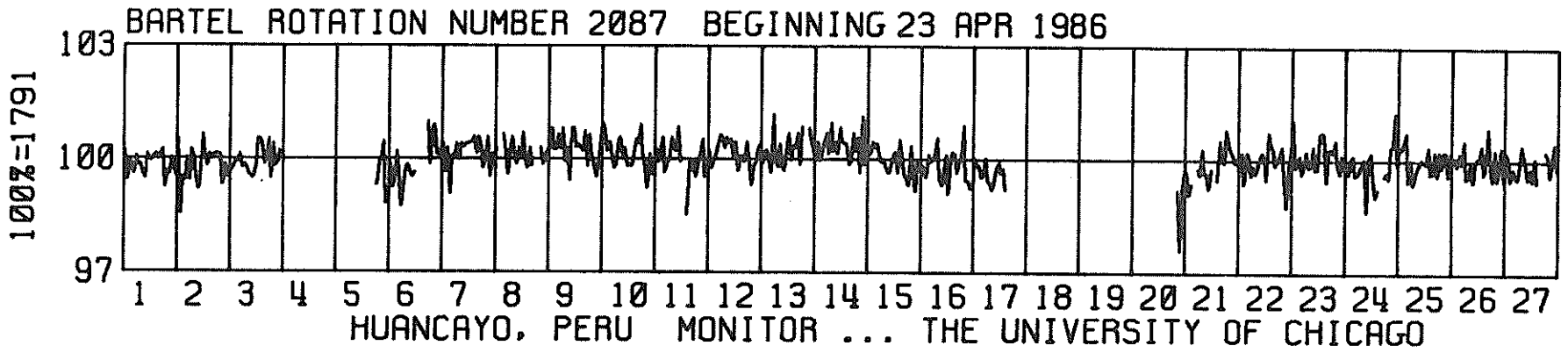




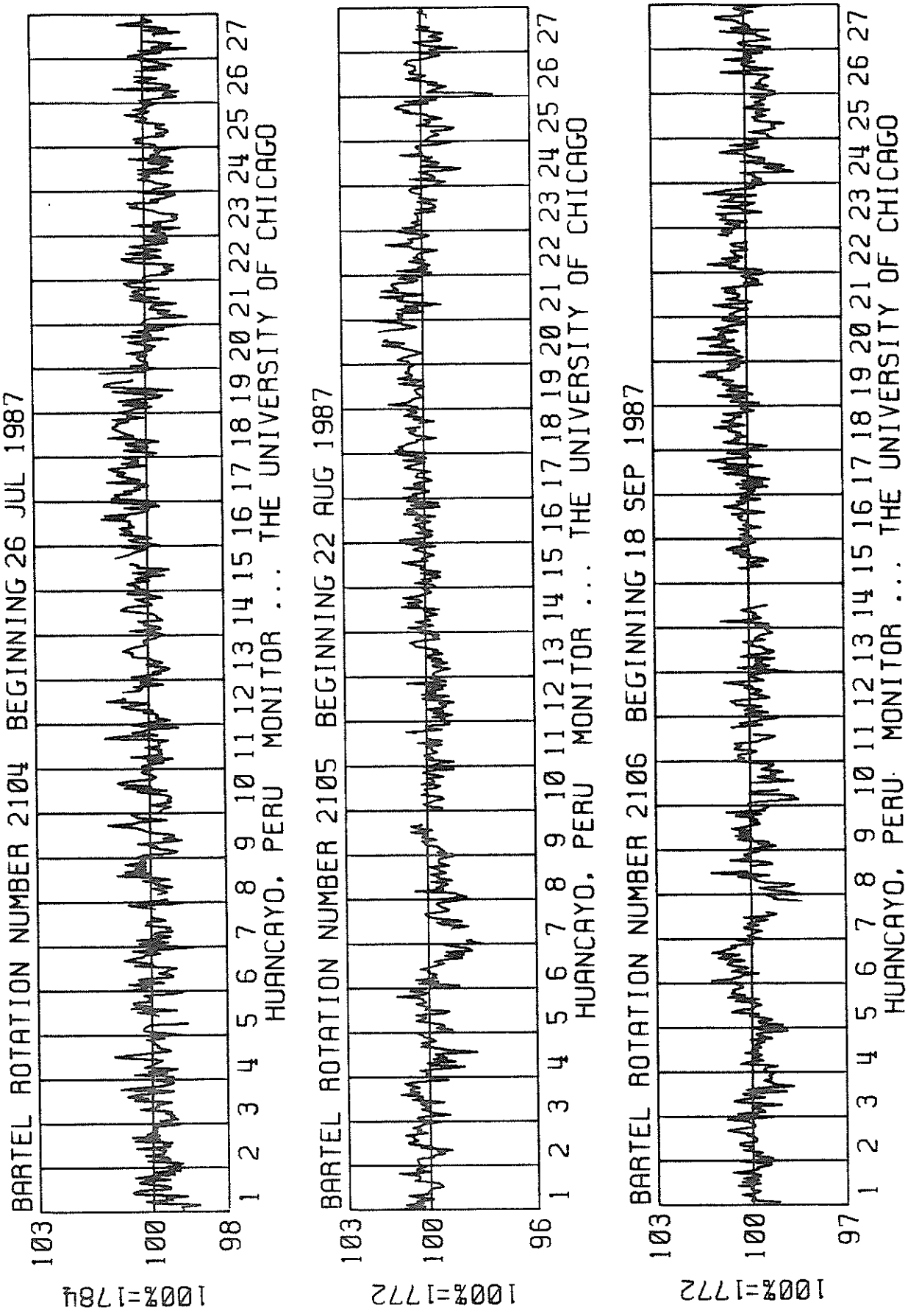
COSMIC RAY INDICES
(Neutron Monitor)



