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Solar - Geophysical Data

NO. 458 OCTOBER 1982

Part I (Prompt Reports)

DATA FOR
SEPTEMBER 1982
AUGUST 1982

NATIONAL GEOPHYSICAL DATA CENTER
BOULDER, COLORADO

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SOLAR-GEOPHYSICAL DATA

No. 458

Issued in two parts

Helen E. Coffey, Editor

Joe H. Allen, Chief
Solar-Terrestrial Physics Division

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Notes:

"447A 54" listed under 1981 Sep means that the sunspot drawings for Sep 1981 were contained in Solar-Geophysical Data Number 447 - Part I, beginning on page 54.

A = Part I, B = Part II.

----- = no data available.
blank = data not yet received.

SEPTEMBER 1982 DATA

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ALERT PERIODS

INTERNATIONAL URSIGRAM
AND WORLD DAYS SERVICE

SEPTEMBER 1982

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions: Location Lat-Long	Flares: Total	Flares: M	Flares: X	Outstanding events	Forecasts: Date	Forecasts: Location Lat-Long	Forecasts: Desc*	Alert Situations
244	01	31	176	177	013	N24W94	3	0	0		01	N24W94	E	SOLQUIET
						N15W83	0	0	0			N15W83	E	MAGQUIET
						N09W55	2	0	0			N09W55	Q	
						N07W37	0	0	0			N07W37	Q	
						N07W18	0	0	0			N07W18	Q	
						S15E09	1	0	0			S15E09	Q	
						N11E14	1	0	0			N11E14	E	
						S03E38	0	0	0			S03E38	E	
						S20E38	1	0	0			S20E38	Q	
						N11E62	1	0	0			N11E62	Q	
						N14E83	0	0	0			N14E83	Q	
245	02	01	167	182	010	N15W94	0	0	0		02	N15W94	Q	SOLALERT MINOR 02/XX
						N08W68	2	0	0			N08W68	Q	MAGALERT MINOR 04
						N07W50	0	0	0			N07W50	Q	
						N05W21	0	0	0			N05W21	Q	
						S15W04	0	0	0			S15W04	Q	
						N10E00	1	0	0			N10E00	E	
						S04E25	3	0	0			S04E25	Q	
						S20E26	1	0	0			S20E26	E	
						N11E48	0	0	0			N11E48	Q	
						N14E67	3	1	0			N14E67	E	
246	03	02	173	169	016	N09W83	2	0	0		03	N09W83	Q	SOLALERT MINOR 03/04
						N08W65	0	0	0			N08W65	Q	MAGNIL
						N06W35	0	0	0			N06W35	Q	
						S15W18	0	0	0			S15W18	Q	
						N13W14	0	0	0			N13W14	Q	
						S04E12	2	0	0			S04E12	Q	
						S20E12	5	0	0			S20E12	E	
						N10E35	0	0	0			N10E35	Q	
						N14E53	8	0	0			N14E53	A	
247	04	03	209	173	022	N08W76	0	0	0	Presto Soflare	04	N08W76	Q	SOLALERT 04/XX
						N07W49	4	0	0	M6/2B N13E40		N07W49	Q	MAGQUIET
						S14W34	0	0	0	03/2344Z Duration		S14W34	Q	
						N17W29	0	0	0	120 Minutes		N17W29	Q	
						N10W27	0	0	0			N10W27	Q	
						N27W12	0	0	0			N27W12	Q	
						S03W02	0	0	0			S03W02	Q	
						S20W01	3	0	0			S20W01	E	
						N11E22	1	0	0			N11E22	Q	
						N14E40	4	0	0			N14E40	E	
						S09E67	0	0	0			S09E67	Q	
						N07E80	0	0	0			N07E80	Q	
248	05	04	250	188	028	S13W76	0	0	0		05	S13W76	Q	SOLALERT 05/XX
						N06W63	4	0	0			N06W63	E	MAGALERT 07/08 FLARE
						S15W47	0	0	0			S15W47	Q	
						N16W42	0	0	0			N16W42	Q	
						N09W40	0	0	0			N09W40	Q	
						N26W26	0	0	0			N26W26	Q	
						S03W16	0	0	0			S03W16	Q	
						S21W15	7	0	0			S21W15	E	
						N25W03	0	0	0			N25W03	Q	
						N10E09	1	0	0			N10E09	Q	
						N14E26	5	2	0			N14E26	A	
						S10E54	0	0	0			S10E54	Q	
						N05E67	1	0	0			N05E67	Q	
						N16E76	0	0	0			N16E76	Q	
249	06	05	240	177	028	N06W74	2	0	0	Presto Proton	06	N06E74	E	SOLALERT 06/XX
						S15W60	2	0	0	event began		S15W60	Q	MAGALET MINOR 06/07
						N16W56	2	0	0	05/2205Z 10 Protons		N16W56	Q	
						N09W55	0	0	0	SSC 51 Gamma		N09W55	Q	
						N26W39	0	0	0	05/2251Z		N26W39	Q	
						S03W33	0	0	0			S03W33	Q	
						S20W28	4	0	0			S20W28	E	
						N10W04	0	0	0			N10E04	E	
						S09E11	0	0	0			S09E11	Q	
						N14E14	3	0	0			N14E14	A	
						S09E41	0	0	0			S09E41	Q	
						N06E54	0	0	0			N06E54	Q	
						N17E63	0	0	0			N17E63	Q	
						S09E74	0	0	0			S09E74	Q	
250	07	06	211	169	140	N06W90	1	0	0	Presto Soflare	07	N06W90	E	SOLALERT 07/08
						S15W73	0	0	0	M2/2B N14E12		S15W73	Q	MAGALERT 07
						N16W69	0	0	0	06/0145Z Duration		N16W69	Q	
						N25W49	0	0	0	29 Minutes.Tenflare		N25W49	Q	
						S02W49	0	0	0	300 Flux Units		S02W49	Q	
						S20W43	3	0	0	06/0149Z Duration		S20W43	E	
						N19W19	0	0	0	11 Minutes. Strong		N19W19	Q	
						N11W17	0	0	0	Magstorm in .		N11W17	E	
						N13W01	5	1	0	Progress 06/0000Z.		N13W01	A	
						S09E27	0	0	0			S09E27	Q	
						N06E41	0	0	0			N06E41	Q	
						N16E50	0	0	0			N16E50	Q	
						S10E60	2	0	0			S10E60	E	

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SEPTEMBER 1982

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions: Location Lat-Long	Flares: No. of Total	Flares: M	Flares: X	Outstanding events	Forecasts: Date	Forecasts: Location Lat-Long	Forecasts: Desc*	Alert Situations
251	08	07	204	174	048	S14W88	0	0	0		08	S14W88	Q	SOLNIL
						N25W68	2	0	0			N25W68	Q	MAGNIL
						S01W64	0	0	0			S01W64	Q	
						S20W58	2	0	0			S20W58	E	
						N20W34	2	0	0			N20W34	Q	
						N11W32	5	0	0			N11W32	Q	
						N14W14	1	0	0			N14W14	Q	
						N21W06	0	0	0			N21W06	Q	
						S09E13	0	0	0			S09E13	Q	
						N05E28	0	0	0			N05E28	Q	
						S10E48	3	0	0			S10E48	E	
252	09	08	173	176	009	N26W82	2	0	0		09	N26W82	E	SOLQUIET
						S01W77	0	0	0			S01W77	Q	MAGQUIET
						S20W71	1	0	0			S20W71	E	
						N20W46	5	0	0			N20W46	E	
						N11W45	2	0	0			N11W45	E	
						N14W27	4	0	0			N14W27	E	
						S09W02	0	0	0			S09W02	Q	
						S11E08	0	0	0			S11E08	Q	
						N05E14	0	0	0			N05E14	Q	
						S10E35	4	0	0			S10E35	E	
253	10	09	117	177	034	S20W84	1	0	0	Presto Strong SSC	10	S20W84	E	SOLQUIET
						N11W59	9	0	0	Observed 09/0105Z		N11W59	E	MAGQUIET
						S15W53	0	0	0			S15W53	Q	
						N14W41	0	0	0			N14W41	E	
						S11W05	0	0	0			S11W05	Q	
						N05E01	0	0	0			N05E01	Q	
						S10E21	3	0	0			S10E21	A	
						S12E77	4	0	0			S12E77	Q	
254	11	10	123	163	012	N09W72	1	0	0		11	N09W72	E	SOLALERT 11/12
						N11W55	0	0	0			N11W55	E	MAGQUIET
						S11W18	0	0	0			S11W18	Q	
						N06W13	0	0	0			N06W13	Q	
						N10W06	0	0	0			N10W06	Q	
						S10E07	2	0	0			S10E07	E	
						S21E14	0	0	0			S21E14	Q	
						S12E66	5	0	0			S12E66	Q	
255	12	11	119	119	012	N11W86	1	0	0		12	N11W86	E	SOLNIL
						N12W68	0	0	0			N12W68	Q	MAGALERT 12/XX
						S13W29	0	0	0			S13W29	Q	
						N05W26	0	0	0			N05W26	Q	
						S10W05	0	0	0			S10W05	E	
						S21E01	9	0	0			S21E01	E	
						S12E52	4	0	0			S12E52	E	
256	13	12	126	152	013	N12W88	0	0	0		13	N12W88	Q	SOLQUIET
						S12W45	0	0	0			S12W45	Q	MAGNIL
						N05W40	0	0	0			N05W40	Q	
						S08W28	0	0	0			S08W28	Q	
						S10W19	3	0	0			S10W19	E	
						S22W11	2	0	0			S22W11	E	
						S12E39	0	0	0			S12E39	E	
						S13E73	1	0	0			S13E73	Q	
257	14	13	160	149	016	S13W59	1	0	0		14	S13W59	Q	SOLQUIET
						N05W54	0	0	0			N05W54	Q	MAGQUIET
						S10W32	3	0	0			S10W32	E	
						S22W25	0	0	0			S22W25	E	
						S13E26	1	0	0			S13E26	Q	
						N02E57	0	0	0			N02E57	Q	
						S16E61	3	0	0			S16E61	Q	
						S09E82	1	0	0			S09E82	Q	
						N19E86	0	0	0			N19E86	Q	
258	15	14	149	146	012	S13W75	0	0	0		15	S13W75	Q	SOLQUIET
						N05W67	0	0	0			N05W67	Q	MAGQUIET
						S10W45	1	0	0			S10W45	Q	
						S23W38	1	0	0			S23W38	Q	
						S13E13	0	0	0			S13E13	Q	
						N02E43	3	0	0			N02E43	Q	
						S15E44	1	0	0			S15E44	Q	
						S10E66	0	0	0			S10E66	Q	
						N18E72	2	0	0			N18E72	Q	
259	16	15	161	149	013	N04W81	0	0	0	Presto Soflare	16	N04W81	Q	SOLQUIET
						S10W59	0	0	0	M2/2B N17E60		S10W59	Q	MAGQUIET
						S22W51	0	0	0	15/1816Z Duration		S22W51	Q	
						N17W07	0	0	0	22 Minutes.Tenflare		N17W07	Q	
						S13E01	2	0	0	190 Flux Units		S13E01	Q	
						N01E30	0	0	0	15/1822Z Duration		N01E30	Q	
						S16E31	2	0	0	5 Minutes.		S16E31	Q	
						S10E54	0	0	0			S10E54	Q	
						N18E60	6	1	0			N18E60	E	
						N14E73	0	0	0			N14E73	Q	
260	17	16	181	146	011	S10W75	0	0	0		17	S10W75	Q	SOLQUIET
						S23W68	0	0	0			S23W68	Q	MAGQUIET

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SEPTEMBER 1982

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions: Location Lat-Long	No. of Flares: Total	M	X	Outstanding events	Forecasts: Date	Location Lat-Long	Desc*	Alert Situations
						N08W28	0	0	0			N08W28	Q	
						N18W20	0	0	0			N18W20	Q	
						S13W14	0	0	0			S13W14	Q	
						N02E16	0	0	0			N02E16	Q	
						S16E16	2	0	0			S16E16	Q	
						S10E40	0	0	0			S10E40	Q	
						N19E47	1	0	0			N19E47	E	
						N14E60	1	0	0			N14E60	Q	
261	18	17	205	150	012	S10W85	0	0	0		18	S10W85	Q	SOLQUIET
						S23W81	0	0	0			S23W81	Q	MAGQUIET
						N17W33	0	0	0			N17W33	Q	
						S14W31	0	0	0			S14W31	Q	
						N02E04	0	0	0			N02E04	Q	
						S16E05	1	0	0			S16E05	Q	
						S11E28	0	0	0			S11E28	Q	
						N20E33	1	0	0			N20E33	E	
						N14E47	1	0	0			N14E47	Q	
262	19	18	131	142	018	N17W47	0	0	0		19	N17W47	Q	SOLQUIET
						N01W11	1	0	0			N01W11	Q	MAGQUIET
						S16W11	1	0	0			S16W11	Q	
						S10E13	1	0	0			S10E13	Q	
						N19E21	5	0	0			N19E21	Q	
						N14E34	1	0	0			N14E34	Q	
263	20	19	156	137	018	N16W60	0	0	0	Presto Soflare	20	N16W60	Q	SOLQUIET
						S16W26	2	0	0	C9/2B S16E03		S16W26	Q	MAGQUIET
						N02W24	0	0	0	19/1546Z Duration		N02W24	Q	
						S11E00	4	0	0	200 Minutes.Tenflare		S11E00	Q	
						N19E07	0	0	0	140 Flux Units		N19E07	Q	
						S10E22	0	0	0	19/1505Z Duration		S10E22	Q	
						N15E23	6	0	0	20 Minutes.		N15E23	Q	
						S08E33	0	0	0			S08E33	Q	
264	21	20	167	146	017	N18W71	0	0	0		21	N18W71	Q	SOLQUIET
						S17W37	0	0	0			S17W37	Q	MAGALERT MINOR 21/22
						S12W12	3	0	0			S12W12	E	
						N19W05	1	0	0			N19W05	Q	
						S09E03	0	0	0			S09E03	Q	
						N14E09	1	0	0			N14E09	E	
						N16E14	0	0	0			N16E14	Q	
						S08E20	0	0	0			S08E20	Q	
265	22	21	154	144	044	S16W52	0	0	0	Presto 21/0630Z	22	S16W52	Q	SOLQUIET
						S12W25	0	0	0	Magstorm 21/0340Z		S12W25	E	MAGALERT MINOR 22
						N19W19	1	0	0			N19W19	E	
						N13W07	2	0	0			N13W07	Q	
						N16E02	0	0	0			N16E02	Q	
						S08E06	0	0	0			S08E06	Q	
						N18E11	0	0	0			N18E11	Q	
266	23	22	151	145	073	S15W66	0	0	0	Presto Strong	23	S15W66	Q	SOLQUIET
						S11W39	4	0	0	Magstorm in progress		S11W39	Q	MAGALERT MINOR 23
						N20W32	2	0	0	22/0631Z		N20W32	Q	
						N13W19	7	0	0			N13W19	Q	
						N16W13	0	0	0			N16W13	Q	
						S08W08	1	0	0			S08W08	Q	
						S18E56	0	0	0			S18E56	Q	
						N14E77	0	0	0			N14E77	Q	
267	24	23	151	152	021	S15W80	0	0	0		24	S15W80	Q	SOLQUIET
						S13W52	0	0	0			S13W52	Q	MAGNIL
						N19W46	1	0	0			N19W46	Q	
						N14W31	2	0	0			N14W31	Q	
						S09W22	0	0	0			S09W22	Q	
						N17E08	0	0	0			N17E08	Q	
						S19E45	0	0	0			S19E45	Q	
						S10E63	1	0	0			S10E63	Q	
						N14E64	1	0	0			N14E64	Q	
268	25	24	191	166	015	S13W67	1	0	0		25	S13W67	Q	SOLQUIET
						N19W60	2	0	0			N19W60	Q	MAGQUIET
						N15W44	1	0	0			N15W44	E	
						S09W35	1	0	0			S09W35	Q	
						N16W29	0	0	0			N16W29	Q	
						S06W21	0	0	0			S06W21	Q	
						N17W07	0	0	0			N17W07	Q	
						S18E30	0	0	0			S18E30	Q	
						S08E49	5	0	0			S08E49	Q	
						N15E51	0	0	0			N15E51	Q	
						N15E70	0	0	0			N15E70	E	
						S20E73	0	0	0			S20E73	Q	
						S02E80	0	0	0			S02E80	Q	
269	26	25	176	170	010	S12W83	0	0	0		26	S12W83	Q	SOLQUIET
						N20W72	1	0	0			N20W72	Q	MAGQUIET
						N14W60	0	0	0			N14W60	Q	
						S10W48	0	0	0			S10W48	Q	
						S06W35	0	0	0			S06W35	Q	

INTERNATIONAL URSIGRAM
AND WORLD DAYS SERVICE

SEPTEMBER 1982

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions				Outstanding events	Forecasts			Alert Situations
						Location Lat-Long	No. of Flares Total	M	X		Date	Location Lat-Long	Desc*	
						S18E16	0	0	0			S18E16	Q	
						N17E37	0	0	0			N17E37	Q	
						S09E38	1	0	0			S09E38	Q	
						N14E56	3	0	0			N14E56	Q	
						S20E61	0	0	0			S20E61	Q	
						S03E68	1	0	0			S03E68	Q	
						S19E73	0	0	0			S19E73	Q	
270	27	26	223	186	040	N16W87	2	0	0		27	N16W87	Q	SOLALERT PIANO 27/XX
						N14W78	0	0	0			N14W78	Q	MAGALERT 27
						S10W62	0	0	0			S10W62	Q	
						S06W47	0	0	0			S06W47	Q	
						S11W23	0	0	0			S11W23	Q	
						S18E04	0	0	0			S18E04	Q	
						S11E25	3	0	0			S11E25	Q	
						N15E27	7	1	0			N15E27	A	
						N14E43	5	0	0			N14E43	E	
						S21E45	0	0	0			S21E45	Q	
						S03E55	1	0	0			S03E55	E	
						S19E58	0	0	0			S19E58	Q	
						N10E67	0	0	0			N10E67	Q	
271	28	27	191	191	036	S06W60	0	0	0		28	S06W60	Q	SOLALERT
						S10W36	1	0	0			S10W36	Q	MAGNIL
						S17W09	0	0	0			S17W09	Q	
						S11E11	3	0	0			S11E11	E	
						N16E14	2	0	0			N16E14	E	
						N15E29	5	0	0			N15E29	E	
						S20E32	0	0	0			S20E32	Q	
						S02E43	1	0	0			S02E43	Q	
						S18E46	1	0	0			S18E46	Q	
						N10E52	1	0	0			N10E52	Q	
272	29	28	204	196	018	S17W24	1	0	0		29	S17W24	Q	SOLNIL
						S11W03	2	0	0			S11W03	E	MAGQUIET
						N16E01	1	0	0			N16E01	E	
						N14E17	5	0	0			N14E17	E	
						N28E19	0	0	0			N28E19	Q	
						S20E26	0	0	0			S20E26	Q	
						S03E30	1	0	0			S03E30	Q	
						S09E39	0	0	0			S09E39	Q	
273	30	29	234	204	012	S18W39	1	0	0	Presto Tenflare	30	S18W39	Q	SOLALERT 30
						S09W22	1	0	0	160 Flux Units		S09W22	Q	MAGQUIET
						S10W14	8	0	0	28/2331Z Duration		S10W14	E	
						N17W12	0	0	0	1 minute		N17W12	E	
						N14E03	8	0	0			N14E03	E	
						N28E05	0	0	0			N28E05	Q	
						S18E13	1	0	0			S18E13	Q	
						S02E15	1	0	0			S02E15	Q	
274	01	30	183	202	012	S18W52	1	0	0	Presto Tenflare	01	S18W52	Q	SOLALERT 01/03
						S10W36	0	0	0	210 Flux Units		S10W36	Q	MAGALERT MINOR 01/03
						N15W26	2	0	0	30/0134Z Duration		N15W26	E	
						S12W26	5	0	0	16 Minutes. Soflare		S12W26	E	
						N14W11	10	1	0	M3/1B N16E06		N14W11	A	
						S19W00	1	0	0	30/0132Z Duration		S19W00	Q	
						S02E01	1	0	0	46 Minutes.		S02E01	Q	

A=Active C=Caution D=Doubtful E=Eruptive MF=Major Flare OG=Other Groups P=Proton Q=Quiet

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS)

04 SEPTEMBER 1982 BOULDER 04/0145Z SOFLARE M6/2B N13E40 03/2344Z DURATION 120 MINUTES
05 SEPTEMBER 1982 BOULDER 05/2323Z PROTON EVENT BEGAN AT 05/2205Z 23 PROTONS CM2/SEC/STER AT GREATER THAN 10 MEV
06 SEPTEMBER 1982 BOULDER 06/0224Z SOFLARE M2/2B N14E12 06/0145Z DURATION 29 MINUTES
06 SEPTEMBER 1982 BOULDER 06/0224Z TENFLARE 300 FLUX UNITS 06/0149Z DURATION 11 MINUTES
06 SEPTEMBER 1982 TOYOKAWA 06/0225Z TENFLARE 500 FLUX UNITS 06/0148Z DURATION 10 MINUTES
06 SEPTEMBER 1982 BOULDER 06/0344Z STRONG MAGSTORM IN PROGRESS 06/0000Z
09 SEPTEMBER 1982 SYDNEY 09/0150Z STRONG SSC OBSERVED 09/0105Z
15 SEPTEMBER 1982 BOULDER 15/1920Z SOFLARE M2/2B N17E60 15/1816Z DURATION 22 MINUTES
15 SEPTEMBER 1982 BOULDER 15/1920Z TENFLARE 190 FLUX UNITS 15/1816Z DURATION 5 MINUTES
19 SEPTEMBER 1982 BOULDER 19/1801Z SOFLARE C9/2B S16E03 19/1546Z DURATION 200 MINUTES
19 SEPTEMBER 1982 BOULDER 19/2300Z TENFLARE 140 FLUX UNITS 19/1505Z DURATION 20 MINUTES
21 SEPTEMBER 1982 KAKIOKA 21/0630Z MAGSTORM 21/0340Z
22 SEPTEMBER 1982 BOULDER 22/1320Z STRONG MAGSTORM IN PROGRESS 22/0631Z
29 SEPTEMBER 1982 TOYOKAWA 29/0100Z TENFLARE 160 FLUX UNITS 28/2331Z DURATION 1 MINUTE
30 SEPTEMBER 1982 TOYOKAWA 30/0208Z TENFLARE 210 FLUX UNITS 30/0134Z DURATION 16 MINUTES
30 SEPTEMBER 1982 BOULDER 30/0200Z SOFLARE M3/1B N16E06 30/0132Z DURATION 46 MINUTES

RELATIVE SUNSPOT NUMBERS

INTERNATIONAL, R_I

	1981 FINAL			1982 FINAL			1982 PROVISIONAL					
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	216	165	193	92	258	168	145	63	70	50	55	115
2	206	222	197	94	241	174	115	57	83	41	68	124
3	219	218	212	112	232	175	151	46	94	33	68	146
4	189	221	212	109	221	177	137	58	104	42	81	176
5	195	233	219	112	219	163	112	63	111	50	97	160
6	169	199	234	86	230	165	117	64	108	32	128	141
7	171	192	244	94	226	146	130	69	115	33	144	117
8	185	184	249	97	232	140	131	89	127	49	150	115
9	177	134	258	98	211	116	132	47	142	61	161	100
10	144	147	253	85	181	122	138	53	147	110	155	81
11	131	146	263	46	158	119	152	58	138	146	157	86
12	123	160	240	52	156	135	142	75	144	177	138	78
13	171	158	185	51	162	155	148	78	139	219	113	81
14	187	178	159	58	142	153	136	58	137	222	100	104
15	212	139	113	81	134	140	127	52	125	234	100	129
16	223	126	66	76	111	156	122	69	128	263	86	133
17	219	103	80	111	120	180	108	76	136	272	93	127
18	210	108	79	139	103	168	91	89	134	220	105	107
19	189	90	74	143	107	167	87	110	134	200	91	117
20	183	82	57	134	119	160	93	112	139	180	77	104
21	145	82	65	134	120	153	91	98	143	129	79	102
22	145	73	75	121	100	146	109	121	146	99	90	95
23	118	65	86	93	97	144	138	107	116	74	71	97
24	109	59	68	70	120	122	145	110	112	27	79	109
25	101	60	62	82	128	152	149	88	92	25	101	118
26	92	60	100	119	136	147	150	117	94	37	98	138
27	75	77	104	125	154	182	126	130	49	22	104	133
28	92	130	136	168	163	179	90	108	36	19	120	140
29	131	148	132	216		169	85	102	32	23	132	144
30	152	165	112	211		162	75	66	38	38	134	160
31	156		126	237		132		89		54	109	
MEAN	162.4	137.5	150.1	111.2	163.6	153.8	122.5	81.4	110.4	102.6	105.9	119.2

1981 Yearly Mean = 140.4
Zurich R_Z sunspot number replaced by international R_I sunspot number beginning with January 1981 data.
Errata to SGD, 456 Part I, page 8, August issue: mean R_I should be 102.6 and not 026.

DAILY SOLAR FLUX AT 2800 MHz
OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S_a

	1981			1982								
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	210.6*	222.5*	230.7*	179.9	284.8*	231.3	172.2*	151.7	134.2	106.5	123.4	184.3*
2	204.8*	241.3*	230.3*	177.2	279.7*	228.3	172.0*	147.4	135.1	106.9	138.2*	168.7*
3	196.5	255.3*	238.6	176.1	272.9*	230.1	169.9	147.7	141.5	109.4	153.5*	171.0*
4	191.1	263.1	241.7	170.4	252.8*	238.3*	158.2	144.7	158.2*	111.5	167.3	188.1*
5	193.6*	254.1	260.0	165.5	245.2	245.4*	159.9*	148.7	156.6*	114.1	180.9	179.4
6	200.3	244.6	262.1	166.8	245.2	230.0*	165.2	153.0	149.6*	121.3	201.2	172.1
7	204.1*	241.4	275.6*	166.9*	239.9	228.3	164.0*	151.0	158.6*	128.2*	219.6	176.8
8	200.7*	234.7*	287.8	156.9	245.1*	207.1*	162.1*	150.8	167.3	150.3*	217.5*	178.5
9	205.4*	232.6	292.4*	164.4	231.7	192.2	167.3*	139.8	177.4	176.6*	212.5	179.2
10	213.4	231.0*	278.7	145.7	213.7	178.9*	177.1*	130.7	196.0*	203.5*	209.5	165.6
11	220.0	217.0	266.7*	136.3	211.1*	178.2	178.7*	132.3	224.2	226.4*	205.0*	158.3
12	236.8*	223.5	254.2*	132.4	204.0*	181.2	177.5*	132.3	238.3*	239.7*	195.2*	152.5*
13	256.2	215.9	218.9	127.5	194.9*	185.5	170.9	129.8	240.2	252.6*	182.9*	151.3
14	275.6	207.4	193.0	130.5	185.3	201.3	157.9	132.2	240.8	269.2*	176.8	147.4
15	287.1	191.2	172.6	136.3	180.3	207.6*	152.2	132.1	235.8	274.0	173.0	149.0*
16	302.4	181.2	157.4	146.7	170.5	227.7	148.2	139.0	210.6*	269.4*	161.4	147.3
17	302.9	172.7	144.2	152.6	162.5	230.4	145.9*	142.2*	206.0*	273.3	165.1	147.0*
18	296.5*	160.8*	136.3*	167.6	165.7	226.8	147.0	146.8	200.7*	247.2*	166.4*	143.2
19	278.6	157.0	129.7	169.4	170.9*	219.7*	145.1	155.9	207.5	234.7	159.2	142.6*
20	257.8*	152.0	133.9	167.0	171.3	217.0	144.2	155.6*	207.1	196.5	144.7	146.9
21	238.2	153.9	142.2	163.3	165.2	212.4	145.2	165.4*	210.7	173.7*	138.6	145.4
22	218.6	152.7	145.9	152.9	163.7	213.7	156.9*	158.8	197.2*	149.5*	138.8	146.2
23	208.2	151.9	153.0	148.0	173.1	202.4	175.2	155.7*	187.3	128.5	141.2	152.6*
24	201.1	150.4	156.1*	149.1	185.9*	189.0	181.0	144.8*	168.2	117.8	142.9	165.4*
25	186.0	159.1	162.1	169.3*	184.1	189.9	182.6*	145.7	159.1*	108.2	158.5	170.3
26	172.0	178.3*	166.2	182.7*	204.0	192.8*	178.3	158.0	142.3	102.1	166.4	187.3
27	171.2	190.3	176.8	197.2	222.1	195.4*	167.3	171.5*	127.6	97.8	180.4	191.4
28	182.4	206.4*	183.0	234.7	224.0	200.6	161.0*	171.3*	123.1	96.4	181.4	196.9
29	187.5	226.5*	183.6	267.0	.	198.0	155.6	170.9*	111.7	97.5	183.4	204.6
30	201.5	231.6	185.7	284.5	.	194.5*	149.8*	142.8	108.5	112.4	174.5	202.4
31	207.1	.	182.8	289.1	.	184.1	.	136.7	.	114.4	175.0*	.
MEAN	222.8	203.3	201.4	173.4	208.9	208.3	162.9	147.9	177.4	164.8	172.1	167.1

* adjusted for burst
A = interpolated data point

DAILY SOLAR INDICES

SEPTEMBER 1982

DAY OF MONTH	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	PROVISIONAL SUNSPOT NUMBERS		OBSERVED FLUX	SOLAR FLUX ADJUSTED TO 1 A.U.								
			R_I	$R_{A'}$	OTTAWA 2800	AFGL 15400	AFGL 8800	AFGL 4995	OTTAWA 2800	AFGL 2695	AFGL 1415	AFGL 606	AFGL 410	AFGL 245
1	244	21	115	121	181.0*	592	311	215	184.3*	174	166	115	46	24
2	245	22	124	136	165.7*	585	294	196	168.7*	142	152	102	40	17
3	246	23	146	161	168.1*	586	292	187	171.0*	162	147	112	41	16
4	247	24	176	166	185.0*	588	291	209	188.1*	208	165	116	43	20
5	248	25	160	159	176.6	577	289	195	179.4	159	159	110	42	18
6	249	26	141	144	169.4		292	184	172.1	143	150	108	40	17
7	250	27	117	119	174.2		307	188	176.8	149	153	108	43	17
8	251	1	115	116	175.9		301	220	178.5	165	158	115	41	19
9	252	2	100	91	176.7		299	191	179.2	176	159	119	43	21
10	253	3	81	83	163.3	585	280	176	165.6	118	146	106	42	17
11	254	4	86	85	156.3	574	281	174	158.3	140	146	105	40	13
12	255	5	78	80	150.5*				152.5*					
13	256	6	81	89	149.4	565			151.3			93	39	20
14	257	7	104	104	145.5				147.4					
15	258	8	129	130	147.4*	553	290	168	149.0*	160	123			
16	259	9	133	130	145.7	562	280	169	147.3	146	135			
17	260	10	127	126	145.5*	581	277	166	147.0*	142	144			
18	261	11	107	111	141.9	575	273	176	143.2	156	130	94	38	16
19	262	12	117	106	141.3*	598	306	188	142.6*	155	153	116	55	93
20	263	13	104	104	145.7	548	275	171	146.9	140	130	93	40	16
21	264	14	102	92	144.2		278	169	145.4	130	132	91	37	13
22	265	15	95	96	145.2	562	275	169	146.2	146	135	90	37	6
23	266	16	97	100	151.5*	566	287	180	152.6*	149	141	88	35	16
24	267	17	109	112	164.4*				165.4*					
25	268	18	118	115	169.5	568	293	183	170.3	167	150	106	41	14
26	269	19	138	130	186.4		309	210	187.3	181	160	107	42	15
27	270	20	133	132	190.6	555	298	203	191.4	182	176	105	54	30
28	271	21	140	138	196.1				196.9					
29	272	22	144	149	204.0	576	301	219	204.6	193	177	123	60	47
30	273	23	160	155	201.8	573	302	220	202.4	202	181	123	49	25
MEAN			119.2	119.3	165.3	573	291	189	167.1	159	151	106	42	22

*Adjusted for burst.
Data gaps in AFGL Sagamore Hill data are due to equipment problems.
Errata to SGD, 456 Part I, page 9, August issue: mean R sub I should be 102.6 and not 026;
mean R sub A prime should be 105.1 and not 051.

OBSERVED AND PREDICTED SOLAR ACTIVITY INDICES

	SUNSPOT NUMBERS						2800 MHz FLUX Adjusted to 1 AU	
	Rz or R_I		Ra		Rs		Sa	
Date	Monthly Mean	Smoothed	Monthly Mean	Smoothed	Monthly Mean	Smoothed	Monthly Mean	Smoothed
Oct 79	186.2	158	178.2	144	171.7	145	216.4	192
Nov	183.3	162	176.5	149	182.9	149	226.8	196
Dec	176.3	164	157.6	152	151.0	152	197.2	199
Jan 80	159.6	164	145.3	153	153.6	154	199.6	200
Feb	155.0	163	133.9	154	148.7	155	195.1	200
Mar	126.2	161	107.9	153	117.8	153	166.5	200
Apr	164.1	159	138.5	151	164.0	152	209.3	198
May	179.7	156	172.3	149	185.4	151	229.1	197
Jun	157.3	155	153.6	149	153.2	151	199.3	198
Jul	136.3	153	136.0	144	144.1	151	190.8	197
Aug	135.4	150	133.0	144	121.9	150	170.3	196
Sep	155.0	150	150.0	146	138.8	152	185.9	198
Oct	164.7	150	160.8	149	157.1	154	202.9	200
Nov	147.9	148	149.9	149	168.5	153	213.4	199
Dec	174.4	143	167.5	145	174.3	150	218.8	196
Jan 81	114.0	140	115.4	144	120.5	149	169.0	195
Feb	141.3	142	143.7	146	153.5	152	199.5	198
Mar	135.5	143	149.2	149	157.5	156	203.2	202
Apr	156.4	143	169.2	149	180.7	158	224.7	204
May	127.5	143	141.3	149	152.8	159	198.9	204
Jun	90.9	142	99.0	147	112.9	158	161.9	203
Jul	143.8	140	154.3	146	152.1	157	198.2	203
Aug	158.7	141	170.4	147	182.1	158	226.0	203
Sep	167.3	143	174.5	148	177.7	158	221.9	204
Oct	162.4	142*	157.0	146	178.6	156	222.8	202
Nov	137.5	139*	138.8	142	157.6	151	203.3	197
Dec	150.1	138*	145.0	140	155.5	149	201.4	195
Jan 82	111.2	137*	110.4	139	124.2	148	173.4	195
Feb	163.6	133*	161.0	134	163.6	144	208.9	191
Mar	153.8	129*	155.5	131	163.0	139	208.3	186
Apr	122.5†	125(± 4)*	121.9	128	113.9	136	162.9	---
May	81.4†	122(± 7)*	82.6	124	97.7	131	147.9	---
Jun	110.4†	118(±10)*	113.5	119	129.6	127	177.4	---
Jul	102.6†	112(±11)*	113.3	114	116.0	121	164.8	---
Aug	105.9†	107(±10)*	110.5	108	123.9	114	172.1	---
Sep	119.2†	101(±10)*	---	103	118.5	108	167.1	---
Oct	---	95(± 9)*	---	96	---	101	---	---
Nov	---	90(± 9)*	---	92	---	96	---	---
Dec	---	86(±10)*	---	88	---	92	---	---
Jan 83	---	82(±10)*	---	83	---	87	---	---
Feb	---	80(±11)*	---	81	---	84	---	---
Mar	---	78(±11)*	---	79	---	83	---	---

*An asterisk denotes either a value of the observed 12-month running mean or a predicted 12-month average that is based on preliminary observations of the international relative sunspot number (R_I). Parentheses enclose the 90% confidence limits. Shaded boxes enclose the most recent smoothed values; boxes not shaded enclose predicted values. Ra is the new symbol for R_A'. All tabulated entries of Ra are final values.

†R_I replaces R_Z as of January 1981.

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS FOR CYCLE 21

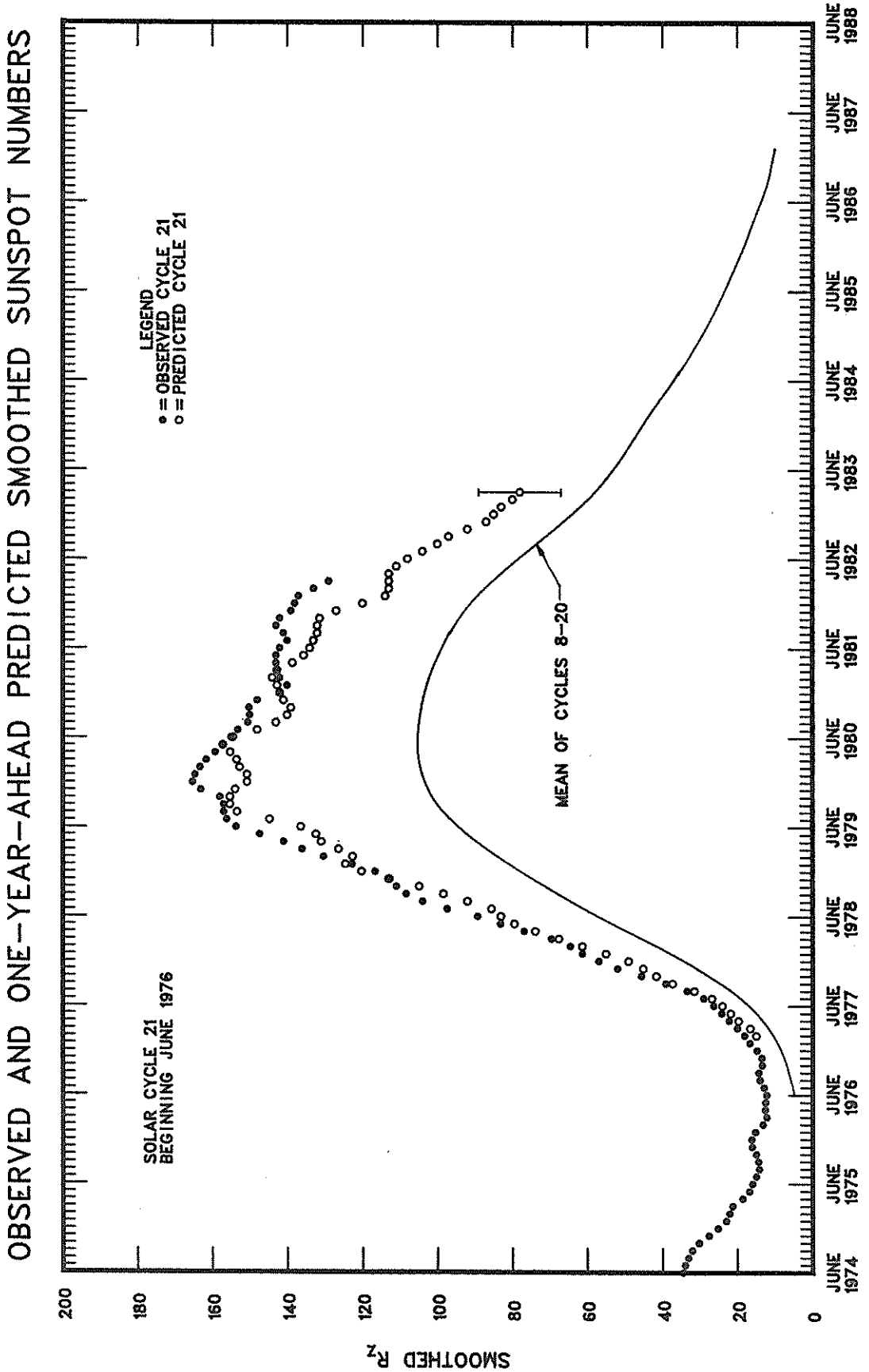
MONTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1976	15	13	12	13	13	12	13	14	14	13	14	15
1977	17	18	20	22	24	26	29	33	39	46	52	57
1978	61	65	70	77	83	89	97	104	108	111	113	118
1979	124	131	137	141	147	153	155	155	156	158	162	165*
1980	164	163	161	159	156	155	153	150	150	150	148	143
1981	140	142	143	143	143	142	140	141	143	142	139	138
1982	137	133	129	125 (4)	122 (7)	118 (10)	112 (11)	107 (10)	101 (10)	95 (9)	90 (9)	86 (10)
1983	82 (10)	80 (11)	78 (11)	76 (12)	74 (13)	71 (15)	70 (16)	69 (18)	68 (20)	68 (21)	68 (21)	67 (22)
1984	66 (22)	63 (23)	59 (24)	55 (25)	53 (27)	52 (28)	51 (28)	49 (29)	41 (28)	45 (27)	43 (27)	41 (26)
1985	39 (26)	38 (25)	38 (25)	37 (25)	36 (24)	34 (24)	32 (22)	31 (21)	31 (21)	30 (22)	29 (23)	29 (23)
1986	29 (23)	27 (23)	26 (23)	25 (22)	23 (21)	21 (21)	19 (20)	18 (19)	17 (18)	16 (16)	16 (15)	16 (13)
1987	15 (12)	15 (12)	15 (12)	16 (13)	17 (14)	18 (15)	20 (15)					

For the current solar cycle, this table gives observed smoothed sunspot numbers up to the one calculated from the last measured value. These smoothed observed values are based on final monthly mean Zurich numbers through 1980, on final international numbers through March 1982, and on provisional monthly mean international numbers thereafter. Some table entries after the June 1976 number will change slightly when final data for 1982 are incorporated.

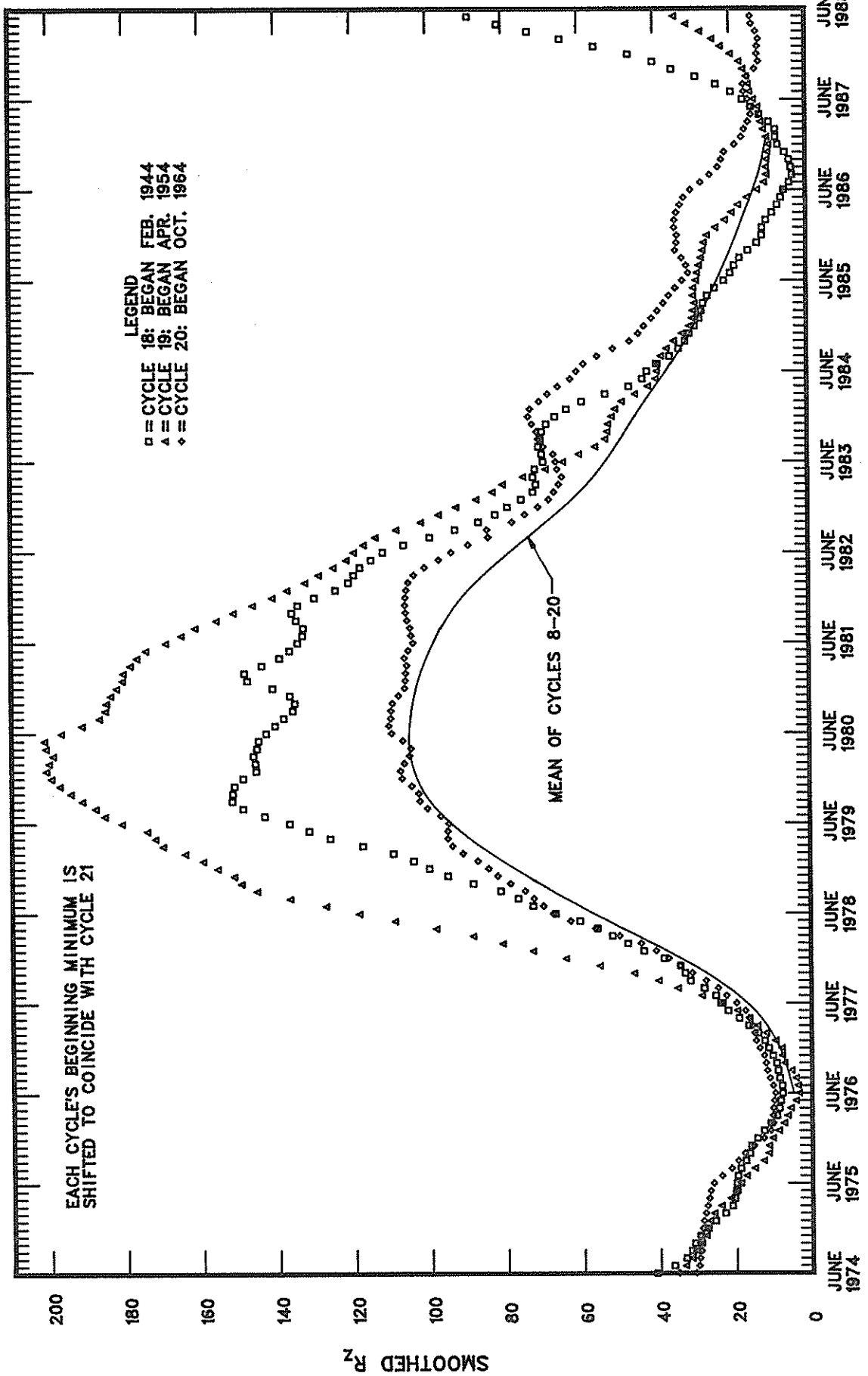
The entries with numbers in parentheses below them are predictions by the McNish-Lincoln method. (See page 10 in the February 1982 edition of the supplement to Solar-Geophysical Data.) By adding to and subtracting from each prediction the number in parentheses, one generates the 90% confidence interval--an interval centered on each prediction that has a 90% chance of containing the actual smoothed value.

The McNish-Lincoln prediction method generates meaningful estimates of smoothed sunspot numbers for no more than 12 months ahead. Beyond a year the predictions regress rapidly toward the mean of all 13 cycles of data used in the computation. Furthermore, the method is very sensitive to the date defined as the beginning of the current sunspot cycle, that is, to the date of the most recent sunspot minimum. In Solar-Geophysical Data, issues 390-401, we based the current cycle predictions on March 1976 as the end of cycle 20 and the onset of the new cycle 21. Later studies, including one published by M. Waldmeier, showed that June 1976 was more appropriately the minimum epoch. We therefore generated this table using the June 1976 date.

*MAXIMUM OF SUNSPOT CYCLE 21. The maximum smoothed sunspot number occurred in December 1979.


OBSERVED AND ONE-YEAR-AHEAD PREDICTED SMOOTHED SUNSPOT NUMBERS
LEGEND
● = OBSERVED CYCLE 21
○ = PREDICTED CYCLE 21
SOLAR CYCLE 21
BEGINNING JUNE 1976
MEAN OF CYCLES 8–20
SMOOTHED R_Z
200
180
160
140
120
100
80
60
40
20
0
JUNE 1974
JUNE 1975
JUNE 1976
JUNE 1977
JUNE 1978
JUNE 1979
JUNE 1980
JUNE 1981
JUNE 1982
JUNE 1983
JUNE 1984
JUNE 1985
JUNE 1986
JUNE 1987
JUNE 1988

SUPERPOSITION OF CYCLES 18, 19, AND 20



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

SEPTEMBER 1982

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Big Bear Plage 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	
HOLL	01	0032	0034	0038	N06	W53		08	28.0	6	SF		3	C		26			3881
HOLL	01	0037	0038	0048D	S16	E41		09	4.1	11D	SF		3	C		35			3883
LEAR	01	0731	0746	0928D	N11	E78		09	7.2	117D	4B		3	C				ZUK	3886
LEAR	01	0731	0859	0928D	N11	E78		09	7.2	117D	2N		3	C				K	3886
YUNN	01	0740E	0751U	0817D	N13	E72		09	6.8	37D	3B			P	0751	865		R	
BUCA	01	0740	0744	0800	N16	E74		09	6.9	20	3N			C	0744	537			
KAND	01	0817E	0908	0934	N08	E80		09	7.3	77D	1N			C				ART	
LEAR	01	0825	0827	0831	S05	E39		09	4.3	6	SF		3	C		35			3882
RAMY	01	1136	1136	1146	S03	E36		09	4.2	10	SN		3	C		36			3882
HOLL	01	1527	1527	1536	N10	W62		08	28.0	9	SF		3	C		13			3881
RAMY	01	1550	1551	1551D	N19	E67		09	6.8	1D	SB		3	C		17			3886
HOLL	01	1830	1830	1839	N13	E69		09	7.0	9	SF		3	C		14		F	3886
HOLL	01	2128	2129	2142	S05	E33		09	4.4	14	SN		3	C		98		F	3882
BIGB	01	2128	2130	2200	S05	E33	18551	09	4.4	32	SN		3	C	2130	90	1.1		
BIGB	02	0002	0003	0005	S07	E30	18551	09	4.3	3	SF		3	C		60	.7		
PURP	02	0052	0108U	0133	N08	W66		08	28.1	41	SN			C	0108	19		D	
PURP	02	0130	0133	0138	S06	E30		09	4.3	8	SB			C	0133	52	.6	E	
LEAR	02	0133	0134	0141	S05	E31		09	4.4	8	SN		3	C		32		F	3882
LEAR	02	0148	0150	0156	S18	E21		09	3.7	8	SF		3	C		21			3883
LEAR	02	0219	0222	0236	S19	E26		09	4.1	17	SF		3	C		101			3883
PURP	02	0220	0222	0228	S21	E26		09	4.1	8	SN			C	0222	26	.3	E	
PURP	02	0301	0309	0314D	N17	E70		09	7.4	13D	SF			P	0309	84		W	
LEAR	02	0301	0301	0333	N15	E72		09	7.6	32	SF		3	C		72		F	3886
LEAR	02	0356	0400	0415	N13	E67		09	7.2	19	SF		3	C		70			3886
LEAR	02	0357	0359	0418	N09	W67		08	28.1	21	SF		3	C		17			3881
LEAR	02	0616	0617	0624	N11	E64		09	7.1	8	SF		3	C		32			3886
LEAR	02	0701	0701	0722	N14	E60		09	6.8	21	SF		3	C		16			3886
LEAR	02	0921	0924	0926D	N08	W70		08	28.1	5D	SF		3	C		19			3881
KAND	02	1303	1322		N08	E56		09	6.8		1B			C					
RAMY	02	1318	1355	1736D	N14	E58		09	6.9	258D	2N		3	C		630		F	3886
KAND	02	1324	1329D		N08	E60		09	7.1		1N			C					
RAMY	02	1604	1607	1611	S22	E17		09	4.0	7	SF		3	C		27			3883
HOLL	02	1826	1840	1940	N16	E58		09	7.2	74	1N		3	C		190		F	3886
BIGB	02	1834	1842	1934	N13	E69	18551	09	8.0	60	1N		2	C	1842	130			
HOLL	02	1839	1852	1914	S22	E17		09	4.1	35	SF		3	C		36			3883
PALE	02	2017E	2033U	2039D	S21	E16		09	4.1	22D	SF		3	C		162			3883
PALE	02	2149	2159	2221	N16	E55		09	7.1	32	SN		3	C		70		F	3886
PEKG	02	2243E	2243	2245	N14	E56		09	7.2	2D	SF			C	2243	21	.4	D	
PEKG	02	2301	2301	2302D	S19	E16		09	4.2	1D	SF			P	2301	29	.4	D	
PEKG	02	2301E	2301	2308	N14	E55		09	7.1	7D	SF			C	2301	17	.3	D	
LEAR	02	2338	2338	2348	N11	E50		09	6.8	10	SF		2	C		20			3886
PEKG	03	0026	0041	0045D	N10	E37		09	5.8	19D	1N			C	0041	336	4.3	FU	
LEAR	03	0116	0125	0234	N15	E53		09	7.1	78	1N		3	C		207		K	3886
LEAR	03	0116	0200	0234	N15	E53		09	7.1	78	1N		3	C		201		F K	3886
PEKG	03	0120	0122	0127	N14	E54		09	7.1	7	1N			C	0122	130	2.2	E	
PURP	03	0155	0158	0203D	N11	E47		09	6.6	8D	1N			P	0158	181	2.7		
YUNN	03	0512	0514	0516D	N11	E50		09	7.0	4D	SN			P		47	.7	E	
LEAR	03	0602	0604	0616	S20	E13		09	4.3	14	SF		3	C		42			3883
PEKG	03	0606	0609	0617	N15	E51		09	7.1	11	SN			P	0609	92	1.5	E	
LEAR	03	0609	0611	0626	N14	E49		09	7.0	17	SN		3	C		63		UF	3886
KAND	03	1205	1219		N08	E48		09	7.1		SF			C				E	
RAMY	03	1331	1406	1540	N06	W44		08	31.3	129	SN		3	C		146			3887
HOLL	03	1359	1404	1437D	N08	W44		08	31.3	38D	SF		3	C		59		F	3887
RAMY	03	1400	1506	1535	N14	E47		09	7.1	95	SN		3	C		112		F	3886
HOLL	03	1505	1505	1519	N15	E46		09	7.1	14	SN		3	C		31		F	3886
RAMY	03	1547	1550	1557	N05	W47		08	31.1	10	SF		3	C		40			3887
RAMY	03	1608	1609	1622	S18	E03		09	3.9	14	SF		3	C		88			3883
HOLL	03	1820	1821	1837	S14	W56		08	30.5	17	SF		3	C		21			3878
BIGB	03	1834	1840	1907	S20	E02	18547	09	3.9	33	SN		2	C	1840	100	1.0		
RAMY	03	1836	1840	1904	S21	E04		09	4.1	28	SB		3	C		190			3883
PALE	03	1837	1839	1853	S20	E02		09	3.9	16	SB		3	C		114			3883
HOLL	03	1837	1839	1851	S21	E02		09	3.9	14	SN		3	C		119		F	3883
HOLL	03	1848	1851	1900	S13	W58		08	30.4	12	SF		3	C		17			3878
PALE	03	1919	1923	1940	N05	W48		08	31.2	21	SN		3	C		45			3887
HOLL	03	1921	1929	1944	N06	W48		08	31.2	23	SN		3	C		37			3887
LEAR	03	2342	2344	0005	N09	E22		09	5.6	23	SN		3	C		60		F	3885
HOLL	03	2342	2344	2355	N09	E22		09	5.6	13	SN		3	C		60			3885
LEAR	03	2344	0048	0336	N10	E36		09	6.7	232	2B		3	C		1061		ZUK	3886
LEAR	03	2344	2350	0336	N10	E36		09	6.7	232	SN		3	C		57		K	3886

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Big Bear Plage 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	
LEAR	03	2358	2359	0012	N06	W51		08	31.2	14	SF		3	C		31			3887
HOLL	04	0002	0002	0018	N06	W50		08	31.3	16	SF		3	C		19			3887
HOLL	04	0026	0029	0029D	N13	E38		09	6.9	3D	1B		3	C		232		UE	3886
YUNN	04	0033E	0047	0155	N11	E39		09	7.0	82D	1B			P		362	4.8	FUW	
PEKG	04	0229	0234	0243	N06	W63		08	30.4	14	SN			P	0234	21	.5	D	
PEKG	04	0400E	0435	0555D	N13	E33		09	6.7	115D	3N			C	0435	1473	18.0	IJKLUW	
PEKG	04	0400E	0456	0555D	N13	E33		09	6.7	115D	3N			P	0456	1178	14.4	U	
YUNN	04	0444	0454	0500D	N06	W51		08	31.4	16D	SN			P		31	.5		
LEAR	04	0454	0456	0503	N05	W51		08	31.4	9	SF		2	C		73		F	3887
WEND	04	0618E		1000D	N13	E32		09	6.7	222D	3N			C	0618	1100	13.8	BIU	
MONT	04	0720E	0720	0900D	N14	E37		09	7.1	100D	3N			C	0720	1500		B	
LEAR	04	0723	0727	0740	S13	W64		08	30.5	17	SF		3	C		30			3878
WEND	04	0853	0857	0903	N17	W55		08	31.2	10	SN			C	0857	25	.4		
WEND	04	0937	0940	0946	N14	W32		09	2.0	9	SF			C	0940	30	.4		
WEND	04	1017	1025	1034	N07	W56		08	31.2	17	SF			C	1025	28	.5		
WEND	04	1017	1026	1042	N11	E31		09	6.8	25	SN			C	1026	60	.7		
WEND	04	1056	1107	1128	N07	W56		08	31.3	32	SF			C	1107	34	.6		
WEND	04	1132	1135	1147	N11	E30		09	6.7	15	SN			C	1135	56	.7		
WEND	04	1248	1324	1342	N07	W57		08	31.3	54	SN			C	1324	44	.8		
RAMY	04	1341	1342	1409	N08	E14		09	5.6	28	SF		3	C		24			3885
WEND	04	1352	1355	1403	S19	W14		09	3.5	11	SF			C	1355	18	.2		
RAMY	04	1353	1356	1403	S19	W15		09	3.4	10	SN		3	C		27			3883
WEND	04	1453	1455	1504	N09	E14		09	5.7	11	SF			C	1455	40	.4		
WEND	04	1457	1502	1506	S19	W15		09	3.5	9	SN			C	1502	22	.2		
HOLL	04	1500	1501	1506	S19	W16		09	3.4	6	SF		3	C		34			3883
HOLL	04	1530	1534	1554	N07	W58		08	31.3	24	SF		3	C		45			3887
WEND	04	1558	1603	1617	N11	E28		09	6.8	19	SF			C	1603	34	.4		
RAMY	04	1602	1606	1612	N11	E26		09	6.6	10	SF		3	C		34			3886
HOLL	04	1602	1603	1612	N12	E26		09	6.6	10	SF		3	C		36			3886
HOLL	04	1637	1643	1705	N10	E26		09	6.6	28	1N		3	C		314		UF	3886
RAMY	04	1638	1643	1702	N11	E26		09	6.6	24	1B		3	C		286		F	3886
PALE	04	1724	1752	1802	S21	W11		09	3.9	38	SF		3	C		82			3883
HOLL	04	1733	1733	1826	N07	W59		08	31.3	53	SF		3	C		27			3887
HOLL	04	1817	1817	1827	S20	W12		09	3.8	10	SN		3	C		43			3883
HOLL	04	1835	1836	1907	N06	W61		08	31.2	32	SF		3	C		15		K	3887
HOLL	04	1835	1843	1907	N06	W61		08	31.2	32	SF		3	C		14		K	3887
HOLL	04	1837	1842	1852	N12	E24		09	6.6	15	SF		3	C		26			3886
PALE	04	2026	2027	2043	N07	E67		09	9.9	17	SF		3	C					3890
HOLL	04	2026	2027	2032	N07	E73		09	10.3	6	SF		3	C					3890
PALE	04	2156E	2157U	2209	S20	W13		09	3.9	13D	SF		3	C		27			3883
HOLL	04	2235	2240	2245	S20	W14		09	3.9	10	SF		3	C		23		F	3883
HOLL	04	2258	2310	2325	S21	W14		09	3.9	27	SF		3	C		42		F	3883
HOLL	05	0001	0002	0010	S20	W15		09	3.8	9	SF		3	C		44		F	3883
YUNN	05	0231	0233	0237	N05	W61		08	31.5	6	SN			C		31	.7		
PEKG	05	0307	0313	0350	N07	W66		08	31.2	43	SN			C	0313	76		EK	
PEKG	05	0307	0328U	0350	N07	W65		08	31.3	43	SN			C	0328	76		E	
PALE	05	0310	0326	0357D	N04	W66		08	31.2	47D	SN		3	C		64		F	3887
YUNN	05	0336E	0340U	0343D	N06	W66		08	31.2	7D	SN			P	0340	47		E	
LEAR	05	0509	0511	0519	S21	W18		09	3.8	10	SF		3	C		22			3883
LEAR	05	0512	0514	0522	N05	W66		08	31.3	10	SF		3	C		18			3887
LEAR	05	0530	0534	0540	N13	E22		09	6.9	10	SF		3	C		62			3886
WEND	05	0735	0738	0742	S22	W19		09	3.8	7	SF			C	0738	69	.8		
PEKG	05	0736	0737U	0751	S23	W19		09	3.8	15	SN			C	0737	42	.5	E	
LEAR	05	0744	0746	0749	S15	W82		08	30.1	5	SF		3	C					3892
YUNN	05	0745	0747	0754	S12	W80		08	30.3	9	SN			C		31		A	
WEND	05	0820	0822	0834	N07	W65		08	31.5	14	SN			C	0822	38			
YUNN	05	0943	0946	0946D	S12	W80		08	30.4	3D	SN			P		31		A	
WEND	05	1010	1025	1050	S10	E78		09	11.3	40	SN			C	1025	38			
WEND	05	1056	1100	1106	N07	W68		08	31.4	10	SN			C	1100	25			
WEND	05	1340	1347	1358	N11	E11		09	6.4	18	SN			C	1347	81	.9		
RAMY	05	1340	1345	1410	N11	E12		09	6.5	30	SN		3	C		150			3886
RAMY	05	1744	1804	1851	N15	W50		09	1.9	67	SN		3	C		112			3891
HOLL	05	1750	1805	1836	N16	W52		09	1.8	46	SN		3	C		78		F	3891
RAMY	05	1801	1809U	1856	S20	W27		09	3.7	55	SF		3	C		40			3883
HOLL	05	1901	1906	1913	S14	W55		09	1.6	12	SF		3	C		30		F	3879
HOLL	05	1906	1909	1919	S19	W28		09	3.7	13	SF		3	C		30		F	3883
RAMY	05	1931	1932	1948	N16	E16		09	7.0	17	SN		3	C		50			3886
HOLL	05	1959E	2001U	2017D	N16	W53		09	1.8	18D	SN		3	C		71		F	3891
HOLL	05	2112	2112	2118	S14	W56		09	1.6	6	SF		3	C		18		F	3879

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Big Bear Plage 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	
PEKG	05	2351	2355	2400	N07	W76		08	31.3	9	SF				P	2355	34		D	
HOLL	06	0028	0030	0035	S20	W28		09	3.9	7	SF			3	C		56		F	3883
YUNN	06	0106E	0110	0112D	N06	W78		08	31.2	6D	SN				P		31			
PEKG	06	0150	0153	0209	N10	E13		09	7.0	19	1B				C	0153	463	4.9	FL	
PEKG	06	0151	0153	0155	N13	E01		09	6.1	4	SN				C	0153	76	.8	E	
YUNN	06	0153E	0154U	0235	N11	E14		09	7.1	42D	1B				P	0154	393	4.2	F	
LEAR	06	0431	0432	0513	N15	E12		09	7.1	42	SN			3	C		113			3886
YUNN	06	0435E	0436U	0445	N15	E12		09	7.1	10D	SN				P	0436	126	1.3	E	
YUNN	06	0522E	0525	0531	N07	W79		08	31.3	9D	SN				P		47			
LEAR	06	0522	0522	0531	N06	W76		08	31.5	9	SF			3	C					3887
LEAR	06	0554	0555	0614	N09	E12		09	7.1	20	SF			3	C		69		F	3886
KAND	06	1044	1059		N10	E05		09	6.8		SF				C				D	
KAND	06	1105	1122		N15	E08		09	7.1		SF				C					
HOLL	06	1523	1524	1527	S12	E62		09	11.3	4	SF			3	C		25		F	3895
HOLL	06	1643	1650	1701	S20	W38		09	3.8	18	SF			3	C		39		F	3883
PALE	06	1814	1821	1841	N14	E02		09	6.9	27	SN			3	C		47		F	3886
HOLL	06	1814	1826	1846	N14	E03		09	7.0	32	SF			3	C		78		F	3886
RAMY	06	2020	2023	2032	S05	E53		09	10.8	12	1N			3	C		209			3895
HOLL	06	2020	2022	2028	S13	E63		09	11.6	8	SN			3	C		115			3895
PALE	06	2249	2249	2254	S19	W42		09	3.7	5	SF			3	C		27			3883
PALE	06	2337	2338	2348	N15	E01		09	7.1	11	SF			3	C		41		F	3886
PALE	07	0014	0015	0020	S09	E57		09	11.3	6	SF			3	C		36			3895
YUNN	07	0343	0345	0347D	S22	W51		09	3.2	4D	SN				P		47		D	
LEAR	07	0345	0345	0411	S21	W48		09	3.5	26	SN			3	C		18		FH	3883
PURP	07	0349	0352	0357	S21	W47		09	3.5	8	SN				C	0352	84	1.5		
YUNN	07	0505E	0505U	0506D	S20	W51		09	3.3	1D	SN				P	0505	63	1.2	D	
YUNN	07	0540	0548	0621	S09	E53		09	11.2	41	1B				C		126	2.3	E	
PURP	07	0548E	0549U	0621	S10	E60		09	11.8	33D	1B				C	0549	213	4.6		
RAMY	07	1130	1301	1331	N09	W27		09	5.4	121	SF			3	C		49			3885
RAMY	07	1454	1501	1732	N24	W62		09	2.8	158	SF			3	C		22		K	3888
RAMY	07	1454	1514	1732	N24	W62		09	2.8	158	SN			3	C		33		K	3888
HOLL	07	1652	1654	1714	N08	W30		09	5.4	22	SF			3	C		69		F	3885
RAMY	07	1653	1653	1708	N07	W30		09	5.4	15	SN			3	C		48			3885
BIGB	07	1709	1710	1721	S20	W57	18547	09	3.3	12	SB			3	C	1710	70	1.3		
RAMY	07	1710	1711	1716	S22	W58		09	3.3	6	SB			3	C		40			3883
HOLL	07	1710	1710	1717	S20	W57		09	3.3	7	SB			3	C		58		E	3883
PALE	07	1809	1819	1903	S08	E48		09	11.4	54	1B			4	C		196		FE	3895
BIGB	07	1809	1820	1903	S09	E48	18555	09	11.4	54	1N			3	C	1820	240	3.7		
RAMY	07	1810	1812	1857	S09	E48		09	11.4	47	SN			3	C		140		K	3895
RAMY	07	1810	1821	1857	S09	E48		09	11.4	47	1N			3	C		218		F K	3895
HOLL	07	1811	1824U	1901	S10	E48		09	11.4	50	SN			3	C		122		FH	3895
BIGB	07	1818	1853	1927	N08	W31	18549	09	5.4	69	1B			3	C	1853	220	2.6		
PALE	07	1820	1825	1924	N08	W31		09	5.4	64	SB			4	C		121		K	3885
PALE	07	1820	1852	1924	N08	W31		09	5.4	64	1B			4	C		209		K	3885
RAMY	07	1821	1828	1921	N07	W31		09	5.4	60	SN			3	C		138		K	3885
RAMY	07	1821	1852	1921	N07	W31		09	5.4	60	1B			3	C		300		EFK	3885
HOLL	07	1821	1825	1914D	N08	W32		09	5.4	53D	SN			3	C		126		K	3885
HOLL	07	1821	1854	1914D	N08	W32		09	5.4	53D	1N			3	C		433		F K	3885
RAMY	07	1828	1828	1835	N07	W18		09	6.4	7	SF			3	C		29			3886
RAMY	07	2006	2015	2049	N26	W61		09	3.1	43	SN			3	C		34			3888
BIGB	07	2006	2019	2051	N26	W61	18502	09	3.1	45	1N			3	C	2019	100	2.1		
HOLL	07	2137	2138	2142	N20	W31		09	5.5	5	SF			3	C		25			3897
HOLL	07	2138	2138	2149	N10	W32		09	5.5	11	SF			3	C		25		F	3885
HOLL	07	2228	2232	2241	N20	W32		09	5.5	13	SF			3	C		27			3897
HOLL	07	2243	2247	2251	N08	W33		09	5.5	8	SF			3	C		20			3885
BIGB	07	2303	2305	2319	S30	W38	18547	09	5.0	16	SN			3	C	2305	100	1.3		
PEKG	08	0030	0034	0040	N20	W34		09	5.4	10	SN				P	0034	50	.6	E	
LEAR	08	0030	0031	0043	N19	W33		09	5.5	13	SN			3	C		60		H	3897
LEAR	08	0034	0036	0043	N13	W14		09	7.0	9	SF			3	C		35			3886
LEAR	08	0046	0048	0100	N26	W66		09	2.9	14	SF			3	C		32			3888
LEAR	08	0059	0100	0103	N19	W32		09	5.6	4	SF			3	C		26			3897
LEAR	08	0110	0112	0140	N07	W35		09	5.4	30	SF			3	C		51			3885
PEKG	08	0120	0125	0130	N09	W37		09	5.3	10	SN				P	0125	88	1.1	E	
LEAR	08	0146	0150	0158	S19	W57		09	3.7	12	SF			3	C		20			3883
LEAR	08	0414	0415	0423	N07	W37		09	5.4	9	SF			3	C		30			3885
LEAR	08	0417	0419	0424	N15	W13		09	7.2	7	SF			3	C		33			3886
LEAR	08	0419	0420	0434	N19	W33		09	5.7	15	SF			3	C		25			3897
LEAR	08	0453	0456	0508	N19	W35		09	5.5	15	SF			3	C		53			3897

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Big Bear Plage 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	
LEAR	08	0555	0601	0612	N21	W35		09	5.6	17	SN		3	C		47			3897
LEAR	08	0640	0644	0733	N15	W15		09	7.1	53	SN		3	C		189		F	3886
BUCA	08	0640	0657	0740	N15	W17		09	7.0	60	SN			C	0657	172	1.9	E	
YUNN	08	0642	0705	0730	N15	W18		09	6.9	48	1B			C		189	2.1	E	
ISTA	08	0643		0730	N14	W17		09	7.0	47	SF								
PEKG	08	0643	0650	0718	N15	W17		09	7.0	35	SN			C	0650	113	1.2	FK	
PEKG	08	0643	0659	0718	N15	W17		09	7.0	35	SN			C	0659	126	1.4	F	
PEKG	08	0650E	0650	0650D	N20	W37		09	5.4	35D	SF			P	0650	50	.6	E	
LEAR	08	0915	0921	0936	N26	W70		09	2.9	21	SF		3	C		15		F	3888
HOLL	08	1516E	1516U	1521D	S12	E38		09	11.5	5D	SF		1	C		80			3895
PALE	08	1922	1923	1929	S11	E37		09	11.6	7	SN		3	C		34			3895
HOLL	08	1924E	1924U	1931	S11	E37		09	11.6	7D	SF		2	C		81			3895
HOLL	08	1955	1958	2001	S11	E35		09	11.5	6	SF		3	C		21			3895
LEAR	08	2356	0023	0251	S10	E31		09	11.3	175	2N		3	C		672		F	3895
PEKG	09	0014	0021	0128	S10	E31		09	11.3	74	1N			C	0021	252	3.2	FK	
PEKG	09	0014	0035	0128	S08	E31		09	11.3	74	1N			C	0035	286	3.6	F	
PEKG	09	0115	0121	0129	N12	W47		09	5.5	14	SN			P	0121	21	.3	D	
LEAR	09	0115	0120	0136	N11	W47		09	5.5	21	SN		3	C		33			3885
LEAR	09	0201	0201	0206	N10	W49		09	5.4	5	SN		3	C		28			3885
LEAR	09	0409	0413	0426	N10	W51		09	5.3	17	1B		3	C		167		FE	3885
PEKG	09	0413E	0413	0418	N12	W51		09	5.3	5D	SN			P	0413	46	.7	D	
LEAR	09	0554	0555	0557	N07	W52		09	5.3	3	SF		3	C		19			3885
LEAR	09	0600	0608	0614	N10	W51		09	5.4	14	SN		3	C		26		FH	3885
YUNN	09	0654E	0655U	0702	N11	W52		09	5.4	8D	SN			P	0655	31	.5		
WEND	09	0709		0715	N11	W49		09	5.6	6	SN			C	0713	56	.9		
BUCA	09	0710	0715	0740	N12	W50		09	5.5	30	SN			C	0715	107	1.7		
YUNN	09	0711	0715	0719D	N11	W52		09	5.4	8D	SN			P		31	.5	E	
PEKG	09	0712	0718	0735	N11	W51		09	5.5	23	SN			P	0718	59	.9	E	
LEAR	09	0713	0715	0745	N11	W50		09	5.5	32	SB		3	C		85		FE	3885
ISTA	09	0714		0727	N11	W51		09	5.5	13	SB				0718			E	
PURP	09	0714	0720	0728	N11	W51		09	5.5	14	SB			C	0720	52	.8	E	
LEAR	09	0908	0910	0934D	S18	E31		09	11.7	26D	SF		3	C		60		K	3895
LEAR	09	0908	0932	0934D	S18	E31		09	11.7	26D	SN		3	C		146		F K	3895
MONT	09	0910	0912	0920	S13	E34		09	11.9	10	SN			C	0912	110			
MONT	09	0929	0938	1010	S18	E33		09	11.9	41	1N			C	0938	250			
PEKG	09	0939E	0944	1005	S17	E31		09	11.8	26D	1N			P	0944	294	3.9	FK	
PEKG	09	0939E	0946	.1005	S17	E32		09	11.8	26D	1N			P	0946	344	4.6	F	
PEKG	09	0945	0946	0947	N21	W51		09	5.5	2	SF			C	0946	25	.4	D	
MONT	09	0954	0958	1005	N11	W55		09	5.3	11	SN			C	0958	200			
RAMY	09	1404	1404	1417	S14	E87		09	16.2	13	SF		3	C					
RAMY	09	1622	1623	1627	N10	W58		09	5.3	5	SN		3	C		28			3885
PALE	09	2121	2121	2139	S11	E75		09	15.5	18	SF		3	C					3901
BIGB	09	2121	2123	2132	S11	E75	18561	09	15.5	11	SF		3	C	2123	60			
PALE	09	2134	2134	2139	S23	W83		09	3.5	5	SF		3	C					3883
PALE	09	2141	2144	2152	S12	E77		09	15.7	11	SF		3	C					3901
PALE	09	2203	2214	2227D	S12	E79		09	15.9	24D	SF		3	C					3901
LEAR	10	0223	0223	0229	S13	E84		09	16.4	6	SN		3	C					3901
LEAR	10	0438	0440	0442	S12	E16		09	11.4	4	SF		3	C		29			3895
LEAR	10	0443	0444	0451	S13	E78		09	16.1	8	SF		3	C		16			3901
LEAR	10	0524	0526	0535	S15	E75		09	15.9	11	SN		3	C				H	3901
KAND	10	0808E	0817		S07	E14		09	11.4	D	SN			C					
KAND	10	0808E	0827		S07	E05		09	10.7	D	SN			C					
KAND	10	0808E	0827		S09	E21		09	11.9	D	SN			C					
LEAR	10	0823	0828	0850	N12	W64		09	5.5	27	1N		3	C		305		F	3885
WEND	10	0823	0827	0846	N09	W68		09	5.2	23	1N			C	0827	156			
KAND	10	0824	0830	0834	N10	W67		09	5.3	10	1B			C					
YUNN	10	0826	0827	0845	N11	W64		09	5.5	19	1B			C		157	3.6	E	
PEKG	10	0827E	0830	0845	N13	W67		09	5.3	18D	1N			P	0830	92		E	
MONT	10	0827	0829	0841	N11	W75		09	4.7	14	1B			C	0829	300			
YUNN	10	0928	0934	0950D	S06	E14		09	11.4	22D	SN			P		31	.3	E	
KAND	10	0929	0943		S06	E15		09	11.5		SN			C					
KAND	10	1125	1134	1143	S09	E06		09	10.9	18	1N			C				U	
WEND	10	1125	1131	1141	S09	E09		09	11.1	16	SF			C	1131	81	.9		
KAND	10	1148	1201		N09	E70		09	15.8		SN			C					
RAMY	10	1616	1616	1712	S12	E73		09	16.2	56	SF		3	C		25			K 3901
RAMY	10	1616	1644	1712	S12	E73		09	16.2	56	SF		3	C					K 3901
HOLL	10	1640	1722	1747D	S13	E66		09	15.7	67D	SN		3	C		34		F	3901
RAMY	10	1713	1725	1742	S12	E69		09	15.9	29	SN		3	C		13			3901
HOLL	10	1757	1758	1806	S14	E64		09	15.6	9	SF		3	C		35			3901

