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**NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE**
Robert S. Winokur, Assistant Administrator

OCTOBER 1997 NUMBER 638 - Part II

# Solar-Geophysical Data comprehensive reports

Data for April 1997

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**NATIONAL GEOPHYSICAL DATA CENTER**
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Boulder, Colorado

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# SOLAR-GEOPHYSICAL DATA

Number 638

(Issued in Two Parts)

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## DATA FOR APRIL 1997

# Hα SOLAR FLARES

## APRIL 1997

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF Region | CMP Mo | CMP Day | Dur (Min) | Imp Opt | Imp Xray | Imp See | Obs Type | Area Measurement Time (UT) | Area Measurement Apparent (10-6 Disk) | Area Measurement Corr (Sq Deg) | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0001 | SVTO | 01 | 0506E | 0508U | 0515 | S26 | E22 | 8026 | 04 | 2.9 | 9D | SB | | 2 | E | | 21 | | |
| 0002 | | 01 | 07552 | 07572 | 0808 | S25 | E20 | 8026 | 04 | 2.9 | 13 | SF | | | | | 30 | 0.6 | EF |
| | MEUD | 01 | 0755 | 0757 | 0809 | S25 | E20 | 8026 | 04 | 2.9 | 14 | SF | | | | 0757 | 50 | 0.6 | E |
| | SVTO | 01 | 0757 | 0759 | 0807 | S25 | E20 | 8026 | 04 | 2.9 | 10 | SF | | 3 | E | | 11 | | F |
| 0003 | | 01 | 1007 | 1015 | 1038 | S24 | E20 | 8026 | 04 | 3.0 | 31 | SF | | | | | 30 | 0.3 | EK |
| | MEUD | 01 | 1007 | 1015 | 1038 | S24 | E21 | 8026 | 04 | 3.0 | 31 | SF | | | | 1015 | 30 | 0.3 | EK |
| | KANZ | 01 | 1009E | 1013U | 1017D | S24 | E18 | 8026 | 04 | 2.8 | 8D | SF | | 2 | | | | | |
| 0004 | | 01 | 1007* | 1031 | 1044 | S24 | E22 | 8026 | 04 | 3.1 | 37 | SF | | | | | 40 | 0.4 | EK |
| | MEUD | 01 | 1007 | 1031 | 1038 | S24 | E21 | 8026 | 04 | 3.0 | 31 | SF | | | | 1031 | 40 | 0.4 | EK |
| | KHAR | 01 | 1019 | 1031 | 1050 | S25 | E27 | 8026 | 04 | 3.5 | 31 | SN | | 2 | V | | | | E |
| | KANZ | 01 | 1029E | 1037U | 1037D | S24 | E19 | 8026 | 04 | 2.9 | 8D | SF | | 2 | | | | | |
| 0005 | RAMY | 01 | 1143 | 1143 | 1147 | S26 | E17 | 8026 | 04 | 2.8 | 4 | SF | B 1.6 | 3 | E | | 12 | | |
| 0006 | | 01 | 1252 | 1254U | 1259 | S25 | E19 | 8026 | 04 | 3.0 | 7 | SF | B 3.6 | | | | 10 | | |
| | MEUD | 01 | 1252 | | 1259 | S24 | E21 | 8026 | 04 | 3.1 | 7 | SF | | | | | | | |
| | RAMY | 01 | 1252E | 1254U | 1259D | S26 | E17 | 8026 | 04 | 2.8 | 7D | SF | B 3.6 | 4 | E | | 10 | | |
| 0007 | | 01 | 13433 | 13471 | 1408 | S25 | E17 | 8026 | 04 | 2.9 | 25 | 1B | M 1.9 | | | | 146 | 2.2 | EH |
| | MEUD | 01 | 1343 | 1348 | 1409 | S25 | E20 | 8026 | 04 | 3.1 | 26 | 1B | | | | 1348 | 220 | 2.2 | |
| | RAMY | 01 | 1343 | 1348 | 1410 | S25 | E16 | 8026 | 04 | 2.8 | 27 | 1B | M 1.9 | 4 | E | | 135 | | EH |
| | KANZ | 01 | 1343E | 1350U | 1350D | S25 | E16 | 8026 | 04 | 2.8 | 7D | 1B | | 2 | | | | | |
| | SVTO | 01 | 1344 | 1347 | 1404 | S25 | E16 | 8026 | 04 | 2.8 | 20 | 1N | | 3 | E | | 100 | | EH |
| | HOLL | 01 | 1346 | 1347 | 1408 | S26 | E16 | 8026 | 04 | 2.8 | 22 | 1N | | 3 | E | | 130 | | EH |
| 0008 | | 01 | 14475 | 14494 | 1458 | S26 | E18 | 8026 | 04 | 3.0 | 11 | SF | B 6.6 | | | | 31 | 0.5 | |
| | MEUD | 01 | 1447 | 1449 | 1459 | S25 | E20 | 8026 | 04 | 3.2 | 12 | SF | | | | 1449 | 50 | 0.5 | |
| | RAMY | 01 | 1452 | 1453 | 1458 | S26 | E17 | 8026 | 04 | 2.9 | 6 | SF | B 6.6 | 4 | E | | 12 | | |
| 0009 | | 02 | 00318 | 0040 | 0048 | S26 | E08 | 8026 | 04 | 2.6 | 17 | SF | C 2.2 | | | | 22 | | HS |
| | HOLL | 02 | 0031 | 0040 | 0048 | S27 | E09 | 8026 | 04 | 2.7 | 17 | SF | C 2.2 | 3 | E | | 29 | | H |
| | LEAR | 02 | 0039 | 0040 | 0047 | S25 | E08 | 8026 | 04 | 2.6 | 8 | SF | | 3 | E | | 14 | | HS |
| 0010 | LEAR | 02 | 0529 | 0530 | 0532 | S25 | E05 | 8026 | 04 | 2.6 | 3 | SF | C 1.3 | 3 | E | | 13 | | |
| 0011 | | 02 | 07051 | 07091 | 0721 | S24 | E10 | 8026 | 04 | 3.1 | 16 | SF | B 3.8 | | | | 24 | | F |
| | SVTO | 02 | 0705 | 0709 | 0724 | S24 | E09 | 8026 | 04 | 3.0 | 19 | SF | B 3.8 | 3 | E | | 24 | | F |
| | KANZ | 02 | 0706 | 0710 | 0718 | S24 | E10 | 8026 | 04 | 3.1 | 12 | SF | | 2 | | | | | |
| 0012 | | 02 | 07077 | 07131 | 0728 | S26 | E08 | 8026 | 04 | 2.9 | 21 | SF | | | | | 100 | 1.1 | ET |
| | MEUD | 02 | 0707 | 0713 | 0731 | S25 | E08 | 8026 | 04 | 2.9 | 24 | SF | | | | 0713 | 100 | 1.1 | ET |
| | KANZ | 02 | 0714 | 0714 | 0726 | S26 | E07 | 8026 | 04 | 2.8 | 12 | SF | | 2 | | | | | |
| 0013 | SVTO | 02 | 0800 | 0800 | 0804 | S25 | E07 | 8026 | 04 | 2.9 | 4 | SF | | 3 | E | | 11 | | F |
| 0014 | | 02 | 08322 | 0834 | 0848 | S24 | E08 | 8026 | 04 | 3.0 | 16 | SF | B 3.5 | | | | 15 | | F |
| | SVTO | 02 | 0832 | 0834 | 0849 | S24 | E08 | 8026 | 04 | 3.0 | 17 | SF | B 3.5 | 3 | E | | 15 | | F |
| | KANZ | 02 | 0834 | 0834 | 0846 | S24 | E09 | 8026 | 04 | 3.0 | 12 | SF | | 2 | | | | | |
| 0015 | KHAR | 02 | 0910E | | 0915U | S25 | E14 | 8026 | 04 | 3.5 | 5U | SF | | 2 | V | | | | H |
| 0016 | | 02 | 09224 | 09235 | 0937 | S24 | E09 | 8026 | 04 | 3.1 | 15 | SN | B 6.8 | | | | 68 | 1.1 | EFHT |
| | MEUD | 02 | 0922 | 0923 | 0939 | S24 | E08 | 8026 | 04 | 3.0 | 17 | SN | | | | 0926 | 100 | 1.1 | T |
| | KANZ | 02 | 0922 | 0926 | 0938 | S24 | E08 | 8026 | 04 | 3.0 | 16 | SF | | 2 | | | | | |
| | SVTO | 02 | 0924 | 0927 | 0942 | S24 | E07 | 8026 | 04 | 2.9 | 18 | SF | B 6.8 | 3 | E | | 35 | | F |
| | KHAR | 02 | 0926 | 0928 | 0929 | S25 | E14 | 8026 | 04 | 3.5 | 3 | SN | | 2 | V | | | | HE |
| 0017 | KHAR | 02 | 1023 | | 1037 | S25 | E14 | 8026 | 04 | 3.5 | 14 | SF | | 2 | V | | | | H |
| 0018 | | 02 | 10221 | 10242 | 1034 | S24 | E06 | 8026 | 04 | 2.9 | 12 | SF | B 2.4 | | | | 19 | | |
| | KANZ | 02 | 1022 | 1026 | 1034 | S25 | E07 | 8026 | 04 | 3.0 | 12 | SF | | 2 | | | | | |
| | SVTO | 02 | 1023 | 1024 | 1035 | S24 | E06 | 8026 | 04 | 2.9 | 12 | SF | B 2.4 | 3 | E | | 19 | | |
| 0019 | | 02 | 12024 | 12066 | 1221 | S24 | E07 | 8026 | 04 | 3.0 | 19 | SF | B 2.4 | | | | 67 | 1.1 | FT |
| | KANZ | 02 | 1202 | 1206 | 1225 | S25 | E07 | 8026 | 04 | 3.0 | 23 | SF | | 2 | | | | | |
| | SVTO | 02 | 1205 | 1207 | 1224 | S24 | E06 | 8026 | 04 | 3.0 | 19 | SF | B 2.4 | 3 | E | | 34 | | F |
| | MEUD | 02 | 1206 | 1212 | 1215 | S24 | E08 | 8026 | 04 | 3.1 | 9 | SF | | | | 1212 | 100 | 1.1 | T |

# Hα SOLAR FLARES

## APRIL 1997

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF Region | CMP Mo | CMP Day | Dur (Min) | Imp Opt | Imp Xray | Imp See | Obs Type | Area Measurement Time (UT) | Area Measurement Apparent (10-6 Disk) | Area Measurement Corr (Sq Deg) | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 02 | 2220 | | 2240 | No Flare Patrol | | | | | | | | | | | | | |
| | | 02 | 2302 | | 2330 | No Flare Patrol | | | | | | | | | | | | | |
| | | 03 | 0301 | | 0609 | No Flare Patrol | | | | | | | | | | | | | |
| | | 03 | 1226 | | 1239 | No Flare Patrol | | | | | | | | | | | | | |
| | | 03 | 1934 | | 1956 | No Flare Patrol | | | | | | | | | | | | | |
| | | 03 | 2033 | | 2044 | No Flare Patrol | | | | | | | | | | | | | |
| | | 03 | 2106 | | 2205 | No Flare Patrol | | | | | | | | | | | | | |
| | | 04 | 0514 | | 0528 | No Flare Patrol | | | | | | | | | | | | | |
| | | 04 | 1354 | | 1420 | No Flare Patrol | | | | | | | | | | | | | |
| | | 04 | 1858 | | 1900 | No Flare Patrol | | | | | | | | | | | | | |
| | | 04 | 2142 | | 2147 | No Flare Patrol | | | | | | | | | | | | | |
| 0020 | PALE | 05 | 0107 | 0107 | 0112 | S28 | E50 | 8027 | 04 | 8.9 | 5 | SF | | 3 | E | | 17 | | |
| | | 05 | 0336 | | 0358 | No Flare Patrol | | | | | | | | | | | | | |
| | | 05 | 0409 | | 0540 | No Flare Patrol | | | | | | | | | | | | | |
| 0021 | SVTO | 05 | 1528 | 1535 | 1538 | S29 | E41 | 8027 | 04 | 8.8 | 10 | SF B | 4.8 | 3 | E | | 11 | | F |
| 0022 | | 05 | 2028 | 2028 | 2040 | S28 | E39 | 8027 | 04 | 8.9 | 12 | SF B | 5.6 | | | | 40 | | |
| | RAMY | 05 | 2025E | 2026U | 2041 | S30 | E38 | 8027 | 04 | 8.8 | 16D | SF | | 3 | E | | 40 | | |
| | PALE | 05 | 2028 | 2028 | 2039 | S27 | E40 | 8027 | 04 | 9.0 | 11 | SF B | 5.6 | 3 | E | | 39 | | |
| | | 06 | 0120 | | 0459 | No Flare Patrol | | | | | | | | | | | | | |
| | | 06 | 0517 | | 0525 | No Flare Patrol | | | | | | | | | | | | | |
| | | 06 | 0638 | | 0751 | No Flare Patrol | | | | | | | | | | | | | |
| | | 06 | 0802 | | 0816 | No Flare Patrol | | | | | | | | | | | | | |
| | | 06 | 0927 | | 1009 | No Flare Patrol | | | | | | | | | | | | | |
| 0023 | | 06 | 12024 | 12103 | 1224 | S28 | E29 | 8027 | 04 | 8.8 | 22 | SF | | | | | 36 | 0.6 | EF |
| | KANZ | 06 | 1202 | 1210 | 1226 | S29 | E29 | 8027 | 04 | 8.8 | 24 | SF | | 2 | | | | | |
| | SVTO | 06 | 1206 | 1213 | 1227 | S28 | E29 | 8027 | 04 | 8.8 | 21 | SF | | 3 | E | | 21 | | F |
| | MEUD | 06 | 1210E | 1213 | 1220 | S28 | E30 | 8027 | 04 | 8.8 | 10D | SF | | | | 1213 | 50 | 0.6 | E |
| | | 07 | 0119 | | 0317 | No Flare Patrol | | | | | | | | | | | | | |
| | | 07 | 0327 | | 0433 | No Flare Patrol | | | | | | | | | | | | | |
| 0024 | KANZ | 07 | 1011 | 1015 | 1023 | S23 | W59 | 8026 | 04 | 2.9 | 12 | SF | | 2 | | | | | |
| 0025 | | 07 | 13532 | 13598 | 1508 | S29 | E20 | 8027 | 04 | 9.1 | 75 | 2N C | 6.8 | | | | 300 | 5.2 | CSUY |
| | MEUD | 07 | 1353 | 1406 | 1447 | S27 | E25 | 8027 | 04 | 9.5 | 54 | 2B | | | | 1406 | 450 | 5.2 | CSU |
| | RAMY | 07 | 1354 | 1403 | 1524 | S30 | E19 | 8027 | 04 | 9.1 | 90 | 2N C | 6.8 | 4 | E | | 297 | | UY |
| | HOLL | 07 | 1355 | 1359 | 1456 | S29 | E17 | 8027 | 04 | 8.9 | 61 | 1F | | 3 | E | | 161 | | US |
| | SVTO | 07 | 1355 | 1401U | 1459D | S30 | E19 | 8027 | 04 | 9.1 | 64D | 2N | | 2 | E | | 290 | | US |
| | KANZ | 07 | 1355 | 1407 | 1523 | S29 | E18 | 8027 | 04 | 9.0 | 88 | 3N | | 2 | | | | | U |
| 0026 | SVTO | 09 | 0440E | 0445U | 0503D | S29 | W04 | 8027 | 04 | 8.9 | 23D | SF B | 4.2 | 1 | E | | 55 | | |
| 0027 | | 09 | 1055* | 11309 | 1142 | S24 | W80 | | 04 | 3.3 | 47 | SF | | | | | | | C |
| | MEUD | 09 | 1055 | 1130 | 1142 | S24 | W80 | | 04 | 3.3 | 47 | SF | | | | | | | C |
| | KANZ | 09 | 1135 | 1139 | 1143 | S24 | W81 | | 04 | 3.2 | 8 | SF | | 2 | | | | | |
| 0028 | SVTO | 10 | 1021 | 1029 | 1033 | N24 | W28 | 8029 | 04 | 8.3 | 12 | SF | | 3 | E | | 13 | | |
| 0029 | MEUD | 10 | 1233 | 1239 | 1242 | S30 | W15 | 8027 | 04 | 9.3 | 9 | SF | | | | 1239 | 40 | 0.5 | E |
| | | 10 | 2112 | | 2118 | No Flare Patrol | | | | | | | | | | | | | |
| | | 10 | 2131 | | 2322 | No Flare Patrol | | | | | | | | | | | | | |
| | | 11 | 2205 | | 2246 | No Flare Patrol | | | | | | | | | | | | | |
| 0030 | | 13 | 18383 | 1842 | 1853 | S30 | W46 | 8031 | 04 | 10.1 | 15 | SF B | 8.2 | | | | 19 | | F |
| | RAMY | 13 | 1838 | 1842 | 1855 | S29 | W47 | 8031 | 04 | 10.1 | 17 | SF B | 8.2 | 3 | E | | 21 | | F |
| | HOLL | 13 | 1841 | 1842 | 1851 | S30 | W45 | 8031 | 04 | 10.2 | 10 | SF | | 3 | E | | 17 | | |
| 0031 | MEUD | 14 | 0835 | 0846 | 0854 | S28 | W55 | 8031 | 04 | 10.0 | 19 | SF | | | | 0846 | 20 | 0.4 | E |
| 0032 | | 15 | 0629 | 0645 | 0711 | S23 | E12 | 8032 | 04 | 16.2 | 42 | SF B | 1.7 | | | | 31 | | |
| | KANZ | 15 | 0629 | 0645 | 0709 | S23 | E12 | 8032 | 04 | 16.2 | 40 | SF | | 2 | | | | | |
| | SVTO | 15 | 0629 | 0645 | 0713 | S23 | E13 | 8032 | 04 | 16.3 | 44 | SF B | 1.7 | 3 | E | | 31 | | |

