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Solar - Geophysical Data

Part I (Prompt Reports)

NO. 461 JANUARY 1983

DATA FOR
DECEMBER 1982
NOVEMBER 1982

Michael A. Chinnery, Director
NATIONAL GEOPHYSICAL DATA CENTER
BOULDER, COLORADO

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SOLAR-GEOPHYSICAL DATA

1

No. 461

Issued in two parts

Helen E. Coffey, Editor

Joe H. Allen, Chief
Solar-Terrestrial Physics Division

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| | 1981 | 1982 | | | | | | | | | | | | | | | | | | |
|--|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--|--|--|--|--|--|--|
| | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | | | | | | | |
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450A 42 listed under 1981 Dec means that the sunspot drawings for Dec 1981 were contained in Solar-Geophysical Data Number 450 - Part I, beginning on page 42.

A = Part I, B = Part II.

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

SGD 461 Part I (Prompt)

DECEMBER 1982 DATA

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ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS)

07 DECEMBER 1982 SYDNEY 07/0411Z SSC OBSERVED 12 GAMMA 0330Z
08 DECEMBER 1982 LEARMONTH 08/0000Z TENFLARE 2000 FLUX UNITS 07/2341Z
08 DECEMBER 1982 CULGOORA 08/0030Z TYPE IV RADIO EMISSION 20-8000 MHZ IMPORTANCE 3
08 DECEMBER 1982 CULGOORA 08/0030Z TENFLARE 5100 FLUX UNITS 07/2400Z
08 DECEMBER 1982 BOULDER 08/0120Z XRAY EVENT X2/2B S14W81 07/2341Z DURATION 10 MINUTES, SUSPECTED
PROTON FLARE, MAGSTORM EXPECTED DUE TO FLARE.
08 DECEMBER 1982 BOULDER 08/0455Z TENFLARE 1360 FLUX UNITS 07/2337Z DURATION 10 MINUTES
08 DECEMBER 1982 BOULDER 08/0455Z TENFLARE 5100 FLUX UNITS 07/2400Z DURATION 1 MINUTE
08 DECEMBER 1982 BOULDER 08/0455Z POLARCAP ABSORPTION BEGAN 08/0045Z 1.4 DB
08 DECEMBER 1982 BOULDER 08/0455Z PROTON EVENT BEGAN AT 08/0010Z 10 PROTONS/CM2/SE/STER AT >= 10MEV
08 DECEMBER 1982 TOYOKAWA 08/0120Z TENFLARE 8000 FLUX UNITS 07/2326Z IN PROGRESS
08 DECEMBER 1982 BOULDER 08/1635Z TENFLARE 330 FLUX UNITS 08/1323Z DURATION 120 MINUTES
08 DECEMBER 1982 BOULDER 08/1635Z TENFLARE 1471 FLUX UNITS 08/1421Z DURATION 23 MINUTES
09 DECEMBER 1982 SYDNEY 09/2202Z TENFLARE 345 FLUX UNITS 09/2146Z DURATION 24 MINUTES
09 DECEMBER 1982 BOULDER 09/2214Z TENFLARE 300 FLUX UNITS 09/2144Z DURATION 7 MINUTES
10 DECEMBER 1982 TOYOKAWA 10/0525Z TENFLARE 140 FLUX UNITS 10/0344Z IN PROGRESS
11 DECEMBER 1982 TOYOKAWA 11/0535Z TENFLARE 360 FLUX UNITS 11/0438Z DURATION 40 MINUTES
11 DECEMBER 1982 BOULDER 11/0505Z XRAY EVENT M9/2B S10E79 11/0406Z DURATION 23 MINUTES
11 DECEMBER 1982 BOULDER 11/0505Z TENFLARE 280 FLUX UNITS 11/0439Z DURATION 7 MINUTES
12 DECEMBER 1982 TOYOKAWA 12/0130Z TENFLARE 100 FLUX UNITS 11/0544Z DURATION 4 MINUTES
13 DECEMBER 1982 TOYOKAWA 13/0415Z TENFLARE 320 FLUX UNITS 13/0320Z DURATION 2 MINUTES
13 DECEMBER 1982 BOULDER 13/1400Z TENFLARE 220 FLUX UNITS 13/0324Z DURATION 16 MINUTES
13 DECEMBER 1982 BOULDER 13/1400Z XRAY EVENT M8/2B S09E51 13/0320Z DURATION 50 MINUTES
15 DECEMBER 1982 BOULDER 15/0210Z XRAY EVENT X1/2B S10E24 15/0157Z DURATION 11 MINUTES
15 DECEMBER 1982 BOULDER 15/0210Z TENFLARE 7300 FLUX UNITS 15/0158Z DURATION 18 MINUTES
15 DECEMBER 1982 TOYOKAWA 15/0225Z TENFLARE 4240 FLUX UNITS 15/0156Z DURATION 25 MINUTES
15 DECEMBER 1982 SYDNEY 15/0245Z SOFLARE LEARMONTH 2B S10E24 15/0159Z
15 DECEMBER 1982 SYDNEY 15/0245Z TENFLARE LEARMONTH 7530 FLUX UNITS
15 DECEMBER 1982 SYDNEY 15/0245Z TYPE IV RADIO EMISSION CULGOORA IN PROGRESS 15-8000 MHZ
15 DECEMBER 1982 SYDNEY 15/0245Z MAGNETIC CROCHET OBSERVED SYDNEY 15/0159Z
15 DECEMBER 1982 BOULDER 15/1410Z STRONG MAGSTORM EXPECTED 16/1200Z
15 DECEMBER 1982 BOULDER 15/1715Z XRAY EVENT X5/2B S10E15 15/1620Z DURATION 18 MINUTES
15 DECEMBER 1982 BOULDER 15/1715Z TENFLARE 840 FLUX UNITS 15/1628Z DURATION 14 MINUTES
16 DECEMBER 1982 BOULDER 16/1415Z TENFLARE 380 FLUX UNITS 16/1003Z DURATION 6 MINUTES
16 DECEMBER 1982 BOULDER 16/1425Z XRAY EVENT X1/2B S06W10 16/1452Z IN PROGRESS
16 DECEMBER 1982 BOULDER 16/1425Z TENFLARE 600 FLUX UNITS 16/1455Z IN PROGRESS
16 DECEMBER 1982 BOULDER 16/1550Z TENFLARE 480 FLUX UNITS 16/1418Z DURATION 8 MINUTES
17 DECEMBER 1982 BOULDER 17/1450Z STRONG MAGSTORM IN PROGRESS 17/1400Z
17 DECEMBER 1982 TOYOKAWA 17/0338Z TENFLARE 120 FLUX UNITS 17/0144Z DURATION 20 MINUTES
17 DECEMBER 1982 BOULDER 17/1850Z XRAY EVENT X10/3B S08W21 17/1821Z DURATION 22 MINUTES
17 DECEMBER 1982 BOULDER 17/1850Z TENFLARE 1900 FLUX UNITS 17/1849Z DURATION 15 MINUTES
17 DECEMBER 1982 BOULDER 17/2130Z PROTON EVENT BEGAN 17/1945Z 30 PROTONS/CM2/SEC/STER >= 10
MEV AT 17/2131Z
18 DECEMBER 1982 BOULDER 18/1420Z XRAY EVENT X1/1B S10W20 18/0818Z DURATION 23 MINUTES
18 DECEMBER 1982 BOULDER 18/1520Z XRAY EVENT X1/2B S12W20 IN PROGRESS
18 DECEMBER 1982 BOULDER 18/1520Z TENFLARE 240 FLUX UNITS 18/1504Z IN PROGRESS
19 DECEMBER 1982 BOULDER 19/1920Z PROTON EVENT 72 PROTONS/CM2/SEC/STER >= 10 MEV MAXIMUM AT 19/2350Z
20 DECEMBER 1982 KAKIOKA 19/0500Z MAGSTORM 19/0253Z
22 DECEMBER 1982 BOULDER 22/1415Z TENFLARE 900 FLUX UNITS 22/0824Z DURATION 12 MINUTES
22 DECEMBER 1982 BOULDER 22/1415Z XRAY EVENT X2/SB S09W82 22/0824Z DURATION 13 MINUTES
25 DECEMBER 1982 BOULDER 25/1410Z XRAY EVENT X2/1B S17E31 25/0716Z DURATION 85 MINUTES STRONG TYPE IV
25 DECEMBER 1982 BOULDER 25/1410Z TENFLARE 860 FLUX UNITS 25/0737Z DURATION 45 MINUTES
26 DECEMBER 1982 TOYOKAWA 26/0119Z TENFLARE 240 FLUX UNITS 26/0011Z DURATION 5 MINUTES
26 DECEMBER 1982 BOULDER 26/0135Z TENFLARE 190 FLUX UNITS 26/0011Z DURATION 5 MINUTES
27 DECEMBER 1982 BOULDER 27/0623Z PROTON EVENT BEGAN 27/0600Z WITH MAXIMUM OF 170 PROTON/CM2/SEC/STER >=
10 MEV AT 27/1145Z
29 DECEMBER 1982 BOULDER 29/1415Z XRAY EVENT X1/2B S13W12 29/0640Z DURATION 10 MINUTES
29 DECEMBER 1982 BOULDER 29/1415Z TENFLARE 670 FLUX UNITS 29/0644Z DURATION 9 MINUTES
30 DECEMBER 1982 TOYOKAWA 30/0020Z TENFLARE 680 FLUX UNITS 29/0643Z DURATION 7 MINUTES

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE
DECEMBER 1982

SUMMARY OF THE GEOALERT MESSAGES

| NO | DI | DO | WOLF | 10CM | A | LOC | TOT | M | X | OUTSTANDING EVENTS | DA | LOC | DE | ALERTS |
|-----|----|----|------|------|-----|--------|-----|---|---|--------------------------------|----|--------|----|-------------|
| | | | | | | N05E56 | 0 | 0 | 0 | | | N05E56 | Q | |
| | | | | | | S16E63 | 2 | 1 | 0 | | | S16E63 | Q | |
| | | | | | | N11E79 | 3 | 0 | 0 | | | N11E79 | Q | |
| 343 | 09 | 08 | 275 | 241 | 022 | N16W78 | 0 | 0 | 0 | PRESTO TENFLARE 1360 FLUX | 09 | N16W78 | Q | SOLALERT |
| | | | | | | N14W65 | 0 | 0 | 0 | UNITS 07/2337Z DURATION 10 | | N14W65 | Q | 09/11 |
| | | | | | | S23W60 | 2 | 0 | 0 | MINUTES. TENFLARE 5100 FLUX | | S23W60 | Q | MAGNIL 09 |
| | | | | | | S09W56 | 0 | 0 | 0 | UNITS 07/2400Z DURATION 1 | | S09W56 | Q | MAGALERT |
| | | | | | | N08W40 | 0 | 0 | 0 | MINUTE. POLCAP OBSORPTION | | N08W40 | A | 10/11 |
| | | | | | | N12W36 | 1 | 0 | 0 | BEGAN AT 08/0045Z 1.4 DB. | | N12W36 | Q | |
| | | | | | | N08W21 | 2 | 0 | 0 | PROTON EVENT BEGAN 08/0010Z | | N08W21 | Q | |
| | | | | | | S09E10 | 0 | 0 | 0 | 10 PROTONS/CM2/SEC/STER AT | | S09E10 | Q | |
| | | | | | | S10E30 | 1 | 0 | 0 | >=10 MEV. TENFLARE 330 FLUX | | S10E30 | Q | |
| | | | | | | S06E43 | 0 | 0 | 0 | UNITS 08/1323Z DURATION 120 | | S06E43 | Q | |
| | | | | | | S17E51 | 5 | 0 | 0 | MINUTES. TENFLARE 1471 FLUX | | S17E51 | Q | |
| | | | | | | N11E64 | 7 | 3 | 0 | UNITS 08/1421Z DURATION 23 | | N11E64 | Q | |
| | | | | | | | | | | MINUTES. | | | | |
| 344 | 10 | 09 | 274 | 243 | 017 | N15W81 | 1 | 0 | 0 | PRESTO TENFLARE 345 FLUX | 10 | N15W81 | Q | SOLALERT |
| | | | | | | S23W73 | 1 | 0 | 0 | UNITS 09/2139Z DURATION 24 | | S23W73 | Q | 10/11 |
| | | | | | | S08W70 | 0 | 0 | 0 | MINUTES. | | S08W70 | Q | MAGALERT |
| | | | | | | N12W50 | 0 | 0 | 0 | | | N12W50 | Q | 10/11 |
| | | | | | | N08W35 | 7 | 5 | 0 | | | N08W35 | A | |
| | | | | | | S09W02 | 0 | 0 | 0 | | | S08W02 | Q | |
| | | | | | | S08E14 | 1 | 0 | 0 | | | S08E14 | Q | |
| | | | | | | S05E29 | 0 | 0 | 0 | | | S05E29 | Q | |
| | | | | | | S16E37 | 1 | 0 | 0 | | | S16E37 | Q | |
| | | | | | | N12E53 | 10 | 3 | 0 | | | N12E53 | E | |
| | | | | | | S08E69 | 0 | 0 | 0 | | | S08E69 | Q | |
| | | | | | | S06E83 | 0 | 0 | 0 | | | S06E83 | Q | |
| 345 | 11 | 10 | 218 | 279 | 040 | N12W64 | 0 | 0 | 0 | PRESTO THE PROTON EVENT BEGAN | 11 | N12W64 | Q | SOLALERT |
| | | | | | | N07W50 | 9 | 7 | 0 | 08/0010Z WITH MAXIMUM OF 1000 | | N07W50 | A | 11/13 |
| | | | | | | S09E02 | 2 | 0 | 0 | PROTONS/CM2/SEC/STER >=10 MEV | | S09E02 | Q | MAGALERT 11 |
| | | | | | | S05E17 | 0 | 0 | 0 | AT 08/1000Z AND NEAR THRESHOLD | | S05E17 | Q | |
| | | | | | | S15E24 | 6 | 0 | 0 | OF 10 PROTONS AT 11/0200Z.PCA | | S15E24 | Q | |
| | | | | | | N12E39 | 5 | 2 | 0 | BEGAN 08/0045Z WITH MAXIMUM | | N12E39 | A | |
| | | | | | | S07E51 | 1 | 0 | 0 | ABSORPTION OF 10 DB AT 08/1200 | | S07E51 | Q | |
| | | | | | | S07E66 | 2 | 0 | 0 | AND END AT 10/0700Z. | | S07E66 | Q | |
| 346 | 12 | 11 | 242 | 272 | 016 | N10W77 | 2 | 0 | 0 | PRESTO XRAY EVENT M9/2B S10E78 | 12 | N10W77 | Q | SOLALERT |
| | | | | | | N07W63 | 9 | 1 | 0 | 11/0436Z DURATION 23 MINUTES. | | N07W63 | A | 12/14 |
| | | | | | | S09W11 | 1 | 0 | 0 | TENFLARE 360 FLUX UNITS | | S09W11 | Q | MAGNIL |
| | | | | | | S05E05 | 0 | 0 | 0 | 11/0438Z DURATION 40 MINUTES | | S05E05 | Q | |
| | | | | | | S16E11 | 7 | 1 | 0 | | | S16E11 | E | |
| | | | | | | N12E25 | 7 | 0 | 0 | | | N12E25 | A | |
| | | | | | | S07E37 | 1 | 0 | 0 | | | S07E37 | Q | |
| | | | | | | S06E54 | 1 | 0 | 0 | | | S06E54 | A | |
| | | | | | | S09E66 | 1 | 1 | 0 | | | S09E66 | Q | |
| 347 | 13 | 12 | 261 | 259 | 014 | N08W77 | 6 | 1 | 0 | | 13 | N08W77 | A | SOLALERT |
| | | | | | | S09W23 | 1 | 0 | 0 | | | S09W23 | Q | 13/14 |
| | | | | | | S05W11 | 0 | 0 | 0 | | | S05W11 | Q | MAGQUIET |
| | | | | | | S04W03 | 0 | 0 | 0 | | | S04W03 | Q | |
| | | | | | | S16W01 | 2 | 0 | 0 | | | S16W01 | Q | |
| | | | | | | N11E12 | 7 | 0 | 0 | | | N11E12 | A | |
| | | | | | | S07E23 | 0 | 0 | 0 | | | S07E23 | Q | |
| | | | | | | S07E41 | 0 | 0 | 0 | | | S07E41 | E | |
| | | | | | | S11E52 | 2 | 0 | 0 | | | S11E52 | A | |
| 348 | 14 | 13 | 246 | 247 | 008 | S11W35 | 2 | 0 | 0 | PRESTO TENFLARE 320 FLUX | 14 | S11W35 | Q | SOLALERT |
| | | | | | | S13W24 | 0 | 0 | 0 | UNITS 13/0320Z DURATION 2 | | S13W24 | Q | 14/16 |
| | | | | | | S06W22 | 1 | 0 | 0 | MINUTES. XRAY EVENT M8/2B | | S06W22 | Q | MAGQUIET |
| | | | | | | S17W15 | 1 | 0 | 0 | S09E51 13/0320Z. TENFLARE | | S17W15 | Q | |
| | | | | | | S05W15 | 0 | 0 | 0 | 220 FLUX UNITS 13/0324Z | | S05W15 | Q | |
| | | | | | | N11W01 | 2 | 0 | 0 | DURATION 16 MINUTES. | | N11W01 | E | |
| | | | | | | S08E12 | 1 | 0 | 0 | | | S08E12 | Q | |
| | | | | | | S06E28 | 2 | 0 | 0 | | | S06E28 | Q | |
| | | | | | | S11E39 | 8 | 3 | 0 | | | S11E39 | A | |

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE
SUMMARY OF THE GEOALERT MESSAGES DECEMBER 1982

| NO | DI | DO | WOLF | 10CM | A | LOC | TOT | M | X | OUTSTANDING EVENTS | DA | LOC | DE | ALERTS |
|-----|----|----|------|------|-----|--------|-----|---|---|--|----|--------|----|----------|
| 349 | 15 | 14 | 240 | 243 | 006 | S11W49 | 1 | 0 | 0 | | 15 | S11W49 | Q | SOLALERT |
| | | | | | | S13W39 | 0 | 0 | 0 | | | S13W39 | Q | 15/17 |
| | | | | | | S06W38 | 0 | 0 | 0 | | | S06W38 | Q | MAGQUIET |
| | | | | | | S16W29 | 6 | 0 | 0 | | | S16W29 | E | |
| | | | | | | N11W14 | 3 | 0 | 0 | | | N11W14 | E | |
| | | | | | | S07W01 | 1 | 0 | 0 | | | S07W01 | Q | |
| | | | | | | S07E13 | 0 | 0 | 0 | | | S07E13 | Q | |
| | | | | | | S11E25 | 8 | 0 | 0 | | | S11E25 | E | |
| | | | | | | S05E82 | 0 | 0 | 0 | | | S05E82 | Q | |
| 350 | 16 | 15 | 196 | 236 | 011 | S13W58 | 3 | 0 | 0 | PRESTO XRAY EVENT X11/2B | 16 | S13W58 | Q | SOLALERT |
| | | | | | | S06W50 | 1 | 0 | 0 | 15/0157Z DURATION 11 MINUTES | | S06W50 | Q | 16/18 |
| | | | | | | S17W42 | 2 | 0 | 0 | TENFLARE 7300 FLUX UNITS | | S17W42 | E | MAGALERT |
| | | | | | | N10W28 | 4 | 0 | 0 | 15/0158Z DURATION 18 MINUTES | | N10W28 | E | 16/17 |
| | | | | | | S06W13 | 1 | 0 | 0 | TYPE IV RADIO EMISSION IN | | S06W13 | Q | |
| | | | | | | S07W00 | 1 | 2 | 0 | PROGRESS 15-8000MHZ 15/0245Z | | S07W00 | A | |
| | | | | | | S11E11 | 5 | 1 | 2 | MAGNETIC CROCHET OBSERVED AT | | S11E11 | A | |
| | | | | | | S05E67 | 1 | 0 | 0 | SYDNEY 15/0159Z XRAY EVENT | | S05E67 | E | |
| | | | | | | N10E74 | 0 | 0 | 0 | X5/2B S10E15 15/1620Z DURATION 18 MINUTES, TENFLARE 840 FLUX UNITS 15/1628Z DURATION 14 MINUTES. | | N10E74 | Q | |
| 351 | 17 | 16 | 186 | 214 | 016 | S12W71 | 0 | 0 | 0 | PRESTO TENFLARE 380 FLUX UNITS | 17 | S12W71 | Q | SOLALERT |
| | | | | | | S06W63 | 0 | 0 | 0 | 16/1003Z DURATION 6 MINUTES | | S06W63 | Q | 17/19 |
| | | | | | | S16W55 | 6 | 1 | 0 | TENFLARE 480 FLUX UNITS 16/ | | S16W55 | Q | MAGALERT |
| | | | | | | N11W40 | 4 | 0 | 0 | 1418Z DURATION 8 MINUTES. | | N11W40 | E | 17/18 |
| | | | | | | S06W26 | 1 | 0 | 0 | XRAY EVENT X1/2B S06W10 | | S06W26 | Q | |
| | | | | | | S07W12 | 4 | 0 | 1 | 16/1452Z DURATION 18 MINUTES | | S07W12 | A | |
| | | | | | | S12W01 | 9 | 0 | 0 | TENFLARE 600 FLUX UNITS | | S12W01 | A | |
| | | | | | | S06E54 | 0 | 0 | 0 | 16/1455Z DURATION 16 MINUTES. | | S06E54 | Q | |
| | | | | | | N10E61 | 0 | 0 | 0 | | | N10E61 | Q | |
| 352 | 18 | 17 | 158 | 202 | 039 | S16W68 | 4 | 2 | 0 | PRESTO 120 FLUX UNITS 17/0144Z | 18 | S16W68 | A | SOLALERT |
| | | | | | | N10W51 | 2 | 0 | 0 | DURATION 20 MINUTES. STRONG | | N10W51 | E | 18/23 |
| | | | | | | S06W26 | 2 | 0 | 1 | MAGSTORM IN PROGRESS 17/1400Z | | S06W26 | A | MAGALERT |
| | | | | | | S12W14 | 6 | 4 | 0 | XRAY EVENT X10/3B S08W21 | | S12W14 | A | 18/20 |
| | | | | | | S06E40 | 0 | 0 | 0 | 17/1821Z DURATION 22 MINUTES | | S06E40 | Q | |
| | | | | | | N11E47 | 0 | 0 | 0 | TENFLARE 1900 FLUX UNITS 17/1849Z DURATION 15 MINUTES. PROTON EVENT BEGAN 17/1945Z 60 PROTONS/CM2/SEC/STER >= 10 MEV AT 17/2400Z | | N11E47 | Q | |
| 353 | 19 | 18 | 145 | 193 | 030 | S16W84 | 1 | 0 | 0 | PRESTO XRAY EVENT X1/1B | 19 | S16W84 | A | SOLALERT |
| | | | | | | N10W64 | 8 | 1 | 0 | S10W20 18/0818Z DURATION | | S10W20 | E | 19/21 |
| | | | | | | S07E51 | 0 | 0 | 0 | 23 MINUTES. XRAY EVENT X1/2B | | S07W51 | Q | MAGALERT |
| | | | | | | S06W39 | 1 | 0 | 0 | S12W20 18/1504Z DURATION 19 | | S06W39 | P | 19/21 |
| | | | | | | S13W27 | 12 | 0 | 2 | MINUTES | | S13W27 | P | |
| | | | | | | S06E28 | 0 | 0 | 0 | | | S06E28 | Q | |
| | | | | | | N11E34 | 0 | 0 | 0 | | | N11E34 | Q | |
| | | | | | | S16E60 | 3 | 0 | 0 | | | S16E60 | Q | |
| 354 | 20 | 19 | 118 | 179 | 025 | N10W78 | 8 | 2 | 0 | PRESTO PROTON EVENT BEGAN AT | 20 | N10W78 | E | SOLALERT |
| | | | | | | S07W51 | 2 | 0 | 0 | 19/1920Z MAXIMUM 72 PROTONS/ | | S07W51 | A | 20/22 |
| | | | | | | S11W41 | 13 | 1 | 0 | CM2/SEC/STER >=10 MEV | | S11W41 | Q | MAGALERT |
| | | | | | | S05E14 | 1 | 0 | 0 | 19/2350Z. MAGSTORM 19/0253Z | | S05E14 | Q | MINOR |
| | | | | | | N11E21 | 0 | 0 | 0 | | | N11E21 | Q | 20/22 |
| | | | | | | S17E46 | 0 | 0 | 0 | | | S17E46 | Q | |
| 355 | 21 | 20 | 112 | 165 | 028 | N09W92 | 3 | 2 | 0 | | 21 | N09W92 | A | SOLALERT |
| | | | | | | S07W65 | 4 | 0 | 0 | | | S07W65 | A | 21/23 |
| | | | | | | S09W54 | 2 | 0 | 0 | | | S09W54 | A | MAGALERT |
| | | | | | | N16W48 | 0 | 0 | 0 | | | N16W48 | Q | |
| | | | | | | S06E00 | 0 | 0 | 0 | | | S06E00 | Q | |
| | | | | | | N11E06 | 0 | 0 | 0 | | | N11E06 | Q | |
| | | | | | | S17E33 | 0 | 0 | 0 | | | S17E33 | Q | |
| | | | | | | N08E38 | 0 | 0 | 0 | | | N08E38 | Q | |

8
Dec 82

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE
DECEMBER 1982

SUMMARY OF THE GEOALERT MESSAGES

| NO | DI | DO | WOLF | 10CM | A | LOC | TOT | M | X | OUTSTANDING EVENTS | DA | LOC | DE | ALERTS |
|--------|----|----|------|------------------------------|--------|--------|-----|---|---|--------------------------------|----|--------|----|-------------|
| 356 | 22 | 21 | 140 | 154 | 028 | S07W81 | 2 | 0 | 0 | | 22 | S07W81 | E | SOLALERT |
| | | | | | | S09W68 | 1 | 0 | 0 | | | S09W68 | Q | MAGALERT |
| | | | | | | N15W63 | 0 | 0 | 0 | | | N15W63 | Q | |
| | | | | | | S03W27 | 0 | 0 | 0 | | | S03W27 | Q | |
| | | | | | | S06W12 | 0 | 0 | 0 | | | S06W12 | Q | |
| | | | | | | S19E10 | 1 | 0 | 0 | | | S19E10 | Q | |
| | | | | | | S18E20 | 0 | 0 | 0 | | | S18E20 | E | |
| | | | | | | N08E25 | 0 | 0 | 0 | | | N08E25 | Q | |
| | | | | | | S13E80 | 4 | 1 | 0 | | | S13E80 | Q | |
| 357 | 23 | 22 | 163 | 161 | 040 | S08W92 | 4 | 0 | 1 | PRESTO TENFLARE 900 FLUX | 23 | S08W92 | E | SOLNIL |
| | | | | | | S09W80 | 2 | 0 | 0 | UNITS 22/0924Z DURATION 12 | | S09W80 | Q | MAGNIL |
| | | | | | | N14W77 | 0 | 0 | 0 | MINUTES. XRAY EVENT X2/2B | | N14W77 | Q | |
| | | | | | | S03W40 | 1 | 0 | 0 | S09W82 22/0824Z DURATION 13 | | S03W40 | Q | |
| | | | | | | S07W24 | 0 | 0 | 0 | MINUTES. | | S07W24 | Q | |
| | | | | | | S18W03 | 2 | 0 | 0 | | | S18W03 | Q | |
| | | | | | | N14W00 | 0 | 0 | 0 | | | N14W00 | Q | |
| | | | | | | S17E07 | 0 | 0 | 0 | | | S17E07 | E | |
| | | | | | | N08E11 | 0 | 0 | 0 | | | N08E11 | Q | |
| | | | | | | S14E66 | 3 | 0 | 0 | | | S14E66 | A | |
| 358 | 24 | 23 | 163 | 166 | 023 | S03W54 | 0 | 0 | 0 | | 24 | S03W54 | Q | SOLQUIET |
| | | | | | | S06W37 | 0 | 0 | 0 | | | S06W37 | Q | MAGALERT |
| | | | | | | S18W16 | 0 | 0 | 0 | | | S18W16 | Q | 25/26 |
| | | | | | | N17W13 | 0 | 0 | 0 | | | N17W13 | Q | |
| | | | | | | S18W07 | 0 | 0 | 0 | | | S18W07 | Q | |
| | | | | | | N08W04 | 0 | 0 | 0 | | | N08W04 | Q | |
| | | | | | | N08W03 | 0 | 0 | 0 | | | N08W03 | Q | |
| | | | | | | S15E54 | 1 | 0 | 0 | | | S15E54 | Q | |
| S14E75 | 1 | 0 | 0 | | S14E75 | Q | | | | | | | | |
| 359 | 25 | 24 | 150 | 173 | 018 | S03W68 | 0 | 0 | 0 | | 25 | S03W68 | Q | SOLQUIET |
| | | | | | | S18W31 | 1 | 0 | 0 | | | S18W31 | Q | MAGALERT |
| | | | | | | N08W27 | 0 | 0 | 0 | | | N08W27 | Q | MINOR 25/26 |
| | | | | | | S18W20 | 1 | 0 | 0 | | | S18W20 | Q | |
| | | | | | | N08W17 | 0 | 0 | 0 | | | N08W17 | Q | |
| | | | | | | S15E40 | 3 | 0 | 0 | | | S15E40 | E | |
| S16E63 | 0 | 0 | 0 | | S16E63 | E | | | | | | | | |
| 360 | 26 | 25 | 143 | 176 | 015 | S20W45 | 0 | 0 | 0 | PRESTO XRAY EVENT X2/1B S17E31 | 26 | S20W45 | Q | SOLALERT |
| | | | | | | N06W41 | 0 | 0 | 0 | 25/0716Z DURATION 85 MINUTES. | | N06W41 | Q | 26/27 |
| | | | | | | S18W34 | 0 | 0 | 0 | TENFLARE 860 FLUX UNITS | | S18W34 | Q | MAGALERT |
| | | | | | | N08W31 | 0 | 0 | 0 | 25/0737Z DURATION 45 MINUTES. | | N08W31 | Q | MINOR 26/27 |
| | | | | | | S13E25 | 1 | 0 | 1 | TENFLARE 240 FLUX UNITS | | S13E25 | A | |
| S16E51 | 0 | 0 | 0 | 26/0011Z DURATION 5 MINUTES. | S16E51 | E | | | | | | | | |
| 361 | 27 | 26 | 159 | 175 | 010 | S19W57 | 0 | 0 | 0 | | 27 | S19W57 | Q | SOLALERT |
| | | | | | | N06W56 | 0 | 0 | 0 | | | N06W56 | Q | 27/28 |
| | | | | | | S18W46 | 3 | 0 | 0 | | | S18W46 | Q | MAGALERT |
| | | | | | | S09W44 | 3 | 0 | 0 | | | S09W44 | Q | MINOR 27 |
| | | | | | | S13E13 | 6 | 1 | 0 | | | S13E13 | A | |
| | | | | | | S15E37 | 2 | 0 | 0 | | | S15E37 | Q | |
| | | | | | | S20E62 | 0 | 0 | 0 | | | S20E62 | Q | |
| 362 | 28 | 27 | 191 | 172 | 014 | N06W73 | 1 | 0 | 0 | PRESTO PROTON EVENT BEGAN AT | 28 | N06W73 | Q | SOLALERT |
| | | | | | | S19W71 | 0 | 0 | 0 | 27/0600Z WITH MAXIMUM OF 170 | | S19W71 | Q | 28/29 |
| | | | | | | S18W61 | 1 | 0 | 0 | PROTONS/CM2/SEC/STER >= 10 | | S18W61 | Q | MAGNIL |
| | | | | | | N09W60 | 11 | 0 | 0 | MEV AT 27/1145Z | | N09W60 | Q | |
| | | | | | | S13W01 | 9 | 0 | 0 | | | S13W01 | A | |
| | | | | | | S16E24 | 3 | 0 | 0 | | | S16E24 | Q | |
| | | | | | | S20E48 | 0 | 0 | 0 | | | S20E48 | Q | |
| N05E82 | 0 | 0 | 0 | | N05E82 | Q | | | | | | | | |
| 363 | 29 | 28 | 149 | 162 | 015 | S19W87 | 0 | 0 | 0 | | 29 | S19W87 | Q | SOLALERT 29 |
| | | | | | | N05W86 | 0 | 0 | 0 | | | N05W86 | Q | MAGQUIET |
| | | | | | | S19W73 | 0 | 0 | 0 | | | S19W73 | Q | |
| | | | | | | N08W72 | 4 | 1 | 0 | | | N08W72 | Q | |
| | | | | | | S19W16 | 3 | 0 | 0 | | | S19W16 | Q | |
| | | | | | | S12W15 | 2 | 0 | 0 | | | S12W15 | A | |

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE
SUMMARY OF THE GEOALERT MESSAGES
DECEMBER 1982

| NO | DI | DO | WOLF | 10CM | A | LOC | TOT | M | X | OUTSTANDING EVENTS | DA | LOC | DE | ALERTS |
|-----|----|----|------|------|-----|--------|-----|---|---|-----------------------------|----|--------|----|-------------|
| | | | | | | S16E11 | 2 | 0 | 0 | | | S16E11 | Q | |
| | | | | | | N07E68 | 2 | 0 | 0 | | | N07E68 | Q | |
| 364 | 30 | 29 | 135 | 152 | 015 | S18W88 | 1 | 0 | 0 | PRESTO XRAY EVENT X1/2B | 30 | S18W88 | Q | SOLALERT |
| | | | | | | N09W85 | 1 | 0 | 0 | S13W12 29/0640Z DURATION 10 | | N09W85 | Q | 30/31 |
| | | | | | | S19W30 | 2 | 0 | 0 | MINUTES, TENFLARE 680 FLUX | | S19W30 | Q | MAGQUIET |
| | | | | | | S13W29 | 9 | 0 | 1 | UNITS 29/0644Z DURATION 9 | | S13W29 | A | |
| | | | | | | S15W02 | 0 | 0 | 0 | MINUTES. | | S15W02 | Q | |
| | | | | | | N07E55 | 1 | 0 | 0 | | | N07E55 | Q | |
| 365 | 31 | 30 | 115 | 147 | 012 | S18W44 | 2 | 0 | 0 | | 31 | S18W44 | Q | SOLALERT 31 |
| | | | | | | S13W43 | 7 | 1 | 0 | | | S13W43 | A | MAGQUIET |
| | | | | | | S02W17 | 0 | 0 | 0 | | | S02W17 | Q | |
| | | | | | | S15W14 | 0 | 0 | 0 | | | S15W14 | Q | |
| | | | | | | N06E42 | 0 | 0 | 0 | | | N06E42 | Q | |
| 001 | 01 | 31 | 103 | 139 | 009 | S19W65 | 1 | 0 | 0 | | 01 | S19W65 | Q | SOLNIL |
| | | | | | | S13W56 | 6 | 0 | 0 | | | S13W56 | A | MAGQUIET |
| | | | | | | S02W31 | 0 | 0 | 0 | | | S02W31 | Q | |
| | | | | | | S17W26 | 0 | 0 | 0 | | | S17W26 | Q | |
| | | | | | | N06E28 | 2 | 0 | 0 | | | N06E28 | Q | |

NO=MESSAGE SERIAL NUMBER,DI=DATE OF ISSUE,DO=DATE OF OBSERVATION,WOLF=WOLF NUMBER,10CM=10 CM SOLAR FLUX
A=A INDEX,LOC=LOCATION LAT-LONG,TOT=TOTAL NUMBER OF FLARES,M=NUMBER OF M FLARES,X=NUMBER OF X FLARES
DA=DATE OF FORECAST,DE=DESCRIPTION OF REGION,Q=QUIET,E=ERUPTIVE,A=ACTIVE,P=PROTON.

RELATIVE SUNSPOT NUMBERS
INTERNATIONAL, R_i

| DAY | 1982 FINAL | | | | | | | | | | 1982 PROVISIONAL | |
|------|------------|-------|-------|-------|------|-------|-------|-------|-------|------|------------------|-------|
| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
| 1 | 92 | 258 | 168 | 145 | 63 | 70 | 50 | 55 | 115 | 132 | 80 | 88 |
| 2 | 94 | 241 | 174 | 115 | 57 | 83 | 41 | 68 | 124 | 164 | 88 | 133 |
| 3 | 112 | 232 | 175 | 151 | 46 | 94 | 33 | 68 | 146 | 143 | 75 | 124 |
| 4 | 109 | 221 | 177 | 137 | 58 | 104 | 42 | 81 | 176 | 120 | 100 | 137 |
| 5 | 112 | 219 | 163 | 112 | 63 | 111 | 39 | 97 | 160 | 109 | 100 | 137 |
| 6 | 86 | 230 | 165 | 117 | 64 | 108 | 32 | 128 | 141 | 55 | 76 | 174 |
| 7 | 94 | 226 | 146 | 130 | 69 | 115 | 33 | 144 | 117 | 54 | 106 | 175 |
| 8 | 97 | 232 | 140 | 131 | 89 | 127 | 42 | 150 | 115 | 55 | 82 | 184 |
| 9 | 98 | 211 | 116 | 132 | 47 | 142 | 61 | 161 | 94 | 54 | 124 | 152 |
| 10 | 85 | 181 | 122 | 138 | 53 | 147 | 110 | 155 | 81 | 88 | 109 | 166 |
| 11 | 46 | 158 | 119 | 152 | 58 | 138 | 146 | 157 | 86 | 87 | 112 | 171 |
| 12 | 52 | 156 | 135 | 142 | 75 | 144 | 187 | 138 | 78 | 92 | 83 | 194 |
| 13 | 51 | 162 | 155 | 133 | 78 | 139 | 219 | 113 | 81 | 98 | 98 | 172 |
| 14 | 58 | 142 | 153 | 136 | 58 | 137 | 222 | 100 | 104 | 88 | 116 | 160 |
| 15 | 81 | 134 | 140 | 127 | 52 | 125 | 246 | 100 | 129 | 71 | 116 | 166 |
| 16 | 76 | 111 | 156 | 122 | 69 | 128 | 263 | 86 | 133 | 65 | 100 | 130 |
| 17 | 111 | 120 | 180 | 108 | 76 | 136 | 272 | 93 | 127 | 54 | 108 | 112 |
| 18 | 139 | 103 | 168 | 91 | 89 | 134 | 270 | 105 | 107 | 39 | 117 | 102 |
| 19 | 143 | 107 | 167 | 87 | 110 | 134 | 234 | 97 | 117 | 56 | 122 | 79 |
| 20 | 134 | 119 | 160 | 93 | 112 | 139 | 192 | 77 | 104 | 70 | 118 | 63 |
| 21 | 134 | 120 | 153 | 91 | 98 | 143 | 138 | 79 | 102 | 91 | 131 | 98 |
| 22 | 121 | 100 | 146 | 109 | 121 | 146 | 99 | 90 | 95 | 100 | 141 | 88 |
| 23 | 93 | 97 | 144 | 138 | 107 | 116 | 74 | 71 | 97 | 128 | 120 | 96 |
| 24 | 70 | 120 | 122 | 145 | 110 | 112 | 27 | 79 | 109 | 145 | 96 | 100 |
| 25 | 82 | 128 | 152 | 149 | 88 | 92 | 25 | 101 | 118 | 134 | 75 | 112 |
| 26 | 119 | 136 | 147 | 150 | 117 | 94 | 29 | 98 | 138 | 135 | 73 | 116 |
| 27 | 125 | 154 | 182 | 126 | 130 | 49 | 22 | 115 | 133 | 131 | 71 | 126 |
| 28 | 168 | 163 | 179 | 90 | 119 | 36 | 19 | 132 | 132 | 103 | 74 | 108 |
| 29 | 216 | | 169 | 85 | 112 | 32 | 23 | 134 | 144 | 94 | 71 | 98 |
| 30 | 211 | | 162 | 79 | 77 | 38 | 38 | 144 | 160 | 96 | 72 | 94 |
| 31 | 237 | | 132 | | 82 | | 60 | 120 | | 73 | | 62 |
| MEAN | 111.2 | 163.6 | 153.8 | 122.0 | 82.2 | 110.4 | 106.1 | 107.6 | 118.8 | 94.3 | 98.5 | 126.4 |

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

| DAY | 1982 | | | | | | | | | | | |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|--------|--------|
| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
| 1 | 179.9 | 284.8* | 231.3 | 172.2* | 151.7 | 134.2 | 106.5 | 123.4 | 184.3* | 205.2 | 159.6 | 167.8 |
| 2 | 177.2 | 279.7* | 228.3 | 172.0* | 147.4 | 135.1 | 106.9 | 138.2* | 168.7* | 209.4 | 154.5 | 166.3 |
| 3 | 176.1 | 272.9* | 230.1 | 169.9 | 147.7 | 141.5 | 109.4 | 153.5* | 171.0* | 197.0 | 147.4 | 181.6 |
| 4 | 170.4 | 252.8* | 238.3* | 158.2 | 144.7 | 158.2* | 111.5 | 167.3 | 188.1* | 182.3 | 143.4 | 194.5 |
| 5 | 165.5 | 245.2 | 245.4* | 159.9* | 148.7 | 156.6* | 114.1 | 180.9 | 179.4 | 163.9 | 136.4 | 195.9* |
| 6 | 166.8 | 245.2 | 230.0* | 165.2 | 153.0 | 149.6* | 121.3 | 201.2 | 172.1 | 151.9 | 142.1 | 210.4 |
| 7 | 166.9* | 239.9 | 228.3 | 164.0* | 151.0 | 158.6* | 128.2* | 219.6 | 176.8 | 140.2 | 142.3 | 244.3 |
| 8 | 156.9 | 245.1* | 207.1* | 162.1* | 150.8 | 167.3 | 150.3* | 217.5* | 178.5 | 136.9 | 144.8 | 241.7* |
| 9 | 164.4 | 231.7 | 192.2 | 167.3* | 139.8 | 177.4 | 176.6* | 212.5 | 179.2 | 137.4 | 147.5 | 258.6 |
| 10 | 145.7 | 213.7 | 178.9* | 177.1* | 130.7 | 196.0* | 203.5* | 209.5 | 165.6 | 134.8 | 152.9 | 273.5* |
| 11 | 136.3 | 211.1* | 178.2 | 178.7* | 132.3 | 224.2 | 226.4* | 205.0* | 158.3 | 137.3 | 154.1 | 259.3* |
| 12 | 132.4 | 204.0* | 181.2 | 177.5* | 132.3 | 238.3* | 239.7* | 195.2* | 152.5* | 136.4 | 164.9 | 251.1 |
| 13 | 127.5 | 194.9* | 185.5 | 170.9 | 129.8 | 240.2 | 252.6* | 182.9* | 151.3 | 143.9 | 161.2 | 239.0 |
| 14 | 130.5 | 185.3 | 201.3 | 157.9 | 132.2 | 240.8 | 269.2* | 176.8 | 147.4 | 140.4 | 159.5 | 235.6 |
| 15 | 136.3 | 180.3 | 207.6* | 152.2 | 132.1 | 235.8 | 274.0 | 173.0 | 149.0* | 134.1 | 157.0* | 221.9 |
| 16 | 146.7 | 170.5 | 227.7 | 148.2 | 139.0 | 210.6* | 269.4* | 161.4 | 147.3 | 129.8 | 163.3 | 213.2* |
| 17 | 152.6 | 162.5 | 230.4 | 145.9* | 142.2* | 206.0* | 273.3 | 165.1 | 147.0* | 130.1 | 158.0 | 200.5* |
| 18 | 167.6 | 165.7 | 226.8 | 147.0 | 146.8 | 200.7* | 247.2* | 166.4* | 143.2 | 132.8 | 170.2* | 186.5 |
| 19 | 169.4 | 170.9* | 219.7* | 145.1 | 155.9 | 207.5 | 234.7 | 159.2 | 142.6* | 136.7 | 182.3 | 176.8* |
| 20 | 167.0 | 171.3 | 217.0 | 144.2 | 155.6* | 207.1 | 196.5 | 144.7 | 146.9 | 146.2 | 189.2 | 159.2 |
| 21 | 163.3 | 165.2 | 212.4 | 145.2 | 165.4* | 210.7 | 173.7* | 138.6 | 145.4 | 161.4 | 200.9 | 149.4 |
| 22 | 152.9 | 163.7 | 213.7 | 156.9* | 158.8 | 197.2* | 149.5* | 138.8 | 146.2 | 168.2 | 231.1* | 150.1* |
| 23 | 148.0 | 173.1 | 202.4 | 175.2 | 155.7* | 187.3 | 128.5 | 141.2 | 152.6* | 177.3 | 196.1 | 157.0* |
| 24 | 149.1 | 185.9* | 189.0 | 181.0 | 144.8* | 168.2 | 117.8 | 142.9 | 165.4* | 190.9 | 172.9 | 166.8 |
| 25 | 169.3* | 184.1 | 189.9 | 182.6* | 145.7 | 159.1* | 108.2 | 158.5 | 170.3 | 196.8 | 164.8 | 170.6 |
| 26 | 182.7* | 204.0 | 192.8* | 178.3 | 158.0 | 142.3 | 102.1 | 166.4 | 187.3 | 193.5 | 168.8* | 168.7 |
| 27 | 197.2 | 222.1 | 195.4* | 167.3 | 171.5* | 127.6 | 97.8 | 180.4 | 191.4 | 187.7 | 158.6 | 166.2 |
| 28 | 234.7 | 224.0 | 200.6 | 161.0* | 171.3* | 123.1 | 96.4 | 181.4 | 196.9 | 181.4 | 160.3* | 157.0 |
| 29 | 267.0 | | 198.0 | 155.6 | 170.9* | 111.7 | 97.5 | 183.4 | 204.6 | 170.9 | 161.4 | 147.3 |
| 30 | 284.5 | | 194.5* | 149.8* | 142.8 | 108.5 | 112.4 | 174.5 | 202.4 | 166.7 | 164.8 | 142.5 |
| 31 | 289.1 | | 184.1 | | 136.7 | | 114.4 | 175.0* | | 165.1 | | 134.4 |
| MEAN | 173.4 | 208.9 | 208.3 | 162.9 | 147.9 | 177.4 | 164.8 | 172.1 | 167.1 | 160.9 | 163.7 | 193.2 |

* adjusted for burst
A = interpolated data point

DAILY SOLAR INDICES

DECEMBER 1982

| DAY OF MONTH | YEAR DAY | BARTELS 27-DAY CYCLE NUMBER | PROVISIONAL SUNSPOT NUMBERS | | OBSERVED FLUX OTTAWA 2800 | SOLAR FLUX ADJUSTED TO 1 A.U. | | | | | | | | | |
|--------------|----------|-----------------------------|-----------------------------|-----------------|---------------------------|-------------------------------|-----------|-----------|-------------|-----------|-----------|----------|----------|----------|--|
| | | | R _I | R _{A'} | | AFGL 15400 | AFGL 8800 | AFGL 4995 | OTTAWA 2800 | AFGL 2895 | AFGL 1415 | AFGL 606 | AFGL 410 | AFGL 245 | |
| 1 | 335 | 4 | 88 | 89 | 172.6 | 565 | 308 | 184 | 167.8 | 181 | 142 | 96 | 42 | 19 | |
| 2 | 336 | 5 | 133 | 126 | 171.1 | 287 | 287 | 187 | 166.3 | 157 | 142 | 103 | 43 | 21 | |
| 3 | 337 | 6 | 124 | 127 | 187.0 | 580 | 317 | 219 | 181.6 | 189 | 158 | 109 | 56 | 31 | |
| 4 | 338 | 7 | 137 | 135 | 200.3 | 592 | 359 | 244 | 194.5 | 203 | 169 | 109 | 56 | 31 | |
| 5 | 339 | 8 | 137 | 132 | 201.8* | 594 | 349 | 239 | 195.9* | 211 | 169 | 109 | 46 | 27 | |
| 6 | 340 | 9 | 174 | 164 | 216.7 | 657 | 420 | 294 | 210.4 | 234 | 189 | 119 | 52 | 34 | |
| 7 | 341 | 10 | 175 | 164 | 251.9 | 686 | 431 | 309 | 244.3 | 218 | 202 | 136 | 51 | 56 | |
| 8 | 342 | 11 | 184 | 177 | 249.2* | 637 | 406 | 262 | 241.7* | 221 | 202 | 136 | 51 | 56 | |
| 9 | 343 | 12 | 152 | 159 | 266.6 | 616 | 380 | 238 | 258.6 | 214 | 204 | 120 | 50 | 26 | |
| 10 | 344 | 13 | 166 | 170 | 282.0* | 616 | 371 | 258 | 273.5* | 234 | 193 | 121 | 46 | 25 | |
| 11 | 345 | 14 | 171 | 178 | 267.6* | 626 | 369 | 209 | 259.3* | 180 | 168 | 119 | 45 | 22 | |
| 12 | 346 | 15 | 194 | 176 | 259.1 | 661 | 428 | 244 | 251.1 | 206 | 173 | 140 | 50 | 19 | |
| 13 | 347 | 16 | 172 | 155 | 246.6 | 591 | 340 | 185 | 239.0 | 156 | 151 | 112 | 40 | 18 | |
| 14 | 348 | 17 | 160 | 136 | 243.1 | 567 | 319 | 175 | 235.6 | 134 | 144 | 90 | 35 | 17 | |
| 15 | 349 | 18 | 166 | 147 | 229.0 | 588 | 315 | 188 | 221.9 | 164 | 142 | 106 | 41 | 15 | |
| 16 | 350 | 19 | 130 | 117 | 220.2* | 421 | 308 | 180 | 213.2* | 153 | 139 | 90 | 35 | 16 | |
| 17 | 351 | 20 | 112 | 103 | 207.1* | 450 | 290 | 186 | 200.5* | 160 | 137 | 92 | 38 | 21 | |
| 18 | 352 | 21 | 102 | 96 | 192.7 | 578 | 293 | 187 | 186.5 | 157 | 137 | 102 | 40 | 61 | |
| 19 | 353 | 22 | 79 | 68 | 182.6* | 557 | 285 | 179 | 176.8* | 146 | 130 | 93 | 42 | 18 | |
| 20 | 354 | 23 | 63 | 56 | 164.5 | 572 | 267 | 168 | 159.2 | 152 | 129 | 93 | 43 | 31 | |
| 21 | 355 | 24 | 98 | 78 | 154.3 | 564 | 289 | 161 | 149.4 | 130 | 125 | 91 | 36 | 16 | |
| 22 | 356 | 25 | 88 | 81 | 155.1* | 580 | 287 | 154 | 150.1* | 117 | 121 | 89 | 36 | 16 | |
| 23 | 357 | 26 | 96 | 104 | 162.4* | 593 | 351 | 223 | 157.0* | 191 | 165 | 111 | 44 | 33 | |
| 24 | 358 | 27 | 100 | 107 | 172.5 | 199.4 | 199.4 | 199.4 | 166.8 | 157 | 137 | 102 | 40 | 61 | |
| 25 | 359 | 1 | 112 | 132 | 176.4 | 174.5 | 174.5 | 174.5 | 170.6 | 157 | 137 | 102 | 40 | 61 | |
| 26 | 360 | 2 | 116 | 118 | 174.5 | 171.9 | 171.9 | 171.9 | 168.7 | 157 | 137 | 102 | 40 | 61 | |
| 27 | 361 | 3 | 126 | 113 | 171.9 | 162.4 | 162.4 | 162.4 | 166.2 | 146 | 130 | 93 | 42 | 18 | |
| 28 | 362 | 4 | 108 | 109 | 162.4 | 152.3 | 152.3 | 152.3 | 157.0 | 152 | 130 | 93 | 43 | 31 | |
| 29 | 363 | 5 | 98 | 93 | 152.3 | 147.4 | 147.4 | 147.4 | 147.3 | 130 | 125 | 91 | 36 | 16 | |
| 30 | 364 | 6 | 94 | 81 | 147.4 | 139.0 | 139.0 | 139.0 | 142.5 | 117 | 121 | 89 | 36 | 16 | |
| 31 | 365 | 7 | 62 | 68 | 139.0 | 126.4 | 126.4 | 126.4 | 134.4 | 117 | 121 | 89 | 36 | 16 | |
| MEAN | | | 126.4 | 121.3 | 199.4 | 593 | 351 | 223 | 193.2 | 191 | 165 | 111 | 44 | 33 | |

* 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

| Date | SUNSPOT NUMBERS | | | | | | 2800 MHz FLUX Adjusted to 1 AU Sa | |
|--------|----------------------|-----------|-----------------|----------|-----------------|----------|---|----------|
| | Rz or R _I | | Ra | | Rs | | Monthly Mean | Smoothed |
| | Monthly Mean | Smoothed | Monthly Mean | Smoothed | Monthly Mean | Smoothed | | |
| 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 | 130 | 163.0 | 139 | 208.3 | 186 |
| Apr | 122.0 | 124* | 121.9 | 124 | 113.9 | 134 | 162.9 | 182 |
| May | 82.2 | 119* | 82.6 | 120 | 97.7 | 129 | 147.9 | 177 |
| Jun | 110.4 | 117* | 113.5 | 116 | 129.6 | 127 | 177.4 | 175 |
| Jul | 106.1 | 112(+ 3)* | 113.3 | 111 | 116.0 | 121 | 164.8 | --- |
| Aug | 107.6 | 106(+ 6)* | 110.5 | 105 | 123.9 | 115 | 172.1 | --- |
| Sep | 118.8 | 101(+ 7)* | 117.8 | 100 | 118.5 | 108 | 167.1 | --- |
| Oct | 94.3 [†] | 94(+ 8)* | 90.1 | 93 | 111.8 | 100 | 160.9 | --- |
| Nov | 98.5 [†] | 90(+ 9)* | 93.2 | 89 | 114.8 | 96 | 163.7 | --- |
| Dec | 126.4 [†] | 86(+10)* | --- | 85 | 146.7 | 91 | 193.2 | --- |
| Jan 83 | --- | 81(+11)* | --- | 81 | --- | 87 | --- | --- |
| Feb | --- | 78(+11)* | --- | 78 | --- | 83 | --- | --- |
| Mar | --- | 77(+12)* | --- | 77 | --- | 82 | --- | --- |
| Apr | --- | 75(+13)* | --- | 75 | --- | 80 | --- | --- |
| May | --- | 72(+15)* | --- | 72 | --- | 77 | --- | --- |
| Jun | --- | 69(+17)* | --- | 69 | --- | 74 | --- | --- |

*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_A¹. 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 | 124 | 119 | 117 | 112 (3) | 106 (6) | 101 (7) | 94 (8) | 90 (9) | 86 (10) |
| 1983 | 81 (11) | 78 (11) | 77 (12) | 75 (13) | 72 (15) | 69 (17) | 68 (18) | 67 (20) | 66 (21) | 66 (23) | 66 (23) | 65 (23) |
| 1984 | 64 (24) | 61 (24) | 57 (25) | 53 (26) | 51 (28) | 50 (29) | 49 (29) | 47 (30) | 45 (29) | 43 (28) | 41 (27) | 39 (27) |
| 1985 | 38 (27) | 37 (26) | 36 (25) | 36 (25) | 35 (25) | 33 (24) | 31 (23) | 31 (22) | 30 (21) | 29 (22) | 28 (23) | 28 (23) |
| 1986 | 27 (24) | 26 (24) | 25 (23) | 24 (22) | 22 (22) | 20 (21) | 18 (20) | 17 (19) | 16 (18) | 16 (17) | 15 (15) | 15 (14) |
| 1987 | 15 (12) | 15 (12) | 16 (12) | 17 (12) | 18 (13) | 19 (14) | 21 (14) | | | | | |

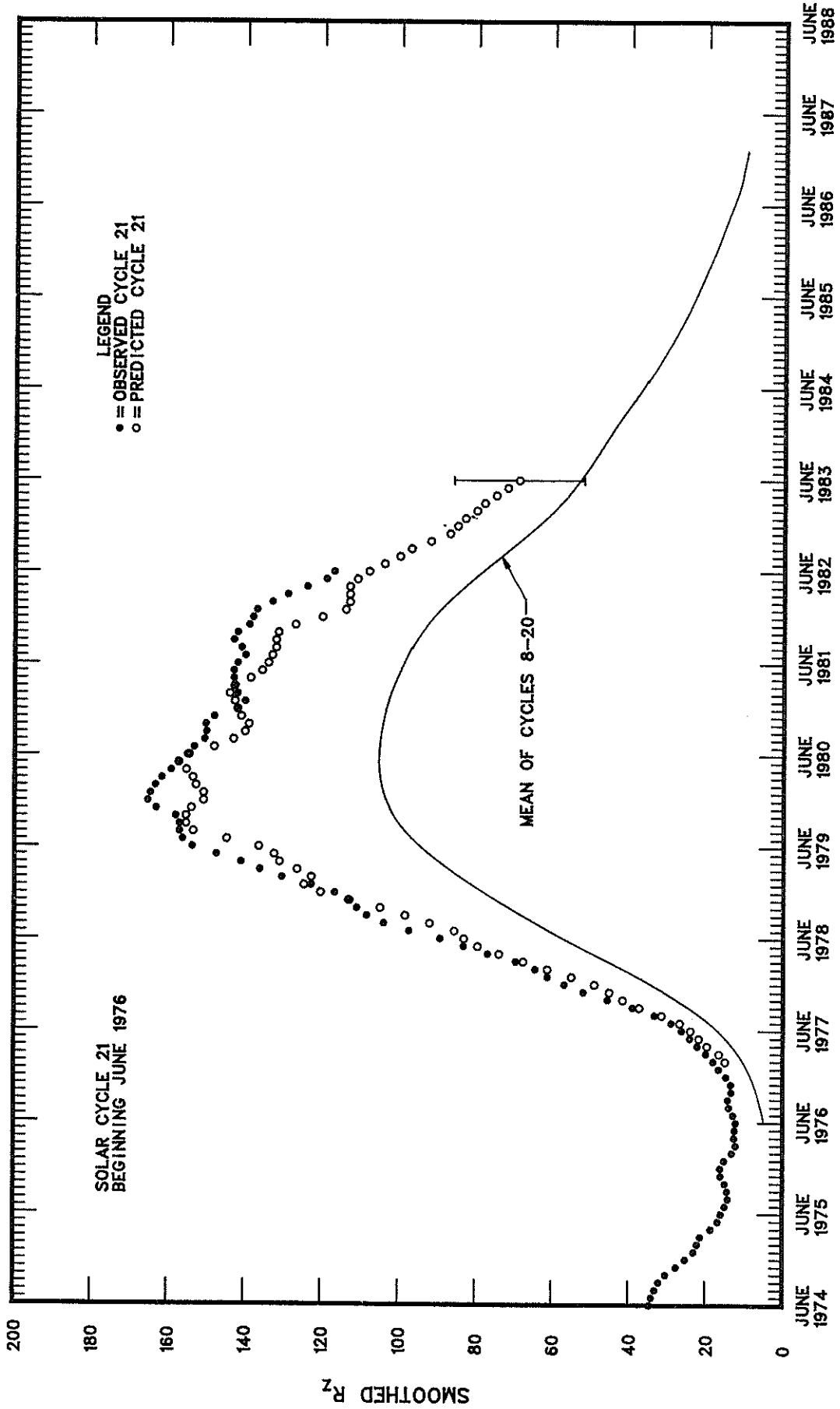
For the current solar cycle, this table gives observed smoothed sunspot numbers up to the one calculated from the most recently measured monthly mean. These smoothed observed values are based on final monthly mean Zurich numbers through 1980, on final International numbers through September 1982, and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

The entries with numbers in parentheses below them denote predictions by the McNish-Lincoln method. (See page 10 in the February 1982 edition of the "Solar-Geophysical Data" supplement.) By adding to and subtracting from each prediction the number in parentheses, one generates the 90% confidence interval. Consider, for example, the June 1983 prediction tabulated above. There exists a 90% chance that in June 1983 the actual smoothed sunspot number will fall somewhere between 52 and 86.

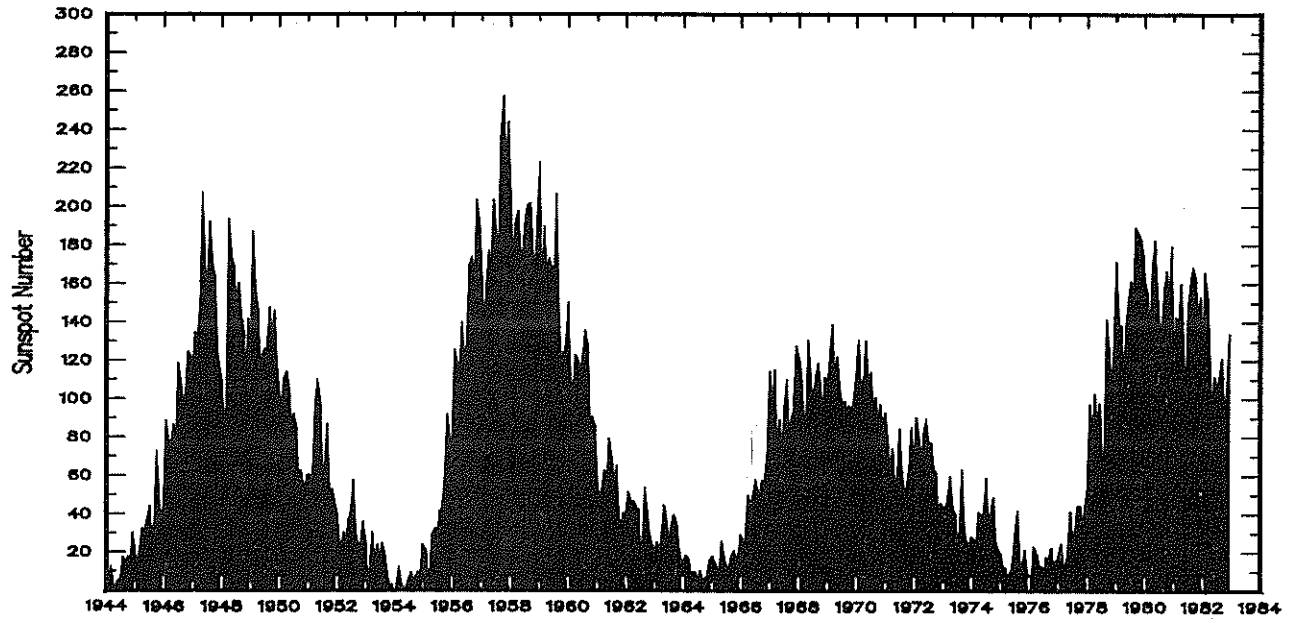
The McNish-Lincoln prediction method generates meaningful estimates of smoothed sunspot numbers for no more than 12 months ahead. Beyond a year the predictions regress rapidly toward the mean of all 13 cycles of data used in the computation. Furthermore, the method is very sensitive to the date defined 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



MONTHLY MEAN SUNSPOT NUMBERS
(January 1944 - December 1982)



MONTHLY MEAN SUNSPOT NUMBERS

| Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 1944 | 3.7 | 0.5 | 11.0 | 0.3 | 2.5 | 5.0 | 5.0 | 16.7 | 14.3 | 16.9 | 10.8 | 28.4 |
| 1945 | 18.5 | 12.7 | 21.5 | 32.0 | 30.6 | 36.2 | 42.6 | 25.9 | 34.9 | 68.8 | 46.0 | 27.4 |
| 1946 | 47.6 | 86.2 | 76.6 | 75.7 | 84.9 | 73.5 | 116.2 | 107.2 | 94.4 | 102.3 | 123.8 | 121.7 |
| 1947 | 115.7 | 133.4 | 129.8 | 149.8 | 201.3 | 163.9 | 157.9 | 188.8 | 169.4 | 163.6 | 128.0 | 116.5 |
| 1948 | 108.5 | 86.1 | 94.8 | 189.7 | 174.0 | 167.8 | 142.2 | 157.9 | 143.3 | 136.3 | 95.8 | 138.0 |
| 1949 | 119.1 | 182.3 | 157.5 | 147.0 | 106.2 | 121.7 | 125.8 | 123.8 | 145.3 | 131.6 | 143.5 | 117.6 |
| 1950 | 101.6 | 94.8 | 109.7 | 113.4 | 106.2 | 83.6 | 91.0 | 85.2 | 51.3 | 61.4 | 54.8 | 54.1 |
| 1951 | 59.9 | 59.9 | 55.9 | 92.9 | 108.5 | 100.6 | 61.5 | 61.0 | 83.1 | 51.6 | 52.4 | 45.8 |
| 1952 | 40.7 | 22.7 | 22.0 | 29.1 | 23.4 | 36.4 | 39.3 | 54.9 | 28.2 | 23.8 | 22.1 | 34.3 |
| 1953 | 26.5 | 3.9 | 10.0 | 27.8 | 12.5 | 21.8 | 8.6 | 23.5 | 19.3 | 8.2 | 1.6 | 2.5 |
| 1954 | 0.2 | 0.5 | 10.9 | 1.8 | 0.8 | 0.2 | 4.8 | 8.4 | 1.5 | 7.0 | 9.2 | 7.6 |
| 1955 | 23.1 | 20.8 | 4.9 | 11.3 | 28.9 | 31.7 | 26.7 | 40.7 | 42.7 | 58.5 | 89.2 | 76.9 |
| 1956 | 73.6 | 124.0 | 118.4 | 110.7 | 136.6 | 116.6 | 129.1 | 169.6 | 173.2 | 155.3 | 201.3 | 192.1 |
| 1957 | 165.0 | 130.2 | 157.4 | 175.2 | 164.6 | 200.7 | 187.2 | 158.0 | 235.8 | 253.8 | 210.9 | 239.4 |
| 1958 | 202.5 | 164.9 | 190.7 | 196.0 | 175.3 | 171.5 | 191.4 | 200.2 | 201.2 | 181.5 | 152.3 | 187.6 |
| 1959 | 217.4 | 143.1 | 185.7 | 163.3 | 172.0 | 168.7 | 149.6 | 199.6 | 145.2 | 111.4 | 124.0 | 125.0 |
| 1960 | 146.3 | 106.0 | 102.2 | 122.0 | 119.6 | 110.2 | 121.7 | 134.1 | 127.2 | 82.8 | 89.6 | 85.6 |
| 1961 | 57.9 | 46.1 | 53.0 | 61.4 | 51.0 | 77.4 | 70.2 | 55.9 | 63.6 | 37.7 | 32.6 | 40.0 |
| 1962 | 38.7 | 50.3 | 45.6 | 46.4 | 43.7 | 42.0 | 21.8 | 21.8 | 51.3 | 39.5 | 26.9 | 23.2 |
| 1963 | 19.8 | 24.4 | 17.1 | 29.3 | 43.0 | 35.9 | 19.6 | 33.2 | 38.8 | 35.3 | 23.4 | 14.9 |
| 1964 | 15.3 | 17.7 | 16.5 | 8.6 | 9.5 | 9.1 | 3.1 | 9.3 | 4.7 | 6.1 | 7.4 | 15.1 |
| 1965 | 17.5 | 14.2 | 11.7 | 6.8 | 24.1 | 15.9 | 11.9 | 8.9 | 16.8 | 20.1 | 15.8 | 17.0 |
| 1966 | 28.2 | 24.4 | 25.3 | 48.7 | 45.3 | 47.7 | 56.7 | 51.2 | 50.2 | 57.2 | 57.2 | 70.4 |
| 1967 | 110.9 | 93.6 | 111.8 | 69.5 | 86.5 | 67.3 | 91.5 | 107.2 | 76.8 | 88.2 | 94.3 | 126.4 |
| 1968 | 121.8 | 111.9 | 92.2 | 81.2 | 127.2 | 110.3 | 96.1 | 109.3 | 117.2 | 107.7 | 86.0 | 109.8 |
| 1969 | 104.4 | 120.5 | 135.8 | 106.8 | 120.0 | 106.0 | 96.8 | 98.0 | 91.3 | 95.7 | 93.5 | 97.9 |
| 1970 | 111.5 | 127.8 | 102.9 | 109.5 | 127.5 | 106.8 | 112.5 | 93.0 | 99.5 | 86.6 | 95.2 | 83.5 |
| 1971 | 91.3 | 79.0 | 60.7 | 71.8 | 57.5 | 49.8 | 81.0 | 61.4 | 50.2 | 51.7 | 63.2 | 82.2 |
| 1972 | 61.5 | 88.4 | 80.1 | 63.2 | 80.5 | 88.0 | 76.5 | 76.8 | 64.0 | 61.3 | 41.6 | 45.3 |
| 1973 | 43.4 | 42.9 | 46.0 | 57.7 | 42.4 | 39.5 | 23.1 | 25.6 | 59.3 | 30.7 | 23.9 | 23.3 |
| 1974 | 27.6 | 26.0 | 21.3 | 40.3 | 39.5 | 36.0 | 55.8 | 33.6 | 40.2 | 47.1 | 25.0 | 20.5 |
| 1975 | 18.9 | 11.5 | 11.5 | 5.1 | 9.0 | 11.4 | 28.2 | 39.7 | 13.9 | 9.1 | 19.4 | 7.8 |
| 1976 | 8.1 | 4.3 | 21.9 | 18.8 | 12.4 | 12.2 | 1.9 | 16.4 | 13.5 | 20.6 | 5.2 | 15.3 |
| 1977 | 16.4 | 23.1 | 8.7 | 12.9 | 18.6 | 38.5 | 21.4 | 30.1 | 44.0 | 43.8 | 29.1 | 43.2 |
| 1978 | 51.9 | 93.6 | 76.5 | 99.7 | 82.7 | 95.1 | 70.4 | 58.1 | 138.2 | 125.1 | 97.9 | 122.7 |
| 1979 | 166.6 | 137.5 | 138.0 | 101.5 | 134.4 | 149.5 | 159.4 | 142.2 | 188.4 | 186.2 | 183.3 | 176.3 |
| 1980 | 159.6 | 155.0 | 126.2 | 164.1 | 179.9 | 157.3 | 136.3 | 135.4 | 155.0 | 164.7 | 147.9 | 174.4 |
| 1981 | 114.0 | 141.3 | 135.5 | 156.4 | 127.5 | 90.9 | 143.8 | 158.7 | 167.3 | 162.4 | 137.5 | 150.1 |
| 1982 | 111.2 | 163.6 | 153.8 | 122.0 | 82.2 | 110.4 | 106.1 | 107.6 | 118.8 | 94.3* | 98.5* | 126.4* |

*Provisional

H - ALPHA SOLAR FLARES

DECEMBER 1982

| Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF Region | CMP Mo | Dur Day | Imp (Min) | Opt | Xray | Obs See | Type | Time (UT) | Area Measurement | | Remarks |
|------|-----|------------|----------|----------|-----|-----|-------------------------|-----------|------------|--------------|-----|-------|------------|------|--------------|-------------------------------------|------------------|---------|
| | | | | | | | | | | | | | | | | Apparent (10 ⁻⁶ Disk) | Corr (Sq Deg) | |
| LEAR | 01 | 0009 | 0013 | 0027 | S14 | E05 | 4007 | 12 | 1.4 | 18 | SN | C 2.0 | 3 | C | | 85 | | F |
| PURP | 01 | 0036E | 0036 | 0036D | S17 | E08 | | 12 | 1.6 | 18D | SN | | | P | 0036 | 7 | .1 | E |
| GOES | 01 | 0122 | 0140 | 0143 | | | 4005 | | | 21 | | C 1.4 | | | | | | |
| LEAR | 01 | 0144 | 0144 | 0148 | S11 | E20 | 4005 | 12 | 2.6 | 4 | SF | | 3 | C | | 38 | | |
| GOES | 01 | 0341 | 0356 | 0408 | | | | | | 27 | | C 2.9 | | | | | | |
| LEAR | 01 | 0605 | 0609 | 0616 | S21 | E04 | 4007 | 12 | 1.6 | 11 | SF | C .9 | 3 | C | | 88 | | F |
| YUNN | 01 | 0605 | 0612U | 0618 | S19 | E04 | | 12 | 1.6 | 13 | SF | | P | 0612 | 31 | .3 | | |
| PURP | 01 | 0612E | 0612 | 0616 | S19 | E07 | | 12 | 1.8 | 4D | SF | | P | 0612 | 52 | .6 | | |
| WEND | 01 | 1224 | 1232 | 1238 | S11 | E17 | | 12 | 2.8 | 14 | SF | | C | 1232 | 28 | .3 | | |
| RAMY | 01 | 1225 | 1225 | 1251 | S12 | E17 | 4005 | 12 | 2.8 | 26 | SN | C 1.2 | 3 | C | | 47 | | F |
| GOES | 01 | 1941 | 2007 | 2007 | | | | | | 26 | | C 1.3 | | | | | | |
| RAMY | 01 | 2023 | 2024 | 2040 | S12 | W10 | 4007 | 12 | 1.1 | 17 | SF | | 3 | C | | 22 | | |
| LEAR | 01 | 2344 | 2351 | 0038 | N07 | E76 | | 12 | 7.7 | 54 | SF | | 3 | C | | | | |
| LEAR | 02 | 0011 | 0011 | 0014 | N15 | E64 | 4010 | 12 | 6.9 | 3 | SF | C 2.0 | 3 | C | | 23 | | F |
| PEKG | 02 | 0018 | 0026 | 0054 | N07 | E76 | | 12 | 7.7 | 36 | SF | | | C | 0026 | 25 | | D |
| LEAR | 02 | 0145 | 0147 | 0204 | S09 | E07 | 4005 | 12 | 2.6 | 19 | SF | | 3 | C | | 32 | | F |
| LEAR | 02 | 0145 | 0153 | 0204 | S09 | E07 | 4005 | 12 | 2.6 | 19 | SF | | 3 | C | | 27 | | K |
| LEAR | 02 | 0244 | 0250 | 0404 | N11 | E59 | | 12 | 6.6 | 80 | SF | | 3 | C | | 45 | | K |
| LEAR | 02 | 0244 | 0257 | 0404 | N11 | E59 | | 12 | 6.6 | 80 | SN | | 3 | C | | 76 | | FHK |
| LEAR | 02 | 0249 | 0300 | 0320 | S14 | E06 | 4005 | 12 | 2.6 | 31 | SN | C 2.1 | 3 | C | | 58 | | F |
| PEKG | 02 | 0300 | 0306 | 0330 | S13 | E06 | | 12 | 2.6 | 30 | SF | | C | 0306 | 42 | .4 | D | |
| LEAR | 02 | 0424 | 0425 | 0430 | N16 | E64 | | 12 | 7.0 | 6 | SF | | 3 | C | | 22 | | |
| PURP | 02 | 0458 | 0459 | 0505 | S12 | W15 | | 12 | 1.1 | 7 | SF | | C | 0459 | 13 | .1 | E | |
| PURP | 02 | 0505 | 0509 | 0520 | N14 | E63 | | 12 | 7.0 | 15 | SN | | C | 0509 | 46 | 1.1 | | |
| GOES | 02 | 0506 | 0509 | 0515 | | | | | | 9 | | C 1.2 | | | | | | |
| PEKG | 02 | 0613 | 0618 | 0635 | N14 | E62 | | 12 | 6.9 | 22 | SF | | P | 0618 | 84 | 1.8 | E | |
| LEAR | 02 | 0618 | 0619 | 0623 | N13 | E62 | 4012 | 12 | 6.9 | 5 | SF | C 2.0 | 3 | C | | 53 | | F |
| PEKG | 02 | 0642 | 0644 | 0725 | S15 | W12 | | 12 | 1.4 | 43 | 1B | | C | 0644 | 197 | 2.2 | E | |
| MANI | 02 | 0642E | 0645 | 0714D | S15 | W11 | | 12 | 1.4 | 32D | SN | | 1 | V | | 120 | | F |
| LEAR | 02 | 0642 | 0646 | 0726 | S16 | W11 | 4007 | 12 | 1.4 | 44 | SN | C 5.1 | 3 | C | | 133 | | F |
| PURP | 02 | 0643 | 0645 | 0737 | S16 | W11 | | 12 | 1.4 | 54 | SB | | C | 0645 | 92 | 1.0 | | |
| GOES | 02 | 1023 | 1026 | 1028 | | | | | | 5 | | C 2.0 | | | | | | |
| RAMY | 02 | 1344 | 1352 | 1358 | S18 | W24 | 4007 | 11 | 30.7 | 14 | SF | | 3 | C | | 23 | | |
| RAMY | 02 | 1414 | 1414 | 1427 | S14 | E00 | 4005 | 12 | 2.6 | 13 | SN | | 3 | C | | 24 | | |
| RAMY | 02 | 1414E | 1415 | 1514 | N06 | E67 | | 12 | 7.6 | 60D | SN | | 3 | C | | 38 | | |
| GOES | 02 | 1431 | 1437 | 1447 | | | | | | 16 | | C 2.3 | | | | | | |
| RAMY | 02 | 1514 | 1518 | 1551 | S07 | W02 | 4005 | 12 | 2.5 | 37 | SB | C 2.7 | 3 | C | | 158 | | FE |
| RAMY | 02 | 1534 | 1601 | 1610 | N07 | E65 | | 12 | 7.5 | 36 | SF | | 3 | C | | 34 | | |
| RAMY | 02 | 1733 | 1745 | 1940 | N14 | E53 | 4012 | 12 | 6.7 | 127 | 1B | M 1.3 | 3 | C | | 164 | | UE |
| HOLL | 02 | 1806E | 1807 | 2235 | N12 | E50 | 4012 | 12 | 6.5 | 269D | 2N | | 3 | C | | 412 | | K |
| HOLL | 02 | 1806E | 2115 | 2235 | N12 | E50 | 4012 | 12 | 6.5 | 269D | 2B | | 3 | C | | 567 | | USK |
| GOES | 02 | 2107 | 2117 | 2141 | | | 4014 | | | 34 | | M 1.8 | | | | | | |
| HOLL | 02 | 2107 | 2124 | 2133 | S14 | W04 | 4005 | 12 | 2.6 | 26 | SF | | 3 | C | | 33 | | |
| HOLL | 02 | 2236 | 2241 | 2331D | N06 | E61 | 4014 | 12 | 7.5 | 55D | SF | | 3 | C | | 22 | | |
| HOLL | 02 | 2237 | 2238 | 2249 | N14 | E52 | 4012 | 12 | 6.9 | 12 | SN | | 3 | C | | 45 | | |
| HOLL | 02 | 2257 | 2259 | 2309 | N14 | E51 | 4012 | 12 | 6.8 | 12 | SN | | 3 | C | | 69 | | |
| GOES | 02 | 2300 | 2303 | 2306 | | | | | | 6 | | C 5.2 | | | | | | |
| HOLL | 02 | 2311 | 2313 | 2313D | S08 | W06 | 4005 | 12 | 2.5 | 20 | 1F | | 3 | C | | 206 | | |
| LEAR | 02 | 2312 | 2313 | 2339 | S09 | W07 | 4005 | 12 | 2.4 | 27 | SF | | 3 | C | | 88 | | F |
| YUNN | 03 | 0027 | 0032 | 0058 | N16 | E52 | | 12 | 7.0 | 31 | SN | | C | | 47 | .8 | | |
| PURP | 03 | 0042 | 0046 | 0110 | N15 | E51 | | 12 | 6.9 | 28 | SN | | C | 0046 | 20 | .3 | | |
| YUNN | 03 | 0059 | 0115 | 0137 | N06 | E61 | | 12 | 7.6 | 38 | 1B | | C | | 126 | 2.7 | | |
| PEKG | 03 | 0103 | 0115 | 0130 | N07 | E59 | | 12 | 7.5 | 27 | 1N | | C | 0115 | 126 | 2.5 | E | |
| LEAR | 03 | 0104 | 0116 | 0247 | N05 | E60 | 4014 | 12 | 7.5 | 103 | 1B | M 1.4 | 3 | C | | 208 | | ZF |
| PURP | 03 | 0109 | 0115 | 0209 | N07 | E64 | | 12 | 7.8 | 60 | SN | | C | 0115 | 52 | 1.2 | | |
| LEAR | 03 | 0233 | 0235 | 0241 | S14 | W06 | 4005 | 12 | 2.7 | 8 | SF | | 3 | C | | 52 | | |
| YUNN | 03 | 0251E | 0300U | 0320 | N06 | E59 | | 12 | 7.5 | 29D | SN | | P | 0300 | 63 | 1.2 | | |
| LEAR | 03 | 0303 | 0303 | 0325 | S10 | W07 | 4005 | 12 | 2.6 | 22 | SF | | 3 | C | | 101 | | F |
| PURP | 03 | 0304 | 0304 | 0323 | S10 | W06 | | 12 | 2.7 | 19 | SF | | C | 0304 | 40 | .4 | E | |
| PEKG | 03 | 0413 | 0442 | 0456 | N06 | E60 | | 12 | 7.7 | 43 | SN | | C | 0442 | 76 | 1.5 | E | |
| GOES | 03 | 0427 | 0430 | 0432 | | | | | | 5 | | C 1.9 | | | | | | |
| PEKG | 03 | 0445 | 0456 | 0514 | S08 | W10 | | 12 | 2.4 | 29 | SF | | C | 0456 | 21 | .2 | D | |
| YUNN | 03 | 0541E | 0542U | 0553D | N06 | E59 | | 12 | 7.7 | 12D | SB | | P | 0542 | 63 | 1.2 | | |
| PEKG | 03 | 0545 | 0610 | 0630 | N07 | E59 | | 12 | 7.7 | 45 | SF | | C | 0610 | 67 | 1.3 | E | |
| GOES | 03 | 0603 | 0604 | 0611 | | | 4014 | | | 8 | | C 3.1 | | | | | | |
| PEKG | 03 | 0630 | 0649 | 0705 | S13 | W29 | | 12 | 1.1 | 35 | SF | | C | 0649 | 55 | .6 | E | |
| LEAR | 03 | 0638 | 0638 | 0704 | S13 | W28 | 4007 | 12 | 1.2 | 26 | SN | | 3 | C | | 61 | | F |
| LEAR | 03 | 0744 | 0749 | 0804 | N11 | E48 | 4012 | 12 | 6.9 | 20 | SN | C 1.9 | 3 | C | | 46 | | F |
| GOES | 03 | 0821 | 0824 | 0826 | | | | | | 5 | | C 2.5 | | | | | | |

H - ALPHA SOLAR FLARES

DECEMBER 1982

| Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF Region | CMP Mo | Dur Day | Dur (Min) | Imp | | | Obs See | Type | Time (UT) | Area Measurement | | Remarks |
|-----|------|------------|----------|----------|-------|---------|-------------------------|-----------|------------|--------------|------|-------|---|------------|------|--------------|-------------------------------------|------------------|---------|
| | | | | | | | | | | | Op† | Xray | 3 | | | | Apparent (10 ⁻⁶ Disk) | Corr (Sq Deg) | |
| [| WEND | 03 | 0859 | 0910 | 1017 | N08 E56 | | 12 | 7.6 | 78 | 1B | | | | C | 0910 | 206 | 3.8 | Z |
| | LEAR | 03 | 0900 | 0905 | 0925 | N06 E55 | 4014 | 12 | 7.5 | 25 | 1B M | 1.3 | 3 | C | | 216 | | FE | |
| | WEND | 03 | 0908 | 0912 | 0922 | S13 W09 | | 12 | 2.7 | 14 | SF | | | C | 0912 | 25 | .3 | | |
| | GOES | 03 | 0953 | 1005 | 1013 | | | | | 20 | | C 8.6 | | | | | | | |
| | GOES | 03 | 1216 | 1219 | 1221 | | | | | 5 | | C 2.4 | | | | | | | |
| [| RAMY | 03 | 1219 | 1250 | 1537D | S21 W24 | 4007 | 12 | 1.7 | 198D | SN | | 3 | C | | 77 | | | |
| | WEND | 03 | 1222 | 1238 | 1246D | S18 W25 | | 12 | 1.6 | 24D | SF | | | C | 1238 | 106 | 1.3 | L | |
| | RAMY | 03 | 1223 | 1246 | 1259 | N06 E55 | 4014 | 12 | 7.6 | 36 | SF | | 3 | C | | 30 | | | |
| | RAMY | 03 | 1414E | 1415 | 1431 | S12 W13 | 4005 | 12 | 2.6 | 17D | SN C | 1.4 | 3 | C | | 26 | | | |
| | HOLL | 03 | 1449 | 1459 | 1512 | S17 W27 | 4007 | 12 | 1.6 | 23 | SF | | 3 | C | | 100 | | F | |
| | GOES | 03 | 1719 | 1722 | 1724 | | | | | 5 | | C 2.0 | | | | | | | |
| | HOLL | 03 | 1749 | 1750U | 1750D | S11 W13 | 4005 | 12 | 2.8 | 1D | SF | | 3 | C | | 38 | | | |
| | GOES | 03 | 1813 | 1821 | 1840 | | 4007 | | | 27 | | C 1.8 | | | | | | | |
| | RAMY | 03 | 1831 | 1841 | 1852 | N13 W07 | 4013 | 12 | 3.2 | 21 | SF | | 3 | C | | 31 | | | |
| | RAMY | 03 | 1850 | 1850 | 1858 | S13 W15 | 4005 | 12 | 2.7 | 8 | SN | | 3 | C | | 24 | | | |
| | GOES | 03 | 2024 | 2028 | 2031 | | | | | 7 | | C 2.1 | | | | | | | |
| | GOES | 03 | 2109 | 2117 | 2126 | | 4010 | | | 17 | | C 3.8 | | | | | | | |
| | GOES | 03 | 2141 | 2144 | 2146 | | 4010 | | | 5 | | C 3.4 | | | | | | | |
| [| HOLL | 03 | 2204E | 2207 | 2245 | N12 E37 | 4012 | 12 | 6.7 | 41D | SN | | 3 | C | | 48 | | K | |
| | HOLL | 03 | 2204E | 2226 | 2245 | N12 E37 | 4012 | 12 | 6.7 | 41D | SN | | 3 | C | | 62 | | K | |
| [| HOLL | 03 | 2300 | 2303 | 2324 | N05 E49 | 4014 | 12 | 7.6 | 24 | 1B M | 1.2 | 3 | C | | 182 | | E | |
| | LEAR | 03 | 2301 | 2303 | 2321 | N06 E50 | 4014 | 12 | 7.7 | 20 | SB | | 3 | C | | 135 | | FE | |
| | LEAR | 04 | 0024 | 0026 | 0037 | N08 E37 | 4012 | 12 | 6.8 | 13 | SF | | 3 | C | | 64 | | F | |
| | LEAR | 04 | 0103 | 0202 | 0401 | S15 W35 | 4007 | 12 | 1.4 | 178 | SF | | 3 | C | | 131 | | F | |
| [| PEKG | 04 | 0115E | 0125U | 0245 | S15 W35 | | 12 | 1.4 | 90D | SN | | | P | 0125 | 113 | 1.5 | EK | |
| | YUNN | 04 | 0115 | 0125 | 0140 | S14 W33 | | 12 | 1.6 | 25 | SB | | | C | | 47 | .6 | | |
| [| PEKG | 04 | 0115E | 0138U | 0245 | S14 W35 | | 12 | 1.4 | 90D | SN | | | C | 0138 | 126 | 1.6 | E | |
| | YUNN | 04 | 0328E | 0328U | 0342 | S16 W33 | | 12 | 1.6 | 14D | SF | | | P | 0328 | 31 | .4 | | |
| | LEAR | 04 | 0333 | 0334 | 0343 | S14 W20 | 4005 | 12 | 2.6 | 10 | SF | | 3 | C | | 32 | | | |
| | LEAR | 04 | 0346 | 0347 | 0358 | N06 E44 | 4014 | 12 | 7.5 | 12 | SF | | 3 | C | | 43 | | | |
| | LEAR | 04 | 0526 | 0527 | 0556 | S13 W21 | 4005 | 12 | 2.6 | 30 | SF C | 2.9 | 3 | C | | 77 | | F | |
| | LEAR | 04 | 0528 | 0528 | 0535 | N06 E46 | 4014 | 12 | 7.7 | 7 | SN | | 3 | C | | 43 | | | |
| | LEAR | 04 | 0606 | 0609 | 0631 | N06 E42 | 4014 | 12 | 7.4 | 25 | SN C | 2.5 | 3 | C | | 93 | | | |
| | LEAR | 04 | 0653 | 0654 | 0716 | N06 E42 | 4014 | 12 | 7.4 | 23 | SF | | 3 | C | | 38 | | | |
| | GOES | 04 | 0738 | 0744 | 0748 | | | | | 10 | | C 2.0 | | | | | | | |
| | LEAR | 04 | 0757 | 0802 | 0845 | S17 W38 | 4007 | 12 | 1.4 | 48 | SN | | 3 | C | | 67 | | F | |
| | GOES | 04 | 0800 | 0817 | 0819 | | | | | 19 | | C 3.5 | | | | | | | |
| [| LEAR | 04 | 0907 | 0916 | 0924D | N06 E39 | 4014 | 12 | 7.3 | 17D | 1B M | 1.0 | 3 | C | | 287 | | | |
| | WEND | 04 | 0911 | 0917 | 0940D | N07 E41 | | 12 | 7.5 | 29D | 1B | | | C | 0917 | 180 | 2.5 | | |
| | MONT | 04 | 0914 | 0916 | 0936 | N07 E39 | | 12 | 7.3 | 22 | SN | | | C | 0916 | 110 | | W | |
| | GOES | 04 | 1010 | 1042 | 1047 | | | | | 37 | | C 8.6 | | | | | | | |
| [| WEND | 04 | 1011 | 1030 | 1057D | N08 E40 | | 12 | 7.4 | 46D | 1N | | | C | 1030 | 212 | 2.9 | | |
| | MONT | 04 | 1013 | 1021 | 1021D | N07 E39 | | 12 | 7.3 | 8D | SN | | | C | 1021 | 70 | | | |
| [| WEND | 04 | 1156 | 1204 | 1236 | N12 E30 | | 12 | 6.8 | 40 | 1B | | | C | 1204 | 250 | 3.0 | | |
| | GOES | 04 | 1200 | 1207 | 1227 | | | | | 27 | | M 2.0 | | | | | | | |
| | WEND | 04 | 1254 | 1255 | 1258 | N09 E17 | | 12 | 5.8 | 4 | SN | | | C | 1255 | 25 | .3 | | |
| [| WEND | 04 | 1359 | 1401 | 1406 | N07 E38 | | 12 | 7.4 | 7 | SN | | | C | 1401 | 31 | .4 | | |
| | GOES | 04 | 1359 | 1402 | 1406 | | | | | 7 | | C 3.3 | | | | | | | |
| | HOLL | 04 | 1432 | 1508 | 1604 | S08 W28 | 4005 | 12 | 2.5 | 92 | SF | | 3 | C | | 94 | | F | |
| | HOLL | 04 | 1451 | 1500 | 1523 | S14 W41 | 4007 | 12 | 1.5 | 32 | SF | | 3 | C | | 121 | | F | |
| | HOLL | 04 | 1503 | 1508 | 1525 | N08 E39 | 4014 | 12 | 7.6 | 22 | SF | | 3 | C | | 33 | | | |
| | HOLL | 04 | 1559 | 1601 | 1639 | N06 E38 | 4014 | 12 | 7.5 | 40 | SN | | 3 | C | | 63 | | F K | |
| | HOLL | 04 | 1559 | 1631 | 1639 | N06 E38 | 4014 | 12 | 7.5 | 40 | SN | | 3 | C | | 39 | | K | |
| | RAMY | 04 | 1603 | 1603 | 1707 | N09 E39 | 4014 | 12 | 7.6 | 64 | SN | | 3 | C | | 75 | | | |
| [| GOES | 04 | 1618 | 1628 | 1636 | | 4017 | | | 18 | | C 3.4 | | | | | | | |
| | RAMY | 04 | 1633 | 1633 | 1648 | S16 W41 | 4007 | 12 | 1.6 | 15 | SF | | 3 | C | | 28 | | | |
| | GOES | 04 | 1713 | 1727 | 1745 | | 4017 | | | 32 | | M 1.2 | | | | | | | |
| | HOLL | 04 | 1731 | 1734 | 1743 | N06 E38 | 4014 | 12 | 7.6 | 12 | SF | | 3 | C | | 20 | | F | |
| | HOLL | 04 | 1824 | 1831 | 1853 | S16 W43 | 4007 | 12 | 1.5 | 29 | SF | | 3 | C | | 27 | | F | |
| | HOLL | 04 | 1840 | 1842 | 1850 | S12 W28 | 4005 | 12 | 2.7 | 10 | SF | | 3 | C | | 21 | | F | |
| | HOLL | 04 | 1853 | 1856 | 1934 | S08 W31 | 4005 | 12 | 2.5 | 41 | SF | | 3 | C | | 45 | | | |
| | HOLL | 04 | 1853 | 1912 | 1921 | S17 W43 | 4007 | 12 | 1.5 | 28 | SN | | 3 | C | | 37 | | F | |
| | HOLL | 04 | 1911 | 1923 | 1929 | N14 W21 | 4013 | 12 | 3.2 | 18 | SF | | 3 | C | | 40 | | F | |
| | HOLL | 04 | 1949 | 2028 | 2031 | S16 W44 | 4007 | 12 | 1.5 | 42 | SN | | 3 | C | | 29 | | F | |
| [| GOES | 04 | 1954 | 1959 | 2018 | | 4017 | | | 24 | | C 5.2 | | | | | | | |
| | HOLL | 04 | 2003E | 2004U | 2027 | S11 E83 | | 12 | 11.1 | 24D | SN | | 3 | C | | | | | |
| | HOLL | 04 | 2005 | 2007 | 2037 | N08 E35 | 4014 | 12 | 7.5 | 32 | SN | | 3 | C | | 46 | | F | |
| | GOES | 04 | 2026 | 2031 | 2036 | | 4017 | | | 10 | | C 6.3 | | | | | | | |
| | HOLL | 04 | 2034 | 2045 | 2238 | S16 W44 | 4007 | 12 | 1.5 | 124 | SN | | 3 | C | | 65 | | F | |
| | HOLL | 04 | 2120 | 2122 | 2126 | S11 E82 | 4017 | 12 | 11.1 | 6 | SF M | 1.0 | 3 | C | | | | | |

H - ALPHA SOLAR FLARES

DECEMBER 1982

| Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF/ Region | CMP Mo | Dur Day | (Min) | Imp Opt | Xray | See | Obs Type | Time (UT) | Area Measurement | | Remarks |
|------|-----|------------|----------|----------|-----|-----|--------------------------|-----------|------------|-------|------------|-------|-----|-------------|--------------|-------------------------------------|------------------|---------|
| | | | | | | | | | | | | | | | | Apparent (10 ⁻⁶ Disk) | Corr (Sq Deg) | |
| HOLL | 04 | 2130 | 2132 | 2147 | N08 | E35 | 4014 | 12 | 7.5 | 17 | SN | | 3 | C | | 26 | | F |
| HOLL | 04 | 2150 | 2153 | 2202 | N14 | W23 | 4013 | 12 | 3.2 | 12 | SF | | 3 | C | | 36 | | F |
| HOLL | 04 | 2151 | 2155 | 2156 | S10 | E82 | 4017 | 12 | 11.1 | 5 | SF | | 3 | C | | | | |
| LEAR | 04 | 2349 | 2349 | 0004 | S14 | W30 | 4005 | 12 | 2.7 | 15 | SF | | 3 | C | | 34 | | |
| GOES | 05 | 0025 | 0032 | 0038 | | | | | | 13 | | C 3.5 | | | | | | |
| GOES | 05 | 0201 | 0208 | 0215 | | | | | | 14 | | C 4.1 | | | | | | |
| PEKG | 05 | 0203 | 0210 | 0224 | N08 | E33 | | 12 | 7.6 | 21 | SN | | | C | 0210 | 42 | .5 | E |
| PEKG | 05 | 0248 | 0258 | 0304 | S15 | W48 | | 12 | 1.5 | 16 | SF | | | P | 0258 | 76 | 1.2 | E |
| PEKG | 05 | 0258E | 0258 | 0319 | N13 | E25 | | 12 | 7.0 | 21D | SN | | | P | 0258 | 130 | 1.5 | E |
| LEAR | 05 | 0320E | 0320U | 0337 | N12 | W27 | 4013 | 12 | 3.1 | 17D | SN | | 2 | C | | 86 | | H |
| PEKG | 05 | 0323E | 0325 | 0330 | N12 | W28 | | 12 | 3.0 | 7D | SN | | | C | 0325 | 46 | .5 | D |
| LEAR | 05 | 0326 | 0328 | 0340 | S10 | W34 | 4005 | 12 | 2.6 | 14 | SF | | 2 | C | | 53 | | F |
| LEAR | 05 | 0427 | 0432 | 0449 | N08 | E31 | 4014 | 12 | 7.5 | 22 | SN | C 4.8 | 3 | C | | 77 | | F |
| PEKG | 05 | 0428 | 0435 | 0444 | N11 | E31 | | 12 | 7.5 | 16 | SN | | | C | 0435 | 76 | .9 | E |
| LEAR | 05 | 0525 | 0529 | 0537 | S17 | W50 | 4007 | 12 | 1.4 | 12 | SF | | 3 | C | | 25 | | |
| LEAR | 05 | 0555 | 0558 | 0614 | N12 | W29 | 4013 | 12 | 3.1 | 19 | SN | C 3.0 | 3 | C | | 103 | | |
| PEKG | 05 | 0556 | 0600 | 0609 | N13 | W28 | | 12 | 3.1 | 13 | SN | | | C | 0600 | 67 | .8 | E |
| LEAR | 05 | 0609 | 0614 | 0646 | N08 | E30 | 4014 | 12 | 7.5 | 37 | SN | C 5.5 | 3 | C | | 79 | | F |
| PEKG | 05 | 0615 | 0619 | 0635 | S09 | E29 | | 12 | 7.4 | 20 | 1N | | | C | 0619 | 214 | 2.5 | F |
| LEAR | 05 | 0712 | 0714 | 0731 | S16 | W53 | 4007 | 12 | 1.3 | 19 | SF | | 3 | C | | 21 | | F |
| GOES | 05 | 0807 | 0814 | 0824 | | | | | | 17 | | C 5.8 | | | | | | |
| WEND | 05 | 0916 | 0916 | 0918 | N11 | E13 | | 12 | 6.4 | 2 | SN | | | C | 0916 | 25 | .3 | |
| WEND | 05 | 0916 | 0918 | 0926 | S09 | E85 | | 12 | 11.8 | 10 | SF | | | C | 0918 | 19 | | |
| LEAR | 05 | 0921 | 0922 | 0924 | S11 | E76 | 4017 | 12 | 11.1 | 3 | SF | | | C | | | | |
| GOES | 05 | 0958 | 1004 | 1025 | | | | | | 27 | | M 2.8 | | | | | | |
| GOES | 05 | 1152 | 1157 | 1203 | | | | | | 11 | | C 2.3 | | | | | | |
| RAMY | 05 | 1227 | 1228 | 1259 | N08 | E09 | 4010 | 12 | 6.2 | 32 | SF | | 3 | C | | 76 | | |
| RAMY | 05 | 1227 | 1229 | 1248 | N09 | E13 | 4012 | 12 | 6.5 | 21 | SF | | 3 | C | | 55 | | |
| GOES | 05 | 1428 | 1434 | 1447 | | | 4014 | | | 19 | | C 3.9 | | | | | | |
| RAMY | 05 | 1435 | 1435 | 1436D | N05 | E28 | 4014 | 12 | 7.7 | 1D | 1N | | 3 | C | | 236 | | |
| RAMY | 05 | 1435 | 1435 | 1438D | N08 | E26 | 4014 | 12 | 7.6 | 3D | 1N | | 3 | C | | 236 | | |
| HOLL | 05 | 1435 | 1435 | 1520 | N08 | E26 | 4014 | 12 | 7.6 | 45 | 1N | | 1 | C | | 200 | | E |
| HOLL | 05 | 1615 | 1624 | 1640 | N08 | E25 | 4014 | 12 | 7.6 | 25 | SB | M 1.0 | 3 | C | | 165 | | E |
| HOLL | 05 | 1654 | 1657 | 1722 | S12 | E77 | 4017 | 12 | 11.5 | 28 | 1F | C 3.5 | 3 | C | | | | |
| HOLL | 05 | 1713 | 1713 | 1722 | S16 | W55 | 4007 | 12 | 1.5 | 9 | SN | | 3 | C | | 21 | | |
| HOLL | 05 | 1822 | 1836 | 1840 | S15 | W53 | 4007 | 12 | 1.7 | 18 | SN | | 3 | C | | 14 | | |
| RAMY | 05 | 1832 | 1837 | 1845 | N13 | E15 | 4012 | 12 | 6.9 | 13 | SN | | 3 | C | | 39 | | |
| GOES | 05 | 1942 | 1959 | 2030 | | | 4005 | | | 48 | | C 3.3 | | | | | | |
| HOLL | 05 | 2027 | 2029 | 2051 | N08 | E23 | 4014 | 12 | 7.6 | 24 | SN | C 4.8 | 3 | C | | 134 | | |
| HOLL | 05 | 2038 | 2041 | 2053 | S10 | W41 | 4005 | 12 | 2.8 | 15 | SF | | 3 | C | | 20 | | |
| HOLL | 05 | 2110 | 2118 | 2220 | N13 | E14 | 4012 | 12 | 6.9 | 70 | SN | C 2.8 | 3 | C | | 117 | | K |
| HOLL | 05 | 2110 | 2129 | 2220 | N13 | E14 | 4012 | 12 | 6.9 | 70 | SF | | 3 | C | | 115 | | K |
| HOLL | 05 | 2246 | 2250 | 2306 | N09 | E21 | 4014 | 12 | 7.5 | 20 | SB | | 3 | C | | 63 | | |
| GOES | 06 | 0126 | 0219 | 0252 | | | | | | 86 | | C 7.3 | | | | | | |
| GOES | 06 | 0444 | 0446 | 0448 | | | 4014 | | | 4 | | C 2.4 | | | | | | |
| GOES | 06 | 0502 | 0507 | 0537 | | | | | | 35 | | C 4.2 | | | | | | |
| PEKG | 06 | 0505 | 0510 | 0520 | S11 | E80 | | 12 | 12.2 | 15 | SF | | | C | 0510 | 46 | | D |
| PEKG | 06 | 0555 | 0556 | 0600 | S10 | E68 | | 12 | 11.4 | 5 | SN | | | C | 0556 | 34 | | E |
| LEAR | 06 | 0651E | 0651U | 0719 | S11 | E49 | 4016 | 12 | 10.0 | 28D | SF | | 2 | C | | 40 | | F |
| LEAR | 06 | 0703 | 0705 | 0734D | N04 | W09 | 4010 | 12 | 5.6 | 31D | SF | | 2 | C | | 47 | | F |
| LEAR | 06 | 0736E | 0740U | 0745D | N07 | E19 | 4014 | 12 | 7.7 | 9D | SN | | 2 | C | | 43 | | F |
| LEAR | 06 | 0743E | 0743U | 0812 | S24 | W26 | 4019 | 12 | 4.3 | 29D | SF | | 2 | C | | 27 | | |
| GOES | 06 | 0744 | 0747 | 0749 | | | 4014 | | | 5 | | C 2.6 | | | | | | |
| GOES | 06 | 0808 | 0817 | 0838 | | | | | | 30 | | M 2.9 | | | | | | |
| LEAR | 06 | 0813E | 0830U | 0915 | N12 | E07 | 4012 | 12 | 6.9 | 62D | SF | | 2 | C | | 86 | | FH |
| LEAR | 06 | 0818E | 0825U | 0904 | N12 | W43 | 4013 | 12 | 3.1 | 46D | SF | | 2 | C | | 58 | | F |
| LEAR | 06 | 0852 | 0854 | 0912 | S24 | W26 | 4019 | 12 | 4.4 | 20 | SF | | 2 | C | | 32 | | F |
| GOES | 06 | 1029 | 1032 | 1037 | | | | | | 8 | | C 2.8 | | | | | | |
| GOES | 06 | 1302 | 1305 | 1308 | | | | | | 6 | | C 2.2 | | | | | | |
| GOES | 06 | 1346 | 1353 | 1400 | | | | | | 14 | | C 2.0 | | | | | | |
| RAMY | 06 | 1400 | 1437 | 1533 | N13 | W47 | 4013 | 12 | 3.0 | 93 | 1N | C 3.0 | 3 | C | | 197 | | K |
| RAMY | 06 | 1458 | 1530 | 1614 | S23 | W30 | 4019 | 12 | 4.3 | 76 | SN | | 3 | C | | 145 | | K |
| RAMY | 06 | 1458 | 1548 | 1614 | S23 | W30 | 4019 | 12 | 4.3 | 76 | SN | | 3 | C | | 67 | | K |
| RAMY | 06 | 1502 | 1551 | 1618 | N13 | E02 | 4012 | 12 | 6.8 | 76 | SF | | 3 | C | | 64 | | K |
| HOLL | 06 | 1523 | 1530 | 1626 | S22 | W28 | 4019 | 12 | 4.5 | 63 | SN | | 3 | C | | 67 | | K |
| HOLL | 06 | 1523 | 1538 | 1626 | S22 | W28 | 4019 | 12 | 4.5 | 63 | SN | | 3 | C | | 80 | | K |
| HOLL | 06 | 1532 | 1536 | 1549 | S09 | W26 | 4018 | 12 | 4.7 | 17 | SN | C 4.4 | 3 | C | | 31 | | |
| RAMY | 06 | 1535 | 1543 | 1553 | S09 | W25 | 4018 | 12 | 4.8 | 18 | SN | | 3 | C | | 32 | | |
| RAMY | 06 | 1545 | 1545 | 1602 | N03 | E04 | | 12 | 7.0 | 17 | SF | | 3 | C | | 33 | | |

H - ALPHA SOLAR FLARES

DECEMBER 1982

| Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF | | | Dur (Min) | Imp Opt | Xray | Obs See | Type | Area Measurement | | Remarks | |
|-----|------|---------------|-------------|-------------|-------|---------|---------------|----|------|--------------|------------|------|------------|------|------------------|-------------------------------------|---------|------------------|
| | | | | | | | Region | Mo | Day | | | | | | Time (UT) | Apparent (10 ⁻⁶ Disk) | | Corr (Sq Deg) |
| ▲ | HOLL | 06 | 1545 | 1547 | 1554 | N01 E07 | 4014 | 12 | 7.2 | 9 | SF | 3 | C | | 24 | | | |
| | HOLL | 06 | 1555 | 1556 | 1614 | N14 W47 | 4013 | 12 | 3.1 | 19 | SF | 3 | C | | 18 | | | |
| | RAMY | 06 | 1614 | 1638 | 1641 | S23 W30 | 4019 | 12 | 4.4 | 27 | SF | 3 | C | | 34 | | | |
| [| HOLL | 06 | 1623 | 1625 | 1633 | N09 E11 | 4014 | 12 | 7.5 | 10 | SN | 3 | C | | 100 | | | |
| | RAMY | 06 | 1624 | 1625 | 1630 | N09 E11 | 4014 | 12 | 7.5 | 6 | SN | 3 | C | | 79 | | | |
| [| RAMY | 06 | 1643 | 1734 | 1817 | S23 W31 | 4019 | 12 | 4.3 | 94 | SN | 3 | C | | 108 | | K | |
| | RAMY | 06 | 1643 | 1812 | 1817 | S23 W31 | 4019 | 12 | 4.3 | 94 | 1N | 3 | C | | 197 | | K | |
| | HOLL | 06 | 1650 | 2025 | 2028D | S23 W35 | 4019 | 12 | 4.0 | 218D | 1B | C | 3.2 | 3 | C | 221 | | E |
| | HOLL | 06 | 1652 | 1654 | 1657 | N06 E08 | 4014 | 12 | 7.3 | 5 | SF | 3 | C | | 38 | | | |
| | RAMY | 06 | 1911E | 1911 | 1933 | S15 W73 | 4007 | 12 | 1.3 | 22D | SF | C | 2.9 | 3 | C | | | |
| [| HOLL | 06 | 2008 | 2030 | 2207 | N08 W04 | 4012 | 12 | 6.5 | 119 | 1B | 3 | C | | 221 | | K | |
| | HOLL | 06 | 2008 | 2037 | 2207 | N08 W04 | 4012 | 12 | 6.5 | 119 | 1B | C | 8.1 | 3 | C | 408 | | ZUK |
| | HOLL | 06 | 2011 | 2013 | 2028 | S10 W57 | 4005 | 12 | 2.6 | 17 | SN | 3 | C | | 42 | | | |
| [| HOLL | 06 | 2019 | 2025 | 2154D | S23 W35 | 4019 | 12 | 4.1 | 95D | 1B | C | 5.2 | 3 | C | 221 | | E K |
| | HOLL | 06 | 2019 | 2146 | 2154D | S23 W35 | 4019 | 12 | 4.1 | 95D | SN | 3 | C | | 111 | | K | |
| | HOLL | 06 | 2029 | 2037 | 2102 | N06 E01 | 4014 | 12 | 6.9 | 33 | SN | 3 | C | | 110 | | F | |
| | GOES | 06 | 2104 | 2117 | 2147 | | | | | 43 | | M | 2.2 | | | | | |
| | HOLL | 06 | 2129 | 2129 | 2141 | S10 E40 | 4016 | 12 | 9.9 | 12 | SF | 3 | C | | 26 | | | |
| [| HOLL | 06 | 2155 | 2213 | 2251 | S14 W78 | 4007 | 12 | 1.0 | 56 | SF | 3 | C | | 21 | | K | |
| | HOLL | 06 | 2155 | 2247 | 2251 | S14 W78 | 4007 | 12 | 1.0 | 56 | SF | 3 | C | | | | K | |
| | HOLL | 06 | 2241 | 2242 | 2305 | S22 W36 | 4019 | 12 | 4.2 | 24 | SN | 3 | C | | 32 | | | |
| | LEAR | 06 | 2334 | 2335 | 2342 | N08 E08 | 4014 | 12 | 7.6 | 8 | SF | 3 | C | | 28 | | | |
| | LEAR | 06 | 2346 | 2347 | 2356 | S17 E81 | 4021 | 12 | 13.2 | 10 | SF | 3 | C | | 11 | | | |
| | YUNN | 07 | 0044 | 0056 | 0100 | S22 W35 | | 12 | 4.3 | 16 | SB | | P | | 94 | 1.3 | | |
| | YUNN | 07 | 0044 | 0056 | 0104 | N15 W53 | | 12 | 3.0 | 20 | SN | | C | | 47 | .8 | | |
| | YUNN | 07 | 0047 | 0106 | 0106D | S16 E74 | | 12 | 12.6 | 19D | 1N | | P | | 79 | | A | |
| [| YUNN | 07 | 0120E | 0128 | 0133 | N13 W54 | | 12 | 3.0 | 13D | SB | | P | | 31 | .6 | | |
| | LEAR | 07 | 0123 | 0128 | 0237 | N13 W51 | 4013 | 12 | 3.2 | 74 | SN | 3 | C | | 65 | | | |
| | LEAR | 07 | 0125 | 0126 | 0134 | S10 W31 | 4018 | 12 | 4.7 | 9 | SF | 3 | C | | 33 | | | |
| | GOES | 07 | 0208 | 0230 | 0241 | | | | | 33 | | C | 3.6 | | | | | |
| [| GOES | 07 | 0239 | 0254 | 0337 | | 4019 | | | 58 | | C | 3.7 | | | | | |
| | LEAR | 07 | 0243 | 0249 | 0250D | S24 W36 | 4019 | 12 | 4.3 | 7D | SN | 3 | C | | 44 | | F | |
| [| PEKG | 07 | 0245 | 0249 | 0258 | S23 W37 | | 12 | 4.3 | 13 | SN | | P | 0249 | 84 | 1.2 | E | |
| | YUNN | 07 | 0340 | 0342 | 0351 | N14 W53 | | 12 | 3.1 | 11 | SN | | C | | 31 | .6 | | |
| | YUNN | 07 | 0340E | 0345 | 0350 | S22 W35 | | 12 | 4.5 | 10D | SN | | P | | 31 | .4 | D | |
| | LEAR | 07 | 0403 | 0403 | 0422 | N13 W53 | 4013 | 12 | 3.2 | 19 | SF | 3 | C | | 46 | | | |
| | LEAR | 07 | 0403 | 0405 | 0420 | S15 E71 | 4021 | 12 | 12.5 | 17 | SF | 3 | C | | 19 | | | |
| | LEAR | 07 | 0414 | 0415 | 0424 | N08 E04 | 4014 | 12 | 7.5 | 10 | SF | 3 | C | | 29 | | | |
| | LEAR | 07 | 0426 | 0456 | 0504 | N13 W53 | 4013 | 12 | 3.2 | 38 | SF | 3 | C | | 24 | | | |
| | LEAR | 07 | 0537 | 0539 | 0552 | N06 E03 | 4014 | 12 | 7.5 | 15 | SB | C | 5.0 | 2 | C | 100 | | FE |
| | LEAR | 07 | 0601E | 0618U | 0649 | N14 W56 | 4013 | 12 | 3.0 | 48D | SN | C | 6.5 | 2 | C | 71 | | F |
| [| LEAR | 07 | 0607E | 0614U | 0638 | N03 W06 | 4014 | 12 | 6.8 | 31D | SF | 2 | C | | 66 | | F | |
| | PEKG | 07 | 0609 | 0614 | 0620 | N04 W07 | | 12 | 6.7 | 11 | SF | | P | 0614 | 84 | .9 | E | |
| | PEKG | 07 | 0609 | 0614 | 0626 | N15 W56 | | 12 | 3.0 | 17 | SN | | P | 0614 | 59 | 1.1 | E | |
| | LEAR | 07 | 0632 | 0635 | 0639 | N13 W06 | 4012 | 12 | 6.8 | 7 | SF | 2 | C | | 33 | | | |
| [| ISTA | 07 | 0647 | | 0654 | N04 W03 | | 12 | 7.1 | 7 | SN | | | | | | D | |
| | LEAR | 07 | 0648 | 0658 | 0702 | N03 W04 | 4014 | 12 | 7.0 | 14 | SF | 3 | C | | 46 | | F | |
| | ISTA | 07 | 0701 | | 0706 | N08 E06 | | 12 | 7.7 | 5 | SF | | | | | | D | |
| | ISTA | 07 | 0725 | | 0729 | N04 W03 | | 12 | 7.1 | 4 | SF | | | | | | E | |
| | ISTA | 07 | 0735 | | 0751 | N05 W07 | | 12 | 6.8 | 16 | SF | | | | | | E | |
| | LEAR | 07 | 0828 | 0829 | 0850 | N14 W57 | 4013 | 12 | 3.0 | 22 | SF | C | 4.9 | 3 | C | 39 | | F |
| | GOES | 07 | 1001 | 1009 | 1036 | | 4021 | | | 35 | | M | 1.5 | | | | | |
| | RAMY | 07 | 1301 | 1302 | 1309 | N02 W08 | | 12 | 6.9 | 8 | SN | 3 | C | | 32 | | | |
| | GOES | 07 | 1316 | 1320 | 1326 | | | | | 10 | | C | 9.9 | | | | | |
| | RAMY | 07 | 1409 | 1410 | 1417 | N13 W58 | 4013 | 12 | 3.2 | 8 | SN | 3 | C | | 18 | | | |
| | RAMY | 07 | 1418 | 1429 | 1450 | S15 W63 | 4005 | 12 | 2.8 | 32 | SN | 3 | C | | 27 | | | |
| | RAMY | 07 | 1424 | 1433 | 1442 | S22 W40 | 4019 | 12 | 4.5 | 18 | SN | 3 | C | | 45 | | | |
| | RAMY | 07 | 1427 | 1428 | 1436 | N14 W59 | 4013 | 12 | 3.1 | 9 | SN | 3 | C | | 25 | | | |
| [| RAMY | 07 | 1510 | 1511 | 1550 | N05 W03 | 4014 | 12 | 7.4 | 40 | 1B | M | 1.2 | 3 | C | 413 | | K |
| | RAMY | 07 | 1510 | 1521 | 1550 | N05 W03 | 4014 | 12 | 7.4 | 40 | SB | 3 | C | | 136 | | K | |
| | RAMY | 07 | 1639 | 1702 | 1739 | N09 E82 | 4022 | 12 | 13.9 | 60 | SN | C | 8.9 | 3 | C | | | |
| | RAMY | 07 | 1743 | 1747 | 1759 | S12 W68 | 4005 | 12 | 2.6 | 16 | SN | 3 | C | | 53 | | | |
| | RAMY | 07 | 1743 | 1809 | 1842 | S19 W79 | 4007 | 12 | 1.7 | 59 | SB | M | 1.3 | 3 | C | | | F |
| [| RAMY | 07 | 1748 | 1749 | 1810D | S23 W41 | 4019 | 12 | 4.6 | 22D | SB | M | 1.0 | 3 | C | 76 | | |
| | HOLL | 07 | 1811E | 1817U | 1846 | S17 W83 | 4007 | 12 | 1.4 | 35D | SN | 3 | C | | | | F | |
| | HOLL | 07 | 1843 | 1843 | 1855 | S11 E43 | 4017 | 12 | 11.0 | 12 | SF | 3 | C | | 18 | | | |
| | RAMY | 07 | 1845 | 1846 | 1900 | N13 W59 | 4013 | 12 | 3.3 | 15 | SN | 3 | C | | 16 | | | |
| | RAMY | 07 | 1900E | 1917 | 1925 | N14 W61 | 4013 | 12 | 3.2 | 25D | SN | 3 | C | | 21 | | | |
| | HOLL | 07 | 2102 | 2108 | 2122 | S11 E44 | 4017 | 12 | 11.2 | 20 | SF | 3 | C | | 22 | | | |
| | GOES | 07 | 2121 | 2130 | 2133 | | | | | 12 | | C | 4.4 | | | | | |