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Big Bear Plage 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
MANI	10	2316E	2316U	2335D	S21	E16		09	12.2	19D	SF		1	1	V		50	.6	
LEAR	11	0024	0025	0035	S14	E62		09	15.7	11	SB		3	3	C		68		E 3901
PEKG	11	0025E	0025U	0030D	S15	E63		09	15.8	5D	SF				P	0025	84		D
YUNN	11	0334	0335	0341	S23	E11		09	12.0	7	SN				C		47	.6	E
PEKG	11	0524E	0525	0545	N12	W79		09	5.3	21D	SF				C	0525	63		EK
LEAR	11	0524E	0531U	0551D	N13	W69		09	6.0	27D	1F		2	2	C		175		3885
YUNN	11	0525E	0533	0609	N32	W85		09	4.5	44D					P				Y
YUNN	11	0609E	0610U	0615	S22	E09		09	11.9	6D	SN				P	0610	16	.2	D
YUNN	11	0630	0638	0701	S12	E65		09	16.2	31	SN				C		47		E
LEAR	11	0636	0642	0655	S12	E66		09	16.3	19	SF		3	3	C		28		3901
KAND	11	0707E	0818D		S21	E12		09	12.2	D	SB				C				T
LEAR	11	0739	0740	0745	S22	E11		09	12.2	6	SF		3	3	C		24		3902
LEAR	11	0810	0817	0847	S22	E11		09	12.2	37	SF		3	3	C		39		K 3902
LEAR	11	0810	0829	0847	S22	E11		09	12.2	37	SF		3	3	C		159		K 3902
ISTA	11	0820		0843	S23	E11		09	12.2	23	SF								
WEND	11	0822	0830	0845	S21	E09		09	12.0	23	SN				C	0830	75	.8	
PEKG	11	0825E	0831	0905	S23	E10		09	12.1	40D	SF				P	0831	109	1.3	E
PURP	11	0826	0827	0848	S22	E11		09	12.2	22	SF				C	0827	58	.7	
MONT	11	0827	0834	0843	S23	E10		09	12.1	16	1N				C	0834	400		
RAMY	11	1144	1213	1257	S22	E08		09	12.1	73	SN		3	3	C		72		K 3902
RAMY	11	1144	1243	1257	S22	E08		09	12.1	73	SF		3	3	C		47		K 3902
WEND	11	1212	1217	1218	S12	E59		09	16.0	6	SF				C	1217	13	.3	
RAMY	11	1213	1216	1240	S12	E60		09	16.0	27	SN		3	3	C		30		3901
RAMY	11	1324	1326	1337	S22	E07		09	12.1	13	SF		3	3	C		28		3902
RAMY	11	1346	1347	1357	S22	E09		09	12.3	11	SN		3	3	C		41		3902
RAMY	11	1402	1409	1413	S21	E07		09	12.1	11	SF		3	3	C		25		3902
HOLL	11	1440	1443	1508	S21	E06		09	12.1	28	SN		3	3	C		47		3902
RAMY	11	1442	1443	1456	S21	E06		09	12.1	14	SN		3	3	C		53		3902
HOLL	11	1530	1530	1543	S22	E06		09	12.1	13	SB		3	3	C		35		3902
HOLL	11	2028	2028	2040	S14	E58		09	16.2	12	SF		3	3	C		30		F 3901
LEAR	12	0011	0018U	0031	N15	W15		09	10.9	20	SF		3	3	C		28		FS
PALE	12	0015E	0015U	0048D	N16	W16		09	10.8	33D	SF		3	3	C		58		3894
PURP	12	0032	0037	0057	N17	W15		09	10.9	25	SF				P	0037	26	.3	G
PEKG	12	0035E	0039	0041	N18	W13		09	11.0	6D	SF				P	0039	55	.6	D
LEAR	12	0315	0319	0337	S12	W03		09	11.9	22	SF		3	3	C		48		F 3895
PALE	12	0322	0322U	0337	S11	W02		09	12.0	15	SF		3	3	C		42		F 3895
PEKG	12	0655	0701	0710D	S12	W06		09	11.8	15D	SN				P	0701	168	1.8	F
LEAR	12	0656	0657	0722	S11	W05		09	11.9	26	SF		3	3	C		79		F 3895
PURP	12	0701	0715	0724	S13	W06		09	11.8	23	SN				C	0715	77	.9	
LEAR	12	0908	0910	0918	S23	W04		09	12.1	10	SF		3	3	C		94		3902
WEND	12	1241	1243	1256	S12	W10		09	11.8	15	SF				C	1243	25	.3	E
WEND	12	1539	1623	1642D	S16	W09		09	12.0	63D	1N				C	1623	294	3.2	FZ
HOLL	12	1606E	1611	1707D	S14	W11		09	11.8	61D	1N		3	3	C		348		F 3902
PALE	12	1712E	1712U	1727	S13	W10		09	12.0	15D	SF		2	2	C		85		3895
PALE	12	1712E	1712U	1745	S15	W15		09	11.6	33D	SN		2	2	C		93		3902
PALE	12	2355E	0001U	0017	S15	E73		09	18.5	22D	SF		3	3	C				3905
HOLL	12	2359	0001	0009	S18	E71		09	18.4	10	SF		3	3	C				3905
LEAR	13	0231	0236	0245	S16	E69		09	18.3	14	SF		3	3	C		64		3905
LEAR	13	0342	0343	0350	S17	E70		09	18.5	8	SF		3	3	C				3905
LEAR	13	0439	0459	0554	S11	W18		09	11.8	75	1N		3	3	C		332		F 3895
PEKG	13	0440	0459U	0547	S18	E69		09	18.4	67	SF				C	0459	46		D
PEKG	13	0455	0459U	0510	S11	W20		09	11.7	15	1N				C	0459	357	4.1	FU
LEAR	13	0455	0456	0502	S17	E69		09	18.4	7	SN		3	3	C				3905
WEND	13	0634	0636	0643	S14	E36		09	16.0	9	SF				C	0636	25	.3	
KAND	13	0747	0800		S15	W20		09	11.8		SF				C				
KAND	13	0814	0835		S15	W20		09	11.8		SF				C				
HOLL	13	1632	1632	1648	S14	E33		09	16.2	16	SF		3	3	C		66		3901
PALE	13	1833	1834	1844	S11	W25		09	11.9	11	SF		3	3	C		28		F 3895
PALE	13	1942	1947	2000	S15	E60		09	18.4	18	SF		3	3	C		14		3905
PALE	13	1942	1954	2005	N02	E60		09	18.3	23	SN		3	3	C		68		F
PALE	13	2105	2106	2115D	N17	E90		09	20.7	10D	SF		3	3	C				
LEAR	13	2326	2336	0041	S15	W29		09	11.8	75	SN		3	3	C		138		F 3895
PALE	13	2331	2334	0051	S13	W28		09	11.9	80	SF		3	3	C		76		F 3895
PALE	14	0022	0022	0027	N18	E85		09	20.5	5	SF		3	3	C				3908
PALE	14	0108	0110	0124	N18	E88		09	20.8	16	SF		3	3	C				3908
LEAR	14	0109	0112	0120	N15	E88		09	20.7	11	SN		3	3	C				3908
PALE	14	0158	0201	0210	N02	E54		09	18.1	12	SN		3	3	C		67		3906

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Big Bear Plage Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	Obs See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks	
LEAR	14	0159	0201	0209	S01	E56		09	18.3	10	SN			3	C		44			3906
PURP	14	0202E	0202	0247	S00	E55		09	18.2	45D	SB				P	0202	84	1.5	E	
PALE	14	0224	0227	0235	S24	W26		09	12.1	11	SF			3	C		23			3902
LEAR	14	0253	0255	0300	S00	E57		09	18.4	7	SF			3	C		29			3906
ISTA	14	0620E		0632	S18	E60		09	18.8	12D	SF								E	
WEND	14	0735	0737	0744	S07	W38		09	11.5	9	SF				C	0737	18	.2		
ISTA	14	0739E		0749	S09	W40		09	11.3	10D	SN								D	
ISTA	14	0752		0757	N00	E53		09	18.3	5	SN								D	
PURP	14	0753E	0753	0753D	S00	E53		09	18.3	5D	SF				P	0753	52	.9	E	
RAMY	14	1225	1225	1256	S16	E51		09	18.4	31	SN			3	C		127			3905
HOLL	14	1834	1834	1838	S08	W50		09	11.0	4	SF			3	C		17		F	3895
HOLL	14	2011	2024	2045	N15	E72		09	20.3	34	SN			3	C		40			3908
PALE	14	2015E	2029U	2041D	N18	E75		09	20.6	26D	SF			3	C					3908
HOLL	14	2229	2230	2254	N01	E44		09	18.2	25	SF			3	C		41			3906
HOLL	15	0009	0012	0026D	S11	W72		09	9.6	17D	SF			3	C					3899
HOLL	15	0023	0026	0026D	N17	E77		09	20.9	3D	SF			3	C		9			3908
PURP	15	0026E	0026U	0242	N15	E69		09	20.3	136D	SB				C	0026	58			
LEAR	15	0155	0221	0251D	N16	E70		09	20.4	56D	1B			3	C		138		FE	3908
PURP	15	0200E	0200	0200D	N15	E70		09	20.4	56D	SN				P	0200	35			
PEKG	15	0216E	0223	0235	N15	E70		09	20.4	19D	SN				P	0223	55		E	
LEAR	15	0602	0603	0632	N15	E70		09	20.5	30	1B			2	C		195		FE	3908
PEKG	15	0603E	0610	0615	N15	E69		09	20.5	12D	SN				P	0610	118		E	
PEKG	15	0730	0754	0806D	N15	E67		09	20.4	36D	SN				C	0754	25		E	
PEKG	15	0745	0754	0801D	S14	E08		09	15.9	16D	SF				P	0754	126	1.4	E	
LEAR	15	0749E	0801U	0826	N15	E67		09	20.4	37D	SF			2	C		23			3908
LEAR	15	0749E	0806U	0829	S14	E13		09	16.3	40D	SF			2	C		147		F	3901
WEND	15	0750	0756	0805	N17	E68		09	20.5	15	SN				C	0756	16			
WEND	15	0800E		0836D	S16	E10		09	16.1	36D	SF				C	0811	100	1.1		
WEND	15	0853	0854	0859	N15	E74		09	21.0	6	SN				C	0854	28			
RAMY	15	1334	1339	1408	N16	E64		09	20.4	34	SN			3	C		59			3908
RAMY	15	1645	1645	1705	N16	E81		09	21.8	20	SF			3	C					
RAMY	15	1658	1706	1730	S16	E36		09	18.4	32	SF			3	C		60			3905
HOLL	15	1712E	1713U	1719D	S14	E37		09	18.5	7D	SF			3	C		28		F	3905
RAMY	15	1728	1729	1736	S13	E03		09	15.9	8	SF			3	C		27		F	3901
RAMY	15	1728	1750	1815	S14	E05		09	16.1	47	SF			3	C		54			3901
RAMY	15	1817	1826	1903	N17	E61		09	20.4	46	3B			3	C		1348		FE	3908
HOLL	15	1818	1824	1903	N18	E60		09	20.3	45	1B			3	C		298		UE	3908
PALE	15	1824E	1824U	1900	N17	E60		09	20.3	36D	2B			3	C		546		UE	3908
ISTA	16	0655		0708D	N01	E23		09	18.0	13D	SB								D	
LEAR	16	0659	0700	0702	S14	E22		09	17.9	3	SF			3	C		35			3905
KAND	16	0727	0736		S26	E26		09	18.3		SF				C					
KAND	16	0741	0805		S26	E26		09	18.3		SF				C				T	
KAND	16	0809	0823		S26	E26		09	18.4		SF				C					
KAND	16	0834	0922D		S26	E26		09	18.4		SF				C					
KAND	16	1131	1137		S26	E26		09	18.5		SN				C					
RAMY	16	1322	1324	1340	S15	E25		09	18.4	18	SN			3	C		47			3905
HOLL	16	1328E	1330	1357D	N26	E41		09	19.8	29D	SN			3	C		100		K	3908
HOLL	16	1328E	1356	1357D	N26	E41		09	19.8	29D	SB			3	C		75		Z K	3908
RAMY	16	1750	1750	1802	N20	E51		09	20.6	12	SN			3	C		30			3908
RAMY	16	1752	1752	1754	N17	E48		09	20.4	2	SF			3	C		29			3910
WEND	17	0646	0652	0711	N16	W27		09	15.2	25	SF				C	0652	44	.5.		
WEND	17	0807	0818	0830	N17	W25		09	15.4	23	SF				C	0818	63	.7		
HOLL	17	1522	1522	1531	S12	E08		09	18.2	9	SN			3	C		50		F	3905
HOLL	17	1522	1532	1540	N22	E54		09	21.8	18	SF			3	C		25			3910
BIGB	17	1523	1523	1540	S12	E08	18571	09	18.2	17	SN			3	C	1523	100	1.0		
LEAR	18	0303	0304	0319	N19	E36		09	20.9	16	SN			3	C		79		F	3908
PEKG	18	0335	0340	0355	S18	W37		09	15.3	20	SF				P	0340	42	.6	D	
LEAR	18	0450	0453	0500	N17	E35		09	20.9	10	SF			3	C		20			3908
PEKG	18	0555	0601	0612	N15	E28		09	20.4	17	SF				P	0601	42	.5	D	
LEAR	18	0657	0657	0708	N18	E34		09	20.9	11	SF			3	C		21			3908
LEAR	18	0755	0757	0802	S17	W02		09	18.2	7	SF			3	C		38			3905
RAMY	18	1217	1404	1503	N19	E29		09	20.7	166	SN			3	C		147			3908
RAMY	18	1623	1625	1632	N18	E27		09	20.7	9	SN			3	C		33			3908
PALE	18	1832	1832	1839	N01	W10		09	18.0	7	SF			3	C		27		F	3906
PALE	18	1907	1908	1913	N17	E34		09	21.4	6	SF			3	C		23			3910
BIGB	18	2350	2353	0020E	S09	E17	18567	09	20.3	30	SN			3	P	2353	80	.9		
PEKG	18	2354	2356	2406	S09	E17		09	20.3	12	SF				C	2356	46	.5	D	

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LEAR	19	0217	0217	0224	S16	W12		09	18.2	7	SF			3	C		20			3905
PEKG	19	0308	0309	0317	N01	W12		09	18.2	9	SF				C	0309	71	.8	E	
PEKG	19	0605	0606	0610	N15	E39		09	22.2	5	SF				P	0606	50	.6	E	
LEAR	19	0605	0605	0609	N16	E39		09	22.2	4	SF			3	C		24			3910
WEND	19	0805	0811	0816	N17	E36		09	22.1	11	SF				C	0811	31	.4		
LEAR	19	0809	0811	0826	N14	E34		09	21.9	17	SF			3	C		37			3910
RAMY	19	1351	1436	1445D	S12	E02		09	19.7	54D	2N			3	C		575		ZF	3907
HOLL	19	1419	1512	1804	S15	E07		09	20.1	225	2B			3	C		1091		UE	3907
HOLL	19	1435	1438	1509	S17	W19		09	18.2	34	SF			3	C		31		F	3905
WEND	19	1503E	1516	1630D	S14	E07		09	20.2	87D	2B				C	1516	700	7.5		
HOLL	19	1808	1814	1815	S09	E06		09	20.2	7	SF			3	C		25			3907
PALE	19	1930	1932	1933	S17	E05		09	20.2	3	SF			2	C		101			3907
HOLL	19	1954	1954	2000	S09	E05		09	20.2	6	SF			3	C		42		F	3907
PALE	19	2032	2033	2036	N18	E26		09	21.8	4	SF			2	C		37			3910
PALE	19	2133	2134	2140	N16	E26		09	21.9	7	SF			3	C		34			3910
HOLL	19	2257	2259	2313	N15	E29		09	22.1	16	SN			3	C		47			3910
PEKG	19	2305	2310	2350	N16	E29		09	22.2	45	SF				P	2310	168	2.0	EK	
PEKG	19	2305	2325	2350	N17	E29		09	22.2	45	SF				P	2325	168	2.0	F	
HOLL	19	2315	2319	2338D	N15	E29		09	22.2	23D	1N			3	C		427		F	3910
LEAR	19	2342E	2342U	2352	N16	E29		09	22.2	10D	SF			3	C		29		F	3910
LEAR	20	0136	0143	0201	N18	E11		09	20.9	25	SF			3	C		22		FH	3908
LEAR	20	0239	0240	0249	S09	W02		09	20.0	10	SN			3	C		140			3907
PALE	20	0239	0240	0246	S09	W05		09	19.7	7	SB			3	C		121		FE	3907
PEKG	20	0240	0241	0246	S09	W03		09	19.9	6	SB				C	0241	109	1.2	E	
PEKG	20	0305E	0305	0315	S09	E01		09	20.2	10D	SF				P	0305	29	.3	D	
PEKG	20	0535E	0535	0539	S15	W02		09	20.1	4D	SF				P	0535	34	.4	E	
KAND	20	0855E	0906		S12	W01		09	20.3	D	SN				C					
RAMY	20	1309	1310	1313	N16	E11		09	21.4	4	SN			3	C		42			3910
RAMY	20	1404	1405	1414	S12	W07		09	20.1	10	SN			3	C		23		F	3907
RAMY	20	1656	1701	1712	S12	W13		09	19.7	16	SF			3	C		40			3907
BIGB	20	1657	1703	1717	S12	W13	18567	09	19.7	20	SF			3	C	1703	70	.7		
BIGB	20	1744	1746	1801	N21	W03	18566	09	20.5	17	SF			3	C	1746	80	.8		
PALE	20	1747	1748	1755	N21	W03		09	20.5	8	SF			3	C		30		F	3908
PEKG	21	0306	0314	0324	N17	W07		09	20.6	18	SF				P	0314	34	.4	E	
PEKG	21	0314E	0314	0330	S09	W13		09	20.2	16D	SF				P	0314	59	.6	E	
PEKG	21	0504	0507	0512	S18	W18		09	19.8	8	SF				P	0507	50	.6	D	
PEKG	21	0725	0726	0729	N18	E12		09	22.2	4	SF				P	0726	97	1.0	E	
PURP	21	0845	0851	0857	N15	E22		09	23.0	12	SF				C	0851	9	.1	E	
PEKG	21	0850	0854	0855D	N16	E20		09	22.9	5D	SF				P	0854	67	.8	E	
PEKG	21	0853	0854	0855	N17	W06		09	20.9	2	SF				C	0854	25	.3	D	
LEAR	21	0918	0928	0930D	N01	W41		09	18.3	12D	SN			3	C		94		F	3906
YUNN	21	0920	0937	0955	S00	W43		09	18.2	35	SB				C		80	1.1		
KAND	21	0921	1002		N00	W43		09	18.2		1B				C				G	
KAND	21	0924E	0932		N14	W16		09	20.2	D	SN				C				D	
KAND	21	1012	1033		S17	W19		09	20.0		SN				C				D	
RAMY	21	1540	1544	1608	N19	W03		09	21.4	28	SF			3	C		32			3910
PALE	21	1921E	1921U	1946	N14	W01		09	21.7	25D	SN			3	C		46			3910
BIGB	21	1921	1924	1950	N14	W01	18568	09	21.7	29	SN			3	C	1924	100	1.0		
PALE	21	2212	2238	2259	N18	W18		09	20.5	47	SF			3	C		25			3908
PALE	22	0002	0009	0020	S13	W27		09	20.0	18	SF			3	C		60			3907
BIGB	22	0002	0008	0010E	S13	W17	18567	09	20.7	8	SN			3	P	0008	110	1.3		
PEKG	22	0005E	0005	0007	S08	W25		09	20.1	2D	SF				C	0005	59	.7	E	
PALE	22	0013	0021	0031	N18	W19		09	20.6	18	SF			3	C		21			3908
LEAR	22	0517	0518	0543	N15	W16		09	21.0	26	SF			3	C		79		F	3908
PURP	22	0617E	0617	0621	S14	W24		09	20.4	4D	SF				P	0617	26	.3		
LEAR	22	0922	0925	0935	N14	W14		09	21.3	13	SB			3	C		83		H	3910
HOLL	22	1546	1620	1633	S13	W34		09	20.1	47	SF			3	C		30		F	3907
HOLL	22	1610	1612	1624	S09	W04		09	22.4	14	SN			3	C		26		F	3913
BIGB	22	1610	1612	1636	S09	W04	18573	09	22.4	26	SN			3	C	1612	80	.8		
PALE	22	1809	1817	1820	S15	W34		09	20.2	11	SF			3	C		23			3907
HOLL	22	1821	1824	1830	N13	W19		09	21.3	9	SB			3	C		47		EH	3910
PALE	22	1822	1822	1830	N13	W19		09	21.3	8	SB			3	C		99			3910
PALE	22	1917	1921	1935	N13	W16		09	21.6	18	SN			3	C		40		F	3910
PALE	22	1952	1955	2003	N13	W20		09	21.3	11	SB			3	C		63		H	3910
HOLL	22	1952	1954	1959	N13	W20		09	21.3	7	SB			4	C		49		H	3910
HOLL	22	2023	2025	2031	S13	W36		09	20.1	8	SB			4	C		42		H	3907
PALE	22	2024	2024	2029	S11	W38		09	20.0	5	SN			3	C		33			3907
BIGB	22	2109	2110	2121	N13	W21	18568	09	21.3	12	SB			3	C	2110	70	.8		

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Big Bear Plage 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	
PALE	22	2110	2111	2117	N11	W20		09	21.4	7	SB		3	C		75			3910
HOLL	22	2110	2111	2119	N13	W21		09	21.3	9	SB		4	C		62		H	3910
BIGB	22	2310	2315	2322	N13	W22	18568	09	21.3	12	SN		3	C	2315	80	.9		
HOLL	22	2311	2314	2331	N13	W22		09	21.3	20	SB		4	C		82			3910
LEAR	22	2352	2356	0001	N13	W22		09	21.3	9	SB		3	C		61		EH	3910
HOLL	22	2352	2357	0003	N13	W22		09	21.3	11	SB		4	C		50		H	3910
BIGB	22	2352	2358	0008	N13	W22	18568	09	21.3	16	SB		3	C	2358	70	.8		
PEKG	22	2353	2355	2431	N12	W22		09	21.3	38	SN			C	2355	50	.6	DK	
PEKG	22	2353	2423	2431	N13	W23		09	21.3	38	SN			C	2423	42	.5	D	
PALE	22	2358	2358		N11	W22		09	21.3		SB		3	C		27			3910
HOLL	23	0022	0024	0034	N11	W22		09	21.4	12	SN		3	C		38			3910
LEAR	23	0023	0023	0030	N13	W22		09	21.3	7	SF		3	C		32			3910
ISTA	23	0630E		0657	N11	W25		09	21.4	27D	SF							D	
ISTA	23	0711		0740	N11	W25		09	21.4	29	SN							BD	
PEKG	23	0731	0738	0738D	N13	W26		09	21.3	7D	SF			P	0738	42	.5	E	
KAND	23	1140	1252		S05	W90		09	16.8					P				Y	
HOLL	23	1405	1407	1411	S13	E79		09	29.5	6	SF		3	C					
HOLL	23	1415	1422	1427	N11	E67		09	28.6	12	SF		3	C		10			3917
BIGB	23	1933	1941	1954	N17	W42	18566	09	20.6	21	SN		3	C	1941	90	1.2		
PALE	23	1941E	1942U	1948	N17	W42		09	20.6	7D	SF		3	C		40			3908
LEAR	23	2308	2310	2316	N13	W34		09	21.4	8	SB		3	C		49		H	3910
HOLL	23	2308E	2310	2320	N13	W35		09	21.3	12D	SB		4	C		42		H	3910
BIGB	23	2311E	2313	2328	N13	W35	18568	09	21.3	17D	SB		3	C	2313	80	1.0		
PALE	24	0017	0032	0036	N12	W35		09	21.4	19	SN		3	C		34			3910
PEKG	24	0022	0023	0036	N13	W36		09	21.3	14	SF			C	0023	42	.5	DK	
PEKG	24	0022	0029	0036	N13	W36		09	21.3	14	SF			C	0029	59	.7	E	
LEAR	24	0027	0030	0038	N14	W28		09	21.9	11	SN		3	C		41			3910
PEKG	24	0350	0352	0357	S14	W53		09	20.1	7	SF			P	0352	25	.5	D	
PEKG	24	0350	0352	0400	N19	W45		09	20.7	10	SN			P	0352	71	1.0	E	
PEKG	24	0457E	0457	0513	N18	W39		09	21.2	16D	SN			P	0457	55	.7	D	
LEAR	24	0558	0559	0607	S15	W53		09	20.2	9	SF		3	C		17			3907
BUCA	24	0700	0702	0710	N15	E78		09	30.2	10	SF			C	0702	64		D	
LEAR	24	0702	0705	0709	N14	E82		09	30.5	7	SF		3	C					
LEAR	24	0713	0715	0718	S14	E60		09	28.8	5	SF		3	C		15			3919
LEAR	24	0819	0828	0836	N18	W46		09	20.8	17	SF		3	C		52		F	3908
WEND	24	0819	0822	0831	N17	W47		09	20.8	12	SN			C	0822	30	.5		
PURP	24	0821E	0821	0839	N19	W50		09	20.5	18D	1N			P	0821	121	2.1	E	
LEAR	24	0844	0847	0849	N14	E79		09	30.3	5	SF		3	C					
LEAR	24	0858	0909	0913	N14	E81		09	30.5	15	SF		3	C		29			
WEND	24	0908	0910	0916	N16	E77		09	30.2	8	SN			C	0910	28			
WEND	24	1000	1005	1009	N15	W29		09	22.2	9	SF			C	1005	34	.4		
RAMY	24	1317	1326	1340	S10	W29		09	22.4	23	SF		3	C		24			3913
RAMY	24	1340	1343	1606	N15	E75		09	30.3	146	SF		3	C					
RAMY	24	1416	1416	1420	S09	E62		09	29.3	4	SF		3	C		21			3919
RAMY	24	1548	1555	1610	S12	E54		09	28.7	22	SF		3	C		44			3919
PALE	24	1812	1813	1838	S09	E58		09	29.1	26	SF		3	C		69		F	3919
HOLL	24	1818E	1818U	1823	S11	E59		09	29.2	5D	SF		3	C		33		F	
HOLL	24	1954E	1958	2028	S14	E53		09	28.8	34D	SN		3	C		62		F	3919
PALE	24	2022	2029	2052	N18	W56		09	20.6	30	SF		3	C		133			3908
PURP	25	0020	0028	0122D	N23	E68		09	30.3	62D	SN			C	0028	39			
PALE	25	0040	0042	0045	N15	E68		09	30.2	5	SF		3	C		65			3922
LEAR	25	0146	0148	0200	S03	E90		10	1.8	14	SF		3	C					3923
PALE	25	0146	0148	0151	N18	W57		09	20.7	5	SF		3	C		30			3908
PALE	25	0216	0225	0236	N15	E67		09	30.2	20	SN		3	C		26			3922
LEAR	25	0224	0224	0233	N14	E69		09	30.3	9	SF		3	C		20			3922
LEAR	25	0348	0349	0357	N14	E69		09	30.4	9	SF		3	C		14			3922
WEND	25	0806	0812	0831	N16	E16		09	26.5	25	SN			C	0812	50	.6		
WEND	25	0822	0824	0827	N13	E46		09	28.8	5	SN			C	0824	25	.4		
RAMY	25	1442	1444	1448	S09	E49		09	29.3	6	SB		3	C		22			3919
PALE	26	0115	0116	0120	N14	E35		09	28.7	5	SF		3	C		21			3917
PEKG	26	0347E	0353	0400	N15	E42		09	29.3	13D	SF			P	0353	46	.6	E	
LEAR	26	0516	0517	0525	S13	E33		09	28.7	9	SF		3	C		43		F	3919
LEAR	26	0824	0828	0843	N14	E52		09	30.3	19	SF		3	C		29		F	3922
RAMY	26	1220	1314	1314D	N15	E36		09	29.2	54D	1N		3	C		299			3917
RAMY	26	1234	1329	1353	N13	E48		09	30.1	79	SF		3	C		27			3922
HOLL	26	1605	1605	1613	N13	W71		09	21.3	8	SF		3	C		20			3908
RAMY	26	1634	1634	1652	S04	E63		10	1.4	18	SF		3	C		27			3923

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Big Bear Plage 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	
HOLL	26	1659	1717	1733	N14	E30		09	29.0	34	SB		3	C		106			3917
HOLL	26	1834	1836	1853	S12	E26		09	28.7	19	SB		3	C		71		F	3919
PALE	26	1835	1837	1845	S11	E27		09	28.8	10	SB		3	C		67		FE	3919
PALE	26	1842	1849	1919	N16	E34		09	29.4	37	SN		3	C		31			3917
HOLL	26	1903E	1903U	1912	S14	W84		09	20.4	9D	SF		3	C					3907
PALE	26	1913	1914	1918	N15	E47		09	30.4	5	SN		3	C		18			3922
PALE	26	1946	1951	2005D	N16	E29		09	29.0	19D	SN		3	C		60			3917
HOLL	26	2020	2022	2024D	S12	E25		09	28.7	4D	SB		3	C		96		E	3919
PALE	26	2022	2023	2030	S11	E25		09	28.7	8	SN		3	C		98		FH	3919
HOLL	26	2025	2037	2054	N20	W80		09	20.7	29	1N		4	C				F	3908
HOLL	26	2044	2053	2135D	N15	E43		09	30.1	51D	SN		4	C		53			3922
HOLL	26	2100	2113	2135D	N18	E36		09	29.6	35D	SN		4	C		74			3917
PALE	26	2111	2147	2158D	N15	E38		09	29.8	47D	SN		3	C		82			3922
PALE	26	2315E	2326U	0021D	N17	E31		09	29.3	66D	1B		3	C		266		FE	3917
LEAR	26	2317	2323	0012	N14	E30		09	29.2	55	SB		3	C		139		FEK	3917
LEAR	26	2317	2336	0012	N14	E30		09	29.2	55	SN		3	C		166		K	3917
HOLL	26	2317	2337	0012	N15	E30		09	29.2	55	1B		3	C		264			3917
MANI	26	2319E	2324	2350D	N15	E30		09	29.2	31D	SN		1	V		150	1.8	F	
PEKG	26	2339E	2339	2350	N15	E30		09	29.3	11D	SN			P	2339	168	2.0	FZ	
LEAR	27	0023	0026	0057	S13	E28		09	29.1	34	SN		3	C		101		F	3919
PALE	27	0026E	0028U	0036	S11	E27		09	29.0	10D	SN		3	C		48			3919
PALE	27	0030E	0031U	0045	S10	W21		09	25.4	15D	SF		3	C		29			3925
LEAR	27	0123	0123	0157	S09	E28		09	29.2	34	SN		3	C		20			3919
PEKG	27	0124	0133	0144	S09	E27		09	29.1	20	SF			C	0133	59	.7	E	
PALE	27	0125	0128	0159	S07	E27		09	29.1	34	SN		3	C		32		F	3919
LEAR	27	0136	0141	0151	N13	E20		09	28.6	15	SF		3	C		63		F	3917
LEAR	27	0140	0145	0156	N09	E70		10	2.3	16	SF		3	C		68		F	3926
PALE	27	0140	0141	0211	N11	E70		10	2.3	31	SF		3	C		22			3926
LEAR	27	0336	0339	0346	N13	E40		09	30.2	10	SN		3	C		50		F	3922
PEKG	27	0406	0409	0453	N11	E35		09	29.8	47	SF			C	0409	147	1.8	FK	
PEKG	27	0406	0434	0453	N12	E34		09	29.7	47	SF			C	0434	67	.8	F	
PEKG	27	0406E	0409	0417	N15	E32		09	29.6	11D	SN			P	0409	84	1.0	E	
LEAR	27	0406	0408	0435	N14	E30		09	29.4	29	SF		3	C		83		F	3917
LEAR	27	0407	0410	0445	N13	E36		09	29.9	38	SN		3	C		36		F	3922
PEKG	27	0434E	0434	0435	N15	E31		09	29.5	1D	SF			P	0434	34	.4	E	
PEKG	27	0705	0728	0745	N15	E27		09	29.3	40	SF			C	0728	105	1.2	E	
RAMY	27	1227	1230	1242	S03	E52		10	1.4	15	SN		3	C		50			3923
RAMY	27	1532	1532	1559	N15	E35		09	30.3	27	SN		3	C		26		F	3922
RAMY	27	1604	1618	1630	N17	E37		09	30.5	26	SB		3	C		109			3922
BIGB	27	1620E	1621	1629	N17	E37	18584	09	30.5	9D	SB		3	P	1621	60	.8		
BIGB	27	1903	1905	1926	N18	E30	18584	09	30.1	23	SB		3	C	1905	80	1.0		
PALE	27	1910	1917	1924D	S08	E17		09	29.1	14D	SB		3	C		147		F	3919
BIGB	27	1910	1918	1951	S03	E17	18587	09	29.1	41	SN		2	C	1918	90	1.0		
BIGB	27	1952	1953	2024	S11	E15	18587	09	29.0	32	SN		3	C	1953	80	.9		
PALE	27	2153	2153	2155	N17	E34		09	30.5	2	SF		3	C		34		F	3922
BIGB	27	2216	2218	2224	N16	E35	18584	09	30.6	8	SN		3	C	2218	80	1.0		
LEAR	27	2341	2343	2346	S18	E39		09	31.0	5	SF		3	C		37			3924
LEAR	28	0035	0038	0041	S18	E38		09	30.9	6	SF		3	C		26			3924
LEAR	28	0043	0044	0054	N15	E29		09	30.2	11	SN		3	C		45			3922
LEAR	28	0308	0312	0322	N15	E31		09	30.5	14	SN		3	C		48		F	3922
LEAR	28	0340	0347	0436	N18	E16		09	29.4	56	SN		3	C		95		F K	3917
LEAR	28	0340	0423	0436	N18	E16		09	29.4	56	SN		3	C		63		K	3917
PEKG	28	0341E	0345	0420	N19	E17		09	29.4	39D	SN			C	0345	88	1.0	E	
LEAR	28	0408	0414	0453	N15	E27		09	30.2	45	SF		3	C		50		K	3922
LEAR	28	0408	0446	0453	N15	E27		09	30.2	45	SN		3	C		83		F K	3922
LEAR	28	0449	0451	0455	S18	W13		09	27.2	6	SF		3	C		41			3916
LEAR	28	0502	0504	0517	N14	E29		09	30.4	15	SF		3	C		35		F	3922
RAMY	28	1406	1408	1442	S11	E06		09	29.0	36	SN		3	C		72		F	3919
BIGB	28	1808	1808	1831	N14	W01	18583	09	28.7	23	SF		3	C	1808	60	.6		
BIGB	28	1808	1819	1903	S03	E35	18586	10	1.4	55	SN		3	C	1819	90	1.1		
BIGB	28	1809	1821	1916	S12	E04	18587	09	29.1	67	SN		3	C	1821	80	.8		
BIGB	28	2059	2102	2111	N15	E22	18585	09	30.5	12	SB		3	C	2102	130	1.4		
PALE	28	2102	2102	2107	N16	E22		09	30.5	5	SF		3	C		78			3922
PEKG	28	2328	2331	2339D	N02	E27		10	1.0	11D	SN			C	2331	84	1.0	D	
LEAR	28	2332E	2332	2346	N00	E28		10	1.1	14D	SB		2	C		48		E	3923
PALE	28	2332	2332	2338D	N02	E27		10	1.0	6D	SN		3	C		49			3923
LEAR	29	0014	0019	0034	S12	W01		09	28.9	20	1F		3	C		200		F	3919
PEKG	29	0030E	0030U	0030D	S10	W01		09	28.9	20D	SF			P	0030	139	1.5	E	

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

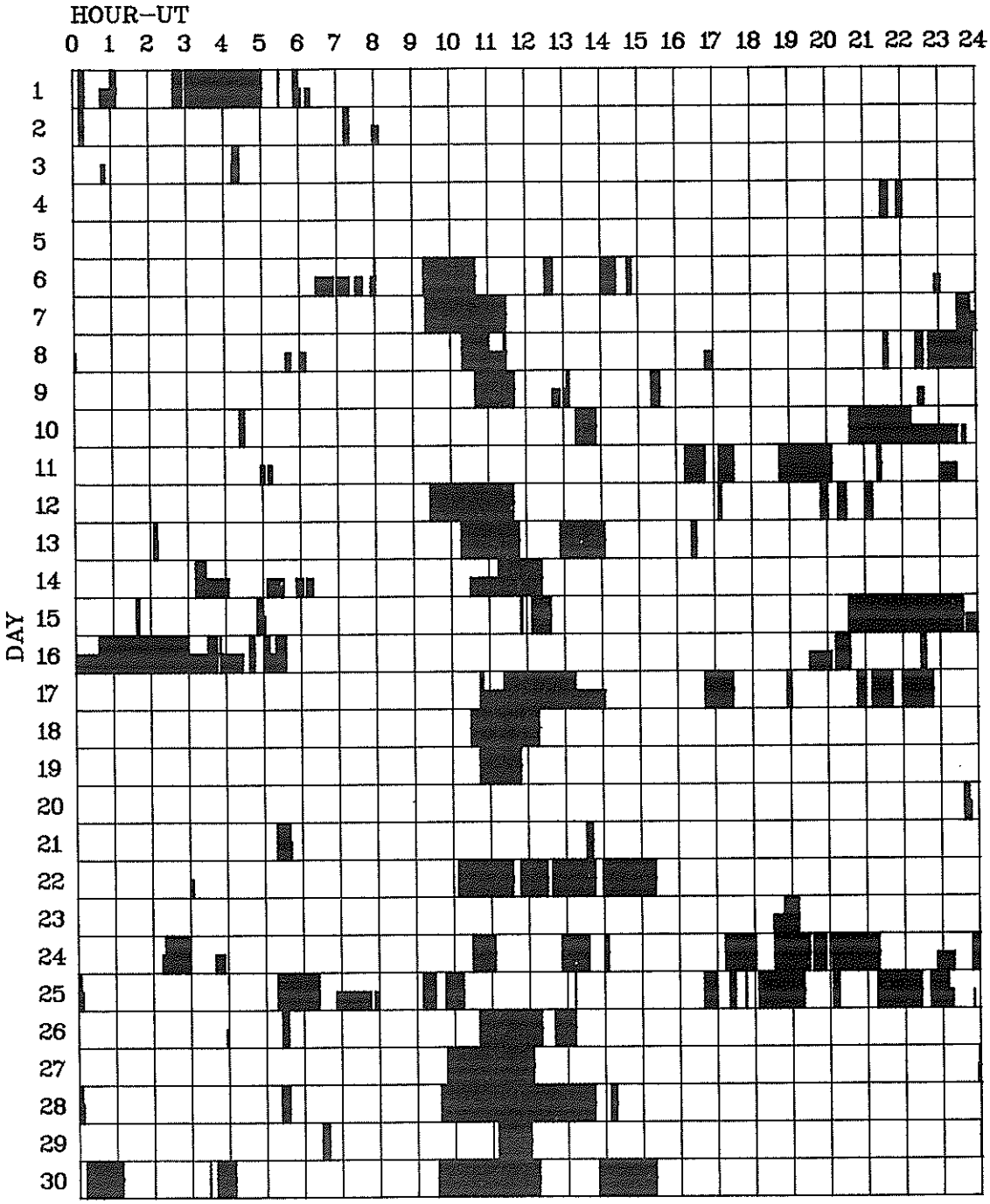
SEPTEMBER 1982

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	Big Bear Plage Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Obs See	Obs Type	Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
PALE	29	0102	0109	0123	S02	E31		10	1.4	21	SN		3	C		178		3923
MANI	29	0104	0110	0130D	S03	E30		10	1.3	26D	1N		1	V		200	2.4	F
LEAR	29	0105	0111	0135	S04	E30		10	1.3	30	1N		3	C		259		F 3923
PALE	29	0248	0250	0252D	N15	E17		09	30.4	4D	SF		3	C		41		3922
LEAR	29	0655	0655	0704	N14	E14		09	30.3	9	SF		3	C		41		3922
LEAR	29	0722	0728	0752	N14	E13		09	30.3	30	SF		3	C		30		K 3922
LEAR	29	0722	0741	0752	N14	E13		09	30.3	30	SF		3	C		63		K 3922
LEAR	29	0754	0809	0842	N16	E16		09	30.5	48	SN		3	C		74		K 3922
LEAR	29	0754	0823	0842	N16	E16		09	30.5	48	SN		3	C		89		F K 3922
ISTA	29	0802		0830	N16	E17		09	30.6	28	SF							E
RAMY	29	1219	1233	1253	N14	E10		09	30.3	34	SF		3	C		122		3922
RAMY	29	1247	1247	1257	S10	W07		09	29.0	10	SN		3	C		23		3919
RAMY	29	1307	1309	1322	S21	W31		09	27.2	15	SF		3	C		51		3916
WEND	29	1332	1335	1343	N11	E37		10	2.3	11	SN			C	1335	38	.5	H
RAMY	29	1333	1335	1343	N12	E37		10	2.3	10	SF		3	C		52		3926
RAMY	29	1518	1525	1558	N16	E11		09	30.5	40	SB		3	C		186		FE 3922
WEND	29	1519	1526	1532D	N16	E12		09	30.5	13D	SB			C	1526	78	.9	H
RAMY	29	1545	1545	1546D	S10	W19		09	28.2	1D	4F		3	C		6289		
RAMY	29	1645	1913	2022D	S11	W10		09	28.9	217D	SB		3	C		106		FEK 3919
RAMY	29	1645	1925	2022D	S11	W10		09	28.9	217D	SN		3	C		64		K 3919
PALE	29	1713E	1836U	1858	S11	W08		09	29.1	105D	SN		3	C		126		3919
HOLL	29	1800E	1801U	1808D	S10	W10		09	29.0	8D	SN		2	C		52		3919
HOLL	29	1802	1803	1807	S20	E17		10	1.0	5	SF		2	C		25		3921
BIGB	29	1832E	1845	1940	S11	W08	18587	09	29.2	68D	1B		3	P	1845	360	3.7	
PALE	29	1909	1914	1938D	S10	W12		09	28.9	29D	SB		3	C		84		FE 3919
PALE	29	1918	1945U	2006D	N14	E04		09	30.1	48D	1N		3	C		247		F 3922
BIGB	29	1920	1938	2000	N14	E04	18584	09	30.1	40	1B		3	C	1938	220	2.3	
BIGB	29	1932	1934	2009	S05	E18	18587	10	1.2	37	SN		3	C	1934	100	1.1	
BIGB	29	2012	2020	2050	N16	E07	18584	09	30.4	38	SB		3	C	2020	160	1.7	
PALE	29	2015	2024U	2029D	S10	W12		09	28.9	14D	SN		3	C		105		3919
PALE	29	2015	2019	2034	N16	E07		09	30.4	19	SB		3	C		165		F 3922
PALE	29	2235	2242U	2308D	S10	W22		09	28.3	33D	SB		3	C		187		F 3928
BIGB	29	2245E	2246	2323	S12	W22	18587	09	28.3	38D	1B		3	C	2246	210	2.3	
LEAR	30	0116	0120	0140	S10	W15		09	28.9	24	SN		3	C		152		F 3919
LEAR	30	0132	0139	0218	N16	E06		09	30.5	46	1B		3	C		465		ZF 3922
LEAR	30	0422	0425	0434	N18	E58		10	4.6	12	SF		3	C		17		F
LEAR	30	0534	0535	0549	S17	E08		09	30.8	15	SF		3	C		55		F 3921
LEAR	30	0615	0616	0632	N15	E01		09	30.3	17	SN		3	C		108		3922
YUNN	30	0620E	0620U	0628	N14	E02		09	30.4	8D	SN			P	0620	32	.3	
YUNN	30	0620E	0626	0655	N12	W13		09	29.3	35D	SN			P		48	.5	
LEAR	30	0630	0632	0640	S11	W17		09	29.0	10	SF		3	C		26		3919
LEAR	30	0701	0705	0714	S11	W17		09	29.0	13	SF		3	C		22		3919
LEAR	30	0713	0713	0737	N17	E01		09	30.4	24	SF		3	C		23		K 3922
LEAR	30	0713	0728	0737	N17	E01		09	30.4	24	SF		3	C		22		K 3922
LEAR	30	0720	0724	0732	S10	W17		09	29.0	12	SF		3	C		38		3919
LEAR	30	0837	0842	0903D	N15	W00		09	30.4	26D	1B		3	C		239		3922
WEND	30	0838	0842	0903	N16	E00		09	30.4	25	SB			C	0842	94	1.0	H
LEAR	30	0901	0903U	0903D	S11	W19		09	28.9	2D	SF		3	C		51		3919
WEND	30	0903	0908	0914	S10	W19		09	28.9	11	SN			C	0908	38	.4	H
RAMY	30	1214	1223	1316	N15	W03		09	30.3	62	SN		3	C		178		3922
RAMY	30	1317	1343	1343D	N17	W03		09	30.3	26D	1N		3	C		214		3922
BIGB	30	1630	1634	1653	N15	W07	18584	09	30.2	23	SN		3	C	1634	100	1.0	
PALE	30	1801	1803	1823	N14	W07		09	30.2	22	SN		3	C		93		F K 3922
PALE	30	1801	1812	1823	N14	W07		09	30.2	22	SN		3	C		112		K 3922
BIGB	30	1801	1803	1823	N14	W07	18584	09	30.2	22	SN		3	C	1823	90	.9	
PALE	30	1816	1817	1821	S04	E07		10	1.3	5	SF		3	C		24		3923
PALE	30	1938	1941	1942	N13	W23		09	29.1	4	SF		3	C		25		3917
BIGB	30	2003	2010	2037	N15	W08	18584	09	30.2	34	SB		3	C	2010	140	1.5	
PALE	30	2004	2009	2035	N15	W08		09	30.2	31	SB		3	C		129		FE 3922
BIGB	30	2114	2145	2254	S14	E50	18580	10	4.7	100	1N		3	C	2145	180	2.9	
PALE	30	2136	2144	2148	N14	W23		09	29.2	12	SF		3	C		68		3917
LEAR	30	2336E	2340	2359	N16	W06		09	30.5	23D	SN		2	C		103		3922
BIGB	30	2336	2339	0010	N16	W06	18584	09	30.5	34	SB		3	C	2339	150	1.6	

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

SEPTEMBER 1982



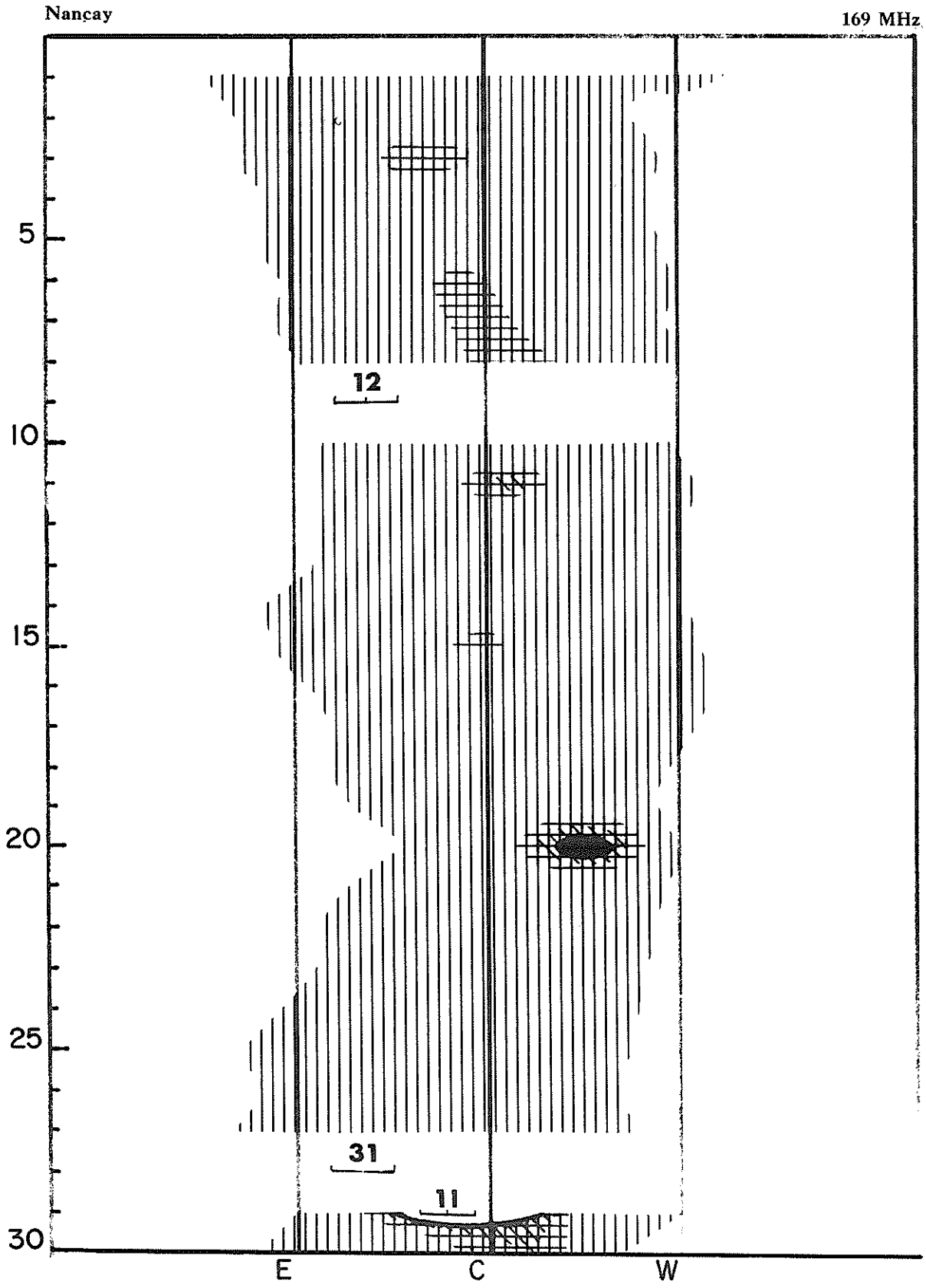
Observatories included in total patrol:

Big Bear	Holloman	Kandilli	Monte Mario	Ramey
Bucharest	Istanbul	Learmonth	Peking	Wendelstein
		Manila	Purple Mt.	Yunnan

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

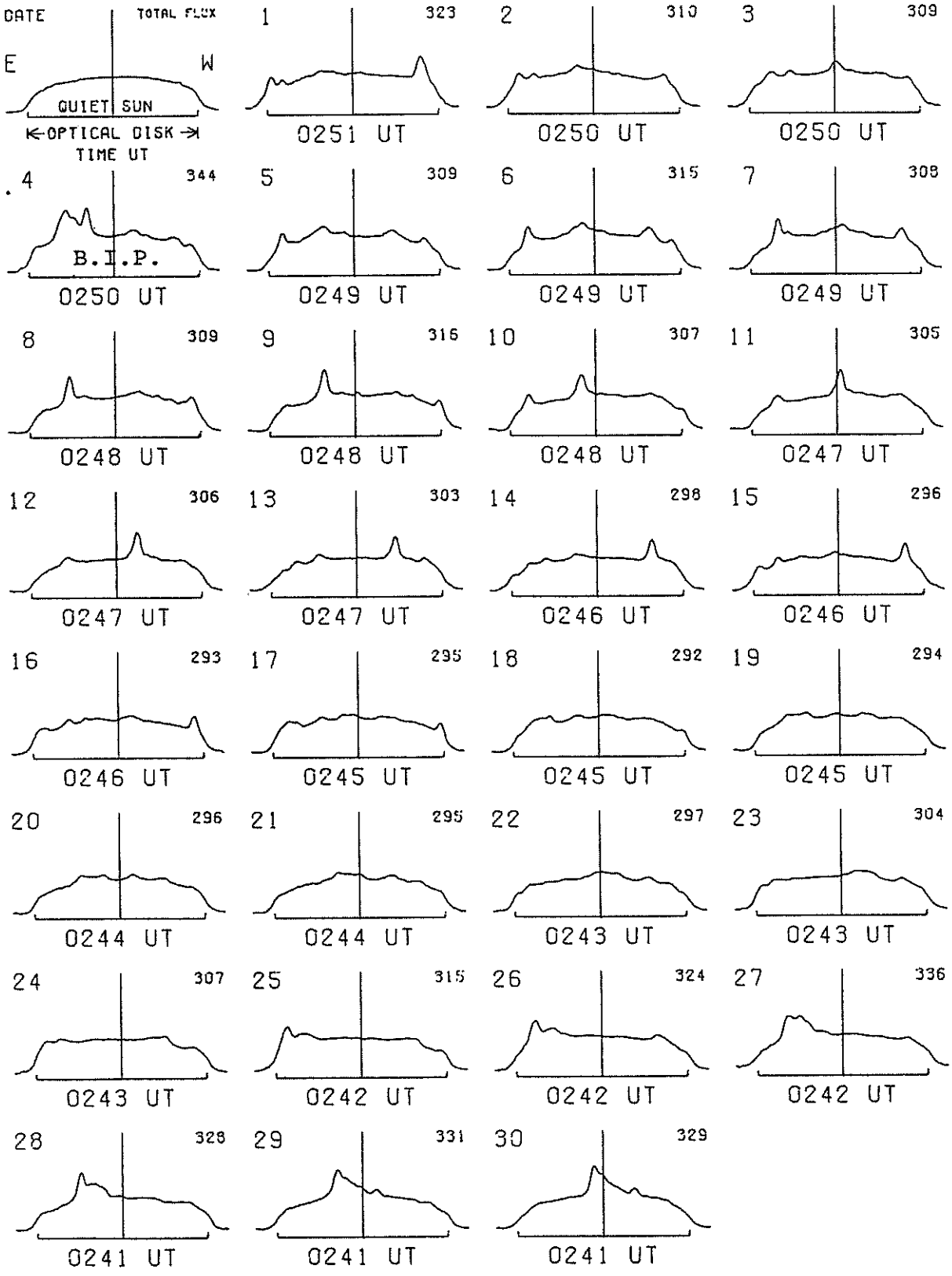
SEPTEMBER 1982



EAST-WEST SOLAR SCANS
SEPTEMBER 1982

TOYOKAWA, JAPAN

3 CM
FAN BEAM WITH 1.1 MINUTES OF ARC

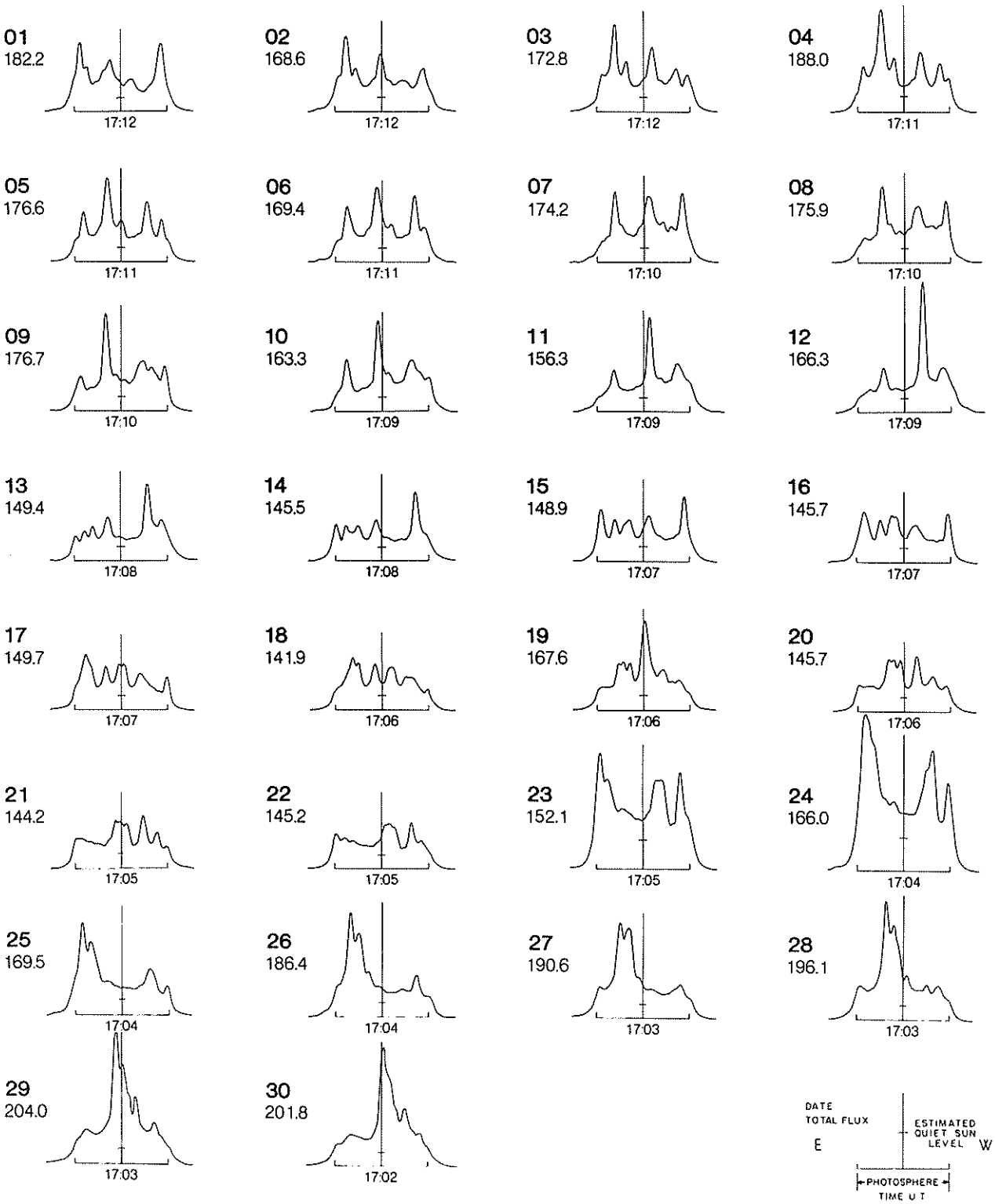


EAST-WEST SOLAR SCANS

SEPTEMBER 1982

ALGONQUIN RADIO OBSERVATORY
CANADA

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



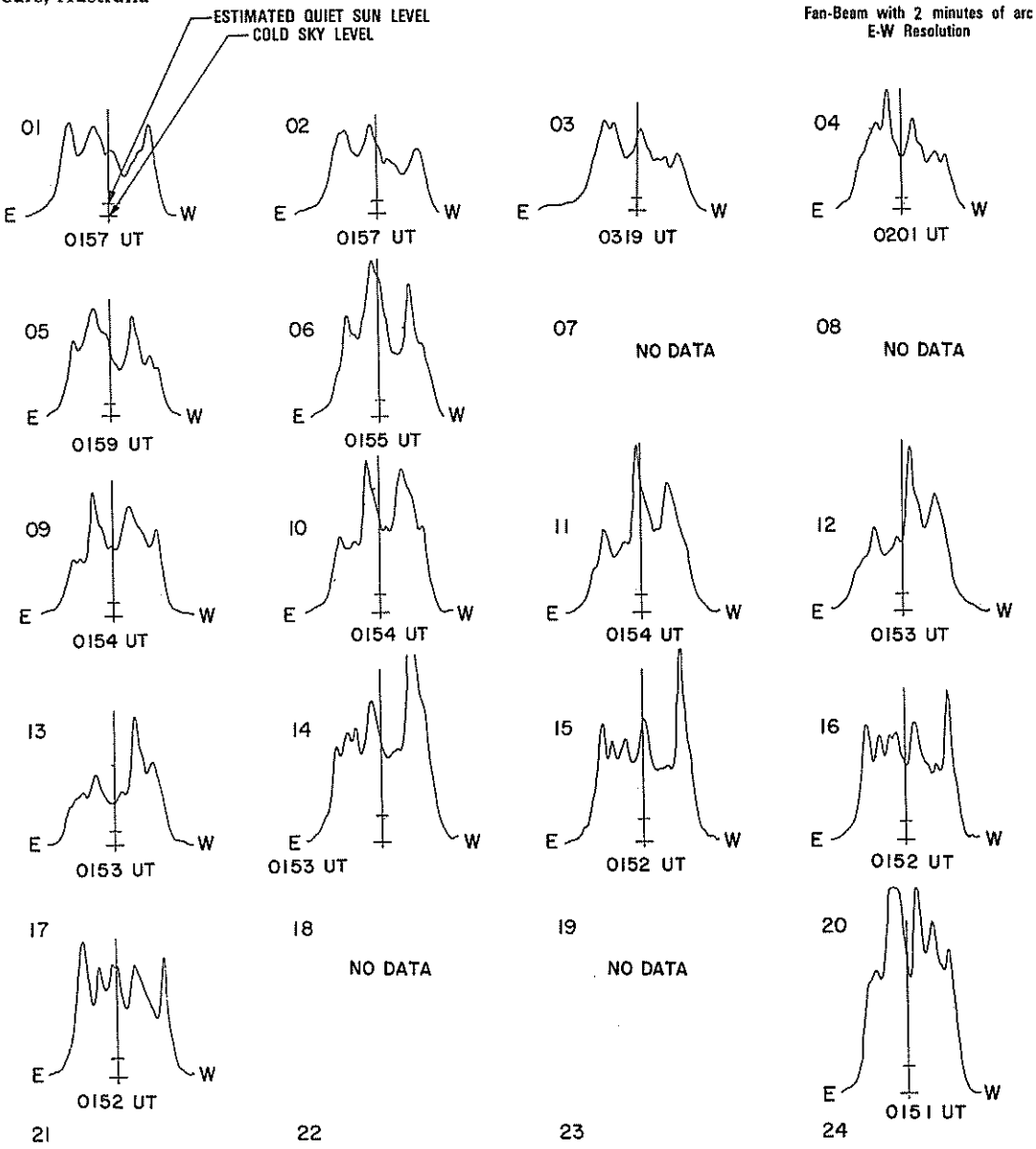
28
Sep 82

EAST-WEST SOLAR SCANS

SEPTEMBER 1982

Fleurs, Australia

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



NO DATA SEPTEMBER 21-30, 1982

25 26 27 28

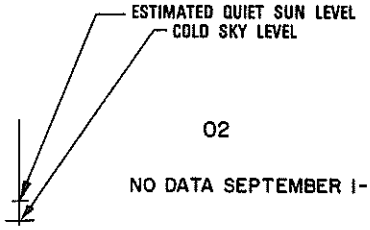
29 30

EAST-WEST SOLAR SCANS

SEPTEMBER 1982

Fleurs, Australia

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



01

02

NO DATA SEPTEMBER 1-7, 1982

03

04

05

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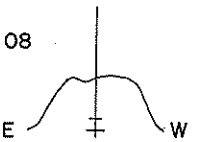
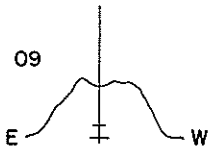
08



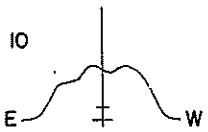
0155 UT

09



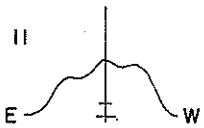
0154 UT

10



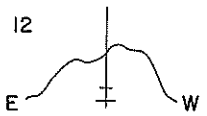
0154 UT

11



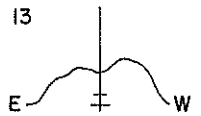
0154 UT

12



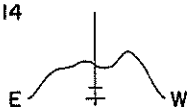
0153 UT

13



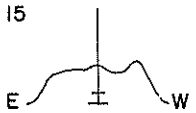
0153 UT

14



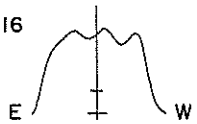
0153 UT

15



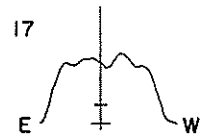
0152 UT

16



0152 UT

17



0152 UT

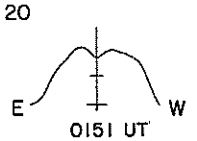
18

NO DATA

19

NO DATA

20



0151 UT

21

22

NO DATA SEPTEMBER 21-30, 1982

23

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SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

SEPTEMBER 1982

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	Remarks
01	2695	ATHN	47	GB	0737.8	0743.8	23.3	110.0			QL=6 ST=2 TYP=5
	8800	ATHN	4	S/F	0738.0	0743.8	22.6	49.0			QL=2 ST=2 TYP=3
	8400	BERN	22	GRF	0738.2	0857.3	170.0U	127.0			ONLY PAPER REC
	2695	LEAR	47	GB	0738.3	0739.6	10.0	26.0			QL=6 ST=2 TYP=5
	8800	LEAR	4	S/F	0743.5	0743.8	4.8	49.0			QL=6 ST=2 TYP=3
	2695	ATHN	20	GRF	0808.3	0857.5	86.5	56.0			QL=6 ST=2 TYP=2
	8800	ATHN	20	GRF	0812.0	0857.5	83.0	100.0			QL=2 ST=2 TYP=2
	2695	LEAR	4	S/F	0855.8	0858.3	3.5	18.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0856.1	0857.3	2.5	33.0			QL=6 ST=2 TYP=3
	2800	OTTA	20	GRF	1345.0	1350.0	220.0	5.2	2.6		
	2800	OTTA	260	FAL	1820.0	1935.0	75.0	-5.8			
	2695	PENT	20	GRF	2320.0	2335.0	80.0	5.4	2.6		
02	2800	OTTA	21	GRF	1255.0	1350.0	220.0	9.2	5.0		
	2800	OTTA	4	S/F	1259.0	1301.5	7.0	26.6	8.9		
	8400	BERN	20	GRF	1259.2	1324.3	90.0U	17.0			ONLY PAPER REC
	2695	ATHN	4	S/F	1259.5	1301.8	5.6	21.0			QL=6 ST=2 TYP=3
	2695	SGMR	8	S	1301.1	1301.6	1.5	27.0			QL=6 ST=2 TYP=3
	2800	OTTA	3	S	1320.0	1322.7	6.0	24.2	9.0		
	2695	ATHN	4	S/F	1320.8	1322.6	5.8	16.0			QL=6 ST=2 TYP=3
	8800	ATHN	4	S/F	1321.0	1324.5	5.6	3.0			QL=2 ST=2 TYP=3
	2695	SGMR	8	S	1322.0	1322.5	1.6	27.0			QL=6 ST=2 TYP=3
	2800	OTTA	27A	RF	1640.0		215.0	3.0	2.8		
	2800	OTTA	24	R	1640.0	1655.0	15.0	3.0	1.5		
	2800	OTTA	24P	R	1655.0		180.0	3.0			
	2800	OTTA	21	GRF	1833.0	1850.0	80.0	14.0	8.3		
	2800	OTTA	4	S/F	1837.0	1843.5	10.0	10.6	8.3		
	2800	OTTA	26	FAL	1955.0	2015.0	20.0	03.0	-1.5		
03	8800	LEAR	8	S	0122.0	0122.1	1.6	20.0			QL=6 ST=2 TYP=3
	8800	ATHN	4	S/F	0606.6	0608.0	3.2	30.0			QL=2 ST=2 TYP=3
	8400	BERN	3	S	0608.5	0609.1	7.0	41.0			
	8800	LEAR	8	S	0609.0	0609.1		28.0			QL=6 ST=3 TYP=3
	8800	LEAR	8	S	0826.3	0826.5	1.0	13.0			QL=6 ST=2 TYP=3
	2800	OTTA	22	GRF	1405.0	1508.0	290.0	12.8	6.0		
	2800	OTTA	20	GRF	1900.0	1925.0	55.0	2.6	1.3		
	2800	OTTA	1	S	2037.9	2038.1	1.0	3.2	1.2		
	2800	OTTA	20	GRF	2125.0	2155.0	65.0	2.6	1.3		
	2695	PENT	20	GRF	2325.0	2345.0	55.0	6.8	3.6		
04	2695	PENT	4	S/F	0044.0	0047.8	15.0	54.0	13.4		
	8800	LEAR	47	GB	0045.3	0047.8	10.8	50.0			QL=6 ST=2 TYP=5
	2695	LEAR	47	GB	0046.1	0048.3	10.0	66.0			QL=6 ST=2 TYP=5
	8800	LEAR	47	GB	0324.0	0331.8	26.0	67.0			QL=6 ST=2 TYP=5
	2695	LEAR	47	GB	0324.0	0335.1	26.0	93.0			QL=6 ST=2 TYP=5
	2800	OTTA	27A	RF	1310.0		375.0	3.0	2.7		
	2800	OTTA	24	R	1310.0	1325.0	15.0	3.0	1.5		
	2800	OTTA	24P	R	1325.0		295.0	3.0			
	2800	OTTA	20	GRF	1635.0	1645.0	55.0	3.6	1.8		
	2800	OTTA	26	FAL	1820.0	1925.0	65.0	-3.0	-1.5		
	2800	OTTA	20	GRF	2005.0	2030.0	65.0	3.6	2.0		
05	2800	OTTA	20	GRF	1340.0	1350.0	25.0	3.0	1.5		
	2800	OTTA	20	GRF	1745.0	1810.0	100.0	2.6	1.3		
	2800	OTTA	1	S	1930.5	1931.8	1.5	7.2	2.6		
	2800	OTTA	20	GRF	2000.0	2110.0	125.0	3.0			
06	2695	PENT			0145.0	0152.0	7.0D	107.0			
	2695	PALE	47	GB	0149.3	0152.8	6.0	300.0			QL=6 ST=2 TYP=5
	8800	PALE	49	GB	0150.6	0152.8	5.7	540.0			QL=6 ST=2 TYP=6
	2800	OTTA	21	GRF	1812.0	1820.0	25.0	3.2	1.6		
	2800	OTTA	1	S	1812.5	1813.5	3.0	4.2	2.0		
07	2800	OTTA	20	GRF	1220.0	1240.0	50.0	3.4	1.7		
	2800	OTTA	1	S	1709.8	1709.9	1.0	2.2	1.1		
	2800	OTTA	23	GRF	1805.0	1828.0	155.0	9.4	4.6		
	2800	OTTA	4	S/F	1809.0	1810.9	3.5	13.2	3.4		
	2800	OTTA	4	S/F	1849.0	1850.3	4.0	73.0	13.2		
	2695	SGMR	8	S	1849.8	1850.5	2.0	48.0			QL=6 ST=2 TYP=3
	2695	PALE	8	S	1850.8	1851.1	1.2	43.0			QL=6 ST=2 TYP=3

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

SEPTEMBER 1982

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	Remarks
08	2695	LEAR	4	S/F	0642.8	0643.6	4.3	20.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0642.8	0643.6	2.8	9.0			QL=6 ST=2 TYP=3
	2695	ATHN	8	S	0642.8	0643.8	2.0	9.0			QL=6 ST=2 TYP=3
	8800	ATHN	8	S	0703.3	0704.0	1.0	20.0			QL=6 ST=2 TYP=3
	2800	OTTA	260	FAL	1420.0	1450.0	30.0	-2.6	-1.6		
	2800	OTTA	240	R	1945.0	2020.0	35.0	3.2	1.6		
	2800	OTTA	2	S/F	2135.5	2135.9	1.5	4.2			
09	2695	PENT	21	GRF	0005.0	0030.0	90.0	17.0	8.5		
	2695	LEAR	4	S/F	0014.8	0015.1	10.8	17.0			QL=6 ST=2 TYP=3
	2695	PENT	1	S	0015.0	0015.2	1.2	4.8	2.2		
	8800	LEAR	4	S/F	0015.6	0016.5	10.0	10.0			QL=6 ST=2 TYP=3
	8800	PALE	4	S/F	0022.1	0023.8	5.5	18.0			QL=6 ST=2 TYP=3
	2695	PALE	8	S	0022.5	0023.5	1.1	27.0			QL=6 ST=2 TYP=3
	2695	PENT	4	S/F	0023.2	0023.5	1.0	19.2			
	8800	LEAR	20	GRF	0025.6	0029.8	14.5	30.0			QL=6 ST=2 TYP=2
	2695	LEAR	47	GB	0025.6	0034.8	14.5	50.0			QL=6 ST=2 TYP=5
	8800	PALE	20	GRF	0027.6	0029.3	7.4	28.0			QL=6 ST=2 TYP=2
	2695	PALE	8	S	0032.0	0032.6	1.1	13.0			QL=6 ST=2 TYP=3
	2695	PENT	4	S/F	0034.2	0034.9	1.5	30.0	15.0		
	8800	PALE	20	GRF	0035.0	0035.5	11.0	36.0			QL=6 ST=2 TYP=2
	2695	LEAR	47	GB	0040.1	0040.1	3.7	50.0			QL=6 ST=2 TYP=5
	8800	LEAR	20	GRF	0040.1	0041.8	4.2	34.0			QL=6 ST=2 TYP=2
	8800	PALE	20	GRF	0046.0	0047.0	3.0	31.0			QL=6 ST=2 TYP=2
	2695	PENT	4	S/F	0111.5	0115.0	6.0	19.2	6.4		
	2695	LEAR	8	S	0111.8	0113.3	1.5D	16.0			QL=6 ST=2 TYP=3
	8800	LEAR	47	GB	0112.6	0114.6	5.7	100.0			QL=6 ST=2 TYP=5
	8800	PALE	47	GB	0112.8	0114.8	5.5	110.0			QL=6 ST=2 TYP=5
	2695	PALE	8	S	0113.1	0114.6	1.5D	18.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0259.8	0301.1	4.3	24.0			QL=6 ST=2 TYP=3
	2695	ATHN	4	S/F	0709.8	0713.5	11.0	31.0			QL=6 ST=2 TYP=3
	8400	BERN	4	S/F	0709.8	0713.6	18.0	215.0			
	2695	LEAR	4	S/F	0710.1	0713.3	5.0	37.0			QL=6 ST=2 TYP=3
	8800	ATHN	47	GB	0710.1	0713.8	10.2	110.0			QL=6 ST=2 TYP=5
	8800	LEAR	47	GB	0710.3	0713.6	9.3	200.0			QL=6 ST=2 TYP=5
	8400	BERN	41	F	0909.4	0931.2	54.0	80.0			
	2695	ATHN	4	S/F	0910.0	0911.6	3.0	10.0			QL=6 ST=2 TYP=3
	8800	ATHN	4	S/F	0910.0	0911.8	3.5	10.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0910.6	0911.3	1.9	17.0			QL=6 ST=2 TYP=3
	2695	LEAR	47	GB	0928.8	0931.3	7.8	70.0			QL=6 ST=2 TYP=5
	2695	ATHN	47	GB	0929.0	0931.5	6.5	56.0			QL=6 ST=2 TYP=5
	8800	ATHN	4	S/F	0929.0	0931.5	6.5	38.0			QL=6 ST=2 TYP=3
	2695	ATHN	8	S	0956.5	0957.0	1.1	31.0			QL=6 ST=2 TYP=3
	2695	SGMR	4	S/F	1110.0	1112.1	4.8	29.0			QL=6 ST=2 TYP=3
	8800	SGMR	8	S	1111.1	1111.6	1.2	23.0			QL=6 ST=2 TYP=3
	2695	SGMR	20	GRF	1114.8	1115.1	11.5	22.0			QL=6 ST=2 TYP=2
	8800	SGMR	4	S/F	1114.8	1116.8	11.5	23.0			QL=6 ST=2 TYP=3
	8800	SGMR	20	GRF	1126.3	1126.3	10.0	24.0			QL=6 ST=2 TYP=2
	2695	SGMR	4	S/F	1126.3	1126.3	3.5	38.0			QL=6 ST=2 TYP=3
	2695	SGMR	20	GRF	1136.3	1136.5	12.3	21.0			QL=6 ST=2 TYP=2
	8800	SGMR	20	GRF	1136.3	1136.6	9.5	28.0			QL=6 ST=2 TYP=2
	2695	SGMR	20	GRF	1148.6	1148.8	9.4	22.0			QL=6 ST=2 TYP=2
	2695	SGMR	20	GRF	1158.0	1202.1	8.8	27.0			QL=6 ST=2 TYP=2
	2800	OTTA	1	S	1351.0	1354.0	6.0	2.8	1.4		
	2695	SGMR	4	S/F	1546.8	1548.8	3.0	20.0			QL=6 ST=2 TYP=3
	2800	OTTA	260	FAL	1600.0	1655.0	55.0	-6.2	-3.1		
	2800	OTTA	260	FAL	1955.0	2030.0	35.0	-7.4	-3.7		
10	8400	BERN	45	C	0826.5	0827.6	5.0	98.0			
	2695	LEAR	4	S/F	0826.6	0826.8	2.2	26.0			QL=6 ST=2 TYP=3
	8800	LEAR	47	GB	0826.6	0827.6	3.2	76.0			QL=6 ST=2 TYP=5
	2695	ATHN	4	S/F	0827.0	0827.3	3.3	49.0			QL=6 ST=2 TYP=3
	8800	ATHN	47	GB	0827.0	0827.8	3.1	57.0			QL=6 ST=2 TYP=5
	2800	OTTA	1	S	2144.0	2144.2	1.0	4.8	2.0		
11	2695	PENT	3	S	0023.8	0024.3	3.0	12.0	4.0		
	2695	LEAR	8	S	0024.1	0024.1	1.0	13.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0024.1	0024.1	1.0	11.0			QL=6 ST=2 TYP=3
	2800	OTTA	20	GRF	1345.0	1355.0	45.0	2.2			
	2800	OTTA	1	S	1529.0	1529.8	4.0	9.4	3.0		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