# Hα SOLAR FLARES

## APRIL 1997

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF Region | CMP Mo | CMP Day | Dur (Min) | Imp Opt | Imp Xray | Imp See | Obs Type | Area Measurement Time (UT) | Area Measurement Apparent (10-6 Disk) | Area Measurement Corr (Sq Deg) | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0033 | SVTO | 15 | 0959 | 1001 | 1007 | S23 | E11 | 8032 | 04 | 16.3 | 8 | SF | B 6.8 | 3 | E | | 34 | | F |
| 0034 | SVTO | 15 | 1011 | 1018U | 1028D | S23 | E11 | 8032 | 04 | 16.3 | 17D | SF | B 5.9 | 3 | E | | 29 | | F |
| 0035 | KANZ | 15 | 1249 | 1249 | 1253 | S22 | E10 | 8032 | 04 | 16.3 | 4 | SF | | 2 | | | | | |
| 0036 | KANZ | 15 | 1301 | 1304 | 1309 | S22 | E10 | 8032 | 04 | 16.3 | 8 | SF | | 2 | | | | | |
| 0037 | MEUD | 15 | 1303 | 1306 | 1321 | N25 | W90 | 8029 | 04 | 8.6 | 18 | SF | | | | | | | |
| 0038 | | 15 | 14091 | 14121 | 1430 | S24 | E10 | 8032 | 04 | 16.4 | 21 | SN | C 1.0 | | | | 88 | 0.9 | H |
| | MEUD | 15 | 1409 | 1413 | 1428 | S23 | E14 | 8032 | 04 | 16.7 | 19 | SN | | | | 1413 | 90 | 0.9 | |
| | KANZ | 15 | 1409 | 1413 | 1429 | S24 | E10 | 8032 | 04 | 16.4 | 20 | SF | | 2 | | | | | |
| | HOLL | 15 | 1409 | 1413 | 1432 | S24 | E08 | 8032 | 04 | 16.2 | 23 | SF | C 1.0 | 3 | E | | 73 | | H |
| | RAMY | 15 | 1410 | 1412 | 1432 | S23 | E09 | 8032 | 04 | 16.3 | 22 | 1N | | 3 | E | | 102 | | |
| 0039 | | 15 | 1730 | 1731 | 1742 | S28 | W77 | 8031 | 04 | 9.7 | 12 | SF | B 5.3 | | | | 47 | | |
| | HOLL | 15 | 1730 | 1731 | 1740 | S27 | W78 | 8031 | 04 | 9.6 | 10 | SF | | 3 | E | | 39 | | |
| | RAMY | 15 | 1730 | 1731 | 1743 | S28 | W76 | 8031 | 04 | 9.8 | 13 | SF | B 5.3 | 3 | E | | 55 | | |
| 0040 | HOLL | 15 | 2006 | 2007 | 2010 | S24 | E04 | 8032 | 04 | 16.1 | 4 | SF | B 3.1 | 3 | E | | 22 | | |
| | | 16 | 0126 | | 0202 | No Flare Patrol | | | | | | | | | | | | | |
| 0041 | LEAR | 16 | 0400 | 0401 | 0403 | S30 | W74 | 8031 | 04 | 10.3 | 3 | SF | | 3 | E | | 37 | | |
| 0042 | | 16 | 1105 | 1108 | 1117 | S22 | W00 | 8032 | 04 | 16.5 | 12 | SF | | | | | 83 | 1.5 | |
| | MEUD | 16 | 1105 | 1108 | 1121 | S23 | W00 | 8032 | 04 | 16.5 | 16 | SF | | | | 1108 | 150 | 1.5 | |
| | RAMY | 16 | 1106E | 1108U | 1113 | S20 | W01 | 8032 | 04 | 16.4 | 7D | SF | | 2 | E | | 16 | | |
| | | 17 | 0942 | | 0949 | No Flare Patrol | | | | | | | | | | | | | |
| | | 17 | 0951 | | 0957 | No Flare Patrol | | | | | | | | | | | | | |
| | | 17 | 1004 | | 1016 | No Flare Patrol | | | | | | | | | | | | | |
| | | 17 | 2119 | | 2127 | No Flare Patrol | | | | | | | | | | | | | |
| | | 17 | 2138 | | 2151 | No Flare Patrol | | | | | | | | | | | | | |
| | | 17 | 2211 | | 2255 | No Flare Patrol | | | | | | | | | | | | | |
| | | 18 | 0134 | | 0210 | No Flare Patrol | | | | | | | | | | | | | |
| | | 19 | 0000 | | 0011 | No Flare Patrol | | | | | | | | | | | | | |
| | | 19 | 0201 | | 0626 | No Flare Patrol | | | | | | | | | | | | | |
| | | 20 | 0953 | | 1025 | No Flare Patrol | | | | | | | | | | | | | |
| | | 20 | 2201 | | 2259 | No Flare Patrol | | | | | | | | | | | | | |
| | | 21 | 0002 | | 0204 | No Flare Patrol | | | | | | | | | | | | | |
| | | 21 | 0618 | | 0642 | No Flare Patrol | | | | | | | | | | | | | |
| | | 21 | 1529 | | 1905 | No Flare Patrol | | | | | | | | | | | | | |
| | | 21 | 1945 | | 2011 | No Flare Patrol | | | | | | | | | | | | | |
| | | 21 | 2046 | | 2050 | No Flare Patrol | | | | | | | | | | | | | |
| | | 21 | 2115 | | 2256 | No Flare Patrol | | | | | | | | | | | | | |
| | | 22 | 0949 | | 1025 | No Flare Patrol | | | | | | | | | | | | | |
| | | 22 | 1123 | | 1127 | No Flare Patrol | | | | | | | | | | | | | |
| | | 22 | 2046 | | 2101 | No Flare Patrol | | | | | | | | | | | | | |
| | | 22 | 2123 | | 2131 | No Flare Patrol | | | | | | | | | | | | | |
| | | 22 | 2139 | | 2204 | No Flare Patrol | | | | | | | | | | | | | |
| | | 22 | 2230 | | 2243 | No Flare Patrol | | | | | | | | | | | | | |
| | | 23 | 1846 | | 1851 | No Flare Patrol | | | | | | | | | | | | | |
| | | 23 | 1936 | | 2150 | No Flare Patrol | | | | | | | | | | | | | |
| | | 23 | 2223 | | 2244 | No Flare Patrol | | | | | | | | | | | | | |
| | | 24 | 2216 | | 2218 | No Flare Patrol | | | | | | | | | | | | | |
| | | 25 | 1911 | | 2005 | No Flare Patrol | | | | | | | | | | | | | |
| | | 25 | 2020 | | 2258 | No Flare Patrol | | | | | | | | | | | | | |
| | | 26 | 2053 | | 2101 | No Flare Patrol | | | | | | | | | | | | | |
| | | 26 | 2202 | | 2257 | No Flare Patrol | | | | | | | | | | | | | |
| 0043 | LEAR | 26 | 2340 | 2351 | 2355 | S17 | W37 | 8036 | 04 | 24.2 | 15 | SF | B 6.8 | 3 | E | | 16 | | F |
| | | 27 | 0920 | | 0924 | No Flare Patrol | | | | | | | | | | | | | |
| | | 27 | 0941 | | 0945 | No Flare Patrol | | | | | | | | | | | | | |
| | | 27 | 1009 | | 1040 | No Flare Patrol | | | | | | | | | | | | | |
| | | 27 | 1149 | | 1158 | No Flare Patrol | | | | | | | | | | | | | |
| | | 27 | 1211 | | 1226 | No Flare Patrol | | | | | | | | | | | | | |
| | | 27 | 1317 | | 1318 | No Flare Patrol | | | | | | | | | | | | | |

# Hα SOLAR FLARES

## APRIL 1997

| Grp # | Sta | Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | NOAA/ USAF Region | CMP Mo | CMP Day | Dur (Min) | Imp Opt | Imp Xray | Obs See | Obs Type | Area Measurement Time (UT) | Area Measurement Apparent (10-6 Disk) | Area Measurement Corr (Sq Deg) | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 28 | 0316 | | 0326 | No Flare Patrol | | | | | | | | | | | | | |
| | | 28 | 0750 | | 0759 | No Flare Patrol | | | | | | | | | | | | | |
| | | 28 | 1248 | | 1251 | No Flare Patrol | | | | | | | | | | | | | |
| | | 29 | 2050 | | 2112 | No Flare Patrol | | | | | | | | | | | | | |
| | | 29 | 2221 | | 2231 | No Flare Patrol | | | | | | | | | | | | | |
| | | 30 | 1641 | | 1714 | No Flare Patrol | | | | | | | | | | | | | |

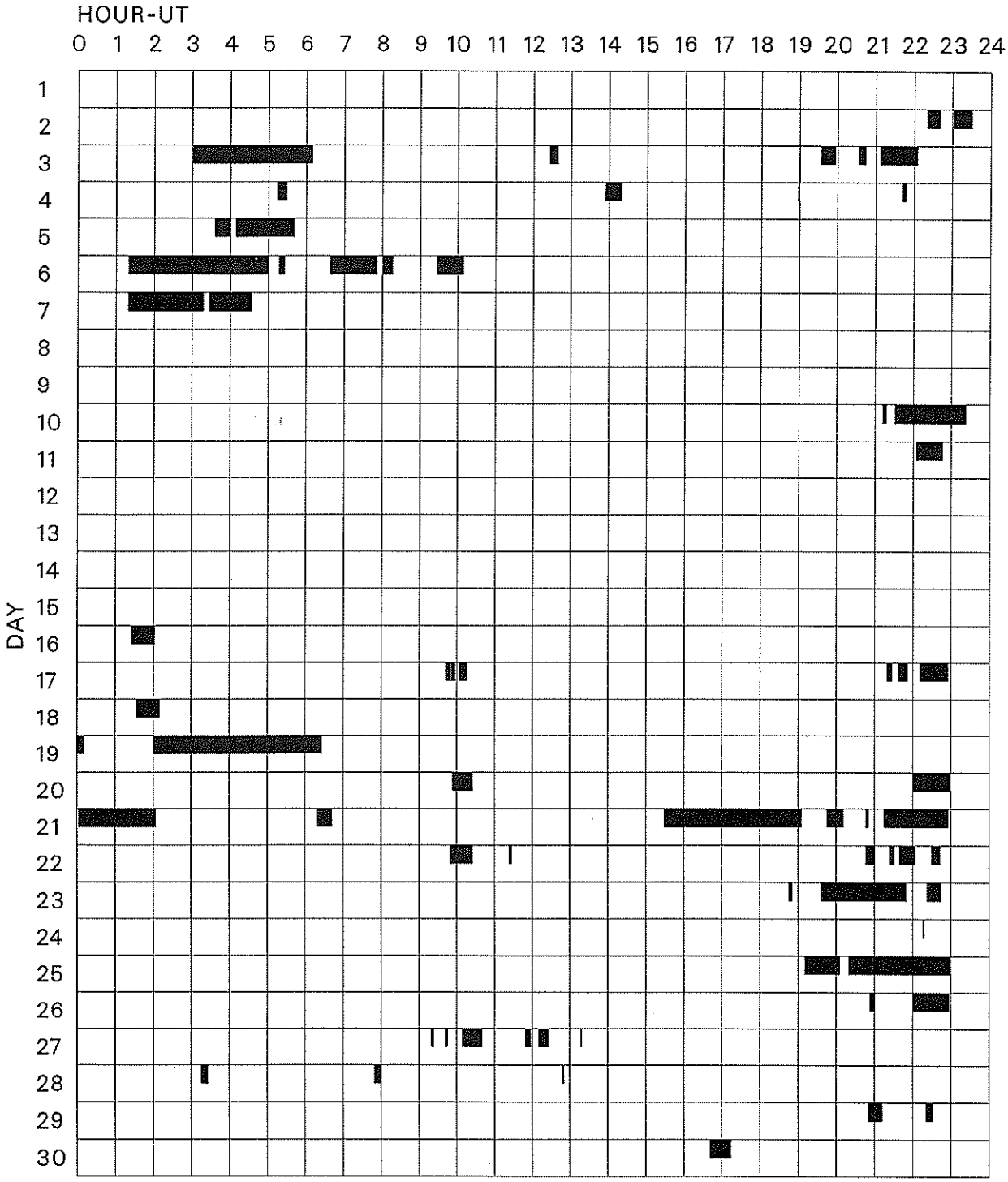
"Remarks"

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

Observation Type: C=Cinematographic, E=Electronic, P=Photographic, V=Visual

# INTERVALS OF NO FLARE PATROL OBSERVATION
## FOR PRECEDING SOLAR FLARE TABLE

## APRIL 1997

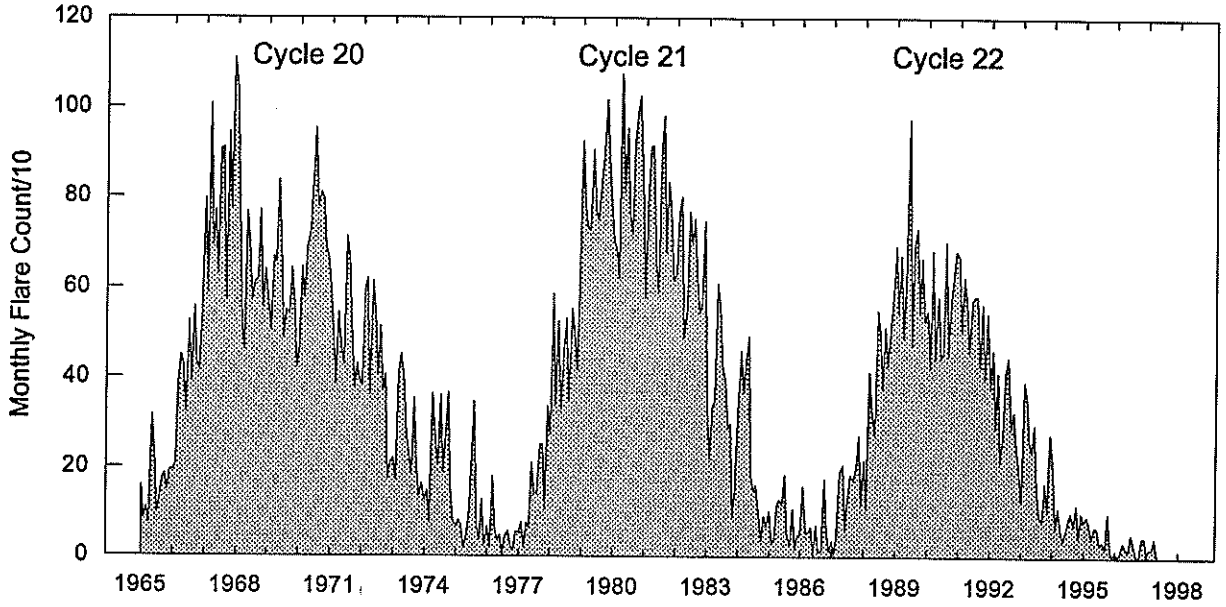



Times of no flare patrol, shown here as shaded areas, combine reports from the stations listed below. Portions of a panel completely shaded mark dates and times of no patrol of any kind (neither visual nor cinematographic); portions of a panel with only the bottom half shaded mark times of only visual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

| | | | |
|---|---|---|---|
| Bucharest | Kanzelhoehe | Meudon | Ramey |
| Holloman | Kharkov | Mitaka | San Vito |
| Hurbanovo | Learmonth | Palehua | Voroshilov |

# Monthly Counts of Grouped Solar Flares
# Jan 1965 - Apr 1997






| Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1965 | 158 | 85 | 110 | 74 | 315 | 231 | 99 | 127 | 173 | 184 | 150 | 193 | 1899 |
| 1966 | 194 | 205 | 390 | 449 | 429 | 323 | 528 | 391 | 558 | 432 | 417 | 543 | 4859 |
| 1967 | 796 | 589 | 1009 | 694 | 771 | 629 | 907 | 911 | 573 | 946 | 775 | 1109 | 9709 |
| 1968 | 1037 | 773 | 519 | 460 | 768 | 697 | 573 | 611 | 616 | 772 | 556 | 640 | 8022 |
| 1969 | 581 | 504 | 669 | 655 | 839 | 694 | 489 | 551 | 540 | 643 | 566 | 422 | 7153 |
| 1970 | 466 | 646 | 578 | 688 | 722 | 836 | 954 | 780 | 811 | 797 | 687 | 667 | 8632 |
| 1971 | 598 | 505 | 387 | 546 | 461 | 430 | 713 | 673 | 518 | 375 | 431 | 394 | 6031 |
| 1972 | 384 | 599 | 621 | 361 | 614 | 541 | 404 | 515 | 371 | 408 | 175 | 210 | 5203 |
| 1973 | 221 | 171 | 410 | 453 | 388 | 270 | 232 | 182 | 353 | 201 | 136 | 163 | 3180 |
| 1974 | 127 | 148 | 79 | 364 | 255 | 204 | 360 | 187 | 270 | 366 | 153 | 81 | 2594 |
| 1975 | 68 | 82 | 69 | 19 | 42 | 85 | 196 | 346 | 68 | 38 | 127 | 25 | 1165 |
| 1976 | 69 | 18 | 180 | 60 | 38 | 48 | 6 | 47 | 57 | 23 | 13 | 55 | 614 |
| 1977 | 54 | 77 | 18 | 76 | 64 | 210 | 140 | 140 | 250 | 252 | 107 | 336 | 1724 |
| 1978 | 274 | 588 | 338 | 526 | 330 | 460 | 533 | 346 | 554 | 499 | 418 | 648 | 5514 |
| 1979 | 926 | 781 | 731 | 731 | 907 | 772 | 750 | 821 | 901 | 1018 | 888 | 786 | 10012 |
| 1980 | 703 | 689 | 621 | 1092 | 811 | 956 | 763 | 720 | 924 | 988 | 1027 | 838 | 10132 |
| 1981 | 578 | 782 | 914 | 915 | 658 | 592 | 893 | 982 | 680 | 836 | 773 | 615 | 9218 |
| 1982 | 631 | 766 | 803 | 490 | 553 | 769 | 696 | 753 | 615 | 544 | 564 | 748 | 7932 |
| 1983 | 332 | 220 | 337 | 346 | 609 | 561 | 427 | 389 | 289 | 298 | 88 | 152 | 4048 |
| 1984 | 353 | 461 | 366 | 440 | 492 | 185 | 151 | 161 | 95 | 36 | 92 | 69 | 2901 |
| 1985 | 104 | 29 | 38 | 119 | 129 | 116 | 185 | 53 | 25 | 108 | 19 | 50 | 975 |
| 1986 | 51 | 158 | 54 | 56 | 68 | 3 | 71 | 12 | 14 | 174 | 56 | 13 | 730 |
| 1987 | 36 | 7 | 52 | 192 | 205 | 61 | 132 | 185 | 172 | 198 | 273 | 114 | 1627 |
| 1988 | 217 | 109 | 413 | 328 | 274 | 551 | 502 | 375 | 513 | 429 | 518 | 587 | 4816 |
| 1989 | 695 | 544 | 672 | 488 | 691 | 977 | 474 | 699 | 733 | 547 | 665 | 526 | 7711 |
| 1990 | 550 | 424 | 684 | 442 | 580 | 445 | 454 | 703 | 449 | 574 | 623 | 682 | 6610 |
| 1991 | 672 | 503 | 625 | 570 | 458 | 574 | 582 | 581 | 425 | 565 | 396 | 544 | 6495 |
| 1992 | 380 | 462 | 287 | 412 | 214 | 271 | 413 | 447 | 287 | 325 | 248 | 206 | 3952 |
| 1993 | 123 | 392 | 357 | 262 | 237 | 296 | 154 | 92 | 82 | 167 | 104 | 275 | 2541 |
| 1994 | 217 | 67 | 111 | 60 | 40 | 56 | 81 | 101 | 72 | 117 | 45 | 99 | 1066 |
| 1995 | 82 | 95 | 77 | 42 | 69 | 66 | 29 | 37 | 23 | 99 | 14 | 6 | 639 |
| 1996 | 14 | 3 | 15 | 34 | 21 | 16 | 54 | 31 | 3 | 0 | 44 | 45 | 280 |
| 1997 | 8 | 22 | 18 | 43 | | | | | | | | | 91 |

The term 'grouped' means observations of the same event by different sites were lumped together and counted as one.