H - ALPHA SOLAR FLARES

DECEMBER 1982

| Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF Region | CMP Mo | Dur Day (Min) | Imp Opt | Xray | Obs See | Type | Area Measurement | | | Remarks | |
|------|-----|------------|----------|----------|-----|-----|-------------------------|-----------|---------------------|------------|------|------------|-------|------------------|-------------------------------------|------------------|---------|-----|
| | | | | | | | | | | | | | | Time (UT) | Apparent (10 ⁻⁶ Disk) | Corr (Sq Deg) | | |
| LEAR | 07 | 2315 | 2316 | | S23 | W45 | 4019 | 12 | 4.5 | | | 3 | C | | | 42 | | |
| LEAR | 07 | 2317 | 2317 | 2323 | N09 | E79 | 4022 | 12 | 13.9 | 6 | | SF | 3 | C | | | | |
| LEAR | 07 | 2325 | 2340 | 0059 | S10 | E49 | 4017 | 12 | 11.7 | 94 | | 1N | 3 | C | | 222 | | F |
| GOES | 07 | 2336 | 2354 | 0047 | | | 4007 | | | 71 | | X 2.8 | | | | | | |
| LEAR | 07 | 2341 | 2351 | 0046 | S19 | W86 | 4007 | 12 | 1.4 | 65 | | 1B | 3 | C | | | | UF |
| LEAR | 07 | 2346 | 2351 | 0008 | N16 | E87 | 4022 | 12 | 14.6 | 22 | | SB | 3 | C | | | | EH |
| YUNN | 08 | 0023E | 0100 | 0504D | S16 | W90 | | 12 | 1.2 | 281D | | | | P | | | | |
| LEAR | 08 | 0044 | 0055 | 0148 | N08 | W08 | 4014 | 12 | 7.4 | 64 | | SB | 3 | C | | 195 | | A |
| YUNN | 08 | 0045 | 0055 | 0115 | N08 | W08 | | 12 | 7.4 | 30 | | SB | | C | | 189 | | FE |
| LEAR | 08 | 0050 | 0051 | 0102 | N09 | E77 | 4022 | 12 | 13.8 | 12 | | SF | 3 | C | | | | F |
| PEKG | 08 | 0109 | 0112 | 0116 | N08 | W07 | | 12 | 7.5 | 7 | | SN | | P | 0112 | 109 | | E |
| YUNN | 08 | 0120 | 0122 | 0124 | S16 | E67 | | 12 | 13.1 | 4 | | SF | | C | | 16 | | D |
| YUNN | 08 | 0135 | 0138 | 0145 | S16 | E67 | | 12 | 13.2 | 10 | | SN | | C | | 31 | | E |
| LEAR | 08 | 0139 | 0140 | 0144 | S15 | E70 | 4021 | 12 | 13.4 | 5 | | SF | 3 | C | | 15 | | E |
| LEAR | 08 | 0146 | 0148 | 0159 | N13 | W65 | 4013 | 12 | 3.2 | 13 | | SF | 3 | C | | 21 | | |
| LEAR | 08 | 0227 | 0233 | 0256 | N14 | W65 | 4013 | 12 | 3.2 | 29 | | SN | 3 | C | | 60 | | |
| YUNN | 08 | 0230 | 0234 | 0236 | N05 | W05 | | 12 | 7.7 | 6 | | SN | | C | | 16 | | .2 |
| YUNN | 08 | 0230 | 0234 | 0240 | N13 | W61 | | 12 | 3.5 | 10 | | SN | | P | | 31 | | .7 |
| PEKG | 08 | 0233 | 0234 | 0235 | N07 | W05 | | 12 | 7.7 | 2 | | SN | | P | 0234 | 42 | | .4 |
| PEKG | 08 | 0234E | 0234 | 0238 | N15 | W67 | | 12 | 3.0 | 4D | | SN | | P | 0234 | 34 | | |
| LEAR | 08 | 0241 | 0307 | 0419 | N07 | E72 | 4022 | 12 | 13.5 | 98 | | 1N | 3 | C | | | | |
| YUNN | 08 | 0253 | 0300 | 0312D | N08 | E73 | | 12 | 13.6 | 19D | | 1N | | P | | 110 | | |
| PEKG | 08 | 0258E | 0309 | 0341 | N08 | E74 | | 12 | 13.7 | 43D | | SN | | P | 0309 | 105 | | |
| LEAR | 08 | 0305 | 0307 | 0322 | S24 | W47 | 4019 | 12 | 4.5 | 17 | | SN | 3 | C | | 90 | | |
| PEKG | 08 | 0309E | 0309 | 0315 | S23 | W47 | | 12 | 4.5 | 6D | | SN | | P | 0309 | 76 | | 1.2 |
| LEAR | 08 | 0313 | 0313 | 0317 | S16 | E69 | 4021 | 12 | 13.4 | 4 | | SF | 3 | C | | 22 | | |
| YUNN | 08 | 0327E | 0327U | 0403 | N09 | E71 | | 12 | 13.5 | 36D | | 1B | | P | 0327 | 79 | | |
| LEAR | 08 | 0416 | 0420 | 0423 | S16 | E63 | 4021 | 12 | 13.0 | 7 | | SN | 3 | C | | 46 | | |
| YUNN | 08 | 0451 | 0455 | 0504 | S16 | E61 | | 12 | 12.8 | 13 | | SN | | C | | 16 | | .4 |
| LEAR | 08 | 0543 | 0600 | 0641 | N10 | W21 | 4012 | 12 | 6.7 | 58 | | SN | 3 | C | | 153 | | |
| LEAR | 08 | 0630 | 0631 | 0638 | N14 | W67 | 4013 | 12 | 3.2 | 8 | | SF | 3 | C | | 18 | | |
| LEAR | 08 | 0728 | 0730 | 0736 | N09 | E72 | 4022 | 12 | 13.7 | 8 | | SF | 3 | C | | | | |
| ISTA | 08 | 0755E | | 0800 | S16 | E64 | | 12 | 13.2 | 5D | | SF | | | | | | |
| LEAR | 08 | 0828 | 0835 | 0912 | N10 | E72 | 4022 | 12 | 13.8 | 44 | | 1F | M 1.1 | 3 | C | | | |
| ISTA | 08 | 0829 | | 0848 | N09 | E76 | | 12 | 14.1 | 19 | | 1N | | | | | | |
| ISTA | 08 | 0836 | | 0841 | N06 | W07 | | 12 | 7.8 | 5 | | SF | | | | | | |
| GOES | 08 | 1106 | 1112 | 1203 | | | 4022 | | | 57 | | M 1.9 | | | | | | |
| RAMY | 08 | 1323 | 1443 | 1837 | N07 | E68 | 4022 | 12 | 13.7 | 314 | | 2B | M 6.7 | 3 | C | 443 | | |
| RAMY | 08 | 1328 | 1337 | 1347 | S10 | E34 | 4017 | 12 | 11.1 | 19 | | SF | 3 | C | | 23 | | ZUK |
| RAMY | 08 | 1814 | 1814 | 1826 | S22 | W59 | 4019 | 12 | 4.2 | 12 | | SF | 3 | C | | 28 | | |
| GOES | 08 | 1935 | 1940 | 2016 | | | | | | 41 | | M 1.3 | | | | | | |
| LEAR | 08 | 2356 | 0002 | 0027 | 11 | E60 | 4022 | 12 | 13.5 | 31 | | SF | | C | | 75 | | F |
| LEAR | 09 | 0129 | 0130 | 0140 | S22 | W60 | 4019 | 12 | 4.4 | 11 | | SN | 2 | C | | 69 | | F |
| LEAR | 09 | 0202 | 0202 | 0216 | N06 | W20 | 4014 | 12 | 7.6 | 14 | | SF | 3 | C | | 94 | | F |
| LEAR | 09 | 0215 | 0256 | 0349 | N11 | E68 | 4022 | 12 | 14.2 | 94 | | SN | 3 | C | | 87 | | |
| LEAR | 09 | 0221 | 0307 | 0340 | S11 | E26 | 4017 | 12 | 11.1 | 79 | | SF | 2 | C | | 142 | | F |
| YUNN | 09 | 0233E | 0233U | 0301D | N11 | E70 | | 12 | 14.4 | 28D | | 1N | | P | 0233 | 79 | | |
| LEAR | 09 | 0235 | 0245 | 0334 | N03 | W24 | 4014 | 12 | 7.3 | 59 | | 1N | M 1.3 | 2 | C | 375 | | F |
| YUNN | 09 | 0252E | 0300U | 0301D | N07 | W22 | | 12 | 7.5 | 9D | | 1B | | P | 0300 | 204 | | 2.3 |
| PEKG | 09 | 0255E | 0300 | 0307 | N11 | E70 | | 12 | 14.4 | 12D | | SF | | P | 0300 | 42 | | FT |
| PEKG | 09 | 0255E | 0300 | 0309 | N07 | W23 | | 12 | 7.4 | 14D | | SN | | P | 0300 | 105 | | 1.2 |
| LEAR | 09 | 0410 | 0420 | 0531 | N07 | W22 | 4014 | 12 | 7.5 | 81 | | 1N | | C | | 208 | | |
| LEAR | 09 | 0410 | 0451 | 0531 | N07 | W22 | 4014 | 12 | 7.5 | 81 | | 1B | C 6.6 | 3 | C | 452 | | |
| YUNN | 09 | 0420E | 0420U | 0435 | N07 | W22 | | 12 | 7.5 | 15D | | SN | | P | 0420 | 79 | | .9 |
| LEAR | 09 | 0425 | 0432 | 0440 | N11 | E69 | 4022 | 12 | 14.4 | 15 | | SF | 3 | C | | 32 | | |
| GOES | 09 | 0445 | 0451 | 0500 | | | 4014 | | | 15 | | M 2.4 | | | | | | |
| YUNN | 09 | 0447 | 0452 | 0500D | N09 | W25 | | 12 | 7.3 | 13D | | SB | | P | | 157 | | 1.8 |
| PEKG | 09 | 0448 | 0451 | 0500 | N10 | W26 | | 12 | 7.2 | 12 | | 1N | | C | 0454 | 168 | | 2.0 |
| LEAR | 09 | 0517 | 0522 | 0536 | N09 | E60 | 4022 | 12 | 13.7 | 19 | | SF | 3 | C | | 73 | | |
| LEAR | 09 | 0552 | 0601 | 0607 | S17 | E47 | 4021 | 12 | 12.8 | 15 | | SF | 3 | C | | 26 | | |
| GOES | 09 | 0635 | 0639 | 0643 | | | | | | 8 | | C 9.5 | | | | | | |
| YUNN | 09 | 0637 | 0642 | 0654 | N07 | W22 | | 12 | 7.6 | 17 | | SF | | C | | 47 | | .5 |
| ISTA | 09 | 0640E | | 0700 | N07 | W19 | | 12 | 7.9 | 20D | | SB | | | | | | |
| ISTA | 09 | 0640E | | 0733 | N03 | W30 | | 12 | 7.0 | 53D | | 2B | | | | | | |
| LEAR | 09 | 0645 | 0647 | 0716 | N05 | W28 | 4014 | 12 | 7.2 | 31 | | SF | 3 | C | | 70 | | |
| YUNN | 09 | 0651 | 0706 | 0740 | N02 | W32 | | 12 | 6.9 | 49 | | SF | | C | | 79 | | 1.0 |
| LEAR | 09 | 0713 | 0715 | 0721 | N14 | W70 | 4023 | 12 | 4.0 | 8 | | SF | 3 | C | | 18 | | |
| ISTA | 09 | 0730 | | 0740 | N11 | E69 | | 12 | 14.5 | 10 | | SF | | | | | | |
| ISTA | 09 | 0733 | | 0743 | N07 | W25 | | 12 | 7.4 | 10 | | SN | | | | | | |

H - ALPHA SOLAR FLARES

DECEMBER 1982

| Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF Region | CMP Mo | Day | Dur (Min) | Imp Opt | Xray | Obs See | Type | Area Measurement | | | Remarks |
|---------|-----|------------|----------|----------|-----|-----|-------------------------|-----------|------|--------------|------------|------|------------|------|------------------|-------------------------------------|------------------|---------|
| | | | | | | | | | | | | | | | Time (UT) | Apparent (10 ⁻⁶ Disk) | Corr (Sq Deg) | |
| GOES | 09 | 0816 | 0822 | 0826 | | | | | | 10 | | C | 5.6 | | | | | |
| [YUNN | 09 | 0842 | 0843 | 0848 | N11 | E67 | | | 12 | 14.4 | 6 | 1N | | | | | 79 | |
| LEARN | 09 | 0843 | 0845 | 0903 | N10 | E56 | 4022 | | 12 | 13.6 | 20 | SN | C | 8.8 | 3 | C | 131 | F |
| LEARN | 09 | 0925 | 0926 | 0959D | N09 | E58 | 4022 | | 12 | 13.7 | 34D | SN | | | 3 | C | 33 | F |
| GOES | 09 | 1031 | 1040 | 1102 | | | 4014 | | | | 31 | M | 1.9 | | | | | |
| GOES | 09 | 1123 | 1138 | 1229 | | | | | | | 66 | M | 9.2 | | | | | |
| GOES | 09 | 1345 | 1354 | 1405 | | | | | | | 20 | M | 1.9 | | | | | |
| GOES | 09 | 1413 | 1418 | 1428 | | | | | | | 15 | M | 1.9 | | | | | |
| RAMY | 09 | 1444 | 1604 | 1635 | N08 | W28 | 4014 | 12 | 7.5 | 111 | 1B | M | 1.7 | 3 | C | | 199 | |
| RAMY | 09 | 1612 | 1637 | 1659 | N11 | E53 | 4022 | 12 | 13.7 | 47 | SB | C | 6.3 | 3 | C | | 140 | |
| [RAMY | 09 | 1736 | 1737 | 1815 | N09 | E54 | 4022 | 12 | 13.8 | 39 | SN | | | 3 | C | | 38 | K |
| RAMY | 09 | 1736 | 1800 | 1815 | N09 | E54 | 4022 | 12 | 13.8 | 39 | SB | M | 1.0 | 3 | C | | 108 | E |
| RAMY | 09 | 1900 | 1903 | 1929 | N10 | E51 | 4022 | 12 | 13.6 | 29 | SB | M | 1.0 | 3 | C | | 127 | U |
| GOES | 09 | 2145 | 2149 | 2215 | | | 4022 | | | | 30 | M | 2.3 | | | | | |
| LEARN | 09 | 2224E | 2229U | 2310 | N09 | E52 | 4022 | 12 | 13.8 | 46D | 1F | | | 2 | C | | 228 | FH |
| [LEARN | 09 | 2257 | 2304 | 2339 | N08 | W37 | 4014 | 12 | 7.2 | 42 | SB | M | 1.1 | 3 | C | | 132 | FEK |
| LEARN | 09 | 2257 | 2318 | 2339 | N08 | W37 | 4014 | 12 | 7.2 | 42 | SB | | | 3 | C | | 149 | K |
| GOES | 09 | 2315 | 2319 | 2327 | | | | | | | 12 | M | 1.0 | | | | | |
| [GOES | 10 | 0016 | 0028 | 0043 | | | | | | | 27 | M | 2.5 | | | | | |
| LEARN | 10 | 0025 | 0029 | 0043 | S12 | E18 | 4017 | 12 | 11.4 | 18 | SF | | | 3 | C | | 37 | |
| LEARN | 10 | 0037 | 0038 | 0044 | N11 | E58 | 4022 | 12 | 14.4 | 7 | SF | | | 3 | C | | 28 | |
| [LEARN | 10 | 0041 | 0054 | 0206 | N07 | W35 | 4014 | 12 | 7.4 | 85 | 1B | M | 2.3 | 3 | C | | 394 | FE |
| YUNN | 10 | 0100 | 0101 | 0115 | N08 | W36 | | 12 | 7.3 | 15 | SB | | | | C | | 31 | .4 |
| GOES | 10 | 0114 | 0119 | 0132 | | | 4014 | | | | 18 | M | 2.3 | | | | | |
| LEARN | 10 | 0131 | 0131 | 0141D | S16 | E37 | 4021 | 12 | 12.9 | 10D | SF | | | 3 | C | | 49 | F |
| LEARN | 10 | 0156 | 0159 | 0205 | N09 | E49 | 4022 | 12 | 13.8 | 9 | SN | M | 1.4 | 3 | C | | 108 | F |
| LEARN | 10 | 0158 | 0159 | 0204 | S16 | E35 | 4021 | 12 | 12.7 | 6 | SF | | | 3 | C | | 45 | |
| LEARN | 10 | 0222 | 0228 | 0234 | N09 | E48 | 4022 | 12 | 13.7 | 12 | SF | | | 3 | C | | 113 | F |
| LEARN | 10 | 0227 | 0227 | 0232 | S10 | W77 | 4018 | 12 | 4.3 | 5 | SF | | | 3 | C | | | |
| LEARN | 10 | 0236 | 0237 | 0326 | N07 | W36 | 4014 | 12 | 7.4 | 50 | SN | | | 3 | C | | 68 | K |
| [LEARN | 10 | 0236 | 0248 | 0326 | N07 | W36 | 4014 | 12 | 7.4 | 50 | 1B | M | 5.2 | 3 | C | | 213 | FEK |
| LEARN | 10 | 0237 | 0241 | 0556 | N09 | E47 | 4022 | 12 | 13.6 | 199 | 1B | | | 3 | C | | 282 | UFK |
| LEARN | 10 | 0237 | 0432 | 0556 | N09 | E47 | 4022 | 12 | 13.6 | 199 | 2B | | | 3 | C | | 676 | K |
| [MANI | 10 | 0242E | 0245 | 0252D | N09 | W35 | | 12 | 7.5 | 10D | 1B | | | 1 | V | | 250 | 3.2 |
| LEARN | 10 | 0340 | 0342 | 0347 | N05 | W37 | 4014 | 12 | 7.4 | 7 | SN | | | 3 | C | | 43 | F |
| YUNN | 10 | 0355 | 0505 | 0631 | N07 | E49 | | 12 | 13.8 | 156 | 3B | | | | P | | 1336 | 21.1 |
| LEARN | 10 | 0358 | 0412 | 0505 | N07 | W37 | 4014 | 12 | 7.4 | 67 | 1B | | | 3 | C | | 184 | FE |
| [GOES | 10 | 0358 | 0432 | 0556 | | | 4022 | | | | 118 | M | 8.2 | | | | | |
| YUNN | 10 | 0402 | 0415 | 0437 | N08 | W39 | | 12 | 7.2 | 35 | 1N | | | | C | | 204 | 2.7 |
| [MANI | 10 | 0409 | 0410U | 0415D | N09 | W32 | | 12 | 7.8 | 6D | SB | | | 1 | V | | 120 | 1.5 |
| LEARN | 10 | 0521 | 0522 | 0531 | N07 | W37 | 4014 | 12 | 7.4 | 10 | SN | | | 3 | C | | 32 | |
| LEARN | 10 | 0713 | 0715 | 0717 | S17 | E28 | 4021 | 12 | 12.4 | 4 | SF | | | 3 | C | | 19 | |
| LEARN | 10 | 0753 | 0754 | 0759 | N06 | W40 | 4014 | 12 | 7.3 | 6 | SB | | | 3 | C | | 162 | |
| [GOES | 10 | 0753 | 0806 | 0815 | | | 4014 | | | | 22 | M | 2.2 | | | | | |
| YUNN | 10 | 0755E | 0807 | 0819 | N08 | W37 | | 12 | 7.6 | 24D | SN | | | | P | | 94 | 1.2 |
| LEARN | 10 | 0800 | 0807 | 0819 | N07 | W36 | 4014 | 12 | 7.6 | 19 | SB | | | 3 | C | | 40 | E |
| LEARN | 10 | 0842 | 0842 | 0855 | S07 | E64 | 4024 | 12 | 15.2 | 13 | SF | | | 3 | C | | 23 | |
| LEARN | 10 | 0842 | 0842 | 0918 | N07 | W39 | 4014 | 12 | 7.4 | 36 | SN | | | 3 | C | | 44 | |
| WEND | 10 | 1037E | | 1044 | N11 | E50 | | 12 | 14.2 | 7D | SF | | | | C | | 1037 | 63 |
| WEND | 10 | 1155 | 1158 | 1208 | S15 | E32 | | 12 | 12.9 | 13 | SN | | | | C | | 1158 | 69 |
| [RAMY | 10 | 1204 | 1321 | 1441 | N05 | W43 | 4014 | 12 | 7.3 | 157 | SB | | | 3 | C | | 126 | |
| RAMY | 10 | 1204 | 1332 | 1441 | N05 | W43 | 4014 | 12 | 7.3 | 157 | 1B | M | 2.8 | 3 | C | | 338 | K |
| WEND | 10 | 1225 | 1240 | 1244 | S21 | E23 | | 12 | 12.3 | 19 | SF | | | | C | | 1240 | 28 |
| WEND | 10 | 1231 | 1236 | 1300D | N11 | E46 | | 12 | 14.0 | 29D | 1F | | | | C | | 1236 | 144 |
| WEND | 10 | 1316 | 1331 | 1400 | N06 | W43 | | 12 | 7.3 | 44 | 1N | | | | C | | 1331 | 268 |
| [RAMY | 10 | 1602 | 1821 | 1904 | N08 | W47 | 4014 | 12 | 7.1 | 182 | 1B | | | 3 | C | | 361 | |
| RAMY | 10 | 1602 | 1822 | 1904 | N08 | W47 | 4014 | 12 | 7.1 | 182 | 1B | C | 9.3 | 3 | C | | 389 | K |
| [GOES | 10 | 1748 | 1759 | 1802 | | | 4014 | | | | 14 | M | 1.0 | | | | | |
| GOES | 10 | 1814 | 1820 | 1832 | | | 4014 | | | | 18 | M | 4.1 | | | | | |
| RAMY | 10 | 1854 | 1857 | 1909 | S08 | E84 | 4025 | 12 | 17.1 | 15 | SN | | | 3 | C | | | |
| RAMY | 10 | 1900 | 1903 | 1908 | S14 | E24 | 4021 | 12 | 12.6 | 8 | SF | | | 3 | C | | 74 | |
| RAMY | 10 | 1911 | 2000 | 2019D | N06 | W47 | 4014 | 12 | 7.3 | 68D | SN | | | 3 | C | | 45 | |
| RAMY | 10 | 1923 | 1927 | 1958 | S08 | E83 | 4025 | 12 | 17.0 | 35 | SB | | | 3 | C | | | |
| RAMY | 10 | 1943 | 1943 | 2000 | S09 | E03 | 4017 | 12 | 11.0 | 17 | SN | | | 3 | C | | 38 | |
| RAMY | 10 | 1952 | 1958 | 2019D | S14 | E23 | 4021 | 12 | 12.6 | 27D | SB | | | 3 | C | | 88 | |
| GOES | 10 | 2208 | 2211 | 2216 | | | | | | 8 | | | | | | C | | 4.4 |
| GOES | 10 | 2254 | 2255 | 2257 | | | | | | 3 | | | | | | C | | 4.0 |
| GOES | 10 | 2354 | 2356 | 2358 | | | | | | 4 | | | | | | C | | 3.7 |
| GOES | 11 | 0001 | 0002 | 0004 | | | | | | 3 | | | | | | C | | 4.0 |

H - ALPHA SOLAR FLARES

DECEMBER 1982

| Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF | | CMP Mo | Dur (Min) | Imp Opt | Xray | Obs See | Type | Area Measurement | | | Remarks | |
|------|-----|---------------|-------------|-------------|-----|-----|---------------|-----|-----------|--------------|------------|------|------------|------|------------------|-------------------------------------|------------------|---------|-----|
| | | | | | | | Region | Day | | | | | | | Time (UT) | Apparent (10 ⁻⁶ Disk) | Corr (Sq Deg) | | |
| GOES | 11 | 0029 | 0033 | 0039 | | | | | | 10 | | C | 6.6 | | | | | | |
| LEAR | 11 | 0043 | 0044 | 0048 | S15 | E19 | 4021 | 12 | 12.5 | 5 | SF | | | 3 | C | | 35 | | |
| GOES | 11 | 0059 | 0101 | 0109 | | | | | | 10 | | C | 5.3 | | | | | | |
| PEKG | 11 | 0122E | 0122 | 0123D | S16 | E22 | | 12 | 12.7 | 1D | SF | | | | C | 0122 | 84 | 1.0 | E |
| PEKG | 11 | 0142 | 0143 | 0152 | N07 | W55 | | 12 | 6.9 | 10 | SF | | | | C | 0143 | 113 | 2.0 | F |
| MANI | 11 | 0142E | 0143U | 0147D | N07 | W60 | | 12 | 6.6 | 5D | SB | | | 1 | V | | 80 | 1.5 | |
| GOES | 11 | 0142 | 0143 | 0147 | | | 4014 | | | 5 | | C | 6.3 | | | | | | |
| PEKG | 11 | 0226 | 0232 | 0330 | N04 | W60 | | 12 | 6.6 | 64 | 1F | | | | C | 0232 | 101 | 2.1 | E |
| LEAR | 11 | 0234 | 0246 | 0308 | N05 | W55 | 4014 | 12 | 7.0 | 34 | SN | C | 6.2 | 3 | C | | 90 | | F |
| PEKG | 11 | 0245 | 0248 | 0256 | N09 | W52 | | 12 | 7.2 | 11 | 1N | | | | C | 0248 | 126 | 2.1 | E |
| PEKG | 11 | 0247 | 0248 | 0251 | S14 | E19 | | 12 | 12.6 | 4 | SF | | | | C | 0248 | 50 | .6 | E |
| LEAR | 11 | 0247 | 0248 | 0258 | S14 | E20 | 4021 | 12 | 12.6 | 11 | SN | M | 1.1 | 3 | C | | 116 | | F |
| LEAR | 11 | 0313 | 0318 | 0330 | N11 | E42 | 4022 | 12 | 14.3 | 17 | SF | | | 3 | C | | 33 | | F |
| LEAR | 11 | 0326 | 0328 | 0331 | S13 | E19 | 4021 | 12 | 12.6 | 5 | SN | | | 3 | C | | 70 | | F |
| PEKG | 11 | 0343E | 0346 | 0350 | S14 | E19 | | 12 | 12.6 | 7D | SN | | | | C | 0346 | 122 | 1.4 | E |
| LEAR | 11 | 0343 | 0346 | 0420 | S14 | E19 | 4021 | 12 | 12.6 | 37 | SB | C | 6.0 | 3 | C | | 197 | | FEK |
| LEAR | 11 | 0343 | 0358 | 0420 | S14 | E19 | 4021 | 12 | 12.6 | 37 | 1N | | | 3 | C | | 218 | | K |
| PEKG | 11 | 0354 | 0356 | 0405 | S14 | W18 | | 12 | 9.8 | 11 | SN | | | | C | 0356 | 126 | 1.4 | F |
| LEAR | 11 | 0400 | 0403 | 0413 | N06 | W49 | 4014 | 12 | 7.5 | 13 | 1B | C | 7.5 | 3 | C | | 215 | | FE |
| PEKG | 11 | 0401 | 0404 | 0407 | N08 | W50 | | 12 | 7.4 | 6 | 1N | | | | C | 0404 | 185 | 3.0 | D |
| MANI | 11 | 0402E | 0402U | 0408D | N08 | W52 | | 12 | 7.3 | 6D | SN | | | 1 | V | | 40 | .7 | |
| LEAR | 11 | 0439 | 0442 | 0525 | S10 | E80 | 4025 | 12 | 17.2 | 46 | 1B | | | 3 | C | | | | UF |
| GOES | 11 | 0439 | 0442 | 0513 | | | 4026 | | | 34 | | M | 9.5 | | | | | | |
| PEKG | 11 | 0440 | 0442 | 0458 | S11 | E78 | | 12 | 17.1 | 18 | SN | | | | C | 0442 | 88 | | E |
| LEAR | 11 | 0544 | 0545 | 0550 | S13 | E19 | 4021 | 12 | 12.7 | 6 | SN | C | 7.6 | 3 | C | | 57 | | |
| LEAR | 11 | 0552 | 0606 | 0659 | S12 | E03 | 4017 | 12 | 11.5 | 67 | SF | | | 3 | C | | 83 | | F |
| LEAR | 11 | 0608 | 0615 | 0653 | N08 | W63 | 4012 | 12 | 6.5 | 45 | 1B | C | 8.6 | 2 | C | | | 1022 | FE |
| LEAR | 11 | 0651 | 0652 | 0715 | N09 | E33 | 4022 | 12 | 13.8 | 24 | SF | | | 3 | C | | 60 | | |
| LEAR | 11 | 0720 | 0729 | 0737 | N07 | W53 | 4014 | 12 | 7.3 | 17 | SN | C | 7.8 | 3 | C | | 69 | | F |
| LEAR | 11 | 0913 | 0915 | 0929 | N07 | W54 | 4014 | 12 | 7.3 | 16 | SN | | | 3 | C | | 28 | | F |
| LEAR | 11 | 0949 | 0952 | 0957 | N07 | W49 | 4014 | 12 | 7.7 | 8 | SB | M | 1.8 | 3 | C | | 41 | | |
| RAMY | 11 | 1335 | 1338 | 1344 | N04 | W57 | 4014 | 12 | 7.3 | 9 | SN | | | 3 | C | | 74 | | |
| GOES | 11 | 1405 | 1431 | 1450 | | | 4012 | | | 45 | | C | 5.6 | | | | | | |
| RAMY | 11 | 1435 | 1450 | 1539 | N02 | W66 | 4012 | 12 | 6.7 | 64 | 1N | | | 3 | C | | 128 | | F |
| RAMY | 11 | 1440 | 1441 | 1451 | S13 | E74 | 4025 | 12 | 17.2 | 11 | SF | | | 3 | C | | 31 | | |
| RAMY | 11 | 1538 | 1538 | 1542 | N15 | E31 | 4022 | 12 | 14.0 | 4 | SN | | | 3 | C | | 35 | | |
| RAMY | 11 | 1548 | 1550 | 1604 | N09 | E26 | 4022 | 12 | 13.6 | 16 | SN | | | 3 | C | | 62 | | |
| RAMY | 11 | 1712 | 1713 | 1717 | N06 | W57 | 4014 | 12 | 7.4 | 5 | SN | | | 3 | C | | 41 | | |
| RAMY | 11 | 1759 | 1759 | 1809 | S15 | E17 | 4021 | 12 | 13.0 | 10 | SF | | | 3 | C | | 27 | | |
| GOES | 11 | 1829 | 1830 | 1839 | | | | | | 10 | | C | 2.7 | | | | | | |
| RAMY | 11 | 1948 | 1956 | 2005 | N15 | E28 | 4022 | 12 | 13.9 | 17 | SN | C | 4.7 | 3 | C | | 59 | | |
| HOLL | 11 | 2124E | 2124U | 2128D | S15 | E11 | 4021 | 12 | 12.7 | 4D | SN | | | 3 | C | | 25 | | F |
| GOES | 11 | 2124 | 2129 | 2134 | | | 4021 | | | 10 | | C | 7.0 | | | | | | |
| LEAR | 11 | 2247 | 2248 | 2254 | N07 | W61 | 4014 | 12 | 7.4 | 7 | SF | | | 3 | C | | 31 | | |
| LEAR | 11 | 2341 | 2343 | 0021 | N10 | E22 | 4022 | 12 | 13.6 | 40 | 1N | C | 4.6 | 3 | C | | 236 | | F |
| MANI | 11 | 2343E | 2343 | 0018 | N10 | E23 | | 12 | 13.7 | 35D | 1N | | | 1 | V | | 200 | 2.3 | F |
| LEAR | 11 | 2351 | 2354 | 0029 | S07 | E43 | 4024 | 12 | 15.2 | 38 | SF | | | 3 | C | | 25 | | F |
| LEAR | 12 | 0013 | 0016 | 0028 | S09 | E69 | 4026 | 12 | 17.2 | 15 | SN | | | 3 | C | | 63 | | |
| PEKG | 12 | 0107 | 0109 | 0113 | N07 | W68 | | 12 | 6.9 | 6 | SF | | | | C | 0109 | 38 | | D |
| GOES | 12 | 0108 | 0116 | 0118 | | | 4014 | | | 10 | | C | 2.7 | | | | | | |
| LEAR | 12 | 0117 | 0119 | 0127 | N06 | W64 | 4014 | 12 | 7.3 | 10 | SF | | | 3 | C | | 55 | | |
| PURP | 12 | 0122E | 0122 | 0122D | N07 | W65 | | 12 | 7.2 | 10D | SN | | | | P | 0122 | 72 | 1.7 | |
| PURP | 12 | 0122E | 0122 | 0122D | S12 | W04 | | 12 | 11.8 | 10D | SN | | | | P | 0122 | 40 | .4 | |
| PEKG | 12 | 0122 | 0125 | 0134 | S11 | W05 | | 12 | 11.7 | 12 | SF | | | | C | 0125 | 59 | .6 | |
| LEAR | 12 | 0139 | 0150 | 0241 | N10 | E21 | 4022 | 12 | 13.6 | 62 | 1N | C | 4.2 | 3 | C | | 287 | | E |
| PEKG | 12 | 0159E | 0159 | 0205D | N11 | E19 | | 12 | 13.5 | 6D | SF | | | | P | 0159 | 126 | 1.4 | E |
| LEAR | 12 | 0213 | 0215 | 0219 | N06 | W63 | 4014 | 12 | 7.4 | 6 | SN | | | 3 | C | | 38 | | F |
| PEKG | 12 | 0214 | 0215 | 0220 | N07 | W66 | | 12 | 7.1 | 6 | SF | | | | C | 0215 | 34 | | F |
| LEAR | 12 | 0249 | 0250 | 0256 | N08 | W62 | 4014 | 12 | 7.5 | 7 | SN | C | 5.3 | 3 | C | | 48 | | F |
| PEKG | 12 | 0250 | 0251 | 0255 | N09 | W61 | | 12 | 7.5 | 5 | SF | | | | C | 0251 | 29 | .6 | E |
| LEAR | 12 | 0336 | 0339 | 0352 | N11 | E29 | 4022 | 12 | 14.3 | 16 | SF | | | 3 | C | | 54 | | |
| LEAR | 12 | 0404 | 0406 | 0422 | S17 | E12 | 4021 | 12 | 13.1 | 18 | SF | | | 3 | C | | 50 | | |
| LEAR | 12 | 0407 | 0407 | 0416 | S14 | E66 | 4026 | 12 | 17.2 | 9 | SF | | | 3 | C | | 32 | | |
| LEAR | 12 | 0459 | 0508 | 0535 | N10 | E20 | 4022 | 12 | 13.7 | 36 | SF | C | 2.2 | 2 | C | | 142 | | F |
| LEAR | 12 | 0630 | 0631 | 0713 | N10 | E16 | 4022 | 12 | 13.5 | 43 | SF | | | 3 | C | | 83 | | K |
| LEAR | 12 | 0630 | 0646 | 0713 | N10 | E16 | 4022 | 12 | 13.5 | 43 | 1N | C | 4.6 | 3 | C | | 284 | | F |
| PEKG | 12 | 0637 | 0643 | 0705 | N10 | E17 | | 12 | 13.6 | 28 | 1N | | | | C | 0643 | 252 | 2.8 | K |
| LEAR | 12 | 0933 | 0934 | 0959D | S13 | W10 | 4017 | 12 | 11.6 | 26D | SF | | | 2 | C | | 54 | | F |
| GOES | 12 | 1157 | 1159 | 1204 | | | | | | 7 | | C | 2.1 | | | | | | |
| GOES | 12 | 1249 | 1310 | 1320 | | | | | | 31 | | C | 2.8 | | | | | | |

H - ALPHA SOLAR FLARES

23
Dec 82

DECEMBER 1982

| Sta | Day | Start (UT) | Max (UT) | End (UT) | NOAA/ USAF | | CMP Mo | Dur (Min) | Imp Opt | Xray | Obs See | Type | Time (UT) | Area Measurement | | Remarks | |
|------|-----|---------------|-------------|-------------|---------------|--------|-----------|--------------|------------|------|------------|------|--------------|-------------------------------------|------------------|---------|-----|
| | | | | | Lat | Region | | | | | | | | Apparent (10 ⁻⁶ Disk) | Corr (Sq Deg) | | |
| RAMY | 12 | 1322 | 1324 | 1329 | N06 | W67 | 4014 | 12 7.5 | 7 | SB | M 1.0 | 3 | C | | 30 | | |
| RAMY | 12 | 1446 | 1448 | 1508 | N08 | E18 | 4022 | 12 14.0 | 22 | SB | C 3.4 | 3 | C | | 65 | | FE |
| RAMY | 12 | 1546 | 1547 | 1553 | N05 | W64 | 4014 | 12 7.9 | 7 | SN | C 2.7 | 3 | C | | 49 | | |
| GOES | 12 | 1656 | 1715 | 1718 | | | | | 22 | | C 2.6 | | | | | | |
| RAMY | 12 | 1754 | 1813 | 1818 | N06 | W70 | 4014 | 12 7.5 | 24 | SN | | 3 | C | | 47 | | |
| RAMY | 12 | 1756 | 1802 | 1811 | N08 | E16 | 4022 | 12 13.9 | 15 | SN | C 3.3 | 3 | C | | 34 | | |
| RAMY | 12 | 1835 | 1851 | 1911 | N12 | E22 | 4022 | 12 14.4 | 36 | SN | | 3 | C | | 103 | | |
| GOES | 12 | 2054 | 2056 | 2059 | | | | | 5 | | C 2.1 | | | | | | |
| GOES | 12 | 2219 | 2227 | 2232 | | | | | 13 | | C 2.4 | | | | | | |
| LEAR | 12 | 2322 | 2326 | 2337 | S17 | E00 | 4021 | 12 13.0 | 15 | SF | C 2.3 | 3 | C | | 31 | | |
| LEAR | 13 | 0116 | 0116 | 0126 | N07 | W75 | 4014 | 12 7.4 | 10 | SF | C 2.5 | 3 | C | | | | F |
| LEAR | 13 | 0141 | 0146 | 0150 | S12 | E54 | 4026 | 12 17.1 | 9 | SF | C 2.4 | 3 | C | | 29 | | F |
| GOES | 13 | 0237 | 0241 | 0244 | | | | | 7 | | C 2.1 | | | | | | |
| PEKG | 13 | 0318 | 0331 | 0346 | S09 | E50 | | 12 16.9 | 28 | 1N | | | C | 0331 | 176 | 2.9 | F |
| LEAR | 13 | 0321 | 0326 | 0418 | S09 | E51 | 4026 | 12 17.0 | 57 | 2B | M 8.3 | 3 | C | | 433 | | ZU |
| LEAR | 13 | 0333 | 0333 | 0351 | S06 | E28 | 4024 | 12 15.2 | 18 | SF | | 3 | C | | 23 | | |
| LEAR | 13 | 0354 | 0357 | 0403 | N06 | W73 | 4014 | 12 7.7 | 9 | SF | | 3 | C | | | | |
| LEAR | 13 | 0419 | 0419 | 0424 | S16 | E52 | 4026 | 12 17.1 | 5 | SF | | 3 | C | | 33 | | |
| GOES | 13 | 0423 | 0432 | 0441 | | | 4026 | | 18 | | C 5.6 | | | | | | |
| LEAR | 13 | 0434 | 0457 | 0527 | S13 | E53 | 4026 | 12 17.2 | 53 | SF | C 6.5 | 3 | C | | 103 | | F |
| PURP | 13 | 0502E | 0502 | 0510D | S13 | E54 | | 12 17.3 | 8D | SN | | | P | 0502 | 85 | 1.5 | |
| LEAR | 13 | 0610 | 0610 | 0622 | S04 | E36 | 4025 | 12 15.9 | 12 | SF | | 3 | C | | 35 | | F |
| LEAR | 13 | 0802 | 0808 | 0903 | S12 | E51 | 4026 | 12 17.2 | 61 | 2B | M 5.2 | 3 | C | | 420 | | FEK |
| LEAR | 13 | 0802 | 0824 | 0903 | S12 | E51 | 4026 | 12 17.2 | 61 | 1N | | 3 | C | | 203 | | K |
| LEAR | 13 | 0906 | 0908 | 0917 | S19 | W11 | 4021 | 12 12.5 | 11 | SF | | 3 | C | | 61 | | |
| LEAR | 13 | 0952 | 0953 | 1001 | S04 | E34 | 4025 | 12 16.0 | 9 | SF | | 3 | C | | 39 | | |
| RAMY | 13 | 1201E | 1202 | 1203 | N05 | W78 | 4014 | 12 7.7 | 2D | SN | | 3 | C | | | | |
| RAMY | 13 | 1309 | 1322 | 1354 | S13 | W29 | 4017 | 12 11.4 | 45 | 1F | C 3.6 | 3 | C | | 194 | | UF |
| RAMY | 13 | 1642 | 1645 | 1649 | S05 | W17 | 4020 | 12 12.4 | 7 | SN | | 3 | C | | 35 | | |
| RAMY | 13 | 1744 | 1750 | 1822 | S10 | E42 | 4026 | 12 16.9 | 38 | SF | C 2.2 | 3 | C | | 37 | | |
| RAMY | 13 | 1809 | 1857 | 1857D | N11 | E07 | 4022 | 12 14.3 | 48D | SB | | 3 | C | | 128 | | |
| HOLL | 13 | 1816 | 1819 | 1856D | N11 | E07 | 4022 | 12 14.3 | 40D | SN | | 3 | C | | 107 | | K |
| HOLL | 13 | 1816 | 1856 | 1856D | N11 | E07 | 4022 | 12 14.3 | 40D | SB | | 3 | C | | 115 | | K |
| HOLL | 13 | 1817E | 1841 | 1922 | S10 | E39 | 4026 | 12 16.7 | 65D | SF | | 3 | C | | 31 | | K |
| HOLL | 13 | 1817E | 1908 | 1922 | S10 | E39 | 4026 | 12 16.7 | 65D | SF | | 3 | C | | 61 | | K |
| HOLL | 13 | 1952 | 1959 | 2123 | S09 | E43 | 4026 | 12 17.1 | 91 | 1B | M 1.0 | 3 | C | | 278 | | ZU |
| RAMY | 13 | 1957E | 1957U | 2040D | S09 | E40 | 4026 | 12 16.8 | 43D | 1B | | 3 | C | | 201 | | |
| HOLL | 13 | 2044 | 2114 | 2203 | S11 | W25 | 4017 | 12 12.0 | 79 | 1N | | 3 | C | | 299 | | K |
| HOLL | 13 | 2044 | 2126 | 2203 | S11 | W25 | 4017 | 12 12.0 | 79 | 1B | C 7.0 | 3 | C | | 306 | | U K |
| HOLL | 13 | 2112 | 2112 | 2208 | N12 | E07 | 4022 | 12 14.4 | 56 | 1N | | 3 | C | | 289 | | |
| GOES | 14 | 0032 | 0037 | 0048 | | | | | 16 | | C 2.5 | | | | | | |
| GOES | 14 | 0345 | 0355 | 0430 | | | | | 45 | | C 6.0 | | | | | | |
| PEKG | 14 | 0417 | 0422 | 0432 | N10 | E01 | | 12 14.3 | 15 | SF | | | P | 0422 | 55 | .6 | E |
| GOES | 14 | 0630 | 0642 | 0647 | | | | | 17 | | C 2.9 | | | | | | |
| GOES | 14 | 0737 | 0746 | 0752 | | | 4026 | | 15 | | C 4.3 | | | | | | |
| LEAR | 14 | 0740 | 0741 | 0742D | S10 | E34 | 4026 | 12 16.9 | 2D | SF | | 2 | C | | 45 | | F |
| GOES | 14 | 1203 | 1205 | 1209 | | | | | 6 | | C 1.8 | | | | | | |
| RAMY | 14 | 1244 | 1246 | 1302 | N11 | W02 | 4022 | 12 14.4 | 18 | SF | | 3 | C | | 50 | | |
| RAMY | 14 | 1305 | 1307 | 1320 | S10 | E33 | 4026 | 12 17.0 | 15 | SB | C 3.1 | 3 | C | | 73 | | |
| RAMY | 14 | 1349 | 1350 | 1356 | S09 | E32 | 4026 | 12 17.0 | 7 | SN | | 3 | C | | 42 | | |
| RAMY | 14 | 1400 | 1401 | 1426 | S08 | E06 | 4024 | 12 15.0 | 26 | SF | C 2.0 | 3 | C | | 31 | | |
| RAMY | 14 | 1421 | 1422 | 1433 | S17 | W23 | 4021 | 12 12.8 | 12 | SN | | 3 | C | | 43 | | |
| HOLL | 14 | 1455 | 1502 | 1533 | S11 | W45 | 4017 | 12 11.2 | 38 | SN | C 2.1 | 3 | C | | 57 | | F |
| RAMY | 14 | 1502 | 1502 | 1524 | S13 | W38 | 4017 | 12 11.8 | 22 | SN | | 3 | C | | 45 | | F |
| HOLL | 14 | 1523 | 1541 | 1552 | S11 | E32 | 4026 | 12 17.1 | 29 | SN | C 2.8 | 3 | C | | 53 | | F |
| RAMY | 14 | 1532 | 1541 | 1552 | S10 | E32 | 4026 | 12 17.1 | 20 | SN | | 3 | C | | 36 | | F |
| RAMY | 14 | 1559 | 1600 | 1632 | S17 | W24 | 4021 | 12 12.8 | 33 | SN | | 3 | C | | 47 | | K |
| RAMY | 14 | 1559 | 1613 | 1632 | S17 | W24 | 4021 | 12 12.8 | 33 | SN | | 3 | C | | 76 | | K |
| HOLL | 14 | 1606 | 1619 | 1706 | S11 | E30 | 4026 | 12 16.9 | 60 | SB | C 2.0 | 3 | C | | 104 | | FE |
| RAMY | 14 | 1619 | 1619 | 1650 | S09 | E30 | 4026 | 12 16.9 | 31 | SB | | 3 | C | | 65 | | F |
| RAMY | 14 | 1728 | 1749 | 1806 | S09 | E28 | 4026 | 12 16.8 | 38 | SN | C 2.1 | 3 | C | | 33 | | |
| HOLL | 14 | 1731 | 1736 | 1802 | S17 | W24 | 4021 | 12 12.9 | 31 | SF | | 3 | C | | 22 | | F |
| HOLL | 14 | 1732 | 1735 | 1753 | S10 | E29 | 4026 | 12 16.9 | 21 | SF | | 3 | C | | 35 | | F |
| HOLL | 14 | 1752 | 1752 | 1800 | N10 | W15 | 4022 | 12 13.6 | 8 | SF | | 3 | C | | 30 | | F |
| HOLL | 14 | 1824 | 1825 | 1844 | S18 | W24 | 4021 | 12 12.9 | 20 | SF | | 3 | C | | 26 | | |
| HOLL | 14 | 2011 | 2012 | 2017 | S16 | W25 | 4021 | 12 12.9 | 6 | SF | | 3 | C | | 49 | | |
| RAMY | 14 | 2014 | 2028 | 2056D | S09 | E26 | 4026 | 12 16.8 | 42D | SB | | 3 | C | | 99 | | K |
| HOLL | 14 | 2014 | 2032 | 2135 | S09 | E26 | 4026 | 12 16.8 | 81 | SN | C 7.6 | 3 | C | | 171 | | F |
| RAMY | 14 | 2014 | 2047 | 2056D | S09 | E26 | 4026 | 12 16.8 | 42D | SN | | 3 | C | | 79 | | K |

H - ALPHA SOLAR FLARES

DECEMBER 1982

| Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF Region | CMP Mo | Dur Day | Dur (Min) | Imp Opt | Xray | Obs See | Type | Time (UT) | Area Measurement | | Remarks | | |
|------|-----|---------------|-------------|-------------|-----|-----|-------------------------|-----------|------------|--------------|------------|-------|------------|------|--------------|-------------------------------------|------------------|---------|-----|--|
| | | | | | | | | | | | | | | | | Apparent (10 ⁻⁶ Disk) | Corr (Sq Deg) | | | |
| HOLL | 16 | 2028 | 2030 | 2043 | N11 | W34 | 4022 | 12 | 14.3 | 15 | SF | | 3 | C | | | 20 | | | |
| HOLL | 16 | 2204 | 2211 | 2228 | N11 | W34 | 4022 | 12 | 14.4 | 24 | SF | | 3 | C | | | 54 | | F | |
| HOLL | 16 | 2211 | 2212 | 2230 | S16 | W53 | 4021 | 12 | 12.9 | 19 | SB | C 3.8 | 3 | C | | | 58 | | F | |
| HOLL | 16 | 2303 | 2313 | 2338 | N10 | W35 | 4022 | 12 | 14.3 | 35 | SN | | 3 | C | | | 63 | | F | |
| HOLL | 16 | 2320 | 2320 | 2331 | S05 | W26 | 4024 | 12 | 15.0 | 11 | SF | | 3 | C | | | 34 | | F | |
| GOES | 17 | 0001 | 0004 | 0006 | | | | | | 5 | | C 2.7 | | | | | | | | |
| GOES | 17 | 0125 | 0132 | 0136 | | | | | | 11 | | C 2.6 | | | | | | | | |
| GOES | 17 | 0145 | 0148 | 0209 | | | 4026 | | | 24 | | M 4.8 | | | | | | | | |
| LEAR | 17 | 0153E | 0153U | 0206D | S11 | W03 | 4026 | 12 | 16.9 | 13D | 1B | | 2 | C | | | 403 | | UF | |
| GOES | 17 | 0220 | 0227 | 0235 | | | | | | 15 | | C 7.2 | | | | | | | | |
| PEKG | 17 | 0221 | 0226 | 0257 | N11 | W38 | | 12 | 14.2 | 36 | SN | | | C | 0226 | | 113 | 1.5 | F | |
| PEKG | 17 | 0224 | 0226 | 0232 | S09 | W04 | | 12 | 16.8 | 8 | SF | | | C | 0226 | | 97 | 1.0 | E | |
| PEKG | 17 | 0400 | 0404 | 0455 | N11 | W39 | | 12 | 14.2 | 55 | SF | | | C | 0404 | | 92 | 1.3 | EK | |
| PEKG | 17 | 0400 | 0426 | 0455 | N11 | W40 | | 12 | 14.2 | 55 | 1N | | | C | 0426 | | 160 | 2.2 | F | |
| LEAR | 17 | 0421 | 0427 | 0500 | N10 | W38 | 4022 | 12 | 14.3 | 39 | SB | C 8.4 | 3 | C | | | 138 | | F | |
| MANI | 17 | 0427E | 0427U | 0433D | N11 | W38 | | 12 | 14.3 | 6D | SN | | 1 | V | | | 100 | 1.4 | | |
| LEAR | 17 | 0440 | 0451 | 0520 | S20 | W54 | 4021 | 12 | 13.1 | 40 | SN | C 8.7 | 3 | C | | | 71 | | | |
| PEKG | 17 | 0445 | 0449 | 0505 | S19 | W56 | | 12 | 12.9 | 20 | 1F | | | C | 0449 | | 118 | 2.2 | F | |
| PEKG | 17 | 0517 | 0518 | 0530 | S15 | W03 | | 12 | 17.0 | 13 | SN | | | C | 0518 | | 113 | 1.2 | E | |
| LEAR | 17 | 0518 | 0521 | 0547 | S15 | W01 | 4026 | 12 | 17.1 | 29 | 1N | | 3 | C | | | 227 | | F | |
| BUCA | 17 | 0732 | 0734 | 0815 | N12 | W40 | | 12 | 14.3 | 43 | SN | | | C | 0734 | | 54 | .7 | D | |
| GOES | 17 | 0806 | 0814 | 0824 | | | | | | 18 | | C 4.6 | | | | | | | | |
| BUCA | 17 | 0810 | 0812 | 0840 | S15 | W60 | | 12 | 12.8 | 30 | SN | | | C | 0812 | | 43 | .9 | D | |
| YUNN | 17 | 0905 | 0910 | 0915 | N12 | W41 | | 12 | 14.3 | 10 | SF | | | P | | | 16 | .2 | D | |
| YUNN | 17 | 0910 | 0925 | 0930 | S07 | W14 | | 12 | 16.3 | 20 | SF | | | P | | | 16 | .2 | D | |
| GOES | 17 | 1002 | 1004 | 1018 | | | 4021 | | | 16 | | M 1.3 | | | | | | | | |
| HOLL | 17 | 1518 | 1518 | 1523 | S05 | W24 | 4025 | 12 | 15.8 | 5 | SN | | 3 | C | | | 28 | | | |
| HOLL | 17 | 1640 | 1708 | 1743 | S12 | W13 | 4026 | 12 | 16.7 | 63 | SB | M 1.4 | 3 | C | | | 138 | | UF | |
| RAMY | 17 | 1643 | 1707 | 1738 | S11 | W12 | 4026 | 12 | 16.8 | 55 | SB | | 3 | C | | | 108 | | FE | |
| HOLL | 17 | 1709 | 1709 | 1732 | N11 | W47 | 4022 | 12 | 14.2 | 23 | SN | | 3 | C | | | 25 | | F | |
| HOLL | 17 | 1725 | 1826 | 1947 | S16 | W65 | 4021 | 12 | 12.8 | 142 | SF | | 3 | C | | | 38 | | K | |
| HOLL | 17 | 1725 | 1850 | 1947 | S16 | W65 | 4021 | 12 | 12.8 | 142 | SN | | 3 | C | | | 103 | | F K | |
| GOES | 17 | 1819 | 1858 | 2143 | | | 4025 | | | 204 | | X10.1 | | | | | | | | |
| RAMY | 17 | 1820 | 1857 | 2019D | S07 | W20 | 4025 | 12 | 16.3 | 119D | 3B | | 3 | C | | | 1613 | | ZU | |
| RAMY | 17 | 1848 | 1850 | 1855 | S12 | W74 | 4017 | 12 | 12.2 | 7 | SN | | 3 | C | | | | | | |
| RAMY | 17 | 1857 | 1857 | 1903 | S11 | W78 | 4017 | 12 | 11.9 | 6 | SF | | 3 | C | | | | | | |
| HOLL | 17 | 2027 | 2030 | 2043 | S08 | W14 | 4026 | 12 | 16.8 | 16 | SN | | 3 | C | | | 101 | | F | |
| RAMY | 17 | 2028 | 2031 | 2041D | S12 | W10 | 4026 | 12 | 17.1 | 13D | SN | | 3 | C | | | 85 | | F | |
| HOLL | 17 | 2057 | 2106 | 2225 | S08 | W14 | 4026 | 12 | 16.8 | 88 | 1B | | 3 | C | | | 391 | | K | |
| HOLL | 17 | 2057 | 2113 | 2225 | S08 | W14 | 4026 | 12 | 16.8 | 88 | 2B | M 4.2 | 3 | C | | | 512 | | UFK | |
| GOES | 17 | 2144 | 2153 | 2220 | | | 4026 | | | 36 | | M 4.8 | | | | | | | | |
| HOLL | 17 | 2217 | 2250 | 2345D | S15 | W66 | 4021 | 12 | 12.9 | 88D | 1B | M 5.0 | 3 | C | | | 202 | | FE | |
| HOLL | 17 | 2307 | 2307 | 2312 | S12 | W12 | 4026 | 12 | 17.1 | 5 | SN | | 3 | C | | | 31 | | | |
| PEKG | 18 | 0221 | 0228 | 0228D | S12 | W19 | | 12 | 16.7 | 7D | SF | | | P | 0228 | | 63 | .7 | E | |
| PEKG | 18 | 0222 | 0228 | 0230 | S08 | W41 | | 12 | 15.0 | 8 | SN | | | P | 0228 | | 113 | 1.6 | E | |
| GOES | 18 | 0222 | 0228 | 0231 | | | | | | 9 | | C 4.1 | | | | | | | | |
| PEKG | 18 | 0235 | 0241 | 0244 | S11 | W21 | | 12 | 16.5 | 9 | SN | | | P | 0241 | | 59 | .6 | D | |
| LEAR | 18 | 0257E | 0324 | 0343 | S11 | W18 | 4026 | 12 | 16.8 | 46D | SN | | 2 | C | | | 115 | | FH | |
| PEKG | 18 | 0304 | 0309 | 0332 | S10 | W17 | | 12 | 16.8 | 28 | SN | | | P | 0309 | | 71 | .8 | EK | |
| PEKG | 18 | 0304 | 0329 | 0332 | S11 | W17 | | 12 | 16.8 | 28 | SN | | | P | 0329 | | 143 | 1.7 | E | |
| LEAR | 18 | 0351 | 0353 | 0355D | N09 | W51 | 4022 | 12 | 14.3 | 4D | SF | C 8.6 | 2 | C | | | 34 | | | |
| PEKG | 18 | 0351 | 0359 | 0406 | N10 | W51 | | 12 | 14.3 | 15 | SF | | | C | 0359 | | 34 | .6 | E | |
| PEKG | 18 | 0356 | 0359 | 0420D | S11 | W19 | | 12 | 16.7 | 24D | SF | | | P | 0359 | | 59 | .6 | E | |
| LEAR | 18 | 0437E | 0445U | 0456 | S10 | W20 | 4026 | 12 | 16.7 | 19D | SF | | 2 | C | | | 31 | | | |
| LEAR | 18 | 0602 | 0626 | 0645 | S10 | W19 | 4026 | 12 | 16.8 | 43 | SN | C 4.3 | 2 | C | | | 40 | | F | |
| PEKG | 18 | 0620 | 0621 | 0635 | S09 | W19 | | 12 | 16.8 | 15 | SN | | | P | 0621 | | 63 | .7 | E | |
| LEAR | 18 | 0620 | 0627 | 0646 | N10 | W52 | 4022 | 12 | 14.4 | 26 | SF | | 3 | C | | | 37 | | F | |
| LEAR | 18 | 0648 | 0650 | 0658 | S18 | E71 | | 12 | 23.7 | 10 | SF | | 3 | C | | | 30 | | | |
| LEAR | 18 | 0649 | 0658 | 0705 | S12 | W18 | 4026 | 12 | 16.9 | 16 | SN | C 3.3 | 3 | C | | | 58 | | F | |
| LEAR | 18 | 0722 | 0727 | 0733 | S11 | W21 | 4026 | 12 | 16.7 | 11 | SN | | 3 | C | | | 70 | | | |
| LEAR | 18 | 0822 | 0825 | 0856 | S10 | W20 | 4026 | 12 | 16.8 | 34 | 1B | X 1.2 | 3 | C | | | 396 | | ZF | |
| ISTA | 18 | 0836E | | 0857 | S10 | W20 | | 12 | 16.9 | 21D | 1N | | | | | | | | E | |
| LEAR | 18 | 0941 | 0955 | 0956 | S18 | E68 | | 12 | 23.6 | 15 | SF | | 3 | C | | | 13 | | | |
| LEAR | 18 | 0953 | 0958 | 1016 | N11 | W53 | 4022 | 12 | 14.4 | 23 | SN | M 1.0 | 3 | C | | | 87 | | F | |
| GOES | 18 | 1137 | 1142 | 1149 | | | | | | 12 | | C 2.6 | | | | | | | | |
| GOES | 18 | 1234 | 1245 | 1247 | | | | | | 13 | | C 2.4 | | | | | | | | |
| RAMY | 18 | 1358 | 1405 | 1417 | S10 | W22 | 4026 | 12 | 16.9 | 19 | SF | C 5.0 | 3 | C | | | 47 | | | |
| HOLL | 18 | 1504 | 1507 | 1522 | S10 | W20 | 4026 | 12 | 17.1 | 18 | 2B | | 2 | C | | | 650 | | UE | |
| RAMY | 18 | 1504 | 1508 | 1545 | S11 | W22 | 4026 | 12 | 17.0 | 41 | 2B | X 1.1 | 3 | C | | | 704 | | FE | |

H - ALPHA SOLAR FLARES

27
Dec 82

DECEMBER 1982

| Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF Region | CMP Mo | Day | Dur (Min) | Imp Opt | Xray | Obs See | Type | Area Measurement | | | Remarks |
|------|-----|------------|----------|----------|-----|-----|-------------------------|-----------|------|--------------|------------|-------|------------|------|------------------|-------------------------|------------------|---------|
| | | | | | | | | | | | | | | | Time (UT) | Apparent (10-6 Disk) | Corr (Sq Deg) | |
| HOLL | 20 | 1802E | 1802U | 1836 | N16 | W45 | | 12 | 17.3 | 34D | SN | | 3 | C | | 21 | | FH |
| HOLL | 20 | 1938 | 1953 | 2014 | S07 | W64 | 4025 | 12 | 16.0 | 36 | SF | | 3 | C | | 31 | | |
| GOES | 20 | 2137 | 2142 | 2147 | | | | | | 10 | | C 2.0 | | | | | | |
| GOES | 20 | 2224 | 2228 | 2230 | | | | | | 6 | | C 2.5 | | | | | | |
| GOES | 20 | 2338 | 2342 | 2346 | | | | | | 8 | | C 3.2 | | | | | | |
| GOES | 21 | 0209 | 0215 | 0222 | | | | | | 13 | | M 2.9 | | | | | | |
| GOES | 21 | 0421 | 0425 | 0428 | | | | | | 7 | | C 2.7 | | | | | | |
| GOES | 21 | 0458 | 0512 | 0537 | | | 4033 | | | 39 | | M 3.3 | | | | | | |
| LEAR | 21 | 0554 | 0605 | 0612D | S10 | W70 | 4025 | 12 | 16.0 | 18D | 1N | | 2 | C | | 255 | | F |
| LEAR | 21 | 0601 | 0605U | 0648 | S11 | W66 | 4026 | 12 | 16.3 | 47 | SF | | 2 | C | | 44 | | F |
| GOES | 21 | 0643 | 0647 | 0655 | | | | | | 12 | | M 1.1 | | | | | | |
| GOES | 21 | 1150 | 1152 | 1208 | | | | | | 18 | | C 2.8 | | | | | | |
| HOLL | 21 | 1558 | 1650 | 1702 | S15 | E83 | 4033 | 12 | 28.0 | 64 | SF | C 2.2 | 3 | C | | | | F |
| GOES | 21 | 1645 | 1648 | 1650 | | | | | | 5 | | C 2.3 | | | | | | |
| RAMY | 21 | 1656 | 1700 | 1715 | S18 | E15 | | 12 | 22.8 | 19 | SN | | 3 | C | | 59 | | F |
| HOLL | 21 | 1703 | 1708 | 1816 | S17 | E79 | 4033 | 12 | 27.7 | 73 | SF | | 3 | C | | 26 | | F K |
| HOLL | 21 | 1703 | 1716 | 1816 | S17 | E79 | 4033 | 12 | 27.7 | 73 | SN | | 3 | C | | | | F K |
| GOES | 21 | 1845 | 1850 | 1855 | | | 4025 | | | 10 | | C 3.0 | | | | | | |
| HOLL | 21 | 1913 | 1913 | 1920 | S14 | E80 | 4033 | 12 | 27.9 | 7 | SF | | 3 | C | | | | |
| GOES | 21 | 2033 | 2139 | 2155 | | | | | | 82 | | C 5.0 | | | | | | |
| GOES | 21 | 2123 | 2139 | 2140 | | | | | | 17 | | C 4.5 | | | | | | |
| HOLL | 21 | 2247 | 2247 | 2316D | S17 | E74 | 4033 | 12 | 27.6 | 29D | SN | | 3 | C | | | | F |
| GOES | 21 | 2311 | 2318 | 2320 | | | | | | 9 | | C 2.7 | | | | | | |
| LEAR | 22 | 0128 | 0135U | 0142 | S16 | E73 | 4033 | 12 | 27.6 | 14 | 1N | C 1.8 | 2 | C | | | | F |
| LEAR | 22 | 0208 | 0209 | 0225D | S08 | W72 | 4026 | 12 | 16.7 | 17D | 1F | C 3.1 | 2 | C | | | | F |
| LEAR | 22 | 0218 | 0222U | 0241D | S08 | W79 | 4025 | 12 | 16.2 | 23D | SF | | 2 | C | | | | H |
| LEAR | 22 | 0312E | 0326U | 0332 | S09 | W81 | 4025 | 12 | 16.1 | 20D | SF | C 2.1 | 2 | C | | | | |
| LEAR | 22 | 0417 | 0422 | 0441 | S12 | W71 | 4026 | 12 | 16.8 | 24 | SN | C 1.8 | 3 | C | | 138 | | FH |
| LEAR | 22 | 0508 | 0513 | 0531 | S04 | W30 | 4035 | 12 | 20.0 | 23 | SF | C 2.0 | 3 | C | | 43 | | |
| LEAR | 22 | 0631 | 0636 | 0647 | S09 | W82 | 4025 | 12 | 16.1 | 16 | 1F | C 3.9 | 3 | C | | | | |
| ISTA | 22 | 0704 | | 0718 | S09 | E05 | | 12 | 22.7 | 14 | 1B | | | | 0707 | | | U |
| LEAR | 22 | 0706 | 0714 | 0727 | S19 | E06 | 4036 | 12 | 22.8 | 21 | SN | | 3 | C | | 88 | | F |
| LEAR | 22 | 0826 | 0833 | 0857 | S09 | W82 | 4025 | 12 | 16.2 | 31 | SB | X 2.4 | 3 | C | | | | |
| ISTA | 22 | 0830E | | 0850 | S09 | W90 | | 12 | 15.6 | 20D | 3B | | | | | | | A |
| LEAR | 22 | 0940 | 0946 | 1005 | S19 | E03 | 4036 | 12 | 22.6 | 25 | SN | C 7.9 | 3 | C | | 179 | | F |
| GOES | 22 | 1304 | 1331 | 1332 | | | | | | 28 | | C 3.6 | | | | | | |
| GOES | 22 | 1758 | 1759 | 1803 | | | | | | 5 | | C 1.7 | | | | | | |
| LEAR | 22 | 2241 | 2246 | 2251 | S17 | E63 | 4033 | 12 | 27.7 | 10 | SF | C 2.9 | 3 | C | | 60 | | |
| LEAR | 22 | 2346 | 2346 | 2350 | S20 | E76 | 4033 | 12 | 28.8 | 4 | SF | C 2.8 | 3 | C | | | | H |
| LEAR | 23 | 0435 | 0440 | 0448 | S10 | W90 | 4026 | 12 | 16.4 | 13 | SF | C 1.2 | 3 | C | | | | |
| LEAR | 23 | 0509 | 0510 | 0517 | S09 | W90 | 4026 | 12 | 16.5 | 8 | SN | C 3.4 | 3 | C | | | | |
| LEAR | 23 | 0729 | 0731 | 0804 | S17 | E58 | 4033 | 12 | 27.7 | 35 | SN | C 3.4 | 3 | C | | 103 | | F K |
| LEAR | 23 | 0729 | 0750 | 0804 | S17 | E58 | 4033 | 12 | 27.7 | 35 | SN | | 3 | C | | 51 | | K |
| GOES | 23 | 0933 | 0938 | 0948 | | | | | | 15 | | C 2.2 | | | | | | |
| GOES | 23 | 1425 | 1428 | 1431 | | | | | | 6 | | C 1.8 | | | | | | |
| GOES | 23 | 2014 | 2118 | 2202 | | | 4039 | | | 108 | | C 5.0 | | | | | | |
| YUNN | 24 | 0101 | 0126 | 0127 | S18 | W19 | | 12 | 22.6 | 26 | SF | | | P | | 32 | .4 | |
| YUNN | 24 | 0121 | 0125 | 0135 | S18 | E48 | | 12 | 27.7 | 14 | SN | | | C | | 16 | .3 | |
| LEAR | 24 | 0125 | 0125 | 0137 | S17 | E48 | 4033 | 12 | 27.7 | 12 | SN | C 1.9 | 3 | C | | 55 | | U |
| LEAR | 24 | 0241 | 0245 | 0251 | S18 | W18 | 4036 | 12 | 22.7 | 10 | SF | | 3 | C | | 31 | | |
| GOES | 24 | 0242 | 0245 | 0257 | | | 4033 | | | 15 | | C 1.0 | | | | | | |
| YUNN | 24 | 0306E | 0306U | 0324D | S17 | W19 | | 12 | 22.7 | 18D | SN | | | P | 0306 | 32 | .4 | |
| GOES | 24 | 1008 | 1016 | 1027 | | | | | | 19 | | C 3.7 | | | | | | |
| GOES | 24 | 1306 | 1317 | 1321 | | | | | | 15 | | C 1.5 | | | | | | |
| GOES | 24 | 1739 | 1742 | 1745 | | | | | | 6 | | C 1.8 | | | | | | |
| HOLL | 24 | 1853 | 1903 | 1911 | S12 | E52 | 4033 | 12 | 28.7 | 18 | SF | | 3 | C | | 28 | | FS |
| GOES | 24 | 1912 | 1914 | 2031 | | | 4033 | | | 79 | | C 7.9 | | | | | | |
| HOLL | 24 | 2052 | 2053 | 2104 | S18 | W18 | 4031 | 12 | 23.5 | 12 | SN | | 3 | C | | 96 | | |
| GOES | 25 | 0324 | 0330 | 0336 | | | | | | 12 | | C 3.6 | | | | | | |
| PEKG | 25 | 0325E | 0330 | 0345 | S18 | W22 | | 12 | 23.5 | 20D | 1N | | | P | 0330 | 294 | 3.4 | E |
| GOES | 25 | 0445 | 0510 | 0545 | | | | | | 60 | | C 5.0 | | | | | | |
| GOES | 25 | 0611 | 0628 | 0641 | | | | | | 30 | | C 9.6 | | | | | | |
| PEKG | 25 | 0618E | 0628U | 0700 | S16 | E49 | | 12 | 29.0 | 42D | 1N | | | P | 0628 | 218 | 3.5 | F |
| PEKG | 25 | 0711E | 0733 | 0756D | S17 | E48 | | 12 | 28.9 | 45D | 2B | | | P | 0733 | 484 | 7.6 | FUK |
| PEKG | 25 | 0711E | 0756 | 0756D | S17 | E43 | | 12 | 28.6 | 45D | 3B | | | P | 0756 | 1262 | 18.9 | F |
| ISTA | 25 | 0725E | | 0810 | S17 | E45 | | 12 | 28.7 | 45D | 3B | | | | | | | F |

H - ALPHA SOLAR FLARES

DECEMBER 1982

| Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF | | Dur (Min) | Imp Opt | Xray | Obs See | Type | Area Measurement | | | Remarks |
|--------|-----|---------------|-------------|-------------|-----|-----|---------------|---------|--------------|------------|-------|------------|------|------------------|-------------------------------------|-----------------|---------|
| | | | | | | | Region | Mo Day | | | | | | Time (UT) | Apparent (10 ⁻⁶ Disk) | Corr (Sq eg) | |
| ▲ GOES | 25 | 0743 | 0750 | 0843 | | | 4033 | | 60 | X | 2.2 | | | | | | |
| GOES | 25 | 1656 | 1700 | 1704 | | | | | 8 | C | 1.5 | | | | | | |
| GOES | 25 | 1753 | 1801 | 1806 | | | | | 13 | C | 2.8 | | | | | | |
| GOES | 25 | 2130 | 2134 | 2138 | | | | | 8 | C | 1.4 | | | | | | |
| GOES | 25 | 2201 | 2204 | 2210 | | | | | 9 | C | 2.1 | | | | | | |
| [LEAR | 26 | 0011 | 0013 | 0035 | S11 | E20 | 4033 | 12 27.5 | 24 | 1B | | 3 | C | | 189 | F | |
| GOES | 26 | 0011 | 0013 | 0051 | | | 4033 | | 40 | C | 9.0 | | | | | | |
| [MANI | 26 | 0012 | 0013 | 0033 | S15 | E30 | | 12 28.3 | 21 | 1N | | 1 | V | | 175 | 2.1 | |
| [PALE | 26 | 0017E | 0017U | 0051D | S11 | E19 | 4033 | 12 27.4 | 34D | 1N | | 3 | C | | 425 | | |
| [LEAR | 26 | 0046 | 0047 | 0100 | S19 | E53 | 4039 | 12 30.1 | 14 | SN | | 3 | C | | 45 | | |
| [PALE | 26 | 0046 | 0047 | 0051D | S17 | E50 | 4039 | 12 29.8 | 5D | SF | | 3 | C | | 53 | | |
| [LEAR | 26 | 0103 | 0104 | 0146 | S19 | W32 | 4031 | 12 23.6 | 43 | SN | | 3 | C | | 149 | K | |
| [LEAR | 26 | 0103 | 0121 | 0146 | S19 | W32 | 4031 | 12 23.6 | 43 | SN | C 2.0 | 3 | C | | 151 | F K | |
| [GOES | 26 | 0117 | 0120 | 0131 | | | 4031 | | 14 | C | 2.2 | | | | | | |
| [LEAR | 26 | 0144 | 0151 | 0308 | S11 | E25 | 4033 | 12 28.0 | 84 | 2B | C 9.8 | 3 | C | | 654 | FE | |
| [PEKG | 26 | 0150E | 0153 | 0244 | S11 | E25 | | 12 28.0 | 54D | 1N | | | P | 0153 | 210 | 2.4 | |
| [PALE | 26 | 0205E | 0215U | 0310 | S10 | E27 | 4033 | 12 28.1 | 65D | 1N | | 3 | C | | 351 | F | |
| [PALE | 26 | 0206 | 0207 | 0214 | N07 | W31 | 4032 | 12 23.8 | 8 | SF | | 3 | C | | 29 | | |
| [LEAR | 26 | 0306 | 0308 | 0318 | N06 | W31 | 4032 | 12 23.8 | 12 | SF | | 3 | C | | 57 | F | |
| [LEAR | 26 | 0909 | 0911 | 1007D | S11 | E14 | 4033 | 12 27.4 | 58D | SF | | 3 | C | | 170 | K | |
| [LEAR | 26 | 0909 | 0937 | 1007D | S11 | E14 | 4033 | 12 27.4 | 58D | 1B | M 1.1 | 3 | C | | 287 | K | |
| [GOES | 26 | 0952 | 0956 | 1001 | | | 4033 | | 9 | C | 3.5 | | | | | | |
| [GOES | 26 | 1038 | 1041 | 1043 | | | | | 5 | C | 2.5 | | | | | | |
| [GOES | 26 | 1137 | 1140 | 1142 | | | | | 5 | C | 2.0 | | | | | | |
| [GOES | 26 | 1141 | 1201 | 1222 | | | | | 41 | C | 5.3 | | | | | | |
| [GOES | 26 | 1456 | 1513 | 1520 | | | | | 24 | M | 1.4 | | | | | | |
| [GOES | 26 | 1955 | 1959 | 2001 | | | | | 6 | C | 2.1 | | | | | | |
| [PALE | 26 | 2028 | 2028 | 2044 | S13 | E23 | 4033 | 12 28.6 | 16 | SN | C 1.4 | 3 | C | | 46 | F | |
| [PALE | 26 | 2037E | 2051U | 2114 | S20 | W51 | 4031 | 12 23.0 | 37D | SF | | 3 | C | | 26 | | |
| [PALE | 26 | 2132 | 2133 | 2140 | S17 | E40 | 4039 | 12 29.9 | 8 | SB | C 1.1 | 3 | C | | 38 | | |
| [PALE | 26 | 2148 | 2157 | 2218 | S20 | W44 | 4031 | 12 23.5 | 30 | SN | C 1.8 | 3 | C | | 117 | | |
| [HOLL | 26 | 2149 | 2159 | 2215 | S18 | W44 | 4031 | 12 23.6 | 26 | SN | | 3 | C | | 106 | | |
| [PALE | 26 | 2233 | 2244 | 2348D | N07 | W46 | 4032 | 12 23.5 | 75D | SF | | 3 | C | | 78 | | |
| [HOLL | 26 | 2234 | 2241 | 2254 | S16 | E24 | 4033 | 12 28.8 | 20 | SF | C 1.3 | 3 | C | | 57 | | |
| [PALE | 26 | 2241 | 2241 | 2250 | S12 | E12 | 4033 | 12 27.8 | 9 | SF | | 3 | C | | 38 | | |
| [LEAR | 26 | 2337 | 2353 | 0016 | S14 | E21 | 4033 | 12 28.6 | 39 | SF | C 2.1 | 3 | C | | 51 | FS | |
| [LEAR | 27 | 0046 | 0047 | 0053 | S13 | E37 | 4039 | 12 29.8 | 7 | SF | | 3 | C | | 24 | | |
| [PALE | 27 | 0047E | 0047U | 0057 | S13 | E37 | 4039 | 12 29.8 | 10D | SF | | 3 | C | | 34 | | |
| [LEAR | 27 | 0108 | 0111 | 0116 | S18 | E38 | 4039 | 12 29.9 | 8 | SN | | 3 | C | | 37 | | |
| [PALE | 27 | 0109E | 0112U | 0121D | S18 | E38 | 4039 | 12 29.9 | 12D | SF | | 3 | C | | 30 | | |
| [LEAR | 27 | 0121 | 0124 | 0130 | S18 | W45 | 4031 | 12 23.6 | 9 | SF | | 3 | C | | 34 | | |
| [YUNN | 27 | 0247 | 0250 | 0253 | N08 | W50 | | 12 23.4 | 6 | SN | | | C | | 32 | .5 | |
| [LEAR | 27 | 0249 | 0251 | 0258 | N06 | W49 | 4032 | 12 23.4 | 9 | SF | | 3 | C | | 80 | | |
| [LEAR | 27 | 0314 | 0317 | 0324 | S10 | E04 | 4033 | 12 27.4 | 10 | SN | | 3 | C | | 47 | | |
| [LEAR | 27 | 0524 | 0526 | 0541 | S10 | E02 | 4033 | 12 27.4 | 17 | SB | C 3.1 | 3 | C | | 92 | | |
| [LEAR | 27 | 0534 | 0546 | 0559 | N08 | W47 | 4032 | 12 23.7 | 25 | SN | | 3 | C | | 83 | | |
| [LEAR | 27 | 0755 | 0759 | 0835 | N08 | W48 | 4032 | 12 23.7 | 40 | SF | | 3 | C | | 45 | | |
| [LEAR | 27 | 0755 | 0811 | 0835 | N08 | W48 | 4032 | 12 23.7 | 40 | SF | | 3 | C | | 37 | K | |
| [LEAR | 27 | 0817 | 0819 | 0835 | S11 | E01 | 4033 | 12 27.4 | 18 | SF | | 3 | C | | 31 | H | |
| [LEAR | 27 | 0848 | 0849 | 0852 | S13 | E33 | 4039 | 12 29.9 | 4 | SF | | 3 | C | | 22 | | |
| [LEAR | 27 | 0929 | 0942 | 1000 | S14 | E16 | 4033 | 12 28.6 | 31 | SF | C 1.5 | 3 | C | | 58 | | |
| [GOES | 27 | 1128 | 1138 | 1143 | | | | | 15 | C | 1.9 | | | | | | |
| [GOES | 27 | 1148 | 1151 | 1153 | | | | | 5 | C | 1.9 | | | | | | |
| [RAMY | 27 | 1427 | 1428 | 1531 | N08 | W52 | 4032 | 12 23.7 | 64 | 1B | C 4.8 | 3 | C | | 166 | | |
| [RAMY | 27 | 1647 | 1647 | 1704 | N08 | W53 | 4032 | 12 23.7 | 17 | SN | C 2.5 | 3 | C | | 70 | | |
| [RAMY | 27 | 1702 | 1713 | 1729 | S15 | E13 | 4033 | 12 28.7 | 27 | SF | | 3 | C | | 38 | | |
| [HOLL | 27 | 1706 | 1715 | 1725 | S16 | E11 | 4033 | 12 28.5 | 19 | SF | | 3 | C | | 38 | F | |
| [RAMY | 27 | 1756 | 1801 | 1813 | S14 | E06 | 4033 | 12 28.2 | 17 | SF | | 3 | C | | 73 | | |
| [HOLL | 27 | 1759 | 1801 | 1811 | S12 | E05 | 4033 | 12 28.1 | 12 | SF | | 3 | C | | 55 | | |
| [HOLL | 27 | 1809 | 1811 | 1816 | N09 | W56 | 4032 | 12 23.6 | 7 | SF | | 3 | C | | 28 | F | |
| [HOLL | 27 | 1821 | 1823 | 1839 | N09 | W55 | 4032 | 12 23.6 | 18 | SN | C 2.6 | 3 | C | | 32 | | |
| [HOLL | 27 | 1903 | 1905 | 1917 | N08 | W56 | 4032 | 12 23.6 | 14 | SF | | 3 | C | | 15 | F | |
| [HOLL | 27 | 1920 | 1926 | 1938 | N10 | W55 | 4032 | 12 23.7 | 18 | SF | | 3 | C | | 17 | | |
| [RAMY | 27 | 1948 | 1948 | 2006 | S12 | E04 | 4033 | 12 28.1 | 18 | SN | | 3 | C | | 24 | | |
| [HOLL | 27 | 1948 | 1948 | 1953 | S12 | E04 | 4033 | 12 28.1 | 5 | SN | | 3 | C | | 24 | | |
| [HOLL | 27 | 1953 | 2009 | 2045 | N09 | W56 | 4032 | 12 23.6 | 52 | SN | | 3 | C | | 36 | | |
| [HOLL | 27 | 2020 | 2022 | 2036 | S12 | E04 | 4033 | 12 28.1 | 16 | SB | | 3 | C | | 125 | E | |
| [RAMY | 27 | 2021 | 2022 | 2052 | S12 | E04 | 4033 | 12 28.1 | 31 | SB | C 9.3 | 3 | C | | 172 | | |
| [HOLL | 27 | 2053 | 2055 | 2118 | N09 | W56 | 4032 | 12 23.7 | 25 | SF | | 3 | C | | 27 | | |

H - ALPHA SOLAR FLARES

29
Dec 82

DECEMBER 1982

| Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF Region | CMP Mo Day | Dur (Min) | Imp Opt Xray | Obs See Type | Time (UT) | Area Measurement | | Remarks |
|------|-----|------------|----------|----------|-----|-----|-------------------------|---------------|--------------|-----------------|-----------------|--------------|-------------------------------------|------------------|---------|
| | | | | | | | | | | | | | Apparent (10 ⁻⁶ Disk) | Corr (Sq Deg) | |
| HOLL | 27 | 2215 | 2218 | 2237 | S12 | W00 | 4033 | 12 27.9 | 22 | SN C 2.0 | 3 C | | 146 | | FH |
| HOLL | 27 | 2259 | 2304 | 2318 | N08 | W72 | 4038 | 12 22.6 | 19 | SF | 3 C | | | | |
| GOES | 27 | 2333 | 2336 | 2340 | | | | | 7 | C 1.4 | | | | | |
| LEAR | 28 | 0034 | 0038 | 0044 | S12 | E01 | 4033 | 12 28.1 | 10 | SN | 3 C | | 111 | | H |
| PEKG | 28 | 0035 | 0038 | 0043 | S12 | E01 | | 12 28.1 | 8 | SN | C | 0038 | 101 | 1.0 | E |
| YUNN | 28 | 0035 | 0038 | 0040 | S11 | E01 | | 12 28.1 | 5 | SN | C | | 32 | .3 | |
| PEKG | 28 | 0043 | 0047 | 0102 | S22 | E13 | | 12 29.0 | 19 | SN | C | 0047 | 88 | 1.0 | E |
| YUNN | 28 | 0045 | 0057 | 0107 | S23 | E11 | | 12 28.9 | 22 | SN | P | | 48 | .5 | |
| PEKG | 28 | 0047E | 0047 | 0050 | N07 | W61 | | 12 23.5 | 30 | SF | P | 0047 | 42 | .9 | D |
| PEKG | 28 | 0113 | 0117 | 0127D | N05 | W71 | | 12 22.7 | 14D | SF | P | 0117 | 34 | | D |
| LEAR | 28 | 0123 | 0132 | 0144 | N07 | W59 | 4032 | 12 23.6 | 21 | SF C 2.7 | 3 C | | 51 | | F |
| PEKG | 28 | 0127E | 0127 | 0147D | N09 | W60 | | 12 23.6 | 20D | SN | P | 0127 | 80 | 1.7 | E |
| PEKG | 28 | 0340 | 0342 | 0347 | S12 | W01 | | 12 28.1 | 7 | SN | C | 0342 | 84 | .9 | D |
| GOES | 28 | 0408 | 0412 | 0418 | | | | | 10 | C 1.4 | | | | | |
| LEAR | 28 | 0505 | 0505 | 0516 | N09 | E79 | 4041 | 01 3.1 | 11 | SF | 3 C | | | | |
| LEAR | 28 | 0518 | 0520 | 0606 | S19 | E22 | 4039 | 12 29.9 | 48 | SF C 1.5 | 3 C | | 52 | | |
| PEKG | 28 | 0540E | 0540 | 0557 | S20 | E24 | | 12 30.1 | 17D | SF | P | 0540 | 84 | 1.0 | E |
| LEAR | 28 | 0610 | 0613 | 0625 | N08 | W64 | 4032 | 12 23.5 | 15 | SF | 3 C | | 46 | | |
| GOES | 28 | 0710 | 0713 | 0718 | | | | | 8 | C 2.2 | | | | | |
| GOES | 28 | 0834 | 0835 | 0846 | | | | | 12 | C 2.2 | | | | | |
| LEAR | 28 | 0845E | 0850 | 0855D | N08 | W68 | 4032 | 12 23.3 | 10D | SN C 2.8 | 3 C | | 14 | | |
| GOES | 28 | 1158 | 1209 | 1212 | | | | | 14 | C 3.1 | | | | | |
| GOES | 28 | 1245 | 1249 | 1251 | | | | | 6 | C 1.9 | | | | | |
| GOES | 28 | 1551 | 1559 | 1620 | | | 4032 | | 29 | M 4.3 | | | | | |
| HOLL | 28 | 1604E | 1605U | 1621D | N06 | W73 | 4032 | 12 23.2 | 17D | SN | 3 C | | | | |
| GOES | 28 | 1703 | 1708 | 1718 | | | | | 15 | C 1.5 | | | | | |
| HOLL | 28 | 1946 | 1958 | 2013 | S19 | W15 | | 12 27.7 | 27 | SN | 3 C | | 43 | | F |
| PALE | 28 | 2008 | 2009 | 2020 | N08 | W88 | 4032 | 12 22.2 | 12 | SB | 3 C | | | | |
| GOES | 28 | 2043 | 2046 | 2059 | | | | | 16 | C 2.0 | | | | | |
| HOLL | 28 | 2251E | 2251U | 2307D | S08 | W23 | 4033 | 12 27.2 | 16D | SN | 3 C | | 45 | | F |
| HOLL | 28 | 2304 | 2314 | 2340D | S18 | W18 | | 12 27.6 | 36D | SF | 3 C | | 62 | | F |
| LEAR | 28 | 2307 | 2313 | 2332 | S18 | W17 | | 12 27.7 | 25 | SF | 3 C | | 64 | | |
| LEAR | 29 | 0133 | 0137 | 0142 | S19 | W66 | 4031 | 12 24.0 | 9 | SF | 3 C | | 12 | | |
| LEAR | 29 | 0137 | 0140 | 0202 | N05 | E70 | 4041 | 01 3.3 | 25 | SN C 5.8 | 3 C | | 45 | | F |
| LEAR | 29 | 0147 | 0149 | 0152 | S18 | W19 | | 12 27.6 | 5 | SF | 3 C | | 32 | | |
| LEAR | 29 | 0351 | 0353 | 0358 | S20 | W19 | 4042 | 12 27.7 | 7 | SF | 3 C | | 33 | | FH |
| GOES | 29 | 0423 | 0428 | 0436 | | | 4033 | | 13 | C 1.1 | | | | | |
| LEAR | 29 | 0431 | 0433 | 0438 | S07 | W15 | 4033 | 12 28.1 | 7 | SF | 3 C | | 44 | | F |
| LEAR | 29 | 0514 | 0514 | 0522 | S13 | W11 | 4033 | 12 28.4 | 8 | SF C 1.2 | 3 C | | 47 | | |
| LEAR | 29 | 0643 | 0645 | 0717 | S13 | W12 | 4033 | 12 28.4 | 34 | 2B X 1.9 | 3 C | | 712 | | Z |
| YUNN | 29 | 0644 | 0647 | 0705 | S13 | W13 | | 12 28.3 | 21 | 2N | P | | 563 | 6.0 | |
| LEAR | 29 | 0737 | 0742 | 0754 | S10 | W28 | 4033 | 12 27.2 | 17 | SN | 3 C | | 85 | | F |
| PEKG | 29 | 0741 | 0742 | 0745 | S09 | W29 | | 12 27.1 | 4 | SF | P | 0742 | 50 | .6 | E |
| LEAR | 29 | 0834 | 0838 | 0911 | S10 | W28 | 4033 | 12 27.3 | 37 | SN | 3 C | | 126 | | K |
| LEAR | 29 | 0834 | 0904 | 0911 | S10 | W28 | 4033 | 12 27.3 | 37 | 1N C 2.7 | 3 C | | 219 | | H K |
| YUNN | 29 | 0835 | 0837 | | S10 | W29 | | 12 27.2 | | SN | C | | 145 | 1.7 | |
| GOES | 29 | 0857 | 0903 | 0905 | | | 4033 | | 8 | C 3.0 | | | | | |
| YUNN | 29 | 0900E | 0900 | 0905 | S09 | W29 | | 12 27.2 | 5D | 1N | C | | 241 | 2.9 | |
| GOES | 29 | 1308 | 1314 | 1317 | | | | | 9 | C 2.1 | | | | | |
| GOES | 29 | 1522 | 1525 | 1527 | | | | | 5 | C 1.1 | | | | | |
| RAMY | 29 | 1717 | 1727 | 1727D | S13 | W18 | 4033 | 12 28.4 | 10D | SB | 3 C | | 124 | | |
| HOLL | 29 | 1724 | 1728 | 1729D | S12 | W19 | 4033 | 12 28.3 | 5D | SB | 3 C | | 189 | | |
| GOES | 29 | 1725 | 1729 | 1732 | | | | | 7 | C 2.9 | | | | | |
| GOES | 29 | 1848 | 1853 | 1857 | | | | | 9 | C 1.8 | | | | | |
| HOLL | 29 | 2008 | 2008 | 2040 | N08 | W90 | 4032 | 12 23.1 | 32 | SB | 3 C | | | | |
| HOLL | 29 | 2105 | 2109 | 2116 | S17 | W19 | 4033 | 12 28.4 | 11 | SN | 3 C | | 79 | | |
| HOLL | 29 | 2142 | 2147 | 2151D | S09 | W36 | 4033 | 12 27.2 | 9D | SN | 3 C | | 53 | | |
| GOES | 29 | 2142 | 2147 | 2152 | | | 4033 | | 10 | C 1.3 | | | | | |
| PALE | 29 | 2147E | 2147U | 2152 | S12 | W36 | 4033 | 12 27.2 | 5D | SN | 3 C | | 35 | | |
| GOES | 29 | 2234 | 2238 | 2243 | | | | | 9 | C 1.4 | | | | | |
| GOES | 29 | 2307 | 2310 | 2323 | | | | | 16 | C 1.8 | | | | | |
| LEAR | 29 | 2347 | 2349 | 0010 | S09 | W39 | 4033 | 12 27.1 | 23 | SF C 2.2 | 3 C | | 134 | | FH |
| LEAR | 30 | 0123 | 0124 | 0130 | S17 | W32 | 4042 | 12 27.6 | 7 | SN | 3 C | | 37 | | |
| LEAR | 30 | 0140 | 0147 | 0252 | S13 | W22 | 4033 | 12 28.4 | 72 | 2B M 7.1 | 3 C | | 680 | | ZFK |
| LEAR | 30 | 0140 | 0156 | 0252 | S13 | W22 | 4033 | 12 28.4 | 72 | 1B | 3 C | | 428 | | K |
| YUNN | 30 | 0140 | 0158 | 0238 | S13 | W23 | | 12 28.3 | 58 | 1N | P | | 402 | 4.6 | |
| PEKG | 30 | 0141 | 0145 | 0208 | S13 | W22 | | 12 28.4 | 27 | 1N | C | 0145 | 294 | 3.3 | F |
| MANI | 30 | 0142E | 0145 | 0147D | S12 | W29 | | 12 27.9 | 5D | SB | 1 V | | 125 | 1.5 | F |

H - ALPHA SOLAR FLARES

DECEMBER 1982

| Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF Region | CMP Mo | Dur Day | (Min) | Imp Opt | Xray | Obs See | Type | Time (UT) | Area Measurement | | Remarks |
|--------|-----|------------|----------|----------|-----|-----|-------------------------|-----------|------------|-------|------------|-------|------------|------|--------------|-------------------------------------|------------------|---------|
| | | | | | | | | | | | | | | | | Apparent (10 ⁻⁶ Disk) | Corr (Sq Deg) | |
| [YUNN | 30 | 0604E | 0606 | 0612 | S09 | W41 | | 12 | 27.2 | 8D | 1N | | | P | | 321 | 4.4 | |
| LEAR | 30 | 0604 | 0606 | 0616 | S09 | W40 | 4033 | 12 | 27.2 | 12 | 1F | C 2.3 | 3 | C | | 280 | | H |
| GOES | 30 | 0915 | 0918 | 0926 | | | | | | 11 | | C 2.1 | | | | | | |
| WEND | 30 | 1002 | 1004 | 1010 | S10 | W43 | | 12 | 27.2 | 8 | SF | | | C | 1004 | 25 | .4 | |
| [GOES | 30 | 1014 | 1019 | 1024 | | | | | | 10 | | C 1.8 | | | | | | |
| WEND | 30 | 1017 | 1019 | 1027 | N08 | E51 | | 01 | 3.3 | 10 | SN | | | C | 1019 | 38 | .6 | E |
| RAMY | 30 | 1410 | 1412 | 1442 | S14 | W30 | 4033 | 12 | 28.3 | 32 | SB | C 2.2 | 3 | C | | 71 | | |
| GOES | 30 | 1517 | 1521 | 1526 | | | | | | 9 | | C 1.1 | | | | | | |
| [RAMY | 30 | 1739 | 1857U | 1918 | S12 | W33 | 4033 | 12 | 28.2 | 99 | 1B | C 8.4 | 3 | C | | 230 | | U |
| PALE | 30 | 1835E | 1846 | 1928 | S11 | W34 | 4033 | 12 | 28.2 | 53D | 1B | | | C | | 223 | | K |
| GOES | 30 | 1841 | 1846 | 1903 | | | 4033 | | | 22 | | C 9.8 | | | | | | |
| [PALE | 30 | 1844 | 1845 | 1854 | S23 | E14 | 4040 | 12 | 31.9 | 10 | SF | | 3 | C | | 20 | | |
| RAMY | 30 | 1856 | 1900 | 1911 | S27 | E16 | 4040 | 01 | 1.0 | 15 | SF | | 3 | C | | 45 | | |
| [PALE | 30 | 2223 | 2227 | 2234D | S12 | W36 | 4033 | 12 | 28.2 | 11D | SB | C 4.7 | 3 | C | | 85 | | E |
| LEAR | 30 | 2246E | 2246U | 2311 | S13 | W34 | 4033 | 12 | 28.4 | 25D | SN | | 3 | C | | 69 | | F |
| LEAR | 30 | 2258 | 2258 | 2308 | S18 | W39 | 4042 | 12 | 28.0 | 10 | SF | | 3 | C | | 23 | | |
| LEAR | 30 | 2357 | 2359 | 0003 | S09 | W54 | 4033 | 12 | 26.9 | 6 | SF | | 3 | C | | 36 | | H |
| LEAR | 31 | 0014 | 0020 | 0049 | S13 | W35 | 4033 | 12 | 28.4 | 35 | 1B | C 8.0 | 3 | C | | 194 | | F |
| MANI | 31 | 0025E | 0025 | 0034D | S12 | W44 | | 12 | 27.7 | 9D | 1B | | 1 | V | | 220 | 3.2 | F |
| YUNN | 31 | 0028E | 0028U | 0036 | S25 | W22 | | 12 | 29.3 | 8D | SN | | | P | 0028 | 16 | .2 | F |
| LEAR | 31 | 0243 | 0245 | 0249 | S10 | W55 | 4033 | 12 | 27.0 | 6 | SF | | 3 | C | | 37 | | |
| LEAR | 31 | 0511 | 0514 | 0555 | S15 | W35 | 4033 | 12 | 28.6 | 44 | SN | C 3.1 | 3 | C | | 109 | | H |
| [MANI | 31 | 0514E | 0517 | 0523D | S12 | W40 | | 12 | 28.2 | 9D | SF | | 1 | V | | 90 | 1.2 | F |
| PEKG | 31 | 0514 | 0518 | 0545 | S15 | W36 | | 12 | 28.5 | 31 | SF | | | C | 0518 | 67 | .9 | F |
| LEAR | 31 | 0752 | 0755 | 0823 | N09 | E39 | 4041 | 01 | 3.3 | 31 | SF | C 1.5 | 3 | C | | 79 | | F |
| LEAR | 31 | 0754 | 0756 | 0802 | S16 | W46 | 4042 | 12 | 27.8 | 8 | SF | | 3 | C | | 21 | | F |
| LEAR | 31 | 0845 | 0852 | 0922 | S13 | W40 | 4033 | 12 | 28.3 | 37 | SF | | 3 | C | | 69 | | F |
| LEAR | 31 | 0849 | 0853 | 0918 | N11 | E38 | 4041 | 01 | 3.2 | 29 | SF | C 1.4 | 3 | C | | 27 | | F |
| GOES | 31 | 0930 | 0933 | 0935 | | | | | | 5 | | C 1.6 | | | | | | |
| GOES | 31 | 1217 | 1224 | 1230 | | | | | | 13 | | C 1.0 | | | | | | |
| [PALE | 31 | 1958 | 2002 | 2027D | S15 | W65 | 4033 | 12 | 26.9 | 29D | SN | C 1.3 | 3 | C | | 95 | | F K |
| PALE | 31 | 1958 | 2019 | 2027D | S15 | W65 | 4033 | 12 | 26.9 | 29D | SF | | 3 | C | | 49 | | K |
| GOES | 31 | 2055 | 2055 | 2059 | | | 4033 | | | 4 | | C 1.0 | | | | | | |
| GOES | 31 | 2222 | 2230 | 2236 | | | | | | 14 | | C 1.1 | | | | | | |

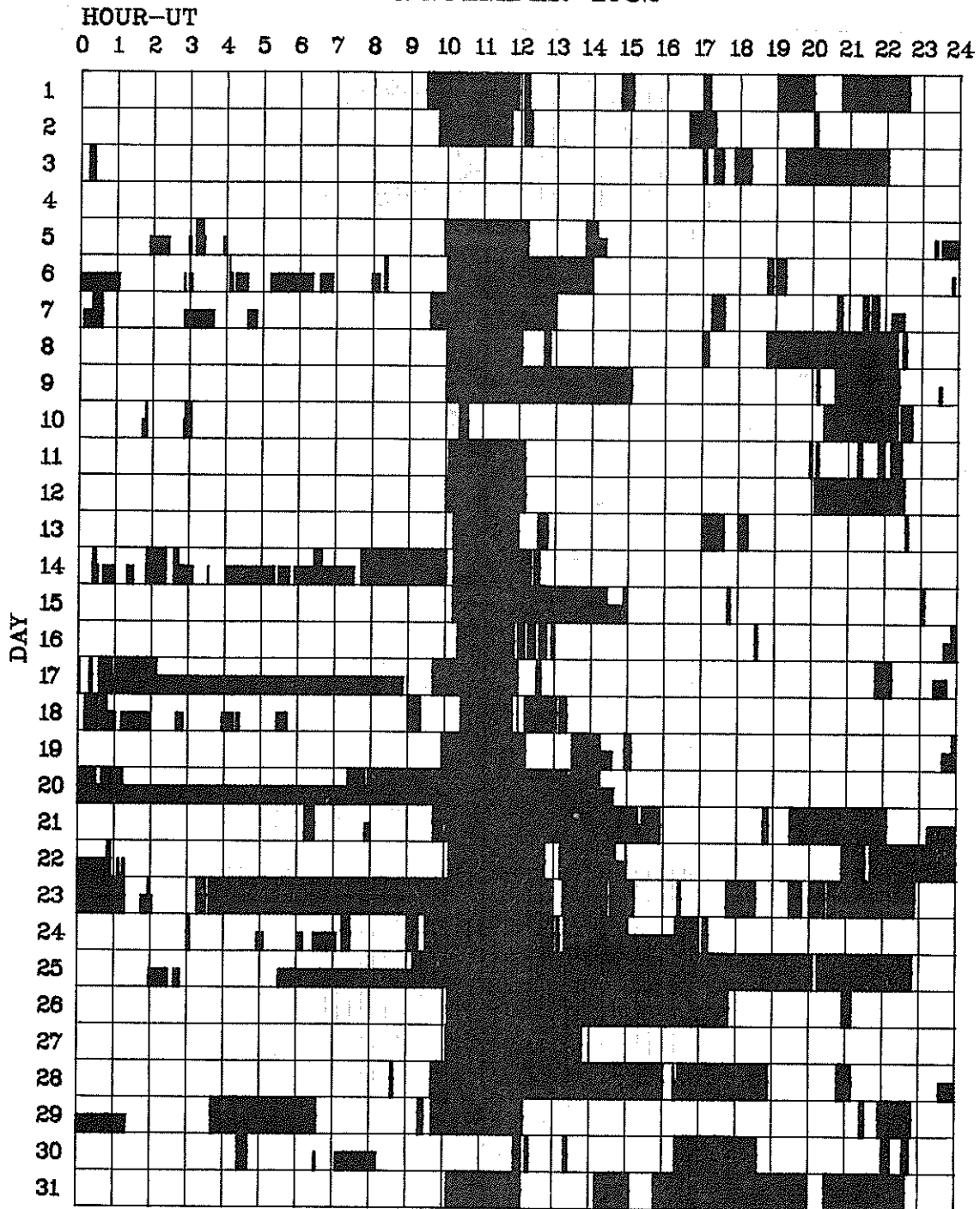
"Remarks":

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

- O = Observations have been made in the H and K lines of CaII.
- P = Flare shows helium D3 in emission.
- Q = Flare shows Balmer continuum in emission.
- R = Marked asymmetry in H-alpha line suggests ejection of high-velocity material.
- S = Brightness follows disappearance of filament in same position.
- T = Region active all day.
- U = Two bright branches, parallel or converging.
- V = Occurrence of an explosive phase: important, expansion within roughly 1 minute that often includes a significant intensity increase.
- W = Great increase in area after time of maximum intensity.
- X = Unusually wide H-alpha line.
- Y = System of loop-type prominences.
- Z = Major sunspot umbra covered by flare.

The 4-digit number appearing under "Remarks" denotes the calcium plage region number assigned by the Space Environment Services Center in Boulder, Colorado.