SEPTEMBER 1982

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	Remarks
11	8800	ATHN	4	S/F	1529.3	1530.1	2.3	7.0			QL=6 ST=2 TYP=3
	2695	ATHN	4	S/F	1529.3	1530.1	3.2	11.0			QL=6 ST=2 TYP=3
	2800	OTTA	20	GRF	2055.0	2110.0	35.0	3.0	1.5		
12	2800	OTTA	27A	RF	1205.0		155.0	4.8	2.4		
	2800	OTTA	24	R	1205.0	1215.0	10.0	4.8	3.6		
	2800	OTTA	24P	R	1215.0		75.0	4.8			
	2800	OTTA	1	S	1239.0	1240.5	4.0	4.0	2.2		
	2800	OTTA	22	GRF	1300.0	1310.0	25.0	6.4	4.0		
	2800	OTTA	26	FAL	1330.0	1440.0	70.0	-4.8	-2.4		
	2800	OTTA	21	GRF	1535.0	1635.0	260.0	18.2	9.1		
	8800	SGMR	4	S/F	1548.8	1549.8	3.8	30.0			QL=6 ST=2 TYP=3
	2800	OTTA	46F	C	1549.0	1550.0	10.0	67.0	16.8		
	2695	SGMR	47	GB	1549.1	1549.8	3.0	82.0			QL=6 ST=2 TYP=5
	8800	SGMR	4	S/F	1604.3	1605.1	16.7	22.0			QL=6 ST=2 TYP=3
	2800	OTTA	1	S	1605.0	1606.0	2.0	2.8	1.4		
13	2695	LEAR	4	S/F	0458.6	0459.1	5.5	13.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0459.0	0459.8	5.1	11.0			QL=6 ST=2 TYP=3
	8800	PALE	49	GB	2026.5	2028.1	14.1	400.0			QL=1 ST=2 TYP=6
14	2695	PENT	46F	C	0111.3	0113.3	4.0	53.0	12.0		
	2695	LEAR	4	S/F	0111.5	0113.3	3.8	23.0			QL=6 ST=2 TYP=3
	8800	PALE	47	GB	0112.3	0113.0	3.0	78.0			QL=6 ST=2 TYP=5
	8800	LEAR	47	GB	0112.5	0113.1	3.0	59.0			QL=6 ST=2 TYP=5
	2695	PALE	8	S	0112.8	0113.6	1.7	39.0			QL=6 ST=2 TYP=3
	2800	OTTA	1	S	1526.5	1527.2	2.0	2.2	0.9		
	2800	OTTA	1	S	2015.0	2017.0	5.0	7.0	2.4		
	2695	PENT	3	S	2353.0	2353.3	1.0	15.0	5.0		
	2695	LEAR	8	S	2353.1	2353.3	1.2	19.0			QL=6 ST=2 TYP=3
15	2695	LEAR	4	S/F	0216.6	0219.6	9.0	28.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0216.6	0219.8	9.7	23.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0558.1	0601.8	6.9	11.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0601.5	0601.6	5.5	13.0			QL=6 ST=2 TYP=3
	2800	OTTA	8	S	1338.8	1339.0	.5	2.2	1.1		
	2800	OTTA	20	GRF	1645.0	1715.0	80.0	3.0	1.5		
	2800	OTTA	28	PRE	1816.0	1819.0	6.0	7.2	5.3		
	2800	OTTA	4	S/F	1822.0	1823.8	6.0	165.0	63.0		
	2695	SGMR	47	GB	1822.3	1823.8		189.0			QL=6 ST=1 TYP=5
	2695	PALE	47	GB	1822.3	1824.1	5.0	160.0			QL=6 ST=2 TYP=5
	8800	SGMR	47	GB	1822.6	1823.8		210.0			QL=6 ST=1 TYP=5
	8800	PALE	47	GB	1822.6	1823.8	5.2	210.0			QL=6 ST=2 TYP=5
	2800	OTTA	29	PBI	1828.0	1828.0	45.0	8.6	2.8		
	2800	OTTA	21	GRF	1950.0	2023.0	40.0	2.2	1.1		
	2800	OTTA	2	S/F	2019.0	2019.8	3.0	7.8	2.6		
	2695	PENT	21	GRF	2140.0	2300.0	140.0	4.8	2.4		
	2695	PENT	1	S	2249.0	2250.0	6.0	3.4	1.7		
16	2800	OTTA	20	GRF	2025.0	2100.0	130.0	3.6	2.0		
17	2800	OTTA	23	GRF	1320.0	1400.0	450.0	9.0	4.4		
	2800	OTTA	2	S/F	1324.0	1326.0	7.0	8.6	2.8		
	2800	OTTA	3	S	1353.5	1355.8	4.5	13.0	5.8		
18	8800	LEAR	8	S	0302.8	0303.0	1.0	11.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0655.6	0656.0	.7	11.0			QL=6 ST=2 TYP=3
	2800	OTTA	4	S/F	1638.8	1639.7	2.2	23.0	9.0		
	2800	OTTA	29	PBI	1641.0	1641.0	15.0	4.0	1.8		
	2800	OTTA	1	S	1904.5	1905.0	1.0	2.8	1.4		
19	2800	OTTA	21	GRF	1357.0	1610.0	460.0	37.0	18.5		
	2695	ATHN	47	GB	1504.3	1512.5	22.0	130.0			QL=5 ST=2 TYP=5
	8800	SGMR	8	S	1506.3	1506.8	1.2	19.0			QL=6 ST=2 TYP=3
	2800	OTTA	40	F	1511.0	1512.7	13.0	144.0			
	2695	SGMR	47	GB	1512.1	1512.5	11.0	139.0			QL=6 ST=2 TYP=5
	8800	SGMR	8	S	1520.5	1521.8	1.3D	18.0			QL=6 ST=2 TYP=3
	2695	SGMR	47	GB	1523.1	1523.3	1.7	51.0			QL=6 ST=2 TYP=5
	8800	SGMR	8	S	1524.8	1525.1	1.2	19.0			QL=6 ST=2 TYP=3
21	2695	PENT	3	S	0001.5	0001.9	1.0	12.0	3.0		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

SEPTEMBER 1982

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	Remarks
21	2800	OTTA	20	GRF	1535.0	1545.0	40.0	2.6	1.3		
	2695	PENT	21	GRF	2205.0	2310.0	135.0	2.6	1.3		
22	2695	LEAR	8	S	0001.6	0001.8	.5	10.0			QL=6 ST=2 TYP=3
	8800	ATHN	4	S/F	0923.0	0923.5	3.0	41.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0923.1	0923.3	1.2	24.0			QL=5 ST=2 TYP=3
	2800	OTTA	20	GRF	1350.0	1500.0	140.0	5.6	3.0		
	2800	OTTA	3	S	1821.0	1821.9	2.0	22.0	7.5		
	8800	SGMR	47	GB	1821.6	1821.8	1.2	68.0			QL=6 ST=2 TYP=5
	8800	PALE	47	GB	1821.6	1821.8	1.2	87.0			QL=6 ST=2 TYP=5
	2695	PALE	8	S	1821.8	1822.0	1.0	22.0			QL=6 ST=2 TYP=3
	2800	OTTA	40	F	1951.8	1956.0	6.0	2.8			
	2695	PALE	47	GB	2057.6	2058.1	1.5	100.0			QL=6 ST=2 TYP=5
23	2800	OTTA	20	GRF	1435.0	1600.0	165.0	2.8	1.6		
24	2800	OTTA	240	R	1230.0	1300.0	30.0	4.6	2.3		
	2800	OTTA	22	GRF	1550.0	1812.0	180.0	3.6	2.2		
	2695	PALE	47	GB	1920.3	1920.6	1.8	62.0			QL=6 ST=2 TYP=5
	2800	OTTA	20	GRF	1950.0	2025.0	110.0	4.6	2.3		
25	2800	OTTA	240	R	1400.0	1710.0	190.0	4.0	2.0		
26	8800	LEAR	8	S	0000.6	0001.0	1.0	8.0			QL=5 ST=2 TYP=3
	2800	OTTA	27A	RF	1240.0		275.0	3.4	3.1		
	2800	OTTA	24	R	1240.0	1310.0	30.0	3.4	1.7		
	2800	OTTA	3	S	1305.0	1305.9	2.0	35.0	9.0		
	2695	ATHN	8	S	1305.5	1305.8	1.3	36.0			QL=6 ST=2 TYP=3
	2695	SGMR	8	S	1305.6	1305.8	1.2	46.0			QL=6 ST=2 TYP=3
	2800	OTTA	24P	R	1310.0		220.0	3.4			
	2800	OTTA	26	FAL	1650.0	1715.0	25.0	-3.4	-1.7		
	2800	OTTA	20	GRF	1755.0	1846.0	90.0	2.6	1.3		
	2800	OTTA	20	GRF	1940.0	2140.0	160.0D	23.4			
	2695	LEAR	4	S/F	2321.8	2322.3	5.3	29.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	2321.8	2324.3	7.7	10.0			QL=6 ST=2 TYP=3
27	8800	LEAR	4	S/F	0406.6	0408.3	4.0	11.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0407.1	0408.0	1.0	5.0			QL=6 ST=2 TYP=3
	2800	OTTA	1	S	1530.0	1531.5	10.0	3.0	1.5		
	2800	OTTA	40	F	1614.0	1618.0	6.0	11.2			
	8800	SGMR	8	S	1617.8	1618.1	2.0	20.0			QL=6 ST=2 TYP=3
	2695	SGMR	8	S	1618.0	1618.1	1.3	23.0			QL=6 ST=2 TYP=3
	2800	OTTA	20	GRF	1945.0	1957.0	40.0	3.0	1.5		
28	2695	PALE	8	S	0308.8	0309.0	1.2	19.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0442.1	0442.1	.2	22.0			QL=6 ST=2 TYP=3
	2800	OTTA	20	GRF	1235.0	1255.0	170.0	7.4	3.8		
	2800	OTTA	240	R	1805.0	1830.0	25.0	2.0	1.0		
	8800	PALE	47	GB	2330.8	2331.1	2.0	119.0			QL=6 ST=2 TYP=5
	8800	LEAR	47	GB	2330.8	2331.1	2.2	110.0			QL=6 ST=2 TYP=5
	2695	PENT	4	S/F	2330.8	2331.2	2.0	112.0	38.0		
	2695	PALE	47	GB	2331.0	2331.3	1.6	98.0			QL=6 ST=2 TYP=5
	2695	LEAR	47	GB	2331.0	2331.3	2.0	110.0			QL=6 ST=2 TYP=5
29	8800	LEAR	47	GB	0219.6	0220.3	2.2	50.0			QL=6 ST=2 TYP=5
	8800	PALE	47	GB	0220.3	0220.3	1.5	52.0			QL=6 ST=2 TYP=5
	8400	BERN	45	C	0805.7	0810.3	20.0	31.0			
	2695	LEAR	4	S/F	0807.5	0810.1	17.1	27.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0808.5	0810.5	16.1	29.0			QL=6 ST=2 TYP=3
	2695	ATHN	4	S/F	0809.6	0810.8	4.4	11.0			QL=6 ST=2 TYP=3
	2800	OTTA	21	GRF	1330.0	1345.0	35.0	3.8	1.9		
	2800	OTTA	1	S	1342.0	1342.3	1.0	4.0	2.0		
	2800	OTTA	28	PRE	1518.5	1521.0	3.5	7.8			
	2800	OTTA	45	C	1522.0	1527.8	11.0	125.0	51.0		
	8400	BERN	45	C	1522.4	1527.8	17.0	133.0			
	2695	ATHN	4	S/F	1523.1	1524.3	16.0	49.0			QL=6 ST=2 TYP=3
	8800	ATHN	47	GB	1523.5	1524.3	10.6	79.0			QL=6 ST=2 TYP=5
	2800	OTTA	30	PBI	1533.0	1533.0	40.0	11.8	5.9		
	2800	OTTA	40	F	1539.0	1547.0	11.0	7.0			
	2800	OTTA	21	GRF	1745.0	1801.0	70.0	4.0	2.0		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

SEPTEMBER 1982

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	Remarks
29	2800	OTTA	46F C	1842.0	1842.4	3.0	9.8	4.6		
	2800	OTTA	4 S/F	1912.2	1912.6	3.0	16.8	5.6		
	2800	OTTA	21 GRF	1925.0	1935.0	30.0	3.8	2.0		
	2800	OTTA	1 S	1927.3	1927.9	1.5	5.0	2.0		
	2800	OTTA	27A RF	2015.0		210.0	3.8	3.2		
	2800	OTTA	24 R	2015.0	2025.0	10.0	3.8	1.9		
	2800	OTTA	45 C	2015.2	2018.5	5.5	5.2	2.4		
	2695	PALE	47 GB	2020.1	2022.0	2.2	110.0			QL=1 ST=2 TYP=5
	2800	OTTA	24P R	2035.0		155.0	3.8			
	2695	PENT	26 FAL	2300.0	2335.0	35.0	-3.8	-1.9		
30	8800	LEAR	47 GB	0134.5	0135.8	31.3	470.0			QL=6 ST=2 TYP=5
	2695	LEAR	47 GB	0134.8	0137.8	43.2	139.0			QL=6 ST=2 TYP=5
	2695	PALE	8 S	0201.3E	0201.5	.7D	16.0			QL=6 ST=2 TYP=3
	8800	LEAR	4 S/F	0615.1	0617.0	5.0	29.0			QL=6 ST=2 TYP=3
	8800	LEAR	8 S	0837.1	0837.1	1.0	27.0			QL=6 ST=2 TYP=3
	8800	ATHN	8 S	0838.3	0839.0	1.2	3.0			QL=6 ST=2 TYP=3
	8800	ATHN	8 S	1036.6	1037.1	1.4	7.0			QL=6 ST=2 TYP=3
	8400	BERN	3 S	1203.8	1205.0	8.0	32.0U			
	8800	SGMR	8 S	1204.6	1205.0	1.2	21.0			QL=6 ST=2 TYP=3
	8800	ATHN	4 S/F	1204.6	1205.5	6.2	36.0			QL=6 ST=2 TYP=3
	2695	ATHN	4 S/F	1204.6	1205.6	6.2	17.0			QL=6 ST=2 TYP=3
	2800	OTTA	21 GRF	1340.0	1400.0	60.0	7.4	3.7		
	2800	OTTA	4 S/F	1350.0	1353.0	8.0	12.4	5.8		
	8800	ATHN	4 S/F	1352.1	1353.3	6.2	29.0			QL=6 ST=2 TYP=3
	2800	OTTA	20 GRF	2110.0	2215.0	180.0D	16.4			
	2695	LEAR	4 S/F	2335.8	2338.6	6.3	8.0			QL=6 ST=2 TYP=3
	8800	PALE	8 S	2337.5	2338.5	1.6	34.0			QL=6 ST=2 TYP=3
	8800	LEAR	4 S/F	2337.5	2338.5	6.8	34.0			QL=6 ST=2 TYP=3
	2695	PALE	8 S	2337.6	2337.6	.4	13.0			QL=6 ST=2 TYP=3

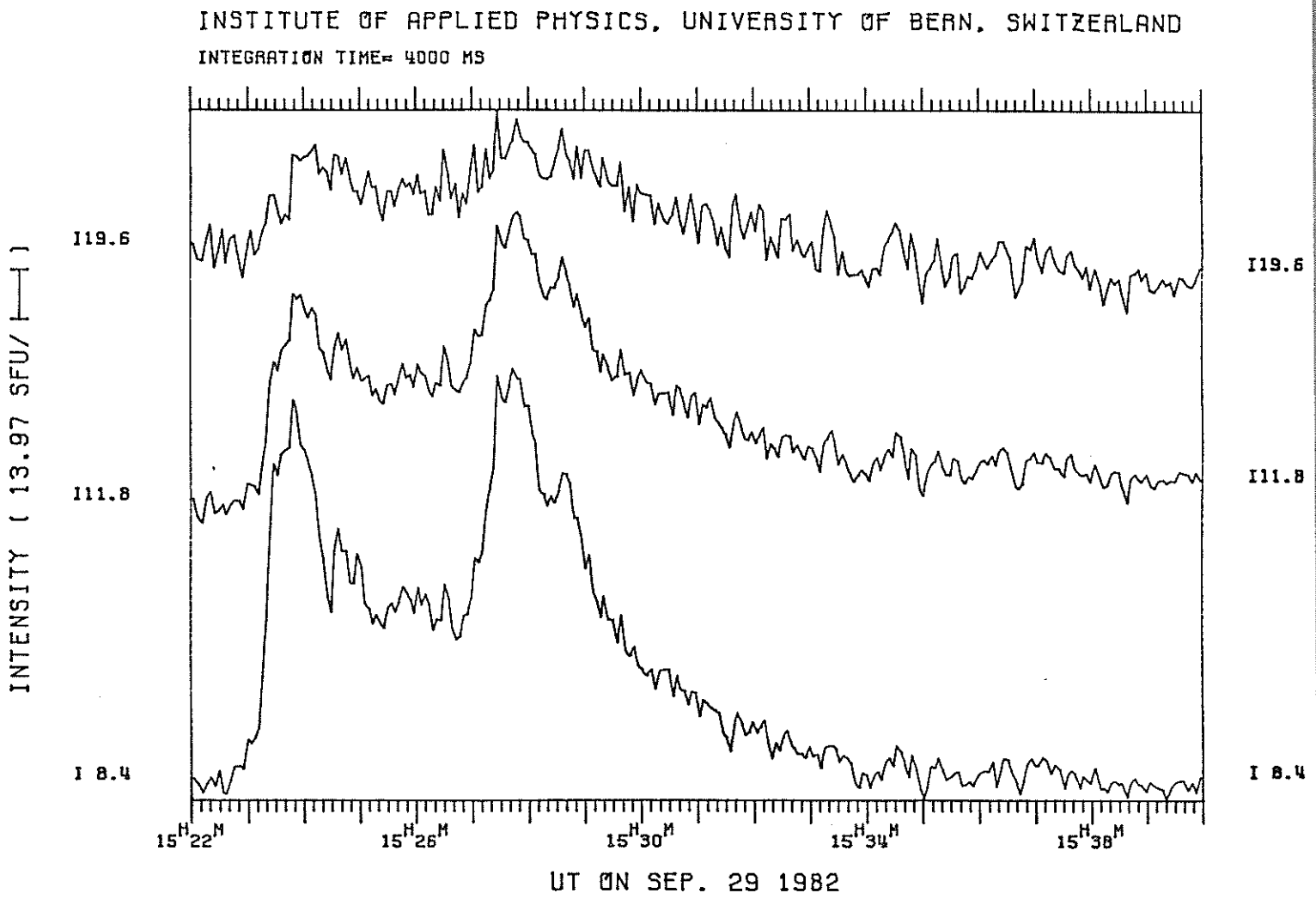
Observatories:

BERN = Berne MANI = Manila OTTA = Ottawa ARO PENT = Penticton SGMR = Sagamore Hill
LEAR = Learmonth ATHN = Athens PALE = Palehua

Explanation of Type Code:

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

SELECTED SOLAR NOISE BURSTS



INFERRED IP MAGNETIC FIELD

BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
2018	MAR 17							AT						-					TA				AT	-	-		TA	AT
2019	APR 13	TA	-	-	-						-				TA				*	AT	-		-		-	AT		-	-
2020	MAY 10	- -	- -	- TA	AT	TA		-		TA			TA									*	*					
2021	JUN 6		*								AT				TA			AT		-	- -	- -	-	-	-	-	-	-
2022	JUL 3	-	-	-	-	-	- -	-	- -	- -	-	-	- -	- -	- -	- -	-	-	-	-	- -	- -	- -	- -	- -	-	-
2023	JUL 30	-	- -	- -	-	-	-	-	- -	-	-	-	-	-	-	- -	- -	-	TA -	TA -	- -	-	-	-	-	AT -	- -	-
2024	AUG 26	- -	-	-	TA -	TA -	-	TA -	-	-	TA -	-	-	-	-	TA -	-	TA -	-	-	-	-	TA -	-	-	-	-	-
2025	SEP 22	-	-	-	-	-	-	-	AT -	TA -	-	-	-	TA -	-	TA -	TA -	TA -	-	AT -	-	TA -	AT -	TA -	AT -	TA -	TA -	TA -
2026	OCT 19	AT -	TA -	TA -	-	-	-	-	TA -	TA -	-	TA -	-	-	-	-	TA -	-	-	-	-	-	AT -	TA -	-	-	-	-
2027	NOV 15	-	-	-	AT -	AT -	-	-	-	-	AT -	-	-	-	-	-	TA -	-	TA -	TA -	AT -	-	-	-	-	-	AT -	-
2028	DEC 12	TA -	-	-	-	AT -	AT -	-	-	AT -	TA -	-	-	-	-	-	-	AT -	-	AT -	TA -	-	-	-	-	TA -	-	- -
2029	1982 JAN 8	-	-	-	-	-	TA -	TA -	-	-	-	-	-	-	TA -	-	-	TA -	-	-	-	AT -	-	- -	- -	AT -	-	-
2030	FEB 4	-	-	-	TA -	TA -	TA -	TA -	-	-	TA -	-	-	-	-	-	TA -	-	-	-	-	-	-	-	TA -	-	-	TA -
2031	MAR 3	-	-	-	-	-	TA -	TA -	-	TA -	TA -	-	TA -	-	-	TA -	-	-	-	TA -	TA -	-	-	-	-	-	-	AT -
2032	MAR 30	-	TA -	-	TA -	-	-	-	-	-	-	TA -	-	-	- -	-	-	AT -	TA -	-	TA -	-	-	-	-	-	-	-
2033	APR 26	- -	AT -	-	-	-	- -	-	TA -	TA -	-	-	-	-	- -	-	-	-	-	-	-	-	-	-	-	AT -	AT -	-
2034	MAY 23	-	-	-	AT -	- -	TA -	-	-	-	-	- -	AT -	-	- -	-	-	-	-	-	- -	- -	- -	- -	- -	- -	-	TA -
2035	JUN 19	-	-	-	-	-	-	-	-	-	- -	-	-	TA -	-	- -	-	- -	-	-	-	- -	-	TA -	-	-	-	-
2036	JUL 16	-	- -	-	- -	- -	TA -	-	-	-	-	AT -	-	- -	- -	AT -	- -	- -	- -	- -	-	- -	- -	-	-	-	- -	-
2037	AUG 12	-	-	-	- -	-	-	- -	-	TA -	-	- -	TA -	TA -	TA -	-	- -	-	TA -	-	TA -	-	-	-	-	-	-	-
2038	SEP 8	TA -	AT -	-	-	-	-	-	-	-	-	-	-	-	TA -	-	AT -	-	-	-	-	-	TA -	-	-			

▒ = definitely towards the sun □ = definitely away from the sun

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

The table shows daily inferences of the polarity of the interplanetary magnetic field. The first half of the day is based principally on magnetograms produced by the magnetometer at the Vostok Antarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service now operated at Thule by the Danish Meteorological Institute is used for the second half of the day. The Thule magnetometer ceased operating in August 1981.

STANFORD MEAN SOLAR MAGNETIC FIELD

BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
2024	AUG 21																											
2025	SEP 17																											
2026	OCT 14																											
2027	NOV 10																											
2028	DEC 7																											
2029	1982 JAN 3																											
2030	JAN 30																											
2031	FEB 26																											
2032	MAR 25																											
2033	APR 21																											
2034	MAY 18																											
2035	JUN 14																											
2036	JUL 11																											
2037	AUG 7																											
2038	SEP 3																											
2039	SEP 30																											

POLARITY OF THE MEAN SOLAR MAGNETIC FIELD: □ = FIELD >2μT, ▥ = -2μT ≤FIELD ≤2μT, ■ = FIELD <-2μT
No box visible indicates no data available for that day.

NOTE: Data are taken daily at 2000 UT. Dates given are not Bartels Rotation dates. These earlier dates correspond to the occurrence of phenomena on the Sun that affect the Earth during the given Bartels Rotation.

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

	1981			1982								
day	OCT.	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.
01	-27	94	41	15	-20	-19	.	-6	.	.	49	89
02	11	82	34	-6	-44	-9	.	-6	33	85	19	102
03	70	55	49	-17	-29	-20	.	23	38	75	19	84
04	104	-1	-3	.	-3	-39	-17	43	54	71	52	66
05	115	-19	.	-10	9	-44	3	48	80	53	85	68
06	104	-36	-12	-5	19	-21	38	16	82	35	105	55
07	28	-29	.	-4	43	.	60	41	77	29	81	30
08	25	-23	.	25	64	-2	57	69	79	42	63	-27
09	-7	-16	.	23	.	.	24	74	68	54	59	-55
10	.	11	.	36	15	16	.	70	54	63	33	-74
11	8	34	.	45	24	34	61	65	50	87	-30	-93
12	32	.	.	35	33	35	46	79	58	79	-87	-124
13	43	.	.	16	.	.	.	82	.	43	-118	-125
14	64	105	.	-7	.	.	.	77	78	9	-121	-120
15	103	.	57	-6	.	.	86	72	51	-39	-144	-112
16	115	.	17	-12	14	21	93	51	-13	-112	-149	.
17	167	48	-5	-1	16	.	71	38	-51	-164	-141	-49
18	218	3	.	-3	5	4	46	27	-93	-193	-124	-28
19	193	-28	-37	33	15	20	28	-15	-184	-201	-93	-14
20	115	-45	.	.	27	31	-6	-57	-237	-189	-59	12
21	65	.	-39	.	38	25	-38	-68	-225	.	-32	40
22	9	-65	-11	.	48	22	-78	-93	-170	-128	-16	44
23	-62	.	-2	9	41	14	-113	-132	-123	-71	-12	26
24	-107	-43	35	25	28	-2	-107	-158	-69	-29	5	10
25	-128	-20	4	35	10	-26	-93	-151	-56	-5	32	8
26	.	58	39	42	-3	.	-104	-118	-39	12	39	18
27	-61	83	17	36	-34	-61	-117	-26	11	28	47	36
28	-60	96	29	.	.	-56	-122	-26	37	38	46	72
29	-19	59	.	15		-53	-77	-10	46	48	25	57
30	67	55	24	0		.	-26	19	59	61	39	52
31	87		.	-10		.		46		53	64	

DOT SYMBOL INDICATES NO DATA AVAILABLE FOR THE DAY.

P I O N E E R X I I
SOLAR WIND

September 1982

DATE Sep '82	TIME (UT)	ESV (°)	U_{H+} (km/s)	N_{H+} (H^+/cc)	T_{H+} (x10^6 K)
1	1729	139.	442.	15.6	0.266
2	0315		547.	16.9	.397
3	2042		550.	15.1	.201
4	0402		512.	14.1	.226
5	0554		379.	24.9	.089
6	0235		349.	31.6	.09
7	0244		317.	126.8	.04
8	1802		572.	17.2	.367
9	0032		543.	16.3	.135
10	0050		578.	16.7	.364
11	0312		560.	12.8	.402
12	0309		462.	20.6	.116
13	0029		374.	20.1	.039
14	1640		456.	24.8	.169
15	1919	149.	489.	17.6	.206
16	0432		470.	18.6	.184
17	0234		452.	12.1	.198
18	0719		339.	17.	.101
19	0829		310.	40.2	.067
20	0221		308.	56.1	.075
21	0443		411.	30.9	.072
22	1423		392.	80.1	.094
23	0040		375.	31.3	.066
24	1407		378.	21.2	.092
25	0313		461.	9.3	.102
26	0634		450.	12.1	.075
27	0001		434.	15.	.139
28	0438		422.	19.	.164
29	1608		389.	25.	.19
30	0018		369.	14.6	.065

BOULDER GEOMAGNETIC SUBSTORM LOG
September 1982

DATE	ONSET TIME	DIR	COMMENTS
09/01			Field intermittently unsettled.
	1220	West	
09/02			Field unsettled all day.
	0655	West	
	1155	West	
	1320	West	
09/03			Field unsettled all day.
	0620	West	Moderate SS Ft. Simpson eastward. Several injections with recovery near 0830 UT.
	0945	West	Moderate SS, several injections with recovery near 1230 UT.
09/04			Field intermittently active.
	0355	East	Weak SS.
	0505	East	Weak SS.
	0600	Center	
	0925	West	Moderate SS at College.
	1140	West	Moderate SS at College.
	1410		Strongest response Ft. Simpson eastward.
09/05			Minor magstorm conditions 0600-1700 UT.
	2250	SSC	Magstorm follows.
09/06			Magstorm conditions through 1900 UT.
09/07			Magstorm conditions 0600-2000 UT.
09/08			Field intermittently unsettled with no distinctive SS activity.
09/09			Field disturbed all latitudes 0100-0400 UT, not SS related.
	1135	West	Moderate SS, College to Anchorage.
09/10			Field intermittently unsettled with no distinctive SS activity.
09/11			Field intermittently unsettled.
	1145	West	
09/12			Field intermittently unsettled.
	0905	West	Weak SS.
09/13			Field intermittently unsettled.
	0205	East	Boulder in partial ring current sector.
	0945		Weak SS.
	1440	West	
09/14			Field intermittently unsettled.
	1855		Polar cap SS, Inuvik northward.
	1950		Polar cap SS, Cape Parry to Sachs Harbour.
09/15			Field unsettled all day.
	0810		Weak SS.
09/16			Field intermittently unsettled with no distinctive SS activity.
09/17			Field intermittently unsettled.
	0850	West	
	0915		Moderate injection into existing SS.
09/18			Field unsettled all day.
	0820		Weak SS.
09/19			Field unsettled all day.
	1010		Weak SS.
	1400		Localized SS, Anchorage to College.
	1500	West	
	1800		Response stronger Inuvik northward.
09/20			Field unsettled all day.
	0635	West	
	1015		Localized SS, Anchorage to College.
	1350		Localized SS, Anchorage to College.
09/21	0339	SSC	Magstorm follows.
09/22			Magstorm continued through 1400 UT.
09/23			Field intermittently active. Large temporal/spacial variations in substorm injection processes.
09/24	0620	Center	Several injections with recovery near 0830 UT.
	1055	West	
	1345	West	
09/25			Field unsettled after 0800 UT with no distinctive SS activity.
	2025		Weak positive impulse H-component all mid/low latitude stations.
09/26			Magstorm conditions after 0600 UT.
09/27			Field unsettled all day.
	0020	East	Several injections with recovery near 0200 UT.
	0440		Weak SS.
	0720	East	
	0825	East	
	0910	West	
09/28			Field intermittently unsettled.
	0225	East	
	0400	East	
	2120		Positive impulse H-component all mid/low latitude stations.
09/29			Field unsettled 0700-1400 UT.
	0740	East	
	0850	West	
09/30			Field unsettled after 0730 UT.
	0740	West	

SGD 458 Part I (Prompt)

AUGUST 1982 DATA

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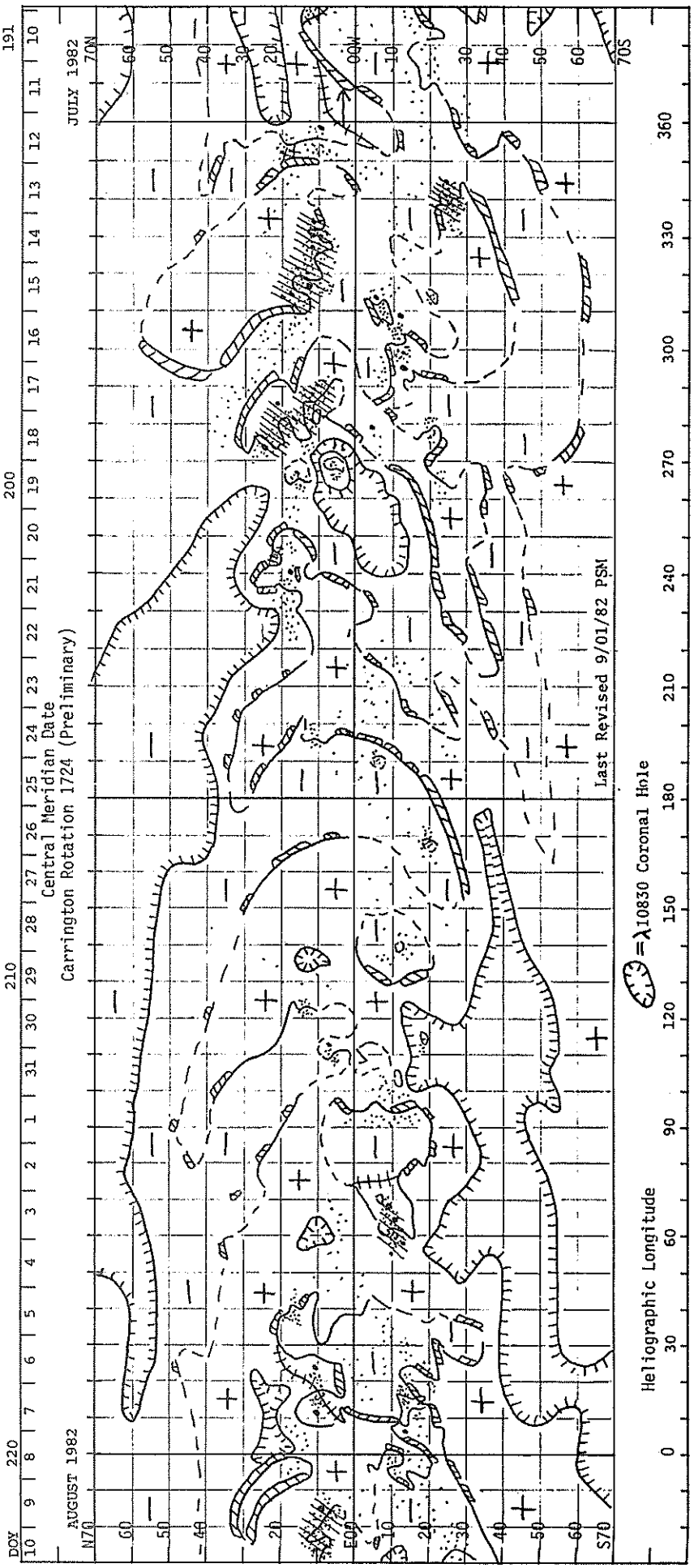
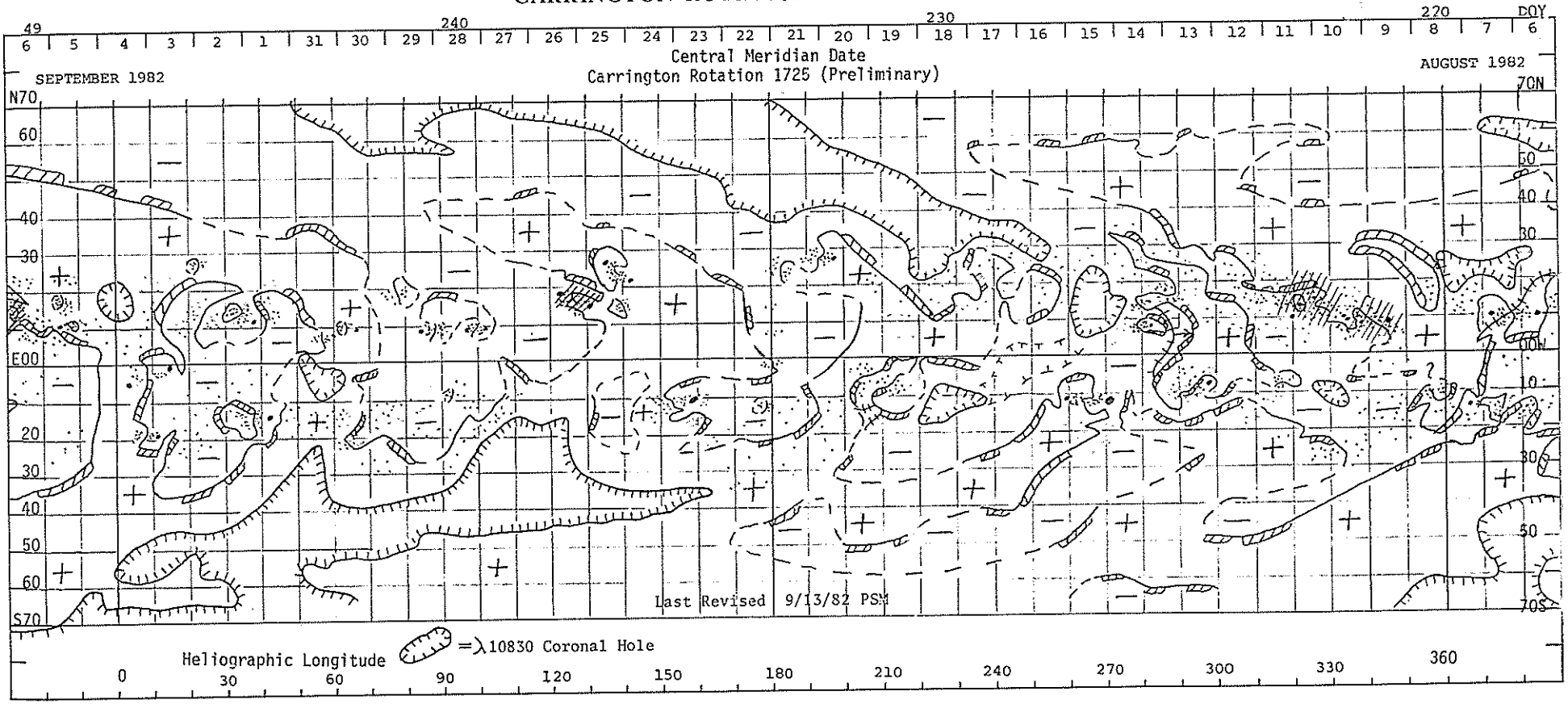
Hα SYNOPTIC CHART

CARRINGTON ROTATION 1724 (PRELIMINARY)



Hα SYNOPTIC CHART

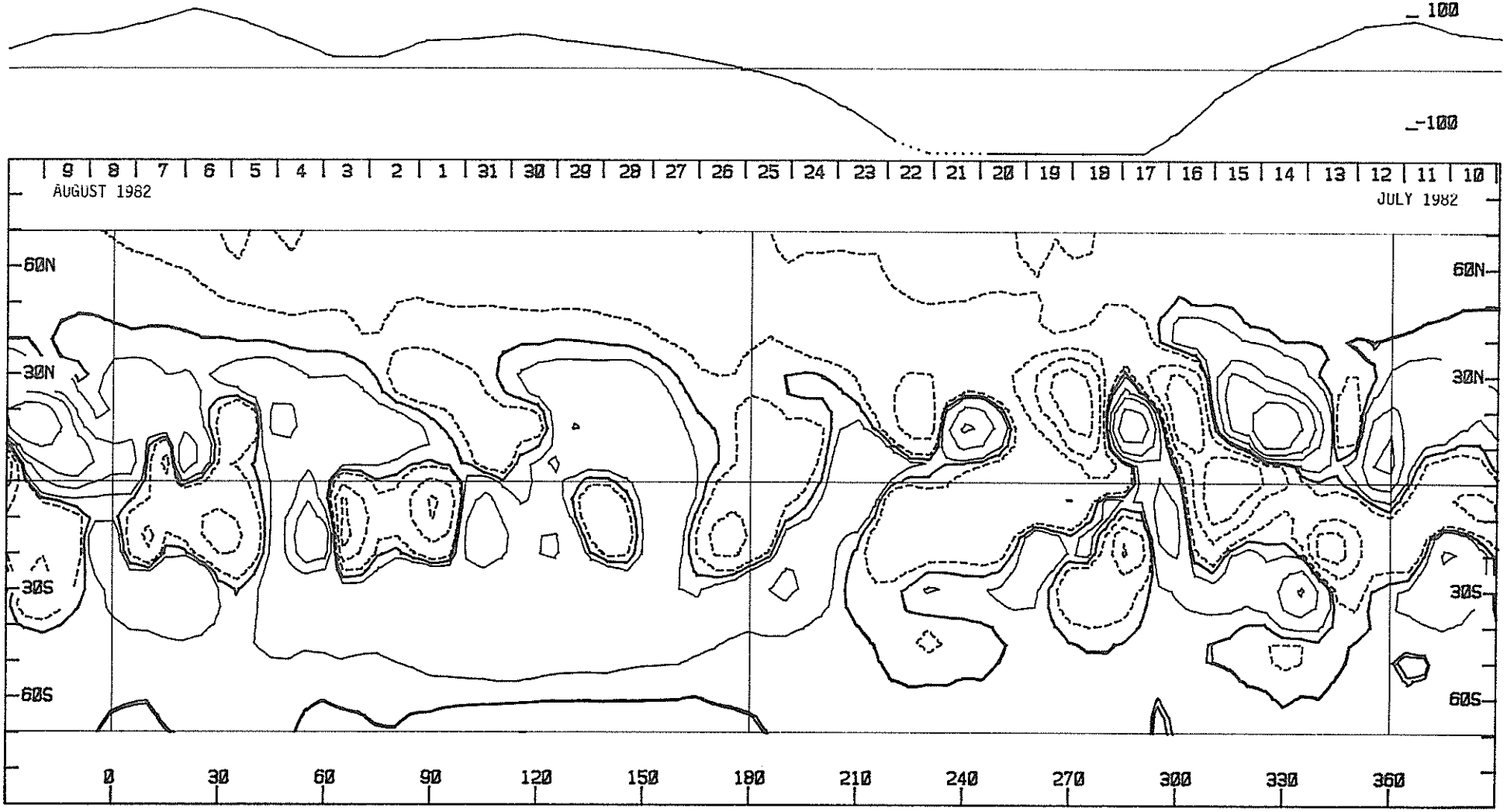
CARRINGTON ROTATION 1725 (PRELIMINARY)



SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION 1724

Stanford Solar Observatory

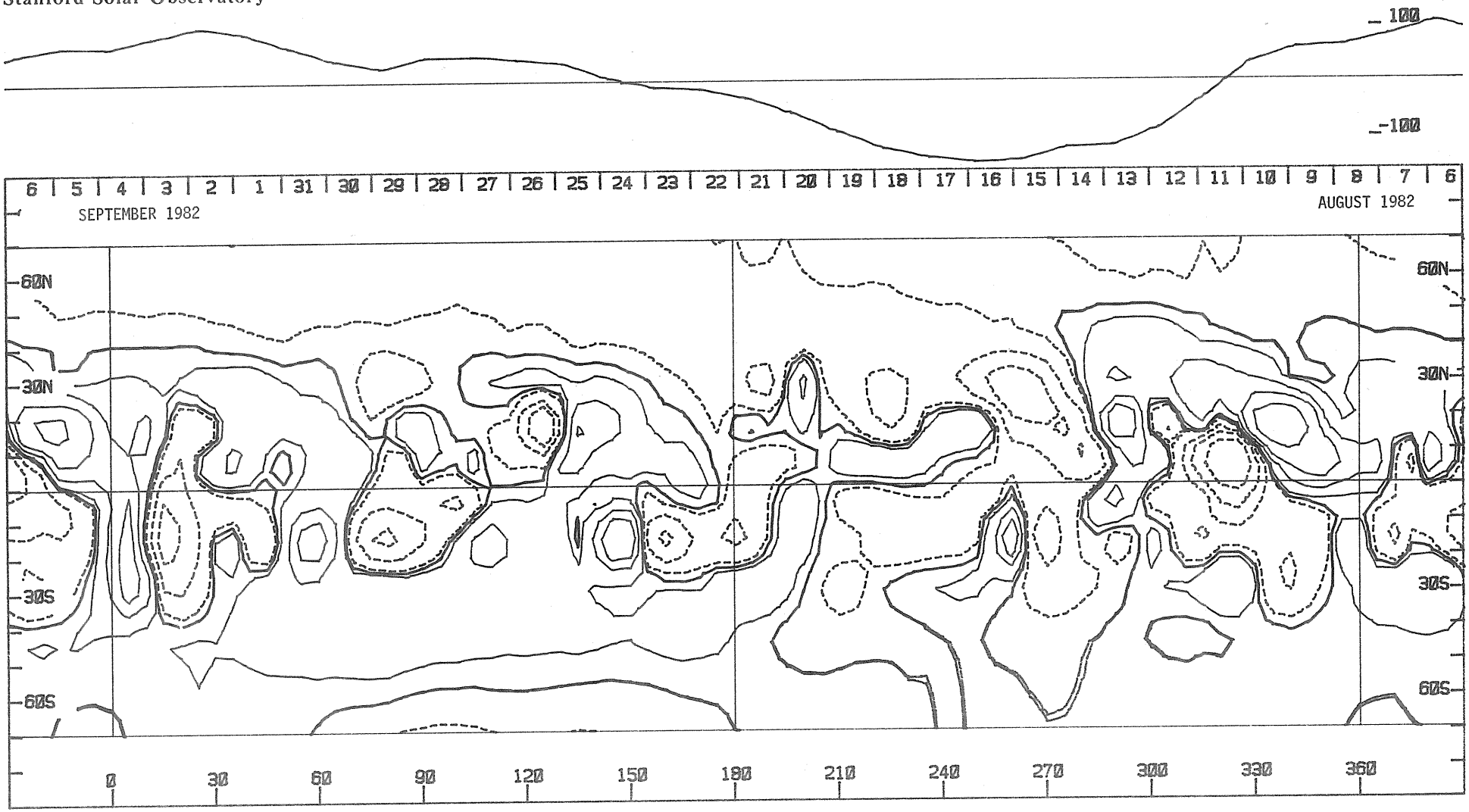
0,±100,200,500... μT



SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION 1725

Stanford Solar Observatory

0,±100,200,500... μT



45
Aug 82

46
Aug 82

KPNO SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION 1725 FLUX
CARRINGTON ROTATION 1725 POLARITY
KPNO SYN VTCR1718 09/22/82 14.33.21 NPICT= 2
1356.024

HELIUM 10830Å SYNOPTIC MAPS
CARRINGTON ROTATION 1725

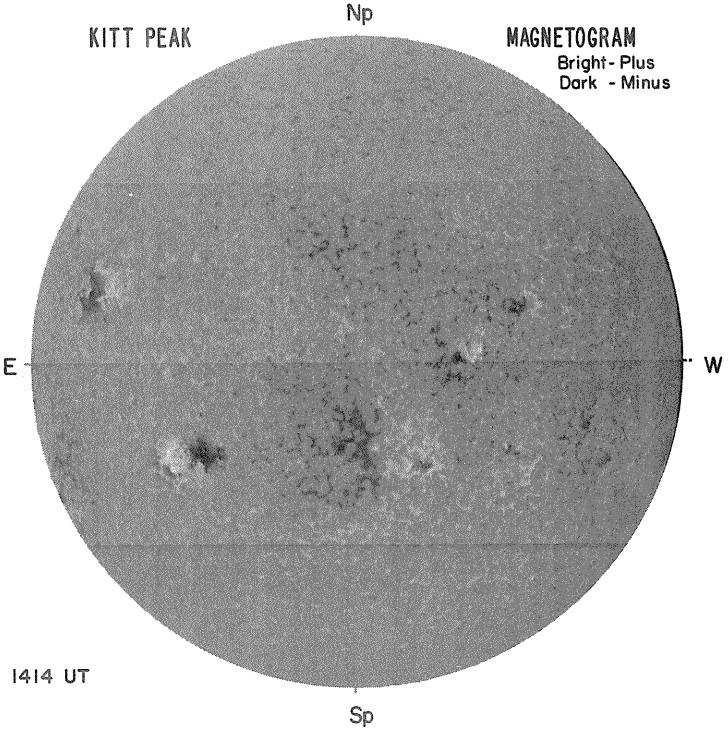
KITT PEAK NATIONAL OBSERVATORY

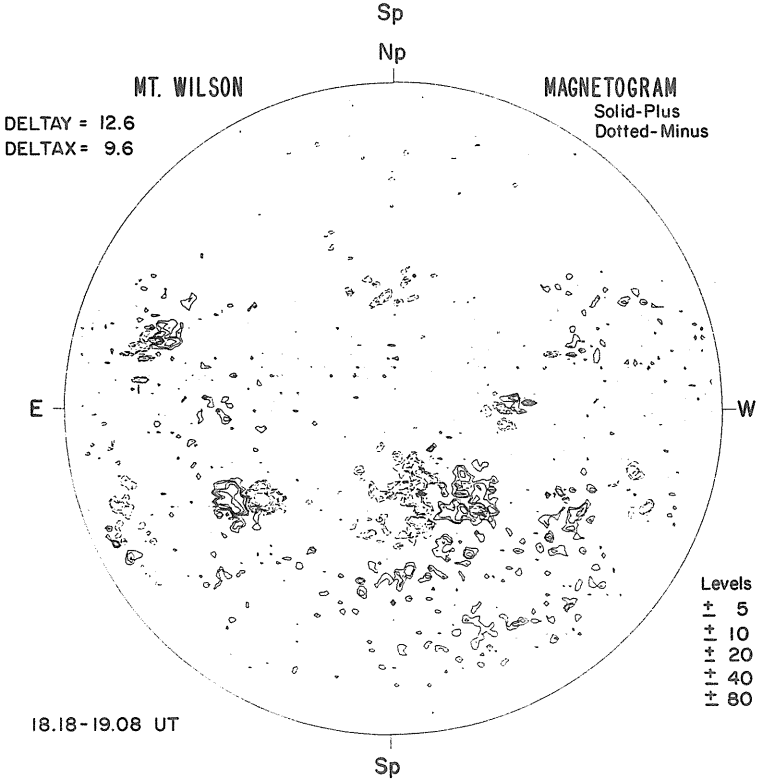
AUGUST 1, 1982 (P= 10.70, B_o = 5.78, L_o = 97.94)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA AUGUST 1-30, 1982 W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$





01

SACRAMENTO PEAK

Np

Hα

E

W

Sp

1545 UT

BOULDER

Np

SUNSPOTS

495

507

492

480

480

480

E

W

Sp

BOULDER PROMINENCES

1515 UT

1645 UT

BIG BEAR

Np

ACTIVE REGIONS

476

507

492

480

E

W

Sp

92- 2500-2.5
95- 2500-2.5
07- 0600-2.5

1659 UT

STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

E

W

Sp

Levels

0 μT

± 50

±100

±200

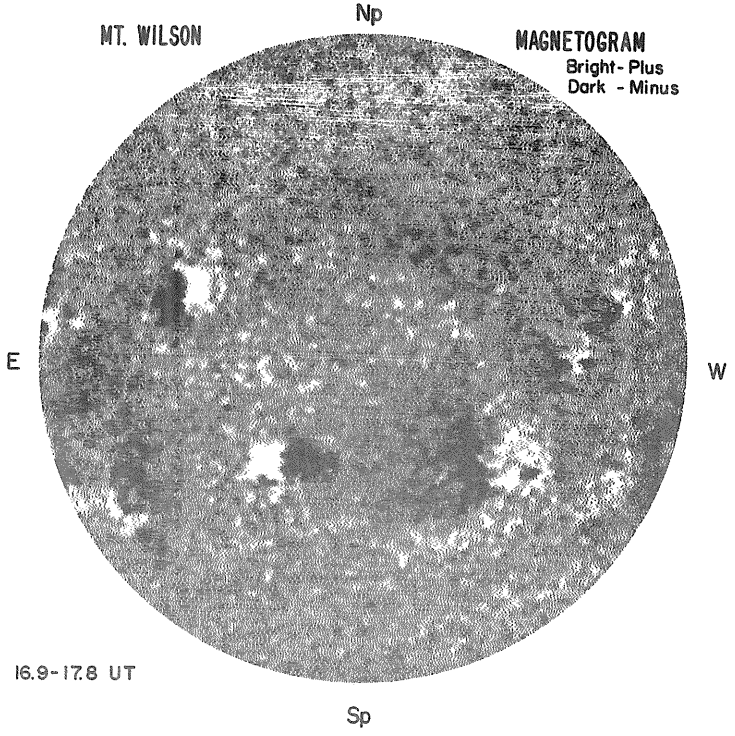
1807 UT

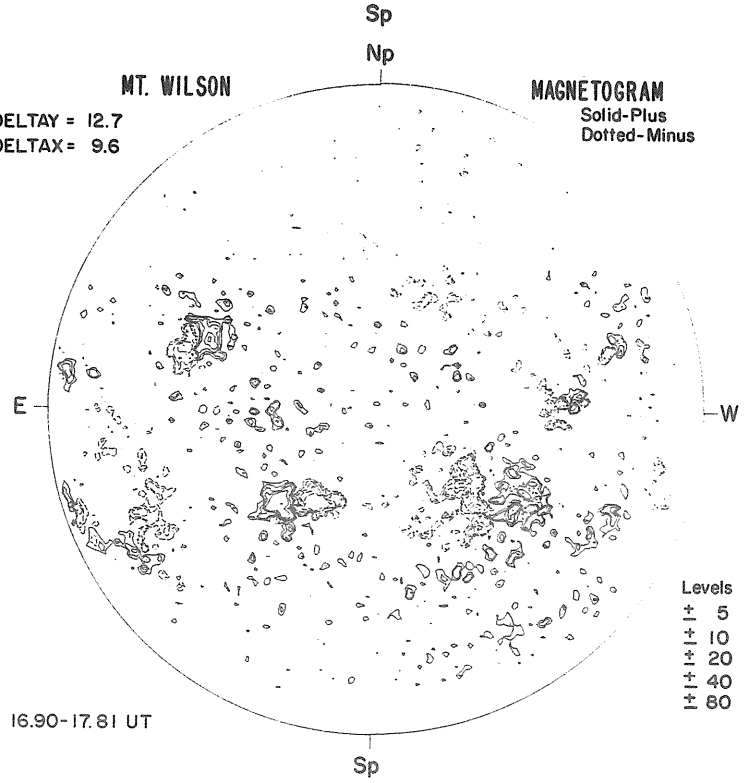
AUGUST 2, 1982 (P= 11.09, B_o = 5.85, L_o = 84.71)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

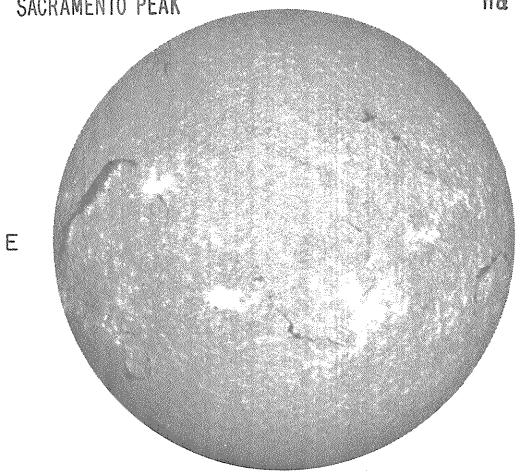
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$





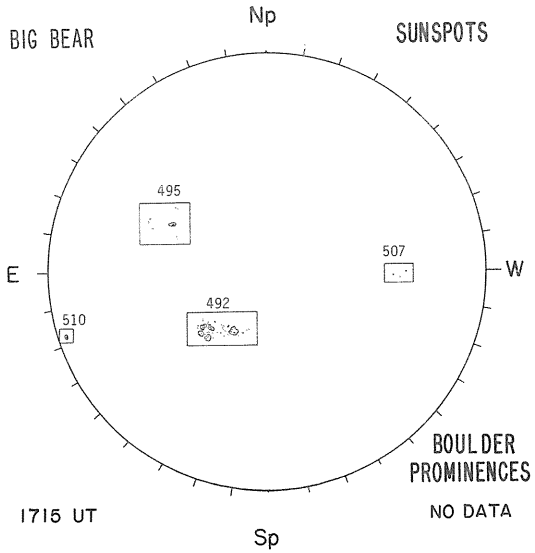
02

SACRAMENTO PEAK



1632 UT

BIG BEAR



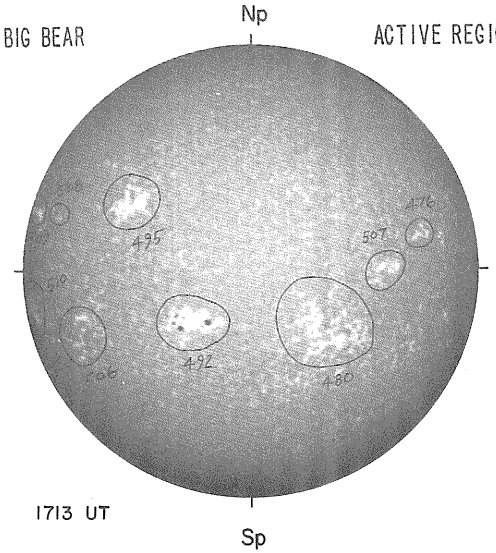
1715 UT

SUNSPOTS

BOULDER PROMINENCES

NO DATA

BIG BEAR



1713 UT

ACTIVE REGIONS

80- 2800-2.5
92- 3200-3.0
95- 2400-3.0
09- 0600-2.5

STANFORD

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

E NO DATA AUGUST 2, 3, 5, 8, 16, 17, 19, 25, 27, 28, 31 W

Levels

0 μT

± 50

±100

±200

•

•

•

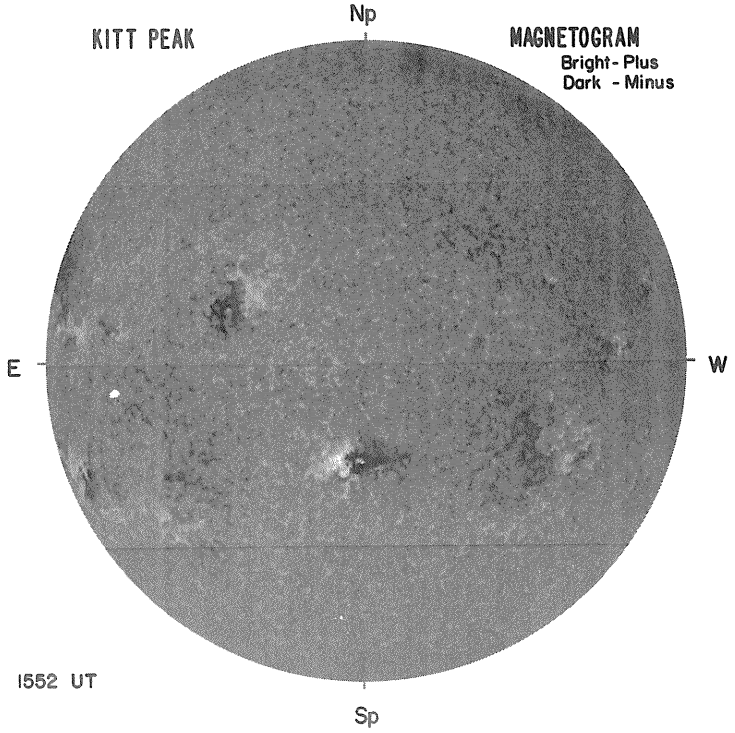
AUGUST 3, 1982 (P= 11.49, B_o= 5.92, L_o= 71.49)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

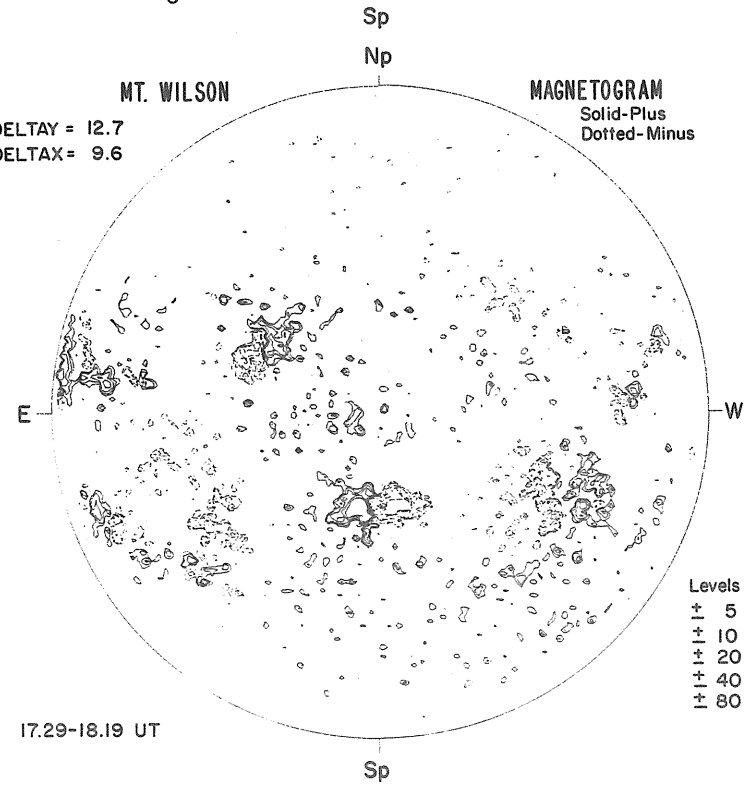
KITT PEAK MAGNETOGRAM
Bright - Plus
Dark - Minus



1552 UT

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY = 12.7
DELTAX = 9.6

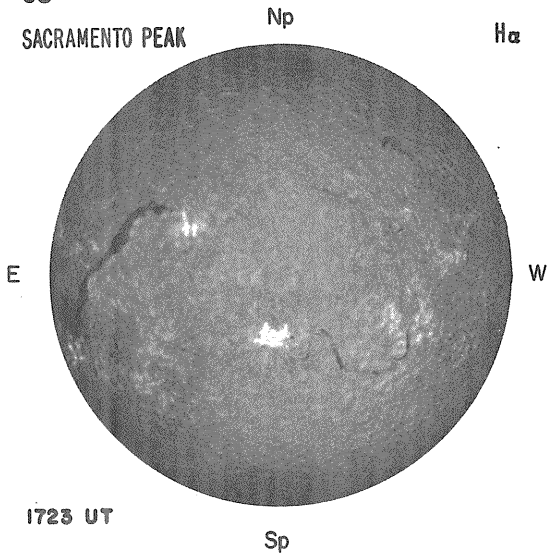


Levels
±1 5
±1±1 10
±1±1±1 20
±1±1±1±1 40
±1 80

17.29-18.19 UT

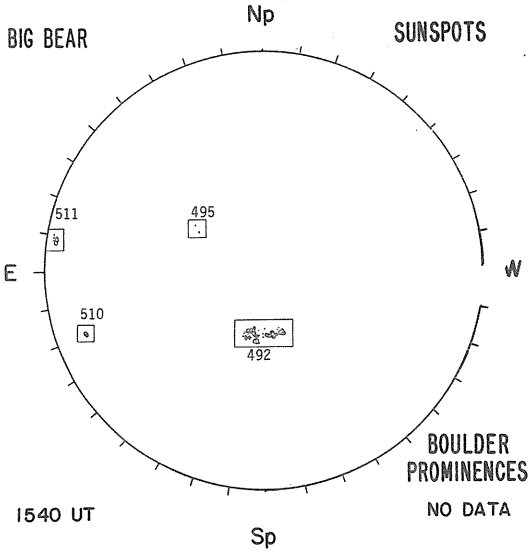
03

SACRAMENTO PEAK



1723 UT

BIG BEAR

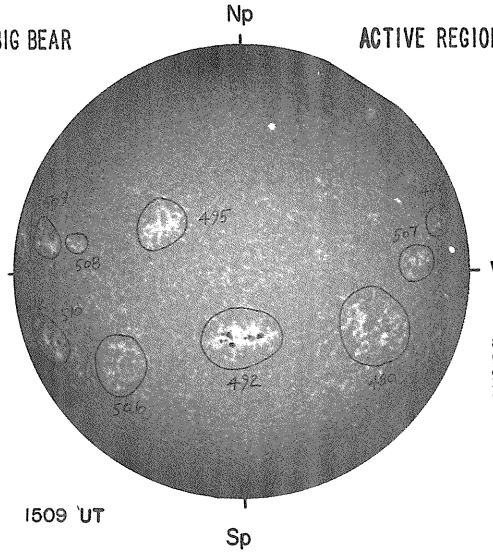


1540 UT

BOULDER PROMINENCES

NO DATA

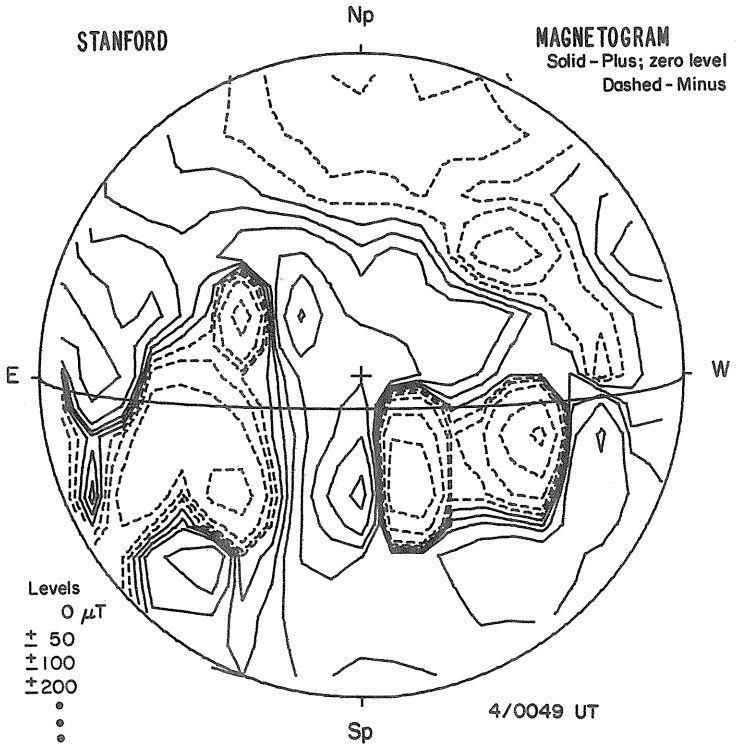
BIG BEAR



80- 2400-2.5
92- 3400-3.5
95- 2200-3.0
11- 2000-4.0

1509 UT

STANFORD



4/0049 UT

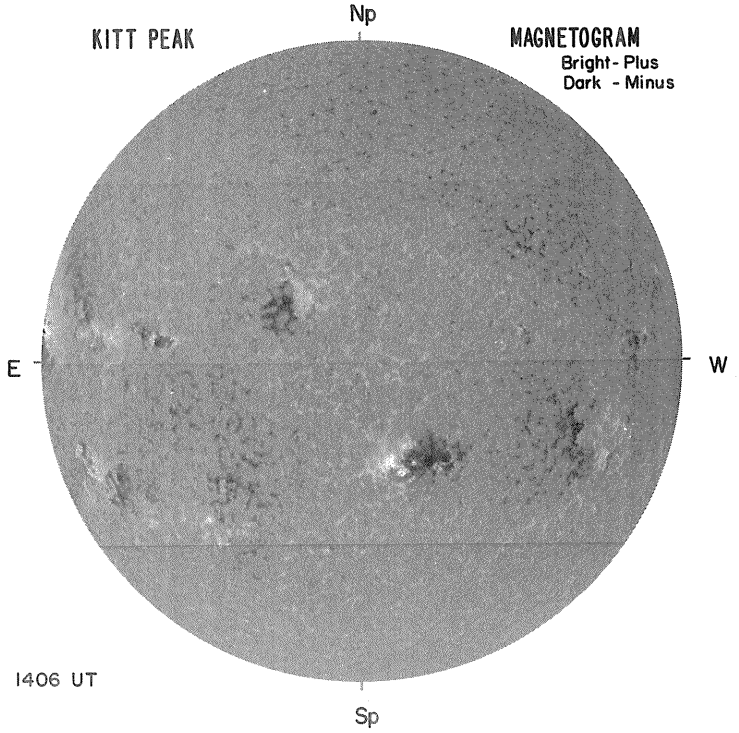
AUGUST 4, 1982 (P= 11.88, B_o= 5.99, L_o= 58.26)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

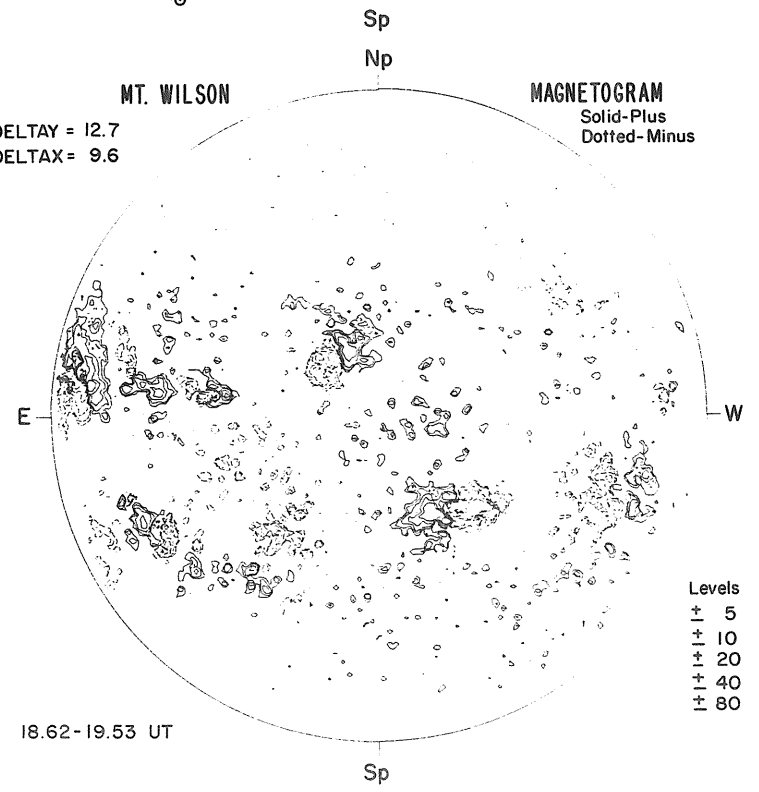
KITT PEAK MAGNETOGRAM
Bright - Plus
Dark - Minus



1406 UT

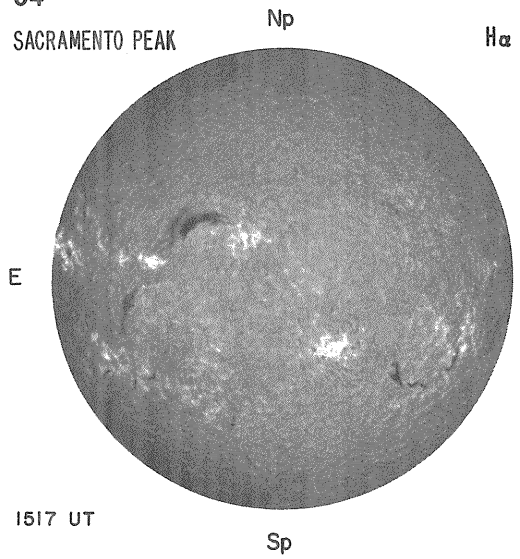
MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

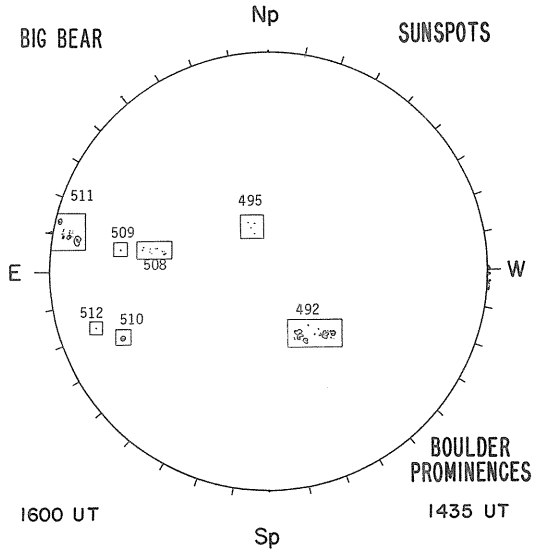
DELTAY = 12.7
DELTAX = 9.6

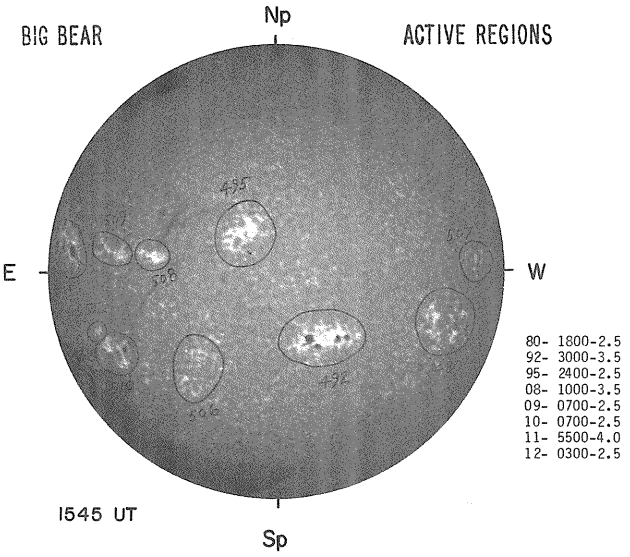


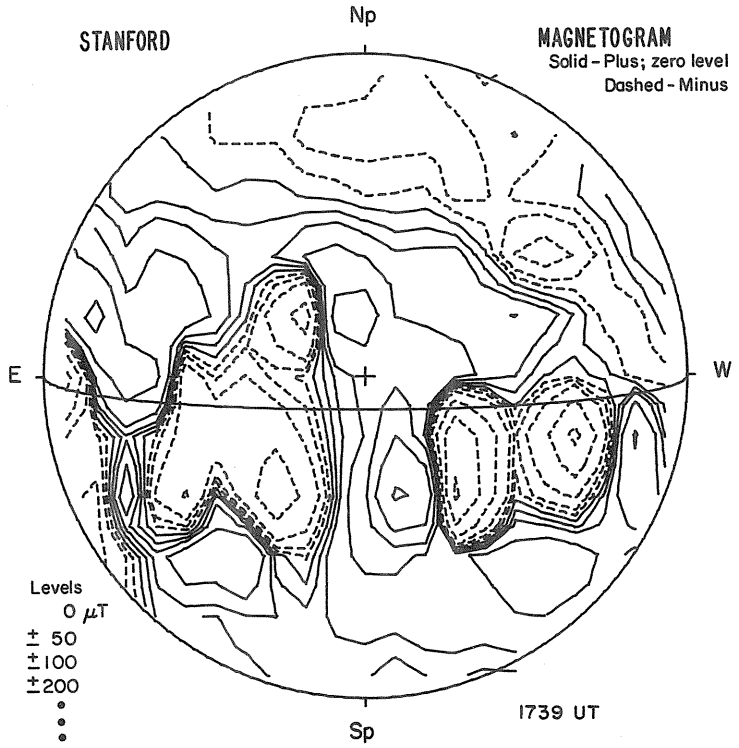
18.62-19.53 UT

04


SACRAMENTO PEAK
Np
Hα
E
W
Sp
1517 UT


BIG BEAR
SUNSPOTS
Np
511
509
508
495
512
510
492
E
W
Sp
1600 UT
BOULDER
PROMINENCES
1435 UT


BIG BEAR
ACTIVE REGIONS
Np
E
W
Sp
1545 UT
80- 1800-2.5
92- 3000-3.5
95- 2400-2.5
08- 1000-3.5
09- 0700-2.5
10- 0700-2.5
11- 5500-4.0
12- 0300-2.5

