U.S. DEPARTMENT OF COMMERCE
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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
William E. Evans, Under Secretary for Oceans and Atmosphere

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Solar-Geophysical Data prompt reports

Data for September, August 1988, and Late Data

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NATIONAL GEOPHYSICAL DATA CENTER
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S O L A R - G E O P H Y S I C A L D A T A

NUMBER 530

(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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C O N T E N T S

Prompt Reports DATA FOR **SEPTEMBER 1988** Number 530 Part I

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages **SEPTEMBER 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
245	01	31	151	190	011	S23 W09	2	0	0	01	S23 W09	E	Solalert 01/XX,
						N22 W03	8	0	0		N22 W03	E	Magquiet.
						S14 E09	0	0	0		S14 E09	Q	
						S19 E21	6	0	0		S19 E21	E	
						N37 E46	0	0	0		N37 E46	Q	
		Presto:[2] Boulder Tenflare 23 flux units duration 1 minute 31/1642 UT.											
246	02	01	145	189	016	S23 W23	0	0	0	02	S23 W23	E	Solalert 02/XX,
						N22 W16	3	0	0		N22 W16	E	Magquiet.
						S14 W03	1	0	0		S14 W03	Q	
						S20 E09	6	0	0		S20 E09	E	
						N26 E59	0	0	0		N26 E59	Q	
247	03	02	140	176	012	S22 W36	0	0	0	03	S22 W36	Q	Solnil, Magquiet.
						N22 W28	0	0	0		N22 W28	E	
						S13 W17	0	0	0		S13 W17	Q	
						S20 W05	3	0	0		S20 W05	E	
						N25 E45	0	0	0		N25 E45	Q	
248	04	03	155	174	010	S22 W51	4	0	0	04	S22 W51	Q	Solquiet, Magquiet.
						N22 W41	0	0	0		N22 W41	Q	
						S14 W31	0	0	0		S14 W31	Q	
						S21 W18	6	0	0		S21 W18	E	
						N26 E32	1	0	0		N26 E32	Q	
						N33 E75	0	0	0		N33 E75	Q	
						N19 E07	0	0	0		N19 E07	Q	
249	05	04	196	163	009	S22 W64	0	0	0	05	S22 W64	Q	Solquiet, Magquiet.
						N22 W54	2	0	0		N22 W54	Q	
						S14 W44	0	0	0		S14 W44	Q	
						S20 W31	7	0	0		S20 W31	E	
						N33 E64	0	0	0		N33 E64	Q	
						N19 W08	0	0	0		N19 W08	Q	
						N16 W27	0	0	0		N16 W27	Q	
						S20 E75	0	0	0		S20 E75	Q	
						N13 E56	0	0	0		N13 E56	Q	
						N35 E70	0	0	0		N35 E70	Q	
250	06	05	154	163	003	S21 W80	0	0	0	06	S1 W80	Q	Solquiet, Magquiet.
						N22 W71	0	0	0		N22 W71	Q	
						S14 W57	0	0	0		S14 W57	Q	
						S20 W44	4	0	0		S20 W44	E	
						N29 E10	0	0	0		N29 E10	Q	
						N34 E54	0	0	0		N34 E54	Q	
						N18 W22	0	0	0		N18 W22	Q	
						N17 W42	0	0	0		N17 W42	Q	
						S20 E62	0	0	0		S20 E62	Q	

ALERT PERIODS

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Summary of the Geoalert Messages **SEPTEMBER 1988**

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251	07	06	143	150	001	N20 W83	0	0	0	07	N20 W83	Q	Solquiet, Magquiet.
						S15 W72	0	0	0		S15 W72	Q	
						S22 W57	9	0	0		S22 W57	E	
						N27 W02	0	0	0		N27 W02	Q	
						N33 E39	0	0	0		N33 E39	Q	
						N18 W32	0	0	0		N18 W32	Q	
						S20 E50	0	0	0		S20 E50	Q	
						N13 E30	0	0	0		N13 E30	Q	
						S27 W21	0	0	0		S27 W21	Q	
						N19 W12	0	0	0		N19 W12	Q	
252	08	07	131	143	005	S13 W86	0	0	0	08	S13 W86	Q	Solquiet, Magquiet.
						S21 W70	0	0	0		S21 W70	E	
						N32 E25	0	0	0		N32 E25	Q	
						N19 W48	0	0	0		N19 W48	Q	
						N16 W69	0	0	0		N19 W69	Q	
						S21 E37	0	0	0		S21 E37	Q	
						S26 W34	0	0	0		S26 W34	Q	
						N19 W25	0	0	0		N19 W25	Q	
						N32 E80	0	0	0		N32 E80	Q	
253	09	08	125	136	005	S23 W85	5	1	0	09	S23 W85	A	Solquiet, Magquiet.
						N32 E12	0	0	0		N32 E12	Q	
						N17 W63	0	0	0		N17 W63	Q	
						N15 W80	0	0	0		N15 W80	Q	
						S20 E25	2	0	0		S20 E25	Q	
						N19 W39	0	0	0		N19 W39	Q	
						N32 E63	0	0	0		N32 E63	Q	
						S14 E32	0	0	0		S14 E32	Q	
						N15 E83	0	0	0		N15 E83	Q	
		Presto:[2] Boulder Tenflare 150 flux units duration 3 minutes 08/1840 UT.											
254	10	09	103	126	003	S20 E12	0	0	0	10	S20 E12	Q	Solquiet, Magquiet.
						S26 W52	0	0	0		S26 W52	Q	
						N20 W55	0	0	0		N20 W55	Q	
						N32 E52	0	0	0		N32 E52	Q	
						S14 E17	1	0	0		S14 E17	Q	
						N14 E64	0	0	0		N14 E64	Q	
						N17 E20	0	0	0		N17 E20	Q	
255	11	10	131	114	006	S20 E01	0	0	0	11	S20 E01	Q	Solquiet, Magquiet.
						N12 W20	0	0	0		N12 W20	Q	
						S28 W66	0	0	0		S28 W66	Q	
						N18 W68	0	0	0		N18 W68	Q	
						N32 E39	1	0	0		N32 E39	Q	
						S14 E03	0	0	0		S14 E03	Q	
						N15 E52	0	0	0		N15 E52	Q	
						N17 E06	0	0	0		N17 E06	Q	
						N31 W67	0	0	0		N31 W67	Q	
						S26 W33	0	0	0		S26 W33	Q	

ALERT PERIODS

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Summary of the Geoalert Messages SEPTEMBER 1988

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256	12	11	124	120	033	S20 W13	1	0	0	12	S20 W13	Q	Solquiet,
						N19 W80	0	0	0		N19 W80	Q	Magalert Minor 12/12.
						N31 E28	1	0	0		N31 E28	Q	
						S14 W09	1	0	0		S14 W09	Q	
						N14 E37	0	0	0		N14 E37	Q	
						N17 W07	0	0	0		N17 W07	Q	
						N30 W81	0	0	0		N30 W81	Q	
						S25 W47	0	0	0		S25 W47	Q	
						N10 E70	2	0	0		N10 E70	Q	
		Presto:[2]	Kakioka		Magstorm begins 11/03XX UT.								
257	13	12	114	125	019	S20 W26	0	0	0	13	S20 W26	Q	Solquiet, Magnil.
						N17 W42	0	0	0		N17 W42	Q	
						N32 E13	0	0	0		N32 E13	Q	
						N13 E23	0	0	0		N13 E23	Q	
						N16 W21	0	0	0		N16 W21	Q	
						S25 W59	1	0	0		S25 W59	Q	
						S11 E58	4	0	0		S11 E58	E	
						S21 W10	0	0	0		S21 W10	Q	
258	14	13	119	122	014	S20 W39	0	0	0	14	S20 W39	Q	Solquiet, Magquiet.
						N16 W57	0	0	0		N16 W57	Q	
						N32 W01	1	0	0		N32 W01	Q	
						N13 E08	1	0	0		N13 E08	Q	
						N16 W34	0	0	0		N16 W34	Q	
						S12 E44	1	0	0		S12 E44	E	
						S20 W24	2	0	0		S20 W24	Q	
						N23 E08	0	0	0		N23 E08	Q	
259	15	14	124	129	012	S19 W52	1	0	0	15	S19 W52	Q	Solquiet, Magquiet.
						N17 W70	0	0	0		N17 W70	Q	
						N31 W13	2	0	0		N31 W13	Q	
						N13 W06	1	0	0		N13 W06	Q	
						N16 W48	0	0	0		N16 W48	Q	
						S11 E32	3	0	0		S11 E32	E	
						S19 W37	0	0	0		S19 W37	Q	
						N23 W33	0	0	0		N23 W33	Q	
260	16	15	148	125	013	S19 W65	1	0	0	16	S19 W65	Q	Solquiet, Magquiet.
						N16 W83	0	0	0		N16 W83	Q	
						N31 W28	1	0	0		N31 W28	Q	
						N13 W20	0	0	0		N13 W20	Q	
						N17 W59	0	0	0		N17 W59	Q	
						S11 E19	0	0	0		S11 E19	E	
						S19 W50	0	0	0		S19 W50	Q	
						N34 E35	0	0	0		N34 E35	Q	
						N23 E27	0	0	0		N23 E27	Q	
						N20 E49	0	0	0		N29 E49	Q	

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Summary of the Geoalert Messages SEPTEMBER 1988

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261	17	16	165	127	009	S18 W78	0	0	0	17	S18 W78	Q	Solquiet, Magquiet.
						N15 W94	0	0	0		N15 W94	Q	
						N32 W40	0	0	0		N32 W40	E	
						S11 E06	1	0	0		S11 E06	Q	
						S19 W63	0	0	0		S19 W63	Q	
						N33 E23	0	0	0		N33 E23	Q	
						N23 E15	0	0	0		N23 E15	Q	
						N19 E34	0	0	0		N19 E34	Q	
						S17 E01	0	0	0		S17 E01	Q	
						S14 E70	0	0	0		S14 E70	Q	
						S21 E44	0	0	0		S21 E44	Q	
262	18	17	123	133	018	N31 W53	0	0	0	18	N31 W53	E	Solquiet,
						S13 W10	0	0	0		S13 W10	E	Magalert Minor 18.
						S19 W76	0	0	0		S19 W76	Q	
						N33 E07	0	0	0		N33 E07	Q	
						N19 E21	0	0	0		N19 E21	Q	
						S19 W14	0	0	0		S19 W14	Q	
						S15 E57	0	0	0		S15 E57	Q	
						S35 E65	0	0	0		S35 E65	Q	
263	19	18	136	139	024	N31 W62	1	0	0	19	N31 W62	Q	Solquiet,
						N13 W57	0	0	0		N13 W57	Q	Magalert Minor 19.
						S10 W22	0	0	0		S10 W22	Q	
						N32 W04	0	0	0		N32 W04	Q	
						N20 E08	3	0	0		N20 E08	E	
						S18 W27	0	0	0		S18 W27	Q	
						S16 E46	0	0	0		S16 E46	Q	
						S35 E55	2	0	0		S35 E55	E	
264	20	19	131	138	018	N31 W73	0	0	0	20	N31 W73	Q	Solquiet, Magnil.
						S11 W35	0	0	0		S11 W35	Q	
						N20 W06	0	0	0		N20 W06	Q	
						S18 W41	0	0	0		S18 W41	Q	
						S16 E34	0	0	0		S16 E34	Q	
						S36 E43	0	0	0		S36 E43	Q	
						N29 E71	2	1	0		N29 E71	E	
						S29 W79	0	0	0		S29 W79	Q	
265	21	20	149	149	009	N32 W84	0	0	0	21	N32 W84	Q	Solquiet, Magquiet.
						S11 W49	0	0	0		S11 W49	Q	
						N20 W21	0	0	0		N20 W21	Q	
						S18 W54	0	0	0		S18 W54	Q	
						S17 E19	3	0	0		S17 E19	Q	
						S36 E31	3	0	0		S36 E31	Q	
						N28 E56	6	0	0		N28 E56	E	
						N32 E20	2	0	0		N32 E20	Q	
						N25 E56	0	0	0		N25 E56	Q	
						N21 E69	0	0	0		N21 E69	Q	

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Summary of the Geoalert Messages SEPTEMBER 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
266	22	21	194	156	007	N31 W92	0	0	0	22	N31 W92	Q	Solquiet, Magquiet.
						S10 W64	1	0	0		S10 W64	Q	
						N20 W35	0	0	0		N20 W35	Q	
						S17 W68	0	0	0		S17 W68	Q	
						S16 E06	3	0	0		S16 E06	Q	
						S37 E18	2	0	0		S37 E18	E	
						N28 E42	2	0	0		N28 E42	E	
						N33 E07	0	0	0		N33 E07	Q	
						N23 E42	0	0	0		N23 E42	Q	
						N22 E59	1	0	0		N22 E59	E	
						N19 W23	0	0	0		N19 W23	Q	
						N20 W12	0	0	0		N20 W12	Q	
267	23	22	200	178	021	S10 W77	0	0	0	23	S10 W77	Q	Solquiet, Magquiet.
						S17 W07	10	0	0		S17 W07	E	
						S17 W33	0	0	0		S17 W33	Q	
						S36 E06	1	0	0		S36 E06	E	
						N27 E29	9	1	0		N27 E29	E	
						N33 W06	0	0	0		N33 W06	Q	
						N22 E27	0	0	0		N22 E27	Q	
						N21 E45	2	0	0		N21 E45	Q	
						N20 W34	0	0	0		N20 W34	Q	
						N20 W26	0	0	0		N20 W26	Q	
						N19 E18	0	0	0		N19 E18	Q	
						S39 E27	0	0	0		S39 E27	Q	
268	24	23	232	180	010	S10 W90	0	0	0	24	S10 W90	Q	Solquiet, Magquiet.
						S16 W21	6	0	0		S16 W21	E	
						S17 W49	1	0	0		S17 W49	Q	
						S36 W06	0	0	0		S36 W06	Q	
						N27 E17	11	0	0		N27 E17	E	
						N33 W17	1	0	0		N33 W17	Q	
						N23 E21	1	0	0		N23 E21	Q	
						N21 E31	0	0	0		N21 E31	E	
						N20 W47	0	0	0		N20 W47	Q	
						N21 W38	1	0	0		N21 W38	Q	
						N19 E07	1	0	0		N19 E07	Q	
						S38 E15	0	0	0		S38 E15	Q	
						N18 E73	3	0	0		N18 E73	E	
269	25	24	220	179	006	N30 W81	0	0	0	25	N30 W81	Q	Solquiet, Magquiet.
						S16 W36	6	0	0		S16 W36	E	
						S17 W64	0	0	0		S17 W64	Q	
						S36 W24	3	0	0		S36 W24	E	
						N28 E04	3	0	0		N28 E04	E	
						N23 E08	1	0	0		N23 E08	Q	
						N21 E17	0	0	0		N21 E17	Q	
						N21 W64	0	0	0		N21 W64	Q	
						N21 W52	0	0	0		N21 W52	Q	
						N19 W08	0	0	0		N19 W08	Q	
						N18 E63	1	0	0		N18 E63	E	
						S22 E60	3	0	0		S22 E60	E	
						N26 E16	2	0	0		N26 E16	Q	

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages **SEPTEMBER 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
270	26	25	196	177	012	S16 W50	3	0	0	26	S16 W50	E	Solalert 26/XX,
						S36 W38	0	0	0		S36 W38	E	Magquiet.
						N28 W09	0	0	0		N28 W09	E	
						N23 W05	0	0	0		N23 W05	Q	
						N22 E05	0	0	0		N22 E05	Q	
						N21 W76	1	0	0		N21 W76	Q	
						N21 W68	0	0	0		N21 W68	Q	
						N19 W21	2	0	0		N19 W21	Q	
						N18 E50	2	0	0		N18 E50	E	
						S21 E48	1	1	0		S21 E48	E	
						N28 E03	0	0	0		N28 E03	Q	
		Presto:[2]	Boulder	Tenflare 710 flux units duration 28 minutes 25/0025 UT.									
			Toyokawa	Tenflare 630 flux units duration 60 minutes 25/0024 UT.									
			Sydney	Soflare Culgoora 2B S22 E59 began 25/0055 UT. Type II began 25/0031 UT.									
271	27	26	185	172	006	S16 W64	1	0	0	27	S16 W64	E	Solnil,
						S36 W51	1	0	0		S36 W51	Q	Magalert 27/XX.
						N28 W22	0	0	0		N28 W22	E	
						N23 W20	0	0	0		N23 W20	Q	
						N22 W09	0	0	0		N22 W09	Q	
						N19 W89	1	0	0		N19 W89	Q	
						N19 W34	0	0	0		N19 W34	Q	
						N19 E36	7	0	0		N19 E36	E	
						S21 E34	0	0	0		S21 E34	E	
						S26 E73	4	0	0		S26 E73	E	
272	28	27	180	173	004	S16 W76	2	0	0	28	S16 W76	E	Solalert 28/29,
						S36 W63	0	0	0		S36 W63	Q	Magalert 28/XX.
						N27 W35	1	0	0		N27 W35	E	
						N24 W33	0	0	0		N24 W33	Q	
						N22 W21	1	0	0		N22 W21	Q	
						N19 W47	1	0	0		N19 W47	Q	
						N19 E23	5	0	0		N19 E23	E	
						S21 E21	0	0	0		S21 E21	Q	
						S25 E58	11	2	0		S25 E58	A	
						S21 W59	0	0	0		S21 W59	Q	
		Presto:	Boulder	Tenflare 310 flux units duration 4 minutes 27/1612 UT.									
273	29	28	185	171	004	S36 W75	0	0	0	29	S36 W75	Q	Solalert 29/XX,
						N28 W48	1	0	0		N28 W48	E	Magnil.
						N24 W46	0	0	0		N24 W46	Q	
						N22 W31	0	0	0		N22 W31	Q	
						N18 W63	0	0	0		N18 W63	Q	
						N20 E10	2	0	0		N20 E10	E	
						S20 E12	0	0	0		S20 E12	Q	
						S26 E45	5	1	0		S26 E45	E	
						S20 W74	1	0	0		S20 W74	Q	
						N28 W04	0	0	0		N28 W04	Q	
		Presto:	Boulder	Tenflare 630 flux units duration 9 minutes 28/2304 UT.									

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

Summary of the Geoalert Messages SEPTEMBER 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
274	30	29	130	173	001	S35 W87	0	0	0	30	S35 W87	Q	Solalert 30/XX,
						N29 W62	0	0	0		N29 W62	E	Magalert 30/01.
						N25 W58	0	0	0		N25 W58	Q	
						N23 W41	1	0	0		N23 W41	Q	
						N20 W03	1	0	0		N20 W03	E	
						S25 E34	7	1	0		S25 E34	E	
						N28 W19	0	0	0		N28 W19	Q	
275	01	30	127	172	010	N27 W75	1	0	0	01	N27 W75	Q	Solalert 01/XX,
						N23 W74	0	0	0		N23 W74	Q	Magalert 01/02.
						N24 W53	1	0	0		N23 W53	Q	
						N19 W18	4	0	0		N19 W18	E	
						S26 E21	5	1	0		S26 E21	E	
						N17 W08	0	0	0		N17 W08	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	Oct 87	Nov	Dec	Jan 88	Feb	Mar	Apr	May	Jun	Jul†	Aug†	Sep†
01	34	56	17	47	63	68	110	69	95	139	142	137
02	25	57	16	31	68	66	96	84	96	145	143	153
03	31	57	16	25	68	72	94	76	100	142	146	129
04	58	46	15	23	74	77	74	101	105	129	135	148
05	54	47	19	32	58	64	66	103	125	119	120	128
06	48	27	24	40	43	61	62	77	145	103	123	93
07	39	31	34	58	44	65	84	50	141	103	144	97
08	55	43	36	57	46	67	92	63	151	106	160	88
09	50	42	41	62	50	49	115	74	173	82	171	74
10	51	30	34	68	38	36	107	87	144	78	152	76
11	63	28	22	75	26	20	115	65	108	95	135	87
12	53	25	13	67	14	39	118	56	77	100	133	83
13	74	18	20	76	23	53	120	44	47	103	122	91
14	92	23	26	91	28	62	138	37	53	114	128	94
15	101	22	42	90	33	63	145	44	65	111	121	89
16	101	33	40	83	42	74	157	53	81	111	85	97
17	91	46	39	72	35	99	144	57	76	116	67	79
18	86	48	39	68	55	95	137	44	67	136	44	97
19	82	51	28	73	66	105	108	20	70	105	57	113
20	79	49	26	85	51	85	88	20	77	106	57	153
21	61	51	14	78	27	81	79	25	95	103	40	168
22	50	70	24	66	15	76	72	30	92	106	22	168
23	33	83	17	47	13	74	43	40	91	109	26	190
24	22	56	13	44	23	83	30	48	93	81	43	166
25	29	42	25	33	19	92	40	54	111	76	71	143
26	40	47	27	44	15	93	44	63	107	76	93	151
27	70	21	29	54	31	103	36	66	111	111	142	157
28	79	11	28	67	40	109	41	70	116	122	146	148
29	82	20	30	59	52	104	39	74	121	157	164	111
30	85	16	42	56		108	47	83	121	161	163	117
31	62		43	57		120		86		146	151	
Mean	60.6	39.9	27.1	59.0	40.0	76.2	88.0	60.1	101.8	112.6	111.2	120.8

† = 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	Oct 87	Nov	Dec	Jan 88	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
01	84.2	99.1	87.6	100.1	105.5	99.8*	127.2	108.8	149.3*	194.4*	180.9	191.3
02	84.8	105.0	86.5	93.7	104.3	99.1	126.5	113.1*	147.6	198.9	187.6	178.9
03	85.6*	98.0	85.8	101.2	103.6	101.9*	127.6	116.4*	149.5	190.2	172.2*	177.3
04	89.2	101.1*	85.1	98.2	103.1	102.6*	122.6	127.4	150.9	181.0	163.6	165.9
05	90.1	99.2	86.8	99.5	102.6	106.7*	114.6	121.1	151.2	171.2	159.2	166.3
06	89.5	94.9	85.7	101.7	103.6	107.6	116.8	116.5	159.0	156.7	163.4	152.4
07	90.9	94.4	85.3	102.1	105.3	107.3	120.0	112.9	164.6	152.4	170.4	145.4
08	95.0	92.7	88.7	105.6	102.5	104.1*	121.8*	116.7	168.3	142.4	186.9	138.9
09	92.7	90.3	91.2	100.6*	101.0	101.5	121.8*	121.9	165.9*	137.7	182.4	128.0
10	101.1	89.2	90.1	100.9	100.2	99.2	127.2	116.4	149.8	138.3	181.8	117.6
11	100.8*	92.6	91.1	101.7*	99.6	102.9	128.0*	114.6	137.8	137.7*	178.2	121.9
12	102.2	92.6	91.5*	107.5*	101.3	103.5	130.6*	111.6	125.9	137.9	161.2	127.0
13	105.5	92.9	91.1	108.1*	102.9	107.8	134.6	105.9	115.0	141.3*	159.7	124.8
14	113.3*	92.3	91.5	113.7	102.6	108.9*	146.3	105.2	111.7	150.1	151.6	130.2
15	117.8I	93.7	92.0*	112.4	100.4	112.6*	143.5	103.4	113.5	150.7	144.0	126.1
16	111.1	95.0	93.4*	121.8*	101.0	114.1*	147.6	103.3	121.7	153.3*	137.8	128.5
17	106.0	96.8	92.2	116.4*	106.2	117.4	145.5	103.7	124.8	152.8*	145.6	135.3
18	106.5	100.0	90.2	110.9	112.5	116.1	145.3	106.7	125.7	152.3	128.5	139.5
19	100.4	106.6	88.4	114.2	109.0	116.1*	138.5	104.8	119.4	142.1	123.9	138.6
20	95.6	112.2	86.9	112.7	106.5	116.3*	134.9	106.1	118.5	141.3	118.1	151.4
21	89.3	115.3	90.7	111.6	104.7	117.5*	127.6	112.6	122.8*	145.8	116.1	157.8
22	88.2	117.8	88.1	104.5	102.5	117.6	120.1	114.0	124.4*	141.2	114.9	178.6
23	87.0	115.1	88.2	104.7	100.2	120.9*	111.5	122.2	129.3	144.6	121.7A	177.8*
24	87.1	109.4	89.9	102.2	99.6	123.0*	105.6	119.8	135.7*	138.6	133.7	178.6
25	92.3	104.9	96.2*	94.9	96.4	128.5*	106.7	123.8*	153.7	140.9	144.3	177.4
26	96.9	101.3	96.8*	93.5	96.7	127.5*	103.8	127.8	157.6*	149.7	157.1	172.0
27	105.9	94.9	101.4	101.6	96.3	128.0*	101.9	130.0	160.5	161.5	166.8	179.6*
28	106.2	92.3	102.5	103.0	97.1	129.8	101.6	130.1	183.2	175.4	174.0	171.0
29	102.7	90.7	101.4	99.1	103.3	131.7	102.1	140.2	189.5	185.9	189.0	172.0
30	104.2	89.1	99.2	100.1		128.3	104.8	142.8	187.4*	188.3	190.0	173.1
31	97.8		99.7	103.1		130.6*		153.6*		192.5	194.5	
Mean	97.4	99.0	91.5	104.6	102.4	113.8	123.6	117.9	143.8	157.6	158.0	154.1

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

DAILY SOLAR INDICES

September 1988

Day	Julian Day	Bartels Cycle Day	Sunspot Numbers Int	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	245	26	137	142	187.9	532	287	187	191.3	168	133	61	33	39
02	246	27	153	142	175.8	539	276	182	178.9	165	133	62	29	14
03	247	1	129	129	174.3	568	272	179	177.3	159	127	57	31	20
04	248	2	148	142	163.2	504	279	178	165.9	156	125	60	35	17
05	249	3	128	130	163.7	499	278	172	166.3	157	119	56	31	15
06	250	4	93	105	150.1	511	278	186	152.4	157	103	56	31	19
07	251	5	97	100	143.2	476	271	162	145.4	146	106	58	30	16
08	252	6	88	89	136.9	474	258	150	138.9	125	107	58	31	13
09	253	7	74	80	126.2	443	242	140	128.0	118	100	52	30	20
10	254	8	76	88	116.0	476	236	133	117.6	112	96	39	27	24
11	255	9	87	92	120.3	478	252	138	121.9	107	96	50	31	23
12	256	10	83	89	125.4	468	255	142	127.0	113	98	58	35	41
13	257	11	91	91	123.3	458	254	143	124.8	116	98	55	40	--
14	258	12	94	100	128.7	476	270	144	130.2	118	97	55	33	--
15	259	13	89	102	124.7	483	250	142	126.1	118	95	52	33	36
16	260	14	97	109	127.2	477	248	143	128.5	115	92	54	30	39
17	261	15	79	90	134.0	482	253	149	135.3	123	97	52	29	20
18	262	16	97	102	138.2	474	259	150	139.5	126	99	53	29	21
19	263	17	113	113	137.4	476	258	152	138.6	127	99	51	28	27
20	264	18	153	138	150.2	480	267	163	151.4	140	109	59	46	--
21	265	19	168	170	156.6	489	267	164	157.8	145	113	56	40	58
22	266	20	168	169	177.4	521	285	182	178.6	167	124	62	37	31
23	267	21	190	176	176.7*	521	283	179	177.8*	162	132	54	30	18
24	268	22	166	163	177.6	530	281	177	178.6	161	133	61	37	13
25	269	23	143	155	176.5	523	277	175	177.4	159	134	62	31	15
26	270	24	151	149	171.2	506	278	173	172.0	156	132	60	32	37
27	271	25	157	152	178.9*	536	310	202	179.6*	178	139	60	37	53
28	272	26	148	141	170.4	508	274	172	171.0	154	129	58	30	17
29	273	27	111	109	171.5	503	276	171	172.0	156	132	57	31	20
30	274	1	117	109	172.7	501	275	176	173.1	159	129	62	34	24
Mean			120.8	122.2	152.5	497	268	164	154.1	142	114	56	33	26

The International numbers shown above are preliminary values; the American numbers are final.

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 in the Air Weather Service's Sagamore Hill (SGMR) observations.

OBSERVED AND PREDICTED SOLAR ACTIVITY INDICES

SEPTEMBER 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
Sep 84	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	58*	56.8	59	51.0	55	104.6	108
Feb	40.0	64*	39.1	65	48.6	61	102.4	114
Mar	76.2	71*	77.5	72	60.9	67	113.8	119
Apr	88.0	78(4)*	90.9	79	71.5	73	123.6	--
May	60.1	84(7)*	64.7	85	65.3	79	117.9	--
Jun	101.8	90(10)*	106.4	92	93.3	86	143.8	--
Jul	112.6*	99(12)*	108.7	100	108.2	93	157.6	--
Aug	111.2*	107(15)*	111.2	109	108.6	102	158.0	--
Sep	120.8*	115(18)*	122.2	116	104.4	108	154.1	--
Oct	----	121(21)*	----	123	----	115	----	--
Nov	----	127(25)*	----	128	----	120	----	--
Dec	----	131(27)*	----	133	----	125	----	--
Jan 89	----	134(28)*	----	136	----	127	----	--
Feb	----	138(27)*	----	140	----	131	----	--
Mar	----	146(27)*	----	148	----	139	----	--

*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	58	64	71	78	84	90	99	107	115	121	127	131
				(4)	(7)	(10)	(12)	(15)	(18)	(21)	(25)	(27)
1989	134	138	146	153	160	165	168	171	178	183	184	185
	(28)	(27)	(27)	(27)	(28)	(30)	(33)	(36)	(39)	(42)	(44)	(47)
1990	184	184	182	176	171	167	165	162	155	147	140	136
	(50)	(52)	(53)	(52)	(49)	(44)	(42)	(43)	(42)	(40)	(36)	(32)

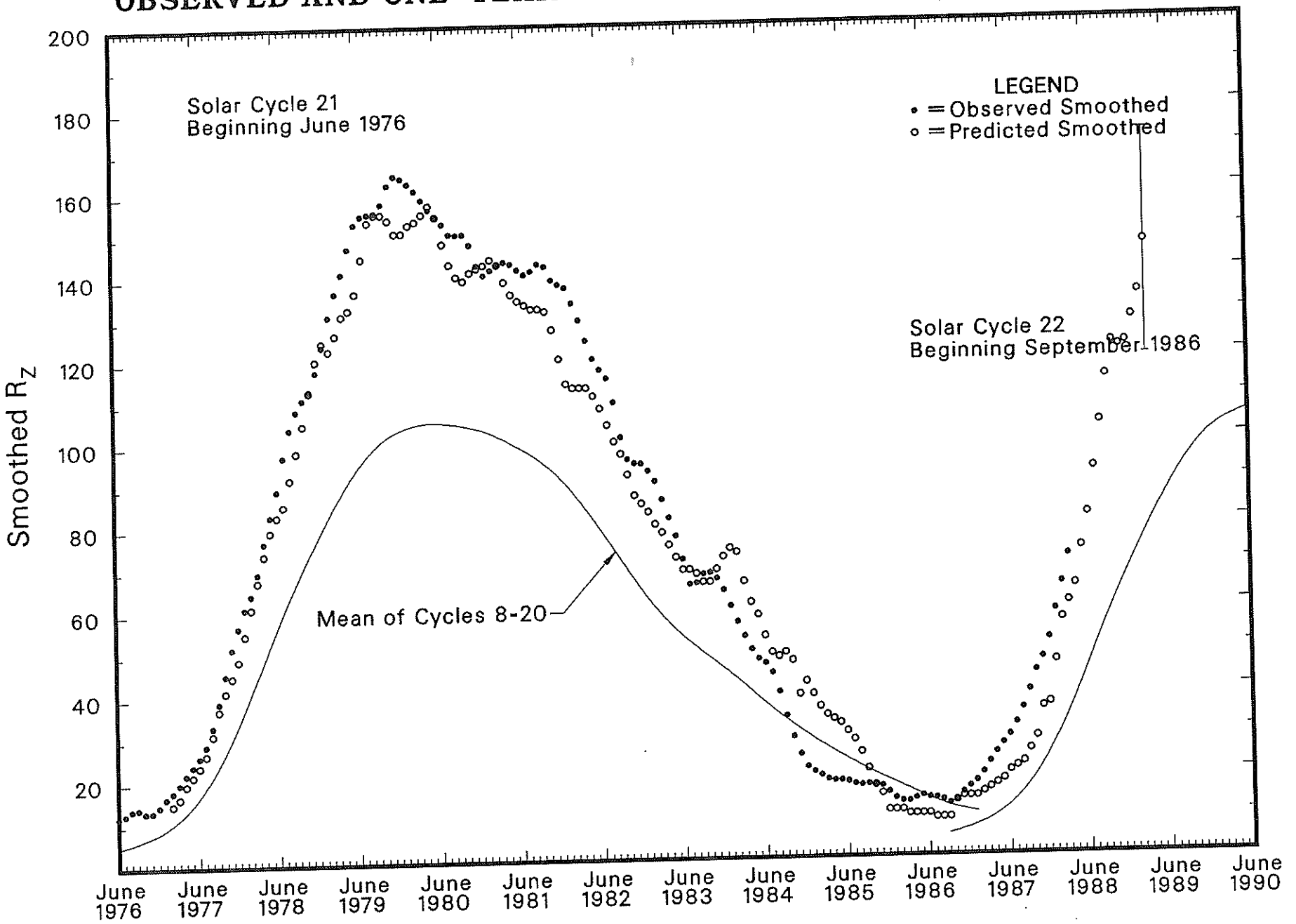
*September 1986 marks the onset of Sunspot Cycle 22.

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 June 1988 and on provisional numbers thereafter.

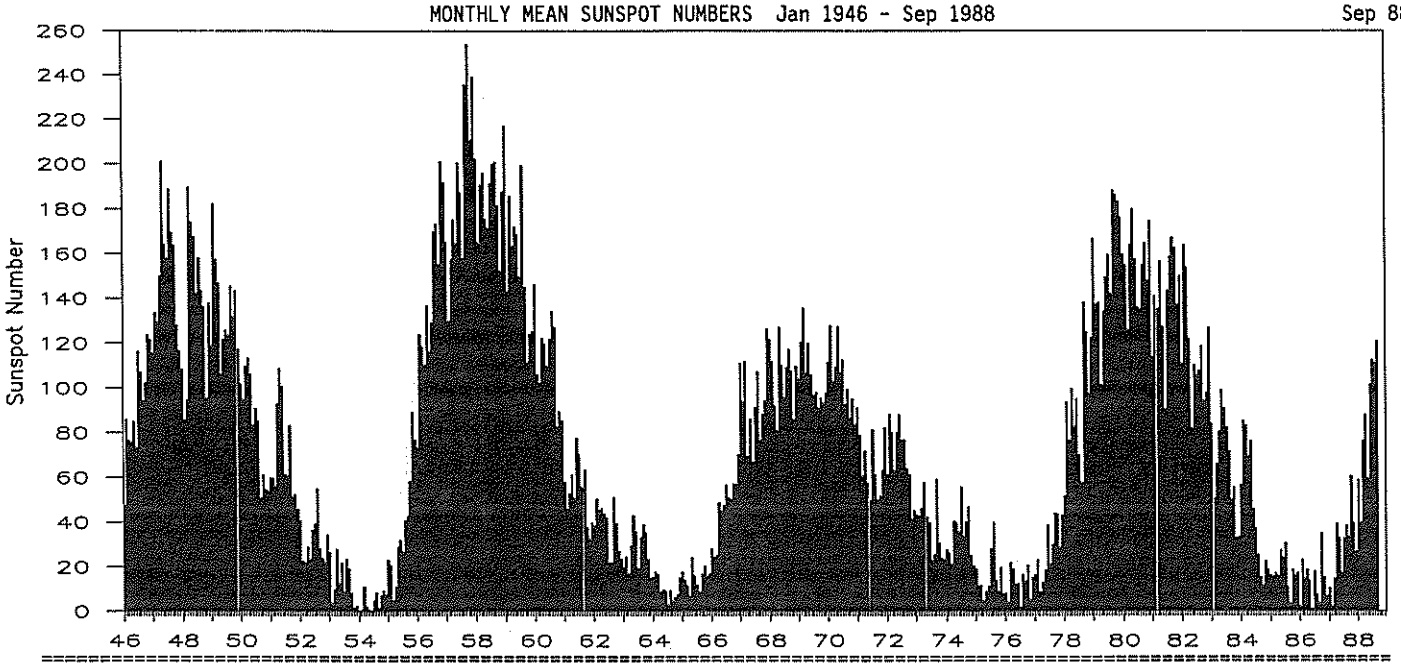
Table entries, with numbers in parentheses below them, denote predictions by the McNish-Lincoln method. (See page 9 in the July 1987 supplement to *Solar-Geophysical Data*.) Adding the number in parentheses to the predicted value generates the upper limit of the 90% confidence interval; subtracting the number from the predicted value generates the lower limit. Consider, for example, the March 1989 prediction. There exists a 90% chance that in March 1989 the actual smoothed sunspot number will fall somewhere between 119 and 173.

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 13 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



MONTHLY MEAN SUNSPOT NUMBERS Jan 1946 - Sep 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	60.1	101.8	112.6*	111.2*	120.8*				85.5*

*Preliminary

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

H - ALPHA SOLAR FLARES

SEPTEMBER 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	PALE	01	0249	0250	0253	S21	E17	5131	09	2.4	4	SF		3	E		22		
0002	SVTO	01	0620	0627	0653	S23	E13	5131	09	2.3	33	SF		3	E		43		H
0003	SVTO	01	0707	0708	0714	N24	W01	5128	09	1.2	7	SF	C 1.7	3	E		64		FH
0004	LEAR	01	0728	0735	0744	S21	E16	5131	09	2.5	16	SF		3	E		18		
0005	KAND	01	0947	0949	0952	S20	E17	5131	09	2.7	5	SN			P	0949	104	1.2	DT
0006		01	1005	1007	1023	S14	E11	5129	09	2.2	18	SN					42	0.7	ET
	SVTO	01	1005	1007	1022	S12	E09	5129	09	2.1	17	SF		3	E		22		
	KAND	01	1005	1007	1024	S15	E13	5129	09	2.4	19	SN			P	1007	62	0.7	ET
0007	KAND	01	1152	1152	1155	S22	E12	5131	09	2.4	3	SN			P	1152	42	0.5	DT
0008	HOLL	01	1642	1642	1658	S21	E09	5131	09	2.4	16	SF	C 1.3	3	E		10		
0009		01	18345	1843	1847	N20	W11	5128	08	31.9	13	SF	C 3.1				58		
	PALE	01	1834	1843	1858D	N21	W11	5128	08	31.9	24D	SF	C 3.1	3	E		65		
	HOLL	01	1839	1843	1847	N20	W11	5128	08	31.9	8	SF	C 3.1	3	E		51		
0010	PALE	01	2028	2031	2045	N21	W12	5128	08	31.9	17	SF		3	E		43		F
0011		01	2052	20531	2104	S20	E09	5131	09	2.5	12	1B	C 6.1				102		F
	HOLL	01	2052	2053	2100	S20	E10	5131	09	2.6	8	SB	C 6.1	3	E		75		F
	PALE	01	2052	2054	2108	S21	E08	5131	09	2.5	16	1B	C 6.1	3	E		128		
0012	LEAR	02	0755	0758	0820	S19	E04	5131	09	2.6	25	SF	C 3.6	3	E		62		
0013	LEAR	02	0937	0940	0945	S23	W02	5131	09	2.2	8	SF	C 1.7	3	E		19		
		02	1006		1013	No Flare Patrol													
0014	RAMY	02	1518	1520	1529	S22	W04	5131	09	2.3	11	SF	C 1.7	3	E		43		F
0015		03	04091	0412	0418	S21	W10	5131	09	2.4	9	SF	C 1.2				42		F
	LEAR	03	0409	0412	0420	S20	W09	5131	09	2.5	11	SF	C 1.2	4	E		57		F
	PALE	03	0410	0412	0417	S22	W12	5131	09	2.2	7	SF	C 1.2	3	E		26		
0016	LEAR	03	0434	0435	0441	S21	W14	5131	09	2.1	7	SF		4	E		31		
0017	LEAR	03	0520	0534	0544	S21	W14	5131	09	2.1	24	SF	C 2.8	4	E		53		
0018		03	0708E	0716U	0740	S21	W39	5126	08	31.3	32D	1B	C 5.8				109	0.7	F
	LEAR	03	0708E	0716U	0740	S20	W41	5126	08	31.2	32D	1N	C 5.8	4	E		170		F
	YUNN	03	0723E	0726U	0730D	S22	W37	5126	08	31.5	7D	SB	C 5.8		P	0726	48	0.7	
0019		03	1246	1251	1305	N24	E38	5133	09	6.5	19	SF					50		
	SVTO	03	1246	1251	1309	N25	E36	5133	09	6.3	23	SF		3	E		66		
	RAMY	03	1247E	1249U	1301	N24	E39	5133	09	6.5	14D	SF		3	E		34		
0020		03	1317	1319	1339	S22	W14	5131	09	2.5	22	SF	C 2.7				32		F
	RAMY	03	1317	1319	1338	S22	W14	5131	09	2.5	21	SF	C 2.7	4	E		31		F
	SVTO	03	1317	1319	1340	S22	W14	5131	09	2.5	23	SF	C 2.7	3	E		33		
0021	RAMY	03	1618	1618U	1636D	S22	W14	5131	09	2.6	18D	SF	C 1.2	3	E		24		F
0022	HOLL	03	1721	1731	1758	S24	W45	5126	08	31.2	37	SF		3	E		56		
0023	HOLL	03	1856	1859	1914	S24	W47	5126	08	31.1	18	SF		3	E		39		
0024	HOLL	03	2149E	2149U	2202	S17	W19	5131	09	2.5	13D	SF	C 1.2	3	E		37		
0025	HOLL	03	2322	2327	2330	S24	W50	5126	08	31.1	8	SF		2	E		11		
0026	HOLL	03	2356	2357	2411	S19	W20	5131	09	2.5	15	SF		2	E		23		
0027	LEAR	04	0231	0231	0244	S16	W18	5131	09	2.7	13	SF		3	E		14		FH

SEPTEMBER 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
0028		04	06441	06443	0706	N21	W43	5128	09	1.0	22	SF					37		
	LEAR	04	0644	0644	0656	N22	W42	5128	09	1.0	12	SF		3	E		23		
	SVTO	04	0645	0647	0717	N20	W44	5128	08	31.9	32	SF		3	E		51		
0029		04	0649	06501	0654	S19	W20	5131	09	2.7	5	SF					20		
	LEAR	04	0649	0650	0654	S19	W21	5131	09	2.7	5	SF		3	E		25		
	SVTO	04	0649	0651	0655	S19	W20	5131	09	2.7	6	SF		3	E		16		
0030	LEAR	04	0800	0804	0814	S19	W24	5131	09	2.5	14	SF		3	E		15		
0031	HOLL	04	1343	1345U	1354	S23	W32	5131	09	2.1	11	SF		2	E		27		
0032	RAMY	04	1446	1455	1516	S17	W26	5131	09	2.6	30	SF		3	E		17		
0033	HOLL	04	1811	1812	1824	S18	W30	5131	09	2.5	13	SF		3	E		16		F
0034		04	18451	18451	1907	N21	W50	5128	08	31.9	22	SF					35		F
	HOLL	04	1845	1845	1907	N21	W50	5128	08	31.9	22	SF		3	E		31		
	RAMY	04	1846	1846	1902D	N21	W50	5128	08	31.9	16D	SF		2	E		39		F
0035		04	1832*	1903	1927	S18	W28	5131	09	2.6	55	SF					68		F
	RAMY	04	1832	1857U	1929	S18	W29	5131	09	2.6	57	SF		2	E		72		F
	HOLL	04	1857	1903	1925	S17	W28	5131	09	2.7	28	SF		3	E		63		F
0036		05	1414	14191	1452	S22	W38	5131	09	2.7	38	SF	C 3.0				38		FZ
	SVTO	05	1414	1419	1448	S23	W36	5131	09	2.8	34	SF	C 3.0	3	E		32		ZF
	RAMY	05	1414	1420	1455	S21	W40	5131	09	2.5	41	SF	C 3.0	4	E		45		ZF
0037		05	15304	1537*	1620	S17	W40	5131	09	2.6	50	SF	C 3.0				44		FH
	SVTO	05	1530	1559	1629	S16	W42	5131	09	2.5	59	SF		3	E		56		FH
	HOLL	05	1531	1538	1603	S18	W40	5131	09	2.6	32	SF	C 3.0	3	E		30		F
	RAMY	05	1534	1537	1627	S16	W38	5131	09	2.8	53	SF	C 3.0	3	E		47		F
0038		05	1813	18249	1903	S18	W42	5131	09	2.6	50	1F	C 4.0				109		F
	PALE	05	1813	1824	1904	S18	W42	5131	09	2.6	51	1F		3	E		110		
	RAMY	05	1813	1831	1900	S18	W43	5131	09	2.5	47	1F	C 4.0	3	E		115		F
	HOLL	05	1813	1833	1904	S17	W42	5131	09	2.6	51	1F	C 4.0	3	E		102		F
0039	HOLL	05	1924	1925	1930	S19	W48	5131	09	2.1	6	SF	C 1.3	3	E		18		
0040	LEAR	06	0016	0017	0026	S18	W51	5131	09	2.1	10	SF		3	E		21		
0041	KAND	06	0855	0859	0904	S19	W58	5131	09	1.9	9	SF			P	0859	42	0.9	D
0042	HOLL	06	1452	1452	1501	S19	W60	5131	09	2.0	9	SF		3	E		11		
0043	HOLL	06	1640	1642	1651	S20	W54	5131	09	2.6	11	SF		3	E		20		
0044	HOLL	06	1748	1749	1753	S21	W57	5131	09	2.4	5	SF		3	E		15		
0045		06	18351	18361	1843	S19	W62	5131	09	2.0	8	SF	C 1.2				15		
	PALE	06	1835	1836	1843	S20	W63	5131	09	1.9	8	SF	C 1.2	3	E		18		
	HOLL	06	1836	1836	1843	S19	W62	5131	09	2.0	7	SF	C 1.2	3	E		14		
	RAMY	06	1836	1837	1842	S19	W62	5131	09	2.0	6	SF	C 1.2	3	E		14		
0046	RAMY	06	2059	2102	2104	S21	W52	5131	09	2.9	5	SF		3	E		13		
0047	HOLL	06	2211E	2222	2229	S21	W58	5131	09	2.5	18D	SF		3	E		28		
0048	HOLL	06	2241	2241	2248	S19	W65	5131	09	2.0	7	SF		3	E		22		
0049		08	0035*	00459	0052	S21	W68	5131	09	2.8	17	SN	C 3.0				31		D
	PEKG	08	0035	0045	0050	S23	W72	5131	09	2.5	15	SB			P	0045	38		D
	LEAR	08	0037	0045	0046	S19	W65	5131	09	3.1	9	SF		3	E		30		
	LEAR	08	0054	0054	0101	S21	W66	5131	09	3.0	7	SF	C 3.0	3	E		25		
0050	SVTO	08	1233	1238U	1251	S23	W79	5131	09	2.4	18	1N	M 2.0	3	E		108		
0051	HOLL	08	1537	1537	1545	S18	E32	5137	09	11.1	8	SF		3	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
0052		08	1653*	17545	1816	S22	W70	5131	09	3.3	83	SF					20		
	PALE	08	1653	1754	1820	S20	W68	5131	09	3.5	87	SF		3	E		29		
	HOLL	08	1743	1759	1811	S25	W71	5131	09	3.2	28	SF		3	E		11		
0053	HOLL	08	1840	1841	1906	S25	W72	5131	09	3.2	26	SN	M 1.2	3	E		91		
0054	HOLL	08	1915	1921	1931	S19	E27	5137	09	10.9	16	SF		3	E		15		
0055	HOLL	08	2049	2052	2059	S25	W72	5131	09	3.3	10	SF		3	E		32		
0056	HOLL	09	2056	2100	2127	S13	E16	5143	09	11.1	31	SF	C 1.2	3	E		46		F
0057	SVTO	10	1113	1119	1133	N34	E48	5142	09	14.3	20	SF		3	E		26		
0058	HOLL	11	0001	0008	0025D	S15	E04	5143	09	11.3	24D	SF		3	E		12		
0059	LEAR	11	0322	0324	0329	N32	E42	5142	09	14.5	7	SF		3	E		17		
0060	SVTO	11	1145	1148	1153	S09	E80	5148	09	17.5	8	SF		3	E		32		
0061	SVTO	11	1327	1329	1349	S20	W09	5137	09	10.9	22	SF		3	E		17		
0062	HOLL	11	1414	1414	1431	S10	E75	5148	09	17.2	17	SF		3	E		27		
0063	PEKG	12	0025	0028	0048	N28	W80		09	5.8	23	SN			P	0030	38		D
0064	KAND	12	0654	0656	0700	N34	E19	5142	09	13.8	6	SF			P	0656	42	0.5	D
0065		12	07191	07192	0732	S13	E72	5148	09	17.7	13	SN	C 1.7				41		ET
	LEAR	12	0719	0719	0727	S14	E70	5148	09	17.6	8	SF	C 1.7	3	E		15		
	SVTO	12	0719	0720	0731	S11	E70	5148	09	17.6	12	SF	C 1.7	3	E		46		
	KAND	12	0720	0721	0739	S13	E76	5148	09	18.0	19	SB			P	0721	62		ET
0066	SVTO	12	1054	1055	1104	S27	W51	5147	09	8.5	10	SF		3	E		25		
0067		12	1733	1736	1750	S14	E65	5148	09	17.6	17	SF	C 1.3				64		F
	HOLL	12	1733	1736	1748	S14	E65	5148	09	17.6	15	SF	C 1.3	3	E		73		F
	PALE	12	1733	1736	1752	S14	E65	5148	09	17.6	19	SF	C 1.3	3	E		55		F
0068		12	2032	20514	2113	S13	E60	5148	09	17.4	41	1F	C 1.4				107		FH
	PALE	12	2032	2055	2110	S12	E61	5148	09	17.4	38	1F	C 1.4	3	E		142		
	HOLL	12	2046E	2051	2116	S14	E60	5148	09	17.4	30D	SF	C 1.4	3	E		72		FH
0069		13	07519	0810*	0848	S13	E55	5148	09	17.5	57	1N	C 4.1				230	7.8	FTU
	SVTO	13	0751	0811	0855	S12	E55	5148	09	17.5	64	1N	C 4.1	3	E		223		F
	KAND	13	0754	0823	0858	S15	E54	5148	09	17.4	64	2B			P	0823	374	7.8	FTU
	LEAR	13	0800	0810	0831	S13	E55	5148	09	17.5	31	SF	C 4.1	3	E		94		F
0070	SVTO	13	0912	0913	0922	S20	W15	5149	09	12.2	10	SF		3	E		22		
0071		13	10572	10591	1108	N32	E10	5142	09	14.2	11	SF					36	0.5	E
	SVTO	13	1057	1059	1107	N31	E11	5142	09	14.3	10	SF		3	E		29		
	KAND	13	1059	1100	1110	N32	E10	5142	09	14.2	11	SF			P	1100	42	0.5	E
0072	HOLL	13	1806	1813	1901	S19	W20	5149	09	12.2	55	SF		3	E		17		H
0073		13	1916	19271	2025	N14	E14	5144	09	14.9	69	SF					62		FU
	HOLL	13	1916	1927	2027	N13	E14	5144	09	14.8	71	SF		3	E		48		F
	PALE	13	1916	1928	2023	N15	E14	5144	09	14.9	67	SF		3	E		75		UF
0074	PALE	14	0319	0323	0332	N16	E11	5144	09	15.0	13	SF		3	E		23		FS
0075	KAND	14	0720	0723	0726	S19	W34	5137	09	11.7	6	SF			P	0723	21	0.3	D
0076		14	11332	1136	1152	S12	E37	5148	09	17.3	19	SN	C 1.3				76	1.4	EFH
	RAMY	14	1133	1136	1159	S12	E36	5148	09	17.2	26	SF	C 1.3	3	E		49		FH
	KAND	14	1135	1136	1145	S12	E38	5148	09	17.3	10	SN	C 1.3		P	1136	104	1.4	E

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0077		14	18081	18101	1814	S19	W50	5137	09	10.9	6	SF					23		
	PALE	14	1808	1810	1814	S18	W51	5137	09	10.9	6	SF		3	E		24		
	HOLL	14	1809	1810	1813	S20	W49	5137	09	11.0	4	SF		3	E		20		
	RAMY	14	1809	1811	1814	S20	W49	5137	09	11.0	5	SF		3	E		24		
0078		14	18471	18493	1910	N33	W08	5142	09	14.1	23	SF					27		FH
	HOLL	14	1847	1851	1916	N32	W08	5142	09	14.1	29	SF		4	E		31		FH
	RAMY	14	1848	1849	1905	N33	W08	5142	09	14.1	17	SF		3	E		15		F
	PALE	14	1848	1852	1928D	N34	W08	5142	09	14.1	40D	SF		3	E		34		F
0079		14	20572	21012	2113	S12	E33	5148	09	17.3	16	SF					26		
	PALE	14	2057	2103	2113	S12	E34	5148	09	17.4	16	SF		3	E		41		
	HOLL	14	2059	2101	2113	S12	E32	5148	09	17.3	14	SF		3	E		11		
0080	HOLL	14	2312	2317	2326	S12	E33	5148	09	17.4	14	SF		3	E		15		
0081	HOLL	14	2323	2324	2329	N31	W15	5142	09	13.8	6	SF		3	E		16		H
0082	HOLL	15	1530	1531	1537	S20	W60	5137	09	11.0	7	SF		3	E		19		
0083	HOLL	16	2240	2240	2313	S11	E06	5148	09	17.4	33	SF		3	E		11		
0084	YUNN	17	0313E	0323	0354	S13	E03	5148	09	17.4	41D	SN			P		64	0.7	
0085		17	1511	1519	1548	N23	E22	5153	09	19.3	37	SF					17		F
	HOLL	17	1511	1515U	1550	N23	E22	5153	09	19.3	39	SF		3	E		20		F
	RAMY	17	1511	1519	1545	N23	E22	5153	09	19.3	34	SF		3	E		14		
0086	LEAR	18	0421	0421	0424	S36	E61	5158	09	23.1	3	SF	C 1.0	3	E		16		
0087	LEAR	18	0641	0645	0706	N19	E17	5154	09	19.6	25	SF	C 2.7	3	E		40		F
0088		18	1435	1435	1456	N24	E10	5153	09	19.4	21	SF					26		
	RAMY	18	1435	1435	1453	N23	E09	5153	09	19.3	18	SF		3	E		20		
	HOLL	18	1441E	1441U	1459	N24	E10	5153	09	19.4	18D	SF		3	E		32		
0089		18	14541	14571	1512	N20	E13	5154	09	19.6	18	SF	C 1.6				35		F
	HOLL	18	1454	1458	1511	N20	E13	5154	09	19.6	17	SF	C 1.6	3	E		48		F
	RAMY	18	1455	1457	1512	N19	E13	5154	09	19.6	17	SF	C 1.6	3	E		22		
0090	HOLL	18	1937	1938	1956	N19	E10	5154	09	19.6	19	SF		4	E		19		F
0091		18	2012	2013	2027	N30	W59	5142	09	14.2	15	SF					28		
	HOLL	18	2012	2013	2027	N30	W59	5142	09	14.2	15	SF		4	E		36		
	RAMY	18	2014E	2014U	2017D	N31	W59	5142	09	14.2	3D	SF		3	E		20		
0092	PALE	18	2140E	2145U	2225D	N29	E88	5159	09	25.8	45D	SN	C 2.8	3	E		90		
0093		18	2322	2324	2333	S36	E52	5158	09	23.1	11	SF					37		
	HOLL	18	2322	2324	2333	S35	E51	5158	09	23.0	11	SF		4	E		45		
	PALE	18	2324E	2326U	2335D	S36	E52	5158	09	23.1	11D	SF		2	E		29		
0094	SVTO	19	0533E	0535U	0540D	S37	E43	5158	09	22.7	7D	SF		2	E		83		
0095	SVTO	19	0559	0613	0706	N29	E66		09	24.4	67	SF		3	E		56		
0096	YUNN	19	0712	0714	0718	N24	E01	5153	09	19.4	6	SN			C		32	0.3	
0097	YUNN	19	0720	0724	0731	N30	W65	5142	09	14.2	11	SN			C		24	0.6	
0098	RAMY	19	1115E	1117U	1128D	N30	E76	5159	09	25.4	13D	SN	M 1.6	2	E		90		H
0099		19	21421	21471	2155	N30	E74	5159	09	25.7	13	SN	C 8.9				42		
	HOLL	19	2142	2148	2155	N31	E73	5159	09	25.7	13	SN	C 8.9	4	E		36		
	PALE	19	2143	2147	2205D	N30	E74	5159	09	25.7	22D	SF	C 8.9	3	E		48		
0100	PALE	20	0158	0200	0204	N31	E71	5159	09	25.7	6	SF		3	E		27		

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0101		20	02231	0225	0241	N28	E69	5159	09 25.5	18	SF	C 6.7				42		
	PALE	20	0223	0225	0244	N29	E70	5159	09 25.6	21	SF	C 6.7	3	E		53		
	LEAR	20	0224	0225	0238	N28	E68	5159	09 25.4	14	SF	C 6.7	3	E		32		
0102		20	0516	0520	0531	S36	E44	5158	09 23.7	15	SF	C 5.0				78		
	LEAR	20	0516	0520	0531	S35	E44	5158	09 23.7	15	SF	C 5.0	3	E		73		
	SVTO	20	0533E	0535U	0540D	S37	E43	5158	09 23.7	7D	SF	C 5.0	2	E		83		
0103		20	0559*	0613*	0700	N29	E66	5159	09 25.4	61	SN					76		
	SVTO	20	0559	0613	0706	N29	E66	5159	09 25.4	67	SF		3	E		56		
	YUNN	20	0635	0646	0653	N29	E66	5159	09 25.4	18	SN			C		96		
0104	YUNN	20	0640	0646	0653D	S19	W47		09 16.7	13D	SN			P		16	0.3	
0105	LEAR	20	0746	0747	0753	N27	E65	5159	09 25.4	7	SF	C 1.8	3	E		18		
0106	KAND	20	1035	1040	1045	S18	E27	5156	09 22.5	10	SF			P	1040	42	0.5	D
0107	RAMY	20	1146	1151U	1207D	N31	E65	5159	09 25.6	21D	SF		3	E		43		
0108	SVTO	20	1309	1311	1332D	S18	E26	5156	09 22.5	23D	SF		3	E		21		
0109	SVTO	20	1337	1337	1416	N33	E24	5161	09 22.5	39	SF		3	E		24		
0110	SVTO	20	1356	1414U	1442D	S36	E33	5158	09 23.2	46D	1F	C 1.9	3	E		122		
0111	SVTO	20	1435	1439	1442D	S15	E26	5156	09 22.6	7D	SF		3	E		23		
0112	SVTO	20	1437	1442	1442D	N35	E22	5161	09 22.4	5D	SF		3	E		12		
0113	RAMY	20	1515	1516	1519	S33	E31	5158	09 23.1	4	SF		3	E		21		
0114	PALE	20	2126E	2128U	2203	S15	E25	5156	09 22.8	37D	SF		3	E		38		
0115		21	1535E	1536	1545	S10	W56	5148	09 17.4	10D	SF					14		
	HOLL	21	1535E	1536	1548	S10	W57	5148	09 17.4	13D	SF		3	E		16		
	RAMY	21	1537E	1537U	1542	S10	W56	5148	09 17.4	5D	SF		3	E		12		
0116	HOLL	21	2139	2145	2216	N29	E44	5159	09 25.3	37	SF		3	E		46		
0117		21	2141	2202	2211	S17	E04	5156	09 22.2	30	SF					34		
	HOLL	21	2141	2202	2210	S17	E05	5156	09 22.3	29	SF		3	E		39		
	PALE	21	2158E	2202	2212	S17	E04	5156	09 22.2	14D	SF		3	E		30		
0118		21	2233	2236	2300	S34	E23	5158	09 23.8	27	SF	C 1.5				80		
	PALE	21	2233	2236	2259	S35	E23	5158	09 23.8	26	SF	C 1.5	3	E		79		
	HOLL	21	2233	2236	2300	S34	E23	5158	09 23.8	27	SF	C 1.5	3	E		81		
0119	HOLL	21	2249	2256	2317	S14	E09	5156	09 22.6	28	SF		3	E		21		
0120	PALE	21	2325	2330	2340	N27	E46	5159	09 25.6	15	SN	C 5.1	3	E		94		F
0121	PALE	22	0115	0117	0138	S14	E05	5156	09 22.4	23	SF		3	E		26		
0122		22	0311	0317	0320	N28	E43	5159	09 25.5	9	SN	C 5.6				13	0.2	
	LEAR	22	0311	0315U	0317	N27	E44	5159	09 25.6	6	SF	C 5.6	3	E		10		
	YUNN	22	0316E	0317	0323	N28	E42	5159	09 25.4	7D	SN	C 5.6		P		16	0.2	
0123		22	0331	0331	0341	S14	E03	5156	09 22.4	10	SN					24	0.4	
	YUNN	22	0323E	0332U	0343	S14	E03	5156	09 22.4	20D	SN			P	0332	32	0.4	
	LEAR	22	0331	0331	0339	S14	E03	5156	09 22.4	8	SF		3	E		17		
0124	KAND	22	0642E		0707	S14	E02	5156	09 22.4	25D	SN			P	0642	104	1.1	EFIT
0125		22	08041	0807	0818	N26	E42	5159	09 25.6	14	1N	M 2.0				146	3.0	D
	PEKG	22	0804	0807	0815	N27	E42	5159	09 25.6	11	1N	M 2.0		P	0807	210	3.0	D
	LEAR	22	0805	0807	0821	N26	E41	5159	09 25.5	16	SF	M 2.0	3	E		82		
0126	KAND	22	1001	1010	1045	S14	E02	5156	09 22.6	44	1B			P	1010	333	3.6	EFIZ

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0127	KAND	22	1030	1030	1036	S13	W68	5148	09	17.3	6	SF			P	1030	42		D
0128	KAND	22	1047	1050	1056	N28	E39	5159	09	25.5	9	SF			P	1050	83	1.1	E
0129		22	11191	11222	1136	S16	E00	5156	09	22.5	17	1B	C 4.5				148	1.8	EF
	RAMY	22	1119	1122	1136	S16	E01	5156	09	22.5	17	1N	C 4.5	3	E		129		FE
	KAND	22	1120	1124	1137	S15	W01	5156	09	22.4	17	SB	C 4.5		P	1124	166	1.8	E
0130	RAMY	22	1259	1305	1307	S35	E12	5158	09	23.5	8	SF		3	E		51		
0131	RAMY	22	1349	1350U	1357	N28	E37	5159	09	25.5	8	SF		2	E		15		
0132	RAMY	22	1355	1400	1424	S17	W02	5156	09	22.4	29	SF	C 3.4	3	E		65		
0133	RAMY	22	1427	1435	1440	S16	W02	5156	09	22.4	13	SF		3	E		14		
0134	RAMY	22	1521	1524	1541	N27	E36	5159	09	25.4	20	SF	C 2.7	3	E		50		
0135		22	1629	1632	1643	N28	E36	5159	09	25.5	14	SF	C 4.4				70		H
	RAMY	22	1629	1632	1644	N28	E36	5159	09	25.5	15	SF	C 4.4	3	E		98		H
	HOLL	22	1639E	1639U	1642	N29	E37	5159	09	25.6	3D	SF		3	E		41		H
0136		22	1630	1641	1712	N24	E66	5163	09	27.8	42	SN					82		EF
	RAMY	22	1630	1641	1707	N24	E74	5163	09	28.4	37	SF		3	E		95		
	HOLL	22	1639E	1645U	1716	N23	E59	5163	09	27.2	37D	SN		3	E		69		FE
0137	RAMY	22	1649	1650	1654	S13	W03	5156	09	22.5	5	SF		3	E		12		
0138	RAMY	22	1739	1753	1820	S17	W01	5156	09	22.6	41	SF		3	E		42		
0139	RAMY	22	1741	1744	1807	N24	E73	5163	09	28.4	26	SF		3	E		96		
0140		22	1831*	1854	1856	S17	W05	5156	09	22.4	25	SF					12		H
	RAMY	22	1831	1831U	1848	S20	W07	5156	09	22.2	17	SF		3	E		11		
	HOLL	22	1834E	1840U	1858D	S18	W05	5156	09	22.4	24D	SF		3	E		11		H
	RAMY	22	1852	1854	1903	S14	W02	5156	09	22.6	11	SF		3	E		14		
0141		22	1853	18504	1908	N28	E36	5159	09	25.6	15	SF					24		F
	HOLL	22	1848E	1850	1905	N28	E35	5159	09	25.5	17D	SF		3	E		17		F
	RAMY	22	1853	1854	1911	N28	E36	5159	09	25.6	18	SF		3	E		32		
0142		22	20002	2018	2056	S15	W05	5156	09	22.4	56	SN	C 3.9				85		F
	PALE	22	2000	2018	2056	S14	W05	5156	09	22.4	56	SN	C 3.9	3	E		56		F
	RAMY	22	2002	2003U	2105D	S15	W05	5156	09	22.4	63D	SN	C 3.9	3	E		59		F
	HOLL	22	2010E	2018	2106D	S15	W05	5156	09	22.5	56D	1N	C 3.9	3	E		141		F
0143		22	2031*	2044	2042	N26	E32	5159	09	25.3	11	SF	C 5.3				33		F
	PALE	22	2031	2032U	2042	N26	E31	5159	09	25.3	11	SF	C 5.3	3	E		28		
	RAMY	22	2031	2032U	2105D	N26	E31	5159	09	25.3	34D	SF	C 5.3	3	E		42		F
	HOLL	22	2044	2044	2054D	N27	E35	5159	09	25.6	10D	SF		3	E		28		
0144	PALE	22	2241E	2244U	2256D	S14	W07	5156	09	22.4	15D	SN	C 7.6	3	E		71		F
0145	LEAR	22	2324	2326	2350	N29	E32	5159	09	25.5	26	SF		4	E		46		
0146		23	00143	0025	0049	S14	W07	5156	09	22.5	35	SN	C 2.3				55		
	LEAR	23	0014	0025	0049	S14	W07	5156	09	22.5	35	SN	C 2.3	3	E		69		
	HOLL	23	0017	0020U	0020D	S14	W07	5156	09	22.5	3D	SF	C 2.3	2	E		41		
0147	YUNN	23	0044E	0044U	0130	S16	W08	5156	09	22.4	46D	1N			P	0044	241	2.7	F
0148	YUNN	23	0048	0051	0122	N18	E88	5158	09	29.7	34	SB			C		16		H
0149	LEAR	23	0056	0104	0126	N27	E33	5159	09	25.6	30	SF	C 5.5	3	E		26		
0150		23	0200	02068	0230	N28	E32	5159	09	25.6	30	1N	C 3.9				135	3.1	
	YUNN	23	0200	0206	0230	N28	E31	5159	09	25.5	30	1B	C 3.9		C		241	3.1	
	LEAR	23	0200	0214	0231	N27	E32	5159	09	25.6	31	SF	C 3.9	4	E		29		

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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	Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0151		23	0305	03083	0319	N28	E32	5159	09	25.6	14	1F	C 1.9				172	4.2	
	LEAR	23	0305	0311	0320	N27	E31	5159	09	25.5	15	SF	C 1.9	3	E		22		
	YUNN	23	0306E	0308	0318	N29	E32	5159	09	25.6	12D	1F	C 1.9		P		321	4.2	
0152	LEAR	23	0409	0411	0414	N22	E28	5162	09	25.3	5	SF		3	E		14		
0153	YUNN	23	0423E	0424	0428	S19	W13	5156	09	22.2	5D	SB			P		48	0.6	
0154	YUNN	23	0431	0434	0442	N23	E33	5159	09	25.7	11	SB	C 2.0		C		48	0.6	
0155		23	08462	0853*	0940	N28	E26	5159	09	25.4	54	1F	C 5.1				82		F
	SVTO	23	0846	0907	1000	N28	E26	5159	09	25.4	74	1F	C 5.1	3	E		103		
	LEAR	23	0848	0853	0920	N28	E26	5159	09	25.4	32	SF	C 5.1	3	E		62		F
0156	SVTO	23	1030E	1031U	1043	N22	E80	5168	09	29.6	13D	SF	C 1.9	2	E		26		
0157	RAMY	23	1211	1215	1227	N34	W10	5161	09	22.7	16	SF		4	E		17		
0158		23	1226	1226	1232	N28	E25	5159	09	25.5	6	SF	C 1.9				12		
	SVTO	23	1226	1226	1230	N29	E24	5159	09	25.4	4	SF	C 1.9	3	E		13		
	RAMY	23	1226	1226	1233	N27	E26	5159	09	25.5	7	SF	C 1.9	4	E		10		
0159	RAMY	23	1354	1355	1357	S15	W16	5156	09	22.4	3	SF		3	E		22		
0160	RAMY	23	1354	1404	1410	N21	E78	5168	09	29.5	16	SF		3	E		12		
0161	RAMY	23	1421	1427	1443	N26	E24	5159	09	25.5	22	SF		4	E		15		
0162	RAMY	23	1526	1526	1532	N29	E20	5159	09	25.2	6	SF		3	E		19		
0163	RAMY	23	1556E	1557U	1559	N29	E23	5159	09	25.5	3D	SF		2	E		39		
0164	HOLL	23	1607	1608	1611	S14	W17	5156	09	22.4	4	SF		3	E		15		
0165	HOLL	23	1611	1611	1617	N30	E22	5159	09	25.4	6	SF		3	E		18		
0166	HOLL	23	2121	2127	2157	N19	E09	5166	09	24.6	36	SF	C 1.7	3	E		78		FY
0167	HOLL	23	2146	2146	2152	N19	E78	5168	09	29.8	6	SF		3	E		11		
0168	HOLL	23	2159	2202	2222	S19	W14	5156	09	22.8	23	SF		3	E		43		
0169		23	23111	23151	2321	S18	W45	5157	09	20.5	10	SF					33		
	HOLL	23	2311	2315	2324	S17	W44	5157	09	20.6	13	SF		3	E		43		
	PALE	23	2312	2316	2318	S18	W46	5157	09	20.5	6	SF		3	E		23		
0170		23	23561	24112	2444	N27	E19	5159	09	25.5	48	SF	C 3.1				55		F
	PALE	23	2356	2413	2533D	N28	E19	5159	09	25.5	97D	SF		3	E		80		F
	HOLL	23	2357	2411	2444	N27	E19	5159	09	25.5	47	SF		3	E		48		F
	LEAR	24	0013E	0013	0044	N27	E20	5159	09	25.6	31D	SF	C 3.1	3	E		36		
0171	PALE	24	0010	0019	0028	N22	E19	5162	09	25.5	18	SF	C 3.1	3	E		18		
0172	HOLL	24	0005	0007	0020	S38	W03	5158	09	23.8	15	SF		3	E		21		
0173		24	00333	00381	0054	S33	W07	5158	09	23.5	21	1F					107		F
	HOLL	24	0033	0039	0050D	S33	W06	5158	09	23.5	17D	SN		3	E		83		F
	PALE	24	0036	0038	0054	S33	W08	5158	09	23.4	18	1F		3	E		123		
	LEAR	24	0036	0039	0054	S33	W08	5158	09	23.4	18	1F		3	E		114		
0174	LEAR	24	0113	0113	0119	S18	E81	5169	09	30.2	6	SF		3	E		10		
0175	LEAR	24	0124	0124	0129	S34	W08	5158	09	23.4	5	SF		3	E		27		
0176	LEAR	24	0215	0217	0243	S14	W22	5156	09	22.4	28	SF		3	E		47		F
0177		24	0356	03571	0415	N27	E17	5159	09	25.5	19	SF	C 1.8				80	1.6	EF
	PALE	24	0340E	0358	0411D	N26	E15	5159	09	25.3	31D	SF	C 1.8	1	E		75		F
	LEAR	24	0356	0357	0415	N27	E17	5159	09	25.5	19	SF	C 1.8	3	E		32		
	PEKG	24	0358E	0358	0400D	N28	E18	5159	09	25.6	2D	SN	C 1.8		P	0358	134	1.6	E

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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
0178		24	0449	04518	0509	S14	W24	5156	09	22.4	20	SN	C 1.6				88	1.8	EF
	PEKG	24	0358E	0459	0500D	S15	W25	5156	09	22.3	62D	SN	C 1.6		P	0459	151	1.8	E
	LEAR	24	0449	0451	0509	S14	W23	5156	09	22.5	20	SF	C 1.6	3	E		26		F
0179	PEKG	24	0527E	0527	0530	N23	E01	5166	09	24.3	3D	SN			P	0527	71	0.8	D
0180	LEAR	24	0653	0653	0700	S17	W22	5156	09	22.6	7	SF		3	E		13		F
0181	LEAR	24	0840	0842	0856	N28	E12	5159	09	25.3	16	SF	C 2.1	3	E		30		
0182	SVTO	24	1058	1112	1137	S39	E11	5167	09	25.3	39	SF		3	E		57		F
0183		24	1323*	1343*	1409	S16	W28	5156	09	22.4	46	1N	C 5.3				224		FH
	HOLL	24	1323	1345U	1345D	S17	W24	5156	09	22.7	22D	2B		3	E		373		
	SVTO	24	1341	1344	1417	S15	W29	5156	09	22.4	36	1F	C 5.3	3	E		204		FH
	RAMY	24	1342	1343	1355	S15	W30	5156	09	22.3	13	SF	C 5.3	2	E		95		F
	HOLL	24	1345E	1353	1416	S17	W28	5156	09	22.4	31D	1B		3	E		223		F
0184		24	1511	15171	1526	N22	E14	5162	09	25.7	15	SF	C 1.7				24		
	RAMY	24	1511	1517	1525	N22	E14	5162	09	25.7	14	SF	C 1.7	3	E		25		
	SVTO	24	1512E	1518	1528	N22	E14	5162	09	25.7	16D	SF	C 1.7	2	E		22		
0185	HOLL	24	1517	1517	1524	N17	E23	5163	09	26.4	7	SF	C 1.7	3	E		19		
0186	HOLL	24	1550	1550	1602	S18	W32	5156	09	22.2	12	SF		3	E		16		
0187		24	1559	1602	1612	N22	E26	5163	09	26.7	13	SF					22		
	RAMY	24	1559	1602	1612	N21	E25	5163	09	26.6	13	SF		3	E		21		
	HOLL	24	1559	1602	1613	N22	E26	5163	09	26.7	14	SF		3	E		22		
0188	HOLL	24	1559	1603	1628	N28	E11	5159	09	25.5	29	SF		3	E		26		
0189	HOLL	24	2240	2253	2348	N20	E65	5168	09	29.9	68	SF		3	E		24		
0190		24	22515	22529	2314	S22	E70	5169	09	30.3	23	SF	C 4.4				20		F
	HOLL	24	2251	2252	2322	S21	E73	5169	09	30.5	31	SF		3	E		26		F
	LEAR	24	2256	2301	2307	S23	E67	5169	09	30.1	11	SF	C 4.4	3	E		14		F
0191	HOLL	24	2316	2322	2339	S17	W33	5156	09	22.5	23	SF		3	E		11		F
0192		25	00249	00376	0128	S18	E66	5169	09	30.0	64	2B	M 2.3				405		FU
	HOLL	25	0024	0037	0042D	S18	E67	5169	09	30.1	18D	2B	M 2.3	3	E		330		F
	PALE	25	0027E	0037U	0133	S17	E66	5169	09	30.0	66D	2N	M 2.3	3	E		402		UF
	LEAR	25	0028	0042	0142	S17	E65	5169	09	29.9	74	2N	M 2.3	3	E		446		UF
	PEKG	25	0033	0043	0110	S18	E68	5169	09	30.2	37	2B	M 2.3		C	0043	442		U
0193		25	05251	05261	0533	S18	W41	5156	09	22.1	8	SN	C 1.6				52	1.3	DF
	LEAR	25	0525	0526	0536	S17	W40	5156	09	22.2	11	SF	C 1.6	3	E		19		F
	PEKG	25	0526	0527	0530	S18	W42	5156	09	22.0	4	SN	C 1.6		P	0527	84	1.3	D
0194	LEAR	25	0607	0622	0645	N18	E61	5168	09	29.9	38	SF	C 1.4	3	E		76		
0195		25	08292	08424	0912	S18	W39	5156	09	22.4	43	SF	C 2.1				36		F
	SVTO	25	0829	0842	0919	S19	W39	5156	09	22.4	50	SF	C 2.1	3	E		34		F
	LEAR	25	0831	0846	0904	S17	W39	5156	09	22.4	33	SF	C 2.1	3	E		37		
0196		25	1041	1101*	1215	S16	W40	5156	09	22.4	94	1F	C 2.9				112		F
	SVTO	25	1041	1101	1224	S16	W42	5156	09	22.2	103	SF	C 2.9	3	E		93		F
	RAMY	25	1114E	1116	1206	S17	W38	5156	09	22.6	52D	1F		3	E		131		F
0197		25	14092	1410*	1434	N20	W14	5166	09	24.5	25	SF					12		
	HOLL	25	1409	1410	1440	N20	W14	5166	09	24.5	31	SF		3	E		11		
	RAMY	25	1411	1425	1428	N19	W15	5166	09	24.4	17	SF		3	E		14		
0198	HOLL	25	1447	1450	1515	N20	W15	5166	09	24.5	28	SF		3	E		17		
0199		25	19071	1910	1928	N20	E54	5168	09	29.9	21	SF	C 1.9				14		F
	HOLL	25	1907	1910	1928	N20	E54	5168	09	29.9	21	SF	C 1.9	3	E		17		F
	RAMY	25	1908	1910	1927	N20	E55	5168	09	30.0	19	SF	C 1.9	3	E		11		

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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	Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0200	HOLL	25	2154	2201	2211	N19	W72	5164	09	20.4	17	SF	C	2.3	3	E		13		
0201	LEAR	26	0136	0137	0144	N17	E47	5168	09	29.6	8	SF	C	1.9	3	E		39		
0202		26	0224	0253	0319	S37	W35	5158	09	23.3	55	SF	C	6.3				70		U
	LEAR	26	0224	0253	0319	S37	W35	5158	09	23.3	55	SF	C	6.3	3	E		79		U
	PALE	26	0230E	0234U	0322D	S37	W35	5158	09	23.3	52D	SF	C	6.3	3	E		62		
0203	LEAR	26	0431	0432	0450	N19	W75	5164	09	20.5	19	SF			3	E		21		
0204	RAMY	26	1134E	1134U	1140	S17	W56	5156	09	22.2	6D	SF			3	E		14		
0205	HOLL	26	1634	1636	1645	N22	E44	5168	09	30.1	11	SF			3	E		21		
0206	HOLL	26	1816	1817	1822	N19	E37	5168	09	29.6	6	SF			3	E		18		
0207		26	18587	1908	1914	N20	E36	5168	09	29.5	16	SF	C	1.6				32		
	HOLL	26	1858	1908	1914	N19	E36	5168	09	29.5	16	SF	C	1.6	3	E		38		
	RAMY	26	1905	1908	1913	N20	E36	5168	09	29.5	8	SF	C	1.6	3	E		27		
0208	HOLL	26	1918	1919	1923	S27	E73	5171	10	2.5	5	SF			3	E		18		
0209	HOLL	26	2039	2046	2054	N20	E35	5168	09	29.5	15	SF			3	E		61		H
0210	HOLL	26	2115	2119	2124	N23	E37	5168	09	29.7	9	SF			3	E		16		
0211	HOLL	26	2344	2344	2420	S25	E70	5171	10	2.4	36	SF			3	E		17		
0212	HOLL	27	0003	0004	0012	N22	W06	5163	09	26.5	9	SF			3	E		20		
0213	LEAR	27	0244	0246	0255	N29	W25	5159	09	25.1	11	SF			3	E		25		F
0214	LEAR	27	0317	0320	0328	S29	E70	5171	10	2.6	11	SF			3	E		38		
0215		27	06346	06451	0725	N20	E00	5163	09	27.3	51	SN	C	4.7				131	2.5	EF
	PEKG	27	0634	0646	0703	N21	W02	5163	09	27.1	29	1B	C	4.7		C	0646	231	2.5	E
	LEAR	27	0639	0645	0726	N20	W01	5163	09	27.2	47	SN	C	4.7	3	E		82		F
	SVTO	27	0640	0645	0745	N19	E03	5163	09	27.5	65	SN	C	4.7	2	E		80		F
0216	LEAR	27	0713	0719	0733	S28	E68	5171	10	2.6	20	SF	C	5.7	3	E		51		
0217	LEAR	27	0850	0850	0904	S27	E62	5171	10	2.2	14	SF	C	3.1	3	E		57		
0218	SVTO	27	0950	0956	1043	S23	E63	5171	10	2.3	53	2F	M	1.6	2	E		270		FU
0219	RAMY	27	1123	1123U	1134	N19	E30	5168	09	29.8	11	SF	C	1.8	2	E		46		
0220	RAMY	27	1239	1239	1245	N19	W40	5166	09	24.5	6	SF			4	E		14		
0221	RAMY	27	1256	1300	1314	S18	W65	5156	09	22.6	18	SF			3	E		22		
0222	HOLL	27	1418	1421	1425	N20	E24	5168	09	29.4	7	SF			3	E		28		H
0223	HOLL	27	1454	1459	1511	S27	E60	5171	10	2.3	17	SF			3	E		10		
0224	HOLL	27	1607	1616	1717	S27	E65	5171	10	2.7	70	2B	M	7.9	3	E		303		EF
0225	HOLL	27	1726	1726	1737	S26	E59	5171	10	2.3	11	SF			3	E		13		
0226		27	1805	1806	1818	S26	E58	5171	10	2.2	13	SN						67		F
	PALE	27	1805	1806	1816	S25	E58	5171	10	2.2	11	SN			3	E		50		F
	HOLL	27	1805	1806	1819	S27	E59	5171	10	2.3	14	SN			3	E		84		F
0227		27	1805*	1807*	1828	N21	E26	5168	09	29.7	23	SF						21		FHU
	PALE	27	1805	1808	1814	N20	E27	5168	09	29.8	9	SF			3	E		22		F
	HOLL	27	1807	1807	1813	N20	E28	5168	09	29.9	6	SF			3	E		13		F
	PALE	27	1818	1821	1831D	N22	E21	5168	09	29.4	13D	SF			3	E		20		H
	HOLL	27	1819	1820	1826	N21	E22	5168	09	29.4	7	SF			3	E		13		H
	HOLL	27	1828	1836	1845	N20	E28	5168	09	29.9	17	SF			3	E		34		UF
	PALE	27	1834	1836	1843	N21	E27	5168	09	29.8	9	SF			3	E		22		U

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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
0228		27	19362	1941	1956	S25	E57	5171	10	2.2	20	2B	C 4.7				421		F
	PALE	27	1936	1941	1959	S25	E55	5171	10	2.1	23	2B	C 4.7	2	E		562		F
	HOLL	27	1938	1941	1958	S25	E53	5171	10	1.9	20	2B	C 4.7	3	E		391		F
	RAMY	27	1942E	1942U	1950	S26	E63	5171	10	2.7	8D	2B	C 4.7	3	E		311		
0229	HOLL	27	2147	2148	2158	S15	W75	5156	09	22.2	11	SF		3	E		41		
0230		27	2159	2206	2221	S23	E59	5171	10	2.5	22	1N	C 2.7				188		
	HOLL	27	2159	2206	2221	S23	E59	5171	10	2.5	22	1N	C 2.7	3	E		146		
	PALE	27	2206E	2207U	2221	S23	E59	5171	10	2.5	15D	1F	C 2.7	3	E		230		
0231		27	2340	2341	2348	S28	E58	5171	10	2.5	8	SF	C 1.3				38		F
	PALE	27	2340	2341	2347	S28	E58	5171	10	2.5	7	SF	C 1.3	3	E		29		
	HOLL	27	2340	2341	2349	S28	E58	5171	10	2.5	9	SF	C 1.3	3	E		46		F
0232	KAND	28	0820	0820	0843	N26	E08	5168	09	29.0	23	SN			P	0820	83	0.9	DG
0233	KAND	28	0900	0901	0906	S27	E65	5171	10	3.4	6	SF			P	0901	62		E
0234		28	1212	1216	1319	S26	E60	5171	10	3.2	67	SF	C 2.9				32		
	SVTO	28	1212	1216	1325	S25	E59	5171	10	3.1	73	SF	C 2.9	3	E		51		
	RAMY	28	1305E	1308U	1313	S26	E61	5171	10	3.3	8D	SF		2	E		12		
0235		28	14311	1432	1444	S24	E56	5171	10	2.9	13	SF	C 2.5				64		
	HOLL	28	1431	1432	1447	S24	E56	5171	10	2.9	16	SF	C 2.5	3	E		69		
	SVTO	28	1432	1432	1442	S23	E57	5171	10	3.0	10	SF	C 2.5	3	E		58		
0236	HOLL	28	1902	1903	1914	S25	E49	5171	10	2.6	12	SF	C 1.8	3	E		71		F
0237	HOLL	28	1957	2001	2010	S26	E50	5171	10	2.7	13	SF	C 1.6	3	E		19		
0238	HOLL	28	2014	2015	2019	S21	W71	5172	09	23.4	5	SF		3	E		16		
0239	HOLL	28	2045	2046	2052	N23	E12	5168	09	29.8	7	SF		3	E		13		F
0240	HOLL	28	2104	2106	2117	N29	W40	5159	09	25.7	13	SF		3	E		21		
0241		28	2232*	2308	2409	S26	E48	5171	10	2.7	97	3B	M 5.7				631		FU
	HOLL	28	2232	2308	2420D	S24	E48	5171	10	2.6	108D	3B		3	E		654		UF
	LEAR	28	2255	2308	2409	S27	E48	5171	10	2.7	74	3B	M 5.7	4	E		608		
0242	HOLL	28	2237	2242	2331	N23	E13	5168	09	29.9	54	SF		3	E		38		F
0243		29	0544	0601	0641	S26	E46	5171	10	2.8	57	1F	M 1.1				141		F
	LEAR	29	0544	0601	0643	S27	E48	5171	10	3.0	59	1F	M 1.1	4	E		229		F
	SVTO	29	0606E	0606U	0639	S26	E45	5171	10	2.7	33D	SF	M 1.1	2	E		53		
0244	LEAR	29	0607	0607	0614	N20	E08	5168	09	29.9	7	SF		3	E		29		
0245	LEAR	29	0646	0655	0715	S27	E50	5171	10	3.2	29	SF		3	E		39		
0246	RAMY	29	1132E	1134	1200	S26	E47	5171	10	3.1	28D	SF		3	E		36		
0247		29	13101	13131	1333	S26	E45	5171	10	3.0	23	SF	C 1.2				27		
	SVTO	29	1310	1313	1335	S24	E45	5171	10	3.0	25	SF	C 1.2	3	E		25		
	RAMY	29	1311	1314	1327	S26	E46	5171	10	3.1	16	SF	C 1.2	4	E		27		
	HOLL	29	1324E	1324U	1337	S28	E43	5171	10	2.9	13D	SF		2	E		28		
0248		29	16134	1617	1624	S26	E44	5171	10	3.1	11	SF					14		H
	HOLL	29	1613	1617	1624	S27	E45	5171	10	3.2	11	SF		3	E		12		H
	RAMY	29	1617	1617	1624	S26	E44	5171	10	3.1	7	SF		3	E		16		
0249	HOLL	29	1712	1718	1729	N21	W43	5163	09	26.4	17	SF		3	E		13		
0250	HOLL	29	1814	1816	1824	S18	E04	5169	09	30.1	10	SF		3	E		23		
0251	LEAR	29	2358		2405	S24	E35	5171	10	2.7	7	SF		4	E		18		
0252	LEAR	30	0058	0101	0135	N19	W07	5168	09	29.5	37	SF	C 6.0	4	E		94		

H - ALPHA SOLAR FLARES

SEPTEMBER 1988

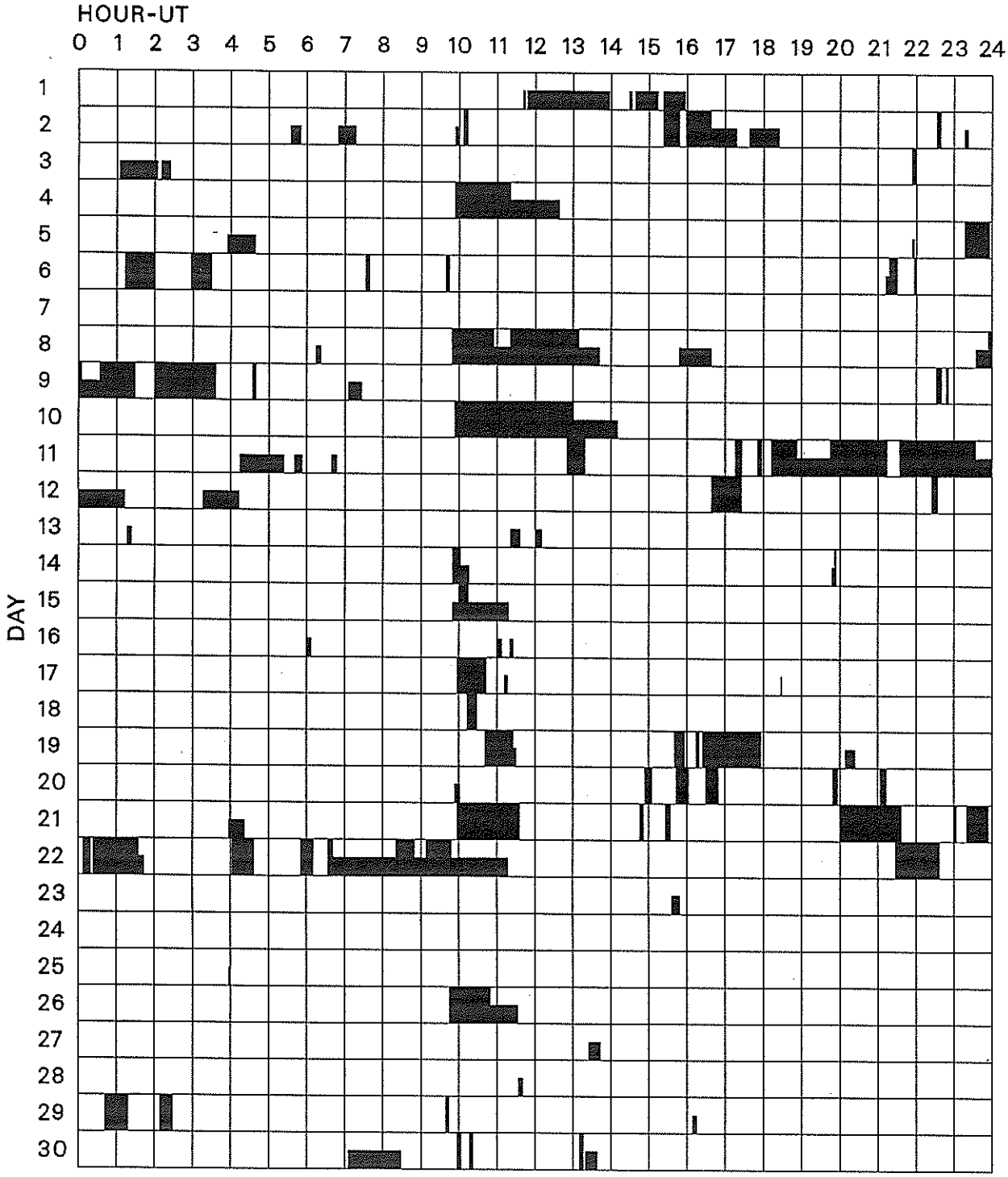
Grp #	Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Xray	See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10-6 Disk)	Area Measurement Corr (Sq Deg)	Remarks
0253	LEAR	30	0140	0143	0210	S27	E34	5171	10	2.7	30	SF	C 3.8	4	E		46		F
0254	LEAR	30	0306	0308	0338	N20	W07	5168	09	29.6	32	SF		3	E		26		F
0255	LEAR	30	0455	0508	0541	S26	E31	5171	10	2.6	46	SF	C 5.7	3	E		77		F
0256	SVTO	30	0845	0854	0905	S27	E31	5171	10	2.8	20	SF		3	E		13		
0257	YUNN	30	0904E	0904U	0908D	N22	W11	5168	09	29.5	4D	SN			P	0904	64	0.7	
0258	SVTO	30	1036	1042	1054	N23	W11	5168	09	29.6	18	SF		3	E		17		
0259	HOLL	30	1451	1512	1534	S24	E30	5171	10	2.9	43	SF		3	E		31		F
0260	HOLL	30	1515	1515	1528	N22	W11	5168	09	29.8	13	SF		3	E		15		
0261	HOLL	30	1515	1517	1521	N24	W52	5163	09	26.6	6	SF		3	E		13		
0262		30	1857	1912	2059	S27	E26	5171	10	2.8	122	2N M	1.7				370		EFU
	HOLL	30	1857	1917U	2059	S27	E28	5171	10	3.0	122	2N M	1.7	3	E		378		UE
	PALE	30	1900E	1912	2101D	S27	E25	5171	10	2.7	121D	2N M	1.7	3	E		362		F
0263	HOLL	30	2204	2212	2216	N25	W69	5159	09	25.6	12	SF		3	E		31		
0264	HOLL	30	2211	2212	2219	N29	W29	5173	09	28.6	8	SF		3	E		50		
0265	HOLL	30	2353	2412	2427	N21	W75	5166	09	25.2	34	SF		3	E		19		

"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

SEPTEMBER 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.