# SOLAR RADIO EMISSION
## Outstanding Occurrences

### APRIL 1997

| Day | Freq | Sta | Type | | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 -22 W/m 2 Hz) | Flux Density Mean (10 -22 W/m 2 Hz) | Int | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 204 | IZMI | 43 | NS | 0600.0 | | 360.0D | | 10.0 | | |
| | 127 | TORN | 43 | NS | 0822.0 | | 260.0 | | 4.0 | | V=1 |
| | 245 | LEAR | 4 | S/F | 0013.0 | 0014.0 | 4.0 | 150.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | LEAR | 4 | S/F | 0013.0 | 0015.0 | 4.0 | 27.0 | | | QL=4 ST=2 TYP=3 |
| | 200 | HIRA | 8 | S | 0014.4 | 0014.6 | 0.7 | 79.0 | | | WL |
| | 500 | HIRA | 8 | S | 0014.8 | 0015.0 | 0.7 | 15.0 | | | WL |
| | 245 | LEAR | 8 | S | 0024.0 | 0024.0 | 1.0 | 34.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | LEAR | 8 | S | 0024.0 | 0025.0 | 1.0 | 68.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | PALE | 8 | S | 0024.0 | 0024.0 | 2.0 | 37.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | PALE | 8 | S | 0024.0 | 0025.0 | 2.0 | 84.0 | | | QL=2 ST=2 TYP=3 |
| | 500 | HIRA | 8 | S | 0024.8 | 0024.9 | 0.2 | 22.0 | | | WL |
| | 500 | HIRA | 8 | S | 0238.9 | 0239.0 | 0.2 | 3.0 | | | WL |
| | 500 | HIRA | 42 | SER | 0301.0 | 0303.0 | 3.4 | 6.0 | | | WL |
| | 245 | LEAR | 8 | S | 0303.0 | 0304.0 | 1.0 | 73.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | PALE | 8 | S | 0303.0 | 0304.0 | 1.0 | 71.0 | | | QL=4 ST=2 TYP=3 |
| | 200 | HIRA | 8 | S | 0303.2 | 0303.7 | 1.0 | 43.0 | | | WL |
| | 245 | PALE | 4 | S/F | 0340.0 | 0342.0 | 4.0 | 64.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | PALE | 8 | S | 0342.0 | 0342.0 | U | 61.0 | | | QL=4 ST=3 TYP=3 |
| | 245 | LEAR | 4 | S/F | 0437.0 | 0439.0 | 3.0 | 83.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | LEAR | 4 | S/F | 0437.0 | 0439.0 | 3.0 | 66.0 | | | QL=4 ST=2 TYP=3 |
| | 200 | HIRA | 46 | C | 0438.0 | 0439.3 | 2.5 | 45.0 | 10.0 | | WL |
| | 500 | HIRA | 42 | SER | 0438.2 | 0438.4 | 1.6 | 2.0 | | | WL |
| | 2840 | PEKG | 45 | C | 0501.0 | 0504.0 | 18.0 | 20.5 | | | |
| | 610 | SVTO | 8 | S | 0502.0 | 0502.0 | 2.0 | 75.0 | | | QL=2 ST=3 TYP=3 |
| | 245 | LEAR | 49 | GB | 0503.0 | 0504.0 | 2.0 | 2300.0 | | | QL=4 ST=2 TYP=6 |
| | 8800 | LEAR | 8 | S | 0503.0 | 0504.0 | 2.0 | 33.0 | | | QL=4 ST=2 TYP=3 |
| | 2695 | LEAR | 8 | S | 0503.0 | 0504.0 | 2.0 | 20.0 | | | QL=4 ST=2 TYP=3 |
| | 610 | LEAR | 8 | S | 0503.0 | 0504.0 | 2.0 | 66.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | LEAR | 8 | S | 0503.0 | 0504.0 | 2.0 | 170.0 | | | QL=4 ST=2 TYP=3 |
| | 4995 | LEAR | 8 | S | 0503.0 | 0504.0 | 2.0 | 44.0 | | | QL=4 ST=2 TYP=3 |
| | 1415 | LEAR | 8 | S | 0503.0 | 0504.0 | 2.0 | 10.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SVTO | 4 | S/F | 0503.0 | 0503.0 | 4.0 | 260.0 | | | QL=2 ST=3 TYP=3 |
| | 2695 | SVTO | 8 | S | 0503.0 | 0504.0 | 1.0 | 30.0 | | | QL=2 ST=3 TYP=3 |
| | 245 | SVTO | 49 | GB | 0503.0 | 0504.0 | 2.0 | 2400.0 | | | QL=2 ST=3 TYP=6 |
| | 4995 | SVTO | 8 | S | 0503.0 | 0504.0 | 1.0 | 32.0 | | | QL=2 ST=3 TYP=3 |
| | 2800 | HIRA | 6 | S | 0503.4 | 0504.0 | 2.0 | 17.0 | 3.0 | | O |
| | 500 | HIRA | 46 | C | 0503.5 | 0504.0 | 2.2 | 28.0 | 13.0 | | WL |
| | 200 | HIRA | 6 | S | 0503.5 | 0503.7 | 1.4 | 630.0 | 98.0 | | O |
| | 15400 | LEAR | 8 | S | 0505.0 | 0505.0 | 2.0 | 12.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | LEAR | 4 | S/F | 0510.0 | 0513.0 | 4.0 | 490.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | LEAR | 4 | S/F | 0510.0 | 0512.0 | 4.0 | 320.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SVTO | 49 | GB | 0510.0 | 0513.0 | 5.0 | 750.0 | | | QL=2 ST=3 TYP=6 |
| | 245 | SVTO | 4 | S/F | 0510.0 | 0512.0 | 4.0 | 310.0 | | | QL=2 ST=3 TYP=3 |
| | 500 | HIRA | 46 | C | 0510.5 | 0513.2 | 4.1 | 14.0 | 5.0 | | WL |
| | 2800 | HIRA | 6 | S | 0510.5 | 0513.6 | 6.2 | 9.0 | 2.0 | | WR |
| | 200 | HIRA | 46 | C | 0511.7 | 0513.2 | 2.6 | 55.0 | 12.0 | | O |
| | 4995 | LEAR | 8 | S | 0513.0 | 0513.0 | U | 22.0 | | | QL=4 ST=2 TYP=3 |
| | 4995 | SVTO | 8 | S | 0513.0 | 0513.0 | U | 24.0 | | | QL=4 ST=3 TYP=3 |
| | 245 | LEAR | 8 | S | 0749.0 | 0750.0 | 1.0 | 110.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 0749.0 | 0751.0 | 2.0 | 120.0 | | | QL=2 ST=3 TYP=3 |
| | 204 | IZMI | 42 | SER | 0749.0 | 0757.0 | 10.0 | 1500.0 | | | |
| | 245 | LEAR | 49 | GB | 0755.0 | 0756.0 | 2.0 | 700.0 | | | QL=4 ST=2 TYP=6 |
| | 2840 | PEKG | 3 | S | 0755.0 | 0757.0 | 5.0 | 51.8 | | | |
| | 245 | SVTO | 49 | GB | 0755.0 | 0756.0 | 2.0 | 780.0 | | | QL=2 ST=3 TYP=6 |
| | 410 | SVTO | 8 | S | 0755.0 | 0757.0 | 2.0 | 290.0 | | | QL=2 ST=3 TYP=3 |
| | 200 | HIRA | 6 | S | 0755.0 | 0756.5 | 3.2 | 270.0 | 45.0 | | WL |
| | 127 | TORN | 4 | S/F | 0755.4 | 0757.1 | 3.0 | 2500.0 | 610.0 | | |
| | 9100 | GORK | 3 | S | 0755.5 | 0756.7 | 3.9 | 191.0 | | | |
| | 3000 | IZMI | 7 | C | 0755.5 | 0756.8 | 6.5 | 69.0 | | | |
| | 2800 | HIRA | 6 | S | 0755.7 | 0756.5 | 4.0 | 48.0 | 6.0 | | O |
| | 500 | HIRA | 46 | C | 0755.7 | 0756.7 | 3.0 | 70.0 | 25.0 | | ML |
| | 0950 | GORK | 1 | S | 0755.9 | 0756.8 | 3.5 | 7.0 | | | |
| | 2695 | LEAR | 8 | S | 0756.0 | 0756.0 | 1.0 | 59.0 | | | QL=4 ST=2 TYP=3 |
| | 15400 | LEAR | 8 | S | 0756.0 | 0756.0 | 1.0 | 80.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | LEAR | 8 | S | 0756.0 | 0756.0 | 1.0 | 170.0 | | | QL=4 ST=2 TYP=3 |
| | 610 | LEAR | 8 | S | 0756.0 | 0756.0 | 1.0 | 67.0 | | | QL=4 ST=2 TYP=3 |
| | 8800 | SVTO | 8 | S | 0756.0 | 0756.0 | 1.0 | 190.0 | | | QL=4 ST=2 TYP=3 |
| | 610 | SVTO | 8 | S | 0756.0 | 0756.0 | 1.0 | 64.0 | | | QL=2 ST=3 TYP=3 |
| | 4995 | SVTO | 8 | S | 0756.0 | 0756.0 | 1.0 | 140.0 | | | QL=4 ST=2 TYP=3 |

# SOLAR RADIO EMISSION
## Outstanding Occurrences

### APRIL 1997

| Day | Freq | Sta | Type | | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 -22 W/m 2 Hz) | Flux Density Mean (10 -22 W/m 2 Hz) | Int | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 2695 | SVTO | 8 | S | 0756.0 | 0756.0 | 1.0 | 59.0 | | | QL=4 ST=2 TYP=3 |
| | 15400 | SVTO | 8 | S | 0756.0 | 0756.0 | 1.0 | 57.0 | | | QL=4 ST=2 TYP=3 |
| | 33 | UPIC | 46 | C | 0756.0 | 0756.8 | 3.3 | | | | |
| | 204 | IZMI | 41 | F | 0949.0 | 0952.0 | 5.0 | 700.0 | | | |
| | 33 | UPIC | 42 | SER | 0949.7 | 1115.2U | 114.6 | | | | |
| | 245 | SVTO | 8 | S | 0950.0 | 0951.0 | 1.0 | 130.0 | | | QL=2 ST=3 TYP=3 |
| | 245 | LEAR | 8 | S | 0951.0 | 0951.0 | 1.0 | 130.0 | | | QL=4 ST=2 TYP=3 |
| | 127 | TORN | 42 | SER | 1009.7 | 1032.0 | 25.0 | 170.0 | | | |
| | 245 | SVTO | 49 | GB | 1024.0 | 1032.0 | 10.0 | 560.0 | | | QL=2 ST=3 TYP=6 |
| | 410 | SVTO | 48 | C | 1024.0 | 1032.0 | 10.0 | 200.0 | | | QL=2 ST=3 TYP=8 |
| | 204 | IZMI | 42 | SER | 1024.0 | 1038.0 | 20.0 | 700.0 | | | |
| | 3000 | IZMI | 41 | F | 1025.0 | 1030.0 | 16.0 | 11.0 | | | |
| | 204 | IZMI | 41 | F | 1114.0 | 1114.5 | 10.0 | 1200.0 | | | |
| | 204 | IZMI | 41 | F | 1124.0 | 1124.5 | 1.5 | 320.0 | | | |
| | 245 | SGMR | 4 | S/F | 1139.0 | 1143.0 | 5.0 | 63.0 | | | QL=4 ST=2 TYP=3 |
| | 204 | IZMI | 42 | SER | 1141.0 | 1141.5 | 3.0 | 1500.0 | | | |
| | 127 | TORN | 7 | C | 1141.5 | 1142.0 | 2.0 | 370.0 | 50.0 | | |
| | 245 | SVTO | 8 | S | 1142.0 | 1143.0 | 1.0 | 83.0 | | | QL=2 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 1235.0 | 1235.0 | U | 66.0 | | | QL=2 ST=2 TYP=3 |
| | 127 | TORN | 47 | GB | 1244.6 | 1247.0 | 7.0 | 550.0 | 60.0 | | |
| | 245 | SVTO | 4 | S/F | 1251.0 | 1254.0 | 4.0 | 110.0 | | | QL=2 ST=2 TYP=3 |
| | 33 | UPIC | 46 | C | 1252.6 | 1255.0 | 3.0 | | | | |
| | 245 | SGMR | 8 | S | 1253.0 | 1254.0 | 2.0 | 51.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 49 | GB | 1345.0 | 1346.0 | 3.0 | 1000.0 | | | QL=4 ST=2 TYP=6 |
| | 610 | SVTO | 4 | S/F | 1345.0 | 1346.0 | 3.0 | 160.0 | | | QL=2 ST=3 TYP=3 |
| | 410 | SVTO | 4 | S/F | 1345.0 | 1347.0 | 12.0 | 470.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SVTO | 49 | GB | 1345.0 | 1346.0 | 12.0 | 2300.0 | | | QL=2 ST=2 TYP=6 |
| | 33 | UPIC | 49 | GB | 1346.0 | | 11.1 | | | | |
| | 4995 | SGMR | 8 | S | 1346.0 | 1347.0 | 2.0 | 210.0 | | | QL=4 ST=2 TYP=3 |
| | 8800 | SGMR | 8 | S | 1346.0 | 1346.0 | 2.0 | 360.0 | | | QL=2 ST=2 TYP=3 |
| | 15400 | SGMR | 8 | S | 1346.0 | 1346.0 | 1.0 | 350.0 | | | QL=2 ST=2 TYP=3 |
| | 1415 | SGMR | 8 | S | 1346.0 | 1347.0 | 1.0 | 48.0 | | | QL=4 ST=2 TYP=3 |
| | 610 | SGMR | 8 | S | 1346.0 | 1346.0 | 1.0 | 140.0 | | | QL=4 ST=2 TYP=3 |
| | 2695 | SGMR | 8 | S | 1346.0 | 1347.0 | 2.0 | 96.0 | | | QL=4 ST=2 TYP=3 |
| | 8800 | SVTO | 8 | S | 1346.0 | 1346.0 | 2.0 | 350.0 | | | QL=4 ST=2 TYP=3 |
| | 15400 | SVTO | 8 | S | 1346.0 | 1346.0 | 2.0 | 380.0 | | | QL=4 ST=2 TYP=3 |
| | 2695 | SVTO | 8 | S | 1346.0 | 1347.0 | 2.0 | 84.0 | | | QL=4 ST=2 TYP=3 |
| | 4995 | SVTO | 8 | S | 1346.0 | 1347.0 | 2.0 | 210.0 | | | QL=4 ST=2 TYP=3 |
| | 1415 | SVTO | 8 | S | 1346.0 | 1347.0 | 1.0 | 52.0 | | | QL=4 ST=2 TYP=3 |
| | 127 | TORN | 49 | GB | 1346.0 | 1353.1 | | 50.0 | | | |
| | 127 | TORN | 49 | GB | 1346.0 | 1350.3 | | 320.0 | | | |
| | 127 | TORN | 49 | GB | 1346.0 | 1346.3 | 13.0 | 4300.0 | 190.0 | | |
| | 8800 | SGMR | 8 | S | 1352.0 | 1352.0 | 1.0 | 33.0 | | | QL=2 ST=2 TYP=3 |
| | 4995 | SGMR | 8 | S | 1352.0 | 1353.0 | 1.0 | 49.0 | | | QL=4 ST=2 TYP=3 |
| | 2695 | SGMR | 8 | S | 1352.0 | 1352.0 | 1.0 | 30.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 8 | S | 1352.0 | 1353.0 | 1.0 | 69.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 8 | S | 1356.0 | 1356.0 | 1.0 | 85.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 8 | S | 1409.0 | 1409.0 | U | 57.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 4 | S/F | 1446.0 | 1446.0 | 8.0 | 340.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SVTO | 4 | S/F | 1446.0 | 1448.0 | 3.0 | 300.0 | | | QL=2 ST=2 TYP=3 |
| | 410 | SVTO | 8 | S | 1447.0 | 1447.0 | U | 100.0 | | | QL=2 ST=2 TYP=3 |
| | 33 | UPIC | 46 | C | 1447.0 | 1447.5U | 2.5 | | | | |
| | 245 | SVTO | 8 | S | 1451.0 | 1451.0 | 1.0 | 98.0 | | | QL=2 ST=2 TYP=3 |
| | 410 | SVTO | 8 | S | 1451.0 | 1452.0 | 1.0 | 180.0 | | | QL=2 ST=2 TYP=3 |
| | 245 | SGMR | 8 | S | 1519.0 | 1519.0 | 2.0 | 180.0 | | | QL=2 ST=3 TYP=3 |
| | 245 | SVTO | 8 | S | 1519.0 | 1519.0 | 2.0 | 340.0 | | | QL=2 ST=2 TYP=3 |
| | 245 | SGMR | 8 | S | 1531.0 | 1532.0 | 1.0 | 100.0 | | | QL=2 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 1531.0 | 1531.0 | 1.0 | 140.0 | | | QL=2 ST=2 TYP=3 |
| | 33 | UPIC | 45 | C | 1532.0 | 1532.5 | 1.3 | | | | |
| | 245 | SGMR | 8 | S | 1541.0 | 1542.0 | 2.0 | 67.0 | | | QL=2 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 1541.0 | 1542.0 | 2.0 | 71.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 8 | S | 1601.0 | 1601.0 | U | 71.0 | | | QL=2 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 1601.0 | 1601.0 | 2.0 | 80.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SVTO | 8 | S | 1601.0 | 1601.0 | 2.0 | 17.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 8 | S | 1830.0 | 1831.0 | 2.0 | 48.0 | | | QL=2 ST=2 TYP=3 |
| | 245 | PALE | 8 | S | 1831.0 | 1832.0 | 1.0 | 140.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | PALE | 8 | S | 2038.0 | 2038.0 | 2.0 | 400.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 8 | S | 2038.0 | 2038.0 | 2.0 | 350.0 | | | QL=2 ST=2 TYP=3 |
| | 2800 | PENT | 1 | S | 2038.8 | 2039.7 | 2.0 | 6.5 | | | |

# SOLAR RADIO EMISSION
## Outstanding Occurrences

### APRIL 1997

| Day | Freq | Sta | Type | | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 -22 W/m 2 Hz) | Flux Density Mean (10 -22 W/m 2 Hz) | Int | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | 410 | PALE | 8 | S | 2039.0 | 2039.0 | 1.0 | 34.0 | | | QL=2 ST=2 TYP=3 |
| | 245 | SGMR | 8 | S | 2049.0 | 2050.0 | 1.0 | 160.0 | | | QL=2 ST=2 TYP=3 |
| | 245 | PALE | 8 | S | 2054.0 | 2055.0 | 1.0 | 52.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 8 | S | 2054.0 | 2055.0 | 1.0 | 52.0 | | | QL=2 ST=3 TYP=3 |
| | 245 | SGMR | 8 | S | 2116.0 | 2117.0 | 2.0 | 140.0 | | | QL=2 ST=2 TYP=3 |
| | 200 | HIRA | 6 | S | 2116.7 | 2116.9 | 1.2 | 83.0 | 23.0 | | O |
| | 500 | HIRA | 1 | S | 2116.7 | 2116.9 | 1.0 | 3.0 | | | O |
| | 200 | HIRA | 42 | SER | 2331.4 | 2332.6 | 1.4 | 13.0 | | | O |
| | 500 | HIRA | 42 | SER | 2331.4 | 2331.6 | 1.7 | 3.0 | | | O |
| | 500 | HIRA | 42 | SER | 2354.8 | 0000.7 | 8.0 | 11.0 | | | WR |
| 02 | 235 | CUBA | 44 | NS | 1430.0E | | 440.0D | | 12.0 | | |
| | 280 | CUBA | 44 | NS | 1430.0E | | 440.0D | | 16.0 | | |
| | 500 | HIRA | 25 | R | 0016.4 | 0016.6 | 12.2 | 5.0 | 2.0 | | O |
| | 500 | HIRA | 41 | F | 0028.4 | 0031.5 | 11.7 | 54.0 | | | WR |
| | 245 | LEAR | 49 | GB | 0030.0 | 0031.0 | 3.0 | 2000.0 | | | QL=4 ST=2 TYP=6 |
| | 245 | PALE | 8 | S | 0030.0 | 0031.0U | 1.0 | 1700.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | LEAR | 8 | S | 0031.0 | 0031.0 | U | 120.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | PALE | 8 | S | 0031.0 | 0031.0U | U | 130.0 | | | QL=4 ST=2 TYP=3 |
| | 200 | HIRA | 42 | SER | 0031.8 | 0032.2 | 3.2 | 203.0 | | | O |
| | 200 | HIRA | 42 | SER | 0037.9 | 0038.0 | 2.2 | 120.0 | | | O |
| | 245 | LEAR | 8 | S | 0038.0 | 0038.0 | U | 110.0 | | | QL=4 ST=2 TYP=3 |
| | 500 | HIRA | 42 | SER | 0053.0 | 0054.3 | 5.0 | 6.0 | | | O |
| | 245 | LEAR | 8 | S | 0059.0 | 0100.0 | 1.0 | 64.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | PALE | 8 | S | 0059.0 | 0059.0U | U | 47.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | PALE | 8 | S | 0059.0 | 0059.0U | U | 20.0 | | | QL=4 ST=2 TYP=3 |
| | 500 | HIRA | 41 | F | 0106.6 | 0115.2 | 25.0 | 14.0 | | | WL |
| | 500 | HIRA | 1 | S | 0236.2 | 0236.5 | 0.6 | 2.0 | | | O |
| | 500 | HIRA | 42 | SER | 0405.0 | 0410.0 | 6.5 | 21.0 | | | WL |
| | 245 | LEAR | 8 | S | 0510.0 | 0510.0 | U | 65.0 | | | QL=4 ST=2 TYP=3 |
| | 610 | SVTO | 48 | C | 0529.0 | 0535.0 | 31.0 | 360.0 | | | QL=2 ST=3 TYP=8 |
| | 500 | HIRA | 1 | S | 0543.0 | 0543.2 | 0.7 | 17.0 | | | O |
| | 200 | HIRA | 42 | SER | 0543.0 | 0546.4 | 3.4 | 330.0 | | | O |
| | 500 | HIRA | 42 | SER | 0545.5 | 0545.7 | 1.5 | 64.0 | | | O |
| | 245 | LEAR | 4 | S/F | 0546.0 | 0552.0 | 7.0 | 170.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SVTO | 48 | C | 0546.0 | 0546.0 | 16.0 | 200.0 | | | QL=2 ST=3 TYP=8 |
| | 500 | HIRA | 46 | C | 0551.0 | 0552.0 | 2.9 | 18.0 | 5.0 | | WL |
| | 245 | LEAR | 4 | S/F | 0551.0 | 0552.0 | 3.0 | 180.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | LEAR | 4 | S/F | 0551.0 | 0552.0 | 3.0 | 190.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SVTO | 48 | C | 0551.0 | 0552.0 | 3.0 | 380.0 | | | QL=2 ST=3 TYP=8 |
| | 204 | IZMI | 42 | SER | 0704.0 | 0704.0 | 16.0 | 250.0 | | | |
| | 33 | UPIC | 8 | S | 0705.6 | 0705.9 | 0.7 | | | | |
| | 500 | HIRA | 8 | S | 0714.5 | 0714.7 | 0.5 | 16.0 | | | WL |
| | 127 | TORN | 4 | S/F | 0757.7 | 0759.1 | 2.3 | 650.0 | 320.0 | | |
| | 410 | LEAR | 8 | S | 0758.0 | 0758.0 | 1.0 | 28.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | LEAR | 8 | S | 0758.0 | 0758.0 | 1.0 | 260.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SVTO | 8 | S | 0758.0 | 0758.0 | 2.0 | 49.0 | | | QL=2 ST=2 TYP=3 |
| | 245 | SVTO | 8 | S | 0758.0 | 0758.0 | 2.0 | 280.0 | | | QL=2 ST=2 TYP=3 |
| | 204 | IZMI | 41 | F | 0758.0 | 0758.5 | 2.0 | 1200.0 | | | |
| | 200 | HIRA | 46 | C | 0758.2 | 0758.5 | 1.7 | 118.0 | 27.0 | | WL |
| | 500 | HIRA | 8 | S | 0758.4 | 0758.6 | 0.5 | 6.0 | | | WL |
| | 127 | TORN | 46 | C | 0828.7 | 0830.0 | 6.0 | 400.0 | 30.0 | | |
| | 33 | UPIC | 42 | SER | 0849.7 | 0851.4 | 35.1 | | | | |
| | 204 | IZMI | 7 | C | 0922.5 | 0924.0 | 3.0 | 55.0 | | | |
| | 127 | TORN | 7 | C | 0922.6 | 0923.0 | 2.6 | 90.0 | 20.0 | | |
| | 204 | IZMI | 42 | SER | 1051.0 | 1055.2 | 5.0 | 24.0 | | | |
| | 127 | TORN | 46 | C | 1053.0 | 1054.0 | 3.0 | 50.0 | 15.0 | | |
| | 33 | UPIC | 3 | S | 1053.2 | 1053.4 | 0.4 | | | | |
| | 3000 | IZMI | 41 | F | 1139.0 | 1141.0 | 5.0 | 29.0 | | | |
| 03 | 235 | CUBA | 44 | NS | 1300.0E | | 30.0D | | 7.0 | | |
| | 280 | CUBA | 44 | NS | 1300.0E | | 530.0D | | 13.0 | | |
| | 3000 | IZMI | 42 | SER | 0600.5 | 0600.7 | 24.0 | 4.0 | | | |
| | 3000 | IZMI | 41 | F | 0630.0 | 0635.0 | 9.0 | 46.0 | | | |
| | 3000 | IZMI | 41 | F | 0655.0 | 0659.7 | 14.5 | 26.0 | | | |
| | 3000 | IZMI | 41 | F | 0711.5 | 0715.7 | 6.5 | 24.0 | | | |
| | 33 | UPIC | 2 | S/F | 1639.3 | 1639.7 | 0.9 | | | | |
| 04 | 610 | SGMR | 8 | S | 2009.0 | 2009.0 | U | 26.0 | | | QL=4 ST=2 TYP=3 |