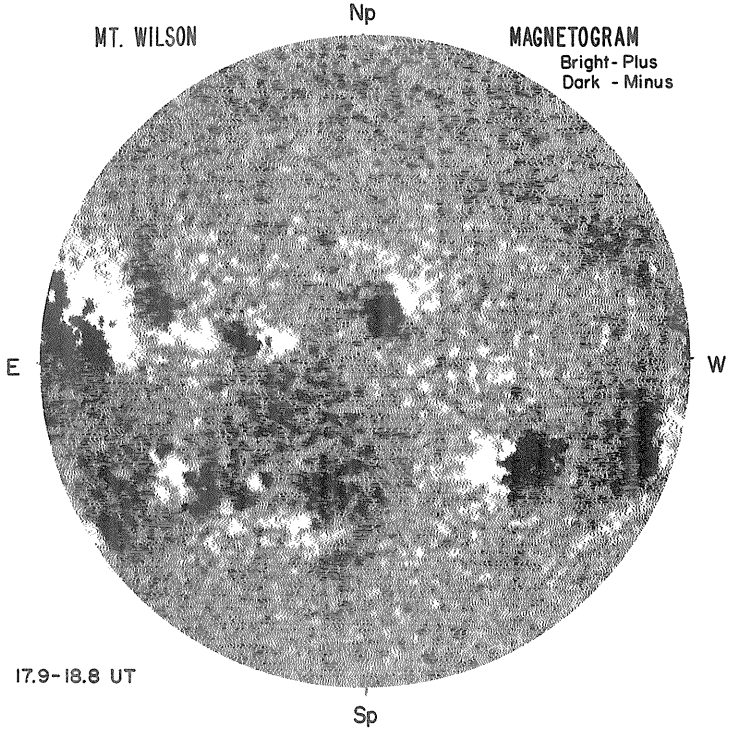

STANFORD
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
Np
E
W
Sp
1739 UT
Levels
0 μT
± 50
±100
±200

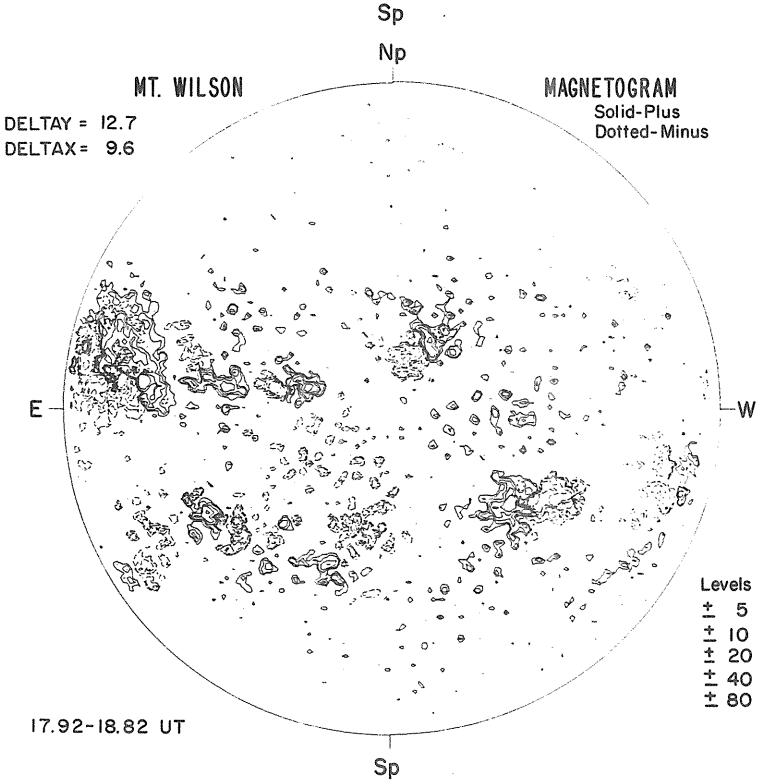
AUGUST 5, 1982 (P= 12.27, B_o= 6.06, L_o= 45.04)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

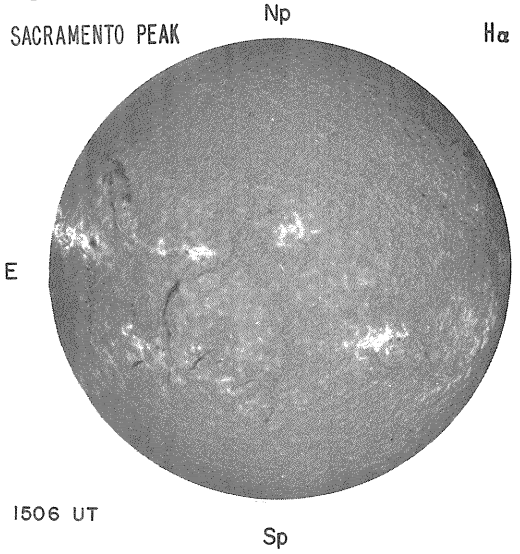
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$





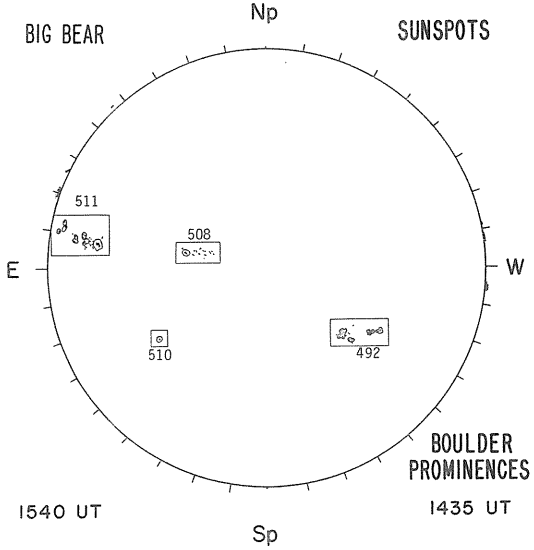
05

SACRAMENTO PEAK



1506 UT

BIG BEAR



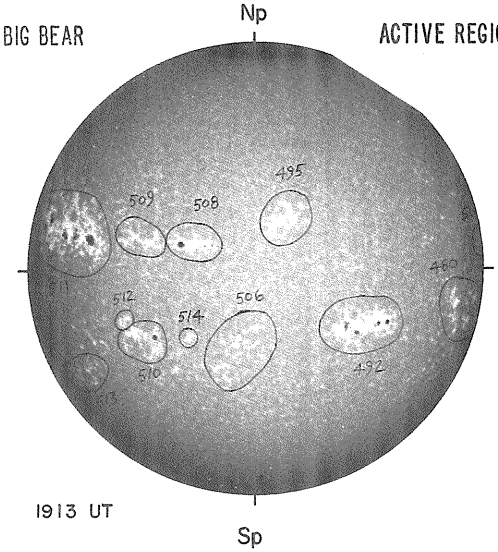
1540 UT

SUNSPOTS

BOULDER PROMINENCES

1435 UT

BIG BEAR

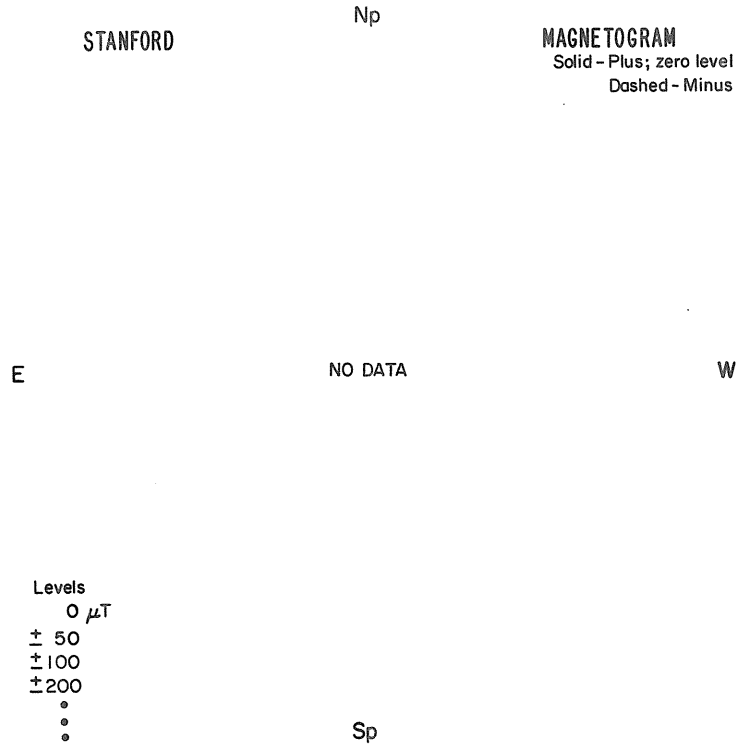


1913 UT

ACTIVE REGIONS

80- 1600-2.5
92- 3500-4.0
95- 1900-2.5
08- 1200-3.0
09- 0600-2.5
10- 1100-3.0
11-14000-4.0
12- 0300-2.5

STANFORD



MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

Levels

0 μT

± 50

± 100

± 200

•

•

•

AUGUST 6, 1982 (P= 12.65, B_o = 6.12, L_o = 31.81)

SACRAMENTO PEAK Np CORONA
5303 Å

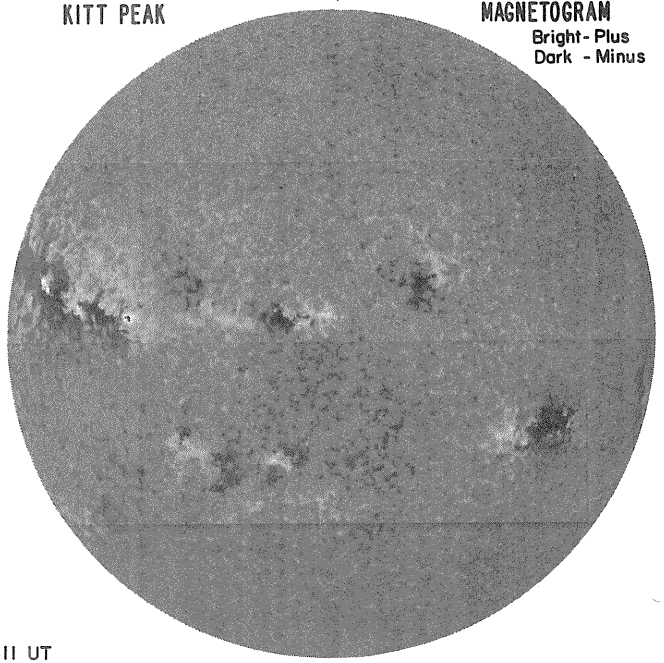
E W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

Sp

Np

KITT PEAK MAGNETOGRAM
Bright - Plus
Dark - Minus



E W

1811 UT

Sp

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY =
DELTAX =

E

NO DATA AUGUST 6, 18, 23, 24, 26

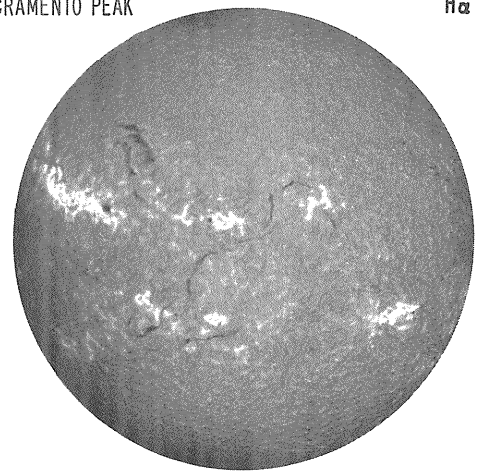
W

Levels
± 5
± ± 10
± ± ± 20
± ± ± ± 40
± ± ± ± ± 80

Sp

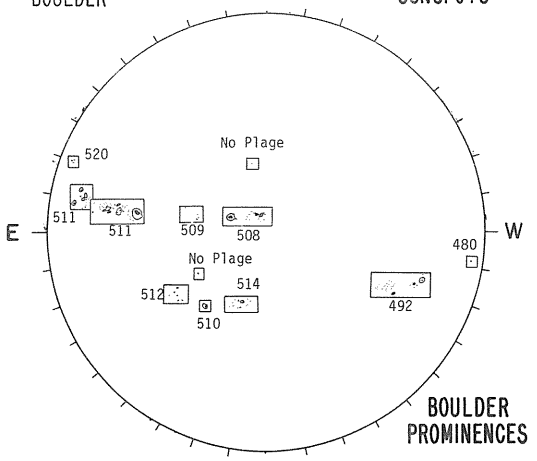
06

SACRAMENTO PEAK



1501 UT

BOULDER SUNSPOTS



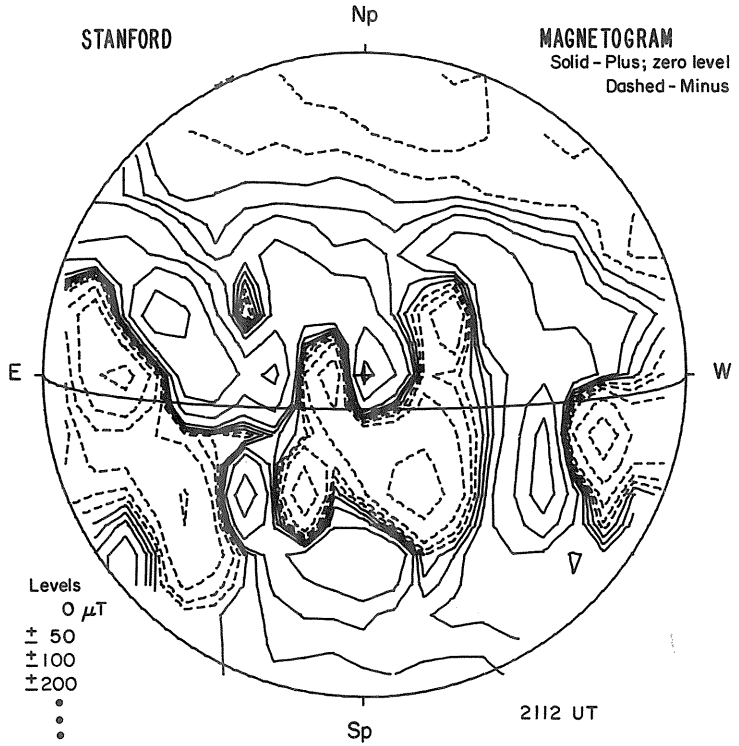
1430 UT 1430 UT

BIG BEAR ACTIVE REGIONS

NO DATA AUGUST 6, 13, 24, 1982

STANFORD MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus



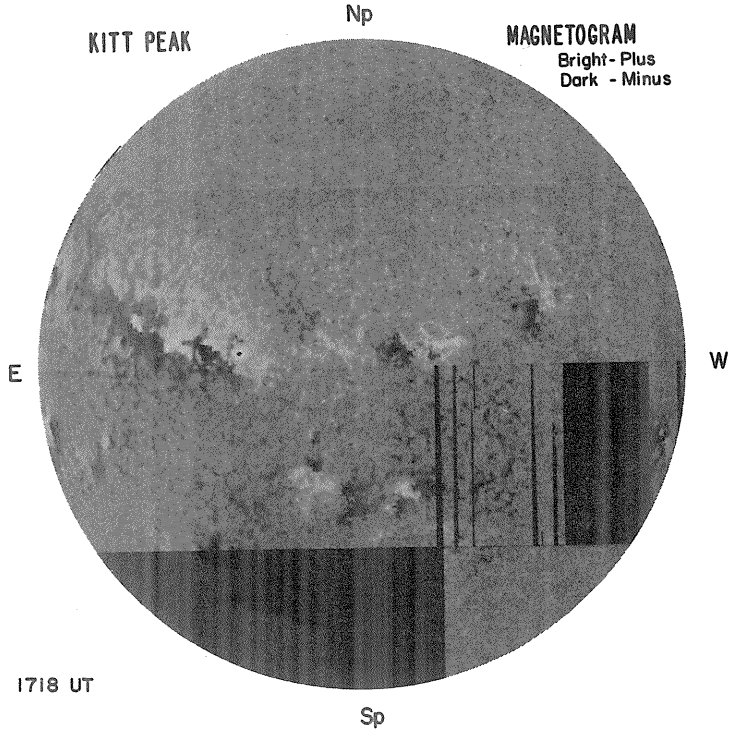
2112 UT

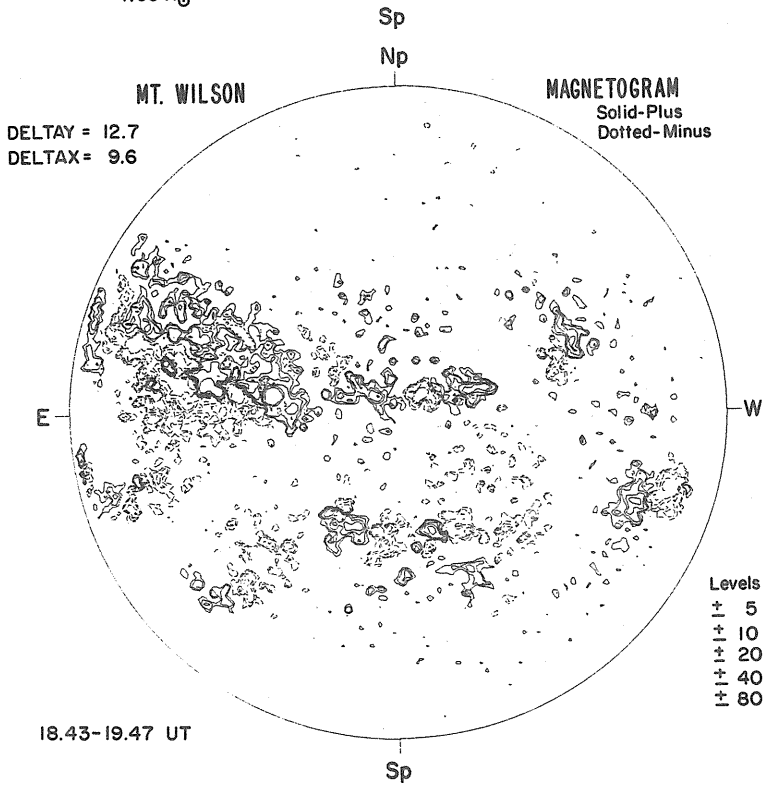
AUGUST 7, 1982 (P= 13.03, B_o= 6.19, L_o= 18.59)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

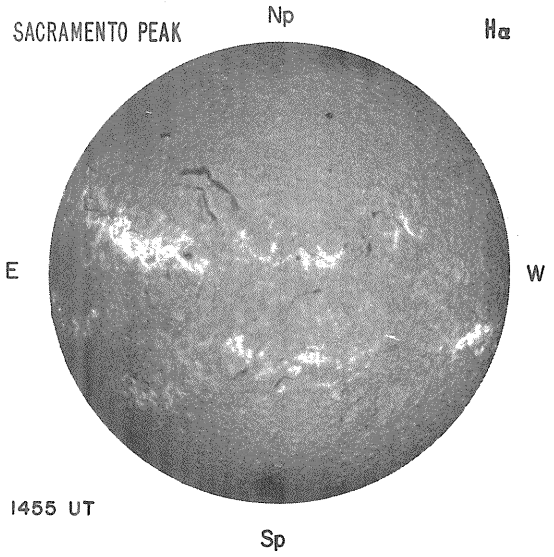
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$





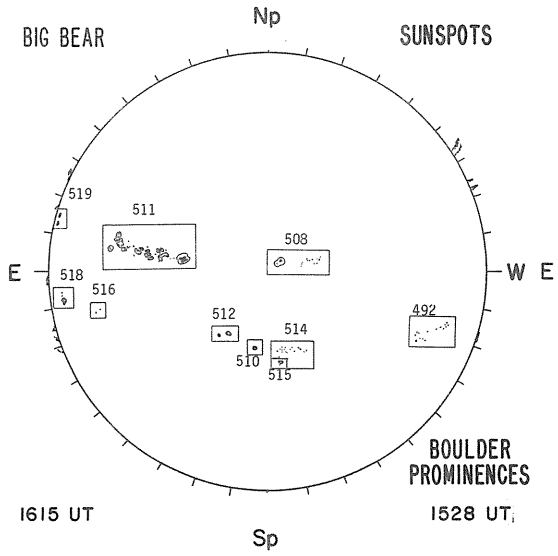
07

SACRAMENTO PEAK



1455 UT

BIG BEAR SUNSPOTS

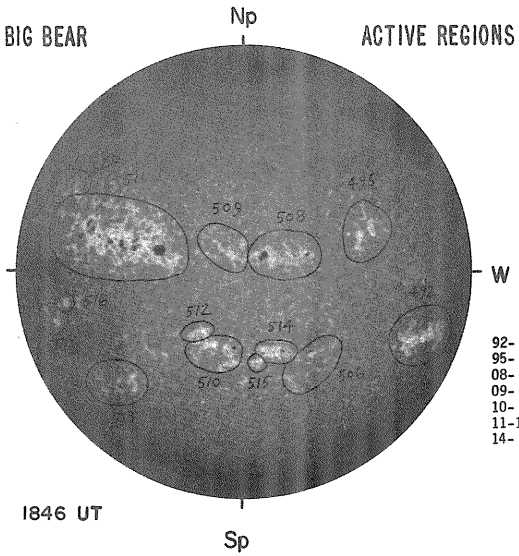


1615 UT

BOULDER PROMINENCES

1528 UT

BIG BEAR ACTIVE REGIONS

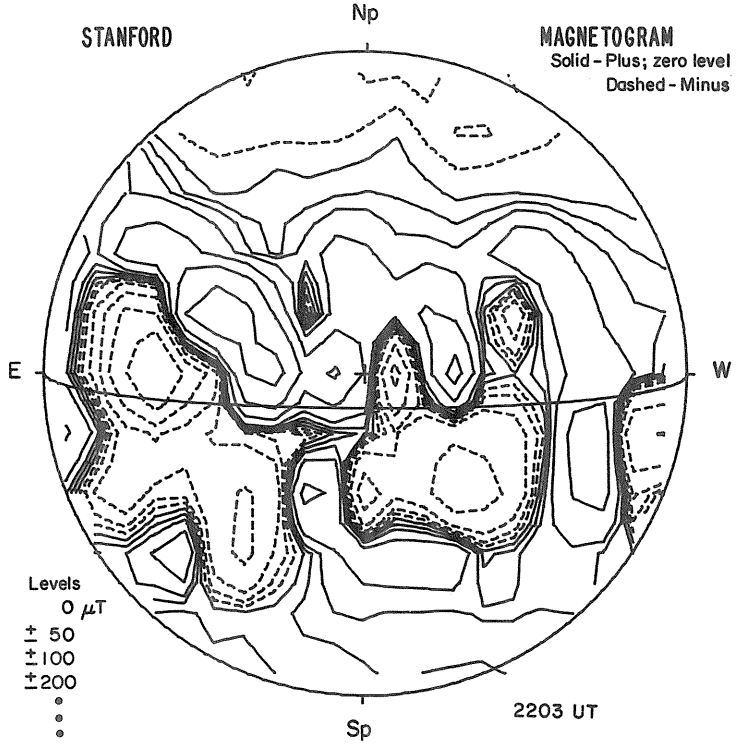


1846 UT

92- 4200-3.5
95- 1200-2.5
08- 1500-3.0
09- 0600-2.5
10- 1200-2.5
11-13000-3.5
14- 0900-3.0

STANFORD MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus



2203 UT

AUGUST 8, 1982 (P= 13.40, B_o = 6.25, L_o = 5.37)

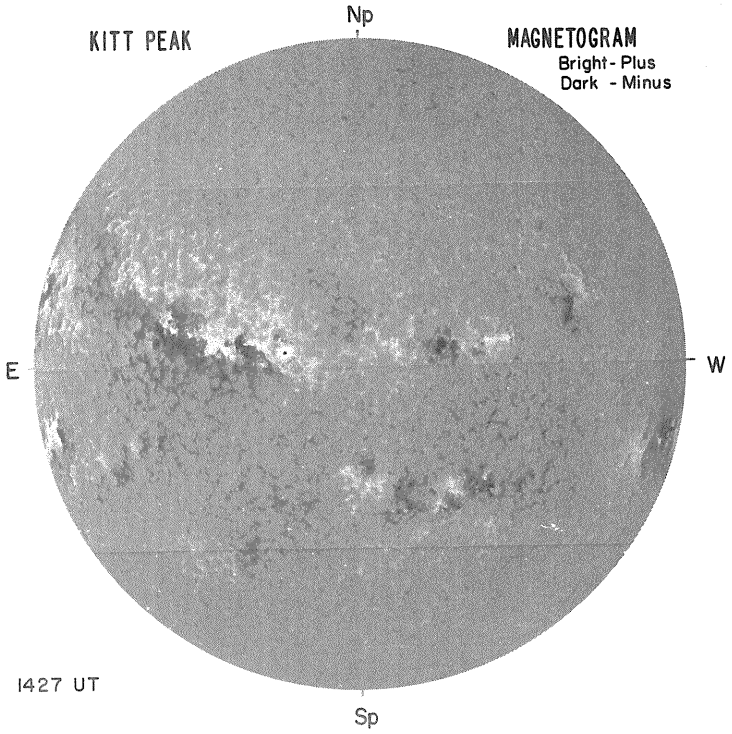
SACRAMENTO PEAK Np CORONA 5303 Å

E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

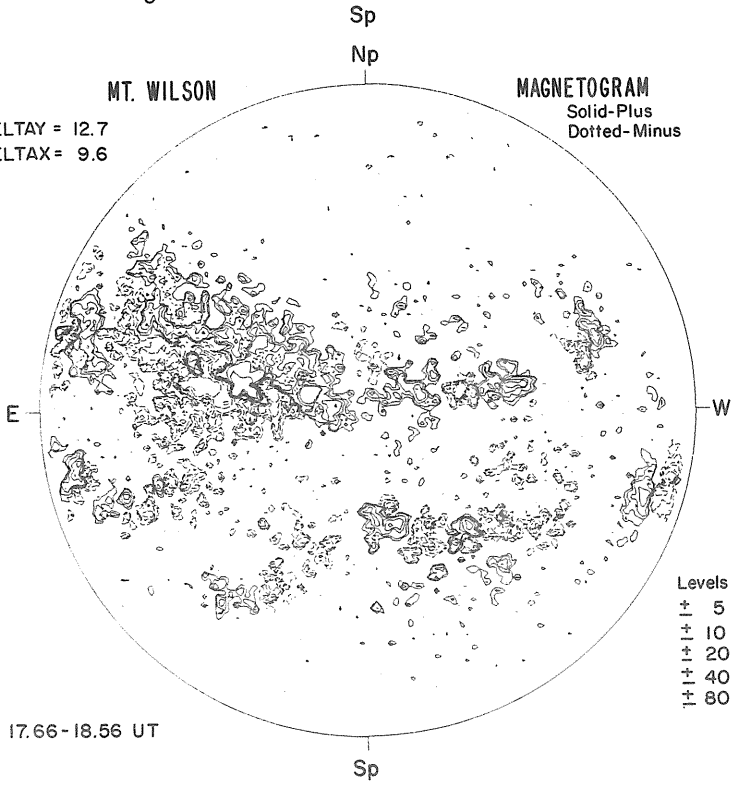


1427 UT

MT. WILSON

DELTAY = 12.7
DELTAX = 9.6

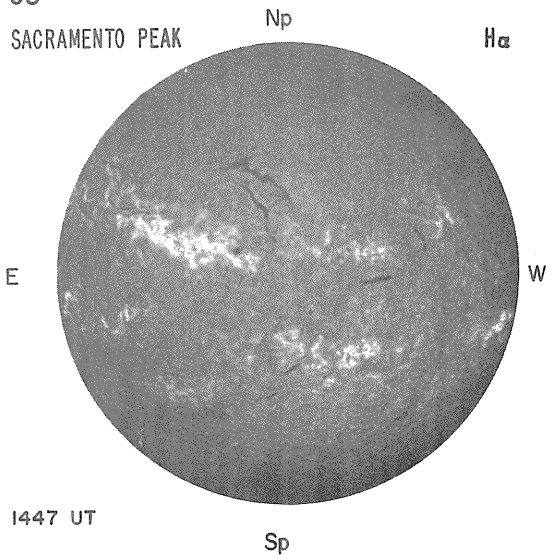
MAGNETOGRAM
Solid-Plus
Dotted-Minus

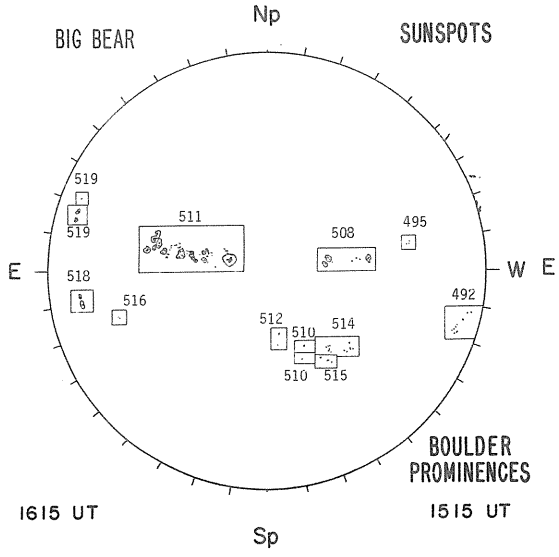


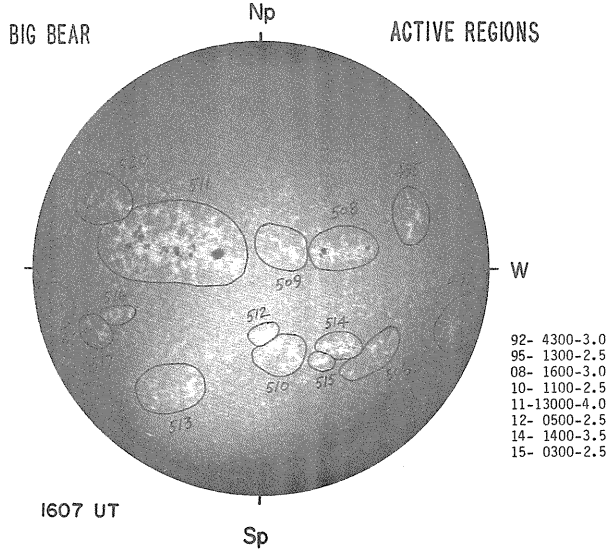
Levels
± 5
± 10
± 20
± 40
± 80

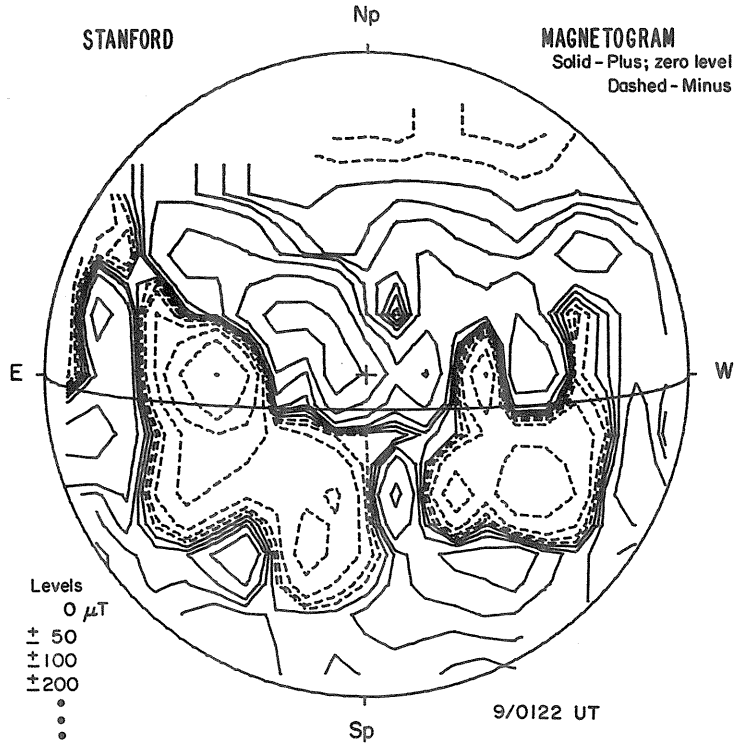
17.66 - 18.56 UT

08


SACRAMENTO PEAK
Np
Hα
E
W
Sp
1447 UT


BIG BEAR
Np
SUNSPOTS
519
519
511
508
495
518
516
492
512
510
514
510
515
E
W
BOULDER
PROMINENCES
1615 UT
1515 UT
Sp


BIG BEAR
Np
ACTIVE REGIONS
E
W
92- 4300-3.0
95- 1300-2.5
08- 1600-3.0
10- 1100-2.5
11-13000-4.0
12- 0500-2.5
14- 1400-3.5
15- 0300-2.5
1607 UT
Sp

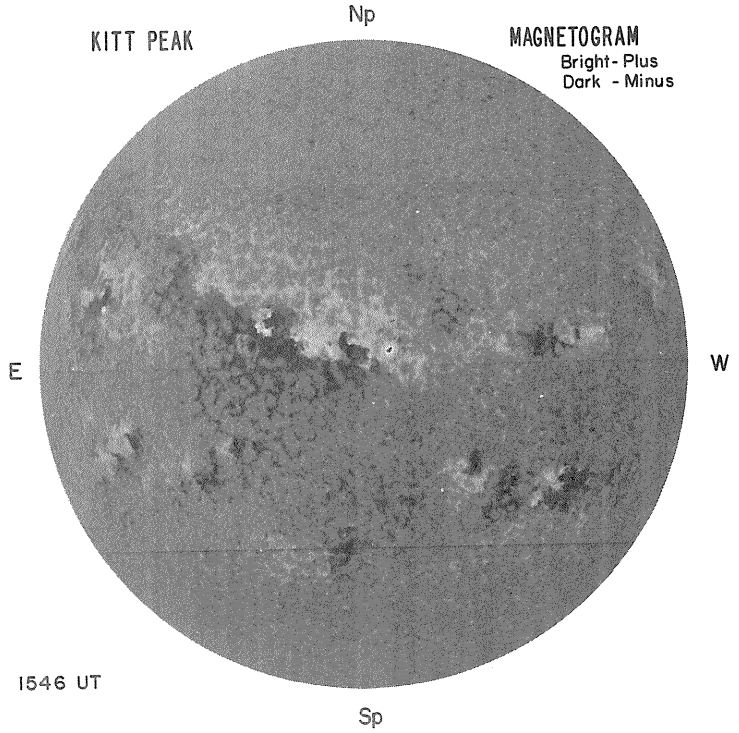

STANFORD
Np
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
E
W
Levels
0 μT
± 50
± 100
± 200
9/0122 UT
Sp

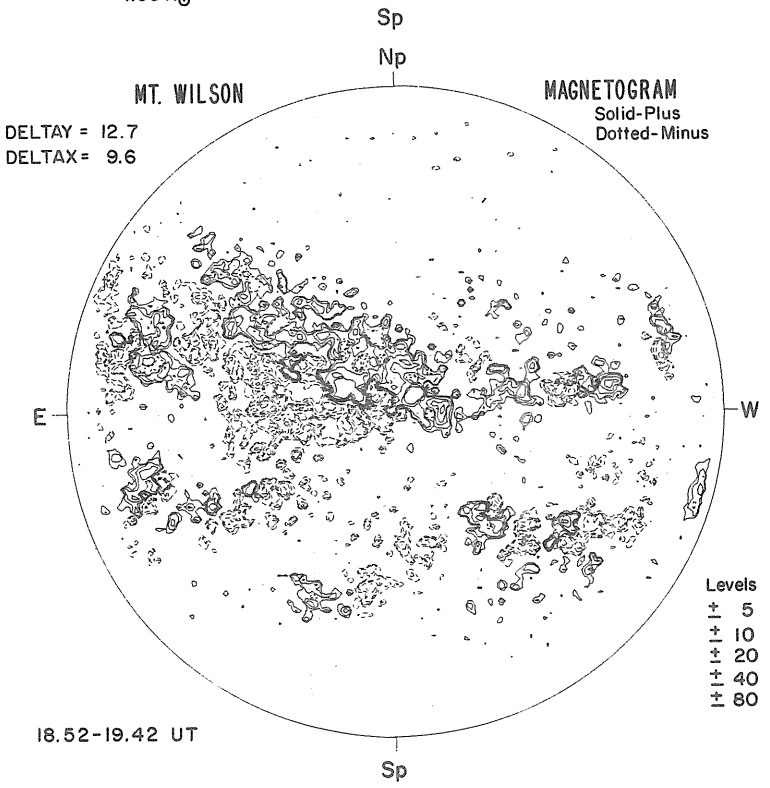
AUGUST 9, 1982 (P= 13.77, B_o= 6.31, L_o= 352.14)

SACRAMENTO PEAK Np CORONA
5303 Å

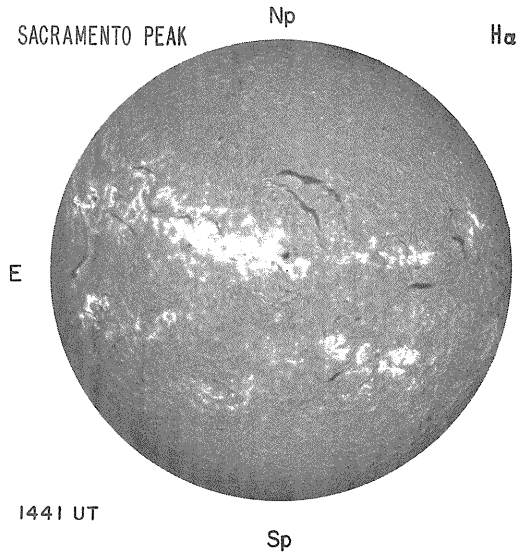
E NO DATA W

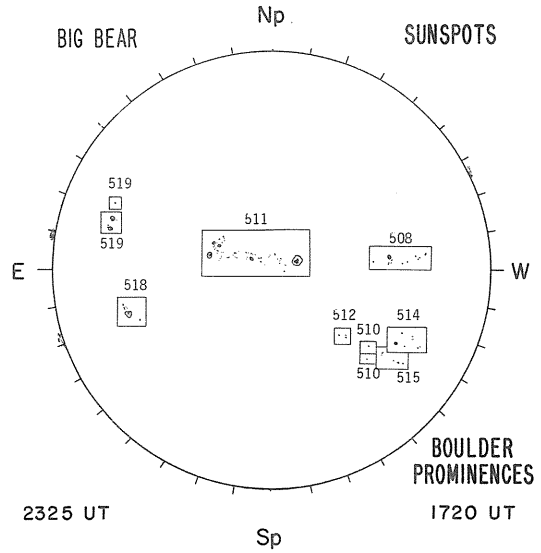
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$





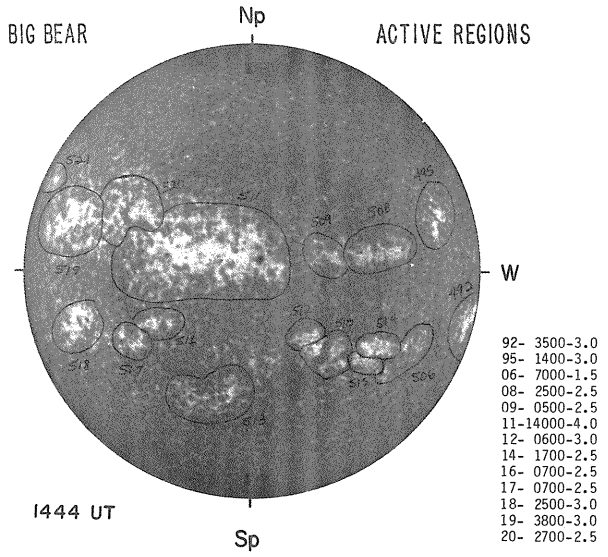
09



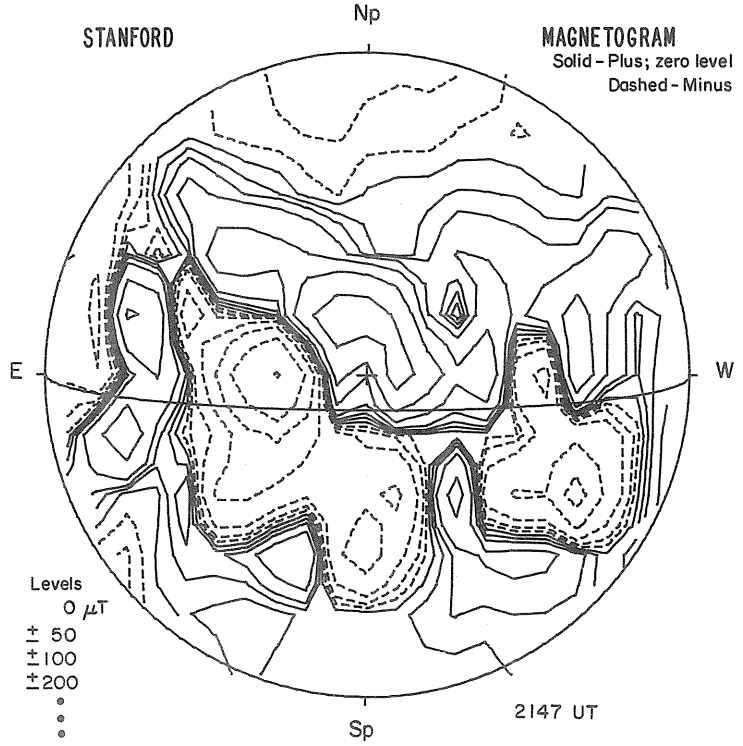


BOULDER PROMINENCES

1720 UT



92- 3500-3.0
95- 1400-3.0
06- 7000-1.5
08- 2500-2.5
09- 0500-2.5
11-14000-4.0
12- 0600-3.0
14- 1700-2.5
16- 0700-2.5
17- 0700-2.5
18- 2500-3.0
19- 3800-3.0
20- 2700-2.5



AUGUST 10, 1982 (P= 14.14, B_o= 6.37, L_o= 338.92)

SACRAMENTO PEAK Np CORONA 5303 Å

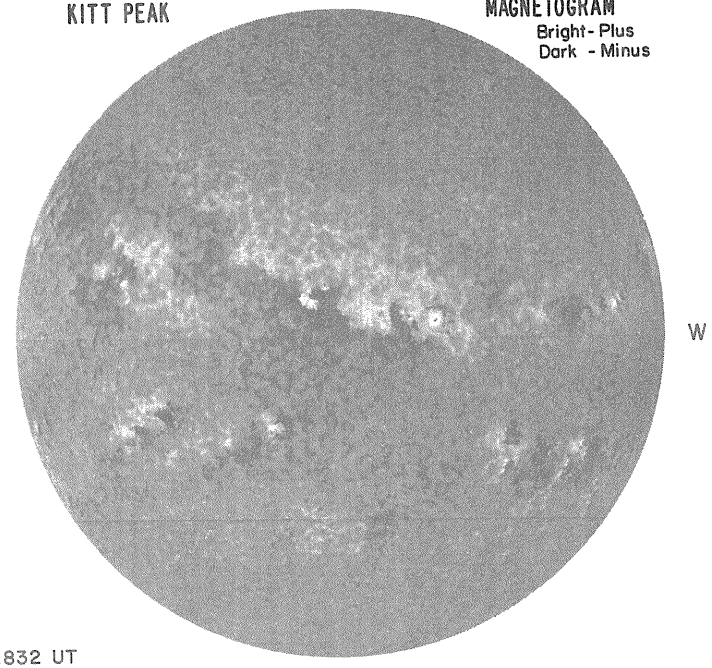
E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

KITT PEAK

Np

MAGNETOGRAM
Bright - Plus
Dark - Minus



E W

1832 UT

Sp

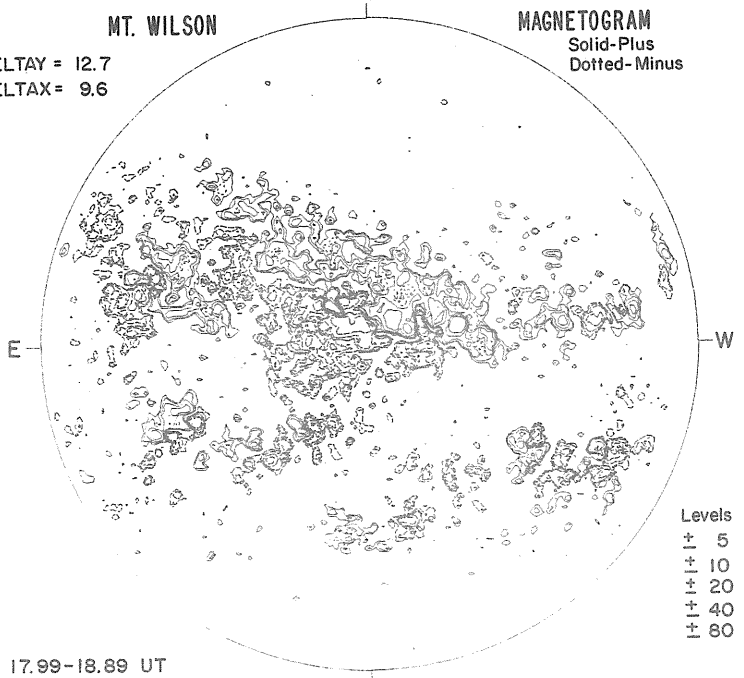
Sp

Np

MT. WILSON

DELTAY = 12.7
DELTAX = 9.6

MAGNETOGRAM
Solid-Plus
Dotted-Minus



E W

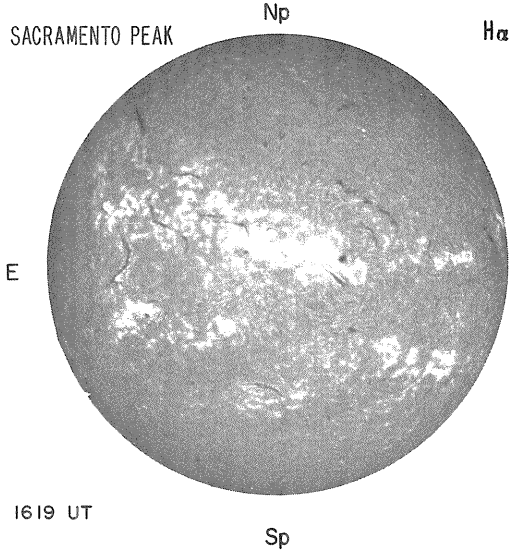
Levels
± 5
± 10
± 20
± 40
± 80

17.99-18.89 UT

Sp

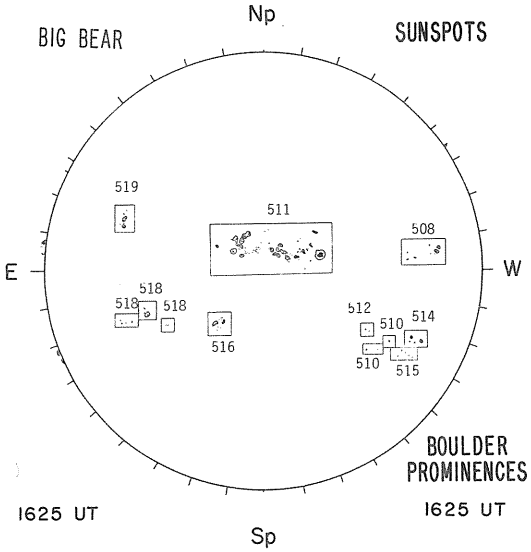
10

SACRAMENTO PEAK



1619 UT

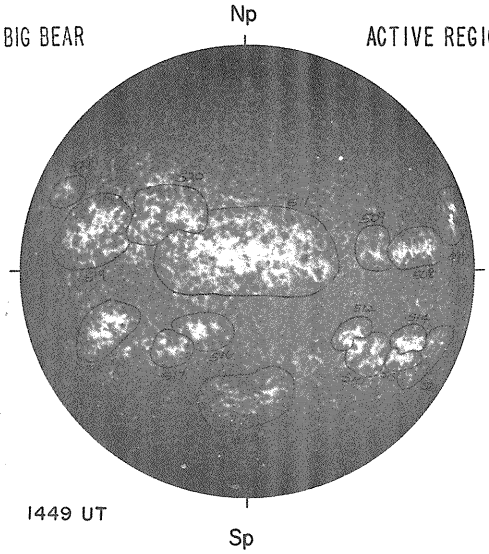
BIG BEAR



1625 UT

1625 UT

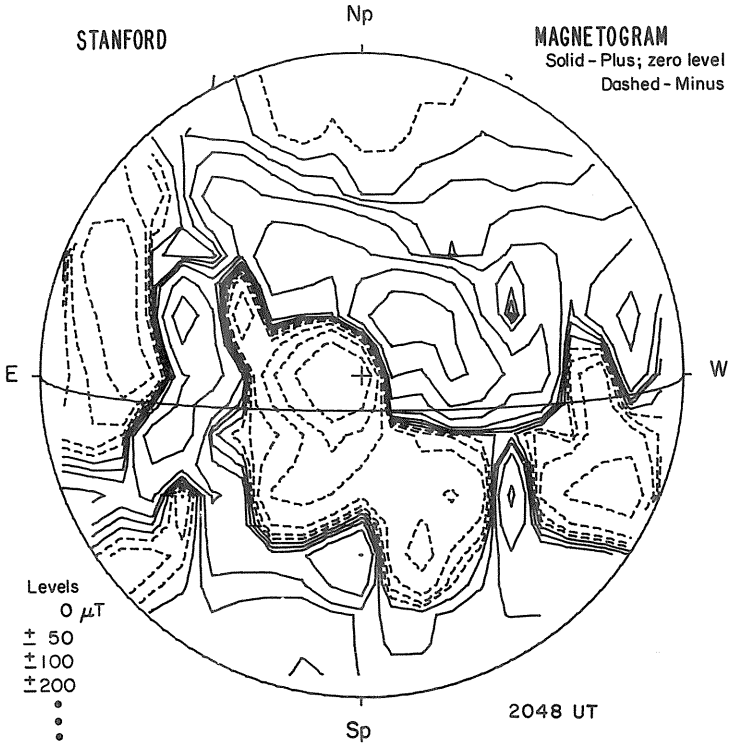
BIG BEAR



95- 1300-3.5
08- 2500-3.5
10- 1400-2.5
11-15000-4.5
12- 0500-2.5
14- 2000-3.0
15- 1000-3.0
16- 1000-3.0
17- 0600-2.5
18- 3000-3.5
19- 4000-3.0

1449 UT

STANFORD



2048 UT

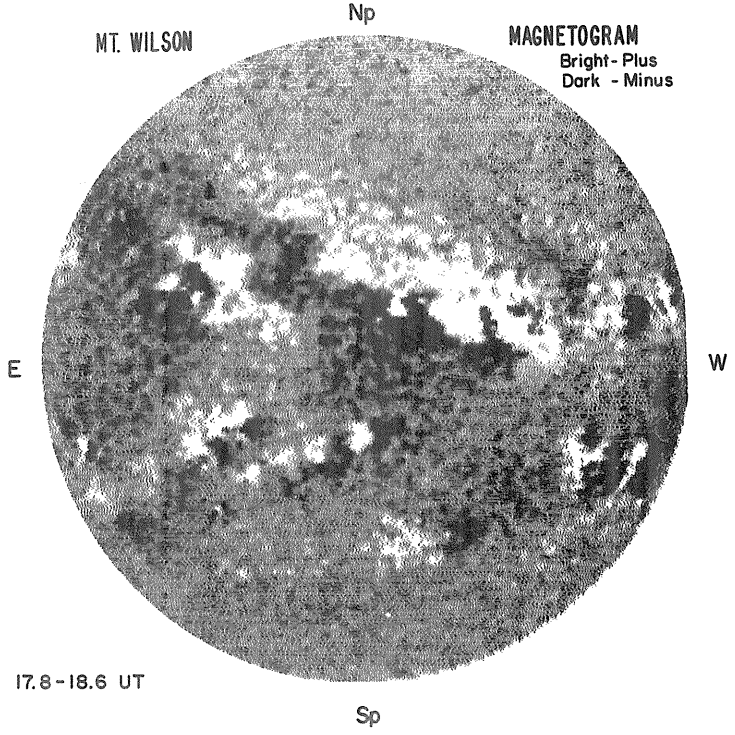
67
Aug 82

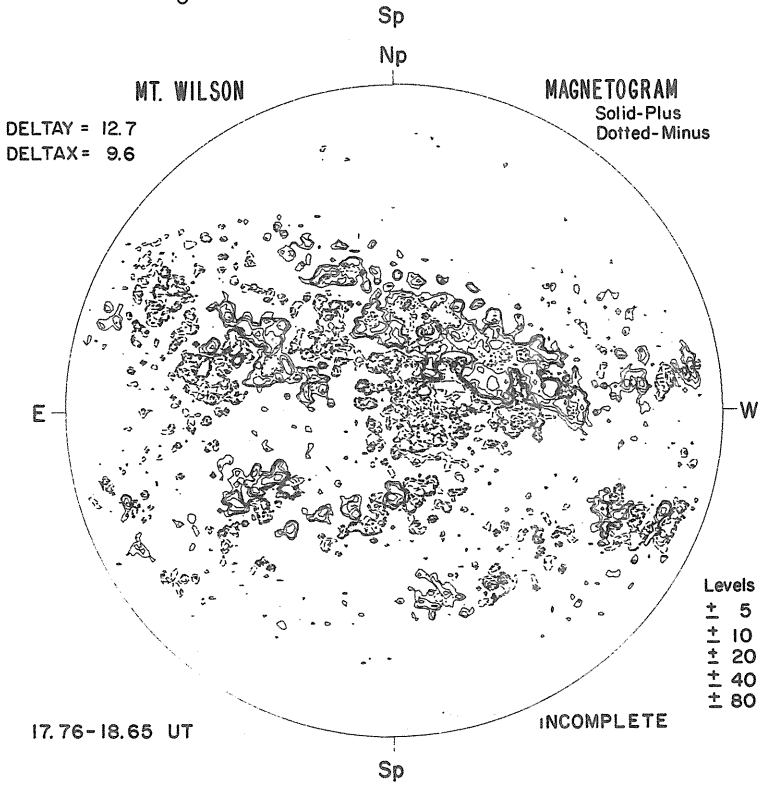
AUGUST 11, 1982 (P= 14.50, B_o= 6.43, L_o= 325.70)

SACRAMENTO PEAK Np CORONA
5303 Å

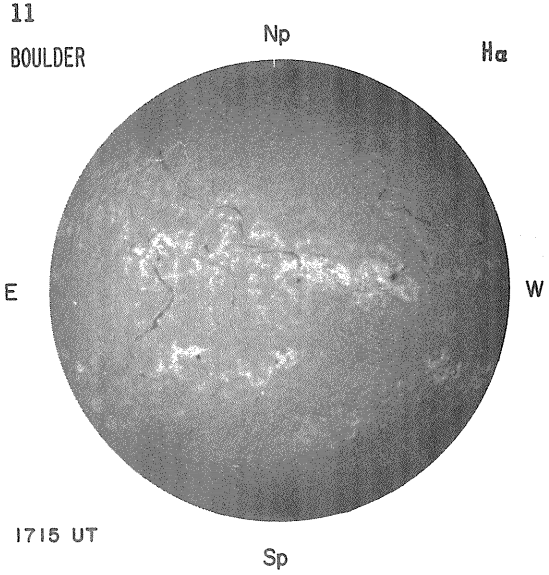
E NO DATA W

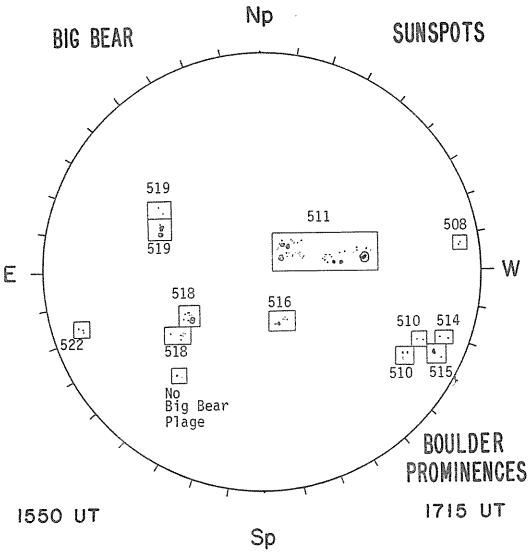
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

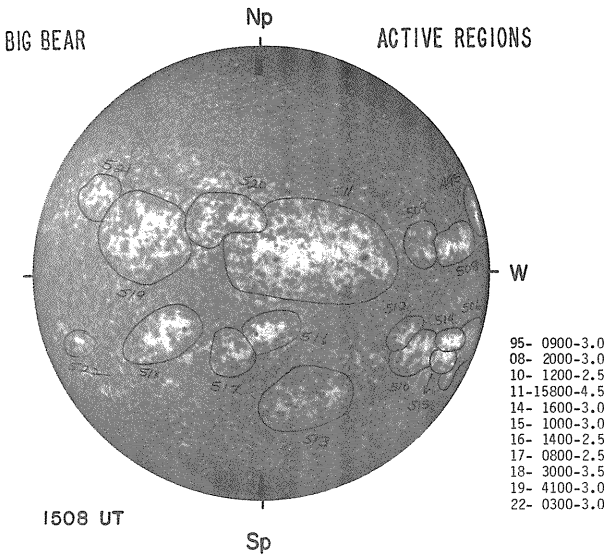


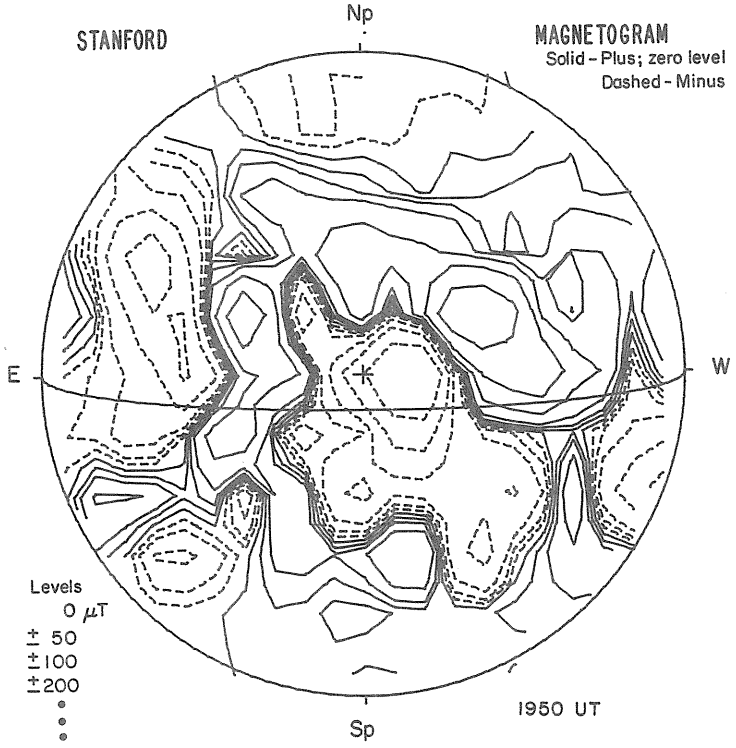


11


BOULDER
Np
Hα
E
W
Sp
1715 UT


BIG BEAR
Np
SUNSPOTS
519
519
511
508
518
516
522
518
510
514
510
515
No
Big Bear
Plage
E
W
Sp
1550 UT
BOULDER
PROMINENCES
1715 UT


BIG BEAR
Np
ACTIVE REGIONS
E
W
Sp
1508 UT
95- 0900-3.0
08- 2000-3.0
10- 1200-2.5
11-15800-4.5
14- 1600-3.0
15- 1000-3.0
16- 1400-2.5
17- 0800-2.5
18- 3000-3.5
19- 4100-3.0
22- 0300-3.0

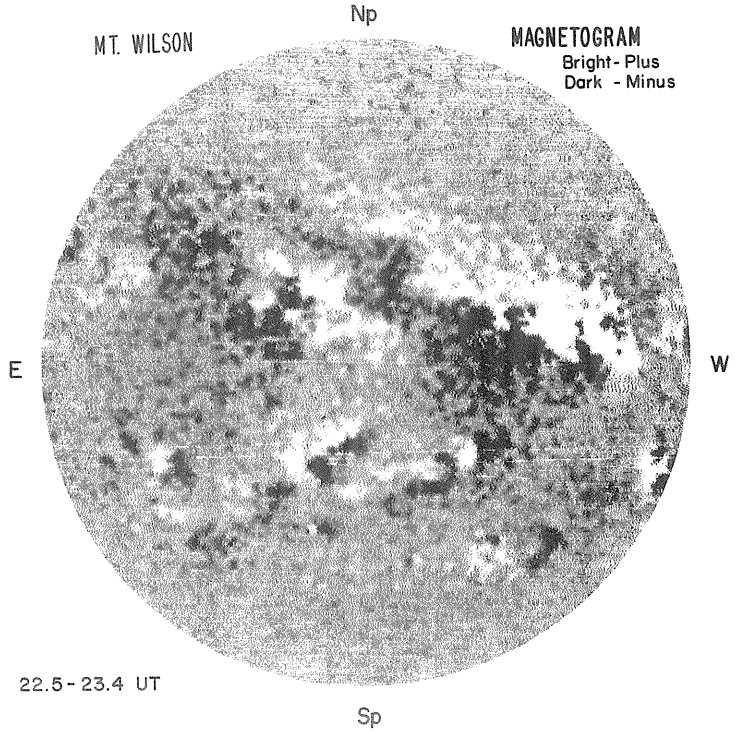

STANFORD
Np
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
E
W
Sp
1950 UT
Levels
0 μT
± 50
±100
±200

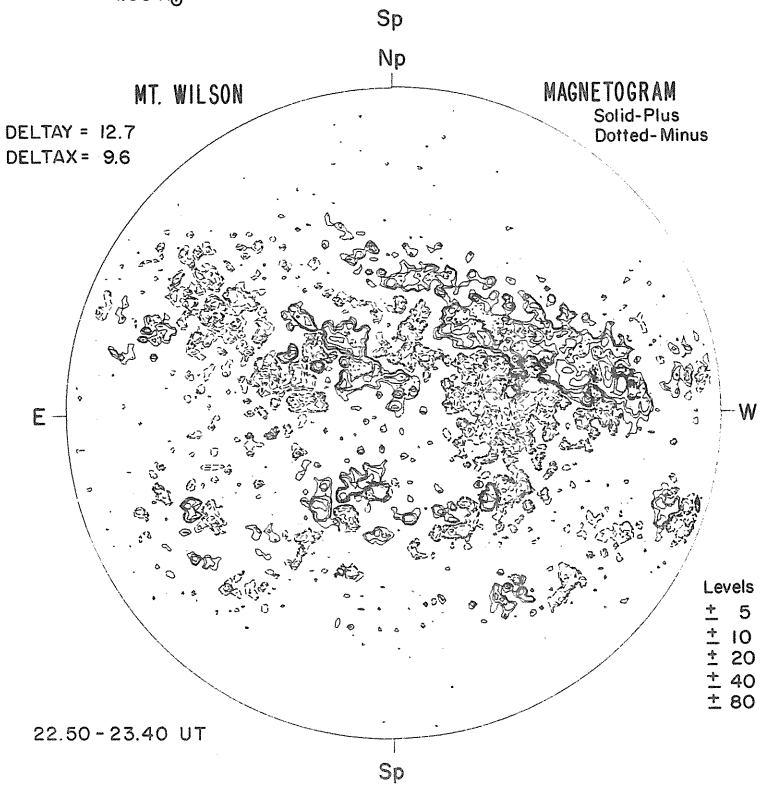
AUGUST 12, 1982 (P= 14.86, B_o= 6.48, L_o= 312.48)

SACRAMENTO PEAK Np CORONA
5303 Å

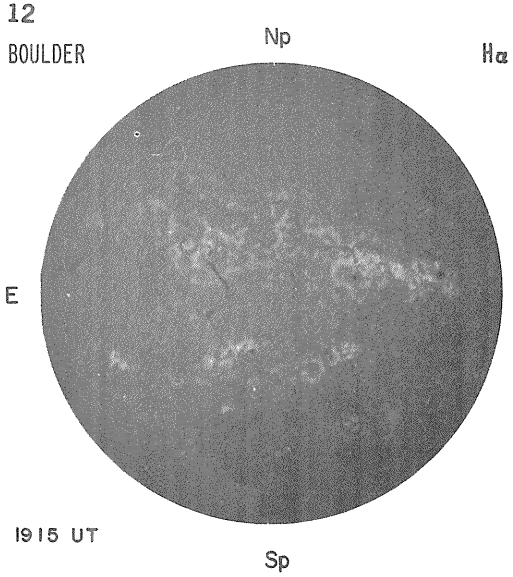
E NO DATA W

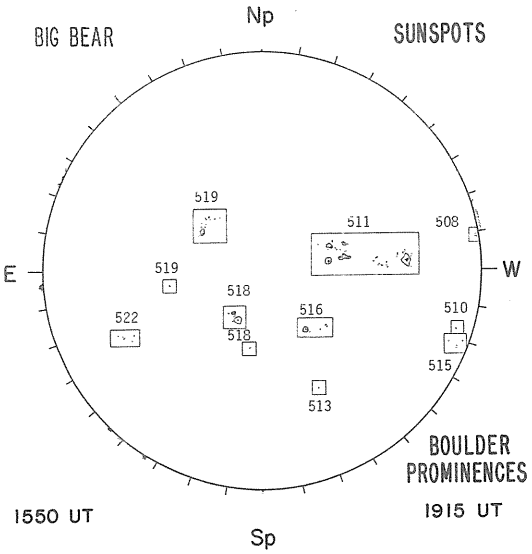
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

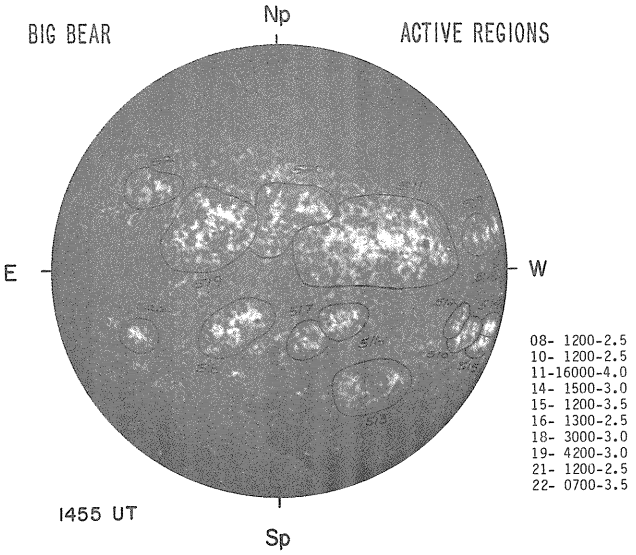


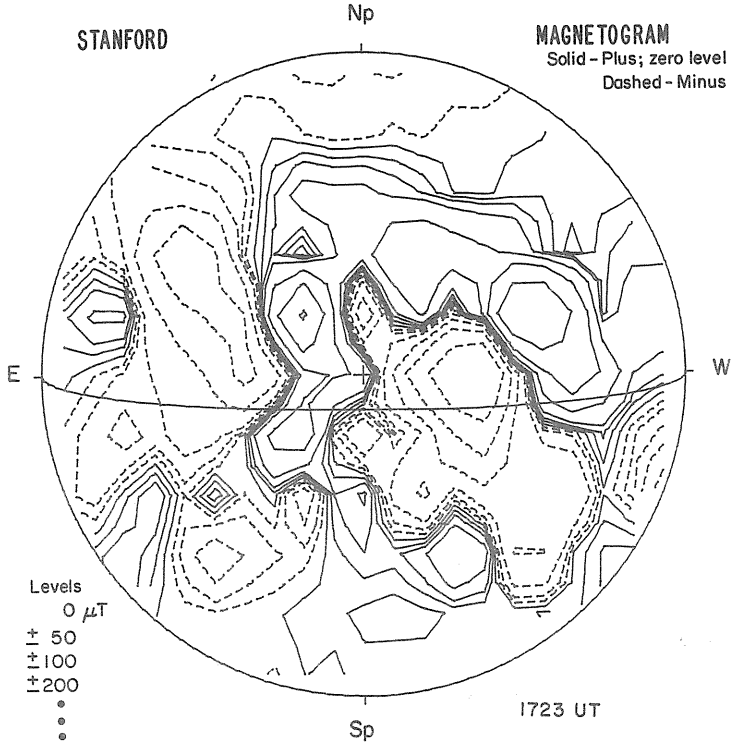


12


BOULDER
Np
Hα
E
W
Sp
1915 UT


BIG BEAR
Np
SUNSPOTS
519
511
508
519
518
522
516
518
510
515
513
E
W
Sp
1550 UT
BOULDER
PROMINENCES
1915 UT


BIG BEAR
Np
ACTIVE REGIONS
E
W
Sp
1455 UT
08- 1200-2.5
10- 1200-2.5
11-16000-4.0
14- 1500-3.0
15- 1200-3.5
16- 1300-2.5
18- 3000-3.0
19- 4200-3.0
21- 1200-2.5
22- 0700-3.5

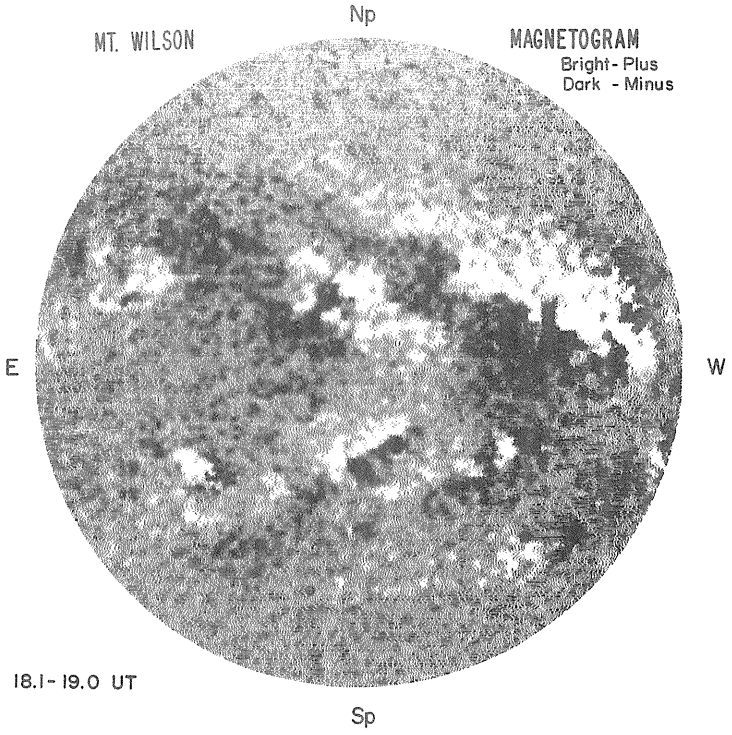

STANFORD
Np
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
E
W
Levels
0 μT
± 50
±100
±200
Sp
1723 UT

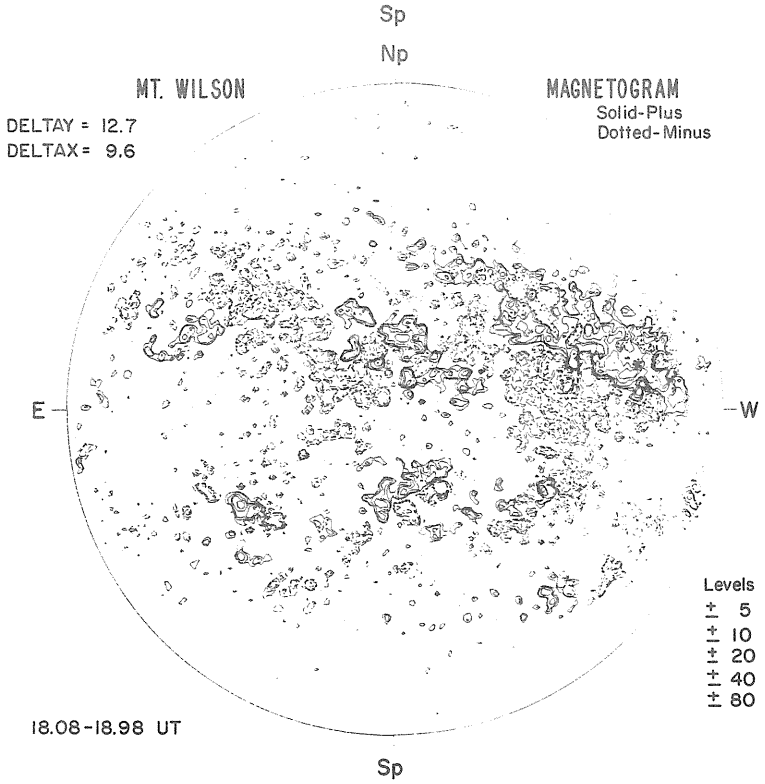
AUGUST 13, 1982 (P= 15.21, B_o= 6.54, L_o= 299.26)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

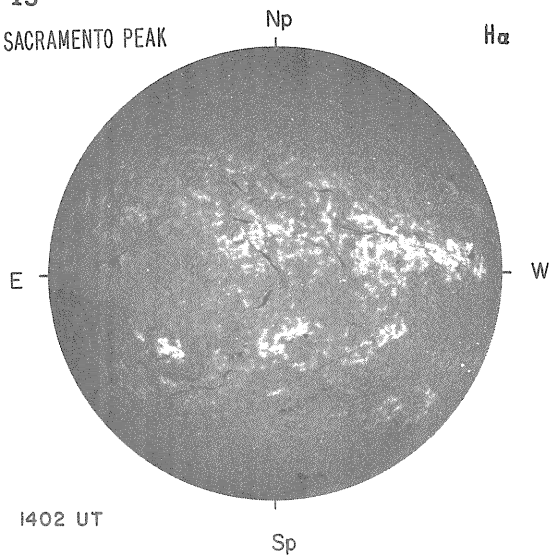
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$