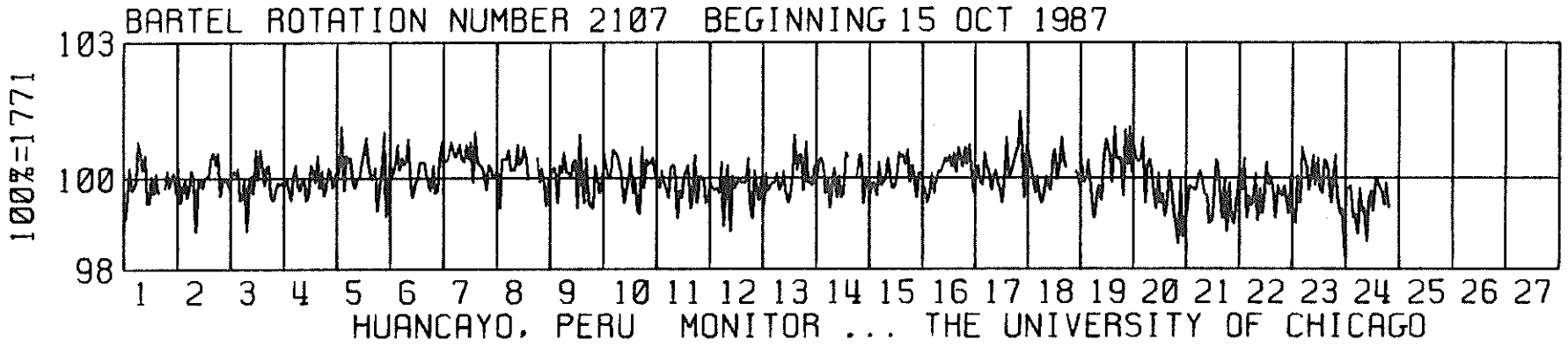


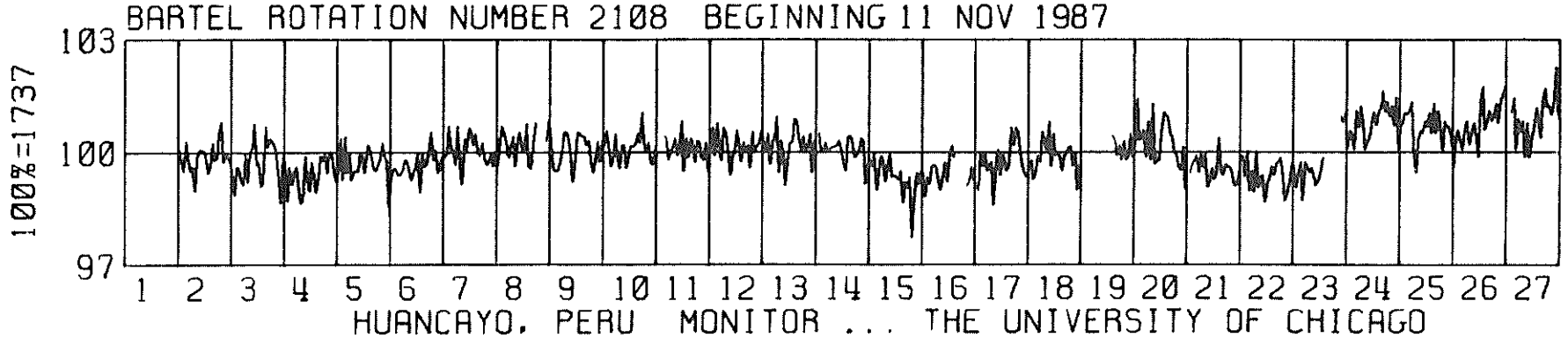


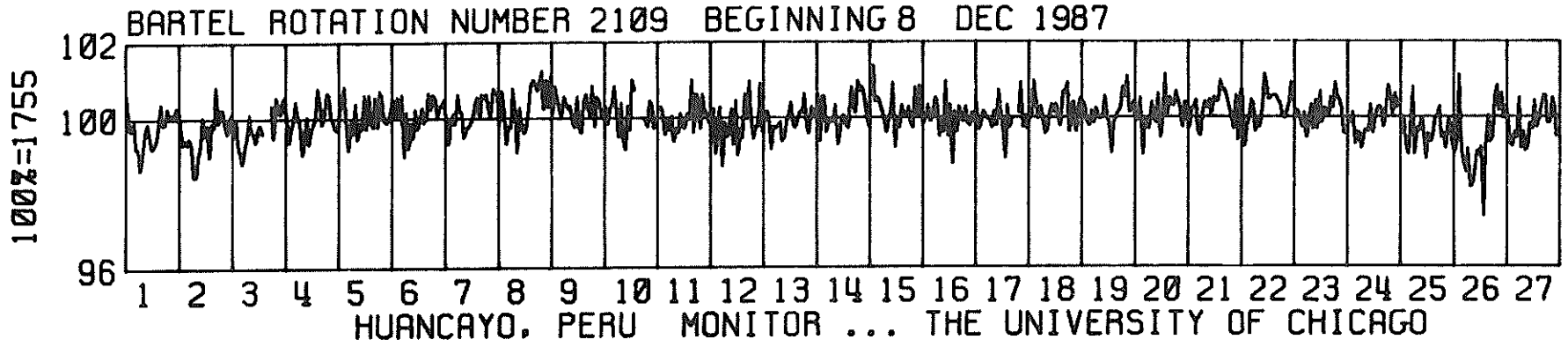
COSMIC RAY INDICES
(Neutron Monitor)



COSMIC RAY INDICES
(Neutron Monitor)