# S O L A R  R A D I O  E M I S S I O N
## Outstanding Occurrences

### APRIL 1997

| Day | Freq | Sta | Type | | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 -22 W/m 2 Hz) | Flux Density Mean (10 -22 W/m 2 Hz) | Int | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 04 | 245 | SGMR | 8 | S | 2009.0 | 2010.0 | 2.0 | 50.0 | | | QL=4 ST=2 TYP=3 |
| 05 | 245 | SGMR | 8 | S | 1630.0 | 1630.0 | U | 51.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | PALE | 4 | S/F | 1803.0 | 1803.0 | 3.0 | 52.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 8 | S | 1803.0 | 1803.0 | U | 50.0 | | | QL=4 ST=2 TYP=3 |
| 06 | 33 | UPIC | 2 | S/F | 1224.5 | 1224.6 | 0.8 | | | | |
| 07 | 235 | CUBA | 44 | NS | 1300.0E | | 515.0D | | 9.0 | | |
| | 280 | CUBA | 44 | NS | 1300.0E | | 515.0D | | 14.0 | | |
| | 245 | LEAR | 8 | S | 0059.0 | 0059.0 | 1.0 | 120.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | PALE | 8 | S | 0059.0 | 0059.0 | 1.0 | 130.0 | | | QL=4 ST=2 TYP=3 |
| | 33 | UPIC | 49 | GB | 1351.8 | | 26.2 | | | | |
| | 280 | CUBA | 48 | C | 1354.0 | 1355.0 | 106.0 | 19.0D | | | |
| | 235 | CUBA | 48 | C | 1354.0 | 1355.0 | 106.0 | 23.0D | | | |
| | 235 | CUBA | 48 | C | 1354.0 | 1443.1 | 106.0 | 28.0 | | | |
| | 280 | CUBA | 48 | C | 1354.0 | 1443.1 | 106.0 | 27.0 | | | |
| | 2695 | SGMR | 48 | C | 1356.0 | 1407.0 | 24.0 | 220.0 | | | QL=4 ST=2 TYP=8 |
| | 4995 | SGMR | 48 | C | 1356.0 | 1407.0 | 26.0 | 150.0 | | | QL=4 ST=2 TYP=8 |
| | 1415 | SGMR | 49 | GB | 1356.0 | 1400.0 | 24.0 | 900.0 | | | QL=4 ST=2 TYP=6 |
| | 245 | SGMR | 48 | C | 1356.0 | 1416.0 | 39.0 | 700.0 | | | QL=4 ST=2 TYP=8 |
| | 410 | SGMR | 48 | C | 1357.0 | 1420.0 | 37.0 | 740.0 | | | QL=4 ST=2 TYP=8 |
| | 127 | TORN | 27 | RF | 1357.4 | | 41.6 | | | | |
| | 127 | TORN | 47 | GB | 1357.4 | 1400.0 | 4.3 | 2200.0D | 1000.0 | | |
| | 610 | SGMR | 48 | C | 1358.0 | 1421.0 | 35.0 | 750.0 | | | QL=4 ST=2 TYP=8 |
| | 8800 | SGMR | 20 | GRF | 1359.0 | 1407.0 | 21.0 | 87.0 | | | QL=4 ST=2 TYP=2 |
| | 15400 | SGMR | 20 | GRF | 1401.0 | 1407.0 | 15.0 | 56.0 | | | QL=4 ST=2 TYP=2 |
| | 127 | TORN | 27 | RF | 1403.0 | 1408.0 | 6.0 | 32.0 | 10.0 | | |
| | 127 | TORN | 27 | RF | 1412.3 | 1415.8 | 9.0 | 500.0D | 220.0 | | |
| | 33 | UPIC | 29 | PBI | 1418.0 | 1420.5 | 19.3 | | | | |
| | 127 | TORN | 40 | F | 1432.7 | 1433.4 | 6.0 | 20.0D | 4.0D | | |
| | 410 | SGMR | 8 | S | 1438.0 | 1438.0 | U | 50.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SGMR | 4 | S/F | 1440.0 | 1442.0 | 3.0 | 130.0 | | | QL=4 ST=2 TYP=3 |
| | 610 | SGMR | 8 | S | 1441.0 | 1442.0 | 1.0 | 210.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SGMR | 4 | S/F | 1445.0 | 1445.0 | 5.0 | 86.0 | | | QL=4 ST=2 TYP=3 |
| | 610 | SGMR | 8 | S | 1445.0 | 1445.0 | 1.0 | 56.0 | | | QL=4 ST=2 TYP=3 |
| | 127 | TORN | 24 | R | 1456.3 | | 3.7D | | | | |
| | 410 | SGMR | 48 | C | 1503.0 | 1509.0 | 15.0 | 200.0 | | | QL=4 ST=2 TYP=8 |
| | 610 | SGMR | 4 | S/F | 1504.0 | 1509.0 | 7.0 | 170.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SGMR | 8 | S | 1514.0 | 1514.0 | 2.0 | 220.0 | | | QL=4 ST=3 TYP=3 |
| | 610 | SGMR | 4 | S/F | 1518.0 | 1518.0 | 9.0 | 100.0 | | | QL=4 ST=3 TYP=3 |
| | 410 | SGMR | 48 | C | 1518.0 | 1518.0 | 16.0 | 190.0 | | | QL=4 ST=3 TYP=8 |
| | 245 | SGMR | 8 | S | 1523.0 | 1523.0 | U | 280.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SGMR | 8 | S | 1523.0 | 1523.0 | U | 230.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SGMR | 4 | S/F | 1534.0 | 1539.0 | 8.0 | 67.0 | | | QL=4 ST=3 TYP=3 |
| | 245 | SGMR | 8 | S | 2213.0 | 2214.0 | 1.0 | 91.0 | | | QL=4 ST=2 TYP=3 |
| 08 | 280 | CUBA | 44 | NS | 1300.0E | | 530.0D | | 10.0 | | |
| | 235 | CUBA | 44 | NS | 1300.0E | | 530.0D | | 6.0 | | |
| 09 | 245 | PALE | 8 | S | 2222.0 | 2224.0 | 2.0 | 1.0 | | | QL=4 ST=3 TYP=3 |
| | 410 | PALE | 8 | S | 2227.0 | 2228.0 | 1.0 | 1.0 | | | QL=4 ST=3 TYP=3 |
| | 610 | PALE | 8 | S | 2227.0 | 2229.0 | 2.0 | 1.0 | | | QL=4 ST=3 TYP=3 |
| | 245 | PALE | 8 | S | 2233.0 | 2233.0 | 1.0 | 130.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | PALE | 8 | S | 2233.0 | 2233.0 | U | 73.0 | | | QL=4 ST=2 TYP=3 |
| 10 | 280 | CUBA | 44 | NS | 1300.0E | | 490.0D | | 10.0 | | |
| | 235 | CUBA | 44 | NS | 1300.0E | | 490.0D | | 6.0 | | |
| 13 | 204 | IZMI | 43 | NS | 0600.0 | | 360.0D | | 30.0 | | |
| | 127 | TORN | 43 | NS | 0930.0 | | 230.0D | | 1.0 | | V=1 |
| | 245 | SGMR | 43 | NS | 1135.0 | 1149.0 | 66.0 | 150.0 | | | QL=4 ST=2 TYP=1 |
| | 280 | CUBA | 44 | NS | 1300.0E | | 520.0D | | 13.0 | | |
| | 235 | CUBA | 44 | NS | 1300.0E | | 520.0D | | 14.0 | | |
| | 245 | SGMR | 43 | NS | 1859.0 | 1938.0 | 223.0 | 140.0 | | | QL=4 ST=2 TYP=1 |
| | 1415 | SGMR | 8 | S | 2039.0 | 2040.0 | 2.0 | 10.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | SGMR | 8 | S | 2039.0 | 2040.0 | 2.0 | 170.0 | | | QL=4 ST=2 TYP=3 |
| | 610 | SGMR | 8 | S | 2040.0 | 2040.0 | 1.0 | 12.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SGMR | 8 | S | 2040.0 | 2040.0 | 1.0 | 31.0 | | | QL=4 ST=2 TYP=3 |

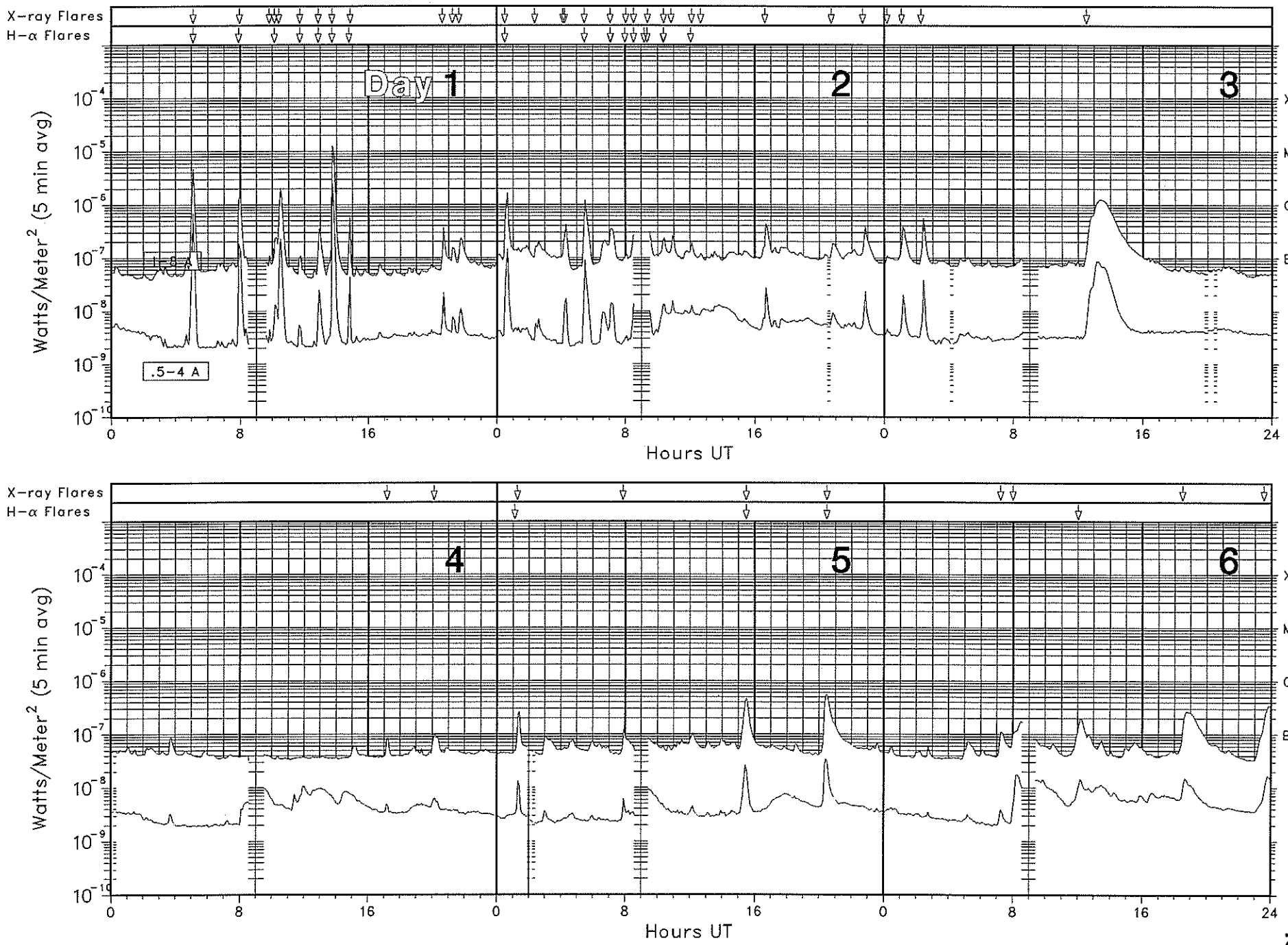
# SOLAR RADIO EMISSION
## Outstanding Occurrences

### APRIL 1997

| Day | Freq | Sta | Type | | Start (UT) | Time of Maximum (UT) | Duration (Min) | Flux Density Peak (10 -22 W/m 2 Hz) | Flux Density Mean (10 -22 W/m 2 Hz) | Int | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | 245 | PALE | 8 | S | 2142.0 | 2142.0 | 1.0 | 200.0 | | | QL=4 ST=2 TYP=3 |
| 14 | 204 | IZMI | 43 | NS | 0846.0 | | 194.0D | | 10.0 | | |
| | 280 | CUBA | 44 | NS | 1300.0E | | 530.0D | | 12.0 | | |
| | 235 | CUBA | 44 | NS | 1300.0E | | 540.0D | | 8.0 | | |
| | 3000 | IZMI | 7 | C | 0626.0 | 0626.7 | 3.0 | 2.0 | | | |
| 15 | 204 | IZMI | 44 | NS | 0600.0E | | 360.0D | | 15.0 | | |
| | 245 | SVTO | 43 | NS | 0801.0 | 0801.0U | 72.0 | 79.0 | | | QL=4 ST=2 TYP=1 |
| | 280 | CUBA | 44 | NS | 1300.0E | | 520.0D | | 14.0 | | |
| | 235 | CUBA | 44 | NS | 1300.0E | | 530.0D | | 9.0 | | |
| | 410 | SVTO | 8 | S | 0633.0 | 0633.0 | 1.0 | 56.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SVTO | 49 | GB | 0637.0 | 0639.0 | 5.0 | 5900.0 | | | QL=4 ST=3 TYP=6 |
| | 245 | SVTO | 49 | GB | 0637.0 | 0639.0 | 4.0 | 820.0 | | | QL=2 ST=2 TYP=6 |
| | 204 | IZMI | 7 | C | 0637.5 | 0639.5 | 6.0 | 130.0 | | | |
| | 200 | HIRA | 46 | C | 0637.6 | 0639.7 | 5.0 | 88.0 | 18.0 | | WL |
| | 410 | LEAR | 49 | GB | 0638.0 | 0639.0 | 4.0 | 4300.0 | | | QL=4 ST=2 TYP=6 |
| | 0950 | GORK | 28 | PRE | 0638.6 | 0638.8 | 0.7 | 2.9 | | | |
| | 610 | LEAR | 8 | S | 0639.0 | 0639.0 | 1.0 | 92.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | LEAR | 49 | GB | 0639.0 | 0639.0 | 3.0 | 670.0 | | | QL=4 ST=2 TYP=6 |
| | 610 | SVTO | 8 | S | 0639.0 | 0639.0 | 1.0 | 70.0 | | | QL=2 ST=3 TYP=3 |
| | 9100 | GORK | 1 | S | 0639.0 | 0640.9 | 5.3 | 5.2 | | | |
| | 0950 | GORK | 3 | S | 0639.3 | 0639.8 | 1.0 | 13.3 | | | |
| | 500 | HIRA | 46 | C | 0639.3 | 0639.8 | 3.3 | 735.0 | 110.0 | | ML |
| | 0950 | GORK | 29 | PBI | 0640.3 | 0640.5 | 1.2 | 2.9 | | | |
| | 245 | LEAR | 49 | GB | 0649.0 | 0650.0 | 4.0 | 1000.0 | | | QL=4 ST=2 TYP=6 |
| | 245 | SVTO | 49 | GB | 0649.0 | 0650.0 | 4.0 | 1400.0 | | | QL=2 ST=3 TYP=6 |
| | 2840 | PEKG | 1 | S | 0649.0 | 0651.5 | 7.0 | 3.7 | | | |
| | 204 | IZMI | 45 | C | 0649.5 | 0651.0 | 4.5 | 700.0 | | | |
| | 200 | HIRA | 46 | C | 0649.8 | 0650.4 | 3.2 | 177.0 | 32.0 | | ML |
| | 410 | LEAR | 4 | S/F | 0650.0 | 0650.0 | 4.0 | 65.0 | | | QL=4 ST=2 TYP=3 |
| | 610 | LEAR | 4 | S/F | 0650.0 | 0652.0 | 4.0 | 84.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SVTO | 8 | S | 0650.0 | 0650.0 | 1.0 | 160.0 | | | QL=4 ST=2 TYP=3 |
| | 610 | SVTO | 48 | C | 0650.0 | 0652.0 | 3.0 | 90.0 | | | QL=2 ST=2 TYP=8 |
| | 500 | HIRA | 46 | C | 0650.1 | 0650.8 | 3.7 | 10.0 | 3.0 | | O |
| | 3000 | IZMI | 20 | GRF | 0650.5 | 0651.5 | 7.8 | 4.0 | 2.0 | | |
| | 2800 | HIRA | 2 | S/F | 0651.3 | 0651.5 | 1.8 | 3.0 | 1.0 | | O |
| | 610 | LEAR | 8 | S | 0807.0 | 0808.0 | 2.0 | 64.0 | | | QL=4 ST=2 TYP=3 |
| | 245 | LEAR | 8 | S | 0807.0 | 0807.0 | 1.0 | 30.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | LEAR | 8 | S | 0807.0 | 0809.0 | 2.0 | 25.0 | | | QL=4 ST=2 TYP=3 |
| | 410 | SVTO | 8 | S | 0807.0 | 0809.0 | 2.0 | 30.0 | | | QL=2 ST=2 TYP=3 |
| | 500 | HIRA | 46 | C | 0807.6 | 0808.8 | 2.3 | 33.0 | 11.0 | | O |
| | 610 | SVTO | 8 | S | 0808.0 | 0808.0 | 1.0 | 90.0 | | | QL=2 ST=2 TYP=3 |
| | 127 | TORN | 47 | GB | 1415.4 | 1417.1 | 5.5 | 500.0D | 110.0D | | |
| | 33 | UPIC | 4 | S/F | 1522.5 | 1522.6 | 0.6 | | | | |
| | 245 | SGMR | 8 | S | 1943.0 | 1943.0 | U | 52.0 | | | QL=4 ST=2 TYP=3 |
| 16 | 204 | IZMI | 44 | NS | 0600.0E | | 360.0D | | 5.0 | | |
| | 280 | CUBA | 44 | NS | 1300.0E | | 530.0D | | 12.0 | | |
| | 235 | CUBA | 44 | NS | 1300.0E | | 530.0D | | 7.0 | | |
| | 33 | UPIC | 45 | C | 1142.3 | 1142.6 | 1.0 | | | | |
| 19 | 33 | UPIC | 2 | S/F | 1348.5 | 1348.8 | 0.8 | | | | |
| 23 | 33 | UPIC | 2 | S/F | 1513.8 | 1514.0 | 0.5 | | | | |
| | 33 | UPIC | 2 | S/F | 1519.5 | 1519.8 | 0.6 | | | | |
| 24 | 3000 | IZMI | 5 | S | 0937.0E | 0937.1 | 0.3U | 7.0 | 3.0 | | |
| 26 | 280 | CUBA | 44 | NS | 1300.0E | | 530.0D | | 10.0 | | |
| | 235 | CUBA | 44 | NS | 1300.0E | | 530.0D | | 5.0 | | |
| | 33 | UPIC | 45 | C | 1145.3 | 1146.0 | 4.1 | | | | |
| 28 | 33 | UPIC | 4 | S/F | 1459.0 | 1459.2 | 0.8 | | | | |