13

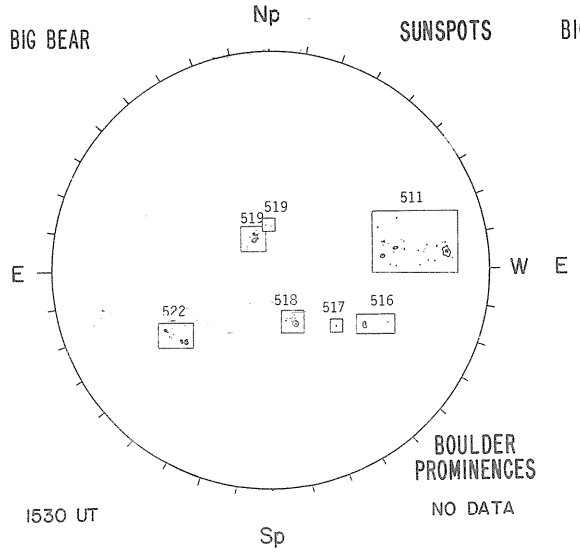
SACRAMENTO PEAK



Hα

1402 UT

BIG BEAR



SUNSPOTS

1530 UT

BIG BEAR

BOULDER PROMINENCES

NO DATA

Np

NO DATA

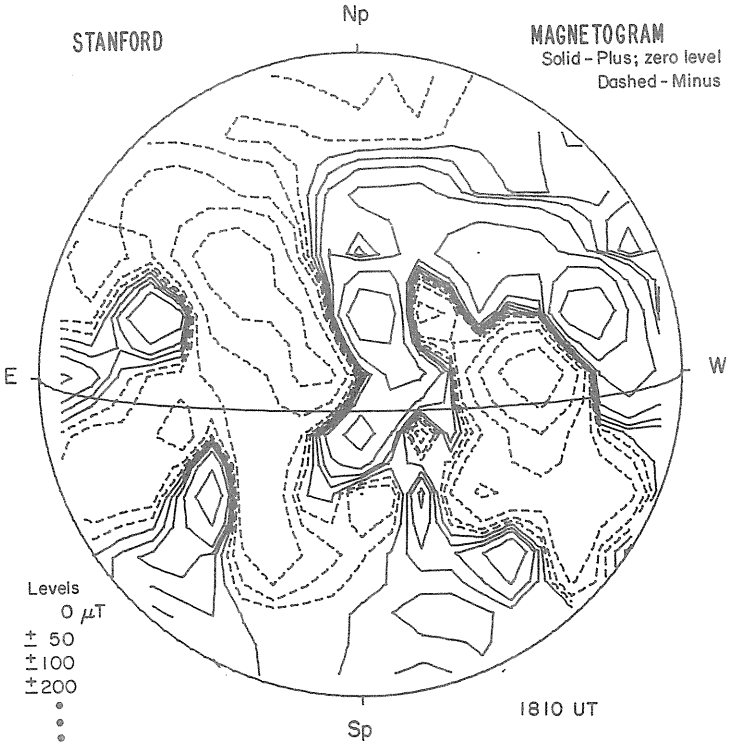
Sp

ACTIVE REGIONS

W

Sp

STANFORD



MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

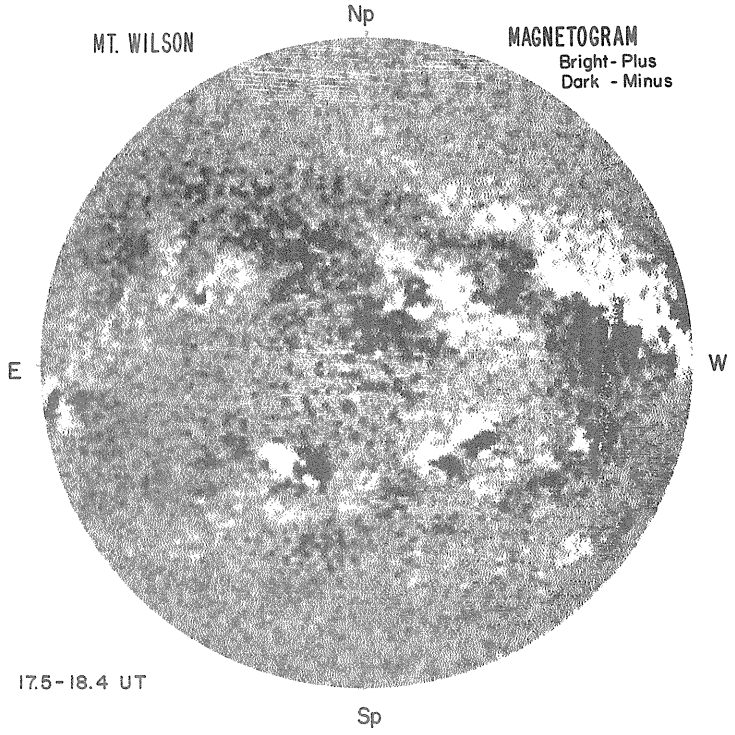
1810 UT

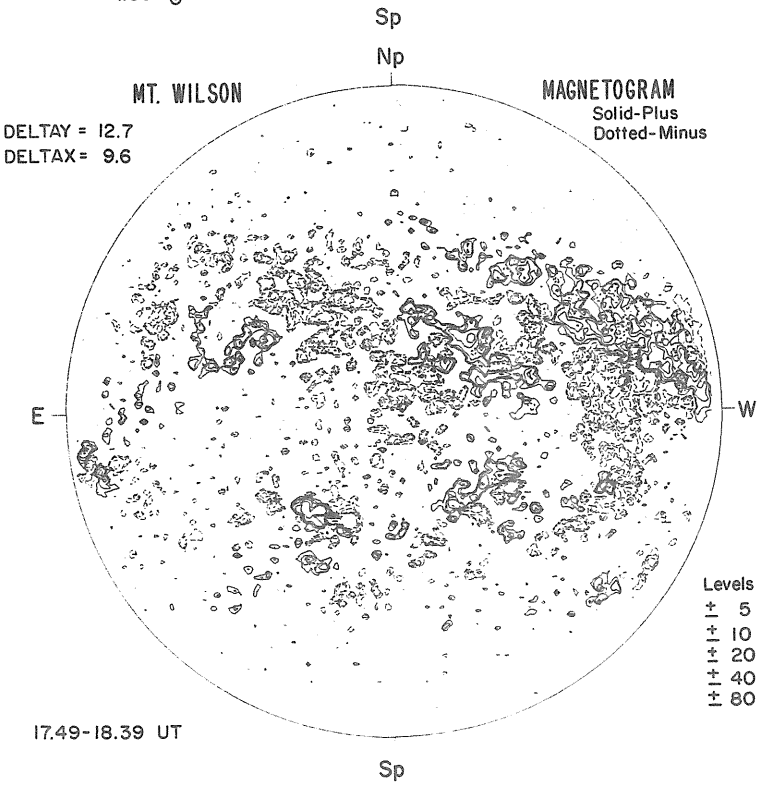
AUGUST 14, 1982 (P= 15.56, B_o= 6.59, L_o= 286.04)

SACRAMENTO PEAK Np CORONA 5303 Å

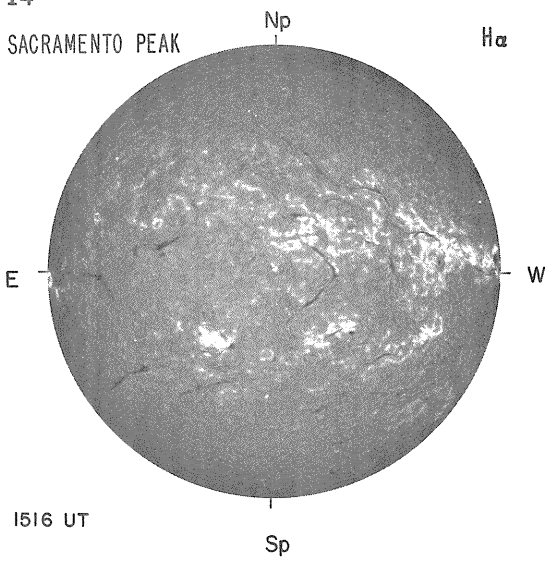
E NO DATA W

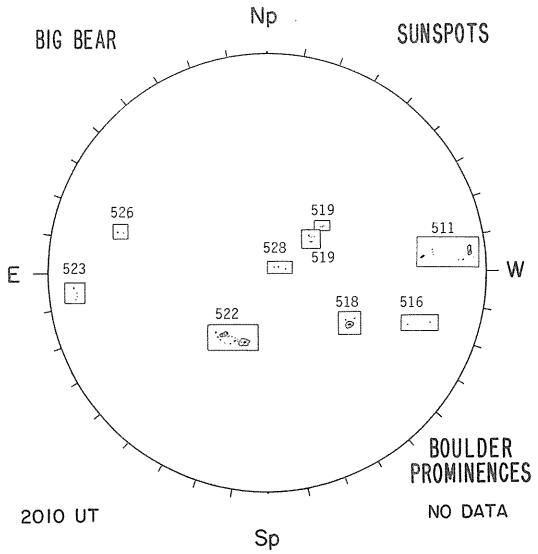
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

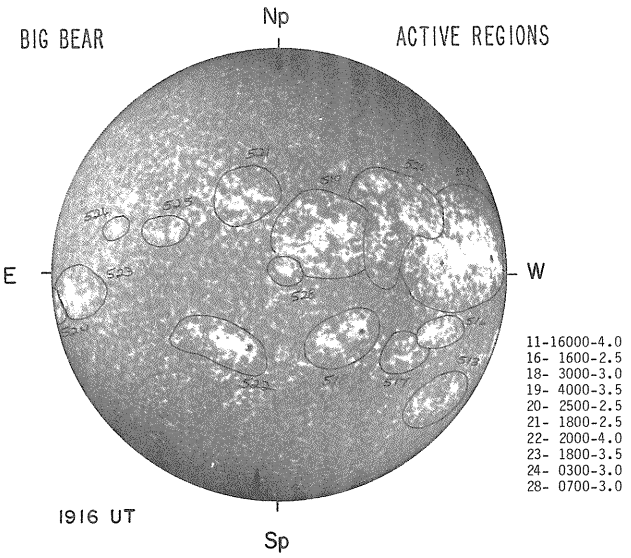


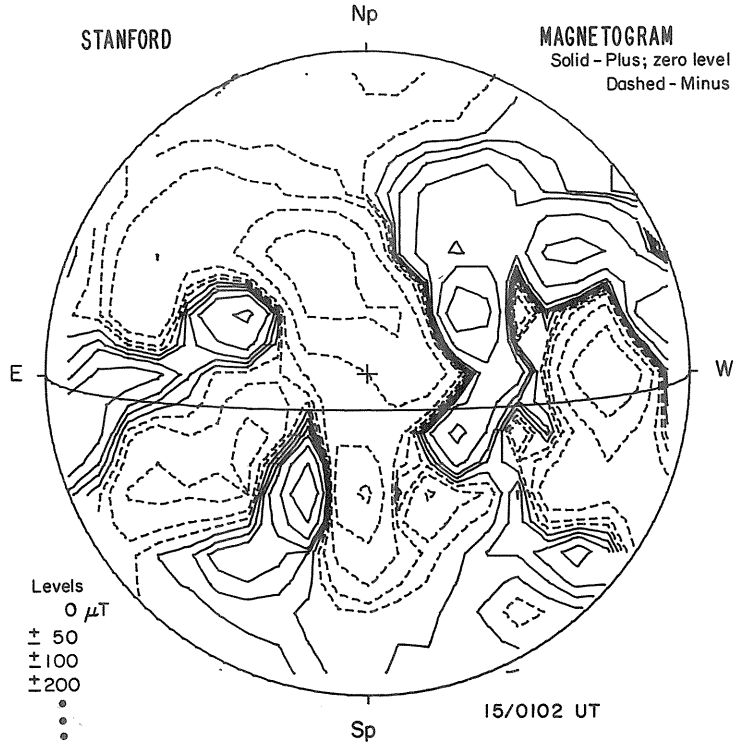


14


SACRAMENTO PEAK
Np
Hα
E
W
Sp
1516 UT


BIG BEAR
Np
SUNSPOTS
526
519
528
519
511
523
522
518
516
E
W
Sp
2010 UT
BOULDER
PROMINENCES
NO DATA


BIG BEAR
Np
ACTIVE REGIONS
E
W
Sp
1916 UT
11-16000-4.0
16- 1600-2.5
18- 3000-3.0
19- 4000-3.5
20- 2500-2.5
21- 1800-2.5
22- 2000-4.0
23- 1800-3.5
24- 0300-3.0
28- 0700-3.0

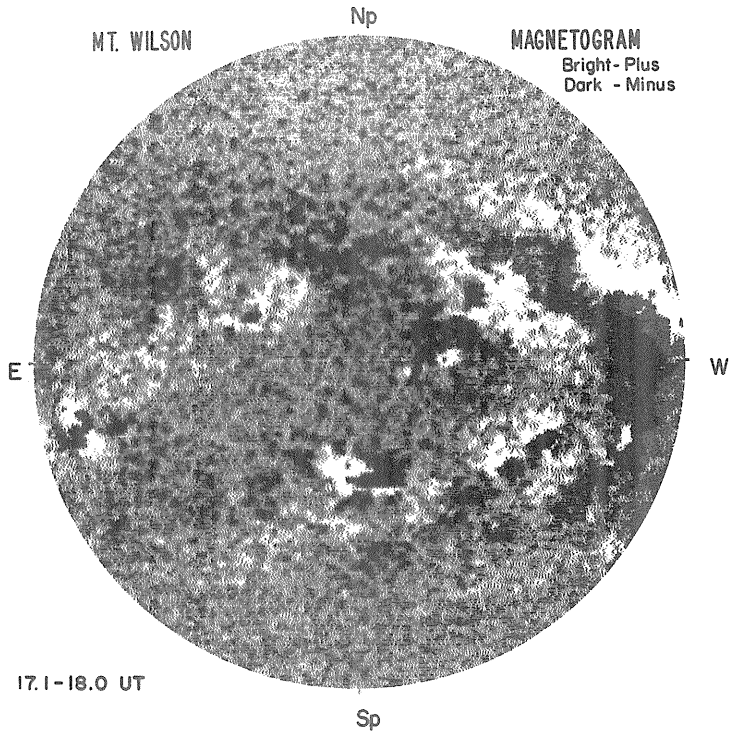

STANFORD
Np
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
E
W
Sp
15/0102 UT
Levels
0 μT
± 50
±100
±200

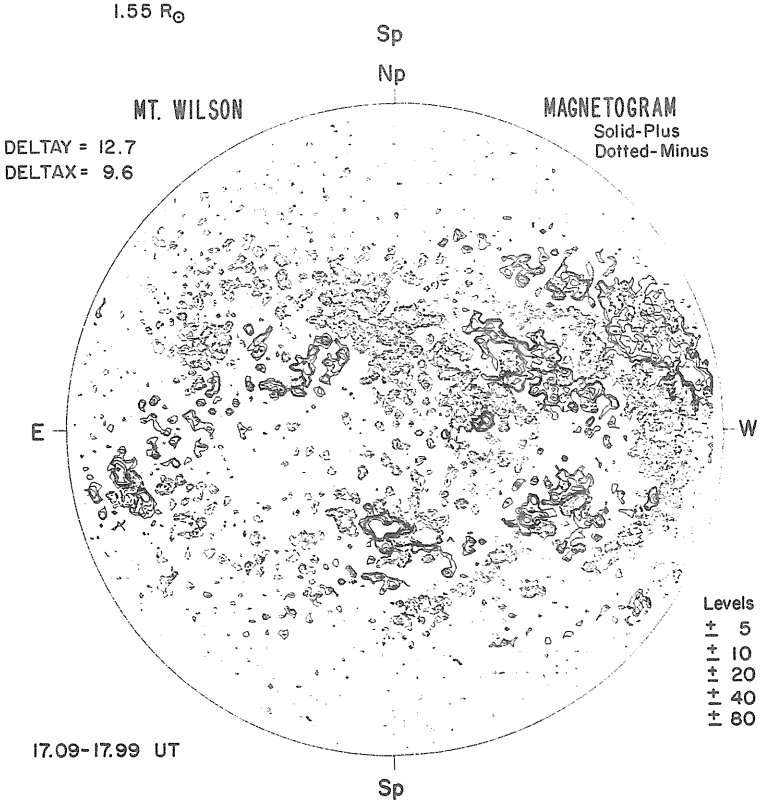
AUGUST 15, 1982 (P= 15.90, B_o= 6.64, L_o= 272.82)

SACRAMENTO PEAK Np CORONA
5303 Å

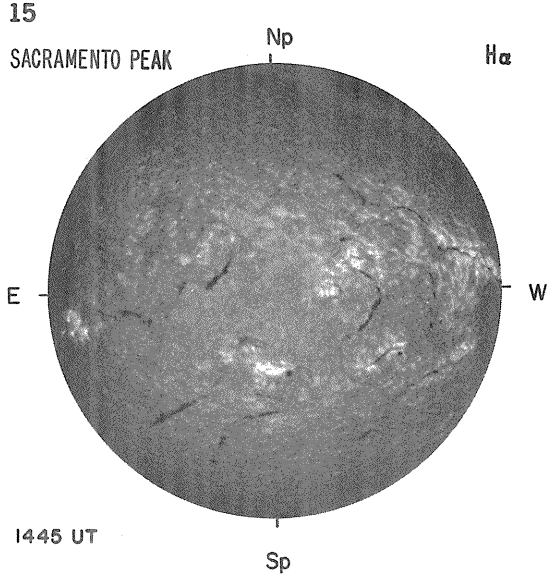
E NO DATA W

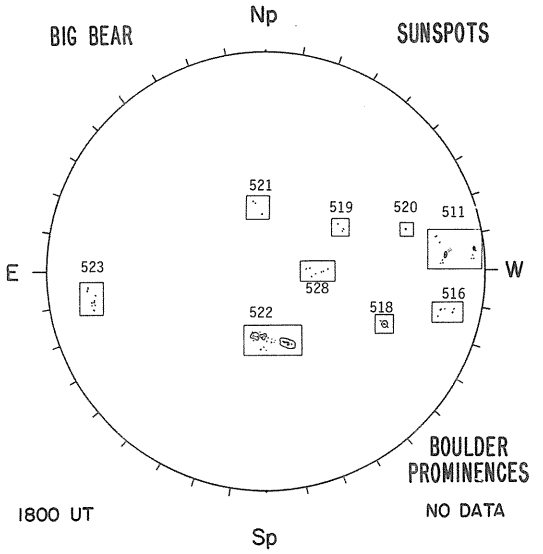
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

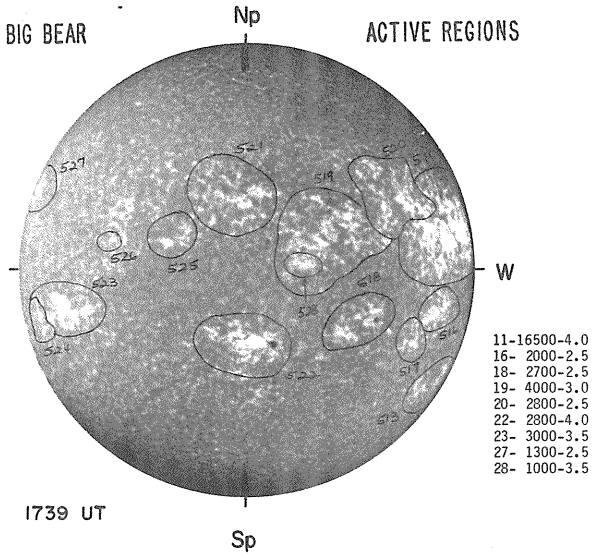


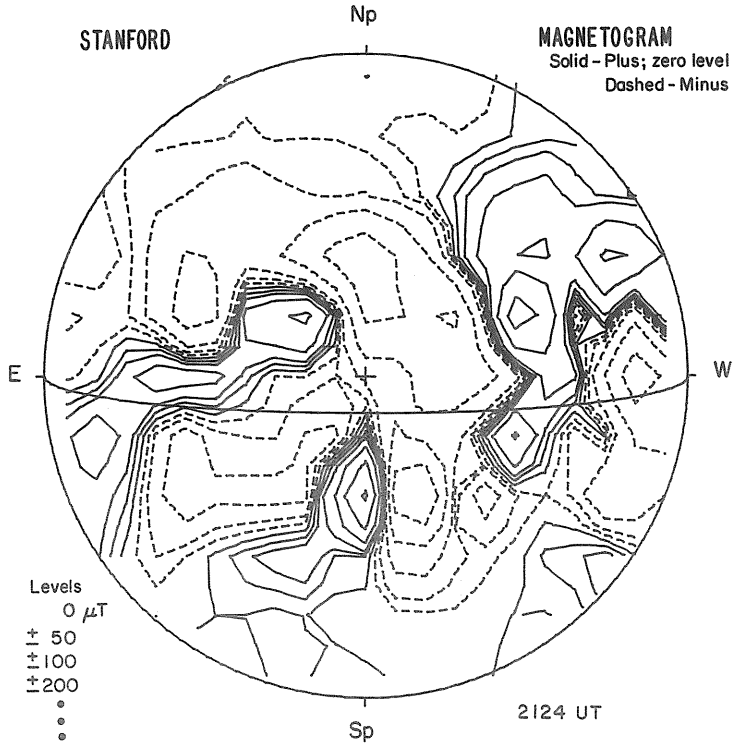


15


SACRAMENTO PEAK
Np
Hα
E
W
Sp
1445 UT


BIG BEAR
Np
SUNSPOTS
521
519
520
511
523
528
516
518
522
E
W
Sp
1800 UT
BOULDER
PROMINENCES
NO DATA


BIG BEAR
Np
ACTIVE REGIONS
E
W
Sp
1739 UT
11-16500-4.0
16- 2000-2.5
18- 2700-2.5
19- 4000-3.0
20- 2800-2.5
22- 2800-4.0
23- 3000-3.5
27- 1300-2.5
28- 1000-3.5

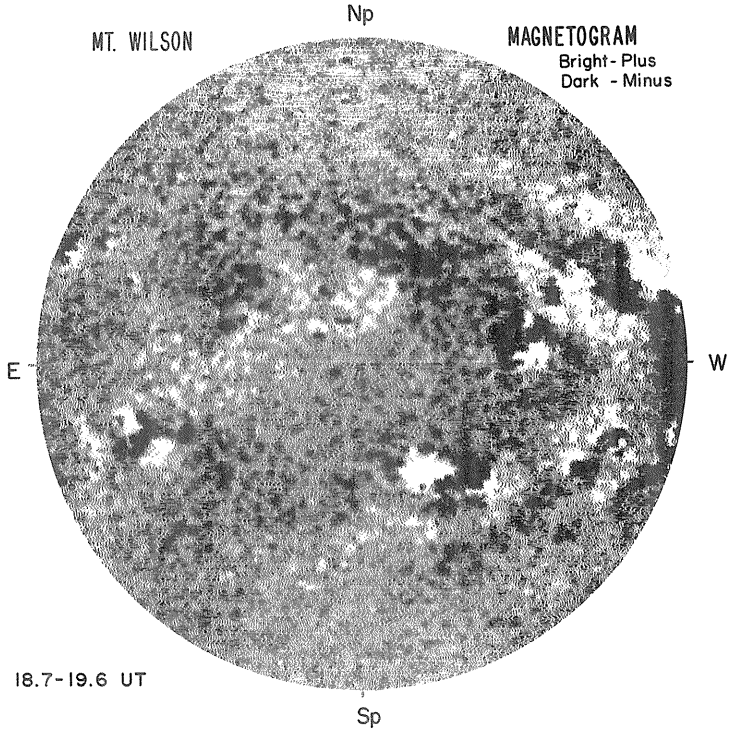

STANFORD
Np
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
E
W
Sp
2124 UT
Levels
0 μT
± 50
±100
±200

AUGUST 16, 1982 (P= 16.24, B_o= 6.69, L_o= 259.61)

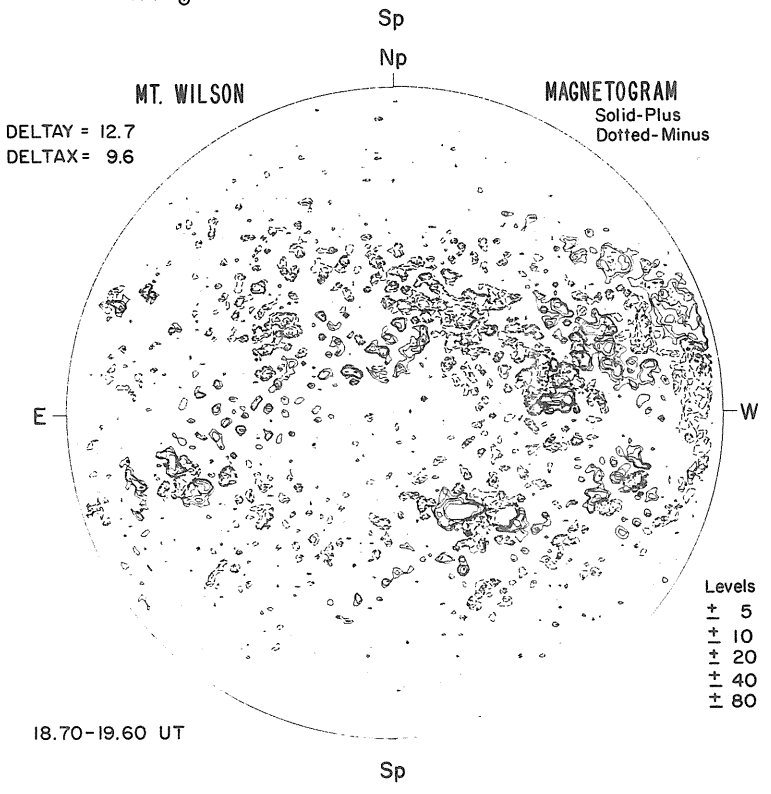
SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

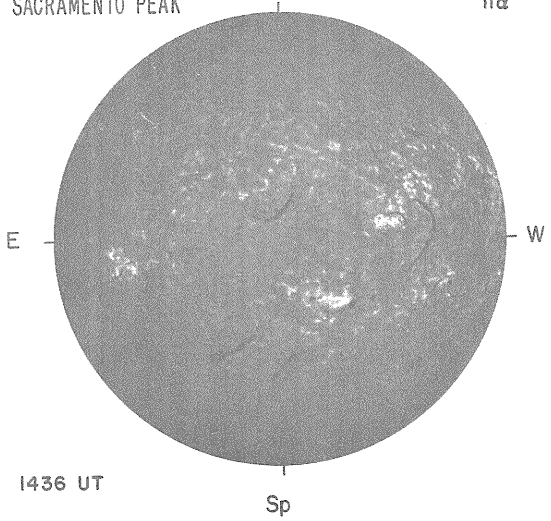


18.7-19.6 UT



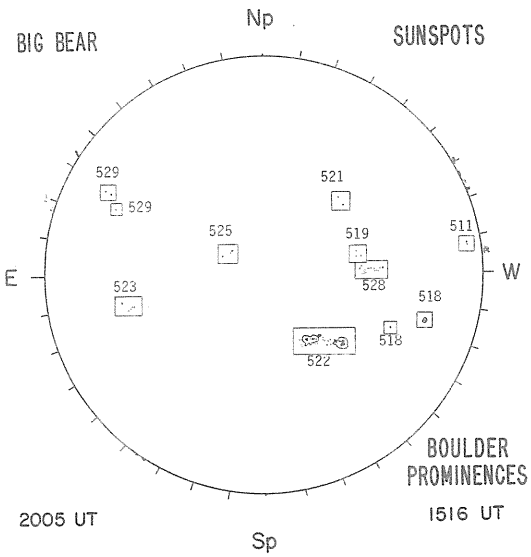
18.70-19.60 UT

SACRAMENTO PEAK Hα



1436 UT

BIG BEAR SUNSPOTS

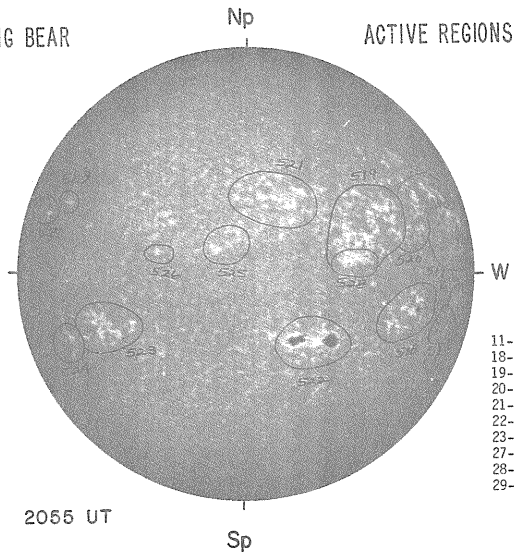


2005 UT

BOULDER PROMINENCES

1516 UT

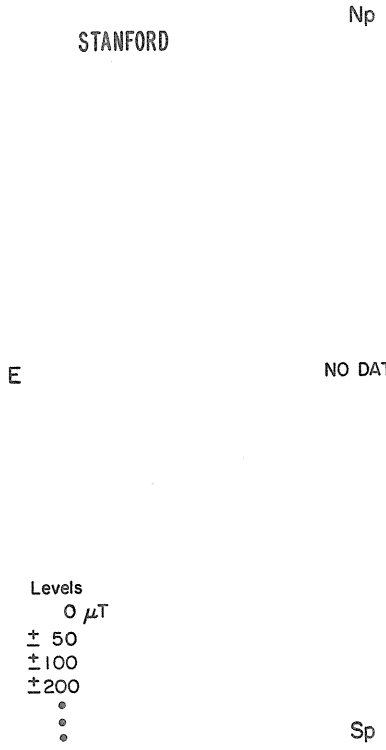
BIG BEAR ACTIVE REGIONS



2055 UT

11- 4000-3.0
18- 1800-3.0
19- 3800-2.5
20- 2000-2.5
21- 1800-2.5
22- 2500-3.0
23- 2500-3.0
27- 1000-2.5
28- 1200-3.5
29- 0500-3.0

STANFORD



MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus

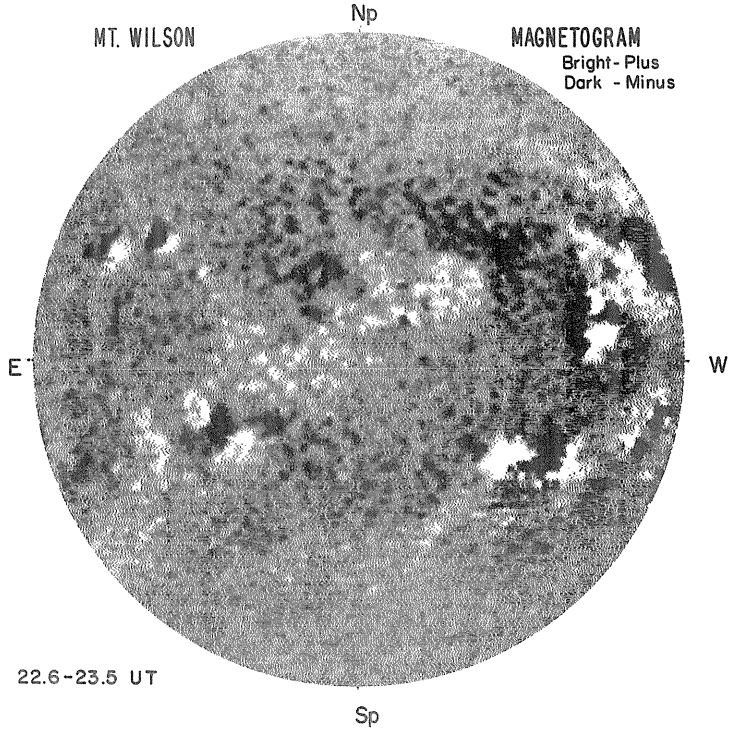
Levels
0 μT
± 50
±100
±200

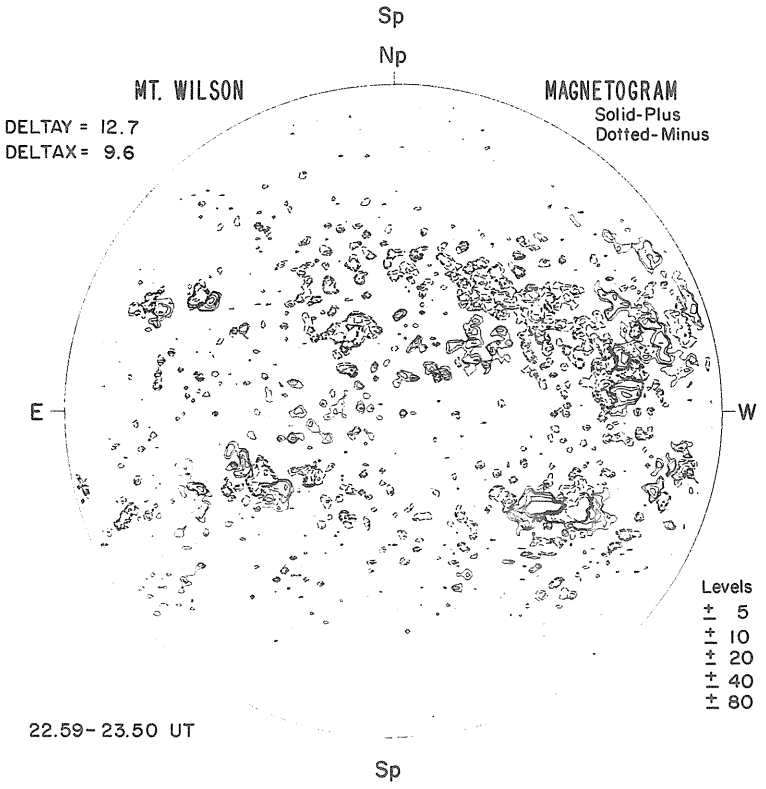
AUGUST 17, 1982 (P= 16.58, B_o= 6.73, L_o= 246.39)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

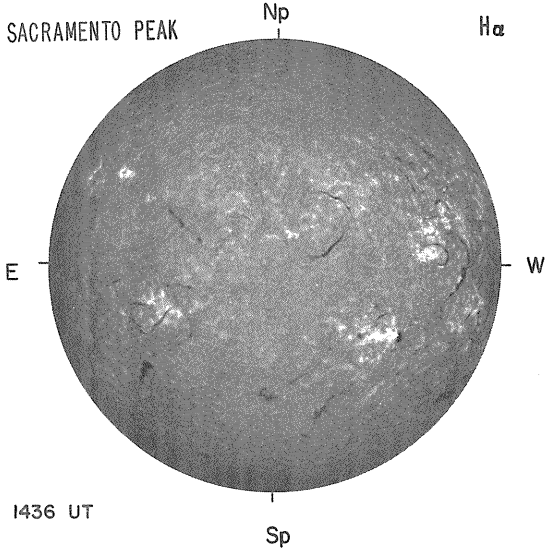
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$





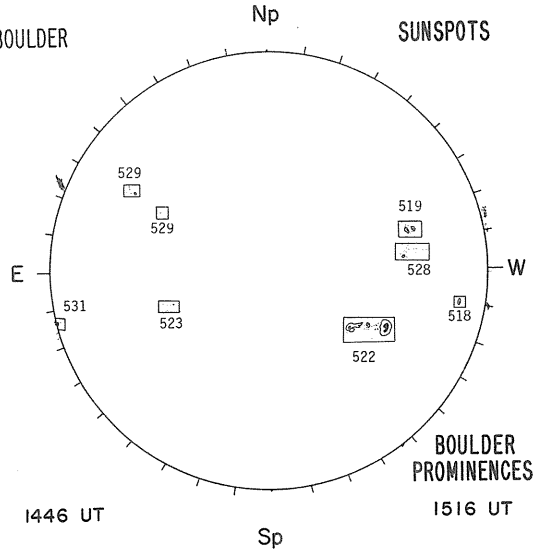
17

SACRAMENTO PEAK Hα



1436 UT

BOULDER SUNSPOTS

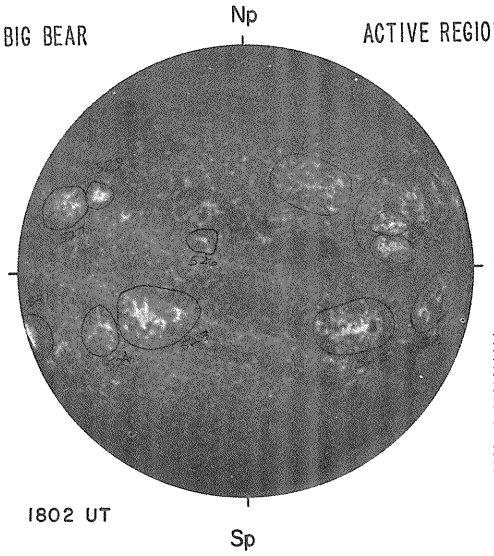


1446 UT

BOULDER PROMINENCES

1516 UT

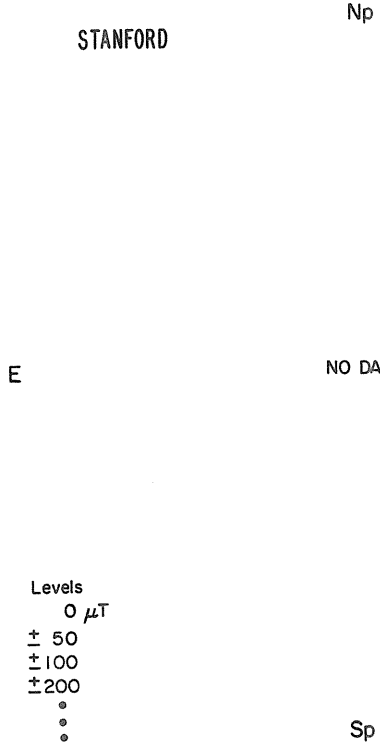
BIG BEAR ACTIVE REGIONS



1802 UT

11- 2500-3.0
18- 1500-2.5
21- 1800-2.5
22- 2800-3.5
23- 2500-3.0
27- 1400-3.0
29- 0600-4.0
30- 1200-3.5
31- 1500-3.5

STANFORD



MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus

Levels
0 μT
± 50
± 100
± 200

AUGUST 18, 1982 (P= 16.91, B_o= 6.78, L_o= 233.17)

SACRAMENTO PEAK

Np

CORONA
5303 Å

E

NO DATA

W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

Sp

Np

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

DELTAY =
DELTAX =

MAGNETOGRAM
Solid-Plus
Dotted-Minus

E

NO DATA AUGUST 18, 24, 26

W

E

NO DATA

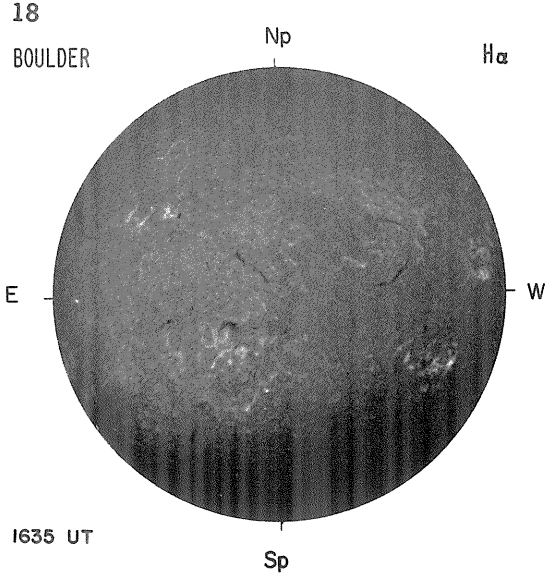
W

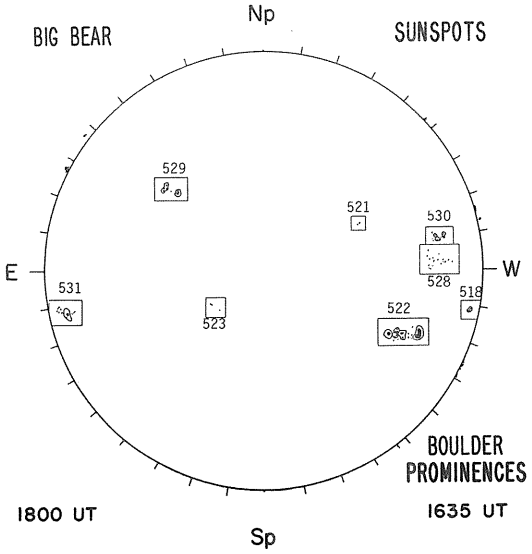
Levels
± 5
± ± 10
± ± 20
± ± 40
± ± 80

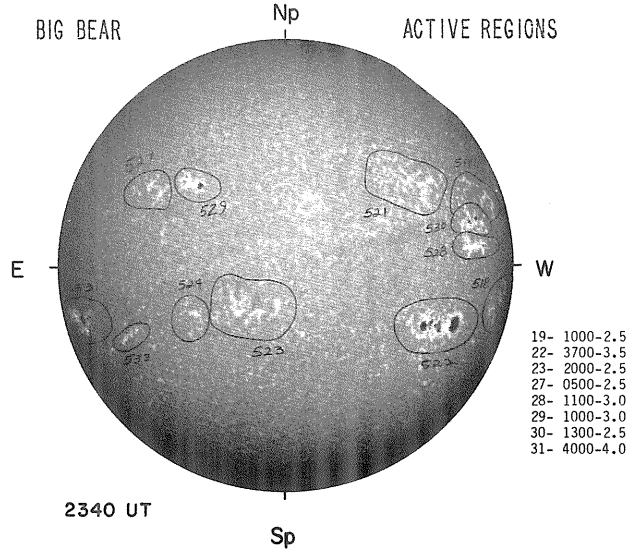
Sp

Sp

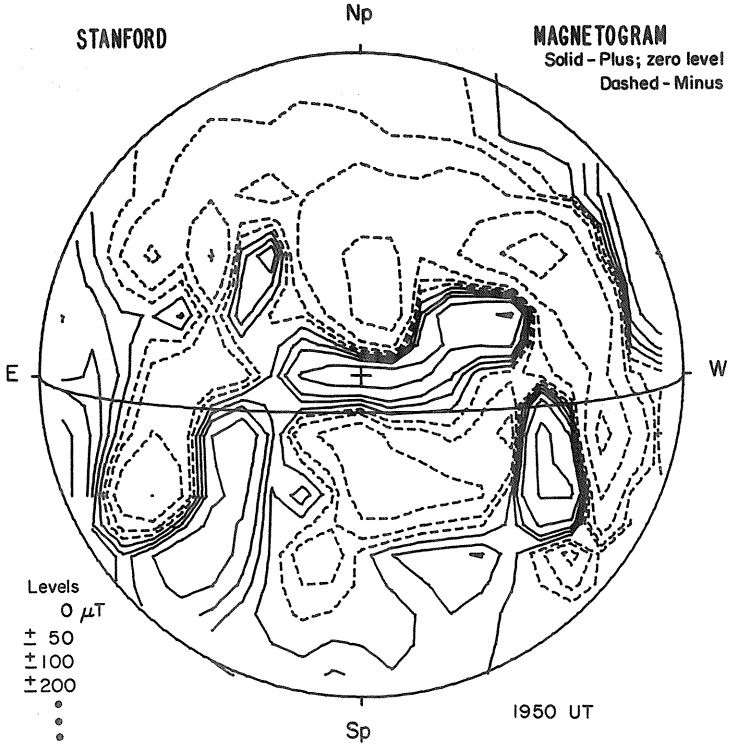
18


BOULDER
Np
Hα
E
W
Sp
1635 UT


BIG BEAR
Np
SUNSPOTS
529
521
530
528
531
523
522
518
E
W
Sp
1800 UT


BOULDER
PROMINENCES
1635 UT

BIG BEAR
Np
ACTIVE REGIONS
E
W
Sp
2340 UT
19- 1000-2.5
22- 3700-3.5
23- 2000-2.5
27- 0500-2.5
28- 1100-3.0
29- 1000-3.0
30- 1300-2.5
31- 4000-4.0

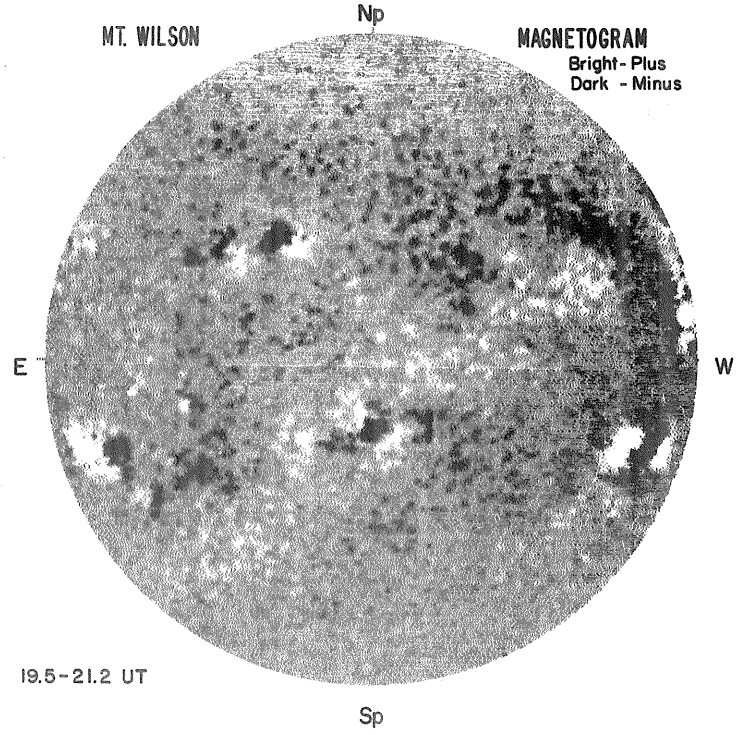

STANFORD
Np
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
E
W
Sp
1950 UT
Levels
0 μT
± 50
±100
±200

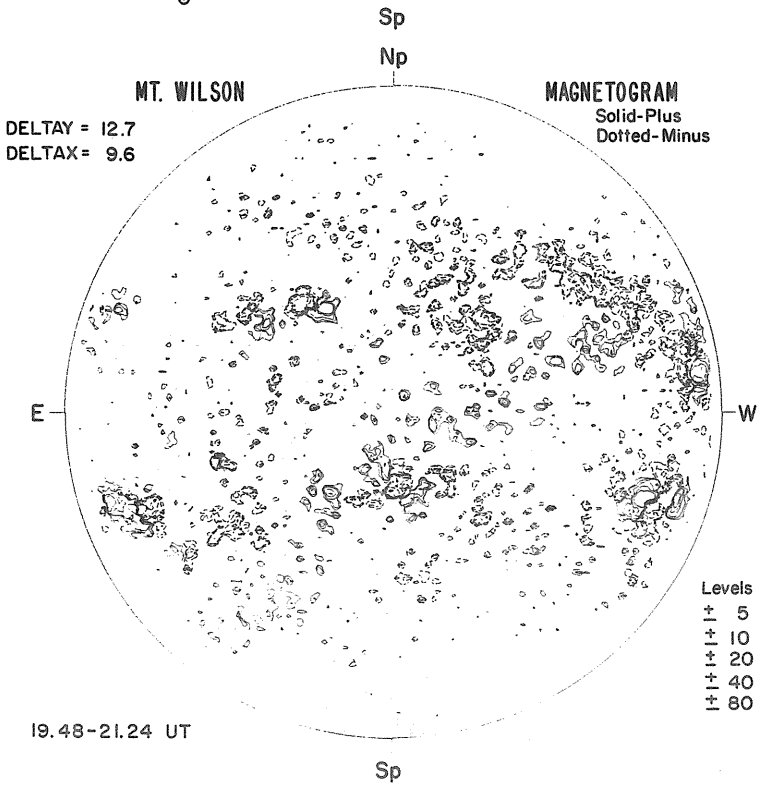
AUGUST 19, 1982 (P= 17.24, B_o= 6.82, L_o= 219.95)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

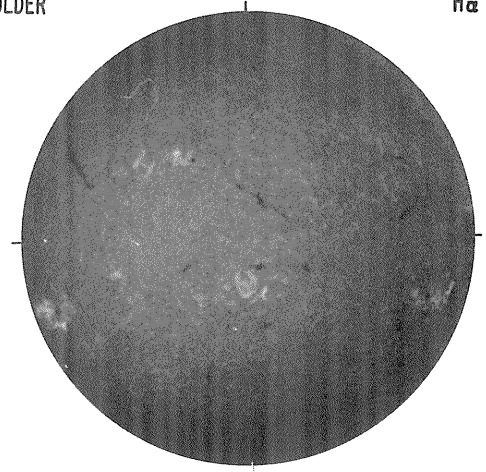
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$





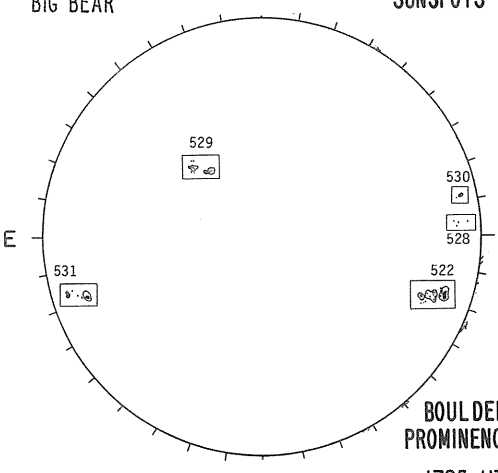
19

BOULDER Hα



1725 UT

BIG BEAR SUNSPOTS

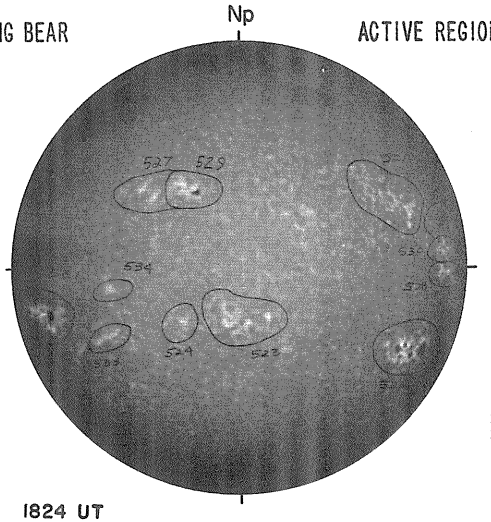


1630 UT

BOULDER PROMINENCES

1725 UT

BIG BEAR ACTIVE REGIONS

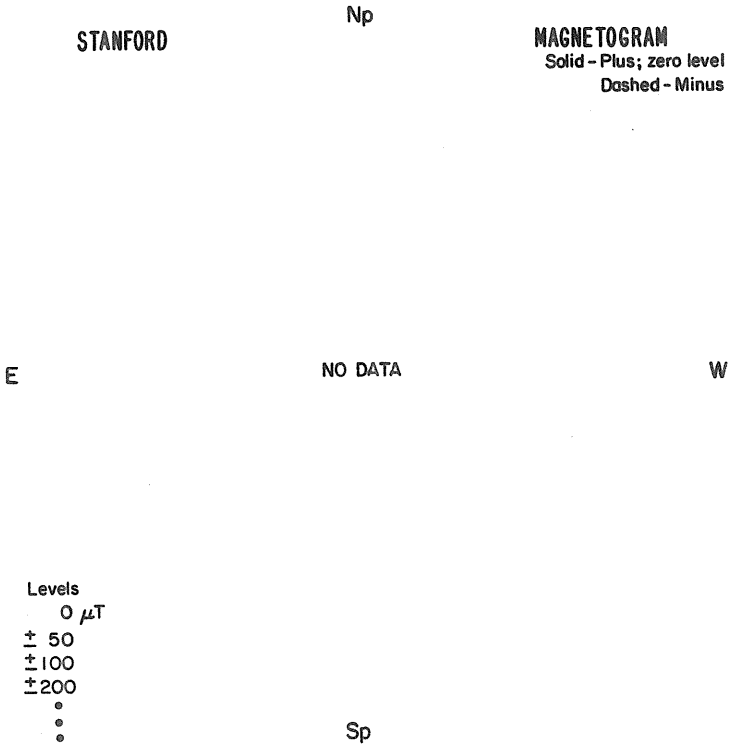


1824 UT

21- 2000-2.5
22- 4000-4.0
23- 1700-2.5
28- 1200-3.5
29- 1700-3.5
30- 1500-3.0
31- 4000-4.0

STANFORD MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus



Levels
0 μT
± 50
±100
±200

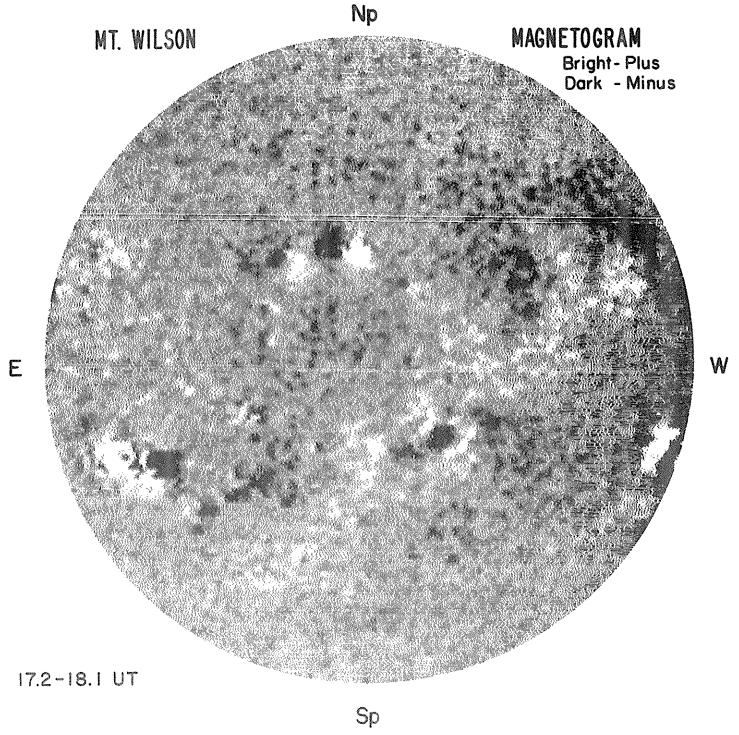
85
Aug 82

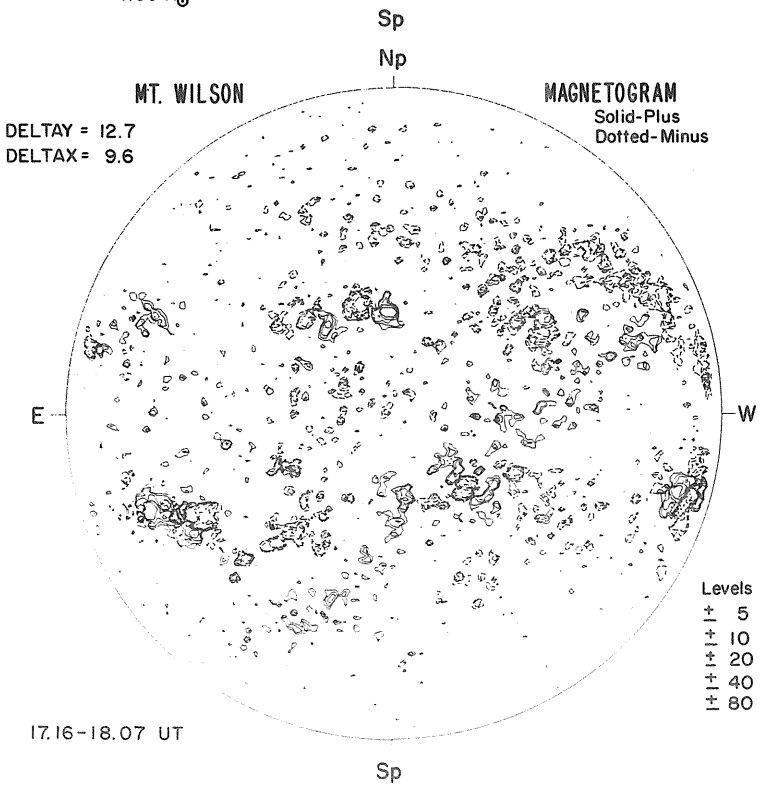
AUGUST 20, 1982 (P= 17.56, B_o= 6.86, L_o= 206.74)

SACRAMENTO PEAK Np CORONA
5303 Å

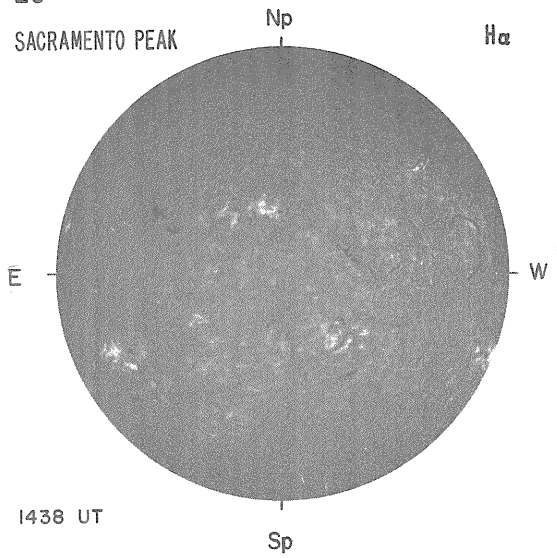
E NO DATA W

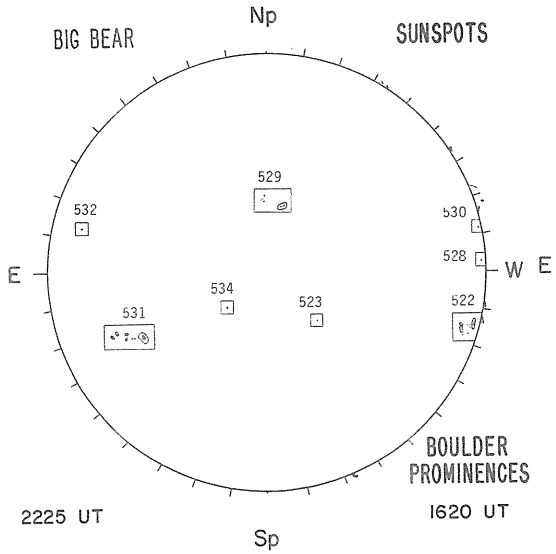
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

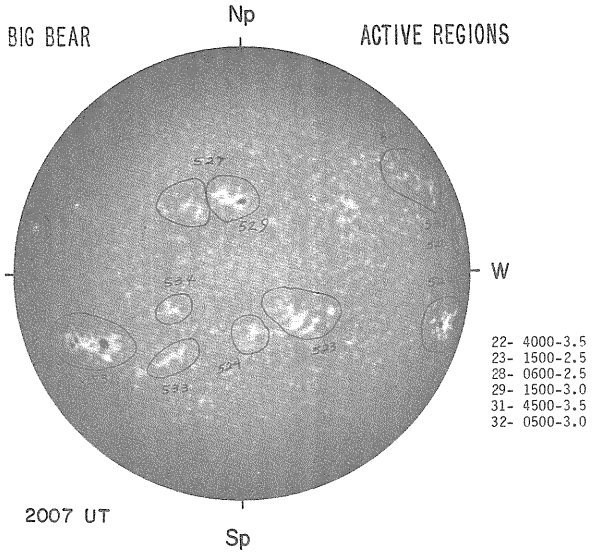


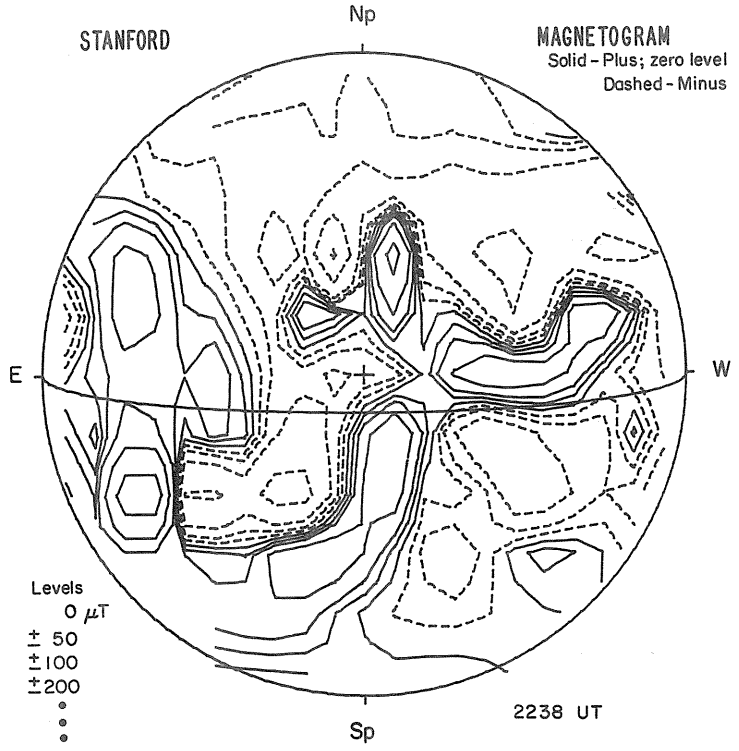


20


SACRAMENTO PEAK
Hα
Np
E
W
Sp
1438 UT


BIG BEAR
SUNSPOTS
Np
529
532
530
528
534
523
531
522
E
W
Sp
2225 UT
BOULDER
PROMINENCES
1620 UT


BIG BEAR
ACTIVE REGIONS
Np
E
W
Sp
2007 UT
22- 4000-3.5
23- 1500-2.5
28- 0600-2.5
29- 1500-3.0
31- 4500-3.5
32- 0500-3.0


STANFORD
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
Np
E
W
Sp
2238 UT
Levels
0 μT
± 50
±100
±200

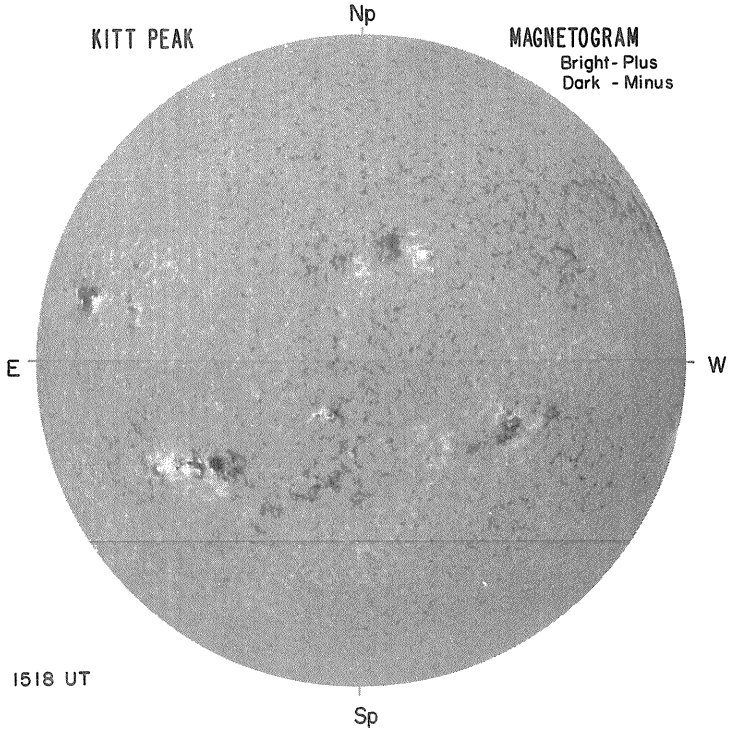
AUGUST 21, 1982 (P= 17.87, B_o= 6.90, L_o= 193.52)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

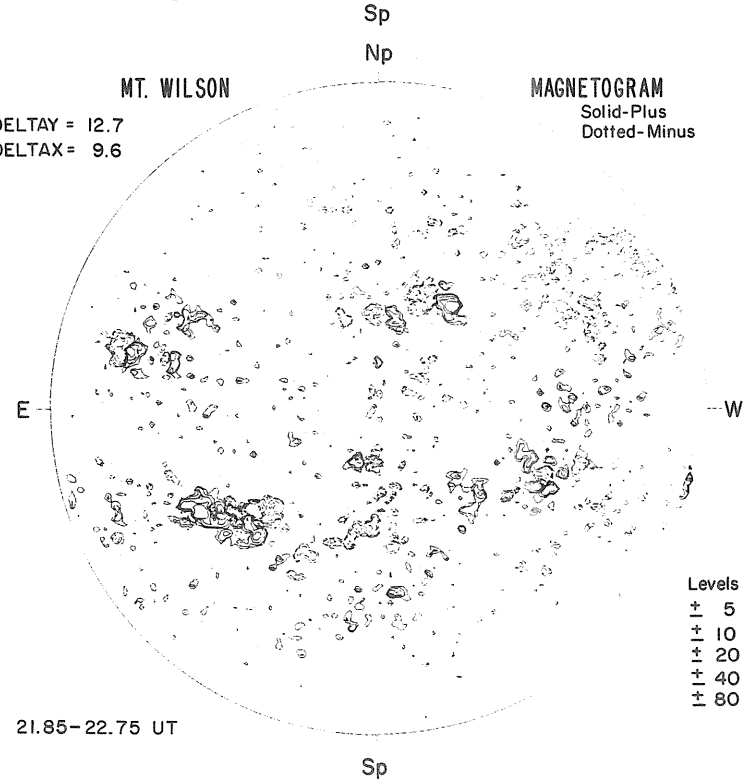
KITT PEAK MAGNETOGRAM
Bright- Plus
Dark - Minus



1518 UT

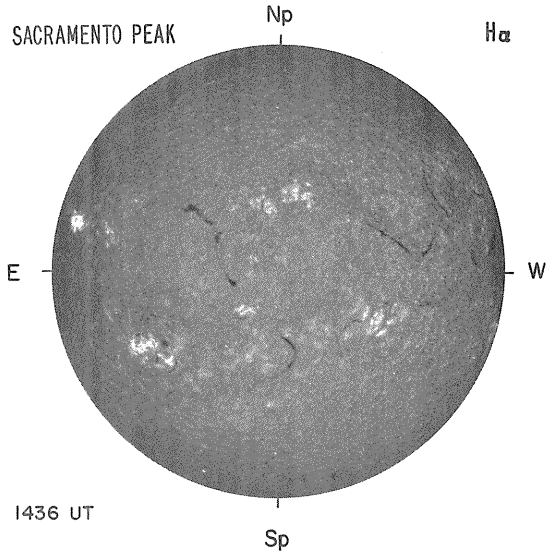
MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

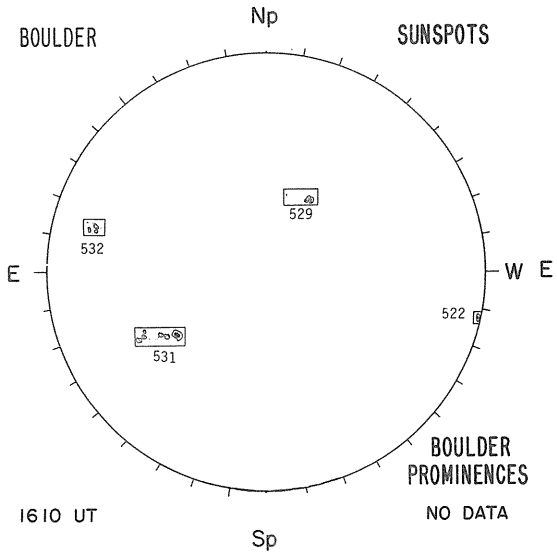
DELTAY = 12.7
DELTAX = 9.6



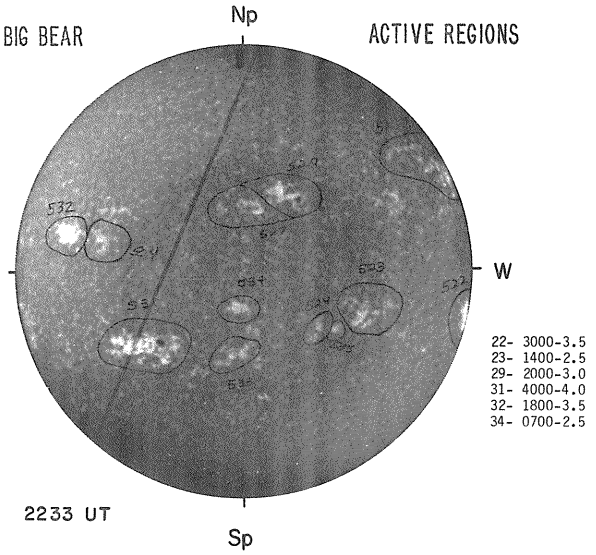
21.85-22.75 UT

21

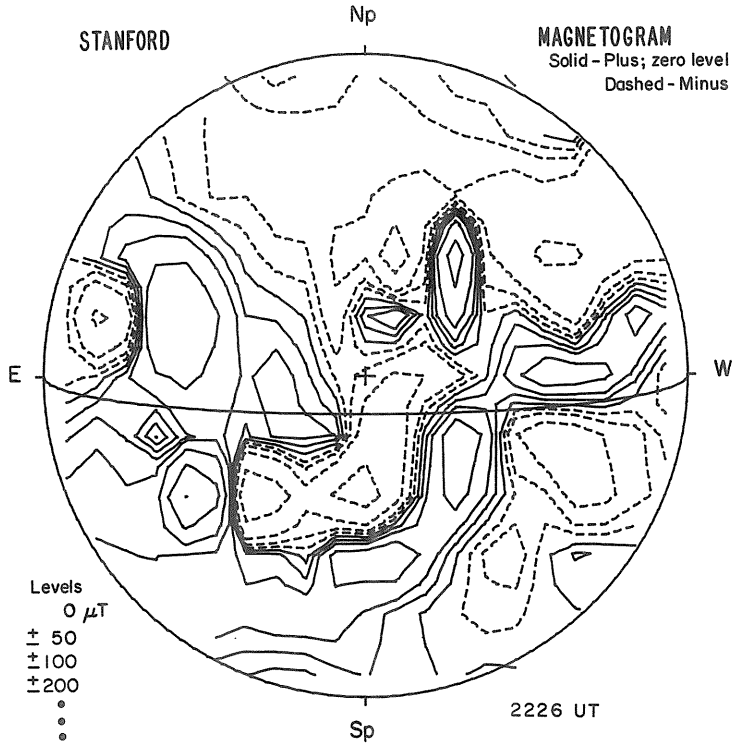




BOULDER
PROMINENCES
NO DATA



22- 3000-3.5
23- 1400-2.5
29- 2000-3.0
31- 4000-4.0
32- 1800-3.5
34- 0700-2.5



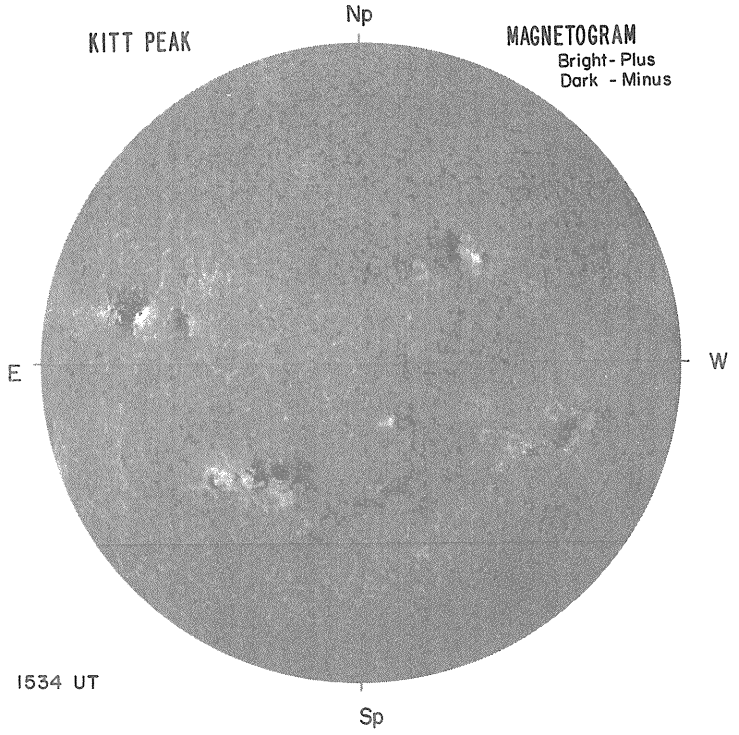
AUGUST 22, 1982 (P= 18.18, B_o= 6.93, L_o= 180.31)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

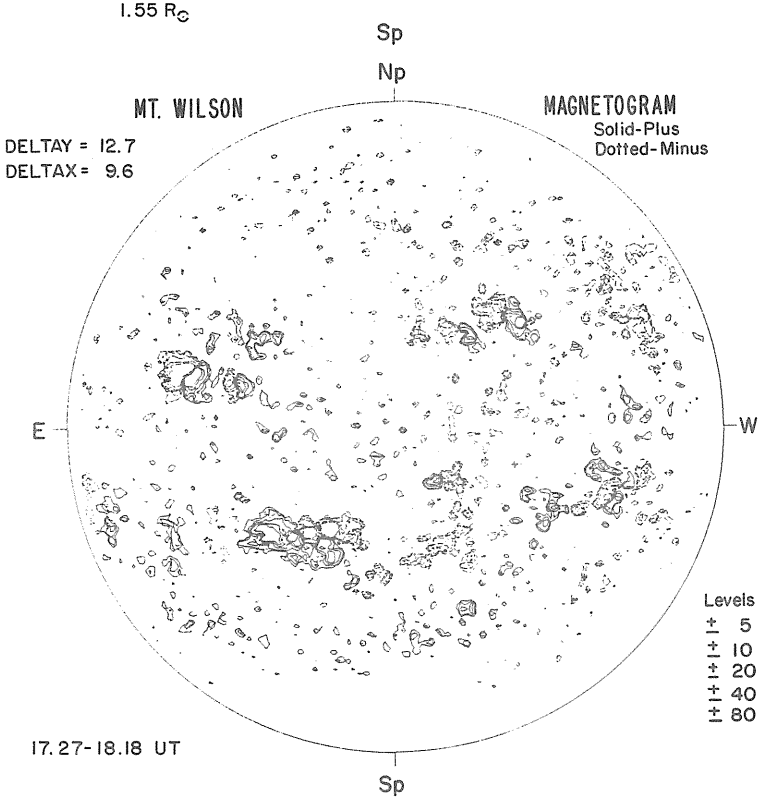
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