INTERVALS OF NO FLARE PATROL OBSERVATION FOR PRECEDING SOLAR FLARE TABLE DECEMBER 1982



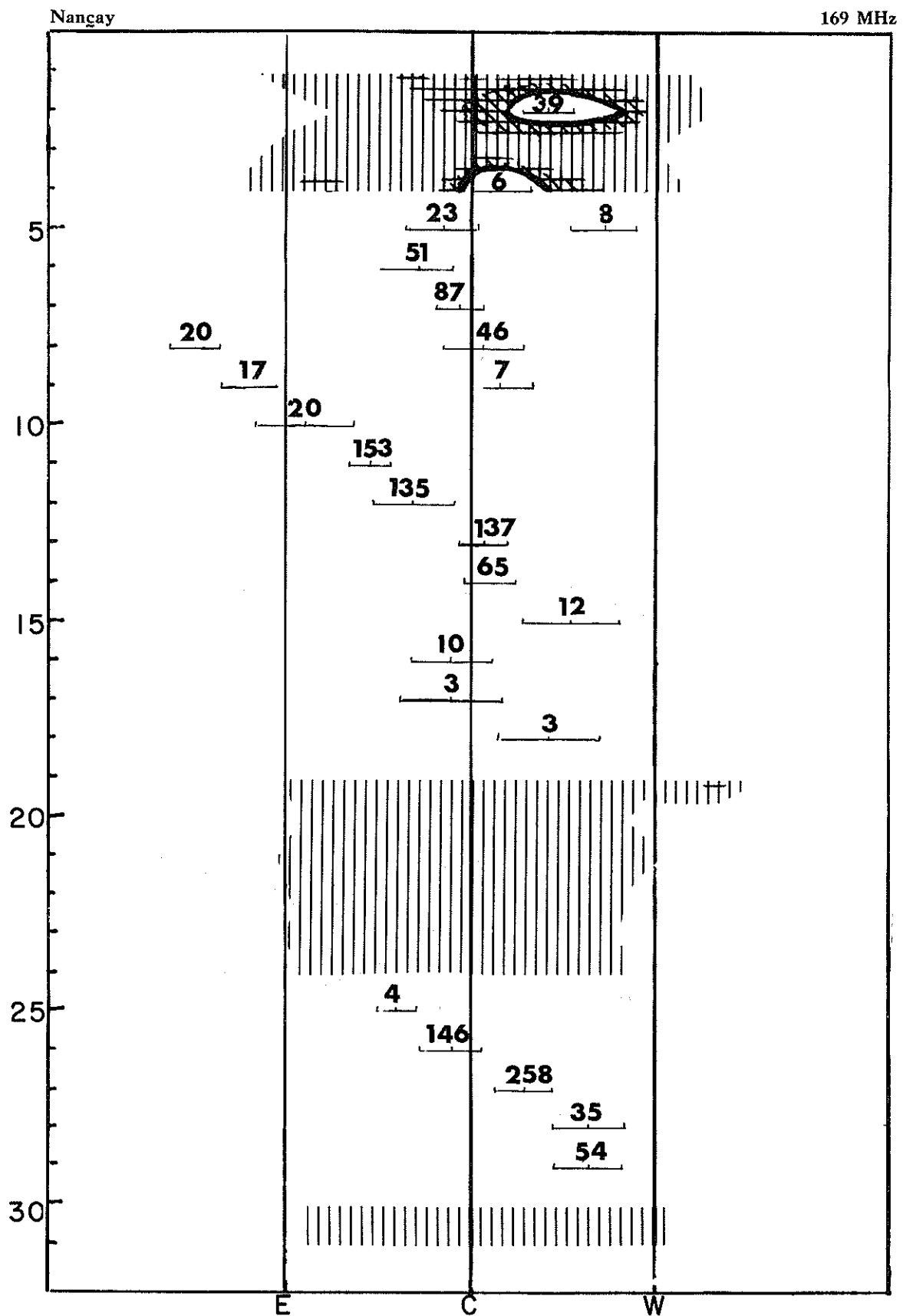
Observatories included in total patrol:

| | | | | |
|-----------|-----------|-------------|------------|-------------|
| Bucharest | Istanbul | Manila | Palehua | Ramey |
| Holloman | Learmonth | Monte Mario | Peking | Wendelstein |
| | | | 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

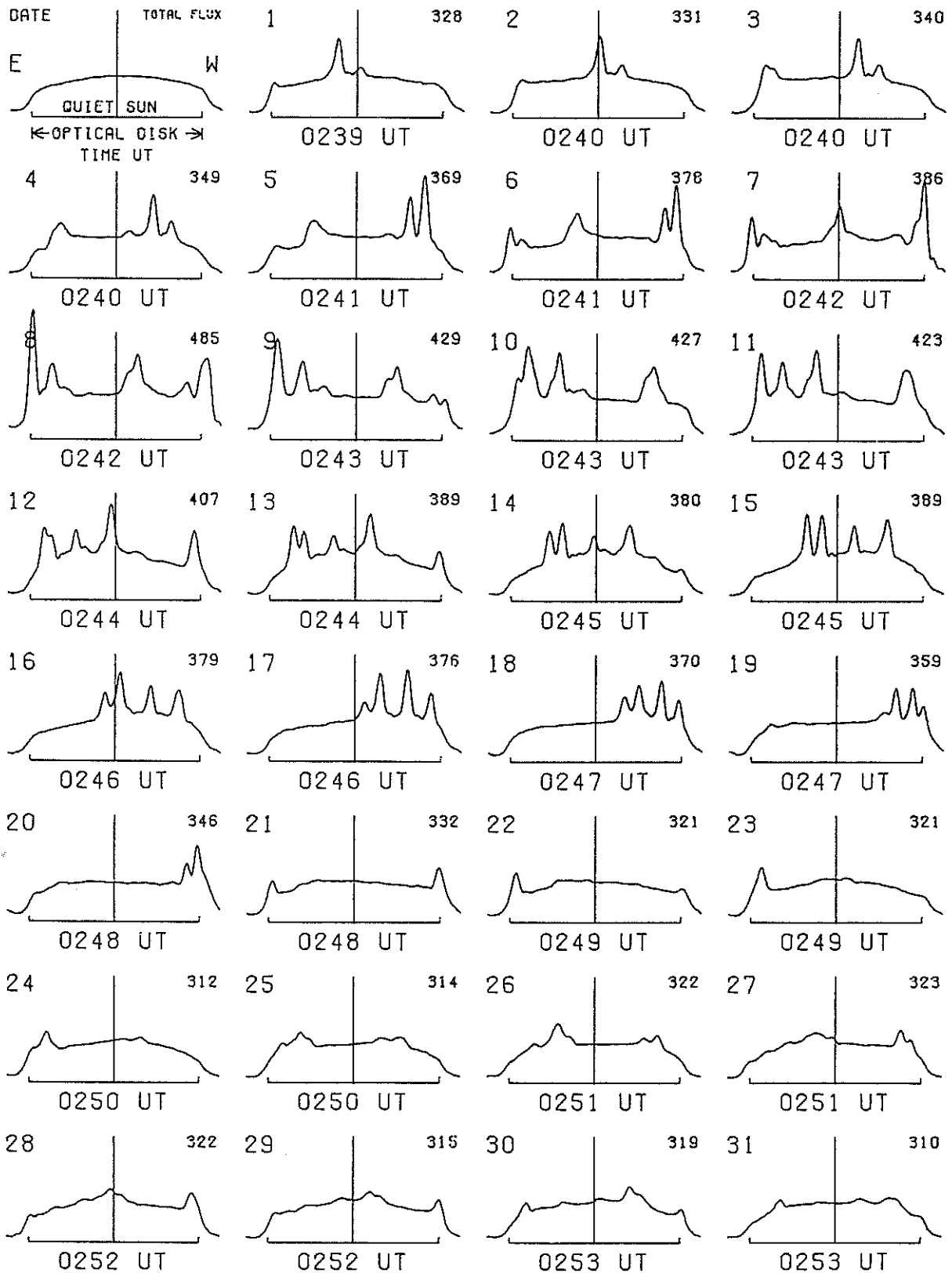
DECEMBER 1982



EAST-WEST SOLAR SCANS DECEMBER 1982

TOYOKAWA, JAPAN

3 CM
FAN BEAM WITH 1.1 MINUTES OF ARC



EAST-WEST SOLAR SCANS

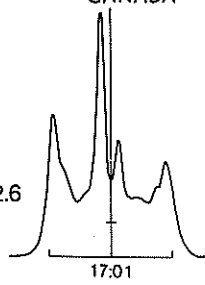
DECEMBER 1982

10.7 cm

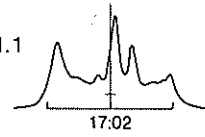
Fan Beam with 1.5 minutes of arc
E-W Resolution

ALGONQUIN RADIO OBSERVATORY
CANADA

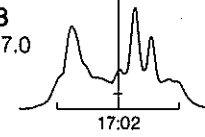
01
172.6



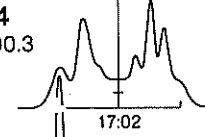
02
171.1



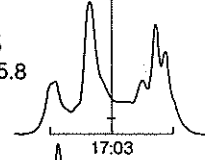
03
187.0



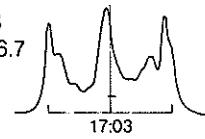
04
200.3



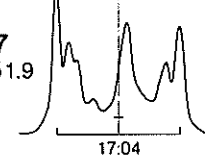
05
215.8



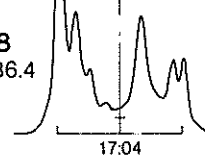
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216.7



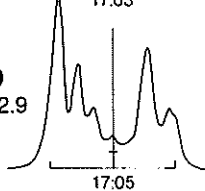
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251.9



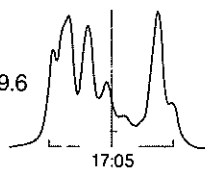
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286.4



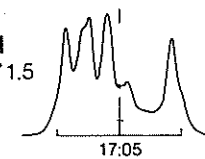
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262.9



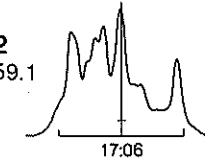
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289.6



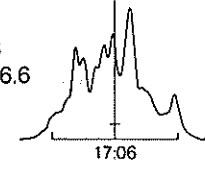
11
271.5



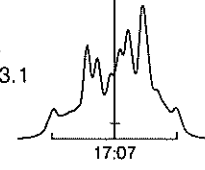
12
259.1



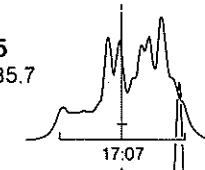
13
246.6



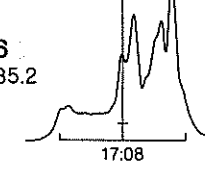
14
243.1



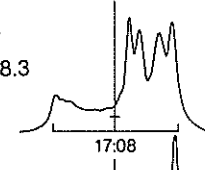
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235.7



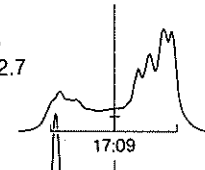
16
235.2



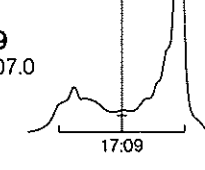
17
218.3



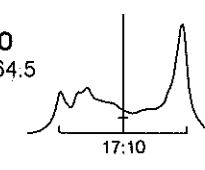
18
192.7



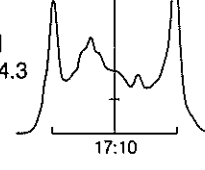
19
207.0



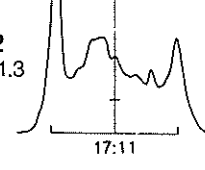
20
164.5



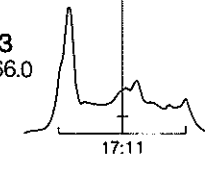
21
154.3



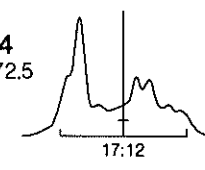
22
161.3



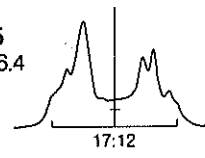
23
166.0



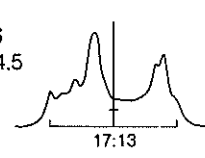
24
172.5



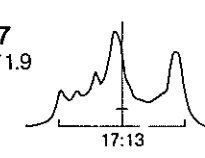
25
176.4



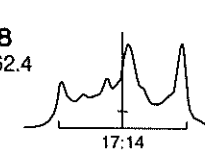
26
174.5



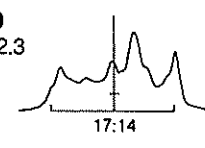
27
171.9



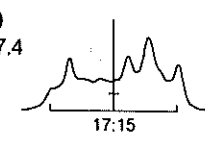
28
162.4



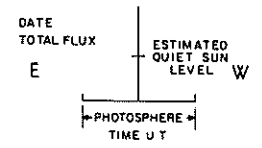
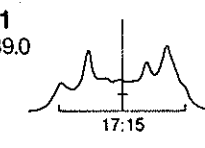
29
152.3



30
147.4



31
139.0



EAST-WEST SOLAR SCANS DECEMBER 1982

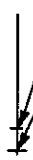
Fleurs, Australia

Estimated Quiet Sun Level
Cold Sky Level

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

01

E



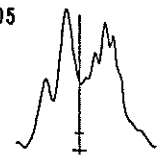
02

NO DATA DECEMBER 1-4, 6, 9, 14-31, 1982

03

04

05



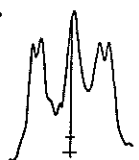
0147 UT

W

06

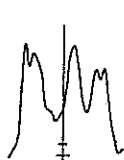
E

07



0148 UT

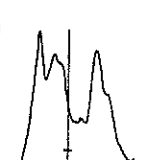
08



0149 UT

09

10

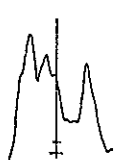


0150 UT

W

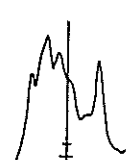
11

E



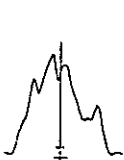
0154 UT

12



0155 UT

13



0151 UT

14

15

W

16

E

17

18

19

20

W

21

E

22

23

24

25

W

26

E

27

28

29

30

W

31

E

W

EAST-WEST SOLAR SCANS

DECEMBER 1982

Flours, Australia

Estimated Quiet Sun Level
Cold Sky Level

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

01

E



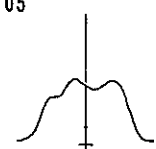
02

NO DATA DECEMBER 1-4, 6, 9, 14-31, 1982

03

04

05



0147 UT

W

06

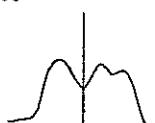
E

07



0148 UT

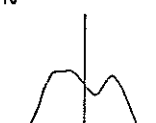
08



0149 UT

09

10

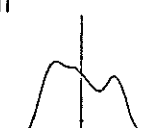


0149 UT

W

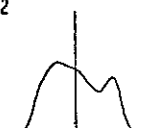
11

E



0150 UT

12



0150 UT

13



0145 UT

14

15

W

16

E

17

18

19

20

W

21

E

22

23

24

25

W

26

E

27

28

29

30

W

31

E

W

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

37
Dec 82

DECEMBER 1982

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|------|------|--------|--------|------------|----------------------|----------------|--|-------------|-----------------|-----------------|
| | | | | | | | Peak (10 ⁻²² W/m ² Hz) | Mean (2 Hz) | | |
| 01 | 8800 | LEAR | 8 S | 0010.8 | 0011.0 | .3 | 19.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 20 GRF | 1810.0 | 1825.0 | 65.0 | 2.8 | 1.9 | | |
| | 2800 | OTTA | 20 GRF | 2020.0 | 2040.0 | 55.0 | 3.0 | 1.8 | | |
| 02 | 2695 | LEAR | 8 S | 0010.3 | 0010.8 | .7 | 21.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 8 S | 0259.1 | 0259.8 | 1.0 | 13.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0259.5 | 0259.6 | .3 | 13.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 4 S/F | 0322.3 | 0324.6 | 9.5 | 7.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0542.3 | 0542.3 | .5 | 42.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 47 GB | 0542.3 | 0542.5 | .3 | 91.0 | | | QL=6 ST=3 TYP=5 |
| | 2695 | LEAR | 20 GRF | 0641.5 | 0647.3 | 11.1 | 17.0 | | | QL=6 ST=2 TYP=2 |
| | 2800 | OTTA | 20 GRF | 1515.0 | 1525.0 | 35.0 | 6.0 | 2.2 | | |
| | 2800 | OTTA | 240 R | 1730.0 | 1736.0 | 6.0 | 7.0 | 4.0 | | |
| | 2800 | OTTA | 23 GRF | 1738.0 | 1742.0 | 110.0 | 15.8 | 8.0 | | |
| | 2800 | OTTA | 40 F | 1742.5 | 1743.0 | 5.0 | 6.0 | | | |
| | 2695 | SGMR | 8 S | 1810.6 | 1810.8 | 1.2 | 18.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | PENT | 4 S/F | 2108.0 | 2111.8 | 9.0 | 50.0 | 23.0 | | |
| | 2695 | PENT | 29 PBI | 2117.0 | 2117.0 | 13.0 | 7.4 | | | |
| 2695 | LEAR | 4 S/F | 2311.3 | 2312.0 | 2.7 | 21.0 | | | QL=6 ST=2 TYP=3 | |
| 03 | 8800 | LEAR | 8 S | 0115.8 | 0115.8 | 1.0 | 27.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0302.8 | 0303.1 | 1.7 | 10.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 4 S/F | 0900.8 | 0901.8 | 12.3 | 31.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 4 S/F | 0901.5 | 0903.8 | 5.6 | 13.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 20 GRF | 1750.0 | 1815.0 | 70.0 | 3.0 | 2.1 | | |
| | 2800 | OTTA | 20 GRF | 1935.0 | 2000.0 | 65.0 | 3.2 | 1.6 | | |
| | 2695 | PENT | 1 S | 2142.0 | 2143.0 | 2.5 | 8.2 | 4.0 | | |
| | 8800 | LEAR | 4 S/F | 2249.8 | 2250.1 | 2.5 | 11.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 47 GB | 2300.3 | 2300.6 | 6.3 | 90.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 4 S/F | 2300.5 | 2300.6 | 3.5 | 20.0 | | | QL=6 ST=2 TYP=3 |
| | 04 | 8800 | LEAR | 4 S/F | 0046.5 | 0047.0 | 3.3 | 11.0 | | |
| 8800 | | LEAR | 4 S/F | 0330.8 | 0333.0 | 4.3 | 11.0 | | | QL=6 ST=2 TYP=3 |
| 8800 | | LEAR | 4 S/F | 0527.1 | 0527.8 | 3.5 | 33.0 | | | QL=5 ST=3 TYP=3 |
| 2695 | | LEAR | 8 S | 0527.8 | 0527.8 | 1.0 | 11.0 | | | QL=6 ST=2 TYP=3 |
| 2695 | | LEAR | 20 GRF | 0754.6 | 0847.1 | 65.2 | 25.0 | | | QL=6 ST=2 TYP=2 |
| 8800 | | LEAR | 20 GRF | 0755.0 | 0810.6 | 54.8 | 10.0 | | | QL=5 ST=3 TYP=2 |
| 8400 | | BERN | 4 S/F | 0913.2 | 0914.7 | 23.0 | 67.0 | | | ONLY PAPER REC |
| 2695 | | LEAR | 8 S | 1012.1 | 1012.3 | .4 | 6.0 | | | QL=6 ST=2 TYP=3 |
| 8800 | | LEAR | 8 S | 1012.1 | 1012.3 | .4 | 13.0 | | | QL=5 ST=2 TYP=3 |
| 2800 | | OTTA | 27 RF | 1345.0 | | 100.0 | 4.0 | 3.5 | | |
| 2800 | | OTTA | 24 R | 1345.0 | 1400.0 | 15.0 | 4.0 | 2.0 | | |
| 2800 | | OTTA | 24P R | 1400.0 | | 75.0 | 4.0 | | | |
| 2800 | | OTTA | 26 FAL | 1515.0 | 1525.0 | 10.0 | -4.0 | -2.0 | | |
| 2800 | | OTTA | 21 GRF | 1620.0 | 1625.0 | 25.0 | 3.6 | 1.8 | | |
| 2800 | | OTTA | 3 S | 1629.0 | 1630.0 | 3.5 | 12.4 | 4.2 | | |
| 2800 | | OTTA | 8 S | 1714.0 | 1714.3 | .8 | 5.8 | 2.6 | | |
| 2800 | OTTA | 20 GRF | 1745.0 | 1805.0 | 40.0 | 2.4 | 1.6 | | | |
| 2800 | OTTA | 20 GRF | 1940.0 | 2015.0 | 35.0D | 4.4 | 2.2 | | | |
| 05 | 2695 | LEAR | 8 S | 0256.8 | 0257.1 | .8 | 10.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0325.8 | 0326.8 | 1.7 | 8.0 | | | QL=5 ST=3 TYP=3 |
| | 8800 | LEAR | 20 GRF | 0424.8 | 0445.8 | 89.2 | 20.0 | | | QL=6 ST=2 TYP=2 |
| | 2695 | LEAR | 20 GRF | 0750.0 | 0815.0 | 100.0 | 15.0 | | | QL=6 ST=2 TYP=2 |
| | 8400 | BERN | 4 S/F | 1001.1 | 1002.1 | 40.0 | 343.0 | | | |
| | 2800 | OTTA | 20 GRF | 1435.0 | 1700.0 | 275.0 | 14.0 | 6.8 | | |
| | 2800 | OTTA | 240 R | 1920.0 | 1945.0 | 25.0 | 5.0 | 2.5 | | |
| | 8800 | SGMR | 47 GB | 1958.8 | 1959.0 | .5 | 77.0 | | | QL=6 ST=2 TYP=5 |
| | 2800 | OTTA | 20 GRF | 2035.0 | 2040.0 | 65.0 | 6.4 | | | |
| 06 | 8400 | BERN | 3 S | 0810.0 | 0812.2 | 9.0 | 61.0 | | | ONLY PAPER REC |
| | 8800 | LEAR | 47 GB | 0810.8 | 0812.3 | 9.3 | 70.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | ATHN | 4 S/F | 0810.8 | 0812.3 | 2.5 | 27.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 4 S/F | 0810.8 | 0812.5 | 5.5 | 22.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | ATHN | 4 S/F | 0811.0 | 0812.5 | 2.8 | 19.0 | | | QL=2 ST=2 TYP=3 |
| | 8800 | ATHN | 4 S/F | 0937.5 | 0938.3 | 3.5 | 30.0 | | | QL=6 ST=3 TYP=3 |
| | 8800 | LEAR | 47 GB | 0938.8 | 0939.5 | 4.0 | 64.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | ATHN | 4 S/F | 0952.5 | 0953.3 | 2.1 | 13.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0952.8 | 0953.5 | 1.8 | 27.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 21 GRF | 1415.0 | 1532.0 | 175.0 | 9.6 | 4.4 | | |

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

DECEMBER 1982

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|------|------|--------|--------|------------|----------------------|----------------|------------------------|------|-----------------|-----------------|
| | | | | | | | Peak (10 -22 W/m 2 Hz) | Mean | | |
| 06 | 2800 | OTTA | 1 S | 1544.0 | 1545.0 | 6.0 | 4.2 | 1.6 | | |
| | 2800 | OTTA | 240 R | 2010.0 | 2035.0 | 25.0 | 9.0 | 3.0 | | |
| | 2695 | PENT | 21 GRF | 2105.0 | 2118.0 | 30.0 | 8.2 | 4.4 | | |
| | 2695 | PENT | 46F C | 2105.5 | 2106.7 | 3.7 | 61.0 | 14.0 | | |
| | 2695 | PENT | 8 S | 2111.0 | 2111.2 | .3 | 4.0 | 2.0 | | |
| | 2695 | PENT | 46F C | 2112.3 | 2112.9 | 2.5 | 40.0 | 10.0 | | |
| | 8800 | LEAR | 8 S | 2329.8 | 2330.1 | .7 | 21.0 | | | QL=4 ST=2 TYP=3 |
| 07 | 8800 | LEAR | 47 GB | 0208.8 | 0209.1 | 1.8 | 51.0 | | | QL=5 ST=2 TYP=5 |
| | 8800 | LEAR | 47 GB | 0219.6 | 0221.1 | 6.0 | 139.0 | | | QL=5 ST=2 TYP=5 |
| | 8800 | LEAR | 20 GRF | 0412.6 | 0421.1 | 27.4 | 17.0 | | | QL=5 ST=2 TYP=2 |
| | 8800 | LEAR | 4 S/F | 0536.1 | 0537.8 | 9.0 | 11.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 4 S/F | 0536.1 | 0537.8 | 6.2 | 9.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 4 S/F | 0546.3 | 0547.3 | 3.0 | 7.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 4 S/F | 0554.8 | 0555.6 | 2.5 | 13.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0700.8 | 0701.0 | 1.0 | 11.0 | | | QL=6 ST=3 TYP=3 |
| | 8800 | LEAR | 8 S | 0809.3 | 0809.6 | 1.2 | 13.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | SGMR | 47 GB | 1317.3 | 1320.0 | 14.0 | 58.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | SGMR | 4 S/F | 1416.6 | 1417.5 | 2.5 | 11.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 21 GRF | 1420.0 | 1440.0 | 85.0 | 6.0 | | | |
| | 2800 | OTTA | 40 F | 1423.0 | 1427.0 | 8.0 | 4.4 | | | |
| | 8800 | SGMR | 47 GB | 1510.1 | 1510.3 | .9 | 50.0 | | | QL=5 ST=2 TYP=5 |
| | 2695 | SGMR | 47 GB | 1510.1 | 1510.3 | .7 | 86.0 | | | QL=6 ST=2 TYP=5 |
| | 2800 | OTTA | 20 GRF | 1550.0 | 1555.0 | 30.0 | 5.2 | 2.6 | | |
| | 2800 | OTTA | 4 S/F | 1748.5 | 1749.0 | 3.0 | 18.2 | 7.0 | | |
| 2695 | SGMR | 8 S | 1748.6 | 1749.0 | 1.5 | 30.0 | | | QL=6 ST=2 TYP=3 | |
| 2800 | OTTA | 20 GRF | 1800.0 | 1808.0 | 80.0 | 8.6 | 4.0 | | | |
| 08 | 8800 | LEAR | 4 S/F | 0249.3 | 0250.1 | 9.0 | 49.0 | | | QL=5 ST=2 TYP=3 |
| | 2695 | LEAR | 8 S | 0306.1 | 0306.1 | .7 | 29.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 8 S | 0615.8 | 0616.8 | 1.5 | 25.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 8 S | 0817.8 | 0818.0 | .3 | 30.0 | | | QL=3 ST=2 TYP=3 |
| | 8800 | LEAR | 47 GB | 0827.0 | 0830.1 | 16.1 | 50.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | ATHN | 4 S/F | 0827.8 | 0835.0 | 13.5 | 49.0 | | | QL=6 ST=3 TYP=3 |
| | 2695 | LEAR | 8 S | 0901.8 | 0902.1 | .7 | 17.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0901.8 | 0902.1 | 1.0 | 20.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0939.1 | 0939.3 | .4 | 21.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | ATHN | 47 GB | 1108.8 | 1112.8 | 22.8 | 52.0 | | | QL=6 ST=3 TYP=5 |
| | 8400 | BERN | 47 GB | 1323.0 | 1445.7 | 90.00 | 1209.0 | | | |
| | 2695 | ATHN | 47 GB | 1324.6 | 1338.6 | 47.4 | 150.0 | | | |
| | 2800 | OTTA | 47 GB | 1326.0 | 1447.0 | 124.0 | 2280.0 | | | QL=2 ST=3 TYP=5 |
| | 8800 | ATHN | 47 GB | 1331.3 | 1338.6 | 40.7 | 290.0 | | | QL=6 ST=3 TYP=5 |
| | 8800 | SGMR | 49 GB | 1335.6 | 1338.5 | 14.5 | 470.0 | | | QL=6 ST=2 TYP=6 |
| | 2695 | SGMR | 47 GB | 1336.5 | 1338.6 | 13.6 | 139.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | SGMR | 47 GB | 1350.1 | 1350.1 | 22.0 | 330.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | SGMR | 49 GB | 1350.1 | 1352.3 | 22.0 | 520.0 | | | QL=6 ST=2 TYP=6 |
| | 2695 | SGMR | 47 GB | 1412.1 | 1414.6 | 13.0 | 88.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | SGMR | 47 GB | 1412.1 | 1414.6 | 13.0 | 119.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | ATHN | 49 GB | 1421.5 | 1427.3 | 44.0 | 670.0 | | | QL=2 ST=2 TYP=6 |
| | 8800 | ATHN | 49 GB | 1421.5 | 1430.3 | 44.0 | 210.0 | | | QL=2 ST=2 TYP=6 |
| | 2695 | SGMR | 49 GB | 1425.1 | 1427.3 | 12.4 | 730.0 | | | QL=6 ST=2 TYP=6 |
| | 8800 | SGMR | 47 GB | 1425.1 | 1427.6 | 12.4 | 300.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | SGMR | 49 GB | 1437.5 | 1438.1 | 26.0 | 680.0 | | | QL=6 ST=2 TYP=6 |
| | 8800 | SGMR | 49 GB | 1437.5 | 1438.1 | 26.0 | 530.0 | | | QL=6 ST=2 TYP=6 |
| | 2695 | SGMR | 47 GB | 1503.5 | 1503.6 | 20.8 | 200.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | SGMR | 47 GB | 1503.5 | 1503.6 | 17.5 | 100.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | SGMR | 47 GB | 1524.3 | 1524.6 | 21.7 | 89.0 | | | QL=6 ST=2 TYP=5 |
| | 2800 | OTTA | 30 PBI | 1530.0 | 1530.0 | 390.0 | 81.0 | 25.6 | | |
| | 2695 | SGMR | 47 GB | 1546.0 | 1546.6 | 23.1 | 71.0 | | | |
| | 2695 | SGMR | 47 GB | 1609.1 | 1610.8 | 29.9 | 92.0 | | | QL=6 ST=2 TYP=5 |
| 2800 | OTTA | 21 GRF | 1935.0 | 1940.0 | 50.0 | 7.6 | 3.5 | | | |
| 2800 | OTTA | 1 S | 1936.5 | 1937.0 | 1.5 | 7.0 | 3.5 | | | |
| 2695 | PENT | 1 S | 2011.0 | 2011.5 | 2.0 | 5.8 | 2.9 | | | |
| 8800 | LEAR | 8 S | 2335.8 | 2336.8 | 1.3 | 16.0 | | | QL=6 ST=2 TYP=3 | |
| 2695 | LEAR | 49 GB | 2337.1 | 0000.8 | 79.0 | 5400.0 | | | QL=6 ST=2 TYP=7 | |
| 8800 | LEAR | 49 GB | 2337.1 | 2358.1 | 103.5 | 20000.0 | | | QL=5 ST=2 TYP=7 | |
| 8800 | LEAR | 8 S | 2342.8 | 2343.1 | .7 | 18.0 | | | QL=6 ST=2 TYP=3 | |
| 09 | 2695 | LEAR | 8 S | 0018.6 | 0018.8 | .4 | 10.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0018.6 | 0018.8 | .5 | 32.0 | | | QL=5 ST=2 TYP=3 |

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

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DECEMBER 1982

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|------|------|--------|---------|------------|----------------------|----------------|--|------|-----------------|-----------------|
| | | | | | | | Peak (10 ⁻²² W/m ² Hz) | Mean | | |
| 09 | 8800 | LEAR | 8 S | 0023.8 | 0024.0 | .3 | 11.0 | | | QL=5 ST=2 TYP=3 |
| | 2695 | LEAR | 8 S | 0032.3 | 0032.5 | .5 | 11.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0032.3 | 0032.5 | .5 | 26.0 | | | QL=5 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0042.8 | 0042.8 | .3 | 20.0 | | | QL=5 ST=2 TYP=3 |
| | 2695 | LEAR | 8 S | 0042.8 | 0042.8 | .3 | 10.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 47 GB | 0223.0 | 0257.3 | 84.0 | 57.0 | | | QL=5 ST=2 TYP=5 |
| | 2695 | LEAR | 4 S/F | 0239.6 | 0257.3 | 65.4 | 20.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 20 GRF | 0840.0 | 0841.1 | 12.8 | 40.0 | | | QL=6 ST=2 TYP=2 |
| | 8800 | ATHN | 4 S/F | 0841.1 | 0844.5 | 7.9 | 5.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 47 GB | 0935.3 | 0938.5 | 9.3 | 69.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 4 S/F | 0935.6 | 0936.5 | 5.9 | 13.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | ATHN | 4 S/F | 0935.8 | 0938.3 | 9.3 | 30.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | ATHN | 4 S/F | 1039.3 | 1039.8 | 5.7 | 11.0 | | | QL=2 ST=2 TYP=3 |
| | 8800 | ATHN | 4 S/F | 1039.3 | 1041.8 | 8.2 | 11.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | ATHN | 47 GB | 1124.1 | 1126.5 | 20.9 | 53.0 | | | QL=2 ST=3 TYP=5 |
| | 8800 | ATHN | 47 GB | 1124.3 | 1124.6 | 20.7 | 130.0 | | | QL=6 ST=3 TYP=5 |
| | 2800 | OTTA | 22 GRF | 1340.0 | 1348.0 | 85.0 | 16.2 | | | |
| | 8800 | SGMR | 4 S/F | 1348.0 | 1350.3 | 2.5 | 27.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | SGMR | 4 S/F | 1351.3 | 1353.5 | 6.3 | 30.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | ATHN | 47 GB | 1403.1 | 1404.3 | 5.0 | 70.0 | | | QL=6 ST=2 TYP=5 |
| | 8400 | BERN | 4 S/F | 1403.2 | 1404.1 | 5.0 | 97.0 | | | |
| | 2695 | ATHN | 4 S/F | 1403.3 | 1404.0 | 4.2 | 26.0 | | | QL=2 ST=2 TYP=3 |
| | 8800 | SGMR | 47 GB | 1403.3 | 1404.1 | 2.5 | 110.0 | | | QL=6 ST=2 TYP=5 |
| | 2800 | OTTA | 32 ABS | 1600.0 | 1610.0 | 23.0 | 6.0 | 3.2 | | |
| | 2800 | OTTA | 1 S | 1633.0 | 1634.3 | 2.0 | 6.4 | 3.2 | | |
| | 2800 | OTTA | 4 S/F | 1733.0 | 1737.0 | 8.0 | 129.0 | 43.0 | | |
| | 2695 | SGMR | 47 GB | 1735.5 | 1737.0 | 7.8 | 130.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | SGMR | 47 GB | 1735.8 | 1737.1 | 30.5 | 139.0 | | | QL=6 ST=2 TYP=5 |
| | 2800 | OTTA | 30 PBI | 1741.0 | 1741.0 | 95.0 | 19.8 | 5.0 | | |
| | 2800 | OTTA | 4 S/F | 1746.0 | 1746.4 | 1.0 | 21.4 | 7.2 | | |
| | 8800 | SGMR | 8 S | 1902.5 | 1902.8 | 1.0 | 46.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | PENT | 4 S/F | 2135.0 | 2145.5 | 23.0 | 314.0 | 96.0 | | |
| 2695 | LEAR | 49 GB | 2145.3E | 2145.8 | 10.30 | 840.0 | | | QL=4 ST=3 TYP=6 | |
| 8800 | LEAR | 49 GB | 2145.3E | 2145.8 | 11.70 | 1100.0 | | | QL=4 ST=3 TYP=6 | |
| 2695 | PENT | 29 PBI | 2158.0 | 2158.0 | 30.00 | 49.0 | | | | |
| 8800 | LEAR | 4 S/F | 2316.8 | 2317.3 | 5.8 | 22.0 | | | QL=6 ST=2 TYP=3 | |
| 10 | 8800 | LEAR | 47 GB | 0017.3 | 0019.8 | 8.8 | 58.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 4 S/F | 0154.6 | 0159.8 | 20.7 | 24.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 47 GB | 0157.1 | 0159.3 | 16.9 | 87.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | LEAR | 47 GB | 0235.1 | 0241.0 | 33.9 | 340.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 47 GB | 0239.0 | 0240.8 | 31.3 | 61.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 47 GB | 0401.0 | 0406.3 | 19.0 | 50.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | LEAR | 47 GB | 0403.5 | 0406.3 | 16.5 | 53.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | LEAR | 47 GB | 0420.0 | 0442.6 | 29.3 | 160.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 47 GB | 0420.0 | 0443.1 | 29.3 | 110.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | ATHN | 4 S/F | 0758.3 | 0759.8 | 3.0 | 26.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 8 S | 0759.1 | 0759.6 | 1.0 | 36.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | ATHN | 8 S | 0759.1 | 0800.0 | 2.0 | 23.0 | | | QL=2 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0759.3 | 0759.6 | .3 | 37.0 | | | QL=5 ST=2 TYP=3 |
| | 8800 | ATHN | 8 S | 0804.5 | 0805.1 | 1.5 | 8.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | ATHN | 8 S | 1156.0 | 1156.6 | 2.0 | 24.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | SGMR | 4 S/F | 1317.8 | 1321.0 | 5.7 | 31.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | ATHN | 20 GRF | 1317.8 | 1321.0 | 8.2 | 7.0 | | | QL=2 ST=2 TYP=2 |
| | 8800 | ATHN | 20 GRF | 1318.0 | 1320.6 | 8.0 | 21.0 | | | QL=6 ST=2 TYP=2 |
| | 2800 | OTTA | 21 GRF | 1320.0 | 1350.0 | 90.0 | 18.8 | 9.8 | | |
| | 2695 | SGMR | 4 S/F | 1327.1 | 1329.5 | 3.4 | 20.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | SGMR | 8 S | 1328.6 | 1329.1 | 1.0 | 46.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | SGMR | 8 S | 1350.1 | 1351.0 | 2.0 | 28.0 | | | QL=6 ST=3 TYP=3 |
| | 2800 | OTTA | 3 S | 1350.2 | 1351.0 | 2.2 | 17.2 | 8.0 | | |
| | 2695 | ATHN | 8 S | 1350.3 | 1351.1 | 2.0 | 7.0 | | | QL=2 ST=2 TYP=3 |
| | 8800 | ATHN | 4 S/F | 1350.5 | 1351.0 | 2.1 | 24.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | SGMR | 8 S | 1350.6 | 1351.0 | .7 | 31.0 | | | QL=6 ST=3 TYP=3 |
| | 2800 | OTTA | 27A RF | 1606.0 | | 114.0 | 11.4 | 4.7 | | |
| | 2800 | OTTA | 24 R | 1606.0 | 1610.0 | 4.0 | 11.4 | 5.4 | | |
| | 2800 | OTTA | 24P R | 1610.0 | | 85.0 | 11.4 | | | |
| | 2695 | SGMR | 8 S | 1610.8 | 1611.1 | .8 | 19.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 40 F | 1611.0 | 1615.2 | 17.0 | 17.4 | | | |
| | 8800 | SGMR | 4 S/F | 1611.0 | 1612.5 | 8.5 | 21.0 | | | QL=6 ST=2 TYP=3 |
| 2800 | OTTA | 8 S | 1731.0 | 1731.2 | .8 | 14.3 | 5.0 | | | |

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

DECEMBER 1982

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|------|------|--------|--------|------------|----------------------|----------------|-----------------------------------|------|-----------------|-----------------|
| | | | | | | | Peak (10 -22 W/m ² Hz) | Mean | | |
| 10 | 2800 | OTTA | 26 FAL | 1735.0 | 1800.0 | 25.0 | -11.4 | -6.6 | | |
| | 8800 | SGMR | 4 S/F | 1747.5 | 1747.8 | 2.5 | 37.0 | | | |
| | 8800 | SGMR | 8 S | 1816.6 | 1816.8 | .7 | 40.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 22 GRF | 1817.0 | 1833.0 | 135.0 | 11.4 | 5.7 | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 8 S | 2032.8 | 2032.9 | .2 | 2.8 | | | |
| | 2695 | PENT | 4 S/F | 2206.0 | 2209.5 | 6.0 | 48.0 | 15.0 | | |
| 11 | 8800 | LEAR | 8 S | 0016.3 | 0016.8 | .8 | 16.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 4 S/F | 0030.8 | 0032.0 | 4.5 | 33.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 4 S/F | 0031.3 | 0033.1 | 4.0 | 27.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0114.1 | 0114.5 | .5 | 17.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0141.1 | 0141.5 | .7 | 26.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 8 S | 0141.1 | 0141.8 | .7 | 4.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0248.8 | 0249.1 | .5 | 11.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 49 GB | 0311.1 | 0311.6 | 1.2 | 520.0 | | | QL=6 ST=2 TYP=6 |
| | 8800 | LEAR | 4 S/F | 0311.1 | 0311.6 | 2.5 | 11.0 | | | QL=5 ST=2 TYP=3 |
| | 8800 | LEAR | 4 S/F | 0356.6 | 0357.1 | 3.0 | 10.0 | | | QL=5 ST=2 TYP=3 |
| | 8800 | LEAR | 49 GB | 0437.8 | 0441.5 | 21.2 | 640.0 | | | QL=6 ST=2 TYP=6 |
| | 2695 | LEAR | 47 GB | 0438.8 | 0441.5 | 7.0 | 280.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | LEAR | 49 GB | 0459.0 | 0459.1 | 18.1 | 640.0 | | | QL=6 ST=2 TYP=6 |
| | 2695 | LEAR | 47 GB | 0459.0 | 0459.1 | 1.3 | 280.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 8 S | 0544.1 | 0544.5 | .7 | 32.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0544.3 | 0544.5 | .5 | 46.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 8 S | 0550.1 | 0550.3 | .7 | 29.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | ATHN | 4 S/F | 0948.1 | 0951.1 | 7.0 | 15.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 47 GB | 0949.8 | 0950.6 | 1.5 | 66.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | ATHN | 47 GB | 0950.1 | 0951.1 | 3.5 | 54.0 | | | QL=2 ST=2 TYP=5 |
| | 2800 | OTTA | 21 GRF | 1330.0 | 1440.0 | 230.00 | 17.0 | | | |
| | 2800 | OTTA | 8 S | 1431.5 | 1431.5 | .5 | 4.6 | 2.3 | | |
| | 2800 | OTTA | 3 S | 1536.3 | 1536.9 | 2.0 | 22.0 | 7.2 | | |
| | 2800 | OTTA | 20 GRF | 1546.0 | 1549.0 | 15.0 | 5.6 | 2.8 | | |
| | 2800 | OTTA | 8 S | 1809.2 | 1809.2 | .1 | 5.6 | | | |
| | 8800 | PALE | 8 S | 1834.1 | 1834.8 | 1.2 | 24.0 | | | QL=6 ST=2 TYP=3 |
| 2800 | OTTA | 21 GRF | 1910.0 | 1920.0 | 45.0 | 3.0 | 2.0 | | | |
| 2800 | OTTA | 1 S | 1932.0 | 1934.0 | 5.0 | 2.8 | 1.4 | | | |
| 2695 | PENT | 20 GRF | 2055.0 | 2115.0 | 95.0 | 13.0 | 8.9 | | | |
| 8800 | LEAR | 4 S/F | 2338.3 | 2338.8 | 2.3 | 44.0 | | | QL=5 ST=3 TYP=3 | |
| 2695 | LEAR | 8 S | 2338.8 | 2338.8 | .3 | 11.0 | | | QL=6 ST=2 TYP=3 | |
| 12 | 8800 | PALE | 47 GB | 0142.1 | 0143.5 | 5.9 | 139.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | LEAR | 47 GB | 0145.6 | 0146.3 | 4.7 | 130.0 | | | QL=5 ST=2 TYP=5 |
| | 2695 | LEAR | 4 S/F | 0146.1 | 0146.3 | 3.4 | 22.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 4 S/F | 0248.1 | 0249.0 | 3.4 | 11.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 4 S/F | 0248.8 | 0250.1 | 2.8 | 11.0 | | | QL=5 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0459.5 | 0459.8 | .6 | 30.0 | | | QL=5 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0504.6 | 0505.0 | 1.4 | 27.0 | | | QL=5 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0630.0 | 0630.3 | .5 | 18.0 | | | QL=5 ST=2 TYP=3 |
| | 8800 | LEAR | 4 S/F | 0638.1 | 0640.0 | 6.0 | 39.0 | | | QL=5 ST=2 TYP=3 |
| | 8400 | BERN | 3 S | 1155.3 | 1156.4 | 4.0 | 37.0 | | | ONLY PAPER REC |
| | 8800 | SGMR | 8 S | 1322.3 | 1322.5 | .5 | 47.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | SGMR | 47 GB | 1322.3 | 1322.5 | 1.3 | 62.0 | | | QL=6 ST=2 TYP=5 |
| | 2800 | OTTA | 3 S | 1322.5 | 1322.7 | 2.0 | 42.6 | 11.0 | | |
| | 2800 | OTTA | 20 GRF | 1958.0 | 2000.0 | 15.0 | 3.2 | 1.5 | | |
| | 2695 | PENT | 1 S | 2224.0 | 2224.2 | 2.0 | 5.4 | 2.7 | | |
| | 13 | 8800 | LEAR | 8 S | 0022.8 | 0023.6 | 1.8 | 8.0 | | |
| 8800 | | LEAR | 4 S/F | 0139.1 | 0139.5 | 3.9 | 23.0 | | | QL=6 ST=2 TYP=3 |
| 8800 | | LEAR | 4 S/F | 0236.1 | 0236.8 | 8.5 | 13.0 | | | QL=6 ST=2 TYP=3 |
| 8800 | | LEAR | 4 S/F | 0303.1 | 0304.6 | 3.5 | 8.0 | | | QL=6 ST=2 TYP=3 |
| 8800 | | LEAR | 49 GB | 0321.5 | 0325.6 | 24.0 | 1600.0 | | | QL=6 ST=2 TYP=7 |
| 2695 | | LEAR | 49 GB | 0323.6 | 0325.8 | 16.7 | 219.0 | | | QL=6 ST=2 TYP=7 |
| 2695 | | ATHN | 47 GB | 0802.8 | 0805.1 | 11.8 | 83.0 | | | QL=2 ST=2 TYP=5 |
| 8800 | | LEAR | 47 GB | 0802.8 | 0806.5 | 37.5 | 420.0 | | | QL=6 ST=2 TYP=5 |
| 8400 | | BERN | 45 C | 0803.0 | 0807.1 | 23.0 | 433.0 | | | |
| 2695 | | LEAR | 47 GB | 0803.1 | 0807.1 | 9.9 | 139.0 | | | QL=6 ST=2 TYP=5 |
| 8800 | | ATHN | 47 GB | 0803.3 | 0804.8 | 14.7 | 139.0 | | | QL=6 ST=2 TYP=5 |
| 2800 | | OTTA | 3 S | 1802.0 | 1803.0 | 3.0 | 38.0 | 13.0 | | |
| 8800 | | SGMR | 8 S | 1802.6 | 1802.8 | .7 | 49.0 | | | QL=6 ST=2 TYP=3 |
| 2695 | | SGMR | 8 S | 1802.6 | 1803.0 | 1.2 | 33.0 | | | QL=6 ST=2 TYP=3 |
| 2800 | | OTTA | 29 PBI | 1805.0 | 1805.0 | 13.0 | 5.6 | 2.8 | | |

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

DECEMBER 1982

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|------|------|--------|---------|---------------|----------------------------|-------------------|--------------------------------------|-------|-----------------|-----------------|
| | | | | | | | Peak (10 -22 W/m ² Hz) | Mean | | |
| 13 | 2800 | OTTA | 20 GRF | 1850.0 | 1900.0 | 30.0 | 4.4 | 2.2 | | |
| | 2800 | OTTA | 46F C | 1951.5 | 1955.0 | 9.5 | 90.0 | 57.0 | | |
| | 8800 | SGMR | 47 GB | 1951.6 | 1952.0 | 9.4 | 480.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | SGMR | 47 GB | 1951.6 | 1952.0 | 8.7 | 60.0 | | | QL=6 ST=2 TYP=5 |
| | 2800 | OTTA | 30 PBI | 2001.0 | 2001.0 | 40.0 | 13.4 | 5.0 | | |
| | 2695 | PENT | 20 GRF | 2011.0 | 2014.0 | 11.0 | 6.6 | 3.3 | | |
| | 2695 | PENT | 20 GRF | 2100.0 | 2117.0 | 60.0 | 10.0 | 5.0 | | |
| 14 | 8800 | LEAR | 4 S/F | 0000.1 | 0000.6 | 6.7 | 18.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | PALE | 47 GB | 0129.1 | 0129.6 | 4.2 | 210.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 4 S/F | 0733.6 | 0733.8 | 2.7 | 10.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0733.6 | 0733.8 | 2.0 | 30.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | ATHN | 4 S/F | 0734.6 | 0740.8 | 12.0 | 45.0 | | | QL=2 ST=2 TYP=3 |
| | 8800 | ATHN | 4 S/F | 0734.6 | 0740.8 | 15.0 | 37.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 47 GB | 0737.8 | 0739.6 | 9.0 | 100.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 47 GB | 0738.1 | 0740.1 | 8.7 | 53.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 4 S/F | 0829.6 | 0829.8 | 2.5 | 13.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 8 S | 0834.1 | 0834.6 | 1.5 | 20.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | SGMR | 47 GB | 1256.0 | 1256.6 | 1.1 | 400.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | ATHN | 4 S/F | 1303.8 | 1307.5 | 6.7 | 27.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | ATHN | 4 S/F | 1306.6 | 1307.5 | 3.5 | 41.0 | | | QL=2 ST=2 TYP=3 |
| | 2695 | SGMR | 8 S | 1306.8 | 1307.1 | .5 | 30.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | SGMR | 8 S | 1306.8 | 1307.1 | .5 | 20.0 | | | QL=6 ST=2 TYP=3 |
| | 8400 | BERN | 8 S | 1307.0 | 1307.2 | 1.0 | 20.0 | | | ONLY PAPER REC |
| | 2800 | OTTA | 3 S | 1418.0 | 1419.0 | 7.0 | 13.4 | 4.5 | | |
| | 2800 | OTTA | 3 S | 1618.7 | 1619.1 | 3.0 | 15.0 | 4.0 | | |
| | 2800 | OTTA | 1 S | 1641.0 | 1643.8 | 6.0 | 6.4 | 3.0 | | |
| | 2800 | OTTA | 20 GRF | 1840.0 | 1843.0 | 40.0 | 8.2 | 3.5 | | |
| | 2800 | OTTA | 4 S/F | 2010.0 | 2022.5 | 27.0 | 126.0 | 60.0 | | |
| | 8800 | PALE | 47 GB | 2014.3 | 2015.5 | 10.0 | 30.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | SGMR | 47 GB | 2014.3 | 2015.5 | 4.3 | 53.0 | | | QL=6 ST=2 TYP=5 |
| 8800 | PALE | 47 GB | 2024.3 | 2024.5 | 3.2 | 53.0 | | | QL=6 ST=2 TYP=5 | |
| 2800 | OTTA | 30 PBI | 2037.0 | 2037.0 | 48.0 | 9.6 | 4.8 | | | |
| 2800 | OTTA | 20 GRF | 2050.0 | 2053.0 | 17.0 | 16.4 | 8.2 | | | |
| 2695 | PENT | 22 GRF | 2140.0 | 2147.0 | 70.0D | 26.0 | | | | |
| 8800 | LEAR | 8 S | 2349.5 | 2349.8 | 1.8 | 11.0 | | | QL=6 ST=2 TYP=3 | |
| 15 | 8800 | LEAR | 49 GB | 0156.6 | 0201.5 | 27.5 | 9400.0 | | | QL=6 ST=2 TYP=7 |
| | 2695 | LEAR | 49 GB | 0157.6 | 0200.6 | 20.2 | 7300.0 | | | QL=6 ST=2 TYP=7 |
| | 8800 | PALE | 8 S | 0237.8 | 0237.8 | .5 | 20.0 | | | QL=6 ST=2 TYP=3 |
| | 8400 | BERN | 3 S | 1319.0 | 1320.0 | 6.0 | 23.0 | | | |
| | 8800 | ATHN | 4 S/F | 1319.1 | 1320.3 | 7.0 | 13.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 20 GRF | 1535.0 | 1543.0 | 18.0 | 4.2 | 2.4 | | |
| | 2800 | OTTA | 3 S | 1600.0 | 1602.2 | 7.0 | 10.6 | 3.6 | | |
| | 2800 | OTTA | 47 GB | 1627.0 | 1632.2 | 19.0 | 790.0 | 132.0 | | |
| | 8800 | SGMR | 49 GB | 1627.8 | 1631.3 | 17.8 | 3000.0 | | | QL=6 ST=2 TYP=7 |
| | 2695 | SGMR | 49 GB | 1627.8 | 1632.0 | 14.0 | 840.0 | | | QL=6 ST=2 TYP=7 |
| | 2800 | OTTA | 260 FAL | 1647.0 | 1655.0 | 8.0 | -5.2 | -2.6 | | |
| | 2800 | OTTA | 20 GRF | 1705.0 | 1707.0 | 25.0 | 13.8 | | | |
| | 2800 | OTTA | | 1735.0 | | 55.0 | 4.2 | 2.4 | | |
| | 8800 | PALE | 8 S | 1746.1 | 1746.3 | .7 | 22.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 3 S | 1756.0 | 1757.6 | 6.0 | 27.6 | 7.2 | | |
| | 2695 | PENT | 20 GRF | 2020.0 | 2050.0 | 55.0 | 6.0 | 3.0 | | |
| | 8800 | PALE | 47 GB | 2046.5 | 2046.8 | 1.1 | 64.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | PENT | 4 S/F | 2145.0 | 2151.5 | 15.0 | 174.0 | 56.4 | | |
| | 8800 | PALE | 49 GB | 2148.6 | 2151.6 | 15.9 | 520.0 | | | QL=6 ST=2 TYP=6 |
| | 8800 | LEAR | 47 GB | 2149.0E | 2151.0 | 6.0D | 150.0 | | | QL=4 ST=3 TYP=5 |
| 2695 | LEAR | 47 GB | 2149.0E | 2151.0 | 6.0D | 100.0 | | | QL=4 ST=3 TYP=5 | |
| 2695 | PENT | 29 PBI | 2200.0 | 2200.0 | 40.0D | 27.0 | | | | |
| 8800 | LEAR | 8 S | 2251.3 | 2251.3 | .3 | 24.0 | | | QL=6 ST=2 TYP=3 | |
| 8800 | PALE | 8 S | 2251.3 | 2251.3 | .3 | 29.0 | | | QL=6 ST=2 TYP=3 | |
| 16 | 8800 | LEAR | 4 S/F | 0100.3 | 0100.3 | 3.0 | 11.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0312.8 | 0312.8 | .7 | 11.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 49 GB | 1003.3 | 1006.1 | 6.0 | 380.0 | | | QL=6 ST=2 TYP=7 |
| | 8400 | BERN | 47 GB | 1003.7 | 1006.4 | 30.0 | 1480.0 | | | |
| | 8800 | LEAR | 49 GB | 1003.8 | 1006.3 | 6.5 | 1300.0 | | | QL=5 ST=3 TYP=7 |
| | 2800 | OTTA | 21 GRF | 1355.0 | 1640.0 | 300.0 | 19.0 | 9.5 | | |
| | 2800 | OTTA | 3 S | 1418.0 | 1421.0 | 9.0 | 460.0 | 114.0 | | |
| 8400 | BERN | 47 GB | 1418.0 | 1502.3 | 50.0D | 1106.0 | | | | |

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

DECEMBER 1982

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks | |
|------|------|--------|---------|------------|----------------------|----------------|--|-------------|-----|-----------------|-----------------|
| | | | | | | | Peak (10 ⁻²² W/m ² Hz) | Mean (2 Hz) | | | |
| 16 | 8800 | SGMR | 47 GB | 1418.3 | 1420.5 | 8.5 | 330.0 | | | QL=6 ST=2 TYP=5 | |
| | 2695 | SGMR | 49 GB | 1418.3 | 1420.5 | 8.2 | 480.0 | | | QL=6 ST=2 TYP=6 | |
| | 8800 | ATHN | 47 GB | 1418.3 | 1420.6 | 9.2 | 360.0 | | | QL=6 ST=2 TYP=5 | |
| | 2695 | ATHN | 47 GB | 1418.5 | 1425.6 | 8.1 | 460.0 | | | QL=2 ST=1 TYP=5 | |
| | 2800 | OTTA | 30 PBI | 1427.0 | 1427.0 | 13.0 | 18.8 | 4.8 | | | |
| | 2800 | OTTA | 1 S | 1434.0 | 1435.6 | 3.0 | 5.6 | 2.8 | | | |
| | 2695 | ATHN | 47 GB | 1453.8 | 1456.3 | 11.5 | 180.0 | | | | QL=6 ST=1 TYP=5 |
| | 2800 | OTTA | 47 GB | 1454.0 | 1456.8 | 24.0 | 555.0 | 142.0 | | | |
| | 8800 | SGMR | 49 GB | 1454.1 | 1456.3 | 16.7 | 810.0 | | | | QL=6 ST=2 TYP=6 |
| | 2695 | SGMR | 49 GB | 1454.6 | 1456.8 | 16.2 | 600.0 | | | | QL=6 ST=2 TYP=6 |
| | 2695 | SGMR | 47 GB | 1510.8 | 1511.0 | 15.3 | 94.0 | | | | QL=6 ST=2 TYP=5 |
| | 8800 | SGMR | 47 GB | 1510.8 | 1512.6 | 15.3 | 110.0 | | | | QL=6 ST=2 TYP=5 |
| | 2800 | OTTA | 29 PBI | 1518.0 | 1518.0 | 45.0 | 18.8 | 7.5 | | | |
| | 8800 | SGMR | 47 GB | 1526.1 | 1527.1 | 7.7 | 50.0 | | | | QL=6 ST=2 TYP=5 |
| | 2695 | SGMR | 4 S/F | 1526.1 | 1527.8 | 7.7 | 38.0 | | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 45 C | 1616.0 | 1621.8 | 24.0 | 65.0 | 25.2 | | | |
| | 2695 | SGMR | 47 GB | 1626.8 | 1627.8 | 2.7 | 58.0 | | | | QL=6 ST=3 TYP=5 |
| | 2800 | OTTA | 45 C | 1646.5 | 1647.0 | 11.0 | 25.0 | 7.0 | | | |
| | 2800 | OTTA | 20 GRF | 1733.0 | 1736.0 | 22.0 | 5.2 | 2.6 | | | |
| | 2800 | OTTA | 23 GRF | 1920.0 | 1932.0 | 90.0 | 24.0 | | | | |
| | 2800 | OTTA | 4 S/F | 1926.0 | 1928.8 | 5.5 | 25.0 | 12.4 | | | |
| | 8800 | PALE | 8 S | 1927.8 | 1928.6 | .8 | 19.0 | | | | QL=6 ST=2 TYP=3 |
| | 2695 | PENT | 260 FAL | 2110.0 | 2125.0 | 15.0 | -8.0 | -4.0 | | | |
| | 8800 | LEAR | 8 S | 2210.8 | 2211.1 | .8 | 25.0 | | | | QL=5 ST=2 TYP=3 |
| | 2695 | LEAR | 4 S/F | 2310.1 | 2310.3 | 2.2 | 29.0 | | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 2310.6 | 2310.8 | .5 | 7.0 | | | | QL=5 ST=2 TYP=3 |
| 8800 | LEAR | 8 S | 2349.1 | 2349.3 | .5 | 19.0 | | | | QL=5 ST=2 TYP=3 | |
| 17 | 8800 | LEAR | 4 S/F | 0007.8 | 0007.8 | 2.8 | 13.0 | | | | QL=5 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0126.1 | 0126.3 | .4 | 11.0 | | | | QL=5 ST=3 TYP=3 |
| | 8800 | LEAR | 47 GB | 0145.0 | 0146.0 | 16.1 | 360.0 | | | | QL=5 ST=3 TYP=5 |
| | 8800 | PALE | 47 GB | 0145.0 | 0146.0 | 14.6 | 360.0 | | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 47 GB | 0145.1 | 0146.3 | 8.7 | 130.0 | | | | QL=6 ST=2 TYP=5 |
| | 8800 | LEAR | 4 S/F | 0221.1 | 0222.1 | 6.9 | 26.0 | | | | QL=5 ST=3 TYP=3 |
| | 2695 | LEAR | 47 GB | 0222.3 | 0223.3 | 5.7 | 100.0 | | | | QL=6 ST=2 TYP=5 |
| | 8800 | LEAR | 4 S/F | 0402.3 | 0424.3 | 69.7 | 31.0 | | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 47 GB | 0403.5 | 0422.3 | 68.5 | 200.0 | | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 47 GB | 0518.6 | 0519.6 | 4.2 | 100.0 | | | | QL=6 ST=2 TYP=5 |
| | 8800 | LEAR | 47 GB | 0519.3 | 0519.5 | 2.8 | 50.0 | | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 4 S/F | 0527.3 | 0528.5 | 3.8 | 8.0 | | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 4 S/F | 0533.3 | 0534.1 | 3.0 | 7.0 | | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0600.3 | 0600.3 | .8 | 32.0 | | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0629.0 | 0629.3 | .6 | 49.0 | | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 4 S/F | 0804.8 | 0808.6 | 9.3 | 26.0 | | | | QL=5 ST=2 TYP=3 |
| | 2695 | LEAR | 20 GRF | 0808.1 | 0809.6 | 8.0 | 10.0 | | | | QL=6 ST=2 TYP=2 |
| | 8400 | BERN | 4 S/F | 0959.5 | 1002.4 | 30.00 | 88.0 | | | | |
| | 8800 | ATHN | 47 GB | 1000.8 | 1003.1 | 11.7 | 54.0 | | | | QL=6 ST=2 TYP=5 |
| | 2695 | ATHN | 47 GB | 1001.1 | 1003.1 | 11.4 | 84.0 | | | | QL=2 ST=2 TYP=5 |
| | 8800 | LEAR | 47 GB | 1001.3 | 1002.5 | 3.8 | 80.0 | | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 47 GB | 1001.6 | 1002.6 | 4.2 | 68.0 | | | | QL=6 ST=2 TYP=5 |
| | 2800 | OTTA | 21 GRF | 1600.0 | 1700.0 | 130.0 | 12.2 | 6.1 | | | |
| | 2800 | OTTA | 1 S | 1642.0 | 1645.5 | 7.0 | 6.6 | 3.0 | | | |
| | 8800 | SGMR | 4 S/F | 1643.8 | 1644.6 | 3.5 | 20.0 | | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 4 S/F | 1651.7 | 1654.8 | 7.0 | 25.0 | 12.5 | | | |
| | 2695 | SGMR | 4 S/F | 1652.0 | 1653.6 | 5.3 | 31.0 | | | | QL=6 ST=2 TYP=3 |
| | 8800 | SGMR | 4 S/F | 1652.8 | 1654.6 | 8.2 | 42.0 | | | | QL=6 ST=2 TYP=3 |
| | 8800 | SGMR | 47 GB | 1708.3 | 1709.6 | 10.2 | 72.0 | | | | QL=6 ST=2 TYP=5 |
| | 2800 | OTTA | 1 S | 1732.0 | 1735.0 | 10.0 | 3.2 | 1.5 | | | |
| | 2800 | OTTA | 21 GRF | 1815.0 | 2020.0 | 240.0 | 18.2 | | | | |
| | 2800 | OTTA | 28 PRE | 1839.0 | | 12.5 | 21.0 | | | | |
| | 2695 | SGMR | 49 GB | 1849.0 | 1854.1 | 15.0 | 1899.0 | | | | QL=6 ST=2 TYP=7 |
| | 8800 | SGMR | 49 GB | 1849.8 | 1854.8 | 45.0 | 3000.0 | | | | QL=6 ST=2 TYP=7 |
| 2800 | OTTA | 47 GB | 1851.5 | 1854.2 | 15.0 | 1655.0 | 383.0 | | | | |
| 8800 | PALE | 49 GB | 1851.5 | 1854.8 | 20.8 | 3399.0 | | | | QL=6 ST=2 TYP=7 | |
| 2800 | OTTA | 4 S/F | 1917.0 | 1941.5 | 59.0 | 276.0 | 101.0 | | | | |
| 8800 | PALE | 47 GB | 1936.3 | 1936.8 | 5.8 | 180.0 | | | | QL=6 ST=2 TYP=5 | |
| 2695 | SGMR | 47 GB | 1943.3 | 1943.5 | 28.5 | 270.0 | | | | QL=6 ST=2 TYP=5 | |
| 8800 | SGMR | 47 GB | 1943.3 | 1944.3 | 14.0 | 73.0 | | | | QL=6 ST=2 TYP=5 | |
| 2800 | OTTA | 1 S | 2026.8 | 2027.0 | 2.0 | 4.0 | 1.8 | | | | |
| 2800 | OTTA | 22 GRF | 2030.0 | 2032.0 | 17.0 | 13.0 | 6.5 | | | | |

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

DECEMBER 1982

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|------|------|--------|--------|---------------|----------------------------|-------------------|---|------|-----------------|-----------------|
| | | | | | | | Peak (10 ⁻²² W/m ² Hz) | Mean | | |
| 17 | 8800 | PALE | 49 GB | 2039.3 | 2039.6 | .7 | 1300.0 | | | QL=6 ST=2 TYP=6 |
| | 2695 | PENT | 3 S | 2102.0 | 2106.0 | 18.0 | 205.0 | 40.0 | | |
| | 8800 | PALE | 47 GB | 2104.6 | 2106.1 | | 139.0 | | | QL=6 ST=3 TYP=5 |
| | 2695 | PENT | 47 GB | 2130.0 | 2147.0 | 30.0 | 530.0 | 76.0 | | |
| | 8800 | PALE | 49 GB | 2139.1 | 2142.6 | 10.0 | 110.0 | | | QL=6 ST=2 TYP=6 |
| | 2695 | PENT | | 2245.0 | 2250.0 | 9.0 | 91.0 | | | |
| | 8800 | PALE | 47 GB | 2248.3 | 2250.1 | 9.5 | 64.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | LEAR | 47 GB | 2249.1 | 2250.0 | 5.9 | 54.0 | | | QL=5 ST=2 TYP=5 |
| | 2695 | LEAR | 47 GB | 2249.1 | 2250.3 | 5.4 | 63.0 | | | QL=6 ST=2 TYP=5 |
| 18 | 8800 | LEAR | 47 GB | 0350.3 | 0350.8 | 5.0 | 420.0 | | | QL=5 ST=2 TYP=5 |
| | 2695 | LEAR | 47 GB | 0350.6 | 0350.8 | 1.0 | 97.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | LEAR | 4 S/F | 0458.5 | 0458.8 | 3.5 | 8.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 4 S/F | 0512.3 | 0514.1 | 64.7 | 10.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 4 S/F | 0612.3 | 0614.1 | 4.7 | 10.0 | | | QL=6 ST=3 TYP=3 |
| | 2695 | LEAR | 49 GB | 0818.1 | 0819.5 | 10.0 | 81.0 | | | QL=6 ST=2 TYP=6 |
| | 8800 | LEAR | 49 GB | 0819.0 | 0819.5 | 9.1 | 37.0 | | | QL=6 ST=2 TYP=6 |
| | 8800 | LEAR | 49 GB | 0828.1 | 0828.1 | 10.5 | 960.0 | | | QL=6 ST=2 TYP=6 |
| | 2695 | LEAR | 47 GB | 0828.1 | 0831.8 | 9.4 | 100.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | ATHN | 47 GB | 1344.0 | 1400.5 | 22.3 | 71.0 | | | QL=6 ST=2 TYP=5 |
| | 2800 | OTTA | 45 C | 1357.0 | 1358.0 | 5.0 | 22.4 | 8.0 | | |
| | 2695 | SGMR | 4 S/F | 1357.0 | 1357.8 | 5.0 | 32.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | ATHN | 4 S/F | 1357.5 | 1358.5 | 4.1 | 22.0 | | | QL=2 ST=2 TYP=3 |
| | 8800 | SGMR | 47 GB | 1359.6 | 1359.8 | 2.2 | 77.0 | | | QL=6 ST=2 TYP=5 |
| | 2800 | OTTA | 3A S | 1440.0 | 1512.0 | 50.0 | 245.0 | 88.0 | | |
| | 2800 | OTTA | 46F C | 1503.0 | 1504.5 | 9.0 | 9.4 | 4.0 | | |
| | 2695 | SGMR | 47 GB | 1504.0 | 1504.8 | 5.8 | 239.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | ATHN | 49 GB | 1504.1 | 1504.6 | .9 | 640.0 | | | QL=2 ST=3 TYP=6 |
| | 2695 | ATHN | 47 GB | 1504.3 | 1504.6 | .7 | 239.0 | | | QL=2 ST=3 TYP=5 |
| | 8800 | SGMR | 49 GB | 1504.3 | 1504.8 | 5.8 | 610.0 | | | QL=6 ST=2 TYP=6 |
| | 2800 | OTTA | 4 S/F | 1600.0 | 1601.1 | 3.2 | 46.0 | 15.4 | | |
| | 2695 | SGMR | 8 S | 1601.6 | 1602.1 | 1.0 | 30.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 29 PBI | 1603.2 | 1603.2 | 7.0 | 4.6 | 2.3 | | |
| | 2695 | SGMR | 8 S | 1710.8 | 1710.8 | .3 | 20.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | PALE | 4 S/F | 1741.8E | 1742.0 | 23.0D | 43.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 20 GRF | 1830.0 | 1930.0 | 140.0 | 5.6 | 2.4 | | |
| | 2695 | LEAR | 47 GB | 2328.8 | 2329.5 | 1.3 | 60.0 | | | QL=6 ST=2 TYP=5 |
| 8800 | LEAR | 8 S | 2329.1 | 2329.6 | 1.0 | 4.0 | | | QL=6 ST=2 TYP=3 | |
| 19 | 8800 | LEAR | 47 GB | 0133.3 | 0136.1 | 33.2 | 81.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 47 GB | 0133.6 | 0135.1 | 6.0 | 119.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | PALE | 47 GB | 0134.8 | 0135.8 | 6.3 | 57.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 4 S/F | 0226.0 | 0229.3 | 6.8 | 42.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0227.8 | 0228.3 | 1.2 | 10.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0422.3 | 0422.6 | 1.0 | 11.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 4 S/F | 0613.5 | 0613.6 | 2.6 | 18.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 4 S/F | 0902.5 | 0902.6 | 3.1 | 17.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0905.3 | 0905.5 | .5 | 21.0 | | | QL=6 ST=3 TYP=3 |
| | 8800 | SGMR | 8 S | 1348.3 | 1348.5 | 1.0 | 26.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 20 GRF | 1425.0 | 1445.0 | 65.0 | 4.8 | 2.4 | | |
| | 2800 | OTTA | 240 R | 1535.0 | 1545.0 | 10.0 | 4.0 | 2.0 | | |
| | 2800 | OTTA | 21 GRF | 1552.0 | 1736.0 | 365.0 | 39.0 | | | |
| | 2800 | OTTA | 4 S/F | 1609.0 | 1634.0 | 47.0 | 161.0 | 52.6 | | |
| | 2695 | SGMR | 20 GRF | 1621.1 | 1624.5 | 14.2 | 60.0 | | | QL=6 ST=3 TYP=2 |
| | 8800 | SGMR | 20 GRF | 1621.8 | 1624.6 | 13.5 | 51.0 | | | QL=6 ST=3 TYP=2 |
| | 8800 | SGMR | 20 GRF | 1635.3 | 1635.5 | 10.3 | 91.0 | | | QL=6 ST=2 TYP=2 |
| | 2695 | SGMR | 20 GRF | 1635.3 | 1635.5 | 9.0 | 130.0 | | | QL=6 ST=2 TYP=2 |
| | 2800 | OTTA | 1 S | 1751.9 | 1752.0 | 1.0 | 2.0 | 1.0 | | |
| | 2800 | OTTA | 3 S | 2019.0 | 2019.4 | 3.0 | 11.2 | 3.8 | | |
| 8800 | LEAR | 20 GRF | 2355.8 | 0033.5 | 92.2D | 20.0 | | | QL=5 ST=2 TYP=2 | |
| 20 | 8800 | LEAR | 47 GB | 0010.6 | 0019.5 | 20.7 | 67.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 4 S/F | 0017.1 | 0019.8 | 2.9 | 11.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 4 S/F | 0124.3 | 0125.3 | 2.3 | 8.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0340.3 | 0340.6 | .7 | 10.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 8 S | 0340.3 | 0340.6 | .7 | 20.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 4 S/F | 0618.3 | 0619.0 | 3.8 | 30.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0644.3 | 0644.6 | .5 | 21.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 47 GB | 0859.8 | 0900.1 | 4.7 | 88.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | LEAR | 4 S/F | 0900.1 | 0900.6 | 2.9 | 22.0 | | | QL=6 ST=2 TYP=3 |

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

DECEMBER 1982

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|------|------|--------|--------|------------|----------------------|----------------|------------------------|------|-----------------|-----------------|
| | | | | | | | Peak (10 -22 W/m 2 Hz) | Mean | | |
| 20 | 2800 | OTTA | 20 GRF | 1615.0 | 1617.0 | 50.0 | 7.2 | 3.0 | | |
| | 2695 | PENT | 1 S | 2121.9 | 2122.9 | 4.5 | 5.4 | 2.5 | | |
| 21 | 2695 | LEAR | 8 S | 0213.0 | 0213.3 | 1.1 | 22.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0213.5 | 0213.6 | .6 | 10.0 | | | QL=5 ST=2 TYP=3 |
| | 2695 | LEAR | 8 S | 0423.8 | 0423.8 | .3 | 13.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0429.8 | 0430.0 | .3 | 6.0 | | | QL=5 ST=3 TYP=3 |
| | 2695 | LEAR | 8 S | 0545.3 | 0546.0 | 1.7 | 15.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | ATHN | 4 S/F | 0612.0 | 0613.6 | 3.6 | 20.0 | | | QL=2 ST=2 TYP=3 |
| | 2695 | LEAR | 8 S | 0613.1 | 0613.1 | 1.5 | 21.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0613.6 | 0615.3 | 2.0 | 7.0 | | | QL=5 ST=3 TYP=3 |
| | 8800 | ATHN | 20 GRF | 0654.3 | 0700.3 | 8.0 | 17.0 | | | QL=2 ST=2 TYP=2 |
| | 8800 | ATHN | 20 GRF | 0702.1 | 0706.3 | 7.5 | 13.0 | | | QL=2 ST=2 TYP=2 |
| | 8800 | ATHN | 4 S/F | 1156.3 | 1156.6 | 2.8 | 43.0 | | | QL=2 ST=2 TYP=3 |
| | 2800 | OTTA | 3 S | 2032.0 | 2035.2 | 14.0 | 15.2 | 5.0 | | |
| | 8800 | PALE | 47 GB | 2307.8 | 2308.8 | 5.0 | 139.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | LEAR | 47 GB | 2308.0 | 2308.8 | 3.1 | 119.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 8 S | 2309.1 | 2309.3 | 1.2 | 7.0 | | | QL=6 ST=2 TYP=3 |
| 8800 | LEAR | 8 S | 2326.5 | 2326.6 | .3 | 16.0 | | | QL=6 ST=2 TYP=3 | |
| 8800 | PALE | 4 S/F | 2326.5 | 2327.1 | 2.6 | 23.0 | | | QL=6 ST=2 TYP=3 | |
| 22 | 2695 | LEAR | 47 GB | 0133.6 | 0133.8 | 1.5 | 60.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | LEAR | 8 S | 0133.6 | 0134.3 | 1.5 | 22.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 4 S/F | 0208.0 | 0208.6 | 2.3 | 17.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 49 GB | 0823.8 | 0826.1 | 12.0 | 900.0 | | | QL=6 ST=2 TYP=6 |
| | 8800 | LEAR | 47 GB | 0824.1 | 0827.0 | 10.4 | 320.0 | | | QL=6 ST=2 TYP=5 |
| | 2800 | OTTA | 21 GRF | 1330.0 | | 390.0 | 11.0 | | | |
| | 2800 | OTTA | 2 S/F | 1653.0 | 1655.1 | 4.0 | 8.0 | 1.4 | | |
| | 2800 | OTTA | 20 GRF | 2020.0 | 2024.0 | 14.0 | 3.0 | 1.4 | | |
| 23 | 2695 | LEAR | 4 S/F | 0508.0 | 0509.0 | 2.8 | 7.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 8 S | 0727.8 | 0727.8 | .3 | 11.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | ATHN | 4 S/F | 1402.6 | 1405.3 | 5.2 | 8.0 | | | QL=2 ST=2 TYP=3 |
| | 8800 | ATHN | 4 S/F | 1403.0 | 1405.3 | 4.6 | 21.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 27 RF | 1520.0 | | 200.0 | 3.6 | 2.8 | | |
| | 2800 | OTTA | 24 R | 1520.0 | 1533.0 | 13.0 | 3.6 | 1.6 | | |
| | 2800 | OTTA | 24P R | 1533.0 | | 137.0 | 3.6 | | | |
| | 2800 | OTTA | 26 FAL | 1750.0 | 1840.0 | 50.0 | -3.6 | -1.6 | | |
| | 2695 | PENT | 20 GRF | 2010.0 | 2110.0 | 95.0 | 6.6 | 3.3 | | |
| | 2800 | OTTA | 240 R | 1515.0 | 1640.0 | 85.0 | 5.0 | 2.5 | | |
| 24 | 2800 | OTTA | 240AR | 1910.0 | 1926.0 | 16.0 | 9.0 | 4.5 | | |
| | 2800 | OTTA | 4 S/F | 1914.5 | 1915.0 | 3.0 | 27.0 | 6.8 | | |
| | 2695 | SGMR | 47 GB | 1914.8 | 1915.1 | 1.0 | 53.0 | | | QL=6 ST=2 TYP=5 |
| | 2800 | OTTA | 21 GRF | 1927.0 | 1938.0 | 110.0 | 12.0 | 5.6 | | |
| | 2800 | OTTA | 1 S | 1930.0 | 1930.1 | 1.0 | 3.2 | 1.8 | | |
| | 2800 | OTTA | 2 S/F | 1936.5 | 1938.0 | 4.0 | 6.0 | 3.0 | | |
| | 2800 | OTTA | 8 S | 2052.8 | 2052.9 | .2 | 54.0 | | | |
| | 2800 | OTTA | 240R | 1910.0 | 1926.0 | 16.0 | 9.0 | 4.5 | | |
| 25 | 2695 | LEAR | 4 S/F | 0354.8 | 0354.8 | 2.2 | 11.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 8 S | 0425.8 | 0425.8 | .2 | 10.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 4 S/F | 0504.1 | 0505.6 | 8.5 | 43.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 20 GRF | 0612.0 | 0614.1 | 20.0 | 8.0 | | | QL=6 ST=2 TYP=2 |
| | 2695 | LEAR | 47 GB | 0716.1 | 0717.6 | 19.5 | 57.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | ATHN | 47 GB | 0716.6 | 0720.5 | 14.7 | 59.0 | | | QL=2 ST=2 TYP=5 |
| | 8800 | ATHN | 47 GB | 0716.6 | 0722.3 | 14.7 | 77.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | LEAR | 4 S/F | 0716.8 | 0717.8 | 18.8 | 26.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | ATHN | 49 GB | 0737.3 | 0746.8 | 45.3 | 860.0 | | | QL=2 ST=2 TYP=6 |
| | 8800 | ATHN | 49 GB | 0738.6 | 0746.8 | 44.0 | 1899.0 | | | QL=6 ST=2 TYP=6 |
| | 2695 | LEAR | 49 GB | 0742.0 | 0744.5 | 10.8 | 370.0 | | | QL=6 ST=2 TYP=6 |
| | 8800 | LEAR | 49 GB | 0742.8 | 0744.1 | 10.0 | 500.0 | | | QL=6 ST=2 TYP=6 |
| | 8800 | LEAR | 49 GB | 0752.8 | 0753.0 | 22.7 | 2300.0 | | | QL=6 ST=2 TYP=6 |
| | 2695 | LEAR | 49 GB | 0752.8 | 0753.0 | 22.7 | 880.0 | | | QL=6 ST=2 TYP=6 |
| | 2695 | ATHN | 47 GB | 0841.3 | 0849.6 | 21.0 | 59.0 | | | QL=2 ST=2 TYP=5 |
| | 2695 | LEAR | 4 S/F | 0845.1 | 0847.8 | 12.2 | 30.0 | | | QL=6 ST=2 TYP=3 |
| 2800 | OTTA | 21 GRF | 1630.0 | 1730.0 | 110.0 | 3.6 | 2.2 | | | |
| 2800 | OTTA | 1 S | 1658.5 | 1659.0 | 1.0 | 2.8 | 1.4 | | | |
| 2800 | OTTA | 45 C | 1755.5 | 1757.7 | 4.0 | 17.2 | 4.6 | | | |
| 2695 | SGMR | 4 S/F | 1755.8 | 1756.1 | 2.8 | 13.0 | | | QL=6 ST=2 TYP=3 | |
| 26 | 8800 | LEAR | 49 GB | 0011.3 | 0012.6 | 8.3 | 970.0 | | | QL=6 ST=2 TYP=6 |

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

DECEMBER 1982

| Day | Freq | Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|------|------|-------|--------|---------------|----------------------------|-------------------|---|------|-----------------|-----------------|
| | | | | | | | Peak (10 ⁻²² W/m ² Hz) | Mean | | |
| 26 | 2695 | LEAR | 47 GB | 0012.0 | 0012.6 | 5.1 | 189.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | MANI | 47 GB | 0012.0 | 0017.0 | 5.3 | 110.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | PALE | 49 GB | 0012.6E | 0012.8 | 3.2D | 1000.0 | | | QL=2 ST=3 TYP=6 |
| | 2695 | LEAR | 47 GB | 0149.3 | 0150.8 | 5.8 | 119.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | LEAR | 47 GB | 0149.8 | 0150.1 | 5.3 | 110.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | PALE | 47 GB | 0150.1 | 0150.3 | 1.2 | 139.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | ATHN | 4 S/F | 0929.3 | 0933.3 | 9.0 | 46.0 | | | QL=2 ST=2 TYP=3 |
| | 8800 | ATHN | 47 GB | 0930.3 | 0933.3 | 9.7 | 90.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | LEAR | 47 GB | 0930.8 | 0933.1 | 10.5 | 119.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 47 GB | 0931.0 | 0933.1 | 9.1 | 53.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | ATHN | 4 S/F | 0954.3 | 0955.6 | 3.0 | 20.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | ATHN | 8 S | 0955.3 | 0955.6 | 1.3 | 11.0 | | | QL=2 ST=2 TYP=3 |
| | 2800 | OTTA | 21 GRF | 1420.0 | 1503.0 | 70.0D | 7.4 | | | |
| | 2800 | OTTA | 8 S | 1501.0 | 1501.3 | .8 | 10.2 | | | |
| | 2695 | SGMR | 8 S | 1503.1 | 1503.3 | .5 | 13.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | SGMR | 47 GB | 1506.1 | 1508.5 | 8.7 | 49.0 | | | QL=6 ST=2 TYP=5 |
| | 2800 | OTTA | 46F C | 1507.5 | 1508.0 | 7.0 | 18.8 | 5.6 | | |
| 2800 | OTTA | 1 S | 2027.5 | 2029.0 | 8.0 | 2.2 | 1.1 | | | |
| 27 | 8800 | LEAR | 4 S/F | 0313.3 | 0314.0 | 2.5 | 13.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 47 GB | 0523.6 | 0523.8 | 8.5 | 98.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 4 S/F | 0523.8 | 0524.3 | 7.3 | 39.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0815.3 | 0815.3 | .3 | 20.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | ATHN | 4 S/F | 1129.6 | 1137.5 | 11.2 | 11.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | ATHN | 47 GB | 1134.3 | 1137.5 | 4.7 | 95.0 | | | QL=2 ST=2 TYP=5 |
| | 2800 | OTTA | 21 GRF | 1420.0 | 1450.0 | 140.0D | 6.2 | | | |
| | 2800 | OTTA | 1 S | 1427.0 | 1427.3 | 1.0 | 4.0 | 2.0 | | |
| | 2800 | OTTA | 20 GRF | 1710.0 | 1800.0 | 70.0 | 2.8 | 1.8 | | |
| | 2800 | OTTA | 8 S | 1947.8 | 1948.0 | .4 | 2.0 | 1.0 | | |
| | 2800 | OTTA | 3 S | 2021.0 | 2021.1 | 1.0 | 10.0 | 3.8 | | |
| 2695 | PENT | 1 S | 2216.0 | 2217.0 | 3.0 | 3.6 | 1.2 | | | |
| 28 | 2800 | OTTA | 1 S | 1557.0 | 1557.5 | 1.5 | 2.4 | 1.2 | | |
| | 2800 | OTTA | 40 F | 1725.0 | 1726.2 | 3.0 | 10.2 | | | |
| | 2695 | PENT | 21 GRF | 2040.0 | 2100.0 | 65.0 | 2.6 | 1.6 | | |
| | 2800 | OTTA | 1 S | 2044.8 | 2045.5 | 2.0 | 2.4 | 1.6 | | |
| 29 | 8800 | LEAR | 8 S | 0512.8 | 0513.6 | 1.8 | 16.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | ATHN | 49 GB | 0642.5 | 0645.3 | 15.1 | 1600.0 | | | QL=6 ST=2 TYP=6 |
| | 8800 | LEAR | 49 GB | 0643.5 | 0645.1 | 13.3 | 2100.0 | | | QL=6 ST=2 TYP=7 |
| | 2695 | ATHN | 49 GB | 0643.8 | 0645.1 | 13.8 | 560.0 | | | QL=2 ST=2 TYP=6 |
| | 2695 | LEAR | 49 GB | 0643.8 | 0645.1 | 9.3 | 670.0 | | | QL=6 ST=2 TYP=7 |
| | 2800 | OTTA | 40 F | 1622.2 | 1627.0 | 6.0 | 4.2 | | | |
| | 2800 | OTTA | 8 S | 1645.7 | 1645.9 | .5 | 6.0 | 3.0 | | |
| | 2800 | OTTA | 1 S | 1727.9 | 1728.0 | 1.0 | 7.6 | 2.0 | | |
| | 2800 | OTTA | 1 S | 1849.0 | 1852.0 | 10.0 | 2.6 | 1.3 | | |
| | 8800 | PALE | 8 S | 2122.8 | 2123.6 | 1.2 | 40.0 | | | QL=6 ST=2 TYP=3 |
| | 2695 | LEAR | 4 S/F | 2348.8 | 2349.1 | 2.5 | 17.0 | | | QL=6 ST=2 TYP=3 |
| 8800 | LEAR | 8 S | 2349.1 | 2349.1 | .2 | 13.0 | | | QL=6 ST=2 TYP=3 | |
| 30 | 8800 | LEAR | 8 S | 0025.6 | 0026.1 | .7 | 18.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | PALE | 8 S | 0026.0 | 0026.1 | .3 | 19.0 | | | QL=6 ST=2 TYP=3 |
| | 8800 | LEAR | 47 GB | 0141.8 | 0142.6 | 18.7 | 340.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 | LEAR | 47 GB | 0142.1 | 0153.0 | 13.0 | 87.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 | PALE | 47 GB | 0142.5 | 0142.8 | 11.5 | 320.0 | | | QL=6 ST=3 TYP=5 |
| | 2695 | LEAR | 8 S | 0603.6 | 0603.8 | .4 | 15.0 | | | QL=5 ST=2 TYP=3 |
| | 8800 | LEAR | 8 S | 0957.1 | 0957.1 | .2 | 11.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 | OTTA | 21 GRF | 1515.0 | 1550.0 | 95.0 | 2.6 | 1.3 | | |
| | 2800 | OTTA | 1 S | 1518.0 | 1519.7 | 4.0 | 4.0 | 1.4 | | |
| | 2800 | OTTA | 23 GRF | 1735.0 | 2025.0 | 270.0 | 6.0 | | | |
| | 2800 | OTTA | 4 S/F | 1806.0 | 1807.0 | 4.0 | 15.6 | 10.4 | | |
| | 2800 | OTTA | 30 PBI | 1810.0 | 1810.0 | 75.0 | 6.2 | 3.0 | | |
| | 2800 | OTTA | 1 S | 1817.0 | 1818.0 | 2.0 | 2.0 | 1.0 | | |
| | 8800 | PALE | 47 GB | 1843.6 | 1845.3 | 3.0 | 70.0 | | | QL=6 ST=2 TYP=5 |
| | 2800 | OTTA | 3 S | 1844.8 | 1845.3 | 2.5 | 21.0 | 6.0 | | |
| | 8800 | SGMR | 8 S | 1845.0 | 1845.3 | 1.0 | 49.0 | | | QL=6 ST=3 TYP=3 |
| 2695 | SGMR | 8 S | 1845.3 | 1845.5 | .5 | 29.0 | | | QL=6 ST=3 TYP=3 | |
| 2800 | OTTA | 2 S/F | 1853.0 | 1856.5 | 5.0 | 9.4 | 4.5 | | | |
| 8800 | LEAR | 4 S/F | 2223.3 | 2224.6 | 4.0 | 30.0 | | | QL=6 ST=2 TYP=3 | |
| 2695 | LEAR | 8 S | 2223.6 | 2224.5 | 1.2 | 13.0 | | | QL=6 ST=2 TYP=3 | |

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

DECEMBER 1982

| Day | Freq Sta | Type | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density | | Int | Remarks |
|-----|-------------|-------|------------|----------------------|----------------|--|------|-----|-----------------|
| | | | | | | Peak (10 ⁻²² W/m ² Hz) | Mean | | |
| 30 | ▲ 2695 PENT | 3 S | 2223.8 | 2224.7 | 2.5 | 13.0 | 5.0 | | |
| 31 | 8800 LEAR | 47 GB | 0014.8 | 0016.3 | 5.0 | 60.0 | | | QL=6 ST=2 TYP=5 |
| | 8800 PALE | 47 GB | 0015.1 | 0018.3 | 4.4 | 58.0 | | | QL=6 ST=2 TYP=5 |
| | 2695 LEAR | 4 S/F | 0016.0 | 0016.5 | 2.8 | 22.0 | | | QL=6 ST=2 TYP=3 |
| | 2800 OTTA | 2 S/F | 1927.0 | 1927.5 | 2.0 | 2.0 | 1.0 | | |

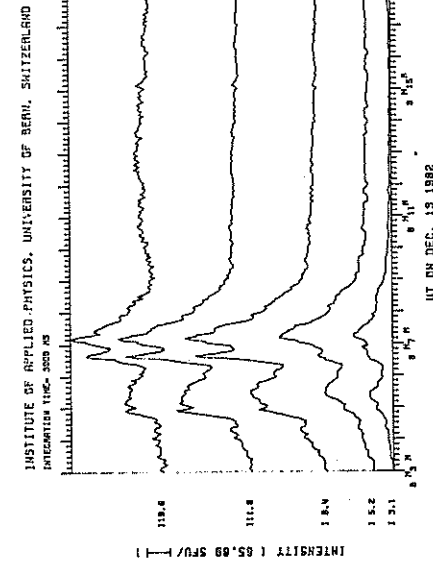
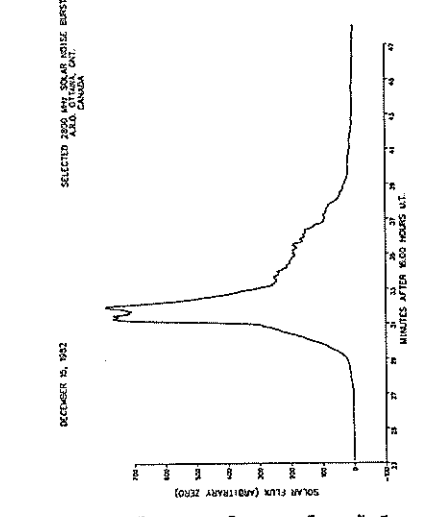
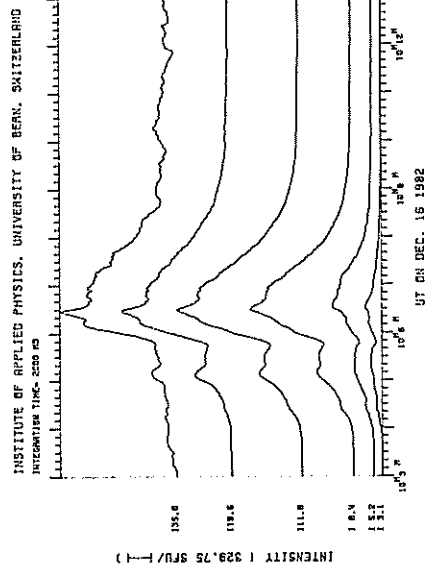
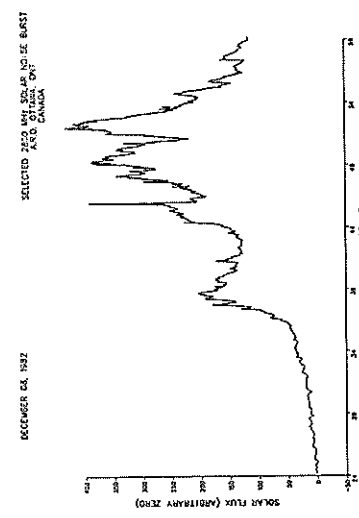
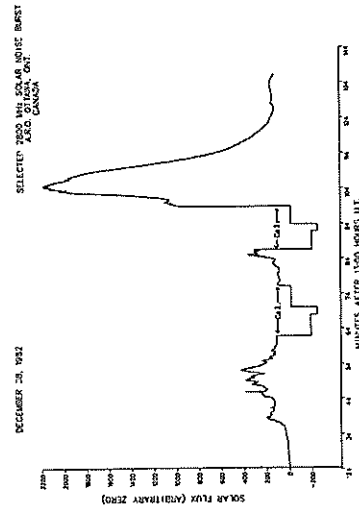
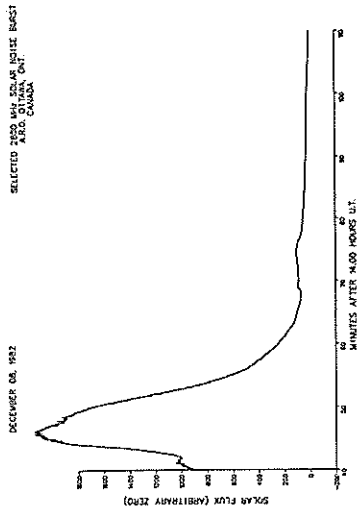
Observatories:

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

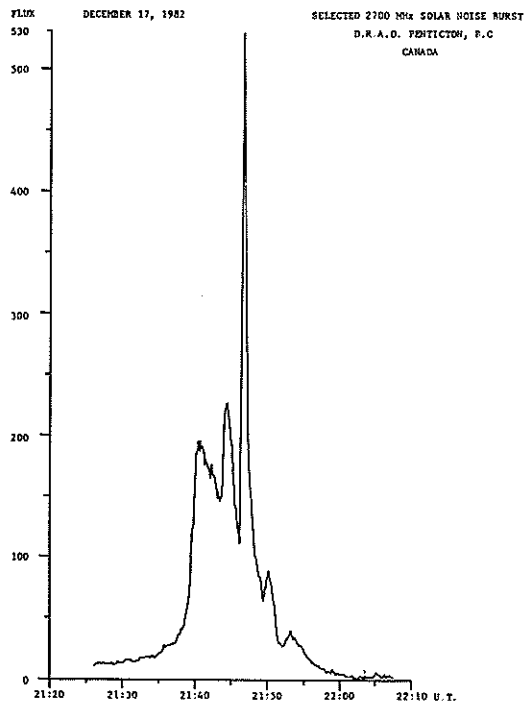
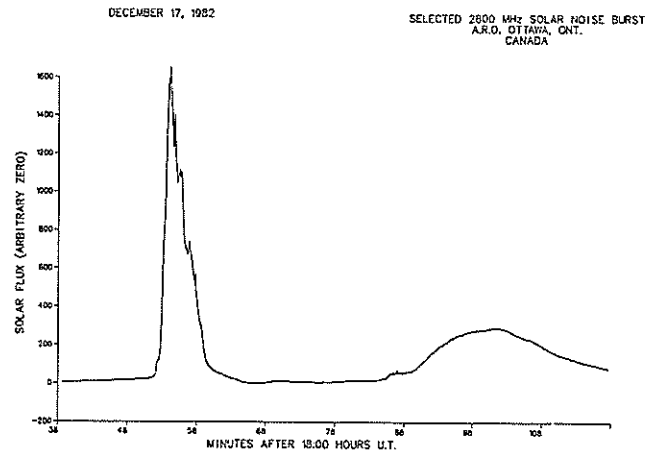
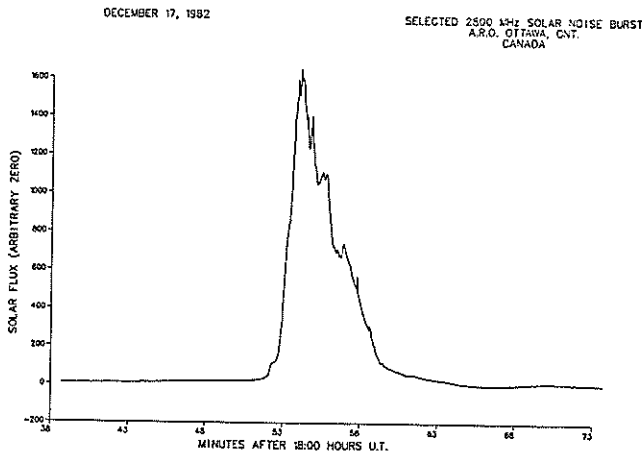
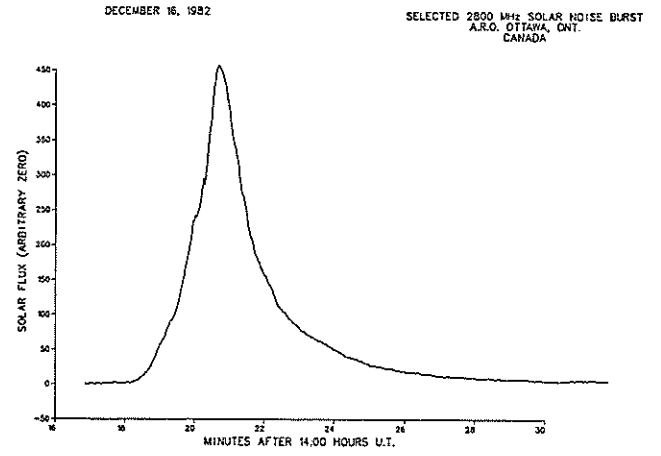
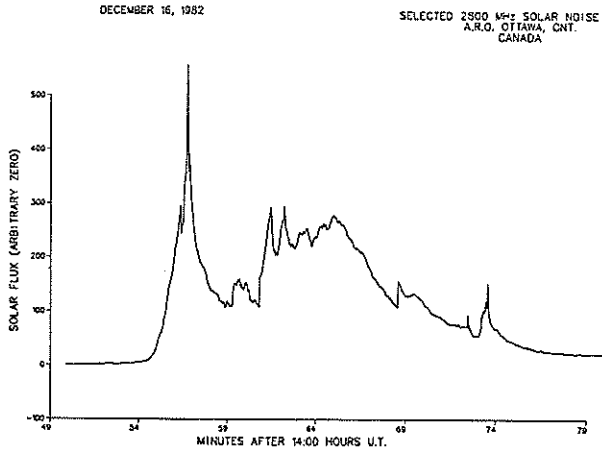
Explanation of Type Code:

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

SELECTED SOLAR NOISE BURSTS
DECEMBER 8-16, 1982



SELECTED SOLAR NOISE BURSTS
DECEMBER 16-17, 1982



BOULDER GEOMAGNETIC
SUBSTORM LOG
December 1982

| DATE | ONSET TIME | DIR | COMMENTS | DATE | ONSET TIME | DIR | COMMENTS |
|-------|------------|------|---|-------|------------|------|--|
| 12/01 | 0805 | West | Weak substorm, otherwise quiet day. | 12/18 | | | Magstorm conditions 0830-2000 UT. |
| 12/02 | 1315 | West | Weak substorm, otherwise quiet day. | 12/19 | 0255 | SSC | Magstorm conditions through 1500 UT. |
| 12/03 | | | Field intermittently unsettled. | 12/20 | | | Field intermittently active. |
| | 1250 | West | Several minor injections with recovery near 1700 UT. | | 0515 | | Localized substorm vicinity Cape Parry. |
| 12/04 | | | Field intermittently unsettled. | | 0920 | | Localized substorm Ft. Yukon to Talkeetna. |
| | 2000 | | Slow positive impulse H-component all mid/low stations. | | 1115 | West | Strong substorm, slow expansion northward through Alaska. |
| | | | | | 1310 | West | Injection into existing substorm. |
| | | | | | 1550 | West | |
| 12/05 | | | Field unsettled through 0900 UT and quiet the balance of day. | 12/21 | 0645 | West | Near continuous injection processes through 1800 UT. |
| | 0340 | East | | 12/22 | | | Field active through 0600 UT. |
| | 0645 | West | | | 0050 | East | |
| 12/06 | | | Field slightly unsettled. | | 1415 | West | Several injections with recovery near 1700 UT. |
| 12/07 | 0329 | SSC | Magstorm conditions 1300-2000 UT, otherwise unsettled. | 12/23 | | | Field intermittently active. |
| | | | | | 0710 | West | |
| 12/08 | | | Magstorm conditions 0630-2030 UT. | | 1115 | West | |
| | | | | | 1245 | West | |
| | | | | | 1550 | | Localized substorm vicinity College. |
| 12/09 | 1255 | West | Field unsettled. Strong substorm. | 12/24 | | | Field intermittently unsettled. |
| 12/10 | | | Magstorm conditions 0600-2100 UT. | | 0205 | East | |
| | | | | | 1400 | West | |
| 12/11 | 0335 | East | Boulder in partial ring current sector. | 12/25 | | | Field intermittently unsettled. |
| | 1530 | West | Several injections with recovery near 1930 UT. | | 0745 | West | |
| | | | | | 1205 | West | Slow onset, several minor injections with recovery near 1600 UT. |
| 12/12 | | | Field intermittently unsettled. | 12/26 | | | Field intermittently unsettled. |
| | 0810 | | Localized substorm at Inuvik. | | 0605 | | Weak substorm. |
| | 0835 | | Localized substorm at Cape Parry. | | 1130 | | Weak substorm. |
| | 1045 | | Weak substorm. | | 1320 | | Weak substorm. |
| | 1135 | West | | 12/27 | | | Field intermittently unsettled. |
| 12/13 | | | Field slightly unsettled. | | 0715 | | Positive impulse H-component all mid/low latitude stations. |
| 12/14 | | | Field intermittently unsettled. | | 1120 | West | |
| 12/15 | | | Field intermittently unsettled. | 12/28 | | | Field unsettled all day. |
| | 0945 | | Weak substorm. | | 0835 | West | |
| | | | | | 1235 | West | Strong substorm. |
| 12/16 | | | Field intermittently active. | 12/29 | | | Field unsettled all day. |
| | 1105 | West | Moderate substorm, numerous minor injections follow. | | 0750 | | Weak substorm. |
| | | | | | 0835 | West | |
| | | | | | 1350 | West | Slow onset, weak substorm. |
| 12/17 | | | Magstorm conditions 0730-1600 UT. | 12/30 | | | Field unsettled all day. |
| | 1850 | West | | | 1055 | West | |
| | | | | 12/31 | | | Field slightly unsettled. |

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 |
|------------------|--------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 2022 | JUL 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2023 | JUL 30 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2024 | AUG 26 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2025 | SEP 22 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2026 | OCT 19 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2027 | NOV 15 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2028 | DEC 12 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1982 | JAN 8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2030 | FEB 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2031 | MAR 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2032 | MAR 30 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2033 | APR 26 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2034 | MAY 23 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2035 | JUN 19 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2036 | JUL 16 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2037 | AUG 12 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2038 | SEP 8 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2039 | OCT 5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2040 | NOV 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2041 | NOV 28 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2042 | DEC 25 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

= 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 |
|------------------|---------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 2022 | JUN 28 | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2023 | JUL 25 | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 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 | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2040 | OCT 27 | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2041 | NOV 23 | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| 2042 | DEC 20 | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

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)

1982

| day | Jan. | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|-----|------|------|-------|-------|------|------|------|------|-------|------|------|------|
| 01 | 15 | -20 | -19 | . | -6 | . | . | 49 | 89 | 22 | -31 | 42 |
| 02 | -6 | -44 | -9 | . | -6 | 33 | 85 | 19 | 102 | 53 | -15 | . |
| 03 | -17 | -29 | -20 | . | 23 | 38 | 75 | 19 | 84 | 37 | -18 | . |
| 04 | . | -3 | -39 | -17 | 43 | 54 | 71 | 52 | 66 | 18 | -38 | 10 |
| 05 | -10 | 9 | -44 | 3 | 48 | 80 | 53 | 85 | 68 | -6 | . | -42 |
| 06 | -5 | 19 | -21 | 38 | 16 | 82 | 35 | 105 | 55 | -41 | -63 | . |
| 07 | -4 | 43 | . | 60 | 41 | 77 | 29 | 81 | 30 | -54 | -61 | -90 |
| 08 | 25 | 64 | -2 | 57 | 69 | 80 | 42 | 63 | -27 | -76 | -68 | -64 |
| 09 | 23 | . | . | 24 | 74 | 68 | 54 | 59 | -55 | -90 | . | -29 |
| 10 | 36 | 15 | 16 | . | 70 | 54 | 63 | 33 | -74 | -93 | -54 | -20 |
| 11 | 45 | 24 | 34 | 61 | 65 | 50 | 87 | -30 | -93 | -96 | -21 | 26 |
| 12 | 35 | 33 | 35 | 46 | 79 | 58 | 79 | -87 | -124 | -100 | 1 | 29 |
| 13 | 16 | . | . | . | 87 | . | 43 | -118 | -125 | -70 | 19 | 43 |
| 14 | -7 | . | . | . | 77 | 78 | 9 | -121 | -120 | -35 | 34 | 28 |
| 15 | -6 | . | . | 86 | 72 | 51 | -39 | -144 | -112 | -7 | 37 | . |
| 16 | -12 | 14 | 21 | 93 | 51 | -13 | -112 | -149 | . | -1 | 52 | 8 |
| 17 | -1 | 16 | . | 71 | 38 | -51 | -164 | -141 | -49 | 4 | . | 57 |
| 18 | -3 | 5 | 4 | 46 | 27 | -93 | -193 | -124 | -28 | -43 | . | . |
| 19 | 33 | 15 | 20 | 28 | -15 | -184 | -201 | -93 | -14 | 55 | . | 64 |
| 20 | . | 27 | 31 | -6 | -57 | -237 | -189 | -59 | 12 | 33 | 22 | 32 |
| 21 | . | 38 | 25 | -38 | -68 | -225 | . | -32 | 40 | . | 33 | . |
| 22 | . | 48 | 22 | -78 | -93 | -170 | -128 | -16 | 44 | . | . | . |
| 23 | 9 | 41 | 14 | -113 | -132 | -123 | -71 | -12 | 26 | 17 | . | . |
| 24 | 25 | 28 | -2 | -107 | -158 | -69 | -29 | 5 | 10 | 45 | 12 | . |
| 25 | 35 | 10 | -26 | -93 | -151 | -56 | -5 | 32 | 8 | . | -1 | . |
| 26 | 42 | -3 | . | -104 | -118 | -40 | 12 | 39 | 18 | 54 | -31 | . |
| 27 | 36 | -34 | -61 | -117 | -26 | 11 | 28 | 47 | 36 | 55 | -58 | -31 |
| 28 | . | . | -56 | -122 | -26 | 37 | 38 | 46 | 72 | 34 | . | 6 |
| 29 | 15 | . | -53 | -77 | -10 | 46 | 48 | 25 | 57 | 20 | . | 42 |
| 30 | 0 | . | . | -26 | 19 | 59 | 61 | 39 | 52 | . | . | 59 |
| 31 | -10 | . | . | -26 | 46 | . | 53 | 64 | . | -11 | . | 35 |

DOT SYMBOL INDICATES NO DATA AVAILABLE FOR THE DAY.