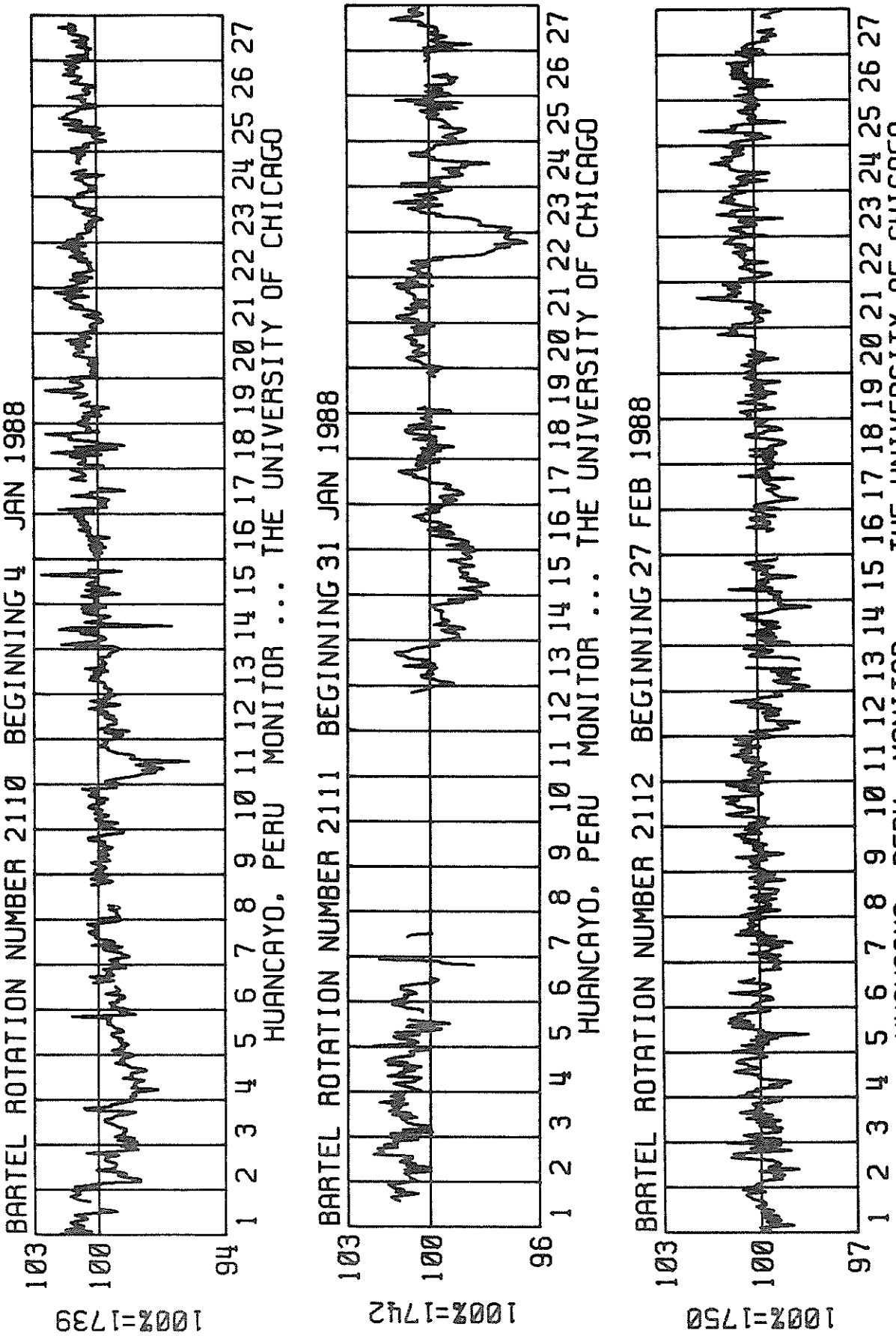




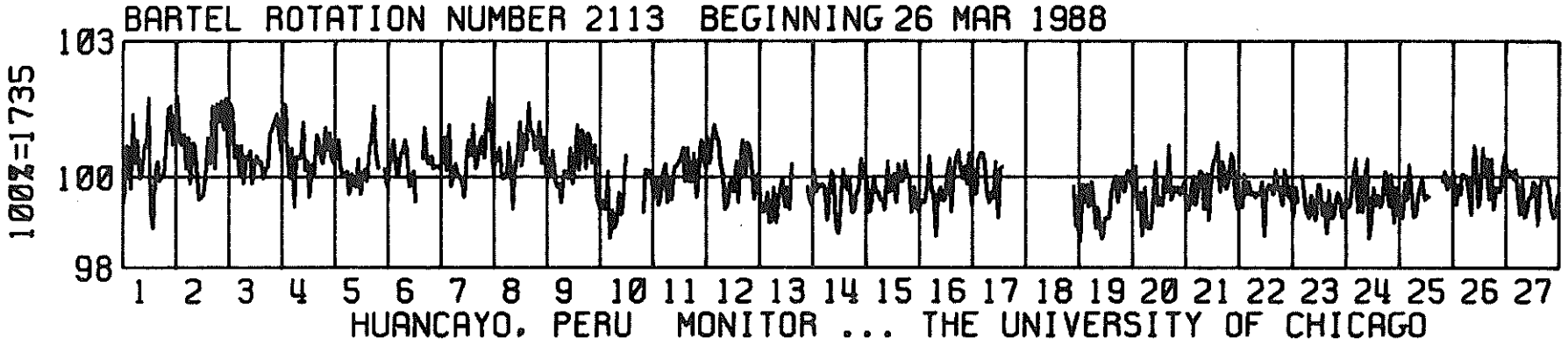


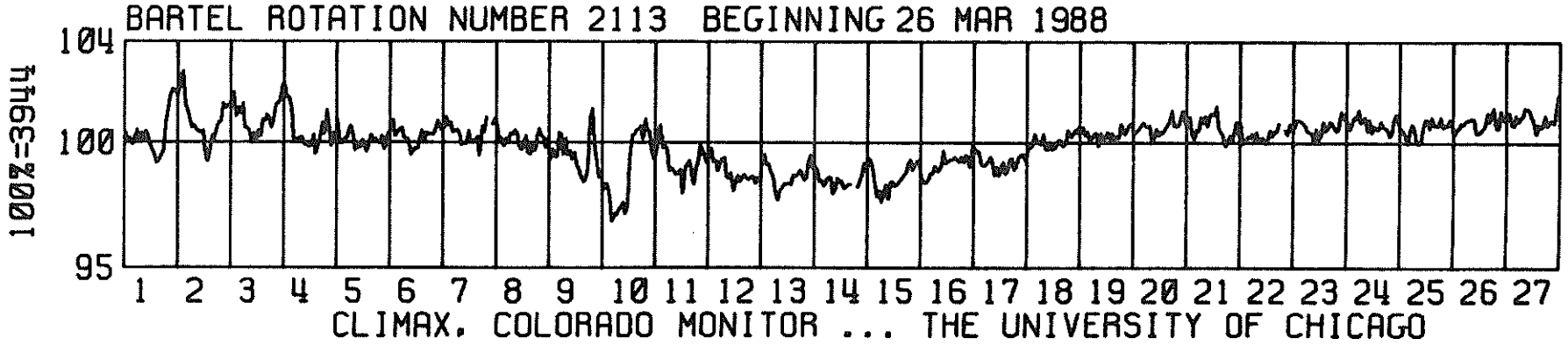
157
Late
Oct 87-Jan 88

COSMIC RAY INDICES
(Neutron Monitor)



COSMIC RAY INDICES
(Neutron Monitor)