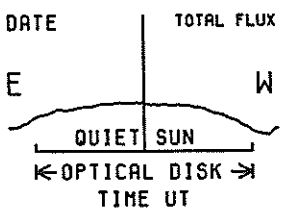
Holloman	Kandilli	Learmonth Palehua	Peking Ramey	San Vito Yunnan

30
Sep 88

EAST-WEST SOLAR SCANS
SEPTEMBER 1988

TOYOKAWA, JAPAN

3 CM
FAN BEAM WITH 1.1 MINUTES OF ARC

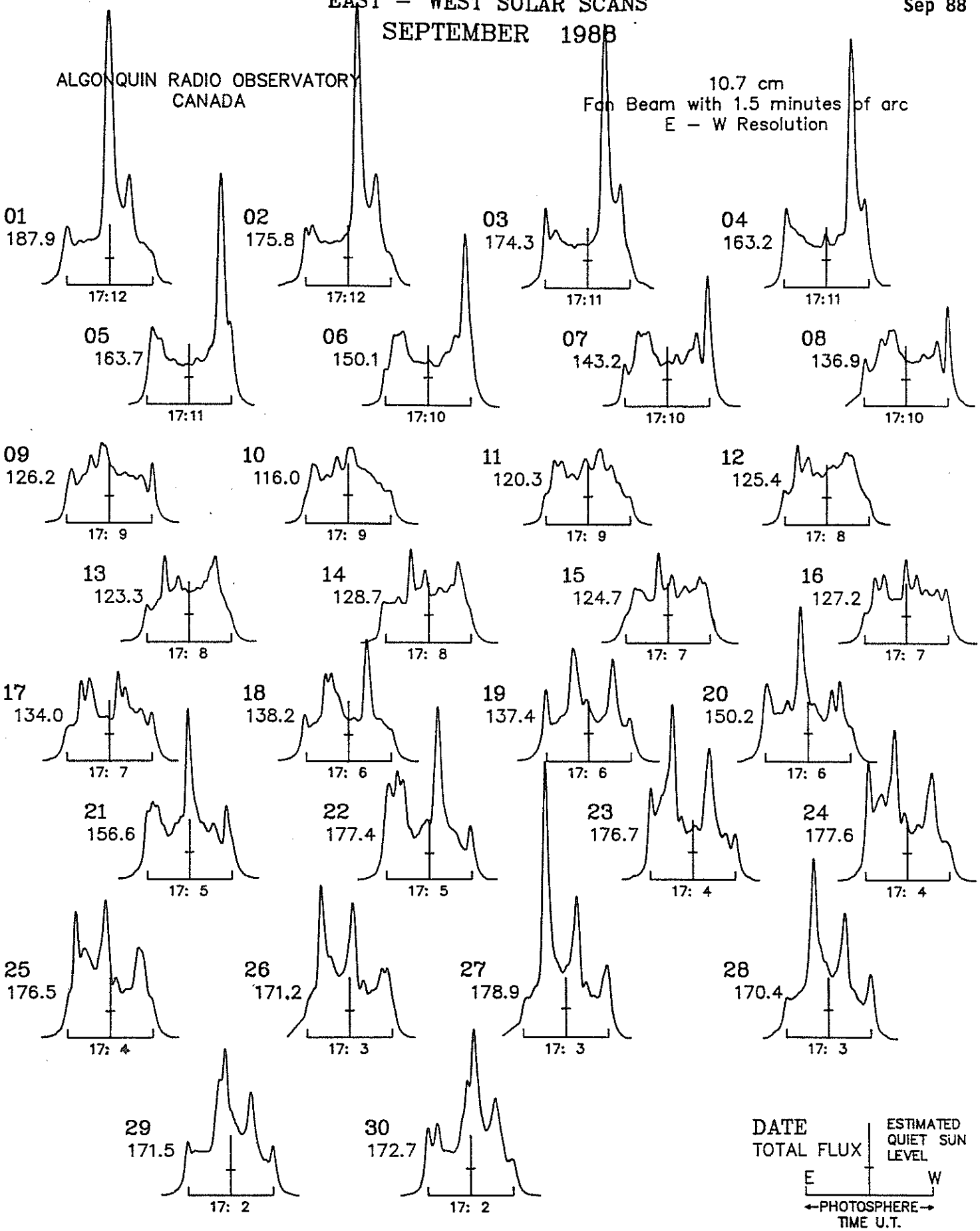


1	290	2	290	3	290	4	290	5	290	6	290
0251 UT		0250 UT		0250 UT		0250 UT		0249 UT		0249 UT	
7	290	8	290	9	290	10	286	11	289	12	291
0249 UT		0248 UT		0248 UT		0248 UT		0247 UT		0247 UT	
13	294	14	294	15	290	16	290	17	295	18	295
0246 UT		0246 UT		0246 UT		0245 UT		0245 UT		0245 UT	
19	300	20	311	21	308	22	324	23	324	24	317
0244 UT		0244 UT		0244 UT		0243 UT		0243 UT		0243 UT	
25	324	26	332	27	331	28	320	29	329	30	324
0242 UT		0242 UT		0242 UT		0241 UT		0241 UT		0241 UT	

EAST – WEST SOLAR SCANS
SEPTEMBER 1988

ALGONQUIN RADIO OBSERVATORY
CANADA

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

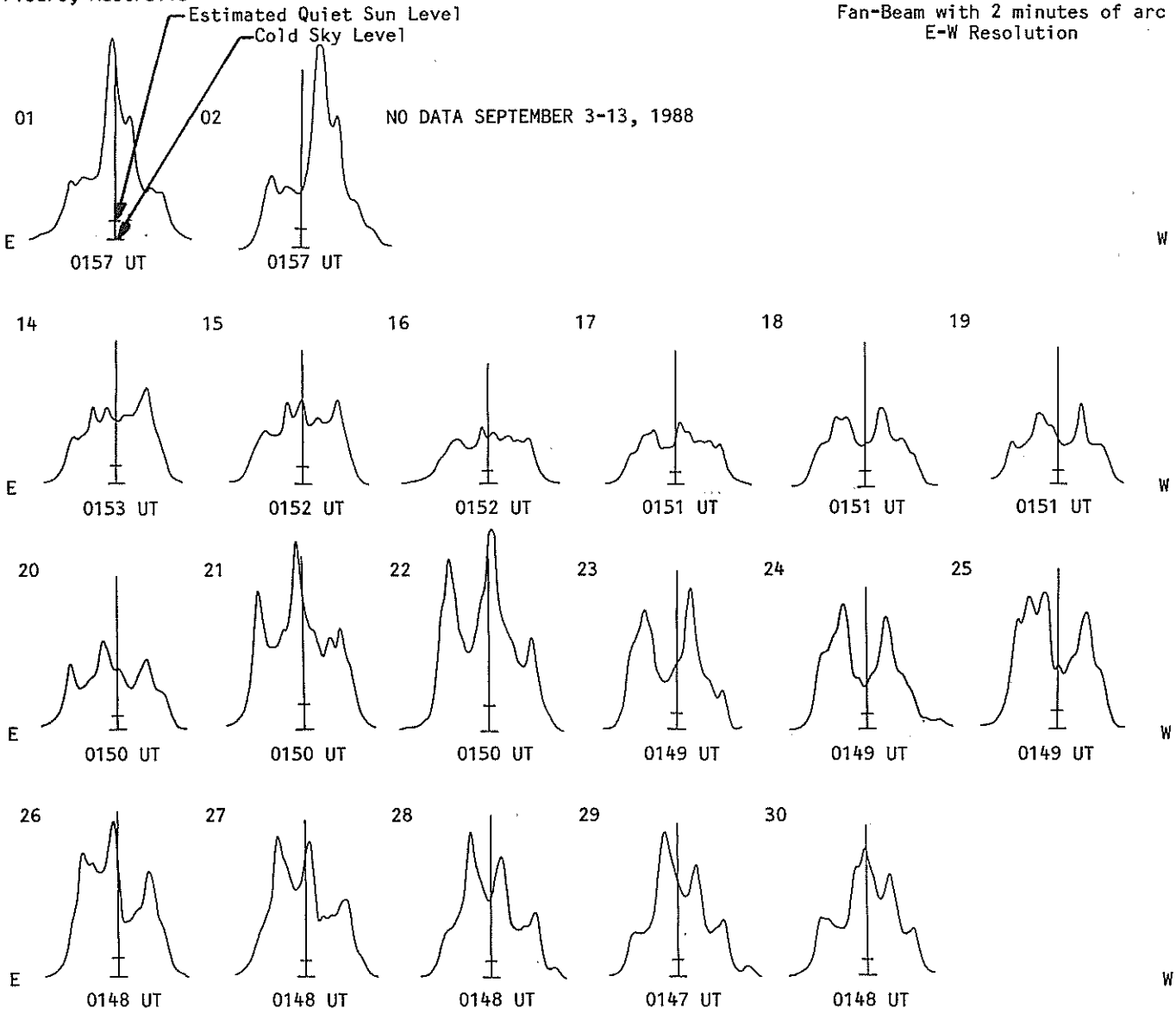


E A S T - W E S T S O L A R S C A N S

Fleurs, Australia

SEPTEMBER 1988

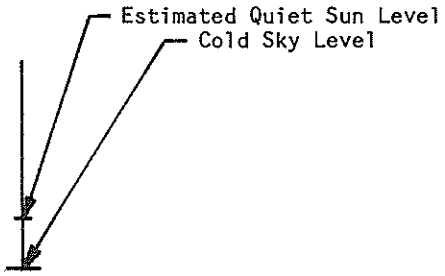
21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution



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

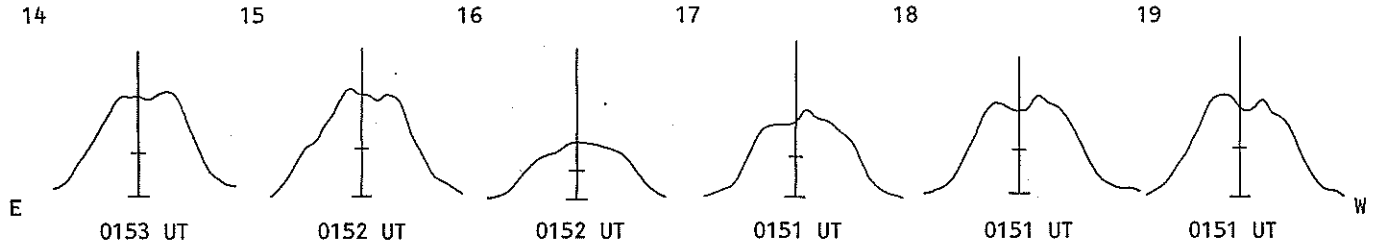
SEPTEMBER 1988

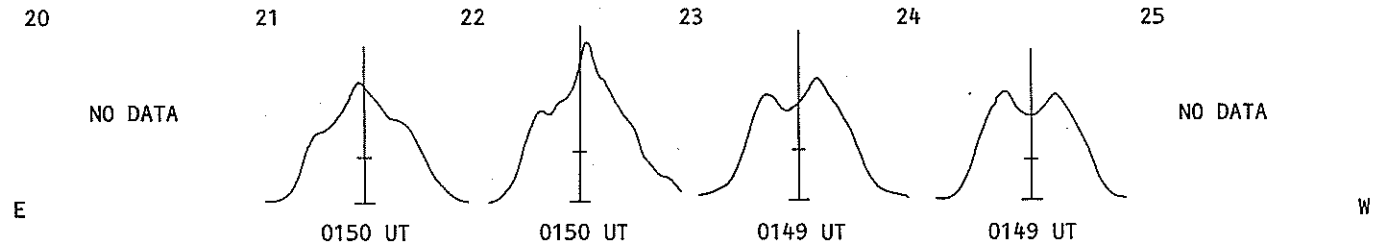
Fleurs, Australia

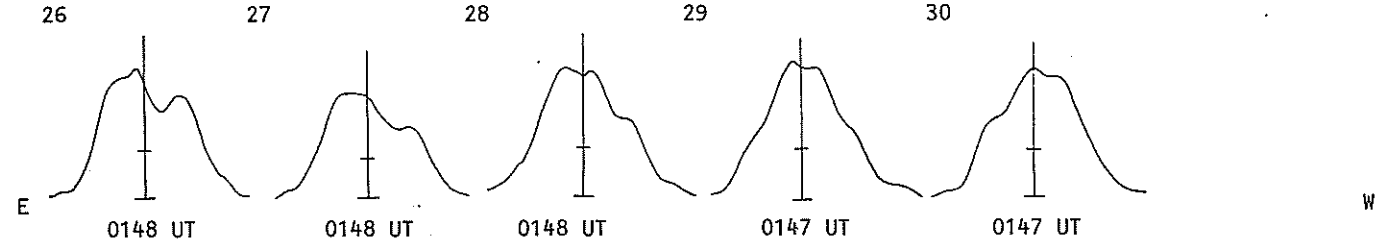


43 cm
Fan-Beam with 2 minutes of arc
E-W Resolution

NO DATA SEPTEMBER 1-13, 1988







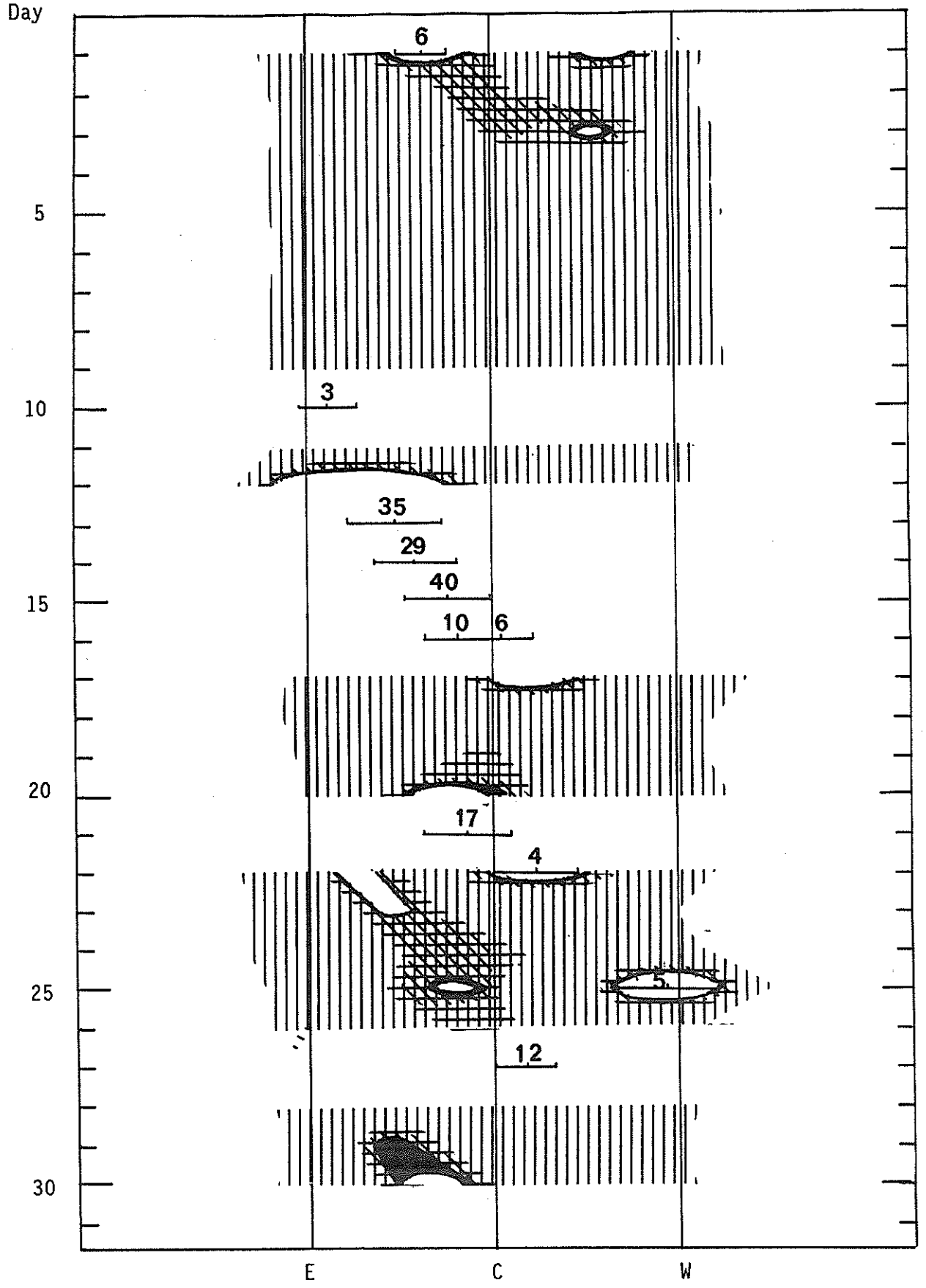
34
Sep 88

SOLAR INTERFEROMETRIC OBSERVATIONS

SEPTEMBER 1988

Nancay

164 MHz



SOLAR RADIO EMISSION--SELECTED FIXED FREQUENCY EVENTS

SEPTEMBER 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	2695	SGMR	4	S/F	2052.0	2052.0		130.0			QL=1 ST=3 TYP=3
	2800	OTTA	3	S	2052.2	2052.3	1.3	146.0	73.0		
	2800	OTTA	29	PBI	2053.5	2053.5	10.0	13.0	5.0		
03	8400	BERN	3	S	1314.0	1319.2	25.0	36.0			
05	8400	BERN	3	S	1413.0	1418.0	20.0	58.0			
	3200	BERN	3	S	1413.0	1418.0	20.0	30.0			
	8800	SVTO	8	S	1416.0	1418.0	2.0	61.0			QL=1 ST=2 TYP=3
	2800	OTTA			1419.0	1419.0	22.0	25.9	11.0		
07	8400	BERN	3	S	1217.3	1217.5	1.0	36.0			
	8800	SGMR	8	S	1951.0	1952.0	1.0	69.0			QL=1 ST=3 TYP=3
08	2800	OTTA	3	S	1536.0	1544.0	20.0	8.0	3.0		
	2800	OTTA	3	S	1839.2	1841.8	6.1	153.7	61.0		
	2695	PALE	4	S/F	1840.0	1841.0	4.0	140.0			QL=1 ST=3 TYP=3
	8800	PALE	4	S/F	1840.0	1842.0	4.0	70.0			QL=1 ST=2 TYP=3
	2695	SGMR	4	S/F	1840.0	1841.0	3.0	150.0			QL=1 ST=2 TYP=3
	8800	SGMR	8	S	1841.0	1841.0	1.0	67.0			QL=1 ST=2 TYP=3
	2800	OTTA	29	PBI	1845.3	1845.3	17.0	14.6	7.0		
12	8800	SGMR	49	GB	1130.0E	1131.0	2.0D	850.0			QL=1 ST=2 TYP=6
19	8800	SGMR	4	S/F	1101.0	1103.0	4.0	120.0			QL=1 ST=2 TYP=3
	2695	SGMR	8	S	1101.0	1101.0	1.0	48.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	1102.0	1103.0	2.0	110.0			QL=1 ST=2 TYP=3
22	3200	BERN	47	GB	0804.2	0806.5	4.0	119.0			
	8400	BERN	47	GB	0804.2	0806.5	4.0	77.0			
	2695	LEAR	4	S/F	0804.0	0806.0	3.0	97.0			QL=1 ST=2 TYP=3
	8800	LEAR	8	S	0806.0	0806.0	1.0	64.0			QL=1 ST=2 TYP=3
	8800	SVTO	8	S	0806.0	0806.0	1.0	74.0			QL=1 ST=2 TYP=3
	2695	SVTO	8	S	0806.0	0807.0	1.0	96.0			QL=1 ST=2 TYP=3
	3200	BERN	47	GB	0957.0	1027.3	45.0	10.0			
	3200	BERN	3	S	1119.3	1121.5	10.0	28.0			
25	2695	LEAR	49	GB	0025.0E	0037.0	28.0D	710.0			QL=1 ST=2 TYP=7
	2695	PALE	49	GB	0032.0E	0037.0	16.0D	680.0			QL=1 ST=2 TYP=6
	8800	PALE	4	S/F	0033.0	0037.0	13.0	270.0			QL=1 ST=2 TYP=3
	8800	LEAR	4	S/F	0033.0	0037.0	20.0	290.0			QL=1 ST=2 TYP=3
27	3200	BERN	46	C	0638.0	0642.0	20.0	26.0			
	2800	OTTA	3	S	1606.5	1616.3	14.5	326.0	114.0		
	3200	BERN	46	C	1607.0	1616.2	15.0	250.0			
	8800	SGMR	49	GB	1608.0E	1613.0	16.0D	640.0			QL=1 ST=2 TYP=6
	8800	SVTO	49	GB	1611.0E	1613.0	7.0D	500.0			QL=1 ST=3 TYP=6
	2695	SGMR	4	S/F	1612.0	1616.0	7.0	310.0			QL=1 ST=2 TYP=3
	2695	SVTO	4	S/F	1612.0	1616.0	6.0	300.0			QL=1 ST=3 TYP=3
	2800	OTTA	29	PBI	1621.0	1621.0	100.0	20.0	10.0		
28	8800	LEAR	49	GB	2301.0E	2307.0	31.0D	1800.0			QL=1 ST=2 TYP=6
	2695	LEAR	49	GB	2303.0E	2306.0	11.0D	610.0			QL=1 ST=2 TYP=6
	8800	PALE	49	GB	2303.0E	2307.0	17.0D	1800.0			QL=1 ST=2 TYP=6
	2695	PALE	49	GB	2304.0E	2306.0	9.0D	630.0			QL=1 ST=2 TYP=6
30	8800	SGMR	8	S	1504.0	1504.0	1.0	440.0			QL=1 ST=2 TYP=3
	2695	SGMR	8	S	1904.0	1905.0	1.0	64.0			QL=1 ST=2 TYP=3
	2695	SGMR	4	S/F	1907.0	1909.0	3.0	58.0			QL=1 ST=2 TYP=3
	8800	SGMR	4	S/F	1911.0	1912.0	3.0	42.0			QL=1 ST=2 TYP=3

INSTITUTE OF APPLIED PHYSICS, UNIVERSITY OF BERN, SWITZERLAND

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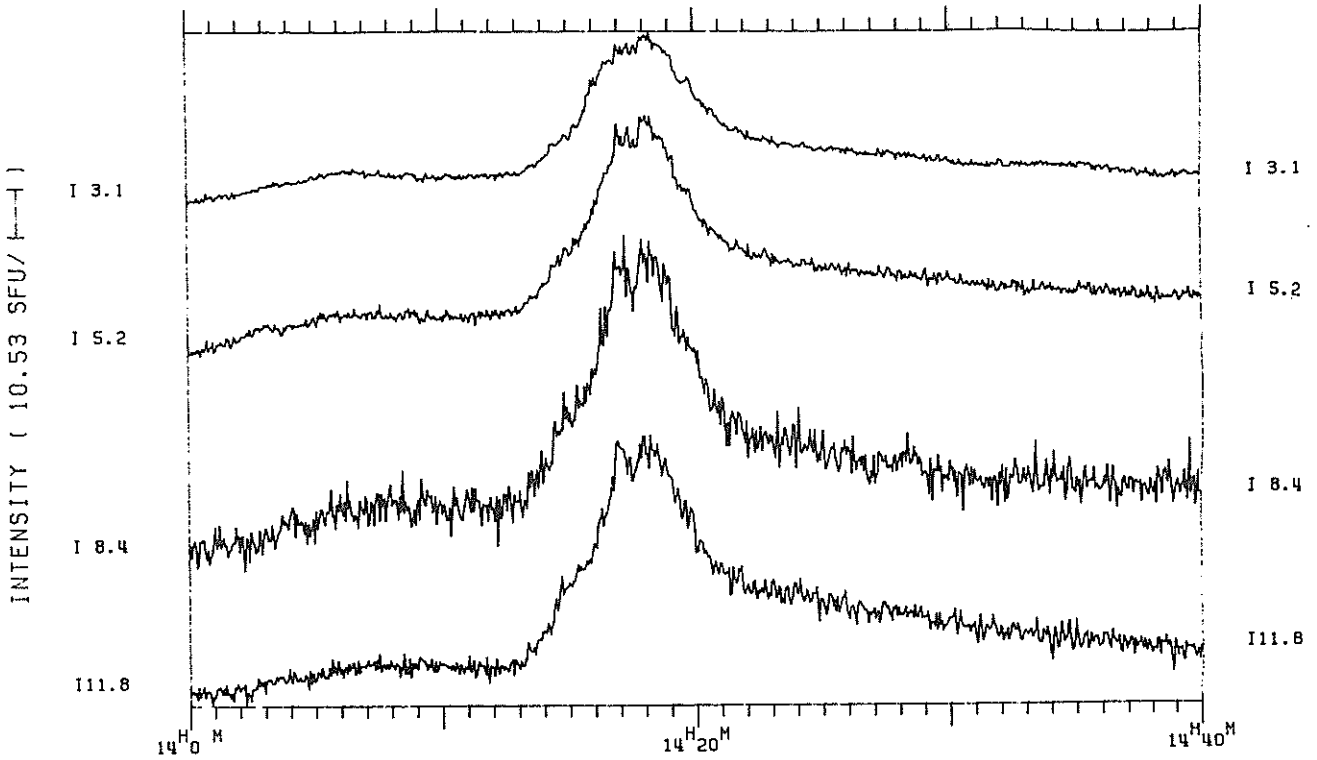

UT ON SEP. 5 1988

INSTITUTE OF APPLIED PHYSICS, UNIVERSITY OF BERN, SWITZERLAND

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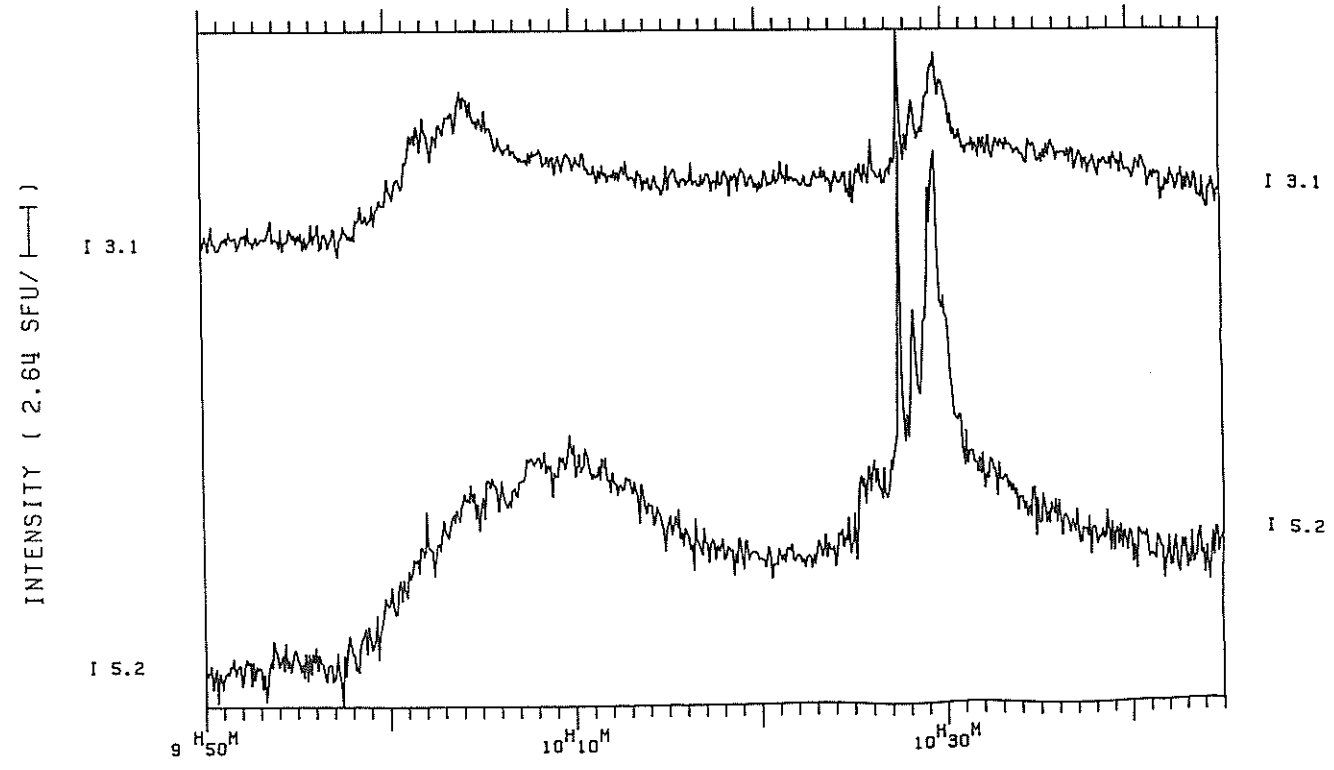

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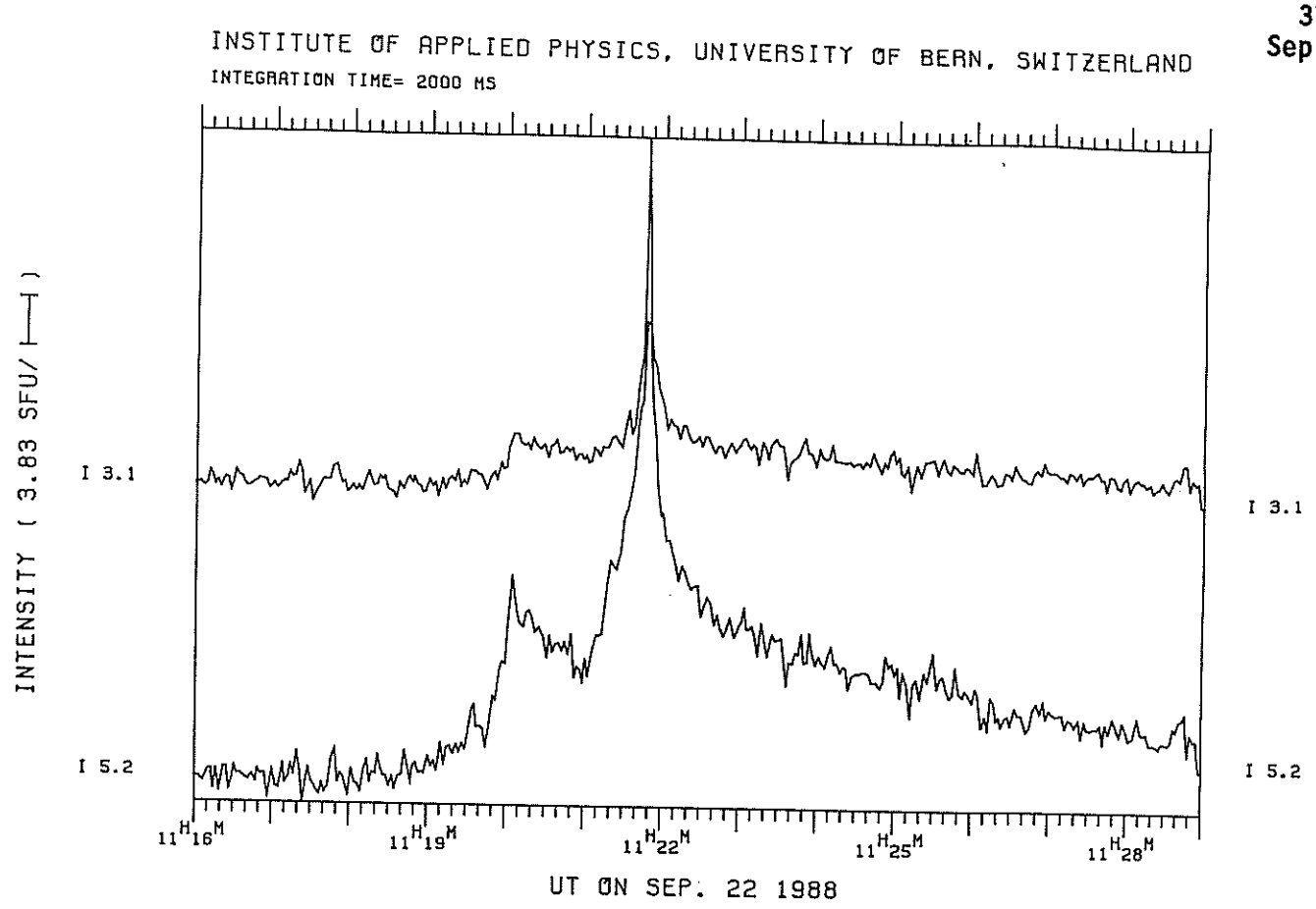
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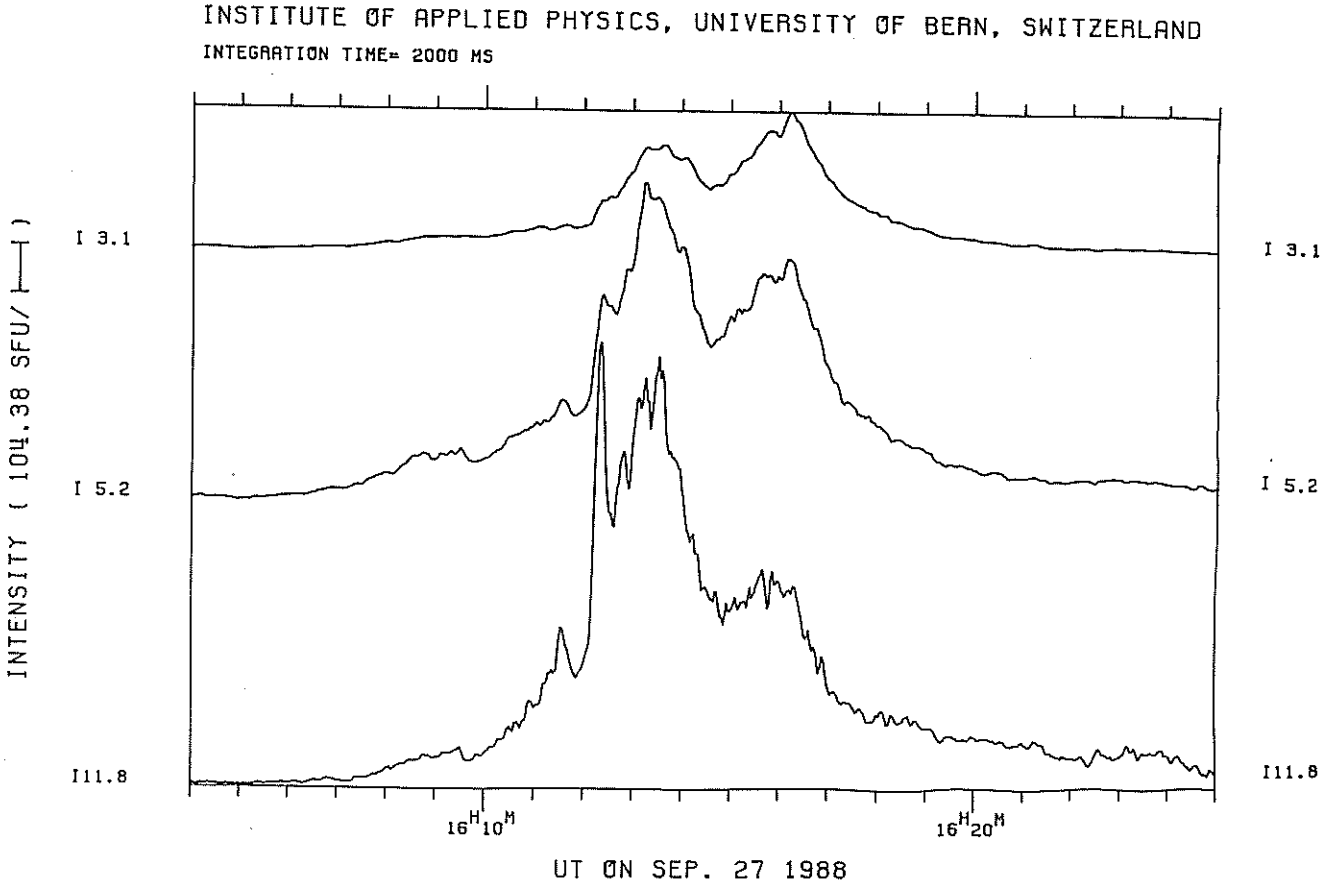
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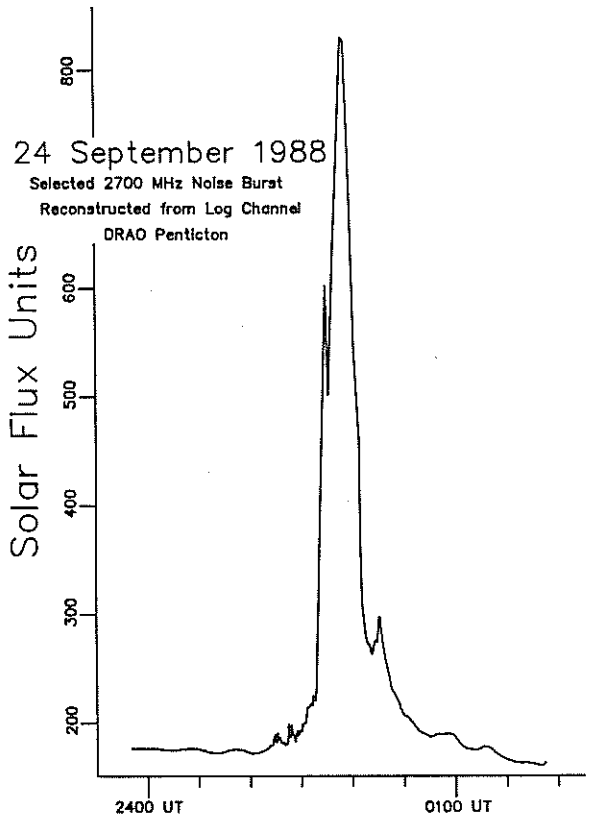
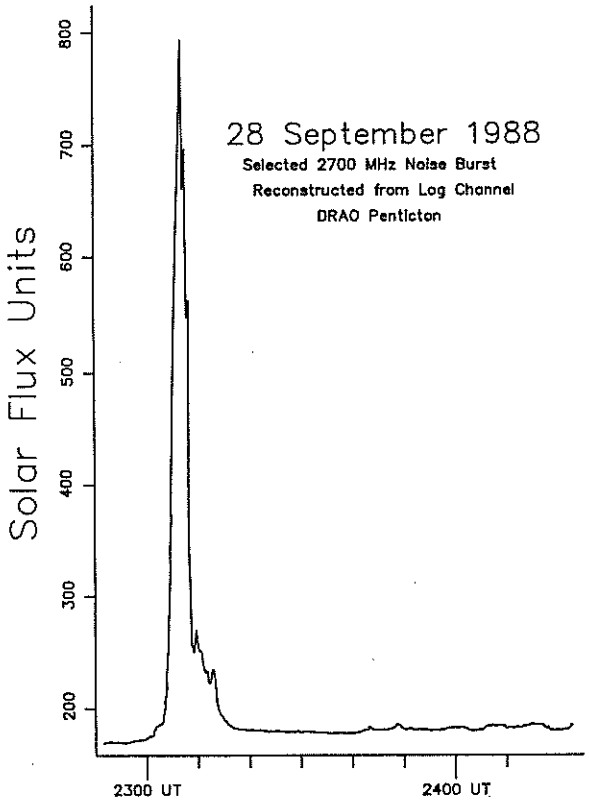
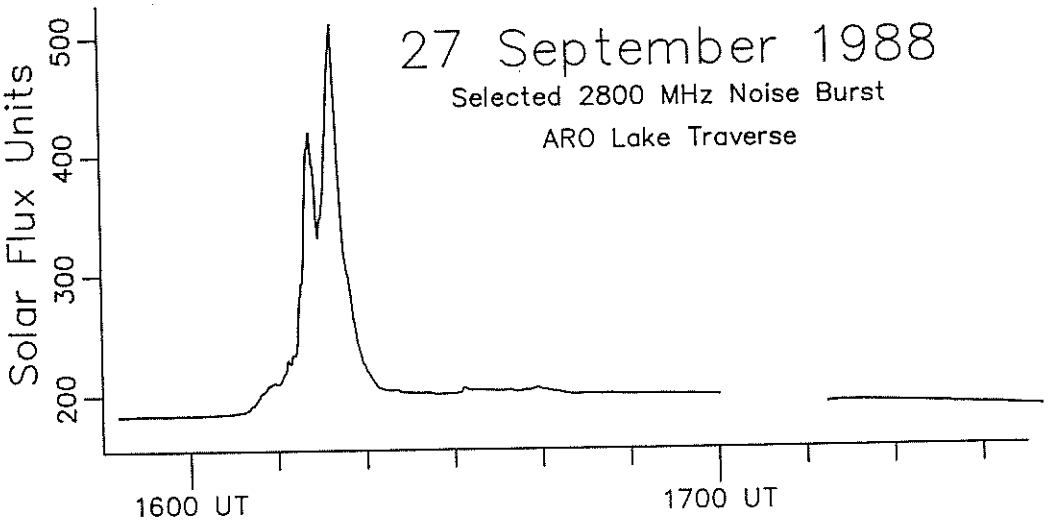
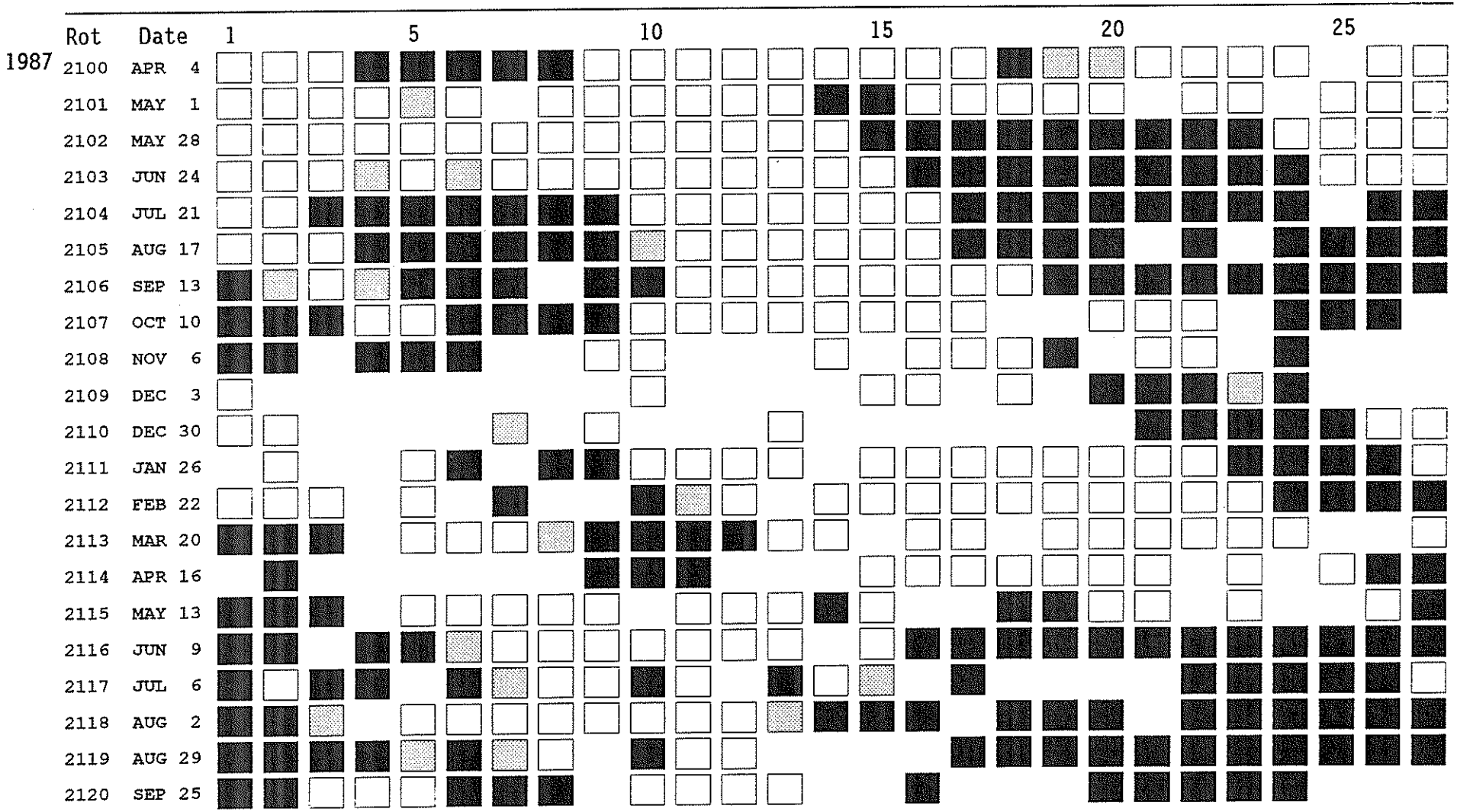

24 September 1988
Selected 2700 MHz Noise Burst
Reconstructed from Log Channel
DRAO Penticton
Solar Flux Units
800
600
500
400
300
200
2400 UT
0100 UT


28 September 1988
Selected 2700 MHz Noise Burst
Reconstructed from Log Channel
DRAO Penticton
Solar Flux Units
800
700
600
500
400
300
200
2300 UT
2400 UT


27 September 1988
Selected 2800 MHz Noise Burst
ARO Lake Traverse
Solar Flux Units
500
400
300
200
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 Oct	Nov	Dec	1988 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	-3	.	.	.	.	.	12	13	14	-35	5	-27
2	-4	-20	.	.	-16	-16	21	12	7	-51	-22	-2
3	-3	-19	2	.	-5	1	.	28	.	-29	-14	-4
4	-17	-24	.	.	16	22	35	29	33	-9	1	-2
5	-28	.	.	0	25	.	42	25	.	-13	.	16
6	-35	-10	.	.	42	49	.	37	.	-39	5	.
7	-28	-12	.	20	40	50	45	.	12	39	18	-22
8	-24	.	.	.	.	49	41	39	-14	-18	43	43
9	-20	-28	.	.	62	44	53	.	-25	-29	48	45
10	-16	-28	.	.	56	53	47	6	-17	.	51	.
11	-6	-20	.	29	58	52	43	-8	.	-16	22	.
12	-3	.	19	.	58	49	36	-11	-14	-1	25	.
13	6	.	.	.	48	36	.	-22	-11	14	23	.
14	7	4	.	.	47	35	.	-29	-1	15	1	-30
15	-11	5	.	.	23	21	8	-25	13	-6	-14	-44
16	-9	.	.	.	16	-13	.	.	22	2	-15	-50
17	-10	.	22	.	-13	-9	-25	10	28	.	-20	-54
18	-6	.	30	.	-22	-13	.	17	27	-3	.	-46
19	5	18	.	-12	-25	-9	.	15	30	3	-36	-49
20	6	.	20	-22	-13	-20	.	12	37	-1	-38	-64
21	9	21	.	-35	11	-14	.	22	35	.	-49	-67
22	12	30	-10	-28	14	-8	.	.	.	-16	.	-64
23	23	3	-17	-15	35	.	.	5	15	.	-57	-57
24	25	-10	-18	4	37	18	-6	5	-3	.	-79	-36
25	21	.	-1	15	.	21	-20	4	-35	.	-91	-29
26	23	4	-3	.	17	12	-26	-6	-67	.	-77	-8
27	.	4	.	23	.	-1	.	7	-75	-49	-57	6
28	.	.	.	.	-14	-13	.	.	-80	-79	-24	34
29	15	-5	.	.	.	-43	.	.	-57	-51	-10	13
30	2	.	24	3		-40	18	-19	-29	-15	-20	-6
31	4		24	-15		-11		-13		-3	-20	

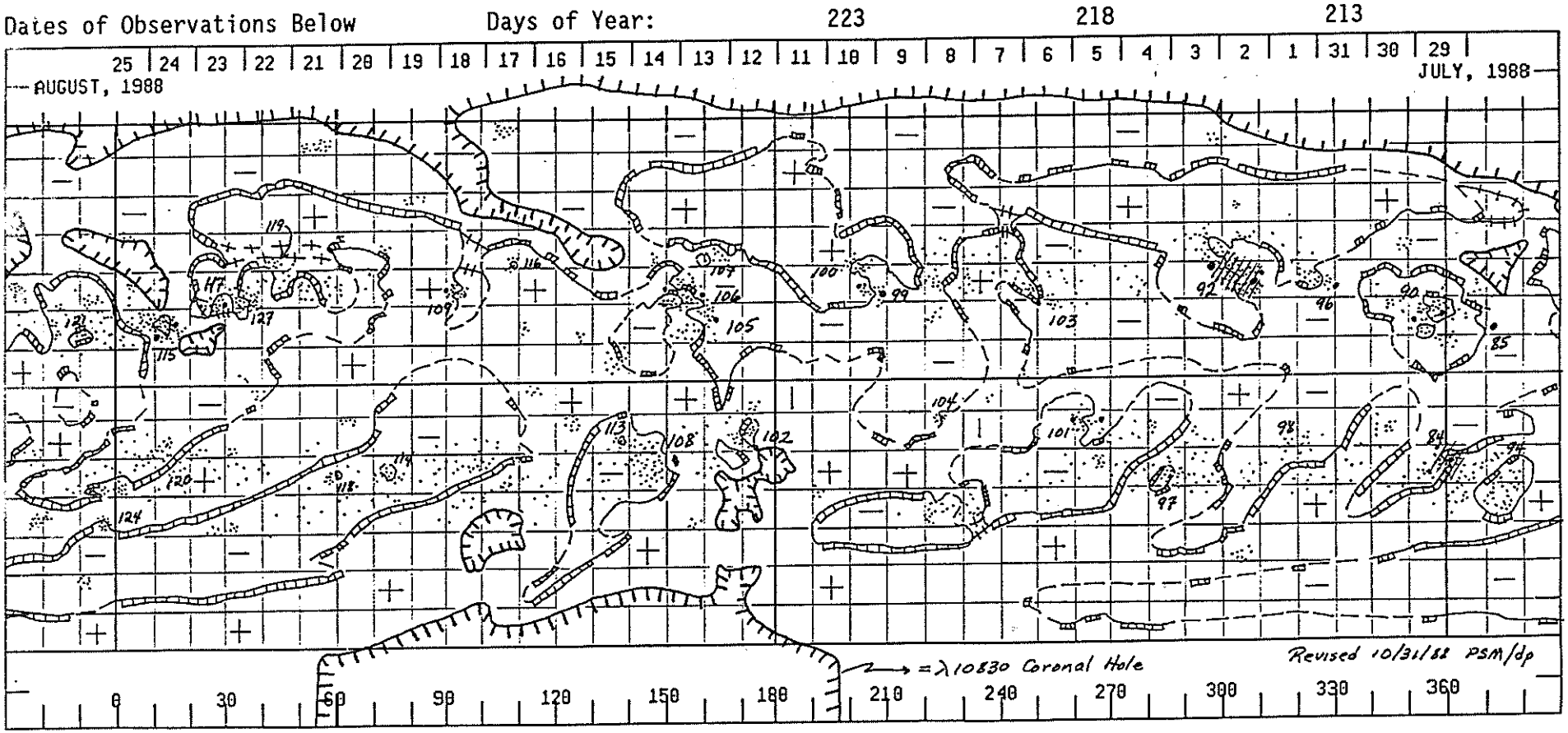
Dot symbol indicates no data available for the day.

C O N T E N T S

Prompt Reports DATA FOR **AUGUST 1988** Number 530 Part I

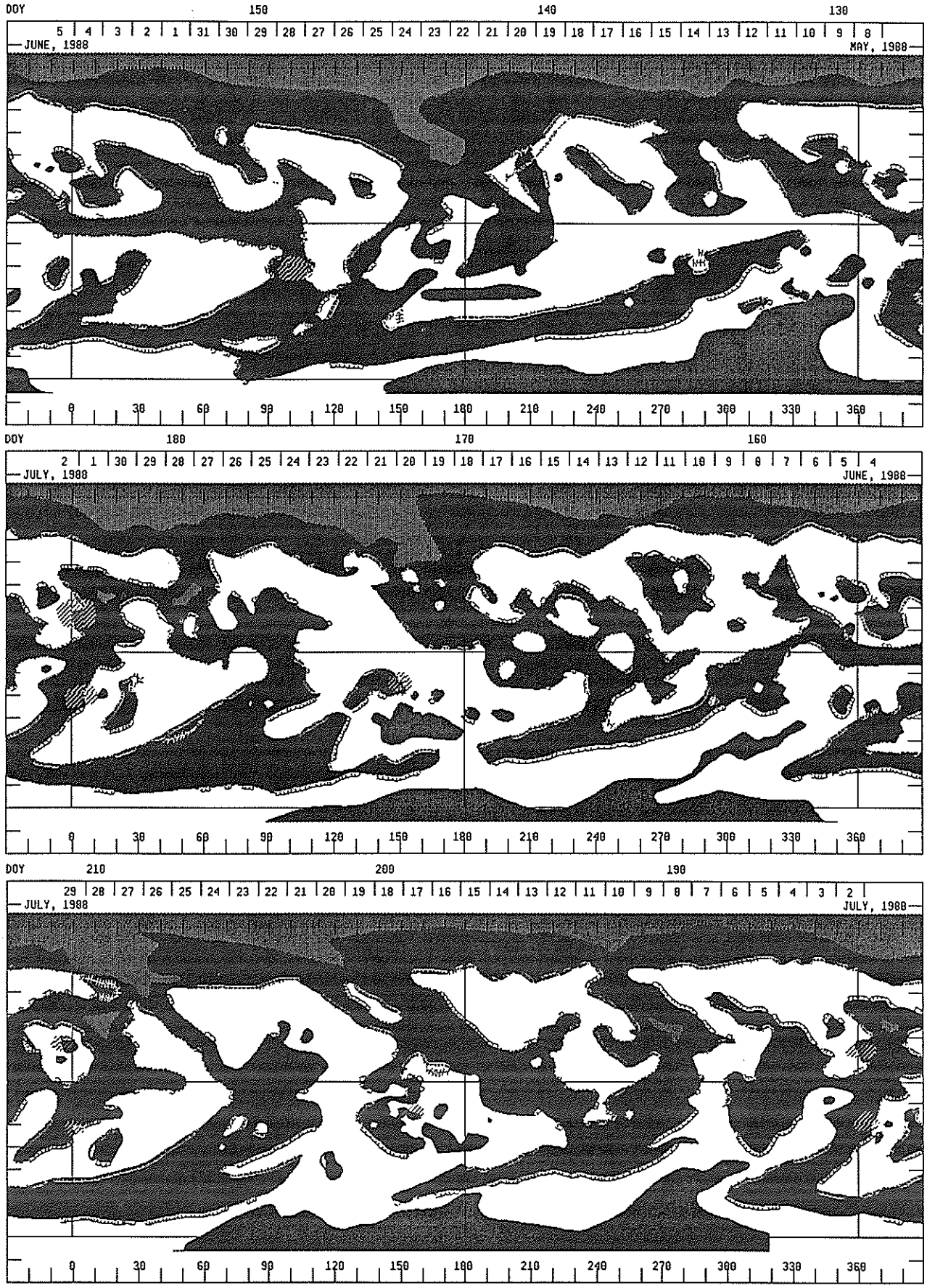
PRELIMINARY H-ALPHA SOLAR SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1805
(29 July to 25 August 1988)



SHADED H-ALPHA SOLAR SYNOPTIC CHARTS

Carrington Rot. 1802-1804 — 8 May to 29 July 1988



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

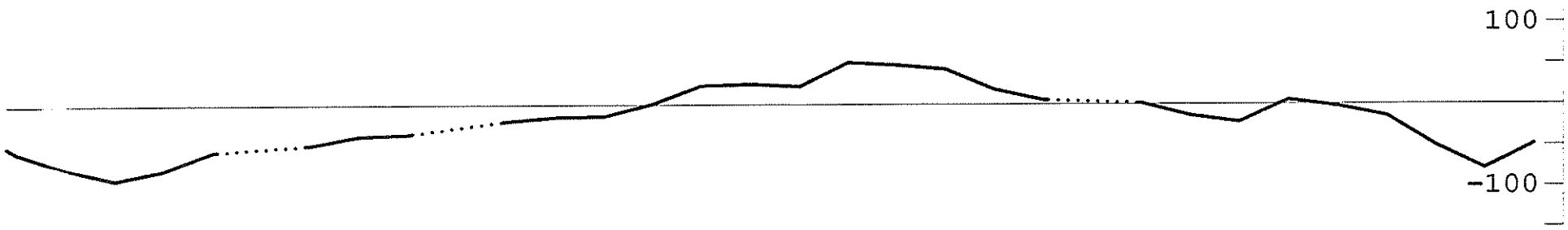
Heliographic Longitude

SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1805
(29 July to 25 August 1988)

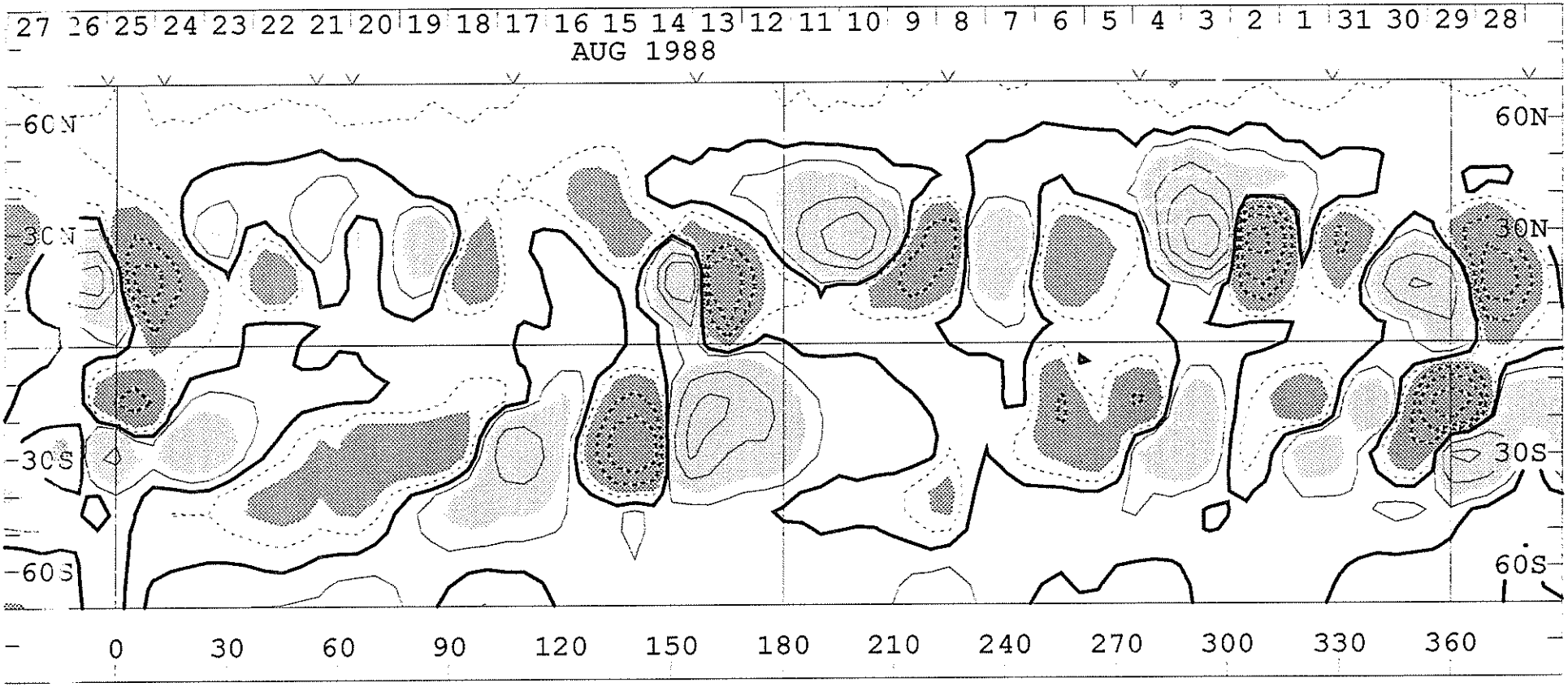
Stanford Solar Observatory

0, ±100, 500, 1000, 2000 microTesla



Photospheric Magnetic Field

0, ±100, 500, 1000, 2000 MicroTesla



Heliographic Longitude

SOLAR MAGNETIC FIELD SYNOPTIC CHART

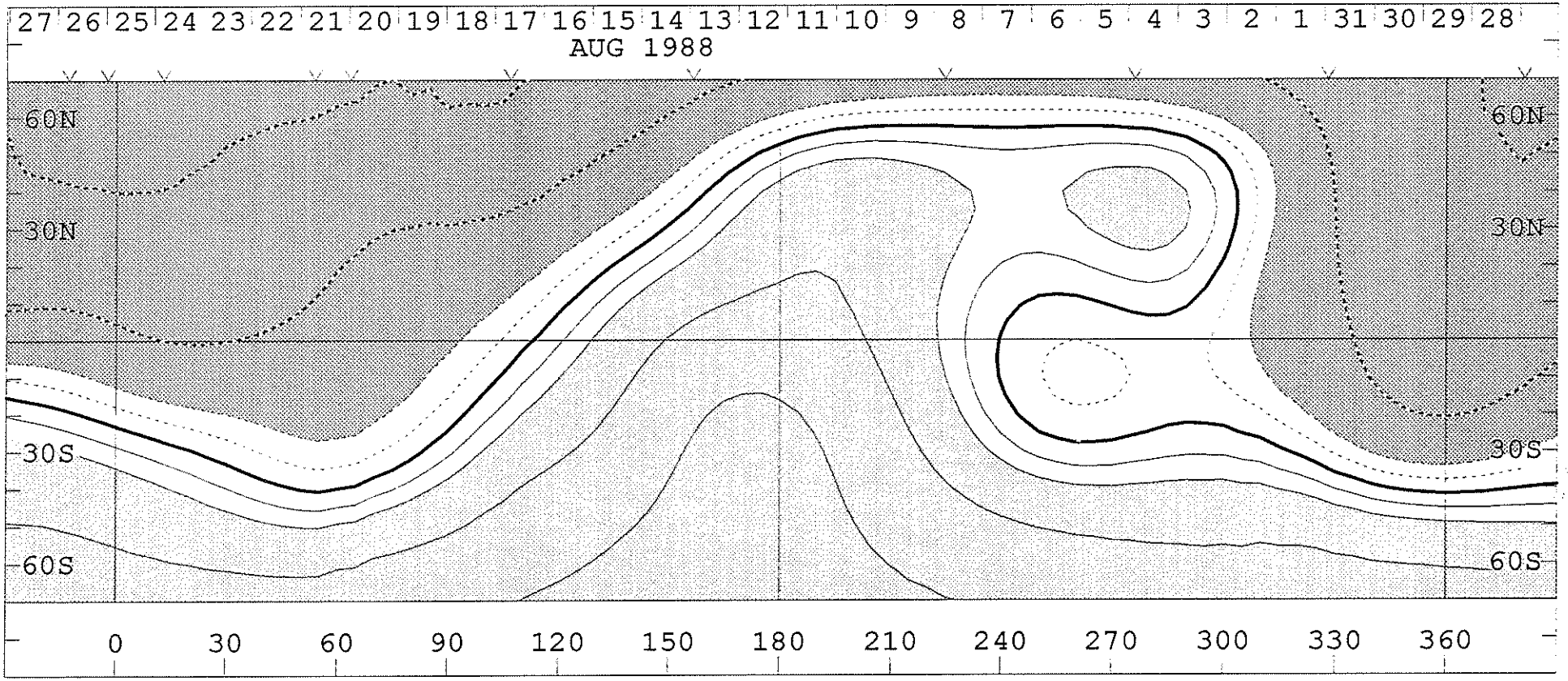
SOURCE SURFACE FIELD

CARRINGTON ROTATION NUMBER 1805

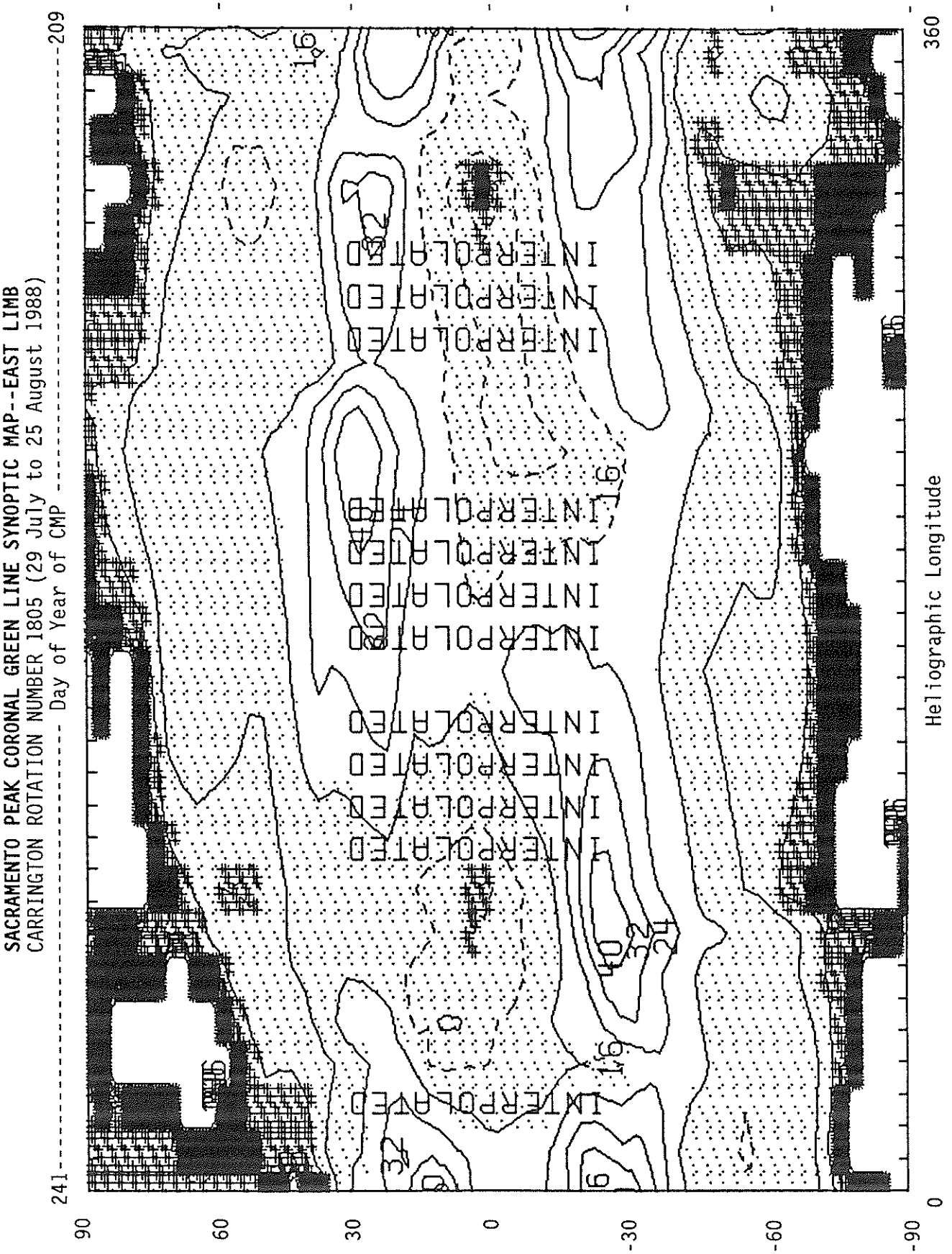
(29 July to 25 August 1988)