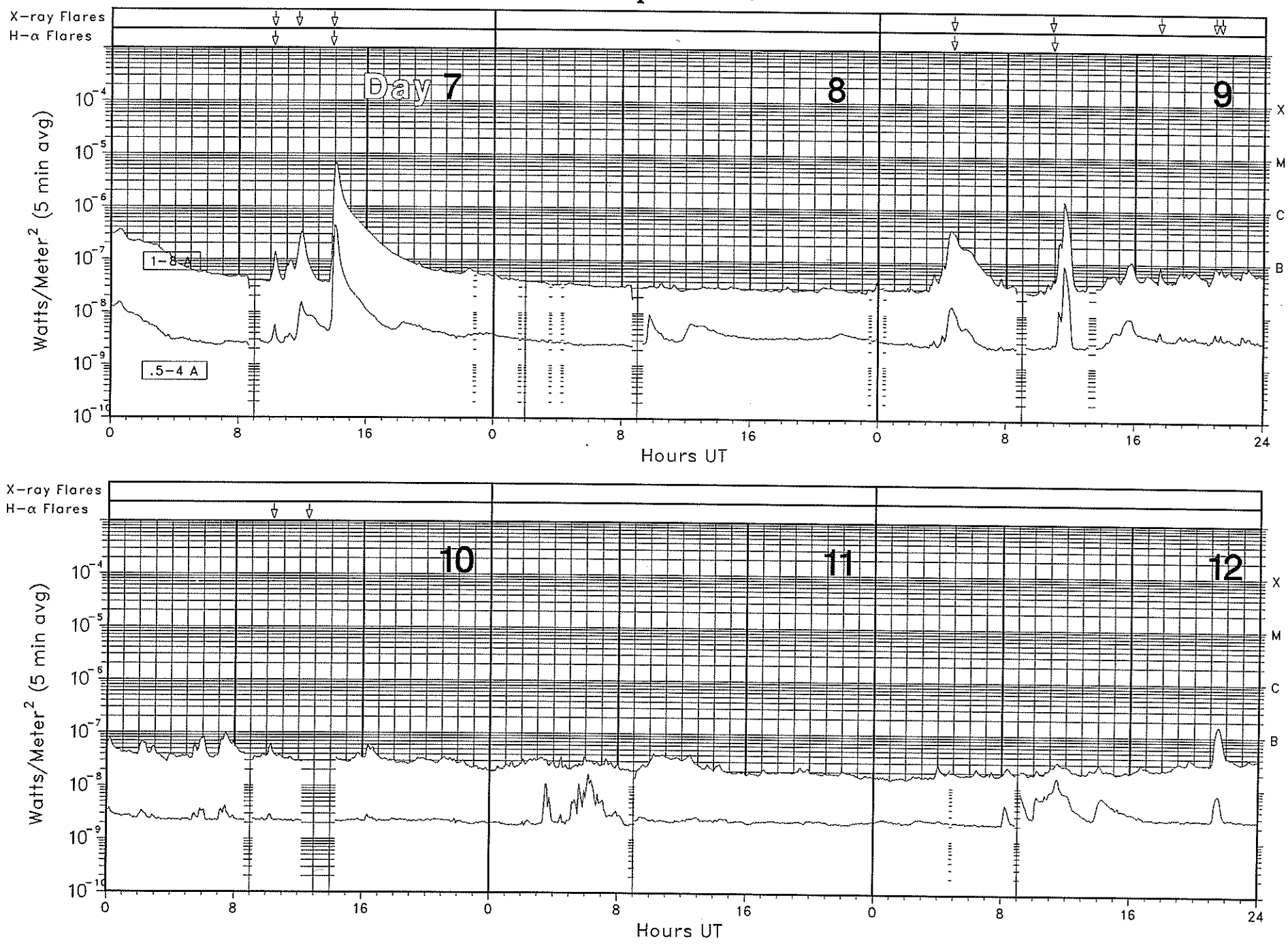
# GOES X-RAY DETECTOR

## April 1997



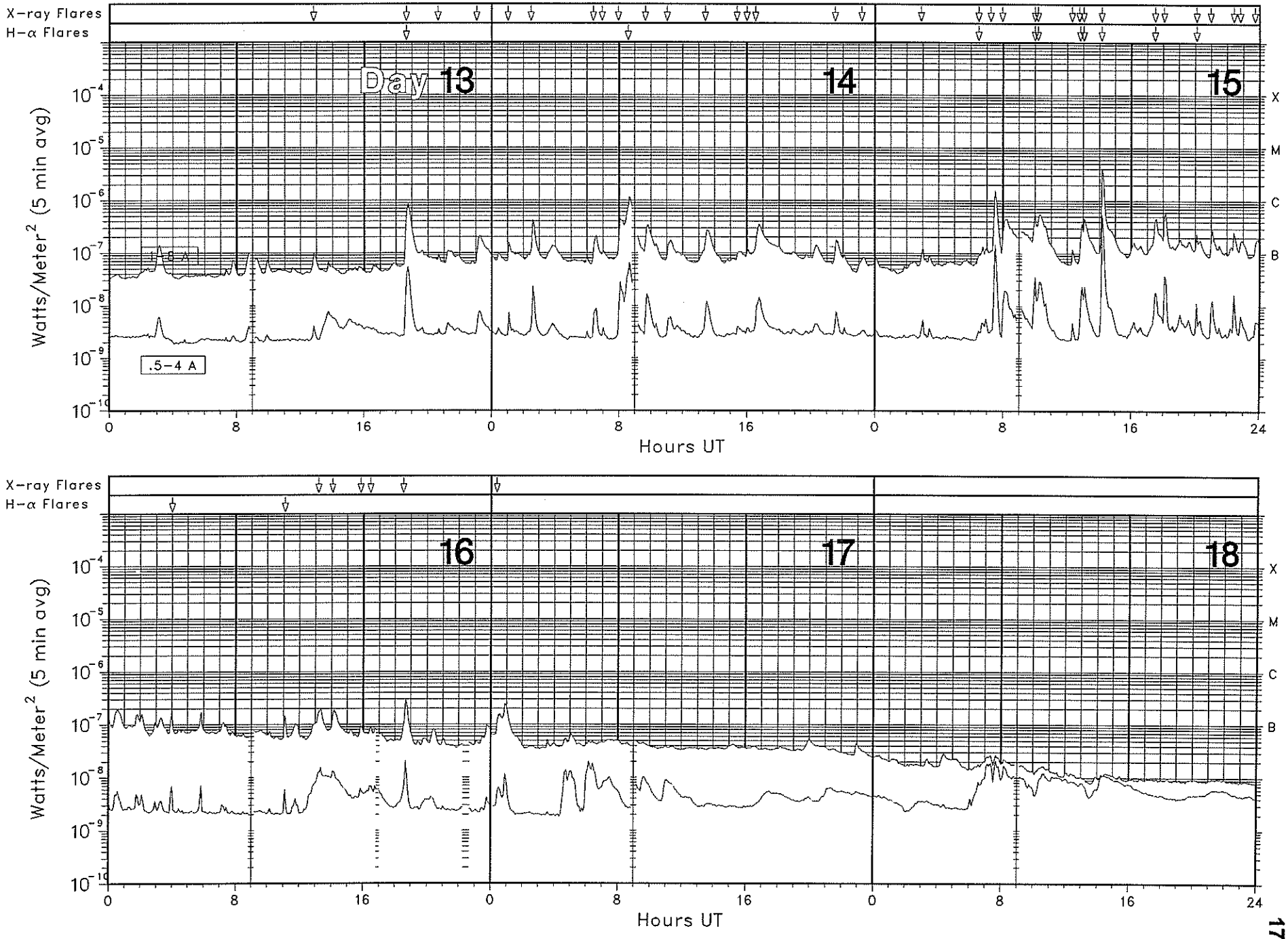
# GOES X-RAY DETECTOR

## April 1997



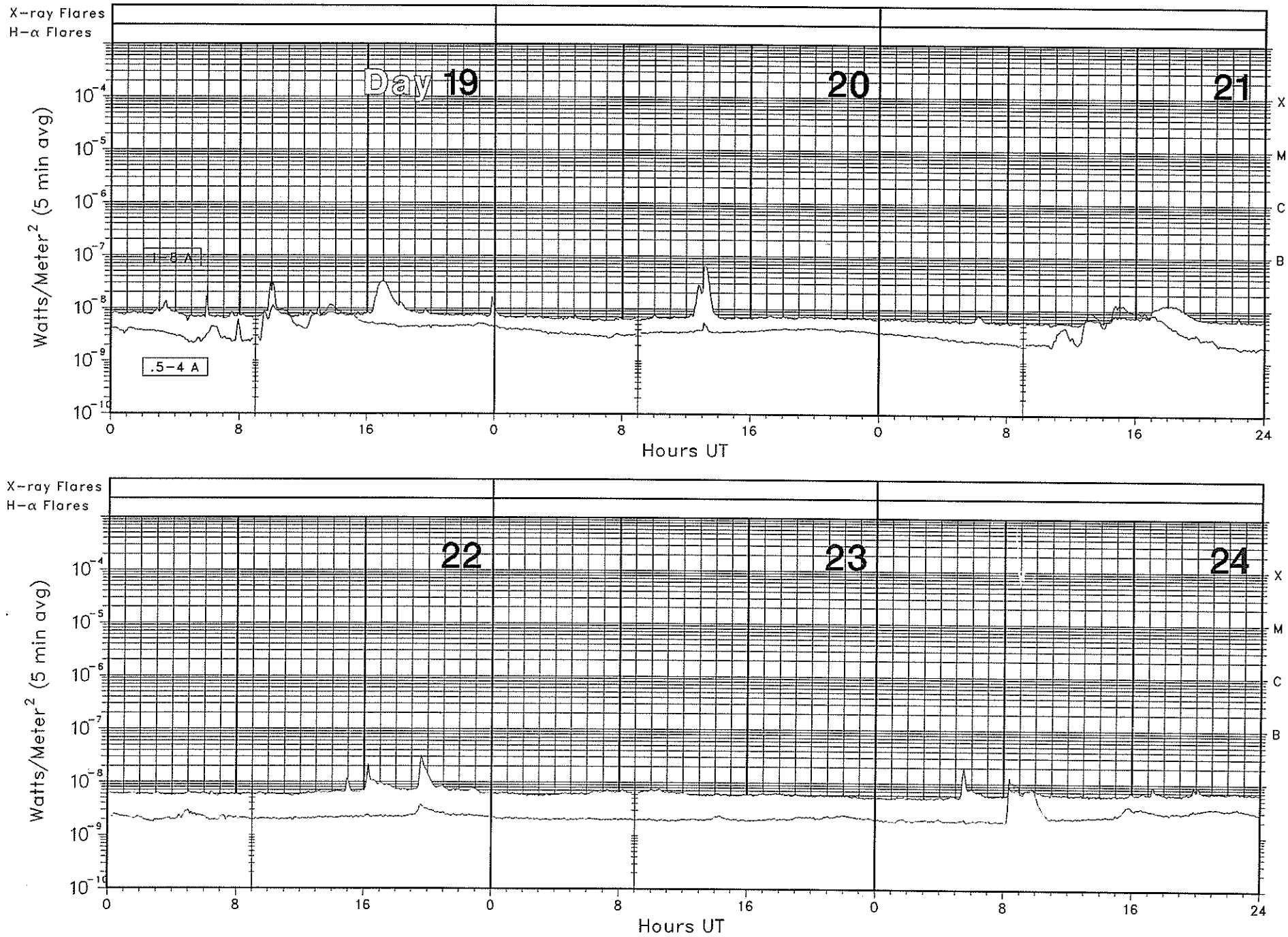
# GOES X-RAY DETECTOR

## April 1997



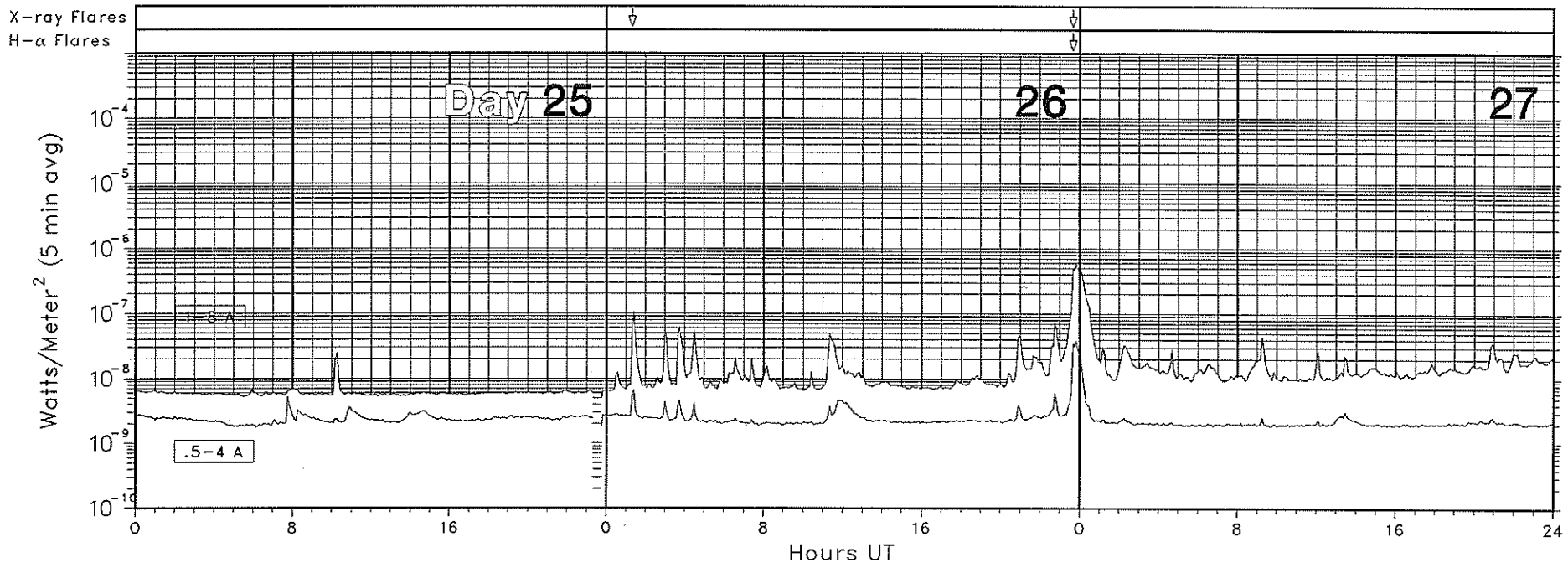
# GOES X-RAY DETECTOR

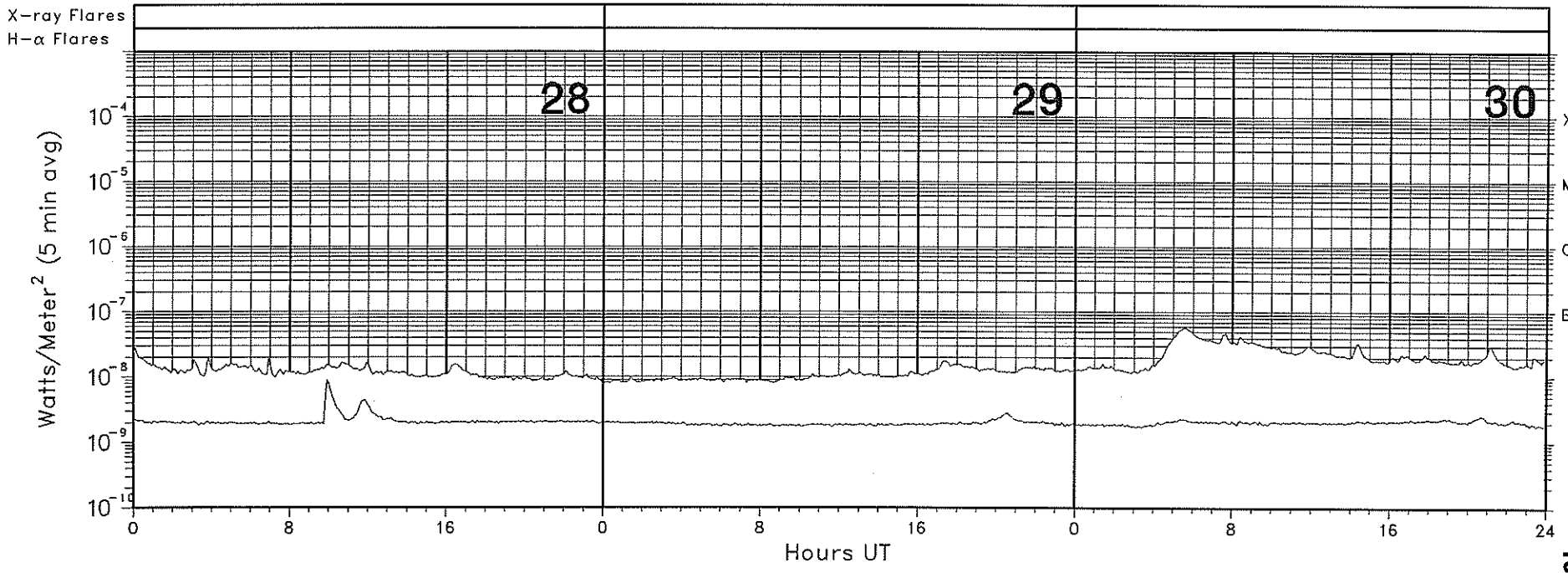
## April 1997



# GOES X-RAY DETECTOR

## April 1997



# GOES S O L A R X-RAY F L A R E S
**Preliminary Listing**

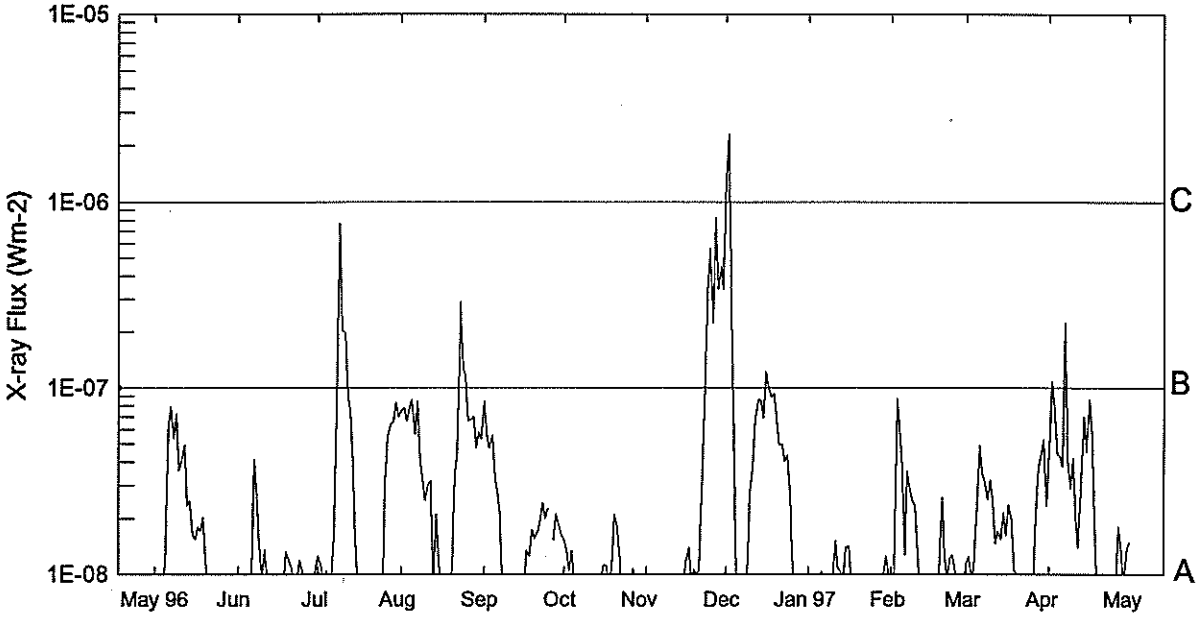
## April 1997

| Day | Start (UT) | Max (UT) | End (UT) | Lat | CMD | Imp | Opt | Xray | NOAA/ USAF Region |
|---|---|---|---|---|---|---|---|---|---|
| 01 | 0506 | 0508 | 0515 | S26 | E22 | | SB | C6.0 | 8026 |
| 01 | 0757 | 0759 | 0808 | S25 | E20 | | SF | C2.2 | 8026 |
| 01 | 0949 | 0952 | 0955 | | | | | B1.1 | |
| 01 | 1007 | 1015 | 1022 | | | | | B2.3 | |
| 01 | 1023 | 1032 | 1038 | | | | | C2.1 | |
| 01 | 1143 | 1143 | 1147 | S26 | E17 | | SF | B1.6 | 8026 |
| 01 | 1252 | 1254 | 1259 | S26 | E17 | | SF | B3.6 | 8026 |
| 01 | 1343 | 1348 | 1410 | S25 | E16 | | 1B | M1.9 | 8026 |
| 01 | 1452 | 1453 | 1458 | S26 | E17 | | SF | B6.6 | 8026 |
| 01 | 2035 | 2041 | 2046 | | | | | B4.1 | |
| 01 | 2115 | 2118 | 2121 | | | | | B2.2 | |
| 01 | 2138 | 2149 | 2156 | | | | | B2.1 | |
| 02 | 0031 | 0040 | 0048 | S27 | E09 | | SF | C2.2 | 8026 |
| 02 | 0223 | 0238 | 0242 | | | | | B2.2 | |
| 02 | 0408 | 0412 | 0414 | | | | | B2.2 | |
| 02 | 0415 | 0420 | 0424 | | | | | B5.2 | |
| 02 | 0529 | 0530 | 0532 | S25 | E05 | | SF | C1.3 | 8026 |
| 02 | 0705 | 0709 | 0724 | S24 | E09 | | SF | B3.8 | 8026 |
| 02 | 0803 | 0806 | 0808 | | | | | B1.3 | |
| 02 | 0832 | 0834 | 0849 | S24 | E08 | | SF | B3.5 | 8026 |
| 02 | 0924 | 0927 | 0942 | S24 | E07 | | SF | B6.8 | 8026 |
| 02 | 1023 | 1024 | 1035 | S24 | E06 | | SF | B2.4 | 8026 |
| 02 | 1051 | 1057 | 1103 | | | | | B2.4 | |
| 02 | 1205 | 1207 | 1224 | S24 | E06 | | SF | B2.4 | 8026 |
| 02 | 1240 | 1243 | 1245 | | | | | B1.2 | |
| 02 | 1637 | 1643 | 1650 | | | | | B4.4 | |
| 02 | 2045 | 2054 | 2108 | | | | | B1.9 | |
| 02 | 2241 | 2251 | 2256 | | | | | B4.2 | |
| 03 | 0010 | 0013 | 0015 | | | | | B1.0 | |
| 03 | 0104 | 0113 | 0119 | | | | | B4.2 | |
| 03 | 0216 | 0227 | 0231 | | | | | B8.4 | |
| 03 | 1230 | 1327 | 1408 | | | | | C1.2 | |
| 04 | 1710 | 1714 | 1719 | | | | | B1.0 | |
| 04 | 2006 | 2009 | 2016 | | | | | B1.2 | |
| 05 | 0117 | 0124 | 0129 | | | | | B3.0 | |
| 05 | 0752 | 0758 | 0805 | | | | | B1.2 | |
| 05 | 1528 | 1535 | 1538 | S29 | E41 | | SF | B4.8 | 8027 |
| 05 | 2028 | 2028 | 2039 | S27 | E40 | | SF | B5.6 | 8027 |
| 06 | 0713 | 0720 | 0726 | | | | | B1.1 | |
| 06 | 0759 | 0832 | 0839 | | | | | B1.8 | |
| 06 | 1829 | 1846 | 1923 | | | | | B2.6 | |
| 06 | 2333 | 0034 | 0102 | | | | | B3.7 | |
| 07 | 1012 | 1016 | 1024 | | | | | B1.2 | |
| 07 | 1142 | 1159 | 1209 | | | | | B3.3 | |
| 07 | 1354 | 1403 | 1524 | S30 | E19 | | 3N | C6.8 | 8027 |
| 09 | 0440 | 0445 | 0503 | S29 | W04 | | SF | B4.2 | 8027 |
| 09 | 1050 | 1140 | 1150 | | | | | C1.5 | |
| 09 | 1732 | 1735 | 1738 | | | | | B1.0 | |
| 09 | 2059 | 2103 | 2106 | | | | | B1.0 | |
| 09 | 2120 | 2123 | 2126 | | | | | B1.0 | |
| 13 | 1248 | 1252 | 1257 | | | | | B1.1 | |
| 13 | 1838 | 1842 | 1855 | S27 | W47 | | SF | B8.2 | 8031 |
| 13 | 2037 | 2040 | 2044 | | | | | B1.0 | |
| 13 | 2304 | 2317 | 2334 | | | | | B2.1 | |
| 14 | 0103 | 0107 | 0113 | | | | | B1.7 | |
| 14 | 0229 | 0238 | 0243 | | | | | B4.9 | |
| 14 | 0623 | 0637 | 0642 | | | | | B2.0 | |
| 14 | 0658 | 0701 | 0704 | | | | | B1.1 | |
| 14 | 0758 | 0842 | 0854 | | | | | C1.2 | |
| 14 | 0939 | 0950 | 1001 | | | | | B3.2 | |
| 14 | 1102 | 1116 | 1125 | | | | | B1.8 | |
| 14 | 1325 | 1333 | 1346 | | | | | B2.5 | |
| 14 | 1523 | 1526 | 1548 | | | | | B1.1 | |
| 14 | 1600 | 1605 | 1610 | | | | | B1.0 | |
| 14 | 1632 | 1649 | 1659 | | | | | B3.6 | |
| 14 | 2131 | 2138 | 2146 | | | | | B1.9 | |
| 14 | 2311 | 2314 | 2317 | | | | | B1.0 | |
| 15 | 0254 | 0301 | 0303 | | | | | B1.8 | |
| 15 | 0629 | 0645 | 0713 | S23 | E13 | | SF | B1.7 | 8032 |
| 15 | 0715 | 0735 | 0741 | | | | | C1.0 | |
| 15 | 0758 | 0812 | 0838 | | | | | B4.5 | |
| 15 | 0959 | 1001 | 1007 | S23 | E11 | | SF | B6.8 | 8032 |
| 15 | 1011 | 1018 | 1028 | S23 | E11 | | SF | B5.9 | 8032 |
| 15 | 1218 | 1221 | 1226 | | | | | B1.3 | |
| 15 | 1245 | 1255 | 1259 | | | | | B4.8 | |
| 15 | 1301 | 1306 | 1314 | | | | | B4.3 | |
| 15 | 1409 | 1413 | 1432 | S24 | E08 | | SF | C1.0 | 8032 |
| 15 | 1730 | 1731 | 1743 | S28 | W76 | | SF | B5.3 | 8031 |
| 15 | 1804 | 1809 | 1812 | | | | | B9.4 | |
| 15 | 2006 | 2007 | 2010 | S24 | E04 | | SF | B3.1 | 8032 |
| 15 | 2059 | 2105 | 2108 | | | | | B3.8 | |
| 15 | 2225 | 2228 | 2230 | | | | | B4.7 | |
| 15 | 2249 | 2254 | 2301 | | | | | B1.8 | |
| 15 | 2343 | 2257 | 0003 | | | | | B1.7 | |
| 16 | 1310 | 1321 | 1325 | | | | | B2.1 | |
| 16 | 1403 | 1412 | 1423 | | | | | B1.9 | |
| 16 | 1550 | 1553 | 1559 | | | | | B1.0 | |
| 16 | 1626 | 1629 | 1631 | | | | | B1.5 | |
| 16 | 1831 | 1843 | 1848 | | | | | B3.5 | |
| 17 | 0023 | 0058 | 0106 | | | | | B2.7 | |
| 26 | 0120 | 0125 | 0130 | | | | | B1.1 | |
| 26 | 2340 | 2351 | 2355 | S17 | W37 | | SF | B6.8 | 8036 |

EDITOR's NOTE: Please note that whenever optical flares are given, the times given are times of the optical flares and not the times of the X-ray flares. These data are taken directly from the NOAA SEC "Preliminary Report and Forecast of Solar Geophysical Data" weekly report.

# Preliminary GOES Satellite Daily X-Ray Background
## May 96 - Apr 97






| Day | May 96 | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan 97 | Feb | Mar | Apr |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | <A1.0 | <A1.0 | A1.2 | A7.4 | A8.5 | A1.5 | <A1.0 | C1.3 | <A1.0 | <A1.0 | A1.1 | A4.6 |
| 2 | <A1.0 | <A1.0 | A1.1 | A7.7 | A5.5 | A1.3 | <A1.0 | C2.3 | <A1.0 | <A1.0 | A1.2 | B1.0 |
| 3 | <A1.0 | <A1.0 | <A1.0 | A6.6 | A4.7 | A1.0 | <A1.0 | B2.4 | <A1.0 | A8.7 | <A1.0 | A7.9 |
| 4 | <A1.0 | <A1.0 | A1.0 | A7.8 | A5.5 | A1.3 | <A1.0 | A3.7 | <A1.0 | A5.9 | A1.0 | A4.3 |
| 5 | A1.3 | <A1.0 | <A1.0 | A8.5 | A3.2 | <A1.0 | <A1.0 | <A1.0 | <A1.0 | A3.8 | A2.3 | A4.3 |
| 6 | A5.9 | A1.0 | A1.0 | A5.6 | A2.7 | <A1.0 | <A1.0 | <A1.0 | A1.0 | A1.2 | A4.9 | A3.8 |
| 7 | A7.8 | A4.1 | A1.8 | A8.4 | A2.1 | <A1.0 | <A1.0 | <A1.0 | <A1.0 | A3.5 | A3.4 | B2.2 |
| 8 | A5.3 | A2.6 | B1.2 | A4.0 | <A1.0 | <A1.0 | <A1.0 | <A1.0 | <A1.0 | A2.7 | A3.2 | A4.1 |
| 9 | A7.2 | A1.4 | B7.7 | A3.0 | <A1.0 | <A1.0 | <A1.0 | <A1.0 | <A1.0 | A2.4 | A2.5 | A2.8 |
| 10 | A3.6 | <A1.0 | B2.0 | A2.4 | <A1.0 | <A1.0 | <A1.0 | A2.7 | <A1.0 | A2.3 | A3.2 | A4.1 |
| 11 | A4.0 | A1.3 | B1.9 | A3.0 | <A1.0 | <A1.0 | <A1.0 | A3.6 | A1.5 | A1.1 | A2.4 | A2.0 |
| 12 | A4.9 | <A1.0 | A9.0 | A3.1 | <A1.0 | <A1.0 | <A1.0 | A6.7 | A1.0 | <A1.0 | A1.4 | A1.4 |
| 13 | A2.3 | <A1.0 | A7.4 | <A1.0 | <A1.0 | <A1.0 | <A1.0 | A8.5 | A1.0 | <A1.0 | A1.7 | A3.2 |
| 14 | A2.4 | <A1.0 | A3.9 | A2.1 | <A1.0 | <A1.0 | <A1.0 | A8.5 | <A1.0 | <A1.0 | A1.5 | A6.9 |
| 15 | A1.6 | <A1.0 | A1.5 | A1.1 | <A1.0 | <A1.0 | <A1.0 | A6.8 | A1.4 | <A1.0 | A2.1 | A4.5 |
| 16 | A1.5 | <A1.0 | <A1.0 | <A1.0 | <A1.0 | A1.1 | A1.1 | B1.2 | A1.4 | <A1.0 | A1.6 | A8.6 |
| 17 | A1.8 | <A1.0 | <A1.0 | <A1.0 | A1.3 | A1.1 | A1.3 | B1.0 | <A1.0 | <A1.0 | A2.3 | A5.5 |