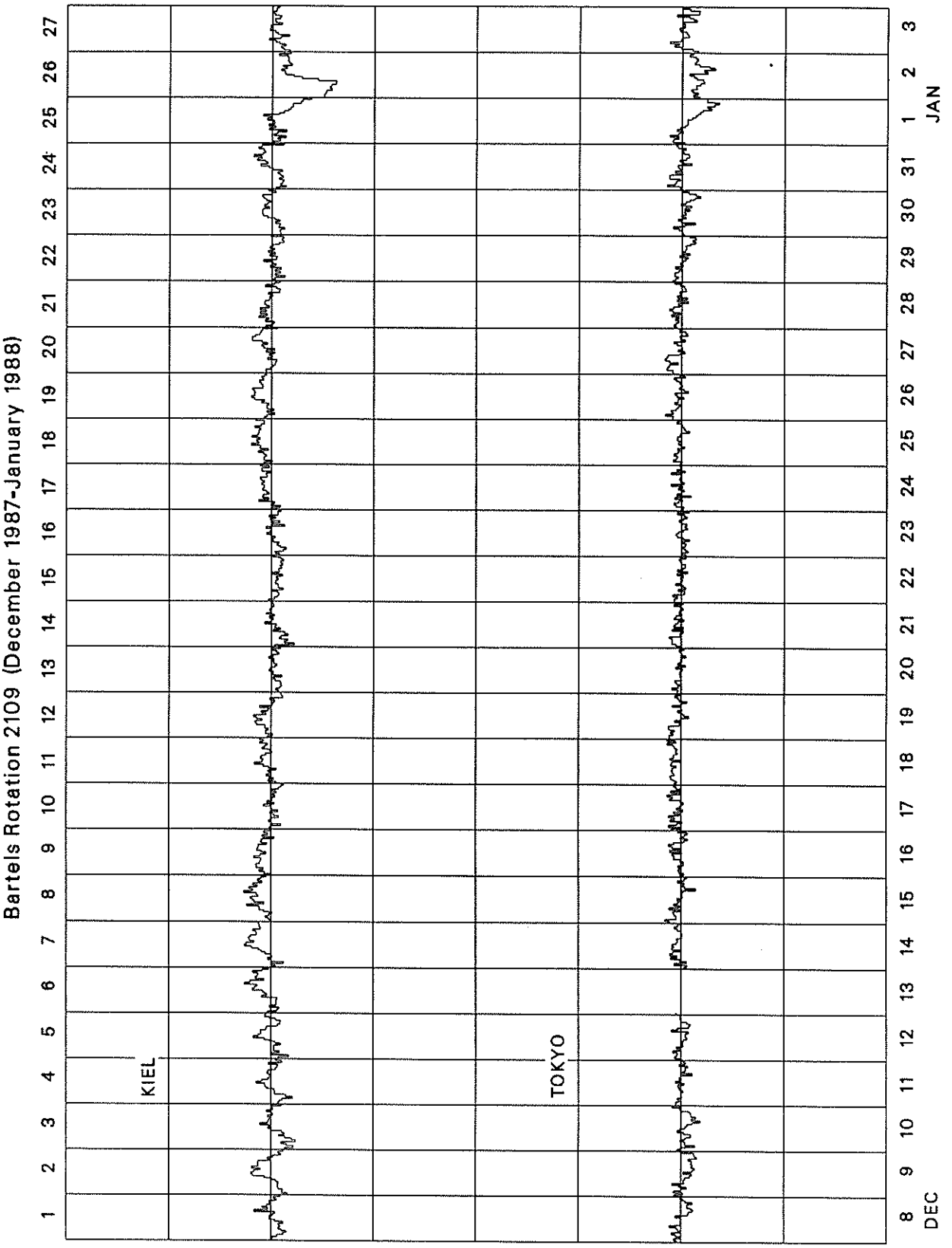




160
Late
Dec 87

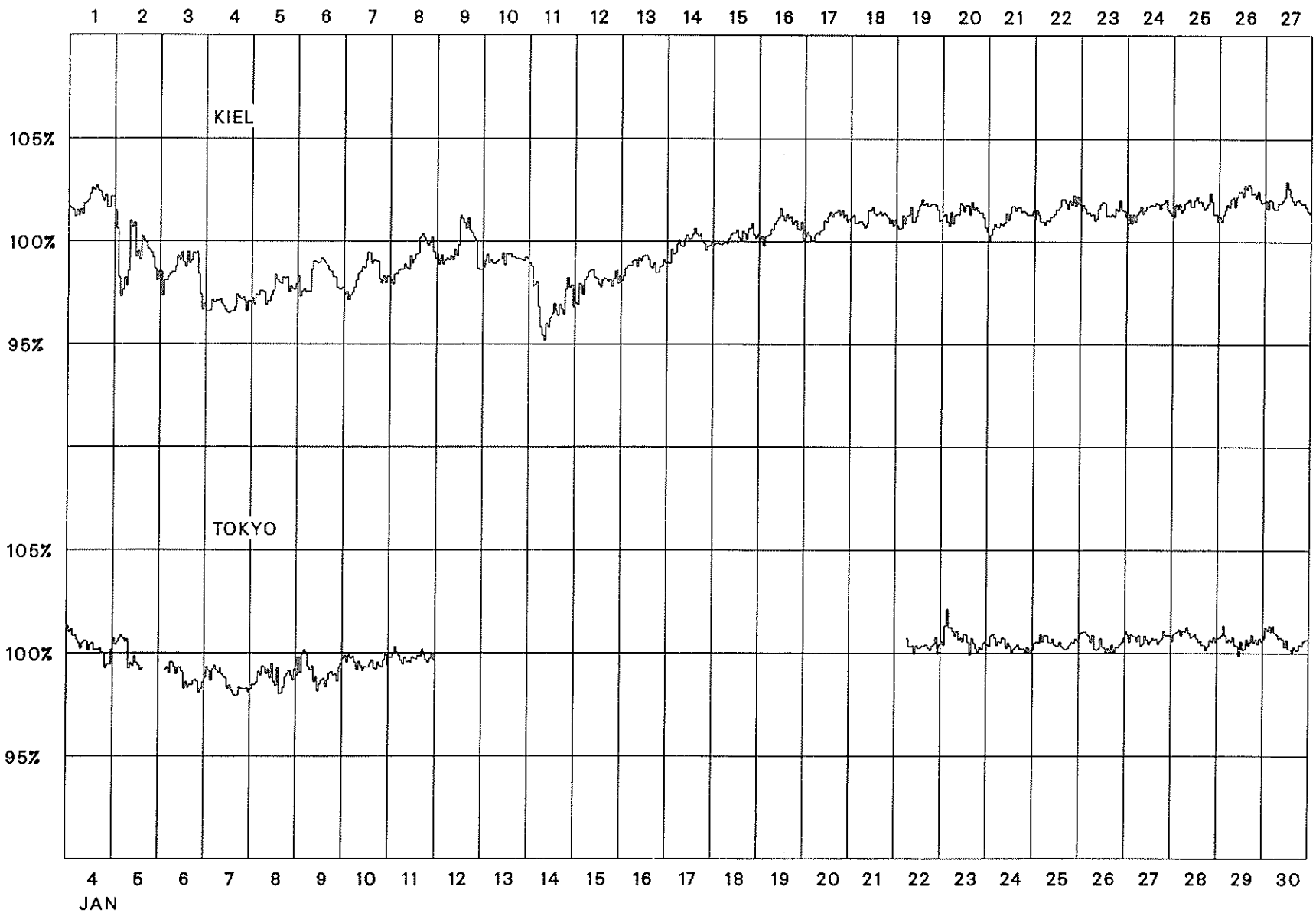
COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2109 (December 1987-January 1988)