KITT PEAK

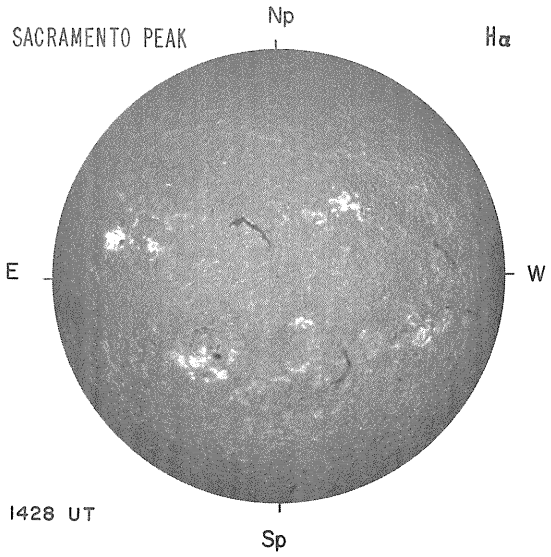


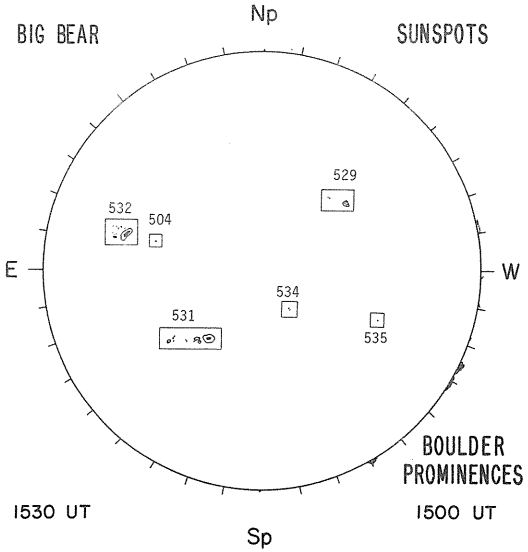
1534 UT

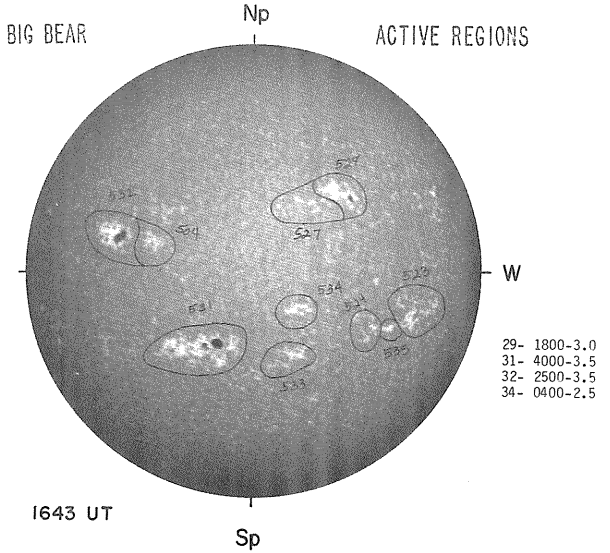
MT. WILSON

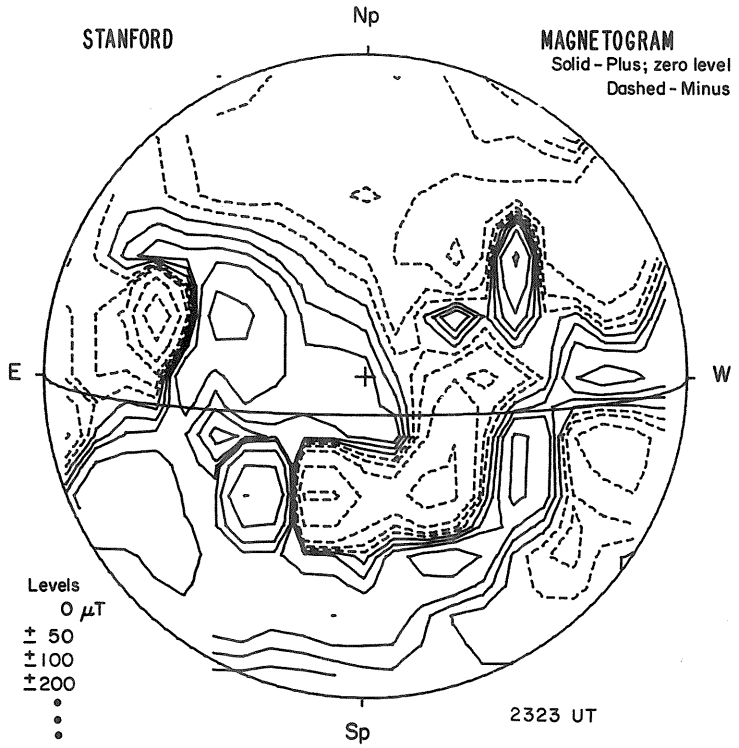


17.27-18.18 UT


SACRAMENTO PEAK
Hα
Np
E
W
Sp
1428 UT


BIG BEAR
SUNSPOTS
Np
532
504
529
534
531
535
E
W
Sp
1530 UT
BOULDER
PROMINENCES
1500 UT


BIG BEAR
ACTIVE REGIONS
Np
E
W
Sp
1643 UT
29- 1800-3.0
31- 4000-3.5
32- 2500-3.5
34- 0400-2.5

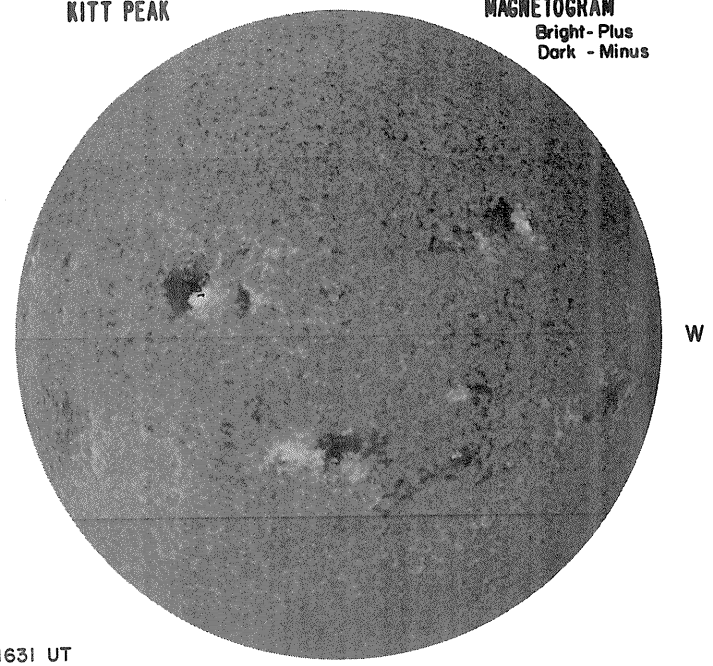

STANFORD
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
Np
E
W
Sp
2323 UT
Levels
0 μT
± 50
±100
±200

AUGUST 23, 1982 (P= 18.49, B_o = 6.97, L_o = 167.10)

KITT PEAK

Np

MAGNETOGRAM
Bright - Plus
Dark - Minus



E

W

1631 UT

Sp

SACRAMENTO PEAK

Np

CORONA
5303 Å

E

NO DATA

W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

Sp

Np

MT. WILSON

MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY =
DELTAX =

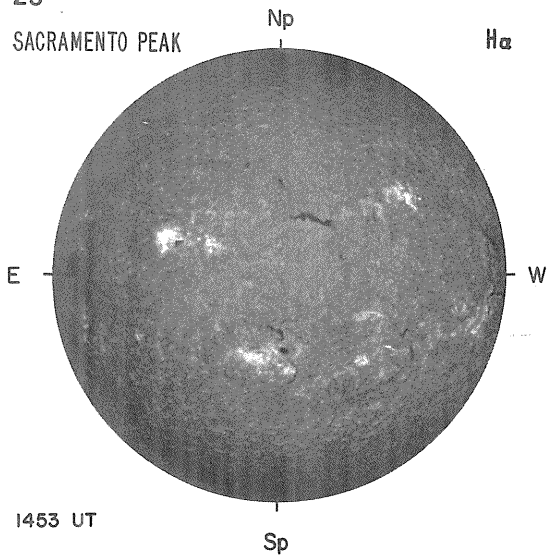
E

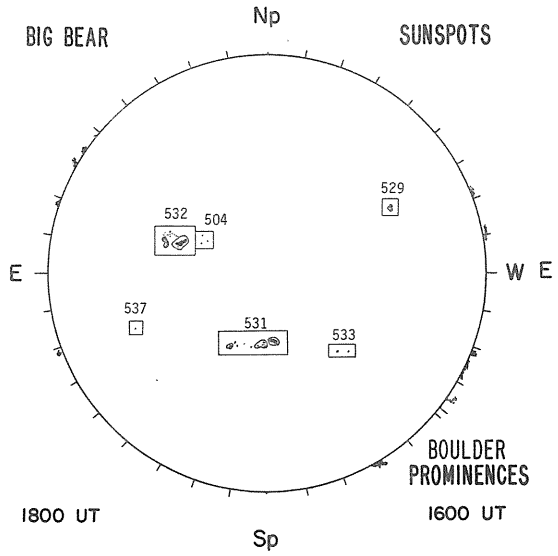
NO DATA

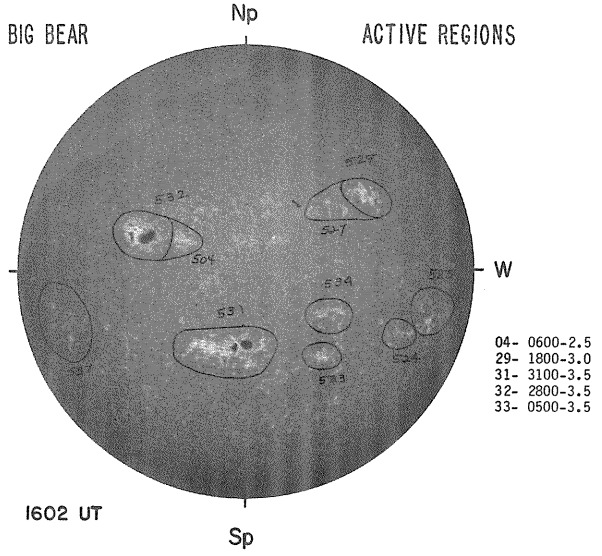
W

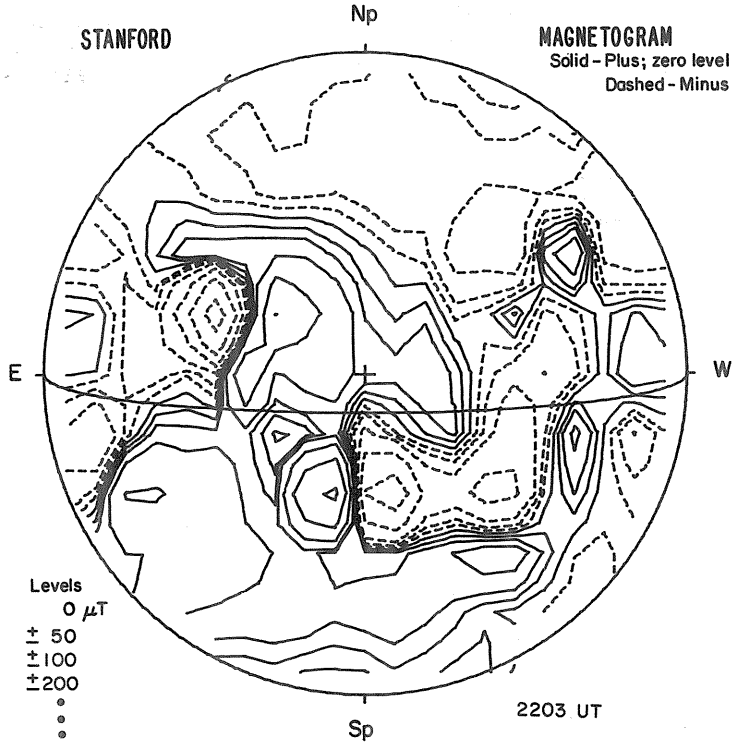
Levels
± 5
± 10
± 20
± 40
± 80

Sp


SACRAMENTO PEAK
Hα
Np
E
W
Sp
1453 UT


BIG BEAR
SUNSPOTS
Np
532
504
529
537
531
533
E
W
BOULDER
PROMINENCES
1800 UT
1600 UT
Sp


BIG BEAR
ACTIVE REGIONS
Np
E
W
Sp
1602 UT
04- 0600-2.5
29- 1800-3.0
31- 3100-3.5
32- 2800-3.5
33- 0500-3.5


STANFORD
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
Np
E
W
Sp
2203 UT
Levels
0 μT
± 50
±100
±200

AUGUST 24, 1982 (P= 18.79, B_o = 7.00, L_o = 153.88)

SACRAMENTO PEAK

Np

CORONA
5303 Å

E

NO DATA

W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

Sp

Np

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

DELTAY =
DELTAX =

MAGNETOGRAM
Solid - Plus
Dotted - Minus

E

NO DATA

W

E

NO DATA

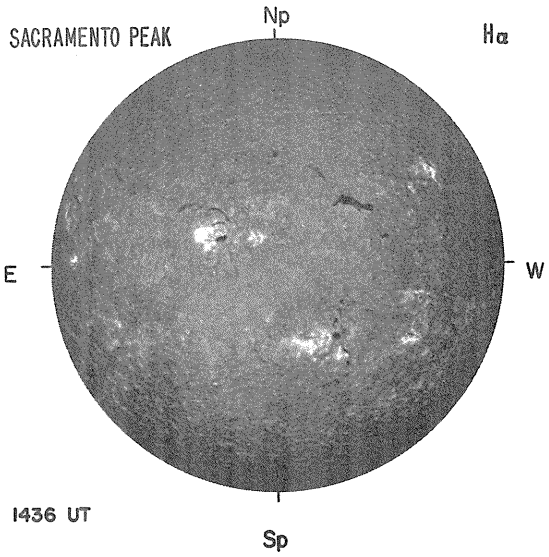
W

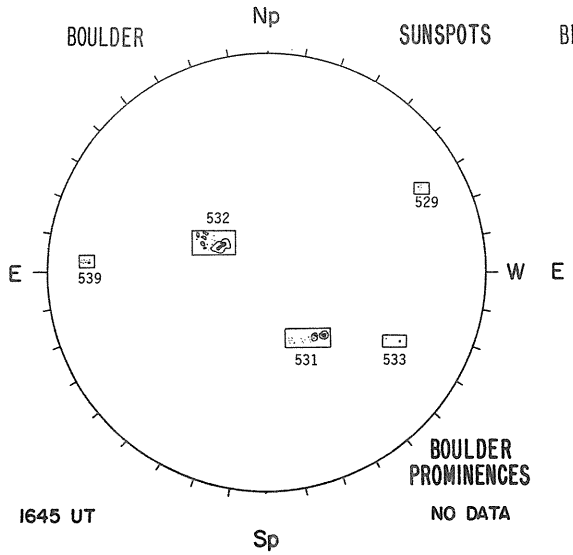
Levels
± 5
± 10
± 20
± 40
± 80

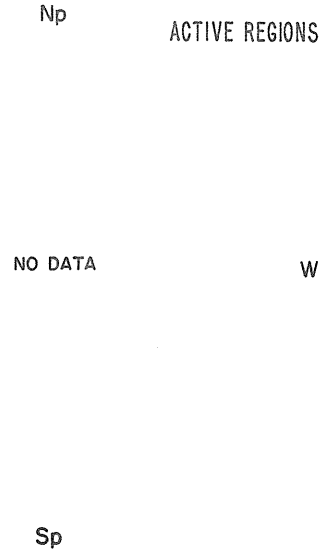
Sp

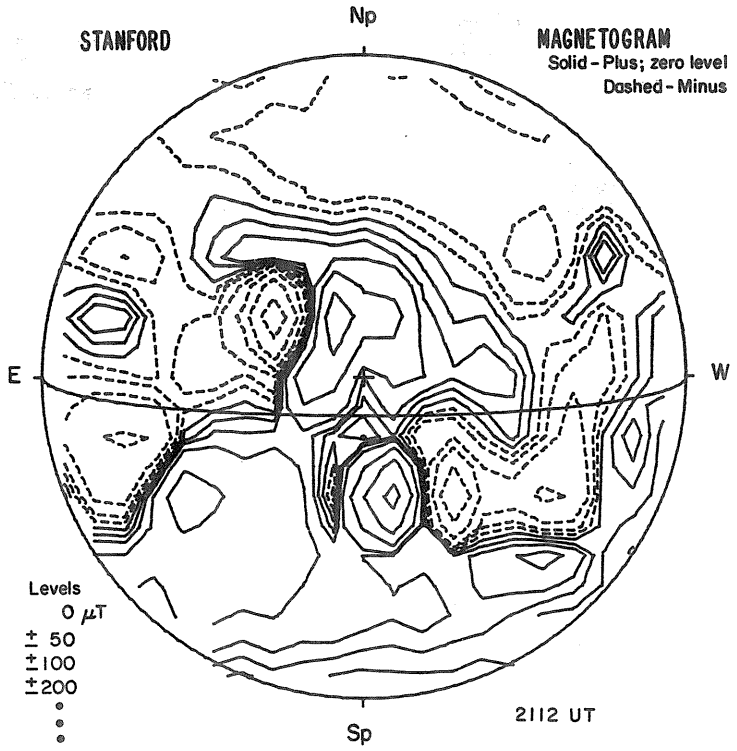
Sp

24


SACRAMENTO PEAK
Np
Hα
E
W
1436 UT
Sp


BOULDER
Np
SUNSPOTS
532
529
539
E
W
531
533
BOULDER
PROMINENCES
NO DATA
1645 UT
Sp


BIG BEAR
Np
ACTIVE REGIONS
NO DATA
E
W
Sp


STANFORD
Np
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
E
W
Levels
0 μT
± 50
±100
±200
2112 UT
Sp

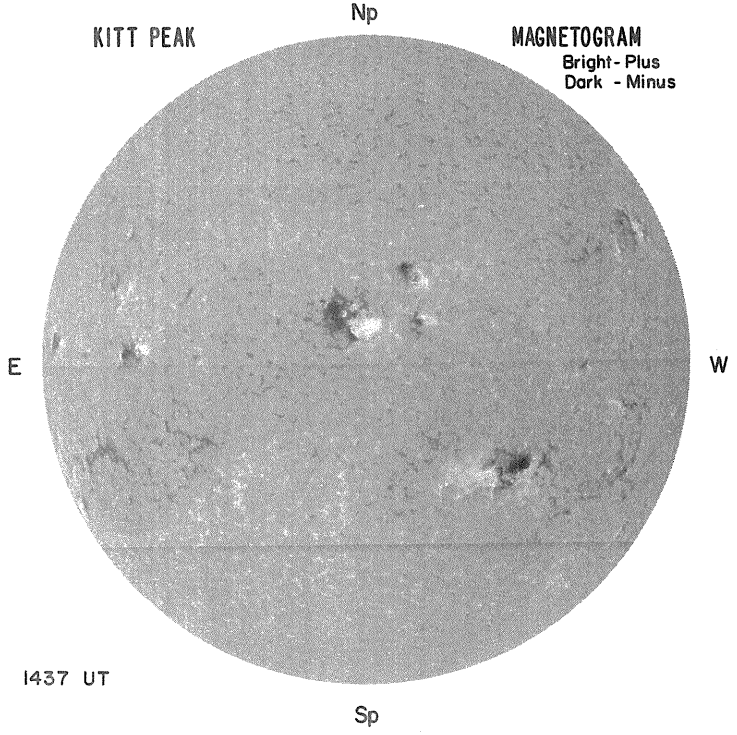
AUGUST 25, 1982 (P= 19.09, B_o= 7.03, L_o= 140.67)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

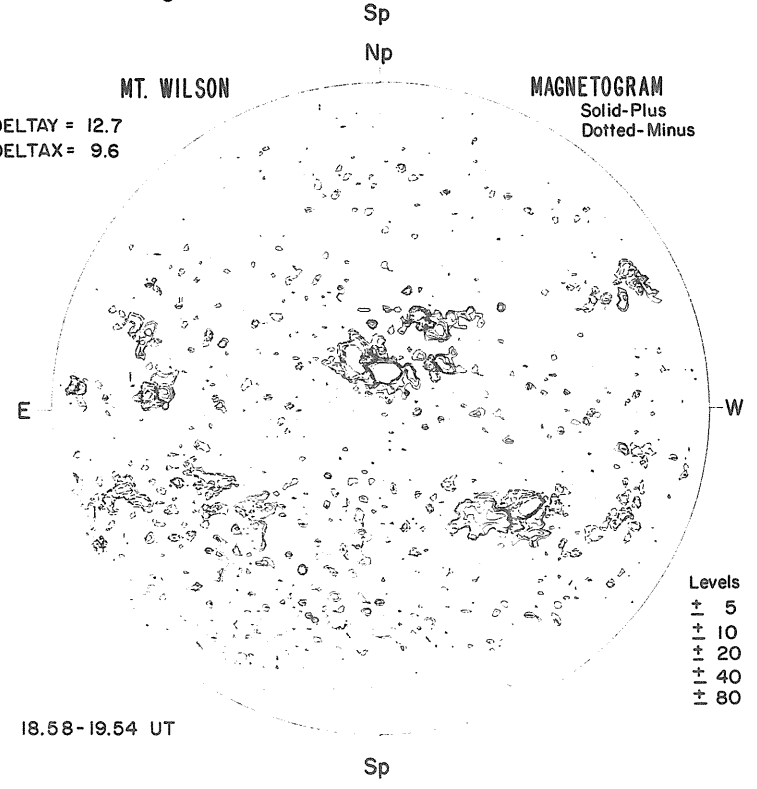
KITT PEAK MAGNETOGRAM
Bright - Plus
Dark - Minus



1437 UT

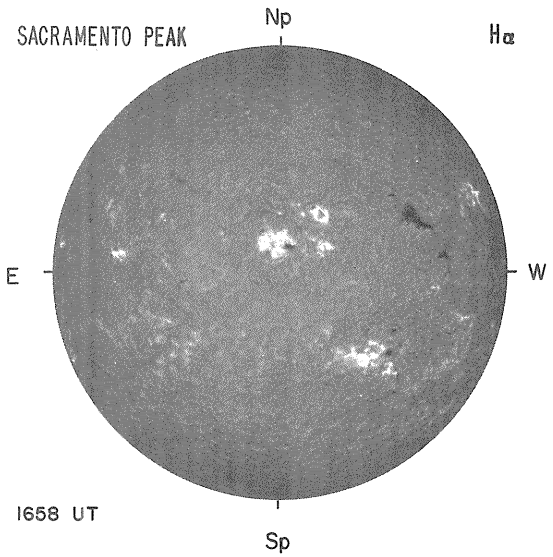
MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

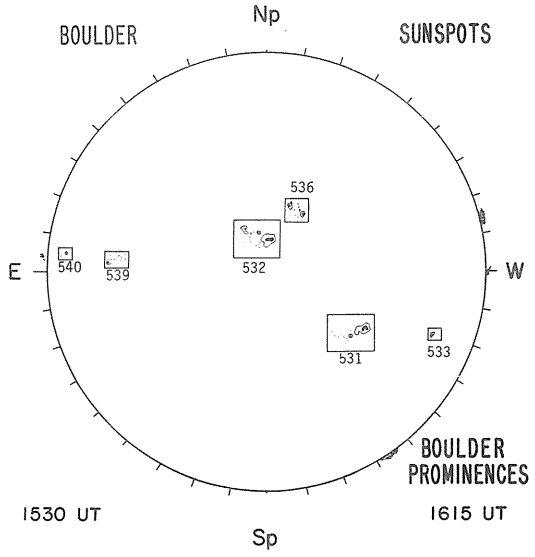
DELTAY = 12.7
DELTAX = 9.6

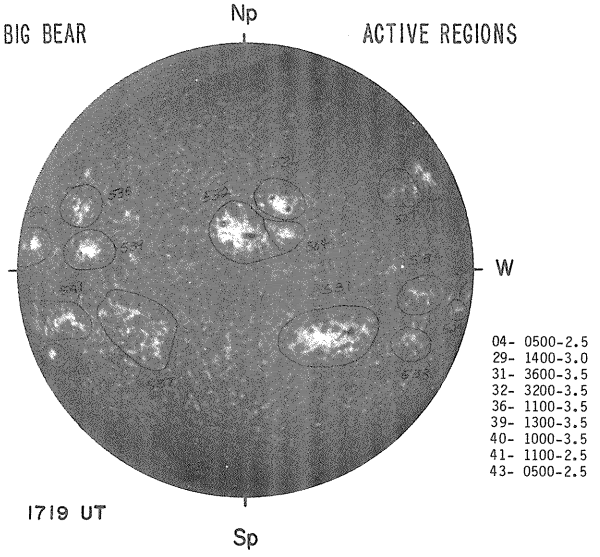


18.58-19.54 UT

25







STANFORD

Np

MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus

E

NO DATA

W

Levels
0 μT
± 50
± 100
± 200

Sp

97
Aug 82

AUGUST 26, 1982 (P= 19.38, B_o= 7.06, L_o= 127.46)

SACRAMENTO PEAK

Np

CORONA
5303 Å

E

NO DATA

W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

Sp

Np

MT WILSON

MAGNETOGRAM
Bright- Plus
Dark - Minus

DELTAY =
DELTAX =

MT. WILSON

MAGNETOGRAM
Solid-Plus
Dotted-Minus

E

NO DATA

W

E

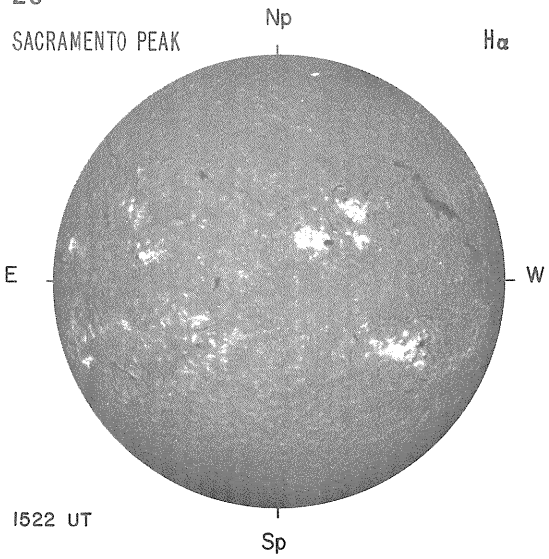
NO DATA

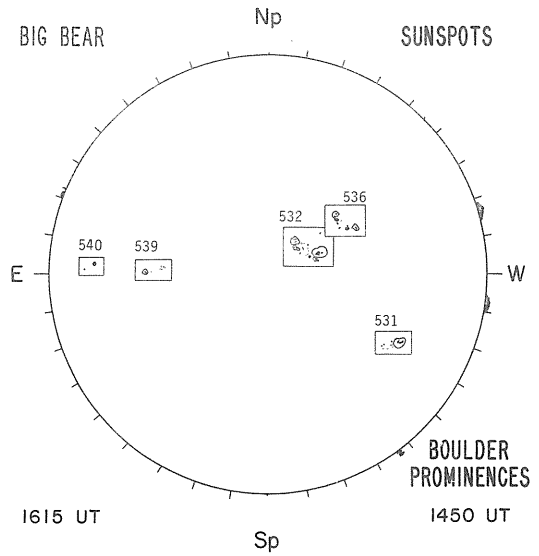
W

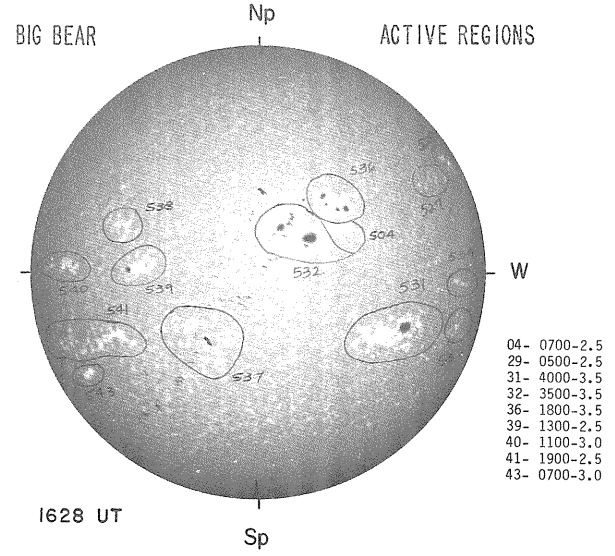
Levels
± 5
± 10
± 20
± 40
± 80

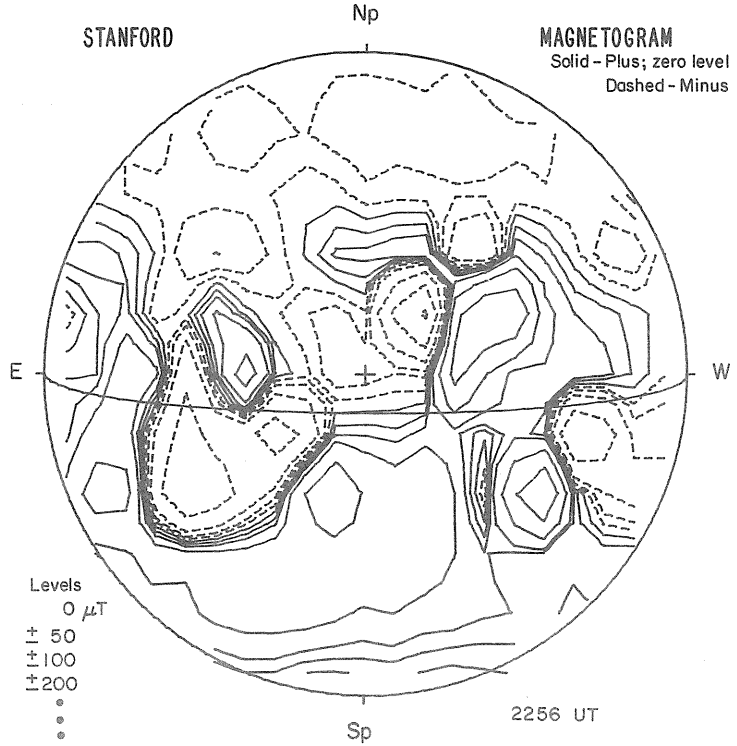
Sp

Sp


SACRAMENTO PEAK
Hα
Np
E
W
Sp
1522 UT


BIG BEAR
SUNSPOTS
Np
540
539
536
532
531
E
W
Sp
1615 UT
BOULDER
PROMINENCES
1450 UT


BIG BEAR
ACTIVE REGIONS
Np
E
W
Sp
1628 UT
04- 0700-2.5
29- 0500-2.5
31- 4000-3.5
32- 3500-3.5
36- 1800-3.5
39- 1300-2.5
40- 1100-3.0
41- 1900-2.5
43- 0700-3.0


STANFORD
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
Np
E
W
Sp
2256 UT
Levels
0 μT
± 50
±100
±200

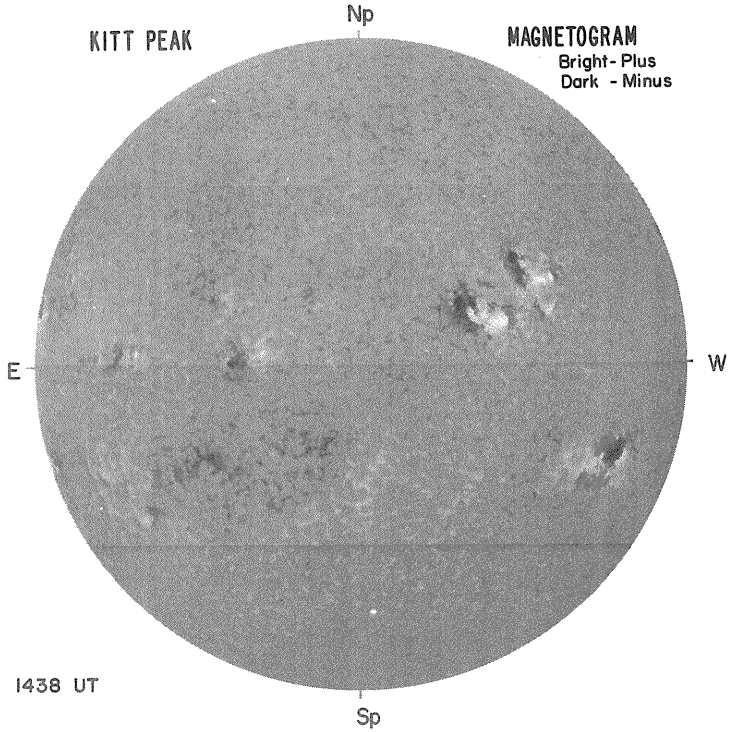
AUGUST 27, 1982 (P= 19.66, B_o= 7.09, L_o= 114.24)

SACRAMENTO PEAK Np CORONA
5303 Å

E NO DATA W

1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

KITT PEAK



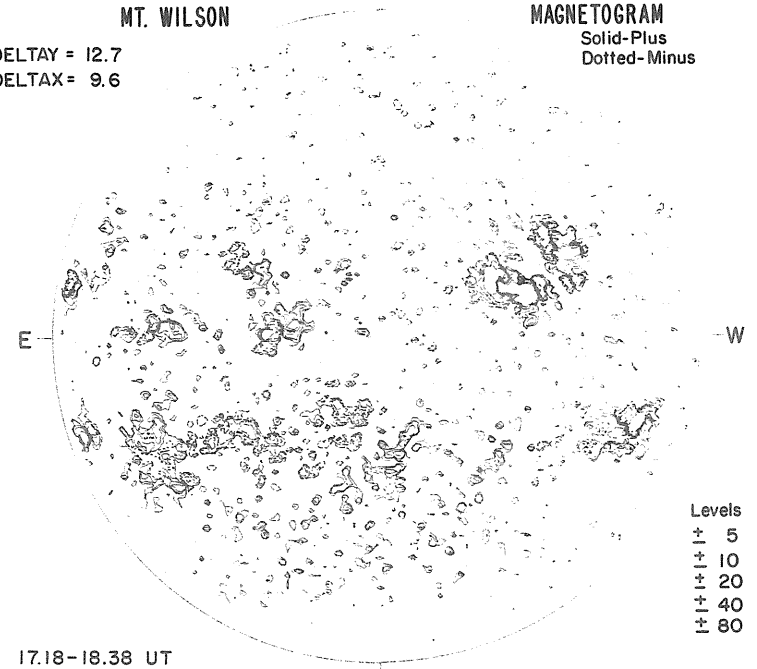
MAGNETOGRAM
Bright-Plus
Dark - Minus

1438 UT

Sp
Np

MT. WILSON

DELTAY = 12.7
DELTAX= 9.6



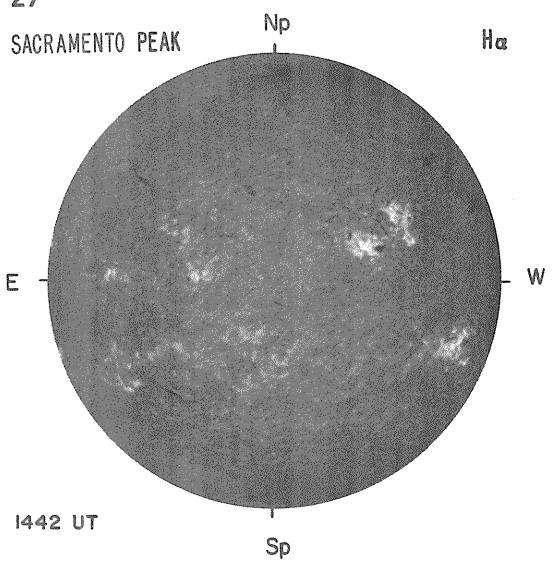
MAGNETOGRAM
Solid-Plus
Dotted-Minus

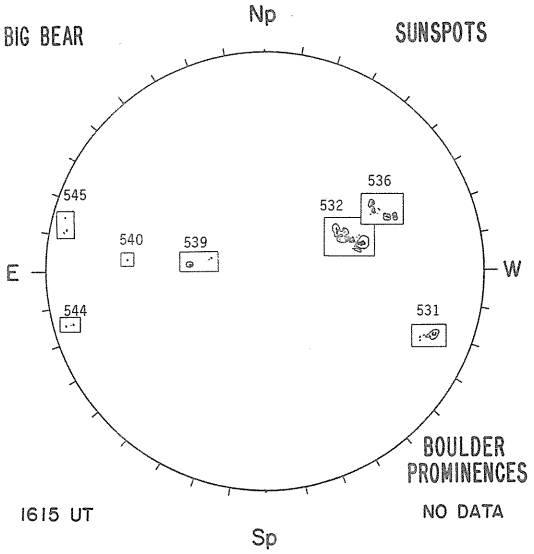
Levels
±1 5
±1 10
±1 20
±1 40
±1 80

17.18-18.38 UT

Sp

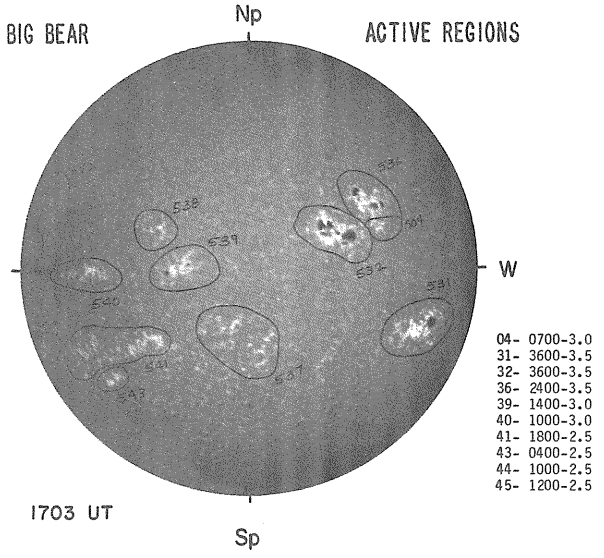
27





BOULDER PROMINENCES

NO DATA



04- 0700-3.0
31- 3600-3.5
32- 3600-3.5
36- 2400-3.5
39- 1400-3.0
40- 1000-3.0
41- 1800-2.5
43- 0400-2.5
44- 1000-2.5
45- 1200-2.5

STANFORD

Np

MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus

E

NO DATA

W

Levels
0 μT
± 50
±100
±200

Sp

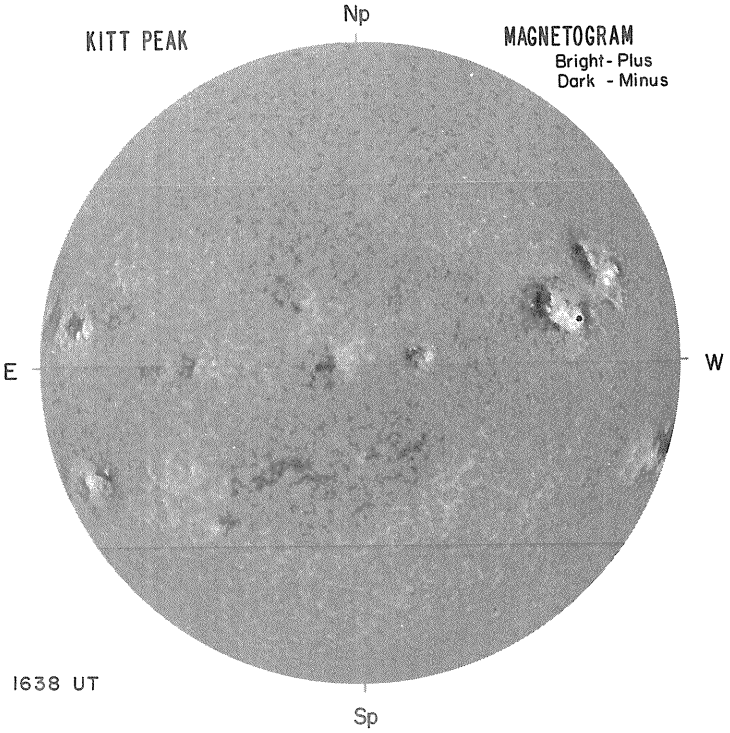
AUGUST 28, 1982 (P= 19.94, B_o = 7.11, L_o = 101.03)

SACRAMENTO PEAK Np CORONA 5303 Å

E NO DATA W

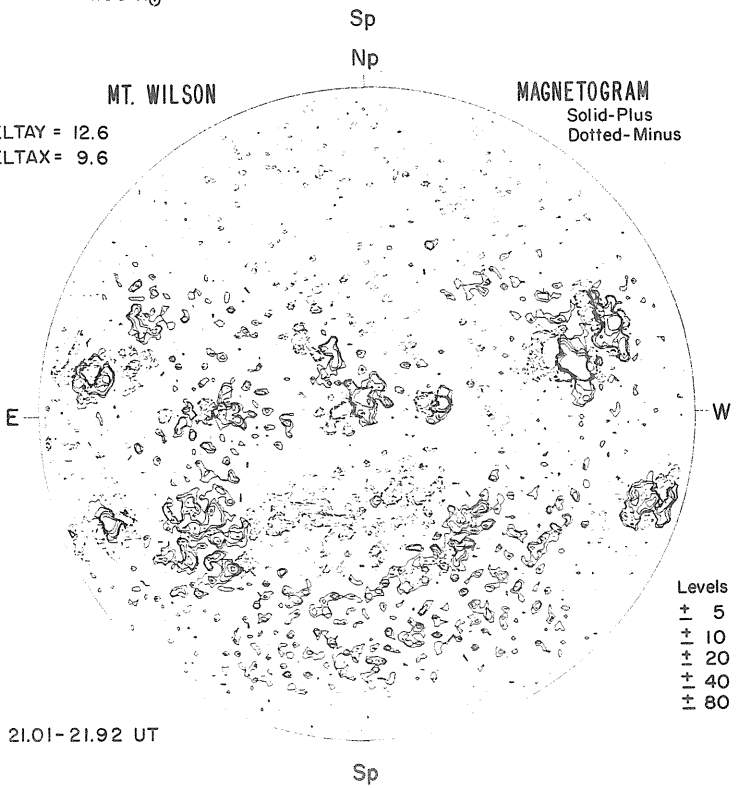
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

KITT PEAK



1638 UT

MT. WILSON



21.01-21.92 UT

28

BOULDER

Np

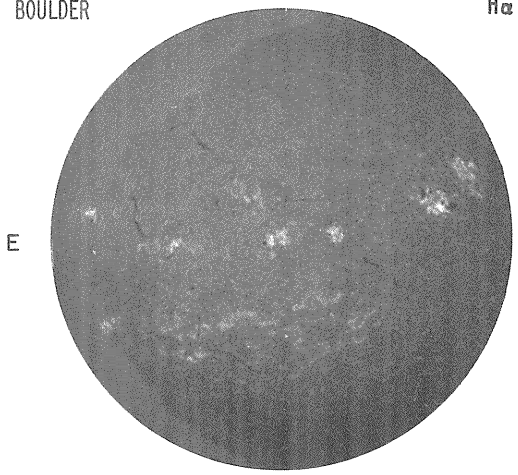
Hα

E

W

Sp

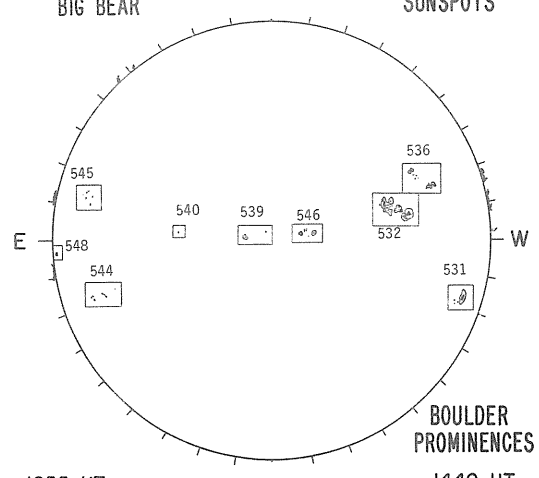
1440 UT



BIG BEAR

Np

SUNSPOTS



E

W E

BOULDER PROMINENCES

1655 UT

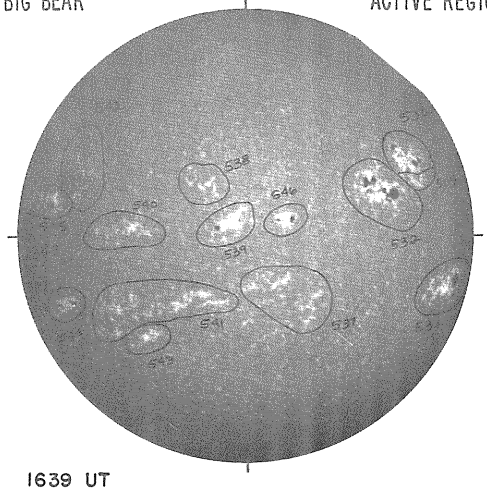
Sp

1440 UT

BIG BEAR

Np

ACTIVE REGIONS



W

04- 0500-2.5
31- 3700-3.5
32- 3500-3.5
39- 1400-3.5
40- 0800-2.5
44- 1700-2.5
45- 2800-3.5

1639 UT

Sp

STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

E

NO DATA

W

Levels

0 μT

± 50

±100

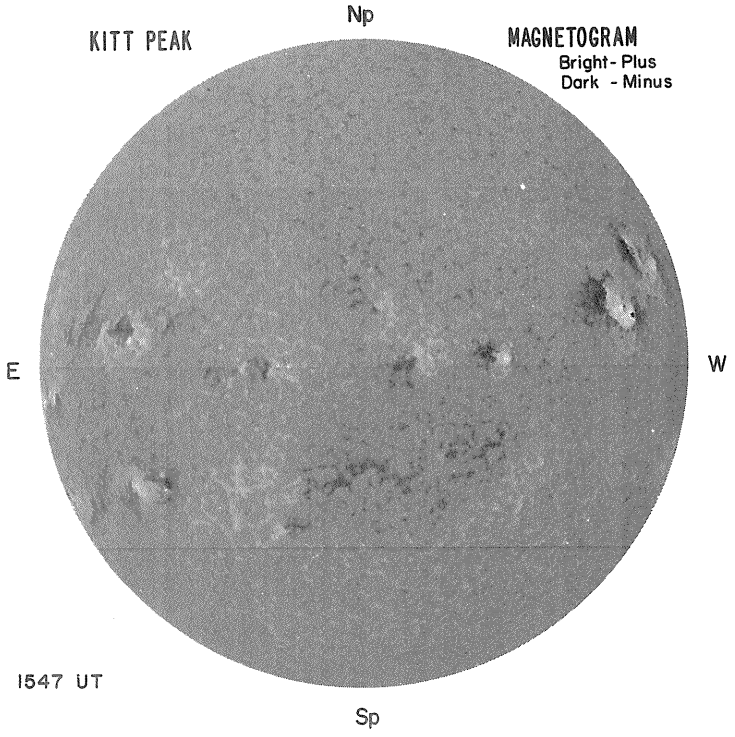
±200

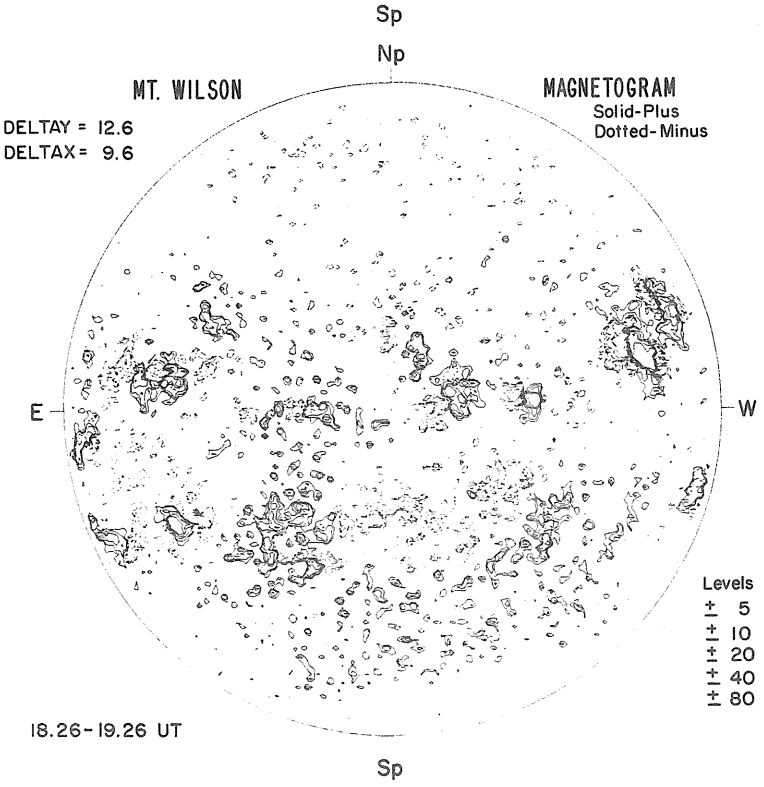
Sp

AUGUST 29, 1982 (P=20.22, B_o= 7.14, L_o= 87.82)

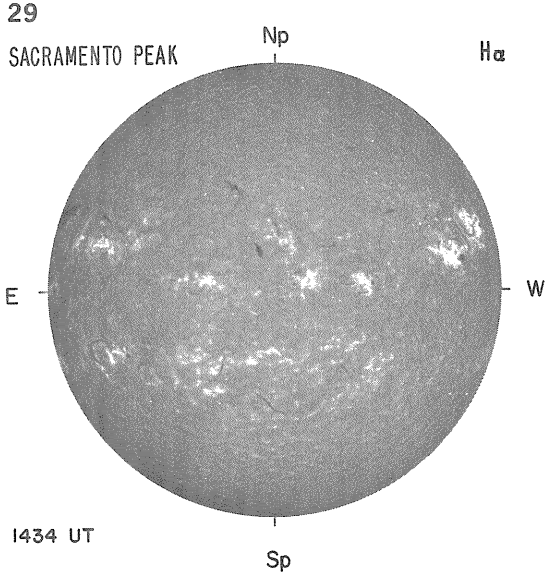
SACRAMENTO PEAK Np CORONA
5303 Å

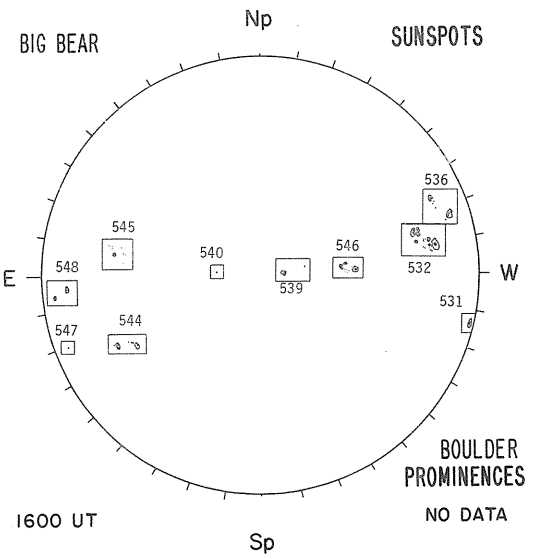
E NO DATA W

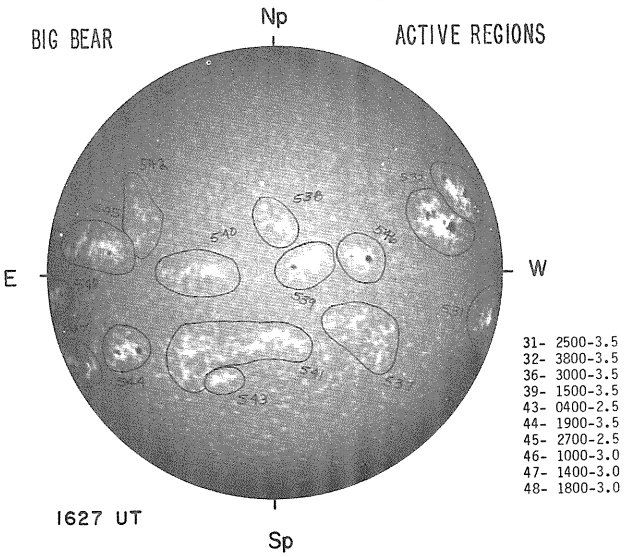


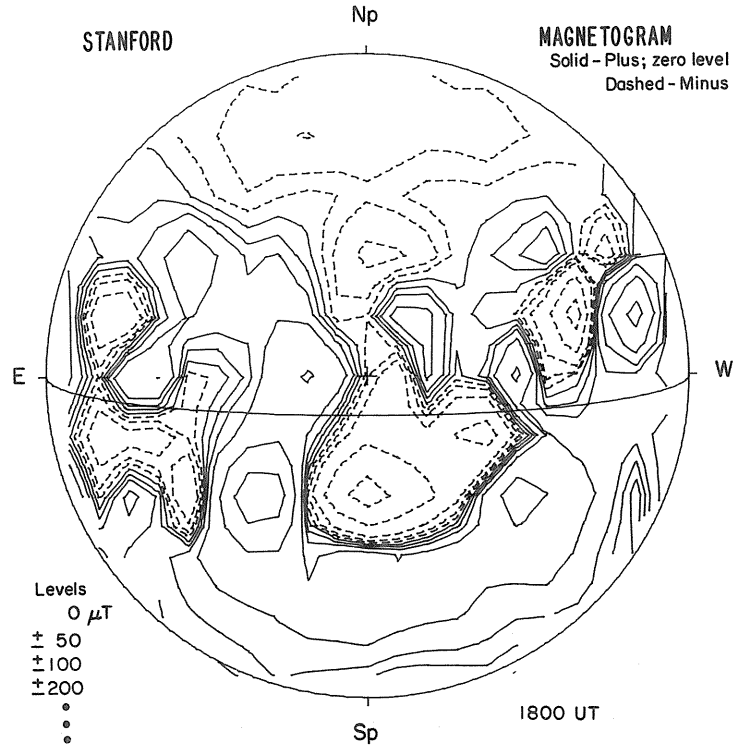


29


SACRAMENTO PEAK
Np
Hα
E
W
Sp
1434 UT


BIG BEAR
Np
SUNSPOTS
536
545
548
540
546
532
539
531
544
547
E
W
Sp
1600 UT
BOULDER
PROMINENCES
NO DATA


BIG BEAR
Np
ACTIVE REGIONS
E
W
Sp
1627 UT
31- 2500-3.5
32- 3800-3.5
36- 3000-3.5
39- 1500-3.5
43- 0400-2.5
44- 1900-3.5
45- 2700-2.5
46- 1000-3.0
47- 1400-3.0
48- 1800-3.0

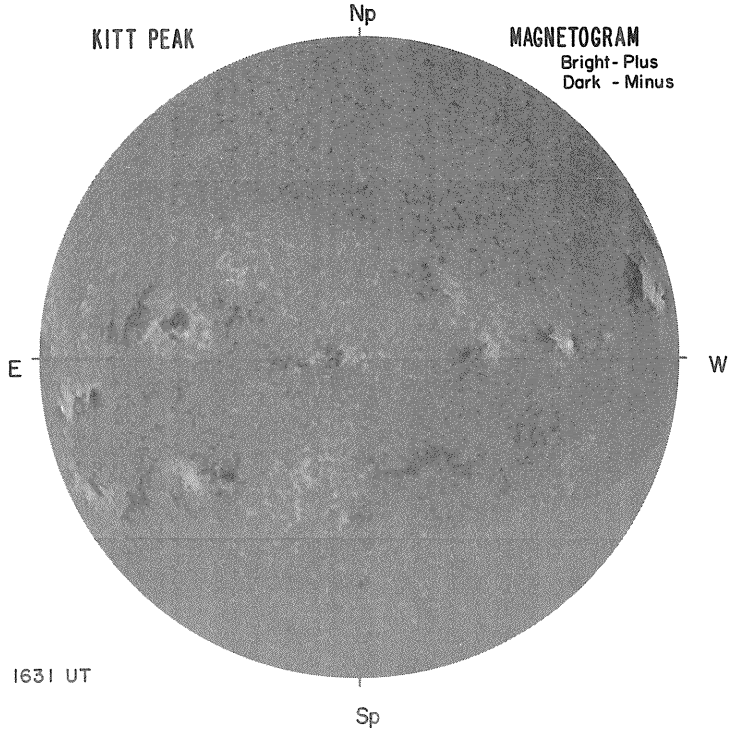

STANFORD
Np
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
E
W
Sp
1800 UT
Levels
0 μT
± 50
±100
±200

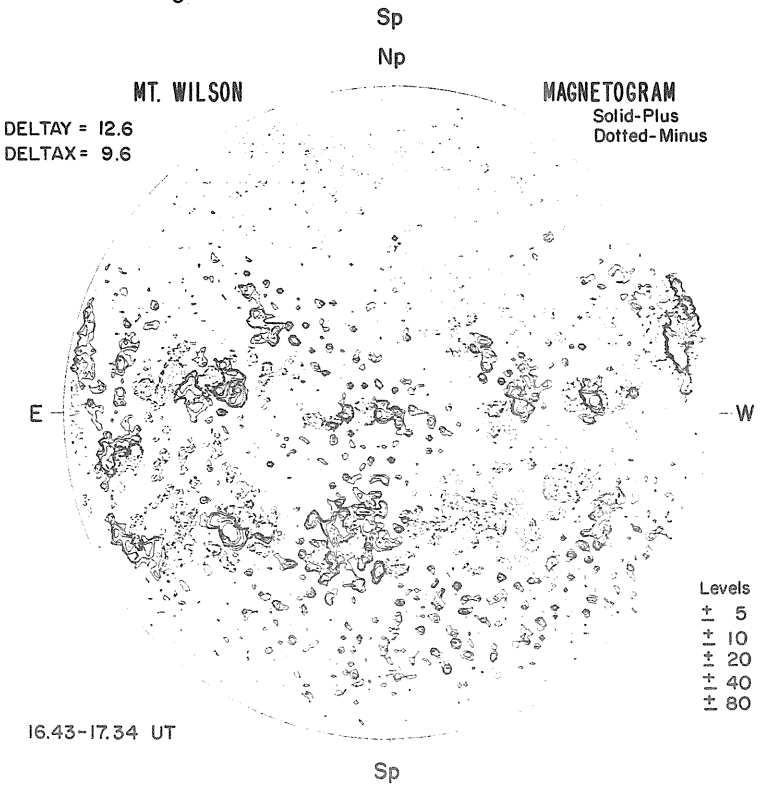
AUGUST 30, 1982 (P= 20.49, B_o = 7.16, L_o = 74.61)

SACRAMENTO PEAK Np CORONA 5303 Å

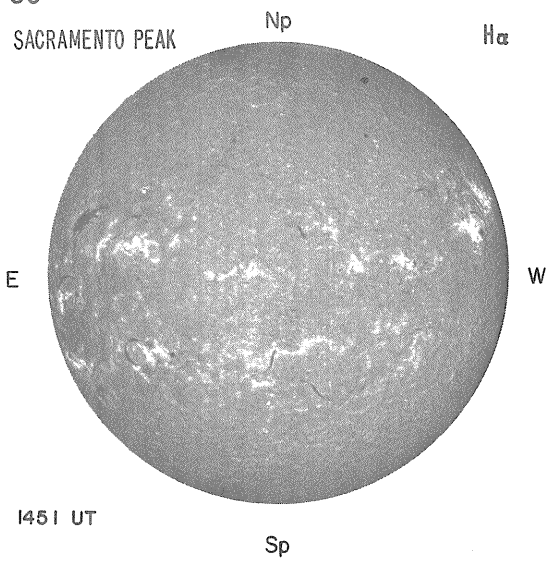
E NO DATA W

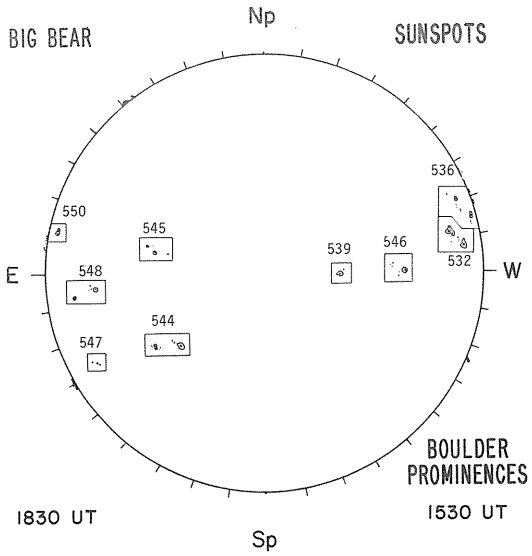
1.15 $R_\odot$
1.35 $R_\odot$
1.55 $R_\odot$

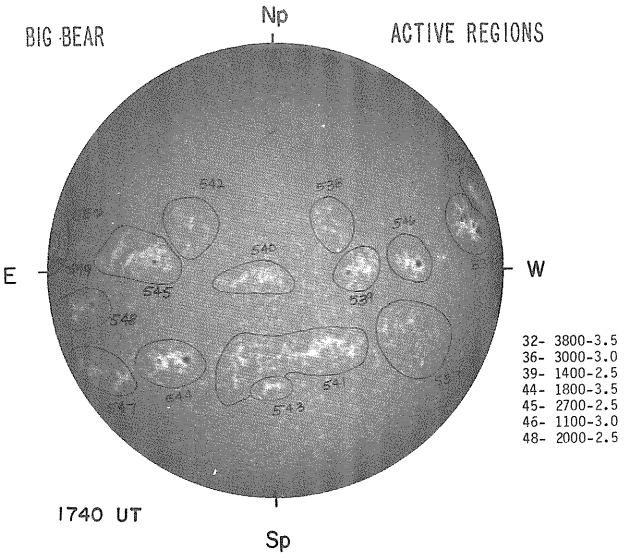


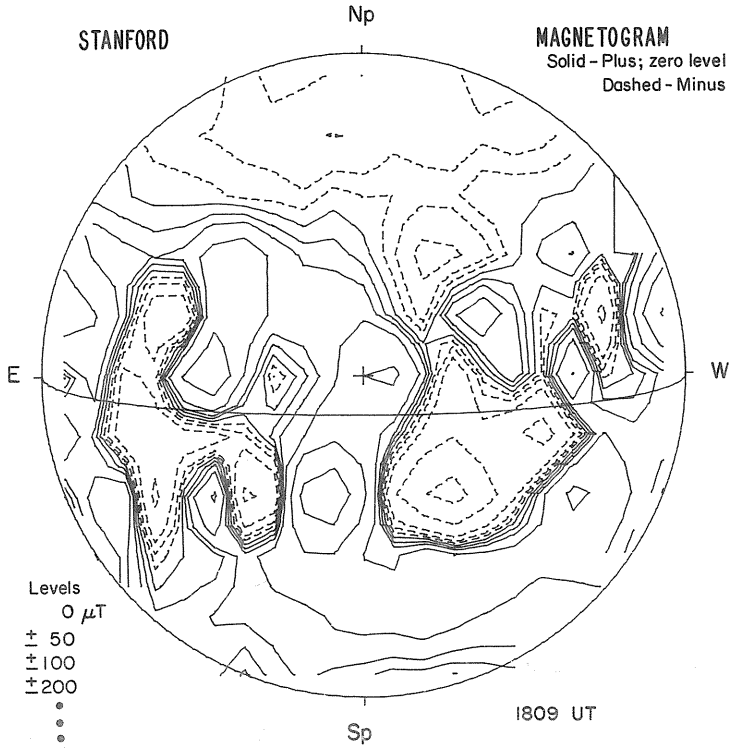


30


SACRAMENTO PEAK
Np
Hα
E
W
1451 UT
Sp

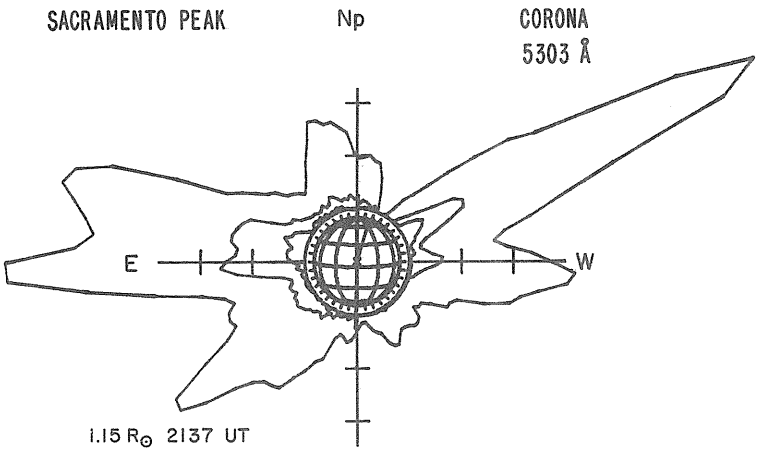

BIG BEAR
Np
SUNSPOTS
550
545
536
548
539
546
532
544
547
E
W
BOULDER
PROMINENCES
1830 UT
1530 UT
Sp


BIG BEAR
Np
ACTIVE REGIONS
E
W
1740 UT
Sp
32- 3800-3.5
36- 3000-3.0
39- 1400-2.5
44- 1800-3.5
45- 2700-2.5
46- 1100-3.0
48- 2000-2.5


STANFORD
Np
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
E
W
Levels
0 μT
± 50
±100
±200
1809 UT
Sp

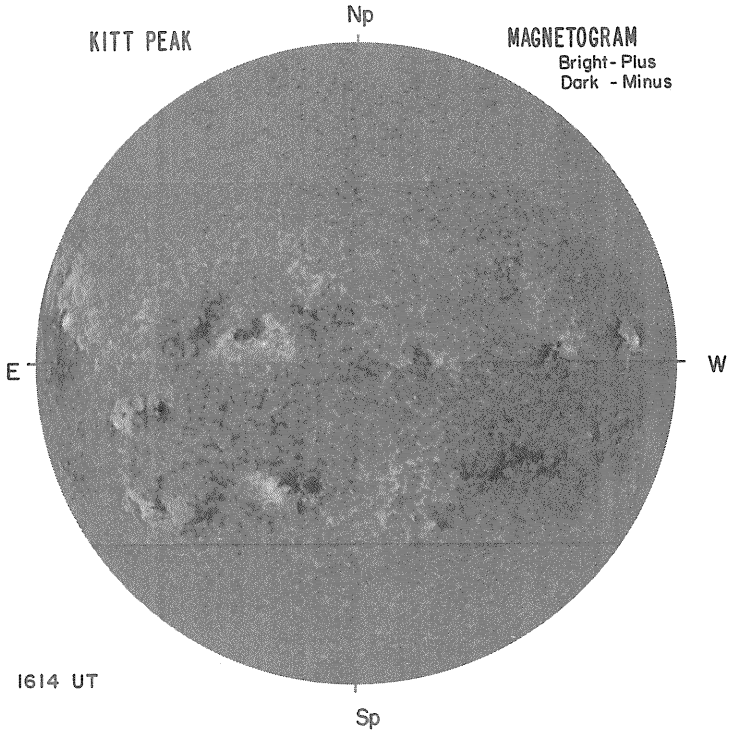
AUGUST 31, 1982 (P= 20.75, B_o = 7.17, L_o = 61.40)

SACRAMENTO PEAK



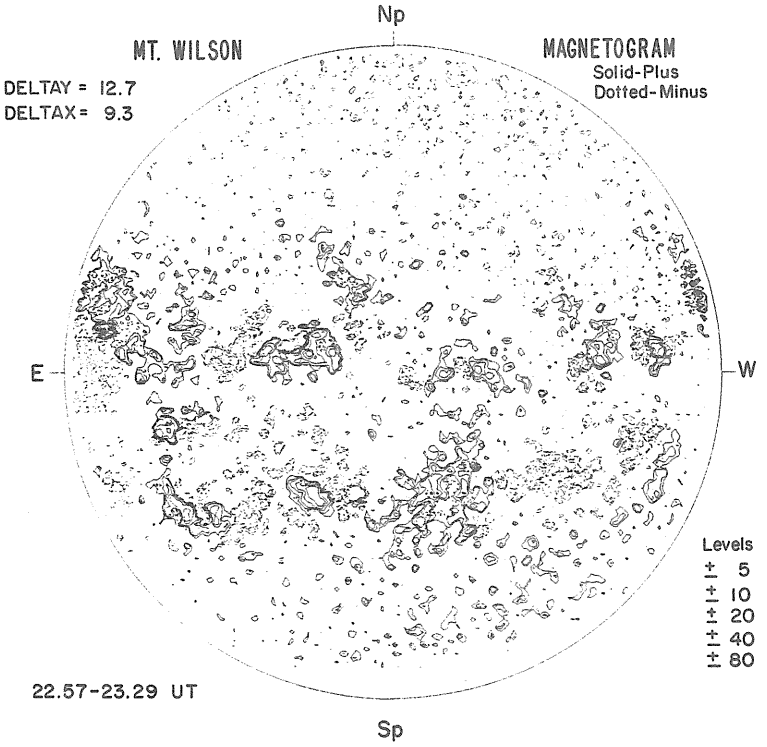
1.15 $R_\odot$ 2137 UT
1.35 $R_\odot$ 2102 UT
1.55 $R_\odot$ 2109 UT

KITT PEAK



1614 UT

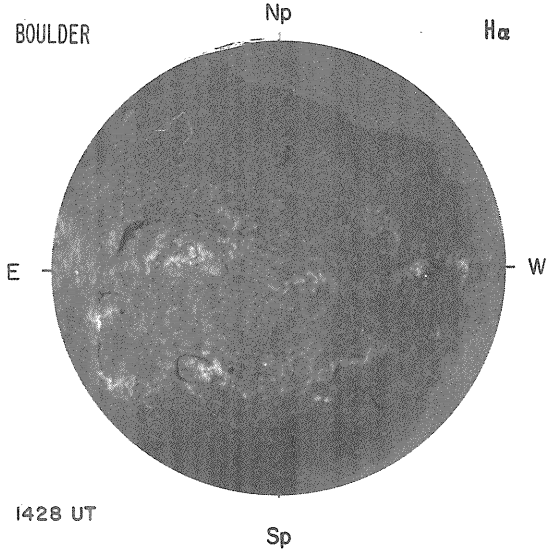
MT. WILSON



22.57-23.29 UT

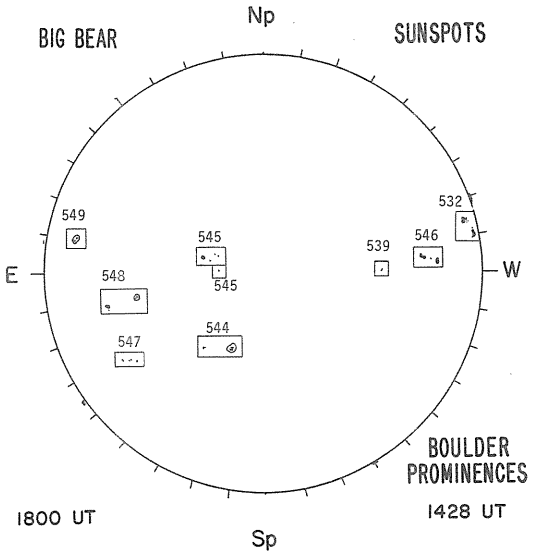
31

BOULDER



1428 UT

BIG BEAR



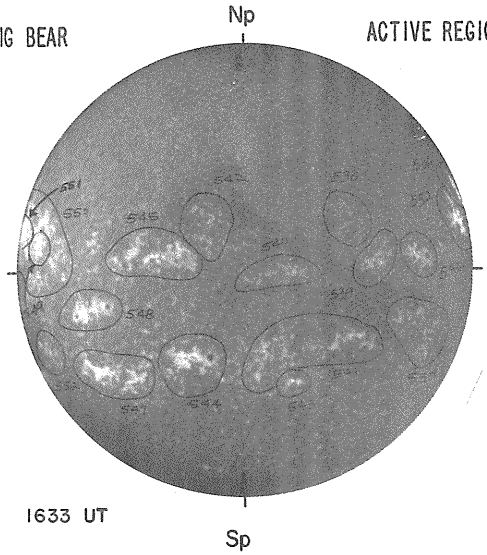
1800 UT

SUNSPOTS

BOULDER PROMINENCES

1428 UT

BIG BEAR

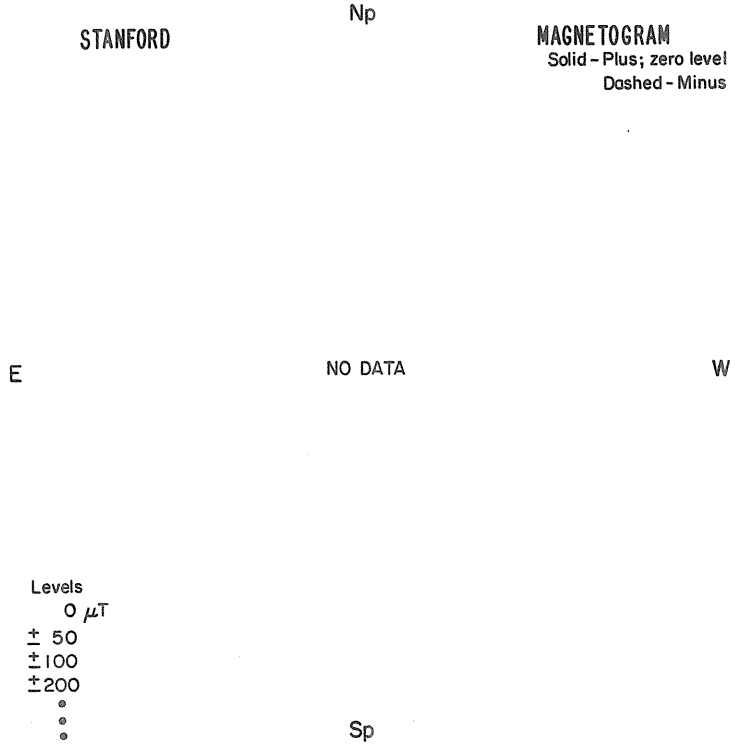


1633 UT

ACTIVE REGIONS

32- 2800-3.5
36- 1200-3.5
39- 1300-2.5
43- 0300-2.5
44- 2300-3.5
45- 3200-3.0
46- 1200-3.0
47- 2700-2.5
48- 2800-3.5
49- 1000-3.5
50- 3000-2.5
51- 1500-3.5

STANFORD



MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

REGIONS OF SOLAR ACTIVITY

AUGUST 1982

BIG BEAR REGION 18480 CMP DATE 1.0 RETURN OF REGION 18454 ROTATION 3

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	07	25	18480	S12 E80	101	1200	2.0									
82	07	27	18480	S12 E58	97	2700	2.5	23242	S13 E53	102	(AF)	2				
82	07	28	18480	S12 E44	98	2800	2.5									
82	07	29	18480	S10 E31	98	2300	2.0	23243	S05 E37	91	(AP)	2				
82	07	30	18480	S10 E18	98	2100	2.5	23247	S12 E13	103	(AF)	3	P	20	4	AXX
82	07	30	18480	S10 E18	98	2100	2.5	23243	S06 E23	93	(B)	2				
82	07	31	18480	S10 E04	97	2700	2.5	23247	S12 W01	103	(FY)	3	B	20	3	CRO
82	08	1	18480	S11 W09	98	2700	2.0	23247	S12 W13	103	(B)	3	B	10	3	BXO
82	08	2	18480	S10 W22	97	2800	2.5		S11 W17				M	20	4	CRO
82	08	3	18480	S10 W36	99	2400	2.5									
82	08	4	18480	S10 W50	100	1800	2.5									
82	08	5	18480	S10 W65	99	1600	2.5									

BIG BEAR REGION 18492B CMP DATE 3.6

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	07	28	18492B	S12 E80	62	200	3.0									
82	07	29	18492B	S12 E67	62	800	3.5	23244	S11 E68	60	(B)	4	H	20	6	BXO
82	07	30	18492B	S13 E55	61	2000	4.0	23244	S12 E55	61	(B)	3	H	180	15	DAI
82	07	31	18492B	S13 E40	61	2500	3.5	23244	S11 E42	60	(B)	5	B	210	19	DAI
82	08	1	18492B	S12 E28	61	2500	2.5	23244	S11 E29	61	(BY)	5	H	340	36	EKO
82	08	2	18492B	S11 E15	60	3200	3.0	23244	S11 E15	61	(B)	5	H	550	46	EAI
82	08	3	18492B	S12 W00	63	3400	3.5	23244	S11 E03	61	(B)	5	B	520	54	EKI
82	08	4	18492B	S12 W13	63	3000	3.5	23244	S11 W12	62	(BY)	4	H	390	44	EKI
82	08	5	18492B	S12 W27	61	3500	4.0	23244	S12 W25	60	(BY)	5				
82	08	6	18492B					23244	S10 W40	62	BY	4				
82	08	7	18492B	S13 W52	60	4200	3.5	23244	S12 W52	62	(B)	4	H	200	28	FAO
82	08	8	18492B	S13 W67	63	4300	3.0	23244	S13 W65	61	(BP)	3	H	90	16	ESO
82	08	9	18492B	S13 W80	64	3500	3.0	23244	S10 W78	61	AF	2	H	10	2	BXO

BIG BEAR REGION 18495 CMP DATE 5.4 RETURN OF REGION 18479 ROTATION 2

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	07	29	18495	N15 E90	39	300	1.0	23245	N17 E85	43	(AP)	2	H		1	AXX
82	07	30	18495	N15 E80	36	1700	3.0	23245	N16 E74	42	(B)	4	H	50	9	DSI
82	07	31	18495	N15 E64	37	2800	3.0	23245	N16 E60	42	(B)	4	B	110	6	DAO
82	08	1	18495	N16 E50	39	2500	2.5	23245	N16 E47	43	(B)	4	H	50	5	DSO
82	08	2	18495	N17 E36	39	2400	3.0	23245	N16 E34	42	(B)	4	H	30	6	CSO
82	08	3	18495	N17 E24	39	2200	3.0	23245	N16 E22	42	(B)	4	B	20	9	BXO
82	08	4	18495	N17 E10	40	2400	2.5	23245	N17 E05	45	(AP)	3	H	10	3	BXO
82	08	5	18495	N17 W05	39	1900	2.5	23245	N15 W06	41	(B)	2				
82	08	7	18495	N16 W32	40	1200	2.5									
82	08	8	18495	N16 W45	41	1300	2.5	23262	N13 W42	38	(AF)	2				
82	08	9	18495	N16 W59	43	1400	3.0									
82	08	10	18495	N16 W72	43	1300	3.5									
82	08	11	18495	N16 W90	47	900	3.0									

BIG BEAR REGION 18506 CMP DATE 6.3 RETURN OF REGION 18462 ROTATION 3

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	07	31	18506	S20 E75	26	1500	2.0									
82	08	1	18506	S20 E65	24	1400	1.5									
82	08	2	18506	S18 E51	24	1000	1.5									
82	08	3	18506	S19 E36	27	900	1.5									
82	08	4	18506	S20 E23	27	800	2.0									
82	08	5	18506	S19 E07	27	800	1.5									
82	08	7	18506	S20 W18	26	700	1.5	23257	S16 W18	28	(AP)	2	P	50	20	CSO

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BIG BEAR REGION 18506 (CONT) CMP DATE 6.3 RETURN OF REGION 18462 ROTATION 3