Stanford Solar Observatory

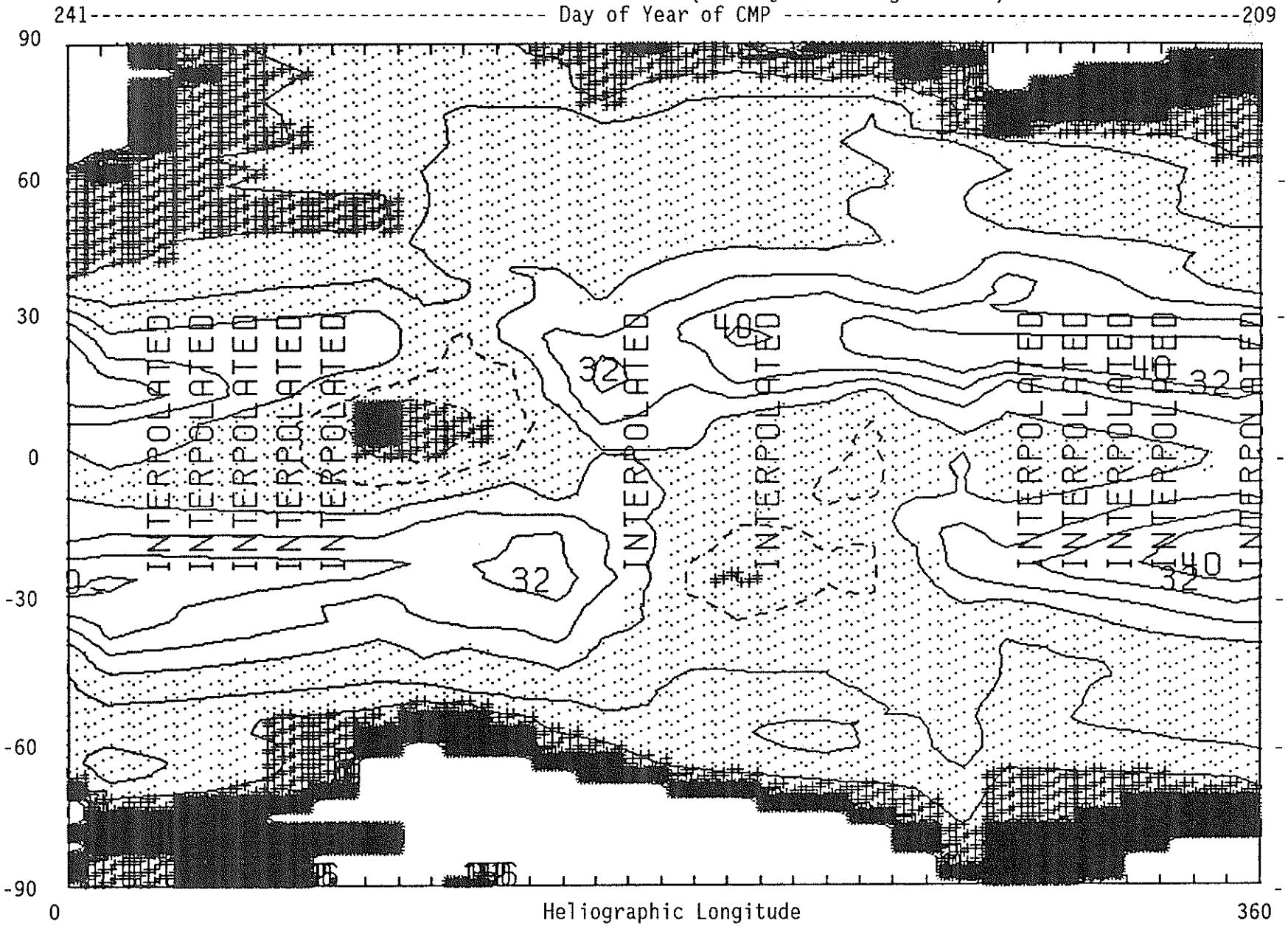
0, ±1, 2, 5, 10, 20 microTesla

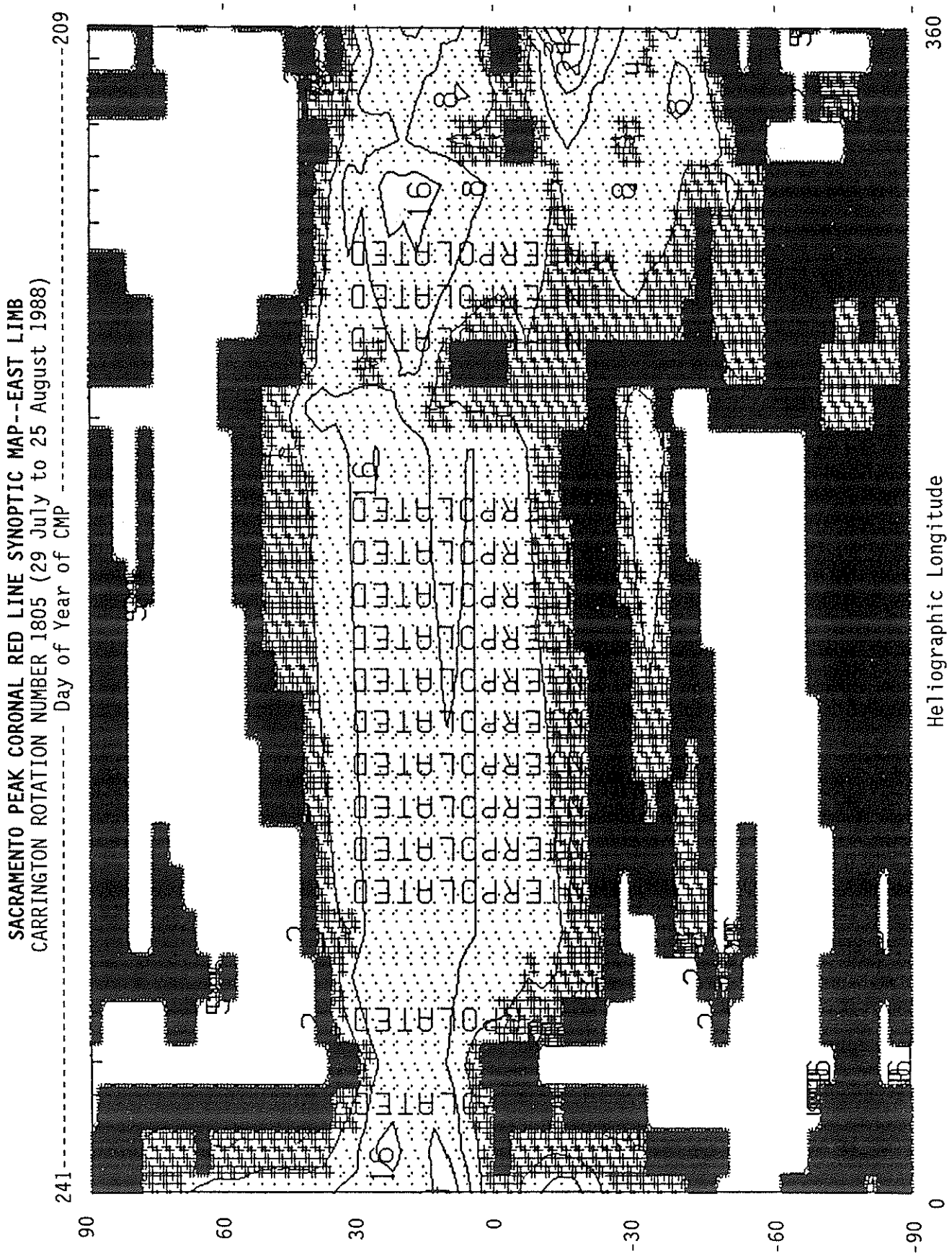


Heliographic Longitude

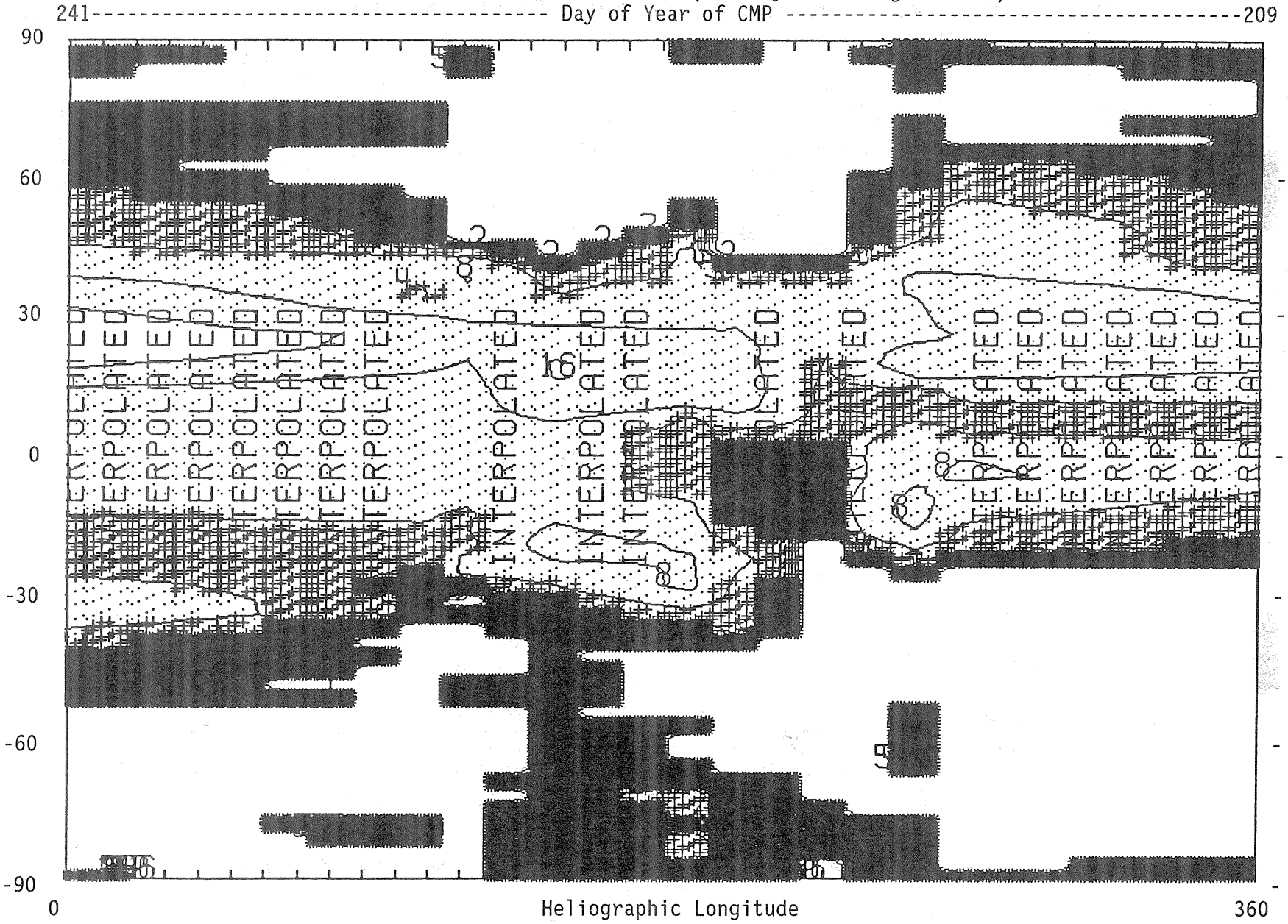

SACRAMENTO PEAK CORONAL GREEN LINE SYNOPTIC MAP--EAST LIMB
CARRINGTON ROTATION NUMBER 1805 (29 July to 25 August 1988)
241---------- Day of Year of CMP ----------209
90
60
30
0
-30
-60
-90
0
360
Heliographic Longitude
INTERPOLATED

SACRAMENTO PEAK CORONAL GREEN LINE SYNOPTIC MAP--WEST LIMB
CARRINGTON ROTATION NUMBER 1805 (29 July to 25 August 1988)




SACRAMENTO PEAK CORONAL RED LINE SYNOPTIC MAP--EAST LIMB
CARRINGTON ROTATION NUMBER 1805 (29 July to 25 August 1988)
Day of Year of CMP
241
209
90
60
30
0
-30
-60
-90
0
360
Heliographic Longitude

SACRAMENTO PEAK CORONAL RED LINE SYNOPTIC MAP--WEST LIMB
CARRINGTON ROTATION NUMBER 1805 (29 July to 25 August 1988)

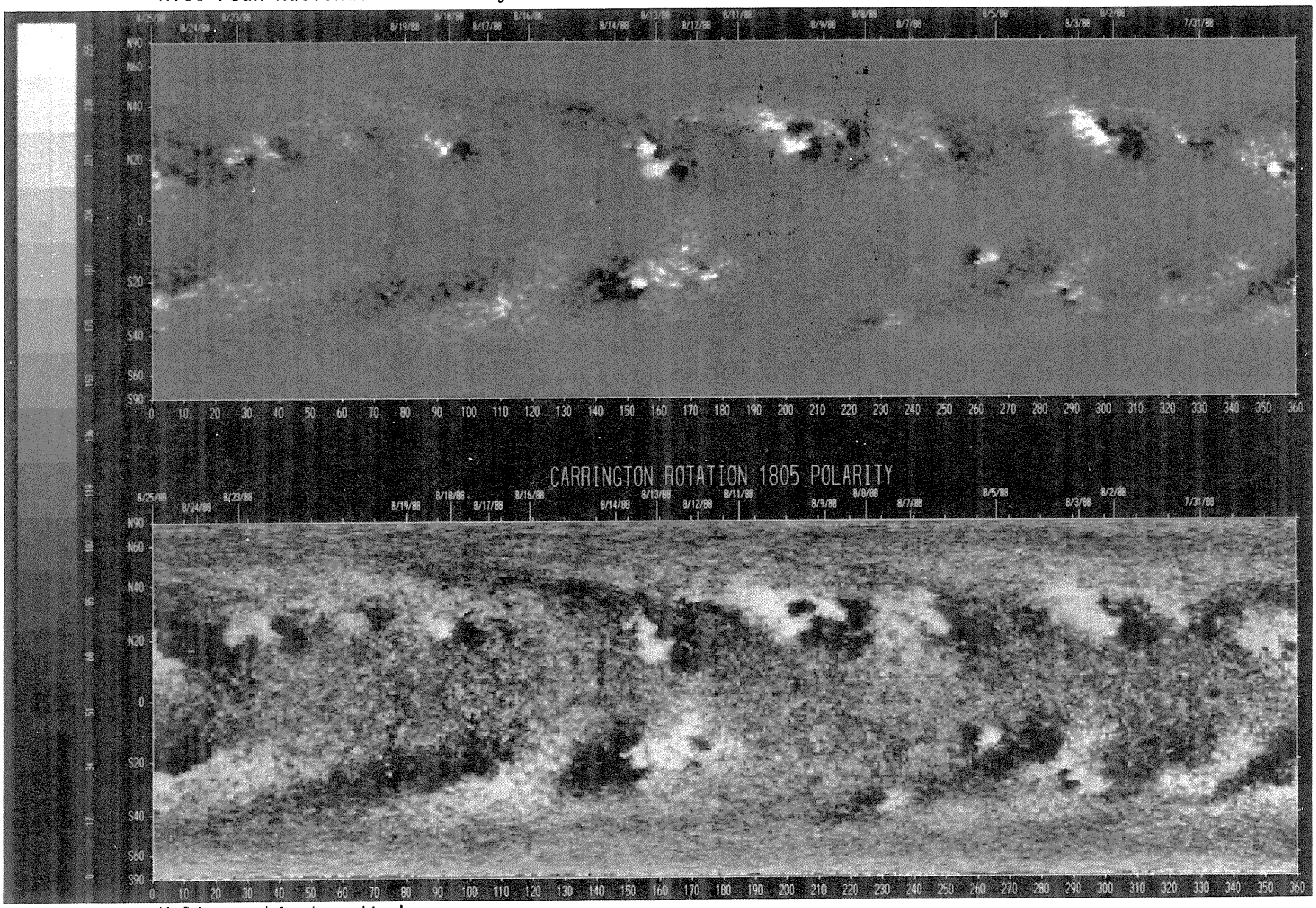


SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION NUMBER 1805
(29 July to 25 August 1988)

Kitt Peak National Observatory

Dates of Observation

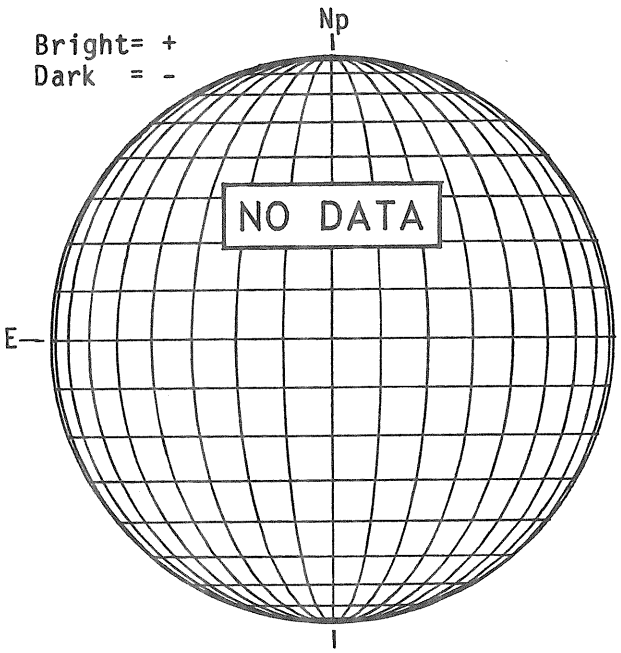


Heliographic Longitude

AUGUST 01, 1988 (P= 10.92, B_o= 5.80, L_o= 326.19)

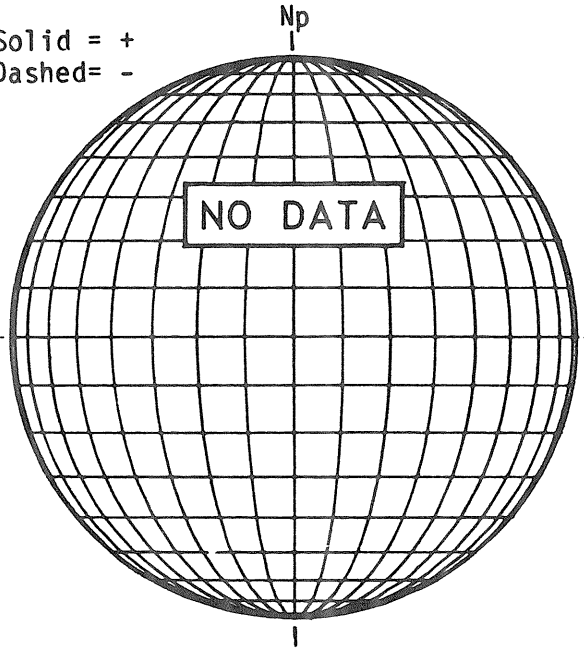
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



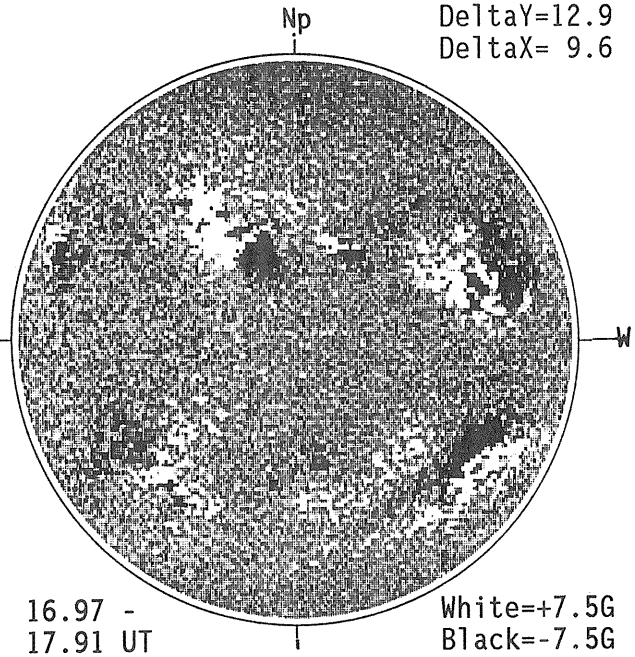
STANFORD MAGNETOGRAM

Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

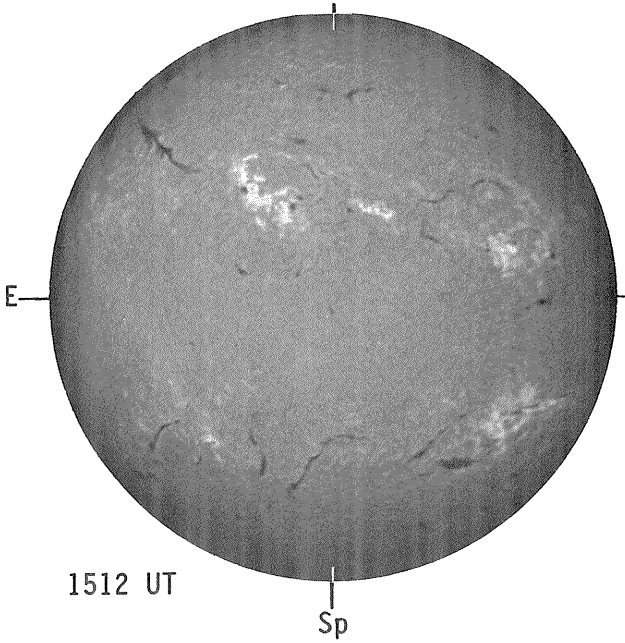
DeltaY=12.9
DeltaX= 9.6



16.97 -
17.91 UT

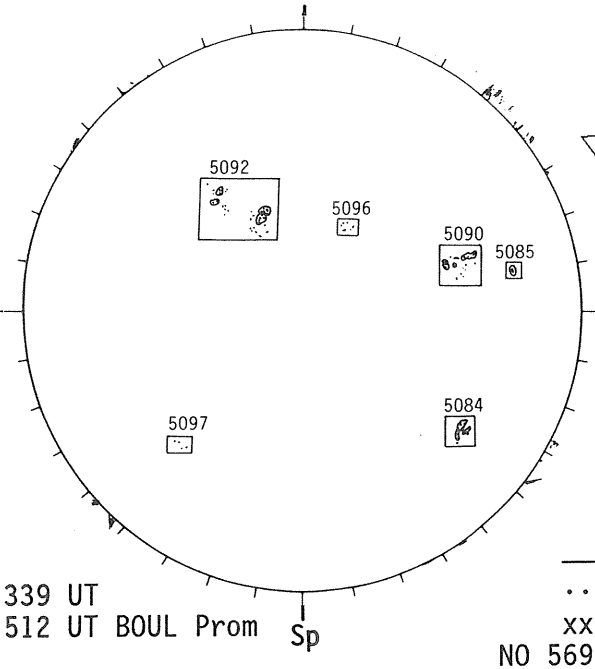
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



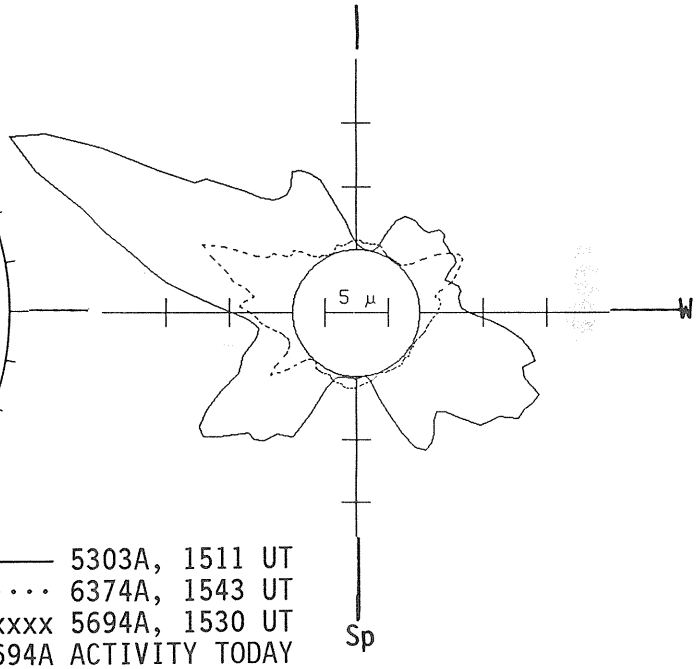
1512 UT

BOULDER SUNSPOTS



1339 UT
1512 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

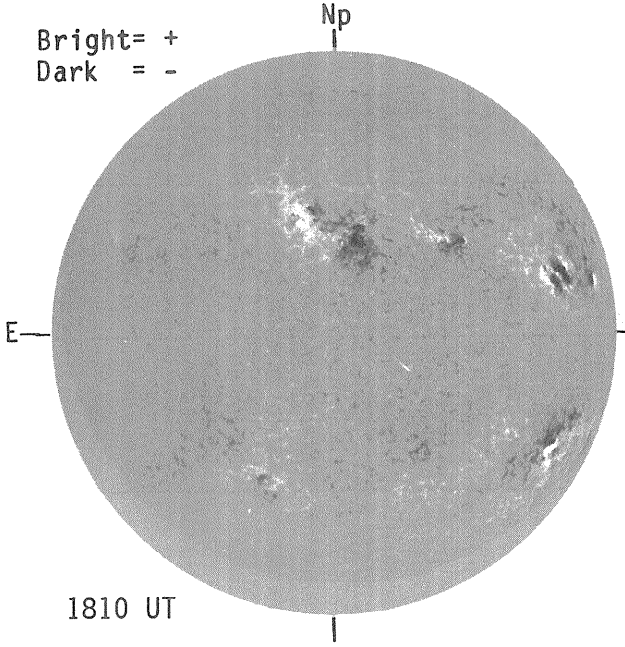


—— 5303A, 1511 UT
···· 6374A, 1543 UT
xxxx 5694A, 1530 UT
NO 5694A ACTIVITY TODAY

AUGUST 02, 1988 (P= 11.31, B_o= 5.87, L_o= 312.97)

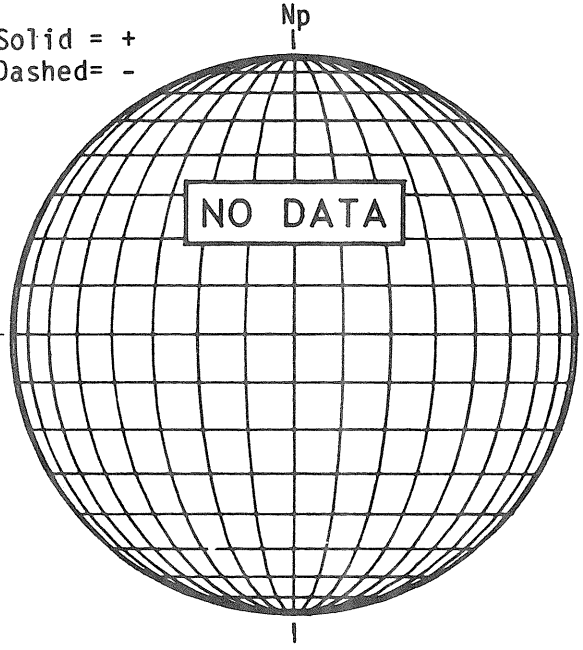
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



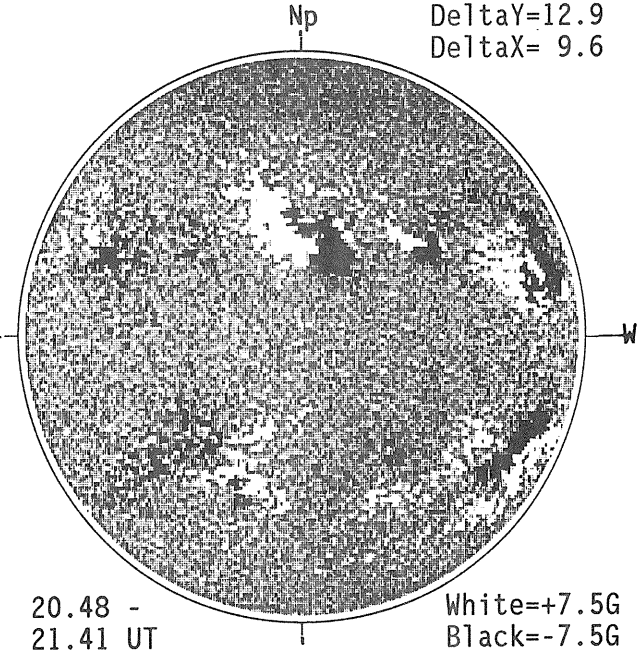
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

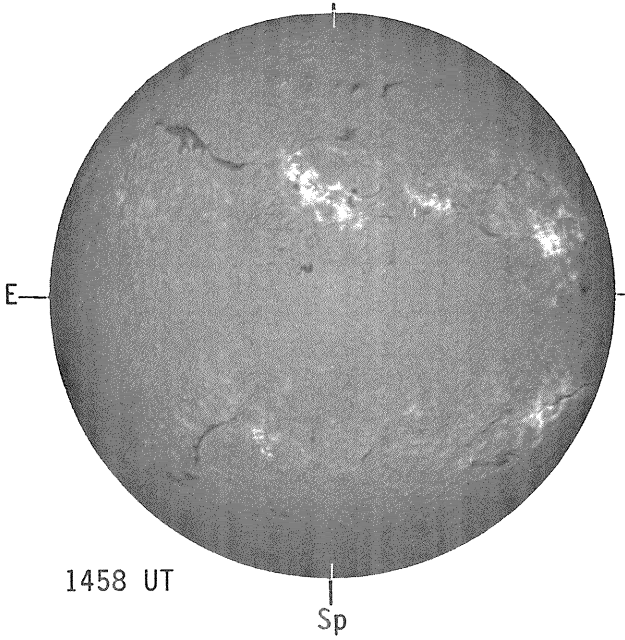


MT. WILSON MAGNETOGRAM

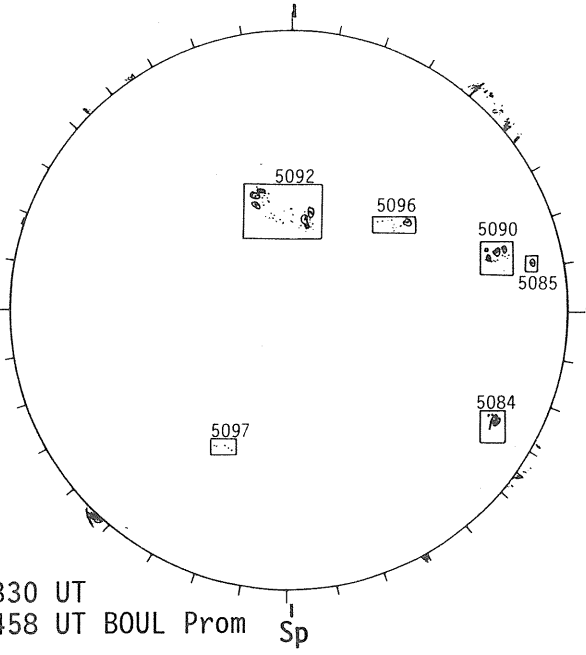
DeltaY=12.9
DeltaX= 9.6



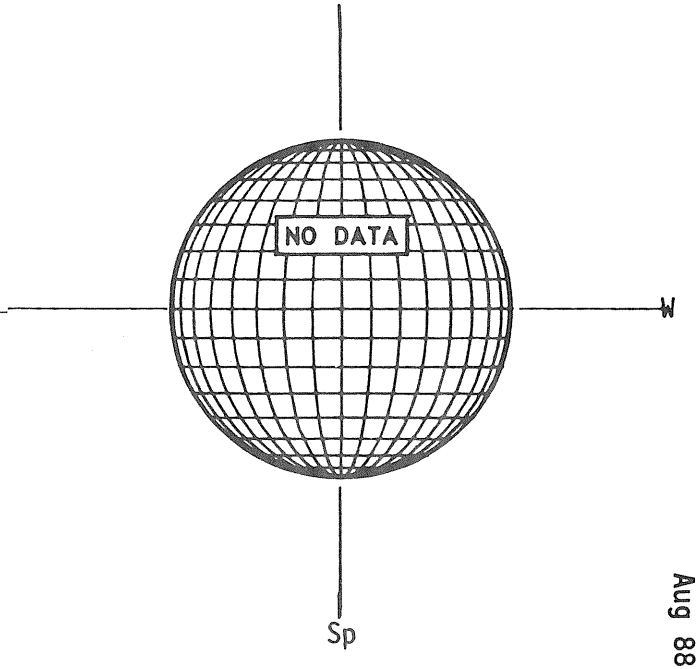
BOULDER H-ALPHA



BOULDER SUNSPOTS



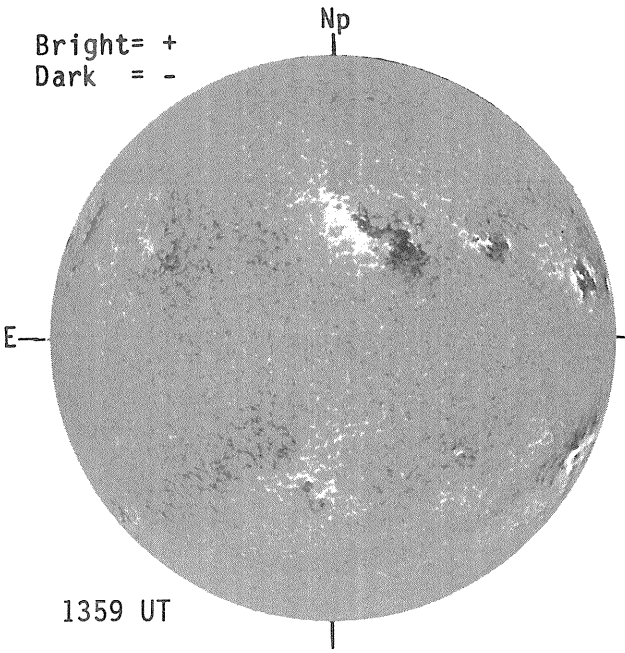
SACRAMENTO PEAK CORONA (1.15 Radii)



AUGUST 03, 1988 (P= 11.70, B_o= 5.94, L_o= 299.74)

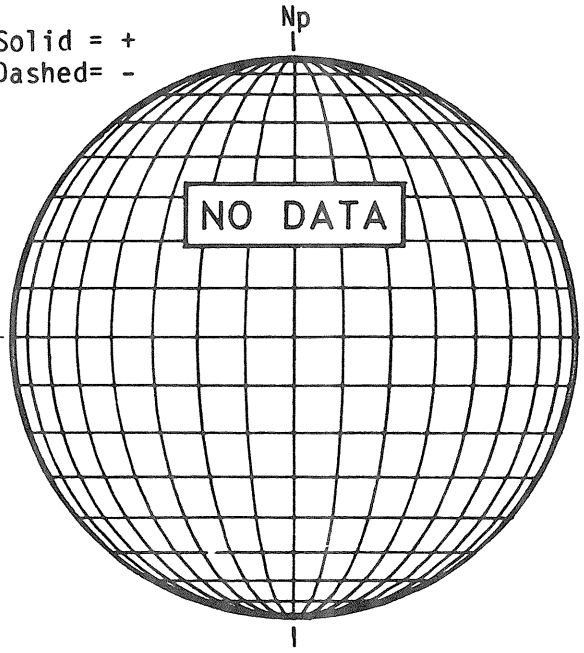
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



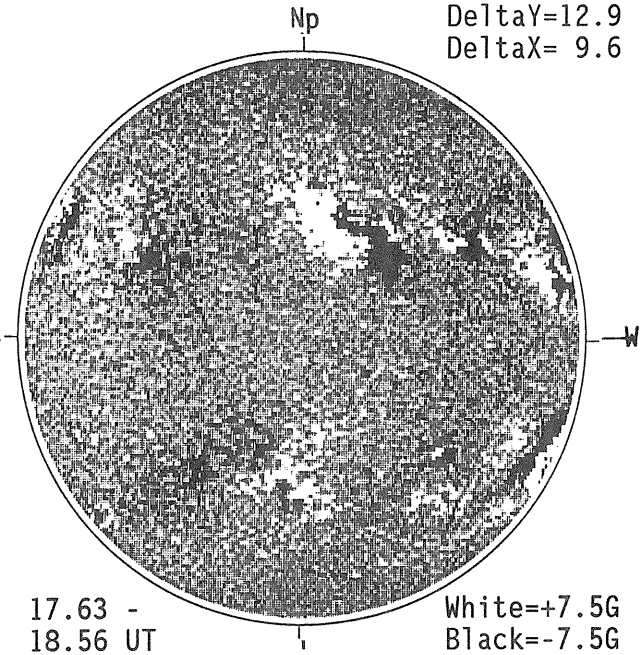
STANFORD MAGNETOGRAM

Solid = +
Dashed= -



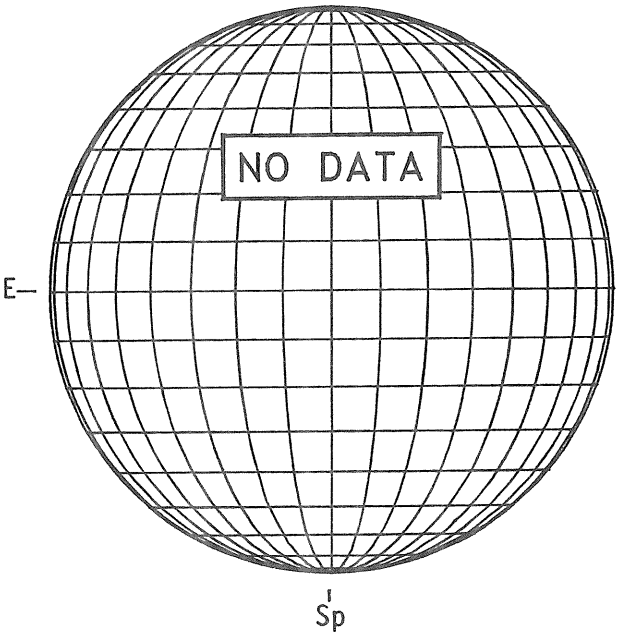
MT. WILSON MAGNETOGRAM

DeltaY=12.9
DeltaX= 9.6

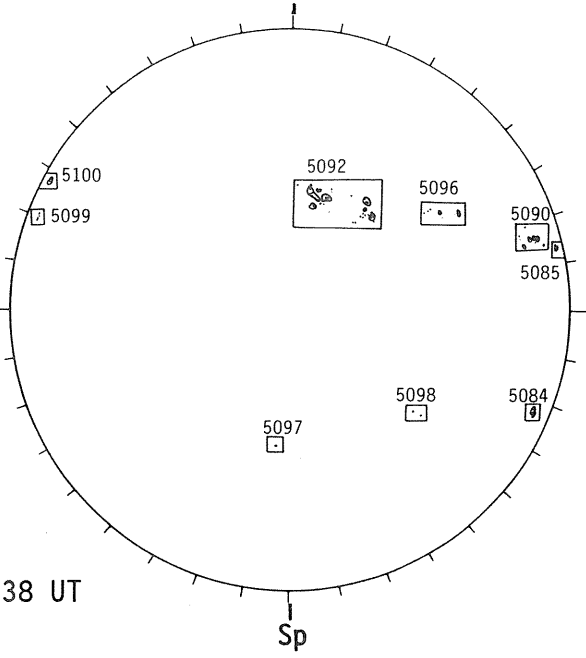


White=+7.5G
Black=-7.5G

BOULDER H-ALPHA

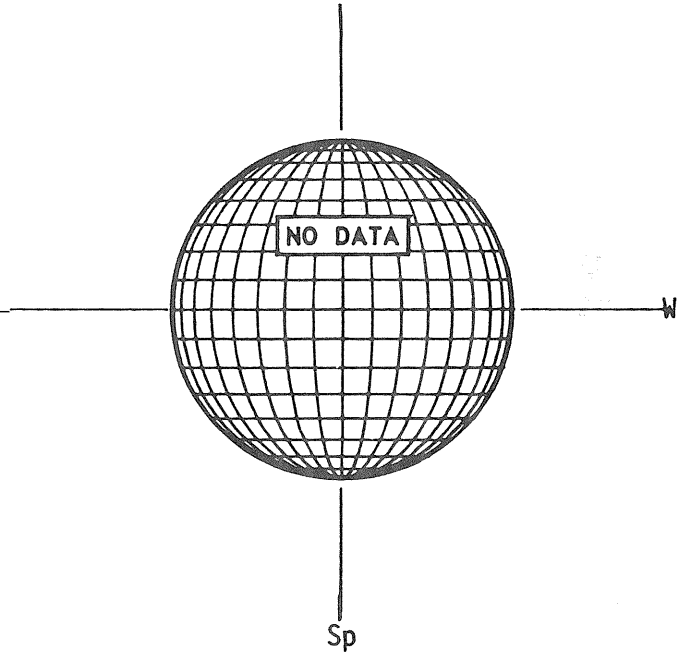


BOULDER SUNSPOTS



1638 UT

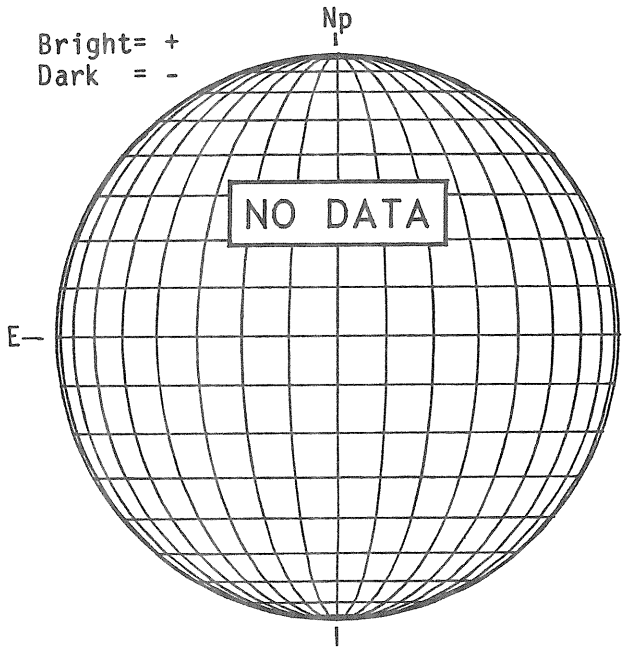
SACRAMENTO PEAK CORONA (1.15 Radii)



AUGUST 04, 1988 (P= 12.09, B_o= 6.01, L_o= 286.52)

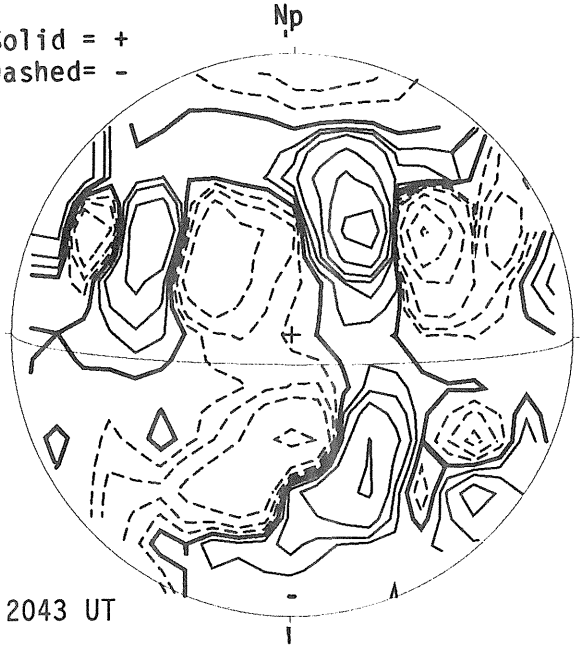
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



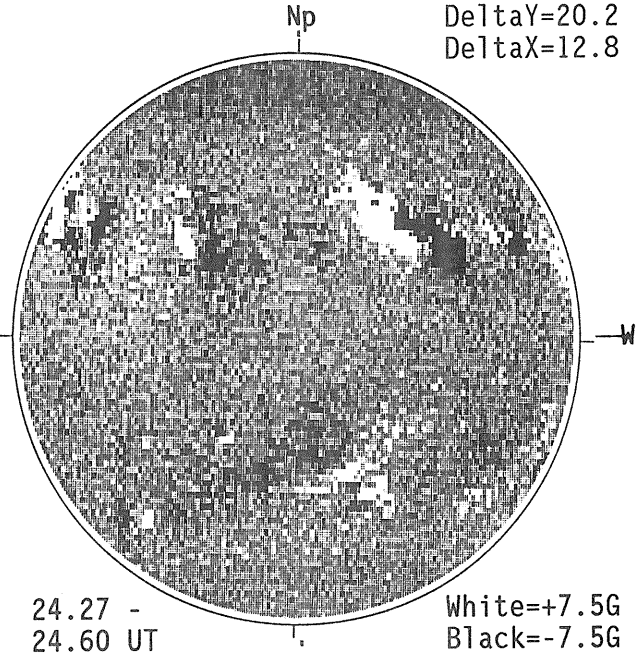
STANFORD MAGNETOGRAM

Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

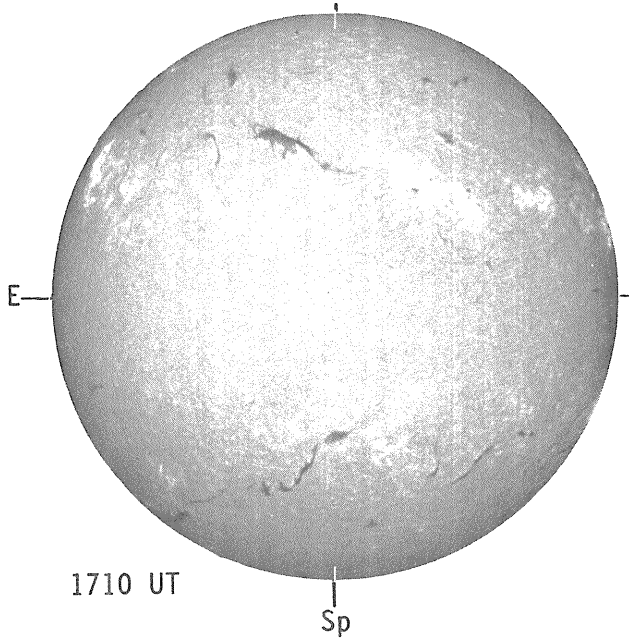
DeltaY=20.2
DeltaX=12.8



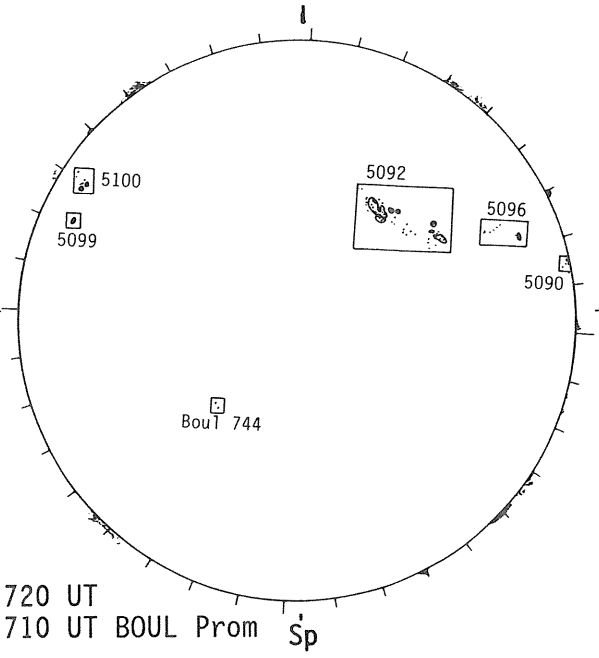
24.27 -
24.60 UT

White=+7.5G
Black=-7.5G

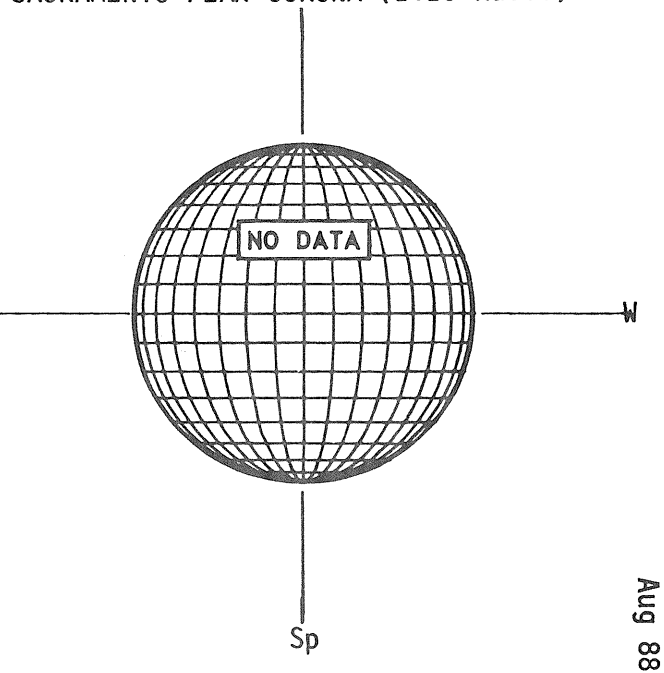
BOULDER H-ALPHA



BOULDER SUNSPOTS



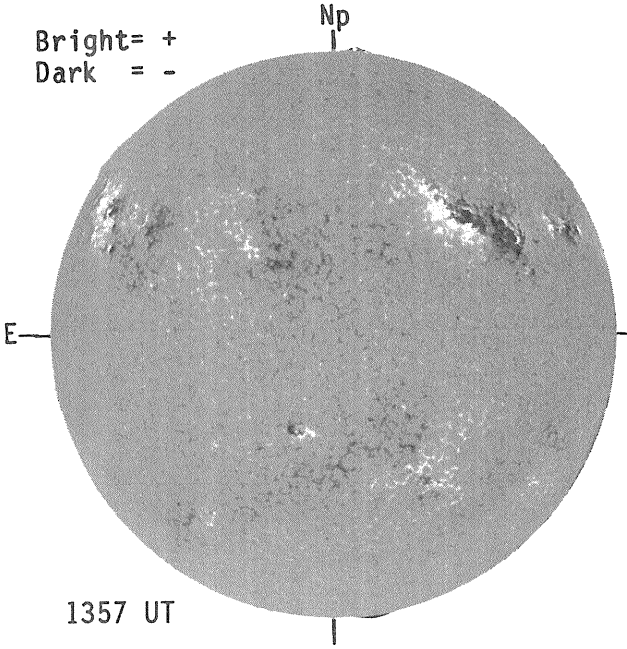
SACRAMENTO PEAK CORONA (1.15 Radii)



AUGUST 05, 1988 (P= 12.48, B_o= 6.07, L_o= 273.30)

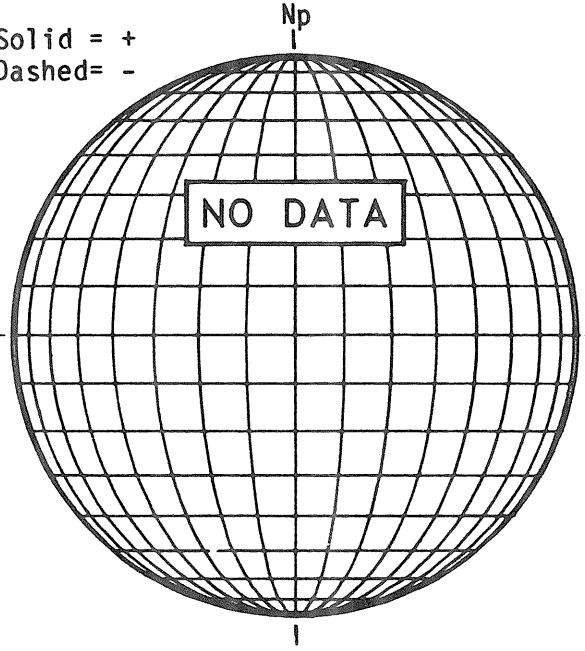
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



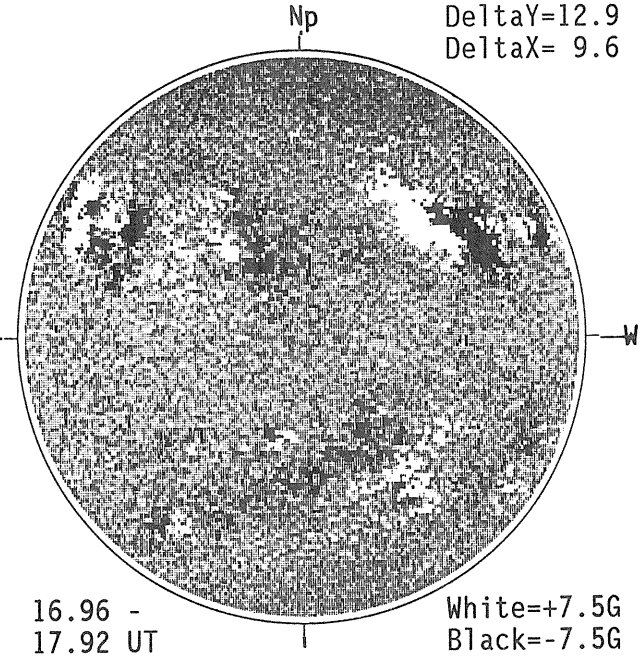
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

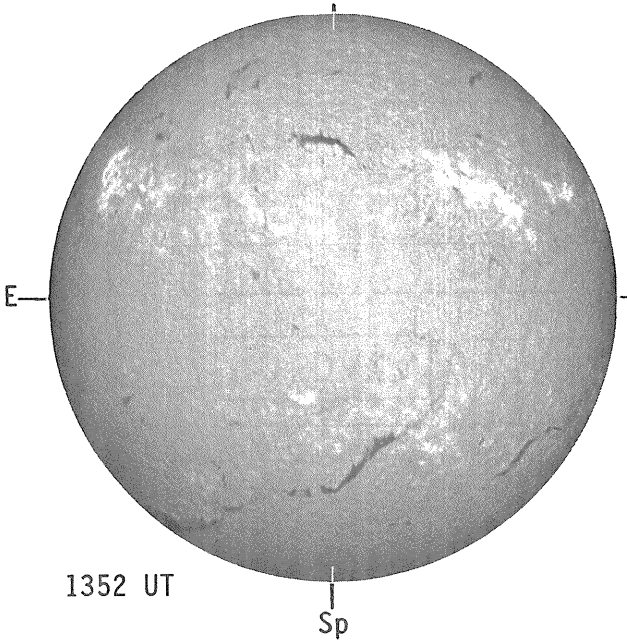


MT. WILSON MAGNETOGRAM

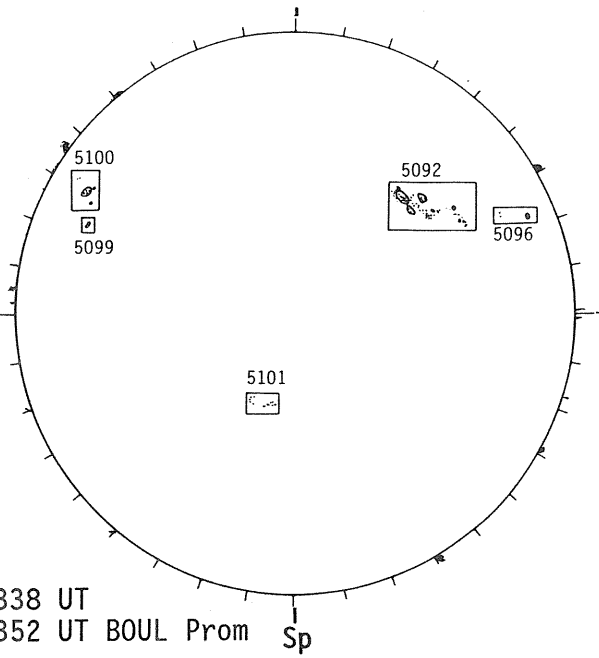
DeltaY=12.9
DeltaX= 9.6



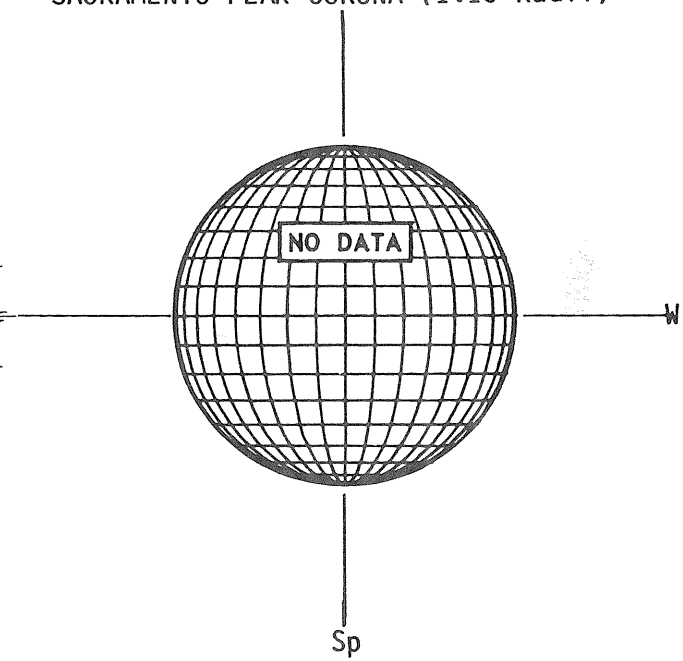
BOULDER H-ALPHA



BOULDER SUNSPOTS



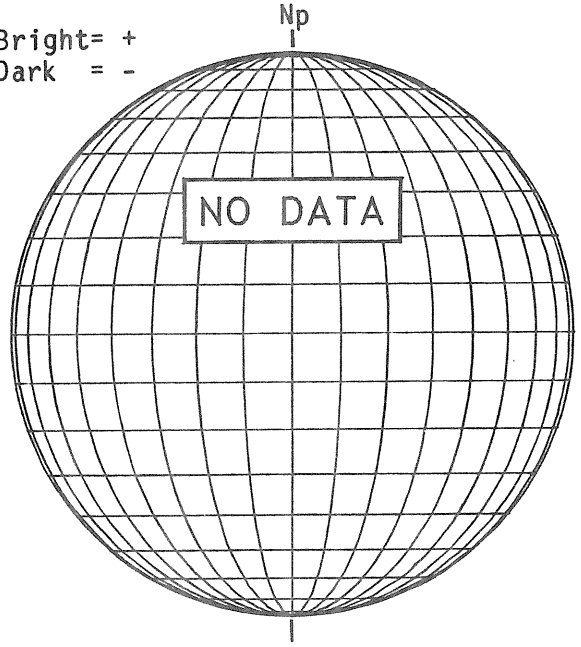
SACRAMENTO PEAK CORONA (1.15 Radii)



AUGUST 06, 1988 (P= 12.86, B_o= 6.14, L_o= 260.07)

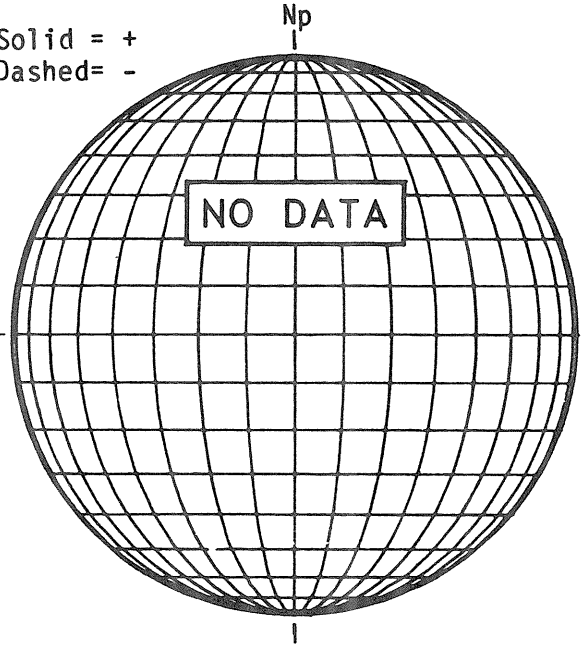
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



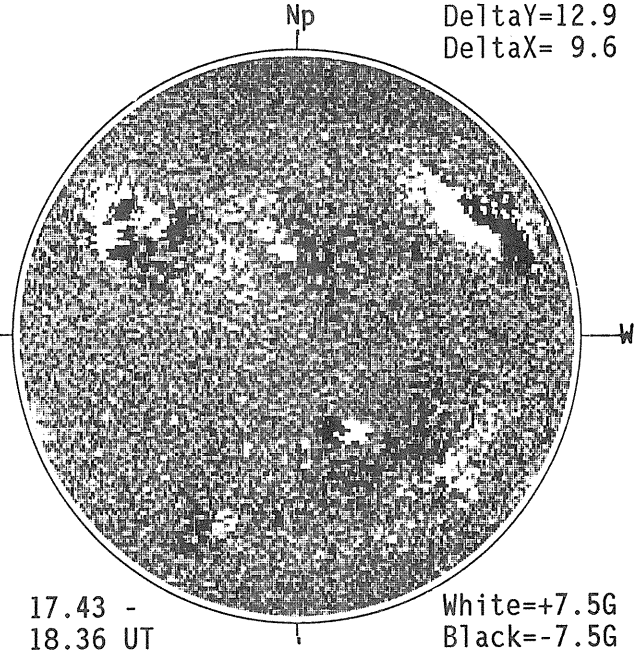
STANFORD MAGNETOGRAM

Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

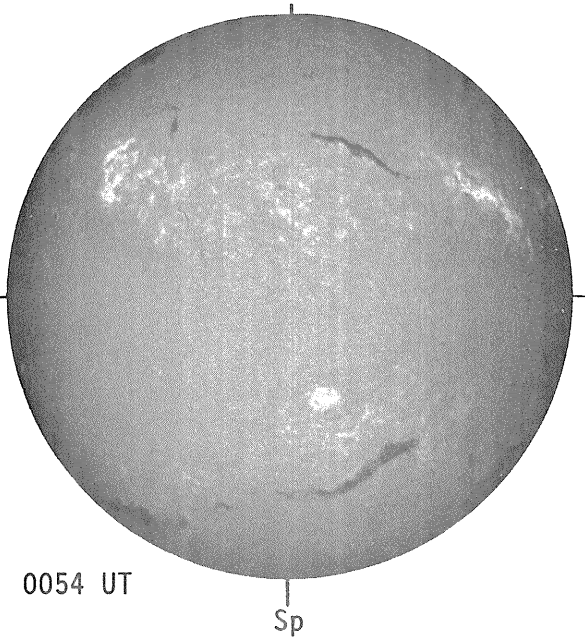
DeltaY=12.9
DeltaX= 9.6



17.43 -
18.36 UT

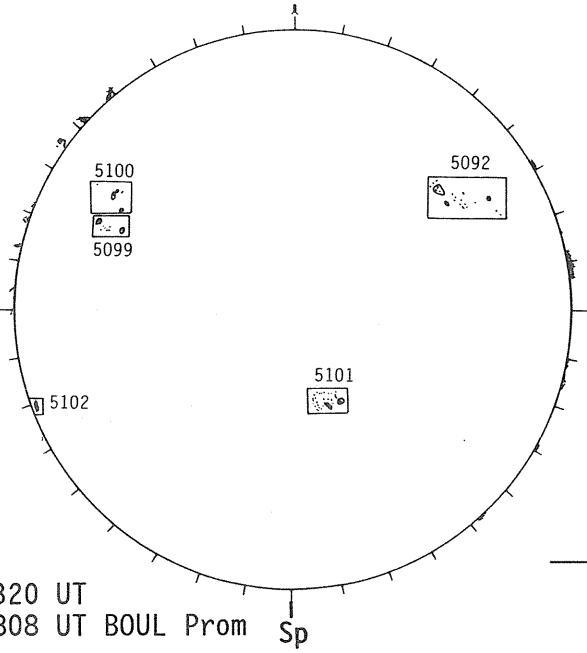
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



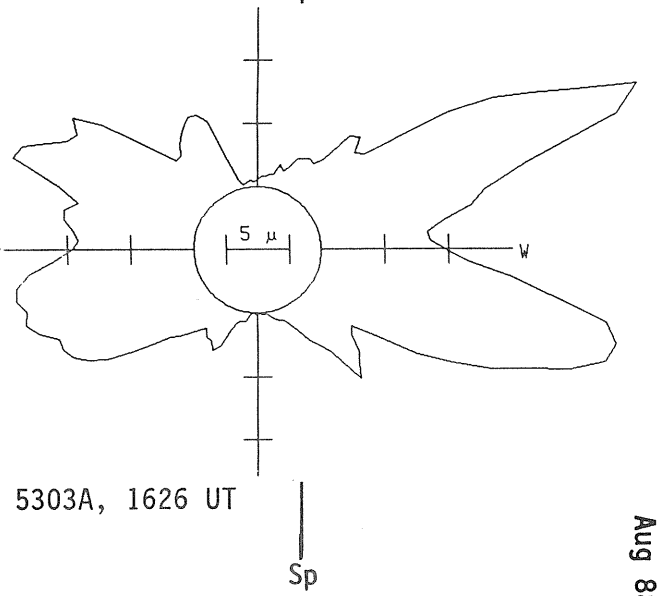
0054 UT

BOULDER SUNSPOTS



1320 UT
1808 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)

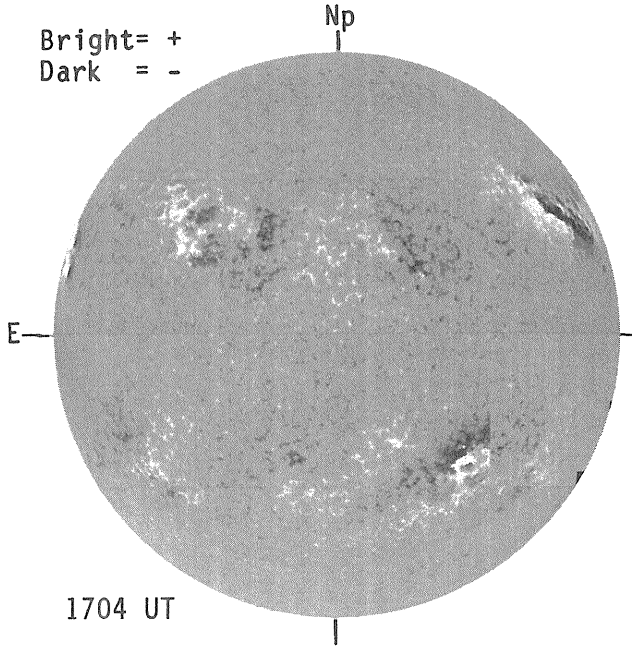


—— 5303A, 1626 UT

AUGUST 07, 1988 (P= 13.23, B_o= 6.20, L_o= 246.85)

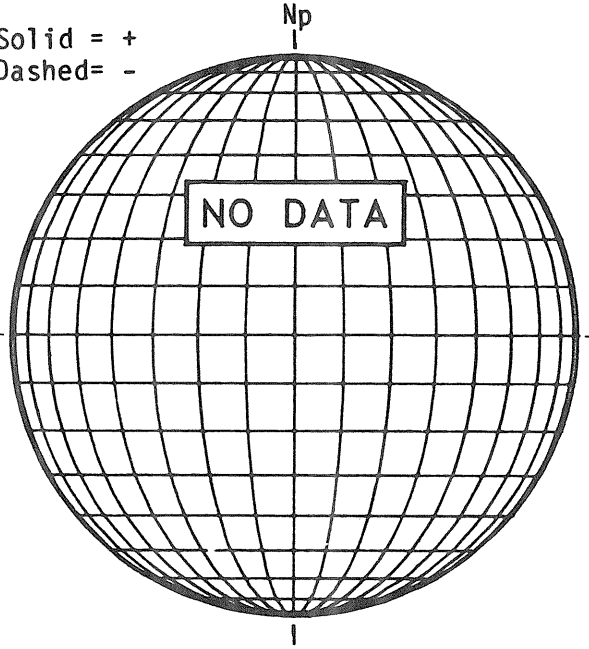
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



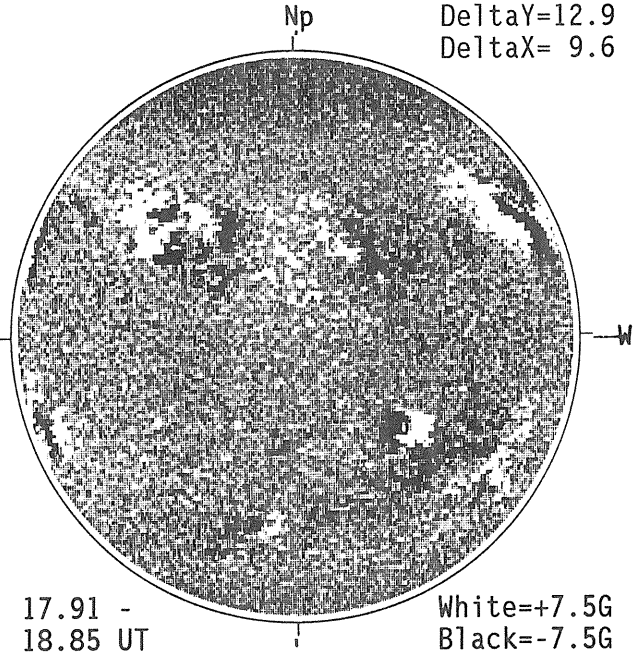
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

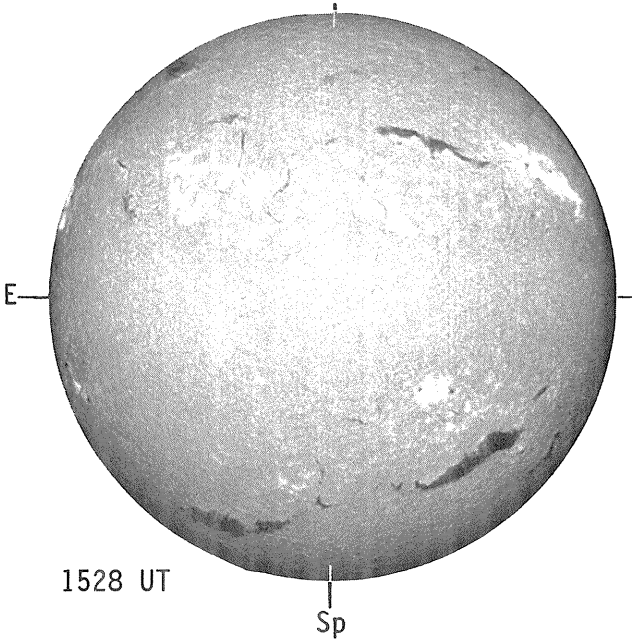


MT. WILSON MAGNETOGRAM

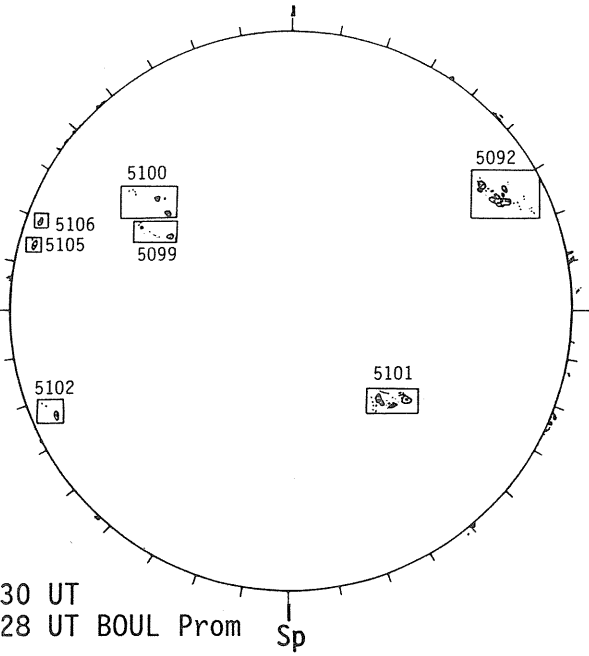
DeltaY=12.9
DeltaX= 9.6



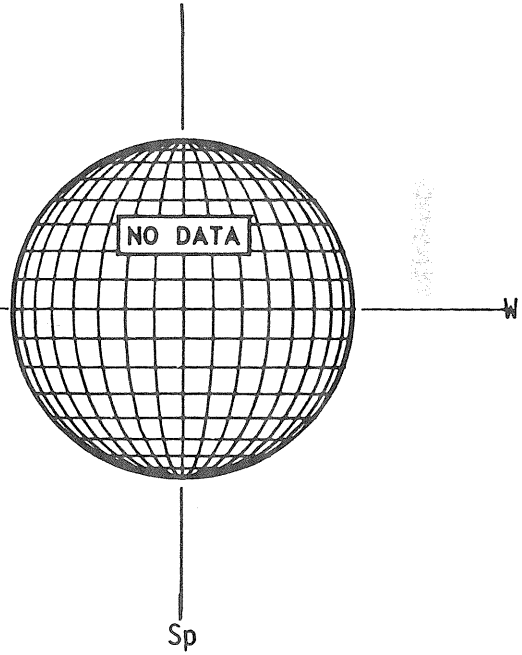
BOULDER H-ALPHA



BOULDER SUNSPOTS

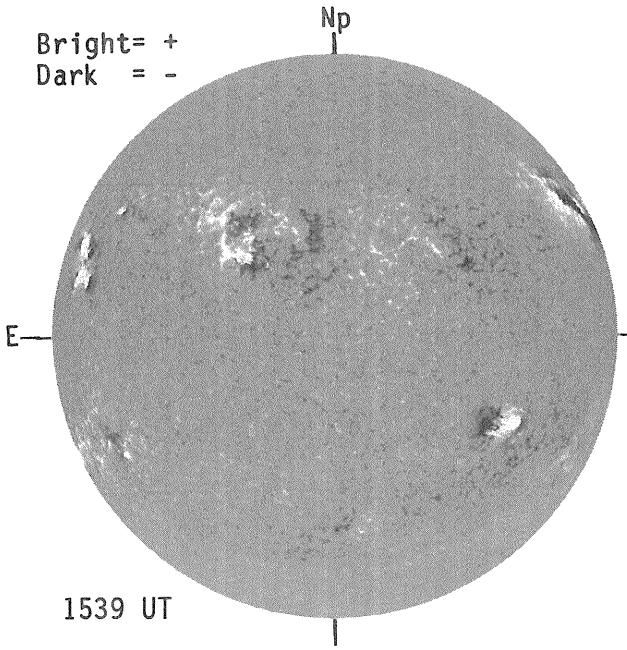


SACRAMENTO PEAK CORONA (1.15 Radii)

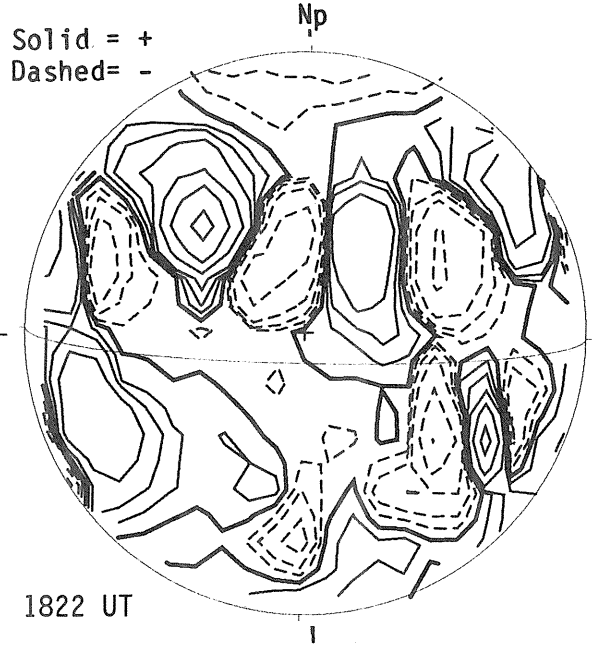


AUGUST 08, 1988 (P= 13.61, B_o= 6.26, L_o= 233.63)

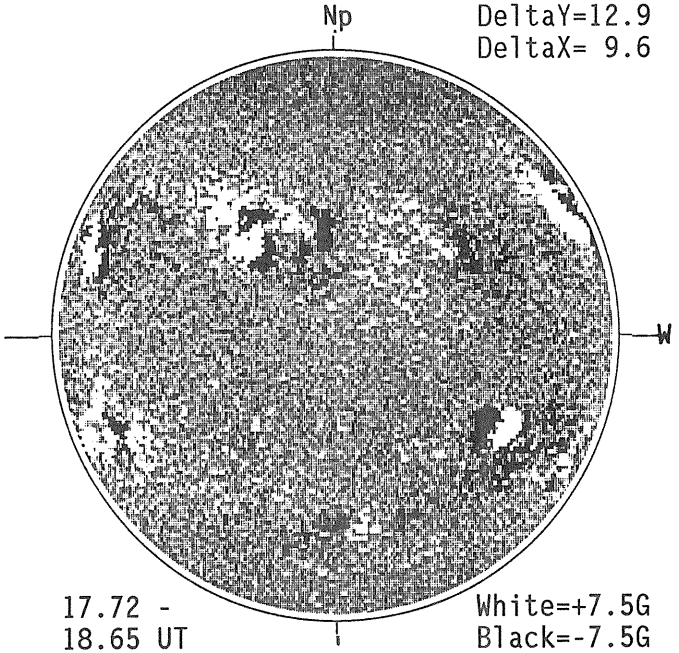
KITT PEAK MAGNETOGRAM



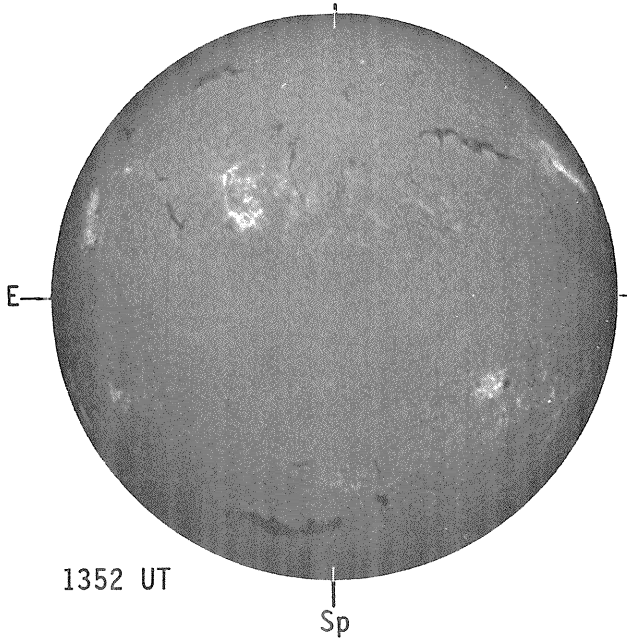
STANFORD MAGNETOGRAM



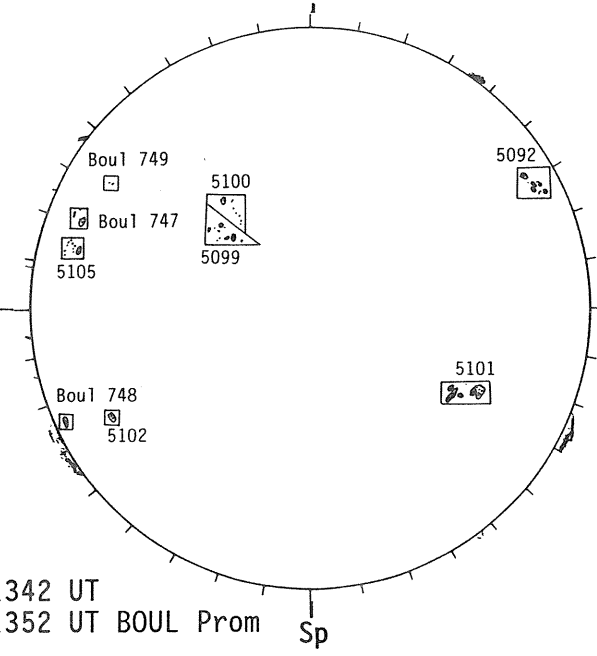
MT. WILSON MAGNETOGRAM



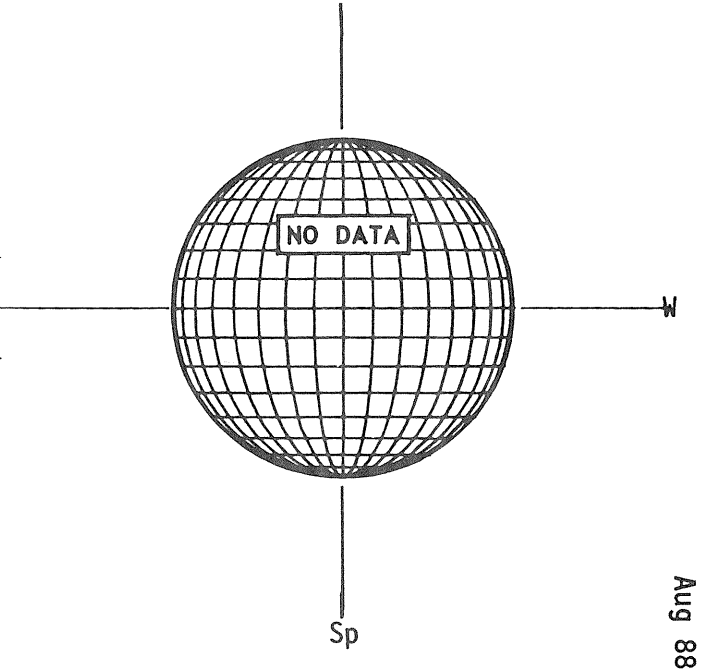
BOULDER H-ALHPA



BOULDER SUNSPOTS



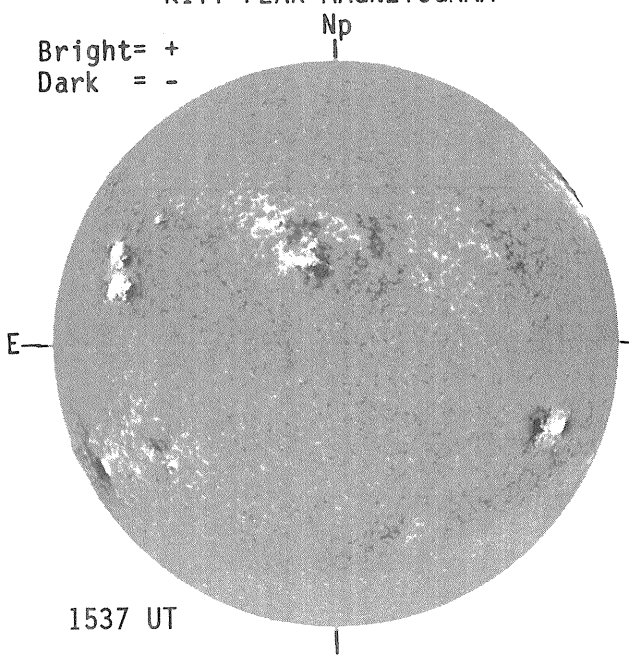
SACRAMENTO PEAK CORONA (1.15 Radii)



AUGUST 09, 1988 (P= 13.97, B_o= 6.32, L_o= 220.41)

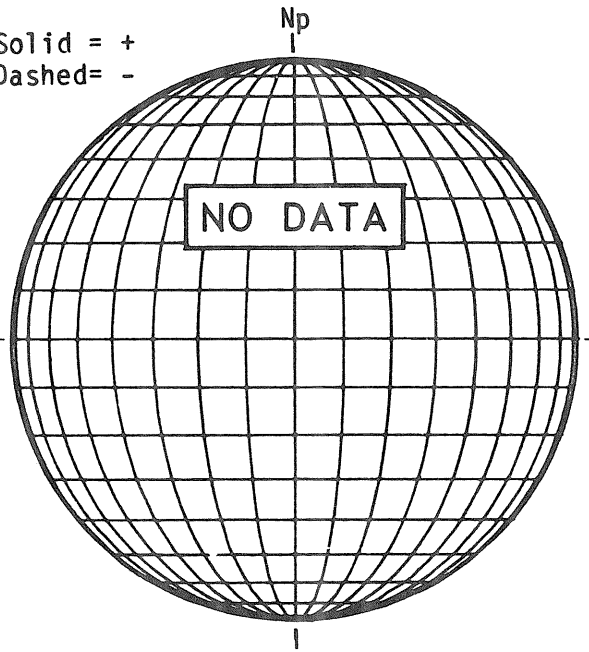
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



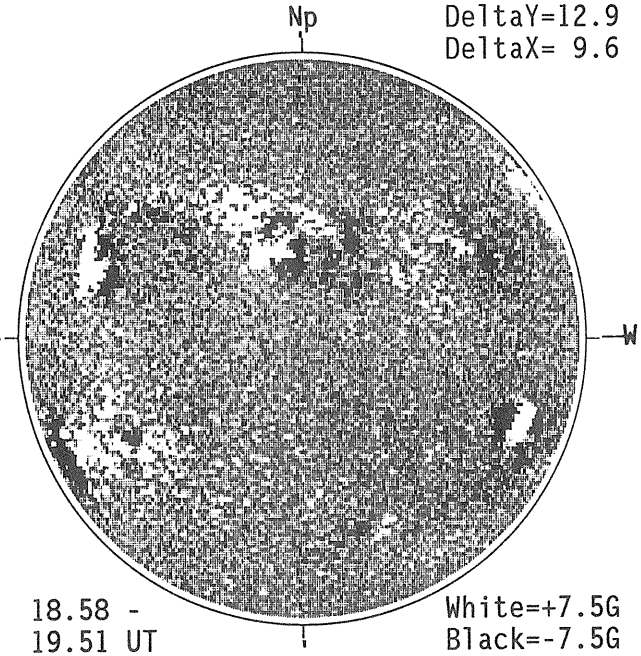
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