COSMIC RAY INDICES
(Neutron Monitor)

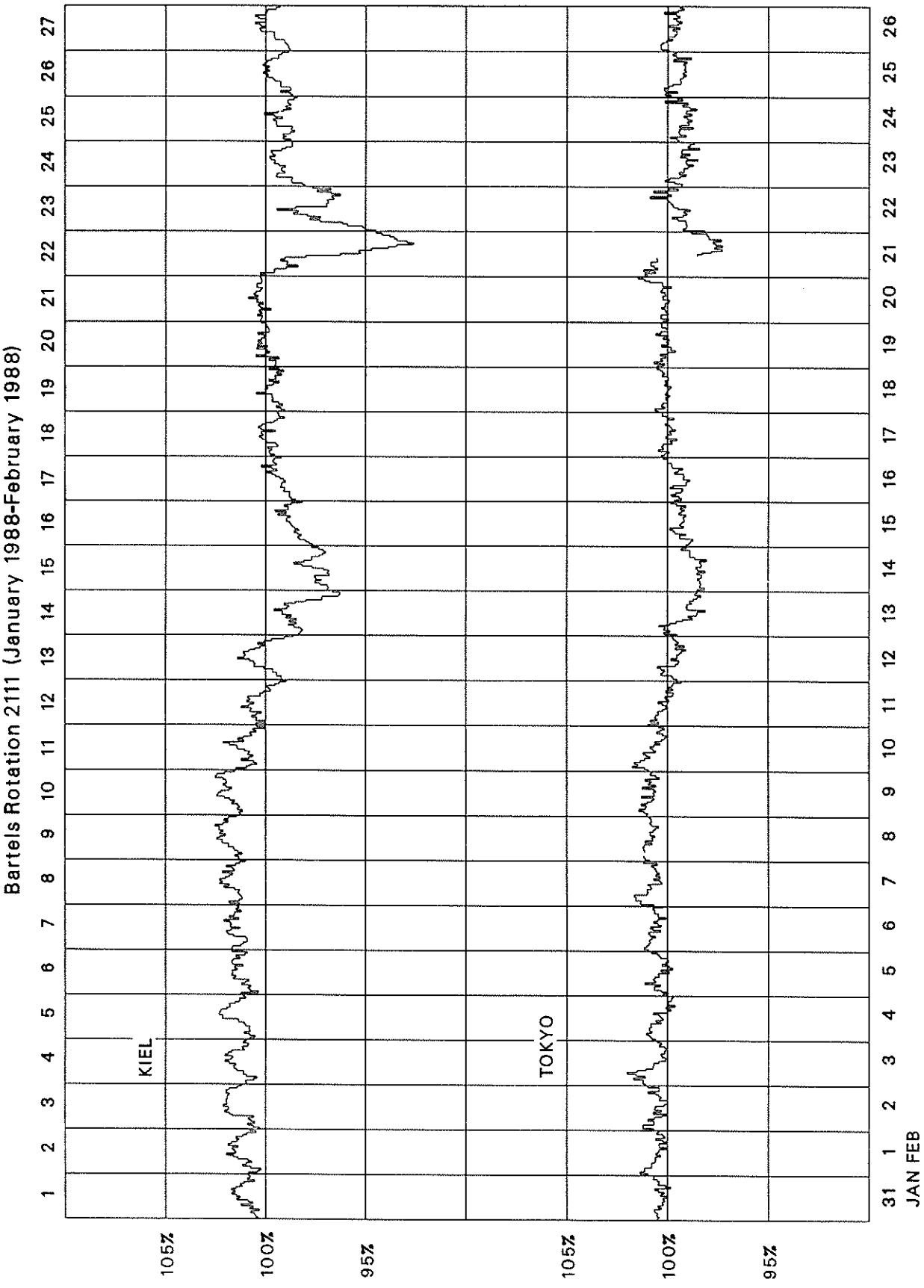
Bartels Rotation 2110 (January 1988)