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	8	18506	S20 W32	28	700	1.5									
82	08	9	18506	S19 W46	30	700	1.5									
82	08	10	18506	S19 W58	29	500	1.0									
82	08	11	18506	S19 W76	33	500	1.0									

BIG BEAR REGION 18508 CMP DATE 7.0

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	2	18508	N12 E63	12	200	1.0									
82	08	3	18508	N11 E50	13	200	2.0		N09 E56				B	10	2	AXX
82	08	4	18508	N10 E34	16	1000	3.5	23253	N09 E34	16	(B)	4	H	40	19	DSO
82	08	5	18508	N10 E17	17	1200	3.0	23253	N09 E19	16	(B)	5				
82	08	6	18508					23253	N09 E03	19	B	5				
82	08	7	18508	N10 W10	18	1500	3.0	23253	N09 W08	18	(B)	5	H	300	30	EAO
82	08	8	18508	N10 W23	19	1600	3.0	23253	N09 W21	17	(B)	4	H	220	12	ESO
82	08	9	18508	N10 W35	19	2500	2.5	23253	N09 W37	20	(B)	4	H	70	16	ESO
82	08	10	18508	N10 W50	21	2500	3.5	23253	N09 W47	18	(B)	4	H	40	5	CSO
82	08	11	18508	N10 W64	21	2000	3.0	23253	N10 W68	26	(BP)	4	H	40	6	CSO
82	08	12	18508	N10 W88	33	1200	2.5	23253	N10 W82	26	(AP)	3	L	50	3	CAO

BIG BEAR REGION 18514 CMP DATE 7.2

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	5	18514	S15 E19	15	200	1.5	23255	S15 E18	17	(AP)	3				
82	08	6	18514					23255	S15 E03	19	B	4				
82	08	7	18514	S15 W07	15	900	3.0	23255	S15 W07	17	(BP)	4	H	70	25	EAI
82	08	8	18514	S15 W21	17	1400	3.5	23255	S16 W20	16	(B)	3	H	70	19	EAO
82	08	9	18514	S15 W36	20	1700	2.5	23255	S15 W37	20	(B)	3	H	40	14	BXO
82	08	10	18514	S15 W47	18	2000	3.0	23255	S15 W47	18	(B)	4	H	10	4	BXO
82	08	11	18514	S15 W62	19	1600	3.0	23255	S15 W61	19	(B)	4	H	10	2	BXO
82	08	12	18514	S16 W78	23	1500	3.0		S18 W70				H		2	AXX

BIG BEAR REGION 18515 CMP DATE 7.5

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	7	18515	S18 W03	11	100	2.0	23258	S19 W03	13	(B)	3	H	70	25	EAI
82	08	8	18515	S18 W17	13	300	2.5	23258	S19 W17	13	(B)	4	H	70	19	EAO
82	08	9	18515	S19 W32	16	700	2.0	23258	S19 W33	16	(B)	3	H	40	14	BXO
82	08	10	18515	S18 W45	16	1000	3.0	23258	S19 W44	15	(B)	3	H	10	5	BXO
82	08	11	18515	S19 W60	17	1000	3.0	23258	S19 W57	15	(BF)	4	H	20	2	CSO
82	08	12	18515	S20 W75	20	1200	3.5	23258	S15 W70	14	(AF)	3	H		2	AXX

BIG BEAR REGION 18509 CMP DATE 8.2 RETURN OF REGION 18468 ROTATION 3

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	2	18509	N10 E78	357	600	2.5									
82	08	3	18509	N10 E64	359	700	2.0	23251	N08 E58	6	(AP)	3	B	10	2	AXX
82	08	4	18509	N10 E49	1	700	2.5	23251	N08 E44	6	(AP)	3	H	40	19	DSO
82	08	5	18509	N10 E34	0	600	2.5	23251	N11 E35		(AP)	3				
82	08	7	18509	N10 E06	2	600	2.5									
82	08	8	18509	N10 W06	2	600	2.0		N10 W14				L	250	15	EKO
82	08	9	18509	N10 W20	4	500	2.5		N10 W28				M	180	10	EAO
82	08	10	18509	N11 W35	6	500	2.0		N09 W42				L	50	7	ERO
82	08	11	18509	N11 W48	5	600	2.0		N10 W56				L	50	5	CAO
82	08	12	18509	N10 W67	12	600	2.0		N10 W72				L	50	3	CAO

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BIG BEAR REGION 18510 CMP DATE 8.3 RETURN OF REGION 18469 ROTATION 3

				CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	BB NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	1	18510						23250	S15	E88	2	AP	1	P	30	1	HSX
82	08	2	18510	S16	E80	355	700	2.0	23250	S16	E71	5	(AP)	4	H	120	1	HSX
82	08	3	18510	S16	E65	358	700	2.0	23250	S15	E58	6	(AP)	4	B	80	2	CSO
82	08	4	18510	S16	E50	0	700	2.5	23250	S16	E44	6	(AP)	5	H	30	1	HSX
82	08	5	18510	S16	E34	0	1100	3.0	23250	S15	E31	4	(AP)	5				
82	08	6	18510						23250	S15	E13	9	AP	4	H	40	4	CSO
82	08	7	18510	S16	E09	359	1200	2.5	23250	S15	E03	7	(AP)	4	H	60	3	HAX
82	08	8	18510	S16	W05	1	1100	2.5	23250	S15	W10	6	(AP)	4	H	20	6	CSO
82	08	9	18510						23250	S15	W25	8	(AP)	2	H	10	3	BXO
82	08	10	18510	S16	W33	4	1400	2.5	23250	S15	W37	8	(AP)	4	H		1	AXX
82	08	10	18510	S16	W33	4	1400	2.5	23265	S17	W28	359	(AF)	3	H		1	AXX
82	08	11	18510	S16	W47	4	1200	2.5	23265	S17	W43	1	(B)	3	H	10	3	BXO
82	08	11	18510	S16	W47	4	1200	2.5	23250	S15	W51	9	(AP)	4	H		1	AXX
82	08	12	18510	S16	W60	5	1200	2.5	23250	S15	W61	5	(AP)	3	H		2	AXX

BIG BEAR REGION 18512 CMP DATE 8.5

				CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	BB NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	3	18512	S12	E68	355	100	1.5		S15	E59				B	80	2	CSO
82	08	4	18512	S12	E55	355	300	2.5	23254	S11	E52	358	(AP)	2	H	30	1	HSX
82	08	5	18512	S12	E38	356	300	2.5	23254	S12	E40	355	(B)	3				
82	08	6	18512						23254	S12	E22		B	3	H	40	4	CSO
82	08	7	18512	S12	E12	356	400	2.5	23254	S12	E12	358	(B)	4	H	20	5	BXO
82	08	8	18512	S12	W02	358	500	2.5	23254	S11	W01	357	(B)	3	H	20	5	BXO
82	08	9	18512	S12	W14	358	600	3.0	23254	S12	W17		(B)	4	H	20	6	BXO
82	08	10	18512	S11	W28	359	500	2.5	23254	S11	W29		(B)	3	H		1	AXX
82	08	11	18512	S11	W41	358	400	1.5		S16	W44				H	10	3	BXO
82	08	12	18512	S11	W54	359	300	1.5		S15	W54				L	10	3	BXO

BIG BEAR REGION 18511 CMP DATE 10.6 RETURN OF REGION 18474 ROTATION 3

				CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	BB NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	3	18511	N09	E84	339	2000	4.0	23252	N08	E80	344	(AP)	4	B	420	7	EHO
82	08	4	18511	N09	E75	335	5500	4.0	23252	N08	E72	338	(BY)	5	H	470	28	FHI
82	08	5	18511	N10	E65	329	14000	4.0	23252	N10	E62	333	(D)	5				
82	08	6	18511						23252	N09	E48	334	D	5				
82	08	6	18511						23256	N18	E64	318	X	2				
82	08	7	18511	N12	E38	330	13000	3.5	23252	N10	E35	335	(D)	5	H	1250	21	DHO
82	08	8	18511	N12	E25	331	13000	4.0	23252	N10	E23	333	(D)	5	H	930	75	FKC
82	08	9	18511	N11	E14	330	14000	4.0	23252	N10	E10	333	(D)	5	H	540	71	FAI
82	08	10	18511	N12	W00	331	15000	4.5	23252	N10	W03	334	(D)	6	H	510	31	EKI
82	08	11	18511	N12	W14	331	15800	4.5	23252	N10	W15	333	(BY)	5	H	280	33	FKI
82	08	12	18511	N11	W28	333	16000	4.0	23252	N10	W23	327	(BY)	6	H	130	37	ESI
82	08	13	18511						23252	N10	W42	333	(BY)	5	H	370	24	FHI
82	08	14	18511	N11	W58	333	16000	4.0	23252	N10	W56	334	(BY)	5	H	250	9	ESO
82	08	15	18511	N12	W73	336	16500	4.0	23252	N11	W69	333	(BY)	4	H	130	6	DSO
82	08	16	18511	N11	W79	328	4000	3.0	23252	N10	W70	321	(AF)	4	H	10	3	BXO
82	08	17	18511	N11	W90	326	2500	3.0		N13	W80				M	10	1	AXX

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BIG BEAR REGION 18513 CMP DATE 10.6 RETURN OF REGION 18472 ROTATION 2

CALCIUM PLAGE DATA

YR	MO	DA	BB NO.	LAT	CMD	L	AREA	INT
82	08	4	18513	S28	E77	333	500	1.5
82	08	5	18513	S27	E63	331	700	1.5
82	08	7	18513	S27	E40	328	600	2.0
82	08	8	18513	S27	E27	329	600	2.0
82	08	9	18513	S27	E12	332	800	2.0
82	08	10	18513	S27	W00	331	700	2.0
82	08	11	18513	S27	W14	331	700	1.5
82	08	12	18513	S27	W26	331	800	1.5
82	08	14	18513	S28	W56	331	800	2.0
82	08	15	18513	S29	W70	333	1100	2.0

SUNSPOT DATA

MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
	S23	E14				L		1	AXX
23277	S25	W18	322	(AP)	2	L		2	AXX

BIG BEAR REGION 18516 CMP DATE 11.4 RETURN OF REGION 18478 ROTATION 2

CALCIUM PLAGE DATA

YR	MO	DA	BB NO.	LAT	CMD	L	AREA	INT
82	08	7	18516	S05	E55	313	300	2.0
82	08	8	18516	S06	E40	316	200	2.0
82	08	9	18516	S08	E25	319	700	2.5
82	08	10	18516	S08	E12	319	1000	3.0
82	08	11	18516	S08	W03	320	1400	2.5
82	08	12	18516	S08	W16	321	1300	2.5
82	08	13	18516					
82	08	14	18516	S09	W47	322	1600	2.5
82	08	15	18516	S08	W60	323	2000	2.5
82	08	16	18516	S10	W81	330	1300	1.5

SUNSPOT DATA

MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
23259	S08	E53	317	(B)	2	H	10	3	BXO
23259	S08	W42	38	(AF)	2				
	S07	E25				B		1	AXX
23259	S12	E12	319	(AP)	3	H	60	13	CSO
23259	S09	W01	319	(B)	5	H	70	8	DSO
23259	S08	W16	320	(B)	5	H	30	9	CSO
23259	S08	W28	319	(B)	4	H	50	5	DRO
23259	S08	W43	321	(B)	4	H	20	7	BXO
23259	S08	W56	320	(B)	4	H	10	3	BXO

BIG BEAR REGION 18517 CMP DATE 12.1 RETURN OF REGION 18481 ROTATION 2

CALCIUM PLAGE DATA

YR	MO	DA	BB NO.	LAT	CMD	L	AREA	INT
82	08	7	18517	S12	E64	304	400	2.0
82	08	8	18517	S13	E48	308	300	2.0
82	08	9	18517	S13	E33	311	700	2.5
82	08	10	18517	S13	E20	311	600	2.5
82	08	11	18517	S13	E06	311	800	2.5
82	08	12	18517	S13	W08	313	600	2.0
82	08	14	18517	S14	W37	312	600	2.0
82	08	15	18517	S15	W50	313	600	2.0
82	08	16	18517	S16	W65	314	500	1.5

SUNSPOT DATA

MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
	S07	E54				H	10	3	BXO
	S09	E40				B		1	AXI
23269	S12	E22	309	(AP)	3	H		1	AXX
	S10	E05				M	80	7	DSO
23278	S14	W06	310	(AP)	2	H	30	9	CSO

BIG BEAR REGION 18520 CMP DATE 12.3 RETURN OF REGION 18473 ROTATION 6

CALCIUM PLAGE DATA

YR	MO	DA	BB NO.	LAT	CMD	L	AREA	INT
82	08	7	18520	N25	E65	303	800	2.0
82	08	8	18520	N24	E50	306	1200	2.0
82	08	9	18520	N22	E37	307	2700	2.5
82	08	10	18520	N22	E22	309	2400	2.0
82	08	11	18520	N22	E09	308	2100	2.0
82	08	11	18520	N22	E09	308	2100	2.0
82	08	12	18520	N21	W04	309	2200	2.0
82	08	14	18520	N20	W36	311	2500	2.5
82	08	15	18520	N23	W49	312	2800	2.5
82	08	16	18520	N19	W63	312	2000	2.5
82	08	17	18520	N19	W77	313	2000	2.0

SUNSPOT DATA

MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
	N19	E48				L	10	2	AXX
23268	N20	E16	315	(AP)	3				
23268	N18	E01	317	(AP)	2	H	10	2	AXX
23271	N20	E07	311	(AP)	3	H	10	2	AXX
23268	N19	W19	323	(AP)	2				

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BIG BEAR REGION 18518 CMP DATE 13.3 RETURN OF REGION 18481 ROTATION 2

CALCIUM PLAGE DATA

YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT
82	08	7	18518	S06 E80	288	900	2.0
82	08	8	18518	S07 E67	289	1000	2.0
82	08	9	18518	S10 E52	292	2500	3.0
82	08	10	18518	S09 E40	291	3000	3.5
82	08	10	18518	S09 E40	291	3000	3.5
82	08	11	18518	S09 E25	292	3000	3.5
82	08	11	18518	S09 E25	292	3000	3.5
82	08	12	18518	S09 E11	294	3000	3.0
82	08	13	18518				
82	08	14	18518	S09 W19	294	3000	3.0
82	08	15	18518	S08 W31	294	2700	2.5
82	08	16	18518	S09 W47	296	1800	3.0
82	08	17	18518	S09 W61	297	1500	2.5
82	08	18	18518	S09 W80	300	1200	2.0

SUNSPOT DATA

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
23260	S07 E77	293	(B)	3	H	190	5	DKC
23260	S07 E62	294	(B)	4	H	140	3	DAO
23260	S08 E48	295	(BP)	5	H	140	4	CAO
23260	S08 E35	296	(BP)	5	H	120	3	HSX
23270	S11 E41	290	(B)	3	H	10	4	BXO
23260	S07 E21	297	(BP)	5	H	80	8	DSO
23270	S10 E27	291	(B)	3	H	10	2	AXX
23260	S07 E07	297	(D)	5	H	100	9	DSO
23260	S07 W06	297	(AP)	5	H	200	9	DSO
23260	S07 W20	298	(BP)	5	H	170	6	CSO
23260	S07 W34	298	(AP)	5	H	130	2	AXX
23260	S07 W47	298	(AP)	5	H	110	1	HSX
23260	S07 W60	298	(AP)	4	H	40	1	HSX
23260	S07 W72	297	(AP)	4	B	120	1	HSX

BIG BEAR REGION 18519 CMP DATE 13.9 RETURN OF REGION 18484 ROTATION 3

CALCIUM PLAGE DATA

YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT
82	08	7	18519	N17 E80	288	1200	2.0
82	08	8	18519	N17 E72	284	1800	2.0
82	08	8	18519	N17 E72	284	1800	2.0
82	08	9	18519	N16 E59	285	3800	3.0
82	08	9	18519	N16 E59	285	3800	3.0
82	08	10	18519	N16 E46	285	4000	3.0
82	08	11	18519	N16 E36	281	4100	3.0
82	08	11	18519	N16 E36	281	4100	3.0
82	08	12	18519	N16 E18	287	4200	3.0
82	08	13	18519				
82	08	14	18519	N16 W11	286	4000	3.5
82	08	15	18519	N16 W26	289	4000	3.0
82	08	16	18519	N16 W38	287	3800	2.5
82	08	17	18519	N16 W50	286	2000	2.0
82	08	18	18519	N17 W69	289	1000	2.5
82	08	19	18519	N17 W79	289	600	2.0

SUNSPOT DATA

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
23261	N16 E80	290	(B)	3	H	180	3	DSO
23261	N16 E70	286	(B)	4	H	100	2	DSO
23264	N20 E71	285	(AP)	1	H	100	2	DSO
23264	N20 E57	286	AP	1	H	140	5	DSO
23261	N16 E57	286	(B)	4	H	140	5	DSO
23261	N15 E44	287	(BY)	5	H	150	6	CAO
23275	N11 E35	283	(AF)	3	H		1	AXX
23261	N10 E31	287	(B)	5	H		1	AXX
23261	N16 E17	287	(B)	5	H	30	14	CSO
23261	N16 E05	286	(B)	4	H	110	19	DAO
23261	N16 W08	286	(B)	3	H	50	11	CRO
23261	N18 W21	285	(B)	3	H	10	2	BXO
	N16 W70				B	20	3	DRO

BIG BEAR REGION 18530 CMP DATE 14.3

CALCIUM PLAGE DATA

YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT
82	08	16	18530				
82	08	17	18530	N14 W45	281	1200	3.5
82	08	18	18530	N14 W63	283	1300	2.5
82	08	19	18530	N13 W76	286	1500	3.0
82	08	20	18530	N13 W87	283	400	2.0

SUNSPOT DATA

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
23288	N13 W28	279	(B)	5	H	10	3	BXO
23288	N14 W41	279	(B)	5	H	50	8	DSO
23288	N14 W55	280	(B)	4	B	160	9	DSO
23288	N14 W68	280	(B)	4	H	80	4	DSO
23288	N14 W81	279	AF	3	H	20	2	HSX

BIG BEAR REGION 18528 CMP DATE 14.6

CALCIUM PLAGE DATA

YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT
82	08	14	18528	N08 W02	277	700	3.0
82	08	15	18528	N07 W15	278	1000	3.5
82	08	16	18528	N07 W31	280	1200	3.5
82	08	17	18528				
82	08	18	18528	N07 W62	282	1100	3.0
82	08	19	18528	N07 W75	285	1200	3.5
82	08	20	18528	N08 W85	281	600	2.5

SUNSPOT DATA

MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
23281	N08 W00	278	(AF)	3				
23281	N08 W13	277	(B)	5	H	30	16	BXO
23281	N08 W28	279	(B)	5	H	60	15	DRO
23281	N08 W40	278	(B)	4	H	50	11	DRO
23281	N08 W54	279	(B)	4	B	60	10	DRO
23281	N08 W68	280	(B)	4	H	40	6	CRO
23281	N07 W79	277	AF	3	H	40	4	HAX

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BIG BEAR REGION 18522 CMP DATE 15.5

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	11	18522	S13 E56	261	300	3.0	23276	S13 E57	261	(B)	3	H		2	AXX
82	08	12	18522	S13 E40	265	700	3.5	23276	S12 E40	264	(B)	3	H	10	5	BXO
82	08	13	18522					23276	S12 E26	265	(B)	4	H	250	23	DSO
82	08	14	18522	S13 E13	262	2000	4.0	23276	S12 E13	265	(B)	5	H	500	25	EKI
82	08	15	18522	S12 W03	266	2800	4.0	23276	S12 W01	265	(BY)	5	P	570	43	EKI
82	08	16	18522	S12 W17	266	2500	3.0	23276	S11 W15	266	(BY)	5	H	880	30	EKI
82	08	17	18522	S12 W31	267	2800	3.5	23276	S12 W28	266	(BY)	6	H	840	26	FKI
82	08	18	18522	S12 W47	267	3700	3.5	23276	S12 W40	265	(D)	6	B	1230	24	EKI
82	08	19	18522	S12 W59	269	4000	4.0	23276	S12 W55	267	(D)	6	H	1190	28	EKI
82	08	20	18522	S11 W70	266	4000	3.5	23276	S12 W67	265	(B)	5	H	1150	21	EKI
82	08	21	18522	S12 W90	271	3000	3.5	23276	S12 W78	259	AF	4	H	340	2	FHO

BIG BEAR REGION 18521 CMP DATE 16.0 RETURN OF REGION 18485 ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	9	18521	N25 E78	266	600	2.0									
82	08	10	18521	N25 E64	267	500	1.5									
82	08	12	18521	N26 E39	266	1200	2.5									
82	08	14	18521	N26 E11	264	1800	2.5									
82	08	15	18521	N26 E03	260	2100	2.0	23286	N24 E04	260	(AF)	2				
82	08	16	18521	N26 W10	259	1800	2.5	23292	N26 W22	273	(AF)	2	H		1	AXX
82	08	17	18521	N27 W24	260	1800	2.5	23293	N20 W23	261	(B)	2	M	10	2	BXO
82	08	18	18521	N27 W40	260	1700	2.0	23293	N19 W37	262	(AP)	3	L	10	2	BXO
82	08	19	18521	N27 W50	260	2000	2.5									
82	08	20	18521	N28 W67	263	2500	2.0									
82	08	21	18521	N28 W79	260	2500	2.0									

BIG BEAR REGION 18525 CMP DATE 17.2

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	14	18525	N15 E33	242	900	1.0	23282	N15 E31	247	(B)	3	H	10	2	BXO
82	08	15	18525	N15 E19	244	700	2.0		N16 E25				L		2	BXO
82	08	16	18525	N15 E04	245	500	2.0	23289	N13 E10	241	(B)	2				
82	08	17	18525					23289	N13 W06	244	(BP)	3	R	10	3	BXO

BIG BEAR REGION 18526 CMP DATE 18.5

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	14	18526	N13 E49	226	300	2.0	23283	N14 E49	229	(AP)	3	H		1	AXX
82	08	15	18526	N13 E38	225	100	1.0									
82	08	16	18526	N13 E22	227	100	1.0									
82	08	17	18526	N14 E10	226	100	1.0									

BIG BEAR REGION 18523 CMP DATE 19.4

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	14	18523	S07 E69	206	1800	3.5	23284	S04 E68	210	(B)	3	B	50	3	DSO
82	08	15	18523	S07 E56	207	3000	3.5	23284	S05 E55	209	(B)	4	H	50	10	BXO
82	08	16	18523	S06 E39	210	2500	3.0	23284	S04 E42	209	(B)	4	H	20	6	BXO
82	08	17	18523	S06 E24	212	2500	3.0	23284	S04 E27	211	(B)	2	H	10	7	BXO
82	08	18	18523	S06 E08	212	2000	2.5	23284	S04 E13	212	(B)	4	B	10	1	HRX
82	08	19	18523	S06 W05	215	1700	2.5		S04 W00				H		1	AXX
82	08	20	18523	S06 W18	214	1500	2.5	23284	S06 W13	211	(AP)	3	H	10	3	BXO
82	08	21	18523	S06 W34	215	1400	2.5	23284	S07 W30	211	(AP)	3	P	10	1	AXX
82	08	22	18523	S06 W48	220	1000	2.0									

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BIG BEAR REGION 18523 (CONT) CMP DATE 19.4

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	23	18523	S07 W58	216	700	2.0									
82	08	25	18523	S07 W89	220	300	2.0									

BIG BEAR REGION 18535 CMP DATE 20.1

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	21	18535	S09 W24	205	100	2.0		S06 W28				P	10	1	AXX
82	08	22	18535	S09 W38	210	100	2.0		S07 W39				H		1	AXX

BIG BEAR REGION 18524 CMP DATE 20.6

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	14	18524	S10 E89	186	300	3.0		S05 E79				H	40	3	DSO
82	08	15	18524	S10 E68	195	300	2.0		S05 E64				L	50	5	DSO
82	08	16	18524	S10 E52	197	200	1.5									
82	08	17	18524	S09 E39	197	300	2.0		S04 E29				H	10	7	BXO
82	08	18	18524	S09 E22	198	300	1.5		S04 E22				L		1	AXX
82	08	19	18524	S09 E11	199	300	1.0		S04 E08				L		1	AXX
82	08	20	18524	S09 W03	199	400	1.0		S05 W05				L		2	BXO
82	08	21	18524	S09 W20	201	300	2.0		S06 W28				P	10	1	AXX
82	08	22	18524	S09 W31	203	300	2.0	23298	S08 W32	204	(AF)	2	H		1	AXX
82	08	23	18524	S10 W47	205	300	2.0									
82	08	25	18524	S09 W76	207	300	2.0									

BIG BEAR REGION 18529 CMP DATE 21.1

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	16	18529	N27 E57	192	500	3.0	23291	N26 E59	192	(B)	3	H	10	2	BXO
82	08	17	18529	N27 E43	193	600	4.0	23291	N26 E43	195	(B)	5	H	20	4	CSO
82	08	18	18529	N27 E26	194	1000	3.0	23291	N26 E31	194	(B)	5	B	160	9	DSO
82	08	19	18529	N27 E15	195	1700	3.5	23291	N26 E17	195	(B)	5	H	230	15	DSO
82	08	20	18529	N26 E03	193	1500	3.0	23291	N26 E05	193	(B)	4	H	140	18	DAO
82	08	21	18529	N26 W13	194	2000	3.0	23291	N26 W14	195	(BP)	4	H	110	9	CSO
82	08	22	18529	N26 W27	199	1800	3.0	23291	N26 W24	196	(BP)	4	H	120	6	CAO
82	08	23	18529	N26 W36	194	1800	3.0	23291	N25 W37	196	(AP)	4	H	70	10	CAO
82	08	24	18529						N26 W48				H	20	4	BXO
82	08	25	18529	N27 W65	196	1400	3.0	23291	N25 W64	195	(AP)	3	R	10	2	BXO
82	08	26	18529	N29 W78	197	500	2.5									

BIG BEAR REGION 18527 CMP DATE 21.8

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	15	18527	N22 E84	179	1300	2.5									
82	08	16	18527	N25 E60	189	1000	2.5									
82	08	17	18527	N25 E54	182	1400	3.0	23294	N23 E53	185	(AP)	2	H	20	4	CSO
82	08	18	18527	N25 E41	179	500	2.5									
82	08	19	18527	N25 E26	184	500	2.0									
82	08	20	18527	N25 E14	182	700	1.5									
82	08	21	18527	N24 W02	183	600	2.0									
82	08	22	18527	N25 W15	187	500	2.0									
82	08	23	18527	N25 W24	182	500	1.5		N23 W26				H	10	2	AXX
82	08	24	18527						N26 W48				H	20	4	BXO
82	08	25	18527	N25 W51	182	500	2.0		N25 W55				L	10	4	AXX
82	08	26	18527	N27 W60	179	300	1.0									

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BIG BEAR REGION 18534 CMP DATE 22.0

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	19	18534	S03 E32	178	300	2.0									
82	08	20	18534	S03 E18	178	300	1.5	23296	S03 E17	181	(AP)	3	H	10	3	BXO
82	08	21	18534	S03 E01	180	700	2.5	23296	S02 E02	179	(B)	4	H	10	3	BXO
82	08	22	18534	S03 W11	183	400	2.5	23296	S03 W08	180	(B)	3	H	10	5	BXO
82	08	23	18534	S04 W23	181	500	1.5		S03 W20				H		1	AXX
82	08	25	18534	S03 W52	183	500	1.5									
82	08	26	18534	S02 W66	185	300	1.5									

BIG BEAR REGION 18533 CMP DATE 22.2

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	18	18533	S17 E43	177	300	1.5									
82	08	19	18533	S17 E33	177	300	1.5									
82	08	20	18533	S17 E18	178	500	2.0									
82	08	21	18533	S17 E03	178	500	2.0									
82	08	22	18533	S16 W10	182	400	2.0									
82	08	23	18533	S16 W21	179	500	3.5	23300	S14 W20	179	(B)	3	H	10	2	BXO
82	08	24	18533						S14 W34				H	10	2	BXO
82	08	25	18533	S16 W50	181	300	2.0	23300	S14 W51	182	(AP)	3	H	10	1	AXX
82	08	26	18533	S18 W65	184	400	1.5									

BIG BEAR REGION 18531 CMP DATE 24.0 RETURN OF REGION 18471 ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	17	18531	S13 E79	157	1500	3.5	23295	S12 E78	160	(AP)	3	H	10	2	BXO
82	08	18	18531	S14 E68	152	4000	4.0	23295	S13 E70	155	(B)	4	B	300	10	FSO
82	08	19	18531	S14 E59	151	4000	4.0	23295	S12 E58	154	(BY)	5	H	400	11	FSO
82	08	20	18531	S14 E45	151	4500	3.5	23295	S12 E45	153	(B)	5	H	560	15	EHO
82	08	21	18531	S14 E28	153	4000	4.0	23295	S12 E27	154	(B)	5	H	430	21	EHO
82	08	22	18531	S13 E16	156	4000	3.5	23295	S12 E17	155	(B)	5	H	540	18	EHO
82	08	23	18531	S13 E04	154	3100	3.5	23295	S12 E04	155	(B)	5	H	560	31	FHI
82	08	24	18531						S12 W06				H	470	25	FHO
82	08	25	18531	S13 W26	157	3600	3.5	23295	S12 W26	157	(BP)	5	H	430	10	CKO
82	08	26	18531	S12 W38	157	4000	3.5	23295	S12 W37	156	(BP)	5	H	610	18	DKC
82	08	27	18531	S12 W54	159	3600	3.5	23295	S12 W51	157	(B)	5	H	680	12	CKO
82	08	28	18531	S13 W66	158	3700	3.5	23295	S12 W68	160	(BP)	5	B	440	3	CHO
82	08	29	18531	S13 W80	159	2500	3.5	23295	S12 W79	158	(AP)	4	H	390	1	HSX

BIG BEAR REGION 18504 CMP DATE 24.8

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	21	18504	N13 E39	142	500	2.0		N15 E45				H	10	3	BXO
82	08	22	18504	N13 E27	145	400	2.0	23299	N14 E20	152	(AP)	3	B	10	5	BXO
82	08	23	18504	N14 E17	141	600	2.5	23299	N15 E18	141	(B)	3	H	30	6	BXO
82	08	24	18504						N14 E03				H	10	3	BXO
82	08	25	18504	N15 W12	143	500	2.5		N15 W11				H	10	1	AXX
82	08	26	18504	N15 W22	141	700	2.5		N14 W24				H		1	AXX
82	08	27	18504	N16 W38	143	700	3.0	23307	N14 W36	142	(B)	3	H	10	2	BXO
82	08	28	18504	N16 W54	146	500	2.5									

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BIG BEAR REGION 18536 CMP DATE 24.9

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	25	18536	N23 W10	141	1100	3.5	23302	N23 W08	139	(B)	4	H	170	11	DAO
82	08	26	18536	N23 W22	141	1800	3.5	23302	N23 W22	141	(B)	4	H	320	20	DAO
82	08	27	18536	N23 W38	143	2400	3.5	23302	N23 W35	141	(B)	4	H	380	18	EAO
82	08	28	18536					23302	N23 W49	141	(B)	4	B	200	14	DRO
82	08	29	18536	N23 W63	142	3000	3.5	23302	N23 W61	140	(B)	4	H	340	15	DAO
82	08	30	18536	N23 W79	144	3000	3.0	23302	N23 W75	141	(B)	4	H	230	11	EAO
82	08	31	18536	N23 W90	143	1200	3.5	23302	N25 W85	138	AF	1	H	40	3	DSO

BIG BEAR REGION 18532 CMP DATE 25.8 RETURN OF REGION 18476 ROTATION 2

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	20	18532	N13 E74	122	500	3.0	23297	N14 E69	129	(AP)	3	H	10	2	BXO
82	08	21	18532	N13 E49	132	1800	3.5	23297	N15 E52	129	(B)	4	H	70	17	CRO
82	08	22	18532	N13 E34	138	2500	3.5	23297	N15 E42	130	(B)	5	H	510	19	CKI
82	08	23	18532	N15 E26	132	2800	3.5	23297	N15 E29	130	(B)	5	H	810	41	EKI
82	08	24	18532						N15 E17				H	940	30	EKI
82	08	25	18532	N15 E01	130	3200	3.5	23297	N15 E03	128	(B)	5	B	660	37	DHI
82	08	26	18532	N15 W11	130	3500	3.5	23297	N15 W10	129	(B)	5	H	780	42	DHI
82	08	27	18532	N15 W26	131	3600	3.5	23297	N15 W23	129	(B)	5	M	1140	34	DKI
82	08	28	18532	N15 W38	130	3500	3.5	23297	N15 W38	130	(B)	5	B	900	26	DKI
82	08	29	18532	N15 W51	130	3800	3.5	23297	N15 W50	129	(BY)	6	H	770	24	DKI
82	08	30	18532	N15 W64	129	3800	3.5	23297	N14 W64	130	(D)	5	H	1040	16	EKI
82	08	31	18532	N15 W80	133	2800	3.5	23297	N14 W76	129	(B)	3	H	210	11	EKI

BIG BEAR REGION 18537 CMP DATE 27.8 RETURN OF REGION 18480 ROTATION 4

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	23	18537	S10 E56	102	800	1.5	23301	S09 E37	122	(AP)	3				
82	08	25	18537	S11 E30	101	1400	2.0									
82	08	26	18537	S11 E14	105	1400	2.0									
82	08	27	18537	S11 E01	104	1300	2.0									
82	08	29	18537	S11 W26	105	1200	1.0									
82	08	30	18537	S11 W41	106	1200	1.0									
82	08	31	18537	S11 W54	107	1000	1.0									

BIG BEAR REGION 18546 CMP DATE 27.9

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	28	18546	N08 W10	102	1000	2.0	23308	N09 W11	103	(B)	4	B	60	12	DRI
82	08	29	18546	N08 W24	103	1000	3.0	23308	N08 W23	102	(B)	5	H	170	14	DSI
82	08	30	18546	N08 W38	103	1100	3.0	23308	N08 W37	103	(B)	5	H	170	10	DSO
82	08	31	18546	N08 W52	105	1200	3.0	23308	N08 W50	103	(B)	4	H	90	10	DSO

BIG BEAR REGION 18539 CMP DATE 29.0

				CALCIUM PLAGE DATA					SUNSPOT DATA							
YR	MO	DA	BB NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	24	18539						N08 E59				H	50	4	DRO
82	08	25	18539	N08 E45	86	1300	3.5	23303	N07 E45	86	(B)	4	H	90	8	CSO
82	08	26	18539	N08 E32	87	1300	2.5	23303	N08 E32	87	(B)	4	H	1120	17	DSO
82	08	27	18539	N08 E17	88	1400	3.0	23303	N08 E19	87	(B)	4	H	120	13	CSO
82	08	28	18539	N08 E04	88	1400	3.5	23303	N08 E04	88	(B)	4	B	50	5	DSO
82	08	29	18539	N08 W09	88	1500	3.5	23303	N08 W08	87	(B)	5	H	70	5	CSO
82	08	30	18539	N08 W22	87	1400	2.5	23303	N07 W18	84	(AF)	4	H	80	3	HSX
82	08	31	18539	N08 W37	90	1300	2.5	23303	N07 W32	85	(AF)	3	H	10	3	AXX

REGIONS OF SOLAR ACTIVITY

AUGUST 1982

BIG BEAR REGION 18538 CMP DATE 29.5

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	BB NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	25	18538	N19	E51	80	700	2.0										
82	08	26	18538	N17	E39	80	400	1.5		N12	E32				H	1120	17	DSO
82	08	27	18538	N18	E24	81	400	1.5										
82	08	28	18538	N18	E12	80	400	1.5										
82	08	29	18538	N18	W02	81	600	1.5										
82	08	30	18538	N18	W17	82	400	1.0										
82	08	31	18538	N19	W30	83	500	1.0										

BIG BEAR REGION 18541 CMP DATE 30.1 RETURN OF REGION 18492 ROTATION 3

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	BB NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	25	18541	S11	E56	75	1100	2.5										
82	08	26	18541	S12	E48	71	1900	2.5										
82	08	27	18541	S12	E27	78	1800	2.5		S11	E22				H		1	AXX
82	08	28	18541	S12	E21	71	2000	1.5										
82	08	29	18541	S12	E09	70	2100	1.5	23310	S11	W03	82	(AP)	3				
82	08	30	18541	S12	W08	73	2200	1.5		S12	W11				L		2	AXX
82	08	31	18541	S12	W19	72	2700	2.0										

BIG BEAR REGION 18543 CMP DATE 30.6

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	BB NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	25	18543	S22	E67	64	500	2.5										
82	08	26	18543	S22	E55	64	700	3.0		S23	E56				H	10	2	AXX
82	08	27	18543	S22	E39	66	600	2.5										
82	08	28	18543	S22	E28	64	600	2.0										
82	08	29	18543	S23	E13	66	400	2.5										
82	08	30	18543	S23	W01	66	300	2.0										
82	08	31	18543	S22	W13	66	300	2.5										

BIG BEAR REGION 18540 CMP DATE 31.0

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	BB NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
82	08	25	18540	N07	E76	55	1000	3.5	23304	N07	E68	63	(B)	3	H	20	1	HRX
82	08	26	18540	N06	E59	60	1100	3.0	23304	N07	E56	63	(B)	4	H	70	3	CRO
82	08	27	18540	N06	E44	61	1000	3.0	23304	N07	E43	63	(B)	3	H	20	3	BXO
82	08	28	18540	N06	E32	60	800	2.5	23304	N08	E26	66	(AP)	3	B	10	1	HSX
82	08	29	18540	N06	E18	61	800	2.0	23304	N07	E13	66	(AP)	4	H	10	1	AXX
82	08	30	18540	N06	E04	61	600	1.5	23304	N07	W00	66	(AP)	4	B		1	AXX
82	08	31	18540	N07	W09	62	600	1.5		N07	W08				M		1	AXX

NOTE: No solar magnetograms were made at Kitt Peak National Observatory on August 2, 5, and 10-29, 1982. On these dates calcium spectroheliograms from Mt. Wilson Observatory were used: August 9-12, 14, 15, 17, 21, 25 and 31, 1982. Calcium plage data are missing on August 6, 13 and 24, 1982. No Mt. Wilson sunspot data were available for August 24, 1982.

CONTIGUOUS PLAGES FOR AUGUST 1982: 18519/18528/18530
18549/18550/18551

DAILY CALCIUM PLAGE INDEX
August 1982

Yr	Mo	Day	Index	Yr	Mo	Day	Index	Yr	Mo	Day	Index
82	8	1	17.3	82	8	11	106.0	82	8	21	32.0
82	8	2	23.8	82	8	12	92.2	82	8	22	29.6
82	8	3	25.9	82	8	13	*	82	8	23	28.9
82	8	4	30.5	82	8	14	79.3	82	8	24	*
82	8	5	49.7	82	8	15	66.1	82	8	25	38.3
82	8	6	*	82	8	16	38.3	82	8	26	41.4
82	8	7	61.6	82	8	17	31.6	82	8	27	41.1
82	8	8	72.6	82	8	18	28.9	82	8	28	33.9
82	8	9	88.9	82	8	19	31.5	82	8	29	39.9
82	8	10	109.0	82	8	20	27.2	82	8	30	33.6
								82	8	31	45.5

* = No Observations

SUDDEN IONOSPHERIC DISTURBANCES

August 1982

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide-spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Known Flare	Hale Region
01	0700	0728	0950	2	5		2	1	2	1	NF	
01	1026	1054	1156	1-	1						*	
01	2329	2335	0000	1	3					2	NF	
02	0401	0488U	0600	1-	3		1			1	*	
02	0712	0718	0754	1-	3		1	1			NF	
02	0806	0818	0940	1-	3		1	1	1		0805	18492
02	1003	1037	1236	2+	3	1	2	1	1	1	NF	
02	1618	1630	1715	1-	5	3	2	1	1	9	1620E	18480
02	1718	1738	1755	1-	5	1	1	1	1	15	1714	18492
02	1823	1828	1835	1-	3			1		8	1759	18492
02	2109	2116	2130	1	3					3	NF	
03	0114	0128	0214	1-	3			1	1	1	NF	
03	0454	0510	0641D	1-	3			1	1	2	*	
03	1301	1304	1320	1-	3					5	NF	
03	1550	1600	1630	1+	3					9	NF	
03	1828	1834	1930	2+	3	1		1		15	1832	18495
04	0222	0227	0252	1-	3			1	1		0223	18492
04	0408	0440	0550	1	3			1	1		NF	
04	0621	0632	0713	1-	3			1		1	0606	18492
04	1008	1019	1055	1-	3	2		1	1	1	*	
04	1352	1402	1435	1-	5	1			1	8	NF	
04	1814	1832	1913	1-	1			1		1	1802	18495
04	2341	2350	0040	1-	3	1		1	1	3	2340	18492
05	0110	0117	0154	1-	3			1	1	1	NF	
05	0342	0350	0547	2+	3	1		1	1	5	*	
05	1139	1143	1240	1-	3		1		1		*	
05	1717	1730	1745	1	3					4	*	
05	1753	1800	1815	1	3					4	*	
05	2127	2134	2224	1-	3			1	1	3	*	
06	0155	0159	0210U	1-	1				1		0155	No data
06	0743	0809	0850	1-	3		1	1			0743	No data
06	1122	1130	1155	1-	3	1		1	1	3	*	
06	1340	1345	1400	1-	3					6	1341	No data
06	1438	1446	1535	2+	3					3	1445E	No data
06	1635	1649	1715	1	3					9	1632	No data
06	2326	2336	0122	1	5	3		1		5	2319	No data
07	0135	0150	0215	1+	3					2	NF	
07	0250	0307	0329	1-	3			1	1		0248	18511
07	0331	0350	0500	1	3			1	1	1	0352E	18511
07	0805	0809	0926	1-	3	1		1	2		0803	18511
07	1157	1209	1334	1-	5	3	1	1	1	5	*	
07	1433	1510	1545	1+	3					4	NF	
07	2001	2017	2115	1-	3			1		10	2006	18508
07	2148	2154	2220	1-	3			1		1	*	
08	0017	0025	0032D	1-	3			1	1	1	0018	18492
08	0053E	0057	0145	1-	3			1	1	1	0058E	18492
08	0204	0210	0240	3+	3	2		1	1	5	0204	18492
08	0440	0522	0610	1-	3			1	1	1	0445	18511
08	0702	0708	0812	1-	3		2	1			0705	18520
08	0918	0934	1022	1	5	3	3	1	2	1	*	
08	1037	1042	1100	1-	3	1			1	1	*	
08	1547	1601	1624	1-	5	4			1	13	1546	18511
08	1645	1700	1730	2	5	1	2			11	1645	18492
09	0152	0214	0415	1	3			1	1	1	0152	18511
09	0648	0659	0905	3+	5	3		1	1	2	0650E	18511
09	1648	1653	1710	1-	3		1			1	1641	18518
09	2122	2144	2237	1-	3	1		1		1	2122	18492
09	2313	2316	2356	1-	1			1			2310	18511

SUDDEN IONOSPHERIC DISTURBANCES

August 1982

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide-spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Known Flare	Hale Region
10	0212	0222	0330	1-	3			1	1	2	0212E	18518
10	0514	0537	0654	2+	5	3	1	1	2	5	0518E	18511
10	0724	0733	0926	1	3	2		1	1	3	0724	18511
10	0934	0942	1000	1	3	1	1		1		NF	
10	1028	1036	1230	2	3	3	3		1	2	1027	18511
10	1333	1348	1420	1-	3	2	2	1	1	2	1325E	18511
10	1500	1502	1511D	1-	3			1		2	1500	18511
10	1519	1530	1600	1-	3	2		1		3	1513	18519
10	1608	1630	1715	2+	3					3	NF	
10	1815	1831	1930	1	3					6	NF	
10	2254	2317	2356	1-	3			1		1	2253	18511
11	0534	0550	0614	1-	1			1			0520	18511
11	0616	0622	0645	1-	1			1			0616	18511
11	0846	0854	0910	1-	3	1		1	1	1	0845	18511
11	1138	1144	1227	1-	5	3	4	1	1	2	*	
11	1724	1730	1740	1-	1		1				1729	18511
12	0351	0357	0502	1	3	1		1	1	1	0351	18515
12	0502	0514	0535	1-	1			1			0502	18511
12	0535	0546	0710	1-	1			1			0536	18511
12	0938	0953	1013	1-	1			1			0944	18511
12	1055	1115	1138	1-	1			1			1050E	18511
12	1431	1455U	1600	1	3		2				1427	18515
13	0534	0556	0718	1-	3			1		1	0542	18518
13	0738	0801	1004	1-	3			1	2	1	0740	18511
13	1343	1347	1352	1-	1	1					1343	No data
13	1536	1543	1600	1-	5				1	11	1533	No data
13	1820	1822	1833	1-	3					4	1827E	No data
13	2301	2307	0012	1	5	2		1		9	2301	No data
14	0020	0027	0108	1-	1			1			0017E	18520
14	0241	0251	0400	2+	3	1		1	1	6	0240	18511
14	0401	0407	0506	2+	3	1		1	1	6	0359	18511
14	0506	0511	0700	3+	5	4		1	2	6	0507	18511
14	1648	1705	1735	1-	1					1	1636	18523
14	2340	2344	0030	1-	1			1			2336	18511
15	0646	0659	0744	1-	1			1			0646E	18511
15	1540	1546	1600	1	1					1	1540	18522
15	2247	2259	2303	1	1	1					2240	18518
15	2328	2334	0004	1-	1			1			2327	18522
16	0204	0214	0316	1-	3			1	1		0203	18511
16	0450	0501	0534	1-	1			1			0448	18522
17	0038	0044	0106	1-	1			1			0038	18528
17	0648	0655	0722	1-	3	1		1	1	1	*	
17	1518	1522	1555	1-	5	5	4	1	1	8	1524E	18531
17	1602	1607	1618	1	3	1	2				1607	18530
17	1749	1807	1845	1-	3	1			1	7	1746	18530
17	2028	2036	2050	1-	3					3	2026	18531
17	2155	2201	2225	1-	1			1			2153	18530
18	0104	0113	0216	1-	3			1	1	1	0101	18522
18	0347	0357	0445	1-	1			1			0348	18521
18	0503	0518	0609	1-	3			1	1		NF	
18	0748	0800	1008	2	3	2	3	1	2	1	0746	18531
18	1123	1135	1200	1-	3	1	2		1	1	1124	18531
18	1347	1354	1407	1	3		1	1			1346	18531
18	1446	1453	1515	1-	3	1	3	1	1	4	1441	18531
18	1812	1820	1900	1-	3			1		8	*	
18	1910	1918	2015	1-	3	1				12	*	
18	2346	0014	0045	1-	1			1			2348	18531

SUDDEN IONOSPHERIC DISTURBANCES

August 1982

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide-spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Known Flare	Hale Region
19	0048	0055	0103U	1-	3			1	1		NF	
19	0220	0236	0304	1-	3			1	1	1	0230	18527
19	0307	0324	0427	1-	3			1	1	1	0310	18531
19	0508	0513	0533	1-	3			1	1	1	0509	18531
19	0610	0620	0640	1-	1			1			0612	18522
19	0643	0648	0800	1-	3	1		1	2	2	0639	18531
19	1600	1622	1715	1-	3			1		4	1550	18531
20	0125	0128	0148	1-	1			1			NF	
20	0309	0314	0336	1-	1			1			0309	18531
20	0505	0517	0546	1-	3			1	1		NF	
20	0554	0601	0640	1-	3			1	1		0556	18522
21	0014	0035	0124	1-	1			1			0015	18523
21	1323	1345	1425	1-	3	1		1		5	*	
21	1607	1614	1650	1	3					3	1559	18532
22	0435	0443	0625	1-	3			1	1	1	0435	18532
22	0810	0852	0920	1	1		1				0807	18532
22	1437	1454	1525	1-	3		1	1			1430	18532
23	0216	0222	0240	1-	3			1	1		0217	18532
24	0312	0329	0412U	1-	3			1	1		*	
24	1440	1442	1503	1	1		1				1438	18532
26	0257	0313	0410	1-	3		1	1	1		0302	18532
26	1428	1437	1500	1	3	1	2			6	1424	18532
26	2147	2209	2248	1-	1			1			2147	18532
26	2257	2308	2344	1	5	3		1	1	6	NF	
26	2359	0011	0116	1-	3			1		1	NF	
27	0139	0147	0258	1	3	1		1	1	4	0138	18532
27	0319	0330	0449	1	1			1			0319	18532
27	0325	0332	0500	1	3	1			1	4	0323	18532
27	0546	0555	0713	1	5	2	3		2	4	0543	18532
27	0909	0920	1012	2+	5	3	3	1	2	2	0911	18532
27	1320	1322	1345	1	1					1	1318	18532
27	1430	1432	1445	1-	1					1	1430	18532
27	1516	1517	1530	1-	1					1	1513	18532
27	2012	2017	2045	1-	3			1		1	2009	18532
28	0509	0514	0633	1-	3			1	1	2	*	
28	0641	0651	0800	1-	3		1	1	1		0640	18531
28	1147	1203	1250	1-	3		1	1			1149	18545
28	1626	1635	1705	1-	3			1		2	*	
28	1748	1752	1830	1-	3			1		9	1742	18546
29	0250	0317	0538	1	3			1	1	5	NF	
29	0549	0557	0630	1-	3			1	1	2	0551	18532
29	1749	1800	1830	1	3					4	1748	18531
30	0015	0022	0049	1-	1			1			0016	18531
31	0003	0025	0122	1-	3			1	1	1	2358	18532
31	0147	0208	0246	1	3			1	1	3	0146	18545
31	0312	0327	0430	1-	3			1	1		0305	18532
31	0506	0611	0947	2+	5	2	1	1	1	3	NF	
31	0556	0612	0645	2+	3	3			2		0550	18551
31	1724	1739	1930	2	3		1	1		7	*	

* = No Flare Patrol
NF = No Flare Reported

REPORTING OBSERVATORIES FOR AUGUST 1982*

Ayrshire, Scotland (AY)	SES	Missoula, Montana, USA (A31)	SWS, SWF
Darmstadt, GFR (DA)	SWF	Naturena, Transvaal, S. Africa (NA)	SES
Frenchtown, Montana, USA (A56)	SES	Panska Ves, Czechoslovakia (PU)	SEA, SWF, SFA
Glenorchy, Tasmania, Australia (GN)	SES	Portage, Michigan, USA (A51)	SES
Hiraiso, Japan (HI)	SWF	Roswell, New Mexico, USA (RW)	SES
Huancayo, Peru (HU)	SWF	San Antonio, Texas, USA (RW)	SES
Inubo, Japsan (IN)	SPA	Sao Paulo, Brazil (UM)	SES, SPA
Juliusruh, GDR (JU)	SWF	St. Cloud, Minnesota, USA (SC)	SES
Kasugai, Japan (KA)	SPA	Trenton, New Jersey, USA (NJ)	SES
Kuhlungsborn, GDR (KU)	SPA. SEA	Tucson, Arizona, USA (A9)	SES
Latrobe, Pennsylvania, USA (A190	SES	Upice, Czechoslovakia (U1)	SEA
Lintong, China (LT)	SPA	Valley Cottage, New York, USA (A1)	SES
Louisville, Kentucky, USA (A26)	SES	Vsetin, Czechoslovakia (VS)	SEA
Mahwah, New Jersey, USA (A5)	SES	Walla Walla, Washington, USA (A55)	SES
Maui, Hawaii, USA (MI)	SWF		

*Observations are not necessarily continuous for each reporting station.

SIDs BY BIG BEAR CALCIUM PLAGE REGION
August 1982

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
Region																															
18480		1																													
18492		3		3				4	1																						
18495			1	1																											
18508							1																								
18511							3	2	3	6	4	4	1	4	1	1															
18515												2																			
18518									1	1			1		1																
18519										1																					
18520								1						1																	
18521																		1													
18522															2	1		1	1	1											
18523														1							1										
18527																			1												
18528																	1														
18530																	3														
18531																	2	5	4	1	1							1	1		
18532																						3	1	1		3	9		1	1	2
18545																												1			1
18546																												1			
18551																															1
NO FLARE	2	3	3	2	1		2			3								1	1	2						2			1		1
NO FLARE PATROL	1	1	1	1	5	1	2	2			1						1	2			1			1				2			1
NO DATA						6							4																		
EVENT TOTALS	3	8	5	8	6	7	8	9	5	11	5	6	6	6	4	2	7	10	7	4	3	3	1	2		5	9	5	3	1	6

P I O N E E R X I I
(VENUS ORBITER)
INTERPLANETARY MAGNETIC FIELD
MAGNITUDES

AUGUST 1982

DAY	TIME	BMAG (GAMMAS)
1	13:30:50	13.13
2	13:31:00	13.83
3	13:30:30	14.84
4	13:30:30	14.64
5	16:39:20	16.27
6	13:31:00	14.18
7	13:41:20	12.76
8	13:41:20	15.72
9	13:41:20	18.17
10	13:40:40	12.06
11	13:40:30	19.68
12	16:38:50	10.40
13	13:47:40	10.31
14	13:47:30	10.08
15	13:36:20	12.37
16	13:36:30	14.55
17	14:20:20	13.85
18	13:36:10	13.44
19	13:36:00	13.27
20	13:35:20	14.26
21	13:35:30	11.84
22	15:10:40	11.73
23	13:30:40	11.21
24	13:31:00	37.80
25	13:31:10	38.59
26	16:40:20	24.77
27	13:31:00	20.32
28	13:33:30	10.58
29	13:32:50	13.36
30	13:32:30	18.38
31	13:33:00	13.73

AUGUST 1982

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
01	0000	0738	CULG	0246.5	0247.0	2	0246.5	0249.0	2	0247.0	0248.0	1	III G
			LEAR				0247.0	0249.2	1				III
			PALE				0247.2	0248.1	2				V
			LEAR				0424.2	0426.8	1				III
			CULG				0424.5	0426.5	2				III GG
			CULG				0454.0	0456.0	3	0454.5	0456.0	2	III GG,V
			LEAR				0454.5	0456.4	2				V
	0437	1820	WEIS				0454.7	0455.9	1				III G
			CULG				0706.5	0720.0	2			II	H
			LEAR				0708.2	0719.9	1				G
			LEAR				0840.5	0841.1	1				III
			WEIS				0840.5	0841.0	1				III G,U
			WEIS				0850.2	0851.4	2				DCIM,U
			WEIS				0947.5	0948.7	3				III G
			WEIS				0955.2	0955.3	2				U,RS
			WEIS				1046.8	1047.7	2				DCIM,U
			WEIS				1050.3	1052.3	2				III G
			WEIS				1233.7	1235.3	2				III G,RS
			WEIS				1239.4	1249.6	1				III G
			WEIS				1247.0	1247.1	1				III B
	1245	2305	HARV				1355.0	1732.0	1				IN
			HARV				1434.0	1439.0	3	1435.0	1437.0	2	III GG
			WEIS				1434.7	1437.3	3				III GG
			SGMR				1435.2	1437.0	1				V
			HARV	1448.0		2							III G
			HARV	1452.0		2							III G
			HARV	1630.0		1							III G
			WEIS	1637.7	1638.8	1							III G
			HARV	1638.0		2							III G
			WEIS				1644.8	1646.7	2				III G
			HARV				1645.0	1646.0	1	1645.0	1646.0	1	III G
	2039	2400	CULG										
02			CULG				0355.0	0433.0					IS,W
			CULG				0433.0	0726.5	1				IS,C
			CULG				0441.0		2				III B
	0000	0738	CULG	0519.5	0644.5	1	0128.0	0644.5	1				III N
			CULG				0644.0	0644.5	2				III G
	0746	1202	WEIS				0758.2	0758.0	1				III B
			WEIS				0803.9	0804.1	1				III B
			WEIS				0821.3	0821.5	2				III G
			WEIS				1009.4	1009.7	3				III G
			WEIS				1039.2	1045.8	2				DCIM
	1337	2250	HARV				1241.0	1342.0	2				III G
	1214	1819	WEIS				1321.7	1322.4	2				III G
			WEIS				1325.7	1325.9	2				III G
			WEIS				1341.4	1341.6	3				III G
			WEIS				1348.6	1348.8	2				III G
			HARV	1358.0		2							III B
			WEIS				1402.6	1402.8	3				III G
			WEIS				1430.8	1431.0	2				III G
			HARV				1431.0	2215.0	1				IN
			WEIS				1435.7	1435.8	1				III B
			WEIS				1515.3	1515.5	1				III G
			WEIS				1526.3	1526.8	3				III G,U
			HARV				1613.0	1620.0	2	1617.0	1619.0	1	III GG
			WEIS				1617.1	1619.8	1				III G
			HARV				1624.0	1627.0	2	1624.0	1627.0	1	III GG
			WEIS				1624.1	1627.0	1				III G
			WEIS				1704.1	1704.2	2				III B
			WEIS				1811.7	1814.2	3				III G
			HARV	1816.0	1818.0	3							III G
	2039	2400	CULG	2119.0	2211.0	1							III G,N
			HARV	2119.0	2120.0	2							III G
			CULG				2207.0	2208.5	3				III G,V
			HARV	2207.0		1	2207.0	2208.0	3	2207.0	2208.0	2	III GG,V
			HARV	2210.0	2211.0	1	2210.0	2211.0	1				III G
03			CULG				0029.0		1				III B
	0000	0738	CULG	0029.0	0137.0	1							III G,N
			LEAR				0136.8	0137.0	1				III

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

AUGUST 1982

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
03			CULG				0137.0		2				IIIB
			CULG				0501.5	0502.0	2				IIIG
	0437	1824	WEIS				0512.1	0512.6	2				IIIG
			WEIS				0513.8	0514.0	3				IIIB
			WEIS				0519.7	0520.6	3				IIIG
			WEIS				0524.0	0525.6	2				IIIG
			WEIS				0558.7	0558.9	2				IIIG
			CULG				0625.0		1				IIIB
			WEIS				0632.6	0633.9	2				IIIG
			WEIS				0646.7	0646.9	1				IIIB
			WEIS				0739.2	0740.8	1				IIIG
			WEIS				0751.8	0751.9	1				IIIB
			WEIS				0753.3	0753.6	1				IIIG
			WEIS				0755.6	0757.7	2				IIIG
			WEIS				0828.3	0830.7	2				IIIG
			WEIS				0836.1	0836.3	2				IIIG
			WEIS				0904.1	0905.3	2				IIIG
			WEIS				1207.4	1207.9	2				IIIG
			WEIS				1246.2	1248.5	2				DCIM
			WEIS				1247.3	1248.2	1				IIIG
	1245	2300	HARV				1250.0	1435.0	1				IN
			WEIS				1301.1	1301.3	2				IIIG
			WEIS				1305.7	1307.6	2				IIIG
			WEIS				1417.4	1417.7	3				RS
			WEIS	1419.3	1419.7	3							RS
			WEIS				1430.2	1430.4	2				DCIM
			WEIS				1436.5	1436.7	1				IIIB
			WEIS				1453.6	1455.0	3				IIIGG
			HARV				1511.0		2	1511.0		1	IIIG
			WEIS				1511.4	1511.7	2				IIIG
			WEIS				1524.3	1527.1	2				DCIM
			WEIS				1526.0	1528.4	3				IIIG
			HARV				1701.0	1702.0	2	1701.0	1702.0	1	IIIG
			WEIS				1701.3	1704.5	1				IIIB
			WEIS				1710.9	1711.4	2				DCIM
	2038	2400	CULG	2119.0		3							IIIB
			CULG				2124.0	2124.5	1				IIIG
			CULG				2126.0		2				IIIB
04	0000	0727	CULG				0332.5	0723.0	1				IIIN
			LEAR				0720.9	0723.3	1				III
	0737	1813	WEIS				1239.1	1239.3	2				IIIB
	1245	2255	HARV				1318.0	2232.0	2				IIIN
			WEIS				1356.3	1356.7	1				IIIG
			WEIS				1359.3	1359.4	2				U
			HARV	1401.0		1	1359.0	1401.0	2				IIIG
			HARV				1406.0	1409.0	2				IIIGG
			WEIS				1408.2	1408.9	3				IIIGG
			WEIS				1420.6	1420.7	1				U
			HARV				1422.0	1424.0	1				IIIGGW
			WEIS				1423.7	1423.8	3				IIIB
			WEIS				1427.3	1428.8	2				IIIGG
			HARV				1428.0	1429.0	1				IIIGGW
			WEIS				1437.9	1438.3	2				IIIG,U
			HARV				1438.0		2				IIIG
			HARV				1439.0	2220.0	1				IN
			HARV				1552.0	1556.0	2				IIIGG
			WEIS				1552.3	1552.7	2				IIIG
			WEIS				1555.4	1556.3	2				IIIG
			WEIS				1608.3	1608.5	3				IIIG
			HARV				1916.0	1917.0	2				IIIG
			HARV				1958.0	2001.0	3	1959.0		2	IIIGG
			PALE				1958.9	1959.3	1				III
			HARV				2027.0	2032.0	3	2028.0	2032.0	2	IIIGG,V
			PALE				2027.7	2032.3	2				III
			SGMR				2031.0	2032.2	1				III
			CULG				2055.0	2400.0	1				IS
			HARV	2154.0	2155.0	1				2154.0	2155.0	1	IIIG
			CULG	2154.5	2155.0	3							IIIG
			PALE				2154.7	2155.1	1				III
			CULG	2206.0	2352.5	1							IIIN

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

AUGUST 1982

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
04			CULG	2338.5	2341.0	1							DCIM
			CULG	2341.0	2341.5	2							I
05	0000	0738	CULG				0000.0	0027.0					IS,W
			CULG				0023.0		2				IIIB,U
			CULG	0131.5	0132.5	1	0131.5	0132.5	2				IIIG
			CULG	0210.0	0556.5	1	0210.0	0410.5	1				IIIN
			CULG	0343.0	0348.0	2							IS
			CULG	0348.5	0349.5								CONT,W
			CULG	0528.5	0725.5	2							DCIM,N
			CULG	0700.0	0720.0	1							IS
			WEIS				0743.0	1208.0	1				IN
	0743	1441	WEIS				0746.5	0748.9	3				IIIGG,U
			WEIS				0756.9	0758.3	3				IIIG
			WEIS				0939.9	0940.6	2				IIIG
			WEIS				1053.7	1053.9	1				IIIB
			WEIS				1147.7	1148.0	2				IIIB
	1245	2250	HARV	1255.0	2246.0	1							IN
			HARV				1257.0	1258.0	2				IIIG
			HARV				1309.0		3				IIIG
			WEIS				1309.3	1309.8	3				IIIG
			HARV	1431.0	1439.0	2	1434.0	1439.0	3				IIIGG,U
			HARV				1455.0	1456.0	2				IIIG
			HARV				1504.0	1505.0	3	1504.0	1505.0	2	IIIG,V
	1510	1716	WEIS				1528.9	1529.7	3				IIIG
			HARV				1529.0		2	1529.0		1	IIIG
			HARV	1613.0	2219.0	2							IIIN
			WEIS				1621.4	1622.2	3				IIIG
			HARV	1622.0	1624.0	2							IIIGG
			HARV				1750.0		2	1750.0		2	IIIG
			HARV				1804.0		2				IIIG
			HARV				1816.0	1818.0	2	1816.0	1818.0	2	IIIG
	2038	2400	CULG	2048.0	2307.5	1							IN
			HARV	2132.0	2133.0	2							IIIGG
			CULG				2311.5		1				IIIB
06	0000	0738	CULG				0036.0	0038.0	3	0036.0	0036.5	1	IIIG
			PALE				0036.2	0037.2	2				III
			CULG				0100.0	0703.0	1				IIIN
			LEAR				0100.5	0103.1	1				III
			PALE				0100.5	0100.8	2				III
			CULG				0146.5	0622.5	2				IIIN
			PALE				0146.7	0147.1	1				III
			LEAR				0146.8	0147.2	1				III
			CULG	0155.5	0157.5	1	0155.5	0159.0	3	0156.0	0158.0	1	IIIGG
			LEAR				0155.7	0159.2	2				III
			PALE				0155.7	0156.8	3				V
			PALE				0157.1	0158.1	2				V
			CULG				0308.5	0310.5	3	0309.0	0310.0	1	IIIG
			LEAR				0308.8	0310.3	2				III
			PALE				0308.8	0309.1	2				V
			LEAR				0421.8	0422.3	1				III
			PALE				0421.8	0422.2	1				III
			CULG				0422.0		3				IIIB,U
			LEAR				0459.1	0459.4	1				III
			LEAR				0622.3	0622.8	1				III
	0342	1830	WEIS				0622.3	0622.7	3				IIIG
			CULG	0713.5		3	0713.5		3				IIIB
			LEAR				0713.6	0714.2	2				III
			WEIS				0713.7	0714.8	2				IIIG
			WEIS				0737.4	0737.9	2				IIIG
			LEAR				0737.5	0737.9	1				III
			LEAR				0740.1	0743.1	2				III
			WEIS				0740.2	0743.0	3				IIIGG,U
			WEIS	0752.5	0753.1	2							IIIG,RS
			LEAR				0824.3	0829.9	1				III
			WEIS				0824.3	0824.6	2				IIIG
			WEIS				0826.3	0830.0	3				IIIGG,U
			WEIS				1006.8	1007.2	2				IIIG
			WEIS				1014.4	1014.7	1				IIIG
			WEIS				1025.2	1027.6	2				DCIM

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

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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
06			WEIS				1121.8	1124.7	3				III G
			WEIS				1124.2	1126.4	2				DC IM
			WEIS				1131.3	1131.6	2				III G
			WEIS	1206.2	1206.6	3							III G
			WEIS				1207.8	1208.3	2				III G
			WEIS				1211.0	1211.1	2				III B
			SGMR				1232.5	1244.5	2				V
			WEIS				1232.6	1234.9	3				III GG
	1245	2310	HARV	1312.0	2304.0	1							IN
			HARV	1324.0	1325.0	1	1324.0	1325.0	3	1324.0	1325.0	1	III G
			SGMR				1324.1	1324.8	1				V
			WEIS				1324.2	1326.2	3				III G
			HARV	1333.0	1338.0	2	1335.0	1336.0	2				III GG
			WEIS				1334.0	1336.3	3				DC IM
			HARV	1342.0	1345.0	1	1342.0	1345.0	1				III G
			WEIS				1342.7	1346.2	2				III GG
			HARV	1347.0	1348.0	1	1347.0	1348.0	3	1347.0	1348.0	2	III GG
			WEIS				1347.3	1348.7	3				III GG
			SGMR				1347.5	1348.0	1				V
			HARV				1412.0	1413.0	2				III G
			WEIS				1412.7	1412.9	3				III G
			HARV				1526.0	2305.0	2				III N
			HARV				1528.0	1532.0	3	1528.0	1532.0	2	III GG
			SGMR				1528.5	1532.3	1				V
			WEIS				1528.6	1529.3	3				III G
			SGMR				1531.5	1531.6	1				V
			WEIS				1531.6	1532.6	3				III G
			WEIS				1536.1	1536.6	2				III G
			HARV				1558.0	1601.0	2	1559.0	1601.0	2	III GG
			WEIS				1558.4	1601.3	3				III GG
			SGMR				1559.4	1600.5	1				III
			HARV	1627.0	2254.0	1							III NW
			HARV	1631.0	1632.0	1	1631.0	1632.0	3	1631.0	1632.0	2	III GG,V
			WEIS				1631.3	1632.4	3				III GG
			SGMR				1631.5	1631.6	1				V
			WEIS				1639.4	1641.3	3				III G,RS
			HARV	1640.0	1641.0	1	1639.0	1641.0	2				III G
			WEIS				1652.6	1652.7	2				III B
			HARV				1723.0	1726.0	2	1723.0	1726.0	2	III GG
			WEIS				1723.6	1726.2	2				III G
			PALE				1725.9	1726.7	1				III
			HARV				1933.0	1934.0	2	1933.0	1934.0	1	III G
	2038	2400	CULG	2130.0	2134.5	1							IN
			CULG				2131.0	2134.5	1				III G
			CULG	2230.0	2329.0	1							DC IM,N
			HARV	2230.0	2233.0	2	2231.0	2233.0	2				III GG
			CULG				2231.0	2233.0	1				III G
			CULG				2300.5	2303.0	3				III GG
			PALE				2300.8	2302.8	2				V
			HARV				2301.0	2302.0	2	2301.0	2302.0	1	III GG
			CULG				2325.5	2339.0	2	2326.0	2338.0	1	III N
			PALE				2325.6	2338.1	2				G
			CULG	2328.5	2329.0	1							CONT
			CULG	2328.5	2329.0	1	2328.5	2329.0	3	2328.5	2329.0	1	III G
			LEAR				2328.8	2330.0	1				III
			CULG							2332.0	2338.0		SWF,W
			LEAR				2333.9	2338.1	1				II
			CULG				2334.0	2339.5	3				II
07	0000	0738	CULG				0043.5		1				III B
			CULG	0506.5	0507.0	2							I
			CULG				0542.0		1				III B
	1245	2335	HARV	1411.0	2250.0	2	1409.0	2241.0	2	1558.0	2227.0	2	III N
			HARV				1428.0	1430.0	3	1430.0		2	III GG
			SGMR				1429.8	1430.0	1				III
			HARV				1508.0		2				III G,U
			HARV				1512.0	1514.0	2	1514.0		1	III GG
			SGMR				1519.7	1520.1	1				V
			HARV	1520.0		1	1520.0		3	1520.0		2	III GG
			SGMR				1523.8	1524.0	1				III
			HARV				1524.0	1525.0	2	1524.0		2	III GG

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07			HARV	1544.0	1545.0	1	1544.0	1545.0	1				III GG
			HARV				1632.0	1637.0	3	1632.0	1637.0	2	III GG
			HARV				1646.0	1647.0	2	1646.0	1647.0	2	III G
			HARV	1723.0	1725.0	1	1723.0	1727.0	2	1723.0	1727.0	2	III GG
			PALE				1724.1	1725.3	2				III
			HARV				1736.0	1742.0	2	1736.0	1742.0	2	III GG
			PALE				1737.8	1742.2	2				III
			HARV	1755.0		1	1755.0		2				III G
			HARV	1759.0	1801.0	1	1759.0	1801.0	2				III G
			HARV				1813.0	1827.0	3	1813.0	1827.0	2	III GG
			PALE				1819.0	1827.1	2				III
			SGMR				1826.2	1826.3	1				III
			HARV	1830.0	1832.0	2	1830.0	1832.0	1	1830.0	1832.0	1	III GG
			HARV	1842.0		1	1842.0	1845.0	2	1843.0	1845.0	2	III G
			PALE				1842.3	1849.6	2				III
			HARV				1848.0	1850.0	2	1848.0	1850.0	2	III G
			PALE				1908.9	1909.5	2				V
			HARV				1909.0		3	1909.0		2	III G,V
			HARV				1948.0	2001.0	2	1948.0	2001.0	2	III GG
			PALE				1957.0	2007.2	2				GG
			HARV				2003.0	2008.0	3	2003.0	2008.0	2	III GG
			HARV				2035.0		2	2035.0		2	III G,V
			PALE				2035.3	2035.7	2				V
			SGMR				2035.4	2035.6	1				III
			PALE				2101.5	2102.0	2				III
	2038	2400	CULG				2102.0	2332.0	2				III N
			HARV				2102.0		2	2102.0		2	III G
			HARV	2117.0	2118.0	2				2117.0	2118.0	2	III G
			PALE				2117.5	2117.9	2				III
			CULG				2126.0	2348.0	1				III N
			HARV	2212.0	2213.0	2							III G
			PALE				2226.6	2226.8	2				III
			CULG	2320.0	2324.5	1							III N
			HARV	2320.0	2321.0	2	2320.0	2321.0	2				III GG,U
			HARV	2323.0	2325.0	1	2323.0	2327.0	3	2324.0	2327.0	2	III GG
			CULG				2324.5	2327.0	3	2324.5	2327.0	2	III GG
			PALE				2324.5	2331.2	2				III
			HARV				2329.0	2331.0	2	2329.0	2331.0	1	III GG
			CULG	2342.0	2342.5	1							DC IM
08	0000	0737	CULG	0017.5	0018.5	1	0016.0	0019.5	1	0017.0	0019.0	1	III GG
			LEAR				0018.2	0019.0	1				III
			CULG				0022.0	0025.5	1			II	
			CULG	0027.0	0030.5	1							DC IM
			CULG				0028.0	0626.5	1				III N
			LEAR				0028.1	0029.3	1				III
			CULG	0054.0	0054.5	2	0054.0	0055.5	3	0054.0	0055.5	2	III G
			PALE				0054.2	0055.2	2				III
			LEAR				0054.3	0055.3	1				III
			LEAR				0139.8	0140.1	1				III
			LEAR				0154.8	0155.1	1				III
			CULG				0202.0	0206.0	3	0204.0	0205.0	2	III GG,V
			CULG	0202.0	0205.0	1							IS,C
			PALE				0202.0	0215.9	2			II	
			LEAR				0202.1	0206.1	2				III
			CULG	0204.0	0211.0	1							CONT
			CULG							0205.0	0215.0	1	SWF
			CULG				0205.0	0220.0	3			II	H
			LEAR				0206.8	0213.2	1			II	
			LEAR				0215.0	0234.0	1				GG
			CULG				0223.5	0235.0	2	0231.5	0234.0	2	III S
			PALE				0231.6	0234.0	2				III
			CULG				0255.0	0522.5	2				III N
			LEAR				0255.2	0255.8	1				III
			PALE				0255.3	0255.5	1				III
			LEAR				0312.1	0319.8	1				III
			LEAR				0319.8	0140.1	1				III
			LEAR				0341.0	0341.5	1				III
			LEAR				0405.8	0410.5	1				III
			LEAR				0424.2	0532.3	1				CONT
			CULG				0442.0	0444.5	3	0442.5	0444.5	2	III G

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08			LEAR				0442.4	0446.0	2				V
			CULG				0451.0	0453.0	3	0451.0	0453.0	1	III G
			CULG	0519.0	0520.0	2	0519.0	0520.0	3	0519.0	0520.0	2	III G
			LEAR				0519.0	0520.1	2				III
			LEAR				0633.7	0634.9	2				III
			CULG				0635.5	0635.0	3				III G.V
			LEAR				0827.9	0828.5	1				III
			SGMR				1114.9	1115.0	1				III
			SGMR				1147.0	1148.1	1				III
	1245	2245	HARV				1307.0		1				III G
			HARV	1331.0	1332.0	1	1331.0	1332.0	2				III GG
			HARV	1426.0		2							III G
			HARV	1647.0	1649.0	1							I
			HARV	1906.0	2034.0	1							III N
			HARV	1955.0	1958.0	1	1957.0	1958.0	2	1958.0		2	III G.V
			PALE				1956.6	1957.1	2				V
			HARV	2218.0		1	2218.0		2	2218.0		1	III BW
			PALE				2218.2	2218.5	2				III
	2038	2400	CULG				2218.5		2				III B
			CULG	2328.0	2330.5	2	2329.5	2331.0	3	2329.5	2330.0	1	III GG
			PALE				2329.4	2330.9	2				V
			LEAR				2329.5	2330.8	1				V
09	0000	0735	CULG										
	1245	2245	HARV	1254.0	1256.0	1							III GW
			HARV				1713.0	1715.0	2	1713.0	1715.0	2	III GG
	0544	1819	WEIS				1713.2	1715.7	2				III G
			HARV	1737.0		1							I
			HARV				1755.0		2	1755.0		2	III B
	0039	2400	CULG	2126.5	2135.5	1							IS
			HARV				2143.0	2146.0	1				IW
			CULG				2158.0		1				III B
10	0000	0737	CULG				0214.0		1				III B
			CULG	0442.5	0533.5	2							IN
			CULG				0516.5	0519.0	1				III N
	0511	1239	WEIS				1027.2	1028.8	3				III G
	1244	1817	WEIS										
	1245	2300	HARV	1436.0	1437.0	1							III G
			HARV				1609.0		1				III GW
			HARV				1754.0		1				III B
			HARV				1934.0	1935.0	1	1934.0	1935.0	1	III B
			HARV				1958.0	2300.0	1				I
			HARV				2045.0	2046.0	1	2045.0	2046.0	1	III BW
	2038	2400	CULG				2050.0	2205.0	1				IS,DC
			CULG				2114.0	2244.0					III S,W
			CULG				2128.5	2336.0	1				III N
			HARV				2223.0	2224.0	1				III GW
11	0000	0737	CULG				0233.5	0634.5	1				III N
			CULG				0333.5		2	0334.0		2	III B
			LEAR				0333.7	0334.0	1				III
	0441	1816	WEIS				1043.7	1044.3	2				III G
	1245	2300	HARV				1336.0	1513.0	1				IN
			HARV				1513.0	1725.0	2				I
			HARV				1712.0		1	1712.0		1	III G
			HARV				1725.0	2300.0	1				IN
			HARV				1730.0	1731.0	3	1730.0	1731.0	2	III G,V
			SGMR				1730.2	1730.6	1				V
			PALE				1730.4	1730.8	2				V
			WEIS				1730.4	1730.9	3				III G
			HARV				1744.0		2	1744.0		1	III G
			HARV				1825.0		1	1825.0		1	III B
			HARV				1955.0		1	1955.0		1	III G
			HARV				2005.0	2006.0	1				III B
			HARV				2016.0	2017.0	1	2016.0	2017.0	1	III B
	2107	2400	CULG	2140.5	2324.5	1							IN
			HARV				2142.0	2143.0	2				III G
			CULG	2142.5	2143.0	2	2142.5	2143.0	2				III G
			CULG				2245.5	2257.0					IS,W
			CULG				2334.5	2354.5					III S,W