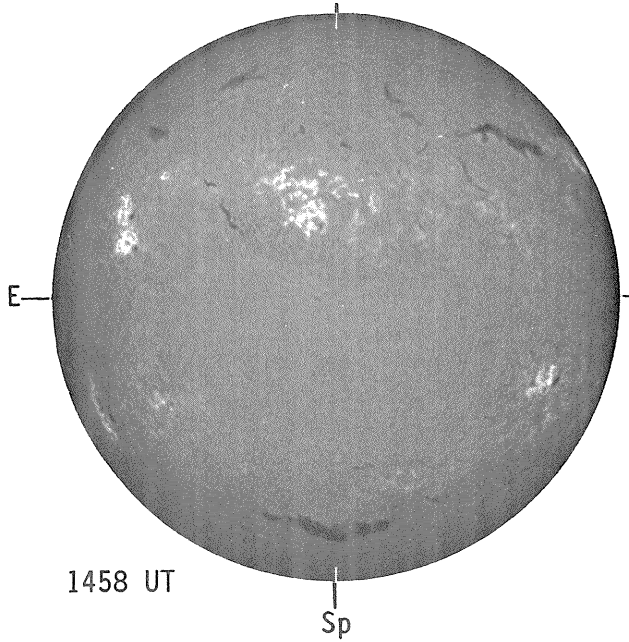


MT. WILSON MAGNETOGRAM

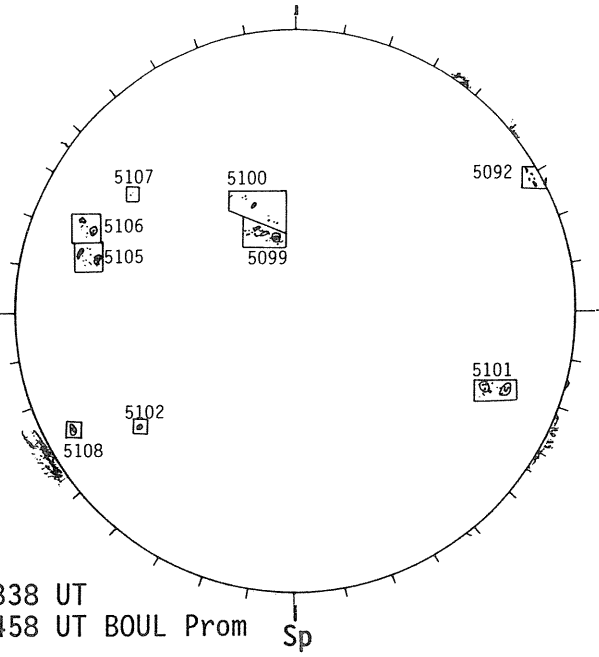
DeltaY=12.9
DeltaX= 9.6



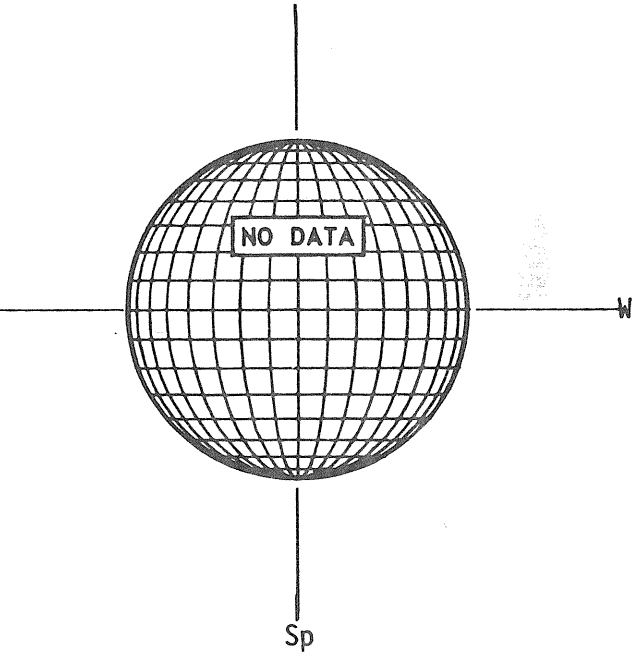
BOULDER H-ALPHA



BOULDER SUNSPOTS



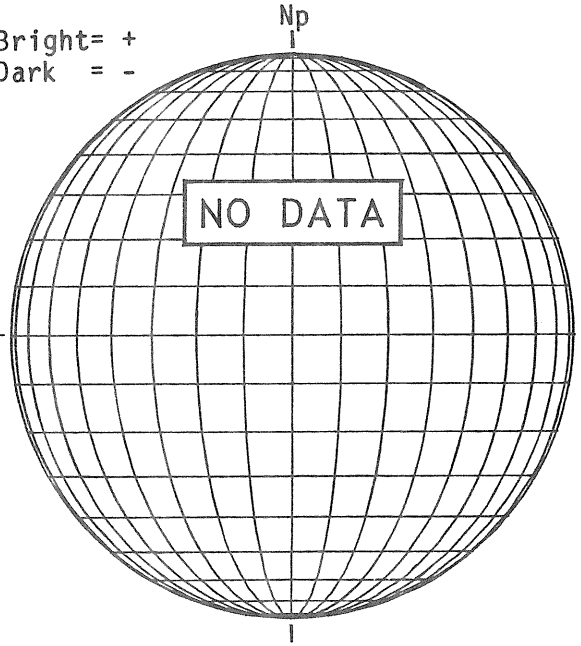
SACRAMENTO PEAK CORONA (1.15 Radii)



AUGUST 10, 1988 (P= 14.34, B_o= 6.38, L_o= 207.18)

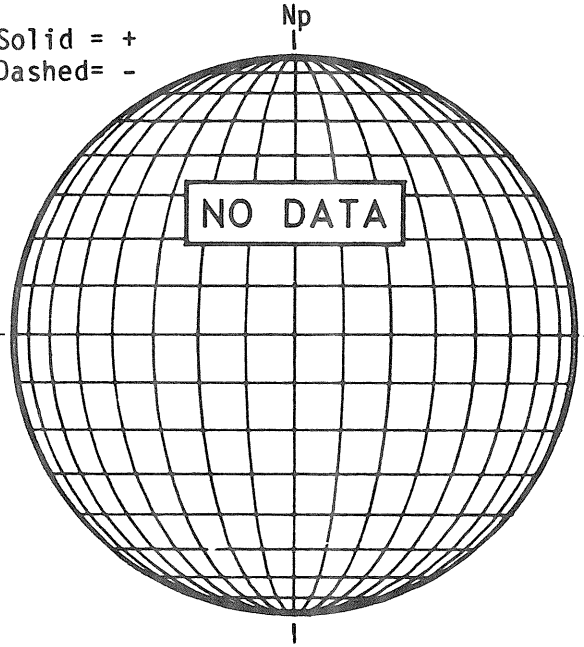
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



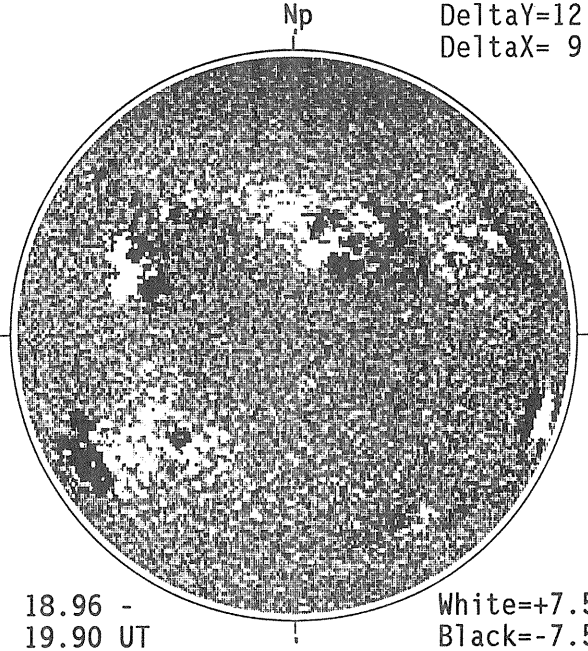
STANFORD MAGNETOGRAM

Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

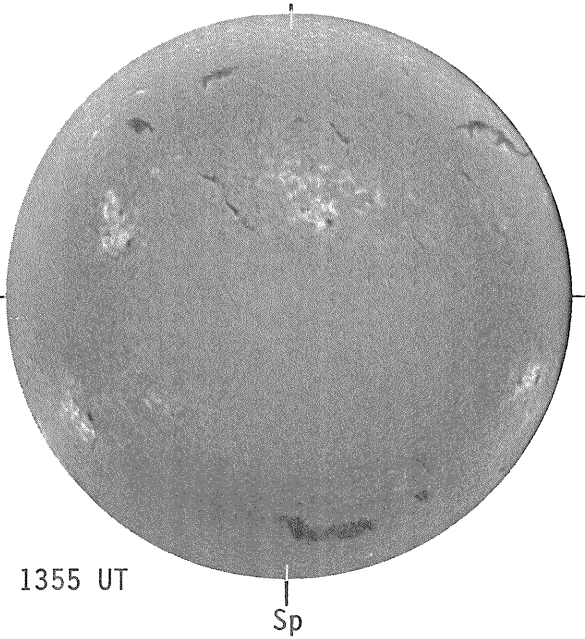
DeltaY=12.9
DeltaX= 9.6



18.96 -
19.90 UT

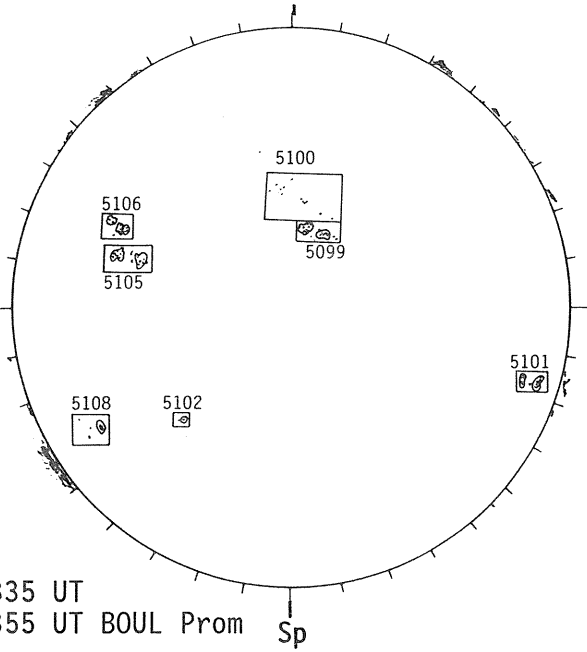
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



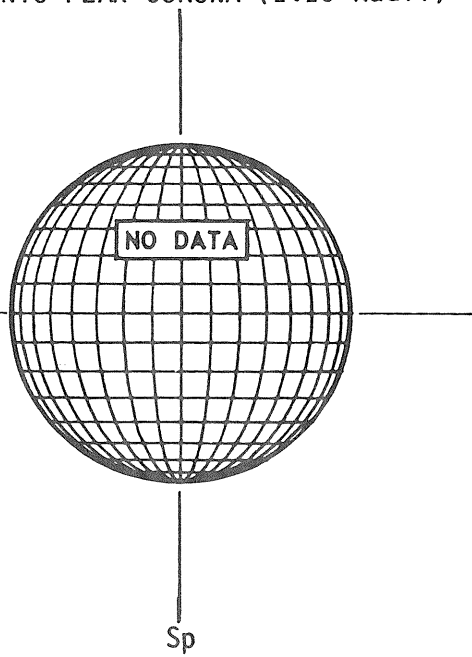
1355 UT

BOULDER SUNSPOTS



1335 UT
1355 UT BOUL Prom

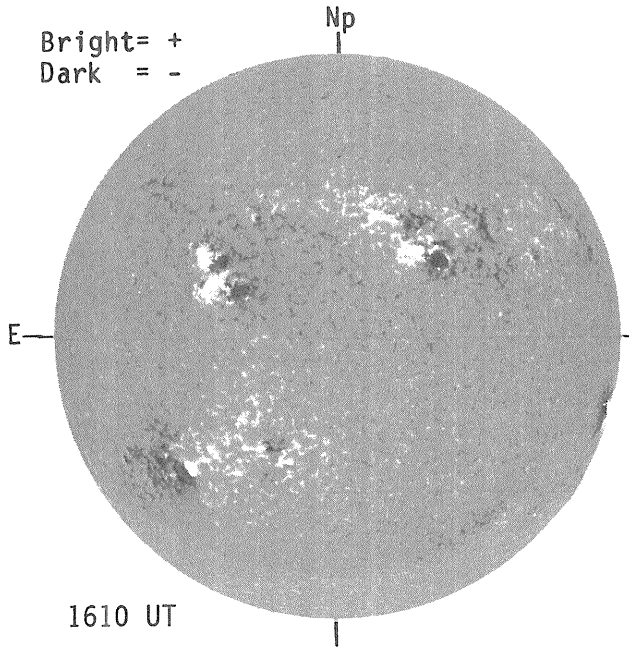
SACRAMENTO PEAK CORONA (1.15 Radii)



AUGUST 11, 1988 (P= 14.70, B_o= 6.44, L_o= 193.96)

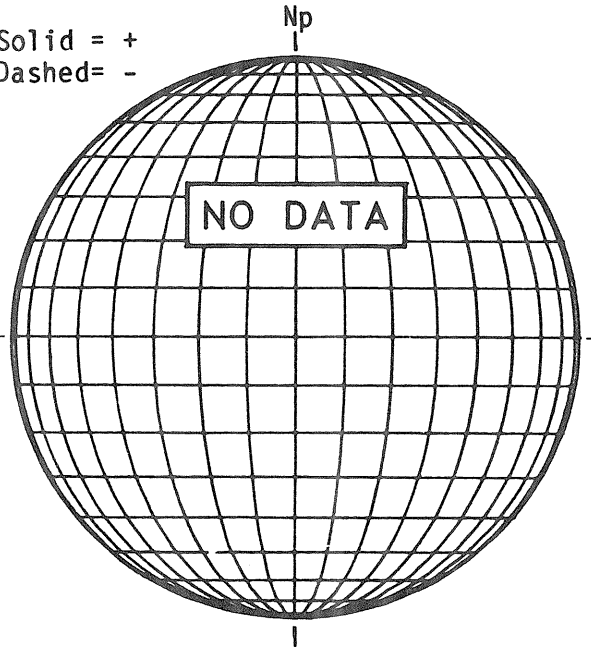
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



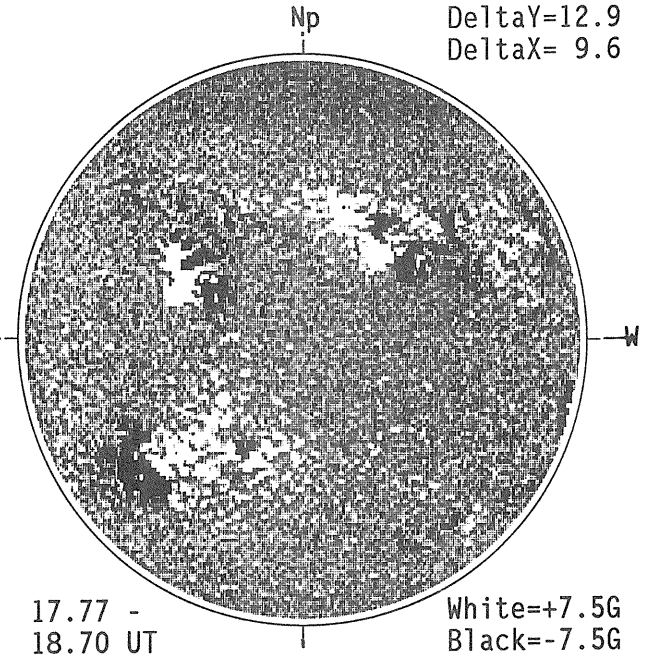
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

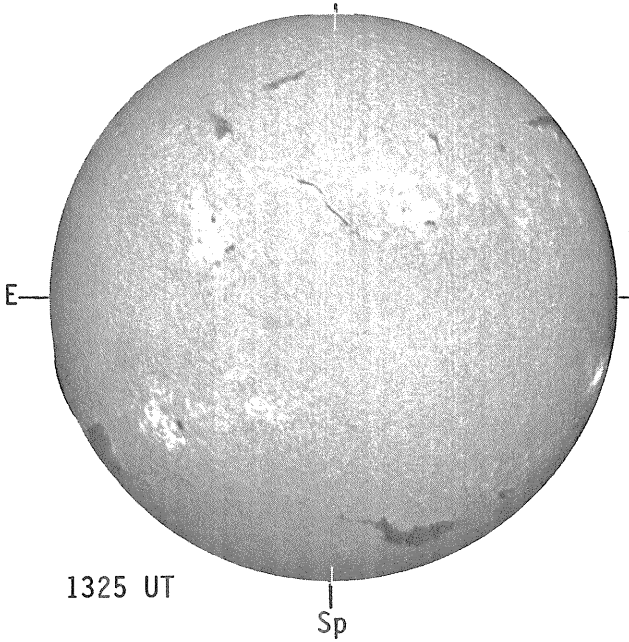


MT. WILSON MAGNETOGRAM

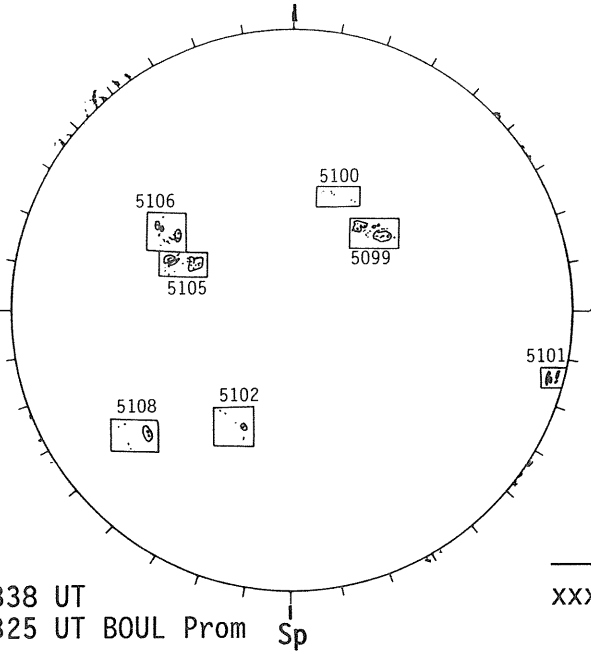
DeltaY=12.9
DeltaX= 9.6



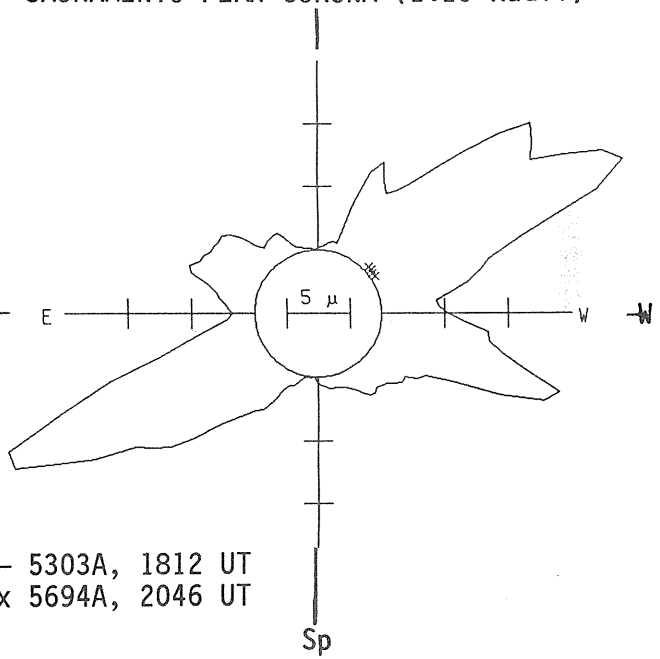
BOULDER H-ALPHA



BOULDER SUNSPOTS



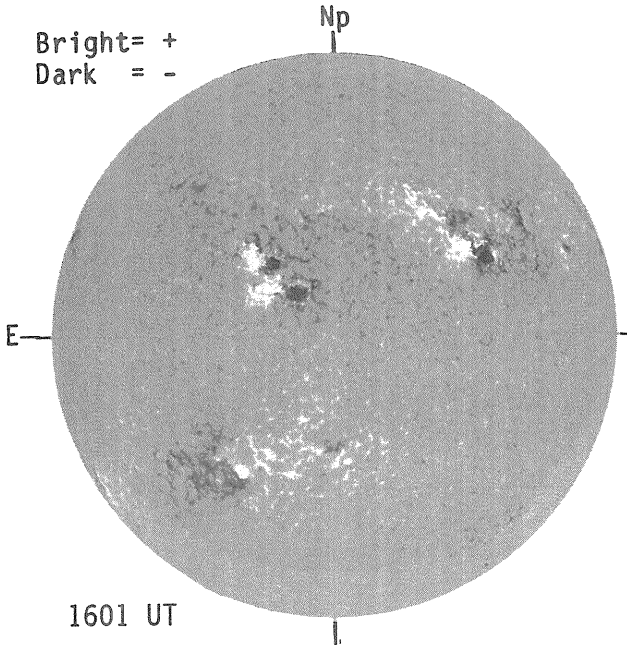
SACRAMENTO PEAK CORONA (1.15 Radii)



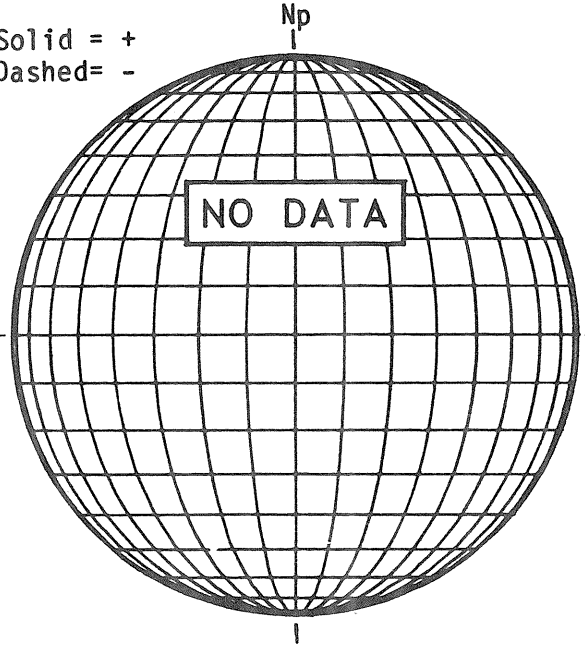
—— 5303A, 1812 UT
xxxx 5694A, 2046 UT

AUGUST 12, 1988 (P= 15.05, B_o= 6.49, L_o= 180.74)

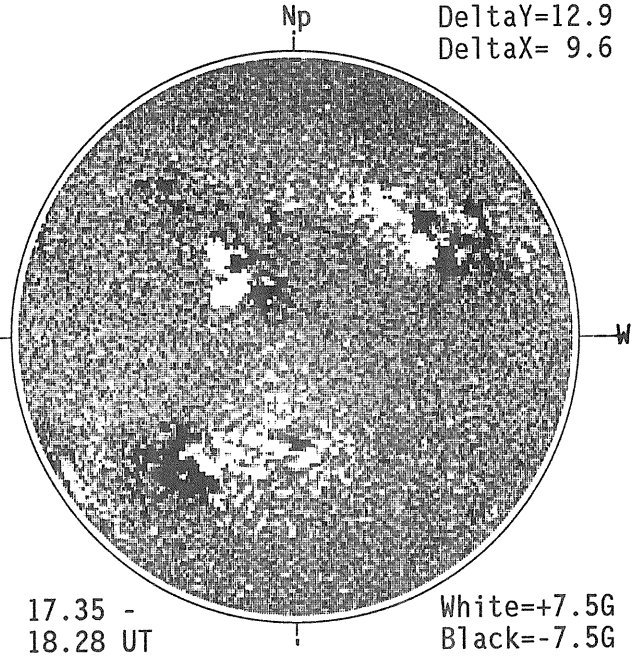
KITT PEAK MAGNETOGRAM



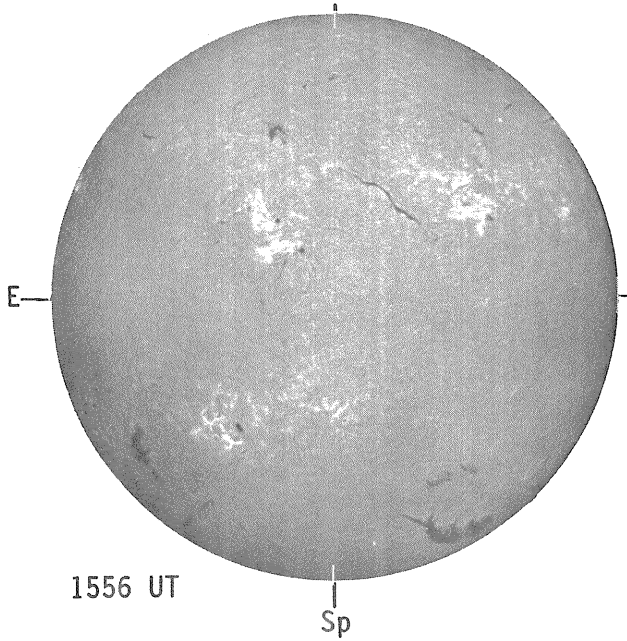
STANFORD MAGNETOGRAM



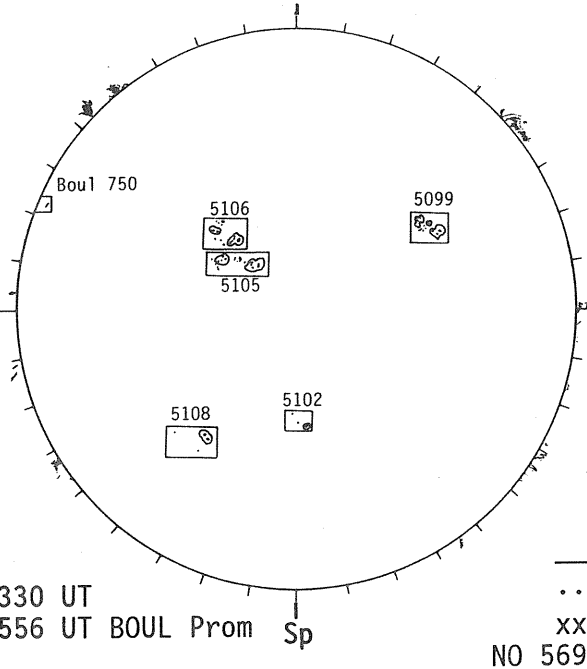
MT. WILSON MAGNETOGRAM



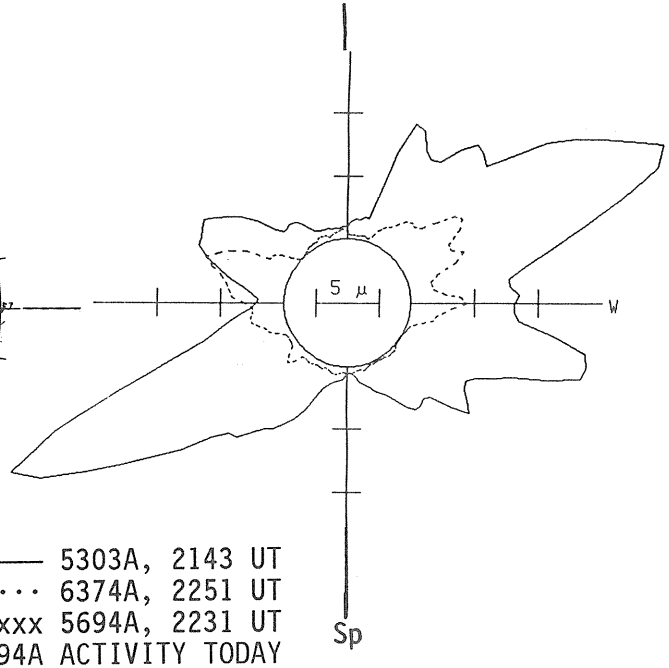
BOULDER H-ALHPA



BOULDER SUNSPOTS



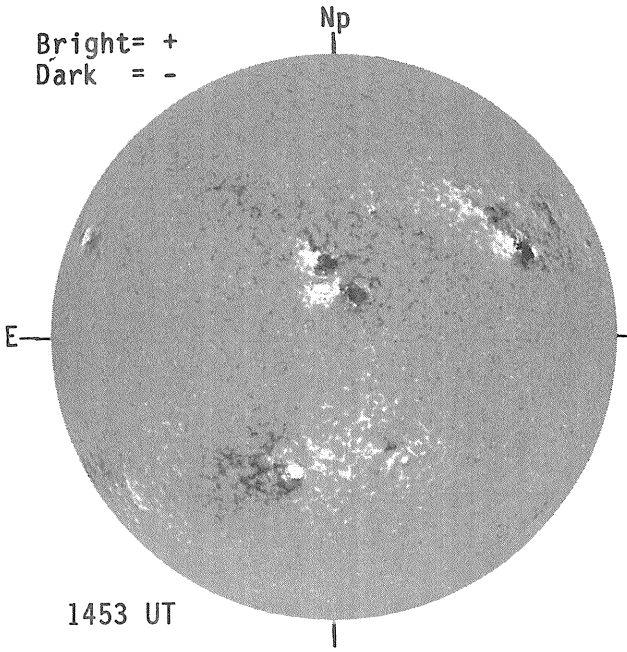
SACRAMENTO PEAK CORONA (1.15 Radii)



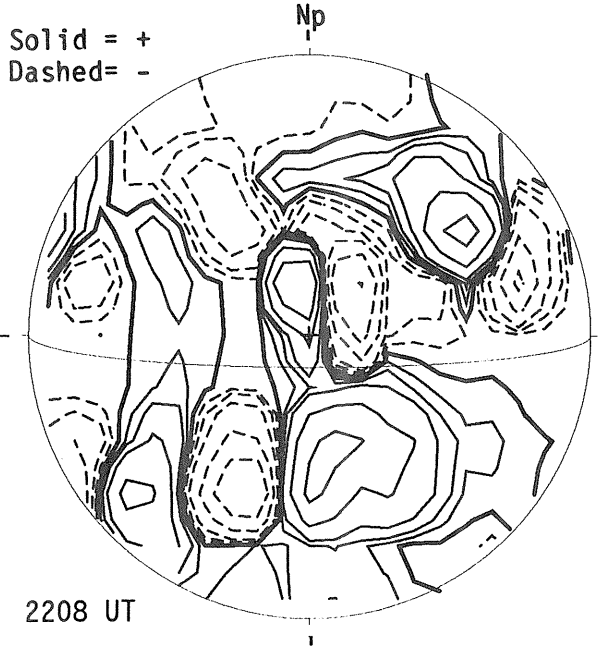
—— 5303A, 2143 UT
···· 6374A, 2251 UT
xxxx 5694A, 2231 UT
NO 5694A ACTIVITY TODAY

AUGUST 13, 1988 (P= 15.40, B_o= 6.54, L_o= 167.52)

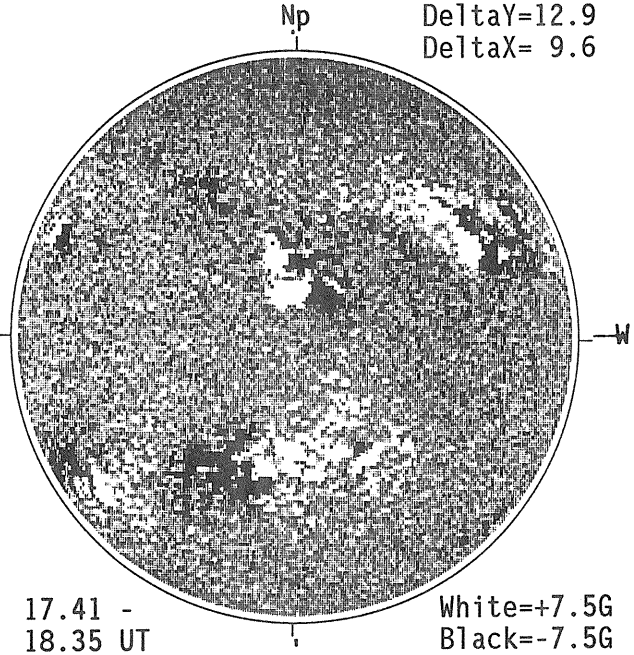
KITT PEAK MAGNETOGRAM



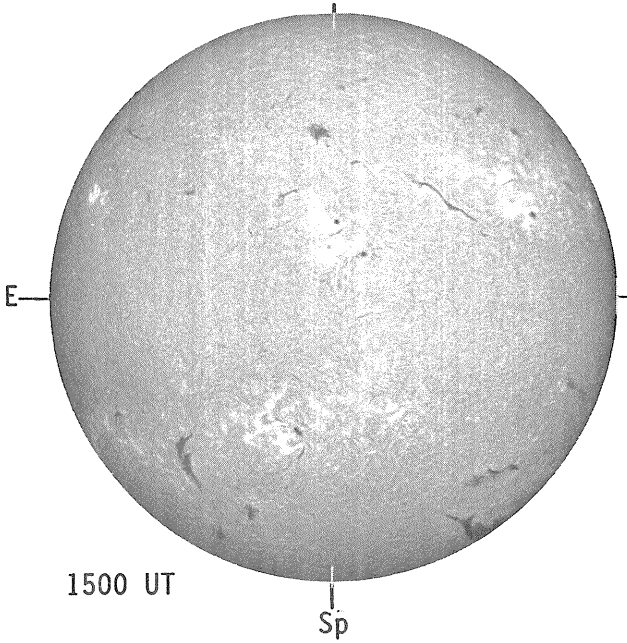
STANFORD MAGNETOGRAM



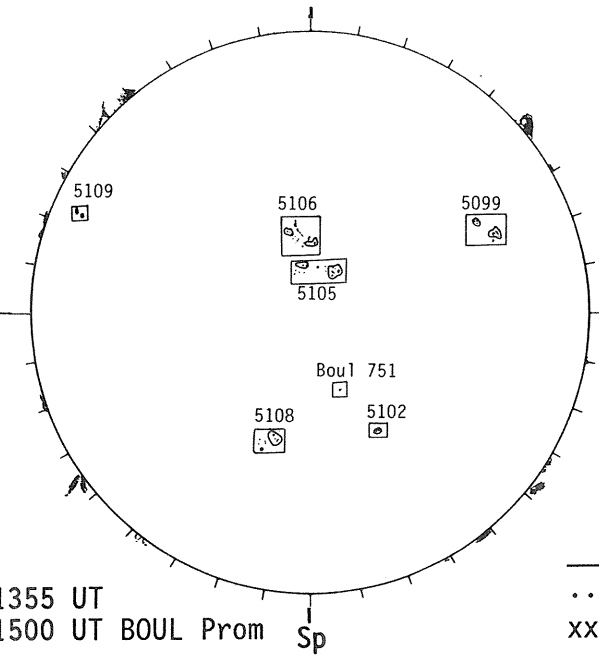
MT. WILSON MAGNETOGRAM



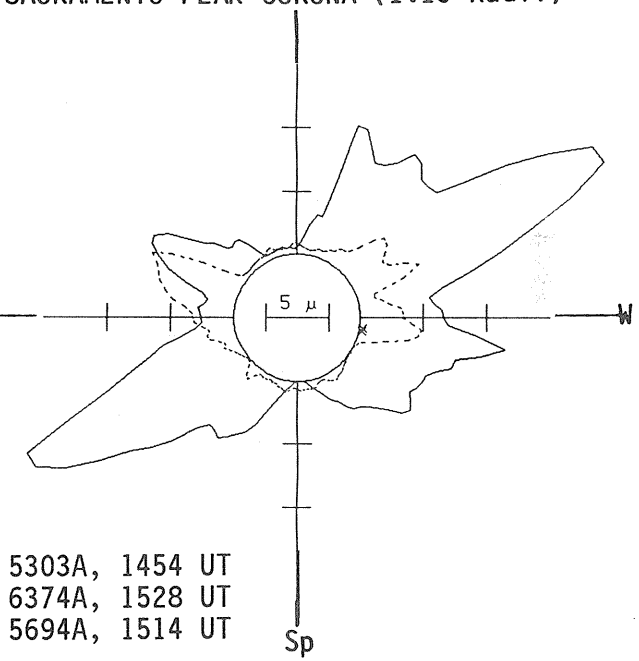
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

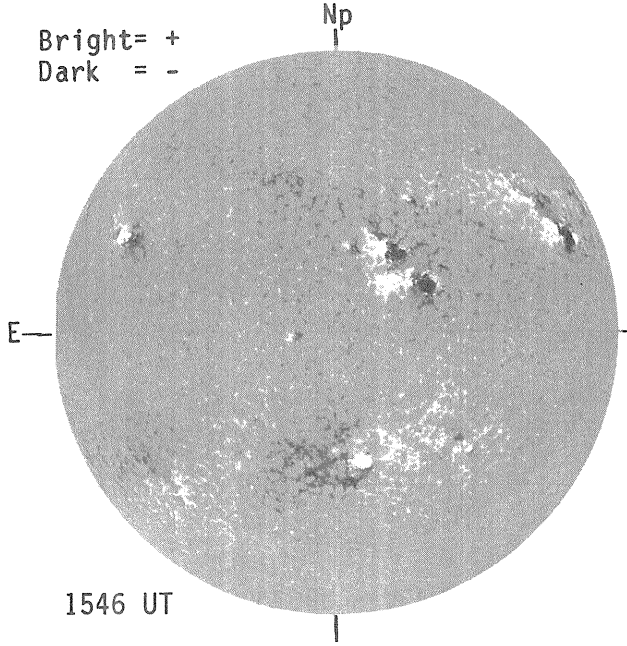


—— 5303A, 1454 UT
···· 6374A, 1528 UT
xxxx 5694A, 1514 UT

AUGUST 14, 1988 (P= 15.75, B_o= 6.60, L_o= 154.31)

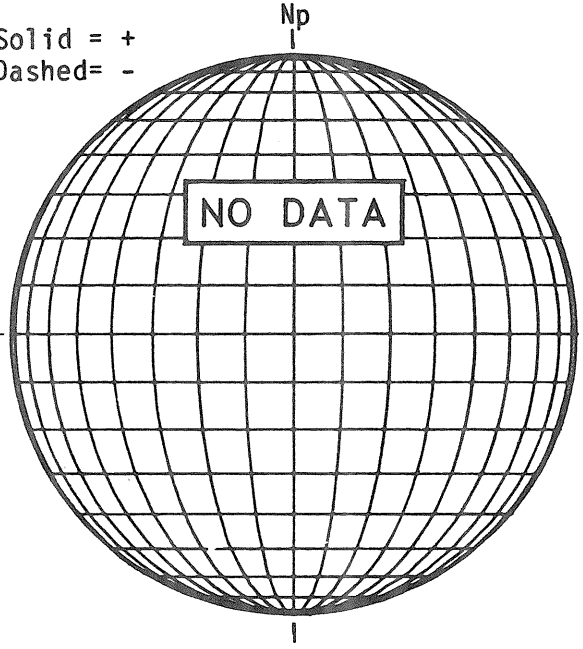
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



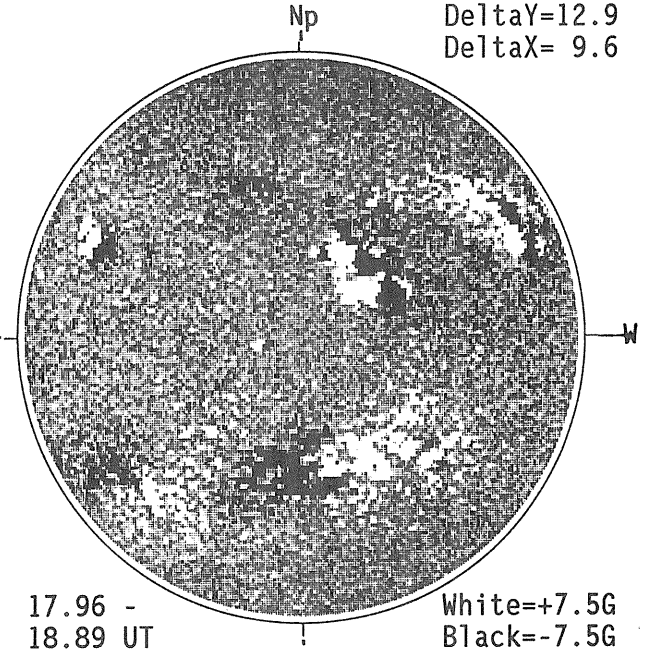
STANFORD MAGNETOGRAM

Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

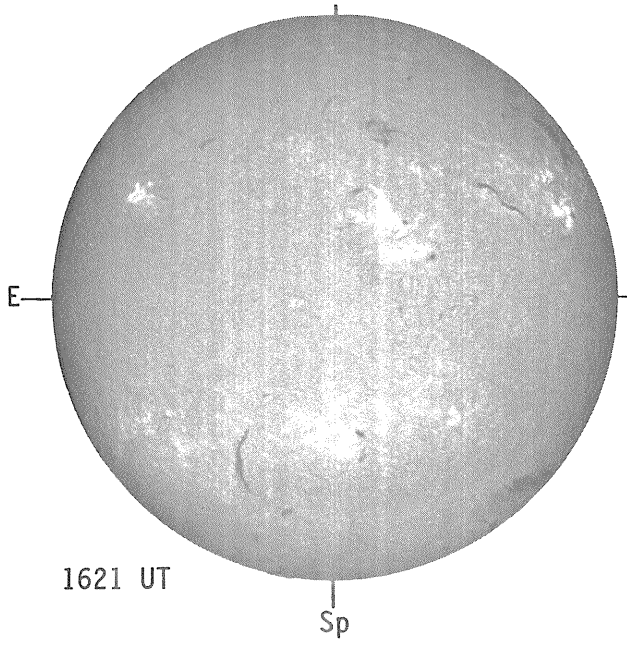
DeltaY=12.9
DeltaX= 9.6



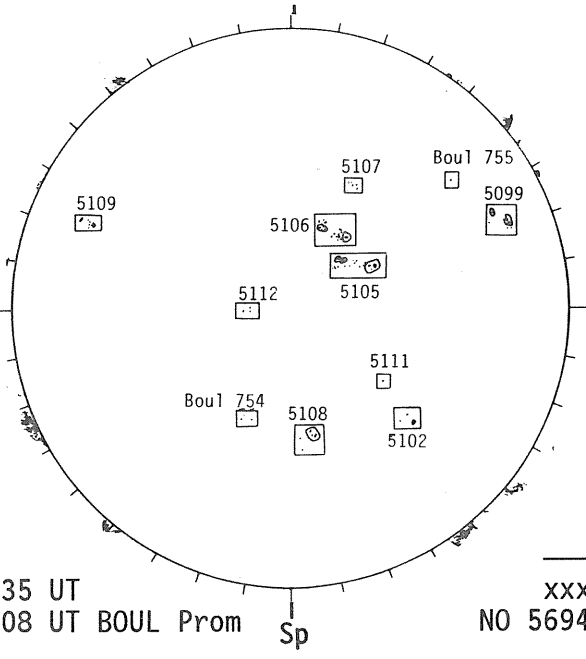
17.96 -
18.89 UT

White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA

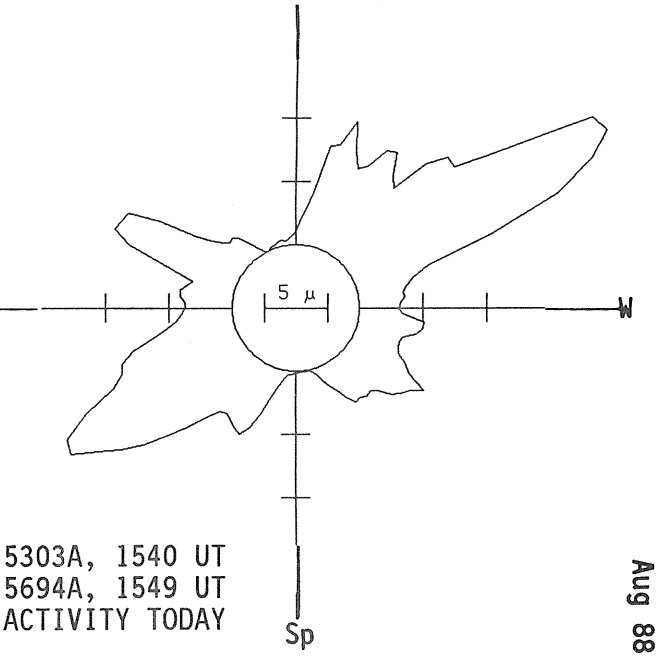


BOULDER SUNSPOTS



1335 UT
1408 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



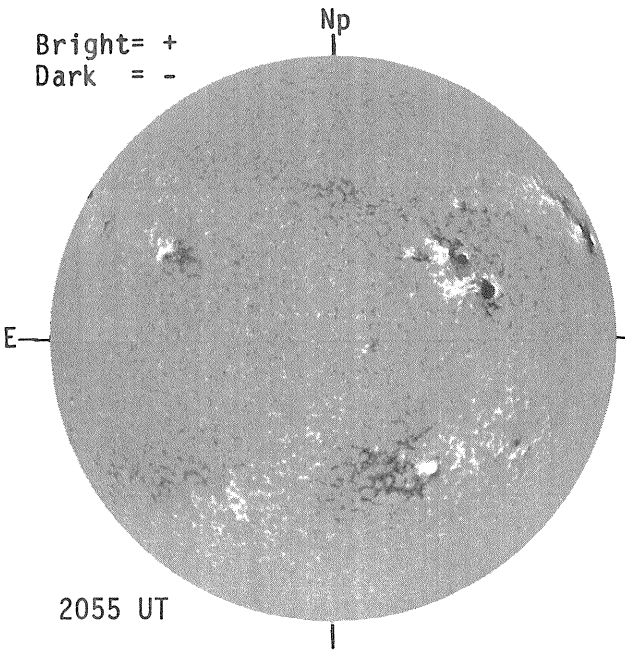
—— 5303A, 1540 UT
xxxx 5694A, 1549 UT
NO 5694A ACTIVITY TODAY

64
Aug 88

AUGUST 15, 1988 (P= 16.09, B_o= 6.64, L_o= 141.09)

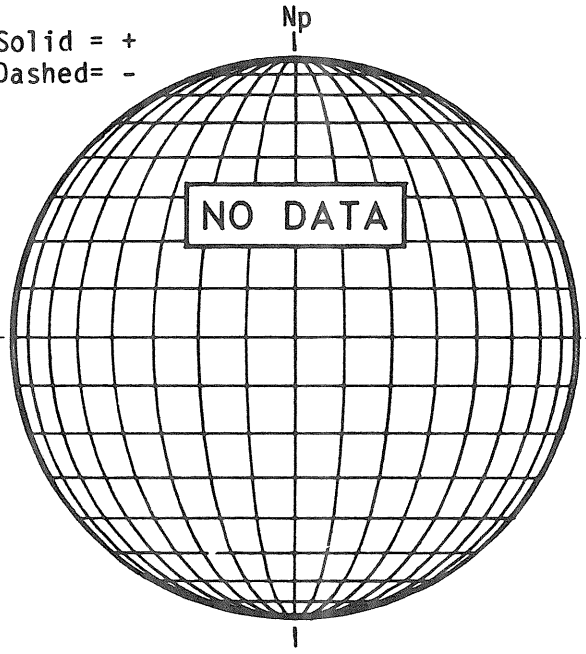
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



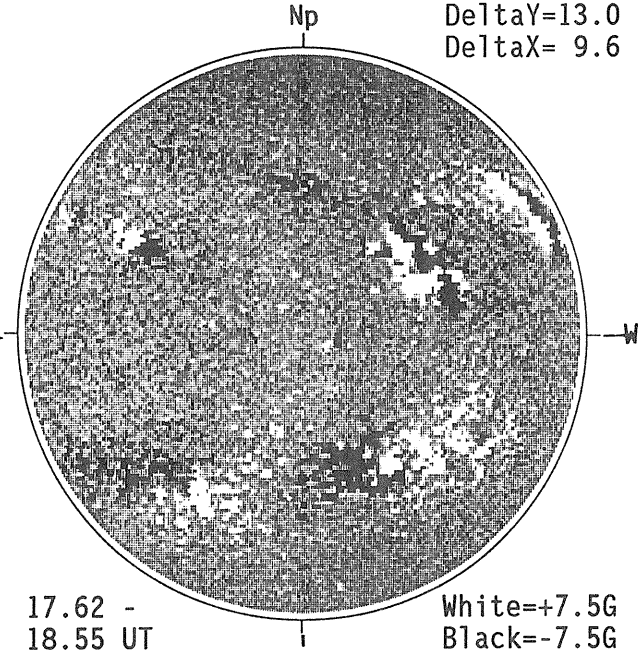
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

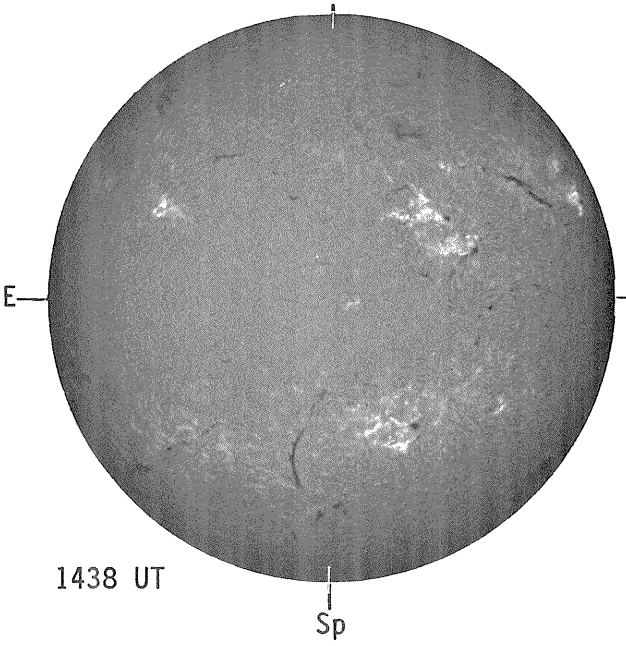


MT. WILSON MAGNETOGRAM

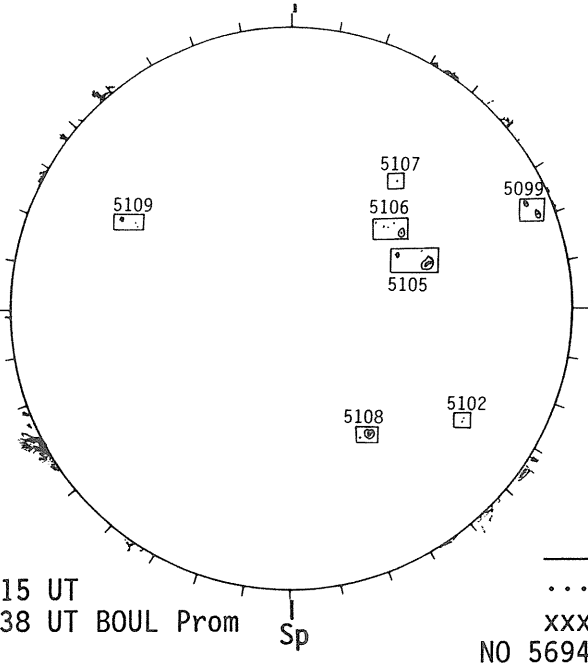
DeltaY=13.0
DeltaX= 9.6



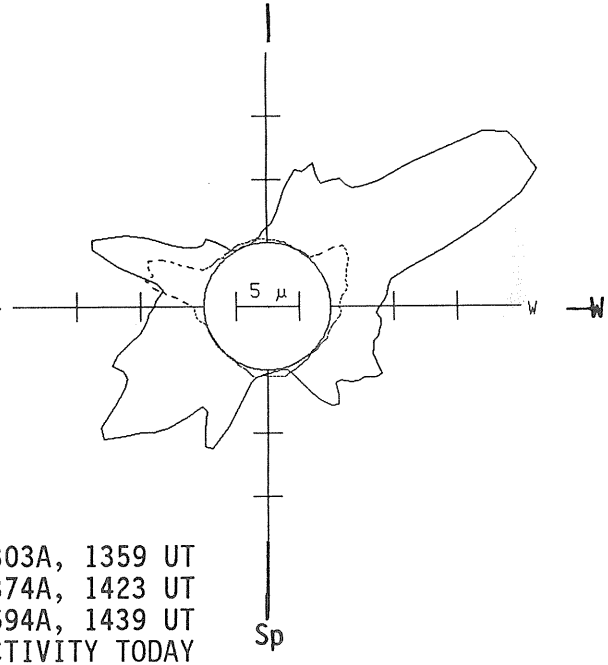
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

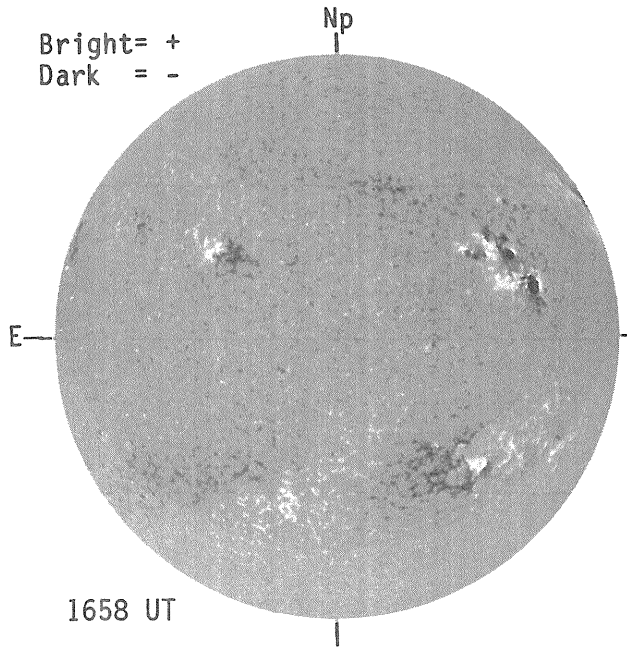


—— 5303A, 1359 UT
···· 6374A, 1423 UT
xxxx 5694A, 1439 UT
NO 5694A ACTIVITY TODAY

AUGUST 16, 1988 (P= 16.43, B_o= 6.69, L_o= 127.87)

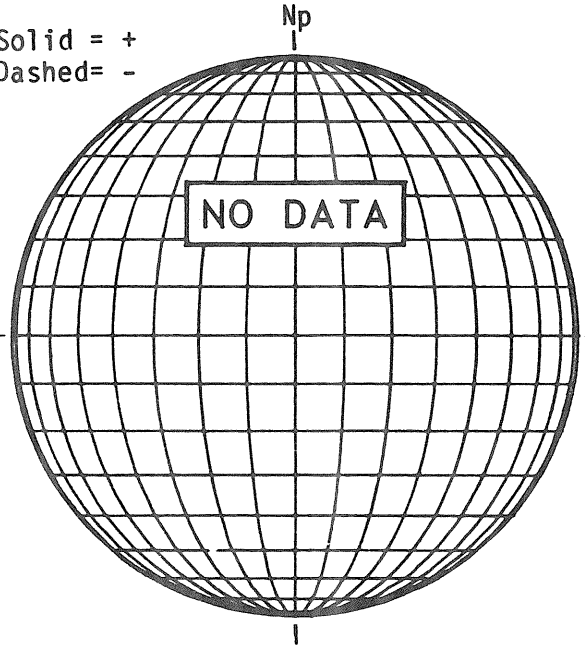
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



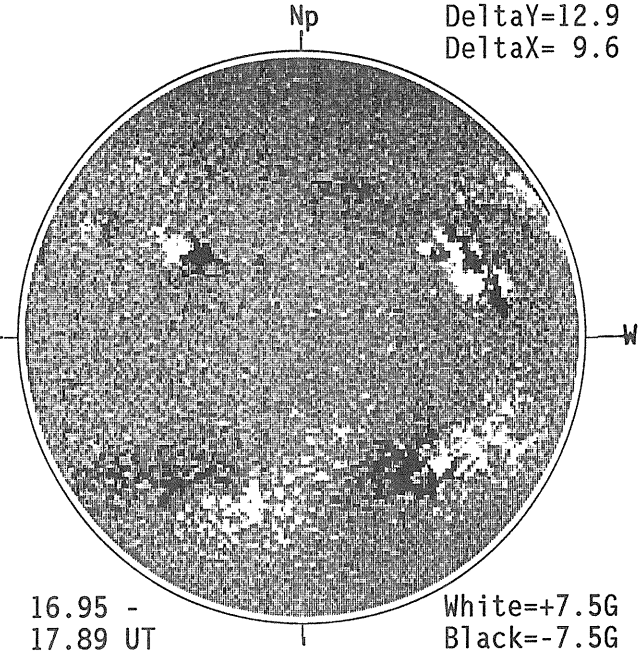
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

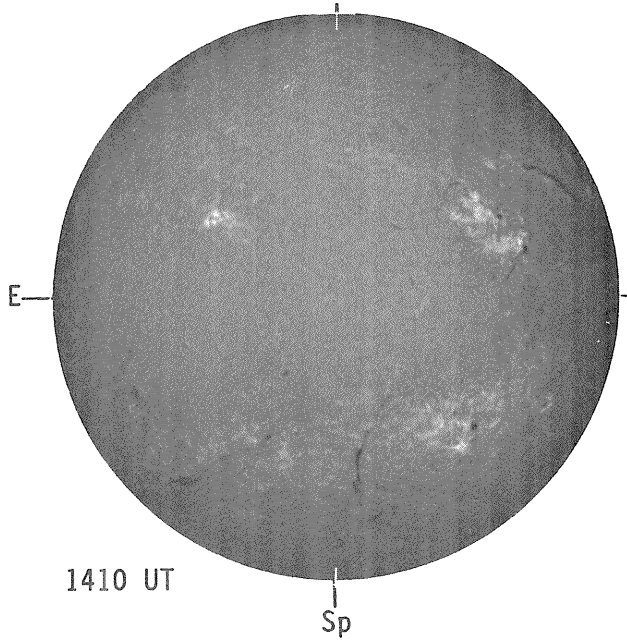


MT. WILSON MAGNETOGRAM

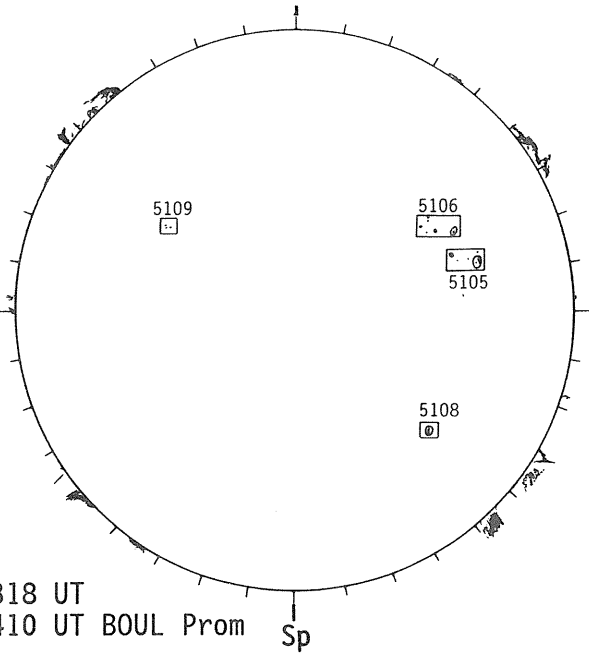
DeltaY=12.9
DeltaX= 9.6



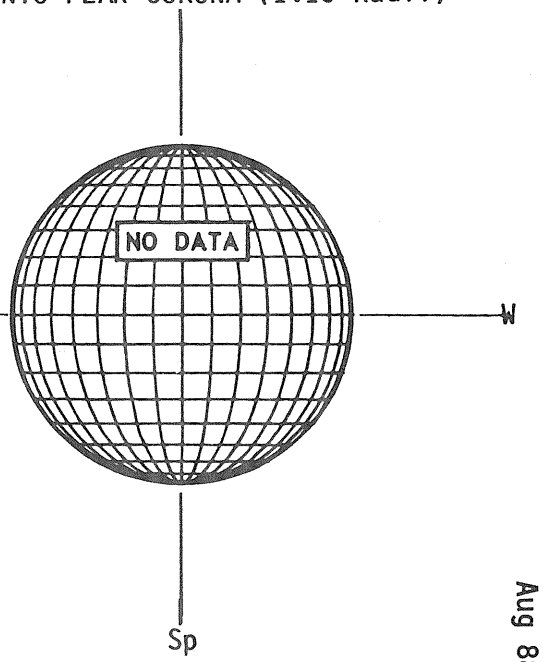
BOULDER H-ALPHA



BOULDER SUNSPOTS



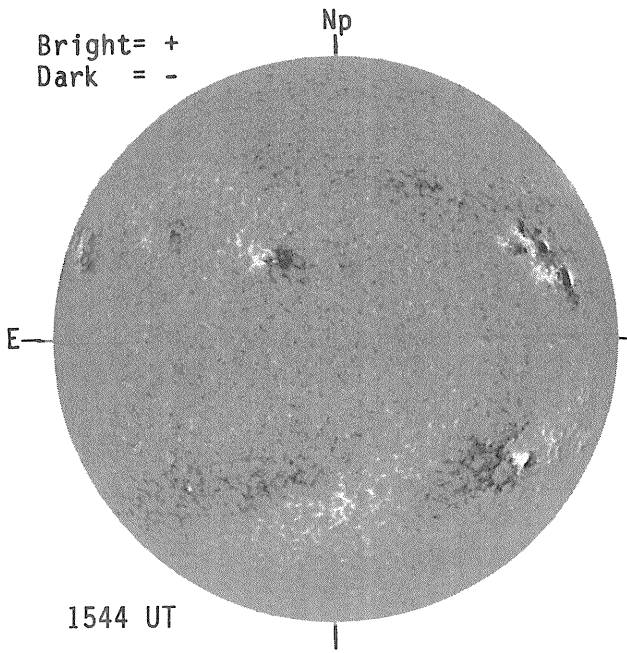
SACRAMENTO PEAK CORONA (1.15 Radii)



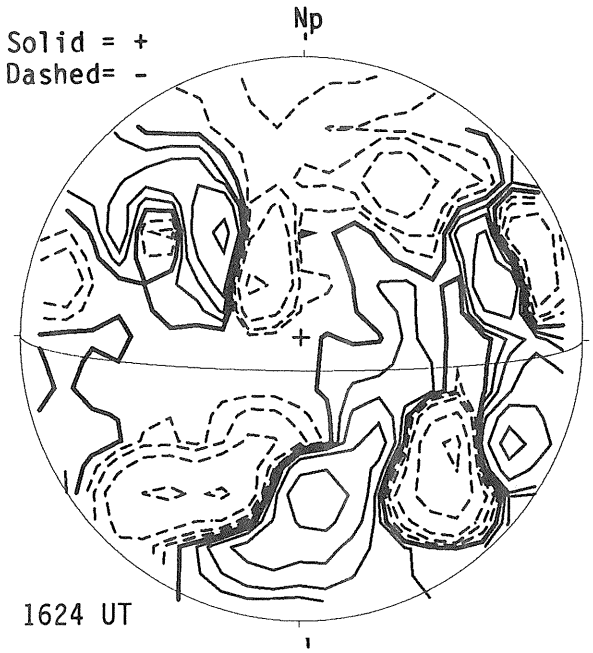
66
Aug 88

AUGUST 17, 1988 (P= 16.76, B_o= 6.74, L_o= 114.65)

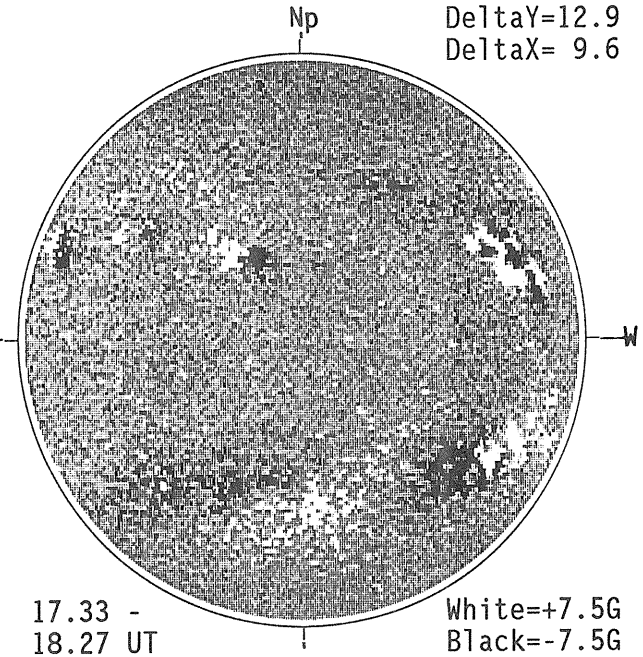
KITT PEAK MAGNETOGRAM



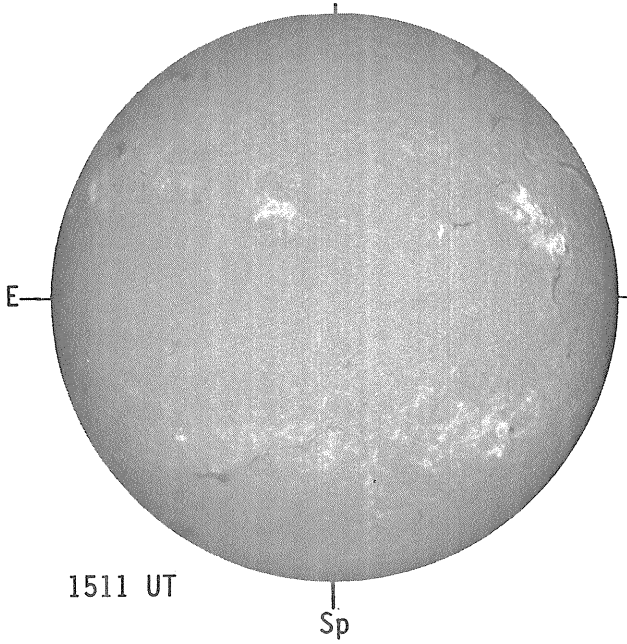
STANFORD MAGNETOGRAM



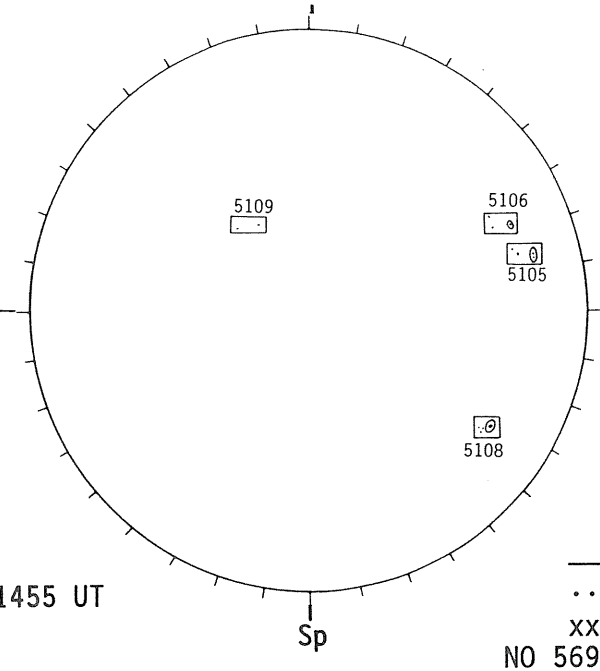
MT. WILSON MAGNETOGRAM



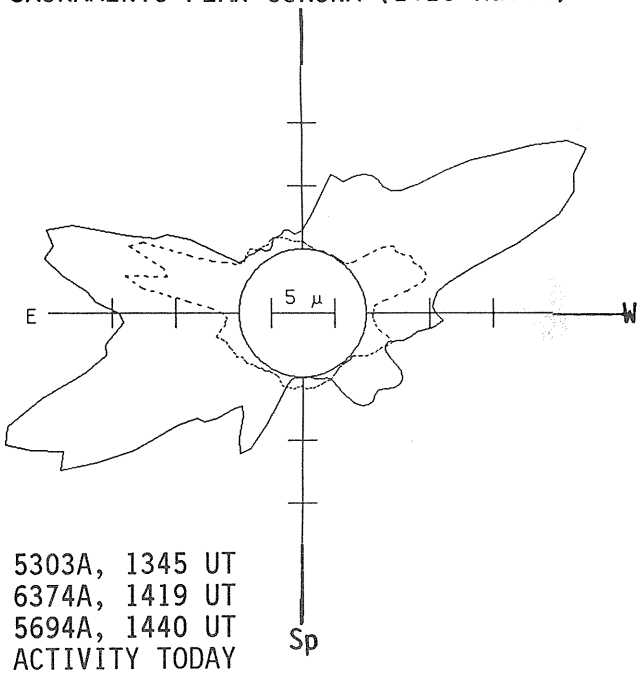
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

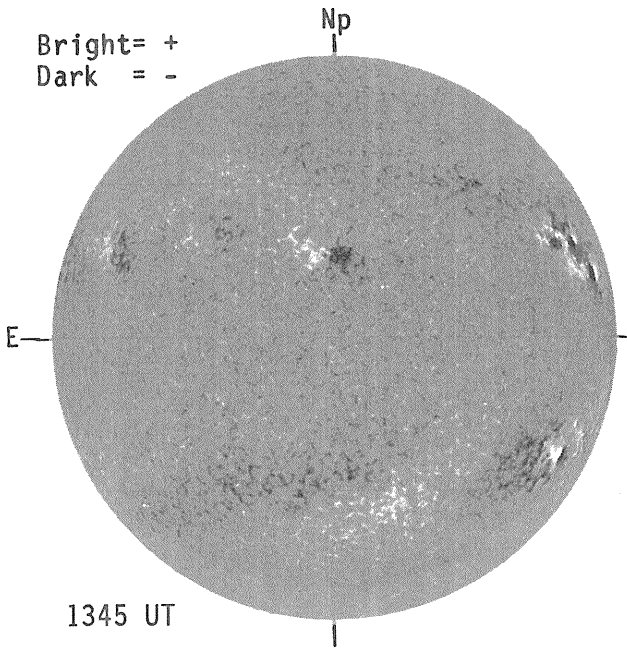


—— 5303A, 1345 UT
···· 6374A, 1419 UT
xxxx 5694A, 1440 UT
NO 5694A ACTIVITY TODAY

AUGUST 18, 1988 (P= 17.09, B_o= 6.78, L_o= 101.44)

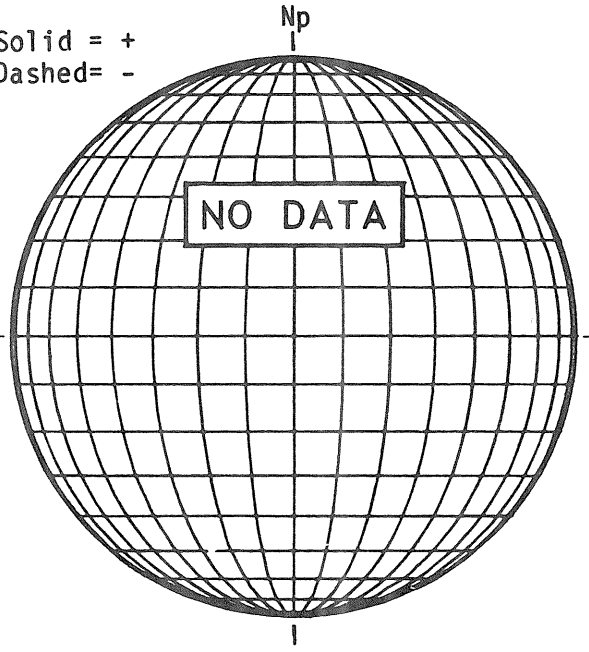
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



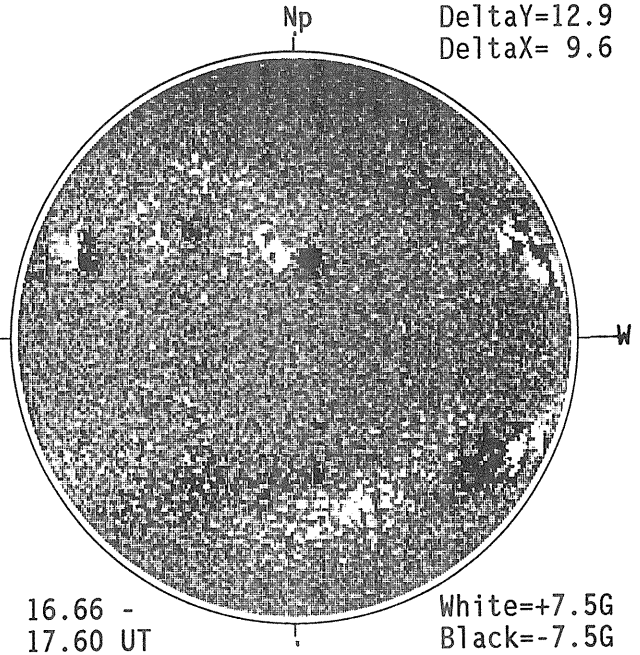
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

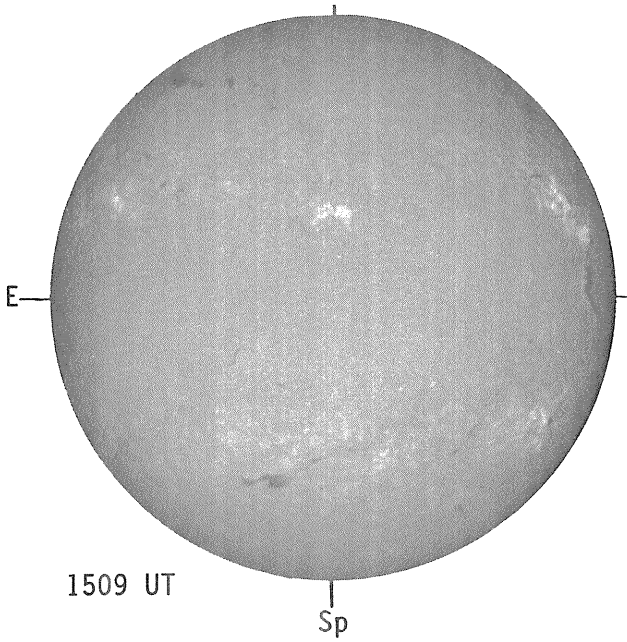


MT. WILSON MAGNETOGRAM

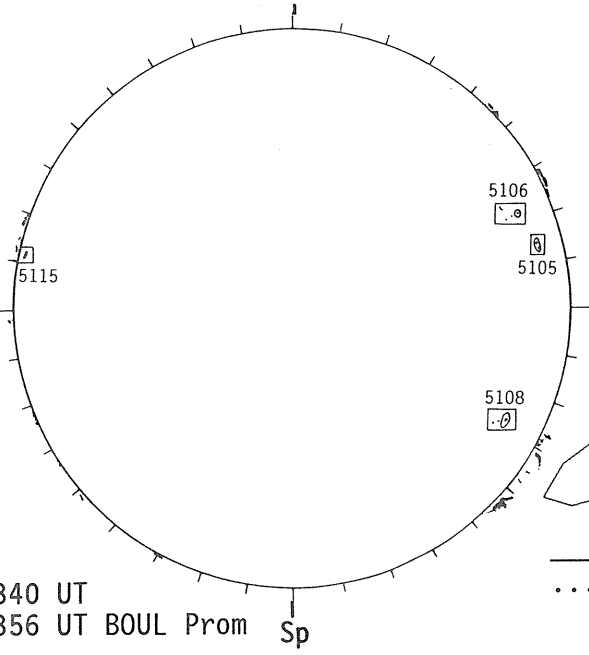
DeltaY=12.9
DeltaX= 9.6



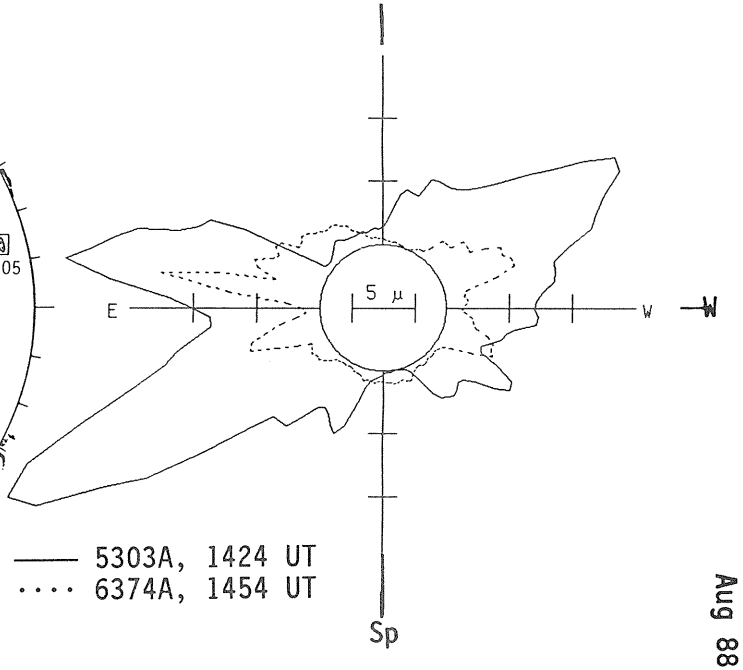
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

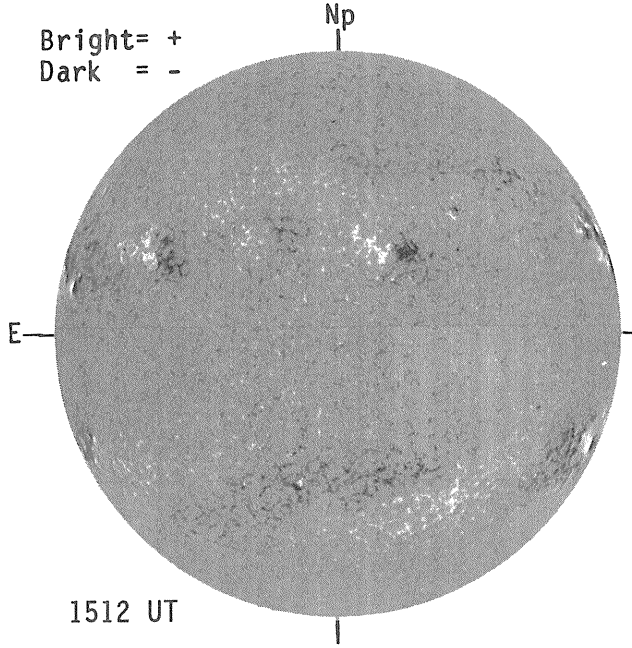


—— 5303A, 1424 UT
···· 6374A, 1454 UT

AUGUST 19, 1988 (P= 17.41, B_o= 6.82, L_o= 88.22)

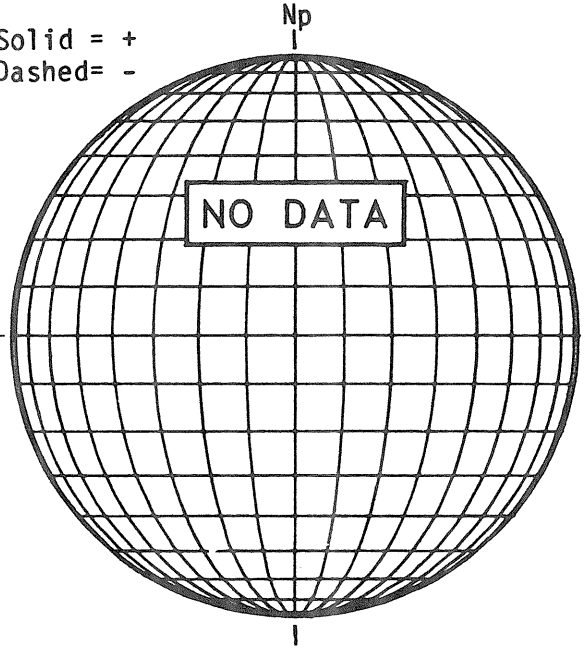
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



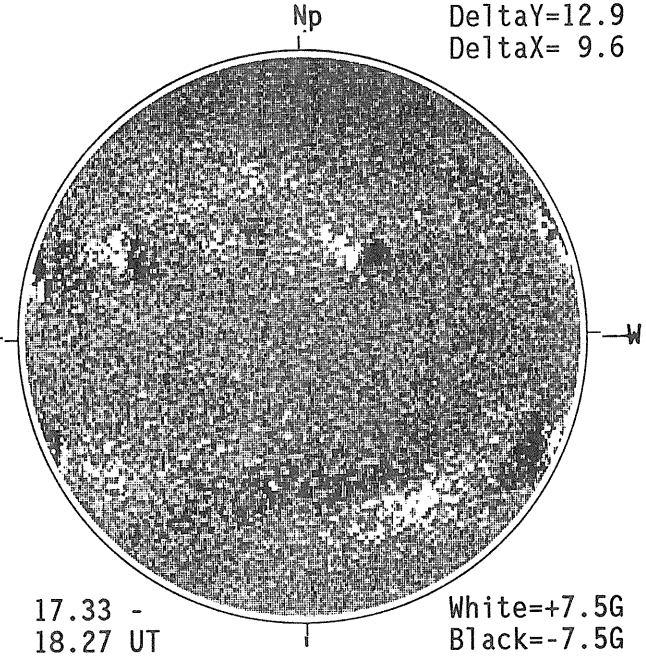
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