161
Late
Jan 88

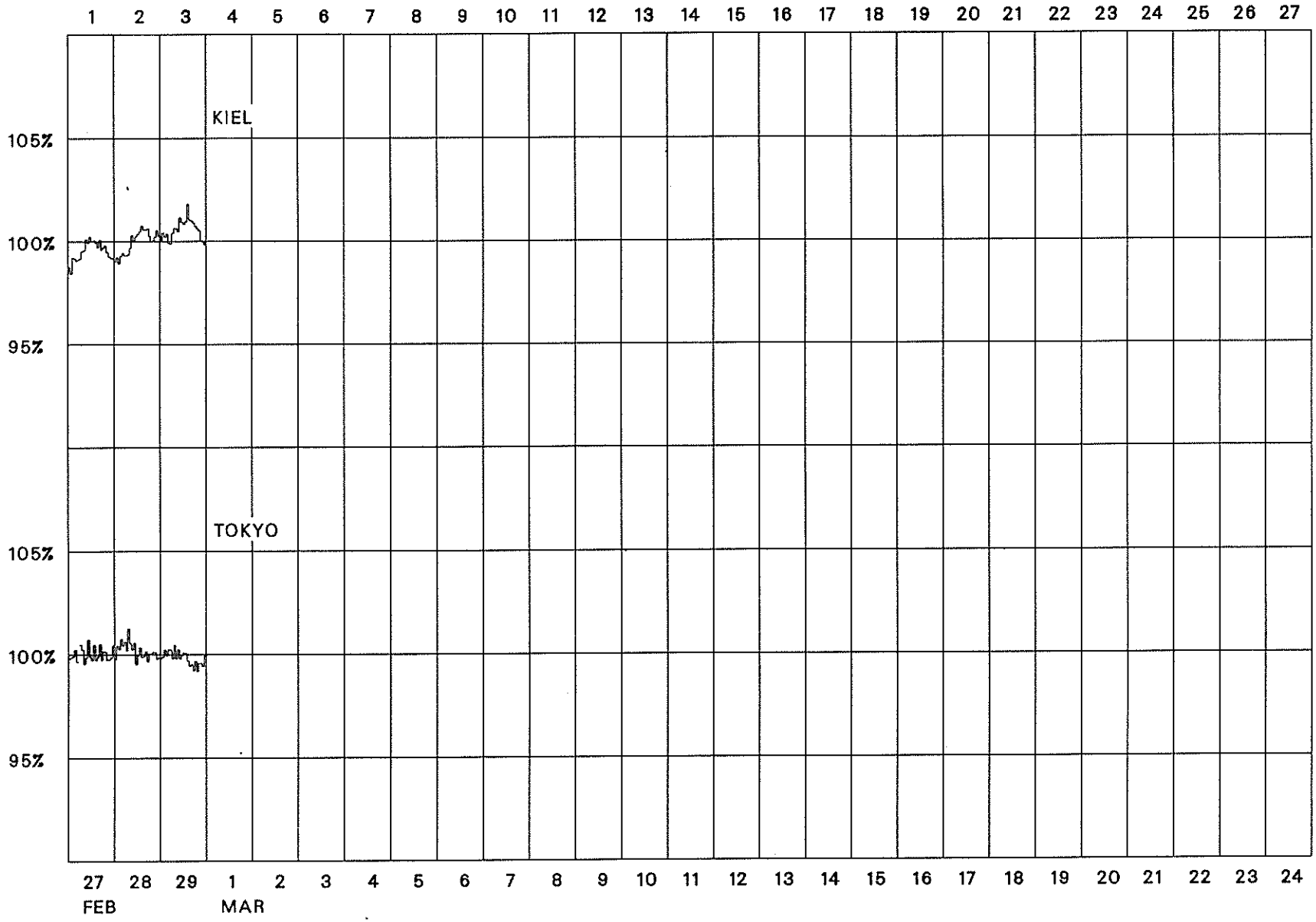
COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2111 (January 1988-February 1988)



COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2112 (February 1988-March 1988)



163
Late
Feb 88

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."