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12	0000	0737	CULG				0000.5	0354.5	1				IN
			CULG				0006.0		1				IIIB
			CULG				0042.5	0132.0					IIIS,W
			LEAR				0224.9	0225.4	1				III
			PALE				0224.9	0225.4	2				V
			CULG				0225.0	0225.5	2				IIIB,U
			CULG				0239.0	0705.0	1				IIIN
			CULG	0338.0	0701.0	1	0315.0	0540.5	1				IS
			CULG	0348.5		1	0348.5		1				IIIG
			CULG				0425.0	0532.0					IIIS.W
	0506	0610	WEIS				0601.3	0602.7	1				IIIG
	1247	2250	HARV				1250.0	1420.0	1				IN
			HARV				1420.0	1540.0	2				I
	0625	1814	WEIS				1527.7	1528.3	2				DCIM
			HARV				1540.0	2000.0	1				IN
			HARV				1609.0		1	1609.0		1	IIIGW
			WEIS				1609.1	1609.3	1				IIIG
			HARV				1844.0		2	1844.0		2	IIIB
			PALE				1844.2	1844.4	1				III
			SGMR				1844.2	1844.4	1				V
			HARV				1854.0	1856.0	1	1854.0	1856.0	1	IIIGW
			HARV				2000.0	2106.0	2				I
			HARV	2000.0	2250.0	1							INW
			PALE				2006.6	2033.4	2				GG
			HARV				2008.0	2024.0	2	2008.0	2024.0	2	IIIGG
			SGMR				2014.4	2014.5	1				III
			HARV				2030.0	2034.0	2	2030.0	2034.0	2	IIIGG
	2037	2400	CULG				2043.0	2119.0	1				IS
			CULG	2043.5	2358.0	1							IN
			CULG				2119.0	2126.0	1				IIIS
			CULG				2338.5	2339.0	1				IIIG
			CULG				2354.0		1				IIIB
13			CULG				0052.5	0155.5	2	0052.5	0156.0	1	IIIN
	0000	0737	CULG	0140.5	0610.0	1	0210.0	0706.5	1				IS
			CULG				0416.0	0651.0	1				IIIN
			LEAR				0421.8	0422.1	1				III
	0443	1039	WEIS				0549.0	0618.0	1				I
			LEAR				0549.3	0552.8	1				V
			WEIS				0603.1	0618.2	1				IIIG
			CULG				0604.0	0604.5	2				IIIG
			WEIS				0646.3	0650.8	1				IIIGG
			LEAR				0804.1	0804.6	1				III
			WEIS				0804.2	0806.7	1				IIIGG
			WEIS				1035.4	1037.9	2				IIIG
	1055	1301	WEIS				1105.8	1125.9	2				IIIB
			WEIS				1147.6	1148.0	2				IIIG
	1246	2255	HARV				1307.0	1940.0	1				IN
			HARV				1326.0		1				IIIG
	1306	1813	WEIS				1326.3	1326.6	1				IIIG
			WEIS				1342.0	1350.7	2				DCIM
			WEIS				1343.1	1343.2	2				IIIB
			HARV	1346.0	1347.0	1	1343.0	1350.0	3				IIIGG
			HARV	1346.0	1857.0	1							I
			WEIS				1347.6	1346.9	2				IIIB
			HARV				1451.0		2				IIIG
			HARV				1504.0		1				IIIB
			HARV				1638.0		1				IIIBW
			HARV				1735.0	1740.0	2				IIIGG
			HARV				1813.0	1820.0	2	1813.0	1820.0	2	IIIGG
			PALE				1814.3	1820.2	1				III
			HARV				1815.0	1820.0	2	1815.0	1820.0	2	UNCL
			SGMR				1816.0	1820.0	1				V
			HARV				1825.0		1	1825.0		1	IIIG
			HARV				1912.0		1	1912.0			IIIG
			SGMR				1913.0	1913.2	1				III
			HARV				1940.0	2200.0	2				I
	2037	2400	CULG	2043.0	2400.0	1	2050.0	2202.5	1				IS
			CULG				2055.0	2202.0					IIIS,W
			HARV				2055.0		1	2055.0		1	IIIG
			CULG				2131.0	2322.5	1				IIIN

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13			HARV				2200.0	2250.0	1				IN
			CULG	2259.5	2300.0	2	2259.5	2303.5	3	2259.5	2301.5	2	IIIG,V
			LEAR				2259.6	2301.8	1				III
			SGMR				2259.7	2301.0	1				III
			CULG				2301.5	2308.0	1				CONT
			CULG				2305.0	2306.5	1				POSS II
			CULG							0	5495.00	5	505 2
14	0000	0226	CULG	0000.0	0226.5	1							IS,C
			CULG				0020.0		2				IIIB
			CULG				0031.0	0157.5	1				IIIN
			LEAR				0052.3	0058.5	1				III
			CULG				0113.0		3	0113.0		2	IIIB
			PALE				0113.1	0157.7	2				GG
			LEAR				0113.2	0113.5	1				III
			LEAR				0135.9	0136.9	1				III
			LEAR				0155.3	0158.2	1				III
			CULG				0238.0	0244.0	2	0238.0	0244.0	1	IIIG
			LEAR				0238.4	0245.2	1				V
			PALE				0238.5	0238.7	1				III
			PALE				0241.0	0241.1	2				III
			PALE				0242.2	0244.1	2				V
			LEAR				0326.3	0326.8	1				III
			CULG				0326.5		1				IIIB
			LEAR				0506.4	0535.7	3				GG
			CULG				0506.5	0515.0	3	0506.5	0511.0	3	IIIG,V
	0443	1812	WEIS				0506.9	1514.5	3				IIIG/V
			WEIS				0511.5	0523.3	1				II
			CULG				0512.0	0536.5	2				II
			CULG				0531.0	0535.0	1				IIIG
			WEIS				0535.0	0535.7	1				IIIG
			CULG				0606.0		3				IIIB
			LEAR				0606.3	0606.6	1				III
			WEIS				0606.3	0606.7	1				IIIG
			WEIS				0626.7	0626.8	1				IIIB
			SGMR				1312.9	1320.7	1				III
	1247	2300	HARV				1317.0	1340.0	2				IIIGG
			HARV				1420.0	1421.0	2				IIIB
			HARV				1611.0	1612.0	1	1611.0	1612.0	1	IIIBW
			WEIS				1611.4	1611.6	1				IIIB
			HARV				1717.0	1724.0	1				I
			HARV				1748.0		1	1748.0		1	IIIGW
			HARV				1816.0	1819.0	1				IW
			HARV				1857.0		2				IIIG
			HARV				2025.0	2026.0	2				IIIG
			PALE				2025.3	2026.5	1				III
			SGMR				2025.8	2026.0	1				III
	2039	2400	CULG				2050.5	2117.0					IIIS,W
			CULG	2100.0	2135.0	1							IS
			CULG	2112.5		1	2112.5		1				IIIB
			CULG	2135.0	2341.5	1							IN
			CULG				2203.5	2204.0	2				IIIB
			CULG				2338.5	2339.5	2				IIIG
			PALE				2338.7	2339.7	2				III
15			LEAR				0001.7	0002.0	1				III
			LEAR				0013.9	0014.3	1				III
	0000	0736	CULG				0031.5	0608.5	2				IIIN
			CULG				0044.0	0652.5	1				IIIN
			LEAR				0129.0	0129.3	1				III
			CULG				0218.0	0224.0					IIIS,W
			LEAR				0219.9	0221.6	1				III
			PALE				0219.9	0221.4	2				III
			LEAR				0248.2	0302.5	1				GG
			PALE				0250.9	0259.7	2				GG
			CULG				0251.0	0302.0	2				IIIS
			CULG				0256.5	0259.5	3	0256.5	0258.5	1	IIIGG
			CULG	0321.0	0617.0								IS,W
			LEAR				0333.1	0335.8	1				III
			LEAR				0418.2	0424.1	1				V
			CULG				0532.0	0718.5	1				IIIS

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15			CULG				0532.0	0718.5	1				IS
	0446	0613	WEIS				0559.3	0559.9	2				IIIG
			LEAR				0559.4	0601.2	1				V
			CULG				0559.5	0600.0	3				IIIB
			LEAR				0607.7	0951.0	1				CONT
			WEIS				0607.7	0608.4	1				IIIG
	0758	1811	WEIS				0819.3	0819.5	1				IIIB
			WEIS				0830.7	0834.8	1				IIIGG
			WEIS				0852.7	0856.5	3				IIIGG
			LEAR				0853.9	0856.3	1				III
			WEIS				0859.8	0901.6	1				IIIG
			WEIS				0904.1	0904.2	1				IIIB
			WEIS				0911.7	0911.9	1				IIIB
			WEIS				1000.1	1001.5	1				IIIG
			WEIS				1031.1	1031.3	1				IIIB
			WEIS				1033.4	1033.7	1				IIIB
			WEIS				1049.1	1049.7	1				IIIB
			WEIS				1147.5	1150.1	1				IIIG
	1246	2300	HARV				1253.0	1358.0	1				IN
			HARV				1317.0	2259.0	2	1642.0	1935.0	1	IIIN
			HARV	1347.0	2135.0	1							I
			WEIS				1352.8	1353.2	2				IIIB
			HARV				1358.0	1422.0	2				I
			HARV				1408.0	1410.0	3	1409.0		1	IIIGG
			WEIS				1408.1	1410.5	3				IIIG
			SGMR				1408.8	1410.1	1				V
			WEIS				1412.4	1412.6	2				IIIB
			HARV				1415.0		2				IIIG
			HARV				1422.0	1700.0	1				IN
			HARV				1439.0		2				IIIG
			WEIS				1439.0	1439.2	1				IIIB
			HARV				1622.0	1623.0	2				IIIG
			WEIS				1646.4	1648.0	3				IIIGG
			HARV	1647.0	1648.0	1	1646.0	1648.0	3	1646.0	1648.0	2	IIIGG
			HARV				1700.0	2300.0	2				I
			PALE				1843.9	1844.8	2				III
			SGMR				1843.9	1844.8	1				III
			HARV				1844.0	1845.0	3	1844.0	1845.0	2	IIIG
			CULG				2359.0		1				IIIB
16	0000	0736	CULG	0245.0	0655.0	1							IS
			CULG	0247.0	0247.5	1	0247.0	0247.6	1				IIIG
			CULG				0314.5	0318.0	1				IS
			PALE				0314.9	0317.9	2				III
			CULG	0315.0	0317.0	1	0314.0	0320.5	2	0315.5	0317.0	1	IIIGG
			LEAR				0315.2	0319.3	1				V
			CULG				0415.5	0440.0					IIIS,W
			CULG				0416.0	0432.0	1				IIIN
			CULG				0653.0	0721.0					IIIS,W
	0447	1449	WEIS				0922.4	0922.6	3				IIIB
			WEIS				0956.1	0956.3	2				IIIG
			WEIS				1037.3	1037.6	3				IIIG
			WEIS				1040.4	1040.6	1				IIIB
			WEIS				1151.8	1152.0	2				IIIB
	1246	2250	HARV	1302.0	2235.0	1							I
			HARV	1324.0	1326.0	1							IIIG
			HARV				1330.0	1940.0	1				IN
			WEIS				1406.7	1406.9	1				IIIB
	1514	1758	WEIS										
			HARV	1726.0									IIIBW
			HARV	1854.0		2	1854.0		2				IIIG
			HARV	1924.0		2							IIIG
			HARV				1940.0	2250.0	2				I
	2036	2400	CULG	2040.0	2400.0	1	2040.0	2400.0	1				IS,C
			CULG				2050.5	2248.0					IIIS,W
			CULG				2056.5		2				IIIB
			HARV				2057.0		2				IIIB
			CULG				2137.5	2331.5	1				IIIN
	2147	2400	CULG				2329.5	2341.5	1				IIIS
			CULG				2352.5	2353.0	2				IIIG
			LEAR				2352.9	2353.0	1				III

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16			PALE				2352.9	2353.0	2				III
17			CULG				0000.0	0009.0					IIIS,W
	0000	0736	CULG	0000.0	0721.0	1	0000.0	0727.0	1				IS,C,DC
			CULG	0058.5	0059.0	1							CONT
			CULG	0058.5	0059.0	1							DCIM
			CULG	0346.5	0347.6	1							DCIM
			CULG				0356.0		2				IIIB
			CULG				0627.0		1				IIIB
			WEIS				0659.0	1748.0	2				IN
	0529	1757	WEIS				0816.3	0816.4	1				IIIB
	1247	2245	HARV	1249.0	2245.0	.1	1250.0	2235.0	1				IN
			WEIS				1512.7	1513.0	1				IIIB
			WEIS				1516.3	1521.7	3				IIIGG/V
			SGMR				1517.1	1524.0	2				V
			HARV				1520.0	1527.0	3				II
			HARV	1520.0	1521.0	2	1516.0	1522.0	3	1516.0	1522.0	2	IIIGG,V
			WEIS				1520.1	1525.2	3				II HARM
			HARV				1528.0	1529.0	2				IV
			HARV				1620.0	1621.0	2				IIIG
			PALE				1744.7	1745.4	2				V
			WEIS				1744.8	1745.0	2				IIIB
			HARV	1748.0		1	1744.0	1748.0	2	1744.0	1745.0	2	IIIGG,V
			HARV				1801.0	1807.0	2	1801.0	1807.0	2	IIIGG
			PALE				1801.5	1802.2	2				III
			SGMR				1801.5	1807.0	1				V
			PALE				1916.8	1917.3	1				III
			HARV				1917.0		2	1917.0		2	IIIG
			HARV				1920.0	1921.0	2	1920.0	1921.0	2	IIIG
	2036	2400	CULG	2039.0	2400.0	1							IS,C
			CULG				2045.0	2055.0	1				IN,C
			CULG				2119.5	2154.0	2				IIIN
			HARV				2120.0		1				IIIB
			HARV				2141.0	2143.0	2	2141.0	2143.0	1	IIIG
			CULG				2251.5	2258.5	2				IIIGG
18	0000	0736	CULG	0000.0	0306.5	1							IS,C
			CULG				0136.0	0234.0					IIIS,W
			PALE				0233.8	0236.2	2				III
			CULG				0234.0	0236.0	2	0234.0	0236.0	2	IIIG
			LEAR				0234.1	0236.5	1				III
			CULG	0347.0	0349.0	1	0347.0	0351.0	3	0347.5	0349.5	2	IIIGG
			LEAR				0347.1	0352.8	2				V
			PALE				0347.1	0350.2	2				V
			CULG	0352.5		1	0352.5		1				IIIG
			CULG	0357.0		1	0356.5	0358.0	2				IIIG
			CULG	0440.0	0727.0	1							IS,DC
	0458	0958	WEIS				0554.0	1708.0	2				IN,DC
			WEIS				0918.8	0918.9	1				IIIB
	1007	1754	WEIS				1125.4	1125.7	1				IIIB
			WEIS				1128.8	1128.3	2				IIIG
			WEIS				1251.1	1251.4	2				IIIG
	1246	2250	HARV	1300.0	2246.0	1	1452.0	2242.0	1				IN
			HARV				1344.0		2				IIIB
			WEIS				1344.2	1344.6	2				IIIB,U
			WEIS				1350.1	1350.2	1				IIIB
			HARV	1516.0		1							IIIG
			HARV				1534.0	1538.0	2	1534.0	1538.0	2	IIIGG
			WEIS				1534.2	1537.9	3				IIIG
			SGMR				1535.4	1537.2	1				V
			HARV				1654.0		1				IIIB
			HARV				1717.0	1726.0	3	1717.0	1726.0	2	IIIGG
			PALE				1717.5	1718.8	1				III
			SGMR				1717.5	1718.9	1				V
			WEIS				1717.5	1718.9	3				IIIG,RS
			WEIS				1721.0	1721.1	1				IIIB
			WEIS				1723.8	1726.2	2				IIIG
			SGMR				1723.9	1724.5	1				V
			HARV				1738.0	1741.0	2	1738.0	1741.0	2	IIIG
			PALE				1740.3	1740.6	1				III
			WEIS				1740.3	1740.6	2				IIIB

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18			PALE				1756.9	1757.5	2				III
			SGMR				1756.9	1757.2	1				V
			HARV				1757.0		2	1757.0		2	IIIG
			HARV				1815.0	1817.0	2	1815.0	1817.0	1	IIIG
			PALE				1917.7	1918.0	1				III
			HARV				1918.0	1922.0	2	1918.0	1922.0	2	IIIG
			HARV				1923.0	1926.0	3	1923.0	1926.0	2	IIIGG
			PALE				1923.5	1926.4	3				V
			SGMR				1923.9	1925.7	2				V
	2036	2400	CULG	2037.5	2206.0	1							IS,C
			CULG	2039.0	2039.5	1							DCIM
			HARV				2108.0	2109.0	2				IIIG,U
			CULG				2108.5		1				IIIB
			CULG	2206.0	2400.0	1							IN
19	0000	0732	CULG	0000.0	0021.0	1							IN,C
			CULG	0021.0	0714.0	1							IS,C
			CULG	0048.0	0048.5	1							DCIM
			CULG				0325.0	0506.0	1				IN
			WEIS				0659.0	1702.0	2				IN
	0502	1702	WEIS				0806.7	0807.1	1				IIIG
			WEIS				1038.0	1300.0	1				CONT
			WEIS				1112.7	1114.4	1				IIIG
	1247	2250	HARV	1301.0	1443.0	1							IN
			HARV				1441.0	1412.0	2	1441.0	1442.0	2	IIIG
			WEIS				1441.4	1442.0	3				IIIB
			SGMR				1441.5	1442.0	1				V
			HARV	1443.0	2250.0	2							I
			HARV				1522.0	1523.0	2				IIIG
			WEIS				1522.3	1523.4	2				IIIG
			WEIS				1526.5	1526.7	1				IIIB
			HARV				2006.0		2	2006.0		1	IIIB
	2037	2400	CULG	2038.5	2323.0	1							IS,C,DC
			HARV				2120.0	2247.0	1				IN
			CULG				2206.0		1				IIIB
			CULG				2229.5	2230.0	2				IIIB,U
			CULG				2235.0		1				IIIB
			CULG	2323.0	2349.0	1							IN
			CULG	2323.0	2400.0	1							CONT
20	0000	0735	CULG	0010.0	0058.5	1							IN,C
			CULG	0058.5	0728.5	1							IS,C,DC
			LEAR				0132.9	0133.4	1				III
			CULG				0254.0	0257.5	1				IS
			CULG				0258.0	0333.5	1				IIIN
			LEAR				0258.1	0258.5	1				III
			LEAR				0333.2	0334.1	1				III
			CULG				0501.5	0535.0	1				IS
			CULG				0535.0	0738.0	1				IN
	0534	1751	WEIS				0600.0	1740.0	3				I
			WEIS				0959.3	0959.5	1				IIIB
	1300	2255	HARV				1300.0	1358.0	2				IC
			HARV	1304.0	1415.0	1							INW
			HARV				1358.0	1925.0	2				I
			HARV	1415.0	1800.0	2							I
			HARV				1925.0	2124.0	1				IN
			HARV	2013.0	2019.0	2							IIIGG
	2036	2400	CULG	2040.5	2342.0								IS,W
			CULG				2105.0		1				IIIG
21	0000	0735	CULG				0019.0	0103.0	1				IIIN
			CULG	0440.5	0730.5	1							IN
			CULG	0636.0	0636.5	1							IIIG
	0501	1244	WEIS				1044.5	1046.3	2				DCIM
			WEIS				1053.7	1054.0	1				IIIB
	1304	1750	WEIS										
	1300	2310	HARV	1304.0	2310.0	1	1303.0	2310.0	1				IN
	2035	2400	CULG	2134.5	2400.0	1							IS,C
			HARV				2235.0	2236.0	1	2235.0	2236.0	1	IIIGW
			CULG				2235.5		2				IIIB
22	0000	0735	CULG	0000.0	0254.0	1							IS,C

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22			CULG	0300.5	0730.0	1							IN
	0603	1747	WEIS				0923.0	1640.0	1				IN
	1300	2310	HARV				1402.0	2300.0	1				INW
			HARV				1701.0	1702.0	1				IIIGW
			HARV	1818.0	2240.0	1							INW
	2035	2400	CULG	2037.0	2400.0	1							IS,DC
23	0000	0735	CULG	0001.0	0120.0	1							IN,C
			CULG				0049.0	0100.0	1	0049.5	0054.0	1	IIIN
			LEAR				0049.6	0054.3	1				III
			CULG	0316.5	0556.0								IS,W
	0508	0750	WEIS										
	0757	1746	WEIS				1240.3	1240.5	1				IIIB
	1300	2300	HARV	1356.0	2211.0	1							IN
			HARV				1548.0	1549.0	1				IIIGW
	2035	2400	CULG	2036.0	2114.0								IS,W,C
			CULG	2345.0	2400.0								IS,W,C
24	0000	0735	CULG	0000.0	0142.5								IS,W,C
	0509	1221	WEIS				0536.7	0536.8	1				IIIB
			LEAR				0536.8	0537.3	1				III
			CULG				0537.0		2				IIIB
			CULG				0542.0		1				IIIB
			WEIS				0542.2	0542.3	1				IIIB
			CULG				0655.5		1				IIIB
			WEIS				0946.3	0946.8	3				IIIB
	1300	2230	HARV	1330.0	2330.0	1							IN
	1536	1746	WEIS				1543.0	1657.0	1				IN
			HARV				1901.0	1907.0	1				IW
	2036	2400	CULG	2036.0	2400.0	1							IS,DC
			CULG				2051.0		1				IIIB
			CULG				2303.0		1				IIIB
25	0000	0310	CULG	0000.0	0302.0								IS,W
			CULG				0245.5	0246.0	2	0245.5	0247.0	1	IIIG,V,U
			LEAR				0245.8	0246.3	1				III
			LEAR				0254.9	0255.5	1				III
			CULG				0255.0		1				IIIB
			CULG	0302.0	0310.5	1							IS
	0332	0734	CULG	0332.5	0610.0	1							IS,C
	0512	1743	WEIS				0528.0	1702.0	2				IS,DC
			CULG	0610.0	0734.5	2							IS,C
			CULG				0619.5	0723.0	1				IIIN
			CULG				0629.0	0725.0	1				IN
			LEAR				0759.7	0800.0	1				III
	1300	2250	HARV				1302.0	1700.0	2				I
			HARV				1444.0	2114.0	2	1746.0	2049.0	2	IIIN
			WEIS				1444.6	1444.7	2				IIIB
			HARV				1700.0	2250.0	1				IN
			HARV	1758.0	2223.0	1							INW
	2035	2400	CULG	2042.5	2358.5	1							IN
			CULG				2048.5	2320.0	1				IIIN
			CULG				2159.5		2				IIIB
			PALE				2228.5	2228.9	2				III
26	0000	0734	CULG	0000.0	0230.0	1							IN
			CULG				0015.0	0530.0	1				IIIN
			CULG	0230.0	0734.0	1							IS
			CULG				0253.5	0356.0	1				IN
			CULG				0253.5	0530.0					IIIS,W
			CULG				0356.0	0545.0	1				IS,DC
	0509	1047	WEIS										
			CULG				0530.0	0727.0	1				IIIS
			CULG				0540.0		2				IIIB
			CULG				0545.0	0734.0	2				IS,DC
	1051	1741	WEIS										
	1300	2240	HARV				1300.0	1618.0	2				IC
			HARV	1342.0	2240.0	1							IN
			HARV				1618.0	1740.0	2				I
			HARV				1740.0	2240.0	2				IC
			HARV				1811.0		2	1811.0		2	IIIG

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26			HARV							2008.0		2	IIIG
			PALE				2008.2	2038.2	2				GG
			CULG				2038.0	2358.0	1				IIIN
			HARV				2038.0		2	2038.0		2	IIIG
	2034	2400	CULG	2054.0	2400.0	1	2034.0	2357.5	1				IS,C,DC
27	0000	0733	CULG	0000.0	0733.5	1	0014.0	0200.0	1				IS,DC
			CULG				0021.5	0733.5					IIIS,W
			CULG				0023.0	0656.5	1				IIIN
			CULG				0100.0	0733.5	1				CONT
			LEAR				0116.9	0134.2	1				GG
			PALE				0116.9	0134.1	1				GG
			CULG							0142.0	0148.0		SWF,W
			CULG				0200.0	0733.5	2				IS,DC
			LEAR				0214.0	0955.0	1				CONT
			CULG				0355.5		2				IIIB
	0509	1739	WEIS				0524.0	1434.0	3				IS,DC
			WEIS				0736.7	0741.9	2				IIIG
	1300	2300	HARV				1300.0	2300.0	2				IC
			HARV				1325.0		1				IIIG
			WEIS				1325.1	1326.4	2				IIIG
			HARV	1358.0		1							IIIG
			HARV				1423.0	1424.0	2				IIIG
			WEIS				1423.4	1423.5	2				IIIG
			HARV				1503.0	1512.0	1				IIIGW
			HARV	1523.0	2300.0	1							INW
			HARV				1542.0		2	1542.0		1	IIIG
			WEIS				1542.3	1542.5	1				IIIB
			HARV				1549.0	1550.0	1				IIIGW
			HARV				1557.0		1				IIIG
			HARV				1621.0		2	1621.0		1	IIIG
			WEIS				1621.1	1621.2	1				IIIB
			HARV				1638.0		1	1638.0		1	IIIGW
			HARV				1658.0		2	1658.0		2	IIIG
			HARV				1826.0		2	1826.0		1	IIIG
			HARV				1834.0	1836.0	1	1834.0	1836.0	1	IIIGW
			HARV	1842.0	1843.0	2	1842.0	1843.0	2				IIIG
			HARV				1930.0	1931.0	2				IIIG
			CULG	2033.5	2400.0	2	2033.5	2400.0	2				IS,C,DC
	2033	2400	CULG				2033.5	2400.0	1				IIIS
			HARV				2052.0	2053.0	2	2052.0	2053.0	2	IIIG
			CULG				2052.5		3				IIIB
			PALE				2052.7	2052.9	2				V
			HARV	2129.0	2130.0	2							IIIG
			CULG				2129.5		2				IIIB,U
			CULG				2149.5	2150.0	3				IIIG
			PALE				2149.8	2150.2	1				V
			HARV				2150.0		2				IIIG
			HARV	2246.0	2256.0	2	2256.0		1				IIIGG
			CULG	2247.0	2256.0	2							IIIN
28			CULG				0000.0	0103.0					IIIS,W
	0000	0733	CULG	0000.0	0733.0	1	0000.0	0733.0	2				IS,C,DC
			CULG				0005.5	0103.0	1				IIIN
			CULG				0012.0	0447.0	2				IIIN
			CULG				0103.0	0733.0	1				IIIS
			LEAR				0202.7	0955.0	1				CONT
	0510	0548	WEIS										
	0552	1256	WEIS				0552.0	1732.0	3				IS,DC
	1315	1737	WEIS				0608.0	1722.0	1				IIIN
			WEIS	1234.3	1235.3	3							DCIM
	1300	2315	HARV				1300.0	1800.0	2				I
			HARV	1306.0	2257.0	1							IN
			HARV	1312.0	1318.0	3							IIIGG
			HARV				1535.0	1536.0	2				IIIG
			HARV				1559.0	1857.0	2	1559.0	1857.0	2	IIIN
			HARV	1627.0	1634.0	2	1627.0	1634.0	2	1631.0		2	IIIGG
			WEIS				1627.4	1633.6	2				DCIM
			HARV	1658.0	1659.0	2	1658.0	1659.0	2				IIIG
			WEIS				1658.6	1658.8	2				IIIG
			HARV				1709.0	1710.0	2	1709.0	1710.0	2	IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

AUGUST 1982

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
28			HARV				1721.0		2	1721.0		2	IIIG
			HARV	1744.0	1745.0	2				1744.0	1745.0	1	IIIG
			HARV				1800.0	2315.0	2				IC
			HARV	1802.0	1804.0	3	1802.0	1804.0	3	1802.0	1804.0	2	IIIGG,V
			HARV				1836.0		2	1836.0		2	IIIG
			HARV				1901.0	2224.0	1	1906.0	2107.0	2	IIIS
	2033	2400	CULG	2033.5	2244.5	1	2033.5	2400.0	1				IS,C,DC
			CULG				2034.0	2150.0	1				IIIS
			CULG				2102.0	2300.0	2				IIIN
			HARV	2148.0	2151.0	3	2149.0	2150.0	2				IIIGG
			CULG	2149.0	2151.0	1							DCIM
			CULG				2150.0	2400.0					IIIS,W
			CULG				2201.0	2316.0	1				IIIN
			HARV	2208.0		2							IIIG
			HARV				2224.0	2315.0	2				IIIN
			CULG	2244.5	2400.0								IS,W
			CULG	2258.0	2300.5	2							IIIG
			CULG	2258.0	2301.0	2							DCIM,N
			HARV	2258.0	2301.0	3	2258.0	2301.0	2				IIIGG
			PALE				2347.2	2350.8	3				III
			LEAR				2347.9	2353.3	2				III
			CULG				2349.0	2350.0	3	2349.5		1	IIIG
			CULG	2349.0	2351.0	2	2347.5	2353.0	2				IIIGG
			CULG	2354.0		1	2354.0		2				IIIG
29			CULG				0000.0	0654.5					IIIS,W
			CULG				0000.0	0733.0	1				IS,DC
	0000	0733	CULG	0000.0	0733.0								IS,W
			CULG				0002.5	0646.5	1				IIIN
			LEAR				0125.5	0956.0	1				CONT
			CULG	0314.5	0317.0	1							IIIG
			CULG	0320.0	0400.0	1							IS
			CULG	0413.0	0413.5	1							IIIG,U
	1300	2305	HARV				1300.0	1540.0	2				I
			HARV	1506.0	2305.0	1							IN
			HARV				1540.0	2230.0	1				INW
	0513	1739	WEIS				1730.4	1730.5	2				RS
			HARV				1741.0	1745.0	1				IIIGW
			HARV				1929.0	1930.0	1	1929.0		1	IIIG
			HARV				2031.0		2	2031.0		2	IIIB
	2033	2400	CULG	2033.0	2232.0	1							IN
			CULG				2050.5	2328.0	1				IIIN
			HARV				2158.0	2159.0	1	2158.0	2159.0	1	IIIB
			HARV				2249.0	2250.0	2				IIIG
			LEAR				2347.9	2353.3	2				III
30	0000	0732	CULG				0236.5	0508.0	1				IIIN
			CULG	0333.0	0706.0								IS,W
			CULG				0408.5	0409.0	2				IIIG,U
			CULG				0455.0	0635.0	1				IS
	0513	1251	WEIS										
	1300	2245	HARV	1304.0	1723.0	1							IN
			HARV				1431.0	1520.0	2				I
			HARV				1520.0	2245.0	1				IN
			HARV				1559.0		2				IIIG
			HARV				1701.0		1				IIIG
			HARV	1723.0	1814.0	2							I
			HARV	1814.0	2245.0	1							I
			HARV				1959.0		1	1959.0		1	IIIG
	2033	2400	CULG	2033.0	2400.0	1	2033.0	2046.5	1				IS,DC
			CULG				2125.0		2				IIIB
			HARV				2125.0		2	2125.0		1	IIIB
			HARV				2159.0		1				IIIB
			CULG				2207.0		1				IIIB
			HARV				2207.0		2				IIIB
			CULG				2242.0	2311.0					IIIS,W
			HARV				2244.0	2245.0	1				IIIB
31	0000	0732	CULG	0000.0	0732.5	1							IS
			CULG				0007.5	0045.0					IIIS,W
			CULG	0156.5	0157.5	2							CONT

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

AUGUST 1982

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
Day 31		CULG				0203.5		1				IIIB
		CULG				0433.0	0720.0	1				IN
0523	0916	WEIS				0555.0	1717.0	3				IS,DC
		CULG				0615.5		1				IIIG
0923	1731	WEIS				0703.1	0703.2	1				IIIB
1300	2245	HARV				1302.0	2226.0	1				IN
		HARV	1308.0	2245.0	1							INW
		HARV				1506.0	1508.0	2				IIIG
		WEIS				1506.6	1507.9	1				IIIG
		HARV				1936.0		2	1936.0		1	IIIG
2032	2400	CULG	2034.0	2350.0	1	2032.5	2103.0	1				IS
		CULG				2037.0	2306.0	1				IIIN
		HARV				2159.0	2200.0	2				IIIG
		CULG	2350.0	2400.0								IS,W

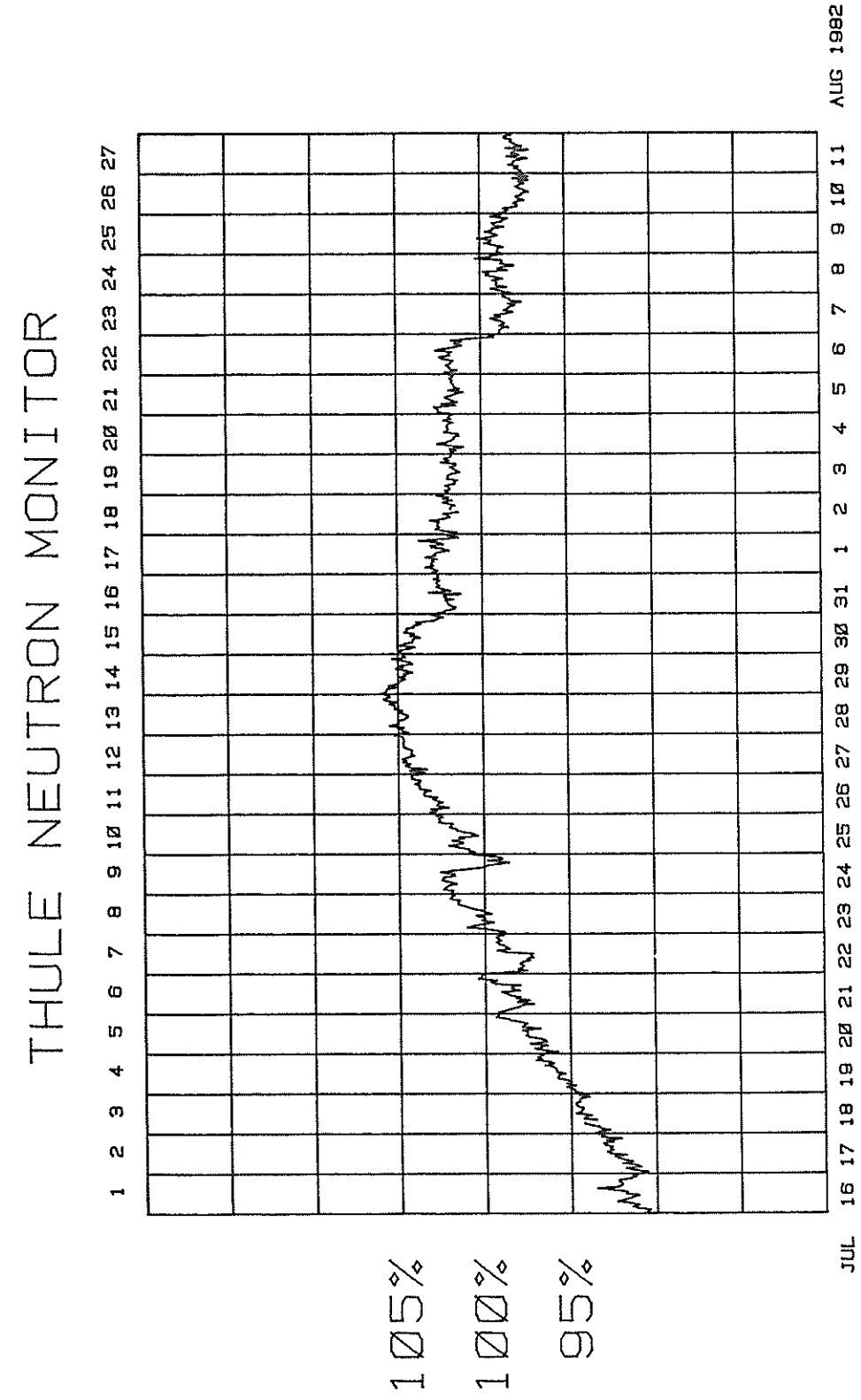
The symbols used under the column heading SPECTRAL TYPE have the following definitions:

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

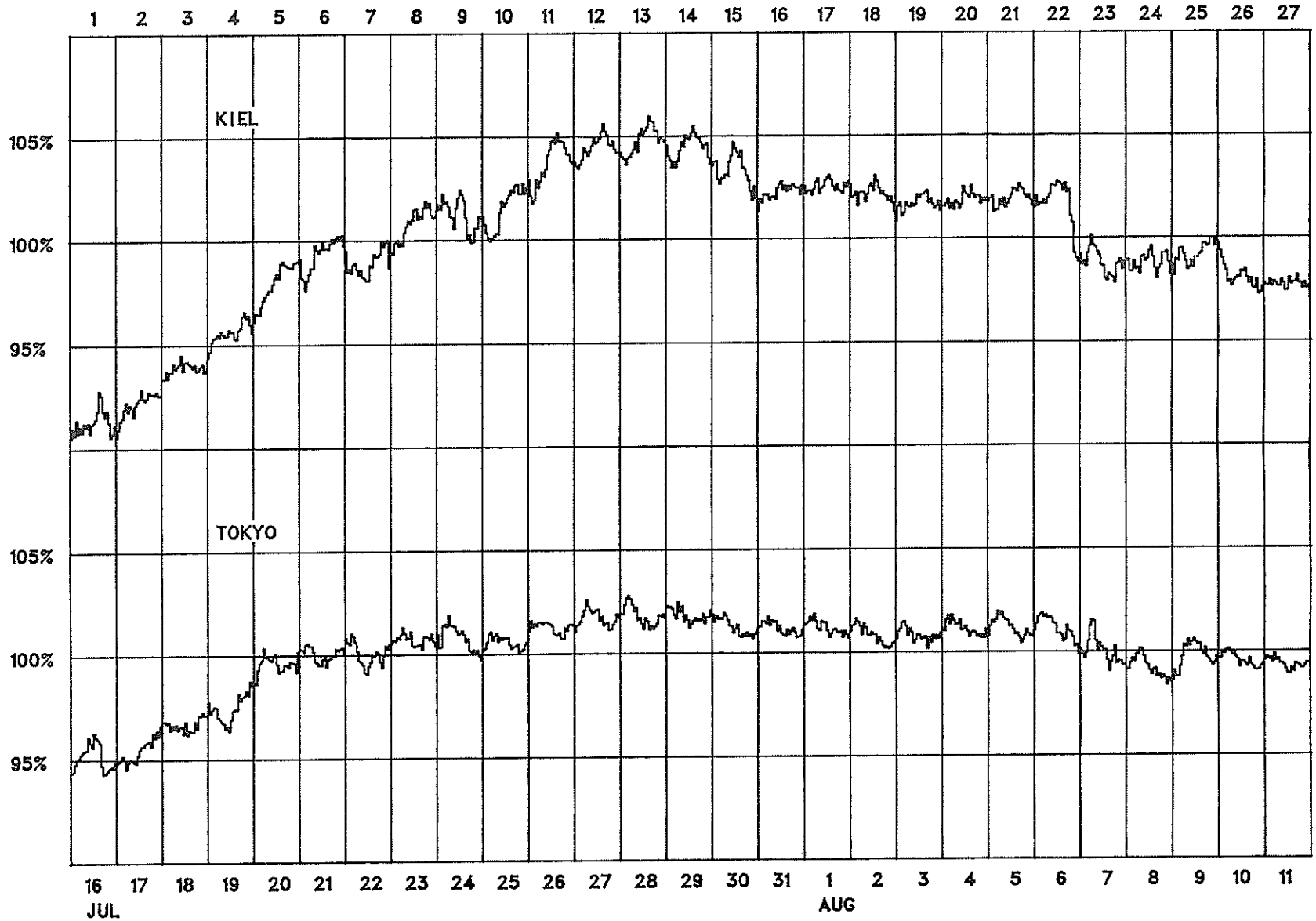
ERRATA: July 1982 Spectral data appearing in SGD 457 Part I, page 135, September 1982 issue:

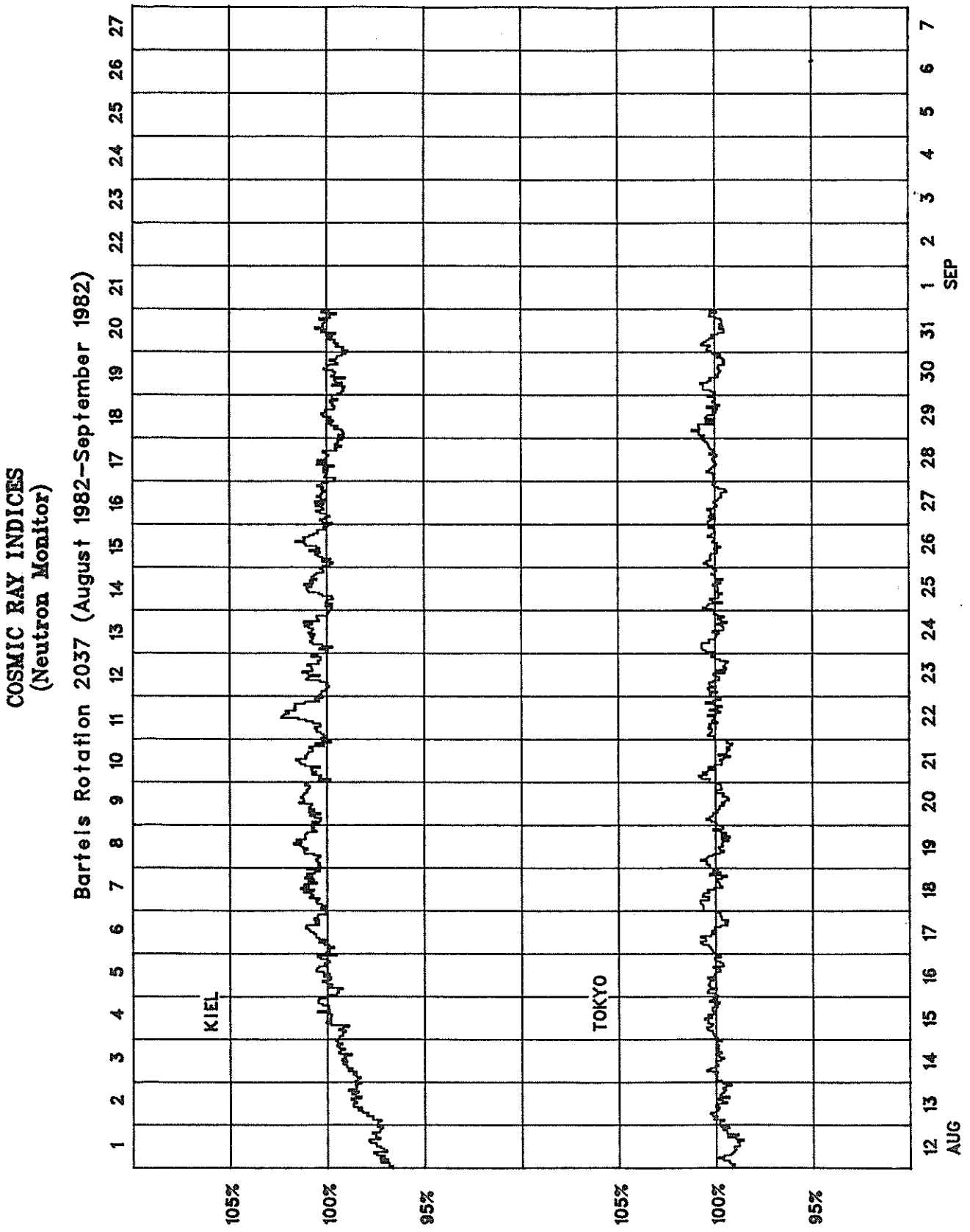
On Day 10 the CULG observation in the Decimetric Band which begins at 2030.5 and ends at 0637.5 should read as begin time 0030.5 and end time 0637.5.


THULE NEUTRON MONITOR
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
105%
100%
95%
JUL 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 AUG 1982
BARTELS ROTATION 2036

COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2036 (July 1982–August 1982)




COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2037 (August 1982–September 1982)
KIEL
TOKYO
105%
100%
95%
105%
100%
95%
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
12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7
AUG
SEP

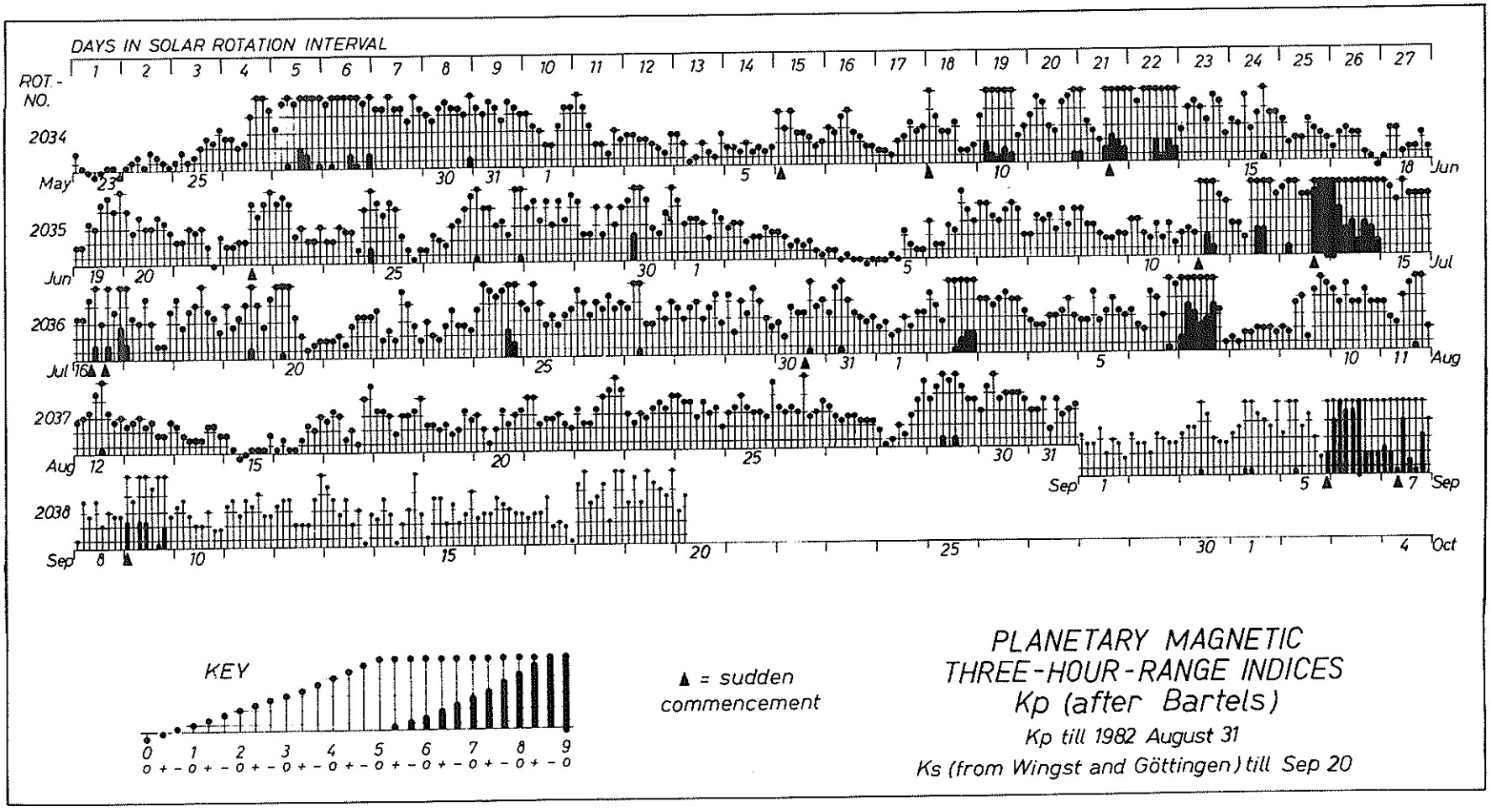
COSMIC RAY INDICES
(Neutron Monitors)
August 1982

August 1982	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)/100	HUANCAYO Average (cts/h)/100)
1	3912			5462.9		3438.7	
2	3893			5444.3		3425.8	
3	3880			5418.0		3426.3	
4	3880			5427.1		3436.9	
5	3881			5430.8		3438.1	
6	3866			5417.0		3436.3	
7	3755			5266.2		3399.5	
8	3772			5266.0		3371.6	
9	3776			5287.1		3390.9	
10	3724			5229.6		3383.0	
11	3732			5209.7		3376.6	
12	3728			5224.3		3390.4	
13	3775			5275.2		3408.8	
14	3815			5315.4		3414.5	
15	3853			5356.5		3423.0	
16	3869			5367.1		3418.4	
17	3874			5389.0		3419.2	
18	3883			5406.6		3424.1	
19	3888			5416.0		3413.5	
20	3884			5415.7		3411.2	
21	3884			5406.0		3411.8	
22	3900			5421.3		3420.1	
23	3876			5394.7		3414.2	
24	3894			5395.9		3417.9	
25	3875			5388.3		3416.5	
26	3882			5394.8		3420.9	
27	3883			5379.9		3416.1	
28	3862			5359.7		3422.5	
29	3847			5350.0		3428.6	
30	3831			5340.6		3416.7	
31	3854			5358.2		3417.8	
Mean	3846			5361.7		3414.5	

Data not available at time of publication

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

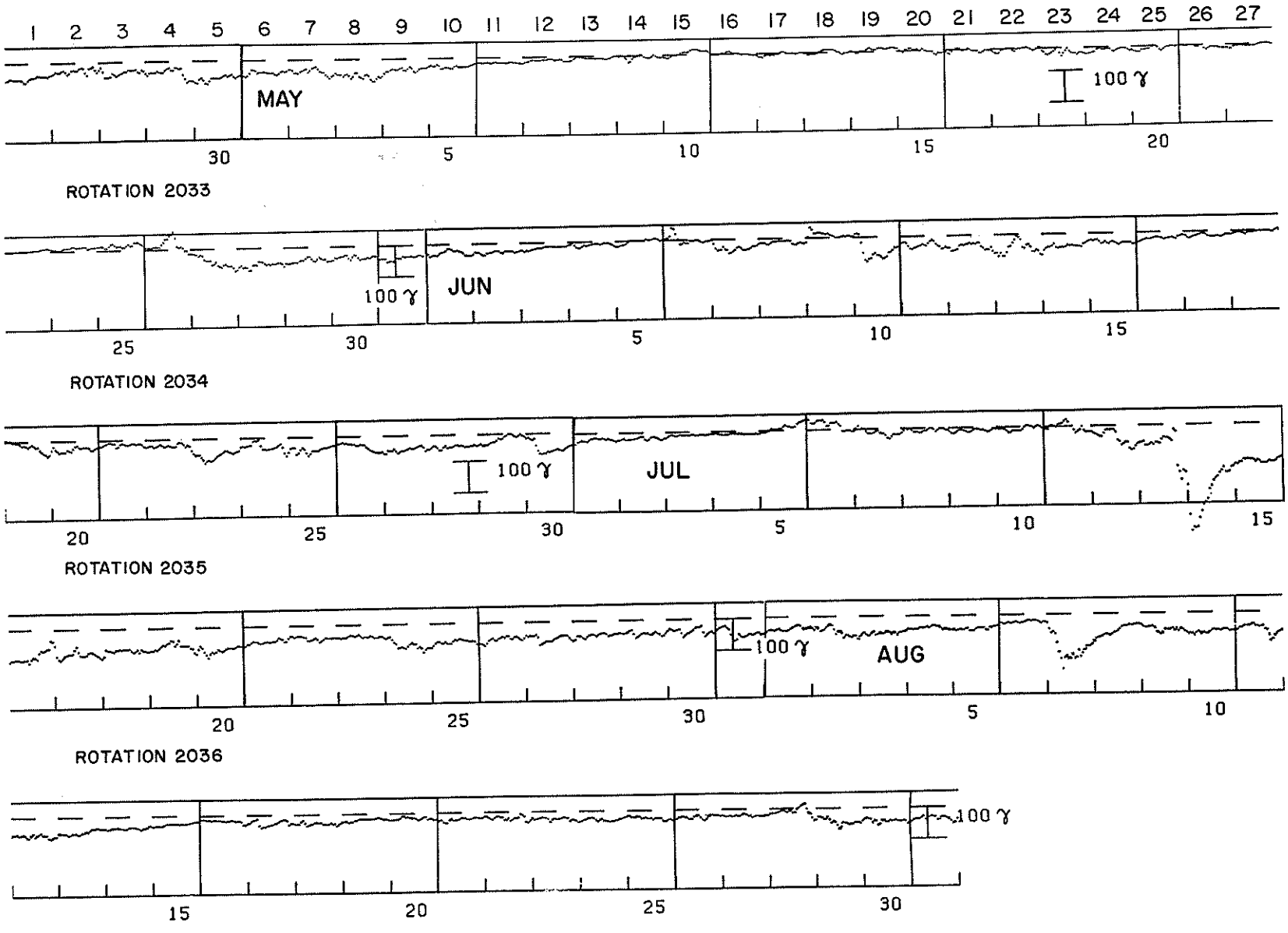
GEOMAGNETIC ACTIVITY INDICES



GEOMAGNETIC ACTIVITY INDICES

Hourly Equatorial Dst

by Bartels Rotation



Note: Both the sensitivity indicator placed on the last day of the month and the zero reference level change from month to month.

HOURLY EQUATORIAL Dst VALUES (PROVISIONAL)

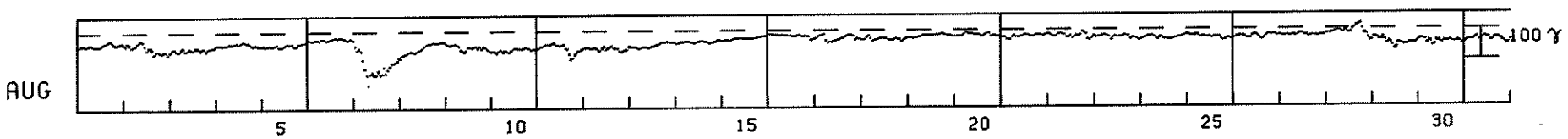
NASA/GODDARD SPACE FLIGHT CENTER

AUGUST 1982

(Time-UT)

(Units-Gammas)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-46	-41	-40	-43	-44	-40	-38	-42	-45	-43	-45	-42	-38	-34	-31	-27	-25	-29	-36	-39	-37	-34	-33	-36
2	-42	-34	-39	-46	-44	-41	-34	-29	-25	-29	-42	-56	-48	-47	-53	-67	-59	-59	-64	-67	-61	-62	-72	-63
3	-56	-52	-58	-61	-61	-54	-49	-59	-58	-53	-53	-57	-50	-50	-51	-57	-52	-52	-60	-53	-50	-50	-46	-44
4	-41	-43	-42	-43	-43	-41	-38	-38	-38	-37	-34	-39	-34	-30	-31	-35	-33	-38	-44	-42	-42	-44	-45	-45
5	-43	-48	-45	-44	-45	-46	-42	-40	-48	-49	-48	-43	-39	-40	-40	-39	-46	-47	-39	-40	-35	-35	-32	-25
6	-26	-30	-28	-25	-25	-28	-23	-22	-24	-28	-25	-24	-21	-18	-19	-20	-17	-19	-21	-24	-28	-22	-23	-27
7	-46	-59	-54	-62	-90	-120	-140	-173	-137	-131	-139	-140	-127	-140	-136	-114	-135	-123	-113	-101	-102	-99	-94	-85
8	-78	-75	-74	-70	-66	-64	-66	-69	-65	-59	-58	-53	-48	-42	-39	-39	-38	-35	-38	-36	-35	-33	-35	-37
9	-42	-45	-44	-43	-41	-42	-47	-59	-61	-67	-61	-51	-52	-52	-51	-48	-55	-48	-57	-49	-52	-58	-61	-66
10	-65	-65	-72	-64	-59	-64	-68	-63	-67	-67	-61	-55	-53	-56	-56	-57	-56	-52	-53	-55	-60	-58	-56	-58
11	-55	-49	-50	-45	-43	-44	-43	-39	-39	-45	-45	-48	-45	-44	-55	-58	-75	-91	-86	-77	-67	-64	-60	-56
12	-54	-55	-54	-58	-56	-54	-58	-63	-65	-56	-50	-61	-56	-52	-48	-56	-56	-57	-66	-69	-65	-61	-61	-51
13	-51	-51	-53	-54	-58	-56	-52	-53	-51	-55	-54	-50	-49	-46	-47	-41	-38	-38	-37	-36	-39	-39	-38	-38
14	-43	-40	-37	-37	-37	-35	-36	-38	-39	-41	-39	-35	-34	-34	-35	-37	-40	-43	-39	-37	-36	-31	-30	-34
15	-33	-31	-31	-32	-32	-28	-25	-26	-26	-25	-25	-26	-26	-27	-26	-27	-25	-24	-22	-21	-19	-19	-18	-15
16	-12	-12	-14	-15	-15	-18	-15	-15	-16	-16	-18	-18	-20	-19	-18	-15	-17	-20	-18	-19	-21	-31	-32	-27
17	-26	-20	-16	-15	-12	-34	-42	-38	-39	-35	-33	-32	-30	-26	-25	-20	-16	-15	-15	-19	-32	-27	-26	-31
18	-31	-30	-22	-17	-27	-36	-33	-31	-29	-26	-25	-27	-26	-32	-32	-33	-31	-27	-31	-30	-38	-32	-28	-24
19	-23	-24	-28	-25	-26	-21	-21	-17	-16	-16	-16	-17	-16	-16	-15	-15	-13	-11	-15	-17	-19	-17	-20	-21
20	-21	-20	-19	-20	-15	-8	-9	-13	-11	-14	-15	-15	-16	-22	-19	-15	-11	-11	-20	-18	-19	-22	-21	-26
21	-25	-23	-31	-33	-32	-24	-19	-24	-24	-23	-21	-17	-17	-18	-21	-22	-21	-17	-16	-16	-18	-20	-18	-13
22	-14	-19	-22	-23	-18	-14	-13	-17	-17	-25	-26	-20	-29	-24	-20	-21	-18	-7	-11	-15	-33	-35	-26	-21
23	-27	-24	-22	-21	-18	-20	-20	-25	-33	-26	-22	-25	-25	-23	-21	-18	-21	-22	-32	-26	-28	-31	-30	-34
24	-31	-28	-26	-22	-22	-20	-24	-29	-34	-28	-24	-31	-32	-33	-35	-33	-32	-29	-29	-25	-24	-21	-19	-16
25	-17	-21	-21	-22	-19	-20	-26	-24	-22	-25	-27	-25	-30	-26	-25	-24	-25	-34	-37	-35	-30	-29	-34	-34
26	-28	-23	-24	-22	-24	-24	-30	-30	-30	-21	-17	-19	-24	-32	-35	-30	-22	-16	-17	-19	-17	-18	-22	-19
27	-22	-24	-22	-20	-24	-22	-19	-22	-22	-16	-14	-17	-21	-21	-26	-23	-21	-21	-23	-22	-22	-20	-21	-15
28	-14	-15	-15	-11	-8	-6	-5	-10	-12	-6	-7	-14	-11	-2	3	9	13	16	-1	-15	-17	-31	-40	-38
29	-28	-27	-31	-37	-37	-28	-37	-48	-41	-46	-55	-67	-61	-46	-48	-50	-53	-51	-51	-46	-48	-48	-49	-41
30	-35	-33	-36	-38	-48	-43	-44	-56	-52	-42	-42	-47	-47	-41	-44	-42	-40	-44	-45	-44	-41	-44	-51	-47
31	-45	-40	-38	-38	-37	-32	-28	-40	-40	-32	-27	-30	-31	-41	-40	-32	-31	-32	-37	-41	-45	-51	-49	-36



PRINCIPAL MAGNETIC STORMS

AUGUST 1982

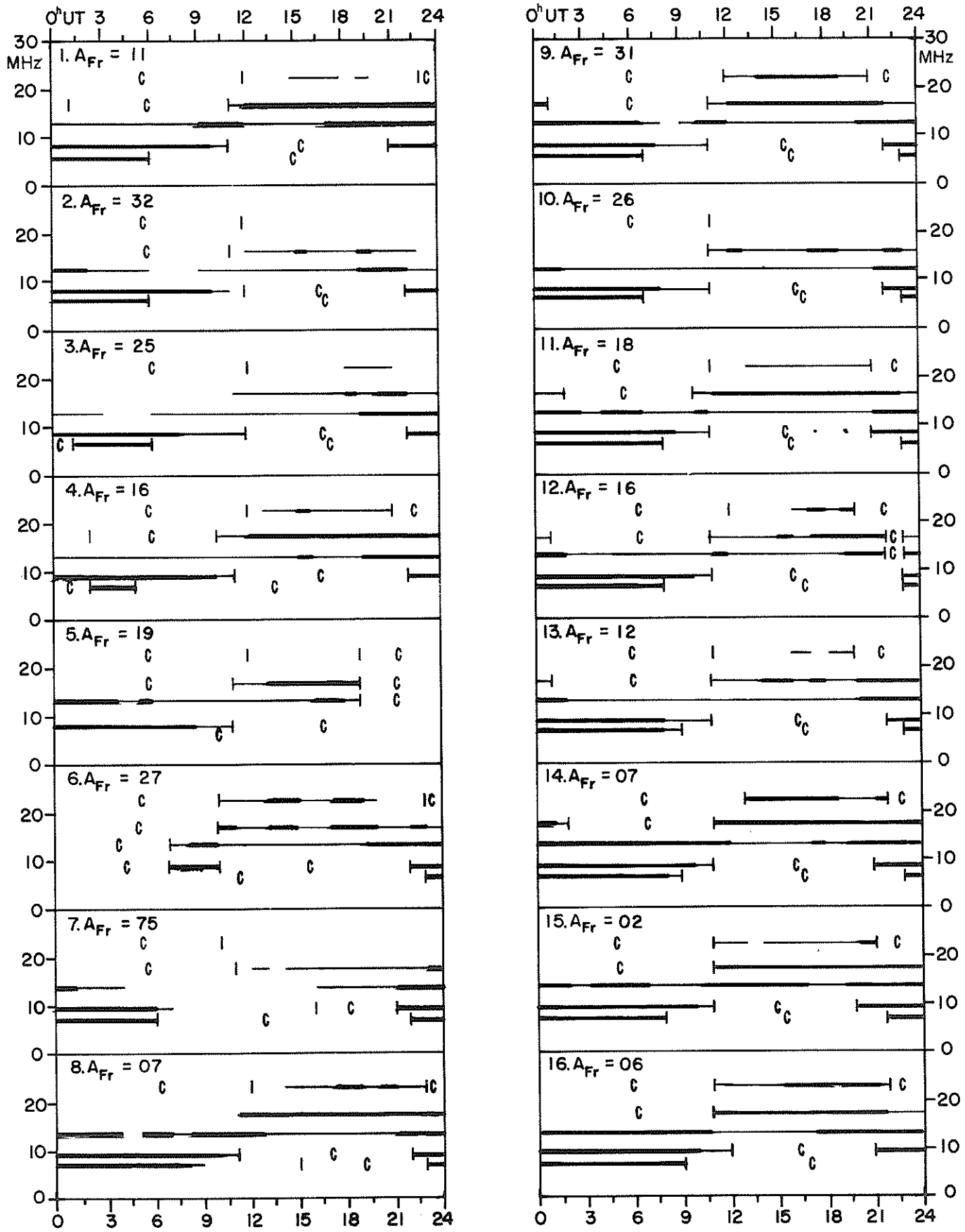
Sta	Geomag Lat	Commencement Day	Commencement Time (UT)	Type	SC Amplitudes D (Min)	SC Amplitudes H (Gamma)	SC Amplitudes Z (Gamma)	Maximum 3-Hour K Index Day(3-Hour Periods)	K	Ranges D (Min)	Ranges H (Gamma)	Ranges Z (Gamma)	End Day	End Hour (UT)
HYB	07.6N	01	1800	..	..	..	..	02(4)	6	9	138	38	04	20
COL	64.6N	02	09--	..	..	..	..	02(4) 03(3,4) 04(4,5)	6	176	1100	730	04	23
WIT	54.2N	02	09--	..	..	..	..	02(6,7,8)	6	28	205	90	03	02
FRD	49.6N	02	----	..	..	..	..	02(5,7,8) 03(2)	5	23	147	114	05	--
GUA	04.0N	02	0837	..	..	..	..	02(4)	5	10	110	40	03	16
HUA	00.6S	02	0359	..	..	..	..	02(6)	7	9	302	58	03	20
HER	33.7S	02	08--	..	..	..	..	02(7)	5	19	115	71	03	15
COL	64.6N	06	09--	..	..	..	..	07(2,3,4,5,6)	7	468	1960	1310	07	21
SIT	60.0N	06	18--	..	..	..	..	07(2)	8	--	--	--	07	20
WIT	54.2N	06	18--	..	..	..	..	07(2,5,6)	7	25	380	250	07	18
FRD	49.6N	06	18--	..	..	..	..	07(3,6)	7	51	310	222	13	--
JAI	17.3N	06	1836	SC	- 1.3	41	- 8		-	9	191	52	07	21
SHL	14.6N	06	1836	SC	- 0.4	45	8		-	8	239	61	07	21
UJJ	13.5N	06	1836	SC	- 0.8	46	- 10		-	7	186	42	07	21
ABG	09.5N	06	1836	SC	- 0.9	34	- 9	07(2,3,4)	6	6	178	57	07	21
HYB	07.6N	06	1836	..	- 0.6	36	- 2	07(3)	7	6	198	40	07	21
GUA	04.0N	06	1836	..	..	..	..	07(3)	7	10	270	60	07	17
ANN	01.5N	06	1836	SC	- 1.7	41	24		-	6	246	117	07	21
TRD	01.1S	06	1836	SC	- 0.3	28	38		-	5	346	186	07	21
HER	33.7S	06	08--	..	..	..	..	07(3,4)	6	43	165	115	07	17
GNA	43.2S	06	18--	..	..	..	..	07(2,4,5)	6	30	200	170	07	21
KGL	56.5S	06	18--	..	..	..	..	07(1,2,3,5)	7	71	585	339	07	23
HUA	00.6S	07	0057	..	..	..	..	07(6)	7	20	393	42	07	21
PMG	18.6S	07	03--	..	..	..	..	07(2,3)	7	9	250	100	07	21
COL	64.6N	09	06--	..	..	..	..	11(6)	7	234	1420	930	12	20
GUA	04.0N	09	1447	..	..	..	..	10(1)	5	10	130	40	10	13
HYB	07.6N	11	0600	..	..	..	..	11(6)	5	6	144	41	12	23
HER	33.7S	11	08--	..	..	..	..	11(6)	5	17	109	82	11	21
FRD	49.6N	20	16--	..	..	..	..	22(7)	5	24	119	44	26	--
HYB	07.6N	21	2300	..	..	..	..	22(5,6,7)	4	7	80	30	23	10
HUA	00.6S	22	0058	..	..	..	..	22(6)	6	5	249	38	22	21
HER	33.7S	22	08--	..	..	..	..	22(7)	5	24	81	77	23	03
HYB	07.6N	25	0100	..	..	..	..	25(8) 26(5,6)	4	7	110	42	26	23
COL	64.6N	28	1002	SC*	- 5	65	31	29(3)	8	369	2070	1250	01	21
SIT	60.0N	28	18--	..	..	..	..	29(3)	8	80	--	770	30	22
GUA	04.0N	28	2108	..	..	..	..	29(4)	5	10	140	40	29	18
HYB	07.6N	29	0500	..	..	..	..	29(4,5)	5	8	155	38	31	09
HUA	00.6S	29	0416	..	..	..	..	29(5,6)	6	7	212	49	29	23

REPORTS WERE RECEIVED FROM THE FOLLOWING OBSERVATORIES:

ALIBAG	COLLEGE	GNANGARA	HERMANUS	HYDERABAD	PORT MORESBY	TRIVANDRUM
ANNAMALAINAGAR	FREDERICKSBURG	GUAM	HONOLULU	JAIPUR	SHILLONG	UJJAIN
			HUANCAYO	KERGUELEN	SITKA	WITTEVEEN

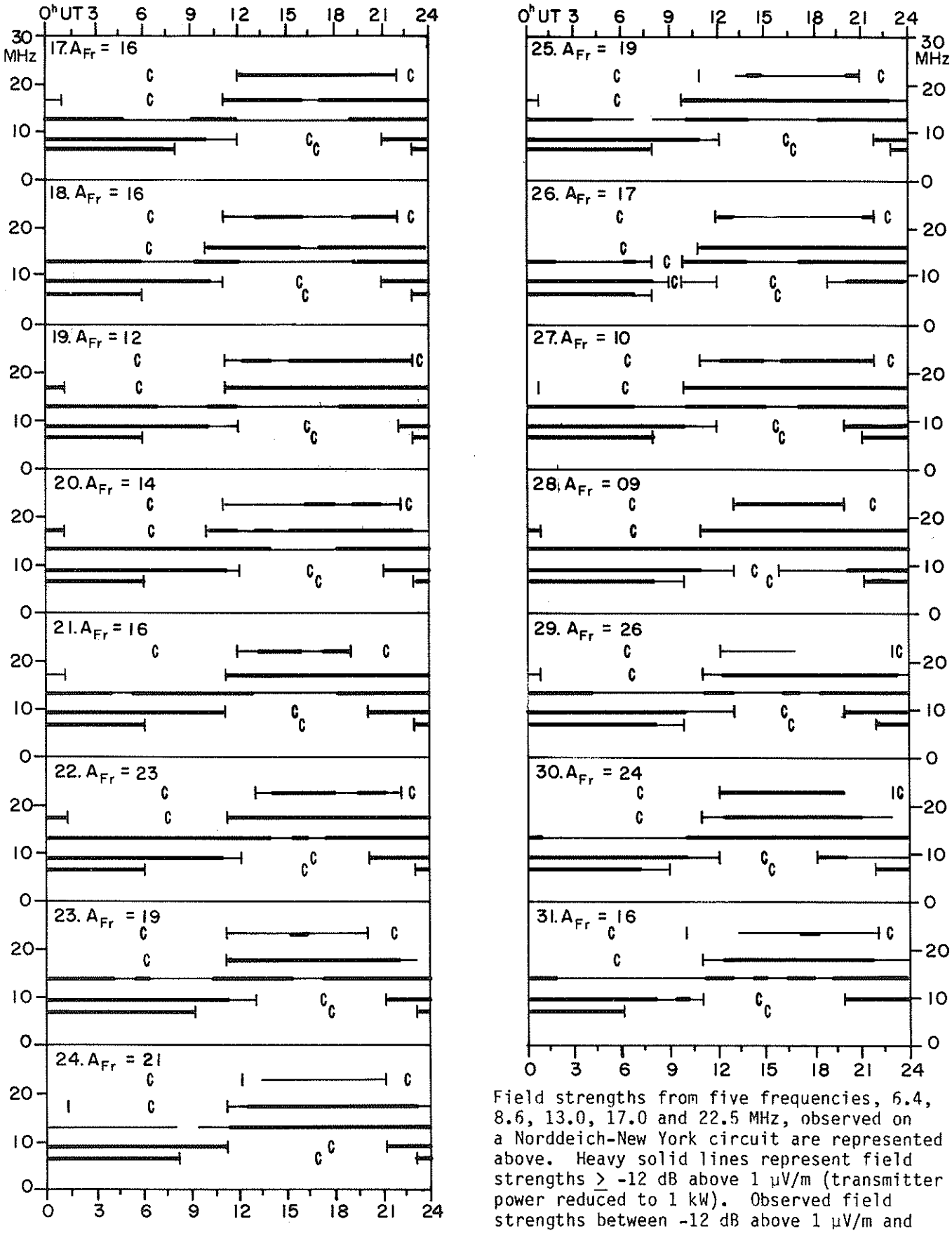
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

AUGUST 1982



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

AUGUST 1982



Field strengths from five frequencies, 6.4, 8.6, 13.0, 17.0 and 22.5 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 above 1 μV/m and -40 dB above 1 μV/m are represented by the fine line.

RADIO PROPAGATION QUALITY INDICES

AUGUST 1982

DAY	TOKYO	NEW YORK	TEHERAN	OSLO	BRACKNELL
1	6.0	5.2	6.2	6.4	5.4
2	6.2	3.0	6.0	2.5	2.8
3	5.9	3.1	7.3	2.1	3.8
4	7.0	5.6	7.3	4.9	6.6
5	7.7	6.0	7.0	6.3	5.6
6	7.7	5.0	6.9	5.7	5.9
7	4.9	3.0	4.2	1.8	4.3
8	7.2	7.7	6.9	6.2	9.9
9	7.6	5.6	5.1	6.2	8.9
10	7.2	3.9	6.1	5.9	5.1
11	6.7	5.3	4.4	7.7	7.3
12	5.9	4.6	5.7	6.0	5.0
13	5.5	4.6	7.7	7.6	4.6
14	7.1	7.0	8.3	8.2	5.4
15	7.4	8.5	7.7	9.1	7.7
16	7.3	7.7	8.6	5.9	4.9
17	7.7	6.2	7.1	7.7	5.5
18	7.2	6.5	6.4	7.6	5.6
19	8.1	7.5	7.1	9.1	6.0
20	6.9	7.2	7.7	4.7	5.3
21	6.5	8.0	7.6	8.5	8.0
22	6.8	7.9	5.9	5.4	4.8
23	5.7	6.4	6.1	5.9	3.8
24	5.9	6.6	7.4	5.2	1.8
25	6.3	6.2	7.2	3.3	5.1
26	6.5	6.4	6.5	4.4	5.8
27	8.8	9.3	8.1	7.5	7.6
28	8.0	9.3	6.0	4.8	6.5
29	6.9	4.2	6.3	5.7	3.8
30	6.2	4.3	5.6	4.4	4.1
31	5.5	4.6	5.2	4.0	4.4
MEAN	6.8	6.0	6.6	5.8	5.5

CALCULATION OF QUALITY INDICES (Q)

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

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

The quality indices vary from 0.0 to 9.9 where 6.0 is normal. Conditions are "normal" (index = 6.0), if they correspond to the average of the preceeding 27 days.

Scale for Quality Indices

0.0 - 1.0 = very poor
1.1 - 3.0 = poor
3.1 - 5.0 = fair
5.1 - 7.0 - normal
7.1 - 9.0 = good
9.1 - 9.9 = very good

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WORLD DATA CENTER A
FOR
SOLAR-TERRESTRIAL PHYSICS

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

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