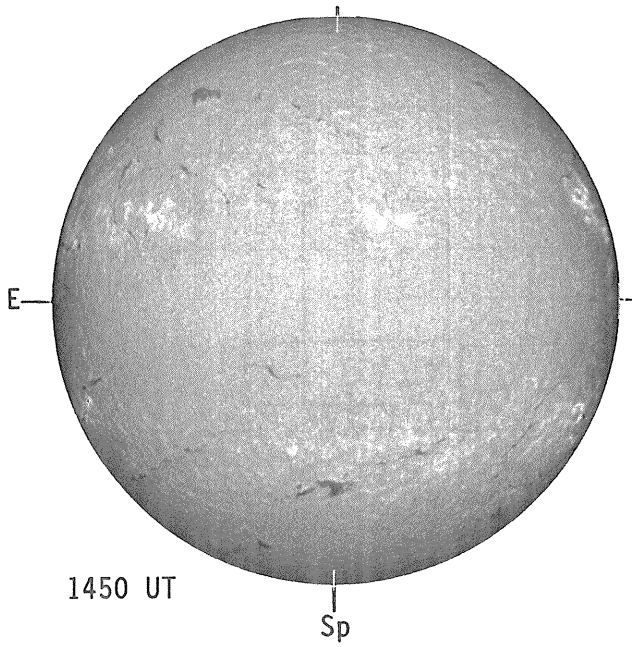


MT. WILSON MAGNETOGRAM

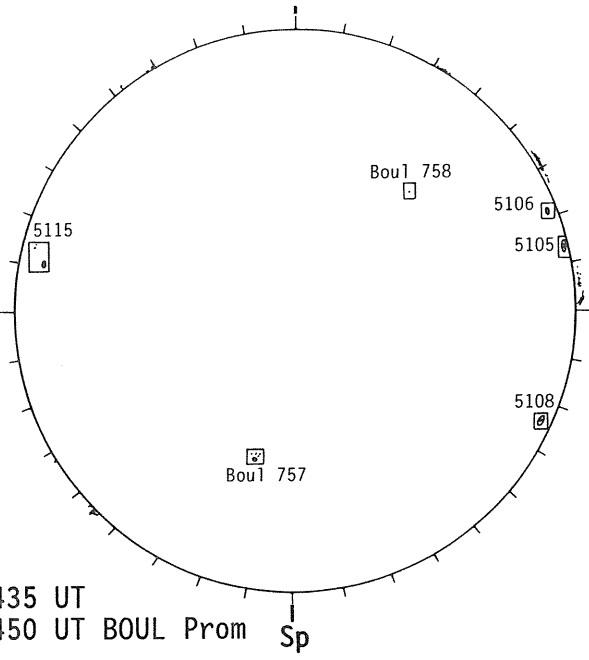
DeltaY=12.9
DeltaX= 9.6



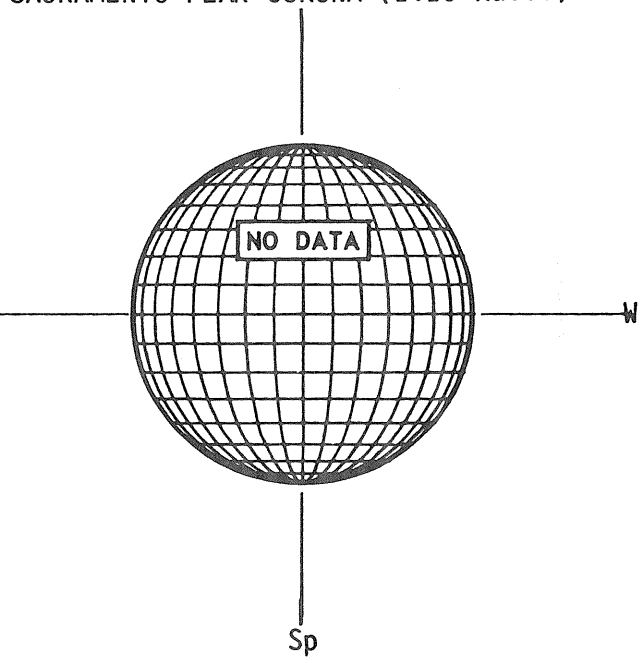
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



AUGUST 20, 1988 (P= 17.73 B_o= 6.86, L_o= 75.00)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -

NO DATA

E

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -

2310 UT

MT. WILSON MAGNETOGRAM

Np

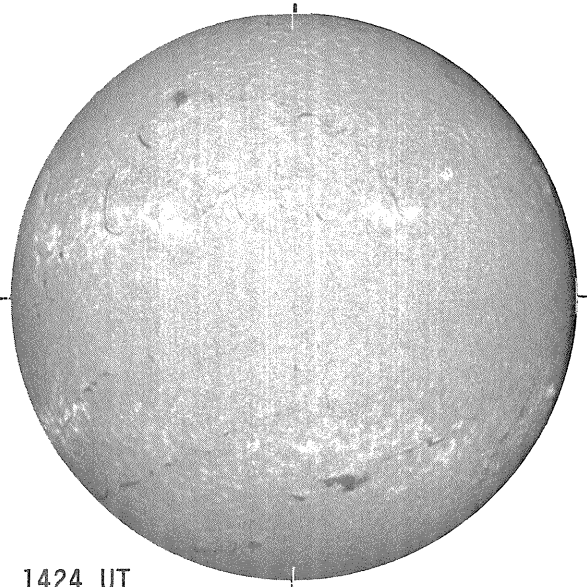
DeltaY=12.9
DeltaX= 9.6

W

21.28 -
22.22 UT

White=+7.5G
Black=-7.5G

BOULDER H-ALPHA

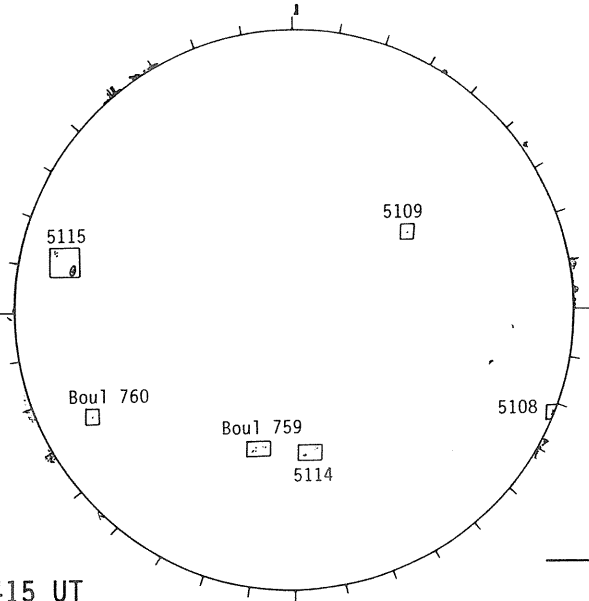


E

1424 UT

Sp

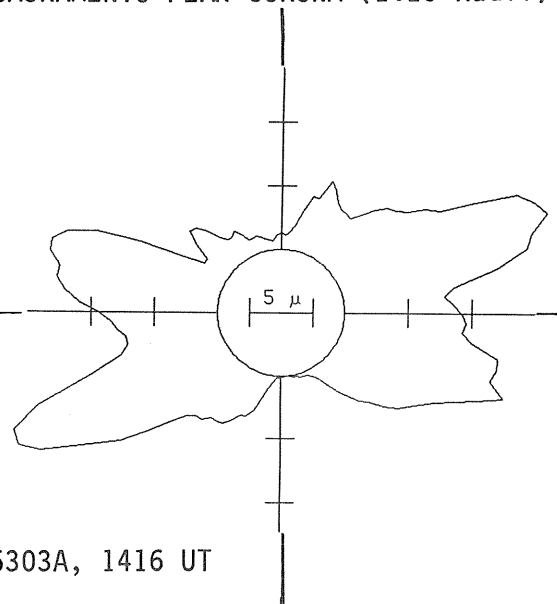
BOULDER SUNSPOTS



1415 UT
1424 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (1.15 Radii)



W

—— 5303A, 1416 UT

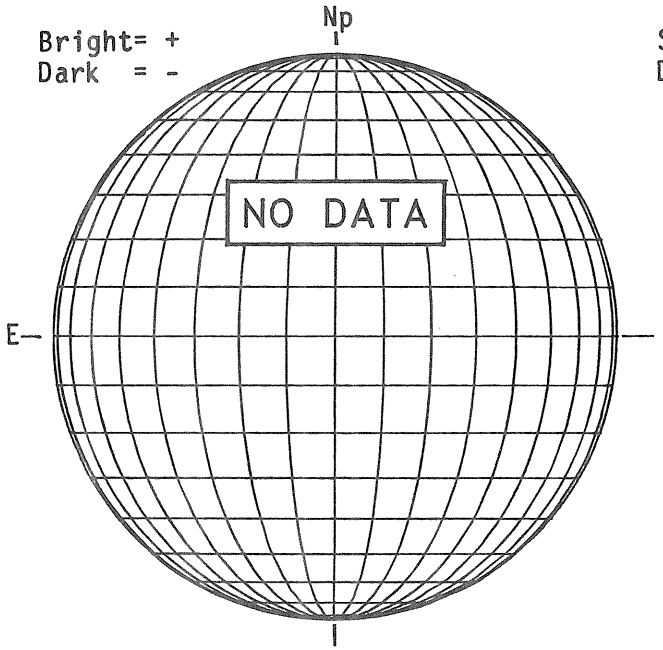
Sp

70
Aug 88

AUGUST 21, 1988 (P= 18.04, B_o= 6.90, L_o= 61.79)

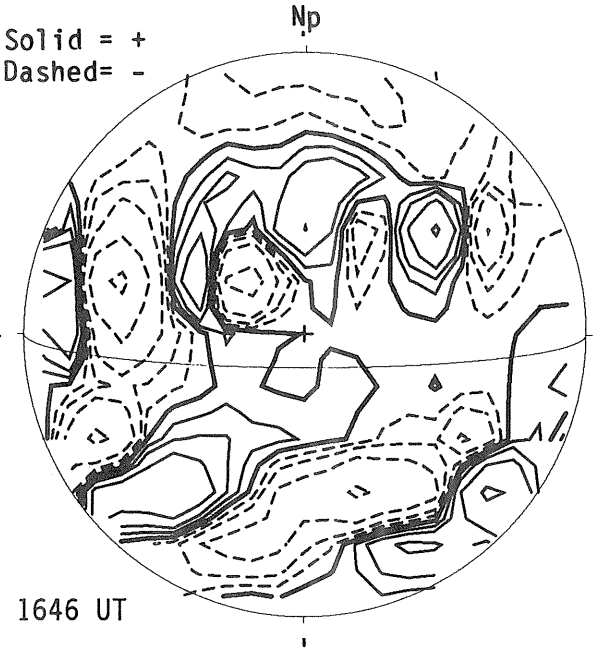
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



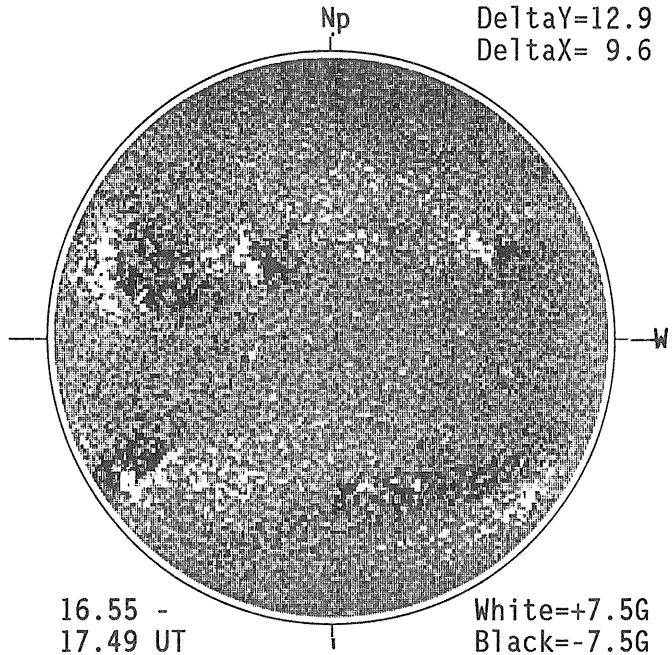
STANFORD MAGNETOGRAM

Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

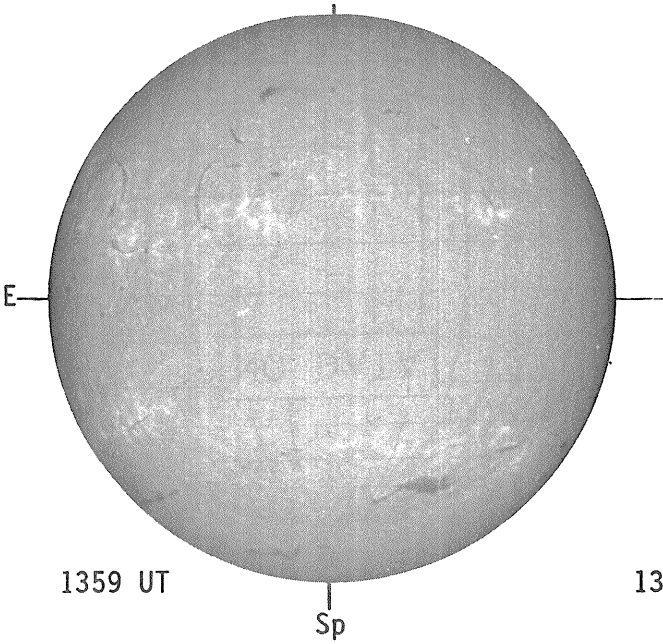
DeltaY=12.9
DeltaX= 9.6



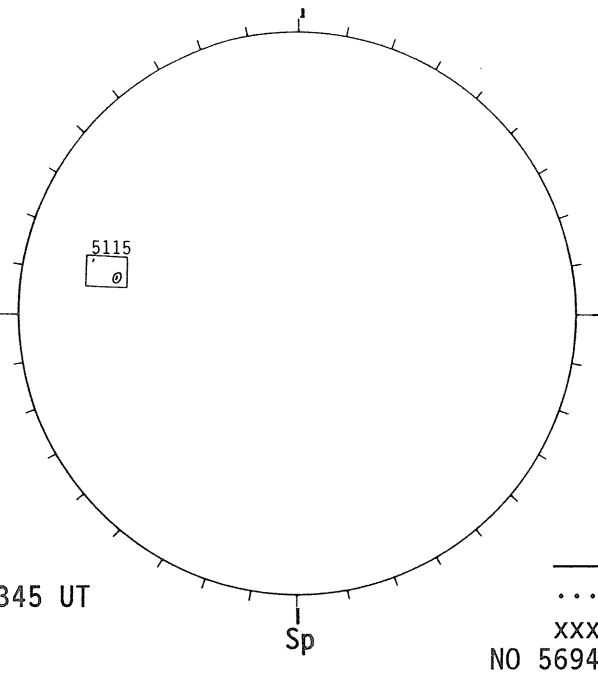
16.55 -
17.49 UT

White=+7.5G
Black=-7.5G

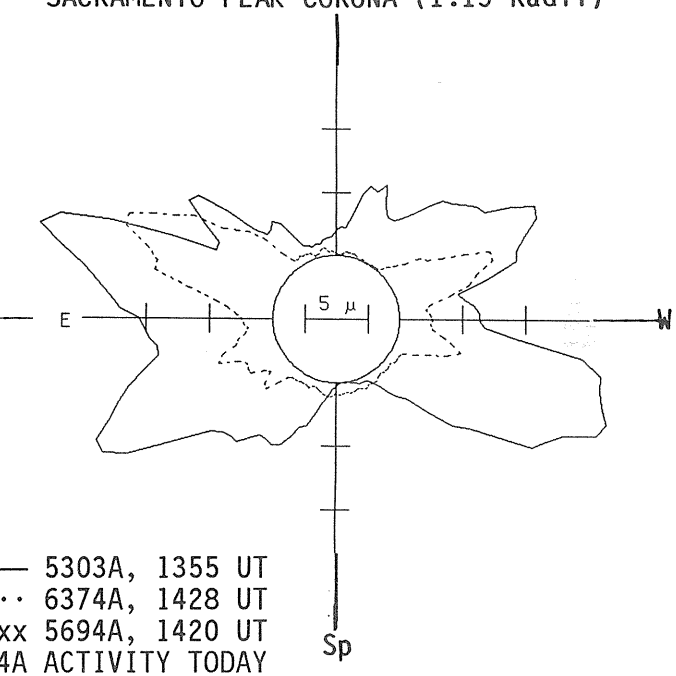
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

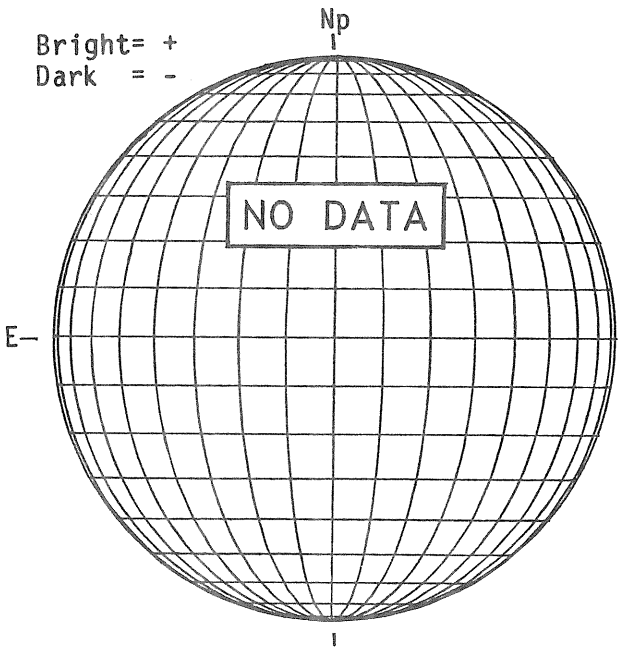


—— 5303A, 1355 UT
···· 6374A, 1428 UT
xxxx 5694A, 1420 UT
NO 5694A ACTIVITY TODAY

AUGUST 22, 1988 (P= 18.35, B_o= 6.94, L_o= 48.57)

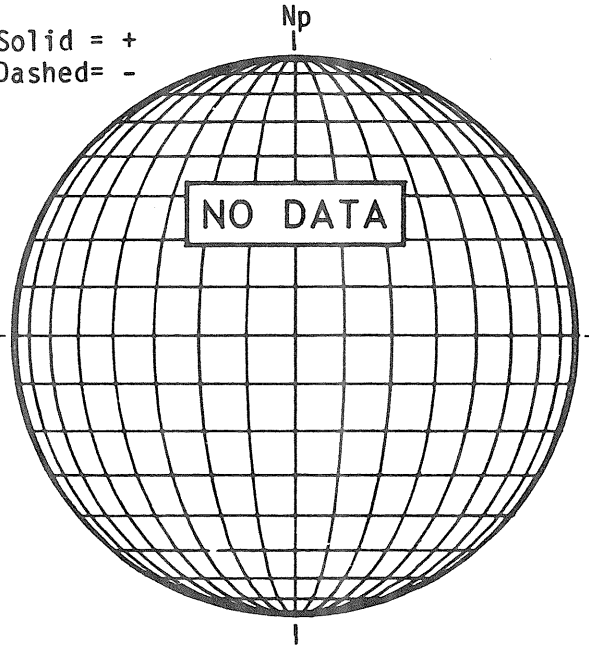
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



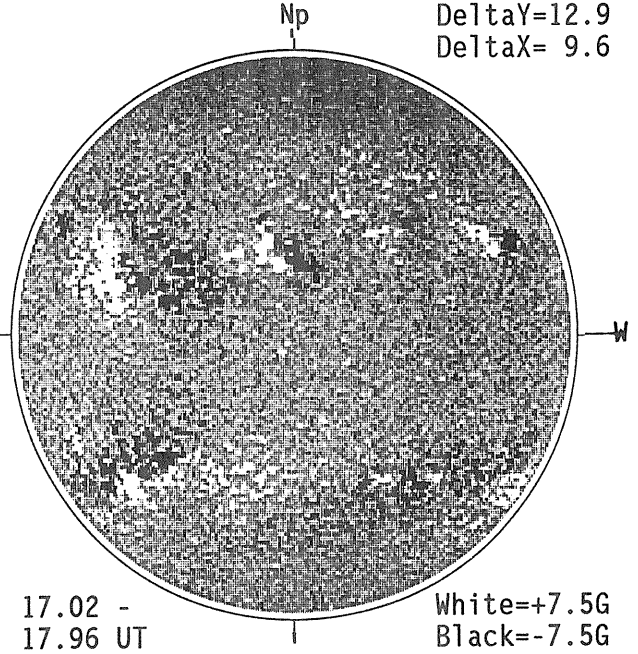
STANFORD MAGNETOGRAM

Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

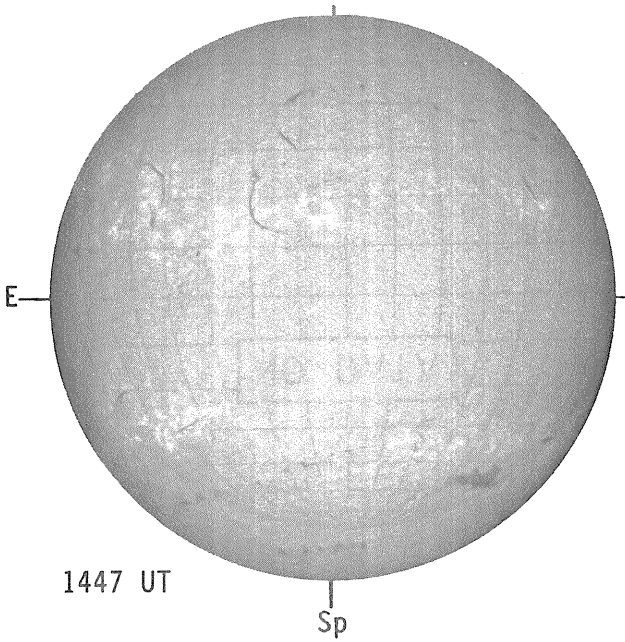
DeltaY=12.9
DeltaX= 9.6



17.02 -
17.96 UT

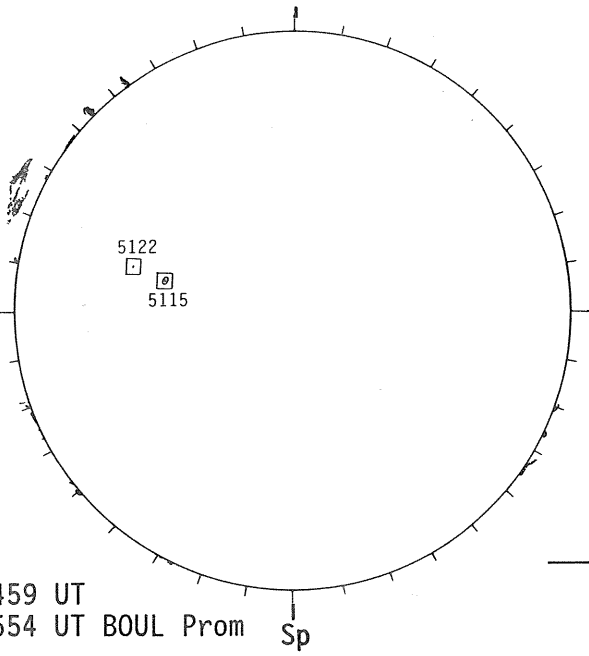
White=+7.5G
Black=-7.5G

SACRAMENTO PEAK H-ALPHA



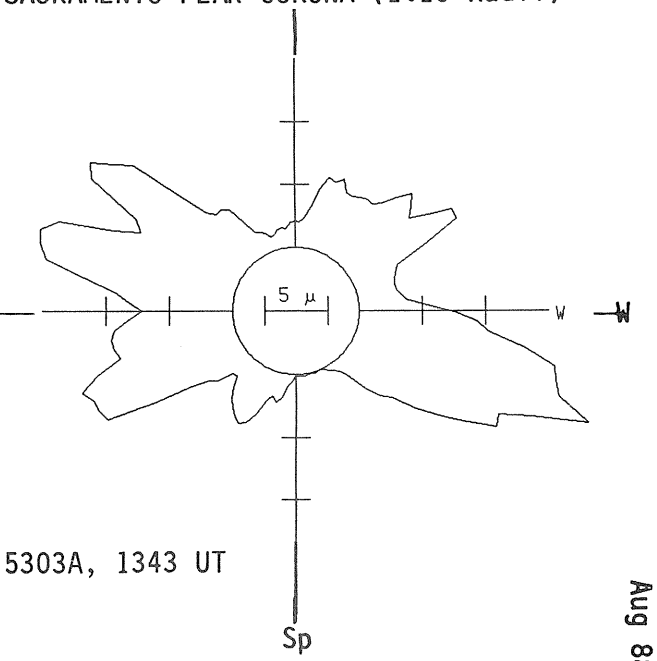
1447 UT

BOULDER SUNSPOTS



1459 UT
1554 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



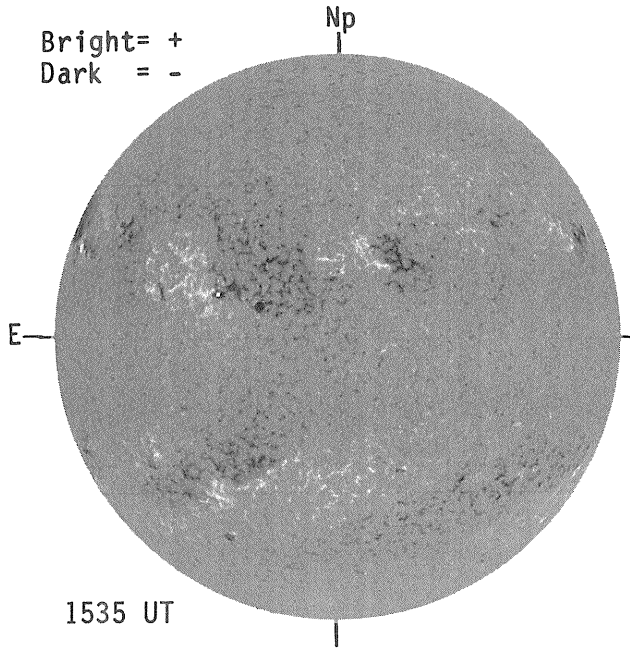
—— 5303A, 1343 UT

72
Aug 88

AUGUST 23, 1988 (P= 18.65, B_o= 6.97, L_o= 35.36)

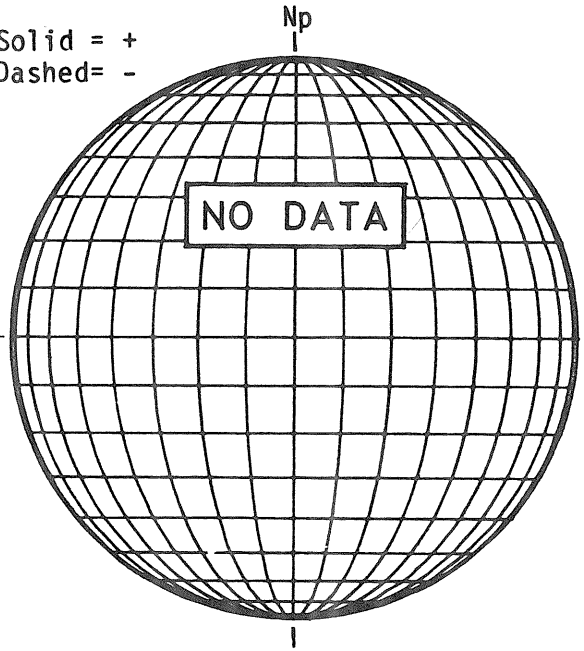
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

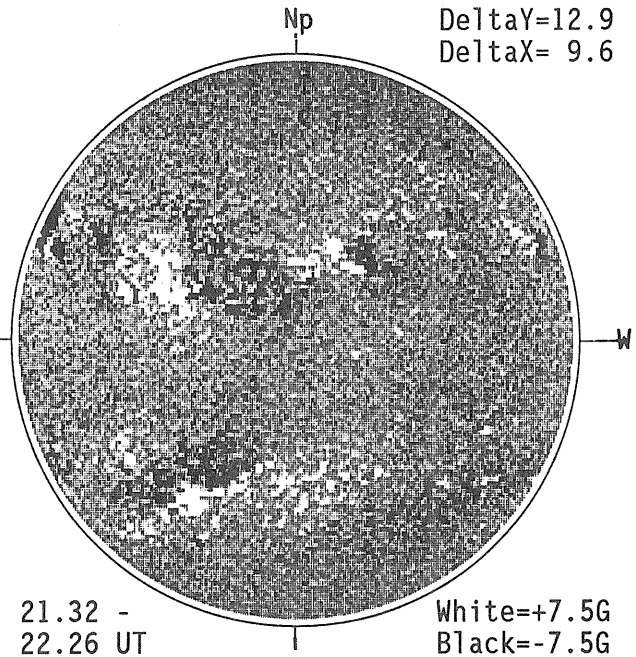


STANFORD MAGNETOGRAM

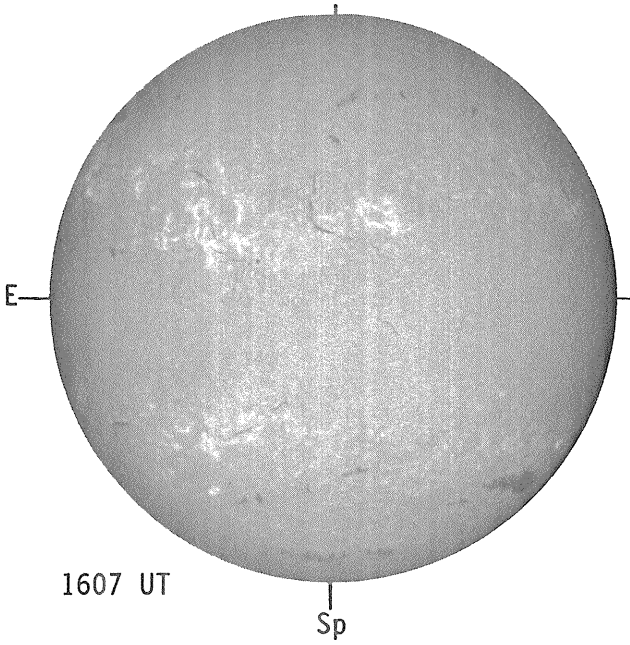
Solid = +
Dashed= -



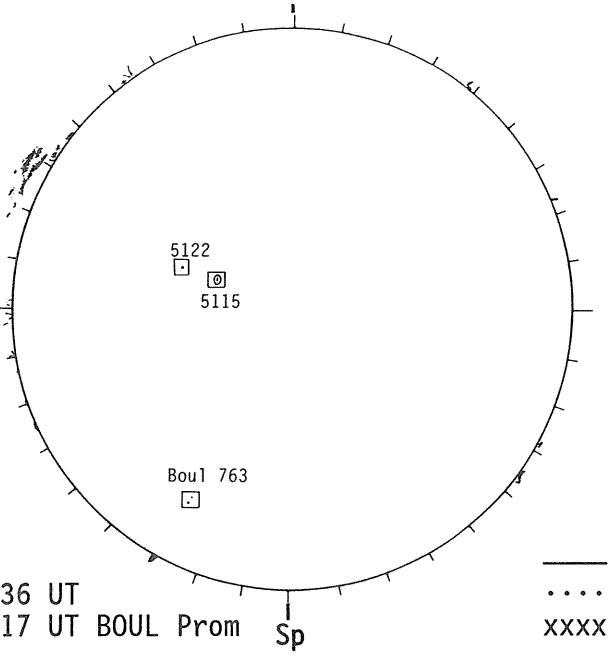
MT. WILSON MAGNETOGRAM



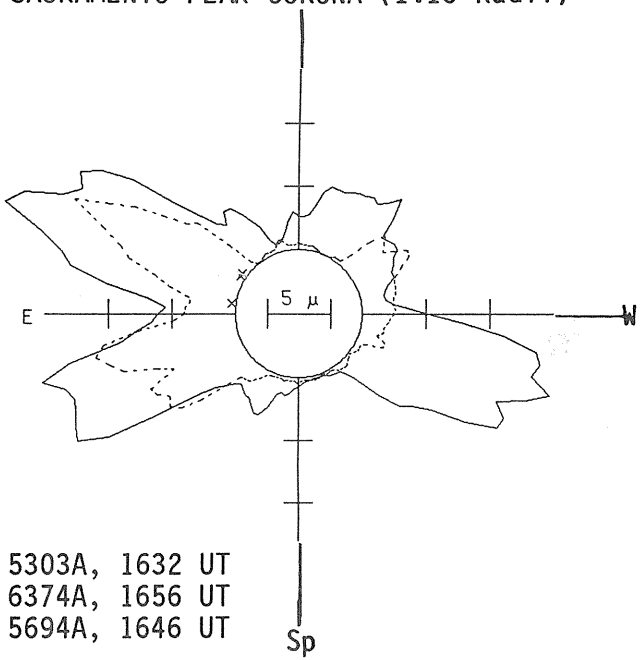
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)

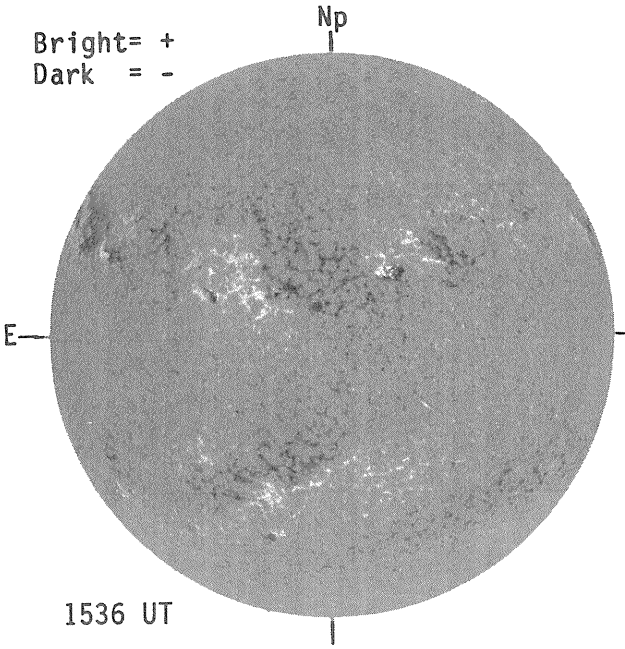


—— 5303A, 1632 UT
···· 6374A, 1656 UT
xxxx 5694A, 1646 UT

AUGUST 24, 1988 (P= 18.95, B_o= 7.00, L_o= 22.15)

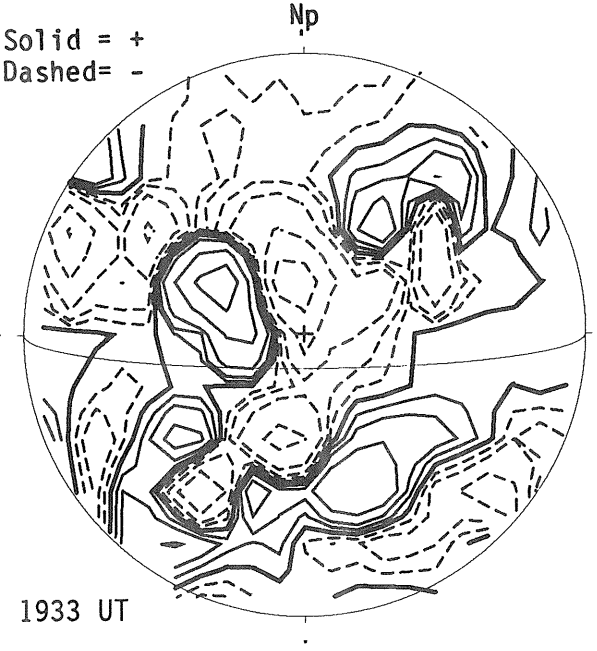
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

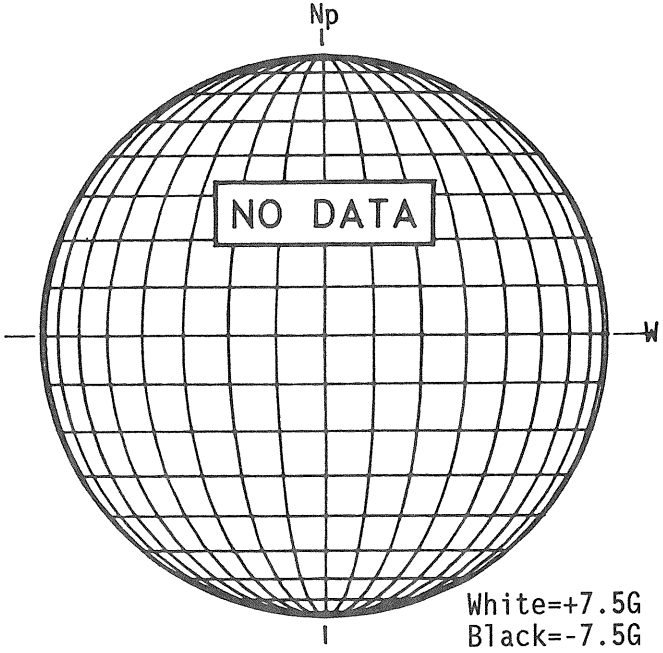


STANFORD MAGNETOGRAM

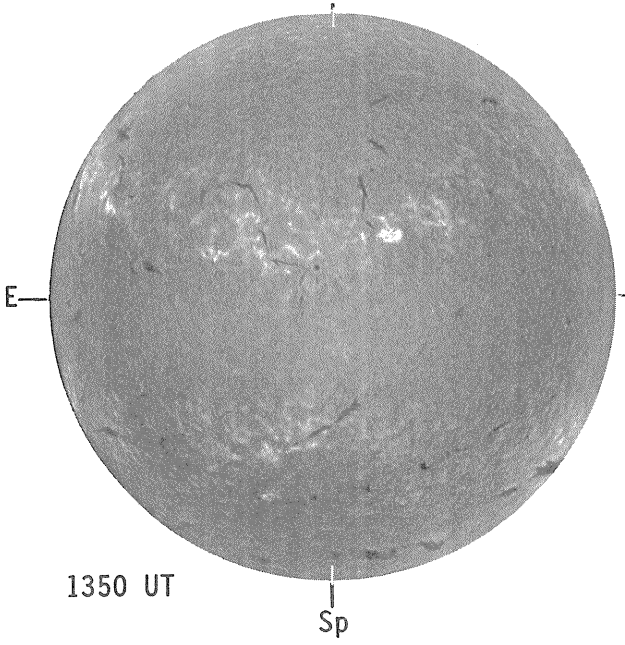
Solid = +
Dashed= -



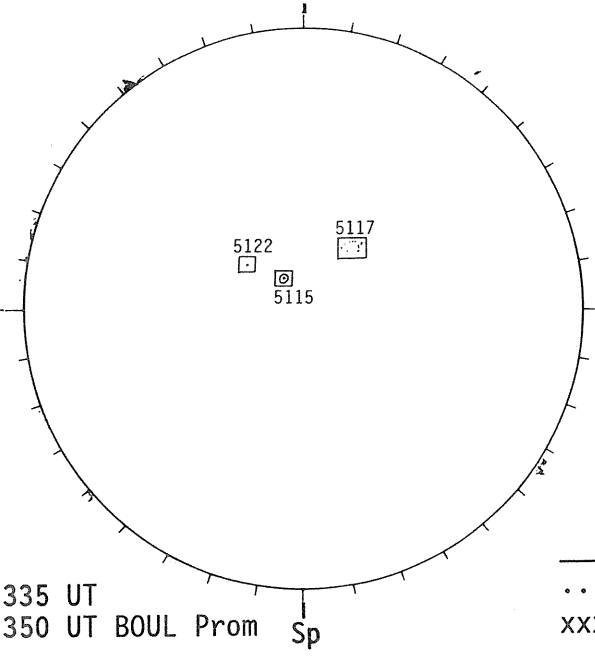
MT. WILSON MAGNETOGRAM



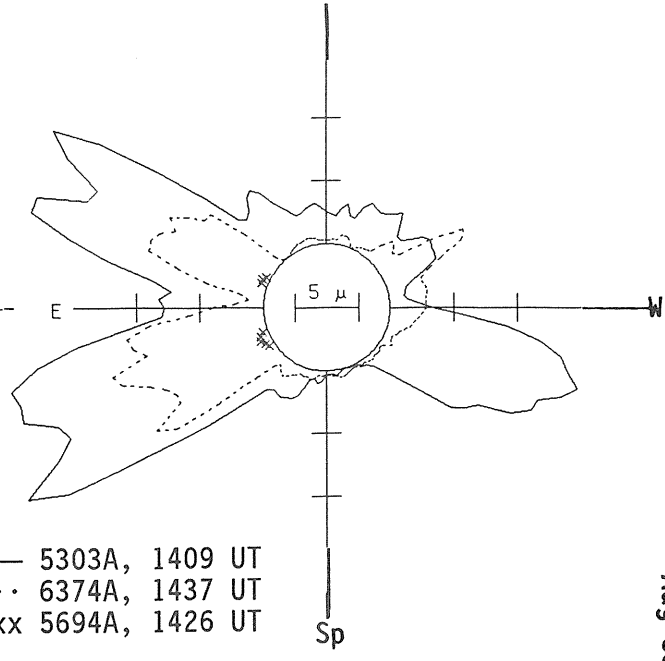
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



—— 5303A, 1409 UT
···· 6374A, 1437 UT
xxxx 5694A, 1426 UT

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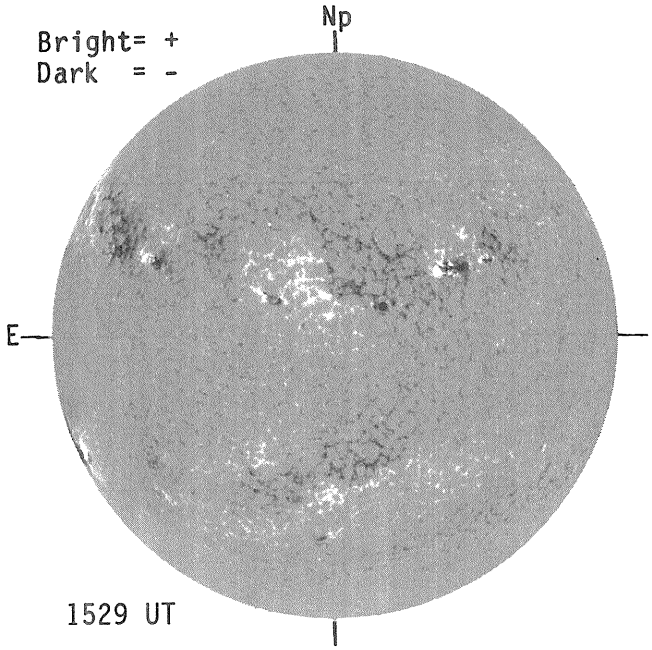
Aug 88

AUGUST 25, 1988 (P= 19.24, B_o= 7.03, L_o= 8.93)

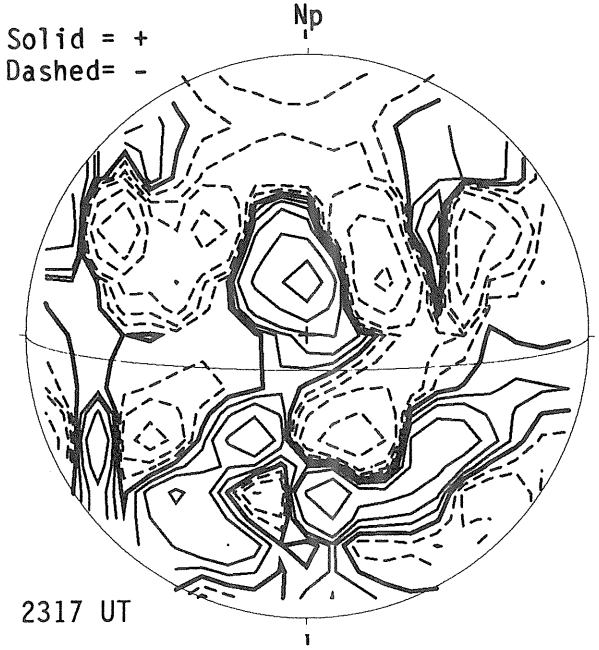
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



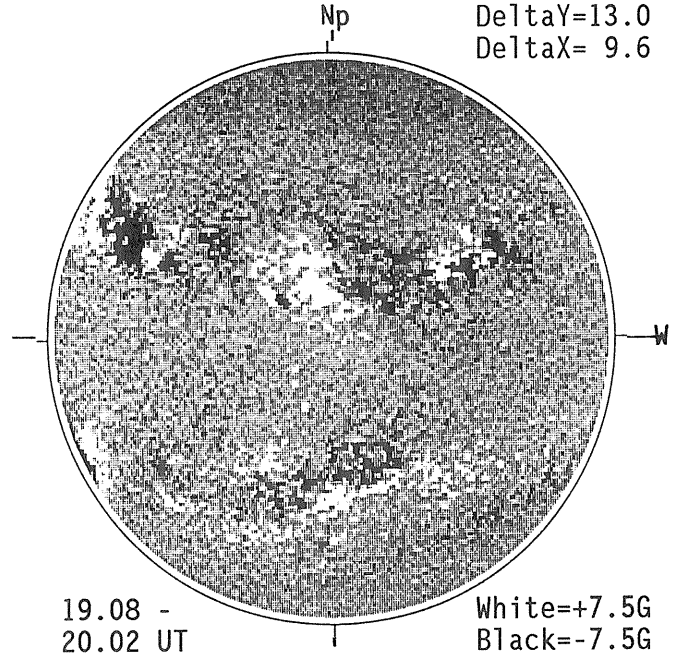
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

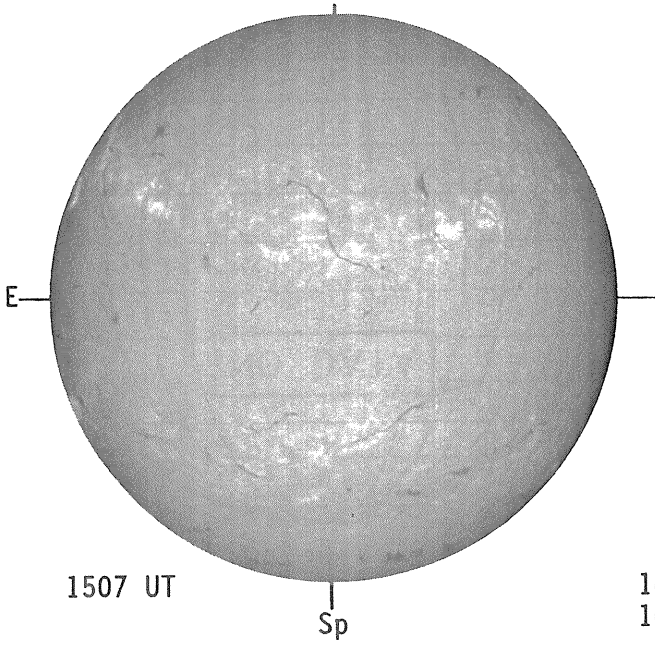


MT. WILSON MAGNETOGRAM

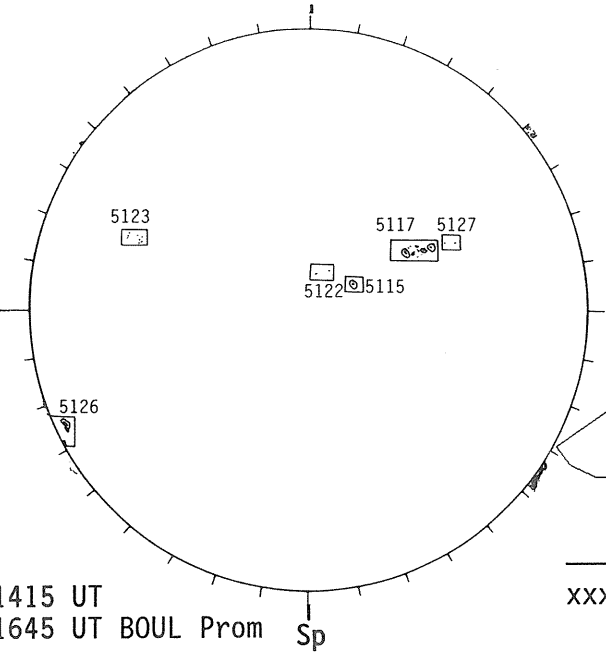
DeltaY=13.0
DeltaX= 9.6



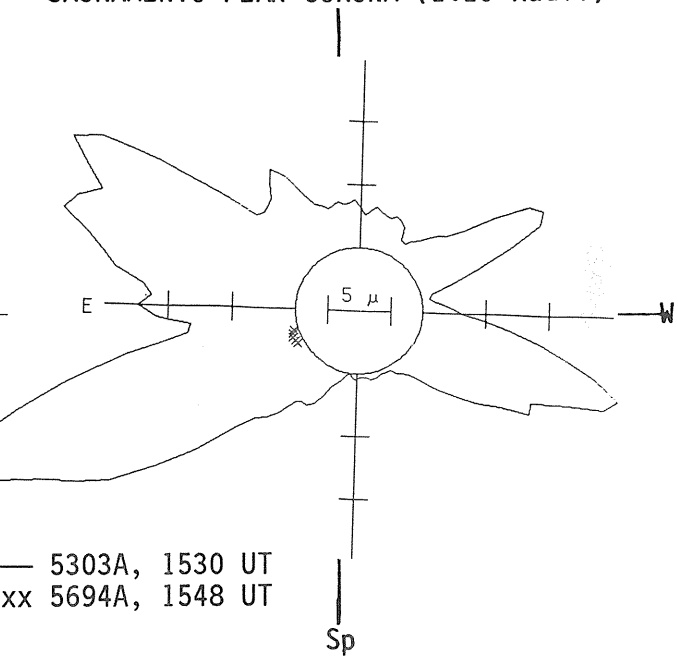
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



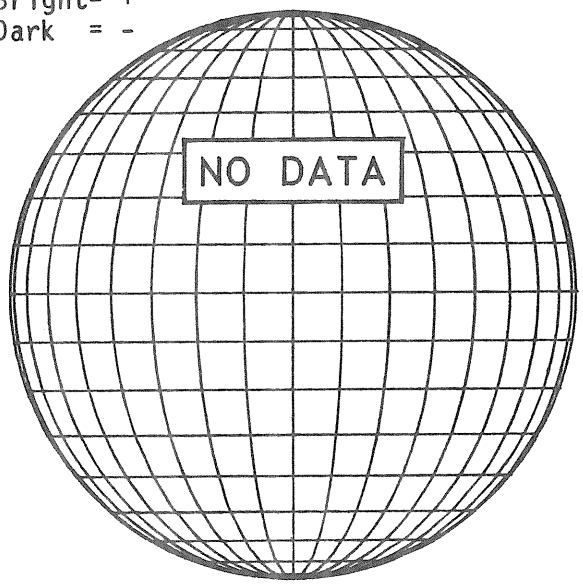
—— 5303A, 1530 UT
xxxx 5694A, 1548 UT

AUGUST 26, 1988 (P= 19.53, B_o= 7.06, L_o= 355.72)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -

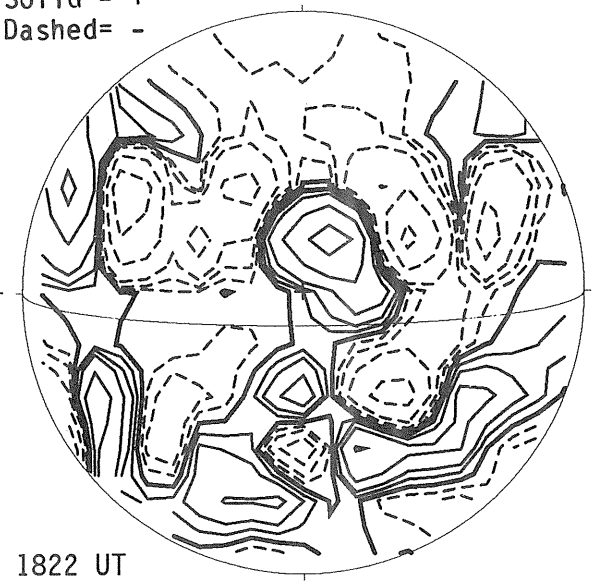


E

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -

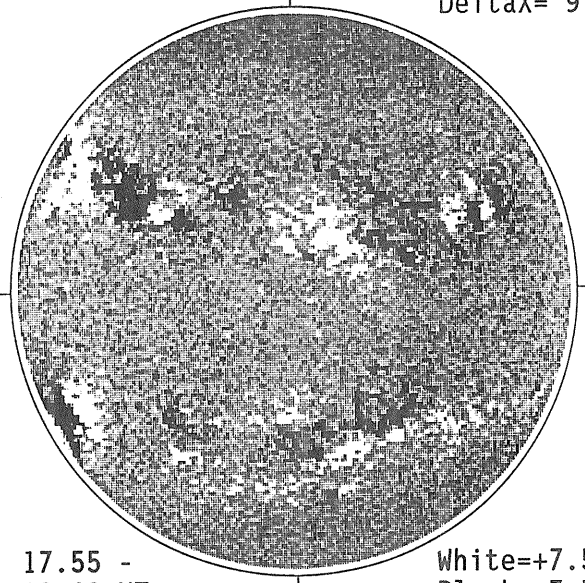


1822 UT

MT. WILSON MAGNETOGRAM

Np

DeltaY=12.9
DeltaX= 9.6

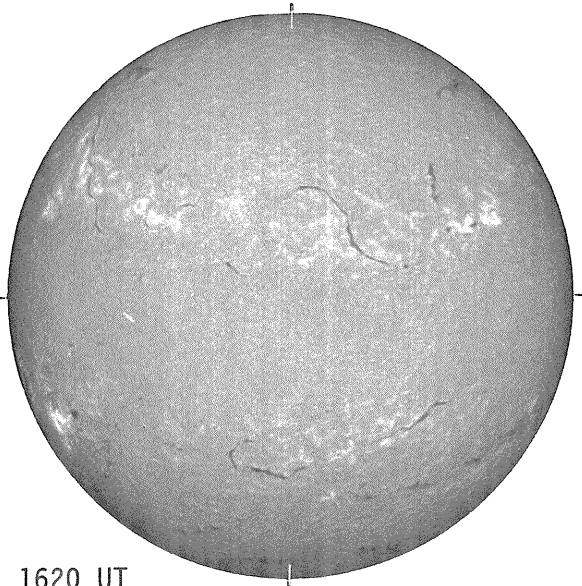


W

17.55 -
18.48 UT

White=+7.5G
Black=-7.5G

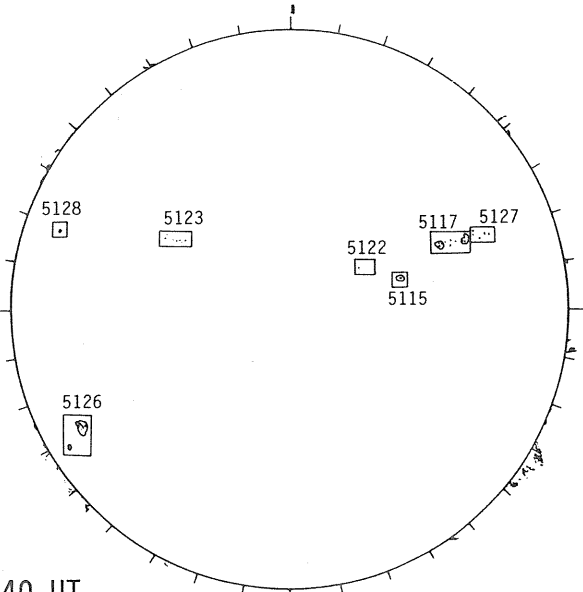
BOULDER H-ALPHA



1620 UT

Sp

BOULDER SUNSPOTS



1440 UT
1620 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (1.15 Radii)

W

Sp

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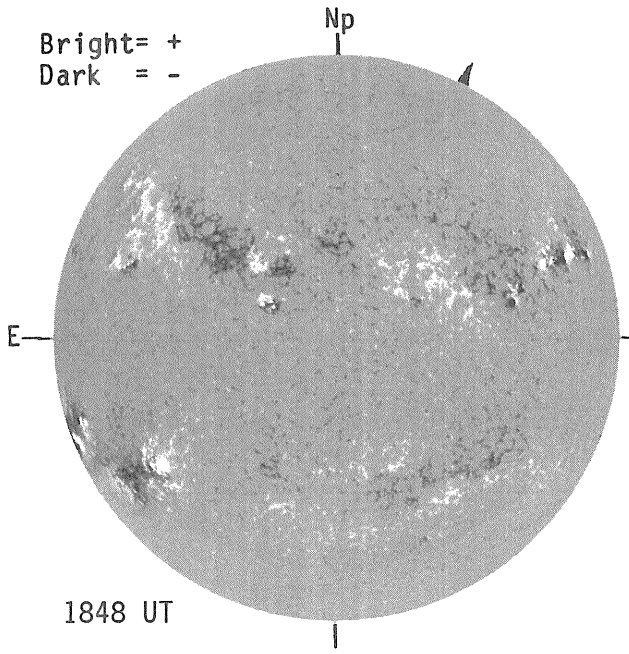
Aug 88

AUGUST 27, 1988 (P= 19.81, B_o= 7.08, L_o= 342.51)

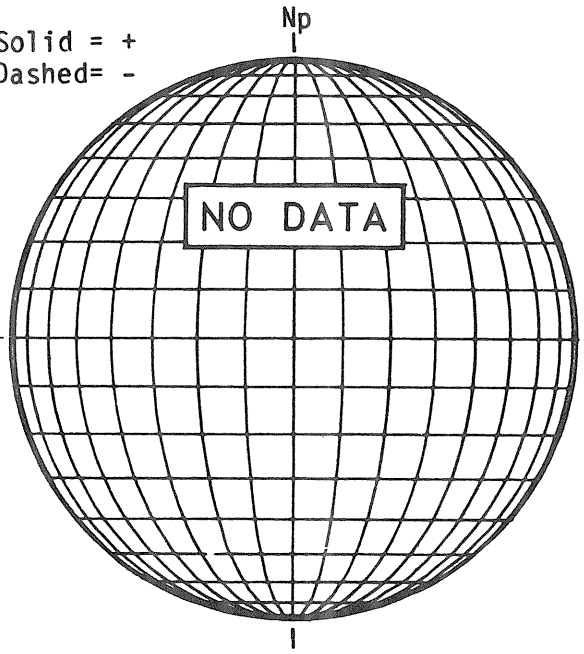
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



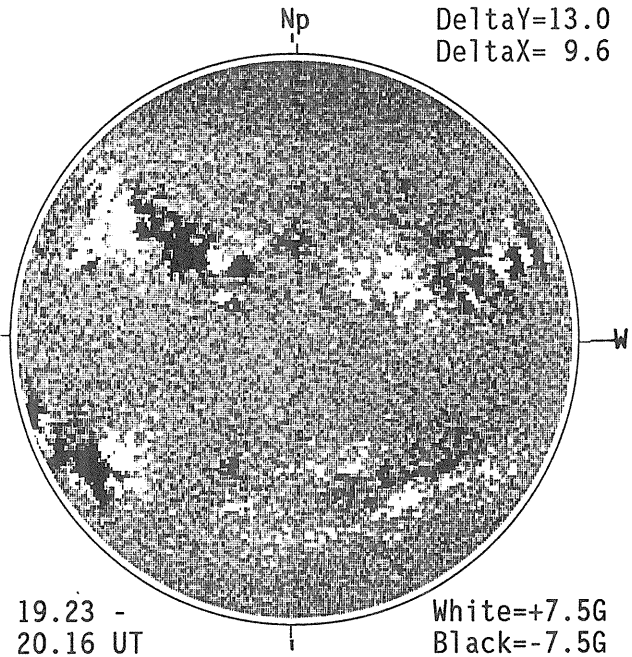
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

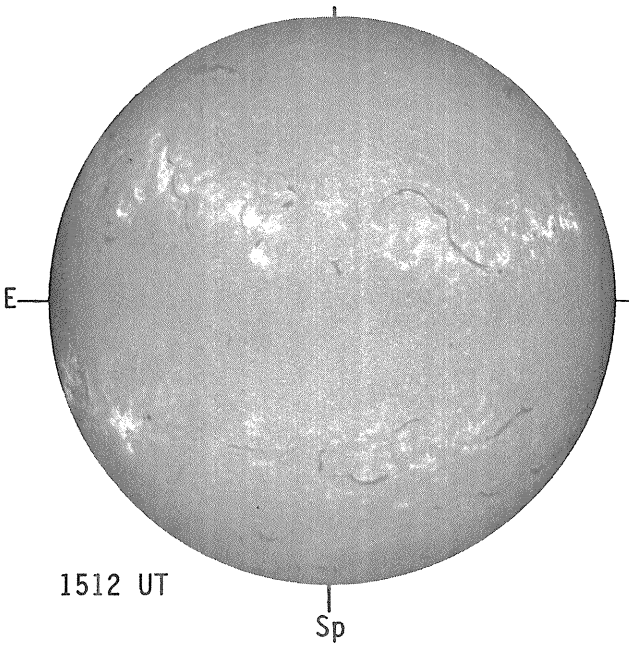


MT. WILSON MAGNETOGRAM

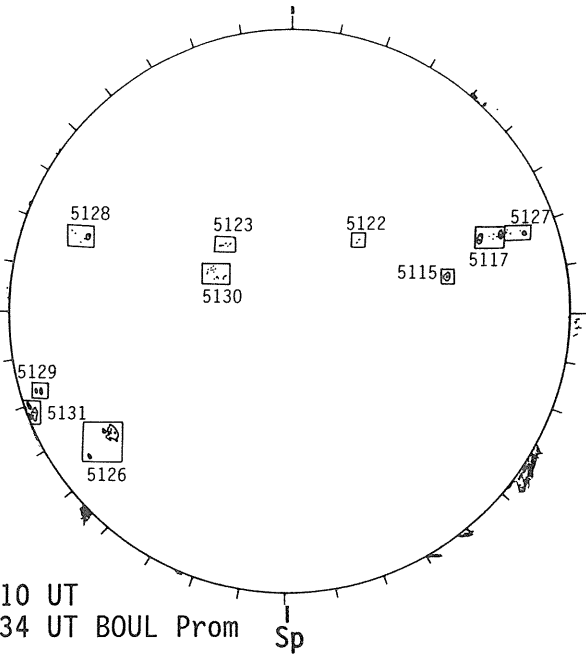
DeltaY=13.0
DeltaX= 9.6



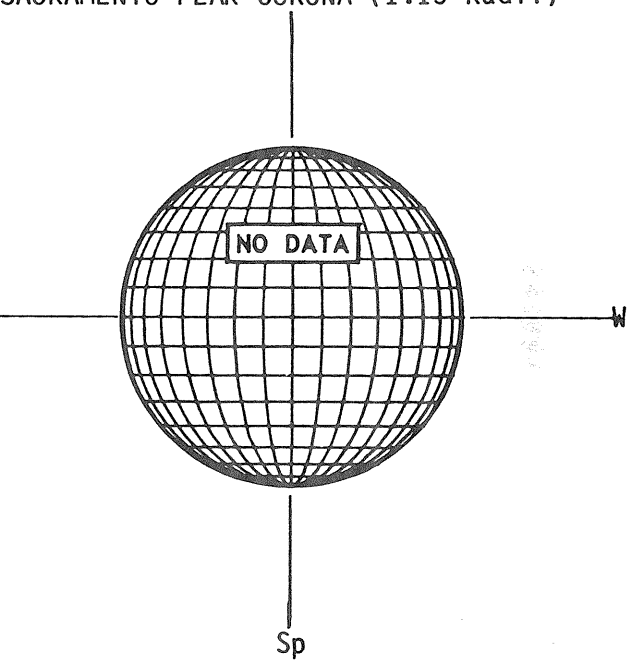
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



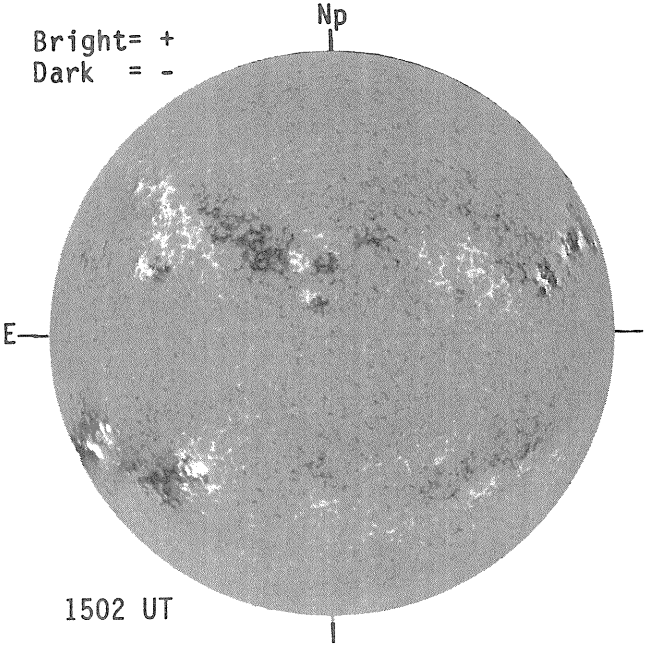
SACRAMENTO PEAK CORONA (1.15 Radii)



AUGUST 28, 1988 (P= 20.09, B_o= 7.11, L_o= 329.29)

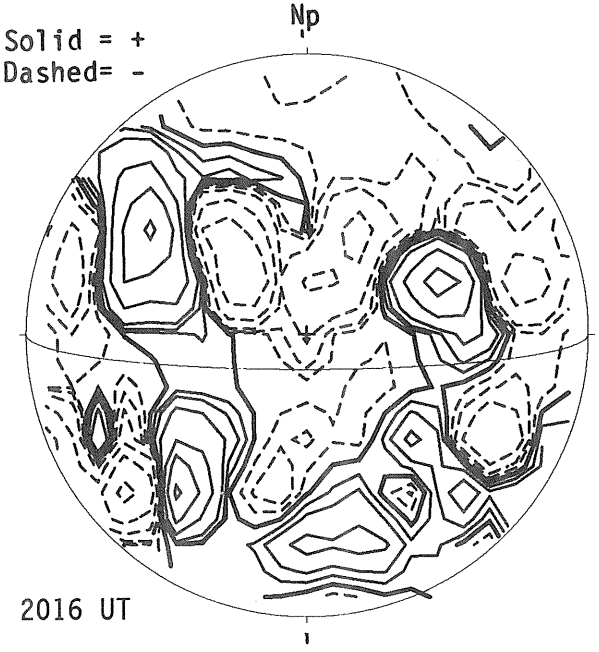
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



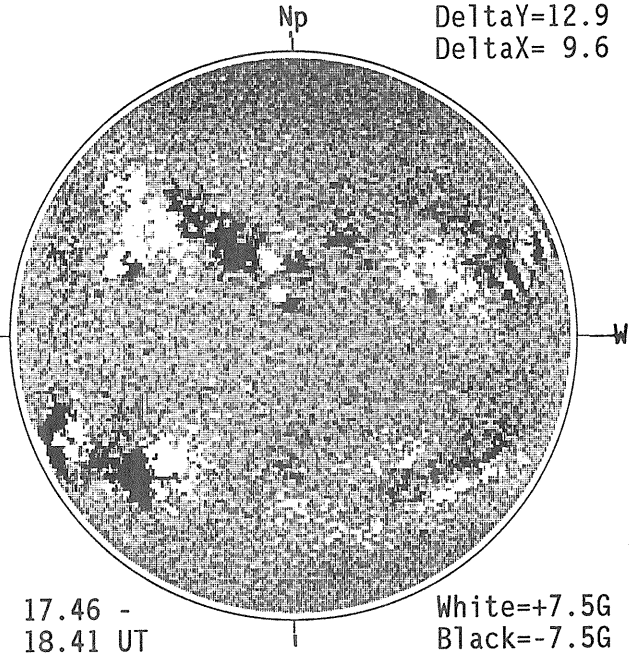
STANFORD MAGNETOGRAM

Solid = +
Dashed= -



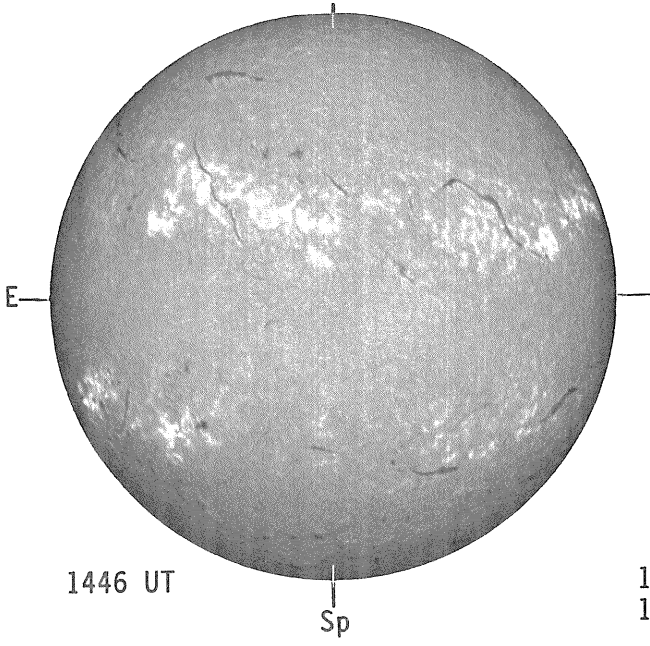
MT. WILSON MAGNETOGRAM

DeltaY=12.9
DeltaX= 9.6

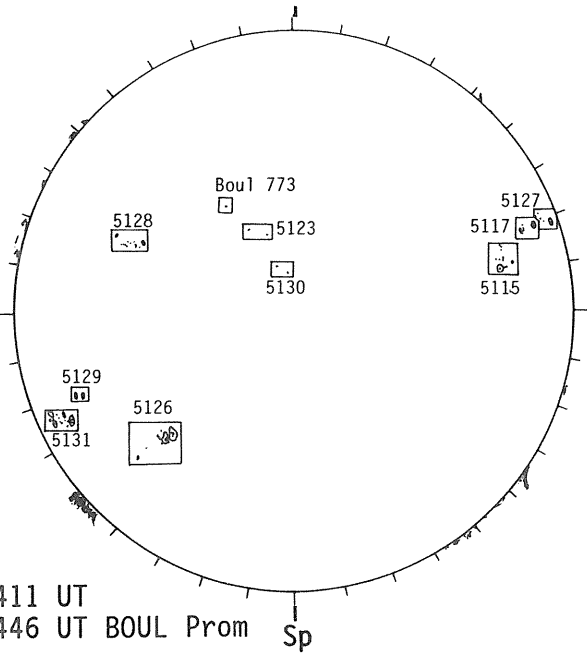


White=+7.5G
Black=-7.5G

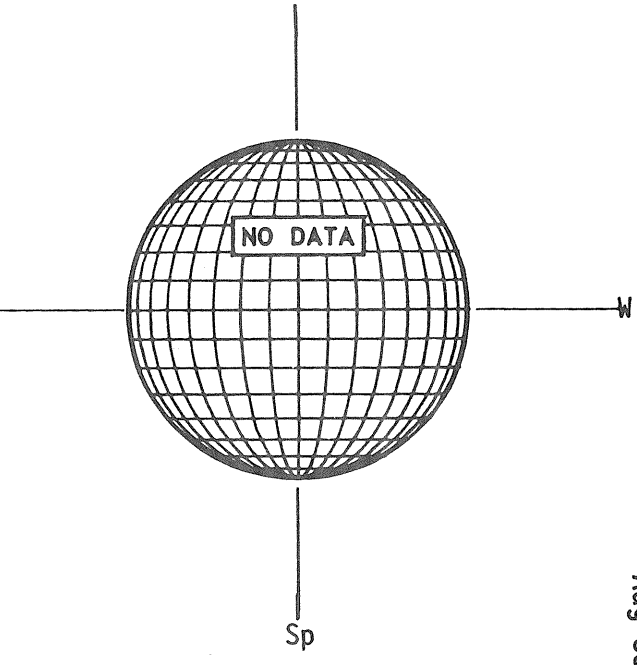
BOULDER H-ALPHA



BOULDER SUNSPOTS



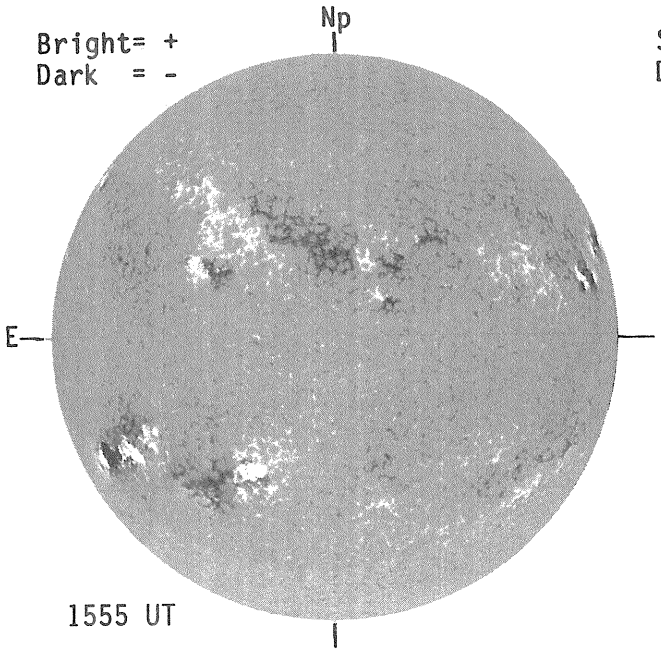
SACRAMENTO PEAK CORONA (1.15 Radii)



AUGUST 29, 1988 (P= 20.36, B_o= 7.13, L_o= 316.08)

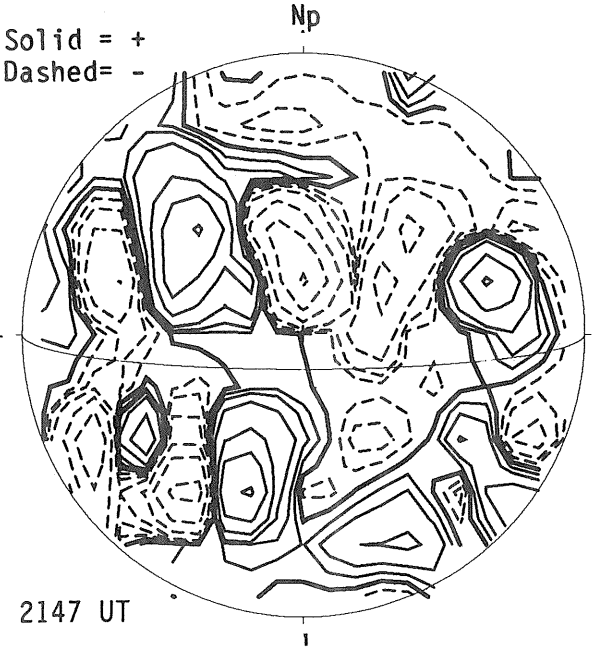
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



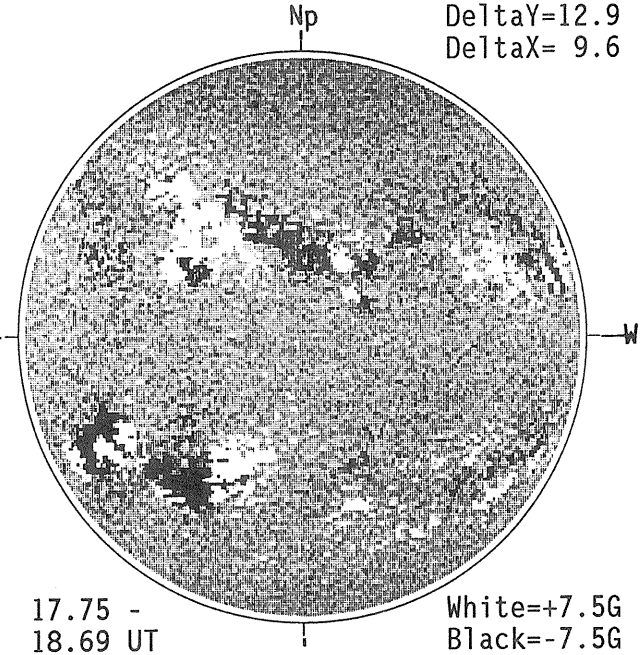
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

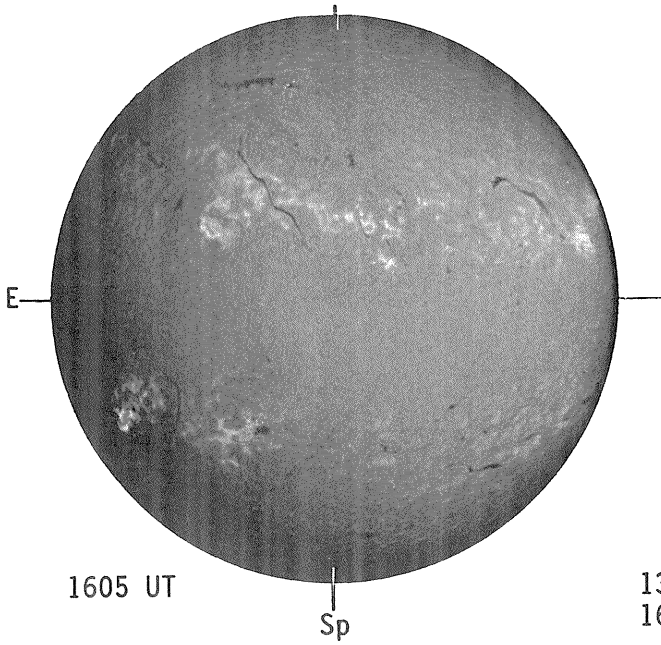


MT. WILSON MAGNETOGRAM

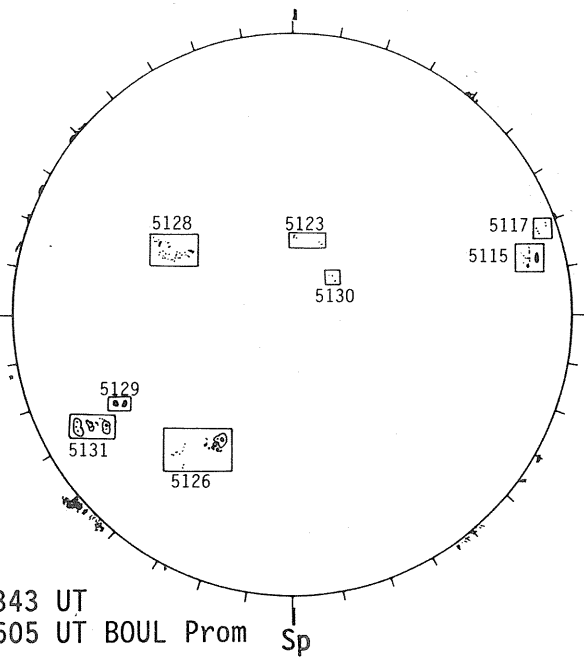
DeltaY=12.9
DeltaX= 9.6



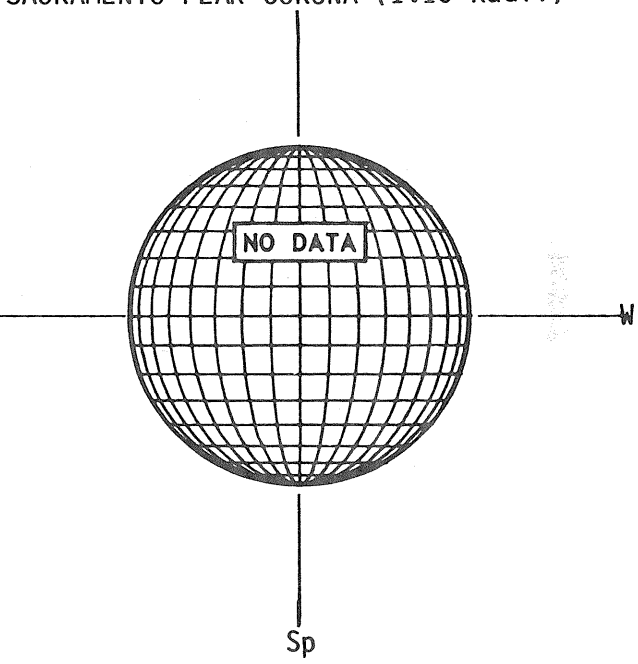
BOULDER H-ALPHA



BOULDER SUNSPOTS



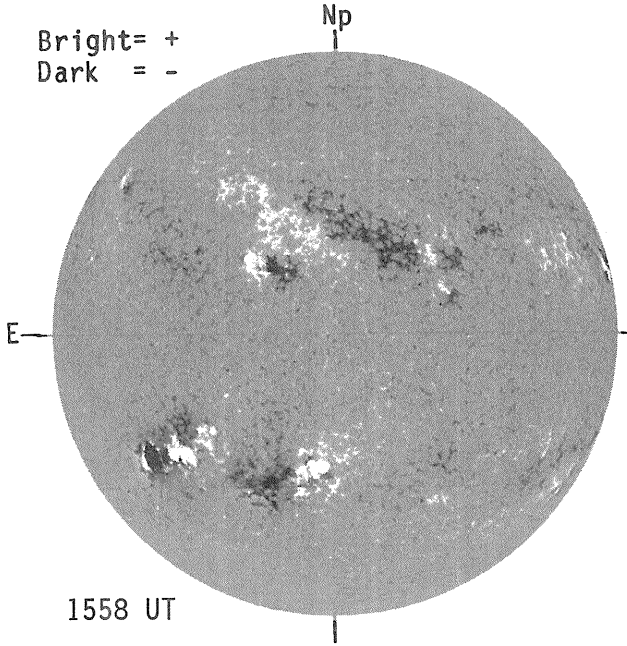
SACRAMENTO PEAK CORONA (1.15 Radii)



AUGUST 30, 1988 (P= 20.63, B_o= 7.15, L_o= 302.87)