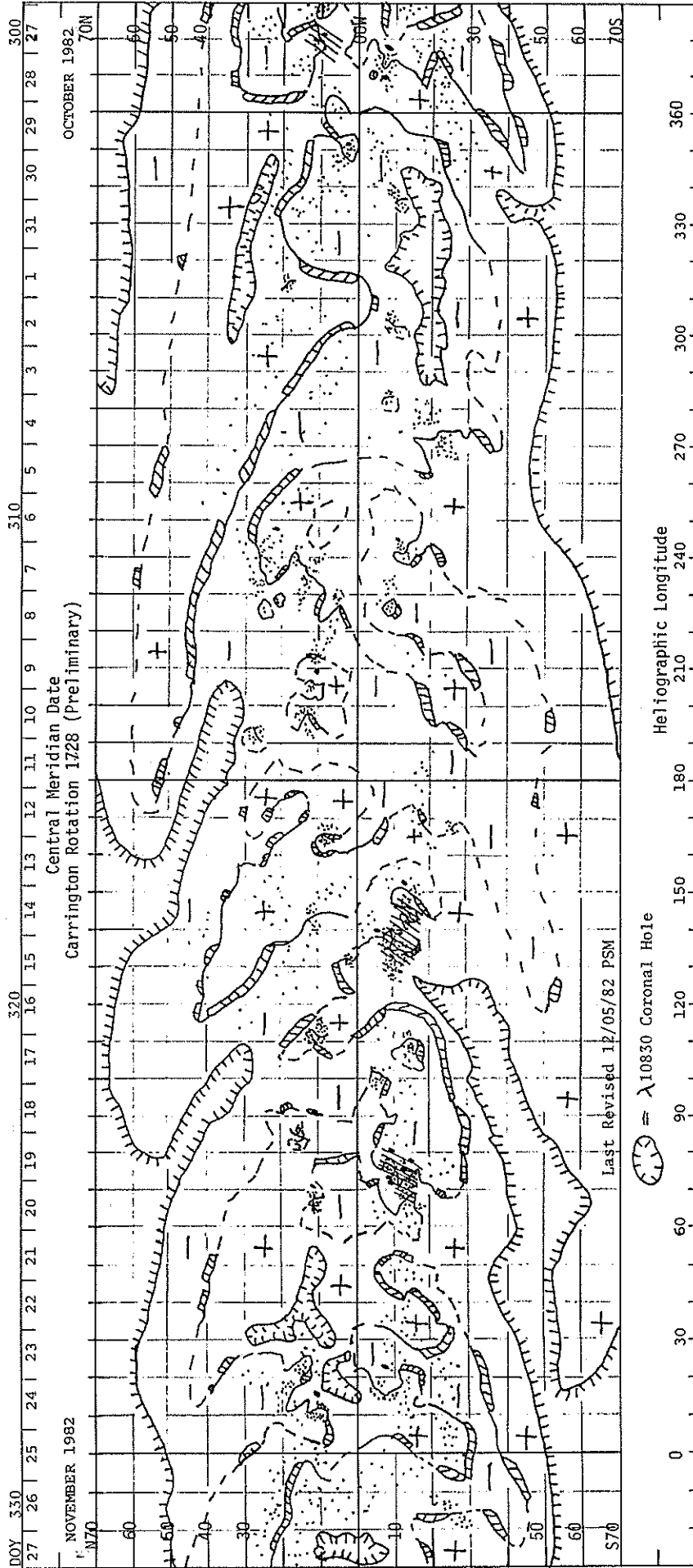
SGD 461 Part I (Prompt)

NOVEMBER 1982 DATA

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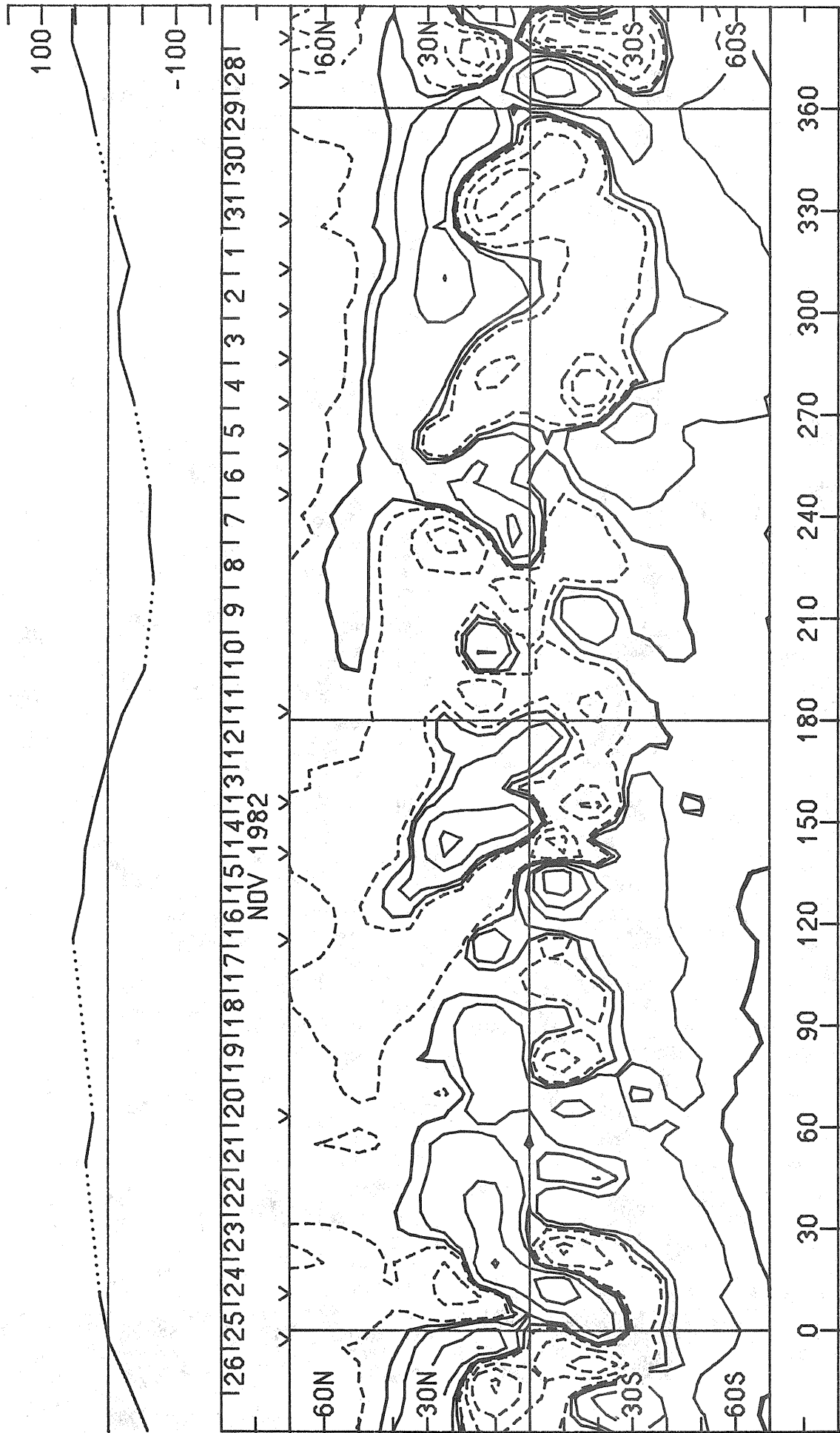
H α SYNOPSIS CHART CARRINGTON ROTATION 1728 (PRELIMINARY)



SOLAR MAGNETIC FIELD SYNOPTIC CHART
 CARRINGTON ROTATION 1728

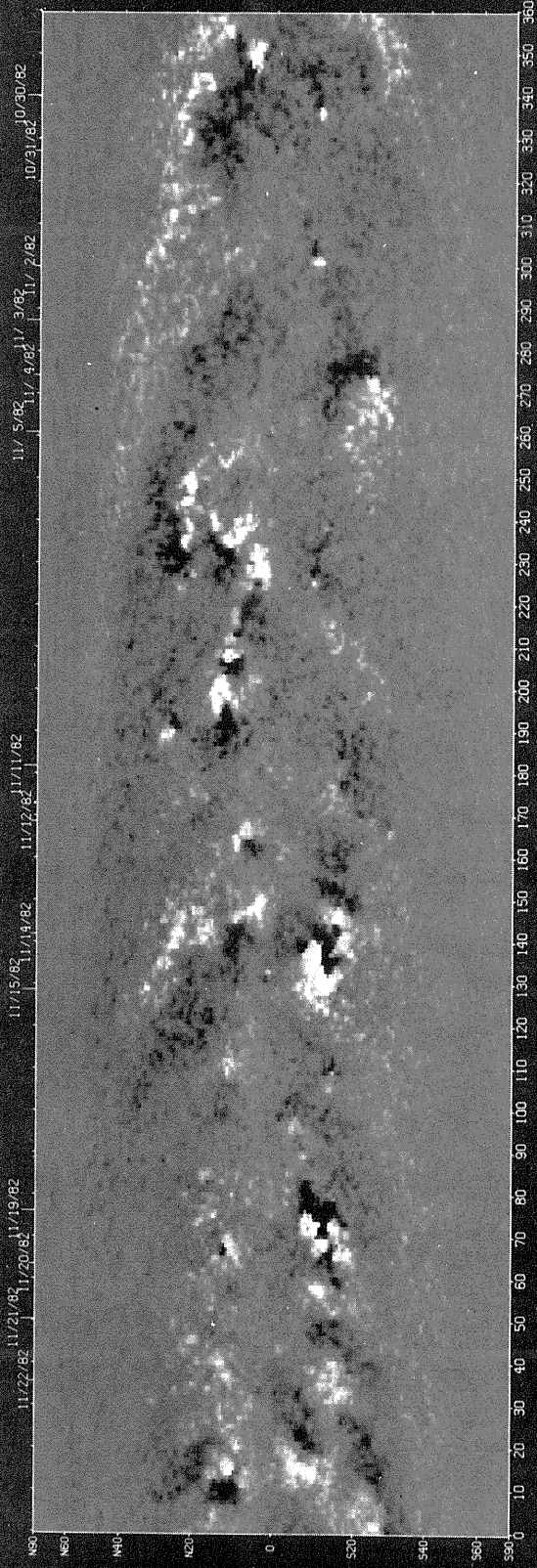
Stanford Solar Observatory

0, ±100, 200, 500... μT



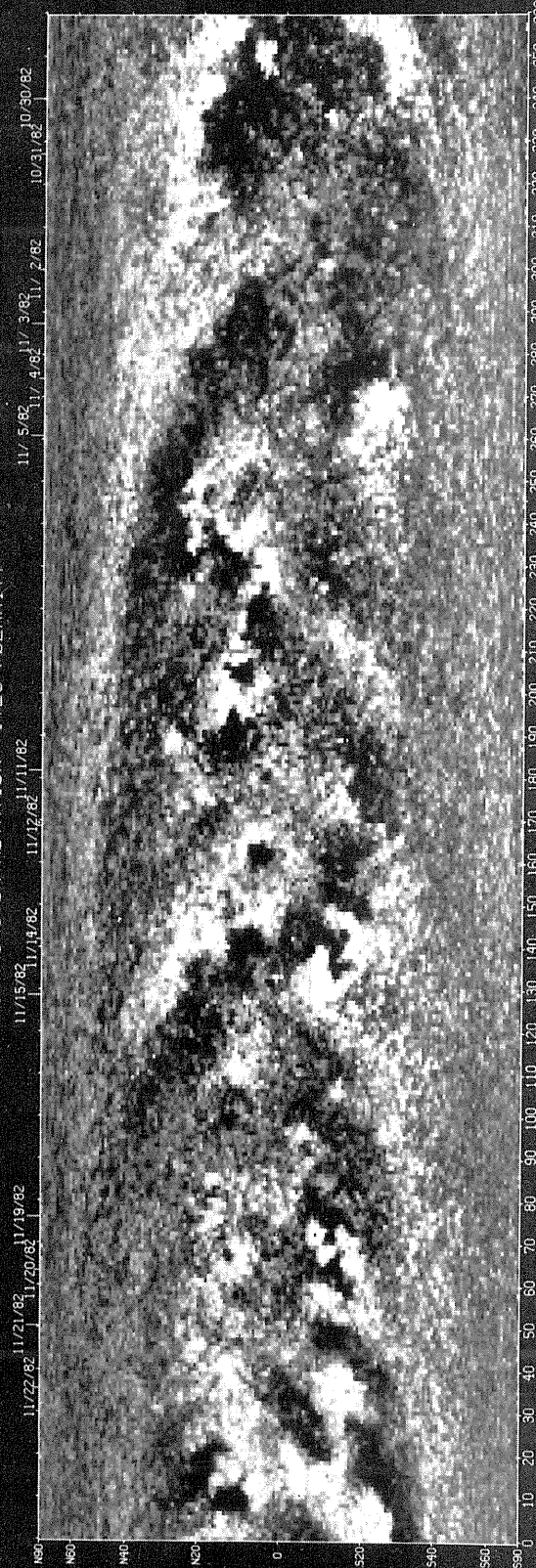
KPNO SYN VTRCPE 12/08/82 12.04.00 NPICF= 2 1400.007

CARRINGTON ROTATION. 1728 FLUX



KPNO SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION 1728 POLARITY



HELIUM 10830Å SYNOPTIC MAPS
CARRINGTON ROTATION 1728

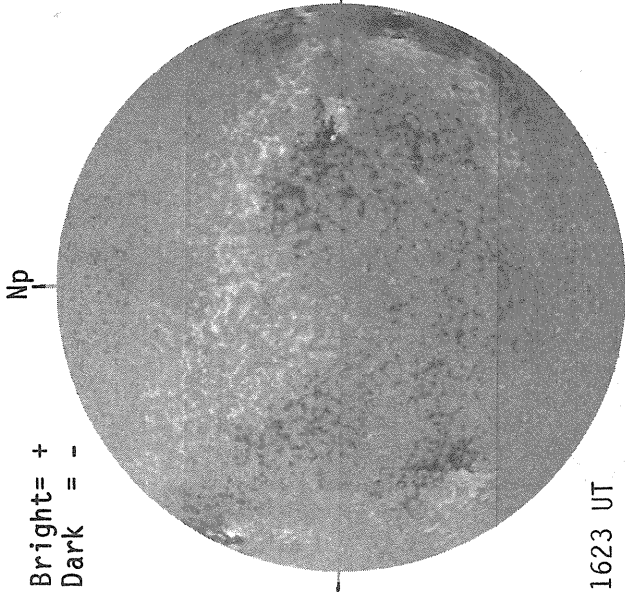
KITT PEAK NATIONAL OBSERVATORY



NOVEMBER 01, 1982 (P= 24.59, B₀= 4.38, L₀= 323.22)

KITT PEAK MAGNETOGRAM

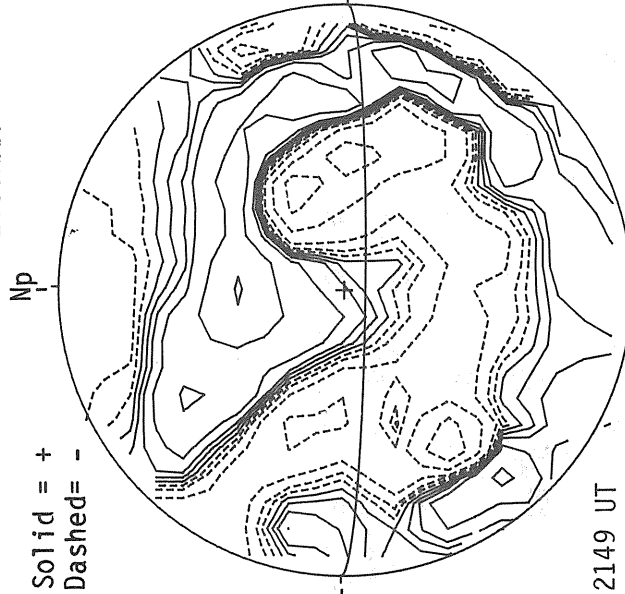
Bright= +
Dark = -



1623 UT

STANFORD MAGNETOGRAM

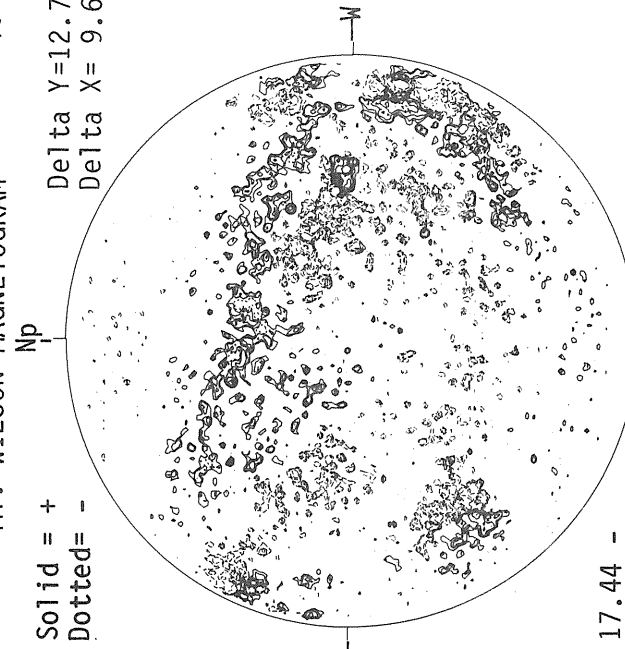
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Dashed = -



2149 UT

MT. WILSON MAGNETOGRAM

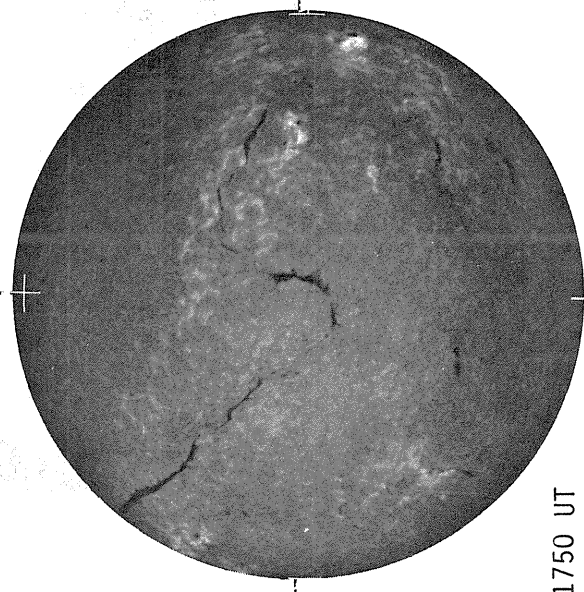
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Dotted = -



17.44 -
18.38 UT

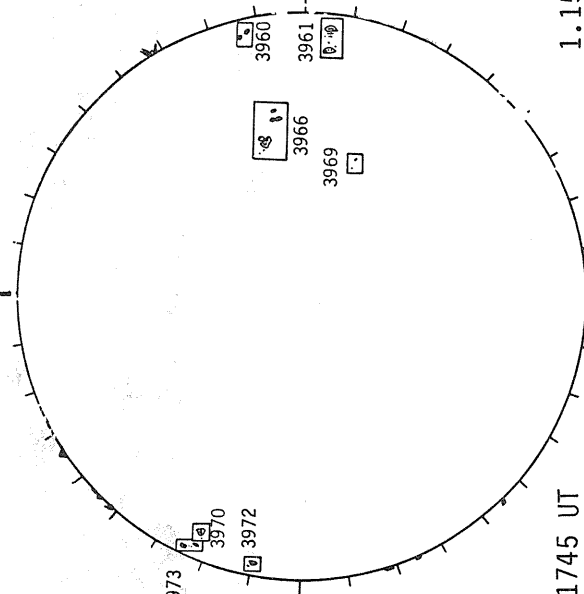
Delta Y=12.7
Delta X= 9.6

BOULDER H-ALPHA



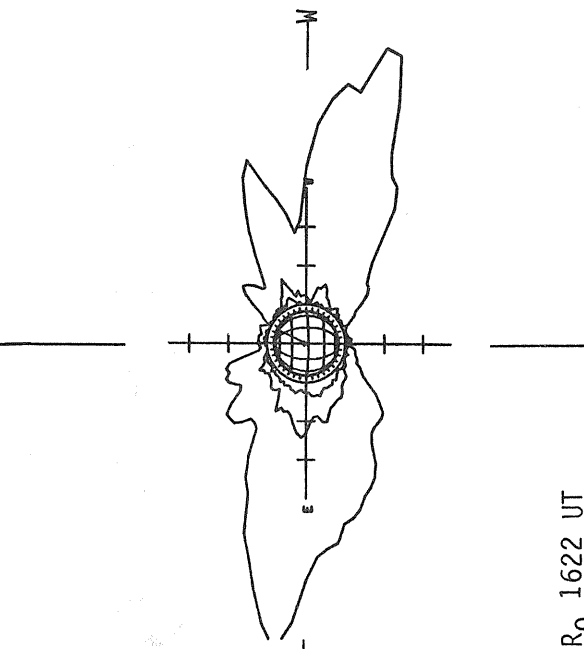
1750 UT

BOULDER SUNSPOTS



1745 UT
1750 UT BOUL Prom

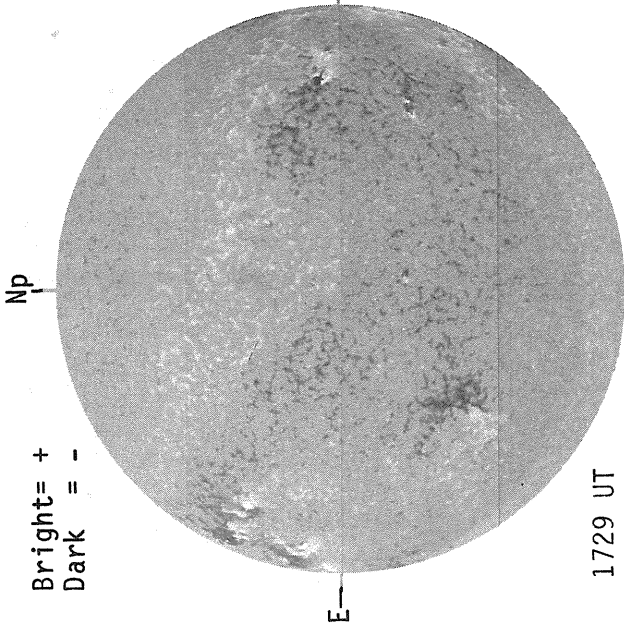
SACRAMENTO PEAK CORONA (5303 Angstrom)



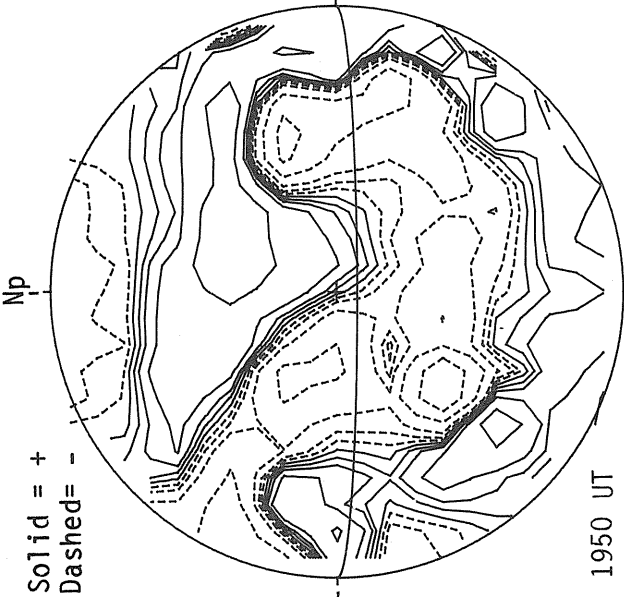
1.15 R₀ 1622 UT
1.35 R₀ 1608 UT
1.55 R₀ 1615 UT

NOVEMBER 02, 1982 (P= 24.42, B₀= 4.28, L₀= 310.03)

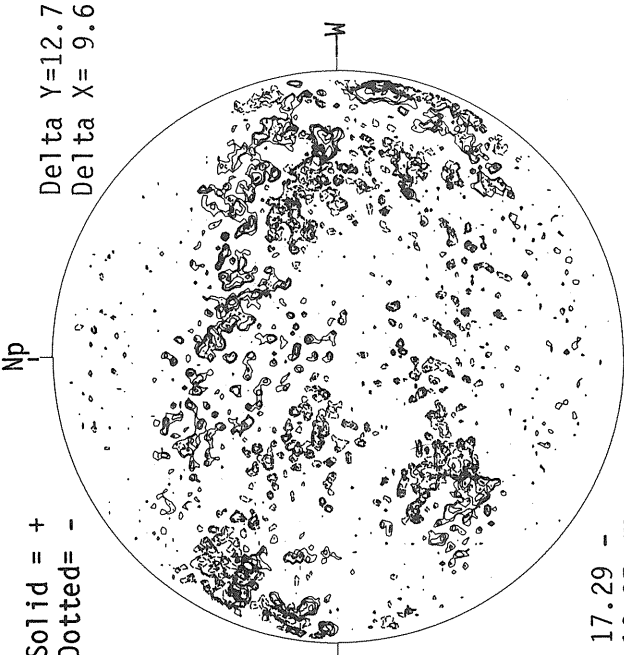
KITT PEAK MAGNETOGRAM



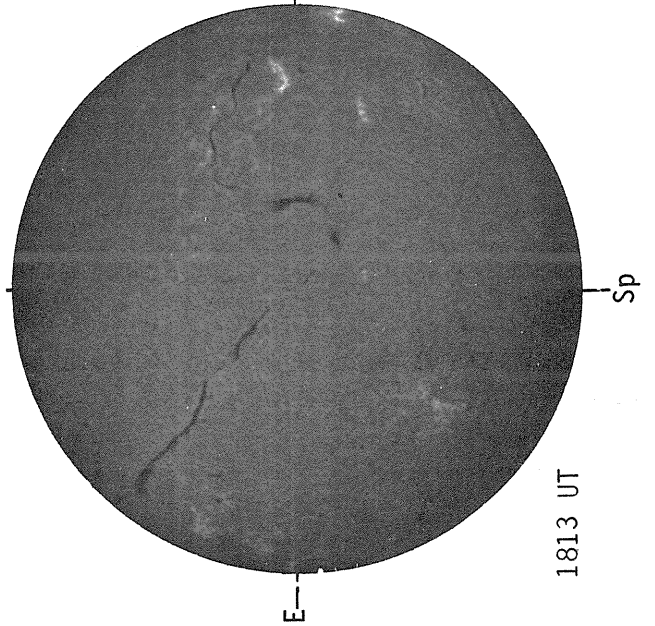
STANFORD MAGNETOGRAM



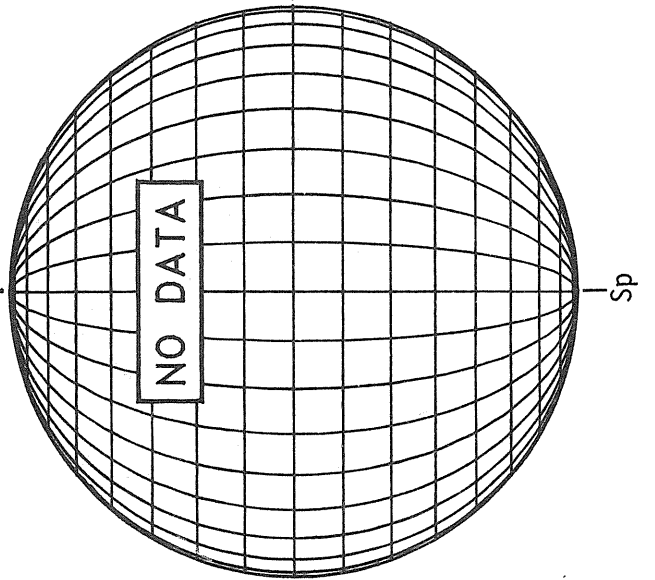
MT. WILSON MAGNETOGRAM



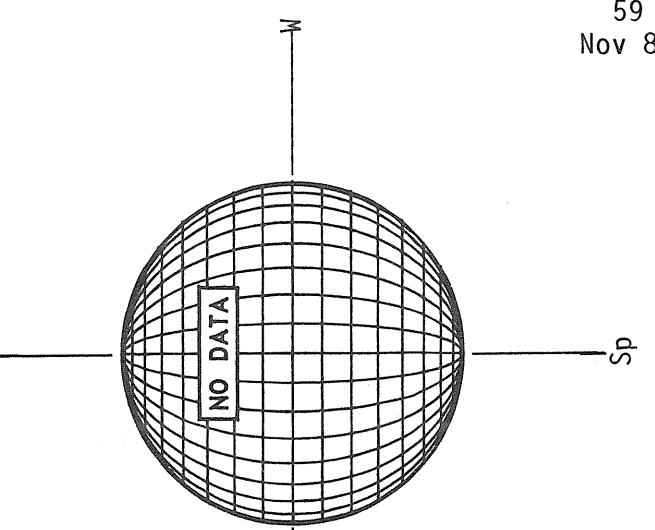
HOLLOMAN H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



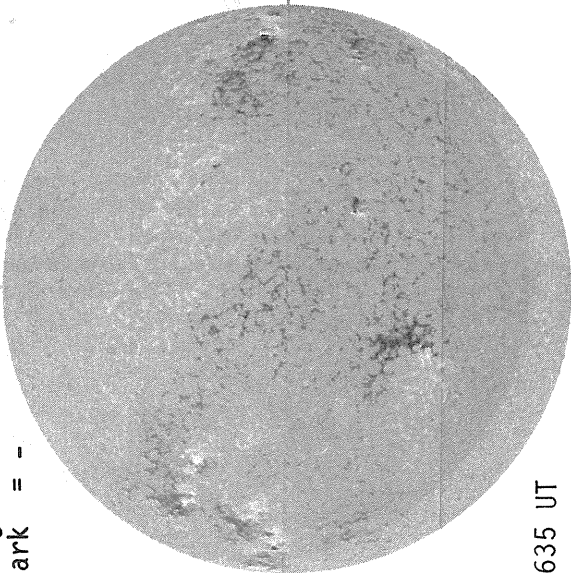
60
Nov 82

N O V E M B E R 03, 1 9 8 2 (P= 24.24, B₀= 4.18, L₀= 296.84)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -

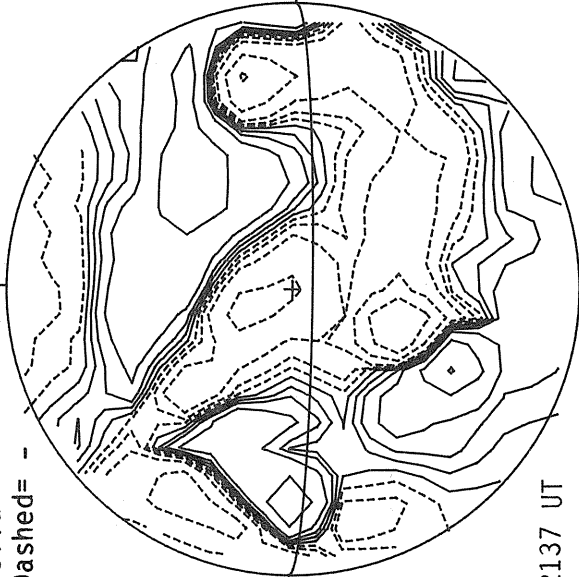


1635 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed = -

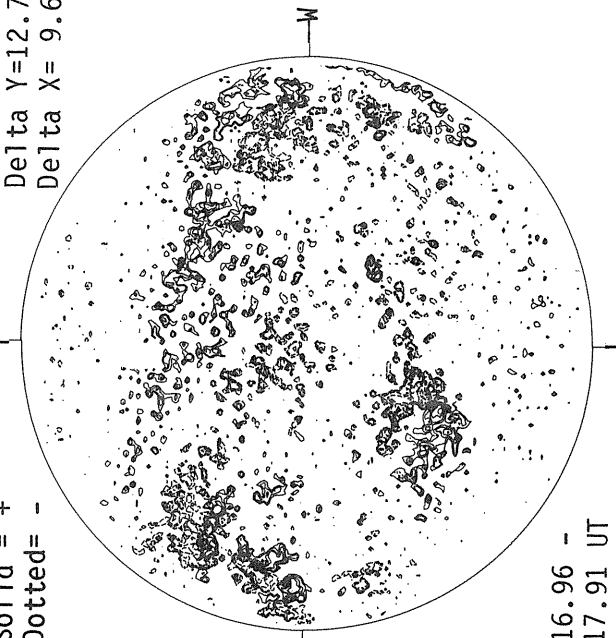


2137 UT

MT. WILSON MAGNETOGRAM

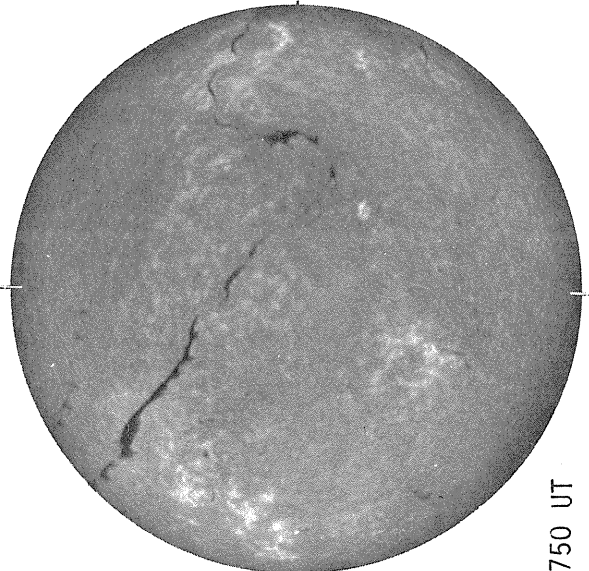
Np

Solid = +
Dotted = -



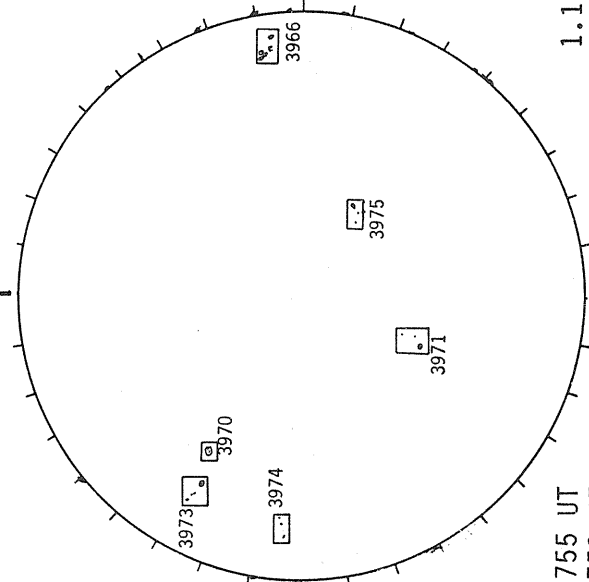
16.96 -
17.91 UT

BOULDER H-ALPHA



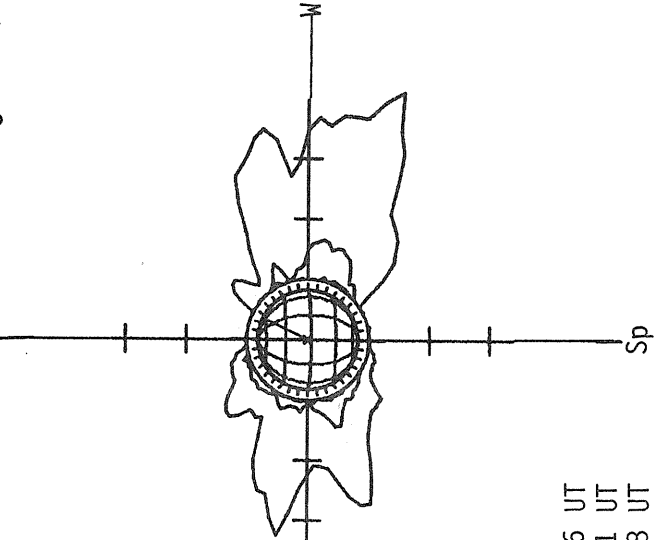
1750 UT

BOULDER SUNSPOTS



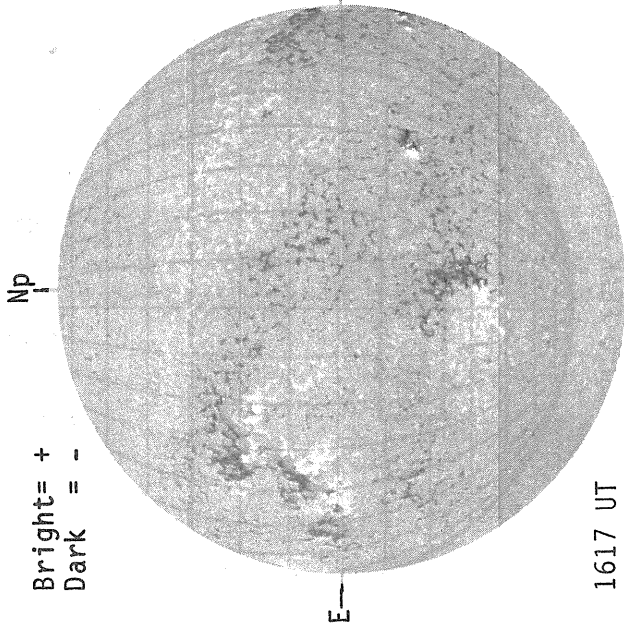
1755 UT
1750 UT BOUL Prom | Sp
1.15 R₀ 1806 UT
1.35 R₀ 1751 UT
1.55 R₀ 1758 UT

SACRAMENTO PEAK CORONA (5303 Angstrom)

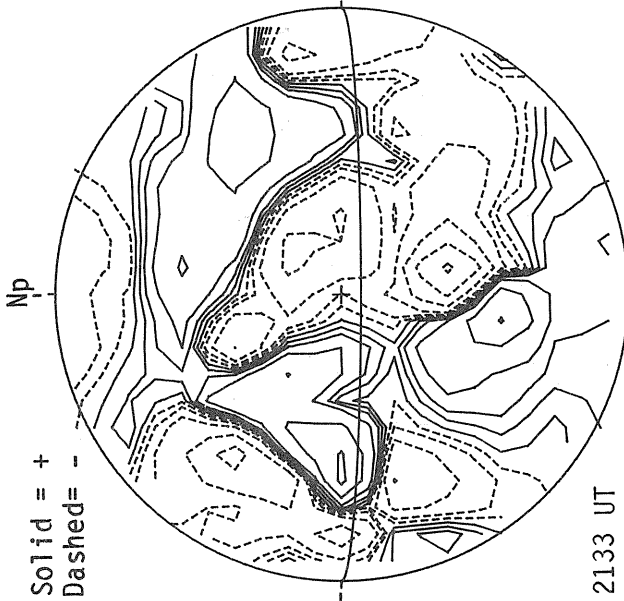


N O V E M B E R 04, 1 9 8 2 (P= 24.06, B₀= 4.08, L₀= 283.66)

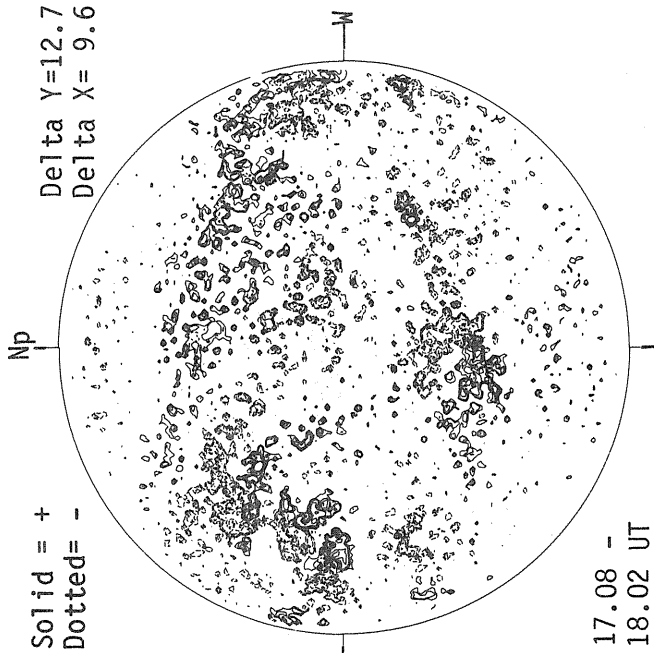
KITT PEAK MAGNETOGRAM



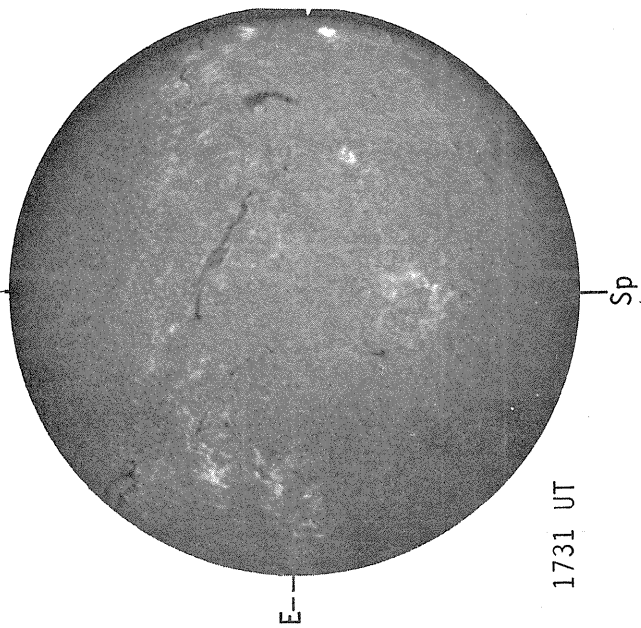
STANFORD MAGNETOGRAM



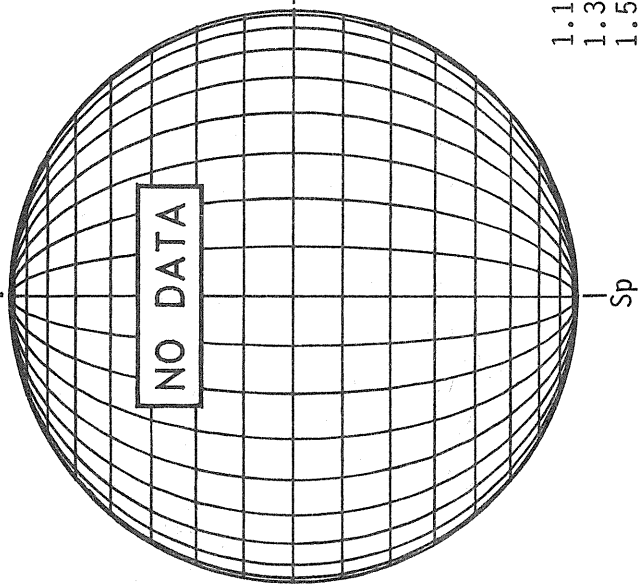
MT. WILSON MAGNETOGRAM



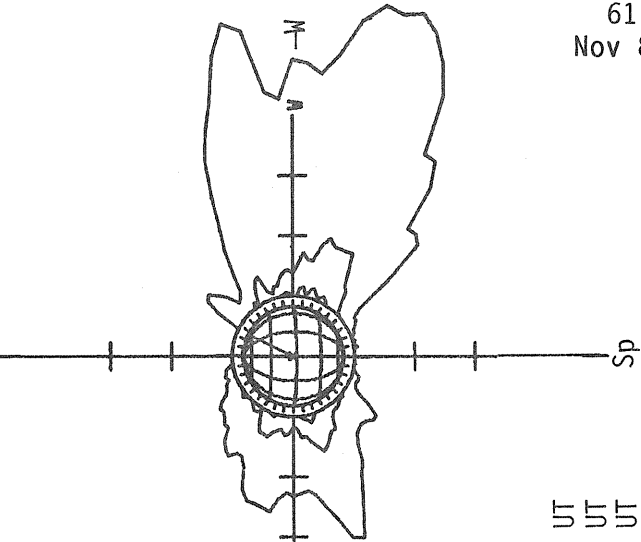
HOLLOMAN H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

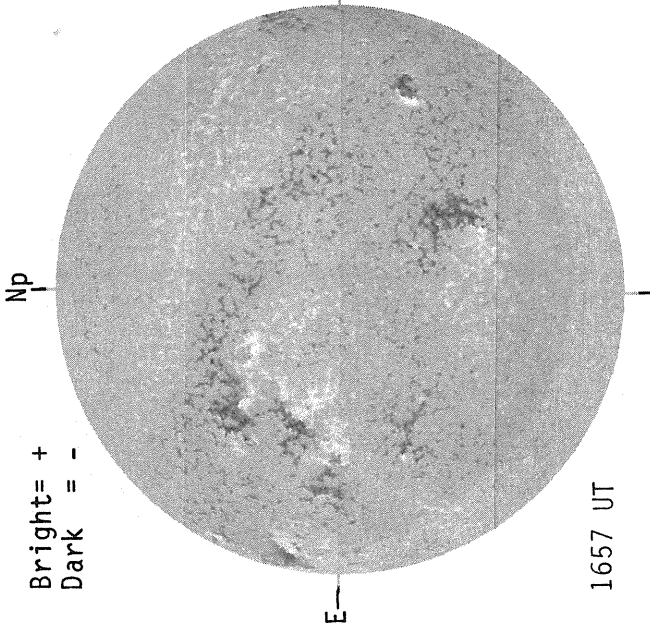


1.15 R₀ 2007 UT
1.35 R₀ 1952 UT
1.55 R₀ 1958 UT

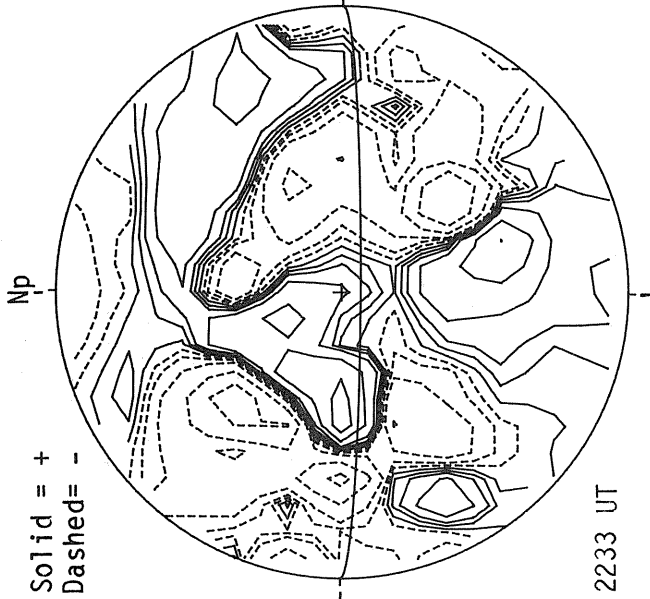
62
Nov 82

N O V E M B E R 05, 1 9 8 2 (P= 23.87, B₀= 3.97, L₀= 270.47)

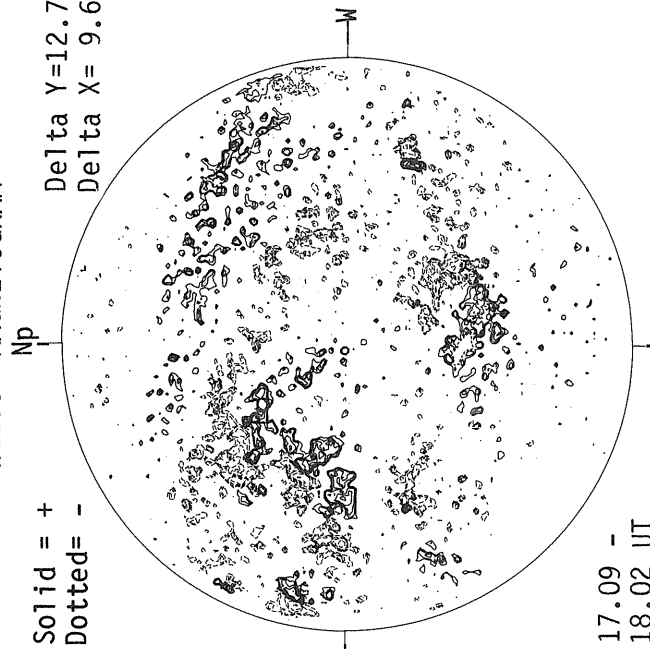
KITT PEAK MAGNETOGRAM



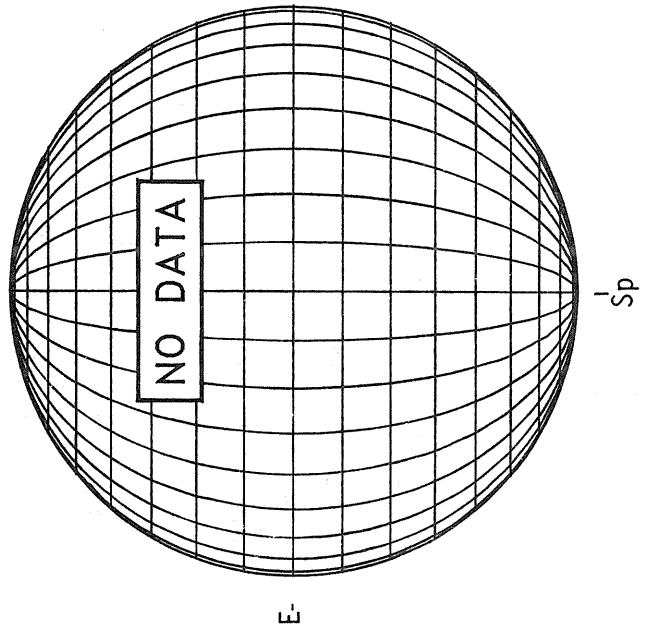
STANFORD MAGNETOGRAM



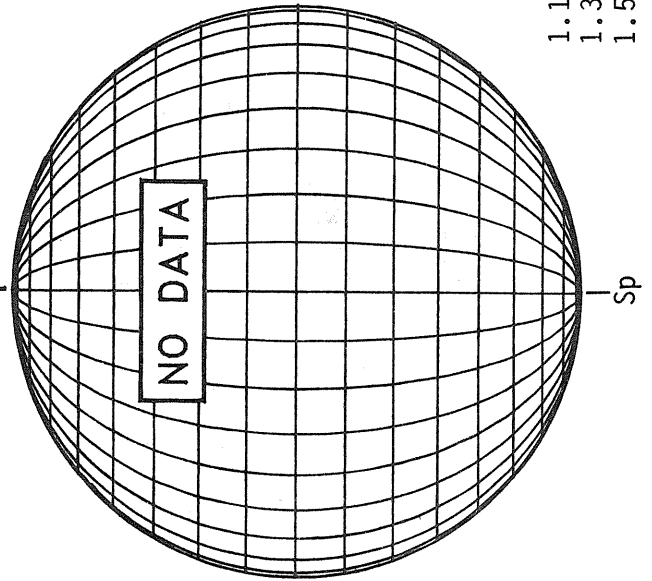
MT. WILSON MAGNETOGRAM



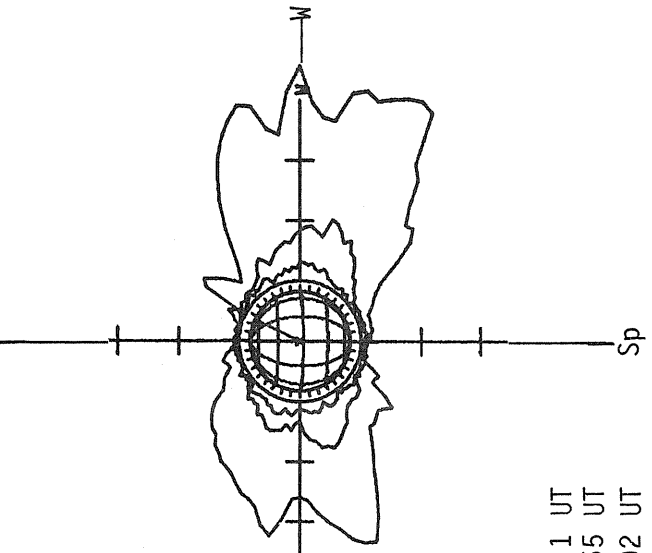
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS

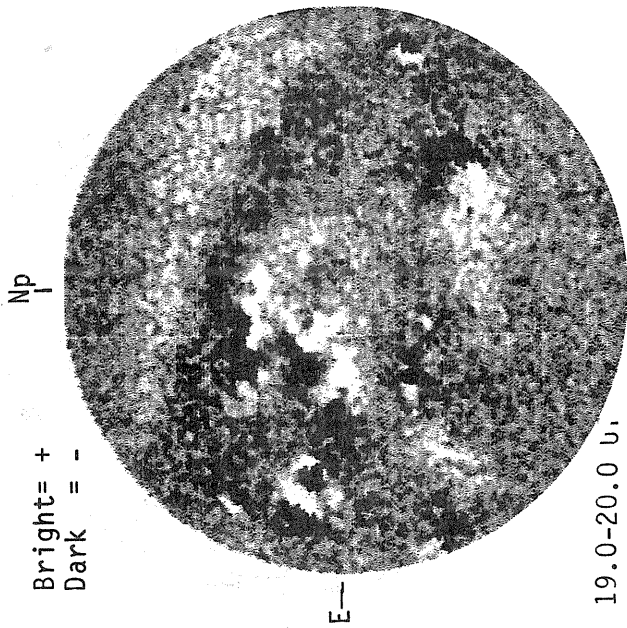


SACRAMENTO PEAK CORONA (5303 Angstrom)



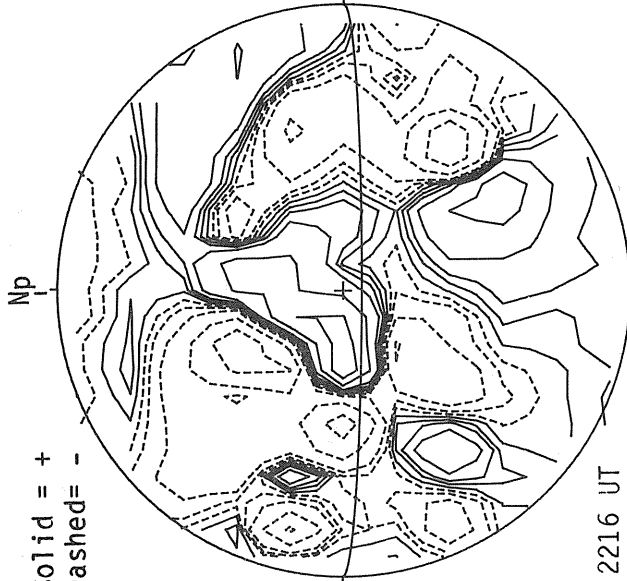
N O V E M B E R 06, 1 9 8 2 (P= 23.67, B₀= 3.86, L₀= 257.29)

MT. WILSON MAGNETOGRAM



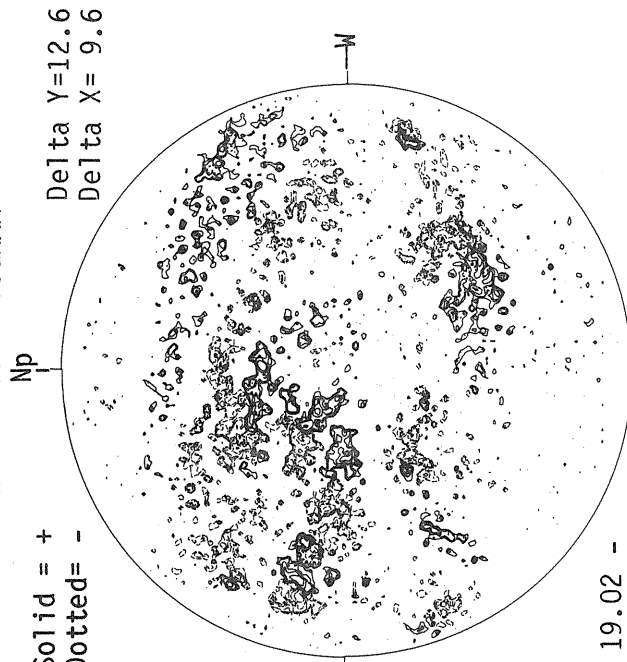
Bright= +
Dark = -

STANFORD MAGNETOGRAM



Solid = +
Dashed = -

MT. WILSON MAGNETOGRAM



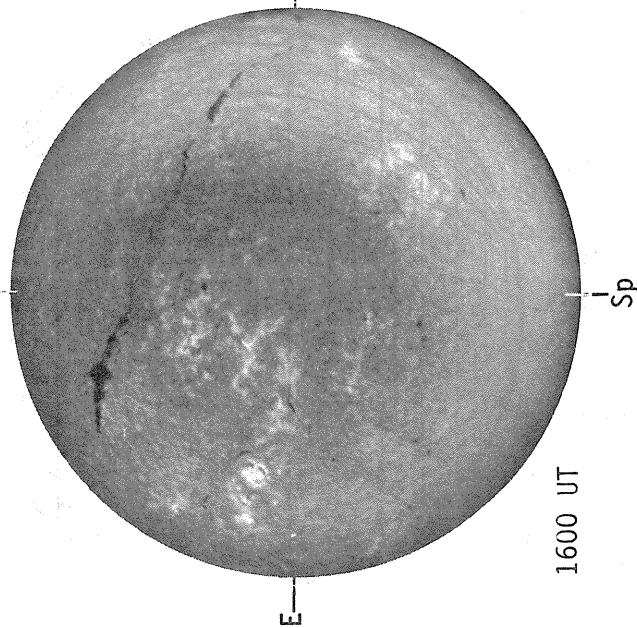
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Dotted = -

19.0-20.0 U.

2216 UT

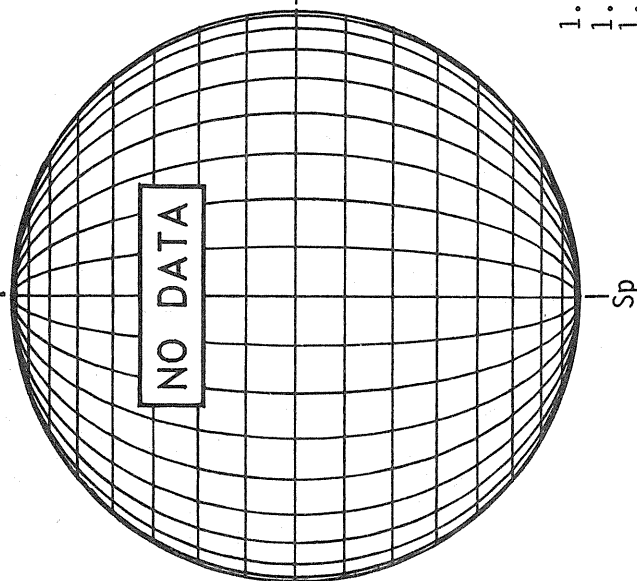
19.02 -
19.99 UT

BOULDER H-ALPHA

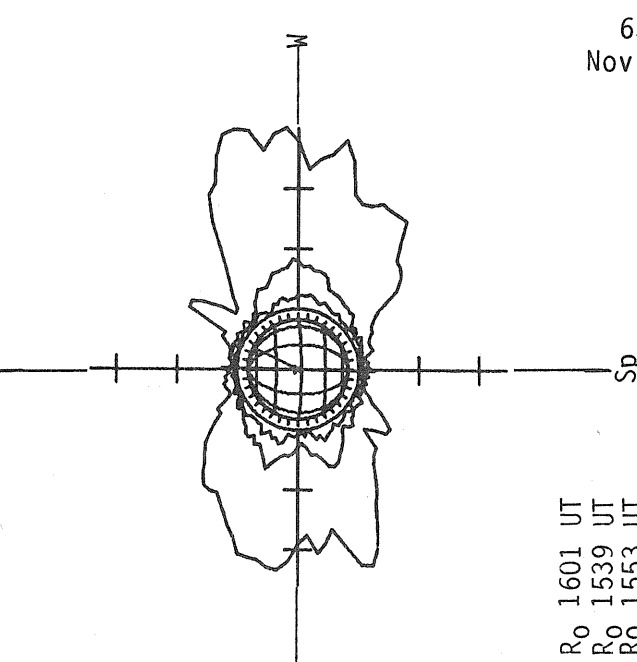


1600 UT

BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



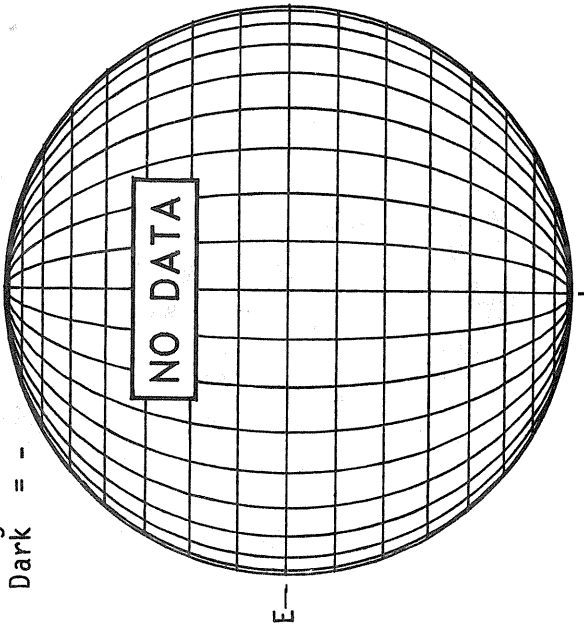
1.15 R₀ 1601 UT
1.35 R₀ 1539 UT
1.55 R₀ 1553 UT

N O V E M B E R 07, 1 9 8 2 (P= 23.46, B₀= 3.76, L₀= 244.10)

KITT PEAK MAGNETOGRAM

Np

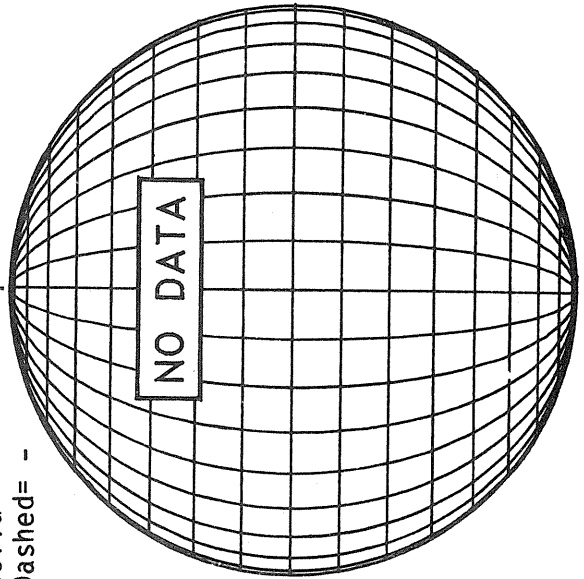
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Dark = -



STANFORD MAGNETOGRAM

Np

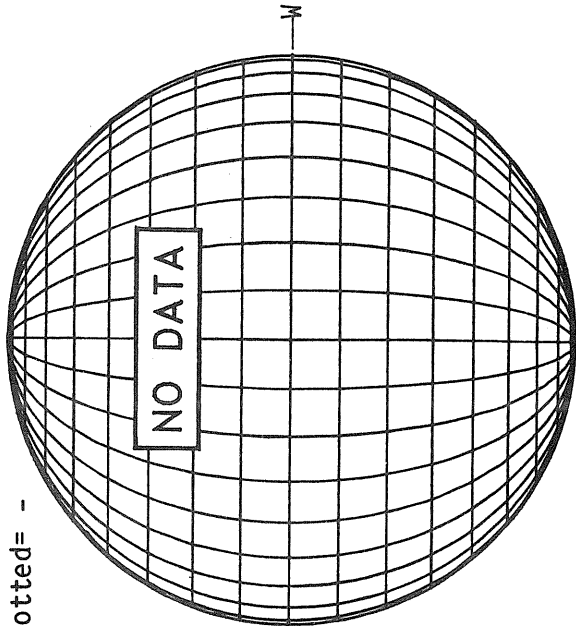
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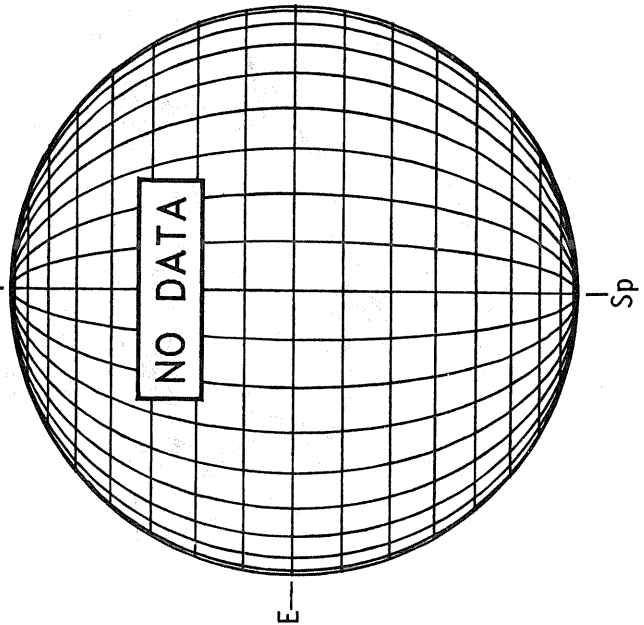
MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted = -

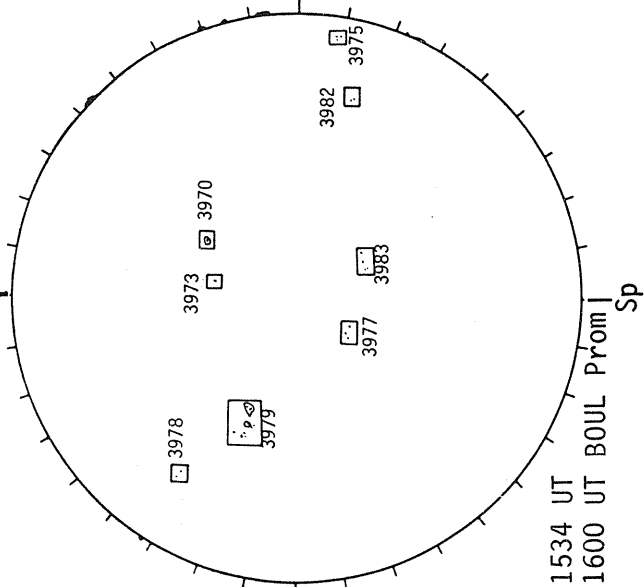


SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS

SACRAMENTO PEAK CORONA (5303 Angstrom)



Sp

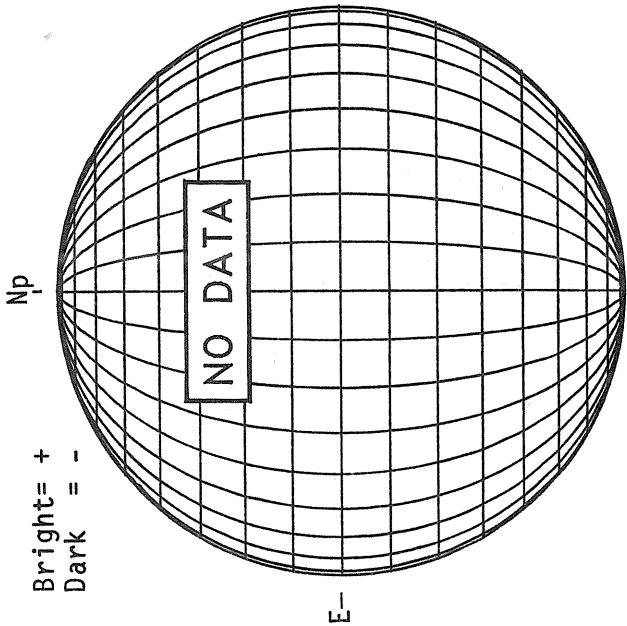
Sp

Sp

N O V E M B E R 0 8 , 1 9 8 2 (P = 2 3 . 2 5 , B ₀ = 3 . 6 5 , L ₀ = 2 3 0 . 9 2)

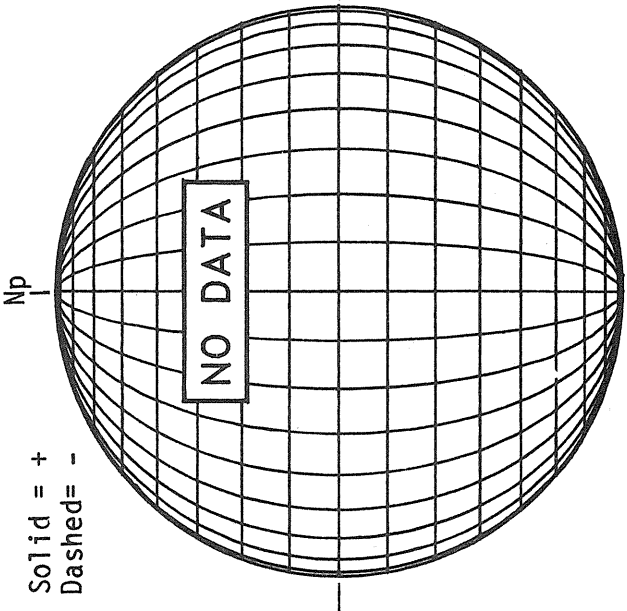
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



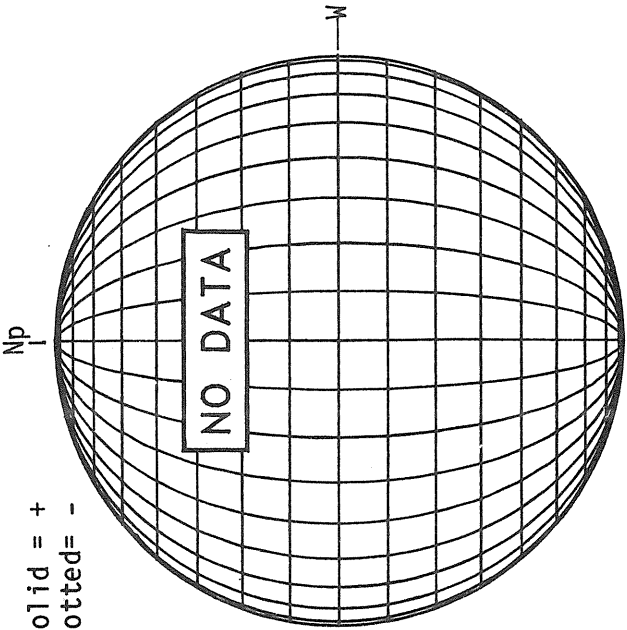
STANFORD MAGNETOGRAM

Solid = +
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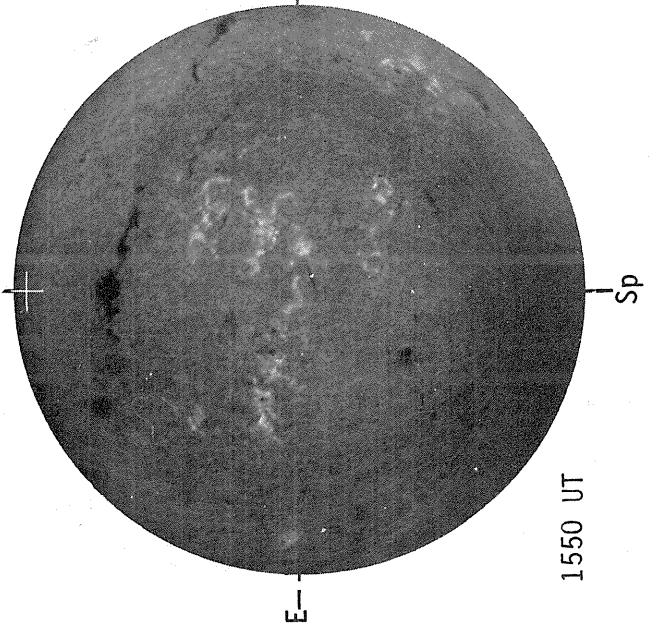


MT. WILSON MAGNETOGRAM

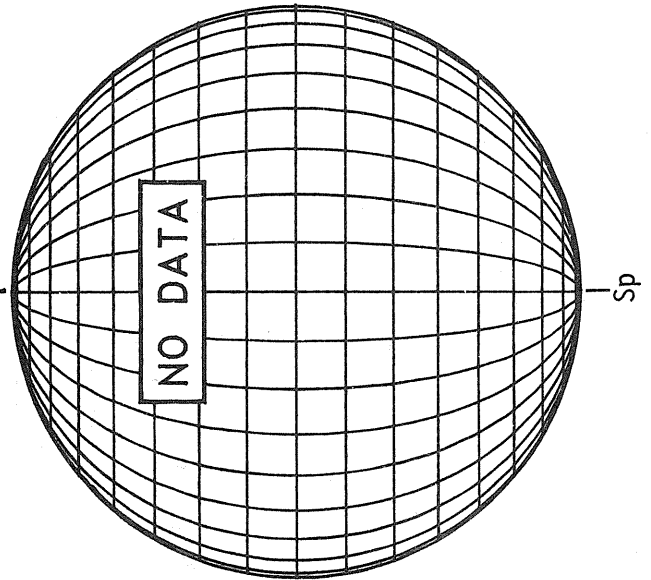
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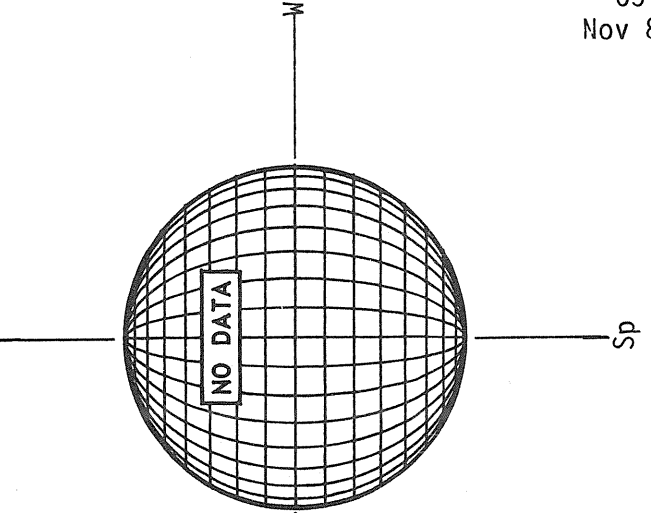
BOULDER H-ALPHA



BOULDER SUNSPOTS



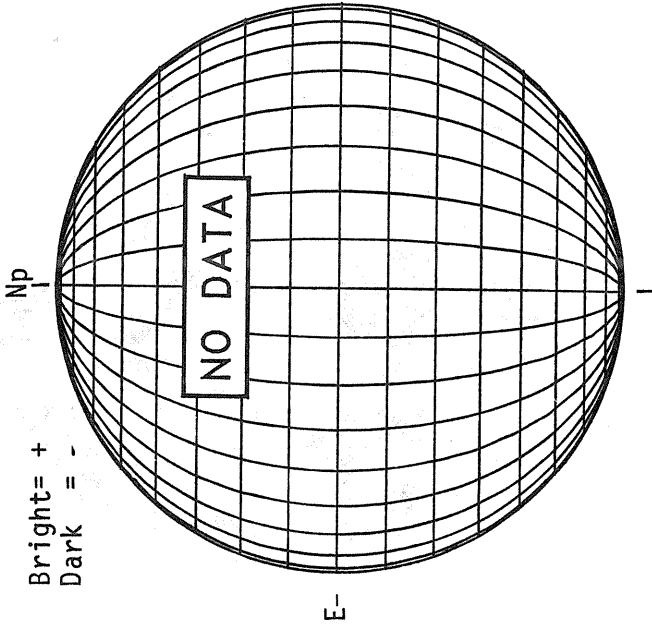
SACRAMENTO PEAK CORONA (5303 Angstrom)



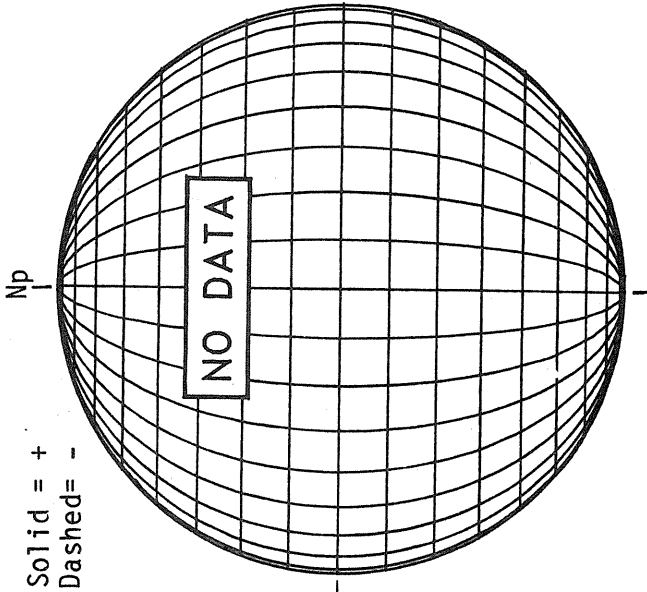
1550 UT

N O V E M B E R 09, 1 9 8 2 (P= 23.02, B₀= 3.54, L₀= 217.73)

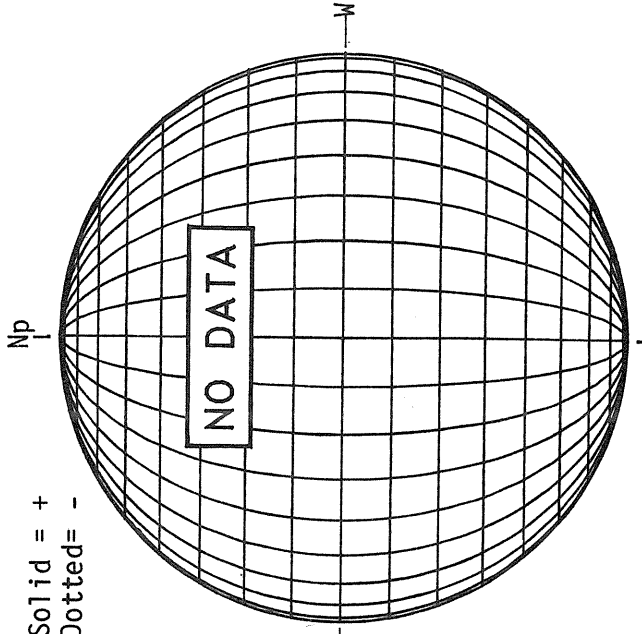
KITT PEAK MAGNETOGRAM



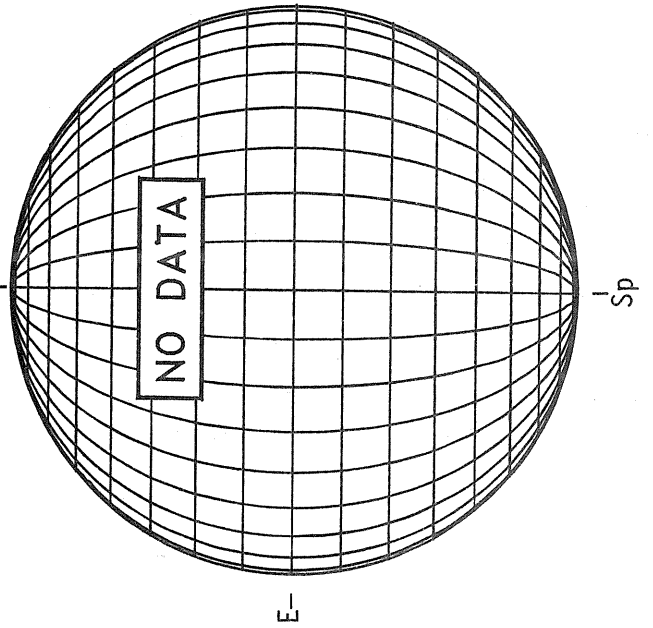
STANFORD MAGNETOGRAM



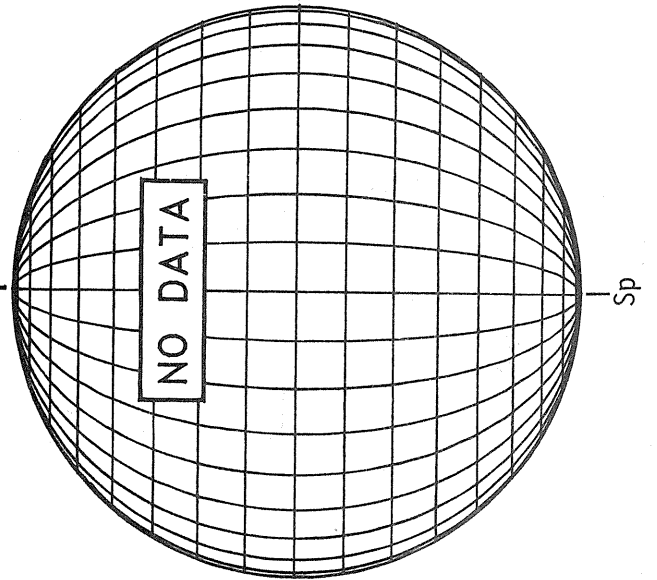
MT. WILSON MAGNETOGRAM



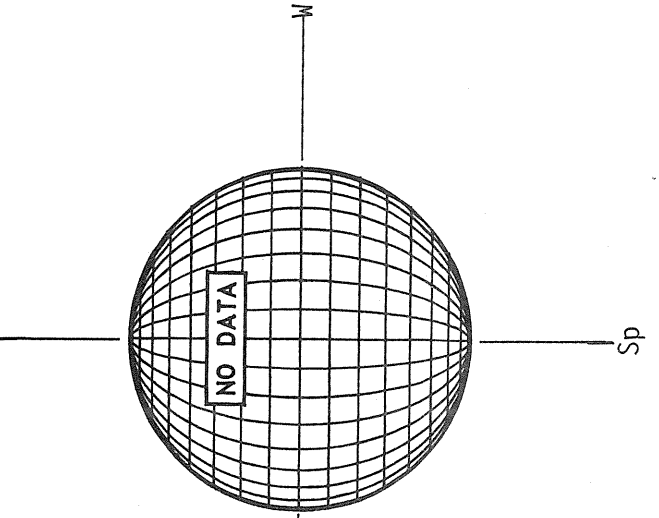
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

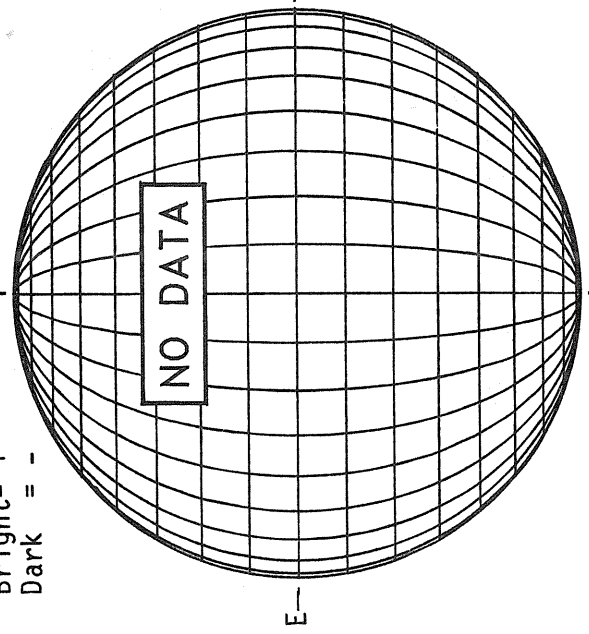


N O V E M B E R 10, 1 9 8 2 (P= 22.79, B₀= 3.43, L₀= 204.55)

KITT PEAK MAGNETOGRAM

Np

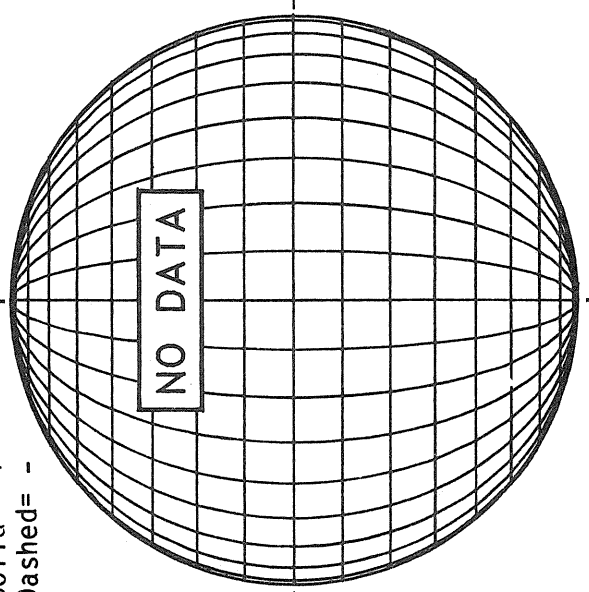
Bright= +
Dark = -



STANFORD MAGNETOGRAM

Np

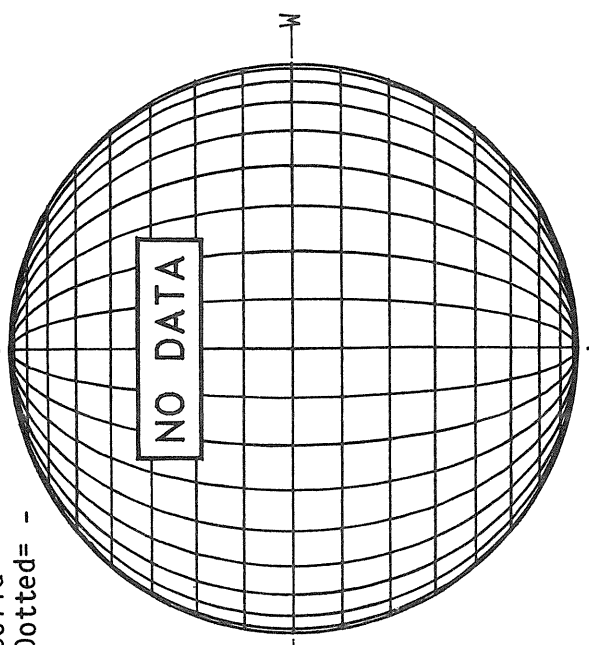
Solid = +
Dashed = -



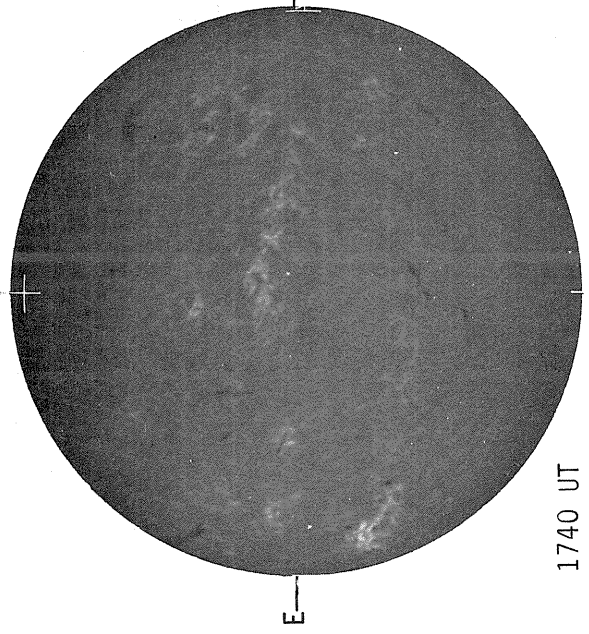
MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted = -

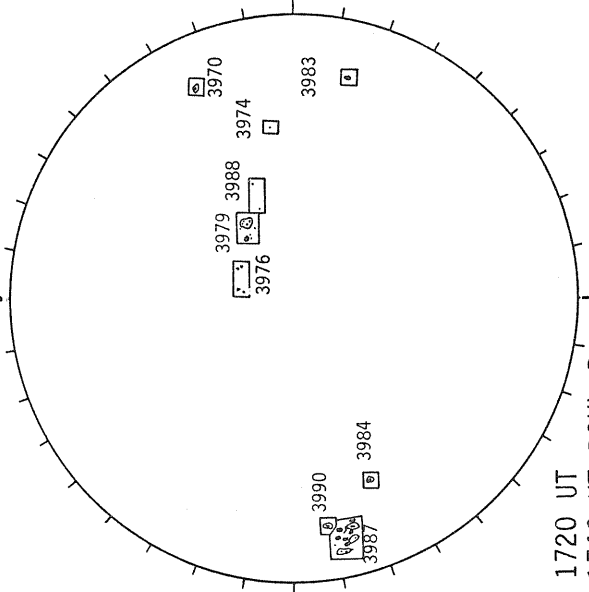


BOULDER H-ALPHA



1740 UT

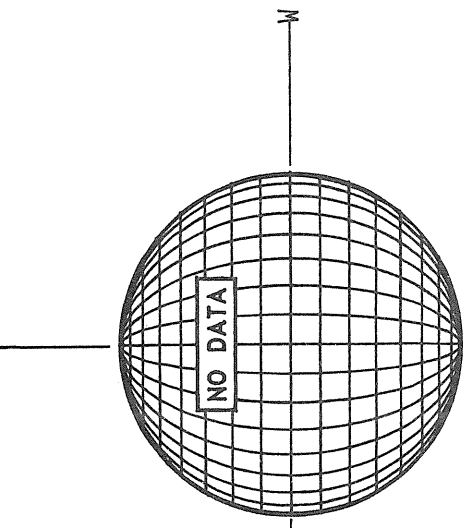
BOULDER SUNSPOTS



1720 UT

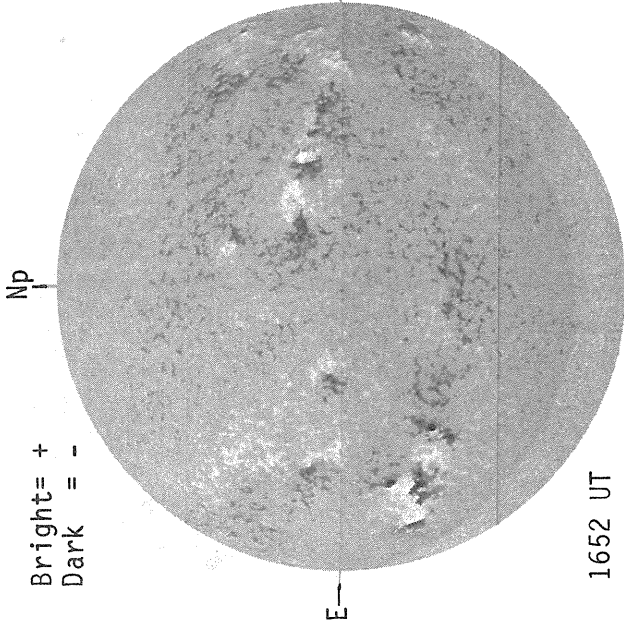
1740 UT BOUL Prom

SACRAMENTO PEAK CORONA (5303 Angstrom)

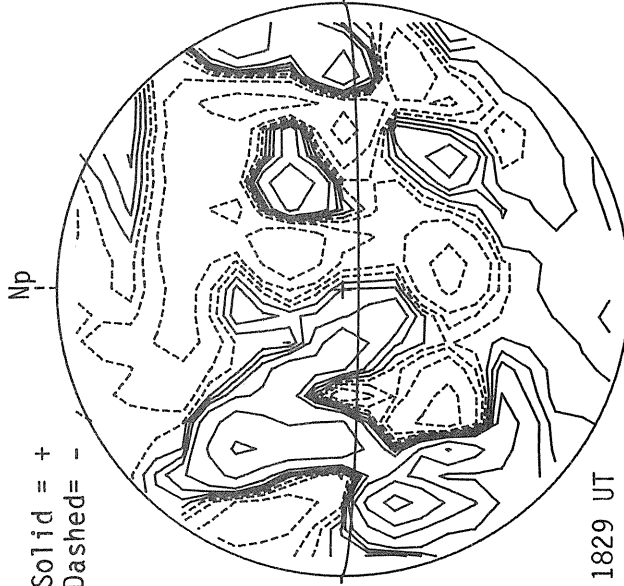


N O V E M B E R 11, 1 9 8 2 (P= 22.55, B₀= 3.31, L₀= 191.36)

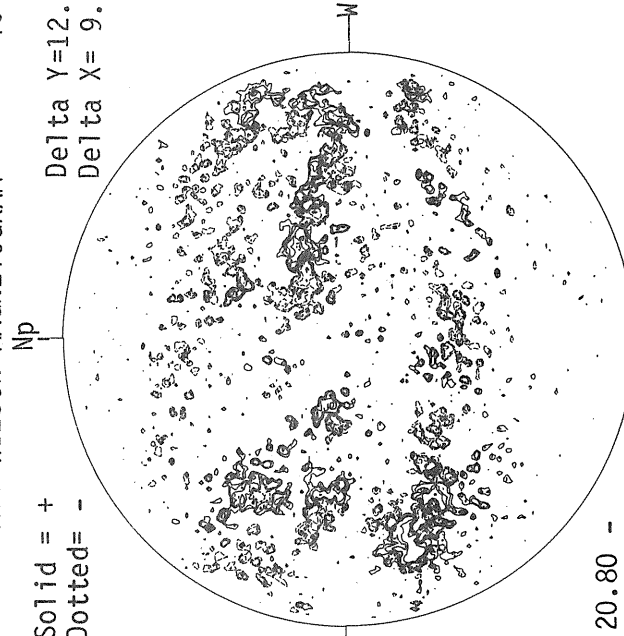
KITT PEAK MAGNETOGRAM



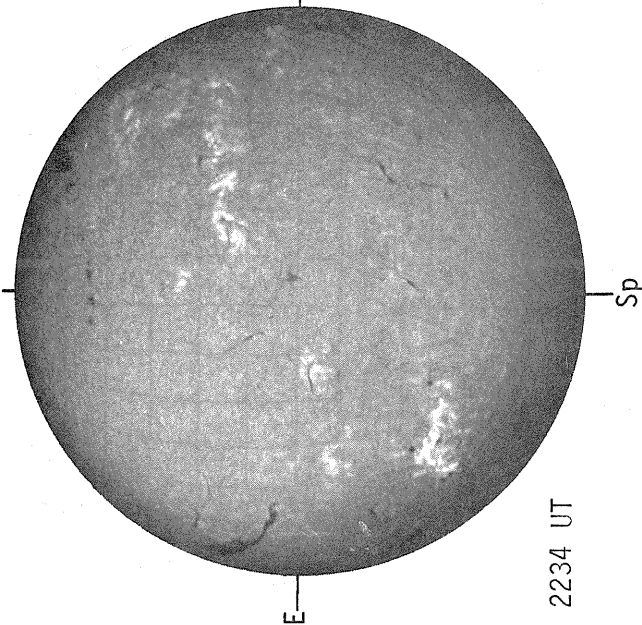
STANFORD MAGNETOGRAM



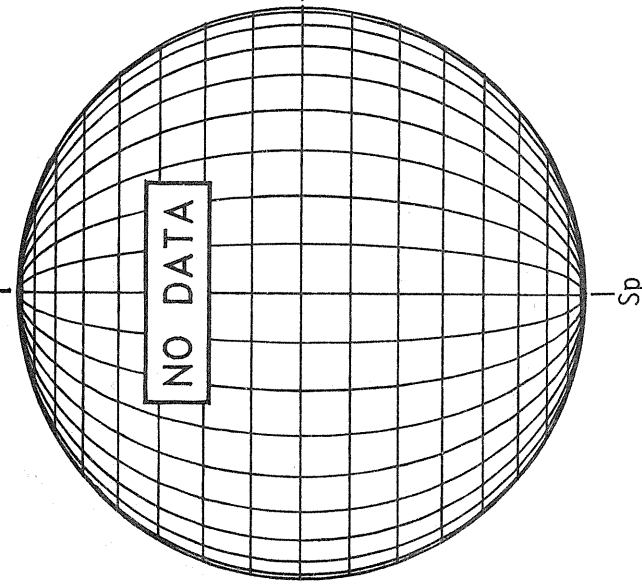
MT. WILSON MAGNETOGRAM



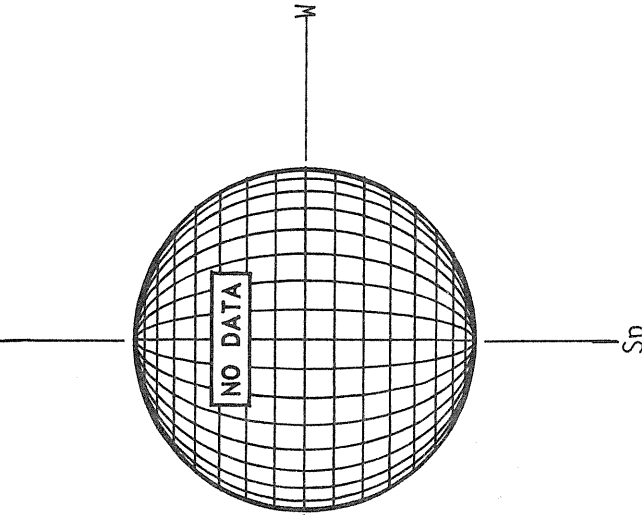
SAN FERNANDO H-ALPHA



BOULDER SUNSPOTS

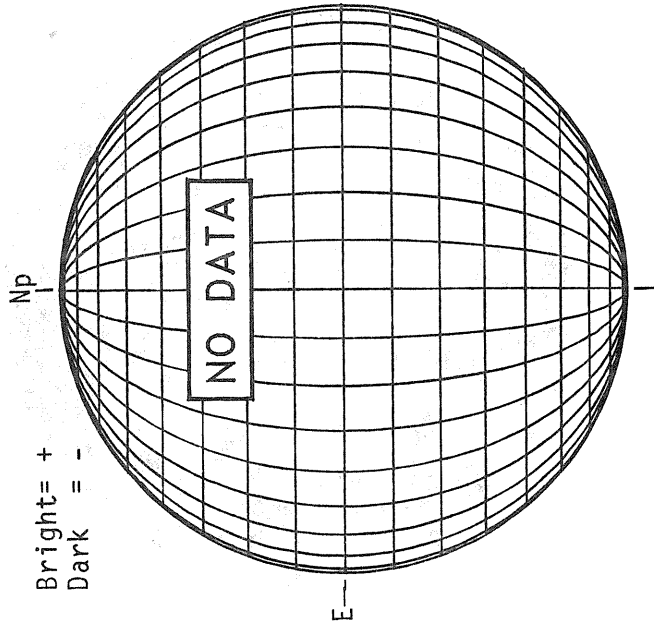


SACRAMENTO PEAK CORONA (5303 Angstrom)

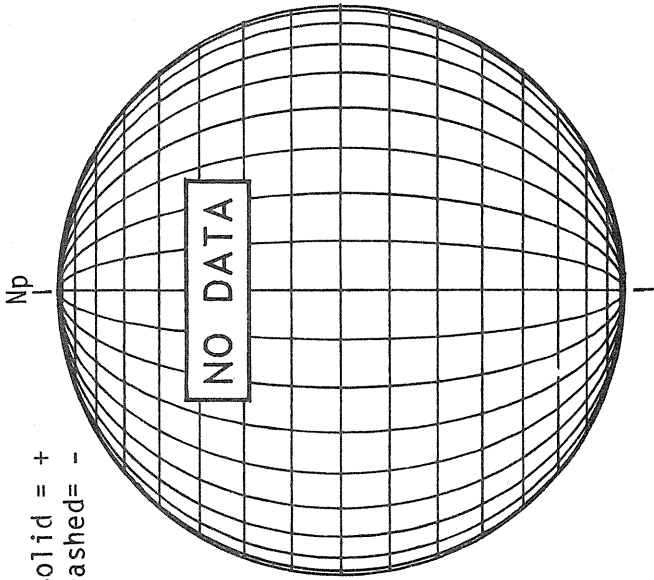


N O V E M B E R 12, 1 9 8 2 (P= 22.31, B₀= 3.20, L₀= 178.18)

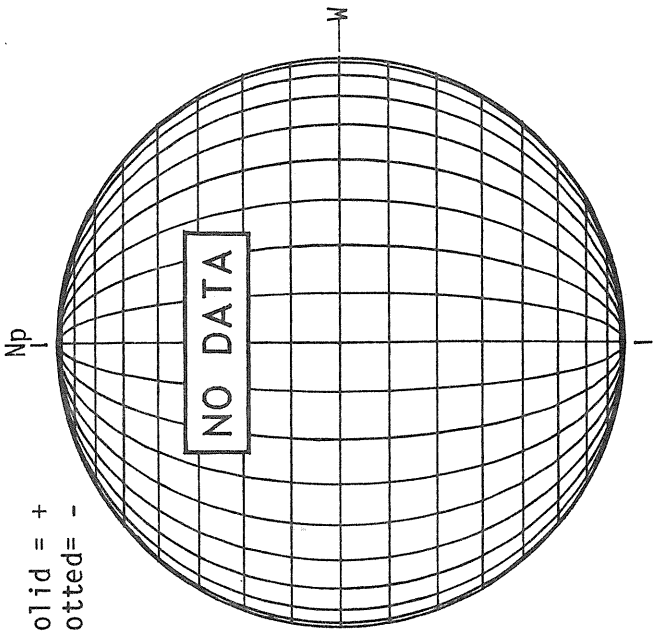
KITT PEAK MAGNETOGRAM



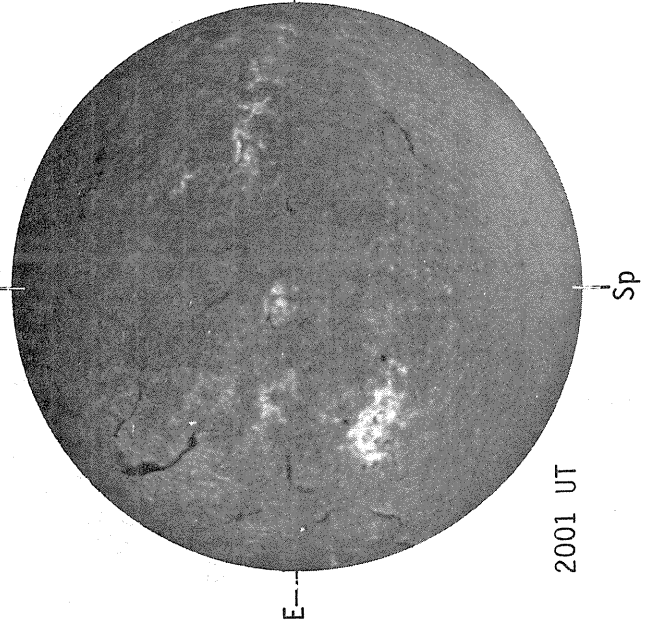
STANFORD MAGNETOGRAM



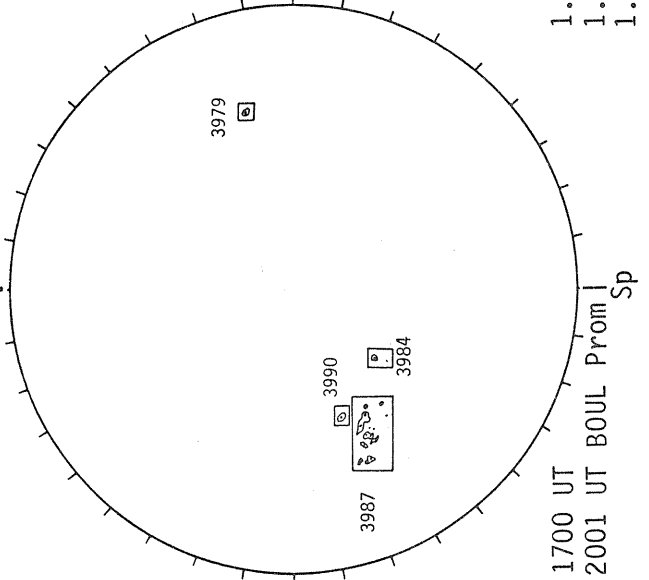
MT. WILSON MAGNETOGRAM



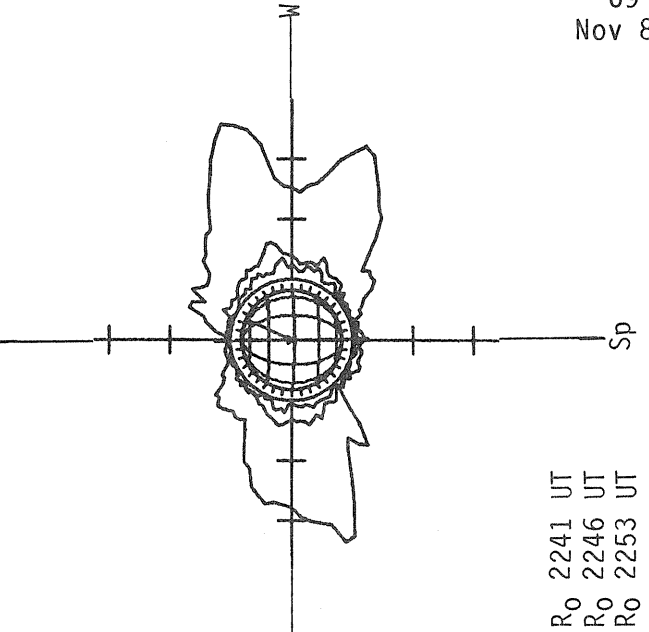
BOULDER H-ALPHA



BOULDER SUNSPOTS

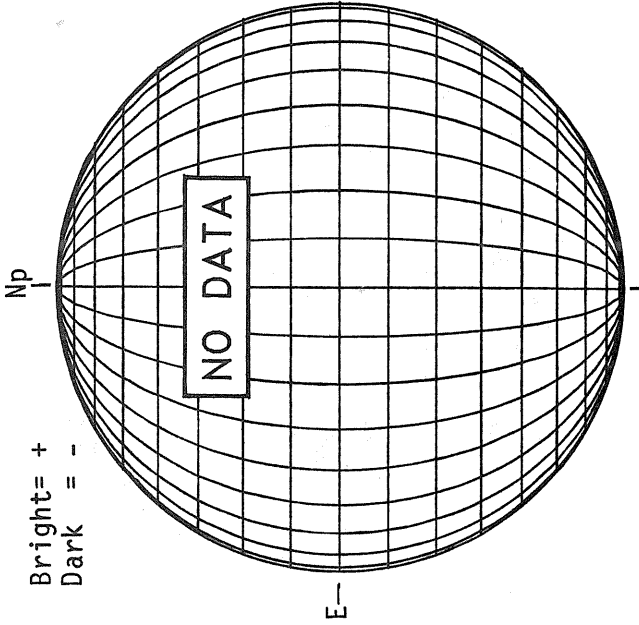


SACRAMENTO PEAK CORONA (5303 Angstrom)

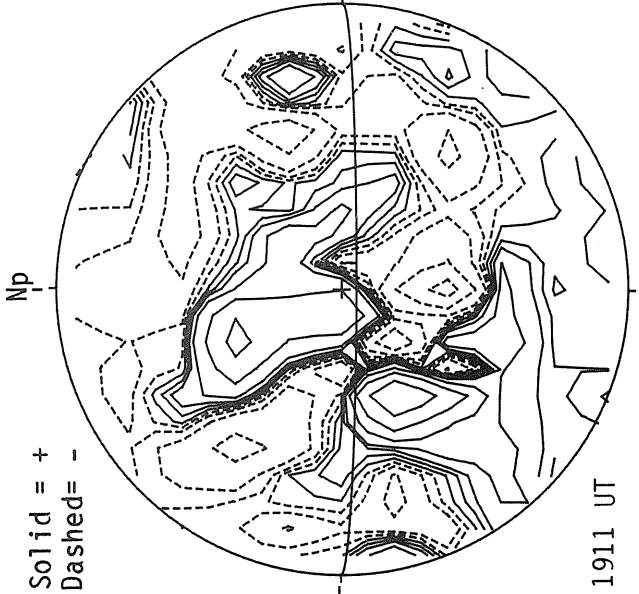


NOVEMBER 13, 1982 (P= 22.05, B₀= 3.08, L₀= 165.00)

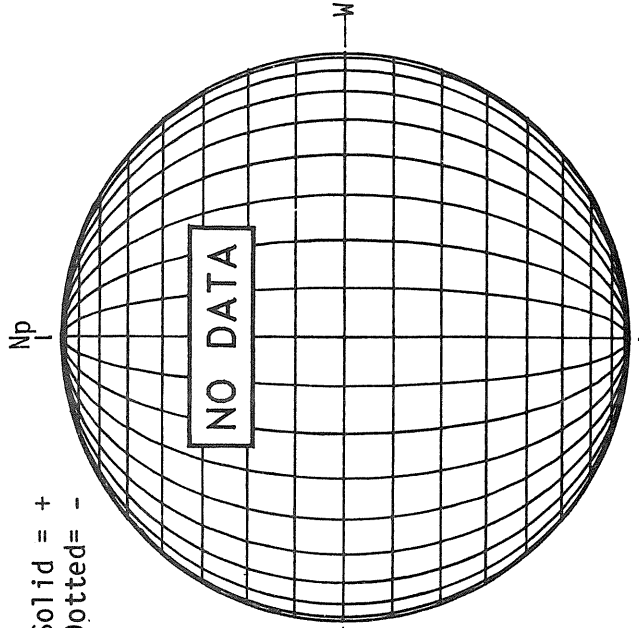
KITT PEAK MAGNETOGRAM



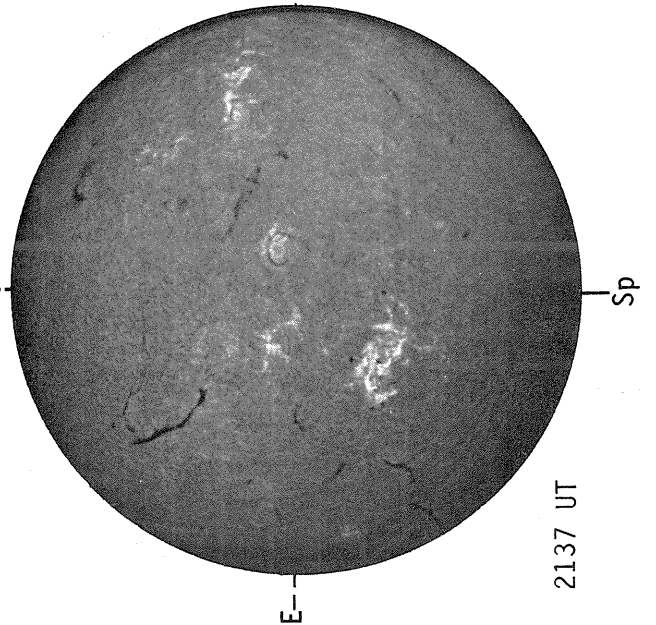
STANFORD MAGNETOGRAM



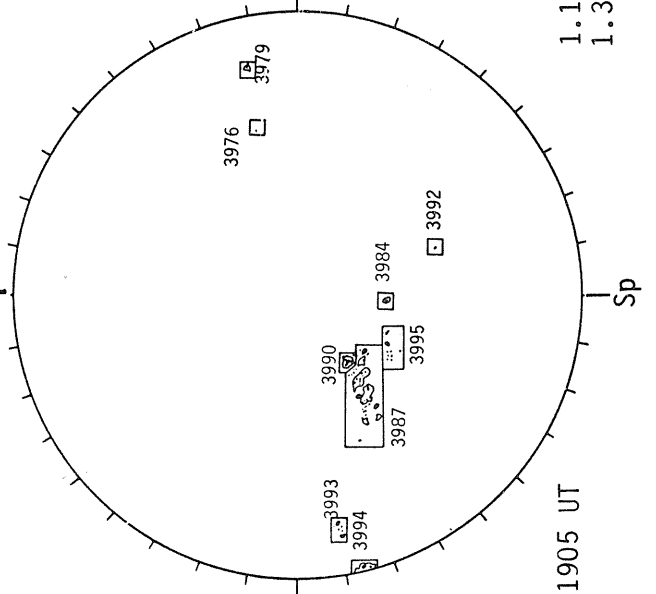
MT. WILSON MAGNETOGRAM



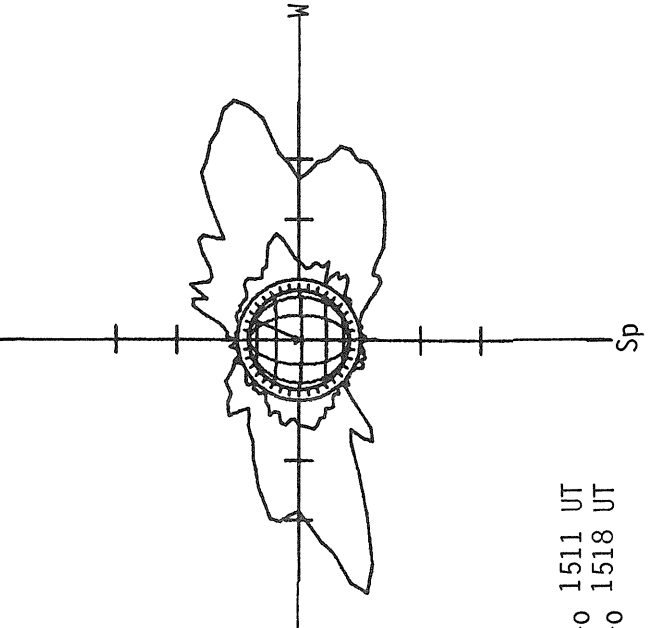
HOLLOMAN H-ALPHA



BOULDER SUNSPOTS

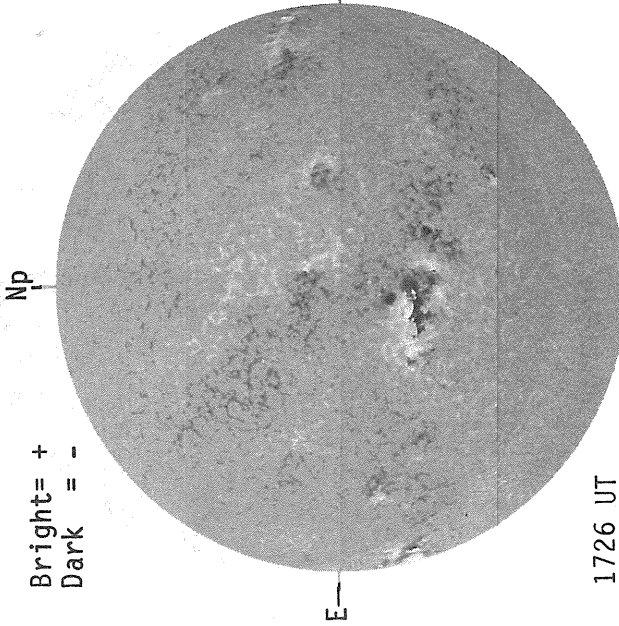


SACRAMENTO PEAK CORONA (5303 Angstrom)

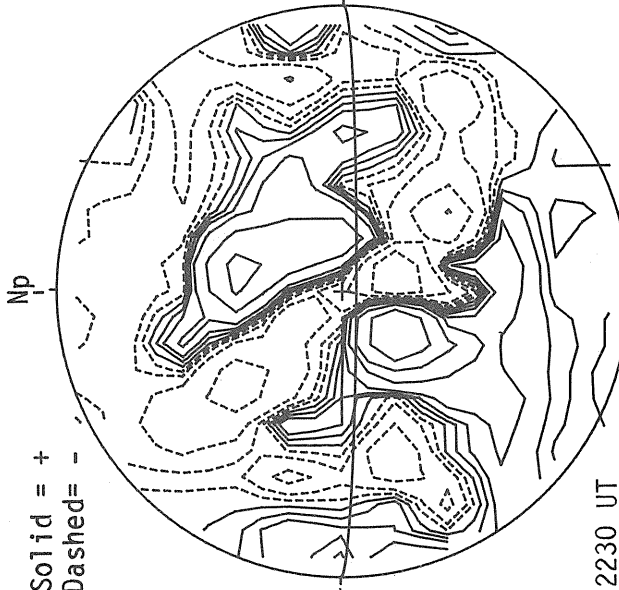


N O V E M B E R 14, 1 9 8 2 (P= 21.79, B₀= 2.97, L₀= 151.81)

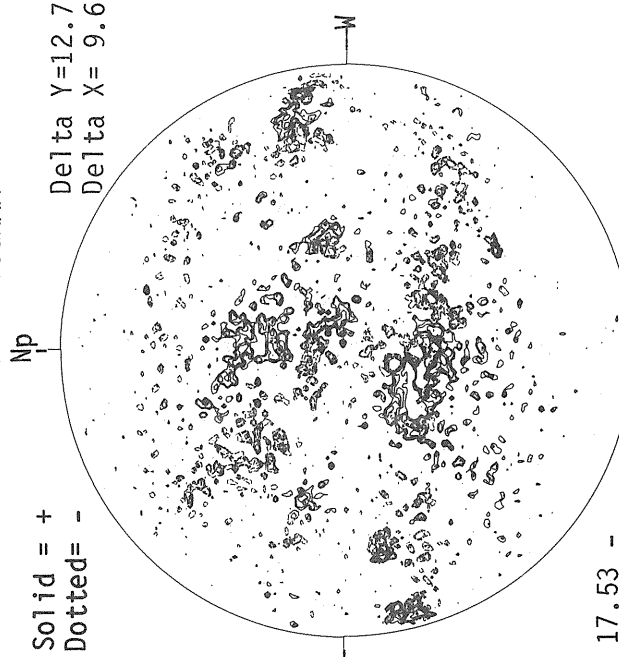
KITT PEAK MAGNETOGRAM



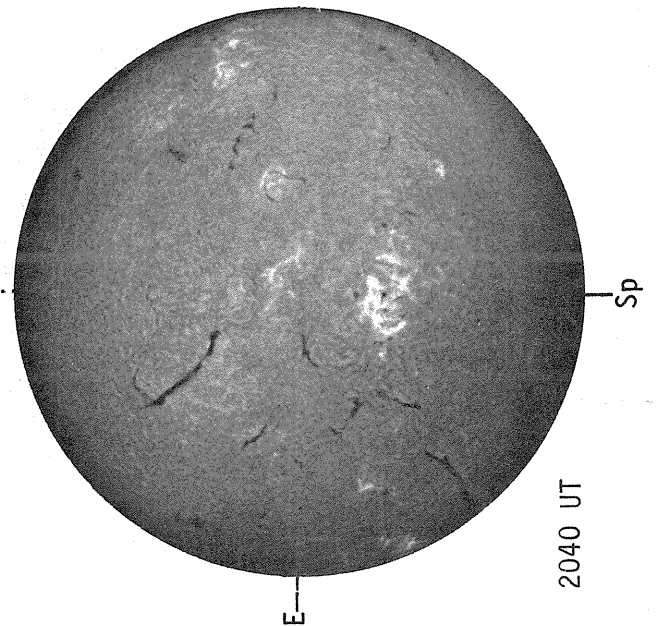
STANFORD MAGNETOGRAM



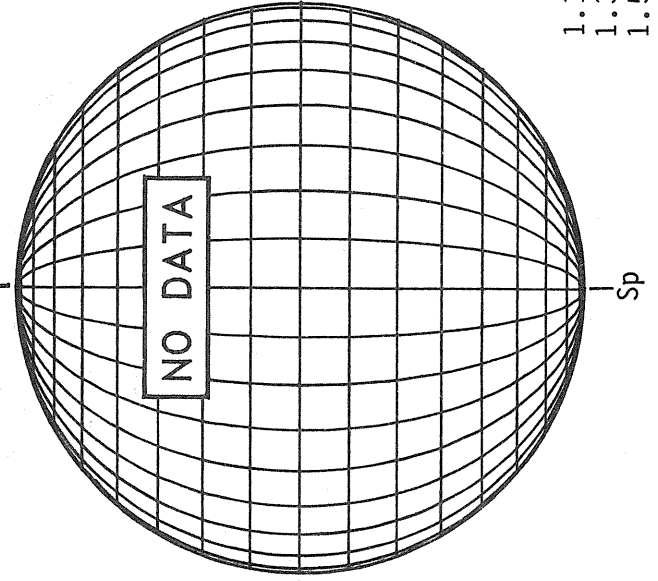
MT. WILSON MAGNETOGRAM



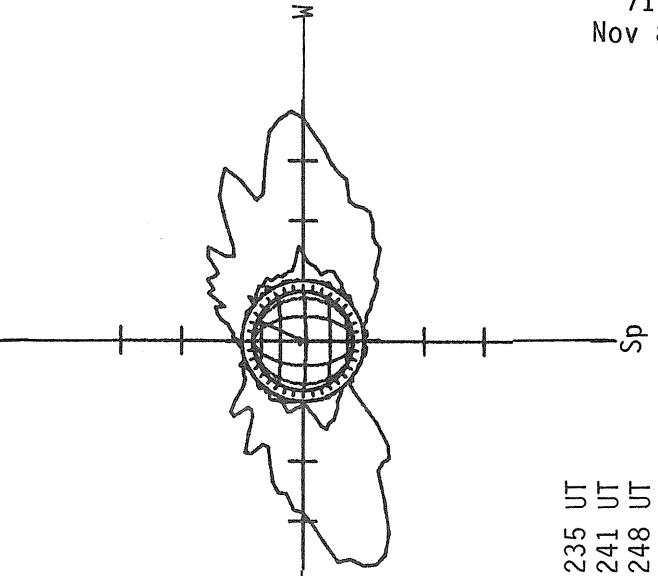
HOLLOMAN H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



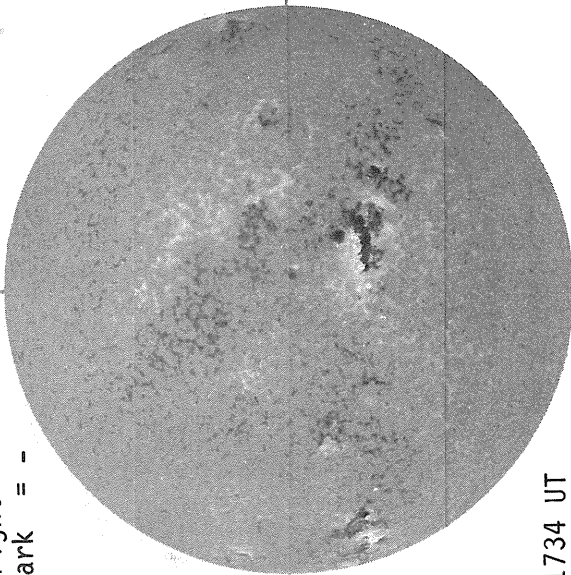
1.15 R₀ 2235 UT
1.35 R₀ 2241 UT
1.55 R₀ 2248 UT

N O V E M B E R 15, 1 9 8 2 (P= 21.52, B₀= 2.85, L₀= 138.63)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

Np

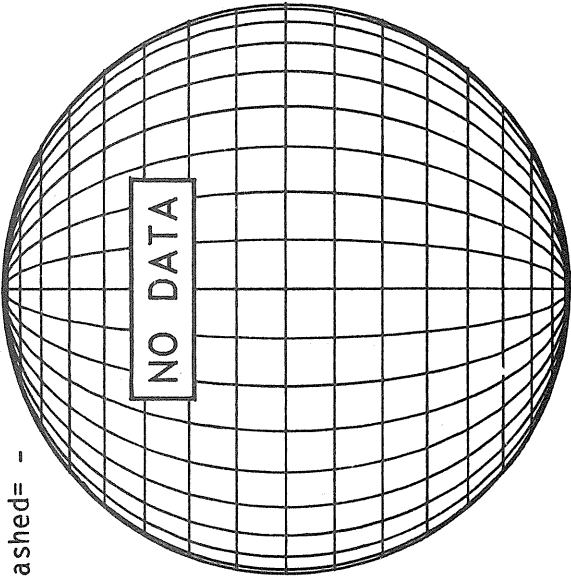


1734 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed = -

Np

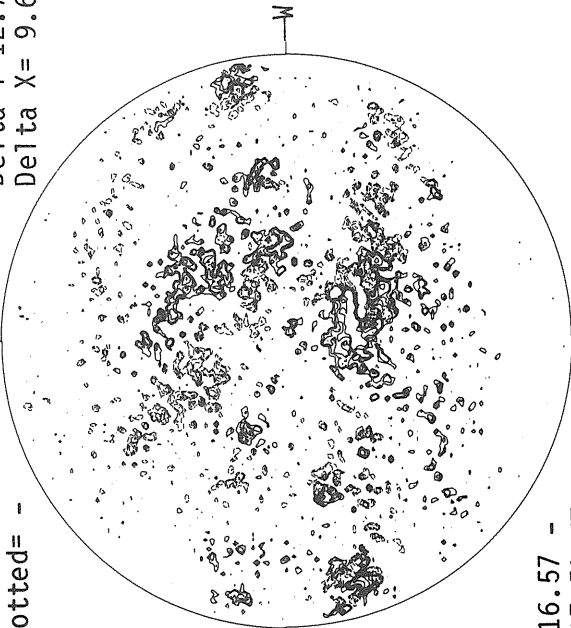


16.57 -
17.51 UT

MT. WILSON MAGNETOGRAM

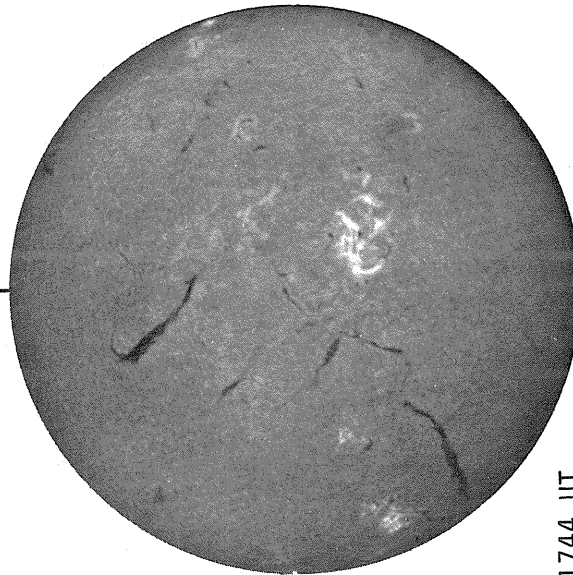
Solid = +
Dotted = -

Np



Delta Y=12.7
Delta X= 9.6

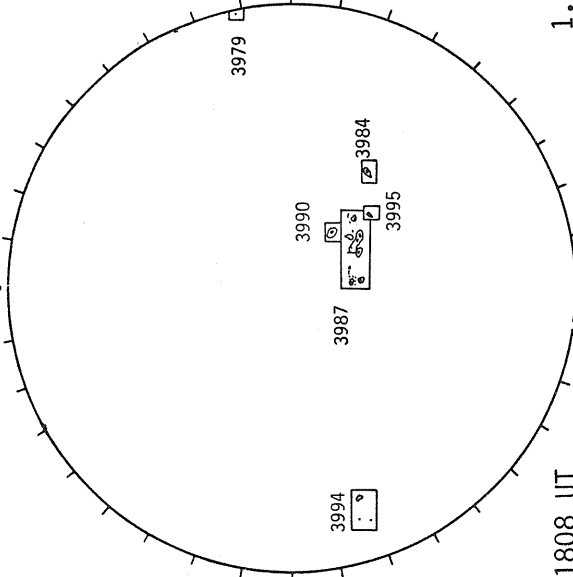
HOLLOWAN H-ALPHA



1744 UT

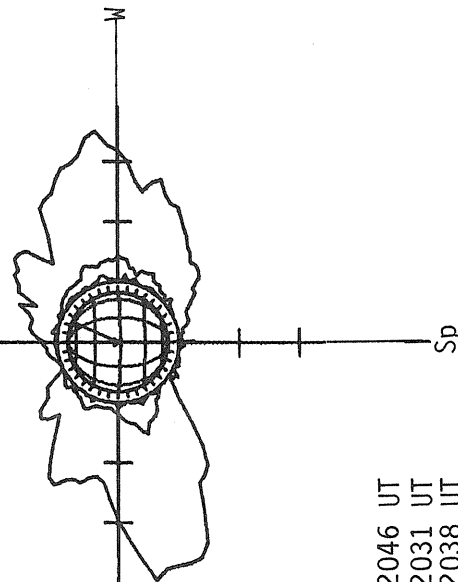
BOULDER SUNSPOTS

SACRAMENTO PEAK CORONA (5303 Angstrom)



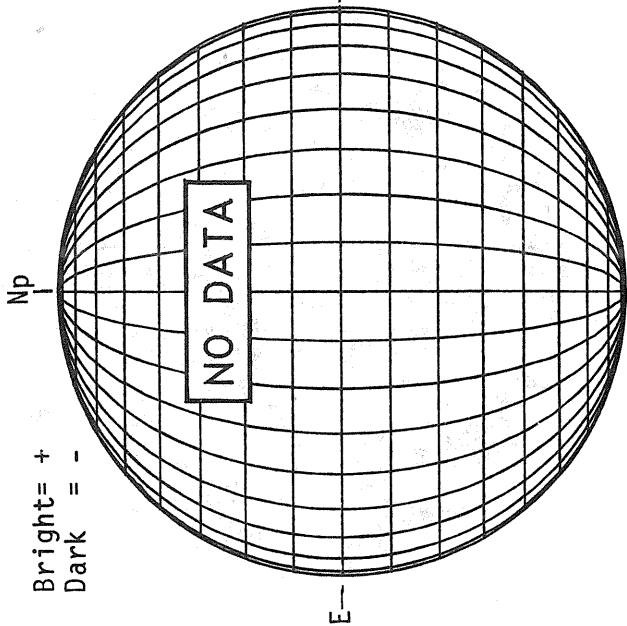
1808 UT

1.15 R₀ 2046 UT
1.35 R₀ 2031 UT
1.55 R₀ 2038 UT

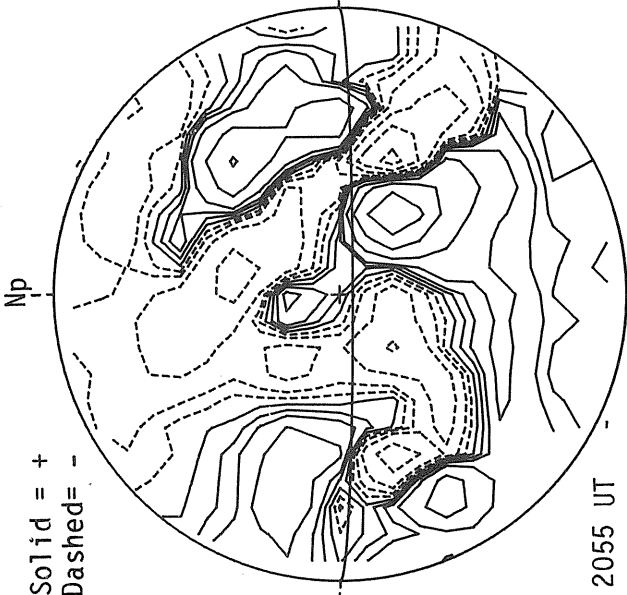


N O V E M B E R 1 6 , 1 9 8 2 (P = 2 1 . 2 5 , B₀ = 2 . 7 4 , L₀ = 1 2 5 . 4 5)