| 18 | A1.7 | <A1.0 | <A1.0 | <A1.0 | A1.2 | <A1.0 | <A1.0 | A8.9 | <A1.0 | <A1.0 | A1.9 | A1.9 |
| 19 | A2.0 | A1.3 | <A1.0 | <A1.0 | A1.7 | A1.1 | A1.0 | A9.2 | <A1.0 | <A1.0 | A1.0 | <A1.0 |
| 20 | A1.0 | A1.1 | <A1.0 | A1.0 | A1.5 | A2.1 | A1.0 | A6.7 | <A1.0 | A2.5 | A1.0 | <A1.0 |
| 21 | <A1.0 | A1.1 | <A1.0 | A3.3 | A1.7 | A1.8 | A1.0 | A4.9 | <A1.0 | A1.2 | <A1.0 | <A1.0 |
| 22 | <A1.0 | <A1.0 | <A1.0 | A4.3 | A1.8 | A1.2 | A3.3 | A4.9 | <A1.0 | <A1.0 | <A1.0 | <A1.0 |
| 23 | <A1.0 | <A1.0 | <A1.0 | B2.9 | A2.4 | <A1.0 | B1.0 | A4.0 | <A1.0 | A1.2 | <A1.0 | <A1.0 |
| 24 | <A1.0 | A1.2 | <A1.0 | B1.2 | A1.9 | <A1.0 | B3.3 | A4.3 | <A1.0 | A1.2 | <A1.0 | <A1.0 |
| 25 | <A1.0 | A1.0 | <A1.0 | B1.1 | A2.2 | <A1.0 | B5.5 | A2.6 | <A1.0 | A1.0 | <A1.0 | <A1.0 |
| 26 | <A1.0 | <A1.0 | A3.1 | A6.6 | --- | <A1.0 | B2.2 | A1.0 | <A1.0 | <A1.0 | <A1.0 | <A1.0 |
| 27 | <A1.0 | <A1.0 | A5.5 | A6.7 | A1.5 | A1.0 | B8.2 | <A1.0 | <A1.0 | <A1.0 | A2.0 | A1.8 |
| 28 | <A1.0 | <A1.0 | A6.4 | A6.9 | A2.1 | <A1.0 | B3.3 | <A1.0 | <A1.0 | <A1.0 | A3.7 | A1.4 |
| 29 | <A1.0 | <A1.0 | A6.5 | A4.7 | A1.8 | <A1.0 | B4.5 | <A1.0 | <A1.0 | | A4.3 | <A1.0 |
| 30 | <A1.0 | A1.0 | A8.3 | A5.7 | A1.6 | <A1.0 | B3.4 | <A1.0 | A1.2 | | A5.2 | A1.3 |
| 31 | <A1.0 | | A7.0 | A5.2 | | <A1.0 | | <A1.0 | <A1.0 | | A2.3 | |

# ACTIVE PROMINENCES AND FILAMENTS

## APRIL 1997

| Day | Event Type | Start (UT) | End (UT) | Lat | CMD | CMP Mo | CMP Day | Imp | Extent | Blue Shift (.1 A) | Red Shift (.1 A) | Obs Type | Sta | NOAA/ USAF Reg# | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | DSD | 0824E | 0835D | S26 | E20 | 04 | 2.9 | | 02 | 9 | 9 | E | SVTO | 8026 | |
| 01 | DSD | 0835E | 0905D | S22 | E20 | 04 | 2.9 | | 02 | 9 | 9 | E | SVTO | 8026 | |
| 01 | AFS | 1112E | 1429D | S25 | E13 | 04 | 2.5 | | 01 | 4 | 4 | E | RAMY | 8026 | |
| 01 | DSD | 1115E | 1250D | S23 | E08 | 04 | 2.1 | | 01 | 9 | 9 | E | RAMY | 8026 | |
| 01 | DSD | 1115E | 1320D | S26 | E18 | 04 | 2.9 | | 02 | 9 | 9 | E | SVTO | 8026 | |
| 01 | DSD | 1116E | 1135D | S26 | E18 | 04 | 2.9 | | 02 | 9 | 9 | E | RAMY | 8026 | |
| 01 | DSD | 1116E | 1710D | S23 | E18 | 04 | 2.8 | | 01 | 9 | 9 | E | RAMY | 8026 | |
| 01 | DSD | 1153E | 1710D | S26 | E17 | 04 | 2.8 | | 01 | 6 | 6 | E | RAMY | 8026 | |
| 01 | DSD | 1347E | 1405D | S25 | E18 | 04 | 3.0 | | 04 | 9 | 9 | E | SVTO | 8026 | Flare Associated |
| 01 | DSD | 1348 | 1402 | S26 | E17 | 04 | 2.9 | | 04 | 8 | 9 | E | HOLL | 8026 | Flare Associated |
| 01 | DSD | 1352E | 1408D | S25 | E17 | 04 | 2.9 | | 03 | 9 | 9 | E | RAMY | 8026 | |
| 01 | DSD | 1730E | 1920D | S24 | E14 | 04 | 2.8 | | 01 | 9 | 9 | E | RAMY | 8026 | |
| 01 | DSD | 2038E | 2235 | S28 | E12 | 04 | 2.8 | | 03 | 9 | 9 | E | RAMY | 8026 | |
| 01 | DSD | 2320 | 0012 | S26 | E13 | 04 | 3.0 | | 02 | 9 | 9 | E | HOLL | 8026 | |
| 02 | DSF | 0030 | 0031 | S11 | E22 | 04 | 3.7 | 3 | 03 | 9 | 9 | E | LEAR | 8026 | Flare Associated |
| 02 | DSD | 0033 | 0059 | S26 | E10 | 04 | 2.8 | | 04 | 9 | 9 | E | HOLL | 8026 | Flare Associated |
| 02 | DSD | 0033 | 0121D | S11 | E24 | 04 | 3.8 | | 05 | 9 | 9 | E | LEAR | 8026 | Flare Associated |
| 02 | DSD | 0214 | 1013D | S11 | E23 | 04 | 3.8 | | 05 | 9 | 9 | E | LEAR | 8026 | |
| 02 | DSD | 0552E | 1430D | S24 | E11 | 04 | 3.1 | | 06 | 9 | 9 | E | SVTO | 8026 | |
| 02 | DSD | 0555E | 1630 | S26 | E09 | 04 | 2.9 | | 06 | 9 | 9 | E | SVTO | 8026 | |
| 02 | ASR | 0720E | 1142D | S30 | E90 | 04 | 9.4 | | | 7 | 7 | E | SVTO | | |
| 02 | ADF | 0910E | 0935 | S25 | E17 | 04 | 3.7 | 1 | | 9 | 9 | V | KHAR | | |
| 02 | AFS | 0945E | 1630 | S23 | E09 | 04 | 3.1 | | 02 | 9 | 9 | E | SVTO | 8026 | |
| 02 | ADF | 1023 | 1035 | S25 | E17 | 04 | 3.7 | 1 | | 9 | 9 | V | KHAR | | |
| 02 | AFS | 1034E | 1458 | S24 | E07 | 04 | 3.0 | | 02 | 9 | 9 | E | RAMY | 8026 | |
| 02 | DSD | 1058 | 1458 | S25 | E08 | 04 | 3.1 | | 03 | 9 | 9 | E | RAMY | 8026 | |
| 02 | DSD | 1148 | 1458 | S23 | E04 | 04 | 2.8 | | 01 | 9 | 9 | E | RAMY | 8026 | |
| 02 | AFS | 1348E | 0104 | S24 | E04 | 04 | 2.9 | | 02 | 9 | 9 | E | HOLL | 8026 | |
| 02 | DSD | 1348E | 0104 | S25 | E04 | 04 | 2.9 | | 03 | 9 | 9 | E | HOLL | 8026 | |
| 03 | DSD | 1105E | 1220D | S25 | W10 | 04 | 2.7 | | 02 | 9 | 9 | E | RAMY | 8026 | |
| 03 | DSD | 1215E | 2030 | S29 | E67 | 04 | 8.8 | | 02 | 9 | 9 | E | RAMY | 8027 | |
| 04 | ADF | 0913E | 1505 | S31 | E56 | 04 | 8.8 | 1 | 04 | 8 | 7 | E | SVTO | 8027 | |
| 04 | AFS | 0925E | 1131D | S25 | W22 | 04 | 2.7 | | 02 | 9 | 9 | E | SVTO | 8026 | |
| 04 | DSD | 1233E | 2214 | S30 | E58 | 04 | 9.1 | | 02 | 9 | 9 | E | RAMY | 8027 | |
| 04 | ADF | 1233E | 2214 | S31 | E61 | 04 | 9.3 | 1 | 09 | 9 | 9 | E | RAMY | 8027 | |
| 04 | ADF | 1430E | 0044 | S25 | W29 | 04 | 2.3 | | 04 | 6 | 8 | E | HOLL | 8026 | |
| 04 | ADF | 1450E | 0044 | S28 | E55 | 04 | 8.9 | | 08 | 9 | 9 | E | HOLL | 8027 | |
| 04 | DSD | 1711 | 1750D | S30 | E53 | 04 | 8.9 | | 02 | 9 | 9 | E | HOLL | 8027 | |
| 04 | DSD | 1816 | 0044 | S26 | E63 | 04 | 9.6 | | 07 | 7 | 6 | E | HOLL | 8027 | |
| 04 | ADF | 1908E | 2214 | S31 | W36 | 04 | 1.9 | 1 | 07 | 5 | 5 | E | RAMY | 8026 | |
| 04 | ADF | 2355E | 0905 | S30 | E50 | 04 | 8.9 | 1 | 08 | 9 | 9 | E | LEAR | 8027 | |
| 05 | ADF | 0545E | 1653 | S30 | E54 | 04 | 9.5 | 1 | 11 | 9 | 9 | E | SVTO | 8027 | |
| 05 | DSD | 1630E | 1945D | S31 | E43 | 04 | 9.1 | | 01 | 6 | 6 | E | RAMY | 8027 | |
| 05 | AFS | 1839E | 0119 | S20 | W38 | 04 | 2.9 | | 02 | 9 | 8 | E | HOLL | 8026 | |
| 05 | AFS | 1839E | 0119 | S30 | E36 | 04 | 8.6 | | 02 | 9 | 9 | E | HOLL | 8027 | |
| 06 | ADF | 0530E | 1650 | S26 | E35 | 04 | 8.9 | 1 | 09 | 9 | 9 | E | SVTO | 8027 | |
| 06 | ADF | 0558E | 1344D | S27 | E23 | 04 | 8.0 | 1 | 06 | 9 | 9 | E | SVTO | 8027 | |
| 06 | BSD | 1237E | 1250D | S31 | E35 | 04 | 9.3 | | 01 | 0 | 0 | E | RAMY | 8027 | |
| 06 | ADF | 1237E | 2236 | S32 | E37 | 04 | 9.4 | 1 | 08 | 9 | 9 | E | RAMY | 8027 | |
| 06 | ADF | 1247E | 2236 | S27 | E29 | 04 | 8.8 | 1 | 05 | 9 | 9 | E | RAMY | 8027 | |
| 06 | DSD | 1330E | 1502D | S28 | E29 | 04 | 8.8 | | 01 | 9 | 9 | E | RAMY | 8027 | |
| 06 | ADF | 1629 | 1807D | S28 | E26 | 04 | 8.7 | 1 | 03 | 9 | 9 | E | HOLL | 8027 | |
| 06 | AFS | 1629E | 2332 | S30 | E21 | 04 | 8.3 | | 02 | 9 | 9 | E | HOLL | 8207 | |
| 06 | ADF | 1744E | 0118 | S21 | W47 | 04 | 3.1 | 1 | 03 | 9 | 7 | E | HOLL | 8026 | |
| 06 | DSD | 2325 | 2358 | S31 | E26 | 04 | 9.0 | 1 | 07 | 9 | 9 | E | HOLL | 8207 | |
| 07 | ADF | 0558E | 1344D | S27 | E23 | 04 | 9.0 | 1 | 06 | 9 | 9 | E | SVTO | 8027 | |
| 07 | ADF | 1239E | 1348D | S33 | E22 | 04 | 9.3 | 1 | 04 | 9 | 9 | E | RAMY | 8027 | |
| 07 | DSF | 1344 | 1355 | S28 | E19 | 04 | 9.0 | 3 | 04 | 9 | 9 | E | HOLL | 8027 | Flare Associated |
| 07 | DSF | 1344U | 1348U | S32 | E21 | 04 | 9.2 | 3 | 05 | 9 | 9 | E | SVTO | 8027 | Flare Associated |
| 07 | DSF | 1348U | 1353U | S33 | E22 | 04 | 9.3 | 3 | 04 | 9 | 9 | E | RAMY | 8027 | |
| 07 | DSF | 1348U | 1353U | S33 | E22 | 04 | 9.3 | 3 | 04 | 9 | 9 | E | RAMY | 8027 | Flare Associated |
| 07 | DSD | 1349E | 1353D | S31 | E21 | 04 | 9.2 | | 02 | 9 | 9 | E | RAMY | 8027 | |
| 07 | LPS | 1442E | 1559D | S29 | E17 | 04 | 8.9 | | | 7 | 7 | E | SVTO | 8027 | Flare Associated |
| 07 | LPS | 1449E | 1615D | S31 | E20 | 04 | 9.2 | | | 9 | 9 | E | RAMY | 8027 | Flare Associated |