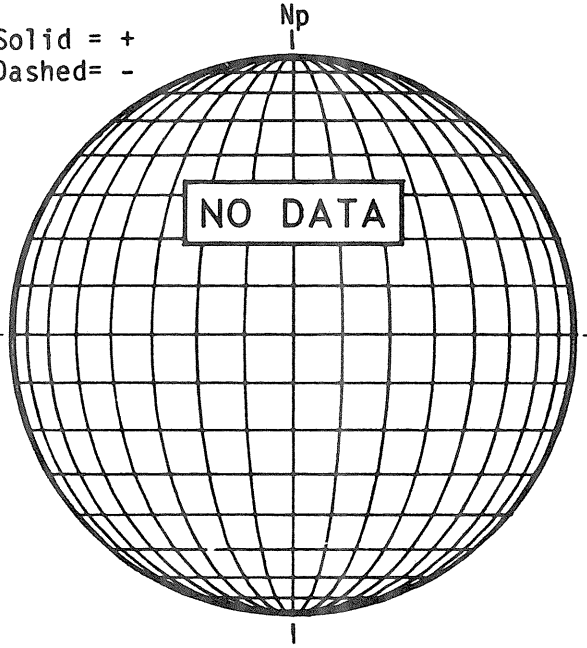
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



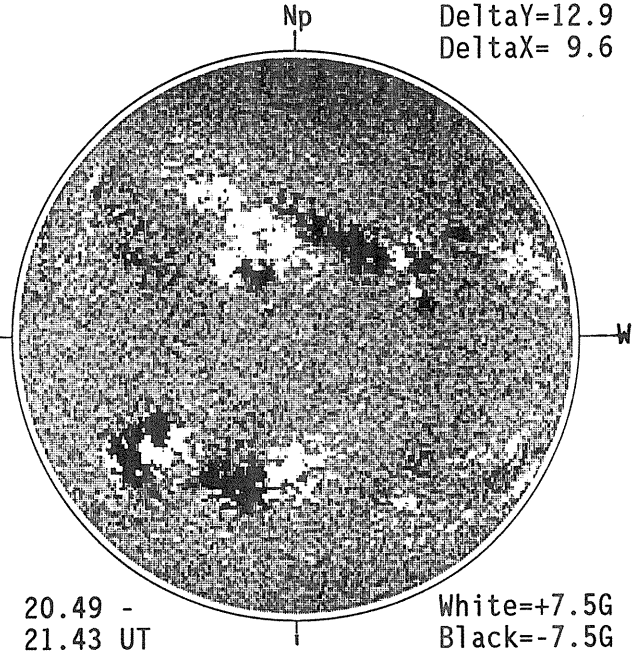
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

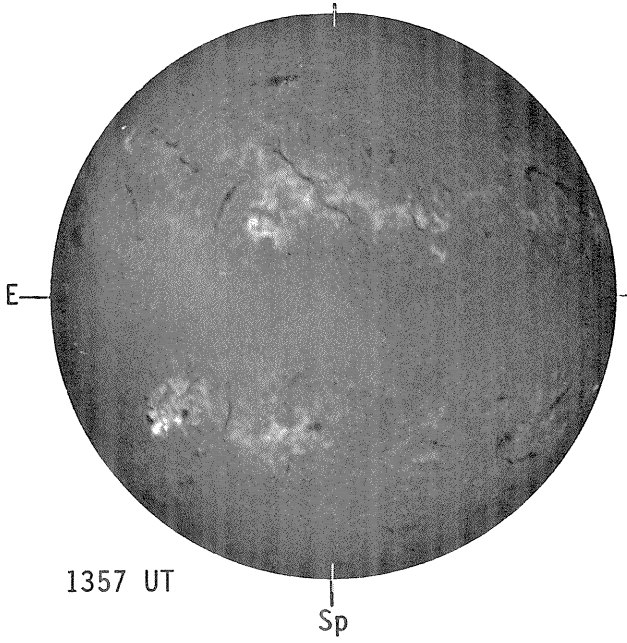


MT. WILSON MAGNETOGRAM

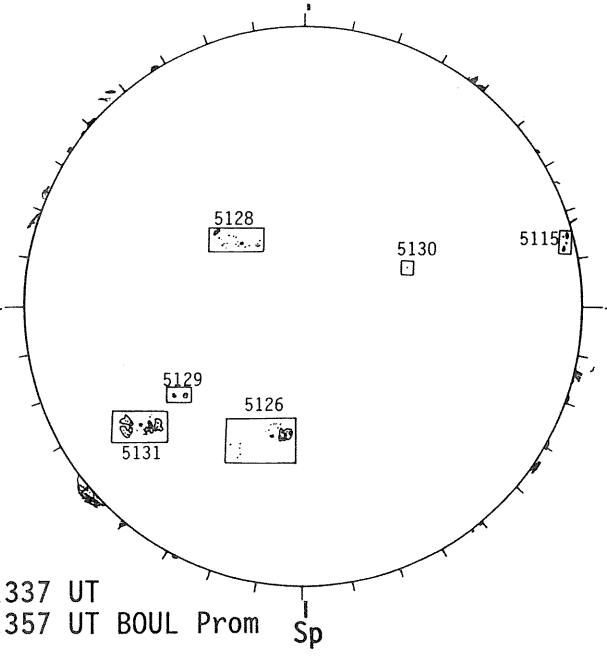
DeltaY=12.9
DeltaX= 9.6



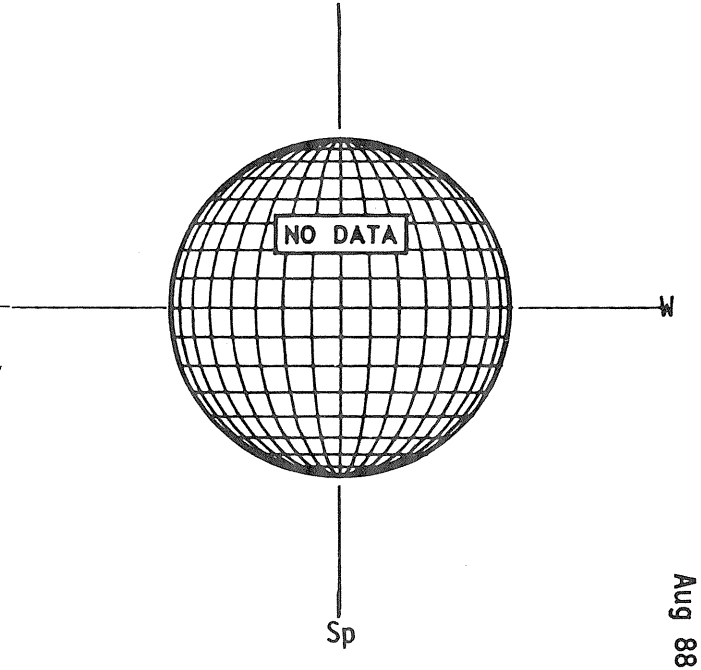
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (1.15 Radii)



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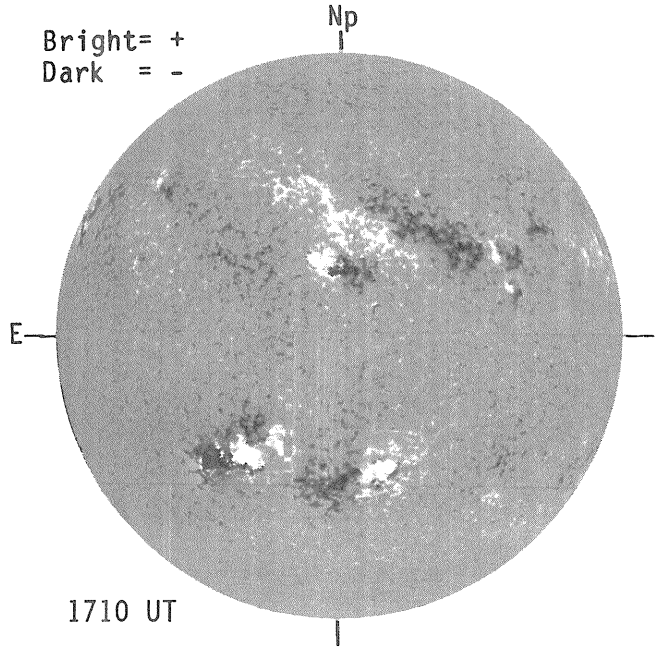
Aug 88

AUGUST 31, 1988 (P= 20.89, B_o= 7.17, L_o= 289.66)

KITT PEAK MAGNETOGRAM

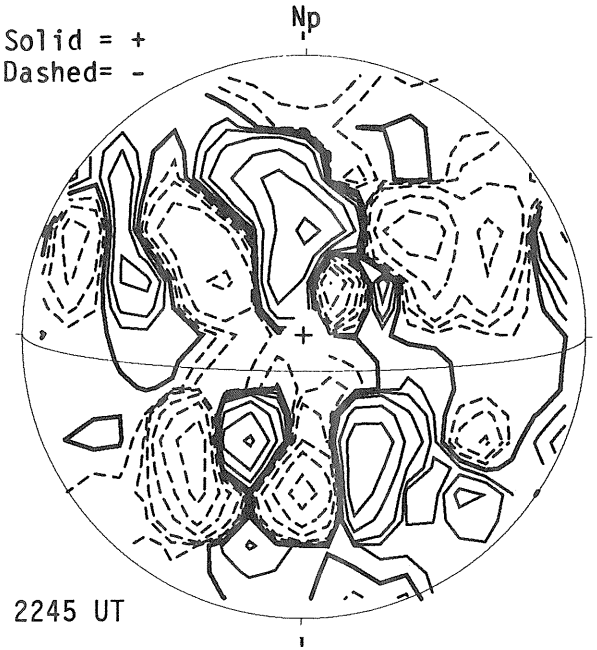
Bright= +
Dark = -



1710 UT

STANFORD MAGNETOGRAM

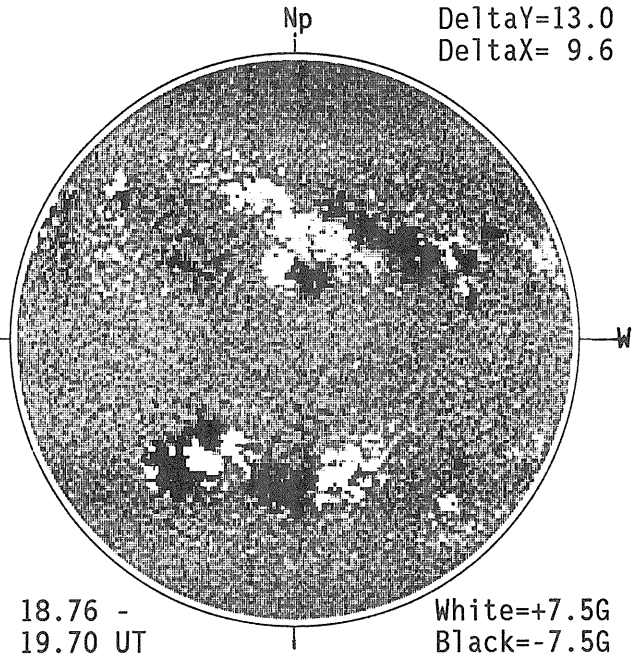
Solid = +
Dashed= -



2245 UT

MT. WILSON MAGNETOGRAM

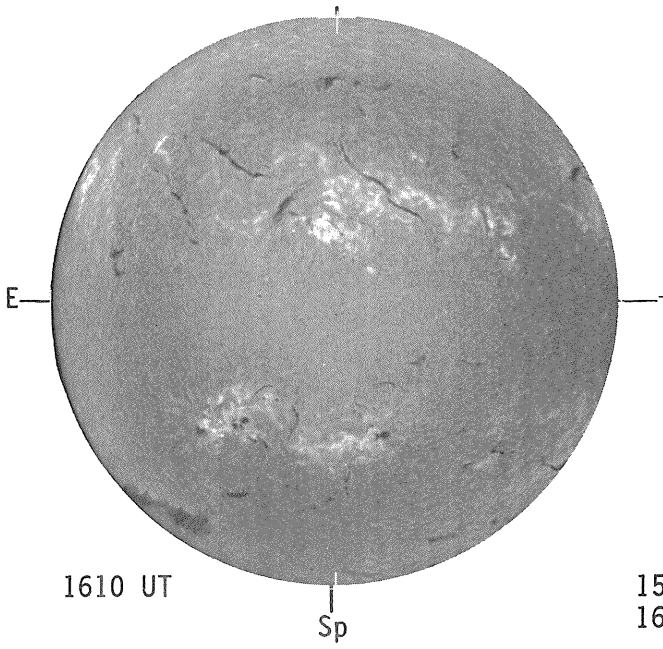
DeltaY=13.0
DeltaX= 9.6



18.76 -
19.70 UT

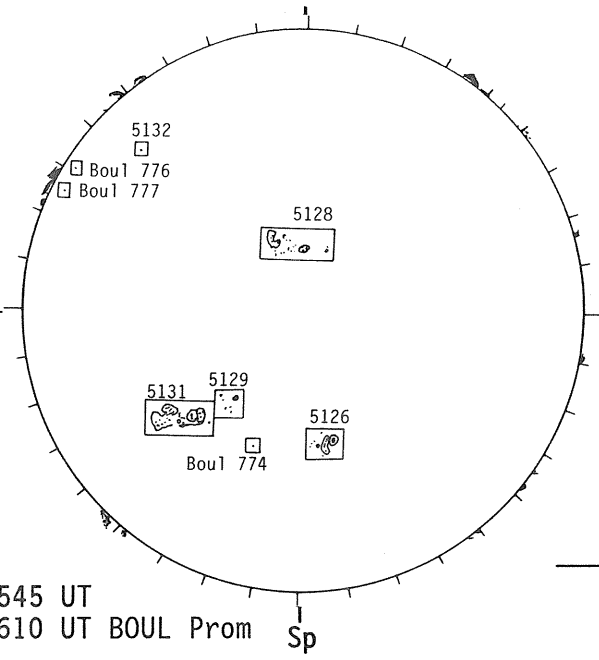
White=+7.5G
Black=-7.5G

BOULDER H-ALPHA



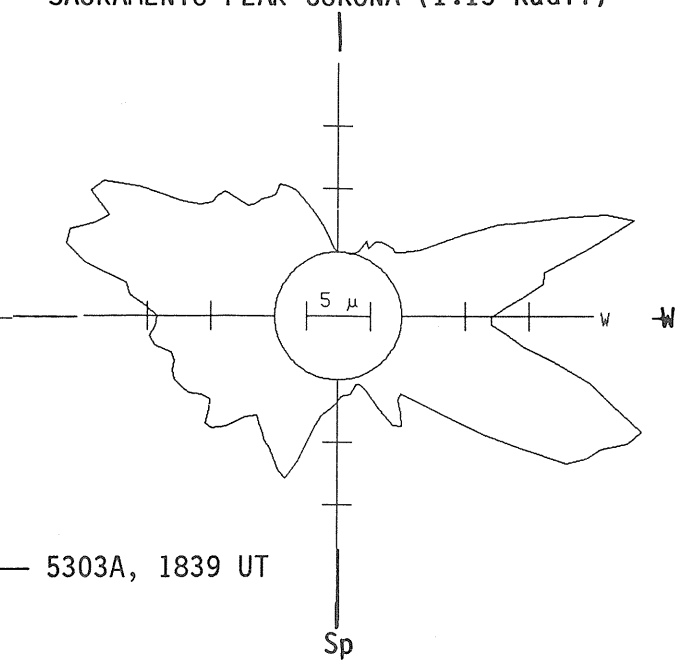
1610 UT

BOULDER SUNSPOTS



1545 UT
1610 UT BOUL Prom

SACRAMENTO PEAK CORONA (1.15 Radii)



—— 5303A, 1839 UT

SUNSPOT GROUPS
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

AUGUST 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
5096		HOLL	07 28 2250	N25 E40	08 1.0		B	BXO	20	6	3	3
5096		LEAR	07 29 0023	N24 E39	08 1.0		B	BXO	10	2	2	3
5096		SVTO	07 29 0625	N25 E36	08 1.0		B	BXO	20	7	3	3
5096		BOUL	07 29 1340	N25 E31	08 1.0		B	CRI	20	12	3	1
5096		RAMY	07 29 1345	N27 E33	08 1.1		B	CRI	40	9	4	3
5096	24692	MWIL	07 29 1445	N26 E32	08 1.1	4	(B)					
5096		PALE	07 29 1719	N25 E30	08 1.0		B	CAO	20	8	3	3
5096		LEAR	07 30 0029	N26 E26	08 1.0		B	CSO	30	5	5	3
5096		CULG	07 30 0155	N26 E24	07 31.9		B	DSO	20	6	4	3
5096		SVTO	07 30 0724	N24 E23	08 1.1		B	DSO	30	5	3	2
5096		BOUL	07 30 1350	N25 E18	08 1.0		B	DSO	60	7	5	4
5096	24692	MWIL	07 30 1430	N25 E19	08 1.1	4	(B)					
5096		HOLL	07 30 1450	N25 E18	08 1.0		B	CRO	20	5	4	4
5096		PALE	07 30 1915	N27 E16	08 1.0		B	CSO	20	7	5	3
5096		LEAR	07 31 0032	N25 E12	07 31.9		B	CAO	40	10	6	3
5096		CULG	07 31 0400	N25 E09	07 31.9		B	CSO	10	4	5	3
5096		SVTO	07 31 0756	N25 E08	07 31.9		B	CRO	30	6	6	2
5096		RAMY	07 31 1340	N26 E05	07 31.9		B	CRO	20	3	6	2
5096		BOUL	07 31 1350	N24 E05	08 1.0		B	CAO	20	7	7	3
5096	24692	MWIL	07 31 1430	N25 E05	08 1.0	4	(B)					
5096		HOLL	07 31 1445	N25 E05	08 1.0		B	CRO	20	5	6	4
5096		PALE	07 31 1710	N26 E03	07 31.9		B	CSO	20	3	7	3
5096		LEAR	08 01 0020	N27 E01	08 1.1		B	CSO	20	3	6	3
5096		CULG	08 01 0413	N24 W04	07 31.9		B	DRO	10	3	6	2
5096		SVTO	08 01 0756	N23 W08	07 31.7		B	BXO	10	6	4	2
5096		BOUL	08 01 1339	N24 W11	07 31.7		B	BXO	50	6	4	2
5096		HOLL	08 01 1422	N24 W09	07 31.9		B	BXI	70	9	8	3
5096		RAMY	08 01 1504	N25 W09	07 31.9		B	CRO	40	14	8	3
5096	24692	MWIL	08 01 1515	N25 W09	07 31.9	4	(B)					
5096		PALE	08 01 1710	N24 W11	07 31.9		B	DSO	40	11	7	3
5096		LEAR	08 02 0030	N24 W17	07 31.7		B	DAO	60	14	7	3
5096		CULG	08 02 0530	N23 W21	07 31.6		B	CSO	40	8	7	2
5096		SVTO	08 02 0825	N24 W22	07 31.6		B	DAO	70	45	7	2
5096		BOUL	08 02 1330	N25 W24	07 31.7		B	CAO	110	13	9	2
5096	24692	MWIL	08 02 1500	N25 W25	07 31.7	5	(B)					
5096		HOLL	08 02 1855	N25 W26	07 31.8		B	CSO	70	5	9	2
5096		PALE	08 02 1945	N24 W27	07 31.7		B	CSO	70	9	9	3
5096		LEAR	08 03 0113	N25 W31	07 31.6		B	CAO	100	14	9	3
5096		CULG	08 03 0338	N22 W32	07 31.7		B	CSO	60	8	8	2
5096		SVTO	08 03 0603	N24 W32	07 31.8		B	CAO	100	10	11	3
5096		RAMY	08 03 1357	N25 W37	07 31.7		B	CSO	80	10	10	2
5096		HOLL	08 03 1409	N24 W37	07 31.7		B	CAO	60	12	10	3
5096	24692	MWIL	08 03 1500	N25 W38	07 31.7	5	(B)					
5096		BOUL	08 03 1638	N25 W37	07 31.8		B	DAO	100	8	10	1
5096		PALE	08 03 2210	N23 W40	07 31.8		B	CSO	60	8	11	3
5096		LEAR	08 04 0003	N26 W43	07 31.7		B	EAO	80	7	11	2
5096		CULG	08 04 0335	N22 W45	07 31.7		B	CSO	30	10	11	3
5096		SVTO	08 04 0628	N26 W48	07 31.5		B	CSO	50	8	13	1
5096		RAMY	08 04 1400	N24 W51	07 31.6		B	CSO	40	15	12	3
5096	24692	MWIL	08 04 1445	N25 W51	07 31.7	5	(B)					
5096		HOLL	08 04 1704	N24 W51	07 31.8		B	DSO	100	11	13	3
5096		PALE	08 04 1720	N25 W51	07 31.8		B	CSO	70	5	12	3
5096		BOUL	08 04 1720	N25 W52	07 31.7		B	ESO	80	8	14	1
5096		LEAR	08 05 0035	N23 W63	07 31.2		B	CSO	40	4	14	3
5096		CULG	08 05 0445	N20 W59	07 31.7		B	FSO	60	5	14	1
5096		SVTO	08 05 0619	N23 W59	07 31.7		B	ESO	60	5	13	4
5096		BOUL	08 05 1338	N24 W60	07 31.9		B	CAO	20	4	13	4
5096		RAMY	08 05 1400	N25 W64	07 31.6		B	CSO	50	6	12	3
5096	24692	MWIL	08 05 1445	N25 W65	07 31.6	5	(B)					
5096		HOLL	08 05 1740	N24 W68	07 31.5		B	CSO	30	3	11	3
5096		PALE	08 05 1800	N22 W66	07 31.7		B	CSO	60	2	11	3
5096		LEAR	08 06 0223	N22 W73	07 31.5		A	HS	30	1	1	3
5096		CULG	08 06 0310	N21 W77	07 31.2		A	HR	30	1	1	2
5096		SVTO	08 06 0657	N23 W80	07 31.1		A	HR	20	1	1	3
5096		RAMY	08 06 1345	N25 W80	07 31.4		A	AX	10	2	3	4
5096		HOLL	08 06 1510	N24 W81	07 31.4		A	AX	20	2	2	4
5096		PALE	08 06 1845	N22 W82	07 31.5		A	HA	10	1	2	3
5096		LEAR	08 07 0251	N25 W89	07 31.2		A	AX	10	1	1	2

SUNSPOT GROUPS
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

AUGUST 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
5098		RAMY	08	03	1357	S18	W27	08	1.5		B	BXO	20	2	2	2
5098		HOLL	08	03	1409	S18	W27	08	1.5		A	AX	10	2	2	3
5098	24696	MWIL	08	03	1500	S17	W27	08	1.6	5	(B)					
5098		BOUL	08	03	1638	S18	W28	08	1.6		B	BXO	20	2	2	1
5092	24686	MWIL	07	26	1430	N27	E81	08	1.9	4	AP					
5092		HOLL	07	26	1443	N26	E88	08	2.4		A	HA	120	1	1	3
5092		RAMY	07	26	1540	N26	E84	08	2.2		A	HS	90	1	3	2
5092		PALE	07	26	1710	N27	E85	08	2.3		A	HS	70	1	3	3
5092		LEAR	07	27	0050	N25	E76	08	1.9		B	DSO	210	2	6	3
5092		CULG	07	27	0402	N27	E79	08	2.3		B	EAO	200	3	12	3
5092		SVTO	07	27	0715	N26	E79	08	2.4		B	ESO	240	9	12	3
5092		BOUL	07	27	1350	N25	E75	08	2.4		B	ESI	510	12	12	3
5092	24686	MWIL	07	27	1445	N26	E74	08	2.4	6	AP)					
5092		HOLL	07	27	1717	N26	E78	08	2.8		B	EAO	260	16	13	3
5092		PALE	07	27	1858	N27	E78	08	2.9		B	EAO	350	10	14	3
5092		LEAR	07	28	0044	N25	E69	08	2.4		B	DSO	260	7	5	3
5092		CULG	07	28	0250	N27	E68	08	2.4		B	EAO	340	5	12	3
5092		SVTO	07	28	0543	N26	E65	08	2.3		B	DHI	460	12	8	3
5092		BOUL	07	28	1340	N29	E66	08	2.7		B	FKC	730	22	23	3
5092		RAMY	07	28	1430	N27	E61	08	2.3		B	DKO	430	16	10	3
5092	24686	MWIL	07	28	1430	N27	E67	08	2.8	5	(B)					
5092		PALE	07	28	1725	N28	E60	08	2.4		B	EHO	380	7	13	3
5092		HOLL	07	28	2250	N26	E63	08	2.8		B	FKI	830	20	16	3
5092		LEAR	07	29	0023	N25	E55	08	2.3		B	DAO	480	12	7	3
5092		SVTO	07	29	0625	N25	E52	08	2.3		B	DKI	540	19	8	3
5092		BOUL	07	29	1340	N29	E54	08	2.8		B	FKI	530	16	23	1
5092		RAMY	07	29	1345	N28	E55	08	2.9		B	FKO	1040	72	23	3
5092	24686	MWIL	07	29	1445	N27	E54	08	2.8	5	(D)					
5092		HOLL	07	29	1600	N28	E54	08	2.9		B	FKI	790	41	17	3
5092		PALE	07	29	1719	N29	E52	08	2.8		B	FKO	530	59	19	3
5092		LEAR	07	30	0029	N26	E43	08	2.4		BG	DKI	390	20	8	3
5092		CULG	07	30	0155	N29	E45	08	2.6		B	FKO	690	29	16	3
5092		SVTO	07	30	0724	N26	E43	08	2.6		B	FKO	800	24	16	2
5092		BOUL	07	30	1350	N29	E40	08	2.7		B	FKI	760	58	18	4
5092	24686	MWIL	07	30	1430	N27	E40	08	2.7	5	(BG)					
5092		HOLL	07	30	1450	N28	E41	08	2.8		B	FKO	760	43	17	4
5092		PALE	07	30	1915	N28	E38	08	2.8		B	FKI	600	41	18	3
5092		LEAR	07	31	0032	N25	E29	08	2.3		BG	DKI	460	25	8	3
5092		CULG	07	31	0400	N28	E31	08	2.6		B	FKO	850	35	16	3
5092		SVTO	07	31	0756	N26	E32	08	2.8		B	FKO	1270	33	16	2
5092		RAMY	07	31	1340	N28	E29	08	2.8		B	FKO	800	32	16	2
5092		BOUL	07	31	1350	N26	E26	08	2.6		B	FKI	730	52	16	3
5092	24686	MWIL	07	31	1430	N28	E28	08	2.8	5	(D)					
5092		HOLL	07	31	1445	N28	E28	08	2.8		BD	FKO	850	45	16	4
5092		PALE	07	31	1710	N27	E26	08	2.7		B	FKO	840	37	17	3
5092		LEAR	08	01	0020	N27	E23	08	2.8		BD	FKI	720	49	16	3
5092		CULG	08	01	0413	N29	E19	08	2.7		B	FKO	650	48	16	2
5092		SVTO	08	01	0756	N26	E18	08	2.7		BD	FKO	860	36	19	2
5092		BOUL	08	01	1339	N26	E14	08	2.6		B	FKI	600	18	17	2
5092		HOLL	08	01	1422	N27	E15	08	2.8		BG	FAO	550	32	16	3
5092		RAMY	08	01	1504	N28	E18	08	3.0		B	FKI	780	52	20	3
5092	24686	MWIL	08	01	1515	N28	E15	08	2.8	5	(D)					
5092		PALE	08	01	1710	N29	E15	08	2.9		BG	FKI	730	62	18	3
5092		LEAR	08	02	0030	N28	E09	08	2.7		BG	FKO	680	66	17	3
5092		CULG	08	02	0530	N28	E06	08	2.7		B	FKI	570	26	16	2
5092		SVTO	08	02	0825	N25	E05	08	2.7		BG	FKI	580	10	17	2
5092		BOUL	08	02	1330	N26	E02	08	2.7		B	FKI	490	48	17	2
5092	24686	MWIL	08	02	1500	N28	E02	08	2.8	5	(D)					
5092		HOLL	08	02	1855	N27	E01	08	2.9		B	FAO	630	37	16	2
5092		PALE	08	02	1945	N28	W01	08	2.7		B	FKI	510	55	16	3
5092		LEAR	08	03	0113	N27	W03	08	2.8		B	FKO	730	57	17	3
5092		CULG	08	03	0338	N27	W06	08	2.7		B	FKI	580	44	17	2
5092		SVTO	08	03	0603	N29	W06	08	2.8		BG	FKI	710	68	19	3
5092		RAMY	08	03	1357	N28	W09	08	2.9		B	FAI	640	69	17	2
5092		HOLL	08	03	1409	N27	W12	08	2.6		B	FAO	540	48	19	3
5092	24686	MWIL	08	03	1500	N28	W10	08	2.8	5	(BG)					
5092		BOUL	08	03	1638	N28	W10	08	2.9		B	FKI	830	41	17	1
5092		PALE	08	03	2210	N27	W14	08	2.8		B	FKI	520	49	17	3

SUNSPOT GROUPS
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AUGUST 1988

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
5092		LEAR	08	04	0003	N28	W15	08	2.8		B	FKO	620	45	23	2
5092		CULG	08	04	0335	N28	W18	08	2.7		BG	FHI	520	49	17	3
5092		SVTO	08	04	0628	N31	W21	08	2.6		BG	FKI	700	34	19	1
5092		RAMY	08	04	1400	N28	W23	08	2.8		B	FKI	740	64	23	3
5092	24686	MWIL	08	04	1445	N28	W22	08	2.9	5	(BG)					
5092		HOLL	08	04	1704	N27	W25	08	2.8		B	FAO	650	39	21	3
5092		PALE	08	04	1720	N28	W22	08	3.0		BG	FKI	730	34	19	3
5092		BOUL	08	04	1720	N28	W23	08	2.9		B	FKI	680	52	20	1
5092		LEAR	08	05	0035	N27	W29	08	2.8		BG	FSI	340	34	20	3
5092		CULG	08	05	0445	N27	W32	08	2.7		BG	FHI	510	33	17	1
5092		SVTO	08	05	0619	N28	W30	08	2.9		BG	FKI	590	62	19	4
5092		BOUL	08	05	1338	N28	W33	08	3.0		B	FKI	520	79	19	4
5092		RAMY	08	05	1400	N28	W35	08	2.8		B	FKI	610	77	20	3
5092	24686	MWIL	08	05	1445	N28	W35	08	2.9	5	(BG)					
5092		HOLL	08	05	1740	N27	W38	08	2.8		BG	FKI	730	57	19	3
5092		PALE	08	05	1800	N26	W37	08	2.9		BG	FKI	650	69	20	3
5092		LEAR	08	06	0223	N28	W40	08	3.0		B	FSI	400	22	20	3
5092		CULG	08	06	0310	N28	W46	08	2.5		BG	FHI	490	24	18	2
5092		SVTO	08	06	0657	N28	W44	08	2.8		BG	FKI	660	41	20	3
5092		BOUL	08	06	1320	N28	W44	08	3.1		B	FKI	310	21	19	1
5092		RAMY	08	06	1345	N28	W47	08	2.9		B	FAI	560	62	21	4
5092	24686	MWIL	08	06	1430	N28	W48	08	2.8	5	(D)					
5092		HOLL	08	06	1510	N27	W48	08	2.9		B	FAI	610	52	21	4
5092		PALE	08	06	1845	N27	W51	08	2.8		B	FKI	460	41	19	3
5092		LEAR	08	07	0251	N28	W54	08	2.9		B	FKI	590	35	19	2
5092		CULG	08	07	0330	N27	W57	08	2.7		B	FKI	570	25	19	2
5092		SVTO	08	07	0915	N26	W57	08	2.9		B	FAI	450	31	20	2
5092		BOUL	08	07	1430	N28	W59	08	3.0		B	FAI	500	40	19	3
5092	24686	MWIL	08	07	1515	N28	W60	08	2.9	5	(BG)					
5092		RAMY	08	07	1528	N27	W59	08	3.0		B	FKI	480	26	19	3
5092		HOLL	08	07	1700	N28	W61	08	2.9		B	FKI	500	26	17	3
5092		PALE	08	07	1905	N26	W63	08	2.9		B	FKI	430	25	19	3
5092		LEAR	08	08	0020	N28	W63	08	3.1		B	FKI	880	33	22	4
5092		CULG	08	08	0410	N26	W69	08	2.8		B	FKI	480	9	19	2
5092		SVTO	08	08	0750	N27	W70	08	2.9		B	FKI	560	17	20	3
5092		BOUL	08	08	1342	N28	W67	08	3.3		B	FAI	410	12	18	2
5092	24686	MWIL	08	08	1430	N28	W70	08	3.1	5	(BG)					
5092		RAMY	08	08	1649	N28	W70	08	3.2		B	FAI	430	10	16	2
5092		HOLL	08	08	1750	N28	W71	08	3.2		B	EAI	310	10	11	2
5092		LEAR	08	09	0100	N30	W75	08	3.1		B	EAI	310	19	14	3
5092		CULG	08	09	0320	N26	W80	08	2.9		B	FAI		6		3
5092		SVTO	08	09	0809	N30	W77	08	3.3		B	DSO	150	5	8	2
5092		BOUL	08	09	1338	N29	W78	08	3.4		B	EHI	210	6	14	3
5092		RAMY	08	09	1443	N30	W80	08	3.3		B	EAI	270	6	11	2
5092	24686	MWIL	08	09	1530	N30	W80	08	3.3	4	BG)					
5092		PALE	08	09	1740	N28	W84	08	3.2		B	DAI	130	4	10	3
5092		LEAR	08	10	0020	N30	W85	08	3.3		B	DAO	90	5	7	3
5092		SVTO	08	10	0805	N30	W87	08	3.5		A	AX	10	1	1	3
5095		HOLL	07	27	1717	N31	E85	08	3.4		A	HS	60	2	3	3
5095		PALE	07	27	1858	N33	E83	08	3.4			HS	60	1	3	3
5095		LEAR	07	28	0044	N28	E77	08	3.0		B	DAO	240	10	8	3
5095		CULG	07	28	0250	N30	E80	08	3.4		B	DSO	280	9	8	3
5095		SVTO	07	28	0543	N27	E75	08	3.1		B	DKI	540	12	5	3
5095		RAMY	07	28	1430	N29	E71	08	3.2		B	DKO	480	16	9	3
5095	24691	MWIL	07	28	1430	N35	E77	08	3.8	3	(AF)					
5095		PALE	07	28	1725	N31	E70	08	3.2		B	DKO	460	4	8	3
5095		HOLL	07	28	2250	N30	E71	08	3.5		A	AX	20	2	1	3
5095		LEAR	07	29	0023	N28	E65	08	3.1		B	DAI	220	16	6	3
5095		SVTO	07	29	0625	N28	E63	08	3.2		B	EKI	460	24	12	3
5095	24691	MWIL	07	29	1445	N35	E66	08	3.9	4	(AF)					
5095		LEAR	07	30	0029	N27	E52	08	3.1		B	DAI	280	24	8	3
5095	24691	MWIL	07	30	1430	N36	E52	08	3.8	4	(AF)					
5095		LEAR	07	31	0032	N28	E39	08	3.1		BG	DKI	450	32	9	3
5092A		HOLL	08	01	1422	N38	E26	08	3.7		A	AX		1	1	3
5092A	24695	MWIL	08	01	1515	N38	E26	08	3.7	4	(AF)					
5092A	24695	MWIL	08	02	1500	N38	E14	08	3.7	3	(B)					

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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
5097		PALE	07	30	1915	S23	E54	08	4.0		A	AX	10	2	2	3
5097		LEAR	07	31	0032	S26	E51	08	4.0		B	BXO	10	2	4	3
5097		CULG	07	31	0400	S24	E52	08	4.2		B	BXO	10	2	4	3
5097		SVTO	07	31	0756	S24	E48	08	4.0		B	BXO	20	3	4	2
5097		RAMY	07	31	1340	S24	E44	08	4.0		B	BXO	20	2	4	2
5097		BOUL	07	31	1350	S25	E43	08	3.9		B	BXO		2	4	3
5097	24694	MWIL	07	31	1430	S24	E44	08	4.0	4	(B)					
5097		HOLL	07	31	1445	S25	E44	08	4.0		B	BXO	10	2	4	4
5097		LEAR	08	01	0020	S25	E36	08	3.8		A	AX	10	1	1	3
5097		SVTO	08	01	0756	S24	E32	08	3.8		B	BXO	10	3	4	2
5097		BOUL	08	01	1339	S24	E27	08	3.6		B	BXO	20	4	4	2
5097		HOLL	08	01	1422	S25	E29	08	3.8		B	BXO	30	3	4	3
5097		RAMY	08	01	1504	S24	E28	08	3.8		B	BXO	20	5	4	3
5097	24694	MWIL	08	01	1515	S25	E29	08	3.9	4	(BP)					
5097		PALE	08	01	1710	S23	E28	08	3.9		B	BXO	20	6	4	3
5097		LEAR	08	02	0030	S23	E23	08	3.8		B	BXO	10	5	5	3
5097		CULG	08	02	0530	S26	E21	08	3.9		B	BXO	10	4	5	2
5097		SVTO	08	02	0825	S25	E19	08	3.8		B	DRO	40	6	5	2
5097		BOUL	08	02	1330	S24	E14	08	3.6		B	BXO	20	5	4	2
5097	24694	MWIL	08	02	1500	S25	E16	08	3.9	3	(B)					
5097		HOLL	08	02	1855	S26	E13	08	3.8		B	BXO	20	3	5	2
5097		PALE	08	02	1945	S25	E13	08	3.8		B	BXO	20	6	5	3
5097		LEAR	08	03	0113	S25	E09	08	3.7		B	CRO	30	2	5	3
5097		CULG	08	03	0338	S25	E10	08	3.9		B	BXO	10	2	5	2
5097		SVTO	08	03	0603	S24	E07	08	3.8		B	CRO	10	3	5	3
5097		RAMY	08	03	1357	S24	E03	08	3.8		B	BXO	10	2	5	2
5097		HOLL	08	03	1409	S24	E05	08	4.0		A	HS	10	1	1	3
5097	24694	MWIL	08	03	1500	S25	E04	08	3.9	4	(B)					
5097		BOUL	08	03	1638	S23	E03	08	3.9		A	AX	10	1	1	1
5097		PALE	08	03	2210	S24	E03	08	4.1		A	AX	10	1	1	3
5097		LEAR	08	04	0003	S24	W05	08	3.6		B	BXO	10	2	9	2
5097		CULG	08	04	0335	S24	W02	08	4.0		A	AX	10	1	1	3
5097		SVTO	08	04	0628	S24	W04	08	4.0		A	AX		1		1
5097	24694	MWIL	08	04	1445	S25	W08	08	4.0	4	(B)					
5097		PALE	08	04	1720	S24	W07	08	4.2		A	AX		1		3
5097		CULG	08	06	0310	S27	W27	08	4.0		A	AX	10	1	1	2
5097		SVTO	08	06	0657	S25	W29	08	4.0		A	AX	10	2	2	3
5097		RAMY	08	06	1345	S24	W35	08	3.9		A	AX	10	1	1	4
5097	24694	MWIL	08	06	1430	S25	W34	08	4.0	4	(AP)					
5097		HOLL	08	06	1510	S24	W35	08	3.9		A	AX		1		4
5101		RAMY	08	04	1400	S13	E19	08	6.0		B	BXO	10	2	3	3
5101		HOLL	08	04	1704	S14	E19	08	6.1		A	AX	10	2	2	3
5101		BOUL	08	04	1720	S13	E17	08	6.0		B	BXO		2	1	1
5101		PALE	08	04	1720	S14	E20	08	6.2		A	AX	10	3	2	3
5101		LEAR	08	05	0035	S15	E15	08	6.1		B	DSO	20	4	3	3
5101		CULG	08	05	0445	S14	E13	08	6.2		B	DSO	20	4	4	1
5101		SVTO	08	05	0619	S13	E12	08	6.2		B	DRO	20	5	4	4
5101		BOUL	08	05	1338	S13	E06	08	6.0		B	DRO	20	13	6	4
5101		RAMY	08	05	1400	S13	E07	08	6.1		B	CRO	40	15	7	3
5101	24699	MWIL	08	05	1445	S14	E06	08	6.1	4	(B)					
5101		HOLL	08	05	1740	S14	E04	08	6.0		B	DRO	20	15	6	3
5101		PALE	08	05	1800	S12	E05	08	6.1		B	DRO	30	12	8	3
5101		LEAR	08	06	0223	S15	W01	08	6.0		B	DSO	40	7	8	3
5101		CULG	08	06	0310	S14	W01	08	6.0		B	DSO	40	9	7	2
5101		SVTO	08	06	0657	S14	W03	08	6.1		B	DRI	40	21	7	3
5101		BOUL	08	06	1320	S13	W07	08	6.0		B	DAI	50	37	8	1
5101		RAMY	08	06	1345	S13	W07	08	6.0		B	DAI	90	44	10	4
5101	24699	MWIL	08	06	1430	S14	W07	08	6.1	4	(BG)					
5101		HOLL	08	06	1510	S14	W07	08	6.1		BG	DAI	70	39	8	4
5101		PALE	08	06	1845	S14	W09	08	6.1		B	DAI	120	41	8	3
5101		LEAR	08	07	0251	S13	W13	08	6.1		B	DAI	180	34	8	2
5101		CULG	08	07	0330	S15	W14	08	6.1		B	DAI	220	28	8	2
5101		SVTO	08	07	0915	S14	W17	08	6.1		BG	DAI	190	39	9	2
5101		BOUL	08	07	1430	S13	W21	08	6.0		B	DAI	240	49	10	3
5101	24699	MWIL	08	07	1515	S14	W22	08	6.0	5	(B)					
5101		RAMY	08	07	1528	S13	W23	08	5.9		B	DAI	430	33	10	3
5101		HOLL	08	07	1700	S13	W23	08	6.0		B	DAI	350	37	10	3
5101		PALE	08	07	1905	S13	W24	08	6.0		B	DAI	310	35	9	3

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5101		LEAR	08	08	0020	S13	W27	08	6.0		B	DAI	510	34	10	4
5101		CULG	08	08	0410	S16	W31	08	5.8		B	DAI	380	23	9	2
5101		SVTO	08	08	0750	S15	W32	08	5.9		B	DKI	410	37	9	3
5101		BOUL	08	08	1342	S13	W34	08	6.0		B	DKI	330	23	10	2
5101	24699	MWIL	08	08	1430	S14	W35	08	5.9	5	(BG)					
5101		RAMY	08	08	1649	S13	W36	08	6.0		B	DKI	620	20	10	2
5101		HOLL	08	08	1750	S13	W38	08	5.9		B	DKI	560	24	10	2
5101		LEAR	08	09	0100	S13	W41	08	5.9		BG	EKI	490	17	11	3
5101		CULG	08	09	0320	S14	W43	08	5.9		B	DAO	390	9	9	3
5101		SVTO	08	09	0809	S13	W46	08	5.9		B	EHO	720	24	11	2
5101		BOUL	08	09	1338	S13	W47	08	6.0		B	DKI	460	16	9	3
5101		RAMY	08	09	1443	S13	W49	08	5.9		B	DKI	490	12	10	2
5101	24699	MWIL	08	09	1530	S14	W50	08	5.9	5	(D)					
5101		PALE	08	09	1740	S16	W50	08	5.9		B	EKI	680	16	11	3
5101		LEAR	08	10	0020	S13	W55	08	5.9		BG	EKI	590	17	11	3
5101		CULG	08	10	0500	S15	W57	08	5.9		B	DSO	280	7	9	3
5101		SVTO	08	10	0805	S14	W58	08	5.9		B	DKO	560	11	10	3
5101		BOUL	08	10	1335	S13	W62	08	5.9		B	DKO	570	17	10	3
5101		RAMY	08	10	1430	S14	W61	08	6.0		B	DKO	530	9	10	3
5101	24699	MWIL	08	10	1530	S14	W65	08	5.7	5	(B)					
5101		PALE	08	10	1915	S14	W66	08	5.8		B	EKO	520	12	11	3
5101		LEAR	08	11	0004	S12	W66	08	6.0		B	DHI	350	15	10	2
5101		CULG	08	11	0320	S16	W71	08	5.7		B	EKO	270	4	13	3
5101		SVTO	08	11	0745	S12	W72	08	5.9		B	EKO	600	12	12	3
5101		BOUL	08	11	1338	S12	W71	08	6.2		B	DKI	420	5	9	2
5101		RAMY	08	11	1400	S13	W74	08	6.0		B	DKO	350	10	10	3
5101	24699	MWIL	08	11	1430	S13	W77	08	5.8	4	(B)					
5101		HOLL	08	11	2025	S11	W77	08	6.0		B	DKO	360	9	10	4
5101		PALE	08	11	2045	S14	W80	08	5.8		B	DKI	300	6	10	3
5101		SVTO	08	12	0740	S11	W80	08	6.3		A	AXO	30	2		4
5103		RAMY	08	06	1345	N18	W03	08	6.3		A	AX		1	1	4
5103		HOLL	08	06	1510	N18	W04	08	6.3		A	AX		1		4
5103		PALE	08	06	1845	N18	W06	08	6.3		A	AX	10	2	2	3
5103A	24712	MWIL	08	12	1445	N24	W58	08	8.1	3	(AF)					
5103A		HOLL	08	12	1518	N23	W58	08	8.2		A	AX		1		3
5103A		PALE	08	12	1830	N20	W60	08	8.2		A	AX		1		3
5103B		RAMY	08	06	1345	S11	E28	08	8.7		B	BXO	10	2	2	4
5103B	24700	MWIL	08	06	1430	S11	E28	08	8.7	4	(AF)					
5103B		HOLL	08	06	1510	S11	E29	08	8.8		A	AX	10	2	2	4
5103C	24707	MWIL	08	10	1530	N28	W21	08	9.0	3	(AP)					
5103C	24707	MWIL	08	10	1530	N30	W26	08	8.6	3	(AP)					
5103C	24707	MWIL	08	10	1530	N32	W21	08	9.0	3	(AP)					
5103C	24707	MWIL	08	12	1445	N30	W48	08	8.8	2	(AP)					
5103D	24708	MWIL	08	10	1530	N08	W22	08	9.0	3	(AP)					
5099		RAMY	08	03	1357	N22	E83	08	10.0		A	HS	60	1	2	2
5099		HOLL	08	03	1409	N21	E81	08	9.8		A	HS	60	1	1	3
5099	24697	MWIL	08	03	1500	N23	E81	08	9.9	4	AP					
5099		BOUL	08	03	1638	N21	E84	08	10.1		B	HS	120	3	2	1
5099		PALE	08	03	2210	N22	E81	08	10.1		A	HS	30	2	2	3
5099		LEAR	08	04	0003	N21	E78	08	10.0		A	HX	60	1	1	2
5099		CULG	08	04	0335	N24	E76	08	10.0		A	HS	30	1	2	3
5099		SVTO	08	04	0628	N23	E72	08	9.8		A	HS	50	1	2	1
5099		RAMY	08	04	1400	N23	E68	08	9.8		A	HS	100	1	2	3
5099	24697	MWIL	08	04	1445	N23	E68	08	9.8	5	(AP)					
5099		HOLL	08	04	1704	N22	E67	08	9.9		A	HS	90	1	1	3
5099		BOUL	08	04	1720	N21	E63	08	9.5		A	HS	80	1	1	1
5099		PALE	08	04	1720	N23	E68	08	10.0		A	HS	50	1	2	3
5099		LEAR	08	05	0035	N22	E65	08	10.0		A	HR	40	1	1	3
5099		CULG	08	05	0445	N24	E60	08	9.8		A	HS	20	1	1	1
5099		SVTO	08	05	0619	N22	E60	08	9.9		A	HS	80	1	2	4
5099		BOUL	08	05	1338	N21	E52	08	9.5		A	HS	30	1	1	4
5099		RAMY	08	05	1400	N21	E56	08	9.9		A	HS	70	1	2	3
5099	24697	MWIL	08	05	1445	N22	E55	08	9.8	5	(AP)					

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5099		HOLL	08	05	1740	N22	E56	08	10.0		B	CSO	20	3	7	3
5099		PALE	08	05	1800	N23	E53	08	9.8		A	HS	30	1	2	3
5099		LEAR	08	06	0223	N21	E51	08	10.0		B	CSO	30	3	9	3
5099		CULG	08	06	0310	N23	E53	08	10.2		B	CSO	30	4	9	2
5099		SVTO	08	06	0657	N22	E50	08	10.1		B	CSO	40	7	7	3
5099		BOUL	08	06	1320	N22	E45	08	10.0		B	DSO	60	11	9	1
5099		RAMY	08	06	1345	N22	E46	08	10.1		B	DSO	60	15	9	4
5099	24697	MWIL	08	06	1430	N23	E44	08	10.0	5	(B)					
5099		HOLL	08	06	1510	N22	E46	08	10.2		B	CSO	70	11	8	4
5099		PALE	08	06	1845	N23	E43	08	10.1		B	DSO	70	8	10	3
5099		LEAR	08	07	0251	N22	E37	08	10.0		B	DSO	40	6	9	2
5099		CULG	08	07	0330	N24	E39	08	10.1		B	DSO	30	7	9	2
5099		SVTO	08	07	0915	N23	E36	08	10.1		B	CSO	20	15	9	2
5099		BOUL	08	07	1430	N22	E32	08	10.1		B	DSO	40	11	9	3
5099	24697	MWIL	08	07	1515	N22	E32	08	10.1	5	(B)					
5099		RAMY	08	07	1528	N22	E34	08	10.2		B	CAO	40	12	9	3
5099		HOLL	08	07	1700	N22	E32	08	10.2		B	CAI	40	14	10	3
5099		PALE	08	07	1905	N22	E31	08	10.2		B	EAO	80	12	11	3
5099		LEAR	08	08	0020	N22	E29	08	10.2		B	DSO	100	9	9	4
5099		CULG	08	08	0410	N23	E26	08	10.2		B	DSO	60	9	8	2
5099		SVTO	08	08	0750	N23	E26	08	10.3		B	DSO	60	15	10	3
5099		BOUL	08	08	1342	N22	E20	08	10.1		B	DSI	110	15	9	2
5099	24697	MWIL	08	08	1430	N22	E20	08	10.1	5	(BG)					
5099		RAMY	08	08	1649	N23	E19	08	10.2		B	DAO	180	21	10	2
5099		HOLL	08	08	1750	N22	E18	08	10.1		B	DAI	140	14	8	2
5099		LEAR	08	09	0100	N23	E15	08	10.2		B	DAI	280	31	9	3
5099		CULG	08	09	0320	N23	E13	08	10.1		B	DAI	140	13	8	3
5099		SVTO	08	09	0809	N23	E10	08	10.1		B	DHI	340	23	9	2
5099		BOUL	08	09	1338	N22	E08	08	10.2		B	DAI	230	23	8	3
5099		RAMY	08	09	1443	N23	E08	08	10.2		B	DAI	430	20	10	2
5099	24697	MWIL	08	09	1530	N22	E05	08	10.0	6	(B)					
5099	24697	MWIL	08	09	1530	N25	E04	08	9.9	5	(B)					
5099		PALE	08	09	1740	N22	E05	08	10.1		B	EAI	450	38	11	3
5099		LEAR	08	10	0020	N24	E01	08	10.1		B	DAI	430	23	8	3
5099		CULG	08	10	0500	N22	W02	08	10.0		B	DAO	250	12	7	3
5099		SVTO	08	10	0805	N22	W04	08	10.0		BD	DAI	380	28	9	3
5099		BOUL	08	10	1335	N22	W06	08	10.1		B	DAI	410	23	7	3
5099		RAMY	08	10	1430	N22	W06	08	10.1		B	DHI	520	33	8	3
5099	24697	MWIL	08	10	1530	N23	W07	08	10.1	6	(BG)					
5099	24697	MWIL	08	10	1530	N25	W09	08	9.9	5	(B)					
5099		PALE	08	10	1915	N23	W09	08	10.1		BD	DKI	430	27	9	3
5099		LEAR	08	11	0004	N23	W11	08	10.1		B	DHI	480	18	9	2
5099		CULG	08	11	0320	N22	W13	08	10.1		B	DKO	370	12	6	3
5099		SVTO	08	11	0745	N22	W16	08	10.1		BG	DKO	610	10	8	3
5099		BOUL	08	11	1338	N23	W18	08	10.2		B	DKI	480	36	10	2
5099		RAMY	08	11	1400	N23	W18	08	10.2		B	DKI	630	28	10	3
5099	24697	MWIL	08	11	1430	N22	W21	08	10.0	5	(B)					
5099		HOLL	08	11	2025	N23	W22	08	10.1		B	DKI	520	32	9	4
5099		PALE	08	11	2045	N23	W23	08	10.1		B	DKI	610	19	9	3
5099		CULG	08	12	0350	N21	W27	08	10.1		B	DKO	450	15	8	3
5099		SVTO	08	12	0740	N23	W28	08	10.2		B	DAO	550	16	8	4
5099		RAMY	08	12	1250	N25	W32	08	10.0		B	DKI	610	24	10	3
5099		BOUL	08	12	1330	N23	W32	08	10.1		B	DKI	460	21	7	1
5099	24697	MWIL	08	12	1445	N24	W32	08	10.1	5	(BG)					
5099		HOLL	08	12	1518	N24	W32	08	10.2		B	DKI	420	29	9	3
5099		PALE	08	12	1830	N22	W34	08	10.1		B	DKI	350	21	8	3
5099		LEAR	08	13	0044	N23	W38	08	10.1		B	DKO	400	17	9	3
5099		CULG	08	13	0405	N21	W41	08	10.0		B	DKO	410	15	7	2
5099		SVTO	08	13	0741	N23	W42	08	10.1		B	DAO	270	15	8	3
5099		RAMY	08	13	1335	N24	W45	08	10.1		B	DKO	390	14	9	3
5099		BOUL	08	13	1355	N23	W43	08	10.3		B	DAO	300	13	8	1
5099	24697	MWIL	08	13	1430	N24	W45	08	10.1	5	(B)					
5099		HOLL	08	13	1510	N23	W45	08	10.2		B	DAO	370	20	7	4
5099		PALE	08	13	1850	N22	W48	08	10.1		B	DAO	420	14	8	3
5099		LEAR	08	14	0018	N23	W50	08	10.1		B	DSO	330	15	9	3
5099		CULG	08	14	0410	N20	W53	08	10.1		B	DAO	370	9	7	2
5099		SVTO	08	14	0806	N23	W55	08	10.1		B	DAO	260	14	10	2
5099		BOUL	08	14	1335	N23	W55	08	10.3		B	DAO	310	12	9	4
5099	24697	MWIL	08	14	1430	N23	W58	08	10.1	5	(B)					

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
5099		HOLL	08 14	1535	N23 W58	08 10.2		B	DAO	320	13	10	4
5099		RAMY	08 14	1833	N24 W60	08 10.1		B	DKO	300	4	7	3
5099		PALE	08 14	1915	N21 W60	08 10.2		B	DKO	320	8	10	3
5099		LEAR	08 15	0102	N23 W65	08 10.0		B	DAO	330	3	10	3
5099		CULG	08 15	0450	N20 W66	08 10.1		B	DAO	230	4	6	2
5099		SVTO	08 15	0702	N23 W67	08 10.1		B	DAO	380	3	7	4
5099		BOUL	08 15	1315	N23 W68	08 10.3		B	DAO	220	2	8	2
5099		RAMY	08 15	1405	N24 W75	08 9.8		B	DKO	300	4	8	3
5099	24697	MWIL	08 15	1515	N23 W72	08 10.1	5	(B)					
5099		HOLL	08 15	1528	N23 W73	08 10.0		B	DSO	240	4	7	3
5099		PALE	08 15	1800	N22 W75	08 10.0		B	DKO	260	5	10	3
5099		LEAR	08 16	0012	N24 W78	08 10.0		B	DAO	110	4	10	4
5099		SVTO	08 16	0647	N23 W80	08 10.1		B	DAO	210	3	7	3
5099		RAMY	08 16	1400	N23 W85	08 10.0		A	HA	110	2	2	3
5099	24697	MWIL	08 16	1500	N23 W84	08 10.1	4	B					
5099		HOLL	08 16	1521	N25 W85	08 10.0		B	CAO	50	5	10	3
5099		PALE	08 16	1845	N23 W85	08 10.2		B	CAO	60	3	3	3
5100		RAMY	08 03	1357	N29 E89	08 10.5		A	HR	60	1	2	2
5100		HOLL	08 03	1409	N29 E84	08 10.2		A	HS	60	1	2	3
5100	24698	MWIL	08 03	1500	N28 E86	08 10.3	4	AP					
5100		BOUL	08 03	1638	N28 E88	08 10.6		B	HS	120	4	2	1
5100		PALE	08 03	2210	N30 E87	08 10.8		A	HS	50	3	2	3
5100		LEAR	08 04	0003	N28 E86	08 10.7		A	HX	120	1	2	2
5100		CULG	08 04	0335	N32 E80	08 10.5		A	HS	80	1	2	3
5100		SVTO	08 04	0628	N31 E77	08 10.3		B	CSO	120	4	5	1
5100		RAMY	08 04	1400	N28 E72	08 10.2		B	CAO	160	10	7	3
5100	24698	MWIL	08 04	1445	N28 E72	08 10.2	5	(B)					
5100		HOLL	08 04	1704	N30 E74	08 10.5		B	CSO	100	13	9	3
5100		BOUL	08 04	1720	N30 E67	08 10.0		B	DSO	120	5	7	1
5100		PALE	08 04	1720	N30 E70	08 10.2		B	CSO	120	7	3	3
5100		LEAR	08 05	0035	N30 E65	08 10.1		B	DSO	120	6	18	3
5100		CULG	08 05	0445	N32 E65	08 10.3		B	CSO	90	4	7	1
5100		SVTO	08 05	0619	N30 E67	08 10.5		B	EAO	180	9	12	4
5100		BOUL	08 05	1338	N28 E58	08 10.1		B	EAO	120	10	11	4
5100		RAMY	08 05	1400	N28 E63	08 10.5		B	CAO	110	10	11	3
5100	24698	MWIL	08 05	1445	N28 E61	08 10.4	5	(BP)					
5100		HOLL	08 05	1740	N29 E59	08 10.4		B	DSO	120	8	10	3
5100		PALE	08 05	1800	N29 E60	08 10.4		B	ESO	120	9	11	3
5100		LEAR	08 06	0223	N29 E57	08 10.6		B	ESO	110	4	13	3
5100		CULG	08 06	0310	N31 E55	08 10.5		B	CSO	90	4	10	2
5100		SVTO	08 06	0657	N30 E53	08 10.4		B	EAO	120	7	12	3
5100		BOUL	08 06	1320	N28 E48	08 10.3		B	EAO	80	10	12	1
5100		RAMY	08 06	1345	N28 E49	08 10.4		B	DSO	60	12	10	4
5100	24698	MWIL	08 06	1430	N28 E49	08 10.4	5	(B)					
5100		HOLL	08 06	1510	N29 E48	08 10.4		B	EAO	70	10	11	4
5100		PALE	08 06	1845	N31 E47	08 10.5		B	DSO	70	7	10	3
5100		LEAR	08 07	0251	N29 E40	08 10.2		B	ESO	110	6	14	2
5100		CULG	08 07	0330	N30 E42	08 10.4		B	CSO	40	5	13	2
5100		SVTO	08 07	0915	N30 E40	08 10.5		B	ESO	60	9	11	2
5100		BOUL	08 07	1430	N28 E35	08 10.3		B	EAO	50	11	14	3
5100	24698	MWIL	08 07	1515	N28 E35	08 10.4	5	(BP)					
5100		RAMY	08 07	1528	N29 E36	08 10.5		B	EAO	80	7	13	3
5100		HOLL	08 07	1700	N28 E35	08 10.4		B	EAO	40	9	14	3
5100		PALE	08 07	1905	N29 E33	08 10.4		B	ESO	70	9	13	3
5100		LEAR	08 08	0020	N29 E27	08 10.1		B	DSO	100	6	7	4
5100		CULG	08 08	0410	N28 E24	08 10.0		B	CSO	50	5	5	2
5100		SVTO	08 08	0750	N26 E23	08 10.1		B	CRO	30	8	5	3
5100		BOUL	08 08	1342	N27 E19	08 10.0		B	CAO	40	8	9	2
5100	24698	MWIL	08 08	1430	N28 E23	08 10.4	5	(BG)					
5100		RAMY	08 08	1649	N30 E21	08 10.3		B	EAO	40	8	14	2
5100		HOLL	08 08	1750	N30 E23	08 10.5		B	CSO	40	11	12	2
5100		LEAR	08 09	0100	N30 E21	08 10.7		B	CAO	40	8	8	3
5100		CULG	08 09	0320	N31 E18	08 10.5		B	CSO	20	2	5	3
5100		SVTO	08 09	0809	N28 E12	08 10.3		B	CSO	20	11	13	2
5100		BOUL	08 09	1338	N27 E10	08 10.3		B	CAO	40	11	12	3
5100		RAMY	08 09	1443	N30 E09	08 10.3		B	FAI	40	13	16	2
5100	24698	MWIL	08 09	1530	N28 E13	08 10.7	5	(B)					
5100		PALE	08 09	1740	N31 E08	08 10.4		B	DRO	30	11	8	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
5100		LEAR	08	10	0020	N31	E08	08	10.6		B	DAO	70	15	10	3
5100		CULG	08	10	0500	N29	E04	08	10.5		B	BXO	10	4	6	3
5100		SVTO	08	10	0805	N29	W04	08	10.0		B	CSO	30	14	10	3
5100		BOUL	08	10	1335	N29	W02	08	10.4		B	BXO	50	13	15	3
5100		RAMY	08	10	1430	N29	W01	08	10.5		B	BXO	30	12	15	3
5100	24698	MWIL	08	10	1530	N29	E01	08	10.7	5	(B)					
5100		PALE	08	10	1915	N32	W03	08	10.6		B	BXO	30	11	9	3
5100		LEAR	08	11	0004	N29	W07	08	10.4		B	CRO	20	12	12	2
5100		CULG	08	11	0320	N31	W07	08	10.6		A	AX	10	1	1	3
5100		SVTO	08	11	0745	N30	W10	08	10.5		B	BXO	20	12	10	3
5100		BOUL	08	11	1338	N31	W11	08	10.7		B	BXO		8	8	2
5100		RAMY	08	11	1400	N32	W12	08	10.6		B	BXO	20	8	9	3
5100	24698	MWIL	08	11	1430	N32	W13	08	10.6	4	(B)					
5100		HOLL	08	11	2025	N32	W12	08	10.9		B	BXO	10	5	5	4
5100		PALE	08	11	2045	N30	W13	08	10.8		B	BXO	10	3	1	3
5100		RAMY	08	12	1250	N34	W22	08	10.8		A	AX	10	3	3	3
5100	24698	MWIL	08	12	1445	N33	W22	08	10.9	3	(AF)					
5100		HOLL	08	12	1518	N33	W22	08	10.9		B	BXO	10	4	3	3
5100		PALE	08	12	1830	N29	W26	08	10.7		B	BXO	10	3	3	3
5100	24698	MWIL	08	13	1430	N32	W37	08	10.7	3	AP					
5100	24698	MWIL	08	14	1430	N34	W50	08	10.6	2	(AF)					
5100A		BOUL	08	14	1335	N32	W43	08	11.2		A	AX		1		4
5102		BOUL	08	06	1320	S19	E78	08	12.5		A	HS	90	1	2	1
5102		RAMY	08	06	1345	S17	E76	08	12.3		A	HS	60	1	2	4
5102	24701	MWIL	08	06	1430	S18	E78	08	12.5	4	AP					
5102		HOLL	08	06	1510	S19	E79	08	12.7		A	HS	60	1	2	4
5102		PALE	08	06	1845	S18	E76	08	12.6		A	HS	60	1	2	3
5102		LEAR	08	07	0251	S16	E69	08	12.3		B	CSO	20	3	3	2
5102		CULG	08	07	0330	S16	E72	08	12.6		A	HS	40	1	1	2
5102		SVTO	08	07	0915	S17	E69	08	12.6		B	CSO	70	2	5	2
5102		BOUL	08	07	1430	S19	E66	08	12.6		B	CSO	100	3	8	3
5102	24701	MWIL	08	07	1515	S19	E64	08	12.5	5	(BP					
5102		RAMY	08	07	1528	S18	E65	08	12.6		B	CAO	150	3	6	3
5102		HOLL	08	07	1700	S19	E64	08	12.6		B	CAO	140	2	6	3
5102		PALE	08	07	1905	S17	E65	08	12.7		B	CSO	50	2	8	3
5102		LEAR	08	08	0020	S18	E58	08	12.4		B	FHO	40	4	22	4
5102		CULG	08	08	0410	S18	E58	08	12.6		A	HS	80	1	2	2
5102		SVTO	08	08	0750	S19	E55	08	12.5		A	HS	80	1	2	3
5102		BOUL	08	08	1342	S19	E49	08	12.3		A	HA	80	2	2	2
5102	24701	MWIL	08	08	1430	S19	E52	08	12.6	5	(BP)					
5102		RAMY	08	08	1649	S18	E52	08	12.7		B	CAO	80	2	7	2
5102		HOLL	08	08	1750	S19	E49	08	12.5		A	HS	60	2	2	2
5102		LEAR	08	09	0100	S19	E45	08	12.5		B	CSO	60	2	2	3
5102		CULG	08	09	0320	S18	E46	08	12.6		A	HS	30	1	1	3
5102		SVTO	08	09	0809	S19	E40	08	12.4		A	HS	40	1	1	2
5102		BOUL	08	09	1338	S19	E36	08	12.3		A	HA	70	1	2	3
5102		RAMY	08	09	1443	S19	E38	08	12.5		A	HS	80	1	2	2
5102	24701	MWIL	08	09	1530	S19	E37	08	12.5	5	(BP)					
5102		PALE	08	09	1740	S19	E37	08	12.5		A	HS	60	1	2	3
5102		LEAR	08	10	0020	S19	E32	08	12.4		A	HA	60	2	2	3
5102		CULG	08	10	0500	S20	E31	08	12.6		A	HS	20	1	1	3
5102		SVTO	08	10	0805	S19	E27	08	12.4		A	HS	50	2	2	3
5102		BOUL	08	10	1335	S18	E24	08	12.4		A	HS	80	2	2	3
5102		RAMY	08	10	1430	S19	E25	08	12.5		A	HS	50	2	3	3
5102	24701	MWIL	08	10	1530	S19	E24	08	12.5	5	(AP)					
5102		PALE	08	10	1915	S19	E23	08	12.5		A	HS	50	3	2	3
5102		LEAR	08	11	0004	S19	E19	08	12.4		B	CAO	20	3	3	2
5102		CULG	08	11	0320	S19	E18	08	12.5		A	HS	20	1	1	3
5102		SVTO	08	11	0745	S19	E16	08	12.5		B	CSO	60	6	3	3
5102		BOUL	08	11	1338	S17	E14	08	12.6		B	CSO	50	5	6	2
5102		RAMY	08	11	1400	S17	E14	08	12.6		B	CSO	50	5	6	3
5102	24701	MWIL	08	11	1430	S19	E12	08	12.5	5	(BP)					
5102		HOLL	08	11	2025	S19	E07	08	12.4		B	CSO	40	3	4	4
5102		PALE	08	11	2045	S19	E08	08	12.5		B	CSO	50	2	3	3
5102		CULG	08	12	0350	S20	E05	08	12.5		A	HS	20	1	1	3
5102		SVTO	08	12	0740	S18	E04	08	12.6		B	CSO	60	8	4	4
5102		RAMY	08	12	1250	S17	E01	08	12.6		B	CSO	50	4	6	3

SUNSPOT GROUPS
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5102		BOUL	08 12	1330	S17 W01	08 12.5		B	CSO	30	3	4	1
5102	24701	MWIL	08 12	1445	S18 W02	08 12.5	5	(BP)					
5102		HOLL	08 12	1518	S18 W04	08 12.3		B	CSO	30	5	5	3
5102		PALE	08 12	1830	S19 W03	08 12.5		B	CSO	50	3	3	3
5102		LEAR	08 13	0044	S18 W08	08 12.4		A	HS	60	1	2	3
5102		CULG	08 13	0405	S20 W09	08 12.5		A	HS	20	1	1	2
5102		SVTO	08 13	0741	S18 W12	08 12.4		A	HS	40	1	2	3
5102		RAMY	08 13	1335	S18 W12	08 12.6		B	CAO	20	3	5	3
5102		BOUL	08 13	1355	S18 W14	08 12.5		A	HS	40	2	1	1
5102	24701	MWIL	08 13	1430	S18 W16	08 12.4	5	(AP)					
5102		HOLL	08 13	1510	S19 W16	08 12.4		A	HS	30	3	2	4
5102		PALE	08 13	1850	S20 W17	08 12.5		A	HS	40	2	2	3
5102		LEAR	08 14	0018	S18 W21	08 12.4		A	HS	30	1	1	3
5102		CULG	08 14	0410	S20 W22	08 12.5		A	HS	10	1	1	2
5102		SVTO	08 14	0806	S19 W25	08 12.4		A	HS	20	1	1	2
5102		BOUL	08 14	1335	S18 W26	08 12.6		B	CSO	20	4	3	4
5102	24701	MWIL	08 14	1430	S18 W28	08 12.5	4	(AF)					
5102		HOLL	08 14	1535	S19 W27	08 12.6		B	CAO	20	4	4	4
5102		RAMY	08 14	1833	S17 W30	08 12.5		B	CRO	30	2	3	3
5102		PALE	08 14	1915	S20 W29	08 12.6		B	CAO	30	3	3	3
5102		LEAR	08 15	0102	S18 W35	08 12.4		A	AX	10	2	1	3
5102		CULG	08 15	0450	S21 W36	08 12.4		A	HS	10	1	1	2
5102		SVTO	08 15	0702	S19 W38	08 12.4		A	AX	10	2	1	4
5102		BOUL	08 15	1315	S18 W40	08 12.5		A	AX	10	2	1	2
5102		RAMY	08 15	1405	S19 W43	08 12.3		A	AX	10	1	1	3
5102	24701	MWIL	08 15	1515	S18 W42	08 12.4	5	(AP)					
5102		HOLL	08 15	1528	S19 W43	08 12.4		A	AX	10	2	1	3
5102		PALE	08 15	1800	S21 W43	08 12.4		A	AX	10	2	1	3
5102		LEAR	08 16	0012	S18 W47	08 12.4		A	AX	10	2	1	4
5102		SVTO	08 16	0647	S19 W50	08 12.5		A	AX	10	2	1	3
5107		SVTO	08 08	0750	N32 E61	08 13.1		A	AX	10	2	2	3
5107		BOUL	08 08	1342	N30 E56	08 13.0		B	AX	10	2		2
5107	24704	MWIL	08 08	1430	N31 E57	08 13.1	4	(B)					
5107		RAMY	08 08	1649	N31 E56	08 13.1		A	AX	10	2	1	2
5107		HOLL	08 08	1750	N31 E56	08 13.2		A	AX		2	1	2
5107		LEAR	08 09	0100	N31 E51	08 13.1		B	BXO	20	2	1	3
5107		CULG	08 09	0320	N32 E51	08 13.2		A	AX	10	1	1	3
5107		SVTO	08 09	0809	N31 E47	08 13.0		A	HS	20	2	1	2
5107		BOUL	08 09	1338	N30 E43	08 12.9		A	AX	10	2		3
5107		RAMY	08 09	1443	N31 E43	08 13.0		A	AX	10	2	1	2
5107	24704	MWIL	08 09	1530	N31 E44	08 13.1	4	(AP)					
5107		LEAR	08 10	0020	N31 E38	08 13.0		A	AX	10	2	1	3
5107		CULG	08 14	0410	N33 W13	08 13.1		B	BXO	10	2	2	2
5107		SVTO	08 14	0806	N33 W13	08 13.3		B	BXO	10	4	3	2
5107		BOUL	08 14	1335	N33 W15	08 13.4		B	BXO		5	3	4
5107	24704	MWIL	08 14	1430	N34 W17	08 13.2	4	(B)					
5107		HOLL	08 14	1535	N34 W19	08 13.1		B	BXO	10	5	3	4
5107		RAMY	08 14	1833	N33 W19	08 13.3		B	BXO	20	4	3	3
5107		PALE	08 14	1915	N33 W21	08 13.1		B	BXO	10	3	3	3
5107		LEAR	08 15	0102	N35 W22	08 13.3		A	AX	10	2	1	3
5107		CULG	08 15	0450	N33 W25	08 13.2		A	AX	10	1	1	2
5107		SVTO	08 15	0702	N33 W26	08 13.2		B	BXO	10	3	3	4
5107		BOUL	08 15	1315	N33 W27	08 13.4		A	AX	10	1		2
5107		RAMY	08 15	1405	N34 W29	08 13.3		B	BXO	20	2	2	3
5107	24704	MWIL	08 15	1515	N34 W29	08 13.3	4	(B)					
5107		HOLL	08 15	1528	N34 W31	08 13.2		B	BXO	10	2	3	3
5107		PALE	08 15	1800	N32 W32	08 13.2		A	AX	10	1	1	3
5111		RAMY	08 13	1335	S10 W06	08 13.1		A	AX	10	2	1	3
5111		BOUL	08 13	1355	S09 W06	08 13.1		A	AX		1		1
5111	24714	MWIL	08 13	1430	S10 W06	08 13.1	3	(AP)					
5111		HOLL	08 13	1510	S11 W07	08 13.1		A	AX	10	2	1	4
5111		PALE	08 13	1850	S10 W08	08 13.2		A	AX	10	2	1	3
5111		CULG	08 14	0410	S10 W14	08 13.1		A	AX	10	1	1	2
5111		BOUL	08 14	1335	S09 W19	08 13.1		A	AX		1		4
5111	24714	MWIL	08 14	1430	S08 W20	08 13.1	4	(AP)					
5111		HOLL	08 14	1535	S09 W20	08 13.1		A	AX		2	1	4
5111		RAMY	08 14	1833	S09 W23	08 13.0		A	AX	10	1	1	3

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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
5111		PALE	08 14	1915	S10 W23	08 13.1		A	AX		1	1	3
5105		LEAR	08 07	0251	N19 E85	08 13.6		B	DSO	20	3	4	2
5105		CULG	08 07	0330	N18 E83	08 13.5		A	HS	10	1	1	2
5105		SVTO	08 07	0915	N18 E79	08 13.4		B	DSO	180	3	3	2
5105		BOUL	08 07	1430	N15 E75	08 13.3		B	CAO	120	4	4	3
5105	24702	MWIL	08 07	1515	N15 E76	08 13.4	5	AP					
5105		RAMY	08 07	1528	N16 E76	08 13.4		B	CAO	150	4	6	3
5105		HOLL	08 07	1700	N16 E76	08 13.5		B	CAO	180	3	5	3
5105		PALE	08 07	1905	N17 E78	08 13.7		B	CAO	50	3	6	3
5105		LEAR	08 08	0020	N17 E71	08 13.4		B	DSO	220	6	7	4
5105		CULG	08 08	0410	N17 E73	08 13.7		B	CSO	110	3	8	2
5105		SVTO	08 08	0750	N16 E68	08 13.5		B	CSO	150	4	6	3
5105		BOUL	08 08	1342	N15 E62	08 13.3		B	CAO	160	12	8	2
5105	24702	MWIL	08 08	1430	N16 E64	08 13.4	4	(B)					
5105		RAMY	08 08	1649	N16 E63	08 13.5		B	DAO	200	9	7	2
5105		HOLL	08 08	1750	N16 E63	08 13.5		B	DSO	200	9	8	2
5105		LEAR	08 09	0100	N15 E59	08 13.5		B	DAI	250	23	7	3
5105		CULG	08 09	0320	N17 E59	08 13.6		B	CSO	60	6	6	3
5105		SVTO	08 09	0809	N16 E54	08 13.4		B	DAO	220	16	8	2
5105		BOUL	08 09	1338	N15 E50	08 13.3		B	DAI	260	21	8	3
5105		RAMY	08 09	1443	N16 E51	08 13.5		B	DAI	450	20	8	2
5105	24702	MWIL	08 09	1530	N16 E51	08 13.5	6	(D)					
5105		PALE	08 09	1740	N16 E50	08 13.5		B	EAI	450	24	8	3
5105		LEAR	08 10	0020	N15 E45	08 13.4		B	DKO	350	16	9	3
5105		CULG	08 10	0500	N16 E43	08 13.5		B	DAO	170	9	8	3
5105		SVTO	08 10	0805	N17 E42	08 13.5		B	DHI	520	33	8	3
5105		BOUL	08 10	1335	N15 E37	08 13.4		B	DKI	540	28	9	3
5105		RAMY	08 10	1430	N17 E39	08 13.6		B	DKI	470	26	9	3
5105	24702	MWIL	08 10	1530	N16 E37	08 13.4	5	(B)					
5105		PALE	08 10	1915	N17 E36	08 13.5		B	DKI	500	36	10	3
5105		LEAR	08 11	0004	N16 E33	08 13.5		B	DHI	530	17	10	2
5105		CULG	08 11	0320	N17 E31	08 13.5		B	DKO	550	10	9	3
5105		SVTO	08 11	0745	N16 E28	08 13.4		B	DKO	550	19	10	3
5105		BOUL	08 11	1338	N16 E24	08 13.4		B	DKI	470	26	10	2
5105		RAMY	08 11	1400	N17 E26	08 13.5		B	EKO	620	33	12	3
5105	24702	MWIL	08 11	1430	N15 E25	08 13.5	6	(B)					
5105		HOLL	08 11	2025	N16 E22	08 13.5		B	EKI	620	33	11	4
5105		PALE	08 11	2045	N16 E21	08 13.4		B	EKO	570	25	11	3
5105		CULG	08 12	0350	N17 E16	08 13.4		B	EKO	450	0	11	3
5105		SVTO	08 12	0740	N16 E16	08 13.5		B	DAI	600	25	12	4
5105		RAMY	08 12	1250	N17 E13	08 13.5		B	EKI	610	34	12	3
5105		BOUL	08 12	1330	N16 E13	08 13.5		B	EKI	480	25	12	1
5105	24702	MWIL	08 12	1445	N16 E12	08 13.5	5	(B)					
5105		HOLL	08 12	1518	N16 E12	08 13.5		B	EKO	470	28	12	3
5105		PALE	08 12	1830	N16 E10	08 13.5		B	EKO	550	22	12	3
5105		LEAR	08 13	0044	N17 E07	08 13.6		B	EKO	600	17	12	3
5105		CULG	08 13	0405	N16 E04	08 13.5		B	EKO	550	11	11	2
5105		SVTO	08 13	0741	N17 E04	08 13.6		B	ESO	580	20	11	3
5105		RAMY	08 13	1335	N18 E00	08 13.6		B	EHO	540	15	11	3
5105		BOUL	08 13	1355	N16 W01	08 13.5		B	EKI	410	20	11	1
5105	24702	MWIL	08 13	1430	N16 W01	08 13.5	5	(BG)					
5105		HOLL	08 13	1510	N16 W01	08 13.5		B	EKO	480	33	11	4
5105		PALE	08 13	1850	N16 W04	08 13.5		B	EKO	480	23	12	3
5105		LEAR	08 14	0018	N16 W06	08 13.5		B	EKO	400	33	13	3
5105		CULG	08 14	0410	N15 W10	08 13.4		B	EKO	380	18	11	2
5105		SVTO	08 14	0806	N17 W10	08 13.6		B	EHI	500	17	12	2
5105		BOUL	08 14	1335	N16 W14	08 13.5		B	DKO	300	24	10	4
5105	24702	MWIL	08 14	1430	N17 W14	08 13.5	5	(B)					
5105		HOLL	08 14	1535	N16 W15	08 13.5		B	EKI	370	29	11	4
5105		RAMY	08 14	1833	N16 W17	08 13.5		B	DHO	400	6	10	3
5105		PALE	08 14	1915	N15 W18	08 13.4		B	EKO	350	21	11	3
5105		LEAR	08 15	0102	N16 W20	08 13.5		B	EAO	330	12	11	3
5105		CULG	08 15	0450	N14 W23	08 13.5		B	EKO	340	16	11	2
5105		SVTO	08 15	0702	N16 W24	08 13.5		B	EKO	380	16	11	4
5105		BOUL	08 15	1315	N16 W26	08 13.6		B	DKO	290	4	9	2
5105		RAMY	08 15	1405	N18 W29	08 13.4		B	DHO	410	10	9	3
5105	24702	MWIL	08 15	1515	N17 W29	08 13.4	6	(B)					
5105		HOLL	08 15	1528	N16 W29	08 13.4		B	DKO	320	20	10	3