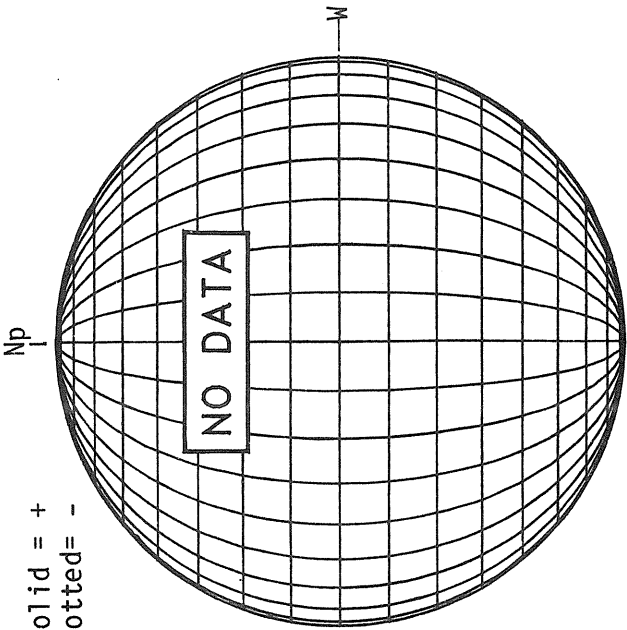
KITT PEAK MAGNETOGRAM



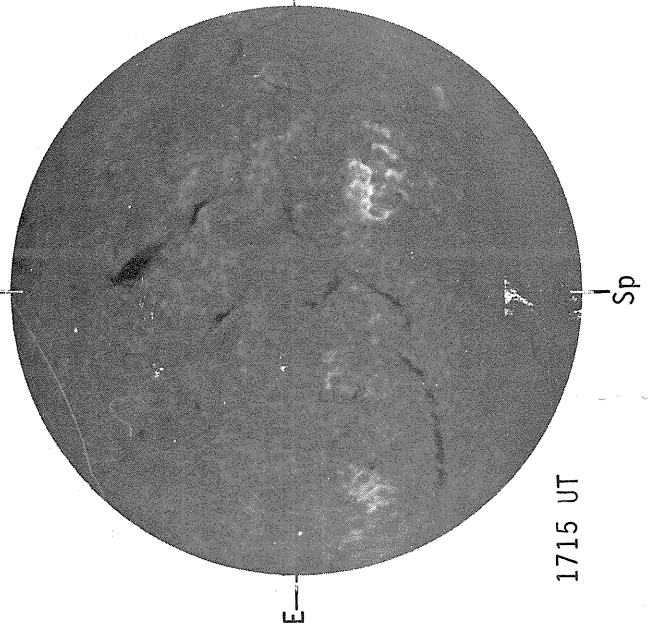
STANFORD MAGNETOGRAM



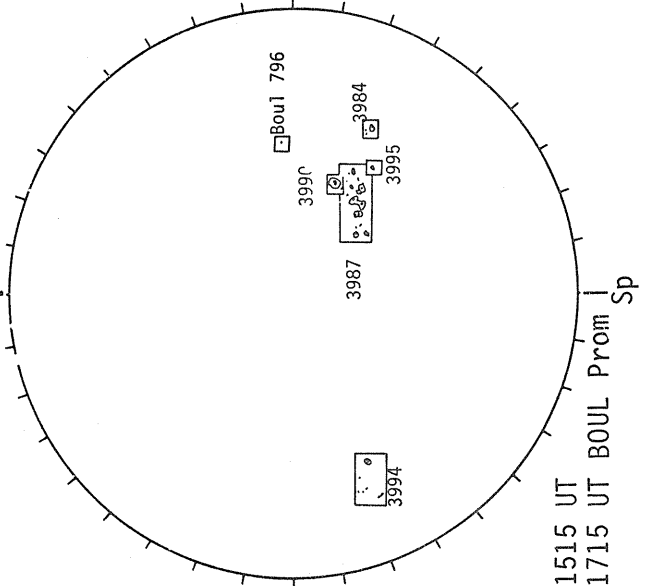
MT. WILSON MAGNETOGRAM



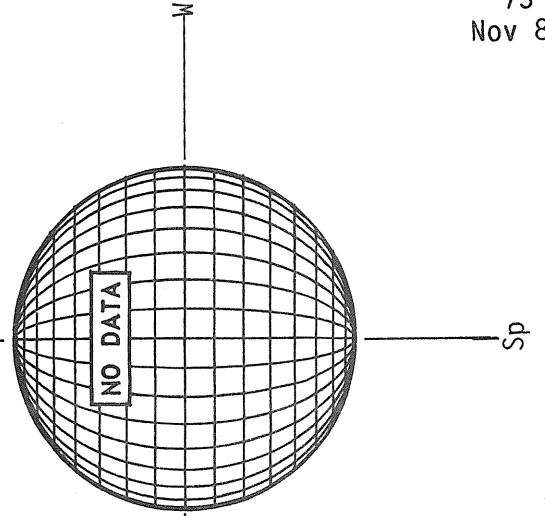
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



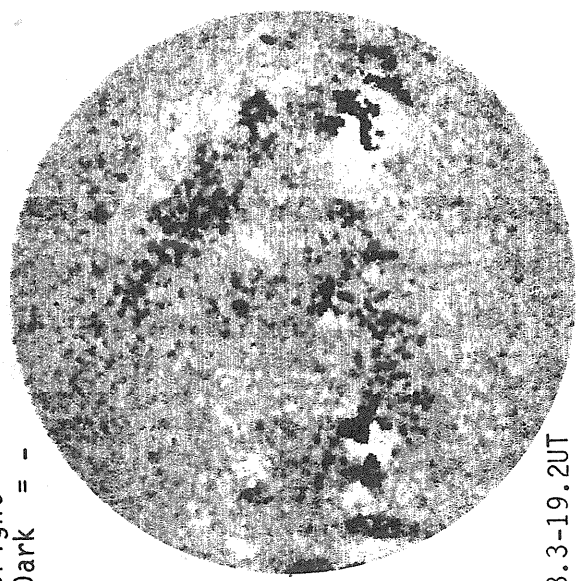
74
Nov 82

NOVEMBER 17, 1982 (P= 20.96, B₀= 2.62, L₀= 112.27)

MT. WILSON MAGNETOGRAM

Np

Bright= +
Dark = -



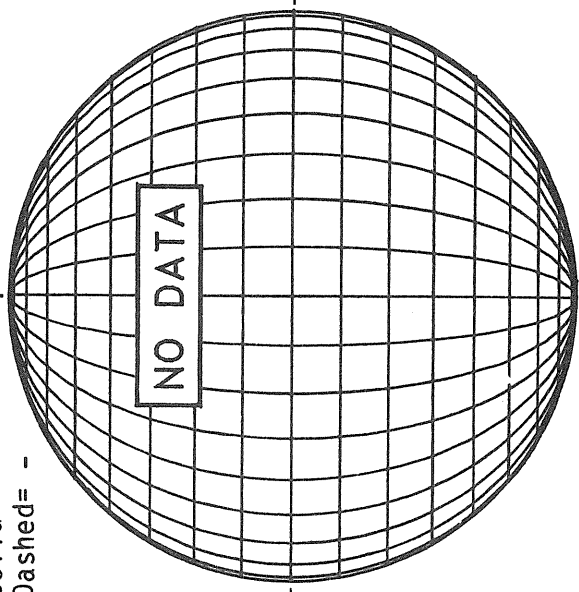
E-

18.3-19.2UT

STANFORD MAGNETOGRAM

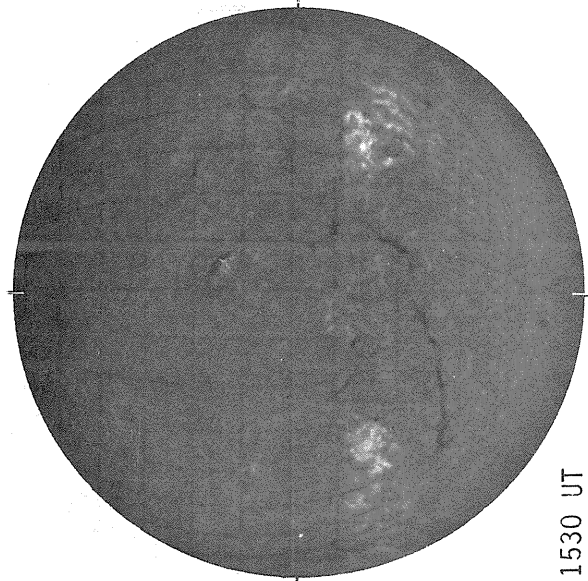
Np

Solid = +
Dashed = -



NO DATA

BOULDER H-ALPHA



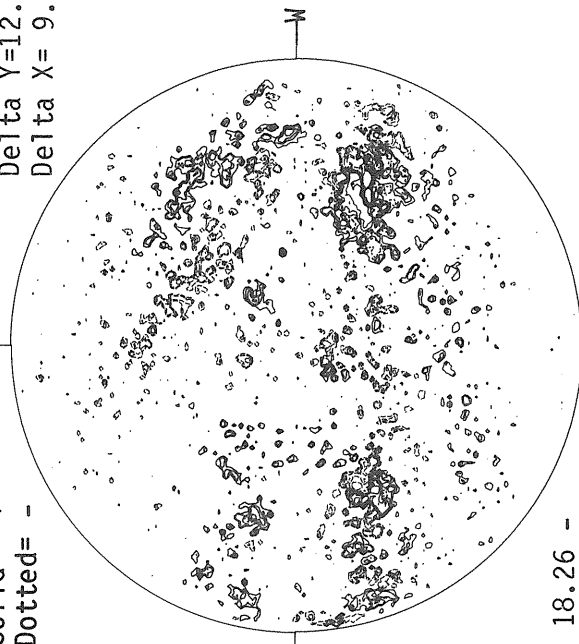
E-

1530 UT

MT. WILSON MAGNETOGRAM

Np

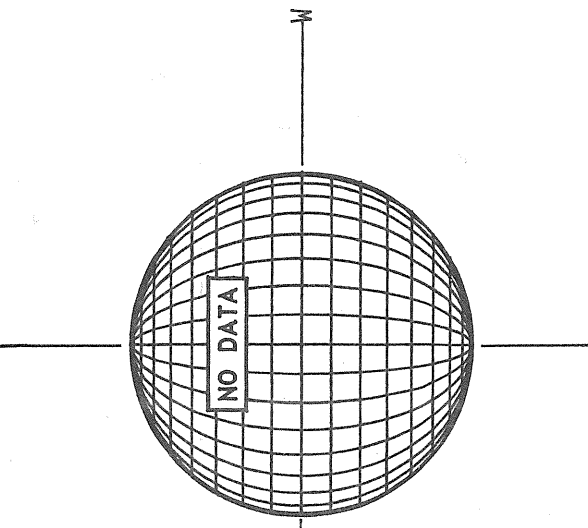
Solid = +
Dotted = -



NO DATA

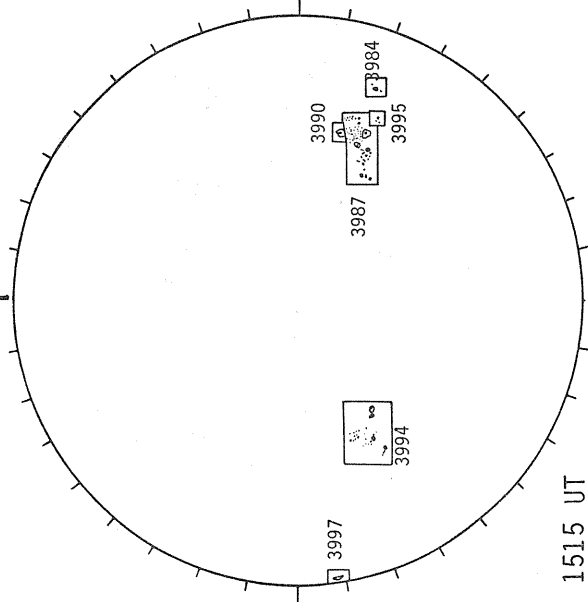
18.26 -
19.20 UT

SACRAMENTO PEAK CORONA (5303 Angstrom)



NO DATA

BOULDER SUNSPOTS



1515 UT
1530 UT BOUL Prom

Sp

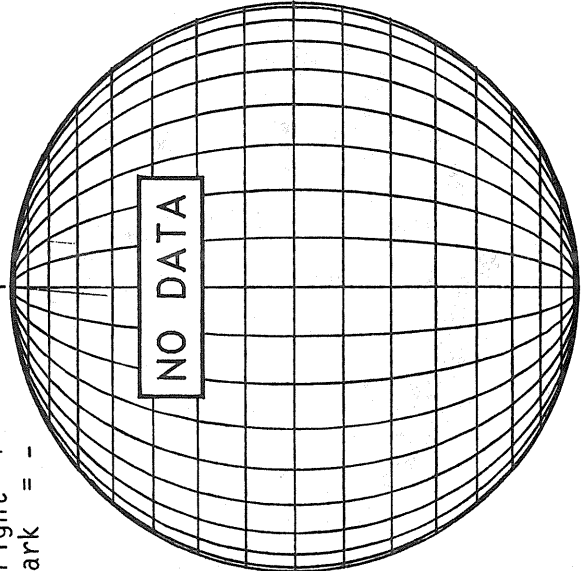
Sp

N O V E M B E R 18, 1 9 8 2 (P= 20.67, B₀= 2.50, L₀= 99.09)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

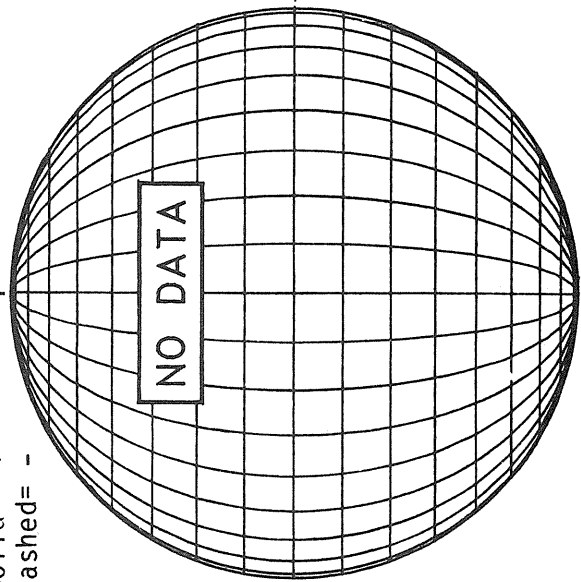
Np



STANFORD MAGNETOGRAM

Solid = +
Dashed = -

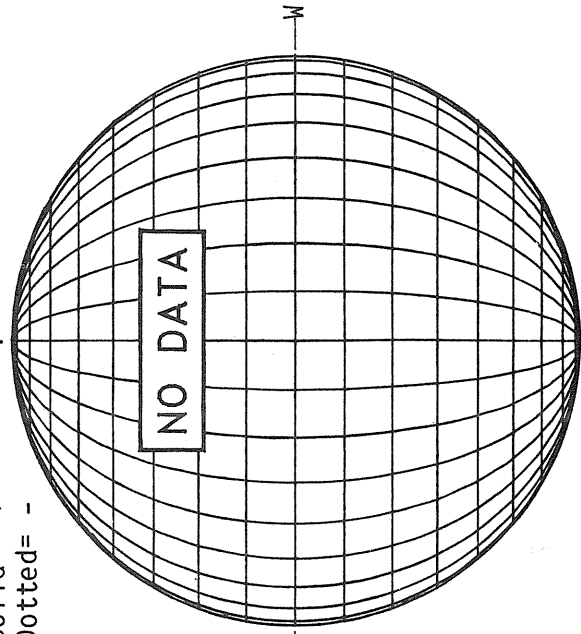
Np



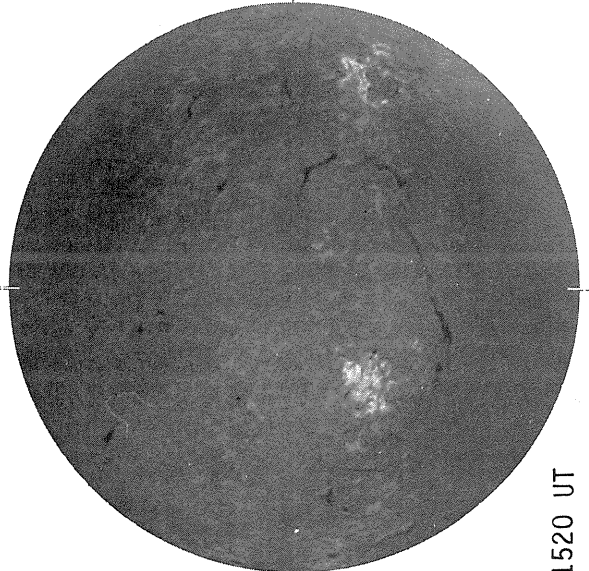
MT. WILSON MAGNETOGRAM

Solid = +
Dotted = -

Np

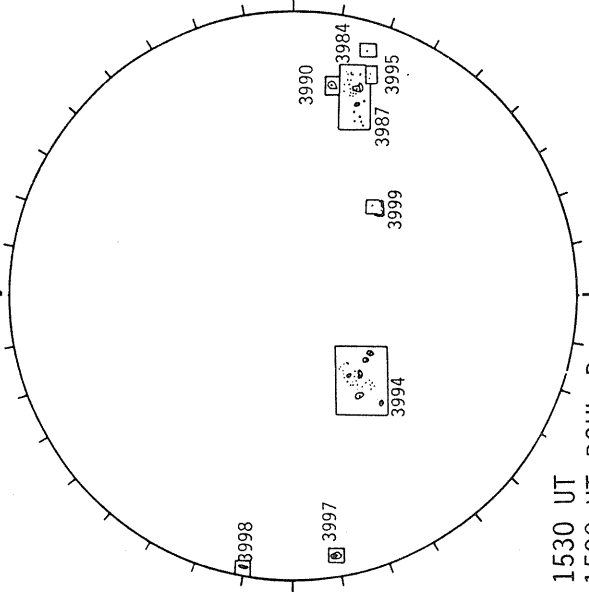


BOULDER H-ALPHA



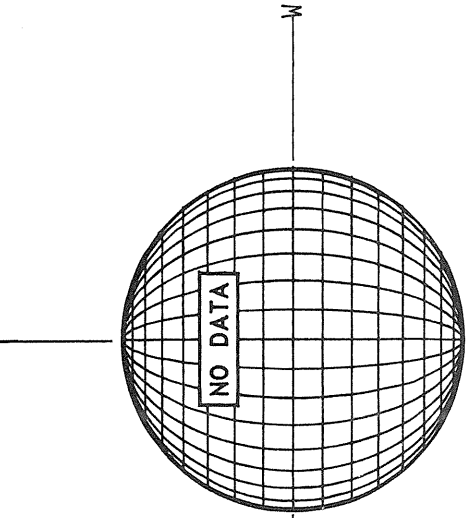
1520 UT

BOULDER SUNSPOTS



1530 UT
1520 UT BOUL Prom

SACRAMENTO PEAK CORONA (5303 Angstrom)



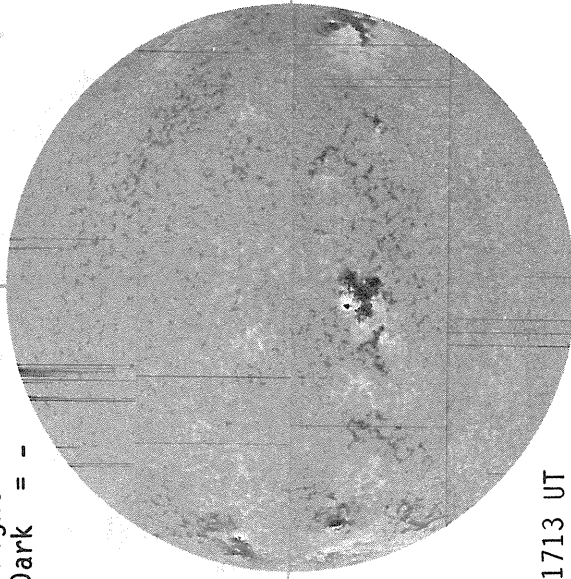
Sp

N O V E M B E R 1 9, 1 9 8 2 (P= 20.37, B₀= 2.38, L₀= 85.90)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -

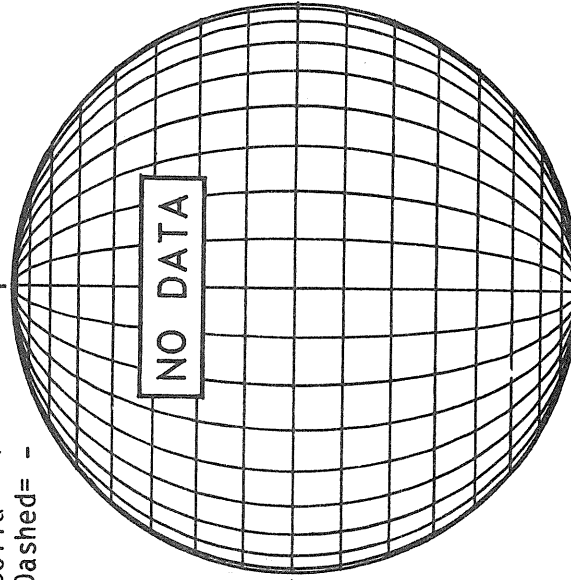


1713 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed = -

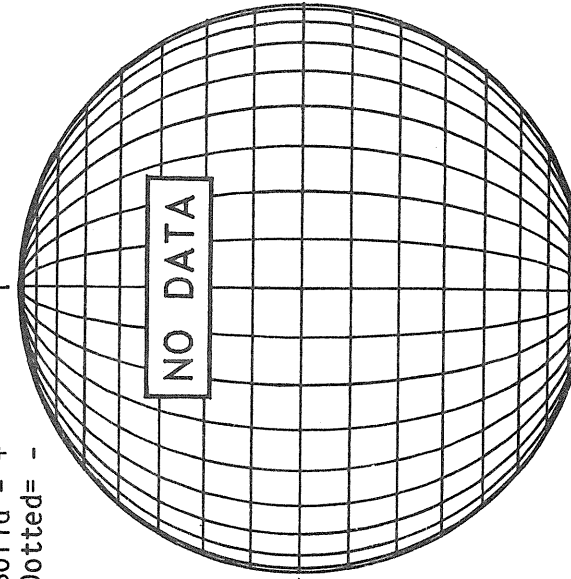


NO DATA

MT. WILSON MAGNETOGRAM

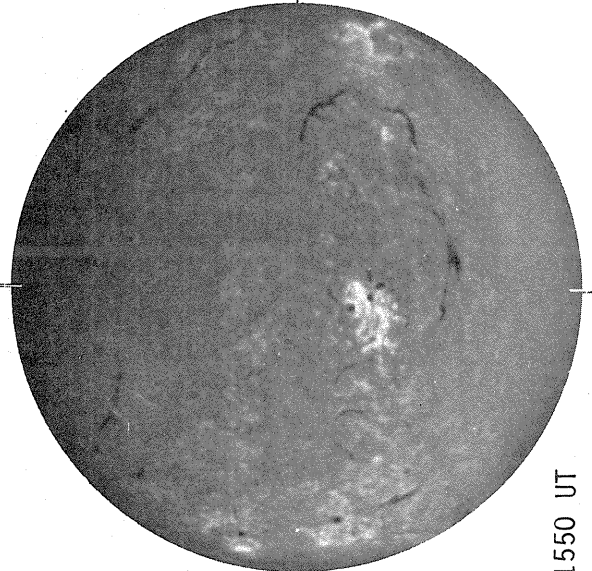
Np

Solid = +
Dotted = -



NO DATA

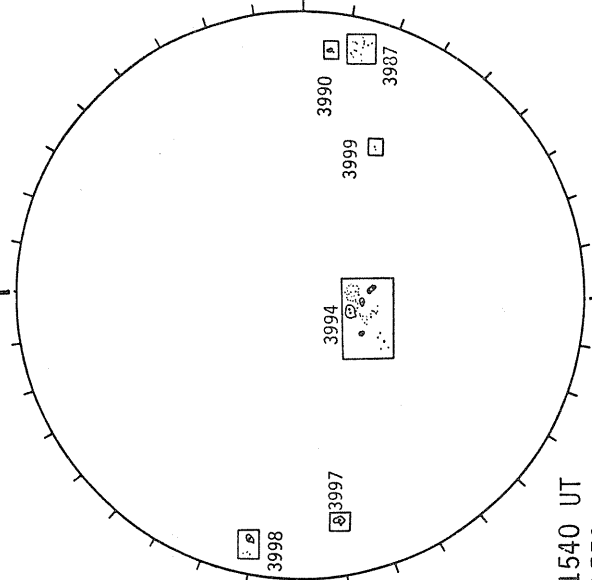
BOULDER H-ALPHA



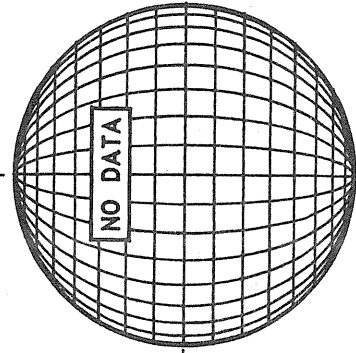
1550 UT

BOULDER SUNSPOTS

SACRAMENTO PEAK CORONA (5303 Angstrom)



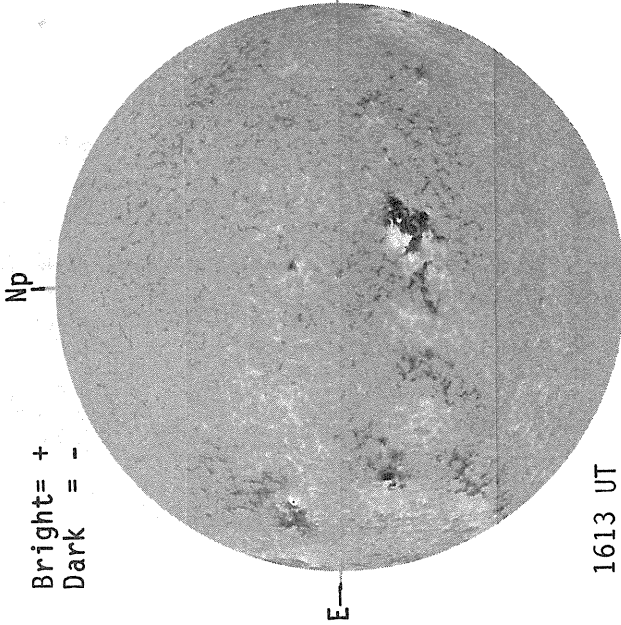
1540 UT
1550 UT BOUL Prom Sp



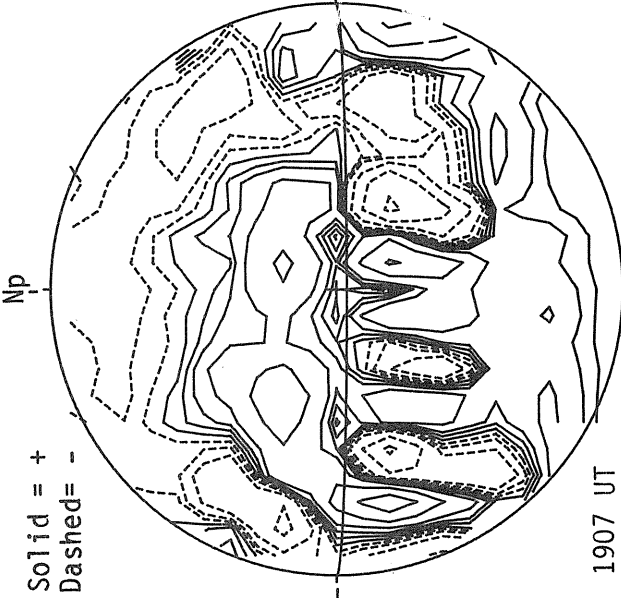
NO DATA

N O V E M B E R 20, 1 9 8 2 (P= 20.06, B₀= 2.26, L₀= 72.72)

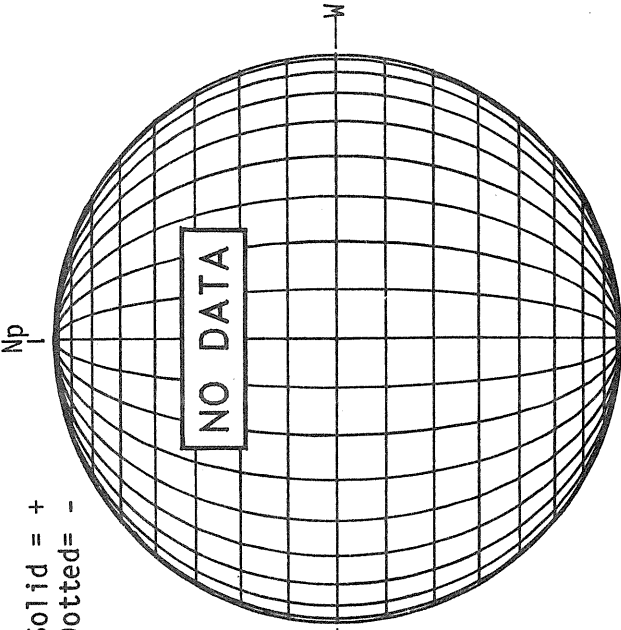
KITT PEAK MAGNETOGRAM



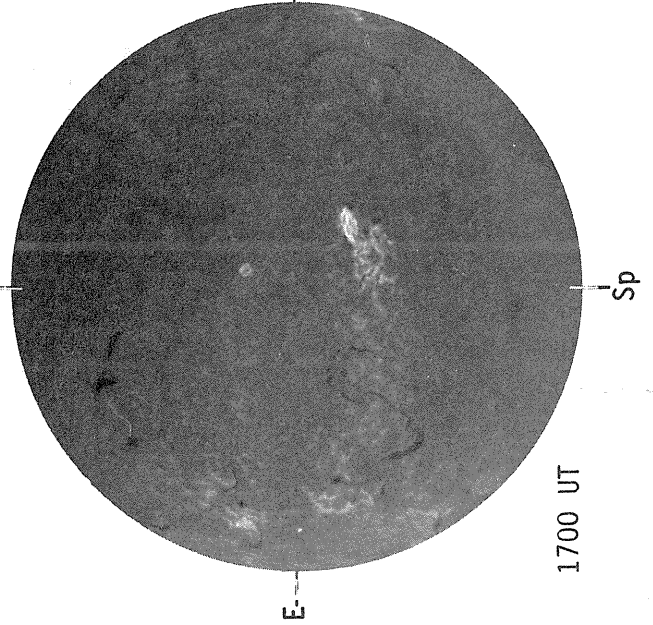
STANFORD MAGNETOGRAM



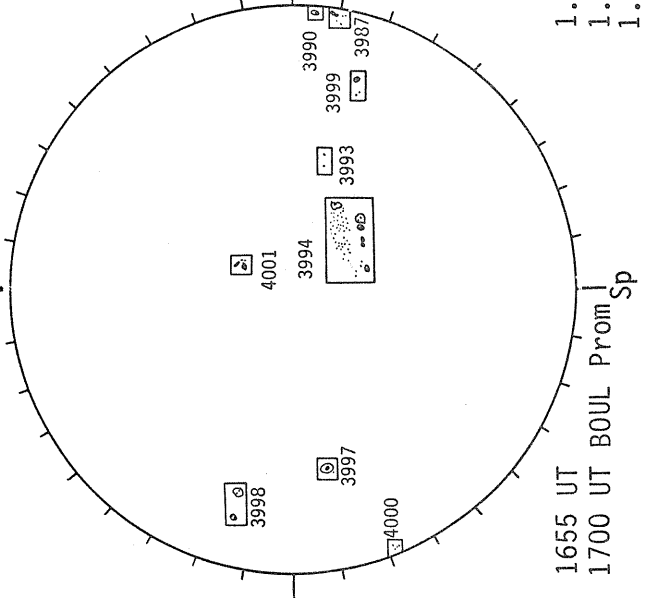
MT. WILSON MAGNETOGRAM



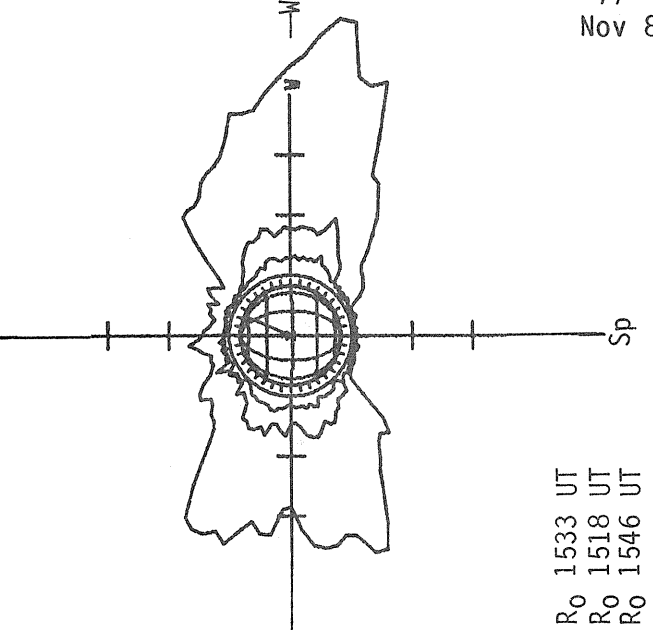
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

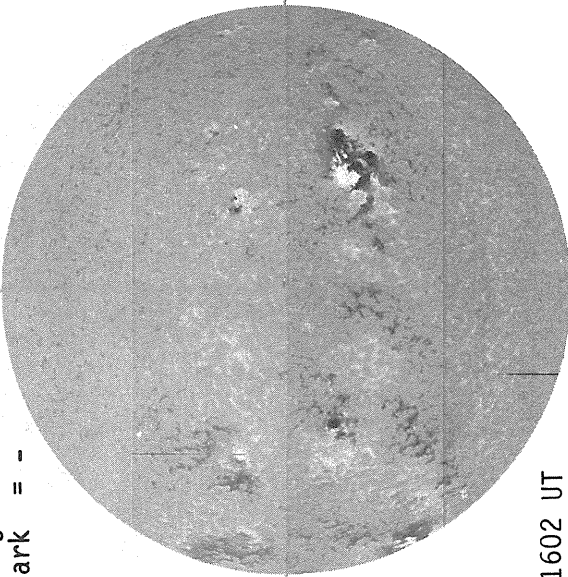


N O V E M B E R 21, 1 9 8 2 (P= 19.75, B₀= 2.14, L₀= 59.54)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

Np

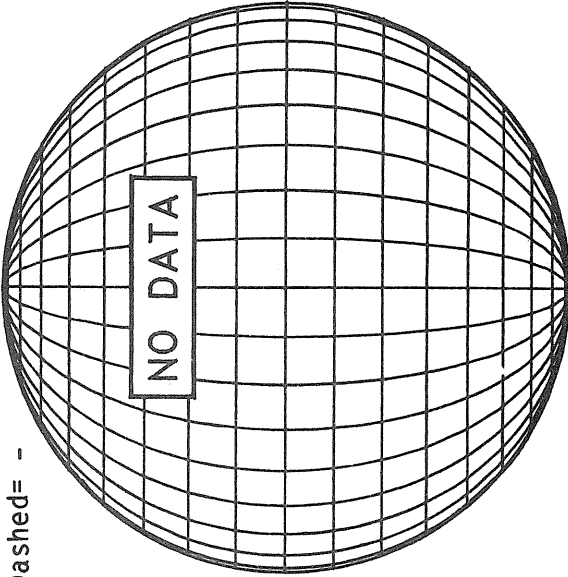


1602 UT

STANFORD MAGNETOGRAM

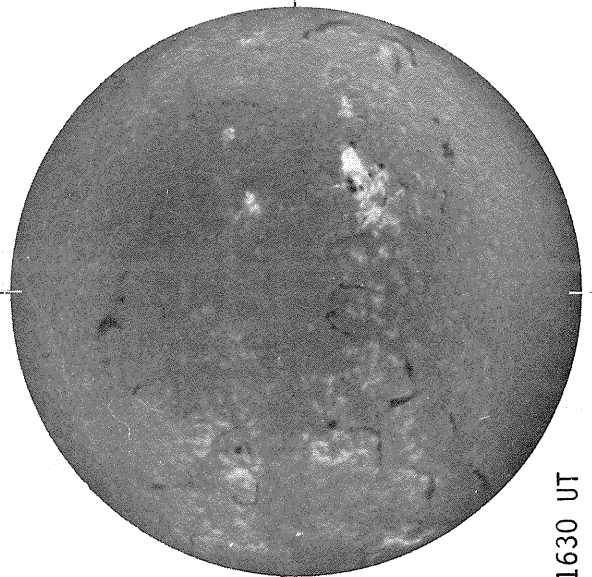
Solid = +
Dashed = -

Np

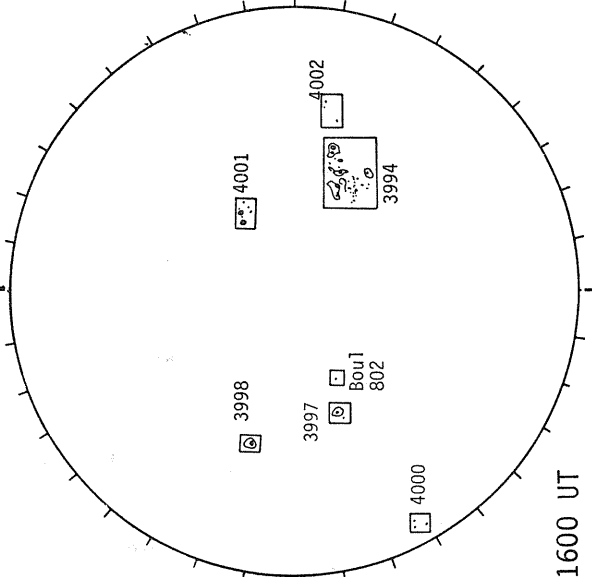


BOULDER SUNSPOTS

BOULDER H-ALPHA



1630 UT

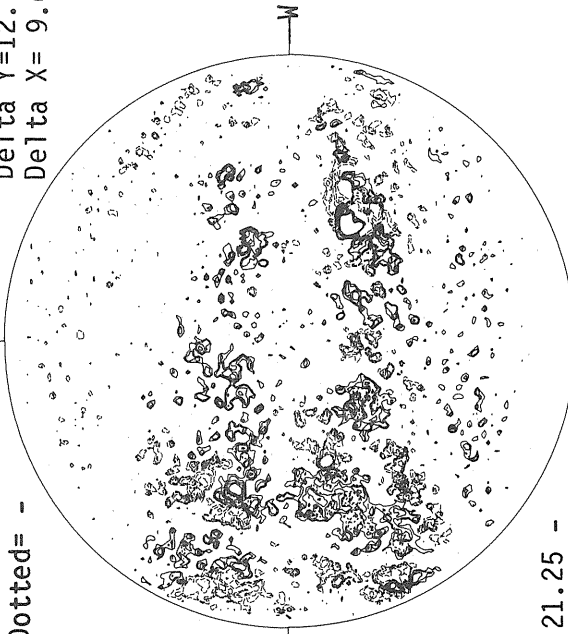


1600 UT

MT. WILSON MAGNETOGRAM

Solid = +
Dotted = -

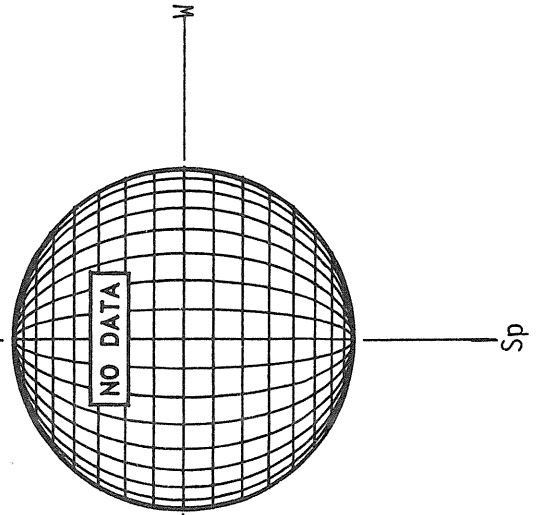
Np



Delta Y=12.7
Delta X=9.6

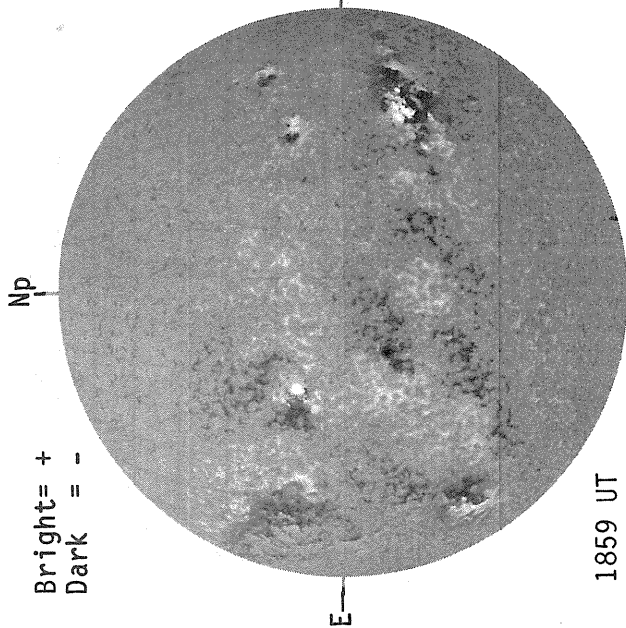
21.25 -
22.20 UT

SACRAMENTO PEAK CORONA (5303 Angstrom)

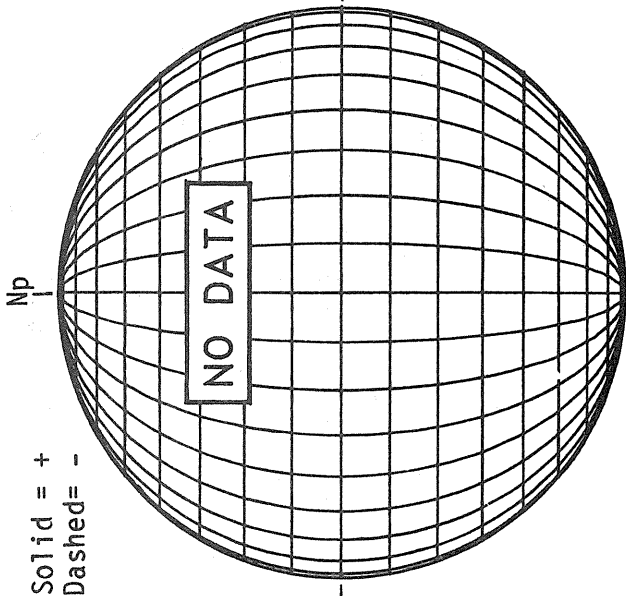


N O V E M B E R 22, 1 9 8 2 (P= 19.43, B₀= 2.01, L₀= 46.36)

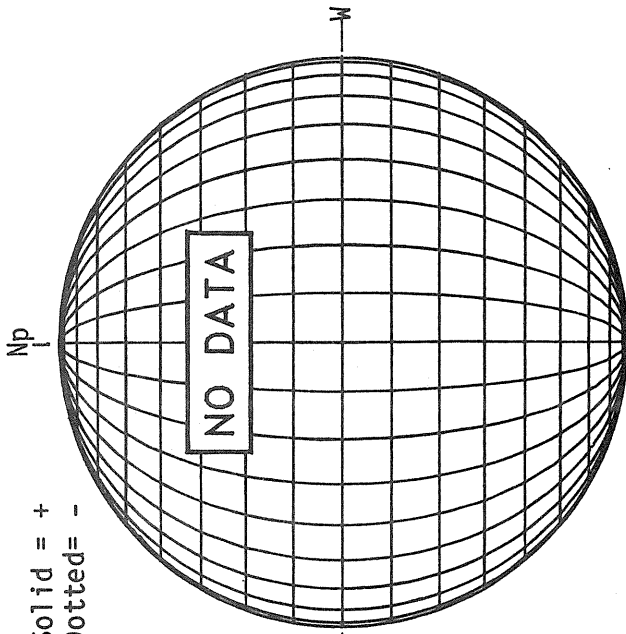
KITT PEAK MAGNETOGRAM



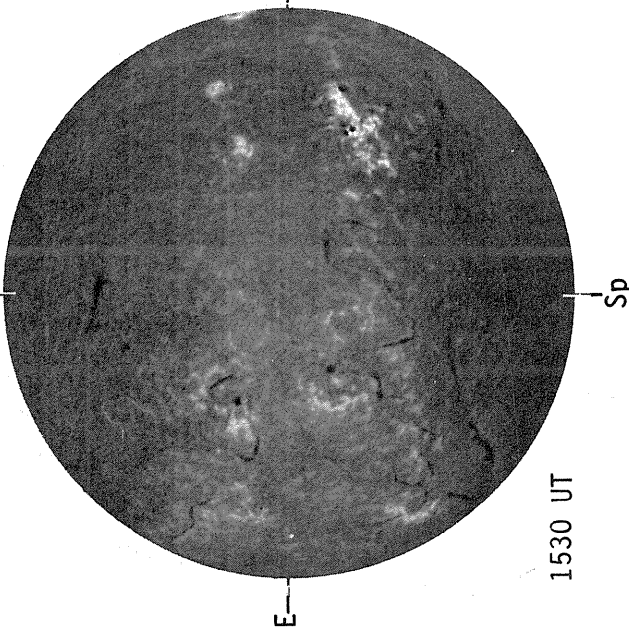
STANFORD MAGNETOGRAM



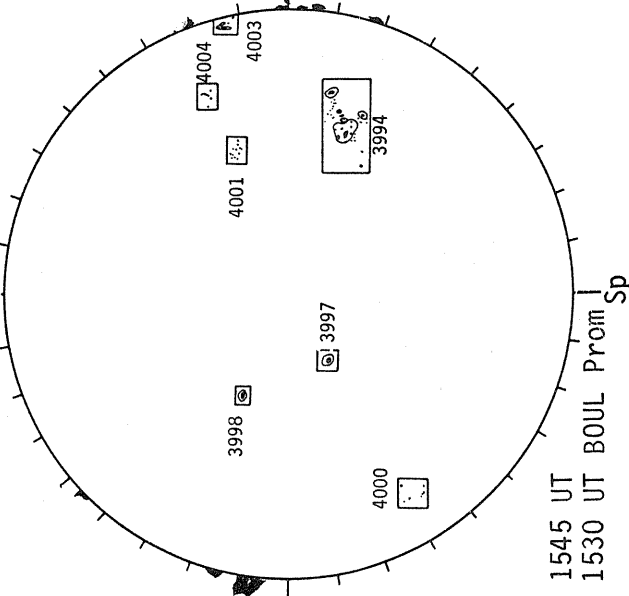
MT. WILSON MAGNETOGRAM



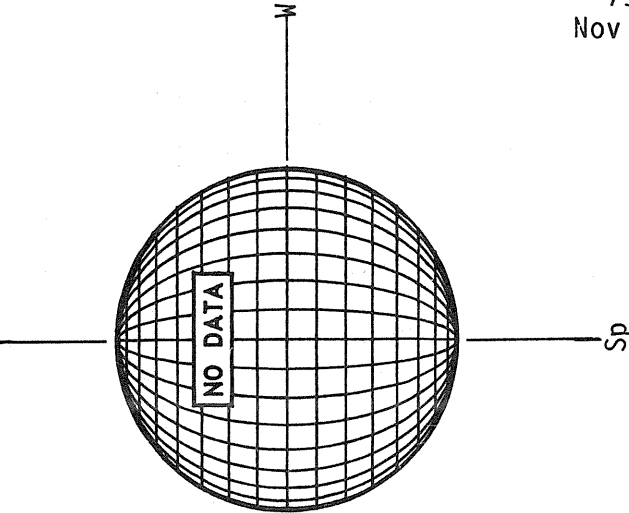
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

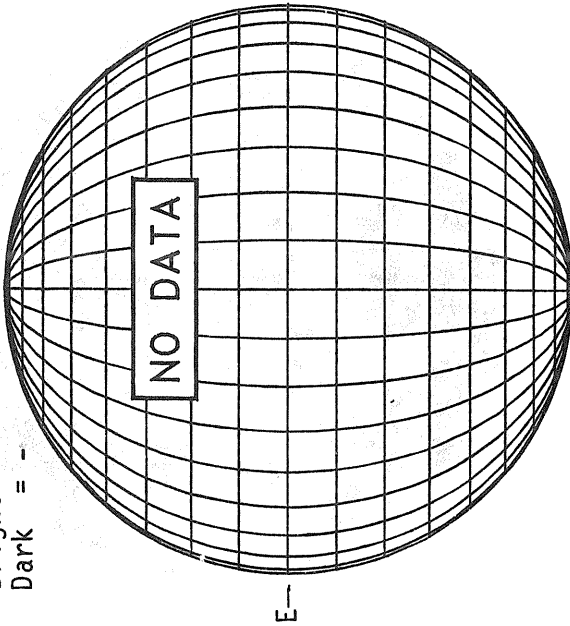


N O V E M B E R 23, 1 9 8 2 (P= 19.10, B₀= 1.89, L₀= 33.18)

KITT PEAK MAGNETOGRAM

Np

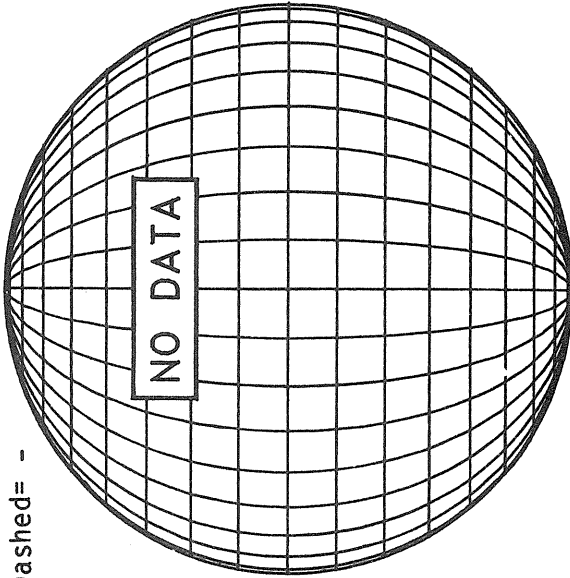
Bright= +
Dark = -



STANFORD MAGNETOGRAM

Np

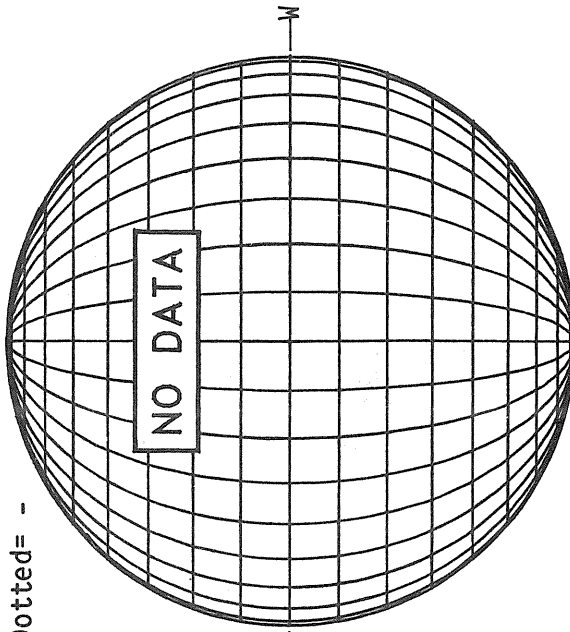
Solid = +
Dashed= -



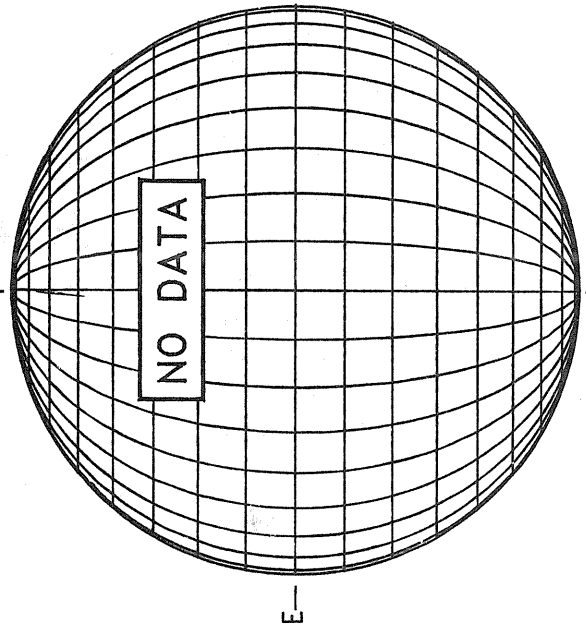
MT. WILSON MAGNETOGRAM

Np

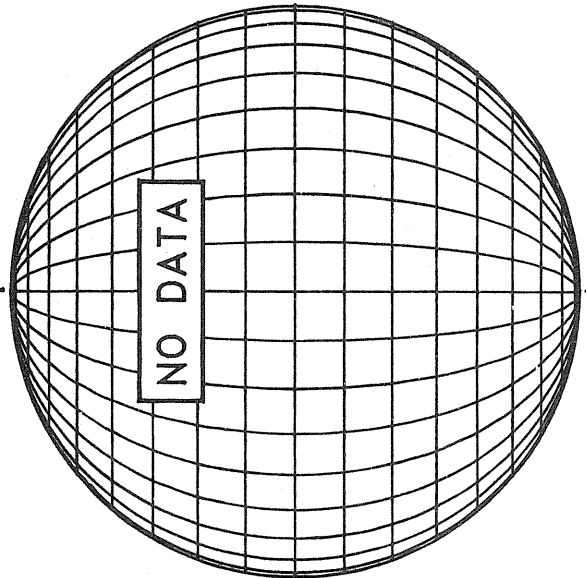
Solid = +
Dotted= -



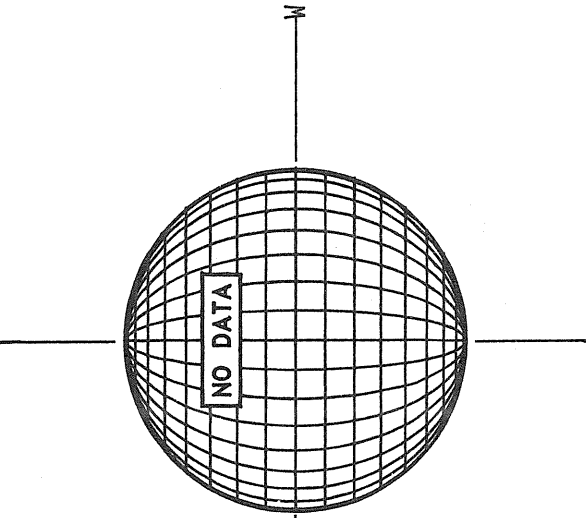
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS

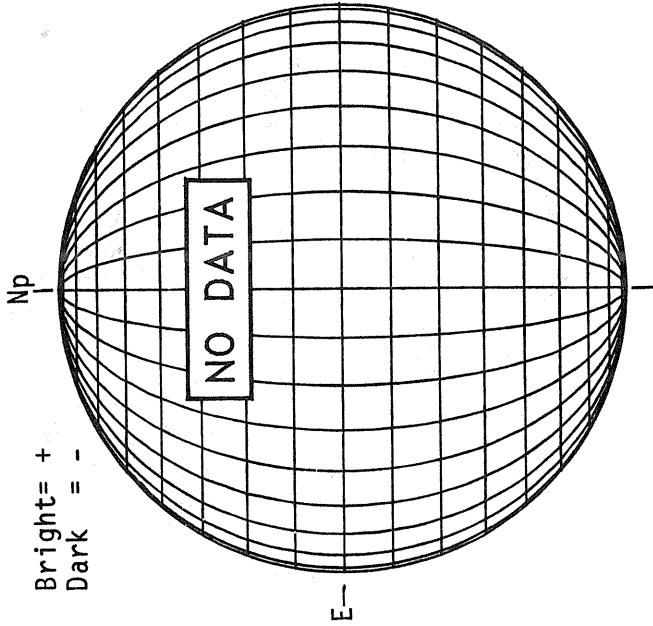


SACRAMENTO PEAK CORONA (5303 Angstrom)



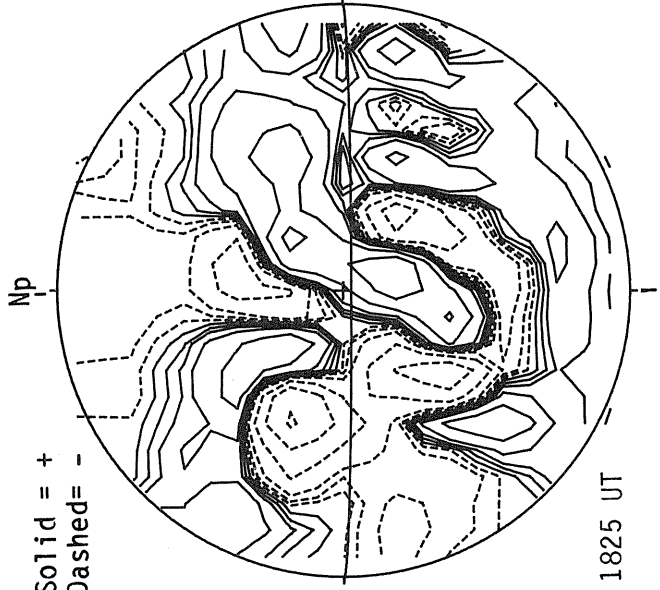
N O V E M B E R 24, 1 9 8 2 (P= 18.77, B₀= 1.77, L₀= 20.00)

KITT PEAK MAGNETOGRAM



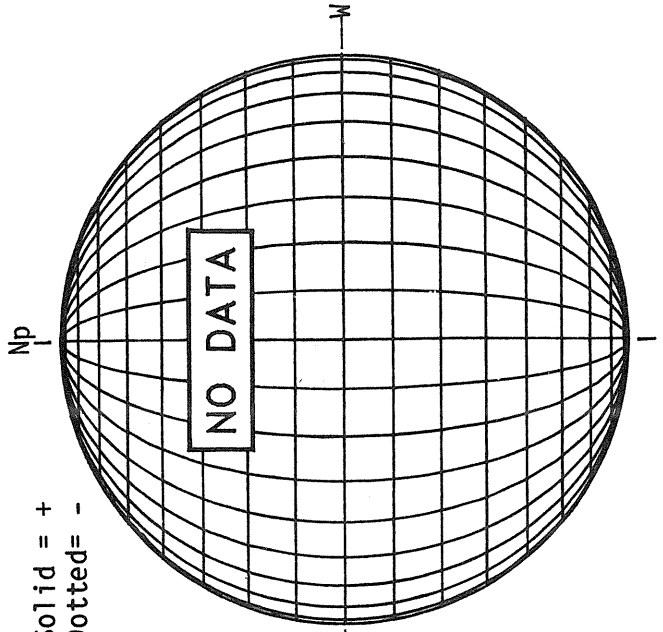
Bright= +
Dark = -

STANFORD MAGNETOGRAM



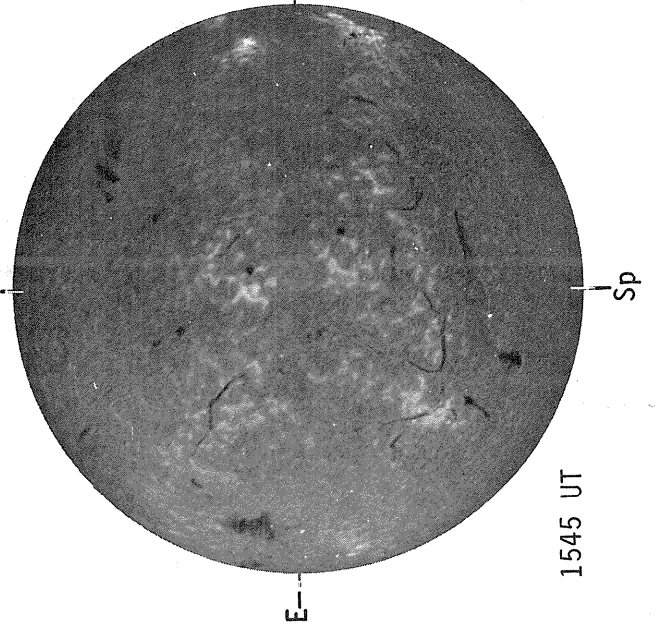
Solid = +
Dashed = -

MT. WILSON MAGNETOGRAM

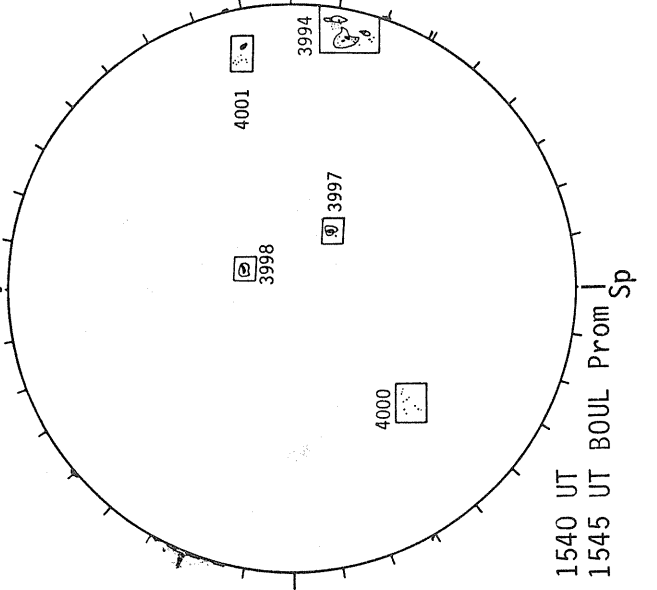


Solid = +
Dotted = -

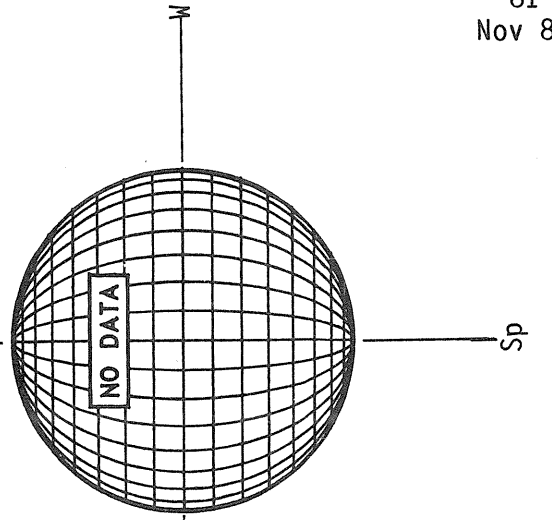
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



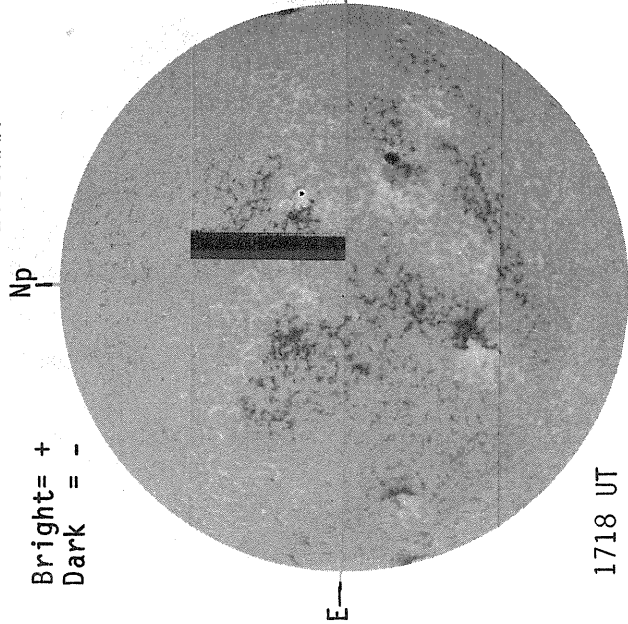
1545 UT

1540 UT

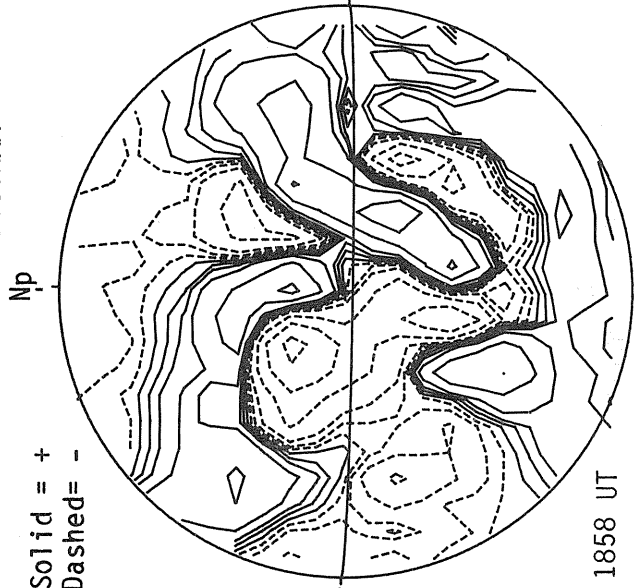
1545 UT BOUL Prom Sp

N O V E M B E R 25, 1 9 8 2 (P= 18.43, B₀= 1.64, L₀= 6.82)

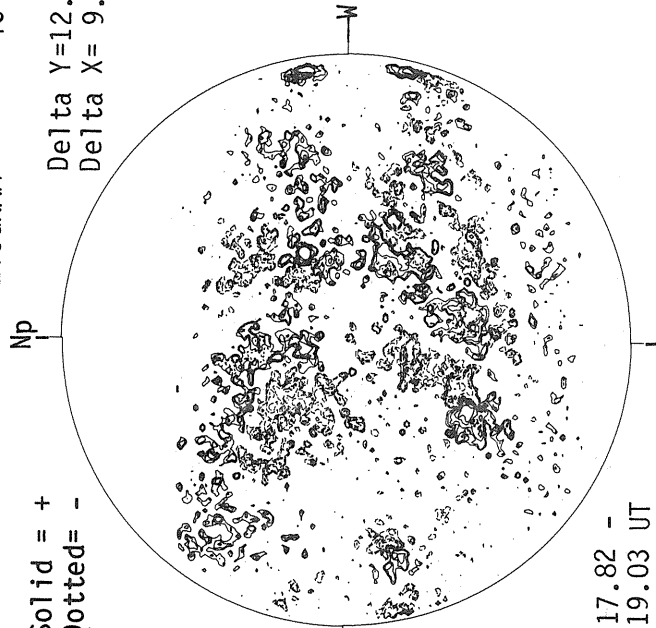
KITT PEAK MAGNETOGRAM



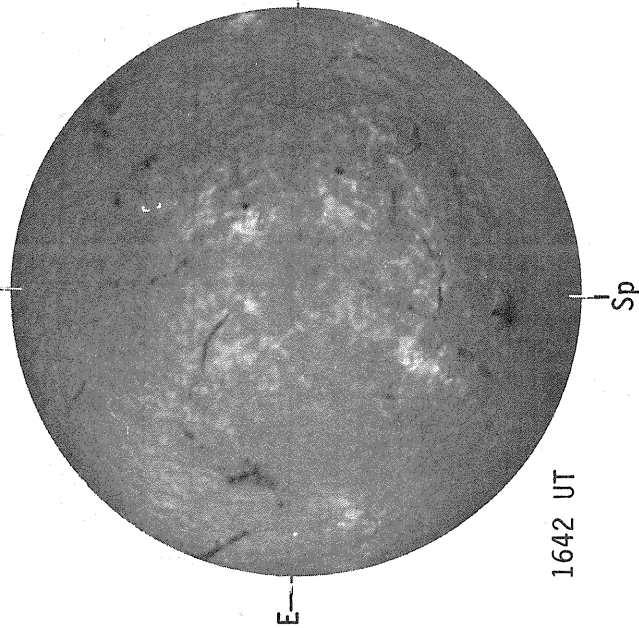
STANFORD MAGNETOGRAM



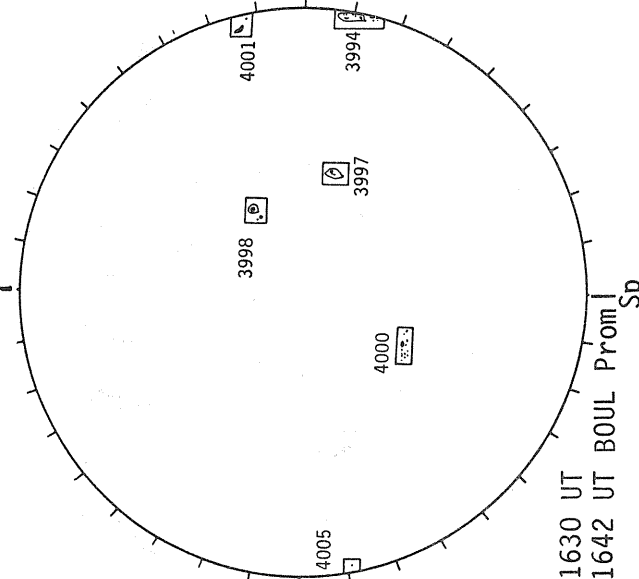
MT. WILSON MAGNETOGRAM



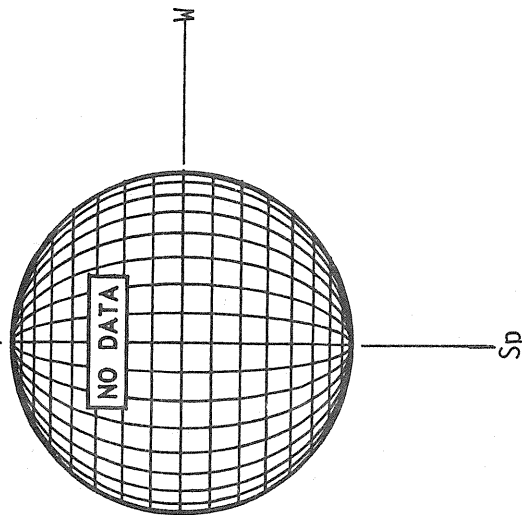
BOULDER H-ALPHA



BOULDER SUNSPOTS

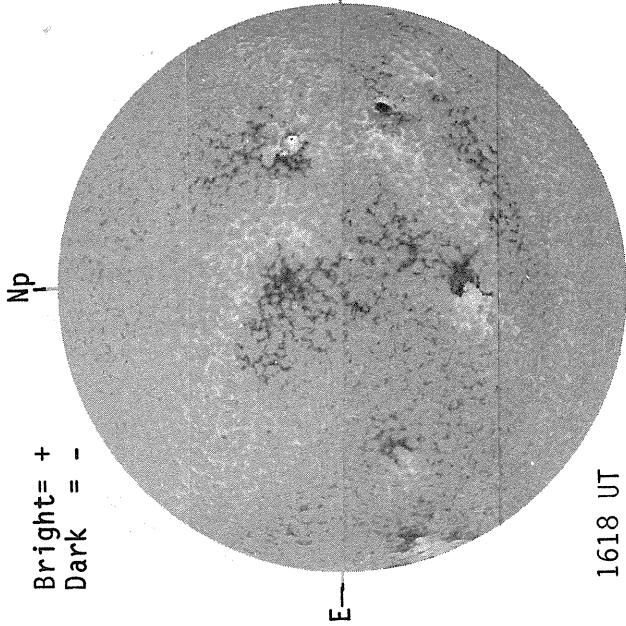


SACRAMENTO PEAK CORONA (5303 Angstrom)



N O V E M B E R 26, 1 9 8 2 (P= 18.08, B₀= 1.52, L₀= 353.64)

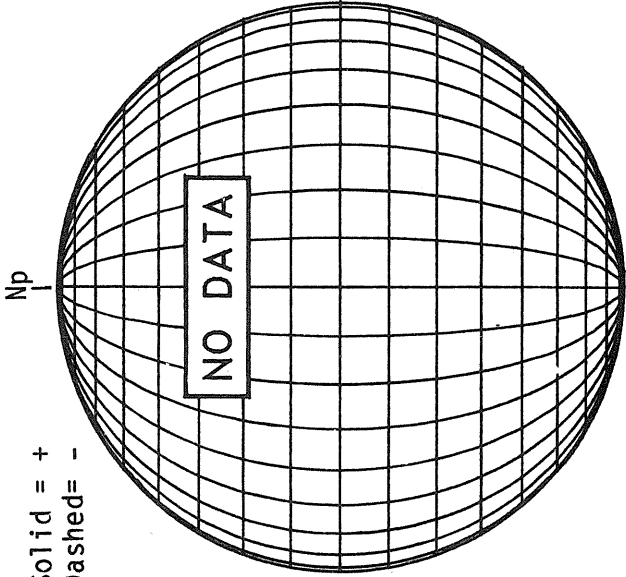
KITT PEAK MAGNETOGRAM



Bright = +
Dark = -

1618 UT

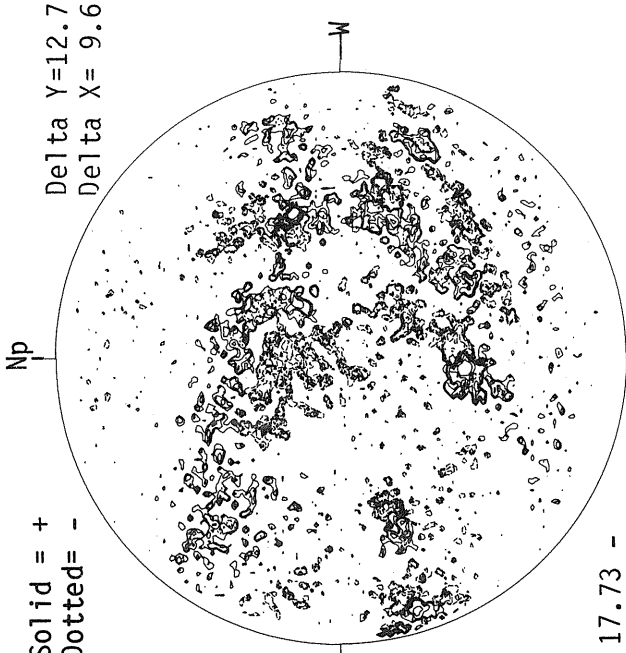
STANFORD MAGNETOGRAM



Solid = +
Dashed = -

17.73 -
18.69 UT

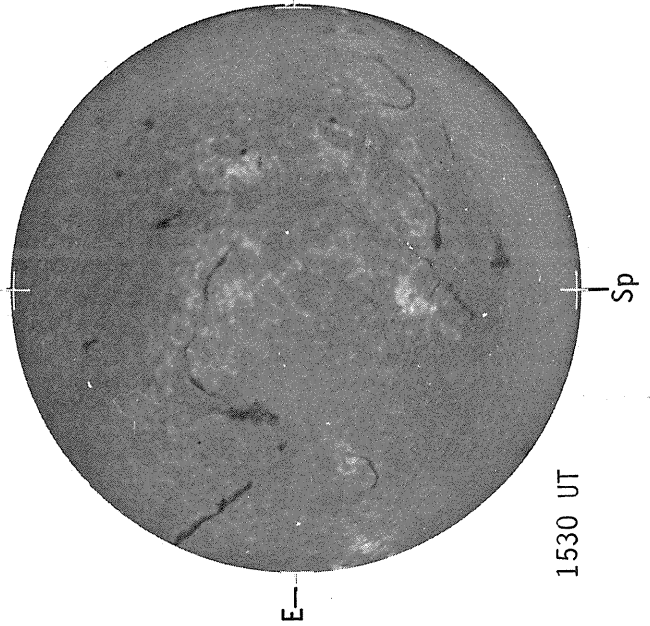
MT. WILSON MAGNETOGRAM



Solid = +
Dotted = -

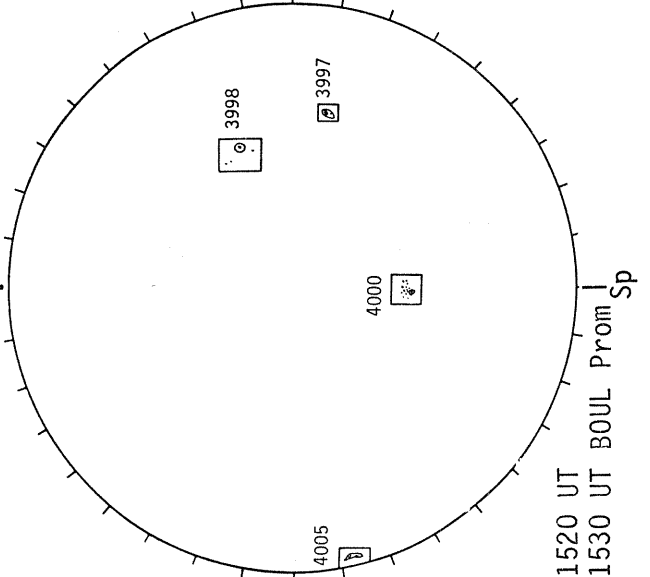
Delta Y = 12.7
Delta X = 9.6

BOULDER H-ALPHA



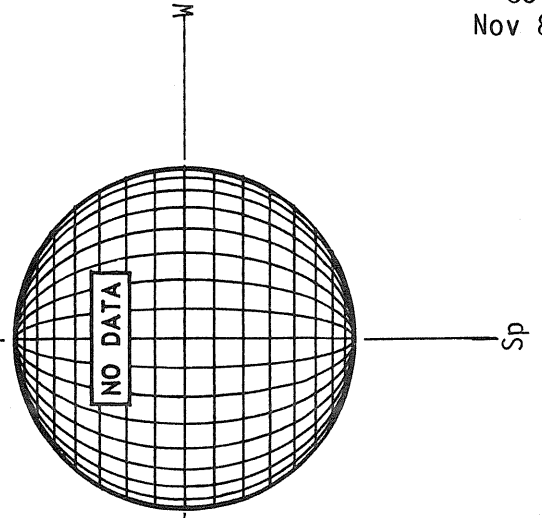
1530 UT

BOULDER SUNSPOTS



1520 UT
1530 UT BOUL Prom Sp

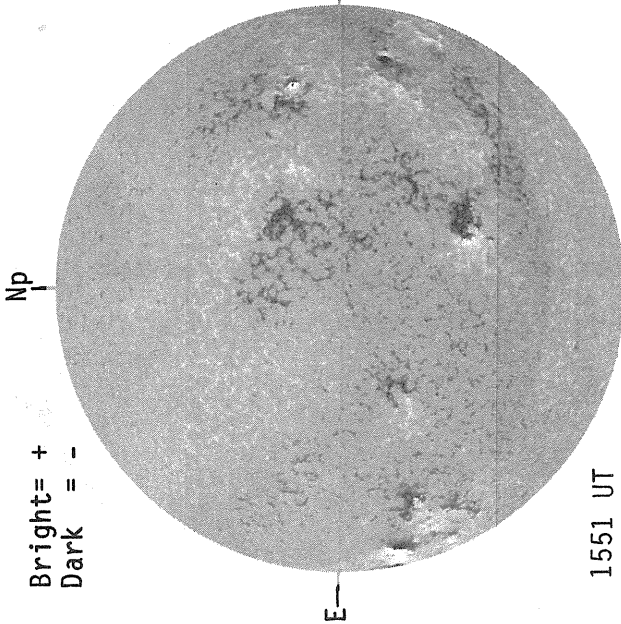
SACRAMENTO PEAK CORONA (5303 Angstrom)



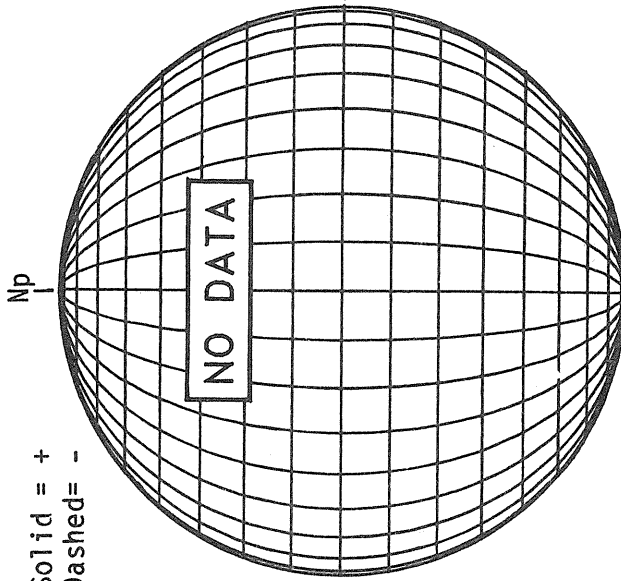
84
Nov 82

NOVEMBER 27, 1982 (P= 17.72, B₀= 1.39, L₀= 340.46)

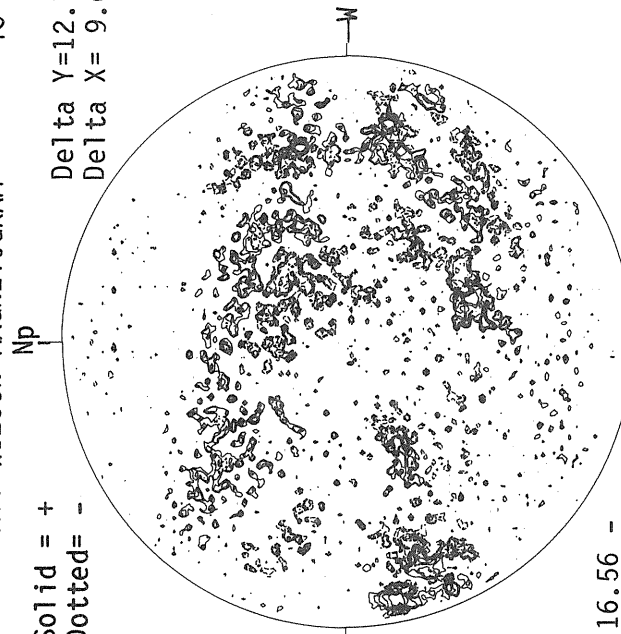
KITT PEAK MAGNETOGRAM



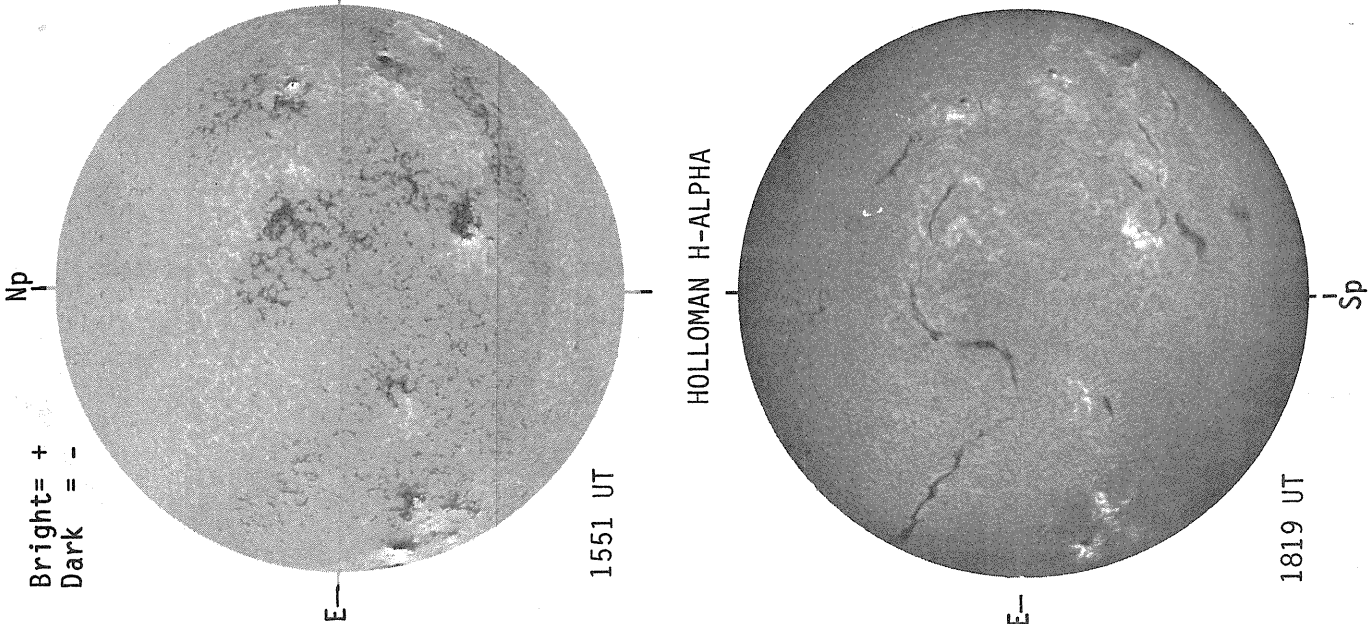
STANFORD MAGNETOGRAM



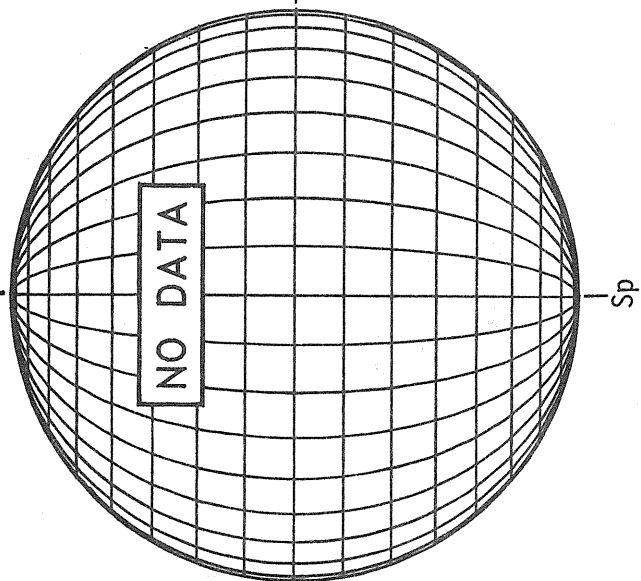
MT. WILSON MAGNETOGRAM



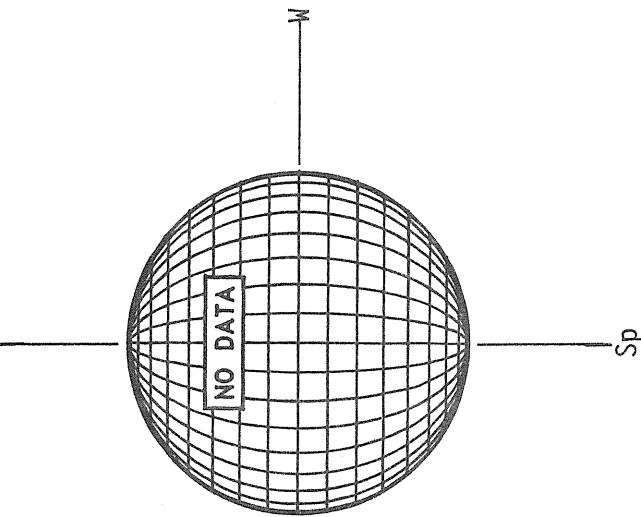
HOLLOMAN H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

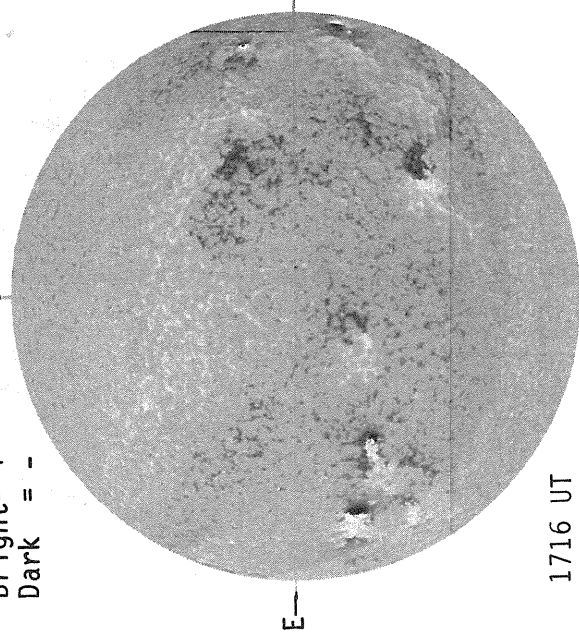


N O V E M B E R 28, 1 9 8 2 (P= 17.36, B₀= 1.27, L₀= 327.28)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -

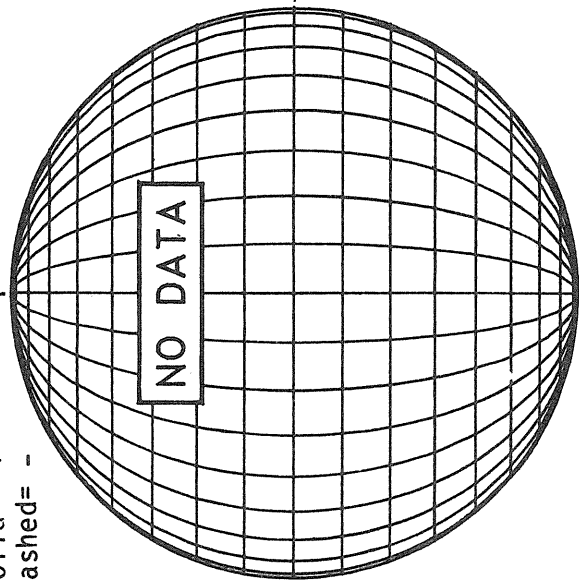


1716 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed = -

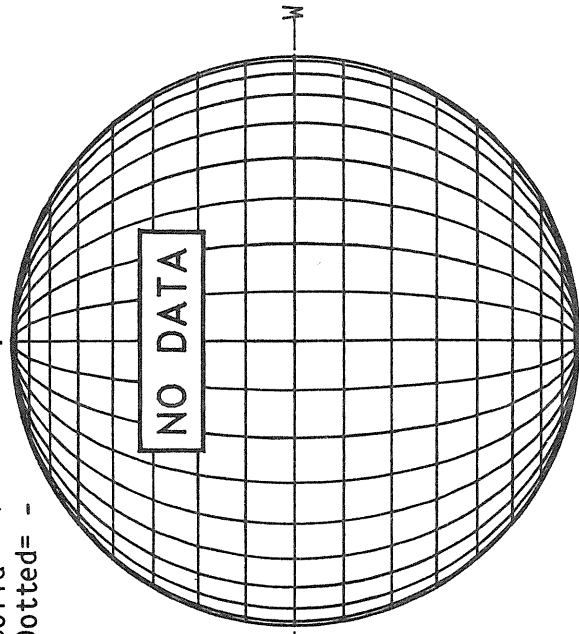


NO DATA

MT. WILSON MAGNETOGRAM

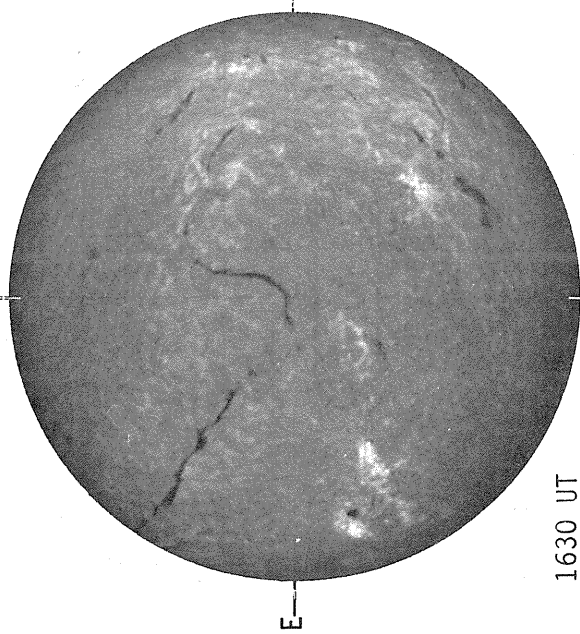
Np

Solid = +
Dotted = -



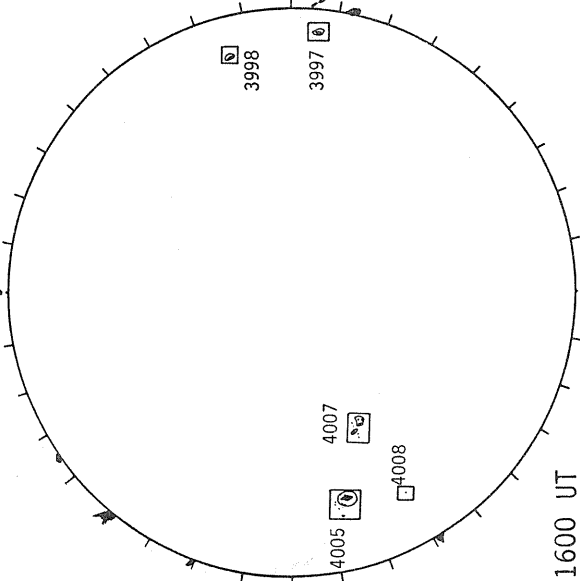
NO DATA

BOULDER H-ALPHA



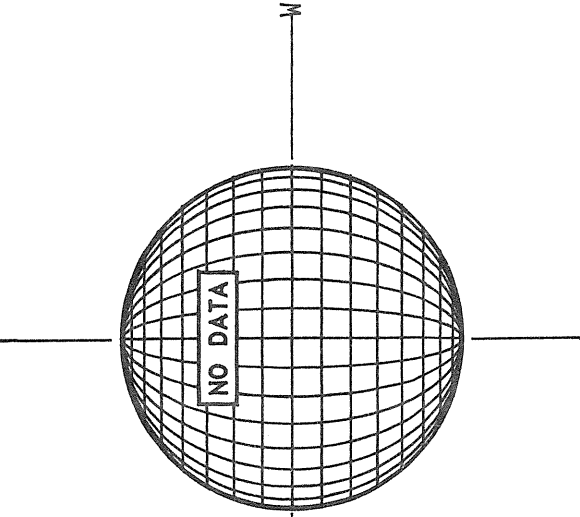
1630 UT

BOULDER SUNSPOTS



1600 UT
1630 UT BOUL Prom Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)

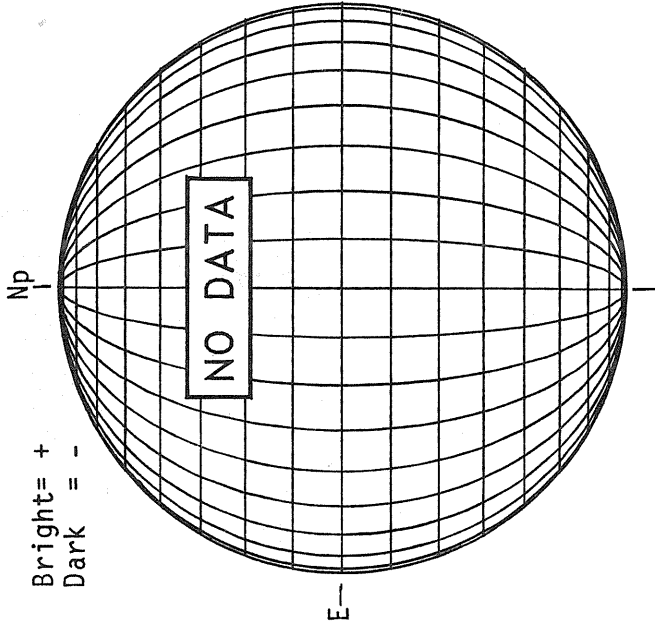


NO DATA

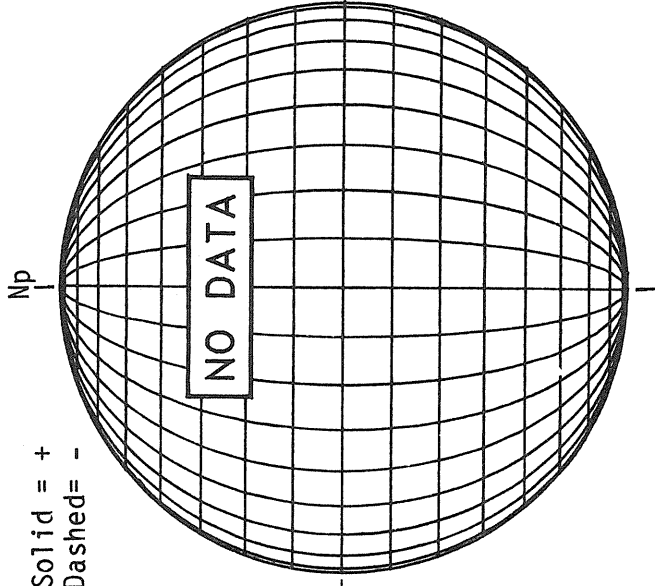
Sp

N O V E M B E R 29, 1 9 8 2 (P= 17.00, B₀= 1.14, L₀= 314.10)

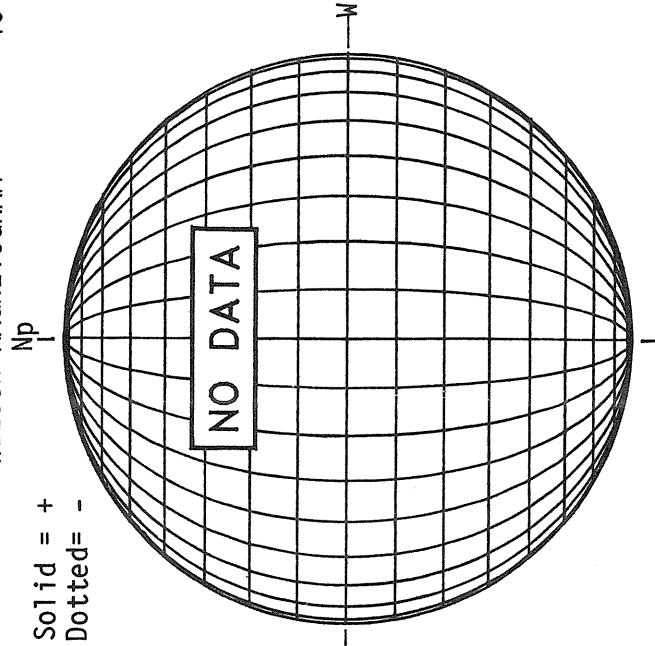
KITT PEAK MAGNETOGRAM



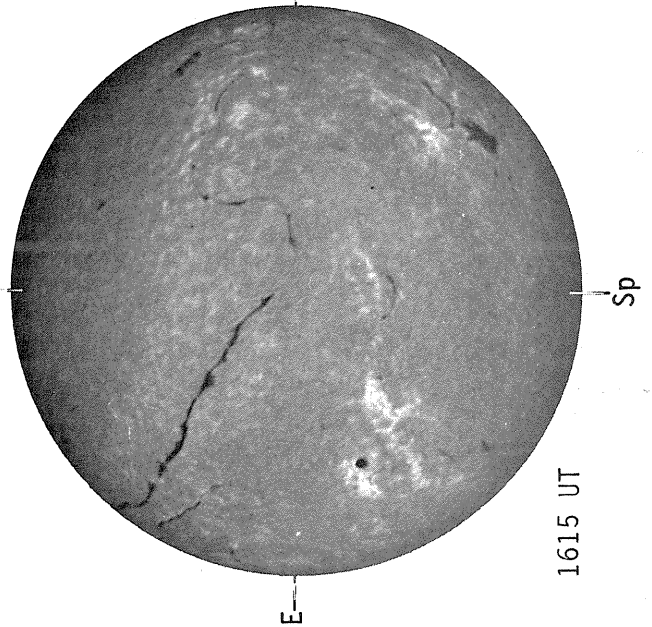
STANFORD MAGNETOGRAM



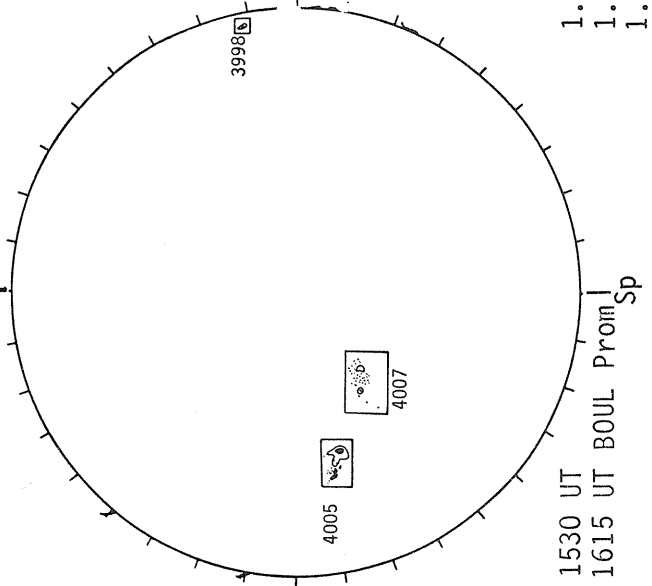
MT. WILSON MAGNETOGRAM



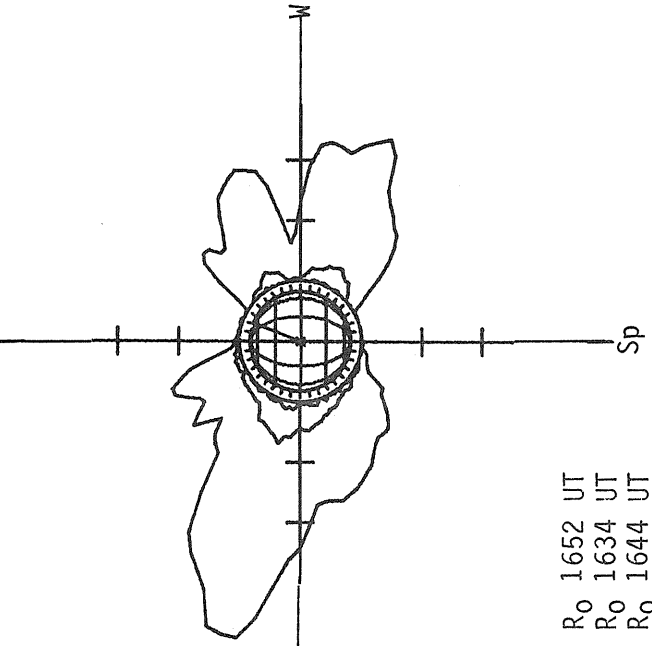
BOULDER H-ALPHA



BOULDER SUNSPOTS



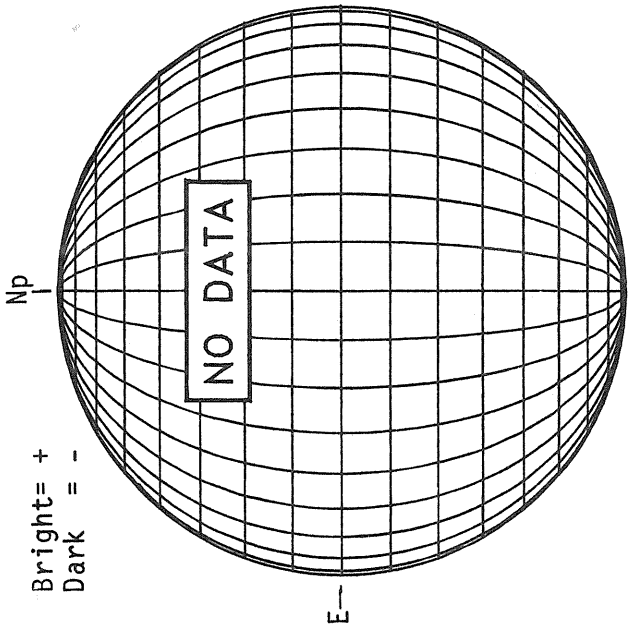
SACRAMENTO PEAK CORONA (5303 Angstrom)



N O V E M B E R 30, 1 9 8 2 (P= 16.62, B₀= 1.02, L₀= 300.92)

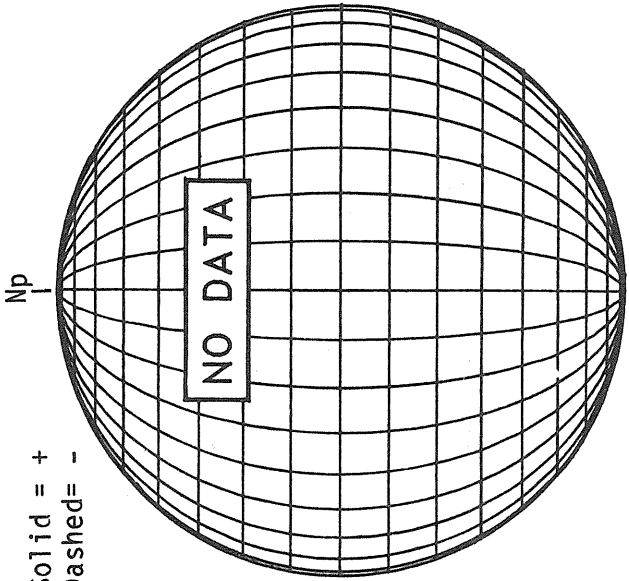
KITT PEAK MAGNETOGRAM

Bright = +
Dark = -



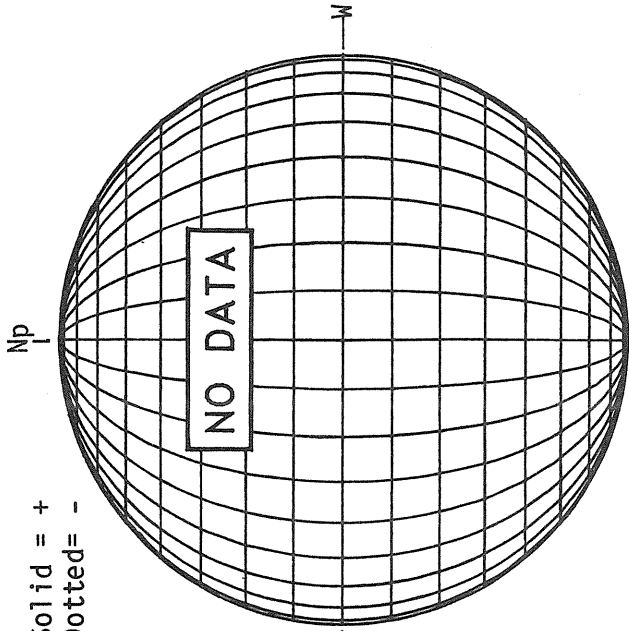
STANFORD MAGNETOGRAM

Solid = +
Dashed = -

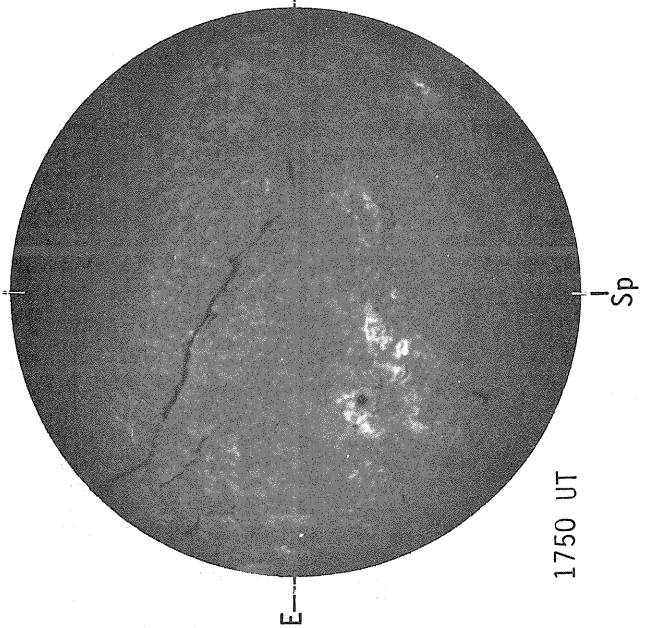


MT. WILSON MAGNETOGRAM

Solid = +
Dotted = -

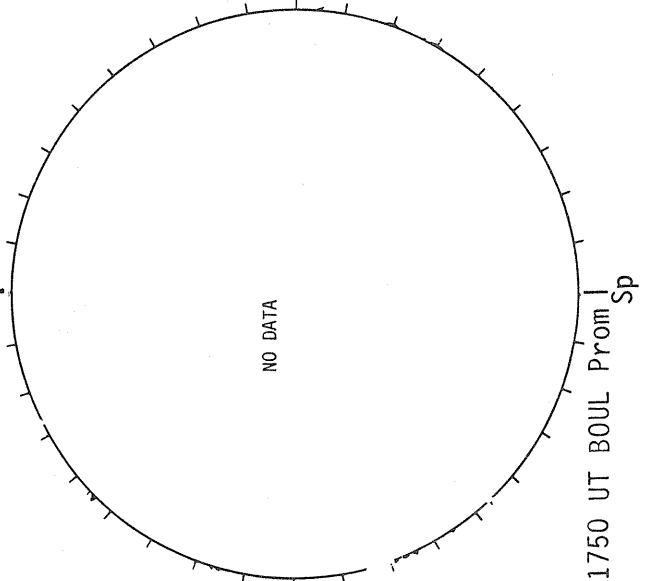


BOULDER H-ALPHA



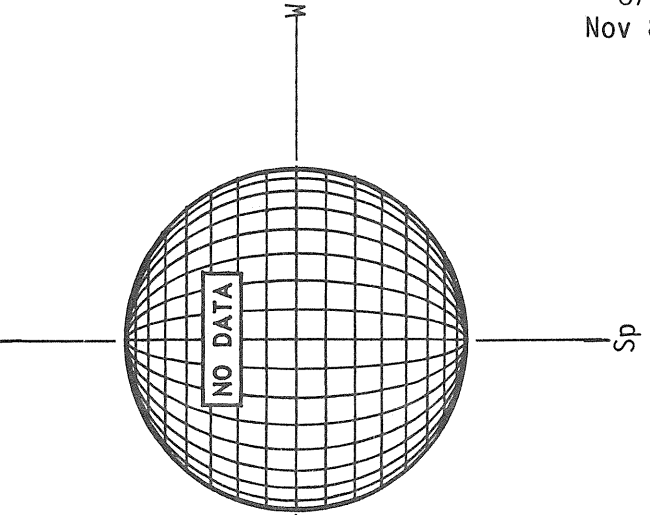
1750 UT

BOULDER SUNSPOTS



1750 UT BOUL Prom Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

NOVEMBER 1982

| NOAA/ USAF Region | Mt Wilson Region | Sta | Observation Time (UT) | | | Lat | CMD | CMP | | Max H | Mag Class | Spot Class | Corrected Area (10 ⁻⁶ Hemi) | Spot Count | Long. Extent (Deg) | Qual |
|-------------------------|------------------------|------|-----------------------------|-----|------|-----|-----|-----|-----|----------|--------------|---------------|--|---------------|--------------------------|------|
| | | | Mo | Day | | | Mo | Day | | | | | | | | |
| 3975 | | RAMY | 11 | 02 | 1245 | S08 | W01 | 11 | 2.5 | | B | DAO | 20 | 3 | 2 | 4 |
| 3975 | | HOLL | 11 | 02 | 1545 | S09 | W02 | 11 | 2.5 | | B | BXO | 10 | 3 | 3 | 3 |
| 3975 | 23418 | MWIL | 11 | 02 | 1600 | S09 | W01 | 11 | 2.6 | 2 | (B) | | | | | |
| 3975 | | PALE | 11 | 02 | 1830 | S09 | W03 | 11 | 2.5 | | B | BXO | 10 | 2 | 2 | 3 |
| 3975 | | MANI | 11 | 02 | 2317 | S09 | W06 | 11 | 2.5 | | | BXO | 10 | 2 | 3 | 3 |
| 3975 | | LEAR | 11 | 03 | 0006 | S10 | W07 | 11 | 2.5 | | B | BXO | | 4 | 3 | 3 |
| 3975 | | HOLL | 11 | 03 | 1525 | S10 | W15 | 11 | 2.5 | | B | BXO | 20 | 5 | 4 | 3 |
| 3975 | 23418 | MWIL | 11 | 03 | 1530 | S10 | W15 | 11 | 2.5 | 4 | (B) | | | | | |
| 3975 | | RAMY | 11 | 03 | 1600 | S10 | W16 | 11 | 2.5 | | B | DAO | 40 | 5 | 4 | 3 |
| 3975 | | BOUL | 11 | 03 | 1755 | S08 | W17 | 11 | 2.5 | | B | CRO | 30 | 3 | 4 | 2 |
| 3975 | | MANI | 11 | 03 | 2340 | S09 | W20 | 11 | 2.5 | | | CRO | 40 | 5 | 4 | 3 |
| 3975 | | MANI | 11 | 04 | 0001 | S09 | W20 | 11 | 2.5 | | | CRO | 40 | 5 | 4 | 3 |
| 3975 | | LEAR | 11 | 04 | 0108 | S10 | W21 | 11 | 2.5 | | B | DRO | 20 | 8 | 5 | 3 |
| 3975 | | HOLL | 11 | 04 | 1530 | S10 | W28 | 11 | 2.5 | | B | DAO | 90 | 14 | 6 | 3 |
| 3975 | 23418 | MWIL | 11 | 04 | 1545 | S10 | W28 | 11 | 2.6 | 4 | (B) | | | | | |
| 3975 | | MANI | 11 | 04 | 2335 | S09 | W34 | 11 | 2.4 | | | DSO | 80 | 8 | 6 | 3 |
| 3975 | | LEAR | 11 | 05 | 0013 | S09 | W33 | 11 | 2.5 | | B | DAO | 60 | 8 | 7 | 3 |
| 3975 | | HOLL | 11 | 05 | 1535 | S10 | W42 | 11 | 2.5 | | B | DAO | 70 | 10 | 8 | 3 |
| 3975 | 23418 | MWIL | 11 | 05 | 1545 | S10 | W41 | 11 | 2.6 | 4 | (B) | | | | | |
| 3975 | | PALE | 11 | 05 | 1812 | S10 | W44 | 11 | 2.4 | | B | DAO | 50 | 6 | 8 | 4 |
| 3975 | | LEAR | 11 | 06 | 0110 | S10 | W47 | 11 | 2.5 | | B | CSO | 60 | 8 | 8 | 3 |
| 3975 | | MANI | 11 | 06 | 0233 | S09 | W47 | 11 | 2.6 | | | CSO | 70 | 9 | 7 | 3 |
| 3975 | | RAMY | 11 | 06 | 1313 | S10 | W55 | 11 | 2.4 | | B | CRO | 140 | 8 | 10 | 2 |
| 3975 | | HOLL | 11 | 06 | 1504 | S11 | W55 | 11 | 2.5 | | B | CAO | 50 | 9 | 8 | 3 |
| 3975 | 23418 | MWIL | 11 | 06 | 1700 | S10 | W57 | 11 | 2.4 | 3 | (B) | | | | | |
| 3975 | | PALE | 11 | 06 | 2018 | S10 | W57 | 11 | 2.6 | | B | BXO | 40 | 4 | 8 | 3 |
| 3975 | | LEAR | 11 | 07 | 0120 | S09 | W62 | 11 | 2.4 | | B | BXO | 30 | 6 | 7 | 3 |
| 3975 | | MANI | 11 | 07 | 0142 | S09 | W61 | 11 | 2.5 | | | BXO | 10 | 3 | 4 | 3 |
| 3975 | | RAMY | 11 | 07 | 1234 | S09 | W68 | 11 | 2.4 | | B | CRO | 20 | 7 | 5 | 2 |
| 3975 | | HOLL | 11 | 07 | 1533 | S10 | W68 | 11 | 2.5 | | B | BXO | 10 | 2 | 3 | 2 |
| 3975 | | BOUL | 11 | 07 | 1534 | S07 | W69 | 11 | 2.5 | | B | BXO | 10 | 3 | 4 | 3 |
| 3975 | 23418 | MWIL | 11 | 07 | 1600 | S09 | W70 | 11 | 2.4 | 2 | B | | | | | |
| 3975 | | PALE | 11 | 07 | 1830 | S10 | W70 | 11 | 2.5 | | B | BXO | 10 | 2 | 3 | 4 |
| 3975 | | LEAR | 11 | 08 | 0020 | S10 | W75 | 11 | 2.4 | | B | BXO | 10 | 3 | 5 | 3 |
| 3982 | | RAMY | 11 | 07 | 1234 | S10 | W45 | 11 | 4.1 | | B | CRO | 40 | 3 | 3 | 2 |
| 3982 | | HOLL | 11 | 07 | 1533 | S10 | W46 | 11 | 4.2 | | B | BXO | 20 | 3 | 3 | 2 |
| 3982 | | BOUL | 11 | 07 | 1534 | S08 | W47 | 11 | 4.1 | | B | BXO | 10 | 3 | 3 | 3 |
| 3982 | 23428 | MWIL | 11 | 07 | 1600 | S10 | W47 | 11 | 4.1 | 4 | B | | | | | |
| 3982 | | PALE | 11 | 07 | 1830 | S11 | W49 | 11 | 4.1 | | B | BXO | 20 | 3 | 4 | 4 |
| 3982 | | LEAR | 11 | 08 | 0020 | S10 | W52 | 11 | 4.1 | | B | BXO | | 2 | 6 | 3 |
| 3982 | | RAMY | 11 | 08 | 1225 | S09 | W61 | 11 | 3.9 | | B | CAO | 20 | 2 | 1 | 4 |
| 0001 | | LEAR | 11 | 08 | 0020 | S15 | W45 | 11 | 4.6 | | A | AXX | | 1 | | 3 |
| 0001 | | RAMY | 11 | 08 | 1225 | S13 | W51 | 11 | 4.7 | | B | BXO | 20 | 2 | 2 | 4 |
| 3971 | 23411 | MWIL | 10 | 31 | 1630 | S24 | E55 | 11 | 4.9 | 2 | (AP) | | | | | |
| 3971 | | HOLL | 11 | 01 | 1522 | S21 | E39 | 11 | 4.6 | | B | BXO | 10 | 2 | 3 | 3 |
| 3971 | 23411 | MWIL | 11 | 01 | 1530 | S23 | E40 | 11 | 4.7 | 2 | (AF) | | | | | |
| 3971 | | HOLL | 11 | 03 | 1525 | S24 | E14 | 11 | 4.7 | | B | BXO | 10 | 3 | 3 | 3 |
| 3971 | 23420 | MWIL | 11 | 03 | 1530 | S25 | E15 | 11 | 4.8 | 3 | (B) | | | | | |
| 3971 | | RAMY | 11 | 03 | 1600 | S23 | E13 | 11 | 4.7 | | B | DAO | 50 | 5 | 4 | 3 |
| 3971 | | BOUL | 11 | 03 | 1755 | S20 | E12 | 11 | 4.7 | | B | CRO | 20 | 4 | 3 | 2 |
| 3971 | | MANI | 11 | 03 | 2340 | S24 | E09 | 11 | 4.7 | | | CRO | 30 | 3 | 3 | 3 |
| 3971 | | MANI | 11 | 04 | 0001 | S24 | E09 | 11 | 4.7 | | | CRO | 30 | 3 | 3 | 3 |
| 3971 | | LEAR | 11 | 04 | 0108 | S23 | E09 | 11 | 4.7 | | B | BXO | 10 | 3 | 3 | 3 |
| 3971 | | HOLL | 11 | 04 | 1530 | S24 | E01 | 11 | 4.7 | | B | BXO | 20 | 6 | 5 | 3 |
| 3971 | 23420 | MWIL | 11 | 04 | 1545 | S24 | E01 | 11 | 4.7 | 4 | (B) | | | | | |
| 3971 | | MANI | 11 | 04 | 2335 | S22 | W04 | 11 | 4.7 | | | BXO | 20 | 6 | 4 | 3 |
| 3971 | | LEAR | 11 | 05 | 0013 | S22 | W05 | 11 | 4.6 | | B | BXO | 20 | 9 | 6 | 3 |
| 3971 | | HOLL | 11 | 05 | 1535 | S23 | W14 | 11 | 4.6 | | B | BXO | 10 | 3 | 3 | 3 |
| 3971 | 23420 | MWIL | 11 | 05 | 1545 | S20 | W15 | 11 | 4.5 | 3 | (AP) | | | | | |
| 3971 | | PALE | 11 | 05 | 1812 | S22 | W16 | 11 | 4.5 | | B | BXO | 10 | 2 | 3 | 4 |
| 3971 | | HOLL | 11 | 06 | 1504 | S21 | W28 | 11 | 4.5 | | B | BXO | | 2 | 4 | 3 |
| 3971 | 23420 | MWIL | 11 | 06 | 1700 | S20 | W29 | 11 | 4.5 | 2 | (AP) | | | | | |
| 3971 | | RAMY | 11 | 08 | 1225 | S21 | W51 | 11 | 4.6 | | B | CSO | 40 | 2 | 2 | 4 |
| 3971 | | HOLL | 11 | 08 | 2258 | S21 | W58 | 11 | 4.5 | | A | AXX | | 1 | | 3 |
| 3971 | | MANI | 11 | 08 | 2326 | S22 | W60 | 11 | 4.4 | | | AXX | 10 | 1 | | 3 |
| 0002 | | LEAR | 11 | 06 | 0110 | S09 | W13 | 11 | 5.1 | | A | AXX | | 1 | | 3 |
| 0002 | | MANI | 11 | 06 | 0233 | S09 | W14 | 11 | 5.1 | | | AXX | | 1 | | 3 |