# ACTIVE PROMINENCES AND FILAMENTS

## APRIL 1997

| Day | Event Type | Start (UT) | End (UT) | Lat | CMP CMD | Mo | Day | Imp | Extent | Blue Shift (.1 A) | Red Shift (.1 A) | Obs Type | Sta | NOAA/ USAF Reg# | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 07 | ADF | 1900E | 0040 | S28 | E16 | 04 | 9.0 | 1 | 05 | 9 | 9 | E | PALE | 8027 | |
| 07 | AFS | 2115E | 0019D | S05 | W37 | 04 | 5.1 | | 02 | 8 | 8 | E | PALE | | |
| 08 | ADF | 0145E | 0947 | S27 | E11 | 04 | 8.9 | 1 | 04 | 8 | 8 | E | LEAR | 8027 | |
| 08 | ADF | 1402 | 0119 | S32 | E14 | 04 | 9.7 | 1 | 17 | 9 | 9 | E | HOLL | 8027 | |
| 08 | ADF | 1430E | 1705 | S27 | E03 | 04 | 8.8 | 1 | 07 | 9 | 9 | E | SVTO | 8027 | |
| 08 | ADF | 1545E | 1705 | S23 | W72 | 04 | 3.1 | 1 | 06 | 9 | 9 | E | SVTO | 8026 | |
| 08 | ADF | 1617E | 2144 | S26 | E03 | 04 | 8.9 | 1 | 04 | 9 | 9 | E | RAMY | 8027 | |
| 08 | DSF | 1648U | 0458U | S31 | E11 | 04 | 9.6 | 3 | 06 | 9 | 9 | E | SVTO | 8027 | |
| 08 | ADF | 1730E | 2000 | S26 | E03 | 04 | 9.0 | 1 | 07 | 9 | 9 | E | PALE | 8027 | |
| 08 | DSF | 2030U | 1052U | N33 | W29 | 04 | 6.5 | 2 | 12 | 0 | 0 | E | RAMY | | |
| 08 | ADF | 2330E | 0955 | S32 | E02 | 04 | 9.1 | 1 | 11 | 9 | 9 | E | LEAR | 8027 | |
| 08 | ADF | 2355E | 0955 | N15 | E02 | 04 | 9.1 | 1 | 10 | 9 | 7 | E | LEAR | | |
| 09 | DSD | 0218E | 0305D | S05 | W54 | 04 | 5.0 | | 03 | 0 | 0 | E | LEAR | 8028 | |
| 09 | AFS | 0225E | 0955 | N23 | W08 | 04 | 8.5 | | 02 | 9 | 9 | E | LEAR | | |
| 09 | AFS | 0410E | 0955 | S05 | W55 | 04 | 5.0 | | 01 | 9 | 8 | E | LEAR | 8028 | |
| 09 | BSD | 0427 | 0432D | S32 | E04 | 04 | 9.5 | | 01 | 0 | 0 | E | LEAR | 8027 | |
| 09 | ADF | 0442E | 1712 | S28 | E00 | 04 | 9.2 | 1 | 06 | 9 | 9 | E | SVTO | 8027 | |
| 09 | AFS | 0524E | 1712 | N23 | W10 | 04 | 8.4 | | 02 | 9 | 9 | E | SVTO | 8029 | |
| 09 | DSD | 0730E | 0955 | N24 | W11 | 04 | 8.5 | | 02 | 9 | 9 | E | LEAR | | |
| 09 | BSD | 1002E | 1035D | S27 | W07 | 04 | 8.9 | | 02 | 7 | 7 | E | SVTO | 8027 | |
| 09 | AFS | 1042E | 1906 | N22 | W12 | 04 | 8.5 | | 01 | 9 | 9 | E | RAMY | 8029 | |
| 09 | ADF | 1046E | 1906 | S33 | W04 | 04 | 9.1 | 1 | 09 | 9 | 9 | E | RAMY | 8027 | |
| 09 | ASR | 1047E | 1135 | S21 | W90 | 04 | 2.5 | | | 9 | 9 | E | SVTO | 8026 | |
| 09 | ASR | 1120E | 1146D | S23 | W85 | 04 | 2.9 | | | 9 | 9 | E | RAMY | 8026 | |
| 09 | BSL | 1135 | 1147 | S21 | W90 | 04 | 2.6 | | | 9 | 9 | E | SVTO | 8026 | |
| 09 | BSL | 1142E | 1146D | S23 | W86 | 04 | 2.9 | | | 9 | 9 | E | RAMY | 8026 | |
| 09 | AFS | 1405E | 0050 | N23 | W15 | 04 | 8.4 | | 01 | 9 | 9 | E | HOLL | 8029 | |
| 09 | ADF | 1410E | 0050 | S30 | W08 | 04 | 9.0 | 1 | 07 | 9 | 9 | E | HOLL | 8027 | |
| 09 | DSD | 1849E | 1906 | N24 | W19 | 04 | 8.3 | | 02 | 9 | 9 | E | RAMY | 8029 | |
| 10 | ADF | 0230E | 0945 | N15 | W12 | 04 | 9.2 | 1 | 07 | 9 | 9 | E | LEAR | | |
| 10 | DSD | 0410E | 0900D | N24 | W22 | 04 | 8.5 | | 01 | 9 | 9 | E | LEAR | 8029 | |
| 10 | ADF | 0412E | 0945 | S25 | W16 | 04 | 8.9 | 1 | 04 | 9 | 9 | E | LEAR | 8027 | |
| 10 | AFS | 0617E | 1652 | N24 | W24 | 04 | 8.4 | | 02 | 9 | 9 | E | SVTO | 8029 | |
| 10 | ADF | 0618E | 1652 | S27 | W14 | 04 | 9.2 | 1 | 11 | 9 | 9 | E | SVTO | 8027 | |
| 10 | AFS | 1107E | 2130 | N23 | W26 | 04 | 8.4 | | 01 | 7 | 6 | E | RAMY | 8029 | |
| 10 | ADF | 1155E | 2130 | S33 | W17 | 04 | 9.1 | 1 | 11 | 9 | 9 | E | RAMY | 8027 | |
| 10 | AFS | 1334E | 0050 | N24 | W28 | 04 | 8.4 | | 02 | 9 | 6 | E | HOLL | 8029 | |
| 10 | ADF | 1427E | 0050 | S28 | W21 | 04 | 9.0 | 1 | 06 | 9 | 9 | E | HOLL | 8027 | |
| 10 | AFS | 2325E | 0940 | N23 | W19 | 04 | 9.5 | | 02 | 9 | 9 | E | LEAR | 8029 | |
| 11 | ADF | 0620E | 1615 | S27 | W33 | 04 | 8.7 | 1 | 07 | 9 | 9 | E | SVTO | 8027 | |
| 11 | AFS | 0622E | 1200D | N25 | W38 | 04 | 8.3 | | 02 | 6 | 7 | E | SVTO | 8029 | |
| 11 | AFS | 0900E | 1105D | S28 | W32 | 04 | 8.9 | | 02 | 9 | 9 | E | SVTO | 8027 | |
| 11 | ADF | 1236E | 2136 | S28 | W33 | 04 | 8.9 | 1 | 07 | 9 | 9 | E | RAMY | 8027 | |
| 11 | AFS | 1305E | 1745D | S29 | W33 | 04 | 8.9 | | 01 | 6 | 7 | E | RAMY | 8027 | |
| 11 | BSD | 1552 | 1623D | N24 | W46 | 04 | 8.1 | | 04 | 9 | 9 | E | RAMY | 8029 | |
| 11 | AFS | 1608E | 2136 | N25 | W43 | 04 | 8.3 | | 01 | 9 | 9 | E | RAMY | 8029 | |
| 11 | DSD | 1957E | 2030D | N24 | W49 | 04 | 8.0 | | 07 | 9 | 9 | E | RAMY | 8029 | |
| 11 | DSF | 2113U | 1105U | S24 | W47 | 04 | 8.2 | 2 | 07 | 0 | 0 | E | RAMY | 8027 | |
| 11 | ADF | 2320E | 0550D | N15 | W37 | 04 | 9.2 | 1 | 08 | 8 | 9 | E | LEAR | 8030 | |
| 11 | ADF | 2320E | 0550D | N15 | W37 | 04 | 9.2 | 1 | 08 | 8 | 9 | E | LEAR | 8030 | |
| 11 | ADF | 2320E | 0954 | S25 | W42 | 04 | 8.7 | 1 | 04 | 9 | 9 | E | LEAR | 8027 | |
| 12 | ADF | 0545E | 0854D | S25 | W46 | 04 | 8.7 | 1 | 06 | 9 | 9 | E | SVTO | 8027 | |
| 12 | AFS | 0615E | 0930D | N23 | W50 | 04 | 8.4 | | 02 | 7 | 8 | E | SVTO | 8029 | |
| 12 | AFS | 1025E | 1038 | S30 | W28 | 04 | 10.2 | | 03 | 9 | 9 | E | SVTO | | |
| 12 | DSD | 1035E | 1231D | S30 | W28 | 04 | 10.2 | | 02 | 9 | 9 | E | RAMY | | |
| 12 | DSD | 1200E | 1540D | S31 | W29 | 04 | 10.2 | | 02 | 9 | 9 | E | RAMY | | |
| 12 | AFS | 1231E | 1956 | S30 | W30 | 04 | 10.2 | | 01 | 9 | 9 | E | RAMY | | |
| 12 | AFS | 1740E | 2328 | S30 | W34 | 04 | 10.1 | | 02 | 9 | 9 | E | HOLL | 8031 | |
| 12 | DSD | 1753E | 1956 | N24 | W58 | 04 | 8.3 | | 02 | 9 | 9 | E | RAMY | 8029 | |
| 12 | AFS | 2315E | 0823 | S29 | W36 | 04 | 10.1 | | 02 | 9 | 9 | E | LEAR | 8031 | |
| 13 | AFS | 0515E | 1642 | S29 | W40 | 04 | 10.1 | | 03 | 9 | 9 | E | SVTO | 8031 | |
| 13 | AFS | 1034E | 2215 | S29 | W42 | 04 | 10.1 | | 02 | 9 | 9 | E | RAMY | 8031 | |
| 13 | DSD | 1035E | 2215 | S28 | W45 | 04 | 9.9 | | 04 | 9 | 9 | E | RAMY | 8031 | |
| 13 | DSF | 1112U | 1415U | S45 | W30 | 04 | 11.0 | 2 | 07 | 5 | 5 | E | RAMY | | |

# ACTIVE PROMINENCES AND FILAMENTS

## APRIL 1997

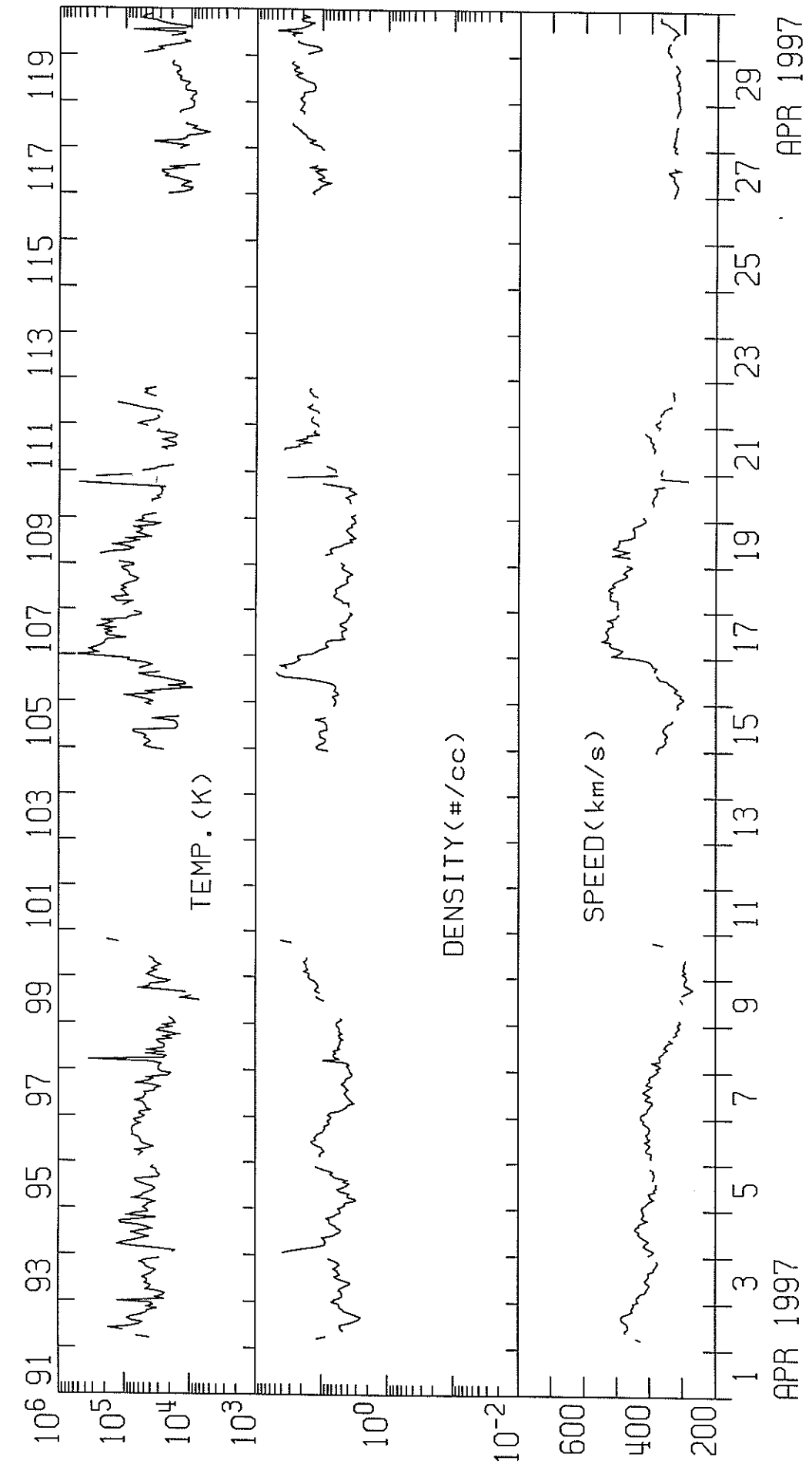
| Day | Event Type | Start (UT) | End (UT) | Lat | CMD | CMP Mo | CMP Day | Imp | Extent | Blue Shift (.1 A) | Red Shift (.1 A) | Obs Type | Sta | NOAA/ USAF Reg# | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | DSD | 1123E | 2215 | S30 | W40 | 04 | 10.3 | | 01 | 9 | 9 | E | RAMY | 8031 | |
| 13 | AFS | 1340E | 0123 | S30 | W47 | 04 | 9.9 | | 02 | 9 | 9 | E | HOLL | 8031 | |
| 13 | AFS | 2345E | 0930 | S29 | W52 | 04 | 9.9 | | 01 | 8 | 7 | E | LEAR | 8031 | |
| 14 | AFS | 0519E | 1714 | S28 | W53 | 04 | 10.1 | | 03 | 9 | 9 | E | SVTO | 8031 | |
| 14 | AFS | 0656E | 1714 | S23 | E28 | 04 | 16.4 | | 02 | 9 | 9 | E | SVTO | 8032 | |
| 14 | DSD | 1012E | 1102D | S29 | W54 | 04 | 10.2 | | 03 | 9 | 9 | E | SVTO | 8031 | |
| 14 | AFS | 1025E | 2125 | S28 | W57 | 04 | 10.0 | | 02 | 9 | 9 | E | RAMY | 8031 | |
| 14 | AFS | 1041E | 2125 | S23 | E26 | 04 | 16.4 | | 02 | 9 | 9 | E | RAMY | 8032 | |
| 14 | ASR | 1110E | 1130D | N27 | W85 | 04 | 7.8 | | | 7 | 7 | E | SVTO | 8029 | |
| 14 | ASR | 1313E | 2125 | N26 | W87 | 04 | 7.8 | | | 6 | 7 | E | RAMY | 8029 | |
| 14 | ADF | 1338E | 0123 | S28 | W57 | 04 | 10.1 | | 03 | 9 | 9 | E | HOLL | 8031 | |
| 14 | AFS | 1338E | 0123 | S29 | W59 | 04 | 9.9 | | 03 | 6 | 7 | E | HOLL | 8031 | |
| 14 | AFS | 1421 | 0123 | S23 | E23 | 04 | 16.4 | | 02 | 9 | 9 | E | HOLL | 8032 | |
| 15 | ADF | | 0125 | S23 | E05 | 04 | 15.4 | 1 | 05 | 9 | 6 | E | HOLL | 8032 | |
| 15 | AFS | 0610E | 1343 | S51 | W15 | 04 | 14.0 | | 04 | 9 | 9 | E | SVTO | 8031 | |
| 15 | AFS | 0618E | 1343 | S23 | E13 | 04 | 16.3 | | 02 | 9 | 9 | E | SVTO | 8032 | |
| 15 | ADF | 0620E | 1343 | S22 | E14 | 04 | 16.3 | 1 | 02 | 8 | 9 | E | SVTO | 8032 | |
| 15 | ADF | 0640 | 0950 | S22 | E13 | 04 | 16.3 | 3 | 03 | 6 | 6 | E | LEAR | 8032 | |
| 15 | DSD | 1030E | 1400D | S22 | E12 | 04 | 16.3 | | 02 | 9 | 9 | E | RAMY | 8032 | |
| 15 | DSD | 1030E | 1622D | S23 | E10 | 04 | 16.2 | | 04 | 9 | 9 | E | RAMY | 8032 | |
| 15 | AFS | 1030E | 2155 | S22 | E11 | 04 | 16.3 | | 01 | 9 | 9 | E | RAMY | 8032 | |
| 15 | DSD | 1047E | 1620D | S30 | W64 | 04 | 10.4 | | 02 | 9 | 9 | E | RAMY | 8031 | |
| 15 | AFS | 1047E | 2155 | S31 | W64 | 04 | 10.4 | | 02 | 9 | 5 | E | RAMY | 8031 | |
| 15 | AFS | 1254E | 0125 | S22 | E10 | 04 | 16.3 | | 02 | 9 | 9 | E | HOLL | 8032 | |
| 15 | DSD | 1412 | 1436 | S23 | E07 | 04 | 16.1 | | 03 | 9 | 9 | E | HOLL | 8032 | Flare Associated |
| 15 | DSD | 1731 | 1812D | S29 | W73 | 04 | 10.0 | | 03 | 9 | 9 | E | RAMY | 8031 | Flare Associated |
| 15 | AFS | 2330E | 0950 | S23 | E18 | 04 | 17.4 | | 02 | 8 | 8 | E | LEAR | 8032 | |
| 15 | AFS | 2330E | 0950 | S27 | W65 | 04 | 10.9 | | 02 | 9 | 9 | E | LEAR | 8031 | |
| 15 | APR | 2335E | 0125 | S24 | W90 | 04 | 9.0 | | | 7 | 6 | E | HOLL | 8031 | |
| 16 | ADF | 0230E | 0330D | S22 | E04 | 04 | 16.4 | 1 | 03 | 6 | 6 | E | LEAR | 8032 | |
| 16 | DSF | 0325 | 0330 | S22 | E04 | 04 | 16.4 | 3 | 03 | 6 | 6 | E | LEAR | 8032 | |
| 16 | ADF | 0330E | 0330 | S22 | E04 | 04 | 16.4 | 3 | 03 | 6 | 6 | E | LEAR | 8032 | |
| 16 | AFS | 0330E | 0951 | S25 | E02 | 04 | 16.3 | | 03 | 7 | 9 | E | LEAR | 8032 | |
| 16 | AFS | 0548E | 0850D | S23 | E00 | 04 | 16.2 | | 01 | 9 | 9 | E | SVTO | 8032 | |
| 16 | AFS | 0548E | 1527D | S21 | W04 | 04 | 15.9 | | 01 | 9 | 9 | E | SVTO | 8032 | |
| 16 | DSD | 1059E | 1520D | S24 | W03 | 04 | 16.2 | | 02 | 9 | 9 | E | RAMY | 8032 | |
| 16 | DSD | 1218E | 1325D | S29 | W83 | 04 | 10.0 | | 01 | 9 | 9 | E | RAMY | 8031 | |
| 16 | DSD | 1248E | 1323D | S27 | W84 | 04 | 10.0 | | 01 | 9 | 9 | E | SVTO | 8031 | |
| 16 | ASR | 1324E | 1528D | S25 | W90 | 04 | 9.6 | | | 9 | 9 | E | SVTO | 8031 | |
| 16 | ASR | 1328E | 1455D | S28 | W90 | 04 | 9.5 | | | 9 | 9 | E | RAMY | 8031 | |
| 16 | AFS | 1534E | 1750D | S23 | W05 | 04 | 16.3 | | 02 | 5 | 5 | E | RAMY | 8032 | |
| 16 | ASR | 2210E | 2236 | S31 | W89 | 04 | 9.9 | | | 7 | 8 | E | RAMY | 8031 | |
| 16 | ASR | 2310E | 0113 | S29 | W90 | 04 | 9.9 | | | 6 | 7 | E | HOLL | 8031 | |
| 17 | AFS | 0530E | 0000 | N29 | E24 | 04 | 19.1 | | 01 | 8 | 9 | E | LEAR | | |
| 17 | APR | 0653E | 0928D | S29 | W86 | 04 | 10.5 | 1 | | 8 | 9 | E | LEAR | 8031 | |
| 17 | AFS | 1025E | 1510D | N29 | E20 | 04 | 19.0 | | 01 | 4 | 4 | E | RAMY | | |
| 17 | ADF | 1125E | 1335D | S21 | W17 | 04 | 16.2 | 1 | 04 | 9 | 9 | E | RAMY | 8032 | |
| 17 | AFS | 1150E | 2030D | S26 | E32 | 04 | 20.0 | | 01 | 4 | 4 | E | RAMY | | |
| 17 | DSD | 1234E | 1513D | S29 | E32 | 04 | 20.0 | | 02 | 8 | 7 | E | SVTO | | |
| 17 | ADF | 1252E | 1513D | S20 | W19 | 04 | 16.1 | 1 | 06 | 9 | 9 | E | SVTO | 8032 | |
| 17 | ASR | 1320E | 1505D | S32 | W90 | 04 | 10.4 | | | 5 | 6 | E | RAMY | 8031 | |
| 17 | AFS | 1605E | 2137 | S23 | W18 | 04 | 16.3 | | 01 | 6 | 6 | E | RAMY | 8032 | |
| 17 | ADF | 1615E | 2137 | S28 | W14 | 04 | 16.6 | 1 | 06 | 5 | 6 | E | RAMY | 8032 | |
| 18 | AFS | 0010E | 0734 | S23 | W22 | 04 | 16.3 | | 02 | 9 | 9 | E | LEAR | 8032 | |
| 18 | AFS | 0245E | 0734 | S27 | E24 | 04 | 20.0 | | 01 | 9 | 9 | E | LEAR | | |
| 18 | ADF | 0450E | 1634 | S27 | W27 | 04 | 16.1 | 1 | 05 | 9 | 9 | E | SVTO | 8032 | |
| 18 | AFS | 0618E | 0930D | N29 | E09 | 04 | 19.0 | | 02 | 7 | 7 | E | SVTO | 8033 | |
| 18 | ADF | 0705E | 0955 | S25 | W24 | 04 | 16.4 | 1 | 06 | 9 | 9 | E | LEAR | 8032 | |
| 18 | ADF | 1037E | 2239 | S28 | W21 | 04 | 16.8 | 1 | 08 | 9 | 6 | E | RAMY | 8032 | |
| 18 | DSD | 1108E | 1345D | S26 | E19 | 04 | 19.9 | | 01 | 2 | 7 | E | RAMY | | |
| 18 | ADF | 1112E | 2239 | S22 | W28 | 04 | 16.3 | 1 | 04 | 5 | 5 | E | RAMY | 8032 | |
| 18 | ADF | 1140E | 1634 | S22 | W29 | 04 | 16.2 | 1 | 05 | 9 | 9 | E | SVTO | 8032 | |
| 18 | ADF | 1515E | 2322 | S28 | W26 | 04 | 16.6 | 1 | 05 | 5 | 6 | E | HOLL | 8032 | |
| 18 | AFS | 1733E | 2150D | S23 | W30 | 04 | 16.4 | | 01 | 3 | 3 | E | RAMY | 8032 | |
| 18 | DSD | 1801E | 1816D | S25 | W27 | 04 | 16.6 | | 01 | 6 | 9 | E | RAMY | 8032 | |