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5105		PALE	08 15	1800	N16 W30	08 13.5		B	DHO	360	14	10	3
5105		LEAR	08 16	0012	N16 W33	08 13.5		BG	EAO	300	12	12	4
5105		SVTO	08 16	0647	N16 W36	08 13.5		B	EKO	430	13	11	3
5105		BOUL	08 16	1318	N16 W39	08 13.6		B	DKO	260	6	10	1
5105		RAMY	08 16	1400	N17 W41	08 13.5		B	DHI	310	15	10	3
5105	24702	MWIL	08 16	1500	N16 W44	08 13.3	6	(B)					
5105		HOLL	08 16	1521	N16 W41	08 13.5		B	DKO	240	13	10	3
5105		PALE	08 16	1845	N15 W43	08 13.5		B	DHO	320	14	9	3
5105		LEAR	08 17	0005	N16 W46	08 13.5		B	EKO	330	12	11	4
5105		CULG	08 17	0340	N15 W48	08 13.5		B	DHO	250	4	9	3
5105		SVTO	08 17	0755	N16 W51	08 13.5		B	CKO	230	4	8	2
5105		HOLL	08 17	1435	N17 W54	08 13.5		B	CHO	270	6	9	4
5105		BOUL	08 17	1455	N16 W54	08 13.5		B	CHO	260	4	8	1
5105	24702	MWIL	08 17	1515	N16 W56	08 13.4	5	(B)					
5105		PALE	08 17	1820	N14 W57	08 13.4		B	CHO	220	7	9	3
5105		LEAR	08 18	0003	N17 W60	08 13.4		A	HK	300	4	11	4
5105		CULG	08 18	0628	N15 W61	08 13.6		A	HH	340	2	3	1
5105		SVTO	08 18	0710	N14 W66	08 13.3		A	HH	250	1	3	3
5105		BOUL	08 18	1340	N16 W67	08 13.5		A	HK	240	2	3	3
5105	24702	MWIL	08 18	1500	N15 W70	08 13.3	6	(AP)					
5105		HOLL	08 18	1501	N15 W70	08 13.3		A	HS	260	2	2	3
5105		RAMY	08 18	1640	N17 W70	08 13.4		A	HS	210	3	2	3
5105		PALE	08 18	1745	N14 W71	08 13.4		A	HS	170	2	2	3
5105		LEAR	08 19	0023	N16 W76	08 13.2		B	CSO	200	3	6	3
5105		CULG	08 19	0340	N13 W78	08 13.3		A	HH	300	2	2	2
5105		SVTO	08 19	0620	N15 W79	08 13.3		A	HS	120	2	2	3
5105		RAMY	08 19	1320	N16 W85	08 13.1		A	HS	240	1	2	4
5105		BOUL	08 19	1435	N15 W80	08 13.5		A	HK	250	2	2	4
5105	24702	MWIL	08 19	1515	N15 W85	08 13.2	3	AP					
5105		HOLL	08 19	1700	N15 W87	08 13.1		A	HS	120	1	2	2
5105		PALE	08 19	1905	N12 W89	08 13.1		A	HS	120	1	2	3
5105A	24715	MWIL	08 13	1430	S16 E01	08 13.7	3	(AP)					
5106		CULG	08 07	0330	N24 E84	08 13.6		A	HS	20	1	1	2
5106		BOUL	08 07	1430	N21 E75	08 13.3		A	HS	90	1	2	3
5106	24703	MWIL	08 07	1515	N21 E77	08 13.5	5	(AP)					
5106		RAMY	08 07	1528	N22 E79	08 13.7		B	CAO	80	3	5	3
5106		HOLL	08 07	1700	N23 E78	08 13.7		B	CAO	130	7	5	3
5106		PALE	08 07	1905	N23 E78	08 13.8		B	CAO	40	4	7	3
5106		LEAR	08 08	0020	N23 E75	08 13.8		B	CSO	20	5	7	4
5106		CULG	08 08	0410	N23 E74	08 13.9		B	CSO	60	2	7	2
5106		SVTO	08 08	0750	N23 E71	08 13.8		B	DSO	140	5	7	3
5106		BOUL	08 08	1342	N22 E63	08 13.4		B	DAI	160	7	7	2
5106	24703	MWIL	08 08	1430	N22 E66	08 13.7	6	(B)					
5106		RAMY	08 08	1649	N22 E65	08 13.7		B	DAO	210	6	7	2
5106		HOLL	08 08	1750	N22 E67	08 13.9		B	DSO	220	6	8	2
5106		LEAR	08 09	0100	N22 E62	08 13.8		B	DAO	250	12	5	3
5106		CULG	08 09	0320	N23 E63	08 14.0		B	CSO	90	4	8	3
5106		SVTO	08 09	0809	N24 E59	08 13.9		B	DAO	100	8	3	2
5106		BOUL	08 09	1338	N22 E52	08 13.6		B	DAI	220	11	8	3
5106		RAMY	08 09	1443	N22 E55	08 13.8		B	DAI	260	12	8	2
5106	24703	MWIL	08 09	1530	N22 E53	08 13.7	5	(B)					
5106		PALE	08 09	1740	N21 E52	08 13.7		B	DAI	300	14	10	3
5106		LEAR	08 10	0020	N22 E49	08 13.8		B	DAO	240	17	9	3
5106		CULG	08 10	0500	N23 E46	08 13.7		B	DSO	120	6	7	3
5106		SVTO	08 10	0805	N22 E44	08 13.7		B	DSI	290	20	8	3
5106		BOUL	08 10	1335	N22 E42	08 13.8		B	DAO	420	12	7	3
5106		RAMY	08 10	1430	N22 E42	08 13.8		B	DKI	410	12	8	3
5106	24703	MWIL	08 10	1530	N22 E42	08 13.9	6	(BG)					
5106		PALE	08 10	1915	N23 E39	08 13.8		B	DAI	350	19	9	3
5106		LEAR	08 11	0004	N22 E36	08 13.8		B	DSI	280	12	7	2
5106		CULG	08 11	0320	N23 E34	08 13.7		B	DAI	140	8	7	3
5106		SVTO	08 11	0745	N23 E33	08 13.9		B	DKO	400	13	8	3
5106		BOUL	08 11	1338	N23 E29	08 13.8		B	DKI	320	23	8	2
5106		RAMY	08 11	1400	N23 E30	08 13.9		B	DAO	270	31	9	3
5106	24703	MWIL	08 11	1430	N22 E28	08 13.7	6	(B)					
5106		HOLL	08 11	2025	N21 E27	08 13.9		B	DAI	440	29	8	4
5106		PALE	08 11	2045	N23 E26	08 13.9		B	DAI	320	24	8	3

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5106		CULG	08	12	0350	N23	E19	08	13.6		B	DAI	370	20	8	3
5106		SVTO	08	12	0740	N23	E21	08	13.9		B	DKI	480	33	8	4
5106		RAMY	08	12	1250	N23	E17	08	13.8		B	DKI	500	42	9	3
5106		BOUL	08	12	1330	N23	E16	08	13.8		B	DKI	310	22	8	1
5106	24703	MWIL	08	12	1445	N22	E18	08	14.0	5	(D)					
5106		HOLL	08	12	1518	N23	E16	08	13.9		B	DKI	360	29	8	3
5106		PALE	08	12	1830	N23	E15	08	13.9		B	DKI	480	30	8	3
5106		LEAR	08	13	0044	N23	E11	08	13.9		B	DKO	460	22	8	3
5106		CULG	08	13	0405	N24	E08	08	13.8		B	DKI	310	7	7	2
5106		SVTO	08	13	0741	N23	E07	08	13.8		B	DAI	320	25	8	3
5106		RAMY	08	13	1335	N23	E05	08	13.9		B	DAI	290	24	8	3
5106		BOUL	08	13	1355	N24	E03	08	13.8		B	DAI	260	23	8	1
5106	24703	MWIL	08	13	1430	N24	E04	08	13.9	5	(BG)					
5106		HOLL	08	13	1510	N22	E03	08	13.9		B	DAI	290	37	8	4
5106		PALE	08	13	1850	N23	E01	08	13.9		B	DAI	320	24	8	3
5106		LEAR	08	14	0018	N23	W03	08	13.8		B	DSO	250	31	8	3
5106		CULG	08	14	0410	N23	W03	08	13.9		B	EAI	210	18	13	2
5106		SVTO	08	14	0806	N23	W06	08	13.9		B	DAI	230	20	8	2
5106		BOUL	08	14	1335	N23	W10	08	13.8		B	DAI	200	24	7	4
5106	24703	MWIL	08	14	1430	N24	W03	08	14.4	3	(B)					
5106	24703	MWIL	08	14	1430	N24	W10	08	13.8	5	(BG)					
5106		HOLL	08	14	1535	N23	W08	08	14.0		B	ESI	170	26	13	4
5106		RAMY	08	14	1833	N25	W11	08	13.9		B	EAI	180	18	13	3
5106		PALE	08	14	1915	N23	W12	08	13.9		B	ESI	230	22	12	3
5106		LEAR	08	15	0102	N24	W14	08	14.0		B	EAI	170	14	13	3
5106		CULG	08	15	0450	N23	W16	08	14.0		B	EAI	200	22	13	2
5106		SVTO	08	15	0702	N23	W18	08	13.9		B	ESI	210	15	13	4
5106		BOUL	08	15	1315	N23	W22	08	13.8		B	DAI	110	5	8	2
5106		RAMY	08	15	1405	N25	W20	08	14.0		B	EAI	180	15	13	3
5106	24703	MWIL	08	15	1515	N24	W16	08	14.4	4	(B)					
5106	24703	MWIL	08	15	1515	N24	W25	08	13.7	6	(B)					
5106		HOLL	08	15	1528	N24	W22	08	13.9		BG	ESO	130	21	13	3
5106		PALE	08	15	1800	N24	W21	08	14.1		B	EAO	160	15	13	3
5106		LEAR	08	16	0012	N24	W25	08	14.1		B	EAI	180	20	13	4
5106		SVTO	08	16	0647	N23	W30	08	14.0		B	ESO	170	11	13	3
5106		BOUL	08	16	1318	N23	W33	08	14.0		B	DSI	160	6	10	1
5106		RAMY	08	16	1400	N25	W33	08	14.0		BG	ESO	190	12	15	3
5106	24703	MWIL	08	16	1500	N24	W29	08	14.4	5	(BP)					
5106	24703	MWIL	08	16	1500	N24	W37	08	13.8	6	(BG)					
5106		HOLL	08	16	1521	N24	W34	08	14.0		BG	ESO	160	15	14	3
5106		PALE	08	16	1845	N23	W36	08	14.0		BG	ESO	160	10	13	3
5106		LEAR	08	17	0005	N24	W38	08	14.1		B	ESO	180	14	14	4
5106		CULG	08	17	0340	N23	W42	08	13.9		B	ESO	130	6	12	3
5106		SVTO	08	17	0755	N24	W43	08	14.0		B	EAO	140	6	14	2
5106		HOLL	08	17	1435	N25	W46	08	14.0		BG	ESO	140	8	14	4
5106		BOUL	08	17	1455	N23	W48	08	13.9		B	CSO	120	3	7	1
5106	24703	MWIL	08	17	1515	N23	W42	08	14.4	5	(BP)					
5106	24703	MWIL	08	17	1515	N24	W50	08	13.8	6	(B)					
5106		PALE	08	17	1820	N22	W52	08	13.8		B	EAO	150	8	11	3
5106		LEAR	08	18	0003	N24	W54	08	13.8		B	CSO	200	5	11	4
5106		CULG	08	18	0628	N23	W55	08	14.0		B	DSO	120	3	8	1
5106		SVTO	08	18	0710	N22	W59	08	13.8		B	CAO	140	4	8	3
5106		BOUL	08	18	1340	N23	W59	08	14.0		B	CSO	110	5	7	3
5106	24703	MWIL	08	18	1500	N22	W61	08	13.9	4	(AP)					
5106	24703	MWIL	08	18	1500	N23	W63	08	13.8	6	(BP)					
5106		HOLL	08	18	1501	N23	W63	08	13.8		B	CSO	90	4	7	3
5106		RAMY	08	18	1640	N24	W60	08	14.0		B	CSO	170	6	9	3
5106		PALE	08	18	1745	N22	W63	08	13.9		B	CSO	180	4	8	3
5106		LEAR	08	19	0023	N23	W68	08	13.8		B	CSO	180	4	8	3
5106		CULG	08	19	0340	N22	W70	08	13.8		B	CSO	190	2	8	2
5106		SVTO	08	19	0620	N24	W72	08	13.7		B	CAO	80	2	8	3
5106		RAMY	08	19	1320	N24	W75	08	13.8		B	CSO	150	3	8	4
5106		BOUL	08	19	1435	N23	W76	08	13.7		A	HS	100	1	2	4
5106	24703	MWIL	08	19	1515	N23	W78	08	13.6	6	(BP)					
5106		HOLL	08	19	1700	N23	W79	08	13.6		A	HS	120	1	2	2
5106		PALE	08	19	1905	N22	W83	08	13.4		A	HS	120	1	2	3
5106		LEAR	08	20	0104	N25	W84	08	13.5		B	CSO	90	2	5	3
5106		CULG	08	20	0240	N22	W85	08	13.6		A	HS	100	1	1	3
5106		SVTO	08	20	0745	N23	W87	08	13.6		A	HS	40	1	2	4

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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
5108		CULG	08 08	0410	S20 E80	08 14.3		A	HS	150	1	2	2
5108		SVTO	08 08	0750	S21 E77	08 14.2		A	HS	110	1	3	3
5108		BOUL	08 08	1342	S22 E70	08 13.9		A	HH	210	1	1	2
5108	24705	MWIL	08 08	1430	S22 E73	08 14.2	5	AP					
5108		RAMY	08 08	1649	S20 E70	08 14.0		A	HH	270	1	2	2
5108		HOLL	08 08	1750	S21 E71	08 14.2		A	HH	300	1	3	2
5108		LEAR	08 09	0100	S22 E68	08 14.3		A	HK	210	2	1	3
5108		CULG	08 09	0320	S20 E69	08 14.4		A	HS	200	1	2	3
5108		SVTO	08 09	0809	S21 E62	08 14.1		A	HH	260	1	2	2
5108		BOUL	08 09	1338	S22 E58	08 14.0		A	HA	190	1	4	3
5108		RAMY	08 09	1443	S21 E59	08 14.1		A	HA	300	1	2	2
5108	24705	MWIL	08 09	1530	S22 E60	08 14.2	6	(AP)					
5108		PALE	08 09	1740	S20 E60	08 14.3		A	HA	440	1	2	3
5108		LEAR	08 10	0020	S22 E58	08 14.5		B	CKO	300	6	10	3
5108		CULG	08 10	0500	S22 E54	08 14.3		A	HS	180	1	2	3
5108		SVTO	08 10	0805	S21 E53	08 14.4		B	CHO	350	7	10	3
5108		BOUL	08 10	1335	S22 E50	08 14.4		B	CKO	280	4	8	3
5108		RAMY	08 10	1430	S21 E50	08 14.4		B	CSO	300	5	7	3
5108	24705	MWIL	08 10	1530	S22 E48	08 14.3	6	(B)					
5108		PALE	08 10	1915	S21 E48	08 14.5		B	CHO	340	4	7	3
5108		LEAR	08 11	0004	S22 E44	08 14.4		B	CHO	280	3	7	2
5108		CULG	08 11	0320	S21 E42	08 14.3		A	HS	180	1	2	3
5108		SVTO	08 11	0745	S22 E43	08 14.6		B	CHO	380	2	9	3
5108		BOUL	08 11	1338	S21 E37	08 14.4		B	CHO	320	6	9	2
5108		RAMY	08 11	1400	S22 E39	08 14.6		B	CHO	390	8	11	3
5108	24705	MWIL	08 11	1430	S22 E35	08 14.3	6	(BP)					
5108		HOLL	08 11	2025	S22 E33	08 14.4		B	CHO	360	5	10	4
5108		PALE	08 11	2045	S21 E35	08 14.5		B	CHO	270	3	9	3
5108		CULG	08 12	0350	S21 E31	08 14.5		B	CHO	300	4	9	3
5108		SVTO	08 12	0740	S21 E28	08 14.5		B	CHO	360	4	8	4
5108		RAMY	08 12	1250	S22 E26	08 14.5		B	CHO	430	9	10	3
5108		BOUL	08 12	1330	S21 E23	08 14.3		B	CHO	300	4	9	1
5108	24705	MWIL	08 12	1445	S21 E20	08 14.1	5	(BP)					
5108		HOLL	08 12	1518	S22 E22	08 14.3		B	CHO	360	2	8	3
5108		PALE	08 12	1830	S20 E20	08 14.3		A	HH	330	1	4	3
5108		LEAR	08 13	0044	S21 E16	08 14.2		B	CHO	360	2	4	3
5108		CULG	08 13	0405	S21 E15	08 14.3		A	HH	220	3	3	2
5108		SVTO	08 13	0741	S21 E13	08 14.3		B	CHO	370	3	5	3
5108		RAMY	08 13	1335	S23 E10	08 14.3		B	DHO	340	7	5	3
5108		BOUL	08 13	1355	S20 E09	08 14.3		B	DKO	300	9	5	1
5108	24705	MWIL	08 13	1430	S22 E09	08 14.3	5	(B)					
5108		HOLL	08 13	1510	S23 E10	08 14.4		B	DHO	350	10	7	4
5108		PALE	08 13	1850	S23 E10	08 14.5		B	DHO	340	9	6	3
5108		LEAR	08 14	0018	S22 E04	08 14.3		B	DAO	260	14	6	3
5108		CULG	08 14	0410	S22 E02	08 14.3		B	CHO	300	4	4	2
5108		SVTO	08 14	0806	S21 E01	08 14.4		B	CHO	350	4	4	2
5108		BOUL	08 14	1335	S21 W04	08 14.2		B	CKO	280	5	5	4
5108	24705	MWIL	08 14	1430	S22 W04	08 14.3	6	(BP)					
5108		HOLL	08 14	1535	S22 W04	08 14.3		B	CHO	330	5	5	4
5108		RAMY	08 14	1833	S21 W06	08 14.3		B	CHO	340	4	5	3
5108		PALE	08 14	1915	S22 W08	08 14.2		B	CHO	330	5	6	3
5108		LEAR	08 15	0102	S21 W11	08 14.2		A	HA	230	1	3	3
5108		CULG	08 15	0450	S22 W11	08 14.3		A	HH	310	4	4	2
5108		SVTO	08 15	0702	S22 W12	08 14.4		B	CHO	340	6	6	4
5108		BOUL	08 15	1315	S20 W16	08 14.3		B	CAO	170	2	3	2
5108		RAMY	08 15	1405	S20 W17	08 14.3		B	CHO	230	5	4	3
5108	24705	MWIL	08 15	1515	S22 W17	08 14.3	6	(AP)					
5108		HOLL	08 15	1528	S21 W18	08 14.3		A	HH	240	3	3	3
5108		PALE	08 15	1800	S22 W19	08 14.3		B	CHO	150	2	4	3
5108		LEAR	08 16	0012	S20 W23	08 14.2		A	HA	250	3	3	4
5108		SVTO	08 16	0647	S21 W27	08 14.2		B	CHO	270	3	4	3
5108		BOUL	08 16	1318	S20 W30	08 14.2		A	HH	250	1	3	1
5108		RAMY	08 16	1400	S20 W32	08 14.1		A	HH	260	4	3	3
5108	24705	MWIL	08 16	1500	S22 W31	08 14.2	6	(BP)					
5108		HOLL	08 16	1521	S19 W28	08 14.5		B	CSO	240	7	10	3
5108		PALE	08 16	1845	S20 W28	08 14.6		B	CHO	270	6	4	3
5108		LEAR	08 17	0005	S18 W32	08 14.6		B	CKO	310	11	10	4
5108		CULG	08 17	0340	S22 W37	08 14.3		B	CHO	230	3	5	3
5108		SVTO	08 17	0755	S21 W39	08 14.3		B	CKO	280	5	6	2

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5108		HOLL	08 17	1435	S19 W41	08 14.5		B	CSO	200	9	8	4
5108		BOUL	08 17	1455	S19 W43	08 14.3		B	CHO	250	4	4	1
5108	24705	MWIL	08 17	1515	S21 W44	08 14.3	6	(B)					
5108		PALE	08 17	1820	S23 W45	08 14.3		B	CHO	270	7	7	3
5108		LEAR	08 18	0003	S20 W48	08 14.3		B	CKO	270	6	5	4
5108		CULG	08 18	0628	S22 W50	08 14.4		B	CSO	300	3	5	1
5108		SVTO	08 18	0710	S22 W52	08 14.3		B	CSO	220	4	6	3
5108		BOUL	08 18	1340	S20 W53	08 14.5		B	CHO	270	3	6	3
5108	24705	MWIL	08 18	1500	S22 W57	08 14.2	6	(BP)					
5108		HOLL	08 18	1501	S20 W57	08 14.3		B	CSO	200	3	5	3
5108		RAMY	08 18	1640	S19 W58	08 14.3		A	HH	210	1	3	3
5108		PALE	08 18	1745	S22 W56	08 14.4		A	HH	290	1	3	3
5108		LEAR	08 19	0023	S19 W62	08 14.3		B	BXO	240	1	3	3
5108		CULG	08 19	0340	S23 W64	08 14.2		A	HS	270	1	3	2
5108		SVTO	08 19	0620	S21 W66	08 14.2		A	HS	210	1	3	3
5108		RAMY	08 19	1320	S19 W69	08 14.3		A	HH	180	1	3	4
5108		BOUL	08 19	1435	S20 W68	08 14.4		A	HS	170	1	2	4
5108	24705	MWIL	08 19	1515	S22 W71	08 14.2	6	(AP)					
5108		HOLL	08 19	1700	S21 W72	08 14.2		A	HS	180	1	2	2
5108		PALE	08 19	1905	S22 W72	08 14.3		A	HS	180	1	2	3
5108		LEAR	08 20	0104	S19 W78	08 14.1		A	HS	120	1	3	3
5108		CULG	08 20	0240	S22 W78	08 14.1		A	HH	300	1	2	3
5108		SVTO	08 20	0745	S21 W79	08 14.3		A	HS	60	1	2	4
5108		RAMY	08 20	1357	S20 W80	08 14.5		A	HR	50	1	2	4
5108		BOUL	08 20	1415	S21 W82	08 14.3		A	AX	10	1	1	3
5112		SVTO	08 14	0806	N06 E12	08 15.2		B	BXO		2	1	2
5112		BOUL	08 14	1335	N06 E09	08 15.2		B	BXO		3	2	4
5112	24719	MWIL	08 14	1430	N06 E09	08 15.3	4	(B)					
5112		HOLL	08 14	1535	N06 E08	08 15.2		B	BXO		2	3	4
5112		RAMY	08 14	1833	N06 E05	08 15.1		A	AX	10	1	1	3
5112		PALE	08 14	1915	N07 E05	08 15.2		A	AX		2	2	3
5112		LEAR	08 15	0102	N06 E02	08 15.2		A	AX	10	1	1	3
5112		SVTO	08 15	0702	N06 W01	08 15.2		A	AX		1		4
5113		BOUL	08 14	1335	S17 E10	08 15.3		B	BXO		3	3	4
5113	24718	MWIL	08 14	1430	S17 E08	08 15.2	4	(AF)					
5113		LEAR	08 15	0102	S17 E03	08 15.3		A	AX	10	1	1	3
5113		CULG	08 15	0450	S18 E02	08 15.3		A	AX	10	1	1	2
5113		HOLL	08 15	1528	S17 W08	08 15.0		A	AX		1		3
5113		CULG	08 17	0340	S17 W32	08 14.7		A	AX	10	1	1	3
5113		SVTO	08 17	0755	S16 W35	08 14.7		A	AX	10	2	2	2
5116		SVTO	08 19	0620	N32 W25	08 17.3		A	AX		1		3
5116		RAMY	08 19	1320	N32 W28	08 17.3		A	AX	10	1	1	4
5116		BOUL	08 19	1435	N32 W28	08 17.4		A	AX		1		4
5116		HOLL	08 19	1700	N32 W30	08 17.3		A	AX		1		2
5110	24711	MWIL	08 11	1430	S27 E77	08 17.6	2	AP					
5110		HOLL	08 11	2025	S27 E72	08 17.5		A	AX		1		4
5110		RAMY	08 12	1250	S26 E61	08 17.3		A	AX		1		3
5110	24711	MWIL	08 12	1445	S27 E61	08 17.4	3	(AP)					
5110		HOLL	08 12	1518	S28 E60	08 17.3		A	AX		1		3
5110		PALE	08 12	1830	S28 E60	08 17.5		A	AX		1		3
5110		SVTO	08 13	0741	S24 E53	08 17.4		A	AX	20	1		3
5110		RAMY	08 13	1335	S27 E50	08 17.5		A	AX	10	1	1	3
5110	24711	MWIL	08 13	1430	S26 E50	08 17.5	3	(AP)					
5110		HOLL	08 13	1510	S26 E50	08 17.5		A	AX		1		4
5110		PALE	08 13	1850	S24 E49	08 17.6		A	AX	10	1	1	3
5110A	24720	MWIL	08 17	1515	S27 E12	08 18.6	3	(AP)					
5109		SVTO	08 12	0740	N23 E85	08 18.9		A	AX	10	2		4
5109		RAMY	08 12	1250	N23 E82	08 18.8		B	BXO	20	3	7	3
5109		BOUL	08 12	1330	N24 E78	08 18.6		A	HS	40	1	1	1
5109	24713	MWIL	08 12	1445	N22 E80	08 18.8	3	(B)					
5109		HOLL	08 12	1518	N22 E80	08 18.8		B	BXO	20	4	4	3
5109		PALE	08 12	1830	N26 E80	08 19.0		B	BXO	20	3	3	3
5109		LEAR	08 13	0044	N25 E76	08 18.9		B	DSO	120	4	6	3

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5109		CULG	08 13 0405	N25 E75	08 19.0		B	BXO	60	7	7	2
5109		SVTO	08 13 0741	N24 E73	08 19.0		B	CSO	40	4	7	3
5109		RAMY	08 13 1335	N23 E69	08 18.9		B	DAO	30	3	5	3
5109		BOUL	08 13 1355	N24 E66	08 18.7		B	DSO	70	3	5	1
5109	24713	MWIL	08 13 1430	N24 E67	08 18.8	4	(B)					
5109		HOLL	08 13 1510	N24 E66	08 18.7		B	DAO	70	9	5	4
5109		PALE	08 13 1850	N26 E66	08 18.9		B	DAO	70	5	7	3
5109		LEAR	08 14 0018	N24 E61	08 18.7		B	DSO	60	9	5	3
5109		CULG	08 14 0410	N26 E60	08 18.8		B	CRO	20	3	6	2
5109		SVTO	08 14 0806	N24 E57	08 18.7		B	DSO	60	4	6	2
5109		BOUL	08 14 1335	N23 E53	08 18.6		B	DSO	50	10	7	4
5109	24713	MWIL	08 14 1430	N24 E54	08 18.8	4	(B)					
5109		HOLL	08 14 1535	N24 E53	08 18.7		B	CAO	50	9	7	4
5109		RAMY	08 14 1833	N23 E51	08 18.7		B	CSO	70	10	5	3
5109		PALE	08 14 1915	N26 E51	08 18.8		B	CAO	40	7	6	3
5109		LEAR	08 15 0102	N24 E47	08 18.7		B	DAO	60	7	6	3
5109		CULG	08 15 0450	N25 E46	08 18.8		B	CRO	20	10	6	2
5109		SVTO	08 15 0702	N24 E45	08 18.8		B	CRO	30	0	7	4
5109		BOUL	08 15 1315	N23 E38	08 18.5		B	CSO	40	4	6	2
5109		RAMY	08 15 1405	N24 E41	08 18.7		B	CAO	40	5	6	3
5109	24713	MWIL	08 15 1515	N24 E40	08 18.7	5	(B)					
5109		HOLL	08 15 1528	N24 E39	08 18.6		B	CRO	20	7	5	3
5109		PALE	08 15 1800	N24 E40	08 18.8		B	CSO	40	4	6	3
5109		LEAR	08 16 0012	N24 E35	08 18.7		B	CAO	40	6	8	4
5109		SVTO	08 16 0647	N24 E31	08 18.7		B	CRO	20	9	9	3
5109		BOUL	08 16 1318	N23 E30	08 18.9		A	HR	20	2	2	1
5109		RAMY	08 16 1400	N23 E27	08 18.7		B	BXO	20	10	9	3
5109	24713	MWIL	08 16 1500	N24 E27	08 18.7	5	(B)					
5109		HOLL	08 16 1521	N23 E26	08 18.6		B	BXO	10	7	9	3
5109		PALE	08 16 1845	N24 E28	08 18.9		B	BXO	70	7	5	3
5109		LEAR	08 17 0005	N23 E23	08 18.8		B	CRO	20	4	3	4
5109		CULG	08 17 0340	N24 E23	08 18.9		A	AX	10	2	2	3
5109		SVTO	08 17 0755	N25 E19	08 18.8		B	BXO	10	4	6	2
5109		HOLL	08 17 1435	N25 E15	08 18.8		B	BXO	10	5	8	4
5109		BOUL	08 17 1455	N24 E14	08 18.7		B	BXO	20	2	5	1
5109	24713	MWIL	08 17 1515	N24 E15	08 18.8	4	(B)					
5109		PALE	08 17 1820	N24 E11	08 18.6		B	BXO	10	5	8	3
5109		LEAR	08 18 0003	N23 E12	08 18.9		B	BXO	10	3	3	4
5109	24713	MWIL	08 18 1500	N24 E05	08 19.0	3	(AP)					
5109		SVTO	08 20 0745	N23 W24	08 18.5		A	AX		2		4
5109		RAMY	08 20 1357	N23 W25	08 18.6		B	BXO	20	3	3	4
5109		BOUL	08 20 1415	N23 W26	08 18.6		A	AX		1		3
5109		HOLL	08 20 1645	N20 W26	08 18.7		B	BXO	10	2	3	4
5109		PALE	08 20 1905	N22 W31	08 18.4		B	BXO	10	2	3	3
5109	24713	MWIL	08 21 1500	N24 W40	08 18.5	3	(AP)					
5109		PALE	08 21 1955	N23 W44	08 18.4		A	AX	10	2	2	3
5114		HOLL	08 17 1435	S24 E34	08 20.2		A	AX	10	2	1	4
5114	24721	MWIL	08 17 1515	S24 E34	08 20.3	3	(AP)					
5114		SVTO	08 19 0620	S25 E14	08 20.3		A	AX	10	1	1	3
5114		RAMY	08 19 1320	S24 E09	08 20.2		B	BXO	10	2	2	4
5114		BOUL	08 19 1435	S24 E09	08 20.3		B	CRO	10	7	3	4
5114	24721	MWIL	08 19 1515	S25 E08	08 20.2	5	(B)					
5114		HOLL	08 19 1700	S26 E08	08 20.3		B	BXO	10	3	3	2
5114		PALE	08 19 1905	S25 E08	08 20.4		B	CSO	20	3	3	3
5114		LEAR	08 20 0104	S24 E04	08 20.3		B	CRO	30	3	3	3
5114		CULG	08 20 0240	S25 E04	08 20.4		B	BXO	20	3	2	3
5114		SVTO	08 20 0745	S25 E00	08 20.3		B	BXO	10	7	4	4
5114		RAMY	08 20 1357	S24 W03	08 20.3		B	BXO	20	4	3	4
5114		BOUL	08 20 1415	S24 W04	08 20.3		B	BXO		7	3	3
5114	24721	MWIL	08 20 1430	S25 W04	08 20.3	4	(B)					
5114		HOLL	08 20 1645	S25 W04	08 20.4		B	BXO	10	3	4	4
5114		PALE	08 20 1905	S26 W05	08 20.4		B	BXO	10	2	3	3
5114		LEAR	08 21 0015	S25 W08	08 20.4		B	BXO	10	2	3	4
5114		SVTO	08 21 0840	S26 W12	08 20.4		A	AX		1		4
5114		RAMY	08 21 1344	S26 W14	08 20.5		A	AX	10	1	1	3
5114	24721	MWIL	08 21 1500	S25 W17	08 20.3	3	(B)					
5114		HOLL	08 21 1500	S26 W14	08 20.5		A	AX		1		4

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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
5114A		HOLL	08	21	1500	N26	W04	08	21.3		A	AX		1		4
5118		LEAR	08	20	0104	S23	E15	08	21.2		B	BXO	10	2	2	3
5118		CULG	08	20	0240	S24	E16	08	21.3		B	BXO	10	2	2	3
5118		SVTO	08	20	0745	S24	E12	08	21.2		B	BXO	10	4	3	4
5118		RAMY	08	20	1357	S23	E09	08	21.3		B	BXO	20	3	3	4
5118		BOUL	08	20	1415	S23	E08	08	21.2		B	BXO		7	3	3
5118	24724	MWIL	08	20	1430	S24	E08	08	21.2	4	(B)					
5118		HOLL	08	20	1645	S24	E07	08	21.2		B	BXO	10	4	4	4
5118		PALE	08	20	1905	S23	E08	08	21.4		B	BXO	10	3	3	3
5118		LEAR	08	21	0015	S23	E03	08	21.2		B	BXO	10	4	3	4
5118		RAMY	08	21	1344	S22	W02	08	21.4		A	AX	10	2	1	3
5118		HOLL	08	21	1500	S24	W03	08	21.4		A	AX		1		4
5118	24724	MWIL	08	21	1500	S24	W03	08	21.4	3	(AP)					
5118		PALE	08	21	1955	S24	W05	08	21.4		A	AX	10	2	1	3
5118		LEAR	08	22	0045	S23	W07	08	21.5		A	AX	10	1	1	4
5118		HOLL	08	25	1615	S20	W50	08	21.8		A	AX	10	2	1	4
5118		PALE	08	25	1840	S21	W53	08	21.7		A	AX	10	2	2	4
5118A	24732	MWIL	08	26	1430	S18	W64	08	21.7	2	(AP)					
5118B		LEAR	08	20	0104	N29	E32	08	22.5		B	BXO	10	2	2	3
5118B		SVTO	08	20	0745	N32	E27	08	22.5		B	BXO		3	3	4
5118B		RAMY	08	20	1357	N34	E23	08	22.4		A	AX		1	1	4
5118B	24726	MWIL	08	21	1500	N26	E03	08	21.8	3	(AP)					
5127		LEAR	08	24	0025	N23	W16	08	22.8		B	BXO	10	3	5	4
5127	24729	MWIL	08	25	1445	N21	W34	08	23.0	3	(B)					
5127		HOLL	08	25	1615	N20	W36	08	22.9		B	BXO	10	2	3	4
5127		LEAR	08	26	0035	N23	W40	08	22.9		B	BXO	30	6	5	3
5127		CULG	08	26	0442	N19	W41	08	23.1		B	BXO	10	4	4	3
5127		SVTO	08	26	1056	N20	W46	08	22.9		B	CRO	30	9	5	2
5127	24729	MWIL	08	26	1430	N21	W45	08	23.1	5	(B)					
5127		RAMY	08	26	1524	N22	W49	08	22.9		B	BXO	40	7	6	3
5127		HOLL	08	26	1635	N20	W49	08	22.9		B	BXO	30	9	6	3
5127		PALE	08	26	1830	N20	W48	08	23.1		B	BXO	40	9	7	4
5127		LEAR	08	27	0100	N22	W54	08	22.9		B	DRO	20	9	7	3
5127		CULG	08	27	0312	N19	W55	08	22.9		B	CRO	20	4	6	3
5127		SVTO	08	27	0732	N21	W58	08	22.9		B	DSO	70	6	6	3
5127		BOUL	08	27	1410	N20	W60	08	23.0		B	CAO	60	5	8	3
5127	24729	MWIL	08	27	1515	N20	W61	08	23.0	4	(B)					
5127		HOLL	08	27	1539	N20	W65	08	22.7		B	CSO	60	6	7	3
5127		RAMY	08	27	1740	N21	W64	08	22.8		B	CSO	100	5	9	3
5127		PALE	08	27	1900	N18	W67	08	22.7		B	CAO	60	4	9	3
5127		LEAR	08	28	0025	N21	W65	08	23.0		B	DAO	30	7	7	3
5127		CULG	08	28	0340	N19	W66	08	23.1		B	DRO	70	3	7	2
5127		SVTO	08	28	0544	N20	W71	08	22.8		B	CSO	110	5	7	3
5127		RAMY	08	28	1350	N22	W77	08	22.6		B	DSO	80	7	10	4
5127		BOUL	08	28	1411	N20	W75	08	22.8		B	CSO	50	5	8	2
5127	24729	MWIL	08	28	1445	N20	W75	08	22.9	4	(B)					
5127		PALE	08	28	2030	N17	W77	08	23.0		B	CAO	60	3	7	3
5127		LEAR	08	29	0244	N21	W74	08	23.4		B	HS	150	2	2	2
5117		LEAR	08	19	0023	N23	E61	08	23.7		B	BXO	10	2	2	3
5117		SVTO	08	19	0620	N23	E58	08	23.7		B	BXO	10	2	3	3
5117		LEAR	08	24	0025	N20	W05	08	23.6		B	CRO	20	6	3	4
5117		CULG	08	24	0325	N20	W06	08	23.7		B	BXO	10	3	3	1
5117		SVTO	08	24	0836	N19	W11	08	23.5		B	DRO	30	6	4	2
5117		BOUL	08	24	1335	N20	W11	08	23.7		B	CRO	50	10	5	3
5117		HOLL	08	24	1400	N20	W12	08	23.7		B	CRO	50	12	5	4
5117		PALE	08	24	1755	N18	W16	08	23.5		B	CRI	30	20	6	3
5117		LEAR	08	25	0036	N18	W18	08	23.6		B	DAO	120	20	7	3
5117		CULG	08	25	0345	N19	W20	08	23.6		B	DAI	100	18	7	3
5117		SVTO	08	25	0735	N19	W23	08	23.6		B	DAI	150	24	8	3
5117		BOUL	08	25	1415	N19	W26	08	23.6		B	FAI	240	21	16	2
5117	24730	MWIL	08	25	1445	N20	W25	08	23.7	5	(BG)					
5117		HOLL	08	25	1615	N19	W26	08	23.7		BG	DAI	260	25	9	4
5117		PALE	08	25	1840	N19	W28	08	23.6		BG	DAO	260	26	9	4
5117		LEAR	08	26	0035	N22	W31	08	23.6		BG	DAI	260	13	10	3

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5117		CULG	08 26	0442	N19 W33	08 23.7		B	DAO	160	8	8	3
5117		SVTO	08 26	1056	N20 W38	08 23.5		B	DAO	310	10	10	2
5117	24730	MWIL	08 26	1430	N20 W38	08 23.7	5	(B)					
5117		BOUL	08 26	1440	N20 W38	08 23.7		B	FAO	230	15	17	2
5117		RAMY	08 26	1524	N21 W39	08 23.6		B	DAI	230	11	10	3
5117		HOLL	08 26	1635	N19 W40	08 23.6		BG	DAI	240	13	10	3
5117		PALE	08 26	1830	N19 W42	08 23.6		BG	EAI	260	13	11	4
5117		LEAR	08 27	0100	N20 W45	08 23.6		B	DSO	200	7	10	3
5117		CULG	08 27	0312	N19 W45	08 23.7		B	DAO	160	4	9	3
5117		SVTO	08 27	0732	N20 W48	08 23.6		B	DAI	340	10	10	3
5117		BOUL	08 27	1410	N20 W50	08 23.8		B	DSO	160	7	9	3
5117	24730	MWIL	08 27	1515	N20 W51	08 23.7	5	(B)					
5117		HOLL	08 27	1539	N20 W52	08 23.7		B	DAO	210	8	10	3
5117		RAMY	08 27	1740	N20 W54	08 23.6		B	DAO	190	10	9	3
5117		PALE	08 27	1900	N19 W52	08 23.8		B	ESO	210	8	11	3
5117		LEAR	08 28	0025	N19 W55	08 23.8		B	DAI	200	12	9	3
5117		CULG	08 28	0340	N19 W56	08 23.9		B	DSI	120	6	7	2
5117		SVTO	08 28	0544	N20 W59	08 23.7		B	DAO	230	9	10	3
5117		RAMY	08 28	1350	N22 W65	08 23.6		B	DSO	200	10	10	4
5117		BOUL	08 28	1411	N20 W64	08 23.7		B	DAO	130	11	8	2
5117	24730	MWIL	08 28	1445	N20 W64	08 23.7	5	(B)					
5117		PALE	08 28	2030	N18 W66	08 23.8		B	DAO	110	10	8	3
5117		LEAR	08 29	0244	N20 W67	08 24.0		B	CAO	80	4	3	2
5117		CULG	08 29	0350	N19 W67	08 24.0		B	DSO	120	2	6	2
5117		SVTO	08 29	1012	N18 W73	08 23.9		B	ESO	190	4	14	3
5117		BOUL	08 29	1343	N20 W71	08 24.1		B	BXO	40	5	7	2
5117		RAMY	08 29	1345	N21 W78	08 23.6		B	DSO	150	5	10	4
5117	24730	MWIL	08 29	1530	N20 W78	08 23.7	4	(B)					
5117		PALE	08 29	1945	N19 W79	08 23.8		B	DSO	150	3	10	3
5117		LEAR	08 30	0013	N21 W79	08 23.9		B	BXO	30	2	6	3
5117		CULG	08 30	0310	N18 W77	08 24.3		A	HS	40	1	2	3
5117		SVTO	08 30	0745	N18 W85	08 23.8		A	AX	30	1	3	2
5120		SVTO	08 20	0745	S18 E55	08 24.5		A	AX		1		4
5120		BOUL	08 20	1415	S18 E49	08 24.3		A	AX		1		3
5120		HOLL	08 20	1645	S17 E48	08 24.3		A	AX		1		4
5120		RAMY	08 30	1530	S18 W76	08 24.8		A	AX		1		4
5115		SVTO	08 18	0710	N14 E86	08 24.8		A	AX	20	1	2	3
5115		BOUL	08 18	1340	N13 E77	08 24.4		A	HS	70	1	1	3
5115	24722	MWIL	08 18	1500	N14 E83	08 24.9	4	(AP)					
5115		HOLL	08 18	1501	N15 E82	08 24.8		A	HS	60	1	2	3
5115		RAMY	08 18	1640	N12 E79	08 24.6		A	HS	70	1	2	3
5115		LEAR	08 19	0023	N13 E77	08 24.8		A	HS	180	1	2	3
5115		CULG	08 19	0340	N14 E76	08 24.9		A	HS	200	1	2	2
5115		SVTO	08 19	0620	N15 E78	08 25.2		B	CSO	90	2	8	3
5115		RAMY	08 19	1320	N13 E75	08 25.2		B	CSO	150	3	10	4
5115		BOUL	08 19	1435	N14 E69	08 24.8		B	CSO	80	3	8	4
5115	24722	MWIL	08 19	1515	N14 E71	08 25.0	5	(AP)					
5115		HOLL	08 19	1700	N14 E71	08 25.1		B	CSO	100	2	9	2
5115		PALE	08 19	1905	N14 E70	08 25.1		B	CSO	160	2	8	3
5115		LEAR	08 20	0104	N13 E68	08 25.2		B	CSO	120	3	9	3
5115		CULG	08 20	0240	N15 E66	08 25.1		B	CSO	180	1	9	3
5115		SVTO	08 20	0745	N14 E64	08 25.1		B	CSO	100	3	10	4
5115		RAMY	08 20	1357	N14 E61	08 25.2		B	CSO	140	3	10	4
5115		BOUL	08 20	1415	N15 E59	08 25.1		B	CSO	110	5	8	3
5115	24722	MWIL	08 20	1430	N13 E58	08 25.0	5	(AP)					
5115		HOLL	08 20	1645	N14 E60	08 25.2		B	CSO	110	4	10	4
5115		PALE	08 20	1905	N16 E60	08 25.3		B	CXO	140	2	10	3
5115		LEAR	08 21	0015	N14 E55	08 25.2		B	DSO	140	4	10	4
5115		SVTO	08 21	0840	N14 E50	08 25.1		B	CSO	110	4	10	4
5115		RAMY	08 21	1344	N16 E48	08 25.2		B	DSO	110	2	9	3
5115		BOUL	08 21	1345	N14 E46	08 25.0		B	CSO	150	2	9	1
5115	24722	MWIL	08 21	1500	N13 E44	08 24.9	5	(AP)					
5115		HOLL	08 21	1500	N14 E48	08 25.2		B	CSO	110	3	11	4
5115		PALE	08 21	1955	N15 E45	08 25.2		B	ESO	120	2	11	3
5115		LEAR	08 22	0045	N15 E41	08 25.1		B	DSO	140	2	9	4
5115		HOLL	08 22	1400	N15 E34	08 25.1		A	HS	120	3	10	4
5115		BOUL	08 22	1459	N13 E28	08 24.7		A	HS	90	1	1	2

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5115	24722	MWIL	08 22 1500	N14 E29	08 24.8	6	(AP)					
5115		PALE	08 22 1856	N13 E26	08 24.7		A	HS	90	1	2	3
5115		LEAR	08 23 0007	N14 E25	08 24.9		A	HS	80	1	2	4
5115		SVTO	08 23 0751	N13 E20	08 24.8		A	HS	100	1	2	3
5115		BOUL	08 23 1336	N13 E16	08 24.8		A	HS	90	1	2	2
5115		RAMY	08 23 1350	N13 E17	08 24.8		A	HS	150	1	2	4
5115	24722	MWIL	08 23 1600	N14 E16	08 24.9	5	(AP)					
5115		HOLL	08 23 1835	N14 E15	08 24.9		A	HS	140	1	2	4
5115		PALE	08 23 1840	N13 E15	08 24.9		A	HS	100	1	2	3
5115		LEAR	08 24 0025	N13 E11	08 24.8		A	HS	80	1	2	4
5115		CULG	08 24 0325	N15 E11	08 25.0		B	CSO	80	2	6	1
5115		SVTO	08 24 0836	N13 E08	08 25.0		A	HS	80	1	1	2
5115		BOUL	08 24 1335	N13 E04	08 24.9		A	HS	100	1	2	3
5115		HOLL	08 24 1400	N14 E03	08 24.8		A	DS	90	1	2	4
5115		PALE	08 24 1755	N13 E01	08 24.8		A	HH	80	1	2	3
5115		LEAR	08 25 0036	N13 W03	08 24.8		A	HS	100	1	2	3
5115		CULG	08 25 0345	N12 W04	08 24.8		A	HS	80	1	2	3
5115		SVTO	08 25 0735	N13 W06	08 24.9		A	HS	100	1	2	3
5115		BOUL	08 25 1415	N13 W09	08 24.9		A	HS	80	1	2	2
5115	24722	MWIL	08 25 1445	N13 W10	08 24.9	5	(AP)					
5115		HOLL	08 25 1615	N13 W11	08 24.8		A	HS	80	1	2	4
5115		PALE	08 25 1840	N13 W13	08 24.8		A	HS	90	1	2	4
5115		LEAR	08 26 0035	N15 W15	08 24.9		A	HH	80	1	2	3
5115		CULG	08 26 0442	N11 W17	08 24.9		A	HS	60	1	1	3
5115		SVTO	08 26 1056	N13 W22	08 24.8		A	HS	100	1	2	2
5115	24722	MWIL	08 26 1430	N13 W23	08 24.9	5	(AP)					
5115		BOUL	08 26 1440	N13 W23	08 24.9		A	HS	90	1	2	2
5115		RAMY	08 26 1524	N13 W24	08 24.8		A	HS	90	1	2	3
5115		HOLL	08 26 1635	N12 W25	08 24.8		A	HS	70	1	2	3
5115		PALE	08 26 1830	N12 W26	08 24.8		A	HS	90	1	2	4
5115		LEAR	08 27 0100	N13 W29	08 24.8		A	HS	80	1	2	3
5115		CULG	08 27 0312	N11 W30	08 24.9		A	HS	80	1	2	3
5115		SVTO	08 27 0732	N13 W33	08 24.8		A	HS	100	1	2	3
5115		BOUL	08 27 1410	N13 W35	08 24.9		A	HS	70	1	2	3
5115	24722	MWIL	08 27 1515	N13 W37	08 24.8	5	(AP)					
5115		HOLL	08 27 1539	N13 W37	08 24.9		A	HS	100	1	2	3
5115		RAMY	08 27 1740	N13 W38	08 24.9		A	HS	70	1	2	3
5115		PALE	08 27 1900	N12 W39	08 24.8		B	CSO	80	5	5	3
5115		LEAR	08 28 0025	N15 W43	08 24.8		B	CSO	80	9	5	3
5115		CULG	08 28 0340	N12 W42	08 25.0		B	DSO	80	6	6	2
5115		SVTO	08 28 0544	N15 W46	08 24.7		B	DSO	110	8	5	3
5115		RAMY	08 28 1350	N16 W51	08 24.7		B	CSI	170	12	8	4
5115		BOUL	08 28 1411	N16 W51	08 24.7		B	DSO	80	12	9	2
5115	24722	MWIL	08 28 1445	N14 W52	08 24.7	5	(B)					
5115		PALE	08 28 2030	N13 W56	08 24.6		B	DSO	130	8	7	3
5115		LEAR	08 29 0244	N15 W58	08 24.7		BG	DAI	220	16	8	2
5115		CULG	08 29 0350	N12 W58	08 24.8		B	DSO	250	8	6	2
5115		SVTO	08 29 1012	N13 W67	08 24.4		B	DAO	410	13	9	3
5115		BOUL	08 29 1343	N16 W61	08 24.9		B	DAO	150	13	7	2
5115		RAMY	08 29 1345	N16 W66	08 24.6		B	DSI	270	17	8	4
5115	24722	MWIL	08 29 1530	N14 W66	08 24.6	5	(B)					
5115		PALE	08 29 1945	N14 W69	08 24.6		B	DSO	260	11	10	3
5115		LEAR	08 30 0013	N15 W72	08 24.5		B	DAO	290	10	8	3
5115		CULG	08 30 0310	N14 W70	08 24.8		B	DSO	240	5	6	3
5115		SVTO	08 30 0745	N14 W78	08 24.4		B	ESO	230	7	14	2
5115		BOUL	08 30 1337	N16 W75	08 24.9		B	DAO	170	4	7	2
5115		RAMY	08 30 1530	N14 W79	08 24.7		B	DSI	180	7	10	4
5115	24722	MWIL	08 30 1550	N14 W79	08 24.7	5	B)					
5115		PALE	08 30 1915	N13 W80	08 24.8		B	DAO	110	6	6	3
5115		HOLL	08 30 2200	N13 W80	08 24.9		B	CSO	60	7	8	3
5115		LEAR	08 31 0030	N15 W84	08 24.7		B	CSO	90	3	7	3
5115		CULG	08 31 0440	N14 W80	08 25.1		A	HS	20	1	1	2
5122	24723	MWIL	08 19 1515	N16 E76	08 25.4	5	(AP)					
5122	24723	MWIL	08 20 1430	N15 E66	08 25.6	5	(AP)					
5122	24723	MWIL	08 21 1500	N15 E52	08 25.6	5	(AP)					
5122		HOLL	08 22 1400	N17 E39	08 25.5		A	HR	10	2	1	4
5122		BOUL	08 22 1459	N16 E36	08 25.3		A	AX	10	1		2
5122	24723	MWIL	08 22 1500	N16 E38	08 25.5	5	(AP)					

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5122		PALE	08 22 1856	N17 E38	08 25.7		A	HS	20	1	1	3
5122		LEAR	08 23 0007	N17 E33	08 25.5		A	HS	10	2	1	4
5122		SVTO	08 23 0751	N15 E26	08 25.3		A	HR	20	4	4	3
5122		BOUL	08 23 1336	N16 E23	08 25.3		A	HS	10	1	1	2
5122		RAMY	08 23 1350	N14 E25	08 25.5		B	CRO	20	7	7	4
5122	24723	MWIL	08 23 1600	N16 E24	08 25.5	4	(BP)					
5122		HOLL	08 23 1835	N18 E22	08 25.4		B	BXO	10	5	5	4
5122		PALE	08 23 1840	N16 E23	08 25.5		B	BXO	10	5	4	3
5122		LEAR	08 24 0025	N16 E20	08 25.5		B	CRO	20	8	7	4
5122		CULG	08 24 0325	N17 E18	08 25.5		A	AX	10	1		1
5122		SVTO	08 24 0836	N16 E15	08 25.5		A	HR	20	3	3	2
5122		BOUL	08 24 1335	N16 E12	08 25.5		A	AX	10	1	1	3
5122		HOLL	08 24 1400	N16 E11	08 25.4		A	AX		2	1	4
5122		PALE	08 24 1755	N17 E08	08 25.3		B	BXO	10	4	4	3
5122		LEAR	08 25 0036	N15 E06	08 25.5		A	AX	10	1	1	3
5122		CULG	08 25 0345	N15 E04	08 25.4		A	AX	10	1		3
5122		SVTO	08 25 0735	N16 E03	08 25.5		A	HR		1		3
5122		BOUL	08 25 1415	N16 W03	08 25.4		B	BXO		2	3	2
5122	24723	MWIL	08 25 1445	N16 W02	08 25.5	4	(AP)					
5122		HOLL	08 25 1615	N16 W02	08 25.5		A	AX		1		4
5122		PALE	08 25 1840	N16 W06	08 25.3		B	BXO	10	2	4	4
5122		LEAR	08 26 0035	N17 W06	08 25.6		A	AX	10	1	1	3
5122		CULG	08 26 0442	N14 W09	08 25.5		A	AX		1	1	3
5122		SVTO	08 26 1056	N16 W12	08 25.5		A	AX	10	2	3	2
5122	24723	MWIL	08 26 1430	N16 W16	08 25.4	4	(AP)					
5122		BOUL	08 26 1440	N16 W16	08 25.4		B	BXO		2	3	2
5122		RAMY	08 26 1524	N16 W16	08 25.4		A	AX		1	1	3
5122		HOLL	08 26 1635	N16 W16	08 25.5		A	AX		1		3
5122		PALE	08 26 1830	N16 W18	08 25.4		B	BXO	10	2	4	4
5122	24723	MWIL	08 27 1515	N15 W32	08 25.2	4	(AF)					
5124		SVTO	08 23 0751	S38 E32	08 25.9		A	AX		1		3
5124		BOUL	08 23 1336	S37 E26	08 25.7		B	CSO	20	2	2	2
5124		RAMY	08 23 1350	S37 E26	08 25.7		B	BXO	10	3	3	4
5124	24728	MWIL	08 23 1600	S38 E27	08 25.8	4	(B)					
5124		HOLL	08 23 1835	S37 E25	08 25.8		B	BXO	10	4	4	4
5124		LEAR	08 24 0025	S37 E22	08 25.8		B	BXO	10	5	4	4
5124		SVTO	08 24 0836	S37 E20	08 26.0		B	BXO	10	3	5	2
5124		HOLL	08 24 1400	S37 E15	08 25.8		B	BXO	10	5	5	4
5124		PALE	08 24 1755	S38 E14	08 25.9		B	BXO	10	3	4	3
5124		LEAR	08 25 0036	S36 E10	08 25.8		A	AX	10	1	1	3
5124A	24733	MWIL	08 26 1430	N22 W04	08 26.3	3	(AF)					
5124A		PALE	08 26 1830	N22 W06	08 26.3		A	AX	10	2	2	4
5124A		SVTO	08 27 0732	N21 W12	08 26.4		A	AX		1		3
5124A		BOUL	08 27 1410	N22 W15	08 26.4		A	AX		2	1	3
5124A	24733	MWIL	08 27 1515	N22 W16	08 26.4	4	(AF)					
5124A		HOLL	08 27 1539	N22 W16	08 26.4		A	AX		1		3
5124A		RAMY	08 27 1740	N22 W18	08 26.3		A	AX		1	1	3
5124A		PALE	08 27 1900	N21 W19	08 26.3		A	AX		1	1	3
5124A		SVTO	08 28 0544	N21 W25	08 26.3		A	AX		1		3
5124A		RAMY	08 29 1345	N19 W37	08 26.7		A	AX		1		4
5121		LEAR	08 21 0015	N16 E75	08 26.7		A	AX	10	1	1	4
5121		SVTO	08 21 0840	N15 E71	08 26.7		A	AX	10	2	3	4
5121		RAMY	08 21 1344	N16 E69	08 26.8		B	BXO	20	2	3	3
5121		HOLL	08 21 1500	N16 E68	08 26.8		B	BXO	10	2	3	4
5121		HOLL	08 23 1835	N16 E38	08 26.6		B	BXO	10	4	3	4
5121		PALE	08 24 1755	N15 E26	08 26.7		B	BXO	10	4	2	3
5121		LEAR	08 25 0036	N14 E22	08 26.7		B	BXO	10	3	4	3
5121		CULG	08 25 0345	N15 E20	08 26.7		A	AX	10	1		3
5121		SVTO	08 25 0735	N15 E18	08 26.7		A	AX		1		3
5121		PALE	08 25 1840	N17 E14	08 26.8		A	AX	10	2	1	4
5121A	24740	MWIL	08 29 1530	N28 W22	08 27.9	3	(AP)					
5121A	24740	MWIL	08 30 1550	N26 W34	08 28.0	3	(AP)					
5121B		SVTO	08 27 0732	S20 E08	08 27.9		A	AX		2	1	3

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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
5123		HOLL	08 22	1400	N22 E79	08 28.6		A	AX		1	1	4
5123	24727	MWIL	08 22	1500	N22 E79	08 28.7	2	AF					
5123		PALE	08 22	1856	N23 E78	08 28.8		A	AX	10	1	1	3
5123		LEAR	08 23	0007	N22 E76	08 28.8		B	BX	20	4	7	4
5123		SVTO	08 23	0751	N22 E74	08 29.0		A	AX		2	1	3
5123		RAMY	08 23	1350	N19 E72	08 29.1		A	AX		1		4
5123	24727	MWIL	08 23	1600	N21 E72	08 29.2	4	(AP)					
5123		HOLL	08 23	1835	N22 E70	08 29.1		A	AX	10	1	1	4
5123		PALE	08 23	1840	N22 E70	08 29.1		A	AX		1	1	3
5123		LEAR	08 24	0025	N20 E67	08 29.1		A	AX	10	1	1	4
5123		SVTO	08 24	0836	N21 E63	08 29.2		A	AX	10	2	2	2
5123		HOLL	08 24	1400	N21 E58	08 29.0		B	BXO	10	2	3	4
5123		PALE	08 24	1755	N24 E55	08 29.0		B	BXO	10	4	3	3
5123		LEAR	08 25	0036	N21 E54	08 29.2		B	CSO	40	4	12	3
5123		CULG	08 25	0345	N22 E48	08 28.8		B	BXO	10	3	3	3
5123		SVTO	08 25	0735	N22 E47	08 28.9		B	DRO	20	3	3	3
5123		BOUL	08 25	1415	N21 E43	08 28.9		B	BXO		8	5	2
5123	24727	MWIL	08 25	1445	N21 E44	08 29.0	4	(B)					
5123		HOLL	08 25	1615	N22 E43	08 29.0		B	BXO	10	10	5	4
5123		PALE	08 25	1840	N23 E40	08 28.8		B	BXO	20	11	6	4
5123		LEAR	08 26	0035	N21 E38	08 28.9		B	DRO	40	10	6	3
5123		CULG	08 26	0442	N21 E34	08 28.8		B	BXI	10	8	8	3
5123		SVTO	08 26	1056	N22 E31	08 28.8		B	DRO	30	12	4	2
5123	24727	MWIL	08 26	1430	N21 E29	08 28.8	4	(BP)					
5123		BOUL	08 26	1440	N22 E27	08 28.7		B	BXO		7	6	2
5123		RAMY	08 26	1524	N22 E29	08 28.9		B	CRO	50	10	4	3
5123		HOLL	08 26	1635	N21 E28	08 28.8		B	BXO	20	11	5	3
5123		PALE	08 26	1830	N23 E27	08 28.8		B	BXO	30	12	6	4
5123		LEAR	08 27	0100	N21 E24	08 28.9		B	BXO	20	7	8	3
5123		CULG	08 27	0312	N22 E21	08 28.7		B	DRI	10	9	7	3
5123		SVTO	08 27	0732	N23 E22	08 29.0		B	DAO	30	13	9	3
5123		BOUL	08 27	1410	N20 E15	08 28.7		B	BXO		6	3	3
5123	24727	MWIL	08 27	1515	N22 E17	08 28.9	3	(B)					
5123		HOLL	08 27	1539	N22 E16	08 28.9		B	BXO	30	10	7	3
5123		RAMY	08 27	1740	N22 E15	08 28.9		B	BXO	20	8	5	3
5123		PALE	08 27	1900	N21 E15	08 28.9		B	BXO	10	7	7	3
5123		SVTO	08 28	0544	N23 E12	08 29.2		B	BXO	10	10	13	3
5123		BOUL	08 28	1411	N24 E08	08 29.2		B	BXO		2	4	2
5123		PALE	08 28	2030	N22 E02	08 29.0		B	BXO	10	4	7	3
5123		SVTO	08 29	1012	N22 W01	08 29.3		A	AX		2	1	3
5123		BOUL	08 29	1343	N24 W03	08 29.3		B	BXO	20	5	6	2
5123		RAMY	08 29	1345	N22 W07	08 29.0		B	BXO	10	3	7	4
5123	24727	MWIL	08 29	1530	N21 W12	08 28.7	4	(B)					
5123		PALE	08 29	1945	N22 W10	08 29.0		B	BXO	10	5	10	3
5123		LEAR	08 30	0013	N22 W17	08 28.7		B	BXO	10	2	2	3
5123	24727	MWIL	08 30	1550	N22 W23	08 28.9	3	(B)					
5123A		HOLL	08 24	1400	N24 E68	08 29.8		A	AX	10	2	2	4
5123A		PALE	08 24	1755	N22 E68	08 30.0		A	AX	10	2	3	3
5123A	24734	MWIL	08 26	1430	N22 E42	08 29.8	3	(AP)					
5123A	24734	MWIL	08 27	1515	N23 E25	08 29.6	3	(AP)					
5123A		RAMY	08 28	1350	N26 E13	08 29.6		B	BXO	40	20	23	4
5123A		BOUL	08 28	1411	N29 E17	08 29.9		A	AX		1	1	2
5123A	24734	MWIL	08 28	1445	N24 E12	08 29.5	3	(AP)					
5123A	24734	MWIL	08 28	1445	N28 E17	08 29.9	3	(AP)					
5123A		LEAR	08 29	0244	N24 E06	08 29.6		B	BXO	10	2	1	2
5123A		RAMY	08 29	1345	N25 E04	08 29.9		B	BXO	20	10	8	4
5123A	24734	MWIL	08 29	1530	N22 E03	08 29.9	3	(BP)					
5123A	24734	MWIL	08 29	1530	N24 W01	08 29.6	5	(AP)					
5123A	24734	MWIL	08 29	1530	N27 E06	08 30.1	3	(AP)					
5123A		PALE	08 29	1945	N25 E01	08 29.9		B	BXO	10	4	7	3
5123A		LEAR	08 30	0013	N24 W06	08 29.5		A	AX	10	1	1	3
5123A	24734	MWIL	08 31	1515	N25 W25	08 29.7	4	(AP)					
5123A	24734	MWIL	09 01	1530	N23 W36	08 30.0	4	(AP)					
5125		RAMY	08 29	1345	N28 E19	08 31.0		A	AX	10	3	5	4
5125	24744	MWIL	08 29	1530	N26 E18	08 31.0	3	(AF)					
5126		HOLL	08 24	1400	S20 E80	08 30.7		A	HH	110	1	3	4

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5126		PALE	08 24 1755	S20 E85	08 31.2		A	HH	60	1	2	3
5126		LEAR	08 25 0036	S21 E75	08 30.8		B	DSO	210	2	5	3
5126		CULG	08 25 0345	S19 E70	08 30.5		A	HS	200	3	3	3
5126		SVTO	08 25 0735	S22 E71	08 30.8		B	CHO	350	6	8	3
5126		BOUL	08 25 1415	S23 E73	08 31.2		B	EAO	480	4	14	2
5126	24731	MWIL	08 25 1445	S22 E73	08 31.2	5	(B)					
5126		HOLL	08 25 1615	S24 E73	08 31.3		B	EKO	510	6	15	4
5126		PALE	08 25 1840	S20 E72	08 31.3		B	FKO	440	5	16	4
5126		LEAR	08 26 0035	S25 E66	08 31.1		B	EKO	600	8	12	3
5126		CULG	08 26 0442	S21 E60	08 30.8		B	EKO	380	6	6	3
5126		SVTO	08 26 1056	S22 E62	08 31.2		B	DKO	530	6	10	2
5126	24731	MWIL	08 26 1430	S24 E60	08 31.2	5	(BP)					
5126		BOUL	08 26 1440	S21 E53	08 30.7		B	EKO	440	5	12	2
5126		RAMY	08 26 1524	S24 E59	08 31.2		B	EKO	530	8	11	3
5126		HOLL	08 26 1635	S24 E60	08 31.3		B	EKO	550	6	11	3
5126		PALE	08 26 1830	S23 E59	08 31.3		B	EKO	460	11	14	4
5126		LEAR	08 27 0100	S25 E55	08 31.3		B	EKO	420	8	12	3
5126		CULG	08 27 0312	S22 E50	08 31.0		B	EKO	310	6	4	3
5126		SVTO	08 27 0732	S23 E50	08 31.2		B	EKO	550	11	12	3
5126		BOUL	08 27 1410	S22 E43	08 30.9		B	EKO	380	10	14	3
5126	24731	MWIL	08 27 1515	S24 E46	08 31.2	5	(BP)					
5126		HOLL	08 27 1539	S24 E47	08 31.3		B	EKO	580	10	13	3
5126		RAMY	08 27 1740	S24 E45	08 31.2		B	EKO	410	14	14	3
5126		PALE	08 27 1900	S22 E47	08 31.4		B	EKO	540	11	12	3
5126		LEAR	08 28 0025	S23 E42	08 31.2		B	EKO	530	6	12	3
5126		CULG	08 28 0340	S21 E41	08 31.3		B	EKO	400	6	12	2
5126		SVTO	08 28 0544	S23 E39	08 31.2		B	EKO	640	6	12	3
5126		RAMY	08 28 1350	S23 E37	08 31.4		B	FKO	680	19	17	4
5126		BOUL	08 28 1411	S22 E37	08 31.4		B	EKO	360	18	13	2
5126	24731	MWIL	08 28 1445	S23 E34	08 31.2	5	(BP)					
5126		PALE	08 28 2030	S23 E34	08 31.5		B	EKO	510	17	15	3
5126		LEAR	08 29 0244	S25 E29	08 31.4		B	EKO	550	17	13	2
5126		CULG	08 29 0350	S22 E28	08 31.3		B	EKO	780	8	12	2
5126		SVTO	08 29 1012	S23 E26	08 31.4		B	CKO	450	20	14	3
5126		BOUL	08 29 1343	S22 E22	08 31.3		B	EKO	310	27	14	2
5126		RAMY	08 29 1345	S23 E25	08 31.5		B	CKO	600	28	17	4
5126	24731	MWIL	08 29 1530	S23 E19	08 31.1	6	(B)					
5126		PALE	08 29 1945	S23 E21	08 31.4		B	CKO	510	30	15	3
5126		LEAR	08 30 0013	S24 E18	08 31.4		B	EKO	340	30	15	3
5126		CULG	08 30 0310	S22 E17	08 31.4		B	FKO	780	20	16	3
5126		SVTO	08 30 0745	S23 E13	08 31.3		B	EKI	440	28	14	2
5126		BOUL	08 30 1337	S22 E09	08 31.2		B	EKO	330	27	14	2
5126		RAMY	08 30 1530	S23 E11	08 31.5		B	CKO	430	36	16	4
5126	24731	MWIL	08 30 1550	S23 E05	08 31.0	5	(BG)					
5126		PALE	08 30 1915	S23 E06	08 31.3		B	EKO	480	26	14	3
5126		HOLL	08 30 2200	S24 E06	08 31.4		B	EKO	400	32	14	3
5126		LEAR	08 31 0030	S22 E07	08 31.5		B	FKO	560	24	16	3
5126		CULG	08 31 0440	S23 E03	08 31.4		B	FKO	260	11	19	2
5126		RAMY	08 31 1406	S23 W02	08 31.4		B	CKO	420	18	14	3
5126	24731	MWIL	08 31 1515	S23 W06	08 31.2	6	(BG)					
5126		HOLL	08 31 1530	S22 W04	08 31.3		B	CKO	340	20	15	3
5126		BOUL	08 31 1545	S22 W06	08 31.2		B	DKI	420	15	6	3
5126		PALE	08 31 1735	S23 W08	08 31.1		B	DKI	360	9	8	3
5126		LEAR	09 01 0020	S23 W09	08 31.3		B	DKO	400	15	12	4
5126		SVTO	09 01 0800	S22 W17	08 31.0		B	CAO	290	10	6	2
5126		RAMY	09 01 1524	S24 W18	08 31.2		B	CKO	360	15	13	4
5126	24731	MWIL	09 01 1530	S23 W20	08 31.1	6	(BG)					
5126		BOUL	09 01 1615	S22 W22	08 31.0		B	CKI	360	12	7	3
5126		HOLL	09 01 1645	S24 W19	08 31.2		B	CKO	310	18	11	4
5126		PALE	09 01 1915	S25 W17	08 31.5		B	CKO	300	12	13	2
5126		LEAR	09 02 0015	S22 W23	08 31.2		B	FKO	180	15	16	4
5126		CULG	09 02 0250	S22 W23	08 31.3		B	CKO	200	8	14	2
5126		SVTO	09 02 0627	S21 W30	08 31.0		B	CAO	340	4	4	2
5126		RAMY	09 02 1415	S24 W28	08 31.4		B	CKO	280	6	13	4
5126	24731	MWIL	09 02 1515	S23 W33	08 31.1	6	(B)					
5126		BOUL	09 02 1520	S21 W35	08 31.0		B	CAO	290	7	4	2
5126		PALE	09 02 1745	S21 W32	08 31.3		B	CKO	280	7	13	3
5126		HOLL	09 02 2245	S22 W32	08 31.5		B	CKO	280	11	13	2
5126		LEAR	09 03 0035	S22 W36	08 31.2		B	FAO	180	9	16	4

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5126		CULG	09	03	0205	S20	W40	08	31.0		A	HA	240	7	3	3
5126		SVTO	09	03	0615	S21	W41	08	31.1		B	DKO	260	8	8	4
5126		RAMY	09	03	1345	S25	W42	08	31.3		B	CHO	240	13	15	4
5126		BOUL	09	03	1435	S21	W48	08	31.0		A	HA	240	6	3	3
5126	24731	MWIL	09	03	1530	S23	W47	08	31.0	6	(BP)					
5126		HOLL	09	03	1657	S23	W50	08	30.9		B	CKO	220	4	4	2
5126		PALE	09	03	1730	S21	W48	08	31.0		A	HA	270	5	3	3
5126		LEAR	09	04	0008	S21	W46	08	31.5		B	CAO	210	7	20	4
5126		CULG	09	04	0410	S22	W53	08	31.1		A	HA	120	4	3	3
5126		SVTO	09	04	0620	S22	W56	08	31.0		B	CSO	210	5	4	3
5126		RAMY	09	04	1352	S20	W62	08	30.9		A	HH	290	5	4	3
5126		BOUL	09	04	1400	S21	W58	08	31.1		A	HH	260	4	3	3
5126	24731	MWIL	09	04	1515	S22	W60	08	31.0	5	(BP)					
5126		HOLL	09	04	1553	S22	W59	08	31.1		B	CSO	200	2	3	2
5126		PALE	09	04	1736	S23	W64	08	30.9		B	CSO	190	2	3	3
5126		LEAR	09	05	0115	S19	W66	08	31.0		B	CSO	250	3	5	4
5126		SVTO	09	05	0619	S23	W75	08	30.6		B	CSO	130	4	6	2
5126		BOUL	09	05	1348	S21	W71	08	31.1		A	HH	230	4	3	2
5126		RAMY	09	05	1400	S20	W75	08	30.9		A	HS	170	3	3	3
5126	24731	MWIL	09	05	1530	S21	W74	08	31.0	4	(AP)					
5126		HOLL	09	05	1630	S22	W77	08	30.9		B	CSO	210	3	2	3
5126		PALE	09	05	1740	S23	W77	08	30.9		B	CSO	100	2	4	2
5126		LEAR	09	06	0011	S20	W78	08	31.0		A	HS	200	1	2	3
5128		HOLL	08	25	1615	N21	E80	08	31.8		A	AX		1		4
5128		PALE	08	25	1840	N23	E78	08	31.8		A	AX	10	1	1	4
5128		LEAR	08	26	0035	N19	E74	08	31.7		B	BXO	10	4	4	3
5128		CULG	08	26	0442	N21	E68	08	31.4		A	HR	20	1	1	3
5128		SVTO	08	26	1056	N21	E68	08	31.7		A	HR	50	1	1	2
5128	24735	MWIL	08	26	1430	N20	E66	08	31.6	4	(AP)					
5128		BOUL	08	26	1440	N20	E62	08	31.3		A	HS	20	1	1	2
5128		RAMY	08	26	1524	N21	E64	08	31.5		A	HS	40	1	1	3
5128		HOLL	08	26	1635	N21	E65	08	31.7		A	HA	30	1	1	3
5128		PALE	08	26	1830	N22	E65	08	31.8		A	HS	20	1	2	4
5128		LEAR	08	27	0100	N20	E57	08	31.4		B	CSO	40	2	2	3
5128		CULG	08	27	0312	N21	E57	08	31.5		A	HS	20	2	2	3
5128		SVTO	08	27	0732	N20	E58	08	31.7		B	CSO	50	6	6	3
5128		BOUL	08	27	1410	N20	E52	08	31.6		B	CSO	20	5	6	3
5128	24735	MWIL	08	27	1515	N20	E53	08	31.7	5	(BP)					
5128		HOLL	08	27	1539	N20	E53	08	31.7		B	CSO	50	6	7	3
5128		RAMY	08	27	1740	N20	E52	08	31.7		B	CSO	40	5	6	3
5128		PALE	08	27	1900	N21	E52	08	31.8		B	CSO	40	5	7	3
5128		LEAR	08	28	0025	N20	E45	08	31.4		B	CSO	40	5	7	3
5128		CULG	08	28	0340	N22	E47	08	31.8		B	DSO	30	5	9	2
5128		SVTO	08	28	0544	N20	E45	08	31.7		B	DAO	50	11	8	3
5128		RAMY	08	28	1350	N20	E42	08	31.8		B	DAI	80	14	10	4
5128		BOUL	08	28	1411	N21	E38	08	31.5		B	DAI	30	14	9	2
5128	24735	MWIL	08	28	1445	N20	E40	08	31.7	5	(B)					
5128		PALE	08	28	2030	N22	E39	08	31.8		B	DSO	80	15	9	3
5128		LEAR	08	29	0244	N21	E35	08	31.8		B	DAI	80	27	8	2
5128		CULG	08	29	0350	N21	E32	08	31.6		B	DAI	120	15	9	2
5128		SVTO	08	29	1012	N21	E31	08	31.8		B	EAI	160	24	12	3
5128		BOUL	08	29	1343	N21	E28	08	31.7		B	DAI	140	34	10	2
5128		RAMY	08	29	1345	N21	E29	08	31.8		B	EAI	220	41	12	4
5128	24735	MWIL	08	29	1530	N21	E28	08	31.8	5	(BG)					
5128		LEAR	08	30	0013	N21	E23	08	31.8		B	EAI	110	25	11	3
5128		CULG	08	30	0310	N22	E19	08	31.6		B	EAI	220	23	11	3
5128		SVTO	08	30	0745	N22	E18	08	31.7		B	ESI	180	32	12	2
5128		BOUL	08	30	1337	N20	E14	08	31.6		B	DAI	130	28	10	2
5128		RAMY	08	30	1530	N21	E14	08	31.7		B	ESI	170	34	13	4
5128	24735	MWIL	08	30	1550	N21	E16	08	31.9	5	(B)					
5128		PALE	08	30	1915	N21	E13	08	31.8		B	EAI	180	30	12	3
5128		HOLL	08	30	2200	N22	E11	08	31.8		B	EAI	150	42	12	3
5128		LEAR	08	31	0030	N22	E10	08	31.8		B	EAO	200	31	12	3
5128		CULG	08	31	0440	N21	E07	08	31.7		B	EAI	150	14	11	2
5128		RAMY	08	31	1406	N22	E02	08	31.7		B	EAI	310	35	13	3
5128	24735	MWIL	08	31	1515	N21	E02	08	31.8	5	(BG)					
5128		HOLL	08	31	1530	N22	E01	08	31.7		B	EKI	170	51	13	3
5128		BOUL	08	31	1545	N21	E01	08	31.7		B	EKI	390	36	13	3

SUNSPOT GROUPS
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

AUGUST 1988

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
5128		PALE	08	31	1735	N22	E02	08	31.9		B	EKI	300	22	13	3
5128		LEAR	09	01	0020	N21	W03	08	31.8		B	EKI	640	36	13	4
5128		SVTO	09	01	0800	N20	W07	08	31.8		B	EKO	230	22	13	2
5128		RAMY	09	01	1524	N22	W11	08	31.8		B	EAI	340	19	13	4
5128	24735	MWIL	09	01	1530	N21	W10	08	31.9	5	(B)					
5128		BOUL	09	01	1615	N22	W11	08	31.8		B	CKI	250	16	13	3
5128		HOLL	09	01	1645	N22	W12	08	31.8		B	EKI	280	35	14	4
5128		PALE	09	01	1915	N22	W14	08	31.7		B	EAI	270	24	14	2
5128		LEAR	09	02	0015	N22	W16	08	31.8		B	EKI	180	46	14	4
5128		CULG	09	02	0250	N22	W17	08	31.8		B	EKI	130	11	14	2
5128		SVTO	09	02	0627	N21	W17	09	1.0		B	EKO	290	23	15	2
5128		RAMY	09	02	1415	N22	W24	08	31.7		B	EAI	240	25	13	4
5128	24735	MWIL	09	02	1515	N21	W22	08	31.9	5	(BG)					
5128		BOUL	09	02	1520	N22	W23	08	31.9		B	EAO	250	33	13	2
5128		PALE	09	02	1745	N22	W25	08	31.8		B	EAI	250	24	14	3
5128		HOLL	09	02	2245	N22	W26	08	31.9		B	EKI	230	24	13	2
5128		LEAR	09	03	0035	N23	W29	08	31.8		B	DAO	160	27	13	4
5128		CULG	09	03	0205	N21	W30	08	31.8		B	EKO	100	14	13	3
5128		SVTO	09	03	0615	N22	W32	08	31.8		B	EAO	140	34	14	4
5128		RAMY	09	03	1345	N23	W37	08	31.7		B	EAI	170	30	14	4
5128		BOUL	09	03	1435	N20	W34	09	1.0		B	EKI	170	19	13	3
5128	24735	MWIL	09	03	1530	N21	W36	08	31.9	5	(BG)					
5128		HOLL	09	03	1657	N20	W37	08	31.9		B	BXI	80	16	13	2
5128		PALE	09	03	1730	N21	W35	09	1.0		B	EKI	110	15	14	3
5128		LEAR	09	04	0008	N22	W41	08	31.8		B	EAO	100	25	13	4
5128		CULG	09	04	0410	N22	W42	08	31.9		B	ESO	70	10	12	3
5128		SVTO	09	04	0620	N22	W44	08	31.9		B	ESO	110	15	12	3
5128		RAMY	09	04	1352	N23	W48	08	31.9		B	CRO	70	20	13	3
5128		BOUL	09	04	1400	N23	W47	09	1.0		B	BXI	10	24	14	3
5128	24735	MWIL	09	04	1515	N22	W50	08	31.8	5	(B)					
5128		HOLL	09	04	1553	N22	W50	08	31.8		B	BXO	100	8	15	2
5128		PALE	09	04	1736	N22	W50	08	31.9		B	BXO	80	13	12	3
5128		LEAR	09	05	0115	N23	W57	08	31.6		B	CSO	90	9	11	4
5128		SVTO	09	05	0619	N23	W60	08	31.6		B	CRO	50	10	15	2
5128		BOUL	09	05	1348	N23	W60	08	31.9		B	BXO	40	7	11	2
5128		RAMY	09	05	1400	N23	W65	08	31.6		B	BXO	30	6	9	3
5128	24735	MWIL	09	05	1530	N22	W63	08	31.8	5	(B)					
5128		HOLL	09	05	1630	N19	W70	08	31.3		B	BXO	80	4	4	3
5128		PALE	09	05	1740	N18	W68	08	31.5		B	BXO	20	4	5	2
5128		LEAR	09	06	0011	N20	W70	08	31.6		B	BXO	30	3	8	3
5128		RAMY	09	06	1405	N20	W79	08	31.5		A	AX		1	1	4
5128		HOLL	09	06	1435	N19	W78	08	31.6		A	AX		1		3
5128	24735	MWIL	09	06	1555	N22	W78	08	31.7	2	AF					
5126A		RAMY	09	01	1524	N31	W11	08	31.8		A	AX	10	2	1	4
5126A	24752	MWIL	09	01	1530	N32	W11	08	31.8	4	(BF)					
5126A		HOLL	09	01	1645	N31	W11	08	31.8		A	AX		1		4
5126B		HOLL	09	01	1645	N42	W11	08	31.8		A	AX		1		4
5126C		BOUL	09	02	1520	S26	W24	08	31.8		A	AX		2	1	2

Stations reporting:

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

SUDDEN IONOSPHERIC DISTURBANCES

AUGUST 1988

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF SPA	SES	Flare (UT)	X-ray Class	NOAA Region
01	0402	0412	0456	1-	3			1	1		0403	C2.8	5090
01	0534	0551	0612	2	5	3	1	1	2	1	0534	M2.0	5092
01	0613	0633	0807	3	5	3	1	1	2	1	No flare		
02	0811	0820	0856	1-	1			1			0803		5090
02	1425	1428	1445	1-	3	1			1		No flare		
02	1554	1605	1650	1	5	3			1	8	1548	C9.5	5090
02	1722	1724	1730	1	3	2				4	1721	M1.7	5092
02	2046	2054	2141	1-	3			1		2	2035	C5.7	5090
02	2205	2217	2310	1	3	1		1		5	2204	C5.1	5092
03	0420	0431	0505	1-	3			1	1		*		
03	0633	0703	0802	2	1			1			0624	C3.3	5090
03	0730	0742	0830	1-	1				1		0727		5084
03	0831	0903	0943	2	3	2	2	1	1		0829	C8.3	5085
03	1006	1033	1115	2	3	2	1	1	1	2	*		
03	1433	1450	1510	1	3		1			2	1435	C3.0	5090
03	1553	1603	1637	1-	3	1		1		5	No flare		
03	2027	2039	2129	1	3	1		1		5	2034E	M1.3	5090
04	0219	0229	0305	1-	3			1	1		No flare		
04	0449	0459	0537	1-	3			1	1		0453	C2.2	5090
04	0708	0711	0723	1-	1			1			0711	C2.2	5092
04	1722	1723	1745	1	3					2	1716	C3.5	5100
04	2052	2103	2136	1-	3			1		3	2052E	C5.5	5092
06	0342	0349	0403	1-	3			1	1		No flare		
06	0413	0430	0455	1-	3			1	1		No flare		
06	1636	1641	1709	1	3					3	1636	C3.8	5092
07	0002	0012	0059	1-	3			1	1		*		
07	1515	1519	1540	1	3				1	7	1518	C5.5	5092
07	1721	1724	1750	1+	3	1			1	6	1720	C5.9	5092
07	1943	1945	2015	1+	1					1	1944	C2.0	5092
08	0711	0721	0735	1-	3				2		0714E		5100
08	0802	0812	1007	2+	5	4	2	1	2	4	0758	M1.3	5092
08	1216	1230	1330	1	3	2			1	3	*		
08	1557	1606	1700	2	3				1	2	1603E	C4.5	5099
09	0225	0232	0253	1-	3			1	1		0231E		5099
09	0428	0437	0516	1-	3			1	1		No flare		
09	0634	0649	0732	1+	3	1	1	1	2	1	0635		5106
09	0819	0834	0850	1-	3		1	1	1	1	0836E		5106
09	0903	0908	0930	1-	3				1	1	0856		5106
09	1115	1123	1150	1-	3	1			1	1	No flare		
09	1206	1212	1300	1-	3	1	1		1	2	No flare		
09	1542	1544	1600	1-	3					2	1540	C3.3	5099
10	0230	0242	0254	1	3			1	1		0232	C4.9	5099
10	0255	0259	0341	1-	3			1	1		0258E	C3.2	5101
10	0722	0803	0912	2	3	2	1	1	2	1	No flare		
10	0912	0919	1047	2	3	3	1	1	1	1	0908		5106
10	1410	1414	1450	1-	3			1		3	1412		5101
15	0154	0157	0254	1-	1				1		0154	C1.0	5106
16	0431	0438	0500	1-	3			1	1		0438		5105
16	0546	0550	0604	1-	3			1	1		0547	C1.2	5108
17	0008	0018	0104	1-	3			1	1		0010	C1.6	5108
19	1342	1402	1439	1	5	3	2	1	1	6	1339	C8.9	5106
23	0856	0928	1055	1+	3			1		1	0840	C7.2	5122
23	1407	1411	1440	1+	3				1	4	No flare		
23	1710	1726	1750	2+	3	1				5	No flare		
23	2007	2009	2013	1-	3	1		1		3	No flare		

*No flare patrol

SUDDEN IONOSPHERIC DISTURBANCES

AUGUST 1988

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide Spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF SPA	SES	Flare (UT)	X-ray Class	NOAA Region
24	2311	2315	2345	1-	1			1			2313	C3.8	5117
26	1115	1128	1230	1	5	4	1	1	1	2	No flare		
27	1158	1205	1245	1	3	1		1	1	2	1205	C4.0	5129
28	0335	0346	0431	1	3			1	1		No flare		
28	2329	2337	0012	1-	1			1			2333	C2.4	5128
29	0948	0953	1024	1	3	1	2	1	1	2	No flare		
29	1550	1607	1627	1-	3	2	1	1	1	4	1544	C9.7	5131
30	0135	0155	0233	1-	3			1	1		No flare		
30	0701	0709	0725	1-	1			1			0702	C1.8	5131
30	1344	1408	1450	2	5	2	1		1	3	1341	C9.7	5131
30	1741	1743	1758	1	3					5	1739	C6.3	5131
31	0509	0512	0557	1-	3			1	1		No flare		
31	0815	0826	0905	1-	3			1	1		0814	C3.6	5128

OBSERVATORIES REPORTING

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

Observations are not necessarily continuous.