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

NOVEMBER 1982

| NOAA/ USAF Region | Mt Wilson Region | Sta | Observation Time (UT) | | | Lat | CMD | CMP Mo Day | | Max H | Mag Class | Spot Class | Corrected Area (10 ⁻⁶ Hemi) | Spot Count | Long. Extent (Deg) | Qual |
|-------------------------|------------------------|------|-----------------------------|----|------|-----|-----|---------------|-----|----------|--------------|---------------|--|---------------|--------------------------|------|
| 0002 | | HOLL | 11 | 06 | 1504 | S09 | W21 | 11 | 5.1 | | A | AXX | | 1 | | 3 |
| 3970 | | LEAR | 10 | 31 | 0051 | N21 | E88 | 11 | 6.8 | | A | HSX | 30 | 1 | 1 | 3 |
| 3970 | | RAMY | 10 | 31 | 1339 | N22 | E80 | 11 | 6.7 | | A | HKX | 140 | 3 | 3 | 3 |
| 3970 | | HOLL | 10 | 31 | 1505 | N21 | E79 | 11 | 6.7 | | A | HSX | 60 | 1 | 2 | 3 |
| 3970 | 23412 | MWIL | 10 | 31 | 1630 | N22 | E79 | 11 | 6.8 | 4 | (AP) | | | | | |
| 3970 | | MANI | 10 | 31 | 2303 | N20 | E77 | 11 | 6.9 | | | HSX | 170 | 1 | 2 | 3 |
| 3970 | | RAMY | 11 | 01 | 1237 | N23 | E75 | 11 | 7.3 | | B | EKO | 140 | 6 | 12 | 3 |
| 3970 | | HOLL | 11 | 01 | 1522 | N22 | E70 | 11 | 7.0 | | B | FAO | 190 | 10 | 18 | 3 |
| 3970 | 23412 | MWIL | 11 | 01 | 1530 | N21 | E66 | 11 | 6.7 | 4 | (BP) | | | | | |
| 3970 | | BOUL | 11 | 01 | 1745 | N22 | E67 | 11 | 6.9 | | B | CSO | 100 | 2 | 5 | 2 |
| 3970 | | PALE | 11 | 01 | 2045 | N21 | E63 | 11 | 6.7 | | A | HSX | 50 | 1 | 2 | 1 |
| 3970 | | MANI | 11 | 01 | 2306 | N22 | E62 | 11 | 6.7 | | | CAO | 180 | 3 | 3 | 3 |
| 3970 | | LEAR | 11 | 02 | 0030 | N22 | E61 | 11 | 6.7 | | B | CAO | 140 | 4 | 3 | 3 |
| 3970 | | RAMY | 11 | 02 | 1245 | N22 | E54 | 11 | 6.7 | | B | CKO | 170 | 3 | 3 | 4 |
| 3970 | | HOLL | 11 | 02 | 1545 | N22 | E52 | 11 | 6.7 | | A | HSX | 70 | 2 | 2 | 3 |
| 3970 | 23412 | MWIL | 11 | 02 | 1600 | N21 | E51 | 11 | 6.6 | 4 | (AP) | | | | | |
| 3970 | | PALE | 11 | 02 | 1830 | N22 | E51 | 11 | 6.7 | | A | HSX | 100 | 3 | 2 | 3 |
| 3970 | | MANI | 11 | 02 | 2317 | N22 | E49 | 11 | 6.7 | | | HSX | 150 | 2 | 2 | 3 |
| 3970 | | LEAR | 11 | 03 | 0006 | N22 | E47 | 11 | 6.6 | | B | CSO | 160 | 3 | 3 | 3 |
| 3970 | | HOLL | 11 | 03 | 1525 | N22 | E39 | 11 | 6.6 | | A | HSX | 160 | 2 | 2 | 3 |
| 3970 | 23412 | MWIL | 11 | 03 | 1530 | N21 | E39 | 11 | 6.6 | 5 | (AP) | | | | | |
| 3970 | | RAMY | 11 | 03 | 1600 | N22 | E39 | 11 | 6.7 | | B | CKO | 120 | 3 | 4 | 3 |
| 3970 | | BOUL | 11 | 03 | 1755 | N21 | E35 | 11 | 6.4 | | A | HSX | 80 | 2 | 2 | 2 |
| 3970 | | MANI | 11 | 03 | 2340 | N22 | E35 | 11 | 6.7 | | | HSX | 120 | 2 | 2 | 3 |
| 3970 | | MANI | 11 | 04 | 0001 | N22 | E35 | 11 | 6.7 | | | HSX | 120 | 2 | 2 | 3 |
| 3970 | | LEAR | 11 | 04 | 0108 | N21 | E35 | 11 | 6.7 | | A | HSX | 120 | 3 | 2 | 3 |
| 3970 | | HOLL | 11 | 04 | 1530 | N21 | E28 | 11 | 6.8 | | B | CSO | 130 | 4 | 6 | 3 |
| 3970 | 23412 | MWIL | 11 | 04 | 1545 | N21 | E27 | 11 | 6.7 | 5 | (AP) | | | | | |
| 3970 | | MANI | 11 | 04 | 2335 | N22 | E21 | 11 | 6.6 | | | CSO | 120 | 4 | 4 | 3 |
| 3970 | | LEAR | 11 | 05 | 0013 | N21 | E21 | 11 | 6.6 | | B | CSO | 110 | 2 | 4 | 3 |
| 3970 | | HOLL | 11 | 05 | 1535 | N21 | E15 | 11 | 6.8 | | B | CSO | 120 | 2 | 4 | 3 |
| 3970 | 23412 | MWIL | 11 | 05 | 1545 | N21 | E14 | 11 | 6.7 | 5 | (AP) | | | | | |
| 3970 | | PALE | 11 | 05 | 1812 | N21 | E13 | 11 | 6.8 | | A | HSX | 80 | 1 | 2 | 4 |
| 3970 | | LEAR | 11 | 06 | 0110 | N21 | E08 | 11 | 6.7 | | A | HSX | 80 | 1 | 2 | 3 |
| 3970 | | MANI | 11 | 06 | 0233 | N22 | E08 | 11 | 6.7 | | | HSX | 90 | 1 | 2 | 3 |
| 3970 | | RAMY | 11 | 06 | 1313 | N22 | E02 | 11 | 6.7 | | B | CHO | 120 | 4 | 3 | 2 |
| 3970 | | HOLL | 11 | 06 | 1504 | N21 | E01 | 11 | 6.7 | | A | HSX | 10 | 1 | 2 | 3 |
| 3970 | 23412 | MWIL | 11 | 06 | 1700 | N21 | W01 | 11 | 6.6 | 5 | (AP) | | | | | |
| 3970 | | PALE | 11 | 06 | 2018 | N22 | W00 | 11 | 6.8 | | B | CSO | 50 | 3 | 4 | 3 |
| 3970 | | LEAR | 11 | 07 | 0120 | N21 | W05 | 11 | 6.7 | | A | HSX | 80 | 1 | 2 | 3 |
| 3970 | | MANI | 11 | 07 | 0142 | N22 | W05 | 11 | 6.7 | | | HSX | 60 | 1 | 2 | 3 |
| 3970 | | RAMY | 11 | 07 | 1234 | N22 | W11 | 11 | 6.7 | | A | HSX | 60 | 1 | 2 | 2 |
| 3970 | | HOLL | 11 | 07 | 1533 | N22 | W12 | 11 | 6.7 | | A | HSX | 60 | 1 | 2 | 2 |
| 3970 | | BOUL | 11 | 07 | 1534 | N21 | W12 | 11 | 6.7 | | A | HSX | 60 | 1 | 2 | 3 |
| 3970 | 23412 | MWIL | 11 | 07 | 1600 | N22 | W12 | 11 | 6.7 | 5 | AP | | | | | |
| 3970 | | PALE | 11 | 07 | 1830 | N21 | W12 | 11 | 6.9 | | A | HSX | 60 | 1 | 2 | 4 |
| 3970 | | LEAR | 11 | 08 | 0020 | N21 | W18 | 11 | 6.6 | | A | HSX | 80 | 1 | 2 | 3 |
| 3970 | | RAMY | 11 | 08 | 1225 | N22 | W24 | 11 | 6.7 | | B | CHO | 100 | 5 | 3 | 4 |
| 3970 | | PALE | 11 | 08 | 1920 | N21 | W27 | 11 | 6.7 | | A | HSX | 50 | 1 | 2 | 2 |
| 3970 | | HOLL | 11 | 08 | 2258 | N21 | W29 | 11 | 6.7 | | A | HSX | 50 | 1 | 1 | 3 |
| 3970 | | MANI | 11 | 08 | 2326 | N22 | W30 | 11 | 6.7 | | | HSX | 70 | 1 | 2 | 3 |
| 3970 | | PALE | 11 | 09 | 1914 | N22 | W40 | 11 | 6.7 | | A | HSX | 50 | 2 | 2 | 3 |
| 3970 | | MANI | 11 | 10 | 0039 | N22 | W43 | 11 | 6.7 | | A | HSX | 70 | 1 | 2 | 2 |
| 3970 | | LEAR | 11 | 10 | 0115 | N21 | W43 | 11 | 6.8 | | A | HSX | 80 | 1 | 2 | 3 |
| 3970 | | RAMY | 11 | 10 | 1430 | N22 | W53 | 11 | 6.5 | | A | HAX | 30 | 1 | 2 | 3 |
| 3970 | | BOUL | 11 | 10 | 1720 | N22 | W53 | 11 | 6.6 | | A | HSX | 50 | 1 | 1 | 2 |
| 3970 | | PALE | 11 | 10 | 1823 | N22 | W53 | 11 | 6.7 | | A | HAX | 50 | 2 | 2 | 3 |
| 3970 | | MANI | 11 | 11 | 0001 | N21 | W56 | 11 | 6.7 | | A | HSX | 70 | 1 | 2 | 3 |
| 3970 | | LEAR | 11 | 11 | 0016 | N21 | W57 | 11 | 6.6 | | A | HSX | 20 | 1 | 1 | 3 |
| 3970 | | RAMY | 11 | 11 | 1455 | N22 | W67 | 11 | 6.5 | | A | AXX | 30 | 1 | 1 | 2 |
| 3970 | | PALE | 11 | 11 | 1750 | N22 | W67 | 11 | 6.6 | | A | AXX | 10 | 1 | 1 | 2 |
| 3970 | 23412 | MWIL | 11 | 11 | 1800 | N21 | W66 | 11 | 6.7 | 3 | (AP) | | | | | |
| 3970 | | MANI | 11 | 11 | 2318 | N21 | W69 | 11 | 6.7 | | | HRX | 50 | 1 | 1 | 3 |
| 3970 | | LEAR | 11 | 12 | 0010 | N21 | W69 | 11 | 6.7 | | A | HRX | 10 | 1 | 1 | 3 |
| 3970 | | RAMY | 11 | 12 | 1507 | N22 | W77 | 11 | 6.7 | | A | AXX | 20 | 1 | 2 | 1 |
| 3970 | 23412 | MWIL | 11 | 12 | 1600 | N21 | W78 | 11 | 6.7 | 2 | (AP) | | | | | |
| 3983 | 23425 | MWIL | 11 | 06 | 1700 | S12 | E06 | 11 | 7.2 | 2 | (B) | | | | | |
| 3983 | | PALE | 11 | 06 | 2018 | S12 | E04 | 11 | 7.1 | | A | AXX | | 1 | | 3 |
| 3983 | | LEAR | 11 | 07 | 0120 | S12 | E02 | 11 | 7.2 | | B | BXO | 10 | 3 | 3 | 3 |

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

NOVEMBER 1982

| NOAA/ USAF Region | Mt Wilson Region | Sta | Observation Time Mo Day (UT) | Lat CMD | CMP Mo Day | Max H | Mag Class | Spot Class | Corrected Area (10-6 Hemi) | Spot Count | Long. Extent (Deg) | Qual |
|-------------------------|------------------------|------|------------------------------------|------------|---------------|----------|--------------|---------------|----------------------------------|---------------|--------------------------|------|
| 3983 | | RAMY | 11 07 1234 | S12 W04 | 11 7.2 | | B | BXO | 30 | 5 | 3 | 2 |
| 3983 | | HOLL | 11 07 1533 | S11 W05 | 11 7.3 | | B | BXO | 10 | 3 | 4 | 2 |
| 3983 | | BOUL | 11 07 1534 | S10 W07 | 11 7.1 | | B | BXO | 10 | 5 | 6 | 3 |
| 3983 | 23425 | MWIL | 11 07 1600 | S11 W06 | 11 7.2 | 4 | B | | | | | |
| 3983 | | PALE | 11 07 1830 | S11 W08 | 11 7.2 | | B | CSO | 30 | 8 | 6 | 4 |
| 3983 | | LEAR | 11 08 0020 | S12 W12 | 11 7.1 | | B | CRO | 40 | 11 | 5 | 3 |
| 3983 | | RAMY | 11 08 1225 | S12 W19 | 11 7.1 | | B | DAO | 40 | 7 | 6 | 4 |
| 3983 | | PALE | 11 08 1920 | S11 W23 | 11 7.1 | | B | CSO | 20 | 3 | 6 | 2 |
| 3983 | | HOLL | 11 08 2258 | S11 W25 | 11 7.1 | | B | DSO | 60 | 6 | 6 | 3 |
| 3983 | | MANI | 11 08 2326 | S11 W26 | 11 7.0 | | | DRO | 40 | 6 | 6 | 3 |
| 3983 | | PALE | 11 09 1914 | S11 W37 | 11 7.0 | | B | CAO | 20 | 4 | 5 | 3 |
| 3983 | | MANI | 11 10 0039 | S11 W40 | 11 7.0 | | B | CRO | 40 | 4 | 5 | 2 |
| 3983 | | LEAR | 11 10 0115 | S12 W40 | 11 7.0 | | B | CRO | 40 | 5 | 4 | 3 |
| 3983 | | RAMY | 11 10 1430 | S12 W49 | 11 6.9 | | A | AXX | 20 | 2 | 1 | 3 |
| 3983 | | BOUL | 11 10 1720 | S10 W51 | 11 6.9 | | A | HRX | 30 | 2 | 1 | 2 |
| 3983 | | PALE | 11 10 1823 | S12 W52 | 11 6.8 | | A | AXX | 10 | 2 | 1 | 3 |
| 3983 | | MANI | 11 11 0001 | S11 W55 | 11 6.9 | | A | AXX | 10 | 1 | 1 | 3 |
| 3983 | | LEAR | 11 11 0016 | S11 W55 | 11 6.9 | | A | AXX | 10 | 1 | 1 | 3 |
| 3983 | | RAMY | 11 11 1455 | S13 W65 | 11 6.7 | | A | AXX | 20 | 2 | 1 | 2 |
| 3983 | 23425 | MWIL | 11 11 1800 | S12 W65 | 11 6.8 | 3 | (AP) | | | | | |
| 3983 | | MANI | 11 11 2318 | S11 W68 | 11 6.9 | | | AXX | 10 | 1 | | 3 |
| 3983 | | LEAR | 11 12 0010 | S12 W68 | 11 6.9 | | A | AXX | | 1 | | 3 |
| 3972 | | RAMY | 11 01 1237 | N11 E80 | 11 7.5 | | B | DKO | 60 | 3 | 5 | 3 |
| 3972 | | HOLL | 11 01 1522 | N10 E75 | 11 7.3 | | B | CSO | 80 | 2 | 3 | 3 |
| 3972 | 23415 | MWIL | 11 01 1530 | N09 E76 | 11 7.4 | 3 | (AP) | | | | | |
| 3972 | | BOUL | 11 01 1745 | N11 E74 | 11 7.3 | | B | CSO | 80 | 4 | 4 | 2 |
| 3972 | | PALE | 11 01 2045 | N10 E73 | 11 7.4 | | B | CSO | 50 | 2 | 3 | 1 |
| 3972 | | MANI | 11 01 2306 | N10 E71 | 11 7.3 | | | DSO | 120 | 3 | 4 | 3 |
| 3972 | | LEAR | 11 02 0030 | N10 E71 | 11 7.4 | | B | DSO | 70 | 4 | 4 | 3 |
| 3972 | | RAMY | 11 02 1245 | N10 E63 | 11 7.3 | | B | DAO | 90 | 7 | 3 | 4 |
| 3972 | | HOLL | 11 02 1545 | N11 E61 | 11 7.2 | | B | CSO | 10 | 3 | 3 | 3 |
| 3972 | 23415 | MWIL | 11 02 1600 | N09 E61 | 11 7.2 | 3 | (AP) | | | | | |
| 3972 | | PALE | 11 02 1830 | N10 E60 | 11 7.3 | | B | CRO | 10 | 4 | 4 | 3 |
| 3972 | | MANI | 11 02 2317 | N10 E58 | 11 7.3 | | | CRO | 60 | 3 | 4 | 3 |
| 3972 | | LEAR | 11 03 0006 | N10 E57 | 11 7.3 | | B | BXO | 10 | 4 | 3 | 3 |
| 3972 | | HOLL | 11 03 1525 | N09 E49 | 11 7.3 | | B | BXO | | 2 | 3 | 3 |
| 3972 | 23415 | MWIL | 11 03 1530 | N08 E50 | 11 7.4 | 3 | (AP) | | | | | |
| 3972 | | RAMY | 11 03 1600 | N11 E49 | 11 7.4 | | B | BXO | 10 | 4 | 5 | 3 |
| 3972 | | LEAR | 11 04 0108 | N09 E45 | 11 7.4 | | A | AXX | 10 | 2 | 2 | 3 |
| 3972 | | HOLL | 11 04 1530 | N10 E38 | 11 7.5 | | B | BXO | | 2 | 3 | 3 |
| 3972 | 23415 | MWIL | 11 04 1545 | N08 E37 | 11 7.4 | 3 | (AP) | | | | | |
| 3972 | | MANI | 11 04 2335 | N10 E32 | 11 7.4 | | | BXO | 10 | 2 | 2 | 3 |
| 3972 | | HOLL | 11 05 1535 | N10 E25 | 11 7.5 | | B | BXO | | 2 | 3 | 3 |
| 3972 | 23422 | MWIL | 11 05 1545 | N12 E30 | 11 7.9 | 3 | (AP) | | | | | |
| 3972 | | RAMY | 11 07 1234 | N11 E00 | 11 7.5 | | B | BXO | 30 | 3 | 2 | 2 |
| 3972 | | LEAR | 11 08 0020 | N12 W04 | 11 7.7 | | B | BXO | 10 | 4 | 6 | 3 |
| 3972 | | RAMY | 11 08 1225 | N12 W13 | 11 7.5 | | B | CAO | 20 | 5 | 4 | 4 |
| 3973 | 23416 | MWIL | 11 01 1530 | N23 E79 | 11 7.7 | 3 | (B) | | | | | |
| 3973 | | BOUL | 11 01 1745 | N24 E78 | 11 7.8 | | B | DSO | 130 | 6 | 9 | 2 |
| 3973 | | PALE | 11 01 2045 | N23 E75 | 11 7.6 | | B | CSO | 80 | 5 | 8 | 1 |
| 3973 | | MANI | 11 01 2306 | N24 E75 | 11 7.8 | | | DSO | 170 | 4 | 7 | 3 |
| 3973 | | LEAR | 11 02 0030 | N24 E74 | 11 7.7 | | B | DSO | 50 | 4 | 7 | 3 |
| 3973 | | RAMY | 11 02 1245 | N24 E66 | 11 7.6 | | B | DAO | 130 | 9 | 8 | 4 |
| 3973 | | HOLL | 11 02 1545 | N24 E65 | 11 7.7 | | B | CSO | 20 | 5 | 8 | 3 |
| 3973 | 23416 | MWIL | 11 02 1600 | N23 E64 | 11 7.6 | 3 | (B) | | | | | |
| 3973 | | PALE | 11 02 1830 | N23 E64 | 11 7.7 | | B | CSO | 30 | 5 | 8 | 3 |
| 3973 | | MANI | 11 02 2317 | N24 E62 | 11 7.8 | | | DRO | 120 | 4 | 8 | 3 |
| 3973 | | LEAR | 11 03 0006 | N24 E60 | 11 7.6 | | B | DSO | 30 | 7 | 6 | 3 |
| 3973 | | HOLL | 11 03 1525 | N23 E52 | 11 7.7 | | B | DAO | 50 | 5 | 8 | 3 |
| 3973 | 23416 | MWIL | 11 03 1530 | N23 E52 | 11 7.7 | 4 | (B) | | | | | |
| 3973 | | RAMY | 11 03 1600 | N25 E53 | 11 7.8 | | B | DAO | 90 | 6 | 8 | 3 |
| 3973 | | BOUL | 11 03 1755 | N22 E50 | 11 7.6 | | B | CSO | 60 | 7 | 7 | 2 |
| 3973 | | MANI | 11 03 2340 | N24 E47 | 11 7.6 | | | CSO | 90 | 5 | 7 | 3 |
| 3973 | | MANI | 11 04 0001 | N24 E47 | 11 7.6 | | | CSO | 90 | 5 | 7 | 3 |
| 3973 | | LEAR | 11 04 0108 | N23 E47 | 11 7.7 | | B | CAO | 40 | 7 | 7 | 3 |
| 3973 | | HOLL | 11 04 1530 | N23 E39 | 11 7.7 | | B | CAO | 30 | 5 | 7 | 3 |
| 3973 | 23416 | MWIL | 11 04 1545 | N23 E38 | 11 7.6 | 4 | (BP) | | | | | |
| 3973 | | MANI | 11 04 2335 | N23 E36 | 11 7.8 | | | CRO | 60 | 4 | 8 | 3 |
| 3973 | | LEAR | 11 05 0013 | N22 E33 | 11 7.5 | | B | CSO | 20 | 2 | 4 | 3 |

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

NOVEMBER 1982

| NOAA/ USAF Region | Mt Wilson Region | Sta | Observation Time Mo Day (UT) | Lat CMD | CMP Mo Day | Max H | Mag Class | Spot Class | Corrected Area (10 ⁻⁶ Hemi) | Spot Count | Long. Extent (Deg) | Qual |
|-------------------------|------------------------|------------|------------------------------------|---------|---------------|----------|--------------|---------------|--|---------------|--------------------------|------|
| 3973 | 23416 | HOLL | 11 05 1535 | N22 E24 | 11 7.5 | | B | CRO | 20 | 2 | 5 | 3 |
| 3973 | | MWIL | 11 05 1545 | N22 E29 | 11 7.9 | 4 | (B) | | | | | |
| 3973 | | PALE | 11 05 1812 | N23 E23 | 11 7.5 | | B | CRO | 20 | 2 | 4 | 4 |
| 3973 | | LEAR | 11 06 0110 | N22 E18 | 11 7.4 | | A | HRX | 20 | 1 | 1 | 3 |
| 3973 | | MANI | 11 06 0233 | N23 E18 | 11 7.5 | | | HRX | 20 | 1 | 1 | 3 |
| 3973 | | RAMY | 11 06 1313 | N22 E10 | 11 7.3 | | B | BXO | 30 | 3 | 2 | 2 |
| 3973 | | HOLL | 11 06 1504 | N23 E10 | 11 7.4 | | B | BXO | 10 | 2 | 3 | 3 |
| 3973 | | MWIL | 11 06 1700 | N23 E13 | 11 7.7 | 3 | (B) | | | | | |
| 3973 | | PALE | 11 06 2018 | N22 E07 | 11 7.4 | | A | AXX | | 1 | | 3 |
| 3973 | | LEAR | 11 07 0120 | N22 E04 | 11 7.4 | | A | AXX | | 1 | | 3 |
| 3973 | | MANI | 11 07 0142 | N23 E05 | 11 7.5 | | | AXX | 10 | 1 | | 3 |
| 3973 | | RAMY | 11 07 1234 | N22 W02 | 11 7.4 | | A | AXX | 10 | 2 | 2 | 2 |
| 3973 | | HOLL | 11 07 1533 | N22 W04 | 11 7.3 | | A | AXX | | 1 | 1 | 2 |
| 3973 | | BOUL | 11 07 1534 | N20 W04 | 11 7.3 | | A | AXX | | 1 | | 3 |
| 3973 | | MWIL | 11 07 1600 | N22 W01 | 11 7.6 | 3 | B | | | | | |
| 3973 | | PALE | 11 07 1830 | N22 W06 | 11 7.3 | | A | AXX | | 2 | | 4 |
| 3973 | LEAR | 11 08 0020 | N23 W11 | 11 7.2 | | B | BXO | | 2 | 4 | 3 | |
| 3973 | HOLL | 11 08 2258 | N22 W13 | 11 8.0 | | A | AXX | 10 | 1 | | 3 | |
| 3973 | MWIL | 11 11 1800 | N22 W50 | 11 7.9 | 3 | (B) | | | | | | |
| 3981 | | HOLL | 11 05 1535 | N23 E34 | 11 8.3 | | A | AXX | | 1 | | 3 |
| 3981 | | PALE | 11 05 1812 | N23 E33 | 11 8.3 | | A | AXX | 10 | 1 | 1 | 4 |
| 3981 | | LEAR | 11 06 0110 | N22 E28 | 11 8.2 | | B | BXO | 10 | 2 | 3 | 3 |
| 3981 | | MANI | 11 06 0233 | N22 E29 | 11 8.3 | | | BXO | 10 | 2 | 2 | 3 |
| 3981 | | RAMY | 11 06 1313 | N24 E21 | 11 8.2 | | A | AXX | 20 | 1 | 1 | 2 |
| 3981 | | HOLL | 11 06 1504 | N24 E19 | 11 8.1 | | B | BXO | 10 | 3 | 4 | 3 |
| 3981 | | PALE | 11 06 2018 | N24 E17 | 11 8.2 | | A | AXX | | 1 | | 3 |
| 3981 | | LEAR | 11 07 0120 | N24 E14 | 11 8.1 | | B | BXO | 10 | 3 | 3 | 3 |
| 3981 | | MANI | 11 07 0142 | N22 E16 | 11 8.3 | | | BXO | 10 | 3 | 2 | 3 |
| 3981 | | RAMY | 11 07 1234 | N21 E05 | 11 7.9 | | B | BXO | 30 | 4 | 3 | 2 |
| 3981 | | LEAR | 11 08 0020 | N22 W01 | 11 7.9 | | A | AXX | | 2 | 1 | 3 |
| 3981 | | RAMY | 11 08 1225 | N24 W08 | 11 7.9 | | B | BXO | 10 | 6 | 3 | 4 |
| 3981 | | PALE | 11 08 1920 | N24 W11 | 11 8.0 | | A | AXX | 10 | 1 | 1 | 2 |
| 3981 | | HOLL | 11 08 2258 | N22 W13 | 11 8.0 | | A | AXX | 10 | 1 | | 3 |
| 3981 | | MANI | 11 08 2326 | N24 W14 | 11 7.9 | | | AXX | 10 | 1 | 1 | 3 |
| 3981 | | MANI | 11 11 0001 | N24 W40 | 11 7.9 | | A | AXX | 10 | 2 | 1 | 3 |
| 3981 | | LEAR | 11 11 0016 | N23 W39 | 11 8.0 | | A | AXX | 10 | 2 | 1 | 3 |
| 3981 | | RAMY | 11 11 1455 | N23 W50 | 11 7.8 | | B | BXO | 20 | 2 | 4 | 2 |
| 3974 | 23417 | MWIL | 11 01 1530 | N05 E85 | 11 8.0 | 2 | (AP) | | | | | |
| 3974 | | MANI | 11 01 2306 | N06 E78 | 11 7.8 | | | HSX | 90 | 2 | 1 | 3 |
| 3974 | | LEAR | 11 02 0030 | N05 E78 | 11 7.9 | | A | HAX | 50 | 3 | 1 | 3 |
| 3974 | | RAMY | 11 02 1245 | N05 E71 | 11 7.8 | | B | CAO | 60 | 7 | 3 | 4 |
| 3974 | | HOLL | 11 02 1545 | N06 E72 | 11 8.0 | | B | BXO | | 4 | 3 | 3 |
| 3974 | 23417 | MWIL | 11 02 1600 | N04 E70 | 11 7.9 | 3 | (AP) | | | | | |
| 3974 | | PALE | 11 02 1830 | N06 E74 | 11 8.3 | | B | BXO | 20 | 7 | 9 | 3 |
| 3974 | | MANI | 11 02 2317 | N06 E71 | 11 8.3 | | | CRO | 90 | 6 | 8 | 3 |
| 3974 | | LEAR | 11 03 0006 | N05 E67 | 11 8.0 | | B | BXO | 20 | 8 | 6 | 3 |
| 3974 | | HOLL | 11 03 1525 | N05 E58 | 11 8.0 | | B | CRO | 20 | 8 | 7 | 3 |
| 3974 | 23417 | MWIL | 11 03 1530 | N03 E58 | 11 8.0 | 3 | (B) | | | | | |
| 3974 | | RAMY | 11 03 1600 | N06 E59 | 11 8.1 | | B | DAO | 80 | 7 | 7 | 3 |
| 3974 | | BOUL | 11 03 1755 | N05 E56 | 11 7.9 | | B | BXO | 10 | 5 | 8 | 2 |
| 3974 | | MANI | 11 03 2340 | N05 E54 | 11 8.0 | | | CRO | 30 | 8 | 9 | 3 |
| 3974 | | MANI | 11 04 0001 | N05 E54 | 11 8.0 | | | CRO | 30 | 8 | 9 | 3 |
| 3974 | | LEAR | 11 04 0108 | N05 E53 | 11 8.0 | | B | BXO | 10 | 5 | 8 | 3 |
| 3974 | | HOLL | 11 04 1530 | N05 E46 | 11 8.1 | | BG | BXO | 20 | 6 | 9 | 3 |
| 3974 | 23417 | MWIL | 11 04 1545 | N04 E45 | 11 8.0 | 4 | (B) | | | | | |
| 3974 | | MANI | 11 04 2335 | N05 E41 | 11 8.1 | | | BXO | 30 | 7 | 9 | 3 |
| 3974 | | LEAR | 11 05 0013 | N05 E38 | 11 7.9 | | B | CRO | 10 | 3 | 6 | 3 |
| 3974 | | HOLL | 11 05 1535 | N05 E30 | 11 7.9 | | B | BXO | 10 | 3 | 6 | 3 |
| 3974 | 23417 | MWIL | 11 05 1545 | N05 E30 | 11 7.9 | 3 | (AP) | | | | | |
| 3974 | | PALE | 11 05 1812 | N05 E30 | 11 8.0 | | B | BXO | 20 | 3 | 5 | 4 |
| 3974 | | LEAR | 11 06 0110 | N05 E27 | 11 8.1 | | A | AXX | 10 | 3 | 2 | 3 |
| 3974 | | MANI | 11 06 0233 | N05 E27 | 11 8.1 | | | AXX | 10 | 2 | 2 | 3 |
| 3974 | | RAMY | 11 06 1313 | N05 E21 | 11 8.1 | | B | BXO | 30 | 3 | 4 | 2 |
| 3974 | 23417 | MWIL | 11 07 1600 | N06 E05 | 11 8.0 | 2 | B | | | | | |
| 3974 | | MANI | 11 08 2326 | N11 W13 | 11 8.0 | | | BXO | 20 | 7 | 5 | 3 |
| 3974 | | BOUL | 11 10 1720 | N06 W35 | 11 8.1 | | A | AXX | | 1 | | 2 |
| 3974 | | PALE | 11 10 1823 | N06 W34 | 11 8.2 | | B | BXO | 10 | 2 | 5 | 3 |
| 3974 | | LEAR | 11 11 0016 | N06 W40 | 11 8.0 | | A | AXX | | 1 | | 3 |
| 3974 | 23435 | MWIL | 11 12 1600 | N04 W62 | 11 8.0 | 2 | (AP) | | | | | |

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

NOVEMBER 1982

| NOAA/ USAF Region | Mt Wilson Region | Sta | Observation Time | | Lat | CMD | CMP | | Max H | Mag Class | Spot Class | Corrected Area (10 ⁻⁶ Hemi) | Spot Count | Long. Extent (Deg) | Qual |
|-------------------------|------------------------|------|---------------------|-----|------|-----|-----|-----|----------|--------------|---------------|--|---------------|--------------------------|------|
| | | | Mo | Day | (UT) | | Mo | Day | | | | | | | |
| 3977 | | LEAR | 11 | 05 | 0013 | S09 | E43 | 11 | 8.2 | A | AXX | | 1 | | 3 |
| 3977 | | HOLL | 11 | 05 | 1535 | S09 | E36 | 11 | 8.4 | B | BXO | 10 | 3 | 3 | 3 |
| 3977 | 23423 | MWIL | 11 | 05 | 1545 | S09 | E35 | 11 | 8.3 | 3 | (B) | | | | |
| 3977 | | PALE | 11 | 05 | 1812 | S09 | E33 | 11 | 8.2 | B | BXO | 20 | 4 | 4 | 4 |
| 3977 | | LEAR | 11 | 06 | 0110 | S09 | E30 | 11 | 8.3 | B | BXO | 10 | 3 | 3 | 3 |
| 3977 | | MANI | 11 | 06 | 0233 | S09 | E30 | 11 | 8.4 | | BXO | 10 | 3 | 2 | 3 |
| 3977 | 23423 | MWIL | 11 | 06 | 1700 | S10 | E20 | 11 | 8.2 | 3 | (B) | | | | |
| 3977 | | PALE | 11 | 06 | 2018 | S08 | E18 | 11 | 8.2 | B | BXO | 10 | 2 | 3 | 3 |
| 3977 | | LEAR | 11 | 07 | 0120 | S09 | E15 | 11 | 8.2 | B | BXO | 20 | 2 | 3 | 3 |
| 3977 | | MANI | 11 | 07 | 0142 | S09 | E16 | 11 | 8.3 | | BXO | 40 | 3 | 3 | 3 |
| 3977 | | RAMY | 11 | 07 | 1234 | S08 | E09 | 11 | 8.2 | B | CSO | 30 | 2 | 3 | 2 |
| 3977 | | HOLL | 11 | 07 | 1533 | S08 | E08 | 11 | 8.2 | B | BXO | 10 | 2 | 3 | 2 |
| 3977 | | BOUL | 11 | 07 | 1534 | S07 | E06 | 11 | 8.1 | B | BXO | 10 | 3 | 3 | 3 |
| 3977 | 23423 | MWIL | 11 | 07 | 1600 | S08 | E07 | 11 | 8.2 | 4 | B | | | | |
| 3977 | | PALE | 11 | 07 | 1830 | S08 | E06 | 11 | 8.2 | B | BXO | 20 | 4 | 4 | 4 |
| 3977 | | LEAR | 11 | 08 | 0020 | S08 | E02 | 11 | 8.2 | A | AXX | | 1 | | 3 |
| 3977 | | RAMY | 11 | 08 | 1225 | S08 | W05 | 11 | 8.1 | A | HAX | 10 | 1 | 2 | 4 |
| 3977 | | PALE | 11 | 08 | 1920 | S08 | W08 | 11 | 8.2 | A | HRX | 10 | 1 | 1 | 2 |
| 3977 | | HOLL | 11 | 08 | 2258 | S08 | W11 | 11 | 8.1 | A | AXX | 10 | 1 | | 3 |
| 3977 | | MANI | 11 | 08 | 2326 | S08 | W12 | 11 | 8.1 | | HRX | 20 | 1 | 1 | 3 |
| 3977 | | MANI | 11 | 10 | 0039 | S08 | W25 | 11 | 8.2 | A | AXX | | 1 | | 2 |
| 3988 | | MANI | 11 | 08 | 2326 | N10 | W03 | 11 | 8.8 | | AXX | | 2 | | 3 |
| 3988 | | HOLL | 11 | 09 | 2006 | N08 | W08 | 11 | 9.2 | B | DAO | 30 | 6 | 4 | 2 |
| 3988 | | LEAR | 11 | 10 | 0115 | N08 | W11 | 11 | 9.2 | B | CRO | 20 | 5 | 4 | 3 |
| 3988 | | RAMY | 11 | 10 | 1430 | N09 | W17 | 11 | 9.3 | B | BXO | 10 | 2 | 5 | 3 |
| 3988 | | BOUL | 11 | 10 | 1720 | N10 | W22 | 11 | 9.1 | B | BXO | 10 | 2 | 6 | 2 |
| 3988 | | MANI | 11 | 10 | 2350 | N09 | W26 | 11 | 9.0 | | BXO | 10 | 2 | 3 | 3 |
| 3988 | | MANI | 11 | 11 | 0001 | N09 | W26 | 11 | 9.0 | B | BXO | 10 | 2 | 3 | 3 |
| 3988 | | LEAR | 11 | 11 | 0016 | N10 | W26 | 11 | 9.1 | B | BXO | 10 | 3 | 5 | 3 |
| 3988 | | RAMY | 11 | 11 | 1455 | N08 | W32 | 11 | 9.2 | A | AXX | 10 | 1 | | 2 |
| 3988 | 23430 | MWIL | 11 | 11 | 1800 | N08 | W32 | 11 | 9.3 | 3 | (AP) | | | | |
| 3988 | | MANI | 11 | 11 | 2318 | N08 | W36 | 11 | 9.3 | | AXX | 10 | 1 | | 3 |
| 3988 | | LEAR | 11 | 12 | 0010 | N08 | W36 | 11 | 9.3 | A | AXX | | 1 | | 3 |
| 3979 | | LEAR | 11 | 06 | 0110 | N11 | E49 | 11 | 9.7 | B | CSO | 40 | 4 | 3 | 3 |
| 3979 | | MANI | 11 | 06 | 0233 | N11 | E49 | 11 | 9.8 | | CSO | 30 | 3 | 3 | 3 |
| 3979 | | RAMY | 11 | 06 | 1313 | N12 | E43 | 11 | 9.8 | B | DAO | 170 | 15 | 6 | 2 |
| 3979 | | HOLL | 11 | 06 | 1504 | N11 | E43 | 11 | 9.9 | BG | DAI | 130 | 14 | 7 | 3 |
| 3979 | 23426 | MWIL | 11 | 06 | 1700 | N11 | E40 | 11 | 9.7 | 4 | (B) | | | | |
| 3979 | | PALE | 11 | 06 | 2018 | N11 | E40 | 11 | 9.9 | BG | DAI | 120 | 10 | 6 | 3 |
| 3979 | | LEAR | 11 | 07 | 0120 | N11 | E37 | 11 | 9.8 | BG | DAO | 130 | 13 | 6 | 3 |
| 3979 | | MANI | 11 | 07 | 0142 | N11 | E37 | 11 | 9.9 | | DSO | 140 | 10 | 6 | 3 |
| 3979 | | RAMY | 11 | 07 | 1234 | N11 | E30 | 11 | 9.8 | BG | DAI | 210 | 13 | 8 | 2 |
| 3979 | | HOLL | 11 | 07 | 1533 | N12 | E29 | 11 | 9.8 | BG | DHO | 220 | 9 | 6 | 2 |
| 3979 | | BOUL | 11 | 07 | 1534 | N14 | E25 | 11 | 9.5 | BG | DAI | 190 | 20 | 8 | 3 |
| 3979 | 23426 | MWIL | 11 | 07 | 1600 | N11 | E28 | 11 | 9.8 | 5 | B | | | | |
| 3979 | | PALE | 11 | 07 | 1830 | N11 | E26 | 11 | 9.7 | BG | DAI | 250 | 17 | 7 | 4 |
| 3979 | | LEAR | 11 | 08 | 0020 | N11 | E24 | 11 | 9.8 | BG | DSI | 160 | 20 | 6 | 3 |
| 3979 | | RAMY | 11 | 08 | 1225 | N13 | E16 | 11 | 9.7 | BG | DHO | 210 | 21 | 6 | 4 |
| 3979 | | PALE | 11 | 08 | 1920 | N11 | E12 | 11 | 9.7 | BG | DAO | 190 | 9 | 7 | 2 |
| 3979 | | HOLL | 11 | 08 | 2258 | N11 | E11 | 11 | 9.8 | B | DKO | 120 | 12 | 6 | 3 |
| 3979 | | MANI | 11 | 08 | 2326 | N11 | E10 | 11 | 9.7 | | DAI | 240 | 15 | 7 | 3 |
| 3979 | | PALE | 11 | 09 | 1914 | N10 | W02 | 11 | 9.7 | B | EAO | 170 | 16 | 11 | 3 |
| 3979 | | HOLL | 11 | 09 | 2006 | N10 | W02 | 11 | 9.7 | B | DAO | 150 | 9 | 5 | 2 |
| 3979 | | MANI | 11 | 10 | 0039 | N09 | W06 | 11 | 9.6 | B | EAO | 170 | 11 | 11 | 2 |
| 3979 | | LEAR | 11 | 10 | 0115 | N10 | W03 | 11 | 9.8 | B | DAO | 140 | 5 | 5 | 3 |
| 3979 | | RAMY | 11 | 10 | 1430 | N08 | W10 | 11 | 9.9 | BD | CKO | 80 | 9 | 4 | 3 |
| 3979 | | BOUL | 11 | 10 | 1720 | N11 | W14 | 11 | 9.7 | B | DHI | 150 | 9 | 5 | 2 |
| 3979 | | PALE | 11 | 10 | 1823 | N10 | W11 | 11 | 9.9 | B | CKO | 180 | 15 | 12 | 3 |
| 3979 | | MANI | 11 | 11 | 0001 | N10 | W15 | 11 | 9.9 | B | CAO | 140 | 12 | 10 | 3 |
| 3979 | | LEAR | 11 | 11 | 0016 | N10 | W17 | 11 | 9.7 | B | CAO | 150 | 10 | 5 | 3 |
| 3979 | | RAMY | 11 | 11 | 1455 | N11 | W26 | 11 | 9.7 | B | CAO | 70 | 6 | 4 | 2 |
| 3979 | | PALE | 11 | 11 | 1750 | N11 | W29 | 11 | 9.6 | B | CAO | 70 | 6 | 7 | 2 |
| 3979 | 23426 | MWIL | 11 | 11 | 1800 | N11 | W27 | 11 | 9.7 | 5 | (B) | | | | |
| 3979 | | MANI | 11 | 11 | 2318 | N11 | W31 | 11 | 9.6 | | CAO | 120 | 6 | 4 | 3 |
| 3979 | | LEAR | 11 | 12 | 0010 | N11 | W31 | 11 | 9.7 | A | HAX | 100 | 4 | 2 | 3 |
| 3979 | | RAMY | 11 | 12 | 1507 | N12 | W38 | 11 | 9.8 | A | HKX | 100 | 3 | 3 | 1 |
| 3979 | 23426 | MWIL | 11 | 12 | 1600 | N11 | W39 | 11 | 9.7 | 5 | (AP) | | | | |
| 3979 | | HOLL | 11 | 12 | 1628 | N12 | W40 | 11 | 9.7 | A | HSX | 100 | 2 | 2 | 3 |
| 3979 | | BOUL | 11 | 12 | 1700 | N12 | W38 | 11 | 9.8 | A | HSX | 60 | 1 | 1 | 1 |

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

NOVEMBER 1982

| NOAA/ USAF Region | Mt Wilson Region | Sta | Observation Time (UT) | Lat | CMD | CMP Mo | Max H | Mag Class | Spot Class | Corrected Area (10 ⁻⁶ Hemi) | Spot Count | Long. Extent (Deg) | Qual |
|-------------------------|------------------------|------|-----------------------------|-----|-----|-----------|----------|--------------|---------------|--|---------------|--------------------------|------|
| 3979 | | PALE | 11 12 1802 | N12 | W41 | 11 | 9.7 | A | HAX | 70 | 1 | 2 | 3 |
| 3979 | | LEAR | 11 13 0032 | N11 | W44 | 11 | 9.7 | A | HAX | 120 | 2 | 2 | 3 |
| 3979 | | RAMY | 11 13 1445 | N13 | W52 | 11 | 9.7 | A | HAX | 90 | 2 | 3 | 3 |
| 3979 | | HOLL | 11 13 1716 | N11 | W54 | 11 | 9.7 | A | HAX | 80 | 2 | 2 | 3 |
| 3979 | | PALE | 11 13 1900 | N11 | W55 | 11 | 9.7 | A | HAX | 70 | 1 | 2 | 3 |
| 3979 | | BOUL | 11 13 1905 | N12 | W55 | 11 | 9.6 | A | HSX | 80 | 3 | 2 | 2 |
| 3979 | 23426 | MWIL | 11 13 1930 | N11 | W54 | 11 | 9.7 | 5 | AP | | | | |
| 3979 | | LEAR | 11 14 0038 | N11 | W57 | 11 | 9.7 | A | HAX | 100 | 2 | 2 | 2 |
| 3979 | | RAMY | 11 14 1240 | N12 | W64 | 11 | 9.7 | A | HAX | 90 | 3 | 2 | 4 |
| 3979 | 23426 | MWIL | 11 14 1600 | N11 | W65 | 11 | 9.8 | 4 | (AP) | | | | |
| 3979 | | PALE | 11 14 1920 | N11 | W68 | 11 | 9.7 | A | HSX | 60 | 1 | 2 | 3 |
| 3979 | | HOLL | 11 14 2020 | N10 | W68 | 11 | 9.7 | A | HSX | 50 | 1 | 1 | 3 |
| 3979 | | MANI | 11 14 2317 | N11 | W70 | 11 | 9.7 | | HSX | 90 | 1 | 2 | 3 |
| 3979 | | LEAR | 11 15 0011 | N11 | W70 | 11 | 9.7 | B | CSO | 90 | 2 | 3 | 3 |
| 3979 | | RAMY | 11 15 1325 | N12 | W78 | 11 | 9.7 | B | CSO | 80 | 3 | 5 | 3 |
| 3979 | 23426 | MWIL | 11 15 1530 | N11 | W79 | 11 | 9.7 | 3 | (AP) | | | | |
| 3979 | | HOLL | 11 15 1533 | N10 | W79 | 11 | 9.7 | B | DSO | 80 | 2 | 3 | 3 |
| 3979 | | BOUL | 11 15 1808 | N12 | W80 | 11 | 9.7 | A | HSX | 50 | 1 | 1 | 1 |
| 3979 | | PALE | 11 15 2013 | N12 | W82 | 11 | 9.7 | B | CSO | 50 | 2 | 4 | 2 |
| 3979 | | MANI | 11 15 2313 | N11 | W83 | 11 | 9.7 | | HRX | 170 | 1 | 2 | 3 |
| 3979 | | MANI | 11 16 0001 | N11 | W83 | 11 | 9.8 | A | HRX | 170 | 1 | 2 | 3 |
| 3979 | | LEAR | 11 16 0017 | N11 | W84 | 11 | 9.7 | B | CSO | 30 | 2 | 7 | 3 |
| 3976 | 23421 | MWIL | 11 03 1530 | N15 | E80 | 11 | 9.7 | 2 | (B) | | | | |
| 3976 | | HOLL | 11 04 1530 | N13 | E77 | 11 | 10.5 | | B BXO | 20 | 4 | 3 | 3 |
| 3976 | 23421 | MWIL | 11 04 1545 | N13 | E75 | 11 | 10.3 | 4 | (AP) | | | | |
| 3976 | | MANI | 11 04 2335 | N13 | E72 | 11 | 10.4 | | CSO | 110 | 5 | 4 | 3 |
| 3976 | | LEAR | 11 05 0013 | N12 | E71 | 11 | 10.4 | | B CSO | 30 | 4 | 4 | 3 |
| 3976 | | HOLL | 11 05 1535 | N13 | E65 | 11 | 10.6 | | B BXO | 30 | 7 | 8 | 3 |
| 3976 | 23421 | MWIL | 11 05 1545 | N13 | E63 | 11 | 10.4 | 4 | (B) | | | | |
| 3976 | | PALE | 11 05 1812 | N12 | E63 | 11 | 10.5 | | B CRO | 50 | 6 | 7 | 4 |
| 3976 | | LEAR | 11 06 0110 | N12 | E59 | 11 | 10.5 | | B DSO | 60 | 8 | 7 | 3 |
| 3976 | | MANI | 11 06 0233 | N12 | E59 | 11 | 10.6 | | DSO | 80 | 7 | 5 | 3 |
| 3976 | | RAMY | 11 06 1313 | N13 | E54 | 11 | 10.6 | | B DAO | 250 | 13 | 8 | 2 |
| 3976 | | HOLL | 11 06 1504 | N13 | E52 | 11 | 10.6 | | B DAO | 110 | 11 | 8 | 3 |
| 3976 | 23421 | MWIL | 11 06 1700 | N12 | E50 | 11 | 10.5 | 4 | (BP) | | | | |
| 3976 | | PALE | 11 06 2018 | N13 | E50 | 11 | 10.6 | | B DAO | 80 | 5 | 7 | 3 |
| 3976 | | LEAR | 11 07 0120 | N12 | E47 | 11 | 10.6 | | B CSO | 60 | 6 | 6 | 3 |
| 3976 | | MANI | 11 07 0142 | N12 | E47 | 11 | 10.6 | | B DRO | 70 | 6 | 6 | 3 |
| 3976 | | RAMY | 11 07 1234 | N12 | E39 | 11 | 10.5 | | B DAO | 100 | 9 | 8 | 2 |
| 3976 | | HOLL | 11 07 1533 | N13 | E40 | 11 | 10.7 | | B CSO | 50 | 5 | 6 | 2 |
| 3976 | 23421 | MWIL | 11 07 1600 | N13 | E38 | 11 | 10.5 | 5 | BP | | | | |
| 3976 | | PALE | 11 07 1830 | N13 | E38 | 11 | 10.6 | | B DSO | 50 | 8 | 8 | 4 |
| 3976 | | LEAR | 11 08 0020 | N12 | E34 | 11 | 10.6 | | B CSO | 30 | 14 | 7 | 3 |
| 3976 | | RAMY | 11 08 1225 | N14 | E26 | 11 | 10.5 | | B CAO | 50 | 8 | 5 | 4 |
| 3976 | | PALE | 11 08 1920 | N13 | E23 | 11 | 10.5 | | B CSO | 20 | 3 | 4 | 2 |
| 3976 | | HOLL | 11 08 2258 | N13 | E19 | 11 | 10.4 | | B CAO | 30 | 4 | 3 | 3 |
| 3976 | | MANI | 11 08 2326 | N13 | E21 | 11 | 10.6 | | CSO | 50 | 8 | 7 | 3 |
| 3976 | | PALE | 11 09 1914 | N12 | E11 | 11 | 10.6 | | B CSO | 30 | 4 | 6 | 3 |
| 3976 | | HOLL | 11 09 2006 | N12 | E08 | 11 | 10.4 | | B CAO | 20 | 5 | 6 | 2 |
| 3976 | | MANI | 11 10 0039 | N13 | E07 | 11 | 10.6 | | B CSO | 40 | 6 | 6 | 2 |
| 3976 | | LEAR | 11 10 0115 | N12 | E06 | 11 | 10.5 | | B BXO | 30 | 8 | 7 | 3 |
| 3976 | | RAMY | 11 10 1430 | N12 | E01 | 11 | 10.7 | | B BXO | 10 | 3 | 7 | 3 |
| 3976 | | BOUL | 11 10 1720 | N13 | W04 | 11 | 10.4 | | B BXO | 10 | 4 | 6 | 2 |
| 3976 | | PALE | 11 10 1823 | N12 | E02 | 11 | 10.9 | | B BXO | 20 | 4 | 4 | 3 |
| 3976 | | MANI | 11 11 0001 | N12 | W06 | 11 | 10.5 | | B BXO | 20 | 7 | 4 | 3 |
| 3976 | | LEAR | 11 11 0016 | N12 | W06 | 11 | 10.6 | | B BXO | 10 | 7 | 9 | 3 |
| 3976 | | RAMY | 11 11 1455 | N13 | W17 | 11 | 10.3 | | A AXX | 10 | 1 | 1 | 2 |
| 3976 | | PALE | 11 11 1750 | N12 | W11 | 11 | 10.9 | | A AXX | | 1 | | 2 |
| 3976 | 23421 | MWIL | 11 11 1800 | N12 | W16 | 11 | 10.5 | 3 | (B) | | | | |
| 3976 | | BOUL | 11 13 1905 | N10 | W37 | 11 | 11.0 | | A AXX | 10 | 1 | | 2 |
| 3978 | | HOLL | 11 05 1535 | N27 | E69 | 11 | 11.0 | | B BXO | 10 | 3 | 3 | 3 |
| 3978 | 23424 | MWIL | 11 05 1545 | N26 | E70 | 11 | 11.1 | 3 | (BP) | | | | |
| 3978 | | PALE | 11 05 1812 | N26 | E70 | 11 | 11.2 | | B BXO | 20 | 3 | 3 | 4 |
| 3978 | | LEAR | 11 06 0110 | N26 | E66 | 11 | 11.2 | | A AXX | 10 | 3 | 2 | 3 |
| 3978 | | MANI | 11 06 0233 | N26 | E65 | 11 | 11.2 | | AXX | 10 | 2 | 2 | 3 |
| 3978 | | RAMY | 11 06 1313 | N29 | E59 | 11 | 11.2 | | B BXO | 20 | 2 | 2 | 2 |
| 3978 | | HOLL | 11 06 1504 | N27 | E57 | 11 | 11.1 | | B BXO | 10 | 2 | 3 | 3 |
| 3978 | 23424 | MWIL | 11 06 1700 | N27 | E53 | 11 | 10.8 | 3 | (B) | | | | |
| 3978 | | LEAR | 11 07 0120 | N26 | E52 | 11 | 11.1 | | B BXO | 20 | 4 | 4 | 3 |

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

NOVEMBER 1982

| NOAA/ USAF Region | Mt Wilson Region | Sta | Observation Time Mo Day (UT) | | Lat CMD | CMP Mo Day | Max H | Mag Class | Spot Class | Corrected Area (10 ⁻⁶ Heml) | Spot Count | Long. Extent (Deg) | Qual |
|-------------------------|------------------------|------|------------------------------------|----|---------|---------------|----------|--------------|---------------|--|---------------|--------------------------|------|
| 3978 | | MANI | 11 | 07 | 0142 | N26 E52 | 11 11.1 | | BXO | 20 | 4 | 4 | 3 |
| 3978 | | RAMY | 11 | 07 | 1234 | N25 E45 | 11 11.0 | | AXX | 20 | 1 | 1 | 2 |
| 3978 | | HOLL | 11 | 07 | 1533 | N26 E46 | 11 11.2 | | B BXO | 10 | 2 | 4 | 2 |
| 3978 | | BOUL | 11 | 07 | 1534 | N27 E43 | 11 11.0 | | B BXO | 10 | 2 | 2 | 3 |
| 3978 | 23424 | MWIL | 11 | 07 | 1600 | N26 E44 | 11 11.1 | 3 | B | | | | |
| 3978 | | PALE | 11 | 07 | 1830 | N27 E42 | 11 11.0 | | B BXO | 20 | 2 | 3 | 4 |
| 3978 | | LEAR | 11 | 08 | 0020 | N26 E39 | 11 11.0 | | B BXO | 10 | 4 | 5 | 3 |
| 3978 | | RAMY | 11 | 08 | 1225 | N26 E31 | 11 10.9 | | B BXO | 20 | 3 | 2 | 4 |
| 3989 | | PALE | 11 | 09 | 1914 | S15 E15 | 11 10.9 | | A AXX | 10 | 1 | 1 | 3 |
| 3989 | | HOLL | 11 | 09 | 2006 | S15 E15 | 11 11.0 | | A AXX | | 1 | | 2 |
| 3989 | | MANI | 11 | 10 | 0039 | S15 E11 | 11 10.9 | | A AXX | | 1 | | 2 |
| 3989 | | LEAR | 11 | 10 | 0115 | S16 E12 | 11 11.0 | | A AXX | | 1 | | 3 |
| 0003 | | MANI | 12 | 06 | 0001 | S10 E70 | 11 11.3 | | AXX | 10 | 3 | 1 | 3 |
| 3992 | | LEAR | 11 | 13 | 0032 | S28 W02 | 11 12.9 | | A AXX | 10 | 4 | 2 | 3 |
| 3992 | | HOLL | 11 | 13 | 1716 | S28 W10 | 11 12.9 | | A AXX | | 1 | | 3 |
| 3992 | | PALE | 11 | 13 | 1900 | S29 W12 | 11 12.9 | | A AXX | | 1 | | 3 |
| 3992 | | BOUL | 11 | 13 | 1905 | S26 W11 | 11 12.9 | | A AXX | 10 | 1 | | 2 |
| 3992 | 23437 | MWIL | 11 | 13 | 1930 | S29 W12 | 11 12.9 | 2 | AP | | | | |
| 3992 | | LEAR | 11 | 14 | 0038 | S28 W14 | 11 12.9 | | A AXX | | 1 | | 2 |
| 3992 | | RAMY | 11 | 14 | 1240 | S28 W22 | 11 12.8 | | B BXO | 10 | 3 | 4 | 4 |
| 3992 | 23437 | MWIL | 11 | 14 | 1600 | S29 W23 | 11 12.9 | 3 | (B) | | | | |
| 3992 | | PALE | 11 | 14 | 1920 | S29 W27 | 11 12.7 | | B CRO | 20 | 4 | 3 | 3 |
| 3992 | | LEAR | 11 | 15 | 0011 | S29 W28 | 11 12.8 | | B BXO | 10 | 2 | 4 | 3 |
| 3992 | | RAMY | 11 | 15 | 1325 | S26 W38 | 11 12.6 | | B BXO | 30 | 2 | 3 | 3 |
| 3992 | 23437 | MWIL | 11 | 15 | 1530 | S27 W38 | 11 12.7 | 2 | (AP) | | | | |
| 3986 | 23427 | MWIL | 11 | 06 | 1700 | N06 E79 | 11 12.6 | 2 | (AP) | | | | |
| 3986 | | LEAR | 11 | 08 | 0020 | N06 E65 | 11 12.9 | | A AXX | | 1 | | 3 |
| 3986 | | RAMY | 11 | 08 | 1225 | N07 E62 | 11 13.2 | | B BXO | 20 | 4 | 4 | 4 |
| 3986 | | HOLL | 11 | 08 | 2258 | N05 E55 | 11 13.1 | | A AXX | | 1 | | 3 |
| 3986 | | MANI | 11 | 08 | 2326 | N05 E53 | 11 12.9 | | B BXO | 20 | 4 | 3 | 3 |
| 3986 | | PALE | 11 | 09 | 1914 | N05 E43 | 11 13.0 | | B BXO | 20 | 3 | 4 | 3 |
| 3986 | | HOLL | 11 | 09 | 2006 | N06 E40 | 11 12.8 | | A AXX | | 1 | | 2 |
| 3986 | | MANI | 11 | 10 | 0039 | N05 E40 | 11 13.0 | | B BXO | 10 | 4 | 4 | 2 |
| 3986 | | LEAR | 11 | 10 | 0115 | N06 E38 | 11 12.9 | | A AXX | | 1 | | 3 |
| 3986 | | MANI | 11 | 11 | 0001 | N05 E27 | 11 13.0 | | B BXO | 10 | 4 | 3 | 3 |
| 3986 | | LEAR | 11 | 11 | 0016 | N06 E27 | 11 13.0 | | B BXO | 10 | 6 | 5 | 3 |
| 3984 | 23429 | HOLL | 11 | 07 | 1533 | S14 E86 | 11 14.2 | | A HSX | 50 | 1 | 2 | 2 |
| 3984 | | MWIL | 11 | 07 | 1600 | S15 E82 | 11 13.9 | 3 | AP | | | | |
| 3984 | | PALE | 11 | 07 | 1830 | S16 E82 | 11 14.0 | | A HSX | 100 | 1 | 2 | 4 |
| 3984 | | LEAR | 11 | 08 | 0020 | S14 E78 | 11 13.9 | | B HSX | 140 | 1 | 2 | 3 |
| 3984 | | RAMY | 11 | 08 | 1225 | S13 E73 | 11 14.0 | | B CKO | 160 | 3 | 5 | 4 |
| 3984 | | PALE | 11 | 08 | 1920 | S15 E68 | 11 14.0 | | A HSX | 130 | 1 | 2 | 2 |
| 3984 | | HOLL | 11 | 08 | 2258 | S15 E66 | 11 14.0 | | A HAX | 190 | 2 | 2 | 3 |
| 3984 | | MANI | 11 | 08 | 2326 | S15 E66 | 11 14.0 | | HSX | 190 | 1 | 2 | 3 |
| 3984 | | PALE | 11 | 09 | 1914 | S15 E55 | 11 14.0 | | A HSX | 120 | 1 | 2 | 3 |
| 3984 | | HOLL | 11 | 09 | 2006 | S15 E45 | 11 13.2 | | A HSX | 70 | 1 | 2 | 2 |
| 3984 | | MANI | 11 | 10 | 0039 | S15 E52 | 11 14.0 | | B CSO | 140 | 2 | 3 | 2 |
| 3984 | | LEAR | 11 | 10 | 0115 | S16 E53 | 11 14.1 | | B CSO | 110 | 3 | 4 | 3 |
| 3984 | | RAMY | 11 | 10 | 1430 | S16 E45 | 11 14.0 | | A HHX | 90 | 1 | 2 | 3 |
| 3984 | | BOUL | 11 | 10 | 1720 | S14 E42 | 11 13.9 | | A HSX | 120 | 1 | 2 | 2 |
| 3984 | | PALE | 11 | 10 | 1823 | S16 E43 | 11 14.0 | | A HSX | 110 | 1 | 2 | 3 |
| 3984 | | MANI | 11 | 10 | 2350 | S15 E39 | 11 13.9 | | HSX | 130 | 1 | 2 | 3 |
| 3984 | | LEAR | 11 | 11 | 0016 | S15 E39 | 11 14.0 | | A HSX | 120 | 1 | 2 | 3 |
| 3984 | | RAMY | 11 | 11 | 1455 | S15 E31 | 11 14.0 | | A HHX | 100 | 1 | 3 | 2 |
| 3984 | | PALE | 11 | 11 | 1750 | S15 E32 | 11 14.2 | | B CSO | 50 | 2 | 3 | 2 |
| 3984 | 23429 | MWIL | 11 | 11 | 1800 | S15 E28 | 11 13.9 | 5 | (AP) | | | | |
| 3984 | | MANI | 11 | 11 | 2318 | S15 E26 | 11 13.9 | | CSO | 120 | 3 | 2 | 3 |
| 3984 | | LEAR | 11 | 12 | 0010 | S15 E26 | 11 14.0 | | A HSX | 120 | 1 | 2 | 3 |
| 3984 | | RAMY | 11 | 12 | 1507 | S16 E18 | 11 14.0 | | B CHO | 80 | 3 | 3 | 1 |
| 3984 | 23429 | MWIL | 11 | 12 | 1600 | S15 E17 | 11 14.0 | 5 | (AP) | | | | |
| 3984 | | HOLL | 11 | 12 | 1628 | S14 E16 | 11 13.9 | | A HSX | 150 | 2 | 2 | 3 |
| 3984 | | BOUL | 11 | 12 | 1700 | S12 E16 | 11 13.9 | | B CSO | 70 | 2 | 3 | 1 |
| 3984 | | PALE | 11 | 12 | 1802 | S15 E15 | 11 13.9 | | B CSO | 110 | 2 | 3 | 3 |
| 3984 | | LEAR | 11 | 13 | 0032 | S16 E12 | 11 13.9 | | B CSO | 100 | 4 | 3 | 3 |
| 3984 | | RAMY | 11 | 13 | 1445 | S14 E04 | 11 13.9 | | B CHO | 100 | 4 | 3 | 3 |
| 3984 | | HOLL | 11 | 13 | 1716 | S14 E03 | 11 13.9 | | A HSX | 90 | 1 | 2 | 3 |

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

NOVEMBER 1982

| NOAA/ USAF Region | Mt Wilson Region | Sta | Observation Time | | | Lat CMD | CMP | | Max H | Mag Class | Spot Class | Corrected Area (10 ⁻⁶ Hemi) | Spot Count | Long. Extent (Deg) | Qual |
|-------------------------|------------------------|------|---------------------|-----|------|------------|-----|------|----------|--------------|---------------|--|---------------|--------------------------|------|
| | | | Mo | Day | (UT) | | Mo | Day | | | | | | | |
| 3984 | | PALE | 11 | 13 | 1900 | S14 E02 | 11 | 13.9 | | A | HSX | 80 | 1 | 2 | 3 |
| 3984 | | BOUL | 11 | 13 | 1905 | S15 E04 | 11 | 14.1 | | B | CSO | 100 | 3 | 7 | 2 |
| 3984 | 23429 | MWIL | 11 | 13 | 1930 | S15 E01 | 11 | 13.9 | 5 | AP | | | | | |
| 3984 | | LEAR | 11 | 14 | 0038 | S14 W02 | 11 | 13.9 | | A | HSX | 110 | 1 | 2 | 2 |
| 3984 | | RAMY | 11 | 14 | 1240 | S15 W09 | 11 | 13.8 | | B | DSO | 110 | 5 | 3 | 4 |
| 3984 | 23429 | MWIL | 11 | 14 | 1600 | S14 W10 | 11 | 13.9 | 5 | (AP) | | | | | |
| 3984 | | PALE | 11 | 14 | 1920 | S15 W12 | 11 | 13.9 | | B | CSO | 80 | 4 | 3 | 3 |
| 3984 | | HOLL | 11 | 14 | 2020 | S16 W12 | 11 | 13.9 | | B | CSO | 90 | 2 | 4 | 3 |
| 3984 | | MANI | 11 | 14 | 2317 | S15 W14 | 11 | 13.9 | | | CSO | 110 | 4 | 4 | 3 |
| 3984 | | LEAR | 11 | 15 | 0011 | S14 W15 | 11 | 13.9 | | A | CSX | 100 | 2 | 2 | 3 |
| 3984 | | RAMY | 11 | 15 | 1325 | S14 W22 | 11 | 13.9 | | B | CSO | 90 | 3 | 3 | 3 |
| 3984 | 23429 | MWIL | 11 | 15 | 1530 | S14 W23 | 11 | 13.9 | 5 | (AP) | | | | | |
| 3984 | | HOLL | 11 | 15 | 1533 | S16 W23 | 11 | 13.9 | | A | HSX | 90 | 1 | 2 | 3 |
| 3984 | | BOUL | 11 | 15 | 1808 | S12 W25 | 11 | 13.9 | | A | HSX | 40 | 1 | 1 | 1 |
| 3984 | | PALE | 11 | 15 | 2013 | S14 W26 | 11 | 13.9 | | A | HSX | 50 | 1 | 2 | 2 |
| 3984 | | MANI | 11 | 15 | 2313 | S15 W26 | 11 | 14.0 | | | CSO | 110 | 5 | 4 | 3 |
| 3984 | | MANI | 11 | 16 | 0001 | S15 W26 | 11 | 14.0 | | B | CSO | 110 | 5 | 4 | 3 |
| 3984 | | LEAR | 11 | 16 | 0017 | S13 W27 | 11 | 14.0 | | B | CSO | 90 | 3 | 4 | 3 |
| 3984 | | RAMY | 11 | 16 | 1315 | S14 W35 | 11 | 13.9 | | B | CAO | 80 | 5 | 4 | 3 |
| 3984 | | BOUL | 11 | 16 | 1515 | S13 W36 | 11 | 13.9 | | B | CSO | 60 | 3 | 4 | 1 |
| 3984 | | PALE | 11 | 16 | 1957 | S15 W39 | 11 | 13.9 | | A | HAX | 50 | 2 | 2 | 3 |
| 3984 | | LEAR | 11 | 17 | 0017 | S14 W40 | 11 | 14.0 | | B | CSO | 80 | 4 | 3 | 4 |
| 3984 | | RAMY | 11 | 17 | 1445 | S14 W49 | 11 | 13.9 | | A | HAX | 60 | 1 | 2 | 3 |
| 3984 | | BOUL | 11 | 17 | 1515 | S12 W50 | 11 | 13.9 | | B | CRO | 20 | 3 | 1 | 1 |
| 3984 | | MANI | 11 | 17 | 2322 | S14 W54 | 11 | 13.9 | | | HSX | 50 | 1 | 1 | 3 |
| 3984 | | LEAR | 11 | 18 | 0108 | S15 W55 | 11 | 13.9 | | A | HSX | 30 | 3 | 2 | 3 |
| 3984 | | RAMY | 11 | 18 | 1330 | S14 W61 | 11 | 13.9 | | A | AXX | 20 | 2 | 1 | 4 |
| 3984 | | BOUL | 11 | 18 | 1530 | S13 W62 | 11 | 14.0 | | A | AXX | 10 | 1 | 1 | 2 |
| 3984 | | HOLL | 11 | 18 | 1650 | S16 W63 | 11 | 13.9 | | B | BXO | 10 | 3 | 3 | 4 |
| 3984 | | MANI | 11 | 18 | 2316 | S14 W67 | 11 | 13.9 | | | AXX | 10 | 1 | | 3 |
| 3984 | | LEAR | 11 | 19 | 0017 | S14 W68 | 11 | 13.9 | | A | AXX | | 1 | | 3 |
| 3984 | | MANI | 11 | 20 | 0030 | S14 W80 | 11 | 14.0 | | | AXX | 20 | 1 | | 3 |
| 0004 | | HOLL | 11 | 13 | 1716 | N16 E10 | 11 | 14.5 | | A | AXX | | 1 | | 3 |
| 0004 | | PALE | 11 | 13 | 1900 | N17 E10 | 11 | 14.6 | | A | AXX | | 1 | | 3 |
| 3991 | | HOLL | 11 | 08 | 2258 | N08 E70 | 11 | 14.2 | | A | AXX | | 1 | | 3 |
| 3991 | | MANI | 11 | 08 | 2326 | N08 E69 | 11 | 14.2 | | | AXX | 10 | 1 | 1 | 3 |
| 3991 | | PALE | 11 | 10 | 1823 | N08 E52 | 11 | 14.7 | | A | AXX | 10 | 1 | 1 | 3 |
| 3991 | | MANI | 11 | 11 | 0001 | N08 E49 | 11 | 14.7 | | A | AXX | | 1 | | 3 |
| 3991 | 23433 | MWIL | 11 | 11 | 1800 | N10 E43 | 11 | 15.0 | 2 | (AP) | | | | | |
| 3991 | | RAMY | 11 | 14 | 1240 | N09 W00 | 11 | 14.5 | | A | AXX | | 1 | | 4 |
| 3991 | 23439 | MWIL | 11 | 14 | 1600 | N04 W05 | 11 | 14.3 | 2 | (AP) | | | | | |
| 3991 | | RAMY | 11 | 15 | 1325 | N05 W17 | 11 | 14.3 | | B | BXO | 20 | 2 | 2 | 3 |
| 3991 | 23439 | MWIL | 11 | 15 | 1530 | N04 W18 | 11 | 14.3 | 3 | (AP) | | | | | |
| 3991 | | BOUL | 11 | 16 | 1515 | N06 W32 | 11 | 14.2 | | A | AXX | | 1 | | 1 |
| 3991 | | LEAR | 11 | 17 | 0017 | N03 W38 | 11 | 14.2 | | A | AXX | 10 | 2 | 1 | 4 |
| 0005 | | HOLL | 11 | 13 | 1716 | N25 E13 | 11 | 14.7 | | B | BXO | 10 | 2 | 3 | 3 |
| 3995 | | MANI | 11 | 10 | 0039 | S15 E65 | 11 | 15.0 | | A | AXX | 10 | 1 | | 2 |
| 3995 | | PALE | 11 | 10 | 1823 | S17 E55 | 11 | 14.9 | | B | BXO | 20 | 4 | 3 | 3 |
| 3995 | | MANI | 11 | 11 | 0001 | S15 E49 | 11 | 14.7 | | A | HSX | 160 | 1 | 2 | 3 |
| 3995 | | MANI | 11 | 11 | 0001 | S16 E52 | 11 | 14.9 | | B | BXO | 20 | 5 | 3 | 3 |
| 3995 | | LEAR | 11 | 11 | 0016 | S17 E53 | 11 | 15.0 | | A | AXX | | 2 | 2 | 3 |
| 3995 | 23431 | MWIL | 11 | 11 | 1800 | S16 E38 | 11 | 14.6 | 2 | (AP) | | | | | |
| 3995 | 23431 | MWIL | 11 | 12 | 1600 | S16 E28 | 11 | 14.8 | 3 | (B) | | | | | |
| 3995 | | BOUL | 11 | 13 | 1905 | S16 E12 | 11 | 14.7 | | B | CRI | 30 | 9 | 4 | 2 |
| 3995 | 23431 | MWIL | 11 | 13 | 1930 | S16 E13 | 11 | 14.8 | 4 | B | | | | | |
| 3995 | | RAMY | 11 | 14 | 1240 | S17 E03 | 11 | 14.8 | | B | DAO | 70 | 16 | 6 | 4 |
| 3995 | 23431 | MWIL | 11 | 14 | 1600 | S16 E02 | 11 | 14.8 | 5 | (BY) | | | | | |
| 3995 | | PALE | 11 | 14 | 1920 | S16 W01 | 11 | 14.7 | | B | CSO | 50 | 9 | 5 | 3 |
| 3995 | | HOLL | 11 | 14 | 2020 | S17 W01 | 11 | 14.8 | | B | CAO | 80 | 6 | 5 | 3 |
| 3995 | | MANI | 11 | 14 | 2317 | S16 W04 | 11 | 14.7 | | | CSO | 70 | 8 | 5 | 3 |
| 3995 | | LEAR | 11 | 15 | 0011 | S16 W08 | 11 | 14.4 | | B | BXO | | 2 | 2 | 3 |
| 3995 | | RAMY | 11 | 15 | 1325 | S15 W12 | 11 | 14.6 | | B | CSO | 40 | 10 | 8 | 3 |
| 3995 | 23431 | MWIL | 11 | 15 | 1530 | S15 W13 | 11 | 14.7 | 5 | (BP) | | | | | |
| 3995 | | HOLL | 11 | 15 | 1533 | S16 W14 | 11 | 14.6 | | A | HSX | 30 | 2 | 2 | 3 |
| 3995 | | BOUL | 11 | 15 | 1808 | S12 W16 | 11 | 14.5 | | A | HSX | 30 | 1 | 1 | 1 |
| 3995 | | PALE | 11 | 15 | 2013 | S15 W17 | 11 | 14.6 | | A | HSX | 30 | 1 | 1 | 2 |
| 3995 | | MANI | 11 | 15 | 2313 | S15 W18 | 11 | 14.6 | | | HSX | 40 | 1 | 2 | 3 |

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

NOVEMBER 1982

| NOAA/ USAF Region | Mt Wilson Region | Sta | Observation | | | CMP Mo Day | Max H | Mag Class | Spot Class | Corrected Area (10 ⁻⁶ Hemi) | Spot Count | Long. Extent (Deg) | Qual |
|-------------------------|------------------------|-------|-------------|-----|--------------|---------------|----------|--------------|---------------|--|---------------|--------------------------|------|
| | | | Mo | Day | Time (UT) | | | | | | | | |
| 3995 | | MAN I | 11 | 16 | 0001 | S15 W18 | 11 14.6 | A | HSX | 40 | 1 | 2 | 3 |
| 3995 | | LEAR | 11 | 16 | 0017 | S14 W19 | 11 14.6 | A | HSX | 30 | 1 | 1 | 3 |
| 3995 | | RAMY | 11 | 16 | 1315 | S15 W26 | 11 14.6 | A | HAX | 70 | 1 | 2 | 3 |
| 3995 | | BOUL | 11 | 16 | 1515 | S12 W27 | 11 14.6 | A | HSX | 20 | 1 | 1 | 1 |
| 3995 | | PALE | 11 | 16 | 1957 | S14 W30 | 11 14.6 | A | HSX | 30 | 1 | 1 | 3 |
| 3995 | | LEAR | 11 | 17 | 0017 | S16 W32 | 11 14.6 | B | CRO | 20 | 4 | 7 | 4 |
| 3995 | | RAMY | 11 | 17 | 1445 | S14 W39 | 11 14.7 | A | CAX | 30 | 2 | 2 | 3 |
| 3995 | | BOUL | 11 | 17 | 1515 | S12 W40 | 11 14.6 | A | AXX | 10 | 3 | 2 | 1 |
| 3995 | | MAN I | 11 | 17 | 2322 | S14 W44 | 11 14.6 | | CSO | 30 | 3 | 2 | 3 |
| 3995 | | LEAR | 11 | 18 | 0108 | S15 W46 | 11 14.6 | A | HRX | 10 | 2 | 2 | 3 |
| 3995 | | RAMY | 11 | 18 | 1330 | S14 W53 | 11 14.6 | B | DRO | 40 | 3 | 3 | 4 |
| 3995 | | BOUL | 11 | 18 | 1530 | S13 W52 | 11 14.7 | A | AXX | 10 | 2 | 2 | 2 |
| 3995 | | HOLL | 11 | 18 | 1650 | S15 W55 | 11 14.5 | B | CSO | 20 | 5 | 3 | 4 |
| 3995 | | MAN I | 11 | 18 | 2316 | S14 W58 | 11 14.6 | | CRO | 20 | 4 | 2 | 3 |
| 3995 | | LEAR | 11 | 19 | 0017 | S15 W59 | 11 14.5 | A | AXX | 20 | 4 | 2 | 3 |
| 3995 | | HOLL | 11 | 19 | 1540 | S15 W68 | 11 14.5 | B | DRO | 50 | 4 | 3 | 3 |
| 3995 | | PALE | 11 | 19 | 2030 | S15 W68 | 11 14.7 | B | BXO | 30 | 3 | 2 | 1 |
| 3995 | | MAN I | 11 | 20 | 0030 | S14 W72 | 11 14.6 | | BXO | 20 | 3 | 2 | 3 |
| 3995 | | LEAR | 11 | 20 | 0039 | S15 W73 | 11 14.5 | A | AXX | 20 | 2 | 1 | 3 |
| 3990 | | PALE | 11 | 09 | 1914 | S07 E67 | 11 14.8 | A | HSX | 420 | 1 | 2 | 3 |
| 3990 | | HOLL | 11 | 09 | 2006 | S07 E67 | 11 14.9 | A | HSX | 140 | 1 | 2 | 2 |
| 3990 | | MAN I | 11 | 10 | 0039 | S07 E64 | 11 14.8 | A | HSX | 200 | 1 | 2 | 2 |
| 3990 | | LEAR | 11 | 10 | 0115 | S07 E64 | 11 14.8 | A | HSX | 140 | 1 | 2 | 3 |
| 3990 | | RAMY | 11 | 10 | 1430 | S08 E58 | 11 15.0 | A | HKX | 110 | 1 | 3 | 3 |
| 3990 | | BOUL | 11 | 10 | 1720 | S06 E54 | 11 14.8 | A | HSX | 150 | 1 | 2 | 2 |
| 3990 | | PALE | 11 | 10 | 1823 | S07 E55 | 11 14.9 | A | HSX | 140 | 1 | 2 | 3 |
| 3990 | | MAN I | 11 | 11 | 0001 | S07 E52 | 11 14.9 | A | HSX | 170 | 1 | 2 | 3 |
| 3990 | | LEAR | 11 | 11 | 0016 | S07 E51 | 11 14.8 | A | HSX | 160 | 1 | 2 | 3 |
| 3990 | | RAMY | 11 | 11 | 1455 | S07 E44 | 11 14.9 | A | HHX | 140 | 1 | 3 | 2 |
| 3990 | | PALE | 11 | 11 | 1750 | S07 E42 | 11 14.9 | A | HSX | 130 | 1 | 2 | 2 |
| 3990 | 23432 | MWIL | 11 | 11 | 1800 | S07 E41 | 11 14.8 | 6 | (AP) | | | | |
| 3990 | | MAN I | 11 | 11 | 2318 | S07 E39 | 11 14.9 | | HSX | 160 | 1 | 2 | 3 |
| 3990 | | LEAR | 11 | 12 | 0010 | S08 E39 | 11 14.9 | A | HSX | 210 | 1 | 2 | 3 |
| 3990 | | RAMY | 11 | 12 | 1507 | S08 E31 | 11 15.0 | B | CHO | 140 | 2 | 3 | 1 |
| 3990 | 23432 | MWIL | 11 | 12 | 1600 | S07 E29 | 11 14.8 | 6 | (BP) | | | | |
| 3990 | | HOLL | 11 | 12 | 1628 | S07 E29 | 11 14.9 | A | HSX | 190 | 1 | 2 | 3 |
| 3990 | | BOUL | 11 | 12 | 1700 | S07 E28 | 11 14.8 | A | HSX | 100 | 1 | 2 | 1 |
| 3990 | | PALE | 11 | 12 | 1802 | S07 E28 | 11 14.9 | A | HSX | 160 | 1 | 2 | 3 |
| 3990 | | LEAR | 11 | 13 | 0032 | S08 E25 | 11 14.9 | A | HSX | 190 | 1 | 2 | 3 |
| 3990 | | RAMY | 11 | 13 | 1445 | S08 E18 | 11 15.0 | A | HHX | 150 | 1 | 3 | 3 |
| 3990 | | HOLL | 11 | 13 | 1716 | S07 E16 | 11 14.9 | A | HHX | 160 | 1 | 3 | 3 |
| 3990 | | PALE | 11 | 13 | 1900 | S07 E15 | 11 14.9 | A | HSX | 150 | 1 | 2 | 3 |
| 3990 | | BOUL | 11 | 13 | 1905 | S07 E14 | 11 14.8 | A | HSX | 150 | 3 | 2 | 2 |
| 3990 | 23432 | MWIL | 11 | 13 | 1930 | S07 E15 | 11 14.9 | 6 | BP | | | | |
| 3990 | | LEAR | 11 | 14 | 0038 | S08 E12 | 11 14.9 | A | HSX | 170 | 1 | 2 | 2 |
| 3990 | | RAMY | 11 | 14 | 1240 | S08 E05 | 11 14.9 | A | HHX | 190 | 3 | 3 | 4 |
| 3990 | 23432 | MWIL | 11 | 14 | 1600 | S07 E04 | 11 15.0 | 5 | (AP) | | | | |
| 3990 | | PALE | 11 | 14 | 1920 | S08 E01 | 11 14.9 | A | HHX | 160 | 1 | 3 | 3 |
| 3990 | | HOLL | 11 | 14 | 2020 | S08 E01 | 11 14.9 | A | HSX | 140 | 2 | 2 | 3 |
| 3990 | | MAN I | 11 | 14 | 2317 | S07 W01 | 11 14.9 | | HSX | 190 | 2 | 2 | 3 |
| 3990 | | LEAR | 11 | 15 | 0011 | S07 W01 | 11 14.9 | A | HSX | 170 | 2 | 2 | 3 |
| 3990 | | RAMY | 11 | 15 | 1325 | S07 W08 | 11 15.0 | A | HAX | 160 | 4 | 2 | 3 |
| 3990 | 23432 | MWIL | 11 | 15 | 1530 | S07 W09 | 11 15.0 | 5 | (AP) | | | | |
| 3990 | | HOLL | 11 | 15 | 1533 | S07 W09 | 11 15.0 | A | HSX | 160 | 2 | 2 | 3 |
| 3990 | | BOUL | 11 | 15 | 1808 | S08 W11 | 11 14.9 | A | HSX | 120 | 1 | 2 | 1 |
| 3990 | | PALE | 11 | 15 | 2013 | S07 W12 | 11 14.9 | A | HHX | 190 | 1 | 3 | 2 |
| 3990 | | MAN I | 11 | 16 | 0001 | S07 W14 | 11 15.0 | A | HHX | 170 | 1 | 3 | 3 |
| 3990 | | LEAR | 11 | 16 | 0017 | S07 W14 | 11 15.0 | A | HSX | 160 | 1 | 2 | 3 |
| 3990 | | RAMY | 11 | 16 | 1315 | S07 W21 | 11 15.0 | A | HAX | 190 | 2 | 2 | 3 |
| 3990 | | BOUL | 11 | 16 | 1515 | S07 W22 | 11 15.0 | A | HSX | 140 | 1 | 2 | 1 |
| 3990 | | PALE | 11 | 16 | 1957 | S07 W25 | 11 15.0 | A | HHX | 160 | 1 | 3 | 3 |
| 3990 | | LEAR | 11 | 17 | 0017 | S07 W27 | 11 15.0 | A | HSX | 190 | 2 | 2 | 4 |
| 3990 | | RAMY | 11 | 17 | 1445 | S07 W35 | 11 15.0 | A | HAX | 170 | 1 | 2 | 3 |
| 3990 | | BOUL | 11 | 17 | 1515 | S05 W35 | 11 15.0 | A | HSX | 80 | 1 | 2 | 1 |
| 3990 | | MAN I | 11 | 17 | 2322 | S07 W40 | 11 15.0 | | HSX | 130 | 1 | 2 | 3 |
| 3990 | | LEAR | 11 | 18 | 0108 | S08 W42 | 11 14.9 | A | HSX | 160 | 1 | 2 | 3 |
| 3990 | | RAMY | 11 | 18 | 1330 | S07 W48 | 11 15.0 | A | HAX | 140 | 2 | 2 | 4 |
| 3990 | | BOUL | 11 | 18 | 1530 | S07 W48 | 11 15.0 | A | HSX | 150 | 1 | 2 | 2 |
| 3990 | | HOLL | 11 | 18 | 1650 | S07 W50 | 11 15.0 | A | HSX | 130 | 1 | 2 | 4 |
| 3990 | | MAN I | 11 | 18 | 2316 | S07 W53 | 11 15.0 | | HSX | 150 | 1 | 2 | 3 |

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

NOVEMBER 1982

| NOAA/ USAF Region | Mt Wilson Region | Sta | Observation Time | | Lat | CMD | CMP | | Max H | Mag Class | Spot Class | Corrected Area (10 ⁻⁶ Hemi) | Spot Count | Long. Extent (Deg) | Qual |
|-------------------------|------------------------|------|---------------------|----------|------|---------|-----|------|----------|--------------|---------------|--|---------------|--------------------------|------|
| | | | Mo | Day (UT) | | | Mo | Day | | | | | | | |
| 3990 | | LEAR | 11 | 19 | 0017 | S08 W54 | 11 | 15.0 | | A | HSX | 140 | 1 | 2 | 3 |
| 3990 | | BOUL | 11 | 19 | 1540 | S06 W60 | 11 | 15.2 | | B | CRO | 40 | 1 | 1 | 2 |
| 3990 | | HOLL | 11 | 19 | 1540 | S07 W63 | 11 | 14.9 | | B | CSO | 100 | 2 | 3 | 3 |
| 3990 | 23432 | MWIL | 11 | 19 | 1600 | S08 W62 | 11 | 15.0 | 4 | AP | | | | | |
| 3990 | | PALE | 11 | 19 | 2030 | S08 W65 | 11 | 15.0 | | A | HSX | 100 | 1 | 2 | 1 |
| 3990 | | MANI | 11 | 20 | 0030 | S07 W68 | 11 | 14.9 | | | HSX | 180 | 1 | 2 | 3 |
| 3990 | | LEAR | 11 | 20 | 0039 | S07 W68 | 11 | 14.9 | | A | HSX | 70 | 1 | 2 | 3 |
| 3990 | | HOLL | 11 | 20 | 1453 | S07 W75 | 11 | 15.0 | | A | HSX | 100 | 1 | 2 | 3 |
| 3990 | | BOUL | 11 | 20 | 1655 | S06 W79 | 11 | 14.8 | | A | HSX | 120 | 1 | 2 | 2 |
| 3990 | | LEAR | 11 | 21 | 0028 | S07 W80 | 11 | 15.0 | | A | HSX | 40 | 1 | 2 | 3 |
| 3987 | | RAMY | 11 | 08 | 1225 | S16 E85 | 11 | 15.0 | | A | HKX | 160 | 1 | 5 | 4 |
| 3987 | | PALE | 11 | 08 | 1920 | S10 E80 | 11 | 14.8 | | B | DAO | 100 | 2 | 2 | 2 |
| 3987 | | HOLL | 11 | 08 | 2258 | S10 E80 | 11 | 15.0 | | B | DAO | 300 | 2 | 4 | 3 |
| 3987 | | MANI | 11 | 08 | 2326 | S08 E81 | 11 | 15.1 | | | DSO | 780 | 2 | 8 | 3 |
| 3987 | | PALE | 11 | 09 | 1914 | S12 E74 | 11 | 15.4 | | BG | EKI | 160 | 10 | 12 | 3 |
| 3987 | | HOLL | 11 | 09 | 2006 | S14 E73 | 11 | 15.4 | | B | EKO | 630 | 7 | 13 | 2 |
| 3987 | | MANI | 11 | 10 | 0039 | S12 E71 | 11 | 15.4 | | B | EKI | 1000 | 21 | 12 | 2 |
| 3987 | | LEAR | 11 | 10 | 0115 | S13 E71 | 11 | 15.4 | | BD | EKI | 560 | 26 | 14 | 3 |
| 3987 | | RAMY | 11 | 10 | 1430 | S14 E65 | 11 | 15.5 | | BG | EKI | 500 | 13 | 14 | 3 |
| 3987 | | BOUL | 11 | 10 | 1720 | S11 E61 | 11 | 15.3 | | BGD | EKI | 740 | 24 | 14 | 2 |
| 3987 | | PALE | 11 | 10 | 1823 | S12 E61 | 11 | 15.4 | | BGD | EHC | 670 | 39 | 13 | 3 |
| 3987 | | MANI | 11 | 11 | 0001 | S12 E58 | 11 | 15.4 | | BGD | EKI | 700 | 46 | 15 | 3 |
| 3987 | | LEAR | 11 | 11 | 0016 | S11 E58 | 11 | 15.4 | | BGD | EKI | 1040 | 41 | 14 | 3 |
| 3987 | | RAMY | 11 | 11 | 1455 | S12 E49 | 11 | 15.3 | | BGD | EHI | 280 | 31 | 13 | 2 |
| 3987 | | PALE | 11 | 11 | 1750 | S12 E46 | 11 | 15.2 | | BGD | FKI | 660 | 29 | 16 | 2 |
| 3987 | 23434 | MWIL | 11 | 11 | 1800 | S12 E47 | 11 | 15.3 | 5 | (D) | | | | | |
| 3987 | | MANI | 11 | 11 | 2318 | S12 E43 | 11 | 15.2 | | | FKI | 680 | 47 | 16 | 3 |
| 3987 | | LEAR | 11 | 12 | 0010 | S12 E43 | 11 | 15.2 | | BGD | FKC | 1000 | 52 | 16 | 3 |
| 3987 | | RAMY | 11 | 12 | 1507 | S14 E35 | 11 | 15.3 | | BGD | EKI | 750 | 59 | 17 | 1 |
| 3987 | 23434 | MWIL | 11 | 12 | 1600 | S12 E35 | 11 | 15.3 | 5 | (D) | | | | | |
| 3987 | | HOLL | 11 | 12 | 1628 | S12 E34 | 11 | 15.2 | | BGD | FKI | 970 | 41 | 16 | 3 |
| 3987 | | BOUL | 11 | 12 | 1700 | S13 E32 | 11 | 15.1 | | BGD | FKI | 600 | 19 | 16 | 1 |
| 3987 | | PALE | 11 | 12 | 1802 | S13 E32 | 11 | 15.2 | | BGD | FKI | 740 | 47 | 16 | 3 |
| 3987 | | LEAR | 11 | 13 | 0032 | S12 E30 | 11 | 15.3 | | BGD | FKC | 1090 | 58 | 17 | 3 |
| 3987 | | RAMY | 11 | 13 | 1445 | S14 E23 | 11 | 15.4 | | BGD | FHI | 550 | 59 | 16 | 3 |
| 3987 | | HOLL | 11 | 13 | 1716 | S12 E18 | 11 | 15.1 | | BGD | FKC | 710 | 65 | 16 | 3 |
| 3987 | | PALE | 11 | 13 | 1900 | S12 E19 | 11 | 15.2 | | BGD | FKI | 730 | 46 | 16 | 3 |
| 3987 | | BOUL | 11 | 13 | 1905 | S11 E20 | 11 | 15.3 | | BGD | FKC | 1140 | 67 | 20 | 2 |
| 3987 | 23434 | MWIL | 11 | 13 | 1930 | S12 E18 | 11 | 15.2 | 6 | D | | | | | |
| 3987 | | LEAR | 11 | 14 | 0038 | S13 E13 | 11 | 15.0 | | BGD | FKC | 1090 | 81 | 18 | 2 |
| 3987 | | RAMY | 11 | 14 | 1240 | S12 E10 | 11 | 15.3 | | BGD | FKC | 790 | 99 | 18 | 4 |
| 3987 | 23434 | MWIL | 11 | 14 | 1600 | S12 E07 | 11 | 15.2 | 5 | (D) | | | | | |
| 3987 | | PALE | 11 | 14 | 1920 | S12 E06 | 11 | 15.3 | | BGD | FKI | 630 | 54 | 16 | 3 |
| 3987 | | HOLL | 11 | 14 | 2020 | S13 E06 | 11 | 15.3 | | BGD | FKI | 1110 | 70 | 19 | 3 |
| 3987 | | MANI | 11 | 14 | 2317 | S12 E03 | 11 | 15.2 | | | FKI | 880 | 63 | 16 | 3 |
| 3987 | | LEAR | 11 | 15 | 0011 | S13 E03 | 11 | 15.2 | | BGD | FKC | 1060 | 87 | 17 | 3 |
| 3987 | | RAMY | 11 | 15 | 1325 | S12 W06 | 11 | 15.1 | | BGD | FKC | 850 | 99 | 21 | 3 |
| 3987 | 23434 | MWIL | 11 | 15 | 1530 | S12 W05 | 11 | 15.3 | 5 | (D) | | | | | |
| 3987 | | HOLL | 11 | 15 | 1533 | S12 W04 | 11 | 15.3 | | BGD | FKI | 890 | 58 | 20 | 3 |
| 3987 | | BOUL | 11 | 15 | 1808 | S09 W08 | 11 | 15.2 | | BGD | EKI | 620 | 29 | 14 | 1 |
| 3987 | | PALE | 11 | 15 | 2013 | S11 W08 | 11 | 15.2 | | BGD | FKI | 770 | 46 | 17 | 2 |
| 3987 | | MANI | 11 | 15 | 2313 | S12 W10 | 11 | 15.2 | | | FKI | 650 | 57 | 16 | 3 |
| 3987 | | MANI | 11 | 16 | 0001 | S12 W10 | 11 | 15.2 | | BGD | FKI | 650 | 57 | 16 | 3 |
| 3987 | | LEAR | 11 | 16 | 0017 | S11 W11 | 11 | 15.2 | | BD | FKC | 1070 | 84 | 16 | 3 |
| 3987 | | RAMY | 11 | 16 | 1315 | S12 W17 | 11 | 15.3 | | BGD | FAI | 280 | 67 | 16 | 3 |
| 3987 | | BOUL | 11 | 16 | 1515 | S09 W18 | 11 | 15.3 | | BGD | EKI | 490 | 22 | 14 | 1 |
| 3987 | | PALE | 11 | 16 | 1957 | S11 W22 | 11 | 15.2 | | BGD | FKI | 680 | 44 | 16 | 3 |
| 3987 | | LEAR | 11 | 17 | 0017 | S12 W24 | 11 | 15.2 | | BD | FKC | 860 | 83 | 17 | 4 |
| 3987 | | RAMY | 11 | 17 | 1445 | S12 W33 | 11 | 15.1 | | BGD | FAI | 570 | 39 | 16 | 3 |
| 3987 | | BOUL | 11 | 17 | 1515 | S09 W36 | 11 | 14.9 | | BGD | EKI | 650 | 73 | 14 | 1 |
| 3987 | | MANI | 11 | 17 | 2322 | S12 W36 | 11 | 15.3 | | | EKI | 660 | 57 | 15 | 3 |
| 3987 | | LEAR | 11 | 18 | 0108 | S12 W39 | 11 | 15.1 | | BD | FKC | 690 | 52 | 16 | 3 |
| 3987 | | RAMY | 11 | 18 | 1330 | S12 W40 | 11 | 15.5 | | BGD | FKI | 530 | 75 | 20 | 4 |
| 3987 | | BOUL | 11 | 18 | 1530 | S11 W45 | 11 | 15.3 | | BG | EAI | 270 | 39 | 14 | 2 |
| 3987 | | HOLL | 11 | 18 | 1650 | S12 W48 | 11 | 15.1 | | BGD | FKI | 340 | 39 | 16 | 4 |
| 3987 | | MANI | 11 | 18 | 2316 | S12 W51 | 11 | 15.1 | | | FKI | 430 | 36 | 16 | 3 |
| 3987 | | LEAR | 11 | 19 | 0017 | S12 W52 | 11 | 15.1 | | BD | FKC | 420 | 30 | 16 | 3 |
| 3987 | | BOUL | 11 | 19 | 1540 | S11 W62 | 11 | 15.0 | | B | BXO | 140 | 16 | 12 | 2 |
| 3987 | | HOLL | 11 | 19 | 1540 | S12 W60 | 11 | 15.1 | | BG | FAI | 180 | 10 | 16 | 3 |
| 3987 | 23434 | MWIL | 11 | 19 | 1600 | S13 W62 | 11 | 15.0 | 4 | B | | | | | |

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

NOVEMBER 1982

| NOAA/ USAF Region | Mt Wilson Region | Sta | Observation Time (UT) | | Lat CMD | CMP Mo Day | Max H | Mag Class | Spot Class | Corrected Area (10 ⁻⁶ Hemi) | Spot Count | Long. Extent (Deg) | Qual |
|-------------------------|------------------------|------|-----------------------------|----|---------|---------------|----------|--------------|---------------|--|---------------|--------------------------|------|
| 3987 | | PALE | 11 | 19 | 2030 | S12 W63 | 11 15.1 | BG | EAI | 120 | 7 | 11 | 1 |
| 3987 | | MANI | 11 | 20 | 0030 | S12 W66 | 11 15.0 | | EAI | 190 | 6 | 15 | 3 |
| 3987 | | LEAR | 11 | 20 | 0039 | S13 W66 | 11 15.0 | | EKI | 310 | 12 | 11 | 3 |
| 3987 | | HOLL | 11 | 20 | 1453 | S12 W75 | 11 15.0 | B | CAO | 50 | 5 | 5 | 3 |
| 3987 | | BOUL | 11 | 20 | 1655 | S10 W80 | 11 14.7 | B | CSO | 90 | 6 | 2 | 2 |
| 3987 | | LEAR | 11 | 21 | 0028 | S12 W81 | 11 14.9 | B | DAO | 40 | 5 | 7 | 3 |
| 3996 | | LEAR | 11 | 15 | 0011 | N02 E06 | 11 15.5 | A | AXX | | 3 | 2 | 3 |
| 3996 | | RAMY | 11 | 15 | 1325 | N02 W01 | 11 15.5 | B | BXO | 20 | 5 | 3 | 3 |
| 3996 | 23441 | MWIL | 11 | 15 | 1530 | N02 W03 | 11 15.4 | 3 | (AP) | | | | |
| 3996 | | HOLL | 11 | 15 | 1533 | N02 W04 | 11 15.3 | A | AXX | | 1 | | 3 |
| 3996 | | PALE | 11 | 15 | 2013 | N02 W06 | 11 15.4 | A | AXX | 10 | 1 | 1 | 2 |
| 3996 | | MANI | 11 | 15 | 2313 | N02 W07 | 11 15.4 | | AXX | | 1 | 1 | 3 |
| 3996 | | MANI | 11 | 16 | 0001 | N02 W07 | 11 15.5 | A | AXX | | 1 | 1 | 3 |
| 3996 | | LEAR | 11 | 16 | 0017 | N02 W08 | 11 15.4 | A | AXX | | 1 | | 3 |
| 4003 | | RAMY | 11 | 18 | 1330 | N10 W20 | 11 17.1 | A | AXX | 10 | 2 | 1 | 4 |
| 4003 | | MANI | 11 | 21 | 2321 | N12 W69 | 11 16.8 | | BXO | 30 | 1 | 3 | 3 |
| 4003 | | LEAR | 11 | 22 | 0011 | N10 W69 | 11 16.8 | B | CAO | 10 | 3 | 3 | 3 |
| 4003 | | RAMY | 11 | 22 | 1300 | N12 W74 | 11 17.0 | B | DKO | 250 | 6 | 8 | 3 |
| 4003 | | HOLL | 11 | 22 | 1540 | N12 W75 | 11 17.0 | B | DAO | 160 | 9 | 8 | 2 |
| 4003 | | BOUL | 11 | 22 | 1545 | N12 W75 | 11 17.0 | B | DSO | 180 | 6 | 10 | 2 |
| 4003 | | LEAR | 11 | 23 | 0052 | N12 W82 | 11 16.9 | B | EKI | 450 | 11 | 11 | 3 |
| 3999 | | LEAR | 11 | 18 | 0108 | S14 W10 | 11 17.3 | A | AXX | | 1 | | 3 |
| 3999 | | RAMY | 11 | 18 | 1330 | S14 W18 | 11 17.2 | B | BXX | 20 | 2 | 3 | 4 |
| 3999 | | BOUL | 11 | 18 | 1530 | S13 W19 | 11 17.2 | A | AXX | 10 | 1 | | 2 |
| 3999 | | HOLL | 11 | 18 | 1650 | S15 W20 | 11 17.2 | B | BXO | 10 | 3 | 3 | 4 |
| 3999 | | MANI | 11 | 18 | 2316 | S14 W25 | 11 17.1 | | AXX | 10 | 1 | | 3 |
| 3999 | | LEAR | 11 | 19 | 0017 | S14 W26 | 11 17.0 | A | AXX | | 1 | | 3 |
| 3999 | | BOUL | 11 | 19 | 1540 | S13 W32 | 11 17.2 | A | AXX | 10 | 2 | 1 | 2 |
| 3999 | | HOLL | 11 | 19 | 1540 | S14 W34 | 11 17.1 | B | CAO | 20 | 3 | 3 | 3 |
| 3999 | 23442 | MWIL | 11 | 19 | 1600 | S16 W35 | 11 17.0 | 3 | X | | | | |
| 3999 | | PALE | 11 | 19 | 2030 | S15 W36 | 11 17.1 | B | CSO | 30 | 3 | 4 | 1 |
| 3999 | | MANI | 11 | 20 | 0030 | S14 W39 | 11 17.1 | | CRO | 30 | 4 | 2 | 3 |
| 3999 | | LEAR | 11 | 20 | 0039 | S15 W39 | 11 17.1 | B | CAO | 30 | 5 | 4 | 3 |
| 3999 | | HOLL | 11 | 20 | 1453 | S14 W46 | 11 17.1 | B | CRO | 30 | 4 | 4 | 3 |
| 3999 | | BOUL | 11 | 20 | 1655 | S13 W48 | 11 17.1 | B | CRO | 10 | 4 | 4 | 2 |
| 3999 | | LEAR | 11 | 21 | 0028 | S15 W52 | 11 17.1 | B | BXO | 10 | 3 | 4 | 3 |
| 3993 | 23436 | MWIL | 11 | 12 | 1600 | S05 E73 | 11 18.1 | 3 | (AF) | | | | |
| 3993 | | LEAR | 11 | 13 | 0032 | S06 E78 | 11 18.9 | B | BXO | 10 | 3 | 4 | 3 |
| 3993 | | RAMY | 11 | 13 | 1445 | S07 E61 | 11 18.2 | B | BXO | 40 | 4 | 5 | 3 |
| 3993 | | HOLL | 11 | 13 | 1716 | S05 E57 | 11 18.0 | B | CRO | 30 | 3 | 4 | 3 |
| 3993 | | PALE | 11 | 13 | 1900 | S06 E58 | 11 18.1 | B | CRO | 20 | 2 | 4 | 3 |
| 3993 | | BOUL | 11 | 13 | 1905 | S07 E57 | 11 18.1 | B | DR I | 30 | 7 | 5 | 2 |
| 3993 | 23436 | MWIL | 11 | 13 | 1930 | S05 E57 | 11 18.1 | 3 | B | | | | |
| 3993 | | LEAR | 11 | 14 | 0038 | S06 E54 | 11 18.1 | B | CRO | 20 | 4 | 5 | 2 |
| 3993 | | RAMY | 11 | 14 | 1240 | S07 E46 | 11 18.0 | B | CRO | 30 | 4 | 5 | 4 |
| 3993 | 23436 | MWIL | 11 | 14 | 1600 | S05 E45 | 11 18.0 | 4 | (B) | | | | |
| 3993 | | PALE | 11 | 14 | 1920 | S07 E42 | 11 18.0 | B | CRO | 20 | 2 | 6 | 3 |
| 3993 | | HOLL | 11 | 14 | 2020 | S06 E43 | 11 18.1 | B | BXO | 10 | 3 | 5 | 3 |
| 3993 | | MANI | 11 | 14 | 2317 | S06 E39 | 11 17.9 | | CRO | 20 | 3 | 5 | 3 |
| 3993 | | LEAR | 11 | 15 | 0011 | S05 E40 | 11 18.0 | B | BXO | 10 | 3 | 5 | 3 |
| 3993 | | RAMY | 11 | 15 | 1325 | S05 E29 | 11 17.7 | A | AXX | 10 | 1 | 1 | 3 |
| 3993 | 23436 | MWIL | 11 | 15 | 1530 | S05 E29 | 11 17.8 | 3 | (BP) | | | | |
| 3993 | | HOLL | 11 | 15 | 1533 | S05 E28 | 11 17.7 | A | AXX | | 1 | | 3 |
| 3993 | | PALE | 11 | 15 | 2013 | S05 E26 | 11 17.8 | A | AXX | 10 | 1 | 1 | 2 |
| 3993 | | MANI | 11 | 15 | 2313 | S05 E24 | 11 17.8 | | AXX | 10 | 1 | 1 | 3 |
| 3993 | | MANI | 11 | 16 | 0001 | S05 E24 | 11 17.8 | A | AXX | 10 | 1 | 1 | 3 |
| 3993 | | LEAR | 11 | 16 | 0017 | S04 E24 | 11 17.8 | A | AXX | | 1 | | 3 |
| 3993 | | LEAR | 11 | 20 | 0039 | S05 W30 | 11 17.8 | B | BXO | | 2 | 3 | 3 |
| 3993 | | BOUL | 11 | 20 | 1655 | S07 W37 | 11 17.9 | B | BXO | 10 | 2 | 2 | 2 |
| 4002 | | LEAR | 11 | 21 | 0028 | S07 W33 | 11 18.5 | B | BXO | 10 | 4 | 5 | 3 |
| 4002 | | BOUL | 11 | 21 | 1600 | S05 W40 | 11 18.7 | B | BXO | 10 | 3 | 5 | 1 |
| 4002 | | HOLL | 11 | 21 | 1715 | S08 W42 | 11 18.6 | B | BXO | 10 | 4 | 5 | 2 |
| 4002 | 23445 | MWIL | 11 | 21 | 1945 | S07 W43 | 11 18.6 | 4 | (B) | | | | |
| 4002 | | MANI | 11 | 21 | 2321 | S08 W46 | 11 18.5 | | BXO | 10 | 3 | 7 | 3 |
| 4002 | | LEAR | 11 | 22 | 0011 | S08 W46 | 11 18.6 | B | DRO | 20 | 4 | 6 | 3 |
| 4002 | | RAMY | 11 | 22 | 1300 | S08 W55 | 11 18.4 | B | BXX | 20 | 3 | 7 | 3 |