# ACTIVE PROMINENCES AND FILAMENTS

## APRIL 1997

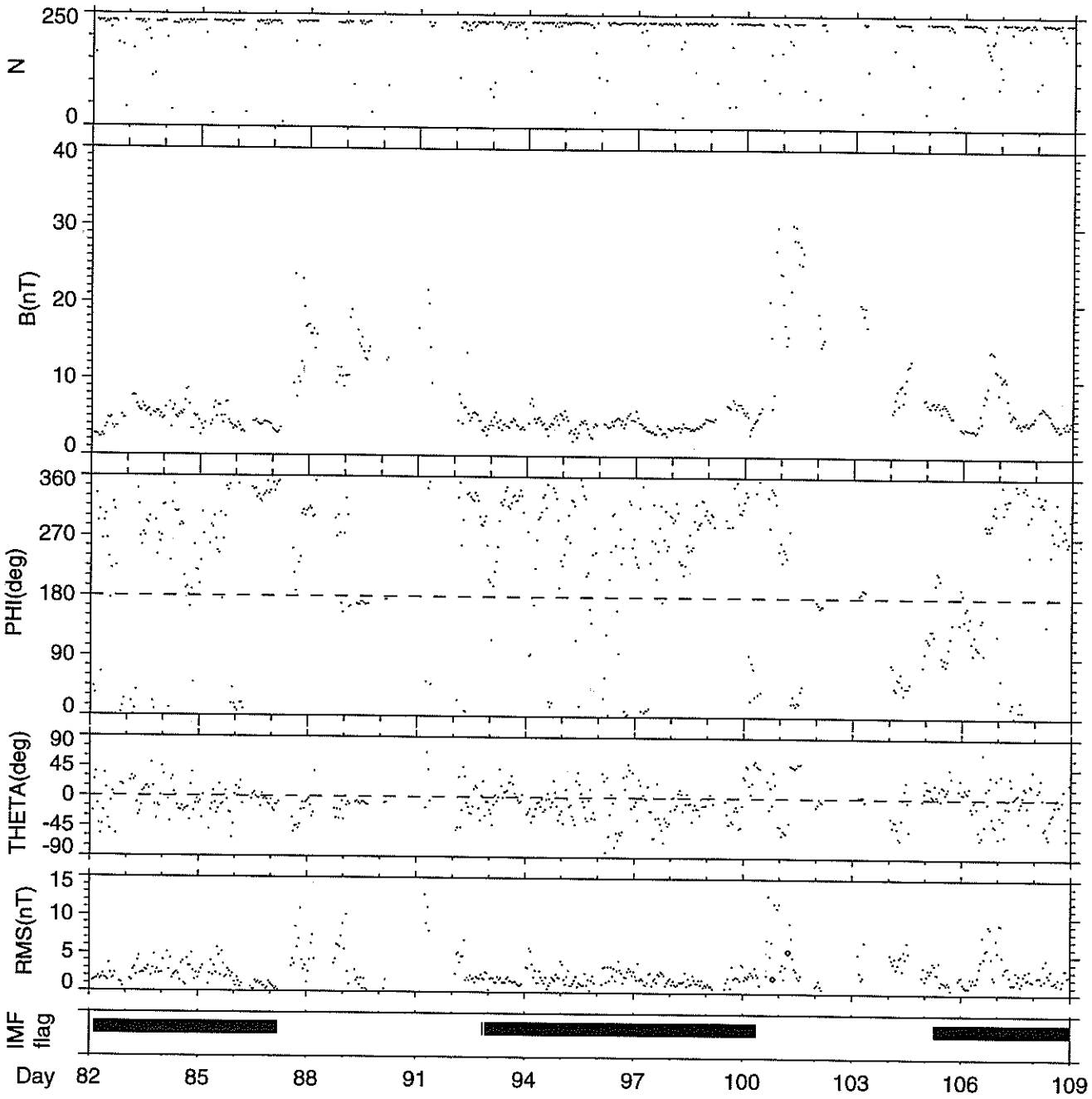
| Day | Event Type | Start (UT) | End (UT) | Lat | CMD | CMP Mo | CMP Day | Imp | Extent | Blue Shift (.1 A) | Red Shift (.1 A) | Obs Type | Sta | NOAA/ USAF Reg# | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | DSD | 1920E | 2109D | N20 | E00 | 04 | 18.8 | | 01 | 6 | 9 | E | RAMY | | |
| 19 | DSD | 1117E | 1345D | N20 | W09 | 04 | 18.8 | | 01 | 9 | 9 | E | RAMY | | |
| 19 | ADF | 1154E | 1228D | S24 | W43 | 04 | 16.2 | 1 | 02 | 3 | 9 | E | RAMY | 8032 | |
| 20 | AFS | 0825E | 0952D | N29 | W17 | 04 | 19.0 | | 01 | 4 | 5 | E | LEAR | 8033 | |
| 20 | BSD | 1214E | 1241D | S21 | W57 | 04 | 16.1 | | 01 | 9 | 9 | E | RAMY | 8032 | |
| 20 | ADF | 1227E | 1350D | S20 | W59 | 04 | 16.0 | 1 | 04 | 5 | 9 | E | RAMY | 8032 | |
| 20 | AFS | 1301E | 1933D | N29 | W19 | 04 | 19.0 | | 01 | 3 | 4 | E | RAMY | 8033 | |
| 20 | DSF | 1315U | 1350U | S20 | W59 | 04 | 16.0 | 2 | 04 | 5 | 9 | E | RAMY | 8032 | |
| 20 | AFS | 1414 | 1757 | N29 | W20 | 04 | 19.0 | | 01 | 9 | 7 | E | HOLL | 8033 | |
| 22 | DSF | 0931U | 2327U | S51 | E08 | 04 | 23.1 | 1 | 07 | 0 | 0 | E | LEAR | | |
| 22 | DSD | 1338E | 1555D | N18 | E68 | 04 | 27.7 | | 01 | 9 | 9 | E | RAMY | | |
| 22 | AFS | 1548E | 0028 | N15 | E63 | 04 | 27.4 | | 02 | 9 | 9 | E | HOLL | 8035 | |
| 22 | AFS | 1825E | 2138 | N17 | E68 | 04 | 27.9 | | 01 | 6 | 9 | E | RAMY | 8035 | |
| 23 | AFS | 0014E | 0945 | N17 | E62 | 04 | 27.7 | | 02 | 5 | 4 | E | LEAR | 8035 | |
| 23 | DSD | 0027E | 0118 | N15 | E60 | 04 | 27.6 | | 03 | 6 | 7 | E | LEAR | 8035 | |
| 23 | DSD | 1211E | 1705D | N16 | E55 | 04 | 27.7 | | 02 | 9 | 9 | E | RAMY | 8035 | |
| 24 | ADF | 0122E | 0528 | N19 | E47 | 04 | 27.6 | | 08 | 9 | 9 | E | LEAR | 8035 | |
| 24 | DSD | 0312E | 0327D | N16 | E47 | 04 | 27.7 | | 02 | 9 | 9 | E | LEAR | 8035 | |
| 24 | DSD | 0312E | 0327D | N16 | E47 | 04 | 27.7 | | 02 | 9 | 9 | E | LEAR | 8035 | |
| 24 | DSF | 0528 | 0528 | N20 | E49 | 04 | 28.0 | 2 | 03 | 9 | 9 | E | LEAR | 8035 | Normal Emission 1/3 |
| 25 | AFS | 0400E | 0947 | S34 | E18 | 04 | 26.6 | | 02 | 4 | 3 | E | LEAR | | |
| 25 | AFS | 0720E | 0947 | N33 | E16 | 04 | 26.6 | | 02 | 9 | 9 | E | LEAR | 8035 | |
| 25 | AFS | 0820E | 1059D | N17 | E32 | 04 | 27.8 | | 02 | 9 | 9 | E | SVTO | 8035 | |
| 25 | AFS | 1229E | 1709 | S34 | E13 | 04 | 26.5 | | 01 | 9 | 9 | E | SVTO | | |
| 25 | AFS | 1335E | 2019 | S35 | E12 | 04 | 26.5 | | 01 | 5 | 6 | E | RAMY | | |
| 26 | ADF | 0015E | 0545D | S18 | W22 | 04 | 24.3 | 1 | 02 | 7 | 6 | E | LEAR | | |
| 26 | DSD | 0440E | 0830D | N19 | E20 | 04 | 27.7 | | 02 | 9 | 9 | E | SVTO | 8035 | |
| 26 | AFS | 0440E | 1615 | S18 | W27 | 04 | 24.1 | | 02 | 9 | 9 | E | SVTO | 8036 | |
| 26 | AFS | 0443E | 0943 | S18 | W25 | 04 | 24.3 | | 02 | 9 | 9 | E | LEAR | | |
| 26 | DSD | 0500E | 0615D | S19 | W27 | 04 | 24.1 | | 03 | 9 | 9 | E | SVTO | 8036 | |
| 26 | AFS | 0720E | 1615 | N19 | E19 | 04 | 27.7 | | 01 | 9 | 9 | E | SVTO | 8035 | |
| 26 | AFS | 0810E | 1615 | N19 | E16 | 04 | 27.6 | | 02 | 9 | 9 | E | SVTO | 8035 | |
| 26 | AFS | 1022E | 2201 | S17 | W29 | 04 | 24.2 | | 02 | 9 | 9 | E | RAMY | 8036 | |
| 26 | ADF | 1409E | 1958D | N11 | E18 | 04 | 27.9 | 1 | 04 | 7 | 4 | E | RAMY | 8035 | |
| 27 | AFS | 0030E | 0919 | S18 | W36 | 04 | 24.3 | | 01 | 7 | 5 | E | LEAR | 8036 | |
| 27 | DSD | 0110E | 0121D | S06 | W35 | 04 | 24.4 | | 03 | 0 | 0 | E | LEAR | | |
| 27 | AFS | 0510E | 1400 | S17 | W40 | 04 | 24.2 | | 02 | 9 | 9 | E | SVTO | 8036 | |
| 27 | ADF | 0510E | 1400 | S33 | W08 | 04 | 26.6 | 1 | 06 | 9 | 9 | E | SVTO | | |
| 27 | ADF | 0630E | 0919 | S37 | W11 | 04 | 26.4 | | 05 | 7 | 6 | E | LEAR | | |
| 27 | DSD | 1227E | 1410D | S16 | W45 | 04 | 24.1 | | 01 | 8 | 6 | E | RAMY | 8036 | |
| 27 | AFS | 1227E | 2234 | S17 | W46 | 04 | 24.0 | | 02 | 9 | 9 | E | RAMY | 8036 | |
| 27 | AFS | 1239E | 0135 | S16 | W45 | 04 | 24.1 | | 02 | 9 | 9 | E | HOLL | 8036 | |
| 27 | DSD | 1415E | 2136D | S17 | W45 | 04 | 24.2 | | 02 | 9 | 9 | E | RAMY | 8036 | |
| 27 | AFS | 2300E | 0944 | S18 | W50 | 04 | 24.1 | | 01 | 5 | 5 | E | LEAR | 8036 | |
| 28 | ADF | 0830E | 0944 | S40 | W26 | 04 | 26.2 | 1 | 08 | 8 | 8 | E | LEAR | | |
| 28 | AFS | 1058E | 1430D | S17 | W55 | 04 | 24.3 | | 01 | 9 | 9 | E | RAMY | 8036 | |
| 28 | DSD | 1853E | 2054 | S18 | W60 | 04 | 24.2 | | 02 | 7 | 6 | E | RAMY | 8036 | |
| 29 | BSD | 1657E | 1918D | S19 | W74 | 04 | 24.0 | | 01 | 5 | 6 | E | RAMY | 8036 | |
| 30 | ASR | 1425 | 1526 | S15 | W90 | 04 | 23.8 | | | 5 | 5 | E | RAMY | 8036 | |

**IMP 8 SOLAR WIND PLASMA**
APRIL 1997



IMP-8 Magnetic Field Data in GSE Coordinates

1 Hour Averages (c) DOY 82 - 109 March 23 1997 - April 19 1997

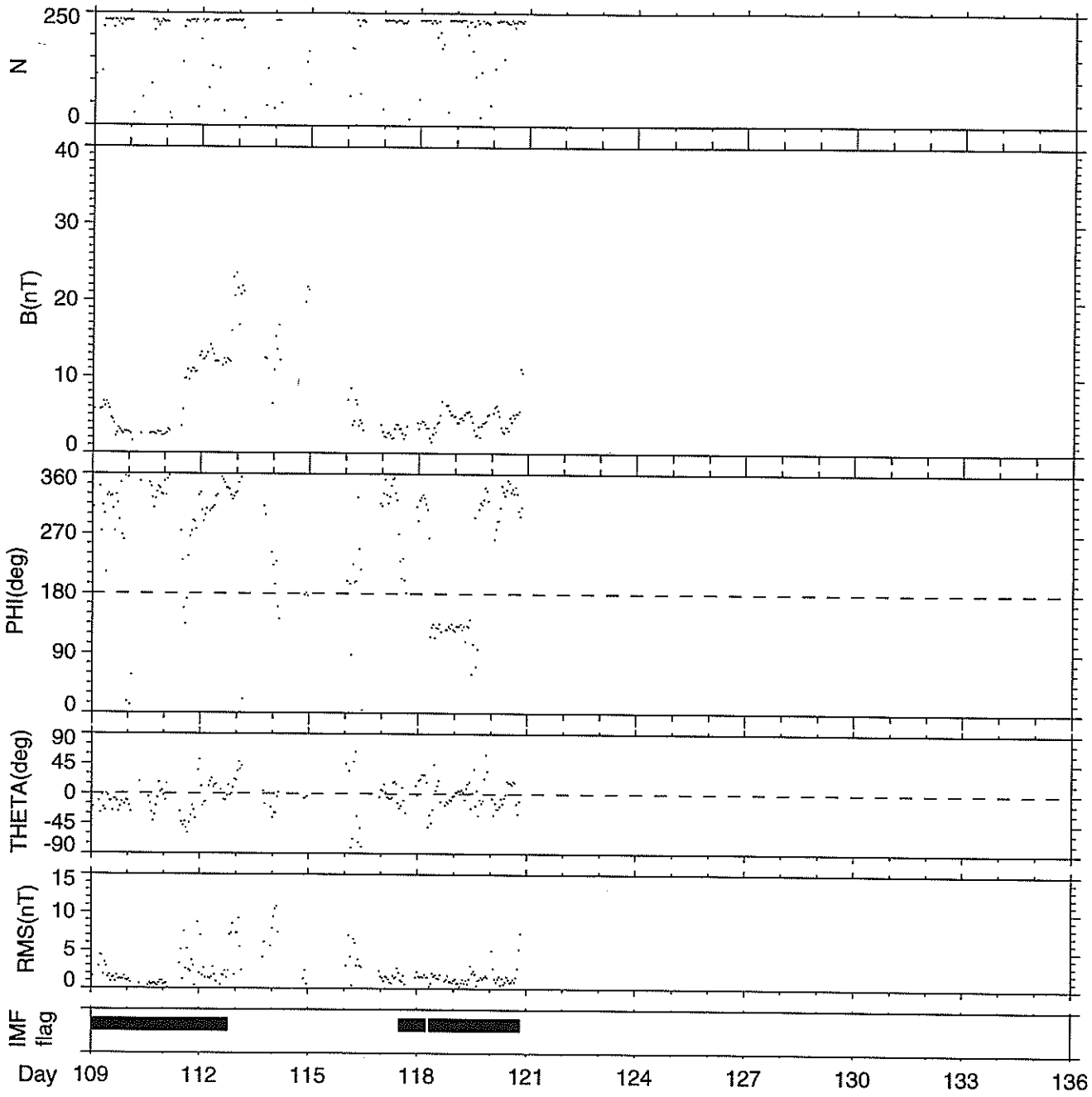



Generation Date : Mon Oct 20 11:54:12 1997

NOTE: The IMF "flag" (black boxes at the bottom of the plots) indicates where the interplanetary magnetic field regions are according to a dynamic model of the location of the bow shock. At all other times IMP-8 is in the magnetosphere.

IMP-8 Magnetic Field Data in GSE Coordinates

1 Hour Averages (c) DOY 109 - 120 April 19 1997 - April 30 1997




Generation Date : Mon Oct 20 11:54:15 1997

NOTE: The IMF "flag" (black boxes at the bottom of the plots) indicates where the interplanetary magnetic field regions are according to a dynamic model of the location of the bow shock. At all other times IMP-8 is in the magnetosphere.

*U.S. GOVERNMENT PRINTING OFFICE: 1997-673-001/29006

# 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."