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.																															
5084			1																												
5085			1																												
5090	1	3	3																												
5092	1	2		2		1	3	1																							
5099								1	2	1																					
5100				1				1																							
5101										2																					
5105																1															
5106									3	1					1				1												
5108																1	1														
5117																								1							
5122																							1								
5128																												1			1
5129																											1				
5131																													1	3	
Number of events with X-Ray flares	2	4	4	4		1		2	1	2					1	1	1		1				1	1			1	1	1	3	1
Number of events with no flare patrol	1	1	1	1		2	1		2	1													3			1		1	1	1	
Number of events with no flare reported			2																												
Total SID events	3	6	8	5		3	4	4	8	5					1	2	1		1				4	1		1	1	2	2	4	2

AUGUST 1988

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		CULG				0123.0	0124.0	2				III
		LEAR				0123.0	0123.0	1				III
		CULG				0330.0	0352.0	1				III
		LEAR				0331.0	0334.0	1				III
		PALE				0338.0	0340.0	2				III
		CULG				0339.0	0341.0	2				III
		LEAR				0339.0	0341.0	3				III
		LEAR				0350.0	0350.0	2				III
		WEIS				0444.0	0711.0	1				IN
		CULG				0552.0	0554.0	1				III
		LEAR				0553.0	0553.0	2				III
		SVTO				0553.0	0553.0	1				III
	0442	WEIS				0553.0	1821.0	2				IIIN,RS
		CULG				0619.0	0622.0	2				III
		SVTO				0619.0	0621.0	3				III
		WEIS				0619.1	0625.3	2			II	H,HB,Patches
		LEAR				0622.0	0852.0	2				CONT
		CULG				0623.0	0626.0	2			II	
		SVTO				0623.0	0627.0	3			II	
		SVTO				0643.0	0731.0	1				CONT
		SVTO				0839.0	1544.0	2				CONT
		SGMR				1108.0	2341.0	1				CONT
		SGMR				1345.0	1346.0	2				V
		SVTO				1345.0	1346.0	2				III
		SGMR				1507.0	1507.0	2				V
		WEIS	1605.4	1657.0	2							Blob
		WEIS				1708.2	1708.8	2				IIIG
		PALE				1815.0	0000.0	1				CONT
		PALE				1815.0	0454.0	1				CONT
		PALE				1819.0	1820.0	2				III
		SGMR				1819.0	1820.0	2				V
		PALE				1854.0	1859.0	3				V
		SGMR				1854.0	1900.0	3				V
		PALE				1906.0	1906.0	2				III
		SGMR				1907.0	1907.0	2				III
		PALE				2047.0	2051.0	3				V
		SGMR				2047.0	2051.0	3				V
02		LEAR				0003.0	0003.0	2				III
		PALE				0003.0	0003.0	2				III
		LEAR				0041.0	0041.0	2				III
		CULG				0139.0	0140.0	2				III
		LEAR				0139.0	0140.0	2				III
		PALE				0139.0	0140.0	2				III
		CULG				0237.0	0237.0	2				III
		LEAR				0237.0	0237.0	2				III
		LEAR				0254.0	0254.0	2				III
		SVTO				0532.0	0000.0	2				CONT
		CULG				0540.0	0550.0	2				III
		LEAR				0542.0	0549.0	3				III
		WEIS				0542.9	0549.1	3				IIIG
	0441	WEIS				0604.0	1613.0	2				IIIN,RS
		CULG				0610.0	0611.0	2				III
		LEAR				0610.0	0611.0	2				III
		CULG				0620.0	0650.0	3				CONT
		LEAR				0622.0	0852.0	2				CONT
		SGMR				1001.0	1255.0	1				CONT
	1009	WEIS				1029.0	1706.0					IN
		WEIS				1249.3	1249.8	3				Spikes
		SGMR				1255.0	2340.0	2				CONT
		WEIS				1426.0	1429.4	3				IIIG,Spikes
		WEIS				1719.7	1724.9	3				IIIGG,Plui
		PALE				1720.0	1725.0	3				V
		PALE				1725.0	1738.0	3			II	
		WEIS				1725.8	1737.0	3			II	H, Patchy
		PALE				1747.0	0454.0	1				CONT
		PALE				1902.0	1903.0	2				III

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02			CULG				2202.0	2209.0	3				III
			PALE				2203.0	2208.0	3				V
			SGMR				2203.0	2208.0	3				V
			LEAR				2339.0	2340.0	2				III
			PALE				2339.0	2340.0	2				III
			LEAR				2340.0	0946.0	1				CONT
03			PALE				0034.0	0036.0	2				V
			CULG				0035.0	0036.0	2				III
			LEAR				0035.0	0036.0	3				III
			SVTO				0512.0	1654.0	2				CONT
			LEAR				0559.0	0601.0	3				III
			SVTO				0559.0	0600.0	3				III
	0444	1830	WEIS				0559.4	0600.7	3				IIIG
			WEIS				0610.0	1724.0	2				IIIS,RS
			WEIS				0833.0	1712.0	2				IN
			SGMR				1000.0	2339.0	1				CONT
			PALE				1549.0	0453.0	1				CONT
			LEAR				2351.0	0947.0	1				CONT
04			LEAR				0100.0	0101.0	2				III
			LEAR				0211.0	0211.0	2				III
			LEAR				0255.0	0256.0	2				III
			SVTO				0517.0	0000.0	2				CONT
	0443	1828	WEIS				0550.0	1737.0	1				IIIN
			WEIS				0658.0	1735.0	3				IS,DP
			SGMR				1001.0	1208.0	1				CONT
			WEIS				1010.0	1715.0	2				Cont,P
			SGMR				1208.0	2338.0	2				CONT
			PALE				1633.0	0453.0	1				CONT
			PALE				1957.0	1959.0	2				V
			SGMR				1958.0	2000.0	3				V
			PALE				2027.0	2027.0	2				III
			LEAR				2348.0	0524.0	1				CONT
05	0446	0529	WEIS										
			LEAR				0524.0	0947.0	2				CONT
	0542	1827	WEIS				0946.0	1745.0	3				IIIN
			SGMR				1002.0	2336.0	1				CONT
			SGMR				1156.0	1156.0	2				III
			SGMR				1452.0	1454.0	2				V
			PALE				1651.0	1652.0	1				V
			SGMR				1651.0	1652.0	2				V
			PALE				1706.0	1706.0	1				V
			SGMR				1706.0	1707.0	2				V
			PALE				1726.0	1754.0	2				S
			SGMR				1726.0	1730.0	3				V
			SGMR				1739.0	1755.0	2				S
			PALE				1815.0	1816.0	1				III
			PALE				1828.0	1829.0	2				III
			SGMR				1828.0	1829.0	2				V
			PALE				1956.0	1959.0	2				V
			PALE				2056.0	2103.0	1				III
06			LEAR				0105.0	0948.0	1				CONT
			LEAR				0512.0	0527.0	2				S
			SVTO				0512.0	0525.0	2				S
	0446	1225	WEIS				0520.3	0521.9	2				IIIGG
			LEAR				0522.0	0523.0	3				III
			SVTO				0531.0	1550.0	1				CONT
			SGMR				1205.0	2255.0	1				CONT
			SGMR				1352.0	1355.0	3				V
			SVTO				1353.0	1355.0	2				V
	1248	1404	WEIS				1353.0	1355.2	3				IIIG
			PALE				1753.0	1805.0	1				S
			SGMR				1753.0	1806.0	2				S
	1417	1825	WEIS				1805.0	1805.3	1				IIIB

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07	0449	1825	WEIS				0730.0	1713.0	3				IIIN
			SGMR				1004.0	2200.0	1				CONT
			SGMR				1251.0	1253.0	2				V
			SGMR				1546.0	1549.0	2				V
			PALE				1710.0	1712.0	1				III
			SGMR				1710.0	1714.0	2				V
08			LEAR				0056.0	0056.0	2				III
			PALE				0056.0	0056.0	1				III
			SVTO				0427.0	0815.0	2				CONT
			LEAR				0428.0	0429.0	3				III
			PALE				0428.0	0428.0	1				III
			SVTO				0428.0	0430.0	2				III
			LEAR				0747.0	0748.0	1				III
			SGMR				1005.0	1156.0	1				CONT
			SVTO				1119.0	1500.0	2				CONT
			WEIS				1127.0	1730.0	2				I
	0448	1824	WEIS				1137.7	1137.8	1				IIIB
			SGMR				1156.0	1256.0	2				CONT
			WEIS				1209.9	1210.1	1				IIIB
			SGMR				1256.0	2333.0	1				CONT
			WEIS				1342.0	1343.0	2				IIIG
			PALE				2136.0	2138.0	1				III
09			LEAR				0200.0	0949.0	1				CONT
	0450	0800	WEIS										
			SGMR				1033.0	2332.0	1				CONT
			SGMR				1359.0	1400.0	2				V
			SVTO				1359.0	1400.0	2				V
	0825	1822	WEIS				1359.3	1400.0	2				IIIG
			PALE				1929.0	1940.0	2				V
			PALE				2024.0	2024.0	2				III
10	0450	1225	WEIS										
	1310	1819	WEIS										
11	0454	1355	WEIS										
			SGMR				1008.0	2329.0	1				CONT
	1420	1816	WEIS										
			CULG				2146.0	2150.0	2				III
			PALE				2147.0	2150.0	1				III
			PALE				2338.0	2339.0	1				III
12			CULG				0630.0	0651.0	1				III
	0453	1816	WEIS				1012.9	1013.1	1				IIIB
			SVTO				1017.0	1018.0	2				III
			WEIS				1017.8	1018.0	3				IIIG
			SGMR				1018.0	1019.0	1				III
			CULG				2055.0	2055.0	2				III
13			LEAR				0103.0	0103.0	1				III
			SGMR				1151.0	1151.0	1				III
	0456	1815	WEIS				1151.1	1151.3	2				IIIG
			WEIS				1258.5	1258.6	1				IIIB
			SVTO				1308.0	1308.0	2				III
			SGMR				1521.0	1522.0	1				III
			PALE				1659.0	1700.0	2				III
			SGMR				1831.0	1832.0	1				V
			CULG				2255.0	2255.0	1				III
14			CULG				0521.0	0521.0	1				III
	0455	1449	WEIS				0736.5	0736.6	1				IIIB
			SGMR				1011.0	2325.0	1				CONT
			WEIS	1308.5	1308.7	2							Spikes
	1501	1812	WEIS										
			SGMR				1619.0	1620.0	2				V
			PALE				2041.0	2048.0	1				III

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14			PALE				2059.0	2108.0	1				III
15			LEAR				0219.0	0220.0	2				V
			PALE				0219.0	0220.0	1				V
			CULG				0224.0	0228.0	2				III
			CULG				0521.0	0521.0	1				III
			CULG				0601.0	0601.0	1				III
			CULG				0624.0	0624.0	1				III
			SGMR				1157.0	1159.0	1				III
	0459	1812	WEIS				1157.4	1157.7	1				IIIB
16			CULG				0300.0	0302.0	1				III
			LEAR				0302.0	0302.0	1				III
			CULG				0519.0	0519.0	1				III
			CULG				0705.0	0705.0	1				III
			SGMR				1017.0	1018.0	1				III
	0458	1810	WEIS				1017.5	1017.9	2				IIIG
			WEIS				1022.2	1022.4	1				IIIB
			SGMR				1240.0	1244.0	1				III
			WEIS				1427.6	1428.6	2				IIIB,F
			PALE				1639.0	1640.0	2				III
17	0501	1238	WEIS				0946.1	0946.2	1				IIIB
	1305	1808	WEIS										
			SGMR				1357.0	2320.0	1				CONT
			PALE				1908.0	1911.0	2				V
			SGMR				1908.0	1910.0	2				V
			CULG				2103.0	2130.0	1				III
			CULG				2203.0	2203.0	1				III
18			SGMR				1205.0	1206.0	2				III
	0500	1806	WEIS				1205.4	1206.2	3				IIIG
			WEIS				1209.4	1210.5	3				IIIG,Spikes
			SGMR				1604.0	1606.0	2				V
			WEIS				1605.3	1605.7	1				IIIG
			CULG							2119.0	2119.0	1	III
19			CULG				0511.0	0532.0	1				S
			CULG							0525.0	0525.0	2	III
			LEAR				0839.0	0839.0	2				III
			SVTO				0839.0	0839.0	2				III
	0503	1805	WEIS				0839.5	0839.8	2				IIIG
			WEIS				0914.8	0915.0	1				IIIB
			WEIS				0917.7	0917.8	1				IIIB
			CULG				2159.0	2159.0	2				III
			PALE				2159.0	2159.0	2				III
20			CULG				0051.0	0051.0	1				III
			CULG				0120.0	0120.0	1				III
			LEAR				0120.0	0120.0	1				III
			CULG				0233.0	0233.0	2				III
			LEAR				0233.0	0233.0	1				III
			PALE				0233.0	0233.0	1				III
			CULG				0255.0	0255.0	2				III
	0503	1058	WEIS										
			SGMR				1017.0	2045.0	1				CONT
	1249	1803	WEIS				1438.1	1438.4	1				IIIB
			PALE				1814.0	1816.0	2				V
			SGMR				1814.0	1817.0	2				V
21			CULG				0212.0	0212.0	1				III
			LEAR				0822.0	0822.0	2				III
			SVTO				0822.0	0822.0	2				V
	0506	1801	WEIS				0822.1	0822.4	2				IIIG
			SGMR				1802.0	1803.0	1				III
			SGMR				2025.0	2025.0	1				III
22	0505	1758	WEIS				0802.7	0802.9	1				IIIB

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22		WEIS				1043.6	1043.7	1				IIIB
		SGMR				1232.0	1249.0	2				S
		WEIS				1232.4	1233.1	1				IIIG
		WEIS				1236.3	1236.6	1				IIIG
		SGMR				1417.0	1419.0	2				V
		WEIS				1417.8	1419.3	3				IIIG
		SGMR				1422.0	1423.0	1				V
		SGMR				1453.0	1454.0	1				V
		SGMR				1549.0	1549.0	1				III
		SGMR				1633.0	1633.0	2				V
		WEIS				1633.1	1635.1	2				IIIG,U
		SGMR				1913.0	1913.0	1				III
		SGMR				1921.0	1921.0	1				III
		PALE				1957.0	1958.0	2				III
		PALE				2034.0	2036.0	2				V
		CULG				2035.0	2036.0	1				III
		SGMR				2035.0	2037.0	1				V
		CULG				2249.0	2252.0	1				III
23		LEAR				0212.0	0213.0	1				III
		CULG				0213.0	0213.0	1				III
		LEAR				0238.0	0238.0	2				III
		PALE				0238.0	0238.0	1				III
		CULG				0239.0	0239.0	1				III
		CULG				0454.0	0456.0	1				III
		CULG				0611.0	0611.0	1				III
		CULG				0617.0	0617.0	1				III
		CULG				0702.0	0702.0	1				III
		CULG				0728.0	0728.0	1				III
		LEAR				0829.0	0831.0	2				V
		SVTO				0829.0	0831.0	2				III
		WEIS				0829.8	0831.2	2				IIIG,U
	0508	1100 WEIS				0847.0	1604.0					IIIN
		SVTO				0857.0	0904.0	2				S
		LEAR				0858.0	0925.0	2				S
		WEIS				0904.8	0905.1	2				IIIG
		WEIS				0910.0	1025.0	2				I
		SVTO				0915.0	0916.0	2				III
		SVTO				0918.0	0942.0	2				CONT
		WEIS				0924.2	0925.1	3				IIIG
		WEIS				0932.2	0932.4	2				IIIG
		SGMR				1020.0	2311.0	1				CONT
		SGMR				1304.0	1318.0	2				S
	1253	1612 WEIS				1313.5	1314.5	3				IIIG
		SVTO				1404.0	1406.0	2				III
		WEIS				1404.9	1405.5	3				IIIG
		SGMR				1405.0	1406.0	2				V
		WEIS				1521.1	1521.9	2				Spikes
		PALE				1707.0	1712.0	2				II
		SGMR				1707.0	1718.0	2				II
		SGMR				1801.0	1803.0	3				V
		CULG				2114.0	2114.0	1				III
		CULG				2219.0	2220.0	1				III
		LEAR				2337.0	2337.0	1				III
		PALE				2337.0	2337.0	1				III
24		LEAR				0034.0	0035.0	1				III
		LEAR				0130.0	0131.0	1				III
		PALE				0130.0	0130.0	1				III
		LEAR				0153.0	0159.0	2				III
		PALE				0153.0	0154.0	2				V
		CULG				0154.0	0155.0	2				III
		LEAR				0225.0	0230.0	2				III
		LEAR				0315.0	0315.0	2				III
		PALE				0315.0	0315.0	1				III
		CULG				0400.0	0402.0	2				III
		LEAR				0400.0	0410.0	2				III

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24		CULG				0404.0	0404.0	2				III
		CULG				0409.0	0410.0	2				III
		LEAR				0441.0	0447.0	2				III
		CULG				0442.0	0442.0	2				III
		CULG				0454.0	0454.0	2				III
		LEAR				0455.0	0455.0	2				III
		SVTO				0455.0	0455.0	1				III
		CULG				0533.0	0533.0	1				III
		SVTO				0602.0	0603.0	1				III
		CULG				0603.0	0603.0	2				III
		LEAR				0603.0	0603.0	1				III
		CULG				0720.0	0728.0	2				III
		LEAR				0720.0	0727.0	2				III
		SVTO				0721.0	0727.0	2				III
		SVTO				0740.0	0751.0	3				S
		LEAR				0743.0	0746.0	3				III
	0737	0753 WEIS				0743.0	0746.3	3				IIIG
		LEAR				0751.0	0751.0	1				III
		WEIS				0751.6	0752.5	1				IIIG
		LEAR				0847.0	0848.0	1				III
		SVTO				0847.0	0847.0	1				III
		SVTO				0847.0	0847.0	2				III
		SVTO	0847.0	0847.0								II
	0802	1755 WEIS				0847.7	0847.8	2				IIIB
		WEIS				0920.8	0922.3	1				IIIG
		SVTO				0938.0	0939.0	2				III
		WEIS				0938.8	0939.4	3				IIIG
		LEAR				0939.0	0939.0	1				III
		WEIS				1207.2	1207.3	2				IIIG
		SGMR				1248.0	1300.0	2				S
		WEIS				1248.3	1250.9	2				IIIGG
		WEIS				1254.1	1255.0	3				IIIG
		WEIS				1259.3	1259.9	2				IIIG
		SGMR				1330.0	2310.0	1				CONT
		WEIS				1508.1	1510.3	3				IIIG
		SGMR				1509.0	1511.0	2				V
		WEIS				1524.1	1547.0	3				IIIG
		WEIS				1529.4	1529.5	1				IIIG
		WEIS				1530.7	1531.3	2				IIIG,U
		SGMR				1542.0	1545.0	2				V
		WEIS				1627.1	1627.4	1				IIIB
		PALE				2031.0	2031.0	1				III
		CULG							2052.0	2052.0	1	III
		CULG				2100.0	2105.0	2				III
		CULG							2137.0	2137.0	1	III
		CULG							2201.0	2201.0	1	III
		CULG				2242.0	2242.0	1				III
		CULG				2252.0	2258.0	2				III
		PALE				2256.0	2256.0	2				III
25		CULG				0000.0	0430.0	1				III
		LEAR				0022.0	0022.0	1				III
		CULG				0122.0	0137.0	2				III
		LEAR				0122.0	0138.0	2				S
		PALE				0122.0	0135.0	2				S
		LEAR				0206.0	0219.0	2				S
		CULG				0210.0	0219.0	2				III
		PALE				0212.0	0220.0	1				III
		LEAR				0234.0	0234.0	1				III
		LEAR				0322.0	0323.0	1				III
		LEAR				0354.0	0354.0	1				III
		CULG				0503.0	0605.0	1				III
		LEAR				0509.0	0745.0	1				CONT
		CULG							0526.0	0605.0	1	CONT
	0511	1011 WEIS				0642.0	1314.0	3				IIIS
		CULG				0646.0	0714.0	2				III
		LEAR				0815.0	0816.0	2				III

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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
25		LEAR				0907.0	0955.0	2				CONT
		SVTO				0919.0	1446.0	2				CONT
		SGMR				1027.0	2308.0	1				CONT
	1045 1231	WEIS				1128.5	1129.0	3				IIIG
	1246 1754	WEIS										
		SGMR				1301.0	1307.0	2				V
		CULG				2135.0	2139.0	2				III
		CULG				2214.0	2315.0	2				III
		CULG				2216.0	2218.0	3				V
		SGMR				2216.0	2217.0	3				V
		PALE				2217.0	2221.0	3				V
		LEAR				2342.0	2348.0	1				III
		PALE				2347.0	2348.0	1				III
		CULG				2348.0	2348.0	1				III
26		CULG				0001.0	0002.0	2				V
		LEAR				0001.0	0002.0	3				III
		PALE				0001.0	0002.0	2				V
		CULG				0008.0	0052.0	2				III
		LEAR				0008.0	0020.0	2				S
		PALE				0013.0	0019.0	2				V
		PALE				0050.0	0057.0	2				V
		LEAR				0051.0	0051.0	2				III
		CULG				0053.0	0055.0	1				III
		LEAR				0056.0	0057.0	3				III
		CULG				0057.0	0057.0	2				V
		CULG				0129.0	0129.0	1				III
		CULG							0235.0	0240.0	1	III
		LEAR				0235.0	0500.0	1				CONT
		LEAR				0240.0	0240.0	1				III
		LEAR				0611.0	0611.0	1				III
		CULG							0634.0	0634.0	1	III
		LEAR				0705.0	0705.0	1				III
		SVTO				0705.0	0705.0	2				III
		CULG				0735.0	0735.0	2				III
	0510 0852	WEIS				0840.4	0840.6	2				IIIB
	0932 1052	WEIS				1009.4	1009.6	1				IIIB
		WEIS				1025.0	1025.3	2				IIIB
		SGMR				1131.0	1149.0	1				II
	1058 1753	WEIS				1131.2	1149.8	1				II H,HB,Patchy
		SVTO				1132.0	1142.0	3				II
		SVTO				1148.0	1536.0	2				CONT
		SGMR				1251.0	1802.0	1				CONT
		SGMR				1310.0	1314.0	2				V
		WEIS				1310.7	1314.0	2				IIIG
		SGMR				1406.0	1407.0	2				V
		WEIS				1406.5	1407.5	2				IIIG
		SGMR				1451.0	1454.0	3				V
		SVTO				1451.0	1455.0	3				V
		WEIS				1451.9	1454.0	3				IIIG
		SGMR				1532.0	1536.0	3				V
		SVTO				1532.0	1534.0	3				V
		WEIS				1532.5	1534.9	3				IIIG
		WEIS				1558.3	1558.4	2				IIIB
		WEIS				1635.8	1636.0	1				IIIG
		SGMR				1702.0	1703.0	2				V
		WEIS				1702.5	1703.0	2				IIIG
		PALE				1732.0	1736.0	1				V
		SGMR				1732.0	1737.0	3				V
		WEIS				1732.3	1732.7	3				IIIG
		WEIS				1734.5	1735.9	2				IIIG,U
		SGMR				1802.0	0000.0	2				CONT
		SGMR				1802.0	2307.0	2				CONT
		PALE				1803.0	0048.0	1				CONT
		CULG				2044.0	2130.0	2				III
		CULG				2154.0	2154.0	3				III
		CULG				2200.0	2204.0	3				III

SOLAR RADIO EMISSION--SPECTRAL OBSERVATIONS

AUGUST 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
26			CULG							2212.0	2227.0	1	III
			CULG				2251.0	2254.0	2				III
			CULG				2300.0	2300.0	2				III
			PALE				2347.0	2348.0	1				III
			CULG				2355.0	2355.0	1				III
27			CULG				0021.0	0023.0	1				III
			CULG							0028.0	0028.0	1	III
			CULG				0120.0	0355.0	1				III
			CULG				0242.0	0245.0	2				III
			LEAR				0242.0	0245.0	2				III
			CULG							0438.0	0438.0	1	III
			CULG							0550.0	0550.0	2	III
			LEAR				0550.0	0551.0	1				III
	0513	1750	WEIS				0550.7	0550.8	1				IIIB
			SVTO				0645.0	1445.0	1				CONT
			CULG				0655.0	0656.0	2				III
			LEAR				0655.0	0956.0	1				CONT
			WEIS				0655.0	1619.0	2				IIIN
			SGMR				1238.0	1238.0	1				III
			SGMR				1240.0	2305.0	1				CONT
			SGMR				1653.0	1654.0	2				V
			WEIS				1653.5	1653.9	2				IIIG
			PALE				1654.0	1654.0	1				III
			CULG				2039.0	2039.0	1				III
			CULG							2156.0	2205.0	1	III
			CULG				2219.0	2219.0	1				III
			CULG				2245.0	2245.0	1				III
			CULG				2311.0	2311.0	2				III
			CULG				2326.0	2326.0	1				III
28			CULG				0059.0	0726.0	1				S
			LEAR				0540.0	0540.0	1				III
			LEAR				0633.0	0633.0	1				III
	0513	1747	WEIS				0633.5	0633.7	2				IIIB
			WEIS				0913.5	0913.7	1				IIIB
			SGMR				1025.0	2303.0	1				CONT
			SVTO				1035.0	1236.0	3				III
			WEIS				1132.3	1133.0	1				IIIG
			WEIS				1142.8	1142.9	2				IIIB
			SGMR				1235.0	1237.0	2				V
			WEIS				1235.6	1237.3	3				IIIG
			WEIS				1252.5	1252.6	1				IIIB
			CULG				2142.0	2142.0	2				III
			PALE				2142.0	2142.0	2				III
			LEAR				2330.0	0956.0	1				CONT
29			PALE				0143.0	0436.0	1				CONT
			SVTO				0527.0	0818.0	1				CONT
			LEAR				0627.0	0628.0	2				III
			SVTO				0627.0	0627.0	2				III
	0612	1210	WEIS				0627.6	0628.1	3				IIIB
			WEIS				0812.3	0812.5	1				IIIB
			WEIS				0839.8	0840.6	1				IIIG
			WEIS				0936.1	0936.2	1				IIIB
			SGMR				1027.0	0000.0	1				CONT
			WEIS				1206.6	1206.7	1				IIIG
			SGMR				1226.0	1227.0	1				III
	1215	1746	WEIS				1226.7	1226.9	2				IIIB
			SGMR				1329.0	1330.0	1				III
			SVTO				1329.0	1329.0	2				III
			WEIS				1329.7	1329.9	1				IIIB
			CULG				2107.0	2307.0	1				S
			PALE				2311.0	2312.0	1				III
			CULG				2312.0	2312.0	2				III
			LEAR				2357.0	2358.0	1				III
30			LEAR				0142.0	0143.0	2				III

AUGUST 1988

Observation Day	Start (UT)	End (UT)	Sta	Decimetric Band Start (UT)	End (UT)	Int (1-3)	Metric Band Start (UT)	End (UT)	Int (1-3)	Dekametric Band Start (UT)	End (UT)	Int (1-3)	Spectral Type
30			LEAR				0154.0	0155.0	1				III
			LEAR				0225.0	0225.0	1				III
			LEAR				0737.0	0737.0	2				III
			SVTO				0737.0	0737.0	2				III
	0545	0922	WEIS				0737.3	0737.4	1				IIIB
	0945	1033	WEIS				0948.1	0948.3	1				IIIB
			SGMR				1028.0	0000.0	1				CONT
			SGMR				1409.0	1414.0	2				V
			SVTO				1409.0	1413.0	3				V
	1107	1557	WEIS				1409.3	1413.7	1				IIIG
			SGMR				1418.0	1418.0	2				III
			WEIS				1425.6	1425.7	1				IIIB
			SGMR				1448.0	1448.0	2				III
			WEIS				1448.7	1449.0	2				IIIB
			CULG				2043.0	2231.0	1				S
			PALE				2048.0	2056.0	1				III
			CULG				2125.0	2200.0	1				S
31			LEAR				0104.0	0957.0	1				CONT
			CULG				0459.0	0459.0	1				III
			SVTO				0655.0	0725.0	2				CONT
			SGMR				1029.0	2259.0	1				CONT
			SGMR				1116.0	1118.0	2				III
			CULG				2138.0	2138.0	1				III

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

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

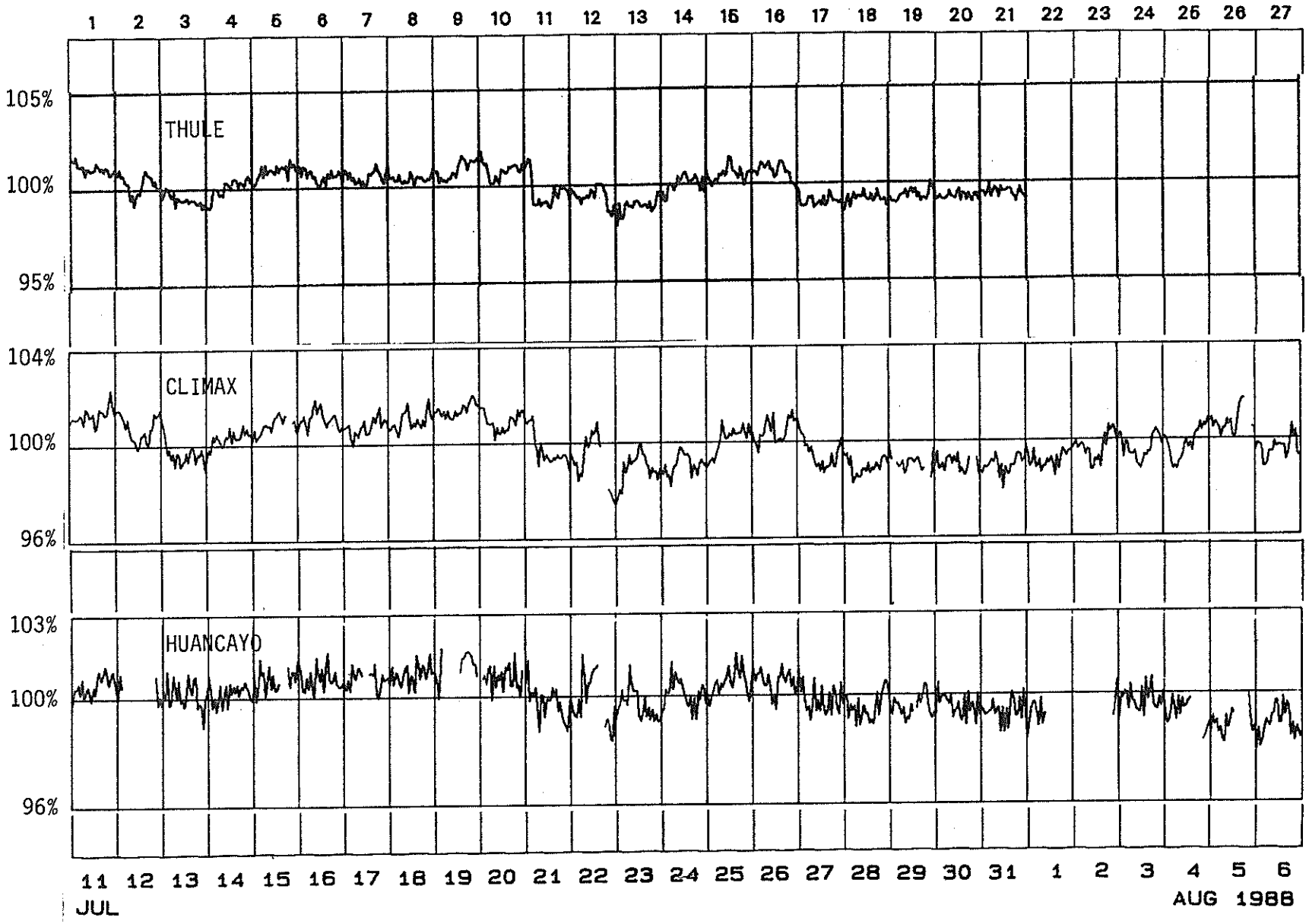
AUGUST 1988

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				5868.7	3809.7		1714.7(18)
2				5900.8	3830.9		1723.0(6)
3				5906.5	3828.9		1722.2
4				5915.5	3834.9		1713.7(36)
5				5938.4	3868.9		1707.0(34)
6				5882.5	3826.7		1707.0
7				5899.8	3846.8		1707.5
8				5952.0	3863.0		1713.2
9				5970.6	3875.9		1712.9
10				5949.6	3882.2		1720.6
11				5945.1	3884.0		1722.9
12				5949.4	3866.3		1712.5(38)
13				5936.7	3879.7		1715.5
14				5941.7	3867.0		1715.4
15				5931.6	3872.5		1713.7
16				5940.1	3875.4(20)		1713.8
17				5957.8	3897.5(30)		1716.9
18				5978.3	3904.1		1721.1
19				6001.1	3907.2		1727.8(12)
20				6010.6	3880.6		1725.3
21				5975.5	3862.0		1724.3
22				5941.8	3872.3		1725.0
23				5951.4	3880.2		1720.4
24				5978.8	3848.1		1719.9
25				5973.4	3707.7		1703.0
26				5708.0	3792.7		1668.8(32)
27				5822.0	3803.2		1692.5
28				5841.3	3802.5		1689.0
29				5850.8	3824.0		1691.2
30				5867.4	3838.0		1700.4
31				5897.3	3807.3		1704.3
Mean				5922.1	3848.7		1711.4

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)

Bartels Rotation 2117 (July-August 1988)



117
Aug 88

GEOMAGNETIC ACTIVITY INDICES

August 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	Q9A	2+	3-	2+	1	1+	1+	3-	1+	15	8	0.4	2+	3-	2+	1-	1	1+	2+	1+	13	19	11	16	13	
2	Q5	2	2	1	1-	1+	1	2-	2-	11+	5	0.2	2	2-	1-	1-	1	1-	2	1+	9	16	8	13	11	C
3	Q7	2	3-	2+	2-	2-	1+	0+	1-	13-	6	0.3	2-	3-	3-	2	1+	1+	0+	1-	12	20	9	18	11	C
4	Q1	1-	1	0+	0+	0+	0+	0+	1-	4	2	0.0	1	1	0+	0+	0+	1-	0+	1-	4	9	2	6	5	CC
5	Q8K	0+	1-	1+	1-	2+	3-	2-	3-	12+	6	0.3	1-	1-	1+	1	3-	3-	2-	2+	13	17	16	7	27	
6	Q6	2-	2-	3-	1-	1-	1-	1-	2	11-	5	0.2	2-	2	3	0+	1-	1-	1-	2-	10	14	10	17	7	K
7	Q3	2	1+	1	1+	1+	1	1+	1-	10	5	0.2	2-	1+	1+	1+	1+	1	1	1-	8	14	5	10	9	CC
8	Q2	0	0+	1-	1	0+	0+	1+	2-	6-	3	0.1	0+	0+	1-	1	1-	0+	1+	1+	5	10	4	6	8	CC
9		2	2+	2	2	3+	3-	4	3+	22-	13	0.8	2-	2+	2+	3-	3	3-	4-	4-	26	27	19	15	31	
10		3-	1+	1+	2-	1-	1+	3+	3+	16-	9	0.5	3-	2-	1+	2-	1-	1+	3-	3	15	20	8	13	15	
11		2	2-	2	3	2+	2-	2	2+	17	8	0.4	2	2	2	3+	3	2-	1+	2+	19	22	20	22	20	
12	D4*	3	2+	2+	2+	4	4	3-	4-	24+	16	0.9	3	3-	2+	3-	4	3+	3-	3	30	34	35	26	44	
13	D3*	3+	4-	3-	3+	4-	3+	3-	3	26-	17	0.9	3+	3+	2+	3+	4-	3	3-	3-	30	32	32	34	31	
14	D1	4+	3	4+	4	3+	4	1+	2+	27-	21	1.1	4	3+	4-	4-	3-	4-	2-	2	34	40	32	44	28	
15		2	3+	4+	4-	3	3	3-	2	24	16	0.9	2	3-	4	4	3+	3+	3-	2	33	34	49	51	32	
16		2+	2+	3-	2-	2-	2-	2+	1+	16	8	0.4	3-	2+	3	2+	2-	2-	2+	1	18	23	14	22	15	
17	Q4	1	2	2-	1+	1-	1-	1-	2-	10-	5	0.2	1	2-	2-	2-	1	0+	1-	1	8	14	6	11	9	CK
18		2-	3+	2	2	2	3-	2-	1+	17-	8	0.5	2-	3	2	2+	2+	2+	1+	1	16	20	14	18	15	
19		2-	2	2-	2	2	3	2-	2+	16+	8	0.4	2	2-	2-	2	2	2+	2-	2+	14	19	15	14	20	
20	D5*	2+	3-	3-	2+	5	4	3-	2	24-	17	0.9	2	3-	3	2+	4+	3+	3-	2-	29	40	18	21	37	
21	Q10A	2-	2	2-	1	1-	1-	1-	4	12+	7	0.4	2-	2-	2	1	1	0+	1-	4-	12	17	11	12	16	
22	D2	5+	6	4-	2-	2	1+	2	1+	23+	24	1.1	5	5+	3+	2-	2-	1	2+	1+	36	35	27	49	12	
23		3-	2	2+	2-	2+	2+	3	3	19+	10	0.6	3	3-	3-	1+	2	3-	3-	3	22	22	22	16	28	
24		1+	2-	2	3-	2+	3-	3+	3+	19+	11	0.6	2-	2+	2-	3-	2	2	3-	3	19	26	12	14	23	
25		2-	2	3	4	4	3+	3	2	23	15	0.9	2-	2+	3-	4	4-	3-	3-	2-	28	31	29	29	32	
26		2+	3-	2-	1	2+	2+	2-	3	17	9	0.5	2+	3-	2-	1+	2+	2	2-	3	17	20	17	15	22	
27		4	4-	3	3-	2	3-	3	2	23	15	0.8	3+	3	3-	3	2	2+	3-	2	24	32	18	29	21	
28		1+	2	2+	3-	2	2-	2	3+	17+	9	0.5	2-	2-	3-	2+	2	2-	2	3	17	19	13	16	16	
29		4-	2+	4-	3+	2-	3-	1+	3-	21+	13	0.8	3	2+	3	3+	2-	2+	2-	3-	23	30	18	28	19	
30		3+	3+	4	2	1+	2+	2	2+	21-	12	0.7	4-	4-	4-	2-	1	2	2+	3-	26	35	21	36	20	
31		3	2	1	1-	2+	4	3	4-	20-	13	0.7	3-	2+	1	1-	2-	4	3-	3+	23	32	18	15	35	
Mean											10	0.55									19.1	24.0	17.3		20.6	

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		2+	3-	2+	1+	2-	2-	3-	2-	16	2+	2+	2	0+	0	1-	2	1	10	180.9	142	142	133	-	
2		2-	2	1	1	2-	1+	2	1+	11	2	2-	0+	0	1-	0	2-	1+	7	187.6	143	149	141	-	
3		1+	3-	2+	2	2-	2	1-	1	13	2	3-	3-	2-	1+	0+	0+	0+	12	172.2*	146	149	124	-	
4		1	1	1-	0+	0+	1	1-	1-	5	1	1	0+	0+	0	0	0+	1-	3	163.6	135	141	115	-	
5		1-	1	2-	1	3-	3-	2+	3	14	0+	0+	1+	1	3-	3-	1+	1+	11	159.2	120	122	110	-	
6		2	2+	3+	1-	1+	1	1+	2	14	1+	2-	3-	0+	0	0	0+	1+	7	163.4	123	129	114	-	
7		2	2-	1+	2-	2-	1+	1+	1+	11	2-	1+	1	1	0+	0+	0+	0	5	170.4	144	145	122	-	
8		0+	0+	1	2-	1	1-	2-	2-	8	0+	0+	0+	0	0+	0+	1-	1-	3	186.9	160	160	140	-	
9		2-	3-	2-	3-	3+	3-	3+	3+	28	1+	2	2	2	2	3-	4-	4	25	182.4	171	171	135	-	
10		2+	2-	1+	2-	1-	2-	3	3	16	3-	2-	1+	2-	0+	1	3-	3	15	181.8	152	153	134	-	
11		2-	2-	2+	3+	3-	2-	2	3-	19	2+	2	2	4-	3	1+	1-	2-	19	178.2	135	131	130	-	
12		3	3-	3-	3-	4	3+	3-	3+	32	3-	3-	2	3-	4	3	2+	3	28	161.2	133	145	112	-	
13		3	3+	2+	3	3+	3	3	3-	30	4-	3	2	3+	4-	3	2+	2+	30	159.7	122	124	110	-	
14		4-	3+	4-	4-	3	4-	2	2	35	4	3	4-	4-	2+	3+	1+	2-	32	151.6	128	129	102	-	
15		2	3	5-	4-	3+	3+	3-	2	35	2-	3-	4-	4+	3	4-	2-	2	32	144.0	121	113	94	-	
16		2+	2+	3	2+	2	2	2+	1+	18	3	3-	3	2	1+	1+	2	1-	17	137.8	85	80	87	-	
17		1+	1+	2-	2-	1	1-	1	1+	9	1	2	2-	1+	1-	0+	0+	1-	7	145.6	67	57	95	-	
18		2-	3	2	3-	2+	3-	2-	1+	18	1+	3	2	2+	2	2	1+	1-	15	128.5	44	47	77	-	
19		2-	2-	2-	2+	2	3	2-	2+	16	2	2-	1+	2	2	2-	1+	2+	13	123.9	57	56	72	-	
20		2+	3-	3-	3-	5-	3+	3-	2	30	2	3	4-	2	4-	3	2+	2-	27	118.1	57	52	66	-	
21		1+	2-	2+	1+	1+	1-	1-	4-	14	2-	2-	1+	1-	1-	0+	0+	3	10	116.1	40	33	63	-	
22		5-	5	3	2	2+	2-	2+	2-	36	5	5+	3+	1+	1	0+	2-	1	36	114.9	22	24	62	-	
23		3-	2	2+	1+	2	3-	3-	3+	21	3	3	3-	1+	2-	3	3-	3-	23	121.7A	26	30	69	-	
24		2-	2	2	3-	2+	3-	3	3	21	1+	2+	2-	2+	2-	1+	3-	3	18	133.7	43	56	82	-	
25		2-	2+	3	4	3+	3	2+	2-	27	2-	3-	3-	4	4	3-	3	2-	29	144.3	71	78	94	-	
26		2+	3-	2	1+	3-	3-	2-	3	19	2	3-	2-	1	2-	1+	1+	3	15	157.1	93	93	108	-	
27		3+	3	3-	3	2	3-	3-	2+	25	3+	3-	3-	3-	2	2	2+	2-	23	166.8	142	133	118	-	
28		1+	2-	3-	2	2	2-	2	3	17	2-	2	3-	2+	2-	1+	2	3+	17	174.0	146	144	126	-	
29		3	2+	3	3	2-	3-	2-	3-	23	3+	2+	3+	3+	1+	2	2-	3-	23	189.0	164	162	142	-	
30		3	3+	4-	2-	1+	2+	2+	2+	23	4-	4	4	2-	1-	2-	2+	3-	28	190.0	163	158	143	-	
31		3-	2	1	1+	2+	4	3-	3	22	3	3-	1	0+	1+	4-	3	4-	23	194.5	151	142	148	-	
Mean										20.2									18.2	158.0	111.2	111.2	108.6	

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

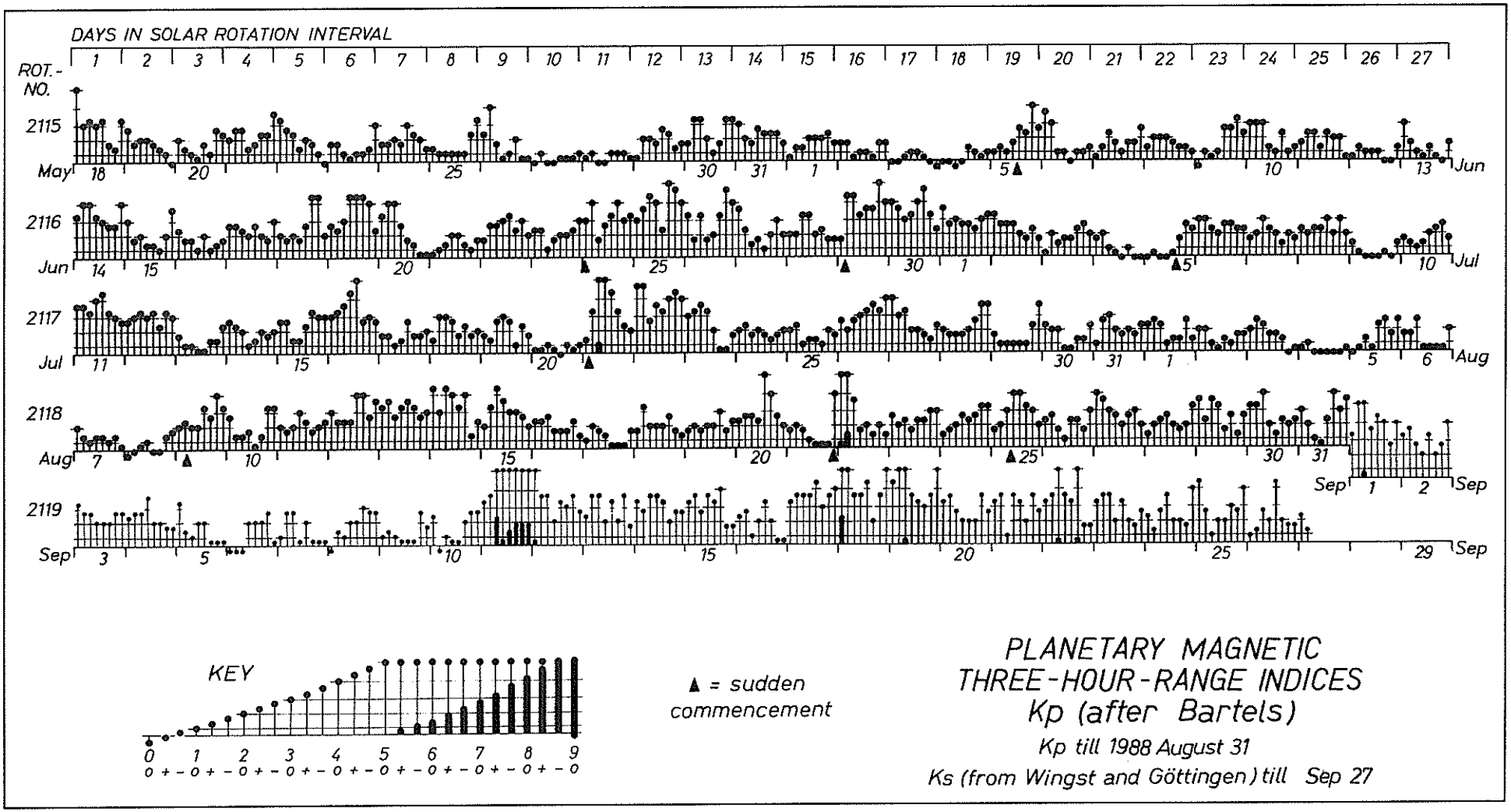
September 1987 to August 1988

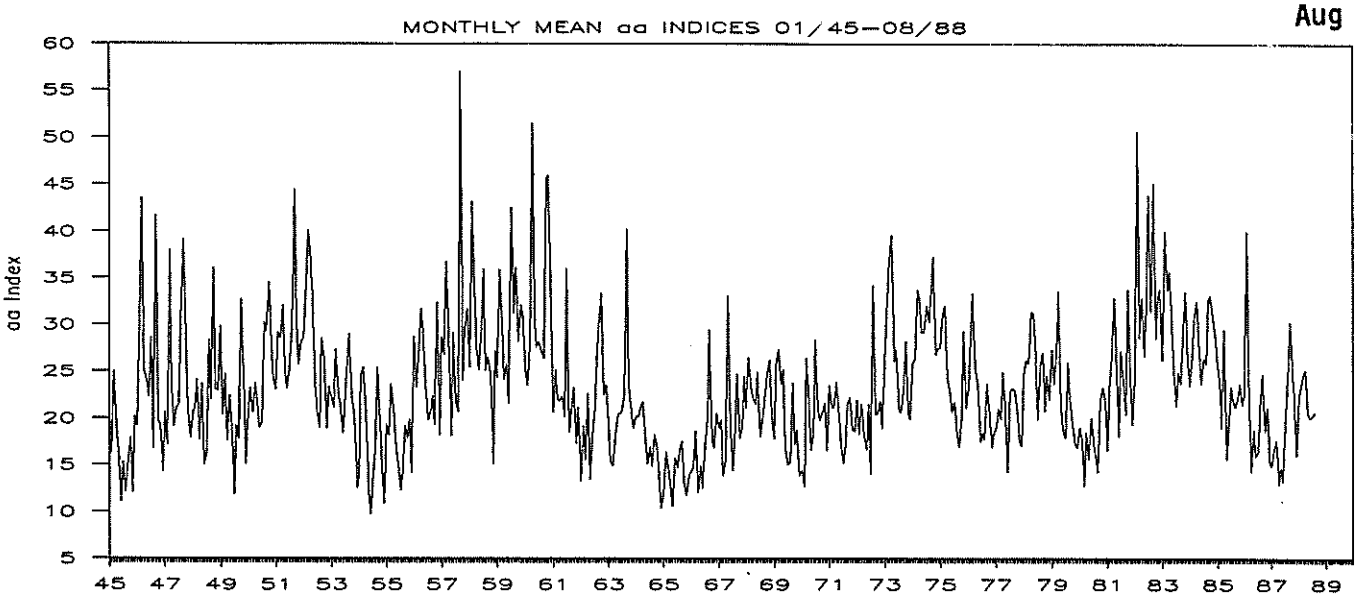
DAY	1987 SEP	OCT	NOV	DEC	1988 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
1	34	13	7	5	5	2	4	13	5	6	14	8
2	12	9	23	4	29	5	6	19	7	5	10	5
3	4	36	27	12	7	3	10	48	7	2	7	6
4	6	14	9	10	14	7	19	78	13	3	4	2
5	6	6	10	17	14	29	8	24	20	10	5	6
6	9	5	9	8	31	11	19	48	106	8	11	5
7	11	8	5	4	24	6	11	15	13	6	8	5
8	10	8	4	1	19	5	26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

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

University of Göttingen

Kp through August 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	20.0	20.2	20.6					22.1

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

AUGUST 1988

Sta	Geomag Lat	Commencement Day	Commencement Time (UT)	Type	SC Amplitudes D (Min)	SC Amplitudes H (Gamma)	SC Amplitudes Z (Gamma)	Maximum 3-Hour K Index Day(3-Hour Periods)	K	Ranges D (Min)	Ranges H (Gamma)	Ranges Z (Gamma)	End Day	End Hour (UT)
HYB	07.6N	05	1240	SC	- .2	5	0	06(3)	4	6	129	23	07	18
ETT	00.6S	05	1240	SC	- .2	2	5		-	6	187	42	06	09
HYB	07.6N	08	1500	..	..	..	..	09(6,7)	4	9	140	53	10	10
ETT	00.6S	08	1800	..	..	..	..		-	8	208	58	10	21
UJJ	13.5N	09	0400	..	..	..	..		-	5	107	37	09	24
ABG	09.5N	09	0400	..	..	..	..	09(3,7)	4	5	135	41	09	24
ANN	01.5N	09	0400	..	..	..	..		-	3	167	59	09	24
TRD	01.1S	09	0400	..	..	..	..		-	2	214	67	09	24
HER	33.7S	09	0509	SC	- 2	- 7	- 7	09(7)	5	18	125	102	10	02
KGL	56.5S	09	0510	SC	3	8	4	09(7,8)	4	17	88	80	10	03
HYB	07.6N	11	0600	..	..	..	..	12(5)	5	5	126	41	13	21
GUA	04.0N	11	2208	..	..	..	..	12(1)	5	10	150	40	12	16
ETT	00.6S	11	1700	..	..	..	..		-	6	187	65	14	20
CNB	43.9S	15	04--	..	..	..	..	15(3,4)	5	10	85	31	15	21
HYB	07.6N	20	0200	..	..	..	..	20(5)	6	7	103	41	21	10
GUA	04.0N	20	1202	..	..	..	..	20(5)	5	--	50	20	20	19
HER	33.7S	20	08--	..	..	..	..	20(5)	5	19	79	76	20	16
FRD	49.6N	21	2230	SC*	- 1.0	64	- 7.0	22(1,2)	5	15	149	22	22	07
UJJ	13.5N	21	2226	SC	- .2	32	- 7		-	7	125	27	22	24
ABG	09.5N	21	2226	SC	- .4	29	- 2	22(1)	6	7	111	43	22	24
HYB	07.6N	21	2231	SC	- .1	29	- 1	22(1)	6	6	125	30	22	21
GUA	04.0N	21	2230	SC	- .4	33.6	- 8.8	22(1)	6	10	160	30	22	13
ANN	01.5N	21	2226	SC	.3	28	17		-	7	135	88	22	24
ETT	00.6S	21	2228	SC	- .2	22	22			6	158	125	22	22
TRD	01.1S	21	2226	SC	.3	25	33		-	5	173	189	22	24
HER	33.7S	21	2230	SC	2	23	19	22(1,2)	5	31	99	61	22	14
KGL	56.5S	21	2229	SC	4	8	..	22(2)	6	22	240	112	22	08
FRD	49.6N	25	0932	SC*	- 4.8	19.8	- 3.8	25(4,5)	4	19	56	25	25	17
HYB	07.6N	25	0933	SC	- .4	26	- 3	25(4) 26(2)	4	9	81	46	27	21
ETT	00.6S	25	0932	SC*	- 1.5	47	32		-	7	121	63	26	18
KGL	56.5S	25	0932	SC*	4	..	11	25(4)	4	12	64	24	25	21
HYB	07.6N	31	1200	..	..	..	..	31(6,8) 01(2)	4	8	98	34	02	22
KGL	56.5S	31	1445	..	..	..	..	31(6,8)	4	20	176	88	01	18

Stations Reporting:

ABG = ALIBAG
ANN = ANNAMALAINAGAR
CNB = CANBERRA
COL = COLLEGE
ETT = ETAIYAPURAM
FRD = FREDERICKSBURG
GNA = GNANGARA
GUA = GUAM
HER = HERMANUS
HON = HONOLULU
HYB = HYDERABAD
KGL = KERGUELEN
SIT = SITKA
TRD = TRIVANDRUM
UJJ = UJJAIN

MAGNETIC STORM SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS
(PRELIMINARY REPORT ON RAPID MAGNETIC VARIATIONS)

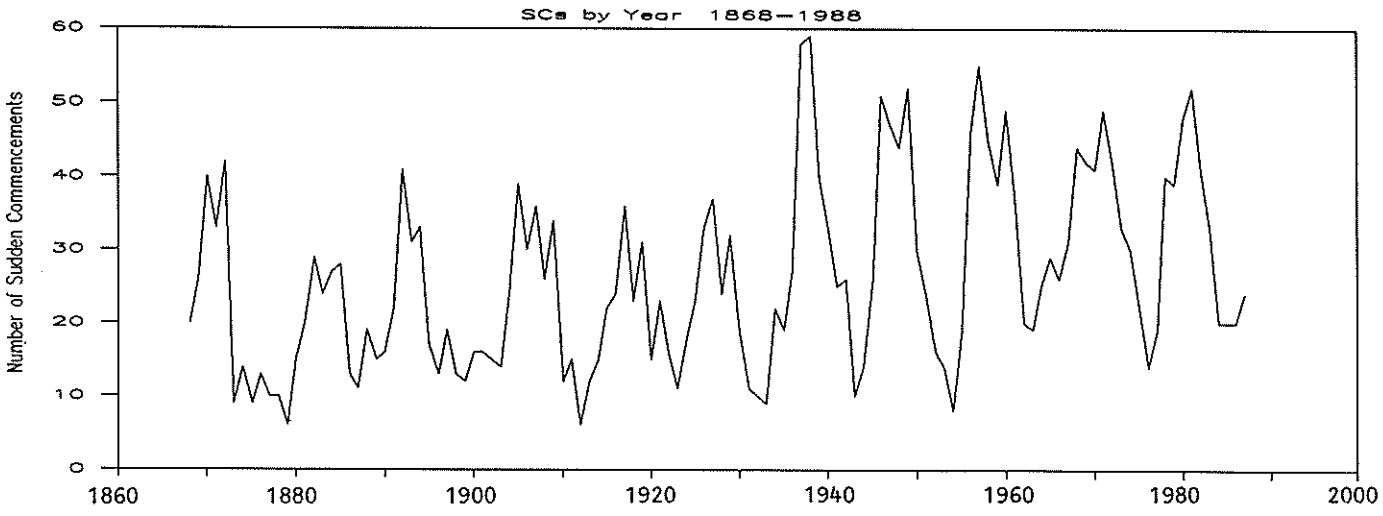
AUGUST 1988

Storm Sudden Commencements (ssc)			Solar Flare Effects (sfe)		
Day	Time	Quality: Station Group*	Day	Begin-End	Station(s)
09	0509	A: MPO	02	1720-1755	WNG
		B: DOB* WNG* DOU CLF* COI QUE KGL	05	0548-0603	MPO
		C: NAG BDV* SPT CZT	09	0508-0515	NAG (see ssc)
		sfe NAG?		1224-1248	MPO
20	1201	A: COI BJI*	19	1519-1537	QUE
		B: DOU CLF* NAG*	24	0627-0648	MPO
		EBR* SPT* QUE	29	0948-1017	BDV
		C: GCK			
21	2230	A: DOB* NUR WNG* DOU			
		CLF* NAG* EBR* COI			
		BJI SPT* QUE TEN			
		MPO DOU			
		B: NGK BDV* GCK MMB*			
		KNY* LNP GNA* KGL			
		C: FRD* KAK*			
25	0932	A: SOD WNG* CLF* COI*			
		BJI LNP			
		B: NGK* DOU BDV* EBR*			
		SPT* QUE GNA* CNB*			
		KGL*			
		C: NAG* GCK FRD* TEN*			

Reporting Observatories: (up to the 3rd of October)

SOD DOB NUR WNG NGK DOU BDV CLF NAG GCK
MMB EBR COI BJI SPT FRD KAK KNY QUE TEN
LNP MPO GNA CNB AMD CZT KGL DUM

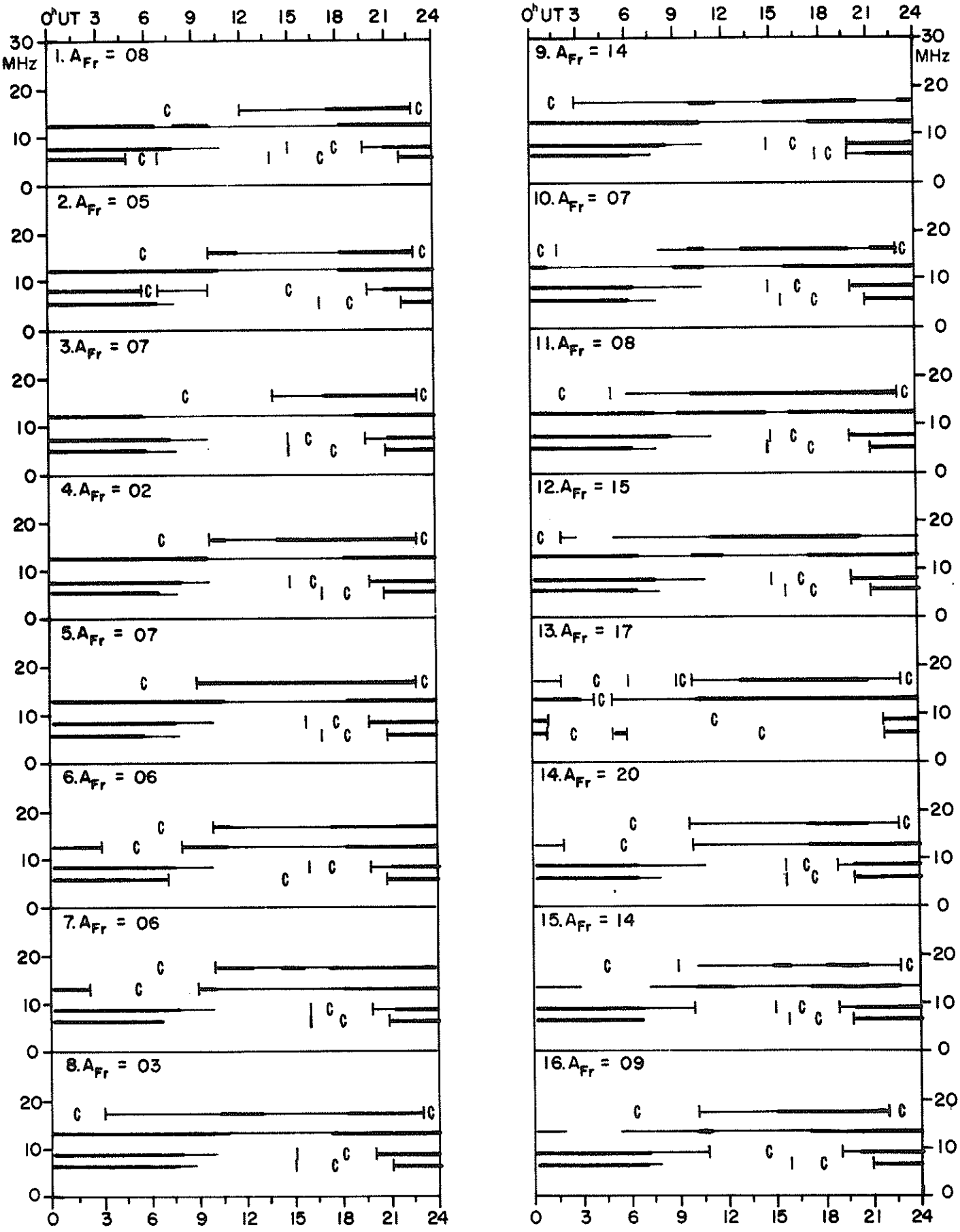
Three-letter codes identify each observatory. Reporting stations have been grouped by the character of the observed event. The letter A means very remarkable; B means fair, ordinary, but unmistakable; and C means very poor, doubtful.



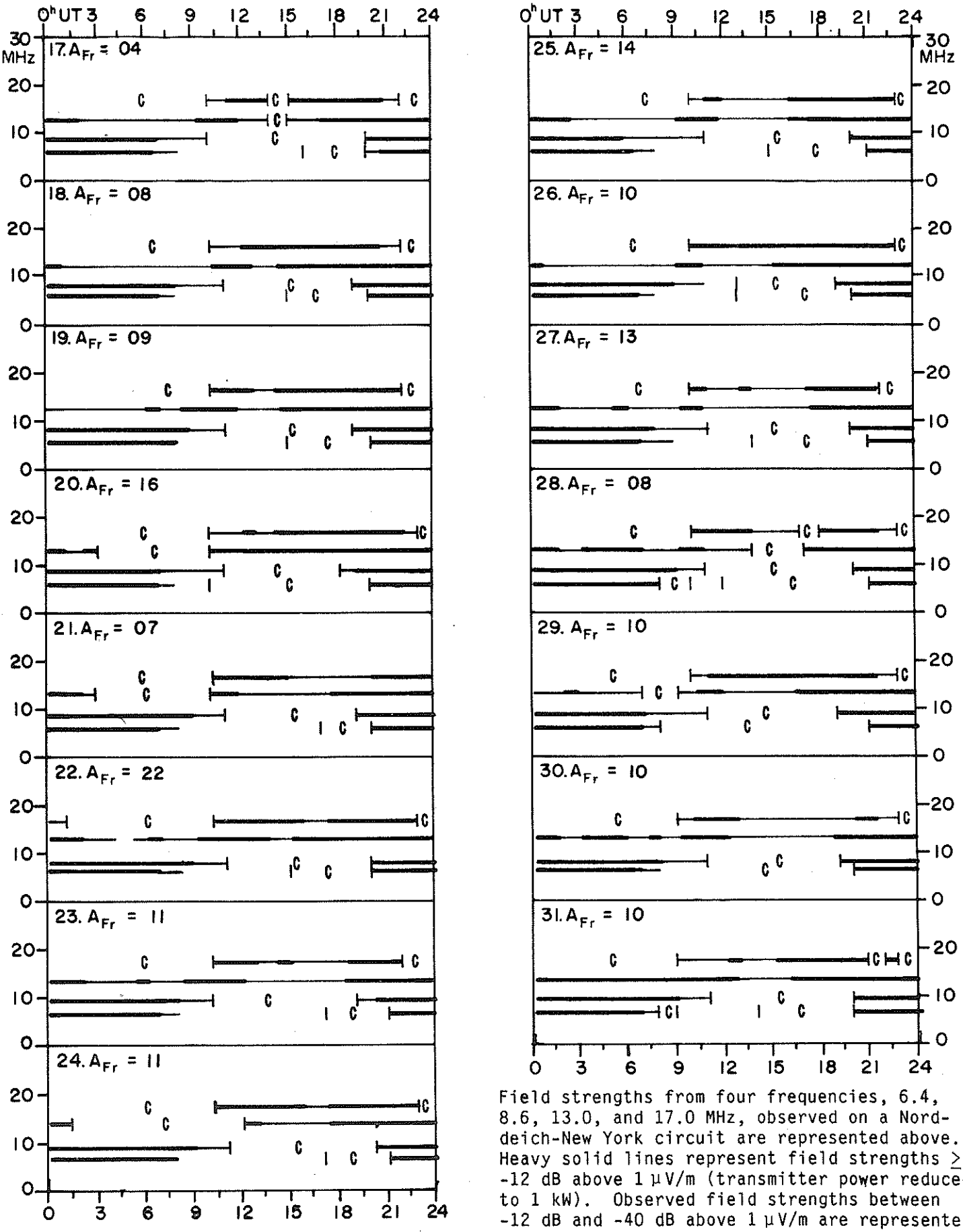
Sources of data: IAGA Bulletin No. 33 (1868-1967); IAGA Bulletins No. 12 (1968-1969); IAGA Bulletins No. 32a-32k (1970-1980); and Preliminary Reports of the International Service of Geomagnetic Indices (KNMI, DeBilt, The Netherlands 1981-1987; Inst. de Physique du Globe de Paris, France, 1988 to present).

TRANSMISSION FREQUENCY RANGES--NORTH ATLANTIC PATH

AUGUST 1988



TRANSMISSION FREQUENCY RANGES--NORTH ATLANTIC PATH
AUGUST 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.

CONTENTS

Prompt Reports **LATE DATA** Number 530 Part I

SOLAR RADIO EMISSION--SPECTRAL OBSERVATIONS

JUNE 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	0412	0552	WEIS				0511.3	0511.5	1				IIIB
			WEIS				0541.7	0542.0	3				IIIB
	0620	0635	WEIS				0625.0	0625.1	1				IIIB
			WEIS				0657.7	0658.8	3				IIIG
	0741	1334	WEIS				0827.2	0828.3	2				IIIG
			WEIS				0938.4	0938.5	2				IIIB
			WEIS				0949.2	0950.7	3				IIIB
			WEIS				1157.9	1158.0	1				IIIB
			WEIS				1311.1	1311.2	2				IIIB
	1409	1846	WEIS				1459.3	1501.0	3				IIIGG
			WEIS				1535.7	1535.8	1				IIIB
			WEIS				1703.2	1703.6	2				IIIB/U
			WEIS				1720.1	1721.3	3				IIIG
			WEIS				1726.1	1726.2	1				IIIB
			WEIS				1808.2	1810.0	3				IIIG
			WEIS				1835.5	1838.7	3				IIIG
02	0411	1847	WEIS				0422.0	1651.0	2				IIIN
			WEIS				0508.4	0511.2	2				IIIGG
			WEIS				0523.0	0524.8	1				IIIB
			WEIS				0603.9	0604.1	2				IIIB
			WEIS				0618.0	0620.5	3				IIIG
			WEIS				0717.1	0722.5	3				IIIGG
			WEIS				0827.3	0827.5	2				IIIB
			WEIS				0948.2	0948.5	2				IIIG
			WEIS				1037.5	1039.5	2				IIIG
			WEIS				1108.0	1109.6	3				IIIGG
			WEIS				1403.1	1403.4	3				IIIG
			WEIS				1441.5	1442.0	3				IIIG
			WEIS				1445.3	1447.0	3				IIIB
			WEIS				1722.1	1724.9	2				IIIGG
03	0412	0515	WEIS										
	0557	1246	WEIS				0629.2	0630.1	2				IIIG
			WEIS				0919.6	0919.9	1				IIIG
			WEIS				1212.8	1213.0	1				IIIB
			WEIS				1242.7	1242.9	2				IIIB
	1555	1848	WEIS				1602.8	1603.2	1				IIIB
04	0650	1730	WEIS				0650.0	1545.0	2				IIIN
			WEIS				0652.0	0653.4	2				IIIG
			WEIS				1000.0	1002.7	3				III/V
			WEIS				1057.8	1059.1	3				IIIG,U
			WEIS				1140.8	1141.5	2				IIIG
			WEIS				1229.7	1232.7	3				IIIG
			WEIS				1302.3	1305.9	2				IIIG
			WEIS				1315.3	1315.6	2				IIIB
			WEIS				1415.8	1416.1	2				IIIB
			WEIS				1420.2	1421.3	2				IIIG
			WEIS				1549.5	1553.5	3				IIIG
	1734	1848	WEIS				1734.5	1735.4	3				IIIG
05	0411	1156	WEIS				0443.0	1722.0	1				IIIN
			WEIS				0911.7	0912.1	3				IIIG
			WEIS				0932.7	0934.0	3				IIIG
			WEIS				1107.0	1110.8	3				IIIG
	1554	1850	WEIS										
06	0409	0942	WEIS				0434.0	1651.0	1				IIIN
			WEIS				0719.9	0720.7	3				IIIG
			WEIS				0914.4	0919.7	3				IIIG
			WEIS				0921.5	0931.1	1				II
	1026	1103	WEIS										
	1108	1850	WEIS				1133.3	1134.2	2				IIIG
			WEIS				1407.2	1413.5	1				II
			WEIS				1442.5	1446.6	3				IIIGG
07	0411	1851	WEIS				0504.7	0505.6	1				IIIG

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Observation Day	Start (UT)	End (UT)	Sta	Decimetric Band Start (UT)	End (UT)	Int (1-3)	Metric Band Start (UT)	End (UT)	Int (1-3)	Dekametric Band Start (UT)	End (UT)	Int (1-3)	Spectral Type
07			WEIS				0704.3	0704.7	2				IIIB
			WEIS				0728.4	0729.5	2				IIIG
			WEIS				0752.1	0752.1	2				IIIB
			WEIS				0845.1	0845.7	2				IIIG
			WEIS				0854.0	1341.0	1				IIIN
08	0408	1852	WEIS				0631.8	0632.0	1				IIIG
			WEIS				0636.3	0636.5	1				IIIB
			WEIS				1046.0	1046.2	1				IIIB
			WEIS				1104.2	1105.3	3				IIIGG
			WEIS				1106.9	1107.1	2				IIIB
			WEIS				1414.0	1418.6	3				IIIGG
			WEIS				1605.4	1605.9	3				IIIG
			WEIS				1607.1	1610.2	3				IIIG
			WEIS				1633.6	1636.5	3				IIIGG
			WEIS				1649.6	1650.5	1				IIIG
			WEIS				1729.4	1731.4	3				IIIGG
09	0514	0522	WEIS										
	0654	1306	WEIS				0656.2	0657.0	2				IIIGG
			WEIS				0700.6	0700.9	1				IIIG
			WEIS				0805.7	0807.2	3				IIIGG
			WEIS				0814.3	0815.8	3				IIIGG
			WEIS				0932.2	0932.3	1				IIIG
	1553	1848	WEIS										
10	0408	1853	WEIS				1328.5	1331.0	1				IIIG
11	0408	1453	WEIS				0659.7	0710.5	2				II
			WEIS				0727.2	0728.6	3				IIIG
			WEIS				0848.3	0852.2	2				IIIGG
			WEIS				1114.4	1114.7	1				IIIB
			WEIS				1407.1	1408.4	2				IIIG
	1526	1854	WEIS										
12	0408	1856	WEIS										
13	0410	1855	WEIS				0942.4	0942.6	1				IIIB
			WEIS				0948.6	0948.8	1				IIIB
			WEIS				1453.2	1454.1	2				IIIG
			WEIS				1626.7	1628.0	1				IIIG
14	0407	0742	WEIS				0645.6	0646.1	2				IIIB
	0748	1855	WEIS				1402.6	1406.2	2				IIIG
			WEIS				1459.4	1459.6	1				IIIB
15	0409	1856	WEIS				0916.3	0952.4	3				IIIGG
			WEIS				1846.0	1848.0	2				IIIG,U
16	0407	0933	WEIS				0619.4	0619.5	2				IIIB
			WEIS				0642.9	0648.7	2				IIIGG
22	0802	1243	WEIS				0806.0	1634.0	1				IIIN
			WEIS				0818.2	0819.0	1				IIIGG
			WEIS				1034.3	1035.0	3				IIIG
			WEIS				1101.1	1101.5	2				IIIG
			WEIS				1111.3	1115.1	3				IIIGG/V
	1254	1900	WEIS				1301.1	1301.5	2				IIIG
			WEIS				1408.8	1410.8	2				IIIG
			WEIS				1647.4	1655.6	3				IIIGG,U,RS
			WEIS				1811.7	1812.1	3				IIIG
23	0453	1859	WEIS				0629.0	1549.0	2				IIIN
			WEIS				0737.2	0740.5	3				IIIGG
			WEIS				0933.9	0936.7	3				IIIG
			WEIS				1014.4	1017.5	2				IIIG
			WEIS				1100.5	1101.4	3				F,IIIB

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Observation Day	Start (UT)	End (UT)	Sta	Decimetric Band Start (UT)	End (UT)	Int (1-3)	Metric Band Start (UT)	End (UT)	Int (1-3)	Dekametric Band Start (UT)	End (UT)	Int (1-3)	Spectral Type
23			WEIS				1422.8	1426.7	3				IIIG
24	0440	1919	WEIS				0452.6	0452.9	2				IIIG
			WEIS				0632.5	0634.7	3				IIIGG,U
			WEIS				0642.4	0642.6	1				IIIG
			WEIS				0700.3	0700.4	1				IIIB
			WEIS				0827.8	0829.8	3				IIIGG
			WEIS				1228.2	1229.5	3				IIIG
			WEIS				1417.7	1417.9	2				IIIG
			WEIS				1435.6	1444.1	2				II HB
			WEIS				1644.4	1646.1	3				IIIG
			WEIS				1649.0	1850.0	2				IIIN,Cont U
			WEIS				1714.4	1714.9	2				IIIG,U
			WEIS				1843.5	1844.4	3				
25	0745	0809	WEIS										
	0817	1852	WEIS				0931.0	1843.0	2				IIIN
			WEIS				1113.6	1118.5	3				IIIGG
			WEIS				1128.5	1129.6	1				II
			WEIS				1133.2	1137.4	1				II
			WEIS				1136.6	1136.7	1				IIIB
			WEIS				1350.6	1351.3	3				IIIG
			WEIS				1444.1	1444.3	2				IIIB
			WEIS				1800.3	1800.5	3				IIIB
26	0723	1908	WEIS				0738.0	1813.0	2				IIIN
			WEIS				0740.0	0744.0	3				IIIB
			WEIS				1112.0	1117.7	3				IIIGG,U
			WEIS				1426.7	1426.9	3				IIIB
			WEIS				1504.0	1705.0	2				I
			WEIS				1639.0	1639.2	2				IIIG
27	0448	1802	WEIS				1501.9	1502.1	1				IIIG
28	0359	1332	WEIS				0420.0	0421.0	1				IIIB
			WEIS				0543.3	0543.6	1				IIIG
			WEIS				0607.5	0612.0	3				IIIGG
			WEIS				0741.9	0742.0	1				IIIB
			WEIS				0754.0	0754.3	3				IIIG
			WEIS				0806.7	0806.9	1				IIIB
			WEIS				0810.9	0811.4	1				IIIG
			WEIS				0842.4	0842.7	1				IIIG
			WEIS				0905.2	0905.7	1				IIIG,U
			WEIS				0928.3	0928.9	2				IIIG
			WEIS				0939.2	0939.4	1				IIIG
			WEIS				0955.2	1003.0	3				IIIGG/V
			WEIS				1005.7	1018.6	2				II H,HB
			WEIS				1047.3	1048.0	1				IIIG
			WEIS				1056.4	1056.9	2				IIIG,RS
			WEIS				1059.0	1100.3	1				IIIG
			WEIS				1122.2	1122.5	3				IIIB
			WEIS				1148.0	1201.0	1				IN,DC
			WEIS				1209.8	1216.3	3				IIIGG
			WEIS				1225.5	1225.7	1				IIIG
			WEIS				1228.0	1228.3	2				IIIG
			WEIS				1237.3	1240.0	3				IIIG
			WEIS				1307.7	1309.2	3				IIIG
			WEIS				1312.3	1312.5	1				IIIB
	1405	1907	WEIS				1407.1	1408.1	2				IIIG
			WEIS				1630.0	1632.1	3				IIIG
			WEIS				1653.5	1654.3	1				IIIG
			WEIS				1657.5	1657.6	1				IIIB
			WEIS				1820.2	1821.3	3				IIIGG
			WEIS				1827.7	1827.8	1				IIIB
29	0500	0656	WEIS				0519.0	1833.0	2				IIIN
	0711	1857	WEIS				0546.0	1800.0	2				IN,DC

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29		WEIS				0729.2	0729.3	3				IIIB
		WEIS	0734.1	0743.0	2							DCIM
		WEIS	0735.2	0736.7	2							IIIG
		WEIS				0738.3	0757.0	3				II H,HB
		WEIS	0741.4	0826.0	3							IV DM
		WEIS				0801.0	0838.0	3				IV M
		WEIS				0840.5	0840.9	3				IIIG
		WEIS				0857.7	0858.0	3				IIIB
		WEIS				0928.8	0929.1	3				IIIG
		WEIS				0948.1	0948.3	3				IIIB
		WEIS				1025.3	1035.4	3				IIIGG
		WEIS				1128.1	1129.0	3				IIIG
		WEIS				1213.7	1214.5	3				IIIG
		WEIS	1245.5	1246.2	3							IIIG
		WEIS				1338.3	1338.7	2				IIIG,U
		WEIS				1416.2	1424.4	3				IIIG
		WEIS				1510.1	1510.7	3				IIIG
		WEIS				1514.4	1514.6	3				IIIG
		WEIS				1521.4	1521.9	2				IIIG
		WEIS				1615.2	1615.7	2				IIIG
		WEIS				1750.1	1756.9	3				IIIGG
		WEIS				1814.0	1814.3	2				IIIG
30	0456 1334	WEIS				0457.0	1226.0	1				IIIN
		WEIS				0555.6	0555.8	3				IIIG
		WEIS				0601.4	0602.0	3				IIIG
		WEIS				0837.8	0843.2	3				IIIGG
		WEIS	0903.0	0907.6	3							IIIGG,V
		WEIS				0907.8	0911.1	2				P
		WEIS				0908.1	0924.0	3				II H,HB
		WEIS				0915.3	0917.9	3				IIIG
		WEIS	0920.6	0921.8	3							IIIGG,RS
		WEIS	0927.2	0930.0	3							IIIGG
		WEIS				1003.1	1003.3	3				IIIG
		WEIS	1303.0	1305.8	3							IIIGG

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

WORLD DATA CENTER A
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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."