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

NOVEMBER 1982

| NOAA/ USAF Region | Mt Wilson Region | Sta | Observation | | | Lat CMD | CMP Mo Day | Max H | Mag Class | Spot Class | Corrected | | Spot Count | Long. Extent (Deg) | Qual |
|-------------------------|------------------------|------|-------------|-----|--------------|------------|---------------|----------|--------------|---------------|---------------------------------|------|---------------|--------------------------|------|
| | | | Mo | Day | Time (UT) | | | | | | Area (10 ⁻⁶ Heml) | Heml | | | |
| 4002 | | HOLL | 11 | 22 | 1540 | S07 W55 | 11 18.5 | | B | BXO | 20 | 4 | 7 | 2 | |
| 4002 | | LEAR | 11 | 23 | 0052 | S05 W64 | 11 18.2 | | A | AXX | | 2 | 1 | 3 | |
| 4004 | | MANI | 11 | 21 | 2321 | N17 W39 | 11 19.0 | | | BXO | 10 | 5 | 4 | 3 | |
| 4004 | | LEAR | 11 | 22 | 0011 | N15 W38 | 11 19.1 | | B | BXO | 10 | 5 | 4 | 3 | |
| 4004 | | RAMY | 11 | 22 | 1300 | N16 W45 | 11 19.1 | | B | CAO | 60 | 6 | 5 | 3 | |
| 4004 | | HOLL | 11 | 22 | 1540 | N17 W46 | 11 19.2 | | B | CAO | 80 | 5 | 5 | 2 | |
| 4004 | | BOUL | 11 | 22 | 1545 | N18 W47 | 11 19.1 | | B | BXO | 30 | 4 | 5 | 2 | |
| 4004 | | LEAR | 11 | 23 | 0052 | N17 W52 | 11 19.1 | | B | CAO | 90 | 11 | 6 | 3 | |
| 4004 | 23448 | MWIL | 11 | 23 | 1800 | N17 W63 | 11 19.0 | 4 | X | | | | | | |
| 4004 | | LEAR | 11 | 24 | 0032 | N17 W68 | 11 18.9 | | A | HSX | 20 | 1 | 1 | 3 | |
| 4004 | | RAMY | 11 | 24 | 1350 | N18 W75 | 11 18.9 | | B | CAO | 20 | 3 | 7 | 3 | |
| 4004 | 23448 | MWIL | 11 | 24 | 1700 | N17 W76 | 11 18.9 | 4 | X | | | | | | |
| 4004 | | MANI | 11 | 24 | 2338 | N17 W84 | 11 18.6 | | | HRX | 50 | 1 | 2 | 2 | |
| 4004 | | LEAR | 11 | 25 | 0035 | N17 W85 | 11 18.6 | | A | HSX | 20 | 1 | 1 | 3 | |
| 3994 | | RAMY | 11 | 13 | 1445 | S14 E82 | 11 19.8 | | A | AXX | 30 | 1 | 4 | 3 | |
| 3994 | | HOLL | 11 | 13 | 1716 | S13 E78 | 11 19.6 | | A | HSX | 40 | 1 | 2 | 3 | |
| 3994 | | PALE | 11 | 13 | 1900 | S13 E79 | 11 19.8 | | A | HSX | 80 | 1 | 2 | 3 | |
| 3994 | | BOUL | 11 | 13 | 1905 | S13 E85 | 11 20.2 | | B | DSO | 120 | 3 | 9 | 2 | |
| 3994 | 23438 | MWIL | 11 | 13 | 1930 | S13 E78 | 11 19.7 | 3 | AP | | | | | | |
| 3994 | | LEAR | 11 | 14 | 0038 | S13 E74 | 11 19.6 | | A | HSX | 70 | 1 | 2 | 2 | |
| 3994 | | RAMY | 11 | 14 | 1240 | S14 E68 | 11 19.7 | | B | DAO | 80 | 4 | 7 | 4 | |
| 3994 | 23440 | MWIL | 11 | 14 | 1600 | S11 E69 | 11 19.9 | 2 | (AP) | | | | | | |
| 3994 | 23438 | MWIL | 11 | 14 | 1600 | S13 E67 | 11 19.7 | 4 | (B) | | | | | | |
| 3994 | | PALE | 11 | 14 | 1920 | S13 E64 | 11 19.6 | | A | HSX | 70 | 1 | 2 | 3 | |
| 3994 | | HOLL | 11 | 14 | 2020 | S13 E65 | 11 19.8 | | A | HSX | 60 | 1 | 1 | 3 | |
| 3994 | | MANI | 11 | 14 | 2317 | S13 E66 | 11 20.0 | | | CSO | 150 | 6 | 8 | 3 | |
| 3994 | | LEAR | 11 | 15 | 0011 | S13 E65 | 11 19.9 | | B | CSO | 110 | 5 | 9 | 3 | |
| 3994 | | RAMY | 11 | 15 | 1325 | S15 E58 | 11 20.0 | | B | DAO | 110 | 11 | 10 | 3 | |
| 3994 | 23438 | MWIL | 11 | 15 | 1530 | S14 E56 | 11 19.9 | 5 | (B) | | | | | | |
| 3994 | | HOLL | 11 | 15 | 1533 | S14 E58 | 11 20.0 | | BG | ESO | 130 | 10 | 11 | 3 | |
| 3994 | | BOUL | 11 | 15 | 1808 | S13 E53 | 11 19.8 | | B | CSO | 70 | 3 | 9 | 1 | |
| 3994 | | PALE | 11 | 15 | 2013 | S15 E55 | 11 20.0 | | B | ESO | 120 | 7 | 11 | 2 | |
| 3994 | | MANI | 11 | 16 | 0001 | S13 E54 | 11 20.1 | | B | DAO | 160 | 13 | 12 | 3 | |
| 3994 | | LEAR | 11 | 16 | 0017 | S14 E53 | 11 20.0 | | B | EAI | 170 | 16 | 12 | 3 | |
| 3994 | | RAMY | 11 | 16 | 1315 | S14 E46 | 11 20.0 | | B | EAO | 90 | 12 | 12 | 3 | |
| 3994 | | BOUL | 11 | 16 | 1515 | S13 E43 | 11 19.9 | | B | DSO | 90 | 7 | 10 | 1 | |
| 3994 | | PALE | 11 | 16 | 1957 | S14 E43 | 11 20.1 | | B | ESO | 110 | 11 | 11 | 3 | |
| 3994 | | LEAR | 11 | 17 | 0017 | S11 E40 | 11 20.0 | | B | ESI | 190 | 29 | 13 | 4 | |
| 3994 | | RAMY | 11 | 17 | 1445 | S13 E33 | 11 20.1 | | B | EAO | 120 | 27 | 12 | 3 | |
| 3994 | | BOUL | 11 | 17 | 1515 | S11 E29 | 11 19.8 | | B | ESO | 150 | 26 | 11 | 1 | |
| 3994 | | MANI | 11 | 17 | 2322 | S13 E26 | 11 19.9 | | | ESO | 150 | 28 | 12 | 3 | |
| 3994 | | LEAR | 11 | 18 | 0108 | S13 E26 | 11 20.0 | | B | EAO | 320 | 26 | 14 | 3 | |
| 3994 | | RAMY | 11 | 18 | 1330 | S12 E19 | 11 20.0 | | B | EAI | 330 | 62 | 13 | 4 | |
| 3994 | | BOUL | 11 | 18 | 1530 | S11 E17 | 11 19.9 | | BG | EAI | 210 | 43 | 13 | 2 | |
| 3994 | | HOLL | 11 | 18 | 1650 | S12 E18 | 11 20.1 | | BG | EAI | 370 | 56 | 13 | 4 | |
| 3994 | | MANI | 11 | 18 | 2316 | S13 E14 | 11 20.0 | | | EAI | 540 | 47 | 14 | 3 | |
| 3994 | | LEAR | 11 | 19 | 0017 | S13 E13 | 11 20.0 | | BG | EKI | 600 | 73 | 14 | 3 | |
| 3994 | | BOUL | 11 | 19 | 1540 | S11 E05 | 11 20.0 | | BG | ESI | 430 | 50 | 13 | 2 | |
| 3994 | | HOLL | 11 | 19 | 1540 | S13 E04 | 11 20.0 | | BGD | EKI | 1220 | 51 | 15 | 3 | |
| 3994 | 23438 | MWIL | 11 | 19 | 1600 | S12 E02 | 11 19.8 | 6 | BY | | | | | | |
| 3994 | | PALE | 11 | 19 | 2030 | S13 E02 | 11 20.0 | | BGD | EKI | 750 | 39 | 15 | 1 | |
| 3994 | | MANI | 11 | 20 | 0030 | S12 W01 | 11 19.9 | | | EKC | 1210 | 76 | 13 | 3 | |
| 3994 | | LEAR | 11 | 20 | 0039 | S13 W01 | 11 20.0 | | BGD | EKC | 950 | 61 | 14 | 3 | |
| 3994 | | HOLL | 11 | 20 | 1453 | S12 W08 | 11 20.0 | | BGD | FKI | 1520 | 62 | 16 | 3 | |
| 3994 | | BOUL | 11 | 20 | 1655 | S10 W11 | 11 19.9 | | BGD | FKI | 1070 | 62 | 16 | 2 | |
| 3994 | | LEAR | 11 | 21 | 0028 | S12 W15 | 11 19.9 | | BGD | FKC | 1490 | 85 | 17 | 3 | |
| 3994 | | BOUL | 11 | 21 | 1600 | S09 W24 | 11 19.9 | | BGD | EKC | 740 | 57 | 12 | 1 | |
| 3994 | | HOLL | 11 | 21 | 1715 | S10 W27 | 11 19.7 | | BGD | FKC | 1540 | 72 | 16 | 2 | |
| 3994 | 23438 | MWIL | 11 | 21 | 1945 | S10 W27 | 11 19.8 | 5 | (BY) | | | | | | |
| 3994 | | MANI | 11 | 21 | 2321 | S11 W30 | 11 19.7 | | | FKC | 1740 | 63 | 17 | 3 | |
| 3994 | | LEAR | 11 | 22 | 0011 | S11 W29 | 11 19.8 | | BGD | FKC | 1850 | 57 | 16 | 3 | |
| 3994 | | RAMY | 11 | 22 | 1300 | S13 W37 | 11 19.7 | | BGD | FKI | 1270 | 54 | 20 | 3 | |
| 3994 | | HOLL | 11 | 22 | 1540 | S10 W40 | 11 19.6 | | BGD | FKI | 1470 | 34 | 16 | 2 | |
| 3994 | | BOUL | 11 | 22 | 1545 | S09 W38 | 11 19.8 | | BGD | EKI | 1470 | 35 | 16 | 2 | |
| 3994 | | LEAR | 11 | 23 | 0052 | S10 W45 | 11 19.7 | | BGD | FKI | 1810 | 57 | 20 | 3 | |
| 3994 | 23438 | MWIL | 11 | 23 | 1800 | S10 W54 | 11 19.7 | 6 | D | | | | | | |
| 3994 | | LEAR | 11 | 24 | 0032 | S10 W58 | 11 19.7 | | BGD | EKI | 1940 | 38 | 13 | 3 | |
| 3994 | | RAMY | 11 | 24 | 1350 | S10 W68 | 11 19.5 | | BGD | EKI | 1540 | 32 | 14 | 3 | |
| 3994 | | BOUL | 11 | 24 | 1540 | S12 W67 | 11 19.6 | | BGD | FKI | 1800 | 30 | 19 | 2 | |

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

NOVEMBER 1982

| NOAA/ USAF Region | Mt Wilson Region | Sta | Observation Time (UT) | | Lat CMD | CMP Mo Day | Max H | Mag Class | Spot Class | Corrected Area (10-6 Hemi) | Spot Count | Long. Extent (Deg) | Qual | |
|-------------------------|------------------------|------|--------------------------|----|------------|---------------|----------|--------------|---------------|----------------------------------|---------------|--------------------------|------|---|
| 3994 | 23438 | MWIL | 11 | 24 | 1700 | S10 W66 | 11 19.7 | 5 | (D) | | | | | |
| 3994 | | MANI | 11 | 24 | 2338 | S11 W71 | 11 19.6 | | | | | | | |
| 3994 | | LEAR | 11 | 25 | 0035 | S10 W71 | 11 19.7 | | | 1370 | 20 | 14 | 2 | |
| 3994 | | RAMY | 11 | 25 | 1522 | S11 W78 | 11 19.8 | | BGD | 1660 | 21 | 14 | 3 | |
| 3994 | 23438 | MWIL | 11 | 25 | 1630 | S10 W80 | 11 19.7 | 4 | (B) | 1240 | 13 | 11 | 2 | |
| 3994 | | BOUL | 11 | 25 | 1630 | S11 W81 | 11 19.6 | | BGD | 1610 | 12 | 16 | 2 | |
| 3994 | | LEAR | 11 | 26 | 0125 | S11 W84 | 11 19.7 | | BGD | 240 | 6 | 9 | 3 | |
| 4001 | | HOLL | 11 | 20 | 1453 | N11 W04 | 11 20.3 | | B | BXO | 20 | 6 | 3 | 3 |
| 4001 | | BOUL | 11 | 20 | 1655 | N09 W05 | 11 20.3 | | B | BXO | 10 | 5 | 2 | 2 |
| 4001 | | LEAR | 11 | 21 | 0028 | N11 W08 | 11 20.4 | | B | CRO | 20 | 7 | 4 | 3 |
| 4001 | | BOUL | 11 | 21 | 1600 | N12 W15 | 11 20.5 | | B | CAO | 40 | 7 | 6 | 1 |
| 4001 | | HOLL | 11 | 21 | 1715 | N11 W19 | 11 20.3 | | B | DSO | 50 | 11 | 4 | 2 |
| 4001 | 23446 | MWIL | 11 | 21 | 1945 | N12 W20 | 11 20.3 | 4 | (BP) | | | | | |
| 4001 | | MANI | 11 | 21 | 2321 | N11 W22 | 11 20.3 | | | DSO | 70 | 13 | 5 | 3 |
| 4001 | | LEAR | 11 | 22 | 0011 | N11 W22 | 11 20.4 | | B | DAI | 90 | 17 | 4 | 3 |
| 4001 | | RAMY | 11 | 22 | 1300 | N12 W29 | 11 20.4 | | B | CAO | 50 | 12 | 5 | 3 |
| 4001 | | HOLL | 11 | 22 | 1540 | N11 W31 | 11 20.3 | | B | DAI | 120 | 12 | 5 | 2 |
| 4001 | | BOUL | 11 | 22 | 1545 | N12 W31 | 11 20.3 | | B | CRI | 30 | 12 | 5 | 2 |
| 4001 | | LEAR | 11 | 23 | 0052 | N12 W37 | 11 20.2 | | B | DAO | 110 | 13 | 5 | 3 |
| 4001 | 23446 | MWIL | 11 | 23 | 1800 | N11 W44 | 11 20.4 | 3 | B | | | | | |
| 4001 | | LEAR | 11 | 24 | 0032 | N12 W50 | 11 20.3 | | B | DSO | 100 | 13 | 6 | 3 |
| 4001 | | RAMY | 11 | 24 | 1350 | N12 W58 | 11 20.2 | | B | DAO | 130 | 16 | 8 | 3 |
| 4001 | | BOUL | 11 | 24 | 1540 | N11 W57 | 11 20.4 | | B | CRO | 30 | 12 | 7 | 2 |
| 4001 | 23446 | MWIL | 11 | 24 | 1700 | N11 W58 | 11 20.3 | 3 | (B) | | | | | |
| 4001 | | MANI | 11 | 24 | 2338 | N12 W64 | 11 20.2 | | | DSO | 210 | 10 | 7 | 2 |
| 4001 | | LEAR | 11 | 25 | 0035 | N12 W64 | 11 20.2 | | B | DSO | 180 | 9 | 8 | 3 |
| 4001 | | RAMY | 11 | 25 | 1522 | N14 W73 | 11 20.1 | | B | CAO | 40 | 6 | 9 | 2 |
| 4001 | 23446 | MWIL | 11 | 25 | 1630 | N12 W72 | 11 20.3 | 4 | (BF) | | | | | |
| 4001 | | BOUL | 11 | 25 | 1630 | N12 W73 | 11 20.2 | | B | CSO | 100 | 4 | 8 | 2 |
| 4001 | | LEAR | 11 | 26 | 0125 | N13 W78 | 11 20.2 | | B | CSO | 50 | 4 | 8 | 3 |
| 4001 | | RAMY | 11 | 26 | 1350 | N13 W80 | 11 20.5 | | B | CAO | 30 | 4 | 3 | 3 |
| 0006 | | HOLL | 11 | 22 | 1540 | S15 W29 | 11 20.5 | | B | DAO | 40 | 2 | 6 | 2 |
| 0007 | | HOLL | 11 | 22 | 1540 | S11 W12 | 11 21.7 | | A | AXX | 10 | 2 | 1 | 2 |
| 0008 | | HOLL | 11 | 27 | 1818 | N11 W71 | 11 22.4 | | A | AXX | | 1 | | 4 |
| 0009 | | BOUL | 11 | 21 | 1600 | S07 E18 | 11 23.0 | | A | BXX | | 1 | | 1 |
| 3997 | | RAMY | 11 | 17 | 1445 | S07 E83 | 11 23.8 | | A | HKX | 190 | 1 | 8 | 3 |
| 3997 | | BOUL | 11 | 17 | 1515 | S08 E79 | 11 23.6 | | A | HSX | 150 | 1 | 1 | 1 |
| 3997 | | MANI | 11 | 17 | 2322 | S07 E76 | 11 23.7 | | | HSX | 300 | 1 | 2 | 3 |
| 3997 | | LEAR | 11 | 18 | 0108 | S08 E75 | 11 23.7 | | A | HSX | 260 | 1 | 2 | 3 |
| 3997 | | RAMY | 11 | 18 | 1330 | S07 E67 | 11 23.6 | | A | HSO | 190 | 2 | 2 | 4 |
| 3997 | | BOUL | 11 | 18 | 1530 | S08 E67 | 11 23.7 | | A | HSX | 160 | 1 | 2 | 2 |
| 3997 | | HOLL | 11 | 18 | 1650 | S08 E67 | 11 23.7 | | B | CKO | 310 | 4 | 5 | 4 |
| 3997 | | MANI | 11 | 18 | 2316 | S07 E64 | 11 23.8 | | | CSO | 260 | 5 | 4 | 3 |
| 3997 | | LEAR | 11 | 19 | 0017 | S09 E62 | 11 23.7 | | B | CSO | 270 | 6 | 4 | 3 |
| 3997 | | BOUL | 11 | 19 | 1540 | S06 E52 | 11 23.5 | | B | CHI | 150 | 3 | 3 | 2 |
| 3997 | | HOLL | 11 | 19 | 1540 | S08 E54 | 11 23.7 | | B | DSO | 280 | 3 | 4 | 3 |
| 3997 | 23443 | MWIL | 11 | 19 | 1600 | S07 E54 | 11 23.7 | 5 | AP | | | | | |
| 3997 | | PALE | 11 | 19 | 2030 | S08 E53 | 11 23.8 | | B | DSO | 250 | 2 | 4 | 1 |
| 3997 | | MANI | 11 | 20 | 0030 | S07 E50 | 11 23.8 | | | DHO | 270 | 3 | 3 | 3 |
| 3997 | | LEAR | 11 | 20 | 0039 | S08 E49 | 11 23.7 | | B | CSI | 270 | 4 | 5 | 3 |
| 3997 | | HOLL | 11 | 20 | 1453 | S08 E42 | 11 23.8 | | B | DSO | 190 | 3 | 4 | 3 |
| 3997 | | BOUL | 11 | 20 | 1655 | S07 E39 | 11 23.6 | | B | BXO | 260 | 4 | 3 | 2 |
| 3997 | | LEAR | 11 | 21 | 0028 | S08 E37 | 11 23.8 | | B | CSI | 290 | 4 | 4 | 3 |
| 3997 | | BOUL | 11 | 21 | 1600 | S08 E27 | 11 23.7 | | B | CSO | 120 | 2 | 2 | 1 |
| 3997 | | HOLL | 11 | 21 | 1715 | S08 E28 | 11 23.8 | | B | DSO | 190 | 2 | 4 | 2 |
| 3997 | 23443 | MWIL | 11 | 21 | 1945 | S08 E26 | 11 23.8 | 5 | (AP) | | | | | |
| 3997 | | MANI | 11 | 21 | 2321 | S07 E24 | 11 23.8 | | | CSO | 220 | 5 | 5 | 3 |
| 3997 | | LEAR | 11 | 22 | 0011 | S06 E24 | 11 23.8 | | B | CSO | 240 | 5 | 4 | 3 |
| 3997 | | RAMY | 11 | 22 | 1300 | S08 E17 | 11 23.8 | | B | CHO | 190 | 6 | 4 | 3 |
| 3997 | | HOLL | 11 | 22 | 1540 | S07 E14 | 11 23.7 | | A | HHX | 180 | 1 | 3 | 2 |
| 3997 | | BOUL | 11 | 22 | 1545 | S06 E13 | 11 23.6 | | A | HSX | 160 | 1 | 2 | 2 |
| 3997 | | LEAR | 11 | 23 | 0052 | S07 E09 | 11 23.7 | | A | HHX | 260 | 1 | 3 | 3 |
| 3997 | 23443 | MWIL | 11 | 23 | 1800 | S07 W01 | 11 23.7 | 6 | AP | | | | | |
| 3997 | | LEAR | 11 | 24 | 0032 | S08 W03 | 11 23.8 | | A | HHX | 240 | 6 | 4 | 3 |
| 3997 | | RAMY | 11 | 24 | 1350 | S07 W11 | 11 23.8 | | B | CHO | 180 | 5 | 3 | 3 |

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

101
Nov 82

NOVEMBER 1982

| NOAA/ USAF Region | Mt Wilson Region | Sta | Observation | | | Lat | CMD | CMP | | Max H | Mag Class | Spot Class | Corrected | | Spot Count | Long. Extent (Deg) | Qual |
|-------------------------|------------------------|------|-------------|-----|--------------|-----|-----|-----|------|----------|--------------|---------------|-------------------|-------|---------------|--------------------------|------|
| | | | Mo | Day | Time (UT) | | | Mo | Day | | | | (10 ⁻⁶ | Hemi) | | | |
| 3997 | | BOUL | 11 | 24 | 1540 | S06 | W11 | 11 | 23.8 | | A | HSX | 170 | 2 | 3 | 2 | |
| 3997 | 23443 | MWIL | 11 | 24 | 1700 | S07 | W11 | 11 | 23.9 | 5 | (AP) | | | | | | |
| 3997 | | MANI | 11 | 24 | 2338 | S07 | W16 | 11 | 23.8 | | | CSO | 260 | 2 | 3 | 2 | |
| 3997 | | LEAR | 11 | 25 | 0035 | S07 | W17 | 11 | 23.8 | | A | HSX | 230 | 3 | 4 | 3 | |
| 3997 | | RAMY | 11 | 25 | 1522 | S07 | W25 | 11 | 23.8 | | A | HKX | 110 | 1 | 3 | 2 | |
| 3997 | | BOUL | 11 | 25 | 1630 | S06 | W25 | 11 | 23.8 | | A | HHX | 190 | 1 | 3 | 2 | |
| 3997 | 23443 | MWIL | 11 | 25 | 1630 | S07 | W25 | 11 | 23.8 | 5 | (AP) | | | | | | |
| 3997 | | LEAR | 11 | 26 | 0125 | S07 | W30 | 11 | 23.8 | | B | CSO | 230 | 3 | 4 | 3 | |
| 3997 | | RAMY | 11 | 26 | 1350 | S08 | W38 | 11 | 23.7 | | A | HHX | 230 | 1 | 3 | 3 | |
| 3997 | | BOUL | 11 | 26 | 1520 | S05 | W38 | 11 | 23.8 | | A | HSX | 120 | 2 | 5 | 3 | |
| 3997 | 23443 | MWIL | 11 | 26 | 1600 | S07 | W37 | 11 | 23.9 | 5 | (AP) | | | | | | |
| 3997 | | LEAR | 11 | 27 | 0012 | S07 | W43 | 11 | 23.8 | | A | HSX | 190 | 2 | 2 | 3 | |
| 3997 | | MANI | 11 | 27 | 0205 | S07 | W44 | 11 | 23.8 | | | CSO | 200 | 3 | 3 | 3 | |
| 3997 | 23443 | MWIL | 11 | 27 | 1545 | S07 | W51 | 11 | 23.8 | 5 | (AP) | | | | | | |
| 3997 | | HOLL | 11 | 27 | 1818 | S07 | W53 | 11 | 23.8 | | A | HSX | 110 | 2 | 2 | 4 | |
| 3997 | | LEAR | 11 | 28 | 0018 | S07 | W56 | 11 | 23.8 | | B | CSO | 210 | 2 | 3 | 3 | |
| 3997 | | RAMY | 11 | 28 | 1400 | S08 | W65 | 11 | 23.7 | | B | CAO | 140 | 4 | 3 | 2 | |
| 3997 | | HOLL | 11 | 28 | 1427 | S08 | W64 | 11 | 23.8 | | B | CSO | 130 | 2 | 3 | 2 | |
| 3997 | | BOUL | 11 | 28 | 1600 | S05 | W67 | 11 | 23.7 | | A | HX | 190 | 1 | 2 | 1 | |
| 3997 | | MANI | 11 | 29 | 0001 | S07 | W70 | 11 | 23.8 | | A | HSX | 280 | 1 | 2 | 3 | |
| 3997 | | LEAR | 11 | 29 | 0021 | S06 | W69 | 11 | 23.8 | | A | HSX | 190 | 1 | 2 | 3 | |
| 3997 | | RAMY | 11 | 29 | 1415 | S06 | W77 | 11 | 23.8 | | A | HAX | 130 | 1 | 2 | 2 | |
| 3997 | | BOUL | 11 | 29 | 1530 | S07 | W80 | 11 | 23.6 | | A | HSX | 200 | 1 | 2 | 2 | |
| 3997 | | HOLL | 11 | 29 | 1550 | S07 | W78 | 11 | 23.8 | | A | HSX | 140 | 1 | 2 | 3 | |
| 3997 | | MANI | 11 | 29 | 2348 | S07 | W84 | 11 | 23.7 | | | HSX | 370 | 1 | 2 | 2 | |
| 3997 | | LEAR | 11 | 30 | 0110 | S06 | W82 | 11 | 23.9 | | A | HSX | 60 | 1 | 2 | 3 | |
| 3998 | | MANI | 11 | 17 | 2322 | N12 | E85 | 11 | 24.4 | | | HSX | 650 | 1 | 2 | 3 | |
| 3998 | | LEAR | 11 | 18 | 0108 | N11 | E82 | 11 | 24.2 | | A | HSX | 190 | 1 | 2 | 3 | |
| 3998 | | RAMY | 11 | 18 | 1330 | N11 | E73 | 11 | 24.1 | | A | HSO | 200 | 1 | 2 | 4 | |
| 3998 | | BOUL | 11 | 18 | 1530 | N11 | E75 | 11 | 24.3 | | A | HSX | 180 | 1 | 2 | 2 | |
| 3998 | | HOLL | 11 | 18 | 1650 | N12 | E77 | 11 | 24.5 | | B | CSO | 190 | 3 | 9 | 4 | |
| 3998 | | MANI | 11 | 18 | 2316 | N12 | E72 | 11 | 24.4 | | | CSO | 250 | 3 | 8 | 3 | |
| 3998 | | LEAR | 11 | 19 | 0017 | N11 | E72 | 11 | 24.4 | | B | CSO | 290 | 5 | 8 | 3 | |
| 3998 | | BOUL | 11 | 19 | 1540 | N12 | E65 | 11 | 24.6 | | B | CHO | 180 | 4 | 10 | 2 | |
| 3998 | | HOLL | 11 | 19 | 1540 | N12 | E65 | 11 | 24.6 | | B | ESO | 300 | 5 | 11 | 3 | |
| 3998 | 23444 | MWIL | 11 | 19 | 1600 | N12 | E62 | 11 | 24.3 | 5 | BP | | | | | | |
| 3998 | | PALE | 11 | 19 | 2030 | N11 | E64 | 11 | 24.7 | | B | CSO | 150 | 2 | 10 | 1 | |
| 3998 | | MANI | 11 | 20 | 0030 | N12 | E59 | 11 | 24.5 | | | CHO | 240 | 6 | 9 | 3 | |
| 3998 | | LEAR | 11 | 20 | 0039 | N12 | E59 | 11 | 24.5 | | B | CSO | 290 | 5 | 8 | 3 | |
| 3998 | | HOLL | 11 | 20 | 1453 | N12 | E51 | 11 | 24.5 | | B | DSO | 260 | 2 | 10 | 3 | |
| 3998 | | BOUL | 11 | 20 | 1655 | N12 | E52 | 11 | 24.6 | | B | DSI | 210 | 4 | 8 | 2 | |
| 3998 | | LEAR | 11 | 21 | 0028 | N12 | E47 | 11 | 24.6 | | B | CSO | 210 | 5 | 9 | 3 | |
| 3998 | | BOUL | 11 | 21 | 1600 | N10 | E33 | 11 | 24.1 | | A | HSX | 180 | 1 | 2 | 1 | |
| 3998 | | HOLL | 11 | 21 | 1715 | N12 | E34 | 11 | 24.3 | | B | HSO | 180 | 2 | 2 | 2 | |
| 3998 | 23444 | MWIL | 11 | 21 | 1945 | N11 | E32 | 11 | 24.2 | 5 | (AP) | | | | | | |
| 3998 | | MANI | 11 | 21 | 2321 | N12 | E31 | 11 | 24.3 | | | CSO | 180 | 3 | 3 | 3 | |
| 3998 | | LEAR | 11 | 22 | 0011 | N12 | E30 | 11 | 24.3 | | A | HSX | 280 | 1 | 2 | 3 | |
| 3998 | | RAMY | 11 | 22 | 1300 | N12 | E23 | 11 | 24.3 | | B | CKO | 260 | 3 | 3 | 3 | |
| 3998 | | HOLL | 11 | 22 | 1540 | N11 | E22 | 11 | 24.3 | | A | HHX | 240 | 3 | 3 | 2 | |
| 3998 | | BOUL | 11 | 22 | 1545 | N11 | E21 | 11 | 24.2 | | A | HSX | 130 | 1 | 2 | 2 | |
| 3998 | | LEAR | 11 | 23 | 0052 | N11 | E17 | 11 | 24.3 | | A | HSX | 250 | 3 | 2 | 3 | |
| 3998 | 23444 | MWIL | 11 | 23 | 1800 | N11 | E11 | 11 | 24.6 | 6 | AP | | | | | | |
| 3998 | | LEAR | 11 | 24 | 0032 | N11 | E04 | 11 | 24.3 | | A | HSX | 270 | 3 | 2 | 3 | |
| 3998 | | RAMY | 11 | 24 | 1350 | N12 | W02 | 11 | 24.4 | | A | HKX | 140 | 1 | 3 | 3 | |
| 3998 | | BOUL | 11 | 24 | 1540 | N12 | W04 | 11 | 24.4 | | A | HHX | 200 | 1 | 3 | 2 | |
| 3998 | 23444 | MWIL | 11 | 24 | 1700 | N11 | W04 | 11 | 24.4 | 5 | (AP) | | | | | | |
| 3998 | | MANI | 11 | 24 | 2338 | N11 | W09 | 11 | 24.3 | | | HSX | 280 | 1 | 3 | 2 | |
| 3998 | | LEAR | 11 | 25 | 0035 | N11 | W09 | 11 | 24.3 | | A | HSX | 240 | 1 | 2 | 3 | |
| 3998 | | RAMY | 11 | 25 | 1522 | N12 | W17 | 11 | 24.4 | | B | CHO | 210 | 3 | 3 | 2 | |
| 3998 | 23444 | MWIL | 11 | 25 | 1630 | N11 | W17 | 11 | 24.4 | 5 | (BP) | | | | | | |
| 3998 | | BOUL | 11 | 25 | 1630 | N11 | W18 | 11 | 24.3 | | B | DSO | 160 | 3 | 4 | 2 | |
| 3998 | | LEAR | 11 | 26 | 0125 | N10 | W23 | 11 | 24.3 | | B | CSO | 160 | 6 | 5 | 3 | |
| 3998 | | RAMY | 11 | 26 | 1350 | N11 | W28 | 11 | 24.5 | | B | CHO | 210 | 5 | 5 | 3 | |
| 3998 | | BOUL | 11 | 26 | 1520 | N13 | W28 | 11 | 24.5 | | B | CSO | 130 | 4 | 5 | 3 | |
| 3998 | 23444 | MWIL | 11 | 26 | 1600 | N11 | W30 | 11 | 24.4 | 5 | (BP) | | | | | | |
| 3998 | | LEAR | 11 | 27 | 0012 | N12 | W35 | 11 | 24.4 | | B | CSO | 150 | 3 | 7 | 3 | |
| 3998 | | MANI | 11 | 27 | 0205 | N11 | W35 | 11 | 24.5 | | | CSO | 190 | 4 | 3 | 3 | |
| 3998 | 23444 | MWIL | 11 | 27 | 1545 | N11 | W43 | 11 | 24.4 | 6 | (BP) | | | | | | |
| 3998 | | HOLL | 11 | 27 | 1818 | N11 | W46 | 11 | 24.3 | | A | HSX | 150 | 1 | 2 | 4 | |
| 3998 | | LEAR | 11 | 28 | 0018 | N11 | W48 | 11 | 24.4 | | A | HSX | 210 | 1 | 2 | 3 | |

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

NOVEMBER 1982

| NOAA/ USAF Region | Mt Wilson Region | Sta | Observation Time (UT) | | | Lat CMD | CMP Mo Day | Max H | Mag Class | Spot Class | Corrected Area (10 ⁻⁶ Hemi) | Spot Count | Long. Extent (Deg) | Qual |
|-------------------------|------------------------|------|--------------------------|----|------|------------|---------------|----------|--------------|---------------|--|---------------|--------------------------|------|
| 3998 | | RAMY | 11 | 28 | 1400 | N12 W57 | 11 24.3 | | B | CAO | 220 | 2 | 2 | 2 |
| 3998 | | HOLL | 11 | 28 | 1427 | N11 W57 | 11 24.3 | | A | HSX | 120 | 1 | 2 | 2 |
| 3998 | | BOUL | 11 | 28 | 1600 | N12 W58 | 11 24.3 | | A | HX | 110 | 1 | 2 | 1 |
| 3998 | | MANI | 11 | 28 | 2323 | N11 W61 | 11 24.4 | | | HSX | 190 | 1 | 2 | 3 |
| 3998 | | MANI | 11 | 29 | 0001 | N11 W61 | 11 24.4 | | A | HSX | 190 | 1 | 2 | 3 |
| 3998 | | LEAR | 11 | 29 | 0021 | N11 W62 | 11 24.3 | | A | HSX | 120 | 1 | 2 | 3 |
| 3998 | | RAMY | 11 | 29 | 1415 | N12 W69 | 11 24.4 | | A | HAX | 110 | 1 | 2 | 2 |
| 3998 | | BOUL | 11 | 29 | 1530 | N10 W70 | 11 24.4 | | A | HSX | 120 | 1 | 2 | 2 |
| 3998 | | HOLL | 11 | 29 | 1550 | N11 W70 | 11 24.4 | | A | HSX | 100 | 1 | 2 | 3 |
| 3998 | | MANI | 11 | 29 | 2348 | N11 W75 | 11 24.3 | | | HSX | 200 | 1 | 2 | 2 |
| 3998 | | LEAR | 11 | 30 | 0110 | N11 W76 | 11 24.3 | | A | HSX | 60 | 1 | 2 | 3 |
| 3998 | | HOLL | 11 | 30 | 1715 | N10 W85 | 11 24.3 | | A | HSX | 110 | 1 | 1 | 3 |
| 0010 | 23450 | MWIL | 11 | 27 | 1545 | S12 W20 | 11 26.1 | 3 | (AP) | | | | | |
| 4000 | | HOLL | 11 | 20 | 1453 | S20 E80 | 11 26.7 | | B | CSO | 30 | 2 | 3 | 3 |
| 4000 | | BOUL | 11 | 20 | 1655 | S23 E77 | 11 26.6 | | B | DSI | 30 | 4 | 5 | 2 |
| 4000 | | LEAR | 11 | 21 | 0028 | S24 E77 | 11 27.0 | | B | DAO | 80 | 10 | 7 | 3 |
| 4000 | | BOUL | 11 | 21 | 1600 | S25 E66 | 11 26.8 | | B | BXO | 10 | 3 | 7 | 1 |
| 4000 | | HOLL | 11 | 21 | 1715 | S23 E68 | 11 27.0 | | B | DSO | 60 | 4 | 7 | 2 |
| 4000 | 23447 | MWIL | 11 | 21 | 1945 | S25 E68 | 11 27.1 | 2 | B | | | | | |
| 4000 | | MANI | 11 | 21 | 2321 | S23 E64 | 11 26.9 | | | CRO | 60 | 9 | 8 | 3 |
| 4000 | | LEAR | 11 | 22 | 0011 | S22 E64 | 11 26.9 | | B | DAO | 70 | 10 | 9 | 3 |
| 4000 | | RAMY | 11 | 22 | 1300 | S15 E55 | 11 26.7 | | B | BXO | 20 | 8 | 7 | 3 |
| 4000 | | HOLL | 11 | 22 | 1540 | S24 E53 | 11 26.7 | | B | BXO | 30 | 11 | 6 | 2 |
| 4000 | | BOUL | 11 | 22 | 1545 | S25 E50 | 11 26.5 | | B | BXO | 20 | 6 | 7 | 2 |
| 4000 | | LEAR | 11 | 23 | 0052 | S24 E48 | 11 26.7 | | B | BXO | 30 | 12 | 7 | 3 |
| 4000 | 23447 | MWIL | 11 | 23 | 1800 | S23 E37 | 11 26.6 | 3 | B | | | | | |
| 4000 | | LEAR | 11 | 24 | 0032 | S24 E35 | 11 26.7 | | B | BXO | 10 | 5 | 5 | 3 |
| 4000 | | RAMY | 11 | 24 | 1350 | S22 E27 | 11 26.7 | | B | BXO | 50 | 9 | 4 | 3 |
| 4000 | | BOUL | 11 | 24 | 1540 | S22 E27 | 11 26.7 | | B | BXI | 20 | 10 | 7 | 2 |
| 4000 | 23447 | MWIL | 11 | 24 | 1700 | S23 E27 | 11 26.8 | 3 | (B) | | | | | |
| 4000 | | MANI | 11 | 24 | 2338 | S23 E21 | 11 26.6 | | | DSO | 60 | 8 | 7 | 2 |
| 4000 | | LEAR | 11 | 25 | 0035 | S23 E21 | 11 26.6 | | B | DRO | 30 | 6 | 4 | 3 |
| 4000 | | RAMY | 11 | 25 | 1522 | S22 E12 | 11 26.6 | | B | CSO | 80 | 10 | 7 | 2 |
| 4000 | | BOUL | 11 | 25 | 1630 | S21 E11 | 11 26.5 | | B | CRI | 40 | 13 | 5 | 2 |
| 4000 | 23447 | MWIL | 11 | 25 | 1630 | S23 E13 | 11 26.7 | 4 | (B) | | | | | |
| 4000 | | LEAR | 11 | 26 | 0125 | S23 E08 | 11 26.7 | | B | DRO | 50 | 17 | 6 | 3 |
| 4000 | | RAMY | 11 | 26 | 1350 | S24 E04 | 11 26.9 | | BD | DAO | 100 | 29 | 6 | 3 |
| 4000 | | BOUL | 11 | 26 | 1520 | S21 W00 | 11 26.6 | | B | DSO | 60 | 15 | 5 | 3 |
| 4000 | 23447 | MWIL | 11 | 26 | 1600 | S22 E02 | 11 26.8 | 4 | (B) | | | | | |
| 4000 | | LEAR | 11 | 27 | 0012 | S23 W03 | 11 26.8 | | B | DRO | 30 | 18 | 6 | 3 |
| 4000 | | MANI | 11 | 27 | 0205 | S23 W03 | 11 26.9 | | | DAO | 70 | 18 | 7 | 3 |
| 4000 | 23447 | MWIL | 11 | 27 | 1545 | S23 W11 | 11 26.8 | 5 | (B) | | | | | |
| 4000 | | HOLL | 11 | 27 | 1818 | S23 W12 | 11 26.8 | | B | CSO | 40 | 12 | 4 | 4 |
| 4000 | | LEAR | 11 | 28 | 0018 | S23 W15 | 11 26.9 | | B | DAO | 40 | 10 | 5 | 3 |
| 4000 | | RAMY | 11 | 28 | 1400 | S24 W24 | 11 26.7 | | B | BXO | 20 | 7 | 6 | 2 |
| 4000 | | HOLL | 11 | 28 | 1427 | S24 W22 | 11 26.9 | | B | BXO | 20 | 5 | 4 | 2 |
| 4000 | | LEAR | 11 | 29 | 0021 | S24 W29 | 11 26.8 | | B | BXO | 10 | 5 | 4 | 3 |
| 4000 | | HOLL | 11 | 30 | 1715 | S24 W53 | 11 26.6 | | A | AXX | | 1 | | 3 |
| 4000 | | LEAR | 12 | 02 | 0031 | S23 W70 | 11 26.6 | | A | AXX | | 2 | 1 | 3 |
| 4011 | | LEAR | 11 | 28 | 0018 | N16 W19 | 11 26.6 | | B | BXO | 10 | 3 | 3 | 3 |
| 4011 | | RAMY | 11 | 28 | 1400 | N14 W26 | 11 26.6 | | B | BXO | 10 | 3 | 3 | 2 |
| 4011 | | LEAR | 12 | 01 | 0210 | N16 W58 | 11 26.7 | | A | AXX | | 1 | | 3 |
| 4011 | | RAMY | 12 | 01 | 1320 | N17 W65 | 11 26.6 | | B | CSO | 20 | 3 | 5 | 4 |
| 4011 | 23455 | MWIL | 12 | 01 | 1600 | N16 W65 | 11 26.7 | 3 | (B) | | | | | |
| 4011 | | LEAR | 12 | 02 | 0031 | N16 W71 | 11 26.6 | | B | CSO | 10 | 2 | 3 | 3 |
| 4009 | 23451 | MWIL | 11 | 27 | 1545 | S27 W04 | 11 27.3 | 3 | (AF) | | | | | |
| 4009 | | HOLL | 11 | 27 | 1818 | S28 W05 | 11 27.4 | | A | AXX | | 1 | | 4 |
| 4009 | | RAMY | 11 | 28 | 1400 | S28 W17 | 11 27.3 | | A | AXX | 10 | 3 | 1 | 2 |
| 0011 | 23452 | MWIL | 11 | 27 | 1545 | S10 E19 | 11 29.1 | 3 | (AP) | | | | | |
| 0012 | 23456 | MWIL | 12 | 01 | 1600 | S17 W12 | 11 30.8 | 2 | (B) | | | | | |
| 0012 | 23456 | MWIL | 12 | 02 | 1600 | S17 W25 | 11 30.8 | 2 | (AF) | | | | | |

S U D D E N I O N O S P H E R I C D I S T U R B A N C E S

November 1982

| Day | Start (UT) | Max (UT) | End (UT) | Imp | Wide-spread Index | Number of Station Reports by Type | | | | | Known Flare | NOAA/SESC Region |
|-----|------------|----------|----------|-----|-------------------|-----------------------------------|-----|-----|--------|-----|-------------|------------------|
| | | | | | | SWF | SEA | SPA | LF-SPA | SES | | |
| 01 | 0333 | 0349 | 0625 | 2 | 3 | 1 | | 1 | 1 | | 0329 | X-ray |
| 01 | 1535 | 1547 | 1615 | 2 | 1 | | | | | 1 | * | |
| 01 | 2008 | 2015 | 2030 | 1 | 3 | | | | | 3 | 2006 | 3961 |
| 02 | 0012 | 0018 | 0106 | 1- | 3 | | 1 | 1 | 1 | 1 | 0011 | No data |
| 02 | 0202 | 0213 | 0310 | 1- | 3 | | | 1 | 1 | 1 | 0212E | No data |
| 02 | 0524 | 0528 | 0555 | 1- | 3 | | | 1 | 1 | 1 | 0522 | 3966 |
| 02 | 0912 | 0916 | 0925 | 1- | 3 | 1 | | | 1 | 3 | 0912 | X-ray |
| 02 | 1627 | 1634 | 1700 | 1- | 3 | 1 | | | 1 | 8 | 1630 | 3961 |
| 02 | 1709 | 1732 | 1855 | 3 | 3 | | | | | 2 | 1727 | 3966 |
| 02 | 1729 | 1738 | 1905 | 1- | 3 | | | 1 | | 6 | 1727 | 3966 |
| 02 | 2200 | 2216 | 2320 | 1- | 3 | | | 1 | 1- | 2 | 2159 | X-ray |
| 03 | 0051 | 0055 | 0153 | 1- | 3 | | | 1 | | 1 | 0047 | X-ray |
| 03 | 0349 | 0354 | 0516 | 1- | 3 | | | 1 | 1 | 1 | 0350 | No data |
| 03 | 0917 | 0931 | 0945 | 1- | 3 | | | | 1 | 3 | 0907 | X-ray |
| 03 | 2220 | 2227 | 2229 | 1- | 1 | 1 | | | | | NF | |
| 04 | 0244 | 0246 | 0254U | 1- | 3 | | | 1 | 1 | | 0240 | X-ray |
| 04 | 0510 | 0515 | 0541 | 1- | 3 | 1 | | 1 | 1 | | 0508 | X-ray |
| 04 | 0544 | 0548 | 0553 | 1- | 3 | | | 1 | 1 | 1 | 0543 | X-ray |
| 04 | 1120 | 1142 | 1156 | 1 | 3 | | 2 | | | | * | |
| 04 | 1435 | 1441 | 1535 | 1- | 3 | | | 1 | | 3 | * | |
| 05 | 1011 | 1015 | 1026U | 1 | 1 | | 1 | | | | NF | |
| 06 | 0928 | 0937 | 1018 | 1 | 1 | | 1 | | | | 0934 | X-ray |
| 08 | 0004 | 0015 | 0029 | 1- | 1 | | | 1 | | | NF | |
| 08 | 0034 | 0046 | 0134 | 1- | 3 | | | 1 | 1 | | 0030 | X-ray |
| 08 | 0231 | 0234 | 0246 | 1- | 3 | | | 1 | 1 | | NF | |
| 08 | 0646 | 0650 | 0710 | 1- | 1 | | | | 1 | | 0644 | X-ray |
| 08 | 1006 | 1019 | 1045 | 1 | 3 | | | | | 5 | 1000 | X-ray |
| 08 | 1035 | | 1100 | 1 | 1 | | | 1 | | | * | |
| 08 | 1135 | 1138 | 1155 | 1- | 3 | | | 1 | | 1 | 1134 | X-ray |
| 08 | 1207 | 1212 | 1230 | 1- | 5 | 1 | 3 | | 1 | 3 | 1204 | X-ray |
| 08 | 1358 | 1406 | 1452 | 1+ | 3 | | 2 | | | | NF | |
| 08 | 1531 | 1538 | 1555 | 1- | 3 | | | | | 6 | 1529 | X-ray |
| 08 | 1841 | 1850 | 1918 | 2 | 3 | 1 | | | | 3 | 1836 | X-ray |
| 08 | 2017 | 2019 | 2030 | 1- | 1 | | | | | 1 | * | |
| 08 | 2156 | 2215 | 2254 | 1- | 1 | | | 1 | | | 2149 | X-ray |
| 08 | 2255 | 2258 | 2324 | 1- | 1 | | | 1 | | | NF | |
| 09 | 0023 | 0145 | 0440 | 2 | 1 | | | 1 | | | NF | |
| 09 | 0047 | 0147 | 0330 | 1+ | 3 | 1 | | 1 | 1 | 4 | NF | |
| 09 | 0744 | 0804 | 0845 | 2 | 1 | | | | | 1 | * | |
| 09 | 1857 | 1902 | 1915 | 1- | 1 | | | | | 1 | 1845 | X-ray |
| 09 | 2259 | 2303 | 2330 | 1- | 1 | | | | | 1 | NF | |
| 09 | 2319 | 2326 | 2348 | 1- | 1 | | | 1 | | | 2315 | X-ray |
| 10 | 0022 | 0029 | 0153 | 1- | 3 | | | 1 | 1 | 1 | 0016 | X-ray |
| 10 | 0220 | 0235 | 0330 | 1 | 3 | | | 1 | 1 | 1 | 0220 | X-ray |
| 10 | 0353 | 0407 | 0440 | 1- | 3 | | | 1 | 1 | 3 | 0359 | 3987 |
| 10 | 0602 | 0608 | 0630 | 1- | 3 | 1 | | | 1 | 2 | 0602 | 3987 |
| 10 | 0803 | 0805 | 0820 | 1- | 1 | | | | | 1 | NF | |
| 10 | 0901 | 0926 | 1000 | 1 | 3 | | | | | 2 | 0901 | 3987 |
| 10 | 0925 | 0929 | 0945U | 1 | 1 | | | 1 | | | 0901 | 3987 |
| 10 | 1023 | 1033U | 1054U | 1 | 1 | | | 1 | | | * | |
| 10 | 1116 | 1123 | 1133 | 1 | 1 | | | 1 | | | * | |
| 10 | 1159 | 1211 | 1224 | 1 | 1 | | | 1 | | | * | |
| 10 | 1759 | 1808 | 1945 | 2 | 5 | 3 | | 1 | | 14 | 1758 | 3990 |
| 10 | 2330 | 2333 | 0000 | 1- | 1 | | | | | 1 | NF | |
| 11 | 0217 | 0231 | 0357 | 1- | 3 | 1 | | 1 | 1 | 1 | 0220E | No data |
| 11 | 0326 | 0330 | 0350 | 1- | 1 | | | | 1 | | NF | |
| 11 | 0913 | 0927 | 0958 | 2 | 1 | | 1 | | | | NF | |

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November 1982

| Day | Start (UT) | Max (UT) | End (UT) | Imp | Wide-spread Index | Number of Station Reports by Type | | | | | Known Flare | NOAA/SESC Region |
|-----|------------|----------|----------|-----|-------------------|-----------------------------------|-----|-----|--------|-----|-------------|------------------|
| | | | | | | SWF | SEA | SPA | LF-SPA | SES | | |
| 11 | 1020 | 1023 | 1035 | 1- | 1 | | | | | 1 | 1019 | X-ray |
| 11 | 1525 | 1531 | 1537 | 1- | 1 | | | | | 1 | 1526 | X-ray |
| 11 | 1601 | 1603 | 1630 | 1+ | 1 | | | | | 1 | 1602 | X-ray |
| 11 | 2234 | 2258 | 0053 | 1 | 3 | | | 1 | | 6 | 2239E | 3987 |
| 12 | 0130 | 0140 | 0200 | 1- | 3 | | | 1 | 1 | 1 | 0132 | 3987 |
| 12 | 0353 | 0406 | 0530 | 1 | 5 | 1 | | 1 | 1 | 6 | 0331 | No data |
| 12 | 0536 | 0553 | 0720 | 1- | 3 | | | | 1 | 3 | 0528 | 3987 |
| 12 | 0828 | 0830 | 0835 | 1 | 3 | | 1 | | | 1 | 0818 | 3987 |
| 12 | 0902 | 0912 | 0940 | 1+ | 5 | 3 | | | 1 | 5 | 0902 | No data |
| 12 | 1126 | 1156 | 1242 | 1 | 1 | | 1 | | | | NF | |
| 12 | 1248 | 1258 | 1320 | 1 | 1 | | 1 | | | | NF | |
| 12 | 1318 | 1322 | 1335 | 1- | 3 | | | 1 | | 2 | NF | |
| 12 | 1420 | 1435 | 1455 | 3 | 5 | 1 | | 1 | | 11 | 1425 | 3991 |
| 12 | 1432 | 1441 | 1454 | 2 | 3 | 3 | 3 | | | | 1425 | 3991 |
| 12 | 1710 | 1712 | 1743 | 1+ | 3 | | | | | 2 | 1659 | 3990 |
| 12 | 2138 | 2150 | 2210 | 1- | 1 | | | 1 | | | 2146 | 3987 |
| 12 | 2325 | 2330 | 2340 | 1- | 1 | | | 1 | | | NF | |
| 13 | 0006 | 0013 | 0040 | 1- | 3 | 2 | | 1 | 1 | 6 | NF | |
| 13 | 0237 | 0247 | 0340D | 1+ | 3 | 1 | | 1 | 1 | 6 | 0240E | No data |
| 13 | 0313 | 0316 | 0335 | 1- | 3 | | | | 1 | 4 | 0309 | No data |
| 13 | 0340E | 0346 | 0441 | 1+ | 3 | | | 1 | 1 | 4 | 0331 | X-ray |
| 13 | 0450 | 0453 | 0510 | 1- | 3 | | | 1 | 1 | 4 | 0449 | 3987 |
| 13 | 0601 | 0616 | 0742 | 1 | 3 | 1 | 1 | 1 | 1 | 5 | 0600E | No data |
| 13 | 0656 | 0713 | 0806U | 1+ | 1 | | | | 1 | | NF | |
| 13 | 0943 | 0945 | 1000 | 1 | 1 | | | | | 1 | 0942 | 3987 |
| 13 | 1415 | 1418 | 1430 | 1- | 3 | | 1 | | 1 | 9 | 1414 | 3987 |
| 13 | 1435 | 1451 | 1645 | 2 | 3 | 1 | | 1 | 1 | 8 | 1436 | 3987 |
| 13 | 2351 | 0113 | 0229 | 2+ | 1 | | | 1 | | | 2358 | 3987 |
| 14 | 0006 | 0034 | 0342 | 2+ | 1 | | | 1 | | | 0007 | 3987 |
| 14 | 0016 | 0030 | 0140 | 1- | 3 | 2 | | 1 | 1 | 5 | 0020 | 3987 |
| 14 | 1534 | 1545 | 1600 | 2 | 1 | | | 1 | | | 1526 | 3987 |
| 14 | 2358 | 0037 | 0304 | 2 | 1 | | | 1 | | | * | |
| 15 | 0157 | 0206 | 0524 | 2+ | 3 | 3 | | 1 | 1 | 2 | 0159 | No data |
| 15 | 0948 | 1020 | 1120 | 1+ | 3 | | 2 | | | | NF | |
| 15 | 1614 | 1621 | 1740 | 1+ | 3 | 2 | | | | 10 | 1606 | 3987 |
| 15 | 1835 | 1837 | 1900 | 1- | 3 | | | | | 7 | 1834 | 3987 |
| 15 | 2002 | 2007 | 2020 | 1- | 3 | | | | | 7 | 2001 | No data |
| 15 | 2344 | 2348 | 0021 | 1- | 1 | | | 1 | | | 2344 | 3987 |
| 16 | 0313 | 0414 | 0531 | 2 | 3 | | | 1 | 1 | 5 | 0314E | No data |
| 16 | 0346 | 0356 | 0436D | 1 | 3 | 1 | | | 1 | 4 | 0345 | No data |
| 16 | 1417 | 1419 | 1425 | 1- | 3 | | | 1 | | 1 | 1417 | 3987 |
| 16 | 1708 | 1709 | 1721 | 1- | 1 | | | | | 1 | 1710 | 3987 |
| 16 | 2040 | 2050 | 2111 | 1 | 3 | 1 | | | | 4 | 2041E | 3987 |
| 16 | 2115 | 2123 | 2200 | 2+ | 5 | 1 | | 1 | | 9 | 2041E | 3987 |
| 16 | 2136 | 2139 | 2146 | 1 | 3 | 1 | | | | 1 | * | |
| 16 | 2323 | 2334 | 0104 | 1 | 3 | 1 | | 1 | | 5 | 2323 | X-ray |
| 17 | 0123 | 0137 | 0218 | 1- | 3 | | | 1 | 1 | 1 | 0124 | X-ray |
| 17 | 0257 | 0309 | 0330 | 1- | 3 | | | 1 | 1 | | 0307 | 3987 |
| 17 | 0331 | 0339 | 0413 | 1- | 3 | | | 1 | 1 | 1 | 0333 | 3987 |
| 17 | 0420 | 0431 | 0520 | 1- | 3 | | | 1 | 1 | 2 | 0422 | 3987 |
| 17 | 1040 | 1047 | 1135 | 1 | 3 | 1 | 2 | | 1 | 5 | 1036 | X-ray |
| 17 | 1202 | 1217 | 1306 | 1 | 3 | | 2 | | | 1 | * | |
| 17 | 1357 | 1413 | 1610 | 2+ | 5 | 2 | 4 | 1 | 1 | 10 | 1357 | 3987 |
| 18 | 0021 | 0028 | 0121 | 1- | 3 | | | 1 | | 1 | 0017 | X-ray |
| 18 | 0124 | 0130 | 0210 | 1- | 3 | | | 1 | 1 | | 0124 | 3995 |
| 18 | 0301 | 0308 | 0424 | 1- | 3 | | | 1 | 1 | 1 | 0301 | 3987 |
| 18 | 0456 | 0509 | 0630 | 1+ | 3 | 1 | | 1 | 1 | 5 | 0455 | 3994 |
| 18 | 1350 | 1353 | 1440 | 1- | 3 | | | 1 | | 4 | 1343 | X-ray |
| 18 | 1410 | 1418 | 1530 | 1- | 3 | 1 | | 1 | | 1 | 1411E | 3994 |

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| Day | Start (UT) | Max (UT) | End (UT) | Imp | Wide- spread Index | Number of Station Reports by Type | | | | | Known Flare | NOAA/SESC Region |
|-----|---------------|-------------|-------------|-----|--------------------------|-----------------------------------|-----|-----|------------|-----|----------------|---------------------|
| | | | | | | SWF | SEA | SPA | LF- SPA | SES | | |
| 18 | 2113 | 2129 | 2204 | 1- | 1 | | | 1 | | 4 | 2115 | 3994 |
| 19 | 0124 | 0133 | 0149D | 1- | 3 | | | 1 | 1 | | 0118 | X-ray |
| 19 | 0153E | 0211 | 0246D | 1- | 3 | | | 1 | 1 | 1 | 0150 | X-ray |
| 19 | 0244E | 0315 | 0452 | 1- | 3 | | | 1 | | 1 | 0251 | X-ray |
| 19 | 0454 | 0501 | 0524 | 1- | 1 | | | 1 | | | 0455 | 3987 |
| 19 | 0729 | 0737 | 0820 | 1- | 3 | | | 1 | 1 | 4 | 0729E | 3994 |
| 19 | 0931 | 0938 | 0955 | 1 | 3 | | | | 1 | 4 | 0931 | 3987 |
| 19 | 1351 | 1352 | 1400 | 1- | 1 | | | | | 1 | 1350 | 3998 |
| 19 | 1548 | 1550 | 1610 | 1- | 3 | | | 1 | | 1 | 1535 | 3987 |
| 19 | 1756 | 1757 | 1801 | 1- | 3 | | | | | 2 | 1753 | 3994 |
| 19 | 2124 | 2138 | 2221 | 1- | 3 | | | 1 | | 1 | 2116 | X-ray |
| 19 | 2250 | 2257 | 2314 | 1- | 1 | | | 1 | | | 2240 | 3994 |
| 20 | 0021 | 0036 | 0126 | 1- | 3 | | | 1 | 1 | 1 | 0022 | X-ray |
| 20 | 0204 | 0222 | 0443 | 2 | 3 | 1 | 1 | 1 | 1 | 5 | 0201 | X-ray |
| 20 | 0527 | 0536 | 0805 | 2 | 5 | 1 | 1 | 1 | 1 | 5 | 0526 | 4000 |
| 20 | 1009 | 1015 | 1030 | 1+ | 5 | 3 | 3 | | 1 | 3 | 1007 | X-ray |
| 20 | 1430 | 1437 | 1545 | 1- | 3 | | | 1 | | 1 | 1428 | X-ray |
| 20 | 1704 | 1713 | 1823 | 1- | 5 | | | 1 | | 14 | 1655 | No data |
| 20 | 1846 | 1902 | 1930 | 1- | 3 | | | 1 | | 7 | 1902 | 4001 |
| 20 | 2007 | 2014 | 2030 | 1 | 3 | | | | | 7 | NF | |
| 20 | 2057 | 2102 | 2134 | 1- | 3 | | | 1 | | 2 | 2054 | 3997 |
| 20 | 2222 | 2238 | 0114 | 1 | 3 | | | 1 | 1 | 1 | 2244E | 3994 |
| 21 | 0045 | 0047 | 0100 | 1- | 1 | | | | | 1 | 0041 | 3994 |
| 21 | 0115 | 0120 | 0135 | 1- | 3 | | | 1 | 1 | 1 | * | |
| 21 | 0136 | 0140 | 0200 | 1- | 3 | | | 1 | 1 | 1 | * | |
| 21 | 0203 | 0210 | 0240 | 1- | 3 | | | 1 | 1 | 1 | 0201 | 3994 |
| 21 | 0253 | 0257 | 0321 | 1- | 3 | | | 1 | 1 | 1 | * | |
| 21 | 0330 | 0357 | 0420D | 1- | 3 | | | 1 | 1 | | 0339 | 3987 |
| 21 | 0422 | 0424 | 0451 | 1- | 3 | | | 1 | 1 | | 0422 | 3994 |
| 21 | 0451 | 0457 | 0510 | 1- | 3 | | | 1 | 1 | 1 | 0449 | 4000 |
| 21 | 0604 | 0640 | 0830 | 2 | 3 | | | 1 | 1 | 1 | 0605 | 3994 |
| 21 | 0902 | 0903 | 0910 | 1- | 3 | | | | | 2 | * | |
| 21 | 1020 | 1025 | 1035 | 2 | 3 | 2 | 4 | | 1 | 5 | 1018 | No data |
| 21 | 1124 | 1140 | 1155 | 1 | 3 | 2 | | | | 2 | 1121 | No data |
| 21 | 1150 | 1153 | 1215 | 1 | 1 | | | | | 1 | 1154 | 4001 |
| 21 | 1307 | 1310 | 1335 | 1+ | 5 | 1 | 4 | 1 | 1 | 8 | NF | |
| 21 | 1415 | 1424 | 1625 | 2+ | 5 | 3 | 4 | 1 | 1 | 12 | 1414 | X-ray |
| 21 | 1438 | 1450 | 1500 | 1- | 3 | | | | | 3 | 1443 | 4001 |
| 21 | 1630 | 1638 | 1725 | 1- | 3 | | | 1 | | 1 | 1628 | 3994 |
| 21 | 1743 | 1747 | 1830 | 1- | 3 | | | 1 | | 7 | 1741 | 3994 |
| 21 | 1842 | 1848 | 1910 | 1- | 5 | | | 1 | | 14 | 1840 | 4001 |
| 21 | 1941 | 1947 | 2115 | 1- | 3 | | | 1 | | 8 | 1941 | 3994 |
| 21 | 2134 | 2143 | 2314 | 1- | 3 | | | 1 | | 6 | 2131 | X-ray |
| 21 | 2319 | 2324 | 2344 | 1- | 3 | | | 1 | | | 2318 | No data |
| 22 | 0015 | 0022 | 0104 | 1- | 3 | | | 1 | 1 | | 0012 | 4001 |
| 22 | 0129 | 0137 | 0210 | 1- | 3 | | | 1 | 1 | | 0121 | 4001 |
| 22 | 0431 | 0434 | 0454U | 1- | 1 | | | | 1 | | 0431 | X-ray |
| 22 | 0545 | 0547 | 0555U | 1- | 1 | | | | 1 | | 0541 | X-ray |
| 22 | 0724 | 0726 | 0804U | 1- | 3 | | | | 1 | 1 | 0702 | X-ray |
| 22 | 0930 | 0933 | 0950 | 1- | 1 | | | | | 1 | 0933 | X-ray |
| 22 | 1017 | 1024 | 1045 | 1- | 3 | 2 | | | 1 | 3 | 1010 | X-ray |
| 22 | 1140 | 1148 | 1200 | 1- | 3 | | | 1 | 1 | 4 | 1141 | No data |
| 22 | 1222 | 1229 | 1250 | 1- | 3 | 2 | 3 | | 1 | 3 | 1224 | 3994 |
| 22 | 1328 | 1332 | 1340 | 1- | 1 | | | | | 1 | 1328 | X-ray |
| 22 | 1503 | 1515 | 1535 | 1- | 3 | | | | | 5 | 1454 | 3994 |
| 22 | 1658 | 1709 | 1738 | 1 | 3 | 1 | | | | 9 | * | |
| 22 | 1742 | 1743 | 1914 | 2 | 3 | 2 | | | | 12 | 1741 | X-ray |
| 22 | 1757 | 1828 | 2000 | 2 | 3 | | | | | 5 | 1741 | X-ray |
| 22 | 2152E | 2201 | 2300 | 1 | 3 | | | 1 | | 5 | * | |
| 22 | 2300 | 2310 | 2341 | 1- | 3 | | | 1 | | 1 | * | |
| 22 | 2343 | 2352 | 0112 | 1+ | 3 | 1 | | 1 | | 5 | 2343 | X-ray |

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November 1982

| Day | Start (UT) | Max (UT) | End (UT) | Imp | Wide-spread Index | Number of Station Reports by Type | | | | | Known Flare | NOAA/SESC Region |
|-----|------------|----------|----------|-----|-------------------|-----------------------------------|-----|-----|--------|-----|-------------|------------------|
| | | | | | | SWF | SEA | SPA | LF-SPA | SES | | |
| 23 | 0125 | 0135 | 0228 | 1- | 3 | 1 | | 1 | 1 | 1 | 0128 | No data |
| 23 | 0221 | 0226 | 0316 | 1- | 3 | 1 | | 1 | 1 | 5 | 0221 | No data |
| 23 | 0317 | 0322 | 0425 | 1- | 3 | | | 1 | 1 | 5 | 0317 | No data |
| 23 | 0332 | 0336 | 0357D | 1- | 3 | | | | 1 | 1 | NF | |
| 23 | 0407 | 0409 | 0420 | 1- | 3 | 1 | | | 1 | 1 | NF | |
| 23 | 0427 | 0430 | 0450 | 1- | 3 | | | 1 | 1 | 1 | NF | |
| 23 | 0629 | 0632 | 0656 | 1- | 3 | | | | 1 | 1 | 0628 | X-ray |
| 23 | 0714 | 0718 | 0750 | 1- | 3 | | | | 1 | 2 | 0710E | No data |
| 23 | 0805 | 0808 | 0820 | 1- | 3 | | | | 1 | 2 | 0806 | X-ray |
| 23 | 0920 | 0924 | 0935 | 1- | 3 | | | | 1 | 3 | 0919 | X-ray |
| 23 | 0947 | 0952 | 1010 | 1- | 3 | | | | 1 | 1 | * | |
| 23 | 1115 | 1119 | 1133 | 1- | 3 | | 2 | 1 | | 4 | 1116 | X-ray |
| 23 | 1221 | 1225 | 1235 | 1- | 3 | | | 1 | 1 | 3 | 1221 | X-ray |
| 23 | 1309 | 1311 | | 1- | 3 | | | | | 3 | * | |
| 23 | 1346 | 1349 | | 1- | 3 | | | | 1 | 1 | 1344 | X-ray |
| 23 | 1445 | 1447 | 1510 | 1- | 3 | | | | 1 | 1 | * | |
| 23 | 1538 | 1541 | | 1- | 3 | | | | 1 | 1 | * | |
| 23 | 1608 | 1614 | 1715 | 1- | 3 | 1 | | | 1 | 1 | * | |
| 23 | 1650 | 1715 | 1745 | 1+ | 3 | 1 | | | | 1 | * | |
| 23 | 1857 | 1915 | 2000 | 1+ | 3 | 2 | | | | | 1856 | X-ray |
| 23 | 1945 | 1948 | 2015 | 1- | 3 | | | | | 3 | 1940 | X-ray |
| 24 | 0000 | 0003 | 0100 | 1- | 3 | | | 1 | 1 | | NF | |
| 24 | 0230 | 0236 | 0250 | 1- | 3 | | | | 1 | 1 | 0227 | 3994 |
| 24 | 0444 | 0449 | 0530 | 1- | 3 | | | 1 | 1 | 2 | 0444 | 3994 |
| 24 | 0706 | 0712 | 0720 | 1- | 3 | | | | 1 | 1 | 0705 | X-ray |
| 24 | 1449 | 1509 | 1600 | 1 | 3 | | | 1 | | 5 | * | |
| 24 | 1540 | 1547 | 1645 | 1- | 3 | | | 1 | | 1 | 1539 | X-ray |
| 24 | 1945 | 1949 | 1957U | 1 | 3 | 2 | | | | 7 | 1942 | X-ray |
| 24 | 2126 | 2133 | 2236 | 2 | 3 | | | 1 | | 6 | 2126 | X-ray |
| 24 | 2253 | 2305 | 0006 | 1- | 3 | | | 1 | | 2 | 2304 | 3994 |
| 25 | 0016 | 0023 | 0115 | 1- | 3 | 1 | | 1 | | 1 | 0020 | 3994 |
| 25 | 0124 | 0128 | 0250 | 1 | 3 | 1 | | 1 | 1 | 3 | 0125 | 3994 |
| 25 | 0412 | 0418 | 0545 | 2+ | 5 | 1 | | 1 | 1 | 5 | 0415 | 3994 |
| 25 | 0505 | 0505 | 0515 | 1- | 1 | | | | | 1 | 0515 | 3994 |
| 25 | 0605 | 0610 | 0624 | 1- | 1 | | | | 1 | | 0605 | X-ray |
| 25 | 0631 | 0635 | 0704 | 1- | 3 | | | | 1 | 1 | 0629 | X-ray |
| 25 | 0809 | 0815 | 0825 | 2+ | 3 | 1 | 1 | 1 | 1 | 2 | 0806 | X-ray |
| 25 | 1114 | | 1121 | 1- | 1 | | | 1 | | | 1112 | X-ray |
| 25 | 1220 | 1222 | 1230 | 1- | 1 | | | | | 1 | 1220 | X-ray |
| 25 | 1745 | 1747 | 1805 | 1- | 3 | | | | | 2 | 1745 | X-ray |
| 25 | 1820 | 1822 | 1833 | 1- | 1 | | | | | 1 | 1819 | X-ray |
| 25 | 2340 | 2350 | 0015 | 1- | 1 | | | 1 | | | 2339 | X-ray |
| 26 | 0015 | 0025 | 0108 | 1- | 1 | | | 1 | | | 0012 | X-ray |
| 26 | 0110 | 0114 | 0144 | 1- | 1 | | | 1 | | | 0107 | X-ray |
| 26 | 0218 | 0223 | 0718U | 3+ | 3 | | | 1 | 1 | 1 | 0214E | No data |
| 26 | 0235 | 0254 | 0300 | 2 | 3 | 2 | | | | 3 | 0232 | 3994 |
| 26 | 1242 | 1247 | 1300 | 1- | 3 | | 1 | | 1 | 2 | NF | |
| 26 | 1355 | 1400 | 1415 | 1- | 3 | | | | | 3 | 1356 | X-ray |
| 26 | 1506 | 1509 | 1612 | 2 | 3 | | | | | 5 | 1505 | X-ray |
| 26 | 1614 | 1615 | 1710 | 1 | 3 | 1 | | | | 5 | 1608 | X-ray |
| 26 | 1800 | 1802 | 1840 | 1+ | 3 | | | | | 2 | 1758 | X-ray |
| 26 | 1941 | 1947 | 2018 | 1- | 3 | 2 | | 1 | | 4 | 1926 | X-ray |
| 27 | 0304 | 0307 | 0325 | 1- | 3 | | | 1 | 1 | | NF | |
| 27 | 0452 | 0457 | 0549 | 1- | 3 | | | 1 | 1 | | 0448 | X-ray |
| 27 | 1551 | 1600 | 1615 | 1- | 3 | | | | | 2 | * | |
| 27 | 1830 | 1845 | 1915 | 1 | 3 | | | | | 2 | * | |
| 27 | 2037 | 2057 | 2145 | 1- | 1 | | | 1 | | | * | |
| 27 | 2334 | 2356 | 0054 | 1- | 1 | | | 1 | | | * | |
| 28 | 0104 | 0110 | 0136 | 1- | 1 | | | 1 | | | NF | |
| 28 | 0146 | 0156 | 0233 | 1- | 3 | | | 1 | | 1 | 0146 | X-ray |
| 28 | 0318 | 0328 | 0353 | 1- | 1 | | | 1 | | | 0317 | 4007 |

S U D D E N I O N O S P H E R I C D I S T U R B A N C E S

107
Nov 82

November 1982

| Day | Start (UT) | Max (UT) | End (UT) | Imp | Wide- spread Index | Number of Station Reports by Type | | | | | Known Flare | NOAA/SESC Region |
|-----|---------------|-------------|-------------|-----|--------------------------|-----------------------------------|-----|-----|------------|-----|----------------|---------------------|
| | | | | | | SWF | SEA | SPA | LF- SPA | SES | | |
| 28 | 0403 | 0414 | 0515 | 1 | 3 | | | 1 | 1 | 4 | 0402 | 4007 |
| 28 | 0522 | 0530 | 0640 | 1 | 3 | 1 | | 1 | 1 | 3 | 0528E | 4007 |
| 28 | 1233 | 1241 | 1257 | 1 | 1 | | 1 | | | | 1235 | X-ray |
| 28 | 1645 | 1656 | 1725 | 1- | 3 | | | | | 2 | 1639 | 3998 |
| 28 | 2001 | 2012 | 2024 | 1- | 3 | | | 1 | | 1 | 1957 | X-ray |
| 28 | 2306 | 2309 | 0007 | 1- | 1 | | | 1 | | | 2306 | 4007 |
| 29 | 0009 | 0015 | 0034 | 1- | 1 | | | 1 | | | 0009 | X-ray |
| 29 | 0034 | 0037 | 0100 | 1- | 1 | | | 1 | | | 0032 | X-ray |
| 29 | 0136 | 0140 | 0159 | 1- | 3 | | | 1 | 1 | | 0134 | X-ray |
| 29 | 0200 | 0216 | 0250 | 1- | 3 | | | 1 | 1 | | 0200 | 4007 |
| 29 | 1128 | 1140 | 1204 | 1 | 3 | | | | | 3 | * | |
| 29 | 1632 | 1715 | 1815 | 2 | 3 | | | | | 5 | NF | |
| 29 | 1745 | 1750 | 1824 | 1 | 3 | | | | | 2 | 1739 | X-ray |
| 29 | 2015 | 2021 | 2100 | 1- | 3 | | | | | 3 | * | |
| 29 | 2036 | 2042 | 2115 | 1- | 3 | | | | | 2 | * | |
| 29 | 2101 | 2110 | 2132 | 1- | 3 | 1 | | 1 | | 1 | 2102 | X-ray |
| 29 | 2136 | 2143 | 2251 | 1- | 5 | 1 | | 1 | | 7 | 2134 | X-ray |
| 29 | 2308 | 2342 | 0115 | 1- | 1 | | | 1 | | | 2306 | X-ray |
| 30 | 0236 | 0240 | 0256 | 1- | 3 | | | 1 | 1 | | NF | |
| 30 | 0409 | 0416 | 0519 | 1- | 3 | 1 | | 1 | 1 | 1 | 0412 | 4005 |
| 30 | 0738 | 0748 | 0830 | 1- | 3 | | | 1 | 1 | 1 | 0738 | X-ray |
| 30 | 0839 | 0848 | 1004 | 1- | 3 | | | 1 | 1 | 2 | 0837 | X-ray |
| 30 | 1052 | 1113 | 1142 | 1 | 1 | | 1 | | | | * | |
| 30 | 1201 | 1205 | 1230 | 1- | 1 | | | | | 1 | * | |
| 30 | 1430 | 1437 | 1507 | 1 | 1 | | 1 | | | | NF | |
| 30 | 2324 | 2330 | 2350 | 1- | 1 | | | | | 1 | 2324 | 4005 |

* = No Flare Patrol

NF = No Flare Reported

X-ray = Event observed only at X-ray wavelengths

OBSERVATORIES REPORTING FOR NOVEMBER 1982*

| | | | |
|--------------------------------------|----------|-------------------------------------|----------|
| Ayrshire, Scotland (AY) | SES | Maul, Hawaii, USA (MI) | SWF |
| Darmstadt, GFR (DA) | SWF | Mayfield Village, Ohio, USA (A28) | SES |
| Edenvale, South Africa (A52) | SES | Missoula, Montana, USA (A31) | SES, SWF |
| Farsta, Sweden (FS) | SES | Panska Ves, Czechoslovakia (PU) | SEA, SWF |
| Frenchtown, Montana, USA (A56) | SES | Paterson, New Jersey, USA (A46) | SES |
| Glenorchy, Tasmania, Australia (GH) | SES | Portage, Michigan, USA (A51) | SES |
| Hiraiso, Japan (HI) | SWF | Roswell, New Mexico, USA (RW) | SES |
| Hobart, Tasmania, Australia (TA) | SEA | San Antonio, Texas, USA (SA) | SES |
| Houston, Texas, USA (A50) | SES | Sao Paulo, Brazil (UM) | SES, SPA |
| Huancayo, Peru (HU) | SWF | Sofia, Bulgaria (SF) | SES |
| Inubo, Japan (IN) | SPA | St. Cloud, Minnesota, USA (SC) | SES |
| Juliusruh, GDR (JU) | SWF | Tavares, Florida, USA (A49) | SES |
| Kuhlungsborn, GDR (KU) | SPA, SEA | Trenton, New Jersey, (NJ) USA | SES |
| Lake Hiawatha, New Jersey, USA (A32) | SES | Tucson, Arizona, USA (A09) | SES |
| Latrobe, Pennsylvania, USA (A19) | SES | Upice, Czechoslovakia (UI) | SEA |
| Lintong, China (LT) | SPA | Valley Cottage, New York, USA (A01) | SES |
| Louisville, Kentucky, USA (A26) | SES | Walla Walla, Washington, USA (A55) | SES |

*Observations are not necessarily continuous for each reporting station.

SIDs by NOAA/SESC REGION

| 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 | |
|--------------------|---|---|---|---|---|---|---|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| Region Number | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3961 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3966 | | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3987 | | | | | | | | | | 4 | 1 | 4 | 5 | 3 | 3 | 4 | 4 | 1 | 3 | | 1 | | | | | | | | | | |
| 3990 | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | | |
| 3991 | | | | | | | | | | | | 2 | | | | | | | | | | | | | | | | | | | |
| 3994 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3995 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3997 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3998 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X-Ray | 1 | 2 | 2 | 3 | | 1 | | 8 | 2 | 2 | 3 | | 1 | | 1 | 1 | 2 | 2 | 4 | 4 | 2 | 9 | 8 | 4 | 8 | 7 | 1 | 3 | 7 | 2 | |
| No Reported Flares | | | 1 | 1 | | | | 4 | 3 | 2 | 2 | 4 | 2 | | | | | | 1 | 1 | | 3 | 1 | | | 1 | 1 | 1 | 1 | 2 | |
| No Flare Patrol | 1 | | | 2 | | | | 2 | 1 | 3 | | | | 1 | | 1 | 1 | | | | 4 | 3 | 6 | 1 | | | 4 | | 3 | 2 | |
| No Data | | 2 | 1 | | | | | | | | 1 | 2 | 3 | | 2 | 2 | | | | | 1 | 3 | 1 | 4 | | | 1 | | | | |
| Event Totals | 3 | 8 | 4 | 5 | 1 | 1 | | 14 | 6 | 12 | 7 | 13 | 11 | 4 | 6 | 8 | 7 | 7 | 11 | 10 | 22 | 17 | 21 | 9 | 12 | 10 | 6 | 9 | 12 | 8 | |

S O L A R R A D I O E M I S S I O N
S P E C T R A L O B S E R V A T I O N S

109
Nov 82

NOVEMBER 1982

| Observation Day (UT) | Start (UT) | End (UT) | Sta | Decimetric Band | | | Metric Band | | | Dekametric Band | | | Spectral Type | | | |
|-------------------------|---------------|-------------|--------|-----------------|-------------|--------------|---------------|-------------|--------------|-----------------|-------------|--------------|---------------|--------|---------|------|
| | | | | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | | | | |
| 01 | 0000 | 0328 | CULG | 0011.5 | 0031.0 | 1 | | | | | | | IN | | | |
| | | | CULG | | | | 0309.0 | 0326.0 | 1 | | | | | IN | | |
| | | | CULG | | | | 0439.0 | 0440.5 | 1 | | | | | DCIM,N | | |
| | 0649 | 1527 | WEIS | | | | | | | | | | | | | |
| | | | HARV | | | | 1337.0 | 1338.0 | 2 | | | | IIIG | | | |
| | | | HARV | | | | 1516.0 | | 2 | | | | IIIB | | | |
| | 2016 | 2400 | HARV | | | | 2015.0 | | 2 | | | | IIIG | | | |
| | | | CULG | 2018.0 | 2057.5 | 1 | | | | | | | IN | | | |
| | | | CULG | | | | 2056.0 | 2057.0 | 1 | | | | IIIG | | | |
| | | | | CULG | | | | 2229.0 | 2230.0 | 2 | 2229.0 | 2230.0 | 1 | IIIG | | |
| | | | | HARV | 2242.0 | 2335.0 | 1 | | | | | | | INW | | |
| | | | | HARV | 2253.0 | | 2 | | | | | | | IIIG | | |
| | | | | CULG | | | | 2258.0 | 2259.0 | 1 | 2258.0 | 2250.5 | 1 | IIIG | | |
| | | | | HARV | | | | 2312.0 | 2332.0 | 2 | | | | I | | |
| | | | | CULG | | | | 2333.0 | 2334.0 | 3 | 2333.5 | 2334.0 | 2 | IIIG | | |
| HARV | | | | | | | 2333.0 | | 1 | | | | IIIGW | | | |
| CULG | | | | | | | 2338.5 | 2339.0 | 2 | 2339.0 | | 1 | IIIB | | | |
| 02 | | | | 0000 | 0715 | CULG | | | | 0008.5 | 0009.0 | 2 | 0008.5 | 0009.0 | 1 | IIIG |
| | | | | | | CULG | | | | 0009.0 | 0010.0 | 1 | | | | IIIG |
| | CULG | 0223.0 | 0715.0 | | | 1 | 0247.0 | 0426.5 | 1 | | | | IS | | | |
| | 0615 | 1500 | BLEN | | | | | | | | | | | | | |
| | | | 0657 | 1525 | WEIS | | | | | | | | | | | |
| | | | CULG | | | | 0659.0 | 0659.5 | 1 | | | | IIIG | | | |
| | 1326 | 2350 | HARV | 1513.0 | 2320.0 | 1 | | | | | | | INW | | | |
| | | | HARV | | | | 1938.0 | 1940.0 | 2 | 1938.0 | 1939.0 | 2 | IIIG | | | |
| | | | PALE | | | | 1938.1 | 1939.6 | 1 | | | | III | | | |
| | 2016 | 2400 | CULG | 2118.5 | 2400.0 | 1 | | | | | | | IS | | | |
| | | | CULG | | | | 2237.0 | 2237.5 | 3 | | | | IIIB | | | |
| | | | HARV | | | | 2237.0 | | 2 | | | | IIIB | | | |
| | | | CULG | | | | 2244.0 | 2247.5 | 1 | | | | IIIN | | | |
| | | | CULG | | | | 2247.0 | | 2 | | | | IIIB | | | |
| | | | HARV | | | | 2247.0 | | 2 | | | | IIIG | | | |
| 03 | 0000 | 0715 | CULG | 0000.0 | 0625.0 | 1 | | | | | | | IS | | | |
| | | | CULG | | | | 0102.5 | 0119.5 | 1 | 0113.0 | 0114.5 | 1 | IIIN | | | |
| | | | CULG | | | | 0113.5 | | 2 | | | | IIIB | | | |
| | | | CULG | | | | 0118.5 | 0119.0 | 2 | 0119.0 | 0120.0 | 2 | IIIG | | | |
| | | | CULG | | | | 0311.5 | | 1 | | | | IIIB | | | |
| | | | LEAR | | | | 0316.8 | 0317.6 | 1 | | | | III | | | |
| | | | CULG | | | | 0317.0 | 0318.0 | 2 | 0317.0 | 0318.0 | 2 | IIIG | | | |
| | | | LEAR | | | | 0413.1 | 0414.1 | 1 | | | | III | | | |
| | | | CULG | | | | 0413.5 | | 2 | 0413.5 | | 1 | IIIB | | | |
| | | | CULG | | | | 0507.5 | 0508.0 | 2 | | | | IIIG | | | |
| | | | LEAR | | | | 0507.8 | 0508.0 | 1 | | | | III | | | |
| | | | 0615 | 1500 | BLEN | | | | | | | | | | | |
| | | | | | 0648 | 0746 | WEIS | | | | | | | | | |
| | | | | | 0753 | 1523 | WEIS | | | | | | | | | |
| | | | 1326 | 2350 | HARV | | | | 1532.0 | | 1 | | | | IIIG,UW | |
| HARV | | | | | | 1734.0 | 1735.0 | 3 | | | | IIIG,U | | | | |
| HARV | 1736.0 | 2242.0 | | | 1 | | | | | | | INW | | | | |
| 2016 | 2400 | LEAR | | | | 2338.1 | 2341.1 | 1 | | | | III | | | | |
| | | CULG | | | | 2338.5 | 2341.0 | 1 | 2338.5 | 2340.5 | 1 | IIIN | | | | |
| | | HARV | | | | 2340.0 | 2341.0 | 1 | | | | IIIGW | | | | |
| CULG | | | | 2340.5 | 2341.0 | 2 | | | | IIIG,U | | | | | | |
| 04 | 0000 | 0715 | LEAR | | | | 0116.8 | 0117.1 | 1 | | | | III | | | |
| | | | CULG | | | | 0117.0 | | 2 | 0117.5 | | 1 | IIIB | | | |
| | | | CULG | | | | 0220.5 | | 1 | | | | IIIB | | | |
| | | | CULG | | | | 0334.0 | 0334.5 | 3 | 0334.5 | 0335.0 | 2 | IIIG | | | |
| | | | CULG | | | | 0334.0 | 0335.0 | 1 | | | | IIIG,U | | | |
| | | | LEAR | | | | 0334.3 | 0334.6 | 1 | | | | III | | | |
| | | | CULG | 0538.5 | | 1 | 0538.5 | | 3 | | | | IIIG,U | | | |
| | | | LEAR | | | | 0538.5 | 0546.3 | 2 | | | | III | | | |
| | | | CULG | | | | 0539.5 | 0541.5 | 2 | | | | IIIN | | | |
| | | | CULG | 0542.5 | 0543.0 | 1 | 0542.5 | 0544.0 | 3 | 0542.5 | 0544.0 | 2 | IIIG,U,V | | | |
| | | | CULG | | | | 0546.0 | | 3 | | | | IIIB | | | |
| | | | 0615 | 1500 | BLEN | | | | | | | | | | | |
| | | | | | 0648 | 1523 | WEIS | | | | | | | | | |
| | | | | | 1327 | 2340 | HARV | | | | 1608.0 | 1609.0 | 2 | 1608.0 | 1609.0 | 1 |
| | | | HARV | | | | 1737.0 | | 2 | | | | | IIIB | | |

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

NOVEMBER 1982

| Day | Observation | | Sta | Decimetric Band | | | Metric Band | | | Dekametric Band | | | Spectral Type |
|-----|-------------|----------|----------------------|-----------------|----------|-----------|-------------|----------|-----------|-----------------|----------|-----------|---------------|
| | Start (UT) | End (UT) | | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | |
| 04 | 2016 | 2400 | CULG HARV | | | | 2044.0 | 2214.0 | 1 | | | | IN |
| 05 | 0000 | 0715 | CULG LEAR | | | | 0625.5 | 0628.5 | 1 | | | | IIIG |
| | 0650 | 0723 | WEIS CULG LEAR | | | | 0626.1 | 0629.1 | 1 | | | | III |
| | 0615 | 1500 | BLEN | | | | 0710.5 | 0712.0 | 1 | | | | IIIG |
| | 1436 | 1519 | WEIS | | | | 0710.6 | 0711.6 | 1 | | | | III |
| | 1326 | 2400 | HARV | | | | 0911.4 | 0911.6 | 2 | | | | IIIG |
| | 2016 | 2400 | CULG HARV | | | | 2100.0 | | 1 | | | | IIIB |
| | | | | | | | 2204.0 | 2205.0 | 1 | | | | IIIG |
| | | | | | | | 2204.0 | 2205.0 | 2 | | | | IIIG |
| 06 | 0000 | 0715 | CULG | 0020.5 | | 1 | | | | | | | IIIB |
| | | | LEAR | | | | 0408.8 | 0409.5 | 1 | | | | III |
| | | | CULG | | | | 0409.0 | 0409.5 | 3 | | | | IIIG,U |
| | | | LEAR | | | | 0725.5 | 0725.8 | 1 | | | | III |
| | 0653 | 1518 | WEIS | | | | 0726.4 | 0726.6 | 1 | | | | IIIB |
| | 0615 | 1500 | BLEN | | | | 0903.9 | 0910.0 | 2 | | | | IIIU |
| | | | WEIS | 0907.2 | 0907.3 | 1 | | | | | | | U |
| | | | WEIS | 0908.9 | 0909.0 | 1 | | | | | | | DCIM |
| | 1331 | 2345 | HARV | | | | 1507.0 | | 2 | | | | IIIG |
| | | | WEIS | | | | 1507.3 | 1508.6 | 1 | | | | IIIG |
| | | | HARV | | | | 1853.0 | 1855.0 | 3 | 1853.0 | 1855.0 | 2 | IIIG |
| | | | HARV | | | | 1910.0 | 2026.0 | 1 | | | | IN |
| | | | HARV | 1922.0 | 1923.0 | 2 | 1922.0 | 1923.0 | 3 | 1922.0 | 1923.0 | 2 | IIIGG,V |
| | | | PALE | | | | 1922.3 | 1923.1 | 2 | | | | III |
| | | | HARV | | | | 1930.0 | | 1 | | | | IIIBW |
| | | | HARV | 1936.0 | | 1 | 1935.0 | 1937.0 | 3 | | | | IIIGG |
| | | | HARV | | | | 1955.0 | | 2 | | | | IIIB |
| | | | HARV | 2009.0 | | 2 | 2009.0 | 2012.0 | 2 | | | | IIIGG |
| | | | HARV | | | | 2031.0 | 2032.0 | 2 | | | | IIIG |
| | 2016 | 2400 | CULG | | | | 2031.5 | | 2 | | | | IIIG |
| | | | HARV | | | | 2045.0 | 2046.0 | 2 | | | | IIIG |
| | | | CULG | | | | 2045.5 | 2046.0 | 3 | | | | IIIG |
| 07 | 0000 | 0715 | CULG | | | | 0006.0 | 0145.0 | | | | | IS,W,C |
| | | | LEAR | | | | 0052.8 | 0053.3 | 1 | | | | III |
| | | | LEAR | | | | 0120.8 | 0206.0 | 1 | | | | CONT |
| | 0615 | 1010 | BLEN | | | | | | | | | | |
| | 0654 | 1419 | WEIS | | | | | | | | | | |
| | 1335 | 2340 | HARV | | | | 1803.0 | | 1 | | | | IIIBW |
| | | | HARV | | | | 1828.0 | | 1 | | | | IIIB |
| | | | HARV | | | | 1856.0 | 1857.0 | 2 | 1856.0 | 1857.0 | 2 | IIIG |
| | 2017 | 2400 | CULG | 2121.5 | 2347.0 | 1 | | | | | | | IN |
| 08 | 0000 | 0715 | CULG | 0036.0 | 0050.5 | 1 | | | | | | | IN |
| | | | CULG | 0124.5 | 0125.0 | 2 | | | | | | | DCIM |
| | | | CULG | 0407.0 | | 1 | | | | | | | IIIB |
| | | | CULG | 0445.5 | 0446.0 | 1 | 0445.5 | 0446.0 | 1 | | | | IIIG |
| | | | CULG | 0449.5 | 0450.5 | 1 | | | | | | | DCIM |
| | | | CULG | 0450.0 | | 2 | 0450.0 | | 2 | | | | IIIG |
| | 0820 | 1500 | BLEN | 1213.6 | 1213.7 | 2 | | | | | | | III,RS |
| | 1332 | 2340 | HARV | | | | 1339.0 | 1525.0 | 1 | | | | IN |
| | 1417 | 1515 | WEIS | | | | | | | | | | |
| | | | HARV | 1621.0 | 2325.0 | 1 | | | | | | | INW |
| | | | HARV | | | | 1713.0 | 2331.0 | 1 | | | | IN |
| | | | HARV | 1714.0 | 1715.0 | 1 | | | | | | | IIIG |
| | | | HARV | | | | 1837.0 | | 1 | | | | IIIGW |
| | | | HARV | | | | 1845.0 | 1846.0 | 1 | 1845.0 | 1846.0 | 1 | IIIGW |
| | | | HARV | | | | 1937.0 | 1938.0 | 2 | | | | IIIG |
| | 2016 | 2400 | CULG | 2016.0 | 2131.0 | 1 | | | | | | | IS |
| | | | CULG | 2235.0 | 2400.0 | 1 | 2222.0 | 2320.0 | 1 | | | | IS,C |
| | | | LEAR | | | | 2235.0 | 2327.0 | 1 | | | | CONT |
| 09 | 0000 | 0716 | CULG | 0000.0 | 0021.0 | 1 | | | | 0055.0 | 0149.0 | | IS |
| | | | CULG | | | | | | | | | | SWF,W |
| | | | CULG | 0108.0 | 0407.0 | 1 | 0122.0 | 0303.0 | 2 | | | | IS,C,DC |
| | | | CULG | | | | 0125.0 | 0203.0 | | | | | IIIS,W |
| | | | CULG | | | | 0131.0 | 0138.5 | 2 | 0131.0 | 0138.5 | 1 | IIIN |

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

111
Nov 82

NOVEMBER 1982

| Day | Observation | | Sta | Decimetric Band | | | Metric Band | | | Dekametric Band | | | Spectral Type | | |
|------|-------------|----------|--------|-----------------|----------|-----------|-------------|----------|-----------|-----------------|----------|-----------|---------------|--------|-------|
| | Start (UT) | End (UT) | | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | | | |
| 09 | | | CULG | | | | 0143.0 | 0155.0 | 1 | | | | POSS II | | |
| | | | CULG | | | | 0303.0 | 0655.0 | 1 | | | | IN | | |
| | 0615 | 1500 | BLEN | | | | | | | | | | | | |
| | | | LEAR | | | | 0802.1 | 0802.3 | 1 | | | | III | | |
| | 0745 | 1339 | WEIS | | | | 0918.0 | 1245.0 | 2 | | | | IN | | |
| | 1342 | 2340 | HARV | | | | 1641.0 | 1643.0 | 1 | | | | IIIGW | | |
| | | | HARV | | | | 1648.0 | 2332.0 | 1 | | | | INW | | |
| | | | HARV | 1657.0 | 1928.0 | 1 | | | | | | | INW | | |
| | | | HARV | 1928.0 | 2140.0 | 1 | | | | | | | I | | |
| | | | HARV | 2001.0 | 2002.0 | 1 | | | | | | | IIIG | | |
| 2016 | 2400 | CULG | 2016.0 | 2148.5 | 1 | | | | | | | | IS | | |
| | | HARV | 2140.0 | 2320.0 | 1 | | | | | | | | INW | | |
| 10 | 0000 | 0716 | CULG | | | | 0102.0 | | 2 | | | | IIIB,U | | |
| | | | CULG | | | | 0249.5 | 0250.5 | 1 | | | | IIIGG | | |
| | | | CULG | 0601.0 | 0602.0 | 2 | | | | | | | UNCLF | | |
| | | | CULG | 0605.0 | 0701.5 | 1 | | | | | | | IS | | |
| | 0750 | 1048 | WEIS | | | | | | | | | | | | |
| | 1053 | 1512 | WEIS | 1100.0 | 1300.0 | 1 | | | | | | | IN | | |
| | 0615 | 1500 | BLEN | | | | 1207.9 | 1315.0 | 2 | | | | | I | |
| | | | WEIS | | | | 1305.7 | 1307.8 | 2 | | | | | IIIG | |
| | 1342 | 2340 | HARV | | | | 1439.0 | 1934.0 | 2 | | | | | IIIN | |
| | | | HARV | 1450.0 | 1452.0 | 1 | | | | | | | | IIIG | |
| | | | HARV | 1502.0 | 2140.0 | 1 | | | | | | | | INW | |
| | | | HARV | | | | 1706.0 | 1714.0 | 1 | | | | | | IW |
| | | | HARV | | | | 1709.0 | 1714.0 | 2 | | | | | | IIIGG |
| | | | HARV | | | | 1714.0 | 1751.0 | 2 | | | | | | IC |
| | | | HARV | | | | 1721.0 | 1722.0 | 2 | | | | | | IIIG |
| | | | HARV | | | | 1751.0 | 1944.0 | 1 | | | | | | I |
| | | | HARV | | | | 1847.0 | | 2 | | | | | | IIIG |
| | | | HARV | | | | 1922.0 | 1925.0 | 2 | | | | | | IIIGG |
| | | | HARV | | | | 1937.0 | 2025.0 | 2 | | | | | | IIIS |
| | | | | | HARV | | | | 1942.0 | | 2 | 1942.0 | | 1 | |
| | | | HARV | | | | 1944.0 | 1959.0 | 2 | | | | | I | |
| | | | HARV | | | | 1950.0 | 2120.0 | 1 | | | | | I | |
| | 2020 | 2400 | CULG | 2020.0 | 2240.0 | 1 | | | | | | | | IS | |
| | | | HARV | 2023.0 | | 1 | 2023.0 | | 2 | 2023.0 | | 1 | | IIIG | |
| | | | HARV | | | | 2027.0 | 2140.0 | 1 | | | | | IIIN | |
| | | | CULG | | | | 2059.0 | 2156.5 | | | | | | IIIS,W | |
| | | | HARV | 2140.0 | 2240.0 | 1 | | | | | | | | I | |
| | | | HARV | | | | 2258.0 | 2300.0 | 2 | | | | | | IIIGG |
| | | | CULG | | | | 2258.5 | | 2 | | | | | | IIIB |
| | | | CULG | 2259.0 | 2259.5 | 1 | 2258.5 | 2301.0 | 1 | | | | | | IIIG |
| CULG | 2328.5 | 2400.0 | 1 | | | | | | | | | IN | | | |
| 11 | 0000 | 0716 | CULG | 0000.0 | 0148.5 | 1 | | | | | | | IS | | |
| | | | CULG | | | | 0018.0 | | 2 | | | | | IIIB,U | |
| | | | CULG | | | | 0139.0 | 0139.5 | 3 | 0139.0 | 0139.5 | 1 | | IIIG | |
| | | | LEAR | | | | 0139.0 | 0139.5 | 1 | | | | III | | |
| | | | CULG | 0148.5 | 0716.0 | 1 | | | | | | | IN | | |
| | | | CULG | | | | 0603.5 | | 1 | | | | IIIB | | |
| | 0703 | 1242 | WEIS | | | | | | | | | | | | |
| | 0615 | 1450 | BLEN | | | | 0804.0 | 1400.0 | 1 | | | | I,N | | |
| | 1300 | 1511 | WEIS | | | | | | | | | | | | |
| | 1342 | 2345 | HARV | | | | 1342.0 | 1820.0 | 1 | | | | | IN | |
| | | | HARV | | | | 1531.0 | 2003.0 | 1 | | | | | IIINW | |
| | | | HARV | 1633.0 | | 1 | 1633.0 | | 3 | | | | IIIG | | |
| | | | CULG | 2016.0 | 2018.0 | 1 | | | | | | | | IN | |
| | 2016 | 2400 | CULG | | | | 2016.0 | 2052.5 | | | | | | IIIS,W | |
| | | | CULG | | | | 2022.0 | 2349.0 | 1 | | | | | IIIN | |
| | | | CULG | | | | 2032.0 | 2036.0 | 1 | | | | | IS | |
| | | | HARV | | | | 2136.0 | 2332.0 | 1 | | | | | IN | |
| | | | CULG | 2235.0 | 2400.0 | 1 | 2341.5 | 2400.0 | 1 | | | | | IS | |
| 12 | 0000 | 0715 | CULG | 0000.0 | 0559.5 | 1 | 0000.0 | 0215.0 | 1 | | | | IS,DC | | |
| | | | CULG | | | | 0012.5 | 0115.0 | | | | | | IIIS,W | |
| | | | LEAR | | | | 0019.0 | 0100.0 | 1 | | | | | CONT | |
| | | | CULG | | | | 0132.5 | 0134.5 | 2 | | | | | IIIGG | |
| | | | LEAR | | | | 0132.8 | 0133.3 | 1 | | | | | III | |
| | | | LEAR | | | | 0133.3 | 0536.3 | 1 | | | | | CONT | |
| | | | CULG | | | | 0159.5 | 0201.0 | 3 | | | | | | IIIG |

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

NOVEMBER 1982

| Observation | | | Decimetric Band | | | Metric Band | | | Dekametric Band | | | Spectral Type |
|-------------|------------|----------|-----------------|----------|-----------|-------------|----------|-----------|-----------------|----------|-----------|---------------|
| Day | Start (UT) | End (UT) | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | |
| 12 | | | | | | 0213.0 | 0715.0 | 1 | | | | IIIN |
| | | | | | | 0215.0 | 0300.0 | | | | | IIIS,W |
| | | | | | | 0215.0 | 0533.0 | 2 | | | | IS,C,DC |
| | | | | | | | | | 0359.0 | 0418.0 | | SWF,W |
| | | | 0515.5 | 0543.0 | 2 | | | | | | | DCIM,N |
| | | | | | | 0533.0 | 0715.0 | 3 | | | | IS,C,DC |
| | | | | | | 0536.3 | 0542.1 | 1 | | | | II |
| | | | | | | 0536.3 | 0957.0 | 2 | | | | IV |
| | | | | | | 0536.5 | 0554.0 | 2 | | | | POSS II |
| | | | 0546.0 | 0554.5 | 2 | | | | | | | CONT |
| 0700 | 1510 | | | | | 0700.0E | 1510.0D | 2 | | | | I,N |
| 0703 | 1448 | | | | | 0709.0 | 1436.0 | 2 | | | | I/IIIN |
| | | | | | | 0945.0 | 0946.5 | 1 | | | | III |
| | | | | | | 1200.3 | 0045.0 | 5 | | | | III |
| 1342 | 2345 | | | | | 1343.0 | 1800.0 | 2 | | | | IC |
| | | | 1431.4 | 1431.4 | 2 | | | | | | | DCIM |
| | | | | | | 1434.7 | 1434.9 | 1 | | | | IIIGG |
| | | | | | | 1446.7 | 1454.8 | 2 | | | | IIIGG |
| | | | | | | 1508.0 | 1509.0 | 3 | | | | IIIG |
| | | | | | | 1750.0 | 1754.0 | 2 | | | | UNCL |
| | | | | | | 1800.0 | 2333.0 | 1 | | | | IC |
| | | | 2031.0 | 2032.0 | 1 | | | | | | | IIIG |
| | | | 2037.0 | | 1 | | | | | | | IIIG |
| | | | 2051.0 | 2052.0 | 2 | | | | | | | IIIG |
| | | | 2126.0 | 2127.0 | 2 | | | | | | | DCIM |
| | | | 2241.0 | 2242.0 | 2 | | | | | | | IIIG |
| 13 | 0000 | 0716 | | | | | | | 0009.0 | 0014.0 | | SWF,W |
| | | | | | | 0034.0 | 0251.0 | | | | | IS,W |
| | | | 0037.5 | 0038.0 | 2 | | | | | | | IIIG |
| | | | 0145.0 | 0357.0 | 1 | | | | | | | IIIN |
| | | | 0211.5 | 0559.0 | 1 | | | | | | | DCIM |
| | | | 0236.0 | 0237.0 | 3 | 0236.0 | 0238.0 | 3 | | | | IIIG,V |
| | | | 0253.0 | 0537.6 | 1 | | | | | | | IN |
| | | | | | | 0257.0 | 0500.0 | 2 | | | | IS,C,DC |
| | | | | | | 0258.0 | 0259.0 | 2 | | | | UNCLF |
| | | | | | | 0308.5 | 0318.0 | 1 | | | | POSS II |
| | | | | | | 0312.0 | 0319.0 | 1 | | | | II |
| | | | | | | 0319.0 | 0845.0 | 1 | | | | IV |
| | | | | | | 0500.0 | 0716.0 | 1 | | | | IS,C,DC |
| 0735 | 1505 | | | | | 0735.0E | 1011.0 | 1 | | | | I |
| | | | 0813.3 | 0813.4 | 1 | | | | | | | DCIM |
| | | | 1015.4 | 1015.4 | 2 | 1015.4 | 1015.4 | 2 | | | | IIIB |
| | | | 1115.8 | 1115.8 | 1 | 1115.8 | 1115.8 | 2 | | | | IIIB |
| 1137 | 1508 | | | | | 1156.4 | 1156.8 | 1 | | | | IIIG |
| 1326 | 2345 | | 1333.0 | 2015.0 | 1 | | | | | | | IN |
| 1342 | 2345 | | | | | 1342.0 | 1705.0 | 2 | | | | I |
| | | | | | | 1657.0 | | 2 | | | | IIIB |
| | | | | | | 1705.0 | 2130.0 | 1 | | | | IN |
| | | | | | | 1758.0 | 1759.0 | 1 | 1758.0 | | 1 | IIIG |
| 2016 | 2400 | | | | | 2016.0 | 2400.0 | | | | | IIIS,W |
| | | | | | | 2021.5 | 2350.5 | 1 | | | | IIIN |
| | | | | | | 2022.0 | 2400.0 | 1 | | | | IS,DC |
| | | | 2022.0 | 2400.0 | 1 | | | | | | | IN |
| | | | | | | 2130.0 | 2333.0 | 2 | | | | IC |
| | | | | | | 2231.0 | 1025.0 | 1 | | | | CONT |
| 14 | | | | | | 0000.0 | 0716.0 | | | | | IIIS,W |
| | | | 0000.0 | 0708.0 | 1 | | | | | | | IN |
| 0000 | 0716 | | | | | 0000.0 | 0716.0 | 1 | | | | IS,C,DC |
| | | | | | | 0003.5 | 0716.0 | 1 | | | | IIIN |
| | | | | | | | | | 0020.0 | 0039.0 | 1 | SWF |
| | | | | | | 0034.5 | 0716.0 | 1 | | | | RSDP,N |
| | | | | | | 0044.5 | 0642.0 | 2 | | | | IIIN |
| | | | | | | 0710.1 | 1507.0 | 3 | | | | IS,DC |
| 0705 | 1507 | | | | | 0734.0 | 1507.0 | 2 | | | | IIIS |
| 0735 | 1505 | | | | | 0755.0 | 1505.0D | 3 | | | | I,C |
| 1342 | 2345 | | | | | 1342.0 | 2340.0 | 3 | | | | IC |
| | | | | | | 1429.0 | 2020.0 | 2 | 1611.0 | 2020.0 | 2 | IIIS |
| | | | 1857.0 | | 1 | 1857.0 | 1902.0 | 2 | 1859.0 | 1902.0 | 2 | IIIGG,U |
| | | | | | | 1859.8 | 1902.3 | 2 | | | | III |

S O L A R R A D I O E M I S S I O N
S P E C T R A L O B S E R V A T I O N S

NOVEMBER 1982

| Day | Observation | | Sta | Decimetric Band | | | Metric Band | | | Dekametric Band | | | Spectral Type |
|-----|-------------|----------|------|-----------------|----------|-----------|-------------|----------|-----------|-----------------|----------|-----------|---------------|
| | Start (UT) | End (UT) | | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | |
| 14 | | | PALE | | | | 1904.8 | 0323.0 | 2 | | | | CONT |
| | | | CULG | 2016.5 | 2132.0 | 2 | | | | | | | IIIS |
| | 2016 | 2400 | CULG | 2016.5 | 2400.0 | 1 | 2016.5 | 2400.0 | 2 | | | | IS,C |
| | | | HARV | | | | 2020.0 | 2257.0 | 2 | 2020.0 | 2128.0 | 2 | IIIN |
| | | | CULG | | | | 2027.0 | 2400.0 | 1 | | | | RSDP,N |
| | | | CULG | | | | 2132.0 | 2400.0 | 1 | | | | IIIS |
| | | | LEAR | | | | 2212.0 | 1026.0 | 1 | | | | CONT |
| | | | CULG | 2214.0 | 2349.0 | 2 | | | | | | | IIIN |
| | | CULG | | | | 2256.5 | | 3 | | | | IIIB | |
| 15 | | | CULG | | | | 0000.0 | 0714.0 | 1 | | | | S,RSDP |
| | | | CULG | | | | 0000.0 | 0716.5 | | | | | IIIS,W |
| | | | CULG | | | | 0000.0 | 0716.5 | 1 | | | | IIIN |
| | 0000 | 0716 | CULG | 0000.0 | 0512.0 | 1 | 0000.0 | 0716.5 | 2 | | | | IS,C |
| | | | CULG | | | | 0003.0 | | 3 | | | | IIIB |
| | | | CULG | | | | 0016.0 | 0712.5 | 2 | | | | IIIN |
| | | | CULG | 0202.0 | 0243.0 | 1 | | | | 0200.0 | 0215.0 | 2 | SWF |
| | | | CULG | | | | 0549.0 | | 3 | | | | CONT |
| | | | CULG | | | | 0712.0 | 1310.0 | 2 | | | | IIIB |
| | 0707 | 1310 | WEIS | | | | 0734.0 | 1309.0 | 2 | | | | IS,DC |
| | 0735 | 1500 | BLEN | 1223.3 | 1223.4 | 2 | | | | | | | IIIS |
| | 1342 | 2345 | HARV | | | | 1342.0 | 2210.0 | 2 | | | | IIIG |
| | | | HARV | | | | 1404.0 | 2134.0 | 1 | | | | IC,DC |
| | | | HARV | 1427.0 | | 1 | | | | | | | IIIN |
| | | | HARV | 1833.0 | 2125.0 | 2 | | | | | | | I |
| | | | HARV | 1948.0 | 1949.0 | 2 | | | | | | | IIIN |
| | | | CULG | 2016.5 | 2400.0 | 1 | | | | | | | IIIGG |
| | | | CULG | | | | 2016.5 | 2400.0 | 2 | | | | IIIS |
| | 2016 | 2400 | CULG | | | | 2017.5 | 2302.0 | 2 | | | | IS,C,DC |
| | | | CULG | | | | 2017.5 | 2349.0 | | | | | IIIN |
| | | LEAR | | | | 2209.0 | 1026.0 | 1 | | | | RSDP,N | |
| | | HARV | | | | 2210.0 | 2321.0 | 1 | | | | CONT | |
| | | CULG | | | | 2306.5 | | 3 | | | | IN | |
| | | | | | | | | | | | | IIIB | |
| 16 | | | CULG | | | | 0000.0 | 0716.5 | 1 | | | | IS,C,DC |
| | 0000 | 0716 | CULG | | | | 0000.0 | 0716.5 | | | | | IIIS,W |
| | | | CULG | | | | 0003.5 | 0711.5 | 1 | | | | RSDP,N |
| | | | CULG | | | | 0004.5 | 0716.0 | 1 | | | | IIIN |
| | | | CULG | | | | 0016.5 | 0636.5 | 2 | 0016.5 | 0418.0 | 1 | IIIN |
| | 0710 | 0840 | WEIS | | | | 0739.0 | 1500.0 | 1 | | | | IIIN |
| | 0740 | 1135 | BLEN | | | | | | | | | | I |
| | 0919 | 1504 | WEIS | | | | | | | | | | IIIG |
| | 1342 | 2345 | HARV | | | | 1343.0 | 2328.0 | 1 | | | | IIIN |
| | | | HARV | 1615.0 | 1616.0 | 2 | | | | 1630.0 | 2012.0 | 1 | IIIN |
| | | | HARV | | | | 1630.0 | 2012.0 | 1 | | | | IIIG |
| | 2017 | 2400 | HARV | 1917.0 | | 1 | | | | | | | IIIS,W |
| | | | CULG | | | | 2017.0 | 2210.0 | | | | | IIIN |
| | | | CULG | | | | 2018.0 | 2127.0 | 1 | | | | IN |
| | | CULG | | | | 2020.0 | 2341.0 | 1 | | | | RSDP | |
| | | LEAR | | | | 2349.0 | 0142.0 | 1 | | | | CONT | |
| 17 | | | CULG | | | | 0311.5 | | 1 | | | | IIIB |
| | 0000 | 0654 | CULG | | | | 0502.0 | 0640.0 | 1 | | | | IN |
| | 0711 | 1502 | WEIS | | | | 0859.8 | 0859.9 | 2 | | | | DP |
| | 1342 | 2340 | HARV | | | | 1343.0 | 1813.0 | 1 | | | | INW |
| | 2148 | 2400 | CULG | 2306.5 | | 1 | 2306.5 | | 1 | | | | IIIB |
| | | | | | | | | | | | | | |
| 18 | | | CULG | 0058.0 | 0141.0 | 1 | | | | | | | IIIN |
| | | | CULG | 0456.0 | 0458.5 | 1 | | | | | | | DCIM,N |
| | | | CULG | | | | 0500.5 | 0508.0 | 2 | | | | II |
| | | | LEAR | | | | 0501.6 | 0503.5 | 1 | | | | II |
| | | | CULG | 0504.5 | 0506.0 | 1 | | | | | | | IV |
| | | | CULG | 0611.5 | | 2 | | | | | | | IIIG |
| | 0713 | 1117 | WEIS | | | | | | | | | | |
| | 1124 | 1521 | WEIS | | | | 1154.4 | 1154.9 | 2 | | | | IIIG |
| | 1342 | 2340 | HARV | | | | 1355.0 | 1356.0 | 1 | | | | IIIGW |
| | | | HARV | 1418.0 | 1419.0 | 1 | | | | | | | IIIGW |
| | | | HARV | | | | 1419.0 | 1420.0 | 1 | | | | IIIGW |
| | | HARV | | | | 1545.0 | 1938.0 | 1 | | | | INW | |

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

NOVEMBER 1982

| Day | Observation | | Sta | Decimetric Band | | | Metric Band | | | Dekametric Band | | | Spectral Type |
|-----|-------------|----------|--------|-----------------|----------|-----------|-------------|----------|-----------|-----------------|----------|-----------|---------------|
| | Start (UT) | End (UT) | | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | |
| 18 | | | HARV | | | | 1813.0 | | 1 | | | | 111B |
| | | | HARV | | | | 1828.0 | | 2 | | | | 111B |
| | | | HARV | 1930.0 | 1931.0 | 1 | 1930.0 | | 1 | | | | 111G |
| | | | HARV | | | | 1938.0 | 2117.0 | 2 | | | | I |
| | | | HARV | | | | 2016.0 | 2018.0 | 2 | | | | 111G |
| | 2017 | 2400 | CULG | | | | 2017.0 | 2139.0 | | | | | IS |
| | | | CULG | 2017.5 | 2018.0 | 1 | 2017.5 | 2018.0 | 2 | | | | 111G |
| | | | CULG | 2021.0 | | 2 | 2021.0 | 2021.5 | 3 | | | | 111G,U |
| | | | HARV | | | | 2021.0 | | 2 | | | | 111G |
| | | | CULG | | | | 2116.5 | | 1 | | | | 111B,V |
| | | | HARV | | | | 2117.0 | 2329.0 | 1 | | | | I |
| | | | CULG | 2122.0 | 2123.0 | 1 | 2122.0 | 2123.0 | 1 | | | | 111G |
| | | | HARV | 2122.0 | 2123.0 | 1 | 2122.0 | | 1 | | | | 111G |
| | | CULG | | | | 2139.0 | 2356.0 | 1 | | | | IN | |
| 19 | 0000 | 0717 | CULG | 0000.0 | 0149.0 | 1 | 0000.0 | 0242.5 | 1 | | | | IN |
| | | | CULG | | | | 0435.5 | 0538.0 | 1 | | | | 111N |
| | | | LEAR | | | | 0516.8 | 0517.1 | 1 | | | | 111 |
| | 0714 | 1500 | WEIS | | | | 0927.0 | 1023.0 | 1 | | | | IS |
| | | | WEIS | | | | 1049.7 | 1050.9 | 1 | | | | 111GG |
| | | | WEIS | | | | 1114.2 | 1123.2 | 2 | | | | 111GG |
| | 1342 | 2340 | HARV | | | | 1534.0 | 2128.0 | 1 | | | | 111N |
| | | | HARV | 1538.0 | 1555.0 | 1 | | | | | | | INW |
| | | | HARV | | | | 1758.0 | 1759.0 | 2 | 1758.0 | 1759.0 | 2 | 111G |
| | | | HARV | | | | 1902.0 | | 2 | 1902.0 | | 1 | 111G |
| | | | HARV | 1921.0 | 2313.0 | 1 | | | | | | | IN |
| | | | HARV | | | | 1957.0 | 1958.0 | 2 | 1957.0 | | 2 | 111G |
| | | | PALE | | | | 1957.3 | 1958.0 | 1 | | | | V |
| | | | HARV | | | | 2010.0 | 2014.0 | 1 | | | | 111GG |
| | 2019 | 2400 | CULG | 2027.0 | 2311.0 | 2 | | | | | | | IN |
| | | | HARV | | | | 2030.0 | 2033.0 | 1 | | | | 111GG |
| | | | CULG | | | | 2030.5 | 2359.0 | 1 | | | | 111N |
| | | | HARV | | | | 2037.0 | 2038.0 | 2 | 2037.0 | | 2 | 111G |
| | | | PALE | | | | 2037.3 | 2037.6 | 1 | | | | V |
| | | | CULG | | | | 2037.5 | 2038.0 | 3 | | | | 111G,V |
| | | | CULG | 2118.0 | 2118.5 | 2 | 2118.0 | 2118.5 | 2 | | | | 111G |
| | | | HARV | | | | 2118.0 | | 2 | | | | 111G |
| | | | HARV | 2123.0 | | 1 | 2123.0 | | 1 | | | | 111G |
| | | HARV | | | | 2309.0 | 2311.0 | 2 | | | | 111GG | |
| | | CULG | 2315.0 | 2316.0 | 3 | 2315.0 | 2316.0 | 3 | | | | 111G | |
| | | HARV | | | | 2315.0 | 2316.0 | 2 | | | | 111GG | |
| | | HARV | 2319.0 | | 2 | 2319.0 | | 1 | | | | 111G | |
| | | LEAR | | | | 2350.6 | 2350.8 | 1 | | | | 111 | |
| 20 | 0000 | 0717 | CULG | | | | 0110.0 | 0112.0 | 1 | | | | 111G |
| | | | LEAR | | | | 0111.8 | 0112.0 | 1 | | | | 111 |
| | 0716 | 1459 | WEIS | | | | | | | | | | |
| | 1342 | 2340 | HARV | | | | 1543.0 | 2236.0 | 1 | | | | INW |
| | | | HARV | | | | 1619.0 | 1621.0 | 1 | | | | 111G |
| | | | HARV | | | | 1859.0 | 1900.0 | 2 | | | | 111G |
| | | | HARV | | | | 1939.0 | | 2 | | | | 111G |
| | | | HARV | | | | 1948.0 | | 1 | | | | 111GW |
| | | | HARV | 1955.0 | | 1 | 1954.0 | 1955.0 | 2 | | | | 111GG |
| | 2018 | 2400 | CULG | 2020.0 | 2043.0 | 1 | | | | | | | IN |
| | | | HARV | 2038.0 | | 1 | | | | | | | 111G |
| | | | CULG | 2043.0 | 2235.0 | 1 | | | | | | | IS |
| | | | HARV | 2054.0 | 2056.0 | 1 | | | | | | | 111GW |
| | | | CULG | 2235.0 | 2400.0 | 1 | 2236.0 | 2400.0 | 2 | | | | IS,C,DC |
| | | | CULG | | | | 2249.0 | 2358.5 | 1 | | | | 111N |
| | | | HARV | 2253.0 | 2329.0 | 2 | 2236.0 | 2341.0 | 2 | | | | IC |
| | | | CULG | | | | 2258.5 | 2300.0 | 3 | | | | 111G,U |
| | | LEAR | | | | 2258.6 | 2300.3 | 1 | | | | 111 | |
| | | HARV | | | | 2259.0 | 2300.0 | 2 | | | | 111G | |
| 21 | 0000 | 0717 | CULG | 0000.0 | 0333.0 | 1 | 0000.0 | 0400.0 | 3 | | | | IS,C,DC |
| | | | PALE | | | | 0036.0 | 0140.0 | 2 | | | | CONT |
| | | | CULG | | | | 0145.5 | 0604.5 | 2 | | | | 111N |
| | | | CULG | | | | 0234.0 | 0419.5 | 1 | | | | 111N |
| | | | CULG | 0333.0 | 0704.5 | 1 | | | | | | | IN |
| | | | CULG | | | | 0400.0 | 0505.0 | 1 | | | | IS,C,DC |
| | 0718 | 0807 | WEIS | | | | 0723.8 | 0725.6 | 1 | | | | 111G |

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| Day | Observation | | Sta | Decimetric Band | | | Metric Band | | | Dekametric Band | | | Spectral Type |
|-----|-------------|-----------|--------|-----------------|----------|-----------|-------------|----------|-----------|-----------------|----------|------------|---------------|
| | Start (UT) | End (UT) | | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | |
| 21 | | | WEIS | | | | 0743.4 | 0748.5 | 2 | | | | IIIGG |
| | | | LEAR | | | | 0746.1 | 0747.3 | 1 | | | | III |
| | | | WEIS | | | | 0746.8 | 0748.9 | 1 | | | | DCIM |
| | | | LEAR | | | | 0900.3 | 0900.6 | 1 | | | | III |
| | | 0950 1458 | WEIS | | | | 1010.7 | 1012.3 | 2 | | | | IIIG |
| | | | WEIS | | | | 1028.0 | 1032.0 | 1 | | | | I |
| | | 1342 2340 | HARV | | | | 1354.0 | 2355.0 | 1 | | | | INW |
| | | | HARV | 1632.0 | | 1 | 1632.0 | | 1 | | | | IIIG |
| | | | HARV | | | | 1655.0 | | 2 | | | | IIIG |
| | | | HARV | | | | 1816.0 | | 1 | | | | IIIBW |
| | | | HARV | | | | 1824.0 | 1827.0 | 1 | | | | IIIGW |
| | | | HARV | 1931.0 | | 1 | 1931.0 | | 2 | 1931.0 | | 2 | IIIG |
| | | | PALE | | | | 1931.1 | 1931.6 | 1 | | | | V |
| | | 2018 2400 | CULG | 2018.0 | 2400.0 | 1 | | | | | | | IS |
| | | | CULG | | | | 2028.0 | 2234.5 | 1 | | | | IIIN |
| | | | HARV | | | | 2028.0 | | 2 | | | | IIIG |
| | | | HARV | | | | 2212.0 | | 1 | | | | IIIBW |
| | | | HARV | 2230.0 | 2231.0 | 1 | 2230.0 | 2231.0 | 2 | | | | IIIG |
| | | | LEAR | | | | 2301.0 | 1029.0 | 1 | | | | CONT |
| 22 | 0000 0717 | CULG | 0000.0 | 0717.5 | 1 | | | | | | | IS,DC | |
| | | LEAR | | | | 0029.3 | 0033.6 | 1 | | | | III | |
| | | CULG | | | | 0032.0 | 0051.0 | 1 | | | | IIIN | |
| | | LEAR | | | | 0048.0 | 0054.0 | 1 | | | | III | |
| | | CULG | | | | 0053.0 | 0054.0 | 2 | 0053.0 | 0056.0 | 2 | IIIG | |
| | | LEAR | | | | 0435.1 | 0445.6 | 1 | | | | G | |
| | | CULG | 0437.0 | | 1 | 0437.0 | | 3 | | | | IIIB,U | |
| | | CULG | | | | 0444.5 | 0445.5 | 2 | | | | IIIG | |
| | | LEAR | | | | 0630.0 | 0644.6 | 1 | | | | G | |
| | | CULG | | | | 0638.0 | 0715.0 | 2 | | | | IIIN | |
| | | CULG | | | | 0642.5 | | 3 | | | | IIIB | |
| | | CULG | 0717.0 | | 3 | 0717.0 | | 3 | | | | IIIG | |
| | | WEIS | | | | 0723.9 | 074.7 | 3 | | | | IIIG | |
| | | 0720 1457 | WEIS | | | | 0744.0 | 1455.0 | 1 | | | | IN |
| | | | WEIS | | | | 0806.1 | 0806.2 | 2 | | | | II |
| | | | WEIS | | | | 0815.2 | 0816.4 | 3 | | | | DCIM |
| | | | WEIS | | | | 0825.6 | 0827.7 | 3 | | | | IIIGG |
| | | | LEAR | | | | 0826.8 | 0834.3 | 1 | | | | III |
| | | | WEIS | | | | 0831.7 | 0834.3 | 3 | | | | IIIGG |
| | | | WEIS | | | | 0856.6 | 0857.0 | 3 | | | | DCIM |
| | | | LEAR | | | | 0900.3 | 0901.1 | 2 | | | | III |
| | | | WEIS | | | | 0900.4 | 0901.0 | 3 | | | | IIIG |
| | | | WEIS | | | | 0915.0 | 0916.6 | 3 | | | | IIIG |
| | | | LEAR | | | | 0915.1 | 0915.8 | 1 | | | | III |
| | | | LEAR | | | | 0925.8 | 0928.3 | 2 | | | | III |
| | | | WEIS | | | | 0925.8 | 0928.2 | 3 | | | | IIIGG |
| | | | WEIS | | | | 0934.3 | 0937.6 | 3 | | | | IIIGG |
| | | | WEIS | | | | 0945.0 | 0946.2 | 2 | | | | IIIG |
| | | | WEIS | | | | 1002.6 | 1003.2 | 2 | | | | IIIG,U |
| | | | WEIS | | | | 1008.1 | 1009.6 | 2 | | | | IIIG |
| | | | WEIS | | | | 1016.4 | 1019.0 | 3 | | | | IIIGG/V |
| | | | WEIS | | | | 1019.4 | 1022.3 | 3 | | | | IIIGG/V |
| | | | WEIS | | | | 1022.7 | 1023.8 | 3 | | | | IIIGG |
| | | | WEIS | | | | 1124.1 | 1124.8 | 3 | | | | IIIG |
| | | | WEIS | | | | 1126.2 | 1126.6 | 3 | | | | IIIG |
| | | | WEIS | | | | 1128.7 | 1131.7 | 3 | | | | IIIGG |
| | | | WEIS | 1131.2 | 1131.6 | 1 | | | | | | | DCIM |
| | | | WEIS | | | | 1139.2 | 1141.1 | 3 | | | | IIIGG |
| | | | WEIS | | | | 1142.6 | 1144.4 | 3 | | | | IIIGG |
| | | | WEIS | | | | 1145.2 | 1148.7 | 3 | | | | IIIGG |
| | | | WEIS | | | | 1215.0 | 1215.3 | 2 | | | | U |
| | | WEIS | | | | 1219.0 | 1227.7 | 3 | | | | IIIGG,DCIM | |
| | | WEIS | | | | 1257.7 | 1257.9 | 2 | | | | IIIB | |
| | | WEIS | | | | 1316.4 | 1317.2 | 2 | | | | IIIG | |
| | | WEIS | | | | 1318.2 | 1318.3 | 2 | | | | IIIG | |
| | | WEIS | | | | 1320.7 | 1321.7 | 2 | | | | IIIG | |
| | | WEIS | | | | 1325.4 | 1326.7 | 2 | | | | IIIG | |
| | | WEIS | | | | 1328.6 | 1329.6 | 2 | | | | IIIG | |
| | | WEIS | | | | 1330.7 | 1337.0 | 3 | | | | IIIGG,DCIM | |
| | 1342 2340 | HARV | | | | 1345.0 | 1612.0 | 2 | | | | I | |
| | | HARV | | | | 1405.0 | 1418.0 | 2 | | | | IIIGG | |

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| Observation | | Decimetric Band | | | Metric Band | | | Dekametric Band | | | Spectral Type | |
|-------------|-------------------------|-----------------|----------|-----------|-------------|----------|-----------|-----------------|----------|-----------|---------------|-----------|
| Day | Start (UT) End (UT) Sta | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | | |
| 22 | WEIS | | | | 1405.4 | 1405.8 | 2 | | | | IIIG,RS | |
| | WEIS | | | | 1410.6 | 1411.3 | 2 | | | | DCIM | |
| | WEIS | | | | 1413.1 | 1413.4 | 2 | | | | IIIG | |
| | WEIS | | | | 1415.9 | 1418.3 | 2 | | | | IIIG | |
| | WEIS | | | | 1425.7 | 1427.7 | 3 | | | | IIIGG | |
| | HARV | | | | 1426.0 | 1430.0 | 3 | | 1426.0 | | 2 | IIIGG,V |
| | WEIS | | | | 1429.3 | 1430.4 | 2 | | | | | IIIG |
| | WEIS | | | | 1439.3 | 1445.6 | 3 | | | | | IIIGG |
| | HARV | 1444.0 | | | 2 | 1439.0 | 1445.0 | 3 | 1444.0 | 1445.0 | 2 | IIIGG,V |
| | HARV | | | | | 1448.0 | 1451.0 | 2 | | | | IIIGG |
| | WEIS | | | | | 1448.0 | 1451.7 | 3 | | | | IIIG,DCIM |
| | HARV | 1507.0 | 1740.0 | 1 | | | | | | | | IN |
| | HARV | | | | | 1509.0 | 1519.0 | 2 | 1509.0 | 1519.0 | 1 | IIIGG |
| | HARV | 1533.0 | 1538.0 | 2 | | 1533.0 | 1539.0 | 3 | 1538.0 | | 1 | IIIGG |
| | HARV | | | | | 1609.0 | 1610.0 | 3 | | | | IIIG |
| | HARV | | | | | 1612.0 | 2212.0 | 3 | 1800.0 | 1813.0 | 2 | IC |
| | HARV | | | | | 1621.0 | 1624.0 | 3 | 1623.0 | 1624.0 | 1 | IIIGG |
| | HARV | 1637.0 | | 1 | | 1631.0 | 1637.0 | 2 | | | | IIIGG |
| | HARV | | | | | 1656.0 | 1702.0 | 3 | 1656.0 | 1702.0 | 2 | IIIGG,V |
| | HARV | | | | | 1712.0 | 2330.0 | 2 | 1721.0 | 1948.0 | 2 | IIIN |
| | HARV | | | | | 1737.0 | 1738.0 | 2 | 1737.0 | 1738.0 | 2 | IIIG |
| | HARV | 1742.0 | 1743.0 | 2 | | 1740.0 | 1745.0 | 3 | 1740.0 | 1745.0 | 2 | IIIGG,V |
| | HARV | 1743.0 | 1915.0 | 2 | | 1747.0 | 1915.0 | 3 | | | | IV |
| | PALE | | | | | 1757.5 | 1941.3 | 2 | | | | IV |
| | HARV | 1759.0 | 1815.0 | 2 | | | | | | | | IIIN,DCIM |
| | HARV | | | | | 1819.0 | | 2 | 1819.0 | | 1 | IIIG |
| | HARV | | | | | 1841.0 | 1842.0 | 3 | 1841.0 | 1842.0 | 2 | IIIG |
| | PALE | | | | | 1841.0 | 1841.8 | 2 | | | | III |
| | HARV | 2003.0 | | 1 | | | | | | | | IIIGW |
| | PALE | | | | | 2007.8 | 2008.1 | 2 | | | | III |
| | HARV | | | | | 2008.0 | | 3 | 2008.0 | | 2 | IIIB |
| | HARV | | | | | 2016.0 | | 2 | | | | IIIB |
| | CULG | | | | | 2020.0 | 2400.0 | | | | | IIIS,W |
| | CULG | 2020.0 | 2300.0 | 2 | | 2020.0 | 2202.0 | 3 | | | | IS,C,DC |
| | CULG | | | | | 2020.5 | 2355.0 | 1 | | | | IIIN |
| | CULG | | | | | 2103.5 | 2352.5 | 2 | | | | IIIN |
| | CULG | 2104.0 | | 2 | | | | | | | | IIIB |
| | HARV | 2104.0 | 2105.0 | 2 | | | | | | | | IIIG |
| | CULG | | | | | 2134.0 | 2142.0 | 1 | | | | IIIS |
| | HARV | | | | | 2158.0 | 2201.0 | 3 | 2158.0 | 2201.0 | 2 | IIIG |
| CULG | | | | | 2158.5 | 2159.5 | 3 | 2158.5 | 2159.0 | 2 | IIIG,W | |
| PALE | | | | | 2158.6 | 2159.3 | 2 | | | | V | |
| CULG | | | | | 2200.5 | 2201.5 | 3 | 2200.5 | 2201.5 | 1 | IIIG | |
| PALE | | | | | 2200.8 | 2201.3 | 2 | | | | III | |
| HARV | | | | | 2212.0 | 2328.0 | 2 | | | | I | |
| CULG | 2244.5 | | 1 | | 2244.5 | 2245.0 | 3 | 2244.5 | 2245.0 | 2 | IIIB | |
| PALE | | | | | 2244.8 | 2247.3 | 2 | | | | III | |
| HARV | | | | | 2245.0 | | 2 | 2245.0 | | 1 | IIIG | |
| LEAR | | | | | 2257.8 | 1031.0 | 1 | | | | CONT | |
| CULG | 2300.0 | 2400.0 | 1 | | 2201.0 | 2355.0 | 1 | | | | IS,C,DC | |
| CULG | | | | | 2328.5 | | 3 | | | | IIIB | |
| PALE | | | | | 2328.6 | 2353.6 | 2 | | | | G | |
| CULG | | | | | 2344.0 | | 3 | 2344.0 | | 1 | IIIB | |
| CULG | 2353.5 | | 1 | | 2353.0 | 2353.5 | 3 | 2353.5 | | 1 | IIIG | |
| CULG | | | | | 2355.0 | 2400.0 | 2 | | | | IS,C,DC | |
| 23 | 0000 0718 | CULG | 0000.0 | 0718.0 | 1 | 0000.0 | 0246.0 | 1 | | | | IS,C |
| | | CULG | | | | 0004.0 | 0240.0 | 2 | | | | DC,N |
| | | PALE | | | | 0011.3 | 0032.1 | 2 | | | | G |
| | | CULG | 0031.0 | 0717.5 | 1 | 0004.0 | 0717.0 | 1 | 0011.5 | 0408.0 | 1 | IIIN |
| | | CULG | 0058.5 | 0715.5 | 3 | 0031.0 | 0715.5 | 3 | 0153.0 | 0548.0 | 3 | IIIN |
| | | PALE | | | | 0058.8 | 0059.1 | 2 | | | | III |
| | | CULG | 0153.0 | 0414.0 | 2 | 0004.5 | 0717.5 | 2 | 0032.0 | 0620.5 | 2 | IIIN |
| | | PALE | | | | 0153.1 | 0153.6 | 2 | | | | III |
| | | CULG | | | | 0533.0 | 0615.0 | 1 | | | | IS |
| | | CULG | | | | 0630.0 | 0718.0 | | | | | IIIS,W |
| | | LEAR | | | | 0741.6 | 0742.0 | 2 | | | | III |
| | | WEIS | | | | 0744.9 | 0748.0 | 2 | | | | DCIM |
| | | WEIS | | | | 0745.8 | 0748.0 | 2 | | | | IIIG |
| | | WEIS | | | | 0752.3 | 0752.4 | 2 | | | | IIIG |
| | | LEAR | | | | 0802.6 | 0810.1 | 2 | | | | III |

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| Day | Observation | | Sta | Decimetric Band | | | Metric Band | | | Dekametric Band | | | Spectral Type |
|-----|-------------|-----------|--------|-----------------|----------|-----------|-------------|----------|-----------|-----------------|----------|-----------|---------------|
| | Start (UT) | End (UT) | | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | |
| 23 | | | WEIS | | | | 0802.7 | 0803.2 | 2 | | | | IIIG |
| | | | WEIS | | | | 0804.6 | 0807.3 | 3 | | | | IIIGG |
| | | | LEAR | | | | 0805.8 | 0807.3 | 3 | | | | III |
| | | | WEIS | | | | 0809.2 | 0812.0 | 3 | | | | IIIG,DCIM |
| | | | WEIS | | | | 0842.4 | 0842.6 | 2 | | | | IIIBU |
| | | | WEIS | | | | 0844.7 | 0845.0 | 2 | | | | IIIB |
| | | 0720 1441 | WEIS | | | | 0853.0 | 1430.0 | 2 | | | | IS |
| | | | WEIS | | | | 0859.20 | 0900.30 | 3 | | | | IIIGG |
| | | | LEAR | | | | 0859.3 | 0900.3 | 2 | | | | III |
| | | | WEIS | | | | 0910.3 | 0910.6 | 2 | | | | IIIG |
| | | | WEIS | | | | 0942.0 | 1307.0 | 1 | | | | IIIN |
| | | | WEIS | | | | 0955.2 | 0955.6 | 2 | | | | IIIG |
| | | | WEIS | | | | 0958.8 | 0959.6 | 2 | | | | IIIG |
| | | | WEIS | | | | 1008.2 | 1008.6 | 3 | | | | IIIG |
| | | | WEIS | | | | 1014.8 | 1015.7 | 2 | | | | IIIG |
| | | | LEAR | | | | 1017.8 | 1018.3 | 2 | | | | III |
| | | | WEIS | | | | 1017.8 | 1019.6 | 3 | | | | IIIGG,DCIM |
| | | | WEIS | | | | 1026.3 | 1027.1 | 3 | | | | IIIG |
| | | | WEIS | | | | 1029.6 | 1029.8 | 3 | | | | IIIG |
| | | | WEIS | | | | 1032.7 | 1034.1 | 3 | | | | IIIG |
| | | | WEIS | | | | 1048.2 | 1049.3 | 2 | | | | IIIG |
| | | | WEIS | | | | 1051.4 | 1052.2 | 2 | | | | IIIG |
| | | | WEIS | | | | 1111.4 | 1112.7 | 3 | | | | IIIG |
| | | | WEIS | | | | 1118.2 | 1119.3 | 3 | | | | IIIGG |
| | | | WEIS | | | | 1202.4 | 1202.9 | 2 | | | | DCIM |
| | | | WEIS | | | | 1215.6 | 1215.8 | 2 | | | | IIIG |
| | | | WEIS | | | | 1219.8 | 1220.8 | 3 | | | | IIIG |
| | | | WEIS | | | | 1307.8 | 1308.4 | 2 | | | | IIIG |
| | | | WEIS | | | | 1317.6 | 1321.4 | 3 | | | | IIIGG,DCIM |
| | | | WEIS | | | | 1334.3 | 1337.1 | 3 | | | | IIIGG |
| | | | WEIS | | | | 1340.1 | 1341.3 | 3 | | | | IIIGG |
| | | | WEIS | | | | 1345.0 | 1348.4 | 3 | | | | IIIGG,DCIM |
| | 1342 2340 | HARV | 1346.0 | 1348.0 | 2 | 1345.0 | 1348.0 | 2 | | | | IIIGG | |
| | | HARV | | | | 1348.0 | 1442.0 | 2 | | | | I | |
| | | WEIS | | | | 1348.3 | 1350.3 | 2 | | | | IIIG | |
| | | HARV | 1357.0 | 1358.0 | 1 | 1357.0 | 1358.0 | 3 | | | | IIIG | |
| | | WEIS | | | | 1357.2 | 1358.6 | 3 | | | | IIIGG | |
| | | HARV | | | | 1403.0 | 1404.0 | 3 | | | | IIIG | |
| | | WEIS | | | | 1403.3 | 1404.4 | 3 | | | | IIIG | |
| | | HARV | 1420.0 | 2132.0 | 2 | 1420.0 | 2209.0 | 2 | 1549.0 | 1915.0 | 2 | IIIN | |
| | | WEIS | | | | 1420.3 | 1420.5 | 2 | | | | IIIG | |
| | | WEIS | | | | 1425.7 | 1426.0 | 3 | | | | IIIB | |
| | | WEIS | | | | 1430.9 | 1432.7 | 3 | | | | IIIG,DCIM | |
| | | HARV | 1432.0 | | 1 | 1432.0 | | 3 | | | | IIIG | |
| | | WEIS | | | | 1439.7 | 1440.4 | 3 | | | | IIIG | |
| | | HARV | 1440.0 | | 2 | 1440.0 | | 3 | | | | IIIG | |
| | | HARV | | | | 1442.0 | 2140.0 | 1 | | | | IN | |
| | | HARV | 1453.0 | 1454.0 | 2 | 1453.0 | 1454.0 | 3 | 1453.0 | | 2 | IIIGG,V | |
| | | HARV | | | | 1505.0 | | 2 | 1505.0 | | 1 | IIIG | |
| | | HARV | 1512.0 | | 2 | 1511.0 | 1512.0 | 3 | 1512.0 | | 2 | IIIGG | |
| | | HARV | 1517.0 | 1522.0 | 3 | 1517.0 | 1522.0 | 3 | 1518.0 | | 1 | IIIGG,V | |
| | | HARV | 1525.0 | 2259.0 | 1 | | | | | | | INW | |
| | | HARV | 1540.0 | | 2 | 1540.0 | | 3 | 1540.0 | | 2 | IIIG | |
| | | HARV | 1607.0 | 1614.0 | 3 | 1609.0 | 1614.0 | 3 | 1610.0 | 1613.0 | 2 | IIIGG | |
| | | HARV | 1706.0 | 1707.0 | 3 | 1706.0 | 1708.0 | 3 | 1706.0 | 1707.0 | 2 | IIIGG | |
| | | HARV | 1725.0 | 1730.0 | 2 | 1725.0 | 1730.0 | 3 | 1725.0 | 1730.0 | 2 | IIIGG | |
| | | PALE | | | | 1725.5 | 1725.6 | 2 | | | | III | |
| | | PALE | | | | 1732.5 | 2038.0 | 3 | | | | CONT | |
| | | HARV | 1736.0 | 1747.0 | 2 | 1736.0 | 1745.0 | 3 | 1736.0 | 1741.0 | 2 | IIIGG | |
| | | HARV | | | | 1756.0 | | 2 | 1756.0 | | 1 | IIIG | |
| | | HARV | 1842.0 | 1846.0 | 2 | 1842.0 | 1846.0 | 3 | 1843.0 | 1846.0 | 2 | IIIGG | |
| | | HARV | 1853.0 | 1856.0 | 3 | 1852.0 | 1854.0 | 3 | 1853.0 | 1854.0 | 2 | IIIGG | |
| | | HARV | 2026.0 | | 2 | 2026.0 | | 3 | | | | IIIG | |
| | 2018 2400 | CULG | 2026.5 | | 2 | 2026.5 | | 1 | | | | IIIB | |
| | | CULG | 2027.0 | 2351.5 | 1 | | | | | | | IN | |
| | | CULG | | | | 2027.5 | 2213.0 | 1 | | | | IIIN | |
| | | HARV | | | | 2037.0 | 2045.0 | 2 | | | | IIIGG | |
| | | HARV | 2146.0 | 2149.0 | 2 | 2146.0 | 2149.0 | 2 | | | | IIIGG | |
| | | CULG | 2146.5 | 2147.0 | 2 | 2146.5 | 2147.0 | 2 | | | | IIIG | |
| | | LEAR | | | | 2341.3 | 2341.6 | 1 | | | | III | |
| | | CULG | | | | 2341.5 | | 2 | | | | IIIB | |

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SPECTRAL OBSERVATIONS

NOVEMBER 1982

| Observation | | | | Decimetric Band | | | Metric Band | | | Dekametric Band | | | Spectral Type |
|-------------|------------|----------|------|-----------------|----------|-----------|-------------|----------|-----------|-----------------|----------|-----------|---------------|
| Day | Start (UT) | End (UT) | Sta | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | |
| 24 | 0000 | 0718 | CULG | 0045.0 | 0136.0 | 1 | | | | | | | IS |
| | | | CULG | | | | 0124.0 | 0629.5 | 1 | | | | IIIN |
| | | | CULG | | | | 0239.5 | 0246.5 | 1 | | | | II |
| | | | CULG | 0247.5 | 0608.5 | 3 | 0247.5 | 0608.5 | 3 | | | | IIIN |
| | | | CULG | 0259.0 | 0454.0 | 2 | 0259.0 | 0550.0 | 2 | | | | IIIN |
| | | | LEAR | | | | 0443.8 | 0448.1 | 1 | | | | III |
| | | | LEAR | | | | 0545.8 | 0550.3 | 1 | | | | III |
| | | | CULG | | | | | | | 0546.5 | 0550.0 | 1 | IIIN |
| | | | LEAR | | | | 0608.6 | 0609.1 | 1 | | | | III |
| | 0720 | 1450 | WEIS | | | | 0957.8 | 0958.1 | 1 | | | | IIIB |
| | | | WEIS | | | | 1056.7 | 1057.9 | 1 | | | | IIIG |
| | | | WEIS | | | | 1228.3 | 1228.4 | 2 | | | | IIIB,U,RS |
| | 1015 | 1500 | BLEN | 1228.4 | 1228.5 | 3 | 1228.4 | 1230.8 | 3 | | | | III |
| | | | WEIS | 1230.8 | 1230.9 | 2 | | | | | | | IIIB |
| | | | BLEN | 1241.3 | 1241.4 | 2 | | | | | | | III |
| | 1342 | 2340 | HARV | 1324.02 | | | 1404.0 | 1513.0 | 1 | | | | I |
| | | | BLEN | 1344.7 | 1344.7 | 2 | 1344.7 | 1344.7 | 2 | | | | III |
| | | | HARV | 1611.0 | 1950.0 | 1 | | | | | | | INW |
| | | | HARV | 1829.0 | | 3 | 1829.0 | | 2 | 1829.0 | | 2 | IIIG |
| | | | HARV | 1924.0 | | 1 | 1924.0 | 1925.0 | 3 | 1925.0 | | 1 | IIIG |
| | | | HARV | 1939.0 | 1940.0 | 2 | 1939.0 | 1940.0 | 3 | 1939.0 | 1940.0 | 2 | IIIG,V |
| | 2019 | 2400 | CULG | 2053.5 | 2331.5 | 1 | | | | | | | DCIM,N |
| | | | CULG | | | | 2136.0 | 2137.0 | 3 | 2136.0 | 2137.0 | 3 | IIIG |
| | | | HARV | | | | 2136.0 | 2137.0 | 3 | 2136.0 | 2137.0 | 2 | IIIGG |
| | | | CULG | 2320.5 | 2343.5 | 1 | | | | | | | IS |
| 25 | 0000 | 0719 | CULG | 0019.5 | 0121.5 | | | | | | | | IS,W |
| | | | CULG | | | | 0327.0 | 0327.5 | 1 | 0327.0 | 0328.0 | 2 | IIIB |
| | | | LEAR | | | | 0327.0 | 0327.6 | 1 | | | | III |
| | | | CULG | 0358.0 | | 2 | 0358.0 | | 3 | | | | IIIG,U |
| | | | LEAR | | | | 0358.0 | 0358.3 | 1 | | | | III |
| | | | CULG | 0414.0 | 0421.0 | 2 | | | | | | | DCIM,N |
| | | | CULG | | | | | | | 0417.0 | 0420.5 | 1 | SWF |
| | | | CULG | | | | 0502.0 | | 1 | | | | IIIB |
| | | | CULG | 0525.0 | | 1 | 0525.0 | | 1 | | | | IIIG |
| | | | CULG | 0631.0 | 0631.5 | 2 | | | | | | | DCIM |
| | | | CULG | | | | 0647.5 | | 2 | | | | IIIB |
| | | | CULG | 0647.5 | 0653.0 | 1 | 0647.5 | 0654.0 | 1 | | | | IIIN |
| | | | LEAR | | | | 0648.8 | 0653.0 | 1 | | | | III |
| | | | CULG | 0652.5 | 0653.0 | 1 | 0652.5 | 0653.0 | 2 | | | | IIIG |
| | | | LEAR | | | | 0728.8 | 0729.0 | 1 | | | | III |
| | 0723 | 1454 | WEIS | | | | 0808.4 | 0808.7 | 2 | | | | DCIM |
| | 0740 | 1500 | BLEN | | | | 0808.6 | 0808.6 | 2 | | | | III |
| | | | WEIS | 0809.9 | 0810.1 | 1 | | | | | | | DCIM |
| | | | LEAR | | | | 0950.8 | 0951.1 | 1 | | | | III |
| | | | WEIS | | | | 0950.9 | 0951.2 | 2 | | | | IIIB |
| | | | WEIS | | | | 1032.0 | 1032.3 | 2 | | | | IIIB |
| | | | BLEN | 1209.3 | 1209.3 | 1 | | | | | | | III |
| | | | BLEN | 1221.4 | 1221.8 | 3 | | | | | | | IIIG |
| | | | WEIS | 1221.4 | 1221.7 | 2 | | | | | | | DCIM |
| | | | BLEN | 1303.9 | 1304.2 | 3 | 1303.9 | 1304.2 | 3 | | | | IIIG |
| | | | WEIS | 1303.9 | 1304.2 | 2 | | | | | | | DCIM |
| | 1356 | 2340 | HARV | 1527.0 | 1528.0 | 2 | | | | | | | IIIG |
| | | | HARV | | | | 1535.0 | | 1 | | | | IIIB |
| | | | HARV | | | | 1545.0 | 1547.0 | 1 | | | | IW |
| | | | HARV | 1624.0 | 1627.0 | 1 | | | | | | | I |
| | | | HARV | 1701.0 | | 2 | | | | | | | IIIG |
| | | | HARV | 1823.0 | | 1 | | | | | | | IIIGW |
| | | | HARV | 1907.0 | | 2 | | | | | | | IIIG |
| | | | HARV | 1955.0 | 1956.0 | 2 | | | | | | | IIIGG |
| | 2019 | 2400 | CULG | | | | 2054.5 | | 1 | | | | IIIB |
| | | | HARV | 2119.0 | | 2 | | | | | | | IIIG |
| | | | CULG | 2132.0 | 2132.5 | 2 | | | | | | | IIIG |
| | | | HARV | 2132.0 | | 2 | | | | | | | IIIG |
| | | | HARV | 2144.0 | 2145.0 | 1 | | | | | | | I |
| | | | HARV | | | | 2210.0 | 2220.0 | 1 | | | | I |
| | | | HARV | 2214.0 | | 1 | | | | | | | IIIBW |
| | | | CULG | 2306.0 | 2307.0 | 2 | | | | | | | DC |
| | | | HARV | 2306.0 | 2309.0 | 2 | | | | | | | I |
| 26 | 0000 | 0719 | CULG | 0014.0 | 0033.0 | 1 | | | | | | | IN |

SOLAR RADIO EMISSION
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| Day | Observation | | Sta | Decimetric Band | | | Metric Band | | | Dekametric Band | | | Spectral Type |
|-----|-------------|----------|------|-----------------|----------|-----------|-------------|----------|-----------|-----------------|----------|-----------|---------------|
| | Start (UT) | End (UT) | | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | |
| 26 | | | CULG | 0014.5 | 0131.0 | 2 | | | | | | | DCIM,N |
| | | | CULG | | | | 0220.0 | 0410.0 | 1 | | | | IN |
| | | | CULG | 0226.5 | 0235.0 | 2 | | | | | | | IS |
| | | | CULG | 0226.5 | 0310.0 | 3 | 0226.0 | 0333.5 | 1 | | | | IV |
| | | | LEAR | | | | 0229.0 | 0350.0 | 3 | | | | IV |
| | | | CULG | | | | 0229.5 | 0235.0 | 3 | 0229.5 | 0238.0 | 3 | IIIGG,V |
| | | | CULG | | | | 0232.5 | 0233.0 | 3 | | | | UNCLF |
| | | | CULG | | | | 0234.0 | 0250.0 | 3 | | | | II |
| | | | CULG | | | | | | | 0236.0 | 0510.0 | 3 | SWF |
| | | | CULG | 0319.0 | 0320.0 | 2 | 0319.0 | 0320.0 | 1 | | | | POSS II |
| | 0725 | 1227 | WEIS | | | | | | | | | | III |
| | 0740 | 1500 | BLEN | 0844.4 | 0844.4 | 2 | | | | | | | III |
| | 1240 | 1454 | WEIS | | | | 1347.5 | 1347.8 | 1 | | | | IIIG |
| | | | BLEN | | | | 1350.5 | 1350.6 | 2 | | | | III,U |
| | | | SGMR | | | | 1350.6 | 1350.6 | 1 | | | | III |
| | | | WEIS | | | | 1350.6 | 1350.8 | 3 | | | | IIIG |
| | | | WEIS | | | | 1420.7 | 1423.3 | 2 | | | | IIIG |
| | 1357 | 2340 | HARV | | | | 1422.0 | 2303.0 | 2 | | | | IIIN |
| | | | WEIS | | | | 1429.0 | 1429.1 | 2 | | | | IIIB |
| | | | WEIS | | | | 1432.8 | 1433.7 | 2 | | | | IIIG |
| | | | HARV | | | | 1433.0 | | 2 | | | | IIIG |
| | | | WEIS | | | | 1434.8 | 1435.0 | 1 | | | | IIIB |
| | | | WEIS | | | | 1441.1 | 1441.3 | 2 | | | | IIIB |
| | | | HARV | 1459.0 | | 1 | 1459.0 | | 2 | | | | IIIG |
| | | | HARV | 1506.0 | 1509.0 | 1 | 1506.0 | 1507.0 | 3 | 1506.0 | 1507.0 | 2 | IIIG |
| | | | SGMR | | | | 1506.3 | 1506.8 | 2 | | | | V |
| | | | SGMR | | | | 1515.1 | 1517.1 | 1 | | | | III |
| | | | HARV | 1516.0 | 1519.0 | 1 | 1514.0 | 1519.0 | 3 | 1516.0 | 1519.0 | 2 | IIIGG |
| | | | HARV | | | | 1548.0 | | 3 | | | | IIIG |
| | | | HARV | | | | 1600.0 | 1601.0 | 2 | 1600.0 | 1601.0 | 1 | IIIG |
| | | | SGMR | | | | 1610.8 | 1611.1 | 2 | | | | V |
| | | | HARV | 1611.0 | 1615.0 | 3 | 1607.0 | 1614.0 | 3 | 1607.0 | 1614.0 | 2 | IIIGG |
| | | | SGMR | | | | 1611.8 | 1612.1 | 1 | | | | V |
| | | | HARV | | | | 1620.0 | 1621.0 | 2 | 1620.0 | 1621.0 | 1 | IIIG |
| | | | HARV | | | | 1629.0 | 1630.0 | 2 | 1629.0 | | 2 | IIIG |
| | | | HARV | | | | 1633.0 | 1634.0 | 3 | 1633.0 | 1634.0 | 2 | IIIG |
| | | | SGMR | | | | 1633.3 | 1633.5 | 1 | | | | III |
| | | | HARV | 1746.0 | 1747.0 | 1 | 1743.0 | 1747.0 | 2 | 1744.0 | | 1 | IIIGG |
| | | | SGMR | | | | 1758.8 | 1802.3 | 1 | | | | V |
| | | | HARV | 1800.0 | 1804.0 | 2 | 1759.0 | 1805.0 | 3 | 1759.0 | 1804.0 | 2 | IIIGG |
| | | | SGMR | | | | 1800.8 | 1802.1 | 1 | | | | III |
| | | | HARV | | | | 1825.0 | 1826.0 | 1 | 1825.0 | 1826.0 | 1 | IIIG |
| | | | HARV | | | | 1835.0 | 1940.0 | 1 | | | | IN |
| | | | HARV | 1858.0 | 1902.0 | 2 | | | | | | | DCIM |
| | | | HARV | | | | 1859.0 | 1902.0 | 1 | 1859.0 | 1902.0 | 1 | IIIGG |
| | | | SGMR | | | | 1908.6 | 1908.8 | 1 | | | | III |
| | | | HARV | | | | 1909.0 | | 3 | 1909.0 | | 2 | IIIG |
| | | | HARV | 1928.0 | 1931.0 | 1 | 1928.0 | 1931.0 | 3 | 1928.0 | 1929.0 | 2 | IIIGG |
| | | | HARV | 1942.0 | 1950.0 | 3 | 1942.0 | 1954.0 | 3 | 1942.0 | 1953.0 | 2 | IIIGG,V |
| | | | SGMR | | | | 1942.5 | 1943.6 | 2 | | | | III |
| | | | SGMR | | | | 1947.5 | 1947.6 | 2 | | | | III |
| | | | CULG | | | | 2019.5 | 2338.5 | 2 | | | | IIIN |
| | 2019 | 2400 | HARV | 2027.0 | 2036.0 | 2 | 2026.0 | 2039.0 | 3 | 2026.0 | 2028.0 | 2 | IIIGG |
| | | | CULG | 2027.52 | 2028.01 | 1 | 2026.0 | 2028.0 | 3 | 2027.5 | 2028.0 | 1 | IIIG |
| | | | HARV | | | | 2031.0 | 2038.0 | 3 | 2033.0 | 2036.0 | 2 | II |
| | | | CULG | | | | 2031.5 | 2038.5 | 3 | | | | II |
| | | | CULG | | | | 2040.0 | 2059.5 | 3 | | | | II |
| | | | HARV | | | | 2040.0 | 2050.0 | 3 | 2042.0 | 2047.0 | 2 | II |
| | | | CULG | | | | 2105.5 | 2106.0 | 3 | 2105.5 | 2106.0 | 1 | IIIB |
| | | | HARV | 2144.0 | 2147.0 | 2 | 2145.0 | 2147.0 | 2 | | | | IIIGG |
| | | | CULG | 2146.0 | | 1 | 2114.0 | 2358.0 | 1 | | | | IIIN |
| | | | HARV | | | | 2200.0 | 2201.0 | 2 | | | | IIIG |
| | | | HARV | 2204.0 | 2205.0 | 2 | 2204.0 | 2205.0 | 2 | | | | IIIG |
| | | | CULG | 2219.0 | 2219.5 | 3 | 2219.0 | 2219.5 | 3 | | | | IIIG |
| | | | HARV | | | | 2219.0 | 2220.0 | 3 | | | | IIIG |
| | | | HARV | 2237.0 | 2243.0 | 2 | 2237.0 | 2243.0 | 3 | 2238.0 | | 1 | IIIGG |
| | | | CULG | 2237.5 | | 1 | 2237.5 | 2238.0 | 3 | 2237.5 | 2238.0 | 3 | IIIG |
| | | | LEAR | | | | 2237.6 | 2238.0 | 2 | | | | III |
| | | | LEAR | | | | 2238.8 | 2243.8 | 1 | | | | III |
| | | | CULG | 2242.0 | 2243.0 | 1 | 2241.5 | 2244.0 | 3 | 2241.5 | 2243.0 | 2 | IIIG |
| | | | LEAR | | | | 2254.5 | 2255.5 | 1 | | | | III |

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| Day | Observation | | Sta | Decimetric Band | | | Metric Band | | | Dekametric Band | | | Spectral Type |
|-----|-------------|----------|------|-----------------|----------|-----------|-------------|----------|-----------|-----------------|----------|-----------|---------------|
| | Start (UT) | End (UT) | | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | |
| 26 | | | LEAR | | | | 2326.8 | 2327.1 | 1 | | | | III |
| | | | CULG | 2327.0 | | 1 | 2327.0 | | 3 | | | | IIIG |
| | | | HARV | | | | 2327.0 | | 3 | | | | IIIG |
| 27 | 0000 | 0702 | CULG | | | | 0031.0 | 0632.0 | 1 | | | | IIIN |
| | | | LEAR | | | | 0059.5 | 0102.8 | 2 | | | | III |
| | | | CULG | | | | 0102.0 | 0103.0 | 3 | 0102.0 | 0103.0 | 2 | IIIG |
| | | | LEAR | | | | 0138.8 | 0139.3 | 1 | | | | III |
| | | | CULG | | | | 0152.0 | 0152.5 | 3 | 0152.5 | 0153.0 | 3 | IIIG,U |
| | | | LEAR | | | | 0152.3 | 0152.6 | 2 | | | | III |
| | | | CULG | 0235.0 | 0630.5 | 2 | 0139.0 | 0628.5 | 2 | | | | IIIN |
| | | | LEAR | | | | 0304.3 | 0305.3 | 1 | | | | III |
| | | | CULG | 0305.0 | 0306.0 | 3 | 0304.0 | 0306.0 | 3 | | | | IIIG |
| | | | LEAR | | | | 0530.6 | 0534.1 | 1 | | | | III |
| | | | CULG | 0531.0 | | 1 | 0530.5 | 0531.0 | 3 | | | | IIIB |
| | | | LEAR | | | | 0619.5 | 0627.3 | 1 | | | | III |
| | | | CULG | 0626.5 | 0627.5 | 3 | 0626.5 | 0627.5 | 3 | | | | IIIG |
| | | | LEAR | | | | 0740.1 | 0740.3 | 1 | | | | III |
| | | | LEAR | | | | 0759.0 | 0800.5 | 1 | | | | III |
| | 0740 | 1500 | BLEN | | | | 0832.6 | 0835.1 | 3 | | | | IIIG,V |
| | 0724 | 1451 | WEIS | | | | 0832.6 | 0835.9 | 3 | | | | IIIGG,RS |
| | | | LEAR | | | | 0832.8 | 0835.8 | 1 | | | | III |
| | | | LEAR | | | | 0910.6 | 0911.0 | 1 | | | | III |
| | | | BLEN | | | | 0910.7 | 0910.8 | 2 | | | | III |
| | | | WEIS | | | | 0910.7 | 0910.9 | 2 | | | | IIIG |
| | | | BLEN | | | | 0949.8 | 0949.9 | 2 | | | | III |
| | | | WEIS | | | | 0949.8 | 0949.9 | 2 | | | | IIIB |
| | | | WEIS | | | | 0953.3 | 0954.3 | 1 | | | | IIIG |
| | | | BLEN | | | | 1004.2 | 1004.7 | 2 | | | | IIIG |
| | | | WEIS | | | | 1004.2 | 1004.7 | 2 | | | | IIIG |
| | | | BLEN | | | | 1035.9 | 1038.0 | 2 | | | | IIIG |
| | | | WEIS | | | | 1036.0 | 1038.0 | 3 | | | | IIIG |
| | | | BLEN | | | | 1218.2 | 1219.1 | 3 | | | | II |
| | | | WEIS | | | | 1218.3 | 1219.6 | 3 | | | | IIIG,RS |
| | | | BLEN | 1219.6 | 1220.4 | 3 | | | | | | | DCIM |
| | | | WEIS | | | | 1223.8 | 1224.1 | 1 | | | | IIIG |
| | | | WEIS | | | | 1256.5 | 1256.6 | 1 | | | | IIIB |
| | | | BLEN | | | | 1300.7 | 1304.9 | 2 | | | | IIIG |
| | | | WEIS | | | | 1300.7 | 1301.1 | 3 | | | | IIIG |
| | | | WEIS | | | | 1304.7 | 1305.4 | 2 | | | | IIIG |
| | | | BLEN | | | | 1330.2 | 1330.9 | 3 | | | | IIIG |
| | | | WEIS | | | | 1330.5 | 1330.9 | 3 | | | | IIIG |
| | 1357 | 2340 | HARV | | | | 1421.0 | | 3 | | | | IIIG |
| | | | BLEN | | | | 1421.2 | 1421.5 | 2 | | | | III |
| | | | WEIS | | | | 1421.2 | 1421.4 | 1 | | | | IIIG |
| | | | HARV | | | | 1425.0 | 2305.0 | 2 | | | | IIIN |
| | | | HARV | | | | 1506.0 | 1516.0 | 3 | | | | IIIGG,U,V |
| | | | HARV | | | | 1512.0 | 1712.0 | 1 | | | | I |
| | | | SGMR | | | | 1516.3 | 1854.6 | 1 | | | | III |
| | | | HARV | 1524.0 | 1526.0 | 1 | 1525.0 | 1530.0 | 3 | 1526.0 | | 1 | IIIGG |
| | | | HARV | | | | 1712.0 | 1850.0 | 3 | | | | I |
| | | | HARV | | | | 1725.0 | 1726.0 | 2 | 1725.0 | 1726.0 | 2 | IIIG |
| | | | HARV | | | | 1750.0 | 1752.0 | 2 | 1750.0 | 1752.0 | 2 | IIIGG |
| | | | HARV | | | | 1850.0 | 1930.0 | 2 | | | | I |
| | | | HARV | | | | 1919.0 | | 3 | 1919.0 | | 2 | IIIG |
| | | | HARV | | | | 1930.0 | 2206.0 | 1 | | | | INW |
| | | | HARV | | | | 1944.0 | 1945.0 | 3 | 1945.0 | | 2 | IIIG |
| | | | HARV | | | | 2001.0 | 2002.0 | 2 | 2001.0 | | 1 | IIIG |
| | 2023 | 2400 | CULG | | | | 2023.5 | 2358.0 | 1 | | | | IIIN |
| | | | HARV | | | | 2102.0 | 2104.0 | 3 | | | | IIIGG |
| | | | CULG | 2102.5 | 2103.0 | 3 | 2102.5 | 2104.0 | 3 | | | | IIIG,U |
| | | | CULG | | | | 2120.0 | 2358.5 | 2 | | | | IIIN |
| | | | CULG | 2121.0 | 2305.5 | 3 | | | | | | | IIIN |
| | | | HARV | | | | 2121.0 | | 3 | | | | IIIB |
| | | | HARV | | | | 2128.0 | 2129.0 | 3 | 2128.0 | | 1 | IIIG |
| | | | HARV | | | | 2135.0 | | 3 | | | | IIIG |
| | | | HARV | | | | 2205.0 | | 2 | | | | IIIG |
| | | | HARV | | | | 2210.0 | | 3 | | | | IIIG,U |
| | | | LEAR | | | | 2316.5 | 2317.3 | 1 | | | | III |
| | | | LEAR | | | | 2358.5 | 2358.6 | 1 | | | | III |
| 28 | | | LEAR | | | | 0001.8 | 0002.0 | 1 | | | | III |

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| Day | Observation | | Sta | Decimetric Band | | | Metric Band | | | Dekametric Band | | | Spectral Type | | | |
|------|-------------|----------|------|-----------------|----------|-----------|-------------|----------|-----------|-----------------|----------|-----------|---------------|-------|--|------|
| | Start (UT) | End (UT) | | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | | | | |
| 28 | 0000 | 0720 | CULG | | | | 0002.0 | 0637.5 | 2 | | | | IIIN | | | |
| | | | LEAR | | | | 0004.8 | 0009.1 | 2 | | | | III | | | |
| | | | CULG | | | | 0005.0 | 0009.5 | 3 | 0005.0 | 0009.5 | 3 | IIIG | | | |
| | | | CULG | | | | 0032.5 | 0631.0 | 1 | | | | IIIN | | | |
| | | | LEAR | | | | 0119.6 | 0120.5 | 1 | | | | III | | | |
| | | | LEAR | | | | 0222.8 | 0223.1 | 1 | | | | III | | | |
| | | | LEAR | | | | 0251.1 | 0251.8 | 1 | | | | III | | | |
| | | | LEAR | | | | 0316.8 | 0321.8 | 1 | | | | III | | | |
| | | | CULG | | | | 0320.5 | 0321.5 | 3 | 0321.0 | 0321.5 | 2 | IIIG | | | |
| | | | LEAR | | | | 0327.8 | 0328.8 | 1 | | | | III | | | |
| | | | LEAR | | | | 0521.8 | 0523.3 | 1 | | | | III | | | |
| | | | LEAR | | | | 0529.1 | 0532.8 | 1 | | | | V | | | |
| | | | LEAR | | | | 0630.0 | 0630.5 | 1 | | | | III | | | |
| | | | LEAR | | | | 0658.3 | 0658.6 | 1 | | | | III | | | |
| | | | CULG | | | | 0658.5 | | 3 | | | | IIIB | | | |
| | | | LEAR | | | | 0732.0 | 0732.5 | 1 | | | | III | | | |
| | | | LEAR | | | | 0745.6 | 0801.6 | 1 | | | | G | | | |
| | | | LEAR | | | | 0813.8 | 0814.3 | 1 | | | | III | | | |
| | LEAR | | | | 0904.8 | 0910.5 | 1 | | | | III | | | | | |
| | LEAR | | | | 0936.8 | 0937.6 | 1 | | | | III | | | | | |
| | 0740 | 1500 | BLEN | | | | | 0936.9 | 0938.2 | 2 | | | III | | | |
| | | | LEAR | | | | | 1002.1 | 1003.6 | 1 | | | III | | | |
| | | | BLEN | | | | 1002.2 | 1006.8 | 3 | | | IIIG | | | | |
| | | | BLEN | 1005.6 | 1005.9 | 2 | | | | | | IIIG | | | | |
| | | | BLEN | | | | 1158.2 | 1200.6 | 2 | | | IIIG | | | | |
| | | | BLEN | | | | 1233.5 | 1236.3 | 3 | | | IIIG | | | | |
| | 1049 | 1452 | WEIS | | | | | 1239.4 | 1241.1 | 3 | | | IIIG | | | |
| | | | WEIS | | | | | 1348.2 | 1348.4 | 1 | | | IIIB | | | |
| | | | WEIS | | | | | 1429.6 | 1429.9 | 1 | | | IIIB | | | |
| | | | WEIS | | | | | 1446.0 | 1450.0 | 2 | | | IIIGG | | | |
| | 1357 | 2340 | HARV | | | | | 1446.2 | 1446.3 | 1 | | | IIIB | | | |
| | | | WEIS | | | | | 1448.6 | 1449.9 | 1 | | | IIIG | | | |
| | | | HARV | | | | | 1537.0 | | 2 | | | IIIB | | | |
| | | | HARV | | | | | 1643.0 | 1647.0 | 2 | | | IIIG | | | |
| | | | HARV | | | | | 1653.0 | 1655.0 | 2 | | | IIIG | | | |
| | | | HARV | | | | | 1711.0 | 1714.0 | 2 | 1713.0 | 1714.0 | 1 | IIIG | | |
| | | | HARV | | | | | 1746.0 | 1747.0 | 2 | | | IIIG | | | |
| | | | HARV | | | | | 1814.0 | 1815.0 | 1 | 1814.0 | 1815.0 | 1 | IIIGW | | |
| HARV | | | | | | | 1854.0 | 1855.0 | 3 | 1854.0 | 1855.0 | 2 | IIIGG | | | |
| SGMR | | | | | | | 1854.5 | 1854.6 | 1 | | | III | | | | |
| HARV | | | | | | | 1929.0 | 1930.0 | 1 | | | IIIG | | | | |
| HARV | | | | | | | 2000.0 | 2008.0 | 2 | 2000.0 | 2008.0 | 2 | IIIGG | | | |
| SGMR | | | | | | | 2003.6 | 2003.8 | 1 | | | III | | | | |
| 2020 | | | 2400 | HARV | 2026.0 | | 1 | | | | | | | IIIB | | |
| | CULG | | | | | | 2026.5 | 2348.0 | 1 | | | IIIN | | | | |
| | HARV | | | | | | 2051.0 | 2052.0 | 2 | | | IIIG | | | | |
| | CULG | | | | | | 2207.0 | 2218.0 | 2 | | | UNCLF | | | | |
| 29 | 0000 | 0720 | CULG | 0008.0 | 0707.0 | 1 | | | | | | | IN | | | |
| | | | CULG | 0024.5 | 0025.0 | 1 | | | | | | | | IIIG | | |
| | | | CULG | | | | | 0035.0 | 0035.5 | 3 | 0035.5 | | 1 | IIIB | | |
| | | | LEAR | | | | | 0035.5 | 0035.8 | 2 | | | | III | | |
| | | | CULG | | | | | 0136.5 | 0307.0 | 1 | | | | IIIN | | |
| | | | LEAR | | | | | 0351.3 | 0351.6 | 1 | | | | III | | |
| | | | CULG | | | | | 0351.5 | | 2 | | | | IIIB | | |
| | | | CULG | 0635.0 | | 2 | | 0635.0 | | 2 | | | | IIIG | | |
| | | | CULG | 0711.0 | 0713.0 | 1 | | | | | | | | DCIM | | |
| | | | 0740 | 1500 | BLEN | | | | | 0754.0 | 0757.0 | 1 | | | | III |
| | | | | | LEAR | | | | | 0754.6 | 0755.7 | 1 | | | | IIIG |
| | | | | | LEAR | | | | | 0846.1 | 0846.8 | 1 | | | | III |
| | | | 0731 | 1026 | WEIS | | | | | 0846.2 | 0846.6 | 1 | | | | IIIG |
| | | | | | WEIS | | | | | 1018.3 | 1018.4 | 1 | | | | IIIB |
| | | | | | WEIS | | | | | 1020.2 | 1020.3 | 2 | | | | IIIB |
| | | | | | WEIS | | | | | 1023.0 | 1023.5 | 1 | | | | IIIG |
| | | | | | HARV | | | | | 1435.0 | 1436.0 | 2 | | | | IIIG |
| | | | | | WEIS | | | | | 1435.5 | 1436.1 | 1 | | | | IIIG |
| | 1357 | 2340 | HARV | | | | | 1435.6 | 1438.1 | 1 | | | | V | | |
| | | | SGMR | | | | | 1604.0 | 1612.0 | 1 | | | | IN | | |
| | | | HARV | | | | | 1742.1 | 1743.0 | 1 | | | | V | | |
| | | | SGMR | | | | | 1742.0 | 1745.0 | 2 | 1742.0 | 1744.0 | 2 | IIIGG | | |
| | | | HARV | 1744.0 | 1746.0 | 1 | | 1742.0 | 1745.0 | 2 | | | | IIIGG | | |
| | | | HARV | | | | | 1742.0 | 1745.0 | 2 | | | | IIIGG | | |

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

NOVEMBER 1982

| Day | Observation | | Sta | Decimetric Band | | | Metric Band | | | Dekametric Band | | | Spectral Type | | | | | | | |
|------|-------------|----------|--------|-----------------|----------|-----------|-------------|----------|-----------|-----------------|----------|-----------|---------------|--------|--------|-----------|---------|----------|---|---|
| | Start (UT) | End (UT) | | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | | | | | | | | |
| 29 | 2020 | 2400 | HARV | 1939.0 | 2021.0 | 1 | | | | | | | I | | | | | | | |
| | | | CULG | | | | | | | 2055.0 | 2258.0 | 1 | | | | IIIN | | | | |
| | | | HARV | | | | | | | 2107.0 | | 1 | | | | IIIG | | | | |
| | | | HARV | | | | | | | 2121.0 | | 2 | | | | IIIG | | | | |
| | | | HARV | | | | 2125.0 | 2240.0 | 2 | | | | | | | I | | | | |
| | | | HARV | | | | | | | 2132.0 | | 1 | | | | IIIBW | | | | |
| | | | CULG | | | | 2151.0 | 2400.0 | 1 | | | | | | | IS | | | | |
| | | | LEAR | | | | | | | 2253.5 | 2254.0 | 1 | | | | III | | | | |
| | | | LEAR | | | | | | | 2301.5 | 2339.1 | 1 | | | | III | | | | |
| | | | LEAR | | | | | | | 2322.8 | 2324.5 | 1 | | | | III | | | | |
| | | | CULG | | | | 2323.0 | 2324.0 | 2 | 2323.0 | 2324.5 | 3 | | | | IIIG, V | | | | |
| | | | HARV | | | | 2323.0 | 2324.0 | 2 | 2323.0 | 2326.0 | 2 | | | | IIIGG | | | | |
| | | | CULG | | | | | | | 2328.0 | 2400.0 | 1 | | | | IS, C, DC | | | | |
| | | | HARV | | | | | | | 2328.0 | 2329.0 | 2 | | | | UNCL | | | | |
| | | | CULG | | | | | | | 2331.0 | 2337.0 | 2 | | | | IIIS | | | | |
| | | | HARV | | | | | | | 2331.0 | 2334.0 | 3 | | | | IIIGG | | | | |
| | | | CULG | | | | | | | 2331.5 | 2337.5 | 3 | | | | POSS II | | | | |
| LEAR | | | | 2331.5 | 2339.1 | 1 | | | | III | | | | | | | | | | |
| LEAR | | | | 2353.6 | 2359.5 | 1 | | | | III | | | | | | | | | | |
| 30 | 0000 | 0720 | CULG | 0000.0 | 0132.5 | 1 | 0000.0 | 0040.0 | 1 | | | | IS, C, DC | | | | | | | |
| | | | CULG | | | | 0017.0 | 0658.5 | 1 | | | | IIIN | | | | | | | |
| | | | LEAR | | | | 0022.0 | 0106.6 | 1 | | | | CONT | | | | | | | |
| | | | CULG | | | | 0103.0 | 0103.5 | 3 | | | | IIIB | | | | | | | |
| | | | CULG | | | | | | | 0106.0 | 0106.5 | 2 | | | | IIIG | | | | |
| | | | CULG | | | | 0132.5 | 0613.5 | 1 | | | | | | | IN | | | | |
| | | | LEAR | | | | | | | 0208.5 | 0209.0 | 1 | | | | III | | | | |
| | | | CULG | | | | | | | 0319.5 | 0321.0 | 3 | 0320.0 | 0321.5 | 2 | | IIIG, V | | | |
| | | | LEAR | | | | | | | 0319.5 | 0321.3 | 2 | | | | V | | | | |
| | | | LEAR | | | | | | | 0329.3 | 0329.6 | 1 | | | | III | | | | |
| | | | CULG | | | | | | | 0329.5 | | 2 | | | | IIIB | | | | |
| | | | LEAR | | | | | | | 0451.3 | 0452.1 | 1 | | | | III | | | | |
| | | | CULG | | | | | | | 0525.5 | 0526.0 | 2 | | | | DC | | | | |
| | | | LEAR | | | | | | | 0543.5 | 0543.8 | 1 | | | | III | | | | |
| | | | LEAR | | | | | | | 0612.3 | 0623.3 | 1 | | | | G | | | | |
| | | | CULG | | | | | | | 0612.5 | 0623.0 | 2 | | | | IIIN | | | | |
| | | | CULG | | | | 0613.5 | 0720.0 | 1 | | | | | | | IS | | | | |
| | | | LEAR | | | | | | | 0657.6 | 0700.6 | 1 | | | | III | | | | |
| | | | LEAR | | | | | | | 0721.1 | 0721.3 | 1 | | | | III | | | | |
| | | | LEAR | | | | | | | 0735.5 | 0751.5 | 2 | | | | G | | | | |
| | | | WEIS | | | | | | | 0736.0 | 0842.0 | 2 | | | | CONT | | | | |
| | | | WEIS | | | | | | | 0736.0 | 1328.0 | 2 | | | | IS | | | | |
| | | | 0732 | | | | 1450 | WEIS | | | | | 0745.9 | 0747.0 | 3 | | | IIIG, U | | |
| | | | | | | | | WEIS | | | | 0750.0 | 0751.1 | 3 | | | IIIG | | | |
| | | | | | | | | LEAR | | | | 0800.6 | 0800.8 | 1 | | | III | | | |
| | | | 0740 | | | | 1500 | BLEN | | | | 0820.1 | 1500.0D | 2 | | | | I, DC, N | | |
| | | | | | | | | LEAR | | | | 0830.3 | 0830.5 | 1 | | | | III | | |
| | | | | | | | | LEAR | | | | 0848.0 | 0905.0 | 1 | | | | CONT | | |
| | | | | | | | | WEIS | | | | 0848.8 | 0850.3 | 2 | | | | IIIG, U | | |
| | | | | | | | | WEIS | | | | 0856.8 | 0857.0 | 2 | | | | IIIG | | |
| | | | | | | | | WEIS | | | | 0937.6 | 0938.7 | 1 | | | | IIIG | | |
| | | | | | | | | WEIS | | | | 0944.2 | 0945.2 | 2 | | | | IIIG, U | | |
| | | | | | | | | BLEN | | | | 1033.0 | 1033.9 | 2 | | | | IIIG | | |
| | | | | | | | | WEIS | | | | 1033.0 | 1034.0 | 2 | | | | IIIG | | |
| | | | | | | | | WEIS | | | | 1039.2 | 1039.9 | 1 | | | | IIIG | | |
| | | | | | | | | WEIS | 1212.2 | 1212.5 | 1 | 1212.21 | | 1 | | | | IIIG | | |
| | | | | | | | | 1357 | 2340 | HARV | | | | 1357.0 | 1534.0 | 2 | | | | I |
| | | | | | | | | | | HARV | | | | 1431.0 | 2304.0 | 2 | 1518.0 | 1848.0 | 2 | |
| | | | BLEN | | | | | | | | | 1443.3 | 1448.1 | 2 | | | | IIIG | | |
| | | | WEIS | | | | | | | | | 1443.41 | 1443.82 | 2 | | | | IIIB | | |
| | | | WEIS | | | | | | | | | 1447.5 | 1448.3 | 2 | | | | IIIG | | |
| | | | HARV | | | | 1448.0 | | | | 2 | 1443.0 | 1448.0 | 2 | | | | IIIGG | | |
| | | | HARV | | | | | | | | | 1513.0 | 1514.0 | 2 | | | | IIIG | | |
| HARV | | | | 1534.0 | 1611.0 | 3 | | | | | | IC | | | | | | | | |
| HARV | | | | 1558.0 | | 2 | 1558.0 | | | | 1 | | IIIG | | | | | | | |
| HARV | | | | 1611.0 | 2332.0 | 2 | | | | | | IC | | | | | | | | |
| HARV | 1616.0 | 1642.0 | 1 | | | | | | | | | INW | | | | | | | | |
| HARV | | | | 1839.0 | 1845.0 | 2 | | | | | | IIIG | | | | | | | | |
| 2020 | 2400 | CULG | 2020.5 | 2355.0 | 1 | 2020.5 | 2400.0 | | | 1 | | | | IS, DC | | | | | | |
| | | CULG | | | | 2024.0 | 2344.0 | 1 | | | | IIIN | | | | | | | | |
| | | CULG | | | | 2127.5 | | 2 | | | | IIIG | | | | | | | | |

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

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

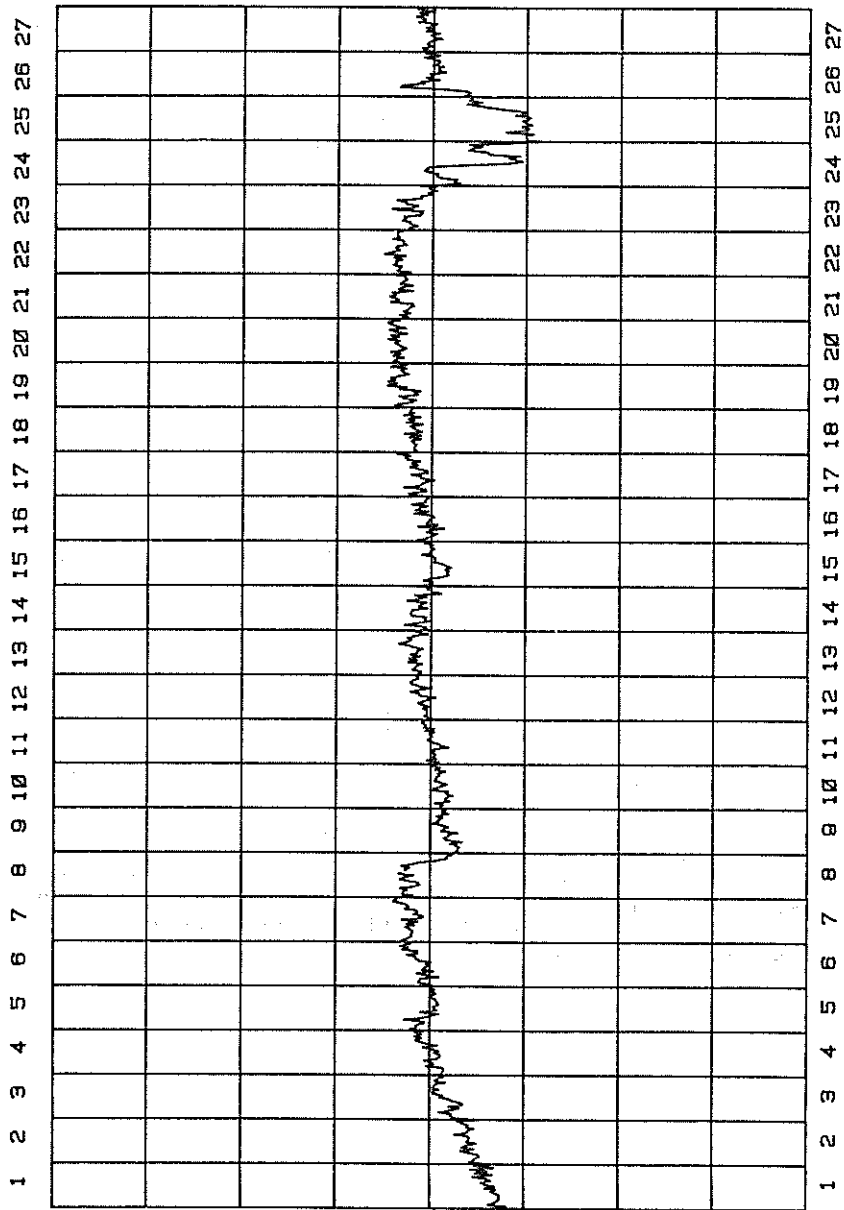
C O S M I C R A Y I N D I C E S
(Neutron Monitors)
November 1982

123
Nov 82

| Nov 1982 | THULE Average (cts/h)/100 | KIEL Average (cts/h)/100 | TOKYO Average (cts/h)/100 |
|-------------|---------------------------------|--------------------------------|---------------------------------|
| 1 | 3765 | 5240.5 | 3421.0 |
| 2 | 3807 | 5321.7 | 3458.3 |
| 3 | 3858 | 5373.0 | 3484.0 |
| 4 | 3887 | 5433.9 | 3476.6 |
| 5 | 3891 | 5440.5 | 3474.3 |
| 6 | 3911 | 5456.7 | 3488.6 |
| 7 | 3933 | 5474.9 | 3486.1 |
| 8 | 3917 | 5438.2 | 3472.0 |
| 9 | 3855 | 5361.1 | 3445.5 |
| 10 | 3868 | 5361.0 | 3445.8 |
| 11 | 3886 | 5392.2 | 3458.8 |
| 12 | 3908 | 5438.1 | 3480.2 |
| 13 | 3922 | 5464.4 | 3487.2 |
| 14 | 3909 | 5479.2 | 3484.0 |
| 15 | 3880 | 5433.8 | 3469.1 |
| 16 | 3899 | 5418.4 | 3468.2 |
| 17 | 3920 | 5422.3 | 3470.9 |
| 18 | 3927 | 5440.5 | 3494.6 |
| 19 | 3950 | 5473.9 | 3502.8 |
| 20 | 3962 | 5488.7 | 3508.4 |
| 21 | 3950 | 5499.3 | 3511.2 |
| 22 | 3959 | 5499.3 | 3515.5 |
| 23 | 3924 | 5476.5 | 3507.2 |
| 24 | 3806 | 5309.7 | 3448.5 |
| 25 | 3730 | 5188.7 | 3433.7 |
| 26 | 3885 | 5385.2 | 3468.7 |
| 27 | 3901 | 5440.1 | 3492.0 |
| 28 | 3893 | 5413.7 | 3494.1 |
| 29 | 3877 | 5420.4 | 3479.7 |
| 30 | 3908 | 5425.5 | 3445.5 |
| MEAN | 3890 | 5413.7 | 3475.8 |

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

THULE NEUTRON MONITOR



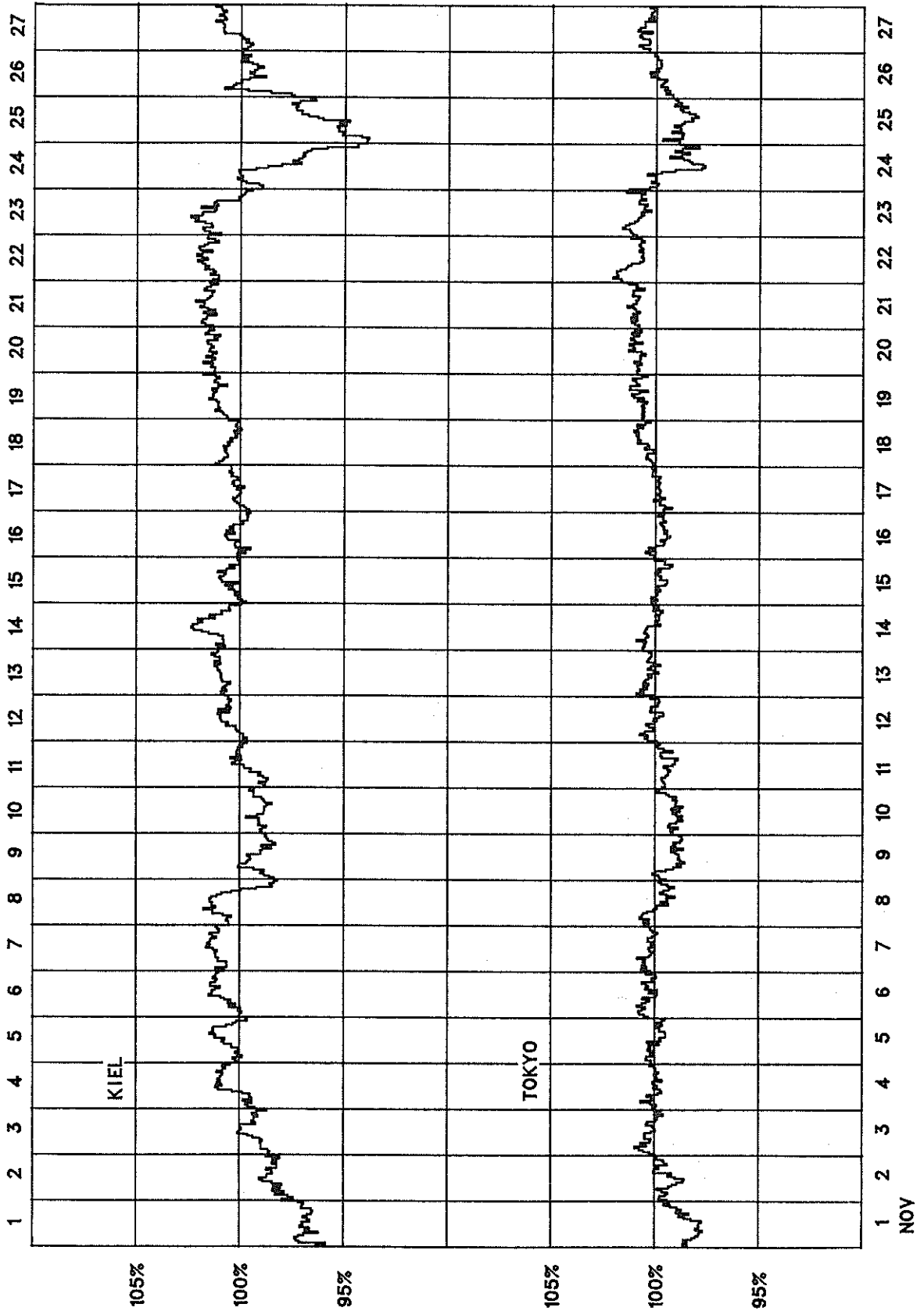
105%
100%
95%

NOV 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 NOV 1982

BARTELS ROTATION 2040

COSMIC RAY INDICES (Neutron Monitor)

Bartels Rotation 2040 (November 1982)



GEOMAGNETIC ACTIVITY INDICES

NOVEMBER 1982

Table with columns: Day, Kp Three-Hourly Indices (1-8, Sum), Ap, Cp, Km Three-Hourly Indices (1-8), Am, N, S, M, and aa. Rows 1-30 and Total. Includes sub-labels like D3, Q5A, Q7A, etc.

Table with columns: Day, Kn Three-Hourly Indices (1-8), An, Ks Three-Hourly Indices (1-8), As. Rows 1-30 and Total. Includes sub-labels like D1, D2, D5.

The Geophysikalisches Institut, University of Goettingen, prepares the quiet (Q) and disturbed (D) days, geomagnetic planetary 3-hour-range indices (Kp), magnetic character figures (Cp) and average amplitude (Ap). The 10 most quiet days [Q1-Q(10)] and the five most disturbed days (D1-D5) are ordered from most quiet and from most disturbed, respectively. A or K means "not really quiet" (A implies Ap>6 and K implies Ap<6 with either one Kp>30 or two Kp values >3-). An asterisk means "not really disturbed" (Ap<20).

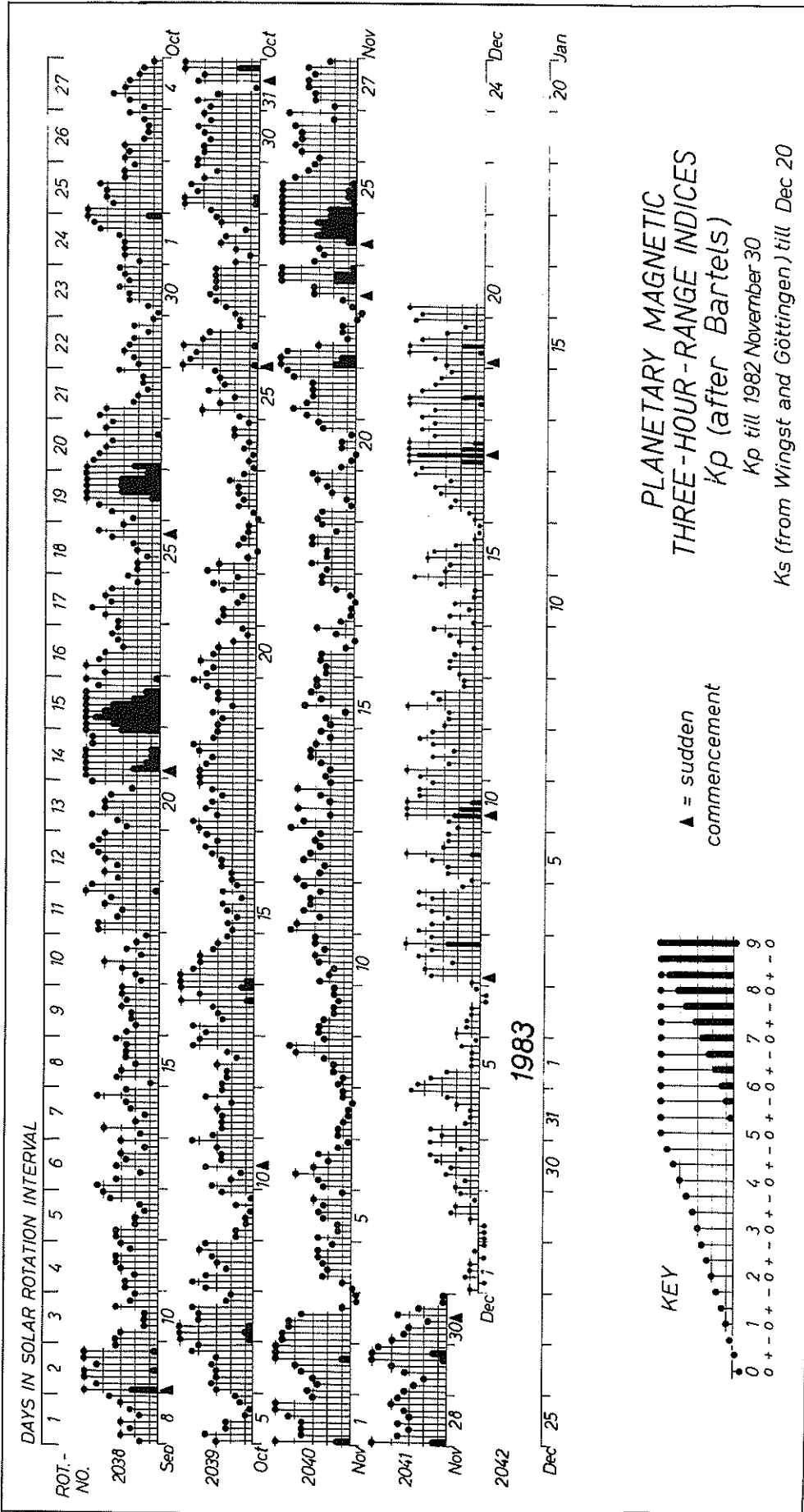
Geomagnetic 3-hour indices Km, Kn, Ks and daily mean values Am, An, As and indices aa are prepared by M. Menvielle of the Institut de Physique du Globe, Paris, France. For aa indices, daily north (N) and south (S) values and half-daily antipodal mean (M) values are given. C indicates really quiet 24- and 48-hour intervals centered on 1200 UT; K indicates similar periods with some slightly disturbed 3-hour intervals.

NOTE: All aa indices are provisional from 1 January 1981 until further notice, because of the change in the Southern Hemisphere observatory.

DAILY AVERAGE INDICES Ap

| DAY | 1981 DEC | 1982 JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV |
|------|-------------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 6 | 9 | 41 | 68 | 20 | 22 | 20 | 18 | 12 | 9 | 28 | 36 |
| 2 | 9 | 9 | 60 | 107 | 42 | 30 | 18 | 10 | 55 | 12 | 24 | 32 |
| 3 | 8 | 20 | 35 | 13 | 48 | 45 | 9 | 6 | 26 | 21 | 10 | 21 |
| 4 | 10 | 12 | 49 | 12 | 22 | 19 | 7 | 2 | 15 | 32 | 10 | 8 |
| 5 | 9 | 4 | 37 | 16 | 21 | 14 | 6 | 4 | 18 | 39 | 9 | 9 |
| 6 | 4 | 10 | 39 | 3 | 18 | 6 | 14 | 15 | 25 | 199 | 19 | 11 |
| 7 | 3 | 12 | 26 | 3 | 5 | 4 | 14 | 21 | 107 | 88 | 35 | 4 |
| 8 | 15 | 9 | 18 | 11 | 12 | 5 | 9 | 15 | 6 | 12 | 21 | 12 |
| 9 | 10 | 4 | 15 | 20 | 10 | 8 | 16 | 10 | 23 | 50 | 6 | 8 |
| 10 | 9 | 4 | 35 | 16 | 61 | 5 | 51 | 10 | 27 | 10 | 15 | 11 |
| 11 | 6 | 5 | 45 | 10 | 47 | 9 | 32 | 36 | 28 | 13 | 14 | 20 |
| 12 | 23 | 2 | 41 | 8 | 15 | 6 | 59 | 48 | 22 | 14 | 15 | 16 |
| 13 | 12 | 4 | 54 | 13 | 11 | 6 | 62 | 144 | 10 | 15 | 34 | 18 |
| 14 | 6 | 3 | 42 | 11 | 6 | 8 | 24 | 153 | 7 | 14 | 30 | 12 |
| 15 | 6 | 12 | 18 | 7 | 10 | 20 | 26 | 36 | 3 | 12 | 8 | 13 |
| 16 | 4 | 17 | 6 | 4 | 11 | 10 | 10 | 50 | 6 | 12 | 14 | 9 |
| 17 | 7 | 10 | 30 | 14 | 19 | 12 | 6 | 24 | 16 | 11 | 21 | 6 |
| 18 | 14 | 13 | 34 | 20 | 12 | 20 | 7 | 24 | 16 | 30 | 23 | 12 |
| 19 | 10 | 3 | 36 | 10 | 8 | 12 | 24 | 28 | 10 | 28 | 17 | 10 |
| 20 | 6 | 6 | 26 | 12 | 20 | 8 | 18 | 24 | 12 | 24 | 14 | 6 |
| 21 | 6 | 14 | 21 | 23 | 32 | 8 | 9 | 11 | 15 | 76 | 11 | 25 |
| 22 | 3 | 27 | 51 | 38 | 18 | 4 | 20 | 16 | 24 | 135 | 8 | 30 |
| 23 | 6 | 22 | 29 | 8 | 9 | 2 | 20 | 12 | 17 | 26 | 5 | 36 |
| 24 | 10 | 21 | 24 | 12 | 15 | 4 | 21 | 50 | 18 | 22 | 5 | 83 |
| 25 | 8 | 9 | 42 | 20 | 52 | 8 | 17 | 22 | 20 | 13 | 15 | 54 |
| 26 | 6 | 7 | 43 | 11 | 7 | 24 | 16 | 27 | 20 | 84 | 30 | 26 |
| 27 | 6 | 13 | 12 | 9 | 24 | 54 | 32 | 27 | 11 | 42 | 16 | 17 |
| 28 | 12 | 17 | 10 | 6 | 21 | 56 | 27 | 21 | 12 | 14 | 10 | 28 |
| 29 | 32 | 11 | | 13 | 31 | 35 | 19 | 22 | 38 | 9 | 35 | 32 |
| 30 | 30 | 27 | | 15 | 30 | 35 | 39 | 23 | 28 | 12 | 27 | 13 |
| 31 | 18 | 34 | | 20 | | 31 | | 25 | 16 | | 34 | |
| Mean | 10 | 12 | 33 | 18 | 22 | 17 | 22 | 30 | 21 | 36 | 18 | 21 |

GEOMAGNETIC ACTIVITY INDICES



PRINCIPAL MAGNETIC STORMS

NOVEMBER 1982

| Sta | Geomag Lat | Commencement | | | SC Amplitudes | | | Maximum 3-Hour K Index Day(3-Hour Periods) | Ranges | | | End Hour Day (UT) |
|-----------|------------|--------------|-----------|-------|---------------|-----------|-------------------|---|---------|-----------|-----------|-------------------------|
| | | Day | Time (UT) | Type | D (Min) | H (Gamma) | Z (Gamma) | | K (Min) | H (Gamma) | Z (Gamma) | |
| SIT 60.0N | 01 | 0849 | SC* | 16 * | 63 * | 13 * | 03(3) | 7 | -- | -- | 530 | 03 14 |
| IRK 41.0N | 01 | 1200 | .. | .. | .. | .. | 01(7,8) 02(5) | 5 | 20 | 99 | 45 | 02 22 |
| HER 33.7S | 01 | 17-- | .. | .. | .. | .. | 01(7) | 5 | 6 | 73 | 62 | 01 22 |
| HYB 07.6N | 02 | 0500 | .. | .. | .. | .. | 02(6) | 5 | 4 | 166 | 22 | 03 17 |
| HUA 00.6S | 02 | 0211 | .. | .. | .. | .. | 02(6) | 6 | 13 | 351 | 46 | 03 13 |
| HER 33.7S | 02 | 16-- | .. | .. | .. | .. | 02(8) | 5 | 23 | 80 | 100 | 03 14 |
| KGL 56.5S | 02 | 1500 | .. | .. | .. | .. | 02(6) | 8 | 100 | 674 | 488 | 03 16 |
| IRK 41.0N | 05 | 2300 | .. | .. | .. | .. | 06(7,8) 07(4,5,6) | 5 | 20 | 142 | 56 | 07 21 |
| JAI 17.3N | 08 | 0700 | .. | .. | .. | .. | | - | 3 | 95 | 25 | 10 03 |
| SHL 14.7N | 08 | 0700 | .. | .. | .. | .. | | - | 3 | 87 | 26 | 10 03 |
| UJJ 13.5N | 08 | 0700 | .. | .. | .. | .. | | - | 3 | 100 | 22 | 10 03 |
| ABG 09.5N | 08 | 0700 | .. | .. | .. | .. | 08(6) | 5 | 3 | 116 | 23 | 10 03 |
| HYB 07.6N | 08 | 0800 | SC | 0 | 14 | - 1 | 08(6,7) | 5 | 3 | 112 | 16 | 10 07 |
| ANN 01.5N | 08 | 0700 | .. | .. | .. | .. | | - | 4 | 124 | 32 | 10 03 |
| HUA 00.6S | 08 | 1433 | SC | 1 | 9 | 2 | 08(6,7) | 6 | 10 | 393 | 56 | 09 23 |
| TRD 01.1S | 08 | 0700 | .. | .. | .. | .. | | - | 4 | 151 | 95 | 10 03 |
| HER 33.7S | 08 | 14-- | .. | .. | .. | .. | 08(6) | 5 | 16 | 78 | 107 | 08 21 |
| HYB 07.6N | 10 | 1000 | .. | .. | .. | .. | 11(4,5,6,8) | 4 | 3 | 115 | 26 | 13 21 |
| GUA 04.0N | 11 | 0946 | .. | .. | .. | .. | 11(4) | 5 | -- | 50 | -- | 11 19 |
| HUA 00.6S | 11 | 0224 | .. | .. | .. | .. | 11(5,6) | 6 | 9 | 205 | 43 | 11 23 |
| HUA 00.6S | 12 | 0108 | .. | .. | .. | .. | 12(6) | 6 | 7 | 221 | 28 | 12 23 |
| IRK 41.0N | 13 | 0400 | .. | .. | .. | .. | 13(6) | 6 | 22 | 116 | 51 | 14 21 |
| GUA 04.0N | 13 | 0008 | .. | .. | .. | .. | 13(1) | 5 | -- | 140 | 20 | 13 17 |
| HYB 07.6N | 14 | 0500 | .. | .. | .. | .. | 15(7) | 4 | 3 | 115 | 21 | 15 23 |
| HYB 07.6N | 17 | 1400 | .. | .. | .. | .. | 18(6) | 5 | 3 | 128 | 17 | 19 22 |
| FRD 49.6N | 20 | 1841 | SC | 1 | 11 | - 2 | 22(1) | 6 | 24 | 154 | 101 | -- -- |
| HYB 07.6N | 20 | 1841 | SC | - .1 | 8 | - 1 | 21(3,6) 22(1) | 4 | 3 | 148 | 24 | 22 11 |
| HUA 00.6S | 20 | 1841 | SC | 2 | 31 | 2 | 21(6) | 6 | 9 | 252 | 53 | 22 07 |
| KGL 56.5S | 20 | 1841 | SC | | | | 22(1) | 8 | 72 | 603 | 454 | 22 12 |
| COL 64.6N | 21 | 04-- | .. | .. | .. | .. | 21(4) | 6 | 94 | 970 | 610 | 22 12 |
| WIT 54.2N | 21 | 1600 | .. | .. | .. | .. | 21(7) 22(1) | 6 | 35 | 135 | 85 | 22 06 |
| GUA 04.0N | 21 | 2005 | .. | .. | .. | .. | 21(8) | 5 | -- | 90 | 30 | 22 16 |
| COL 64.6N | 23 | 0917 | SC* | | 109 | - 29 | 24(5) | 9 | 831 | 3290 | 1680 | 30 18 |
| SIT 60.0N | 23 | 0918 | SC | - 3 | 41 | 6 | 24(5) | 8 | -- | -- | -- | 26 17 |
| WIT 54.2N | 23 | 0917 | SC* | 0 | 15 * | 0 | 23(6) | 7 | 47 | 243 | 98 | 24 02 |
| FRD 49.6N | 23 | 0917 | SC* | 2 | 27 | - 3 | 25(2) 28(1) | 6 | 44 | 255 | 160 | 30 18 |
| HON 21.1N | 23 | 0918 | SC | | 17 | 5 | 23(8) | 6 | 5 | 110 | 42 | 24 06 |
| JAI 17.3N | 23 | 0915 | SC | - .5 | 14 | - 4 | | - | 14 | 358 | 50 | 25 19 |
| UJJ 13.5N | 23 | 0915 | SC | - .3 | 15 | - 3 | | - | 11 | 334 | 37 | 25 19 |
| ABG 09.5N | 23 | 0915 | SC | - .4 | 12 | - 5 | 24(5) | 8 | 12 | 373 | 47 | 25 19 |
| HYB 07.6N | 23 | 0917 | SC | - .2 | 13 | - 2 | 23(6,7) | 6 | 3 | 167 | 13 | 24 06 |
| GUA 04.0N | 23 | 0917 | SC | | 11 | - 3 | 23(8) | 7 | 10 | 150 | 70 | 24 08 |
| HUA 00.6S | 23 | 0917 | SC | 1 | 12 | 2 | 23(6) | 8 | 12 | 471 | 52 | 24 05 |
| TRD 01.1S | 23 | 0915 | SC | .1 | 25 | 26 | | - | -- | -- | -- | 25 19 |
| PMG 18.6S | 23 | 0917 | SC | .5 | 23 | 21 | 24(5,8) | 7 | -- | -- | -- | -- -- |
| HER 33.7S | 23 | 09-- | .. | .. | .. | .. | 23(6,8) | 6 | 31 | 136 | 137 | 24 06 |
| GNA 43.2S | 23 | 0917 | SC* | 1.6* | 16 * | 5 * | 23(8) | 7 | 28 | 120 | 120 | 24 09 |
| CNB 43.9S | 23 | 0916 | SC* | 2.0* | 28 * | 7 | 23(8) | 6 | 24 | 165 | 75 | 24 06 |
| KGL 56.5S | 23 | 0916 | SC | 7 | 37 | 11 | 23(7) | 8 | 84 | 717 | 332 | -- -- |
| WIT 54.2N | 24 | 0922 | SC* | 15 | 62 | 3 | 24(6,7) | 7 | 62 | 270 | 345 | 25 19 |
| HON 21.1N | 24 | 0921 | SC | 1 | 28 | 9 | 24(5) | 7 | 10 | 176 | 38 | 25 16 |
| HYB 07.6N | 24 | 0922 | SC | - 1.1 | 59 | - 5 | 24(5,6) | 8 | 9 | 368 | 30 | 26 23 |
| GUA 04.0N | 24 | 0921 | SC | 1 | 46 | - 13 | 24(5) | 7 | -- | 240 | 60 | 25 23 |
| HUA 00.6S | 24 | 0921 | SC | 1 | 54 | 7 | 24(5) | 9 | 16 | 568 | 52 | 25 15 |
| HER 33.7S | 24 | 0922 | SC | 2 | 56 | 33 | 24(5) | 7 | 59 | 231 | 290 | 25 19 |
| GNA 43.2S | 24 | 0922 | SC | 8.7 | 92 | 41 | 24(6) | 7 | 47 | 230 | 230 | 28 09 |
| CNB 43.9S | 24 | 0920 | SC | - 1.7 | 75 * | 9 | 24(5) | 7 | 39 | 290 | 120 | 28 13 |
| KGL 56.5S | 24 | 0921 | SC | 17 | 300 | 80 | 24(5,8) | 9 | 212 | 1688 | 644 | 25 12 |

PRINCIPAL MAGNETIC STORMS

NOVEMBER 1982

| Sta | Geomag Lat | Commencement | | | SC Amplitudes | | | Maximum 3-Hour K Index Day(3-Hour Periods) | Ranges | | | End Hour | | |
|-----|------------|--------------|-----------|------|---------------|-----------|-----------|---|---------|-----------|-----------|-------------|----|----|
| | | Day | Time (UT) | Type | D (Min) | H (Gamma) | Z (Gamma) | | D (Min) | H (Gamma) | Z (Gamma) | | | |
| HYB | 07.6N | 27 | 0700 | .. | .. | .. | .. | 27(6,7) 28(1) | 4 | 3 | 122 | 27 | 28 | 23 |
| GUA | 04.0N | 28 | 0023 | .. | .. | .. | .. | 28(1) | 5 | -- | 130 | 30 | 28 | 15 |
| HER | 33.7S | 28 | 00-- | .. | .. | .. | .. | 28(1) | 5 | 22 | 75 | 75 | 28 | 04 |
| JAI | 17.3N | 29 | 0900 | .. | .. | .. | .. | | - | 6 | 88 | 29 | 30 | 17 |
| UJJ | 13.5N | 29 | 0900 | .. | .. | .. | .. | | - | 5 | 92 | 25 | 30 | 17 |
| ABG | 09.5N | 29 | 0900 | .. | .. | .. | .. | 29(7) | 6 | 5 | 96 | 33 | 30 | 17 |
| HYB | 07.6N | 29 | 0900 | .. | .. | .. | .. | 29(7) | 6 | 4 | 103 | 20 | 30 | 19 |
| GUA | 04.0N | 29 | 1106 | .. | .. | .. | .. | 30(1) | 6 | -- | 140 | 30 | 30 | 08 |
| HUA | 00.6S | 29 | 1113 | .. | .. | .. | .. | 29(6,7) | 7 | 12 | 345 | 33 | 30 | 20 |
| TRD | 01.1S | 29 | 0900 | .. | .. | .. | .. | | - | 5 | 131 | 97 | 30 | 17 |
| PMG | 18.6S | 29 | 10-- | .. | .. | .. | .. | 29(7) | 6 | 10 | 120 | 50 | 30 | 09 |
| HER | 33.7S | 29 | 09-- | .. | .. | .. | .. | 29(6) | 5 | 24 | 121 | 138 | 30 | 04 |
| CNB | 43.9S | 29 | 10-- | .. | .. | .. | .. | 29(7) | 5 | 20 | 110 | 60 | 30 | 06 |
| KGL | 56.5S | 29 | 1600 | .. | .. | .. | .. | 29(7) | 9 | 73 | 1151 | 207 | 30 | 09 |

REPORTS WERE RECEIVED FROM THE FOLLOWING OBSERVATORIES:

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

SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

NOVEMBER 1982

PRELIMINARY REPORT ON RAPID VARIATIONS

| Sudden Commencements (ssc) | | Solar Flare Effects (sfe) |
|----------------------------|--|--|
| 20 | 18 41 B: WNG FRD; C: MMB TOL KNY KGL (si: C: MPO) | 8 12 14 - 12 43 SOD <u>12 03 35 - 04 03</u> MMB |
| 23 | 09 17 A: SOD DOU FRD MPO; B: WNG AQU EBR TOL KNY LNP GNA AMS KGL DUM; C: WIT NGK HAD CLF MMB KAK HTY CZT | <u>13 00 06 - 00 20</u> KAK HTY KNY <u>13 06 03 - 06 30</u> KNY |
| 24 | 09 22 A: WNG HAD CLF MMB AQU EBR COI KAK HTY KNY AMS CZT KGL DUM; B: SOD WIT NGK DOU TOL MPO GNA | <u>14 00 15 - 00 40</u> KAK KNY <u>15 01 58 - 02 45</u> MMB KAK HTY KNY LNP |
| 30 | 12 11 B: WNG DOU AQU MPO; C: WIT CLF TOL (si: A: AMS CZT) | <u>16 03 34 - 03 50</u> MMB KAK <u>20 05 29 - 06 16</u> KAK HTY KNY 22 12 24 - 12 30 MPO 25 04 17 - 04 21 LNP 26 02 35 - 05 05 LNP |

RADIO PROPAGATION QUALITY INDICES

November 1982

| DAY | TOKYO | NEW YORK | TEHERAN | OSLO | BRACKNELL |
|------|-------|----------|---------|------|-----------|
| 1 | 4.1 | 4.3 | 0.0 | 4.1 | 3.8 |
| 2 | 5.2 | 4.7 | 0.7 | 5.5 | 5.7 |
| 3 | 4.5 | 5.7 | 2.8 | 3.8 | 3.3 |
| 4 | 6.1 | 5.6 | 3.1 | 5.6 | 4.8 |
| 5 | 5.6 | 4.9 | 2.9 | 5.6 | 4.7 |
| 6 | 5.4 | 5.0 | 2.6 | 5.5 | 5.4 |
| 7 | 5.4 | 5.4 | 2.3 | 5.6 | 4.7 |
| 8 | 5.5 | 6.5 | 6.8 | 6.0 | 6.5 |
| 9 | 6.2 | 7.5 | 5.0 | 5.9 | 5.8 |
| 10 | 6.2 | 6.0 | 2.8 | 5.9 | 5.3 |
| 11 | 5.1 | 6.0 | 3.4 | 6.5 | 5.9 |
| 12 | 4.8 | 6.2 | 4.6 | 6.1 | 4.5 |
| 13 | 5.8 | 5.9 | 1.0 | 5.7 | 4.2 |
| 14 | 4.5 | 6.6 | 2.6 | 6.1 | 4.7 |
| 15 | 4.9 | 5.7 | 0.8 | 5.8 | 4.7 |
| 16 | 3.6 | 5.1 | 1.6 | 5.2 | 3.7 |
| 17 | 5.4 | 6.2 | 0.6 | 5.8 | 5.6 |
| 18 | 5.1 | 7.8 | 0.0 | 5.3 | 6.4 |
| 19 | 4.8 | 6.5 | 1.4 | 5.4 | 6.4 |
| 20 | 4.9 | 6.4 | 1.2 | 5.8 | 4.1 |
| 21 | 4.7 | 5.5 | 3.6 | 7.1 | 7.2 |
| 22 | 2.8 | 3.6 | 3.0 | 2.7 | 0.9 |
| 23 | 4.3 | 4.9 | 6.5 | 6.1 | 4.9 |
| 24 | 3.4 | 2.8 | 0.3 | 5.5 | 3.9 |
| 25 | 4.1 | 4.0 | 5.2 | 5.6 | 5.0 |
| 26 | 4.9 | 4.1 | 0.0 | 4.6 | 4.3 |
| 27 | 5.2 | 3.4 | 0.0 | 4.6 | 4.5 |
| 28 | 5.7 | 4.2 | 0.5 | 5.3 | 4.4 |
| 29 | 5.0 | 5.1 | 0.0 | 5.8 | 5.8 |
| 30 | 3.2 | 5.9 | 3.5 | 3.6 | 2.5 |
| MEAN | 4.9 | 5.4 | 2.3 | 5.4 | 4.8 |

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 preceding 27 days (1 sun rotation).

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

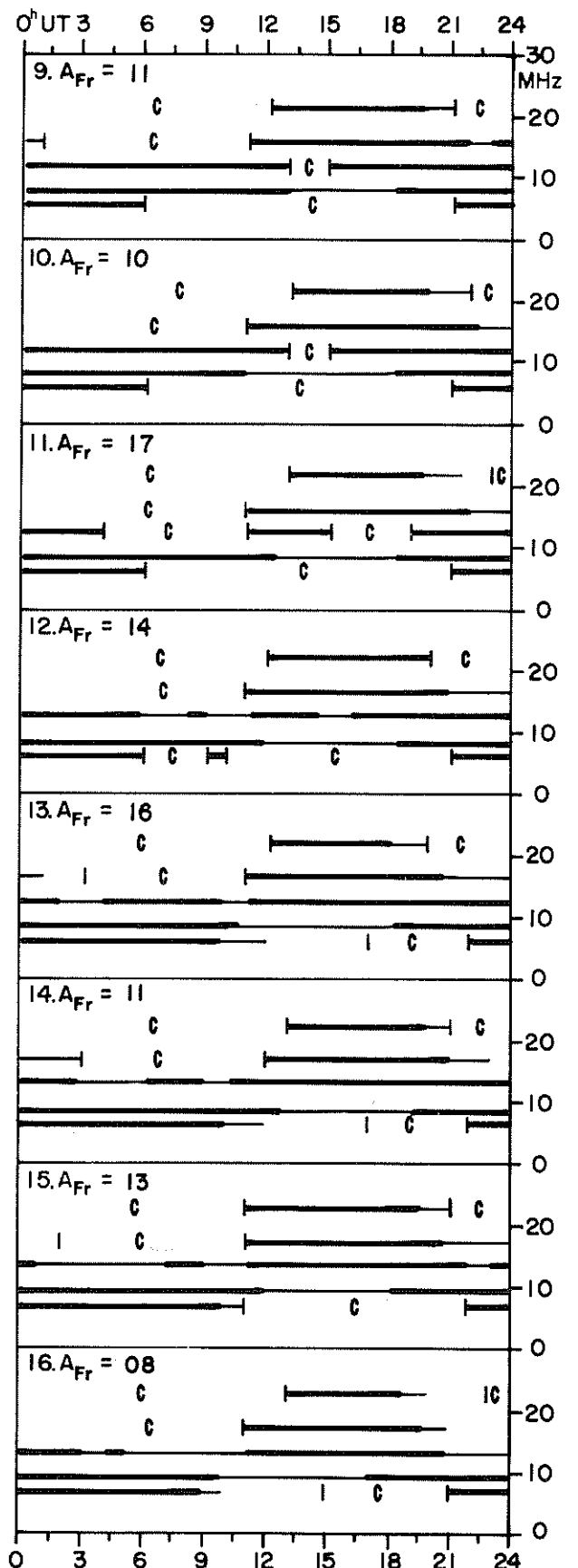
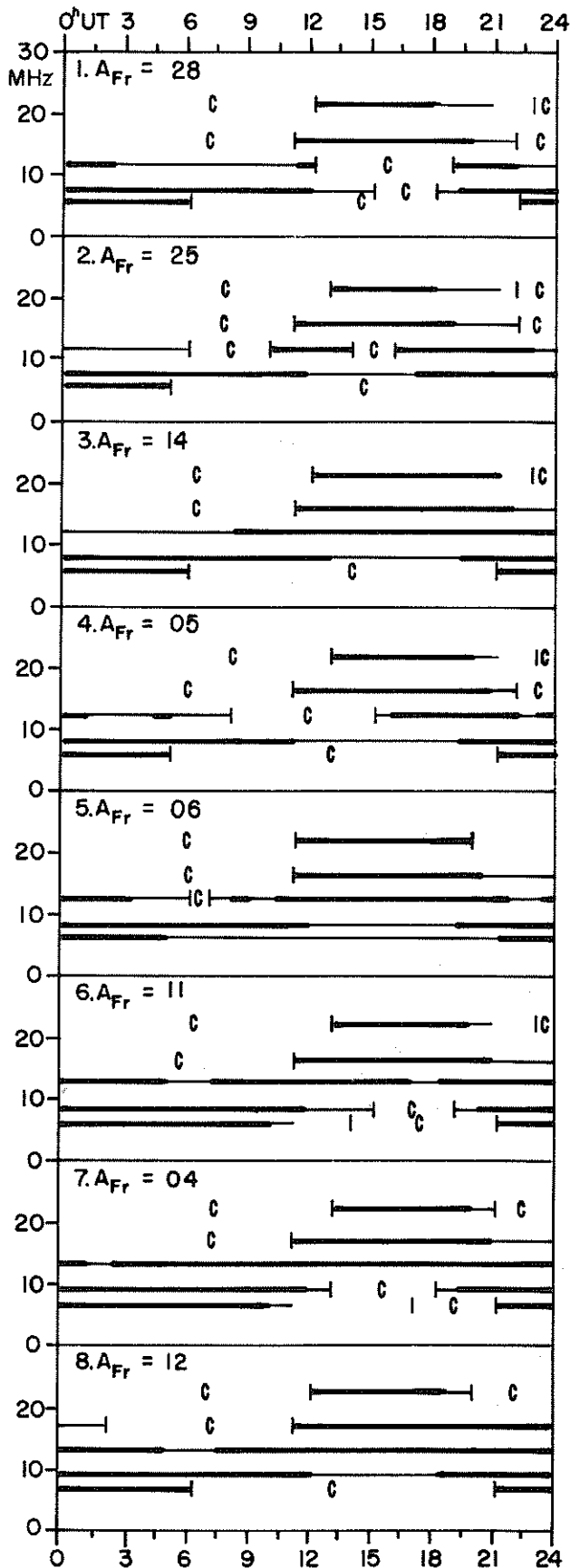
The quality indices vary from 0.0 to 9.9 where 6.0 is normal. Conditions are "normal" (index = 6.0), if they correspond to the average of the preceding 27 days.

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

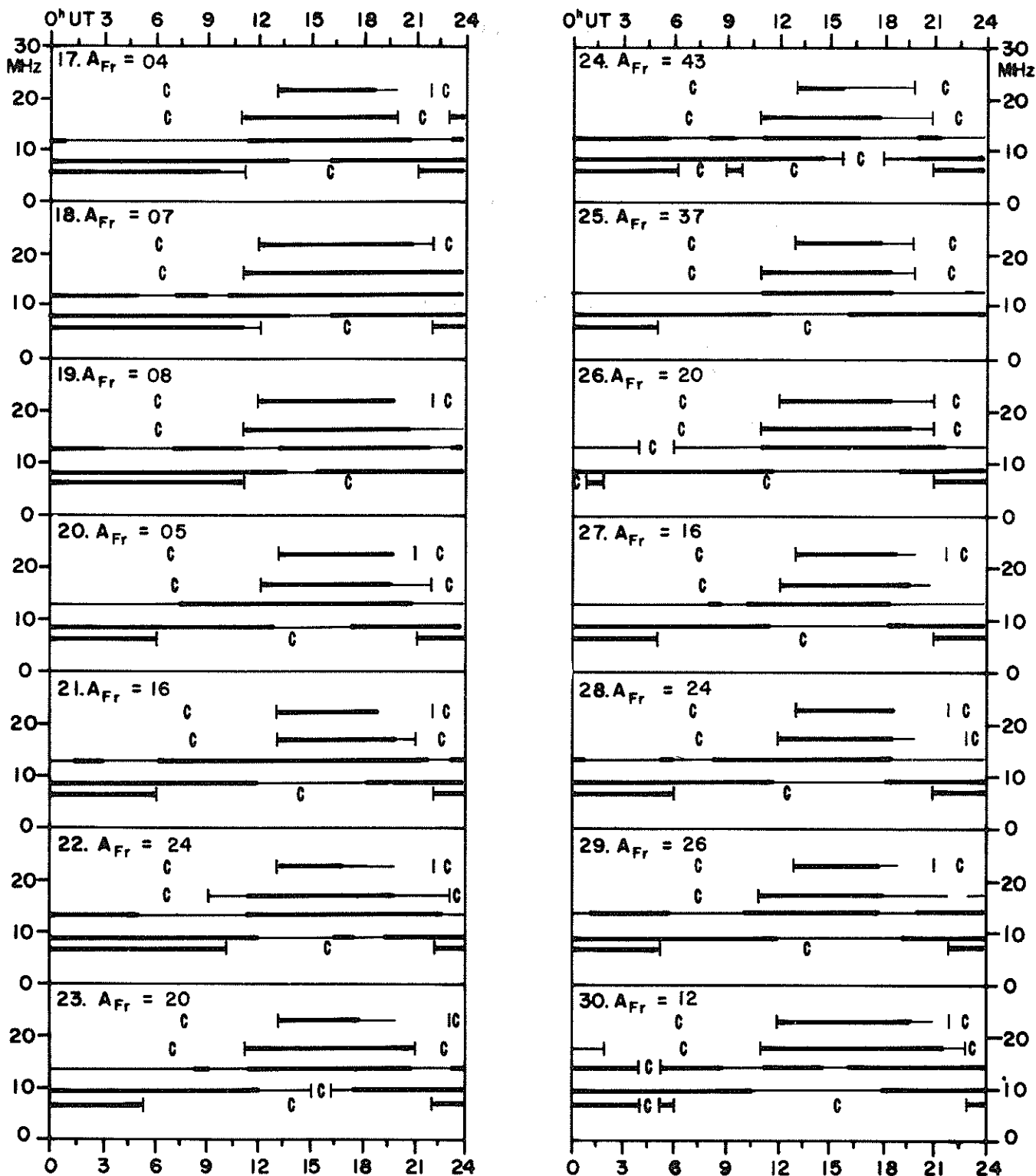
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

NOVEMBER 1982



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

NOVEMBER 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 ≥ -12 dB above $1 \mu\text{V/m}$ (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above $1 \mu\text{V/m}$ and -40 dB above $1 \mu\text{V/m}$ are represented by the fine line.

SGD 461 Part I (Prompt)

LATE DATA

Contents

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| <u>Spacecraft Observations</u> October 1982 Pioneer XII Interplanetary Magnetic Field Magnitudes | 135 |
| <u>Geomagnetic Indices</u> October 1982 Geomagnetic Activity Indices (Kp, Ap, Cp, Km, Am, aa, Kn, An, Ks, As) | 136 |

S O L A R R A D I O E M I S S I O N
S P E C T R A L O B S E R V A T I O N S

135
Late
Oct 82

OCTOBER 1982

| Day | Observation | | Sta | Decimetric Band | | | Metric Band | | | Dekametric Band | | | Spectral Type |
|-----|-------------|----------|------|-----------------|----------|-----------|-------------|----------|-----------|-----------------|----------|-----------|---------------|
| | Start (UT) | End (UT) | | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | Start (UT) | End (UT) | Int (1-3) | |
| 31 | 0000 | 0715 | CULG | 0040.5 | 0327.0 | 1 | | | | | | | IN |
| | | | CULG | 0327.0 | 0714.5 | 1 | | | | | | | |
| | 2015 | 2400 | CULG | 2015.5 | 2351.5 | 1 | 2042.0 | 2327.5 | 1 | | | | IS |
| | | | CULG | | | | 2132.5 | | 1 | | | | 111B |
| | | | CULG | | | | 2140.0 | 2143.0 | 1 | | | | CONT |
| | | | CULG | | | | 2142.0 | 2142.5 | 2 | | | | 111G |
| | | | CULG | | | | 2201.0 | 2253.0 | 2 | | | | IS |
| | | | CULG | 2211.5 | 2212.0 | 1 | | | | | | | DCIM |

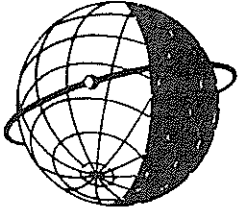
The symbols used under the column heading SPECTRAL TYPE have the following definitions:

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

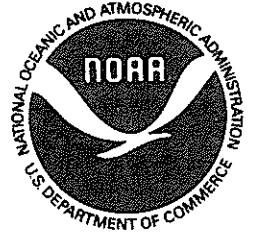
P I O N E E R X I I
(VENUS ORBITER)
INTERPLANETARY MAGNETIC FIELD
MAGNITUDES

October 1982

| DAY | TIME | BMAG (GAMMAS) |
|-----|----------|---------------|
| 1 | 13:33:10 | 15.45 |
| 2 | 13:32:40 | 12.68 |
| 3 | 13:30:50 | 8.59 |
| 4 | 14:10:40 | 7.64 |
| 5 | 14:16:00 | 17.28 |
| 6 | 13:33:20 | 10.59 |
| 7 | 20:52:00 | 12.65 |
| 8 | 14:20:40 | 10.96 |
| 9 | 13:33:10 | 10.77 |
| 10 | 13:36:50 | 9.40 |
| 11 | 13:33:00 | 14.83 |
| 12 | 17:13:20 | 12.76 |
| 13 | 13:49:50 | 11.48 |
| 14 | 15:17:20 | 11.88 |
| 15 | 13:33:10 | 36.68 |
| 16 | 13:32:00 | 11.42 |
| 17 | 21:31:50 | 9.69 |
| 18 | 15:22:10 | 11.13 |
| 19 | 21:01:40 | 10.02 |
| 20 | --- | --- |
| 21 | --- | --- |
| 22 | --- | --- |
| 23 | --- | --- |
| 24 | --- | --- |
| 25 | --- | --- |
| 26 | --- | --- |
| 27 | --- | --- |
| 28 | --- | --- |
| 29 | --- | --- |
| 30 | --- | --- |
| 31 | --- | --- |



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."